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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21.70S×179.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21.76S×179.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22.3S±0.2×179.6W±0.3,h613km±42km,
n22,σ1s15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

ISCJB ***01*** *00:05:10.0±0.7, 11.°47S±0.°04×75.°62W±0.°06, h109km±6km, mb4.7/64, Error ellipse: s-maj=10.0km s-min=5.5km az=149.4*
NEIC ***01*** *00:05:11.0±0.6, 11.°47S×75.°57W, h103km±5km, mb4.9/49, Error ellipse: s-maj=7.7km s-min=4.1km az=63.0*
NEIC Felt [III] at Yauyos and [II] at Concepcion.
IDC ***01*** *00:05:12.8±0.4, 11.°68S×75.°78W, h123km±3km, mb4.2/17, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, Error ellipse: s-maj=10.9km s-min=7.7km az=158.0*
ISC 01 00:05:10.9±0.6**, 11.°48S**±0.°04×**75.°57W**±0.°05**, h100**km±5km**, h111**km±3.2km**:pP-P, n153, σ0.°81**/141**, mb4.7**/64**, 2C-1D, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**1.35**	**248**	P	**Pn**	**00 05 35.4**	**+0.1**
	baz=81,slow=9.4						
NNA				S	**Sn**	**00 05 53.5**	**-0.3**
	16µm,0.3s,baz=206,slow=14,SNR=54						
NNA	**Nana**	**1.35**	**248** ⇑	iPn	**Pn**	**00 05 35.4**	**0.0**
NNA				eSn	**Sn**	**00 05 53.3**	**-0.5**
NNA				S	**Sn**	**00 05 53.5**	**-0.3**
ATAH	**Atahualpa**	**5.14**	**327**	P	**Pn**	**00 06 26.2**	**+0.7**
	108nm,0.3s,baz=180,slow=4.4,SNR=145						
ATAH				S	**Sn**	**00 07 17.2**	**-6.5**
	33nm,0.3s,baz=139,slow=5.5,SNR=3.8						
ATAH	**Atahualpa**	**5.14**	**327**	P	**Pn**	**00 06 26.2**	**+0.7**
ATAH				S	**Sn**	**00 07 17.2**	**-6.5**
LPAZ	**La Paz**	**8.66**	**124**	ePn	**Pn**	**00 07 14.9**	**+1.5**
	25nm,0.6s						
LPAZ				Sn	**Sn**	**00 08 48.7**	**-0.7**
OTAV	**Otavalo**	**11.98**	**346**	ePn	**Pn**	**00 07 59.4**	**+0.9**
OTAV				eSn	**Sn**	**00 10 09.5**	**-0.9**
ROSC	**El Rosal**	**16.27**	**4**	P	**Pn**	**00 08 59.0**	**+5.3**
	1.2nm,0.3s,baz=163,slow=10,SNR=8.9						
ROSC				S	**S**	**00 12 04.6**	**+4.2**
	1.4nm,0.3s,baz=97,slow=18,SNR=1.8						
ROSC	**El Rosal**	**16.27**	**4**	ePn	**Pn**	**00 08 52.9**	**-0.8**
ROSC				S	**S**	**00 12 04.6**	**+4.2**
LCO	**Las Campanas**	**18.03**	**166**	eP	**Pn**	**00 09 15.1**	**+0.1**
	41nm,1.1s						
PAYG	**Puerto Ayora**	**18.13**	**305**	eP	**Pn**	**00 09 16.0**	**-0.4**
	20nm,0.8s						
SDV	**Santo Domingo**	**20.82**	**14**	eP	**P**	**00 09 45.1**	**+0.6**
SDV				S	**S**	**00 13 31.1**	**-0.3**
BCIP	**Isla Barro Col**	**20.94**	**348**	eP	**P**	**00 09 45.8**	**-0.1**
	37nm,0.8s						
CFAA	**Coronel Fontan**	**21.14**	**162**	P	**P**	**00 09 48.6**	**+0.7**
	2.0nm,0.7s,mb3.6,baz=339,slow=11,SNR=36						
CFAA	**Coronel Fontan**	**21.14**	**162**	P	**P**	**00 09 48.6**	**+0.7**
CPUP	**Villa Florida**	**22.67**	**133**	P	**P**	**00 10 03.9**	**-0.3**
	19nm,0.7s,mb4.5,baz=303,slow=10.0,SNR=58						
CPUP	**Villa Florida**	**22.67**	**133**	eP	**P**	**00 10 04.0**	**-0.2**
JTS	**JuntasAbangare**	**23.55**	**336**	P	**P**	**00 10 14.6**	**+2.2**
	3.9nm,0.7s,mb3.9,baz=143,slow=17,SNR=3.7						
JTS	**JuntasAbangare**	**23.55**	**336**	P	**P**	**00 10 14.6**	**+2.2**
GRGR	**Grenville**	**27.22**	**31**	eP	**P**	**00 10 44.5**	**-1.2**
	141nm,0.5s,mb5.8						
TGUH	**Tegucigalpa,Un**	**27.90**	**335**	eP	**P**	**00 10 52.4**	**+0.7**
TRQA	**Tornquist**	**29.13**	**158**	eP	**P**	**00 11 01.2**	**-1.2**
	7.5nm,0.8s,mb4.4						
PLCA	**Paso Flores**	**29.47**	**172**	P	**P**	**00 11 05.3**	**-0.1**
	3.0nm,0.9s,mb3.9,baz=325,slow=10,SNR=4.2						
PLCA	**Paso Flores**	**29.47**	**172**	P	**P**	**00 11 05.3**	**-0.1**
MTDJ	**Mount Denham**	**29.58**	**356**	eP	**P**	**00 11 08.1**	**+1.5**
	34nm,0.5s,mb5.2						
SJG	**San Juan**	**30.84**	**18**	P	**P**	**00 11 17.9**	**+0.3**
	18nm,0.6s,mb5.0,baz=170,slow=6.1,SNR=5.6						
SJG				pP	pP	00 11 47.2	+7.1
	18nm,0.6s,baz=248,slow=7.4,SNR=2.8						
SJG				sP	sP	00 12 00.2	+8.6
	21nm,0.6s,baz=223,slow=9.0,SNR=2.5						
SJG	**San Juan**	**30.84**	**18**	eP	**P**	**00 11 17.8**	**+0.1**
	70nm,1.4s,mb5.2						
SJG				pP	pP	00 11 47.2	+7.1
SJG				sP	sP	00 12 00.2	+8.6
CBYP	**Canovanas**	**31.07**	**18**	eP	**P**	**00 11 19.7**	**0.0**
TEIG	**Tepich**	**33.90**	**338**	eP	**P**	**00 11 44.4**	**0.0**
	17nm,0.4s,mb5.2						
RCBR	**Riachuelo**	**39.59**	**85**	P	**P**	**00 12 33.3**	**+0.4**
	6.0nm,0.8s,mb4.5,baz=51,slow=22,SNR=2.1						
RCBR	**Riachuelo**	**39.59**	**85**	P	**P**	**00 12 33.3**	**+0.4**
EFI	**East Falkland**	**42.54**	**164**	eP	**P**	**00 12 56.0**	**-0.5**
	9.9nm,0.8s,mb4.6						
NHSC	**New Hope**	**44.55**	**354**	eP	**P**	**00 13 12.2**	**-0.6**
NHSC				epP	pP	00 13 32.6	-3.8
CPCT	**Cooper Cave**	**47.43**	**350**	eP	**P**	**00 13 33.0**	**-2.5**
CPCT				epP	pP	00 13 55.4	-3.8
SWET	**Sewanee**	**47.46**	**348**	eP	**P**	**00 13 34.5**	**-1.1**
SWET				epP	pP	00 13 58.0	-1.4
PLAL	**Pickwick Lake**	**47.70**	**346**	eP	**P**	**00 13 36.4**	**-1.2**
	13nm,0.8s,mb4.8						
PLAL				epP	pP	00 13 60.0	-1.3
TZTN	**Tazewell**	**48.35**	**351**	eP	**P**	**00 13 41.8**	**-0.7**
TZTN				epP	pP	00 14 03.6	-2.7
UALR	**University of**	**48.67**	**342**	eP	**P**	**00 13 44.9**	**-0.1**
ELN	**Prospectdale**	**48.69**	**354**	eP	**P**	**00 13 45.5**	**+0.4**
ELN				epP	pP	00 14 06.7	-2.3
WVT	**Waverly**	**48.74**	**347**	eP	**P**	**00 13 43.6**	**-1.9**
	238nm,3.0s						
WVT				epP	pP	00 14 06.3	-3.0
TXAR	**Lajitas Array**	**48.80**	**327**	P	**P**	**00 13 46.1**	**0.0**
	2.0nm,0.5s,mb4.3,baz=154,slow=9.1,SNR=38						
TXAR				pP	pP	00 14 15.9	+6.0
	2.1nm,0.8s,baz=154,slow=10,SNR=5.4						
TXAR	**Lajitas Array**	**48.80**	**327**	P	**P**	**00 13 46.0**	**0.0**
TXAR				pP	pP	00 14 15.9	+6.0
MIAR	**Mount Ida**	**48.86**	**340**	eP	**P**	**00 13 46.3**	**-0.1**
	19nm,0.8s,mb5.1						
WCI	**Wyandotte Cave**	**50.45**	**349**	eP	**P**	**00 13 57.4**	**-1.1**
	47nm,0.6s,mb5.6						
WCI				epP	pP	00 14 19.2	-3.3
SIUC	**Southern Illin**	**50.58**	**346**	eP	**P**	**00 13 58.1**	**-1.3**
SIUC				epP	pP	00 14 21.7	-1.7
WMOK	**Wichita Mounta**	**50.96**	**335**	eP	**P**	**00 14 02.5**	**+0.1**
WMOK				pP	pP	00 14 26.2	-0.2
WMOK				esP	sP	00 14 35.0	-2.5
WMOK				ePcP	PcP	00 15 17.4	+0.1
FVM	**French Village**	**51.13**	**345**	eP	**P**	**00 14 01.9**	**-1.6**
	36nm,0.7s,mb5.5						
FVM				epP	pP	00 14 27.7	+0.1
OLIL	**Olney**	**51.30**	**347**	eP	**P**	**00 14 03.4**	**-1.5**
OLIL				epP	pP	00 14 26.9	-2.0
MNTX	**Cornudas Mount**	**51.56**	**327**	eP	**P**	**00 14 07.2**	**+0.3**
	4.7nm,1.1s,mb4.4						
MNTX				epP	pP	00 14 36.8	+5.7
SSPA	**Standing Stone**	**51.89**	**358**	eP	**P**	**00 14 09.2**	**+0.1**
SSPA				epP	pP	00 14 28.4	-4.9
ALLY	**Alegheny Colle**	**53.03**	**356**	eP	**P**	**00 14 16.6**	**-1.0**
ALLY				epP	pP	00 14 37.2	-4.6
HDIL	**Hopedale**	**53.31**	**347**	eP	**P**	**00 14 18.2**	**-1.4**
BINY	**Binghamton**	**53.41**	**360**	eP	**P**	**00 14 20.4**	**0.0**
BINY				epP	pP	00 14 38.3	-6.2
KSU1	**Kansas State U**	**54.00**	**340**	eP	**P**	**00 14 23.8**	**-1.0**
KSU1				e	pP	00 14 52.6	+3.6
LAZ	**Ladron**	**54.59**	**328**	eP	**P**	**00 14 28.6**	**-0.5**
	3.7nm,1.3s,mb4.2						
LAZ				esP	sP	00 15 00.6	-4.0
ANMO	**Albuquerque**	**54.67**	**329**	P	**P**	**00 14 29.2**	**-0.4**
	1.0nm,0.5s,mb4.1,baz=56,slow=6.8,SNR=3.3						
ANMO				pP	pP	00 15 00.3	+6.4
	1.7nm,0.9s,baz=105,slow=12,SNR=2.7						
ANMO	**Albuquerque**	**54.67**	**329**	eP	**P**	**00 14 30.1**	**+0.4**
ANMO				pP	pP	00 15 00.3	+6.4
TUC	**Tucson**	**55.04**	**323**	eP	**P**	**00 14 32.8**	**+0.4**
JFWS	**Jewell Farm**	**55.77**	**347**	eP	**P**	**00 14 36.1**	**-1.3**
JFWS				epP	pP	00 14 58.9	-2.9
SDCO	**Great Sand Dun**	**56.43**	**332**	eP	**P**	**00 14 42.5**	**+0.3**
	37nm,1.8s,mb5.1						
SDCO				epP	pP	00 15 13.2	+6.6
WUAZ	**Wupatki**	**57.71**	**326**	eP	**P**	**00 14 52.3**	**+1.0**
	10.0nm,0.9s,mb4.8						
ECSD	**EROS Data Cent**	**58.20**	**342**	eP	**P**	**00 14 53.7**	**-0.8**
	140nm,2.7s,mb5.5						
ECSD				epP	pP	00 15 17.6	-1.5
PV01	**Paradox Valley**	**58.22**	**330**	eP	**P**	**00 14 55.5**	**+0.8**
	278nm,0.7s						
PV01				epP	pP	00 15 16.7	-2.6
PV01				esP	sP	00 15 26.7	-3.7
CCUT	**Cedar City**	**60.28**	**326**	eP	**P**	**00 15 10.5**	**+1.5**
	31nm,2.1s,mb5.0						
RSSD	**Black Hills**	**61.09**	**337**	eP	**P**	**00 15 14.5**	**+0.1**
	3.7nm,0.8s,mb4.5						
JLU	**Jordanelle**	**61.54**	**329**	eP	**P**	**00 15 18.3**	**+0.8**
	61nm,2.5s,mb5.2						
DUG	**Dugway**	**61.92**	**328**	eP	**P**	**00 15 20.8**	**+0.7**
	9.4nm,0.9s,mb4.8						
ISA	**Isabella**	**61.97**	**321**	eP	**P**	**00 15 21.3**	**+0.9**
	5.0nm,1.0s,mb4.5						
ISA				epP	pP	00 15 43.7	-1.6
ISA				esP	sP	00 15 51.4	-4.9
AGMN	**Agassiz Nation**	**62.17**	**345**	eP	**P**	**00 15 20.9**	**-0.6**
	18nm,0.8s,mb5.2						
AGMN				epP	pP	00 15 46.5	+0.2
PDAR	**Pinedale Array**	**62.30**	**332**	P	**P**	**00 15 22.0**	**-0.5**
	1.5nm,0.5s,mb4.3,baz=124,slow=9.0,SNR=15						
PDAR				pP	pP	00 15 53.2	+5.8
	1.4nm,0.6s,baz=123,slow=9.2,SNR=3.8						
PDAR	**Pinedale Array**	**62.30**	**332**	P	**P**	**00 15 22.0**	**-0.5**
PDAR				pP	pP	00 15 53.2	+5.8
HWUT	**Hardware Ranch**	**62.35**	**330**	eP	**P**	**00 15 23.1**	**+0.2**
	8.9nm,0.8s,mb4.8						
HWUT				epP	pP	00 15 53.6	+5.8
AHID	**Auburn Hatcher**	**63.02**	**331**	eP	**P**	**00 15 27.2**	**0.0**
	98nm,2.8s,mb5.2						
HVU	**Hansel Valley**	**63.08**	**330**	eP	**P**	**00 15 27.9**	**+0.1**
	7.2nm,0.8s,mb4.7						
RRI2	**Red Ridge**	**63.57**	**332**	eP	**P**	**00 15 31.5**	**+0.6**
	11nm,0.7s,mb4.8						
RRI2				epP	pP	00 16 02.0	+6.2
NVAR	**Mina Array Bea**	**63.70**	**324**	P	**P**	**00 15 32.4**	**+0.6**
	2.3nm,0.7s,mb4.1,baz=142,slow=7.0,SNR=21						
NVAR				pP	pP	00 16 03.0	+6.2
	2.3nm,0.9s,baz=148,slow=7.5,SNR=4.7						
NVAR	**Mina Array Bea**	**63.70**	**324**	P	**P**	**00 15 32.4**	**+0.6**
NVAR				pP	pP	00 16 03.0	+6.2
IMW	**Indian Meadow**	**63.81**	**332**	eP	**P**	**00 15 33.0**	**+0.4**
	134nm,3.0s						
FLWY	**Flagg Ranch**	**63.85**	**332**	eP	**P**	**00 15 33.5**	**+0.8**
	12nm,0.8s,mb4.8						
FLWY				epP	pP	00 16 04.4	+6.7
CMB	**Columbia Colle**	**64.67**	**322**	eP	**P**	**00 15 37.8**	**-0.5**
DGMT	**Dagmar**	**64.84**	**339**	eP	**P**	**00 15 39.8**	**+0.7**
	19nm,0.6s,mb5.1						
DGMT				epP	pP	00 16 09.2	+5.0
WCN	**Washoe City**	**65.12**	**323**	eP	**P**	**00 15 42.4**	**+1.3**
	5.6nm,1.0s,mb4.3						
HLID	**Hailey**	**65.21**	**330**	eP	**P**	**00 15 42.0**	**+0.4**
	2.5nm,0.6s,mb4.2						
HLID				pP	pP	00 16 05.7	-0.9
MCMT	**McKenzie Canyo**	**65.41**	**332**	eP	**P**	**00 15 43.5**	**+0.6**
	2.1nm,0.9s,mb4.0						
BOZ	**Bozeman (W)**	**65.48**	**333**	eP	**P**	**00 15 43.2**	**-0.1**
	4.7nm,0.9s,mb4.3						
BOZ				epP	pP	00 16 15.4	+7.0
DLMT	**Dillon**	**65.70**	**332**	eP	**P**	**00 15 43.9**	**-0.9**
	35nm,2.0s,mb4.8						
MFID	**Camas Ranch**	**65.81**	**329**	eP	**P**	**00 15 46.2**	**+0.7**
	13nm,0.9s,mb4.8						
MFID				epP	pP	00 16 17.6	+7.0
SCHQ	**Schefferville**	**66.46**	**6**	P	**P**	**00 15 49.1**	**-0.3**
	6.6nm,0.8s,mb4.5,baz=186,slow=12,SNR=4.9						
SCHQ	**Schefferville**	**66.46**	**6**	P	**P**	**00 15 49.1**	**-0.3**
MOD	**Modoc**	**67.15**	**325**	eP	**P**	**00 15 54.9**	**+0.8**
	11nm,0.7s,mb4.8						
MSO	**Missoula**	**67.42**	**333**	eP	**P**	**00 15 56.5**	**+0.8**
	5.2nm,0.9s,mb4.4						
MSO				epP	pP	00 16 28.2	+7.4
BMO	**Blue Mountains**	**67.58**	**329**	eP	**P**	**00 15 56.7**	**0.0**
	33nm,2.3s,mb4.8						
YBH	**Yreka Blue Hor**	**68.41**	**324**	eP	**P**	**00 16 01.4**	**-0.6**
	42nm,2.1s,mb4.9						
WALA	**Waterton Lakes**	**69.09**	**334**	eP	**P**	**00 16 05.9**	**-0.1**
	0.2nm,0.6s						
NEW	**Newport**	**69.94**	**332**	eP	**P**	**00 16 11.4**	**+0.2**
	5.4nm,1.0s,mb4.3						
OD2	**Odessa Site #2**	**70.07**	**330**	eP	**P**	**00 16 12.7**	**+0.6**
ETW	**Entiat**	**71.01**	**330**	eP	**P**	**00 16 18.8**	**+1.0**
VNA3	**Neumayer Olymp**	**71.55**	**162**	e	**P**	**00 16 19.8**	**-0.9**
VNA2	**Neumayer--Watz**	**72.15**	**161**	e	**P**	**00 16 23.3**	**-1.0**
	baz=286,slow=6.8						
VNA2				e		00 16 59.0	
DBIC	**Dimbokro**	**72.61**	**79**	P	**P**	**00 16 28.1**	**-0.1**
	5.2nm,0.5s,mb4.7,baz=249,slow=5.3,SNR=28						
DBIC				pP	pP	00 16 56.8	+3.1
	4.3nm,0.7s,baz=273,slow=5.4,SNR=2.3						
DBIC	**Dimbokro**	**72.61**	**79**	P	**P**	**00 16 28.1**	**-0.1**
DBIC				pP	pP	00 16 56.8	+3.1
SNAA	**Sanae**	**73.76**	**162**	e	**P**	**00 16 34.0**	**+0.1**
SNAA				e		00 17 12.8	
SNAA	**Sanae**	**73.76**	**162**	eP	**P**	**00 16 32.6**	**-1.2**
	12nm,1.1s,mb4.5						
YKA	**Yellowknife Ar**	**79.72**	**343**	P	**P**	**00 17 06.7**	**-0.7**
	4.3nm,0.5s,mb4.5,baz=140,slow=5.4,SNR=24						
YKA				pP	pP	00 17 36.0	+2.8
	3.2nm,0.7s,baz=139,slow=6.0,SNR=4.8						
YKA	**Yellowknife Ar**	**79.72**	**343**	P	**P**	**00 17 06.7**	**-0.7**
YKA				pP	pP	00 17 36.0	+2.8
EVO	**Evora**	**80.16**	**47**	eP	**P**	**00 17 11.2**	**+0.9**
	27nm,0.8s,mb4.8						
TORD	**Torodi Ar. Bea**	**80.45**	**74**	P	**P**	**00 17 12.2**	**-0.2**
	12nm,0.7s,mb4.8,baz=260,slow=4.5,SNR=84						
TORD				pP	pP	00 17 42.3	+4.0
	7.8nm,0.8s,baz=259,slow=5.6,SNR=5.9						
TORD				sP	sP	00 17 56.7	+7.7
	6.6nm,0.9s,baz=263,slow=4.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**80.45**	**74**	P	**P**	**00 17 12.2**	**-0.2**
TORD				pP	pP	00 17 42.3	+4.0
TORD				sP	sP	00 17 56.7	+7.7
DLBC	**Dease Lake**	**82.44**	**334**	P	**P**	**00 17 22.3**	**+0.5**
	4.0nm,0.5s,mb4.5,baz=109,slow=0.9,SNR=7.3						
DLBC				pP	pP	00 17 54.0	+6.2
	4.5nm,0.9s,baz=225,slow=2.9,SNR=2.4						
DLBC	**Dease Lake**	**82.44**	**334**	eP	**P**	**00 17 22.4**	**+0.6**
DLBC				pP	pP	00 17 54.0	+6.2
ESDC	**Sonseca Array**	**83.51**	**47**	P	**P**	**00 17 29.4**	**+1.6**
	4.3nm,0.8s,mb4.3,baz=261,slow=5.3,SNR=18						
ESDC				pP	pP	00 17 59.0	+5.1
	2.3nm,0.7s,baz=263,slow=4.9,SNR=5.6						
ESDC	**Sonseca Array**	**83.51**	**47**	P	**P**	**00 17 29.4**	**+1.6**
ESDC				pP	pP	00 17 59.0	+5.1
TAM	**Tamanrasset**	**86.33**	**66**	eP	**P**	**00 17 43.6**	**+1.2**
	16nm,1.4s,mb4.8						
SJPF	**Ste Jean**	**86.61**	**45**	eP	**P**	**00 17 43.5**	**+0.2**
RES	**Resolute Bay**	**86.83**	**355**	eP	**P**	**00 17 42.9**	**-0.7**
	2.6nm,0.6s,mb4.3						
SUMG	**Summit**	**87.31**	**10**	eP	**P**	**00 17 46.2**	**+0.2**
	28nm,1.1s,mb5.1						
SUMG	**Summit**	**87.31**	**10** ⇓	iP	**P**	**00 17 46.9**	**+0.9**
	14nm,0.9s,mb4.9						
SUMG				i		00 18 19.5	
EPF	**Esparros**	**87.67**	**45**	eP	**P**	**00 17 48.1**	**-0.3**
RJF	**Les Rejaudoux**	**89.17**	**43**	eP	**P**	**00 17 54.8**	**-0.6**
	28nm,1.2s,mb4.9						
TSUM	**Tsumeb**	**89.22**	**109**	eP	**P**	**00 17 56.3**	**0.0**
DAWY	**Dawson**	**89.28**	**337**	eP	**P**	**00 17 55.0**	**-0.5**
INK	**Inuvik**	**89.43**	**342**	eP	**P**	**00 17 55.9**	**-0.2**
	16nm,1.3s,mb4.9						
TCF	**Toulx Ste Croi**	**89.92**	**43**	eP	**P**	**00 17 58.3**	**-0.5**
BGF	**Bois d'Agland**	**90.41**	**43**	eP	**P**	**00 18 01.4**	**+0.2**
SMF	**Signal de Mont**	**91.10**	**43**	eP	**P**	**00 18 04.5**	**+0.2**
ORIF	**Oris-en-Rattie**	**92.04**	**45**	eP	**P**	**00 18 09.2**	**+0.5**
	13nm,1.0s,mb4.8						
ILAR	**Eielson Array**	**92.52**	**336**	P	**P**	**00 18 09.6**	**-1.0**
	1.0nm,0.8s,mb4.2,baz=154,slow=3.3,SNR=11						
ILAR				pP	pP	00 18 41.9	+5.0
	0.4nm,0.7s,baz=79,slow=3.6,SNR=3.2						
ILAR				sP	sP	00 18 54.7	+7.2
	0.6nm,0.7s,baz=156,slow=2.7,SNR=3.5						
ILAR				PP	PP	00 21 51.2	-2.0
	0.3nm,0.6s,baz=113,slow=6.2,SNR=3.1						
ILAR	**Eielson Array**	**92.52**	**336**	P	**P**	**00 18 09.6**	**-1.0**
ILAR				pP	pP	00 18 41.9	+5.0
ILAR				sP	sP	00 18 54.7	+7.2
ILAR				PP	PP	00 21 51.2	-2.0
LPL	**La Plagne**	**92.77**	**44**	eP	**P**	**00 18 13.5**	**+1.4**
LPG	**La Plagne**	**92.77**	**44**	eP	**P**	**00 18 13.1**	**+1.0**
	6.7nm,0.7s,mb4.8						
GERES	**GERESS Array B**	**98.06**	**42**	P	**P**	**00 18 37.3**	**+1.2**
	0.2nm,0.2s,mb4.2,baz=217,slow=1.3,SNR=3.5						
GERES				pP	pP	00 19 08.2	+5.6
	1.5nm,1.0s,baz=226,slow=3.5,SNR=4.3						
GERES	**GERESS Array B**	**98.06**	**42**	P	**P**	**00 18 37.3**	**+1.2**
GERES				pP	pP	00 19 08.2	+5.6
VTS	**Vitosha**	**104.11**	**49** ⇑	iP	PKiKP	00 23 23.3	+3.4
CTAO	**Charters Tower**	**128.25**	**233**	ePKPdf	PKPdf	00 24 06.4	-0.1
ASAR	**Alice Springs**	**134.72**	**219**	PKP	PKPdf	00 24 18.1	-0.6
	2.0nm,0.7s,baz=136,slow=2.6,SNR=16						
ASAR				pPKP	pPKPdf	00 24 52.0	+5.8
	0.6nm,0.7s,baz=120,slow=2.1,SNR=2.1						
ASAR	**Alice Springs**	**134.72**	**219**	PKP	PKPdf	00 24 18.1	-0.6
ASAR				pPKP	pPKPdf	00 24 52.0	+5.8
ZAA0	**Zalesovo Array**	**134.85**	**16**	ePKPdf	PKPdf	00 24 17.4	-0.5
ZALV	**Zalesovo Beam**	**134.85**	**16**	PKP	PKPdf	00 24 17.8	-0.2
	5.8nm,0.8s,baz=316,slow=2.2,SNR=28						
ZALV				pPKP	pPKPdf	00 24 51.5	+6.0
	1.7nm,0.7s,baz=91,slow=0.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**134.85**	**16**	PKP	PKPdf	00 24 17.8	-0.2
ZALV				pPKP	pPKPdf	00 24 51.5	+6.0
KURK	**Kurchatov**	**135.53**	**23**	ePKPdf	PKPdf	00 24 19.1	-0.3
WRAB	**Tennant Creek**	**137.08**	**224**	ePKPdf	PKPdf	00 24 22.9	-0.3
WRA	**Warramunga Arr**	**137.09**	**224**	PKP	PKPdf	00 24 22.6	-0.5
	2.6nm,0.5s,baz=134,slow=1.9,SNR=30						
WRA				pPKP	pPKPdf	00 24 56.4	+5.7
	2.4nm,1.0s,baz=131,slow=1.6,SNR=4.0						
WRA	**Warramunga Arr**	**137.09**	**224**	PKP	PKPdf	00 24 22.6	-0.5
WRA				pPKP	pPKPdf	00 24 56.4	+5.7
MKAR	**Makanchi Array**	**140.13**	**24**	PKhKP	PKPpre	00 24 20.0	
	0.3nm,0.6s,baz=339,slow=3.8,SNR=3.4						
MKAR				PKP	PKPdf	00 24 27.7	-0.3
	1.3nm,0.7s,baz=327,slow=1.8,SNR=8.0						
MKAR				pPKP	pPKPdf	00 25 01.3	+5.8
	1.0nm,0.9s,baz=349,slow=3.1,SNR=2.2						
MKAR	**Makanchi Array**	**140.13**	**24**	PKPpre	PKPpre	00 24 20.0	
MKAR				PKP	PKPdf	00 24 27.7	-0.3
MKAR				pPKP	pPKPdf	00 25 01.3	+5.8
ULN	**Ulaanbaatar**	**143.66**	**357**	ePKPdf	PKPdf	00 24 31.8	-2.4
SONM	**Songino Array**	**143.72**	**358**	PKP	PKPdf	00 24 32.3	-2.0
	1.3nm,0.6s,baz=340,slow=0.7,SNR=12						
SONM				pPKP	pPKPdf	00 25 05.6	+3.7
	0.7nm,0.7s,baz=16,slow=1.2,SNR=1.7						
SONM	**Songino Array**	**143.72**	**358**	PKP	PKPdf	00 24 32.3	-2.0
SONM				pPKP	pPKPdf	00 25 05.6	+3.7
FITZ	**Fitzroy Crossi**	**143.92**	**216**	PKP	PKPdf	00 24 31.7	-3.8
	1.8nm,0.8s,baz=181,slow=6.8,SNR=6.9						
FITZ				pPKP	pPKPdf	00 25 06.5	+3.4
	2.9nm,0.9s,baz=110,slow=6.3,SNR=3.1						
FITZ	**Fitzroy Crossi**	**143.92**	**216**	PKP	PKPdf	00 24 31.7	-3.8
FITZ				pPKP	pPKPdf	00 25 06.5	+3.4
KSRS	**Korea Array**	**146.63**	**325**	PKPbc	PKPbc	00 24 40.0	-1.4
	3.9nm,0.8s,baz=40,slow=3.9,SNR=10						
KSRS				pPKPbc	pPKPbc	00 25 14.4	+5.8
	2.7nm,0.8s,baz=53,slow=3.2,SNR=3.4						
KSAR	**Wonju Array Be**	**146.66**	**325**	PKPbc	PKPbc	00 24 40.0	-1.5
KSAR				pPKPbc	pPKPbc	00 25 14.4	+5.7
CMAR	**Chiang Mai Arr**	**171.27**	**37**	PKPab	PKPab	00 26 30.4	+1.6
	0.7nm,0.3s,baz=310,slow=7.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**171.27**	**37**	PKPab	PKPab	00 26 30.4	+1.6

KRSC 01 00:11:08.5±0.6**, 51.°15N**×**158.°56E, h5**km±5km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.28**	**359**	i P	Pn	00 11 32.9	-0.2
RUS				i S	Sg	00 11 50.6	+0.8
GRL	**Gorelyy**	**1.44**	**348**	i P	Pn	00 11 36.0	+0.8
GRL				i S	Sb	00 11 56.1	+1.8
MIPR	**Malaya Ipel'ka**	**1.59**	**316**	eP	Pn	00 11 37.4	+0.1
MIPR				i S	Sn	00 11 58.4	+0.2
PET	**Petropavlovsk**	**1.88**	**2**	P	Pn	00 11 41.6	+0.4
PET				i S	Sn	00 12 06.2	+0.9
UGLR	**Uglovaya**	**2.07**	**4**	i P	Pn	00 11 45.9	+2.1
UGLR				eS	Sn	00 12 13.0	+3.0
AVH	**Avacha**	**2.12**	**3**	P	Pn	00 11 46.3	+1.7
AVH				i S	Sn	00 12 13.5	+2.2
SDLR	**Sedlovina**	**2.14**	**5**	i P	Pn	00 11 46.5	+1.7
SDLR				eS	Sn	00 12 13.6	+1.9
KOK	**Koryaka**	**2.15**	**1**	eP	Pn	00 11 47.0	+2.1
KOK				eS	Sn	00 12 14.5	+2.6
SPN	**Mys Shipunski**	**2.15**	**24**	P	Pn	00 11 46.6	+1.7
SPN				i S	Sn	00 12 13.8	+1.8
GNL	**Ganaly**	**2.58**	**352**	eP	Pn	00 11 52.5	+1.7
MKZ	**Mys Kozlova**	**3.92**	**28**	P	Pn	00 12 09.0	-0.2
KBTR	**Krutoberegovo**	**5.66**	**25**	P	Pn	00 12 34.6	+1.4

IDC ***01*** *00:15:27.1±1.6, 11.°17N×126.°53E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=133.9km s-min=24.1km az=74.0*
ISCJB ***01*** *00:15:30.2±1.2, 11.°1N±0.°2×126.°46E±0.°10, h33km, mb3.6/5, Error ellipse: s-maj=24.2km s-min=10.8km az=23.8*
ISC 01 00:15:32.3±1.2**, 11.°1N**±0.°2×**126.°4E**±0.°1**, h35**km**, n6, σ0.°43**/7**, mb3.6**/5**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	**Palo**	**1.38**	**272** ⇑	eP	**Pn**	**00 15 54.5**	**-0.5**
PLP				i S	**Sn**	**00 16 12.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**29.06**	**181**	P	**P**	**00 21 29.9**	**+0.5**
	1.3nm,1.0s,mb3.6,baz=344,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**31.86**	**166**	P	**P**	**00 21 53.5**	**-0.7**
	0.5nm,0.8s,mb3.4,baz=346,slow=9.2,SNR=4.1						
ASAR	**Alice Springs**	**35.36**	**168**	P	**P**	**00 22 25.0**	**+0.4**
	0.4nm,0.3s,mb3.8,baz=351,slow=7.2,SNR=7.0						
SONM	**Songino Array**	**40.26**	**339**	P	**P**	**00 23 05.9**	**+0.2**
	0.7nm,0.9s,mb3.4,baz=168,slow=7.4,SNR=5.1						
STKA	**Stephens Creek**	**45.18**	**162**	P	**P**	**00 23 45.6**	**-0.2**
	1.1nm,0.8s,mb3.7,baz=340,slow=15,SNR=1.9						

CSEM ***01*** *00:21:20.9±0.2, 39.°43N×25.°82E, h2km, ML2.8/6, Error ellipse: s-maj=5.0km s-min=4.1km az=66.0*
ATH ***01*** *00:21:20.1, 39.°44N×25.°94E, h27km, MD3.3/8*
THE ***01*** *00:21:21.1, 39.°43N×25.°89E, h7km, ML2.8/6, Error ellipse: s-maj=0.7km s-min=0.2km az=158.0*
ISCJB ***01*** *00:21:21.2±0.3, 39.°44N±0.°02×25.°85E±0.°03, h10km, Error ellipse: s-maj=3.2km s-min=2.5km az=160.4*
ISK ***01*** *00:21:21.1, 39.°52N×25.°91E, h5km, MD3.1*
DDA ***01*** *00:21:22.8, 39.°60N×26.°35E, h8km±8km, Md3.1*
ISC 01 00:21:21.8±0.3**, 39.°44N**±0.°02×**25.°85E**±0.°03**, h10**km**, n161, σ1.°33**/191**, 9C-2D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.23**	**180**	P	**Pg**	**00 21 25.5**	**-1.0**
SIGR				S	**Sg**	**00 21 28.8**	**-0.9**
SIGR	**SIGRI**	**0.23**	**180**	P	**Pg**	**00 21 25.5**	**-1.0**
SIGR				S	**Sg**	**00 21 28.8**	**-0.9**
PRK	**Paraskevi**	**0.38**	**121**	ePB	**Pg**	**00 21 27.7**	**-1.6**
PRK				eSB	**Sg**	**00 21 33.2**	**-1.1**
PRK	**Paraskevi**	**0.38**	**121**	P	**Pg**	**00 21 27.8**	**-1.5**
PRK				S	**Sg**	**00 21 33.0**	**-1.3**
PRK	**Paraskevi**	**0.38**	**121**	P	**Pg**	**00 21 27.8**	**-1.5**
PRK				eSb	**Sg**	**00 21 33.2**	**-1.1**
BOZC	**Bozcaada**	**0.43**	**21**	i P	**Pg**	**00 21 28.7**	**-1.6**
BOZC				i S	**Sg**	**00 21 35.2**	**-0.8**
EZN	**Ezine**	**0.53**	**43**	PG	**Pg**	**00 21 30.4**	**-1.8**
EZN				eSG	**Sg**	**00 21 38.1**	**-1.1**
EZN	**Ezine**	**0.53**	**43**	i Pg	**Pg**	**00 21 30.4**	**-1.8**
EZN				eSg	**Sg**	**00 21 38.1**	**-1.1**
EZN	**Ezine**	**0.53**	**43**	i Pg	**Pg**	**00 21 30.4**	**-1.8**
EZN				eSg	**Sg**	**00 21 38.1**	**-1.1**
AYVA	**Ayvalik**	**0.66**	**101**	i P	**Pg**	**00 21 32.3**	**-2.3**
AYVA				i S	**Sg**	**00 21 41.7**	**-1.6**
AYVA	**Ayvalik**	**0.66**	**101**	i P	**Pg**	**00 21 32.3**	**-2.3**
AYVA	**Ayvalik**	**0.66**	**101**	i P	**Pg**	**00 21 32.3**	**-2.3**
AYVA				i S	**Sg**	**00 21 41.7**	**-1.6**
LIA	**Limnos Island**	**0.69**	**312**	ePN	**Pg**	**00 21 34.7**	**-0.5**
LIA				eSN	**Sg**	**00 21 45.6**	**+1.4**
LIA	**Limnos Island**	**0.69**	**312**	P	**Pg**	**00 21 34.7**	**-0.5**
LIA				S	**Sg**	**00 21 45.4**	**+1.2**
LIA	**Limnos Island**	**0.69**	**312**	ePn	**Pg**	**00 21 34.7**	**-0.5**
LIA	**Limnos Island**	**0.69**	**312**	P	**Pg**	**00 21 34.7**	**-0.5**
LIA				S	**Sg**	**00 21 45.4**	**+1.2**
GADA	**Gvkgeada**	**0.75**	**3**	ePG	**Pg**	**00 21 35.5**	**-0.8**
GADA				eSG	**Sg**	**00 21 45.4**	**-0.8**
GADA	**Gvkgeada**	**0.75**	**3**	ePg	**Pg**	**00 21 35.5**	**-0.8**
GADA				eSg	**Sg**	**00 21 45.4**	**-0.8**
GADA	**Gvkgeada**	**0.75**	**3**	ePg	**Pg**	**00 21 35.5**	**-0.8**
GADA				eSg	**Sg**	**00 21 45.4**	**-0.8**
CHOS	**Chios island**	**1.06**	**171**	ePN	**Pg**	**00 21 40.8**	**-1.5**
CHOS				eSN	**Sg**	**00 21 55.7**	**-0.4**
CHOS	**Chios island**	**1.06**	**171**	P	**Pg**	**00 21 40.6**	**-1.7**
CHOS				S	**Sg**	**00 21 55.8**	**-0.3**
CHOS	**Chios island**	**1.06**	**171**	P	**Pg**	**00 21 40.6**	**-1.7**
CHOS				S	**Sg**	**00 21 55.8**	**-0.3**

GELI	**Tayfur-Gelibol**	**1.07**	**26**	*e*PG	**Pg**	**00 21 40.5**	**-1.9**
GELI	**Tayfur-Gelibol**	**1.07**	**26**	*e*Pg	**Pg**	**00 21 40.5**	**-1.9**
GELI	**Tayfur-Gelibol**	**1.07**	**26**	*e*Pg	**Pg**	**00 21 40.5**	**-1.9**
LPK	**Lapseki**	**1.16**	**37**	*e*PG	**Pg**	**00 21 41.9**	**-2.3**
LPK	**Lapseki**	**1.16**	**37**	*e*Pg	**Pg**	**00 21 41.9**	**-2.3**
LPK	**Lapseki**	**1.16**	**37**	*e*Pg	**Pg**	**00 21 41.9**	**-2.3**
ENEZ	**Enez**	**1.31**	**10**	*e*PN	**Pn**	**00 21 45.7**	**-0.6**
ENEZ	**Enez**	**1.31**	**10**	*e*Pn	**Pn**	**00 21 45.7**	**-0.6**
ENEZ	**Enez**	**1.31**	**10**	*e*Pn	**Pn**	**00 21 45.7**	**-0.6**
ERIK	**Erikli-Kesan**	**1.33**	**22**	*e*PN	**Pn**	**00 21 45.5**	**-0.9**
ERIK	**Erikli-Kesan**	**1.33**	**22**	*e*Pn	**Pn**	**00 21 45.5**	**-1.0**
ERIK	**Erikli-Kesan**	**1.33**	**22**	*e*Pn	**Pn**	**00 21 45.5**	**-1.0**
BALY	**Balya**	**1.40**	**77**	*i* P	**Pn**	**00 21 45.7**	**-1.7**
BALY				*i* S	**Sn**	**00 22 03.9**	**-1.9**
BALY	**Balya**	**1.40**	**77**	*i* P	**Pn**	**00 21 45.7**	**-1.7**
BALY	**Balya**	**1.40**	**77**	*i* P	**Pn**	**00 21 45.7**	**-1.7**
BALY				*i* S	**Sn**	**00 22 03.9**	**-2.0**
BLCB	**Balcova**	**1.40**	**138**	*e*PN	**Pn**	**00 21 48.7**	**+1.3**
BLCB	**Balcova**	**1.40**	**138**	*e*Pn	**Pn**	**00 21 48.7**	**+1.3**
BLCB	**Balcova**	**1.40**	**138**	*e*Pn	**Pn**	**00 21 48.7**	**+1.3**
ALN	**Alexandroupoli**	**1.46**	**6**	*e*PN	**Pn**	**00 21 46.9**	**-1.4**
ALN				*e*SN	**Sn**	**00 22 05.7**	**-1.8**
ALN	**Alexandroupoli**	**1.46**	**6**	P	**Pn**	**00 21 46.9**	**-1.4**
ALN				S	**Sn**	**00 22 06.9**	**-0.6**
ALN	**Alexandroupoli**	**1.46**	**6**	*e*Pn	**Pn**	**00 21 46.9**	**-1.4**
ALN	**Alexandroupoli**	**1.46**	**6**	P	**Pn**	**00 21 46.9**	**-1.4**
ALN				*e*Sn	**Sn**	**00 22 05.7**	**-1.8**
ALN				S	**Sn**	**00 22 06.9**	**-0.6**
KRBG	**Karabiga-Canak**	**1.46**	**49**	*e*PN	**Pn**	**00 21 47.4**	**-0.9**
KRBG	**Karabiga-Canak**	**1.46**	**49**	*e*Pn	**Pn**	**00 21 47.4**	**-0.9**
KRBG	**Karabiga-Canak**	**1.46**	**49**	*e*Pn	**Pn**	**00 21 47.4**	**-0.9**
IZM	**Izmir**	**1.51**	**133**	*e*PN	**Pn**	**00 21 50.2**	**+1.2**
IZM	**Izmir**	**1.51**	**133**	*e*Pn	**Pn**	**00 21 50.2**	**+1.2**
IZM	**Izmir**	**1.51**	**133**	*e*Pn	**Pn**	**00 21 50.2**	**+1.2**
GONE	**Gonen-Balikesi**	**1.54**	**66**	*e*PN	**Pn**	**00 21 49.0**	**-0.3**
GONE	**Gonen-Balikesi**	**1.54**	**66**	*e*Pn	**Pn**	**00 21 49.0**	**-0.3**
GONE	**Gonen-Balikesi**	**1.54**	**66**	*e*Pn	**Pn**	**00 21 49.0**	**-0.3**
AOS	**Alonnisos**	**1.55**	**261**	P	**Pn**	**00 21 48.5**	**-1.0**
AOS				S	**Sn**	**00 22 10.2**	**+0.5**
AOS	**Alonnisos**	**1.55**	**261**	P	**Pn**	**00 21 48.5**	**-1.0**
AOS				S	**Sn**	**00 22 10.2**	**+0.5**
BALB	**Balikesir**	**1.58**	**82**	*e*PN	**Pn**	**00 21 50.2**	**+0.4**
BALB	**Balikesir**	**1.58**	**82**	*e*Pn	**Pn**	**00 21 50.3**	**+0.4**
BALB	**Balikesir**	**1.58**	**82**	*e*Pn	**Pn**	**00 21 50.3**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.61**	**39**	*e*PN	**Pn**	**00 21 50.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.61**	**39**	*e*Pn	**Pn**	**00 21 50.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.61**	**39**	*e*Pn	**Pn**	**00 21 50.2**	**-0.1**
AKHS	**Akhisar**	**1.62**	**110**	*i* P	**Pn**	**00 21 48.8**	**-1.7**
AKHS				*i* S	**Sn**	**00 22 11.6**	**+0.1**
AKHS	**Akhisar**	**1.62**	**110**	*i* P	**Pn**	**00 21 48.8**	**-1.7**
AKHS	**Akhisar**	**1.62**	**110**	*i* P	**Pn**	**00 21 48.8**	**-1.7**
AKHS				*i* S	**Sn**	**00 22 11.6**	**+0.2**
AKS	**Akhisar**	**1.62**	**110**	*e*PN	**Pn**	**00 21 51.4**	**+0.9**
AKS	**Akhisar**	**1.62**	**110**	*e*Pn	**Pn**	**00 21 51.4**	**+0.9**
AKS	**Akhisar**	**1.62**	**110**	*e*Pn	**Pn**	**00 21 51.4**	**+0.9**
RDO	**Rodhopi**	**1.72**	**352**	*e*PN	**Pn**	**00 21 50.8**	**-1.0**
RDO	**Rodhopi**	**1.72**	**352**	P	**Pn**	**00 21 50.8**	**-1.0**
RDO	**Rodhopi**	**1.72**	**352**	*e*Pn	**Pn**	**00 21 50.8**	**-1.0**
RDO	**Rodhopi**	**1.72**	**352**	P	**Pn**	**00 21 50.8**	**-1.0**
MFT	**Murefte**	**1.73**	**39**	*e*PN	**Pn**	**00 21 52.4**	**+0.4**
MFT	**Murefte**	**1.73**	**39**	*e*Pn	**Pn**	**00 21 52.4**	**+0.4**
MFT	**Murefte**	**1.73**	**39**	*e*Pn	**Pn**	**00 21 52.4**	**+0.4**
MRMT	**Marmara Adasi**	**1.77**	**48**	*e*PN	**Pn**	**00 21 52.7**	**+0.1**
MRMT	**Marmara Adasi**	**1.77**	**48**	*e*Pn	**Pn**	**00 21 52.7**	**+0.2**
MRMT	**Marmara Adasi**	**1.77**	**48**	*e*Pn	**Pn**	**00 21 52.7**	**+0.2**
BNT	**Bandirma**	**1.83**	**59**	*e*PN	**Pn**	**00 21 53.3**	**-0.1**
BNT	**Bandirma**	**1.83**	**59**	*e*Pn	**Pn**	**00 21 53.3**	**-0.1**
SMG	**Samos**	**1.89**	**156**	*e*PB	**Pn**	**00 21 52.0**	**-2.2**
SMG	**Samos**	**1.89**	**156**	*e*Pb	**Pn**	**00 21 52.0**	**-2.2**
TKR	**Tekirdag**	**2.02**	**39**	*e*PN	**Pn**	**00 21 57.0**	**+1.1**
TKR	**Tekirdag**	**2.02**	**39**	*e*Pn	**Pn**	**00 21 57.0**	**+1.1**
TKR	**Tekirdag**	**2.02**	**39**	*e*Pn	**Pn**	**00 21 57.0**	**+1.1**
KCTX	**Karacabey (Bur**	**2.10**	**66**	*e*PN	**Pn**	**00 21 58.0**	**+1.0**
KCTX	**Karacabey (Bur**	**2.10**	**66**	*e*Pn	**Pn**	**00 21 58.0**	**+1.0**
KCTX	**Karacabey (Bur**	**2.10**	**66**	*e*Pn	**Pn**	**00 21 58.0**	**+1.0**
DST	**Dursunbey**	**2.15**	**85**	*e*PN	**Pn**	**00 21 59.4**	**+1.8**
DST	**Dursunbey**	**2.15**	**85**	*e*Pn	**Pn**	**00 21 59.4**	**+1.7**
DST	**Dursunbey**	**2.15**	**85**	*e*Pn	**Pn**	**00 21 59.4**	**+1.7**
SOH	**Sokhos**	**2.36**	**307**	*e*PN	**Pn**	**00 22 00.1**	**-0.5**
SOH	**Sokhos**	**2.36**	**307**	*e*Pn	**Pn**	**00 22 00.1**	**-0.5**
SOH	**Sokhos**	**2.36**	**307**	*e*Pn	**Pn**	**00 22 00.1**	**-0.5**
KULA	**Kula-Manisa**	**2.38**	**112**	*e*PN	**Pn**	**00 22 02.8**	**+2.0**
KULA	**Kula-Manisa**	**2.38**	**112**	*e*Pn	**Pn**	**00 22 02.8**	**+2.0**
KULA	**Kula-Manisa**	**2.38**	**112**	*e*Pn	**Pn**	**00 22 02.8**	**+2.0**
APE	**Apeiranthos**	**2.38**	**186**	*e*PN	**Pn**	**00 21 59.6**	**-1.3**
APE	**Apeiranthos**	**2.38**	**186**	⇑*i*P	**Pn**	**00 22 00.0**	**-0.9**
APE	**Apeiranthos**	**2.38**	**186**	*e*Pn	**Pn**	**00 21 59.6**	**-1.3**
APE	**Apeiranthos**	**2.38**	**186**	⇑*i*P	**Pn**	**00 22 00.0**	**-0.9**
APE	**Apeiranthos**	**2.38**	**186**	*e*Pn	**Pn**	**00 21 59.6**	**-1.3**
APE	**Apeiranthos**	**2.38**	**186**	⇑*i*P	**Pn**	**00 22 00.0**	**-0.9**
NVR	**Nevrokopi**	**2.44**	**322**	*e*PN	**Pn**	**00 22 00.8**	**-0.9**
NVR	**Nevrokopi**	**2.44**	**322**	*e*Pn	**Pn**	**00 22 00.8**	**-0.9**
NVR	**Nevrokopi**	**2.44**	**322**	*e*Pn	**Pn**	**00 22 00.8**	**-0.9**
EDRB	**Edirne**	**2.50**	**15**	*e*PN	**Pn**	**00 22 03.1**	**+0.5**
EDRB	**Edirne**	**2.50**	**15**	*e*Pn	**Pn**	**00 22 03.1**	**+0.6**
EDRB	**Edirne**	**2.50**	**15**	*e*Pn	**Pn**	**00 22 03.1**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.51**	**67**	*e*PN	**Pn**	**00 22 04.2**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.51**	**67**	*e*Pn	**Pn**	**00 22 04.2**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.51**	**67**	*e*Pn	**Pn**	**00 22 04.2**	**+1.5**
SLVT	**Silivri**	**2.54**	**44**	*e*PN	**Pn**	**00 22 04.2**	**+1.1**
SLVT	**Silivri**	**2.54**	**44**	*e*Pn	**Pn**	**00 22 04.2**	**+1.1**
SLVT	**Silivri**	**2.54**	**44**	*e*Pn	**Pn**	**00 22 04.2**	**+1.1**
ARMT	**Armutlu**	**2.57**	**63**	*e*PN	**Pn**	**00 22 04.7**	**+1.2**
ARMT	**Armutlu**	**2.57**	**63**	*e*Pn	**Pn**	**00 22 04.7**	**+1.2**
ARMT	**Armutlu**	**2.57**	**63**	*e*Pn	**Pn**	**00 22 04.7**	**+1.2**
MLSB	**Milas**	**2.62**	**144**	*e*PN	**Pn**	**00 22 07.0**	**+2.8**
MLSB	**Milas**	**2.62**	**144**	*e*Pn	**Pn**	**00 22 07.0**	**+2.8**
MLSB	**Milas**	**2.62**	**144**	*e*Pn	**Pn**	**00 22 07.0**	**+2.8**
BODT	**Bodrum**	**2.64**	**154**	*e*PN	**Pn**	**00 22 07.5**	**+3.0**
BODT	**Bodrum**	**2.64**	**154**	*e*Pn	**Pn**	**00 22 07.5**	**+3.1**
BODT	**Bodrum**	**2.64**	**154**	*e*Pn	**Pn**	**00 22 07.5**	**+3.1**
CTKS	**Kestanelik-??a**	**2.71**	**48**	*e*PN	**Pn**	**00 22 06.2**	**+0.8**
CTKS	**Kestanelik-??a**	**2.71**	**48**	*e*Pn	**Pn**	**00 22 06.2**	**+0.8**
CTKS	**Kestanelik-??a**	**2.71**	**48**	*e*Pn	**Pn**	**00 22 06.2**	**+0.8**
GEMT	**Gemlik**	**2.75**	**68**	*e*PN	**Pn**	**00 22 07.4**	**+1.5**
GEMT	**Gemlik**	**2.75**	**68**	*e*Pn	**Pn**	**00 22 07.4**	**+1.4**
GEMT	**Gemlik**	**2.75**	**68**	*e*Pn	**Pn**	**00 22 07.4**	**+1.4**
CTYL	**Yal??k??y-??at**	**2.75**	**42**	*e*PN	**Pn**	**00 22 07.2**	**+1.2**
CTYL	**Yal??k??y-??at**	**2.75**	**42**	*e*Pn	**Pn**	**00 22 07.2**	**+1.2**
CTYL	**Yal??k??y-??at**	**2.75**	**42**	*e*Pn	**Pn**	**00 22 07.2**	**+1.2**
BGKT	**Bogazkoy**	**2.83**	**51**	*e*PN	**Pn**	**00 22 08.6**	**+1.5**
BGKT	**Bogazkoy**	**2.83**	**51**	*e*Pn	**Pn**	**00 22 08.6**	**+1.5**
BGKT	**Bogazkoy**	**2.83**	**51**	*e*Pn	**Pn**	**00 22 08.6**	**+1.5**
YLV	**Yalova**	**2.93**	**66**	*e*PN	**Pn**	**00 22 10.2**	**+1.8**
YLV	**Yalova**	**2.93**	**66**	*e*Pn	**Pn**	**00 22 10.2**	**+1.8**
YLV	**Yalova**	**2.93**	**66**	*e*Pn	**Pn**	**00 22 10.2**	**+1.8**
KLYT	**Kilyos**	**3.04**	**52**	*e*PN	**Pn**	**00 22 11.1**	**+1.2**
KLYT	**Kilyos**	**3.04**	**52**	*e*Pn	**Pn**	**00 22 11.1**	**+1.2**
KLYT	**Kilyos**	**3.04**	**52**	*e*Pn	**Pn**	**00 22 11.1**	**+1.2**
ADVT	**Abdulvahap**	**3.15**	**70**	*e*PN	**Pn**	**00 22 13.4**	**+1.9**
ADVT	**Abdulvahap**	**3.15**	**70**	*e*Pn	**Pn**	**00 22 13.4**	**+2.0**
ADVT	**Abdulvahap**	**3.15**	**70**	*e*Pn	**Pn**	**00 22 13.4**	**+2.0**
SILT	**Sile**	**3.37**	**58**	*e*PN	**Pn**	**00 22 16.1**	**+1.7**
SILT	**Sile**	**3.37**	**58**	*e*Pn	**Pn**	**00 22 16.1**	**+1.7**
SILT	**Sile**	**3.37**	**58**	*e*Pn	**Pn**	**00 22 16.1**	**+1.7**
GULT	**Gulveren**	**3.72**	**73**	*e*PN	**Pn**	**00 22 21.2**	**+2.0**
GULT	**Gulveren**	**3.72**	**73**	*e*Pn	**Pn**	**00 22 21.2**	**+1.9**
GULT	**Gulveren**	**3.72**	**73**	*e*Pn	**Pn**	**00 22 21.2**	**+1.9**
SHUT	**Suhut-Afyon**	**3.77**	**102**	*e*PN	**Pn**	**00 22 22.3**	**+2.3**
SHUT	**Suhut-Afyon**	**3.77**	**102**	*e*Pn	**Pn**	**00 22 22.3**	**+2.4**
SHUT	**Suhut-Afyon**	**3.77**	**102**	*e*Pn	**Pn**	**00 22 22.3**	**+2.4**
MLR	**Muntele Rosu**	**6.05**	**1**	⇓*i*P	**Pn**	**00 22 52.9**	**+1.6**
MLR	**Muntele Rosu**	**6.05**	**1**	⇓*i*P	**Pn**	**00 22 52.9**	**+1.6**
GZR	**Gura Zlata**	**6.37**	**340**	⇑*i*P	**Pn**	**00 22 54.9**	**-0.8**
GZR	**Gura Zlata**	**6.37**	**340**	⇑*i*P	**Pn**	**00 22 54.9**	**-0.8**
PLOR	**Plostina**	**6.43**	**5**	⇑*i*P	**Pn**	**00 22 57.6**	**+1.0**
PLOR	**Plostina**	**6.43**	**5**	⇑*i*P	**Pn**	**00 22 57.6**	**+1.0**
VRI	**Vrincioaia**	**6.46**	**5**	⇑*i*P	**Pn**	**00 22 59.1**	**+2.2**
VRI	**Vrincioaia**	**6.46**	**5**	⇑*i*P	**Pn**	**00 22 59.1**	**+2.2**

IDC 01 00:29:56.6±3.2**, 21.°46N×145.°60E, h0**km**, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.4**/21**, mbtmp3.6**/4**, Error ellipse: s-maj=128.7km s-min=29.1km az=80.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.97**	**319**	P	P	00 37 41.2	+0.2
	0.2nm,0.4s,baz=123,slow=8.1,SNR=6.2						
WRA	**Warramunga Arr**	**42.59**	**196**	P	P	00 37 54.5	-0.1
	0.2nm,0.8s,baz=19,slow=8.2,SNR=3.1						
MKAR	**Makanchi Array**	**56.51**	**313**	P	P	00 39 40.4	-0.1
	0.4nm,0.4s,baz=90,slow=8.1,SNR=8.6						
FINES	**FINESS Array B**	**84.35**	**335**	P	P	00 42 30.5	+0.1
	2.1nm,0.8s,baz=70,slow=6.3,SNR=8.3						

*IDC **01** 00:35:47.9±1.5, 8.°08S×120.°36E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=164.7km s-min=19.9km az=57.0*
*ISCJB **01** 00:35:50.8±0.6, 8.°17S±0.°05×120.°41E±0.°05, h33km, mb3.7/3, Error ellipse: s-maj=7.2km s-min=6.7km az=139.3*
*DJA **01** 00:35:50, 8.°07S×120.°30E, h10km, MLv3.7/5*
ISC 01 00:35:53.0±0.5**, 8.°15S**±0.°05**×120.°35E**±0.°05**, h35**km**, n12, σ1^{s}31**/18**, mb3.7**/3**, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.52**	**182**	P	**Pn**	**00 36 16.5**	**-1.1**
WSI				S	**Sn**	**00 36 39.9**	**+3.8**
BMNI	**Bima**	**1.69**	**256**	P	**Pn**	**00 36 18.6**	**-1.4**
BMNI				S	**Sn**	**00 36 41.6**	**+1.2**
MMRI	**Maumere**	**1.93**	**105**	P	**Pn**	**00 36 24.3**	**+1.0**
MMRI				S	**Sn**	**00 36 49.8**	**+3.4**
BKSI	**Bulukumba**	**2.81**	**355**	P	**Pn**	**00 36 34.6**	**-0.9**
BKSI				S	**Sn**	**00 37 09.1**	**+0.9**
KAPI	**Kappang**	**3.17**	**349**	P	**Pn**	**00 36 39.7**	**-0.7**
MTNI	**Mataram**	**4.16**	**263**	P	**Pn**	**00 36 52.7**	**-1.4**
MTNI				S	**Sn**	**00 37 43.5**	**+2.0**
FITZ	**Fitzroy Crossi**	**11.15**	**153**	Pn	**Pn**	**00 38 29.0**	**-1.0**
	0.1nm,0.3s,baz=35,slow=12,SNR=4.5						
FITZ				Sn	**Sn**	**00 40 30.1**	**-3.5**
	0.1nm,0.3s,baz=55,slow=6.9,SNR=1.6						
WRA	**Warramunga Arr**	**17.92**	**132**	P	**Pn**	**00 39 57.2**	**-2.3**
	0.3nm,0.3s,baz=308,slow=12,SNR=17						
ASAR	**Alice Springs**	**20.17**	**141**	P	**P**	**00 40 25.8**	**+1.2**
	2.1nm,0.4s,baz=312,slow=9.8,SNR=32						
STKA	**Stephens Creek**	**30.79**	**143**	P	**P**	**00 42 06.2**	**+0.8**
	0.9nm,0.6s,mb3.8,baz=306,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**64.32**	**332**	P	**P**	**00 46 25.2**	**+0.2**
	0.4nm,0.7s,mb3.6,baz=126,slow=7.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**68.73**	**338**	P	**P**	**00 46 52.5**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=144,slow=5.3,SNR=3.5						

MAN 01 00:45:42, 17.°99N×120.°90E, h9km**, mb4.0, ML2.8, MS2.5, 2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.35**	**111**	*e*P	Pg	00 45 49.7	+0.8
APYP				*e*S	Sg	00 46 00.3	+6.8
ABRA	**Dolores**	**0.39**	**208**	*e*P	Pg	00 45 50.8	+1.3
PIP	**Pasuquin**	**0.43**	**321**	⇓*i*P	Pg	00 45 51.5	+1.2
SIPP	**Brgy, Tapao**	**0.43**	**261**	⇓*e*P	Pg	00 45 49.8	-0.5
CAUP	**Cauayan**	**1.36**	**140**	*e*P	Pn	00 46 07.5	+0.3

*BYKL **01** 00:49:17.4±0.3, 55.°39N×110.°32E*
MOS 01 00:49:21.4±3.5**, 55.°57N×110.°74E, h10**km**, mb4.2**/1**, 2C, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.41**	**39**	*e*PG	Pg	00 49 29.6	+0.2
KMO				*e*		00 49 39.3	
KMO				pmax	pmax		
	comp=Z,176nm,0.4s						
KMO				smax			
	comp=N,365nm,1.1s						
KMO	**Kumora**	**0.41**	**39**	⇑*i*Pg	Pg	00 49 29.7	+0.3
KMO				*i* Sg	Sg	00 49 39.4	+4.5
KMO				Pmax			
	comp=N,174nm,0.3s						
KMO				Smax			
	comp=N,368nm,1.3s						
NIZ	**Nizh Angarsk**	**0.71**	**287**	*e*Pg	Pg	00 49 28.5	-6.6
NIZ				*e*Sg	Sg	00 49 37.4	-6.9
NIZ				Pmax			
	comp=N,38nm,0.2s						
NIZ				Smax			
	comp=N,203nm,0.5s						
YOA	**Uoyan**	**0.79**	**44**	*e*Pg	Pg	00 49 37.2	+0.6
YOA				*e*Sg	Sg	00 49 53.0	+6.0
YOA				Pmax			
	comp=N,183nm,0.4s						
YOA				Smax			
	comp=N,444nm,0.4s						
UKT	**Uakit**	**1.64**	**92**	⇑*i*Pg	Pg	00 49 50.4	-2.5
UKT				*e*Sg	Sg	00 50 15.9	+1.7
UKT				Pmax			
	comp=N,48nm,1.1s						
UKT				Smax			
	comp=N,172nm,1.0s						
SVKR	**Severomuysk**	**1.68**	**70**	*e*PN	Pn	00 49 52.6	+1.8
SVKR				*e*		00 50 19.4	
SVKR				pmax	pmax		
	comp=Z,112nm,0.6s						
SVKR				smax			
	comp=N,323nm,1.0s						
SVKR	**Severomuysk**	**1.68**	**70**	*e*Pg	Pg	00 49 52.4	-1.2
SVKR				*e*Sg	Sg	00 50 19.4	+4.0
SVKR				Pmax			
	comp=N,110nm,0.5s						
SVKR				Smax			
	comp=N,318nm,0.5s						
SYVR	**Suvo**	**1.96**	**193**	*e*Pg	Pn	00 49 48.2	-6.5
SYVR				*e*Sg	Sn	00 50 12.3	-7.0
SYVR				Pmax			
	comp=N,33nm,0.4s						
SYVR				Smax			
	comp=N,98nm,0.9s						
MXMB	**Maximikha**	**2.59**	**208**	*e*Pg	Pn	00 49 59.9	-3.4
MXMB				*e*Sg	Sn	00 50 30.9	-3.8
MXMB				Pmax			
	comp=N,47nm,0.6s						
MXMB				Smax			
	comp=N,195nm,0.8s						
OGRR	**Ongureny**	**2.66**	**225**	*e*PN	Pn	00 50 01.4	-2.8
OGRR				pmax	pmax		
	comp=Z,32nm,0.3s						
OGRR	**Ongureny**	**2.66**	**225**	*e*Pn	Pn	00 49 55.3	-8.9
OGRR				*e*Pg	Pg	00 49 59.1	-13
OGRR				*e*Sn	Sn	00 50 25.5	-11
OGRR				*e*Sg	Sg	00 50 31.0	-16
OGRR				Pmax			
	comp=Z,32nm,0.4s						
OGRR				Smax			
	comp=Z,160nm,1.0s						
BOD	**Bodaibo**	**2.88**	**37**	*e*Sg	Sg	00 50 54.8	+0.8
BOD				Smax			
	comp=Z,63nm,1.6s						
ZRHB	**Zarechye**	**3.69**	**216**	*e*Sg	Sn	00 51 02.5	+0.7
ZRHB				Smax			
	comp=Z,384nm,1.2s						
TRG	**Tyrgan**	**3.82**	**224**	*e*Pg	Pn	00 50 20.6	+0.4
TRG				*e*Sg	Sn	00 51 06.1	+1.0
TRG				Pmax			
	comp=Z,23nm,1.2s						
TRG				Smax			
	comp=Z,44nm,0.6s						
CRS	**Chara**	**4.41**	**69**	*e*PN	Pg	00 50 41.2	-4.5
CRS				*e*		00 51 41.7	
CRS				pmax	pmax		
	comp=Z,41nm,0.8s						
CRS				smax			
	comp=E,35nm,0.8s						
CRS	**Chara**	**4.41**	**69**	*e*Pg	Pg	00 50 41.4	-4.3
CRS				*e*Sg	Sg	00 51 43.0	+0.2
CRS				Pmax			
	comp=E,26nm,1.1s						
CRS				Smax			
	comp=E,43nm,1.9s						
HRMR	**Khuramsha**	**4.55**	**211**	*e*Pg	Pn	00 50 34.6	+4.4
HRMR				*e*Sg	Sn	00 51 29.6	+6.6
HRMR				Pmax			
	comp=E,19nm,0.7s						
HRMR				Smax			
	comp=E,97nm,0.6s						
TUP	**Tupik**	**5.43**	**98**	*e*Pn	Pn	00 50 41.7	-0.6
TUP				*e*Pg	Pg	00 50 59.2	-6.0
TUP				*e*Sn	Sn	00 51 45.0	+0.3
TUP				*e*Sg	Sg	00 52 12.9	-2.6
TUP				Pmax			
	comp=E,4.0nm,1.0s						
TUP				Smax			
	comp=E,18nm,1.0s						
TLY	**Talaya**	**5.74**	**230**	*e*PN	Pn	00 50 54.1	+7.5
TLY				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TLY	**Talaya**	**5.74**	**230**	*e*Sg	Sn	00 52 04.3	+12
TLY				Smax			
	comp=Z,42nm,1.3s						
KPC	**Khapcheranga**	**5.96**	**170**	*e*Pn	Pn	00 50 44.4	-5.2
KPC				*e*Pg	Pg	00 51 01.8	-14
KPC				*e*Sg	Sg	00 52 17.3	-15
KPC				Pmax			
	comp=Z,2.0nm,0.6s						
KPC				Smax			
	comp=Z,19nm,1.0s						
ARS	**Arshan**	**6.14**	**237**	*e*Pn	Pn	00 50 45.7	-6.3
ARS				*e*Pg	Pg	00 51 02.8	-16
ARS				*e*Sn	Sn	00 51 51.3	-11
ARS				*e*Sg	Sg	00 52 18.8	-20
ARS				Pmax			
	comp=Z,24nm,0.5s						
ARS				Smax			
	comp=Z,104nm,0.7s						
MOY	**Mondy**	**6.99**	**240**	*e*Sg	Sg	00 52 44.8	-21
MOY				Smax			
	comp=Z,40nm,1.6s						

*NEIC **01** 00:59:07.5, 36.°19N×27.°06E, h16km, ML3.7(ATH), After ATH.*
*ATH **01** 00:59:07.9, 36.°16N×27.°09E, h24km±2km, MD3.7/9*
*ISK **01** 00:59:07.8, 36.°09N×27.°15E, h5km, MD3.2*
*IDC **01** 00:59:07.2±1.5, 35.°14N×27.°96E, h0km, mb3.5/3, mb1 3.3/4, mb1mx3.2/21, mbtmp3.3/4, Error ellipse: s-maj=210.6km s-min=23.8km az=140.0*
*ISCJB **01** 00:59:08.6±0.7, 36.°06N±0.°03×27.°08E±0.°03, h13km±5km, mb3.5/3, Error ellipse: s-maj=4.7km s-min=3.4km az=144.9*
*THE **01** 00:59:08.4, 36.°11N×27.°14E, h1km, ML3.0/2, Error ellipse: s-maj=0.8km s-min=0.4km az=302.0*
*CSEM **01** 00:59:08.6±0.2, 36.°12N×27.°01E, h2km, ML3.7, Error ellipse: s-maj=6.3km s-min=4.1km az=147.0*
ISC 01 00:59:08.7±0.7**, 36.°09N**±0.°03**×27.°03E**±0.°03**, h3**km±5km**, n86, σ0^{s}95**/107**, mb3.5**/3**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.52**	**13**	P	**Pg**	**00 59 18.5**	**-0.2**
NIS1	**Nisyros Isl.**	**0.52**	**13**	P	**Pg**	**00 59 18.5**	**-0.2**
KARP	**Karpathos**	**0.55**	**169**	*e*PN	**Pg**	**00 59 20.0**	**+0.7**
KARP				*e*SN	**Sg**	**00 59 29.4**	**+2.9**
KARP	**Karpathos**	**0.55**	**169**	P	**Pg**	**00 59 19.7**	**+0.4**
KARP				S	**Sg**	**00 59 28.5**	**+2.0**
KARP	**Karpathos**	**0.55**	**169**	P	**Pg**	**00 59 19.7**	**+0.4**
KARP				S	**Sg**	**00 59 28.5**	**+2.0**
KARP	**Karpathos**	**0.55**	**169**	*e*Pn	**Pg**	**00 59 20.0**	**+0.7**
DAT	**Datca**	**0.77**	**35**	PG	**Pg**	**00 59 22.7**	**-0.8**
DAT				*e*SG	**Sg**	**00 59 34.4**	**+0.8**
DAT	**Datca**	**0.77**	**35**	*i* Pg	**Pg**	**00 59 22.7**	**-0.8**
DAT				*e*Sg	**Sg**	**00 59 34.4**	**+0.8**
ARG	**Arkhangelos**	**0.89**	**82**	*e*PN	**Pn**	**00 59 24.6**	**-3.5**
ARG				*e*SN	**Sn**	**00 59 36.1**	**-5.5**
ARG	**Arkhangelos**	**0.89**	**82**	P	**Pg**	**00 59 24.4**	**-1.4**
ARG				S	**Sg**	**00 59 36.5**	**-0.9**
ARG	**Arkhangelos**	**0.89**	**82**	P	**Pg**	**00 59 24.4**	**-1.4**
ARG				S	**Sg**	**00 59 36.5**	**-0.9**
ARG	**Arkhangelos**	**0.89**	**82**	*e*Pn	**Pn**	**00 59 24.6**	**-3.5**
THR2	**Thira island,**	**1.34**	**286**	P	**Pn**	**00 59 34.0**	**-0.2**
THR2	**Thira island,**	**1.34**	**286**	P	**Pn**	**00 59 34.0**	**-0.2**
MLSB	**Milas**	**1.34**	**26**	*e*PN	**Pn**	**00 59 33.6**	**-0.7**
MLSB				*e*SN	**Sn**	**00 59 52.8**	**+0.1**
MLSB	**Milas**	**1.34**	**26**	*e*Pn	**Pn**	**00 59 33.6**	**-0.7**
MLSB				*e*Sn	**Sn**	**00 59 52.8**	**+0.2**
THR3	**Thira Island,**	**1.36**	**284**	P	**Pn**	**00 59 34.2**	**-0.3**
THR3	**Thira Island,**	**1.36**	**284**	P	**Pn**	**00 59 34.2**	**-0.3**
NPS	**Neapolis**	**1.42**	**235**	*e*PN	**Pn**	**00 59 35.2**	**-0.2**
NPS				*e*SN	**Sn**	**00 59 55.1**	**+0.5**
NPS	**Neapolis**	**1.42**	**235**	P	**Pn**	**00 59 35.0**	**-0.4**
NPS	**Neapolis**	**1.42**	**235**	P	**Pn**	**00 59 35.0**	**-0.4**
NPS	**Neapolis**	**1.42**	**235**	*e*Pn	**Pn**	**00 59 35.2**	**-0.2**
NPS				*e*Sn	**Sn**	**00 59 54.7**	**+0.1**
YER	**Yerkesik**	**1.45**	**44**	*e*PN	**Pn**	**00 59 34.9**	**-0.9**
YER				*e*SN	**Sn**	**00 59 55.9**	**+0.6**
YER	**Yerkesik**	**1.45**	**44**	*e*Pn	**Pn**	**00 59 34.9**	**-0.8**
YER				*e*Sn	**Sn**	**00 59 55.9**	**+0.7**
APE	**Apeiranthos**	**1.55**	**309**	*e*PN	**Pn**	**00 59 36.5**	**-0.7**
APE	**Apeiranthos**	**1.55**	**309**	P	**Pn**	**00 59 36.5**	**-0.7**
APE				S	**Sn**	**00 59 58.8**	**+1.0**
APE	**Apeiranthos**	**1.55**	**309**	P	**Pn**	**00 59 36.5**	**-0.7**
APE				S	**Sn**	**00 59 58.8**	**+1.0**
APE	**Apeiranthos**	**1.55**	**309**	*e*Pn	**Pn**	**00 59 36.5**	**-0.7**
SMG	**Samos**	**1.62**	**355**	*e*PN	**Pn**	**00 59 36.2**	**-1.9**
SMG	**Samos**	**1.62**	**355**	P	**Pn**	**00 59 38.4**	**+0.3**
SMG	**Samos**	**1.62**	**355**	*e*Pn	**Pn**	**00 59 36.2**	**-1.9**
IDI	**Anoyia**	**1.92**	**246**	*e*PN	**Pn**	**00 59 42.3**	**+0.1**
IDI	**Anoyia**	**1.92**	**246**	P	**Pn**	**00 59 42.2**	**0.0**
IDI	**Anoyia**	**1.92**	**246**	P	**Pn**	**00 59 42.2**	**0.0**
IDI				*e*Sn	**Sn**	**01 00 05.0**	**-1.8**
IDI	**Anoyia**	**1.92**	**246**	*e*Pn	**Pn**	**00 59 42.3**	**+0.1**
IDI				*e*Sn	**Sn**	**01 00 05.0**	**-1.9**
GLHS	**Glhisar (BURDU**	**2.25**	**61**	*e*PN	**Pn**	**00 59 47.0**	**+0.2**
GLHS	**Glhisar (BURDU**	**2.25**	**61**	*e*Pn	**Pn**	**00 59 47.0**	**+0.2**
BLCB	**Balcova**	**2.29**	**0**	*e*PN	**Pn**	**00 59 48.5**	**+1.1**
BLCB	**Balcova**	**2.29**	**0**	*e*Pn	**Pn**	**00 59 48.5**	**+1.2**
DENT	**Denizli**	**2.31**	**43**	*e*PN	**Pn**	**00 59 47.1**	**-0.5**
DENT	**Denizli**	**2.31**	**43**	*e*Pn	**Pn**	**00 59 47.1**	**-0.5**
IZM	**Izmir**	**2.31**	**5**	*e*PN	**Pn**	**00 59 48.7**	**+1.1**
IZM	**Izmir**	**2.31**	**5**	*e*Pn	**Pn**	**00 59 48.7**	**+1.1**
VAM	**Vamos**	**2.40**	**254**	*e*PN	**Pn**	**00 59 48.9**	**0.0**
VAM	**Vamos**	**2.40**	**254**	*e*Pb	**Pn**	**00 59 48.7**	**-0.2**
ELL	**Elmali**	**2.41**	**73**	*e*PN	**Pn**	**00 59 48.7**	**-0.3**
ELL	**Elmali**	**2.41**	**73**	*e*Pn	**Pn**	**00 59 48.7**	**-0.3**
CHOS	**Chios island**	**2.42**	**341**	*e*PN	**Pn**	**00 59 47.5**	**-1.6**
CHOS	**Chios island**	**2.42**	**341**	*e*Pn	**Pn**	**00 59 47.5**	**-1.6**
KULA	**Kula-Manisa**	**2.75**	**28**	*e*PN	**Pn**	**00 59 53.9**	**+0.3**
KULA	**Kula-Manisa**	**2.75**	**28**	*e*Pn	**Pn**	**00 59 53.9**	**+0.3**
AKS	**Akhisar**	**2.85**	**12**	*e*PN	**Pn**	**00 59 56.1**	**+1.1**
AKS	**Akhisar**	**2.85**	**12**	*e*Pn	**Pn**	**00 59 56.1**	**+1.1**
VLY	**Voula,Athens**	**3.13**	**305**	*e*PN	**Pn**	**00 59 58.4**	**-0.5**
VLY	**Voula,Athens**	**3.13**	**305**	*e*Pb	**Pn**	**00 59 59.4**	**+0.5**
BCK	**Bucak**	**3.17**	**63**	*e*PN	**Pn**	**00 59 59.4**	**0.0**
BCK	**Bucak**	**3.17**	**63**	*e*Pn	**Pn**	**00 59 59.4**	**0.0**
KYTH	**Kithira**	**3.24**	**275**	*e*PN	**Pn**	**01 00 00.9**	**+0.5**
KYTH	**Kithira**	**3.24**	**275**	*e*Pn	**Pn**	**01 00 01.4**	**+1.0**
VLI	**Veliai**	**3.36**	**282**	*e*PN	**Pn**	**01 00 02.3**	**+0.2**
VLI	**Veliai**	**3.36**	**282**	P	**Pn**	**01 00 04.2**	**+2.1**
VLI	**Veliai**	**3.36**	**282**	*e*Pn	**Pn**	**01 00 02.8**	**+0.7**
SHUT	**Suhut-Afyon**	**3.73**	**48**	*e*PN	**Pn**	**01 00 06.7**	**-0.4**
SHUT	**Suhut-Afyon**	**3.73**	**48**	*e*Pn	**Pn**	**01 00 06.7**	**-0.4**
LIA	**Limnos Island**	**4.07**	**340**	*e*PN	**Pn**	**01 00 10.6**	**-1.2**
LIA	**Limnos Island**	**4.07**	**340**	*e*Pn	**Pn**	**01 00 10.6**	**-1.2**
LKR	**Lokris**	**4.10**	**310**	P	**Pn**	**01 00 13.3**	**+1.0**
ITM	**Ithomi**	**4.25**	**286**	P	**Pn**	**01 00 18.8**	**+4.6**
NEO	**Neokhori**	**4.41**	**318**	P	**Pn**	**01 00 17.3**	**+0.9**
HDMB	**Hadim**	**4.48**	**77**	*e*PN	**Pn**	**01 00 18.7**	**+1.3**
HDMB	**Hadim**	**4.48**	**77**	*e*Pn	**Pn**	**01 00 18.7**	**+1.3**
KONT	**Konya--Tatoy**	**4.65**	**65**	*e*PN	**Pn**	**01 00 20.2**	**+0.5**
KONT	**Konya--Tatoy**	**4.65**	**65**	*e*Pn	**Pn**	**01 00 20.3**	**+0.6**
LADK	**Ladik-KONYA**	**4.75**	**62**	*e*PN	**Pn**	**01 00 21.4**	**+0.2**
LADK	**Ladik-KONYA**	**4.75**	**62**	*e*Pn	**Pn**	**01 00 21.4**	**+0.2**
KIZT	**Kizilcal**	**4.75**	**53**	*e*PN	**Pn**	**01 00 22.1**	**+0.8**
KIZT	**Kizilcal**	**4.75**	**53**	*e*Pn	**Pn**	**01 00 22.1**	**+0.9**
BRTR	**Keskin Array B**	**6.36**	**53**	Pn	**Pn**	**01 00 44.2**	**+1.0**
	0.1nm,0.3s,baz=247,slow=17,SNR=4.7						
BRTR				Sn	**Sn**	**01 01 57.1**	**+0.8**
	0.0nm,0.3s,baz=307,slow=40,SNR=1.4						
BRTR	**Keskin Array B**	**6.36**	**53**	Pn	**Pn**	**01 00 44.2**	**+1.0**
BRTR				Sn	**Sn**	**01 01 57.1**	**+0.8**
BRTR	**Keskin Array B**	**6.36**	**53**	Pn	**Pn**	**01 00 44.2**	**+1.0**
BRTR				Sn	**Sn**	**01 01 57.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**32.26**	**231**	P	**P**	**01 05 37.8**	**-0.8**
	0.4nm,0.6s,mb3.4,baz=32,slow=8.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**32.26**	**231**	P	**P**	**01 05 37.8**	**-0.8**
MKAR	**Makanchi Array**	**41.99**	**58**	P	**P**	**01 06 59.1**	**-1.8**
	0.3nm,0.4s,mb3.3,baz=265,slow=9.1,SNR=7.2						
MKAR	**Makanchi Array**	**41.99**	**58**	P	**P**	**01 06 59.1**	**-1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	57.72	52	P	P	01 08 59.3	-1.2
	0.3nm,0.5s,mb3.6,baz=284,slow=8.6,SNR=3.5						
SONM	Songino Array	57.72	52	P	P	01 08 59.3	-1.2

WEL 01 01:00:21.0±0.3, 36°.59S×177°.18E, h33km, ML4.4/9, Error ellipse: s-maj=2.6km s-min=2.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.94	180	eP*	Pb	01 00 36.9	-1.9
WIZ				eS*	Sb	01 00 48.2	-2.7
MYRZ	Mayor Island	1.02	227	P*	Pb	01 00 38.6	-1.6
MYRZ				eS*	Sb	01 00 51.5	-1.7
KUZ	Kuaotunu	1.19	262	PN	Pn	01 00 40.4	-0.8
KUZ				SN	Sn	01 00 55.5	-0.7
MXZ	Matakaoa Point	1.32	138	P*	Pb	01 00 42.9	-2.3
OPRZ	Ohinepanea	1.35	202	P*	Pb	01 00 42.9	-2.7
URZ	Urewera	1.67	182	P*	Pb	01 00 47.7	-3.4
MKAZ	Moumakai	1.70	252	PN	Pn	01 00 48.2	0.0
MWZ	Matawai	1.76	171	P*	Pb	01 00 49.1	-3.5
WTAZ	Waiatarua	2.12	260	ePN	Pn	01 00 55.2	+1.2
WCZ	Waipu Caves	2.38	285	PN	Pn	01 00 58.6	+1.0
HIZ	Hauiti	2.67	223	PN	Pn	01 01 02.5	+1.0
OUZ	Omahuta	3.21	294	PN	Pn	01 01 10.7	+1.5

*ISCJB **01** 01:06:07.5±0.4, 39°.43N±0°.02×25°.88E±0°.04, h10km, Error ellipse: s-maj=4.4km s-min=3.0km az=168.2*
*THE **01** 01:06:07.2, 39°.43N×25°.89E, h6km±2km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=0.3km az=156.0*
*DDA **01** 01:06:07.4, 39°.47N×25°.96E, h7km±3km, Md2.8*
*ISK **01** 01:06:08.4, 39°.56N×25°.98E, h5km, MD2.8*
*CSEM **01** 01:06:09.2±0.8, 39°.54N×25°.94E, h2km, MD2.8, Error ellipse: s-maj=16.2km s-min=7.6km az=61.0*
ISC 01 01:06:08.0±0.4, 39°.43N±0°.02×25°.89E±0°.04, h10km, n80, σ1s.25/99, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.22	186	P	Pg	01 06 11.6	-1.0
SIGR				S	Sg	01 06 15.0	-0.6
SIGR	SIGRI	0.22	186	P	Pg	01 06 11.6	-1.0
SIGR				S	Sg	01 06 15.0	-0.6
PRK	Paraskevi	0.35	122	P	Pg	01 06 13.9	-1.0
PRK				S	Sg	01 06 19.0	-0.6
PRK	Paraskevi	0.35	122	P	Pg	01 06 13.9	-1.0
PRK				S	Sg	01 06 19.0	-0.6
BOZC	Bozcaada	0.43	17	iP	Pg	01 06 14.9	-1.5
BOZC				iS	Sg	01 06 21.4	-0.7
EZN	Ezine	0.52	40	PG	Pg	01 06 16.6	-1.5
EZN				eSG	Sg	01 06 24.0	-1.0
EZN	Ezine	0.52	40	iPg	Pg	01 06 16.6	-1.5
EZN				eSg	Sg	01 06 24.0	-1.0
EZN	Ezine	0.52	40	iPg	Pg	01 06 16.6	-1.5
EZN				eSg	Sg	01 06 24.0	-1.0
AYVA	Ayvalik	0.63	101	iP	Pg	01 06 18.8	-1.5
AYVA				iS	Sg	01 06 28.0	-0.6
AYVA	Ayvalik	0.63	101	iP	Pg	01 06 18.8	-1.5
AYVA	Ayvalik	0.63	101	iP	Pg	01 06 18.8	-1.5
AYVA				iS	Sg	01 06 28.0	-0.6
LIA	Limnos Island	0.72	311	P	Pg	01 06 20.9	-0.9
LIA				S	Sg	01 06 31.7	+0.5
LIA	Limnos Island	0.72	311	P	Pg	01 06 20.9	-0.9
LIA				S	Sg	01 06 31.7	+0.5
GADA	Gvkgeada	0.76	1	ePG	Pg	01 06 22.1	-0.5
GADA				eSG	Sg	01 06 31.2	-1.4
GADA	Gvkgeada	0.76	1	ePg	Pg	01 06 22.2	-0.5
GADA				eSg	Sg	01 06 31.2	-1.4
GADA	Gvkgeada	0.76	1	ePg	Pg	01 06 22.2	-0.5
GADA				eSg	Sg	01 06 31.2	-1.4
CHOS	Chios island	1.05	173	P	Pg	01 06 26.7	-1.5
CHOS				S	Sg	01 06 41.9	+0.1
CHOS	Chios island	1.05	173	P	Pg	01 06 26.7	-1.5
CHOS				S	Sg	01 06 41.9	+0.1
GELI	Tayfur-Gelibol	1.07	25	ePG	Pg	01 06 26.9	-1.6
GELI	Tayfur-Gelibol	1.07	25	ePg	Pg	01 06 26.9	-1.6
GELI	Tayfur-Gelibol	1.07	25	ePg	Pg	01 06 26.9	-1.6
LPK	Lapseki	1.16	35	ePG	Pg	01 06 28.1	-2.1
LPK	Lapseki	1.16	35	ePg	Pg	01 06 28.1	-2.1
LPK	Lapseki	1.16	35	ePg	Pg	01 06 28.1	-2.1
ENEZ	Enez	1.32	9	ePN	Pn	01 06 32.3	-0.1
ENEZ	Enez	1.32	9	ePn	Pn	01 06 32.3	-0.2
ENEZ	Enez	1.32	9	ePn	Pn	01 06 32.3	-0.2
ERIK	Erikli-Kesan	1.33	21	ePN	Pn	01 06 31.8	-0.8
ERIK	Erikli-Kesan	1.33	21	ePn	Pn	01 06 31.8	-0.8
ERIK	Erikli-Kesan	1.33	21	ePn	Pn	01 06 31.8	-0.8
BALY	Balya	1.37	76	iP	Pn	01 06 32.6	-0.6
BALY				iS	Sb	01 06 50.2	-1.1
BALY	Balya	1.37	76	iP	Pn	01 06 32.6	-0.6
BALY	Balya	1.37	76	iP	Pn	01 06 32.6	-0.6
BALY				iS	Sb	01 06 50.2	-1.2
KRBG	Karabiga-Canak	1.45	48	ePN	Pn	01 06 33.6	-0.6
KRBG	Karabiga-Canak	1.45	48	ePn	Pn	01 06 33.6	-0.6
KRBG	Karabiga-Canak	1.45	48	ePn	Pn	01 06 33.6	-0.6
GONE	Gonen-Balikesi	1.52	66	ePN	Pn	01 06 35.5	+0.3
GONE	Gonen-Balikesi	1.52	66	ePn	Pn	01 06 35.5	+0.3
GONE	Gonen-Balikesi	1.52	66	ePn	Pn	01 06 35.5	+0.3
BALB	Balikesir	1.56	82	ePN	Pn	01 06 37.2	+1.5
BALB	Balikesir	1.56	82	ePn	Pn	01 06 37.2	+1.5
BALB	Balikesir	1.56	82	ePn	Pn	01 06 37.2	+1.5
RKY	Sarkoy-Tekirda	1.60	38	ePN	Pn	01 06 37.5	+1.2
RKY	Sarkoy-Tekirda	1.60	38	ePn	Pn	01 06 37.5	+1.2
RKY	Sarkoy-Tekirda	1.60	38	ePn	Pn	01 06 37.5	+1.2
MRMT	Marmara Adasi	1.76	48	ePN	Pn	01 06 39.1	+0.6
MRMT	Marmara Adasi	1.76	48	ePn	Pn	01 06 39.1	+0.6
MRMT	Marmara Adasi	1.76	48	ePn	Pn	01 06 39.1	+0.6
BNT	Bandirma	1.82	59	ePN	Pn	01 06 40.2	+0.9
BNT	Bandirma	1.82	59	ePn	Pn	01 06 40.2	+0.9
TKR	Tekirdag	2.00	38	ePN	Pn	01 06 43.2	+1.3
TKR	Tekirdag	2.00	38	ePn	Pn	01 06 43.2	+1.3
TKR	Tekirdag	2.00	38	ePn	Pn	01 06 43.2	+1.3
KCTX	Karacabey (Bur	2.08	66	ePN	Pn	01 06 44.3	+1.5
KCTX	Karacabey (Bur	2.08	66	ePn	Pn	01 06 44.3	+1.4
KCTX	Karacabey (Bur	2.08	66	ePn	Pn	01 06 44.3	+1.4
DST	Dursunbey	2.12	84	ePN	Pn	01 06 44.9	+1.4
DST	Dursunbey	2.12	84	ePn	Pn	01 06 44.9	+1.4
DST	Dursunbey	2.12	84	ePn	Pn	01 06 44.9	+1.4
KULA	Kula-Manisa	2.35	112	ePN	Pn	01 06 48.9	+2.3
KULA	Kula-Manisa	2.35	112	ePn	Pn	01 06 48.9	+2.3
KULA	Kula-Manisa	2.35	112	ePn	Pn	01 06 48.9	+2.3
EDRB	Edirne	2.50	15	ePN	Pn	01 06 50.3	+1.6
EDRB	Edirne	2.50	15	ePn	Pn	01 06 50.3	+1.6
EDRB	Edirne	2.50	15	ePn	Pn	01 06 50.3	+1.6
SLVT	Silivri	2.53	44	ePN	Pn	01 06 50.4	+1.4
SLVT	Silivri	2.53	44	ePn	Pn	01 06 50.4	+1.4
SLVT	Silivri	2.53	44	ePn	Pn	01 06 50.4	+1.4
ARMT	Armutlu	2.55	63	ePN	Pn	01 06 51.4	+2.0
ARMT	Armutlu	2.55	63	ePn	Pn	01 06 51.4	+2.0
ARMT	Armutlu	2.55	63	ePn	Pn	01 06 51.4	+2.0
CTKS	Kestanelik-??a	2.69	47	ePN	Pn	01 06 53.3	+1.9
CTKS	Kestanelik-??a	2.69	47	ePn	Pn	01 06 53.3	+1.9
CTKS	Kestanelik-??a	2.69	47	ePn	Pn	01 06 53.3	+1.9
CTYL	Yal??k??y-??at	2.74	41	ePN	Pn	01 06 53.9	+1.8
CTYL	Yal??k??y-??at	2.74	41	ePn	Pn	01 06 53.9	+1.9
CTYL	Yal??k??y-??at	2.74	41	ePn	Pn	01 06 53.9	+1.9
BGKT	Bogazkoy	2.81	51	ePN	Pn	01 06 54.9	+1.9
BGKT	Bogazkoy	2.81	51	ePn	Pn	01 06 54.9	+1.9
BGKT	Bogazkoy	2.81	51	ePn	Pn	01 06 54.9	+1.9

*DDA **01** 01:20:30.9, 39°.43N×25°.75E, h28km, Md2.8*
*ISCJB **01** 01:20:33.2±0.5, 39°.45N±0°.02×25°.91E±0°.04, h3km±4km, Error ellipse: s-maj=5.0km s-min=3.3km az=176.5*
*THE **01** 01:20:33.4, 39°.43N×25°.89E, h7km±2km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=0.3km az=162.0*
*CSEM **01** 01:20:33.4±0.2, 39°.45N×25°.91E, h2km, ML2.1/4, Error ellipse: s-maj=4.0km s-min=2.8km az=84.0*
*ISK **01** 01:20:33.5, 39°.48N×25°.92E, h6km, MD2.9*
ISC 01 01:20:33.6±0.5, 39°.45N±0°.02×25°.91E±0°.04, h3km±4km, n86, σ0s.68/108, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.24	191	P	Pg	01 20 37.8	-0.4
SIGR				S	Sg	01 20 41.3	0.0
SIGR	SIGRI	0.24	191	P	Pg	01 20 37.8	-0.4
SIGR				S	Sg	01 20 41.3	0.0
PRK	Paraskevi	0.34	126	P	Pg	01 20 40.1	-0.1
PRK				S	Sg	01 20 45.4	+0.8
PRK	Paraskevi	0.34	126	P	Pg	01 20 40.1	-0.1
PRK				S	Sg	01 20 45.4	+0.8
BOZC	Bozcaada	0.41	15	iP	Pg	01 20 41.0	-0.5
BOZC				iS	Sg	01 20 47.6	+0.7
EZN	Ezine	0.49	40	PG	Pg	01 20 42.9	-0.3
EZN				eSG	Sg	01 20 50.2	+0.6
EZN	Ezine	0.49	40	iPg	Pg	01 20 42.9	-0.3
EZN				eSg	Sg	01 20 50.2	+0.6
EZN	Ezine	0.49	40	iPg	Pg	01 20 42.9	-0.3
EZN				eSg	Sg	01 20 50.2	+0.6
AYVA	Ayvalik	0.62	103	iP	Pg	01 20 44.9	-0.6
AYVA				iS	Sg	01 20 54.3	+0.8
AYVA	Ayvalik	0.62	103	iP	Pg	01 20 44.9	-0.6
AYVA	Ayvalik	0.62	103	iP	Pg	01 20 44.9	-0.6
AYVA				iS	Sg	01 20 54.3	+0.8
LIA	Limnos Island	0.72	309	P	Pg	01 20 47.1	-0.4
LIA				S	Sg	01 20 57.5	+0.6
LIA	Limnos Island	0.72	309	P	Pg	01 20 47.1	-0.4
LIA				S	Sg	01 20 57.5	+0.6
GADA	Gvkgeada	0.74	359	ePG	Pg	01 20 48.1	+0.2
GADA				eSG	Sg	01 20 57.7	0.0
GADA	Gvkgeada	0.74	359	ePg	Pg	01 20 48.2	+0.3
GADA				eSg	Sg	01 20 57.7	+0.1
GADA	Gvkgeada	0.74	359	ePg	Pg	01 20 48.2	+0.3
GADA				eSg	Sg	01 20 57.7	+0.1
GELI	Tayfur-Gelibol	1.04	24	ePG	Pg	01 20 53.3	-0.4
GELI				eSG	Sg	01 21 07.8	+0.6
GELI	Tayfur-Gelibol	1.04	24	ePg	Pg	01 20 53.3	-0.4
GELI				eSg	Sg	01 21 07.8	+0.6
GELI	Tayfur-Gelibol	1.04	24	ePg	Pg	01 20 53.3	-0.4
GELI				eSg	Sg	01 21 07.8	+0.6
CHOS	Chios island	1.06	174	P	Pg	01 20 52.9	-1.1
CHOS				S	Sg	01 21 08.2	+0.4
CHOS	Chios island	1.06	174	P	Pg	01 20 52.9	-1.1
CHOS				S	Sg	01 21 08.2	+0.4
LPK	Lapseki	1.13	35	ePN	Pn	01 20 54.9	-1.4
LPK	Lapseki	1.13	35	ePn	Pn	01 20 54.9	-1.5
LPK	Lapseki	1.13	35	ePn	Pn	01 20 54.9	-1.5
ENEZ	Enez	1.30	8	ePN	Pn	01 20 58.4	-0.3
ENEZ	Enez	1.30	8	ePn	Pn	01 20 58.4	-0.3
ENEZ	Enez	1.30	8	ePn	Pn	01 20 58.4	-0.3
ERIK	Erikli-Kesan	1.31	20	ePN	Pn	01 20 57.9	-0.9
ERIK	Erikli-Kesan	1.31	20	ePn	Pn	01 20 57.9	-0.9
ERIK	Erikli-Kesan	1.31	20	ePn	Pn	01 20 57.9	-0.9
BALY	Balya	1.35	77	iP	Pn	01 20 57.6	-1.8
BALY				iS	Sg	01 21 15.7	-1.3
BALY	Balya	1.35	77	iP	Pn	01 20 57.6	-1.8
BALY	Balya	1.35	77	iP	Pn	01 20 57.6	-1.8
BALY				iS	Sg	01 21 15.7	-1.3
BLCB	Balcova	1.38	140	ePN	Pn	01 21 00.1	+0.4
BLCB	Balcova	1.38	140	ePn	Pn	01 21 00.1	+0.4
BLCB	Balcova	1.38	140	ePn	Pn	01 21 00.1	+0.4
KRBG	Karabiga-Canak	1.42	48	ePN	Pn	01 20 59.4	-1.0
KRBG	Karabiga-Canak	1.42	48	ePn	Pn	01 20 59.4	-1.0
KRBG	Karabiga-Canak	1.42	48	ePn	Pn	01 20 59.4	-1.0
GONE	Gonen-Balikesi	1.49	66	ePN	Pn	01 21 01.5	+0.2
GONE	Gonen-Balikesi	1.49	66	ePn	Pn	01 21 01.5	+0.2
GONE	Gonen-Balikesi	1.49	66	ePn	Pn	01 21 01.5	+0.2
RKY	Sarkoy-Tekirda	1.57	38	ePN	Pn	01 21 02.2	-0.2
RKY	Sarkoy-Tekirda	1.57	38	ePn	Pn	01 21 02.2	-0.2
RKY	Sarkoy-Tekirda	1.57	38	ePn	Pn	01 21 02.2	-0.2
MFT	Murefte	1.70	38	ePN	Pn	01 21 03.8	-0.4
MFT	Murefte	1.70	38	ePn	Pn	01 21 03.8	-0.4
MFT	Murefte	1.70	38	ePn	Pn	01 21 03.8	-0.4
MRMT	Marmara Adasi	1.73	48	ePN	Pn	01 21 04.7	0.0
MRMT	Marmara Adasi	1.73	48	ePn	Pn	01 21 04.7	+0.1
MRMT	Marmara Adasi	1.73	48	ePn	Pn	01 21 04.7	+0.1
BNT	Bandirma	1.79	59	ePN	Pn	01 21 04.9	-0.5
BNT	Bandirma	1.79	59	ePn	Pn	01 21 04.9	-0.5
TKR	Tekirdag	1.98	38	ePN	Pn	01 21 08.2	+0.2
TKR	Tekirdag	1.98	38	ePn	Pn	01 21 08.2	+0.2
TKR	Tekirdag	1.98	38	ePn	Pn	01 21 08.2	+0.2
KCTX	Karacabey (Bur	2.05	66	ePN	Pn	01 21 09.0	0.0
KCTX	Karacabey (Bur	2.05	66	ePn	Pn	01 21 09.0	0.0
KCTX	Karacabey (Bur	2.05	66	ePn	Pn	01 21 09.0	0.0
DST	Dursunbey	2.10	85	ePN	Pn	01 21 10.1	+0.5
DST	Dursunbey	2.10	85	ePn	Pn	01 21 10.1	+0.5
DST	Dursunbey	2.10	85	ePn	Pn	01 21 10.1	+0.5
KULA	Kula-Manisa	2.33	113	ePN	Pn	01 21 13.6	+0.7
KULA	Kula-Manisa	2.33	113	ePn	Pn	01 21 13.6	+0.7
KULA	Kula-Manisa	2.33	113	ePn	Pn	01 21 13.6	+0.7
APE	Apeiranthos	2.39	187	ePN	Pn	01 21 14.5	+0.8
APE	Apeiranthos	2.39	187	ePn	Pn	01 21 14.5	+0.8
APE	Apeiranthos	2.39	187	ePn	Pn	01 21 14.5	+0.8
EDRB	Edirne	2.48	14	ePN	Pn	01 21 15.8	+0.9
EDRB	Edirne	2.48	14	ePn	Pn	01 21 15.8	+0.9
EDRB	Edirne	2.48	14	ePn	Pn	01 21 15.8	+0.9
SLVT	Silivri	2.50	44	ePN	Pn	01 21 16.1	+0.9
SLVT	Silivri	2.50	44	ePn	Pn	01 21 16.1	+0.9
SLVT	Silivri	2.50	44	ePn	Pn	01 21 16.1	+0.9
ARMT	Armutlu	2.52	63	ePN	Pn	01 21 15.8	+0.3
ARMT	Armutlu	2.52	63	ePn	Pn	01 21 15.8	+0.3
ARMT	Armutlu	2.52	63	ePn	Pn	01 21 15.8	+0.3
CTKS	Kestanelik-??a	2.67	47	ePN	Pn	01 21 17.7	+0.2
CTKS	Kestanelik-??a	2.67	47	ePn	Pn	01 21 17.7	+0.2
CTKS	Kestanelik-??a	2.67	47	ePn	Pn	01 21 17.7	+0.2
CTYL	Yal??k??y-??at	2.72	41	ePN	Pn	01 21 18.5	+0.3
CTYL	Yal??k??y-??at	2.72	41	ePn	Pn	01 21 18.5	+0.3
CTYL	Yal??k??y-??at	2.72	41	ePn	Pn	01 21 18.5	+0.3
YLV	Yalova	2.88	66	ePN	Pn	01 21 21.6	+1.2
YLV	Yalova	2.88	66	ePn	Pn	01 21 21.6	+1.2
YLV	Yalova	2.88	66	ePn	Pn	01 21 21.6	+1.2

*THE **01** 01:26:59.9, 39°.43N×25°.89E, h6km±2km, ML2.1/4, Error ellipse: s-maj=2.3km s-min=0.3km az=145.0*
*ISCJB **01** 01:27:00.1±0.4, 39°.43N±0°.02×25°.90E±0°.04, h10km, Error ellipse: s-maj=4.4km s-min=3.1km az=174.8*
*ISK **01** 01:27:00.3, 39°.49N×25°.99E, h5km, MD2.8*
*CSEM **01** 01:27:00.3±0.2, 39°.43N×25°.91E, h2km, ML2.1/4, Error ellipse: s-maj=4.3km s-min=3.2km az=79.0*
*DDA **01** 01:27:02.8, 39°.58N×26°.16E, h8km±7km, Md2.8*
ISC 01 01:27:00.7±0.4, 39°.43N±0°.02×25°.90E±0°.04, h10km, n47, σ1s.00/63, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.22	189	P	Pg	01 27 04.3	-0.9
SIGR				S	Sg	01 27 07.8	-0.5
SIGR	SIGRI	0.22	189	P	Pg	01 27 04.3	-0.9
SIGR				S	Sg	01 27 07.8	-0.5
PRK	Paraskevi	0.34	122	P	Pg	01 27 06.6	-0.8
PRK				S	Sg	01 27 11.9	0.0
PRK	Paraskevi	0.34	122	P	Pg	01 27 06.6	-0.8
PRK				S	Sg	01 27 11.9	0.0
BOZC	Bozcaada	0.43	16	iP	Pg	01 27 07.7	-1.3
BOZC				iS	Sg	01 27 14.1	-0.6
EZN	Ezine	0.51	39	PG	Pg	01 27 09.3	-1.3
EZN				eSG	Sg	01 27 16.9	-0.5
EZN	Ezine	0.51	39	iPg	Pg	01 27 09.3	-1.4
EZN				eSg	Sg	01 27 16.9	-0.5
AYVA	Ayvalik	0.62	101	iP	Pg	01 27 11.7	-1.0
AYVA				iS	Sg	01 27 20.7	-0.2
AYVA	Ayvalik	0.62	101	iP	Pg	01 27 11.7	-1.0
AYVA				iS	Sg	01 27 20.7	-0.2
LIA	Limnos Island	0.73	310	P	Pg	01 27 13.7	-1.0
LIA				S	Sg	01 27 24.3	+0.1
LIA	Limnos Island	0.73	310	P	Pg	01 27 13.7	-1.0
LIA				S	Sg	01 27 24.3	+0.1
GADA	Gvkgeada	0.76	360	ePG	Pg	01 27 15.1	-0.3
GADA	Gvkgeada	0.76	360	ePg	Pg	01 27 15.1	-0.2
CHOS	Chios island	1.05	173	P	Pg	01 27 19.5	-1.3
CHOS				S	Sg	01 27 34.7	+0.3
CHOS	Chios island	1.05	173	P	Pg	01 27 19.5	-1.3
CHOS				S	Sg	01 27 34.7	+0.3
GELI	Tayfur-Gelibol	1.06	24	ePg	Pg	01 27 19.6	-1.5
GELI				eSg	Sg	01 27 34.9	0.0
LPK	Lapseki	1.15	35	ePG	Pg	01 27 21.6	-1.2
LPK	Lapseki	1.15	35	ePg	Pg	01 27 21.6	-1.2
ENEZ	Enez	1.32	8	ePN	Pn	01 27 25.4	+0.2
ENEZ	Enez	1.32	8	ePn	Pn	01 27 25.4	+0.3
ERIK	Erikli-Kesan	1.33	21	ePN	Pn	01 27 25.2	0.0
ERIK	Erikli-Kesan	1.33	21	ePn	Pn	01 27 25.3	+0.1
BALY	Balya	1.36	76	iP	Pn	01 27 25.2	-0.6
BALY				iS	Sb	01 27 41.3	-2.5
BALY	Balya	1.36	76	iP	Pn	01 27 25.2	-0.5
BALY				iS	Sb	01 27 41.3	-2.4
BLCB	Balcova	1.37	139	ePn	Pn	01 27 27.3	+1.5
KRBG	Karabiga-Canak	1.44	48	ePn	Pn	01 27 27.2	+0.4
GONE	Gonen-Balikesi	1.51	65	ePN	Pn	01 27 27.9	+0.2
GONE	Gonen-Balikesi	1.51	65	ePn	Pn	01 27 27.9	+0.2
RKY	Sarkoy-Tekirda	1.59	38	ePN	Pn	01 27 30.2	+1.4
RKY	Sarkoy-Tekirda	1.59	38	ePn	Pn	01 27 30.2	+1.3
MFT	Murefte	1.72	38	ePN	Pn	01 27 31.6	+1.0
MFT	Murefte	1.72	38	ePn	Pn	01 27 31.6	+1.0
MRMT	Marmara Adasi	1.75	47	ePN	Pn	01 27 31.8	+0.7
MRMT	Marmara Adasi	1.75	47	ePn	Pn	01 27 31.8	+0.7
BNT	Bandirma	1.81	59	ePN	Pn	01 27 32.2	+0.3
BNT	Bandirma	1.81	59	ePn	Pn	01 27 32.2	+0.4
KCTX	Karacabey (Bur	2.07	65	ePn	Pn	01 27 36.5	+1.1
DST	Dursunbey	2.11	84	ePN	Pn	01 27 37.0	+1.1
DST	Dursunbey	2.11	84	ePn	Pn	01 27 37.0	+1.0
EDRB	Edirne	2.50	15	ePN	Pn	01 27 42.2	+0.9
EDRB	Edirne	2.50	15	ePn	Pn	01 27 42.2	+0.9
ARMT	Armutlu	2.54	63	ePn	Pn	01 27 43.4	+1.5
CTKS	Kestanelik-??a	2.69	47	ePN	Pn	01 27 45.5	+1.5
CTKS	Kestanelik-??a	2.69	47	ePn	Pn	01 27 45.5	+1.6
CTYL	Yal??k??y-??at	2.74	41	ePN	Pn	01 27 45.5	+0.8
CTYL	Yal??k??y-??at	2.74	41	ePn	Pn	01 27 45.5	+0.9
YLV	Yalova	2.90	66	ePn	Pn	01 27 48.9	+2.1

*ISCJB **01** 01:31:04.8±1.0, 1°.62N±0°.09×121°.6E±0°.1, h10km, mb3.9/3, Error ellipse: s-maj=17.2km s-min=9.9km az=139.5*
*DJA **01** 01:31:08, 1°.76N×121°.81E, h10km, MLv4.0/6*
*IDC **01** 01:31:15.8±9.0, 0°.06S×121°.49E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/19, mbtmp3.9/3, Error ellipse: s-maj=187.9km s-min=139.0km az=49.0*
ISC 01 01:31:06.2±0.9, 1°.54N±0°.07×121°.64E±0°.10, h10km, n9, σ1s.07/12, mb3.9/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.10	164	P	Pb	01 31 28.8	+1.4
MRSI				S	Sb	01 31 46.3	+4.5
GTOI	Gorontalo	1.64	123	P	Pn	01 31 35.9	+0.7
GTOI				S	Sn	01 31 57.3	+0.9
LUWI	Luwuk	2.81	156	P	Pg	01 31 57.1	-3.0
LUWI				S	Sg	01 32 35.7	-0.8
SGSI	Sangihe	4.43	61	P	Pn	01 32 13.0	-0.6
MYLDM	Lahad Datu	4.78	319	P	Pn	01 32 19.0	+0.7
TTSI	Tana Toraja	4.91	202	P	Pn	01 32 27.7	+7.6
WRA	Warramunga Arr	24.72	150	P	P	01 36 26.8	-1.0
	2.6nm,0.5s,mb4.0,baz=324,slow=11,SNR=59						
ASAR	Alice Springs	27.75	155	P	P	01 36 54.3	-0.9
	1.0nm,0.5s,mb3.7,baz=343,slow=14,SNR=21						
STKA	Stephens Creek	38.25	152	P	P	01 38 26.4	-0.3
	0.8nm,0.4s,mb3.9,baz=330,slow=10,SNR=7.7						

IDC 01 02:03:34.3±14.0, 1°.56N×127°.52E, h149km±141km, mb3.6/5, mb1 3.7/5, mb1mx3.4/16, mbtmp3.6/5, Error ellipse: s-maj=120.5km s-min=25.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.39	163	P	P	02 08 20.6	0.0
	0.5nm,0.5s,baz=339,slow=11,SNR=9.7						
ASAR	Alice Springs	25.83	166	PcP	PcP	02 12 17.2	-0.2
	0.2nm,0.3s,baz=358,slow=2.5,SNR=4.1						
STKA	Stephens Creek	35.83	159	P	P	02 10 19.7	+0.1
	1.2nm,0.5s,baz=333,slow=11,SNR=6.3						
SONM	Songino Array	49.59	341	P	P	02 12 09.9	-0.3
	0.9nm,0.6s,baz=150,slow=8.6,SNR=8.2						
MKAR	Makanchi Array	59.78	326	P	P	02 13 24.4	+0.8
	1.4nm,0.4s,baz=117,slow=8.2,SNR=31						
ARCES	ARCESS Array B	92.75	340	P	P	02 16 27.5	-1.6
	5.3nm,1.0s,baz=94,slow=6.0,SNR=3.4						

*ISCJB **01** 02:08:08.5±1.3, 51°.44N±0°.06×16°.04E±0°.06, h0km, Error ellipse: s-maj=9.4km s-min=3.8km az=25.9*
*WAR **01** 02:08:09.6, 51°.52N×16°.11E, ML2.2, Mining Induced*
*PRU **01** 02:08:10.4, 51°.45N×16°.07E, h0km*
*CSEM **01** 02:08:10.2±1.0, 51°.41N×16°.03E, h2km, ML3.0/4, Error ellipse: s-maj=16.4km s-min=7.3km az=19.0*
ISC 01 02:08:09.0±1.3, 51°.49N±0°.06×16°.09E±0°.06, h0km, n22, σ0s.94/39, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	169	ePg	Pg	02 08 22.1	+0.5
KSP				eSg	Sg	02 08 31.4	+1.3
KSP	Ksiaz	0.66	169	ePg	Pg	02 08 22.2	+0.6
KSP				eSg	Sg	02 08 31.4	+1.3
UPC	Upice	0.98	183	ePG	Pg	02 08 28.1	+0.3
UPC	Upice	0.98	183	Pg	Pg	02 08 28.1	+0.3
DPC	Dobruska-Polom	1.15	173	ePG	Pg	02 08 31.0	0.0
DPC				eSG	Sg	02 08 46.2	+0.4
	6.9nm,0.2s						
DPC	Dobruska-Polom	1.15	173	Pg	Pg	02 08 31.0	0.0
DPC				Sg	Sg	02 08 46.2	+0.4
	6.9nm,0.2s						
PVCC	Panska Ves	1.36	226	ePG	Pg	02 08 35.4	+0.4
PVCC				eSG	Sg	02 08 53.7	+1.1
	39nm,0.2s						
PVCC	Panska Ves	1.36	226	Pg	Pg	02 08 35.4	+0.4
PVCC				Sg	Sg	02 08 53.7	+1.1
	39nm,0.2s						
BRG	Berggiesshubel	1.48	246	PG	Pg	02 08 37.3	-0.1
BRG				SG	Sg	02 08 57.7	+1.0
	14nm,0.4s						
CLL	Collm	1.94	266	ePg	Pg	02 08 46.0	-0.2
CLL				eSg	Sg	02 09 11.0	-0.4
MORC	Moravsky Berou	1.95	151	eSg	Sg	02 09 11.3	-0.2
OKC	Ostrava-Krasne	2.11	141	eSG	Sg	02 09 15.8	-0.9
OKC	Ostrava-Krasne	2.11	141	Sg	Sg	02 09 15.8	-0.9
VRAC	Vranov	2.21	171	ePn	Pn	02 08 47.2	+0.4
VRAC				eSg	Sg	02 09 19.7	-0.1
TREC	Trest	2.23	190	ePN	Pn	02 08 48.3	+1.2
TREC				ePG	Pg	02 08 51.0	-0.7
TREC	Trest	2.23	190	Pn	Pn	02 08 48.3	+1.2
TREC	Trest	2.23	190	Pg	Pg	02 08 51.0	-0.7
NKC	Novy Kostel	2.63	243	ePG	Pg	02 08 59.2	-0.1
NKC				eSG	Sg	02 09 34.1	+0.7
	7.0nm,0.3s						
NKC	Novy Kostel	2.63	243	Pg	Pg	02 08 59.2	-0.1
NKC				Sg	Sg	02 09 34.1	+0.7
	7.0nm,0.3s						
KHC	Kasperske Hory	2.86	215	ePN	Pn	02 08 56.0	+0.2
KHC				ePG	Pg	02 09 01.5	-2.2
KHC				eSN	Sn	02 09 28.0	-2.8
KHC				eSG	Sg	02 09 38.8	-1.9
	3.2nm,0.3s						
KHC	Kasperske Hory	2.86	215	Pn	Pn	02 08 56.0	+0.2
KHC	Kasperske Hory	2.86	215	Pg	Pg	02 09 01.5	-2.2
KHC				Sn	Sn	02 09 28.0	-2.8
KHC				Sg	Sg	02 09 38.8	-1.9
	3.2nm,0.3s						

*GEN **01** 02:14:40.4, 45°.01N×6°.68E, h24km, ML1.2*
*CSEM **01** 02:14:40.3, 45°.00N×6°.67E, h2km, ML1.8/3, After LDG*
LDG 01 02:14:40.3±0.1, 45°.00N×6°.67E, h2km, Md1.6/4, Ml1.8/3, Error ellipse: s-maj=2.0km s-min=1.5km az=97.0, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	Montbardon	0.28	164	ePg	Pg	02 14 46.1	+0.5
MBDF				eSg	Sg	02 14 50.4	+1.2
	9.8nm,0.2s						
MBDF	Montbardon	0.28	164	ePg	Pg	02 14 46.1	+0.5
MBDF				eSg	Sg	02 14 50.4	+1.2
	4.9nm,0.2s						
MBDF	Montbardon	0.28	164	ePg	Pg	02 14 46.1	+0.5
MBDF				eSg	Sg	02 14 50.4	+1.2
	4.9nm,0.2s						
RSP	Reno Superiore	0.45	70	P	Pg	02 14 49.3	+0.3
RSP				S	Sg	02 14 55.3	+0.5
LPG	La Plagne	0.51	7	ePg	Pg	02 14 50.1	+0.1
LPG				eSg	Sg	02 14 56.9	+0.3
	8.4nm,0.2s						
LPG	La Plagne	0.51	7	ePg	Pg	02 14 50.1	+0.1
LPG				eSg	Sg	02 14 56.9	+0.3
	4.2nm,0.2s						
LPG	La Plagne	0.51	7	ePg	Pg	02 14 50.1	+0.1
LPG				eSg	Sg	02 14 56.9	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	4.2nm,0.2s						
LPL	La Plagne	0.52	5	ePg	Pg	02 14 50.5	+0.2
LPL				eSg	Sg	02 14 57.8	+0.6
	14nm,0.3s						
LPL	La Plagne	0.52	5	ePg	Pg	02 14 50.5	+0.2
LPL				eSg	Sg	02 14 57.8	+0.6
	6.8nm,0.3s						
LPL	La Plagne	0.52	5	ePg	Pg	02 14 50.5	+0.2
LPL				eSg	Sg	02 14 57.8	+0.6
	6.8nm,0.3s						
ORIF	Oris-en-Rattie	0.56	262	ePg	Pg	02 14 51.1	0.0
ORIF				eSg	Sg	02 14 58.1	-0.3
	7.7nm,0.2s						
ORIF	Oris-en-Rattie	0.56	262	ePg	Pg	02 14 51.1	0.0
ORIF				eSg	Sg	02 14 58.1	-0.3
	3.8nm,0.2s						
ORIF	Oris-en-Rattie	0.56	262	ePg	Pg	02 14 51.1	0.0
ORIF				eSg	Sg	02 14 58.1	-0.3
	3.8nm,0.2s						
LSD	Lago del Serru	0.57	35	P	Pg	02 14 51.4	+0.2
LSD				S	Sg	02 14 59.0	+0.4
PZZ	Stroppo	0.58	147	P	Pg	02 14 51.6	+0.1
PZZ				S	Sg	02 14 59.3	+0.3
TRAV	Traversella	0.92	55	P	Pg	02 14 57.6	-0.4
MONE	Monesi	1.20	139	P	Pg	02 15 00.9	-2.4
MONE				S	Sg	02 15 14.6	-4.3
SMRF	Simiane la Rot	1.28	218	eSg	Sg	02 15 20.8	-0.7
	2.1nm,0.3s						
SMRF	Simiane la Rot	1.28	218	eSg	Sg	02 15 20.8	-0.7
	1.0nm,0.3s						
SMRF	Simiane la Rot	1.28	218	eSg	Sg	02 15 20.8	-0.7
	1.0nm,0.3s						
VIVF	Saint-Julien-l	1.42	265	ePg	Pg	02 15 07.3	-0.3
VIVF				eSg	Sg	02 15 25.5	-0.5
	1.0nm,0.2s						
VIVF	Saint-Julien-l	1.42	265	ePg	Pg	02 15 07.3	-0.3
VIVF				eSg	Sg	02 15 25.5	-0.5
	0.5nm,0.2s						
VIVF	Saint-Julien-l	1.42	265	ePg	Pg	02 15 07.3	-0.3
VIVF				eSg	Sg	02 15 25.5	-0.5
	0.5nm,0.2s						
FRF	La Foret Royal	1.43	181	ePg	Pg	02 15 06.8	-1.0
FRF				eSg	Sg	02 15 25.4	-0.9
	2.9nm,0.3s						
FRF	La Foret Royal	1.43	181	ePg	Pg	02 15 06.8	-1.0
FRF				eSg	Sg	02 15 25.4	-0.9
	1.5nm,0.3s						
FRF	La Foret Royal	1.43	181	ePg	Pg	02 15 06.8	-1.0
FRF				eSg	Sg	02 15 25.4	-0.9
	1.5nm,0.3s						

*IPEC **01** 02:43:59.5±0.2, 49°.85N×18°.58E, h2km±4km, ML1.3/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*CSEM **01** 02:44:00.9±0.3, 49°.88N×18°.38E, h5km, ML2.2/4, Error ellipse: s-maj=7.2km s-min=3.6km az=13.0*
PRU 01 02:44:01.9, 49°.84N×18°.39E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.16	269	ePG	Pg	02 44 05.4	+0.5
OKC				eSG	Sg	02 44 07.6	+0.7
	21nm,0.5s						
OKC	Ostrava-Krasne	0.16	269	ePg	Pg	02 44 05.1	+0.2
	baz=87						
OKC				Sg	Sg	02 44 07.6	+0.7
	21nm,0.5s						
OKC	Ostrava-Krasne	0.16	269	ePg	Pg	02 44 05.1	+0.2
	baz=87						
OKC				Sg	Sg	02 44 07.6	+0.7
	21nm,0.5s						
MORC	Moravsky Berou	0.55	264	ePg	Pg	02 44 12.5	0.0
MORC				eSg	Sg	02 44 20.7	+1.1
	6.5nm,0.3s,baz=83						
MORC	Moravsky Berou	0.55	264	ePg	Pg	02 44 12.5	0.0
	baz=83						
MORC				eSg	Sg	02 44 20.7	+1.1
	6.5nm,0.3s,baz=83						
OJC	Ojcow	0.98	67	ePg	Pg	02 44 16.7	-4.1
OJC				eSg	Sg	02 44 28.8	-4.7
OJC	Ojcow	0.98	67	ePg	Pg	02 44 16.2	-4.6
	baz=245						
OJC	Ojcow	0.98	67	ePg	Pg	02 44 16.2	-4.6
	baz=245						
KOLL	Kolacno	1.26	180	ePN	Pn	02 44 24.0	-2.7
KOLL				eSN	Sn	02 44 41.6	-2.8
KOLL	Kolacno	1.26	180	eSn	Sn	02 44 41.6	-2.8
VRAC	Vranov	1.28	246	ePg	Pg	02 44 25.5	-1.0
	baz=66						
VRAC				eSg	Sg	02 44 43.1	0.0
	6.5nm,0.4s,baz=66						
VRAC	Vranov	1.28	246	ePg	Pg	02 44 25.5	-1.0
	baz=66						
VRAC				eSg	Sg	02 44 43.1	0.0
	6.5nm,0.4s,baz=66						
NIE	Niedzica	1.32	108	ePg	Pg	02 44 23.3	-3.9
NIE				eSg	Sg	02 44 40.8	-3.5
DPC	Dobruska-Polom	1.43	292	ePG	Pg	02 44 27.5	-1.7
DPC				eSG	Sg	02 44 47.4	-0.3
	6.5nm,0.7s						
DPC	Dobruska-Polom	1.43	292	Pg	Pg	02 44 27.5	-1.7
DPC				Sg	Sg	02 44 47.4	-0.3
	6.5nm,0.7s						
DPC	Dobruska-Polom	1.43	292	Pg	Pg	02 44 27.5	-1.7
DPC				Sg	Sg	02 44 47.4	-0.3
	6.5nm,0.7s						
SMOL	Smolenice	1.47	206	ePN	Pn	02 44 27.8	-1.8
SMOL				eSN	Sn	02 44 49.6	+0.1
SMOL	Smolenice	1.47	206	ePn	Pn	02 44 27.8	-1.8
SMOL				eSn	Sn	02 44 49.6	+0.1
SMOL	Smolenice	1.47	206	ePn	Pn	02 44 27.8	-1.8
SMOL				eSn	Sn	02 44 49.6	+0.1
KRUC	Moravsky	1.52	240	ePg	Pg	02 44 29.0	-1.9
	baz=60						
KRUC				eSg	Sg	02 44 50.7	+0.1
	2.1nm,0.2s,baz=60						
KRUC	Moravsky	1.52	240	ePg	Pg	02 44 29.0	-1.9
	baz=60						
KRUC				eSg	Sg	02 44 50.7	+0.1
	2.1nm,0.2s,baz=60						
UPC	Upice	1.67	295	ePG	Pg	02 44 31.1	-2.8
UPC				eSG	Sg	02 44 54.9	-0.6
UPC	Upice	1.67	295	Pg	Pg	02 44 31.1	-2.8
UPC				Sg	Sg	02 44 54.9	-0.6
UPC	Upice	1.67	295	Pg	Pg	02 44 31.1	-2.8
UPC				Sg	Sg	02 44 54.9	-0.6
STHS	Stebnicka Huta	1.90	102	ePN	Pn	02 44 35.0	-0.6
STHS				eSN	Sn	02 45 00.6	+0.4
STHS	Stebnicka Huta	1.90	102	ePn	Pn	02 44 35.0	-0.6
STHS				eSn	Sn	02 45 00.6	+0.4
STHS	Stebnicka Huta	1.90	102	ePn	Pn	02 44 35.0	-0.6
STHS				eSn	Sn	02 45 00.6	+0.4
KECS	Kecovo	1.93	134	ePN	Pn	02 44 33.9	-2.1
KECS				eSN	Sn	02 44 58.0	-2.9
KECS	Kecovo	1.93	134	ePn	Pn	02 44 33.9	-2.1
KECS				eSn	Sn	02 44 58.0	-2.9
CRVS	Cervenica-Dubn	2.22	114	ePN	Pn	02 44 41.9	+2.0
CRVS				eSG	Sg	02 45 12.9	-0.1
CRVS	Cervenica-Dubn	2.22	114	ePn	Pn	02 44 41.9	+2.0
CRVS				eSg	Sg	02 45 12.9	-0.1
CRVS	Cervenica-Dubn	2.22	114	ePn	Pn	02 44 41.9	+2.0
CRVS				eSg	Sg	02 45 12.9	-0.1
KHC	Kasperske Hory	3.22	259	ePG	Pg	02 44 59.5	-4.0
KHC				eSG	Sg	02 45 45.8	+0.6
KHC	Kasperske Hory	3.22	259	Sg	Sg	02 45 45.8	+0.6

*ISCJB **01** 03:23:58.2±0.5, 38°.73N±0°.03×23°.37E±0°.04, h18km±5km, Error ellipse: s-maj=5.6km s-min=4.4km az=41.3*
*CSEM **01** 03:23:58.4, 38°.74N×23°.33E, h25km, MD3.1, After ATH*
*ATH **01** 03:23:58.7, 38°.73N×23°.34E, h20km±2km, MD3.1/7*
*THE **01** 03:23:58.8, 38°.74N×23°.36E, h8km±2km, ML1.8/2, Error ellipse: s-maj=2.3km s-min=0.3km az=144.0*
ISC 01 03:23:58.2±0.5, **38°.72N**±0°.03×**23°.37E**±0°.04, **h17**km±4km, **n25**, σ**0s.73**/37, **Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRKA	Markates	0.17	96	P	Pg	03 24 02.4	-0.1
MRKA				S	Sg	03 24 05.5	+0.1
ATAL	Atalanti	0.28	264	P	Pg	03 24 04.0	-0.2
ATAL				S	Sg	03 24 08.0	-0.3
LKR	Lokris	0.30	256	ePB	Pg	03 24 04.4	-0.2
LKR				eSB	Sg	03 24 09.4	+0.5
LKR	Lokris	0.30	256	P	Pg	03 24 04.2	-0.4
LKR				S	Sg	03 24 09.1	+0.2
LKR	Lokris	0.30	256	ePb	Pg	03 24 04.4	-0.2
LKR				eSb	Sg	03 24 08.9	0.0
SKIA	Skiathos	0.45	9	P	Pg	03 24 07.3	+0.1
SKIA				S	Sg	03 24 13.4	+0.1
AXAR	Agios Charalam	0.56	275	P	Pg	03 24 09.1	-0.2
NEO	Neokhori	0.59	349	ePN	Pn	03 24 09.8	-2.1
NEO				eSN	Sg	03 24 18.8	+1.0
NEO	Neokhori	0.59	349	P	Pg	03 24 09.6	-0.3
NEO				S	Sg	03 24 18.3	+0.5
NEO	Neokhori	0.59	349	ePn	Pn	03 24 09.8	-2.1
NEO				eSn	Sg	03 24 18.8	+1.0
AOS	Alonnisos	0.60	42	P	Pg	03 24 09.7	-0.3
AOS				S	Sg	03 24 18.4	+0.5
DSF	Desfina	0.73	245	P	Pb	03 24 12.7	+0.2
LTK	Loutraki	0.77	205	ePN	Pn	03 24 13.5	-0.8
LTK	Loutraki	0.77	205	P	Pb	03 24 13.3	+0.2
LTK	Loutraki	0.77	205	ePn	Pn	03 24 13.5	-0.8
PTL	Penteli	0.78	150	ePN	Pn	03 24 13.8	-0.6
PTL	Penteli	0.78	150	ePn	Pn	03 24 13.8	-0.6
AGG	Agios Georgios	0.87	290	ePN	Pn	03 24 15.1	-0.5
AGG				eSN	Sb	03 24 26.4	+0.3
AGG	Agios Georgios	0.87	290	ePn	Pn	03 24 15.1	-0.5
AGG				eSb	Sb	03 24 26.4	+0.3
GUR	Goura	1.13	226	ePN	Pn	03 24 20.3	+1.1
GUR	Goura	1.13	226	ePn	Pn	03 24 20.4	+1.2
DID	Didima	1.22	185	ePN	Pn	03 24 21.6	+1.1
DID	Didima	1.22	185	ePn	Pn	03 24 21.6	+1.1
LIT	Litokhoron	1.54	334	ePN	Pn	03 24 26.6	+1.8
LIT	Litokhoron	1.54	334	ePb	Pb	03 24 25.2	-1.0

IDC 01 03:37:49.5±4.6, **6°.45S**×**128°.99E**, **h266**km±46km, **mb2.8**/1, **mb1 3.7**/4, **mb1mx3.2**/16, **mbtmp3.4**/4, **Error ellipse: s-maj=66.4km s-min=17.6km az=70.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.04	195	P	Pn	03 40 34.6	+1.4
	1.3nm,0.3s,baz=31,slow=9.6,SNR=26						
FITZ				S	S	03 42 47.5	+0.1
	0.2nm,0.3s,baz=271,slow=24,SNR=1.7						
WRA	Warramunga Arr	14.39	159	P	Pn	03 41 00.4	-1.4
	1.0nm,0.3s,baz=333,slow=13,SNR=49						
WRA				S	S	03 43 40.6	-0.1
	0.2nm,0.3s,baz=333,slow=22,SNR=7.0						
ASAR	Alice Springs	17.76	165	P	P	03 41 38.5	-0.1
	2.4nm,0.3s,baz=347,slow=11,SNR=199						
ASAR				S	S	03 44 50.2	+1.3
	0.2nm,0.3s,baz=344,slow=20,SNR=11						
MKAR	Makanchi Array	67.22	327	P	P	03 48 15.4	+0.1
	0.1nm,0.4s,baz=120,slow=10,SNR=4.1						

*NEIC **01** 03:38:20.3, 17°.88N×94°.64W, h50km, MD3.9(MEX), After MEX.*
MEX 01 03:38:20.0±1.0, **17°.90N**×**94°.64W**, **h52**km±29km, **MD3.9**, **Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.83	196	eP	Pn	03 38 34.7	-0.9
CMIG				i S	Sn	03 38 44.4	-2.6
CMIG	Matias Romero	0.83	196	eP	Pn	03 38 34.7	-0.9
CMIG				i S	Sn	03 38 44.4	-2.6
TGIG		1.83	127	i P	Pn	03 38 47.2	-1.8
TGIG				i S	Sn	03 39 08.9	-2.1
TGIG		1.83	127	i P	Pn	03 38 47.2	-1.8
TGIG				i S	Sn	03 39 08.9	-2.1
VHO	Vista Hermosa	2.16	248	i P	Pn	03 38 52.1	-1.5
VHO				i S	Sn	03 39 18.2	-1.0
VHO	Vista Hermosa	2.16	248	i P	Pn	03 38 52.1	-1.5
VHO				i S	Sn	03 39 18.2	-1.0
HUIG	Huatulco	2.54	214	i P	Pn	03 38 58.0	-0.8
HUIG				i S	Sn	03 39 25.8	-2.7
HUIG	Huatulco	2.54	214	i P	Pn	03 38 58.0	-0.8
HUIG				i S	Sn	03 39 25.8	-2.7
PCIG		2.57	148	i P	Pn	03 38 58.6	-0.6
PCIG				i S	Sn	03 39 27.8	-1.4
PCIG		2.57	148	i P	Pn	03 38 58.6	-0.6
PCIG				i S	Sn	03 39 27.8	-1.4
CCIG	Comitan	2.88	123	i P	Pn	03 39 01.5	-2.0
CCIG				i S	Sn	03 39 35.3	-1.6
CCIG	Comitan	2.88	123	i P	Pn	03 39 01.5	-2.0
CCIG				i S	Sn	03 39 35.3	-1.6
PNIG	Pinotepa	3.66	246	i P	Pn	03 39 10.9	-3.2
PNIG				i S	Sn	03 39 54.6	-1.3
PNIG	Pinotepa	3.66	246	i P	Pn	03 39 10.9	-3.2
PNIG				i S	Sn	03 39 54.6	-1.3
PPM	Popocatepetl	3.96	288	eP	Pn	03 39 16.6	-1.6
PPM				i S	Sn	03 40 02.8	-0.6
PPM	Popocatepetl	3.96	288	eP	Pn	03 39 16.6	-1.6
PPM				i S	Sn	03 40 02.8	-0.6
TEIG	Tepich	6.45	68	ePn	Pn	03 39 46.1	-6.3
TEIG				eSn	Sn	03 40 54.0	-11

*IDC **01** 03:39:22.0±2.6, 4°.60S×100°.69E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/21, mbtmp4.1/6, MS3.3/2, Ms1 3.3/2, ms1mx2.6/39, Error ellipse: s-maj=110.2km s-min=24.0km az=57.0*
*ISCJB **01** 03:39:23.7±1.3, 4°.7S±0°.1×101°.10E±0°.10, h33km, mb4.0/7, MS3.3/2, Error ellipse: s-maj=21.4km s-min=8.7km az=34.3*
*DJA **01** 03:39:27, 4°.50S×101°.30E, h36km, MLv4.3/8*
ISC 01 03:39:26.8±1.3, **4°.6S**±0°.1×**101°.2E**±0°.1, **h35**km, **n19**, σ**0s.46**/16, **mb4.0**/7, **MS3.3**/2, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.63	56	P	Pn	03 39 52.5	-0.5
MNAI	Manna	1.72	83	P	Pn	03 39 54.5	+0.2
LHSI	Lahat	2.40	72	P	Pn	03 40 03.2	-0.3
KRJI	Kerinci	2.48	5	P	Pn	03 40 04.8	+0.1
LWLI	Liwa	2.84	99	P	Pn	03 40 09.7	0.0
MDSI	Maura Dua	2.93	88	P	Pn	03 40 11.0	+0.1
KLSI		3.48	92	P	Pn	03 40 19.0	+0.5
PDSI	Padang	3.72	348	P	Pn	03 40 21.9	+0.1
PPI	Padang Panjang	4.17	348	P	Pn	03 40 27.8	-0.2
CMAR	Chiang Mai Arr	23.00	354	P	P	03 44 28.9	+0.2
	4.0nm,0.8s,mb3.9,baz=188,slow=8.1,SNR=13						
FITZ	Fitzroy Crossi	27.39	121	LR	LR	03 55 57.1	
	comp=Z,42nm,18.1s,MS3.1,baz=102,slow=36						
WRA	Warramunga Arr	35.66	118	P	P	03 46 21.5	-0.4
	0.5nm,0.4s,mb3.8,baz=308,slow=9.1,SNR=2.9						
ASAR	Alice Springs	36.77	124	P	P	03 46 35.5	+4.2
	0.4nm,0.4s,mb3.6,baz=303,slow=7.4,SNR=2.7						
SONM	Songino Array	52.38	4	P	P	03 48 36.4	+1.0
	3.7nm,0.8s,mb4.4,baz=183,slow=9.5,SNR=29						
MKAR	Makanchi Array	53.83	344	P	P	03 48 46.5	+0.4
	1.2nm,0.7s,mb4.0,baz=147,slow=8.1,SNR=12						
ZALV	Zalesovo Beam	59.91	349	P	P	03 49 28.4	-0.7
	1.3nm,0.5s,mb4.2,baz=185,slow=5.5,SNR=7.9						
BVAR	Borovoye Array	63.01	340	P	P	03 49 49.5	-0.5
	0.9nm,0.6s,mb4.1,baz=145,slow=10,SNR=5.0						
ASF	Jabal al Asfar	71.09	306	LR	LR	04 24 58.8	
	comp=Z,23nm,18.6s,MS3.5,baz=158,slow=39						
TXAR	Lajitas Array	145.90	41	PKPbc	PKPbc	03 59 04.5	+1.2
	1.7nm,0.7s,baz=318,slow=1.2,SNR=12						

*IDC **01** 03:41:18.1±3.8, 1°.54N×99°.71E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=156.8km s-min=27.0km az=57.0*
*DJA **01** 03:41:19, 0°.59N×98°.47E, h8km, MLv3.8/11*
*ISCJB **01** 03:41:21.6±1.0, 0°.67N±0°.07×98°.58E±0°.08, h33km, mb3.7/4, Error ellipse: s-maj=12.7km s-min=8.0km az=147.5*
ISC 01 03:41:21.5±0.9, **0°.62N**±0°.07×**98°.51E**±0°.08, **h35**km, **n15**, σ**1s.56**/16, **mb3.8**/4, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	1.09	81	P	Pn	03 41 39.6	-0.6
MNSI				S	Sn	03 41 51.6	-2.5
SISI	Saibi	2.02	163	P	Pn	03 41 53.0	-0.1
PPI	Padang Panjang	2.17	120	P	Pn	03 41 57.1	+1.9
PSI	Prapat	2.20	11	P	Pn	03 41 55.1	-0.5
PDSI	Padang	2.48	128	P	Pn	03 42 01.0	+1.6
BKNI	Bangkinang	2.55	97	P	Pn	03 42 01.0	+0.6
TSI	Tuntungan	2.86	1	P	Pn	03 42 07.0	+2.4
TPTI		2.94	333	P	Pn	03 42 06.0	+0.3
IPM	Ipoh	4.58	33	P	Pn	03 42 30.4	+2.0
KULM	Kulim	5.11	25	P	Pn	03 42 36.3	+0.7
	0.1nm21nm,1.8s						
MYKOM	Kota Tinggi	5.47	78	P	Pn	03 42 40.6	+0.1
WRA	Warramunga Arr	40.62	122	P	P	03 48 55.8	-2.6
	0.2nm,0.5s,mb3.0,baz=302,slow=8.9,SNR=4.2						
SONM	Songino Array	47.52	7	P	P	03 49 46.9	-6.3
	0.3nm,0.4s,mb3.6,baz=193,slow=5.9,SNR=2.8						
MKAR	Makanchi Array	48.12	345	P	P	03 49 55.4	-2.5
	1.3nm,0.5s,mb4.2,baz=158,slow=8.9,SNR=10						
ZALV	Zalesovo Beam	54.34	350	P	P	03 50 41.4	-3.0
	0.8nm,0.3s,mb4.1,baz=175,slow=8.5,SNR=3.9						

*NIED **01** 03:47:00, 36°.50N×143°.20E, h8km, Mw4.2 Best double couple: $M_0$2.18000×10[15] NP1:ϕ_s322.00000°, δ54.00000°, λ-118.00000°. NP2:ϕ_s184.00000°, δ44.00000°, λ-57.00000°.*
*BJI **01** 03:47:00.9, 36°.69N×144°.11E, h28km, mB4.9/25, mb4.4/31, Ms4.5/18, Ms7 4.0/17*
*ISCJB **01** 03:47:03.1±1.0, 36°.43N±0°.03×143°.33E±0°.03, h19km±7km, mb4.5/53, MS3.9/5, Error ellipse: s-maj=5.3km s-min=4.4km az=161.5*
*MOS **01** 03:47:03.2±1.1, 36°.46N×143°.44E, h23km, mb4.9/30, Error ellipse: s-maj=11.3km s-min=6.7km az=118.9*
*JMA **01** 03:47:06.2±0.2, 36°.49N×143°.19E, h74km, M4.4*
*NEIC **01** 03:47:07.1±0.9, 36°.37N×143°.39E, h37km±7km, mb4.8/13, MW4.2(NIED), Error ellipse: s-maj=6.8km s-min=4.7km az=80.0*
*IDC **01** 03:47:07.6±0.5, 36°.36N×143°.39E, h41km±3km, mb4.2/22, mb1 4.4/24, mb1mx4.3/29, mbtmp4.2/24, ML3.6/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/41, Error ellipse: s-maj=11.5km s-min=10.8km az=86.0*
ISC 01 03:47:05.6±1.1, **36°.45N**±0°.03×**143°.27E**±0°.03, **h22**km±7km, **h39**km±1.5km**:pP-P**, **n165**, σ**1s.13**/192, **mb4.5**/53, **MS3.9**/5, **5D**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	2.08	289	P	Pn	03 47 38.3	-0.9
ONAJ				eS	Sn	03 48 03.0	-1.5
CHOJ	Chosi	2.09	250	P	Pn	03 47 39.2	-0.1
CHOJ				S	Sn	03 48 03.7	-0.9
JFK	Kawauchi	2.12	296	P	Pn	03 47 39.1	-0.6
JFK				eS	Sn	03 48 03.8	-1.6
JHO	Hitachi	2.18	275	P	Pn	03 47 40.1	-0.4
JHO				S	Sn	03 48 05.2	-1.6
JMM	Marumori	2.43	306	P	Pn	03 47 43.3	-0.6
JMM				S	Sn	03 48 11.4	-1.5
BSO1	Boso 1	2.59	227	P	Pn	03 47 45.4	-0.7
BSO1				S	Sn	03 48 17.2	+0.3
JMK	Ichinoseki	2.98	328	P	Pn	03 47 50.5	-0.9
JMK				eS	Sn	03 48 23.6	-2.8
JAG	Ashikaga	3.08	271	P	Pn	03 47 53.0	+0.2
JAG				S	Sn	03 48 27.4	-1.5
JYK	Kaneyama	3.37	318	P	Pn	03 47 57.0	+0.1
JYK				S	Sn	03 48 35.8	-0.4
JOM	Ohasama	3.40	333	P	Pn	03 47 56.3	-0.9
JOM				S	Sn	03 48 33.6	-3.2
JNS	Sasagawa	3.44	295	P	Pn	03 47 58.0	+0.2
JRY	Ryogami san	3.56	264	P	Pn	03 47 59.3	-0.1
JRY				S	Sn	03 48 38.8	-2.0
JOD2	Odawara 2	3.60	252	P	Pn	03 47 59.8	-0.2
JOD2				S	Sn	03 48 39.6	-2.2
JYN	Shimob	3.95	257	P	Pn	03 48 05.3	+0.5
JYN				eS	Sn	03 48 49.6	-0.8
MJAR	Matsushiro Arr	4.08	273	P	Pn	03 48 07.5	+0.9
	16nm,0.3s,baz=90,slow=9.0,SNR=123						
MJAR				S	Sn	03 48 55.9	+2.4
	9.5nm,0.3s,baz=50,slow=35,SNR=2.6						
MJAR	Matsushiro Arr	4.08	273	P	Pn	03 48 07.5	+0.9
MJAR				S	Sn	03 48 56.0	+2.4
MJAR	Matsushiro Arr	4.08	273	P	Pn	03 48 07.5	+0.9
MJAR				S	Sn	03 48 55.9	+2.3
MJAR				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR				smax			
	comp=N,10.0nm,0.3s						
MAJO	Matsushiro	4.08	273	ePn	Pn	03 48 08.1	+1.5
MAJO	Matsushiro	4.08	273	eP	Pn	03 48 08.1	+1.5
MAT	Matsushiro	4.08	273	P	Pn	03 48 07.5	+0.9
MAT				S	Sn	03 48 55.5	+1.9
MAT	Matsushiro	4.08	273	P	Pn	03 48 07.9	+1.3
MAT				S	Sn	03 48 55.8	+2.2
JANG	Nango	4.15	341	P	Pn	03 48 07.0	-0.6
JANG				S	Sn	03 48 49.8	-5.6
JSD	Sado	4.30	293	P	Pn	03 48 10.5	+0.9
JHJ2	Mitsune	4.38	221	P	Pn	03 48 09.9	-0.8
JHJ2				S	Sn	03 48 56.1	-5.0
JOT	Ohata	5.22	341	P	Pn	03 48 22.5	+0.3
JOT				S	Sn	03 49 15.0	-6.7
ERM	Erimo	5.55	359	ePn	Pn	03 48 24.6	-2.3
ERM				eS	Sn	03 49 23.7	-6.3
ERM	Erimo	5.55	359	eP	Pn	03 48 24.6	-2.3
ERM				eS	Sn	03 49 23.7	-6.3
ASAJ	Asahikawa	7.67	356	P	Pn	03 48 54.1	-1.8
	comp=N,2.1nm,0.3s,baz=222,slow=13,SNR=9.4						
ASAJ				S	Sn	03 50 15.5	-6.6
	comp=N,3.0nm,0.3s,baz=316,slow=30,SNR=6.7						
ASAJ				LR	LR	03 52 21.4	
	comp=N,194nm,18.9s,baz=151,slow=40						
ASAJ	Asahikawa	7.67	356	ePn	Pn	03 48 54.0	-1.9
ASAJ				S	Sn	03 50 15.5	-6.6
ASAJ	Asahikawa	7.67	356	P	Pn	03 48 54.1	-1.8
ASAJ				S	Sn	03 50 15.5	-6.6
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,194nm,18.9s						
CBIJ	Chichi jima	9.38	186	P	Pn	03 49 14.2	-5.2
	comp=Z,7.5nm,0.3s,baz=260,slow=22,SNR=5.8						
CBIJ				S	Sn	03 50 49.4	-15
	comp=Z,20nm,0.3s,baz=290,slow=23,SNR=6.5						
CBIJ	Chichi jima	9.38	186	P	Pn	03 49 14.2	-5.2
CBIJ				S	Sn	03 50 49.4	-15
JNU	Nakatsue	10.72	256	ePn	Pn	03 49 39.1	+1.4
KSRS	Korea Array	12.32	279	P	Pn	03 50 03.0	+3.4
	comp=Z,0.1nm,0.3s,baz=95,slow=14,SNR=6.9						
KSRS				LR	LR	03 55 18.3	
	comp=Z,175nm,18.6s,baz=114,slow=39						
KSRS	Korea Array	12.32	279	P	Pn	03 50 03.0	+3.4
KSRS				MLR	MLR		
	comp=Z,175nm,18.6s						
KSAR	Wonju Array Be	12.35	279	P	Pn	03 50 03.0	+3.0
KSAR	Wonju Array Be	12.35	279	P	Pn	03 50 03.0	+3.0
MDJ	Mudanjiang	13.20	312	P	Pn	03 50 13.1	+1.5
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.6s						
HABR	Khabarovsk	13.44	336	P	Pn	03 50 13.4	-1.5
HABR				pmax	pmax		
	comp=N,11nm,0.7s						
HABR				pmax	pmax		
	comp=E,19nm,0.8s						
HABR				pmax	pmax		
	comp=Z,35nm,0.9s						
CN2	Changchun	15.46	304	eP	Pn	03 50 44.6	+2.4
CN2				LR	LR		
	comp=Z,200nm,16.0s						
SNY	Shenyang	16.18	295	⇓P	Pn	03 50 53.7	+2.2
SNY				S	Sn	03 53 53.8	+3.6
SNY				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SNY				pmax	pmax		
	comp=Z,110nm,3.7s						
SNY				LR	LR		
	comp=N,280nm,4.3s						
SNY				LR	LR		
	comp=E,380nm,4.5s						
SNY				LR	LR		
	comp=Z,230nm,11.8s						
PETK	Petropavlovsk-	19.49	27	LR	LR	03 59 39.0	
	comp=Z,56nm,19.4s,baz=324,slow=38						
NJ2	Nanjing	20.63	265	eP	P	03 51 47.6	+4.1

NJ2 pmax pmax
comp=Z,10.0nm,0.8s
YHNB Yeheng 22.16 244 P P 03 51 56.8 -3.1
HHC Hu-ho-hao-te 25.07 290 eP P 03 52 29.1 +0.8
HHC pP pP 03 52 38.9 +4.0
HHC sP sP 03 52 42.4 +4.7
HHC PP 03 53 06.3
HHC S S 03 56 49.5 -1.9
HHC pmax pmax
comp=Z,12nm,0.4s,mb4.8
HHC pmax pmax
comp=Z,54nm,4.8s
HHC LR LR
comp=N,100nm,8.3s
HHC LR LR
comp=E,140nm,7.7s
HHC LR LR
comp=Z,170nm,8.9s
YAK Yakutsk 26.98 346 i P P 03 52 45.1 -0.2
YAK pmax pmax
comp=Z,16nm,0.6s,mb4.7
XAN Xi'an 28.07 275 P P 03 53 02.6 +7.2
XAN pP pP 03 53 12.5 +10
XAN pmax pmax
comp=Z,2.0nm,1.2s,mb3.6
XAN pmax pmax
comp=Z,21nm,5.9s
ULN Ulaanbaatar 28.91 305 eP P 03 53 03.3 +0.5
comp=Z,52nm,2.6s,mb4.8
ULN Ulaanbaatar 28.91 305 eP P 03 53 03.3 +0.5
ULN pmax pmax
comp=Z,52nm,2.6s,mb4.8
SONM Songino Array 29.34 304 P P 03 53 08.5 +1.9
comp=Z,2.6nm,0.8s,mb4.0,baz=103,slow=7.8,SNR=20
SONM PcP PcP 03 56 12.8 +0.3
comp=Z,0.8nm,0.6s,baz=139,slow=2.6,SNR=8.1
SONM pPcP 03 56 25.5
comp=Z,0.6nm,0.4s,baz=118,slow=2.2,SNR=8.1
SONM Songino Array 29.34 304 P P 03 53 08.5 +1.9
SONM PcP PcP 03 56 12.8 +0.3
SONM pPcP 03 56 25.5
SONM Songino Array 29.34 304 P P 03 53 08.5 +1.9
SONM 03 56 12.8
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.4s
LZH Lanzhou 31.64 281 eP P 03 53 31.0 +4.0
LZH pP pP 03 53 42.0 +8.3
LZH sP sP 03 53 45.8 +9.4
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.7
ZAK Zakamensk 31.80 309 eP P 03 53 29.4 +1.2
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.0
CD2 Chengdu 33.17 272 eP P 03 53 41.8 +1.3
CD2 pP pP 03 53 51.4 +4.2
CD2 sP sP 03 53 55.8 +5.8
CD2 PP PP 03 54 55.4 -0.2
CD2 S S 03 58 58.3 -0.6
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CD2 pmax pmax
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,190nm,13.2s,MS4.1
CD2 LR LR
comp=E,170nm,14.4s,MS4.1
CD2 LR LR
comp=Z,210nm,16.8s,MS3.9
GTA Gaotai 34.16 288 eP P 03 53 50.7 +1.7
GTA pP pP 03 53 55.4 -0.3
GTA sP sP 03 53 58.7 +0.2
GTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KMI Kunming 36.36 263 P P 03 54 10.6 +2.5
KMI pP pP 03 54 19.8 +4.9
KMI sP sP 03 54 24.5 +6.9
KMI S S 03 59 48.9 +0.8
KMI sS sS 04 00 06.3 +7.0
KMI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KMI pmax pmax
comp=Z,100nm,4.1s
KMI LR LR
comp=N,130nm,16.2s,MS4.0
KMI LR LR
comp=E,130nm,15.1s,MS4.0
KMI LR LR
comp=Z,120nm,13.3s,MS3.9
WMQ Urumqi 42.43 298 P P 03 55 00.5 +2.0
WMQ pP pP 03 55 10.3 +5.0
WMQ sP sP 03 55 14.3 +6.2
WMQ PP PP 03 56 42.0 +5.2
WMQ S S 04 01 20.2 +1.3
WMQ pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
WMQ pmax pmax
comp=Z,210nm,5.0s
WMQ LR LR
comp=N,85nm,22.0s,MS3.6
WMQ LR LR
comp=E,35nm,20.0s,MS3.6
ZAA0 Zalesovo Array 43.40 313 eP P 03 55 07.0 +0.8
ZALV Zalesovo Beam 43.40 313 P P 03 55 07.1 +0.8
comp=E,6.4nm,0.6s,mb4.5,baz=89,slow=7.6,SNR=26
ZALV PcP PcP 03 56 54.0 -0.3
comp=E,4.2nm,0.8s,baz=95,slow=2.8,SNR=7.3
ZALV pPcP 03 57 06.5
comp=E,3.1nm,0.7s,baz=77,slow=3.8,SNR=5.8
ZALV LR LR 04 15 46.4
comp=E,28nm,21.1s,MS3.1,baz=72,slow=40
ZALV Zalesovo Beam 43.40 313 P P 03 55 07.1 +0.8
ZALV PcP PcP 03 56 54.0 -0.3
ZALV pPcP 03 57 06.5
ZALV Zalesovo Beam 43.40 313 P P 03 55 07.1 +0.8
ZALV 03 56 54.0
ZALV pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ZALV pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ZALV pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ZALV MLR MLR
comp=Z,28nm,21.1s,MS3.1
NVS Novosibirsk 44.31 314 eP P 03 55 13.1 -0.5
NVS pmax pmax
comp=Z,13nm,1.5s,mb4.4
NVS pmax pmax
comp=N,4.0nm,0.7s
MK31 Makanchi Array 45.69 303 eP P 03 55 25.1 +0.5
MK31 Makanchi Array 45.69 303 i P P 03 55 23.7 -0.9
MK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
MKAR Makanchi Array 45.69 303 P P 03 55 25.5 +0.9
comp=Z,1.6nm,0.8s,mb4.0,baz=89,slow=10,SNR=13
MKAR Makanchi Array 45.69 303 P P 03 55 25.5 +0.9
MKAR Makanchi Array 45.69 303 P P 03 55 25.5 +0.9
MKAR pmax pmax
comp=Z,2.0nm,0.8s
KDAK Kodiak Island 46.54 42 P P 03 55 30.6 -0.6
comp=Z,18nm,0.7s,mb5.1,baz=304,slow=6.4,SNR=11
KDAK Kodiak Island 46.54 42 P P 03 55 30.6 -0.6
KDAK Kodiak Island 46.54 42 P P 03 55 30.6 -0.5
KDAK pmax pmax
comp=Z,18nm,0.7s,mb5.1
KURK Kurchatov 47.46 309 eP P 03 55 38.7 +0.3
comp=Z,17nm,0.9s,mb5.0
KURK Kurchatov 47.46 309 eP P 03 55 38.7 +0.3
KURK pmax pmax
comp=Z,17nm,0.9s,mb5.0
ILAR Eielson Array 49.19 32 P P 03 55 50.8 -0.8
comp=Z,2.8nm,0.7s,mb4.4,baz=258,slow=6.2,SNR=34
ILAR Eielson Array 49.19 32 P P 03 55 50.8 -0.8
ILAR Eielson Array 49.19 32 P P 03 55 50.8 -0.8
ILAR pmax pmax
comp=Z,3.0nm,0.7s
COEN Coen 50.14 180 eP P 03 55 58.9 -0.4
comp=Z,29nm,0.8s,mb5.4
TKM2 Tokmak 2 51.21 299 eP P 03 56 08.0 +0.8
comp=Z,6.2nm,1.1s,mb4.5
TKM2 Tokmak 2 51.21 299 eP P 03 56 08.0 +0.8
TKM2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KSH Kashi 52.00 295 eP P 03 56 18.1 +4.9
KSH pP pP 03 56 28.1 +8.0
KSH sP sP 03 56 31.8 +9.0
KSH PcP PcP 03 57 28.6 +3.3
KSH PP PP 03 58 18.8 +7.7
KSH ScP ScP 04 01 21.4 +0.5
KSH PcS PcS 04 01 25.3 +1.9
KSH S S 04 03 40.8 +5.5
KSH sS sS 04 03 56.6 +10
KSH ScS ScS 04 06 03.6 +1.7
KSH SS SS 04 07 16.4 +4.3
KSH pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KSH pmax pmax
comp=Z,160nm,7.5s
KSH LR LR
comp=N,140nm,10.1s
KSH LR LR
comp=E,130nm,5.2s
KSH LR LR
comp=Z,130nm,4.4s
BRVK Borovoye 52.12 313 eP P 03 56 14.6 +0.8
comp=Z,8.0nm,1.0s,mb4.6
BRVK Borovoye 52.12 313 eP P 03 56 14.6 +0.8
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
INK Inuvik 54.23 27 P P 03 56 29.0 -0.1
comp=Z,3.7nm,0.6s,mb4.5,baz=294,slow=6.2,SNR=44
INK pP pP 03 56 41.0 +4.9
comp=Z,1.7nm,0.5s,baz=308,slow=6.7,SNR=3.8
INK Inuvik 54.23 27 eP P 03 56 29.1 0.0
comp=Z,2.2nm,0.5s,mb4.3
INK pP pP 03 56 41.0 +4.9
INK Inuvik 54.23 27 eP P 03 56 29.1 0.0
INK *PP pP 03 56 41.0 +4.9
INK pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 54.70 301 eP P 03 56 33.2 +0.3
comp=Z,0.5nm,0.4s,mb3.9
KKAR Karatay Array 54.70 301 eP P 03 56 33.2 +0.2
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
SVE Sverdlovsk 56.56 319 eP P 03 56 47.2 +1.1
SVE pmax pmax
comp=Z,13nm,0.6s,mb5.1
WRAB Tennant Creek 56.71 190 eP P 03 56 46.2 -1.2
comp=Z,10nm,0.8s,mb4.9
WRAB e 03 56 58.9
WRAB Tennant Creek 56.71 190 eP P 03 56 46.3 -1.2
WRAB e 03 56 58.9
WRAB pmax pmax
comp=Z,11nm,0.8s,mb4.9
WB2 Warramunga Arr 56.72 190 eP P 03 56 46.2 -1.4
WRA Warramunga Arr 56.72 190 P P 03 56 46.1 -1.4
comp=Z,13nm,0.7s,mb5.0,baz=11,slow=7.5,SNR=53
WRA pP pP 03 56 58.6 +4.1
comp=Z,5.7nm,0.5s,baz=7.1,slow=7.3,SNR=10
WRA Warramunga Arr 56.72 190 P P 03 56 46.1 -1.4
WRA pP pP 03 56 58.6 +4.1
WRA Warramunga Arr 56.72 190 P P 03 56 46.1 -1.4
WRA *PP pP 03 56 58.6 +4.0
WRA pmax pmax
comp=Z,13nm,0.7s
WRA pmax pmax
comp=Z,6.0nm,0.5s
FITZ Fitzroy Crossi 56.76 200 P P 03 56 47.7 -0.2
comp=Z,1.4nm,0.8s,mb4.0,baz=0.0,slow=8.1,SNR=3.1
FITZ Fitzroy Crossi 56.76 200 P P 03 56 47.7 -0.2
ARU Arti 57.78 319 eP P 03 56 55.2 +0.5
comp=Z,30nm,1.3s,mb5.2
ARU Arti 57.78 319d iP P 03 56 55.0 +0.3
ARU S S 04 04 54.4 +2.1
ARU SS SS 04 08 42.4 0.0
ARU pmax pmax
comp=Z,35nm,1.7s,mb5.1
AB31 Akbulak array 59.45 311 i P P 03 57 06.6 +0.2
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ABKAR Akbulak array 59.45 311 eP P 03 57 06.7 +0.2
comp=Z,4.8nm,0.8s,mb4.6
ABKAR e 03 57 19.4
AKTO Aktyubinsk 60.17 313 P P 03 57 11.8 +0.4
comp=Z,4.2nm,0.8s,mb4.5,baz=73,slow=9.8,SNR=14
AKTO pP pP 03 57 24.2 +5.8
comp=Z,2.1nm,0.6s,baz=89,slow=12,SNR=4.9
AKTO Aktyubinsk 60.17 313 P P 03 57 11.8 +0.4
AKTO pP pP 03 57 24.2 +5.8
AKTO Aktyubinsk 60.17 313 P P 03 57 11.8 +0.4
AKTO *PP pP 03 57 24.2 +5.8
AKTO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AS31 Alice Springs 60.44 190 eP P 03 57 12.4 -1.0
ASAR Alice Springs 60.44 190 P P 03 57 12.3 -1.1
comp=Z,5.2nm,0.7s,mb4.7,baz=13,slow=7.6,SNR=62
ASAR pP pP 03 57 24.7 +4.2
comp=Z,2.8nm,0.4s,baz=2.8,slow=6.8,SNR=9.0
ASAR Alice Springs 60.44 190 P P 03 57 12.3 -1.1
ASAR pP pP 03 57 24.7 +4.2
ASAR Alice Springs 60.44 190 P P 03 57 12.3 -1.1
ASAR *PP pP 03 57 24.7 +4.2
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR pmax pmax
comp=Z,3.0nm,0.4s
RES Resolute Bay 62.79 15 eP P 03 57 27.9 -0.8
comp=Z,8.2nm,1.0s,mb4.8
RES Resolute Bay 62.79 15 eP P 03 57 27.9 -0.8
RES pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
APA Apatity 63.82 336⥥eP P 03 57 36.8 +1.2
APA pmax pmax
comp=Z,160nm,1.0s
APA MLR MLR
comp=Z,400nm,18.0s,MS4.6
ARCES ARCESS Array B 65.06 340 P P 03 57 44.3 +0.6
comp=Z,3.5nm,1.0s,mb4.4,baz=58,slow=9.2,SNR=6.0
ARCES ARCESS Array B 65.06 340 P P 03 57 44.3 +0.6
ARCES ARCESS Array B 65.06 340 P P 03 57 44.3 +0.6
ARCES pmax pmax
comp=Z,4.0nm,1.0s
JOF Joensuu 67.17 333 eP P 03 57 56.4 -0.9
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
JOF Joensuu 67.17 333 ep P 03 57 56.4 -0.9
comp=Z,3.3nm,0.5s,mb4.6
STKA Stephens Creek 67.99 182 P P 03 58 02.0 -0.7
comp=Z,2.9nm,0.7s,mb4.4,baz=0.6,slow=11,SNR=4.9
STKA pP pP 03 58 13.9 +4.0
comp=Z,2.3nm,0.8s,baz=322,slow=21,SNR=2.5
STKA Stephens Creek 67.99 182 P P 03 58 02.0 -0.7
STKA pP pP 03 58 13.9 +4.0
STKA Stephens Creek 67.99 182 P P 03 58 02.1 -0.7
STKA *PP pP 03 58 14.0 +4.1
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 69.45 324⥥iP P 03 58 11.7 0.0
OBN i 03 58 33.8
OBN pmax pmax
comp=Z,28nm,1.9s,mb4.9
KAF Kangasniemi 69.50 333 eP P 03 58 11.4 -0.5
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KAF Kangasniemi 69.50 333 ep P 03 58 11.4 -0.5
comp=Z,4.4nm,0.6s,mb4.6
FINES FINESS Array B 70.02 333 P P 03 58 15.5 +0.4
comp=Z,8.6nm,0.7s,mb4.8,baz=50,slow=6.0,SNR=12
FINES pP pP 03 58 27.5 +5.2
comp=Z,4.6nm,0.8s,baz=71,slow=8.9,SNR=3.3
FINES FINESS Array B 70.02 333 P P 03 58 15.5 +0.4
FINES pP pP 03 58 27.5 +5.2
FINES FINESS Array B 70.02 333 P P 03 58 15.5 +0.4
FINES *PP pP 03 58 27.5 +5.2
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 72.41 312 eP P 03 58 31.7 +1.8
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NWAO Narrogin (SRO) 73.19 203 P P 03 58 33.9 -0.6
comp=Z,12nm,1.1s,mb4.7,baz=315,slow=1.4,SNR=3.1
NWAO Narrogin (SRO) 73.19 203 P P 03 58 33.9 -0.6
NWAO Narrogin (SRO) 73.19 203 P P 03 58 33.9 -0.6
NWAO pmax pmax
comp=Z,12nm,1.1s
LRM Limekiln Ridge 73.51 45 eP P 03 58 36.2 -0.2
comp=Z,60nm,1.1s,mb5.4
NVAR Mina Array Bea 74.14 54 P P 03 58 40.5 +0.3
comp=Z,2.7nm,0.7s,mb4.3,baz=285,slow=6.1,SNR=27
NVAR Mina Array Bea 74.14 54 P P 03 58 40.5 +0.3
NB2 NORSAR Subarra 75.29 338 P P 03 58 46.5 0.0
comp=Z,12nm,0.8s,mb4.9,baz=39,slow=5.9
NOA NORSAR Array B 75.29 338 P P 03 58 46.8 +0.3
comp=Z,7.8nm,0.8s,mb4.7,baz=39,slow=5.7,SNR=26
NOA pP pP 03 58 59.3 +5.6
comp=Z,5.6nm,0.8s,baz=39,slow=5.7,SNR=8.4
NOA NORSAR Array B 75.29 338 P P 03 58 46.8 +0.3
NOA pP pP 03 58 59.3 +5.6
NOA NORSAR Array B 75.29 338 P P 03 58 46.8 +0.3
NOA *PP pP 03 58 59.3 +5.6
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 75.66 323 P P 03 58 48.7 -0.1
comp=Z,2.8nm,0.6s,mb4.4,baz=46,slow=6.0,SNR=21
AKASG pP pP 03 59 00.8 +4.7
comp=Z,2.5nm,0.5s,baz=45,slow=6.4,SNR=8.7
AKASG Malin Array Be 75.66 323 P P 03 58 48.7 -0.1
AKASG pP pP 03 59 00.8 +4.7
AKASG Malin Array Be 75.66 323 P P 03 58 48.7 -0.1
AKASG *PP pP 03 59 00.8 +4.8
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 75.67 323 eP P 03 58 48.8 -0.1
comp=Z,4.8nm,0.8s,mb4.5
KIEV e 03 59 01.7
KIEV Kiev 75.67 323 eP P 03 58 48.8 -0.1
KIEV e 03 59 01.7
KIEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PDAR Pinedale Array 77.00 46 P P 03 58 56.0 -0.5
comp=Z,1.2nm,0.7s,mb4.0,baz=277,slow=2.9,SNR=10
PDAR Pinedale Array 77.00 46 P P 03 58 56.0 -0.5
BHD Baghdad 77.37 302 ex x 03 59 56.0
BHD ex x 04 10 25.5
BHD ex x 04 10 44.5
BUR08 Bucovina Ar. S 79.67 323 eP P 03 59 12.1 +0.9
BUR08 e 03 59 24.7
BRTR Keskin Array B 80.35 313 P P 03 59 15.7 +0.6
comp=Z,1.1nm,0.8s,mb3.9,baz=116,slow=2.9,SNR=8.2
BRTR pP pP 03 59 28.3 +5.9
comp=Z,1.0nm,0.9s,baz=81,slow=4.1,SNR=4.7
BRTR Keskin Array B 80.35 313 P P 03 59 15.7 +0.6
BRTR pP pP 03 59 28.2 +5.9
BRTR Keskin Array B 80.35 313 P P 03 59 15.7 +0.6
BRTR *PP pP 03 59 28.3 +6.0
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,1.0nm,0.9s
UZH Uzhgorod 80.36 325 eP P 03 59 10.0 -5.0
UZH e 03 59 21.2
CLL Collm 82.33 331 eP P 03 59 25.0 -0.4
CLL Collm 82.33 331 eP P 03 59 25.0 -0.4
MMAI Mount Meron Ar 83.51 306 P P 03 59 31.4 -0.4
comp=Z,0.8nm,0.5s,mb4.1,baz=35,slow=7.4,SNR=4.6
MMAI pP pP 03 59 44.2 +5.0
comp=Z,0.5nm,0.3s,baz=41,slow=9.6,SNR=3.3
MMAI Mount Meron Ar 83.51 306 P P 03 59 31.4 -0.4
MMAI pP pP 03 59 44.2 +5.0
CONA Conrad Observa 83.78 327⥥iP P 03 59 32.7 -0.2
comp=Z,6.5nm,1.1s,mb4.7
GERES GERESS Array B 83.98 329 P P 03 59 34.0 +0.1
comp=Z,0.7nm,0.8s,mb3.8,baz=35,slow=7.2,SNR=3.5
GERES GERESS Array B 83.98 329 P P 03 59 34.0 +0.1
GERES GERESS Array B 83.98 329 P P 03 59 34.0 +0.1
GERES pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 89.28 53 P P 03 59 59.8 -0.4
comp=Z,1.2nm,0.6s,mb4.4,baz=284,slow=3.3,SNR=7.6
TXAR Lajitas Array 89.28 53 P P 03 59 59.8 -0.4
TXAR Lajitas Array 89.28 53 P P 03 59 59.8 -0.4
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 118.79 316 PKP PKPdf 04 05 51.3 -1.3
comp=Z,0.2nm,0.6s,baz=68,slow=2.0,SNR=2.4
TORD pPKP pPKPdf 04 06 04.1 +4.0
comp=Z,0.2nm,0.5s,baz=49,slow=2.0,SNR=1.5
TORD PP PP 04 07 03.2 -6.9
comp=Z,0.9nm,1.2s,baz=19,slow=9.2,SNR=3.1
TORD Torodi Ar. Bea 118.79 316 PKP PKPdf 04 05 51.3 -1.3
TORD pPKP pPKPdf 04 06 04.1 +4.0
TORD PP PP 04 07 03.2 -6.9
VNA2 Neumayer--Watz 142.16 195 e PKPdf 04 06 29.1 -5.8
baz=121,slow=2.7
VNA2 e 04 06 32.3
VNA3 Neumayer Olymp 142.38 194 e PKPdf 04 06 30.1 -5.1
VNA3 e 04 06 33.7
LPAZ La Paz 145.67 63 ePKPdf PKPdf 04 06 42.8 +0.2
LPAZ La Paz 145.67 63 ePKIKP PKPdf 04 06 42.8 +0.2

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*ISK **01** 03:49:22.4, 39°.56N×28°.82E, h2km, MD2.9*
*DDA **01** 03:49:22.5, 39°.56N×28°.84E, h7km±5km, Md3.0*
*ISCJB **01** 03:49:23.5±0.3, 39°.54N±0°.02×28°.82E±0°.02, h10km, Error ellipse: s-maj=3.0km s-min=2.5km az=15.2*
*CSEM **01** 03:49:23.3±0.1, 39°.56N×28°.85E, h2km, MD2.9, Error ellipse: s-maj=1.5km s-min=1.2km az=147.0*
ISC 01 03:49:23.3±0.4**, 39°.55N**±0°.02×**28°.84E**±0°.02**, h2**km±4km**, n95, σ0s.60**/107**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	Dursunbey	0.18	288	ePG	Pg	03 49 26.5	-0.3
DST	Dursunbey	0.18	288	ePg	Pg	03 49 26.5	-0.3
DURS	Dursunbey	0.29	281	i P	Pg	03 49 28.7	-0.2
DURS				i S	Sg	03 49 32.6	0.0
DURS	Dursunbey	0.29	281	i P	Pg	03 49 28.7	-0.2
DEMI	Demirci	0.51	191	i P	Pg	03 49 33.5	+0.4
DEMI				i S	Sg	03 49 40.2	+0.4
DEMI	Demirci	0.51	191	i P	Pg	03 49 33.5	+0.4
GDZ	Gediz	0.68	133	i P	Pg	03 49 35.3	-1.0
GDZ				i S	Sg	03 49 44.4	-0.6
GDZ	Gediz	0.68	133	i P	Pg	03 49 35.3	-1.0
BALB	Balikesir	0.75	277	ePG	Pg	03 49 37.8	+0.1
BALB				eSG	Sg	03 49 48.1	+0.7
BALB	Balikesir	0.75	277	ePg	Pg	03 49 37.8	+0.1
BALB				eSg	Sg	03 49 48.1	+0.7
KCTX	Karacabey (Bur	0.81	333	ePG	Pg	03 49 38.6	-0.2
KCTX	Karacabey (Bur	0.81	333	ePg	Pg	03 49 38.6	-0.2
MDNY	Mudanya-Bursa	0.82	2	ePG	Pg	03 49 39.1	0.0
MDNY	Mudanya-Bursa	0.82	2	ePg	Pg	03 49 39.1	0.0
GEMT	Gemlik	0.93	17	ePG	Pg	03 49 40.6	-0.4
GEMT	Gemlik	0.93	17	ePg	Pg	03 49 40.6	-0.5
BALY	Balya	0.96	282	i P	Pg	03 49 41.3	-0.4
BALY				i S	Sg	03 49 54.3	+0.1
BALY	Balya	0.96	282	i P	Pg	03 49 41.3	-0.5
CAVI	Cavuskoy	1.01	49	ePG	Pg	03 49 42.7	0.0
CAVI	Cavuskoy	1.01	49	ePg	Pg	03 49 42.7	0.0
ARMT	Armutlu	1.02	1	ePG	Pg	03 49 42.5	-0.4
ARMT	Armutlu	1.02	1	ePg	Pg	03 49 42.5	-0.3
GONE	Gonen-Balikesi	1.02	300	ePG	Pg	03 49 42.1	-0.8
GONE				eSG	Sg	03 49 57.4	+1.3
GONE	Gonen-Balikesi	1.02	300	ePg	Pg	03 49 42.1	-0.8
GONE				eSg	Sg	03 49 57.4	+1.3
AKHS	Akhisar	1.04	230	i P	Pg	03 49 43.1	-0.2
AKHS				i S	Sg	03 49 57.0	+0.3
AKHS	Akhisar	1.04	230	i P	Pg	03 49 43.1	-0.2
AKS	Akhisar	1.04	230	ePG	Pg	03 49 43.3	0.0
AKS	Akhisar	1.04	230	ePg	Pg	03 49 43.3	0.0
KULA	Kula-Manisa	1.04	188	ePG	Pg	03 49 43.3	+0.1
KULA	Kula-Manisa	1.04	188	ePg	Pg	03 49 43.3	0.0
BNT	Bandirma	1.07	319	ePG	Pg	03 49 43.9	0.0
BNT	Bandirma	1.07	319	ePg	Pg	03 49 43.9	0.0
YLV	Yalova	1.10	22	ePN	Pn	03 49 45.0	-0.7
YLV	Yalova	1.10	22	ePn	Pn	03 49 45.0	-0.7
ALT	Altintas	1.10	116	ePN	Pn	03 49 44.4	-1.3
ALT	Altintas	1.10	116	ePn	Pn	03 49 44.4	-1.3
ADVT	Abdulvahap	1.12	38	ePN	Pn	03 49 44.7	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ADVT	Abdulvahap	1.12	38	*e*Pn	Pn	03 49 44.7	-1.3
KHAL	Karahalli	1.28	156	*i* P	Pg	03 49 47.8	-0.1
KHAL				*i* S	Sg	03 50 04.3	-0.1
KHAL	Karahalli	1.28	156	*i* P	Pg	03 49 47.8	-0.1
BORA	Eskisehir	1.29	75	*i* P	Pg	03 49 47.4	-0.6
BORA				*i* S	Sg	03 50 05.9	+1.2
BORA	Eskisehir	1.29	75	*i* P	Pg	03 49 47.4	-0.6
GPA	Golpazari	1.35	56	*e*PN	Pn	03 49 49.1	0.0
GPA	Golpazari	1.35	56	*e*Pn	Pn	03 49 49.1	0.0
MRMT	Marmara Adasi	1.42	318	*e*PN	Pn	03 49 50.1	0.0
MRMT	Marmara Adasi	1.42	318	*e*Pn	Pn	03 49 50.1	0.0
KRBG	Karabiga-Canak	1.46	306	*e*PN	Pn	03 49 49.9	-0.7
KRBG	Karabiga-Canak	1.46	306	*e*Pn	Pn	03 49 49.9	-0.7
ESKT	Eskisehir	1.55	90	*e*PN	Pn	03 49 52.3	+0.4
ESKT	Eskisehir	1.55	90	*e*Pn	Pn	03 49 52.3	+0.4
GULT	Gulveren	1.56	55	*e*PN	Pn	03 49 52.4	+0.4
GULT	Gulveren	1.56	55	*e*Pn	Pn	03 49 52.4	+0.4
BGKT	Bogazkoy	1.63	358	*e*PN	Pn	03 49 52.9	-0.2
BGKT	Bogazkoy	1.63	358	*e*Pn	Pn	03 49 52.9	-0.1
SHUT	Suhut-Afyon	1.66	126	*e*PN	Pn	03 49 53.4	0.0
SHUT	Suhut-Afyon	1.66	126	*e*Pn	Pn	03 49 53.4	0.0
AYVA	Ayvalik	1.68	263	*i* P	Pn	03 49 52.2	-1.5
AYVA				*i* S	Sn	03 50 14.4	-1.4
AYVA	Ayvalik	1.68	263	*i* P	Pn	03 49 52.2	-1.5
IZM	Izmir	1.68	227	*e*PN	Pn	03 49 54.2	+0.5
CTKS	Kestanelik-??a	1.71	351	*e*PN	Pn	03 49 54.2	+0.2
CTKS	Kestanelik-??a	1.71	351	*e*Pn	Pn	03 49 54.2	+0.2
KLYT	Kilyos	1.71	5	*e*PN	Pn	03 49 54.2	+0.1
KLYT	Kilyos	1.71	5	*e*Pn	Pn	03 49 54.2	+0.1
RKY	Sarkoy-Tekirda	1.71	312	*e*PN	Pn	03 49 54.6	+0.5
RKY	Sarkoy-Tekirda	1.71	312	*e*Pn	Pn	03 49 54.6	+0.5
SILT	Sile	1.72	21	*e*PN	Pn	03 49 53.7	-0.5
SILT	Sile	1.72	21	*e*Pn	Pn	03 49 53.7	-0.5
SLVT	Silivri	1.75	344	*e*PN	Pn	03 49 54.7	+0.1
SLVT	Silivri	1.75	344	*e*Pn	Pn	03 49 54.7	+0.1
CRLT	Corlu	1.79	332	*e*PN	Pn	03 49 55.3	+0.1
CRLT	Corlu	1.79	332	*e*Pn	Pn	03 49 55.3	+0.1
LPK	Lapseki	1.80	298	*e*PN	Pn	03 49 55.3	0.0
LPK	Lapseki	1.80	298	*e*Pn	Pn	03 49 55.3	0.0
BLCB	Balcova	1.82	231	*e*PN	Pn	03 49 55.8	+0.2
BLCB	Balcova	1.82	231	*e*Pn	Pn	03 49 55.8	+0.2
EZN	Ezine	1.96	279	*e*PN	Pn	03 49 57.6	+0.1
EZN	Ezine	1.96	279	*e*Pn	Pn	03 49 57.6	+0.1
CTYL	Yal??k??y-??at	1.97	348	*e*PN	Pn	03 49 58.2	+0.5
CTYL	Yal??k??y-??at	1.97	348	*e*Pn	Pn	03 49 58.2	+0.5
GELI	Tayfur-Gelibol	2.01	296	*e*PN	Pn	03 49 58.4	+0.3
GELI	Tayfur-Gelibol	2.01	296	*e*Pn	Pn	03 49 58.4	+0.2
MDU	Mudurnu	2.04	63	*e*PN	Pn	03 49 59.0	+0.3
MDU	Mudurnu	2.04	63	*e*Pn	Pn	03 49 59.0	+0.4
SVRH	Sivrihisar-ESK	2.08	92	*e*PN	Pn	03 49 59.9	+0.8
SVRH	Sivrihisar-ESK	2.08	92	*e*Pn	Pn	03 49 59.9	+0.8
ERIK	Erikli-Kesan	2.11	303	*e*PN	Pn	03 50 00.4	+0.9
ERIK	Erikli-Kesan	2.11	303	*e*Pn	Pn	03 50 00.4	+0.8
GADA	Gvkgeada	2.35	287	*e*PN	Pn	03 50 03.1	+0.1
GADA	Gvkgeada	2.35	287	*e*Pn	Pn	03 50 03.1	+0.2
ENEZ	Enez	2.38	301	*e*PN	Pn	03 50 03.7	+0.5
ENEZ	Enez	2.38	301	*e*Pn	Pn	03 50 03.7	+0.4
KIZT	Kizilcal	2.45	105	*e*PN	Pn	03 50 05.6	+1.3
KIZT	Kizilcal	2.45	105	*e*Pn	Pn	03 50 05.6	+1.3
KONT	Konya--Tatoy	3.18	119	*e*PN	Pn	03 50 15.4	+1.1
KONT	Konya--Tatoy	3.18	119	*e*Pn	Pn	03 50 15.4	+1.1

JMA 01 04:05:52.2±1km,36°.61N×139°.37E,h8km±1km,M2.6,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	Katashina	0.18	328	P	Pg	04 05 56.3	+0.3
JKT				S	Sg	04 05 59.0	+0.4
JAG	Ashikaga	0.20	160	P	Pg	04 05 56.2	0.0
JAG				S	Sg	04 05 58.8	-0.1
JSB	Shiboa	0.57	51	S	Sg	04 06 11.4	+0.8
MAT	Matsushiro	0.94	266	P	Pg	04 06 09.6	-0.6
MAT				S	Sg	04 06 21.6	-0.8

*ISCJB **01** 04:08:39.1±0.9,30°.5N±0°.1×67°.5E±0°.2,h10km,mb3.6/8, Error ellipse: s-maj=21.3km s-min=15.3km az=3.5*

*IDC **01** 04:08:39.1±1.1,30°.32N×67°.44E,h0km,mb3.6/9, mb1 3.8/9,mb1mx3.5/29,mbtmp3.7/9,Error ellipse: s-maj=29.3km s-min=23.1km az=90.0*

*NEIC **01** 04:08:40.8±0.9,30°.42N×67°.53E,h10km,mb3.4/1,Error ellipse: s-maj=19.9km s-min=14.1km az=96.0*

ISC 01 04:08:40.9±0.9,30°.5N±0°.1×67°.6E±0°.2,h10km,n21, σ1s00/21,mb3.6/8,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	4.27	17	*e*Pn	Pn	04 09 46.5	+0.6
EKS2	Erkin-Say	13.17	21	*e*P	Pn	04 11 46.3	-1.6
ABKAR	Akbulak array	19.65	345	*e*P	Pn	04 13 10.2	-0.8
	2.1nm,0.9s						
MKAR	Makanchi Array	19.92	31	P	Pn	04 13 13.0	-1.2
	0.8nm,0.6s,baz=202,slow=10,SNR=5.8						
MKAR	Makanchi Array	19.92	31	P	Pn	04 13 13.0	-1.2
AKTO	Aktyubinsk	21.21	343	P	P	04 13 26.9	+0.4
	0.9nm,0.6s,mb3.3,baz=149,slow=12,SNR=3.6						
AKTO	Aktyubinsk	21.21	343	P	P	04 13 26.9	+0.4
KURK	Kurchatov	21.88	19	P	P	04 13 33.2	-0.4
	2.8nm,0.9s,mb3.7,baz=210,slow=10,SNR=17						
KURK	Kurchatov	21.88	19	P	P	04 13 33.2	-0.4
BVAR	Borovoye Array	22.65	4	P	P	04 13 43.5	+1.5
	1.2nm,0.6s,mb3.5,baz=168,slow=7.6,SNR=5.8						
BVAR	Borovoye Array	22.65	4	P	P	04 13 43.5	+1.5
ZALV	Zalesovo Beam	26.60	23	P	P	04 14 21.0	+1.9
	1.2nm,0.5s,mb3.7,baz=222,slow=12,SNR=6.3						
ZALV	Zalesovo Beam	26.60	23	P	P	04 14 21.0	+1.9
ARCES	ARCESS Array B	45.77	341	P	P	04 17 02.7	+0.6
	2.9nm,0.9s,mb4.2,baz=86,slow=7.4,SNR=4.3						
ARCES	ARCESS Array B	45.77	341	P	P	04 17 02.7	+0.6
TORD	Torodi Ar. Bea	62.74	270	P	P	04 19 05.6	-0.9
	0.7nm,0.7s,mb3.9,baz=59,slow=6.1,SNR=7.1						
TORD	Torodi Ar. Bea	62.74	270	P	P	04 19 05.6	-0.9
WRA	Warramunga Arr	81.42	119	P	P	04 20 58.4	+0.1
	0.2nm,0.8s,mb3.1,baz=318,slow=4.8,SNR=5.8						
WRA	Warramunga Arr	81.42	119	P	P	04 20 58.4	+0.1
ASAR	Alice Springs	83.32	122	P	P	04 21 08.2	0.0
	0.2nm,0.3s,mb3.6,baz=313,slow=6.0,SNR=4.2						
ASAR	Alice Springs	83.32	122	P	P	04 21 08.2	0.0

*ISCJB **01** 04:12:04.3±2.2,33°.43N±0°.06×97°.61E±0°.07,h1km±15km, mb3.8/9,MS3.2/4,Error ellipse: s-maj=10.2km s-min=9.1km az=140.2*

*IDC **01** 04:12:05.5±0.9,33°.33N×97°.51E,h0km,mb3.7/7, mb1 3.9/10,mb1mx3.7/26,mbtmp3.8/10,ML4.1/3,MS3.3/4, Ms1 3.3/4,ms1mx2.7/34,Error ellipse: s-maj=31.3km s-min=17.5km az=52.0*

*BJI **01** 04:12:07.0,33°.41N×97°.28E,h15km,mb4.2/5,ML3.9/6, Ms3.8/3,Ms7 3.7/4*

*NEIC **01** 04:12:07.0±0.7,33°.45N×97°.64E,h10km,mb3.7/4,Error ellipse: s-maj=14.3km s-min=10.9km az=69.0*

ISC 01 04:12:08.0±2.5,33°.40N±0°.06×97°.52E±0°.07,h16km±17km, n33,σ1s19/34,mb3.7/9,MS3.2/4,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	Lanzhou	5.86	61	Pg	Pg	04 13 56.2	-4.0
LZH				Sg	Sg	04 15 17.1	+1.1
LZH				smax			
	comp=N,69nm,1.2s						
LZH				smax			
	comp=E,82nm,1.2s						
LZH				LR	LR		
	comp=Z,460nm,6.5s						
GTA	Gaotai	6.28	16	*e*Pn	Pn	04 13 44.6	+4.7
LSA	Lhasa	6.56	238	*e*Pn	Pn	04 13 48.3	+4.4
	comp=Z,9.8nm,0.6s						
LSA				*e*S	Sn	04 15 03.4	+5.0
SHL	Shillong	9.22	214	*e*PKP	Pn	04 14 23.0	+2.8
SHL				*i* S	Sn	04 16 03.0	-0.6
WMQ	Urumqi	12.93	326	*e*P	Pn	04 15 12.0	+1.1
WMQ				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC	Hu-ho-hao-te	13.44	52	*e*P	Pn	04 15 17.3	-0.7
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				LR	LR		
	comp=N,140nm,5.4s						
HHC				LR	LR		
	comp=E,230nm,5.3s						
HHC				LR	LR		
	comp=Z,190nm,6.5s						
CMAR	Chiang Mai Arr	14.93	175	Pn	Pn	04 15 36.7	-1.8
	comp=Z,0.5nm,0.3s,baz=349,slow=12,SNR=7.7						
CMAR	Chiang Mai Arr	14.93	175	Pn	Pn	04 15 36.7	-1.8
SONM	Songino Array	15.90	22	Pn	Pn	04 15 50.1	-0.9
	comp=Z,0.1nm,0.3s,baz=207,slow=13,SNR=6.5						
SONM	Songino Array	15.90	22	Pn	Pn	04 15 50.1	-0.9
MK31	Makanchi Array	17.70	324	*e*Pn	Pn	04 16 13.9	+0.3
MKAR	Makanchi Array	17.70	324	Pn	Pn	04 16 13.4	-0.2
	comp=Z,1.3nm,0.3s,baz=136,slow=14,SNR=57						
MKAR	Makanchi Array	17.70	324	Pn	Pn	04 16 13.4	-0.2
TKM2	Tokmak 2	19.64	305	*e*P	Pn	04 16 35.5	-1.7
	comp=Z,0.9nm,0.4s						
KURK	Kurchatov	22.17	327	P	P	04 17 01.7	-1.4
	comp=Z,1.2nm,0.8s,mb3.4,baz=136,slow=11,SNR=6.1						
KURK				LR	LR	04 26 32.4	
	comp=Z,86nm,20.5s,MS3.2,baz=105,slow=39						
KURK	Kurchatov	22.17	327	*e*P	P	04 16 59.3	-3.8
	comp=Z,6.2nm,1.5s,mb3.8						
ZAA0	Zalesovo Array	22.44	340	*e*P	P	04 17 04.2	-1.7
ZALV	Zalesovo Beam	22.44	340	P	P	04 17 06.4	+0.5
	comp=Z,2.3nm,0.7s,mb3.7,baz=154,slow=11,SNR=8.7						
ZALV	Zalesovo Beam	22.44	340	P	P	04 17 06.4	+0.5
KKAR	Karatay Array	23.23	303	*e*P	P	04 17 14.4	0.0
	comp=Z,0.8nm,0.5s,mb3.4						
KBL	Kabul	23.61	281	*e*P	P	04 17 20.1	+1.7
	comp=Z,6.7nm,0.7s,mb4.2						
KSAR	Wonju Array Be	25.02	72	P	P	04 17 32.2	+1.0
KSRS	Korea Array	25.05	72	P	P	04 17 32.2	+0.7
	comp=Z,1.2nm,0.5s,mb3.7,baz=268,slow=8.3,SNR=2.5						
KSRS				LR	LR	04 27 29.5	
	comp=Z,42nm,18.9s,MS3.0,baz=305,slow=37						
BVAR	Borovoye Array	27.58	323	LR	LR	04 29 54.5	
	comp=Z,78nm,21.6s,MS3.2,baz=287,slow=39						
MJAR	Matsushiro Arr	33.32	73	LR	LR	04 32 20.6	
	comp=Z,58nm,21.2s,MS3.3,baz=170,slow=36						
BRTR	Keskin Array B	50.74	297	P	P	04 21 06.7	-0.4
	comp=Z,0.5nm,0.8s,mb3.5,baz=98,slow=5.1,SNR=4.6						
BRTR	Keskin Array B	50.74	297	P	P	04 21 06.7	-0.4
WRA	Warramunga Arr	63.62	141	P	P	04 22 37.7	-0.6
	comp=Z,1.4nm,0.8s,mb4.1,baz=337,slow=6.9,SNR=17						
WRA	Warramunga Arr	63.62	141	P	P	04 22 37.7	-0.6
ASAR	Alice Springs	66.49	144	P	P	04 22 56.7	-0.2
	comp=Z,0.6nm,0.6s,mb3.8,baz=327,slow=6.6,SNR=7.5						
ASAR	Alice Springs	66.49	144	P	P	04 22 56.7	-0.2
TORD	Torodi Ar. Bea	87.64	284	P	P	04 24 58.0	+1.9
	comp=Z,0.5nm,1.0s,mb3.7,baz=50,slow=5.3,SNR=2.4						
TORD	Torodi Ar. Bea	87.64	284	P	P	04 24 58.0	+1.9

*PGC **01** 04:29:12.4±0.7,52°.18N×132°.09W,h20km,ML4.2/4, 120km Ssw of Sandspit, Bc Queen Charlotte Islands Region*

*IDC **01** 04:29:13.9±0.9,52°.26N×131°.47W,h0km,mb3.6/6, mb1 3.8/13,mb1mx3.7/28,mbtmp3.6/13,ML3.3/5,MS3.4/11, Ms1 3.4/11,ms1mx3.1/38,Error ellipse: s-maj=14.3km s-min=7.7km az=25.0*

*ISCJB **01** 04:29:14.5±0.6,52°.43N±0°.07×131°.33W±0°.10,h10km, mb3.5/6,MS3.5/7,Error ellipse: s-maj=12.0km s-min=5.0km az=39.8*

*NEIC **01** 04:29:15.6±0.9,52°.34N×131°.44W,h10km,ML4.2(PGC), Error ellipse: s-maj=22.0km s-min=7.7km az=56.0*

ISC 01 04:29:15.7±0.6,52°.38N±0°.07×131°.4W±0°.1,h10km,n45, σ1s33/44,mb3.5/6,MS3.5/7,1D,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	Barry Inlet	0.29	313	⇓P	Pg	04 29 21.1	-0.5
BNB				⇑S	Sg	04 29 26.4	+1.0
MOBC	Moresby Island	0.84	336	⇑P	Pg	04 29 29.7	-2.2
MOBC				⇑S	Sg	04 29 43.5	+0.6
DIB	Dawson Inlet,	1.05	322	Pn	Pn	04 29 31.2	-5.3
DIB				Pg	Pg	04 29 34.6	-1.3
DIB				Lg		04 29 47.6	
DIB	Dawson Inlet,	1.05	322	⇑P	Pg	04 29 31.3	-4.7
NDB	Naden	1.83	330	⇑P	Pn	04 29 43.1	-4.1
BBB	Bella Bella	2.03	94	Pn	Pn	04 29 49.4	-0.6
	12nm,0.3s,baz=283,slow=12,SNR=51						
BBB				Lg		04 30 18.4	
	160nm,0.3s,baz=355,slow=20,SNR=22						
BBB	Bella Bella	2.03	94	Pn	Pn	04 29 49.4	-0.6
CRAG	Craig	3.26	343	*e*Pn	Pn	04 30 05.0	-1.9
CRAG				*e*S	Sn	04 30 56.3	+11
WRAK	Wrangell Islan	4.09	353	*e*Pn	Pn	04 30 17.0	-1.2
WRAK				*e*S	Sn	04 31 15.5	+10
SIT	Sitka	5.21	336	*e*Pn	Pn	04 30 33.7	+0.1
SIT				*e*S	Sn	04 31 47.4	+14
DLBC	Dease Lake	6.12	7	Pn	Pn	04 30 48.3	+2.1
	0.7nm,0.3s,baz=207,slow=13,SNR=19						
DLBC				Lg		04 32 29.7	
	1.8nm,0.3s,baz=296,slow=22,SNR=10						
DLBC				LR	LR	04 32 33.3	
	comp=Z,117nm,20.7s,baz=264,slow=32						
DLBC	Dease Lake	6.12	7	*e*Pn	Pn	04 30 47.9	+1.8
DLBC				*e*S	Sg	04 32 28.2	-3.9
NLWA	Neilton Lookou	6.97	133	*e*Pn	Pn	04 30 55.7	-2.1
SKAG	Skagway	7.43	344	*e*Pn	Pn	04 31 03.4	-0.7
SKAG				*e*S	Sg	04 33 08.6	-5.5
KDAK	Kodiak Island	13.26	302	LR	LR	04 36 16.5	
	comp=Z,423nm,19.7s,baz=219,slow=32						
YKA	Yellowknife Ar	13.54	35	Pn	Pn	04 32 27.3	-0.2
	0.1nm,0.3s,baz=233,slow=12,SNR=4.2						
YKA				Lg		04 36 17.4	
	0.0nm,0.3s,baz=227,slow=14,SNR=2.2						
YKA				LR	LR	04 38 25.1	
	comp=Z,15nm,18.1s,baz=270,slow=40						
YKA	Yellowknife Ar	13.54	35	Pn	Pn	04 32 27.3	-0.2
ILAR	Eielson Array	14.76	333	Pn	Pn	04 32 46.4	+2.2
	baz=146,slow=10,SNR=5.0						
ILAR				Lg		04 37 08.4	
	baz=115,slow=25,SNR=3.0						
ILAR				LR	LR	04 38 00.6	
	comp=Z,243nm,18.5s,baz=149,slow=36						
ILAR	Eielson Array	14.76	333	Pn	Pn	04 32 46.4	+2.2
INK	Inuvik	16.02	357	Pn	Pn	04 33 02.6	+1.9
	0.0nm,0.3s,baz=170,slow=4.4,SNR=2.6						
INK				Lg		04 37 45.6	
	0.0nm,0.3s,baz=296,slow=16,SNR=5.1						
INK	Inuvik	16.02	357	Pn	Pn	04 33 02.6	+1.9
NVAR	Mina Array Bea	16.67	142	Pn	Pn	04 33 09.9	+0.6
	0.1nm,0.3s,baz=317,slow=8.5,SNR=10						
NVAR	Mina Array Bea	16.67	142	Pn	Pn	04 33 09.9	+0.6
PDAR	Pinedale Array	17.54	115	Pn	Pn	04 33 22.2	+2.1
	0.0nm,0.3s,baz=309,slow=9.4,SNR=14						
PDAR	Pinedale Array	17.54	115	Pn	Pn	04 33 22.2	+2.1
ANMO	Albuquerque	24.89	125	P	P	04 34 39.6	+1.2
	0.6nm,0.6s,mb3.3,baz=253,slow=14,SNR=2.6						
ANMO	Albuquerque	24.89	125	P	P	04 34 39.6	+1.2
TXAR	Lajitas Array	30.81	127	P	P	04 35 30.9	-0.6
	0.3nm,0.8s,mb3.2,baz=251,slow=5.6,SNR=3.1						
TXAR				LR	LR	04 49 26.3	
	comp=Z,59nm,21.4s,MS3.2,baz=0.0,slow=39						
TXAR	Lajitas Array	30.81	127	P	P	04 35 30.9	-0.6
TKL	Tuckaleechee C	37.35	97	LR	LR	04 54 14.7	
	comp=Z,70nm,20.2s,MS3.5,baz=358,slow=40						
PETK	Petropavlovsk-	41.30	300	LR	LR	04 52 45.7	
	comp=Z,43nm,20.4s,MS3.3,baz=294,slow=34						
ARCES	ARCESS Array B	57.23	9	LR	LR	05 02 57.3	
	comp=Z,48nm,19.3s,MS3.6,baz=344,slow=35						
NOA	NORSAR Array B	63.06	19	LR	LR	05 06 25.1	
	comp=Z,19nm,19.9s,MS3.3,baz=55,slow=35						
FINES	FINESS Array B	65.12	12	LR	LR	05 07 30.3	
	comp=Z,47nm,19.6s,MS3.7,baz=138,slow=35						
ZALV	Zalesovo Beam	69.82	338	P	P	04 40 26.7	+0.8
	0.4nm,0.3s,mb3.8,baz=42,slow=2.3,SNR=2.3						
ZALV	Zalesovo Beam	69.82	338	P	P	04 40 26.7	+0.8
BVAR	Borovoye Array	73.39	346	P	P	04 40 46.4	-1.0
	0.2nm,0.3s,mb3.5,baz=353,slow=4.5,SNR=2.6						
BVAR	Borovoye Array	73.39	346	P	P	04 40 46.4	-1.0
KURK	Kurchatov	74.19	341	P	P	04 40 53.3	+1.1
	0.9nm,0.8s,mb3.7,baz=21,slow=5.8,SNR=4.7						
KURK				LR	LR	05 13 19.4	
	comp=Z,36nm,20.7s,MS3.6,baz=10.0,slow=36						
KURK	Kurchatov	74.19	341	P	P	04 40 53.3	+1.1
MKAR	Makanchi Array	77.08	337	P	P	04 41 07.3	-1.4
	0.3nm,0.8s,mb3.3,baz=33,slow=9.3,SNR=3.5						
MKAR	Makanchi Array	77.08	337	P	P	04 41 07.3	-1.4
VNA3	Neumayer Olymp	148.42	148	*e*	PKPdf	04 49 01.1	+3.9
VNA2	Neumayer--Watz	149.19	148	*e*	PKPdf	04 49 02.8	+4.3
	baz=326,slow=6.4						
SNAA	Sanae	150.50	150	*e*	PKPdf	04 49 05.6	+5.0

IDC 01 04:31:06.8±1.3,16°.46S×172°.05W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.8/17,mbtmp3.7/4,Error ellipse: s-maj=43.9km s-min=26.8km az=134.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.55	6	Pn	Pn	04 31 47.7	-1.7
	14nm,0.3s,baz=249,slow=4.7,SNR=14						
AFI				Sn	Sn	04 32 12.0	-9.1
	31nm,0.3s,baz=44,slow=21,SNR=15						
WRA	Warramunga Arr	50.88	257	P	P	04 40 09.2	-0.7
	0.5nm,0.8s,baz=89,slow=7.5,SNR=8.6						
ASAR	Alice Springs	51.03	253	P	P	04 40 11.0	0.0
	1.7nm,0.5s,baz=88,slow=8.4,SNR=32						
ILAR	Eielson Array	83.23	11	P	P	04 43 35.3	+0.7
	0.4nm,0.8s,baz=218,slow=5.1,SNR=6.7						
BRTR	Keskin Array B	147.79	321	PKPbc	PKPbc	04 50 55.0	+1.1
	0.5nm,0.7s,baz=67,slow=2.2,SNR=4.6						
TORD	Torodi Ar. Bea	173.11	118	PKPab	PKPab	04 52 45.2	-1.1
	0.3nm,0.7s,baz=194,slow=3.4,SNR=3.1						

WEL 01 04:33:14.1±0.2,45°.01S×167°.49E,h78km±1km,ML3.9/12, Error ellipse: s-maj=1.7km s-min=1.2km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.46	43	PN	Pn	04 33 27.1	-0.1
MSZ				SN	Sn	04 33 36.9	-0.1
DCZ	Deep Cove	0.52	207	PN	Pn	04 33 27.5	-0.3
DCZ				SN	Sn	04 33 37.9	-0.1
MLZ	Mavora Lakes	0.59	125	PN	Pn	04 33 28.0	-0.4
MLZ				SN	Sn	04 33 38.0	-1.0
WHZ	Wether Hill Ro	0.94	160	PN	Pn	04 33 32.0	-0.3
WHZ				SN	Sn	04 33 46.1	+0.3
WKZ	Wanaka	1.10	81	PN	Pn	04 33 34.3	+0.1
WKZ				SN	Sn	04 33 48.4	-0.8
PYZ	Puysegur Point	1.29	206	PN	Pn	04 33 37.1	+0.5
JCZ	Jackson Bay	1.30	44	PN	Pn	04 33 36.8	+0.1
EAZ	Earnscleugh	1.30	100	PN	Pn	04 33 36.7	-0.1
TUZ	Tuapeka	1.78	123	PN	Pn	04 33 42.8	-0.1
APZ	The Paps	1.85	169	PN	Pn	04 33 43.9	-0.1
SYZ	Scrubby Hill	1.91	144	PN	Pn	04 33 44.6	-0.1
LBZ	Lake Benmore	2.02	73	PN	Pn	04 33 44.9	-1.2
FOZ	Fox Glacier	2.14	48	PN	Pn	04 33 47.8	0.0
ODZ	Otahua Downs	2.23	92	PN	Pn	04 33 48.0	-1.0
RPZ	Rata Peaks	2.86	64	PN	Pn	04 33 55.5	-2.0
WVZ	Waitaha Valley	3.04	52	PN	Pn	04 33 58.6	-1.2
LTZ	Lake Taylor	4.11	59	PN	Pn	04 34 11.5	-2.9
DSZ	Denniston Nort	4.53	45	*e*PN	Pn	04 34 18.8	-1.4
QRZ	Quartz Range	5.58	43	PN	Pn	04 34 33.6	-0.9

*ISCJB **01** 04:52:06.4±4.6,64°.1S±0°.1×169°.2W±0°.3,h2km±26km, mb4.6/13,MS4.8/11,Error ellipse: s-maj=29.4km s-min=14.0km az=42.4*

*IDC **01** 04:52:07.5±0.8,64°.09S×169°.29W,h0km,mb4.4/5, mb1 4.6/5,mb1mx4.4/8,mbtmp4.4/5,MS4.8/11,Ms1 4.8/11, ms1mx4.5/15,Error ellipse: s-maj=39.6km s-min=20.9km az=37.0*

*NEIC **01** 04:52:08.9±0.5,64°.11S×169°.06W,h10km,mb4.8/9,Error ellipse: s-maj=16.4km s-min=10.5km az=52.0*

*GCMT **01** 04:52:11.6±0.2,64°.17S×169°.46W,h12km,MW5.3, Moment Tensor Solution. s64,c93; s90,c154; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.00000×10^{17} NP1:ϕ_s252.00000°,δ60.00000°, λ10.00000°. NP2:ϕ_s157.00000°,δ81.00000°,λ149.00000°. Principal axes: T 1.1200, Plg28.0000°, Azm111.0000°; N -0.2300, Plg58.0000°, Azm323.0000°; P -0.8900, Plg15.0000°, Azm208.0000°; Data Used: II IU IC G CN.*

ISC 01 04:52:10.5±5.4,64°.2S±0°.1×169°.2W±0°.3,h15km±31km,n57, σ0s94/31,mb4.6/13,MS4.8/11,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	15.56	199	*e*Pn	Pn	04 55 50.0	+1.0
	89nm,1.4s						
RPZ	Rata Peaks	23.36	322	LR	LR	05 03 49.9	
	comp=Z,1μm,21.4s,MS4.4,baz=336,slow=30						
QSPA	South Pole Qui	25.92	180	P	P	04 57 42.4	+0.9
	16nm,1.0s,mb4.5,baz=45,slow=4.6,SNR=21						
QSPA				LR	LR	05 06 13.5	
	comp=Z,2μm,21.5s,MS4.6,baz=244,slow=32						
QSPA	South Pole Qui	25.92	180	*e*P	P	04 57 42.5	+1.0
	28nm,1.2s,mb4.7						
URZ	Urewera	27.20	336	LR	LR	05 05 40.0	
	comp=Z,1μm,21.4s,MS4.5,baz=169,slow=30						
TBI	Tubuai	42.85	27	*e*S	S	05 06 33.0	+1.4
	344nm,26.8s						
TBI				*e*LR	LR	05 11 47.0	
	3μm,28.2s,baz=194						
MAW	Mawson	43.34	206	LR	LR	05 17 33.7	
	comp=Z,3μm,18.6s,MS5.2,baz=137,slow=35						
SNAA	Sanae	44.10	174	*e*	P	05 00 15.6	-1.8
SNAA	Sanae	44.10	174	*e*P	P	05 00 15.2	-2.2
	9.7nm,1.1s,mb4.5						
VNA3	Neumayer Olymp	44.12	171	*e*	P	05 00 10.1	-7.4
STKA	Stephens Creek	44.27	293	P	P	05 00 17.4	-1.8
	8.0nm,1.1s,mb4.3,baz=139,slow=9.8,SNR=6.1						
STKA				LR	LR	05 15 16.3	
	comp=Z,2μm,20.6s,MS5.1,baz=92,slow=31						
STKA	Stephens Creek	44.27	293	*e*P	P	05 00 21.0	+1.8
	6.9nm,1.4s,mb4.2						
STKA	Stephens Creek	44.27	293	*e*P	P	05 00 19.4	+0.1
	6.4nm,1.7s,mb4.1						
VNA2	Neumayer--Watz	44.59	172	*e*	P	05 00 15.7	-5.6
VNA1	Neumayer--Stat	44.80	171	*e*	P	05 00 15.0	-8.0
DZM	Mont Dzumac	45.09	327	*e*S	S	05 07 05.0	+0.8
	107nm,26.6s						
DZM				*e*LQ		05 11 11.0	
	2μm,34.8s						
DZM				*e*LR	LR	05 13 00.3	
	1μm,23.4s						
EIDS	Eidsvold	46.53	307	*e*P	P	05 00 37.9	+0.7
	6.4nm,0.4s,mb4.9						
EIDS	Eidsvold	46.53	307	*e*P	P	05 00 37.4	+0.2
	29nm,1.4s,mb5.0						
RKT	Rikitea	46.82	45	*e*LQ		05 11 30.0	
	1μm,25.8s						
RKT				*e*LR	LR	05 13 48.8	
	2μm,28.8s,baz=196						
QLP	Quilpie	47.94	299	*e*P	P	05 00 49.1	+0.9
PPT	Papeete	48.46	25	*e*S	S	05 07 51.1	-1.3
	475nm,25.5s						
PPT				*e*LR	LR	05 14 31.3	
	2μm,25.2s,baz=195						
CTA	Charters Tower	53.10	304	*e*P	P	05 01 28.1	+1.0
	2.7nm,0.9s,mb4.2						
ASAR	Alice Springs	54.67	290	P	P	05 01 38.2	-0.4
	2.9nm,0.8s,mb4.4,baz=156,slow=7.4,SNR=22						
ASAR	Alice Springs	54.67	290	P	P	05 01 38.2	-0.4
MTSU	Mount Surprise	55.60	303	*e*P	P	05 01 45.6	+0.3
	14nm,1.0s,mb4.9						
PLCA	Paso Flores	57.71	117	P	P	05 02 00.3	+0.1
	3.4nm,0.9s,mb4.4,baz=201,slow=8.6,SNR=3.1						
PLCA				LR	LR	05 22 19.9	
	comp=Z,1μm,18.1s,MS5.0,baz=208,slow=31						
PLCA	Paso Flores	57.71	117	P	P	05 02 00.3	+0.1
WB2	Warramunga Arr	57.81	292	*e*P	P	05 02 00.2	-0.9
WRA	Warramunga Arr	57.82	292	P	P	05 02 00.1	-1.1
	3.5nm,0.8s,mb4.4,baz=159,slow=6.3,SNR=20						
WRA				LR	LR	05 24 30.4	
	comp=Z,3μm,18.5s,MS5.4,baz=150,slow=34						
WRA	Warramunga Arr	57.82	292	P	P	05 02 00.1	-1.1
WRAB	Tennant Creek	57.82	292	*e*P	P	05 02 00.3	-0.8
	9.7nm,1.0s,mb4.8						
HNR	Honiara	58.84	324	LR	LR	05 25 14.9	
	comp=Z,578nm,18.0s,MS4.7,baz=358,slow=34						
TAOE	Nuku Hiva Isla	58.95	34	*e*LR	LR	05 19 16.9	
	2μm,28.0s,baz=199						
FITZ	Fitzroy Crossi	63.08	285	*e*P	P	05 02 36.7	-0.4
	11nm,1.2s,mb4.8						
FITZ	Fitzroy Crossi	63.08	285	*e*P	P	05 02 36.7	-0.4
	32nm,1.7s,mb5.2						
LPAZ	La Paz	80.23	107	*e*P	P	05 04 20.5	+0.2
	11nm,1.1s,mb4.7						
NNA	Nana	80.34	97	*e*P	P	05 04 14.4	-6.5
	8.7nm,0.5s,mb4.9						
DAV	Davao City (W)	85.85	295	LR	LR	05 42 41.0	
	comp=Z,264nm,20.5s,MS4.6,baz=158,slow=35						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BOSA	Boshof	86.82	193	LR	LR	05 40 33.6	
	comp=Z,526nm,20.0s,MS4.9,baz=175,slow=33						
ROSC	El Rosal	96.48	92	LR	LR	05 43 22.8	
	comp=Z,183nm,18.0s,MS4.6,baz=18,slow=32						
TORD	Torodi Ar. Bea	128.64	169	PKP	PKPdf	05 11 14.7	-2.0
	0.5nm,1.0s,baz=178,slow=10,SNR=2.5						
TORD	Torodi Ar. Bea	128.64	169	PKP	PKPdf	05 11 14.7	-2.0
ILAR	Eielson Array	129.69	12	PKP	PKPdf	05 11 15.8	-1.3
	1.8nm,0.9s,baz=240,slow=2.9,SNR=11						
ILAR	Eielson Array	129.69	12	PKP	PKPdf	05 11 15.8	-1.3
MKAR	Makanchi Array	138.47	281	PKP	PKPdf	05 11 32.9	-1.2
	0.2nm,0.4s,baz=94,slow=12,SNR=3.1						
MKAR	Makanchi Array	138.47	281	PKP	PKPdf	05 11 32.9	-1.2
ZALV	Zalesovo Beam	142.78	290	PKhKP	PKPpre	05 11 36.1	
	0.3nm,0.3s,baz=77,slow=3.1,SNR=2.6						
ZALV	Zalesovo Beam	142.78	290	PKPpre	PKPpre	05 11 36.1	
KURK	Kurchatov	143.03	282	PKhKP	PKPpre	05 11 38.1	
	0.8nm,0.8s,baz=156,slow=2.3,SNR=6.1						
KURK	Kurchatov	143.03	282	PKPpre	PKPpre	05 11 38.1	
RES	Resolute Bay	146.64	28	PKPbc	PKPbc	05 11 48.9	-0.6
	11nm,0.9s,baz=210,slow=9.0,SNR=9.0						
RES	Resolute Bay	146.64	28	ePKPbc	PKPbc	05 11 49.0	-0.5
BVAR	Borovoye Array	148.24	278	PKPbc	PKPbc	05 11 53.6	-0.8
	1.5nm,0.6s,baz=149,slow=3.5,SNR=8.7						
BVAR	Borovoye Array	148.24	278	PKPbc	PKPbc	05 11 53.6	-0.8
BRTR	Keskin Array B	152.07	220	PKPbc	PKPbc	05 12 03.6	-0.5
	2.9nm,0.8s,baz=142,slow=4.8,SNR=23						
BRTR	Keskin Array B	152.07	220	PKPbc	PKPbc	05 12 03.6	-0.5
BR131	Keskin Array S	152.07	220	ePKPbc	PKPbc	05 12 03.7	-0.5

*ATH **01** 05:22:31.9, 38°.01N×21°.59E, h22km±1km, MD2.9/10*
*ISCJB **01** 05:22:32.6±0.3, 37°.98N±0°.02×21°.56E±0°.02, h21km±3km, Error ellipse: s-maj=3.6km s-min=3.3km az=175.5*
*THE **01** 05:22:32.5, 37°.99N×21°.59E, h6km±1km, ML2.8/14, Error ellipse: s-maj=1.7km s-min=0.6km az=316.0*
*CSEM **01** 05:22:32.4±0.2, 37°.98N×21°.57E, h20km, ML2.8/14, Error ellipse: s-maj=4.0km s-min=3.9km az=158.0*
ISC 01 05:22:32.4±0.5**, 37°.98N**±0°.02×**21°.56E**±0°.02**, h17**km±3km**, n76, σ1s.15**/127**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.11	317	ePB	Pg	05 22 36.4	+0.3
RLS				eSB	Sg	05 22 39.8	+1.2
RLS	Riolos of Patr	0.11	317	ePb	Pg	05 22 36.4	+0.3
RLS				eSb	Sg	05 22 39.8	+1.2
RLS	Riolos of Patr	0.11	317	ePb	Pg	05 22 36.4	+0.3
RLS				eSb	Sg	05 22 39.8	+1.2
UPR	University Cam	0.35	30	P	Pg	05 22 39.4	-0.4
UPR				S	Sg	05 22 45.8	+1.0
UPR	University Cam	0.35	30	P	Pg	05 22 39.4	-0.4
UPR				S	Sg	05 22 45.8	+1.0
LAKA	Lakka	0.42	51	P	Pb	05 22 40.3	-1.1
LAKA				S	Sg	05 22 46.8	0.0
LAKA	Lakka	0.42	51	P	Pb	05 22 40.3	-1.1
LAKA				S	Sg	05 22 46.8	0.0
EFP	Efpalio	0.52	31	P	Pb	05 22 42.0	-1.1
EFP				S	Sb	05 22 49.6	-0.8
EFP	Efpalio	0.52	31	P	Pb	05 22 42.0	-1.1
EFP				S	Sb	05 22 49.6	-0.8
TRIZ	Trizonia	0.56	46	P	Pb	05 22 41.5	-2.2
TRIZ				S	Sb	05 22 50.2	-1.2
TRIZ	Trizonia	0.56	46	P	Pb	05 22 41.5	-2.2
TRIZ				S	Sb	05 22 50.2	-1.2
KALE	Kalithea	0.61	48	P	Pb	05 22 43.5	-1.2
KALE				S	Sb	05 22 53.1	+0.1
KALE	Kalithea	0.61	48	P	Pb	05 22 43.5	-1.2
KALE				S	Sb	05 22 53.1	+0.1
GUR	Goura	0.62	94	P	Pb	05 22 43.4	-1.4
GUR				S	Sb	05 22 53.4	+0.3
GUR	Goura	0.62	94	P	Pb	05 22 43.4	-1.4
GUR				S	Sb	05 22 53.4	+0.3
KFL	Anninata	0.62	282	P	Pb	05 22 44.8	0.0
KFL				S	Sb	05 22 54.4	+1.1
KFL	Anninata	0.62	282	P	Pb	05 22 44.8	0.0
KFL				S	Sb	05 22 54.4	+1.1
VLS	Valsamata	0.79	285	ePN	Pn	05 22 47.8	-0.9
VLS				eSN	Sn	05 22 59.3	-0.8
VLS	Valsamata	0.79	285	P	Pb	05 22 46.9	-0.8
VLS				S	Sb	05 23 00.1	+2.0
VLS	Valsamata	0.79	285	ePn	Pn	05 22 46.8	-1.9
VLS				eSn	Sn	05 22 59.3	-0.8
VLS	Valsamata	0.79	285	P	Pb	05 22 46.9	-0.8
VLS				eSn	Sn	05 22 59.3	-0.8
VLS				S	Sb	05 23 00.1	+2.0
ITM	Ithomi	0.85	160	ePN	Pn	05 22 48.4	-1.1
ITM				eSN	Sn	05 23 01.1	-0.4
ITM	Ithomi	0.85	160	P	Pb	05 22 47.9	-0.8
ITM				S	Sb	05 23 00.9	+1.2
ITM	Ithomi	0.85	160	ePn	Pn	05 22 48.4	-1.1
ITM				eSn	Sn	05 23 01.1	-0.4
ITM	Ithomi	0.85	160	P	Pb	05 22 47.9	-0.8
ITM	Ithomi	0.85	160	ePn	Pn	05 22 48.4	-1.1
ITM				eSn	Sn	05 23 01.1	-0.4
DSF	Desfina	0.88	60	P	Pb	05 22 47.9	-1.2
DSF				S	Sb	05 23 00.8	+0.3
DSF	Desfina	0.88	60	P	Pb	05 22 47.9	-1.2
DSF				S	Sb	05 23 00.8	+0.3
DESF	Desfina	0.88	60	P	Pb	05 22 48.0	-1.2
DESF				S	Sb	05 23 00.8	+0.1
DESF	Desfina	0.88	60	P	Pb	05 22 48.0	-1.2
DESF				S	Sb	05 23 00.8	+0.1
VLX	Vlachokerasia	0.89	133	P	Pb	05 22 49.0	-0.4
VLX				S	Sb	05 23 02.6	+1.7
VLX	Vlachokerasia	0.89	133	P	Pb	05 22 49.0	-0.4
VLX				S	Sb	05 23 02.6	+1.7
EVR	Evrytania	0.96	12	ePN	Pn	05 22 49.8	-1.2
EVR	Evrytania	0.96	12	P	Pb	05 22 49.7	-0.8
EVR				S	Sb	05 23 04.1	+1.2
EVR	Evrytania	0.96	12	ePn	Pn	05 22 49.8	-1.2
EVR	Evrytania	0.96	12	P	Pb	05 22 49.7	-0.8
EVR				S	Sb	05 23 04.1	+1.2
LKD2	Lefkada island	1.08	319	P	Pb	05 22 51.8	-0.8
LKD2				S	Sb	05 23 09.0	+2.7
LKD2	Lefkada island	1.08	319	P	Pb	05 22 51.8	-0.8
LKD2				S	Sb	05 23 09.0	+2.7
PYL	PYLOS	1.09	172	P	Pn	05 22 52.2	-0.7
PYL				S	Sb	05 23 10.4	+3.7
PYL	PYLOS	1.09	172	P	Pn	05 22 52.2	-0.7
PYL				S	Sb	05 23 10.4	+3.7
LTK	Loutraki	1.11	87	P	Pn	05 22 52.2	-1.0
LTK				S	Sb	05 23 08.4	+1.1
LTK	Loutraki	1.11	87	P	Pn	05 22 52.2	-1.0
LTK				S	Sb	05 23 08.4	+1.1
MAKR	Makrakomi, Fth	1.13	23	P	Pn	05 22 52.5	-0.9
MAKR				S	Sb	05 23 09.7	+1.9
MAKR	Makrakomi, Fth	1.13	23	P	Pn	05 22 52.5	-0.9
MAKR				S	Sb	05 23 09.7	+1.9
AXAR	Agios Charalam	1.17	47	P	Pn	05 22 53.4	-0.5
AXAR				S	Sb	05 23 11.2	+2.2
AXAR	Agios Charalam	1.17	47	P	Pn	05 22 53.4	-0.5
AXAR				S	Sb	05 23 11.2	+2.2
AGG	Agios Georgios	1.21	30	P	Pn	05 22 53.6	-0.8
AGG				S	Sb	05 23 12.2	+2.2
AGG	Agios Georgios	1.21	30	P	Pn	05 22 53.6	-0.8
AGG				S	Sb	05 23 12.2	+2.2
LKR	Lokris	1.32	59	ePN	Pn	05 22 55.8	-0.2
LKR	Lokris	1.32	59	P	Pn	05 22 55.5	-0.5
LKR				S	Sn	05 23 14.1	+1.0
LKR	Lokris	1.32	59	ePn	Pn	05 22 55.4	-0.6
LKR	Lokris	1.32	59	P	Pn	05 22 55.5	-0.5
LKR				S	Sn	05 23 14.1	+1.0
ATAL	Atalanti	1.35	58	P	Pn	05 22 56.6	+0.1
ATAL	Atalanti	1.35	58	P	Pn	05 22 56.6	+0.1
DIDY	Didyma	1.40	110	P	Pn	05 22 57.9	+0.8
DIDY	Didyma	1.40	110	P	Pn	05 22 57.9	+0.8
VIL1	Vilia, Western	1.41	82	ePN	Pn	05 22 57.7	+0.5
DID	Didima	1.41	109	P	Pn	05 22 57.1	-0.1
DID				S	Sn	05 23 18.4	+3.0
DID	Didima	1.41	109	P	Pn	05 22 57.1	-0.1
DID				S	Sn	05 23 18.4	+3.0
NAIG	Nisos Aigina	1.54	98	ePN	Pn	05 22 59.5	+0.4
NAIG	Nisos Aigina	1.54	98	ePn	Pn	05 22 59.3	+0.2
NAIG	Nisos Aigina	1.54	98	ePn	Pn	05 22 59.3	+0.2
THL	Klokotos Trika	1.62	12	ePN	Pn	05 23 01.2	+1.0
THL	Klokotos Trika	1.62	12	ePn	Pn	05 23 01.9	+1.7
THL	Klokotos Trika	1.62	12	ePn	Pn	05 23 01.9	+1.7
VLI	Veliai	1.67	138	ePN	Pn	05 23 02.5	+1.7
VLI	Veliai	1.67	138	P	Pn	05 23 03.4	+2.6
VLI				S	Sn	05 23 26.5	+4.7
VLI	Veliai	1.67	138	ePn	Pn	05 23 02.7	+1.9
VLI	Veliai	1.67	138	ePn	Pn	05 23 02.7	+1.9
VLI	Veliai	1.67	138	P	Pn	05 23 03.4	+2.6
VLY	Voula,Athens	1.77	93	ePN	Pn	05 23 02.7	+0.5
VLY	Voula,Athens	1.77	93	ePb	Pb	05 23 02.2	-2.2
NEO	Neokhori	1.86	44	ePN	Pn	05 23 03.7	+0.3
NEO	Neokhori	1.86	44	ePb	Pn	05 23 03.7	+0.3
AOS	Alonnisos	2.17	56	P	Pn	05 23 08.2	+0.5
AOS	Alonnisos	2.17	56	P	Pn	05 23 08.2	+0.5

*CSEM **01** 05:29:19.0±0.4, 50°.46N×18°.84E, h2km, Error ellipse: s-maj=8.4km s-min=3.2km az=8.0*
PRU 01 05:29:20.9, 50°.38N×18°.85E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.63	104	ePg	Pg	05 29 31.5	-1.4
OJC				eSg	Sg	05 29 39.8	-1.3
OJC	Ojcow	0.63	104	eSg	Sg	05 29 39.8	-1.3
OKC	Ostrava-Krasne	0.71	220	ePG	Pg	05 29 33.7	-0.7
OKC				eSG	Sg	05 29 42.7	-0.9
	9.0nm,0.3s						
OKC	Ostrava-Krasne	0.71	220	Pg	Pg	05 29 33.7	-0.7
OKC				Sg	Sg	05 29 42.7	-0.9
	9.0nm,0.3s						
OKC	Ostrava-Krasne	0.71	220	Pg	Pg	05 29 33.7	-0.7
OKC				Sg	Sg	05 29 42.7	-0.9
	9.0nm,0.3s						
MORC	Moravsky Berou	1.04	235	ePg	Pg	05 29 40.5	-0.2
MORC				eSg	Sg	05 29 53.7	-0.5
MORC	Moravsky Berou	1.04	235	ePg	Pg	05 29 40.5	-0.2
MORC				eSg	Sg	05 29 53.7	-0.5
NIE	Niedzica	1.35	135	ePg	Pg	05 29 46.2	-0.5
NIE				eSg	Sg	05 30 03.6	-0.6
NIE				e		05 30 04.8	
NIE	Niedzica	1.35	135	ePg	Pg	05 29 46.2	-0.5
NIE				eSg	Sg	05 30 03.6	-0.6
NIE	Niedzica	1.35	135	ePg	Pg	05 29 46.2	-0.5
NIE				eSg	Sg	05 30 03.6	-0.6
DPC	Dobruska-Polom	1.62	270	ePG	Pg	05 29 49.6	-2.3
DPC				eSG	Sg	05 30 12.1	-0.8
	5.2nm,0.3s						
DPC	Dobruska-Polom	1.62	270	Pg	Pg	05 29 49.6	-2.3
DPC				Sg	Sg	05 30 12.1	-0.8
	5.2nm,0.3s						
DPC	Dobruska-Polom	1.62	270	Pg	Pg	05 29 49.6	-2.3
DPC				Sg	Sg	05 30 12.1	-0.8
	5.2nm,0.3s						
VRAC	Vranov	1.81	235	eSg	Sg	05 30 17.7	-1.4
VRAC	Vranov	1.81	235	eSg	Sg	05 30 17.7	-1.4
STHS	Stebnicka Huta	1.82	121	ePN	Pn	05 29 55.6	+2.1
STHS	Stebnicka Huta	1.82	121	ePn	Pn	05 29 55.6	+2.1
STHS	Stebnicka Huta	1.82	121	ePn	Pn	05 29 55.6	+2.1
KOLL	Kolacno	1.83	189	eSN	Sn	05 30 18.7	+1.4
KOLL	Kolacno	1.83	189	eSn	Sn	05 30 18.7	+1.4
KOLL	Kolacno	1.83	189	eSn	Sn	05 30 18.7	+1.4
KECS	Kecovo	2.18	150	ePN	Pn	05 29 56.8	-1.5
KECS				eSN	Sn	05 30 25.0	-1.0
KECS	Kecovo	2.18	150	ePn	Pn	05 29 56.8	-1.5
KECS				eSn	Sn	05 30 25.0	-1.0
BRG	Berggiesshubel	3.16	281	SG	Sg	05 31 04.5	+2.0
	1.3nm,0.2s						
KHC	Kasperske Hory	3.64	252	ePG	Pg	05 30 26.5	-4.1
KHC				eSG	Sg	05 31 16.4	-1.4
KHC	Kasperske Hory	3.64	252	Sg	Sg	05 31 16.4	-1.4
KHC	Kasperske Hory	3.64	252	Pg	Pg	05 30 26.5	-4.1
KHC				Sg	Sg	05 31 16.4	-1.4

IDC 01 05:59:26.7±9.3**, 18°.03N×146°.99E, h0**km**, mb3.7**/7**, mb1 3.8**/7**, mb1mx3.6**/21**, mbtmp3.7**/7**, Error ellipse: s-maj=363.3km s-min=22.0km az=81.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.73	199	P	P	06 07 01.0	0.0
	0.3nm,0.4s,baz=32,slow=8.8,SNR=6.7						
ASAR	Alice Springs	43.37	198	P	P	06 07 30.9	0.0
	0.4nm,0.5s,baz=24,slow=7.4,SNR=5.0						
SONM	Songino Array	44.43	321	P	P	06 07 38.9	-0.3
	0.6nm,0.7s,baz=130,slow=8.6,SNR=4.7						
ZALV	Zalesovo Beam	59.29	323	P	P	06 09 32.0	+2.0
	0.6nm,0.4s,baz=115,slow=6.5,SNR=3.2						
MKAR	Makanchi Array	59.80	314	P	P	06 09 33.8	+0.1
	0.2nm,0.4s,baz=92,slow=8.6,SNR=3.6						
KURK	Kurchatov	62.58	318	P	P	06 09 51.9	-0.7
	0.5nm,0.4s,baz=95,slow=7.6,SNR=4.9						
BVAR	Borovoye Array	67.77	321	P	P	06 10 25.1	-1.0
	0.7nm,0.4s,baz=95,slow=11,SNR=4.8						

*IDC **01** 06:15:25.0±3.8, 16°.63S×175°.51W, h53km±8km, mb3.8/5, mb1 4.0/5, mb1mx3.6/17, mbtmp3.8/5, Error ellipse: s-maj=72.2km s-min=42.5km az=67.0*
*ISCJB **01** 06:16:44.0±2.4, 20°.5S±0°.3×180°.0W±0°.4, h525km±24km, mb3.6/5, Error ellipse: s-maj=69.6km s-min=29.1km az=147.6*
*NEIC **01** 06:16:44.6±1.9, 20°.66S×179°.99E, h512km±19km, mb3.7/2, Error ellipse: s-maj=51.0km s-min=26.4km az=53.0*
ISC 01 06:16:44.7±2.1**, 20°.7S**±0°.3×**180°.0E**±0°.4**, h513**km±21km**, h463**km±2.5km**:pP-P, n15, σ0s.78**/15**, mb3.6**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.45	327	ePn	P	06 17 60.0	+0.1
MSVF				e		06 18 14.4	
DZM	Mont Dzumac	12.71	261	eP	P	06 19 30.3	-0.3
	1.4nm,0.5s						
URZ	Urewera	17.71	187	P	P	06 20 21.4	-0.1
	4.7nm,0.4s,baz=45,slow=3.6,SNR=5.9						
URZ	Urewera	17.71	187	P	P	06 20 21.4	-0.1
STKA	Stephens Creek	36.03	244	P	P	06 23 07.5	+5.2
	0.8nm,0.3s,mb3.7,baz=104,slow=8.3,SNR=5.9						
STKA	Stephens Creek	36.03	244	P	P	06 23 07.5	+5.2
AS31	Alice Springs	42.65	257	eP	P	06 23 57.1	+1.2
ASAR	Alice Springs	42.65	257	P	P	06 23 57.2	+1.3
	2.0nm,0.6s,mb3.8,baz=88,slow=8.3,SNR=25						
ASAR				PcP	pP	06 25 24.7	-4.6
	0.5nm,0.6s,baz=97,slow=4.0,SNR=4.1						
ASAR	Alice Springs	42.65	257	P	P	06 23 57.2	+1.3
ASAR				PcP	pP	06 25 24.7	-4.6
WB2	Warramunga Arr	42.71	263	eP	P	06 23 56.0	-0.3
WB2				e		06 24 10.3	
WB2				epP	pP	06 25 24.0	-5.8
WRAB	Tennant Creek	42.71	263	eP	P	06 23 55.9	-0.6
	1.2nm,0.4s,mb3.8						
WRAB				e		06 24 10.2	
WRA	Warramunga Arr	42.72	263	P	P	06 23 56.5	+0.1
	1.1nm,0.5s,mb3.6,baz=97,slow=7.8,SNR=38						
WRA				PcP	pP	06 25 24.6	-5.3
	0.6nm,0.8s,baz=95,slow=3.0,SNR=4.0						
WRA	Warramunga Arr	42.72	263	P	P	06 23 56.5	+0.1
WRA				PcP	pP	06 25 24.6	-5.3
FITZ	Fitzroy Crossi	51.15	263	P	P	06 24 58.8	-1.3
	0.8nm,0.4s,mb3.4,baz=135,slow=4.3,SNR=11						
FITZ	Fitzroy Crossi	51.15	263	P	P	06 24 58.8	-1.3

*NIED **01** 06:20:00, 36°.10N×139°.90E, h53km, Mw4.0 Best double couple: M0 1.00000×10^15 NP1:φs30.00000°, δ70.00000°, λ68.00000°. NP2:φs259.00000°, δ29.00000°, λ136.00000°.*
*ISCJB **01** 06:20:31.0±0.5, 36°.04N±0°.04×139°.96E±0°.06, h57km±4km, mb3.6/6, Error ellipse: s-maj=8.3km s-min=6.2km az=156.4*
*JMA **01** 06:20:32.3±0.1, 36°.04N×139°.91E, h44km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs41.00000°, δ74.00000°, λ87.00000°. NP2:φs230.00000°, δ16.00000°, λ99.00000°. Principal axes: T Plg61.0000°, Azm307.0000°; N Plg3.0000°, Azm42.0000°; P Plg29.0000°, Azm133.0000°;*
JMA Felt II J1.
*IDC **01** 06:20:33.6±3.2, 35°.95N×139°.73E, h62km±25km, mb3.4/6, mb1 3.5/6, mb1mx3.3/23, mbtmp3.4/6 Error ellipse: s-maj=37.2km s-min=24.4km az=66.0*
ISC 01 06:20:32.0±0.5**, 36°.04N**±0°.04×**139°.94E**±0°.06**, h49**km±4km**, n18, σ0s.75**/26**, mb3.6**/6**, 2C-4D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.28	48	⇑P	Pn	06 20 40.9	0.0
JYT				S	Sn	06 20 46.5	-0.7
TOK	Tokyo	0.38	202	⇑P	Pn	06 20 42.4	+0.5
TOK				S	Sn	06 20 49.7	+0.7
JAG	Ashikaga	0.55	314	⇓P	Pn	06 20 43.7	-0.1
JAG				S	Sn	06 20 51.8	-0.5
JRY	Ryogami san	0.84	269	⇓P	Pn	06 20 47.2	-0.4
JRY				S	Sn	06 20 57.7	-1.2
JKT	Katashina	0.91	323	⇓P	Pn	06 20 48.6	+0.1
JKT				S	Sn	06 21 01.1	+0.4
JOD2	Odawara 2	1.04	222	P	Pn	06 20 50.4	+0.1
JOD2				S	Sn	06 21 03.0	-0.7
JYN	Shimob	1.26	245	P	Pn	06 20 54.2	+1.0
BSO3	Boso 3	1.32	159	⇓P	Pn	06 20 53.7	-0.4
BSO3				S	Sn	06 21 11.3	+0.7
JIM2	Oshima 3	1.39	198	P	Pn	06 20 54.4	-0.6
MJAR	Matsushiro Arr	1.48	290	P	Pn	06 20 55.8	-0.4
	24nm,0.3s,baz=111,slow=8.6,SNR=142						
MAT	Matsushiro	1.48	290	P	Pn	06 20 56.8	+0.5
MAT				eS	Sn	06 21 16.7	+2.2
SONM	Songino Array	27.38	306	P	P	06 26 11.0	-1.5
	0.2nm,0.3s,mb3.1,baz=103,slow=11,SNR=1.7						
ZALV	Zalesovo Beam	41.72	313	P	P	06 28 15.9	+0.1
	1.9nm,0.5s,mb4.0,baz=94,slow=6.9,SNR=8.8						
MKAR	Makanchi Array	43.65	303	P	P	06 28 31.2	-0.3
	0.4nm,0.5s,mb3.4,baz=86,slow=9.5,SNR=5.5						
KURK	Kurchatov	45.62	309	P	P	06 28 47.2	+0.1
	baz=84,slow=7.8						
ILAR	Eielson Array	50.97	32	P	P	06 29 29.5	+1.3
	0.6nm,0.9s,mb3.5,baz=237,slow=5.2,SNR=4.2						
WRA	Warramunga Arr	55.93	186	P	P	06 30 04.4	-0.6
	0.6nm,0.4s,mb4.0,baz=2.8,slow=7.6,SNR=8.1						
AKTO	Aktyubinsk	58.45	312	P	P	06 30 22.8	+0.2
	0.8nm,0.7s,mb3.9,baz=98,slow=7.1,SNR=2.7						

KRSC 01 06:25:11.3±0.7**, 55°.30N×161°.01E, h139**km±30km**, ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	0.49	268	P	Pn	06 25 33.3	+2.0
KMNR	Kamenistaya	0.63	316	P	Pn	06 25 33.7	+1.6
BDR	Baidarnaya	1.28	5	P	Pn	06 25 38.5	+0.9
KBTR	Krutoberegovo	1.37	48	iP	Pn	06 25 39.4	+0.9
KBTR				eS	Sn	06 25 59.6	+0.2
ESO	Esso	1.45	296	eP	Pn	06 25 39.2	-0.2
SPN	Mys Shipunski	2.28	195	S	Sn	06 26 17.5	-0.7
SDLR	Sedlovina	2.38	212	P	Pn	06 25 52.0	+1.7
GNL	Ganaly	2.41	229	P	Pn	06 25 52.1	+1.5
BKI	Bering	2.84	90	iP	Pn	06 25 57.7	+1.6
BKI				iS	Sn	06 26 32.5	+1.8

*KISR **01** 06:31:24.7±0.3, 28°.13N×54°.23E, h34km, ML2.5*
IDC 01 06:31:28.8±15.0**, 27°.48N×52°.95E, h0**km**, mb4.1**/4**, mb1 4.1**/4**, mb1mx3.5**/25**, mbtmp4.1**/4**, Error ellipse: s-maj=377.6km s-min=34.3km az=119.0, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRN	Al-Qurain	4.62	287	eP	Pg	06 32 54.2	-3.1
NAY	Al-Naaiem	5.33	291	eP	Pg	06 33 03.4	-7.5
NAY				AML	AML	06 34 13.8	
	comp=Z,1.4nm,0.9s						
NAY				eS	Sg	06 34 17.4	-2.5
FINES	FINESS Array B	38.43	340	P	P	06 38 51.5	-0.3
	comp=Z,2.1nm,0.8s,baz=145,slow=4.7,SNR=4.4						
ARCES	ARCESS Array B	45.01	347	P	P	06 39 45.7	+0.1
	comp=Z,5.0nm,1.1s,baz=148,slow=7.4,SNR=3.0						
TORD	Torodi Ar. Bea	49.80	264	P	P	06 40 24.0	+0.4
	comp=Z,0.5nm,0.6s,baz=60,slow=7.7,SNR=4.3						
DBIC	Dimbokro	58.45	261	P	P	06 41 26.5	-0.3
	comp=Z,4.4nm,1.0s,baz=23,slow=7.7,SNR=2.6						

IDC 01 06:36:14.5±3.6**, 52°.15N×171°.57W, h85**km±33km**, mb3.6**/12**, mb1 3.8**/15**, mb1mx3.6**/28**, mbtmp3.6**/15**, MS2.8**/1**, Ms1 2.7**/1**, ms1mx2.5**/28**, Error ellipse: s-maj=25.5km s-min=12.9km az=179.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	9.34	281	P	Pn	06 38 24.9	-1.3
	1.1nm,0.3s,baz=17,slow=11,SNR=3.7						
ILAR	Eielson Array	17.91	36	P	Pn	06 40 15.5	-2.1
	0.1nm,0.3s,baz=226,slow=9.0,SNR=9.4						
PETK	Petropavlovsk-	18.62	285	P	Pn	06 40 26.3	+0.1
	0.5nm,0.3s,baz=99,slow=14,SNR=12						
DLBC	Dease Lake	24.16	58	P	P	06 41 23.7	+1.4
	3.2nm,0.8s,baz=326,slow=3.6,SNR=5.3						
INK	Inuvik	24.28	34	P	P	06 41 23.3	-0.1
	0.9nm,0.5s,baz=185,slow=17,SNR=11						
YKA	Yellowknife Ar	31.41	48	LR	LR	06 54 11.3	
	comp=Z,16nm,21.2s,baz=210,slow=34						
NVAR	Mina Array Bea	39.02	89	P	P	06 43 33.2	+0.7
	1.2nm,0.8s,baz=293,slow=8.2,SNR=11						
PDAR	Pinedale Array	41.77	77	P	P	06 43 55.5	+0.3
	1.5nm,0.9s,baz=311,slow=5.3,SNR=9.0						
SONM	Songino Array	50.25	300	P	P	06 45 03.4	+1.8
	0.5nm,0.5s,baz=56,slow=6.3,SNR=5.5						
TXAR	Lajitas Array	54.11	87	P	P	06 45 30.1	-0.3
	1.0nm,0.7s,baz=289,slow=5.5,SNR=7.9						
ZALV	Zalesovo Beam	56.67	317	P	P	06 45 48.4	-0.1
	0.5nm,0.3s,baz=98,slow=2.9,SNR=2.5						
ARCES	ARCESS Array B	57.99	353	P	P	06 45 56.7	-0.9
	7.7nm,1.1s,baz=3.1,slow=8.3,SNR=2.7						
MKAR	Makanchi Array	62.97	312	P	P	06 46 32.3	+0.5
	0.6nm,0.5s,baz=50,slow=6.9,SNR=12						
CMAR	Chiang Mai Arr	75.34	281	P	P	06 47 47.8	-0.9
	1.0nm,0.3s,baz=56,slow=6.6,SNR=5.5						
WRA	Warramunga Arr	85.81	230	P	P	06 48 43.7	-0.7
	0.3nm,0.9s,baz=35,slow=6.4,SNR=2.9						
ASAR	Alice Springs	89.22	228	P	P	06 49 01.2	+0.6
	0.3nm,0.6s,baz=33,slow=5.1,SNR=5.0						
LBTB	Lobatse	149.93	328	PKPbc	PKPbc	06 55 54.0	-0.7
	2.4nm,0.5s,baz=50,slow=2.5,SNR=3.3						

*CSEM **01** 06:50:53.1, 37°.49N×23°.94E, h23km, ML1.7, After ATH*
*THE **01** 06:50:54.1, 37°.50N×23°.92E, h5km±2km, ML1.7/3, Error ellipse: s-maj=3.0km s-min=0.6km az=291.0*
ATH 01 06:50:53.1, 37°.49N×23°.94E, h23km±2km**, ML1.7, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLY	Voula,Athens	0.38	342	ePB	Pb	06 51 01.1	-0.2
VLY				eSB	Sb	06 51 07.7	+0.9
VLY	Voula,Athens	0.38	342	P	Pb	06 51 01.0	-0.3
VLY	Voula,Athens	0.38	342	ePb	Pb	06 51 01.1	-0.2
VLY				eSb	Sb	06 51 07.7	+0.9
VLY	Voula,Athens	0.38	342	ePb	Pb	06 51 01.1	-0.2
VLY				eSb	Sb	06 51 07.7	+0.9
NAIG	Nisos Aigina	0.45	307	ePB	Pb	06 51 02.1	-0.3
NAIG	Nisos Aigina	0.45	307	ePb	Pb	06 51 02.1	-0.3
NAIG	Nisos Aigina	0.45	307	ePb	Pb	06 51 02.1	-0.3
ATH	Athens Observa	0.51	340	ePN	Pb	06 51 03.0	-0.5
ATH	Athens Observa	0.51	340	ePn	Pb	06 51 02.6	-0.9
ATH	Athens Observa	0.51	340	ePn	Pb	06 51 02.6	-0.9
DID	Didima	0.56	272	ePN	Pn	06 51 04.0	-1.6
DID	Didima	0.56	272	P	Pb	06 51 03.8	-0.4
DID				S	Sb	06 51 12.3	+0.5
DID	Didima	0.56	272	ePn	Pn	06 51 04.0	-1.6
DID	Didima	0.56	272	ePn	Pn	06 51 04.0	-1.6
DID				S	Sb	06 51 12.3	+0.5
VIL1	Vilia, Western	0.83	324	ePN	Pn	06 51 09.6	+0.2
LTK	Loutraki	0.94	305	P	Pb	06 51 11.8	+1.1
LTK				S	Sb	06 51 24.7	+2.1
LTK	Loutraki	0.94	305	P	Pb	06 51 11.8	+1.1
LTK				S	Sb	06 51 24.7	+2.1
VLI	Veliai	1.11	226	ePN	Pn	06 51 14.6	+1.4
VLI	Veliai	1.11	226	P	Pn	06 51 14.7	+1.5
VLI				S	Sb	06 51 30.7	+3.0
VLI	Veliai	1.11	226	ePn	Pn	06 51 14.8	+1.6
VLI	Veliai	1.11	226	P	Pn	06 51 14.7	+1.5
VLI				S	Sb	06 51 30.7	+3.0
VLX	Vlachokerasia	1.25	265	ePN	Pn	06 51 16.9	+1.8
VLX	Vlachokerasia	1.25	265	ePn	Pn	06 51 16.9	+1.8
VLX	Vlachokerasia	1.25	265	ePn	Pn	06 51 16.9	+1.8
APE	Apeiranthos	1.34	108	ePN	Pn	06 51 18.5	+2.2
APE	Apeiranthos	1.34	108	P	Pn	06 51 18.5	+2.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APE				S	Sn	06 51 37.7	+4.3
APE	Apeiranthos	1.34	108	ePn	Pn	06 51 18.5	+2.2
APE	Apeiranthos	1.34	108	P	Pn	06 51 18.5	+2.2
APE				S	Sn	06 51 37.7	+4.3
GUR	Goura	1.34	290	ePN	Pn	06 51 18.5	+2.1
GUR	Goura	1.34	290	ePn	Pn	06 51 18.5	+2.1
GUR	Goura	1.34	290	ePn	Pn	06 51 18.5	+2.1
KYTH	Kithira	1.41	211	P	Pn	06 51 19.4	+2.1
KYTH	Kithira	1.41	211	P	Pn	06 51 19.4	+2.1

IDC 01 06:51:34.0±7.8**, 15°.34S**×**167°.53E, h0km, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.6**/16**, mbtmp3.5**/3**, Error ellipse: s-maj=382.2km s-min=36.6km az=144.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.92	257	P	P	06 58 01.4	-0.2
	0.1nm,0.3s,baz=80,slow=6.1,SNR=5.7						
ASAR	Alice Springs	32.69	250	P	P	06 58 08.6	+0.2
	0.6nm,0.4s,baz=78,slow=8.9,SNR=9.7						
ILAR	Eielson Array	87.03	18	P	P	07 04 20.9	+0.1
	0.2nm,0.7s,baz=224,slow=6.2,SNR=4.3						

*ISCJB **01** 07:05:16.5±0.6, 10°.93N±0°.04×62°.30W±0°.03, h96km±7km, Error ellipse: s-maj=6.7km s-min=4.6km az=144.1*
*FUNV **01** 07:05:17.9, 10°.88N×62°.29W, h97km, MW3.0*
*TRN **01** 07:05:21.1, 11°.07N×62°.02W, h94km, MD3.1*
ISC 01 07:05:17.1±0.6**, 10°.93N**±0°.04×**62°.30W**±0°.03**, h94km**±8km**, n21,** σ1^s**28**/34**, 2C-1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.29	165	eP	Pn	07 05 31.6	+0.6
GUIV				eS	Sn	07 05 41.7	+0.3
ITEV	Isla Los Testi	0.92	297	eP	Pn	07 05 36.7	+0.5
TRN	Trinidad (W)	0.92	108	⇑iP	Pn	07 05 38.1	+1.9
TRN				eS	Sn	07 05 51.3	+0.6
CRUV	Carupano	0.95	255	⇑iP	Pn	07 05 37.3	+0.7
CRUV				eS	Sn	07 05 51.2	0.0
GUNV	Guanoco	0.99	220	eP	Pn	07 05 38.1	+1.1
GUNV				eS	Sn	07 05 51.4	-0.6
TBH	Brigand Hill	1.29	110	eP	Pn	07 05 42.4	+1.9
TBH				eS	Sn	07 05 57.8	-0.4
GRW	Mount Saint Ca	1.37	27	eP	Pn	07 05 43.6	+2.1
GRW				eS	Sn	07 05 58.5	-1.5
GRHS	Sauteurs	1.44	27	eP	Pn	07 05 43.9	+1.5
GRHS				eS	Sn	07 05 59.7	-1.7
TPR	Prospect	1.52	80	eP	Pn	07 05 43.2	-0.1
TPR				eS	Sn	07 06 01.4	-1.8
GRIC	Isle de Caille	1.52	27	eP	Pn	07 05 45.1	+1.7
GRSS	Sisters	1.52	26	eP	Pn	07 05 44.9	+1.5
GRSS				eS	Sn	07 06 01.7	-1.5
TOSP	Speyside	1.77	78	eP	Pn	07 05 46.6	+0.1
TOSP				eS	Sn	07 06 05.8	-3.0
ORIV	Oritupano	2.15	211	eP	Pn	07 05 51.8	+0.3
IBAV	Isla La Blanqu	2.40	292	eP	Pn	07 05 55.0	+0.2
PCRV	Puerto La Cruz	2.42	252	eP	Pn	07 05 54.6	-0.3
PCRV				eS	Sn	07 06 21.7	-2.3
SVB	Belmont	2.54	24	eP	Pn	07 05 57.8	+1.1
SVB				eS	Sn	07 06 24.3	-2.7
RIOV	Rio Grande	2.88	170	eP	Pn	07 06 01.5	+0.3
RIOV				eS	Sn	07 06 31.6	-3.6
GURV	El Guri	3.24	194	eP	Pn	07 06 05.9	-0.2
CUPV	Cœpira	3.54	256	⇓eP	Pn	07 06 10.5	+0.5
LUEV	Luepa	5.12	171	eP	Pn	07 06 29.8	-1.7
BAUV	El Baul	5.99	251	eP	Pn	07 06 41.7	-1.6

*ISCJB **01** 07:18:56.7±1.4, 17°.2S±0°.2×178°.7W±0°.2, h609km±14km, mb3.8/11, Error ellipse: s-maj=43.7km s-min=14.0km az=141.3*
*NEIC **01** 07:18:56.9±0.9, 17°.25S×178°.62W, h599km±7km, mb4.0/3, Error ellipse: s-maj=24.6km s-min=7.8km az=142.0*
*IDC **01** 07:18:57.1±5.6, 17°.33S×178°.58W, h602km±70km, mb3.2/9, mb1 3.5/9, mb1mx3.3/17, mbtmp3.2/9, Error ellipse: s-maj=75.5km s-min=24.8km az=155.0*
ISC 01 07:18:57.2±1.4**, 17°.2S**±0°.2×**178°.7W**±0°.2**, h599km**±13km**, n32,** σ0^s**40**/26**, mb3.8**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.18	260	eP	P	07 20 17.5	+0.2
FUNA	Funafuti	8.89	346	eP	P	07 21 04.9	-0.3
DZM	Mont Dzumac	14.83	249	eP	P	07 22 04.1	+0.2
ARMA	Armidale	30.08	239	eP	P	07 24 19.4	-0.3
	2.9nm,0.7s,mb4.0						
CTA	Charters Tower	33.32	260	P	P	07 24 48.1	+0.7
	1.9nm,0.5s,mb4.0,baz=111,slow=8.6,SNR=3.7						
CTA	Charters Tower	33.32	260	P	P	07 24 48.1	+0.7
CTAO	Charters Tower	33.32	260	eP	P	07 24 48.0	+0.7
	1.9nm,0.5s,mb4.0						
STKA	Stephens Creek	38.75	240	P	P	07 25 31.2	-0.6
	3.4nm,0.9s,mb3.9,baz=108,slow=9.3,SNR=6.5						
STKA	Stephens Creek	38.75	240	P	P	07 25 31.2	-0.6
WB2	Warramunga Arr	44.51	259	eP	P	07 26 16.7	-0.4
WRAB	Tennant Creek	44.51	259	eP	P	07 26 17.2	0.0
	2.2nm,0.5s,mb3.9						
WRA	Warramunga Arr	44.52	259	P	P	07 26 16.8	-0.5
	2.2nm,0.5s,mb4.0,baz=95,slow=7.3,SNR=51						
WRA	Warramunga Arr	44.52	259	P	P	07 26 16.8	-0.5
AS31	Alice Springs	44.74	254	eP	P	07 26 18.9	0.0
ASAR	Alice Springs	44.75	254	P	P	07 26 19.1	+0.1
	12nm,0.5s,mb4.7,baz=87,slow=8.6,SNR=203						
ASAR	Alice Springs	44.75	254	P	P	07 26 19.1	+0.1
FITZ	Fitzroy Crossi	52.90	260	P	P	07 27 19.9	+0.8
	0.5nm,0.5s,mb3.1,baz=106,slow=7.4,SNR=4.5						
FITZ	Fitzroy Crossi	52.90	260	P	P	07 27 19.9	+0.8
NVAR	Mina Array Bea	79.10	44	P	P	07 30 01.2	+0.4
	1.2nm,0.8s,mb3.3,baz=225,slow=9.0,SNR=8.6						
NVAR	Mina Array Bea	79.10	44	P	P	07 30 01.2	+0.4
ILAR	Eielson Array	85.27	13	P	P	07 30 31.2	0.0
	0.6nm,0.4s,mb3.6,baz=219,slow=5.3,SNR=17						
ILAR	Eielson Array	85.27	13	P	P	07 30 31.2	0.0
TXAR	Lajitas Array	85.83	58	P	P	07 30 34.9	+0.1
	0.9nm,0.7s,mb3.5,baz=222,slow=5.7,SNR=8.2						
TXAR	Lajitas Array	85.83	58	P	P	07 30 34.9	+0.1
PDAR	Pinedale Array	87.02	44	P	P	07 30 39.6	-0.4
	0.6nm,0.7s,mb3.4,baz=220,slow=3.2,SNR=5.9						
PDAR	Pinedale Array	87.02	44	P	P	07 30 39.6	-0.4
ARCES	ARCESS Array B	125.59	350	PKP	PKPdf	07 36 50.3	-0.4
	7.5nm,1.1s,baz=58,slow=2.2,SNR=2.8						
ARCES	ARCESS Array B	125.59	350	PKP	PKPdf	07 36 50.3	-0.4
BRTR	Keskin Array B	144.12	315	PKP	PKPdf	07 37 26.0	+0.1
	0.6nm,0.5s,baz=103,slow=3.1,SNR=3.5						
BRTR	Keskin Array B	144.12	315	PKP	PKPdf	07 37 26.0	+0.1
GERES	GERESS Array B	146.88	345	PKPbc	PKPbc	07 37 32.4	-0.8
	0.9nm,0.5s,baz=15,slow=1.5,SNR=6.5						
GERES	GERESS Array B	146.88	345	PKPbc	PKPbc	07 37 32.4	-0.8

DJA 01 07:21:41, 0°.05S×**122°.06E, h229km, MLv3.6**/7**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	Marisa	0.54	347	P	Pn	07 22 12.6	+1.0
MRSI				S	S	07 22 37.5	+1.9
GTOI	Gorontalo	1.17	54	P	Pn	07 22 15.3	+0.4
GTOI				S	S	07 22 40.9	-0.5
LUWI	Luwuk	1.22	144	P	Pn	07 22 16.2	+1.0
LUWI				S	S	07 22 43.4	+1.4
KMSI	Cibinong	2.02	72	P	Pn	07 22 22.5	+0.6
KMSI				S	S	07 22 56.3	+2.3
TTSI	Tana Toraja	3.72	217	P	Pn	07 22 41.9	+1.3
KDI	Kendari	3.92	172	P	Pn	07 22 41.6	-1.4
SPSI	Sidrap Palu	4.51	210	P	Pn	07 22 50.7	+0.5

*ATH **01** 07:26:06.4, 36°.17N×21°.77E, h11km±1km, MD3.6/9*
*CSEM **01** 07:26:07.2±0.6, 36°.21N×21°.82E, h2km, ML2.9/3, Error ellipse: s-maj=10.3km s-min=5.6km az=41.0*
*THE **01** 07:26:08.3, 36°.27N×21°.87E, h0km±1km, ML2.9/3, Error ellipse: s-maj=2.3km s-min=0.6km az=226.0*
ISC 01 07:26:07.4±1.3**, 36°.18N**±0°.06×**21°.80E**±0°.07**, h11km, n34,** σ1^s**12**/56**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYL	PYLOS	0.71	356	ePB	Pg	07 26 20.3	-0.9
PYL				eSB	Sg	07 26 30.5	-0.1
PYL	PYLOS	0.71	356	P	Pg	07 26 20.3	-0.9
PYL				S	Sg	07 26 29.9	-0.7
PYL	PYLOS	0.71	356	ePb	Pg	07 26 20.3	-0.9
PYL				eSb	Sg	07 26 30.5	-0.1
PYL	PYLOS	0.71	356	P	Pg	07 26 20.3	-0.9
PYL				S	Sg	07 26 29.9	-0.7
PYL				eSb	Sg	07 26 30.5	-0.1
ITM	Ithomi	1.00	6	ePB	Pg	07 26 25.8	-0.9
ITM				eSB	Sg	07 26 40.2	+0.5
ITM	Ithomi	1.00	6	P	Pg	07 26 25.9	-0.8
ITM				S	Sg	07 26 39.3	-0.4
ITM	Ithomi	1.00	6	ePb	Pg	07 26 25.8	-0.9
ITM				eSb	Sb	07 26 40.8	+0.9
ITM	Ithomi	1.00	6	P	Pg	07 26 25.9	-0.8
ITM				S	Sg	07 26 39.3	-0.4
ITM				eSb	Sb	07 26 40.8	+0.9
KYTH	Kithira	1.00	84	ePN	Pn	07 26 26.3	-1.1
KYTH	Kithira	1.00	84	P	Pg	07 26 26.1	-0.6
KYTH	Kithira	1.00	84	ePn	Pn	07 26 26.3	-1.1
KYTH	Kithira	1.00	84	P	Pg	07 26 26.1	-0.6
VLI	Veliai	1.06	59	ePG	Pg	07 26 26.8	-1.0
VLI				eSB	Sb	07 26 42.3	+0.6
VLI	Veliai	1.06	59	P	Pb	07 26 26.6	-1.2
VLI				S	Sg	07 26 41.0	-0.6
VLI	Veliai	1.06	59	ePg	Pb	07 26 26.6	-1.2
VLI				eSb	Sb	07 26 42.3	+0.6
VLI	Veliai	1.06	59	P	Pb	07 26 26.6	-1.2
VLI				S	Sg	07 26 41.0	-0.6
VLI				eSb	Sb	07 26 42.3	+0.6
VLX	Vlachokerasia	1.27	21	ePG	Pn	07 26 30.3	-0.8
VLX				eSB	Sb	07 26 48.5	+0.7
VLX	Vlachokerasia	1.27	21	P	Pn	07 26 30.3	-0.8
VLX				S	Sb	07 26 47.6	-0.2
VLX	Vlachokerasia	1.27	21	ePg	Pn	07 26 30.3	-0.8
VLX				eSb	Sb	07 26 48.5	+0.7
VLX	Vlachokerasia	1.27	21	P	Pn	07 26 30.3	-0.8
VLX				S	Sb	07 26 47.6	-0.2
VLX				eSb	Sb	07 26 48.5	+0.7
DID	Didima	1.75	41	ePN	Pn	07 26 39.2	+1.5
DID	Didima	1.75	41	ePn	Pn	07 26 39.2	+1.5
DID	Didima	1.75	41	ePn	Pn	07 26 39.2	+1.5
GUR	Goura	1.80	14	ePN	Pn	07 26 40.1	+1.7
GUR	Goura	1.80	14	ePn	Pn	07 26 40.1	+1.7
GUR	Goura	1.80	14	ePn	Pn	07 26 40.1	+1.7
RLS	Riolos of Patr	1.89	352	ePN	Pn	07 26 40.6	+1.0
RLS	Riolos of Patr	1.89	352	ePn	Pn	07 26 40.1	+0.5
RLS	Riolos of Patr	1.89	352	ePn	Pn	07 26 40.1	+0.5
LTK	Loutraki	2.06	27	ePN	Pn	07 26 43.6	+1.7
LTK	Loutraki	2.06	27	ePg	Pg	07 26 44.6	-2.3
LTK	Loutraki	2.06	27	ePg	Pg	07 26 44.6	-2.3
APE	Apeiranthos	3.13	72	P	Pn	07 26 57.2	+0.6
APE				S	Sn	07 27 36.0	+2.0
APE	Apeiranthos	3.13	72	P	Pn	07 26 57.2	+0.6
APE				S	Sn	07 27 36.0	+2.0

*ISCJB **01** 07:34:13.8±0.4, 6°.85N±0°.05×73°.00W±0°.06, h162km±5km, mb3.5/9, Error ellipse: s-maj=11.5km s-min=5.4km az=42.1*
*FUNV **01** 07:34:15.4, 6°.89N×73°.09W, h170km, MW3.8*
*IDC **01** 07:34:15.7±2.2, 6°.69N×73°.15W, h172km±22km, mb3.4/8, mb1 3.6/9, mb1mx3.5/19, mbtmp3.4/9, Error ellipse: s-maj=37.4km s-min=26.9km az=81.0*
*NEIC **01** 07:34:15.4±0.7, 6°.81N×73°.03W, h164km±8km, mb3.6/1, Error ellipse: s-maj=15.3km s-min=9.6km az=119.0*
ISC 01 07:34:14.8±0.4**, 6°.84N**±0°.05×**73°.00W**±0°.06**, h156km**±5km**, n39,** σ0^s**93**/45**, mb3.5**/9**, 6C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.23	33	⇑iP	Pn	07 34 43.6	+1.4
CAPV				eS	Sn	07 35 04.3	+1.2
ROSC	El Rosal	2.37	214	P	Pn	07 34 55.6	+0.8
	85nm,0.3s,baz=241,slow=3.2,SNR=315						
ROSC				S	Sn	07 35 24.6	-1.0
	44nm,0.3s,baz=101,slow=20,SNR=5.9						
ROSC	El Rosal	2.37	214	P	Pn	07 34 55.6	+0.8
ROSC				S	Sn	07 35 24.6	-1.0
SOCV	Socops	2.56	56	⇑eP	Pn	07 34 58.2	+1.2
SOCV				eS	Sn	07 35 29.9	+0.4
VIGV	El Vigia	2.56	39	eP	Pn	07 34 57.2	+0.2
VIGV				eS	Sn	07 35 28.5	-1.2
SDV	Santo Domingo	3.10	49	ePn	Pn	07 35 05.0	+1.3
SDV				eSn	Sn	07 35 41.9	+0.3
ELOV	Elorza	3.49	87	⇑eP	Pn	07 35 09.7	+1.0
ELOV				eS	Sn	07 35 49.8	-0.6
VIRV	Villa del Rosa	3.69	9	⇓iP	Pn	07 35 10.3	-0.9
VIRV				eS	Sn	07 35 51.1	-4.0
SANV	Sanarito	4.33	52	eP	Pn	07 35 19.2	-0.3
SANV				eS	Sn	07 36 06.9	-3.1
DABV	Dabajuro	4.68	30	eP	Pn	07 35 24.1	0.0
TEPV	Terepaima	4.88	50	⇑eP	Pn	07 35 27.2	+0.4
BAUV	El Baul	5.33	67	⇑eP	Pn	07 35 31.7	-1.0
MAPV	Macapo	5.39	56	⇑iP	Pn	07 35 33.4	-0.1
MONV	Montecano	5.90	30	eP	Pn	07 35 39.5	-0.7
TURV	Turiamo	6.23	54	eP	Pn	07 35 44.3	-0.4
CUPV	Cœpira	7.81	65	eP	Pn	07 36 04.4	-1.4
OTAV	Otavalo	8.52	220	ePn	Pn	07 36 15.7	+0.6
OTAV				eSn	Sn	07 37 48.6	-1.5
LPAZ	La Paz	23.48	168	eP	P	07 39 11.4	+1.0
	2.2nm,1.0s,mb3.5						
TXAR	Lajitas Array	36.54	312	P	P	07 41 05.5	0.0
	0.4nm,0.6s,mb3.2,baz=120,slow=9.1,SNR=6.0						
TXAR	Lajitas Array	36.54	312	P	P	07 41 05.5	0.0
MSU	Marysvale	47.38	318	eP	P	07 42 34.4	+1.2
SCHQ	Schefferville	48.11	5	P	P	07 42 39.0	+0.4
	4.9nm,1.1s,mb4.1,baz=210,slow=16,SNR=3.4						
SCHQ	Schefferville	48.11	5	P	P	07 42 39.0	+0.4
PDAR	Pinedale Array	48.14	324	P	P	07 42 39.0	0.0
	0.4nm,0.5s,mb3.3,baz=101,slow=7.7,SNR=4.2						
PDAR	Pinedale Array	48.14	324	P	P	07 42 39.0	0.0
NVAR	Mina Array Bea	51.56	315	P	P	07 43 05.4	+0.4
	0.3nm,0.6s,mb3.1,baz=150,slow=9.2,SNR=3.7						
NVAR	Mina Array Bea	51.56	315	P	P	07 43 05.4	+0.4
YKA	Yellowknife Ar	63.29	340	P	P	07 44 26.0	-0.6
	1.2nm,0.6s,mb3.9,baz=134,slow=6.5,SNR=7.0						
YKA	Yellowknife Ar	63.29	340	P	P	07 44 26.0	-0.6
INK	Inuvik	73.06	340	P	P	07 45 26.9	-0.5
	0.4nm,0.5s,mb3.4,baz=126,slow=1.0,SNR=4.7						
INK	Inuvik	73.06	340	P	P	07 45 26.9	-0.5
ILAR	Eielson Array	77.00	335	P	P	07 45 48.8	-1.3
	0.3nm,0.8s,mb3.0,baz=88,slow=5.5,SNR=3.3						
ILAR	Eielson Array	77.00	335	P	P	07 45 48.8	-1.3
BRTR	Keskin Array B	98.28	48	P	P	07 47 36.0	+1.2
	0.3nm,0.5s,mb4.0,baz=240,slow=4.4,SNR=2.6						
BRTR	Keskin Array B	98.28	48	P	P	07 47 36.0	+1.2
SONM	Songino Array	125.56	1	PKP	PKPdf	07 52 56.6	-1.1
	0.1nm,0.3s,baz=7.8,slow=0.7,SNR=2.9						
SONM	Songino Array	125.56	1	PKP	PKPdf	07 52 56.5	-1.1
WRA	Warramunga Arr	150.45	241	PKPbc	PKPbc	07 53 47.3	-1.5
	0.2nm,0.4s,baz=108,slow=2.6,SNR=5.3						
WRA	Warramunga Arr	150.45	241	PKPbc	PKPbc	07 53 47.3	-1.5

*IDC **01** 07:43:51.5±2.0, 35°.14S×179°.29E, h0km, mb4.4/4, mb1 4.6/5, mb1mx4.3/13, mbtmp4.5/5, ML4.9/1, Error ellipse: s-maj=46.7km s-min=30.9km az=57.0*
*WEL **01** 07:44:05.0±0.7, 35°.80S×179°.01E, h33km, ML4.7/37, Error ellipse: s-maj=5.9km s-min=4.5km az=90.0*
*NEIC **01** 07:44:05.0, 35°.80S×179°.01E, h33km, ML4.7(WEL), After WEL.*
*ISCJB **01** 07:44:10.9±1.1, 36°.66S±0°.08×178°.6E±0°.1, h173km±5km, mb4.2/4, Error ellipse: s-maj=15.7km s-min=11.5km az=151.7*
ISC 01 07:44:12.0±1.1**, 36°.67S**±0°.08×**178°.6E**±0°.1**, h168km**±6km**, n81,** σ1^s**06**/85**, mb4.2**/4**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.92	194	P*	Pn	07 44 34.0	-3.8
MXZ				S*	Sn	07 44 56.2	-1.6
WIZ	White Island	1.41	232	P*	Pn	07 44 39.4	-2.5
PUZ	Puketiti	1.43	190	PN	Pn	07 44 41.3	-0.8
PUZ				eSN	Sn	07 45 08.4	+2.9
CNGZ	Carnagh Statio	1.84	189	PN	Pn	07 44 46.8	+0.4
MWZ	Matawai	1.86	207	P*	Pn	07 44 47.3	+0.7
MYRZ	Mayor Island	1.97	251	P*	Pn	07 44 46.2	-1.7
URZ	Urewera	1.97	216	P*	Pn	07 44 47.8	0.0
URZ	Urewera	1.97	216	Pn	Pn	07 44 48.2	+0.3
	104nm,0.3s,baz=17,slow=3.5,SNR=321						
URZ				Sn	Sn	07 45 22.1	+6.4
	90nm,0.3s,baz=327,slow=23,SNR=10						
URZ	Urewera	1.97	216	Pn	Pn	07 44 48.2	+0.3
URZ				Sn	Sn	07 45 22.1	+6.4
OPRZ	Ohinepanea	2.00	233	P*	Pn	07 44 47.8	-0.4
MARZ	Manawahe	2.01	229	P*	Pn	07 44 48.3	0.0
EDRZ	Edgecumbe	2.06	225	eP*	Pn	07 44 49.5	+0.7
TGRZ	Tauranga	2.14	240	P*	Pn	07 44 49.3	-0.4
TARZ	Mount Tarawera	2.28	226	eP*	Pn	07 44 52.6	+1.3
KUZ	Kuaotunu	2.30	267	PN	Pn	07 44 47.2	-4.4
PRGZ	Paritu Road	2.32	194	PN	Pn	07 44 52.4	+0.6
KNZ	Kokohu	2.46	197	PN	Pn	07 44 53.4	0.0
PRRZ	Plateau Road	2.52	223	eP*	Pn	07 44 54.0	-0.2
MHGZ	Mahia Peninsul	2.54	192	PN	Pn	07 44 55.0	+0.6
RAHZ	Arahi	2.54	207	ePN	Pn	07 44 55.5	+1.1
ALRZ	Allen Road	2.60	223	eP*	Pn	07 44 56.2	+1.1
MKAZ	Moumakai	2.77	260	PN	Pn	07 44 55.1	-2.2
NMHZ	Naumai	2.80	210	PN	Pn	07 44 58.9	+1.3
BKZ	Black Stump Fm	2.99	213	P*	Pn	07 45 00.6	+0.7
MCHZ	McNeill Hill	3.15	208	PN	Pn	07 45 02.9	+1.1
CKHZ	Cape Kidnapper	3.21	201	ePN	Pn	07 45 03.1	+0.5
KATZ	Kakaramea	3.25	224	eP*	Pn	07 45 04.9	+1.9
KRVZ	Karewarewa	3.36	223	eP*	Pn	07 45 05.7	+1.2
OTVZ	Oturere	3.40	222	P*	Pn	07 45 06.3	+1.4
KAHZ	Kahuranaki	3.40	203	PN	Pn	07 45 05.7	+0.8
WTVZ	West Tongariro	3.40	223	eP*	Pn	07 45 06.3	+1.3
NGZ	Ngauruhoe	3.44	222	P*	Pn	07 45 07.1	+1.6
BHHZ	Black Hill Sta	3.45	214	P*	Pn	07 45 06.8	+1.3
HIZ	Hauiti	3.49	237	ePN	Pn	07 45 07.0	+0.9
FWVZ	Far West T-bar	3.52	222	eP*	Pn	07 45 08.0	+1.5
MOVZ	Moawhango	3.53	218	P*	Pn	07 45 07.5	+0.9
WNVZ	Wahianoa	3.55	221	eP*	Pn	07 45 08.0	+1.1
PXZ	Pawanui	3.62	201	ePN	Pn	07 45 07.5	-0.3
PNHZ	Pukenui	3.74	209	PN	Pn	07 45 09.1	-0.2
WPHZ	Waipukurau	3.79	206	PN	Pn	07 45 10.9	+1.0
PRHZ	Porangahau	3.91	202	PN	Pn	07 45 11.3	-0.1
TSZ	Takapari Road	3.96	211	PN	Pn	07 45 11.6	-0.6
WAZ	Wanganui	4.19	222	ePN	Pn	07 45 16.1	+1.1
OUZ	Omahuta	4.30	288	ePn	Pn	07 45 09.5	-7.1
BFZ	Birch Farm	4.40	204	PN	Pn	07 45 17.0	-0.8
TIWZ	Tintock	4.61	206	PN	Pn	07 45 20.6	+0.1
MRZ	Mangatainoka R	4.63	210	PN	Pn	07 45 19.9	-0.8
HOWZ	Holdsworth Sta	4.86	209	PN	Pn	07 45 23.0	-0.7
TMWZ	Te Maipa	4.91	205	PN	Pn	07 45 23.2	-1.1
OGWZ	Otaki Gorge	4.93	212	PN	Pn	07 45 24.5	-0.2
KIW	Kapiti Island	5.08	213	PN	Pn	07 45 25.9	-0.7
MTW	Mount Morrison	5.09	207	PN	Pn	07 45 25.7	-1.0
CAW	Cannon Point	5.21	211	PN	Pn	07 45 27.5	-0.8
TRWZ	Traveller	5.23	205	ePN	Pn	07 45 27.5	-1.1
PAWZ	Paruwai Farm	5.31	207	ePN	Pn	07 45 28.5	-1.2
DUWZ	D'Urville Isla	5.51	220	ePN	Pn	07 45 32.1	-0.2
PLWZ	Palliser	5.54	207	PN	Pn	07 45 31.5	-1.1
TCW	Tory Channel	5.64	215	PN	Pn	07 45 32.7	-1.3
NNZ	Nelson	6.09	220	PN	Pn	07 45 39.6	-0.3
QRZ	Quartz Range	6.29	227	ePN	Pn	07 45 41.7	-1.0
THZ	Tophouse	6.73	219	ePN	Pn	07 45 47.2	-1.2
KHZ	Kahutara	6.94	213	PN	Pn	07 45 50.3	-0.8
DSZ	Denniston Nort	7.31	224	PN	Pn	07 45 54.9	-1.2
LTZ	Lake Taylor	7.80	217	PN	Pn	07 46 01.2	-1.4
CTZ	Chatham Island	7.95	154	PN	Pn	07 46 05.2	+0.7
MQZ	McQueen's Vall	8.37	211	ePN	Pn	07 46 08.2	-1.8
RPZ	Rata Peaks	9.09	217	Pn	Pn	07 46 18.4	-1.2
	0.9nm,0.3s,baz=180,slow=10,SNR=5.5						
RPZ				Sn	Sn	07 48 02.1	+1.4
	1.5nm,0.3s,baz=3.5,slow=19,SNR=5.4						
RPZ	Rata Peaks	9.09	217	Pn	Pn	07 46 18.4	-1.2
RPZ				Sn	Sn	07 48 02.1	+1.4
ODZ	Otahua Downs	10.30	213	PN	Pn	07 46 34.2	-1.3
STKA	Stephens Creek	30.81	268	P	P	07 50 16.3	+4.3
	3.4nm,0.8s,mb4.1,baz=93,slow=12,SNR=4.7						
STKA	Stephens Creek	30.81	268	P	P	07 50 16.3	+4.3
AS31	Alice Springs	40.40	276	eP	P	07 51 34.8	+1.1
ASAR	Alice Springs	40.40	276	P	P	07 51 34.5	+0.7
	3.9nm,0.6s,mb4.2,baz=115,slow=7.7,SNR=59						
ASAR	Alice Springs	40.40	276	P	P	07 51 34.5	+0.7
WB2	Warramunga Arr	41.97	281	eP	P	07 51 47.4	+0.9
WRA	Warramunga Arr	41.97	281	P	P	07 51 46.4	-0.2
	6.3nm,0.5s,mb4.5,baz=118,slow=7.8,SNR=164						
WRA	Warramunga Arr	41.97	281	P	P	07 51 46.4	-0.2
QSPA	South Pole Qui	53.45	180	P	P	07 53 23.8	+10
	1.1nm,0.4s,mb4.0,baz=20,slow=0.4,SNR=6.3						
QSPA	South Pole Qui	53.45	180	P	P	07 53 23.8	+10
FINES	FINESS Array B	149.79	334	PKPbc	PKPbc	08 03 39.9	-1.2
	1.7nm,0.7s,baz=79,slow=4.1,SNR=4.4						
FINES	FINESS Array B	149.79	334	PKPbc	PKPbc	08 03 39.9	-1.2

*CSEM **01** 07:51:53.2, 36°.22N×21°.89E, h37km, MD3.4, After ATH*
*THE **01** 07:51:55.2, 36°.31N×21°.98E, h7km±12km, ML2.2/2, Error ellipse: s-maj=12.5km s-min=0.6km az=291.0*
ATH 01 07:51:53.2, 36°.23N×**21°.89E, h37km**±4km**, MD3.4**/5**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYL	PYLOS	0.68	350	ePN	Pn	07 52 07.0	+0.7
PYL				eSN	Sn	07 52 16.9	+1.3
PYL	PYLOS	0.68	350	P	Pn	07 52 06.9	+0.6
PYL	PYLOS	0.68	350	ePn	Pn	07 52 07.0	+0.7
PYL				eSn	Sn	07 52 16.9	+1.3
PYL	PYLOS	0.68	350	P	Pn	07 52 06.9	+0.6
PYL				eSn	Sn	07 52 16.9	+1.3
KYTH	Kithira	0.93	87	ePN	Pn	07 52 11.3	+1.6
KYTH	Kithira	0.93	87	P	Pn	07 52 11.2	+1.5
KYTH	Kithira	0.93	87	ePn	Pn	07 52 11.3	+1.6
KYTH	Kithira	0.93	87	ePn	Pn	07 52 11.3	+1.6
ITM	Ithomi	0.95	2	ePN	Pn	07 52 11.8	+1.8
ITM				eSN	Sn	07 52 25.2	+2.9
ITM	Ithomi	0.95	2	P	Pn	07 52 11.4	+1.4
ITM	Ithomi	0.95	2	ePn	Pn	07 52 11.8	+1.8
ITM				eSn	Sn	07 52 25.8	+3.5
ITM	Ithomi	0.95	2	P	Pn	07 52 11.4	+1.4
ITM	Ithomi	0.95	2	ePn	Pn	07 52 11.8	+1.8
ITM				eSn	Sn	07 52 25.8	+3.5
VLI	Veliai	0.97	60	ePN	Pn	07 52 11.7	+1.3
VLI				eSN	Sn	07 52 25.7	+2.7
VLI	Veliai	0.97	60	P	Pn	07 52 11.6	+1.2
VLI				S	Sn	07 52 24.7	+1.7
VLI	Veliai	0.97	60	ePn	Pn	07 52 11.6	+1.2
VLI				eSn	Sn	07 52 25.7	+2.7
VLI	Veliai	0.97	60	P	Pn	07 52 11.6	+1.2
VLI				S	Sn	07 52 24.7	+1.7
VLI				eSn	Sn	07 52 25.7	+2.7
VLX	Vlachokerasia	1.20	19	ePN	Pn	07 52 15.2	+1.7
VLX	Vlachokerasia	1.20	19	P	Pn	07 52 16.1	+2.6
VLX				S	Sn	07 52 32.0	+3.4
VLX	Vlachokerasia	1.20	19	ePn	Pn	07 52 15.2	+1.7
VLX	Vlachokerasia	1.20	19	ePn	Pn	07 52 15.2	+1.7
VLX	Vlachokerasia	1.20	19	P	Pn	07 52 16.1	+2.6
VLX				S	Sn	07 52 32.0	+3.4

*CSEM **01** 08:06:45.0, 43°.18N×46°.12E, h10km, mb3.7, After OBN*
*MOS **01** 08:06:45.3±0.8, 43°.18N×46°.12E, h10km, mb3.7/1, Error ellipse: s-maj=16.6km s-min=8.1km az=18.7*
ISC 01 08:06:45.7±0.8**, 43°.21N**±0°.07×**46°.14E**±0°.05**, h7km**±5km**, n30,** σ1^s**00**/58**, 3C-5D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRO	Groznyy	0.31	291	ePG	Pg	08 06 52.1	+0.5
GRO				i S	Sg	08 06 56.8	+1.1
GRO	Groznyy	0.31	291	ePg	Pg	08 06 52.1	+0.5
GRO				i Sg	Sg	08 06 56.8	+1.1
KRNR	Karanay	0.68	124	ePG	Pg	08 06 59.0	+0.3
KRNR				i S	Sg	08 07 07.8	+0.2
KRNR	Karanay	0.68	124	ePg	Pg	08 06 59.0	+0.3
KRNR				i Sg	Sg	08 07 07.8	+0.2
UNCR	Uncukul	0.69	136	ePG	Pg	08 06 58.5	-0.4
UNCR				eS	Sg	08 07 08.0	+0.1
UNCR	Uncukul	0.69	136	ePg	Pg	08 06 58.5	-0.4
UNCR				eSg	Sg	08 07 08.0	+0.1
VLKR	Vladikavkaz	1.08	262	⇑iPG	Pg	08 07 06.2	-0.3
VLKR				i S	Sg	08 07 21.5	+1.0
VLKR	Vladikavkaz	1.08	262	i Pg	Pg	08 07 06.2	-0.3
VLKR				i Sg	Sg	08 07 21.5	+1.0
TRKR	Terskaya	1.15	297	⇑iPG	Pg	08 07 07.9	+0.2
TRKR				i S	Sg	08 07 24.6	+2.1
TRKR	Terskaya	1.15	297	i Pg	Pg	08 07 07.9	+0.2
TRKR				i Sg	Sg	08 07 24.6	+2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMKR	Kumukh	1.29	147	⇓iPG	Pg	08 07 10.0	-0.4
KMKR				iS	Sg	08 07 28.0	+0.9
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
KMKR	Kumukh	1.29	147	iPg	Pg	08 07 10.0	-0.4
	comp=Z,35nm,0.2s						
KMKR				iSg	Sg	08 07 28.0	+0.9
KMSR	Komsomolskaya	1.36	277	⇓iPG	Pg	08 07 10.8	-0.9
KMSR				iS	Sg	08 07 29.8	+0.4
KMSR	Komsomolskaya	1.36	277	iPg	Pg	08 07 10.8	-0.9
KMSR				iSg	Sg	08 07 29.8	+0.4
ARNR	Ardon	1.36	270	⇓iPG	Pg	08 07 10.8	-1.0
ARNR				iS	Sg	08 07 29.6	+0.2
ARNR	Ardon	1.36	270	iPg	Pg	08 07 10.8	-1.0
ARNR				iSg	Sg	08 07 29.6	+0.2
LACR	Lac	1.41	255	⇓iPG	Pg	08 07 10.9	-1.8
LACR				iS	Sb	08 07 30.0	-0.4
LACR	Lac	1.41	255	iPg	Pg	08 07 10.9	-1.8
LACR				iSg	Sb	08 07 30.0	-0.4
PRTR	Priterechnaya	1.46	292	⇓iPG	Pg	08 07 12.3	-1.3
PRTR				iS	Sg	08 07 32.8	+0.3
PRTR	Priterechnaya	1.46	292	iPg	Pg	08 07 12.3	-1.3
PRTR				iSg	Sg	08 07 32.8	+0.3
KORR	Kora	1.52	266	⇑iPG	Pg	08 07 12.6	-2.3
KORR				iS	Sn	08 07 33.1	-0.3
KORR	Kora	1.52	266	iPg	Pg	08 07 12.6	-2.3
KORR				iSg	Sn	08 07 33.1	-0.3
LSNR	Lesken	1.70	273	ePN	Pn	08 07 15.1	-0.7
LSNR				iS	Sn	08 07 38.2	+0.4
LSNR	Lesken	1.70	273	ePn	Pn	08 07 15.1	-0.7
LSNR				iSg	Sn	08 07 38.2	+0.4
ZEI	Tsey	1.71	256	ePN	Pn	08 07 15.0	-0.8
ZEI				iS	Sn	08 07 37.5	-0.4
ZEI	Tsey	1.71	256	ePn	Pn	08 07 15.0	-0.8
ZEI				iSg	Sn	08 07 37.5	-0.4
DGRG	David-gareji	1.85	198	P	Pn	08 07 19.5	+1.7
DGRG				S	Sn	08 07 46.4	+5.0
DIGR	Digorskoe uzhe	1.90	261	ePN	Pn	08 07 17.6	-0.9
DIGR	Digorskoe uzhe	1.90	261	ePn	Pn	08 07 17.6	-0.9
ONI	Oni	2.07	253	P	Pn	08 07 23.0	+2.2
ONI				S	Sn	08 07 50.6	+3.7

*NEIC **01** 08:53:45.1±0.8, 9°.67S×125°.06E, h10km, Error ellipse: s-maj=32.7km s-min=10.3km az=61.0*
*ISCJB **01** 08:53:51.9±2.4, 10°.1S±0°.1×125°.0E±0°.1, h101km±28km, mb3.5/2, Error ellipse: s-maj=26.4km s-min=11.4km az=143.1*
*IDC **01** 08:53:56.6±8.3, 10°.33S×124°.75E, h136km±101km, mb3.1/2, mb1 3.4/5, mb1mx3.3/16, mbtmp3.3/5, ML3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/8, Error ellipse: s-maj=69.1km s-min=43.9km az=25.0*
ISC 01 08:53:54.3±3.6, **10°.1S**±0°.2×**125°.1E**±0°.1, **h106**km±44km, **n13**, σ**1s.16**/21, **mb3.5**/2, **Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FITZ	Fitzroy Crossi	7.97	176	P	Pn	08 55 47.0	-0.6
	1.3nm,0.3s,baz=8.7,slow=10,SNR=42						
FITZ				S	Sn	08 57 16.6	+0.5
	1.1nm,0.3s,baz=21,slow=13,SNR=6.8						
FITZ				LR	LR	08 58 55.8	
	comp=Z,73nm,18.6s,baz=359,slow=38						
FITZ	Fitzroy Crossi	7.97	176	P	Pn	08 55 47.0	-0.6
FITZ				S	Sn	08 57 16.6	+0.5
WRA	Warramunga Arr	13.22	139	P	Pn	08 56 58.3	+0.2
	0.6nm,0.3s,baz=311,slow=14,SNR=43						
WRA				S	Sn	08 59 25.1	+1.4
	0.6nm,0.3s,baz=305,slow=23,SNR=7.1						
WRA	Warramunga Arr	13.22	139	P	Pn	08 56 58.3	+0.2
WRA				S	Sn	08 59 25.1	+1.4
WRAB	Tennant Creek	13.23	139	ePn	Pn	08 56 57.6	-0.5
	3.1nm,0.7s						
WRAB				eSn	Sn	08 59 23.1	-0.6
WB2	Warramunga Arr	13.23	139	ePn	Pn	08 56 57.6	-0.5
AS31	Alice Springs	15.89	149	eP	Pn	08 57 35.1	+3.2
AS31				eSn	Sn	09 00 25.4	-2.5
ASAR	Alice Springs	15.89	149	P	Pn	08 57 33.7	+1.8
	0.4nm,0.3s,baz=321,slow=12,SNR=36						
ASAR				S	S	09 00 29.7	-5.3
	0.2nm,0.3s,baz=307,slow=19,SNR=6.0						
ASAR	Alice Springs	15.89	149	P	Pn	08 57 33.7	+1.8
ASAR				S	S	09 00 29.7	-5.3
SONM	Songino Array	60.02	346	P	P	09 03 50.2	+0.4
	0.3nm,0.5s,mb3.6,baz=164,slow=7.4,SNR=2.4						
SONM	Songino Array	60.02	346	P	P	09 03 50.2	+0.4
MKAR	Makanchi Array	68.31	330	P	P	09 04 43.1	-0.9
	0.4nm,0.6s,mb3.4,baz=126,slow=8.1,SNR=4.3						
MKAR	Makanchi Array	68.31	330	P	P	09 04 43.1	-0.9

*IDC **01** 08:59:56.6±3.4, 2°.40S×99°.27E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=148.9km s-min=20.7km az=55.0*
*ISCJB **01** 08:59:59.9±3.2, 2°.3S±0°.1×99°.3E±0°.2, h35km±26km, mb3.8/6, Error ellipse: s-maj=28.8km s-min=19.1km az=167.4*
*DJA **01** 09:00:01, 1°.75S×99°.04E, h12km, MLv3.8/3*
ISC 01 08:59:59.7±5.0, **2°.27S**±0°.09×**99°.4E**±0°.1, **h17**km±32km, **n10**, σ**0s.59**/11, **mb3.8**/6, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDSI	Padang	1.70	38	P	Pn	09 00 28.8	+0.2
PDSI				S	Sn	09 00 51.0	+1.0
KRJI	Kerinci	2.05	85	P	Pn	09 00 41.4	+8.0
PPI	Padang Panjang	2.05	28	P	Pn	09 00 33.1	-0.3
PPI				S	Sn	09 00 57.4	-1.1
WRA	Warramunga Arr	38.36	120	P	P	09 07 20.4	+0.2
	0.6nm,0.6s,mb3.5,baz=300,slow=8.8,SNR=5.1						
ASAR	Alice Springs	39.57	125	P	P	09 07 29.7	-0.5
	0.2nm,0.5s,mb3.1,baz=303,slow=7.5,SNR=5.5						
SONM	Songino Array	50.27	6	P	P	09 08 55.7	+0.7
	1.5nm,0.7s,mb4.1,baz=188,slow=8.5,SNR=12						
MKAR	Makanchi Array	51.13	345	P	P	09 09 02.0	+0.4
	1.1nm,0.6s,mb4.0,baz=148,slow=8.2,SNR=9.5						
KURK	Kurchatov	55.70	344	P	P	09 09 34.7	-0.4
	0.6nm,0.8s,mb3.7,baz=168,slow=6.7,SNR=5.7						
ZALV	Zalesovo Beam	57.33	350	P	P	09 09 46.4	-0.2
	1.4nm,0.7s,mb4.1,baz=165,slow=6.2,SNR=7.4						
TXAR	Lajitas Array	145.26	37	PKPbc	PKPbc	09 19 37.6	+0.7
	0.7nm,0.7s,baz=254,slow=1.2,SNR=7.0						

*CSEM **01** 09:04:02.5, 36°.29N×22°.01E, h26km, MD3.4, After ATH*
*THE **01** 09:04:03.8, 36°.36N×22°.04E, h6km±13km, ML2.3/2, Error ellipse: s-maj=13.4km s-min=0.6km az=148.0*
ATH 01 09:04:02.7, 36°.30N×22°.02E, h29km±1km, **MD3.4**/6, **Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PYL	PYLOS	0.64	339	ePN	Pn	09 04 15.2	-0.5
PYL				eSN	Sn	09 04 25.2	+0.3
PYL	PYLOS	0.64	339	P	Pb	09 04 14.8	-0.5
PYL	PYLOS	0.64	339	ePn	Pn	09 04 15.2	-0.5
PYL				eSn	Sn	09 04 25.2	+0.3
PYL	PYLOS	0.64	339	P	Pb	09 04 14.8	-0.5
PYL	PYLOS	0.64	339	ePn	Pn	09 04 15.2	-0.5
PYL				eSn	Sn	09 04 25.2	+0.3
KYTH	Kithira	0.82	91	ePN	Pn	09 04 19.2	+0.9
KYTH	Kithira	0.82	91	P	Pn	09 04 18.9	+0.6
KYTH	Kithira	0.82	91	ePn	Pn	09 04 19.3	+1.0
KYTH	Kithira	0.82	91	P	Pn	09 04 18.9	+0.6
KYTH	Kithira	0.82	91	ePn	Pn	09 04 19.3	+1.0
VLI	Veliai	0.85	60	ePN	Pn	09 04 19.1	+0.4
VLI				eSN	Sn	09 04 31.8	+1.7
VLI	Veliai	0.85	60	P	Pn	09 04 18.8	+0.1
VLI				S	Sb	09 04 31.0	+1.1
VLI	Veliai	0.85	60	ePn	Pn	09 04 19.1	+0.4
VLI				eSn	Sn	09 04 31.8	+1.7
VLI	Veliai	0.85	60	P	Pn	09 04 18.8	+0.1
VLI	Veliai	0.85	60	ePn	Pn	09 04 19.1	+0.4
VLI				S	Sb	09 04 31.0	+1.1
VLI				eSn	Sn	09 04 31.8	+1.7
ITM	Ithomi	0.88	355	ePN	Pn	09 04 19.5	+0.4
ITM				eSN	Sn	09 04 32.6	+1.6
ITM	Ithomi	0.88	355	P	Pn	09 04 19.4	+0.3
ITM	Ithomi	0.88	355	ePn	Pn	09 04 19.5	+0.4
ITM				eSn	Sn	09 04 32.6	+1.6
ITM	Ithomi	0.88	355	P	Pn	09 04 19.4	+0.3
ITM				eSn	Sn	09 04 32.6	+1.6
VLX	Vlachokerasia	1.11	15	ePN	Pn	09 04 23.4	+1.2
VLX				eSN	Sn	09 04 39.0	+2.5
VLX	Vlachokerasia	1.11	15	P	Pn	09 04 23.3	+1.1
VLX				S	Sn	09 04 38.5	+2.0
VLX	Vlachokerasia	1.11	15	ePn	Pn	09 04 23.4	+1.2
VLX				eSn	Sn	09 04 40.3	+3.8
VLX	Vlachokerasia	1.11	15	P	Pn	09 04 23.3	+1.1
VLX				S	Sn	09 04 38.5	+2.0
VLX				eSn	Sn	09 04 40.3	+3.8
GUR	Goura	1.65	9	ePN	Pn	09 04 32.0	+2.3
GUR	Goura	1.65	9	ePn	Pn	09 04 32.2	+2.5
GUR	Goura	1.65	9	ePn	Pn	09 04 32.2	+2.5

*IDC **01** 09:23:54.0±0.9, 27°.94N×85°.02E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=33.6km s-min=18.4km az=62.0*
*NEIC **01** 09:23:55.5±0.6, 27°.97N×85°.10E, h10km, Error ellipse: s-maj=14.6km s-min=8.6km az=48.0*
*DMN **01** 09:24:00.0±0.3, 28°.18N×85°.29E, h10km, Ml5.0/7, Error ellipse: s-maj=5.9km s-min=3.1km az=11.0*
ISC 01 09:24:00.2±0.7, **28°.16N**±0°.05×**85°.33E**±0°.03, **h31**km±5km, **n34**, σ**1s.06**/44, **mb3.6**/8, **Nepal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KKN	Kakani	0.37	186	ePg	Pb	09 24 08.2	-0.6
KKN				eSg	Sb	09 24 14.1	-0.5
	7μm,0.2s						
GUN	Gumba	0.55	117	ePg	Pb	09 24 11.9	+0.4
GUN				eSg	Sb	09 24 20.0	+0.8
	20μm,0.5s						
DMN	Daman	0.58	199	ePg	Pb	09 24 11.6	-0.5
DMN				eSg	Sb	09 24 19.5	-0.6
	6μm,0.4s						
PKI	Pulchoki	0.59	173	ePg	Pb	09 24 11.7	-0.5
PKI				eSg	Sb	09 24 20.2	-0.2
	8μm,0.3s						
JIRN	Jiri	0.92	123	ePg	Pn	09 24 17.9	+0.9
JIRN				eSg	Sn	09 24 30.2	+1.1
	5μm,0.2s						
DANN	Dangsing	1.39	278	ePn	Pn	09 24 24.0	+0.4
DANN				eSn	Sn	09 24 40.7	-0.2
	4μm,0.2s						
KOLN	Koldanda	1.57	256	ePg	Pn	09 24 28.1	+2.0
KOLN				eSg	Sn	09 24 47.6	+2.2
	4μm,0.2s						
RAMN	Ramite	1.66	137	ePn	Pn	09 24 28.1	+0.9
RAMN				eSn	Sn	09 24 47.1	-0.3
	4μm,0.3s						
PYUN	Piuthan	2.06	269	eSn	Sn	09 24 57.7	+0.2
	590nm,0.3s						
ODAN	Odare	2.25	125	eSn	Sn	09 25 00.9	-1.1
	1μm,0.3s						
TAPN	Taplejung	2.26	110	ePn	Pn	09 24 37.2	+1.7
TAPN				eSn	Sn	09 25 02.3	-0.1
	973nm,0.4s						
GTK	Gangtok	3.03	105	ePKP	Pn	09 24 49.5	+3.4
GTK				eS	Sn	09 25 20.5	-0.9
BOK	Bokaro	4.38	173	ex	Pn	09 25 06.0	+1.3
BOK				ex	x	09 25 52.0	
LSA	Lhasa	5.33	72	Pn	Pn	09 25 18.4	+0.7
	16nm,0.4s						
SHL	Shillong	6.40	112	ex	Pn	09 25 33.0	+0.5
SHL				ex	x	09 26 40.0	
CHTO	Chiang Mai	15.57	124	ePn	Pn	09 27 35.7	-1.8
MKAR	Makanchi Array	18.75	354	P	Pn	09 28 17.1	-0.1
	0.2nm,0.3s,baz=169,slow=12,SNR=11						
MKAR	Makanchi Array	18.75	354	P	Pn	09 28 17.1	-0.1
KURK	Kurchatov	23.09	349	P	P	09 29 02.2	-1.1
	0.2nm,0.3s,mb3.0,baz=169,slow=10,SNR=2.5						
KURK	Kurchatov	23.09	349	P	P	09 29 02.2	-1.1
SONM	Songino Array	25.57	34	P	P	09 29 27.7	+1.3
	1.1nm,0.8s,mb3.4,baz=227,slow=9.6,SNR=8.6						
SONM	Songino Array	25.57	34	P	P	09 29 27.7	+1.3
ZALV	Zalesovo Beam	25.76	359	P	P	09 29 28.2	+0.1
	0.8nm,0.4s,mb3.6,baz=175,slow=7.3,SNR=3.7						
ZALV	Zalesovo Beam	25.76	359	P	P	09 29 28.2	+0.1
FINES	FINESS Array B	51.05	328	P	P	09 32 57.9	-1.4
	2.9nm,0.8s,mb4.3,baz=95,slow=6.7,SNR=5.8						
FINES	FINESS Array B	51.05	328	P	P	09 32 57.9	-1.4
ARCES	ARCESS Array B	53.44	338	P	P	09 33 15.8	-1.1
	1.3nm,0.7s,mb4.0,baz=99,slow=8.0,SNR=3.9						
ARCES	ARCESS Array B	53.44	338	P	P	09 33 15.8	-1.1
WRA	Warramunga Arr	67.32	130	P	P	09 34 51.7	-0.7
	0.5nm,0.5s,mb3.8,baz=322,slow=6.4,SNR=12						
WRA	Warramunga Arr	67.32	130	P	P	09 34 51.7	-0.7
ASAR	Alice Springs	69.62	133	P	P	09 35 05.5	-1.3
	0.4nm,0.6s,mb3.5,baz=316,slow=6.4,SNR=10						
ASAR	Alice Springs	69.62	133	P	P	09 35 05.5	-1.3
TORD	Torodi Ar. Bea	78.37	279	P	P	09 35 55.7	-2.5
	0.5nm,0.6s,mb3.6,baz=56,slow=4.7,SNR=3.5						
TORD	Torodi Ar. Bea	78.37	279	P	P	09 35 55.7	-2.5

CASC 01 09:29:38.9±2.7, **13°.31N**×**88°.91W**, **h70**km±17km, **MD3.7**, **ML3.5**, **El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SNVI	San Vicente	0.31	13	eP	Pn	09 29 50.3	+0.1
SNVI				eS	Sn	09 30 00.1	+1.7
SNET	Serv Nac Est T	0.49	320	eP	Pn	09 29 51.3	-0.3
BOQS	Boqueron	0.55	320	eP	Pn	09 29 52.5	+0.2
VSM	San Miguel	0.63	79	eP	Pn	09 29 53.4	+0.4
CAHU	Cacacuatique	0.82	56	eP	Pn	09 29 56.7	+1.5
SBLS	San Blas	0.87	307	eP	Pn	09 29 56.3	+0.5
CNCH	Conchagua	1.05	92	eP	Pn	09 29 57.7	-0.3
TGUH	Tegucigalpa,Un	1.76	65	eP	Pn	09 30 08.9	+1.6
NBG	Las Nubes	1.89	312	eP	Pn	09 30 10.5	+1.5
NBG				eS	Sn	09 30 31.8	-0.1
CRIN	San Cristobal	1.91	108	eP	Pn	09 30 08.7	-0.7
CRIN				eS	Sn	09 30 33.5	+0.9
CRIN				AML	AML	09 30 37.6	
	comp=E,439nm,0.2s						
FUG	Fuego 3	2.19	301	eP	Pn	09 30 14.9	+1.8
FUG				eS	Sn	09 30 40.6	+1.4
FG6		2.28	303	eP	Pn	09 30 16.5	+2.1
FG6				eS	Sn	09 30 42.2	+0.7
TP2	Tecpan 2	2.52	306	eP	Pn	09 30 18.8	+1.3
TP2				eS	Sn	09 30 47.1	-0.1
JAT	Jato	2.83	291	eP	Pn	09 30 24.0	+2.1
JAT				eS	Sn	09 30 55.8	+1.0

*DDA **01** 09:32:25.8, 38°.76N×26°.20E, h5km±6km, Md2.8*
*ATH **01** 09:32:26.5, 38°.74N×26°.25E, h23km±1km, MD3.3/5*
*ISK **01** 09:32:26.3, 38°.75N×26°.27E, h12km, MD3.1*
*ISCJB **01** 09:32:26.5±0.5, 38°.74N±0°.02×26°.25E±0°.04, h12km±4km, Error ellipse: s-maj=5.2km s-min=3.4km az=170.5*
*THE **01** 09:32:26.8, 38°.74N×26°.22E, h0km±1km, ML2.4/3, Error ellipse: s-maj=2.8km s-min=0.7km az=96.0*
*CSEM **01** 09:32:27.0±0.2, 38°.72N×26°.22E, h20km, ML2.4/3, Error ellipse: s-maj=5.2km s-min=3.3km az=76.0*
ISC 01 09:32:26.9±0.5, **38°.73N**±0°.02×**26°.23E**±0°.04, **h13**km±4km, **n84**, σ**0s.73**/104, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHOS	Chios island	0.37	201	ePB	Pg	09 32 34.5	+0.2
CHOS				eSB	Sg	09 32 41.1	+1.9
CHOS	Chios island	0.37	201	P	Pg	09 32 34.1	-0.2
CHOS				S	Sg	09 32 40.3	+1.1
CHOS	Chios island	0.37	201	ePb	Pg	09 32 34.5	+0.2
CHOS				eSb	Sg	09 32 41.1	+1.9
CHOS	Chios island	0.37	201	P	Pg	09 32 34.1	-0.2
CHOS	Chios island	0.37	201	ePb	Pg	09 32 34.5	+0.2
CHOS				S	Sg	09 32 40.3	+1.1
CHOS				eSb	Sg	09 32 41.1	+1.9
URLA	Izmir	0.47	142	iP	Pg	09 32 35.2	-0.9
URLA	Izmir	0.47	142	iP	Pg	09 32 35.2	-0.9
URLA	Izmir	0.47	142	iP	Pg	09 32 35.2	-0.9
PRK	Paraskevi	0.52	4	ePN	Pg	09 32 36.8	-0.3
PRK	Paraskevi	0.52	4	P	Pg	09 32 36.5	-0.6
PRK				S	Sg	09 32 44.8	+0.8
PRK	Paraskevi	0.52	4	ePn	Pg	09 32 36.8	-0.3
PRK	Paraskevi	0.52	4	P	Pg	09 32 36.5	-0.6
PRK	Paraskevi	0.52	4	ePn	Pg	09 32 36.8	-0.3
PRK				S	Sg	09 32 44.8	+0.8
SIGR	SIGRI	0.56	329	P	Pg	09 32 37.2	-0.7
SIGR				S	Sg	09 32 46.0	+0.6
SIGR	SIGRI	0.56	329	P	Pg	09 32 37.2	-0.7
SIGR				S	Sg	09 32 46.0	+0.6
AYVA	Ayvalik	0.68	32	iP	Pg	09 32 39.5	-0.7
AYVA	Ayvalik	0.68	32	iP	Pg	09 32 39.5	-0.7
AYVA	Ayvalik	0.68	32	iP	Pg	09 32 39.5	-0.7
BLCB	Balcova	0.73	118	ePG	Pg	09 32 40.6	-0.4
BLCB				eSG	Sg	09 32 50.9	+0.3
BLCB	Balcova	0.73	118	ePg	Pg	09 32 40.6	-0.4
BLCB				eSg	Sg	09 32 50.9	+0.4
BLCB	Balcova	0.73	118	ePg	Pg	09 32 40.6	-0.4
BLCB				eSg	Sg	09 32 50.9	+0.4
IZM	Izmir	0.88	112	ePG	Pg	09 32 43.4	-0.4
IZM				eSG	Sg	09 32 55.7	+0.3
IZM	Izmir	0.88	112	ePg	Pg	09 32 43.4	-0.5
IZM				eSg	Sg	09 32 55.7	+0.4
IZM	Izmir	0.88	112	ePg	Pg	09 32 43.4	-0.5
IZM				eSg	Sg	09 32 55.7	+0.4
EZN	Ezine	1.10	4	ePG	Pg	09 32 47.3	-0.7
EZN				eSG	Sg	09 33 02.7	+0.3
EZN	Ezine	1.10	4	ePg	Pg	09 32 47.3	-0.8
EZN				eSg	Sg	09 33 02.7	+0.3
EZN	Ezine	1.10	4	ePg	Pg	09 32 47.3	-0.8
EZN				eSg	Sg	09 33 02.7	+0.3
SMG	Samos	1.13	155	ePN	Pn	09 32 48.1	-0.2
SMG	Samos	1.13	155	ePn	Pn	09 32 48.1	-0.2
SMG	Samos	1.13	155	ePn	Pn	09 32 48.1	-0.2
AKHS	Akhisar	1.25	83	iP	Pn	09 32 49.1	-0.9
AKHS				iS	Sb	09 33 09.1	+2.8
AKHS	Akhisar	1.25	83	iP	Pn	09 32 49.1	-0.9
AKHS	Akhisar	1.25	83	iP	Pn	09 32 49.1	-0.9
AKHS				iS	Sb	09 33 09.1	+2.8
LIA	Limnos Island	1.42	326	ePN	Pn	09 32 53.0	+0.6
LIA	Limnos Island	1.42	326	P	Pn	09 32 53.1	+0.7
LIA	Limnos Island	1.42	326	ePn	Pn	09 32 53.0	+0.6
LIA	Limnos Island	1.42	326	ePn	Pn	09 32 53.0	+0.6
BALY	Balya	1.48	47	iP	Pn	09 32 53.1	-0.1
BALY	Balya	1.48	47	iP	Pn	09 32 53.1	-0.1
BALY	Balya	1.48	47	iP	Pn	09 32 53.1	-0.1
GADA	Gvkgeada	1.48	350	ePN	Pn	09 32 53.8	+0.6
GADA	Gvkgeada	1.48	350	ePn	Pn	09 32 53.8	+0.6
GADA	Gvkgeada	1.48	350	ePn	Pn	09 32 53.8	+0.6
BALB	Balikesir	1.57	54	ePN	Pn	09 32 54.4	-0.1
BALB	Balikesir	1.57	54	ePn	Pn	09 32 54.4	-0.1
BALB	Balikesir	1.57	54	ePn	Pn	09 32 54.4	-0.1
GELI	Tayfur-Gelibol	1.68	6	ePN	Pn	09 32 55.5	-0.4
GELI	Tayfur-Gelibol	1.68	6	ePn	Pn	09 32 55.5	-0.4
GELI	Tayfur-Gelibol	1.68	6	ePn	Pn	09 32 55.5	-0.4
LPK	Lapseki	1.69	14	ePN	Pn	09 32 56.0	-0.1
LPK	Lapseki	1.69	14	ePn	Pn	09 32 56.1	0.0
LPK	Lapseki	1.69	14	ePn	Pn	09 32 56.1	0.0
GONE	Gonen-Balikesi	1.73	40	ePN	Pn	09 32 56.5	-0.2
GONE	Gonen-Balikesi	1.73	40	ePn	Pn	09 32 56.5	-0.2
GONE	Gonen-Balikesi	1.73	40	ePn	Pn	09 32 56.5	-0.2
APE	Apeiranthos	1.75	199	ePN	Pn	09 32 57.6	+0.7
APE	Apeiranthos	1.75	199	ePb	Pb	09 32 56.4	-2.4
KRBG	Karabiga-Canak	1.86	26	ePN	Pn	09 32 57.9	-0.5
KRBG	Karabiga-Canak	1.86	26	ePn	Pn	09 32 57.9	-0.5
KRBG	Karabiga-Canak	1.86	26	ePn	Pn	09 32 57.9	-0.5
BODT	Bodrum	1.87	152	ePN	Pn	09 32 58.8	+0.2
BODT	Bodrum	1.87	152	ePn	Pn	09 32 58.8	+0.2
BODT	Bodrum	1.87	152	ePn	Pn	09 32 58.8	+0.2
KULA	Kula-Manisa	1.92	96	ePN	Pn	09 32 59.9	+0.7
KULA	Kula-Manisa	1.92	96	ePn	Pn	09 32 59.9	+0.7
KULA	Kula-Manisa	1.92	96	ePn	Pn	09 32 59.9	+0.7
DURS	Dursunbey	1.95	63	iP	Pn	09 32 59.5	-0.1
DURS	Dursunbey	1.95	63	iP	Pn	09 32 59.5	-0.2
DURS	Dursunbey	1.95	63	iP	Pn	09 32 59.5	-0.2
ERIK	Erikli-Kesan	1.95	6	ePN	Pn	09 32 59.8	+0.1
ERIK	Erikli-Kesan	1.95	6	ePn	Pn	09 32 59.8	+0.1
ERIK	Erikli-Kesan	1.95	6	ePn	Pn	09 32 59.8	+0.1
RKY	Sarkoy-Tekirda	2.09	20	ePN	Pn	09 33 01.5	-0.1
RKY	Sarkoy-Tekirda	2.09	20	ePn	Pn	09 33 01.5	-0.1
RKY	Sarkoy-Tekirda	2.09	20	ePn	Pn	09 33 01.5	-0.1
MRMT	Marmara Adasi	2.15	29	ePN	Pn	09 33 02.3	-0.1
MRMT	Marmara Adasi	2.15	29	ePn	Pn	09 33 02.3	-0.1
MRMT	Marmara Adasi	2.15	29	ePn	Pn	09 33 02.3	-0.1
MFT	Murefte	2.21	21	ePN	Pn	09 33 03.5	+0.3
MFT	Murefte	2.21	21	ePn	Pn	09 33 03.5	+0.3
MFT	Murefte	2.21	21	ePn	Pn	09 33 03.5	+0.3
ALT	Altintas	3.05	83	ePN	Pn	09 33 15.0	+0.2
ALT	Altintas	3.05	83	ePn	Pn	09 33 15.0	+0.2
ALT	Altintas	3.05	83	ePn	Pn	09 33 15.0	+0.2

*CSEM **01** 09:57:04.4, 40°.11N×20°.93E, h32km, MD3.4, After ATH*
ATH 01 09:57:04.6, 40°.10N×20°.93E, h32km±7km, **MD3.4**/3, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAN	Janina	0.45	188	ePB	Pb	09 57 14.8	+0.5
JAN				eSB	Sb	09 57 21.6	+0.7
JAN	Janina	0.45	188	ePb	Pb	09 57 14.8	+0.5
JAN				eSb	Sb	09 57 21.6	+0.7
BIA	Bitola	0.97	18	ePg	Pn	09 57 23.4	+1.5
BIA				iSg	Sn	09 57 38.4	+3.9
THL	Klokotos Trika	0.99	122	ePN	Pn	09 57 23.1	+0.8
THL				eSN	Sn	09 57 37.6	+2.5
THL	Klokotos Trika	0.99	122	ePb	Pb	09 57 22.6	-0.6
THL				eSn	Sn	09 57 37.7	+2.6
KRUS	Krusevo	1.29	11	iPg	Pn	09 57 30.6	+4.2
EVR	Evrytania	1.36	150	ePN	Pn	09 57 29.2	+1.8
EVR	Evrytania	1.36	150	ePn	Pn	09 57 29.3	+1.9

*DDA **01** 10:11:02.2, 36°.98N×31°.70E, h4km±7km, Md3.2*
*ISCJB **01** 10:11:13.8±0.8, 36°.92N±0°.06×31°.38E±0°.04, h24km±11km, Error ellipse: s-maj=10.5km s-min=5.8km az=0.4*
*CSEM **01** 10:11:13.8, 36°.94N×31°.32E, h16km, MD2.9, After ISK*
*ISK **01** 10:11:13.8, 36°.94N×31°.32E, h16km, MD2.9*
ISC 01 10:11:13.1±1.1, **36°.92N**±0°.05×**31°.37E**±0°.04, **h13**km±8km, **n13**, σ**1s.04**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KORT	Korkueli	0.82	276	eP	Pg	10 11 23.0	-5.9
KORT				eS	Sg	10 11 39.0	-0.6
HDMB	Hadim	0.90	87	ePG	Pg	10 11 31.7	+1.2
HDMB				eSG	Sg	10 11 46.4	+4.2
HDMB	Hadim	0.90	87	ePg	Pg	10 11 31.7	+1.2
HDMB				eSg	Sg	10 11 46.4	+4.2
GAZI	Gazipasa	1.02	131	eP	Pb	10 11 32.1	-0.5
GAZI				eS	Sb	10 11 46.7	+0.8
ELL	Elmali	1.18	262	ePN	Pn	10 11 34.9	-0.4
ELL				eSN	Sn	10 11 52.4	+1.1
ELL	Elmali	1.18	262	ePn	Pn	10 11 34.9	-0.4
ELL				eSn	Sn	10 11 52.4	+1.2
ERMK	Ermenek	1.27	102	eP	Pn	10 11 20.4	-16
ERMK				eS	Sb	10 11 38.0	-15
KONT	Konya--Tatoy	1.30	37	ePN	Pn	10 11 37.4	+0.5
KONT				eSN	Sn	10 11 56.0	+1.9
KONT	Konya--Tatoy	1.30	37	ePn	Pn	10 11 37.4	+0.5
KONT				eSn	Sn	10 11 56.0	+1.9
KDHN	Kadinhani	1.71	20	eP	Pn	10 11 41.5	-1.1
KDHN				eS	Sn	10 12 03.8	-0.5
KIZT	Kizilcal	2.00	12	ePN	Pn	10 11 47.0	+0.5
KIZT	Kizilcal	2.00	12	ePn	Pn	10 11 47.0	+0.4
GULE	Gulek	2.75	81	eP	Pn	10 11 55.8	-1.1
GULE				eS	Sn	10 12 28.2	-1.7

*BJI **01** 10:18:31.4, 35°.46N×45°.44E, h10km, mB5.0/20, mb4.6/34, Ms5.0/15, Ms7 4.3/17*
*SZGRF **01** 10:18:34.6, 34°.25N×45°.35E, h33km, mb5.1, Iran-Iraq border region*
*ISCJB **01** 10:18:36.6±0.1, 35°.27N±0°.02×46°.11E±0°.02, h15km, mb4.8/143, MS3.8/27, Error ellipse: s-maj=2.6km s-min=1.8km az=32.7*
*CSEM **01** 10:18:38.0±0.1, 35°.33N×46°.18E, h10km, mb4.9/37, Ms3.5, Error ellipse: s-maj=4.5km s-min=3.7km az=37.0*
*SGS **01** 10:18:38.2, 35°.90N×46°.11E, h79km*
*TEH **01** 10:18:38.2, 35°.34N×46°.25E, h4km*
*IDC **01** 10:18:39.4±2.7, 35°.46N×46°.13E, h20km±16km, mb4.5/25, mb1 4.6/32, mb1mx4.5/35, mbtmp4.5/32, ML4.3/6, MS3.7/20, Ms1 3.7/20, ms1mx3.5/39, Error ellipse: s-maj=13.8km s-min=9.9km az=159.0*
*THR **01** 10:18:39.6±1.5, 35°.42N×46°.44E, h14km±11km, ML4.2*

NEIC **01** *10:18:40.1, 35.30N×46.54E, h28^{km}, mb5.0/32, MN4.7(TEH), After TEH.*
MOS **01** *10:18:41.6±1.4, 35.38N×46.15E, h52^{km}, mb4.9/42, Error ellipse: s-maj=5.9km s-min=3.6km az=116.2*
DJA **01** *10:18:44, 34.96N×45.90E, h70^{km}, mb4.6/7*
ISC 01 10:18:38.8±0.1**, 35.31N**±0.01×**46.12E**±0.02**, h16^{km}, h16^{km}**±2.0^{km}**:pP-P, n660,** σ1^{s}20/683**, mb4.8**/142**, MS3.8**/27**, 50C-35D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.65**	**160⇓**	*e*Pg	**Pg**	**10 18 50.1**	**-1.5**
IDHR				*e*Sg	**Sg**	**10 19 01.7**	**+1.5**
IDHR				*e*		10 19 05.5	
	comp=Z,80µm,0.1s						
IDHR	**Dehrash**	**0.65**	**160**	*e*Pg	**Pg**	**10 18 49.8**	**-1.8**
IDHR	**Dehrash**	**0.65**	**160⇓**	*e*Pg	**Pg**	**10 18 50.1**	**-1.5**
IDHR				*e*Sg	**Sg**	**10 19 01.7**	**+1.5**
ILIN	**Lien**	**0.80**	**119**	*e*Pg	**Pg**	**10 18 50.6**	**-3.7**
ILIN				*e*		10 19 09.3	
	comp=Z,85µm,0.1s						
ILIN	**Lien**	**0.80**	**119**	*e*Pg	**Pg**	**10 18 50.6**	**-3.7**
IVIS	**Veis**	**0.99**	**142**	*e*Pg	**Pg**	**10 18 54.6**	**-3.4**
IVIS				*e*		10 19 25.4	
	comp=Z,81µm,0.2s						
IVIS	**Veis**	**0.99**	**142**	*e*Pg	**Pg**	**10 18 55.0**	**-3.0**
SNGE	**Sanandaj**	**1.03**	**102**	*e*Pg	**Pg**	**10 18 54.1**	**-4.7**
SNGE				AML	AML	10 19 20.1	
	comp=E,9µm,0.6s						
IGHG	**Ghaleghazi**	**1.05**	**159⇓**	*e*Pg	**Pg**	**10 18 57.8**	**-1.3**
IGHG				*e*		10 19 34.1	
	comp=Z,35µm,0.4s						
IGHG	**Ghaleghazi**	**1.05**	**159**	*e*Pn	**Pn**	**10 18 58.1**	**-0.7**
IGHG	**Ghaleghazi**	**1.05**	**159⇓**	*e*Pg	**Pg**	**10 18 57.8**	**-1.3**
IKOM	**Komasi**	**1.61**	**134**	*e*	**Pg**	**10 19 11.6**	**+1.8**
	comp=Z,48µm,0.3s						
IKOM				*e*Pn	**Pn**	**10 19 06.9**	**+0.3**
IKOM	**Komasi**	**1.61**	**134**	*e*Pn	**Pn**	**10 19 07.5**	**+0.9**
IAZR	**Azarshahr**	**2.36**	**357⇓**	*e*Pn	**Pn**	**10 19 17.0**	**+0.1**
IAZR				*e*		10 19 58.3	
	comp=N,387nm,0.1s						
IAZR				*e*		10 20 02.1	
	comp=Z,42µm,0.3s						
IAZR	**Azarshahr**	**2.36**	**357⇑**	*e*Pn	**Pn**	**10 19 17.3**	**+0.4**
IAZR				*e*Sg	**Sg**	**10 19 52.6**	**-2.2**
IAZR	**Azarshahr**	**2.36**	**357⇓**	*e*Pn	**Pn**	**10 19 17.0**	**+0.1**
IBST	**Bostanabad**	**2.46**	**14**	*e*Pn	**Pn**	**10 19 18.5**	**+0.2**
IBST				*e*Sg	**Sg**	**10 19 53.6**	**-4.4**
IBST				*e*		10 19 55.8	
	comp=Z,42µm,0.4s						
IBST	**Bostanabad**	**2.46**	**14**	*e*Pn	**Pn**	**10 19 18.5**	**+0.2**
IBST				*e*Sg	**Sg**	**10 19 53.6**	**-4.4**
ZNJK	**Zanjan**	**2.48**	**56**	*e*Pn	**Pn**	**10 19 18.0**	**-0.5**
ZNJK				*e*Sg	**Sn**	**10 19 49.1**	**+0.6**
ZNJK				AML	AML	10 20 00.9	
	comp=N,1µm,0.7s						
ZNJK	**Zanjan**	**2.48**	**56**	*e*Pn	**Pn**	**10 19 18.8**	**+0.3**
ZNJK	**Zanjan**	**2.48**	**56**	*e*Pn	**Pn**	**10 19 18.8**	**+0.3**
BHD	**Baghdad**	**2.49**	**216**	*e*x	**Pg**	**10 19 22.9**	**-3.7**
BHD				*i* x	**Sg**	**10 19 55.2**	**-3.8**
CUKT	**Cukurca**	**2.80**	**314**	*e*P	**Pn**	**10 19 22.8**	**-0.1**
ISRB	**Sarab**	**2.80**	**26**	*e*Pn	**Pn**	**10 19 23.1**	**+0.2**
ISRB				*e*Sg	**Sg**	**10 20 03.2**	**-5.6**
ISRB				*e*		10 20 08.8	
	comp=Z,25µm,0.2s						
ISRB	**Sarab**	**2.80**	**26**	*e*Pn	**Pn**	**10 19 23.0**	**+0.1**
ISRB	**Sarab**	**2.80**	**26**	*e*Pn	**Pn**	**10 19 23.1**	**+0.2**
ITBZ	**Tabriz**	**2.92**	**0**	*e*Pn	**Pn**	**10 19 24.4**	**-0.1**
ITBZ				*e*		10 20 13.7	
	comp=Z,23µm,0.3s						
ITBZ	**Tabriz**	**2.92**	**0**	*e*Pn	**Pn**	**10 19 24.6**	**+0.1**
ITBZ	**Tabriz**	**2.92**	**0**	*e*Pn	**Pn**	**10 19 24.4**	**-0.1**
HKR	**Hakkari**	**2.96**	**320**	*e*P	**Pn**	**10 19 26.1**	**+0.9**
HAKT	**HAKKARI**	**2.97**	**320**	*i* P	**Pn**	**10 19 25.0**	**-0.2**
HAKT	**HAKKARI**	**2.97**	**320**	*i* P	**Pn**	**10 19 25.0**	**-0.2**
HAKT	**HAKKARI**	**2.97**	**320**	*i* P	**Pn**	**10 19 25.0**	**-0.2**
ISHB	**Shabestar**	**2.99**	**352⇓**	*e*Pn	**Pn**	**10 19 25.4**	**-0.1**
ISHB				*e*Sg	**Sg**	**10 20 10.9**	**-4.0**
ISHB				*e*		10 20 20.6	
	comp=Z,42µm,0.3s						
ISHB	**Shabestar**	**2.99**	**352⇓**	*e*Pn	**Pn**	**10 19 25.4**	**-0.1**
IHRS	**Heris**	**3.09**	**14⇑**	*e*Pn	**Pn**	**10 19 27.5**	**+0.6**
IHRS				*e*Sg	**Sg**	**10 20 12.9**	**-5.2**
IHRS				*e*		10 20 18.0	
	comp=Z,38µm,0.5s						
IHRS	**Heris**	**3.09**	**14⇑**	*e*Pn	**Pn**	**10 19 27.6**	**+0.7**
IHRS	**Heris**	**3.09**	**14⇑**	*e*Pn	**Pn**	**10 19 27.5**	**+0.6**
ASAO	**Ashtian**	**3.30**	**102**	*e*Pn	**Pn**	**10 19 32.0**	**+2.2**
ASAO	**Ashtian**	**3.30**	**102**	*e*Pn	**Pn**	**10 19 31.9**	**+2.1**
ASAO	**Ashtian**	**3.30**	**102**	*e*Pn	**Pn**	**10 19 31.9**	**+2.1**
IMRD	**Marand**	**3.41**	**355**	*e*Pn	**Pn**	**10 19 31.8**	**+0.5**
IMRD				*e*		10 20 29.3	
	comp=Z,28µm,0.3s						
IMRD	**Marand**	**3.41**	**355⇑**	*e*Pn	**Pn**	**10 19 32.1**	**+0.8**
IMRD	**Marand**	**3.41**	**355**	*e*Pn	**Pn**	**10 19 31.8**	**+0.5**
SIRN	**S˜–rnak**	**3.70**	**307⇑**	*i*P	**Pn**	**10 19 35.7**	**+0.4**
SIRN	**S˜–rnak**	**3.70**	**307**	*i* P	**Pn**	**10 19 35.7**	**+0.5**
SIRN	**S˜–rnak**	**3.70**	**307**	*i* P	**Pn**	**10 19 35.7**	**+0.5**
GRMI	**Germi**	**3.77**	**22**	*e*Pn	**Pn**	**10 19 36.3**	**+0.1**
GRMI	**Germi**	**3.77**	**22**	*e*Pn	**Pn**	**10 19 36.7**	**+0.5**
GRMI	**Germi**	**3.77**	**22**	*e*Pn	**Pn**	**10 19 36.7**	**+0.5**
GEVA	**Gevas**	**3.87**	**322⇑**	*i*P	**Pn**	**10 19 39.1**	**+1.5**
GEVA	**Gevas**	**3.87**	**322**	*i* P	**Pn**	**10 19 39.1**	**+1.5**
GEVA	**Gevas**	**3.87**	**322**	*i* P	**Pn**	**10 19 39.1**	**+1.5**
TVAN	**Van**	**3.88**	**327⇓**	*i*P	**Pn**	**10 19 39.9**	**+2.2**
TVAN	**Van**	**3.88**	**327**	*i* P	**Pn**	**10 19 39.8**	**+2.1**
TVAN	**Van**	**3.88**	**327**	*i* P	**Pn**	**10 19 39.8**	**+2.1**
SHGR	**Shooshtar-Gavs**	**3.90**	**144**	*e*Pn	**Pn**	**10 19 40.9**	**+2.8**
SHGR				AML	AML	10 21 06.7	
	comp=E,609nm,0.7s						
SHGR	**Shooshtar-Gavs**	**3.90**	**144**	*e*Pn	**Pn**	**10 19 41.2**	**+3.2**
SHGR	**Shooshtar-Gavs**	**3.90**	**144**	*e*Pn	**Pn**	**10 19 41.2**	**+3.2**
THKV	**Tehran--Karaj**	**3.93**	**80**	*e*Pn	**Pn**	**10 19 38.7**	**+0.3**
THKV				AML	AML	10 21 01.4	
	comp=N,336nm,0.7s						
THKV				AML	AML	10 21 06.3	
	comp=E,407nm,0.7s						
THKV	**Tehran--Karaj**	**3.93**	**80**	*e*Pn	**Pn**	**10 19 39.4**	**+1.0**
THKV	**Tehran--Karaj**	**3.93**	**80**	*e*Pn	**Pn**	**10 19 39.4**	**+1.0**
VANB	**Van**	**3.94**	**327**	*e*P	**Pn**	**10 19 40.1**	**+1.6**
CHTH	**Charan**	**4.12**	**80**	*e*Pn	**Pn**	**10 19 40.9**	**-0.2**
CHTH	**Charan**	**4.12**	**80**	*e*Pn	**Pn**	**10 19 41.6**	**+0.5**
CHTH	**Charan**	**4.12**	**80**	*e*Pn	**Pn**	**10 19 41.6**	**+0.5**
MAKU	**Maku**	**4.19**	**345**	*e*Pn	**Pn**	**10 19 44.9**	**+2.9**
MAKU	**Maku**	**4.19**	**345**	*e*Pn	**Pn**	**10 19 43.5**	**+1.5**
MAKU	**Maku**	**4.19**	**345**	*e*Pn	**Pn**	**10 19 43.5**	**+1.5**
CLDR	**Caldiran**	**4.21**	**336**	*e*P	**Pn**	**10 19 42.9**	**+0.7**
GHVR	**GHOM**	**4.34**	**100**	*e*Pn	**Pn**	**10 19 44.8**	**+0.8**
GHVR	**GHOM**	**4.34**	**100**	*e*Pn	**Pn**	**10 19 44.8**	**+0.8**
BEST	**Besiri**	**4.67**	**305⇓**	*i*P	**Pn**	**10 19 49.3**	**+0.7**
MARD	**Mardin**	**4.75**	**296⇑**	*i*P	**Pn**	**10 19 49.3**	**-0.4**
DAMV	**Damavand**	**4.79**	**85**	*e*Pn	**Pn**	**10 19 50.3**	**+0.1**
DAMV				*e*Pg	**Pg**	**10 20 00.7**	**-10**
DAMV				AML	AML	10 21 23.3	
	comp=N,142nm,0.6s						
DAMV				AML	AML	10 21 34.3	
	comp=E,175nm,0.8s						
DAMV	**Damavand**	**4.79**	**85**	*e*Pn	**Pn**	**10 19 51.2**	**+1.0**
DAMV	**Damavand**	**4.79**	**85**	*e*Pn	**Pn**	**10 19 51.2**	**+1.0**
TUTA	**Tutak**	**4.86**	**328**	*e*P	**Pn**	**10 19 52.1**	**+0.9**
TUTA	**Tutak**	**4.86**	**328**	*e*P	**Pn**	**10 19 52.1**	**+1.0**
TUTA	**Tutak**	**4.86**	**328**	*e*P	**Pn**	**10 19 52.1**	**+1.0**
AGRB	**Hanur-Agry**	**4.93**	**331**	*e*P	**Pn**	**10 19 57.5**	**+5.4**
GNI	**Garni**	**4.95**	**348**	Pn	**Pn**	**10 19 54.6**	**+2.2**
	comp=E,6.4nm,0.3s,baz=222,slow=3.0,SNR=11						
GNI				Lg		10 21 12.2	
	baz=326,slow=18,SNR=1.4						
GNI				LR	LR	10 21 37.0	
	comp=E,200nm,18.5s,baz=81,slow=37						
GNI	**Garni**	**4.95**	**348**	*e*P	**Pn**	**10 19 56.1**	**+3.7**
GNI	**Garni**	**4.95**	**348**	Pn	**Pn**	**10 19 54.6**	**+2.2**
GNI				Lg		10 21 12.2	
GNI	**Garni**	**4.95**	**348**	P	**Pn**	**10 19 54.6**	**+2.2**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,200nm,18.5s						
GNI	**Garni**	**4.95**	**348**	P	**Pn**	**10 19 56.5**	**+4.1**
	SNR=61						
GNI	**Garni**	**4.95**	**348**	Pn	**Pn**	**10 19 54.6**	**+2.2**
GNI	**Garni**	**4.95**	**348**	P	**Pn**	**10 19 56.5**	**+4.1**
	SNR=61						
GNI				Lg		10 21 12.2	
GNI	**Garni**	**4.95**	**348**	P	**Pn**	**10 19 54.6**	**+2.2**
	comp=Z,200nm,18.5s						
GNI				Lg		10 21 12.2	
VRTB	**Varto-Mus**	**5.34**	**317**	*e*P	**Pn**	**10 19 58.5**	**+0.6**
BNGB	**Bing˘¶l**	**5.69**	**312**	*e*P	**Pn**	**10 20 03.0**	**+0.4**
KARS	**Kars**	**5.82**	**337**	*e*P	**Pb**	**10 20 17.2**	**-2.7**
UMR	**Umm Al-Rimmam**	**5.90**	**166**	*e*P	**Pn**	**10 20 06.6**	**+1.1**
UMR				*e*S	**Sn**	**10 21 14.3**	**+1.5**
UMR				AML	AML	10 21 16.7	
	comp=Z,259nm,0.6s						
EZM	**Erzurum**	**5.94**	**322**	*e*P	**Pn**	**10 20 13.9**	**+7.9**
NASN	**Na'in**	**6.09**	**112**	*e*Pn	**Pn**	**10 20 08.8**	**+0.7**
NASN				Sn	**Sn**	**10 21 13.7**	**-3.8**
NASN	**Na'in**	**6.09**	**112**	*e*Pn	**Pn**	**10 20 09.9**	**+1.7**
NASN	**Na'in**	**6.09**	**112**	*e*Pn	**Pn**	**10 20 09.9**	**+1.7**
NAY	**Al-Naaiem**	**6.12**	**171**	*e*P	**Pn**	**10 20 09.7**	**+1.2**
NAY				*e*S	**Sn**	**10 21 19.9**	**+1.7**
NAY				AML	AML	10 21 22.7	
	comp=Z,99nm,0.6s						
DGRG	**David-gareji**	**6.16**	**355**	P	**Pn**	**10 20 12.4**	**+3.4**
DGRG				S	**Sg**	**10 21 56.6**	**+0.3**
KBD	**Kabd**	**6.26**	**167**	*e*P	**Pn**	**10 20 11.3**	**+0.8**
AKH	**Akhalkalaki**	**6.43**	**342**	P	**Pn**	**10 20 16.7**	**+4.0**
AKH				S	**Sg**	**10 22 17.2**	**+12**
PTK	**Pertek**	**6.45**	**306**	*e*P	**Pn**	**10 20 12.2**	**-0.8**
MTA	**Mtatsminda**	**6.46**	**351**	P	**Pn**	**10 20 17.6**	**+4.5**
MTA				S	**Sg**	**10 22 05.7**	**-0.2**
KOPT	**Kop Dagi**	**6.47**	**318**	*e*P	**Pn**	**10 20 16.9**	**+3.5**
RDF	**Al-Radifah**	**6.48**	**169**	*e*P	**Pn**	**10 20 15.3**	**+1.7**
RDF				*e*S	**Sn**	**10 21 29.6**	**+2.4**
RDF				AML	AML	10 21 30.6	
	comp=Z,302nm,0.6s						
TBLG	**Delisi**	**6.50**	**351**	*e*P	**Pn**	**10 20 16.9**	**+3.2**
TBLG	**Delisi**	**6.50**	**351**	P	**Pn**	**10 20 16.9**	**+3.3**
TBLG				S	**Sg**	**10 22 13.7**	**+6.4**
ERZN	**Erzincan**	**6.64**	**312**	*e*P	**Pn**	**10 20 16.5**	**+0.9**
QRN	**Al-Qurain**	**6.72**	**166**	*e*P	**Pn**	**10 20 18.4**	**+1.5**
QRN				AML	AML	10 21 38.2	
	comp=Z,180nm,0.3s						
GOR	**Gori**	**6.84**	**347**	P	**Pn**	**10 20 23.6**	**+5.1**
MYA	**Malataya**	**6.86**	**298**	*e*P	**Pn**	**10 20 19.2**	**+0.5**
BAYT	**Ayd˜–ntepe-Bay**	**6.93**	**319**	*e*P	**Pn**	**10 20 25.8**	**+6.1**
BCA	**Borcka**	**7.07**	**331**	*e*P	**Pn**	**10 20 27.2**	**+5.7**
KFJS		**7.27**	**167**	S	**Sn**	**10 21 45.4**	**-1.2**
KFJS		**7.27**	**167**	P	**Pn**	**10 20 25.2**	**+0.8**
KFJS		**7.27**	**167**	P	**Pn**	**10 20 25.2**	**+0.8**
KFJS				S	**Sn**	**10 21 45.4**	**-1.2**
GUMT	**Gumushane**	**7.34**	**316**	*e*P	**Pn**	**10 20 28.4**	**+3.1**
GAZ	**Gaziantep**	**7.43**	**287**	*e*P	**Pn**	**10 20 27.2**	**+0.7**
ONI	**Oni**	**7.56**	**345**	P	**Pn**	**10 20 32.0**	**+3.7**
ONI				S	Sb	10 23 16.8	+58
ZEI	**Tsey**	**7.64**	**348**	*e*P	**Pn**	**10 20 31.6**	**+2.2**
ZEI				pmax	pmax		
	comp=Z,35nm,0.8s						
ZEI				MLR	MLR		
	comp=Z,196nm,6.0s						
ZEI	**Tsey**	**7.64**	**348**	*e*P	**Pn**	**10 20 31.6**	**+2.2**
	comp=Z,196nm,6.0s						
MAK	**Makhachkala**	**7.71**	**8**	*e*P	**Pn**	**10 20 31.0**	**+0.6**
MAK				MLR	MLR		
	comp=Z,761nm,12.0s						
MAK	**Makhachkala**	**7.71**	**8**	*e*P	**Pn**	**10 20 31.0**	**+0.6**
	comp=Z,761nm,12.0s						
KMRS	**Kahramanmaras**	**7.75**	**289**	*e*P	**Pn**	**10 20 30.5**	**-0.3**
ASYS		**7.93**	**192**	S	**Sn**	**10 22 00.3**	**-2.4**
ASYS		**7.93**	**192**	P	**Pn**	**10 20 33.8**	**+0.4**
ASYS		**7.93**	**192**	P	**Pn**	**10 20 33.8**	**+0.4**
SARI	**SarD1z-Kayseri**	**8.25**	**297**	*e*P	**Pn**	**10 20 41.0**	**+3.2**
ASF	**Jabal al Asfar**	**8.29**	**250**	Pn	**Pn**	**10 20 39.7**	**+1.3**
	comp=Z,8.5nm,0.3s,baz=291,slow=10,SNR=30						
ASF				Lg		10 23 03.4	
	comp=Z,2.5nm,0.3s,baz=342,slow=19,SNR=3.2						
ASF				LR	LR	10 24 38.8	
	comp=Z,651nm,20.4s,baz=292,slow=43						
ASF	**Jabal al Asfar**	**8.29**	**250**	Pn	**Pn**	**10 20 39.7**	**+1.3**
ASF				Lg		10 23 03.4	
ASF	**Jabal al Asfar**	**8.29**	**250**	P	**Pn**	**10 20 39.7**	**+1.3**
ASF				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,651nm,20.4s						
HWQ	**Hawqa**	**8.43**	**266**	*e*P	**Pn**	**10 20 42.4**	**+2.2**
KOZT	**Kozan**	**8.57**	**288**	*e*P	**Pn**	**10 20 46.2**	**+4.0**
RCY	**Rachaya**	**8.69**	**261**	*e*P	**Pn**	**10 20 45.6**	**+1.8**
BHL	**Bhannes**	**8.74**	**264**	*e*P	**Pn**	**10 20 47.3**	**+2.8**
BNN	**Bunyan**	**8.93**	**296**	*e*P	**Pn**	**10 20 47.6**	**+0.5**
KIV	**Kislovodsk**	**9.03**	**344**	Pn	**Pn**	**10 20 48.0**	**-0.4**
	comp=Z,51nm,1.0s						
KIV	**Kislovodsk**	**9.03**	**344**	Pn	**Pn**	**10 20 55.6**	**+7.2**
	comp=Z,270nm,1.4s,SNR=6.5						
KIV	**Kislovodsk**	**9.03**	**344**	*e*P	**Pn**	**10 20 53.1**	**+4.7**
KIV				pmax	pmax		
	comp=Z,59nm,1.1s						
KIV				MLR	MLR		
	comp=Z,120nm,10.0s						
KIV	**Kislovodsk**	**9.03**	**344**	P	**Pn**	**10 20 54.6**	**+6.2**
	SNR=16						
KIV	**Kislovodsk**	**9.03**	**344**	Pn	**Pn**	**10 20 48.0**	**-0.4**
	comp=Z,51nm,1.0s						
KIV	**Kislovodsk**	**9.03**	**344**	Pn	**Pn**	**10 20 48.0**	**-0.4**
	comp=Z,51nm,1.0s						
MMAI	**Mount Meron Ar**	**9.17**	**259**	Pn	**Pn**	**10 20 51.9**	**+1.5**
	comp=Z,5.0nm,0.3s,baz=84,slow=16,SNR=15						
MMAI				Lg		10 23 34.0	
	comp=Z,5.9nm,0.3s,baz=75,slow=26,SNR=3.7						
MMAI	**Mount Meron Ar**	**9.17**	**259**	Pn	**Pn**	**10 20 51.9**	**+1.5**
MMAI				Lg		10 23 34.0	
MMAI	**Mount Meron Ar**	**9.17**	**259**	Pn	**Pn**	**10 20 51.8**	**+1.4**
MMAI	**Mount Meron Ar**	**9.17**	**259**	Pn	**Pn**	**10 20 51.8**	**+1.4**
TABS	**Tabas**	**9.23**	**97**	*e*Pn	**Pn**	**10 20 51.7**	**+0.4**
TABS	**Tabas**	**9.23**	**97**	*e*Pn	**Pn**	**10 20 52.6**	**+1.3**
SOC	**Sochi**	**9.62**	**331**	*e*P	**Pn**	**10 20 57.8**	**+1.2**
SOC				*e*		10 22 44.6	
SOC				pmax	pmax		
	comp=Z,92nm,0.9s						
SOC				MLR	MLR		
	comp=Z,1µm,14.0s						
SOC	**Sochi**	**9.62**	**331**	*e*P	**Pn**	**10 20 57.8**	**+1.2**
	comp=Z,92nm,0.9s						
SOC				*e*S	**Sn**	**10 22 44.6**	**+0.3**
	comp=Z,1µm,14.0s						
BRTR	**Keskin Array B**	**10.84**	**298**	Pn	**Pn**	**10 21 14.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=128,slow=12,SNR=64						
BRTR	**Keskin Array B**	**10.84**	**298**	Pn	**Pn**	**10 21 14.8**	**+1.5**
BRTR	**Keskin Array B**	**10.84**	**298**	P	**Pn**	**10 21 14.8**	**+1.5**
BRTR	**Keskin Array B**	**10.84**	**298**	Pn	**Pn**	**10 21 14.8**	**+1.5**
BRTR	**Keskin Array B**	**10.84**	**298**	P	**Pn**	**10 21 14.8**	**+1.5**
BR131	**Keskin Array S**	**10.84**	**298**	Pn	**Pn**	**10 21 14.1**	**+0.8**
	comp=Z,17nm,0.9s						
BR131	**Keskin Array S**	**10.84**	**298**	Pn	**Pn**	**10 21 14.1**	**+0.8**
	comp=Z,17nm,0.9s						
BR131	**Keskin Array S**	**10.84**	**298**	Pn	**Pn**	**10 21 14.1**	**+0.8**
	comp=Z,17nm,0.9s						
EIL	**Elat**	**10.98**	**242**	Pn	**Pn**	**10 21 16.2**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=354,slow=5.7,SNR=9.1						
EIL				Lg		10 24 33.6	
	comp=Z,3.1nm,0.3s,baz=78,slow=3.1,SNR=3.8						
EIL				LR	LR	10 26 34.9	
	comp=Z,712nm,19.0s,baz=77,slow=43						
EIL	**Elat**	**10.98**	**242**	Pn	**Pn**	**10 21 16.2**	**+1.1**
EIL				Lg		10 24 33.6	
EIL	**Elat**	**10.98**	**242**	Pn	**Pn**	**10 21 16.2**	**+1.1**
EIL	**Elat**	**10.98**	**242**	Pn	**Pn**	**10 21 16.2**	**+1.1**
SLWS		**11.19**	**158**	P	**Pn**	**10 21 15.9**	**-2.2**
SLWS		**11.19**	**158**	P	**Pn**	**10 21 15.9**	**-2.1**
ANN	**Anapa**	**11.57**	**328**	*e*P	**Pn**	**10 21 28.2**	**+5.0**
ANN				*e*S	**Sn**	**10 23 35.0**	**+3.0**
ANN				pmax	pmax		
	comp=Z,50nm,1.3s						
ANN				MLR	MLR		
	comp=N,241nm,14.0s						
ANN				MLR	MLR		
	comp=E,341nm,14.0s						
ANN				MLR	MLR		
	comp=Z,528nm,14.0s						
RAYN	**Ar Rayn**	**11.76**	**183**	Pn	**Pn**	**10 21 23.8**	**-2.1**
	comp=Z,149nm,0.5s,SNR=12						
BTHS		**11.95**	**159**	P	**Pn**	**10 21 26.1**	**-2.4**
BTHS		**11.95**	**159**	P	**Pn**	**10 21 26.1**	**-2.5**
BANOM	**Banah**	**12.82**	**134**	P	**Pn**	**10 21 37.7**	**-2.6**
	SNR=15						
BANOM	**Banah**	**12.82**	**134**	P	**Pn**	**10 21 37.7**	**-2.6**
	SNR=15						
NAZ	**Nazwa, Dubai**	**13.18**	**139**	P	**Pn**	**10 21 44.0**	**-1.4**
	SNR=17						
NAZ	**Nazwa, Dubai**	**13.18**	**139**	P	**Pn**	**10 21 44.0**	**-1.4**
	SNR=17						
SIM	**Simferopol'**	**13.29**	**320**	P	**Pn**	**10 21 50.3**	**+3.6**
SIM				pmax	pmax		
	comp=Z,17nm,0.8s						
SIM				MLR	MLR		
	comp=Z,170nm,12.6s						
ASUD	**Al Ashush, Dub**	**13.30**	**141**	P	**Pn**	**10 21 46.7**	**-0.2**
	SNR=10						
ASUD	**Al Ashush, Dub**	**13.30**	**141**	P	**Pn**	**10 21 46.7**	**-0.3**
	SNR=10						
HATD	**Hatta, Dubai**	**13.57**	**138**	P	**Pn**	**10 21 48.3**	**-2.4**
	SNR=25						
HATD	**Hatta, Dubai**	**13.57**	**138**	P	**Pn**	**10 21 48.3**	**-2.3**
	SNR=25						
ASHO	**Ashiyiah**	**13.64**	**138**	P	**Pn**	**10 21 48.6**	**-3.0**
	SNR=36						
HOQ	**Hoqain**	**15.21**	**137**	P	**Pn**	**10 22 09.1**	**-3.8**
	SNR=23						
KARP	**Karpathos**	**15.46**	**276**	*e*PN	**Pn**	**10 22 21.1**	**+5.0**
BSY	**Bisya**	**15.82**	**139**	P	**Pn**	**10 22 17.0**	**-3.8**
	SNR=31						
SMDO	**Samad**	**16.03**	**136**	P	**Pn**	**10 22 20.1**	**-3.5**
	SNR=46						
TIRR	**Tirgusor**	**16.35**	**309**	⇑P	**Pn**	**10 22 31.6**	**+4.1**
TIRR	**Tirgusor**	**16.35**	**309⇑**	*i*P	**Pn**	**10 22 31.6**	**+4.1**
TIRR	**Tirgusor**	**16.35**	**309**	P	**Pn**	**10 22 31.6**	**+4.1**
JMDO	**Jabal Madar**	**16.61**	**138**	P	**Pn**	**10 22 27.4**	**-3.6**
	SNR=24						
VSR	**Storozhevoye**	**16.67**	**345**	*e*P	**Pn**	**10 22 31.4**	**-0.1**
VSR				pmax	pmax		
	comp=Z,100nm,1.0s						
VSR				pmax	pmax		
	comp=N,180nm,1.1s						
VSR				pmax	pmax		
	comp=E,80nm,1.1s						
VSR				MLR	MLR		
	comp=Z,2µm,19.0s						
VSR				MLR	MLR		
	comp=N,460nm,11.0s						
VSR				MLR	MLR		
	comp=E,340nm,13.0s						
VSR	**Storozhevoye**	**16.67**	**345**	*e*P	**Pn**	**10 22 31.4**	**-0.1**
	comp=E,460nm,11.0s						
APE	**Apeiranthos**	**16.71**	**282**	*e*PB	**Pn**	**10 22 35.1**	**+2.9**
APE	**Apeiranthos**	**16.71**	**282**	⇑P	**Pn**	**10 22 35.3**	**+3.1**
APE	**Apeiranthos**	**16.71**	**282⇑**	*i*P	**Pn**	**10 22 35.3**	**+3.1**
APE	**Apeiranthos**	**16.71**	**282**	P	**Pn**	**10 22 35.3**	**+3.1**
NPS	**Neapolis**	**16.75**	**276**	*e*PN	**Pn**	**10 22 35.2**	**+2.6**
CFR	**Carcaliu**	**16.86**	**311**	⇑P	**Pn**	**10 22 38.0**	**+4.0**
CFR	**Carcaliu**	**16.86**	**311⇑**	*i*P	**Pn**	**10 22 38.0**	**+4.0**
CFR	**Carcaliu**	**16.86**	**311**	P	**Pn**	**10 22 38.0**	**+4.0**
AB31	**Akbulak array**	**17.24**	**32**	P	**Pn**	**10 22 37.3**	**-1.5**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AB31	**Akbulak array**	**17.24**	**32**	P	**Pn**	**10 22 37.3**	**-1.5**
	comp=Z,4.0nm,0.4s						
ABKAR	**Akbulak array**	**17.24**	**32**	*e*Pn	**Pn**	**10 22 37.6**	**-1.1**
ABKAR	**Akbulak array**	**17.24**	**32**	*e*Pn	**Pn**	**10 22 37.6**	**-1.2**
ABKAR	**Akbulak array**	**17.24**	**32**	*e*Pn	**Pn**	**10 22 37.6**	**-1.2**
IDI	**Anoyia**	**17.33**	**276**	*e*Pn	**Pn**	**10 22 41.0**	**+1.0**
	comp=Z,71nm,0.6s						
IDI	**Anoyia**	**17.33**	**276**	*e*Pn	**Pn**	**10 22 41.0**	**+1.0**
	comp=Z,71nm,0.6s						
IDI	**Anoyia**	**17.33**	**276**	*e*Pn	**Pn**	**10 22 41.0**	**+1.0**
	comp=Z,71nm,0.6s						
AKTO	**Aktyubinsk**	**17.41**	**26**	P	**Pn**	**10 22 38.3**	**-2.5**
	comp=Z,1.6nm,0.3s,baz=206,slow=9.3,SNR=39						
AKTO				LR	LR	10 31 04.2	
	comp=Z,110nm,18.2s,baz=28,slow=43						
AKTO	**Aktyubinsk**	**17.41**	**26**	P	**Pn**	**10 22 38.3**	**-2.5**
AKTO	**Aktyubinsk**	**17.41**	**26**	P	**Pn**	**10 22 38.3**	**-2.6**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,110nm,18.2s						
KIS	**Kishinev**	**17.45**	**317**	*e*P	**Pn**	**10 22 42.0**	**+0.7**
	comp=Z,200nm,2.0s						
KIS				*e*S	**Sn**	**10 25 49.0**	**-6.1**
KIS				*e*L		10 30 00.0	
KIS				LRM		10 33 18.0	
	comp=Z,500nm,14.0s						
KIS	**Kishinev**	**17.45**	**317**	*e*P	**Pn**	**10 22 42.0**	**+0.7**
KIS				*e*S	**Sn**	**10 25 49.0**	**-6.1**
KIS				pmax	pmax		
	comp=Z,170nm,2.0s						
KIS				MLR	MLR		
	comp=N,300nm,14.0s						
KIS				MLR	MLR		
	comp=Z,500nm,14.0s						
KIS				MLR	MLR		
	comp=Z,500nm,14.0s						
KIS	**Kishinev**	**17.45**	**317**	*e*P	**Pn**	**10 22 42.0**	**+0.7**
	comp=Z,170nm,2.0s						
ISR	**Istrita**	**17.83**	**309**	⇓P	**Pn**	**10 22 49.2**	**+3.1**
ISR	**Istrita**	**17.83**	**309⇓**	*i*P	**Pn**	**10 22 49.2**	**+3.1**
ISR	**Istrita**	**17.83**	**309**	P	**Pn**	**10 22 49.2**	**+3.1**
VAM	**Vamos**	**17.88**	**277**	*e*PN	**Pn**	**10 22 49.0**	**+2.2**
RZN	**Rozhen**	**17.90**	**297**	*e*P	**Pn**	**10 22 47.9**	**+0.9**
GVD	**Gavdhos**	**18.04**	**275**	*e*Pn	**Pn**	**10 22 48.3**	**-0.4**
	comp=Z,112nm,0.6s						
GVD	**Gavdhos**	**18.04**	**275**	*e*Pn	**Pn**	**10 22 48.3**	**-0.4**
	comp=Z,112nm,0.6s						
GVD	**Gavdhos**	**18.04**	**275**	*e*Pn	**Pn**	**10 22 48.3**	**-0.4**
	comp=Z,112nm,0.6s						
VRI	**Vrincioaia**	**18.06**	**312**	⇑P	**Pn**	**10 22 51.5**	**+2.5**
VRI	**Vrincioaia**	**18.06**	**312⇑**	*i*P	**Pn**	**10 22 51.5**	**+2.5**
VRI	**Vrincioaia**	**18.06**	**312**	P	**Pn**	**10 22 51.5**	**+2.5**
PLOR	**Plostina**	**18.11**	**311⇑**	*i*P	**Pn**	**10 22 49.2**	**-0.3**
NAIG	**Nisos Aigina**	**18.34**	**284**	*e*PB	**Pn**	**10 22 54.3**	**+1.9**
MLR	**Muntele Rosu**	**18.38**	**310**	P	**Pn**	**10 22 54.5**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=61,slow=6.3,SNR=10						
MLR	**Muntele Rosu**	**18.38**	**310**	P	**Pn**	**10 22 54.5**	**+1.8**
MLR	**Muntele Rosu**	**18.38**	**310**	P	**Pn**	**10 22 54.5**	**+1.7**
MLR	**Muntele Rosu**	**18.38**	**310⇑**	*i*P	**Pn**	**10 22 56.0**	**+3.2**
MLR	**Muntele Rosu**	**18.38**	**310**	P	**Pn**	**10 22 54.5**	**+1.7**
TESR		**18.43**	**313⇑**	*i*P	**Pn**	**10 22 52.6**	**-0.8**
NVR	**Nevrokopi**	**18.45**	**296**	*e*PB	**Pn**	**10 22 55.3**	**+1.6**
VIL1	**Vilia, Western**	**18.48**	**286**	*e*PN	**Pn**	**10 22 55.9**	**+1.8**
PGB	**Panagyurishte**	**18.51**	**300**	*e*P	**Pn**	**10 22 56.4**	**+1.9**
DID	**Didima**	**18.54**	**283**	*e*PN	**Pn**	**10 22 55.5**	**+0.6**
PLG	**Polygyros**	**18.59**	**293**	*e*PN	**Pn**	**10 22 57.6**	**+2.2**
MMB	**Musomiste**	**18.60**	**296**	*e*P	**Pn**	**10 22 56.0**	**+0.5**
KYTH	**Kithira**	**18.75**	**280**	*e*PN	**Pn**	**10 22 57.0**	**-0.3**
LKR	**Lokris**	**18.76**	**287**	*e*PN	**Pn**	**10 22 58.9**	**+1.4**
LTK	**Loutraki**	**18.76**	**285**	*e*PN	**Pn**	**10 22 58.2**	**+0.7**
VLI	**Veliai**	**18.80**	**281**	*e*PN	**Pn**	**10 22 56.6**	**-1.4**
KBL	**Kabul**	**18.81**	**86**	*e*P	**Pn**	**10 22 59.2**	**+1.0**
	comp=Z,16nm,1.1s						
KBL	**Kabul**	**18.81**	**86**	*e*P	**Pn**	**10 22 59.2**	**+1.0**
KBL				pmax	pmax		
	comp=Z,16nm,1.1s						
KBL	**Kabul**	**18.81**	**86**	*e*P	**Pn**	**10 22 59.2**	**+1.0**
	comp=Z,16nm,1.1s						
VOIR		**18.92**	**309**	⇓P	**Pn**	**10 23 00.7**	**+1.3**
VOIR		**18.92**	**309⇓**	*i*P	**Pn**	**10 23 00.7**	**+1.3**
VOIR		**18.92**	**309**	P	**Pn**	**10 23 00.7**	**+1.3**
DOPR	**Dopca**	**18.94**	**310⇑**	*i*P	**Pn**	**10 23 00.5**	**+0.9**
ABTO	**Aybut**	**19.00**	**158**	P	**Pn**	**10 22 56.8**	**-3.7**
	SNR=66						
KKB	**Krupnik**	**19.13**	**297**	*e*P	**Pn**	**10 23 01.9**	**0.0**
RBK	**Rabkut**	**19.14**	**156**	P	**Pn**	**10 22 58.9**	**-3.4**
	SNR=58						
VTS	**Vitosha**	**19.21**	**299**	⇑P	**Pn**	**10 23 04.7**	**+1.8**
VTS	**Vitosha**	**19.21**	**299**	*e*P	**Pn**	**10 23 02.8**	**-0.1**
VTS	**Vitosha**	**19.21**	**299⇑**	*i*P	**Pn**	**10 23 04.7**	**+1.8**
VTS	**Vitosha**	**19.21**	**299**	P	**Pn**	**10 23 04.7**	**+1.8**
VLX	**Vlachokerasia**	**19.23**	**283**	*e*PN	**Pn**	**10 23 02.9**	**-0.2**
GUR	**Goura**	**19.25**	**285**	*e*PN	**Pn**	**10 23 04.1**	**+0.7**
VAY	**Valandovo**	**19.40**	**295**	*i* P	**Pn**	**10 23 04.2**	**-1.0**
ITM	**Ithomi**	**19.59**	**283**	*e*PN	**Pn**	**10 23 06.0**	**-1.5**
AKASG	**Malin Array Be**	**19.65**	**327**	P	**Pn**	**10 23 05.6**	**-2.5**
	comp=Z,2.4nm,0.3s,baz=136,slow=9.2,SNR=17						
AKASG	**Malin Array Be**	**19.65**	**327**	P	**Pn**	**10 23 05.6**	**-2.5**
AKASG	**Malin Array Be**	**19.65**	**327**	P	**Pn**	**10 23 05.6**	**-2.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**19.65**	**327**	P	**Pn**	**10 23 05.6**	**-2.5**
	comp=Z,2.0nm,0.3s						
AKBB	**Malin Array Si**	**19.65**	**327**	*e*P	**Pn**	**10 23 05.8**	**-2.4**
AKBB	**Malin Array Si**	**19.65**	**327**	*e*P	**Pn**	**10 23 05.8**	**-2.3**
AKBB	**Malin Array Si**	**19.65**	**327**	*e*P	**Pn**	**10 23 05.8**	**-2.3**

KIEV Kiev 19.66 327 eP Pn 10 23 05.9 -2.3
comp=Z,18nm,0.7s
KIEV Kiev 19.66 327 eP Pn 10 23 05.9 -2.3
KIEV pmax pmax
comp=Z,18nm,0.7s
KIEV Kiev 19.66 327 eP Pn 10 23 05.9 -2.3
comp=Z,18nm,0.7s
LOT Lotru 19.75 308⇑ iP Pn 10 23 09.6 +0.3
PYL PYLOS 19.75 282 ePN Pn 10 23 07.0 -2.4
BURAR Bucovina Array 19.84 315⇓ iP Pn 10 23 09.1 -1.2
BUR08 Bucovina Ar. S 19.86 315 eP Pn 10 23 09.1 -1.6
BUR08 Bucovina Ar. S 19.86 315 eP Pn 10 23 09.1 -1.5
RLS Riolos of Patr 19.95 285 ePN Pn 10 23 10.5 -1.2
BIA Bitola 20.28 294 eP P 10 23 14.0 +0.4
SKO Skopje 20.35 296 eP P 10 23 21.1 +6.7
GZR Gura Zlata 20.37 307⇑ iP P 10 23 15.2 +0.6
KRUS Krusevo 20.39 295 i P P 10 23 14.7 -0.1
KK31 Karatay Array 20.39 60 P P 10 23 15.8 +1.0
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KK31 Karatay Array 20.39 60 P P 10 23 15.8 +1.0
comp=Z,7.0nm,0.6s
KKAR Karatay Array 20.39 60 eP P 10 23 16.0 +1.2
KKAR Karatay Array 20.39 60 eP P 10 23 16.0 +1.2
KKAR Karatay Array 20.39 60 eP P 10 23 16.0 +1.2
DEV Deva 20.48 308⇓ iP P 10 23 15.3 -0.4
VLS Valsamata 20.64 285 ePN P 10 23 16.3 -1.2
OBN Obninsk 20.88 344 eP P 10 23 18.5 -1.5
comp=Z,193nm,0.8s
OBN Obninsk 20.88 344 P P 10 23 18.7 -1.2
comp=Z,2µm,0.8s,SNR=6.0
OBN Obninsk 20.88 344⇓ iP P 10 23 18.5 -1.4
OBN eS S 10 27 03.0 -9.0
OBN pmax pmax
comp=Z,313nm,1.1s
OBN MLR MLR
comp=Z,400nm,18.0s,MS3.8
OBN Obninsk 20.88 344 eP P 10 23 18.5 -1.4
comp=Z,193nm,0.8s
BMR Baia Mare 20.88 313 P P 10 23 20.8 +0.8
BMR Baia Mare 20.88 313 P P 10 23 20.8 +0.8
DRGR 20.96 310⇓ P P 10 23 21.9 +0.9
DRGR 20.96 310⇓ iP P 10 23 21.9 +0.9
DRGR 20.96 310 P P 10 23 21.9 +0.9
BZS Buzias 21.22 306⇓ P P 10 23 24.8 +1.1
BZS Buzias 21.22 306⇓ iP P 10 23 24.8 +1.1
BZS Buzias 21.22 306 P P 10 23 24.8 +1.1
TIR Tirane 21.41 294 eP P 10 23 26.7 +0.8
comp=Z,142nm,1.1s,mb5.2
TIR Tirane 21.41 294 eP P 10 23 26.7 +0.8
TIR pmax pmax
comp=Z,142nm,1.1s,mb5.2
TIR Tirane 21.41 294 eP P 10 23 26.7 +0.8
comp=Z,142nm,1.1s,mb5.2
TRPA Tarpa 21.66 313⇑ iP P 10 23 29.0 +0.5
TRPA Tarpa 21.66 313⇓ eP P 10 23 28.9 +0.4
LVV L'vov 21.68 319 eP P 10 23 28.6 0.0
LVV L'vov 21.68 319 eP P 10 23 28.6 0.0
UZH Uzhgorod 22.04 314 eP P 10 23 30.3 -2.2
UZH e 10 23 50.5
UZH e 10 24 04.3
UZH eS S 10 27 26.0 -9.0
KOLS Kolonicke sedl 22.20 315 eP P 10 23 35.4 +1.2
KOLS pmax pmax
comp=Z,43nm,1.1s,mb4.8
KOLS Kolonicke sedl 22.20 315 eP P 10 23 35.4 +1.2
KOLS Kolonicke sedl 22.20 315 eP P 10 23 35.4 +1.2
comp=Z,43nm,1.1s,mb4.8
KWP Kalwaria Pacla 22.30 317 eP P 10 23 35.5 +0.2
comp=Z,48nm,0.9s,mb4.9
KWP Kalwaria Pacla 22.30 317 ⇑P P 10 23 35.5 +0.2
KWP Kalwaria Pacla 22.30 317⇑ iP P 10 23 35.5 +0.2
KWP Kalwaria Pacla 22.30 317 eP P 10 23 35.5 +0.2
comp=Z,48nm,0.9s,mb4.9
NIL Nilore 22.41 86 eP P 10 23 40.9 +4.3
comp=Z,68nm,1.0s,mb5.0
NIL Nilore 22.41 86 eP P 10 23 40.9 +4.3
NIL pmax pmax
comp=Z,68nm,1.0s,mb5.0
EKS2 Erkin-Say 22.65 63 eP P 10 23 41.0 +2.0
comp=Z,7.0nm,0.8s,mb4.1
EKS2 Erkin-Say 22.65 63 eP P 10 23 41.1 +2.0
EKS2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
CRVS Cervenica-Dubn 22.66 314 eP P 10 23 40.9 +1.9
CRVS pmax pmax
comp=Z,40nm,1.2s,mb4.7
CRVS Cervenica-Dubn 22.66 314 eP P 10 23 40.9 +1.9
CRVS Cervenica-Dubn 22.66 314 eP P 10 23 40.9 +1.9
comp=Z,40nm,1.2s,mb4.7
ARU Arti 22.76 18 eP P 10 23 39.0 -1.1
comp=Z,85nm,1.2s,mb5.0
ARU Arti 22.76 18 d iP P 10 23 39.4 -0.7
ARU e 10 24 09.6
ARU S S 10 27 41.7 -6.7
ARU pmax pmax
comp=Z,51nm,1.2s,mb4.8
ARU Arti 22.76 18 i P P 10 23 39.4 -0.7
comp=Z,51nm,1.2s,mb4.8
MICGM Minsk 23.00 332 eP P 10 23 38.0 -4.7
MNK Minsk 23.02 332 eP P 10 23 38.0 -4.8
STHS Stebnicka Huta 23.02 315 eP P 10 23 45.2 +2.3
STHS Stebnicka Huta 23.02 315 eP P 10 23 45.2 +2.3
STHS Stebnicka Huta 23.02 315 eP P 10 23 45.2 +2.3
KECS Kecovo 23.05 313 eP P 10 23 45.4 +2.2
KECS pmax pmax
comp=Z,12nm,1.0s,mb4.3
KECS Kecovo 23.05 313 eP P 10 23 45.4 +2.2
KECS Kecovo 23.05 313 eP P 10 23 45.4 +2.2
comp=Z,12nm,1.0s,mb4.3
AAK Ala-Archa 23.17 63 eP P 10 23 44.6 0.0
comp=Z,33nm,1.0s,mb4.7
AAK Ala-Archa 23.17 63 eP P 10 23 44.6 0.0
AAK pmax pmax
comp=Z,33nm,1.0s,mb4.7
AAK Ala-Archa 23.17 63 P P 10 23 49.3 +4.7
comp=Z,39nm,1.0s,mb4.8
AAK Ala-Archa 23.17 63 eP P 10 23 44.6 0.0
comp=Z,33nm,1.0s,mb4.7
PSZ Piszkesteto 23.17 311 eP P 10 23 44.3 -0.2
comp=Z,50nm,1.0s,mb4.9
PSZ Piszkesteto 23.17 311 ⇓P P 10 23 44.3 -0.2
PSZ Piszkesteto 23.17 311⇓ eP P 10 23 44.9 +0.4
PSZ Piszkesteto 23.17 311⇓ iP P 10 23 44.3 -0.2
PSZ Piszkesteto 23.17 311 eP P 10 23 44.3 -0.2
comp=Z,50nm,1.0s,mb4.9
PKSM Moragy 23.37 306 ⇓P P 10 23 46.3 -0.4
PKSM Moragy 23.37 306⇓ iP P 10 23 46.3 -0.4
PKSM Moragy 23.37 306 P P 10 23 46.3 -0.4
RHK3 Tenkes 23.54 305⇑ eP P 10 23 48.2 -0.1
BUD Budapest 23.55 309 ePP 10 23 49.3
BUD Budapest 23.55 309 eP P 10 23 49.3 +0.8
SVE Sverdlovsk 23.66 20⇓ iP P 10 23 50.3 +0.9
SVE pmax pmax
comp=Z,48nm,1.2s,mb4.8
SVE Sverdlovsk 23.66 20 i P P 10 23 50.3 +0.9
comp=Z,48nm,1.2s,mb4.8
NACGM Naroch 23.73 332 e P 10 23 47.0 -3.0
ATD Arta Tunnel 23.86 188 LR LR 10 34 05.4
comp=Z,93nm,18.0s,MS3.3,baz=50,slow=39
TKM2 Tokmak 2 24.02 63 eP P 10 23 54.1 +1.4
comp=Z,9.1nm,1.0s,mb4.2
TKM2 Tokmak 2 24.02 63 eP P 10 23 54.1 +1.4
TKM2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
KSH Kashi 24.03 71 P P 10 23 51.6 -1.3
KSH pP 10 23 56.2
KSH sP sP 10 23 59.0 -0.8
KSH PP 10 24 25.4
KSH S S 10 28 03.7 -5.6
KSH pmax pmax
comp=Z,24nm,1.2s,mb4.5
KSH pmax pmax
comp=Z,100nm,3.9s
KSH LR LR
comp=N,170nm,6.3s
KSH LR LR
comp=E,220nm,10.3s
KSH LR LR
comp=Z,230nm,5.7s
LIKS Likavka 24.11 313 eP P 10 23 55.1 +1.5
LIKS Likavka 24.11 313 eP P 10 23 55.1 +1.5
OJC Ojcow 24.23 316 eP P 10 23 54.2 -0.4
OJC Ojcow 24.23 316 eP P 10 23 54.5 -0.1
comp=Z,14nm,0.6s,mb4.6
OJC Ojcow 24.23 316 eP P 10 23 54.5 -0.1
OJC pmax pmax
comp=Z,15nm,0.6s,mb4.6
IIGN Ignalina 24.27 332 eP P 10 23 53.6 -1.4
IIGN AMB AMB 10 23 57.5
comp=Z,19nm,0.9s,mb4.5
IIGN Ignalina 24.27 332 eP P 10 23 53.6 -1.4
comp=Z,19nm,0.9s,mb4.5,SNR=28
CEL Celeste 24.33 286 eP P 10 23 56.5 +0.8
comp=Z,73nm,0.8s,mb5.2
KOLL Kolacno 24.35 311 eP P 10 23 57.4 +1.7
KOLL Kolacno 24.35 311 eP P 10 23 57.4 +1.7
CUC Castrocucco 24.38 290 eP P 10 23 56.1 0.0
comp=Z,60nm,1.2s,mb4.9
ISAL Salakas 24.48 332 eP P 10 23 55.5 -1.3
ISAL AMB AMB 10 23 59.4
comp=Z,15nm,0.8s,mb4.5
ISAL Salakas 24.48 332 eP P 10 23 55.5 -1.3
comp=Z,15nm,0.8s,mb4.5,SNR=28
IZAR Zarasai 24.56 332 eP P 10 23 56.4 -1.2
IZAR AMB AMB 10 24 00.2
comp=Z,16nm,1.1s,mb4.5
BRVK Borovoye 24.61 36 P P 10 23 58.2 +0.2
comp=Z,76nm,0.7s,mb5.3,SNR=5.1
BRVK Borovoye 24.61 36 eP P 10 23 58.2 +0.2
comp=Z,9.8nm,0.8s,mb4.4
BRVK Borovoye 24.61 36⇑ eP P 10 23 58.4 +0.4
BRVK pmax pmax
comp=Z,13nm,1.0s,mb4.4
BRVK MLR MLR
comp=Z,104nm,17.0s,MS3.4
SUW Suwalki 24.62 326 eP P 10 23 57.2 -1.0
comp=Z,167nm,1.1s,mb5.5
SUW Suwalki 24.62 326 eP P 10 23 57.2 -1.0
SUW pmax pmax
comp=Z,167nm,1.1s,mb5.5
BVA0 Borovoye Array 24.64 37 P P 10 23 58.6 +0.3
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
BVAR Borovoye Array 24.64 37 P P 10 23 59.0 +0.6
comp=Z,7.7nm,0.7s,mb4.3,baz=217,slow=7.2,SNR=29
BVAR ScP ScP 10 31 13.2 -0.4
comp=Z,0.7nm,0.6s,baz=225,slow=1.9,SNR=3.5
BVAR LR LR 10 35 37.7
comp=Z,102nm,18.4s,MS3.4,baz=230,slow=42
BVAR Borovoye Array 24.64 37 P P 10 23 59.0 +0.6
BVAR ScP ScP 10 31 13.2 -0.4
BVAR Borovoye Array 24.64 37 P P 10 23 59.0 +0.7
BVAR pmax pmax
comp=Z,8.0nm,0.7s
BVAR pmax pmax
comp=N,1.0nm,0.6s
BVAR MLR MLR
comp=Z,102nm,18.4s
SMOL Smolenice 24.93 311 eP P 10 24 01.3 +0.3
SMOL Smolenice 24.93 311 eP P 10 24 01.3 +0.3
OKC Ostrava-Krasne 25.01 314 eP P 10 24 01.6 -0.1
OKC Ostrava-Krasne 25.01 314 eP P 10 24 01.6 -0.1
ZST Bratislava 25.02 310 eP P 10 24 02.5 +0.7
ZST pmax pmax
comp=Z,66nm,0.8s,mb5.2
ZST Bratislava 25.02 310 eP P 10 24 02.5 +0.7
KOGS Kog 25.03 306 eP P 10 24 02.1 +0.2
SOP Sopron 25.19 308⇑ eP P 10 24 04.4 +1.0
SOKR Solikamsk 25.25 13 d iP P 10 24 04.6 +0.8
SOKR pmax pmax
comp=Z,160nm,0.8s,mb5.6
GOLS Golise 25.34 304 eP P 10 24 04.9 +0.2
MORC Moravsky Berou 25.34 314 eP P 10 24 04.8 0.0
comp=Z,22nm,0.9s,mb4.7
MORC Moravsky Berou 25.34 314 eP P 10 24 04.8 0.0
MORC pmax pmax
comp=Z,22nm,0.9s,mb4.7
MORC Moravsky Berou 25.34 314⇓ iP P 10 24 03.5 -1.3
BOJS Bojanci 25.47 303 eP P 10 24 06.1 +0.1
CONA Conrad Observa 25.71 309⇓ iP P 10 24 08.4 +0.3
comp=Z,61nm,0.8s,mb5.2
CONA Conrad Observa 25.71 309 P P 10 24 08.4 +0.3
comp=Z,61nm,0.8s,mb5.2
ARSA Arzberg 25.73 307⇓ iP P 10 24 08.7 +0.4
comp=Z,38nm,0.9s,mb4.9
ARSA Arzberg 25.73 307 P P 10 24 08.7 +0.4
comp=Z,38nm,0.9s,mb4.9
VRAC Vranov 25.73 312 P P 10 24 07.6 -0.7
comp=Z,22nm,0.7s,mb4.8,baz=106,slow=8.6,SNR=14
VRAC LR LR 10 35 35.7
comp=Z,124nm,20.1s,MS3.4,baz=281,slow=40
VRAC Vranov 25.73 312 P P 10 24 07.6 -0.7
VRAC Vranov 25.73 312 P P 10 24 07.6 -0.7
VRAC pmax pmax
comp=Z,22nm,0.7s
VRAC MLR MLR
comp=Z,124nm,20.1s
VRAC Vranov 25.73 312⇑ iP P 10 24 07.7 -0.6
VRAC Vranov 25.73 312⇑ iP P 10 24 07.7 -0.6
SDNR Sundarnagar 25.98 90 ePKP P 10 24 13.0 +2.3
DPC Dobruska-Polom 26.29 314 eP P 10 24 13.8 +0.4
comp=Z,34nm,1.0s,mb4.8
DPC Dobruska-Polom 26.29 314 eP P 10 24 13.8 +0.4
DPC pmax pmax
comp=Z,34nm,1.0s,mb4.8
DPC Dobruska-Polom 26.29 314 eP P 10 24 13.3 -0.1
AQU L'Aquila 26.32 295 eP P 10 24 13.4 -0.3
comp=Z,76nm,1.0s,mb5.2
AQU L'Aquila 26.32 295 eP P 10 24 13.4 -0.3
AQU pmax pmax
comp=Z,76nm,1.0s,mb5.2
TREC Trest 26.40 311 eP P 10 24 15.6 +1.2
TREC Trest 26.40 311 eP P 10 24 15.6 +1.2
VSU Vasula 26.48 337 i P P 10 24 14.1 -0.9
VSU pmax pmax
comp=Z,90nm,1.0s,mb5.2
VSU MLR MLR
comp=Z,228nm,19.0s,MS3.7
KSP Ksiaz 26.51 315 eP P 10 24 15.7 +0.4
KSP Ksiaz 26.51 315 eP P 10 24 15.6 +0.3
UPC Upice 26.54 314 eP P 10 24 15.7 +0.1
UPC Upice 26.54 314 eP P 10 24 15.7 +0.1
MOA Molln 26.72 308⇑ iP P 10 24 17.1 -0.2
comp=Z,27nm,0.8s,mb4.8
MOA Molln 26.72 308 P P 10 24 17.1 -0.1
comp=Z,27nm,0.8s,mb4.8
KBA Koelnbreinsper 27.12 306⇓ iP P 10 24 20.9 +0.1
comp=Z,52nm,1.1s,mb5.0
KBA Koelnbreinsper 27.12 306 P P 10 24 20.9 0.0
comp=Z,52nm,1.1s,mb5.0
GERES GERESS Array B 27.36 310 P P 10 24 22.4 -0.6
comp=Z,3.7nm,0.6s,mb4.1,baz=115,slow=8.8,SNR=11
GERES LR LR 10 38 18.7
comp=Z,128nm,18.6s,MS3.5,baz=99,slow=43
GERES GERESS Array B 27.36 310 P P 10 24 22.4 -0.6
GERES GERESS Array B 27.36 310 P P 10 24 22.5 -0.5
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES MLR MLR
comp=Z,128nm,18.6s
KHC Kasperske Hory 27.53 310 eP P 10 24 24.3 -0.2
comp=Z,46nm,1.7s,mb4.8
KHC Kasperske Hory 27.53 310 eP P 10 24 24.1 -0.4
KHC e 10 24 38.5
KHC Kasperske Hory 27.53 310 eP P 10 24 24.1 -0.4
KHC epP pP 10 24 38.5 +9.1
BRG Berggiesshubel 27.89 314 eP P 10 24 24.8 -2.9
comp=Z,20nm,1.6s,mb4.5
BRG Berggiesshubel 27.89 314 eP P 10 24 24.8 -3.0
BRG pmax pmax
comp=Z,20nm,1.6s,mb4.5
KURK Kurchatov 28.03 47 P P 10 24 28.1 -0.9
comp=Z,2.4nm,0.5s,mb4.1,baz=254,slow=9.3,SNR=11
KURK ScP ScP 10 31 22.4 -1.2
comp=Z,1.7nm,0.8s,baz=254,slow=3.8,SNR=8.1
KURK Kurchatov 28.03 47 eP P 10 24 28.9 -0.1
KURK ScP ScP 10 31 22.4 -1.2
KURK Kurchatov 28.03 47 P P 10 24 28.1 -0.9
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
KURK pmax pmax
comp=N,2.0nm,0.8s
WTTA Wattenberg 28.30 306⇑ iP P 10 24 29.6 -1.8
comp=N,27nm,1.1s,mb4.8
NKC Novy Kostel 28.57 312 eP P 10 24 33.4 -0.4
NKC Novy Kostel 28.57 312 eP P 10 24 33.4 -0.4
CLL Collm 28.61 314 eP P 10 24 34.0 -0.1
CLL e*PP pP 10 24 52.0 +13
CLL MLR MLR
comp=Z,200nm,18.1s,MS3.8
CLL Collm 28.61 314 e(P) P 10 24 34.0 -0.1
CLL e 10 24 52.0
CLL LmH 10 36 00.0
comp=N,100nm,20.2s
CLL LmH 10 36 00.0
comp=E,100nm,21.3s
CLL LmV 10 39 00.0
comp=Z,200nm,18.1s
CLL Collm 28.61 314 eP P 10 24 34.0 -0.1
comp=Z,200nm,18.1s
MOTA Moosalm 28.67 306⇑ iP P 10 24 33.0 -1.7
comp=Z,28nm,0.9s,mb5.0
MOTA Moosalm 28.67 306 P P 10 24 33.0 -1.7
comp=Z,28nm,0.9s,mb5.0
FETA Feichten 28.85 305⇑ iP P 10 24 36.0 -0.4
comp=Z,32nm,0.6s,mb5.2
FETA Feichten 28.85 305 P P 10 24 36.0 -0.3
comp=Z,32nm,0.6s,mb5.2
FINES FINESS Array B 29.09 340 P P 10 24 37.0 -1.3
comp=Z,14nm,0.7s,mb4.8,baz=143,slow=9.0,SNR=18
FINES LR LR 10 37 24.8
comp=Z,187nm,21.2s,MS3.7,baz=153,slow=39
FINES FINESS Array B 29.09 340 P P 10 24 37.0 -1.3
FINES FINESS Array B 29.09 340 P P 10 24 37.0 -1.3
FINES pmax pmax
comp=Z,14nm,0.7s
FINES MLR MLR
comp=Z,187nm,21.3s
FINES FINESS Array B 29.09 340 P P 10 24 37.0 -1.3
comp=Z,187nm,21.3s
JOF Joensuu 29.13 346 eP P 10 24 37.8 -0.8
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
JOF Joensuu 29.13 346 ep P 10 24 37.8 -0.8
comp=Z,7.3nm,0.7s,mb4.5
JOF Joensuu 29.13 346 eP P 10 24 37.8 -0.8
comp=Z,7.0nm,0.7s,mb4.5
GRF Grafenberg Arr 29.17 310 eP P 10 24 38.8 -0.3
comp=Z,44nm,1.4s,mb5.0
GRF Grafenberg Arr 29.17 310 eP P 10 24 38.8 -0.3
GRF pmax pmax
comp=Z,44nm,1.4s,mb5.0
MK31 Makanchi Array 29.34 56 eP P 10 24 40.5 -0.1
MK31 Makanchi Array 29.34 56 P P 10 24 40.9 +0.2
MK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
MKAR Makanchi Array 29.34 56 P P 10 24 40.3 -0.4
comp=Z,2.9nm,0.5s,mb4.2,baz=260,slow=7.1,SNR=19
MKAR LR LR 10 37 57.1
comp=Z,109nm,19.4s,MS3.5,baz=19,slow=40
MKAR Makanchi Array 29.34 56 P P 10 24 40.3 -0.4
MKAR Makanchi Array 29.34 56 P P 10 24 40.3 -0.4
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR MLR MLR
comp=Z,109nm,19.4s
DAVOX Davos/Dischmat 29.38 304 P P 10 24 41.0 -0.1
comp=Z,6.2nm,0.5s,mb4.6,baz=124,slow=8.1,SNR=8.9
DAVOX Davos/Dischmat 29.38 304 P P 10 24 41.0 -0.1
DAVOX Davos/Dischmat 29.38 304 P P 10 24 41.0 0.0
DAVA Damuels 29.47 305⇓ iP P 10 24 40.7 -1.2
comp=Z,22nm,0.5s,mb5.1
DAVA Damuels 29.47 305 P P 10 24 40.7 -1.1
comp=Z,22nm,0.5s,mb5.1
KAF Kangasniemi 29.58 341 eP P 10 24 41.2 -1.4
KAF pmax pmax
comp=Z,13nm,0.8s,mb4.7
KAF Kangasniemi 29.58 341 ep P 10 24 41.2 -1.4
comp=Z,13nm,0.8s,mb4.7
KAF Kangasniemi 29.58 341 eP P 10 24 41.2 -1.4
comp=Z,13nm,0.8s,mb4.7
PGF Pioggiola 29.59 295 eP P 10 24 42.0 -0.9
comp=Z,139nm,1.2s,mb5.2
TUE Stuetta 29.70 303 eP P 10 24 44.0 +0.2
comp=Z,53nm,1.8s,mb5.0
KEST Kesra 29.82 282 P P 10 24 46.6 +1.5
comp=Z,5.5nm,0.8s,mb4.3,baz=331,slow=2.5,SNR=9.6
KEST Kesra 29.82 282 eP P 10 24 46.6 +1.5
SBF Sospel 30.78 298 eP P 10 24 52.3 -1.1
comp=Z,157nm,0.7s,mb5.7
SENIN Lac Senin/Sane 31.08 303 eP P 10 24 56.0 -0.1
comp=Z,80nm,1.8s,mb5.2
MBDF Montbardon 31.30 300⇑ iP P 10 24 57.7 -0.3
comp=Z,41nm,0.7s,mb5.0
FRF La Foret Royal 31.34 297 eP P 10 24 57.9 -0.5
comp=Z,50nm,1.0s,mb5.0
LPG La Plagne 31.38 301 eP P 10 24 58.0 -0.7
comp=Z,25nm,0.8s,mb4.8
LPL La Plagne 31.39 301 eP P 10 24 58.0 -0.8
comp=Z,14nm,0.6s,mb4.7
BNI Bardonecchia 31.39 300 eP P 10 24 58.3 -0.5
comp=Z,46nm,0.9s,mb5.3
BNI Bardonecchia 31.39 300 eP P 10 24 58.3 -0.5
BNI pmax pmax
comp=Z,45nm,0.9s,mb5.3
CDF Champ du Feu 31.40 307 eP P 10 24 58.4 -0.5
LMR La Mourre 31.43 297 eP P 10 24 58.2 -1.0
comp=Z,117nm,1.6s,mb5.2
ECH Echery 31.45 306 eP P 10 24 58.1 -1.1
ECH Echery 31.45 306 eP P 10 24 58.1 -1.1
LOMF Lomont 31.53 305 eP P 10 24 59.6 -0.4
LOMF Lomont 31.53 305 eP P 10 24 59.6 -0.4
HINF Hinteralfeld 31.58 305 eP P 10 24 59.3 -1.2
RUP Ruppelstein 31.79 309 eP P 10 25 01.4 -0.9
CABF La Chapelle 31.94 303⇑ iP P 10 25 03.2 -0.5
comp=Z,132nm,0.9s,mb5.5
HAU Haudompre 31.95 306 eP P 10 25 02.3 -1.4
HAU eR
comp=Z,139nm,22.0s
ORIF Oris-en-Rattie 31.95 300⇑ iP P 10 25 02.0 -1.7
comp=Z,27nm,0.6s,mb4.9
ORIF eR
comp=Z,203nm,20.2s
PYUN Piuthan 32.05 93 eP P 10 25 05.5 +0.7
comp=Z,17nm,0.9s,mb4.9
SMRF Simiane la Rot 32.13 298 eP P 10 25 03.6 -1.7
NVS Novosibirsk 32.15 41 eP P 10 25 04.9 -0.5
WLF Walferdange 32.36 309 P P 10 25 06.7 -0.6
comp=Z,19nm,1.1s,mb4.8
PAGF Fort de Pagny 32.44 307 eP P 10 25 06.9 -1.1
comp=Z,6.5nm,0.7s,mb4.3
HFS Hagfors 32.47 330 P P 10 25 06.5 -1.5
comp=Z,17nm,0.8s,mb4.9,baz=131,slow=6.8,SNR=22
HFS LR LR 10 39 45.9
comp=Z,206nm,18.2s,MS3.9,baz=311,slow=39
HFS Hagfors 32.47 330 P P 10 25 06.5 -1.5
HFS Hagfors 32.47 330 P P 10 25 06.5 -1.6
HFS pmax pmax
comp=Z,17nm,0.8s
HFS MLR MLR
comp=Z,206nm,18.2s
DANN Dangsing 32.58 92 eP P 10 25 10.0 +0.5
comp=Z,22nm,0.7s,mb5.2
KOLN Koldanda 32.67 93 eP P 10 25 10.3 +0.1
comp=Z,3.8nm,0.4s,mb4.7
ZAA0 Zalesovo Array 32.71 43 eP P 10 25 10.6 +0.3
ZALV Zalesovo Beam 32.71 43 P P 10 25 10.8 +0.5
comp=Z,2.9nm,0.5s,mb4.4,baz=252,slow=7.9,SNR=11
ZALV LR LR 10 41 31.0
comp=Z,73nm,18.1s,MS3.4,baz=69,slow=42
ZALV Zalesovo Beam 32.71 43 P P 10 25 10.8 +0.5
ZALV Zalesovo Beam 32.71 43 P P 10 25 10.8 +0.5
ZALV pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ZALV MLR MLR
comp=Z,73nm,18.1s,MS3.4
VIVF Saint-Julien-l 32.80 300⇑ iP P 10 25 09.9 -1.3
comp=Z,23nm,0.7s,mb4.9
SFTF Sexfontaines 32.84 306 eP P 10 25 10.1 -1.4
comp=Z,99nm,1.1s,mb5.4
WMQ Urumqi 32.87 62 eP P 10 25 13.6 +1.8
WMQ pP pP 10 25 18.0 +1.2
WMQ sP sP 10 25 20.6 +1.8
WMQ PP PP 10 26 23.3 -2.8
WMQ S S 10 30 28.8 +0.1
WMQ pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
WMQ pmax pmax
comp=Z,20nm,4.0s
MEZF Maizieres J'vi 32.88 306 eP P 10 25 10.9 -0.9
BCLA Clavier 33.04 310 P P 10 25 13.6 +0.3
APA Apatity 33.12 351⇑ eP P 10 25 13.0 -0.7
APA MLR MLR
comp=Z,1µm,17.0s,MS4.6

GIVF	Givet	33.28	309	eP	P	10 25 14.7	-0.7
LASF	Ste Croix	33.37	298	eP	P	10 25 15.0	-1.2
	comp=Z,27nm,0.8s,mb4.9						
DOU	Dourbes	33.43	309	P	P	10 25 16.4	-0.2
GKN	Gorkha	33.43	92	eP	P	10 25 16.8	-0.1
	comp=Z,25nm,0.6s,mb5.3						
SMF	Signal de Mont	33.49	303	eP	P	10 25 16.0	-1.2
	comp=Z,98nm,1.1s,mb5.3						
LOR	Lormes	33.53	304	⇑iP	P	10 25 15.9	-1.6
	comp=Z,24nm,0.8s,mb4.9						
LOR				eR			
	comp=Z,223nm,17.2s						
PLDF	La Plantade	33.60	302	eP	P	10 25 17.7	-0.4
PLDF	La Plantade	33.60	302	eP	P	10 25 17.7	-0.4
BAIF	Baives	33.67	309	eP	P	10 25 18.0	-0.7
SNF	Seneffe	33.70	310	P	P	10 25 20.9	+1.9
	comp=Z,14nm,2.3s,mb4.5						
SSF	Saint Saulge	33.75	304	eP	P	10 25 18.0	-1.4
	comp=Z,18nm,0.9s,mb4.7						
LBL	Lubilhac	33.83	300	eP	P	10 25 19.4	-0.7
LBL	Lubilhac	33.83	300	eP	P	10 25 19.4	-0.7
AVF	Avril sur Loir	33.84	303	⇑iP	P	10 25 18.9	-1.3
	comp=Z,97nm,1.2s,mb5.3						
HYB	Hyderabad	33.88	113	i P	P	10 25 21.0	+0.1
AGO	Saint Agoulin	33.94	302	eP	P	10 25 21.0	-0.1
AGO	Saint Agoulin	33.94	302	eP	P	10 25 21.0	-0.1
DMN	Daman	33.97	92	eP	P	10 25 22.0	+0.5
	comp=Z,43nm,1.2s,mb5.3						
NB2	NORSAR Subarra	33.99	330	P	P	10 25 19.5	-1.8
	comp=Z,5.9nm,1.0s,mb4.5,baz=126,slow=9.3						
NOA	NORSAR Array B	33.99	330	P	P	10 25 18.4	-2.9
	comp=Z,3.1nm,0.9s,mb4.3,baz=124,slow=8.6,SNR=6.2						
NOA				LR	LR	10 40 22.0	
	comp=Z,130nm,18.7s,MS3.7,baz=125,slow=38						
NOA	NORSAR Array B	33.99	330	P	P	10 25 18.4	-2.9
NOA	NORSAR Array B	33.99	330	P	P	10 25 18.4	-2.9
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,130nm,18.7s						
KKN	Kakani	34.04	92	eP	P	10 25 22.0	-0.2
BGF	Bois d'Agland	34.17	303	eP	P	10 25 21.8	-1.3
	comp=Z,24nm,0.8s,mb4.9						
PKI	Pulchoki	34.23	92	eP	P	10 25 23.9	+0.1
	comp=Z,16nm,0.6s,mb5.1						
VERF	Verneugheol	34.38	301	eP	P	10 25 24.6	-0.3
VERF	Verneugheol	34.38	301	eP	P	10 25 24.6	-0.3
GUN	Gumba	34.48	91	eP	P	10 25 26.2	+0.2
	comp=Z,81nm,1.1s,mb5.6						
TCF	Toulx Ste Croi	34.59	302	⇑iP	P	10 25 26.0	-0.8
	comp=Z,55nm,1.0s,mb5.2						
CAF	Calviac	34.66	300	eP	P	10 25 26.4	-0.9
	comp=Z,61nm,1.2s,mb5.1						
JIRN	Jiri	34.83	91	eP	P	10 25 30.7	+1.7
	comp=Z,5.2nm,0.5s,mb4.8						
RJF	Les Rejaudoux	35.05	300	eP	P	10 25 30.3	-0.4
	comp=Z,135nm,1.3s,mb5.4						
RJF				eR			
	comp=Z,152nm,17.8s						
RAMN	Ramite	35.45	92	eP	P	10 25 33.9	-0.4
	comp=Z,43nm,0.6s,mb5.5						
KEV	Kevo	36.05	349	eP	P	10 25 38.1	-0.9
KEV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
KEV	Kevo	36.05	349	ep	P	10 25 38.1	-0.9
	comp=Z,7.1nm,0.8s,mb4.7						
ARCES	ARCESS Array B	36.11	348	P	P	10 25 38.5	-1.0
	comp=Z,32nm,1.2s,mb5.1,baz=155,slow=9.0,SNR=19						
ARCES				LR	LR	10 41 55.0	
	comp=Z,113nm,18.0s,MS3.7,baz=191,slow=39						
ARCES	ARCESS Array B	36.11	348	P	P	10 25 38.5	-1.0
ARCES	ARCESS Array B	36.11	348	P	P	10 25 38.5	-1.0
ARCES				pmax	pmax		
	comp=Z,32nm,1.2s						
ARCES				MLR	MLR		
	comp=Z,113nm,18.0s						
ODAN	Odare	36.13	92	eP	P	10 25 40.5	+0.3
	comp=Z,68nm,1.1s,mb5.5						
TAPN	Taplejung	36.20	91	eP	P	10 25 42.5	+1.7
	comp=Z,29nm,0.8s,mb5.3						
MFF	Saint Martin d	36.23	303	eP	P	10 25 39.3	-1.5
	comp=Z,80nm,1.0s,mb5.3						
LDF	La Druitiere	36.31	306	eP	P	10 25 40.5	-1.0
	comp=Z,14nm,0.6s,mb4.8						
FLN	La Foliniere	36.55	306	eP	P	10 25 41.8	-1.8
	comp=Z,30nm,0.6s,mb5.0						
FLN				eR			
	comp=Z,122nm,19.0s						
GRR	Gorron	36.78	306	eP	P	10 25 43.9	-1.6
	comp=Z,108nm,0.8s,mb5.4						
TAM	Tamanrasset	37.37	262	eP	P	10 25 53.0	+2.2
	comp=Z,30nm,1.1s,mb5.0						
TAM	Tamanrasset	37.37	262	eP	P	10 25 53.0	+2.2
TAM				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
TAM	Tamanrasset	37.37	262	eP	P	10 25 53.0	+2.2
	comp=Z,30nm,1.1s,mb5.0						
SGMF	Saint Gilles	37.91	305	⇑iP	P	10 25 53.6	-1.5
	comp=Z,22nm,0.5s,mb4.8						
SGMF	Saint Gilles	37.91	305	⇑iP	P	10 25 53.6	-1.5
	comp=Z,11nm,0.5s,mb4.8						
QUIF	Quistinic	38.31	305	⇑iP	P	10 25 56.7	-1.8
	comp=Z,39nm,0.5s,mb5.1						
QUIF	Quistinic	38.31	305	⇑iP	P	10 25 56.7	-1.8
	comp=Z,20nm,0.5s,mb5.1						
ROSF	Rostrenen	38.39	305	⇑iP	P	10 25 57.5	-1.6
	comp=Z,49nm,0.7s,mb5.0						
ROSF	Rostrenen	38.39	305	⇑iP	P	10 25 57.5	-1.6
	comp=Z,24nm,0.7s,mb5.0						
ESDC	Sonseca Array	39.56	292	P	P	10 26 08.5	-0.5
	comp=Z,6.5nm,0.6s,mb4.5,baz=67,slow=8.7,SNR=19						
ESDC	Sonseca Array	39.56	292	P	P	10 26 08.5	-0.5
ESDC	Sonseca Array	39.56	292	P	P	10 26 08.5	-0.5
ESLA	Sonseca Array	39.56	292	eP	P	10 26 08.4	-0.6
	comp=Z,1.7nm,0.8s,mb3.8						
ESLA	Sonseca Array	39.56	292	eP	P	10 26 08.4	-0.6
	comp=Z,1.7nm,0.8s,mb3.8						
PCBR	Castelo Branco	42.19	293	eP	P	10 26 30.8	+0.1
	comp=Z,49nm,1.6s,mb4.9						
PMRV	Marv??o	42.21	292	eP	P	10 26 30.8	-0.1
PBAR	Barrancos	42.21	290	eP	P	10 26 30.4	-0.5
	comp=Z,54nm,1.5s,mb5.0						
GTA	Gaotai	42.35	68	eP	P	10 26 32.9	+0.8
GTA				pP	pP	10 26 37.1	0.0
GTA				sP	sP	10 26 40.0	+0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.8						
PESTR	Estremoz	42.48	291	eP	P	10 26 32.5	-0.6
	comp=Z,36nm,1.0s,mb5.0						
PBEJ	Beja	42.88	290	eP	P	10 26 36.4	0.0
	comp=Z,34nm,1.2s,mb5.0						
PVAQ	Vaqueiros	42.91	289	eP	P	10 26 36.0	-0.6
PTOM	Tomar	42.94	293	eP	P	10 26 36.7	-0.1
	comp=Z,103nm,1.2s,mb5.4						
PCVE	Castro Verde	43.11	290	eP	P	10 26 38.0	-0.2
	comp=Z,56nm,1.4s,mb5.1						
ZAK	Zakamensk	43.45	51	eP	P	10 26 41.0	+0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
ZAK	Zakamensk	43.45	51	eP	P	10 26 41.0	+0.2
	comp=Z,2.0nm,1.2s,mb3.7						
TORD	Torodi Ar. Bea	45.65	252	P	P	10 26 59.1	+0.3
	comp=Z,4.1nm,0.5s,mb4.6,baz=48,slow=7.4,SNR=28						
TORD				PcP	PcP	10 28 38.6	+1.7
	comp=Z,1.2nm,0.8s,baz=44,slow=2.2,SNR=3.5						
TORD				LR	LR	10 48 44.5	
	comp=Z,99nm,18.6s,MS3.8,baz=195,slow=40						
TORD	Torodi Ar. Bea	45.65	252	P	P	10 26 59.1	+0.3
TORD				PcP	PcP	10 28 38.6	+1.7
TORD	Torodi Ar. Bea	45.65	252	P	P	10 26 59.1	+0.3
SONM	Songino Array	45.70	55	P	P	10 26 57.9	-0.9
	comp=Z,1.4nm,0.8s,mb4.0,baz=278,slow=8.7,SNR=8.3						
SONM				PcP	PcP	10 28 37.1	+0.6
	comp=Z,1.1nm,0.8s,baz=252,slow=2.3,SNR=5.1						
SONM	Songino Array	45.70	55	P	P	10 26 57.9	-0.9
SONM				PcP	PcP	10 28 37.1	+0.6
SONM	Songino Array	45.70	55	P	P	10 26 57.9	-0.9
SONM						10 28 37.1	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	Songino Array	45.70	55	P	P	10 26 57.9	-0.9
	comp=Z,1.0nm,0.8s,mb3.8						
SONM	Songino Array	45.70	55	PcP	PcP	10 28 37.1	+0.5
	comp=Z,1.0nm,0.8s						
ULN	Ulaanbaatar	46.13	55	eP	P	10 27 02.4	+0.1
	comp=Z,13nm,1.0s,mb4.8						
ULN	Ulaanbaatar	46.13	55	eP	P	10 27 02.4	+0.2
ULN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
ULN	Ulaanbaatar	46.13	55	P	P	10 27 02.3	+0.1
	comp=Z,11nm,1.1s,mb4.7						
ULN	Ulaanbaatar	46.13	55	eP	P	10 27 02.3	+0.1
	comp=Z,13nm,1.0s,mb4.8						
LZH	Lanzhou	46.28	71	eP	P	10 27 05.0	+1.5
LZH				pP	pP	10 27 09.3	+0.7
LZH				sP	sP	10 27 10.5	-0.1
LZH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
CD2	Chengdu	47.91	78	eP	P	10 27 17.1	+0.8
CD2				pP	pP	10 27 21.6	+0.2
CD2				sP	sP	10 27 24.2	+0.8
CD2				PP	PP	10 29 08.2	0.0
CD2				S	S	10 34 12.4	-0.7
CD2				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
CD2				pmax	pmax		
	comp=Z,100nm,5.8s						
CD2				LR	LR		
	comp=N,310nm,14.4s,MS4.5						
CD2				LR	LR		
	comp=E,200nm,16.8s,MS4.5						
CD2				LR	LR		
	comp=Z,240nm,14.4s,MS4.3						
CHG	Chiang Mai	49.27	95	P	P	10 27 26.2	-0.7
CHTO	Chiang Mai	49.27	95	eP	P	10 27 26.1	-0.8
	comp=Z,22nm,1.0s,mb5.2						
CHTO	Chiang Mai	49.27	95	eP	P	10 27 26.1	-0.8
CHTO				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
CHTO	Chiang Mai	49.27	95	P	P	10 27 25.6	-1.3
	comp=Z,28nm,1.0s,mb5.2						
CHTO	Chiang Mai	49.27	95	eP	P	10 27 26.1	-0.8
	comp=Z,22nm,1.0s,mb5.2						
KMI	Kunming	49.40	86	P	P	10 27 28.1	+0.3
KMI				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
KMI				LR	LR		
	comp=Z,100nm,23.4s,MS3.7						
CHRT	Chiangrai	49.42	93	P	P	10 27 26.0	-2.1
	comp=Z,126nm,1.0s,mb5.9						
CM31	Chiang Mai Arr	49.45	95	P	P	10 27 28.4	+0.1
CM31	Chiang Mai Arr	49.45	95	P	P	10 27 28.4	+0.1
CMAR	Chiang Mai Arr	49.45	95	P	P	10 27 27.5	-0.8
	comp=Z,18nm,1.0s,mb5.1,baz=297,slow=8.0,SNR=48						
CMAR				LR	LR	10 52 14.0	
	comp=Z,74nm,18.1s,MS3.7,baz=298,slow=41						
CMAR	Chiang Mai Arr	49.45	95	P	P	10 27 27.5	-0.8
CMAR	Chiang Mai Arr	49.45	95	P	P	10 27 27.5	-0.8
CMAR				pmax	pmax		
	comp=Z,18nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,74nm,18.1s						
CMAR	Chiang Mai Arr	49.45	95	P	P	10 27 27.5	-0.8
	comp=Z,74nm,18.1s						
DAG	Danmarks Havn	50.19	344	i P	P	10 27 32.0	-1.2
DAG				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
DAG	Danmarks Havn	50.19	344	i P	P	10 27 32.0	-1.2
	comp=Z,13nm,0.9s,mb5.0						
HHC	Hu-ho-hao-te	50.75	63	eP	P	10 27 38.9	+1.0
HHC				pP	pP	10 27 43.0	0.0
HHC				sP	sP	10 27 46.1	+1.1
HHC				PP	PP	10 29 34.8	+0.9
HHC				S	S	10 34 51.5	-1.2
HHC				ScS	ScS	10 37 27.3	-0.8
HHC				pmax	pmax		
	comp=Z,12nm,0.3s,mb5.3						
HHC				pmax	pmax		
	comp=Z,67nm,4.4s						
HHC				LR	LR		
	comp=N,97nm,14.3s,MS4.2						
HHC				LR	LR		
	comp=E,120nm,13.1s,MS4.2						
HHC				LR	LR		
	comp=Z,110nm,14.3s,MS4.0						
XAN	Xi'an	50.88	72	P	P	10 27 38.4	-0.6
XAN				pP	pP	10 27 48.3	+4.2
XAN				sP	sP	10 27 52.5	+6.5
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
XAN				pmax	pmax		
	comp=Z,34nm,6.0s						
GYA	Guiyang	52.01	82	P	P	10 27 49.8	+2.2
GYA				PP	PP	10 29 47.6	+2.0
GYA				S	S	10 35 11.0	+0.5
GYA				SS	SS	10 38 45.9	-1.6
GYA				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
GYA				pmax	pmax		
	comp=Z,130nm,5.3s						
GYA				LR	LR		
	comp=N,560nm,18.0s,MS4.7						
GYA				LR	LR		
	comp=E,460nm,19.2s,MS4.7						
GYA				LR	LR		
	comp=Z,510nm,18.6s,MS4.6						
BJI	Beijing	54.35	63	P	P	10 28 04.3	-0.3
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
BJI				LR	LR		
	comp=Z,64nm,19.1s,MS3.7						
DBIC	Dimbokro	54.70	251	P	P	10 28 07.3	-0.1
	comp=Z,9.7nm,0.7s,mb4.9,baz=25,slow=8.6,SNR=12						
DBIC				LR	LR	10 54 05.1	
	comp=Z,77nm,18.9s,MS3.8,baz=208,slow=39						
DBIC	Dimbokro	54.70	251	eP	P	10 28 07.4	0.0
	comp=Z,11nm,0.8s,mb5.0						
DBIC	Dimbokro	54.70	251	P	P	10 28 07.3	-0.1
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DBIC				MLR	MLR		
	comp=Z,77nm,18.9s						
DBIC	Dimbokro	54.70	251	eP	P	10 28 07.4	0.0
	comp=Z,11nm,0.8s,mb5.0						
SUMG	Summit	55.11	339	i P	P	10 28 09.7	+0.1
SUMG				pmax	pmax		
	comp=Z,11nm,1.0s						
SUMG	Summit	55.11	339	i P	P	10 28 09.7	+0.1
	comp=Z,11nm,1.0s,mb4.9						
SUMG	Summit	55.11	339	i P	P	10 28 09.7	+0.1
	comp=Z,11nm,1.0s,mb4.8						
WHN	Wuhan	56.45	74	eP	P	10 28 20.7	+0.8
YAK	Yakutsk	56.59	34	eP	P	10 28 22.7	+2.4
YAK				pmax	pmax		
	comp=Z,39nm,2.5s,mb5.0						
YAK	Yakutsk	56.59	34	eP	P	10 28 22.7	+2.4
	comp=Z,39nm,2.5s,mb5.0						
NJ2	Nanjing	59.34	71	eP	P	10 28 43.5	+3.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2	Changchun	59.57	56	eP	P	10 28 36.0	-5.5
MDJ	Mudanjiang	62.02	53	P	P	10 28 56.9	-1.3
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
MDJ				pmax	pmax		
	comp=Z,200nm,4.9s						
KSAR	Wonju Array Be	63.80	61	P	P	10 29 09.3	-0.8
KSAR	Wonju Array Be	63.80	61	P	P	10 29 09.4	-0.7
KSAR	Wonju Array Be	63.80	61	P	P	10 29 09.4	-0.7
KSRS	Korea Array	63.82	61	P	P	10 29 09.3	-0.9
	comp=Z,6.1nm,0.7s,mb4.7,baz=283,slow=6.7,SNR=11						
KSRS				LR	LR	11 01 19.6	
	comp=Z,41nm,18.6s,MS3.6,baz=325,slow=40						
KSRS	Korea Array	63.82	61	P	P	10 29 09.4	-0.9
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KSRS				MLR	MLR		
	comp=Z,41nm,18.6s,MS3.6						
KSRS	Korea Array	63.82	61	P	P	10 29 09.4	-0.9
	comp=Z,41nm,18.6s						
HABR	Khabarovsk	63.92	48	P	P	10 29 09.2	-1.5
HABR				e*PP	pP	10 29 29.7	+14
HABR				e		10 29 44.3	
HABR				e		10 31 30.2	
HABR				e*SS	sS	10 38 13.2	+19
HABR				eSS	SS	10 41 48.7	-4.8
HABR				pmax	pmax		
	comp=N,22nm,1.6s						
HABR				pmax	pmax		
	comp=Z,74nm,2.8s,mb5.2						
HABR				pmax	pmax		
	comp=E,54nm,2.1s						
HABR				MLR	MLR		
	comp=Z,94nm,20.0s,MS4.0						
HABR	Khabarovsk	63.92	48	P	P	10 29 09.2	-1.5
	comp=Z,22nm,1.6s,mb4.9						
YHNB	Yeheng	64.65	77	eP	P	10 29 16.5	+0.6
	comp=Z,31nm,1.0s,mb5.3						
YHNB	Yeheng	64.65	77	eP	P	10 29 16.5	+0.6
	comp=Z,31nm,1.0s,mb5.3						
BOSA	Boshof	66.56	200	P	P	10 29 29.2	+1.3
	comp=Z,4.1nm,0.6s,mb4.6,baz=19,slow=7.9,SNR=4.7						
BOSA	Boshof	66.56	200	P	P	10 29 29.2	+1.3
BOSA	Boshof	66.56	200	P	P	10 29 29.3	+1.3
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BOSA	Boshof	66.56	200	P	P	10 29 29.2	+1.2
SBUM	Sibu	69.18	102	P	P	10 29 46.3	+1.4
	comp=Z,15nm,2.7s,mb4.4						
KKM	Kota Kinabalu	70.30	97	P	P	10 29 51.4	-0.4
MJAR	Matsushiro Arr	71.51	58	P	P	10 29 58.7	-0.2
	comp=Z,1.2nm,0.5s,mb4.0,baz=315,slow=9.5,SNR=4.5						
MJAR	Matsushiro Arr	71.51	58	P	P	10 29 58.7	-0.2
MJAR	Matsushiro Arr	71.51	58	P	P	10 29 58.7	-0.2
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	Schefferville	73.45	326	P	P	10 30 08.7	-1.4
	comp=Z,7.7nm,0.8s,mb4.7,baz=31,slow=6.2,SNR=7.3						
SCHQ	Schefferville	73.45	326	P	P	10 30 08.7	-1.4
COLA	College	79.54	6	eP	P	10 30 43.8	-0.6
	comp=Z,15nm,1.0s,mb4.9						
COLA	College	79.54	6	eP	P	10 30 43.8	-0.6
COLA				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ILAR	Eielson Array	79.72	6	P	P	10 30 43.5	-1.9
	comp=Z,3.4nm,1.0s,mb4.2,baz=340,slow=2.7,SNR=24						
ILAR	Eielson Array	79.72	6	P	P	10 30 43.5	-1.9
ILAR	Eielson Array	79.72	6	P	P	10 30 43.5	-1.9
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YKA	Yellowknife Ar	81.30	351	P	P	10 30 51.8	-2.0
	comp=Z,5.7nm,0.9s,mb4.5,baz=9.5,slow=5.0,SNR=7.5						
YKA				LR	LR	11 08 55.3	
	comp=Z,14nm,18.3s,MS3.4,baz=120,slow=37						
YKA	Yellowknife Ar	81.30	351	P	P	10 30 51.9	-2.0
YKA	Yellowknife Ar	81.30	351	P	P	10 30 51.8	-2.1
YKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,14nm,18.3s						
MENT	Mentasta	81.77	5	eP	P	10 30 56.0	-0.4
SML	Sawmill	82.51	7	eP	P	10 31 00.8	+0.6
	comp=Z,2.0nm,0.7s,mb4.3						
SML	Sawmill	82.51	7	eP	P	10 31 00.9	+0.6
SML				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KDAK	Kodiak Island	85.93	10	P	P	10 31 17.4	-0.3
	baz=333,slow=3.8						
KDAK	Kodiak Island	85.93	10	P	P	10 31 17.4	-0.3
KDAK	Kodiak Island	85.93	10	P	P	10 31 17.4	-0.3
FFC	Flin Flon	86.22	342	i P	P	10 31 20.6	+1.4
FITZ	Fitzroy Crossi	92.08	111	P	P	10 31 47.4	0.0
	comp=Z,3.0nm,0.9s,mb4.6,baz=272,slow=2.1,SNR=5.4						
FITZ	Fitzroy Crossi	92.08	111	P	P	10 31 47.4	0.0
PDAR	Pinedale Array	99.18	342	LR	LR	11 23 32.3	
	comp=Z,107nm,19.5s,MS4.3,baz=179,slow=39						
WRA	Warramunga Arr	99.86	107	P	Pdif	10 32 21.6	-0.9
	comp=Z,0.5nm,0.9s,baz=316,slow=4.0,SNR=6.1						
WRA	Warramunga Arr	99.86	107	P	Pdif	10 32 21.6	-0.9
WRA	Warramunga Arr	99.86	107	P	Pdif	10 32 21.6	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	Alice Springs	101.58	111	P	Pdif	10 32 29.6	-0.6
	comp=Z,0.3nm,0.8s,baz=324,slow=5.8,SNR=3.3						
ASAR	Alice Springs	101.58	111	P	Pdif	10 32 29.6	-0.6
ASAR	Alice Springs	101.58	111	P	Pdif	10 32 29.6	-0.6

*ISCJB **01** 10:25:50.1±0.6, 36°.18N±0°.04×139°.22E±0°.06, h144km±4km, mb3.5/3, Error ellipse: s-maj=7.7km s-min=7.1km az=27.3*

*NEIC **01** 10:25:50.4±1.2, 36°.19N×139°.36E, h140km±8km, Error ellipse: s-maj=25.1km s-min=13.7km az=127.0*

*JMA **01** 10:25:51.8±0.1, 36°.17N×139°.25E, h136km±1km, M3.0*

*IDC **01** 10:25:52.3±1.5, 35°.94N×138°.74E, h139km±7km, mb3.3/3, mb1 3.4/3, mb1mx3.0/24, mbtmp3.3/3, Error ellipse: s-maj=57.3km s-min=21.7km az=64.0*

ISC 01 10:25:51.1±0.6**, 36°.19N**±0°.04×**139°.22E**±0°.06**, h141**km±4km**, n24, σ0.60**/38**, mb3.5**/3**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	Ashikaga	0.30	39	P	Pn	10 26 10.9	+0.3
JAG				S	Sn	10 26 25.1	-0.3
JRY	Ryogami san	0.31	236	P	Pn	10 26 11.1	+0.5
JRY				eS	Sn	10 26 25.4	0.0
JHU	Hanno	0.34	171	P	Pn	10 26 11.4	+0.6
JHU				S	Sn	10 26 25.9	+0.3
JKT	Katashina	0.58	3	P	Pn	10 26 12.5	+0.6
JKT				S	Sn	10 26 28.0	+0.3
JYN	Shimob	0.88	219	P	Pn	10 26 14.1	+0.1
JYN				eS	Sn	10 26 31.2	-0.2
MJAR	Matsushiro Arr	0.89	294	P	Pn	10 26 14.0	-0.1
	9.7nm,0.3s,baz=142,slow=7.8,SNR=55						
MJAR				S	Sn	10 26 31.1	-0.5
	6.2nm,0.3s,baz=240,slow=7.8,SNR=8.8						
MJAR	Matsushiro Arr	0.89	294	P	Pn	10 26 14.0	-0.1
MJAR				S	Sn	10 26 31.1	-0.5
MAJO	Matsushiro	0.89	294	ePn	Pn	10 26 14.3	+0.2
MAJO				eSn	Sn	10 26 30.7	-0.8
MAT	Matsushiro	0.89	294	P	Pn	10 26 14.3	+0.2
MAT				S	Sn	10 26 30.8	-0.8
MAT	Matsushiro	0.89	294	P	Pn	10 26 14.2	+0.1
MAT				S	Sn	10 26 31.0	-0.6
JOD2	Odawara 2	0.93	186	P	Pn	10 26 14.2	-0.3
JOD2				S	Sn	10 26 31.0	-1.2
JNS	Sasagawa	1.63	3	P	Pn	10 26 22.1	+0.7
JSD	Sado	2.00	338	P	Pn	10 26 25.8	+0.1
JGM	Miyama	2.08	257	P	Pn	10 26 27.4	+0.7
JGM				eS	Sn	10 26 54.7	+0.7
JMM	Marumori	2.10	37	P	Pn	10 26 27.5	+0.7
JMM				eS	Sn	10 26 54.6	+0.3
BSO1	Boso 1	2.10	136	P	Pn	10 26 26.8	-0.1
BSO1				eS	Sn	10 26 54.6	+0.2
ERM	Erimo	6.58	27	Pn	Pn	10 27 24.6	-0.7
YSS	Yuzh-Sakhalins	11.08	13	Pn	Pn	10 28 23.2	-2.1
MKAR	Makanchi Array	43.08	303	P	P	10 33 37.3	+0.4
	0.3nm,0.6s,mb3.1,baz=82,slow=10,SNR=3.0						
MKAR	Makanchi Array	43.08	303	P	P	10 33 37.2	+0.4
KURK	Kurchatov	45.07	309	P	P	10 33 53.0	+0.3
	1.7nm,0.5s,mb4.0,baz=85,slow=7.9,SNR=16						
KURK	Kurchatov	45.07	309	P	P	10 33 53.0	+0.3
WRA	Warramunga Arr	56.01	186	P	P	10 35 14.4	-0.6
	0.3nm,0.4s,mb3.4,baz=0.8,slow=7.6,SNR=16						
WRA	Warramunga Arr	56.01	186	P	P	10 35 14.4	-0.6

IDC 01 10:58:57.0±4.7**, 29°.65S**×**177°.93W, h0**km**, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.7**/13**, mbtmp3.7**/3**, Error ellipse: s-maj=185.7km s-min=71.9km az=159.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.71	256	P	P	11 05 49.3	+0.5
	1.3nm,0.6s,baz=105,slow=13,SNR=5.3						
ASAR	Alice Springs	43.21	266	P	P	11 06 59.6	-0.5
	0.1nm,0.3s,baz=106,slow=7.4,SNR=10						
WRA	Warramunga Arr	44.13	271	P	P	11 07 07.4	-0.1
	0.5nm,0.3s,baz=110,slow=8.2,SNR=26						
FINES	FINESS Array B	144.46	340	PKP	PKPdf	11 18 34.1	-0.5
	1.5nm,0.6s,baz=64,slow=4.4,SNR=4.8						

WEL 01 11:03:31.9±0.2**, 43°.99S**×**168°.99E, h11**km±2km**, ML3.5**/11**, 1D, Error ellipse: s-maj=3.2km s-min=2.4km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	Jackson Bay	0.19	243	⇓PG	Pg	11 03 36.1	+0.1
JCZ				SG	Sg	11 03 39.1	+0.3
FOZ	Fox Glacier	0.66	50	P*	Pb	11 03 45.6	+0.1

WKZ	**Wanaka**	**0.84 179**	P*	Pb	11 03 47.5	-1.0
WKZ			S*	Sb	11 03 58.1	-1.7
LBZ	**Lake Benmore**	**0.95 115**	P*	Pb	11 03 49.7	-0.7
LBZ			S*	Sb	11 04 01.2	-1.6
MSZ	**Milford Sound**	**1.02 228**	P*	Pb	11 03 50.2	-1.4
MSZ			S*	Sb	11 04 02.4	-2.7
EAZ	**Earnscleugh**	**1.26 170**	P*	Pb	11 03 55.0	-0.7
EAZ			S*	Sb	11 04 10.1	-1.9
MLZ	**Mavora Lakes**	**1.48 203**	PN	Pn	11 03 59.2	+0.7
RPZ	**Rata Peaks**	**1.52 80**	PN	Pn	11 03 59.1	+0.1
WVZ	**Waitaha Valley**	**1.56 55**	PN	Pn	11 03 58.0	-1.6
ODZ	**Otahua Downs**	**1.59 132**	PN	Pn	11 03 59.7	-0.2
TUZ	**Tuapeka**	**2.02 167**	PN	Pn	11 04 07.8	+1.9
LTZ	**Lake Taylor**	**2.68 64**	PN	Pn	11 04 14.9	0.0
DSZ	**Denniston Nort**	**3.05 44**	PN	Pn	11 04 19.4	-0.6
THZ	**Tophouse**	**3.64 54**	PN	Pn	11 04 27.9	-0.2

*ISK **01** 11:18:05.6, 36°.96N×27°.70E, h9km, MD2.4*
*DDA **01** 11:18:05.2, 36°.91N×27°.74E, h7km±2km, Md2.8*
*CSEM **01** 11:18:05.9±0.2, 36°.94N×27°.72E, h10km, MD2.4, Error ellipse: s-maj=4.2km s-min=3.3km az=124.0*

ISC 01 11:18:06.2±1.8, 36°.93N±0°.05×27°.73E±0°.07, h2km±60km, n14, σ0s42/24, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.23**	**211**	*e*PG	**Pg**	**11 18 11.1**	**+0.4**
DAT	**Datca**	**0.23**	**211**	*e*Pg	**Pg**	**11 18 11.1**	**+0.4**
BODT	**Bodrum**	**0.36**	**291**	*e*PG	**Pg**	**11 18 12.5**	**-0.6**
BODT				*e*SG	**Sg**	**11 18 17.7**	**-0.1**
BODT	**Bodrum**	**0.36**	**291**	*e*Pg	**Pg**	**11 18 12.5**	**-0.6**
BODT				*e*Sg	**Sg**	**11 18 17.7**	**-0.1**
MLSB	**Milas**	**0.37**	**6**	*e*PG	**Pg**	**11 18 12.8**	**-0.5**
MLSB				*e*SG	**Sg**	**11 18 17.9**	**-0.1**
MLSB	**Milas**	**0.37**	**6**	*e*Pg	**Pg**	**11 18 12.8**	**-0.4**
MLSB				*e*Sg	**Sg**	**11 18 18.0**	**0.0**
YER	**Yerkesik**	**0.49**	**65**	*e*PG	**Pg**	**11 18 15.8**	**+0.3**
YER	**Yerkesik**	**0.49**	**65**	*e*Pg	**Pg**	**11 18 15.8**	**+0.2**
TURN	**Turunc**	**0.70**	**94**	||*i*P	**Pg**	**11 18 13.8**	**-5.9**
TURN				*i* S	**Sg**	**11 18 20.2**	**-8.5**
TURN	**Turunc**	**0.70**	**94**	*i* P	**Pg**	**11 18 13.8**	**-5.9**
TURN				*i* S	**Sg**	**11 18 20.2**	**-8.6**
AYDN	**Tasoluk**	**0.74**	**9**	*i* P	**Pg**	**11 18 19.9**	**-0.5**
AYDN				*i* S	**Sg**	**11 18 30.1**	**+0.1**
AYDN	**Tasoluk**	**0.74**	**9**	*i* P	**Pg**	**11 18 19.9**	**-0.5**
AYDN				*i* S	**Sg**	**11 18 30.1**	**+0.1**
GCAM	**G?zelcaml?**	**0.86**	**333**	*e*P	**Pg**	**11 18 22.7**	**-0.1**
GCAM				*e*S	**Sg**	**11 18 34.8**	**+0.8**
GCAM	**G?zelcaml?**	**0.86**	**333**	*e*P	**Pg**	**11 18 22.7**	**-0.1**
GCAM				*e*S	**Sg**	**11 18 34.8**	**+0.8**

*ATH **01** 11:30:30.5, 36°.25N×28°.91E, h56km±2km, MD3.4/6*
*ISCJB **01** 11:30:30.1±0.3, 36°.15N±0°.03×28°.90E±0°.03, h79km±8km, Error ellipse: s-maj=5.0km s-min=4.1km az=7.0*
*ISK **01** 11:30:30.6, 36°.23N×28°.89E, h80km, MD2.9*
*CSEM **01** 11:30:31.5±0.1, 36°.17N×28°.93E, h60km, MD3.1, Error ellipse: s-maj=3.0km s-min=2.6km az=62.0*
*THE **01** 11:30:32.2, 36°.22N×28°.97E, h47km±6km, ML3.2/2, Error ellipse: s-maj=6.6km s-min=0.8km az=302.0*
*DDA **01** 11:30:35.8, 36°.68N×28°.99E, h7km±9km, Md3.1*
*HLW **01** 11:30:38.9, 35°.73N×28°.97E, h42km±13km, Md3.7, Ml3.2*

ISC 01 11:30:31.6±0.4, 36°.18N±0°.03×28°.89E±0°.03, h68km±9km, n78, σ0s73/113, 1C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.56**	**92**	*e*P	**Pn**	**11 30 43.3**	**-1.5**
KSL	**Kastellorizon**	**0.56**	**92**	*e*P	**Pn**	**11 30 43.3**	**-1.5**
ARG	**Arkhangelos**	**0.62**	**274**	*e*P	**Pn**	**11 30 44.8**	**-0.7**
ARG				*e*S	**Sn**	**11 30 54.6**	**-1.1**
ARG	**Arkhangelos**	**0.62**	**274**	P	**Pn**	**11 30 45.0**	**-0.5**
ARG	**Arkhangelos**	**0.62**	**274**	P	**Pn**	**11 30 45.0**	**-0.5**
ARG				*e*S	**Sn**	**11 30 54.6**	**-1.1**
TURN	**Turunc**	**0.73**	**342**	⇑*i*P	**Pn**	**11 30 47.2**	**+0.4**
TURN				*i* S	**Sn**	**11 30 58.4**	**+0.4**
TURN	**Turunc**	**0.73**	**342**	*i* P	**Pn**	**11 30 47.2**	**+0.5**
TURN				*i* S	**Sn**	**11 30 58.4**	**+0.5**
ELL	**Elmali**	**1.00**	**55**	*e*PG	**Pn**	**11 30 50.0**	**+0.1**
ELL				*e*SG	**Sn**	**11 31 04.5**	**+0.9**
ELL	**Elmali**	**1.00**	**55**	*e*Pg	**Pn**	**11 30 50.0**	**+0.1**
ELL				*e*Sg	**Sn**	**11 31 04.6**	**+1.0**
YER	**Yerkesik**	**1.08**	**333**	*e*PG	**Pn**	**11 30 50.3**	**-0.6**
YER				*e*SG	**Sn**	**11 31 05.7**	**+0.4**
YER	**Yerkesik**	**1.08**	**333**	*e*Pg	**Pn**	**11 30 50.3**	**-0.6**
YER				*e*Sg	**Sn**	**11 31 05.7**	**+0.4**
GOLH	**Golhisar**	**1.19**	**27**	||*i*P	**Pn**	**11 30 52.1**	**-0.3**
GOLH				*i* S	**Sn**	**11 31 07.7**	**-0.2**
GOLH	**Golhisar**	**1.19**	**27**	*i* P	**Pn**	**11 30 52.1**	**-0.3**
GOLH				*i* S	**Sn**	**11 31 07.7**	**-0.2**
DAT	**Datca**	**1.20**	**298**	*e*PN	**Pn**	**11 30 52.8**	**+0.4**
DAT				*e*SN	**Sn**	**11 31 08.6**	**+0.5**
DAT	**Datca**	**1.20**	**298**	*e*Pn	**Pn**	**11 30 52.8**	**+0.4**
DAT				*e*Sn	**Sn**	**11 31 08.6**	**+0.5**
MLSB	**Milas**	**1.43**	**322**	*e*PN	**Pn**	**11 30 56.4**	**+0.8**
MLSB	**Milas**	**1.43**	**322**	*e*Pn	**Pn**	**11 30 56.4**	**+0.8**
KORT	**Korkueli**	**1.43**	**54**	*e*P	**Pn**	**11 30 56.5**	**+0.9**
KORT				*e*S	**Sn**	**11 31 14.6**	**+1.0**
KORT	**Korkueli**	**1.43**	**54**	*e*P	**Pn**	**11 30 56.5**	**+0.9**
KORT				*e*S	**Sn**	**11 31 14.6**	**+0.9**
NIS1	**Nisyros Isl.**	**1.45**	**288**	P	**Pn**	**11 30 56.0**	**+0.3**
NIS1				S	**Sn**	**11 31 14.5**	**+0.5**
NIS1	**Nisyros Isl.**	**1.45**	**288**	P	**Pn**	**11 30 56.0**	**+0.3**
NIS1				S	**Sn**	**11 31 14.5**	**+0.5**
DNZL	**Cakiroluk**	**1.52**	**5**	*e*P	**Pn**	**11 30 56.4**	**-0.3**
DNZL				*e*S	**Sn**	**11 31 15.0**	**-0.6**
DNZL	**Cakiroluk**	**1.52**	**5**	*e*P	**Pn**	**11 30 56.4**	**-0.3**
DNZL				*e*S	**Sn**	**11 31 15.0**	**-0.6**
KARP	**Karpathos**	**1.54**	**247**	*e*P	**Pn**	**11 30 57.8**	**+0.8**
KARP				*e*S	**Sn**	**11 31 17.0**	**+0.9**
KARP	**Karpathos**	**1.54**	**247**	P	**Pn**	**11 30 58.0**	**+1.0**
KARP				S	**Sn**	**11 31 17.2**	**+1.1**
KARP	**Karpathos**	**1.54**	**247**	*e*P	**Pn**	**11 30 57.9**	**+0.9**
KARP				*e*S	**Sn**	**11 31 17.0**	**+0.9**
DENT	**Denizli**	**1.58**	**4**	*e*PN	**Pn**	**11 30 57.6**	**+0.1**
DENT	**Denizli**	**1.58**	**4**	*e*Pn	**Pn**	**11 30 57.6**	**+0.1**
AYDN	**Tasoluk**	**1.69**	**332**	*e*P	**Pn**	**11 31 00.3**	**+1.3**
AYDN				*e*S	**Sn**	**11 31 18.7**	**-1.1**
AYDN	**Tasoluk**	**1.69**	**332**	*e*P	**Pn**	**11 31 00.3**	**+1.3**
AYDN				*e*S	**Sn**	**11 31 18.7**	**-1.1**
BCK	**Bucak**	**1.87**	**46**	*e*PN	**Pn**	**11 31 01.7**	**+0.3**
BCK	**Bucak**	**1.87**	**46**	*e*Pn	**Pn**	**11 31 01.7**	**+0.3**
GCAM	**G?zelcaml?**	**2.02**	**319**	*e*P	**Pn**	**11 31 03.9**	**+0.5**
GCAM				*e*S	**Sn**	**11 31 26.2**	**-1.5**
GCAM	**G?zelcaml?**	**2.02**	**319**	*e*P	**Pn**	**11 31 03.9**	**+0.5**
GCAM				*e*S	**Sn**	**11 31 26.2**	**-1.5**
SMG	**Samos**	**2.25**	**314**	*e*P	**Pn**	**11 31 06.4**	**-0.1**
SMG				*e*S	**Sn**	**11 31.9**	**-1.3**
SMG	**Samos**	**2.25**	**314**	*e*P	**Pn**	**11 31 06.4**	**-0.1**
SMG				*e*S	**Sn**	**11 31.9**	**-1.3**
KULA	**Kula-Manisa**	**2.34**	**356**	*e*PN	**Pn**	**11 31 07.4**	**-0.4**
KULA	**Kula-Manisa**	**2.34**	**356**	*e*Pn	**Pn**	**11 31 07.4**	**-0.4**
NPS	**Neapolis**	**2.82**	**252**	*e*P	**Pn**	**11 31 14.8**	**+0.5**
NPS				*e*S	**Sn**	**11 31 47.0**	**-0.1**
NPS	**Neapolis**	**2.82**	**252**	P	**Pn**	**11 31 15.0**	**+0.7**
NPS	**Neapolis**	**2.82**	**252**	*e*P	**Pn**	**11 31 14.8**	**+0.5**
NPS				*e*S	**Sn**	**11 31 46.9**	**-0.2**
APE	**Apeiranthos**	**2.85**	**289**	*e*P	**Pn**	**11 31 14.9**	**+0.3**
APE	**Apeiranthos**	**2.85**	**289**	*e*P	**Pn**	**11 31 14.9**	**+0.3**
HDMB	**Hadim**	**3.00**	**74**	*e*PN	**Pn**	**11 31 17.8**	**+1.2**
HDMB	**Hadim**	**3.00**	**74**	*e*Pn	**Pn**	**11 31 17.8**	**+1.1**
CHOS	**Chios island**	**3.16**	**315**	*e*P	**Pn**	**11 31 19.1**	**+0.2**
CHOS				*e*S	**Sn**	**11 31 54.1**	**-1.3**
CHOS	**Chios island**	**3.16**	**315**	*e*P	**Pn**	**11 31 19.1**	**+0.2**
CHOS				*e*S	**Sn**	**11 31 54.1**	**-1.3**
IDI	**Anoyia**	**3.37**	**256**	*e*P	**Pn**	**11 31 22.7**	**+0.9**
IDI	**Anoyia**	**3.37**	**256**	*e*P	**Pn**	**11 31 22.3**	**+0.5**
CSS	**Prodhromos**	**3.81**	**107**	P	**Pn**	**11 31 27.0**	**-0.8**
CSS	**Prodhromos**	**3.81**	**107**	P	**Pn**	**11 31 27.0**	**-0.8**
KYTH	**Kithira**	**4.74**	**273**	*e*P	**Pn**	**11 31 41.5**	**+1.1**
KYTH	**Kithira**	**4.74**	**273**	*e*P	**Pn**	**11 31 41.0**	**+0.6**
HMAT	**Matruh**	**5.28**	**197**	P	**Pn**	**11 31 48.1**	**+0.2**
HMAT							
HMAT	**Matruh**	**5.28**	**197**	P	**Pn**	**11 31 48.1**	**+0.2**
SLUM		**5.58**	**214**	P	**Pn**	**11 31 53.1**	**+1.1**
SLUM				S	**Sn**	**11 32 50.3**	**-4.5**
SLUM		**5.58**	**214**	P	**Pn**	**11 31 53.1**	**+1.1**
HBRG	**Burj al 'Arab**	**5.64**	**172**	P	**Pn**	**11 31 52.7**	**-0.2**
HBRG				S	**Sn**	**11 32 48.2**	**-8.1**
AMAG	**Maghara**	**6.59**	**146**	P	**Pn**	**11 32 05.8**	**0.0**
AMAG	**Maghara**	**6.59**	**146**	P	**Pn**	**11 32 05.8**	**0.0**
HNAT	**Natroun**	**6.68**	**167**	P	**Pn**	**11 32 06.8**	**-0.3**
HNAT	**Natroun**	**6.68**	**167**	P	**Pn**	**11 32 06.8**	**-0.3**
KOT	**Kottamia**	**6.70**	**158**	P	**Pn**	**11 32 07.0**	**-0.3**
KOT	**Kottamia**	**6.70**	**158**	P	**Pn**	**11 32 07.0**	**-0.3**
HHAG	**Hagoal**	**6.76**	**156**	P	**Pn**	**11 32 07.9**	**-0.2**
HHAG				S	**Sn**	**11 33 15.3**	**-8.4**
HHAG	**Hagoal**	**6.76**	**156**	P	**Pn**	**11 32 07.9**	**-0.3**
HSAF	**As Saff**	**6.91**	**160**	P	**Pn**	**11 32 09.4**	**-0.8**
HSAF	**As Saff**	**6.91**	**160**	P	**Pn**	**11 32 09.4**	**-0.8**
GLL	**Jalalah**	**6.99**	**159**	P	**Pn**	**11 32 10.6**	**-0.7**
GLL	**Jalalah**	**6.99**	**159**	P	**Pn**	**11 32 10.6**	**-0.7**
SUZ		**7.13**	**151**	P	**Pn**	**11 32 13.2**	**0.0**
SUZ		**7.13**	**151**	P	**Pn**	**11 32 13.2**	**0.0**
SWA2		**7.49**	**204**	P	**Pn**	**11 32 18.4**	**+0.2**
SWA2				AMP		11 33 00.0	
	comp=N,20μm,0.5s,logA/T=4.6,baz=206						
SWA2		**7.49**	**204**	P	**Pn**	**11 32 18.4**	**+0.2**
HNKL	**Nakhl**	**7.55**	**144**	P	**Pn**	**11 32 18.5**	**-0.4**
HNKL				S	**Sn**	**11 33 34.8**	**-8.3**
HNKL	**Nakhl**	**7.55**	**144**	P	**Pn**	**11 32 18.5**	**-0.4**
HFRF	**Wahat Farafira**	**9.01**	**183**	P	**Pn**	**11 32 37.5**	**-1.4**
HFRF	**Wahat Farafira**	**9.01**	**183**	P	**Pn**	**11 32 37.5**	**-1.4**

CASC 01 11:46:58.2±3.9, 14°.55N×88°.70W, h0km±18km, MD3.7, 1C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBRS	**Las Brisas**	**0.88**	**203**	*e*P	Pg	11 47 18.7	+3.7
CAHU	**Cacacuatique**	**0.91**	**149**	*e*P	Sg	11 47 25.7	-1.7
LFRS	**El Faro**	**0.99**	**201**	*e*P	Pg	11 47 16.2	-0.9
BOQS	**Boqueron**	**0.99**	**215**	⇑*e*P	Pg	11 47 18.0	+0.8
BOQS				*e*S	Sg	11 47 34.6	+4.5
RBDL	**Robledal**	**1.05**	**246**	*e*P	Pg	11 47 23.2	+4.7
RBDL				*e*S	Sg	11 47 45.1	+13
SNJE	**San Jose**	**1.11**	**233**	*e*P	Pg	11 47 19.5	-0.1
RTR	**El Retiro**	**1.13**	**235**	*e*P	Pg	11 47 20.1	+0.2
SBLS	**San Blas**	**1.14**	**232**	*e*P	Pg	11 47 18.6	-1.5
SBLS				*e*S	Sg	11 47 37.2	+2.2
NBG	**Las Nubes**	**1.60**	**272**	*e*P	Pn	11 47 27.0	-0.7
NBG				*e*S	Sn	11 47 50.5	+1.4
FUG	**Fuego 3**	**2.08**	**267**	*e*P	Pn	11 47 34.8	+0.4
FUG				*e*S	Sn	11 48 05.1	+4.0
FG6		**2.12**	**271**	*e*P	Pn	11 47 34.7	-0.2
FG6				*e*S	Sn	11 48 05.3	+3.4

*ISCJB **01** 11:56:04.0±0.6, 63°.17N±0°.02×151°.53W±0°.05, h9km±5km, mb3.6/7, Error ellipse: s-maj=4.2km s-min=3.0km az=23.8*
*NEIC **01** 11:56:04.8, 63°.13N×151°.48W, h12km, ML3.4(AEIC), After AEIC.*
*IDC **01** 11:56:04.7±0.8, 63°.32N×151°.60W, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.6/23, mbtmp3.5/10, ML2.8/3, Error ellipse: s-maj=17.0km s-min=12.6km az=134.0*

ISC 01 11:56:04.7±0.5, 63°.16N±0°.02×151°.52W±0°.05, h7km±4km, n65, σ0s97/80, mb3.6/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.40**	**229**	P	**Pg**	**11 56 12.5**	**0.0**
PPLA				S	**Sg**	**11 56 17.8**	**0.0**
TRF	**Thorofare Moun**	**0.63**	**62**	P	**Pg**	**11 56 16.9**	**+0.1**
TRF				S	**Sg**	**11 56 25.7**	**+0.8**
CHUM	**Lake Minchumin**	**0.81**	**334**	P	**Pg**	**11 56 21.4**	**+1.3**
CHUM				S	**Sg**	**11 56 32.5**	**+1.9**
BPAW	**Bear Paw Mtn.**	**0.97**	**14**	P	**Pg**	**11 56 23.7**	**+0.4**
BPAW				S	**Sg**	**11 56 37.0**	**+1.1**
TRAP	**Trapper Creek**	**1.02**	**144**	P	**Pg**	**11 56 23.3**	**-0.9**
SKT	**Skwentna**	**1.19**	**180**	P	**Pb**	**11 56 26.1**	**-1.4**
SKT				S	**Sg**	**11 56 41.0**	**-1.8**
RND	**Reindeer**	**1.23**	**77**	P	**Pn**	**11 56 27.2**	**-1.1**
MCK	**McKinley**	**1.30**	**63**	P	**Pn**	**11 56 28.7**	**-0.5**
MCK				S	**Sb**	**11 56 46.1**	**-0.1**
STLK	**Strandline Lak**	**1.68**	**185**	P	**Pn**	**11 56 34.1**	**-0.4**
SUA	**Susitna One**	**1.74**	**168**	P	**Pn**	**11 56 35.5**	**+0.2**
SUA				S	**Sn**	**11 56 58.1**	**+0.2**
NEA	**Nenana**	**1.79**	**36**	P	**Pn**	**11 56 34.8**	**-1.2**
NEA				S	**Sn**	**11 57 01.4**	**+2.5**
CGLM	**Capps Glacier**	**1.88**	**187**	P	**Pn**	**11 56 37.3**	**+0.1**
CGLM				S	**Sn**	**11 57 02.1**	**+1.1**
SPNW	**Spurr Northwes**	**1.89**	**196**	P	**Pn**	**11 56 37.7**	**+0.3**
MLY	**Manley**	**1.91**	**10**	P	**Pn**	**11 56 37.6**	**0.0**
PMR	**Palmer**	**1.93**	**144**	P	**Pn**	**11 56 37.5**	**-0.5**
WRH	**Wood River Hil**	**2.01**	**48**	P	**Pn**	**11 56 38.1**	**-0.9**
CKL	**Chakachamna La**	**2.01**	**191**	P	**Pn**	**11 56 39.1**	**0.0**
SML	**Sawmill**	**2.01**	**131**	P	**Pn**	**11 56 38.3**	**-0.7**
TTA	**Tatalina**	**2.06**	**265**	*e*Pn	**Pn**	**11 56 39.6**	**-0.1**
TTA				*e*Sn	**Sn**	**11 57 03.0**	**-2.6**
TT01	**Tatalina**	**2.07**	**265**	P	**Pn**	**11 56 39.2**	**-0.5**
FIB	**Fire Island**	**2.10**	**162**	P	**Pn**	**11 56 40.8**	**+0.5**
BKG	**Blockade Glaci**	**2.13**	**190**	P	**Pn**	**11 56 41.2**	**+0.6**
CCB	**Clear Creek Bu**	**2.22**	**46**	P	**Pn**	**11 56 40.7**	**-1.2**
MDM	**Murphy Dome**	**2.31**	**37**	P	**Pn**	**11 56 42.2**	**-0.9**
COLA	**College**	**2.36**	**42**	P	**Pn**	**11 56 42.8**	**-1.0**
SCM	**Sheep Creek Mo**	**2.36**	**123**	P	**Pn**	**11 56 43.3**	**-0.6**
HDA	**Harding Lake**	**2.38**	**56**	P	**Pn**	**11 56 43.2**	**-0.9**
IL1	**Eielson Array**	**2.60**	**50**	P	**Pn**	**11 56 46.1**	**-1.1**
ILAR	**Eielson Array**	**2.60**	**50**	Pn	**Pn**	**11 56 46.1**	**-1.0**
	1.0nm,0.3s,baz=236,slow=14,SNR=81						
ILAR				Lg		11 57 25.2	
	29nm,0.3s,baz=252,slow=28,SNR=17						
ILAR	**Eielson Array**	**2.60**	**50**	Pn	**Pn**	**11 56 46.1**	**-1.0**
ILAR				Lg		11 57 25.1	
DDM	**Donnelly Dome**	**2.62**	**74**	P	**Pn**	**11 56 48.0**	**+0.6**
SLKM	**Skilak Lake**	**2.74**	**166**	P	**Pn**	**11 56 48.7**	**-0.3**
PAX	**Paxson**	**2.76**	**91**	P	**Pn**	**11 56 49.5**	**+0.2**
RSO	**Redoubt South**	**2.77**	**193**	P	**Pn**	**11 56 48.7**	**-0.8**
RSO				*e*Sn	**Sn**	**11 57 24.1**	**+0.9**
IM3	**Indian Mountai**	**2.99**	**342**	P	**Pn**	**11 56 53.0**	**+0.5**
KLU	**Klutina**	**3.10**	**120**	P	**Pn**	**11 56 53.5**	**-0.6**
VLZ	**Valdez**	**3.18**	**128**	P	**Pn**	**11 56 55.7**	**+0.7**
SEW	**Seward**	**3.23**	**161**	*e*Pn	**Pn**	**11 56 58.9**	**+3.1**
SEW				*e*Sn	**Sn**	**11 57 37.0**	**+2.6**
DIV	**Divide**	**3.38**	**125**	P	**Pn**	**11 56 58.2**	**+0.4**
DOT	**Dot Lake**	**3.39**	**78**	*e*Pn	**Pn**	**11 56 58.4**	**+0.4**
BMRM	**Bremner River**	**3.93**	**121**	*e*Pn	**Pn**	**11 57 06.5**	**+1.1**
BMRM				*e*Sn	**Sn**	**11 57 52.6**	**+0.9**
COLD	**Coldfoot**	**4.12**	**7**	P	**Pn**	**11 57 08.5**	**+0.5**
BCA3	**Beaver Creek A**	**4.42**	**87**	P	**Pn**	**11 57 11.9**	**-0.3**
BALM	**Baldy**	**4.81**	**112**	P	**Pn**	**11 57 18.2**	**+0.7**
EGAK	**Eagle**	**4.84**	**66**	P	**Pn**	**11 57 17.4**	**-0.6**
BM3	**Burnt Mountain**	**5.16**	**31**	P	**Pn**	**11 57 21.5**	**-0.8**
KDAK	**Kodiak Island**	**5.42**	**186**	Pn	**Pn**	**11 57 26.9**	**+1.0**
	0.2nm,0.3s,baz=337,slow=7.7,SNR=2.7						
KDAK	**Kodiak Island**	**5.42**	**186**	Pn	**Pn**	**11 57 26.9**	**+1.0**
DAWY	**Dawson**	**5.49**	**75**	P	**Pn**	**11 57 26.6**	**-0.1**
INK	**Inuvik**	**9.01**	**47**	Pn	**Pn**	**11 58 13.2**	**-1.8**
	0.2nm,0.3s,baz=245,slow=17,SNR=9.0						
INK				Sn	**Sn**	**11 59 52.3**	**-4.2**
	0.0nm,0.3s,baz=185,slow=12,SNR=2.2						
INK				Lg		12 00 46.5	
	0.0nm,0.3s,baz=71,slow=13,SNR=3.2						
INK	**Inuvik**	**9.01**	**47**	Pn	**Pn**	**11 58 13.2**	**-1.8**
INK				Sn	**Sn**	**11 59 52.3**	**-4.2**
INK				Lg		12 00 46.5	
PDAR	**Pinedale Array**	**31.64**	**110**	P	**P**	**12 02 28.7**	**+0.6**
	0.5nm,0.9s,mb3.3,baz=339,slow=4.8,SNR=3.2						
PDAR	**Pinedale Array**	**31.64**	**110**	P	**P**	**12 02 28.7**	**+0.6**
NVAR	**Mina Array Bea**	**31.81**	**125**	P	**P**	**12 02 31.8**	**+2.1**
	0.2nm,0.8s,mb3.0,baz=311,slow=8.2,SNR=2.6						
NVAR				PcP	PcP	12 05 20.9	+0.5
	0.4nm,0.7s,baz=286,slow=3.8,SNR=4.2						
NVAR	**Mina Array Bea**	**31.81**	**125**	P	**P**	**12 02 31.8**	**+2.1**
NVAR				PcP	PcP	12 05 20.9	+0.5
TXAR	**Lajitas Array**	**45.55**	**115**	P	**P**	**12 04 26.1**	**+1.2**
	0.3nm,0.7s,mb3.3,baz=332,slow=5.3,SNR=4.6						
TXAR	**Lajitas Array**	**45.55**	**115**	P	**P**	**12 04 26.1**	**+1.2**
SONM	**Songino Array**	**53.53**	**305**	P	**P**	**12 05 26.9**	**+1.4**
	0.7nm,0.9s,mb3.6,baz=21,slow=5.4,SNR=4.5						
SONM	**Songino Array**	**53.53**	**305**	P	**P**	**12 05 26.9**	**+1.4**
ZALV	**Zalesovo Beam**	**55.25**	**323**	P	**P**	**12 05 37.4**	**-0.5**
	0.8nm,0.6s,mb4.0,baz=23,slow=8.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**55.25**	**323**	P	**P**	**12 05 37.4**	**-0.5**
MKAR	**Makanchi Array**	**62.40**	**321**	P	**P**	**12 06 26.8**	**-0.9**
	0.4nm,0.6s,mb3.7,baz=35,slow=5.3,SNR=4.5						
MKAR	**Makanchi Array**	**62.40**	**321**	P	**P**	**12 06 26.8**	**-0.9**
AKASG	**Malin Array Be**	**66.48**	**359**	P	**P**	**12 06 54.2**	**-0.1**
	0.7nm,0.4s,mb4.0,baz=359,slow=6.2,SNR=4.8						
AKASG	**Malin Array Be**	**66.48**	**359**	P	**P**	**12 06 54.2**	**-0.1**

*ISCJB **01** 11:59:55.4±0.4, 11°.58N±0°.09×85°.9W±0°.1, h165km±4km, mb3.9/6, Error ellipse: s-maj=21.7km s-min=4.8km az=138.6*
*IDC **01** 11:59:55.3±1.0, 11°.69N×85°.65W, h157km±22km, mb3.6/6, mb1 3.9/7, mb1mx3.6/20, mbtmp3.6/7, Error ellipse: s-maj=43.3km s-min=22.3km az=33.0*
*NEIC **01** 11:59:55.8±0.9, 11°.48N×85°.89W, h170km±11km, Error ellipse: s-maj=32.3km s-min=12.3km az=214.0*
*CASC **01** 11:59:56.2±1.3, 11°.52N×85°.93W, h157km±4km, MD3.7, ML3.3*

ISC 01 11:59:56.1±0.4, 11°.58N±0°.09×85°.9W±0°.1, h162km±4km, n50, σ0s75/61, mb3.9/6, 4C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	**Ticuantepe**	**0.58**	**322**	*e*P	**Pn**	**12 00 18.8**	**-0.4**
MGAN	**Managua**	**0.68**	**327**	*e*P	**Pn**	**12 00 19.6**	**-0.1**
MGAN				*e*S	**Sn**	**12 00 38.1**	**+0.3**
MGAN				AML	AML	12 00 40.0	
	comp=N,608nm,0.6s						
TISN	**Laguna Tiscapa**	**0.69**	**325**	*e*P	**Pn**	**12 00 19.6**	**-0.2**
XAVN	**Gruta Xavier**	**0.72**	**322**	*e*P	**Pn**	**12 00 19.9**	**-0.1**
CSAN		**0.81**	**318**	*e*P	**Pn**	**12 00 19.3**	**-1.3**
GBS2	**Las Lilas**	**0.84**	**151**	*i* P	**Pn**	**12 00 20.6**	**-0.2**
GB1A	**Borinquen Arri**	**0.88**	**148**	*i* P	**Pn**	**12 00 21.3**	**+0.2**
GB1A				*i* S	**Sn**	**12 00 40.9**	**+0.6**
GBS3	**Finca Las Im~¡**	**0.89**	**153**	*i* P	**Pn**	**12 00 20.9**	**-0.2**
LAPC	**Finca la Perla**	**0.91**	**152**	*i* P	**Pn**	**12 00 21.2**	**-0.1**
LAPC				*i* S	**Sn**	**12 00 39.7**	**-0.9**
GPS1	**Guardaparques**	**0.94**	**147**	*i* P	**Pn**	**12 00 21.8**	**+0.2**
GPS1				*i* S	**Sn**	**12 00 40.8**	**-0.3**
GPS3	**Bodega del ICE**	**0.95**	**149**	*i* P	**Pn**	**12 00 21.7**	**0.0**
GPS2	**Hotel Rinc~‡n**	**0.96**	**148**	*i* P	**Pn**	**12 00 21.8**	**0.0**
NY14	**Universidad de**	**0.98**	**160**	*i* P	**Pn**	**12 00 22.0**	**+0.1**
NY14				*i* S	**Sn**	**12 00 41.4**	**-0.2**
LIM1	**Limonal**	**1.06**	**145**	*i* P	**Pn**	**12 00 22.8**	**+0.2**
LIM1				*i* S	**Sn**	**12 00 42.8**	**0.0**
MESS	**Mesas**	**1.06**	**141**	⇑*i*P	**Pn**	**12 00 22.8**	**+0.2**
COLC	**Colonia**	**1.12**	**144**	*i* P	**Pn**	**12 00 23.2**	**+0.2**
**CUI

FG6		2.34	323	eP		Pn	12 10 34.0 +0.5
FG6				eS		Sn	12 11 00.9 -0.2
TGUH	Tegucigalpa,Un	2.50	57	⇑ePn		Pn	12 10 36.1 +0.4
TGUH	Tegucigalpa,Un	2.50	57	⇑eP		Pn	12 10 35.9 +0.2
TP2	Tecpan 2	2.60	324	eP		Pn	12 10 35.5 -1.6
TP2				eS		Sn	12 11 07.7 +0.2
JAT	Jato	2.69	307	eP		Pn	12 10 37.9 -0.5
JAT				eS		Sn	12 11 09.9 +0.1
MGAN	Managua	3.15	99	eP		Pn	12 10 44.2 -0.4
MGAN				eS		Sn	12 11 07.1 -14
MGAN				AML		AML	12 11 08.5
	comp=N,1μm,0.4s						
TICN	Ticuantepe	3.19	101	eP		Pn	12 10 45.3 +0.1
THIG		3.54	309	P		Pn	12 10 51.5 +1.5
THIG				S		Sn	12 11 27.9 -2.6
CCIG	Comitan	4.44	324	P		Pn	12 11 05.2 +2.9
PCIG		4.75	310	P		Pn	12 11 06.0 -0.6
PCIG				S		Sn	12 11 54.1 -6.4
JTS	JuntasAbangare	4.99	118	P		Pn	12 11 10.2 +0.3
	comp=N,3.4nm,0.3s,baz=316,slow=14,SNR=17						
JTS				S		Sn	12 11 51.6 -15
	comp=N,5.5nm,0.3s,baz=278,slow=23,SNR=6.7						
JTS				Lg			12 12 37.5
	baz=355,slow=8.3,SNR=5.5						
JTS	JuntasAbangare	4.99	118	ePn		Pn	12 11 09.9 0.0
JTS				S		Sn	12 11 51.6 -15
JTS				Lg			12 12 37.5
JCR	Jicaral	5.08	123	eS		Sn	12 11 59.5 -9.2
CGA2	Cerro Gallo 2	5.54	118	eP		Pn	12 11 19.4 +1.9
BUS	Buena Vista	6.37	119	⇓eP		Pn	12 11 30.5 +1.6
BUS				eS		Sn	12 12 34.7 -5.7
CMIG	Matias Romero	6.86	310	P		Pn	12 11 36.1 +0.5
	comp=N,1.4nm,0.3s,baz=111,slow=8.9,SNR=19						
CMIG				S		Sn	12 12 50.2 -2.2
	comp=N,1.0nm,0.3s,baz=232,slow=17,SNR=2.4						
CMIG	Matias Romero	6.86	310	P		Pn	12 11 36.1 +0.5
CMIG				S		Sn	12 12 50.2 -2.2
HUIG	Huatulco	7.17	296	P		Pn	12 11 37.8 -2.1
ACR	Cerro Adams	7.34	122	eP		Pn	12 11 42.0 -0.2
TEIG	Tepich	7.58	8	P		Pn	12 11 47.0 +1.5
	comp=N,4.2nm,0.3s,baz=83,slow=2.5,SNR=52						
TEIG				S		Sn	12 13 04.8 -5.3
	baz=144,slow=18,SNR=1.8						
TEIG				LR		LR	12 15 02.4
	comp=N,392nm,19.4s,baz=360,slow=42						
TEIG	Tepich	7.58	8	P		Pn	12 11 47.0 +1.5
TEIG				S		Sn	12 13 04.8 -5.3
VHO	Vista Hermosa	8.30	303	P		Pn	12 12 01.6 +6.1
VHO				S		Sn	12 13 34.3 +6.3
PNIG	Pinotepa	9.20	295	P		Pn	12 12 05.6 -2.0
UTMO	Huajuapan	9.57	303	P		Pn	12 12 14.1 +1.4
SDV	Santo Domingo	18.84	100	ePn		Pn	12 14 13.0 -1.8
	comp=N,9.4nm,1.1s						
VBMS	Vicksburg	19.47	357	ePn		Pn	12 14 23.1 +0.9
	comp=N,78nm,1.3s						
NATX	Nacogdoches	19.59	347	eP		Pn	12 14 22.9 -0.7
	comp=N,26nm,0.6s						
JCT	Junction City	20.14	333	eP		P	12 14 28.4 +0.3
	comp=N,15nm,0.6s						
TXAR	Lajitas Array	21.20	324	P		P	12 14 41.4 +1.9
	comp=N,6.8nm,0.6s,mb4.2,baz=137,slow=9.3,SNR=102						
TXAR				PcP		PcP	12 18 44.5 +0.7
	comp=N,0.4nm,0.8s,baz=91,slow=3.6,SNR=3.3						
TXAR	Lajitas Array	21.20	324	P		P	12 14 41.4 +1.9
TXAR				PcP		PcP	12 18 44.5 +0.7
MIAR	Mount Ida	22.09	351	eP		P	12 14 48.9 0.0
	comp=N,30nm,1.0s,mb4.7						
UALR	University of	22.15	354	eP		P	12 14 49.9 +0.3
	comp=N,40nm,1.1s,mb4.8						
ATAH	Atahualpa	22.54	150	LR		LR	12 22 43.7
	comp=N,101nm,19.7s,MS3.3,baz=292,slow=34						
TKL	Tuckaleechee C	23.44	12	P		P	12 15 02.2 -0.7
	comp=N,7.2nm,0.7s,mb4.2,baz=179,slow=12,SNR=7.9						
TKL				LR		LR	12 24 17.0
	comp=N,277nm,19.0s,MS3.7,baz=298,slow=37						
TKL	Tuckaleechee C	23.44	12	P		P	12 15 02.2 -0.7
WMOK	Wichita Mounta	23.54	340	eP		P	12 15 02.4 -1.6
	comp=N,14nm,0.7s,mb4.5						
PARMO	Parma	23.88	359	eP		P	12 15 07.0 0.0
MNTX	Cornudas Mount	23.95	325	eP		P	12 15 07.4 -0.4
	comp=N,8.0nm,1.0s,mb4.1						
AMTX	Amarillo	24.74	335	eP		P	12 15 14.8 -0.1
	comp=N,14nm,0.6s,mb4.7						
SIUC	Southern Illin	24.93	0	eP		P	12 15 16.4 -0.1
	comp=N,22nm,0.8s,mb4.8						
FVM	French Village	25.21	358	eP		P	12 15 19.3 +0.2
	comp=N,240nm,2.4s,mb5.3						
WCI	Wyandotte Cave	25.59	6	eP		P	12 15 21.7 -0.8
	comp=N,15nm,0.7s,mb4.6						
SLM	Saint Louis	25.86	359	eP		P	12 15 26.8 +1.8
	comp=N,41nm,0.6s,mb5.1						
ANMO	Albuquerque	27.01	328	P		P	12 15 36.5 +1.1
	comp=N,0.9nm,0.7s,mb3.4,baz=131,slow=14,SNR=3.4						
ANMO	Albuquerque	27.01	328	P		P	12 15 36.5 +1.1
KSU1	Kansas State U	27.07	348	eP		P	12 15 35.3 -0.7
	comp=N,20nm,0.7s,mb4.8						
TUC	Tucson	27.66	318	eP		P	12 15 44.2 +2.8
	comp=N,5.3nm,0.7s,mb4.3						
WUAZ	Wupatki	30.16	323	eP		P	12 16 05.1 +1.6
	comp=N,62nm,2.5s,mb4.9						
PV04	Paradox Valley	30.92	329	eP		P	12 16 11.3 +1.1
LDFC	Landfair	32.20	318	eP		P	12 16 24.6 +3.0
	comp=N,7.2nm,0.6s,mb4.7						
SADO	Sadowa	33.16	13	P		P	12 16 28.1 -1.7
	comp=N,6.5nm,0.6s,mb4.8,baz=212,slow=13,SNR=4.7						
SADO	Sadowa	33.16	13	P		P	12 16 28.1 -1.7
RSSD	Black Hills	33.75	341	eP		P	12 16 35.6 +0.8
JLU	Jordanelle	33.87	329	eP		P	12 16 36.1 +0.1
PDAR	Pinedale Array	34.68	334	P		P	12 16 42.9 0.0
	comp=N,0.6nm,0.6s,mb3.7,baz=143,slow=11,SNR=4.6						
PDAR				PcP		PcP	12 19 16.9 +0.7
	comp=N,0.4nm,0.6s,baz=157,slow=6.3,SNR=3.9						
PDAR	Pinedale Array	34.68	334	P		P	12 16 42.9 0.0
PDAR				PcP		PcP	12 19 16.9 +0.7
AHID	Auburn Hatcher	35.37	332	eP		P	12 16 50.0 +1.1
	comp=N,104nm,3.0s						
REDW	Red Top Meadow	35.72	333	eP		P	12 16 52.7 +0.8
	comp=N,6.3nm,0.7s,mb4.7						
SNOW	Snow King Moun	35.76	333	eP		P	12 16 53.1 +0.8
LOHW	Long Hollow	35.81	333	eP		P	12 16 53.4 +0.7
	comp=N,109nm,3.0s						
AGMN	Agassiz Nation	35.91	353	eP		P	12 16 52.2 -1.2
	comp=N,15nm,0.7s,mb5.0						
RRI2	Red Ridge	35.92	332	eP		P	12 16 54.4 +0.7
	comp=N,49nm,2.5s,mb5.0						
MOOW	Moose Ponds	35.98	333	eP		P	12 16 54.8 +0.7
	comp=N,3.3nm,0.9s,mb4.3						
IMW	Indian Meadow	36.19	333	eP		P	12 16 56.0 +0.2
	comp=N,46nm,2.5s,mb5.0						
NVAR	Mina Array Bea	36.27	320	P		P	12 16 58.8 +2.1
	comp=N,3.6nm,0.8s,mb4.4,baz=134,slow=7.8,SNR=32						
NVAR				PcP		PcP	12 19 22.1 +1.1
	comp=N,1.4nm,0.7s,baz=145,slow=3.7,SNR=11						
NVAR	Mina Array Bea	36.27	320	P		P	12 16 58.8 +2.1
NVAR				PcP		PcP	12 19 22.1 +1.1
RLMT	Red Lodge	36.49	336	eP		P	12 16 58.3 -0.1
	comp=N,4.2nm,0.9s,mb4.4						
DGMT	Dagmar	37.73	344	eP		P	12 17 09.2 +0.3
	comp=N,21nm,0.8s,mb4.9						
MCMT	McKenzie Canyo	37.77	332	eP		P	12 17 10.4 +1.1
	comp=N,2.4nm,0.7s,mb4.0						
SCHQ	Schefferville	45.63	18	P		P	12 18 11.2 -2.2
	comp=N,10nm,0.8s,mb4.8,baz=215,slow=6.8,SNR=11						
SCHQ				PcP		PcP	12 19 50.2 -0.9
	comp=N,5.4nm,1.0s,baz=246,slow=9.6,SNR=5.3						
SCHQ	Schefferville	45.63	18	P		P	12 18 11.2 -2.2
SCHQ				PcP		PcP	12 19 50.2 -0.9
YKA	Yellowknife Ar	52.89	346	P		P	12 19 07.5 -1.2
	comp=N,1.4nm,0.5s,mb4.1,baz=148,slow=6.5,SNR=7.0						
YKA	Yellowknife Ar	52.89	346	P		P	12 19 07.5 -1.2
RCBR	Riachuelo	56.27	106	P		P	12 19 33.3 -0.9
	comp=N,4.7nm,0.8s,mb4.6,baz=240,slow=20,SNR=3.6						
RCBR	Riachuelo	56.27	106	P		P	12 19 33.3 -0.9
RES	Resolute Bay	62.06	358	P		P	12 20 11.0 -2.2
	comp=N,1.2nm,0.4s,mb4.4,baz=203,slow=12,SNR=8.7						
RES	Resolute Bay	62.06	358	P		P	12 20 11.0 -2.2
ILAR	Eielson Array	65.03	337	P		P	12 20 32.0 -0.9
	comp=N,1.1nm,0.9s,mb3.9,baz=167,slow=4.3,SNR=12						
ILAR	Eielson Array	65.03	337	P		P	12 20 32.0 -0.9
ARCES	ARCESS Array B	86.58	19	P		P	12 22 34.5 -1.3
	comp=N,2.2nm,0.8s,mb4.4,baz=298,slow=5.7,SNR=3.7						
ARCES	ARCESS Array B	86.58	19	P		P	12 22 34.5 -1.3
TORD	Torodi Ar. Bea	88.24	77	P		P	12 22 42.3 -2.6
	comp=N,0.4nm,0.5s,mb3.9,baz=285,slow=5.1,SNR=7.4						
TORD	Torodi Ar. Bea	88.24	77	P		P	12 22 42.3 -2.6
SONM	Songino Array	118.12	348	PKP		PKPdf	12 28 39.6 -0.2
	comp=N,0.3nm,0.7s,baz=355,slow=1.4,SNR=3.1						
SONM	Songino Array	118.12	348	PKP		PKPdf	12 28 39.6 -0.2
WRA	Warramunga Arr	137.48	254	PKP		PKPdf	12 29 17.7 +0.4
	comp=N,0.4nm,0.8s,baz=84,slow=2.2,SNR=3.2						
WRA	Warramunga Arr	137.48	254	PKP		PKPdf	12 29 17.7 +0.4
ASAR	Alice Springs	137.56	249	PKP		PKPdf	12 29 17.9 +0.4
	comp=N,0.2nm,0.7s,baz=119,slow=3.5,SNR=3.1						
ASAR	Alice Springs	137.56	249	PKP		PKPdf	12 29 17.9 +0.4
CMAR	Chiang Mai Arr	147.97	345	PKPbc		PKPbc	12 29 39.3 +0.3
	comp=N,3.3nm,0.7s,baz=342,slow=3.5,SNR=22						
CMAR	Chiang Mai Arr	147.97	345	PKPbc		PKPbc	12 29 39.3 +0.3

KRSC 01 12:11:29.2±0.7, 56°.77N×163°.11E, h11km±11km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.59	196	i P		Pg	12 11 41.9 +1.3
KBTR				eS		Sg	12 11 50.6 +2.4
SMKR	Semkarok	0.93	259	eP		Pg	12 11 47.4 +0.4
SMKR				eS		Sg	12 12 01.3 +2.3
BDR	Baidarnaya	1.07	260	eP		Pb	12 11 49.9 +0.2
BDR				eS		Sb	12 12 04.3 +0.7
SRKR	Sorokina	1.08	265	eP		Pb	12 11 49.1 -0.7
KLY	Klyuchi	1.44	252	eP		Pn	12 11 53.8 -1.3
KLY				S		Sn	12 12 12.5 -1.4
SRDR	Sredinnyy	1.93	258	eP		Pn	12 12 02.1 +0.2
SRDR				eS		Sn	12 12 26.5 +0.3
KOZ	Kozyrevsk	1.94	250	P		Pn	12 12 03.0 +1.0
KOZ				S		Sn	12 12 27.8 +1.6
TUMR	Tumrok	2.23	229	P		Pn	12 12 07.8 +1.7
TUMR				eS		Sn	12 12 36.3 +2.7
BKI	Bering	2.25	133	eP		Pn	12 12 05.7 -0.6
BKI				eS		Sn	12 12 32.6 -1.3
ESO	Esso	2.60	253	S		Sn	12 12 45.8 +3.3
SPN	Mys Shipunski	4.09	207	S		Sn	12 13 18.6 -0.7
NLC	Nalytchevo	4.21	213	P		Pn	12 12 35.0 +1.8
NLC				S		Sn	12 13 23.7 +1.4
SDLR	Sedlovina	4.26	217	P		Pn	12 12 36.2 +2.3
GNL	Ganaly	4.27	226	P		Pn	12 12 36.5 +2.4
AVH	Avacha	4.32	217	P		Pn	12 12 37.0 +2.3
KOK	Koryaka	4.33	218	P		Pn	12 12 37.2 +2.3
UGLR	Uglovaya	4.34	216	P		Pn	12 12 37.2 +2.2

*ISCJB **01** 12:15:55.0±0.9, 29°.2N±0°.2×45°.4W±0°.1, h10km, mb4.0/14, MS3.7/13, Error ellipse: s-maj=29.5km s-min=12.9km az=8.4*
*IDC **01** 12:15:55.2±1.1, 29°.19N×45°.40W, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/29, mbtmp4.0/14, MS3.7/13, Ms1 3.7/13, ms1mx3.5/35, Error ellipse: s-maj=37.3km s-min=16.8km az=8.0*
*NEIC **01** 12:15:56.6±0.7, 29°.15N×45°.41W, h10km, Error ellipse: s-maj=22.8km s-min=10.0km az=188.0*
ISC 01 12:15:56.8±0.9, 29°.2N±0°.2×45°.4W±0°.1, h10km, n36, σ0.64/29, mb4.0/14, MS3.7/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	30.31	112	LR		LR	12 31 24.9
	comp=Z,81nm,19.9s,MS3.4,baz=266,slow=31						
TKL	Tuckaleechee C	32.89	291	LR		LR	12 32 46.1
	comp=Z,152nm,19.1s,MS3.7,baz=250,slow=31						
RCBR	Riachuelo	35.97	164	LR		LR	12 33 23.7
	comp=Z,96nm,18.4s,MS3.6,baz=140,slow=29						
DBIC	Dimbokro	44.26	112	P		P	12 24 06.6 -0.3
	2.4nm,0.8s,mb4.0,baz=264,slow=9.0,SNR=2.4						
DBIC	Dimbokro	44.26	112	P		P	12 24 06.6 -0.2
TORD	Torodi Ar. Bea	46.40	100	P		P	12 24 23.8 0.0
	5.0nm,0.7s,mb4.5,baz=301,slow=8.4,SNR=31						
TORD				LR		LR	12 42 02.2
	comp=Z,90nm,19.9s,MS3.7,baz=295,slow=34						
TORD	Torodi Ar. Bea	46.40	100	P		P	12 24 23.8 0.0
GERES	GERESS Array B	48.64	49	LR		LR	12 40 27.5
	comp=Z,44nm,20.9s,MS3.4,baz=338,slow=30						
NOA	NORSAR Array B	48.86	33	LR		LR	12 40 47.0
	comp=Z,60nm,20.7s,MS3.6,baz=260,slow=30						
TXAR	Lajitas Array	50.36	285	P		P	12 24 53.7 -0.5
	0.9nm,0.7s,mb3.9,baz=96,slow=7.8,SNR=12						
TXAR				LR		LR	12 44 01.1
	comp=Z,87nm,18.7s,MS3.8,baz=5.0,slow=34						
TXAR	Lajitas Array	50.36	285	P		P	12 24 53.7 -0.5
ANMO	Albuquerque	51.38	293	P		P	12 25 03.1 +1.2
	0.8nm,0.8s,mb3.7,baz=74,slow=7.9,SNR=4.0						
ANMO				LR		LR	12 44 45.5
	comp=Z,122nm,20.6s,MS3.9,baz=75,slow=34						
ANMO	Albuquerque	51.38	293	P		P	12 25 03.1 +1.2
PDAR	Pinedale Array	52.50	303	P		P	12 25 09.8 -0.2
	2.4nm,0.7s,mb4.2,baz=92,slow=8.2,SNR=19						
PDAR				LR		LR	12 44 43.2
	comp=Z,140nm,21.8s,MS4.0,baz=339,slow=33						
PDAR	Pinedale Array	52.50	303	P		P	12 25 09.8 -0.2
PD01	Pinedale Array	52.52	303	P		P	12 25 09.8 -0.5
FINES	FINESS Array B	56.03	33	P		P	12 25 35.7 +0.2
	3.6nm,0.9s,mb4.4,baz=286,slow=10.0,SNR=2.8						
FINES				LR		LR	12 45 43.4
	comp=Z,102nm,19.6s,MS3.9,baz=351,slow=32						
FINES	FINESS Array B	56.03	33	P		P	12 25 35.7 +0.2
ARCES	ARCESS Array B	56.32	24	P		P	12 25 37.2 -0.2
	2.0nm,0.6s,mb4.3,baz=249,slow=6.4,SNR=11						
ARCES				LR		LR	12 43 46.5
	comp=Z,99nm,20.5s,MS3.9,baz=244,slow=30						
ARCES	ARCESS Array B	56.32	24	P		P	12 25 37.2 -0.2
CPUP	Villa Florida	56.36	193	LR		LR	12 49 03.9
	comp=Z,42nm,18.4s,MS3.6,baz=98,slow=35						
AKASG	Malin Array Be	58.55	46	P		P	12 25 52.2 -1.2
	0.4nm,0.4s,mb3.8,baz=289,slow=5.8,SNR=4.5						
AKASG	Malin Array Be	58.55	46	P		P	12 25 52.2 -1.2
NVAR	Mina Array Bea	59.87	300	P		P	12 26 02.7 -0.1
	0.2nm,0.6s,mb3.3,baz=81,slow=12,SNR=2.7						
NVAR	Mina Array Bea	59.87	300	P		P	12 26 02.7 -0.1
BRTR	Keskin Array B	64.09	57	P		P	12 26 32.0 +0.9
	0.8nm,0.7s,mb3.9,baz=298,slow=4.2,SNR=3.9						
BRTR	Keskin Array B	64.09	57	P		P	12 26 32.0 +0.9
ILAR	Eielson Array	68.69	333	P		P	12 27 00.0 -0.2
	0.9nm,0.8s,mb3.7,baz=75,slow=4.7,SNR=12						
ILAR	Eielson Array	68.69	333	P		P	12 27 00.0 -0.2
AKTO	Aktyubinsk	75.93	40	P		P	12 27 43.0 -0.7
	3.3nm,0.7s,mb4.4,baz=316,slow=8.2,SNR=4.9						
AKTO	Aktyubinsk	75.93	40	P		P	12 27 43.0 -0.7
BVAR	Borovoye Array	80.99	33	P		P	12 28 12.3 +0.7
	0.8nm,0.7s,mb3.8,baz=298,slow=3.2,SNR=4.1						
BVAR	Borovoye Array	80.99	33	P		P	12 28 12.3 +0.7
KURK	Kurchatov	86.37	32	P		P	12 28 40.0 +0.8
	0.8nm,0.7s,mb4.0,baz=320,slow=4.8,SNR=6.1						
KURK	Kurchatov	86.37	32	P		P	12 28 40.0 +0.8
MKAR	Makanchi Array	90.86	33	LR		LR	13 05 37.7
	comp=Z,74nm,18.8s,MS4.2,baz=343,slow=33						

*IDC **01** 12:16:14.4±0.8, 39°.35N×73°.80E, h0km, mb4.2/11, mb1 4.3/16, mb1mx4.1/27, mbtmp4.2/16, ML3.5/5, MS3.1/3, Ms1 3.1/3, ms1mx2.6/36, Error ellipse: s-maj=14.7km s-min=14.2km az=174.0*
*ISCJB **01** 12:16:15.1±1.7, 39°.28N±0°.03×73°.67E±0°.06, h17km±13km, mb4.1/16, Error ellipse: s-maj=9.0km s-min=4.3km az=153.0*
*NNC **01** 12:16:18.4±3.2, 39°.57N×73°.73E, h0km, mb4.3, mpv4.4, Error ellipse: s-maj=28.8km s-min=16.0km az=1.0*
*MOS **01** 12:16:19.1±2.0, 39°.57N×73°.67E, h33km, mb4.3/11, Error ellipse: s-maj=11.5km s-min=5.7km az=91.1*
*NEIC **01** 12:16:20.3±0.6, 39°.53N×73°.71E, h35km, mb4.3/3, Error ellipse: s-maj=11.0km s-min=8.8km az=133.0*
*BJI **01** 12:16:24.6, 39°.97N×74°.44E, h32km, mB4.5/4, mb3.9/6, ML3.6/4, Ms3.7/1, Ms7 3.7/2*
ISC 01 12:16:14.3±1.9, 39°.27N±0°.03×73°.57E±0°.06, h0km±13km, n116, σ1.09/128, mb4.2/16, 9C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.88	82	Pg	Pn	12 16 42.3	-5.3
KSH				Sg	Sn	12 17 01.1	-11
KSH				smax			
	comp=N,1μm,0.5s						
KSH				smax			
	comp=E,1μm,0.6s						
AML	Almayashu	2.86	2	P	Pn	12 17 01.3	+0.2
	SNR=71						
UCH	Uchtor	3.04	13	P	Pn	12 17 04.1	+0.5
	SNR=72						
KZA	Kyzart	3.08	24	P	Pn	12 17 05.4	+1.2
	SNR=37						
EKS2	Erkin-Say	3.40	3	P	Pn	12 17 09.1	+0.6
	SNR=106						
EKS2	Erkin-Say	3.40	3	ePn	Pn	12 17 08.8	+0.4
EKS2	Erkin-Say	3.40	3	ePN	Pn	12 17 08.8	+0.4
AAK	Ala-Archa	3.44	11	P	Pn	12 17 09.8	+0.8
	SNR=119						
AAK	Ala-Archa	3.44	11	ePn	Pn	12 17 09.6	+0.6
AAK	Ala-Archa	3.44	11	i PN	Pn	12 17 09.7	+0.7
KBK	Karagaybulak	3.54	17	P	Pn	12 17 11.2	+0.7
	SNR=44						
ULHL	Ulahol	3.60	33	P	Pn	12 17 12.5	+1.2
	SNR=17						
FRU	Bishkek	3.65	12	ePN	Pn	12 17 11.0	-0.9
FRU				i		12 18 01.0	
FRU				pmax	pmax		
	comp=Z,240nm,1.4s						
FRU				smax			
	comp=N,1μm,1.6s						
CHMS	Chumysh	3.83	13	P	Pn	12 17 14.8	+0.4
	SNR=25						
TKM2	Tokmak 2	3.96	22	P	Pn	12 17 17.4	+1.3
	SNR=17						
TKM2	Tokmak 2	3.96	22	⇓Pn	Pn	12 17 16.5	+0.3
	comp=N,44nm,0.5s						
TKM2				⇑Lg		12 18 11.7	
	comp=N,96nm,0.7s						
TKM2	Tokmak 2	3.96	22	ePn	Pn	12 17 16.3	+0.2
TKM2	Tokmak 2	3.96	22	PN	Pn	12 17 16.5	+0.3
TKM2						12 18 11.6	
TKM2				pmax	pmax		
	comp=Z,44nm,0.5s						
TKM2				smax			
	comp=Z,96nm,0.7s						
USP	Ospenovka	4.06	10	P	Pn	12 17 17.7	+0.2
	SNR=13						
KK31	Karatay Array	4.47	330	⇑Pn	Pn	12 17 24.5	+1.3
	comp=Z,29nm,0.5s,baz=142,slow=14,SNR=146						
KK31				⇓Sn	Sn	12 18 18.0	+2.0
	comp=Z,37nm,0.5s,baz=146,slow=25,SNR=4.3						
KK31	Karatay Array	4.47	330	ePN	Pn	12 17 24.1	+0.8
KK31						12 18 17.9	
KK31				pmax	pmax		
	comp=Z,18nm,0.3s						
KK31				smax			
	comp=Z,28nm,0.3s						
KKAR	Karatay Array	4.47	330	ePn	Pn	12 17 24.1	+0.9
KKAR				eSn	Sn	12 18 16.2	+0.2
KKAR	Karatay Array	4.47	330	ePN	Pn	12 17 24.1	+0.8
KKAR				e		12 18 16.2	
KNDC	Almaty	4.70	32	⇑Pn	Pn	12 17 28.0	+1.5
	comp=Z,96nm,0.8s						
KNDC				⇓Lg		12 18 34.6	
	comp=Z,368nm,0.8s						
CEP	Cherat	5.59	194	P	Pn	12 17 48.7	+10
CEP				S	Sn	12 19 00.0	+16
KBL	Kabul	5.95	219	ePn	Pn	12 17 53.2	+10
	comp=Z,13nm,0.6s						
KBL	Kabul	5.95	219	ePN	Pn	12 17 53.2	+10
KBL				pmax	pmax		
	comp=Z,13nm,0.6s						
MK31	Makanchi Array	9.86	37	⇑Pn	Pn	12 18 39.1	+1.9
	comp=Z,1.5nm,0.6s,baz=221,slow=14,SNR=6.7						
MK31				⇑Lg		12 21 21.5	
	comp=Z,4.8nm,0.8s,baz=223,slow=27,SNR=3.9						
MK31	Makanchi Array	9.86	37	ePn	Pn	12 18 36.9	-0.3
MK31	Makanchi Array	9.86	37	i P	Pn	12 18 39.0	+1.8
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	Makanchi Array	9.86	37	Pn	Pn	12 18 37.4	+0.2
	comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=7.3						
MKAR				Lg		12 21 20.1	
	comp=Z,0.2nm,0.3s,baz=223,slow=26,SNR=3.8						
MKAR	Makanchi Array	9.86	37	Pn	Pn	12 18 37.4	+0.2
MKAR				Lg		12 21 20.1	
MKAR	Makanchi Array	9.86	37	P	Pn	12 18 37.4	+0.2
KURK	Kurchatov	11.99	16	Pn	Pn	12 19 01.9	-4.4
	comp=Z,0.0nm,0.3s,baz=205,slow=12,SNR=3.5						
KURK				Sn	Sn	12 21 21.0	+0.4
	comp=Z,0.1nm,0.3s,baz=206,slow=27,SNR=2.9						
KURK				Lg		12 22 19.7	
	comp=Z,0.1nm,0.3s,baz=201,slow=30,SNR=7.0						
KURK				LR	LR	12 23 47.8	
	comp=Z,89nm,18.3s,baz=215,slow=39						
KURK	Kurchatov	11.99	16	ePn	Pn	12 19 04.7	-1.6
KURK				Sn	Sn	12 21 21.0	+0.4
KURK				Lg		12 22 19.8	
KURK	Kurchatov	11.99	16	eP	Pn	12 19 04.7	-1.6
KURK

ZALV	**Zalesovo Beam**	**16.56**	**24**	*e*P	**Pn**	**12 20 08.9**	**+1.2**
TAPN	**Taplejung**	**16.73**	**131**	*e*P	**Pn**	**12 20 10.7**	**+0.6**
	comp=Z,6.8nm,0.6s						
NVS	**Novosibirsk**	**16.89**	**20⇑**	*i*P	**Pn**	**12 20 11.0**	**-0.8**
NVS				pmax	pmax		
	comp=Z,36nm,2.0s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.5s						
ODAN	**Odare**	**16.92**	**133**	*e*P	**Pn**	**12 20 13.1**	**+0.7**
	comp=E,11nm,0.5s						
SVE	**Sverdlovsk**	**19.52**	**338**	*e*P	**Pn**	**12 20 42.6**	**-1.5**
SVE				pmax	pmax		
	comp=Z,11nm,1.0s						
ARU	**Arti**	**19.83**	**335**	*e*Pn	**Pn**	**12 20 47.7**	**-0.1**
	comp=Z,13nm,0.8s						
ARU	**Arti**	**19.83**	**335**	*d i*P	**Pn**	**12 20 48.3**	**+0.5**
ARU				S	**Sn**	**12 24 29.9**	**-1.1**
ARU				pmax	pmax		
	comp=Z,14nm,0.8s						
GTA	**Gaotai**	**20.28**	**81**	*e*P	**P**	**12 20 52.2**	**+0.8**
GTA				pP		12 20 56.3	
GTA				sP	sP	12 20 59.7	+8.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GNI	**Garni**	**22.16**	**282**	P	**P**	**12 21 17.8**	**+6.2**
	comp=Z,4.3nm,0.3s,mb4.3,baz=87,slow=12,SNR=6.1						
GNI	**Garni**	**22.16**	**282**	*e*P	**P**	**12 21 15.1**	**+3.5**
GNI	**Garni**	**22.16**	**282**	P	**P**	**12 21 17.8**	**+6.2**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ZEI	**Tsey**	**22.61**	**288**	*e*P	**P**	**12 21 20.5**	**+4.2**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
KIV	**Kislovodsk**	**23.49**	**292**	*e*P	**P**	**12 21 26.8**	**+1.2**
	comp=Z,11nm,0.6s,mb4.6						
KIV	**Kislovodsk**	**23.49**	**292**	*e*P	**P**	**12 21 26.4**	**+0.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
KIV				MLR	MLR		
	comp=Z,33nm,13.0s						
SONM	**Songino Array**	**25.13**	**59**	P	**P**	**12 21 39.6**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.6,baz=265,slow=9.7,SNR=8.0						
SONM	**Songino Array**	**25.13**	**59**	P	**P**	**12 21 39.6**	**-1.1**
SONM	**Songino Array**	**25.13**	**59**	P	**P**	**12 21 39.6**	**-1.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BR131	**Keskin Array S**	**30.64**	**284**	*e*P	**P**	**12 22 31.6**	**+1.4**
	comp=Z,2.7nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**30.64**	**284**	P	**P**	**12 22 33.1**	**+2.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=99,slow=7.8,SNR=8.2						
BRTR	**Keskin Array B**	**30.64**	**284**	P	**P**	**12 22 33.1**	**+2.9**
BRTR	**Keskin Array B**	**30.64**	**284**	P	**P**	**12 22 33.1**	**+2.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**32.91**	**305**	P	**P**	**12 22 48.3**	**-1.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=78,slow=8.0,SNR=7.7						
AKASG	**Malin Array Be**	**32.91**	**305**	P	**P**	**12 22 48.3**	**-1.7**
AKASG	**Malin Array Be**	**32.91**	**305**	P	**P**	**12 22 48.3**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**36.40**	**323**	P	**P**	**12 23 20.2**	**+0.2**
	comp=Z,2.9nm,0.5s,mb4.3,baz=107,slow=8.7,SNR=7.6						
FINES	**FINESS Array B**	**36.40**	**323**	P	**P**	**12 23 20.2**	**+0.2**
FINES	**FINESS Array B**	**36.40**	**323**	P	**P**	**12 23 20.3**	**+0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARCES	**ARCESS Array B**	**39.41**	**336**	P	**P**	**12 23 45.2**	**-0.1**
	comp=Z,7.9nm,0.7s,mb4.5,baz=113,slow=9.2,SNR=28						
ARCES	**ARCESS Array B**	**39.41**	**336**	P	**P**	**12 23 45.2**	**-0.1**
ARCES	**ARCESS Array B**	**39.41**	**336**	P	**P**	**12 23 45.2**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GERES	**GERESS Array B**	**43.06**	**303**	P	**P**	**12 24 14.2**	**-1.4**
	comp=Z,1.2nm,0.7s,mb3.7,baz=77,slow=10,SNR=3.9						
GERES	**GERESS Array B**	**43.06**	**303**	P	**P**	**12 24 14.2**	**-1.4**
GERES	**GERESS Array B**	**43.06**	**303**	P	**P**	**12 24 14.2**	**-1.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**43.45**	**321**	P	**P**	**12 24 18.3**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.2,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**43.45**	**321**	P	**P**	**12 24 18.4**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.1,baz=91,slow=8.0,SNR=9.7						
NOA	**NORSAR Array B**	**43.45**	**321**	P	**P**	**12 24 18.4**	**-0.2**
NOA	**NORSAR Array B**	**43.45**	**321**	P	**P**	**12 24 18.4**	**-0.2**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ESDC	**Sonseca Array**	**57.98**	**297**	P	**P**	**12 26 11.2**	**+2.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=60,slow=7.2,SNR=3.0						
ESDC	**Sonseca Array**	**57.98**	**297**	P	**P**	**12 26 11.2**	**+2.6**
TORD	**Torodi Ar. Bea**	**67.81**	**269**	P	**P**	**12 27 14.9**	**+0.6**
	comp=Z,2.9nm,0.7s,mb4.7,baz=49,slow=5.3,SNR=19						
TORD	**Torodi Ar. Bea**	**67.81**	**269**	P	**P**	**12 27 14.9**	**+0.6**
ILAR	**Eielson Array**	**71.56**	**17**	P	**P**	**12 27 34.1**	**-2.5**
	comp=Z,0.6nm,0.8s,mb3.8,baz=325,slow=4.8,SNR=7.6						
ILAR	**Eielson Array**	**71.56**	**17**	P	**P**	**12 27 34.1**	**-2.5**
ILAR	**Eielson Array**	**71.56**	**17**	P	**P**	**12 27 34.2**	**-2.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DBIC	**Dimbokro**	**76.86**	**268**	P	**P**	**12 28 09.6**	**+1.2**
	comp=Z,1.8nm,0.7s,mb4.3,baz=54,slow=10,SNR=3.1						
DBIC	**Dimbokro**	**76.86**	**268**	P	**P**	**12 28 09.6**	**+1.2**
DBIC	**Dimbokro**	**76.86**	**268**	P	**P**	**12 28 09.6**	**+1.2**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**81.78**	**124**	P	**P**	**12 28 35.0**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.5,baz=325,slow=5.0,SNR=42						
WRA	**Warramunga Arr**	**81.78**	**124**	P	**P**	**12 28 35.0**	**0.0**
WRA	**Warramunga Arr**	**81.78**	**124**	P	**P**	**12 28 35.0**	**0.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WB2	**Warramunga Arr**	**81.79**	**124**	*e*P	**P**	**12 28 34.8**	**-0.3**
AS31	**Alice Springs**	**84.22**	**127**	*e*P	**P**	**12 28 47.9**	**+0.3**
ASAR	**Alice Springs**	**84.22**	**127**	P	**P**	**12 28 47.5**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.3,baz=313,slow=4.9,SNR=42						
ASAR	**Alice Springs**	**84.22**	**127**	P	**P**	**12 28 47.5**	**-0.1**
ASAR	**Alice Springs**	**84.22**	**127**	*e*P	**P**	**12 28 47.8**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*ISCJB **01** 12:16:25.9±0.9, 11°.15N±0°.05×61°.93W±0°.04, h75km±11km, Error ellipse: s-maj=8.2km s-min=6.4km az=172.7*
*FUNV **01** 12:16:26.1, 11°.19N×61°.76W, h45km, MW2.8*
*TRN **01** 12:16:28.9, 11°.29N×61°.67W, h23km, MD2.5*

ISC 01 12:16:26.6±0.9, 11°.16N±0°.05×61°.92W±0°.04, h69km±12km, n12, σ0°99/20, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.59**	**210**	*e*P	**Pn**	**12 16 40.2**	**-0.1**
GUIV				*e*S	**Sn**	**12 16 49.1**	**-1.2**
TRN	**Trinidad (W)**	**0.72**	**135**	*e*P	**Pn**	**12 16 42.8**	**+1.1**
TRN				*e*S	**Sn**	**12 16 52.3**	**-0.6**
GRW	**Mount Saint Ca**	**1.03**	**14**	*e*P	**Pn**	**12 16 46.1**	**+0.6**
GRW				*e*S	**Sn**	**12 16 57.6**	**-1.9**
TBH	**Brigand Hill**	**1.07**	**129**	*e*P	**Pn**	**12 16 47.9**	**+1.8**
TBH				*e*S	**Sn**	**12 17 01.3**	**+0.8**
ITEV	**Isla Los Testi**	**1.20**	**279**	*e*P	**Pn**	**12 16 48.0**	**+0.3**
ITEV				*e*S	**Sn**	**12 17 04.6**	**+1.1**
TOSP	**Speyside**	**1.37**	**84**	*e*P	**Pn**	**12 16 49.8**	**0.0**
CRUV	**Carupano**	**1.38**	**250**	*e*P	**Pn**	**12 16 50.1**	**+0.1**
CRUV				*e*S	**Sn**	**12 17 08.1**	**+0.6**
GUNV	**Guanoco**	**1.41**	**225**	*e*P	**Pn**	**12 16 50.5**	**+0.1**
GUNV				*e*S	**Sn**	**12 17 09.0**	**+0.7**
ORIV	**Oritupano**	**2.54**	**215**	*e*S	**Sn**	**12 17 35.5**	**0.0**
RIOV	**Rio Grande**	**3.07**	**178**	*e*P	**Pn**	**12 17 12.0**	**-0.9**
CUPV	**Cępira**	**3.96**	**254**	*e*P	**Pn**	**12 17 25.4**	**+0.5**
CUPV				*e*S	**Sn**	**12 18 08.8**	**-1.4**
LUEV	**Luepa**	**5.30**	**175**	*e*P	**Pn**	**12 17 41.0**	**-2.3**

*ATH **01** 12:18:51.7, 40°.80N×21°.34E, h5km, MD3.5/3*
*CSEM **01** 12:19:00.9±0.2, 40°.44N×21°.87E, h2km, ML2.0/6, Error ellipse: s-maj=4.0km s-min=3.5km az=80.0*
*ISCJB **01** 12:19:01.3±0.5, 40°.44N±0°.03×21°.84E±0°.04, h10km, Error ellipse: s-maj=4.9km s-min=3.9km az=172.1*
*THE **01** 12:19:01.3, 40°.41N×21°.86E, h0km±2km, ML2.0/6, Error ellipse: s-maj=2.3km s-min=0.7km az=9.0*

ISC 01 12:19:01.4±0.5, 40°.42N±0°.03×21°.87E±0°.04, h4km±11km, n22, σ0°83/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.13**	**213**	*e*PB	**Pg**	**12 19 03.4**	**-0.7**
KZN				*e*SB	**Sg**	**12 19 12.3**	**+6.5**
KZN	**Kozani**	**0.13**	**213**	P	**Pg**	**12 19 03.4**	**-0.7**
KZN				S	**Sg**	**12 19 05.8**	**0.0**
KZN	**Kozani**	**0.13**	**213**	P	**Pg**	**12 19 03.4**	**-0.7**
KZN				S	**Sg**	**12 19 05.8**	**0.0**
FNA	**Florina**	**0.52**	**315**	P	**Pg**	**12 19 10.7**	**-0.8**
FNA				S	**Sg**	**12 19 19.2**	**+1.0**
FNA	**Florina**	**0.52**	**315**	P	**Pg**	**12 19 10.7**	**-0.8**
FNA				S	**Sg**	**12 19 19.2**	**+1.0**
NEST	**Nestorio**	**0.62**	**270**	P	**Pg**	**12 19 12.7**	**-0.7**
NEST				S	**Sg**	**12 19 22.1**	**+0.6**
NEST	**Nestorio**	**0.62**	**270**	P	**Pg**	**12 19 12.7**	**-0.7**
NEST				S	**Sg**	**12 19 22.1**	**+0.6**
GRG	**Griva**	**0.68**	**37**	P	**Pg**	**12 19 13.7**	**-0.7**
GRG				S	**Sg**	**12 19 25.1**	**+2.0**
GRG	**Griva**	**0.68**	**37**	P	**Pg**	**12 19 13.7**	**-0.7**
THL	**Klokotos Trika**	**0.86**	**172**	*e*PB	**Pg**	**12 19 17.0**	**-0.9**
THL	**Klokotos Trika**	**0.86**	**172**	P	**Pg**	**12 19 17.0**	**-0.9**
THL				S	**Sg**	**12 19 30.2**	**+1.1**
THL	**Klokotos Trika**	**0.86**	**172**	P	**Pg**	**12 19 17.0**	**-0.9**
THL				S	**Sg**	**12 19 30.2**	**+1.1**
HORT	**Hortiatis**	**0.96**	**79**	P	**Pg**	**12 19 19.5**	**-0.3**
HORT	**Hortiatis**	**0.96**	**79**	P	**Pg**	**12 19 19.5**	**-0.3**
KNT	**Kendrikon**	**1.08**	**46**	P	**Pg**	**12 19 21.0**	**-1.1**
KNT	**Kendrikon**	**1.08**	**46**	P	**Pg**	**12 19 21.0**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.42**	**172**	P	**Pn**	**12 19 27.4**	**-0.5**
MAKR				S	**Sg**	**12 19 47.1**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.42**	**172**	P	**Pn**	**12 19 27.4**	**-0.5**
MAKR				S	**Sg**	**12 19 47.1**	**+0.1**
AGG	**Agios Georgios**	**1.44**	**165**	*e*PN	**Pn**	**12 19 28.3**	**+0.1**
AGG	**Agios Georgios**	**1.44**	**165**	P	**Pn**	**12 19 28.5**	**+0.3**
AGG				S	**Sg**	**12 19 48.2**	**+0.5**
AGG	**Agios Georgios**	**1.44**	**165**	P	**Pn**	**12 19 28.5**	**+0.3**
AGG	**Agios Georgios**	**1.44**	**165**	*e*Pn	**Pn**	**12 19 29.0**	**+0.8**
AGG				S	**Sg**	**12 19 48.2**	**+0.5**

*TIF **01** 12:29:33.9, 41°.55N×46°.72E, h17km±2km*
*CSEM **01** 12:29:33.3, 41°.24N×46°.75E, h10km, mb3.9, After OBN*
*MOS **01** 12:29:33.3±2.1, 41°.24N×46°.75E, h10km, mb3.9/1, Error ellipse: s-maj=20.9km s-min=11.2km az=83.4*

ISC 01 12:29:36.0±0.8, 41°.38N±0°.04×46°.70E±0°.04, h11km±6km, n22, σ1°35/39, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**0.78**	**83**	PG	**Pg**	**12 29 46.0**	**-5.0**
AKT				S	**Sg**	**12 30 00.0**	**-1.2**
AKT				pmax	pmax		
	comp=Z,49nm,0.2s						
AKT	**Akhty**	**0.78**	**83**	Pg	**Pg**	**12 29 46.0**	**-5.0**
	comp=Z,49nm,0.2s						
AKT				Sg	**Sg**	**12 30 00.0**	**-1.2**
DGRG	**David-gareji**	**1.00**	**274**	P	**Pg**	**12 29 54.0**	**-1.3**
DGRG				S	**Sg**	**12 30 09.7**	**+1.3**
KSMR	**Kasumkent**	**1.09**	**78**	*e*PG	**Pg**	**12 29 57.0**	**0.0**
KSMR				*e*S	**Sg**	**12 30 13.5**	**+2.3**
KSMR	**Kasumkent**	**1.09**	**78**	*e*Pg	**Pg**	**12 29 57.0**	**0.0**
KSMR				*e*Sg	**Sg**	**12 30 13.5**	**+2.3**
XNZR	**Khunzakh**	**1.16**	**0**	*e*PG	**Pg**	**12 29 56.8**	**-1.5**
XNZR				*e*S	**Sg**	**12 30 12.3**	**-1.0**
XNZR	**Khunzakh**	**1.16**	**0**	*e*Pg	**Pg**	**12 29 56.8**	**-1.5**
XNZR				*e*Sg	**Sg**	**12 30 12.3**	**-1.0**
ARKR	**Arakani**	**1.24**	**10**	*e*PG	**Pn**	**12 29 58.0**	**-1.2**
ARKR				*e*S	**Sg**	**12 30 17.5**	**+1.6**
ARKR				pmax	pmax		
	comp=Z,31nm,0.2s						
ARKR	**Arakani**	**1.24**	**10**	*e*Pg	**Pn**	**12 29 58.0**	**-1.2**
	comp=Z,31nm,0.2s						
ARKR				*e*Sg	**Sg**	**12 30 17.5**	**+1.6**
UNCR	**Uncukul**	**1.33**	**3**	*e*PG	**Pn**	**12 30 01.5**	**+1.0**
UNCR				pmax	pmax		
	comp=Z,31nm,0.4s						
UNCR	**Uncukul**	**1.33**	**3**	*e*Pg	**Pn**	**12 30 01.5**	**+1.0**
	comp=Z,31nm,0.4s						
KRNR	**Karanay**	**1.45**	**6**	*e*PG	**Pn**	**12 30 00.0**	**-2.1**
KRNR				*e*S	**Sg**	**12 30 23.5**	**+0.8**
KRNR	**Karanay**	**1.45**	**6**	*e*Pg	**Pn**	**12 30 00.0**	**-2.1**
KRNR				*e*Sg	**Sg**	**12 30 23.5**	**+0.8**
MTA	**Mtatsminda**	**1.47**	**283**	P	**Pn**	**12 30 01.0**	**-1.3**
MTA				S	**Sn**	**12 30 20.9**	**-0.6**
TBLG	**Delisi**	**1.52**	**284**	PG	**Pn**	**12 30 01.9**	**-1.1**
TBLG				*i* S	**Sn**	**12 30 22.4**	**-0.3**
TBLG	**Delisi**	**1.52**	**284**	P	**Pn**	**12 30 01.9**	**-1.1**
TBLG				S	**Sn**	**12 30 22.5**	**-0.3**
TBLG	**Delisi**	**1.52**	**284**	Pg	**Pn**	**12 30 01.9**	**-1.1**
TBLG				*i* Sg	**Sn**	**12 30 22.4**	**-0.3**
DBC	**Dubki**	**1.64**	**3**	*e*PN	**Pn**	**12 30 07.0**	**+2.3**
DBC	**Dubki**	**1.64**	**3**	*e*Pn	**Pn**	**12 30 07.0**	**+2.3**
GNI	**Garni**	**1.94**	**231**	P	**Pn**	**12 30 10.0**	**+1.2**
GNI				S	**Sn**	**12 30 37.8**	**+4.7**
AKH	**Akhalkalaki**	**2.42**	**272**	P	**Pn**	**12 30 15.4**	**0.0**
AKH				S	**Sn**	**12 30 47.3**	**+2.4**
ONI	**Oni**	**2.71**	**298**	P	**Sn**	**12 30 58.7**	**+6.6**

IDC 01 12:33:27.3±6.2, 17°.62S×174°.78W, h256km±143km, mb3.4/5, mb1 3.5/6, mb1mx3.3/18, mbtmp3.4/6, Error ellipse: s-maj=137.9km s-min=32.4km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.68**	**38**	P	Pn	12 34 41.0	+1.5
	4.4nm,0.3s,baz=101,slow=21,SNR=22						
AFI				S	S	12 35 36.7	-0.3
	8.6nm,0.3s,baz=88,slow=20,SNR=8.3						
URZ	**Urewera**	**21.76**	**197**	P	P	12 37 58.6	+0.1
	3.4nm,0.6s,baz=99,slow=3.8,SNR=6.2						
STKA	**Stephens Creek**	**41.81**	**242**	P	P	12 40 51.5	-0.8
	1.4nm,0.8s,baz=66,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**48.09**	**259**	P	P	12 41 41.4	-0.4
	0.6nm,0.4s,baz=95,slow=6.6,SNR=39						
ASAR	**Alice Springs**	**48.20**	**254**	P	P	12 41 42.7	+0.1
	4.6nm,0.7s,baz=94,slow=7.2,SNR=120						
FITZ	**Fitzroy Crossi**	**56.49**	**260**	P	P	12 42 44.0	+0.7
	0.5nm,0.3s,baz=102,slow=7.7,SNR=5.8						

*IDC **01** 12:44:12.7±2.3, 6°.72S×130°.63E, h0km, mb3.5/1, mb1 4.2/4, mb1mx3.7/15, mbtmp4.0/4, ML4.2/3, Error ellipse: s-maj=84.9km s-min=29.8km az=78.0*
*NEIC **01** 12:44:14.2±1.0, 6°.75S×130°.65E, h10km, Error ellipse: s-maj=16.8km s-min=12.2km az=68.0*
*ISCJB **01** 12:44:16.0±1.3, 6°.9S±0°.1×130°.6E±0°.2, h33km, Error ellipse: s-maj=22.1km s-min=15.1km az=164.2*

ISC 01 12:44:17.6±1.6, 6°.8S±0°.1×130°.7E±0°.1, h35km, n12, σ0°42/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.26**	**203**	Pn	**Pn**	**12 47 09.4**	**-0.4**
	1.2nm,0.3s,baz=26,slow=12,SNR=40						
FITZ				Sn	**Sn**	**12 49 14.2**	**-11**
	1.1nm,0.3s,baz=74,slow=19,SNR=7.7						
FITZ	**Fitzroy Crossi**	**12.26**	**203**	Pn	**Pn**	**12 47 09.4**	**-0.4**
FITZ				Sn	**Sn**	**12 49 14.2**	**-11**
WRAB	**Tennant Creek**	**13.53**	**165**	*e*Pn	**Pn**	**12 47 27.1**	**-0.1**
	5.6nm,0.6s						
WRA	**Warramunga Arr**	**13.54**	**165**	Pn	**Pn**	**12 47 27.1**	**-0.2**
	1.0nm,0.3s,baz=348,slow=12,SNR=59						
WRA				Sn	**Sn**	**12 49 46.8**	**-10**
	0.6nm,0.3s,baz=340,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**13.54**	**165**	Pn	**Pn**	**12 47 27.1**	**-0.2**
WRA				Sn	**Sn**	**12 49 46.8**	**-10**
WB2	**Warramunga Arr**	**13.54**	**165**	*e*Pn	**Pn**	**12 47 27.0**	**-0.4**
COEN	**Coen**	**14.20**	**121**	Pn	**Pn**	**12 47 36.2**	**-0.2**
AS31	**Alice Springs**	**17.05**	**170**	*e*Pn	**Pn**	**12 48 14.2**	**+0.8**
ASAR	**Alice Springs**	**17.05**	**170**	Pn	**Pn**	**12 48 14.1**	**+0.7**
	0.7nm,0.3s,baz=352,slow=11,SNR=92						
ASAR				Sn	**Sn**	**12 51 14.3**	**-7.8**
	0.2nm,0.3s,baz=350,slow=25,SNR=4.9						
ASAR	**Alice Springs**	**17.05**	**170**	Pn	**Pn**	**12 48 14.1**	**+0.7**
ASAR				Sn	**Sn**	**12 51 14.3**	**-7.8**
MKAR	**Makanchi Array**	**68.42**	**326**	P	**P**	**12 55 15.9**	**0.0**
	0.8nm,1.1s,baz=120,slow=7.8,SNR=4.0						
MKAR	**Makanchi Array**	**68.42**	**326**	P	**P**	**12 55 15.9**	**0.0**

IDC 01 12:53:02.1±1.4, 7°.20S×107°.96W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.1/11, mbtmp3.9/4, MS3.7/7, Ms1 3.7/7, ms1mx3.7/14, Error ellipse: s-maj=129.5km s-min=27.8km az=92.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**19.86**	**184**	LR	LR	13 02 48.8	
	comp=Z,269nm,20.5s,baz=106,slow=30						
CMIG	**Matias Romero**	**27.38**	**28**	LR	LR	13 07 14.2	
	comp=Z,322nm,21.6s,baz=193,slow=31						
RKT	**Rikitea**	**30.41**	**236**	*e*T		13 31 11.8	
	1.7nm,0.3s						
TAOE	**Nuku Hiva Isla**	**31.91**	**265**	*e*LR	LR	13 07 40.2	
	269nm,26.1s						
ROSC	**El Rosal**	**35.63**	**71**	LR	LR	13 11 55.2	
	comp=Z,7.1nm,18.1s,baz=198,slow=32						
TXAR	**Lajitas Array**	**36.55**	**6**	P	P	13 00 10.0	+0.3
	1.4nm,1.0s,baz=186,slow=7.3,SNR=8.5						
TXAR				LR	LR	13 11 57.1	
	comp=Z,175nm,20.3s,baz=0.0,slow=31						
PPT	**Papeete**	**41.85**	**252**	*e*LQ		13 10 35.8	
	466nm,26.0s						
PPT				*e*LR	LR	13 12 24.9	
	344nm,26.0s						
TBI	**Tubuai**	**42.95**	**243**	*e*LR	LR	13 12 54.5	
	128nm,24.2s						
NVAR	**Mina Array Bea**	**46.40**	**349**	P	P	13 01 31.2	+0.9
	1.0nm,1.0s,baz=174,slow=9.0,SNR=5.8						
PLCA	**Paso Flores**	**47.17**	**141**	LR	LR	13 16 34.8	
	comp=Z,99nm,19.6s,baz=321,slow=30						
PDAR	**Pinedale Array**	**49.75**	**358**	P	P	13 01 55.5	-0.7
	0.7nm,0.7s,baz=164,slow=7.4,SNR=4.8						
PDAR				LR	LR	13 21 08.0	
	comp=Z,122nm,18.4s,baz=312,slow=34						
YKA	**Yellowknife Ar**	**69.67**	**357**	LR	LR	13 31 40.9	
	comp=Z,18nm,20.4s,baz=305,slow=33						
QSPA	**South Pole Qui**	**82.87**	**180**	P	P	13 05 28.6	+0.6
	1.1nm,0.3s,baz=107,slow=3.7,SNR=7.1						
CMAR	**Chiang Mai Arr**	**151.53**	**296**	PKPbc	PKPbc	13 12 58.9	-0.3
	1.6nm,0.6s,baz=38,slow=1.0,SNR=13						

IDC 01 12:57:27.2±6.9, 12°.64N×92°.31E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=373.8km s-min=28.5km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**35.08**	**348**	P	P	13 04 21.9	0.0
	0.2nm,0.3s,baz=165,slow=8.2,SNR=6.2						
WRA	**Warramunga Arr**	**52.53**	**127**	P	P	13 06 42.0	-0.6
	0.1nm,0.4s,baz=306,slow=8.7,SNR=7.9						
ASAR	**Alice Springs**	**54.37**	**132**	P	P	13 06 56.8	+0.6
	0.2nm,0.4s,baz=311,slow=7.2,SNR=6.5						

*IDC **01** 13:01:52.6±2.2, 11°.89S×166°.47E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=69.7km s-min=31.1km az=143.0*
*ISCJB **01** 13:01:53.9±5.7, 12°.0S±0°.2×166°.4E±0°.1, h18km±41km, mb3.5/4, Error ellipse: s-maj=31.5km s-min=14.1km az=36.3*
*NEIC **01** 13:01:57.2±6.0, 11°.91S×166°.44E, h31km±42km, Error ellipse: s-maj=30.6km s-min=17.5km az=57.0*

ISC 01 13:01:57.1±6.0, 11°.9S±0°.2×166°.4E±0°.1, h30km±43km, n11, σ0°63/13, mb3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.83**	**290**	Pn	**Pn**	**13 03 35.3**	**-0.1**
	4.3nm,0.3s,baz=169,slow=5.2,SNR=3.2						
HNR				Sn	**Sn**	**13 04 52.1**	**-0.1**
	3.4nm,0.3s,baz=194,slow=18,SNR=2.2						
HNR	**Honiara**	**6.83**	**290**	*e*P	**Pn**	**13 03 35.5**	**+0.1**
HNR				Sn	**Sn**	**13 04 52.1**	**-0.1**
DZM	**Mont Dzumac**	**10.11**	**180**	P	**Pn**	**13 04 20.1**	**-0.3**
WRA	**Warramunga Arr**	**31.83**	**251**	P	**P**	**13 08 20.2**	**+0.6**
	0.2nm,0.6s,mb3.1,baz=85,slow=9.2,SNR=3.9						
WRA	**Warramunga Arr**	**31.83**	**251**	P	**P**	**13 08 20.2**	**+0.6**
ASAR	**Alice Springs**	**33.02**	**245**	P	**P**	**13 08 30.2**	**+0.2**
	0.3nm,0.7s,mb3.4,baz=68,slow=10.0,SNR=8.0						
ASAR	**Alice Springs**	**33.02**	**245**	P	**P**	**13 08 30.2**	**+0.2**
ILAR	**Eielson Array**	**84.11**	**18**	P	**P**	**13 14 25.6**	**+0.8**
	0.2nm,0.6s,mb3.5,baz=236,slow=5.3,SNR=7.1						
ILAR	**Eielson Array**	**84.11**	**18**	P	**P**	**13 14

mb1 3.5/6, mb1mx3.3/25, mbtmp3.3/6, ML3.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/28, Error ellipse: s-maj=83.2km s-min=23.6km az=77.0
*NEIC **01** 13:10:47.1±1.4, 32°.56N×84°.87E, h10km, Error ellipse: s-maj=43.8km s-min=11.2km az=73.0*
*ISCJB **01** 13:10:48.1±1.7, 32°.6N±0°.1×84°.7E±0°.4, h33km, mb3.2/4, Error ellipse: s-maj=56.1km s-min=14.5km az=163.1*
ISC 01 13:10:50.7±1.7, 32°.6N±0°.1×84°.9E±0°.4, h35km, n13, σ0°92/13, mb3.2/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.31**	**353**	Pn	**Pn**	13 14 09.8	**-0.9**
	0.1nm,0.3s,baz=181,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	**14.31**	**353**	Pn	**Pn**	13 14 09.8	**-0.9**
CMAR	**Chiang Mai Arr**	**18.95**	**135**	P	**Pn**	13 15 06.8	**-3.0**
	0.0nm,0.3s,baz=316,slow=13,SNR=5.4						
CMAR	**Chiang Mai Arr**	**18.95**	**135**	P	**Pn**	13 15 06.8	**-3.0**
ZALV	**Zalesovo Beam**	**21.34**	**360**	P	**P**	13 15 34.8	**+0.3**
	0.7nm,0.5s,mb3.3,baz=190,slow=15,SNR=5.2						
ZALV	**Zalesovo Beam**	**21.34**	**360**	P	**P**	13 15 34.8	**+0.3**
SONM	**Songino Array**	**22.30**	**41**	P	**P**	13 15 45.3	**+0.4**
	0.6nm,0.9s,mb3.0,baz=224,slow=8.1,SNR=4.0						
SONM	**Songino Array**	**22.30**	**41**	P	**P**	13 15 45.3	**+0.4**
WRA	**Warramunga Arr**	**70.49**	**131**	P	**P**	13 22 02.3	**+0.4**
	0.3nm,0.6s,mb3.4,baz=325,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**70.49**	**131**	P	**P**	13 22 02.3	**+0.4**
WB2	**Warramunga Arr**	**70.50**	**131**	*eP*	**P**	13 22 02.5	**+0.6**
ASAR	**Alice Springs**	**72.95**	**134**	P	**P**	13 22 17.1	**+0.4**
	0.3nm,0.8s,mb3.3,baz=334,slow=6.7,SNR=2.7						
ASAR	**Alice Springs**	**72.95**	**134**	P	**P**	13 22 17.1	**+0.4**

*ISCJB **01** 13:25:17.8±0.7, 3°.17S±0°.05×136°.94E±0°.05, h89km±8km, mb3.9/9, Error ellipse: s-maj=10.1km s-min=6.5km az=136.3*
*NEIC **01** 13:25:17.7±2.7, 3°.15S×136°.87E, h70km±30km, mb4.0/2, Error ellipse: s-maj=24.6km s-min=11.8km az=117.0*
*DJA **01** 13:25:19, 3°.00S×136°.92E, h90km, MLv4.3/4*
*IDC **01** 13:25:20.2±5.1, 3°.14S×136°.95E, h92km±54km, mb3.7/9, mb1 3.8/11, mb1mx3.7/16, mbtmp3.7/11, ML4.0/1, Error ellipse: s-maj=33.2km s-min=24.8km az=115.0*
ISC 01 13:25:19.2±0.6, 3°.20S±0°.05×136°.96E±0°.05, h88km±8km, n40, σ1°06/47, mb3.9/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**2.12**	**56**	P	**Pn**	13 25 52.5	**-0.4**
SMPI				S	**Sn**	13 26 17.3	**-1.3**
JAY	**Jayapura**	**3.80**	**80**	P	**Pn**	13 26 16.0	**+0.5**
JAY				S	**Sn**	13 27 00.2	**+1.1**
TLE	**Tual**	**4.86**	**240**	P	**Pn**	13 26 30.5	**+0.5**
TLE				S	**Sn**	13 27 27.7	**+2.7**
NLAI	**Namlea**	**9.85**	**269**	P	**Pn**	13 27 36.5	**-1.5**
	1μm18nm,0.8s						
PMG	**Port Moresby**	**11.86**	**122**	P	**Pn**	13 28 06.5	**+1.1**
	1.0nm,0.3s,baz=300,slow=8.7,SNR=5.4						
PMG	**Port Moresby**	**11.86**	**122**	*eP*	**Pn**	13 28 06.5	**+1.1**
PMG	**Port Moresby**	**11.86**	**122**	P	**Pn**	13 28 06.3	**+0.9**
	11nm,1.0s						
COEN	**Coen**	**12.33**	**151**	*eP*	**Pn**	13 28 10.8	**-0.8**
COEN	**Coen**	**12.33**	**151**	P	**Pn**	13 28 11.0	**-0.6**
WRAB	**Tennant Creek**	**16.83**	**189**	*eP*	**Pn**	13 29 08.4	**-1.0**
	3.4nm,0.6s						
WB2	**Warramunga Arr**	**16.84**	**189**	*eP*	**Pn**	13 29 09.5	**-0.1**
WRA	**Warramunga Arr**	**16.84**	**189**	P	**Pn**	13 29 07.5	**-2.1**
	0.3nm,0.3s,baz=10,slow=13,SNR=15						
WRA				S	**S**	13 32 02.9	**-19**
	1.0nm,0.3s,baz=1.7,slow=23,SNR=6.3						
WRA	**Warramunga Arr**	**16.84**	**189**	P	**Pn**	13 29 07.5	**-2.1**
WRA				S	**S**	13 32 02.9	**-19**
FITZ	**Fitzroy Crossi**	**18.51**	**216**	P	**Pn**	13 29 29.3	**-0.6**
	0.4nm,0.3s,baz=54,slow=13,SNR=13						
FITZ				S	**S**	13 32 41.2	**-14**
	0.9nm,0.3s,baz=192,slow=14,SNR=8.1						
FITZ	**Fitzroy Crossi**	**18.51**	**216**	P	**Pn**	13 29 29.3	**-0.6**
FITZ				S	**S**	13 32 41.2	**-14**
AS31	**Alice Springs**	**20.56**	**188**	*eP*	**P**	13 29 52.1	**+1.2**
ASAR	**Alice Springs**	**20.57**	**188**	P	**P**	13 29 53.0	**+2.0**
	1.4nm,0.4s,baz=11,slow=12,SNR=59						
ASAR				S	**S**	13 33 34.5	**-1.7**
	1.3nm,0.6s,baz=3.9,slow=28,SNR=6.8						
ASAR	**Alice Springs**	**20.57**	**188**	P	**P**	13 29 53.0	**+2.0**
ASAR				S	**S**	13 33 34.5	**-1.7**
MJAR	**Matsushiro Arr**	**39.55**	**2**	P	**P**	13 32 42.1	**+0.4**
	1.1nm,0.5s,mb4.0,baz=191,slow=9.5,SNR=4.9						
MJAR	**Matsushiro Arr**	**39.55**	**2**	P	**P**	13 32 42.1	**+0.4**
CMAR	**Chiang Mai Arr**	**43.18**	**301**	P	**P**	13 33 12.1	**+0.4**
	1.1nm,0.7s,mb3.7,baz=116,slow=6.6,SNR=9.2						
CMAR	**Chiang Mai Arr**	**43.18**	**301**	P	**P**	13 33 12.1	**+0.4**
SONM	**Songino Array**	**57.43**	**336**	P	**P**	13 34 59.6	**+0.8**
	0.6nm,0.7s,mb3.7,baz=150,slow=8.1,SNR=4.6						
SONM	**Songino Array**	**57.43**	**336**	P	**P**	13 34 59.6	**+0.8**
MK31	**Makanchi Array**	**69.12**	**323**	*eP*	**P**	13 36 16.7	**+0.7**
MKAR	**Makanchi Array**	**69.12**	**323**	P	**P**	13 36 16.7	**+0.7**
	0.9nm,0.4s,mb3.9,baz=100,slow=9.1,SNR=25						
MKAR	**Makanchi Array**	**69.12**	**323**	P	**P**	13 36 16.7	**+0.7**
ZAA0	**Zalesovo Array**	**71.49**	**331**	*eP*	**P**	13 36 28.9	**-1.3**
ZALV	**Zalesovo Beam**	**71.49**	**331**	P	**P**	13 36 29.7	**-0.6**
	1.5nm,0.6s,mb4.0,baz=121,slow=6.1,SNR=11						
ZALV	**Zalesovo Beam**	**71.49**	**331**	P	**P**	13 36 29.7	**-0.6**
KURK	**Kurchatov**	**73.12**	**326**	P	**P**	13 36 38.6	**-1.5**
BVAR	**Borovoye Array**	**78.72**	**326**	P	**P**	13 37 12.4	**+0.6**
	1.6nm,0.6s,mb4.0,baz=122,slow=6.7,SNR=11						
BVAR	**Borovoye Array**	**78.72**	**326**	P	**P**	13 37 12.4	**+0.6**
BRVK	**Borovoye**	**78.79**	**326**	*eP*	**P**	13 37 12.9	**+0.7**
	2.2nm,0.6s,mb4.2						
AKTO	**Aktyubinsk**	**85.42**	**321**	P	**P**	13 37 46.6	**-0.4**
	0.7nm,0.6s,mb3.8,baz=160,slow=3.1,SNR=3.7						
AKTO	**Aktyubinsk**	**85.42**	**321**	P	**P**	13 37 46.6	**-0.4**
ILAR	**Eielson Array**	**87.00**	**25**	P	**P**	13 37 54.8	**+0.3**
	0.5nm,0.6s,mb3.6,baz=263,slow=4.5,SNR=10						
ILAR	**Eielson Array**	**87.00**	**25**	P	**P**	13 37 54.8	**+0.3**
TORD	**Torodi Ar. Bea**	**134.71**	**285**	PKP	PKPdf	13 44 29.6	+0.9
	0.4nm,0.7s,baz=89,slow=2.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**134.71**	**285**	PKP	PKPdf	13 44 29.6	+0.9

*ISCJB **01** 13:29:36.5±1.2, 47°.7N±0°.2×152°.8E±0°.2, h136km±13km, mb3.2/4, Error ellipse: s-maj=33.3km s-min=9.6km az=138.9*
*MOS **01** 13:29:36.7±0.5, 47°.66N×152°.74E, h138km, mb3.6/1, Error ellipse: s-maj=33.4km s-min=12.4km az=55.8*
*IDC **01** 13:29:38.0±3.1, 47°.71N×152°.76E, h134km±32km, mb3.0/4, mb1 3.3/6, mb1mx3.0/23, mbtmp3.0/6, Error ellipse: s-maj=53.5km s-min=17.8km az=143.0*
*NEIC **01** 13:29:37.7±0.9, 47°.68N×152°.73E, h132km±9km, Error ellipse: s-maj=22.2km s-min=6.9km az=138.0*
ISC 01 13:29:37.8±1.1, 47°.7N±0°.2×152°.7E±0°.2, h131km±12km, n30, σ0°37/31, mb3.2/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.74**	**35**	*e*PN	**Pn**	13 30 34.2	**+0.2**
SKR				*e*S	**Sn**	13 31 17.5	**-0.1**
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				smax			
	comp=N,120nm,0.2s						
SKR				smax			
	comp=E,70nm,0.2s						
SKR				smax			
	comp=Z,20nm,0.6s						
PEA0B	**Petropavlovsk-**	**6.30**	**28**	*e*P	**Pn**	13 31 08.0	**-0.1**
PETK	**Petropavlovsk-**	**6.30**	**28**	P	**Pn**	13 31 07.9	**-0.3**
	comp=Z,0.5nm,0.3s,baz=196,slow=14,SNR=9.2						
PETK	**Petropavlovsk-**	**6.30**	**28**	P	**Pn**	13 31 07.9	**-0.3**
PETK	**Petropavlovsk-**	**6.30**	**28**	*e*PN	**Pn**	13 31 08.0	**-0.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**6.56**	**33**	*e*P	**Pn**	13 31 12.1	**+0.4**
PET	**Petropavlovsk**	**6.56**	**33**	*e*PN	**Pn**	13 31 12.1	**+0.4**
ASAJ	**Asahikawa**	**7.92**	**247**	P	**Pn**	13 31 30.6	**+0.5**
	comp=Z,0.9nm,0.3s,baz=69,slow=12,SNR=8.9						
ASAJ	**Asahikawa**	**7.92**	**247**	P	**Pn**	13 31 30.6	**+0.5**
ASAJ	**Asahikawa**	**7.92**	**247**	PN	**Pn**	13 31 30.6	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.85**	**234**	P	**Pn**	13 31 41.7	**-0.8**
ERM	**Erimo**	**8.85**	**234**	PN	**Pn**	13 31 41.7	**-0.9**
KSRS	**Korea Array**	**20.85**	**250**	P	**P**	13 34 09.5	**+0.4**
	comp=Z,0.4nm,0.3s,baz=50,slow=9.4,SNR=3.7						
KSRS	**Korea Array**	**20.85**	**250**	P	**P**	13 34 09.5	**+0.4**
KSAR	**Wonju Array Be**	**20.89**	**250**	P	**P**	13 34 09.5	**+0.1**
KSAR	**Wonju Array Be**	**20.89**	**250**	P	**P**	13 34 09.5	**+0.1**
MK31	**Makanchi Array**	**46.30**	**296**	*e*P	**P**	13 37 49.6	**-0.4**
MK31	**Makanchi Array**	**46.30**	**296**	*e*P	**P**	13 37 49.6	**-0.3**
CMAR	**Chiang Mai Arr**	**52.35**	**255**	P	**P**	13 38 36.2	**0.0**
	comp=Z,0.6nm,0.7s,mb3.4,baz=32,slow=6.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**52.35**	**255**	P	**P**	13 38 36.2	**0.0**
CMAR	**Chiang Mai Arr**	**52.35**	**255**	P	**P**	13 38 36.3	**+0.1**
WRA	**Warramunga Arr**	**69.30**	**199**	P	**P**	13 40 30.5	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.2,baz=16,slow=6.8,SNR=3.6						
WRA	**Warramunga Arr**	**69.30**	**199**	P	**P**	13 40 30.5	**-0.2**
WRA	**Warramunga Arr**	**69.30**	**199**	P	**P**	13 40 30.5	**-0.2**
ASAR	**Alice Springs**	**73.00**	**198**	P	**P**	13 40 53.4	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.5,baz=8.7,slow=5.5,SNR=13						
ASAR	**Alice Springs**	**73.00**	**198**	P	**P**	13 40 53.4	**+0.4**
ASAR	**Alice Springs**	**73.00**	**198**	P	**P**	13 40 53.4	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.26**	**60**	P	**P**	13 41 17.3	**-0.2**
	comp=Z,0.3nm,0.8s,mb3.0,baz=328,slow=3.2,SNR=2.7						
TXAR	**Lajitas Array**	**77.26**	**60**	P	**P**	13 41 17.3	**-0.2**
TXAR	**Lajitas Array**	**77.26**	**60**	P	**P**	13 41 17.3	**-0.2**

*IDC **01** 13:33:17.5±1.9, 0°.68S×98°.31E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, Error ellipse: s-maj=86.1km s-min=17.8km az=58.0*
*NEIC **01** 13:33:22.4±0.6, 0°.69S×98°.33E, h35km, mb4.0/2, Error ellipse: s-maj=21.2km s-min=7.0km az=55.0*
*ISCJB **01** 13:33:23.8±1.1, 0°.40S±0°.05×98°.53E±0°.08, h54km±9km, mb3.9/9, Error ellipse: s-maj=13.3km s-min=7.7km az=160.7*
*DJA **01** 13:33:24, 0°.35S×98°.64E, h15km, MLv3.7/6*
ISC 01 13:33:25.0±1.1, 0°.41S±0°.05×98°.56E±0°.08, h47km±10km, n31, σ0°88/33, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.05**	**150**	P	**Pn**	13 33 42.4	**-1.0**
SISI				S	**Sn**	13 33 58.4	**+1.4**
MNSI	**Mandailing Nat**	**1.57**	**40**	P	**Pn**	13 33 48.1	**-2.4**
MNSI				S	**Sn**	13 34 09.1	**-0.6**
PPI	**Padang Panjang**	**1.84**	**91**	P	**Pn**	13 33 53.9	**-0.2**
PPI				S	**Sn**	13 34 16.9	**+0.7**
PDSI	**Padang**	**1.97**	**105**	P	**Pn**	13 33 55.8	**-0.1**
PDSI				S	**Sn**	13 34 20.0	**+0.6**
SDSI	**Sungai Dareh**	**2.92**	**100**	P	**Pn**	13 34 09.6	**+0.7**
PSI	**Prapat**	**3.21**	**7**	P	**Pn**	13 34 12.4	**-0.6**
CMAR	**Chiang Mai Arr**	**18.75**	**1**	P	**Pn**	13 37 42.2	**+1.2**
	baz=191,slow=10,SNR=6.2						
CMAR	**Chiang Mai Arr**	**18.75**	**1**	P	**Pn**	13 37 42.2	**+1.2**
KKM	**Kota Kinabalu**	**18.76**	**70**	*e*P	**Pn**	13 37 41.8	**+0.7**
WRA	**Warramunga Arr**	**40.04**	**121**	P	**P**	13 40 54.5	**-1.4**
	1.1nm,0.7s,mb3.7,baz=301,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**40.04**	**121**	P	**P**	13 40 54.5	**-1.4**
WRAB	**Tennant Creek**	**40.04**	**121**	*e*P	**P**	13 40 54.8	**-1.1**
	1.5nm,0.7s,mb3.8						
WB2	**Warramunga Arr**	**40.05**	**121**	*e*P	**P**	13 40 54.9	**-1.0**
AS31	**Alice Springs**	**41.35**	**127**	*e*P	**P**	13 41 06.1	**-0.5**
ASAR	**Alice Springs**	**41.35**	**127**	P	**P**	13 41 06.2	**-0.4**
	1.0nm,0.8s,mb3.5,baz=301,slow=7.6,SNR=12						
ASAR				PcP	PcP	13 43 05.2	+0.9
	0.3nm,0.7s,baz=314,slow=2.6,SNR=6.1						
ASAR	**Alice Springs**	**41.35**	**127**	P	**P**	13 41 06.2	**-0.4**
ASAR				PcP	PcP	13 43 05.2	+0.9
SONM	**Songino Array**	**48.53**	**7**	P	**P**	13 42 04.7	**+1.4**
	1.1nm,0.6s,mb4.1,baz=191,slow=8.3,SNR=10						
SONM	**Songino Array**	**48.53**	**7**	P	**P**	13 42 04.7	**+1.4**
ULN	**Ulaanbaatar**	**48.65**	**8**	*e*P	**P**	13 42 04.7	**+0.5**
	1.3nm,0.8s,mb4.0						
MK31	**Makanchi Array**	**49.13**	**345**	*e*P	**P**	13 42 08.0	**+0.1**
MKAR	**Makanchi Array**	**49.13**	**345**	P	**P**	13 42 08.6	**+0.7**
	0.7nm,0.5s,mb3.9,baz=155,slow=8.9,SNR=9.2						
MKAR	**Makanchi Array**	**49.13**	**345**	P	**P**	13 42 08.6	**+0.7**
KURK	**Kurchatov**	**53.69**	**344**	P	**P**	13 42 42.2	**+0.2**
	0.5nm,0.3s,mb3.9,baz=163,slow=7.0,SNR=6.2						
KURK	**Kurchatov**	**53.69**	**344**	P	**P**	13 42 42.2	**+0.2**
ZAA0	**Zalesovo Array**	**55.36**	**350**	*e*P	**P**	13 42 54.3	**+0.3**
ZALV	**Zalesovo Beam**	**55.36**	**350**	P	**P**	13 42 54.4	**+0.3**
	2.1nm,0.8s,mb4.2,baz=185,slow=8.3,SNR=9.6						
ZALV	**Zalesovo Beam**	**55.36**	**350**	P	**P**	13 42 54.4	**+0.3**
BVAR	**Borovoye Array**	**58.21**	**340**	P	**P**	13 43 13.8	**-0.4**
	0.3nm,0.4s,mb3.6,baz=133,slow=11,SNR=3.7						
BVAR	**Borovoye Array**	**58.21**	**340**	P	**P**	13 43 13.8	**-0.4**
TXAR	**Lajitas Array**	**144.27**	**34**	PKP	PKPdf	13 52 55.6	-1.0
	0.2nm,0.7s,baz=272,slow=5.3,SNR=2.8						
TXAR	**Lajitas Array**	**144.27**	**34**	PKP	PKPdf	13 52 55.6	-1.0

IDC 01 13:41:09.9±3.9, 15°.36S×175°.23W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.7/3, MS3.8/9, Ms1 3.8/9, ms1mx3.5/26, Error ellipse: s-maj=254.9km s-min=32.4km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.64**	**67**	Pn	Pn	13 42 00.5	-7.0
	6.0nm,0.3s,baz=305,slow=7.1,SNR=14						
AFI				Sn	Sn	13 42 42.4	-8.8
	3.0nm,0.3s,baz=66,slow=19,SNR=1.7						
AFI				T		13 45 48.2	
	7.0nm,0.3s,baz=93,slow=21,SNR=4.6						
HNR	**Honiara**	**24.94**	**281**	LR	LR	13 54 47.6	
	comp=Z,144nm,19.1s,baz=142,slow=33						
RPZ	**Rata Peaks**	**30.59**	**200**	LR	LR	13 58 17.5	
	comp=Z,120nm,18.3s,baz=149,slow=34						
WRA	**Warramunga Arr**	**48.14**	**257**	P	P	13 49 51.2	-0.9
	0.7nm,0.9s,baz=90,slow=8.5,SNR=5.1						
WRA				LR	LR	14 07 25.6	
	comp=Z,57nm,18.4s,baz=235,slow=33						
ASAR	**Alice Springs**	**48.45**	**252**	P	P	13 49 54.7	+0.2
	1.1nm,0.7s,baz=85,slow=8.0,SNR=12						
GUMO	**Guam**	**48.84**	**304**	LR	LR	14 07 32.4	
	comp=Z,66nm,21.2s,baz=90,slow=32						
MJAR	**Matsushiro Arr**	**67.78**	**321**	LR	LR	14 14 18.1	
	comp=Z,106nm,21.8s,baz=190,slow=29						
TGY	**Tagaytay City**	**69.58**	**292**	LR	LR	14 18 34.6	
	comp=Z,3.1nm,19.4s,baz=270,slow=32						
ASAJ	**Asahikawa**	**70.59**	**329**	LR	LR	14 22 33.4	
	comp=Z,48nm,18.7s,baz=155,slow=35						
PETK	**Petropavlovsk-**	**72.07**	**343**	LR	LR	14 17 01.4	
	comp=Z,52nm,21.9s,baz=102,slow=30						
KSRS	**Korea Array**	**74.91**	**316**	LR	LR	14 24 03.2	
	comp=Z,38nm,18.8s,baz=117,slow=34						
NVAR	**Mina Array Bea**	**75.49**	**43**	P	P	13 52 56.1	0.0
	0.5nm,0.9s,baz=233,slow=7.5,SNR=3.3						
ILAR	**Eielson Array**	**82.76**	**12**	LR	LR	14 25 50.9	
	comp=Z,176nm,18.6s,baz=288,slow=32						
BRTR	**Keskin Array B**	**145.00**	**320**	PKPbc	PKPbc	14 00 49.4	+0.6
	0.5nm,0.4s,baz=48,slow=2.1,SNR=3.5						

*NNC **01** 13:47:52.6±8.3, 37°.26N×70°.36E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=68.0km s-min=57.9km az=165.0*
ISC 01 13:47:44.0±3.8, 36°.4N±0°.3×70°.7E±0°.2, h10km, n8, σ0°39/10, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.14**	**21**	P	**Pn**	13 49 14.8	**0.0**
	SNR=14						
EKS2	**Erkin-Say**	**6.66**	**20**	P	**Pn**	13 49 22.7	**+0.8**
	SNR=9.8						
KK31	**Karatay Array**	**6.67**	**359**	⇓Pn	**Pn**	13 49 21.4	**-0.6**
	0.5nm,0.3s,baz=176,slow=13,SNR=5.3						
KK31				⇑Sn	**Sn**	13 50 28.1	**-10**
	0.8nm,0.3s,baz=182,slow=22,SNR=4.0						
AAK	**Ala-Archa**	**6.85**	**24**	P	**Pn**	13 49 24.3	**-0.2**
	SNR=6.4						
CHMS	**Chumysh**	**7.26**	**24**	P	**Pn**	13 49 30.0	**-0.2**
	SNR=6.6						
TKM2	**Tokmak 2**	**7.50**	**29**	P	**Pn**	13 49 33.2	**-0.1**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.50**	**29**	⇑Pn	**Pn**	13 49 33.2	**-0.1**
	2.0nm,0.6s						
TKM2				⇓Sn	**Sn**	13 50 58.4	**+0.1**
	1.1nm,0.6s						
AB31	**Akbulak array**	**15.04**	**332**	⇑P	**Pn**	13 51 16.9	**+0.3**
	0.3nm,0.5s,baz=155,slow=10,SNR=4.1						

IDC 01 13:51:03.0±2.8, 22°.08S×175°.59W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.7/4, Error ellipse: s-maj=176.5km s-min=27.5km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.17**	**246**	P	P	13 58 32.9	+0.2
	1.7nm,1.0s,baz=86,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**46.37**	**258**	P	P	13 59 31.1	-0.2
	1.1nm,0.7s,baz=99,slow=7.2,SNR=35						
WRA	**Warramunga Arr**	**46.62**	**263**	P	P	13 59 33.0	-0.3
	0.5nm,0.6s,baz=102,slow=8.0,SNR=13						
NVAR	**Mina Array Bea**	**80.66**	**42**	P	P	14 03 17.9	+0.1
	0.4nm,0.8s,baz=234,slow=8.8,SNR=3.0						
BRTR	**Keskin Array B**	**149.56**	**312**	PKPbc	PKPbc	14 10 54.9	+0.4
	0.3nm,0.4s,baz=112,slow=6.4,SNR=3.2						

*DJA **01** 14:20:22.8°.55S×107°.84E, h16km, MLv4.3/23*
*NEIC **01** 14:20:22.5±0.9, 8°.39S×107°.63E, h35km, mb4.5/3, Error ellipse: s-maj=53.2km s-min=9.2km az=50.0*
*ISCJB **01** 14:20:23.8±0.6, 8°.49S±0°.06×107°.87E±0°.03, h73km±6km, mb3.8/12, Error ellipse: s-maj=10.2km s-min=4.8km az=20.6*
*IDC **01** 14:20:32.8±10.0, 8°.34S×107°.91E, h131km±92km, mb3.4/10, mb1 3.5/11, mb1mx3.3/21, mbtmp3.4/11, ML3.3/1, MS2.7/2, Ms1 2.7/2, ms1mx2.6/19, Error ellipse: s-maj=77.6km s-min=16.4km az=55.0*
ISC 01 14:20:25.3±0.6, 8°.47S±0°.05×107°.86E±0°.04, h65km±6km, n52, σ1°21/59, mb3.8/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.91**	**357**	P	**Pn**	14 20 38.8	**-3.6**
CLJI	**Cilicap**	**1.37**	**57**	P	**Pn**	14 20 48.2	**-0.2**
CLJI				S	**Sn**	14 21 08.2	**+2.6**
LEM	**Lembang**	**1.65**	**352**	P	**Pn**	14 20 51.7	**-0.4**
LEM				S	**Sn**	14 21 14.7	**+2.3**
SKJI	**Sukabumi**	**1.94**	**318**	P	**Pn**	14 20 55.4	**-0.7**
SKJI				S	**Sn**	14 21 18.8	**-0.7**
BJII	**Banjamegara**	**2.15**	**59**	P	**Pn**	14 20 58.0	**-0.9**
BJII				S	**Sn**	14 21 25.8	**+1.2**
DBJI	**Dramaga**	**2.20**	**330**	P	**Pn**	14 21 00.3	**+0.7**
UGM	**Wanagama**	**2.69**	**78**	P	**Pn**	14 21 03.3	**-3.0**
CGJI	**Cibinong**	**2.83**	**310**	P	**Pn**	14 21 07.4	**-0.8**
SBJI	**Serang**	**2.89**	**324**	P	**Pn**	14 21 09.9	**+0.8**
SMRI	**Semarang**	**2.92**	**61**	P	**Pn**	14 21 08.4	**-1.0**
SMRI				S	**Sn**	14 21 41.6	**-1.8**
XMIS	**Christmas Isla**	**2.96**	**227**	P	**Pn**	14 21 09.1	**-0.8**
PCJI	**Pacitan**	**3.29**	**86**	P	**Pn**	14 21 12.6	**-1.9**
RBSI	**Rajabasa**	**3.35**	**321**	P	**Pn**	14 21 15.4	**+0.2**
NGJI	**Ngawi**	**3.73**	**73**	P	**Pn**	14 21 21.6	**+1.1**
PWJI	**Pagerwojo**	**3.93**	**84**	P	**Pn**	14 21 22.1	**-1.1**
SJI	**Sawahan**	**3.94**	**80**	P	**Pn**	14 21 24.5	**+1.2**
KLSI		**4.87**	**320**	P	**Pn**	14 21 37.1	**+1.0**
MDSI	**Maura Dua**	**5.39**	**317**	P	**Pn**	14 21 44.2	**+1.0**
	0.1nm24nm,1.0s						
GMJI	**Gumukmas**	**5.53**	**88**	P	**Pn**	14 21 45.1	**0.0**
	0.1nm28nm,0.9s						
JAGI	**Jajag, Banyuwa**	**6.23**	**90**	P	**Pn**	14 21 55.2	**+0.6**
	0.2nm40nm,0.9s						
PPBI	**Pangkal Pinang**	**6.49**	**345**	P	**Pn**	14 21 59.2	**+0.9**
	0.1nm17nm,1.1s						
IGBI	**Denpasar**	**7.21**	**93**	P	**Pn**	14 22 07.9	**-0.3**
	2.3nm8μm48nm,0.8s						
SRBI	**Singaraja**	**7.29**	**88**	P	**Pn**	14 22 08.7	**-0.5**
	0.1nm835nm28nm,0.9s						
MTNI	**Mataram**	**8.22**	**92**	P	**Pn**	14 22 20.1	**-1.9**
BMNI	**Bima**	**10.72**	**91**	P	**Pn**	14 22 54.8	**-1.3**
MBWA	**Marble Bar**

PETK	**Petropavlovsk-**	**3.91**	**29**	P	**Pn**	**14 28 05.5 +1.7**
PETK				S	**Sn**	**14 29 02.0 +13**
PETK	**Petropavlovsk-**	**3.91**	**29**	PN	**Pn**	**14 28 05.5 +1.7**
PETK				pmax	pmax	
	comp=Z,3.0nm,0.3s					
PET	**Petropavlovsk**	**4.18**	**37**	P	**Pn**	**14 28 07.5 +0.1**
PET				*i* S	**Sn**	**14 28 54.5 -1.0**
PET	**Petropavlovsk**	**4.18**	**37**	*e*P	**Pn**	**14 28 06.8 -0.6**
PET	**Petropavlovsk**	**4.18**	**37**	PN	**Pn**	**14 28 07.5 +0.1**
PET				S	**Sn**	**14 28 54.5 -1.0**
SDLR	**Sedlovina**	**4.47**	**36**	*e*P	**Pn**	**14 28 12.1 +0.9**
SDLR				*i* S	**Sn**	**14 29 01.7 -0.6**
GNL	**Ganaly**	**4.49**	**27**	*e*P	**Pn**	**14 28 13.7 +2.2**
SPN	**Mys Shipunski**	**4.81**	**44**	P	**Pn**	**14 28 14.4 -1.3**
SPN				*i* S	**Sn**	**14 29 05.2 -5.3**
SPN	**Mys Shipunski**	**4.81**	**44**	PN	**Pn**	**14 28 14.4 -1.3**
SPN				S	**Sn**	**14 29 05.2 -5.3**
MKZ	**Mys Kozlova**	**6.55**	**40**	*e*P	**Pn**	**14 28 37.4 -1.7**
MKZ				*i* S	**Sn**	**14 29 45.8 -6.5**
MKZ	**Mys Kozlova**	**6.55**	**40**	PN	**Pn**	**14 28 37.4 -1.7**
MKZ				S	**Sn**	**14 29 45.8 -6.5**
KBTR	**Krutoberegovo**	**8.18**	**35**	P	**Pn**	**14 29 00.9 -0.2**
KBTR	**Krutoberegovo**	**8.18**	**35**	PN	**Pn**	**14 29 00.9 -0.2**
YUK	**Yuzh-Kuril'sk**	**8.23**	**229**	*e*PN	**Pn**	**14 29 02.7 +0.8**
YUK				S	**Sn**	**14 30 32.0 -1.1**
YUK				pmax	pmax	
	comp=N,36nm,0.4s					
YUK				pmax	pmax	
	comp=Z,65nm,0.4s					
YUK				pmax	pmax	
	comp=E,27nm,0.4s					
YUK				smax		
	comp=N,53nm,0.5s					
YUK				smax		
	comp=E,52nm,0.5s					
BKI	**Bering**	**8.87**	**48**	*e*P	**Pn**	**14 29 06.1 -4.3**
BKI				*i* S	**Sn**	**14 30 35.4 -13**
BKI	**Bering**	**8.87**	**48**	PN	**Pn**	**14 29 06.1 -4.3**
ASAJ	**Asahikawa**	**9.91**	**240**	P	**Pn**	**14 29 26.9 +2.5**
	comp=E,2.9nm,0.3s,baz=66,slow=12,SNR=31					
ASAJ	**Asahikawa**	**9.91**	**240**	P	**Pn**	**14 29 26.9 +2.5**
ASAJ	**Asahikawa**	**9.91**	**240**	PN	**Pn**	**14 29 26.9 +2.5**
ASAJ				pmax	pmax	
	comp=Z,3.0nm,0.3s					
ERM	**Erimo**	**11.06**	**230**	*e*P	**Pn**	**14 29 37.2 -2.5**
ERM	**Erimo**	**11.06**	**230**	*e*PN	**Pn**	**14 29 37.2 -2.5**
SMY	**Shemya**	**12.62**	**69**	P	**Pn**	**14 29 56.5 -3.6**
SMY	**Shemya**	**12.62**	**69**	PN	**Pn**	**14 29 56.5 -3.7**
MAJO	**Matsushiro**	**17.72**	**228**	*e*P	**Pn**	**14 31 03.1 -0.8**
MAJO	**Matsushiro**	**17.72**	**228**	*e*P	**Pn**	**14 31 03.1 -0.8**
MJAR	**Matsushiro Arr**	**17.72**	**228**	P	**Pn**	**14 31 03.2 -0.7**
	comp=Z,0.6nm,0.3s,baz=16,slow=12,SNR=6.9					
MJAR	**Matsushiro Arr**	**17.72**	**228**	P	**Pn**	**14 31 03.2 -0.7**
MJAR	**Matsushiro Arr**	**17.72**	**228**	P	**Pn**	**14 31 03.2 -0.7**
MJAR				pmax	pmax	
	comp=Z,1.0nm,0.3s					
YAK	**Yakutsk**	**18.44**	**321**	*e*P	**P**	**14 31 12.1 +1.5**
	comp=Z,43nm,0.8s					
YAK	**Yakutsk**	**18.44**	**321**	*e*P	**P**	**14 31 11.1 +0.5**
YAK				pmax	pmax	
	comp=N,11nm,1.1s					
YAK				pmax	pmax	
	comp=E,15nm,1.0s					
YAK				pmax	pmax	
	comp=Z,29nm,0.9s					
CLNS	**Chul'man**	**18.97**	**303**	*e*P	**P**	**14 31 18.9 +2.5**
CLNS				pmax	pmax	
	comp=Z,24nm,0.9s					
CLNS				pmax	pmax	
	comp=E,15nm,0.9s					
CLNS				pmax	pmax	
	comp=N,12nm,1.2s					
BILL	**Bilibino**	**19.26**	**13**	*e*P	**P**	**14 31 19.3 -0.2**
	comp=N,3.7nm,0.3s					
BILL	**Bilibino**	**19.26**	**13**	*e*P	**P**	**14 31 19.3 -0.2**
BILL				pmax	pmax	
	comp=Z,4.0nm,0.3s					
KSRS	**Korea Array**	**22.71**	**247**	P	**P**	**14 31 57.2 +0.9**
	comp=Z,4.0nm,0.9s,mb3.8,baz=51,slow=9.9,SNR=7.9					
KSRS	**Korea Array**	**22.71**	**247**	P	**P**	**14 31 57.2 +0.9**
KSRS				pmax	pmax	
	comp=Z,4.0nm,0.9s,mb3.8					
KSAR	**Wonju Array Be**	**22.74**	**247**	P	**P**	**14 31 57.2 +0.6**
KSAR	**Wonju Array Be**	**22.74**	**247**	P	**P**	**14 31 57.2 +0.6**
SONM	**Songino Array**	**31.34**	**285**	P	**P**	**14 33 14.4 +1.1**
	comp=Z,0.1nm,0.4s,baz=39,slow=9.3,SNR=4.2					
SONM				PcP	PcP	14 36 04.8 +0.8
	comp=Z,0.7nm,0.6s,baz=72,slow=2.3,SNR=6.1					
SONM	**Songino Array**	**31.34**	**285**	P	**P**	**14 33 14.4 +1.1**
SONM				PcP	PcP	14 36 04.8 +0.8
SONM	**Songino Array**	**31.34**	**285**	P	**P**	**14 33 14.4 +1.0**
SONM						14 36 04.8
SONM				pmax	pmax	
	comp=Z,1.0nm,0.6s					
ZAK	**Zakamensk**	**32.37**	**291**	*e*P	**P**	**14 33 23.4 +1.0**
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.6s,mb3.6					
COLA	**College**	**33.23**	**41**	P	**P**	**14 33 29.0 -0.7**
	comp=Z,2.0nm,0.6s,mb4.1					
COLA	**College**	**33.23**	**41**	P	**P**	**14 33 29.0 -0.7**
COLA				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.1					
ILAR	**Eielson Array**	**33.65**	**41**	P	**P**	**14 33 34.1 +0.9**
	comp=Z,0.7nm,0.4s,mb3.8,baz=261,slow=6.0,SNR=8.9					
ILAR	**Eielson Array**	**33.65**	**41**	P	**P**	**14 33 34.1 +0.9**
ILAR	**Eielson Array**	**33.65**	**41**	P	**P**	**14 33 34.2 +0.9**
ILAR				pmax	pmax	
	comp=Z,1.0nm,0.4s					
INK	**Inuvik**	**38.63**	**34**	P	**P**	**14 34 16.4 +0.8**
	comp=Z,2.0nm,0.4s,mb4.3,baz=284,slow=7.3,SNR=27					
INK	**Inuvik**	**38.63**	**34**	*e*P	**P**	**14 34 16.2 +0.6**
	comp=Z,4.5nm,0.8s,mb4.3					
INK	**Inuvik**	**38.63**	**34**	P	**P**	**14 34 16.5 +0.9**
INK				pmax	pmax	
	comp=Z,2.0nm,0.4s					
ZALV	**Zalesovo Beam**	**41.68**	**304**	P	**P**	**14 34 39.6 -1.4**
	comp=Z,0.5nm,0.4s,mb3.6,baz=49,slow=12,SNR=3.6					
ZALV				PcP	PcP	14 36 35.6 +0.6
	comp=Z,0.6nm,0.4s,baz=85,slow=1.8,SNR=6.0					
ZALV	**Zalesovo Beam**	**41.68**	**304**	P	**P**	**14 34 39.6 -1.4**
ZALV				PcP	PcP	14 36 35.6 +0.6
ZALV	**Zalesovo Beam**	**41.68**	**304**	P	**P**	**14 34 39.6 -1.3**
ZALV						14 36 35.6
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb3.9					
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb3.9					
MK31	**Makanchi Array**	**46.45**	**295**	*e*P	**P**	**14 35 18.3 -0.8**
MK31	**Makanchi Array**	**46.45**	**295**	*e*P	**P**	**14 35 18.3 -0.7**
MKAR	**Makanchi Array**	**46.45**	**295**	P	**P**	**14 35 18.6 -0.4**
	comp=Z,2.0nm,0.8s,mb3.9,baz=62,slow=7.7,SNR=15					
MKAR				pP	pP	14 35 48.9 +0.7
	comp=Z,2.4nm,0.7s,baz=58,slow=7.8,SNR=10					
MKAR	**Makanchi Array**	**46.45**	**295**	P	**P**	**14 35 18.6 -0.4**
MKAR				pP	pP	14 35 48.9 +0.7
MKAR	**Makanchi Array**	**46.45**	**295**	P	**P**	**14 35 18.7 -0.3**
MKAR				*PP	pP	14 35 48.9 +0.7
MKAR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
MKAR				pmax	pmax	
	comp=Z,2.0nm,0.7s					
KURK	**Kurchatov**	**46.54**	**302**	P	**P**	**14 35 20.1 +0.4**
	comp=Z,3.5nm,0.7s,mb4.2,baz=68,slow=8.5,SNR=24					
KURK				pP	pP	14 35 50.4 +1.6
	comp=Z,2.6nm,0.8s,baz=65,slow=8.3,SNR=7.4					
KURK				PcP	PcP	14 36 52.2 +0.5
	comp=Z,0.5nm,0.9s,baz=58,slow=3.6,SNR=7.8					
KURK	**Kurchatov**	**46.54**	**302**	P	**P**	**14 35 20.1 +0.4**
KURK				pP	pP	14 35 50.4 +1.6
KURK				PcP	PcP	14 36 52.2 +0.5
KURK	**Kurchatov**	**46.54**	**302**	P	**P**	**14 35 20.1 +0.5**
KURK				*PP	pP	14 35 50.4 +1.6
KURK						14 36 52.3
KURK				pmax	pmax	
	comp=Z,4.0nm,0.7s,mb4.3					
KURK				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.1					
KURK				pmax	pmax	
	comp=Z,1.0nm,0.9s,mb3.5					
RES	**Resolute Bay**	**47.70**	**20**	P	**P**	**14 35 28.8 +0.5**
	comp=Z,1.9nm,0.4s,mb4.3,baz=302,slow=8.6,SNR=6.1					
RES				PcP	PcP	14 36 56.2 +0.8
	comp=Z,1.7nm,0.6s,baz=297,slow=2.4,SNR=3.4					
RES	**Resolute Bay**	**47.70**	**20**	P	**P**	**14 35 28.8 +0.5**
RES				PcP	PcP	14 36 56.2 +0.8
RES	**Resolute Bay**	**47.70**	**20**	P	**P**	**14 35 28.8 +0.5**
RES						14 36 56.2
RES				pmax	pmax	
	comp=Z,2.0nm,0.4s,mb4.3					
RES				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.1					
YKA	**Yellowknife Ar**	**47.98**	**39**	P	**P**	**14 35 31.5 +0.9**
	comp=Z,1.5nm,0.6s,mb4.0,baz=298,slow=7.0,SNR=7.7					
YKA	**Yellowknife Ar**	**47.98**	**39**	P	**P**	**14 35 31.6 +0.9**
YKA	**Yellowknife Ar**	**47.98**	**39**	P	**P**	**14 35 31.5 +0.9**
YKA				pmax	pmax	
	comp=Z,2.0nm,0.6s					
BVAR	**Borovoye Array**	**49.72**	**308**	P	**P**	**14 35 43.8 -0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=52,slow=5.8,SNR=7.7					
BVAR				pP	pP	14 36 14.1 +0.5
	comp=Z,0.8nm,0.5s,baz=58,slow=7.9,SNR=3.9					
BVAR				PcP	PcP	14 37 02.9 -0.2
	comp=Z,0.7nm,0.4s,baz=101,slow=1.9,SNR=4.9					
BVAR	**Borovoye Array**	**49.72**	**308**	P	**P**	**14 35 43.8 -0.2**
BVAR				pP	pP	14 36 14.1 +0.5
BVAR				PcP	PcP	14 37 02.9 -0.2
BVAR	**Borovoye Array**	**49.72**	**308**	P	**P**	**14 35 43.8 -0.2**
BVAR				*PP	pP	14 36 14.1 +0.5
BVAR						14 37 02.9
BVAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
BVAR				pmax	pmax	
	comp=Z,1.0nm,0.5s					
BVAR				pmax	pmax	
	comp=Z,1.0nm,0.4s					
BRVK	**Borovoye**	**49.76**	**308**	*ce*P	**P**	**14 35 43.3 -1.0**
BRVK				pmax	pmax	
	comp=Z,8.0nm,3.0s					
SPITS	**Spitsbergen Ar**	**49.84**	**350**	P	**P**	**14 35 43.2 -1.4**
	comp=Z,2.7nm,0.8s,mb4.2,baz=24,slow=5.3,SNR=3.7					
SPITS	**Spitsbergen Ar**	**49.84**	**350**	P	**P**	**14 35 43.2 -1.4**
SPITS	**Spitsbergen Ar**	**49.84**	**350**	P	**P**	**14 35 43.2 -1.4**
SPITS				pmax	pmax	
	comp=Z,3.0nm,0.8s					
ARU	**Arti**	**53.46**	**317**	*d i*P	**P**	**14 36 11.8 0.0**
ARU				*e**PP	pP	14 36 44.0 +2.3
ARU				*e*		14 38 11.9
ARU				S	**S**	**14 43 35.1 +1.0**
ARU				SS	SS	14 47 14.4 -0.8
ARU				pmax	pmax	
	comp=Z,12nm,1.2s,mb4.8					
CHTO	**Chiang Mai**	**53.75**	**256**	*e*P	**P**	**14 36 14.7 +0.3**
	comp=Z,3.7nm,0.8s,mb4.5					
CHTO	**Chiang Mai**	**53.75**	**256**	*e*P	**P**	**14 36 14.7 +0.3**
CHTO				pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.5					
CMAR	**Chiang Mai Arr**	**54.02**	**255**	P	**P**	**14 36 17.2 +0.9**
	comp=Z,1.5nm,0.8s,mb4.1,baz=30,slow=7.4,SNR=12					
CMAR				PcP	PcP	14 37 21.4 +1.6
	comp=Z,1.2nm,0.8s,baz=13,slow=3.6,SNR=6.0					
CMAR	**Chiang Mai Arr**	**54.02**	**255**	P	**P**	**14 36 17.2 +0.9**
CMAR				PcP	PcP	14 37 21.4 +1.6
CMAR	**Chiang Mai Arr**	**54.02**	**255**	P	**P**	**14 36 17.2 +0.9**
CMAR						14 37 21.4
CMAR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
ARCES	**ARCESS Array B**	**55.34**	**341**	P	**P**	**14 36 23.5 -1.6**
	comp=Z,4.8nm,0.9s,mb4.5,baz=33,slow=8.0,SNR=9.0					
ARCES	**ARCESS Array B**	**55.34**	**341**	P	**P**	**14 36 23.5 -1.6**
ARCES	**ARCESS Array B**	**55.34**	**341**	P	**P**	**14 36 23.5 -1.7**
ARCES				pmax	pmax	
	comp=Z,5.0nm,0.9s					
ABKAR	**Akbulak array**	**57.25**	**309**	*e*P	**P**	**14 36 38.4 -0.6**
	comp=Z,0.8nm,0.5s,mb4.0					
AKTO	**Aktyubinsk**	**57.45**	**311**	P	**P**	**14 36 38.1 -2.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=78,slow=14,SNR=2.5					
AKTO	**Aktyubinsk**	**57.45**	**311**	P	**P**	**14 36 38.1 -2.3**
AKTO	**Aktyubinsk**	**57.45**	**311**	P	**P**	**14 36 38.1 -2.3**
AKTO				pmax	pmax	
	comp=Z,1.0nm,0.5s,mb4.1					
HLID	**Hailey**	**59.08**	**58**	*e*P	**P**	**14 36 50.6 -1.3**
NVAR	**Mina Array Bea**	**60.25**	**65**	P	**P**	**14 37 01.2 +1.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=291,slow=7.3,SNR=8.1					
NVAR				pP	pP	14 37 29.1 -1.4
	comp=Z,0.2nm,0.5s,baz=303,slow=8.4,SNR=2.6					
NVAR	**Mina Array Bea**	**60.25**	**65**	P	**P**	**14 37 01.2 +1.3**
NVAR				pP	pP	14 37 29.1 -1.4
FINES	**FINESS Array B**	**61.73**	**335**	P	**P**	**14 37 08.2 -1.4**
	comp=Z,3.3nm,0.9s,mb4.4,baz=31,slow=7.4,SNR=5.9					
FINES	**FINESS Array B**	**61.73**	**335**	P	**P**	**14 37 08.2 -1.4**
FINES	**FINESS Array B**	**61.73**	**335**	P	**P**	**14 37 08.2 -1.4**
FINES				pmax	pmax	
	comp=Z,3.0nm,0.9s					
BW06	**Boulder Array**	**62.25**	**56**	*e*P	**P**	**14 37 13.8 +0.4**
	comp=Z,0.7nm,0.5s,mb4.0					
PDAR	**Pinedale Array**	**62.25**	**56**	P	**P**	**14 37 15.1 +1.7**
	comp=Z,1.0nm,0.8s,mb3.9,baz=0.0,slow=3.0,SNR=7.6					
PDAR	**Pinedale Array**	**62.25**	**56**	P	**P**	**14 37 15.1 +1.7**
NOA	**NORSAR Array B**	**65.69**	**341**	P	**P**	**14 37 34.4 -1.2**
	comp=Z,0.8nm,0.7s,mb3.6,baz=28,slow=6.5,SNR=3.8					
NOA	**NORSAR Array B**	**65.69**	**341**	P	**P**	**14 37 34.4 -1.2**
NOA	**NORSAR Array B**	**65.69**	**341**	P	**P**	**14 37 34.4 -1.1**
NOA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
HFS	**Hagfors**	**65.98**	**340**	P	**P**	**14 37 36.2 -1.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=48,slow=2.2,SNR=8.5					
HFS				pP	pP	14 38 06.1 -2.3
	comp=Z,0.9nm,0.6s,baz=152,slow=6.4,SNR=1.5					
HFS	**Hagfors**	**65.98**	**340**	P	**P**	**14 37 36.2 -1.2**
HFS				pP	pP	14 38 06.1 -2.3
HFS	**Hagfors**	**65.98**	**340**	P	**P**	**14 37 36.2 -1.1**
HFS				*PP	pP	14 38 06.1 -2.3
HFS				pmax	pmax	
	comp=Z,1.0nm,0.5s					
HFS				pmax	pmax	
	comp=Z,1.0nm,0.6s					
AKASG	**Malin Array Be**	**69.58**	**326**	P	**P**	**14 37 58.7 -1.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=35,slow=6.1,SNR=5.0					
AKASG	**Malin Array Be**	**69.58**	**326**	P	**P**	**14 37 58.7 -1.3**
AKASG	**Malin Array Be**	**69.58**	**326**	P	**P**	**14 37 58.7 -1.4**
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.4s					
SCHQ	**Schefferville**	**70.19**	**24**	P	**P**	**14 38 04.1 +0.4**
	comp=Z,3.4nm,0.4s,mb4.5,baz=301,slow=8.6,SNR=17					
SCHQ	**Schefferville**	**70.19**	**24**	P	**P**	**14 38 04.1 +0.4**
TXAR	**Lajitas Array**	**75.23**	**62**	P	**P**	**14 38 35.0 +1.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=298,slow=4.6,SNR=17					
TXAR				pP	pP	14 39 04.6 -1.1
	comp=Z,0.8nm,0.7s,baz=293,slow=4.6,SNR=4.4					
TXAR	**Lajitas Array**	**75.23**	**62**	P	**P**	**14 38 35.0 +1.0**
TXAR				pP	pP	14 39 04.6 -1.1
TXAR	**Lajitas Array**	**75.23**	**62**	P	**P**	**14 38 35.0 +1.1**
TXAR				*PP	pP	14 39 04.6 -1.1
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.5s					
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
BRTR	**Keskin Array B**	**76.84**	**317**	P	**P**	**14 38 44.1 +1.2**
	comp=Z,2.4nm,0.9s,mb3.9,baz=48,slow=3.7,SNR=9.0					
BRTR	**Keskin Array B**	**76.84**	**317**	P	**P**	**14 38 44.1 +1.2**
BRTR	**Keskin Array B**	**76.84**	**317**	P	**P**	**14 38 44.2 +1.3**
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.9s					
MMAI	**Mount Meron Ar**	**81.52**	**312**	P	**P**	**14 39 08.4 -0.1**
	comp=Z,1.3nm,0.5s,mb4.0,baz=54,slow=7.3,SNR=3.4					
MMAI	**Mount Meron Ar**	**81.52**	**312**	P	**P**	**14 39 08.4 -0.1**

IDC 01 14:28:22.3±1.5, 1°.25N×127°.65E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/19, mbtmp3.6/5, Error ellipse: s-maj=133.9km s-min=19.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.05**	**163**	P	P	14 33 18.2	-0.6
	1.2nm,0.9s,baz=343,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.50**	**167**	P	P	14 33 53.0	+0.6
	0.8nm,0.8s,baz=345,slow=10,SNR=13						
MKAR	**Makanchi Array**	**60.11**	**326**	P	P	14 38 31.9	+0.4
	0.9nm,0.7s,baz=109,slow=8.0,SNR=7.7						
KURK	**Kurchatov**	**64.32**	**328**	P	P	14 38 59.2	-0.4
	1.1nm,0.6s,baz=130,slow=6.2,SNR=10						
BVAR	**Borovoye Array**	**69.89**	**327**	P	P	14 39 35.2	+0.2
	0.2nm,0.3s,baz=119,slow=8.4,SNR=2.4						

IDC 01 14:33:01.2±1.6, 6°.68S×130°.07E, h0km, mb4.0/2, mb1 4.1/5, mb1mx3.7/16, mbtmp4.0/5, ML4.1/3, Error ellipse: s-maj=75.2km s-min=24.2km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.15**	**200**	Pn	Pn	14 35 56.5	+0.9
	1.0nm,0.3s,baz=27,slow=11,SNR=28						
FITZ				Sn	Sn	14 37 59.9	-12
	0.6nm,0.3s,baz=59,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**13.82**	**163**	Pn	Pn	14 36 19.1	+0.6
	0.9nm,0.3s,baz=343,slow=13,SNR=40						
WRA				Sn	Sn	14 38 41.1	-12
	1.1nm,0.3s,baz=332,slow=22,SNR=14						
ASAR	**Alice Springs**	**17.29**	**168**	P	Pn	14 37 05.2	+1.2
	0.5nm,0.3s,baz=347,slow=9.4,SNR=45						
ASAR				S	Sn	14 40 05.8	-11
	0.3nm,0.3s,baz=358,slow=26,SNR=6.2						
STKA	**Stephens Creek**	**27.28**	**158**	P	P	14 38 46.6	-0.8
	1.7nm,0.6s,baz=324,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**68.00**	**327**	P	P	14 44 02.4	+0.2
	0.4nm,0.3s,baz=119,slow=7.9,SNR=8.5						

*ISCJB **01** 15:05:35.7±0.7, 31°.72S±0°.03×71°.6W±0°.1, h61km±9km, mb3.4/2, Error ellipse: s-maj=16.9km s-min=4.8km az=175.2*
*GUC **01** 15:05:35.8±1.0, 31°.76S×71°.46W, h31km±4km, ML3.7*
*IDC **01** 15:05:36.2±5.3, 31°.61S×71°.29W, h43km±8km, mb3.2/2, mb1 3.5/2, mb1mx3.4/10, mbtmp3.2/2, Error ellipse: s-maj=241.1km s-min=42.5km az=24.0*
*NEIC **01** 15:05:37.6±2.6, 31°.65S×71°.29W, h58km±17km, Error ellipse: s-maj=53.3km s-min=13.7km az=66.0*

ISC 01 15:05:36.6±0.7, 31°.73S±0°.03×71°.6W±0°.1, h52km±11km, n24, σ0°62/32, mb3.4/2, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**1.16**	**16**	*e*P	**Pn**	**15 05 56.3**	**-0.3**
OVCH				*i* S	**Sn**	**15 06 11.7**	**+0.4**
JACH	**Jahuel**	**1.26**	**139**	*e*P	**Pn**	**15 05 57.1**	**-0.9**
JACH				*e*S	**Sn**	**15 06 12.7**	**-1.2**
IHA	**Instituto Hidr**	**1.30**	**183**	*e*P	**Pn**	**15 05 58.3**	**-0.1**
IHA				*e*S	**Sn**	**15 06 14.2**	**-0.5**
ROCH	**El Roble**	**1.33**	**159**	*e*P	**Pn**	**15 05 58.5**	**-0.4**
ROCH				*i* S	**Sn**	**15 06 15.3**	**-0.2**
ROCH				AML	AML	15 06 18.2	
	comp=N,3μm,0.4s						
PEL	**Peldehue**	**1.60**	**152⇑**	*i*P	**Pn**	**15 06 02.3**	**-0.3**
PEL				*i* S	**Sn**	**15 06 22.2**	**+0.1**
PEL				AML	AML	15 06 25.1	
	comp=E,3μm,0.5s						
TLL	**Tololo Astrono**	**1.69**	**23⇑**	*e*P	**Pn**	**15 06 15.1**	**+11**
TLL				*e*S	**Sn**	**15 06 38.4**	**+14**
TLL				AML	AML	15 06 43.7	
	comp=N,950nm,0.3s						
RCDM	**Rinconada Maip**	**1.87**	**160**	*e*P	**Pn**	**15 06 06.0**	**-0.2**
RCDM				*e*S	**Sn**	**15 06 29.4**	**+0.7**
CLCH	**Cerro Calan**	**1.88**	**153**	*e*P	**Pn**	**15 06 06.5**	**+0.2**
CLCH				*i* S	**Sn**	**15 06 28.8**	**-0.1**
CLCH				AML	AML	15 06 34.6	
	comp=E,2μm,0.6s						
FCH	**Farellones**	**1.93**	**146**	*e*P	**Pn**	**15 06 08.0**	**+1.0**
FCH				*i* S	**Sn**	**15 06 31.8**	**+1.7**
FCH				AML	AML	15 06 33.5	
	comp=E,557nm,0.1s						
ANTU	**Antumapu**	**2.00**	**157**	*e*P	**Pn**	**15 06 08.4**	**+0.4**
ANTU				*e*S	**Sn**	**15 06 32.3**	**+0.4**
ANTU				AML	AML	15 06 36.5	
	comp=E,855nm,0.5s						
PCH	**Pirque**	**2.09**	**155**	*e*P	**Pn**	**15 06 09.2**	**0.0**
CHCH	**Chadas Angostu**	**2.33**	**161**	*e*P	**Pn**	**15 06 12.4**	**-0.1**
CACH	**El Canelo**	**2.52**	**161**	*e*P	**Pn**	**15 06 15.4**	**+0.3**
LCO	**Las Campanas**	**2.81**	**16**	*e*P	**Pn**	**15 06 18.6**	**-0.6**
LCO				*e*S	**Sn**	**15 06 52.3**	**+0.5**
LCO	**Las Campanas**	**2.81**	**16**	*e*P	**Pn**	**15 06 18.8**	**-0.3**
LCO				*i* S	**Sn**	**15 06 52.2**	**+0.5**
TRQA	**Tornquist**	**10.09**	**131**	*e*P	**Pn**	**15 07 58.0**	**-0.8**
TXAR	**Lajitas Array**	**67.96**	**330**	P	**P**	**15 16 30.8**	**+0.7**
	comp=E,0.2nm,0.7s,mb3.2,baz=133,slow=8.0,SNR=2.7						
TXAR	**Lajitas Array**	**67.96**	**330**	P	**P**	**15 16 30.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**15 17 56.1**	**-0.8**
	comp=E,0.3nm,0.6s,mb3.5,baz=260,slow=3.0,SNR=2.5						
TORD				pP	pP	15 18 08.4	-3.5
	comp=E,0.5nm,0.7s,baz=276,slow=4.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**15 17 56.1**	**-0.8**
TORD				pP	pP	15 18 08.4	-3.5
BVAR	**Borovoye Array**	**145.33**	**41**	PKPbc	PKPbc	15 25 07.8	-0.2
	comp=E,0.5nm,0.4s,baz=289,slow=4.5,SNR=4.5						
BVAR				pPKPbc	pPKPbc	15 25 21.5	-2.1
	comp=E,0.5nm,0.5s,baz=325,slow=2.3,SNR=2.7						
BVAR	**Borovoye Array**	**145.33**	**41**	PKPbc	PKPbc	15 25 07.8	-0.2
BVAR				pPKPbc	pPKPbc	15 25 21.5	-2.1
ZALV	**Zalesovo Beam**	**152.09**	**30**	PKPbc	PKPbc	15 25 25.4	-0.2
	comp=E,0.4nm,0.4s,baz=311,slow=2.9,S

KOPT			*i* S	Sg	15 09 35.2	+1.1
KOPT	**Kop Dagi**	**1.43 206**	*i* P	Pn	15 09 15.2	0.0
KOPT			*i* S	Sg	15 09 35.2	+1.1
GUMT	**Gumushane**	**1.63 239**	*e*PN	Pn	15 09 17.4	-0.5
GUMT	**Gumushane**	**1.63 239**	*e*Pn	Pn	15 09 17.4	-0.5
AKH	**Akhalkalaki**	**1.65 86**	P	Pn	15 09 18.8	+0.6
AKH			S	Sn	15 09 40.4	+0.4
ESPY	**Espiye-Giresun**	**1.99 259**	*e*PN	Pn	15 09 21.0	-1.9
ESPY	**Espiye-Giresun**	**1.99 259**	*e*Pn	Pn	15 09 21.0	-1.9
ONI	**Oni**	**2.05 51**	P	Pn	15 09 23.7	0.0
ONI			S	Sn	15 09 52.2	+2.3
ERZN	**Erzincan**	**2.11 216**	*e*PN	Pn	15 09 24.7	+0.2
EZC	**Erzincan**	**2.16 224**	*e*Pn	Pn	15 09 24.7	-0.5
SUSE	**Susehri**	**2.60 246**	*i* P	Pn	15 09 31.8	+0.5
SUSE			*i* S	Sn	15 10 05.7	+2.1
SUSE	**Susehri**	**2.60 246**	*i* P	Pn	15 09 31.8	+0.5
SUSE			*i* S	Sn	15 10 05.7	+2.1
PTK	**Pertek**	**2.83 212**	*e*PN	Pn	15 09 35.0	+0.6
PTK	**Pertek**	**2.83 212**	*e*Pn	Pn	15 09 35.0	+0.6
DGRG	**David-gareji**	**3.06 86**	P	Pn	15 09 44.1	+6.4

*IDC **01** 15:23:42.4±0.7,4°.06N×128°.69E,h0km,mb3.9/11, mb1 4.1/11,mb1mx3.8/22,mbtmp3.9/11,Error ellipse: s-maj=36.3km s-min=14.6km az=74.0*
*ISCJB **01** 15:23:45.6±0.6,4°.06N±0°.09×128°.6E±0°.2,h33km, mb3.9/12,Error ellipse: s-maj=29.3km s-min=10.0km az=164.1*
*NEIC **01** 15:23:47.7±0.5,4°.04N×128°.68E,h35km,mb3.9/1,Error ellipse: s-maj=23.8km s-min=8.3km az=75.0*
ISC 01 15:23:47.7±0.6,**4°.04N**±0°.09×**128.7E**±0°.2,**h35**km,**n25, σ0s72/25,mb3.9/12,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.20**	**188**	P	**P**	15 28 40.6	**-0.6**
	4.6nm,1.2s,mb3.8,baz=16,slow=11,SNR=5.3						
FITZ	**Fitzroy Crossi**	**22.20**	**188**	P	**P**	15 28 40.6	**-0.6**
WRAB	**Tennant Creek**	**24.47**	**167**	*e*P	**P**	15 29 03.8	**+0.3**
	3.2nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**24.47**	**167**	P	**P**	15 29 03.5	**-0.1**
	1.4nm,0.5s,mb3.6,baz=345,slow=11,SNR=24						
WRA	**Warramunga Arr**	**24.47**	**167**	P	**P**	15 29 03.5	**-0.1**
WB2	**Warramunga Arr**	**24.48**	**167**	*e*P	**P**	15 29 04.2	**+0.5**
AS31	**Alice Springs**	**28.00**	**170**	*e*P	**P**	15 29 35.7	**+0.2**
ASAR	**Alice Springs**	**28.01**	**170**	P	**P**	15 29 35.5	**+0.1**
	0.2nm,0.3s,mb3.2,baz=351,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**28.01**	**170**	P	**P**	15 29 35.5	**+0.1**
CMAR	**Chiang Mai Arr**	**32.41**	**299**	P	**P**	15 30 15.3	**+0.8**
	0.6nm,0.6s,mb3.6,baz=100,slow=7.3,SNR=6.7						
CMAR	**Chiang Mai Arr**	**32.41**	**299**	P	**P**	15 30 15.3	**+0.8**
STKA	**Stephens Creek**	**37.77**	**162**	P	**P**	15 31 00.6	**0.0**
	1.9nm,0.8s,mb3.9,baz=338,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**37.77**	**162**	P	**P**	15 31 00.6	**0.0**
PETK	**Petropavlovsk-**	**54.43**	**21**	P	**P**	15 33 12.9	**+1.6**
	2.3nm,0.7s,mb4.2,baz=188,slow=8.7,SNR=6.1						
PETK	**Petropavlovsk-**	**54.43**	**21**	P	**P**	15 33 12.9	**+1.6**
MKAR	**Makanchi Array**	**58.42**	**324**	P	**P**	15 33 40.3	**+0.4**
	0.8nm,0.4s,mb4.2,baz=112,slow=7.8,SNR=27						
MKAR	**Makanchi Array**	**58.42**	**324**	P	**P**	15 33 40.3	**+0.4**
KURK	**Kurchatov**	**62.54**	**327**	P	**P**	15 34 07.7	**-0.2**
	1.4nm,0.6s,mb4.2,baz=123,slow=6.3,SNR=17						
KURK	**Kurchatov**	**62.54**	**327**	P	**P**	15 34 07.7	**-0.2**
BVAR	**Borovoye Array**	**68.13**	**326**	P	**P**	15 34 43.9	**-0.2**
	0.8nm,0.7s,mb3.9,baz=110,slow=7.1,SNR=5.5						
BVAR	**Borovoye Array**	**68.13**	**326**	P	**P**	15 34 43.9	**-0.2**
ILAR	**Eielson Array**	**83.99**	**25**	P	**P**	15 36 12.9	**-1.2**
	0.7nm,0.9s,mb3.8,baz=230,slow=5.3,SNR=4.4						
ILAR	**Eielson Array**	**83.99**	**25**	P	**P**	15 36 12.9	**-1.2**
ARCES	**ARCESS Array B**	**90.83**	**340**	P	**P**	15 36 45.7	**-1.5**
	2.3nm,0.8s,mb4.5,baz=91,slow=5.0,SNR=3.3						
ARCES	**ARCESS Array B**	**90.83**	**340**	P	**P**	15 36 45.7	**-1.5**

*IDC **01** 15:26:49.2±1.4,1°.65N×126°.94E,h0km,mb3.8/5, mb1 3.9/6,mb1mx3.6/19,mbtmp3.8/6,ML3.6/1,Error ellipse: s-maj=100.8km s-min=18.4km az=68.0*
*NEIC **01** 15:26:53.3±0.8,1°.97N×127°.77E,h35km,mb4.0/1,Error ellipse: s-maj=53.5km s-min=10.1km az=69.0*
*ISCJB **01** 15:27:01.6±1.5,1°.8N±0°.1×127°.39E±0°.10,h130km±12km, mb3.7/6,Error ellipse: s-maj=22.0km s-min=11.3km az=37.9*
*DJA **01** 15:27:11,1°.17N×126°.97E,h24km,MLv3.8/8*
ISC 01 15:27:02.6±1.4,**1.7N**±0°.1×**127.42E**±0°.10,**h122**km±11km, **n26,σ0s80/27,mb3.7/6,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.93**	**183**	P	**Pn**	15 27 23.7	**-0.4**
MNI	**Manado**	**2.59**	**264**	P	**Pn**	15 27 43.1	**-0.5**
MNI				S	**Sn**	15 28 13.6	**-1.6**
SGSI	**Sangihe**	**2.73**	**316**	P	x	15 27 58.1	
KMSI	**Cibinong**	**3.62**	**252**	P	**Pn**	15 27 57.1	**0.0**
KMSI				S	**Sn**	15 28 39.0	**-0.3**
GTOI	**Gorontalo**	**4.54**	**257**	P	**Pn**	15 28 09.8	**+0.5**
NLAI	**Namlea**	**4.92**	**184**	P	**Pn**	15 28 18.0	**+3.5**
MSAI	**Masohi**	**5.24**	**163**	P	**Pn**	15 28 24.1	**+5.3**
LUWI	**Luwuk**	**5.39**	**240**	P	**Pn**	15 28 21.2	**+0.4**
MRSI	**Marisa**	**5.61**	**258**	P	**Pn**	15 28 25.9	**+2.0**
KDI	**Kendari**	**7.39**	**220**	P	**Pn**	15 28 47.6	**-0.3**
	0.0nm4.2nm,4.2s						
TTSI	**Tana Toraja**	**8.94**	**238**	P	**Pn**	15 29 10.1	**+1.2**
FITZ	**Fitzroy Crossi**	**19.76**	**185**	P	**P**	15 31 21.8	**-1.3**
	0.1nm,0.3s,baz=0.0,slow=10,SNR=6.3						
FITZ	**Fitzroy Crossi**	**19.76**	**185**	*e*P	**P**	15 31 23.7	**+0.6**
WRAB	**Tennant Creek**	**22.55**	**163**	*e*P	**P**	15 31 52.5	**-0.4**
	1.9nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**22.56**	**163**	P	**P**	15 31 52.4	**-0.5**
	1.7nm,0.4s,mb3.8,baz=338,slow=11,SNR=19						
WRA	**Warramunga Arr**	**22.56**	**163**	P	**P**	15 31 52.4	**-0.5**
WB2	**Warramunga Arr**	**22.56**	**163**	*e*P	**P**	15 31 52.3	**-0.7**
AS31	**Alice Springs**	**25.99**	**166**	*e*P	**P**	15 32 24.1	**0.0**
ASAR	**Alice Springs**	**25.99**	**166**	P	**P**	15 32 24.1	**-0.1**
	0.7nm,0.3s,mb3.5,baz=344,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**25.99**	**166**	P	**P**	15 32 24.1	**-0.1**
STKA	**Stephens Creek**	**36.00**	**159**	P	**P**	15 33 52.3	**+0.3**
	5.8nm,1.0s,mb4.5,baz=353,slow=9.2,SNR=8.3						
STKA	**Stephens Creek**	**36.00**	**159**	P	**P**	15 33 52.3	**+0.3**
MKAR	**Makanchi Array**	**59.60**	**326**	P	**P**	15 36 53.6	**0.0**
	0.2nm,0.5s,mb3.5,baz=112,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**59.60**	**326**	P	**P**	15 36 53.6	**0.0**
KURK	**Kurchatov**	**63.81**	**328**	P	**P**	15 37 21.8	**+0.1**
	0.4nm,0.7s,mb3.4,baz=125,slow=7.0,SNR=3.6						
KURK	**Kurchatov**	**63.81**	**328**	P	**P**	15 37 21.8	**+0.1**

DJA 01 15:33:20,2°.27N×122°.42E,h30km,MLv3.7/3,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.73**	**160**	P	Pn	15 33 50.6	+2.6
MRSI	**Marisa**	**1.84**	**195**	P	Pn	15 33 47.8	-1.8
KMSI	**Cibinong**	**2.30**	**137**	P	Pn	15 33 54.2	-1.6
MNI	**Manado**	**2.55**	**109**	P	Pn	15 34 00.0	+0.6
LUWI	**Luwuk**	**3.31**	**174**	P	Pn	15 34 13.5	+3.7
LUWI				S	Sn	15 34 50.0	+1.9

*CSEM **01** 15:49:30.1,35°.78N×21°.16E,h45km,MD3.6,After ATH*
ATH 01 15:49:28.9,35°.79N×21°.24E,h20km±4km,MD3.6/7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**1.18**	**20**	*e*PN	Pn	15 49 51.3	+1.1
PYL				*e*SN	Sn	15 50 07.4	+1.8
PYL	**PYLOS**	**1.18**	**20**	*e*P	Pn	15 49 51.3	+1.1
PYL				*e*S	Sb	15 50 07.4	+2.1
ITM	**Ithomi**	**1.49**	**22**	*e*PN	Pn	15 49 56.4	+1.8
ITM	**Ithomi**	**1.49**	**22**	*e*P	Pn	15 49 56.4	+1.8
KYTH	**Kithira**	**1.54**	**71**	*e*PN	Pn	15 49 57.0	+1.9
KYTH	**Kithira**	**1.54**	**71**	*e*P	Pn	15 49 57.0	+1.9
VLI	**Veliai**	**1.66**	**55**	*e*PN	Pn	15 49 59.3	+2.5
VLI	**Veliai**	**1.66**	**55**	*e*P	Pn	15 49 59.3	+2.5
VLX	**Vlachokerasia**	**1.82**	**30**	*e*PN	Pn	15 50 00.9	+1.8
VLX	**Vlachokerasia**	**1.82**	**30**	*e*P	Pn	15 49 59.8	+0.7
GUR	**Goura**	**2.32**	**22**	*e*PB	Pb	15 50 08.6	-1.4
GUR	**Goura**	**2.32**	**22**	*e*P	Pn	15 50 08.6	+2.7
DID	**Didima**	**2.35**	**43**	*e*PB	Pb	15 50 08.9	-1.6
DID	**Didima**	**2.35**	**43**	*e*P	Pn	15 50 09.9	+3.6

IDC 01 15:52:35.9±1.5,**30°.33N×67°.45E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.3/26,mbtmp3.4/4,Error ellipse: s-maj=46.6km s-min=31.6km az=135.0,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.07**	**31**	P	P	15 57 10.8	+0.2
	0.2nm,0.4s,baz=213,slow=9.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**26.74**	**23**	P	P	15 58 16.9	0.0
	0.3nm,0.4s,baz=216,slow=9.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**62.66**	**270**	P	P	16 03 02.6	0.0
	0.5nm,0.7s,baz=52,slow=6.2,SNR=4.3						
ASAR	**Alice Springs**	**83.33**	**122**	P	P	16 05 05.0	+0.1
	0.5nm,1.1s,baz=311,slow=4.9,SNR=4.5						

*SGS **01** 16:02:39.3,30°.36N×50°.00E,h13km*
*CSEM **01** 16:02:40.4±0.2,30°.18N×50°.54E,h10km,ML3.2,Error ellipse: s-maj=6.2km s-min=4.3km az=116.0*
*ISCJB **01** 16:02:41.0±1.8,30°.11N±0°.04×50°.50E±0°.05,h15km±13km, Error ellipse: s-maj=8.2km s-min=5.0km az=41.1*
*KISR **01** 16:02:41.6±0.9,29°.99N×50°.46E,h31km±491km,ML2.6*
*TEH **01** 16:02:42.5,30°.21N×50°.57E,h4km*
ISC 01 16:02:40.4±1.6,**30°.14N**±0°.04×**50°.46E**±0°.04,**h3**km±11km, **n26,σ0s82/36,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAR	**Pars**	**2.27**	**97**	*e*Pn	**Pn**	**16 03 19.6**	**+0.8**
IPAR				*e*		16 04 04.8	
	comp=Z,603nm,0.4s						
SHGR	**Shooshtar-Gavs**	**2.42**	**325**	*e*Pn	**Pn**	**16 03 19.8**	**-1.1**
SHGR				*e*Sg	**Sg**	**16 03 57.2**	**-1.1**
ISRV	**Sarvestan**	**2.43**	**107**	*e*Pn	**Pn**	**16 03 22.1**	**+1.1**
ISRV				*e*		16 04 11.6	
	comp=Z,841nm,0.2s						
UMR	**Umm Al-Rimmam**	**2.45**	**257**	*e*P	**Pn**	**16 03 21.9**	**+0.7**
UMR	**Umm Al-Rimmam**	**2.45**	**257**	*e*P	**Pn**	**16 03 21.9**	**+0.6**
IPIR	**Pirpir**	**2.56**	**8**	*e*Pn	**Pn**	**16 03 23.8**	**+1.0**
IPIR				*e*		16 03 30.6	
	comp=Z,513nm,0.2s						
IPIR				*e*Sn	**Sn**	**16 03 54.2**	**-0.3**
KBD	**Kabd**	**2.59**	**249**	*e*P	**Pn**	**16 03 23.9**	**+0.7**
KBD				*e*S	**Sn**	**16 03 55.8**	**+0.6**
KBD				AML	AML	16 04 02.8	
	comp=Z,17nm,0.3s						
KBD	**Kabd**	**2.59**	**249**	*e*P	**Pn**	**16 03 23.9**	**+0.7**
KBD				*e*S	**Sn**	**16 03 55.8**	**+0.6**
QRN	**Al-Qurain**	**2.61**	**238**	*e*P	**Pn**	**16 03 23.9**	**+0.3**
QRN				*e*S	**Sn**	**16 03 55.4**	**-0.4**
QRN				AML	AML	16 03 57.9	
	comp=Z,50nm,0.2s						
IGAR	**Gharneh**	**2.63**	**31**	*e*Pn	**Pn**	**16 03 24.3**	**+0.5**
IGAR				*e*		16 03 26.3	
	comp=Z,904nm,0.1s						
RDF	**Al-Radifah**	**2.81**	**245**	*e*P	**Pn**	**16 03 27.0**	**+0.8**
RDF				*e*S	**Sn**	**16 04 00.0**	**-0.5**
RDF				AML	AML	16 04 00.5	
	comp=Z,31nm,0.5s						
RDF	**Al-Radifah**	**2.81**	**245**	*e*P	**Pn**	**16 03 27.0**	**+0.8**
RDF				*e*S	**Sn**	**16 04 00.0**	**-0.5**
NAY	**Al-Naaiem**	**2.93**	**253**	*e*P	**Pn**	**16 03 28.5**	**+0.6**
NAY				*e*S	**Sn**	**16 04 04.4**	**+0.7**
NAY				AML	AML	16 04 14.4	
	comp=Z,9.2nm,0.5s						
NAY	**Al-Naaiem**	**2.93**	**253**	*e*P	**Pn**	**16 03 28.5**	**+0.6**
NAY				*e*S	**Sn**	**16 04 04.4**	**+0.7**
IZEF	**Zefreh**	**3.18**	**30**	*e*Pn	**Pn**	**16 03 31.7**	**+0.4**
IZEF				*e*		16 03 32.9	
	comp=Z,455nm,0.1s						
ISAD	**Sadrabad**	**3.29**	**57**	*e*Pn	**Pn**	**16 03 33.5**	**+0.7**
ISAD				*e*		16 04 27.9	
	comp=Z,507nm,0.3s						
IKLH	**Kolahrood**	**3.31**	**17**	*e*Pn	**Pn**	**16 03 33.3**	**+0.2**
IKLH				*e*		16 03 42.9	
	comp=Z,278nm,0.2s						
NASN	**Na'in**	**3.33**	**37**	*e*Pn	**Pn**	**16 03 31.9**	**-1.4**
IMEH	**Mehriz**	**3.79**	**70**	*e*Pn	**Pn**	**16 03 39.9**	**+0.2**
IMEH				*e*		16 04 28.0	
	comp=Z,152nm,0.1s						
ICHK	**Chekchek**	**3.98**	**57**	*e*Pn	**Pn**	**16 03 41.7**	**-0.7**
ICHK				*e*		16 03 46.8	
	comp=Z,228nm,0.1s						
BOQSS		**4.36**	**193**	S	**Sn**	**16 04 35.1**	**-3.8**
BOQSS		**4.36**	**193**	P	**Pn**	**16 03 48.0**	**+0.5**
ASAO	**Ashtian**	**4.41**	**355**	*e*Pn	**Pn**	**16 03 47.6**	**-0.6**
BTHS		**6.08**	**177**	P	**Pn**	**16 04 10.5**	**-0.7**
BTHS		**6.08**	**177**	P	**Pn**	**16 04 10.5**	**-0.7**
BTHS				S	**Sn**	**16 05 19.5**	**-1.8**
HRDDS		**7.24**	**187**	P	**Pn**	**16 04 26.0**	**-1.1**

IDC 01 16:03:27.7±2.2,**6°.41S×129°.73E,h0km,mb3.4/1, mb1 3.6/4,mb1mx3.4/16,mbtmp3.4/4,ML3.5/3,Error ellipse: s-maj=82.1km s-min=29.0km az=76.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.29**	**199**	Pn	Pn	16 06 25.6	+1.6
	0.2nm,0.3s,baz=29,slow=14,SNR=12						
FITZ				Sn	Sn	16 08 31.0	-11
	0.2nm,0.3s,baz=274,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**14.18**	**162**	Pn	Pn	16 06 48.7	-1.2
	0.3nm,0.3s,baz=339,slow=12,SNR=20						
WRA				Sn	Sn	16 09 14.9	-13
	0.3nm,0.3s,baz=341,slow=20,SNR=6.9						
ASAR	**Alice Springs**	**17.62**	**167**	P	Pn	16 07 34.4	-0.4
	0.1nm,0.3s,baz=349,slow=11,SNR=33						
ASAR				S	Sn	16 10 39.3	-13
	0.1nm,0.3s,baz=72,slow=15,SNR=6.0						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	16 14 26.2	+0.1
	0.2nm,0.4s,baz=115,slow=7.4,SNR=4.1						

*ISCJB **01** 16:10:17.5±0.2,30°.16N±0°.02×50°.49E±0°.03,h10km, mb3.7/9,MS3.2/2,Error ellipse: s-maj=3.7km s-min=3.0km az=36.7*
*IDC **01** 16:10:17.5±2.2,30°.34N×50°.31E,h0km,mb3.9/8, mb1 3.9/12,mb1mx3.7/31,mbtmp3.9/12,ML3.8/4,MS2.9/4, Ms1 2.9/4,ms1mx2.5/40,Error ellipse: s-maj=48.0km s-min=18.5km az=162.0*
*THR **01** 16:10:18.6±0.8,30°.19N×50°.47E,h15km,ML3.9*
*SGS **01** 16:10:18.7,30°.38N×50°.78E,h17km*
*CSEM **01** 16:10:19.0,30°.20N×50°.51E,h15km,mb3.7/1,After NEIC*
*NEIC **01** 16:10:19.0,30°.20N×50°.51E,h15km,mb3.7/1, ML3.9(THR),After THR.*
*KISR **01** 16:10:20.3±1.1,30°.12N×50°.51E,h44km±999km,ML3.7*
*TEH **01** 16:10:21.0,30°.24N×50°.42E,h13km*
*OMAN **01** 16:10:47.2±9.5,28°.11N×51°.32E,h30km,Error ellipse: s-maj=108.0km s-min=11.3km az=149.0*
ISC 01 16:10:19.3±0.2,**30°.17N**±0°.02×**50°.46E**±0°.03,**h10**km,**n103, σ1s23/108,mb3.7/9,MS3.2/2,2C-3D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAR	**Pars**	**2.27**	**98**	*e*Pn	**Pn**	**16 10 58.3**	**+1.4**
IPAR				*e*Sg	**Sg**	**16 11 34.2**	**+1.9**
IPAR				*e*		16 11 43.7	
	comp=Z,5μm,0.4s						
SHGR	**Shooshtar-Gavs**	**2.40**	**324**	*e*Pn	**Pn**	**16 10 59.1**	**+0.5**
SHGR				AML	AML	16 11 42.6	
	comp=N,1μm,0.5s						
SHGR				AML	AML	16 11 51.3	
	comp=E,1μm,0.6s						
ISRV	**Sarvestan**	**2.44**	**108**	*e*Pn	**Pn**	**16 11 00.9**	**+1.7**
ISRV				*e*		16 11 50.5	
	comp=Z,7μm,0.2s						
IPIR	**Pirpir**	**2.53**	**8**	*e*Pn	**Pn**	**16 11 02.8**	**+2.3**
IPIR				*e*		16 11 50.7	
	comp=Z,5μm,0.4s						
KBD	**Kabd**	**2.60**	**248**	*e*P	**Pn**	**16 11 02.9**	**+1.5**
KBD				AML	AML	16 11 36.8	
	comp=Z,228nm,0.3s						
IGAR	**Gharneh**	**2.61**	**31**	*e*	**Pn**	**16 11 05.5**	**+4.0**
IGAR				*e*Pn	**Pn**	**16 11 02.9**	**+1.4**
QRN	**Al-Qurain**	**2.63**	**238**	*e*P	**Pn**	**16 11 03.0**	**+1.1**
QRN				*e*S	**Sn**	**16 11 34.5**	**+0.7**
QRN				AML	AML	16 11 36.9	
	comp=Z,518nm,0.6s						
MIB	**Mutribah**	**2.73**	**263**	*e*P	**Pn**	**16 11 04.5**	**+1.3**
RDF	**Al-Radifah**	**2.82**	**245**	*e*P	**Pn**	**16 11 06.2**	**+1.8**
RDF				*e*S	**Sn**	**16 11 40.2**	**+1.6**
RDF				AML	AML	16 11 41.3	
	comp=Z,280nm,0.5s						
NAY	**Al-Naaiem**	**2.94**	**253**	*e*P	**Pn**	**16 11 07.2**	**+1.0**
NAY				*e*S	**Sn**	**16 11 43.2**	**+1.6**
NAY				AML	AML	16 11 46.4	
	comp=Z,116nm,0.4s						
IZEF	**Zefreh**	**3.15**	**30**	*e*	**Pg**	**16 11 20.2**	**+0.5**
	comp=Z,3μm,0.2s						
IZEF				*e*Pn	**Pn**	**16 11 09.9**	**+0.9**
IZEF				*e*Sn	**Sn**	**16 11 45.9**	**-0.8**
ISAD	**Sadrabad**	**3.27**	**57**	*e*Pn	**Pn**	**16 11 12.5**	**+1.9**
ISAD				*e*Sg	**Sg**	**16 12 01.9**	**-2.5**
ISAD				*e*		16 12 04.2	
	comp=Z,5μm,0.3s						
IKLH	**Kolahrood**	**3.28**	**17**	*e*Pn	**Pn**	**16 11 11.6**	**+0.8**
IKLH				*e*		16 11 15.7	
	comp=Z,2μm,0.1s						
NASN	**Na'in**	**3.30**	**37**	*e*Pn	**Pn**	**16 11 12.0**	**+0.9**
NASN	**Na'in**	**3.30**	**37**	*e*Pn	**Pn**	**16 11 12.0**	**+0.9**
IMEH	**Mehriz**	**3.78**	**70**	*e*Pn	**Pn**	**16 11 18.6**	**+1.0**
IMEH				*e*		16 12 28.0	
	comp=Z,4μm,0.7s						
ICHK	**Chekchek**	**3.96**	**58**	*e*Pn	**Pn**	**16 11 21.4**	**+1.2**
ICHK				*e*		16 12 14.9	
	comp=Z,1μm,0.2s						
GHVR	**GHOM**	**4.36**	**9**	*e*Pn	**Pn**	**16 11 26.0**	**+0.4**
GHVR	**GHOM**	**4.36**	**9**	*e*Pn	**Pn**	**16 11 26.3**	**+0.7**
GHVR				AML	AML	16 12 24.2	
	comp=E,62nm,0.4s						
GHVR	**GHOM**	**4.36**	**9**	*e*Pn	**Pn**	**16 11 26.0**	**+0.4**
ASAO	**Ashtian**	**4.38**	**355**	*e*Pn	**Pn**	**16 11 26.0**	**+0.1**
ASAO	**Ashtian**	**4.38**	**355**	*e*Pn	**Pn**	**16 11 26.9**	**+1.0**
ASAO				AML	AML	16 12 19.4	
	comp=N,90nm,0.6s						
ASAO	**Ashtian**	**4.38**	**355**	*e*Pn	**Pn**	**16 11 26.0**	**+0.1**
BOQSS		**4.39**	**193**	S	**Sn**	**16 12 17.7**	**+0.5**
BOQSS		**4.39**	**193**	P	**Pn**	**16 11 26.8**	**+0.7**
ISFB	**Sefidab**	**4.43**	**19**	*e*Pn	**Pn**	**16 11 26.9**	**+0.3**
ISFB				*e*		16 11 28.0	
	comp=Z,1μm,0.2s						
IBAF	**Bafgh**	**4.62**	**71**	*e*Pn	**Pn**	**16 11 29.7**	**+0.6**
IBAF				*e*		16 11 56.4	
	comp=Z,460nm,0.2s						
IGHG	**Ghaleghazi**	**5.29**	**323**	*e*Pn	**Pn**	**16 11 38.5**	**0.0**
IGHG				*e*		16 13 33.5	
	comp=Z,2μm,0.4s						
SLWS		**5.36**	**178**	P	**Pn**	**16 11 39.7**	**+0.4**
KRBR	**Kerman**	**5.47**	**90**	*e*Pn	**Pn**	**16 11 41.0**	**+0.2**
KRBR	**Kerman**	**5.47**	**90**	*e*Pn	**Pn**	**16 11 41.9**	**+1.1**
KRBR				AML	AML	16 12 52.9	
	comp=N,51nm,0.6s						
KRBR				AML	AML	16 13 04.1	
	comp=E,41nm,0.6s						
KRBR	**Kerman**	**5.47**	**90**	*e*Pn	**Pn**	**16 11 41.0**	**+0.2**
IMHD	**Mahdasht**	**5.50**	**2**	*e*Pn	**Pn**	**16 11 41.3**	**0.0**
ILIN	**Lien**	**5.58**	**329**	*e*Pn	**Pn**	**16 11 42.4**	**0.0**
ILIN				*e*		16 12 15.4	
	comp=Z,577nm,0.2s						
DAMV	**Damavand**	**5.59**	**13**	*e*PN5	**Pn**	**16 11 42.6**	**+0.1**
ILAS	**Lasjerd**	**5.61**	**21**	*e*Pn	**Pn**	**16 11 43.0**	**+0.2**
IDHR	**Dehrash**	**5.68**	**324**	*e*Pn	**Pn**	**16 11 42.7**	**-1.0**
IDHR				*e*		16 12 48.5	
	comp=Z,1μm,0.1s						
IFIR	**Firoozkooh**	**5.79**	**19**	*e*Pn	**Pn**	**16 11 45.3**	**+0.1**
IFIR				*e*		16 11 55.9	
	comp=Z,601nm,0.1s						
IBND	**Bandar-abas**	**5.99**	**115**	*e*Pn	**Pn**	**16 11 48.5**	**+0.5**
IBND				*e*		16 13 16.3	
	comp=Z,2μm,0.1s						
BHD	**Baghdad**	**6.03**	**302**	*e*x	**Pn**	**16 11 47.0**	**-1.6**
BHD				*e*x	x	16 12 20.2	
IANJ	**Anjilo**	**6.03**	**28**	*e*Pn	**Pn**	**16 11 48.7**	**+0.1**
IANJ				*e*		16 11 51.4	
	comp=Z,464nm,0.1s						
ISHM	**Shahmirzad**	**6.10**	**22**	*e*Pn	**Pn**	**16 11 49.6**	**0.0**
ISHM				*e*		16 12 16.2	
	comp=Z,630nm,0.2s						
BTHS		**6.11**	**177**	S	**Sn**	**16 12 57.6**	**-2.1**
BTHS		**6.11**	**177**	P	**Pn**	**16 11 49.5**	**-0.2**
TABS	**Tabas**	**6.64**	**57**	*e*Pn	**Pn**	**16 11 57.4**	**+0.4**
ASUD	**Al Ashush, Dub**	**7.02**	**141**	P	**Pn**	**16 12 01.9**	**-0.3**
	SNR=68						
HRDDS		**7.27**	**187**	S	**Sn**	**16 13 25.7**	**-2.6**
HRDDS		**7.27**	**187**	P	**Pn**	**16 12 05.0**	**-0.7**
ASHO	**Ashiyiah**	**7.39**

ZAA0	**Zalesovo Array**	**34.32**	**36**	P	**P**	**16 17 04.7**	**-1.1**
ZALV	**Zalesovo Beam**	**34.32**	**36**	P	**P**	**16 17 04.8**	**-1.0**
comp=Z,1.4nm,0.4s,mb4.2,baz=247,slow=8.2,SNR=7.6							
ZALV	**Zalesovo Beam**	**34.32**	**36**	P	**P**	**16 17 04.8**	**-1.0**
FINES	**FINESS Array B**	**35.16**	**340**	P	**P**	**16 17 10.6**	**-2.4**
comp=Z,1.3nm,0.5s,mb4.1,baz=139,slow=9.1,SNR=9.2							
FINES	**FINESS Array B**	**35.16**	**340**	P	**P**	**16 17 10.6**	**-2.4**
FINES	**FINESS Array B**	**35.16**	**340**	P	**P**	**16 17 10.6**	**-2.4**
NOA	**NORSAR Array B**	**40.25**	**332**	LR	LR	16 35 31.8	
comp=Z,13nm,20.4s,MS2.8,baz=180,slow=38							
TORD	**Torodi Ar. Bea**	**48.00**	**260**	P	**P**	**16 18 57.9**	**-0.9**
comp=Z,0.5nm,0.6s,mb3.7,baz=56,slow=9.1,SNR=4.7							
TORD	**Torodi Ar. Bea**	**48.00**	**260**	P	**P**	**16 18 57.9**	**-0.9**
ASAJ	**Asahikawa**	**71.12**	**50**	LR	LR	16 55 47.3	
comp=Z,46nm,20.6s,MS3.7,baz=260,slow=38							

*BYKL **01** 16:24:09.9±0.5, 57°.32N×120°.53E*
*IDC **01** 16:24:09.2±0.6, 57°.30N×120°.44E, h0km, mb4.0/16, mb1 4.1/18, mb1mx4.0/31, mbtmp4.1/18, ML3.5/2, MS3.3/11, Ms1 3.4/11, ms1mx3.2/35, Error ellipse: s-maj=17.2km s-min=13.2km az=34.0*
*BJI **01** 16:24:09.1, 57°.32N×120°.97E, h17km, mB4.5/3, mb4.4/6, ML5.2/3, Ms4.4/6, Ms7 4.1/6*
*MOS **01** 16:24:09.1±1.1, 57°.33N×120°.52E, h12km, mb4.4/19, Error ellipse: s-maj=10.5km s-min=7.6km az=94.6*
*ISCJB **01** 16:24:09.2±0.3, 57°.20N±0°.03×120°.37E±0°.04, h10km, mb4.1/24, MS3.4/11, Error ellipse: s-maj=4.7km s-min=3.3km az=12.4*
*NEIC **01** 16:24:10.8±0.3, 57°.28N×120°.45E, h10km, mb4.2/3, Error ellipse: s-maj=7.7km s-min=7.1km az=168.0*
ISC 01 16:24:11.0±0.3, 57°.24N±0°.03×120°.42E±0°.04, h10km, n124, σ1§28/153, mb4.1/24, MS3.4/11, 3C-5D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.40**	**217**	*i* Pg	**Pg**	**16 24 18.3**	**-0.6**
KHNR				*i* Sg	**Sg**	**16 24 25.1**	**+0.9**
CRS	**Chara**	**1.22**	**255**	*e*P	**Pn**	**16 24 34.1**	**-0.1**
CRS	**Chara**	**1.22**	**255**	⇓*i*Pg	**Pg**	**16 24 34.0**	**-0.5**
CRS				Pmax		16 24 35.4	
1μm,0.8s							
CRS				*i* Sg	**Sg**	**16 24 51.1**	**+0.7**
CRS				Smax		16 24 52.5	
5μm,1.4s							
CLNS	**Chul'man**	**2.48**	**97**	*e*P	**Pn**	**16 24 51.8**	**+0.4**
CLNS				*e*S	**Sn**	**16 25 22.6**	**+1.0**
CLNS				pmax	pmax		
comp=Z,12nm,0.2s							
CLNS				pmax	pmax		
comp=E,7.0nm,0.2s							
CLNS				pmax	pmax		
comp=N,4.0nm,0.2s							
CLNS				pmax	pmax		
comp=Z,38nm,0.2s							
CLNS				pmax	pmax		
comp=E,33nm,0.2s							
CLNS				pmax	pmax		
comp=N,20nm,0.2s							
CLNS				smax			
comp=E,403nm,0.4s							
CLNS				smax			
comp=Z,39nm,0.2s							
CLNS				smax			
comp=N,187nm,0.3s							
CLNS				smax			
comp=E,3μm,0.5s							
CLNS				smax			
comp=Z,3μm,0.5s							
CLNS				smax			
comp=N,3μm,0.5s							
CLNS	**Chul'man**	**2.48**	**97**	*e*Pn	**Pn**	**16 24 51.7**	**+0.3**
CLNS				*e*Pg	**Pg**	**16 24 54.0**	**-4.4**
CLNS				*e*Sg	**Sg**	**16 25 25.4**	**-5.1**
IENR	**Iengra**	**2.65**	**111**	*e*Pg	**Pg**	**16 24 57.7**	**-4.0**
IENR				*e*Sg	**Sg**	**16 25 31.0**	**-5.0**
NLYR	**Nelyaty**	**2.70**	**256**	*e*P	**Pn**	**16 24 56.9**	**+2.5**
NLYR				*e*		16 25 32.7	
NLYR				pmax	pmax		
comp=Z,1μm,0.8s							
NLYR				smax			
comp=N,7μm,1.2s							
NLYR	**Nelyaty**	**2.70**	**256**	*e*Pn	**Pn**	**16 24 55.9**	**+1.5**
NLYR				⇓*i*Pg	**Pg**	**16 25 00.2**	**-2.5**
NLYR				Pmax		16 25 00.4	
comp=N,1μm,0.8s							
NLYR				*e*Sn	**Sn**	**16 25 29.8**	**+2.8**
NLYR				*e*Sg	**Sg**	**16 25 35.8**	**-1.8**
NLYR				Smax		16 25 38.8	
comp=N,7μm,1.1s							
TUP	**Tupik**	**2.83**	**186**	*e*P	**Pn**	**16 24 57.0**	**+0.7**
TUP				*e*S	**Sn**	**16 25 31.4**	**+1.0**
TUP				pmax	pmax		
comp=Z,965nm,0.6s							
TUP				smax			
comp=E,3μm,0.9s							
TUP	**Tupik**	**2.83**	**186**	⇑*i*Pn	**Pn**	**16 24 57.0**	**+0.7**
TUP				⇓*i*Pg	**Pg**	**16 25 01.9**	**-3.4**
TUP				Pmax		16 25 02.5	
comp=E,959nm,0.6s							
TUP				*e*Sn	**Sn**	**16 25 31.5**	**+1.1**
TUP				*e*Sg	**Sg**	**16 25 39.8**	**-2.2**
TUP				Smax		16 25 45.5	
comp=E,3μm,1.3s							
TNDR	**Tynda**	**3.19**	**129**	*e*Pn	**Pn**	**16 25 01.5**	**+0.4**
TNDR				*e*Sn	**Sn**	**16 25 39.4**	**+0.2**
TNDR				*e*Sg	**Sg**	**16 25 48.4**	**-4.9**
BOD	**Bodaibo**	**3.51**	**282**	*e*P	**Pn**	**16 25 05.9**	**+0.4**
BOD				pmax	pmax		
comp=Z,502nm,0.7s							
BOD	**Bodaibo**	**3.51**	**282**	⇓*i*Pn	**Pn**	**16 25 06.1**	**+0.6**
BOD				*e*Pg	**Pg**	**16 25 12.9**	**-5.3**
BOD				Pmax		16 25 15.3	
comp=Z,502nm,1.0s							
BOD				*e*Sn	**Sn**	**16 25 47.3**	**+0.2**
BOD				*e*Sg	**Sg**	**16 25 57.7**	**-5.9**
BOD				Smax		16 26 08.3	
comp=Z,1μm,1.2s							
SVKR	**Severomuysk**	**3.95**	**256**	*e*P	**Pg**	**16 25 22.3**	**-4.3**
SVKR				pmax	pmax		
comp=Z,332nm,0.8s							
SVKR	**Severomuysk**	**3.95**	**256**	*e*Pn	**Pn**	**16 25 12.6**	**+1.0**
SVKR				*e*Pg	**Pg**	**16 25 22.0**	**-4.6**
SVKR				Pmax		16 25 27.4	
comp=Z,302nm,0.5s							
SVKR				*e*Sg	**Sg**	**16 26 14.2**	**-3.5**
SVKR				Smax		16 26 25.8	
comp=Z,3μm,0.8s							
UKT	**Uakit**	**4.17**	**248**	*e*P	**Pg**	**16 25 27.0**	**-3.8**
UKT				pmax	pmax		
comp=Z,75nm,0.6s							
UKT	**Uakit**	**4.17**	**248**	*e*Pn	**Pn**	**16 25 16.5**	**+1.9**
UKT				*e*Pg	**Pg**	**16 25 26.6**	**-4.2**
UKT				Pmax		16 25 28.8	
comp=Z,75nm,0.5s							
UKT				*e*Sn	**Sn**	**16 26 05.5**	**+2.2**
UKT				*e*Sg	**Sg**	**16 26 20.9**	**-3.8**
UKT				Smax		16 26 28.1	
comp=Z,1μm,1.9s							
YOA	**Uoyan**	**4.92**	**261**	*e*P	**Pn**	**16 25 27.8**	**+2.8**
YOA				pmax	pmax		
comp=Z,955nm,1.3s							
YOA	**Uoyan**	**4.92**	**261**	*e*Pn	**Pn**	**16 25 27.8**	**+2.8**
YOA				*e*Pg	**Pg**	**16 25 40.3**	**-4.9**
YOA				Pmax		16 25 47.9	
comp=Z,923nm,1.3s							
YOA				*e*Sg	**Sg**	**16 26 44.9**	**-4.0**
YOA				Smax		16 27 00.9	
comp=Z,5μm,2.4s							
KMO	**Kumora**	**5.28**	**259**	*e*P	**Pg**	**16 25 46.1**	**-5.9**
KMO	**Kumora**	**5.28**	**259**	*e*Pn	**Pn**	**16 25 30.9**	**+1.1**
KMO				*e*Pg	**Pg**	**16 25 45.9**	**-6.1**
KMO				Pmax		16 25 52.4	
comp=Z,132nm,1.5s							
KMO				*e*Sg	**Sg**	**16 26 54.5**	**-5.8**
KMO				Smax		16 27 05.4	
comp=Z,1μm,1.4s							
YLYR	**Ulyunkhan**	**5.70**	**249**	*e*Pn	**Pn**	**16 25 37.7**	**+2.0**
YLYR				*e*Pg	**Pg**	**16 25 53.0**	**-7.2**
YLYR				Pmax		16 25 59.2	
comp=Z,2.0nm,0.2s							
YLYR				*e*Sg	**Sg**	**16 27 07.6**	**-6.4**
YLYR				Smax		16 27 17.3	
comp=Z,717nm,1.7s							
NIZ	**Nizh Angarsk**	**6.20**	**261**	*e*Pn	**Pn**	**16 25 44.5**	**+2.0**
NIZ				*e*Pg	**Pg**	**16 26 02.3**	**-7.4**
NIZ				Pmax		16 26 17.3	
comp=Z,50nm,1.2s							
NIZ				*e*Sn	**Sn**	**16 26 52.5**	**-0.9**
NIZ				*e*Sg	**Sg**	**16 27 22.0**	**-7.9**
NIZ				Smax		16 27 33.8	
comp=Z,418nm,1.0s							
CIT	**Chita**	**6.57**	**220**	*e*Pg	**Pg**	**16 26 10.5**	**-6.3**
CIT				Pmax		16 26 13.1	
comp=Z,143nm,1.1s							
CIT				*e*Sg	**Sg**	**16 27 36.2**	**-5.7**
CIT				Smax		16 27 44.4	
comp=Z,1μm,1.1s							
YAK	**Yakutsk**	**6.71**	**40**	*e*Pn	**Pn**	**16 25 47.0**	**-2.6**
comp=Z,84nm,0.8s							
YAK	**Yakutsk**	**6.71**	**40**	*e*P	**Pn**	**16 25 47.8**	**-1.7**
YAK				*e*		16 26 58.6	
YAK				pmax	pmax		
comp=Z,4.0nm,0.2s							
YAK				pmax	pmax		
comp=E,4.0nm,0.3s							
YAK				pmax	pmax		
comp=N,4.0nm,0.3s							
YAK				pmax	pmax		
comp=Z,42nm,0.4s							
YAK				pmax	pmax		
comp=N,9.0nm,0.3s							
YAK				pmax	pmax		
comp=E,26nm,0.4s							
YAK				smax			
comp=N,78nm,0.4s							
YAK				smax			
comp=E,84nm,0.6s							
YAK				smax			
comp=E,542nm,0.6s							
YAK				smax			
comp=N,730nm,0.8s							
YAK				smax			
comp=Z,388nm,9.6s							
SYVR	**Suvo**	**6.93**	**243**	*e*Pg	**Pg**	**16 26 16.7**	**-6.9**
SYVR				Pmax		16 26 19.9	
comp=Z,66nm,1.5s							
SYVR				*e*Sg	**Sg**	**16 27 48.3**	**-4.9**
SYVR				Smax		16 27 56.6	
comp=Z,989nm,1.5s							
HIA	**Hailar**	**8.00**	**183**	*e*P	**Pn**	**16 26 05.1**	**-2.0**
comp=Z,11nm,0.6s							
HIA	**Hailar**	**8.00**	**183**	*e*P	**Pn**	**16 26 05.1**	**-2.1**
HIA				pmax	pmax		
comp=Z,11nm,0.6s							
HIA	**Hailar**	**8.00**	**183**	*e*Sg	Sx	16 28 20.5	
KPC	**Khapcheranga**	**8.94**	**216**	*e*P	**Pn**	**16 26 20.4**	**+0.4**
KPC				pmax	pmax		
comp=Z,17nm,1.4s							
KPC	**Khapcheranga**	**8.94**	**216**	*e*Pn	**Pn**	**16 26 20.0**	**0.0**
KPC				*e*Sn	**Sn**	**16 27 56.9**	**-3.8**
KPC				*e*Sg	Sn	16 28 49.6	+49
KPC				Smax		16 29 07.6	
comp=Z,433nm,1.8s							
TRG	**Tyrgan**	**9.24**	**247**	*e*Sg	Sx	16 28 59.9	
TRG				Smax		16 29 12.7	
comp=Z,384nm,1.8s							
KLR	**Kul'dur**	**10.50**	**135**	*e*P	**Pn**	**16 26 39.2**	**-2.2**
ULN	**Ulaanbaatar**	**12.40**	**226**	P	**Pn**	**16 27 07.9**	**+0.5**
ULN	**Ulaanbaatar**	**12.40**	**226**	P	**Pn**	**16 27 07.9**	**+0.5**
HABR	**Khabarovsk**	**12.43**	**129**	*e*P	**Pn**	**16 27 08.0**	**+0.1**
HABR				pmax	pmax		
comp=Z,103nm,3.7s							
HABR				pmax	pmax		
comp=E,73nm,2.8s							
HABR				pmax	pmax		
comp=N,70nm,2.2s							
HABR				MLR	MLR		
comp=Z,99nm,16.0s							
MOY	**Mondy**	**12.59**	**252**	*e*P	**Pn**	**16 27 11.7**	**+1.8**
MOY				pmax	pmax		
comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**12.69**	**228**	Pn	**Pn**	**16 27 12.7**	**+1.4**
SONM				Lg		16 30 50.8	
comp=Z,1.9nm,0.3s,baz=14,slow=28,SNR=9.0							
SONM				LR	LR	16 32 37.1	
comp=Z,207nm,20.2s,baz=38,slow=40							
SONM	**Songino Array**	**12.69**	**228**	Pn	**Pn**	**16 27 12.7**	**+1.4**
SONM				Lg		16 30 50.8	
SONM	**Songino Array**	**12.69**	**228**	P	**Pn**	**16 27 12.7**	**+1.4**
SONM				MLR	MLR		
comp=Z,207nm,20.2s							
BJI	**Beijing**	**17.43**	**191**	P	**Pn**	**16 28 19.5**	**+5.4**
BJI				pmax	pmax		
comp=Z,12nm,0.5s							
BJI				LR	LR		
comp=N,210nm,5.8s							
BJI				LR	LR		
comp=E,460nm,8.3s							
BJI				LR	LR		
comp=Z,120nm,16.6s							
ASAJ	**Asahikawa**	**19.12**	**124**	P	**Pn**	**16 28 35.2**	**+0.6**
comp=Z,0.3nm,0.3s,baz=309,slow=14,SNR=3.6							
ASAJ				LR	LR	16 36 17.4	
comp=Z,94nm,21.2s,baz=25,slow=38							
ASAJ	**Asahikawa**	**19.12**	**124**	P	**Pn**	**16 28 35.2**	**+0.6**
ASAJ	**Asahikawa**	**19.12**	**124**	P	**Pn**	**16 28 35.3**	**+0.6**
ASAJ				MLR	MLR		
comp=Z,94nm,21.2s							
ZAA0	**Zalesovo Array**	**20.24**	**276**	*e*P	**P**	**16 28 45.8**	**-0.2**
ZALV	**Zalesovo Beam**	**20.24**	**276**	P	**P**	**16 28 46.8**	**+0.8**
comp=Z,11nm,1.0s,baz=69,slow=8.1,SNR=26							
ZALV				Lg		16 34 53.7	
comp=Z,2.6nm,1.1s,baz=83,slow=23,SNR=4.3							
ZALV				LR	LR	16 37 33.8	
comp=Z,33nm,19.3s,MS2.7,baz=58,slow=40							
ZALV	**Zalesovo Beam**	**20.24**	**276**	P	**P**	**16 28 46.8**	**+0.8**
ZALV				Lg		16 34 53.8	
ZALV	**Zalesovo Beam**	**20.24**	**276**	P	**P**	**16 28 46.8**	**+0.8**
ZALV				pmax	pmax		
comp=Z,11nm,1.0s							
ZALV				MLR	MLR		
comp=Z,33nm,19.3s,MS2.7							
KSRS	**Korea Array**	**20.41**	**163**	P	**P**	**16 28 48.5**	**+0.5**
comp=Z,7.2nm,1.2s,baz=1.1,slow=10,SNR=9.1							
KSRS				Lg		16 35 05.2	
comp=Z,3.1nm,0.9s,baz=346,slow=31,SNR=4.4							
KSRS				LR	LR	16 35 38.9	
comp=Z,31nm,21.4s,MS2.6,baz=0.0,slow=34							
KSRS	**Korea Array**	**20.41**	**163**	P	**P**	**16 28 48.6**	**+0.6**
KSRS				pmax	pmax		
comp=Z,7.0nm,1.2s							
KSRS				MLR	MLR		
comp=Z,31nm,21.4s,MS2.6							
KSAR	**Wonju Array Be**	**20.42**	**163**	P	**P**	**16 28 48.5**	**+0.5**
KSAR				Lg		16 35 05.2	
KSAR	**Wonju Array Be**	**20.42**	**163**	P	**P**	**16 28 48.6**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**20.70**	**119**	⇑*i*P	**P**	**16 28 41.2**	**-10**
YUK				pmax	pmax		
comp=N,38nm,0.2s							
YUK				pmax	pmax		
comp=E,14nm,0.2s							
YUK				pmax	pmax		
comp=Z,20nm,0.2s							
NVS	**Novosibirsk**	**20.75**	**279**	⇑*i*P	**P**	**16 28 52.9**	**+1.4**
NVS				*e*S	**S**	**16 32 34.6**	**-8.2**
NVS				pmax	pmax		
comp=Z,40nm,1.8s							
NVS				pmax	pmax		
comp=N,13nm,1.6s							
NVS				pmax	pmax		
comp=E,40nm,1.8s							
NVS				smax			
comp=N,25nm,2.8s							
NVS				smax			
comp=E,37nm,3.0s							
PETK	**Petropavlovsk-**	**21.50**	**85**	P	**P**	**16 28 59.1**	**-0.5**
comp=E,3.3nm,0.7s,mb3.8,baz=291,slow=6.8,SNR=10							
PETK	**Petropavlovsk-**	**21.50**	**85**	P	**P**	**16 28 59.1**	**-0.5**
PETK	**Petropavlovsk-**	**21.50**	**85**	P	**P**	**16 28 59.2**	**-0.4**
PETK				pmax	pmax		
comp=Z,3.0nm,0.7s,mb3.7							
GTA	**Gaotai**	**22.34**	**226**	*e*P	**P**	**16 29 11.2**	**+2.5**
GTA				pP		16 29 15.4	
GTA				sP	sP	16 29 19.0	+6.1
GTA				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.0							
GTA				pmax	pmax		
comp=Z,100nm,5.9s							
GTA				LR	LR		
comp=N,240nm,7.1s							
GTA				LR	LR		
comp=E,310nm,7.8s							
GTA				LR	LR		
comp=Z,320nm,13.0s,MS3.9							
BILL	**Bilibino**	**23.06**	**44**	*e*P	**P**	**16 29 17.9**	**+1.8**
comp=Z,22nm,1.5s,mb4.4							
BILL	**Bilibino**	**23.06**	**44**	*e*P	**P**	**16 29 17.9**	**+1.8**
BILL				pmax	pmax		
comp=Z,22nm,1.5s,mb4.4							
MJAR	**Matsushiro Arr**	**23.87**	**143**	P	**P**	**16 29 24.9**	**+0.4**
comp=Z,1.8nm,0.8s,mb3.5,baz=306,slow=13,SNR=5.4							
MJAR	**Matsushiro Arr**	**23.87**	**143**	P	**P**	**16 29 24.9**	**+0.4**
MJAR	**Matsushiro Arr**	**23.87**	**143**	P	**P**	**16 29 24.9**	**+0.5**
MJAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**25.11**	**273**	P	**P**	**16 29 36.5**	**+0.9**
comp=Z,4.1nm,0.7s,mb4.1,baz=62,slow=10,SNR=16							
KURK	**Kurchatov**	**25.11**	**273**	P	**P**	**16 29 36.1**	**+0.6**
comp=Z,5.7nm,0.8s,mb4.2							
KURK	**Kurchatov**	**25.11**	**273**	P	**P**	**16 29 36.5**	**+0.9**
KURK				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.1							
NJ2	**Nanjing**	**25.21**	**183**	*e*P	**P**	**16 29 34.6**	**-2.0**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.5							
MK31	**Makanchi Array**	**25.36**	**262**	P	**P**	**16 29 38.5**	**+0.6**
MK31	**Makanchi Array**	**25.36**	**262**	P	**P**	**16 29 38.6**	**+0.7**
MKAR	**Makanchi Array**	**25.36**	**262**	P	**P**	**16 29 38.8**	**+0.9**
comp=Z,2.8nm,0.7s,mb3.9,baz=57,slow=7.5,SNR=14							
MKAR				LR	LR	16 40 03.6	
comp=Z,142nm,19.9s,MS3.5,baz=206,slow=38							
MKAR	**Makanchi Array**	**25.36**	**262**	P	**P**	**16 29 38.8**	**+0.9**
MKAR	**Makanchi Array**	**25.36**	**262**	*i* P	**P**	**16 29 43.9**	**+6.0**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
BVAR	**Borovoye Array**	**28.38**	**283**	P	**P**	**16 30 04.5**	**-0.5**
comp=Z,2.6nm,0.8s,mb3.9,baz=49,slow=10.0,SNR=10							
BVAR				LR	LR	16 43 34.6	
comp=Z,44nm,19.1s,MS3.1,baz=292,slow=41							
BVAR	**Borovoye Array**	**28.38**	**283**	P	**P**	**16 30 04.5**	**-0.5**
BVAR	**Borovoye Array**	**28.38**	**283**	P	**P**	**16 30 04.5**	**-0.5**
BVAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
BVAR				MLR	MLR		
comp=Z,44nm,19.1s							
SVE	**Sverdlovsk**	**31.63**	**295**	*e*P	**P**	**16 30 33.4**	**-0.3**
SVE				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
ARU	**Arti**	**32.83**	**295**	*d i*P	**P**	**16 30 45.1**	**+0.9**
ARU						16 31 53.1	
ARU				S	**S**	**16 36 03.2**	**+2.1**
ARU				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
ABKAR	**Akbulak array**	**35.95**	**284**	*e*P	**P**	**16 31 10.9**	**-0.4**
comp=Z,0.7nm,0.5s,mb3.9							
AKTO	**Aktyubinsk**	**36.27**	**287**	P	**P**	**16 31 14.3**	**+0.2**
comp=Z,1.1nm,0.6s,mb3.9,baz=52,slow=12,SNR=4.4							
AKTO	**Aktyubinsk**	**36.27**	**287**	P	**P**	**16 31 14.3**	**+0.2**
AKTO	**Aktyubinsk**	**36.27**	**287**	P	**P**	**16 31 14.3**	**+0.3**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
SPITS	**Spitsbergen Ar**	**37.44**	**341**	P	**P**	**16 31 23.0**	**-0.7**
comp=Z,14nm,1.0s,mb4.8,baz=106,slow=14,SNR=4.6							
SPITS	**Spitsbergen Ar**	**37.44**	**341**	P	**P**	**16 31 23.0**	**-0.7**
SPITS	**Spitsbergen Ar**	**37.44**	**341**	P	**P**	**16 31 23.0**	**-0.7**
SPITS				pmax	pmax		
comp=Z,14nm,1.0s							
KEV	**Kevo**	**39.15**	**327**	*e*P	**P**	**16 31 36.3**	**-1.9**
KEV				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.5							
KEV	**Kevo**	**39.15**	**327**	*e*p	**P**	**16 31 36.3**	**-1.9**
comp=Z,10nm,1.0s,mb4.5							
ARCES	**ARCESS Array B**	**39.71**	**327**	P	**P**	**16 31 41.8**	**-1.1**
comp=Z,2.6nm,0.8s,mb4.0,baz=68,slow=11,SNR=8.2							
ARCES	**ARCESS Array B**	**39.71**	**327**	P	**P**	**16 31 41.8**	**-1.1**
ARCES	**ARCESS Array B**	**39.71**	**327**	P	**P**	**16 31 41.8**	**-1.1**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.9s							
JOF	**Joensuu**	**41.40**	**316**	*e*P	**P**	**16 31 55.1**	**-1.8**
JOF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.1							
JOF	**Joensuu**	**41.40**	**316**	*e*p	**P**	**16 31 55.1**	**-1.8**
comp=Z,3.0nm,0.6s,mb4.1							
ILAR	**Eielson Array**	**41.64**	**40**	P	**P**	**16 31 58.6**	**-0.2**
comp=Z,0.9nm,0.5s,mb3.6,baz=294,slow=4.7,SNR=16							
ILAR	**Eielson Array**	**41.64**	**40**	P	**P**	**16 31 58.6**	**-0.2**
ILAR	**Eielson Array**	**41.64**	**40**	P	**P**	**16 31 58.6**	**-0.2**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**41.90**	**211**	LR	LR	16 51 23.1	
comp=Z,43nm,18.4s,MS3.4,baz=25,slow=39							
KAF	**Kangasniemi**	**43.75**	**317**	*e*P	**P**	**16 32 14.8**	**-1.2**
KAF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.2							
KAF	**Kangasniemi**	**43.75**	**317**	*e*p	**P**	**16 32 14.8**	**-1.2**
comp=Z,3.7nm,0.8s,mb4.2							
FINES	**FINESS Array B**	**44.26**	**317**	P	**P**	**16 32 18.8**	**-1.2**
comp=Z,3.9nm,0.7s,mb4.2,baz=48,slow=9.9,SNR=9.9							
FINES				LR	LR	16 53 25.4	
comp=Z,50nm,19.2s,MS3.5,baz=309,slow=40							
FINES	**FINESS Array B**	**44.26**	**317**	P	**P**	**16 32 18.8**	**-1.2**
FINES	**FINESS Array B**	**44.26**	**317**	P	**P**	**16 32 18.8**	**-1.2**
FINES				pmax	pmax		
comp=Z,4.0nm,0.7s							
FINES				MLR	MLR		
comp=Z,50nm,19.2s							
KIV	**Kislovodsk**	**48.40**	**289**	*e*P	**P**	**16 32 53.9**	**+1.1**
KIV				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
KIV				MLR	MLR		
comp=Z,77nm,16.0s,MS3.8							
NB2	**NORSAR Subarra**	**49.75**	**323**	P	**P**	**16 33 01.7**	**-1.2**
comp=Z,3.3nm,0.7s,mb4.5,baz=41,slow=7.4							
NOA	**NORSAR Array B**	**49.75**	**323**	P	**P**	**16 33 02.0**	**-0.9**
comp=Z,2.4nm,0.7s,mb4.3,baz=41,slow=7.6,SNR=9.2							
NOA				LR	LR	16 55 50.5	
comp=Z,44nm,19.5s,MS3.5,baz=290,slow=38							
NOA	**NORSAR Array B**	**49.75**	**323**	P	**P**	**16 33 02.0**	**-0.9**
NOA	**NORSAR Array B**	**49.75**	**323**	P	**P**	**16 33 02.1**	**-0.8**
NOA				pmax	pmax		
comp=Z,2.0nm,0.7s							
NOA				MLR	MLR		
comp=Z,44nm,19.5s							
YKA	**Yellowknife Ar**	**53.23**	**28**	LR	LR	16 59 48.7	
comp=Z,15nm,18.7s,MS3.1,baz=200,slow=40							
CLL	**Collm**	**56.55**	**314**	*e*P	**P**	**16 33 52.0**	**-1.1**
CLL	**Collm**	**56.55**	**314**	*e*P	**P**	**16 33 52.0**	**-1.1**
KHC	**Kasperske Hory**	**58.04**	**312**	*e*P	**P**	**16 34 03.5**	**-0.2**
KHC	**Kasperske Hory**	**58.04**	**312**	*e*P	**P**	**16 34 03.5**	**-0.2**
GERES	**GERESS Array B**	**58.22**	**312**	P	**P**	**16 34 04.5**	**-0.5**
comp=Z,0.3nm,0.3s

*BUG **01** 16:38:45.9, 51°.48N×6°.60E, h1km, ML2.6*
BUG Felt in Kamp Lint-Fort (IV) and Moers (II-IV).
*BGR **01** 16:38:46.7±0.6, 51°.48N×6°.55E, h1km, ML2.9/3, Error ellipse: s-maj=11.1km s-min=4.4km az=123.0*
*LDG **01** 16:38:46.3±0.1, 51°.51N×6°.53E, h1km, Md3.3/2, Ml3.3/17, Error ellipse: s-maj=2.2km s-min=1.5km az=126.0, Suspected Mining induced.*
*BNS **01** 16:38:46.8±1.1, 51°.48N×6°.56E, h1km, ML2.6*

ISC 01 16:38:45.5±0.3, 51°.46N±0°.02×6°.50E±0°.03, h0km, n90, σ1°.24/152, 3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.07**	**40**	Pg	**Pg**	**16 38 46.5**	**-0.4**
BRHE				Sg	**Sg**	**16 38 47.2**	**-0.7**
BRHE	**Rheinberg**	**0.07**	**40**	Pg	**Pg**	**16 38 46.5**	**-0.4**
BRHE				Sg	**Sg**	**16 38 47.2**	**-0.7**
LAUG	**Laupendahl**	**0.30**	**111**	||*i*Pg	**Pg**	**16 38 51.8**	**+0.5**
LAUG	**Laupendahl**	**0.30**	**111**	Pg	**Pg**	**16 38 51.8**	**+0.5**
BUG	**Bochum--Univer**	**0.48**	**92**	*e*Pg	**Pg**	**16 38 54.9**	**+0.1**
BUG				Sg	**Sg**	**16 39 01.4**	**+0.3**
BD07	**Roetschberg**	**0.53**	**168**	*e*Pg	**Pg**	**16 38 57.7**	**+2.0**
WTSB	**Winterswijk** 96nm,0.3s	**0.54**	**20**	*e*Pg	**Pg**	**16 38 56.6**	**+0.7**
WTSB				*e*Sg	**Sg**	**16 39 02.6**	**-0.3**
WTSB	**Winterswijk** 96nm,0.3s	**0.54**	**20**	*e*Pg	**Pg**	**16 38 56.6**	**+0.7**
WTSB				*e*Sg	**Sg**	**16 39 02.6**	**-0.3**
BNS	**Bensberg** 332nm,0.5s	**0.66**	**139**	||*i*Pg	**Pg**	**16 38 59.5**	**+1.4**
BNS				*e*Sg	**Sg**	**16 39 08.2**	**+1.6**
BNS	**Bensberg** 332nm,0.5s	**0.66**	**139**	Pg	**Pg**	**16 38 59.5**	**+1.4**
BNS				Sg	**Sg**	**16 39 08.2**	**+1.6**
HOBG	**Hohbusch**	**0.71**	**132**	*e*Pg	**Pg**	**16 39 00.2**	**+1.0**
HOBG	**Hohbusch**	**0.71**	**132**	Pg	**Pg**	**16 39 00.2**	**+1.1**
HGN	**Heimansgroeve** 123nm,0.1s,baz=30	**0.78**	**207**	*e*Pg	**Pg**	**16 39 03.8**	**+3.3**
HGN				*e*Sg	**Sg**	**16 39 13.7**	**+3.0**
HGN	**Heimansgroeve** 123nm,0.1s	**0.78**	**207**	*e*Pg	**Pg**	**16 39 03.8**	**+3.3**
HGN				*e*Sg	**Sg**	**16 39 13.7**	**+3.0**
DREG	**Dreilaegerbach**	**0.82**	**192**	*e*Pg	**Pg**	**16 39 02.8**	**+1.6**
DREG				*e*Sg	**Sg**	**16 39 14.9**	**+3.2**
DREG	**Dreilaegerbach**	**0.82**	**192**	Pg	**Pg**	**16 39 02.8**	**+1.6**
KLL	**Kalltalsperre** 270nm,0.6s	**0.82**	**188**	*e*Pg	**Pg**	**16 39 02.8**	**+1.5**
KLL				*e*Sg	**Sg**	**16 39 14.9**	**+2.9**
KLL	**Kalltalsperre**	**0.82**	**188**	Pg	**Pg**	**16 39 02.8**	**+1.5**
BEBN	**Eben Emael**	**0.84**	**218**	P	**Pg**	**16 39 04.0**	**+2.3**
STB	**Steinbach** 267nm,0.2s	**0.90**	**166**	*e*Pg	**Pg**	**16 39 04.1**	**+1.4**
STB				*e*Sg	**Sg**	**16 39 16.3**	**+2.0**
STB	**Steinbach** 267nm,0.2s	**0.90**	**166**	Pg	**Pg**	**16 39 04.1**	**+1.4**
STB				Sg	**Sg**	**16 39 16.3**	**+2.1**
MEM	**Membach**	**0.91**	**200**	P	**Pg**	**16 39 04.4**	**+1.5**
MEM	**Membach**	**0.91**	**200**	P	**Pg**	**16 39 04.3**	**+1.4**
IBBN	**Ibbenburen**	**1.15**	**42**	*e*Pg	**Pg**	**16 39 07.4**	**-0.2**
IBBN				*e*Sg	**Sg**	**16 39 22.7**	**+0.1**
IBBN	**Ibbenburen**	**1.15**	**42**	Pg	**Pg**	**16 39 07.4**	**-0.2**
IBBN				Sg	**Sg**	**16 39 22.7**	**+0.1**
HILG	**Hillesheim** 270nm,0.4s	**1.18**	**174**	*e*Pg	**Pg**	**16 39 09.3**	**+1.2**
HILG				*e*Sg	**Sg**	**16 39 25.5**	**+2.2**
HILG	**Hillesheim** 270nm,0.4s	**1.18**	**174**	Pg	**Pg**	**16 39 09.3**	**+1.2**
HILG				Sg	**Sg**	**16 39 25.5**	**+2.2**
BCLA	**Clavier**	**1.29**	**216**	P	**Pg**	**16 39 11.1**	**+0.9**
BCLA	**Clavier**	**1.29**	**216**	P	**Pg**	**16 39 11.0**	**+0.8**
KOE	**Koeppel**	**1.30**	**143**	||*e*Pg	**Pg**	**16 39 10.7**	**+0.3**
KOE	**Koeppel**	**1.30**	**143**	Pg	**Pg**	**16 39 10.7**	**+0.3**
BGG	**Burgeitz** 86nm,0.6s	**1.36**	**157**	*e*Pg	**Pg**	**16 39 11.5**	**-0.2**
BGG				*e*Sg	**Sg**	**16 39 30.5**	**+1.2**
BGG	**Burgeitz** 86nm,0.6s	**1.36**	**157**	Pg	**Pg**	**16 39 11.5**	**-0.2**
BGG				Sg	**Sg**	**16 39 30.5**	**+1.2**
SNF	**Seneffe**	**1.69**	**237**	P	**Pn**	**16 39 17.5**	**+1.2**
SNF	**Seneffe**	**1.69**	**237**	P	**Pn**	**16 39 17.5**	**+1.2**
ABH	**Alteburg**	**1.72**	**157**	Pg	**Pg**	**16 39 14.9**	**-3.5**
ABH				Sg	**Sg**	**16 39 38.3**	**-2.3**
GIVF	**Givet** SNR=1.0	**1.73**	**219**	*e*Pn	**Pn**	**16 39 16.7**	**-0.1**
GIVF	**Givet** 120nm,0.3s,SNR=1.0	**1.73**	**219**	*e*Pg	**Pg**	**16 39 19.2**	**+0.6**
GIVF				*e*Sg	**Sg**	**16 39 42.1**	**+1.2**
GIVF	**Givet** SNR=1.0	**1.73**	**219**	*e*Pn	**Pn**	**16 39 16.7**	**-0.1**
GIVF	**Givet** 60nm,0.3s,SNR=1.0	**1.73**	**219**	*e*Pg	**Pg**	**16 39 19.2**	**+0.6**
GIVF				*e*Sg	**Sg**	**16 39 42.1**	**+1.2**
TNS	**Taunus Mts**	**1.75**	**134**	*e*Pn	**Pn**	**16 39 16.7**	**-0.4**
TNS	**Taunus Mts**	**1.75**	**134**	Pn	**Pn**	**16 39 16.7**	**-0.4**
RUP	**Ruppelstein**	**1.80**	**168**	Pg	**Pg**	**16 39 17.5**	**-2.5**
RUP				Sg	**Sg**	**16 39 41.3**	**-1.9**
WLF	**Walferdange**	**1.81**	**187**	P	**Pn**	**16 39 21.0**	**+3.1**
WLF	**Walferdange**	**1.81**	**187**	*e*Pg	**Pg**	**16 39 21.0**	**+0.7**
WLF				*e*Sg	**Sg**	**16 39 43.9**	**+0.2**
WLF	**Walferdange**	**1.81**	**187**	P	**Pn**	**16 39 21.0**	**+3.1**
WLF				Sg	**Sg**	**16 39 43.9**	**+0.2**
DOU	**Dourbes**	**1.82**	**222**	P	**Pn**	**16 39 18.8**	**+0.7**
DOU	**Dourbes**	**1.82**	**222**	P	**Pn**	**16 39 18.8**	**+0.7**
BAIF	**Baives** SNR=1.0	**2.02**	**227**	*e*Pn	**Pn**	**16 39 20.6**	**-0.2**
BAIF	**Baives** SNR=1.0	**2.02**	**227**	*e*Pg	**Pg**	**16 39 25.0**	**+0.8**
BAIF				*e*Sn	**Sn**	**16 39 45.3**	**-1.4**
BAIF				*e*Sg	**Sg**	**16 39 50.9**	**+0.5**
BAIF	**Baives** 34nm,0.3s SNR=1.0	**2.02**	**227**	*e*Pn	**Pn**	**16 39 20.6**	**-0.2**
BAIF	**Baives** SNR=1.0	**2.02**	**227**	*e*Pg	**Pg**	**16 39 25.0**	**+0.8**
BAIF				*e*Sn	**Sn**	**16 39 45.3**	**-1.4**
BAIF				*e*Sg	**Sg**	**16 39 50.9**	**+0.5**
LANF	**Langenberg** 17nm,0.3s	**2.62**	**161**	Pg	**Pg**	**16 39 32.7**	**-3.1**
LANF	**Langenberg**	**2.62**	**161**	Pg	**Pg**	**16 39 32.7**	**-3.1**
PAGF	**Fort de Pagny**	**2.95**	**190**	*e*Pn	**Pn**	**16 39 33.4**	**-0.2**
PAGF	**Fort de Pagny** baz=23	**2.95**	**190**	*e*Pg	**Pg**	**16 39 41.8**	**-0.3**
PAGF				*e*Sg	**Sg**	**16 40 20.2**	**-0.1**
PAGF	**Fort de Pagny** 5.9nm,0.4s	**2.95**	**190**	*e*Pn	**Pn**	**16 39 33.4**	**-0.2**
PAGF	**Fort de Pagny** baz=23	**2.95**	**190**	*e*Pg	**Pg**	**16 39 41.8**	**-0.3**
PAGF				*e*Sg	**Sg**	**16 40 20.2**	**-0.1**
CDF	**Champ du Feu** 3.0nm,0.4s SNR=1.0	**3.09**	**170**	*e*Pn	**Pn**	**16 39 35.3**	**-0.3**
CDF	**Champ du Feu**	**3.09**	**170**	*e*Pg	**Pg**	**16 39 44.4**	**-0.4**
CDF				*e*Sg	**Sg**	**16 40 24.0**	**-0.9**
CDF	**Champ du Feu** 15nm,0.4s,SNR=1.0 SNR=1.0	**3.09**	**170**	*e*Pn	**Pn**	**16 39 35.3**	**-0.3**
CDF	**Champ du Feu**	**3.09**	**170**	*e*Pg	**Pg**	**16 39 44.4**	**-0.4**
CDF				*e*Sg	**Sg**	**16 40 24.0**	**-0.9**
MEZF	**Maizieres J'vi** 7.7nm,0.4s,SNR=1.0 baz=20	**3.11**	**198**	*e*Pn	**Pn**	**16 39 35.0**	**-0.7**
MEZF	**Maizieres J'vi**	**3.11**	**198**	*e*Pg	**Pg**	**16 39 44.6**	**-0.4**
MEZF				*e*Sg	**Sg**	**16 40 25.3**	**+0.1**
MEZF	**Maizieres J'vi** 32nm,0.4s baz=20	**3.11**	**198**	*e*Pn	**Pn**	**16 39 35.0**	**-0.7**
MEZF	**Maizieres J'vi**	**3.11**	**198**	*e*Pg	**Pg**	**16 39 44.6**	**-0.4**
MEZF				*e*Sg	**Sg**	**16 40 25.3**	**+0.1**
SFTF	**Sexfontaines** 16nm,0.4s	**3.39**	**197**	*e*Pn	**Pn**	**16 39 39.0**	**-0.7**
SFTF	**Sexfontaines**	**3.39**	**197**	*e*Pg	**Pg**	**16 39 50.1**	**-0.4**
SFTF				*e*Sg	**Sg**	**16 40 34.5**	**0.0**
SFTF	**Sexfontaines** 22nm,0.3s	**3.39**	**197**	*e*Pn	**Pn**	**16 39 39.0**	**-0.7**
SFTF	**Sexfontaines**	**3.39**	**197**	*e*Pg	**Pg**	**16 39 50.1**	**-0.4**
SFTF				*e*Sg	**Sg**	**16 40 34.5**	**0.0**
HAU	**Haudompre** 11nm,0.3s SNR=1.0	**3.46**	**182**	*e*Pn	**Pn**	**16 39 39.4**	**-1.2**
HAU				*e*Sg	**Sg**	**16 40 35.9**	**-0.7**
HAU	**Haudompre** 32nm,0.5s SNR=1.0	**3.46**	**182**	*e*Pn	**Pn**	**16 39 39.4**	**-1.2**
HAU				*e*Sg	**Sg**	**16 40 35.9**	**-0.7**
HINF	**Hinteralfeld** 16nm,0.5s SNR=1.0	**3.66**	**176**	*e*Pn	**Pn**	**16 39 43.4**	**+0.1**
HINF				*e*Sn	**Sn**	**16 40 25.0**	**-2.1**
HINF	**Hinteralfeld** SNR=1.0	**3.66**	**176**	*e*Pn	**Pn**	**16 39 43.4**	**+0.1**
HINF				*e*Sn	**Sn**	**16 40 25.0**	**-2.1**
HINF	**Hinteralfeld** 12nm,0.5s,SNR=1.0 SNR=1.0	**3.66**	**176**	*e*Pn	**Pn**	**16 39 43.4**	**+0.1**
HINF				*e*Sg	**Sg**	**16 40 41.1**	**-1.8**
HINF	**Hinteralfeld** 12nm,0.5s,SNR=1.0 SNR=1.0	**3.66**	**176**	*e*Pn	**Pn**	**16 39 43.4**	**+0.1**
HINF				*e*Sn	**Sn**	**16 40 25.0**	**-2.1**
HINF				*e*Sg	**Sg**	**16 40 41.1**	**-1.8**
LOR	**Lormes** 6.2nm,0.5s,SNR=1.0 baz=30,SNR=1.0	**4.54**	**203**	*e*Pn	**Pn**	**16 39 55.3**	**-0.1**
LOR				*e*Sn	**Sn**	**16 40 44.6**	**-4.2**
LOR	**Lormes** SNR=1.0 22nm,0.4s,SNR=1.0 baz=30,SNR=1.0	**4.54**	**203**	*e*Pn	**Pn**	**16 39 55.3**	**-0.1**
LOR				*e*Sn	**Sn**	**16 40 44.6**	**-4.2**
LOR				*e*Sg	**Sg**	**16 41 09.5**	**-1.7**
BRG	**Berggiesshubel** 11nm,0.4s,SNR=1.0	**4.72**	**94**	PG	**Pg**	**16 40 11.7**	**-4.3**
BRG				SG	**Sg**	**16 41 15.9**	**-1.3**
SSF	**Saint Saulge** 5.1nm,0.8s SNR=1.0	**4.82**	**205**	*e*Pn	**Pn**	**16 39 58.4**	**-0.9**
SSF				*e*Sn	**Sn**	**16 40 51.6**	**-4.1**
SSF	**Saint Saulge** SNR=1.0 16nm,0.4s,SNR=1.0	**4.82**	**205**	*e*Pn	**Pn**	**16 39 58.4**	**-0.9**
SSF				*e*Sg	**Sg**	**16 41 18.2**	**-2.1**
SSF	**Saint Saulge** SNR=1.0 7.8nm,0.4s,SNR=1.0	**4.82**	**205**	*e*Pn	**Pn**	**16 39 58.4**	**-0.9**
SSF				*e*Sn	**Sn**	**16 40 51.6**	**-4.1**
SSF				*e*Sg	**Sg**	**16 41 18.2**	**-2.1**
CABF	**La Chapelle** SNR=1.0 15nm,0.7s,SNR=1.0	**4.86**	**183**	*e*Pn	**Pn**	**16 40 00.1**	**+0.2**
CABF				*e*Sg	**Sg**	**16 41 20.2**	**-1.4**
CABF	**La Chapelle** SNR=1.0 7.3nm,0.7s,SNR=1.0	**4.86**	**183**	*e*Pn	**Pn**	**16 40 00.1**	**+0.2**
CABF				*e*Sg	**Sg**	**16 41 20.2**	**-1.4**
SMF	**Signal de Mont** SNR=1.0	**5.13**	**201**	*e*Pn	**Pn**	**16 40 02.4**	**-1.1**
SMF				*e*Sn	**Sn**	**16 40 59.8**	**-3.5**
SMF	**Signal de Mont** SNR=1.0 7.5nm,0.3s,SNR=1.0	**5.13**	**201**	*e*Pn	**Pn**	**16 40 02.4**	**-1.1**
SMF				*e*Sn	**Sn**	**16 40 59.8**	**-3.5**
SMF				*e*Sg	**Sg**	**16 41 29.2**	**-0.9**
SMF	**Signal de Mont** SNR=1.0 3.8nm,0.3s,SNR=1.0	**5.13**	**201**	*e*Pn	**Pn**	**16 40 02.4**	**-1.1**
SMF				*e*Sn	**Sn**	**16 40 59.8**	**-3.5**
SMF				*e*Sg	**Sg**	**16 41 29.2**	**-0.9**
LDF	**La Druitiere** SNR=1.0 7.6nm,0.4s,SNR=1.0	**5.14**	**239**	*e*Pn	**Pn**	**16 40 02.8**	**-0.9**
LDF				*e*Sn	**Sn**	**16 40 58.6**	**-5.1**
LDF	**La Druitiere** SNR=1.0 3.8nm,0.4s,SNR=1.0	**5.14**	**239**	*e*Pn	**Pn**	**16 40 02.8**	**-0.9**
LDF				*e*Sn	**Sn**	**16 40 58.6**	**-5.1**
FLN	**La Foliniere** baz=60	**5.24**	**242**	*e*Pn	**Pn**	**16 40 04.1**	**-0.9**
FLN	**La Foliniere** baz=60	**5.24**	**242**	*e*Pn	**Pn**	**16 40 04.1**	**-0.9**
BGF	**Bois d'Agland** SNR=1.0	**5.46**	**207**	*e*Pn	**Pn**	**16 40 07.4**	**-0.7**
BGF				*e*Sn	**Sn**	**16 41 07.3**	**-4.3**
BGF				*e*Sg	**Sg**	**16 41 37.1**	**-3.8**
BGF	**Bois d'Agland** 30nm,0.6s,SNR=1.0 SNR=1.0	**5.46**	**207**	*e*Pn	**Pn**	**16 40 07.4**	**-0.7**
GRR	**Gorron** 7.9nm,0.2s,SNR=1.0	**5.66**	**240**	*e*Sn	**Sn**	**16 41 10.2**	**-6.2**

*JMA **01** 16:53:40.5±0.3, 24°.89N×123°.22E, h26km, M3.0*
*IDC **01** 16:53:40.5±1.3, 24°.51N×122°.54E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/22, mbtmp3.5/6, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.0/19, Error ellipse: s-maj=72.5km s-min=20.5km az=69.0*
*ISCJB **01** 16:53:41.4±1.3, 24°.82N±0°.09×123°.22E±0°.05, h29km±9km, mb3.5/6, Error ellipse: s-maj=14.8km s-min=7.2km az=11.5*
*NEIC **01** 16:53:41.0±0.9, 24°.78N×123°.08E, h10km, mb4.2/1, Error ellipse: s-maj=14.5km s-min=12.6km az=199.0*

ISC 01 16:53:41.0±1.4, 24°.84N±0°.07×123°.26E±0°.05, h15km±8km, n25, σ0°.76/27, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.44**	**211**	P	**Pg**	**16 53 50.0**	**+0.2**
YOJ				S	**Sg**	**16 53 56.4**	**+0.7**
IRIF	**Iriomote-Funau**	**0.66**	**139**	P	**Pg**	**16 53 54.1**	**+0.2**
JKRS	**Kuro-shima**	**0.91**	**131**	P	**Pb**	**16 53 58.0**	**-0.5**
HATJ	**Hateruma jima**	**0.92**	**147**	P	**Pb**	**16 53 58.6**	**-0.1**
HATJ				S	**Sb**	**16 54 11.8**	**+1.0**
JIJ	**Ishigaki jima**	**0.93**	**120**	P	**Pb**	**16 53 57.8**	**-1.1**
JTJ	**Tarama**	**1.33**	**98**	P	**Pn**	**16 54 04.5**	**-0.5**
NACB	**Ninganchiao**	**1.66**	**247**	*e*Pn	**Pn**	**16 54 08.7**	**-0.9**
YHNB	**Yeheng**	**1.72**	**265**	*e*Pg	**Pg**	**16 54 08.2**	**-5.9**
YULB	**Yu-li**	**2.30**	**232**	*e*P	**Pn**	**16 54 17.0**	**-1.5**
SSLB	**Suanglung**	**2.35**	**244**	*e*P	**Pn**	**16 54 18.8**	**-0.3**
TPUB	**Ta-pu**	**2.85**	**238**	*e*P	**Pn**	**16 54 25.6**	**-0.4**
KSAR	**Wonju Array Be**	**13.17**	**16**	Pn	**Pn**	**16 56 56.8**	**+9.3**
KSRS	**Korea Array** 0.2nm,0.3s,baz=193,slow=13,SNR=7.3	**13.19**	**16**	Pn	**Pn**	**16 56 56.8**	**+9.0**
KSRS				LR	LR	17 02 49.3	
SONM	**Songino Array** 0.4nm,0.8s,mb3.0,baz=149,slow=11,SNR=3.0 comp=Z,52nm,18.1s,baz=343,slow=40	**26.55**	**334**	P	**P**	**16 59 18.6**	**+0.3**
SONM	**Songino Array**	**26.55**	**334**	P	**P**	**16 59 18.6**	**+0.3**
MKAR	**Makanchi Array** 0.6nm,0.8s,mb3.4,baz=76,slow=13,SNR=3.7	**39.21**	**315**	P	**P**	**17 01 08.8**	**+0.3**
MKAR	**Makanchi Array**	**39.21**	**315**	P	**P**	**17 01 08.8**	**+0.3**
ZALV	**Zalesovo Beam** 0.5nm,0.7s,mb3.2,baz=122,slow=7.0,SNR=3.0	**40.75**	**326**	P	**P**	**17 01 22.9**	**+1.7**
ZALV	**Zalesovo Beam**	**40.75**	**326**	P	**P**	**17 01 22.9**	**+1.7**
WRAB	**Tennant Creek** 2.2nm,0.8s,mb4.1	**45.79**	**165**	P	**P**	**17 02 01.6**	**-0.7**
WRA	**Warramunga Arr** 1.0nm,1.0s,mb3.7,baz=347,slow=8.7,SNR=6.0	**45.80**	**165**	P	**P**	**17 02 02.5**	**+0.2**
WRA				pP	pP	17 02 08.1	+1.1
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=347,slow=8.9,SNR=11	**45.80**	**165**	P	**P**	**17 02 02.5**	**+0.2**
WRA				pP	pP	17 02 08.1	+1.1
WB2	**Warramunga Arr**	**45.80**	**165**	*e*P	**P**	**17 02 02.9**	**+0.6**
ASAR	**Alice Springs** 0.3nm,0.8s,mb3.4,baz=350,slow=7.5,SNR=7.0	**49.31**	**167**	P	**P**	**17 02 30.6**	**+1.0**
ASAR				pP	pP	17 02 36.1	+1.9
ASAR	**Alice Springs** 0.3nm,0.6s,baz=350,slow=7.2,SNR=7.0	**49.31**	**167**	P	**P**	**17 02 30.6**	**+1.0**
ASAR				pP	pP	17 02 36.1	+1.9

*IDC **01** 17:02:23.4±4.4, 17°.77S×168°.07E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, MS3.5/4, Ms1 3.5/4, ms1mx3.1/26, Error ellipse: s-maj=106.0km s-min=45.3km az=125.0*
*NOU **01** 17:02:27.6±0.8, 17°.84S×167°.11E, h30km±802km, MD3.1*
*NEIC **01** 17:02:30.8±1.5, 17°.57S×167°.73E, h35km, mb3.8/1, Error ellipse: s-maj=30.4km s-min=25.7km az=25.0*

ISC 01 17:02:30.0±4.6, 18°.12S±0°.09×167°.4E±0°.3, h3km±33km, n22, σ0°.76/21, mb3.8/6, MS3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.03**	**193**	*e*P	**Pn**	**17 03 32.1**	**-0.5**
DZM				*e*S	**Sn**	**17 04 20.1**	**-0.1**
DZM	comp=Z,424nm,8.0s			AMP		17 04 24.0	
DZM	**Mont Dzumac**	**4.03**	**193**	*e*P	**Pn**	**17 03 32.7**	**+0.2**
BAYA	**Yate Dam**	**4.04**	**187**	*e*S	**Sn**	**17 04 21.3**	**+0.8**
NOUC	**Port Laguerre**	**4.09**	**194**	*e*P	**Pn**	**17 03 33.1**	**-0.3**
NOUC				*e*S	**Sn**	**17 04 21.0**	**-0.7**
HNR	**Honiara** comp=Z,49nm,19.7s,baz=181,slow=32	**11.26**	**319**	LR	LR	17 08 30.4	
CTA	**Charters Tower** comp=Z,1.8nm,0.8s,baz=68,slow=17,SNR=3.6	**20.07**	**261**	P	**P**	**17 07 07.6**	**+3.0**
CTA	comp=Z,53nm,18.5s,MS2.9,baz=47,slow=35			LR	LR	17 14 22.3	
CTA	**Charters Tower**	**20.07**	**261**	P	**P**	**17 07 07.6**	**+3.0**
STKA	**Stephens Creek** comp=Z,2.2nm,0.6s,mb3.8,baz=48,slow=8.5,SNR=7.5	**27.00**	**235**	P	**P**	**17 08 13.8**	**+0.5**
STKA	**Stephens Creek**	**27.00**	**235**	*e*P	**P**	**17 08 14.5**	**+1.2**
RAR	**Rarotonga** comp=Z,164nm,19.6s,MS3.7,baz=82,slow=30	**31.05**	**101**	LR	LR	17 17 30.0	
WRAB	**Tennant Creek** comp=Z,1.7nm,1.1s,mb3.8	**31.26**	**261**	*e*P	**P**	**17 08 50.6**	**-0.6**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.4s,mb3.6,baz=90,slow=9.3,SNR=18	**31.27**	**261**	P	**P**	**17 08 50.5**	**-0.8**
WRA	**Warramunga Arr**	**31.27**	**261**	P	**P**	**17 08 50.5**	**-0.8**
AS31	**Alice Springs**	**31.71**	**254**	*e*P	**P**	**17 08 55.2**	**0.0**
ASAR	**Alice Springs** comp=Z,1.4nm,0.7s,mb3.9,baz=81,slow=8.4,SNR=54	**31.72**	**254**	P	**P**	**17 08 55.2**	**0.0**
ASAR	**Alice Springs**	**31.72**	**254**	P	**P**	**17 08 55.2**	**0.0**
FITZ	**Fitzroy Crossi** comp=Z,3.4nm,0.7s,mb4.2,baz=103,slow=6.1,SNR=11	**39.62**	**263**	P	**P**	**17 10 02.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**39.62**	**263**	P	**P**	**17 10 02.7**	**-0.4**
SBA	**Scott Base**	**59.76**	**180**	P	**P**	**17 12 36.0**	**+0.2**
PETK	**Petropavlovsk-** comp=Z,163nm,20.8s,MS4.3,baz=96,slow=31	**71.43**	**354**	LR	LR	17 38 38.9	
SONM	**Songino Array** comp=Z,0.4nm,0.9s,mb3.6,baz=123,slow=5.3,SNR=4.0	**85.28**	**324**	P	**P**	**17 15 03.0**	**-5.1**
SONM	**Songino Array**	**85.28**	**324**	P	**P**	**17 15 03.0**	**-5.1**

JMA 01 17:25:14.9±0.1, 41°.10N×144°.67E, h53km±1km, M3.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.46**	**309**	P	Pn	17 25 39.6	+0.8
JEM				*e*S	Sn	17 25 57.5	+0.7
JCH	**Churui**	**1.80**	**328**	P	Pn	17 25 44.2	+0.7
JCH				S	Sn	17 26 04.5	-0.7
JNBK	**Urakawa-nobuka**	**1.86**	**310**	P	Pn	17 25 46.0	+1.7
JNBK				*e*S	Sn	17 26 08.0	+1.4
JAK	**Akkeshi**	**1.90**	**1**	P	Pn	17 25 45.2	+0.4
JAK				*e*S	Sn	17 26 06.8	-0.7
JOB	**Onbets**	**1.91**	**341**	P	Pn	17 25 46.1	+1.1
JOB				S	Sn	17 26 08.9	+1.1
JAR	**Ashorobuto**	**2.29**	**343**	P	Pn	17 25 50.7	+0.4
JAR				*e*S	Sn	17 26 16.3	-1.0
NEM2	**Nemuro 2**	**2.40**	**19**	P	Pn	17 25 52.1	+0.4
NEM2				*e*S	Sn	17 26 18.1	-1.8
JBT2	**Biratori 2**	**2.40**	**315**	P	Pn	17 25 52.8	+1.1
JBT2				*e*S	Sn	17 26 21.5	+1.6
JNK	**Nakash**	**2.48**	**1**	P	Pn	17 25 53.1	+0.3
JNK				*e*S	Sn	17 26 20.5	-1.4
JANG	**Nango**	**2.50**	**254**	P	Pn	17 25 53.9	+0.8
JANG				*e*S	Sn	17 26 21.6	-0.8
JFR	**Furan**	**2.58**	**324**	P	Pn	17 25 55.0	+0.9
JFR				*e*S	Sn	17 26 23.0	-1.2
JOT	**Ohata**	**2.75**	**277**	P	Pn	17 25 57.8	+1.4
JOT				*e*S	Sn	17 26 28.1	-0.3
JTM	**Tenmabayashi**	**2.75**	**265**	P	Pn	17 25 57.8	+1.4
JTM				S	Sn	17 26 27.6	-0.8
JKB	**Kayabe**	**2.84**	**287**	P	Pn	17 25 58.9	+1.1

*MOS **01** 17:29:23.8±0.9, 51°.35N×179°.11W, h43km, mb4.9/61, Error ellipse: s-maj=9.2km s-min=6.3km az=87.9*
*BJI **01** 17:29:23.4, 51°.67N×179°.39W, h29km, mB5.1/24, mb4.9/43, Ms4.9/22, Ms7 4.5/22*
*IDC **01** 17:29:24.0±3.2, 51°.38N×179°.09W, h33km±23km, mb4.4/27, mb1 4.5/29, mb1mx4.5/31, mbtmp4.4/29, ML4.4/1, MS3.8/16, Ms1 3.8/16, ms1mx3.6/38, Error ellipse: s-maj=16.2km s-min=10.1km az=158.0*
*ISCJB **01** 17:29:25.1±0.6, 51°.40N±0°.05×179°.10W±0°.03, h51km±4km, mb4.8/148, MS3.9/27, Error ellipse: s-maj=7.6km s-min=2.8km az=5.2*
*NEIC **01** 17:29:25.6±0.5, 51°.36N×179°.13W, h46km±4km, mb4.8/67, ML4.4(AEIC), Error ellipse: s-maj=6.3km s-min=3.1km az=176.0*
*SZGRF **01** 17:29:27.0, 52°.08N×177°.16E, h33km, mb5.1, Rat Islands, Aleutian Islands, United States*

ISC 01 17:29:26.4±0.6, 51°.47N±0°.04×179°.12W±0°.03, h44km±4km, h45km±1.6km: pP-P, n646, σ0°.66/634, mb4.8/147, MS3.9/27, 139C-163D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.37**	**36**	P	**Pn**	**17 29 36.8**	**+1.1**
TASE	**Tanaga Southea**	**0.77**	**61**	P	**Pn**	**17 29 41.0**	**+0.2**
TAFL	**Tanaga Flats**	**0.82**	**69**	P	**Pn**	**17 29 41.1**	**-0.3**
KIMD	**Kanaga Island**	**1.21**	**75**	P	**Pn**	**17 29 45.8**	**-1.0**
ADK	**Adak**	**1.57**	**74**	P	**Pn**	**17 29 51.0**	**-0.7**
ADK				S	**Sn**	**17 30 10.6**	**-0.3**
ADK	**Adak**	**1.57**	**74**	P	**Pn**	**17 29 51.0**	**-0.7**
ADK				S	**Sn**	**17 30 10.6**	**-0.3**
ETKA	**Kagalaska Isla**	**1.74**	**76**	P	**Pn**	**17 29 53.5**	**-0.5**
ETKA				S	**Sn**	**17 30 14.6**	**-0.3**
GSCK	**Great Sitkin C**	**1.92**	**72**	P	**Pn**	**17 29 56.5**	**0.0**
GSTD	**Great Sit

comp=Z,3.5nm,0.5s,mb4.0,baz=246,slow=8.6,SNR=93
ILAR PcP PcP 17 38 08.4 -3.1
comp=Z,1.2nm,0.6s,baz=292,slow=3.5,SNR=12
ILAR ScP ScP 17 41 43.8 -0.7
comp=Z,0.7nm,0.6s,baz=282,slow=3.6,SNR=11
ILAR Eielson Array 21.30 39 P **P 17 34 07.6 -1.2**
ILAR PcP PcP 17 38 08.4 -3.1
ILAR ScP ScP 17 41 43.8 -0.7
ILAR Eielson Array 21.30 39 P **P 17 34 07.6 -1.2**
ILAR 17 38 08.4
ILAR pmax pmax
comp=Z,4.0nm,0.5s
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR pmax pmax
comp=N,1.0nm,0.6s
MENT Mentasta 22.03 45 *e*P **P 17 34 17.9 +1.3**
DOT Dot Lake 22.07 43 *e*P **P 17 34 16.5 -0.6**
comp=N,4.5nm,0.5s,mb4.2
EGAK Eagle 23.61 41 *e*P **P 17 34 31.9 -1.0**
comp=N,38nm,1.0s,mb4.8
DAWY Dawson 24.18 43 *e*P **P 17 34 37.3 -0.8**
YSS Yuzh-Sakhalins 25.11 275 *e*P **P 17 34 47.0 +0.3**
comp=N,47nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 25.11 275 ⇓*i*P **P 17 34 47.3 +0.6**
YSS *e* pP 17 34 59.0 +0.6
YSS pmax pmax
comp=Z,30nm,0.9s,mb4.8
YSS pmax pmax
comp=E,50nm,1.1s
ASAJ Asahikawa 26.51 269 P **P 17 34 57.6 -1.7**
comp=E,25nm,0.9s,mb4.7,baz=67,slow=11,SNR=8.0
ASAJ LR LR 17 44 36.5
comp=E,107nm,18.1s,MS3.4,baz=338,slow=34
ASAJ Asahikawa 26.51 269 P **P 17 34 57.6 -1.7**
ASAJ Asahikawa 26.51 269 P **P 17 34 57.7 -1.7**
ASAJ pmax pmax
comp=Z,25nm,0.9s
ASAJ MLR MLR
comp=Z,107nm,18.1s
INK Inuvik 27.50 35 P **P 17 35 07.0 -1.1**
comp=Z,6.5nm,1.0s,mb4.2,baz=261,slow=9.7,SNR=10
INK PcP PcP 17 38 24.3 -0.7
comp=Z,1.1nm,0.4s,baz=309,slow=4.8,SNR=6.8
INK LR LR 17 46 49.7
comp=Z,224nm,20.0s,MS3.7,baz=288,slow=38
INK Inuvik 27.50 35 *e*P **P 17 35 07.7 -0.3**
comp=Z,6.9nm,0.8s,mb4.3
INK PcP PcP 17 38 24.3 -0.7
INK Inuvik 27.50 35 *e*P **P 17 35 07.7 -0.4**
INK 17 38 24.3
INK pmax pmax
comp=Z,7.0nm,0.8s
DLBC Dease Lake 28.48 56 LR LR 17 46 53.6
comp=Z,137nm,18.9s,MS3.6,baz=286,slow=37
YAK Yakutsk 29.21 311 *e*P **P 17 35 22.5 -0.8**
YAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
YAK MLR MLR
comp=Z,181nm,21.2s,MS3.7
HABR Khabarovsk 29.26 282 *de*P **P 17 35 23.0 -0.9**
HABR *PP pP 17 35 32.9 -2.8
HABR *e* 17 36 16.7
HABR S **S 17 40 14.6 +1.1**
HABR *e**SS sS 17 40 31.2 -2.1
HABR *e*SS SS 17 41 43.3 -35
HABR *e* 17 42 11.8
HABR pmax pmax
comp=Z,35nm,1.9s,mb4.8
HABR pmax pmax
comp=N,18nm,1.2s
HABR pmax pmax
comp=E,29nm,1.4s
HABR MLR MLR
comp=Z,134nm,19.0s,MS3.6
KLR Kul'dur 30.96 286 *e*P **P 17 35 36.0 -2.9**
KLR pmax pmax
comp=E,28nm,1.4s
KLR pmax pmax
comp=Z,72nm,1.4s,mb5.3
MJAR Matsushiro Arr 33.60 261 P **P 17 36 01.9 -0.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=49,slow=9.7,SNR=5.1
MJAR PcP PcP 17 38 41.3 -0.2
comp=Z,2.5nm,0.9s,baz=226,slow=0.5,SNR=4.5
MJAR LR LR 17 47 25.4
comp=Z,117nm,20.4s,MS3.6,baz=75,slow=32
MJAR Matsushiro Arr 33.60 261 P **P 17 36 01.9 -0.3**
MJAR PcP PcP 17 38 41.3 -0.2
MJAR Matsushiro Arr 33.60 261 P **P 17 36 01.9 -0.3**
MJAR 17 38 41.3
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR MLR MLR
comp=Z,117nm,20.4s
MAT Matsushiro 33.60 261 P **P 17 36 01.8 -0.4**
MDJ Mudanjiang 34.36 279 P **P 17 36 08.1 -0.6**
MDJ pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MDJ pmax pmax
comp=Z,170nm,4.2s
YKA Yellowknife Ar 35.32 46 P **P 17 36 16.3 -0.4**
comp=Z,5.4nm,0.7s,mb4.6,baz=282,slow=7.1,SNR=18
YKA PcP PcP 17 38 46.1 +0.1
comp=Z,2.3nm,0.9s,baz=282,slow=3.1,SNR=4.1
YKA Yellowknife Ar 35.32 46 P **P 17 36 16.3 -0.4**
YKA PcP PcP 17 38 46.1 +0.1
YKA Yellowknife Ar 35.32 46 P **P 17 36 16.3 -0.4**
YKA 17 38 46.1
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA pmax pmax
comp=Z,2.0nm,0.9s
A05A Maple Falls 35.78 71 ⇓P **P 17 36 20.6 -0.2**
baz=36
GNW Green Mountain 35.99 73 *e*P **P 17 36 23.3 +0.6**
comp=Z,4.9nm,0.7s,mb4.5
E03A Lebam 36.03 75 ⇓P **P 17 36 22.8 -0.1**
baz=36
JCW Jim Creek 36.23 72 *e*P **P 17 36 26.3 +1.6**
comp=Z,39nm,1.3s,mb5.2
LON Longmire 36.99 74 *e*P **P 17 36 31.4 +0.3**
comp=Z,7.4nm,0.6s,mb4.7
LON Longmire 36.99 74 *e*P **P 17 36 31.4 +0.3**
LON pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
CN2 Changchun 37.34 281 *e*P **P 17 36 34.7 +0.6**
ETW Entiat 37.46 72 *e*P **P 17 36 35.7 +0.5**
comp=Z,23nm,0.8s,mb5.0
BOD Bodaibo 37.77 307 *e*P **P 17 36 36.5 -1.1**
H04A Detroit Lake 37.79 77 ⇓P **P 17 36 38.0 0.0**
baz=38
E07A Sunnyside 38.25 73 ⇓P **P 17 36 42.0 +0.2**
baz=38
G06A Carlson Farm, 38.45 76 ⇑P **P 17 36 43.0 -0.5**
baz=38
RSW Rattlesnake Hi 38.49 73 *e*P **P 17 36 44.4 +0.6**
comp=Z,25nm,0.6s,mb5.1
OD2 Odessa Site #2 38.53 72 *e*P **P 17 36 44.0 -0.1**
comp=Z,25nm,1.0s,mb4.9
HAWA Hanford 38.53 73 *e*P **P 17 36 44.2 0.0**
comp=Z,12nm,0.6s,mb4.8
F07A Phinny Hill Vi 38.54 74 ⇓P **P 17 36 44.7 +0.4**
baz=38
C09A Chrisman Ranch 38.59 71 ⇓P **P 17 36 44.4 -0.2**
baz=38
E08A Dider Farm, El 38.76 73 ⇑P **P 17 36 46.4 +0.3**
baz=39
NEW Newport 39.04 69 ⇓P **P 17 36 48.4 -0.1**
baz=39,SNR=11
NEW Newport 39.04 69 *e*P **P 17 36 48.1 -0.3**
comp=Z,18nm,0.9s,mb4.8
NEW Newport 39.04 69 *e*P **P 17 36 48.1 -0.3**
NEW pmax pmax
comp=Z,18nm,0.9s
E09A Wood Farm, Sta 39.30 72 ⇓P **P 17 36 50.5 -0.1**
baz=39,SNR=5.7
G08A Pilot Rock 39.44 75 ⇑P **P 17 36 51.9 +0.1**
baz=39
KSRS Korea Array 39.44 270 P **P 17 36 49.9 -1.9**
comp=Z,7.9nm,0.9s,mb4.4,baz=57,slow=7.9,SNR=14
KSRS LR LR 17 50 36.2
comp=Z,55nm,20.6s,MS3.4,baz=229,slow=32
KSRS Korea Array 39.44 270 P **P 17 36 49.9 -2.0**
KSRS pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
KSRS MLR MLR
comp=Z,55nm,20.6s,MS3.4
KSAR Wonju Array Be 39.47 270 P **P 17 36 49.9 -2.2**
KSAR Wonju Array Be 39.47 270 P **P 17 36 49.9 -2.2**
SNY Shenyang 39.56 279 ⇓P **P 17 36 53.5 +0.6**
SNY S **S 17 42 45.4 -6.8**
SNY pmax pmax
comp=Z,20nm,0.7s,mb5.0
SNY LR LR
comp=N,220nm,5.9s
SNY LR LR
comp=E,350nm,5.3s
SNY LR LR
comp=Z,190nm,4.7s
A12A Yaak River Ran 39.58 68 ⇑P **P 17 36 53.0 +0.1**
baz=40
K05A Summer Lake 39.63 79 ⇑P **P 17 36 53.6 +0.2**
baz=40
I07A Izee 39.74 76 ⇓P **P 17 36 54.8 +0.4**
baz=40,SNR=12
C11A Tepee Creek (N 39.76 70 ⇓P **P 17 36 53.8 -0.6**
baz=40
F10A Beach Ranch, E 40.12 73 ⇑P **P 17 36 57.2 -0.2**
baz=40
C12B Naegeli Ranch, 40.28 69 ⇑P **P 17 36 58.8 0.0**
baz=40,SNR=9.5
WALA Waterton Lakes 40.52 67 *e*P **P 17 37 00.1 -0.6**
comp=Z,0.8nm,1.3s
B13A Whitefish 40.53 68 ⇑P **P 17 37 01.1 +0.2**
baz=40
BSMT Bassoo Peak 40.61 69 *e*P **P 17 37 01.2 -0.2**
comp=Z,17nm,0.9s,mb4.7
J08A Circle Bar Ran 40.77 77 ⇓P **P 17 37 02.9 +0.2**
baz=41
BLMT Blacktail Moun 40.78 68 *e*P **P 17 37 03.0 +0.2**
comp=Z,7.1nm,0.4s,mb4.7
C13A Hot Springs 40.82 69 ⇓P **P 17 37 03.1 -0.1**
baz=41,SNR=8.2
A14A Double T Ranch 40.84 67 ⇓P **P 17 37 03.0 -0.3**
baz=41
E12A Beaver Dam Sad 40.88 71 ⇑P **P 17 37 03.5 -0.1**
baz=41,SNR=16
JTMT Jette 40.96 69 *e*P **P 17 37 02.8 -1.5**
comp=Z,4.4nm,0.8s,mb4.1
YBMT Yellow Bay 41.05 68 *e*P **P 17 37 05.3 +0.2**
comp=Z,5.0nm,0.7s,mb4.2
WVOR Wild Horse Val 41.18 78 *e*P **P 17 37 06.1 -0.1**
comp=Z,9.0nm,0.8s,mb4.5
WVOR Wild Horse Val 41.18 78 *e*P **P 17 37 06.1 -0.1**
WVOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
D13A Huson 41.18 70 ⇑P **P 17 37 06.1 -0.1**
baz=41
A15A Johnson Ranch, 41.24 66 ⇓P **P 17 37 05.9 -0.7**
baz=41
SWMT Swartz Lake 41.24 69 *e*P **P 17 37 06.2 -0.5**
comp=Z,3.6nm,0.9s,mb4.0
MSO Missoula 41.62 70 ⇑P **P 17 37 09.5 -0.3**
baz=42,SNR=7.1
B15A Bradely Ranch, 41.67 67 ⇓P **P 17 37 09.6 -0.5**
baz=42,SNR=10
SLMT Seeley Lake 41.67 69 *e*P **P 17 37 10.0 -0.2**
comp=Z,13nm,0.9s,mb4.5
E13A Victor 41.68 70 ⇑P **P 17 37 09.7 -0.6**
baz=42,SNR=5.6
G12A Big Creek, Yel 41.70 73 ⇓P **P 17 37 10.5 0.0**
baz=42
D14A Greenough 41.75 69 ⇑P **P 17 37 10.5 -0.3**
baz=42,SNR=19
C15A Salmond Ranch, 41.91 68 ⇓P **P 17 37 12.0 -0.2**
baz=42,SNR=13
F13A Darby 41.94 71 ⇑P **P 17 37 12.4 0.0**
baz=42,SNR=6.6
E14A Clinton 42.10 70 ⇓P **P 17 37 13.6 -0.1**
baz=42,SNR=7.4
B16A M & M Farms, S 42.11 67 ⇓P **P 17 37 13.2 -0.5**
baz=42
H12A Diamond D Ranc 42.30 73 ⇓P **P 17 37 15.0 -0.3**
baz=42,SNR=6.0
MFID Camas Ranch 42.34 75 ⇓P **P 17 37 14.9 -0.8**
baz=42
D15A Lincoln 42.34 69 ⇓P **P 17 37 15.1 -0.6**
baz=42,SNR=8.5
G13A Cobalt 42.37 72 ⇑P **P 17 37 15.9 -0.1**
baz=42,SNR=5.2
C16A Fuhringer Ranc 42.40 67 ⇑P **P 17 37 16.0 -0.1**
baz=42,SNR=12
A17A Triple J Farms 42.41 65 ⇑P **P 17 37 15.8 -0.4**
baz=42,SNR=6.5
F14A Wisdom 42.50 71 ⇓P **P 17 37 17.4 +0.5**
baz=42
I12A Atlanta 42.55 74 ⇓P **P 17 37 17.4 0.0**
baz=42
E15A Deer Lodge 42.60 70 ⇑P **P 17 37 17.5 -0.2**
baz=42,SNR=7.6
H13A Challis 42.65 73 ⇑P **P 17 37 18.1 -0.1**
baz=42
B17A L&G Farms, Che 42.69 66 ⇑P **P 17 37 18.1 -0.3**
baz=43,SNR=5.2
G14A Jackson 42.75 71 ⇑P **P 17 37 18.8 -0.2**
baz=43
A18A Metzger Ranch, 42.91 65 ⇓P **P 17 37 19.2 -1.0**
baz=43
D16A Dana Ranch, Ca 42.92 68 ⇓P **P 17 37 19.8 -0.5**
baz=43
HRY Holter Researc 42.92 69 *e*P **P 17 37 20.3 0.0**
comp=Z,16nm,0.7s,mb4.9
F15A Butte 43.00 70 ⇑P **P 17 37 20.3 -0.7**
baz=43
C17A Wharram Farm, 43.05 67 ⇓P **P 17 37 21.2 -0.3**
baz=43
I13A Wildhorse Cree 43.09 73 ⇓P **P 17 37 21.8 0.0**
baz=43,SNR=15
E16A East Helena 43.11 69 ⇓P **P 17 37 21.8 -0.1**
baz=43,SNR=7.2
HLID Hailey 43.11 74 ⇑P **P 17 37 22.3 +0.4**
baz=43,SNR=15
HLID Hailey 43.11 74 *e*P **P 17 37 22.0 +0.1**
comp=Z,8.4nm,0.8s,mb4.5
B18A Beardsley Farm 43.22 66 ⇑P **P 17 37 22.4 -0.3**
baz=43
MCMT McKenzie Canyo 43.34 72 *e*P **P 17 37 23.4 -0.4**
comp=Z,6.2nm,0.6s,mb4.5
J13A Cove Ranch, Pi 43.35 74 ⇓P **P 17 37 23.9 +0.1**
baz=43,SNR=22
D17A Six Diamond Ra 43.35 68 ⇓P **P 17 37 23.9 +0.1**
baz=43
G15A Dillon 43.37 71 ⇑P **P 17 37 23.8 -0.2**
baz=43,SNR=8.5
I14A Mackay 43.48 73 ⇑P **P 17 37 25.2 +0.3**
baz=43,SNR=16
A19A Klindworth Far 43.53 64 ⇓P **P 17 37 24.7 -0.5**
baz=43,SNR=5.1
F16A Kennard Place, 43.54 70 ⇓P **P 17 37 25.1 -0.2**
baz=43
H15A Lima 43.58 72 ⇓P **P 17 37 25.8 +0.1**
baz=43,SNR=7.0
BOZ Bozeman (W) 43.61 70 ⇓P **P 17 37 26.2 +0.3**
baz=44,SNR=6.8
BOZ Bozeman (W) 43.61 70 *e*P **P 17 37 25.9 0.0**
comp=Z,5.3nm,0.6s,mb4.5
BOZ Bozeman (W) 43.61 70 *e*P **P 17 37 25.9 0.0**
BOZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
E17A Martinsdale 43.62 69 ⇑P **P 17 37 26.1 +0.1**
baz=44,SNR=10
B19A Brinkman Farms 43.66 65 ⇑P **P 17 37 26.1 -0.2**
baz=44,SNR=8.3
G16A Moss Hill, Enn 43.74 71 ⇓P **P 17 37 26.8 -0.1**
baz=44
NVAR Mina Array Bea 43.74 83 P **P 17 37 26.6 -0.5**
comp=Z,2.9nm,0.8s,mb4.1,baz=294,slow=7.1,SNR=16
NVAR Mina Array Bea 43.74 83 P **P 17 37 26.6 -0.5**
J14A Carey 43.78 74 ⇑P **P 17 37 27.8 +0.5**
baz=44,SNR=14
D18A Linhart Farms, 43.84 67 ⇓P **P 17 37 27.8 +0.1**
baz=44,SNR=5.4
C19A Slack Wire Ran 43.98 66 ⇑P **P 17 37 28.9 0.0**
baz=44,SNR=22
A20A Cobblestone Ra 44.02 64 ⇓P **P 17 37 28.9 -0.3**
baz=44,SNR=6.9
F17A Fitzpatrick Pl 44.04 69 ⇑P **P 17 37 29.7 +0.3**
baz=44,SNR=9.2
E18A Harlowton 44.11 68 ⇓P **P 17 37 30.4 +0.5**
baz=44,SNR=9.5
QLMT Earthquake Lak 44.18 71 *e*P **P 17 37 30.1 -0.4**
comp=Z,0.9nm,0.7s,mb3.6
G17A Pierce Place, 44.31 70 ⇑P **P 17 37 31.8 +0.3**
baz=44,SNR=6.4
H16A Russell Place, 44.36 71 ⇑P **P 17 37 32.5 +0.6**
baz=44,SNR=13
D19A Cripps Ranch, 44.39 67 ⇑P **P 17 37 32.4 +0.2**
baz=44,SNR=7.1
J15A Blackfoot 44.39 73 ⇓P **P 17 37 33.2 +1.0**
baz=44
K14A Jones Ranch, D 44.44 75 ⇓P **P 17 37 33.5 +1.0**
baz=44
A21A Bergtoll Ranch 44.52 63 ⇑P **P 17 37 32.9 -0.3**
baz=44,SNR=6.9
C20A Veseth Ranch, 44.59 66 ⇓P **P 17 37 33.4 -0.3**
baz=44,SNR=11
F18A Big Timber 44.59 69 ⇓P **P 17 37 33.8 +0.1**
baz=44,SNR=5.0
I16A Newdale 44.68 72 ⇓P **P 17 37 34.9 +0.3**
baz=44
L14A Malta 44.69 75 ⇓P **P 17 37 35.3 +0.7**
baz=45,SNR=14
K15A Arbon 44.74 74 ⇑P **P 17 37 35.5 +0.5**
baz=45,SNR=7.7
B21A Ellsworth Farm 44.77 64 ⇓P **P 17 37 35.0 -0.1**
baz=45
E19A Rath Farm, Rou 44.82 67 ⇑P **P 17 37 35.5 -0.2**
baz=45,SNR=5.7
D20A Manuel Ranch, 44.85 66 ⇓P **P 17 37 36.0 +0.1**
baz=45,SNR=7.2
H17A Grant Village 44.93 71 ⇓P **P 17 37 38.1 +1.6**
baz=45,SNR=13
FLWY Flagg Ranch 45.03 71 *e*P **P 17 37 37.9 +0.6**
comp=Z,12nm,0.6s,mb4.9
C21A Desert Coulee 45.05 65 ⇓P **P 17 37 37.2 -0.2**
baz=45,SNR=6.4
F19A Roth Farm, Mol 45.07 68 ⇓P **P 17 37 37.6 +0.1**
baz=45
A22A Carney Farms, 45.08 63 ⇑P **P 17 37 37.3 -0.4**
baz=45
HVU Hansel Valley 45.12 75 *e*P **P 17 37 38.2 +0.2**
comp=Z,14nm,0.6s,mb5.0
HVU Hansel Valley 45.12 75 *e*P **P 17 37 38.2 +0.1**
HVU pmax pmax
comp=Z,14nm,0.6s,mb5.0
E20A Meyer Farm, Mu 45.18 67 ⇑P **P 17 37 38.2 -0.3**
baz=45,SNR=6.6
K16A Soda Springs 45.22 73 ⇑P **P 17 37 40.4 +1.5**
baz=45,SNR=9.8
L15A Malad City 45.23 75 ⇓P **P 17 37 39.4 +0.5**
baz=45
RLMT Red Lodge 45.29 69 ⇓P **P 17 37 39.7 +0.4**
baz=45,SNR=23
RLMT Red Lodge 45.29 69 *e*P **P 17 37 39.6 +0.3**
comp=Z,39nm,0.9s,mb5.2
H18A Shoshone NF, C 45.31 70 ⇑P **P 17 37 39.7 +0.3**
baz=45,SNR=5.4
B22A Reddig Ranch S 45.41 64 ⇓P **P 17 37 39.7 -0.5**
baz=45,SNR=5.5
R11A Troy Canyon, C 45.47 81 ⇓P **P 17 37 41.7 +0.8**
baz=45
M15A Larsen Ranch, 45.51 75 ⇑P **P 17 37 41.4 +0.3**
baz=45,SNR=13
D21A La Casta Ranch 45.52 66 ⇓P **P 17 37 40.3 -0.8**
baz=45
F20A Billings 45.56 68 ⇓P **P 17 37 41.0 -0.4**
baz=45,SNR=9.1
H19A Powell 45.71 70 ⇓P **P 17 37 42.9 +0.3**
baz=46,SNR=6.5
E21A Keefer Ranch, 45.76 66 ⇓P **P 17 37 43.4 +0.4**
baz=46
C22A Vida 45.77 64 ⇑P **P 17 37 42.8 -0.3**
baz=46
I18A Diamond G Ranc 45.77 71 ⇑P **P 17 37 43.5 +0.3**
baz=46
N15A Stansbury Isla 45.80 76 ⇑P **P 17 37 43.7 +0.2**
baz=46,SNR=12
G20A Bridger 45.85 69 ⇓P **P 17 37 43.7 -0.1**
baz=46,SNR=11
D22A Cohagen 45.94 65 ⇓P **P 17 37 44.5 0.0**
baz=46,SNR=10
ULN Ulaanbaatar 46.04 296 *e*P **P 17 37 45.9 +0.6**
comp=Z,14nm,1.0s,mb4.8
ULN Ulaanbaatar 46.04 296 *e*P **P 17 37 45.9 +0.7**
ULN pmax pmax
comp=Z,14nm,1.0s,mb4.8
DUG Dugway 46.05 77 ⇓P **P 17 37 45.7 +0.3**
baz=46,SNR=10
DUG Dugway 46.05 77 *e*P **P 17 37 45.3 0.0**
comp=Z,20nm,1.0s,mb5.0
DUG Dugway 46.05 77 *e*P **P 17 37 45.3 -0.1**
DUG pmax pmax
comp=Z,20nm,1.0s,mb5.0
I19A Meeteetse 46.07 70 ⇑P **P 17 37 45.9 +0.4**
baz=46
L17A Cokeville 46.08 74 ⇑P **P 17 37 45.9 +0.3**
baz=46
M16A Huntsville 46.09 75 ⇓P **P 17 37 45.7 0.0**
baz=46,SNR=16
C23A Lambert 46.14 64 ⇓P **P 17 37 45.8 -0.2**
baz=46,SNR=12
F21A Absaloka Mine, 46.14 67 ⇑P **P 17 37 45.9 -0.1**
baz=46
LAO LASA Array 46.17 66 ⇑P **P 17 37 46.0 -0.2**
baz=46,SNR=9.8
LAO LASA Array 46.17 66 *e*P **P 17 37 46.0 -0.2**
comp=Z,15nm,0.5s,mb5.2
K18A Toltan Ranch, 46.26 73 ⇓P **P 17 37 47.2 +0.2**
baz=46,SNR=8.6
SONM Songino Array 46.43 296 P **P 17 37 48.3 +0.1**
comp=Z,6.8nm,0.7s,mb4.7,baz=61,slow=7.2,SNR=48
SONM PcP PcP 17 39 23.3 +0.9
comp=Z,0.9nm,0.7s,baz=58,slow=1.9,SNR=3.2
SONM LR LR 17 57 55.8
comp=Z,244nm,20.5s,MS4.1,baz=180,slow=37
SONM Songino Array 46.43 296 P **P 17 37 48.3 +0.1**
SONM PcP PcP 17 39 23.3 +0.9
SONM Songino Array 46.43 296 P **P 17 37 48.3 0.0**
SONM 17 39 23.3
SONM pmax pmax
comp=Z,7.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,244nm,20.5s
G21A Lodge Grass 46.43 68 ⇑P **P 17 37 47.8 -0.5**
baz=46,SNR=5.3
PD01 Pinedale Array 46.45 72 *e*P **P 17 37 48.1 -0.4**
PD02 Pinedale Array 46.46 72 *e*P **P 17 37 48.1 -0.5**
E22A Miles City 46.47 66 ⇓P **P 17 37 48.5 -0.1**
baz=46,SNR=9.0
BW06 Boulder Array 46.47 72 ⇑P **P 17 37 48.6 -0.1**
baz=46,SNR=30
PDAR Pinedale Array 46.47 72 P **P 17 37 48.6 -0.1**
comp=Z,17nm,0.6s,mb5.2,baz=304,slow=3.6,SNR=171
PDAR LR LR 17 55 04.1
comp=Z,171nm,18.1s,MS4.0,baz=283,slow=33
PDAR Pinedale Array 46.47 72 P **P 17 37 48.6 -0.1**
D23A Lindsay 46.48 65 ⇓P **P 17 37 48.8 +0.2**
baz=46
M17A Scullys Gap (B 46.58 74 ⇑P **P 17 37 49.0 -0.5**
baz=46
I20A Worland 46.63 70 ⇓P **P 17 37 50.1 +0.3**
baz=46,SNR=12
F22A Rosebud 46.66 67 ⇓P **P 17 37 49.8 -0.4**
baz=46,SNR=7.5
L18A Fontenelle, Gr 46.69 73 ⇑P **P 17 37 50.2 -0.2**
baz=46,SNR=11
ZAK Zakamensk 46.74 301 *e*P **P 17 37 50.8 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
P15A Leamington 46.75 77 ⇓P **P 17 37 51.1 +0.2**
baz=47
N17A Moffit Pass 46.80 75 ⇑P **P 17 37 51.0 -0.3**
baz=47
E23A Ismay 46.80 66 ⇓P **P 17 37 51.2 0.0**
baz=47
O16A Springville 46.84 76 ⇓P **P 17 37 51.9 +0.3**
baz=47,SNR=5.9
DAU Daniels Canyon 46.86 76 *e*P **P 17 37 50.8 -0.9**
comp=Z,16nm,1.1s,mb4.8
DAU Daniels Canyon 46.86 76 *e*P **P 17 37 50.8 -0.9**
DAU pmax pmax
comp=Z,15nm,1.1s,mb4.8
K19A Absolon Red Bu 46.86 72 ⇑P **P 17 37 51.1 -0.7**
baz=47,SNR=24
H21A Big Horn, Sher 46.87 69 ⇓P **P 17 37 51.6 -0.2**
baz=47,SNR=7.1
M18A Lyman 46.97 74 ⇑P **P 17 37 52.5 -0.1**
baz=47,SNR=8.3

L19A	Farson	46.99	73	⇓P	P	17 37 52.8	+0.1
	baz=47						
J20A	Shoshoni	47.00	71	⇓P	P	17 37 52.9	+0.1
	baz=47,SNR=9.4						
D24A	Glendive	47.01	64	⇓P	P	17 37 52.9	+0.1
	baz=47						
ARUT	Antelope Range	47.15	80	eP	P	17 37 50.6	-3.4
	comp=Z,2.3nm,0.5s,mb4.4						
ARUT	Antelope Range	47.15	80	eP	P	17 37 50.6	-3.4
ARUT				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
I21A	Big Trails, Te	47.20	70	⇑P	P	17 37 54.0	-0.3
	baz=47,SNR=15						
K20A	Yellowstone Ra	47.26	72	⇓P	P	17 37 54.3	-0.5
	baz=47,SNR=11						
H22A	Clearmont	47.29	68	⇑P	P	17 37 54.7	-0.3
	baz=47						
E24A	Baker	47.33	65	⇓P	P	17 37 55.4	+0.1
	baz=47						
MSU	Marysvale	47.47	78	eP	P	17 37 57.1	+0.6
	comp=Z,5.5nm,0.8s,mb4.5						
MSU	Marysvale	47.47	78	eP	P	17 37 57.1	+0.6
MSU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
HHC	Hu-ho-hao-te	47.47	286	eP	P	17 37 57.5	+1.0
HHC				pP	pP	17 38 09.7	+0.9
HHC				sP	sP	17 38 14.8	+0.8
HHC				S	S	17 44 45.5	-2.2
HHC				ScS	ScS	17 47 45.1	-1.0
HHC				SS	SS	17 48 11.2	-4.3
HHC				pmax	pmax		
	comp=Z,15nm,0.4s,mb5.3						
HHC				pmax	pmax		
	comp=Z,120nm,4.3s						
HHC				LR	LR		
	comp=N,130nm,11.9s,MS4.3						
HHC				LR	LR		
	comp=E,160nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=Z,180nm,14.3s,MS4.2						
TMUT	Trail Mountain	47.57	77	eP	P	17 37 58.2	+0.9
	comp=Z,18nm,0.7s,mb5.2						
I22A	9 Mile Ranch,	47.62	69	⇓P	P	17 37 57.8	+0.2
	baz=48,SNR=11						
L20A	Wamsutter	47.65	72	⇑P	P	17 37 57.8	0.0
	baz=48						
F24A	Ekalaka	47.66	66	⇓P	P	17 37 57.6	-0.3
	baz=48						
O18A	Roosevelt	47.70	75	⇓P	P	17 37 59.2	+0.9
	baz=48						
P17A	Butcher Ranch,	47.75	76	⇓P	P	17 37 59.0	+0.3
	baz=48						
J22A	Midwest	47.91	70	⇑P	P	17 38 00.2	+0.3
	baz=48,SNR=18						
K21A	Alcova	47.92	71	⇓P	P	17 37 59.6	-0.4
	baz=48,SNR=9.5						
P18A	Preston Nutter	47.95	76	⇑P	P	17 38 00.5	+0.2
	baz=48,SNR=9.1						
R16A	Teasdale	48.04	78	⇑P	P	17 38 01.6	+0.7
	baz=48,SNR=6.2						
M20A	Sweetwater, Wa	48.05	73	⇑P	P	17 38 01.1	+0.1
	baz=48,SNR=8.4						
SRU	San Rafael	48.10	77	eP	P	17 38 01.3	-0.1
	comp=Z,14nm,0.6s,mb5.2						
SRU	San Rafael	48.10	77	eP	P	17 38 01.3	-0.1
SRU				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
O19A	Miners Draw (B	48.22	75	⇓P	P	17 38 02.6	+0.3
	baz=48,SNR=29						
H24A	Dirks Ranch, A	48.24	67	⇑P	P	17 38 01.7	-0.8
	baz=48,SNR=8.2						
L21A	Rawlins	48.25	72	⇑P	P	17 38 02.1	-0.4
	baz=48,SNR=13						
S16A	Weppner Ranch,	48.32	79	⇓P	P	17 38 03.3	+0.2
	baz=48,SNR=8.2						
K22A	Casper	48.34	70	⇑P	P	17 38 02.6	-0.6
	baz=48,SNR=6.5						
Q18A	Rafter H Ranch	48.35	76	⇓P	P	17 38 02.9	-0.4
	baz=48,SNR=10						
N20A	Spence Gulch,	48.41	73	⇓P	P	17 38 03.7	-0.1
	baz=48						
IRM	Iron Mountain	48.42	85	⇓P	P	17 38 03.0	-0.9
	baz=48						
R17A	Hanksville Air	48.42	78	⇑P	P	17 38 03.7	-0.2
	baz=48						
J23A	Dilts Ranch, B	48.46	69	⇑P	P	17 38 03.4	-0.7
	baz=48						
M21A	Separation Pea	48.47	72	⇓P	P	17 38 03.6	-0.7
	baz=48						
W13A	Hualapai Mount	48.59	83	⇓P	P	17 38 04.9	-0.3
	baz=48						
NJ2	Nanjing	48.61	271	eP	P	17 38 07.3	+1.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
P19A	Cripple Cowboy	48.72	75	⇑P	P	17 38 06.1	0.0
	baz=49,SNR=21						
U15A	North Rim	48.72	81	⇓P	P	17 38 06.5	+0.4
	baz=49,SNR=8.8						
L22A	Ellis Ranch, M	48.77	71	⇓P	P	17 38 06.5	0.0
	baz=49,SNR=8.0						
K23A	Bowen Ranch, D	48.81	70	⇑P	P	17 38 05.8	-1.0
	baz=49						
O20A	White River Ci	48.85	74	⇑P	P	17 38 06.9	-0.2
	baz=49,SNR=13						
S17A	Black Ridge (B	48.86	78	⇑P	P	17 38 07.0	-0.3
	baz=49,SNR=16						
N21A	Black Mountain	48.90	73	⇑P	P	17 38 07.3	-0.2
	baz=49,SNR=11						
RSSD	Black Hills	48.91	67	eP	P	17 38 06.7	-0.8
	comp=Z,10nm,0.9s,mb4.9						
RSSD	Black Hills	48.91	67	eP	P	17 38 06.7	-0.9
RSSD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
R18A	Canyonlands Na	48.94	77	⇓P	P	17 38 07.3	-0.5
	baz=49,SNR=8.2						
Q19A	Hogan Spring (	48.97	76	⇑P	P	17 38 07.7	-0.4
	baz=49,SNR=17						
J24A	Dixon Ranch, L	49.02	69	⇑P	P	17 38 08.0	-0.4
	baz=49						
M22A	Cedar Creek Ra	49.05	72	⇓P	P	17 38 08.4	-0.3
	baz=49,SNR=7.6						
L23A	Garrett	49.15	71	⇓P	P	17 38 08.9	-0.5
	baz=49,SNR=22						
P20A	De Beque	49.16	75	⇑P	P	17 38 09.0	-0.5
	baz=49,SNR=7.7						
MDND	Maddock	49.21	61	⇓P	P	17 38 10.0	+0.2
	baz=49						
O21A	Pagoda	49.27	74	⇑P	P	17 38 09.9	-0.4
	baz=49,SNR=7.9						
T17A	Navajo Res., N	49.27	79	⇓P	P	17 38 10.1	-0.3
	baz=49						
S18A	Hurst Farm, Bl	49.32	78	⇓P	P	17 38 10.6	-0.2
	baz=49,SNR=20						
R19A	Curley Farm, L	49.39	77	⇑P	P	17 38 11.6	+0.4
	baz=49,SNR=7.2						
N22A	Wattenberg Ran	49.51	72	⇓P	P	17 38 12.1	0.0
	baz=49,SNR=8.2						
M23A	Laramie	49.53	71	⇓P	P	17 38 12.1	-0.2
	baz=49						
PV04	Paradox Valley	49.54	76	eP	P	17 38 11.9	-0.5
Q20A	Ridgley Place,	49.56	75	⇓P	P	17 38 12.4	-0.1
	baz=49,SNR=5.2						
U16A	Tuba City	49.62	80	⇑P	P	17 38 13.5	+0.4
	baz=50						
P21A	Newcastle	49.71	74	⇑P	P	17 38 13.5	-0.2
	baz=50,SNR=8.3						
T18A	Mexican Hat	49.75	78	⇓P	P	17 38 13.4	-0.7
	baz=50,SNR=11						
N23A	Red Feather La	49.76	72	⇓P	P	17 38 14.2	+0.1
	baz=50						
S19A	Harvey Farm, M	49.81	77	⇑P	P	17 38 14.1	-0.4
	baz=50,SNR=16						
O22A	Kremmling	49.85	73	⇑P	P	17 38 14.5	-0.3
	baz=50						
WUAZ	Wupatki	49.87	81	⇓P	P	17 38 14.8	-0.2
	baz=50						
PV01	Paradox Valley	49.91	76	eP	P	17 38 14.8	-0.4
	comp=Z,985nm,0.7s						
R20A	Redvale	49.99	76	⇑P	P	17 38 15.5	-0.4
	baz=50						
M24A	Cheyenne	50.06	71	⇓P	P	17 38 16.2	-0.2
	baz=50						
Q21A	Lamborn Mesa,	50.07	75	⇑P	P	17 38 16.5	0.0
	baz=50						
P22A	Eagle	50.08	74	⇑P	P	17 38 16.5	-0.1
	baz=50						
V17A	Tonalea, Kykot	50.16	80	⇓P	P	17 38 16.9	-0.3
	baz=50						
O23A	Lake Granby, G	50.20	73	⇑P	P	17 38 17.7	+0.3
	baz=50,SNR=16						
S20A	Disappointment	50.23	77	⇓P	P	17 38 17.2	-0.5
	baz=50,SNR=15						
SPB4	Spitsbergen Ar	50.27	356	eP	P	17 38 17.1	-0.5
R21A	Cimarron	50.38	76	⇑P	P	17 38 19.1	+0.3
	baz=50,SNR=7.3						
Q22A	Crested Butte,	50.45	75	⇓P	P	17 38 19.5	+0.2
	baz=50,SNR=8.0						
T19A	Beclabito	50.47	78	⇓P	P	17 38 19.8	+0.3
	baz=50						
M25A	Palm-Egli Farm	50.54	70	⇓P	P	17 38 20.5	+0.5
	baz=50						
MVCO	Mesa Verde	50.54	77	⇑P	P	17 38 20.3	+0.2
	baz=50						
V18A	Ganado	50.63	80	⇑P	P	17 38 21.0	+0.2
	baz=50						
ISCO	Idaho Springs	50.64	73	⇓P	P	17 38 20.8	+0.1
	baz=50						
S21A	Coal Bank Pass	50.68	76	⇑P	P	17 38 21.4	+0.3
	baz=50,SNR=10						
U19A	Dine' College,	50.70	79	⇑P	P	17 38 21.1	-0.2
	baz=51						
Y16A	Circle Bar Ran	50.89	83	⇓P	P	17 38 23.7	+1.0
	baz=51						
R22A	Saguache, Gunn	50.95	75	⇓P	P	17 38 23.6	+0.5
	baz=51,SNR=9.4						
Q23A	Hatsel	51.07	74	⇑P	P	17 38 24.6	+0.6
	baz=51,SNR=8.2						
W18A	Petrified Fore	51.15	80	⇑P	P	17 38 25.0	+0.4
	baz=51						
S22A	4UR Ranch, Cre	51.21	76	⇓P	P	17 38 25.9	+0.8
	baz=51,SNR=5.5						
W19A	Sanders	51.36	80	⇑P	P	17 38 26.3	+0.1
	baz=51						
Y17A	Roosevelt	51.40	82	⇓P	P	17 38 26.8	+0.3
	baz=51						
Q24A	Divide	51.45	73	⇓P	P	17 38 26.8	0.0
	baz=51						
V20A	Brimhall	51.48	79	⇓P	P	17 38 27.2	+0.1
	baz=51						
R23A	Moffat	51.53	75	⇓P	P	17 38 27.7	+0.2
	baz=51,SNR=5.4						
U21A	Nageezi	51.56	77	⇑P	P	17 38 28.0	+0.2
	baz=51,SNR=9.0						
T22A	Edith	51.64	76	⇑P	P	17 38 28.9	+0.6
	baz=52,SNR=6.6						
P25A	Willow Gulch B	51.68	72	⇑P	P	17 38 29.2	+0.6
	baz=52,SNR=11						
O26A	Horse Wrangler	51.73	71	⇓P	P	17 38 29.2	+0.3
	baz=52						
R24A	Sanders Place,	51.94	74	⇑P	P	17 38 30.8	+0.3
	baz=52						
SDCO	Great Sand Dun	52.02	75	⇑P	P	17 38 31.5	+0.4
	baz=52,SNR=6.2						
117A	Oracle	52.22	83	⇑P	P	17 38 34.7	+2.0
	baz=52						
S24A	Houchin Ranch,	52.26	75	⇑P	P	17 38 33.6	+0.7
	baz=52						
X20A	Quemado	52.29	80	⇓P	P	17 38 33.5	+0.3
	baz=52						
V22A	San Miguel Ran	52.36	77	⇓P	P	17 38 34.1	+0.5
	baz=52						
R25A	Fountain Ranch	52.49	74	⇓P	P	17 38 35.3	+0.7
	baz=52,SNR=9.4						
U23A	El Rito	52.52	77	⇓P	P	17 38 35.1	+0.3
	baz=52						
118A	Homack Ranch,	52.65	83	⇓P	P	17 38 36.8	+0.9
	baz=52,SNR=5.1						
S25A	Robets Cordova	52.71	74	⇓P	P	17 38 36.5	+0.2
	baz=53,SNR=7.1						
T24A	Torres, Weston	52.73	75	⇑P	P	17 38 37.5	+1.2
	baz=53,SNR=6.0						
Y20A	Horse Springs,	52.79	80	⇑P	P	17 38 37.5	+0.7
	baz=53						
X21A	Alamocita Cree	52.79	79	⇓P	P	17 38 37.5	+0.6
	baz=53,SNR=6.9						
V23A	Ortiz Mt. (NFS	52.91	77	⇑P	P	17 38 38.5	+0.8
	baz=53						
T25A	Trinidad	53.07	75	⇑P	P	17 38 39.6	+0.7
	baz=53,SNR=9.2						
Y21A	Point of Rocks	53.15	80	⇑P	P	17 38 40.1	+0.6
	baz=53						
Z20A	Nine Sixteen R	53.19	81	⇑P	P	17 38 40.8	+1.0
	baz=53						
SUMG	Summit	53.26	14	eP	P	17 38 41.7	+1.9
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SUMG	Summit	53.26	14	i P	P	17 38 41.7	+1.9
	comp=Z,9.3nm,0.9s,mb4.7						
W23A	Werner Place,	53.32	78	⇑P	P	17 38 41.9	+1.1
	baz=53						
XAN	Xi'an	53.45	281	P	P	17 38 41.2	-0.5
XAN				pP	pP	17 38 46.9	-7.3
XAN				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
XAN				pmax	pmax		
	comp=Z,30nm,5.5s						
318A	Bisbee	53.46	84	⇓P	P	17 38 42.7	+0.9
	baz=53						
LENM	Lemitar	53.48	79	P	P	17 38 41.5	-0.4
	comp=Z,6.9nm,1.1s,mb4.5						
V24A	Rampart Ranch,	53.48	77	⇑P	P	17 38 42.7	+0.8
	baz=53						
219A	White Tail Can	53.53	83	⇑P	P	17 38 41.9	-0.4
	baz=53						
120A	U Bar Ranch, L	53.55	82	⇓P	P	17 38 42.6	+0.2
	baz=53						
U25A	Circle Dot Ran	53.56	75	⇑P	P	17 38 42.7	+0.2
	baz=53,SNR=8.5						
Y22A	Socorro	53.64	79	⇓P	P	17 38 43.2	+0.1
	baz=54						
BNM	Barren Site	53.70	79	eP	P	17 38 44.1	+0.6
	comp=Z,2.9nm,0.7s,mb4.3						
W24A	Lazy 6 Ranch,	53.74	77	⇑P	P	17 38 44.6	+0.8
	baz=54,SNR=9.9						
ZALV	Zalesovo Beam	53.83	313	P	P	17 38 43.7	-0.4
	comp=Z,0.6nm,0.4s,mb3.9,baz=63,slow=5.9,SNR=4.2						
ZALV				PcP	PcP	17 39 49.6	+0.3
	comp=Z,8.3nm,0.8s,baz=35,slow=5.3,SNR=23						
ZALV				LR	LR	18 02 35.1	
	comp=Z,74nm,18.7s,MS3.8,baz=64,slow=37						
ZALV	Zalesovo Beam	53.83	313	P	P	17 38 43.7	-0.4
ZALV				PcP	PcP	17 39 49.6	+0.3
ZALV	Zalesovo Beam	53.83	313	P	P	17 38 43.7	-0.5
ZALV						17 39 49.7	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ZALV				MLR	MLR		
	comp=Z,74nm,18.7s,MS3.8						
U26A	Atchley Ranch,	53.96	75	⇑P	P	17 38 46.8	+1.3
	baz=54,SNR=8.5						
220A	Playas Peak, P	54.05	82	⇓P	P	17 38 47.3	+1.2
	baz=54,SNR=6.4						
121A	Cookes Peak, D	54.08	81	⇑P	P	17 38 47.2	+0.9
	baz=54						
Y23A	Lovelace Mesa,	54.20	79	⇓P	P	17 38 47.8	+0.7
	baz=54,SNR=5.6						
W25A	X Bar L Ranch,	54.31	76	⇑P	P	17 38 48.2	+0.2
	baz=54,SNR=9.5						
V26A	Tequesquite Ra	54.33	75	⇓P	P	17 38 48.2	+0.1
	baz=54,SNR=7.1						
Y24A	Capitan	54.58	78	⇓P	P	17 38 49.9	-0.1
	baz=54,SNR=13						
CBKS	Cedar Bluff	54.76	70	⇑P	P	17 38 51.0	-0.1
	baz=55						
CBKS	Cedar Bluff	54.76	70	eP	P	17 38 50.4	-0.7
	comp=Z,18nm,0.7s,mb5.2						
CBKS	Cedar Bluff	54.76	70	eP	P	17 38 50.4	-0.8
CBKS				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
W26A	Owens Ranch, T	54.82	76	⇓P	P	17 38 51.6	0.0
	baz=55						
Y25A	Mesa, Roswell	55.04	78	⇓P	P	17 38 52.9	-0.4
	baz=55,SNR=8.1						
X26A	CR and CF Fran	55.15	77	⇑P	P	17 38 53.8	-0.3
	baz=55,SNR=5.6						
LZH	Lanzhou	55.17	286	eP	P	17 38 55.1	+0.9
LZH				pP	pP	17 39 08.0	+1.3
LZH				sP	sP	17 39 13.2	+1.3
LZH				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
LZH				pmax	pmax		
	comp=Z,160nm,6.1s						
W27A	Bowe Ranch, En	55.26	76	⇓P	P	17 38 54.7	-0.1
	baz=55						
GTA	Gaotai	55.35	292	P	P	17 38 56.1	+0.7
GTA				pP	pP	17 39 07.9	-0.1
GTA				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
124A	Stringfield Ra	55.40	79	⇓P	P	17 38 56.3	+0.4
	baz=55						
Z25A	Roswell	55.46	78	⇑P	P	17 38 56.3	-0.1
	baz=55						
Y26A	Elida	55.57	77	⇑P	P	17 38 56.9	-0.2
	baz=55						
224A	Cornudas Mount	55.79	80	⇓P	P	17 38 58.5	-0.2
	baz=56						
Z26A	Caprock	55.92	78	⇑P	P	17 38 59.4	-0.2
	baz=56						
Y27A	Causey	56.00	77	⇑P	P	17 38 59.8	-0.4
	baz=56,SNR=11						
MNTX	Cornudas Mount	56.13	80	⇓P	P	17 39 01.0	-0.2
	baz=56,SNR=6.5						
MSTX	Muleshoe	56.18	76	⇓P	P	17 39 01.7	+0.2
	baz=56						
AMTX	Amarillo	56.22	75	⇑P	P	17 39 01.9	+0.1
	baz=56						
Z27A	Tatum	56.35	77	⇑P	P	17 39 03.1	+0.4
	baz=56						
325A	Bean Ranch, Si	56.61	80	⇓P	P	17 39 04.8	+0.2
	baz=56						
226A	Malaga, Loving	56.67	79	⇑P	P	17 39 05.2	+0.2
	baz=56						
425A	Indio Mountain	57.01	81	⇑P	P	17 39 07.6	+0.2
	baz=57						
KEV	Kevo	57.60	350	eP	P	17 39 11.0	0.0
KEV	Kevo	57.60	350	ep	P	17 39 11.0	0.0
426A	McDonald Obser	57.68	80	⇑P	P	17 39 12.5	+0.3
	baz=58						
328A	Wristen Ranch,	57.93	79	⇑P	P	17 39 13.3	-0.6
	baz=58,SNR=5.5						
ARCES	ARCESS Array B	57.97	350	P	P	17 39 12.7	-0.9
	comp=Z,4.4nm,0.6s,mb4.7,baz=17,slow=7.7,SNR=29						
ARCES				PcP	PcP	17 40 04.2	-1.0
	comp=Z,2.7nm,0.9s,baz=62,slow=4.4,SNR=3.8						
ARCES	ARCESS Array B	57.97	350	P	P	17 39 12.7	-0.9
ARCES				PcP	PcP	17 40 04.2	-1.0
ARCES	ARCESS Array B	57.97	350	P	P	17 39 12.7	-0.9
ARCES						17 40 04.2	
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
526A	Mary Lane Ranc	58.07	81	⇓P	P	17 39 15.0	+0.1
	baz=58						
527A	Woodward Ranch	58.30	80	⇓P	P	17 39 16.6	+0.1
	baz=58						
626A	Big Bend Ranch	58.40	81	⇑P	P	17 39 17.4	+0.2
	baz=58,SNR=6.0						
428A	Kincaid Ranch,	58.47	79	⇓P	P	17 39 17.7	0.0
	baz=58,SNR=5.2						
CD2	Chengdu	58.76	281	eP	P	17 39 19.8	+0.1
CD2				pP	pP	17 39 32.6	+0.3
CD2				sP	sP	17 39 37.8	+0.4
CD2				PP	PP	17 41 31.8	+2.1
CD2				S	S	17 47 20.1	-1.3
CD2				sS	sS	17 47 41.6	-0.9
CD2				SS	SS	17 51 15.4	+0.8
CD2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
CD2				pmax	pmax		
	comp=Z,80nm,5.2s						
CD2				LR	LR		
	comp=E,200nm,12.0s						
CD2				LR	LR		
	comp=Z,160nm,12.0s,MS4.4						
528A	Cox Ranch, San	58.80	80	⇑P	P	17 39 20.1	+0.1
	baz=59						
KURK	Kurchatov	58.82	313	eP	P	17 39 19.6	-0.2
	comp=Z,7.9nm,1.0s,mb4.7						
KURK	Kurchatov	58.82	313	d iP	P	17 39 20.8	+1.0
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
KURK				MLR	MLR		
	comp=Z,142nm,16.0s,MS4.2						
TXAR	Lajitas Array	58.84	81	P	P	17 39 19.2	-1.0
	comp=Z,3.5nm,0.8s,mb4.5,baz=305,slow=4.6,SNR=21						
TXAR				LR	LR	18 03 03.0	
	comp=Z,98nm,18.6s,MS4.0,baz=10.0,slow=34						
TXAR	Lajitas Array	58.84	81	P	P	17 39 19.2	-1.0
TXAR	Lajitas Array	58.84	81	P	P	17 39 19.2	-1.0
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TXAR				MLR	MLR		
	comp=Z,98nm,18.6s						
627A	Terlingua Ranc	58.93	81	⇓P	P	17 39 21.0	+0.1
	baz=59						
WMQ	Urumqi	59.13	303	P	P	17 39 22.7	+0.7
WMQ				PP	PP	17 41 35.8	+3.2
WMQ				S	S	17 47 24.1	-1.7
WMQ				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
WMQ				pmax	pmax		
	comp=Z,160nm,6.0s						
WMQ				LR	LR		
	comp=N,120nm,22.0s,MS4.0						
WMQ				LR	LR		
	comp=E,72nm,24.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,130nm,24.0s,MS4.0						
628A	Black Gap, Mar	59.21	80	⇑P	P	17 39 22.6	-0.2
	baz=59						
MK31	Makanchi Array	59.82	308	eP	P	17 39 25.6	-1.1
MK31	Makanchi Array	59.82	308	eP	P	17 39 25.7	-1.1
MKAR	Makanchi Array	59.82	308	P	P	17 39 26.1	-0.6
	comp=Z,2.4nm,0.4s,mb4.6,baz=47,slow=6.7,SNR=78						
MKAR				PcP	PcP	17 40 13.0	0.0
	comp=Z,1.7nm,0.6s,baz=32,slow=3.2,SNR=5.7						
MKAR				LR	LR	18 05 36.0	
	comp=Z,105nm,21.1s,MS4.0,baz=15,slow=36						
MKAR	Makanchi Array	59.82	308	P	P	17 39 26.1	-0.6
MKAR				PcP	PcP	17 40 13.0	0.0
MKAR	Makanchi Array	59.82	308	P	P	17 39 26.2	-0.6
MKAR						17 40 13.0	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,105nm,21.1s						
SCHQ	Schefferville	60.06	38	P	P	17 39 27.3	-0.9
	comp=Z,5.9nm,0.8s,mb4.7,baz=320,slow=12,SNR=8.2						
SCHQ	Schefferville	60.06	38	P	P	17 39 27.3	-0.9
GYA	Guiyang	60.11	276	P	P	17 39 30.0	+0.9
GYA				pP	pP	17 39 43.2	+1.5
GYA				sP	sP	17 39 47.8	+1.0
GYA				PP	PP	17 41 44.0	+2.3
GYA				ScP	ScP	17 44 10.6	-1.0
GYA				S	S	17 47 36.9	-2.1
GYA				SS	SS	17 51 35.2	-0.8
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,480nm,18.6s,MS4.8						
GYA				LR	LR		
	comp=E,460nm,19.0s,MS4.8						
GYA				LR	LR		
	comp=Z,490nm,18.8s,MS4.7						
JCT	Junction City	60.41	77	⇓P	P	17 39 30.6	-0.4
	baz=60						
BRVK	Borovoye	60.71	320	eP	P	17 39 33.8	+1.0
	comp=Z,3.4nm,0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,58nm,20.3s,MS3.8,baz=305,slow=30						
JOF	**Joensuu**	**63.46**	**345**	eP	**P**	**17 39 50.2**	**-0.8**
JOF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
JOF	**Joensuu**	**63.46**	**345**	ep	**P**	**17 39 50.2**	**-0.8**
	comp=Z,8.6nm,0.7s,mb5.0						
KMI	**Kunming**	**63.52**	**278**	P	**P**	**17 39 52.2**	**+0.2**
KMI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
PLAL	**Pickwick Lake**	**64.16**	**66**	eP	**P**	**17 39 54.9**	**-1.1**
	comp=Z,16nm,0.8s,mb5.1						
KAF	**Kangasniemi**	**64.98**	**347**	eP	**P**	**17 39 59.9**	**-1.1**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
KAF	**Kangasniemi**	**64.98**	**347**	ep	**P**	**17 39 59.9**	**-1.1**
	comp=Z,9.2nm,0.6s,mb5.0						
FINES	**FINESS Array B**	**65.66**	**347**	P	**P**	**17 40 04.3**	**-1.0**
	comp=Z,6.5nm,0.6s,mb4.8,baz=18,slow=7.5,SNR=26						
FINES				LR	LR	18 14 06.6	
	comp=Z,87nm,19.3s,MS4.0,baz=338,slow=41						
FINES	**FINESS Array B**	**65.66**	**347**	P	**P**	**17 40 04.3**	**-1.0**
FINES	**FINESS Array B**	**65.66**	**347**	P	**P**	**17 40 04.3**	**-1.0**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,87nm,19.3s						
TKM2	**Tokmak 2**	**65.91**	**309**	P	**P**	**17 40 08.3**	**+1.0**
	SNR=9.7						
TKM2	**Tokmak 2**	**65.91**	**309**	eP	**P**	**17 40 07.7**	**+0.5**
	comp=Z,8.7nm,1.0s,mb4.7						
TKM2	**Tokmak 2**	**65.91**	**309**	eP	**P**	**17 40 07.7**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
TKL	**Tuckaleechee C**	**66.09**	**62**	P	**P**	**17 40 07.7**	**-0.9**
	comp=Z,14nm,0.8s,mb5.1,baz=188,slow=2.4,SNR=7.1						
TKL	**Tuckaleechee C**	**66.09**	**62**	P	**P**	**17 40 07.7**	**-0.9**
TKL	**Tuckaleechee C**	**66.09**	**62**	P	**P**	**17 40 07.7**	**-0.9**
TKL				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
USP	**Ospenovka**	**66.17**	**310**	P	**P**	**17 40 10.8**	**+1.8**
	SNR=8.1						
KBK	**Karagaybulak**	**66.42**	**309**	P	**P**	**17 40 11.4**	**+0.9**
	SNR=8.4						
AAK	**Ala-Archa**	**66.66**	**310**	P	**P**	**17 40 13.9**	**+1.8**
	SNR=9.3						
AAK	**Ala-Archa**	**66.66**	**310**	eP	**P**	**17 40 11.6**	**-0.5**
	comp=Z,40nm,0.8s,mb5.5						
AAK	**Ala-Archa**	**66.66**	**310**c	iP	**P**	**17 40 13.1**	**+1.0**
AAK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
AAK				MLR	MLR		
	comp=Z,211nm,23.0s,MS4.3						
KZA	**Kyzart**	**66.71**	**309**	P	**P**	**17 40 13.6**	**+1.2**
	SNR=6.4						
EKS2	**Erkin-Say**	**66.98**	**310**	P	**P**	**17 40 16.1**	**+2.0**
	SNR=20						
EKS2	**Erkin-Say**	**66.98**	**310**	eP	**P**	**17 40 14.1**	**-0.1**
	comp=Z,10nm,0.6s,mb5.0						
EKS2	**Erkin-Say**	**66.98**	**310**	eP	**P**	**17 40 14.1**	**0.0**
EKS2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
LSA	**Lhasa**	**67.22**	**289**	eP	**P**	**17 40 17.5**	**+1.6**
	comp=Z,15nm,0.5s,mb5.3						
LSA	**Lhasa**	**67.22**	**289**	eP	**P**	**17 40 17.5**	**+1.6**
LSA				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.3						
AML	**Almayashu**	**67.42**	**310**	P	**P**	**17 40 18.3**	**+1.4**
	SNR=18						
NB2	**NORSAR Subarra**	**67.54**	**355**	P	**P**	**17 40 17.2**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.5,baz=7.7,slow=6.5						
NOA	**NORSAR Array B**	**67.54**	**355**	P	**P**	**17 40 16.6**	**-0.8**
	comp=Z,4.3nm,0.7s,mb4.6,baz=7.6,slow=6.4,SNR=14						
NOA				LR	LR	18 10 44.4	
	comp=Z,46nm,18.1s,MS3.7,baz=0.0,slow=37						
NOA	**NORSAR Array B**	**67.54**	**355**	P	**P**	**17 40 16.6**	**-0.8**
NOA	**NORSAR Array B**	**67.54**	**355**	P	**P**	**17 40 16.6**	**-0.8**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,46nm,18.1s						
ABKAR	**Akbulak array**	**67.75**	**323**	eP	**P**	**17 40 18.3**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.3						
KMSC	**Kings Mountain**	**67.81**	**61**	⇓P	**P**	**17 40 19.3**	**-0.2**
	baz=68						
KKAR	**Karatay Array**	**68.18**	**312**	eP	**P**	**17 40 21.5**	**-0.2**
	comp=Z,5.9nm,0.6s,mb4.8						
KKAR	**Karatay Array**	**68.18**	**312**	eP	**P**	**17 40 21.5**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
KSH	**Kashi**	**68.29**	**306**	P	**P**	**17 40 27.0**	**+4.6**
KSH				pP	pP	17 40 39.6	+4.3
KSH				PcP	PcP	17 40 51.8	+4.0
KSH				PP	PP	17 43 00.6	+7.6
KSH				ScP		17 44 50.8	
KSH				PcS		17 44 55.4	
KSH				S	S	17 49 24.3	+4.6
KSH				sS	sS	17 49 46.2	+5.0
KSH				ScS	ScS	17 50 19.4	+1.4
KSH				SS	SS	17 53 51.5	+8.9
KSH				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
KSH				pmax	pmax		
	comp=Z,150nm,6.3s						
KSH				LR	LR		
	comp=N,110nm,5.8s						
KSH				LR	LR		
	comp=E,150nm,4.8s						
KSH				LR	LR		
	comp=Z,250nm,5.9s						
TAOE	**Nuku Hiva Isla**	**68.82**	**138**	eLR	LR	18 01 09.9	
	comp=Z,256nm,25.5s						
OBN	**Obninsk**	**69.72**	**339**	⇑iP	**P**	**17 40 31.4**	**+0.4**
OBN				i		17 40 55.4	
OBN				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
SHL	**Shillong**	**69.83**	**286**	⇑iP	**P**	**17 40 33.0**	**+0.8**
CM31	**Chiang Mai Arr**	**70.81**	**276**	eP	**P**	**17 40 37.9**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**70.81**	**276**	P	**P**	**17 40 37.6**	**-0.6**
	comp=Z,4.4nm,0.8s,mb4.4,baz=27,slow=6.9,SNR=34						
CMAR	**Chiang Mai Arr**	**70.81**	**276**	P	**P**	**17 40 37.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**70.81**	**276**	P	**P**	**17 40 37.6**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TAPN	**Taplejung**	**70.99**	**290**	eP	**P**	**17 40 40.2**	**+0.9**
	comp=Z,48nm,0.7s,mb5.5						
ODAN	**Odare**	**71.54**	**290**	eP	**P**	**17 40 43.3**	**+0.7**
	comp=Z,20nm,0.7s,mb5.2						
PMOR	**Pomariorio Ree**	**71.56**	**148**	eT		18 58 39.5	
	comp=Z,17nm,0.3s						
GUN	**Gumba**	**71.64**	**292**	eP	**P**	**17 40 44.3**	**+1.1**
	comp=Z,84nm,0.4s,mb6.0						
JIRN	**Jiri**	**71.65**	**291**	eP	**P**	**17 40 44.4**	**+1.2**
	comp=Z,8.4nm,0.4s,mb5.0						
RAMN	**Ramite**	**71.94**	**291**	eP	**P**	**17 40 45.7**	**+0.7**
	comp=Z,45nm,0.5s,mb5.7						
KKN	**Kakani**	**72.08**	**292**	eP	**P**	**17 40 46.7**	**+0.9**
	comp=Z,36nm,0.4s,mb5.6						
PKI	**Pulchoki**	**72.17**	**292**	eP	**P**	**17 40 47.0**	**+0.7**
	comp=Z,36nm,0.5s,mb5.5						
GKN	**Gorkha**	**72.29**	**293**	eP	**P**	**17 40 47.5**	**+0.4**
	comp=Z,49nm,0.6s,mb5.6						
DMN	**Daman**	**72.31**	**292**	eP	**P**	**17 40 48.1**	**+0.9**
	comp=Z,9.8nm,0.3s,mb5.2						
DANN	**Dangsing**	**72.53**	**294**	eP	**P**	**17 40 49.5**	**+1.0**
	comp=Z,43nm,0.7s,mb5.5						
VSR	**Storozhevoye**	**72.68**	**336**	eP	**P**	**17 40 48.9**	**-0.1**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
VSR				pmax	pmax		
	comp=N,8.0nm,1.1s						
VSR				pmax	pmax		
	comp=E,4.0nm,1.3s						
KOLN	**Koldanda**	**73.06**	**293**	eP	**P**	**17 40 52.2**	**+0.5**
	comp=E,18nm,0.6s,mb5.2						
PYUN	**Piuthan**	**73.16**	**294**	eP	**P**	**17 40 52.8**	**+0.6**
	comp=E,90nm,1.1s,mb5.6						
PPT	**Papeete**	**73.44**	**151**	eLR	LR	18 03 22.2	
	comp=E,128nm,26.8s						
DDI	**Dehra Dun**	**74.23**	**299**	ex	**P**	**17 40 57.0**	**-1.5**
AKASG	**Malin Array Be**	**75.40**	**342**	P	**P**	**17 41 04.4**	**-0.5**
	comp=E,3.0nm,0.3s,mb4.7,baz=19,slow=5.8,SNR=28						
AKASG				LR	LR	18 19 41.0	
	comp=E,60nm,18.1s,MS3.9,baz=355,slow=40						
AKASG	**Malin Array Be**	**75.40**	**342**	P	**P**	**17 41 04.4**	**-0.5**
AKASG	**Malin Array Be**	**75.40**	**342**	P	**P**	**17 41 04.4**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,60nm,18.1s						
AKBB	**Malin Array Si**	**75.40**	**342**	eP	**P**	**17 41 04.0**	**-0.9**
AKBB	**Malin Array Si**	**75.40**	**342**	eP	**P**	**17 41 04.0**	**-0.9**
KIEV	**Kiev**	**75.41**	**342**	eP	**P**	**17 41 04.2**	**-0.7**
	comp=Z,22nm,1.0s,mb5.0						
KIEV	**Kiev**	**75.41**	**342**	eP	**P**	**17 41 04.2**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
KBL	**Kabul**	**75.63**	**308**	eP	**P**	**17 41 06.3**	**-0.2**
	comp=Z,17nm,0.9s,mb5.0						
KBL	**Kabul**	**75.63**	**308**	eP	**P**	**17 41 06.3**	**-0.2**
KBL				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
CLL	**Collm**	**77.09**	**352**	eP	**P**	**17 41 14.0**	**-0.5**
CLL				e		17 41 21.0	
CLL	**Collm**	**77.09**	**352**	eP	**P**	**17 41 14.0**	**-0.5**
CLL				e		17 41 21.0	
LVV	**L'vov**	**77.18**	**345**	eP	**P**	**17 41 15.1**	**+0.1**
BRG	**Berggiesshubel**	**77.44**	**352**	eP	**P**	**17 41 16.0**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	**77.44**	**352**	eP	**P**	**17 41 16.0**	**-0.4**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CTA	**Charters Tower**	**77.44**	**213**	P	**P**	**17 41 15.4**	**-1.3**
	comp=Z,4.2nm,1.0s,mb4.3,baz=16,slow=7.4,SNR=4.4						
CTA	**Charters Tower**	**77.44**	**213**	P	**P**	**17 41 15.4**	**-1.3**
CTA	**Charters Tower**	**77.44**	**213**	P	**P**	**17 41 15.4**	**-1.3**
CTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KWP	**Kalwaria Pacla**	**77.58**	**346**	eP	**P**	**17 41 17.7**	**+0.5**
KWP	**Kalwaria Pacla**	**77.58**	**346**	eP	**P**	**17 41 17.4**	**+0.2**
	comp=Z,39nm,0.9s,mb5.3						
KWP	**Kalwaria Pacla**	**77.58**	**346**	eP	**P**	**17 41 17.4**	**+0.2**
KWP				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.3						
KWP	**Kalwaria Pacla**	**77.58**	**346**	⇓iP	**P**	**17 41 17.9**	**+0.7**
UPC	**Upice**	**77.59**	**350**	eP	**P**	**17 41 16.4**	**-0.9**
UPC	**Upice**	**77.59**	**350**	eP	**P**	**17 41 16.4**	**-0.9**
DPC	**Dobruska-Polom**	**77.72**	**350**	eP	**P**	**17 41 13.2**	**-4.8**
DPC	**Dobruska-Polom**	**77.72**	**350**	eP	**P**	**17 41 13.2**	**-4.8**
DPC				ex	x	17 41 18.4	
STHS	**Stebnicka Huta**	**78.00**	**347**	eP	**P**	**17 41 20.9**	**+1.3**
STHS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
STHS	**Stebnicka Huta**	**78.00**	**347**	eP	**P**	**17 41 20.9**	**+1.3**
OKC	**Ostrava-Krasne**	**78.01**	**349**	eP	**P**	**17 41 20.0**	**+0.4**
OKC	**Ostrava-Krasne**	**78.01**	**349**	eP	**P**	**17 41 20.0**	**+0.4**
NKC	**Novy Kostel**	**78.20**	**352**	eP	**P**	**17 41 20.7**	**0.0**
NKC	**Novy Kostel**	**78.20**	**352**	eP	**P**	**17 41 20.7**	**0.0**
KIV	**Kislovodsk**	**78.30**	**331**	eP	**P**	**17 41 22.3**	**+1.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KIV				MLR	MLR		
	comp=Z,83nm,19.0s,MS4.1						
KOLS	**Kolonicke sedl**	**78.32**	**346**	eP	**P**	**17 41 21.7**	**+0.3**
KOLS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
KOLS	**Kolonicke sedl**	**78.32**	**346**	eP	**P**	**17 41 21.7**	**+0.3**
CRVS	**Cervenica-Dubn**	**78.47**	**346**	eP	**P**	**17 41 22.6**	**+0.4**
CRVS				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CRVS	**Cervenica-Dubn**	**78.47**	**346**	eP	**P**	**17 41 22.5**	**+0.3**
GIVF	**Givet**	**78.75**	**357**	eP	**P**	**17 41 23.5**	**-0.2**
	comp=Z,14nm,0.8s,mb4.7						
BAIF	**Baives**	**78.81**	**358**	eP	**P**	**17 41 24.2**	**+0.1**
	comp=Z,9.0nm,0.6s,mb4.6						
GRF	**Grafenberg Arr**	**78.84**	**353**	eP	**P**	**17 41 24.5**	**+0.3**
	comp=Z,12nm,0.8s,mb4.9						
GRF	**Grafenberg Arr**	**78.84**	**353**	eP	**P**	**17 41 24.5**	**+0.3**
GRF				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
TBI	**Tubuai**	**78.92**	**152**	eLR	LR	18 05 44.6	
	comp=Z,125nm,22.5s						
TBI				eT		19 07 49.9	
	comp=Z,5.8nm,0.3s						
ZEI	**Tsey**	**78.98**	**329**	eP	**P**	**17 41 25.2**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KIS	**Kishinev**	**79.02**	**341**	eUNK		17 41 24.0	
KIS	**Kishinev**	**79.02**	**341**	eP	**P**	**17 41 24.0**	**-1.2**
KECS	**Kecovo**	**79.03**	**347**	eP	**P**	**17 41 26.1**	**+0.9**
KECS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KECS	**Kecovo**	**79.03**	**347**	eP	**P**	**17 41 26.1**	**+0.9**
TRPA	**Tarpa**	**79.06**	**345**	⇓iP	**P**	**17 41 26.3**	**+0.8**
BUR08	**Bucovina Ar. S**	**79.09**	**344**	eP	**P**	**17 41 25.7**	**+0.1**
BURAR	**Bucovina Array**	**79.11**	**344**	⇓P	**P**	**17 41 26.4**	**+0.7**
BURAR	**Bucovina Array**	**79.11**	**344**	⇓iP	**P**	**17 41 26.4**	**+0.7**
KHC	**Kasperske Hory**	**79.20**	**352**	eP	**P**	**17 41 22.3**	**-3.9**
KHC	**Kasperske Hory**	**79.20**	**352**	eP	**P**	**17 41 22.3**	**-3.9**
KHC				ex	x	17 41 26.6	
KOLL	**Kolacno**	**79.21**	**348**	eP	**P**	**17 41 26.6**	**+0.3**
KOLL	**Kolacno**	**79.21**	**348**	eP	**P**	**17 41 26.6**	**+0.3**
GERES	**GERESS Array B**	**79.47**	**351**	P	**P**	**17 41 27.6**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=37,slow=6.9,SNR=5.9						
GERES	**GERESS Array B**	**79.47**	**351**	P	**P**	**17 41 27.6**	**-0.1**
GERES	**GERESS Array B**	**79.47**	**351**	P	**P**	**17 41 27.6**	**-0.1**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LEOM	**Leova**	**79.64**	**341**	⇑P	**P**	**17 41 29.1**	**+0.5**
LEOM	**Leova**	**79.64**	**341**	⇑iP	**P**	**17 41 29.1**	**+0.5**
ZST	**Bratislava**	**79.75**	**349**	eP	**P**	**17 41 30.2**	**+1.0**
ZST				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
ZST	**Bratislava**	**79.75**	**349**	eP	**P**	**17 41 30.2**	**+1.0**
TESR		**79.91**	**342**	⇓iP	**P**	**17 41 31.0**	**+0.9**
FLN	**La Foliniere**	**80.14**	**1**	eP	**P**	**17 41 30.8**	**-0.5**
	comp=Z,9.2nm,0.6s,mb4.6						
FLN				eR			
	comp=Z,72nm,17.8s						
PAGF	**Fort de Pagny**	**80.27**	**357**	eP	**P**	**17 41 32.1**	**+0.1**
	comp=Z,11nm,0.9s,mb4.5						
LDF	**La Druitiere**	**80.32**	**1**	eP	**P**	**17 41 31.6**	**-0.6**
	comp=Z,10nm,0.4s,mb4.8						
DRGR		**80.34**	**345**	⇓P	**P**	**17 41 32.9**	**+0.5**
DRGR		**80.34**	**345**	⇓iP	**P**	**17 41 32.9**	**+0.5**
MEZF	**Maizieres J'vi**	**80.35**	**357**	eP	**P**	**17 41 32.3**	**-0.1**
CDF	**Champ du Feu**	**80.35**	**356**	eP	**P**	**17 41 32.1**	**-0.3**
GRR	**Gorron**	**80.52**	**1**	eP	**P**	**17 41 33.0**	**-0.3**
	comp=Z,19nm,0.6s,mb4.9						
VRI	**Vrincioaia**	**80.52**	**342**	⇑P	**P**	**17 41 34.0**	**+0.6**
VRI	**Vrincioaia**	**80.52**	**342**	⇑iP	**P**	**17 41 34.0**	**+0.6**
PLOR	**Plostina**	**80.55**	**342**	⇓P	**P**	**17 41 34.2**	**+0.7**
PLOR	**Plostina**	**80.55**	**342**	⇓iP	**P**	**17 41 34.2**	**+0.7**
SGMF	**Saint Gilles**	**80.62**	**2**	eP	**P**	**17 41 33.7**	**-0.2**
	comp=Z,10nm,0.5s,mb4.7						
SFTF	**Sexfontaines**	**80.65**	**357**	eP	**P**	**17 41 33.8**	**-0.2**
	comp=Z,20nm,0.7s,mb4.9						
HAU	**Haudompre**	**80.80**	**356**	eP	**P**	**17 41 34.4**	**-0.4**
HAU				eR			
	comp=Z,125nm,18.8s						
GRER		**80.94**	**342**	⇓iP	**P**	**17 41 36.2**	**+0.6**
HINF	**Hinteralfeld**	**80.97**	**356**	eP	**P**	**17 41 35.1**	**-0.6**
LOR	**Lormes**	**81.61**	**358**	eP	**P**	**17 41 39.0**	**-0.2**
	comp=Z,5.5nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**81.83**	**358**	eP	**P**	**17 41 40.0**	**-0.3**
WRA	**Warramunga Arr**	**81.94**	**224**	P	**P**	**17 41 38.3**	**-2.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=35,slow=6.0,SNR=17						
WRA	**Warramunga Arr**	**81.94**	**224**	P	**P**	**17 41 38.3**	**-2.8**
WRA	**Warramunga Arr**	**81.94**	**224**	P	**P**	**17 41 38.3**	**-2.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CABF	**La Chapelle**	**82.20**	**356**	eP	**P**	**17 41 42.3**	**0.0**
SMF	**Signal de Mont**	**82.24**	**358**	eP	**P**	**17 41 42.1**	**-0.4**
	comp=Z,40nm,1.1s,mb5.0						
MFF	**Saint Martin d**	**82.31**	**1**	eP	**P**	**17 41 42.7**	**-0.1**
	comp=Z,29nm,0.9s,mb4.9						
TCF	**Toulx Ste Croi**	**82.62**	**359**	eP	**P**	**17 41 44.1**	**-0.4**
	comp=Z,10nm,0.9s,mb4.6						
LPL	**La Plagne**	**83.27**	**356**	eP	**P**	**17 41 47.1**	**-0.7**
LPG	**La Plagne**	**83.28**	**356**	eP	**P**	**17 41 47.3**	**-0.6**
RJF	**Les Rejaudoux**	**83.61**	**360**	eP	**P**	**17 41 50.2**	**+0.6**
RJF				eR			
	comp=Z,123nm,17.0s						
ORIF	**Oris-en-Rattie**	**83.90**	**356**	eP	**P**	**17 41 51.8**	**+0.7**
	comp=Z,22nm,0.9s,mb5.0						
ORIF				eR			
	comp=Z,114nm,17.0s						
LFF	**La Frestale**	**83.98**	**0**	eP	**P**	**17 41 51.3**	**-0.2**
	comp=Z,16nm,0.5s,mb5.1						
CAF	**Calviac**	**83.98**	**359**	eP	**P**	**17 41 51.4**	**-0.1**
	comp=Z,21nm,0.9s,mb5.0						
HYB	**Hyderabad**	**84.00**	**290**	i P	**P**	**17 41 51.0**	**-1.0**
VIVF	**Saint-Julien-l**	**84.00**	**357**	eP	**P**	**17 41 51.6**	**0.0**
	comp=Z,15nm,1.0s,mb4.8						
VTS	**Vitosha**	**84.33**	**344**	⇓P	**P**	**17 41 53.5**	**+0.2**
VTS	**Vitosha**	**84.33**	**344**	⇓iP	**P**	**17 41 53.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**84.36**	**232**	P	**P**	**17 41 52.8**	**-0.9**
	comp=Z,6.1nm,0.6s,mb4.9,baz=168,slow=4.6,SNR=22						
FITZ	**Fitzroy Crossi**	**84.36**	**232**	eP	**P**	**17 41 52.5**	**-1.1**
	comp=Z,16nm,1.0s,mb5.1						
FITZ	**Fitzroy Crossi**	**84.36**	**232**	eP	**P**	**17 41 52.3**	**-1.3**
	comp=Z,14nm,1.0s,mb5.0						
BR131	**Keskin Array S**	**84.78**	**335**	eP	**P**	**17 41 55.1**	**-0.6**
	comp=Z,5.7nm,0.7s,mb4.8						
BRTR	**Keskin Array B**	**84.78**	**335**	P	**P**	**17 41 55.8**	**+0.1**
	comp=Z,7.3nm,0.7s,mb4.9,baz=44,slow=2.9,SNR=45						
BRTR				LR	LR	18 21 31.6	
	comp=Z,35nm,18.4s,MS3.8,baz=172,slow=37						
BRTR	**Keskin Array B**	**84.78**	**335**	P	**P**	**17 41 55.8**	**+0.1**
BRTR	**Keskin Array B**	**84.78**	**335**	P	**P**	**17 41 55.8**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,35nm,18.4s						
LASF	**Ste Croix**	**84.81**	**358**	eP	**P**	**17 41 55.7**	**0.0**
SMRF	**Simiane la Rot**	**84.85**	**357**	eP	**P**	**17 41 56.5**	**+0.6**
SBF	**Sospel**	**84.88**	**355**	eP	**P**	**17 41 55.6**	**-0.5**
FRF	**La Foret Royal**	**85.22**	**356**	eP	**P**	**17 41 57.5**	**-0.3**
	comp=Z,12nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**85.42**	**222**	P	**P**	**17 41 57.3**	**-1.5**
	comp=Z,2.5nm,0.8s,mb4.4,baz=25,slow=5.7,SNR=32						
ASAR	**Alice Springs**	**85.42**	**222**	P	**P**	**17 41 57.3**	**-1.5**
ASAR	**Alice Springs**	**85.42**	**222**	P	**P**	**17 41 57.3**	**-1.5**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LMR	**La Mourre**	**85.45**	**356**	eP	**P**	**17 41 58.6**	**-0.4**
	comp=Z,20nm,0.7s,mb5.0						
ARMA	**Armidale**	**85.50**	**205**	eP	**P**	**17 41 59.2**	**+0.1**
MTLF	**Montolieu**	**85.57**	**359**	eP	**P**	**17 41 59.5**	**0.0**
	comp=Z,6.1nm,0.6s,mb4.7						
SJPF	**Ste Jean**	**85.78**	**2**	eP	**P**	**17 42 01.0**	**+0.4**
	comp=Z,38nm,1.0s,mb5.3						
EPF	**Esparros**	**85.88**	**0**	eP	**P**	**17 42 00.3**	**-0.8**
	comp=Z,4.5nm,0.5s,mb4.6						
ETSF	**Etsaut**	**86.01**	**1**	eP	**P**	**17 42 01.9**	**+0.2**
	comp=Z,19nm,0.8s,mb5.1						
PGF	**Pioggiola**	**86.10**	**354**	eP	**P**	**17 42 01.9**	**-0.3**
	comp=Z,48nm,0.8s,mb5.5						
ESDC	**Sonseca Array**	**89.14**	**4**	P	**P**	**17 42 16.0**	**-0.8**
	comp=Z,1.4nm,0.5s,mb4.6,baz=356,slow=4.6,SNR=8.3						
ESDC	**Sonseca Array**	**89.14**	**4**	P	**P**	**17 42 16.0**	**-0.8**
STKA	**Stephens Creek**	**89.89**	**213**	P	**P**	**17 42 18.8**	**-1.3**
	comp=Z,7.3nm,0.8s,mb5.1,baz=348,slow=7.0,SNR=11						
STKA	**Stephens Creek**	**89.89**	**213**	eP	**P**	**17 42 19.5**	**-0.6**
	comp=Z,5.3nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**89.89**	**213**	P	**P**	**17 42 18.8**	**-1.3**
STKA	**Stephens Creek**	**89.89**	**213**	P	**P**	**17 42 18.8**	**-1.3**
STKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
EIL	**Elat**	**93.83**	**331**	LR	LR	18 30 58.2	
	comp=Z,56nm,18.4s,MS4.1,baz=269,slow=39						
TORD	**Torodi Ar. Bea**	**115.66**	**359**	PKP	PKPdf	17 48 02.4	-1.4
	comp=Z,0.6nm,0.4s,baz=349,slow=2.6,SNR=11						
TORD	**Torodi Ar. Bea**	**115.66**	**359**	PKP	PKPdf	17 48 02.4	-1.4
DBIC	**Dimbokro**	**121.89**	**7**	PKP	PKPdf	17 48 14.6	-1.3
	comp=Z,2.2nm,0.4s,baz=324,slow=3.9,SNR=11						
DBIC	**Dimbokro**	**121.89**	**7**	PKP	PKPdf	17 48 14.6	-1.3
DBIC	**Dimbokro**	**121.89**	**7**	PKIKP	PKPdf	17 48 14.6	-1.2
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PLCA	**Paso Flores**	**131.19**	**107**	PKP	PKPdf	17 48 32.1	-0.5
	comp=Z,3.0nm,1.2s,baz=245,slow=4.4,SNR=4.5						
PLCA	**Paso Flores**	**131.19**	**107**	PKP	PKPdf	17 48 32.1	-0.5
PLCA	**Paso Flores**	**131.19**	**107**	PKIKP	PKPdf	17 48 32.1	-0.5
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TSUM	**Tsumeb**	**145.22**	**332**	ePKPdf	PKPdf	17 48 58.2	-0.7
MAW	**Mawson**	**146.43**	**218**	PKPbc	PKPbc	17 48 59.8	-1.1
	comp=Z,4.1nm,0.8s,baz=163,slow=3.4,SNR=5.5						
MAW	**Mawson**	**146.43**	**218**	PKPbc	PKPbc	17 48 59.8	-1.1
MAW	**Mawson**	**146.43**	**218**	PKP2	PKPab	17 48 59.8	-2.2
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LBTB	**Lobatse**	**147.53**	**315**	ePKPbc	PKPbc	17 49 05.1	-0.2
LBTB	**Lobatse**	**147.53**	**315**	ePKP2	PKPab	17 49 05.1	-2.4
BOSA	**Boshof**	**150.77**	**312**	PKPbc	PKPbc	17 49 12.9	-0.5
	comp=Z,7.4nm,0.6s,baz=11,slow=4.2,SNR=13						
BOSA	**Boshof**	**150.77**	**312**	PKPbc	PKPbc	17 49 12.9	-0.5

DJA ***01*** *17:31:31, 5°10S×101°34E, h10km, MLv4.2/11*
ISCJB ***01*** *17:31:32.5±0.7, 5°13S±0°06×101°36E±0°06, h33km, mb3.8/8, Error ellipse: s-maj=11.1km s-min=5.8km az=40.5*
IDC ***01*** *17:31:34.6±2.5, 4°66S×101°96E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, Error ellipse: s-maj=86.9km s-min=21.7km az=56.0*
NEIC ***01*** *17:31:39.0±1.4, 4°73S×101°83E, h35km, mb4.2/1, Error ellipse: s-maj=52.6km s-min=13.5km az=55.0*
ISC 01 17:31:35.7±0.7**, 5°03S**±0°07×**101°44E**±0°06**, h35km, n36, σ1s24**/36**, mb3.8**/8**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.65**	**66**	P	**Pn**	**17 32 01.6**	**-0.6**
MNAI				S	**Sn**	**17 32 23.8**	**+1.6**
KSI	**Kapahiang**	**1.79**	**40**	P	**Pn**	**17 32 03.3**	**-0.8**
KSI				S	**Sn**	**17 32 32.9**	**+7.4**
LWLI	**Liwa**	**2.61**	**90**	P	**Pn**	**17 32 19.7**	**+4.3**
MDSI	**Maura Dua**	**2.78**	**79**	P	**Pn**	**17 32 17.7**	**-0.1**
KLSI		**3.30**	**84**	P	**Pn**	**17 32 25.7**	**+0.8**
SDSI	**Sungai Dareh**	**4.07**	**360**	P	**Pn**	**17 32 33.2**	**-2.3**
PDSI	**Padang**	**4.20**	**347**	P	**Pn**	**17 32 36.8**	**-0.5**
PPI	**Padang Panjang**	**4.66**	**347**	P	**Pn**	**17 32 43.0**	**-0.6**
MNSI	**Mandailing Nat**	**6.07**	**342**	P	**Pn**	**17 33 02.4**	**-0.7**
	0.1nm982nm16nm,0.5s						
CISI	**Cisompet, Garu**	**6.82**	**112**	P	**Pn**	**17 33 11.5**	**-1.8**
	0.1nm31nm,0.7s						
XMIS	**Christmas Isla**	**6.84**	**143**	P	**Pn**	**17 33 12.0**	**-1.6**
	1.0nm240nm,1.7s						
CMJI	**Cimerak**	**7.49**	**112**	P	**Pn**	**17 33 22.0**	**-0.5**
	2µm,1.0s						
TPTI		**9.27**	**333**	P	**Pn**	**17 33 45.8**	**-1.1**
	8.6nm,1.7s						
UGM	**Wanagama**	**9.47**	**108**	P	**Pn**	**17 33 49.4**	**-0.3**
	77nm,2.1s						
PCJI	**Pacitan**	**10.17**	**109**	P	**Pn**	**17 33 58.7**	**-0.6**
	32nm,1.4s						
BSI	**Banda Aceh**	**12.12**	**330**	P	**Pn**	**17 34 25.2**	**-0.8**
	30nm,1.4s						
JAGI	**Jajag, Banyuwa**	**13.08**	**106**	P	**Pn**	**17 34 38.7**	**-0.4**
SBUM	**Sibu**	**13.08**	**56**	P	**Pn**	**17 34 39.0**	**-0.2**
IGBI	**Denpasar**	**14.12**	**106**	P	**Pn**	**17 34 59.6**	**+6.3**
CMAR	**Chiang Mai Arr**	**23.46**	**354**	P	**P**	**17 36 43.6**	**+1.2**
	0.8nm,0.6s,mb3.3,baz=182,slow=9.1,SNR=8.7						
CMAR	**Chiang Mai Arr**	**23.46**	**354**	P	**P**	**17 36 43.6**	**+1.2**
WRA	**Warramunga Arr**	**35.27**	**118**	P	**P**	**17 38 28.9**	**+1.4**
	0.3nm,0.8s,mb3.3,baz=296,slow=9.5,SNR=2.8						
WRA	**Warramunga Arr**	**35.27**	**118**	P	**P**	**17 38 28.9**	**+1.4**
ASAR	**Alice Springs**	**36.35**	**124**	P	**P**	**17 38 38.8**	**+2.2**
	0.2nm,0.5s,mb3.3,baz=292,slow=8.1,SNR=5.0						
ASAR	**Alice Springs**	**36.35**	**124**	P	**P**	**17 38 38.8**	**+2.2**
SONM	**Songino Array**	**52.81**	**4**	P	**P**	**17 40 49.8**	**+2.3**
	2.6nm,0.8s,mb4.2,baz=184,slow=9.5,SNR=10						
SONM	**Songino Array**	**52.81**	**4**	P	**P**	**17 40 49.8**	**+2.3**
MJAR	**Matsushiro Arr**	**53.77**	**37**	P	**P**	**17 40 53.7**	**-1.1**
	1.6nm,0.8s,mb4.0,baz=224,slow=8.9,SNR=5.3						
MJAR	**Matsushiro Arr**	**53.77**	**37**	P	**P**	**17 40 53.7**	**-1.1**
MKAR	**Makanchi Array**	**54.31**	**344**	P	**P**	**17 41 00.6**	**+2.1**
	1.3nm,0.8s,mb3.9,baz=155,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**54.31**	**344**	P	**P**	**17 41 00.6**	**+2.1**
ZALV	**Zalesovo Beam**	**60.39**	**349**	P	**P**	**17 41 42.9**	**+1.6**
	2.4nm,0.7s,mb4.3,baz=173,slow=5.1,SNR=9.1						
ZALV	**Zalesovo Beam**	**60.39**	**349**	P	**P**	**17 41 42.9**	**+1.6**
BRVK	**Borovoye**	**63.56**	**340**	eP	**P**	**17 42 04.1**	**+1.5**
	1.5nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	**146.11**	**42**	PKPbc	PKPbc	17 51 15.6	+2.8
	0.9nm,0.7s,baz=306,slow=0.9,SNR=11						
TXAR	**Lajitas Array**	**146.11**	**42**	PKPbc	PKPbc	17 51 15.6	+2.8

IDC 01 17:31:55.8±4.7**, 5°74S**×**145°82E, h75km**±49km**, mb3.7**/7**, mb1 3.8**/10**, mb1mx3.6**/17**, mbtmp3.7**/10**, ML3.5**/3**, Error**

ellipse: s-maj=36.4km s-min=22.0km az=125.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.88**	**160**	P	Pn	17 32 54.9	+1.8
	9.0nm,0.3s,baz=42,slow=5.0,SNR=53						
PMG				S	Sn	17 33 37.2	-0.3
	19nm,0.3s,baz=149,slow=18,SNR=23						
CTA	**Charters Tower**	**14.27**	**178**	P	Pn	17 35 14.9	+0.6
	0.1nm,0.3s,baz=108,slow=9.6,SNR=2.3						
WRA	**Warramunga Arr**	**18.00**	**217**	P	Pn	17 35 59.8	-1.3
	0.3nm,0.3s,baz=33,slow=11,SNR=44						
ASAR	**Alice Springs**	**21.20**	**212**	P	P	17 36 35.0	-0.3
	1.6nm,1.0s,baz=30,slow=14,SNR=40						
FITZ	**Fitzroy Crossi**	**23.22**	**236**	P	P	17 36 56.8	+0.2
	1.8nm,0.7s,baz=45,slow=7.1,SNR=4.4						
STKA	**Stephens Creek**	**26.30**	**188**	P	P	17 37 26.1	+1.6
	1.3nm,0.6s,baz=19,slow=5.9,SNR=8.5						
PETK	**Petropavlovsk-**	**59.48**	**8**	P	P	17 41 51.5	+0.6
	3.9nm,0.9s,baz=170,slow=8.1,SNR=8.3						
MKAR	**Makanchi Array**	**76.55**	**321**	P	P	17 43 38.5	+0.4
	0.6nm,0.4s,baz=96,slow=8.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**78.17**	**328**	P	P	17 43 45.8	-1.1
	0.7nm,0.5s,baz=84,slow=5.9,SNR=4.1						
ILAR	**Eielson Array**	**85.70**	**23**	P	P	17 44 25.8	-0.4
	1.2nm,0.8s,baz=250,slow=4.8,SNR=15						
TORD	**Torodi Ar. Bea**	**143.89**	**284**	PKP	PKPdf	17 51 21.7	-1.9
	0.4nm,0.4s,baz=60,slow=2.9,SNR=8.4						

WEL 01 17:39:04.2±0.1, 44°.35S×170°.12E, h13km±1km, ML4.1/18, 1C-1D, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.06**	**128**	‖eP*	Pg	17 39 06.8	+0.1
LBZ				S*	Sg	17 39 08.6	0.0
ODZ	**Otahua Downs**	**0.79**	**152**	P*	Pb	17 39 18.8	-1.0
ODZ				S*	Sb	17 39 29.9	-0.5
FOZ	**Fox Glacier**	**0.84**	**338**	P*	Pb	17 39 19.6	-1.0
FOZ				S*	Sb	17 39 29.7	-2.1
WKZ	**Wanaka**	**0.92**	**238**	⇑P*	Pb	17 39 21.2	-0.8
RPZ	**Rata Peaks**	**0.93**	**47**	P*	Pb	17 39 21.4	-0.6
RPZ				S*	Sb	17 39 34.0	-0.1
JCZ	**Jackson Bay**	**1.01**	**285**	P*	Pb	17 39 22.8	-0.7
JCZ				S*	Sb	17 39 35.6	-1.1
EAZ	**Earnscleugh**	**1.05**	**213**	P*	Pb	17 39 23.3	-0.9
WVZ	**Waitaha Valley**	**1.35**	**20**	PN	Pn	17 39 28.4	-0.2
MSZ	**Milford Sound**	**1.60**	**258**	PN	Pn	17 39 31.9	-0.1
TUZ	**Tuapeka**	**1.64**	**192**	PN	Pn	17 39 31.3	-1.3
MLZ	**Mavora Lakes**	**1.71**	**233**	PN	Pn	17 39 33.3	-0.2
MQZ	**McQueen's Vall**	**1.94**	**72**	PN	Pn	17 39 36.3	-0.4
CRLZ	**Canterbury Las**	**1.97**	**68**	ePN	Pn	17 39 38.6	+1.5
CRLZ				SN	Sn	17 40 05.6	+4.0
WHZ	**Wether Hill Ro**	**2.18**	**224**	PN	Pn	17 39 38.4	-1.7
LTZ	**Lake Taylor**	**2.21**	**46**	PN	Pn	17 39 40.1	-0.4
SYZ	**Scrubby Hill**	**2.30**	**197**	PN	Pn	17 39 40.0	-1.6
DCZ	**Deep Cove**	**2.39**	**241**	PN	Pn	17 39 41.6	-1.3
DSZ	**Denniston Nort**	**2.88**	**26**	PN	Pn	17 39 49.2	-0.5
APZ	**The Paps**	**2.90**	**210**	PN	Pn	17 39 47.8	-2.1
PYZ	**Puysegur Point**	**3.03**	**232**	PN	Pn	17 39 50.0	-1.7
THZ	**Tophouse**	**3.29**	**39**	PN	Pn	17 39 55.9	+0.6

*ISCJB **01** 18:03:21.3±0.5, 39°.73N±0°.03×38°.84E±0°.04, h6km±6km, Error ellipse: s-maj=5.1km s-min=4.4km az=172.7*
*DDA **01** 18:03:21.9, 39°.70N×38°.72E, h7km±1km, Md2.9*
*CSEM **01** 18:03:21.7±0.2, 39°.73N×38°.82E, h10km, MD2.8, Error ellipse: s-maj=5.6km s-min=4.9km az=105.0*
*ISK **01** 18:03:24.2, 39°.73N×39°.05E, h30km, MD2.8*
ISC 01 18:03:21.9±0.5, 39°.73N±0°.03×38°.83E±0°.04, h10km±5km, n24, σ1§00/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.41**	**87**	ePG	Pg	18 03 31.6	+1.7
EZC	**Erzincan**	**0.41**	**87**	ePg	Pg	18 03 31.6	+1.7
KEMA	**Kemaliye**	**0.53**	**210**	iP	Pg	18 03 30.9	-1.2
KEMA				iS	Sg	18 03 38.1	-1.0
KEMA	**Kemaliye**	**0.53**	**210**	iP	Pg	18 03 31.0	-1.2
KEMA				iS	Sg	18 03 38.1	-1.0
SUSE	**Susehri**	**0.68**	**315**	iP	Pg	18 03 34.5	-0.5
SUSE				iS	Sg	18 03 44.2	+0.2
SUSE	**Susehri**	**0.68**	**315**	iP	Pg	18 03 34.5	-0.6
SUSE				iS	Sg	18 03 44.2	+0.2
ERZN	**Erzincan**	**0.70**	**101**	ePG	Pg	18 03 35.8	+0.3
GUMT	**Gumushane**	**0.89**	**34**	ePG	Pg	18 03 39.9	+1.0
GUMT				eSG	Sg	18 03 51.0	+0.5
GUMT	**Gumushane**	**0.89**	**34**	ePg	Pg	18 03 39.9	+0.9
GUMT				eSg	Sg	18 03 51.0	+0.5
PTK	**Pertek**	**0.94**	**152**	ePG	Pg	18 03 40.9	+0.8
PTK				eSG	Sg	18 03 52.8	+0.5
PTK	**Pertek**	**0.94**	**152**	ePg	Pg	18 03 40.9	+0.8
PTK				eSg	Sg	18 03 52.8	+0.5
ESPY	**Espiye-Giresun**	**1.19**	**356**	ePN	Pn	18 03 45.1	+0.6
ESPY	**Espiye-Giresun**	**1.19**	**356**	ePn	Pn	18 03 45.1	+0.5
BAYT	**Ayd¯–ntepe-Bay**	**1.21**	**56**	ePG	Pg	18 03 43.5	-1.6
BAYT	**Ayd¯–ntepe-Bay**	**1.21**	**56**	ePg	Pg	18 03 43.5	-1.6
ELZG	**Elazig**	**1.23**	**174**	iP	Pn	18 03 45.1	-0.1
ELZG				iS	Sb	18 04 01.3	+0.1
ELZG	**Elazig**	**1.23**	**174**	iP	Pn	18 03 45.1	-0.1
ELZG				iS	Sb	18 04 01.3	+0.1
SCER	**sogukcermik**	**1.32**	**276**	iP	Pn	18 03 46.3	0.0
SCER				iS	Sb	18 04 03.6	0.0
SCER	**sogukcermik**	**1.32**	**276**	iP	Pn	18 03 46.3	0.0
SCER				iS	Sb	18 04 03.6	0.0
BINT	**Bingol**	**1.54**	**123**	ePn	Pn	18 03 48.8	-0.6
AKCD	**Akcadag**	**1.60**	**207**	iP	Pn	18 03 51.2	+1.0
AKCD				iS	Sn	18 04 12.5	+1.7
AKCD	**Akcadag**	**1.60**	**207**	iP	Pn	18 03 51.2	+1.1
AKCD				iS	Sn	18 04 12.5	+1.7
BNGB	**Bing¯¶‖**	**1.61**	**117**	ePN	Pn	18 03 48.8	-1.6
EZM	**Erzurum**	**1.96**	**84**	ePN	Pn	18 03 53.1	-2.1

*IDC **01** 18:06:29.4±1.3, 1°.46S×97°.20E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.0/25, mbtmp4.2/13, ML4.1/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/32, Error ellipse: s-maj=55.2km s-min=14.5km az=56.0*
*ISCJB **01** 18:06:31.2±1.7, 1°.47S±0°.04×97°.14E±0°.04, h23km±12km, mb4.2/16, MS3.4/3, Error ellipse: s-maj=7.8km s-min=5.3km az=35.0*
*DJA **01** 18:06:34, 1°.44S×97°.16E, h47km, MLv5.0/20*
*NEIC **01** 18:06:35.5±0.6, 1°.41S×97°.33E, h35km, mb4.2/6, Error ellipse: s-maj=17.1km s-min=8.8km az=63.0*
ISC 01 18:06:33.6±1.7, 1°.47S±0°.04×97°.16E±0°.04, h26km±12km, h22km±.9km: pP-P, n70, σ1§04/77, mb4.2/16, MS3.4/3, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.94**	**86**	P	Pn	18 07 05.5	+0.5
SISI				S	Sn	18 07 28.8	+0.3
MNSI	**Mandailing Nat**	**3.31**	**47**	P	Pn	18 07 24.2	+0.4
MNSI				S	Sn	18 08 02.6	+0.3
PDSI	**Padang**	**3.35**	**81**	P	Pn	18 07 24.8	+0.4
PDSI				S	Sn	18 08 03.0	-0.4
PPI	**Padang Panjang**	**3.40**	**73**	P	Pn	18 07 25.4	+0.4
PPI				S	Sn	18 08 03.7	-0.8
SBSI	**Sibolga**	**3.47**	**30**	P	Pn	18 07 28.0	+2.0
BKNI	**Bangkinang**	**4.28**	**65**	P	Pn	18 07 38.3	+1.2
SDSI	**Sungai Dareh**	**4.31**	**83**	P	Pn	18 07 38.8	+1.3
SDSI				S	Sn	18 08 27.7	+0.7
KRJI	**Kerinci**	**4.35**	**98**	P	Pn	18 07 39.1	+1.0
KRJI				S	Sn	18 08 28.4	+0.4
PSI	**Prapat**	**4.60**	**23**	P	Pn	18 07 39.2	-2.3
TPTI		**4.70**	**0**	P	Pn	18 07 38.7	-4.2
TPTI				S	Sn	18 08 30.8	-5.9
TSI	**Tuntungan**	**5.13**	**16**	P	Pn	18 07 47.7	-1.2
	0.6nm108nm,0.7s						
TSI				S	Sn	18 08 47.0	-0.4
	0.6nm108nm,0.7s						
RGRI	**Rengat**	**5.30**	**78**	P	Pn	18 07 51.2	0.0
	4.9nm140nm,0.6s						
KSI	**Kapahiang**	**5.85**	**112**	P	Pn	18 07 59.0	+0.2
	1.9nm7μm144nm,0.6s						
KSI				S	Sn	18 09 04.6	-0.4
	1.9nm7μm144nm,0.6s						
MNAI	**Manna**	**6.46**	**116**	P	Pn	18 08 06.8	-0.4
	2.7nm468nm,0.7s						
MNAI				S	Sn	18 09 16.6	-3.6
	2.7nm468nm,0.7s						
IPM	**Ipoh**	**7.06**	**33**	P	Pn	18 08 16.0	+0.5
IPM	**Ipoh**	**7.06**	**33**	eP	Pn	18 08 16.1	+0.7
	63nm,0.6s						
IPM	**Ipoh**	**7.06**	**33**	P	Pn	18 08 16.2	+0.7
	0.3nm72nm,0.6s						
KGM	**Kluang**	**7.07**	**61**	P	Pn	18 08 16.0	+0.4
BSI	**Banda Aceh**	**7.17**	**345**	P	Pn	18 08 11.4	-5.5
	0.5nm43nm,1.9s						
MYKOM	**Kota Tinggi**	**7.44**	**64**	P	Pn	18 08 21.4	+0.9
MYKOM	**Kota Tinggi**	**7.44**	**64**	P	Pn	18 08 21.0	+0.4
	0.2nm42nm,0.7s						
KULM	**Kulim**	**7.57**	**27**	P	Pn	18 08 22.6	+0.2
KULM	**Kulim**	**7.57**	**27**	eP	Pn	18 08 21.7	-0.7
	22nm,0.5s						
KULM	**Kulim**	**7.57**	**27**	P	Pn	18 08 21.8	-0.6
	0.2nm42nm,2.2s						
MDSI	**Maura Dua**	**7.63**	**113**	P	Pn	18 08 23.1	-0.1
	0.3nm652nm26nm,0.7s						
LWLI	**Liwa**	**7.74**	**117**	P	Pn	18 08 24.4	-0.4
	1.6nm5μm156nm,0.7s						
KLSI		**8.21**	**113**	P	Pn	18 08 31.1	-0.1
	52nm,0.9s						
CGJI	**Cibinong**	**9.93**	**121**	P	Pn	18 08 51.4	-3.4
	1μm32nm,0.4s						
CISI	**Cisompet, Garu**	**12.22**	**120**	P	Pn	18 09 22.3	-3.9
	37nm,0.6s						
KMMI	**Kalianget**	**17.65**	**109**	P	Pn	18 10 34.1	-3.9
	39nm,1.6s						
CM31	**Chiang Mai Arr**	**19.88**	**5**	eP	Pn	18 11 03.0	-1.9
	4.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.88**	**5**	P	Pn	18 11 02.6	-2.3
	0.2nm,0.3s,baz=198,slow=11,SNR=34						
CMAR	**Chiang Mai Arr**	**19.88**	**5**	P	Pn	18 11 02.6	-2.3
CHTO	**Chiang Mai**	**20.23**	**5**	eP	P	18 11 06.3	-0.7
	5.9nm,0.8s						
CHTO	**Chiang Mai**	**20.23**	**5**	P	P	18 11 07.0	0.0
	9.5nm,1.1s						
KKM	**Kota Kinabalu**	**20.44**	**68**	P	P	18 11 08.2	-1.2
SHL	**Shillong**	**27.36**	**350**	ex	x	18 12 20.0	
LSA	**Lhasa**	**31.52**	**350**	eP	P	18 12 54.0	+0.2
	5.6nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**32.48**	**122**	P	P	18 13 02.2	-0.1
	3.8nm,1.0s,mb4.2,baz=277,slow=5.6,SNR=5.8						
FITZ	**Fitzroy Crossi**	**32.48**	**122**	P	P	18 13 02.2	-0.1
WRA	**Warramunga Arr**	**40.72**	**119**	P	P	18 14 12.1	-0.5
	3.8nm,0.9s,mb4.0,baz=292,slow=9.1,SNR=32						
WRA	**Warramunga Arr**	**40.72**	**119**	P	P	18 14 12.1	-0.5
AS31	**Alice Springs**	**41.88**	**125**	eP	P	18 14 21.9	-0.1
ASAR	**Alice Springs**	**41.88**	**125**	P	P	18 14 21.8	-0.2
	3.4nm,0.6s,mb4.2,baz=296,slow=7.8,SNR=63						
ASAR				PcP	PcP	18 16 15.7	-2.0
	0.6nm,0.7s,baz=292,slow=2.8,SNR=4.4						
ASAR	**Alice Springs**	**41.88**	**125**	P	P	18 14 21.8	-0.2
ASAR				PcP	PcP	18 16 15.7	-2.0
KSAR	**Wonju Array Be**	**48.05**	**33**	P	P	18 15 10.9	0.0
KSRS	**Korea Array**	**48.08**	**33**	P	P	18 15 10.9	-0.3
	0.9nm,0.7s,mb3.9,baz=233,slow=7.5,SNR=3.2						
KSRS				LR	LR	18 35 21.2	
	comp=Z,24nm,20.8s,MS3.1,baz=75,slow=36						
TKM2	**Tokmak 2**	**48.27**	**339**	eP	P	18 15 14.8	+2.2
	3.5nm,0.9s,mb4.4						
TKM2				e	pP	18 15 21.2	+0.9
SONM	**Songino Array**	**49.76**	**8**	P	P	18 15 23.1	-0.8
	0.9nm,0.8s,mb3.9,baz=160,slow=4.7,SNR=5.1						
SONM	**Songino Array**	**49.76**	**8**	P	P	18 15 23.1	-0.8
MK31	**Makanchi Array**	**49.81**	**347**	eP	P	18 15 26.6	+2.4
MK31				e	pP	18 15 32.5	+0.4
MKAR	**Makanchi Array**	**49.81**	**347**	P	P	18 15 23.2	-1.1
	2.9nm,0.7s,mb4.4,baz=149,slow=8.3,SNR=16						
MKAR				LR	LR	18 37 41.9	
	comp=Z,41nm,18.3s,MS3.5,baz=350,slow=38						
MKAR	**Makanchi Array**	**49.81**	**347**	P	P	18 15 23.2	-1.1
KKAR	**Karatay Array**	**50.43**	**335**	eP	P	18 15 30.0	+1.0
	1.9nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**51.64**	**131**	P	P	18 15 37.4	-0.9
	2.2nm,0.7s,mb4.2,baz=303,slow=7.6,SNR=5.8						
STKA	**Stephens Creek**	**51.64**	**131**	P	P	18 15 37.4	-0.9
KURK	**Kurchatov**	**54.35**	**346**	P	P	18 15 57.5	-0.5
	1.4nm,0.9s,mb3.9,baz=167,slow=7.4,SNR=11						
KURK	**Kurchatov**	**54.35**	**346**	P	P	18 15 57.5	-0.5
ZAA0	**Zalesovo Array**	**56.17**	**351**	eP	P	18 16 13.5	+2.4
ZAA0				e	pP	18 16 19.4	+0.4
ZALV	**Zalesovo Beam**	**56.17**	**351**	P	P	18 16 09.3	-1.7
	4.6nm,0.5s,mb4.7,baz=172,slow=7.0,SNR=8.5						
ZALV	**Zalesovo Beam**	**56.17**	**351**	P	P	18 16 09.3	-1.7
BVAR	**Borovoye Array**	**58.75**	**341**	P	P	18 16 29.5	+0.3
	0.9nm,0.8s,mb3.9,baz=149,slow=6.6,SNR=6.5						
BVAR	**Borovoye Array**	**58.75**	**341**	P	P	18 16 29.5	+0.3
ABKAR	**Akbulak array**	**59.84**	**333**	eP	P	18 16 37.0	+0.1
	2.9nm,0.8s,mb4.4						
ABKAR				e	pP	18 16 44.2	-0.7
AKTO	**Aktyubinsk**	**61.56**	**333**	LR	LR	18 49 26.6	
	comp=Z,44nm,19.4s,MS3.6,baz=28,slow=42						
FINES	**FINESS Array B**	**82.33**	**333**	P	P	18 18 53.9	+1.0
	3.0nm,1.0s,mb4.2,baz=167,slow=3.3,SNR=4.6						
FINES	**FINESS Array B**	**82.33**	**333**	P	P	18 18 53.9	+1.0
ARCES	**ARCESS Array B**	**85.02**	**340**	P	P	18 19 07.8	+1.3
	3.1nm,0.9s,mb4.4,baz=88,slow=3.1,SNR=1.5						
ARCES	**ARCESS Array B**	**85.02**	**340**	P	P	18 19 07.8	+1.3
COLD	**Coldfoot**	**99.98**	**21**	P	Pdif	18 20 17.6	+1.2

*ISCJB **01** 18:38:04.6±0.3, 32°.05N±0°.03×49°.64E±0°.04, h10km, Error ellipse: s-maj=5.8km s-min=3.0km az=139.8*
*CSEM **01** 18:38:05.3±0.3, 32°.06N×49°.56E, h5km, ML3.1, Error ellipse: s-maj=13.6km s-min=6.0km az=122.0*
*TEH **01** 18:38:05.2, 32°.06N×49°.59E, h2km*
*KISR **01** 18:38:05.8±0.8, 31°.98N×49°.77E, h44km±935km, ML3.0*
*SGS **01** 18:38:07.1, 32°.07N×49°.34E, h16km*
ISC 01 18:38:05.7±0.3, 32°.06N±0°.03×49°.64E±0°.03, h10km, n35, σ0§98/49, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.71**	**274**	ePg	Pg	18 38 17.6	-1.9
IPIR	**Pirpir**	**1.23**	**59**	ePg	Pg	18 38 27.7	-1.6
IPIR				eSg	Sg	18 38 45.5	+0.2
IPIR				e		18 38 47.9	
	comp=Z,5μm,0.2s						
IKLH	**Kolahrood**	**2.06**	**52**	ePn	Pn	18 38 41.5	+1.1
IKLH				eSg	Sg	18 39 11.1	-0.8
IKLH				e		18 39 19.2	
	comp=Z,3μm,0.2s						
IGAR	**Gharneh**	**2.06**	**80**	ePn	Pn	18 38 41.4	+1.0
IGAR				eSg	Sg	18 39 11.1	-1.0
IGAR				e		18 39 14.1	
	comp=Z,4μm,0.1s						
IZEF	**Zefreh**	**2.42**	**69**	ePn	Pn	18 38 46.1	+0.8
IZEF				eSg	Sg	18 39 21.2	-2.3
IZEF				e		18 39 30.4	
	comp=Z,877nm,0.2s						
ASAO	**Ashtian**	**2.50**	**7**	ePn	Pn	18 38 47.6	+1.2
NASN	**Na'in**	**2.78**	**74**	ePn	Pn	18 38 51.0	+0.7
NASN				eSg	Sg	18 39 32.2	-2.8
GHVR	**GHOM**	**2.78**	**29**	ePn	Pn	18 38 51.3	+1.0
MIB	**Mutribah**	**3.00**	**222**	eP	Pn	18 38 53.5	+0.2
MIB	**Mutribah**	**3.00**	**222**	eP	Pn	18 38 53.5	+0.2
UMR	**Umm Al-Rimmam**	**3.00**	**214**	eP	Pn	18 38 53.5	+0.2
UMR				eS	Sn	18 39 29.2	-0.2
UMR				AML	AML	18 39 33.6	
	comp=Z,45nm,0.4s						
UMR	**Umm Al-Rimmam**	**3.00**	**214**	eP	Pn	18 38 53.5	+0.2
UMR				eS	Sn	18 39 29.2	-0.1
KBD	**Kabd**	**3.33**	**211**	eP	Pn	18 38 58.0	+0.1
KBD				eS	Sn	18 39 36.8	-0.7
KBD				AML	AML	18 39 42.0	
	comp=Z,35nm,0.4s						
KBD	**Kabd**	**3.33**	**211**	eP	Pn	18 38 58.0	+0.1
KBD				eS	Sn	18 39 36.8	-0.7
IGHG	**Ghaleghazi**	**3.43**	**312**	ePn	Pn	18 38 59.0	-0.2
IGHG				e		18 40 23.2	
	comp=Z,630nm,0.5s						
ISAD	**Sadrabad**	**3.44**	**91**	ePn	Pn	18 39 00.3	+0.9
ISAD				e		18 40 03.7	
	comp=Z,784nm,0.2s						
NAY	**Al-Naaiem**	**3.48**	**217**	eP	Pn	18 39 00.2	+0.3
NAY				eS	Sn	18 39 41.6	+0.3
NAY				AML	AML	18 39 46.2	
	comp=Z,21nm,0.5s						
NAY	**Al-Naaiem**	**3.48**	**217**	eP	Pn	18 39 00.2	+0.2
NAY				eS	Sn	18 39 41.6	+0.3
RDF	**Al-Radifah**	**3.61**	**211**	eP	Pn	18 39 02.5	+0.8
RDF				eS	Sn	18 39 44.3	-0.1
RDF				AML	AML	18 39 46.9	
	comp=Z,48nm,0.4s						
RDF	**Al-Radifah**	**3.61**	**211**	eP	Pn	18 39 02.5	+0.8
RDF				eS	Sn	18 39 44.3	-0.1
ILIN	**Lien**	**3.62**	**323**	ePn	Pn	18 39 01.4	-0.5
ILIN				e		18 39 47.7	
	comp=Z,450nm,0.2s						
QRN	**Al-Qurain**	**3.63**	**205**	eP	Pn	18 39 01.8	-0.1
IPAR	**Pars**	**3.67**	**126**	ePn	Pn	18 39 03.3	+0.8
IPAR				e		18 40 20.1	
	comp=Z,435nm,0.4s						
IDHR	**Dehrash**	**3.79**	**315**	ePn	Pn	18 39 03.7	-0.4
IDHR				e		18 39 52.4	
	comp=Z,578nm,0.1s						
ISRV	**Sarvestan**	**4.01**	**131**	ePn	Pn	18 39 08.3	+1.1
ISRV				e		18 40 02.0	
	comp=Z,511nm,0.1s						
CHTH	**Charan**	**4.03**	**17**	ePn	Pn	18 39 08.8	+1.3
ICHK	**Chekchek**	**4.05**	**86**	ePn	Pn	18 39 08.2	+0.5
ICHK				e		18 40 20.0	
	comp=Z,302nm,0.2s						
KFJS		**4.13**	**201**	P	Pn	18 39 07.9	-1.0
KFJS		**4.13**	**201**	P	Pn	18 39 07.9	-1.0
IMEH	**Mehriz**	**4.29**	**98**	ePn	Pn	18 39 11.2	+0.1
IMEH				e		18 39 17.1	
	comp=Z,191nm,0.3s						
IBAF	**Bafgh**	**5.07**	**94**	ePn	Pn	18 39 22.2	+0.5
IBAF				e		18 39 22.5	
	comp=Z,183nm,0.2s						
BOQSS		**6.17**	**182**	S	Sn	18 40 43.0	-4.7
BOQSS		**6.17**	**182**	P	Pn	18 39 36.2	-0.8
ASYS		**6.47**	**227**	P	Pn	18 39 37.8	-3.2
ASYS		**6.47**	**227**	P	Pn	18 39 37.8	-3.2
ASYS				S	Sn	18 40 48.2	-6.7

*DDA **01** 18:39:17.1, 39°.41N×25°.89E, h7km±3km, Md2.9*
*CSEM **01** 18:39:18.1±0.2, 39°.43N×25°.85E, h2km, ML2.4/6, Error ellipse: s-maj=4.6km s-min=3.5km az=83.0*
*ISCJB **01** 18:39:18.1±0.4, 39°.44N±0°.02×25°.88E±0°.03, h4km±3km, Error ellipse: s-maj=3.6km s-min=2.7km az=174.2*
*ATH **01** 18:39:18.2, 39°.46N×25°.94E, h21km, MD3.3/7*
*THE **01** 18:39:19.0, 39°.42N×25°.86E, h8km±1km, ML2.4/6, Error ellipse: s-maj=1.6km s-min=0.5km az=163.0*
*ISK **01** 18:39:21.1, 39°.59N×25°.97E, h8km, MD3.1*
ISC 01 18:39:18.6±0.4, 39°.44N±0°.02×25°.88E±0°.03, h6km±3km, n79, σ1§06/117, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.22**	**185**	P	Pg	18 39 23.2	+0.2
SIGR				S	Sg	18 39 26.7	+0.8
SIGR	**SIGRI**	**0.22**	**185**	P	Pg	18 39 23.2	+0.2
SIGR				S	Sg	18 39 26.7	+0.8
PRK	**Paraskevi**	**0.36**	**122**	ePB	Pg	18 39 25.5	0.0
PRK	**Paraskevi**	**0.36**	**122**	P	Pg	18 39 25.6	+0.1
PRK				S	Sg	18 39 30.9	+0.7
PRK	**Paraskevi**	**0.36**	**122**	ePb	Pg	18 39 25.5	0.0
PRK				S	Sg	18 39 30.9	+0.7
BOZC	**Bozcaada**	**0.43**	**18**	iP	Pg	18 39 26.7	-0.1
BOZC				iS	Sg	18 39 32.9	+0.4
EZN	**Ezine**	**0.52**	**41**	ePG	Pg	18 39 28.2	-0.3
EZN				eSG	Sg	18 39 35.1	-0.3
EZN	**Ezine**	**0.52**	**41**	ePg	Pg	18 39 28.3	-0.3
EZN				eSg	Sg	18 39 35.1	-0.3
AYVA	**Ayvalik**	**0.64**	**101**	iP	Pg	18 39 30.1	-0.8
AYVA				iS	Sg	18 39 39.3	+0.1
AYVA	**Ayvalik**	**0.64**	**101**	iP	Pg	18 39 30.1	-0.8
AYVA				iS	Sg	18 39 39.3	+0.1
LIA	**Limnos Island**	**0.71**	**311**	ePN	Pn	18 39 32.5	-2.7
LIA	**Limnos Island**	**0.71**	**311**	P	Pg	18 39 32.6	+0.4
LIA				S	Sg	18 39 42.9	+1.5
LIA	**Limnos Island**	**0.71**	**311**	ePn	Pn	18 39 32.5	-2.7
GADA	**Gvkgeada**	**0.76**	**1**	ePG	Pg	18 39 33.8	+0.8
GADA				eSG	Sg	18 39 42.3	-0.6
GADA	**Gvkgeada**	**0.76**	**1**	ePg	Pg	18 39 33.8	+0.7
GADA				eSg	Sg	18 39 42.3	-0.6
CHOS	**Chios island**	**1.05**	**172**	ePN	Pn	18 39 38.6	-1.3
CHOS				eSN	Sn	18 39 53.5	-1.4
CHOS	**Chios island**	**1.05**	**172**	P	Pg	18 39 38.4	-0.4
CHOS				S	Sg	18 39 54.0	+1.5
CHOS	**Chios island**	**1.05**	**172**	P	Pg	18 39 38.4	-0.4
CHOS				eSn	Sn	18 39 53.0	-1.9
CHOS				S	Sg	18 39 54.0	+1.5
GELI	**Tayfur-Gelibol**	**1.06**	**25**	ePG	Pg

APE	Apeiranthos	2.38	187	ePN	Pn	18 39 58.7	+0.6
APE	Apeiranthos	2.38	187	ePn	Pn	18 39 56.7	-1.4
EDRB	Edirne	2.50	15	ePN	Pn	18 40 01.4	+1.6
EDRB	Edirne	2.50	15	ePn	Pn	18 40 01.4	+1.7
CTKS	Kestanelik-??a	2.70	47	ePN	Pn	18 40 04.5	+2.0
CTKS	Kestanelik-??a	2.70	47	ePn	Pn	18 40 04.5	+2.0
YLV	Yalova	2.91	66	ePN	Pn	18 40 07.5	+2.0
YLV	Yalova	2.91	66	ePn	Pn	18 40 07.5	+2.1

*ISCJB **01** 18:48:04.9±0.5, 38°.83N±0°.03×23°.20E±0°.04, h13km±4km, Error ellipse: s-maj=6.2km s-min=3.6km az=144.5*
*CSEM **01** 18:48:04.7±0.1, 38°.82N×23°.20E, h15km, ML1.8/3, Error ellipse: s-maj=2.6km s-min=1.7km az=147.0*
*ATH **01** 18:48:05.2, 38°.83N×23°.20E, h10km±2km, MD3.2/5*
*THE **01** 18:48:05.0, 38°.83N×23°.19E, h14km±3km, ML1.8/3, Error ellipse: s-maj=3.2km s-min=0.5km az=161.0*

ISC 01 18:48:04.8±0.4, 38°.83N±0°.03×23°.20E±0°.03, h19km±3km, n26, σ0°39/50, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATAL	Atalanti	0.19	227	P		Pg	18 48 09.6	-0.1
ATAL				S		Sg	18 48 12.6	-0.5
ATAL	Atalanti	0.19	227	P		Pg	18 48 09.6	-0.1
ATAL				S		Sg	18 48 12.6	-0.5
LKR	Lokris	0.24	222	ePG		Pg	18 48 10.3	-0.1
LKR				eSG		Sg	18 48 13.7	-0.5
LKR	Lokris	0.24	222	P		Pg	18 48 10.3	-0.1
LKR				S		Sg	18 48 13.5	-0.7
LKR	Lokris	0.24	222	P		Pg	18 48 10.3	-0.1
LKR				eSg		Sg	18 48 13.7	-0.5
MRKA	Markates	0.33	112	P		Pg	18 48 11.9	+0.1
MRKA				S		Sg	18 48 17.0	+0.4
MRKA	Markates	0.33	112	P		Pg	18 48 11.9	+0.1
MRKA				S		Sg	18 48 17.0	+0.4
SKIA	Skiathos	0.40	31	P		Pg	18 48 13.3	+0.2
SKIA				S		Sg	18 48 19.0	+0.3
SKIA	Skiathos	0.40	31	P		Pg	18 48 13.3	+0.2
SKIA				S		Sg	18 48 19.0	+0.3
AXAR	Agios Charalam	0.43	262	P		Pg	18 48 13.8	+0.2
AXAR				S		Sg	18 48 20.4	+0.8
AXAR	Agios Charalam	0.43	262	P		Pg	18 48 13.8	+0.2
AXAR				S		Sg	18 48 20.4	+0.8
NEO	Neokhori	0.48	2	ePB		Pb	18 48 14.5	-0.2
NEO				eSB		Sb	18 48 21.1	-0.2
NEO	Neokhori	0.48	2	P		Pg	18 48 14.6	0.0
NEO				S		Sg	18 48 21.2	0.0
NEO	Neokhori	0.48	2	P		Pg	18 48 14.6	0.0
NEO				eSb		Sb	18 48 21.1	-0.2
AOS	Alonnisos	0.63	57	P		Pb	18 48 16.8	-0.4
AOS				S		Sb	18 48 25.4	-0.3
AOS	Alonnisos	0.63	57	P		Pb	18 48 16.8	-0.4
AOS				Sb		Sb	18 48 25.4	-0.3
DESF	Desfina	0.67	232	P		Pb	18 48 17.5	-0.3
DESF				S		Sb	18 48 27.2	+0.5
DESF	Desfina	0.67	232	P		Pb	18 48 17.5	-0.3
DESF				S		Sb	18 48 27.2	+0.5
VIL1	Vilia, Western	0.67	171	ePG		Pg	18 48 17.7	-0.3
DSF	Desfina	0.67	232	P		Pb	18 48 17.4	-0.5
DSF				S		Sb	18 48 26.8	0.0
DSF	Desfina	0.67	232	P		Pb	18 48 17.4	-0.5
DSF				S		Sb	18 48 26.8	0.0
AGG	Agios Georgios	0.71	286	ePG		Pg	18 48 18.5	-0.2
AGG				eSB		Sb	18 48 28.6	+0.7
AGG	Agios Georgios	0.71	286	P		Pb	18 48 18.6	+0.1
AGG				S		Sb	18 48 27.6	-0.3
AGG	Agios Georgios	0.71	286	P		Pb	18 48 18.6	+0.1
AGG				S		Sb	18 48 27.6	-0.3
AGG				eSb		Sb	18 48 28.6	+0.7
VLY	Voula,Athens	1.08	154	ePB		Pb	18 48 25.7	+0.9
VLY	Voula,Athens	1.08	154	ePb		Pb	18 48 25.7	+0.9

*ISCJB **01** 19:07:53.5±0.4, 36°.57N±0°.03×26°.89E±0°.03, h142km±5km, Error ellipse: s-maj=5.2km s-min=3.4km az=163.7*
*ISK **01** 19:07:53.9, 36°.08N×26°.92E, h18km, MD3.4*
*ATH **01** 19:07:53.6, 36°.61N×26°.88E, h144km±2km*
*CSEM **01** 19:07:54.2±0.1, 36°.58N×26°.91E, h140km±2km, MD3.4, Error ellipse: s-maj=2.9km s-min=2.1km az=174.0*
*DDA **01** 19:07:55.8, 36°.71N×26°.70E, h8km±6km, Md3.2*
*THE **01** 19:07:57.7, 36°.58N×26°.79E, h140km±8km, ML3.0/4, Error ellipse: s-maj=8.8km s-min=1.5km az=138.0*
*HLW **01** 19:07:59.2, 36°.35N×27°.06E, h33km±17km, Md3.7, Ml3.1*

ISC 01 19:07:54.4±0.4, 36°.57N±0°.03×26°.88E±0°.03, h139km±5km, n104, σ0°85/145, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.60	35	ePG		Pn	19 08 14.3	-0.6
BODT				eSG		Sn	19 08 29.2	-1.4
BODT	Bodrum	0.60	35	ePg		Pn	19 08 14.3	-0.6
MLSB	Milas	1.02	45	ePN		Pn	19 08 18.9	+0.7
MLSB				eSN		Sn	19 08 36.7	+0.4
MLSB	Milas	1.02	45	ePn		Pn	19 08 18.9	+0.7
MLSB				eSn		Sn	19 08 36.7	+0.4
KARP	Karpathos	1.05	167	eP		Pn	19 08 19.3	+0.8
KARP	Karpathos	1.05	167	P		Pn	19 08 19.3	+0.8
KARP				S		Sn	19 08 37.2	+0.4
KARP	Karpathos	1.05	167	P		Pn	19 08 19.3	+0.8
KARP				S		Sn	19 08 37.2	+0.4
ARG	Arkhangelos	1.07	109	eP		Pn	19 08 19.6	+1.0
ARG				eS		Sn	19 08 37.9	+0.8
ARG	Arkhangelos	1.07	109	P		Pn	19 08 19.7	+1.1
ARG				S		Sn	19 08 37.9	+0.8
ARG	Arkhangelos	1.07	109	P		Pn	19 08 19.7	+1.1
ARG				S		Sn	19 08 37.9	+0.8
SMG	Samos	1.14	358	eP		Pn	19 08 19.3	0.0
SMG	Samos	1.14	358	eP		Pn	19 08 19.3	0.0
THR1	Thera Island	1.16	260	P		Pn	19 08 20.3	+0.8
THR1	Thera Island	1.16	260	P		Pn	19 08 20.3	+0.8
THR2	Thira island,	1.17	264	P		Pn	19 08 20.4	+0.8
THR2	Thira island,	1.17	264	P		Pn	19 08 20.4	+0.8
APE	Apeiranthos	1.19	295	ePN		Pn	19 08 20.5	+0.7
APE	Apeiranthos	1.19	295	eP		Pn	19 08 20.5	+0.7
APE	Apeiranthos	1.19	295	P		Pn	19 08 20.4	+0.6
APE	Apeiranthos	1.19	295	P		Pn	19 08 20.4	+0.6
THR3	Thira Island,	1.20	263	P		Pn	19 08 20.6	+0.7
THR3	Thira Island,	1.20	263	P		Pn	19 08 20.6	+0.7
YER	Yerkesik	1.26	63	ePN		Pn	19 08 21.6	+1.1
YER	Yerkesik	1.26	63	ePn		Pn	19 08 21.6	+1.1
AYDN	Tasoluk	1.35	36	iP		Pn	19 08 22.0	+0.6
AYDN				iS		Sn	19 08 41.0	-1.1
AYDN	Tasoluk	1.35	36	iP		Pn	19 08 22.0	+0.6
AYDN				iS		Sn	19 08 41.0	-1.1
TURN	Turunc	1.42	77	iP		Pn	19 08 19.5	-2.6
TURN				iS		Sn	19 08 37.4	-6.0
TURN	Turunc	1.42	77	iP		Pn	19 08 19.5	-2.6
NPS	Neapolis	1.66	219	eP		Pn	19 08 25.4	+0.5
NPS				eS		Sn	19 08 48.0	-0.2
NPS	Neapolis	1.66	219	P		Pn	19 08 25.4	+0.5
NPS				S		Sn	19 08 47.0	-1.2
NPS	Neapolis	1.66	219	P		Pn	19 08 25.4	+0.5
NPS				eS		Sn	19 08 47.6	-0.6
CHOS	Chios island	1.93	340	P		Pn	19 08 28.1	+0.2
CHOS	Chios island	1.93	340	P		Pn	19 08 28.1	+0.2
DNZL	Cakiroluk	2.06	57	iP		Pn	19 08 29.8	+0.4
DNZL				iS		Sn	19 08 56.3	-0.1
DNZL	Cakiroluk	2.06	57	iP		Pn	19 08 29.8	+0.3
DNZL				iS		Sn	19 08 56.3	-0.1
IDI	Anoyia	2.06	232	eP		Pn	19 08 30.0	+0.5
IDI	Anoyia	2.06	232	P		Pn	19 08 29.7	+0.2
IDI				S		Sn	19 08 55.0	-1.5
IDI	Anoyia	2.06	232	eP		Pn	19 08 29.8	+0.3
IDI				S		Sn	19 08 55.0	-1.5
GLHS	Glhisar (BURDU	2.18	74	ePN		Pn	19 08 31.7	+0.8
GLHS	Glhisar (BURDU	2.18	74	ePn		Pn	19 08 31.7	+0.8
KSL	Kastellorizon	2.22	100	eP		Pn	19 08 31.9	+0.4
KSL	Kastellorizon	2.22	100	eP		Pn	19 08 31.9	+0.4
GOLH	Golhisar	2.25	72	iP		Pn	19 08 31.8	+0.1
GOLH				iS		Sn	19 08 59.4	-1.1
GOLH	Golhisar	2.25	72	iP		Pn	19 08 31.8	0.0
GOLH				iS		Sn	19 08 59.4	-1.1
SIVA	Sivas	2.29	228	eP		Pn	19 08 33.5	+1.2
SIVA				eS		Sn	19 09 02.3	+0.9
SIVA	Sivas	2.29	228	P		Pn	19 08 33.5	+1.2
SIVA				S		Sn	19 09 02.1	+0.7
SIVA	Sivas	2.29	228	P		Pn	19 08 33.5	+1.2
SIVA				eS		Sn	19 09 02.3	+0.9
ELL	Elmali	2.44	85	ePN		Pn	19 08 35.0	+0.9
ELL	Elmali	2.44	85	ePn		Pn	19 08 35.0	+0.9
VAM	Vamos	2.47	243	eP		Pn	19 08 35.2	+0.7
VAM	Vamos	2.47	243	P		Pn	19 08 35.1	+0.6
VAM				S		Sn	19 09 03.9	-1.4
VAM	Vamos	2.47	243	P		Pn	19 08 35.1	+0.6
VAM				S		Sn	19 09 03.9	-1.4
PRK	Paraskevi	2.71	350	eP		Pn	19 08 37.6	+0.1
PRK	Paraskevi	2.71	350	eP		Pn	19 08 37.6	+0.1
KHAL	Karahalli	2.75	48	iP		Pn	19 08 38.5	+0.5
KHAL				iS		Sn	19 09 10.0	-1.6
KHAL	Karahalli	2.75	48	iP		Pn	19 08 38.5	+0.5
KHAL				iS		Sn	19 09 10.0	-1.6
KORT	Korkueli	2.82	80	iP		Pn	19 08 39.7	+0.8
KORT				iS		Sn	19 09 13.0	-0.2
KORT	Korkueli	2.82	80	iP		Pn	19 08 39.7	+0.8
KORT				iS		Sn	19 09 13.0	-0.3
DID	Didima	3.06	289	eP		Pn	19 08 42.4	+0.4
DID	Didima	3.06	289	eP		Pn	19 08 42.4	+0.4
KYTH	Kithira	3.11	266	eP		Pn	19 08 43.2	+0.5
KYTH	Kithira	3.11	266	P		Pn	19 08 43.3	+0.6
KYTH	Kithira	3.11	266	eP		Pn	19 08 43.0	+0.3
VLI	Veliai	3.17	274	eP		Pn	19 08 43.8	+0.3
VLI	Veliai	3.17	274	P		Pn	19 08 43.5	0.0
VLI				S		Sn	19 09 19.0	-2.5
VLI	Veliai	3.17	274	eP		Pn	19 08 43.8	+0.3
VLI				S		Sn	19 09 19.0	-2.5
GUR	Goura	3.87	292	eP		Pn	19 08 53.4	+0.9
GUR	Goura	3.87	292	eP		Pn	19 08 53.4	+0.9
ITM	Ithomi	4.02	280	eP		Pn	19 08 55.7	+1.2
ITM	Ithomi	4.02	280	P		Pn	19 08 55.9	+1.4
ITM				S		Sn	19 09 40.2	-1.0
ITM	Ithomi	4.02	280	P		Pn	19 08 55.9	+1.4
ITM				S		Sn	19 09 40.2	-1.0
PYL	PYLOS	4.14	276	eP		Pn	19 08 56.5	+0.4
PYL	PYLOS	4.14	276	P		Pn	19 08 56.0	-0.1
PYL				S		Sn	19 09 41.9	-2.2
PYL	PYLOS	4.14	276	eP		Pn	19 08 56.5	+0.4
PYL				S		Sn	19 09 41.9	-2.2
GAZI	Gazipasa	4.40	93	iP		Pn	19 08 59.6	0.0
GAZI				iS		Sn	19 09 45.6	-4.6
GAZI	Gazipasa	4.40	93	iP		Pn	19 08 59.6	+0.1
GAZI				iS		Sn	19 09 45.6	-4.6
SLUM		5.25	196	P		Pn	19 09 11.5	+0.5
SLUM	baz=199							
SLUM		5.25	196	P		Pn	19 09 11.5	+0.5
HMAT	Matruh	5.47	178	P		Pn	19 09 13.9	0.0
HMAT	baz=179							
HMAT				AMP			19 10 00.0	
HMAT	comp=N,30μm,0.6s,logA/T=4.7,baz=179							
HMAT				S		Sn	19 10 10.5	-5.3
HMAT	baz=179							
HMAT	Matruh	5.47	178	P		Pn	19 09 13.9	+0.1
SWA2		7.41	190	P		Pn	19 09 40.1	+0.3
SWA2	baz=192							
SWA2				S		Sn	19 10 56.5	-6.0
SWA2	baz=192							
SWA2		7.41	190	P		Pn	19 09 40.1	+0.3
KOT	Kottamia	7.81	147	P		Pn	19 09 45.0	-0.3
KOT	baz=146							
KOT	Kottamia	7.81	147	P		Pn	19 09 45.0	-0.3
HHAG	Hagoal	7.92	145	P		Pn	19 09 45.7	-1.0
HHAG	baz=145							
HHAG	Hagoal	7.92	145	P		Pn	19 09 45.7	-1.0
AMAG	Maghara	7.92	136	P		Pn	19 09 46.3	-0.4
AMAG	baz=136							
AMAG	Maghara	7.92	136	P		Pn	19 09 46.3	-0.5
HRSH	Kfar Ka'horesh	7.93	117	P		Pn	19 09 46.8	0.0
HRSH	baz=132							
HSAF	As Saff	7.96	149	P		Pn	19 09 47.2	-0.1
HSAF	baz=149							
HSAF	As Saff	7.96	149	P		Pn	19 09 47.2	-0.1
RSH		7.98	133	P		Pn	19 09 46.8	-0.8
GLL	Jalalah	8.06	148	P		Pn	19 09 48.2	-0.5
GLL	baz=148							
GLL	Jalalah	8.06	148	P		Pn	19 09 48.2	-0.5
SUZ		8.36	142	P		Pn	19 09 52.1	-0.5
SUZ	baz=141							
SUZ		8.36	142	P		Pn	19 09 52.1	-0.5
AWBH		8.40	168	P		Pn	19 09 52.8	-0.4
AWBH	baz=168							
AWBH		8.40	168	P		Pn	19 09 52.8	-0.4
HNKL	Nakhl	8.90	136	P		Pn	19 09 59.3	-0.5
HNKL	baz=135							
HNKL				S		Sn	19 11 30.7	-7.7
HNKL	baz=135							
HNKL	Nakhl	8.90	136	P		Pn	19 09 59.3	-0.5
HFRF	Wahat Farafira	9.47	172	P		Pn	19 10 07.1	-0.4
HFRF	baz=173							
HFRF				S		Sn	19 11 44.6	-7.8
HFRF	baz=173							
HFRF	Wahat Farafira	9.47	172	P		Pn	19 10 07.1	-0.4
HKAT	Jabal Katrina	10.02	141	P		Pn	19 10 14.5	-0.3
HKAT	baz=141							
HKAT	Jabal Katrina	10.02	141	P		Pn	19 10 14.5	-0.3

*ISCJB **01** 19:35:28.1±0.6, 39°.44N±0°.02×25°.92E±0°.06, h3km±5km, Error ellipse: s-maj=7.8km s-min=3.4km az=6.4*
*THE **01** 19:35:28.9, 39°.41N×25°.90E, h6km±3km, ML2.1/3, Error ellipse: s-maj=3.8km s-min=0.9km az=324.0*
*CSEM **01** 19:35:28.4±0.2, 39°.43N×25°.91E, h2km, ML2.1/3, Error ellipse: s-maj=5.0km s-min=2.3km az=94.0*
*DDA **01** 19:35:28.2, 39°.44N×25°.95E, h7km±2km, Md2.6*
*ISK **01** 19:35:30.3, 39°.56N×25°.94E, h9km, MD2.7*

ISC 01 19:35:28.5±0.6, 39°.43N±0°.02×25°.93E±0°.06, h2km±6km, n35, σ0°74/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.23	194	P		Pg	19 35 32.8	0.0
SIGR				S		Sg	19 35 36.3	+0.5
SIGR	SIGRI	0.23	194	P		Pg	19 35 32.8	0.0
SIGR				S		Sg	19 35 36.3	+0.5
PRK	Paraskevi	0.33	125	P		Pg	19 35 35.1	+0.4
PRK				S		Sg	19 35 40.3	+1.4
PRK	Paraskevi	0.33	125	P		Pg	19 35 35.1	+0.4
PRK				S		Sg	19 35 40.3	+1.4
BOZC	Bozcaada	0.42	13	iP		Pg	19 35 36.1	-0.5
BOZC				iS		Sg	19 35 42.7	+0.6
EZN	Ezine	0.50	38	ePG		Pg	19 35 38.7	+0.6
EZN				eSG		Sg	19 35 45.0	+0.4
EZN	Ezine	0.50	38	ePg		Pg	19 35 38.7	+0.6
EZN				eSg		Sg	19 35 45.0	+0.4
GADA	Gvkgeada	0.76	358	ePG		Pg	19 35 43.3	+0.2
GADA				eSG		Sg	19 35 52.3	-0.6
GADA	Gvkgeada	0.76	358	ePg		Pg	19 35 43.3	+0.2
GADA				eSg		Sg	19 35 52.3	-0.6
CHOS	Chios island	1.05	174	P		Pg	19 35 48.5	-0.1
CHOS				S		Sg	19 36 02.9	+0.8
CHOS	Chios island	1.05	174	P		Pg	19 35 48.5	-0.1
CHOS				S		Sg	19 36 02.9	+0.8
GELI	Tayfur-Gelibol	1.05	23	ePG		Pg	19 35 48.8	+0.1
GELI				eSG		Sg	19 36 02.4	0.0
GELI	Tayfur-Gelibol	1.05	23	ePg		Pg	19 35 48.8	+0.1
GELI				eSg		Sg	19 36 02.4	0.0
LPK	Lapseki	1.14	34	ePG		Pg	19 35 50.3	-0.1
LPK				eSG		Sg	19 36 04.8	-0.3
LPK	Lapseki	1.14	34	ePg		Pg	19 35 50.3	0.0
LPK				eSg		Sg	19 36 04.8	-0.3
URLA	Izmir	1.19	154	iP		Pg	19 35 48.9	-2.4
URLA				iS		Sg	19 36 05.5	-1.2
URLA	Izmir	1.19	154	iP		Pg	19 35 48.9	-2.4
URLA				iS		Sg	19 36 05.5	-1.2
ENEZ	Enez	1.31	8	ePN		Pn	19 35 53.2	-0.7
ENEZ	Enez	1.31	8	ePn		Pn	19 35 53.2	-0.7
ERIK	Erikli-Kesan	1.32	20	ePN		Pn	19 35 53.6	-0.4
ERIK	Erikli-Kesan	1.32	20	ePn		Pn	19 35 53.6	-0.3
BALY	Balya	1.34	76	iP		Pn	19 35 53.2	-1.1
BALY				iS		Sg	19 36 10.7	-1.0
BALY	Balya	1.34	76	iP		Pn	19 35 53.2	-1.1
BALY				iS		Sg	19 36 10.7	-1.0
KRBG	Karabiga-Canak	1.43	47	ePN		Pn	19 35 55.0	-0.4
KRBG	Karabiga-Canak	1.43	47	ePn		Pn	19 35 55.0	-0.4
GONE	Gonen-Balikesi	1.49	65	ePN		Pn	19 35 57.1	+0.8
GONE	Gonen-Balikesi	1.49	65	ePn		Pn	19 35 57.1	+0.8
RKY	Sarkoy-Tekirda	1.58	37	ePN		Pn	19 35 58.1	+0.5
RKY	Sarkoy-Tekirda	1.58	37	ePn		Pn	19 35 58.1	+0.6
MFT	Murefte	1.71	37	ePN		Pn	19 35 59.6	+0.4
MFT	Murefte	1.71	37	ePn		Pn	19 35 59.6	+0.3
MRMT	Marmara Adasi	1.74	47	ePN		Pn	19 36 00.0	+0.3
MRMT	Marmara Adasi	1.74	47	ePn		Pn	19 36 00.0	+0.3
EDC	Edincik	1.75	58	ePN		Pn	19 36 00.8	+0.9
EDC	Edincik	1.75	58	ePn		Pn	19 36 00.8	+0.9

*ISCJB **01** 19:41:31.2±0.7, 38°.72N±0°.05×122°.92W±0°.10, h10km, Error ellipse: s-maj=12.1km s-min=5.6km az=153.9*
*IDC **01** 19:41:31.1±3.5, 38°.85N×123°.01W, h0km, mb1 3.8/3, mb1mx3.5/24, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=46.0km s-min=27.4km az=23.0*
*NEIC **01** 19:41:31.8, 38°.82N×122°.81W, h4km, ML3.3(NCEDC), After NCEDC.*
NEIC Felt at Calistoga, Glen Ellen and Saint Helena.

ISC 01 19:41:32.3±0.9, 38°.75N±0°.05×122°.9W±0°.1, h12km±9km, n20, σ1°04/23, Northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOPS	Hopland	0.28	332	ePg		Pg	19 41 37.1	-0.9
MCCM	Marconi Confer	0.60	178	ePn		Pg	19 41 45.5	+1.5
KCPM	Cahto Peak	1.07	331	ePn		Pn	19 41 52.7	-0.4
KIPM	Iron Peak	1.15	337	ePn		Pn	19 41 54.5	+0.4
SAC	San Andreas	1.23	162	ePn		Pn	19 41 54.3	-0.8
WDC	Whiskeytown Da	1.85	9	ePn		Pn	19 42 04.3	+0.6
CMB	Columbia Colle	2.10	109	ePn		Pn	19 42 06.1	-1.1
KHMM	Horse Mountain	2.22	344	ePg		Pg	19 42 15.8	+1.0
SAO	San Andreas Ge	2.29	149	ePn		Pn	19 42 08.7	-1.1
WCN	Washoe City	2.52	76	ePn		Pn	19 42 13.2	+0.3
YBH	Yreka Blue Hor	2.98	3	ePn		Pn	19 42 18.2	-1.1
NVAR	Mina Array Bea	3.62	94	Pn		Pn	19 42 28.6	+0.5
	0.7nm,0.3s,baz=271,slow=15,SNR=12							
NVAR				Pg		Pg	19 42 36.0	-5.6
	4.5nm,0.3s,baz=276,slow=16,SNR=41							
NVAR				Lg			19 43 26.8	
	1.4nm,0.3s,baz=278,slow=34,SNR=2.4							
NVAR	Mina Array Bea	3.62	94	Pn		Pn	19 42 28.6	+0.5
NVAR				Pg		Pg	19 42 36.0	-5.6
NVAR				Lg			19 43 26.8	
MOD	Modoc	3.73	31	ePn		Pn	19 42 30.1	+0.6
HUMO	Hull Mountain	3.86	359	ePn		Pn	19 42 32.9	+1.6
HUMO				ePg		Pg	19 42 44.8	-1.3
ISA	Isabella	4.69	130	ePn		Pn	19 42 42.2	-0.5
PDAR	Pinedale Array	10.89	64	Pn		Pn	19 44 12.3	+4.5
	0.1nm,0.3s,baz=248,slow=15,SNR=6.7							
PDAR	Pinedale Array	10.89	64	Pn		Pn	19 44 12.3	+4.5
TXAR	Lajitas Array	18.47	115	P		Pn	19 45 51.2	+3.1
	0.0nm,0.3s,baz=287,slow=9.0,SNR=5.7							
TXAR	Lajitas Array	18.47	115	P		Pn	19 45 51.2	+3.1

IDC 01 20:01:48.7±4.3, 29°.13S×74°.84E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=123.3km s-min=35.9km az=47.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	52.72	29	P		P	20 11 05.6	+0.3
	0.5nm,0.5s,baz=207,slow=7.7,SNR=5.3							
ASAR	Alice Springs	52.73	99	P		P	20 11 05.2	-0.2
	1.0nm,0.9s,baz=255,slow=6.4,SNR=7.5							
WRA	Warramunga Arr	54.42	95	P		P	20 11 18.0	0.0
	2.2nm,0.9s,baz=252,slow=6.9,SNR=14							
BVAR	Borovoye Array	81.89	357	P		P	20 14 09.5	0.0
	0.3nm,0.5s,baz=208,slow=2.5,SNR=2.6							

*TRN **01** 20:05:44.7, 18°.52N×64°.64W, h35km, MD2.9(RSPR)*

RSPR 01 20:05:45.6, 18°.87N×64°.73W, h17km±4km, 4C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.46	167	⇑eP		Pg	20 05 54.2	-0.8
TBVI				eS		Sg	20 06 01.1	-0.2
TBVI	Tortola	0.46	167	⇑eP		Pg	20 05 54.2	-0.8
TBVI				eS		Sg	20 06 01.1	-0.2
STVI	Saint Thomas	0.56	202	⇓eP		Pg	20 05 55.9	-0.8
STVI	Saint Thomas	0.56	202	⇓eP		Pg	20 05 55.9	-0.8
STVI				eS		Sg	20 06 04.0	-0.2
MTP	Monte Pirata	1.10	226	⇑eP		Pb	20 06 03.5	-2.7
MTP	Monte Pirata	1.10	226	⇑eP		Pb	20 06 03.5	-2.7
MTP				eS		Sb	20 06 17.3	-2.9

*ISCJB **01** 20:06:51.2±0.2, 43°.77N±0°.01×105°.28W±0°.02, h0km, mb4.0/4, Error ellipse: s-maj=2.2km s-min=1.8km az=3.7*
*NEIC **01** 20:06:51.8±0.4, 43°.79N×105°.22W, h0km, ML3.4, Error ellipse: s-maj=5.4km s-min=4.5km az=145.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **01** 20:06:52.8±0.8, 44°.10N×105°.69W, h0km, mb3.9/4, mb1 3.9/8, mb1mx3.7/26, mbtmp3.7/8, ML3.5/4, Error ellipse: s-maj=23.8km s-min=7.3km az=145.0*

ISC 01 20:06:52.2±0.2, 43°.76N±0°.01×105°.28W±0°.02, h0km, n149, σ0°90/176, mb4.0/4, 48C-50D, Wyoming

| Code |

baz=1.9
G21A Lodge Grass 2.01 317 ⇓P Pn 20 07 27.4 0.0
baz=2.0,SNR=119
G21A ⇑Sb Sb 20 07 56.2 +1.0
baz=2.0
I20A Worland 2.07 276 ⇓P Pn 20 07 28.1 -0.1
baz=2.0,SNR=55
I20A ⇓Sb Sb 20 07 56.6 -0.3
baz=2.0
J20A Shoshoni 2.08 260 ⇓Pb Pb 20 07 29.6 -1.1
baz=2.1,SNR=136
J20A ⇓Sb Sb 20 07 58.1 +0.9
baz=2.1
H20A Greybull 2.09 291 ⇑P Pn 20 07 27.9 -0.5
baz=2.1,SNR=30
H20A ⇓S Sn 20 07 55.1 0.0
baz=2.1
F22A Rosebud 2.14 341 ⇓P Pn 20 07 28.6 -0.5
baz=2.1,SNR=133
F22A ⇑Sb Sb 20 07 59.9 +1.2
baz=2.1
F24A Ekalaka 2.17 16 ⇑P Pn 20 07 30.1 +0.7
baz=2.2,SNR=36
F24A ⇑Sb Sb 20 08 01.1 +1.4
baz=2.2
M23A Laramie 2.31 188 ⇑P Pn 20 07 31.3 -0.2
baz=2.3
M23A ⇑Sb Sb 20 08 04.3 +0.4
baz=2.3
M24A Cheyenne 2.32 172 ⇑Pb Pb 20 07 33.7 -1.1
baz=2.3
M24A ⇓Sb Sb 20 08 04.7 +0.8
baz=2.3
L21A Rawlins 2.37 221 ⇑P Pn 20 07 32.4 +0.2
baz=2.3,SNR=38
F21A Absaloka Mine, 2.45 328 ⇓P Pn 20 07 32.5 -0.8
baz=2.4,SNR=18
K27A Flueckinger Fa 2.46 114 ⇓P Pn 20 07 34.1 +0.6
baz=2.5,SNR=20
PHWY Pilot Hill 2.46 183 *e*P Pn 20 07 33.4 -0.1
M25A Palm-Egli Farm 2.49 158 ⇑P Pn 20 07 34.9 +0.9
baz=2.5
K20A Yellowstone Ra 2.50 245 ⇓P Pn 20 07 34.6 +0.6
baz=2.5,SNR=38
RWWY Rawlins 2.51 215 *e*P Pn 20 07 35.3 +1.1
M22A Cedar Creek Ra 2.55 203 ⇓P Pn 20 07 35.9 +1.1
baz=2.5,SNR=32
G20A Bridger 2.56 306 P Pn 20 07 34.4 -0.5
baz=2.5,SNR=230
M21A Separation Pea 2.65 216 ⇑P Pn 20 07 37.2 +1.2
baz=2.6,SNR=63
I19A Meeteetse 2.70 277 P Pn 20 07 37.8 +0.9
baz=2.7,SNR=28
E22A Miles City 2.72 350 ⇓P Pn 20 07 36.5 -0.6
baz=2.7,SNR=8.0
E23A Ismay 2.74 360 ⇓P Pn 20 07 37.0 -0.3
baz=2.8,SNR=29
K19A Absolon Red Bu 2.77 251 ⇑P Pn 20 07 38.3 +0.6
baz=2.7,SNR=219
K19A ⇓Sb Sb 20 08 16.5 -0.5
baz=2.7
J19A Crowheart 2.79 261 ⇑P Pn 20 07 39.3 +1.2
baz=2.8,SNR=22
J19A ⇓Sb Sb 20 08 18.0 +0.3
baz=2.8
H19A Powell 2.82 290 ⇑P Pn 20 07 38.7 +0.2
baz=2.8,SNR=24
L20A Wamsutter 2.85 233 ⇓P Pn 20 07 40.9 +2.0
baz=2.8
L20A ⇑Sb Sb 20 08 19.7 +0.3
baz=2.8
E24A Baker 2.88 13 ⇑P Pn 20 07 39.7 +0.4
baz=2.9,SNR=40
F20A Billings 2.89 316 ⇓P Pn 20 07 38.8 -0.6
baz=2.9,SNR=36
LAO LASA Array 3.00 347 ⇑P Pn 20 07 40.8 -0.2
baz=3.0
LAO LASA Array 3.00 347 *e*P Pn 20 07 40.2 -0.8
E21A Keefer Ranch, 3.06 336 ⇓P Pn 20 07 41.0 -0.7
baz=3.1
N22A Wattenberg Ran 3.08 197 ⇓Pb Pb 20 07 46.4 -1.5
baz=3.1,SNR=9.5
N22A ⇓Sb Sb 20 08 27.3 +1.3
baz=3.1
M20A Sweetwater, Wa 3.12 224 ⇑Pb Pb 20 07 47.4 -1.1
baz=3.1
RLMT Red Lodge 3.17 297 ⇑P Pn 20 07 41.9 -1.3
baz=3.1,SNR=7.1
RLMT Red Lodge 3.17 297 *e*P Pn 20 07 41.6 -1.6
BW06 Boulder Array 3.28 254 *e*P Pn 20 07 45.3 +0.5
PDAR Pinedale Array 3.28 254 Pn Pn 20 07 45.7 +0.9
5.1nm,0.3s,baz=65,slow=17,SNR=54
PDAR Pg Pg 20 07 53.5 -1.6
14nm,0.3s,baz=62,slow=19,SNR=34
PDAR Lg 20 08 30.6
12nm,0.3s,baz=70,slow=31,SNR=9.4
PDAR Pinedale Array 3.28 254 Pn Pn 20 07 45.7 +0.9
PDAR Pg Pg 20 07 53.5 -1.6
PDAR Lg 20 08 30.6
PD02 Pinedale Array 3.28 254 *e*P Pn 20 07 45.4 +0.5
H18A Shoshone NF, C 3.29 288 ⇓P Pn 20 07 44.4 -0.4
baz=3.3,SNR=11
I18A Diamond G Ranc 3.29 271 ⇓P Pn 20 07 45.9 +1.0
baz=3.3,SNR=14
PD01 Pinedale Array 3.30 254 *e*P Pn 20 07 45.5 +0.6
F19A Roth Farm, Mol 3.35 310 P Pn 20 07 46.0 +0.4
baz=3.3,SNR=102
F19A ⇓S Sn 20 08 26.3 +0.2
baz=3.3
D23A Lindsay 3.41 1 ⇓P Pn 20 07 46.9 +0.3
baz=3.4,SNR=28
D24A Glendive 3.42 11 ⇓P Pn 20 07 47.4 +0.7
baz=3.4,SNR=17
N21A Black Mountain 3.43 210 ⇑P Pn 20 07 47.8 +1.0
baz=3.4,SNR=18
G18A Lazy EL Ranch, 3.44 298 ⇓P Pn 20 07 46.7 -0.3
baz=3.4,SNR=8.0
D22A Cohagen 3.45 350 ⇓P Pn 20 07 47.1 +0.1
baz=3.5,SNR=10
J18A Kendall Valley 3.50 263 ⇓P Pn 20 07 48.3 +0.6
baz=3.5,SNR=15
K18A Toltan Ranch, 3.66 254 ⇑P Pn 20 07 50.8 +0.8
baz=3.6,SNR=9.5
N20A Spence Gulch, 3.67 218 ⇑P Pn 20 07 50.3 +0.2
baz=3.6,SNR=15
OGNE Ogallala 3.70 138 *e*Pn Pn 20 07 51.8 +1.3
GCMT Greycliff 3.73 305 *e*P Pn 20 07 50.9 0.0
LKWY Lake 3.77 284 *e*P Pn 20 07 50.3 -1.2
O26A Horse Wrangler 3.81 157 ⇓P Pn 20 07 52.5 +0.4
baz=3.8
C24A Savage 3.82 9 ⇑P Pn 20 07 53.1 +1.0
baz=3.8,SNR=9.6
F18A Big Timber 3.82 306 ⇓P Pn 20 07 52.7 +0.5
baz=3.8
LOHW Long Hollow 3.87 270 *e*P Pn 20 07 51.4 -1.5
D20A Manuel Ranch, 3.89 330 ⇑P Pn 20 07 52.6 -0.5
baz=3.9,SNR=56
FLWY Flagg Ranch 3.93 277 *e*P Pn 20 07 53.0 -0.7
MOOW Moose Ponds 3.96 272 *e*P Pn 20 07 55.4 +1.2
ISCO Idaho Springs 3.97 184 *e*P Pn 20 07 55.3 +1.0
SNOW Snow King Moun 3.99 268 *e*P Pn 20 07 59.8 +5.3
YNR Norris Junctio 4.00 286 *e*P Pn 20 07 55.3 +0.7
C22A Vida 4.01 354 ⇑P Pn 20 07 55.8 +1.0
baz=4.0,SNR=9.7
C23A Lambert 4.04 1 ⇓P Pn 20 07 56.0 +0.8
baz=4.1,SNR=25
YFT Old Faithful 4.06 282 *e*P Pn 20 07 54.6 -1.0
REDW Red Top Meadow 4.07 266 *e*P Pn 20 07 57.6 +2.0
IMW Indian Meadow 4.10 274 *e*P Pn 20 07 56.9 +0.8
TPAW Teton Pass 4.13 268 *e*P Pn 20 07 57.7 +1.2
YMR Madison River 4.19 284 *e*P Pn 20 07 58.8 +1.5
DCID1 Drake Creek 4.29 270 *e*P Pn 20 07 58.6 0.0
AHID Auburn Hatcher 4.37 259 *e*P Pn 20 08 04.7 +5.0
F17A Fitzpatrick Pl 4.39 301 P Pn 20 08 01.0 +1.0
baz=4.4,SNR=16
RRI2 Red Ridge 4.41 267 *e*P Pn 20 08 00.6 +0.2
O19A Miners Draw (B 4.49 221 ⇑P Pn 20 08 01.2 -0.3
baz=4.5,SNR=5.5
B22A Reddig Ranch S 4.57 354 ⇑P Pn 20 08 02.6 +0.1
baz=4.6,SNR=8.7
SMCO Snowmass 4.75 196 *e*Pg Pg 20 08 16.6 -6.7
DGMT Dagmar 4.77 9 *e*P Pn 20 08 06.4 +1.2
C19A Slack Wire Ran 4.77 328 ⇓P Pn 20 08 05.3 +0.1
baz=4.8,SNR=17
E17A Martinsdale 4.79 306 ⇓P Pn 20 08 05.4 0.0
baz=4.8,SNR=22
D17A Six Diamond Ra 5.10 314 ⇑P Pn 20 08 09.4 -0.3
baz=5.1,SNR=20
HWUT Hardware Ranch 5.11 247 *e*P Pn 20 08 09.9 -0.1
18nm,0.6s
DLMT Dillon 5.47 290 *e*Pn Pn 20 08 16.1 +1.3
7.6nm,0.5s
HRY Holter Researc 5.49 305 *e*P Pn 20 08 14.9 -0.2
13nm,0.3s
LRM Limekiln Ridge 5.51 294 *e*P Pn 20 08 15.0 -0.4
47nm,0.5s
L15A Malad City 5.51 254 ⇑P Pn 20 08 15.5 +0.1
baz=5.5,SNR=13
MCMT McKenzie Canyo 5.54 284 *e*Pn Pn 20 08 17.9 +2.0
3.5nm,0.5s
P18A Preston Nutter 5.56 224 ⇑P Pn 20 08 16.2 +0.1
baz=5.5,SNR=15
JLU Jordanelle 5.57 238 *e*P Pn 20 08 17.1 +0.9
9.7nm,0.5s
Q19A Hogan Spring (5.66 213 ⇑P Pn 20 08 16.8 -0.7
baz=5.6,SNR=7.9
E15A Deer Lodge 5.86 300 ⇑P Pn 20 08 19.7 -0.5
baz=5.8,SNR=17
HVU Hansel Valley 5.86 253 *e*P Pn 20 08 21.2 +0.9
10nm,0.6s
PV04 Paradox Valley 6.02 208 *e*P Pn 20 08 19.4 -3.1
MPU Maple Canyon 6.04 234 *e*P Pn 20 08 24.2 +1.4
20nm,0.9s
SRU San Rafael 6.09 222 *e*P Pn 20 08 22.7 -0.8
17nm,0.5s
PV01 Paradox Valley 6.15 205 *e*P Pn 20 08 21.6 -2.6
600nm,0.6s
ECSD EROS Data Cent 6.27 87 *e*P Pn 20 08 25.6 -0.3
12nm,0.6s
TMUT Trail Mountain 6.30 227 *e*P Pn 20 08 26.6 +0.4
14nm,0.4s
R18A Canyonlands Na 6.40 215 ⇓P Pn 20 08 27.2 -0.5
baz=6.4,SNR=33
CHMT Chamberlain Mo 6.45 302 *e*P Pn 20 08 28.1 -0.2
1.9nm,0.3s
DUG Dugway 6.65 240 *e*P Pn 20 08 31.3 +0.2
4.2nm,0.4s
D14A Greenough 6.68 303 ⇓P Pn 20 08 31.3 -0.1
baz=6.7,SNR=16
S19A Harvey Farm, M 6.68 207 ⇓P Pn 20 08 31.4 -0.2
baz=6.7,SNR=5.9
SLMT Seeley Lake 6.74 304 *e*P Pn 20 08 30.9 -1.4
4.3nm,0.4s
S18A Hurst Farm, Bl 7.04 212 ⇓P Pn 20 08 36.1 -0.3
baz=7.0,SNR=21
SWMT Swartz Lake 7.17 305 *e*P Pn 20 08 36.9 -1.3
2.6nm,0.3s
MSU Marysvale 7.39 227 *e*P Pn 20 08 41.1 -0.1
S17A Black Ridge (B 7.42 216 ⇑P Pn 20 08 41.1 -0.5
baz=7.4,SNR=17
JTMT Jette 7.45 305 *e*P Pn 20 08 42.2 +0.1
2.4nm,0.4s
AGMN Agassiz Nation 7.97 52 *e*P Pn 20 08 47.0 -2.1
20nm,0.5s
ARUT Antelope Range 8.60 229 *e*P Pn 20 08 58.8 +1.0
5.7nm,0.4s
CCUT Cedar City 8.73 227 *e*P Pn 20 09 00.4 +0.8
2.3nm,0.5s
ULM Lac du Bonnet 9.13 41 Pn Pn 20 09 03.6 -1.4
1.8nm,0.3s,baz=229,slow=15,SNR=13
ULM Lg 20 11 35.0
0.6nm,0.3s,baz=131,slow=20,SNR=3.3
ULM Lac du Bonnet 9.13 41 *e*P Pn 20 09 03.0 -2.0
6.2nm,0.5s
ULM Lg 20 11 35.0
WUAZ Wupatki 9.48 212 *e*P Pn 20 09 11.6 +1.8
7.4nm,0.6s
NVAR Mina Array Bea 11.18 246 Pn Pn 20 09 34.9 +1.8
0.2nm,0.3s,baz=54,slow=12,SNR=5.9
NVAR Mina Array Bea 11.18 246 Pn Pn 20 09 34.9 +1.8
FFC Flin Flon 11.18 10 *e*P Pn 20 09 29.9 -3.2
4.4nm,0.5s
TXAR Lajitas Array 14.46 174 Pn Pn 20 10 24.8 +6.8
0.0nm,0.3s,baz=351,slow=11,SNR=3.4
TXAR Lg 20 14 34.0
0.0nm,0.3s,baz=7.4,slow=31,SNR=3.5
TXAR Lajitas Array 14.46 174 Pn Pn 20 10 24.8 +6.8
TXAR Lg 20 14 34.0
ARCES ARCESS Array B 61.40 18 P P 20 17 07.8 -1.7
8.1nm,1.2s,mb4.7,baz=322,slow=5.7,SNR=5.9
ARCES ARCESS Array B 61.40 18 P P 20 17 07.8 -1.7
BVAR Borovoye Array 83.52 3 P P 20 19 19.9 -1.6
0.2nm,0.6s,mb3.6,baz=308,slow=3.5,SNR=2.4
BVAR Borovoye Array 83.52 3 P P 20 19 19.9 -1.6
SONM Songino Array 84.62 339 P P 20 19 25.7 -1.6
0.3nm,0.7s,mb3.6,baz=28,slow=4.9,SNR=2.7
SONM Songino Array 84.62 339 P P 20 19 25.7 -1.6
MKAR Makanchi Array 89.58 355 P P 20 19 50.5 -0.8
0.9nm,0.8s,mb4.0,baz=6.7,slow=4.9,SNR=4.0
MKAR Makanchi Array 89.58 355 P P 20 19 50.5 -0.8

*DJA **01** 20:21:29,22.°45S×174.°82W,h10km,Mw5.7/32*
*ISCJB **01** 20:21:32.7±0.1,22.°92S±0.°05×175.°16W±0.°03,h38km, mb5.4/162,MS5.1/181,Error ellipse: s-maj=7.0km s-min=3.0km az=158.3*
*GCMT **01** 20:21:32.4±0.2,23.°07S×174.°48W,h13km,MW5.3, Moment Tensor Solution. s64,c110; s99,c188; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s205.00000°,δ26.00000°, λ84.00000°. NP2:ϕ_s32.00000°,δ64.00000°,λ93.00000°. Principal axes: T 1.1400, Plg71.0000°, Azm309.0000°; N -0.0400, Plg3.0000°, Azm211.0000°; P -1.1000, Plg19.0000°, Azm120.0000°; Data Used: II IU IC G CN.*
*BJI **01** 20:21:33.1,22.°53S×174.°85W,h35km,mB5.7/32, mb5.6/50,Ms5.2/40,Ms7 4.9/43*
*MOS **01** 20:21:33.3±1.2,22.°66S×175.°30W,h33km,mb5.7/38, MS5.0/43,Error ellipse: s-maj=10.8km s-min=8.7km az=51.4*
*BGS **01** 20:21:34.8±3.7,22.°94S×175.°19W,h33km,mb5.5(NEIC)*
*NEIC **01** 20:21:34.4±0.2,22.°94S×175.°19W,mb5.5/88,MS5.1/133, Error ellipse: s-maj=7.8km s-min=4.6km az=146.0*
*IDC **01** 20:21:35.4±2.4,22.°82S×175.°21W,h47km±21km,mb4.8/20, mb1 4.9/21,mb1mx4.9/22,mbtmp4.8/21,ML4.6/1,MS4.7/20, Ms1 4.7/20,ms1mx4.6/28,Error ellipse: s-maj=15.1km s-min=11.2km az=155.0*
*SZGRF **01** 20:21:36.4,20.°95S×175.°46W,h33km,Tonga Islands*
ISC 01 20:21:34.5±0.1,**22.°92S**±0.°05×**175.°13W**±0.°03,**h40**km, **h40**km±1.1km;**pP-P,n967,σ0980/604,mb5.4**/162,**MS5.1**/181, **161C-148D,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.79**	**201**	*e*Pn	**Pn**	**20 23 09.6**	**-2.0**
RAO	**Raoul Island**	**6.79**	**201**	*e*P	**Pn**	**20 23 09.6**	**-1.9**
MSVF	**Nonsavu**	**8.22**	**308**	*e*Pn	**Pn**	**20 23 36.1**	**+4.9**
MSVF	**Nonsavu**	**8.22**	**308**	Pn	**Pn**	**20 23 36.0**	**+4.8**
1μm,0.9s,SNR=28							
MSVF	**Nonsavu**	**8.22**	**308**	*e*P	**Pn**	**20 23 36.1**	**+4.9**
AFI	**Afiamalu**	**9.51**	**20**	P	**Pn**	**20 23 39.8**	**-9.1**
11nm,0.3s,baz=214,slow=15,SNR=20							
AFI				S	**Sn**	**20 25 19.6**	**-15**
11nm,0.3s,baz=127,slow=20,SNR=3.4							
AFI				T		20 33 36.8	
3.7nm,0.3s,baz=153,slow=21,SNR=4.0							
AFI	**Afiamalu**	**9.51**	**20**	P	**Pn**	**20 23 39.8**	**-9.1**
AFI				S	**Sn**	**20 25 19.6**	**-15**
AFI				TT		20 33 36.8	
AFI	**Afiamalu**	**9.51**	**20**	P	**Pn**	**20 23 39.8**	**-9.1**
RAR	**Rarotonga**	**14.34**	**86**	P	**Pn**	**20 24 42.6**	**-12**
9.4nm,0.3s,baz=261,slow=11,SNR=14							
RAR				S	Sn	20 27 08.3	-24
4.9nm,0.3s,baz=235,slow=18,SNR=3.4							
RAR				LR	LR	20 29 46.7	
comp=Z,6μm,18.7s,baz=271,slow=34							
RAR	**Rarotonga**	**14.34**	**86**	*e*P	**Pn**	**20 24 42.3**	**-13**
RAR				S	Sn	20 27 08.3	-24
FUNA	**Funafuti**	**15.31**	**338**	*e*P	**Pn**	**20 25 06.3**	**-1.5**
636nm,1.6s							
URZ	**Urewera**	**16.68**	**202**	P	**Pn**	**20 25 25.9**	**+0.8**
2.1nm,0.3s,baz=18,slow=10.0,SNR=7.6							
URZ				S	S	20 28 18.0	-21
1.8nm,0.3s,baz=156,slow=20,SNR=6.7							
URZ	**Urewera**	**16.68**	**202**	*e*P	**Pn**	**20 25 21.0**	**-4.1**
89nm,1.6s							
URZ				S	S	20 28 18.0	-21
DZM	**Mont Dzumac**	**17.05**	**269**	*e*P	**Pn**	**20 25 33.6**	**+3.6**
DZM	**Mont Dzumac**	**17.05**	**269**	*e*P	**Pn**	**20 25 32.9**	**+2.9**
160nm,1.1s							
SNZO	**South Karori**	**20.23**	**203**	*e*pP	pP	20 26 22.3	+6.3
SNZO				LR	LR		
comp=Z,8μm,21.0s,MS5.0							
KHZ	**Kahutara**	**21.62**	**203**	*e*P	**P**	**20 26 17.1**	**-3.9**
comp=Z,51nm,0.9s,mb5.0							
KHZ				*e*pP		20 26 38.2	
RPZ	**Rata Peaks**	**23.68**	**206**	P	**P**	**20 26 42.0**	**-0.3**
comp=Z,15nm,0.9s,mb4.4,baz=86,slow=4.6,SNR=4.4							
RPZ	**Rata Peaks**	**23.68**	**206**	*e*P	**P**	**20 26 39.3**	**-3.0**
comp=Z,50nm,1.1s,mb4.9							
WHZ	**Wether Hill Ro**	**26.73**	**207**	*e*P	**P**	**20 27 11.0**	**+0.9**
TARA	**Tarawa**	**26.79**	**333**	PFAKE		20 27 20.0	+9.1
TARA				LR	LR		
comp=Z,5μm,21.0s,MS5.1							
HNR	**Honiara**	**27.38**	**295**	P	**P**	**20 27 15.1**	**-1.1**
comp=Z,14nm,0.3s,mb4.9,baz=146,slow=3.6,SNR=4.3							
HNR				LR	LR	20 34 26.8	
comp=Z,398nm,21.4s,MS4.0,baz=170,slow=28							
HNR	**Honiara**	**27.38**	**295**	*e*P	**P**	**20 27 15.2**	**-1.0**
HNR	**Honiara**	**27.38**	**295**	*e*P	**P**	**20 27 15.3**	**-0.9**
XMAS	**Kiritimati**	**30.21**	**37**	PFAKE		20 27 50.0	+8.6
XMAS				LR	LR		
comp=Z,2μm,20.0s,MS4.8							
ARMA	**Armidale**	**30.55**	**249**	*e*P	**P**	**20 27 45.1**	**+0.8**
ARMA	**Armidale**	**30.55**	**249**	*e*P	**P**	**20 27 45.8**	**+1.5**
comp=Z,22nm,1.0s,mb4.9							
EIDS	**Eidsvold**	**30.89**	**259**	*e*P	**P**	**20 27 47.4**	**+0.1**
comp=Z,85nm,1.4s,mb5.4							
CNB	**Canberra Magne**	**33.22**	**240**	*e*P	**P**	**20 28 08.6**	**+1.0**
comp=Z,115nm,1.1s,mb5.7							
CAN	**Canberra**	**33.51**	**240**	P	**P**	**20 28 09.3**	**-0.9**
CAN				LR	LR		
comp=Z,2μm,20.0s,MS4.9							
CAN	**Canberra**	**33.51**	**240**	P	**P**	**20 28 09.3**	**-0.9**
CAN				MLR	MLR		
comp=Z,2μm,20.0s,MS4.9							
CTA	**Charters Tower**	**35.98**	**267**	P	**P**	**20 28 31.3**	**-0.3**
baz=97,slow=9.8							
CTA				LR	LR	20 41 17.2	
comp=Z,485nm,18.6s,MS4.3,baz=102,slow=33							
CTA	**Charters Tower**	**35.98**	**267**	*e*P	**P**	**20 28 31.2**	**-0.5**
comp=Z,48nm,0.9s,mb5.4							
CTA				*e*S	**S**	**20 34 08.0**	**+0.3**
CTA	**Charters Tower**	**35.98**	**267**	P	**P**	**20 28 31.3**	**-0.3**
CTA	**Charters Tower**	**35.98**	**267**	P	**P**	**20 28 31.3**	**-0.4**
CTAO	**Charters Tower**	**35.98**	**267**	*e*P	**P**	**20 28 31.2**	**-0.4**
comp=Z,115nm,1.1s,mb5.7							
CTAO				LR	LR		
comp=Z,1μm,19.0s,MS4.7							
CTAO	**Charters Tower**	**35.98**	**267**	*e*P	**P**	**20 28 31.2**	**-0.5**
CTAO				pmax	pmax		
comp=Z,115nm,1.1s,mb5.7							
CTAO				MLR	MLR		
comp=Z,1μm,19.0s,MS4.7							
CTAO	**Charters Tower**	**35.98**	**267**	P	**P**	**20 28 31.6**	**-0.1**
comp=Z,99nm,1.5s,mb5.5							
CTAO	**Charters Tower**	**35.98**	**267**	P	**P**	**20 28 31.5**	**-0.2**
comp=Z,99nm,1.5s,mb5.5							
TOO	**Toolangi**	**36.74**	**237**	*e*P	**P**	**20 28 37.9**	**-0.1**
comp=Z,133nm,1.0s,mb5.7							
RKT	**Rikitea**	**36.88**	**98**	*e*S	Sx	20 33 48.8	
comp=Z,442nm,26.5s							
RKT				*e*LR	LR	20 37 59.0	
comp=Z,3μm,30.8s,baz=264							
TAU	**Tasmania Unive**	**36.90**	**228**	PFAKE		20 28 50.0	+11
TAU				LR	LR		
comp=Z,2μm,19.0s,MS4.8							
PMG	**Port Moresby**	**38.51**	**284**	P	**P**	**20 28 51.9**	**-1.2**
comp=Z,169nm,1.0s,mb5.7,baz=110,slow=6.2,SNR=45							
PMG	**Port Moresby**	**38.51**	**284**	*e*P	**P**	**20 28 52.7**	**-0.4**
comp=Z,246nm,1.1s,mb5.8							
PMG				LR	LR		
comp=Z,839nm,20.0s,MS4.5							
PMG	**Port Moresby**	**38.51**	**284**	*e*P	**P**	**20 28 52.7**	**-0.5**
PMG				pmax	pmax		
comp=Z,246nm,1.1s							
PMG				MLR	MLR		
comp=Z,839nm,20.0s							
PMG	**Port Moresby**	**38.51**	**284**	P	**P**	**20 28 52.5**	**-0.7**
comp=Z,2μmcomp=Z,217nm,1.2s,mb5.8							
PMG	**Port Moresby**	**38.51**	**284**	P	**P**	**20 28 51.6**	**-1.6**
comp=Z,2μmcomp=Z,217nm,1.2s,mb5.8							
STKA	**Stephens Creek**	**39.23**	**247**	*e*P	**P**	**20 28 58.9**	**-0.3**
comp=Z,13nm,0.9s,mb4.6,baz=86,slow=7.4,SNR=13							
STKA				LR	LR	20 43 55.6	
comp=Z,3μm,19.6s,MS5.1,baz=79,slow=34							
STKA	**Stephens Creek**	**39.23**	**247**	*e*P	**P**	**20 28 58.6**	**-0.5**
comp=Z,11nm,1.0s,mb4.5							
STKA	**Stephens Creek**	**39.23**	**247**	*e*P	**P**	**20 28 59.0**	**-0.1**
comp=Z,5.5nm,1.3s,mb4.1							
STKA	**Stephens Creek**	**39.23**	**247**	*e*P	**P**	**20 28 59.0**	**-0.1**
STKA				pmax	pmax		
comp=Z,6.0nm,1.3s							
JOHN	**Johnston Islan**	**39.79**	**8**	PFAKE		20 29 20.0	+16
JOHN				LR	LR		
comp=Z,26μm,21.0s,MS6.0							
COEN	**Coen**	**40.43**	**275**	*e*P	**P**	**20 29 09.4**	**+0.1**
comp=Z,439nm,1.3s,mb6.0							
COEN	**Coen**	**40.43**	**275**	P	**P**	**20 29 09.4**	**+0.2**
comp=Z,1μmcomp=Z,55nm,1.4s,mb5.1							
BBOO	**Buckleboo**	**43.94**	**246**	*e*P	**P**	**20 29 35.4**	**-2.2**
comp=Z,557nm,1.0s,mb6.2							
AS31	**Alice Springs**	**46.61**	**259**	*e*P	**P**	**20 29 58.0**	**-0.9**
ASAR	**Alice Springs**	**46.61**	**259**	P	**P**	**20 29 58.3**	**-0.7**
comp=Z,50nm,0.9s,mb5.5,baz=90,slow=8.4,SNR=254							
ASAR				S	**S**	**20 36 43.9**	**-1.6**
comp=Z,3.2nm,1.1s,baz=97,slow=14,SNR=8.9							
ASAR	**Alice Springs**	**46.61**	**259**	P	**P**	**20 29 58.3**	**-0.7**
ASAR				S	**S**	**20 36 43.9**	**-1.6**
ASAR	**Alice Springs**	**46.61**	**259**	P	**P**	**20 29 58.3**	**-0.7**
ASAR				S	**S**	**20 36 43.9**	**-1.6**
WB2	**Warramunga Arr**	**46.94**	**264**	*e*P	**P**	**20 29 59.6**	**-2.0**
WRAB	**Tennant Creek**	**46.94**	**264**	*e*P	**P**	**20 29 59.8**	**-1.8**
comp=Z,159nm,1.1s,mb5.9							
WRAB				LR	LR		
comp=Z,2μm,20.0s,MS5.0							
WRAB	**Tennant Creek**	**46.94**	**264**	P	**P**	**20 30 00.5**	**-1.1**
comp=Z,385nm,1.0s,mb6.3,SNR=25							
WRAB	**Tennant Creek**	**46.94**	**264**	*e*P	**P**	**20 29 59.8**	**-1.8**
WRAB				pmax	pmax		
comp=Z,159nm,1.1s,mb5.9							
WRAB				MLR	MLR		
comp=Z,2μm,20.0s,MS5.0							
WRAB	**Tennant Creek**	**46.94**	**264**	P	**P**	**20 30 00.1**	**-1.5**
WRAB	**Tennant Creek**	**46.94**	**264**	P	**P**	**20 30 00.3**	**-1.3**
comp=Z,137nm,1.3s,mb5.7							
WRAB	**Tennant Creek**	**46.94**	**264**	P	**P**	**20 30 00.1**	**-1.5**
comp=Z,2μmcomp=Z,137nm,1.3s,mb5.7							
WRA	**Warramunga Arr**	**46.95**	**264**	P	**P**	**20 30 00.2**	**-1.4**
comp=Z,48nm,1.0s,mb5.4,baz=99,slow=8.0,SNR=187							
WRA				S	**S**	**20 36 49.0**	**-1.4**
comp=Z,2.4nm,1.1s,baz=101,slow=14,SNR=5.3							
WRA				LR	LR	20 49 06.0	
comp=Z,1μm,20.9s,MS4.9,baz=90,slow=35							
WRA	**Warramunga Arr**	**46.95**	**264**	P	**P**	**20 30 00.2**	**-1.4**
WRA				S	**S**	**20 36 49.0**	**-1.4**
WRA	**Warramunga Arr**	**46.95**	**264**	P	**P**	**20 30 00.2**	**-1.4**
WRA				S	**S**	**20 36 49.0**	**-1.4**
JAY	**Jayapura**	**47.34**	**289**	P	**P**	**20 30 03.8**	**-1.0**
SMPI	**Sarmi**	**49.34**	**288**	P	**P**	**20 30 18.2**	**-2.0**
comp=Z,53nm,1.3s,mb5.4							
FORT	**Forrest**	**50.84**	**248**	*e*P	**P**	**20 30 30.2**	**-1.1**
comp=Z,36nm,0.7s,mb5.4							
FORT	**Forrest**	**50.84**	**248**	*e*P	**P**	**20 30 30.3**	**-1.1**
comp=Z,49nm,0.9s,mb5.4							
TLE	**Tual**	**53.06**	**281**	P	**P**	**20 30 47.7**	**-0.4**
comp=Z,2μmcomp=Z,132nm,1.4s,mb5.7							
TLE	**Tual**	**53.06**	**281**	P	**P**	**20 30 47.0**	**-1.1**
comp=Z,2μmcomp=Z,132nm,1.4s,mb5.7							
GUMO	**Guam**	**53.39**	**309**	LR	LR	20 50 10.6	
comp=Z,569nm,18.9s,MS4.7,baz=126,slow=32							
FITZ	**Fitzroy Crossi**	**55.38**	**263**	LR	LR	20 55 20.9	
comp=Z,2μm,18.0s,MS5.2,baz=109,slow=37							
FITZ	**Fitzroy Crossi**	**55.38**	**263**	*e*P	**P**	**20 31 04.1**	**-0.8**
comp=Z,68nm,1.1s,mb5.6							
FITZ				*e*S	**S**	**20 38 44.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**55.38**	**263**	*e*P	**P**	**20 31 04.0**	**-0.9**
comp=Z,118nm,1.4s,mb5.7							
FITZ	**Fitzroy Crossi**	**55.38**	**263**	P	**P**	**20 31 04.8**	**-0.1**
comp=Z,58nm,1.6s,mb5.4							
SBA	**Scott Base**	**55.66**	**185**	*e*P	**P**	**20 31 10.9**	**+4.8**
comp=Z,808nm,2.8s,m

SBA MLR MLR
comp=Z,1μm,20.0s,MS4.9
VNDA Vanda 55.77 186 *e*P **P 20 31 08.8 +2.0**
comp=Z,57nm,1.4s,mb5.4
VNDA LR LR
comp=Z,715nm,19.0s,MS4.8
VNDA Vanda 55.77 186 *e*P **P 20 31 08.8 +2.0**
VNDA pmax pmax
comp=Z,57nm,1.4s
VNDA MLR MLR
comp=Z,715nm,19.0s
RPN Rapa Nui 59.17 109 PFAKE 20 31 40.0 +8.4
RPN LR LR
comp=Z,1μm,19.0s,MS5.0
KLBR Kellerberrin 59.48 246 *e*P **P 20 31 33.3 -0.4**
comp=Z,41nm,1.0s,mb5.4
NWAO Narrogin (SRO) 59.70 244 LR LR 20 57 38.2
comp=Z,1μm,18.6s,MS5.0,baz=348,slow=36
LBMI Labuha 59.91 283 P **P 20 31 35.5 -1.4**
comp=Z,1μmcomp=Z,89nm,1.1s,mb5.7
MBWA Marble Bar 59.95 258 *e*P **P 20 31 35.9 -1.1**
comp=Z,80nm,1.1s,mb5.7
MBWA LR LR
comp=Z,1μm,20.0s,MS5.1
MBWA Marble Bar 59.95 258 P **P 20 31 36.7 -0.4**
comp=Z,82nm,1.2s,mb5.6
MBWA Marble Bar 59.95 258 P **P 20 31 36.8 -0.3**
comp=Z,82nm,1.2s,mb5.6
TNTI Ternate 60.66 285 P **P 20 31 40.9 -1.0**
comp=Z,2μmcomp=Z,150nm,1.1s,mb6.0
MMRI Maumere 61.52 273 P **P 20 31 47.4 -0.4**
comp=Z,69nm,1.3s,mb5.6
WSI Waingapu 62.94 271 P **P 20 31 57.2 -0.2**
comp=Z,226nm,1.4s,mb6.1
KDI Kendari 62.95 278 P **P 20 31 56.8 -0.6**
KDI Kendari 62.95 278 P **P 20 31 56.4 -1.0**
comp=Z,538nmcomp=Z,41nm,1.1s,mb5.5
MNI Manado 63.21 284 P **P 20 31 57.8 -1.3**
comp=Z,74nm,1.2s,mb5.7
KMSI Cibinong 63.60 283 P sP 20 32 20.2 +2.0
comp=Z,109nm,1.1s
SGSI Sangihe 63.62 287 P PcP 20 32 37.3 -0.7
comp=Z,207nm,0.4s,comp=Z,3μm
LUWI Luwuk 64.00 281 P **P 20 32 05.1 +0.7**
LUWI Luwuk 64.00 281 P **P 20 32 03.5 -0.9**
comp=Z,1μmcomp=Z,120nm,1.3s,mb5.8
GTOI Gorontalo 64.50 282 P **P 20 32 06.5 -1.1**
comp=Z,923nmcomp=Z,96nm,1.4s,mb5.7
CBIJ Chichi jima 64.61 318 LR LR 20 53 39.9
comp=Z,834nm,20.6s,MS4.9,baz=128,slow=30
BKSI Bulukumba 64.70 275 P **P 20 32 08.2 -0.8**
BKSI Bulukumba 64.70 275 P **P 20 32 08.3 -0.7**
comp=Z,534nmcomp=Z,37nm,1.3s,mb5.2
KAPI Kappang 65.16 275 PFAKE 20 32 20.0 +8.0
KAPI LR LR
comp=Z,11μm,21.0s,MS6.0
DAV Davao City (W) 65.17 290 LR LR 20 55 47.4
comp=Z,287nm,21.5s,MS4.4,baz=78,slow=32
DAV Davao City (W) 65.17 290⇑ *e*P **P 20 32 10.9 -1.1**
MRSI Marisa 65.40 282 P **P 20 32 11.3 -2.2**
comp=Z,352nmcomp=Z,25nm,1.2s,mb5.1
SPSI Sidrap Palu 65.56 276 P **P 20 32 13.1 -1.4**
comp=Z,375nmcomp=Z,30nm,1.2s,mb5.2
SPSI Sidrap Palu 65.56 276 P **P 20 32 13.3 -1.2**
comp=Z,375nmcomp=Z,30nm,1.2s,mb5.2
TTSI Tana Toraja 65.87 277 P **P 20 32 16.0 -0.5**
comp=Z,30nm,1.2s,mb5.2
TTSI Tana Toraja 65.87 277 P **P 20 32 15.9 -0.6**
comp=Z,30nm,1.2s,mb5.2
MJSI Majene 66.44 276 P **P 20 32 20.9 +0.7**
comp=Z,1μmcomp=Z,115nm,1.2s,mb5.8
MJSI Majene 66.44 276 P **P 20 32 20.5 +0.3**
comp=Z,1μmcomp=Z,115nm,1.2s,mb5.8
PCI Palu 66.72 279 P PcP 20 32 43.5 -7.3
MTNI Mataram 67.11 270 P **P 20 32 24.2 -0.3**
MTNI Mataram 67.11 270 P **P 20 32 23.3 -1.2**
comp=Z,9μmcomp=Z,57nm,1.2s,mb5.5
QSPA South Pole Qui 67.16 180 P **P 20 32 25.1 +1.4**
comp=Z,33nm,1.1s,mb5.3,baz=38,slow=3.4,SNR=31
QSPA South Pole Qui 67.16 180 *e*P **P 20 32 25.1 +1.5**
comp=Z,81nm,1.4s,mb5.6
QSPA LR LR
comp=Z,1μm,21.0s,MS5.0
KHKI Kahang-Kahang 67.73 270 P **P 20 32 28.2 -0.2**
KHKI Kahang-Kahang 67.73 270 P **P 20 32 27.7 -0.7**
comp=Z,688nmcomp=Z,39nm,1.4s,mb5.3
SRBI Singaraja 68.20 270 P **P 20 32 31.6 +0.3**
comp=Z,62nm,1.1s,mb5.5
SRBI Singaraja 68.20 270 P **P 20 32 31.4 +0.1**
comp=Z,62nm,1.1s,mb5.5
KBKI Kotabaru 69.12 275 P **P 20 32 37.5 +0.4**
KBKI Kotabaru 69.12 275 P **P 20 32 37.3 +0.2**
comp=Z,37nm,1.3s,mb5.2
KMMI Kalianget 69.72 271 P **P 20 32 42.2 +1.4**
KMMI Kalianget 69.72 271 P **P 20 32 42.2 +1.4**
KMMI Kalianget 69.72 271 P **P 20 32 41.4 +0.6**
comp=Z,81nm,1.5s,mb5.4
GMJI Gumukmas 69.76 269 P **P 20 32 41.2 +0.2**
comp=Z,40nm,1.1s,mb5.2
GMJI Gumukmas 69.76 269 P **P 20 32 39.9 -1.1**
comp=Z,40nm,1.1s,mb5.2
MIR Mirnyy 69.95 205⇓ *i*P **P 20 32 43.6 +2.4**
MIR pmax pmax
comp=Z,126nm,1.8s,mb5.5
MIR pmax pmax
comp=Z,404nm,2.0s,mb6.0
MIR MLR MLR
comp=N,500nm,18.0s,MS5.0
MIR MLR MLR
comp=E,700nm,18.0s,MS5.0
MIR MLR MLR
comp=Z,1μm,18.0s,MS5.2
BBKI Banjar Baru 70.28 275 P **P 20 32 44.8 +0.6**
BBKI Banjar Baru 70.28 275 P **P 20 32 44.6 +0.4**
comp=Z,50nm,1.2s,mb5.3
MYLDM Lahad Datu 70.53 285 P **P 20 32 49.1 +3.4**
PWJI Pagerwojo 71.36 269 P **P 20 32 50.8 0.0**
PWJI Pagerwojo 71.36 269 P **P 20 32 50.3 -0.5**
comp=Z,38nm,1.5s,mb5.1
SJI Sawahan 71.50 269 P **P 20 32 52.0 +0.4**
SJI Sawahan 71.50 269 P **P 20 32 51.1 -0.5**
comp=Z,44nm,1.5s,mb5.2
PCJI Pacitan 71.88 269 P **P 20 32 55.0 +1.1**
PCJI Pacitan 71.88 269 P **P 20 32 54.1 +0.2**
comp=Z,82nm,1.1s,mb5.6
KKM Kota Kinabalu 72.95 284 *e*P **P 20 33 00.3 0.0**
comp=Z,59nm,1.4s,mb5.3
KKM LR LR
comp=Z,327nm,19.0s,MS4.6
BJII Banjamegara 73.54 269 P **P 20 33 11.7 +7.9**
BJII Banjamegara 73.54 269 P **P 20 33 10.8 +7.0**
comp=Z,27nm,1.6s,mb4.9
MJAR Matsushiro Arr 73.74 322 P **P 20 33 03.6 -0.8**
comp=Z,9.0nm,0.8s,mb4.7,baz=151,slow=6.2,SNR=22
MJAR Matsushiro Arr 73.74 322 P **P 20 33 03.6 -0.8**
MJAR Matsushiro Arr 73.74 322 P **P 20 33 03.6 -0.8**
MAJO Matsushiro 73.74 322 *e*P **P 20 33 04.6 +0.2**
comp=Z,214nm,2.1s,mb5.7
MAJO LR LR
comp=Z,553nm,20.0s,MS4.8
MAJO Matsushiro 73.74 322 *e*P **P 20 33 04.6 +0.2**
MAJO pmax pmax
comp=Z,214nm,2.1s,mb5.7
MAJO MLR MLR
comp=Z,553nm,20.0s,MS4.8
MAT Matsushiro 73.74 322 P **P 20 33 03.4 -1.0**
MAT S S 20 42 35.0 +2.5
STKI Sintang 74.75 277 P **P 20 33 12.1 +1.3**
ERM Erimo 75.25 329 PFAKE 20 33 20.0 +7.0
ERM LR LR
comp=Z,2μm,21.0s,MS5.3
YUK Yuzh-Kuril'sk 75.61 332*de*P **P 20 33 13.7 -1.3**
YUK *i*S S 20 43 00.4 +7.3
YUK pmax pmax
comp=Z,716nm,1.6s,mb6.3
JNU Nakatsue 75.86 316 *e*P **P 20 33 17.1 +0.4**
comp=Z,16nm,1.1s,mb4.8
KSM Kuching 76.38 277 *e*P **P 20 33 19.9 -0.4**
comp=Z,20nm,0.9s,mb5.1
KSM LR LR
comp=Z,356nm,22.0s,MS4.6
KSM Kuching 76.38 277 P **P 20 33 21.6 +1.4**
comp=Z,0.1nmcomp=Z,28nm,1.3s,mb5.0
KSM Kuching 76.38 277 P **P 20 33 21.4 +1.2**
comp=Z,28nm,1.3s,mb5.0
DBJI Dramaga 76.56 269 P **P 20 33 22.8 +1.6**
ASAJ Asahikawa 77.13 330 *e*P **P 20 33 25.4 +1.8**
comp=Z,66nm,1.2s,mb5.4
NACB Ninganchiao 77.23 303 *e*P **P 20 33 24.2 -0.5**
comp=Z,61nm,1.1s,mb5.4
CGJI Cibinong 77.51 268 P **P 20 33 27.3 +0.7**
comp=Z,0.4nmcomp=Z,1μmcomp=Z,78nm,1.4s,mb5.5
CGJI Cibinong 77.51 268 P **P 20 33 27.5 +0.9**
comp=Z,1μmcomp=Z,78nm,1.4s,mb5.5
TPUB Ta-pu 77.52 302 *e*P **P 20 33 24.6 -1.8**
comp=Z,100nm,0.9s,mb5.8
SSLB Suanglung 77.53 303 *e*P **P 20 33 25.3 -1.1**
comp=Z,29nm,0.9s,mb5.2
YHNB Yeheng 77.67 304 *e*P **P 20 33 27.4 +0.2**
comp=Z,52nm,1.0s,mb5.4
YHNB LR LR
comp=Z,593nm,19.0s,MS4.9
TATO Taipei 77.74 304 PFAKE 20 33 40.0 +12
TATO LR LR
comp=Z,694nm,19.0s,MS5.0
PKM Peak Mountain 77.83 44⇓ P **P 20 33 28.3 +0.5**
baz=78
MWC Mount Wilson 78.55 45 *e*P **P 20 33 32.3 +0.5**
comp=Z,28nm,1.4s,mb5.0
MWC Mount Wilson 78.55 45 *e*P **P 20 33 32.3 +0.5**
MWC pmax pmax
comp=Z,28nm,1.4s,mb5.0
MURC Murrieta 78.74 46⇑ P **P 20 33 32.9 0.0**
baz=79
PPBI Pangkal Pinang 78.79 272 P **P 20 33 35.1 +1.5**
comp=Z,2μmcomp=Z,42nm,2.0s,mb5.0
BFSC Mount Baldy Ra 78.82 45⇓ P **P 20 33 33.0 -0.3**
baz=79
MONP Monument Peak 78.83 47⇑ P **P 20 33 33.0 -0.4**
baz=79
PET Petropavlovsk 78.99 344 PFAKE 20 33 50.0 +16
PET LR LR
comp=Z,927nm,21.0s,MS5.1
EDW2 Edwards Air Fo 79.00 45⇓ P **P 20 33 34.1 -0.2**
baz=79,SNR=9.1
KLSI 79.12 269 P **P 20 33 36.3 +0.8**
comp=Z,0.3nmcomp=Z,1μmcomp=Z,50nm,2.0s,mb5.1
KLSI 79.12 269 P **P 20 33 35.9 +0.4**
comp=Z,1μmcomp=Z,50nm,2.0s,mb5.1
ISA Isabella 79.17 44⇑ P **P 20 33 34.9 -0.3**
baz=80
ISA Isabella 79.17 44 *e*P **P 20 33 35.5 +0.4**
comp=Z,103nm,2.0s,mb5.4
ISA Isabella 79.17 44 *e*P **P 20 33 35.5 +0.4**
ISA pmax pmax
comp=Z,103nm,2.0s,mb5.4
PFO Pinyon Flat Ob 79.24 47⇓ P **P 20 33 35.1 -0.5**
baz=80
PFO Pinyon Flat Ob 79.24 47 *e*P **P 20 33 35.6 0.0**
comp=Z,141nm,2.7s,mb5.4
PFO LR LR
comp=Z,892nm,21.0s,MS5.1
PFO Pinyon Flat Ob 79.24 47 *e*P **P 20 33 35.6 0.0**
PFO pmax pmax
comp=Z,141nm,2.7s,mb5.4
PFO MLR MLR
comp=Z,892nm,21.0s,MS5.1
YSS Yuzh-Sakhalins 79.26 332 *e*P **P 20 33 36.6 +1.3**
comp=Z,158nm,1.2s,mb5.8
YSS *e*pP pP 20 33 48.4 +0.9
YSS LR LR
comp=Z,207nm,21.0s,MS4.5
YSS Yuzh-Sakhalins 79.26 332*α i*P **P 20 33 36.0 +0.6**
YSS *e**PP pP 20 33 47.2 -0.3
YSS *e**SP sP 20 33 51.3 -0.8
YSS *e*S S 20 43 33.0 +0.5
YSS *e**SS sS 20 43 52.0 -0.7
YSS pmax pmax
comp=E,40nm,1.1s
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.7
YSS smax
comp=N,900nm,8.0s
YSS MLR MLR
comp=Z,300nm,17.0s,MS4.7
PEA0B Petropavlovsk- 79.31 344 *e*P **P 20 33 35.5 +0.1**
PETK Petropavlovsk- 79.31 344 P **P 20 33 35.3 -0.2**
comp=Z,46nm,1.0s,mb5.3,baz=142,slow=7.2,SNR=23
PETK LR LR 21 03 23.5
comp=Z,484nm,20.0s,MS4.8,baz=152,slow=32
PETK Petropavlovsk- 79.31 344 P **P 20 33 35.3 -0.2**
PETK Petropavlovsk- 79.31 344 P **P 20 33 35.3 -0.2**
CMB Columbia Colle 79.47 41 *e*P **P 20 33 36.0 -0.8**
CMB Columbia Colle 79.47 41 *e*P **P 20 33 36.0 -0.8**
LRMC Laurel Mountai 79.56 44⇓ P **P 20 33 37.1 -0.1**
baz=80
LWLI Liwa 79.61 269 P **P 20 33 39.2 +1.0**
comp=Z,1μmcomp=Z,92nm,1.4s,mb5.5
OHCM Honcut 79.66 39 *e*P **P 20 33 38.1 +0.4**
OHCM *e*pP pP 20 33 50.1 +0.2
MDSI Maura Dua 79.70 269 P **P 20 33 38.6 -0.1**
MDSI Maura Dua 79.70 269 P **P 20 33 38.9 +0.2**
comp=Z,911nmcomp=Z,41nm,2.1s,mb5.0
BELC Belle Mtn. Jos 79.78 46⇑ P **P 20 33 38.3 -0.2**
baz=80,SNR=9.4
WDC Whiskeytown Da 79.88 38 *e*P **P 20 33 39.4 +0.5**
comp=Z,39nm,1.4s,mb5.2
WDC Whiskeytown Da 79.88 38 *e*P **P 20 33 39.4 +0.5**
WDC pmax pmax
comp=Z,39nm,1.4s,mb5.1
CWC Cottonwood Cre 79.90 43⇑ P **P 20 33 38.7 -0.4**
baz=80
BC3 Big Chuckawall 79.94 47⇓ P **P 20 33 39.1 -0.3**
baz=80
QZH Quanzhou 79.96 302⇑ *i*P **P 20 33 38.1 -1.6**
QZH S S 20 43 44.0 +3.1
QZH LR LR
comp=Z,1μm,22.3s,MS5.1
GLA Glamis 80.01 48⇑ P **P 20 33 39.7 -0.1**
baz=80
GLA Glamis 80.01 48 *e*P **P 20 33 41.6 +1.8**
comp=Z,45nm,1.6s,mb5.2
GLA Glamis 80.01 48 *e*P **P 20 33 41.6 +1.8**
GLA pmax pmax
comp=Z,45nm,1.6s,mb5.2
GSC Goldstone 80.02 45⇓ P **P 20 33 39.7 -0.1**
baz=80
GSC Goldstone 80.02 45 *e*P **P 20 33 39.9 +0.1**
comp=Z,47nm,1.6s,mb5.2
GSC Goldstone 80.02 45 *e*P **P 20 33 39.9 +0.1**
GSC pmax pmax
comp=Z,47nm,1.6s,mb5.2
MPMC Manual Prospec 80.04 44⇑ P **P 20 33 39.6 -0.3**
baz=80
HEC Hector,Ludlow 80.05 46⇓ P **P 20 33 39.7 -0.2**
baz=80
DAC Darwin (Calif) 80.11 44 PFAKE 20 33 50.0 +10
DAC LR LR
comp=Z,1μm,21.0s,MS5.2
MTUM Tungsten Hills 80.16 42 *e*P **P 20 33 41.2 +0.7**
MAW Mawson 80.19 199 P **P 20 33 41.6 +1.3**
comp=Z,30nm,1.0s,mb5.2,baz=126,slow=6.9,SNR=20
MAW LR LR 21 11 00.2
comp=Z,891nm,18.4s,MS5.2,baz=116,slow=37
MAW Mawson 80.19 199 *e*P **P 20 33 42.2 +1.9**
comp=Z,21nm,1.0s,mb5.0
MAW Mawson 80.19 199 *e*P **P 20 33 42.4 +2.1**
comp=Z,22nm,1.4s,mb4.9
MAW Mawson 80.19 199 *e*P **P 20 33 42.4 +2.1**
MAW pmax pmax
comp=Z,22nm,1.4s
IRM Iron Mountain 80.44 47⇓ P **P 20 33 41.9 -0.1**
baz=81,SNR=7.4
GMRC Granite Mounta 80.46 46⇓ P **P 20 33 42.2 0.0**
baz=81
KSRS Korea Array 80.46 317 P **P 20 33 43.0 +0.9**
comp=Z,21nm,1.1s,mb5.0,baz=134,slow=6.3,SNR=38
KSRS LR LR 21 08 01.7
comp=Z,295nm,19.6s,MS4.6,baz=139,slow=35
KSAR Wonju Array Be 80.48 317 P **P 20 33 43.0 +0.8**
KSAR Wonju Array Be 80.48 317 P **P 20 33 43.1 +0.9**
YBH Yreka Blue Hor 80.55 37 *e*P **P 20 33 43.4 +0.9**
comp=Z,24nm,1.3s,mb5.0
YBH Yreka Blue Hor 80.55 37 *e*P **P 20 33 43.4 +0.9**
YBH pmax pmax
comp=Z,25nm,1.3s
113A Mohawk Valley, 80.58 49⇓ P **P 20 33 42.6 -0.2**
baz=81
Y12C Blythe 80.62 47⇓ P **P 20 33 42.8 -0.3**
baz=81
WCN Washoe City 80.66 40⇑ P **P 20 33 43.5 +0.3**
baz=81
TUQ Turquoise Moun 80.68 45⇑ P **P 20 33 42.6 -0.7**
baz=81
GRAC Grapevine Rang 80.69 43⇑ P **P 20 33 43.3 0.0**
baz=81
SHOC Shoshone 80.72 45⇓ P **P 20 33 44.0 +0.4**
baz=81
Z13A Yuma Proving G 80.90 48⇓ P **P 20 33 44.0 -0.6**
baz=81,SNR=7.7
NVAR Mina Array Bea 80.99 42 P **P 20 33 44.2 -0.7**
comp=Z,3.4nm,0.3s,mb4.8,baz=223,slow=8.7,SNR=26
NVAR LR LR 21 02 10.7
comp=Z,716nm,19.6s,MS5.0,baz=134,slow=30
NVAR Mina Array Bea 80.99 42 P **P 20 33 44.2 -0.7**
HUMO Hull Mountain 81.01 36 *e*P **P 20 33 45.8 +0.9**
comp=Z,81nm,1.8s,mb5.4
SSE Sheshan 81.28 309 P **P 20 33 45.4 -1.3**
SSE S S 20 43 57.6 +3.2
SSE pmax pmax
comp=Z,24nm,0.7s,mb5.2
SSE pmax pmax
comp=Z,160nm,6.5s
SSE LR LR
comp=N,180nm,27.8s,MS4.4
SSE LR LR
comp=E,170nm,28.7s,MS4.4
SSE LR LR
comp=Z,310nm,32.2s,MS4.5
INCN Inchon 81.29 317 PFAKE 20 34 00.0 +13
INCN LR LR
comp=Z,500nm,19.0s,MS4.9
TPH Tonopah 81.44 43 PFAKE 20 34 00.0 +13
TPH LR LR
comp=Z,937nm,20.0s,MS5.1
Z14A Wintersburg 81.48 48⇑ P **P 20 33 48.0 +0.4**
baz=82
KSI Kapahiang 81.48 270 P **P 20 33 48.5 +0.3**
comp=Z,2μmcomp=Z,128nm,1.6s,mb5.6
Y14A Wickenburg 81.77 48⇑ P **P 20 33 48.6 -0.6**
baz=82
W13A Hualapai Mount 81.83 47⇑ P **P 20 33 49.2 -0.3**
baz=82,SNR=8.1
MOD Modoc 82.02 38 *e*P **P 20 33 50.7 +0.5**
comp=Z,58nm,1.8s,mb5.2
217A Green Valley 82.10 51⇑ P **P 20 33 50.7 -0.2**
baz=82
K05A Summer Lake 82.22 37⇑ P **P 20 33 51.1 -0.2**
baz=83
Y15A Casa Rosa Ranc 82.23 48⇑ P **P 20 33 51.4 -0.2**
baz=82,SNR=8.6
TUC Tucson 82.41 50 *e*P **P 20 33 52.8 +0.2**
comp=Z,111nm,2.5s,mb5.3
TUC LR LR
comp=Z,1μm,20.0s,MS5.3
TUC Tucson 82.41 50 *e*P **P 20 33 52.8 +0.2**
TUC pmax pmax
comp=Z,111nm,2.5s,mb5.3
TUC MLR MLR
comp=Z,1μm,20.0s,MS5.3
MYKOM Kota Tinggi 82.43 275 P **P 20 33 54.0 +0.9**
comp=Z,72nm,1.4s,mb5.4
318A Bisbee 82.51 51⇑ P **P 20 33 53.0 -0.1**
baz=83
KDAK Kodiak Island 82.58 12 LR LR 21 04 49.9
comp=Z,919nm,21.9s,MS5.1,baz=148,slow=32
117A Oracle 82.58 50⇓ P **P 20 33 53.4 -0.1**
baz=83
R11A Troy Canyon, C 82.63 43⇑ P **P 20 33 53.0 -0.6**
baz=83
Y16A Circle Bar Ran 82.78 49⇓ P **P 20 33 54.5 0.0**
baz=83,SNR=10
H04A Detroit Lake 82.82 35⇑ P **P 20 33 54.5 +0.1**
baz=83
BMN Battle Mountai 82.89 41 *e*P **P 20 33 55.3 +0.4**
comp=Z,62nm,1.6s,mb5.4
BMN LR LR
comp=Z,830nm,20.0s,MS5.1
BMN Battle Mountai 82.89 41 *e*P **P 20 33 55.3 +0.4**
BMN pmax pmax
comp=Z,62nm,1.6s,mb5.4
BMN MLR MLR
comp=Z,830nm,20.0s,MS5.1
319A Douglas 82.99 52⇓ P **P 20 33 55.6 0.0**
baz=83
X16A Lo Mia Camp, P 83.11 48⇑ P **P 20 33 56.0 -0.1**
baz=83,SNR=7.7
Y17A Roosevelt 83.12 49⇑ P **P 20 33 55.7 -0.5**
baz=83
118A Homack Ranch, 83.17 50⇓ P **P 20 33 56.3 -0.2**
baz=84
WVOR Wild Horse Val 83.31 38 *e*P **P 20 33 56.7 -0.3**
comp=Z,36nm,1.4s,mb5.2
WVOR LR LR
comp=Z,1μm,22.0s,MS5.2
WVOR Wild Horse Val 83.31 38 *e*P **P 20 33 56.7 -0.3**
WVOR pmax pmax
comp=Z,37nm,1.4s,mb5.2
WVOR MLR MLR
comp=Z,1μm,22.0s,MS5.2
219A White Tail Can 83.33 51⇓ P **P 20 33 57.2 -0.1**
baz=84,SNR=9.2
E03A Lebam 83.37 33⇓ P **P 20 33 58.2 +1.0**
baz=84
NJ2 Nanjing 83.47 309 *e*P **P 20 33 59.6 +1.5**
NJ2 pP pP 20 34 10.2 -0.1
NJ2 sP sP 20 34 14.0 -0.8
NJ2 SKS 20 44 13.5
NJ2 S S 20 44 18.0 +1.2
NJ2 sS sS 20 44 36.0 -1.2
NJ2 pmax pmax
comp=Z,50nm,1.1s,mb5.5
NJ2 pmax pmax
comp=Z,160nm,7.0s
NJ2 LR LR
comp=N,170nm,21.0s
NJ2 LR LR
comp=E,280nm,29.3s
NJ2 LR LR
comp=Z,340nm,23.7s,MS4.7
BMW Boistfort Moun 83.49 33 *e*pP pP 20 34 10.8 +0.8
X17A Forest Lakes 83.50 49⇓ P **P 20 33 58.5 +0.3**
baz=84
R13A O'Grain Ranch, 83.56 44⇓ P **P 20 33 59.0 +0.6**
baz=84
COCO West Island 83.56 260 *e*P **P 20 34 02.2 +3.2**
comp=Z,179nm,1.2s,mb6.1
COCO *e*pP pP 20 34 13.8 +2.6
COCO LR LR
comp=Z,572nm,21.0s,MS4.9
COCO West Island 83.56 260 *e*P **P 20 34 02.2 +3.2**
COCO *e**PP pP 20 34 13.8 +2.6
COCO pmax pmax
comp=Z,179nm,1.2s,mb6.1
COCO MLR MLR
comp=Z,572nm,21.0s,MS4.9
COCO West Island 83.56 260 P **P 20 34 01.1 +2.1**
comp=Z,3μmcomp=Z,149nm,1.6s,mb5.9
CCUT Cedar City 83.59 45 *e*P **P 20 33 59.3 +0.8**
comp=Z,92nm,1.9s,mb5.6
SDSI Sungai Dareh 83.60 272 P **P 20 33 58.9 -0.3**
comp=Z,686nmcomp=Z,34nm,1.7s,mb5.2
U15A North Rim 83.65 46⇑ P **P 20 33 59.0 +0.1**
baz=84,SNR=18
ARUT Antelope Range 83.67 45 *e*P **P 20 33 59.0 +0.1**
comp=Z,52nm,1.6s,mb5.4
ARUT Antelope Range 83.67 45 *e*P **P 20 33 59.0 0.0**
ARUT pmax pmax
comp=Z,52nm,1.6s,mb5.4
Y18A Canyon Day Jun 83.73 49⇓ P **P 20 33 59.9 +0.5**
baz=84
WUAZ Wupatki 83.76 47⇓ P **P 20 33 59.6 +0.1**
baz=84
WUAZ Wupatki 83.76 47 PFAKE 20 34 10.0 +11
WUAZ LR LR
comp=Z,865nm,19.0s,MS5.2
NLWA Neilton Lookou 83.80 32 PFAKE 20 34 10.0 +11
NLWA LR LR
comp=Z,951nm,20.0s,MS5.2
220A Playas Peak, P 83.81 52⇑ P **P 20 33 59.7 -0.2**
baz=84
HABR Khabarovsk 83.87 329*de*P **P 20 33 59.7 0.0**
HABR *e**PP pP 20 34 09.9 -2.0
HABR *e**SP sP 20 34 14.0 -2.5
HABR *e*PPP 20 39 05.9
HABR *e*S S 20 44 19.4 -0.7
HABR *e*SS SS 20 49 52.2 +3.2
HABR pmax pmax
comp=E,107nm,3.0s
HABR pmax pmax
comp=Z,204nm,3.0s

HABR pmax pmax
comp=N,19nm,1.5s
HABR MLR MLR
comp=Z,465nm,19.0s,MS4.9
I07A Izee 83.87 37 ⇑P P 20 34 00.1 +0.3
baz=84
J08A Circle Bar Ran 83.99 38 ⇓P P 20 34 00.3 -0.2
baz=84
G06A Carlson Farm, 84.01 35 ⇑P P 20 34 00.5 0.0
baz=84
MDJ Mudanjiang 84.03 324 P P 20 34 02.2 +1.6
MDJ pP pP 20 34 11.8 -1.1
MDJ sP sP 20 34 14.2 -3.2
MDJ pmax pmax
comp=Z,81nm,1.3s,mb5.7
MDJ pmax pmax
comp=Z,640nm,5.1s
MDJ LR LR
comp=N,270nm,16.8s,MS4.9
MDJ LR LR
comp=E,300nm,14.0s,MS4.9
MDJ LR LR
comp=Z,550nm,21.0s
MDJ Mudanjiang 84.03 324 *e*P **P 20 34 01.9 +1.2**
comp=Z,85nm,1.1s,mb5.8
MDJ *e*pP pP 20 34 13.0 +0.2
MDJ LR LR
comp=Z,583nm,20.0s,MS5.0
120A U Bar Ranch, L 84.07 51 ⇑P P 20 34 01.2 +0.1
baz=84
X18A Snowflake 84.20 49 ⇑P P 20 34 02.0 +0.3
baz=84
V17A Tonalea, Kykot 84.21 48 ⇓P P 20 34 01.8 0.0
baz=84,SNR=10
QIZ Qiongzhong 84.27 293 P P 20 34 03.7 +1.3
QIZ S S 20 44 28.6 +3.2
QIZ pmax pmax
comp=Z,470nm,5.8s
QIZ LR LR
comp=Z,440nm,17.2s,MS4.9
QIZ Qiongzhong 84.27 293 PFAKE 20 34 10.0 +7.6
QIZ LR LR
comp=Z,332nm,20.0s,MS4.7
U16A Tuba City 84.27 47 ⇓P P 20 34 02.2 +0.1
baz=85,SNR=8.6
Y19A Nutrioso 84.38 50 ⇓P P 20 34 03.1 +0.4
baz=85,SNR=8.6
LON Longmire 84.40 34 *e*P **P 20 34 02.5 +0.1**
comp=Z,61nm,1.9s,mb5.4
LON Longmire 84.40 34 *e*P **P 20 34 02.5 +0.1**
LON pmax pmax
comp=Z,61nm,1.9s,mb5.4
Z20A Nine Sixteen R 84.40 51 ⇓P P 20 34 02.9 +0.1
baz=85,SNR=9.0
221A Mesquite Ranch 84.41 52 ⇑P P 20 34 02.7 -0.2
baz=85
GNW Green Mountain 84.44 33 *e*P **P 20 33 56.7 -5.9**
comp=Z,40nm,1.6s,mb5.3
BKNI Bangkinang 84.44 273 P P 20 34 04.5 +1.0
comp=Z,2μmcomp=Z,91nm,1.7s,mb5.6
PDSI Padang 84.50 271 P P 20 34 03.2 -0.6
comp=Z,1μmcomp=Z,72nm,1.3s,mb5.7
D05A Enumclaw 84.60 33 ⇑P P 20 34 04.3 +0.8
baz=85
X19A St. Johns 84.60 49 ⇑P P 20 34 03.9 +0.2
baz=85
W18A Petrified Fore 84.66 48 ⇑P P 20 34 03.5 -0.6
baz=85
R15A Junction 84.67 45 ⇑P P 20 34 04.3 +0.3
baz=85
121A Cookes Peak, D 84.68 52 ⇓P P 20 34 03.8 -0.4
baz=85
PPI Padang Panjang 84.73 272 P P 20 34 05.4 +0.4
comp=Z,22nm,1.9s,mb4.9
U17A Shonto 84.84 47 ⇓P P 20 34 05.0 +0.1
baz=85
S16A Weppner Ranch, 84.84 45 ⇓P P 20 34 04.7 -0.2
baz=85
V18A Ganado 84.85 48 ⇑P P 20 34 04.8 -0.2
baz=85,SNR=9.7
MVU Marysvale 84.88 45 PFAKE 20 34 20.0 +15
MVU LR LR
comp=Z,847nm,22.0s,MS5.1
MSU Marysvale 84.90 45 *e*P **P 20 34 06.2 +1.0**
MSU Marysvale 84.90 45 *e*P **P 20 34 06.2 +1.0**
SYO Syowa Base 84.94 192 *e*P **P 20 34 02.4 -2.6**
G08A Pilot Rock 84.95 36 ⇑P P 20 34 05.0 -0.3
baz=85
T17A Navajo Res., N 84.96 46 ⇑P P 20 34 05.4 -0.1
baz=85
Y20A Horse Springs, 84.97 50 ⇓P P 20 34 05.6 0.0
baz=85,SNR=12
RSO Redoubt South 85.06 11 *e*P **P 20 34 05.3 -0.1**
Z21A St. Cloud Mine 85.16 51 ⇓P P 20 34 06.4 -0.2
baz=85
X20A Quemado 85.22 50 ⇓P P 20 34 07.0 +0.1
baz=86,SNR=12
R16A Teasdale 85.23 45 ⇓P P 20 34 07.0 +0.2
baz=86
U18A Rough Rock, Ch 85.28 47 ⇓P P 20 34 06.7 -0.4
baz=86
E07A Sunnyside 85.29 35 ⇑P P 20 34 07.2 +0.3
baz=86
JCW Jim Creek 85.31 33 *e*P **P 20 34 09.8 +2.8**
S17A Black Ridge (B 85.31 46 ⇑P P 20 34 07.2 -0.1
baz=86
DL2 Dalian 85.32 316 ⇑P P 20 34 08.1 +0.8
DL2 S S 20 44 34.3 -0.7
DL2 pmax pmax
comp=Z,40nm,1.0s,mb5.5
DL2 pmax pmax
comp=Z,190nm,4.2s
DL2 LR LR
comp=N,260nm,16.5s,MS4.7
DL2 LR LR
comp=E,120nm,17.1s,MS4.7
DL2 LR LR
comp=Z,190nm,17.8s,MS4.5
RSW Rattlesnake Hi 85.32 35 *e*P **P 20 34 07.8 +0.8**
HAWA Hanford 85.35 35 *e*P **P 20 34 07.7 +0.5**
comp=Z,50nm,1.5s,mb5.4
HAWA LR LR
comp=Z,2μm,20.0s,MS5.4
P15A Leamington 85.44 44 ⇓P P 20 34 07.8 0.0
baz=86
DUG Dugway 85.46 43 ⇓P P 20 34 07.8 -0.1
baz=86
DUG Dugway 85.46 43 *e*P **P 20 34 09.7 +1.8**
comp=Z,16nm,1.4s,mb5.0
DUG LR LR
comp=Z,600nm,21.0s,MS5.0
DUG Dugway 85.46 43 *e*P **P 20 34 09.7 +1.8**
DUG pmax pmax
comp=Z,16nm,1.4s,mb5.0
DUG MLR MLR
comp=Z,600nm,21.0s,MS5.0
SNAA Sanae 85.51 178 *e*P **P 20 34 05.5 -2.3**
comp=Z,41nm,1.1s,mb5.6
SNAA Sanae 85.51 178 *e*P **P 20 34 05.5 -2.3**
SNAA pmax pmax
comp=Z,41nm,1.1s
Y21A Point of Rocks 85.52 50 ⇑P P 20 34 08.5 +0.1
baz=86,SNR=8.0
W20A Ramah 85.52 49 ⇑P P 20 34 08.5 +0.1
baz=86,SNR=9.3
MFID Camas Ranch 85.53 39 ⇑P P 20 34 08.4 +0.1
baz=86
MFID Camas Ranch 85.53 39 *e*P **P 20 34 08.1 -0.1**
comp=Z,36nm,1.5s,mb5.4
VNA3 Neumayer Olymp 85.55 175 *e* **P 20 34 07.8 -0.2**
VNA3 *e* pP 20 34 21.6 +1.4
SLKM Skilak Lake 85.57 12 *e*P **P 20 34 07.6 -0.4**
SLKM Skilak Lake 85.57 12 *e*P **P 20 34 07.6 -0.4**
BMO Blue Mountains 85.58 37 *e*P **P 20 34 08.0 -0.5**
comp=Z,89nm,2.5s,mb5.5
BMO LR LR
comp=Z,849nm,22.0s,MS5.1
Z22A Elephant Butte 85.64 51 ⇓P P 20 34 08.6 -0.4
baz=86,SNR=8.7
U19A Dine' College, 85.66 48 ⇑P P 20 34 09.1 +0.1
baz=86,SNR=12
T18A Mexican Hat 85.66 47 ⇑P P 20 34 08.9 -0.1
baz=86
E08A Dider Farm, El 85.66 35 ⇓P P 20 34 08.8 0.0
baz=86
X21A Alamocita Cree 85.67 50 ⇑P P 20 34 09.1 0.0
baz=86,SNR=7.5

PLCA Paso Flores 85.68 132 P **P 20 34 10.7 +1.4**
comp=Z,5.6nm,1.1s,mb4.7,baz=256,slow=10,SNR=5.4
PLCA LR LR 21 04 45.3
comp=Z,631nm,19.1s,MS5.0,baz=247,slow=30
PLCA Paso Flores 85.68 132 *e*P **P 20 34 10.4 +1.2**
comp=Z,42nm,1.9s,mb5.3
PLCA *e*pP pP 20 34 22.2 +0.7
PLCA Paso Flores 85.68 132 *e*P **P 20 34 10.5 +1.3**
PLCA *e**PP pP 20 34 22.2 +0.7
PLCA pmax pmax
comp=Z,42nm,1.9s
RPW Rockport 85.69 33 *e*PKKPbc PKKPbc 20 52 19.9 +6.7
O15A The Old Anders 85.72 43 ⇓P P 20 34 08.9 -0.4
baz=86
ETW Entiat 85.72 34 *e*P **P 20 34 09.4 +0.3**
SNY Shenyang 85.77 319 ⇓P P 20 34 10.7 +1.2
SNY S S 20 44 46.3 +7.0
SNY pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
SNY pmax pmax
comp=Z,620nm,3.7s
SNY LR LR
comp=Z,240nm,9.0s
324A Moseley Ranch, 85.81 53 ⇓P P 20 34 09.6 -0.3
baz=86
CN2 Changchun 85.84 321 *i*P **P 20 34 10.5 +0.8**
CN2 *e*pP pP 20 34 22.4 +0.4
CN2 *e*SKS 20 44 32.5
CN2 *e*S S 20 44 41.4 +1.5
CN2 pmax pmax
comp=Z,100nm,1.2s,mb5.9
CN2 LR LR
comp=N,300nm,17.0s,MS4.8
CN2 LR LR
comp=E,200nm,17.0s,MS4.8
CN2 LR LR
comp=Z,200nm,18.0s,MS4.6
425A Indio Mountain 85.85 54 ⇓P P 20 34 09.4 -0.7
baz=86
SPU Mount Spurr 85.86 11 *e*P **P 20 34 08.7 -0.7**
626A Big Bend Ranch 85.89 56 ⇑P P 20 34 10.1 -0.2
baz=86,SNR=12
V20A Brimhall 85.90 48 ⇓P P 20 34 10.4 +0.2
baz=86
KLR Kul'dur 85.97 328 *e*P **P 20 34 08.0 -2.2**
KLR *e*S S 20 44 35.0 -5.9
KLR pmax pmax
comp=Z,120nm,1.8s,mb5.8
MNSI Mandailing Nat 85.97 273 P P 20 34 11.0 -0.1
comp=Z,931nmcomp=Z,57nm,1.4s,mb5.6
TMUT Trail Mountain 85.97 44 *e*P **P 20 34 11.6 +1.1**
comp=Z,58nm,1.4s,mb5.6
MNTX Cornudas Mount 86.01 53 ⇓P P 20 34 11.2 +0.3
baz=86
MNTX Cornudas Mount 86.01 53 *e*P **P 20 34 10.5 -0.4**
comp=Z,20nm,1.4s,mb5.2
MNTX LR LR
comp=Z,698nm,20.0s,MS5.0
VNA2 Neumayer--Watz 86.02 176 *e* **P 20 34 11.0 +0.7**
baz=202,slow=3.3
VNA2 *e* pP 20 34 24.2 +1.6
WHN Wuhan 86.02 305 ⇓P P 20 34 12.1 +1.1
WHN sP sP 20 34 27.1 -0.7
WHN S S 20 44 44.5 +2.3
WHN pmax pmax
comp=Z,83nm,1.0s,mb5.9
WHN pmax pmax
comp=Z,920nm,5.5s
WHN LR LR
comp=Z,1μm,21.1s,MS5.2
N15A Stansbury Isla 86.04 42 ⇑P P 20 34 11.4 +0.6
baz=86
IPM Ipoh 86.07 276 *e*P **P 20 34 13.2 +1.5**
comp=Z,97nm,1.0s,mb6.0
IPM *e*pP pP 20 34 24.9 +1.0
IPM Ipoh 86.07 276 P P 20 34 12.8 +1.2
comp=Z,1μmcomp=Z,118nm,1.4s,mb5.9
224A Cornudas Mount 86.09 53 ⇑P P 20 34 10.9 -0.4
baz=86
LENM Lemitar 86.10 50 *e*P **P 20 34 13.4 +2.2**
TXAR Lajitas Array 86.14 56 P P 20 34 10.9 -0.7
comp=Z,9.5nm,1.0s,mb5.0,baz=216,slow=9.0,SNR=25
TXAR LR LR 21 08 02.4
comp=Z,561nm,18.1s,MS5.0,baz=40,slow=32
TXAR Lajitas Array 86.14 56 P P 20 34 10.9 -0.7
TXAR Lajitas Array 86.14 56 P P 20 34 10.9 -0.7
325A Bean Ranch, Si 86.15 54 ⇑P P 20 34 11.2 -0.4
baz=86
E09A Wood Farm, Sta 86.16 35 ⇓P P 20 34 10.9 -0.4
baz=86
I12A Atlanta 86.17 39 ⇓P P 20 34 11.6 +0.2
baz=86
U20A Newcomb 86.17 48 ⇑P P 20 34 11.4 -0.2
baz=86
Z23A Rita Site, Whi 86.17 52 ⇓P P 20 34 11.2 -0.5
baz=86
526A Mary Lane Ranc 86.17 55 ⇑P P 20 34 11.4 -0.4
baz=86,SNR=10
VNA1 Neumayer--Stat 86.23 176 *e* **P 20 34 10.9 -0.5**
baz=202,slow=3.3
VNA1 *e* pP 20 34 25.5 +1.9
L14A Malta 86.25 41 ⇓P P 20 34 11.1 -0.7
baz=87
O16A Springville 86.29 43 ⇑P P 20 34 11.9 -0.2
baz=87
SRU San Rafael 86.31 45 *e*P **P 20 34 12.6 +0.4**
comp=Z,66nm,1.7s,mb5.6
SRU San Rafael 86.31 45 *e*P **P 20 34 12.6 +0.4**
SRU pmax pmax
comp=Z,66nm,1.7s,mb5.6
F10A Beach Ranch, E 86.32 36 ⇑P P 20 34 11.7 -0.3
baz=87
R18A Canyonlands Na 86.33 46 ⇑P P 20 34 12.0 -0.2
baz=87
BNM Barren Site 86.34 51 *e*P **P 20 34 12.3 -0.1**
comp=Z,67nm,2.0s,mb5.5
P17A Butcher Ranch, 86.37 44 ⇑P P 20 34 11.9 -0.6
baz=87
HVU Hansel Valley 86.39 42 *e*P **P 20 34 14.9 +2.4**
comp=Z,130nm,2.8s,mb5.7
HVU Hansel Valley 86.39 42 *e*P **P 20 34 14.9 +2.4**
HVU pmax pmax
comp=Z,131nm,2.8s,mb5.7
M15A Larsen Ranch, 86.41 42 ⇑P P 20 34 11.9 -0.7
baz=87
627A Terlingua Ranc 86.41 56 ⇓P P 20 34 12.2 -0.8
baz=87,SNR=14
LPM Los Pinos Moun 86.42 51 *e*P **P 20 34 13.6 +0.7**
OD2 Odessa Site #2 86.42 35 *e*P **P 20 34 12.7 +0.2**
NVL N'lazarevskaya 86.44 182 *e*P **P 20 34 15.9 +3.5**
NVL *e* 20 44 46.5
GAMB Gambell 86.45 2 *e*P **P 20 34 12.8 +0.6**
comp=Z,32nm,1.0s,mb5.5
HLID Hailey 86.45 39 ⇑P P 20 34 12.5 -0.3
baz=87
HLID Hailey 86.45 39 *e*P **P 20 34 13.2 +0.5**
comp=Z,61nm,2.3s,mb5.4
HLID LR LR
comp=Z,627nm,20.0s,MS5.0
124A Stringfield Ra 86.45 52 ⇓P P 20 34 12.5 -0.5
baz=87
V21A Milan 86.48 49 ⇓P P 20 34 12.6 -0.5
baz=87
S19A Harvey Farm, M 86.48 47 ⇓P P 20 34 12.8 -0.3
baz=87
J13A Cove Ranch, Pi 86.49 40 ⇑P P 20 34 12.9 0.0
baz=87
426A McDonald Obser 86.51 55 ⇓P P 20 34 13.0 -0.3
baz=87
Q18A Rafter H Ranch 86.56 45 ⇓P P 20 34 12.9 -0.5
baz=87
DAU Daniels Canyon 86.56 43 *e*P **P 20 34 16.1 +2.7**
DAU Daniels Canyon 86.56 43 *e*P **P 20 34 16.1 +2.7**
527A Woodward Ranch 86.58 55 ⇓P P 20 34 13.1 -0.6
baz=87,SNR=12
K14A Jones Ranch, D 86.59 41 ⇓P P 20 34 13.5 0.0
baz=87
225A Deer Hill, Car 86.62 53 ⇑P P 20 34 13.1 -0.8
baz=87
MVCO Mesa Verde 86.63 47 PFAKE 20 34 30.0 +16
MVCO LR LR
comp=Z,1μm,19.0s,MS5.4
Y23A Lovelace Mesa, 86.64 51 ⇑P P 20 34 13.6 -0.3
baz=87
N16A Rees Ranch, Co 86.71 43 ⇓P P 20 34 14.2 +0.1
baz=87
KULM Kulim 86.73 277 P P 20 34 14.7 -0.2

KULM Kulim 86.73 277 *e*P **P 20 34 16.2 +1.3**
comp=Z,108nm,1.4s,mb5.9
KULM LR LR
comp=Z,340nm,21.0s,MS4.7
KULM Kulim 86.73 277 P P 20 34 16.9 +2.0
L15A Malad City 86.76 42 ⇑P P 20 34 14.7 +0.4
baz=87
O17A Robinson Place 86.77 44 ⇓P P 20 34 14.3 -0.1
baz=87
P18A Preston Nutter 86.77 44 ⇓P P 20 34 14.8 +0.4
baz=87
PMR Palmer 86.78 12 *e*P **P 20 34 13.9 0.0**
comp=Z,86nm,1.6s,mb5.7
PMR Palmer 86.78 12 *e*P **P 20 34 13.9 0.0**
PMR pmax pmax
comp=Z,86nm,1.6s,mb5.7
H12A Diamond D Ranc 86.78 38 ⇑P P 20 34 14.3 0.0
baz=87
U21A Nageezi 86.79 48 ⇑P P 20 34 14.4 -0.2
baz=87
628A Black Gap, Mar 86.81 56 ⇓P P 20 34 14.3 -0.5
baz=87
UBT Ubonrachathani 86.81 288 ⇓P P 20 34 17.4 +2.2
I13A Wildhorse Cree 86.83 39 ⇑P P 20 34 14.4 -0.2
baz=87
J14A Carey 86.83 40 ⇓P P 20 34 14.8 +0.2
baz=87
G12A Big Creek, Yel 86.86 38 ⇓P P 20 34 15.1 +0.4
baz=87
ANMO Albuquerque 86.86 50 *e*P **P 20 34 14.9 -0.1**
comp=Z,237nm,2.8s,mb5.9
ANMO LR LR
comp=Z,2μm,21.0s,MS5.4
ANMO Albuquerque 86.86 50 *e*P **P 20 34 14.9 -0.1**
ANMO pmax pmax
comp=Z,237nm,2.8s
ANMO MLR MLR
comp=Z,2μm,21.0s
X23A Hourglass Bar 86.87 50 ⇑P P 20 34 14.7 -0.3
baz=87
TTA Tatalina 86.89 9 *e*P **P 20 34 14.7 +0.2**
TTA Tatalina 86.89 9 *e*P **P 20 34 14.7 +0.3**
C09A Chrisman Ranch 86.91 34 ⇓P P 20 34 15.0 +0.1
baz=87
HWUT Hardware Ranch 87.04 42 *e*P **P 20 34 16.9 +1.3**
comp=Z,60nm,2.3s,mb5.4
HWUT *e*pP pP 20 34 31.2 +3.3
V22A San Miguel Ran 87.04 49 ⇓P P 20 34 15.4 -0.4
baz=87
S20A Disappointment 87.05 47 ⇑P P 20 34 15.4 -0.4
baz=87
DIV Divide 87.05 14 *e*P **P 20 34 15.7 +0.4**
comp=Z,76nm,1.5s,mb5.7
PV01 Paradox Valley 87.07 46 *e*P **P 20 34 15.9 0.0**
comp=Z,648nm,1.1s
427A Hayter Ranch, 87.07 55 ⇑P P 20 34 16.0 -0.1
baz=87,SNR=14
Y24A Capitan 87.08 51 ⇑P P 20 34 16.0 -0.1
baz=87,SNR=14
N17A Moffit Pass 87.12 43 ⇑P P 20 34 15.8 -0.3
baz=87
H13A Challis 87.13 39 ⇓P P 20 34 16.3 +0.2
baz=88
T21A Navajo Lake 87.17 48 ⇑P P 20 34 16.1 -0.4
baz=88
528A Cox Ranch, San 87.21 56 ⇓P P 20 34 16.9 +0.1
baz=88
I14A Mackay 87.23 40 ⇑P P 20 34 16.8 +0.3
baz=88
F12A Elk City 87.28 37 ⇓P P 20 34 16.6 -0.1
baz=88
Z25A Roswell 87.28 52 ⇓P P 20 34 17.3 +0.2
baz=88
U22A Llaves 87.32 49 ⇑P P 20 34 16.6 -0.5
baz=88
S21A Coal Bank Pass 87.34 47 ⇓P P 20 34 16.9 -0.3
baz=88
PSI Prapat 87.35 274 P P 20 34 18.1 +0.2
comp=Z,1μmcomp=Z,92nm,1.4s,mb5.8
PNL Peninsula 87.35 17 *e*P **P 20 34 18.7 +1.9**
comp=Z,70nm,1.3s,mb5.7
PPLA Purkeypile 87.44 10 *e*pP pP 20 34 30.8 +1.5
G13A Cobalt 87.46 38 ⇓P P 20 34 18.4 +0.8
baz=88
V23A Ortiz Mt. (NFS 87.46 49 ⇑P P 20 34 17.8 -0.1
baz=88
J15A Blackfoot 87.53 40 ⇓P P 20 34 18.0 0.0
baz=88
428A Kincaid Ranch, 87.56 55 ⇑P P 20 34 18.3 -0.2
baz=88
P19A Cripple Cowboy 87.60 45 ⇓P P 20 34 18.5 +0.1
baz=88
EFI East Falkland 87.61 146 PFAKE 20 34 30.0 +12
EFI LR LR
comp=Z,698nm,20.0s,MS5.1
T22A Edith 87.61 48 ⇓P P 20 34 18.0 -0.5
baz=88
Y25A Mesa, Roswell 87.61 52 ⇑P P 20 34 18.2 -0.4
baz=88
Q20A Ridgley Place, 87.69 46 ⇓P P 20 34 18.6 -0.3
baz=88
K16A Soda Springs 87.71 41 ⇓P P 20 34 18.9 0.0
baz=88
W24A Lazy 6 Ranch, 87.74 50 ⇑P P 20 34 19.2 0.0
baz=88
328A Wristen Ranch, 87.77 55 ⇑P P 20 34 18.8 -0.6
baz=88
NEW Newport 87.80 35 ⇑P P 20 34 19.2 +0.1
baz=88
NEW Newport 87.80 35 PFAKE 20 34 30.0 +11
NEW LR LR
comp=Z,1μm,19.0s,MS5.4
Z26A Caprock 87.81 53 ⇑P P 20 34 19.2 -0.4
baz=88
F13A Darby 87.81 38 ⇑P P 20 34 19.3 0.0
baz=88
M18A Lyman 87.87 43 ⇑P P 20 34 19.6 -0.1
baz=88
R21A Cimarron 87.87 47 ⇑P P 20 34 19.6 -0.2
baz=88
P20A De Beque 87.91 45 ⇓P P 20 34 19.9 -0.1
baz=88
CMIG Matias Romero 87.92 71 P P 20 34 19.6 -0.9
comp=Z,5.3nm,0.8s,mb4.8,baz=238,slow=3.4,SNR=5.6
CMIG Matias Romero 87.92 71 P P 20 34 19.6 -0.9
X25A Clemmons Ranch 87.93 51 ⇑P P 20 34 20.0 -0.1
baz=88
AHID Auburn Hatcher 87.97 41 PFAKE 20 34 30.0 +10
AHID LR LR
comp=Z,744nm,20.0s,MS5.1
D12A Red Ives Fores 88.00 36 ⇓P P 20 34 20.3 +0.1
baz=88
S22A 4UR Ranch, Cre 88.04 47 ⇓P P 20 34 21.2 +0.6
baz=88
V24A Rampart Ranch, 88.09 50 ⇑P P 20 34 21.2 +0.3
baz=88
H15A Lima 88.10 39 ⇑P P 20 34 21.1 +0.4
baz=88
MCMT McKenzie Canyo 88.10 39 *e*P **P 20 34 20.6 -0.1**
comp=Z,7.8nm,1.6s,mb4.7
RRI2 Red Ridge 88.16 41 *e*P **P 20 34 23.5 +2.5**
comp=Z,33nm,1.7s,mb5.3
TRF Thorofare Moun 88.28 11 *e*P **P 20 34 20.8 -0.3**
comp=Z,285nm,2.2s,mb6.1
E13A Victor 88.28 37 ⇓P P 20 34 21.3 -0.2
baz=89
C12B Naegeli Ranch, 88.33 36 ⇑P P 20 34 21.2 -0.5
baz=89
R22A Saguache, Gunn 88.34 47 ⇑P P 20 34 21.9 -0.1
baz=89
SKAG Skagway 88.35 19 *e*P **P 20 34 23.1 +1.6**
comp=Z,82nm,1.7s,mb5.7
SKAG *e*pP pP 20 34 35.7 +1.9
W25A X Bar L Ranch, 88.42 51 ⇓P P 20 34 21.9 -0.5
baz=89
REDW Red Top Meadow 88.45 41 *e*P **P 20 34 24.7 +2.3**
comp=Z,46nm,1.8s,mb5.4
M19A Rock Springs 88.49 43 ⇑P P 20 34 22.7 +0.1
baz=89
G15A Dillon 88.50 39 ⇑P P 20 34 22.6 0.0
baz=89
D13A Huson 88.52 37 ⇓P P 20 34 22.7 +0.1
baz=89
J17A Brown Place, J 88.54 41 ⇓P P 20 34 22.6 -0.2
baz=89
K18A Toltan Ranch, 88.55 42 ⇓P P 20 34 22.2 -0.7
baz=89
X26A CR and CF Fran 88.56 51 ⇓P P 20 34 22.7 -0.4

baz=89
Q22A Crested Butte, 88.56 46 ⇑P P 20 34 22.2 -0.8
baz=89
MSO Missoula 88.65 37 PFAKE 20 34 40.0 +17
MSO LR LR
comp=Z,801nm,19.0s,MS5.2
E14A Clinton 88.66 38 ⇓P P 20 34 22.6 -0.7
baz=89
L19A Farson 88.68 43 ⇓P P 20 34 22.9 -0.6
baz=89
N20A Spence Gulch, 88.70 44 ⇓P P 20 34 22.6 -1.0
baz=89
Y27A Causey 88.70 52 ⇑P P 20 34 22.8 -1.1
baz=89
MOOW Moose Ponds 88.73 41 *e*P **P 20 34 26.0 +2.3**
comp=Z,117nm,2.8s,mb5.7
LOHW Long Hollow 88.74 41 *e*P **P 20 34 22.6 -1.2**
comp=Z,2.3nm,0.6s,mb4.7
BPAW Bear Paw Mtn. 88.76 10 *e*P **P 20 34 22.4 -0.9**
comp=Z,27nm,1.4s,mb5.4
PAX Paxson 88.76 13 *e*P **P 20 34 23.6 +0.2**
comp=Z,34nm,1.4s,mb5.5
PAX *e*pP pP 20 34 35.5 -0.2
PAX Paxson 88.76 13 *e*P **P 20 34 23.6 +0.2**
PAX *e**PP pP 20 34 35.5 -0.2
PAX pmax pmax
comp=Z,34nm,1.4s,mb5.5
MCK McKinley 88.78 11 *e*P **P 20 34 23.6 +0.2**
comp=Z,149nm,1.9s,mb6.0
MCK McKinley 88.78 11 *e*P **P 20 34 23.6 +0.2**
MCK pmax pmax
comp=Z,149nm,1.9s,mb6.0
C13A Hot Springs 88.80 36 ⇓P P 20 34 23.3 -0.6
baz=89
J18A Kendall Valley 88.88 42 ⇓P P 20 34 24.1 -0.3
baz=89
LRM Limekiln Ridge 88.90 38 *e*P **P 20 34 26.6 +2.2**
PD01 Pinedale Array 88.91 42 *e*P **P 20 34 23.4 -1.2**
BW06 Boulder Array 88.92 42 ⇑P P 20 34 24.3 -0.3
baz=89
BW06 Boulder Array 88.92 42 PFAKE 20 34 40.0 +15
BW06 LR LR
comp=Z,732nm,19.0s,MS5.1
PDAR Pinedale Array 88.92 42 P **P 20 34 23.8 -0.9**
comp=Z,3.2nm,1.0s,mb4.6,baz=217,slow=2.8,SNR=12
PDAR LR LR 21 06 43.1
comp=Z,414nm,20.0s,MS4.8,baz=241,slow=30
PDAR Pinedale Array 88.92 42 P **P 20 34 23.8 -0.9**
SDCO Great Sand Dun 88.94 48 ⇓P P 20 34 24.6 -0.3
baz=89
SDCO Great Sand Dun 88.94 48 *e*P **P 20 34 24.9 0.0**
comp=Z,16nm,1.6s,mb5.1
SDCO LR LR
comp=Z,1μm,19.0s,MS5.3
R23A Moffat 88.95 47 ⇓P P 20 34 25.0 +0.1
baz=89
U25A Circle Dot Ran 89.03 50 ⇑P P 20 34 24.6 -0.7
baz=89
D14A Greenough 89.04 37 ⇓P P 20 34 24.8 -0.3
baz=89
P22A Eagle 89.04 46 ⇑P P 20 34 25.1 -0.1
baz=89
CHMT Chamberlain Mo 89.08 37 *e*P **P 20 34 25.7 +0.5**
M20A Sweetwater, Wa 89.10 44 ⇓P P 20 34 25.5 0.0
baz=89
MENT Mentasta 89.11 14 *e*P **P 20 34 25.1 +0.2**
TPTI 89.13 274 P **P 20 34 26.8 +0.5**
comp=Z,37nm,1.2s,mb5.6
N21A Black Mountain 89.14 45 ⇓P P 20 34 25.4 -0.3
baz=89
L20A Wamsutter 89.27 43 ⇓P P 20 34 25.8 -0.5
baz=90
B13A Whitefish 89.28 36 ⇑P P 20 34 25.6 -0.5
baz=90
BOZ Bozeman (W) 89.28 39 PFAKE 20 34 40.0 +14
BOZ LR LR
comp=Z,700nm,19.0s,MS5.1
LKWY Lake 89.39 40 PFAKE 20 34 40.0 +13
LKWY LR LR
comp=Z,1μm,20.0s,MS5.4
T25A Trinidad 89.40 49 ⇓P P 20 34 26.2 -0.8
baz=90
R24A Sanders Place, 89.46 48 ⇓P P 20 34 27.2 0.0
baz=90
O22A Kremmling 89.47 46 ⇑P P 20 34 27.3 0.0
baz=90
BJT Baijiatuau 89.48 314 PFAKE 20 34 40.0 +13
BJT LR LR
comp=Z,264nm,19.0s,MS4.7
BJI Beijing 89.48 314 P **P 20 34 28.2 +0.9**
BJI pP pP 20 34 39.5 -0.1
BJI sP sP 20 34 43.1 -1.1
BJI PP PP 20 38 00.7 +1.3
BJI S S 20 45 15.8 +0.9
BJI sS sS 20 45 33.6 -1.9
BJI pmax pmax
comp=Z,44nm,2.3s,mb5.4
BJI pmax pmax
comp=Z,570nm,4.5s
BJI LR LR
comp=N,240nm,17.2s,MS4.8
BJI LR LR
comp=E,140nm,16.0s,MS4.8
BJI LR LR
comp=Z,190nm,29.3s
U26A Atchley Ranch, 89.50 50 ⇓P P 20 34 26.0 -1.5
baz=90
J19A Crowheart 89.50 42 ⇓P P 20 34 26.5 -0.8
baz=90
D15A Lincoln 89.56 37 ⇑P P 20 34 27.3 -0.2
baz=90
ENH Enshi 89.60 303 *e*P **P 20 34 29.1 +1.0**
comp=Z,294nm,1.4s,mb6.4
ENH LR LR
comp=Z,302nm,21.0s,MS4.7
JCT Junction City 89.64 57 *e*P **P 20 34 30.3 +1.9**
comp=Z,132nm,2.4s,mb5.8
JCT LR LR
comp=Z,1μm,20.0s,MS5.3
JCT Junction City 89.64 57 *e*P **P 20 34 30.3 +2.0**
JCT pmax pmax
comp=Z,132nm,2.4s,mb5.8
JCT MLR MLR
comp=Z,1μm,20.0s,MS5.3
DOT Dot Lake 89.66 13 *e*P **P 20 34 28.2 +0.6**
comp=Z,17nm,1.2s,mb5.2
M21A Separation Pea 89.68 44 ⇑P P 20 34 27.4 -0.8
baz=90
E16A East Helena 89.75 38 ⇓P P 20 34 28.1 -0.3
baz=90
HRY Holter Researc 89.76 38 *e*P **P 20 34 28.1 -0.4**
Q24A Divide 89.79 47 ⇑P P 20 34 27.9 -0.9
baz=90
KVTX Kingsville 89.84 60 PFAKE 20 34 40.0 +11
KVTX LR LR
comp=Z,586nm,19.0s,MS5.0
N22A Wattenberg Ran 89.86 45 ⇑P P 20 34 28.6 -0.4
baz=90
L21A Rawlins 89.87 44 ⇑P P 20 34 28.8 -0.3
baz=90
ISCO Idaho Springs 89.90 46 PFAKE 20 34 40.0 +11
ISCO LR LR
comp=Z,703nm,20.0s,MS5.1
COLA College 90.02 11 *e*P **P 20 34 28.7 -0.5**
comp=Z,35nm,1.3s,mb5.5
COLA LR LR
comp=Z,1μm,20.0s,MS5.3
COLA College 90.02 11 *e*P **P 20 34 28.7 -0.5**
COLA pmax pmax
comp=Z,35nm,1.3s,mb5.5
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.3
M22A Cedar Creek Ra 90.07 44 ⇑P P 20 34 30.0 -0.1
baz=90
ILAR Eielson Array 90.10 12 P **P 20 34 29.1 -0.5**
comp=Z,12nm,1.0s,mb5.2,baz=221,slow=5.6,SNR=41
ILAR Eielson Array 90.10 12 P **P 20 34 29.1 -0.5**
ILAR Eielson Array 90.10 12 P **P 20 34 29.1 -0.5**
D16A Dana Ranch, Ca 90.10 38 ⇓P P 20 34 30.0 -0.1
baz=90
GYA Guiyang 90.16 299 ⇑*iP* **P 20 34 32.1 +1.3**
GYA pP pP 20 34 44.0 +0.9
GYA PP PP 20 38 08.3 +3.3
GYA SKS 20 44 57.4
GYA S S 20 45 20.5 -1.3
GYA sS sS 20 45 41.2 -1.1
GYA SS SS 20 51 23.4 +1.5
GYA pmax pmax
comp=Z,40nm,1.0s,mb5.7
GYA pmax pmax
comp=Z,150nm,5.8s
GYA LR LR
comp=N,780nm,20.6s,MS5.2
GYA LR LR
comp=E,660nm,21.0s,MS5.2
GYA LR LR
comp=Z,890nm,20.8s,MS5.2
N23A Red Feather La 90.24 45 ⇑P P 20 34 31.2 +0.4
baz=90
AMTX Amarillo 90.26 52 PFAKE 20 34 40.0 +8.9
AMTX LR LR
comp=Z,2μm,20.0s,MS5.6
K21A Alcova 90.29 43 ⇓P P 20 34 31.1 +0.1
baz=91
H19A Powell 90.30 41 ⇑P P 20 34 31.4 +0.4
baz=91
Q25A Bedland, Calha 90.38 47 ⇑P P 20 34 30.8 -0.8
baz=91
C16A Fuhringer Ranc 90.43 37 ⇓P P 20 34 31.3 -0.2
baz=91
I20A Worland 90.43 42 ⇑P P 20 34 31.0 -0.7
baz=91
L22A Ellis Ranch, M 90.50 44 ⇓P P 20 34 32.0 0.0
baz=91
A15A Johnson Ranch, 90.56 36 ⇑P P 20 34 31.8 -0.3
baz=91
D17A Six Diamond Ra 90.66 38 ⇑P P 20 34 32.3 -0.3
baz=91
E18A Harlowton 90.78 39 ⇓P P 20 34 32.7 -0.5
baz=91
B16A M & M Farms, S 90.80 37 ⇓P P 20 34 32.4 -0.8
baz=91
H20A Greybull 90.80 41 ⇑P P 20 34 32.3 -1.1
baz=91
LCO Las Campanas 90.82 122 PFAKE 20 34 50.0 +16
LCO LR LR
comp=Z,815nm,20.0s,MS5.2
TIY Taiyuan 90.87 311 ⇑P P 20 34 35.0 +1.1
TIY pP pP 20 34 46.7 +0.5
TIY sP sP 20 34 51.0 +0.3
TIY S S 20 45 27.3 -0.6
TIY sS sS 20 45 46.7 -1.8
TIY pmax pmax
comp=Z,380nm,3.6s
I21A Big Trails, Te 90.88 42 ⇑P P 20 34 33.4 -0.4
baz=91
C17A Wharram Farm, 90.88 38 ⇑P P 20 34 33.4 -0.2
baz=91
F19A Roth Farm, Mol 90.96 40 ⇓P P 20 34 34.0 0.0
baz=91
DAWY Dawson 91.07 15 *e*P **P 20 34 34.4 +0.2**
J22A Midwest 91.18 43 ⇓P P 20 34 35.1 0.0
baz=92
B17A L&G Farms, Che 91.23 37 ⇑P P 20 34 35.3 0.0
baz=92
EGAK Eagle 91.27 14 *e*P **P 20 34 35.2 +0.2**
comp=Z,40nm,1.2s,mb5.6
EGAK *e*PKKPbc PKKPbc 20 52 09.9 +10
EGAK LR LR
comp=Z,894nm,19.0s,MS5.2
I22A 9 Mile Ranch, 91.42 42 ⇓P P 20 34 36.6 +0.4
baz=92
A17A Triple J Farms 91.65 37 ⇓P P 20 34 37.2 +0.1
baz=92
EGMT Eagleton 91.67 38 PFAKE 20 34 50.0 +13
EGMT LR LR
comp=Z,1μm,19.0s,MS5.3
D19A Cripps Ranch, 91.70 39 ⇑P P 20 34 37.6 +0.1
baz=92
XAN Xi'an 91.71 306 P **P 20 34 38.9 +1.0**
XAN pP pP 20 34 51.3 +1.1
XAN sP sP 20 34 57.9 +3.2
XAN SKS 20 45 11.3
XAN pmax pmax
comp=Z,22nm,1.3s,mb5.3
XAN pmax pmax
comp=Z,59nm,8.8s
XAN LR LR
comp=N,280nm,22.4s,MS4.7
XAN LR LR
comp=E,110nm,22.9s,MS4.7
XAN LR LR
comp=Z,140nm,22.9s,MS4.3
BSI Banda Aceh 91.72 275 P **P 20 34 38.7 +0.3**
comp=Z,2μmcomp=Z,124nm,1.4s,mb6.1
BILL Bilibino 91.72 353 PFAKE 20 34 50.0 +13
BILL LR LR
comp=Z,1μm,20.0s,MS5.4
E20A Meyer Farm, Mu 91.78 40 ⇓P P 20 34 38.2 +0.3
baz=92
COLD Coldfoot 91.79 9 *e*P **P 20 34 38.5 +1.2**
comp=Z,16nm,1.2s,mb5.2
COLD *e*pP pP 20 34 50.4 +0.7
C19A Slack Wire Ran 91.91 38 ⇓P P 20 34 38.7 +0.2
baz=92
D20A Manuel Ranch, 92.09 39 ⇑P P 20 34 39.1 -0.2
baz=92
A18A Metzger Ranch, 92.10 37 ⇑P P 20 34 39.4 +0.2
baz=92
HIA Hailar 92.21 324 PFAKE 20 34 50.0 +10
HIA LR LR
comp=Z,513nm,20.0s,MS5.0
WMOK Wichita Mounta 92.31 53 PFAKE 20 34 50.0 +9.4
WMOK LR LR
comp=Z,947nm,19.0s,MS5.3
B19A Brinkman Farms 92.36 38 ⇓P P 20 34 40.8 +0.4
baz=93
E21A Keefer Ranch, 92.42 40 ⇑P P 20 34 40.9 +0.1
baz=93
C20A Veseth Ranch, 92.50 39 ⇓P P 20 34 41.2 +0.1
baz=93
F22A Rosebud 92.52 41 ⇓P P 20 34 41.0 -0.3
baz=93
A19A Klindworth Far 92.72 37 ⇑P P 20 34 41.6 -0.5
baz=93
D21A La Casta Ranch 92.74 39 ⇓P P 20 34 41.9 -0.4
baz=93
TRQA Tornquist 92.78 133 PFAKE 20 34 50.0 +7.1
TRQA LR LR
comp=Z,1μm,19.0s,MS5.3
KMI Kunming 92.81 296 P **P 20 34 45.2 +2.0**
KMI pP pP 20 34 57.4 +1.9
KMI sP sP 20 35 01.9 +1.9
KMI SKS 20 45 11.3
KMI S S 20 45 43.1 -2.8
KMI sS sS 20 46 02.9 -3.7
KMI SS SS 20 52 05.4 +5.1
KMI pmax pmax
comp=Z,41nm,1.6s,mb5.6
KMI pmax pmax
comp=Z,250nm,4.4s
KMI LR LR
comp=N,180nm,16.8s,MS4.8
KMI LR LR
comp=E,240nm,16.6s,MS4.8
KMI LR LR
comp=Z,230nm,17.0s,MS4.7
OGNE Ogallala 92.85 47 PFAKE 20 34 50.0 +7.1
OGNE LR LR
comp=Z,1μm,21.0s,MS5.2
B20A Solberg Farm, 92.87 38 ⇓P P 20 34 42.6 -0.3
baz=93
NNA Nana 92.87 104 PFAKE 20 35 00.0 +16
NNA LR LR
comp=Z,1μm,20.0s,MS5.4
HHC Hu-ho-hao-te 92.95 313 *e*P **P 20 34 44.5 +1.1**
HHC pP pP 20 34 54.6 -1.1
HHC sP sP 20 34 58.6 -1.6
HHC PP PP 20 38 30.7 +3.9
HHC SKS 20 45 11.9
HHC S S 20 45 53.1 +6.7
HHC SS SS 20 52 00.6 -1.0
HHC pmax pmax
comp=Z,34nm,1.5s,mb5.6
HHC pmax pmax
comp=Z,190nm,5.5s
HHC LR LR
comp=N,200nm,17.6s,MS4.9
HHC LR LR
comp=E,250nm,15.2s,MS4.9
HHC LR LR
comp=Z,370nm,25.9s
LAO LASA Array 93.00 40 ⇓P P 20 34 43.2 -0.3
baz=93
H24A Dirks Ranch, A 93.05 42 ⇑P P 20 34 43.5 -0.3
baz=93
RSSD Black Hills 93.06 43 *e*P **P 20 34 43.7 -0.1**
comp=Z,40nm,1.6s,mb5.6
RSSD Black Hills 93.06 43 *e*P **P 20 34 43.7 -0.1**
RSSD pmax pmax
comp=Z,40nm,1.6s,mb5.6
C21A Desert Coulee 93.08 39 ⇑P P 20 34 44.1 +0.3
baz=93
A20A Cobblestone Ra 93.15 38 ⇓P P 20 34 44.0 -0.1
baz=94
CHRT Chiangrai 93.24 290 ⇑P P 20 34 46.0 +0.8
comp=Z,158nm,1.1s,mb6.4
D22A Cohagen 93.26 40 ⇑P P 20 34 44.9 +0.2
baz=94
CM31 Chiang Mai Arr 93.42 288 *e*P **P 20 34 48.0 +1.9**
comp=Z,35nm,1.1s,mb5.7
CM31 *e*pP pP 20 34 58.2 -0.2
CMAR Chiang Mai Arr 93.42 288 P **P 20 34 47.5 +1.3**
comp=Z,21nm,1.0s,mb5.5,baz=119,slow=2.9,SNR=87
CMAR LR LR 21 17 39.7
comp=Z,162nm,18.9s,MS4.5,baz=288,slow=36
CMAR Chiang Mai Arr 93.42 288 P **P 20 34 47.5 +1.3**
CMAR Chiang Mai Arr 93.42 288 P **P 20 34 47.5 +1.4**
B21A Ellsworth Farm 93.43 38 ⇑P P 20 34 45.8 +0.3
baz=94
TGUH Tegucigalpa,Un 93.44 76 PFAKE 20 35 00.0 +14
TGUH LR LR
comp=Z,523nm,19.0s,MS5.0
CBKS Cedar Bluff 93.44 49 PFAKE 20 35 00.0 +14
CBKS LR LR
comp=Z,2μm,20.0s,MS5.6
E23A Ismay 93.45 41 ⇓P P 20 34 45.3 -0.2
baz=94
CHG Chiang Mai 93.56 289 P **P 20 34 48.6 +1.9**
CHTO Chiang Mai 93.56 289 *e*P **P 20 34 49.0 +2.3**
comp=Z,53nm,1.3s,mb5.8
CHTO LR LR
comp=Z,248nm,22.0s,MS4.6
CHTO Chiang Mai 93.56 289 *e*P **P 20 34 49.0 +2.3**
CHTO pmax pmax
comp=Z,53nm,1.3s,mb5.8
CHTO MLR MLR
comp=Z,248nm,22.0s,MS4.6
CHTO Chiang Mai 93.56 289 P **P 20 34 47.6 +0.9**
comp=Z,733nmcomp=Z,44nm,1.5s,mb5.7
F24A Ekalaka 93.65 41 ⇓P P 20 34 46.5 0.0
baz=94
C22A Vida 93.74 39 ⇓P P 20 34 46.8 -0.1
baz=94
A21A Bergtoll Ranch 93.77 38 ⇓P P 20 34 47.0 0.0
baz=94
D23A Lindsay 93.85 40 ⇑P P 20 34 47.4 0.0
baz=94
B22A Reddig Ranch S 93.95 39 ⇑P P 20 34 47.8 -0.1
baz=94
JTS JuntasAbangare 94.10 81 PFAKE 20 35 00.0 +11
JTS LR LR
comp=Z,389nm,19.0s,MS4.9
NATX Nacogdoches 94.17 57 PFAKE 20 35 00.0 +11
NATX LR LR
comp=Z,988nm,20.0s,MS5.3
C23A Lambert 94.18 39 ⇓P P 20 34 49.3 +0.4
baz=94
CD2 Chengdu 94.33 302 *e*P **P 20 34 51.1 +1.1**
CD2 pP pP 20 35 02.6 +0.2
CD2 sP sP 20 35 07.3 +0.4
CD2 PP PP 20 38 41.3 +3.4
CD2 SKS 20 45 22.2
CD2 S S 20 45 56.9 -2.1
CD2 sS sS 20 46 17.6 -2.1
CD2 SS SS 20 52 24.6 +2.8
CD2 pmax pmax
comp=Z,30nm,1.8s,mb5.4
CD2 pmax pmax
comp=Z,290nm,8.4s
CD2 LR LR
comp=N,350nm,15.6s,MS5.1
CD2 LR LR
comp=E,470nm,19.2s,MS5.1
CD2 LR LR
comp=Z,450nm,22.8s,MS4.9
TEIG Tepich 94.91 70 PFAKE 20 35 00.0 +7.1
TEIG LR LR
comp=Z,863nm,20.0s,MS5.2
DGMT Dagmar 95.08 39 ⇑P P 20 34 53.5 +0.5
baz=95
YAK Yakutsk 95.36 337 PFAKE 20 35 10.0 +16
YAK LR LR
comp=Z,422nm,19.0s,MS4.9
YAK Yakutsk 95.36 337 *e*P **P 20 34 52.2 -1.7**
YAK pmax pmax
comp=Z,13nm,1.1s,mb5.3
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=N,4.0nm,1.2s
KSU1 Kansas State U 95.76 50 PFAKE 20 35 10.0 +14
KSU1 LR LR
comp=Z,2μm,20.0s,MS5.5
INK Inuvik 95.92 14 P **P 20 34 55.5 -0.9**
comp=Z,4.3nm,1.0s,mb4.8,baz=199,slow=4.5,SNR=8.8
INK Inuvik 95.92 14 P **P 20 34 55.5 -0.9**
INK Inuvik 95.92 14 P **P 20 34 55.5 -0.9**
OTAV Otavalo 96.25 92 PFAKE 20 35 10.0 +11
OTAV LR LR
comp=Z,490nm,20.0s,MS5.0
LZH Lanzhou 96.35 306 *e*P **P 20 35 01.5 +2.4**
LZH pP pP 20 35 10.2 -1.3
LZH sP sP 20 35 14.1 -1.9
LZH *e*SKS 20 45 29.1
LZH S S 20 46 17.3 +1.0
LZH sS sS 20 46 37.2 +0.2
LZH pmax pmax
comp=Z,33nm,1.3s,mb5.6
LZH pmax pmax
comp=Z,220nm,6.2s
LZH LR LR
comp=N,580nm,17.7s
LZH LR LR
comp=E,250nm,10.2s
LZH LR LR
comp=Z,610nm,16.6s,MS5.2
YKA Yellowknife Ar 97.60 24 LR LR 21 14 06.3
comp=Z,41nm,20.7s,MS3.9,baz=220,slow=32
ECSD EROS Data Cent 97.68 46 PFAKE 20 35 20.0 +15
ECSD LR LR
comp=Z,929nm,20.0s,MS5.3
BCIP Isla Barro Col 98.35 84 PFAKE 20 35 20.0 +11
BCIP LR LR
comp=Z,368nm,21.0s,MS4.8
LPAZ La Paz 98.68 112 PFAKE 20 35 20.0 +10
LPAZ LR LR
comp=Z,510nm,19.0s,MS5.0
ULN Ulaanbaatar 98.93 318 *e*P **P 20 35 12.1 +1.6**
comp=Z,19nm,1.6s,mb5.4
ULN *e*pP pP 20 35 24.7 +1.9
ULN LR LR
comp=Z,307nm,21.0s,MS4.8
ULN Ulaanbaatar 98.93 318 *e*P **P 20 35 12.1 +1.7**
ULN *e**PP pP 20 35 24.7 +1.9
ULN pmax pmax
comp=Z,19nm,1.6s,mb5.4
ULN MLR MLR
comp=Z,307nm,21.0s,MS4.8
ULN Ulaanbaatar 98.93 318 P **P 20 35 08.8 -1.6**
SCIA State Center 99.25 48 PFAKE 20 35 20.0 +8.0
SCIA LR LR
comp=Z,726nm,19.0s,MS5.2
OXF Oxford 99.30 57 PFAKE 20 35 20.0 +7.6
OXF LR LR
comp=Z,1μm,19.0s,MS5.5
SONM Songino Array 99.33 318 P **P 20 35 13.4 +1.2**
comp=Z,4.2nm,1.3s,mb4.8,baz=123,slow=5.3,SNR=9.7
SONM PP PP 20 39 09.0 -6.9
comp=Z,0.9nm,1.0s,baz=114,slow=9.6,SNR=4.5
SONM Songino Array 99.33 318 P **P 20 35 13.4 +1.2**
SONM PP PP 20 39 09.1 -6.9
SONM Songino Array 99.33 318 P **P 20 35 13.4 +1.2**
SONM 20 39 09.1
PLAL Pickwick Lake 100.49 57 PFAKE 20 35 30.0 +12
PLAL LR LR
comp=Z,816nm,19.0s,MS5.3
GTA Gaotai 100.56 308 *e*P Pdif 20 35 19.6 +1.8
GTA pP 20 35 30.0

GTA sP 20 35 34.2
GTA SKS 20 45 54.9
GTA S Sdif 20 46 42.9 -8.7
GTA SS SS 20 53 51.1 +1.8
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,120nm,4.5s
GTA LR LR
comp=N,83nm,12.6s,MS5.0
GTA LR LR
comp=E,320nm,17.3s,MS5.0
GTA LR LR
comp=Z,350nm,19.2s,MS4.9
ULM Lac du Bonnet 100.75 40 PFAKE 20 35 30.0 +11
ULM LR LR
comp=Z,1µm,21.0s,MS5.3
TLY Talaya 102.44 321 PFAKE 20 35 40.0 +14
TLY LR LR
comp=Z,379nm,20.0s,MS4.9
LSA Lhasa 104.06 296 PFAKE 20 35 50.0 +17
LSA LR LR
comp=Z,276nm,20.0s,MS4.8
ACSO Alum Creek Sta 105.99 53 PFAKE 20 40 10.0 +16
ACSO LR LR
comp=Z,1µm,19.0s,MS5.5
SDV Santo Domingo 106.70 87 PFAKE 20 40 10.0 +14
SDV LR LR
comp=Z,205nm,21.0s,MS4.7
DGAR Diego Garcia 107.41 254 PFAKE 20 40 10.0 +12
DGAR LR LR
comp=Z,955nm,21.0s,MS5.3
CNNC Cliffs of the 108.51 59 PFAKE 20 40 10.0 +11
CNNC LR LR
comp=Z,1µm,21.0s,MS5.5
SDDR Presa de Saban 109.50 77 PFAKE 20 40 10.0 +8.7
SDDR LR LR
comp=Z,402nm,22.0s,MS5.0
WMQ Urumqi 110.52 310 *e*PKP PKiKP 20 40 02.1 -0.4
WMQ PP PP 20 40 42.8 +3.7
WMQ SS SS 20 56 07.0 +1.9
WMQ LR LR
comp=N,330nm,7.0s
WMQ LR LR
comp=E,350nm,7.0s
WMQ LR LR
comp=Z,130nm,24.0s,MS4.4
SJG San Juan 113.88 80 PFAKE 20 40 20.0 +10
SJG LR LR
comp=Z,201nm,19.0s,MS4.7
ZALV Zalesovo Beam 114.05 320 PKiKP PKiKP 20 40 07.7 -1.2
comp=Z,1.4nm,0.7s,baz=86,slow=2.2,SNR=7.8
ZALV PP PP 20 41 06.7 +2.8
comp=Z,2.6nm,1.0s,baz=118,slow=5.4,SNR=6.5
ZALV Zalesovo Beam 114.05 320 PKiKP PKiKP 20 40 07.7 -1.2
ZALV PP PP 20 41 06.7 +2.8
ZALV Zalesovo Beam 114.05 320 PKIKP PKiKP 20 40 07.7 -1.2
ZALV 20 41 06.7
MKAR Makanchi Array 114.79 312 PKP PKiKP 20 40 09.8 -0.8
comp=Z,1.0nm,0.6s,baz=70,slow=0.9,SNR=6.3
MKAR Makanchi Array 114.79 312 PKP PKiKP 20 40 09.8 -0.8
MKAR Makanchi Array 114.79 312 PKIKP PKiKP 20 40 09.8 -0.8
LBNH Lisbon 114.87 50 PFAKE 20 40 20.0 +9.2
LBNH LR LR
comp=Z,1µm,19.0s,MS5.6
FDF Fort de France 117.41 85 PFAKE 20 40 30.0 +13
FDF LR LR
comp=Z,351nm,19.0s,MS5.0
KURK Kurchatov 117.58 316 PFAKE 20 40 30.0 +14
KURK LR LR
comp=Z,315nm,19.0s,MS5.0
KURK Kurchatov 117.58 316 *i* PKIKP PKPdf 20 40 15.0 -0.8
KSH Kashi 118.45 304 *e*PKP PKPdf 20 40 18.2 +0.4
KSH PP PP 20 41 36.1 +0.8
KSH PKS 20 43 53.4
KSH SKS SKSdf 20 47 25.7 -1.1
KSH SKKS SKKSac 20 48 24.7 -7.4
KSH LR LR
comp=N,140nm,5.8s
KSH LR LR
comp=E,170nm,5.6s
KSH LR LR
comp=Z,200nm,5.6s
TKM2 Tokmak 2 119.10 307 *e*PKPdf PKPdf 20 40 19.0 0.0
TKM2 LR LR
comp=Z,241nm,19.0s,MS4.8
TKM2 Tokmak 2 119.10 307 *e*PKIKP PKPdf 20 40 19.0 0.0
TKM2 MLR MLR
comp=Z,241nm,19.0s,MS4.8
AAK Ala-Archa 119.88 307 *e*PKPdf PKPdf 20 40 20.6 +0.1
AAK LR LR
comp=Z,264nm,20.0s,MS4.9
AAK Ala-Archa 119.88 307 *e*PKIKP PKPdf 20 40 20.6 +0.1
AAK MLR MLR
comp=Z,264nm,20.0s,MS4.9
EKS2 Erkin-Say 120.41 307 *e*PKPdf PKPdf 20 40 21.9 +0.4
EKS2 LR LR
comp=Z,315nm,20.0s,MS5.0
EKS2 Erkin-Say 120.41 307 *e*PKIKP PKPdf 20 40 22.0 +0.5
EKS2 MLR MLR
comp=Z,315nm,20.0s,MS5.0
ABPO Ambohimpanom 121.28 228 PFAKE 20 40 40.0 +16
ABPO LR LR
comp=Z,630nm,19.0s,MS5.3
BRVK Borovoye 122.70 319 *e*PKPdf PKPdf 20 40 24.9 -0.6
BRVK LR LR
comp=Z,430nm,19.0s,MS5.1
BRVK Borovoye 122.70 319 *e*PKIKP PKPdf 20 40 25.0 -0.6
BRVK MLR MLR
comp=Z,430nm,19.0s,MS5.1
KKAR Karatay Array 122.83 307 *e*PKPdf PKPdf 20 40 25.9 -0.2
KKAR Karatay Array 122.83 307 *e*PKIKP PKPdf 20 40 25.9 -0.2
SUR Sutherland 122.94 196 PFAKE 20 40 40.0 +13
SUR LR LR
comp=Z,894nm,19.0s,MS5.4
KBL Kabul 123.38 297 *e*PKPdf PKPdf 20 40 28.4 +0.9
KBL Kabul 123.38 297 *e*PKIKP PKPdf 20 40 28.4 +0.9
MSEY Mahe Island 123.50 247 PFAKE 20 40 40.0 +12
MSEY LR LR
comp=Z,495nm,20.0s,MS5.2
SUMG Summit 124.84 15 *e*PKIKP PKPdf 20 40 29.5 +0.4
SUMG Summit 124.84 15 *i* P PKPdf 20 40 29.5 +0.4
DAG Danmarks Havn 124.86 6 *i* P PKPdf 20 40 39.6 +10
BOSA Boshof 125.13 202 PKP PKPdf 20 40 32.0 +0.9
comp=Z,6.5nm,1.0s,baz=209,slow=5.0,SNR=4.1
BOSA Boshof 125.13 202 PKP PKPdf 20 40 32.0 +0.9
BOSA LR LR
comp=Z,766nm,19.0s,MS5.4
BOSA Boshof 125.13 202 PKIKP PKPdf 20 40 32.0 +0.9
BOSA MLR MLR
comp=Z,766nm,19.0s,MS5.4
SVE Sverdlovsk 127.49 325 *i* PKIKP PKPdf 20 40 34.8 +0.2
SVE *e* 20 42 32.5
SVE pmax pmax
comp=Z,14nm,1.2s
SVE MLR MLR
comp=Z,624nm,21.0s,MS5.3
LBTB Lobatse 128.28 204 PFAKE 20 40 50.0 +13
LBTB LR LR
comp=Z,636nm,20.0s,MS5.3
ARU Arti 128.70 325 *e*PKPdf PKPdf 20 40 37.0 0.0
ARU LR LR
comp=Z,437nm,19.0s,MS5.2
ARU Arti 128.70 325 *i* PKIKP PKPdf 20 40 36.6 -0.3
ARU 20 42 41.7
ARU 20 47 40.4
ARU SS SS 20 59 52.5 -5.6
ABKAR Akbulak array 129.67 316 *e*PKPdf PKPdf 20 40 39.6 +0.6
SCO Scoresbysund 129.88 11 *i* P PKPdf 20 40 50.7 +12
RCBR Riachuelo 130.96 121 PFAKE 20 40 50.0 +7.4
RCBR LR LR
comp=Z,896nm,20.0s,MS5.5
LVZ Lovozero 131.40 345 PFAKE 20 40 50.0 +8.3
LVZ LR LR
comp=Z,571nm,21.0s,MS5.2
ARCES ARCESS Array B 131.76 350 PKP PKPdf 20 40 43.1 +0.7
comp=Z,7.8nm,1.1s,baz=44,slow=2.7,SNR=3.5
ARCES ARCESS Array B 131.76 350 PKP PKPdf 20 40 43.1 +0.7
ARCES ARCESS Array B 131.76 350 PKIKP PKPdf 20 40 43.1 +0.7
LSZ Lusaka 135.71 213 *e*PKPdf PKPdf 20 40 52.5 +1.0
LSZ LR LR
comp=Z,652nm,19.0s,MS5.4
LSZ Lusaka 135.71 213 *e*PKIKP PKPdf 20 40 52.5 +1.0
LSZ MLR MLR
comp=Z,652nm,19.0s,MS5.4

TSUM Tsumeb 136.33 198 PFAKE 20 41 00.0 +7.4
TSUM LR LR
comp=Z,652nm,21.0s,MS5.3
MAK Makhachkala 139.54 310 *e*PKIKP PKPdf 20 40 54.1 -3.6
MAK *e* 20 43 48.1
MAK *e* 20 48 04.1
MAK *e*SS SS 21 02 13.5 +3.8
MAK pmax pmax
comp=Z,136nm,1.5s
SHEL Horse Pasture 139.99 164 PFAKE 20 41 10.0 +11
SHEL LR LR
comp=Z,528nm,20.0s,MS5.3
OBN Obninsk 140.14 332 PFAKE 20 41 10.0 +12
OBN LR LR
comp=Z,541nm,19.0s,MS5.3
OBN Obninsk 140.14 332 ⇓*i*PKIKP PKPdf 20 40 58.2 -0.2
OBN *i* 20 41 09.4
OBN *i* 20 43 56.8
OBN *i* SS SS 21 02 19.9 +4.6
OBN pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 140.44 237 *e*PKPpre PKPpre 20 40 55.4
KMBO LR LR
comp=Z,368nm,21.0s,MS5.1
KMBO Kilima Mbogo 140.44 237 *e*PKHKP PKPpre 20 40 55.4
KMBO MLR MLR
comp=Z,368nm,21.0s
VSR Storozhevoye 141.27 325 *e*PKIKP PKPdf 20 41 00.1 -0.4
VSR pmax pmax
comp=Z,8.0nm,1.0s
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,3.0nm,0.9s
ZEI Tsey 142.13 311 *e*PKHKP PKPpre 20 40 56.9
ZEI pmax pmax
comp=Z,9.0nm,1.3s
GNI Garni 142.29 307 PFAKE 20 41 10.0 +7.3
GNI LR LR
comp=Z,283nm,20.0s,MS5.0
GNI Garni 142.29 307 *i* PKIKP PKPdf 20 41 03.8 +1.1
KIV Kislovodsk 142.55 313 PFAKE 20 41 20.0 +17
KIV LR LR
comp=Z,548nm,21.0s,MS5.3
KIV Kislovodsk 142.55 313 *i* PKIKP PKPdf 20 40 59.8 -3.3
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,440nm,21.0s,MS5.2
KONO Kongsberg 143.15 356 PFAKE 20 41 20.0 +16
KONO LR LR
comp=Z,439nm,21.0s,MS5.2
BHD Baghdad 143.84 295 *ex* PKPdf 20 40 59.0 -6.7
TUTA Tutak 143.92 306 *i* P PKPdf 20 41 01.4 -4.2
MIGGM Minsk 144.05 337 *e*P PKPdf 20 41 02.0 -3.4
MNK Minsk 144.07 337 *e*PKIKP PKPdf 20 41 02.0 -3.4
DBOC Borcka 144.17 310 *i* P PKPdf 20 41 03.2 -2.8
DDEM Demirkent 144.26 309 *i* P PKPdf 20 41 00.3 -5.8
KAC Achnashellach 144.67 9 *e*P PKPdf 20 41 03.5 -2.8
SOC Sochi 144.68 314 *c* PKIKP PKPdf 20 41 05.1 -1.7
SOC *i* 20 41 09.4
SOC *e* 20 44 19.8
SOC *e*SS SS 21 03 08.5 -0.4
SOC pmax pmax
comp=Z,36nm,0.9s
SOC MLR MLR
comp=Z,402nm,20.0s,MS5.2
ERZM Erzurum 144.84 307 *i* P PKPdf 20 41 06.4 -0.8
MDO Dochfour 144.87 9 *e*P PKPdf 20 41 04.7 -2.0
BNGL BINGOL 145.29 306 *i* P PKPbc 20 41 07.2 -0.7
KOPT Kop Dagi 145.44 308 *i* P PKPdf 20 41 05.3 -2.9
ANN Anapa 145.60 317 *i* PKHKP PKPdf 20 41 01.3 -7.1
ANN *e* 20 48 11.0
ANN pmax pmax
comp=Z,232nm,1.2s
ANN pmax pmax
comp=N,54nm,1.3s
ANN pmax pmax
comp=E,32nm,1.3s
ANN pmax pmax
comp=N,109nm,5.9s
ANN pmax pmax
comp=E,86nm,5.9s
ANN pmax pmax
comp=Z,282nm,5.9s
ANN MLR MLR
comp=N,225nm,22.0s,MS5.1
ANN MLR MLR
comp=E,262nm,22.0s,MS5.1
ANN MLR MLR
comp=Z,363nm,22.0s,MS5.1
MACK Trabzon 145.65 310 *i* P PKPdf 20 41 07.2 -1.4
SUW Suwalki 146.02 341 *e*PKPc PKPdf 20 41 09.7 +0.9
SUW Suwalki 146.02 341 *e*PKPdf PKPdf 20 41 09.5 +0.7
SUW Suwalki 146.02 341 ⇑*e*PKP2 PKPab 20 41 09.7 -0.5
EAB Aberfoyle 146.08 9 *e*P PKPdf 20 41 08.2 -0.6
EBH Black Hill 146.14 8 *e*P PKPdf 20 41 09.6 +0.7
MUD Monsted U'grnd 146.36 356 *i* PKP2 PKPdf 20 41 10.2 +0.9
MUD pmax pmax
comp=Z,24nm,1.0s
MUD MLR MLR
comp=Z,510nm,21.0s,MS5.3
MUD Monsted U'grnd 146.36 356 *i* P PKPdf 20 41 10.2 +0.9
comp=Z,24nm,1.0s
MUD
comp=Z,500nm,21.0s
AKASG Malin Array Be 146.41 332 PKPbc PKPbc 20 41 10.1 -0.8
comp=Z,30nm,0.9s,baz=40,slow=3.8,SNR=57
AKASG PP PP 20 44 35.8 +2.3
comp=Z,0.3nm,0.4s,baz=39,slow=6.1,SNR=5.8
AKASG Malin Array Be 146.41 332 PKPbc PKPbc 20 41 10.1 -0.8
AKASG PP PP 20 44 35.8 +2.3
AKASG Malin Array Be 146.41 332 PKP2 PKPdf 20 41 10.1 +0.6
AKASG 20 44 35.8
AKBB Malin Array Si 146.41 332 *e*P PKPdf 20 41 10.0 +0.5
AKBB *ep*PKPdf pPKPdf 20 41 21.6 -0.6
AKBB Malin Array Si 146.41 332 *e*PKP2 PKPdf 20 41 10.0 +0.5
KIEV Kiev 146.42 332 *e*PKPdf PKPdf 20 41 09.8 +0.2
KIEV LR LR
comp=Z,448nm,20.0s,MS5.2
KIEV Kiev 146.42 332 *e*PKP2 PKPdf 20 41 09.8 +0.2
KIEV MLR MLR
comp=Z,448nm,20.0s,MS5.2
EAU Auchinoon 146.54 9 *e*P PKPdf 20 41 10.2 +0.6
EBL Broad Law 146.67 8 *e*P PKPdf 20 41 11.2 +1.4
GRSN GIRESUNGRSN 146.72 311 *i* P PKPdf 20 41 10.4 0.0
COP Copenhagen 146.80 352 *e*PKP2 PKPdf 20 41 11.4 +1.4
COP MLR MLR
comp=Z,220nm,16.0s,MS5.0
COP Copenhagen 146.80 352 *i* P PKPdf 20 41 11.4 +1.4
COP
comp=Z,220nm,16.0s
BSD Bornholm Skovb 146.99 349 *e*PKP2 PKPdf 20 41 11.4 +1.0
BSD MLR MLR
comp=Z,420nm,15.0s,MS5.3
BSD Bornholm Skovb 146.99 349 *i* P PKPdf 20 41 11.4 +1.0
BSD
comp=Z,420nm,15.0s
ELZG Elazig 147.04 306 *i* P PKPdf 20 41 13.2 +2.2
ESK Eskdalemuir 147.09 9 PFAKE 20 41 20.0 +9.5
ESK LR LR
comp=Z,390nm,19.0s,MS5.2
KEMA Kemaliye 147.15 308 *i* P PKPdf 20 41 12.5 +1.4
GAL1 Galloway 147.30 10 *e*P PKPdf 20 41 11.8 +0.9
SIM Simferopol' 147.56 320 *c* PKP2 PKPdf 20 41 15.1 +3.4
SIM 20 44 48.0
SIM pmax pmax
comp=Z,182nm,10.3s
SIM MLR MLR
comp=Z,339nm,17.6s,MS5.2
XAL Allendale 147.66 8 *e*P PKPdf 20 41 13.5 +2.0
GMM Mts of Mourne 147.68 12 *e*P PKPbc 20 41 14.1 -0.3
XDE Dent Fell 147.84 9 *e*P PKPbc 20 41 14.2 -0.5
ATAB Bozova 147.87 305 *i* P PKPdf 20 41 13.6 +1.2
ERBA Erbaa 147.87 311 *i* P PKPdf 20 41 13.9 +1.6
GKP Gorka Klasztor 148.27 346 *e*PKP PKPbc 20 41 16.3 +0.3
GKP Gorka Klasztor 148.27 346 *e*PKP2 PKPbc 20 41 16.3 +0.4
BEL Belsk 148.63 341 *e*PKPdf PKPbc 20 41 17.7 +0.8
BEL *ep*PKPdf pPKPdf 20 41 24.1 -1.8
BEL *e* 20 41 30.1
BEL Belsk 148.63 341 *e*PKP2 PKPbc 20 41 17.7 +0.8
BSEG Bad Segeberg 148.76 354 *e*PKPdf PKPbc 20 41 16.3 -0.9
BSEG Bad Segeberg 148.76 354 *e*PKP2 PKPbc 20 41 16.3 -0.9
BOYT Boyabat 148.82 313 *i* P PKPbc 20 41 16.8 -0.9

PINB Pinarbasi 148.88 308 *i* P PKPbc 20 41 16.8 -1.2
KIS Kishinev 149.21 327 *e*PKP PKPdf 20 41 16.0 +1.7
comp=Z,300nm,2.3s
KIS Kishinev 149.21 327 *e*PP PP 20 45 10.0 +20
KIS *e*SKSP 20 55 12.0
KIS LRM 21 51 12.0
comp=Z,400nm,20.0s
KIS Kishinev 149.21 327 *e*PKIKP PKPdf 20 41 16.0 +1.7
KIS *i* 20 41 23.0
KIS *i* 20 41 30.0
KIS pmax pmax
comp=Z,255nm,2.3s
LVV L'vov 149.22 335 *i* PKP2 PKPbc 20 41 18.3 -0.2
CTKT Corum 149.25 312 *i* P PKPbc 20 41 17.5 -1.3
ANDN Andirin 149.31 306 *i* P PKPdf 20 41 12.9 -1.9
RUE Ruedersdorf 149.71 349 *e*PKPdf PKPdf 20 41 19.4 +4.5
RUE *e*PKPab PKPab 20 41 24.8 -0.1
RUE Ruedersdorf 149.71 349 *e*PKPbc PKPbc 20 41 19.9 +0.3
COBT Iskenderun 149.71 304 *i* P PKPbc 20 41 17.9 -2.3
BALT Daday 149.77 315 *i* P PKPdf 20 41 15.0 -0.3
HLM1 Long Mynd 149.86 9 *e*P PKPbc 20 41 18.4 -1.6
LEOM Leova 149.86 327 ⇑PKP2 PKPbc 20 41 21.1 +0.9
LEOM Leova 149.86 327 ⇑*i*P PKPdf 20 41 21.1 +5.8
KWP Kalwaria Pacla 149.87 337 *e*PKP PKPbc 20 41 20.1 0.0
KWP Kalwaria Pacla 149.87 337 *e*PKPbc PKPbc 20 41 20.1 +0.1
KWP LR LR
comp=Z,652nm,20.0s,MS5.4
KWP Kalwaria Pacla 149.87 337 ⇑PKP2 PKPbc 20 41 20.9 +0.8
KWP Kalwaria Pacla 149.87 337 ⇑*i*P PKPdf 20 41 20.9 +5.7
AVNT Avonos 149.97 309 *i* P PKPbc 20 41 19.0 -1.7
ASF Jabal al Asfar 150.24 295 PKPbc PKPbc 20 41 22.0 +0.4
comp=Z,19nm,0.9s,baz=357,slow=2.1,SNR=27
ASF Jabal al Asfar 150.24 295 PKPbc PKPbc 20 41 22.0 +0.4
ASF Jabal al Asfar 150.24 295 PKP2 PKPbc 20 41 22.0 +0.4
OJC Ojcow 150.35 340 *e*PKP PKPbc 20 41 21.4 +0.2
OJC Ojcow 150.35 340 *e*PKPdf PKPbc 20 41 20.8 -0.4
OJC Ojcow 150.35 340 *e*PKIKP PKPbc 20 41 20.8 -0.4
BR131 Keskin Array S 150.44 311 *e*PKPbc PKPbc 20 41 21.8 0.0
BR131 LR LR
comp=Z,283nm,19.0s,MS5.1
BRTR Keskin Array B 150.44 311 PKP PKPdf 20 41 16.1 -0.4
comp=Z,0.7nm,0.9s,baz=132,slow=1.8,SNR=4.5
BRTR PKPbc PKPbc 20 41 21.9 +0.1
comp=Z,13nm,0.9s,baz=132,slow=2.1,SNR=54
BRTR Keskin Array B 150.44 311 PKP PKPdf 20 41 16.1 -0.4
BRTR PKPbc PKPbc 20 41 21.9 +0.1
BRTR Keskin Array B 150.44 311 PKIKP PKPdf 20 41 16.1 -0.4
BRTR 20 41 21.9
BUR08 Bucovina Ar. S 150.45 332 *e*PKPbc PKPbc 20 41 22.2 +0.6
BURAR Bucovina Array 150.46 332 PKIKP PKPbc 20 41 23.2 +1.6
BURAR Bucovina Array 150.46 332 ⇑*i*P PKPdf 20 41 22.6 +6.4
STHS Stebnicka Huta 150.57 338 *e*PKIKP PKPbc 20 41 22.8 +1.0
STHS Stebnicka Huta 150.57 338 *e*PKP PKPdf 20 41 22.8 +6.4
HWQ Hawqa 150.58 300 *e*P PKPdf 20 41 22.8 +6.0
IBBN Ibbenburen 150.58 356 *e*PKPdf PKPbc 20 41 22.0 +0.3
IBBN *e*PKPab PKPab 20 41 28.4 -0.1
KOLS Kolonicke sedl 150.61 336 *e*PKIKP PKPbc 20 41 22.8 +0.9
KOLS *e* 20 41 29.9
KOLS Kolonicke sedl 150.61 336 *e*PKP PKPdf 20 41 22.8 +6.4
KOLS *e* 20 41 29.9
TESR 150.62 329 ⇓*i*P PKPdf 20 41 22.4 +5.9
KSP Ksiaz 150.74 345 *e*PKP PKPdf 20 41 23.0 +6.4
KSP Ksiaz 150.74 345 *e*PKPbc PKPbc 20 41 22.8 +0.7
KSP *e*PKPab PKPab 20 41 29.9 +0.7
KSP LM 21 48 29.0
comp=Z,1.1nm,20.8s
CLZ Clausthal 150.82 353 *e*PKPdf PKPbc 20 41 22.3 0.0
CLZ Clausthal 150.82 353 *e*PKIKP PKPbc 20 41 22.3 0.0
NIE Niedzica 150.88 339 *e*PKP PKPdf 20 41 23.3 +6.5
NIE Niedzica 150.88 339 *e*PKIKP PKPbc 20 41 23.3 +0.8
BHL Bhannes 150.90 299 *e*P PKPdf 20 41 23.7 +6.3
CRVS Cervenica-Dubn 150.93 337 *e*PKIKP PKPbc 20 41 23.2 +0.6
CRVS *e* 20 41 30.7
CRVS Cervenica-Dubn 150.93 337 *e*PKP PKPdf 20 41 23.2 +6.3
CRVS *e* 20 41 30.7
WTSB Winterswijk 150.97 358 *e*PKP PKPbc 20 41 22.3 -0.3
comp=Z,58nm,3.5s
CLL Collm 150.97 349 *e*PKPdf PKPbc 20 41 22.5 -0.2
CLL Collm 150.97 349 ⇑*e*PKIKP PKPdf 20 41 17.0 +0.1
CLL *i* 20 41 22.8
CLL *e* 20 41 29.0
CLL *i* 20 41 33.1
CLL pmax pmax
comp=Z,53nm,1.2s
CLL pmax pmax
comp=Z,15nm,0.9s
CLL MLR MLR
comp=Z,200nm,19.6s,MS4.9
CLL Collm 150.97 349 *e*PKPdf PKPdf 20 41 17.0 +0.1
CLL ⇑*i*PKPbc PKPbc 20 41 22.8 +0.1
comp=Z,53nm,1.2s
CLL *e*PKPab PKPab 20 41 29.0 -1.1
comp=Z,15nm,0.9s
CLL *i* (pPKPbc) 20 41 33.1
CLL *e*(PP) 20 45 15.0
CLL Lm 21 56 00.0
comp=Z,200nm,19.6s
VRI Vrincioaia 151.04 328 ⇓PKIKP PKPbc 20 41 23.3 +0.3
VRI Vrincioaia 151.04 328 ⇓*i*P PKPdf 20 41 23.3 +6.1
PLOR Plostina 151.09 328 ⇓PKIKP PKPbc 20 41 23.3 +0.2
PLOR Plostina 151.09 328 ⇓*i*P PKPdf 20 41 23.3 +6.0
TIRR Tirgusor 151.11 324 *e*PKPab PKPab 20 41 31.8 +0.8
TIRR Tirgusor 151.11 324 ⇓*i*P PKPab 20 41 31.5 +0.5
UPC Upice 151.12 345 *e*PKIKP PKPbc 20 41 23.8 +0.8
UPC *e* 20 41 31.6
UPC Upice 151.12 345 ⇑*e*PKP PKPbc 20 41 23.8 +0.8
UPC *e*PKPAB PKPab 20 41 31.6 +0.8
TRPA Tarpa 151.17 335 ⇑*i*P PKPdf 20 41 23.2 +5.9
OKC Ostrava-Krasne 151.18 342 *e*PKIKP PKPbc 20 41 23.6 +0.4
OKC *e* 20 41 31.3
OKC Ostrava-Krasne 151.18 342 ⇑*e*PKP PKPbc 20 41 23.6 +0.4
OKC *e*PKPAB PKPab 20 41 31.3 +0.3
DPC Dobruska-Polom 151.19 345 *e*PKPdf PKPbc 20 41 24.4 +1.2
DPC Dobruska-Polom 151.19 345 *e*PKIKP PKPbc 20 41 24.0 +0.8
DPC *e* 20 41 32.3
DPC MLR MLR
comp=Z,500nm,17.0s,MS5.4
DPC Dobruska-Polom 151.19 345 ⇑*e*PKP PKPbc 20 41 24.0 +0.8
DPC *e*PKPAB PKPab 20 41 32.3 +1.2
DPC AMS AMS 21 48 50.0
comp=Z,500nm,17.1s
BRG Berggiesshubel 151.22 348 *e*PKP PKPdf 20 41 19.0 +1.7
comp=Z,3.1nm,1.0s
BRG *i* 20 41 23.5
comp=Z,27nm,1.0s
BRG
comp=N,338nm,21.4s
BRG
comp=E,253nm,29.9s
BRG
comp=Z,630nm,16.5s
BRG Berggiesshubel 151.22 348 *e*PKPdf PKPbc 20 41 23.3 +0.1
BRG Berggiesshubel 151.22 348 *e*PKIKP PKPdf 20 41 19.0 +1.7
BRG *i* 20 41 23.5
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG pmax pmax
comp=Z,27nm,1.0s
BRG MLR MLR
comp=N,338nm,21.4s
BRG MLR MLR
comp=E,253nm,29.9s
BRG MLR MLR
comp=Z,630nm,16.5s,MS5.5
NEUB Neuenburg 151.26 351 *e*PKPdf PKPbc 20 41 23.3 0.0
NEUB *e*PKPab PKPab 20 41 30.5 -0.8
FBE Freiberg 151.28 349 *e*PKPab PKPab 20 41 31.2 -0.2
MMAI Mount Meron Ar 151.31 297 PKPbc PKPbc 20 41 24.9 +0.8
comp=Z,42nm,1.0s,baz=68,slow=5.3,SNR=35
MMAI Mount Meron Ar 151.31 297 PKPbc PKPbc 20 41 24.9 +0.8
MORC Moravsky Berou 151.40 343 *e*PKPbc PKPbc 20 41 24.1 +0.3
MORC Moravsky Berou 151.40 343 PKIKP PKPbc 20 41 24.2 +0.5
MORC Moravsky Berou 151.40 343 ⇓*i*P PKPdf 20 41 24.5 +6.9
PVCC Panska Ves 151.42 347 *e*PKIKP PKPbc 20 41 24.5 +0.8
PVCC *e* 20 41 36.1
PVCC MLR MLR
comp=Z,700nm,19.0s,MS5.5
PVCC Panska Ves 151.42 347 ⇑*e*PKP PKPbc 20 41 24.5 +0.8
PVCC *ep*PKP pPKPdf 20 41 36.1 +5.7
PVCC AMS AMS 21 49 40.0
comp=Z,700nm,19.0s
BUG Bochum--Univer 151.47 357 *e*PKPab PKPab 20 41 31.3 -0.9
KECS Kecovo 151.63 338 *e*PKIKP PKPbc 20 41 25.5 +1.2

KECS				*e*		20 41 34.2	
KECS	**Kecovo**	**151.63**	**338**	*e*PKP	PKPdf	20 41 25.5	+7.5
KECS				*e*		20 41 34.2	
KECS				*e*		20 41 45.9	
MOX	**Moxa**	**151.83**	**351**	*e*PKPdf	PKPbc	20 41 24.4	-0.3
MOX	**Moxa**	**151.83**	**351**	*e*PKIKP	PKPbc	20 41 24.4	-0.3
UBBA	**Unterbreizbach**	**151.87**	**353**	*e*PKPbc	PKPab	20 41 32.7	+8.0
TANN	**Tannenbergstha**	**151.92**	**350**	*e*PKPdf	PKPbc	20 41 24.5	-0.4
TANN				*e*PKPab	PKPab	20 41 33.3	-0.8
SACV	**Santiago Islan**	**151.96**	**101**	PFAKE		20 41 30.0	+11
SACV				LR	LR		
	comp=Z,244nm,19.0s,MS5.0						
GUNZ	**Gunzen**	**151.99**	**350**	*e*PKPab	PKPab	20 41 33.6	-0.8
KDHN	**Kadinhani**	**152.03**	**310**	*i* P	PKPdf	20 41 24.7	+5.8
WERN	**Wernitzgruen**	**152.06**	**350**	*e*PKPab	PKPab	20 41 34.4	-0.3
VRAC	**Vranov**	**152.08**	**344**	PKIKP	PKPbc	20 41 26.5	+1.2
NKC	**Novy Kostel**	**152.10**	**350**	*e*PKIKP	PKPbc	20 41 25.9	+0.6
NKC				*e*		20 41 34.9	
NKC	**Novy Kostel**	**152.10**	**350⇑**	*e*PKP	PKPbc	20 41 25.9	+0.6
NKC				*e*PKPAB	PKPab	20 41 34.9	+0.1
DRGR		**152.18**	**333**	PKIKP	PKPbc	20 41 24.7	-0.9
HGN	**Heimansgroeve**	**152.19**	**359**	*e*PKP	PKPbc	20 41 25.1	-0.4
	comp=Z,43nm,3.0s						
KOLL	**Kolacno**	**152.23**	**341**	*e*PKIKP	PKPbc	20 41 26.2	+0.6
KOLL	**Kolacno**	**152.23**	**341**	*e*PKP	PKPdf	20 41 26.2	+7.3
PSZ	**Piszkesteto**	**152.32**	**338**	*e*PKPbc	PKPbc	20 41 25.9	0.0
PSZ				*e*PKPab	PKPab	20 41 37.3	+1.5
PSZ				LR	LR		
	comp=Z,582nm,20.0s,MS5.4						
PSZ	**Piszkesteto**	**152.32**	**338**	*e*PKIKP	PKPbc	20 41 25.9	0.0
PSZ				*e*		20 41 37.3	
PSZ				MLR	MLR		
	comp=Z,582nm,20.0s,MS5.4						
PSZ	**Piszkesteto**	**152.32**	**338⇓**	*e*PKP	PKPab	20 41 37.0	+1.1
PSZ	**Piszkesteto**	**152.32**	**338⇑**	*i*P	PKPab	20 41 37.2	+1.3
TREC	**Trest**	**152.37**	**345**	*e*PKIKP	PKPbc	20 41 25.9	0.0
TREC				MLR	MLR		
	comp=Z,500nm,22.4s,MS5.3						
TREC	**Trest**	**152.37**	**345⇑**	*e*PKP	PKPbc	20 41 25.9	0.0
TREC				AMS	AMS	21 58 30.0	
	comp=Z,500nm,22.4s						
CSS	**Prodhromos**	**152.46**	**302**	*e*PKPbc	PKPbc	20 41 26.9	+0.2
CSS				LR	LR		
	comp=Z,244nm,20.0s,MS5.0						
TNS	**Taunus Mts**	**152.61**	**355**	*e*PKPab	PKPab	20 41 36.5	-0.5
GRF	**Grafenberg Arr**	**152.82**	**351**	*e*PKPab	PKPab	20 41 37.4	-0.5
GRFO	**Grafenberg**	**152.82**	**351**	*e*PKPab	PKPab	20 41 38.7	+0.8
GIVF	**Givet**	**152.87**	**0**	*e*PKP2	PKPab	20 41 38.0	-0.1
BAIF	**Baives**	**152.91**	**1**	*e*PKP2	PKPab	20 41 38.1	-0.1
KHC	**Kasperske Hory**	**152.95**	**347**	*e*PKPbc	PKPbc	20 41 27.3	+0.1
KHC	**Kasperske Hory**	**152.95**	**347**	*e*PKIKP	PKPbc	20 41 27.3	+0.1
KHC				*e*		20 41 37.8	
KHC				MLR	MLR		
	comp=Z,600nm,18.8s,MS5.4						
KHC	**Kasperske Hory**	**152.95**	**347⇑**	*e*PKP	PKPbc	20 41 27.3	+0.1
KHC				*e*PKPAB	PKPab	20 41 37.8	-0.7
KHC				AMS	AMS	21 50 00.0	
	comp=Z,600nm,18.8s						
ZST	**Bratislava**	**152.96**	**342**	*e*PKPdf		20 41 30.1	+10
ZST				*e*		20 41 39.9	
BUD	**Budapest**	**152.99**	**339⇓**	*e*PKP	PKPab	20 41 39.5	+0.8
GEC2	**GERESS Array S**	**153.20**	**347**	*e*PKPab	PKPab	20 41 39.2	-0.3
GERES	**GERESS Array B**	**153.20**	**347**	PKPbc	PKPbc	20 41 27.6	-0.2
	comp=Z,3.6nm,1.0s,baz=48,slow=1.5,SNR=7.8						
GERES				PKPab	PKPab	20 41 39.8	+0.3
	comp=Z,4.1nm,0.9s,baz=25,slow=2.6,SNR=8.7						
GERES	**GERESS Array B**	**153.20**	**347**	PKPbc	PKPbc	20 41 27.6	-0.2
GERES				PKPab	PKPab	20 41 39.8	+0.3
GERES	**GERESS Array B**	**153.20**	**347**	PKIKP	PKPbc	20 41 27.6	-0.2
GERES						20 41 39.8	
WLF	**Walferdange**	**153.29**	**358**	*e*PKPab	PKPab	20 41 40.4	+0.5
WLF	**Walferdange**	**153.29**	**358**	PFAKE		20 41 30.0	+10
WLF				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
CONA	**Conrad Observa**	**153.54**	**343⇓**	*i*PKPbc	PKPbc	20 41 26.8	-1.8
	comp=Z,9.5nm,1.2s						
CONA				⇑*i*PKPab	PKPab	20 41 40.7	-0.3
	comp=Z,30nm,1.3s						
BZS	**Buzias**	**153.57**	**333**	⇑PKIKP	PKPbc	20 41 28.6	-0.1
BZS	**Buzias**	**153.57**	**333⇑**	*i*P	PKPdf	20 41 28.6	+7.6
SOP	**Sopron**	**153.58**	**342⇓**	*e*PKP	PKPab	20 41 41.3	+0.1
MOA	**Molln**	**154.01**	**345⇓**	*i*pPKiKP	PKPab	20 41 42.4	-0.6
	comp=Z,34nm,1.6s						
GRR	**Gorron**	**154.18**	**9**	*e*PKP2	PKPab	20 41 44.2	+0.5
PKSM	**Moragy**	**154.22**	**338**	⇑PKIKP	PKPbc	20 41 30.6	+0.5
PKSM	**Moragy**	**154.22**	**338⇑**	*i*P	PKPdf	20 41 30.6	+8.7
ARSA	**Arzberg**	**154.26**	**343⇑**	*i*PKPdf	PKPdf	20 41 19.9	-2.0
	comp=Z,12nm,2.0s						
ARSA				⇑*i*PKPab	PKPab	20 41 44.3	+0.3
	comp=Z,15nm,1.1s						
FUR	**Furstenfeldbru**	**154.29**	**350**	*e*PKPab	PKPab	20 41 44.1	-0.1
FUR	**Furstenfeldbru**	**154.29**	**350**	*e*PKP2	PKPab	20 41 44.1	-0.1
PAGF	**Fort de Pagny**	**154.41**	**359**	*e*PKP2	PKPab	20 41 44.7	+0.1
	comp=Z,28nm,1.5s						
MEZF	**Maizieres J'vi**	**154.47**	**360**	*e*PKP2	PKPab	20 41 44.8	-0.1
CDF	**Champ du Feu**	**154.49**	**356**	*e*PKP2	PKPab	20 41 44.8	-0.2
	comp=Z,120nm,1.6s						
BFO	**Black Forest**	**154.49**	**355**	*e*PKPab	PKPab	20 41 44.0	-1.0
BFO	**Black Forest**	**154.49**	**355**	PFAKE		20 41 30.0	+7.8
BFO				LR	LR		
	comp=Z,297nm,20.0s,MS5.1						
BFO	**Black Forest**	**154.49**	**355**	*e*PKP2	PKPab	20 41 44.0	-1.0
ECH	**Echery**	**154.69**	**356**	PFAKE		20 41 30.0	+7.5
ECH				LR	LR		
	comp=Z,251nm,19.0s,MS5.1						
SFTF	**Sexfontaines**	**154.77**	**360**	*e*PKP2	PKPab	20 41 46.0	-0.2
	comp=Z,61nm,1.3s						
KOGS	**Kog**	**154.78**	**341**	*i* PKPab	PKPab	20 41 46.4	+0.1
SOKA	**Soboth**	**154.92**	**343⇓**	*i*PKPab	PKPab	20 41 46.5	-0.4
	comp=Z,34nm,1.1s						
PERS	**Pernice**	**154.93**	**343**	*e*PKPab	PKPab	20 41 46.8	-0.1
HAU	**Haudompre**	**154.94**	**358**	*e*PKP2	PKPab	20 41 46.7	-0.2
	comp=Z,44nm,1.3s						
HAU				*e*R			
	comp=Z,484nm,19.2s						
KBA	**Koelnbreinsper**	**154.95**	**346⇓**	*i*pPKPbc	PKPab	20 41 43.8	-3.2
	comp=Z,22nm,1.3s						
HINF	**Hinteralfeld**	**155.11**	**357**	*e*PKP2	PKPab	20 41 47.3	-0.3
	comp=Z,60nm,1.5s						
VTS	**Vitosha**	**155.15**	**326**	⇑PKP2	PKPab	20 41 48.7	+0.7
VTS	**Vitosha**	**155.15**	**326⇑**	*i*P	PKPab	20 41 48.7	+0.7
GOLS	**Golise**	**155.37**	**342**	*e*PKPab	PKPab	20 41 48.8	0.0
FETA	**Feichten**	**155.50**	**350⇑**	*i*sPKiKP		20 41 50.4	
	comp=Z,16nm,1.2s						
FETA				⇑*i*sPKiKP		21 08 22.7	
LOR	**Lormes**	**155.69**	**2**	*e*PKP2	PKPab	20 41 49.6	-0.6
	comp=Z,88nm,1.8s						
LOR				*e*R			
	comp=Z,671nm,20.2s						
SSF	**Saint Saulge**	**155.89**	**2**	*e*PKP2	PKPab	20 41 50.6	-0.4
	comp=Z,36nm,1.3s						
MFF	**Saint Martin d**	**156.03**	**9**	*e*PKP2	PKPab	20 41 51.1	-0.5
TRI	**Trieste**	**156.14**	**344**	PFAKE		20 41 40.0	+16
TRI				LR	LR		
	comp=Z,548nm,20.0s,MS5.4						
TUE	**Stuetta**	**156.22**	**352**	*e*PKPab	PKPab	20 41 53.5	+1.0
TUE				LR	LR		
	comp=Z,583nm,20.0s,MS5.4						
SMF	**Signal de Mont**	**156.31**	**2**	*e*PKP2	PKPab	20 41 52.4	-0.4
	comp=Z,70nm,1.3s						
CABF	**La Chapelle**	**156.34**	**358**	*e*PKP2	PKPab	20 41 52.7	-0.3
SENIN	**Lac Senin/Sane**	**156.53**	**356**	*e*PKPab	PKPab	20 41 54.4	+0.6
LPL	**La Plagne**	**157.41**	**357**	*e*PKP2	PKPab	20 41 58.5	+0.9
LPG	**La Plagne**	**157.43**	**357**	*e*PKP2	PKPab	20 41 58.7	+1.1
	comp=Z,67nm,1.4s						
SSB	**Saint Sauveur**	**157.69**	**1**	PFAKE		20 41 40.0	+14
SSB				LR	LR		
	comp=Z,610nm,19.0s,MS5.5						
TIR	**Tirane**	**157.73**	**329**	PFAKE		20 41 40.0	+13
TIR				LR	LR		
	comp=Z,840nm,22.0s,MS5.5						
LFF	**La Frestale**	**157.78**	**8**	*e*PKP2	PKPab	20 41 58.8	-0.4
	comp=Z,50nm,1.2s						
BNI	**Bardonecchia**	**157.87**	**357**	PFAKE		20 41 40.0	+13
BNI				LR	LR		
	comp=Z,712nm,21.0s,MS5.5						
CAF	**Calviac**	**157.93**	**5**	*e*PKP2	PKPab	20 42 00.2	+0.4
ORIF	**Oris-en-Rattie**	**158.04**	**358**	*e*PKP2	PKPab	20 42 00.7	+0.4
ORIF				*e*R			
	comp=Z,591nm,21.8s						
VIVF	**Saint-Julien-l**	**158.12**	**0**	*e*PKP2	PKPab	20 42 00.8	+0.1
	comp=Z,36nm,1.2s						
MBDF	**Montbardon**	**158.19**	**356**	*e*PKP2	PKPab	20 42 01.4	+0.4
LASF	**Ste Croix**	**158.88**	**2**	*e*PKP2	PKPab	20 42 04.1	+0.1
AQU	**L'Aquila**	**159.35**	**342**	PFAKE		20 41 40.0	+11
AQU				LR	LR		
	comp=Z,632nm,20.0s,MS5.5						
MTLF	**Montolieu**	**159.51**	**6**	*e*PKP2	PKPab	20 42 06.8	0.0
MTE	**Manteigas**	**159.66**	**28**	PFAKE		20 41 40.0	+11
MTE				LR	LR		
	comp=Z,672nm,19.0s,MS5.5						
CUC	**Castrocucco**	**160.62**	**334**	PFAKE		20 41 40.0	+10
CUC				LR	LR		
	comp=Z,303nm,20.0s						
DBIC	**Dimbokro**	**161.32**	**148**	PKPab	PKPab	20 42 16.9	+1.4
	comp=Z,1.1nm,1.1s,baz=226,slow=2.5,SNR=3.8						
DBIC	**Dimbokro**	**161.32**	**148**	PKPab	PKPab	20 42 16.9	+1.4
DBIC				LR	LR		
	comp=Z,952nm,20.0s						
DBIC	**Dimbokro**	**161.32**	**148**	PKP2	PKPab	20 42 16.9	+1.4
DBIC				MLR	MLR		
	comp=Z,952nm,20.0s						
PAB	**San Pablo**	**161.66**	**23**	PFAKE		20 41 40.0	+8.8
PAB				LR	LR		
	comp=Z,653nm,19.0s						
ESDC	**Sonseca Array**	**161.69**	**22**	PKPab	PKPab	20 42 14.7	-1.7
	comp=Z,2.7nm,1.1s,baz=311,slow=2.0,SNR=5.4						
ESDC	**Sonseca Array**	**161.69**	**22**	PKPab	PKPab	20 42 14.7	-1.7
ESLA	**Sonseca Array**	**161.69**	**22**	PFAKE		20 41 40.0	+8.8
ESLA				LR	LR		
	comp=Z,3μm,21.0s						
CEL	**Celeste**	**162.03**	**331**	PFAKE		20 41 40.0	+8.4
CEL				LR	LR		
	comp=Z,435nm,19.0s						
SFS	**San Fernando**	**163.44**	**33**	PFAKE		20 41 40.0	+6.9
SFS				LR	LR		
	comp=Z,1μm,19.0s						
KEST	**Kesra**	**166.65**	**344**	PKPab	PKPab	20 42 38.7	+0.4
	comp=Z,4.0nm,1.0s,baz=273,slow=5.7,SNR=6.4						
KEST	**Kesra**	**166.65**	**344**	PKPab	PKPab	20 42 38.7	+0.4
KEST				*e*PKPab	PKPab	20 42 39.2	+0.9
TORD	**Torodi Ar. Bea**	**169.82**	**162**	PKP	PKPdf	20 41 37.5	-1.1
	comp=Z,1.7nm,1.0s,baz=296,slow=0.9,SNR=6.6						
TORD				PKPab	PKPab	20 42 53.4	+0.6
	comp=Z,3.9nm,1.0s,baz=186,slow=3.6,SNR=8.3						
TORD				PP	PP	20 46 46.4	+5.1
	comp=Z,3.4nm,1.1s,baz=186,slow=5.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**169.82**	**162**	PKP	PKPdf	20 41 37.5	-1.1
TORD				PKPab	PKPab	20 42 53.4	+0.6
TORD				PP	PP	20 46 46.4	+5.1
TAM	**Tamanrasset**	**179.39**	**258**	*e*PKPbc	PKPdf	20 41 41.0	-0.3
TAM				LR	LR		
	comp=Z,385nm,20.0s						
TAM	**Tamanrasset**	**179.39**	**258**	*e*PKIKP	PKPdf	20 41 41.0	-0.3
TAM				MLR	MLR		
	comp=Z,385nm,20.0s						

WEL 01 20:47:43.9±0.4, 38°.04S×176°.94E, h151km±3km, ML3.5/5, Error ellipse: s-maj=14.8km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.26**	**148**	PN	Pn	20 48 04.3	0.0
URZ				SN	Sn	20 48 19.9	-0.1
NMHZ	**Naumai**	**1.06**	**186**	PN	Pn	20 48 09.7	+0.5
NMHZ				SN	Sn	20 48 29.7	+1.1
MCHZ	**McNeill Hill**	**1.41**	**188**	PN	Pn	20 48 12.3	-0.2
MCHZ				SN	Sn	20 48 33.8	-0.7
CKHZ	**Cape Kidnapper**	**1.62**	**176**	PN	Pn	20 48 14.9	+0.2
CKHZ				SN	Sn	20 48 37.8	-0.6
KAHZ	**Kahuranaki**	**1.75**	**182**	PN	Pn	20 48 15.9	-0.2
PNHZ	**Pukenui**	**1.96**	**197**	PN	Pn	20 48 16.3	-2.1
PXZ	**Pawanui**	**1.99**	**182**	PN	Pn	20 48 17.9	-0.9
WPHZ	**Waipukurau**	**2.06**	**191**	PN	Pn	20 48 18.0	-1.7
PRHZ	**Porangahau**	**2.23**	**186**	PN	Pn	20 48 20.2	-1.5
BFZ	**Birch Farm**	**2.69**	**191**	PN	Pn	20 48 24.5	-2.7
HOWZ	**Holdsworth Sta**	**3.06**	**201**	PN	Pn	20 48 27.8	-4.1
OGWZ	**Otaki Gorge**	**3.09**	**206**	PN	Pn	20 48 28.2	-4.1
TMWZ	**Te Maipa**	**3.17**	**195**	PN	Pn	20 48 29.8	-3.5
KIW	**Kapiti Island**	**3.23**	**209**	PN	Pn	20 48 29.0	-5.0
MTW	**Mount Morrison**	**3.31**	**199**	PN	Pn	20 48 30.6	-4.4
PLWZ	**Palliser**	**3.75**	**200**	PN	Pn	20 48 35.8	-5.0
TCW	**Tory Channel**	**3.77**	**212**	PN	Pn	20 48 35.4	-5.7

*IDC **01** 20:50:52.0±0.8, 12°.56N×139°.36E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, Error ellipse: s-maj=34.9km s-min=14.1km az=81.0*
*ISCJB **01** 20:50:55.0±0.7, 12°.52N±0°.08×139°.3E±0°.2, h33km, mb4.1/15, Error ellipse: s-maj=30.7km s-min=9.8km az=169.8*
*NEIC **01** 20:50:57.2±0.5, 12°.53N×139°.33E, h35km, mb4.7/2, Error ellipse: s-maj=21.6km s-min=7.3km az=79.0*
ISC 01 20:50:57.2±0.7, 12°.53N±0°.08×139°.3E±0°.2, h35km, n29, σ0s58/29, mb4.1/15, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**26.83**	**340**	P	**P**	**20 56 33.7**	**-0.6**
	0.6nm,0.7s,mb3.2,baz=165,slow=9.2,SNR=4.1						
KSAR	**Wonju Array Be**	**26.84**	**340**	P	**P**	**20 56 33.8**	**-0.6**
WRAB	**Tennant Creek**	**32.63**	**189**	*e*P	**P**	**20 57 25.0**	**-0.8**
WRA	**Warramunga Arr**	**32.64**	**189**	P	**P**	**20 57 25.5**	**-0.5**
	0.9nm,0.8s,mb3.7,baz=2.0,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**32.64**	**189**	P	**P**	**20 57 25.5**	**-0.5**
CTA	**Charters Tower**	**33.12**	**168**	P	**P**	**20 57 30.4**	**+0.3**
	4.0nm,0.9s,mb4.4,baz=307,slow=5.1,SNR=4.0						
CTA	**Charters Tower**	**33.12**	**168**	P	**P**	**20 57 30.4**	**+0.3**
ASAR	**Alice Springs**	**36.36**	**188**	P	**P**	**20 57 58.3**	**+0.2**
	0.5nm,0.4s,mb3.8,baz=20,slow=12,SNR=20						
ASAR	**Alice Springs**	**36.36**	**188**	P	**P**	**20 57 58.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**39.30**	**284**	P	**P**	**20 58 23.9**	**+0.9**
	3.5nm,0.8s,mb4.2,baz=86,slow=6.8,SNR=26						
CMAR	**Chiang Mai Arr**	**39.30**	**284**	P	**P**	**20 58 23.9**	**+0.9**
STKA	**Stephens Creek**	**44.21**	**177**	P	**P**	**20 59 03.9**	**+0.9**
	3.4nm,0.8s,mb4.2,baz=343,slow=9.1,SNR=8.8						
STKA	**Stephens Creek**	**44.21**	**177**	P	**P**	**20 59 03.9**	**+0.9**
SONM	**Songino Array**	**44.64**	**329**	P	**P**	**20 59 06.4**	**+0.2**
	0.7nm,0.8s,mb3.6,baz=100,slow=7.9,SNR=5.2						
SONM				PcP	PcP	21 00 49.0	+0.4
	0.7nm,0.8s,baz=148,slow=3.8,SNR=4.0						
SONM	**Songino Array**	**44.64**	**329**	P	**P**	**20 59 06.4**	**+0.2**
SONM				PcP	PcP	21 00 49.0	+0.4
NWAO	**Narrogin (SRO)**	**49.88**	**204**	P	**P**	**20 59 46.4**	**-0.9**
	5.3nm,0.9s,mb4.6,baz=44,slow=9.3,SNR=5.3						
NWAO	**Narrogin (SRO)**	**49.88**	**204**	*e*P	**P**	**20 59 47.0**	**-0.2**
MKAR	**Makanchi Array**	**58.55**	**317**	P	**P**	**21 00 51.0**	**+0.8**
	1.8nm,0.8s,mb4.2,baz=101,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**58.55**	**317**	P	**P**	**21 00 51.0**	**+0.8**
ZALV	**Zalesovo Beam**	**59.40**	**326**	P	**P**	**21 00 55.9**	**-0.1**
	0.7nm,0.6s,mb3.9,baz=111,slow=6.3,SNR=3.4						
ZALV				PcP	PcP	21 01 42.9	-0.7
	0.4nm,0.3s,baz=91,slow=5.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**59.40**	**326**	P	**P**	**21 00 55.9**	**-0.1**
ZALV				PcP	PcP	21 01 42.9	-0.7
KURK	**Kurchatov**	**61.95**	**321**	*e*P	**P**	**21 01 13.2**	**-0.2**
	6.8nm,0.8s,mb4.8						
BRVK	**Borovoye**	**67.50**	**322**	*e*P	**P**	**21 01 49.9**	**+0.3**
	3.6nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**71.84**	**26**	P	**P**	**21 02 16.8**	**+0.6**
	0.5nm,0.6s,mb3.6,baz=254,slow=6.0,SNR=6.7						
ILAR	**Eielson Array**	**71.84**	**26**	P	**P**	**21 02 16.8**	**+0.6**
ARCES	**ARCESS Array B**	**86.38**	**341**	P	**P**	**21 03 35.6**	**+0.1**
	2.4nm,0.9s,mb4.4,baz=77,slow=7.9,SNR=8.2						
ARCES	**ARCESS Array B**	**86.38**	**341**	P	**P**	**21 03 35.6**	**+0.1**
FINES	**FINESS Array B**	**89.78**	**334**	P	**P**	**21 03 50.9**	**-0.9**
	3.1nm,0.9s,mb4.6,baz=64,slow=6.3,SNR=5.2						
FINES	**FINESS Array B**	**89.78**	**334**	P	**P**	**21 03 50.9**	**-0.9**

IDC 01 21:02:11.4±30.0, 16°.28S×177°.29W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=575.9km s-min=147.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.36**	**240**	P	P	21 09 51.5	+0.4
	0.4nm,0.3s,baz=85,slow=6.2,SNR=4.8						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	21 10 36.2	-0.7
	0.1nm,0.3s,baz=93,slow=7.5,SNR=5.8						
ASAR	**Alice Springs**	**46.28**	**253**	P	P	21 10 38.9	-0.2
	2.3nm,0.4s,baz=89,slow=8.2,SNR=61						
FITZ	**Fitzroy Crossi**	**54.37**	**259**	P	P	21 11 40.7	+0.3
	1.4nm,0.9s,baz=82,slow=7.1,SNR=2.7						

*ISCJB **01** 21:04:33.7±0.9, 31°.50S±0°.09×180°.0E±0°.2, h392km±14km, mb3.5/6, Error ellipse: s-maj=33.2km s-min=12.5km az=15.3*
*IDC **01** 21:04:34.2±3.8, 31°.45S×179°.99E, h389km±35km, mb3.5/5, mb1 3.6/6, mb1mx3.4/17, mbtmp3.5/6, Error ellipse: s-maj=36.5km s-min=18.8km az=41.0*
*NEIC **01** 21:04:34.9±0.9, 31°.47S×179°.88W, h401km±10km, mb3.4/2, Error ellipse: s-maj=23.1km s-min=15.0km az=107.0*
ISC 01 21:04:34.4±0.9, 31°.58S±0°.10×179°.9E±0°.2, h374km±14km, n21, σ0s76/17, mb3.4/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.02**	**40**	Pn	**Pn**	**21 05 35.3**	**-0.6**
URZ	**Urewera**	**7.03**	**198**	P	**Pn**	**21 06 21.6**	**+4.0**
	12nm,0.3s,baz=271,slow=1.7,SNR=93						
URZ				S	**S**	**21 07 41.8**	**+0.1**
	7.0nm,0.3s,baz=137,slow=19,SNR=17						
URZ	**Urewera**	**7.03**	**198**	P	**Pn**	**21 06 21.6**	**+4.0**
URZ				S	**S**	**21 07 41.8**	**+0.1**
MSVF	**Nonsavu**	**13.88**	**353**	*e*P	**P**	**21 07 36.7**	**+0.8**
CTA	**Charters Tower**	**32.21**	**283**	P	**P**	**21 10 30.5**	**+1.2**
	1.5nm,0.5s,mb3.5,baz=103,slow=8.3,SNR=5.7						
CTA	**Charters Tower**	**32.21**	**283**	P	**P**	**21 10 30.5**	**+1.2**
STKA	**Stephens Creek**	**32.43**	**259**	P	**P**	**21 10 31.3**	**+0.2**
	0.2nm,0.6s,mb2.5						
ASAR	**Alice Springs**	**41.22**	**269**	P	**P**	**21 11 44.0**	**-0.5**
	1.0nm,0.4s,mb3.4,baz=107,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**41.22**	**269**	P	**P**	**21 11 44.0**	**-0.5**
WRA	**Warramunga Arr**	**42.32**	**275**	P	**P**	**21 11 52.5**	**-0.8**
	1.7nm,0.4s,mb3.5,baz=112,slow=8.1,SNR=54						
WRA	**Warramunga Arr**	**42.32**	**275**	P	**P**	**21 11 52.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.53**	**272**	P	**P**	**21 12 55.0**	**-1.3**
	1.6nm,0.5s,mb3.5,baz=132,slow=4.7,SNR=10.0						
FITZ	**Fitzroy Crossi**	**50.53**	**272**	*e*P	**P**	**21 12 55.7**	**-0.7**
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**21 13 52.7**	**+0.4**
	4.5nm,0.7s,mb4.0,baz=26,slow=2.0,SNR=11						
QSPA	**South Pole Qui**	**58.53**	**180**	*e*P	**P**	**21 13 52.3**	**+0.1**
	8.4nm,1.3s,mb4.0						
FINES	**FINESS Array B**	**145.58**	**338**	PKPbc	PKPbc	21 23 25.9	-2.9
	7.1nm,0.9s,baz=60,slow=3.6,SNR=20						
FINES	**FINESS Array B**	**145.58**	**338**	PKPbc	PKPbc	21 23 25.9	-2.9
HFS	**Hagfors**	**149.99**	**346**	PKPbc	PKPbc	21 23 37.2	-3.2
	1.6nm,0.8s,baz=66,slow=8.1,SNR=5.1						
HFS				PKPab	PKPab	21 23 44.5	-3.2
	0.7nm,0.5s,baz=74,slow=11,SNR=4.5						
HFS	**Hagfors**	**149.99**	**346**	PKPbc	PKPbc	21 23 37.2	-3.2
HFS				PKPab	PKPab	21 23 44.5	-3.2
MMAI	**Mount Meron Ar**	**150.00**	**282**	PKPbc	PKPbc	21 23 39.5	-1.8
	0.5nm,0.4s,baz=78,slow=7.5,SNR=4.7						
MMAI	**Mount Meron Ar**	**150.00**	**282**	PKPbc	PKPbc	21 23 39.5	-1.8

*ISCJB **01** 21:09:36.4±1.7, 5°.80S±0°.09×149°.1E±0°.1, h140km±15km, mb3.7/10, Error ellipse: s-maj=22.7km s-min=12.6km az=21.3*
*IDC **01** 21:09:37.6±1.7, 5°.85S×149°.12E, h139km±15km, mb3.5/10, mb1 3.7/12, mb1mx3.6/17, mbtmp3.5/12, Error ellipse: s-maj=38.9km s-min=10.3km az=116.0*
*NEIC **01** 21:09:38.3±1.4, 5°.81S×149°.06E, h146km±13km, mb4.4/2, Error ellipse: s-maj=15.3km s-min=9.6km az=100.0*
**ISC 01 21:09:38.4±1.5, 5°.83S±0°.09×149°.0E±0°.1, h142km±13km, n34, σ0s94/39,

RLS	**Riolos of Patr**	**0.44**	**236**	*e*PB	**Pg**	21	12	26.8	+0.3
RLS				*e*SB	**Sg**	21	12	33.5	+1.2
RLS	**Riolos of Patr**	**0.44**	**236**	*e*Pb	**Pg**	21	12	26.8	+0.3
RLS				*e*Sb	**Sg**	21	12	33.5	+1.2
DSF	**Desfina**	**0.48**	**77**	P	**Pg**	21	12	27.2	-0.1
DSF				S	**Sg**	21	12	34.4	+0.7
DSF	**Desfina**	**0.48**	**77**	P	**Pg**	21	12	27.2	-0.1
DSF				S	**Sg**	21	12	34.4	+0.7
DESF	**Desfina**	**0.49**	**77**	P	**Pg**	21	12	27.4	+0.1
DESF	**Desfina**	**0.49**	**77**	P	**Pg**	21	12	27.4	+0.1
GUR	**Goura**	**0.49**	**138**	P	**Pg**	21	12	27.3	-0.1
GUR				S	**Sg**	21	12	34.9	+0.9
GUR	**Goura**	**0.49**	**138**	P	**Pg**	21	12	27.3	-0.1
GUR				S	**Sg**	21	12	34.9	+0.9
EVR	**Evrytania**	**0.62**	**351**	*e*PN	**Pg**	21	12	30.0	+0.1
EVR				*e*SN	**Sg**	21	12	39.5	+1.5
EVR	**Evrytania**	**0.62**	**351**	*e*Pn	**Pg**	21	12	30.0	+0.1
EVR				*e*Sn	**Sg**	21	12	39.5	+1.5
AGG	**Agios Georgios**	**0.78**	**24**	*e*PN	**Pn**	21	12	33.2	-1.4
AGG				*e*SN	**Sn**	21	12	45.1	-1.1
AGG	**Agios Georgios**	**0.78**	**24**	*e*Pn	**Pn**	21	12	33.0	-1.6
AGG				*e*Sn	**Sn**	21	12	45.1	-1.1
VIL1	**Vilia, Western**	**1.11**	**97**	*e*PN	**Pn**	21	12	39.9	+0.9

ISCJB ***01*** *21:23:03.3±0.2, 45°.67N±0°.02×26°.53E±0°.03, h148km±1km, mb4.0/21, Error ellipse: s-maj=3.0km s-min=2.9km az=25.3*
BUC ***01*** *21:23:03.7±1.0, 45°.66N×26°.51E, h151km±10km, MD4.7/2, Error ellipse: s-maj=7.3km s-min=6.6km az=336.0*
CSEM ***01*** *21:23:03.8±0.1, 45°.67N×26°.52E, h146km±1km, mb4.0/10, Error ellipse: s-maj=2.4km s-min=2.3km az=103.0*
MOS ***01*** *21:23:03.4±0.8, 45°.70N×26°.51E, h148km, mb4.0/9, Error ellipse: s-maj=7.3km s-min=5.1km az=99.7*
NEIC ***01*** *21:23:04.1, 45°.67N×26°.54E, h146km, mb3.9/2, MD4.1(BUC), After BUC.*
SOF ***01*** *21:23:04.6, 45°.77N×26°.45E, h47km, MD3.1*
IDC ***01*** *21:23:04.0±0.5, 45°.71N×26°.36E, h143km±4km, mb3.6/10, mb1 3.5/14, mb1mx3.4/27, mbtmp3.5/14, Error ellipse: s-maj=18.3km s-min=11.9km az=138.0*
THE ***01*** *21:23:15.4, 44°.80N×25°.96E, h129km±19km, ML3.5/6, Error ellipse: s-maj=20.4km s-min=4.0km az=160.0*
ISC 01 21:23:04.3±0.2,**45°.67N**±0°.02×**26°.53E**±0°.03,**h145**km±1km, **n416,** σ0°**.89**/533,**mb4.0**/21,**62C-55D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
PLOR	**Plostina**	**0.20**	**25**	⇑P	**Pn**	21 23 24.0		+0.1
PLOR				S	**Sn**	21 23 39.1		+0.2
PLOR	**Plostina**	**0.20**	**25**	⇑*i*P	**Pn**	21 23 24.0		+0.1
PLOR	**Plostina**	**0.20**	**25**	S	**Sn**	21 23 39.0		+0.1
PLOR	**Plostina**	**0.20**	**25**	⇑*i*P	**Pn**	21 23 24.0		+0.1
PLOR				*i* S	**Sn**	21 23 39.0		+0.1
PLOR	**Plostina**	**0.20**	**25**	⇑*i*P	**Pn**	21 23 24.0		+0.1
PLOR				S	**Sn**	21 23 39.1		+0.2
VRI	**Vrincioaia**	**0.24**	**36**	P	**Pn**	21 23 24.2		+0.2
VRI				S	**Sn**	21 23 39.0		-0.1
VRI	**Vrincioaia**	**0.24**	**36**	⇑P	**Pn**	21 23 24.3		+0.3
VRI				S	**Sn**	21 23 39.1		0.0
VRI	**Vrincioaia**	**0.24**	**36**	⇑*i*P	**Pn**	21 23 24.3		+0.3
VRI	**Vrincioaia**	**0.24**	**36**	S	**Sn**	21 23 39.1		0.0
VRI	**Vrincioaia**	**0.24**	**36**	⇑*i*P	**Pn**	21 23 24.3		+0.3
VRI				*i* S	**Sn**	21 23 39.1		0.0
VRI	**Vrincioaia**	**0.24**	**36**	P	**Pn**	21 23 24.2		+0.2
VRI				S	**Sn**	21 23 39.0		-0.1
VRI	**Vrincioaia**	**0.24**	**36**	P	**Pn**	21 23 24.2		+0.2
VRI				*i* S	**Sn**	21 23 39.1		0.0
ODB	**Odobesti**	**0.39**	**74**	P	**Pn**	21 23 25.7		+1.2
ODB				S	**Sn**	21 23 41.6		+1.8
ODB	**Odobesti**	**0.39**	**74**	⇓*i*P	**Pn**	21 23 25.7		+1.2
ODB	**Odobesti**	**0.39**	**74**	⇓*i*P	**Pn**	21 23 25.7		+1.2
ODB	**Odobesti**	**0.39**	**74**	⇓*i*P	**Pn**	21 23 25.7		+1.2
ODB				S	**Sn**	21 23 41.6		+1.8
GRER		**0.43**	**132**	P	**Pn**	21 23 25.6		+0.9
GRER				S	**Sn**	21 23 42.6		+2.5
GRER		**0.43**	**132**	⇑*i*P	**Pn**	21 23 25.9		+1.2
GRER		**0.43**	**132**	⇑*i*P	**Pn**	21 23 25.9		+1.2
GRER		**0.43**	**132**	P	**Pn**	21 23 25.6		+0.9
GRER				S	**Sn**	21 23 42.6		+2.5
GRER		**0.43**	**132**	P	**Pn**	21 23 25.6		+0.9
GRER				S	**Sn**	21 23 42.6		+2.5
MLR	**Muntele Rosu**	**0.45**	**247**	P	**Pn**	21 23 25.1		+0.3
	77nm,0.3s,baz=2.9,slow=3.0,SNR=4826							
MLR				S	**Sn**	21 23 40.7		+0.4
	93nm,0.3s,baz=233,slow=19,SNR=7.0							
MLR	**Muntele Rosu**	**0.45**	**247**	P	**Pn**	21 23 25.1		+0.3
MLR				S	**Sn**	21 23 40.7		+0.4
MLR	**Muntele Rosu**	**0.45**	**247**	P	**Pn**	21 23 25.1		+0.3
MLR				S	**Sn**	21 23 40.7		+0.4
MLR				pmax	pmax			
	comp=Z,77nm,0.3s							
MLR				smax				
	comp=N,93nm,0.3s							
MLR	**Muntele Rosu**	**0.45**	**247**	⇑*i*P	**Pn**	21 23 25.3		+0.5
MLR	**Muntele Rosu**	**0.45**	**247**	S	**Sn**	21 23 40.1		-0.2
MLR	**Muntele Rosu**	**0.45**	**247**	⇑*i*P	**Pn**	21 23 25.3		+0.5
MLR				*i* S	**Sn**	21 23 40.1		-0.2
MLR	**Muntele Rosu**	**0.45**	**247**	P	**Pn**	21 23 25.1		+0.3
MLR				S	**Sn**	21 23 40.7		+0.4
MLR	**Muntele Rosu**	**0.45**	**247**	P	**Pn**	21 23 25.1		+0.3
	comp=N,77nm,0.3s							
MLR				S	**Sn**	21 23 40.7		+0.4
	comp=N,93nm,0.3s							
PETR		**0.50**	**84**	P	**Pn**	21 23 25.7		+0.7
PETR				S	**Sn**	21 23 41.8		+1.1
PETR		**0.50**	**84**	⇑*i*P	**Pn**	21 23 25.7		+0.7
PETR		**0.50**	**84**	S	**Sn**	21 23 41.9		+1.2
PETR		**0.50**	**84**	⇑*i*P	**Pn**	21 23 25.7		+0.7
PETR				*i* S	**Sn**	21 23 41.9		+1.2
PETR		**0.50**	**84**	⇑*i*P	**Pn**	21 23 25.7		+0.7
PETR				S	**Sn**	21 23 41.8		+1.1
ISR	**Istrita**	**0.55**	**179**	P	**Pn**	21 23 26.0		+0.7
ISR	**Istrita**	**0.55**	**179**	⇓P	**Pn**	21 23 26.1		+0.8
ISR	**Istrita**	**0.55**	**179**	⇑*i*P	**Pn**	21 23 25.9		+0.6
ISR	**Istrita**	**0.55**	**179**	S	**Sn**	21 23 41.5		+0.3
ISR	**Istrita**	**0.55**	**179**	⇑*i*P	**Pn**	21 23 25.9		+0.6
ISR				*i* S	**Sn**	21 23 41.5		+0.3
ISR	**Istrita**	**0.55**	**179**	P	**Pn**	21 23 26.0		+0.7
ISR	**Istrita**	**0.55**	**179**	⇑*i*P	**Pn**	21 23 25.9		+0.6
ISR				*i* S	**Sn**	21 23 41.5		+0.3
GHRR		**0.73**	**57**	P	**Pn**	21 23 26.9		+0.5
GHRR				S	**Sn**	21 23 44.2		+0.9
GHRR		**0.73**	**57**	⇑*i*P	**Pn**	21 23 26.9		+0.5
GHRR		**0.73**	**57**	S	**Sn**	21 23 44.3		+1.0
GHRR		**0.73**	**57**	⇑*i*P	**Pn**	21 23 26.9		+0.5
GHRR				*i* S	**Sn**	21 23 44.3		+1.0
GHRR		**0.73**	**57**	⇑*i*P	**Pn**	21 23 26.9		+0.5
GHRR				S	**Sn**	21 23 44.2		+0.9
PGOR	**Pogoanele**	**0.83**	**157**	⇑*i*P	**Pn**	21 23 27.8		+0.6
PGOR	**Pogoanele**	**0.83**	**157**	S	**Sn**	21 23 45.7		+1.2
PGOR	**Pogoanele**	**0.83**	**157**	⇑*i*P	**Pn**	21 23 27.8		+0.6
PGOR				*i* S	**Sn**	21 23 45.7		+1.2
PGOR	**Pogoanele**	**0.83**	**157**	⇑*i*P	**Pn**	21 23 27.8		+0.6
PGOR				*i* S	**Sn**	21 23 45.7		+1.2
TESR		**0.85**	**6**	S	**Sn**	21 23 43.8		-1.1
TESR		**0.85**	**6**	⇑*i*P	**Pn**	21 23 27.0		-0.3
TESR		**0.85**	**6**	⇑*i*P	**Pn**	21 23 27.0		-0.3
TESR		**0.85**	**6**	S	**Sn**	21 23 43.8		-1.1
TESR		**0.85**	**6**	⇑*i*P	**Pn**	21 23 27.0		-0.3
TESR				S	**Sn**	21 23 43.8		-1.1
DOPR	**Dopca**	**0.85**	**291**	⇑*i*P	**Pn**	21 23 27.4		+0.1
DOPR	**Dopca**	**0.85**	**291**	S	**Sn**	21 23 44.9		+0.1
DOPR	**Dopca**	**0.85**	**291**	⇑*i*P	**Pn**	21 23 27.4		+0.1
DOPR				*i* S	**Sn**	21 23 44.9		+0.1
DOPR	**Dopca**	**0.85**	**291**	⇑*i*P	**Pn**	21 23 27.4		+0.1
DOPR				*i* S	**Sn**	21 23 44.9		+0.1
SULR		**1.01**	**191**	S	**Sn**	21 23 45.9		-1.3
SULR		**1.01**	**191**	S	**Sn**	21 23 46.8		-0.4
SULR		**1.01**	**191**	*i* S	**Sn**	21 23 46.8		-0.4
SULR		**1.01**	**191**	S	**Sn**	21 23 45.9		-1.3
SULR		**1.01**	**191**	*i* S	**Sn**	21 23 46.8		-0.4
VOIR		**1.06**	**258**	P	**Pn**	21 23 29.0		-0.1
VOIR				S	**Sn**	21 23 48.2		+0.2
VOIR		**1.06**	**258**	⇑P	**Pn**	21 23 29.0		-0.1
VOIR				S	**Sn**	21 23 48.3		+0.3
VOIR		**1.06**	**258**	⇑*i*P	**Pn**	21 23 29.0		-0.1
VOIR		**1.06**	**258**	S	**Sn**	21 23 48.3		+0.3
VOIR		**1.06**	**258**	⇑*i*P	**Pn**	21 23 29.0		-0.1
VOIR				*i* S	**Sn**	21 23 48.3		+0.3
VOIR		**1.06**	**258**	⇑*i*P	**Pn**	21 23 29.0		-0.1
VOIR				*i* S	**Sn**	21 23 48.3		+0.3
AMRR	**Amara**	**1.20**	**151**	P	**Pn**	21 23 30.8		+0.3
AMRR				S	**Sn**	21 23 50.8		+0.5
AMRR	**Amara**	**1.20**	**151**	P	**Pn**	21 23 30.8		+0.3
AMRR				S	**Sn**	21 23 50.8		+0.5
AMRR	**Amara**	**1.20**	**151**	⇓*i*P	**Pn**	21 23 30.8		+0.3
AMRR	**Amara**	**1.20**	**151**	S	**Sn**	21 23 50.8		+0.5
AMRR	**Amara**	**1.20**	**151**	⇓*i*P	**Pn**	21 23 30.8		+0.3
AMRR				*i* S	**Sn**	21 23 50.8		+0.5
AMRR	**Amara**	**1.20**	**151**	⇓*i*P	**Pn**	21 23 30.8		+0.3
AMRR				*i* S	**Sn**	21 23 50.8		+0.5
CFR	**Carcaliu**	**1.24**	**113**	P	**Pn**	21 23 30.6		-0.1
CFR				S	**Sn**	21 23 50.3		-0.6
CFR	**Carcaliu**	**1.24**	**113**	⇑P	**Pn**	21 23 30.6		-0.1
CFR				S	**Sn**	21 23 50.3		-0.6
CFR	**Carcaliu**	**1.24**	**113**	⇑*i*P	**Pn**	21 23 30.6		-0.1
CFR	**Carcaliu**	**1.24**	**113**	S	**Sn**	21 23 50.3		-0.6
CFR	**Carcaliu**	**1.24**	**113**	⇑*i*P	**Pn**	21 23 30.6		-0.1
CFR				*i* S	**Sn**	21 23 50.3		-0.6
CFR	**Carcaliu**	**1.24**	**113**	⇑*i*P	**Pn**	21 23 30.6		-0.1
CFR				*i* S	**Sn**	21 23 50.3		-0.6
BUC	**Bucharest**	**1.29**	**194**	S	**Sn**	21 23 52.8		+0.9
BUC	**Bucharest**	**1.29**	**194**	S	**Sn**	21 23 52.8		+0.9
BUC	**Bucharest**	**1.29**	**194**	S	**Sn**	21 23 52.8		+0.9
BUC1	**Bucharest**	**1.37**	**195**	P	**Pn**	21 23 32.5		+0.4
BUC1				S	**Sn**	21 23 53.8		+0.5
BUC1	**Bucharest**	**1.37**	**195**	P	**Pn**	21 23 32.5		+0.4
BUC1	**Bucharest**	**1.37**	**195**	⇓*i*P	**Pn**	21 23 31.5		-0.6
BUC1	**Bucharest**	**1.37**	**195**	S	**Sn**	21 23 52.9		-0.4
BUC1	**Bucharest**	**1.37**	**195**	⇓*i*P	**Pn**	21 23 31.5		-0.6
BUC1				*i* S	**Sn**	21 23 52.9		-0.4
BUC1	**Bucharest**	**1.37**	**195**	P	**Pn**	21 23 32.5		+0.4
BUC1				S	**Sn**	21 23 53.8		+0.5
BUC1	**Bucharest**	**1.37**	**195**	P	**Pn**	21 23 32.5		+0.4
BUC1				S	**Sn**	21 23 53.8		+0.5
LEOM	**Leova**	**1.44**	**56**	⇑P	**Pn**	21 23 33.0		+0.2
LEOM				S	**Sn**	21 23 54.3		-0.3
LEOM	**Leova**	**1.44**	**56**	⇑*i*P	**Pn**	21 23 33.0		+0.2
LEOM	**Leova**	**1.44**	**56**	S	**Sn**	21 23 54.3		-0.3
LEOM	**Leova**	**1.44**	**56**	⇑*i*P	**Pn**	21 23 33.0		+0.2
LEOM				*i* S	**Sn**	21 23 54.3		-0.3
LEOM	**Leova**	**1.44**	**56**	⇑*i*P	**Pn**	21 23 33.0		+0.2
LEOM				*i* S	**Sn**	21 23 54.3		-0.3
MDB	**Medias**	**1.57**	**288**	⇓*i*P	**Pn**	21 23 34.7		+0.5
MDB	**Medias**	**1.57**	**288**	⇓*i*P	**Pn**	21 23 34.7		+0.5
MDB	**Medias**	**1.57**	**288**	⇓*i*P	**Pn**	21 23 34.7		+0.5
HUMR	**Humele**	**1.58**	**224**	⇑*i*P	**Pn**	21 23 34.2		-0.1
HUMR	**Humele**	**1.58**	**224**	S	**Sn**	21 23 56.8		-0.5
HUMR	**Humele**	**1.58**	**224**	⇑*i*P	**Pn**	21 23 34.2		-0.1
HUMR				*i* S	**Sn**	21 23 56.8		-0.5
HUMR	**Humele**	**1.58**	**224**	⇑*i*P	**Pn**	21 23 34.2		-0.1
HUMR				*i* S	**Sn**	21 23 56.8		-0.5
TLCR		**1.68**	**106**	P	**Pn**	21 23 35.7		+0.3
TLCR				S	**Sn**	21 23 58.9		-0.3
TLCR		**1.68**	**106**	⇑P	**Pn**	21 23 35.7		+0.3
TLCR				S	**Sn**	21 23 58.9		-0.3
TLCR		**1.68**	**106**	⇓*i*P	**Pn**	21 23 35.7		+0.3
TLCR		**1.68**	**106**	S	**Sn**	21 23 58.9		-0.3
TLCR		**1.68**	**106**	⇓*i*P	**Pn**	21 23 35.7		+0.3
TLCR				*i* S	**Sn**	21 23 58.9		-0.3
TLCR		**1.68**	**106**	⇓*i*P	**Pn**	21 23 35.7		+0.3
TLCR				*i* S	**Sn**	21 23 58.9		-0.3
IAS	**Iasi**	**1.68**	**25**	P	**Pn**	21 23 35.7		+0.3
IAS				S	**Sn**	21 23 58.0		-1.3
IAS	**Iasi**	**1.68**	**25**	⇑P	**Pn**	21 23 35.8		+0.4
IAS				S	**Sn**	21 23 58.9		-1.3
IAS	**Iasi**	**1.68**	**25**	⇓*i*P	**Pn**	21 23 35.4		0.0
IAS	**Iasi**	**1.68**	**25**	S	**Sn**	21 23 58.3		-1.0
IAS	**Iasi**	**1.68**	**25**	⇓*i*P	**Pn**	21 23 35.4		0.0
IAS				*i* S	**Sn**	21 23 58.3		-1.0
IAS	**Iasi**	**1.68**	**25**	P	**Pn**	21 23 35.7		+0.3
IAS				S	**Sn**	21 23 58.0		-1.3
IAS	**Iasi**	**1.68**	**25**	⇓*i*P	**Pn**	21 23 35.4		0.0
IAS				*i* S	**Sn**	21 23 58.3		-1.0
CVD	**Cernavoda**	**1.73**	**141**	P	**Pn**	21 23 35.8		-0.2
CVD				S	**Sn**	21 23 58.7		-1.4
CVD	**Cernavoda**	**1.73**	**141**	⇓P	**Pn**	21 23 35.9		-0.1
CVD				S	**Sn**	21 23 58.7		-1.4
CVD	**Cernavoda**	**1.73**	**141**	⇓*i*P	**Pn**	21 23 35.9		-0.1
CVD	**Cernavoda**	**1.73**	**141**	S	**Sn**	21 23 58.7		-1.4
CVD	**Cernavoda**	**1.73**	**141**	⇓*i*P	**Pn**	21 23 35.9		-0.1
CVD				*i* S	**Sn**	21 23 58.7		-1.4
CVD	**Cernavoda**	**1.73**	**141**	P	**Pn**	21 23 35.8		-0.2
CVD	**Cernavoda**	**1.73**	**141**	⇓*i*P	**Pn**	21 23 35.9		-0.1
CVD				*i* S	**Sn**	21 23 58.7		-1.4
TIRR	**Tirgusor**	**1.80**	**132**	P	**Pn**	21 23 36.7		-0.1
TIRR				S	**Sn**	21 24 00.2		-1.5
TIRR	**Tirgusor**	**1.80**	**132**	⇓P	**Pn**	21 23 36.8		0.0
TIRR				S	**Sn**	21 24 00.2		-1.5
TIRR	**Tirgusor**	**1.80**	**132**	⇓*i*P	**Pn**	21 23 36.8		0.0
TIRR	**Tirgusor**	**1.80**	**132**	S	**Sn**	21 24 00.2		-1.5
TIRR	**Tirgusor**	**1.80**	**132**	⇓*i*P	**Pn**	21 23 36.8		0.0
TIRR				*i* S	**Sn**	21 24 00.2		-1.5
TIRR	**Tirgusor**	**1.80**	**132**	P	**Pn**	21 23 36.7		-0.1
TIRR	**Tirgusor**	**1.80**	**132**	⇓*i*P	**Pn**	21 23 36.8		0.0
TIRR				*i* S	**Sn**	21 24 00.2		-1.5
LOT	**Lotru**	**1.95**	**264**	P	**Pn**	21 23 38.4		-0.1
LOT				S	**Sn**	21 24 06.1		+1.4
LOT	**Lotru**	**1.95**	**264**	⇑*i*P	**Pn**	21 23 38.3		-0.2
LOT	**Lotru**	**1.95**	**264**	⇑*i*P	**Pn**	21 23 38.3		-0.2
LOT	**Lotru**	**1.95**	**264**	P	**Pn**	21 23 38.4		-0.1
LOT				S	**Sn**	21 24 06.1		+1.4
LOT	**Lotru**	**1.95**	**264**	P	**Pn**	21 23 38.4		-0.1
LOT				S	**Sn**	21 24 06.1		+1.4
KIS	**Kishinev**	**2.07**	**49**	⇓*i*P	**Pn**	21 23 39.6		-0.3
	comp=N,600nm,0.6s							
KIS				⇑*i*S	**Sn**	21 24 05.2		-2.1
	comp=N,4μm,0.9s							
KIS	**Kishinev**	**2.07**	**49**	P	**Pn**	21 23 39.8		-0.1
KIS				S	**Sn**	21 24 05.9		-1.4
KIS	**Kishinev**	**2.07**	**49**	*k* *i*P	**Pn**	21 23 39.6		-0.3
KIS				*i* S	**Sn**	21 24 05.2		-2.1
KIS				pmax	pmax			
	comp=Z,630nm,0.6s							
KIS				smax				
	comp=N,4μm,0.9s							
KIS				smax				
	comp=E,2μm,1.3s							
KIS	**Kishinev**	**2.07**	**49**	⇓*i*P	**Pn**	21 23 39.9		0.0
KIS	**Kishinev**	**2.07**	**49**	⇓*i*P	**Pn**	21 23 39.9		0.0
KIS	**Kishinev**	**2.07**	**49**	P	**Pn**	21 23 39.8		-0.1
KIS				S	**Sn**	21 24 05.9		-1.4
KIS	**Kishinev**	**2.07**	**49**	⇓*i*P	**Pn**	21 23 39.9		0.0
KIS				S	**Sn**	21 24 05.9		-1.4
BUR01	**Bucovina Ar. S**	**2.15**	**336**	P	**Pn**	21 23 41.9		+1.1
BUR01	**Bucovina Ar. S**	**2.15**	**336**	P	**Pn**	21 23 41.9		+1.1
BUR01	**Bucovina Ar. S**	**2.15**	**336**	P	**Pn**	21 23 41.9		+1.1
BURAR	**Bucovina Array**	**2.15**	**336**	P	**Pn**	21 23 42.0		+1.2
BURAR	**Bucovina Array**	**2.15**	**336**	⇓P	**Pn**	21 23 42.0		+1.2
BURAR	**Bucovina Array**	**2.15**	**336**	⇓*i*P	**Pn**	21 23 42.0		+1.2
BURAR	**Bucovina Array**	**2.15**	**336**	⇓*i*P	**Pn**	21 23 42.0		+1.2
BURAR	**Bucovina Array**	**2.15**	**336**	⇓*i*P	**Pn**	21 23 42.0		+1.2
BUR08	**Bucovina Ar. S**	**2.18**	**336**	*e*Pn	**Pn**	21 23 41.8		+0.7
BUR08				*e*Sn	**Sn**	21 24 10.5		+1.0
BUR08	**Bucovina Ar. S**	**2.18**	**336**	*e*Pn	**Pn**	21 23 41.8		+0.6
BUR08				*e*Sn	**Sn**	21 24 10.5		+1.0
BUR08	**Bucovina Ar. S**	**2.18**	**336**	*e*Pn	**Pn**	21 23 41.8		+0.6
BUR08				*e*Sn	**Sn**	21 24 10.5		+1.0
ZIMR		**2.18**	**203**	P	**Pn**	21 23 41.0		-0.2
ZIMR				S	**Sn**	21 24 09.6		+0.1
ZIMR		**2.18**	**203**	⇑P	**Pn**	21 23 41.1		-0.1
ZIMR				S	**Sn**	21 24 09.7		+0.2
ZIMR		**2.18**	**203**	⇓*i*P	**Pn**	21 23 41.0		-0.2
ZIMR		**2.18**	**203**	S	**Sn**	21 24 09.7		+0.2
ZIMR		**2.18**	**203**	⇓*i*P	**Pn**	21 23 41.0		-0.2
ZIMR				*i* S	**Sn**	21 24 09.7		+0.2
PSN	**Preselentsi**	**2.31**	**149**	P	**Pn**	21 23 43.0		+0.1
PSN	**Preselentsi**	**2.31**	**149**	P	**Pn**	21 23 43.0		+0.1
MANR	**Mangalia**	**2.36**	**141**	⇓*i*P	**Pn**	21 23 43.5		0.0
MANR	**Mangalia**	**2.36**	**141**	S	**Sn**	21 24 12.9		-0.7
MANR	**Mangalia**	**2.36**	**141**	⇓*i*P	**Pn**	21 23 43.5		0.0
MANR				*i* S	**Sn**	21 24 12.9		-0.7
MANR	**Mangalia**	**2.36**	**141**	⇓*i*P	**Pn**	21 23 43.5		0.0
MANR				*i* S	**Sn**	21 24 12.9		-0.7
SZH	**Strazhica**	**2.44**	**190**	P	**Pn**	21 23 44.1		-0.3
SZH	**Strazhica**	**2.44**	**190**	P	**Pn**	21 23 44.1		-0.3
DEV	**Deva**	**2.54**	**276**	P	**Pn**	21 23 46.6		+0.9
DEV	**Deva**	**2.54**	**276**	⇑P	**Pn**	21 23 46.6		+0.9
DEV	**Deva**	**2.54**	**276**	P	**Pn**	21 23 46.6		+0.9
DEV	**Deva**	**2.54**	**276**	P	**Pn**	21 23 46.6		+0.9
PRD	**Provadia**	**2.55**	**165**	P	**Pn**	21 23 46.2		+0.4
PRD	**Provadia**	**2.55**	**165**	P	**Pn**	21 23 46.2		+0.4
PVL	**Pavlikeni**	**2.60**	**200**	P	**Pn**	21 23 47.6		+1.2
PVL	**Pavlikeni**	**2.60**	**200**	P	**Pn**	21 23 47.6		+1.2
GZR	**Gura Zlata**	**2.65**	**265**	P	**Pn**	21 23 47.0		0.0
GZR				S	**Sn**	21 24 20.2		+0.3
GZR	**Gura Zlata**	**2.65**	**265**	⇑*i*P	**Pn**	21 23 47.1		+0.1
GZR	**Gura Zlata**	**2.65**	**265**	⇑*i*P	**Pn**	21 23 47.1		+0.1
GZR	**Gura Zlata**	**2.65**	**265**	P	**Pn**	21 23 47.0		0.0
GZR				S	**Sn**	21 24 20.2		+0.3
GZR	**Gura Zlata**	**2.65**	**265**	P	**Pn**	21 23 47.0		0.0
GZR				S	**Sn**	21 24 20.2		+0.3
DRGR		**2.88**	**294**	P	**Pn**	21 23 49.0		-0.8
DRGR		**2.88**	**294**	⇑P	**Pn**	21 23 49.1		-0.7
DRGR		**2.88**	**294**	⇓*i*P	**Pn**	21 23 49.1		-0.7
DRGR		**2.88**	**294**	⇓*i*P	**Pn**	21 23 49.1		-0.7
DRGR		**2.88**	**294**	P	**Pn**	21 23 49.0		-0.8
DRGR		**2.88**	**294**	⇓*i*P	**Pn**	21 23 49.1		-0.7
BMR	**Baia Mare**	**2.89**	**315**	P	**Pn**	21 23 49.9		-0.1
BMR				S	**Sn**	21 24 25.5		+0.1
BMR	**Baia Mare**	**2.89**	**315**	⇓P	**Pn**	21 23 50.0		0.0
BMR				S	**Sn**	21 24 25.5		+0.1
BMR	**Baia Mare**	**2.89**	**315**	⇓*i*P	**Pn**	21 23 50.0		0.0
BMR	**Baia Mare**	**2.89**	**315**	⇓*i*P	**Pn**	21 23 50.0		0.0
BMR	**Baia Mare**	**2.89**	**315**	P	**Pn**	21 23 49.9		-0.1
BMR				S	**Sn**	21 24 25.5		+0.1
BMR	**Baia Mare**	**2.89**	**315**	P	**Pn**	21 23 49.9		-0.1
BMR				S	**Sn**	21 24 25.5		+0.

SOH	Sokhos	5.37	207	P		Pn	21 24 22.3	-0.3
GRG	Griva	5.59	214	P		Pn	21 24 24.9	-0.6
GRG	Griva	5.59	214	P		Pn	21 24 24.9	-0.6
NIE	Niedzica	5.63	314	*e*Pn		Pn	21 24 26.6	+0.6
NIE	Niedzica	5.63	314	*e*P		Pn	21 24 26.6	+0.6
NIE	Niedzica	5.63	314	*e*P		Pn	21 24 26.6	+0.6
PLG	Polygyros	5.75	204	*e*P		Pn	21 24 26.9	-0.8
SUDU	Sudak	6.03	94	*e*P		Pn	21 24 28.9	-2.4
SUDU				*e*S		Sn	21 25 37.1	-2.2
SUDU	Sudak	6.03	94	*e*P		Pn	21 24 28.9	-2.4
SUDU				*e*S		Sn	21 25 37.1	-2.2
NEO	Neokhori	6.81	202	*e*P		Pn	21 24 40.1	-1.7
BRTR	Keskin Array B	7.92	136	P		Pn	21 24 56.3	-0.3
	comp=N,0.2nm,0.3s,baz=314,slow=12,SNR=15							
BRTR	Keskin Array B	7.92	136	P		Pn	21 24 56.3	-0.3
BRTR	Keskin Array B	7.92	136	P		Pn	21 24 56.3	-0.3
BRTR	Keskin Array B	7.92	136	P		Pn	21 24 56.3	-0.3
BRTR	Keskin Array B	7.92	136	P		Pn	21 24 56.3	-0.3
VSR	Storozhevoye	10.06	52	*e*P		Pn	21 25 25.0	0.0
VSR				*e*S		Sn	21 27 08.9	-7.3
VSR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
VSR				pmax	pmax			
	comp=N,3.0nm,1.0s							
VSR				pmax	pmax			
	comp=E,6.0nm,1.1s							
VSR				smax				
	comp=E,30nm,0.8s							
VSR				smax				
	comp=Z,10.0nm,0.7s							
VSR				smax				
	comp=N,30nm,1.0s							
VSR	Storozhevoye	10.06	52	*e*P		Pn	21 25 25.0	0.0
	comp=N,3.0nm,1.0s							
OBN	Obninsk	11.41	30	P		Pn	21 25 42.1	-0.7
OBN	Obninsk	11.41	30	*i* P		Pn	21 25 42.1	-0.7
OBN				pmax	pmax			
	comp=Z,7.0nm,0.6s							
OBN	Obninsk	11.41	30	P		Pn	21 25 42.1	-0.7
OBN	Obninsk	11.41	30	*i* P		Pn	21 25 42.1	-0.7
	comp=Z,7.0nm,0.6s							
KIV	Kislovodsk	11.61	93	P		Pn	21 25 45.1	-0.4
KIV	Kislovodsk	11.61	93	*e*P		Pn	21 25 45.0	-0.5
KIV				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KIV	Kislovodsk	11.61	93	P		Pn	21 25 45.1	-0.4
KIV	Kislovodsk	11.61	93	P		Pn	21 25 45.1	-0.4
ZEI	Tsey	12.79	97	*e*P		Pn	21 26 02.7	+1.8
ZEI				pmax	pmax			
	comp=Z,3.0nm,1.2s							
ZEI	Tsey	12.79	97	*e*P		Pn	21 26 02.7	+1.8
	comp=Z,3.0nm,1.2s							
FINES	FINESS Array B	15.81	359	P		Pn	21 26 33.9	-4.7
	comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=6.1							
FINES	FINESS Array B	15.81	359	P		Pn	21 26 33.9	-4.7
FINES	FINESS Array B	15.81	359	P		Pn	21 26 33.9	-4.7
FINES	FINESS Array B	15.81	359	P		Pn	21 26 33.9	-4.7
HFS	Hagfors	16.38	337	P		Pn	21 26 43.7	-1.9
	comp=Z,0.2nm,0.3s,baz=161,slow=9.2,SNR=4.5							
HFS	Hagfors	16.38	337	P		Pn	21 26 43.7	-1.9
HFS	Hagfors	16.38	337	P		Pn	21 26 43.7	-1.9
HFS	Hagfors	16.38	337	P		Pn	21 26 43.7	-1.9
HFS	Hagfors	16.38	337	P		Pn	21 26 43.7	-1.9
KAF	Kangasniemi	16.48	360	*e*P		Pn	21 26 43.6	-3.2
KAF				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KAF	Kangasniemi	16.48	360	*e*p		Pn	21 26 43.6	-3.2
	comp=Z,3.6nm,0.8s							
JOF	Joensuu	17.50	7	*e*P		Pn	21 26 55.7	-3.4
JOF				pmax	pmax			
	comp=Z,5.0nm,0.6s							
JOF	Joensuu	17.50	7	*e*p		Pn	21 26 55.7	-3.4
	comp=Z,4.5nm,0.6s							
JOF	Joensuu	17.50	7	*e*P		Pn	21 26 55.7	-3.4
	comp=Z,5.0nm,0.6s							
NB2	NORSAR Subarra	17.83	335	P		Pn	21 26 59.6	-3.4
	comp=Z,2.9nm,1.0s,baz=140,slow=12							
NOA	NORSAR Array B	17.83	335	P		Pn	21 27 00.2	-2.8
	comp=Z,0.2nm,0.3s,baz=142,slow=11,SNR=4.3							
NOA	NORSAR Array B	17.83	335	P		Pn	21 27 00.2	-2.8
NOA	NORSAR Array B	17.83	335	P		Pn	21 27 00.2	-2.8
NOA	NORSAR Array B	17.83	335	P		Pn	21 27 00.2	-2.8
NOA	NORSAR Array B	17.83	335	P		Pn	21 27 00.2	-2.8
AKTK	Aktyubinsk	21.49	66	P		P	21 27 41.2	0.0
	comp=Z,3.0nm,0.6s,mb3.8							
AKTO	Aktyubinsk	21.49	66	P		P	21 27 41.2	0.0
	comp=Z,3.0nm,0.6s,mb3.8,baz=266,slow=12,SNR=16							
AKTO	Aktyubinsk	21.49	66	P		P	21 27 41.2	0.0
AKTO	Aktyubinsk	21.49	66	P		P	21 27 41.2	0.0
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb3.8							
AKTO	Aktyubinsk	21.49	66	P		P	21 27 41.2	0.0
AKTO	Aktyubinsk	21.49	66	P		P	21 27 41.2	0.0
ABKAR	Akbulak array	22.77	69	*e*P		P	21 27 53.9	-0.2
	comp=Z,2.0nm,0.4s,mb3.9							
ABKAR	Akbulak array	22.77	69	*e*P		P	21 27 53.9	-0.2
	comp=Z,2.0nm,0.4s,mb3.9							
ABKAR	Akbulak array	22.77	69	*e*P		P	21 27 53.9	-0.2
	comp=Z,2.0nm,0.4s,mb3.9							
SVE	Sverdlovsk	23.83	50	*e*P		P	21 28 04.9	+1.1
SVE	Sverdlovsk	23.83	50	*e*P		P	21 28 04.9	+1.1
ARCES	ARCESS Array B	23.94	359	P		P	21 28 03.8	-0.8
	comp=Z,2.2nm,0.9s,mb3.7,baz=185,slow=9.8,SNR=6.6							
ARCES	ARCESS Array B	23.94	359	P		P	21 28 03.8	-0.8
ARCES	ARCESS Array B	23.94	359	P		P	21 28 03.8	-0.8
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ARCES	ARCESS Array B	23.94	359	P		P	21 28 03.8	-0.8
ARCES	ARCESS Array B	23.94	359	P		P	21 28 03.8	-0.8
	comp=Z,2.0nm,0.9s,mb3.6							
BVAR	Borovoye Array	29.12	59	P		P	21 28 52.1	+0.9
	comp=Z,0.7nm,0.5s,mb3.6,baz=266,slow=10.0,SNR=5.9							
BVAR	Borovoye Array	29.12	59	P		P	21 28 52.1	+0.9
BVAR	Borovoye Array	29.12	59	P		P	21 28 52.1	+0.9
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	Borovoye Array	29.12	59	P		P	21 28 52.1	+0.9
BVAR	Borovoye Array	29.12	59	P		P	21 28 52.1	+0.9
	comp=Z,1.0nm,0.5s,mb3.8							
ZAA0	Zalesovo Array	37.54	56	*e*P		P	21 30 04.4	+0.4
ZAA0	Zalesovo Array	37.54	56	*e*P		P	21 30 04.4	+0.4
ZAA0	Zalesovo Array	37.54	56	*e*P		P	21 30 04.4	+0.4
ZALV	Zalesovo Beam	37.54	56	P		P	21 30 04.7	+0.7
	comp=Z,4.6nm,0.6s,mb4.3,baz=292,slow=8.7,SNR=20							
ZALV	Zalesovo Beam	37.54	56	P		P	21 30 04.7	+0.7
ZALV	Zalesovo Beam	37.54	56	P		P	21 30 04.7	+0.7
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.3							
ZALV	Zalesovo Beam	37.54	56	P		P	21 30 04.7	+0.7
ZALV	Zalesovo Beam	37.54	56	P		P	21 30 04.7	+0.7
	comp=Z,5.0nm,0.6s,mb4.3							
MK31	Makanchi Array	37.90	68	*e*P		P	21 30 07.7	+0.6
MK31	Makanchi Array	37.90	68	*e*P		P	21 30 07.7	+0.6
MK31	Makanchi Array	37.90	68	*e*P		P	21 30 07.7	+0.6
MK31	Makanchi Array	37.90	68	*e*P		P	21 30 07.7	+0.6
MKAR	Makanchi Array	37.90	68	P		P	21 30 08.0	+0.8
	comp=Z,0.9nm,0.5s,mb3.7,baz=276,slow=7.5,SNR=18							
MKAR	Makanchi Array	37.90	68	P		P	21 30 08.0	+0.9
MKAR	Makanchi Array	37.90	68	P		P	21 30 08.0	+0.9
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	Makanchi Array	37.90	68	P		P	21 30 08.0	+0.9
	comp=Z,1.0nm,0.5s,mb3.7							
TORD	Torodi Ar. Bea	38.64	221	P		P	21 30 13.3	-0.3
	comp=Z,0.7nm,0.5s,mb3.5,baz=26,slow=8.3,SNR=16							
TORD	Torodi Ar. Bea	38.64	221	P		P	21 30 13.3	-0.3
TORD	Torodi Ar. Bea	38.64	221	P		P	21 30 13.4	-0.3
DBIC	Dimbokro	47.40	225	P		P	21 31 22.9	-1.1
	comp=Z,1.5nm,0.3s,mb4.1,baz=1.2,slow=9.4,SNR=12							
DBIC	Dimbokro	47.40	225	P		P	21 31 22.9	-1.1
DBIC	Dimbokro	47.40	225	P		P	21 31 23.0	-1.0
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.3s							
DBIC	Dimbokro	47.40	225	P		P	21 31 23.0	-1.0
DBIC	Dimbokro	47.40	225	P		P	21 31 23.0	-1.0
	comp=Z,2.0nm,0.3s,mb4.2							
KMBO	Kilima Mbogo	47.55	165	P		P	21 31 28.4	+3.2
KMBO	Kilima Mbogo	47.55	165	*i* P		P	21 31 28.3	+3.1
KMBO	Kilima Mbogo	47.55	165	P		P	21 31 28.4	+3.2
DANN	Dangsing	47.83	91	*e*P		P	21 31 28.8	+1.5
	comp=Z,6.6nm,0.5s,mb4.5							
KOLN	Koldanda	48.07	91	*e*P		P	21 31 30.3	+1.2
	comp=Z,2.8nm,0.5s,mb4.1							
GKN	Gorkha	48.66	90	*e*P		P	21 31 34.6	+1.0
	comp=Z,8.9nm,0.5s,mb4.6							
DMN	Daman	49.23	90	*e*P		P	21 31 39.1	+1.1
	comp=Z,4.9nm,0.4s,mb4.5							
KKN	Kakani	49.24	90	*e*P		P	21 31 38.9	+0.9
	comp=Z,8.8nm,0.6s,mb4.6							
GUN	Gumba	49.59	90	*e*P		P	21 31 41.8	+1.1
	comp=Z,3.8nm,0.3s,mb4.5							
JIRN	Jiri	49.96	90	*e*P		P	21 31 44.9	+1.4
RAMN	Ramite	50.68	90	*e*P		P	21 31 49.6	+0.7
	comp=Z,6.6nm,0.6s,mb4.5							
TAPN	Taplejung	51.21	89	*e*P		P	21 31 54.0	+1.1
	comp=Z,2.2nm,0.3s,mb4.2							
ODAN	Odare	51.29	90	*e*P		P	21 31 54.1	+0.6
LSA	Lhasa	52.20	84	*e*P		P	21 32 01.1	+0.9
	comp=Z,3.7nm,1.1s,mb3.9							
LSA	Lhasa	52.20	84	*e*P		P	21 32 01.1	+0.9
LSA				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.0							
LSA	Lhasa	52.20	84	*e*P		P	21 32 01.1	+0.9
	comp=Z,3.7nm,1.1s,mb3.9							
LSA	Lhasa	52.20	84	*e*P		P	21 32 01.1	+0.9
	comp=Z,3.7nm,1.1s,mb3.9							
SONM	Songino Array	52.41	57	P		P	21 32 02.8	+1.3
	comp=Z,1.5nm,0.5s,mb3.9,baz=299,slow=8.8,SNR=19							
SONM	Songino Array	52.41	57	P		P	21 32 02.8	+1.3
SONM	Songino Array	52.41	57	P		P	21 32 02.8	+1.3
SONM				pmax	pmax			
	comp=Z,2.0nm,0.5s							
SONM	Songino Array	52.41	57	P		P	21 32 02.8	+1.3
SONM	Songino Array	52.41	57	P		P	21 32 02.8	+1.3
	comp=Z,2.0nm,0.5s,mb4.0							
CMAR	Chiang Mai Arr	64.82	89	P		P	21 33 27.9	+0.1
	comp=Z,1.4nm,0.7s,mb3.9,baz=304,slow=7.5,SNR=8.5							
CMAR	Chiang Mai Arr	64.82	89	P		P	21 33 27.9	+0.1
CMAR	Chiang Mai Arr	64.82	89	P		P	21 33 27.9	+0.2
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CMAR	Chiang Mai Arr	64.82	89	P		P	21 33 27.9	+0.2
CMAR	Chiang Mai Arr	64.82	89	P		P	21 33 27.9	+0.2
	comp=Z,1.0nm,0.7s,mb3.8							
YKA	Yellowknife Ar	67.79	342	P		P	21 33 44.9	-1.1
	comp=Z,0.3nm,0.4s,mb3.4,baz=26,slow=5.5,SNR=2.7							
YKA	Yellowknife Ar	67.79	342	P		P	21 33 44.9	-1.1
YKA	Yellowknife Ar	67.79	342	P		P	21 33 44.9	-1.1
YKA	Yellowknife Ar	67.79	342	P		P	21 33 44.9	-1.1
YKA	Yellowknife Ar	67.79	342	P		P	21 33 44.9	-1.1

TRN 01 21:40:36.5, 15°.20N×60°.99W, h125km, MD3.5, M3.4(FDF), M3.3(FDF), 5C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBCT	Belle View Cho	0.35	281	*e*P	Pn	21 40 56.3	+2.1
DFBT	Forest Bistro	0.36	276‖	*e*P	Pn	21 40 55.6	+1.4
DFBT			‖	*e*S	Sn	21 41 08.7	+1.1
DSHT	Scott's Head	0.38	272‖	*e*P	Pn	21 40 55.8	+1.6
DSHT			‖	*e*S	Sn	21 41 09.0	+1.3
MDN	Morne-Daniel	0.41	286‖	*i* P	Pn	21 40 56.2	+1.7
MDN			‖	*e*S	Sn	21 41 09.7	+1.7
DWS	Wesley	0.48	319	*e*P	Pn	21 40 56.2	+1.4
DWS				*e*S	Sn	21 41 09.8	+1.1
FDF	Fort de France	0.49	199	*e*P	Pn	21 40 56.2	+1.3
FDF				*e*S	Sn	21 41 10.7	+1.9
MVM	Montagne Vaucl	0.65	172	*e*P	Pn	21 40 57.2	+1.2
BIM	Bigot	0.69	187‖	*e*P	Pn	21 40 57.4	+1.2
BIM			‖	*e*S	Sn	21 41 12.9	+1.8
MGG	Marie-Galante	0.78	336	*e*P	Pn	21 40 58.3	+1.3
TBG	Guadaloupe-3	0.91	316	*e*P	Pn	21 40 59.1	+1.1
DOG	Dongo Capester	1.03	324⇑	*i* P	Pn	21 41 00.3	+1.1
PHG	Guadaloupe-2	1.03	322⇑	*i* P	Pn	21 41 00.5	+1.3
SCG	Saint Claude	1.06	321	*e*P	Pn	21 41 00.8	+1.3
SFG	Saint Francois	1.06	349	*e*P	Pn	21 41 00.4	+0.8
BCG	Bois Riant Cap	1.07	325	*e*P	Pn	21 41 00.6	+1.0
DEG	La Desirade	1.11	356	*e*P	Pn	21 41 01.2	+1.2
DEG				*e*S	Sn	21 41 18.8	+1.0
SLW	Petit Monier	1.18	178⇑	*e*P	Pn	21 41 01.5	+0.8
SLW			⇑	*e*S	Sn	21 41 20.0	+0.9
LZG	Guadaloupe-1	1.21	321⇑	*i* P	Pn	21 41 02.1	+1.1
MCLT	Moule a Chique	1.48	178	*e*P	Pn	21 41 04.9	+0.8
MCLT				*e*S	Sn	21 41 25.7	+0.7
SVV	Soufriere Volc	1.89	187	*e*P	Pn	21 41 10.6	+1.7
SVV				*e*S	Sn	21 41 34.1	+0.6
BHS	Barnard House	1.90	184	*e*P	Pn	21 41 10.7	+1.7
BHS				*e*S	Sn	21 41 35.5	+1.7
SVB	Belmont	1.94	188	*e*P	Pn	21 41 10.2	+0.8
SVB				*e*S	Sn	21 41 35.8	+1.2
BPA	Boggy Peak	2.02	336	*e*P	Pn	21 41 12.1	+1.7
BPA				*e*S	Sn	21 41 37.0	+0.6
FCV	Fort Charlotte	2.05	187	*e*S	Sn	21 41 37.7	+0.6
SKI	Saint Kitts	2.71	322	*e*P	Pn	21 41 20.2	+1.0
SKI				*e*S	Sn	21 41 52.4	+0.4
GRW	Mount Saint Ca	3.09	192	*e*P	Pn	21 41 25.6	+1.4
TOSP	Speyside	3.91	174	*e*P	Pn	21 41 36.2	+1.3

*NEIC **01** 21:43:24.7, 18°.20N×95°.27W, h30km, MD4.0(MEX), After MEX.*

MEX 01 21:43:24.8±0.6, 18°.18N×95°.27W, h25km±12km, MD4.0, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.15	161	*e*P	Pn	21 43 42.4	-2.9
CMIG				*i* S	Sn	21 43 56.5	-3.7
CMIG	Matias Romero	1.15	161	*i* P	Pn	21 43 42.4	-2.9
CMIG				*i* S	Sn	21 43 56.5	-3.7
VHO	Vista Hermosa	1.78	232	*i* P	Pn	21 43 52.5	-1.4
VHO				*i* S	Sn	21 44 12.1	-3.6
VHO	Vista Hermosa	1.78	232	*i* P	Pn	21 43 52.5	-1.4
VHO				*i* S	Sn	21 44 12.1	-3.6
TPIG	Tehuac#an	2.00	277	*i* P	Pn	21 43 55.0	-2.0
TPIG				*i* S	Sn	21 44 17.9	-3.4
TPIG	Tehuac#an	2.00	277	*i* P	Pn	21 43 55.0	-2.0
TPIG				*i* S	Sn	21 44 17.9	-3.4
UTMO	Huajuapan	2.44	262	*i* P	Pn	21 44 01.0	-2.0
UTMO				*i* S	Sn	21 44 29.3	-2.7
UTMO	Huajuapan	2.44	262	*i* P	Pn	21 44 01.0	-2.0
UTMO				*i* S	Sn	21 44 29.3	-2.7
TGIG		2.48	124	*i* P	Pn	21 44 01.8	-1.8
TGIG				*i* S	Sn	21 44 30.0	-3.1
TGIG		2.48	124	*i* P	Pn	21 44 01.8	-1.8
TGIG				*i* S	Sn	21 44 30.0	-3.1
HUIG	Huatulco	2.53	199	*e*P	Pn	21 44 02.5	-1.9
HUIG				*i* S	Sn	21 44 31.8	-2.5
HUIG	Huatulco	2.53	199	*e*P	Pn	21 44 02.5	-1.9
HUIG				*i* S	Sn	21 44 31.8	-2.5
PCIG		3.15	141	*i* P	Pn	21 44 10.3	-2.6
PCIG				*i* S	Sn	21 44 46.7	-3.0
PCIG		3.15	141	*i* P	Pn	21 44 10.3	-2.6
PCIG				*i* S	Sn	21 44 46.7	-3.0
PNIG	Pinotepa	3.26	237	*i* P	Pn	21 44 11.8	-2.5
PNIG				*i* S	Sn	21 44 49.5	-2.8
PNIG	Pinotepa	3.26	237	*i* P	Pn	21 44 11.8	-2.5
PNIG				*i* S	Sn	21 44 49.5	-2.8
TEIG	Tepich	6.91	72	*e*Pn	Pn	21 45 02.4	-2.2
TEIG				*e*Sn	Sn	21 46 13.6	-8.9

*CSEM **01** 21:43:39.4±0.2, 39°.42N×25°.90E, h5km, ML1.9/4, Error ellipse: s-maj=4.4km s-min=3.1km az=83.0*
*DDA **01** 21:43:40.5, 39°.49N×26°.15E, h7km±7km, Md2.8*
*ISK **01** 21:43:40.4, 39°.46N×26°.12E, h2km, MD2.7*

THE 01 21:43:39.5, 39°.42N×25°.88E, h3km±2km, ML1.9/4, Error ellipse: s-maj=2.2km s-min=0.5km az=215.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.21	185	P	Pg	21 43 43.8	+0.3
SIGR				S	Sg	21 43 47.3	+1.1
SIGR	SIGRI	0.21	185	P	Pg	21 43 43.8	+0.3
SIGR				S	Sg	21 43 47.3	+1.1
PRK	Paraskevi	0.35	119	P	Pg	21 43 46.2	0.0
PRK				S	Sg	21 43 51.5	+0.8
PRK	Paraskevi	0.35	119	P	Pg	21 43 46.2	0.0
PRK				S	Sg	21 43 51.5	+0.8
BOZC	Bozcaada	0.44	17	*i* P	Pg	21 43 47.5	-0.5
BOZC				*i* S	Sg	21 43 53.6	-0.2
EZN	Ezine	0.53	40	*e*PG	Pg	21 43 48.8	-0.9
EZN				*e*SG	Sg	21 43 56.1	-0.6
EZN	Ezine	0.53	40	*e*Pg	Pg	21 43 48.8	-0.9
EZN				*e*Sg	Sg	21 43 56.1	-0.6
AYVA	Ayvalik	0.64	100	*i* P	Pg	21 43 50.8	-1.0
AYVA				*i* S	Sg	21 44 00.1	+0.1
AYVA	Ayvalik	0.64	100	*i* P	Pg	21 43 50.8	-0.9
AYVA				*i* S	Sg	21 44 00.1	+0.1
LIA	Limnos Island	0.72	312	P	Pg	21 43 53.1	-0.2
LIA				S	Sg	21 44 04.0	+1.3
LIA	Limnos Island	0.72	312	P	Pg	21 43 53.1	-0.2
LIA				S	Sg	21 44 04.0	+1.3
CHOS	Chios island	1.04	172	P	Pg	21 43 59.0	-0.4
CHOS				S	Sg	21 44 13.6	+0.8
CHOS	Chios island	1.04	172	P	Pg	21 43 59.0	-0.4
CHOS				S	Sg	21 44 13.6	+0.8
GELI	Tayfur-Gelibol	1.08	25	*e*PG	Pg	21 43 59.9	-0.3
GELI				*e*SG	Sg	21 44 13.7	-0.6
GELI	Tayfur-Gelibol	1.08	25	*e*Pg	Pg	21 43 59.9	-0.3
GELI				*e*Sg	Sg	21 44 13.7	-0.5
LPK	Lapseki	1.17	35	*e*PG	Pg	21 44 01.6	-0.3
LPK	Lapseki	1.17	35	*e*Pg	Pg	21 44 01.6	-0.3
ERIK	Erikli-Kesan	1.34	21	*e*PN	Pn	21 44 05.7	+0.6
ERIK	Erikli-Kesan	1.34	21	*e*Pn	Pn	21 44 05.7	+0.6
KRBG	Karabiga-Canak	1.46	48	*e*PN	Pn	21 44 05.6	-1.1
KRBG	Karabiga-Canak	1.46	48	*e*Pn	Pn	21 44 05.6	-1.1
ALN	Alexandroupoli	1.48	5	P	Pn	21 44 05.5	-1.5
ALN				S	Sn	21 44 26.6	-0.3
ALN	Alexandroupoli	1.48	5	P	Pn	21 44 05.5	-1.5
ALN				S	Sn	21 44 26.6	-0.3
GONE	Gonen-Balikesi	1.53	65	*e*PN	Pn	21 44 06.4	-1.2
GONE	Gonen-Balikesi	1.53	65	*e*Pn	Pn	21 44 06.4	-1.2
RKY	Sarkoy-Tekirda	1.61	38	*e*PN	Pn	21 44 09.2	+0.4
RKY	Sarkoy-Tekirda	1.61	38	*e*Pn	Pn	21 44 09.2	+0.4
MFT	Murefte	1.74	38	*e*PN	Pn	21 44 11.0	+0.5
MFT	Murefte	1.74	38	*e*Pn	Pn	21 44 11.0	+0.5
MRMT	Marmara Adasi	1.77	48	*e*PN	Pn	21 44 10.8	-0.2
MRMT	Marmara Adasi	1.77	48	*e*Pn	Pn	21 44 10.8	-0.2

IDC 01 22:01:06.3±2.0, 1°.74N×127°.02E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=178.5km s-min=25.0km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.71	162	P	P	22 06 10.6	+0.7
	1.3nm,0.4s,baz=340,slow=11,SNR=26						
ASAR	Alice Springs	26.13	166	P	P	22 06 42.4	+0.2
	0.3nm,0.5s,baz=350,slow=7.8,SNR=5.1						
STKA	Stephens Creek	36.18	159	P	P	22 08 09.7	-1.0
	0.8nm,0.4s,baz=354,slow=10,SNR=3.6						
MKAR	Makanchi Array	59.35	326	P	P	22 11 10.5	+0.2
	0.4nm,0.6s,baz=112,slow=7.6,SNR=4.9						

TAP 01 22:37:43.0, 21°.27N×122°.17E, h141km, ML3.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.95	323	*e*P	Pn	22 38 08.0	+1.6
	baz=323						
LAY				*e*S	Sn	22 38 26.7	+2.4
	baz=323						
TWK1	Hengchun	1.43	298	P	Pn	22 38 11.5	+0.4
	baz=295						
TWK1				S	Sn	22 38 32.4	-0.1
	baz=295						
HEN	Hengchun	1.52	299	*e*P	Pn	22 38 12.4	+0.4
	baz=299						
HEN				*e*S	Sn	22 38 33.8	-0.3
	baz=299						
EAST	Anshuo	1.65	312	P	Pn	22 38 13.3	-0.1
	baz=312						
EAST				*e*S	Sn	22 38 35.7	-1.1
	baz=312						
ECL	Taimali	1.73	320	*e*P	Pn	22 38 14.3	-0.1
	baz=320						
ECL				*e*S	Sn	22 38 37.8	-0.7
	baz=320						
TWG	Pinlang	1.84	327	*e*P	Pn	22 38 16.4	+0.7
	baz=320						
TWG				*e*S	Sn	22 38 40.4	-0.4
	baz=320						
TWP	Hsiaoliuchiu	1.99	303	*e*P	Pn	22 38 18.4	+1.1
	baz=293						
TWP				*e*S	Sn	22 38 45.6	+1.9
	baz=293						
S

CTA	**Charters Tower**	**15.84 214**	Pn		**Pn**	**22 42 05.3**	**+0.2**
WRAB	**Tennant Creek**	**24.33 236**	*e*P		**P**	**22 43 37.1**	**+0.3**
	2.5nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**24.34 236**	P		**P**	**22 43 37.2**	**+0.2**
	0.8nm,0.6s,mb3.2,baz=59,slow=9.3,SNR=14						
WRA			pP			22 43 47.5	
	2.0nm,0.5s,baz=60,slow=9.5,SNR=10						
WRA			PcP	PcP		22 47 14.4	-0.2
	0.4nm,0.6s,baz=58,slow=2.4,SNR=6.0						
WRA	**Warramunga Arr**	**24.34 236**	P		**P**	**22 43 37.2**	**+0.2**
WRA			pP			22 43 47.5	
WRA			PcP	PcP		22 47 14.4	-0.2
ASAR	**Alice Springs**	**26.64 229**	P		**P**	**22 43 57.8**	**0.0**
	0.3nm,0.8s,mb2.9,baz=59,slow=10,SNR=5.2						
ASAR			pP	pP		22 44 07.5	-10
	0.9nm,0.7s,baz=59,slow=8.9,SNR=9.1						
ASAR	**Alice Springs**	**26.64 229**	P		**P**	**22 43 57.8**	**0.0**
ASAR			pP	pP		22 44 07.5	-10
STKA	**Stephens Creek**	**27.96 206**	LR		LR	22 55 00.5	
	comp=Z,99nm,20.4s,baz=20,slow=36						
STKA	**Stephens Creek**	**27.96 206**	*e*P		**P**	**22 44 09.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**31.25 247**	LR		LR	22 57 40.7	
	comp=Z,68nm,18.3s,baz=76,slow=37						
FITZ	**Fitzroy Crossi**	**31.25 247**	*e*P		**P**	**22 44 38.8**	**0.0**
	2.3nm,0.7s,mb4.0						
KKM	**Kota Kinabalu**	**41.49 287**	*e*P		**P**	**22 46 06.7**	**+0.7**
KSM	**Kuching**	**46.08 279**	*e*P		**P**	**22 46 43.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**61.45 295**	P		**P**	**22 48 35.2**	**+0.4**
	3.1nm,0.9s,mb4.3,baz=119,slow=5.3,SNR=13						
CMAR			pP	pP		22 48 44.5	-12
	1.7nm,0.5s,baz=122,slow=5.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**61.45 295**	P		**P**	**22 48 35.2**	**+0.4**
CMAR			pP	pP		22 48 44.5	-12
SONM	**Songino Array**	**69.78 327**	P		**P**	**22 49 28.2**	**+0.2**
	1.5nm,0.9s,mb3.8,baz=122,slow=5.5,SNR=8.1						
SONM	**Songino Array**	**69.78 327**	P		**P**	**22 49 28.2**	**+0.2**
LSA	**Lhasa**	**71.89 304**	*e*P		**P**	**22 49 41.6**	**+0.5**
	0.8nm,0.4s,mb3.9						
ILAR	**Eielson Array**	**83.20 21**	P		**P**	**22 50 41.9**	**-1.5**
	1.4nm,1.0s,mb3.7,baz=240,slow=5.9,SNR=8.0						
ILAR	**Eielson Array**	**83.20 21**	P		**P**	**22 50 41.9**	**-1.5**
MK31	**Makanchi Array**	**83.93 319**	*e*P		**P**	**22 50 47.4**	**0.0**
MKAR	**Makanchi Array**	**83.93 319**	P		**P**	**22 50 46.8**	**-0.7**
	0.7nm,0.7s,mb3.6,baz=109,slow=7.3,SNR=6.4						
MKAR	**Makanchi Array**	**83.93 319**	P		**P**	**22 50 46.8**	**-0.7**
GERES	**GERESS Array B**	**127.48 329**	PKP		PKPdf	22 57 22.7	+0.7
	0.6nm,0.7s,baz=96,slow=3.9,SNR=4.2						
GERES	**GERESS Array B**	**127.48 329**	PKP		PKPdf	22 57 22.7	+0.7
TORD	**Torodi Ar. Bea**	**153.72 285**	PKPbc		PKPbc	22 58 14.9	-2.1
	0.6nm,0.7s,baz=76,slow=2.4,SNR=4.5						
TORD			PKPab		PKPab	22 58 30.4	+0.3
	0.2nm,0.4s,baz=81,slow=4.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**153.72 285**	PKPbc		PKPbc	22 58 14.9	-2.1
TORD			PKPab		PKPab	22 58 30.4	+0.3

ISK 01 22:48:32.1±40.′18N×31.′68E±8km, **MD3.0, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDU	**Mudurnu**	**0.46**	**308**	*e*PG	Pg	22 48 41.5	+0.6
MDU	**Mudurnu**	**0.46**	**308**	*e*Pg	Pg	22 48 41.5	+0.6
SVRH	**Sivrihisar-ESK**	**0.74**	**189**	*e*PG	Pg	22 48 46.9	+0.4
SVRH				*e*SG	Sg	22 48 57.8	+1.7
SVRH	**Sivrihisar-ESK**	**0.74**	**189**	*e*Pg	Pg	22 48 46.9	+0.5
SVRH				*e*Sg	Sg	22 48 57.8	+1.7
LOD	**Lodumlu**	**0.88**	**109**	*e*PG	Pg	22 48 49.6	+0.6
LOD				*e*SG	Sg	22 49 02.1	+1.6
LOD	**Lodumlu**	**0.88**	**109**	*e*Pg	Pg	22 48 49.6	+0.6
LOD				*e*Sg	Sg	22 49 02.1	+1.6
ESKT	**Eskisehir**	**0.92**	**224**	*e*PG	Pg	22 48 49.8	0.0
ESKT	**Eskisehir**	**0.92**	**224**	*e*Pg	Pg	22 48 49.8	0.0
GULT	**Gulveren**	**0.93**	**286**	*e*PG	Pg	22 48 50.2	+0.3
GULT	**Gulveren**	**0.93**	**286**	*e*Pg	Pg	22 48 50.2	+0.3
AFSR	**Af´ar-Bala (A**	**1.30**	**124**	*e*PN	Pn	22 48 57.0	+0.5
AFSR	**Af´ar-Bala (A**	**1.30**	**124**	*e*Pn	Pn	22 48 57.1	+0.6
SAFT	**Safranbolu**	**1.30**	**36**	*e*PN	Pn	22 48 57.2	+0.6
SAFT	**Safranbolu**	**1.30**	**36**	*e*Pn	Pn	22 48 57.2	+0.6
KIZT	**Kizilcal**	**1.31**	**173**	*e*PN	Pn	22 48 57.3	+0.7
KIZT	**Kizilcal**	**1.31**	**173**	*e*Pn	Pn	22 48 57.3	+0.6

CSEM ***01*** *22:48:36.8,35.′94N×31.′62E,h10km, MD3.1, After ISK*
ISK 01 22:48:36.8,35.′94N×31.′62E,h10km, MD3.1, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	**Hadim**	**1.24**	**34**	*e*PN	Pn	22 49 00.6	+0.4
HDMB				*e*SN	Sn	22 49 18.5	+1.6
LEF	**Lefka**	**1.32**	**128**	*e*PN	Pn	22 49 02.0	+0.8
LEF				*e*SN	Sn	22 49 19.4	+0.5
ELL	**Elmali**	**1.60**	**301**	*e*PN	Pn	22 49 06.5	+1.3
ELL				*e*SN	Sn	22 49 26.8	+0.9
LFK	**Lefkose**	**1.69**	**112**	*e*PN	Pn	22 49 07.2	+0.9
EREN	**Erenkoy**	**2.11**	**100**	*e*PN	Pn	22 49 12.5	+0.4
MERS	**Mersin**	**2.52**	**67**	*e*PN	Pn	22 49 18.6	+0.9
KRTS	**Karatas**	**3.10**	**77**	*e*PN	Pn	22 49 26.8	+1.0

ISK ***01*** *22:54:27.6,39.′96N×39.′13E, h4km, MD3.6*
DDA ***01*** *22:54:27.7,39.′95N×39.′09E, h15km±1km, Md3.6*
ISCJB ***01*** *22:54:28.5±0.2,39.′97N±0.′02×39.′10E±0.′02, h10km, Error ellipse: s-maj=2.7km s-min=2.1km az=164.6*
CSEM ***01*** *22:54:28.4±0.1,39.′98N×39.′11E, h2km, MD3.6, Error ellipse: s-maj=2.9km s-min=2.2km az=156.0*
ISC 01 22:54:29.3±0.2,**39.′96N**±0.′02×**39.′10E**±0.′02,**h10**km,**n96,** σ1$**18**/137,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.28**	**135**	**Pg**	**Pg**	**22 54 34.0**	**-0.9**
EZC	**Erzincan**	**0.28**	**135**	*i* Pg	**Pg**	**22 54 34.1**	**-0.9**
GUMT	**Gumushane**	**0.58**	**30**	*e*PG	**Pg**	**22 54 39.5**	**-1.1**
GUMT	**Gumushane**	**0.58**	**30**	*e*Pg	**Pg**	**22 54 39.5**	**-1.1**
ERZN	**Erzincan**	**0.61**	**127**	PG	**Pg**	**22 54 39.2**	**-1.8**
ERZN				*e*SG	**Sg**	**22 54 47.9**	**-1.1**
SUSE	**Susehri**	**0.73**	**291**	*i* P	**Pg**	**22 54 42.1**	**-1.3**
SUSE				*i* S	**Sg**	**22 54 52.9**	**-0.1**
SUSE	**Susehri**	**0.73**	**291**	*i* P	**Pg**	**22 54 42.1**	**-1.3**
SUSE				*i* S	**Sg**	**22 54 52.9**	**0.0**
KEMA	**Kemaliye**	**0.83**	**214**	*i* P	**Pg**	**22 54 44.1**	**-1.1**
KEMA				*i* S	**Sg**	**22 54 55.3**	**-0.7**
KEMA	**Kemaliye**	**0.83**	**214**	*i* P	**Pg**	**22 54 44.1**	**-1.1**
KEMA				*i* S	**Sg**	**22 54 55.3**	**-0.7**
BAYT	**Ayd¨–ntepe-Bay**	**0.91**	**61**	PG	**Pg**	**22 54 44.7**	**-2.2**
BAYT	**Ayd¨–ntepe-Bay**	**0.91**	**61**	*i* Pg	**Pg**	**22 54 44.7**	**-2.2**
ESPY	**Espiye-Giresun**	**1.00**	**344**	PG	**Pg**	**22 54 47.3**	**-1.3**
ESPY	**Espiye-Giresun**	**1.00**	**344**	*i* Pg	**Pg**	**22 54 47.3**	**-1.3**
KOPT	**Kop Dagi**	**1.08**	**86**	*i* P	**Pg**	**22 54 48.4**	**-1.7**
KOPT				*i* S	**Sg**	**22 55 05.6**	**+1.5**
KOPT	**Kop Dagi**	**1.08**	**86**	*i* P	**Pg**	**22 54 48.4**	**-1.6**
KOPT				*i* S	**Sg**	**22 55 05.6**	**+1.5**
PTK	**Pertek**	**1.09**	**168**	*e*PN	**Pg**	**22 54 48.2**	**-1.9**
PTK				*e*SN	**Sg**	**22 55 03.5**	**-0.8**
MACK	**Trabzon**	**1.11**	**27**	*i* P	**Pg**	**22 54 49.0**	**-1.7**
MACK				*i* S	**Sg**	**22 55 02.5**	**-2.7**
MACK	**Trabzon**	**1.11**	**27**	*i* P	**Pg**	**22 54 49.0**	**-1.7**
MACK				*i* S	**Sg**	**22 55 02.5**	**-2.7**
KTUT	**Trabzon**	**1.15**	**26**	*e*PN	**Pg**	**22 54 49.8**	**-1.6**
KTUT	**Trabzon**	**1.15**	**26**	*e*Pn	**Pg**	**22 54 49.8**	**-1.6**
GRSN	**GIRESUNGRSN**	**1.16**	**327**	*i* P	**Pb**	**22 54 48.8**	**-2.6**
GRSN				*i* S	**Sb**	**22 55 02.3**	**-4.1**
GRSN	**GIRESUNGRSN**	**1.16**	**327**	*i* P	**Pb**	**22 54 48.8**	**-2.6**
GRSN				*i* S	**Sb**	**22 55 02.3**	**-4.1**
DARE	**Darende-Malaty**	**1.41**	**225**	*e*PN	**Pg**	**22 55 01.5**	**+5.1**
RSDY	**Resadiye-TOKAT**	**1.43**	**289**	*e*PN	**Pn**	**22 54 55.1**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.43**	**289**	*e*Pn	**Pn**	**22 54 55.1**	**-0.1**
ELZG	**Elazig**	**1.46**	**183**	*i* P	**Pn**	**22 54 55.0**	**-0.6**
ELZG				*i* S	**Sn**	**22 55 14.3**	**-0.5**
ELZG	**Elazig**	**1.46**	**183**	*i* P	**Pn**	**22 54 55.0**	**-0.6**
ELZG				*i* S	**Sn**	**22 55 14.3**	**-0.5**
SCER	**sogukcermik**	**1.52**	**267**	*i* P	**Pn**	**22 54 56.4**	**-0.1**
SCER				*i* S	**Sn**	**22 55 17.6**	**+1.4**
SCER	**sogukcermik**	**1.52**	**267**	*i* P	**Pn**	**22 54 56.4**	**0.0**
SCER				*i* S	**Sn**	**22 55 17.6**	**+1.4**
BINT	**Bingol**	**1.52**	**134**	*e*Pn	**Pn**	**22 54 56.6**	**0.0**
BNGB	**Bing¨|l**	**1.56**	**128**	*e*PN	**Pn**	**22 54 56.6**	**-0.5**
MYA	**Malataya**	**1.71**	**198**	*e*PN	**Pn**	**22 54 59.3**	**+0.2**
MYA	**Malataya**	**1.71**	**198**	*e*Pn	**Pn**	**22 54 59.3**	**+0.2**
MALT	**Malatya**	**1.72**	**198**	*e*PN	**Pn**	**22 54 59.7**	**+0.5**
MALT	**Malatya**	**1.72**	**198**	*e*Pn	**Pn**	**22 54 59.7**	**+0.5**
EZM	**Erzurum**	**1.74**	**91**	*e*PN	**Pn**	**22 54 59.8**	**+0.2**
ERZM	**Erzurum**	**1.75**	**91**	*i* P	**Pn**	**22 54 59.9**	**+0.3**
ERZM				*i* S	**Sn**	**22 55 22.9**	**+1.0**
ERZM	**Erzurum**	**1.75**	**91**	*i* P	**Pn**	**22 54 59.9**	**+0.3**
ERZM				*i* S	**Sn**	**22 55 22.9**	**+1.0**
PZAR	**Pazar-Rize**	**1.84**	**48**	*e*PN	**Pn**	**22 55 00.7**	**-0.2**
PZAR	**Pazar-Rize**	**1.84**	**48**	*e*Pn	**Pn**	**22 55 00.7**	**-0.2**
BNGL	**BINGOL**	**1.88**	**122**	*i* P	**Pn**	**22 55 02.4**	**+0.9**
BNGL				*i* S	**Sg**	**22 55 30.2**	**+0.5**
AKCD	**Akcadag**	**1.89**	**209**	*i* P	**Pn**	**22 55 02.0**	**+0.3**
AKCD				*i* S	**Sn**	**22 55 27.5**	**+2.0**
AKCD	**Akcadag**	**1.89**	**209**	*i* P	**Pn**	**22 55 02.0**	**+0.4**
AKCD				*i* S	**Sn**	**22 55 27.5**	**+2.0**
ERBA	**Erbaa**	**1.93**	**293**	*i* P	**Pn**	**22 55 02.9**	**+0.8**
ERBA				*i* S	**Sg**	**22 55 30.4**	**-1.0**
ERBA	**Erbaa**	**1.93**	**293**	*i* P	**Pn**	**22 55 02.9**	**+0.7**
ERBA				*i* S	**Sg**	**22 55 30.4**	**-1.0**
VRTB	**Varto-Mus**	**1.99**	**113**	*e*PN	**Pn**	**22 55 02.9**	**-0.1**
VRTB	**Varto-Mus**	**1.99**	**113**	*e*Pn	**Pn**	**22 55 02.9**	**-0.1**
TOKA	**Tokat**	**2.04**	**281**	*i* P	**Pn**	**22 55 04.3**	**+0.7**
TOKA				*i* S	**Sn**	**22 55 33.6**	**+4.5**
TOKA	**Tokat**	**2.04**	**281**	*i* P	**Pn**	**22 55 04.3**	**+0.6**
TOKA				*i* S	**Sn**	**22 55 33.6**	**+4.4**
DDEM	**Demirkent**	**2.23**	**64**	*i* P	**Pn**	**22 55 07.6**	**+1.3**
DDEM				*i* S	**Sn**	**22 55 36.3**	**+2.4**
DDEM	**Demirkent**	**2.23**	**64**	*i* P	**Pn**	**22 55 07.6**	**+1.3**
DDEM				*i* S	**Sn**	**22 55 36.3**	**+2.4**
SARI	**SarD1z-Kayseri**	**2.25**	**236**	*e*PN	**Pg**	**22 55 12.2**	**-0.3**
DBOC	**Borcka**	**2.40**	**54**	*i* P	**Pn**	**22 55 08.9**	**+0.3**
DBOC				*i* S	**Sn**	**22 55 39.7**	**+1.7**
DBOC	**Borcka**	**2.40**	**54**	*i* P	**Pn**	**22 55 08.9**	**+0.3**
DBOC				*i* S	**Sn**	**22 55 39.7**	**+1.7**
DAGI	**Agillar**	**2.42**	**62**	*i* P	**Pn**	**22 55 09.2**	**+0.3**
DAGI				*i* S	**Sn**	**22 55 39.3**	**+0.6**
BCA	**Borcka**	**2.43**	**51**	*e*PN	**Pn**	**22 55 09.0**	**-0.1**
BCA	**Borcka**	**2.43**	**51**	*e*Pn	**Pn**	**22 55 09.0**	**0.0**
PINB	**Pinarbasi**	**2.45**	**239**	*i* P	**Pn**	**22 55 10.2**	**+1.0**
PINB				*i* S	**Sg**	**22 55 46.1**	**-1.8**
PINB	**Pinarbasi**	**2.45**	**239**	*i* P	**Pn**	**22 55 10.2**	**+0.9**
ARTV	**Artvin**	**2.48**	**59**	*i* P	**Pn**	**22 55 09.3**	**-0.5**
ARTV				*i* S	**Sn**	**22 55 40.9**	**+0.8**
ARTV	**Artvin**	**2.48**	**59**	*i* P	**Pn**	**22 55 09.3**	**-0.5**
ARTV				*i* S	**Sn**	**22 55 40.9**	**+0.8**
URFA	**Urfa**	**2.52**	**185**	*e*PN	**Pn**	**22 55 10.9**	**+0.6**
URFA	**Urfa**	**2.52**	**185**	*e*Pn	**Pn**	**22 55 10.9**	**+0.7**
BEST	**Besiri**	**2.67**	**140**	*i* P	**Pg**	**22 55 16.7**	**-3.8**
BEST				*i* S	**Sn**	**22 55 41.4**	**-3.3**
BNN	**Bunyan**	**2.75**	**247**	*e*PN	**Pn**	**22 55 13.5**	**+0.2**
BNN	**Bunyan**	**2.75**	**247**	*e*Pn	**Pn**	**22 55 13.5**	**+0.1**
TUTA	**Tutak**	**2.92**	**100**	*i* P	**Pg**	**22 55 21.4**	**-3.9**
TUTA				*i* S	**Sg**	**22 56 02.2**	**-0.9**
YOZ	**Yozgat**	**2.92**	**265**	*e*PN	**Pn**	**22 55 16.7**	**+0.9**
YOZ	**Yozgat**	**2.92**	**265**	*e*Pn	**Pn**	**22 55 16.7**	**+0.9**
KMRS	**Kahramanmaras**	**2.99**	**216**	*e*PN	**Pn**	**22 55 17.7**	**+1.0**
KMRS	**Kahramanmaras**	**2.99**	**216**	*e*Pn	**Pn**	**22 55 17.7**	**+1.0**
GAZ	**Gaziantep**	**3.15**	**209**	*e*PN	**Pn**	**22 55 19.8**	**+0.9**
GAZ	**Gaziantep**	**3.15**	**209**	*e*Pn	**Pn**	**22 55 19.8**	**+0.9**
DIKM	**Dikmen**	**3.37**	**301**	*e*PN	**Pn**	**22 55 22.8**	**+0.9**
DIKM	**Dikmen**	**3.37**	**301**	*e*Pn	**Pn**	**22 55 22.8**	**+0.9**
CORM	**Corum**	**3.43**	**275**	*e*PN	**Pn**	**22 55 23.8**	**+0.9**
CORM	**Corum**	**3.43**	**275**	*e*Pn	**Pn**	**22 55 23.8**	**+1.0**
AVNT	**Avonos**	**3.49**	**252**	*i* P	**Pn**	**22 55 24.8**	**+1.2**
AVNT				*i* S	**Sg**	**22 56 20.9**	**-0.5**
AVNT	**Avonos**	**3.49**	**252**	*i* P	**Pn**	**22 55 24.8**	**+1.2**
KOZT	**Kozan**	**3.56**	**227**	*e*PN	**Pn**	**22 55 25.6**	**+1.1**
VANB	**Van**	**3.60**	**111**	*e*PN	**Pn**	**22 55 25.7**	**+0.6**
VANB	**Van**	**3.60**	**111**	*e*Pn	**Pn**	**22 55 25.7**	**+0.6**
AKH	**Akhalkalaki**	**3.65**	**65**	P	**Pg**	**22 56 33.7**	**-5.4**
AKH				S	**Sg**	**22 56 20.8**	**-5.6**
CLDR	**Caldiran**	**3.81**	**101**	*e*PN	**Pn**	**22 55 28.6**	**+0.6**
CLDR	**Caldiran**	**3.81**	**101**	*e*Pn	**Pn**	**22 55 28.6**	**+0.5**
TOS	**Tosya**	**4.01**	**287**	*e*PN	**Pn**	**22 55 32.0**	**+1.2**
TOS	**Tosya**	**4.01**	**287**	*e*Pn	**Pn**	**22 55 32.0**	**+1.2**
ONI	**Oni**	**4.21**	**50**	P	**Pn**	**22 55 34.9**	**+1.4**
ONI				S	**Sn**	**22 56 24.7**	**+2.0**
GOR	**Gori**	**4.30**	**60**	P	**Pg**	**22 55 47.1**	**-4.6**
GOR				S	**Sg**	**22 56 46.9**	**-0.6**
GNI	**Garni**	**4.34**	**86**	*e*PN	**Pn**	**22 55 36.0**	**+0.8**
GNI	**Garni**	**4.34**	**86**	*e*Pn	**Pn**	**22 55 36.0**	**+0.8**
CUKT	**Cukurca**	**4.45**	**126**	*e*PN	**Pn**	**22 55 37.9**	**+1.1**
CUKT	**Cukurca**	**4.45**	**126**	*e*Pn	**Pn**	**22 55 37.9**	**+1.1**
TBLG	**Delisi**	**4.63**	**66**	P	**Pg**	**22 55 55.0**	**-3.0**
TBLG				S	**Sg**	**22 57 00.0**	**+2.0**
MTA	**Mtatsminda**	**4.66**	**66**	P	**Pg**	**22 55 53.9**	**-4.6**
MTA				S	**Sg**	**22 56 54.5**	**-4.4**
DGRG	**David-gareji**	**5.00**	**71**	P	**Pg**	**22 56 02.8**	**-2.2**

MEX 01 23:12:49.9±0.6,**18.′14N×103.′36W, h10km**±**3km, MD3.9, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.14**	**5**	*e*P	Pg	23 12 52.6	-0.6
MMIG				*i* S	Sg	23 12 55.3	-0.3
R15V		**1.18**	**330**	*i* P	Pb	23 13 08.5	-3.8
R15V				*i* S	Sb	23 13 23.6	-4.1
EZ5V		**1.35**	**350**	*e*P	Pn	23 13 11.6	-3.1
EZ5V				*i* S	Sb	23 13 27.8	-4.7
ZIIG	**Zihuatanejo**	**1.88**	**106**	*i* P	Pn	23 13 19.3	-2.7
ZIIG				*i* S	Sn	23 13 40.5	-5.4
SFJM	**Santa Fe**	**2.35**	**7**	*i* P	Pn	23 13 25.5	-3.0
SFJM				*i* S	Sn	23 13 53.5	-3.9
ANIG	**Ahuacatlan**	**3.10**	**339**	*i* P	Pn	23 13 36.5	-2.3
ANIG				*i* S	Sn	23 14 12.4	-3.4

ISCJB ***01*** *23:22:15.5±0.8,35.′62N±0.′03×28.′40E±0.′04, h30km±8km, Error ellipse: s-maj=5.4km s-min=4.5km az=22.4*
CSEM ***01*** *23:22:16.1±0.2,35.′64N×28.′35E, h20km, MD3.4, Error ellipse: s-maj=4.8km s-min=4.4km az=99.0*
ISK ***01*** *23:22:16.6,35.′63N×28.′24E, h33km, MD3.5*
ATH ***01*** *23:22:16.3,35.′73N×28.′33E, h35km±1km, MD3.4/6*
HLW ***01*** *23:22:21.3,35.′41N×28.′35E, h31km±17km, Md3.5, Ml2.8*
ISC 01 23:22:16.9±0.9,**35.′68N**±0.′03×**28.′37E**±0.′04,**h29**km±8km, **n63,** σ1$**09**/81,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.57**	**340**	*e*PN	**Pb**	**23 22 27.8**	**-0.7**
ARG				*e*SN	**Sb**	**23 22 36.0**	**-0.4**
ARG	**Arkhangelos**	**0.57**	**340**	*e*P	**Pb**	**23 22 27.8**	**-0.7**
ARG				*e*S	**Sb**	**23 22 36.0**	**-0.4**
KARP	**Karpathos**	**0.99**	**263**	*e*PN	**Pn**	**23 22 34.5**	**-0.3**
KARP				*e*SN	**Sn**	**23 22 48.2**	**+0.3**
KARP	**Karpathos**	**0.99**	**263**	*e*P	**Pn**	**23 22 34.5**	**-0.3**
KARP				*e*S	**Sn**	**23 22 48.2**	**+0.3**
KSL	**Kastellorizon**	**1.09**	**64**	*e*PN	**Pn**	**23 22 37.0**	**+0.8**
TURN	**Turunc**	**1.21**	**9**	*i* P	**Pn**	**23 22 35.8**	**-2.0**
TURN	**Turunc**	**1.21**	**9**	*i* P	**Pn**	**23 22 35.8**	**-2.0**
TURN				*i* S	**Sn**	**23 22 50.5**	**-2.7**
DAT	**Datca**	**1.23**	**329**	*e*PN	**Pn**	**23 22 38.0**	**-0.1**
DAT				*e*SN	**Sn**	**23 22 53.0**	**-0.7**
DAT	**Datca**	**1.23**	**329**	*e*Pn	**Pn**	**23 22 38.0**	**-0.1**
DAT				*e*Sn	**Sn**	**23 22 53.0**	**-0.8**
YER	**Yerkesik**	**1.46**	**357**	*e*PN	**Pn**	**23 22 42.3**	**+1.1**
YER				*e*SN	**Sn**	**23 23 00.3**	**+1.0**
YER	**Yerkesik**	**1.46**	**357**	*e*Pn	**Pn**	**23 22 42.3**	**+1.1**
YER				*e*Sn	**Sn**	**23 23 00.3**	**+0.9**
BODT	**Bodrum**	**1.63**	**329**	*e*PN	**Pn**	**23 22 42.8**	**-0.8**
BODT	**Bodrum**	**1.63**	**329**	*e*Pn	**Pn**	**23 22 42.8**	**-0.8**
ELL	**Elmali**	**1.64**	**49**	*e*PN	**Pn**	**23 22 45.3**	**+1.5**
ELL	**Elmali**	**1.64**	**49**	*e*Pn	**Pn**	**23 22 45.3**	**+1.5**
MLSB	**Milas**	**1.69**	**344**	*e*PN	**Pn**	**23 22 45.4**	**+1.1**
MLSB	**Milas**	**1.69**	**344**	*e*Pn	**Pn**	**23 22 45.4**	**+1.0**
GLHS	**Gihisar (BURDU**	**1.74**	**31**	*e*PN	**Pn**	**23 22 46.0**	**+0.9**
GLHS	**Gihisar (BURDU**	**1.74**	**31**	*e*Pn	**Pn**	**23 22 46.0**	**+0.9**
GOLH	**Golhisar**	**1.83**	**31**	*i* P	**Pn**	**23 22 46.9**	**+0.5**
GOLH	**Golhisar**	**1.83**	**31**	*i* P	**Pn**	**23 22 46.9**	**+0.5**
GOLH				*i* S	**Sn**	**23 23 06.2**	**-2.3**
AYDN	**Tasoluk**	**2.02**	**349**	*i* P	**Pn**	**23 22 48.7**	**-0.3**
AYDN	**Tasoluk**	**2.02**	**349**	*i* P	**Pn**	**23 22 48.7**	**-0.3**
AYDN				*i* S	**Sn**	**23 23 10.0**	**-3.2**
KORT	**Korkueli**	**2.08**	**50**	*i* P	**Pn**	**23 22 51.1**	**+1.4**
KORT	**Korkueli**	**2.08**	**50**	*i* P	**Pn**	**23 22 51.1**	**+1.4**
DNZL	**Cakiroluk**	**2.08**	**15**	*i* P	**Pn**	**23 22 49.9**	**+0.1**
DNZL	**Cakiroluk**	**2.08**	**15**	*i* P	**Pn**	**23 22 49.9**	**+0.1**
DNZL				*i* S	**Sn**	**23 23 14.1**	**-0.7**
NPS	**Neapolis**	**2.29**	**260**	*e*PN	**Pn**	**23 22 53.3**	**+0.7**
NPS				*e*SN	**Sn**	**23 23 20.2**	**+0.4**
NPS	**Neapolis**	**2.29**	**260**	*e*P	**Pn**	**23 22 53.7**	**+1.1**
NPS				*e*S	**Sn**	**23 23 20.2**	**+0.4**
SMG	**Samos**	**2.37**	**329**	*e*PN	**Pn**	**23 22 53.6**	**-0.2**
SMG	**Samos**	**2.37**	**329**	*e*P	**Pn**	**23 22 53.6**	**-0.2**
APE	**Apeiranthos**	**2.68**	**302**	*e*PN	**Pn**	**23 22 58.0**	**0.0**
APE	**Apeiranthos**	**2.68**	**302**	*e*P	**Pn**	**23 22 56.9**	**-1.1**
KHAL	**Karahalli**	**2.84**	**18**	*i* P	**Pn**	**23 22 59.5**	**-0.6**
KHAL	**Karahalli**	**2.84**	**18**	*i* P	**Pn**	**23 22 59.5**	**-0.7**
BLCB	**Balcova**	**2.91**	**339**	*e*PN	**Pn**	**23 23 02.1**	**+1.0**
BLCB	**Balcova**	**2.91**	**339**	*e*Pn	**Pn**	**23 23 02.1**	**+1.0**
SIVA	**Sivas**	**2.98**	**258**	*e*PN	**Pn**	**23 23 02.9**	**+0.7**
SIVA	**Sivas**	**2.98**	**258**	*e*P	**Pn**	**23 23 02.9**	**+0.7**
GAZI	**Gazipasa**	**3.25**	**79**	*i* P	**Pn**	**23 23 07.0**	**+1.2**
GAZI	**Gazipasa**	**3.25**	**79**	*i* P	**Pn**	**23 23 07.0**	**+1.1**
VAM	**Vamos**	**3.41**	**267**	*e*PN	**Pn**	**23 23 09.7**	**+1.6**
VAM	**Vamos**	**3.41**	**267**	*e*P	**Pn**	**23 23 09.7**	**+1.6**
HDMB	**Hadim**	**3.56**	**68**	*e*PN	**Pn**	**23 23 13.0**	**+2.9**
HDMB	**Hadim**	**3.56**	**68**	*e*Pn	**Pn**	**23 23 13.0**	**+2.8**
PRK	**Paraskevi**	**3.94**	**336**	*e*PN	**Pn**	**23 23 16.2**	**+0.9**
PRK	**Paraskevi**	**3.94**	**336**	*e*P	**Pn**	**23 23 16.3**	**+1.0**
VLI	**Veliai**	**4.51**	**285**	*e*PN	**Pn**	**23 23 23.9**	**+0.6**
VLI	**Veliai**	**4.51**	**285**	*e*P	**Pn**	**23 23 22.9**	**-0.4**
HMAT	**Matruh**	**4.69**	**193**	P	**Pn**	**23 23 25.3**	**-0.4**
	baz=195						
HMAT				AMP		23 24 00.0	
	comp=E,20μm,2.1s,logA/T=4.0,baz=195						
HMAT				S	**Sn**	**23 24 13.6**	**-5.5**
	baz=195						
HMAT	**Matruh**	**4.69**	**193**	P	**Pn**

ASAR	Alice Springs	94.46 114	P	P	00 14 40.7	-0.2
WRA	Warramunga Arr	95.47 111	P	P	00 14 46.7	+1.2
	comp=Z,0.3nm,0.7s,mb3.8,baz=264,slow=2.2,SNR=3.2					
WRA	Warramunga Arr	95.47 111	P	P	00 14 46.7	+1.2
KSRS	Korea Array	95.76 53	LR	LR	00 58 46.7	
	comp=Z,36nm,21.3s,MS3.8,baz=65,slow=36					
TXAR	Lajitas Array	135.98 305	PKP	PKPdf	00 20 40.5	-1.3
	comp=Z,0.3nm,0.8s,baz=35,slow=3.8,SNR=3.4					
TXAR	Lajitas Array	135.98 305	PKP	PKPdf	00 20 40.5	-1.3

*CSEM **02** 00:06:09.8±0.1, 37°.91N×23°.46E, h10km, ML1.3, Error ellipse: s-maj=1.8km s-min=1.7km az=103.0*
*THE **02** 00:06:10.3, 37°.90N×23°.47E, h2km±15km, Error ellipse: s-maj=15.7km s-min=0.6km az=137.0*

ATH 02 00:06:10.2, 37°.89N×23°.47E, h9km±4km, ML1.3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	Nisos Aigina	0.13	174	*e*PG	Pg	00 06 13.1	-0.1
NAIG	Nisos Aigina	0.13	174	*e*Pg	Pg	00 06 13.1	-0.1
ATH	Athens Observa	0.21	67	*e*PG	Pg	00 06 14.5	0.0
ATH	Athens Observa	0.21	67	P	Pg	00 06 14.7	+0.2
ATH	Athens Observa	0.21	67	P	Pg	00 06 14.7	+0.2
VLY	Voula,Athens	0.26	98	*e*PG	Pg	00 06 15.4	0.0
VLY	Voula,Athens	0.26	98	P	Pg	00 06 15.3	-0.1
VLY				S	Sg	00 06 19.1	+0.2
VLY	Voula,Athens	0.26	98	*e*Pg	Pg	00 06 15.4	0.0
VLY				S	Sg	00 06 19.1	+0.2
VIL1	Vilia, Western	0.30	338	*e*PG	Pg	00 06 16.5	+0.4
PTL	Penteli	0.35	63	*e*PG	Pg	00 06 16.9	-0.2
PTL	Penteli	0.35	63	P	Pg	00 06 16.9	-0.2
PTL				S	Sg	00 06 21.9	+0.1
PTL	Penteli	0.35	63	P	Pg	00 06 16.9	-0.2
PTL				S	Sg	00 06 21.9	+0.1
LTK	Loutraki	0.42	289	*e*PB	Pg	00 06 18.4	0.0
LTK	Loutraki	0.42	289	P	Pg	00 06 18.3	-0.1
LTK	Loutraki	0.42	289	P	Pg	00 06 18.3	-0.1
DID	Didima	0.42	206	*e*PB	Pg	00 06 18.5	0.0
DID	Didima	0.42	206	P	Pg	00 06 18.5	0.0
DID	Didima	0.42	206	P	Pg	00 06 18.5	0.0
MRKA	Markates	0.82	6	P	Pg	00 06 25.6	-0.4
MRKA	Markates	0.82	6	P	Pg	00 06 25.6	-0.4
LKR	Lokris	0.84	334	*e*PG	Pg	00 06 25.9	-0.6
LKR	Lokris	0.84	334	P	Pg	00 06 25.8	-0.7
LKR	Lokris	0.84	334	*e*Pg	Pg	00 06 25.9	-0.6
GUR	Goura	0.89	273	*e*PB	Pb	00 06 27.1	-0.8
GUR	Goura	0.89	273	*e*Pb	Pb	00 06 27.1	-0.8
VLI	Veliai	1.24	200	*e*PB	Pb	00 06 33.7	-0.1
VLI	Veliai	1.24	200	*e*Pb	Pb	00 06 33.7	-0.1
NEO	Neokhori	1.43	352	*e*PG	Pg	00 06 36.6	-1.0
NEO	Neokhori	1.43	352	*e*Pg	Pg	00 06 36.6	-1.0

*ISCJB **02** 00:06:49.6±0.6, 37°.02N±0°.03×27°.92E±0°.04, h7km±5km, Error ellipse: s-maj=5.3km s-min=4.5km az=24.4*
*CSEM **02** 00:06:49.7±0.2, 37°.02N×27°.93E, h12km, MD2.7, Error ellipse: s-maj=3.8km s-min=3.4km az=120.0*
*ISK **02** 00:06:49.0, 37°.03N×27°.95E, h15km, MD2.7*
*DDA **02** 00:06:49.6, 37°.03N×27°.93E, h7km±3km, Md3.0*
*THE **02** 00:06:50.5, 37°.00N×27°.90E, h13km±38km, Error ellipse: s-maj=41.7km s-min=2.0km az=336.0*

ISC 02 00:06:50.0±0.5, 37°.03N±0°.03×27°.92E±0°.04, h13km±5km, n26, σ0°66/40, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.29	336	*e*PG	Pg	00 06 55.7	-0.3
MLSB				*e*SG	Sg	00 07 00.5	+0.4
MLSB	Milas	0.29	336	*e*Pg	Pg	00 06 55.7	-0.3
MLSB				*e*Sg	Sg	00 07 00.5	+0.4
YER	Yerkesik	0.31	69	*e*PG	Pg	00 06 55.9	-0.4
YER				*e*SG	Sg	00 06 59.9	-0.6
YER	Yerkesik	0.31	69	*e*Pg	Pg	00 06 55.9	-0.4
YER				*e*Sg	Sg	00 06 59.9	-0.6
DAT	Datca	0.41	223	*e*PG	Pg	00 06 58.0	-0.1
DAT	Datca	0.41	223	*e*Pg	Pg	00 06 58.0	-0.1
BODT	Bodrum	0.49	274	*e*PG	Pg	00 06 59.2	-0.4
BODT	Bodrum	0.49	274	*e*Pg	Pg	00 06 59.2	-0.5
TURN	Turunc	0.57	106	*i* Pg	Pg	00 06 56.4	-4.6
TURN				*i* Sg	Sg	00 07 02.0	-6.5
AYDN	Tasoluk	0.63	357	⇑*i*P	Pg	00 07 02.4	+0.1
AYDN				*i* S	Sg	00 07 10.3	-0.4
NIS1	Nisyros Isl.	0.73	235	P	Pg	00 07 04.5	+0.3
NIS1				S	Sg	00 07 14.1	+0.3
NIS1	Nisyros Isl.	0.73	235	P	Pg	00 07 04.5	+0.3
NIS1				S	Sg	00 07 14.1	+0.3
ARG	Arkhangelos	0.83	169	P	Pg	00 07 05.0	-1.0
ARG				S	Sg	00 07 17.8	+1.0
ARG	Arkhangelos	0.83	169	P	Pg	00 07 05.0	-1.0
ARG				S	Sg	00 07 17.8	+1.0
GCAM	G?zelcaml?	0.87	321	*e*P	Pg	00 07 07.0	+0.2
GCAM				*e*S	Sg	00 07 18.9	+0.7
GCAM	G?zelcaml?	0.87	321	*e*P	Pg	00 07 07.0	+0.2
GCAM				*e*S	Sg	00 07 18.9	+0.8
DNZL	Cakiroluk	1.11	53	*e*P	Pb	00 07 12.4	+1.3
DNZL				*e*S	Sb	00 07 26.8	+1.3
DNZL	Cakiroluk	1.11	53	*e*P	Pb	00 07 12.4	+1.3
DNZL				*e*S	Sb	00 07 26.8	+1.3
IZM	Izmir	1.47	339	*e*PN	Pn	00 07 15.5	-0.6
IZM	Izmir	1.47	339	*e*Pn	Pn	00 07 15.5	-0.6
BLCB	Balcova	1.52	333	*e*PN	Pn	00 07 16.4	-0.6
BLCB	Balcova	1.52	333	*e*Pn	Pn	00 07 16.4	-0.6
KULA	Kula-Manisa	1.60	21	*e*PN	Pn	00 07 17.3	-0.6
KULA	Kula-Manisa	1.60	21	*e*Pn	Pn	00 07 17.3	-0.6
ELL	Elmali	1.62	99	*e*PN	Pn	00 07 17.6	-0.5
ELL	Elmali	1.62	99	*e*Pn	Pn	00 07 17.7	-0.5

*ISCJB **02** 00:29:46.0±1.3, 19°.30N±0°.07×64°.35W±0°.05, h22km±11km, Error ellipse: s-maj=12.3km s-min=8.4km az=167.5*
*TRN **02** 00:29:45.9, 19°.22N×64°.33W, h29km, MD3.7(RSPR)*
*RSPR **02** 00:29:46.8, 19°.17N×64°.15W, h66km±3km, MD3.7/11*
*NEIC **02** 00:29:46.8, 19°.17N×64°.15W, h66km, MD3.6(RSPR), After RSPR.*

ISC 02 00:29:47.0±1.3, 19°.22N±0°.07×64°.35W±0°.07, h16km±10km, n41, σ0°85/62, 12C-18D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.49	178	⇓*i*P	Pg	00 29 58.3	+1.5
ABV	Anegada	0.49	178	⇓*i*P	Pg	00 29 58.3	+1.5
TBVI	Tortola	0.84	198	⇓*i*P	Pb	00 30 02.6	-0.7
TBVI	Tortola	0.84	198	⇓*i*P	Pb	00 30 02.6	-0.7
TBVI	Tortola	0.84	198	⇓*i*P	Pb	00 30 02.6	-0.7
STVI	Saint Thomas	1.04	214	*e*S	Sb	00 30 20.6	+0.5
STVI	Saint Thomas	1.04	214	*e*Pn	Pn	00 30 05.3	-1.7
STVI				*e*S	Sb	00 30 18.2	-1.9
STVI	Saint Thomas	1.04	214	*e*S	Sb	00 30 20.6	+0.5
MTP	Monte Pirata	1.60	226	⇓*e*P	Pn	00 30 13.8	-0.8
MTP	Monte Pirata	1.60	226	⇓*e*P	Pn	00 30 13.8	-0.8
MTP				*e*S	Sn	00 30 34.0	-1.0
MTP	Monte Pirata	1.60	226	⇓*e*P	Pn	00 30 13.8	-0.8
MTP				*e*S	Sn	00 30 34.0	-1.0
CBYP	Canovanas	1.71	237	⇓*e*P	Pn	00 30 15.4	-0.8
CBYP	Canovanas	1.71	237	⇓*e*P	Pn	00 30 15.4	-0.8
CBYP	Canovanas	1.71	237	⇓*e*P	Pn	00 30 15.4	-0.8
HUMP	Col San Antoni	1.78	233	⇑*e*P	Pn	00 30 16.1	-1.1
HUMP	Col San Antoni	1.78	233	⇑*e*P	Pn	00 30 16.1	-1.1
HUMP				*e*S	Sn	00 30 39.4	-0.1
HUMP	Col San Antoni	1.78	233	⇑*e*P	Pn	00 30 16.1	-1.1
HUMP				*e*S	Sn	00 30 39.4	-0.1
CPD	Cerro la Pandu	1.90	232	⇓*e*P	Pn	00 30 18.1	-0.7
CPD	Cerro la Pandu	1.90	232	⇓*e*P	Pn	00 30 18.1	-0.7
CPD				*e*S	Sn	00 30 42.5	+0.1
CPD	Cerro la Pandu	1.90	232	⇓*e*P	Pn	00 30 18.9	+0.1
CPD				*e*S	Sn	00 30 42.5	+0.1
SJG	San Juan	2.04	237	⇓*e*P	Pn	00 30 19.9	-0.8
SJG	San Juan	2.04	237	⇓*e*P	Pn	00 30 19.7	-1.0
SJG				*e*S	Sn	00 30 46.1	+0.3
SJG	San Juan	2.04	237	⇓*e*P	Pn	00 30 19.7	-1.0
SJG				*e*S	Sn	00 30 46.1	+0.3
SJG	San Juan	2.04	237	⇓*e*P	Pn	00 30 19.7	-1.0
SJG				*e*S	Sn	00 30 45.9	+0.1
CELP	Cerrillos	2.40	242	⇑*e*P	Pn	00 30 25.5	-0.2
CELP				*e*S	Sn	00 30 54.5	-0.4
CELP	Cerrillos	2.40	242	⇑*e*P	Pn	00 30 25.5	-0.2
CELP				*e*S	Sn	00 30 54.5	-0.4
CELP	Cerrillos	2.40	242	⇑*e*P	Pn	00 30 25.5	-0.2
CELP				*e*S	Sn	00 30 54.5	-0.4
AOPR	Arecibo Observ	2.44	250	⇑*e*P	Pn	00 30 25.8	-0.5
AOPR	Arecibo Observ	2.44	250	⇑*e*P	Pn	00 30 25.8	-0.5
AOPR	Arecibo Observ	2.44	250	⇑*e*P	Pn	00 30 25.8	-0.5
OBIP	Obispado Ponce	2.44	242	⇑*e*P	Pn	00 30 26.0	-0.3
OBIP	Obispado Ponce	2.44	242	⇑*e*P	Pn	00 30 26.0	-0.3
OBIP				*e*S	Sn	00 30 55.7	-0.2
OBIP	Obispado Ponce	2.44	242	⇑*e*P	Pn	00 30 26.0	-0.3
OBIP				*e*S	Sn	00 30 55.7	-0.2
ICM	Isla Caja Muer	2.45	238	*e*Pn	Pn	00 30 26.8	+0.5
ICM				*e*Sn	Sn	00 30 57.4	+1.4
LRS	Lares	2.54	249	*e*Pn	Pn	00 30 26.9	-0.8
LRS				*e*Sn	Sn	00 30 59.6	+1.3
AGPR	Aguadilla, PR	2.72	254	*e*Pn	Pn	00 30 30.9	+0.7
AGPR				*e*Sn	Sn	00 31 04.4	+1.6
LSP	Las Mesas	2.80	249	*e*Pn	Pn	00 30 31.3	+0.2
LSP				*e*Sn	Sn	00 31 05.0	+0.4
CRPR	Cabo Rojo, PR	2.88	246	*e*Pn	Pn	00 30 32.4	0.0
CRPR				*e*Sn	Sn	00 31 07.0	+0.2
LZG	Guadaloupe-1	3.92	141	*e*P	Pn	00 30 46.8	+0.1
BCG	Bois Riant Cap	4.06	140	*e*P	Pn	00 30 50.4	+1.9
SDDR	Presa de Saban	6.57	269	*e*Pn	Pn	00 31 23.3	+0.3
	18nm,0.4s						
SDDR				*e*Sn	Sn	00 32 37.6	0.0

*ISCJB **02** 00:33:11.8±1.2, 19°.43N±0°.03×66°.38W±0°.04, h22km±9km, mb4.0/13, MS3.4/3, Error ellipse: s-maj=6.7km s-min=4.1km az=145.7*
*RSPR **02** 00:33:13.8, 19°.50N×66°.36W, h35km±29km, MD4.0/18*
*NEIC **02** 00:33:13.8, 19°.50N×66°.36W, h35km, mb4.6/2, MD4.0(RSPR), After RSPR.*
*IDC **02** 00:33:15.9±0.7, 19°.36N×66°.40W, h43km±6km, mb3.7/12, mb1 4.0/12, mb1mx3.8/22, mbtmp3.7/12, MS3.3/4, Ms1 3.3/4, ms1mx3.0/37, Error ellipse: s-maj=17.3km s-min=6.0km az=75.0*

ISC 02 00:33:11.4±0.9, 19°.39N±0°.03×66°.36W±0°.03, h9km±6km, h45km±2.1km: pP-P, n192, σ0°55/195, mb4.0/13, MS3.4/3, 70C-77D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.10	200	⇑*e*P	Pg	00 33 32.4	-0.1
AOPR	Arecibo Observ	1.10	200	⇑*e*P	Pg	00 33 32.4	-0.1
AOPR				*e*S	Sg	00 33 48.2	+1.5
AGPR	Aguadilla, PR	1.16	218	⇑*e*P	Pg	00 33 33.4	-0.1
AGPR	Aguadilla, PR	1.16	218	⇑*e*P	Pg	00 33 33.4	-0.1
AGPR				*e*S	Sg	00 33 48.8	+0.3
LRS	Lares	1.18	203	⇓*i*P	Pg	00 33 33.5	-0.5
LRS	Lares	1.18	203	⇓*i*P	Pg	00 33 33.5	-0.5
CBYP	Canovanas	1.21	156	⇓*e*P	Pg	00 33 33.9	-0.7
CBYP	Canovanas	1.21	156	⇓*e*P	Pg	00 33 33.9	-0.7
SJG	San Juan	1.28	171	⇓*e*P	Pn	00 33 35.2	-0.3
SJG	San Juan	1.28	171	*e*S	Sb	00 33 53.3	+0.9
SJG	San Juan	1.28	171	⇓*e*P	Pn	00 33 35.1	-0.5
SJG	San Juan	1.28	171	P	Pn	00 33 35.0	-0.5
	215nm,0.3s,baz=5.2,slow=10,SNR=48						
SJG				S	Sb	00 33 53.3	+0.9
	771nm,0.3s,baz=266,slow=14,SNR=21						
SJG	San Juan	1.28	171	⇓*e*P	Pn	00 33 35.1	-0.5
SJG				⇑*e*P		00 33 35.2	
SJG				*e*S	Sb	00 33 53.3	+0.9
CELP	Cerrillos	1.32	189	⇓*e*P	Pn	00 33 35.7	-0.3
CELP	Cerrillos	1.32	189	⇓*e*P	Pn	00 33 35.7	-0.3
HUMP	Col San Antoni	1.33	158	⇑*e*P	Pn	00 33 35.4	-0.8
HUMP	Col San Antoni	1.33	158	⇑*e*P	Pn	00 33 35.4	-0.8
HUMP				*e*S	Sb	00 33 53.5	-0.2
OBIP	Obispado Ponce	1.35	190	⇓*e*P	Pn	00 33 36.2	-0.3
OBIP	Obispado Ponce	1.35	190	⇓*e*P	Pn	00 33 36.2	-0.3
LSP	Las Mesas	1.38	210	⇓*i*P	Pn	00 33 37.1	+0.2
LSP	Las Mesas	1.38	210	⇓*i*P	Pn	00 33 37.1	+0.2
CPD	Cerro la Pandu	1.41	162	⇓*e*P	Pn	00 33 36.7	-0.5
CPD	Cerro la Pandu	1.41	162	⇓*e*P	Pn	00 33 36.7	-0.5
CPD				*e*S	Sb	00 33 55.8	-0.2
GBPR	Guanica, Bosqu	1.48	199	⇑*e*P	Pn	00 33 38.5	+0.2
GBPR	Guanica, Bosqu	1.48	199	⇑*e*P	Pn	00 33 38.5	+0.2
ICM	Isla Caja Muer	1.49	186	⇑*e*P	Pn	00 33 38.3	-0.1
ICM	Isla Caja Muer	1.49	186	⇑*e*P	Pn	00 33 38.3	-0.1
ICM				*e*S	Sn	00 33 58.3	+0.3
MTP	Monte Pirata	1.49	149	⇓*e*P	Pn	00 33 37.5	-0.9
MTP	Monte Pirata	1.49	149	⇓*e*P	Pn	00 33 37.5	-0.9
CRPR	Cabo Rojo, PR	1.54	207	⇓*e*P	Pn	00 33 39.6	+0.5
CRPR	Cabo Rojo, PR	1.54	207	⇓*e*P	Pn	00 33 39.6	+0.5
CRPR				*e*S	Sn	00 33 59.6	+0.4
STVI	Saint Thomas	1.69	127	⇓*e*P	Pn	00 33 41.1	+0.1
STVI	Saint Thomas	1.69	127	⇓*e*P	Pn	00 33 41.1	+0.1
TBVI	Tortola	1.92	120	⇑*i*P	Pn	00 33 44.1	-0.1
TBVI	Tortola	1.92	120	*i* Pu	Pn	00 33 44.1	-0.1
DR12	Loma Pena Alta	2.91	259	⇓*e*P	Pn	00 33 58.4	+0.4
DR12	Loma Pena Alta	2.91	259	⇓*e*P	Pn	00 33 58.4	+0.4
SDDR	Presa de Saban	4.67	266	*e*Pn	Pn	00 34 22.8	+0.7
SDDR				*e*Sn	Sn	00 35 15.6	-0.9
LZG	Guadaloupe-1	5.43	126	*e*P	Pn	00 34 33.6	+1.0
GTBY	Guantanamo Bay	8.26	275	*e*Pn	Pn	00 35 11.0	-0.5
GTBY				*e*Sn	Sn	00 36 43.3	-1.7
ROSC	El Rosal	16.40	209	LR	LR	00 42 44.1	
	comp=Z,60nm,19.9s,baz=28,slow=35						
NHSC	New Hope	18.42	321	*e*Pn	Pn	00 37 25.1	-1.9
NHSC				*e*Sn	Sn	00 40 46.6	-6.4
JSC	Jenkinsville	19.88	321	P	Pn	00 37 43.7	-1.0
JTS	JuntasAbangare	20.10	246	P	P	00 37 45.3	-0.3
	3.4nm,0.6s,baz=308,slow=15,SNR=3.9						
JTS				LR	LR	00 45 06.1	
	comp=Z,52nm,19.6s,MS2.9,baz=258,slow=35						
JTS	JuntasAbangare	20.10	246	P	P	00 37 45.3	-0.3
TEIG	Tepich	20.63	276	P	P	00 37 52.1	+0.8
	4.2nm,0.5s,baz=67,slow=18,SNR=3.3						
TEIG	Tepich	20.63	276	P	P	00 37 52.1	+0.8
BLA	Blacksburg	21.60	328	*e*P	P	00 37 59.7	-1.9
	20nm,0.6s,mb4.7						
BLA				*e*S	S	00 41 55.1	-5.9
OTAV	Otavalo	22.42	213	*e*P	P	00 38 10.2	-0.3
	19nm,1.1s,mb4.4						
628A	Black Gap, Mar	34.62	294	⇓P	P	00 40 01.0	0.0
	baz=34,SNR=9.7						
528A	Cox Ranch, San	34.63	295	⇓P	P	00 40 01.2	0.0
	baz=35						
428A	Kincaid Ranch,	34.64	296	⇑P	P	00 40 00.7	-0.5
	baz=35,SNR=8.7						
627A	Terlingua Ranc	35.04	294	⇑P	P	00 40 04.7	0.0
	baz=35,SNR=9.3						
TXAR	Lajitas Array	35.27	294	P	P	00 40 07.3	+0.6
	2.7nm,0.7s,mb4.3,baz=107,slow=9.4,SNR=32						
TXAR	Lajitas Array	35.27	294	P	P	00 40 07.3	+0.6
427A	Hayter Ranch,	35.27	296	⇑P	P	00 40 06.0	-0.7
	baz=35						
527A	Woodward Ranch	35.34	295	⇑P	P	00 40 06.8	-0.4
	baz=35						
626A	Big Bend Ranch	35.70	294	⇑P	P	00 40 10.9	+0.6
	baz=36						
526A	Mary Lane Ranc	35.73	295	⇓P	P	00 40 10.7	+0.1
	baz=36,SNR=5.9						
426A	McDonald Obser	35.77	296	⇓P	P	00 40 10.7	-0.3
	baz=36						
W26A	Owens Ranch, T	36.51	303	⇓P	P	00 40 17.4	+0.2
	baz=36						
425A	Indio Mountain	36.61	296	⇑P	P	00 40 18.0	-0.1
	baz=36,SNR=6.1						
325A	Bean Ranch, Si	36.69	297	⇓P	P	00 40 18.9	0.0
	baz=37,SNR=6.9						
225A	Deer Hill, Car	36.69	298	⇑P	P	00 40 18.9	0.0
	baz=37						
V26A	Tequesquite Ra	36.72	304	⇑P	P	00 40 18.8	-0.2
	baz=37						
U26A	Atchley Ranch,	36.85	305	⇑P	P	00 40 20.1	-0.1
	baz=37						
MNTX	Cornudas Mount	37.09	297	⇑P	P	00 40 21.9	-0.3
	baz=37						
W25A	X Bar L Ranch,	37.09	303	⇓P	P	00 40 21.7	-0.5
	baz=37						
124A	Stringfield Ra	37.33	299	⇑P	P	00 40 23.8	-0.5
	baz=37						
U25A	Circle Dot Ran	37.37	305	⇓P	P	00 40 23.8	-0.7
	baz=37						
Y24A	Capitan	37.56	301	⇓P	P	00 40 25.5	-0.7
	baz=38						
SDCO	Great Sand Dun	38.60	307	⇑P	P	00 40 35.2	+0.3
	baz=38						
ISCO	Idaho Springs	39.33	310	⇓P	P	00 40 41.1	+0.2
	baz=39						
Y21A	Point of Rocks	39.40	300	⇓P	P	00 40 42.3	+0.6
	baz=39						
T22A	Edith	39.47	305	⇓P	P	00 40 42.8	+0.6
	baz=39						
U21A	Nageezi	39.91	304	⇑P	P	00 40 46.5	+0.6
	baz=40						
R21A	Cimarron	40.32	307	⇑P	P	00 40 49.8	+0.5
	baz=40						
219A	White Tail Can	40.40	297	⇓P	P	00 40 50.4	+0.4
	baz=40						
F24A	Ekalaka	40.94	319	⇑P	P	00 40 54.6	+0.3
	baz=41						
218A	Dragoon	41.06	297	⇑P	P	00 40 55.9	+0.4
	baz=41						
T19A	Beclabito	41.07	304	⇓P	P	00 40 56.1	+0.6
	baz=41						
S19A	Harvey Farm, M	41.37	305	⇓P	P	00 40 57.7	-0.2
	baz=41						
K21A	Alcova	41.47	313	⇓P	P	00 40 58.5	-0.2
	baz=41						
R19A	Curley Farm, L	41.60	306	⇓P	P	00 40 59.6	-0.2
	baz=42						
217A	Green Valley	41.68	296	⇑P	P	00 41 00.7	+0.1
	baz=42						
117A	Oracle	41.71	297	⇑P	P	00 41 01.1	+0.2
	baz=42						
M20A	Sweetwater, Wa	41.73	311	⇑P	P	00 41 01.3	+0.5
	baz=42						
E23A	Ismay	41.77	319	⇑P	P	00 41 01.7	+0.6
	baz=42						
T18A	Mexican Hat	41.80	304	⇓P	P	00 41 01.4	-0.1
	baz=42						
J21A	Lysite	41.86	314	⇑P	P	00 41 01.9	0.0
	baz=42						
Y17A	Roosevelt	41.95	299	⇓P	P	00 41 02.0	-0.8
	baz=42						
S18A	Hurst Farm, Bl	42.02	305	⇑P	P	00 41 03.2	-0.1
	baz=42						
F22A	Rosebud	42.05	318	⇑P	P	00 41 03.6	+0.2
	baz=42						
R18A	Canyonlands Na	42.11	306	⇑P	P	00 41 03.7	-0.2
	baz=42						
E22A	Miles City	42.15	319	⇓P	P	00 41 03.7	-0.4
	baz=42						
V17A	Tonalea, Kykot	42.22	302	⇓P	P	00 41 04.4	-0.6
	baz=42						
J20A	Shoshoni	42.30	314	⇑P	P	00 41 05.6	+0.2
	baz=42						
C23A	Lambert	42.31	321	⇑P	P	00 41 05.9	+0.4
	baz=42						
I20A	Worland	42.54	315	⇓P	P	00 41 07.6	+0.2
	baz=42						
D22A	Cohagen	42.60	320	⇓P	P	00 41 07.8	-0.1
	baz=42						
S17A	Black Ridge (B	42.63	305	⇑P	P	00 41 07.8	-0.4
	baz=42						
K19A	Absolon Red Bu	42.64	313	⇑P	P	00 41 07.9	-0.4
	baz=42						
WUAZ	Wupatki	42.67	302	⇑P	P	00 41 08.8	+0.2
	baz=43						
J19A	Crowheart	42.93	313	⇓P	P	00 41 09.7	-0.9
	baz=43						
D21A	La Casta Ranch	43.07	319	⇓P	P	00 41 12.2	+0.5
	baz=43,SNR=5.6						
G20A	Bridger	43.08	316	⇑P	P	00 41 11.4	-0.3
	baz=43						
BW06	Boulder Array	43.11	312	⇓P	P	00 41 12.0	0.0
	baz=43						
PDAR	Pinedale Array	43.11	312	P	P	00 41 12.3	+0.2
	0.6nm,0.6s,mb3.5,baz=130,slow=11,SNR=4.7						
PDAR				PcP	PcP	00 43 01.2	-0.7
	0.6nm,0.7s,baz=116,slow=3.4,SNR=3.8						
PDAR	Pinedale Array	43.11	312	P	P	00 41 12.3	+0.2
PDAR				PcP	PcP	00 43 01.2	-0.7
L18A	Fontenelle, Gr	43.18	311	⇓P	P	00 41 12.8	+0.1
	baz=43						
O17A	Robinson Place	43.20	309	⇓P	P	00 41 13.3	+0.4
	baz=43						
F20A	Billings	43.27	317	⇓P	P	00 41 13.4	+0.2
	baz=43						
R16A	Teasdale	43.30	306	⇓P	P	00 41 13.4	-0.3
	baz=43						
H19A	Powell	43.38	315	⇑P	P	00 41 13.7	-0.5
	baz=43						
114A	Black Gap (USA	43.53	297	⇓P	P	00 41 15.8	+0.2
	baz=43						
J18A	Kendall Valley	43.58	313	⇑P	P	00 41 15.9	+0.1
	baz=44						
I18A	Diamond G Ranc	43.60	314	⇑P	P	00 41 15.6	-0.4
	baz=44						
H18A	Shoshone NF, C	43.84	315	⇓P	P	00 41 17.8	0.0
	baz=44						
E19A	Rath Farm, Rou	43.

MFID	Camas Ranch	47.70	312	⇓P	P	00 41 48.3	-0.1
	baz=48						
A14A	Double T Ranch	47.78	319	⇓P	P	00 41 49.1	+0.1
	baz=48						
F12A	Elk City	47.92	315	⇓P	P	00 41 50.7	+0.6
	baz=48						
EDW2	Edwards Air Fo	47.96	300	⇓P	P	00 41 51.3	+0.6
	baz=48						
C13A	Hot Springs	48.06	317	⇑P	P	00 41 51.6	+0.4
	baz=48						
CIS	Catalina Islan	48.20	298	⇓P	P	00 41 52.8	+0.3
	baz=48						
E12A	Beaver Dam Sad	48.32	315	⇓P	P	00 41 53.3	+0.1
	baz=48						
NVAR	Mina Array Bea	48.60	304	P	P	00 41 56.0	+0.5
	1.2nm,0.7s,mb4.0,baz=87,slow=7.0,SNR=11						
NVAR	Mina Array Bea	48.60	304	P	P	00 41 56.0	+0.5
BLG	Laguna Peak	48.79	299	⇓P	P	00 41 57.1	+0.1
	baz=49						
J08A	Circle Bar Ran	49.57	311	⇑P	P	00 42 02.1	-0.7
	baz=50						
NEW	Newport	49.87	317	⇑P	P	00 42 04.4	-0.6
	baz=50,SNR=8.5						
I07A	Izee	50.44	312	⇑P	P	00 42 08.9	-0.5
	baz=50						
CFAA	Coronel Fontan	50.73	182	P	P	00 42 10.0	-1.7
	0.1nm,0.4s,mb3.1,baz=324,slow=6.6,SNR=3.6						
CFAA	Coronel Fontan	50.73	182	P	P	00 42 10.0	-1.7
YKA	Yellowknife Ar	54.26	335	P	P	00 42 36.3	-1.1
	1.6nm,0.5s,mb4.2,baz=111,slow=7.2,SNR=12						
YKA				pP	pP	00 42 49.4	+9.2
	1.3nm,0.5s,baz=108,slow=7.0,SNR=3.4						
YKA	Yellowknife Ar	54.26	335	P	P	00 42 36.4	-1.1
YKA				pP	pP	00 42 49.4	+9.2
PLCA	Paso Flores	59.93	184	P	P	00 43 16.9	-0.9
	0.8nm,0.6s,mb3.9,baz=338,slow=18,SNR=3.3						
PLCA	Paso Flores	59.93	184	P	P	00 43 16.9	-0.9
DBIC	Dimbokro	60.96	93	P	P	00 43 25.8	+0.2
	4.6nm,0.8s,mb4.6,baz=259,slow=8.0,SNR=4.8						
DBIC	Dimbokro	60.96	93	P	P	00 43 25.8	+0.2
TORD	Torodi Ar. Bea	65.28	84	P	P	00 43 53.7	-0.5
	1.0nm,0.9s,mb3.9,baz=288,slow=6.2,SNR=5.1						
TORD				pP	pP	00 44 07.2	+10
	0.4nm,0.5s,baz=283,slow=5.7,SNR=3.7						
TORD	Torodi Ar. Bea	65.28	84	P	P	00 43 53.7	-0.5
TORD				pP	pP	00 44 07.2	+10
DAVOX	Davos/Dischmat	66.80	47	LR	LR	01 07 59.2	
	comp=Z,33nm,18.6s,MS3.6,baz=76,slow=31						
ILAR	Eielson Array	68.61	333	P	P	00 44 13.8	-0.7
	1.6nm,0.5s,mb4.2,baz=104,slow=4.0,SNR=20						
ILAR				pP	pP	00 44 26.9	+10
	1.5nm,0.5s,baz=105,slow=4.1,SNR=8.6						
ILAR	Eielson Array	68.61	333	P	P	00 44 13.8	-0.7
ILAR				pP	pP	00 44 26.9	+10
VRAC	Vranov	71.02	43	LR	LR	01 10 08.4	
	comp=Z,40nm,20.2s,MS3.7,baz=15,slow=31						
BRTR	Keskin Array B	85.21	50	P	P	00 45 49.5	+0.9
	0.6nm,0.8s,mb3.8,baz=288,slow=4.8,SNR=3.8						
BRTR	Keskin Array B	85.21	50	P	P	00 45 49.5	+0.9
STKA	Stephens Creek	151.98	238	PKPbc	PKPbc	00 53 07.9	+0.4
	1.3nm,0.5s,baz=340,slow=6.6,SNR=5.2						
STKA	Stephens Creek	151.98	238	PKPbc	PKPbc	00 53 07.9	+0.4
WRA	Warramunga Arr	160.49	265	PKPab	PKPab	00 53 52.2	-1.4
	0.6nm,0.8s,baz=90,slow=4.0,SNR=5.1						
WRA	Warramunga Arr	160.49	265	PKPab	PKPab	00 53 52.2	-1.4
ASAR	Alice Springs	160.67	254	PKPab	PKPab	00 53 53.3	-1.1
	0.7nm,0.7s,baz=107,slow=4.6,SNR=6.6						
ASAR	Alice Springs	160.67	254	PKPab	PKPab	00 53 53.3	-1.1

*TRN **02** 00:35:54.9, 18.°93N×64.°32W, h55km, MG2.5(RSPR)*
*NEIC **02** 00:35:56.1, 18.°95N×64.°24W, h59km, MD3.5(RSPR), After RSPR.*

RSPR 02 00:35:56.1, 18.°95N×64.°24W, h59km±3km, MD2.5/3, 17C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.24	201	⇑eP	Pn	00 36 10.8	+5.2
ABV				eS	Sn	00 36 12.0	-0.5
ABV	Anegada	0.24	201	⇑eP	Pn	00 36 10.8	+5.2
ABV				eS	Sn	00 36 12.1	-0.4
TBVI	Tortola	0.64	214	⇑eP	Pn	00 36 08.7	-0.8
TBVI				eS	Sn	00 36 18.9	-0.4
TBVI	Tortola	0.64	214	⇑eP	Pn	00 36 08.7	-0.8
TBVI				eS	Sn	00 36 18.9	-0.4
TBVI	Tortola	0.64	214	⇑eP	Pn	00 36 08.7	-0.8
TBVI				eS	Sn	00 36 18.9	-0.4
STVI	Saint Thomas	0.90	229	⇑eP	Pn	00 36 11.7	-1.1
STVI	Saint Thomas	0.90	229	⇑eP	Pn	00 36 11.7	-1.1
STVI				eS	Sn	00 36 24.4	-0.8
STVI	Saint Thomas	0.90	229	⇑eP	Pn	00 36 11.7	-1.1
STVI				eS	Sn	00 36 24.4	-0.8
MTP	Monte Pirata	1.51	236	⇑eP	Pn	00 36 20.5	-0.3
MTP	Monte Pirata	1.51	236	⇑eP	Pn	00 36 20.5	-0.3
MTP	Monte Pirata	1.51	236	⇑eP	Pn	00 36 20.5	-0.3
CBYP	Canovanas	1.68	246	⇑eP	Pn	00 36 22.7	-0.4
CBYP	Canovanas	1.68	246	⇑eP	Pn	00 36 22.7	-0.4
CBYP	Canovanas	1.68	246	⇑eP	Pn	00 36 22.7	-0.4
HUMP	Col San Antoni	1.73	242	⇑eP	Pn	00 36 22.6	-1.2
HUMP	Col San Antoni	1.73	242	⇑eP	Pn	00 36 22.6	-1.2
HUMP	Col San Antoni	1.73	242	⇑eP	Pn	00 36 22.6	-1.2

*ISCJB **02** 00:42:23.7±0.4, 23.°76N±0.°03×103.°39E±0.°04, h10km, mb3.7/10, Error ellipse: s-maj=5.7km s-min=3.2km az=159.7*
*PLV **02** 00:42:25.3±2.0, 23.°76N×103.°38E, h0km±15km, MD3.3*
*IDC **02** 00:42:25.5±0.9, 23.°82N×103.°28E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/26, mbtmp3.6/8, ML4.2/1, Error ellipse: s-maj=26.9km s-min=15.7km az=80.0*
*NEIC **02** 00:42:26.6±0.4, 23.°82N×103.°25E, h10km, mb4.0/4, Error ellipse: s-maj=8.8km s-min=5.8km az=98.0*

ISC 02 00:42:25.9±0.4, 23.°76N±0.°02×103.°36E±0.°04, h10km, n32, σ0.°89/46, mb3.7/10, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	1.47	338	Pg	Pg	00 42 52.8	-1.3
KMI				Sg	Sg	00 43 12.1	-1.2
LCVN	Lai Chau	1.72	186	ePn	Pn	00 42 56.6	+0.7
LCVN				ePg	Pg	00 42 58.4	-0.5
LCVN				eSg	Sg	00 43 20.9	-0.2
TGV	Tuan Giao	2.16	178	ePg	Pg	00 43 06.1	-1.1
TGV				eSg	Sg	00 43 35.8	+0.5
MTZV	Met	3.53	128	ePg	Pg	00 43 33.7	+0.3
MTZV				eSg	Sg	00 44 19.0	-0.2
BGV	Bac-Giang	3.61	132	ePn	Pn	00 43 22.2	+0.3
BGV				eSg	Sg	00 44 22.1	+0.2
DSV	Doi Son	3.98	142	ePn	Pn	00 43 28.1	+1.1
DSV				ePg	Pg	00 43 39.8	-2.3
DSV				eSg	Sg	00 44 32.1	-1.6
CHRT	Chiangrai	5.10	221	PG	Pn	00 43 50.0	+7.7
CHRT				SG	Sg	00 45 03.0	-6.6
CHTO	Chiang Mai	6.41	221	ePn	Pn	00 44 00.7	+0.3
CHTO				eSn	Sn	00 45 15.0	+1.3
CMAR	Chiang Mai Arr	6.69	219	Pn	Pn	00 44 04.7	+0.4
	1.3nm,0.3s,baz=29,slow=13,SNR=6.2						
CMAR				Pg	Pg	00 44 29.5	-4.6
	0.0nm,0.3s,baz=32,slow=18,SNR=18						
CMAR				Lg		00 45 58.3	
	0.8nm,0.3s,baz=44,slow=32,SNR=7.0						
CMAR	Chiang Mai Arr	6.69	219	Pn	Pn	00 44 04.7	+0.4
CMAR				Pg	Pg	00 44 29.5	-4.6
CMAR				Lg		00 45 58.3	
CM31	Chiang Mai Arr	6.69	219	ePn	Pn	00 44 04.8	+0.6
CM31				ePg	Pg	00 44 32.5	-1.5
CM31				eSg	Sg	00 46 00.4	-0.3
ENH	Enshi	8.48	39	ePn	Pn	00 44 28.9	+0.1
LSA	Lhasa	12.41	301	Pn	Pn	00 45 22.1	-0.4
SONM	Songino Array	24.15	5	P	P	00 47 43.6	+1.6
	0.3nm,0.5s,mb2.9,baz=171,slow=11,SNR=2.5						
SONM	Songino Array	24.15	5	P	P	00 47 43.6	+1.6
MKAR	Makanchi Array	28.54	329	P	P	00 48 21.7	+0.1
	0.5nm,0.8s,mb3.3,baz=138,slow=12,SNR=6.3						
MKAR	Makanchi Array	28.54	329	P	P	00 48 21.7	+0.1
MK31	Makanchi Array	28.54	329	ePn	P	00 48 21.8	+0.3
AAK	Ala-Archa	30.40	315	eP	P	00 48 37.4	-0.8
	5.6nm,0.8s,mb4.3						
EKS2	Erkin-Say	30.88	315	eP	P	00 48 42.8	+0.4
	1.0nm,0.6s,mb3.8						
KURK	Kurchatov	33.04	331	P	P	00 49 01.4	+0.1
	0.8nm,0.5s,mb3.9,baz=131,slow=10.0,SNR=8.1						
KURK	Kurchatov	33.04	331	eP	P	00 49 01.3	0.0
	0.9nm,0.4s,mb4.0						
ZALV	Zalesovo Beam	33.22	340	P	P	00 49 03.0	+0.2
	1.0nm,0.7s,mb3.9,baz=145,slow=11,SNR=5.9						
ZALV	Zalesovo Beam	33.22	340	P	P	00 49 03.0	+0.2
BVAR	Borovoye Array	38.41	328	P	P	00 49 47.4	+0.1
	0.6nm,0.5s,mb3.6,baz=128,slow=8.4,SNR=7.9						
BVAR	Borovoye Array	38.41	328	P	P	00 49 47.4	+0.1
BRVK	Borovoye	38.48	328	eP	P	00 49 47.8	-0.1
	1.3nm,0.4s,mb4.0						
YSS	Yuzh-Sakhalins	39.03	44	eP	P	00 49 53.2	+0.7
WRA	Warramunga Arr	52.90	143	P	P	00 51 42.9	+0.6
	0.8nm,0.6s,mb3.9,baz=331,slow=8.3,SNR=12						
WRA	Warramunga Arr	52.90	143	P	P	00 51 42.9	+0.6
ASAR	Alice Springs	55.69	146	P	P	00 52 05.7	+3.1
	0.4nm,0.8s,mb3.5,baz=324,slow=6.2,SNR=3.1						
ASAR	Alice Springs	55.69	146	P	P	00 52 05.7	+3.1

IDC 02 01:05:28.8±6.4, 20.°18S×176.°48W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/16, mbtmp3.9/2, Error ellipse: s-maj=312.7km s-min=96.5km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.98	256	P	P	01 13 53.5	-0.7
	1.3nm,0.7s,baz=96,slow=7.8,SNR=16						
WRA	Warramunga Arr	46.06	261	P	P	01 13 55.4	+0.6
	0.6nm,0.4s,baz=96,slow=8.6,SNR=24						
AKASG	Malin Array Be	143.41	332	PKP	PKPdf	01 25 04.3	-0.8
	0.3nm,0.4s,baz=35,slow=3.5,SNR=4.1						

*ISK **02** 01:17:28.8, 36.°37N×27.°63E, h67km, MD3.5*
*ISCJB **02** 01:17:29.1±0.4, 36.°30N±0.°03×27.°70E±0.°03, h59km±6km, Error ellipse: s-maj=5.3km s-min=4.0km az=145.9*
*ATH **02** 01:17:29.1, 36.°27N×27.°65E, h43km±7km, MD3.4/5*
*THE **02** 01:17:30.1, 36.°23N×27.°75E, h55km±3km, ML2.9/3, Error ellipse: s-maj=3.3km s-min=0.8km az=81.0*
*CSEM **02** 01:17:30.2±0.2, 36.°31N×27.°72E, h44km±5km, ML2.9/3, Error ellipse: s-maj=4.9km s-min=3.3km az=151.0*
*DDA **02** 01:17:33.0, 36.°52N×27.°82E, h52km±52km, Md3.6*

ISC 02 01:17:30.1±0.4, 36.°30N±0.°03×27.°71E±0.°03, h52km±7km, n74, σ0.°77/107, 2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.35	103	eP	Pn	01 17 39.2	-0.6
ARG				eS	Sn	01 17 46.6	-0.2
ARG	Arkhangelos	0.35	103	P	Pn	01 17 39.1	-0.7
ARG				S	Sn	01 17 46.5	-0.3
ARG	Arkhangelos	0.35	103	eP	Pn	01 17 39.2	-0.6
ARG				S	Sn	01 17 46.5	-0.3
DAT	Datca	0.44	347	PG	Pn	01 17 40.6	-0.2
DAT				eSG	Sn	01 17 49.2	+0.7
DAT	Datca	0.44	347	i Pg	Pn	01 17 40.6	-0.2
DAT				eSg	Sn	01 17 49.2	+0.7
NIS1	Nisyros Isl.	0.52	306	P	Pn	01 17 42.0	+0.3
NIS1				S	Sn	01 17 51.8	+1.7
NIS1	Nisyros Isl.	0.52	306	P	Pn	01 17 42.0	+0.3
NIS1				S	Sn	01 17 51.8	+1.7
BODT	Bodrum	0.83	338	PG	Pn	01 17 44.5	-1.0
BODT				eSG	Sn	01 17 56.0	-0.8
BODT	Bodrum	0.83	338	i Pg	Pn	01 17 44.5	-1.0
BODT				eSg	Sn	01 17 56.0	-0.8
KARP	Karpathos	0.87	211	eP	Pn	01 17 45.3	-0.8
KARP				eS	Sn	01 17 57.0	-0.8
KARP	Karpathos	0.87	211	P	Pn	01 17 45.4	-0.7
KARP				S	Sn	01 17 57.2	-0.6
KARP	Karpathos	0.87	211	eP	Pn	01 17 45.3	-0.8
KARP				eS	Sn	01 17 57.0	-0.8
TURN	Turunc	0.92	51	⇓i P	Pn	01 17 42.6	-4.2
TURN				i S	Sn	01 17 52.6	-6.4
TURN	Turunc	0.92	51	i P	Pn	01 17 42.6	-4.2
YER	Yerkesik	0.96	29	ePG	Pn	01 17 47.0	-0.2
YER	Yerkesik	0.96	29	ePg	Pn	01 17 47.0	-0.3
MLSB	Milas	1.00	3	ePG	Pn	01 17 46.8	-1.0
MLSB				eSG	Sn	01 18 00.4	-0.4
MLSB	Milas	1.00	3	ePg	Pn	01 17 46.8	-1.0
MLSB				eSg	Sn	01 18 00.4	-0.5
AYDN	Tasoluk	1.37	6	eP	Pn	01 17 53.0	+0.2
AYDN				eS	Sn	01 18 09.8	0.0
AYDN	Tasoluk	1.37	6	eP	Pn	01 17 53.0	+0.2
AYDN				eS	Sn	01 18 09.8	0.0
GCAM	G?zelcaml?	1.45	345	eP	Pn	01 17 53.9	0.0
GCAM				eS	Sn	01 18 12.1	+0.3
GCAM	G?zelcaml?	1.45	345	eP	Pn	01 17 53.9	0.0
GCAM				eS	Sn	01 18 12.1	+0.3
GLHS	Glhisar (BURDU	1.68	59	ePN	Pn	01 17 57.3	+0.3
GLHS	Glhisar (BURDU	1.68	59	ePn	Pn	01 17 57.3	+0.3
DNZL	Cakiroluk	1.76	37	eP	Pn	01 17 59.3	+1.2
DNZL				eS	Sn	01 18 20.8	+1.5
DNZL	Cakiroluk	1.76	37	eP	Pn	01 17 59.3	+1.2
DNZL				eS	Sn	01 18 20.8	+1.5
GOLH	Golhisar	1.76	57	⇓i P	Pn	01 17 57.1	-1.0
GOLH				eS	Sn	01 18 20.2	+0.9
GOLH	Golhisar	1.76	57	i P	Pn	01 17 57.1	-1.0
GOLH				eS	Sn	01 18 20.2	+0.8
DENT	Denizli	1.80	36	ePN	Pn	01 17 58.4	-0.3
DENT	Denizli	1.80	36	ePn	Pn	01 17 58.4	-0.3
ELL	Elmali	1.83	75	ePN	Pn	01 17 59.9	+0.8
ELL	Elmali	1.83	75	ePn	Pn	01 17 59.9	+0.8
THR3	Thira Island,	1.86	274	P	Pn	01 17 59.9	+0.3
THR3	Thira Island,	1.86	274	P	Pn	01 17 59.9	+0.3
APE	Apeiranthos	1.91	294	ePN	Pn	01 18 00.1	-0.1
APE	Apeiranthos	1.91	294	eP	Pn	01 18 00.7	+0.5
APE				eS	Sn	01 18 22.9	-0.2
APE	Apeiranthos	1.91	294	P	Pn	01 18 00.8	+0.6
APE				S	Sn	01 18 24.2	+1.1
APE	Apeiranthos	1.91	294	ePn	Pn	01 18 00.1	-0.1
APE	Apeiranthos	1.91	294	eP	Pn	01 18 00.7	+0.5
APE				eS	Sn	01 18 22.9	-0.2
NPS	Neapolis	1.99	239	eP	Pn	01 18 00.7	-0.6
NPS				eS	Sn	01 18 24.0	-1.0
NPS	Neapolis	1.99	239	P	Pn	01 18 00.7	-0.6
NPS				S	Sn	01 18 24.1	-0.9
NPS	Neapolis	1.99	239	P	Pn	01 18 00.7	-0.6
NPS				S	Sn	01 18 24.1	-0.9
IZM	Izmir	2.13	351	ePN	Pn	01 18 02.5	-0.6
IZM	Izmir	2.13	351	ePn	Pn	01 18 02.5	-0.6
BLCB	Balcova	2.15	346	ePN	Pn	01 18 02.7	-0.8
BLCB	Balcova	2.15	346	ePn	Pn	01 18 02.7	-0.8
KORT	Korkueli	2.24	71	eP	Pn	01 18 04.5	-0.2
KORT				eS	Sn	01 18 30.2	-0.9
KORT	Korkueli	2.24	71	eP	Pn	01 18 04.4	-0.3
KORT				eS	Sn	01 18 30.2	-0.9
KULA	Kula-Manisa	2.34	19	ePN	Pn	01 18 05.8	-0.3
KULA	Kula-Manisa	2.34	19	ePn	Pn	01 18 05.8	-0.3
AKHS	Akhisar	2.58	2	eP	Pn	01 18 09.0	-0.3
AKHS				eS	Sn	01 18 38.4	-1.0
AKHS	Akhisar	2.58	2	eP	Pn	01 18 09.0	-0.3
AKHS				eS	Sn	01 18 38.4	-1.1
AKS	Akhisar	2.58	2	ePN	Pn	01 18 08.7	-0.6
AKS	Akhisar	2.58	2	ePn	Pn	01 18 08.7	-0.6
BCK	Bucak	2.59	62	ePN	Pn	01 18 10.2	+0.8
BCK	Bucak	2.59	62	ePn	Pn	01 18 10.2	+0.8
SIVA	Sivas	2.68	242	eP	Pn	01 18 11.3	+0.6
SIVA	Sivas	2.68	242	eP	Pn	01 18 11.5	+0.8
VAM	Vamos	2.98	254	eP	Pn	01 18 15.8	+0.9
VAM	Vamos	2.98	254	eP	Pn	01 18 16.1	+1.2
DST	Dursunbey	3.38	12	ePN	Pn	01 18 20.2	-0.1
DST	Dursunbey	3.38	12	ePn	Pn	01 18 20.2	-0.1
GONE	Gonen-Balikesi	3.74	360	ePN	Pn	01 18 25.0	-0.3
GONE	Gonen-Balikesi	3.74	360	ePn	Pn	01 18 25.0	-0.3
KYTH	Kithira	3.77	271	eP	Pn	01 18 26.7	+1.0
KYTH	Kithira	3.77	271	eP	Pn	01 18 26.7	+1.0
VLI	Veliai	3.87	278	eP	Pn	01 18 27.9	+0.9
VLI	Veliai	3.87	278	eP	Pn	01 18 27.9	+0.9
HDMB	Hadim	3.90	79	ePN	Pn	01 18 29.3	+1.9
HDMB	Hadim	3.90	79	ePn	Pn	01 18 29.3	+1.8
KRBG	Karabiga-Canak	4.10	356	ePN	Pn	01 18 29.8	-0.4
KRBG	Karabiga-Canak	4.10	356	ePn	Pn	01 18 29.8	-0.4
GELI	Tayfur-Gelibol	4.21	347	ePN	Pn	01 18 31.9	+0.3
GELI	Tayfur-Gelibol	4.21	347	ePn	Pn	01 18 31.9	+0.2

*ATH **02** 01:27:24.9, 37.°88N×23.°37E, h20km±2km, MD3.0/6, ML1.8*
*ISCJB **02** 01:27:25.5±0.9, 37.°89N±0.°04×23.°45E±0.°04, h25km±9km, Error ellipse: s-maj=6.5km s-min=5.6km az=19.5*
*CSEM **02** 01:27:25.1±0.2, 37.°88N×23.°46E, h26km±3km, MD3.0, Error ellipse: s-maj=5.7km s-min=4.2km az=147.0*
*THE **02** 01:27:26.1, 37.°90N×23.°42E, h15km±1km, ML1.5/5, Error ellipse: s-maj=1.5km s-min=0.4km az=145.0*

ISC 02 01:27:25.8±0.6, 37.°90N±0.°04×23.°43E±0.°04, h19km±5km, n25, σ0.°71/44, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	Nisos Aigina	0.15	162	ePB	Pg	01 27 29.7	-0.5
NAIG	Nisos Aigina	0.15	162	ePb	Pg	01 27 29.7	-0.5
ATH	Athens Observa	0.24	72	ePB	Pg	01 27 30.9	-0.5
ATH				eSB	Sg	01 27 35.7	+0.5
ATH	Athens Observa	0.24	72	P	Pg	01 27 31.2	-0.2
ATH				S	Sg	01 27 35.5	+0.3
ATH	Athens Observa	0.24	72	ePb	Pg	01 27 30.9	-0.5
ATH	Athens Observa	0.24	72	P	Pg	01 27 31.2	-0.2
ATH				eSb	Sg	01 27 35.7	+0.5
VIL1	Vilia, Western	0.28	343	ePB	Pg	01 27 31.0	-1.1
VIL1				eSB	Sg	01 27 36.1	-0.2
VLY	Voula,Athens	0.29	99	ePB	Pg	01 27 32.4	+0.1
VLY				eSB	Sg	01 27 37.3	+0.6
VLY	Voula,Athens	0.29	99	P	Pg	01 27 32.4	+0.1
VLY				S	Sg	01 27 37.0	+0.3
VLY	Voula,Athens	0.29	99	P	Pg	01 27 32.4	+0.1
VLY				S	Sg	01 27 37.0	+0.3
VLY				eSb	Sg	01 27 37.3	+0.6
PTL	Penteli	0.37	67	ePB	Pb	01 27 33.5	-0.3
PTL				eSB	Sg	01 27 39.6	+0.6
PTL	Penteli	0.37	67	P	Pg	01 27 33.4	-0.3
PTL				S	Sg	01 27 39.8	+0.8
PTL	Penteli	0.37	67	ePb	Pb	01 27 33.5	-0.3
PTL				S	Sg	01 27 39.8	+0.8
LTK	Loutraki	0.39	289	P	Pg	01 27 33.7	-0.2
LTK				S	Sg	01 27 39.5	+0.1
LTK	Loutraki	0.39	289	P	Pg	01 27 33.7	-0.2
LTK				S	Sg	01 27 39.5	+0.1
DID	Didima	0.42	201	P	Pg	01 27 34.2	-0.4
DID				S	Sg	01 27 41.3	+0.9
DID	Didima	0.42	201	P	Pg	01 27 34.2	-0.4
DID				S	Sg	01 27 41.3	+0.9
LKR	Lokris	0.82	336	ePN	Pn	01 27 40.7	-1.6
LKR	Lokris	0.82	336	P	Pb	01 27 41.1	-0.4
LKR				S	Sb	01 27 53.9	+1.7
LKR	Lokris	0.82	336	ePn	Pn	01 27 40.7	-1.6
LKR	Lokris	0.82	336	P	Pb	01 27 41.1	-0.4
LKR				S	Sb	01 27 53.9	+1.7
DESF	Desfina	0.87	306	P	Pb	01 27 42.7	+0.4
DESF	Desfina	0.87	306	P	Pb	01 27 42.7	+0.4
DSF	Desfina	0.88	306	P	Pb	01 27 42.1	-0.3
DSF				S	Sb	01 27 54.5	+0.8
DSF	Desfina	0.88	306	P	Pb	01 27 42.1	-0.3
DSF				S	Sb	01 27 54.5	+0.8

*ISCJB **02** 01:27:46.2±0.7, 50.°28N±0.°05×18.°91E±0.°03, h0km, Error ellipse: s-maj=7.4km s-min=2.8km az=2.1*
*IPEC **02** 01:27:46.9±0.2, 50.°29N×18.°98E, h0km±1km, ML1.9/3, Error ellipse: s-maj=2.6km s-min=1.1km az=170.0*
*CSEM **02** 01:27:47.2±0.4, 50.°29N×18.°93E, h2km, ML2.6/5, Error ellipse: s-maj=9.0km s-min=3.2km az=1.0*
*PRU **02** 01:27:47.8, 50.°30N×18.°91E, h0km*

ISC 02 01:27:47.1±0.7, 50.°28N±0.°05×18.°92E±0.°03, h0km, n21, σ0.°99/43, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.57	96	ePg	Pg	01 27 57.2	-0.8
OJC				eSg	Sg	01 28 04.3	-1.1
OJC	Ojcow	0.57	96	ePg	Pg	01 27 57.1	-0.9
	baz=278						
OJC				eSg	Sg	01 28 04.3	-1.1
OKC	Ostrava-Krasne	0.67	228	ePG	Pg	01 28 00.0	+0.1
OKC				eSG	Sg	01 28 07.3	-1.2
	11nm,0.4s						
OKC	Ostrava-Krasne	0.67	228	Pg	Pg	01 28 00.0	+0.1
OKC				Sg	Sg	01 28 07.3	-1.2
	11nm,0.4s						
MORC	Moravsky Berou	1.02	241	ePg	Pg	01 28 06.9	+0.2
	baz=60						
MORC				eSg	Sg	01 28 20.4	+0.5
	16nm,0.3s,baz=60						
NIE	Niedzica	1.25	133	ePg	Pg	01 28 10.1	-0.9
NIE				eSg	Sg	01 28 26.4	-0.8
NIE				e		01 28 27.4	
NIE	Niedzica	1.25	133	ePg	Pg	01 28 10.1	-0.9
NIE				eSg	Sg	01 28 26.4	-0.8
DPC	Dobruska-Polom	1.67	273	ePG	Pg	01 28 17.5	-1.5
DPC				eSG	Sg	01 28 40.7	+0.1
	9.4nm,0.6s						
DPC	Dobruska-Polom	1.67	273	ePn	Pn	01 28 17.7	+0.2
	baz=91						
DPC				Sg	Sg	01 28 40.7	+0.1
	9.4nm,0.6s						

VLS	Valsamata	0.62	280	*e*PN		Pn	01 45 41.8	-2.0
VLS				*e*SN		Sb	01 45 52.1	+1.5
VLS	Valsamata	0.62	280	P		Pb	01 45 42.1	-0.2
VLS				S		Sb	01 45 52.2	+1.6
VLS	Valsamata	0.62	280	*e*Pb		Pb	01 45 41.7	-0.6
VLS	Valsamata	0.62	280	P		Pb	01 45 42.1	-0.2
VLS				S		Sb	01 45 52.2	+1.6
VLS				*e*Sn		Sb	01 45 52.9	+2.3
TRIZ	Trizonia	0.63	62	P		Pb	01 45 41.0	-1.4
TRIZ				S		Sb	01 45 51.2	+0.4
KALE	Kalithea	0.69	62	P		Pb	01 45 42.9	-0.5
KALE				S		Sb	01 45 52.8	+0.3
GUR	Goura	0.78	99	*e*PN		Pn	01 45 45.0	-1.0
GUR				*e*SN		Sn	01 45 56.0	-1.1
GUR	Goura	0.78	99	P		Pb	01 45 45.1	+0.1
GUR				S		Sb	01 45 57.1	+1.9
GUR	Goura	0.78	99	*e*Pn		Pn	01 45 45.0	-1.0
GUR				*e*Sn		Sn	01 45 56.5	-0.6
GUR				S		Sb	01 45 57.1	+1.9
DSF	Desfina	0.98	69	P		Pb	01 45 48.2	-0.1
DSF				S		Sb	01 46 01.9	+1.1
DSF	Desfina	0.98	69	P		Pb	01 45 48.2	-0.1
DSF				S		Sb	01 46 01.9	+1.1
DESF	Desfina	0.98	69	P		Pb	01 45 48.3	-0.1
DESF				S		Sb	01 46 02.0	+1.1
DESF	Desfina	0.98	69	P		Pb	01 45 48.3	-0.1
DESF				S		Sb	01 46 02.0	+1.1

IDC ***02*** *02:07:01.1±3.2, 17°.52S×169°.26E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.7/4, Error ellipse: s-maj=135.2km s-min=34.4km az=141.0*
ISCJB ***02*** *02:07:23.9±1.6, 17°.4S±0°.1×168°.7E±0°.3, h200km, mb3.5/4, Error ellipse: s-maj=38.8km s-min=13.8km az=14.5*

ISC 02 02:07:25.0±1.6,**17°.5S**±0°.1×**168°.9E**±0°.3,**h200**km,**n6,** σ0°**25**/7,**mb3.5**/4,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	4.95	202	*e*P	Pn	02 08 38.4	-0.4
DZM	Mont Dzumac	5.05	206	*e*P	Pn	02 08 39.8	-0.2
DZM				*e*S	Sn	02 09 39.6	+0.4
STKA	Stephens Creek	28.48	235	P	P	02 13 01.4	-0.2
	0.9nm,0.5s,mb3.7,baz=53,slow=10,SNR=4.0						
WRA	Warramunga Arr	32.74	260	P	P	02 13 39.0	0.0
	0.2nm,0.3s,mb3.1,baz=80,slow=6.2,SNR=13						
ASAR	Alice Springs	33.22	253	P	P	02 13 43.2	0.0
	0.9nm,0.3s,mb3.7,baz=85,slow=8.8,SNR=13						
ILAR	Eielson Array	88.72	17	P	P	02 19 55.5	+0.3
	0.4nm,0.8s,mb3.3,baz=230,slow=6.1,SNR=4.8						

ISCJB ***02*** *02:36:15.8±1.2, 20°.5S±0°.1×178°.5W±0°.1, h578km±13km, mb4.2/16, Error ellipse: s-maj=23.6km s-min=14.4km az=144.7*
NEIC ***02*** *02:36:15.7±1.6, 20°.55S×178°.41W, h569km±11km, mb4.4/4, Error ellipse: s-maj=36.6km s-min=11.4km az=140.0*
IDC ***02*** *02:36:17.5±2.7, 20°.45S×178°.54W, h583km±30km, mb3.5/9, mb1 3.7/9, mb1mx3.5/15, mbtmp3.5/9, Error ellipse: s-maj=41.1km s-min=13.4km az=149.0*

ISC 02 02:36:16.5±1.3,**20°.5S**±0°.1×**178°.5W**±0°.1,**h572**km±12km, **n62,** σ0°**68**/38,**mb4.2**/16,**2C-7D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.29	310	*e*P	P	02 37 41.7	-0.3
EIDS	Eidsvold	28.40	254	*e*P	P	02 41 26.0	+0.1
	18nm,0.5s,mb5.0						
EIDS	Eidsvold	28.40	254	*e*P	P	02 41 26.2	+0.3
	3.4nm,0.6s,mb4.2						
ARMA	Armidale	28.65	244	*e*P	P	02 41 28.9	+0.9
CTA	Charters Tower	33.03	264	*e*P	P	02 42 06.2	+0.6
	11nm,0.5s,mb4.7						
CTAO	Charters Tower	33.03	264	*e*P	P	02 42 06.2	+0.6
	8.0nm,0.6s,mb4.5						
MTSU	Mount Surprise	35.13	267	*e*P	P	02 42 23.4	+0.2
	12nm,0.5s,mb4.8						
COEN	Coen	37.13	274	*e*P	P	02 42 40.0	+0.4
	28nm,0.8s,mb4.8						
STKA	Stephens Creek	37.37	244	P	P	02 42 42.0	+0.6
	3.3nm,0.8s,mb3.9,baz=109,slow=5.4,SNR=5.7						
STKA	Stephens Creek	37.37	244	*e*P	P	02 42 41.9	+0.5
	3.3nm,1.1s,mb3.8						
STKA	Stephens Creek	37.37	244	P	P	02 42 42.0	+0.6
BBOO	Buckleboo	42.13	243	*e*P	P	02 43 19.1	-0.4
	48nm,2.0s,mb4.7						
AS31	Alice Springs	44.07	257	*e*P	P	02 43 34.9	+0.2
ASAR	Alice Springs	44.07	257	P	P	02 43 34.7	0.0
	11nm,0.6s,mb4.6,baz=97,slow=7.7,SNR=169						
ASAR				PcP	PcP	02 45 07.2	-0.1
	1.5nm,0.7s,baz=104,slow=3.7,SNR=6.4						
ASAR				S	S	02 49 26.6	+0.2
	1.0nm,0.9s,baz=91,slow=14,SNR=9.5						
ASAR	Alice Springs	44.07	257	P	P	02 43 34.7	0.0
ASAR				PcP	PcP	02 45 07.2	-0.1
ASAR				S	S	02 49 26.6	+0.2
WB2	Warramunga Arr	44.13	262	*e*P	P	02 43 34.5	-0.7
WRAB	Tennant Creek	44.14	262	*e*P	P	02 43 34.6	-0.7
	3.8nm,0.3s,mb4.4						
WRA	Warramunga Arr	44.15	262	P	P	02 43 34.7	-0.6
	4.7nm,0.3s,mb4.5,baz=96,slow=7.6,SNR=277						
WRA				PcP	PcP	02 45 07.4	-0.2
	0.7nm,0.6s,baz=95,slow=3.2,SNR=4.8						
WRA				S	S	02 49 25.7	-1.8
	0.4nm,0.9s,baz=100,slow=14,SNR=3.4						
WRA	Warramunga Arr	44.15	262	P	P	02 43 34.7	-0.7
WRA				PcP	PcP	02 45 07.4	-0.2
WRA				S	S	02 49 25.7	-1.8
MBWA	Marble Bar	57.40	257	*e*P	P	02 45 10.9	-0.6
	18nm,1.0s,mb4.2						
MJAR	Matsushiro Arr	69.95	324	P	P	02 46 30.6	-0.3
	1.9nm,0.6s,mb3.7,baz=144,slow=6.2,SNR=3.2						
MJAR	Matsushiro Arr	69.95	324	P	P	02 46 30.6	-0.3
PETK	Petropavlovsk-	76.17	345	P	P	02 47 05.8	-0.2
	5.0nm,0.8s,mb4.0,baz=141,slow=7.6,SNR=5.5						
PETK	Petropavlovsk-	76.17	345	P	P	02 47 05.8	-0.2
KSRS	Korea Array	76.59	319	P	P	02 47 09.5	+0.7
	0.4nm,0.3s,mb3.4,baz=135,slow=6.6,SNR=4.6						
KSAR	Wonju Array Be	76.61	319	P	P	02 47 09.5	+0.6
VNA3	Neumayer Olymp	88.16	176	*e*	P	02 48 05.9	-0.6
ILAR	Eielson Array	88.43	13	P	P	02 48 06.3	-1.3
	1.3nm,0.9s,mb3.6,baz=223,slow=5.4,SNR=11						
ILAR	Eielson Array	88.43	13	P	P	02 48 06.3	-1.3
VNA2	Neumayer--Watz	88.59	177	*e*	P	02 48 08.7	+0.2
	baz=265,slow=5.1						
PDAR	Pinedale Array	89.29	43	P	P	02 48 12.6	+0.4
	0.4nm,0.6s,mb3.4,baz=216,slow=2.9,SNR=3.0						
PDAR	Pinedale Array	89.29	43	P	P	02 48 12.6	+0.4
CMAR	Chiang Mai Arr	89.69	290	P	P	02 48 16.2	+1.7
	0.9nm,0.3s,mb4.0,baz=110,slow=2.5,SNR=7.6						
CMAR	Chiang Mai Arr	89.69	290	P	P	02 48 16.2	+1.7
MKAR	Makanchi Array	110.88	313	PKiKP	PKiKP	02 53 43.7	-1.2
	0.2nm,0.4s,baz=91,slow=2.0,SNR=4.3						
MKAR	Makanchi Array	110.88	313	PKiKP	PKiKP	02 53 43.7	-1.2
ARCES	ARCESS Array B	128.85	349	PKP	PKPdf	02 54 18.1	-0.6
	4.4nm,1.0s,baz=38,slow=6.1,SNR=3.8						
ARCES	ARCESS Array B	128.85	349	PKP	PKPdf	02 54 18.1	-0.6
FINES	FINESS Array B	135.66	343	PKP	PKPdf	02 54 31.9	+0.1
	3.6nm,1.0s,baz=124,slow=3.4,SNR=4.1						
FINES	FINESS Array B	135.66	343	PKP	PKPdf	02 54 31.9	+0.1
AKASG	Malin Array Be	142.80	331	PKP	PKPdf	02 54 41.3	-3.7
	5.8nm,0.5s,baz=43,slow=4.3,SNR=43						
AKASG	Malin Array Be	142.80	331	PKP	PKPdf	02 54 41.3	-3.7
LEOM	Leova	146.14	326	‖ *i*P	PKPdf	02 54 52.3	+1.4
BR131	Keskin Array S	146.51	312	*e*PKPbc	PKPbc	02 54 54.0	-0.3
BRTR	Keskin Array B	146.51	312	PKPbc	PKPbc	02 54 53.9	-0.4
	2.0nm,0.6s,baz=135,slow=4.8,SNR=15						
BRTR	Keskin Array B	146.51	312	PKPbc	PKPbc	02 54 53.9	-0.4
TLCR		146.65	324	‖ *i*P	PKPbc	02 54 54.7	+0.2
BUR08	Bucovina Ar. S	146.84	330	*e*PKPbc	PKPbc	02 54 55.9	+1.0
BURAR	Bucovina Array	146.85	330	‖ *i*P	PKPbc	02 54 56.4	+1.4
KOLS	Kolonicke sedl	147.13	334	*e*PKP	PKPbc	02 54 59.3	+3.7
CRVS	Cervenica-Dubn	147.48	335	*e*PKP	PKPbc	02 55 00.9	+4.4
TRPA	Tarpa	147.65	333	‖ *i*P	PKPbc	02 54 57.5	+0.5
DOPR	Dopca	147.94	328	‖ *i*P	PKPbc	02 54 58.7	+0.9
CLL	Collm	147.97	346	‖ *i*PKPbc	PKPbc	02 54 57.3	-0.4
	comp=Z,9.0nm,0.8s						
CLL				*e*PKPab	PKPab	02 55 02.0	-0.5
	comp=Z,5.0nm,0.6s						
BRG	Berggiesshubel	148.16	345	*i* PKP	PKPbc	02 54 58.0	-0.2
	comp=Z,6.7nm,1.0s						
BRG				*i*		02 55 03.0	
	comp=Z,4.5nm,1.0s						
KECS	Kecovo	148.20	336	*e*PKP	PKPbc	02 55 03.8	+5.4
KOLL	Kolacno	148.88	338	*e*PKP	PKPbc	02 55 00.3	+0.2
GZR	Gura Zlata	149.62	330	‖ *i*P	PKPbc	02 55 01.4	-0.6
KHC	Kasperske Hory	149.86	344	‖ *e*PKP	PKPbc	02 55 01.5	-0.9
KHC				*e*PKPAB	PKPab	02 55 10.5	+0.1
BZS	Buzias	149.99	331	‖ *i*P	PKPbc	02 55 02.5	-0.3
GERES	GERESS Array B	150.09	344	PKPbc	PKPbc	02 55 02.6	-0.3
	comp=Z,1.1nm,0.6s,baz=107,slow=1.8,SNR=9.6						
GERES				PKPab	PKPab	02 55 11.0	-0.4
	comp=Z,0.3nm,0.6s,baz=45,slow=4.5,SNR=4.1						
GERES	GERESS Array B	150.09	344	PKPbc	PKPbc	02 55 02.6	-0.3
GERES				PKPab	PKPab	02 55 11.0	-0.4

JMA 02 02:52:57.9±0.4,**44°.04N**×**148°.10E**,**h0**km,**M3.8,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.84	249	P	Pn	02 53 31.0	+0.3
NEM2				*e*S	Sn	02 53 55.2	+0.6
JRA	Rausu	2.15	268	P	Pn	02 53 35.7	+0.7
JRA				*e*S	Sn	02 54 02.9	+0.5
JNK	Nakash	2.49	261	P	Pn	02 53 40.7	+1.1
JAK	Akkeshi	2.69	248	P	Pn	02 53 43.1	+0.8
JAK				*e*S	Sn	02 54 16.2	+0.6
JAR	Ashorobuto	3.23	258	P	Pn	02 53 51.4	+1.6
JAR				*e*S	Sn	02 54 31.5	+2.6
JKB	Kayabe	5.61	250	P	Pn	02 54 24.3	+1.7

ATH ***02*** *03:06:13.7, 35°.67N×26°.38E, h41km±2km, MD3.4/8*
THE ***02*** *03:06:15.6, 35°.64N×26°.36E, h31km±8km, ML3.1/3, Error ellipse: s-maj=8.5km s-min=0.8km az=154.0*
CSEM ***02*** *03:06:15.2±0.1, 35°.62N×26°.34E, h40km, MD3.4, Error ellipse: s-maj=3.8km s-min=2.7km az=157.0*
ISK ***02*** *03:06:15.0, 35°.88N×26°.36E, h15km, MD3.6*
DDA ***02*** *03:06:16.9, 36°.05N×26°.66E, h8km±1km, Md3.1*
HLW ***02*** *03:06:21.2, 35°.26N×26°.39E, h33km±12km, Ml2.7*

ISC 02 03:06:15.2±0.8,**35°.64N**±0°.04×**26°.35E**±0°.03,**h34**km±8km, **n75,** σ0°**78**/114,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.67	97	*e*P	Pn	03 06 27.7	-0.5
KARP				*e*S	Sb	03 06 36.7	-0.8
KARP	Karpathos	0.67	97	P	Pn	03 06 27.6	-0.6
KARP				S	Sb	03 06 36.6	-0.9
KARP	Karpathos	0.67	97	*e*P	Pn	03 06 27.7	-0.5
KARP				S	Sb	03 06 36.6	-0.9
NPS	Neapolis	0.71	239	*e*P	Pn	03 06 28.7	-0.1
NPS				*e*S	Sb	03 06 38.8	+0.1
NPS	Neapolis	0.71	239	P	Pn	03 06 28.6	-0.2
NPS				S	Sb	03 06 38.2	-0.5
NPS	Neapolis	0.71	239	P	Pn	03 06 28.6	-0.2
NPS				*e*S	Sb	03 06 38.1	-0.6
THR1	Thera Island	1.03	316	P	Pn	03 06 32.9	-0.3
THR1				S	Sn	03 06 46.4	-0.1
THR1	Thera Island	1.03	316	P	Pn	03 06 32.9	-0.3
THR1				S	Sn	03 06 46.4	-0.1
THR3	Thira Island,	1.09	315	P	Pn	03 06 33.9	-0.2
THR3				S	Sn	03 06 47.8	-0.2
THR3	Thira Island,	1.09	315	P	Pn	03 06 33.9	-0.2
THR3				S	Sn	03 06 47.8	-0.2
THR2	Thira island,	1.10	318	P	Pn	03 06 33.9	-0.3
THR2	Thira island,	1.10	318	P	Pn	03 06 33.9	-0.3
NIS1	Nisyros Isl.	1.18	35	P	Pn	03 06 35.1	-0.1
NIS1				S	Sn	03 06 50.4	+0.3
NIS1	Nisyros Isl.	1.18	35	P	Pn	03 06 35.1	-0.1
NIS1				S	Sn	03 06 50.4	+0.3
SIVA	Sivas	1.40	244	*e*P	Pn	03 06 39.0	+0.7
SIVA				*e*S	Sn	03 06 57.3	+1.7
SIVA	Sivas	1.40	244	P	Pn	03 06 38.9	+0.6
SIVA				S	Sn	03 06 56.3	+0.7
SIVA	Sivas	1.40	244	P	Pn	03 06 38.9	+0.6
SIVA				S	Sn	03 06 56.3	+0.7
DAT	Datca	1.48	42	*e*PN	Pn	03 06 39.0	-0.3
DAT				*e*SN	Sn	03 06 57.2	-0.3
DAT	Datca	1.48	42	*e*Pn	Pn	03 06 39.1	-0.3
DAT				*e*Sn	Sn	03 06 57.2	-0.3
ARG	Arkhangelos	1.55	68	*e*P	Pn	03 06 40.4	0.0
ARG				*e*S	Sn	03 06 58.8	-0.6
ARG	Arkhangelos	1.55	68	P	Pn	03 06 40.4	0.0
ARG				S	Sn	03 06 58.6	-0.8
ARG	Arkhangelos	1.55	68	*e*P	Pn	03 06 40.4	0.0
ARG				S	Sn	03 06 58.6	-0.8
APE	Apeiranthos	1.58	335	*e*PN	Pn	03 06 40.6	-0.1
APE				*e*SN	Sn	03 06 57.8	-2.1
APE	Apeiranthos	1.58	335	*e*P	Pn	03 06 40.0	-0.7
APE				*e*S	Sn	03 06 59.8	-0.2
APE	Apeiranthos	1.58	335	P	Pn	03 06 40.4	-0.3
APE				S	Sn	03 06 59.7	-0.3
APE	Apeiranthos	1.58	335	*e*Pn	Pn	03 06 40.6	-0.1
APE				*e*Sn	Sn	03 06 57.8	-2.2
APE				S	Sn	03 06 59.7	-0.3
BODT	Bodrum	1.62	28	*e*PN	Pn	03 06 39.9	-1.4
BODT	Bodrum	1.62	28	*e*Pn	Pn	03 06 39.9	-1.5
VAM	Vamos	1.77	263	*e*P	Pn	03 06 43.7	+0.3
VAM	Vamos	1.77	263	P	Pn	03 06 42.5	-0.9
VAM				S	Sn	03 07 04.4	-0.3
VAM	Vamos	1.77	263	P	Pn	03 06 42.5	-0.9
VAM				S	Sn	03 07 04.4	-0.3
MLSB	Milas	2.02	34	*e*PN	Pn	03 06 46.9	+0.1
MLSB	Milas	2.02	34	*e*Pn	Pn	03 06 46.9	+0.1
SMG	Samos	2.11	11	*e*P	Pn	03 06 48.0	0.0
SMG	Samos	2.11	11	*e*P	Pn	03 06 48.3	+0.3
YER	Yerkesik	2.16	46	*e*PN	Pn	03 06 49.2	+0.4
YER	Yerkesik	2.16	46	*e*Pn	Pn	03 06 49.2	+0.4
TURN	Turunc	2.20	55	*i* P	Pn	03 06 44.8	-4.5
TURN				*i* S	Sn	03 07 06.1	-9.3
TURN	Turunc	2.20	55	*i* P	Pn	03 06 44.8	-4.5
AYDN	Tasoluk	2.37	31	*i* P	Pn	03 06 52.1	+0.5
AYDN				*i* S	Sn	03 07 17.8	-1.6
AYDN	Tasoluk	2.37	31	*i* P	Pn	03 06 52.1	+0.5
AYDN				*i* S	Sn	03 07 17.8	-1.6
KYTH	Kithira	2.77	284	*e*P	Pn	03 06 57.2	+0.1
KYTH	Kithira	2.77	284	*e*P	Pn	03 06 57.2	+0.1
BLCB	Balcova	2.80	11	*e*PN	Pn	03 06 57.3	-0.3
BLCB	Balcova	2.80	11	*e*Pn	Pn	03 06 57.3	-0.3
VLI	Veliai	2.97	292	*e*P	Pn	03 06 59.9	+0.1
VLI	Veliai	2.97	292	P	Pn	03 07 00.0	+0.2
VLI	Veliai	2.97	292	*e*P	Pn	03 06 59.6	-0.2
VLI				*e*S	Sn	03 07 33.4	-0.8
DNZL	Cakiroluk	2.98	46	*i* P	Pn	03 07 01.8	+1.7
DNZL	Cakiroluk	2.98	46	*i* P	Pn	03 07 01.8	+1.7
VLY	Voula,Athens	3.02	318	*e*P	Pn	03 07 00.9	+0.3
VLY	Voula,Athens	3.02	318	*e*P	Pn	03 07 00.9	+0.3
GOLH	Golhisar	3.04	57	*i* P	Pn	03 07 01.6	+0.7
GOLH				*i* S	Sn	03 07 36.5	+0.4
GOLH	Golhisar	3.04	57	*i* P	Pn	03 07 01.6	+0.7
GOLH				*i* S	Sn	03 07 36.5	+0.4
ELL	Elmali	3.08	68	*e*PN	Pn	03 07 02.7	+1.2
ELL	Elmali	3.08	68	*e*Pn	Pn	03 07 02.7	+1.2
KULA	Kula-Manisa	3.42	32	*e*PN	Pn	03 07 06.5	+0.5
KULA	Kula-Manisa	3.42	32	*e*Pn	Pn	03 07 06.5	+0.5
VIL1	Vilia, Western	3.50	317	*e*P	Pn	03 07 07.8	+0.6
KORT	Korkueli	3.51	66	*i* P	Pn	03 07 08.4	+1.1
KORT				*i* S	Sn	03 07 48.2	+0.6
KORT	Korkueli	3.51	66	*i* P	Pn	03 07 08.4	+1.1
KORT				*i* S	Sn	03 07 48.2	+0.6
KHAL	Karahalli	3.71	42	*i* P	Pn	03 07 10.6	+0.5
KHAL				*i* S	Sn	03 07 50.9	-1.8
KHAL	Karahalli	3.71	42	*i* P	Pn	03 07 10.6	+0.5
KHAL				*i* S	Sn	03 07 50.8	-1.8
ITM	Ithomi	3.89	295	*e*P	Pn	03 07 14.0	+1.5
ITM	Ithomi	3.89	295	*e*P	Pn	03 07 14.2	+1.7
DST	Dursunbey	4.35	24	*e*PN	Pn	03 07 19.6	+0.8
DST	Dursunbey	4.35	24	*e*Pn	Pn	03 07 19.6	+0.7
ALT	Altintas	4.54	40	*e*PN	Pn	03 07 22.5	+1.0
ALT	Altintas	4.54	40	*e*Pn	Pn	03 07 22.5	+1.0
HMAT	Matruh	4.57	172	P	Pn	03 07 21.7	-0.2
	baz=171						
HMAT				AMP		03 08 00.0	
	comp=E,20μm,2.3s,logA/T=3.9,baz=171						
HMAT				S	Sn	03 08 07.6	-6.3
	baz=171						
HMAT	Matruh	4.57	172	P	Pn	03 07 21.7	-0.2
SWA2		6.42	187	P	Pn	03 07 46.5	-0.8
	baz=188						
SWA2		6.42	187	P	Pn	03 07 46.5	-0.8
AWBH		7.61	163	P	Pn	03 08 02.5	-1.2
	baz=162						
AWBH				S	Sn	03 09 19.5	-9.2
	baz=162						
AWBH		7.61	163	P	Pn	03 08 02.4	-1.2

ROM ***02*** *03:15:00.8±0.1, 43°.61N×13°.32E, h8km±1km, Md3.0/29, Ml3.1/27, Error ellipse: s-maj=1.3km s-min=1.0km az=49.0*
CSEM ***02*** *03:15:00.4±0.1, 43°.59N×13°.35E, h10km, ML3.7/12, Error ellipse: s-maj=2.7km s-min=2.1km az=100.0*
NEIC ***02*** *03:15:00.0, 43°.64N×13°.36E, h10km, ML3.2(ROM), After ROM.*
NEIC Felt [IV] at Chiaravalle. Also felt at Montemarciano and Senigallia.
ISCJB ***02*** *03:15:01.1±0.3, 43°.65N±0°.02×13°.27E±0°.02, h21km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=38.3*
BGR ***02*** *03:15:01.6±0.9, 43°.64N×13°.58E, h10km, ML3.6/2, Error ellipse: s-maj=12.2km s-min=10.0km az=46.0*
SZGRF ***02*** *03:15:01.6, 43°.64N×13°.58E, h10km, mb3.7, Central Italy*
PRU ***02*** *03:15:01.4, 43°.66N×13°.10E, h15km*
LDG ***02*** *03:15:01.2±0.2, 43°.67N×13°.49E, h10km, Ml3.2/14, Error ellipse: s-maj=4.9km s-min=3.5km az=68.0*
GEN ***02*** *03:15:03.9, 43°.75N×13°.19E, h9km, ML3.2*

ISC 02 03:15:01.3±0.3,**43°.62N**±0°.02×**13°.31E**±0°.02,**h14**km±2km, **n204,** σ1°**14**/305,**9C-11D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENI	Senigallia	0.10	329	Pg	Pg	03 15 03.8	-0.7
SENI				Sg	Sg	03 15 06.6	-0.1
	12μm,0.1s						
SENI	Senigallia	0.10	329	Pg	Pg	03 15 03.8	-0.7
SENI				Sg	Sg	03 15 06.6	-0.1
	12μm,0.1s						
AOI	Ancona	0.23	107	Pg	Pg	03 15 05.6	-0.7
AOI				Sg	Sg	03 15 09.7	+0.1
	3μm,0.3s						
AOI	Ancona	0.23	107	Pg	Pg	03 15 05.6	-0.7
AOI				Sg	Sg	03 15 09.7	+0.1
	3μm,0.3s						
CING	Cingoli	0.26	199	Pg	Pg	03 15 06.6	-0.2
CING				Sg	Sg	03 15 11.5	+1.1
	2μm,0.2s						
CING	Cingoli	0.26	199	Pg	Pg	03 15 06.6	-0.2
ARVD	Arcevia	0.29	246	Pg	Pg	03 15 07.1	-0.3
ARVD				Sg	Sg	03 15 12.7	+1.2
	2μm,0.2s						
ARVD	Arcevia	0.29	246	Pg	Pg	03 15 07.1	-0.3
ARVD				Sg	Sg	03 15 12.7	+1.2
	2μm,0.2s						
FSSB	Fossombrone	0.39	281	Pg	Pg	03 15 08.7	-0.5
FSSB				Sg	Sg	03 15 15.8	+1.3
	5μm,0.4s						
FSSB	Fossombrone	0.39	281	Pg	Pg	03 15 08.7	-0.5
FSSB				Sg	Sg	03 15 15.8	+1.3
	5μm,0.4s						
SNTG	Esanatoglia	0.45	217	Pg	Pg	03 15 10.0	-0.3
SNTG	Esanatoglia	0.45	217	Pg	Pg	03 15 10.0	-0.3
PESA	Pesaro	0.47	314	Pg	Pg	03 15 10.2	-0.4
PESA				Sg	Sg	03 15 18.8	+1.9
	3μm,0.2s						
PESA	Pesaro	0.47	314	Pg	Pg	03 15 10.2	-0.4
PESA				Sg	Sg	03 15 18.8	+1.9
	3μm,0.2s						
PIEI	Pieia	0.57	262	Pg	Pg	03 15 11.8	-0.7
PIEI				Sg	Sg	03 15 21.3	+1.3
	2μm,0.2s						
PIEI	Pieia	0.57	262	Pg	Pg	03 15 11.8	-0.7
PIEI				Sg	Sg	03 15 21.3	+1.3
	2μm,0.2s						
FDMO	Fiordimonte	0.60	196	Pg	Pg	03 15 12.5	-0.6
	823nm,0.3s						
FDMO	Fiordimonte	0.60	196	Pg	Pg	03 15 12.5	-0.6
	823nm,0.3s						
MURB	Monte Urbino	0.67	238	Pg	Pg	03 15 14.0	-0.4
	2μm,0.3s						
MURB	Monte Urbino	0.67	238	Pg	Pg	03 15 14.0	-0.4
	2μm,0.3s						
CESI	CESI - Serrava	0.68	206	Pg	Pg	03 15 14.0	-0.6
	397nm,0.3s						
CESI	CESI - Serrava	0.68	206	Pg	Pg	03 15 14.0	-0.6
	397nm,0.3s						
RSM	Repubblica di	0.70	297	Pg	Pg	03 15 14.6	-0.3
	154nm,0.4s						
RSM	Repubblica di	0.70	297	Pg	Pg	03 15 14.6	-0.3
	154nm,0.4s						
PARC	Parchiule	0.78	273	Pg	Pg	03 15 15.7	-0.7
	419nm,0.2s						
PARC	Parchiule	0.78	273	Pg	Pg	03 15 15.

	comp=Z,102nm,0.2s						
MAIM	**Mastiano**	**2.06**	**279**	P	**Pn**	**03 15 36.4**	**+0.9**
MAIM				S	**Sn**	**03 15 58.0**	**-3.0**
GBRS	**Gornja Briga**	**2.19**	**29**	*i* Pn	**Pn**	**03 15 37.8**	**+0.4**
GBRS				*i* Sn	**Sn**	**03 16 06.7**	**+2.4**
	comp=Z,78nm,0.5s						
JAVS	**Javornik**	**2.34**	**13**	*i* Pn	**Pn**	**03 15 39.0**	**-0.4**
JAVS							
	comp=Z,54nm,0.4s						
JAVS	**Javornik**	**2.34**	**13**	*i* Pn	**Pn**	**03 15 39.0**	**-0.4**
JAVS				*i* Sn	**Sn**	**03 16 09.0**	**+1.1**
	comp=Z,54nm,0.4s						
BOJS	**Bojanci**	**2.34**	**36**	*i* Pn	**Pn**	**03 15 39.8**	**+0.3**
BOJS				*i* Sn	**Sn**	**03 16 09.2**	**+1.3**
BOJS	**Bojanci**	**2.34**	**36**	*i* Pn	**Pn**	**03 15 39.8**	**+0.4**
BOJS				*i* Sn	**Sn**	**03 16 09.2**	**+1.2**
VOY	**Vojsko**	**2.45**	**10**	*e*Pn	**Pn**	**03 15 40.8**	**-0.1**
VOY				*e*Pg	**Pg**	**03 15 47.3**	**-1.0**
VOY				*e*(Sn)	**Sn**	**03 16 10.8**	**+0.2**
VOY				*e*(Sg)	**Sg**	**03 16 23.2**	**+3.1**
VOY	**Vojsko**	**2.45**	**10**	*e*Pn	**Pn**	**03 15 40.8**	**-0.1**
GRAM	**Graiana**	**2.50**	**292**	P	**Pn**	**03 15 42.4**	**+0.9**
LJU	**Ljubljana**	**2.58**	**19**	*e*Pn	**Pn**	**03 15 42.5**	**-0.1**
LJU				*e*Sn	**Sn**	**03 16 15.0**	**+1.3**
CODM	**Codolo**	**2.61**	**288**	P	**Pn**	**03 15 44.6**	**+1.5**
ACOM	**Acomizza, Ital**	**2.94**	**3**	Pg	**Pn**	**03 15 48.5**	**+1.0**
	comp=Z,106nm,0.6s						
OBKA	**Obir**	**3.02**	**16**	*e*Pn	**Pn**	**03 15 48.9**	**+0.1**
OBKA	**Obir**	**3.02**	**16**	⇓*i*Pn	**Pn**	**03 15 48.9**	**+0.1**
OBKA	**Obir**	**3.02**	**16**	*e*Pn	**Pn**	**03 15 48.9**	**+0.1**
OBKA	**Obir**	**3.02**	**16**	Pn	**Pn**	**03 15 48.9**	**+0.1**
ABTA	**Abfaltersbach**	**3.18**	**350**	⇓*i*Pn	**Pn**	**03 15 51.4**	**+0.5**
ABTA				⇓*i*Sn	**Sn**	**03 16 27.8**	**-0.8**
ABTA	**Abfaltersbach**	**3.18**	**350**	Pn	**Pn**	**03 15 51.4**	**+0.5**
ABTA				Sn	**Sn**	**03 16 27.8**	**-0.8**
APPI	**Appiano**	**3.22**	**333**	Pg	**Pn**	**03 15 52.1**	**+0.7**
STON	**Ston**	**3.29**	**102**	*i* Pn	**Pn**	**03 15 51.4**	**-1.1**
STON				Sn	**Sn**	**03 16 30.1**	**-1.3**
STON	**Ston**	**3.29**	**102**	*i* Pn	**Pn**	**03 15 51.4**	**-1.1**
STON				Sn	**Sn**	**03 16 30.1**	**-1.3**
SOKA	**Soboth**	**3.30**	**21**	⇑*i*Pn	**Pn**	**03 15 52.6**	**+0.1**
SOKA				⇑*i*Sn	**Sn**	**03 16 29.0**	**-2.4**
SOKA	**Soboth**	**3.30**	**21**	Pn	**Pn**	**03 15 52.6**	**+0.1**
SOKA				Sn	**Sn**	**03 16 29.0**	**-2.5**
PGF	**Pioggiola**	**3.33**	**253**	*e*Pn	**Pn**	**03 15 54.3**	**+1.3**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**03 16 32.5**	**+0.2**
	comp=Z,21nm,0.8s,SNR=1.0						
PGF	**Pioggiola**	**3.33**	**253**	*e*Pn	**Pn**	**03 15 54.3**	**+1.3**
PGF				*e*Sn	**Sn**	**03 16 32.5**	**+0.2**
PGF	**Pioggiola**	**3.33**	**253**	*e*Pn	**Pn**	**03 15 54.3**	**+1.3**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**03 16 32.5**	**+0.2**
	comp=Z,11nm,0.8s,SNR=1.0						
KBA	**Koelnbreinsper**	**3.46**	**0**	*e*Pn	**Pn**	**03 15 55.3**	**+0.5**
KBA				*e*Sn	**Sn**	**03 16 35.5**	**-0.1**
KBA	**Koelnbreinsper**	**3.46**	**0**	⇑*i*Pn	**Pn**	**03 15 55.6**	**+0.8**
KBA				⇑*i*Sn	**Sn**	**03 16 33.5**	**-2.1**
KBA	**Koelnbreinsper**	**3.46**	**0**	*e*Pn	**Pn**	**03 15 55.3**	**+0.5**
KBA				*e*Sn	**Sn**	**03 16 35.5**	**-0.1**
KBA	**Koelnbreinsper**	**3.46**	**0**	Pn	**Pn**	**03 15 55.3**	**+0.5**
KBA				Sn	**Sn**	**03 16 33.5**	**-2.1**
BRMO	**Bormio**	**3.54**	**325**	Pg	**Pn**	**03 15 57.2**	**+1.4**
	comp=Z,23nm,0.9s						
PCP	**Piancastagn**	**3.55**	**287**	P	**Pn**	**03 15 56.9**	**+0.9**
WTTA	**Wattenberg**	**3.83**	**343**	*e*Pn	**Pn**	**03 16 01.4**	**+1.5**
WTTA				*e*Sn	**Sn**	**03 16 47.5**	**+2.8**
WTTA	**Wattenberg**	**3.83**	**343**	⇑*i*Pn	**Pn**	**03 16 01.3**	**+1.5**
WTTA				⇑*i*Sn	**Sn**	**03 16 44.1**	**-0.6**
WTTA	**Wattenberg**	**3.83**	**343**	*e*Pn	**Pn**	**03 16 01.4**	**+1.5**
WTTA				*e*Sn	**Sn**	**03 16 47.5**	**+2.8**
WTTA	**Wattenberg**	**3.83**	**343**	Pn	**Pn**	**03 16 01.4**	**+1.5**
WTTA				Sn	**Sn**	**03 16 47.5**	**+2.8**
FETA	**Feichten**	**3.86**	**333**	⇓*i*Pn	**Pn**	**03 16 01.8**	**+1.6**
FETA	**Feichten**	**3.86**	**333**	Pn	**Pn**	**03 16 01.8**	**+1.6**
WATA	**Walderalm**	**3.91**	**342**	⇓*i*Pn	**Pn**	**03 16 02.3**	**+1.3**
WATA	**Walderalm**	**3.91**	**342**		**Sn**	**03 16 50.3**	**+3.6**
WATA	**Walderalm**	**3.91**	**342**	Pn	**Pn**	**03 16 02.3**	**+1.3**
ARSA	**Arzberg**	**3.95**	**22**	*e*Pn	**Pn**	**03 16 01.1**	**-0.4**
ARSA	**Arzberg**	**3.95**	**22**	⇓*i*Pn	**Pn**	**03 16 01.4**	**-0.2**
ARSA				⇓*i*Sn	**Sn**	**03 16 45.2**	**-2.5**
ARSA	**Arzberg**	**3.95**	**22**	*e*Pn	**Pn**	**03 16 01.1**	**-0.5**
ARSA	**Arzberg**	**3.95**	**22**	Pn	**Pn**	**03 16 01.1**	**-0.4**
ARSA				Sn	**Sn**	**03 16 45.2**	**-2.5**
TUE	**Stuetta**	**4.00**	**317**	*e*Pn	**Pn**	**03 16 03.1**	**+0.9**
TUE				*e*S	**Sn**	**03 16 51.1**	**+2.2**
TUE	**Stuetta**	**4.00**	**317**	*e*Pn	**Pn**	**03 16 03.1**	**+0.9**
TUE				*e*S	**Sn**	**03 16 51.1**	**+2.2**
MOTA	**Moosalm**	**4.04**	**338**	⇓*i*Pn	**Pn**	**03 16 03.9**	**+1.2**
MOTA	**Moosalm**	**4.04**	**338**		**Sn**	**03 16 51.8**	**+2.0**
MOTA	**Moosalm**	**4.04**	**338**	Pn	**Pn**	**03 16 03.9**	**+1.2**
RJOB	**Jochberg**	**4.14**	**355**	*e*Pn	**Pn**	**03 16 05.0**	**+1.0**
RJOB				*e*Sn	**Sn**	**03 16 52.7**	**+0.5**
RJOB	**Jochberg**	**4.14**	**355**	*e*Pn	**Pn**	**03 16 05.0**	**+0.9**
RJOB				*e*Sn	**Sn**	**03 16 52.6**	**+0.5**
RJOB	**Jochberg**	**4.14**	**355**	Pn	**Pn**	**03 16 05.0**	**+1.0**
RJOB				Sn	**Sn**	**03 16 52.7**	**+0.5**
SBF	**Sospel**	**4.26**	**275**	*e*Pn	**Pn**	**03 16 06.9**	**+1.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**03 16 54.1**	**-1.2**
	comp=Z,7.5nm,0.3s						
SBF	**Sospel**	**4.26**	**275**	*e*Pn	**Pn**	**03 16 06.9**	**+1.1**
SBF				*e*Sn	**Sn**	**03 16 54.1**	**-1.2**
SBF	**Sospel**	**4.26**	**275**	*e*Pn	**Pn**	**03 16 06.9**	**+1.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**03 16 54.1**	**-1.2**
	comp=Z,3.8nm,0.3s						
MOA	**Molln**	**4.29**	**9**	*e*Pn	**Pn**	**03 16 06.5**	**+0.4**
MOA				*e*Sn	**Sn**	**03 16 54.7**	**-1.2**
MOA	**Molln**	**4.29**	**9**	⇓*i*Pn	**Pn**	**03 16 06.2**	**+0.1**
MOA				⇑*i*Sn	**Sn**	**03 16 54.1**	**-1.8**
MOA	**Molln**	**4.29**	**9**	*e*Pn	**Pn**	**03 16 06.5**	**+0.4**
MOA				*e*Sn	**Sn**	**03 16 54.7**	**-1.2**
MOA	**Molln**	**4.29**	**9**	Pn	**Pn**	**03 16 06.5**	**+0.4**
MOA				Sn	**Sn**	**03 16 54.7**	**-1.2**
DAVA	**Damuels**	**4.39**	**328**	*e*Pn	**Pn**	**03 16 09.5**	**+2.0**
DAVA				*e*Sn	**Sn**	**03 16 59.7**	**+1.3**
DAVA	**Damuels**	**4.39**	**328**	⇑*i*Pn	**Pn**	**03 16 09.0**	**+1.5**
DAVA				⇓*i*Sn	**Sn**	**03 16 59.3**	**+0.9**
DAVA	**Damuels**	**4.39**	**328**	*e*Pn	**Pn**	**03 16 09.5**	**+1.9**
DAVA				*e*Sn	**Sn**	**03 16 59.7**	**+1.2**
DAVA	**Damuels**	**4.39**	**328**	Pn	**Pn**	**03 16 09.5**	**+2.0**
DAVA				Sn	**Sn**	**03 16 59.7**	**+1.3**
TRAV	**Traversella**	**4.40**	**297**	P	**Pn**	**03 16 06.1**	**-1.6**
RSP	**Reno Superiore**	**4.59**	**292**	P	**Pn**	**03 16 08.6**	**-1.7**
CONA	**Conrad Observa**	**4.67**	**22**	⇑*i*Pn	**Pn**	**03 16 11.3**	**0.0**
CONA				⇓*i*Sn	**Sn**	**03 17 03.8**	**-1.5**
CONA	**Conrad Observa**	**4.67**	**22**	Pn	**Pn**	**03 16 11.3**	**0.0**
CONA				Sn	**Sn**	**03 17 03.8**	**-1.5**
MBDF	**Montbardon**	**4.83**	**286**	*e*Pn	**Pn**	**03 16 13.9**	**+0.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**03 17 07.5**	**-1.8**
	comp=Z,2.4nm,0.3s						
MBDF	**Montbardon**	**4.83**	**286**	*e*Pn	**Pn**	**03 16 13.9**	**+0.3**
MBDF				*e*Sn	**Sn**	**03 17 07.5**	**-1.8**
MBDF	**Montbardon**	**4.83**	**286**	*e*Pn	**Pn**	**03 16 13.9**	**+0.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**03 17 07.5**	**-1.8**
	comp=Z,1.2nm,0.3s						
FRF	**La Foret Royal**	**4.84**	**272**	*e*Pn	**Pn**	**03 16 14.9**	**+1.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**03 17 08.2**	**-1.3**
	comp=Z,5.7nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**4.84**	**272**	*e*Pn	**Pn**	**03 16 14.9**	**+1.2**
FRF				*e*Sn	**Sn**	**03 17 08.2**	**-1.3**
FRF	**La Foret Royal**	**4.84**	**272**	*e*Pn	**Pn**	**03 16 14.9**	**+1.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**03 17 08.2**	**-1.3**
	comp=Z,2.8nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**4.96**	**269**	*e*Pn	**Pn**	**03 16 16.4**	**+1.1**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**03 17 10.5**	**-1.9**
	comp=Z,5.0nm,0.6s,SNR=1.0						
LMR	**La Mourre**	**4.96**	**269**	*e*Pn	**Pn**	**03 16 16.4**	**+1.1**
LMR				*e*Sn	**Sn**	**03 17 10.5**	**-1.9**
LMR	**La Mourre**	**4.96**	**269**	*e*Pn	**Pn**	**03 16 16.4**	**+1.1**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**03 17 10.5**	**-1.9**
	comp=Z,2.5nm,0.6s,SNR=1.0						
BNI	**Bardonecchia**	**4.97**	**289**	*e*Pn	**Pn**	**03 16 16.2**	**+0.7**
BNI	**Bardonecchia**	**4.97**	**289**	*e*Pn	**Pn**	**03 16 16.2**	**+0.7**
LPG	**La Plagne**	**5.05**	**294**	*e*Pn	**Pn**	**03 16 16.4**	**-0.2**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**03 17 12.1**	**-2.6**
	comp=Z,2.9nm,0.2s						
LPG	**La Plagne**	**5.05**	**294**	*e*Pn	**Pn**	**03 16 16.4**	**-0.2**
LPG				*e*Sn	**Sn**	**03 17 12.1**	**-2.6**
LPG	**La Plagne**	**5.05**	**294**	*e*Pn	**Pn**	**03 16 16.4**	**-0.2**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**03 17 12.1**	**-2.6**
	comp=Z,1.5nm,0.2s						
VSL	**Villasalto**	**5.06**	**217**	*e*Pn	**Pn**	**03 16 19.5**	**+2.7**
VSL				*e*S	**Sn**	**03 17 16.9**	**+1.9**
VSL	**Villasalto**	**5.06**	**217**	*e*Pn	**Pn**	**03 16 19.5**	**+2.7**
VSL				*e*S	**Sn**	**03 17 16.9**	**+1.8**
LPL	**La Plagne**	**5.07**	**294**	*e*Pn	**Pn**	**03 16 16.9**	**+0.1**
	SNR=1.0						
LPL	**La Plagne**	**5.07**	**294**	*e*Pn	**Pn**	**03 16 16.9**	**+0.1**
LPL	**La Plagne**	**5.07**	**294**	*e*Pn	**Pn**	**03 16 16.9**	**+0.1**
	SNR=1.0						
GEC2	**GERESS Array S**	**5.24**	**3**	*e*Pn	**Pn**	**03 16 18.7**	**-0.5**
GEC2	**GERESS Array S**	**5.24**	**3**	*e*Pn	**Pn**	**03 16 18.7**	**-0.4**
ORIF	**Oris-en-Rattie**	**5.49**	**286**	*e*Pn	**Pn**	**03 16 23.1**	**+0.5**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**03 17 23.4**	**-2.1**
	comp=Z,6.0nm,0.6s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**5.49**	**286**	*e*Pn	**Pn**	**03 16 23.1**	**+0.5**
ORIF				*e*Sn	**Sn**	**03 17 23.4**	**-2.1**
ORIF	**Oris-en-Rattie**	**5.49**	**286**	*e*Pn	**Pn**	**03 16 23.1**	**+0.5**
	SNR=1.0						
KHC	**Kasperske Hory**	**5.52**	**2**	*e*Pn	**Pn**	**03 16 22.3**	**-0.7**
	comp=Z,2.6nm,0.4s						
KHC				*e*S	**Sn**	**03 17 23.8**	**-2.5**
KHC	**Kasperske Hory**	**5.52**	**2**	*e*PN	**Pn**	**03 16 22.4**	**-0.6**
KHC				*ex*	x	03 16 30.5	
KHC				*e*SN	**Sn**	**03 17 22.8**	**-3.4**
KHC				*ex*	x	03 17 42.0	
KHC	**Kasperske Hory**	**5.52**	**2**	Pn	**Pn**	**03 16 22.4**	**-0.6**
WET	**Wettzell**	**5.54**	**357**	*e*Pn	**Pn**	**03 16 22.4**	**-0.9**
WET				*e*Sn	**Sn**	**03 17 23.3**	**-3.4**
WET	**Wettzell**	**5.54**	**357**	*e*Pn	**Pn**	**03 16 22.4**	**-0.9**
WET				*e*Sn	**Sn**	**03 17 23.3**	**-3.3**
WET	**Wettzell**	**5.54**	**357**	Pn	**Pn**	**03 16 22.4**	**-0.9**
SMRF	**Simiane la Rot**	**5.61**	**276**	*e*Pn	**Pn**	**03 16 25.3**	**+1.0**
	SNR=1.0						
SMRF	**Simiane la Rot**	**5.61**	**276**	*e*Pn	**Pn**	**03 16 25.3**	**+1.0**
SMRF	**Simiane la Rot**	**5.61**	**276**	*e*Pn	**Pn**	**03 16 25.3**	**+1.0**
	SNR=1.0						
CABF	**La Chapelle**	**5.92**	**303**	*e*Pn	**Pn**	**03 16 28.9**	**+0.3**
	SNR=1.0						
CABF	**La Chapelle**	**5.92**	**303**	*e*Pn	**Pn**	**03 16 28.9**	**+0.3**
CABF	**La Chapelle**	**5.92**	**303**	*e*Pn	**Pn**	**03 16 28.9**	**+0.3**
	SNR=1.0						
HINF	**Hinteralfeld**	**6.17**	**315**	*e*Pn	**Pn**	**03 16 31.0**	**-0.9**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**03 17 36.2**	**-6.0**
	comp=Z,6.8nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**6.17**	**315**	*e*Pn	**Pn**	**03 16 31.0**	**-0.9**
HINF				*e*Sn	**Sn**	**03 17 36.2**	**-6.0**
HINF	**Hinteralfeld**	**6.17**	**315**	*e*Pn	**Pn**	**03 16 31.0**	**-0.9**
	SNR=1.0						
ECH	**Echery**	**6.29**	**319**	*e*Pn	**Pn**	**03 16 33.7**	**+0.1**
	comp=Z,3.8nm,0.4s						
ECH				*e*S	**Sn**	**03 17 44.7**	**-0.5**
VIVF	**Saint-Julien-l**	**6.33**	**284**	*e*Pn	**Pn**	**03 16 34.5**	**+0.4**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**6.33**	**284**	*e*Pn	**Pn**	**03 16 34.5**	**+0.4**
VIVF	**Saint-Julien-l**	**6.33**	**284**	*e*Pn	**Pn**	**03 16 34.5**	**+0.4**
	SNR=1.0						
CDF	**Champ du Feu**	**6.37**	**321**	*e*Pn	**Pn**	**03 16 34.0**	**-0.8**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**03 17 42.6**	**-4.7**
	comp=Z,3.8nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**6.37**	**321**	*e*Pn	**Pn**	**03 16 34.0**	**-0.8**
CDF				*e*Sn	**Sn**	**03 17 42.6**	**-4.7**
CDF	**Champ du Feu**	**6.37**	**321**	*e*Pn	**Pn**	**03 16 34.0**	**-0.8**
	SNR=1.0						
HAU	**Haudompre**	**6.55**	**314**	*e*Pn	**Pn**	**03 16 36.5**	**-0.7**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**03 17 45.7**	**-5.9**
	comp=Z,23nm,0.6s,SNR=1.0						
HAU	**Haudompre**	**6.55**	**314**	*e*Pn	**Pn**	**03 16 36.5**	**-0.7**
HAU				*e*Sn	**Sn**	**03 17 45.7**	**-5.9**
NKC	**Novy Kostel**	**6.64**	**355**	*e*SN	**Sn**	**03 17 49.6**	**-4.3**
SMF	**Signal de Mont**	**7.35**	**298**	*e*Pn	**Pn**	**03 16 46.0**	**-2.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**03 18 06.3**	**-4.9**
	comp=Z,3.5nm,0.3s						
SMF	**Signal de Mont**	**7.35**	**298**	*e*Pn	**Pn**	**03 16 46.0**	**-2.1**
SMF				*e*Sn	**Sn**	**03 18 06.3**	**-4.9**
SMF	**Signal de Mont**	**7.35**	**298**	*e*Pn	**Pn**	**03 16 46.0**	**-2.1**
	SNR=1.0						
TNS	**Taunus Mts**	**7.40**	**335**	*e*Pn	**Pn**	**03 16 49.1**	**+0.3**
TNS				*e*Sn	**Sn**	**03 18 10.7**	**-1.7**
TNS	**Taunus Mts**	**7.40**	**335**	*e*Pn	**Pn**	**03 16 49.1**	**+0.3**
TNS				*e*Sn	**Sn**	**03 18 10.7**	**-1.7**
TNS	**Taunus Mts**	**7.40**	**335**	Pn	**Pn**	**03 16 49.1**	**+0.3**
LOR	**Lormes**	**7.58**	**302**	*e*Pn	**Pn**	**03 16 50.5**	**-0.8**
	baz=120,SNR=1.0						
LOR				*e*Sn	**Sn**	**03 18 12.8**	**-4.2**
	comp=Z,7.4nm,0.4s,SNR=1.0						
LOR	**Lormes**	**7.58**	**302**	*e*Pn	**Pn**	**03 16 50.5**	**-0.8**
LOR				*e*Sn	**Sn**	**03 18 12.8**	**-4.2**
AVF	**Avril sur Loir**	**7.71**	**298**	*e*Pn	**Pn**	**03 16 52.0**	**-1.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**7.71**	**298**	*e*Pn	**Pn**	**03 16 52.0**	**-1.1**
SSF	**Saint Saulge**	**7.72**	**300**	*e*Pn	**Pn**	**03 16 52.5**	**-0.7**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**03 18 15.9**	**-4.4**
	comp=Z,3.2nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**7.72**	**300**	*e*Pn	**Pn**	**03 16 52.5**	**-0.7**
SSF				*e*Sn	**Sn**	**03 18 15.9**	**-4.4**
BGF	**Bois d'Agland**	**7.96**	**295**	*e*Pn	**Pn**	**03 16 55.0**	**-1.6**
	SNR=1.0						
BGF	**Bois d'Agland**	**7.96**	**295**	*e*Pn	**Pn**	**03 16 55.0**	**-1.6**
BGF	**Bois d'Agland**	**7.96**	**295**	*e*Pn	**Pn**	**03 16 55.0**	**-1.6**
	SNR=1.0						
CAF	**Calviac**	**8.18**	**283**	*e*Pn	**Pn**	**03 16 59.6**	**+0.1**
	SNR=1.0						
CAF	**Calviac**	**8.18**	**283**	*e*Pn	**Pn**	**03 16 59.6**	**+0.1**
CAF	**Calviac**	**8.18**	**283**	*e*Pn	**Pn**	**03 16 59.6**	**+0.1**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**8.31**	**293**	*e*Pn	**Pn**	**03 17 01.0**	**-0.4**
TCF				*e*Sn	**Sn**	**03 18 29.8**	**-5.2**
	comp=Z,1.7nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**8.31**	**293**	*e*Pn	**Pn**	**03 17 01.0**	**-0.4**
TCF				*e*Sn	**Sn**	**03 18 29.8**	**-5.2**
BAIF	**Baives**	**8.96**	**319**	*e*Pn	**Pn**	**03 17 08.7**	**-1.6**
BAIF	**Baives**	**8.96**	**319**	*e*Pn	**Pn**	**03 17 08.7**	**-1.6**
BAIF	**Baives**	**8.96**	**319**	*e*Pn	**Pn**	**03 17 08.7**	**-1.6**

NIED ***02*** *03:16:00, 23°.40N×121°.60E, h35km, Mw5.3 Best double couple: M0 9.78000×10^16 NP1:φs39.00000°, δ84.00000°, λ98.00000°. NP2:φs165.00000°, δ10.00000°, λ37.00000°.*
BJI ***02*** *03:16:50.5, 23°.44N×121°.51E, h9km, mB5.1/38, mb4.8/56, ML5.1/9, Ms5.1/66, Ms7 5.1/61*
ISCJB ***02*** *03:16:53.6±0.2, 23°.30N±0°.01×121°.59E±0°.01, h45km±1km, mb5.2/221, MS4.9/57, Error ellipse: s-maj=2.4km s-min=1.8km az=41.6*
NEIC ***02*** *03:16:53.3, 23°.28N×121°.60E, h30km, mb5.3/92, MW5.1, MW5.1(USGS), Moment Tensor Solution. s29 Moment tensor: Scale 10^16 Nm; Mrr 5.82; Mθθ -1.76; Mφφ -4.06; Mrθ 0.44; Mφr -2.64; Mθr 1.19; Best double couple: M0 5.90000×10^16 NP1:φs31.00000°, δ51.00000°, λ87.00000°. NP2:φs216.00000°, δ39.00000°, λ94.00000°. Principal axes: T 5.9600, Plg83.0000°, Azm279.0000°; N -0.0400, Plg2.0000°, Azm32.0000°; P -5.9200, Plg6.0000°, Azm122.0000°; After TAP.*
NEIC Felt at Chang-hua, Nan-t'ou, Taipei and T'ao-yuan. Also felt at Fuzhou, China. Recorded [5 TAP] in T'ai-tung; [4 TAP] in Hua-lien; [3 TAP] in T'ai-chung; [2 TAP] in Chang-hua, Hsin-chu, I-lan, Kao-hsiung, P'eng-hu, T'ai-nan and Yun-lin; [1 TAP] in P'ing-tung, Taiwan.
TAP ***02*** *03:16:54.2, 23°.34N×121°.49E, h32km, ML5.7, B*
JMA ***02*** *03:16:54.5±0.2, 23°.35N×121°.60E, h82km, M5.2*
IDC ***02*** *03:16:55.6±1.6, 23°.28N×121°.46E, h50km±14km, mb4.7/26, mb1 4.8/29, mb1mx4.7/32, mbtmp4.7/29, ML4.2/3, MS4.7/22, Ms1 4.7/22, ms1mx4.4/33, Error ellipse: s-maj=14.6km s-min=9.0km az=68.0*
MOS ***02*** *03:16:56.0±0.9, 23°.36N×121°.66E, h67km, mb5.5/82, MS5.1/30, Error ellipse: s-maj=7.7km s-min=3.9km az=121.2*
DJA ***02*** *03:16:56, 23°.39N×121°.75E, h49km, mb5.3/46*
GCMT ***02*** *03:16:56.2±0.2, 23°.27N×121°.52E, h30km, MW5.3, Moment Tensor Solution. s65,c104; s73,c124; Moment tensor: Scale 10^17 Nm; Mrr 0.00; Mθθ 0.00; Mφφ 0.00; Mrθ 0.00; Mφr 0.00; Mθr 0.00; Best double couple: M0 1.00000×10^17 NP1:φs223.00000°, δ42.00000°, λ117.00000°. NP2:φs9.00000°, δ53.00000°, λ67.00000°. Principal axes: T 0.9400, Plg71.0000°, Azm221.0000°; N 0.1300, Plg18.0000°, Azm23.0000°; P -1.0600, Plg6.0000°, Azm114.0000°; Data Used: II IU IC G CN.*
SZGRF ***02*** *03:17:00.1, 25°.45N×122°.64E, h33km, mb5.5, MS4.9, Taiwan region*
ISC 02 03:16:54.1±0.3, 23°.31N±0°.01×121°.57E±0°.01, h34km±1km, h27km±3.2km: pP-P, n794, σ1 s15/842, mb5.2/221, MS4.9/57, 145C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	**Yuli**	**0.26**	**279**	⇑*i*P	**Pb**	**03 17 00.6**	**-0.8**
	baz=288						
TWF1				S	**Sb**	**03 17 05.0**	**-1.3**
	baz=288						
YULB	**Yu-li**	**0.26**	**288**	*e*Pg	**Pb**	**03 17 00.1**	**-1.3**
CHKT	**Chengkung**	**0.28**	**222**	⇓*i*P	**Pb**	**03 17 01.4**	**-0.3**
	baz=195						
CHKT				*e*S	**Sb**	**03 17 05.6**	**-1.3**
	baz=195						
EHY	**Hungye**	**0.30**	**310**	⇑*i*P	**Pb**	**03 17 01.0**	**-1.0**
	baz=309						
TEGC	**Jichi Village**	**0.40**	**356**	⇑*i*P	**Pb**	**03 17 03.1**	**-0.1**
	baz=15						
TEGC				*i* S	**Sb**	**03 17 10.2**	**+0.7**
	baz=15						
ESL	**Shilin**	**0.52**	**346**	⇑*i*P	**Pb**	**03 17 03.8**	**-1.2**
	baz=343						
ELDTW	**Lidau**	**0.52**	**257**	⇑*i*P	**Pb**	**03 17 03.6**	**-1.5**
	baz=245						
ELDTW				*e*S	**Sb**	**03 17 09.8**	**-2.8**
	baz=245						
ESF	**Shoufeng Towns**	**0.56**	**354**	*e*P	**Pb**	**03 17 04.7**	**-1.0**
	baz=351						
ESF				*e*S	**Sb**	**03 17 12.2**	**-1.5**
	baz=351						
YUS	**Yu-Shan**	**0.59**	**287**	⇑*i*P	**Pb**	**03 17 05.5**	**-0.7**
	baz=287						
HWA	**Hwalien**	**0.66**	**3**	⇑*i*P	**Pn**	**03 17 07.0**	**-0.1**
	baz=22						
TWG	**Pinlang**	**0.67**	**223**	⇑*i*P	**Pn**	**03 17 05.7**	**-1.5**
	baz=217						
TWG	**Pinlang**	**0.67**	**223**	*e*Pg	**Pn**	**03 17 05.5**	**-1.8**
TTN	**Taitung**	**0.68**	**215**	*e*P	**Pn**	**03 17 07.1**	**-0.3**
	baz=222						
TTN				*e*S	**Sn**	**03 17 16.6**	**-0.1**
	baz=222						
ALS	**Alishan**	**0.73**	**286**	⇑*i*P	**Pn**	**03 17 07.8**	**-0.3**
	baz=285						
ALS				*e*S	**Sn**	**03 17 16.5**	**-1.6**
	baz=285						
SSLB	**Suanglung**	**0.74**	**310**	*e*Pg	**Pn**	**03 17 06.8**	**-1.4**
STYT	**Tauyuan**	**0.76**	**259**	⇑*i*P	**Pn**	**03 17 07.8**	**-0.7**

baz=5.0
NSTT Nanjuang 1.41 338⇑iP Pn 03 17 18.9 +1.4
baz=337
ILA Ilan 1.46 6 eP Pn 03 17 18.5 +0.4
baz=360
ILA eS Sn 03 17 38.1 +2.1
baz=360
TWP Hsiaoliuchiu 1.47 229 eP Pn 03 17 20.9 +2.6
baz=231
HEN Hengchun 1.51 211 eP Pn 03 17 19.3 +0.5
baz=200
HEN eS Sn 03 17 39.2 +1.9
baz=200
TWK1 Hengchun 1.53 208 P Pn 03 17 19.0 -0.1
baz=209
TWK1 eS Sn 03 17 38.8 +0.9
baz=209
HSN Hsinchu 1.58 340 P Pn 03 17 21.4 +1.5
baz=326
HSN eS Sn 03 17 41.9 +2.8
baz=326
TATO Taipei 1.66 357 ePn Pn 03 17 21.5 +0.7
TWA Mucha 1.66 0⇑iP Pn 03 17 21.7 +0.8
baz=1.0
TWA eS Sn 03 17 42.4 +1.3
baz=1.0
NCU National Centr 1.69 348 ⇑P Pn 03 17 22.8 +1.5
baz=348
NCU eS Sn 03 17 44.5 +2.8
baz=348
TAP1 Taipei 1.72 359 ⇑P Pn 03 17 22.3 +0.6
baz=8.0
TAP1 eS Sn 03 17 42.3 -0.2
baz=8.0
TWB1 Santiao Chiao 1.73 13 P Pn 03 17 22.9 +1.1
baz=27
TWB1 eS Sn 03 17 44.6 +1.8
baz=27
YOJ Yonaguni jima 1.75 49⇓iP Pn 03 17 23.2 +1.1
baz=49
YOJ eS Sn 03 17 44.3 +1.1
baz=49
YOJ Yonaguni jima 1.75 49 P Pn 03 17 23.0 +1.0
YOJ S Sn 03 17 44.4 +1.3
WDGT Dungji 1.76 269⇑iP Pn 03 17 22.1 -0.1
baz=266
WDGT eS Sn 03 17 41.7 -1.7
baz=266
NWF Wu-fen Shan 1.76 6 ⇑P Pn 03 17 23.1 +0.8
baz=4.0
TWS1 Kuangyinshan 1.79 356 eP Pn 03 17 23.3 +0.7
baz=9.0
TWS1 eS Sn 03 17 46.1 +1.9
baz=9.0
PNG Penghu 1.87 278⇑iP Pn 03 17 23.7 0.0
baz=276
PNG eS Sn 03 17 44.4 -1.7
baz=276
TWY Chenhua 1.96 1 ⇑P Pn 03 17 25.4 +0.5
baz=358
HATJ Hateruma jima 2.18 70 P Pn 03 17 28.9 +0.9
HATJ S Sn 03 17 54.6 +0.8
IRIF Iriomote-Funau 2.23 62 P Pn 03 17 29.7 +1.1
IRIF eS Sn 03 17 55.8 +0.8
JKRS Kuro-shima 2.42 67 P Pn 03 17 32.5 +1.2
JKRS S Sn 03 18 01.2 +1.5
JIJ Ishigaki jima 2.58 66 P Pn 03 17 34.0 +0.5
JIJ eS Sn 03 18 03.9 +0.2
KNM Kinmen 3.08 292⇑iP Pn 03 17 41.4 +1.1
baz=290
JTJ Tarama 3.15 65 P Pn 03 17 42.2 +0.8
JTJ S Sn 03 18 18.5 +0.6
QZH Quanzhou 3.17 301⇓iPn Pn 03 17 39.2 -2.4
QZH Sn Sn 03 18 14.0 -4.3
QZH smax
comp=N,17μm,0.9s
QZH smax
comp=E,14μm,0.6s
QZH LR LR
comp=N,60μm,12.0s
QZH LR LR
comp=E,32μm,7.8s
QZH LR LR
comp=Z,63μm,13.0s
JMJ Miyako jima 2 3.72 66 eP Pn 03 17 49.3 +0.2
baz=65
JMJ eS Sn 03 18 31.9 +0.1
baz=65
JMJ Miyako jima 2 3.72 66 P Pn 03 17 50.5 +1.3
JMJ eS Sn 03 18 32.1 +0.3
JOGS Gusukube 3.79 67 P Pn 03 17 51.4 +1.2
JOGS eS Sn 03 18 35.8 +2.2
JKE Kume jima 2 5.61 57 P Pn 03 18 14.9 -0.3
JKE eS Sn 03 19 17.5 -0.9
JAGN Aguni-jima 6.09 56 P Pn 03 18 22.1 +0.3
JAGN eS Sn 03 19 32.2 +1.8
JIH Iheya 6.88 56 P Pn 03 18 31.9 -0.7
JIH eS Sn 03 19 47.2 -2.5
HKC Hong Kong Obse 6.90 263 eP Pn 03 18 36.0 +3.1
JOW Kunigami 7.02 59 P Pn 03 18 33.4 -1.1
comp=Z,16nm,0.3s,baz=248,slow=7.3,SNR=43
JOW S Sn 03 19 50.8 -2.4
comp=Z,17nm,0.3s,baz=127,slow=27,SNR=3.3
JOW Kunigami 7.02 59 eP Pn 03 18 34.0 -0.5
baz=75
JOW Kunigami 7.02 59 ePn Pn 03 18 33.1 -1.4
JOW S Sn 03 19 50.8 -2.4
JOW Kunigami 7.02 59 P Pn 03 18 33.3 -1.2
JOW eS Sn 03 19 51.1 -2.0
GZH Guangzhou 7.57 270 P Pn 03 18 38.1 -4.0
GZH smax
comp=N,2μm,0.8s
GZH smax
comp=E,2μm,1.1s
SSE Sheshan 7.76 358 P Pn 03 18 44.3 -0.4
SSE S Sn 03 20 07.6 -3.8
SSE smax
comp=N,500nm,1.1s
SSE smax
comp=E,690nm,1.0s
SSE LR LR
comp=N,5μm,15.3s
SSE LR LR
comp=E,2μm,15.3s
SSE LR LR
comp=Z,6μm,14.6s
SSE Sheshan 7.76 358 Pn Pn 03 18 44.3 -0.4
SSE Sn Sn 03 20 07.6 -3.8
JTK Tokunoshima 8.02 55 P Pn 03 18 47.3 -0.9
JTK eS Sn 03 20 13.5 -4.2
JAM Amami Oshima 8.84 53 P Pn 03 18 57.2 -2.3
JAM eS Sn 03 20 32.6 -5.3
NJ2 Nanjing 9.03 345 eP Pn 03 19 01.2 -0.9
NJ2 pP 03 19 04.9
NJ2 sP 03 19 07.6
NJ2 S Sn 03 20 40.0 -2.7
NJ2 pmax pmax
comp=Z,120nm,0.5s
NJ2 pmax pmax
comp=Z,170nm,5.0s
NJ2 smax
comp=N,750nm,1.0s
NJ2 smax
comp=E,750nm,1.1s
NJ2 LR LR
comp=N,10μm,15.9s
NJ2 LR LR
comp=E,5μm,15.9s
NJ2 LR LR
comp=Z,6μm,12.8s
JMZ Minamidaito 2 9.13 72 P Pn 03 19 00.9 -2.6
JMZ eS Sn 03 20 36.2 -9.0
TGY Tagaytay City 9.18 184 P Pn 03 19 10.2 +6.0
comp=Z,19nm,0.3s,baz=230,slow=15,SNR=4.5
TGY Tagaytay City 9.18 184 P Pn 03 19 10.2 +6.0
TGY Tagaytay City 9.18 184 P Pn 03 19 10.2 +6.0
WHN Wuhan 9.66 320 P Pn 03 19 09.7 -1.1
WHN pP 03 19 13.4
WHN S Sn 03 20 50.5 -7.6
WHN LR LR
comp=N,23μm,5.1s
WHN LR LR
comp=E,23μm,7.6s
WHN LR LR
comp=Z,27μm,16.9s
QIZ Qiongzhong 11.74 251 P Pn 03 19 42.8 +3.5

QIZ S Sn 03 21 51.8 +2.6
QIZ LR LR
comp=N,5μm,17.6s
QIZ LR LR
comp=E,2μm,16.9s
QIZ LR LR
comp=Z,7μm,17.4s
QIZ Qiongzhong 11.74 251 ePn Pn 03 19 41.4 +2.1
comp=Z,62nm,0.8s
QIZ eS Sn 03 21 47.2 -2.0
JNU Nakatsue 12.75 38 ePn Pn 03 19 54.9 +1.8
ENH Enshi 12.82 305 ePn Pn 03 19 56.0 +2.0
comp=Z,293nm,1.5s
ENH eS Sn 03 22 09.8 -5.8
TIA Tai'an 13.42 344 P Pn 03 20 03.6 +1.4
TIA pmax pmax
comp=Z,310nm,5.8s
TIA LR LR
comp=N,5μm,15.7s
TIA LR LR
comp=E,2μm,7.8s
TIA LR LR
comp=Z,6μm,13.7s
GYA Guiyang 13.89 286⇓iP Pn 03 20 08.4 -0.2
GYA S Sn 03 22 41.8 +0.2
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,240nm,4.0s
GYA LR LR
comp=N,4μm,9.3s
GYA LR LR
comp=E,11μm,14.6s
GYA LR LR
comp=Z,14μm,14.3s
INCN Inchon 14.78 16 ePn Pn 03 20 23.6 +2.9
comp=Z,50nm,0.8s
KSAR Wonju Array Be 15.09 20 P Pn 03 20 26.8 +1.9
KSAR Wonju Array Be 15.09 20 P Pn 03 20 26.8 +2.0
KSRS Korea Array 15.12 20 P Pn 03 20 26.8 +1.6
comp=Z,0.7nm,0.3s,baz=201,slow=13,SNR=35
KSRS LR LR 03 27 06.2
comp=Z,2μm,18.9s,baz=203,slow=40
XAN Xi'an 15.39 317 P Pn 03 20 27.7 -1.1
XAN pP pP 03 20 31.6 -10
XAN sP sP 03 20 35.0 -11
XAN PP 03 20 41.3
XAN S Sn 03 23 27.1 +8.8
XAN pmax pmax
comp=Z,25nm,1.1s
XAN pmax pmax
comp=Z,180nm,7.2s
XAN LR LR
comp=N,4μm,14.3s
XAN LR LR
comp=E,3μm,14.6s
XAN LR LR
comp=Z,4μm,15.4s
DL2 Dalian 15.55 0 P Pn 03 20 37.1 +6.4
DL2 S Sn 03 23 37.9 +16
DL2 pmax pmax
comp=Z,40nm,1.1s
DL2 pmax pmax
comp=Z,370nm,5.7s
DL2 LR LR
comp=E,2μm,19.1s
DL2 LR LR
comp=Z,2μm,13.7s
TIY Taiyuan 16.36 333 eP Pn 03 20 44.1 +2.9
TIY sP sP 03 20 51.1 -5.7
TIY S Sn 03 23 48.2 +6.6
TIY pmax pmax
comp=Z,500nm,5.6s
TIY LR LR
comp=N,6μm,12.3s
TIY LR LR
comp=E,3μm,12.6s
TIY LR LR
comp=Z,7μm,15.4s
DAV Davao City (W) 16.60 166 LR LR 03 26 50.8
comp=Z,2μm,20.5s,baz=348,slow=36
KDM Kudat 16.93 196 P Pn 03 20 50.2 +1.7
BJT Baijiatuau 17.27 346 ePn Pn 03 20 54.1 +1.5
comp=Z,44nm,0.7s
BJT Baijiatuau 17.27 346 eP Pn 03 20 54.1 +1.5
BJT pmax pmax
comp=Z,45nm,0.7s
KMI Kunming 17.27 280 P Pn 03 20 56.3 +3.5
KMI pP pP 03 21 01.7 -1.1
KMI S Sn 03 24 08.8 +4.8
KMI pmax pmax
comp=Z,57nm,1.4s
KMI pmax pmax
comp=Z,600nm,5.3s
KMI LR LR
comp=N,2μm,12.7s
KMI LR LR
comp=E,7μm,14.8s
KMI LR LR
comp=Z,8μm,14.5s
KMI Kunming 17.27 280 P Pn 03 20 56.3 +3.5
comp=Z,57nm,1.4s
KMI pP pP 03 21 01.7 -1.1
KMI S Sn 03 24 08.8 +4.8
KMI SSS 03 24 44.4
KMI Kunming 17.27 280 P Pn 03 20 56.3 +3.5
KMI S Sn 03 24 08.8 +4.8
KMI pmax pmax
comp=Z,57nm,1.4s
BJI Beijing 17.29 346 P Pn 03 20 54.5 +1.6
BJI S Sn 03 24 08.8 +4.6
BJI pmax pmax
comp=Z,26nm,1.1s
BJI pmax pmax
comp=Z,320nm,4.1s
BJI LR LR
comp=N,1μm,16.6s
BJI LR LR
comp=E,4μm,27.4s
BJI LR LR
comp=Z,1μm,23.0s
CD2 Chengdu 17.56 299⇑iP Pn 03 20 56.3 0.0
CD2 pP pP 03 20 59.9 -6.0
CD2 sP sP 03 21 03.8 -6.4
CD2 PP 03 21 11.1
CD2 S Sn 03 24 10.3 -0.5
CD2 sS sS 03 24 15.9 -16
CD2 SS 03 24 32.3
CD2 pmax pmax
comp=Z,120nm,1.0s
CD2 pmax pmax
comp=Z,330nm,6.0s
CD2 LR LR
comp=N,9μm,12.0s
CD2 LR LR
comp=E,7μm,10.8s
CD2 LR LR
comp=Z,13μm,15.6s
KKM Kota Kinabalu 17.93 198 P Pn 03 21 03.7 +2.8
KKM Kota Kinabalu 17.93 198 ePn Pn 03 21 02.5 +1.6
comp=Z,236nm,1.5s
KKM Kota Kinabalu 17.93 198 P Pn 03 21 03.4 +2.5
comp=Z,2μmcomp=Z,105nm,1.5s
MYLDM Lahad Datu 18.27 190 P Pn 03 21 08.2 +3.1
MYLDM Lahad Datu 18.27 190 P Pn 03 21 07.9 +2.8
comp=Z,3μmcomp=Z,134nm,1.5s
SNY Shenyang 18.54 5 ⇑P Pn 03 21 10.5 +2.3
SNY S Sn 03 24 33.5 -0.9
SNY pmax pmax
comp=Z,12nm,1.3s
SNY LR LR
comp=N,3μm,13.8s
SNY LR LR
comp=E,2μm,13.8s
SNY LR LR
comp=Z,3μm,13.1s
CBIJ Chichi jima 19.03 74 P Pn 03 21 14.8 +0.6
comp=Z,2.6nm,0.3s,baz=274,slow=20,SNR=4.5
CBIJ LR LR 03 28 41.1
comp=Z,468nm,18.3s,baz=221,slow=37
CBIJ Chichi jima 19.03 74 P Pn 03 21 14.8 +0.6
TSM Tawau 19.24 191 P Pn 03 21 17.3 +0.5
HHC Hu-ho-hao-te 19.41 337 ⇓P Pn 03 21 19.6 +0.9
HHC pP pP 03 21 23.6 -2.6
HHC sP sP 03 21 26.0 -4.5
HHC pmax pmax
comp=Z,65nm,1.0s
HHC pmax pmax
comp=Z,370nm,5.3s
HHC LR LR
comp=N,3μm,16.7s
HHC LR LR
comp=E,5μm,16.6s
HHC LR LR
comp=Z,3μm,17.8s
MAJO Matsushiro 19.50 44 eP Pn 03 21 17.6 -2.1
comp=Z,21nm,0.8s
MAJO Matsushiro 19.50 44 eP Pn 03 21 17.7 -2.1
MAJO pmax pmax
comp=Z,21nm,0.8s
MAT Matsushiro 19.50 44 P Pn 03 21 18.7 -1.1
MAT S Sn 03 24 58.0 +0.3
MJAR Matsushiro Arr 19.50 44 P Pn 03 21 20.5 +0.7
comp=Z,0.8nm,0.3s,baz=234,slow=11,SNR=15
MJAR Matsushiro Arr 19.50 44 P Pn 03 21 20.5 +0.7
MJAR Matsushiro Arr 19.50 44 P Pn 03 21 20.5 +0.7
BTO Baotou 19.80 333 eP Pn 03 21 22.4 -0.9
LZH Lanzhou 19.94 314 eP Pn 03 21 26.0 +1.0
LZH pP pP 03 21 31.8 -0.3
LZH sP sP 03 21 34.4 -1.9
LZH S Sn 03 25 06.1 -2.2
LZH sS sS 03 25 10.0 -10
LZH pmax pmax
comp=Z,110nm,1.2s
LZH pmax pmax
comp=Z,260nm,4.0s
LZH LR LR
comp=N,7μm,14.4s
LZH LR LR
comp=E,8μm,9.9s
LZH LR LR
comp=Z,12μm,14.9s
LZH Lanzhou 19.94 314 eP Pn 03 21 26.0 +1.0
comp=Z,112nm,1.2s
LZH pP pP 03 21 31.8 -0.3
LZH sP sP 03 21 34.4 -1.9
LZH S Sn 03 25 06.1 -2.2
LZH sS sS 03 25 10.0 -10
LZH SS 03 25 35.0
LZH Lanzhou 19.94 314 eP Pn 03 21 26.0 +1.0
LZH S Sn 03 25 06.1 -2.2
LZH pmax pmax
comp=Z,112nm,1.2s
CHRT Chiangrai 20.54 265 ⇑P P 03 21 31.0 +1.1
comp=Z,263nm,1.0s
CN2 Changchun 20.69 8 eP P 03 21 31.8 +0.6
CN2 esP sP 03 21 40.0 -4.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,500nm,10.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.2
CN2 LR LR
comp=E,800nm,16.0s,MS4.2
CN2 LR LR
comp=Z,1μm,14.0s,MS4.3
CHG Chiang Mai 21.58 262 ⇑P P 03 21 42.5 +1.5
comp=Z,78nm,1.0s,mb5.1
CHTO Chiang Mai 21.58 262 eP P 03 21 42.4 +1.4
comp=Z,63nm,0.9s,mb5.0
CHTO Chiang Mai 21.58 262 eP P 03 21 42.4 +1.4
CHTO pmax pmax
comp=Z,63nm,0.9s,mb5.0
CHTO Chiang Mai 21.58 262 P P 03 21 42.3 +1.3
comp=Z,1μmcomp=Z,96nm,1.6s,mb5.0
CHTO Chiang Mai 21.58 262 P P 03 21 46.4 +5.4
SNR=24
CM31 Chiang Mai Arr 21.68 261 eP P 03 21 43.3 +1.2
comp=Z,8.4nm,0.4s,mb4.5
CMAR Chiang Mai Arr 21.68 261 P P 03 21 42.9 +0.8
comp=Z,12nm,0.8s,mb4.4,baz=66,slow=9.2,SNR=38
CMAR PcP PcP 03 25 42.4 -0.3
comp=Z,3.6nm,0.7s,baz=117,slow=1.8,SNR=8.3
CMAR LR LR 03 30 56.0
comp=Z,3μm,18.6s,MS4.7,baz=77,slow=39
CMAR Chiang Mai Arr 21.68 261 P P 03 21 42.9 +0.8
CMAR PcP PcP 03 25 42.4 -0.3
CMAR Chiang Mai Arr 21.68 261 P P 03 21 42.9 +0.8
CMAR 03 25 42.4
BDT Bhumibol Dam 22.00 258 ⇑P P 03 21 48.0 +2.4
comp=Z,16nm,0.9s,mb4.4
MDJ Mudanjiang 22.25 15 P P 03 21 49.4 +1.5
MDJ pP 03 21 52.3
MDJ sP sP 03 21 53.6 -7.6
MDJ S S 03 25 52.0 +1.1
MDJ ScP ScP 03 29 22.0 +3.6
MDJ PcS PcS 03 29 23.6 +1.8
MDJ ScS ScS 03 33 07.5 +4.3
MDJ pmax pmax
comp=Z,24nm,0.8s,mb4.7
MDJ pmax pmax
comp=Z,230nm,7.7s
MDJ LR LR
comp=N,2μm,16.1s,MS4.8
MDJ LR LR
comp=E,2μm,14.1s,MS4.8
MDJ LR LR
comp=Z,3μm,15.8s,MS4.8
MDJ Mudanjiang 22.25 15 eP P 03 21 48.1 +0.2
comp=Z,36nm,1.0s,mb4.8
GTOI Gorontalo 22.58 176 P P 03 21 49.3 -2.5
comp=Z,2μmcomp=Z,211nm,0.9s,mb5.5
SBUM Sibu 22.63 205 P P 03 21 52.6 +0.3
SBUM Sibu 22.63 205 P P 03 21 51.7 -0.6
comp=Z,905nmcomp=Z,85nm,0.9s,mb5.2
MRSI Marisa 22.70 179 P P 03 21 54.6 +1.6
comp=Z,1μmcomp=Z,126nm,0.9s,mb5.4
GUMO Guam 24.09 110 P P 03 22 08.1 +1.4
comp=Z,198nm,0.8s,mb5.6,baz=222,slow=4.7,SNR=8.8
GUMO LR LR 03 29 19.5
comp=Z,1μm,21.6s,MS4.3,baz=138,slow=31
GUMO Guam 24.09 110 eP P 03 22 06.5 -0.2
comp=Z,793nm,1.3s,mb6.0
GUMO Guam 24.09 110 eP P 03 22 06.5 -0.2
GUMO pmax pmax
comp=Z,793nm,1.3s,mb6.0
GUMO Guam 24.09 110 P P 03 22 07.3 +0.6
comp=Z,579nm,1.3s,mb5.8
PCI Palu 24.13 184 P P 03 22 06.7 -0.3
comp=Z,308nm,0.9s,mb5.7
LUWI Luwuk 24.23 177 P P 03 22 07.0 -1.0
comp=Z,2μmcomp=Z,294nm,1.1s,mb5.6
KSM Kuching 24.30 208 P P 03 22 10.5 +1.9
KSM Kuching 24.30 208 eP P 03 22 08.5 -0.2
comp=Z,148nm,1.4s,mb5.2
KSM Kuching 24.30 208 P P 03 22 08.3 -0.3
comp=Z,1μmcomp=Z,82nm,1.5s,mb4.9
GTA Gaotai 24.45 316 eP P 03 22 11.5 +1.7
GTA pP 03 22 15.7
GTA sP sP 03 22 18.7 -4.8
GTA S S 03 26 32.7 +4.9
GTA sS sS 03 26 38.4 -5.2
GTA pmax pmax
comp=Z,20nm,1.2s,mb4.4
GTA pmax pmax
comp=Z,400nm,5.9s
GTA LR LR
comp=N,4μm,13.3s,MS5.3
GTA LR LR
comp=E,6μm,16.1s,MS5.3
GTA LR LR
comp=Z,8μm,15.4s,MS5.3
LBMI Labuha 24.49 166 P P 03 22 11.2 +0.8
comp=Z,2μmcomp=Z,82nm,0.7s,mb5.3
IMP Imphal 25.27 279 ePKP P 03 22 21.0 +3.6
HIA Hailar 25.95 357 eP P 03 22 26.0 +2.8
comp=Z,40nm,1.0s,mb4.9
HIA Hailar 25.95 357 eP P 03 22 26.0 +2.8
HIA pmax pmax
comp=Z,40nm,1.0s
TTSI Tana Toraja 26.25 184 P P 03 22 28.2 +1.9
comp=Z,2μmcomp=Z,68nm,0.9s,mb5.2
NLAI Namlea 26.93 168 P P 03 22 32.7 +0.2
comp=Z,965nmcomp=Z,122nm,0.8s,mb5.5
KBKI Kotabaru 26.97 192 P P 03 22 37.9 +5.1
comp=Z,3μmcomp=Z,30nm,1.3s,mb4.7
ASAJ Asahikawa 27.00 35 P P 03 22 33.9 +1.1
comp=Z,14nm,0.8s,mb4.5,baz=240,slow=25,SNR=4.7
ASAJ LR LR 03 34 55.6
comp=Z,1μm,18.2s,MS4.6,baz=219,slow=40
ASAJ Asahikawa 27.00 35 P P 03 22 33.9 +1.1

KLR	**Kul'dur**	**27.09 15**	*e*P	**P**	**03 22 29.8**	**-3.7**
KLR			*e*S	**S**	**03 27 07.5**	**-1.8**
KLR			MLR	MLR		
	comp=N,3μm,13.0s					
KLR			MLR	MLR		
	comp=Z,9μm,13.0s,MS5.5					
SHL	**Shillong**	**27.10 281**	*e*PKP	**P**	**03 22 37.0**	**+3.1**
ULN	**Ulaanbaatar**	**27.10 338**	*e*P	**P**	**03 22 33.5**	**-0.2**
	comp=Z,27nm,0.9s,mb4.8					
ULN	**Ulaanbaatar**	**27.10 338**	*e*P	**P**	**03 22 33.5**	**-0.2**
ULN			pmax	pmax		
	comp=Z,27nm,0.9s,mb4.8					
ULN	**Ulaanbaatar**	**27.10 338**	P	**P**	**03 22 32.8**	**-0.9**
	comp=Z,35nm,1.0s,mb4.9					
ULN	**Ulaanbaatar**	**27.10 338**	P	**P**	**03 22 38.2**	**+4.5**
	SNR=15					
KDI	**Kendari**	**27.12 178**	P	pP	03 22 47.4	+3.6
SPSI	**Sidrap Palu**	**27.17 184**	P	**P**	**03 22 34.4**	**-0.2**
	comp=Z,2μmcomp=Z,37nm,1.2s,mb4.8					
IPM	**Ipoh**	**27.28 230**	*e*P	**P**	**03 22 36.0**	**+0.4**
	comp=Z,15nm,0.8s,mb4.6					
IPM	**Ipoh**	**27.28 230**	P	pP	03 22 52.1	+6.8
HABR	**Khabarovsk**	**27.30 20**	*e*P	**P**	**03 22 33.5**	**-1.9**
HABR			*e*PPP		03 23 26.3	
HABR			*e*		03 25 49.9	
HABR			*e*S	**S**	**03 27 12.8**	**+0.2**
HABR			*e*SS		03 28 23.7	
HABR			*e*		03 33 23.2	
HABR			pmax	pmax		
	comp=E,137nm,1.5s					
HABR			pmax	pmax		
	comp=Z,112nm,1.1s,mb5.3					
HABR			pmax	pmax		
	comp=N,194nm,2.2s					
HABR			MLR	MLR		
	comp=Z,985nm,20.0s,MS4.4					
SONM	**Songino Array**	**27.31 337**	P	**P**	**03 22 35.2**	**-0.3**
	comp=Z,8.9nm,0.7s,mb4.4,baz=151,slow=9.8,SNR=33					
SONM			PcP	PcP	03 25 55.3	+0.8
	comp=Z,1.9nm,0.6s,baz=152,slow=4.0,SNR=3.5					
SONM			ScP	ScP	03 29 30.5	-2.0
	comp=Z,0.6nm,0.7s,baz=141,slow=2.7,SNR=4.1					
SONM			LR	LR	03 34 39.4	
	comp=Z,4μm,18.4s,MS5.1,baz=151,slow=39					
SONM	**Songino Array**	**27.31 337**	P	**P**	**03 22 35.2**	**-0.3**
SONM			PcP	PcP	03 25 55.3	+0.8
SONM			ScP	ScP	03 29 30.5	-2.0
SONM	**Songino Array**	**27.31 337**	P	**P**	**03 22 35.2**	**-0.3**
SONM					03 25 55.3	
BBKI	**Banjar Baru**	**27.41 195**	P	**P**	**03 22 37.3**	**+0.6**
	comp=Z,99nm,1.3s,mb5.2					
MYKOM	**Kota Tinggi**	**27.44 221**	P	**P**	**03 22 41.5**	**+4.4**
	comp=Z,58nm,1.2s,mb5.0					
LSA	**Lhasa**	**27.91 290**	P	**P**	**03 22 44.3**	**+3.2**
LSA			S	**S**	**03 27 26.2**	**+3.5**
LSA			pmax	pmax		
	comp=Z,220nm,1.0s,mb5.7					
LSA			pmax	pmax		
	comp=Z,330nm,5.0s					
LSA			LR	LR		
	comp=N,980nm,17.0s,MS5.1					
LSA			LR	LR		
	comp=E,4μm,19.0s,MS5.1					
LSA			LR	LR		
	comp=Z,6μm,15.0s,MS5.3					
LSA	**Lhasa**	**27.91 290**	*e*P	**P**	**03 22 44.6**	**+3.5**
	comp=Z,124nm,1.2s,mb5.4					
LSA	**Lhasa**	**27.91 290**	*e*P	**P**	**03 22 44.6**	**+3.5**
LSA			pmax	pmax		
	comp=Z,124nm,1.2s,mb5.4					
KAPI	**Kappang**	**28.21 184**	P	**P**	**03 22 42.2**	**-1.7**
	comp=Z,19nm,0.6s,mb4.9,baz=18,slow=12,SNR=5.7					
KAPI			PcP	PcP	03 25 56.3	-0.9
	comp=Z,3.5nm,0.3s,baz=39,slow=6.6,SNR=3.0					
KAPI			LR	LR	03 34 01.9	
	comp=Z,853nm,22.0s,MS4.3,baz=234,slow=36					
KAPI	**Kappang**	**28.21 184**	P	**P**	**03 22 42.2**	**-1.7**
KAPI			PcP	PcP	03 25 56.3	-0.9
KAPI	**Kappang**	**28.21 184**	P	**P**	**03 22 53.8**	**+10**
BKSI	**Bulukumba**	**28.49 183**	P	**P**	**03 22 53.9**	**+7.5**
YSS	**Yuzh-Sakhalins**	**29.09 31⇓**	*e*P	**P**	**03 22 54.7**	**+3.3**
YSS			*e*		03 23 13.5	
YSS			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.1					
TPI	**Tanjungpandan**	**29.25 209**	P	**P**	**03 22 54.4**	**+1.3**
	comp=Z,1μmcomp=Z,93nm,1.3s,mb5.4					
PPBI	**Pangkal Pinang**	**29.45 213**	P	**P**	**03 22 56.4**	**+1.5**
	comp=Z,32nm,1.8s,mb4.8					
PSI	**Prapat**	**29.94 230**	P	**P**	**03 23 00.5**	**+1.2**
	comp=Z,28nm,1.4s,mb4.8					
SMPI	**Sarmi**	**30.18 144**	P	pP	03 23 15.7	+4.5
ZAK	**Zakamensk**	**30.56 337**	*e*P	**P**	**03 23 03.5**	**-0.9**
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3					
TAPN	**Taplejung**	**30.81 285**	*e*P	**P**	**03 23 08.9**	**+1.9**
	comp=Z,441nm,1.5s,mb6.1					
TAPN	**Taplejung**	**30.81 285**	*e*P	**P**	**03 23 08.9**	**+1.9**
	comp=Z,441nm,1.5s,mb6.1					
MNSI	**Mandailing Nat**	**30.93 227**	P	**P**	**03 23 08.6**	**+0.5**
	comp=Z,60nm,0.8s,mb5.5					
ODAN	**Odare**	**31.10 284**	*e*P	**P**	**03 23 11.3**	**+1.8**
ODAN	**Odare**	**31.10 284**	*e*P	**P**	**03 23 11.3**	**+1.8**
PPI	**Padang Panjang**	**31.34 224**	P	**P**	**03 23 12.1**	**+0.5**
	comp=Z,764nmcomp=Z,38nm,1.4s,mb5.0					
TLY	**Talaya**	**31.51 338**	*e*P	**P**	**03 23 12.6**	**-0.2**
TLY			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7					
TLY			MLR	MLR		
	comp=Z,2μm,16.0s,MS4.9					
MMRI	**Maumere**	**31.76 179**	P	pP	03 23 29.6	+4.6
BMNI	**Bima**	**31.78 185**	P	**P**	**03 23 15.7**	**+0.2**
	comp=Z,23nm,0.9s,mb5.0					
RAMN	**Ramite**	**31.81 284**	*e*P	**P**	**03 23 17.4**	**+1.7**
	comp=Z,101nm,1.1s,mb5.6					
RAMN	**Ramite**	**31.81 284**	*e*P	**P**	**03 23 17.4**	**+1.7**
	comp=Z,101nm,1.1s,mb5.6					
BLJI	**Banyuglugur**	**31.84 195**	P	**P**	**03 23 16.5**	**+0.5**
	comp=Z,93nm,0.7s,mb5.7					
KHKI	**Kahang-Kahang**	**32.02 191**	P	**P**	**03 23 19.4**	**+1.8**
	comp=Z,797nmcomp=Z,75nm,1.0s,mb5.5					
NGJI	**Ngawi**	**32.05 199**	P	**P**	**03 23 19.2**	**+1.3**
	comp=Z,68nm,0.8s,mb5.5					
JIRN	**Jiri**	**32.16 285**	*e*P	**P**	**03 23 20.6**	**+1.8**
	comp=Z,58nm,1.3s,mb5.2					
JIRN	**Jiri**	**32.16 285**	*e*P	**P**	**03 23 20.6**	**+1.8**
	comp=Z,58nm,1.3s,mb5.2					
MTNI	**Mataram**	**32.19 190**	P	**P**	**03 23 18.6**	**-0.5**
	comp=Z,102nm,0.7s,mb5.8					
SJI	**Sawahan**	**32.31 198**	P	**P**	**03 23 21.5**	**+1.3**
	comp=Z,58nm,1.3s,mb5.2					
KLSI		**32.32 213**	P	**P**	**03 23 20.9**	**+0.6**
	comp=Z,2μmcomp=Z,159nm,1.4s,mb5.7					
KLI	**Kotabumi**	**32.41 212**	P	**P**	**03 23 24.1**	**+3.0**
	comp=Z,3μmcomp=Z,96nm,1.1s,mb5.5					
MDSI	**Maura Dua**	**32.43 214**	P	**P**	**03 23 21.7**	**+0.5**
	comp=Z,1μmcomp=Z,65nm,1.0s,mb5.4					
GUN	**Gumba**	**32.44 286**	*e*P	**P**	**03 23 23.9**	**+2.7**
	comp=Z,225nm,1.1s,mb5.9					
GUN	**Gumba**	**32.44 286**	*e*P	**P**	**03 23 23.9**	**+2.7**
	comp=Z,225nm,1.1s,mb5.9					
PWJI	**Pagerwojo**	**32.57 198**	P	**P**	**03 23 23.0**	**+0.5**
	comp=Z,63nm,0.9s,mb5.6					
BJII	**Banjamegara**	**32.59 202**	P	**P**	**03 23 24.0**	**+1.4**
	comp=Z,42nm,2.0s,mb5.0					
PKI	**Pulchoki**	**32.85 285**	*e*P	**P**	**03 23 26.9**	**+2.0**
	comp=Z,97nm,1.0s,mb5.7					
PKI	**Pulchoki**	**32.85 285**	*e*P	**P**	**03 23 26.9**	**+2.0**
	comp=Z,97nm,1.0s,mb5.7					
PKI	**Pulchoki**	**32.85 285**	*e*P	**P**	**03 23 26.9**	**+2.0**
PKI			pmax	pmax		
	comp=Z,97nm,1.0s,mb5.7					
LEM	**Lembang**	**32.91 206**	P	**P**	**03 23 29.4**	**+4.0**
	comp=Z,81nm,1.3s,mb5.5					
LWLI	**Liwa**	**32.94 213**	P	**P**	**03 23 27.0**	**+1.3**
	comp=Z,8μmcomp=Z,196nm,0.9s,mb6.0					
KKN	**Kakani**	**32.97 285**	*e*P	**P**	**03 23 28.7**	**+2.8**
	comp=Z,119nm,1.1s,mb5.7					
KKN	**Kakani**	**32.97 285**	*e*P	**P**	**03 23 28.7**	**+2.8**
	comp=Z,119nm,1.1s,mb5.7					
KKN	**Kakani**	**32.97 285**	*e*P	**P**	**03 23 28.7**	**+2.8**
KKN			pmax	pmax		
	comp=Z,119nm,1.1s,mb5.7					
DMN	**Daman**	**33.12 285**	*e*P	**P**	**03 23 28.4**	**+1.1**
	comp=Z,183nm,1.3s,mb5.9					
DMN	**Daman**	**33.12 285**	*e*P	**P**	**03 23 28.4**	**+1.1**
	comp=Z,183nm,1.3s,mb5.8					

CISI	**Cisompet, Garu**	**33.50 205**	P	**P**	**03 23 34.5**	**+4.0**
	comp=Z,2μmcomp=Z,60nm,1.2s,mb5.4					
GKN	**Gorkha**	**33.53 286**	*e*P	**P**	**03 23 32.6**	**+1.8**
	comp=Z,156nm,1.2s,mb5.8					
GKN	**Gorkha**	**33.53 286**	*e*P	**P**	**03 23 32.6**	**+1.8**
	comp=Z,156nm,1.2s,mb5.8					
DANN	**Dangsing**	**34.31 287**	*e*P	**P**	**03 23 39.9**	**+2.4**
	comp=Z,248nm,1.2s,mb6.0					
DANN	**Dangsing**	**34.31 287**	*e*P	**P**	**03 23 39.9**	**+2.4**
	comp=Z,248nm,1.2s,mb6.0					
KOLN	**Koldanda**	**34.46 286**	*e*P	**P**	**03 23 39.9**	**+1.1**
	comp=Z,58nm,0.9s,mb5.5					
KOLN	**Koldanda**	**34.46 286**	*e*P	**P**	**03 23 39.9**	**+1.1**
	comp=Z,58nm,0.9s,mb5.5					
WMQ	**Urumqi**	**34.52 315**	P	**P**	**03 23 41.3**	**+2.2**
WMQ			pP	pP	03 23 51.0	+2.1
WMQ			PP	PP	03 24 57.8	+0.2
WMQ			S	**S**	**03 29 06.8**	**+1.2**
WMQ			pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0					
WMQ			pmax	pmax		
	comp=Z,260nm,5.0s					
WMQ			LR	LR		
	comp=N,3μm,16.0s,MS5.3					
WMQ			LR	LR		
	comp=E,4μm,14.0s,MS5.3					
WMQ			LR	LR		
	comp=Z,2μm,14.0s,MS5.0					
BOD	**Bodaibo**	**34.91 353**	*e*P	**P**	**03 23 50.0**	**+7.7**
BOD			pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.3					
PYUN	**Piuthan**	**34.99 286**	*e*P	**P**	**03 23 44.7**	**+1.3**
	comp=Z,214nm,1.3s,mb5.9					
PYUN	**Piuthan**	**34.99 286**	*e*P	**P**	**03 23 44.7**	**+1.3**
	comp=Z,214nm,1.3s,mb5.9					
YAK	**Yakutsk**	**39.09 6**	*e*P	**P**	**03 24 17.5**	**-0.3**
YAK			*e**PP	pP	03 24 30.2	+2.5
YAK			*e*		03 25 48.1	
YAK			*e*PPP		03 26 11.8	
YAK			*e*		03 26 25.1	
YAK			*e*S	**S**	**03 30 15.8**	**+0.9**
YAK			*e*SSS		03 33 28.5	
YAK			*e*		03 34 22.3	
YAK			pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9					
YAK			pmax	pmax		
	comp=N,14nm,1.3s					
YAK			pmax	pmax		
	comp=Z,53nm,2.6s,mb4.8					
YAK			pmax	pmax		
	comp=N,74nm,2.2s					
YAK			pmax	pmax		
	comp=E,51nm,2.5s					
YAK			smax			
	comp=N,260nm,3.7s					
YAK			smax			
	comp=E,152nm,4.2s					
YAK			MLR	MLR		
	comp=Z,1μm,14.0s,MS4.8					
YAK			MLR	MLR		
	comp=N,857nm,15.0s,MS4.7					
YAK			MLR	MLR		
	comp=E,281nm,15.0s,MS4.7					
MK31	**Makanchi Array**	**39.21 317**	*e*P	**P**	**03 24 19.6**	**+0.5**
MK31	**Makanchi Array**	**39.21 317**	*i* P	**P**	**03 24 19.3**	**+0.3**
MK31			pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1					
MKAR	**Makanchi Array**	**39.21 317**	P	**P**	**03 24 19.8**	**+0.7**
	comp=Z,26nm,0.8s,mb5.0,baz=110,slow=9.8,SNR=147					
MKAR			PcP	PcP	03 26 27.2	-0.6
	comp=Z,7.2nm,0.8s,baz=87,slow=6.2,SNR=3.7					
MKAR			ScP	ScP	03 30 12.6	-1.2
	comp=Z,2.9nm,0.9s,baz=108,slow=4.0,SNR=5.1					
MKAR			LR	LR	03 41 48.2	
	comp=Z,2μm,18.8s,MS5.0,baz=108,slow=38					
MKAR	**Makanchi Array**	**39.21 317**	P	**P**	**03 24 19.8**	**+0.7**
MKAR			PcP	PcP	03 26 27.2	-0.6
MKAR			ScP	ScP	03 30 12.6	-1.2
MKAR	**Makanchi Array**	**39.21 317**	P	**P**	**03 24 19.8**	**+0.8**
MKAR					03 26 27.2	
MKAR					03 30 12.6	
NDI	**New Delhi**	**40.05 287**	*e*PKP	**P**	**03 24 20.0**	**-6.3**
PETK	**Petropavlovsk-**	**40.39 33**	P	**P**	**03 24 29.4**	**+0.7**
	comp=Z,8.8nm,0.6s,mb4.7,baz=211,slow=5.1,SNR=14					
PETK			LR	LR	03 41 08.2	
	comp=Z,579nm,19.2s,MS4.5,baz=229,slow=36					
PETK	**Petropavlovsk-**	**40.39 33**	P	**P**	**03 24 29.4**	**+0.7**
PETK	**Petropavlovsk-**	**40.39 33**	P	**P**	**03 24 29.4**	**+0.6**
PET	**Petropavlovsk**	**40.83 34**	*e*P	**P**	**03 24 33.4**	**+1.0**
	comp=Z,63nm,1.1s,mb5.2					
PET	**Petropavlovsk**	**40.83 34**	*e*P	**P**	**03 24 33.6**	**+1.2**
PET			*e*S	**S**	**03 30 40.9**	**-0.3**
PET			pmax	pmax		
	comp=Z,44nm,0.9s,mb5.1					
PET			pmax	pmax		
	comp=Z,200nm,8.8s					
PET			MLR	MLR		
	comp=Z,800nm,22.0s,MS4.5					
PMG	**Port Moresby**	**41.04 140**	P	**P**	**03 24 35.6**	**+1.1**
	comp=Z,18nm,0.8s,mb4.8,baz=312,slow=4.6,SNR=8.8					
PMG	**Port Moresby**	**41.04 140**	*e*P	**P**	**03 24 35.1**	**+0.6**
	comp=Z,23nm,0.8s,mb4.9					
PMG	**Port Moresby**	**41.04 140⇑**	*e*P	**P**	**03 24 35.6**	**+1.1**
PMG			pmax	pmax		
	comp=Z,24nm,1.0s					
PMG			MLR	MLR		
	comp=Z,566nm,18.0s					
PMG	**Port Moresby**	**41.04 140**	P	**P**	**03 24 35.8**	**+1.3**
	comp=Z,30nm,0.9s,mb4.9					
ZAA0	**Zalesovo Array**	**41.17 327**	*e*P	**P**	**03 24 34.4**	**-0.7**
ZALV	**Zalesovo Beam**	**41.17 327**	P	**P**	**03 24 34.5**	**-0.7**
	comp=Z,17nm,0.6s,mb4.8,baz=111,slow=8.1,SNR=73					
ZALV			PcP	PcP	03 26 32.4	-1.4
	comp=Z,4.2nm,0.8s,baz=105,slow=3.5,SNR=2.5					
ZALV			ScP	ScP	03 30 17.6	-3.7
	comp=Z,1.3nm,0.6s,baz=151,slow=3.4,SNR=3.8					
ZALV			LR	LR	03 42 52.0	
	comp=Z,1μm,20.1s,MS4.8,baz=127,slow=38					
ZALV	**Zalesovo Beam**	**41.17 327**	P	**P**	**03 24 34.5**	**-0.7**
ZALV			PcP	PcP	03 26 32.4	-1.4
ZALV			ScP	ScP	03 30 17.6	-3.7
ZALV	**Zalesovo Beam**	**41.17 327**	P	**P**	**03 24 34.5**	**-0.6**
ZALV					03 26 32.4	
FITZ	**Fitzroy Crossi**	**41.35 174**	*e*P	**P**	**03 24 34.7**	**-2.3**
	comp=Z,18nm,0.8s,mb4.8					
FITZ	**Fitzroy Crossi**	**41.35 174**	*e*P	**P**	**03 24 34.9**	**-2.1**
	comp=Z,10nm,0.8s,mb4.5					
FITZ	**Fitzroy Crossi**	**41.35 174**	P	**P**	**03 24 34.4**	**-2.6**
	comp=Z,18nm,1.0s,mb4.7					
KSH	**Kashi**	**41.67 304**	P	**P**	**03 24 43.9**	**+4.4**
KSH			pP	pP	03 24 48.6	-0.8
KSH			sP	sP	03 24 51.0	-2.4
KSH			PP	PP	03 26 24.8	+8.7
KSH			PcP	PcP	03 26 39.1	+3.2
KSH			ScP	ScP	03 30 28.9	+5.2
KSH			PcS	PcS	03 30 30.3	+3.1
KSH			S	**S**	**03 31 02.1**	**+8.1**
KSH			sS	sS	03 31 09.5	-0.8
KSH			SS	SS	03 34 02.0	+2.0
KSH			ScS	ScS	03 34 43.1	+2.8
KSH			pmax	pmax		
	comp=Z,15nm,1.3s,mb4.5					
KSH			pmax	pmax		
	comp=Z,120nm,4.4s					
KSH			LR	LR		
	comp=N,2μm,14.8s,MS5.3					
KSH			LR	LR		
	comp=E,2μm,16.7s,MS5.3					
KSH			LR	LR		
	comp=Z,3μm,16.4s,MS5.2					
NVS	**Novosibirsk**	**42.43 328⇓**	*i* P	**P**	**03 24 44.2**	**-1.2**
NVS			*e*		03 25 09.8	
NVS			*i* S	**S**	**03 31 01.5**	**-3.3**
NVS			pmax	pmax		
	comp=Z,50nm,1.5s,mb4.9					
NVS			pmax	pmax		
	comp=N,21nm,1.4s					
NVS			pmax	pmax		
	comp=E,25nm,1.4s					
NVS			pmax	pmax		
	comp=Z,56nm,2.2s,mb4.8					
NVS			pmax	pmax		
	comp=N,21nm,1.8s					
NVS			pmax	pmax		
	comp=E,28nm,1.8s					
NVS			smax			
	comp=N,21nm,2.3s					
NVS			smax			
	comp=E,52nm,2.3s					
TKM2	**Tokmak 2**	**42.58 309**	P	**P**	**03 24 49.6**	**+2.8**
	SNR=26					
TKM2	**Tokmak 2**	**42.58 309**	*e*P	**P**	**03 24 48.1**	**+1.2**
	comp=E,20nm,0.7s,mb5.0					
TKM2	**Tokmak 2**	**42.58 309**	P	**P**	**03 24 48.2**	**+1.3**
TKM2			pmax	pmax		
	comp=Z,31nm,1.1s,mb5.0					
COEN	**Coen**	**42.65 148**	*e*P	**P**	**03 24 47.6**	**0.0**
	comp=Z,494nm,1.0s,mb6.2					
COEN	**Coen**	**42.65 148**	P	**P**	**03 24 48.1**	**+0.5**
	comp=Z,78nm,1.1s,mb5.3					
COCO	**West Island**	**42.79 217**	*i* P	**P**	**03 24 50.9**	**+2.1**
KURK	**Kurchatov**	**42.99 321**	*e*P	**P**	**03 24 50.6**	**+0.6**
	comp=Z,23nm,0.8s,mb5.0					
KURK	**Kurchatov**	**42.99 321**	*e*P	**P**	**03 24 50.6**	**+0.6**
KURK			pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0					
KBK	**Karagaybulak**	**42.99 308**	P	**P**	**03 24 53.1**	**+2.9**
	SNR=12					
CHMS	**Chumysh**	**43.20 309**	P	**P**	**03 24 54.1**	**+2.2**
	SNR=9.4					
FRU	**Bishkek**	**43.27 308**	*e*P	**P**	**03 24 54.0**	**+1.6**
FRU			pmax	pmax		
	comp=Z,55nm,2.0s,mb4.9					
AAK	**Ala-Archa**	**43.32 308**	P	**P**	**03 24 54.4**	**+1.5**
	SNR=8.1					
AAK	**Ala-Archa**	**43.32 308**	*e*P	**P**	**03 24 54.6**	**+1.8**
	comp=Z,66nm,1.0s,mb5.3					
AAK	**Ala-Archa**	**43.32 308**	*d i* P	**P**	**03 24 55.0**	**+2.2**
AAK			pmax	pmax		
	comp=Z,16nm,0.7s,mb4.9					
AAK			MLR	MLR		
	comp=Z,5μm,15.0s,MS5.5					
AAK	**Ala-Archa**	**43.32 308**	P	**P**	**03 24 54.1**	**+1.3**
	comp=Z,66nm,1.6s,mb5.1					
AAK	**Ala-Archa**	**43.32 308**	P	**P**	**03 24 55.5**	**+2.7**
	comp=Z,56nm,0.7s,mb5.4,SNR=6.3					
AML	**Almayashu**	**43.81 307**	P	**P**	**03 24 59.1**	**+2.3**
	SNR=13					
EKS2	**Erkin-Say**	**43.84 308**	P	**P**	**03 24 58.9**	**+1.8**
	SNR=8.7					
EKS2	**Erkin-Say**	**43.84 308**	*e*P	**P**	**03 24 58.9**	**+1.8**
	comp=Z,9.2nm,0.8s,mb4.6					
EKS2	**Erkin-Say**	**43.84 308**	*e*P	**P**	**03 24 58.9**	**+1.8**
EKS2			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5					
MBWA	**Marble Bar**	**44.24 182**	*e*P	**P**	**03 24 58.5**	**-1.8**
MBWA	**Marble Bar**	**44.24 182**	*e*P	**P**	**03 24 58.5**	**-1.9**
	comp=Z,24nm,0.7s,mb5.0					
MBWA	**Marble Bar**	**44.24 182**	P	**P**	**03 24 58.1**	**-2.2**
	comp=Z,39nm,0.7s,mb5.2					
SEY	**Seymchan**	**44.68 19⇑**	*e*P	**P**	**03 25 05.9**	**+2.5**
WRAB	**Tennant Creek**	**44.75 163**	*e*P	**P**	**03 25 02.9**	**-1.6**
	comp=Z,55nm,0.9s,mb5.4					
WRAB	**Tennant Creek**	**44.75 163**	P	**P**	**03 25 03.0**	**-1.5**
	comp=Z,163nm,1.2s,mb5.7,SNR=12					
WRAB	**Tennant Creek**	**44.75 163**	*e*P	**P**	**03 25 02.9**	**-1.6**
WRAB			pmax	pmax		
	comp=Z,55nm,0.9s,mb5.4					
WRAB	**Tennant Creek**	**44.75 163**	P	**P**	**03 25 02.8**	**-1.7**
	comp=Z,50nm,1.1s,mb5.2					
WRA	**Warramunga Arr**	**44.76 163**	P	**P**	**03 25 02.9**	**-1.6**
	comp=Z,13nm,0.9s,mb4.8,baz=345,slow=8.6,SNR=69					
WRA			PcP	PcP	03 26 45.3	-1.1
	comp=Z,5.7nm,1.0s,baz=334,slow=4.5,SNR=3.9					
WRA			ScP	ScP	03 30 33.5	-2.8
	comp=Z,1.4nm,1.1s,baz=332,slow=3.8,SNR=4.0					
WRA	**Warramunga Arr**	**44.76 163**	P	**P**	**03 25 02.9**	**-1.6**
WRA			PcP	PcP	03 26 45.3	-1.1
WRA			ScP	ScP	03 30 33.5	-2.8
WRA	**Warramunga Arr**	**44.76 163**	P	**P**	**03 25 02.9**	**-1.6**
WRA					03 26 45.3	
WB2	**Warramunga Arr**	**44.76 163**	*e*P	**P**	**03 25 02.9**	**-1.6**
KK31	**Karatay Array**	**46.28 308**	*i* P	**P**	**03 25 17.5**	**+1.1**
KK31			pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7					
KKAR	**Karatay Array**	**46.28 308**	*e*P	**P**	**03 25 16.9**	**+0.4**
	comp=Z,7.4nm,0.6s,mb4.8					
KKAR	**Karatay Array**	**46.28 308**	*e*P	**P**	**03 25 16.9**	**+0.5**
KKAR			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8					
KBL	**Kabul**	**46.86 296**	*e*P	**P**	**03 25 23.3**	**+2.2**
	comp=Z,66nm,1.1s,mb5.5					
KBL	**Kabul**	**46.86 296**	*e*P	**P**	**03 25 23.3**	**+2.2**
KBL			pmax	pmax		
	comp=Z,66nm,1.1s,mb5.5					
AS31	**Alice Springs**	**48.21 165**	*e*P	**P**	**03 25 30.9**	**-0.6**
ASAR	**Alice Springs**	**48.21 165**	P	**P**	**03 25 30.6**	**-0.9**
	comp=Z,12nm,1.0s,mb4.9,baz=344,slow=6.1,SNR=60					
ASAR			PcP	PcP	03 26 58.7	+0.2
	comp=Z,5.0nm,0.8s,baz=339,slow=3.5,SNR=3.4					
ASAR			ScP	ScP	03 30 48.2	-2.4
	comp=Z,1.2nm,0.9s,baz=349,slow=4.6,SNR=4.5					
ASAR	**Alice Springs**	**48.21 165**	P	**P**	**03 25 30.6**	**-0.9**
ASAR			PcP	PcP	03 26 58.7	+0.2
ASAR			ScP	ScP	03 30 48.2	-2.4
ASAR	**Alice Springs**	**48.21 165**	P	**P**	**03 25 30.7**	**-0.8**
ASAR					03 26 58.7	
BVA0	**Borovoye Array**	**48.57 321**	*i* P	**P**	**03 25 33.7**	**-0.4**
BVA0			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3					
BRVK	**Borovoye**	**48.64 321**	P	**P**	**03 25 35.4**	**+0.8**
	comp=Z,130nm,0.9s,mb6.0,SNR=13					
BRVK	**Borovoye**	**48.64 321**	*c i* P	**P**	**03 25 34.8**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2					
BRVK			MLR	MLR		
	comp=Z,676nm,15.0s,MS4.8					
BRVK	**Borovoye**	**48.64 321**	P	**P**	**03 25 35.3**	**+0.7**
	SNR=10					
CTA	**Charters Tower**	**49.40 149**	P	**P**	**03 25 42.7**	**+1.9**
	comp=Z,13nm,0.8s,mb5.0,baz=332,slow=9.6,SNR=19					
CTA			LR	LR	03 45 06.7	
	comp=Z,720nm,19.9s,MS4.7,baz=331,slow=34					
CTA	**Charters Tower**	**49.40 149**	*e*P	**P**	**03 25 42.6**	**+1.8**
	comp=Z,10nm,0.8s,mb4.9					
CTA	**Charters Tower**	**49.40 149**	P	**P**	**03

NWAO Narrogin (SRO) 56.08 184 P **P** **03 26 28.8 -1.1**
SOKR Solikamsk 57.45 327 *d iP* **P** **03 26 39.5 +0.1**
SOKR pmax pmax
comp=Z,30nm,1.4s,mb5.1
SOKR MLR MLR
comp=Z,2μm,18.0s,MS5.2
BBOO Buckleboo 57.49 166 *eP* **P** **03 26 39.2 -0.8**
comp=Z,263nm,0.8s,mb6.3
STKA Stephens Creek 58.12 160 P **P** **03 26 43.9 -0.5**
comp=Z,22nm,0.7s,mb5.3,baz=335,slow=7.6,SNR=48
STKA PcP PcP 03 27 35.1 -0.7
comp=Z,9.4nm,0.8s,baz=337,slow=13,SNR=2.8
STKA LR LR 03 52 06.3
comp=Z,336nm,20.3s,MS4.5,baz=8.9,slow=36
STKA Stephens Creek 58.12 160 *eP* **P** **03 26 43.9 -0.5**
comp=Z,22nm,0.8s,mb5.2
STKA Stephens Creek 58.12 160 *eP* **P** **03 26 44.0 -0.4**
comp=Z,4.4nm,0.8s,mb4.5
STKA PcP PcP 03 27 35.1 -0.7
STKA Stephens Creek 58.12 160 *eP* **P** **03 26 44.0 -0.4**
STKA 03 27 35.1
STKA pmax pmax
comp=Z,4.0nm,0.8s
ARMA Armidale 60.72 150 *eP* **P** **03 27 03.1 +0.7**
TNA Tin City 60.96 27 *eP* **P** **03 27 04.3 +0.8**
comp=Z,8.9nm,0.7s,mb5.0
ARPS Mount Arapiles 62.74 162 *eP* **P** **03 27 15.2 -0.7**
comp=Z,83nm,0.8s,mb5.9
MAK Makhachkala 63.10 308 *eP* **P** **03 27 16.3 -2.0**
MAK *e* 03 28 00.2
MAK *e* 03 29 33.7
MAK *e*PPP 03 31 19.3
MAK *e*S **S** **03 35 43.9 -3.1**
MAK *e*SS SS 03 39 53.3 +0.4
MAK pmax pmax
comp=Z,17nm,0.4s,mb5.5
MAK MLR MLR
comp=Z,1μm,15.0s,MS5.2
CNB Canberra Magne 63.98 155 *eP* **P** **03 27 24.7 +0.6**
comp=Z,90nm,0.9s,mb5.8
TOO Toolangi 64.61 159 *eP* **P** **03 27 28.8 +0.7**
comp=Z,120nm,1.1s,mb5.8
DGRG David-gareji 64.89 306 P **P** **03 27 30.3 +0.2**
MTA Mtatsminda 65.28 307 P **P** **03 27 33.3 +0.6**
TBLG Delisi 65.31 307 P **P** **03 27 34.0 +1.1**
TBLG Delisi 65.31 307 P **P** **03 27 34.0 +1.2**
GNI Garni 65.59 305 *eP* **P** **03 27 36.5 +1.8**
comp=Z,23nm,0.9s,mb5.2
GNI Garni 65.59 305 *c iP* **P** **03 27 36.0 +1.3**
GNI pmax pmax
comp=Z,22nm,1.2s
GNI MLR MLR
comp=Z,611nm,20.0s
GNI Garni 65.59 305 P **P** **03 27 36.9 +2.2**
SNR=9.6
MIB Mutribah 65.69 293 *eP* **P** **03 27 34.4 -1.2**
MIB AMb AMB 03 27 37.0
comp=Z,35nm,0.9s,mb5.4
RDF Al-Radifah 65.72 292 *eP* **P** **03 27 33.9 -1.9**
RDF AMb AMB 03 27 37.3
comp=Z,62nm,1.1s,mb5.5
GOR Gori 65.73 307 P pP 03 27 47.0 +1.1
ZEI Tsey 65.75 308 *eP* **P** **03 27 35.3 -0.4**
ZEI pmax pmax
comp=Z,20nm,1.4s,mb5.0
NAY Al-Naaiem 65.90 293 *eP* **P** **03 27 35.6 -1.3**
NAY AMb AMB 03 27 38.2
comp=Z,21nm,1.0s,mb5.1
TTA Tatalina 66.08 30 *eP* **P** **03 27 38.9 +1.5**
comp=Z,30nm,0.9s,mb5.3
TTA Tatalina 66.08 30 *eP* **P** **03 27 38.9 +1.4**
TTA pmax pmax
comp=Z,30nm,0.9s,mb5.3
ONI Oni 66.10 308 P **P** **03 27 38.4 +0.4**
AKH Akhalkalaki 66.29 307 P **P** **03 27 40.7 +1.5**
KIV Kislovodsk 66.41 309 *eP* **P** **03 27 40.2 +0.3**
KIV *e* 03 28 10.1
KIV *e*S S 03 36 29.1 +1.3
KIV *e*SS SS 03 40 49.9 +5.4
KIV pmax pmax
comp=Z,33nm,1.0s,mb5.3
KIV pmax pmax
comp=Z,62nm,4.7s
KIV MLR MLR
comp=Z,741nm,17.0s,MS5.0
KIV Kislovodsk 66.41 309 P **P** **03 27 41.0 +1.0**
SNR=12
HAKT HAKKARI 66.89 302 *i* P **P** **03 27 42.1 -1.0**
TUTA Tutak 67.19 304 *i* P **P** **03 27 46.3 +1.3**
LVZ Lovozero 67.49 336 *i* P **P** **03 27 45.8 -0.5**
LVZ pmax pmax
comp=Z,39nm,1.3s,mb5.3
LVZ MLR MLR
comp=Z,819nm,16.0s,MS5.0
DAGI Agillar 67.52 306 *i* P **P** **03 27 51.8 +4.8**
VSR Storozhevoye 67.52 318 *eP* **P** **03 27 45.7 -1.1**
VSR pmax pmax
comp=Z,30nm,0.7s,mb5.4
VSR pmax pmax
comp=N,20nm,1.4s
VSR pmax pmax
comp=E,30nm,0.9s
MOS Moscow 67.71 323 *eP* **P** **03 27 46.5 -1.4**
MOS *e* 03 28 15.3
MOS *e*PPP 03 31 52.5
MOS *e*S S 03 36 42.0 -1.0
MOS pmax pmax
comp=Z,57nm,0.7s,mb5.7
MOS pmax pmax
comp=Z,50nm,0.7s,mb5.7
MOS MLR MLR
comp=Z,900nm,16.0s,MS5.1
HOMI Horasan 67.74 305 *i* P **P** **03 27 49.6 +1.1**
PPLA Purkeypile 67.83 30 *eP* **P** **03 27 49.6 +1.0**
comp=Z,125nm,1.4s,mb5.8
RSO Redoubt South 67.91 32 *eP* **P** **03 27 50.4 +1.3**
comp=Z,47nm,0.9s,mb5.5
APA Apatity 68.00 336 ⇑ *iP* **P** **03 27 49.0 -0.5**
APA pmax pmax
comp=Z,30nm,0.8s,mb5.4
APA MLR MLR
comp=Z,2μm,14.0s,MS5.5
BPAW Bear Paw Mtn. 68.19 28 *eP* **P** **03 27 51.9 +1.0**
comp=Z,30nm,0.9s,mb5.3
OBN Obninsk 68.40 322 *c iP* **P** **03 27 51.3 -1.0**
OBN *e* 03 28 15.5
OBN *e* 03 30 21.4
OBN *e*S S 03 36 51.9 +0.6
OBN pmax pmax
comp=Z,89nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,600nm,21.0s,MS4.8
KDAK Kodiak Island 68.41 35 P **P** **03 27 52.2 -0.1**
comp=Z,251nm,0.8s,mb6.3,SNR=8.5
KDAK Kodiak Island 68.41 35 *i* P **P** **03 27 52.4 +0.1**
SOC Sochi 68.59 309 *eP* **P** **03 27 53.0 -0.7**
SOC *e*PPP 03 32 02.3
SOC *e*S S 03 36 53.2 -0.8
SOC *e**SS sS 03 37 14.0 +2.8
SOC pmax pmax
comp=Z,15nm,0.7s,mb5.0
SOC MLR MLR
comp=Z,1μm,18.0s,MS5.2
TRF Thorofare Moun 68.60 29 *eP* **P** **03 27 54.9 +1.5**
comp=Z,20nm,0.8s,mb5.1
KOPT Kop Dagi 68.80 306 *i* P **P** **03 27 56.1 +1.0**
MCK McKinley 69.15 28 *eP* **P** **03 27 57.4 +0.6**
comp=Z,32nm,1.0s,mb5.2
MCK McKinley 69.15 28 *eP* **P** **03 27 57.4 +0.6**
MCK pmax pmax
comp=Z,32nm,1.0s,mb5.2
MARD Mardin 69.22 303 *i* P **P** **03 27 57.5 -0.2**
COLA College 69.40 27 *eP* **P** **03 27 58.6 +0.3**
comp=Z,15nm,0.8s,mb5.0
COLA College 69.40 27 *eP* **P** **03 27 58.6 +0.3**
COLA pmax pmax
comp=Z,15nm,0.8s,mb5.0
SEW Seward 69.59 32 *eP* **P** **03 28 00.4 +0.8**
comp=Z,31nm,0.9s,mb5.2
JOF Joensuu 69.64 331 *eP* **P** **03 27 59.7 -0.1**
JOF pmax pmax
comp=Z,44nm,0.7s,mb5.5
JOF Joensuu 69.64 331 *ep* **P** **03 27 59.7 -0.1**
comp=Z,44nm,0.7s,mb5.5
ILAR Eielson Array 69.82 27 P **P** **03 28 00.2 -0.7**
comp=Z,2.8nm,0.7s,mb4.3,baz=268,slow=4.9,SNR=42
ILAR LR LR 04 00 40.5
comp=Z,414nm,18.0s,MS4.7,baz=136,slow=38
ILAR Eielson Array 69.82 27 P **P** **03 28 00.2 -0.7**
ILAR Eielson Array 69.82 27 P **P** **03 28 00.3 -0.6**
KEV Kevo 69.92 338 *eP* **P** **03 28 00.8 -0.6**
KEV pmax pmax
comp=Z,17nm,0.7s,mb5.1
KEV Kevo 69.92 338 *ep* **P** **03 28 00.8 -0.6**
comp=Z,17nm,0.7s,mb5.1
ANN Anapa 69.93 311 *eP* **P** **03 28 01.1 -0.9**
ANN *e*PPP 03 32 21.0
ANN *e*S S 03 37 08.5 -1.2
ANN pmax pmax
comp=Z,127nm,1.6s,mb5.6
ANN MLR MLR
comp=Z,671nm,18.0s,MS4.9
ARCES ARCESS Array B 70.48 338 P **P** **03 28 04.5 -0.4**
comp=Z,9.4nm,0.7s,mb4.8,baz=70,slow=9.5,SNR=20
ARCES LR LR 04 03 44.8
comp=Z,497nm,19.0s,MS4.8,baz=306,slow=40
ARCES ARCESS Array B 70.48 338 P **P** **03 28 04.5 -0.4**
ARCES ARCESS Array B 70.48 338 P **P** **03 28 04.5 -0.4**
PAX Paxson 70.83 29 *eP* **P** **03 28 06.7 -0.5**
comp=Z,13nm,0.8s,mb4.9
PAX Paxson 70.83 29 *eP* **P** **03 28 06.7 -0.4**
PAX pmax pmax
comp=Z,13nm,0.8s,mb4.9
DIV Divide 71.14 31 *eP* **P** **03 28 09.4 +0.4**
comp=Z,33nm,1.0s,mb5.2
AKCD Akcadag 71.16 304 *i* P **P** **03 28 10.2 +0.5**
KAF Kangasniemi 72.08 331 *eP* **P** **03 28 13.8 -0.9**
KAF pmax pmax
comp=Z,24nm,0.6s,mb5.3
KAF Kangasniemi 72.08 331 *ep* **P** **03 28 13.8 -0.9**
comp=Z,24nm,0.6s,mb5.3
SIM Simferopol' 72.18 312 *ceP* **P** **03 28 15.3 -0.3**
SIM pmax pmax
comp=Z,35nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,700nm,18.0s,MS5.0
EGAK Eagle 72.20 27 *eP* **P** **03 28 15.1 -0.3**
comp=Z,22nm,0.9s,mb5.1
FINES FINESS Array B 72.38 330 P **P** **03 28 15.7 -0.7**
comp=Z,42nm,0.7s,mb5.5,baz=62,slow=5.9,SNR=114
FINES LR LR 04 03 00.1
comp=Z,1μm,18.5s,MS5.2,baz=78,slow=38
FINES FINESS Array B 72.38 330 P **P** **03 28 15.7 -0.7**
FINES FINESS Array B 72.38 330 P **P** **03 28 15.7 -0.8**
ANDN Andirin 72.56 304 *i* P **P** **03 28 17.8 -0.3**
CTKT Corum 72.87 307 *i* P **P** **03 28 18.6 -1.2**
DAWY Dawson 73.15 27 *eP* **P** **03 28 21.1 +0.1**
AVNT Avonos 73.34 305 *i* P **P** **03 28 22.6 -0.1**
MICGM Minsk 73.44 323 *eP* **P** **03 28 20.0 -2.9**
MNK Minsk 73.46 323 *eP* **P** **03 28 20.0 -3.0**
ILGA Ilgaz 73.53 308 *i* P **P** **03 28 23.0 -0.8**
BALT Daday 73.63 309 *i* P **P** **03 28 23.6 -0.7**
AKASG Malin Array Be 73.76 319 P **P** **03 28 23.6 -1.2**
comp=Z,12nm,0.8s,mb4.9,baz=60,slow=6.1,SNR=29
AKASG Malin Array Be 73.76 319 P **P** **03 28 23.6 -1.2**
AKASG Malin Array Be 73.76 319 P **P** **03 28 23.6 -1.2**
AKBB Malin Array Si 73.76 319 *eP* **P** **03 28 23.6 -1.2**
AKBB Malin Array Si 73.76 319 *eP* **P** **03 28 23.6 -1.2**
KIEV Kiev 73.77 319 *eP* **P** **03 28 23.4 -1.5**
comp=Z,10nm,0.8s,mb4.8
KIEV Kiev 73.77 319 *eP* **P** **03 28 23.4 -1.5**
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GULE Gulek 73.84 304 *i* P **P** **03 28 25.8 +0.2**
INK Inuvik 73.90 22 *eP* **P** **03 28 24.7 -0.6**
comp=Z,24nm,1.0s,mb5.1
INK Inuvik 73.90 22 *eP* **P** **03 28 24.7 -0.6**
INK pmax pmax
comp=Z,24nm,1.0s
NACGM Naroch 73.93 323 *eP* **P** **03 28 23.0 -2.7**
IZAR Zarasai 73.96 324 *eP* **P** **03 28 25.4 -0.5**
IZAR AMB AMB 03 28 27.3
comp=Z,32nm,0.8s,mb5.3
BR131 Keskin Array S 73.97 307 *eP* **P** **03 28 26.5 +0.2**
comp=Z,12nm,0.8s,mb4.9
BRTR Keskin Array B 73.97 307 P **P** **03 28 26.4 +0.1**
comp=Z,12nm,0.9s,mb4.8,baz=101,slow=5.6,SNR=52
BRTR LR LR 04 08 52.3
comp=Z,190nm,18.0s,MS4.4,baz=203,slow=42
BRTR Keskin Array B 73.97 307 P **P** **03 28 26.4 +0.1**
BRTR Keskin Array B 73.97 307 *ceP* **P** **03 28 26.6 +0.3**
BRTR pmax pmax
comp=Z,12nm,0.9s
ISAL Salakas 74.08 324 *eP* **P** **03 28 26.1 -0.5**
ISAL AMB AMB 03 28 28.0
comp=Z,20nm,0.9s,mb5.0
IIGN Ignalina 74.09 324 *eP* **P** **03 28 26.2 -0.5**
IIGN AMB AMB 03 28 27.3
comp=Z,19nm,0.8s,mb5.1
KIS Kishinev 75.13 315 *eP* **P** **03 28 32.0 -0.9**
KIS *e*S S 03 38 10.0 +0.9
KIS LRM 04 05 57.0
comp=Z,700nm,20.0s
KIS Kishinev 75.13 315 *eP* **P** **03 28 32.0 -0.9**
KIS *e* 03 28 51.0
KIS *e* 03 31 22.0
KIS *e*S S 03 38 10.0 +0.9
KIS *e* 03 38 37.0
KIS MLR MLR
comp=Z,900nm,20.0s,MS5.1
KDHN Kadinhani 75.47 306 *i* P **P** **03 28 34.1 -0.9**
LEOM Leova 75.67 315 ⇑ P **P** **03 28 35.9 -0.1**
LEOM Leova 75.67 315 ⇑ *iP* **P** **03 28 35.9 -0.1**
TLCR 75.70 313 ⇑ P **P** **03 28 36.3 +0.1**
TLCR 75.70 313 ⇑ *iP* **P** **03 28 36.3 +0.1**
SUW Suwalki 76.20 323 *eP* **P** **03 28 38.2 -0.7**
comp=Z,200nm,1.0s,mb6.0
SUW *e*pP pP 03 28 42.9 -6.5
SUW *e*S S 03 38 30.0 +9.4
SUW LMZ 04 04 53.0
comp=Z,1μm,20.5s
SUW Suwalki 76.20 323 *eP* **P** **03 28 38.2 -0.7**
SUW pmax pmax
comp=Z,200nm,0.0s
BORA Eskisehir 76.26 308 *i* P **P** **03 28 38.4 -1.1**
TESR 76.70 315 ⇓ *iP* **P** **03 28 41.8 0.0**
VRI Vrincioaia 76.86 314 ⇓ P **P** **03 28 43.1 +0.3**
VRI Vrincioaia 76.86 314 ⇓ *iP* **P** **03 28 43.1 +0.3**
VRI Vrincioaia 76.86 314 ⇓ *iP* **P** **03 28 43.1 +0.3**
PLOR Plostina 76.92 314 ⇑ P **P** **03 28 43.8 +0.7**
PLOR Plostina 76.92 314 ⇑ *iP* **P** **03 28 43.8 +0.7**
PLOR Plostina 76.92 314 ⇑ *iP* **P** **03 28 43.8 +0.7**
LVV L'vov 77.19 319 *eP* **P** **03 28 44.4 -0.2**
BUR08 Bucovina Ar. S 77.24 316 *eP* **P** **03 28 44.7 -0.2**
BURAR Bucovina Array 77.24 316 ⇓ P **P** **03 28 45.1 +0.2**
BURAR Bucovina Array 77.24 316 ⇓ *iP* **P** **03 28 45.1 +0.2**
BURAR Bucovina Array 77.24 316 ⇓ *iP* **P** **03 28 45.1 +0.2**
PRD Provadia 77.32 312 *eP* **P** **03 28 45.5 +0.1**
PRD Provadia 77.32 312 *eP* **P** **03 28 45.5 +0.1**
SIT Sitka 77.55 33 *eP* **P** **03 28 47.6 +1.2**
SIT Sitka 77.55 33 *eP* **P** **03 28 47.6 +1.2**
DOPR Dopca 77.71 315 ⇓ *iP* **P** **03 28 48.1 +0.6**
KWP Kalwaria Pacla 78.06 319 *eP* **P** **03 28 48.7 -0.7**
KWP *e*pP pP 03 28 53.1 -6.9
KWP *e*S S 03 38 40.9 -0.2
KWP LMZ 04 08 41.0
comp=Z,800nm,17.3s
KWP Kalwaria Pacla 78.06 319 *eP* **P** **03 28 48.7 -0.7**
KWP *e**PP pP 03 28 53.1 -6.9
KWP *e*S S 03 38 40.9 -0.1
KWP Kalwaria Pacla 78.06 319 ⇓ *iP* **P** **03 28 49.0 -0.4**
BMR Baia Mare 78.30 317 ⇑ P **P** **03 28 51.6 +0.8**
BMR Baia Mare 78.30 317 ⇑ *iP* **P** **03 28 51.6 +0.8**
BEL Belsk 78.35 322 *eP* **P** **03 28 51.0 0.0**
comp=Z,300nm,2.4s,mb5.8
BEL *e*pP pP 03 28 55.3 -6.2
BEL LMZ 04 06 21.1
comp=Z,1μm,18.3s
BEL Belsk 78.35 322 *eP* **P** **03 28 51.0 0.0**
BEL *e**PP pP 03 28 55.3 -6.2
BEL pmax pmax
comp=Z,300nm,2.4s,mb5.8
BEL MLR MLR
comp=Z,1μm,18.3s,MS5.2
KOLS Kolonicke sedl 78.59 318 *eP* **P** **03 28 52.0 -0.3**
KOLS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KOLS Kolonicke sedl 78.59 318 *eP* **P** **03 28 52.0 -0.3**
UZH Uzhgorod 78.69 318 *eP* **P** **03 28 49.9 -3.0**
UZH *e* 03 29 05.0
UZH *i* 03 29 20.3
TRPA Tarpa 78.73 318 ⇑ *iP* **P** **03 28 53.3 +0.2**
LOT Lotru 78.95 315 ⇑ *iP* **P** **03 28 54.3 -0.1**
DIM Dimitrovgrad 79.02 311 *eP* **P** **03 28 54.4 -0.4**
STHS Stebnicka Huta 79.03 319 *eP* **P** **03 28 55.3 +0.6**
STHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
STHS Stebnicka Huta 79.03 319 *eP* **P** **03 28 55.3 +0.6**
CRVS Cervenica-Dubn 79.09 319 *eP* **P** **03 28 55.0 -0.1**
CRVS pmax pmax
comp=Z,21nm,1.6s,mb4.8
CRVS Cervenica-Dubn 79.09 319 *eP* **P** **03 28 55.0 -0.1**
DRGR 79.13 316 P **P** **03 28 55.6 +0.2**
DRGR 79.13 316 ⇑ *iP* **P** **03 28 55.3 -0.1**
NB2 NORSAR Subarra 79.16 332 P **P** **03 28 54.0 -1.2**
comp=Z,28nm,0.7s,mb5.3,baz=59,slow=5.6
NOA NORSAR Array B 79.16 332 P **P** **03 28 53.8 -1.4**
comp=Z,28nm,0.7s,mb5.3,baz=59,slow=5.6,SNR=111
NOA LR LR 04 06 54.7
comp=Z,1μm,19.2s,MS5.2,baz=55,slow=38
NOA NORSAR Array B 79.16 332 P **P** **03 28 53.8 -1.4**
NOA NORSAR Array B 79.16 332 P **P** **03 28 53.8 -1.4**
RDO Rodhopi 79.34 310 *eP* **P** **03 28 55.8 -0.8**
NAO01 NORSAR Array S 79.39 332 *eP* **P** **03 28 55.4 -1.1**
comp=Z,10nm,0.6s,mb4.9
RES Resolute Bay 79.46 9 *eP* **P** **03 28 55.5 -1.2**
comp=Z,6.3nm,0.8s,mb4.6
RES Resolute Bay 79.46 9 *eP* **P** **03 28 55.5 -1.2**
RES pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
DLBC Dease Lake 79.51 31 *eP* **P** **03 28 58.3 +1.1**
OJC Ojcow 79.57 320 *eP* **P** **03 28 57.4 -0.3**
OJC Ojcow 79.57 320 *eP* **P** **03 28 57.4 -0.3**
NIE Niedzica 79.58 319 *eP* **P** **03 28 58.2 +0.4**
NIE Niedzica 79.58 319 *eP* **P** **03 28 58.2 +0.4**
RZN Rozhen 79.72 311 *eP* **P** **03 28 58.5 -0.2**
GKP Gorka Klasztor 79.75 324 *eP* **P** **03 28 58.3 -0.3**
GKP *e*S S 03 39 02.0 +3.1
GKP LMZ 04 07 36.9
comp=Z,1μm,18.5s
GKP Gorka Klasztor 79.75 324 *eP* **P** **03 28 58.3 -0.3**
GKP *e*S S 03 39 02.0 +3.1
GKP MLR MLR
comp=Z,1μm,18.5s,MS5.2
PGB Panagyurishte 79.77 312 *eP* **P** **03 28 59.2 +0.3**
KECS Kecovo 79.86 318 *eP* **P** **03 28 59.2 -0.1**
KECS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KECS Kecovo 79.86 318 *eP* **P** **03 28 59.2 -0.1**
KECS *e*PP PP 03 32 08.5 +8.0
BZS Buzias 80.28 315 ⇑ P **P** **03 29 00.8 -0.9**
BZS Buzias 80.28 315 ⇑ *iP* **P** **03 29 00.8 -0.9**
URZ Urewera 80.39 139 P **P** **03 29 02.1 -0.1**
comp=Z,7.1nm,0.6s,mb4.8,baz=270,slow=7.0,SNR=3.7
URZ Urewera 80.39 139 P **P** **03 29 02.1 -0.1**
VTS Vitosha 80.41 312 ⇓ P **P** **03 29 03.1 +0.7**
VTS Vitosha 80.41 312 *eP* **P** **03 29 02.6 +0.2**
VTS Vitosha 80.41 312 ⇓ *iP* **P** **03 29 03.1 +0.7**
NVR Nevrokopi 80.44 311 *eP* **P** **03 29 01.6 -1.0**
PSZ Piszkesteto 80.44 318 ⇓ P **P** **03 29 02.8 +0.3**
PSZ Piszkesteto 80.44 318 ⇑ *eP* **P** **03 29 02.3 -0.2**
PSZ Piszkesteto 80.44 318 ⇓ *iP* **P** **03 29 02.8 +0.3**
LIKS Likavka 80.46 319 *eP* **P** **03 29 03.3 +0.8**
LIKS pmax pmax
comp=Z,28nm,0.8s,mb5.2
LIKS Likavka 80.46 319 *eP* **P** **03 29 03.3 +0.8**
OKC Ostrava-Krasne 80.70 320 *eP* **P** **03 29 03.8 0.0**
OKC MLR MLR
comp=Z,600nm,14.8s,MS5.1
OKC Ostrava-Krasne 80.70 320 *eP* **P** **03 29 03.8 0.0**
OKC *e*pP pP 03 29 10.3 -4.1
OKC AMS AMS 04 10 00.0
comp=Z,600nm,14.8s
KKB Krupnik 80.78 312 *eP* **P** **03 29 03.8 -0.6**
MORC Moravsky Berou 81.08 320 *eP* **P** **03 29 05.5 -0.4**
comp=Z,14nm,1.0s,mb4.8
MORC Moravsky Berou 81.08 320 *eP* **P** **03 29 05.5 -0.3**
MORC pmax pmax
comp=Z,14nm,1.0s,mb4.8
MORC Moravsky Berou 81.08 320 ⇓ *iP* **P** **03 29 05.2 -0.6**
KOLL Kolacno 81.08 319 *eP* **P** **03 29 06.2 +0.4**
KOLL Kolacno 81.08 319 *eP* **P** **03 29 06.2 +0.4**
PLG Polygyros 81.11 310 *eP* **P** **03 29 04.8 -1.4**
BUD Budapest 81.16 318 ⇑ *eP* **P** **03 29 06.0 -0.3**
KSP Ksiaz 81.33 322 *eP* **P** **03 29 07.0 -0.1**
comp=Z,200nm,4.9s
KSP *e*S S 03 39 18.3 +2.7
KSP LMZ 04 09 05.9
comp=Z,600nm,19.5s
KSP Ksiaz 81.33 322 *eP* **P** **03 29 07.1 0.0**
KSP *e*pP pP 03 29 15.8 -1.9
KSP LM 04 09 12.0
comp=Z,1.2nm,19.5s
VAY Valandovo 81.34 311 *i* P **P** **03 29 06.1 -1.3**
NPS Neapolis 81.49 305 *eP* **P** **03 29 08.7 +0.4**
DPC Dobruska-Polom 81.53 321 *eP* **P** **03 29 07.8 -0.4**
DPC MLR MLR
comp=Z,1μm,17.4s,MS5.2
DPC Dobruska-Polom 81.53 321 *eP* **P** **03 29 07.8 -0.4**
DPC *e*PCP PcP 03 29 13.3 -0.8
DPC *e*pP pP 03 29 18.1 -0.7
DPC AMS AMS 04 08 20.0
comp=Z,1μm,17.4s
UPC Upice 81.64 322 *eP* **P** **03 29 08.9 +0.1**
UPC Upice 81.64 322 *eP* **P** **03 29 08.9 +0.1**
UPC *e*PCP PcP 03 29 14.2 -0.4
SMOL Smolenice 81.69 319 *eP* **P** **03 29 09.6 +0.5**
SMOL Smolenice 81.69 319 *eP* **P** **03 29 09.6 +0.5**
VRAC Vranov 81.84 320 ⇓ P **P** **03 29 10.5 +0.7**
VRAC Vranov 81.84 320 ⇓ *iP* **P** **03 29 10.5 +0.7**
SKO Skopje 81.86 312 *i* P **P** **03 29 09.9 -0.2**
PKSM Moragy 81.94 317 ⇓ P **P** **03 29 10.3 -0.1**
PKSM Moragy 81.94 317 ⇓ *iP* **P** **03 29 10.3 -0.1**
ZST Bratislava 82.02 319 *eP* **P** **03 29 11.1 +0.3**
ZST pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZST Bratislava 82.02 319 *eP* **P** **03 29 11.1 +0.3**
LKR Lokris 82.10 309 *eP* **P** **03 29 09.4 -2.0**
KRUS Krusevo 82.24 312 *i* P **P** **03 29 10.0 -2.1**
KZN Kozani 82.31 310 *eP* **P** **03 29 10.0 -2.5**
BIA Bitola 82.33 311 *i* P **P** **03 29 11.0 -1.6**
MUD Monsted U'grnd 82.37 329 *i* P **P** **03 29 10.7 -1.8**
MUD pmax pmax
comp=Z,23nm,1.0s,mb5.1
MUD MLR MLR
comp=Z,1μm,16.0s,MS5.4
MUD Monsted U'grnd 82.37 329 *i* P **P** **03 29 10.7 -1.8**
comp=Z,23nm,1.0s,mb5.1
MUD
comp=Z,1μm,16.0s
THL Klokotos Trika 82.44 310 *eP* **P** **03 29 10.5 -2.7**
PVCC Panska Ves 82.45 322 *eP* **P** **03 29 13.0 0.0**
PVCC MLR MLR
comp=Z,700nm,11.5s,MS5.3
PVCC Panska Ves 82.45 322 *eP* **P** **03 29 13.0 0.0**
PVCC AMS AMS 04 10 40.0
comp=Z,700nm,11.5s
TREC Trest 82.49 321 *eP* **P** **03 29 13.1 -0.2**
TREC MLR MLR
comp=Z,600nm,18.1s,MS5.0
TREC Trest 82.49 321 *eP* **P** **03 29 13.1 -0.2**
TREC AMS AMS 04 08 40.0
comp=Z,600nm,18.1s
VAM Vamos 82.50 305 *eP* **P** **03 29 10.5 -3.1**
SOP Sopron 82.58 319 ⇑ *eP* **P** **03 29 13.4 -0.4**
BRG Berggiesshubel 82.64 322 *i* P **P** **03 29 13.4 -0.6**
comp=Z,14nm,0.8s,mb5.0
BRG
comp=N,692nm,15.8s
BRG
comp=E,898nm,16.0s
BRG
comp=Z,1μm,16.4s
BRG Berggiesshubel 82.64 322 *eP* **P** **03 29 13.5 -0.5**
comp=Z,14nm,0.8s,mb5.0
BRG Berggiesshubel 82.64 322 *i* P **P** **03 29 13.4 -0.6**
BRG pmax pmax
comp=Z,14nm,0.8s,mb5.0
BRG MLR MLR
comp=N,692nm,15.8s,MS5.3
BRG MLR MLR
comp=E,898nm,16.0s,MS5.3

BRG MLR MLR
comp=Z,1μm,16.4s,MS5.3
CONA Conrad Observa 82.89 319⇑ *i*P P 03 29 15.4 +0.1
comp=Z,23nm,1.3s,mb5.0
CLL Collm 82.96 323 *e*P **P 03 29 14.8 -0.9**
comp=Z,32nm,0.9s,mb5.3
CLL Collm 82.96 323⇑ *i*P **P 03 29 15.0 -0.7**
CLL pmax pmax
comp=Z,32nm,0.9s,mb5.3
CLL MLR MLR
comp=Z,1μm,19.0s,MS5.2
CLL Collm 82.96 323⇑ *i*P **P 03 29 15.0 -0.7**
comp=Z,32nm,0.9s,mb5.3
CLL *e*pP pP 03 29 24.0 -2.3
CLL *e*PP PP 03 32 28.0 +2.0
CLL *e*SS SS 03 45 18.0 +23
CLL *e* 03 49 54.0
CLL Lm 04 10 00.0
comp=N,400nm,18.1s
CLL Lm 04 10 00.0
comp=E,600nm,19.0s
CLL Lm 04 10 00.0
comp=Z,1μm,19.0s
BSEG Bad Segeberg 83.09 326 *e*P **P 03 29 15.9 -0.4**
comp=Z,41nm,1.1s,mb5.4
BSEG Bad Segeberg 83.09 326 *e*P **P 03 29 15.9 -0.4**
BSEG pmax pmax
comp=Z,41nm,1.1s,mb5.4
ARSA Arzberg 83.40 319⇑ *i*P **P 03 29 17.6 -0.4**
comp=Z,8.8nm,0.8s,mb4.8
SUMG Summit 83.40 354 *e*P **P 03 29 17.1 -0.5**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 83.40 354 *i* P **P 03 29 17.1 -0.5**
comp=Z,8.5nm,0.9s,mb4.8
ITM Ithomi 83.47 308 *e*P **P 03 29 16.7 -1.9**
YKA Yellowknife Ar 83.63 23 P **P 03 29 18.2 -0.7**
comp=Z,5.2nm,0.7s,mb4.8,baz=311,slow=4.9,SNR=18
YKA LR LR 04 12 22.5
comp=Z,24nm,18.6s,MS3.6,baz=140,slow=40
YKA Yellowknife Ar 83.63 23 P **P 03 29 18.2 -0.7**
YKA Yellowknife Ar 83.63 23 P **P 03 29 18.3 -0.6**
KHC Kasperske Hory 83.67 321 *e*P **P 03 29 19.0 -0.4**
comp=Z,56nm,1.5s,mb5.5
KHC Kasperske Hory 83.67 321 *e*P **P 03 29 19.0 -0.4**
KHC pmax pmax
comp=Z,56nm,1.5s,mb5.5
KHC Kasperske Hory 83.67 321 *e*P **P 03 29 19.1 -0.3**
KHC *e*PCP PcP 03 29 25.5 +2.0
KHC *e*pP pP 03 29 29.2 -0.8
KHC AMS AMS 04 09 30.0
comp=Z,900nm,15.2s
TANN Tannenbergstha 83.69 323 *e*P **P 03 29 19.0 -0.5**
comp=Z,16nm,1.0s,mb5.1
GEC2 GERESS Array S 83.74 321 *e*P **P 03 29 19.3 -0.4**
comp=Z,30nm,0.9s,mb5.4
GEC2 GERESS Array S 83.74 321 *e*P **P 03 29 19.3 -0.4**
GEC2 pmax pmax
comp=Z,30nm,0.9s,mb5.4
GERES GERESS Array B 83.74 321 P **P 03 29 19.4 -0.3**
comp=Z,21nm,0.8s,mb5.3,baz=57,slow=4.9,SNR=151
GERES LR LR 04 10 04.4
comp=Z,674nm,18.5s,MS5.0,baz=149,slow=38
GERES GERESS Array B 83.74 321 P **P 03 29 19.4 -0.3**
GERES GERESS Array B 83.74 321 P **P 03 29 19.4 -0.3**
NKC Novy Kostel 83.79 322 *e*P **P 03 29 19.6 -0.3**
NKC MLR MLR
comp=Z,900nm,14.8s,MS5.3
NKC Novy Kostel 83.79 322 *e*P **P 03 29 19.6 -0.3**
NKC AMS AMS 04 11 30.0
comp=Z,900nm,14.8s
MOA Molln 83.88 320⇓ *j*P **P 03 29 20.3 -0.2**
comp=Z,34nm,0.8s,mb5.5
PERS Pernice 83.93 318 *i* P **P 03 29 20.2 -0.5**
SOKA Soboth 83.96 318⇑ *i*P **P 03 29 20.4 -0.5**
comp=Z,23nm,0.8s,mb5.4
MOX Moxa 84.05 323 *e*P **P 03 29 20.7 -0.6**
comp=Z,18nm,0.9s,mb5.2
MOX Moxa 84.05 323 *e*P **P 03 29 20.7 -0.6**
MOX pmax pmax
comp=Z,18nm,0.9s,mb5.2
WET Wettzell 84.07 321 *e*P **P 03 29 21.2 -0.2**
comp=Z,18nm,1.2s,mb5.1
WET Wettzell 84.07 321 *e*P **P 03 29 21.2 -0.2**
WET pmax pmax
comp=Z,18nm,1.2s,mb5.1
CLZ Clausthal 84.12 324 *e*P **P 03 29 21.5 -0.1**
comp=Z,43nm,0.9s,mb5.6
CLZ Clausthal 84.12 324 *e*P **P 03 29 21.5 -0.1**
CLZ pmax pmax
comp=Z,43nm,0.9s,mb5.6
ROTZ Rotzenmuhle 84.15 322 *e*P **P 03 29 21.7 -0.1**
comp=Z,27nm,1.0s,mb5.3
BOJS Bojanci 84.37 317 *i* P **P 03 29 23.0 0.0**
VISS Visnje 84.49 318 *i* P **P 03 29 23.1 -0.5**
GRF Grafenberg Arr 84.75 322 *e*P **P 03 29 24.7 -0.1**
comp=Z,73nm,1.6s,mb5.6
GRF *e*L 04 11 01.4
comp=Z,504nm,20.8s
GRF Grafenberg Arr 84.75 322 *e*P **P 03 29 24.7 -0.1**
GRF pmax pmax
comp=Z,73nm,1.6s,mb5.6
GRF MLR MLR
comp=Z,500nm,20.8s,MS4.9
KBA Koelnbreinsper 84.80 319⇑ *i*P **P 03 29 24.4 -0.7**
comp=Z,11nm,0.7s,mb5.1
RJOB Jochberg 84.80 320 *e*P **P 03 29 24.7 -0.5**
comp=Z,23nm,0.8s,mb5.4
JAVS Javornik 84.92 318 *i* P **P 03 29 25.0 -0.8**
KMBO Kilima Mbogo 85.22 267 *e*P **P 03 29 29.2 +1.3**
comp=Z,31nm,1.4s,mb5.2
KMBO *e* pP 03 29 39.6 +1.1
KMBO Kilima Mbogo 85.22 267 *e*P **P 03 29 29.2 +1.3**
KMBO pmax pmax
comp=Z,31nm,1.4s
IBBN Ibbenburen 85.26 326 *e*P **P 03 29 26.8 -0.5**
comp=Z,59nm,1.0s,mb5.7
ABTA Abfaltersbach 85.45 319⇑ *i*P **P 03 29 26.7 -1.7**
comp=Z,16nm,0.9s,mb5.2
FUR Furstenfeldbru 85.48 321 *e*P **P 03 29 28.4 -0.1**
comp=Z,47nm,0.9s,mb5.6
FUR Furstenfeldbru 85.48 321 *e*P **P 03 29 28.4 -0.1**
FUR pmax pmax
comp=Z,47nm,0.9s,mb5.6
WTTA Wattenberg 85.72 320⇑ *i*P **P 03 29 29.0 -0.8**
comp=Z,25nm,0.8s,mb5.5
BUG Bochum--Univer 85.98 325 *e*P **P 03 29 30.3 -0.6**
comp=Z,51nm,1.2s,mb5.6
TNS Taunus Mts 86.01 324 *e*P **P 03 29 30.7 -0.4**
comp=Z,30nm,1.5s,mb5.3
TNS Taunus Mts 86.01 324 *e*P **P 03 29 30.7 -0.4**
TNS pmax pmax
comp=Z,30nm,1.5s,mb5.3
TOD Tromm 86.14 323 *e*P **P 03 29 30.6 -1.2**
TOD Tromm 86.14 323 *e*P **P 03 29 30.6 -1.2**
STU Stuttgart 86.36 322 *e*P **P 03 29 32.2 -0.7**
comp=Z,15nm,0.8s,mb5.3
FETA Feichten 86.38 320⇑ *i*P **P 03 29 32.3 -0.7**
comp=Z,11nm,0.9s,mb5.1
ABH Alteburg 86.68 324 *e*P **P 03 29 33.0 -1.4**
AQU L'Aquila 87.04 315 *e*P **P 03 29 34.8 -1.5**
comp=Z,42nm,1.0s,mb5.6
AQU L'Aquila 87.04 315 *e*P **P 03 29 34.8 -1.5**
AQU pmax pmax
comp=Z,42nm,1.0s,mb5.6
RUP Ruppelstein 87.04 324 *e*P **P 03 29 35.1 -1.1**
RUP Ruppelstein 87.04 324 *e*P **P 03 29 35.1 -1.1**
MEM Membach 87.11 325 P **P 03 29 36.0 -0.5**
comp=Z,12nm,1.3s,mb5.0
WLF Walferdange 87.55 324 P **P 03 29 38.8 +0.2**
comp=Z,25nm,1.3s,mb5.3
WLF Walferdange 87.55 324 *e*P **P 03 29 38.5 -0.2**
comp=Z,54nm,1.4s,mb5.6
WLF Walferdange 87.55 324 *e*P **P 03 29 39.2 +0.5**
comp=Z,27nm,1.3s,mb5.3
WLF Walferdange 87.55 324 *e*P **P 03 29 39.2 +0.5**
WLF pmax pmax
comp=Z,27nm,1.3s,mb5.3
BCLA Clavier 87.58 325 P **P 03 29 38.8 0.0**
comp=Z,8.2nm,1.5s,mb4.7
CDF Champ du Feu 87.63 323⇑ *i*P **P 03 29 38.0 -1.0**
comp=Z,9.5nm,0.7s,mb4.9
CDF Champ du Feu 87.63 323⇑ *i*P **P 03 29 38.0 -1.0**
comp=Z,9.5nm,0.7s,mb5.1
CDF Champ du Feu 87.63 323⇑ *i*P **P 03 29 38.0 -1.0**
CDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
MOF Molkenrain 88.01 322 *e*P **P 03 29 38.9 -2.0**
MOF Molkenrain 88.01 322 *e*P **P 03 29 38.9 -2.0**
MOF Molkenrain 88.01 322 *e*P **P 03 29 38.9 -2.0**
GIVF Givet 88.02 325⇑ *i*P **P 03 29 39.8 -1.1**
GIVF Givet 88.02 325⇑ *i*P **P 03 29 39.8 -1.1**
GIVF Givet 88.02 325⇑ *i*P **P 03 29 39.8 -1.1**
SNF Seneffe 88.07 325 P **P 03 29 40.4 -0.7**
DOU Dourbes 88.14 325 P **P 03 29 40.6 -0.8**
HINF Hinteralfeld 88.19 322⇑ *i*P **P 03 29 40.1 -1.6**
HINF Hinteralfeld 88.19 322⇑ *i*P **P 03 29 40.1 -1.6**
HINF Hinteralfeld 88.19 322⇑ *i*P **P 03 29 40.1 -1.6**
BAIF Baives 88.37 325⇑ *i*P **P 03 29 41.5 -1.0**
comp=Z,28nm,1.0s,mb5.1
BAIF Baives 88.37 325⇑ *i*P **P 03 29 41.5 -1.0**
comp=Z,28nm,1.0s,mb5.4
BAIF Baives 88.37 325⇑ *i*P **P 03 29 41.5 -1.0**
BAIF pmax pmax
comp=Z,28nm,1.0s,mb5.5
HAU Haudompre 88.37 323⇑ *i*P **P 03 29 41.1 -1.5**
comp=Z,13nm,0.8s,mb4.9
HAU *e*R
comp=Z,731nm,19.8s
HAU Haudompre 88.37 323⇑ *i*P **P 03 29 41.1 -1.5**
comp=Z,13nm,0.8s,mb5.2
HAU Haudompre 88.37 323⇑ *i*P **P 03 29 41.1 -1.5**
HAU pmax pmax
comp=Z,13nm,0.8s,mb5.2
PAGF Fort de Pagny 88.41 323⇑ *i*P **P 03 29 42.0 -0.7**
comp=Z,12nm,1.1s,mb4.7
PAGF Fort de Pagny 88.41 323⇑ *i*P **P 03 29 42.0 -0.7**
comp=Z,12nm,1.1s,mb5.0
MEZF Maizieres J'vi 88.81 323⇑ *i*P **P 03 29 43.8 -0.8**
comp=Z,19nm,0.9s,mb5.1
MEZF Maizieres J'vi 88.81 323⇑ *i*P **P 03 29 43.8 -0.8**
comp=Z,19nm,0.9s,mb5.4
JCW Jim Creek 88.97 37 *e*P **P 03 29 46.2 +0.8**
comp=Z,33nm,0.9s,mb5.7
SFTF Sexfontaines 88.98 323⇑ *i*P **P 03 29 44.4 -1.1**
comp=Z,40nm,0.9s,mb5.4
SFTF Sexfontaines 88.98 323⇑ *i*P **P 03 29 44.4 -1.1**
comp=Z,40nm,0.9s,mb5.8
CABF La Chapelle 89.29 322⇑ *i*P **P 03 29 46.0 -1.0**
comp=Z,17nm,0.9s,mb5.1
CABF La Chapelle 89.29 322⇑ *i*P **P 03 29 46.0 -1.0**
comp=Z,17nm,0.9s,mb5.4
CABF La Chapelle 89.29 322⇑ *i*P **P 03 29 46.0 -1.0**
CABF pmax pmax
comp=Z,17nm,0.9s,mb5.4
LPG La Plagne 89.53 320⇑ *i*P **P 03 29 47.7 -0.4**
comp=Z,37nm,0.8s,mb5.5
LPG La Plagne 89.53 320⇑ *i*P **P 03 29 47.7 -0.4**
comp=Z,37nm,0.8s,mb5.8
LPG La Plagne 89.53 320⇑ *i*P **P 03 29 47.7 -0.4**
LPG pmax pmax
comp=Z,37nm,0.8s,mb5.8
LPL La Plagne 89.53 320⇑ *i*P **P 03 29 47.6 -0.5**
comp=Z,25nm,0.7s,mb5.4
LPL La Plagne 89.53 320⇑ *i*P **P 03 29 47.6 -0.5**
comp=Z,25nm,0.7s,mb5.7
LPL La Plagne 89.53 320⇑ *i*P **P 03 29 47.6 -0.5**
LPL pmax pmax
comp=Z,25nm,0.7s,mb5.7
PGF Pioggiola 89.75 317⇑ *i*P **P 03 29 48.6 -0.6**
comp=Z,65nm,0.9s,mb5.7
PGF Pioggiola 89.75 317⇑ *i*P **P 03 29 48.6 -0.6**
comp=Z,65nm,0.9s,mb6.0
PGF Pioggiola 89.75 317⇑ *i*P **P 03 29 48.6 -0.6**
PGF pmax pmax
comp=Z,65nm,0.9s,mb6.0
BNI Bardonecchia 89.81 320 *e*P **P 03 29 49.1 -0.4**
comp=Z,7.2nm,0.8s,mb5.0
BNI Bardonecchia 89.81 320 *e*P **P 03 29 49.1 -0.3**
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
MBDF Montbardon 89.94 320⇑ *i*P **P 03 29 49.3 -0.7**
comp=Z,31nm,1.1s,mb5.2
MBDF Montbardon 89.94 320⇑ *i*P **P 03 29 49.3 -0.7**
comp=Z,31nm,1.1s,mb5.5
MBDF Montbardon 89.94 320⇑ *i*P **P 03 29 49.3 -0.7**
MBDF pmax pmax
comp=Z,31nm,1.1s,mb5.5
SBF Sospel 90.01 319 *e*P **P 03 29 49.1 -1.3**
SBF Sospel 90.01 319 *e*P **P 03 29 49.1 -1.3**
SBF Sospel 90.01 319 *e*P **P 03 29 49.1 -1.3**
LOR Lormes 90.17 323⇑ *i*P **P 03 29 49.7 -1.4**
comp=Z,36nm,1.1s,mb5.3
LOR *e*R
comp=Z,811nm,21.2s
LOR Lormes 90.17 323⇑ *i*P **P 03 29 49.7 -1.4**
comp=Z,36nm,1.1s,mb5.6
LOR Lormes 90.17 323⇑ *i*P **P 03 29 49.7 -1.4**
LOR pmax pmax
comp=Z,36nm,1.1s,mb5.6
ORIF Oris-en-Rattie 90.36 320⇑ *i*P **P 03 29 51.1 -0.9**
comp=Z,25nm,1.0s,mb5.2
ORIF *e*R
comp=Z,977nm,18.2s
ORIF Oris-en-Rattie 90.36 320⇑ *i*P **P 03 29 51.1 -0.9**
comp=Z,25nm,1.0s,mb5.5
ORIF Oris-en-Rattie 90.36 320⇑ *i*P **P 03 29 51.1 -0.9**
ORIF pmax pmax
comp=Z,25nm,1.0s,mb5.5
SSF Saint Saulge 90.49 323⇑ *i*P **P 03 29 51.4 -1.1**
comp=Z,24nm,1.0s,mb5.2
SSF Saint Saulge 90.49 323⇑ *i*P **P 03 29 51.4 -1.1**
comp=Z,24nm,1.0s,mb5.5
SSF Saint Saulge 90.49 323⇑ *i*P **P 03 29 51.4 -1.1**
SSF pmax pmax
comp=Z,24nm,1.0s,mb5.5
SMF Signal de Mont 90.55 322⇑ *i*P **P 03 29 51.7 -1.1**
comp=Z,60nm,0.9s,mb5.6
SMF Signal de Mont 90.55 322⇑ *i*P **P 03 29 51.7 -1.1**
comp=Z,60nm,0.9s,mb5.9
SMF Signal de Mont 90.55 322⇑ *i*P **P 03 29 51.7 -1.1**
SMF pmax pmax
comp=Z,60nm,0.9s,mb5.9
FRF La Foret Royal 90.66 319 *e*P **P 03 29 52.2 -1.2**
FRF La Foret Royal 90.66 319 *e*P **P 03 29 52.2 -1.2**
FRF La Foret Royal 90.66 319 *e*P **P 03 29 52.2 -1.2**
AVF Avril sur Loir 90.73 323⇑ *i*P **P 03 29 52.5 -1.2**
comp=Z,37nm,0.8s,mb5.4
AVF Avril sur Loir 90.73 323⇑ *i*P **P 03 29 52.5 -1.2**
comp=Z,37nm,0.8s,mb5.8
AVF Avril sur Loir 90.73 323⇑ *i*P **P 03 29 52.5 -1.2**
AVF pmax pmax
comp=Z,37nm,0.8s,mb5.8
HYF Humbligny 90.84 323⇑ *i*P **P 03 29 53.7 -0.5**
HYF Humbligny 90.84 323⇑ *i*P **P 03 29 53.7 -0.5**
LMR La Mourre 90.86 319 *e*P **P 03 29 53.3 -1.1**
LMR La Mourre 90.86 319 *e*P **P 03 29 53.3 -1.1**
LMR La Mourre 90.86 319 *e*P **P 03 29 53.3 -1.1**
PLDF La Plantade 91.06 322 *e*P **P 03 29 54.8 -0.4**
PLDF La Plantade 91.06 322 *e*P **P 03 29 54.8 -0.4**
PLDF La Plantade 91.06 322 *e*P **P 03 29 54.8 -0.4**
SMRF Simiane la Rot 91.07 320 *e*P **P 03 29 54.6 -0.7**
SMRF Simiane la Rot 91.07 320 *e*P **P 03 29 54.6 -0.7**
VIVF Saint-Julien-l 91.10 321⇑ *i*P **P 03 29 54.4 -1.0**
comp=Z,9.6nm,0.7s,mb4.9
VIVF Saint-Julien-l 91.10 321⇑ *i*P **P 03 29 54.4 -1.0**
comp=Z,9.6nm,0.7s,mb5.2
VIVF Saint-Julien-l 91.10 321⇑ *i*P **P 03 29 54.4 -1.0**
VIVF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
BGF Bois d'Agland 91.15 323⇑ *i*P **P 03 29 54.5 -1.1**
comp=Z,22nm,1.0s,mb5.1
BGF Bois d'Agland 91.15 323⇑ *i*P **P 03 29 54.5 -1.1**
comp=Z,22nm,1.0s,mb5.4
BGF Bois d'Agland 91.15 323⇑ *i*P **P 03 29 54.5 -1.1**
BGF pmax pmax
comp=Z,22nm,1.0s,mb5.4
AGO Saint Agoulin 91.29 322 *e*P **P 03 29 55.8 -0.5**
AGO Saint Agoulin 91.29 322 *e*P **P 03 29 55.8 -0.5**
TCF Toulx Ste Croi 91.67 323 *e*P **P 03 29 57.1 -0.9**
comp=Z,74nm,1.4s,mb5.5
TCF Toulx Ste Croi 91.67 323 *e*P **P 03 29 57.1 -0.9**
comp=Z,74nm,1.4s,mb5.8
TCF Toulx Ste Croi 91.67 323 *e*P **P 03 29 57.1 -0.9**
TCF pmax pmax
comp=Z,74nm,1.4s,mb5.8
LASF Ste Croix 92.03 320 *e*P **P 03 29 58.9 -0.8**
LASF Ste Croix 92.03 320 *e*P **P 03 29 58.9 -0.8**
CAF Calviac 92.56 322 *e*P **P 03 30 01.8 -0.4**
comp=Z,40nm,1.1s,mb5.8
CAF Calviac 92.56 322 *e*P **P 03 30 01.8 -0.4**
CAF pmax pmax
comp=Z,40nm,1.1s,mb5.8
RJF Les Rejaudoux 92.65 322⇑ *i*P **P 03 30 02.2 -0.4**
comp=Z,61nm,0.9s,mb5.7
RJF *e*R
comp=Z,473nm,18.8s
RJF Les Rejaudoux 92.65 322⇑ *i*P **P 03 30 02.2 -0.4**
comp=Z,61nm,0.9s,mb6.0
RJF Les Rejaudoux 92.65 322⇑ *i*P **P 03 30 02.2 -0.4**
RJF pmax pmax
comp=Z,61nm,0.9s,mb6.0
SGMF Saint Gilles 92.98 326 *e*P **P 03 30 02.4 -1.6**
SGMF Saint Gilles 92.98 326 *e*P **P 03 30 02.4 -1.6**
SGMF Saint Gilles 92.98 326 *e*P **P 03 30 02.4 -1.6**
KEST Kesra 93.10 311 P **P 03 30 04.6 -0.3**
comp=Z,3.9nm,0.9s,mb4.8,baz=301,slow=4.0,SNR=7.8
KEST Kesra 93.10 311 P **P 03 30 04.6 -0.3**
ROSF Rostrenen 93.29 327 *e*P **P 03 30 03.5 -2.0**
ROSF Rostrenen 93.29 327 *e*P **P 03 30 03.5 -2.0**
ROSF Rostrenen 93.29 327 *e*P **P 03 30 03.5 -2.0**
LFF La Frestale 93.30 322 *e*P **P 03 30 05.1 -0.5**
comp=Z,44nm,1.1s,mb5.5
LFF La Frestale 93.30 322 *e*P **P 03 30 05.1 -0.5**
comp=Z,44nm,1.1s,mb5.8
LFF La Frestale 93.30 322 *e*P **P 03 30 05.1 -0.5**
LFF pmax pmax
comp=Z,44nm,1.1s,mb5.8
MTLF Montolieu 93.42 320 *e*P **P 03 30 05.4 -0.8**
MTLF Montolieu 93.42 320 *e*P **P 03 30 05.4 -0.8**
MTLF Montolieu 93.42 320 *e*P **P 03 30 05.4 -0.8**
BMO Blue Mountains 93.52 38 *e*P **P 03 30 06.3 -0.3**
comp=Z,3.8nm,0.9s,mb4.8
EPF Esparros 94.70 321 *e*P **P 03 30 10.7 -1.4**
EPF Esparros 94.70 321 *e*P **P 03 30 10.7 -1.4**
EPF Esparros 94.70 321 *e*P **P 03 30 10.7 -1.4**
ETSF Etsaut 95.30 321 *e*P **P 03 30 11.9 -2.9**
ETSF Etsaut 95.30 321 *e*P **P 03 30 11.9 -2.9**
ETSF Etsaut 95.30 321 *e*P **P 03 30 11.9 -2.9**
SJPF Ste Jean 95.55 322 *e*P **P 03 30 12.2 -3.7**
comp=Z,25nm,1.0s,mb5.3
SJPF Ste Jean 95.55 322 *e*P **P 03 30 12.2 -3.7**
comp=Z,25nm,1.0s,mb5.6
SJPF Ste Jean 95.55 322 *e*P **P 03 30 12.2 -3.7**
SJPF pmax pmax
comp=Z,25nm,1.0s,mb5.6
NVAR Mina Array Bea 96.83 43 P **P 03 30 22.7 +0.8**
comp=Z,0.7nm,0.6s,mb4.2,baz=296,slow=5.0,SNR=7.5
NVAR LR LR 04 07 03.0
comp=Z,173nm,21.6s,MS4.5,baz=108,slow=31
NVAR Mina Array Bea 96.83 43 P **P 03 30 22.7 +0.8**
LSZ Lusaka 98.94 257 *e*P **P 03 30 30.9 -0.8**
comp=Z,5.6nm,1.0s,mb5.0
LSZ Lusaka 98.94 257 *e*P **P 03 30 30.9 -0.8**
LSZ pmax pmax
comp=Z,6.0nm,1.0s,mb5.1
PDAR Pinedale Array 99.13 35 P **P 03 30 33.5 +1.4**
comp=Z,0.4nm,0.8s,mb4.0,baz=74,slow=8.2,SNR=3.3
PDAR Pinedale Array 99.13 35 P **P 03 30 33.5 +1.4**
ESDC Sonseca Array 99.33 320 LR LR 04 20 33.9
comp=Z,253nm,19.2s,MS4.7,baz=25,slow=38
ULM Lac du Bonnet 99.61 23 LR LR 04 24 08.0
comp=Z,183nm,18.4s,MS4.6,baz=331,slow=40
TORD Torodi Ar. Bea 110.93 295 PKiKP PKiKP 03 35 23.4 -1.3
comp=Z,0.7nm,0.8s,baz=17,slow=1.6,SNR=5.1
TORD PKKPbc PKKPbc 03 46 21.0 -0.5
comp=Z,1.1nm,0.8s,baz=261,slow=2.1,SNR=7.1
TORD Torodi Ar. Bea 110.93 295 PKiKP PKiKP 03 35 23.4 -1.3
TORD PKKPbc PKKPbc 03 46 21.0 -0.5
TXAR Lajitas Array 111.93 42 PKiKP PKiKP 03 35 25.4 -0.8
comp=Z,0.8nm,0.8s,baz=231,slow=1.6,SNR=8.0
TXAR PP PP 03 36 06.4 -2.5
comp=Z,0.8nm,0.8s,baz=270,slow=2.5,SNR=4.5
TXAR PKKPbc PKKPbc 03 46 17.0 -1.6
comp=Z,0.4nm,0.8s,baz=173,slow=2.4,SNR=4.6
TXAR Lajitas Array 111.93 42 PKiKP PKiKP 03 35 25.4 -0.8
TXAR PP PP 03 36 06.4 -2.5
TXAR PKKPbc PKKPbc 03 46 17.0 -1.6
TXAR Lajitas Array 111.93 42 PKiKP PKiKP 03 35 25.4 -0.9
TXAR 03 36 06.4
QSPA South Pole Qui 113.11 180 PKiKP PKiKP 03 35 25.8 -1.1
comp=Z,1.3nm,0.4s,baz=33,slow=1.1,SNR=5.5
QSPA South Pole Qui 113.11 180 PKiKP PKiKP 03 35 25.8 -1.1
DBIC Dimbokro 119.79 293 PKP PKPdf 03 35 40.4 -1.3
comp=Z,3.0nm,0.9s,baz=103,slow=6.3,SNR=4.8
DBIC Dimbokro 119.79 293 PKP PKPdf 03 35 40.4 -1.3
DBIC Dimbokro 119.79 293 PKiKP PKPdf 03 35 40.4 -1.3
SNAA Sanae 122.52 198 *e* PKPdf 03 35 39.5 -5.7
SNAA Sanae 122.52 198 PKP PKPdf 03 35 44.0 -1.2
comp=Z,0.8nm,0.9s,baz=195,slow=12,SNR=4.1
SNAA Sanae 122.52 198 PKP PKPdf 03 35 44.0 -1.2
SNAA Sanae 122.52 198 PKiKP PKPdf 03 35 44.0 -1.2
VNA2 Neumayer--Watz 124.17 198 *e* PKPdf 03 35 47.9 -0.5
baz=67,slow=1.4
VNA2 *e* 03 35 58.4
VNA1 Neumayer--Stat 124.56 198 *e* PKPdf 03 35 49.1 0.0
VNA1 *e* 03 35 59.3
VNA3 Neumayer Olymp 124.64 197 *e* PKPdf 03 35 48.5 -0.8
VNA3 *e* 03 35 59.0
SDV Santo Domingo 145.85 22 *e*PKPdf PKPdf 03 36 29.6 -0.6
USHA Ushuaia 147.65 169 PKPbc PKPbc 03 36 35.0 +0.3
comp=Z,8.8nm,0.6s,baz=207,slow=10.0,SNR=6.9
USHA Ushuaia 147.65 169 PKPbc PKPbc 03 36 35.0 +0.3
ROSC El Rosal 147.99 31 *e*PKPbc PKPbc 03 36 36.1 -0.9
comp=Z,8.9nm,0.7s,baz=72,slow=22,SNR=6.6
ROSC El Rosal 147.99 31 *e*PKPbc PKPbc 03 36 37.3 +0.4
OTAV Otavalo 149.56 43 *e*PKPbc PKPbc 03 36 40.9 -0.1
PLCA Paso Flores 159.85 152 PKPab PKPab 03 37 28.6 -0.2
comp=Z,2.0nm,0.7s,baz=201,slow=4.9,SNR=3.9
PLCA Paso Flores 159.85 152 PKPab PKPab 03 37 28.6 -0.2
PLCA Paso Flores 159.85 152 PKP2 PKPab 03 37 28.7 -0.1
CFAA Coronel Fontan 168.00 136 PKP PKPdf 03 36 56.5 -1.0
comp=Z,0.3nm,0.9s,baz=332,slow=3.0,SNR=5.2
CFAA Coronel Fontan 168.00 136 PKP PKPdf 03 36 56.5 -1.0
LPAZ La Paz 168.51 54 *e*PKPdf PKPdf 03 36 59.2 +1.0
LPAZ La Paz 168.51 54 *e*PKIKP PKPdf 03 36 59.2 +1.0
CPUP Villa Florida 176.83 198 PKP PKPdf 03 37 00.8 -0.7
comp=Z,1.5nm,0.7s,baz=250,slow=16,SNR=3.6
CPUP PKPab PKPab 03 38 42.6 -1.5
comp=Z,1.9nm,0.9s,baz=188,slow=11,SNR=3.1
CPUP Villa Florida 176.83 198 PKP PKPdf 03 37 00.8 -0.7
CPUP PKPab PKPab 03 38 42.6 -1.5
CPUP Villa Florida 176.83 198 PKIKP PKPdf 03 37 00.8 -0.6
CPUP 03 38 42.6

CSEM ***02*** *03:27:19.1±0.4, 43°.42N×19°.71E, h2km, ML2.1, Error ellipse: s-maj=7.4km s-min=6.6km az=59.0*
BEO 02 03:27:20.4±0.6, 43°.44N×19°.78E, h3km±3km, ML2.1/5, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**0.23**	**142**	⇑*i*Pg	Pg	03 27 23.3	-1.5
SJES				*i* Sg	Sg	03 27 27.6	-0.1
BBLS	**Lazići**	**0.51**	**328**	*i* Sg	Sg	03 27 37.3	+0.6
BBLS	**Lazići**	**0.51**	**328**	*i* Sg	Sg	03 27 37.3	+0.6
DIVS	**Divibare**	**0.68**	**13**	⇓*i*Pg	Pg	03 27 32.6	-0.8
DIVS				*e*Sg	Sg	03 27 41.7	-0.4
DIVS	**Divibare**	**0.68**	**13**	⇓*i*Pg	Pg	03 27 32.6	-0.8
DIVS				*e*Sg	Sg	03 27 41.7	-0.4
TRUS	**Trudelj**	**0.91**	**30**	*e*Pg	Pg	03 27 37.0	-0.8
TRUS				*i* Sg	Sg	03 27 49.9	+0.4
SVIS	**Svilajnac**	**1.33**	**51**	*e*Pg	Pg	03 27 44.6	-1.2
SVIS				*i* Sg	Sg	03 28 02.7	-0.3
BARS	**Barje**	**1.61**	**112**	*e*Pg	Pg	03 27 50.2	-1.1
BARS				*i* Sg	Sg	03 28 12.4	+0.1
BARS	**Barje**	**1.61**	**112**	*e*Pg	Pg	03 27 50.2	-1.1
BARS				*i* Sg	Sg	03 28 12.4	+0.1
STON	**Ston**	**1.62**	**250**	*e*Pn	Pn	03 27 46.6	-3.2
STON				Sn	Sn	03 28 10.1	-1.1
STON	**Ston**	**1.62**	**250**	*e*Pn	Pn	03 27 46.6	-3.2
STON				Sn	Sn	03 28 10.1	-1.1
ZAPS	**Zavoj**	**2.09**	**94**	*e*Pn	Pn	03 27 55.8	-0.4
ZAPS				*i* Sg	Sg	03 28 26.6	-0.9

NEIC ***02*** *04:24:39.0, 44°.88N×111°.62W, h6km, ML2.6(BUT), After BUT.*
ISCJB ***02*** *04:24:40.5±0.2, 44°.89N±0°.01×111°.60W±0°.02, h10km, Error ellipse: s-maj=1.7km s-min=1.4km az=144.1*
ISC 02 04:24:40.7±0.2, 44°.89N±0°.01×111°.61W±0°.02, h10km, n75,

σ1$09/133, **44C-40D, Hebgen Lake region, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
QLMT	**Earthquake Lak**	**0.14**	**115**	*e*Pg	**Pg**	**04 24 42.8**	**-1.0**
QLMT				*e*S	**Sg**	04 24 45.2	-0.8
H16A	**Russell Place,**	**0.32**	**126**	⇓P	**Pg**	**04 24 46.2**	**-0.8**
	baz=0.3,SNR=177						
H16A				⇑S	**Sg**	**04 24 50.7**	**-0.5**
	baz=0.3						
G16A	**Moss Hill, Enn**	**0.37**	**338**	⇑P	**Pg**	**04 24 47.1**	**-0.9**
	baz=0.4,SNR=67						
G16A				⇓S	**Sg**	**04 24 52.3**	**-0.5**
	baz=0.4						
YMR	**Madison River**	**0.51**	**115**	*e*Pg	**Pg**	**04 24 49.8**	**-0.7**
YMR				*e*S	**Sg**	**04 24 57.8**	**+0.6**
YNR	**Norris Junctio**	**0.68**	**104**	*e*Pg	**Pg**	**04 24 53.3**	**-0.6**
G15A	**Dillon**	**0.68**	**294**	⇓P	**Pg**	**04 24 52.5**	**-1.4**
	baz=0.7,SNR=59						
G15A				⇑S	**Sg**	**04 25 01.3**	**-1.6**
	baz=0.7						
YFT	**Old Faithful**	**0.70**	**128**	*e*P	**Pg**	**04 24 53.5**	**-0.8**
G17A	**Pierce Place,**	**0.75**	**55**	⇑P	**Pg**	**04 24 54.1**	**-1.1**
	baz=0.8,SNR=50						
G17A				⇑S	**Sg**	**04 25 04.5**	**-0.5**
	baz=0.8						
BOZ	**Bozeman (W)**	**0.76**	**359**	⇓P	**Pg**	**04 24 53.1**	**-2.2**
	baz=0.8,SNR=11						
BOZ				⇑S	**Sg**	**04 25 02.4**	**-2.8**
	baz=0.8						
BOZ	**Bozeman (W)**	**0.76**	**359**	*e*Pg	**Pg**	**04 24 53.2**	**-2.1**
BOZ				*e*S	**Sg**	**04 25 02.2**	**-3.0**
H15A	**Lima**	**0.79**	**250**	⇓P	**Pg**	**04 24 54.6**	**-1.3**
	baz=0.8,SNR=60						
H15A				⇑S	**Sg**	**04 25 04.9**	**-1.2**
	baz=0.8						
DLMT	**Dillon**	**0.85**	**304**	*e*Pg	**Pg**	**04 24 55.7**	**-1.2**
DLMT				*e*S	**Sg**	**04 25 07.4**	**-0.6**
MCMT	**McKenzie Canyo**	**0.89**	**266**	*e*Pg	**Pg**	**04 24 56.2**	**-1.5**
MCMT				*e*S	**Sg**	**04 25 08.5**	**-0.8**
F16A	**Kennard Place,**	**0.90**	**359**	⇑P	**Pg**	**04 24 56.5**	**-1.4**
	baz=0.9,SNR=8.1						
F16A				⇑S	**Sg**	**04 25 08.3**	**-1.3**
	baz=0.9						
I16A	**Newdale**	**1.02**	**175**	⇑P	**Pg**	**04 24 58.7**	**-1.5**
	baz=1.0,SNR=22						
I16A				⇑S	**Sg**	**04 25 12.8**	**-0.7**
	baz=1.0						
FLWY	**Flagg Ranch**	**1.03**	**141**	*e*Pg	**Pg**	**04 24 59.3**	**-1.2**
FLWY				*e*S	**Sg**	**04 25 15.2**	**+1.2**
I15A	**Monteview**	**1.09**	**216**	⇓P	**Pb**	**04 25 00.1**	**-1.5**
	baz=1.1,SNR=13						
I15A				⇑S	**Sg**	**04 25 14.9**	**-0.8**
	baz=1.1						
IMW	**Indian Meadow**	**1.10**	**154**	*e*Pg	**Pg**	**04 25 00.0**	**-1.8**
IMW				*e*S	**Sg**	**04 25 15.1**	**-1.0**
F15A	**Butte**	**1.14**	**327**	⇓P	**Pb**	**04 25 01.0**	**-1.5**
	baz=1.1,SNR=16						
F15A				⇑S	**Sb**	**04 25 16.1**	**-1.2**
	baz=1.1						
F17A	**Fitzpatrick Pl**	**1.22**	**33**	P	**Pn**	**04 25 02.6**	**-1.1**
	baz=1.2,SNR=161						
F17A				⇓S	**Sb**	**04 25 19.2**	**-0.3**
	baz=1.2						
I17A	**Pilgrim Ck.**	**1.22**	**142**	⇑P	**Pn**	**04 25 03.2**	**-0.5**
	baz=1.2						
I17A				⇓S	**Sb**	**04 25 20.0**	**+0.5**
	baz=1.2						
MOOW	**Moose Ponds**	**1.30**	**151**	*e*Pn	**Pn**	**04 25 03.3**	**-1.5**
MOOW				*e*S	**Sb**	**04 25 20.3**	**-1.5**
DCID1	**Drake Creek**	**1.33**	**167**	*e*Pn	**Pn**	**04 25 04.7**	**-0.6**
DCID1				*e*S	**Sb**	**04 25 25.4**	**+2.7**
G14A	**Jackson**	**1.36**	**286**	⇓P	**Pn**	**04 25 05.4**	**-0.3**
	baz=1.4,SNR=13						
G14A				⇓S	**Sb**	**04 25 23.8**	**+0.2**
	baz=1.4						
H18A	**Shoshone NF, C**	**1.40**	**98**	⇓P	**Pn**	**04 25 06.4**	**+0.2**
	baz=1.4						
LOHW	**Long Hollow**	**1.47**	**150**	*e*Pn	**Pn**	**04 25 06.5**	**-0.7**
LOHW				*e*S	**Sn**	**04 25 26.4**	**+0.1**
TPAW	**Teton Pass**	**1.48**	**161**	*e*Pn	**Pn**	**04 25 06.5**	**-0.8**
G18A	**Lazy EL Ranch,**	**1.51**	**73**	⇑Pg	**Pg**	**04 25 08.4**	**-1.2**
	baz=1.5						
G18A				⇑S	**Sn**	**04 25 27.5**	**+0.1**
	baz=1.5						
F14A	**Wisdom**	**1.55**	**307**	⇓P	**Pn**	**04 25 08.3**	**0.0**
	baz=1.5,SNR=63						
F14A				⇓S	**Sn**	**04 25 29.4**	**+1.0**
	baz=1.5						
SNOW	**Snow King Moun**	**1.55**	**156**	*e*Pn	**Pn**	**04 25 08.3**	**-0.1**
SNOW				*e*S	**Sn**	**04 25 29.2**	**+0.7**
RRI2	**Red Ridge**	**1.56**	**172**	*e*Pn	**Pn**	**04 25 07.6**	**-0.7**
RRI2				*e*S	**Sn**	**04 25 28.9**	**+0.3**
J15A	**Blackfoot**	**1.60**	**202**	P	**Pn**	**04 25 08.6**	**-0.5**
	baz=1.6,SNR=114						
J15A				⇓S	**Sn**	**04 25 30.3**	**+0.5**
	baz=1.6						
REDW	**Red Top Meadow**	**1.62**	**160**	*e*Pn	**Pn**	**04 25 09.2**	**0.0**
REDW				*e*S	**Sn**	**04 25 31.0**	**+0.9**
I14A	**Mackay**	**1.63**	**235**	⇑P	**Pn**	**04 25 09.5**	**+0.1**
	baz=1.6,SNR=43						
E16A	**East Helena**	**1.65**	**358**	⇓Pg	**Pg**	**04 25 11.0**	**-1.2**
	baz=1.7,SNR=11						
E16A				⇑S	**Sn**	**04 25 31.7**	**+0.9**
	baz=1.7						
J17A	**Brown Place, J**	**1.66**	**157**	⇑P	**Pn**	**04 25 10.2**	**+0.4**
	baz=1.7,SNR=17						
J17A				⇑S	**Sn**	**04 25 32.6**	**+1.5**
	baz=1.7						
E17A	**Martinsdale**	**1.66**	**18**	⇓P	**Pn**	**04 25 09.9**	**+0.1**
	baz=1.7,SNR=101						
E17A				⇑Sb	**Sb**	**04 25 33.6**	**+1.4**
	baz=1.7						
F18A	**Big Timber**	**1.68**	**52**	⇑Pg	**Pg**	**04 25 11.7**	**-1.1**
	baz=1.7						
F18A				⇑S	**Sn**	**04 25 32.9**	**+1.4**
	baz=1.7						
E15A	**Deer Lodge**	**1.70**	**335**	Pg	**Pg**	**04 25 11.9**	**-1.3**
	baz=1.7,SNR=26						
E15A				⇓S	**Sn**	**04 25 33.3**	**+1.1**
	baz=1.7						
I18A	**Diamond G Ranc**	**1.75**	**132**	⇓Pb	**Pb**	**04 25 12.3**	**-0.5**
	baz=1.7						
HRY	**Holter Researc**	**1.83**	**355**	*e*Pn	**Pn**	**04 25 11.0**	**-1.1**
HRY				*e*S	**Sn**	**04 25 36.5**	**+1.2**
G13A	**Cobalt**	**1.87**	**277**	⇑Pb	**Pb**	**04 25 14.3**	**-0.7**
	baz=1.9						
G13A				⇓S	**Sn**	**04 25 37.7**	**+1.2**
	baz=1.9						
H19A	**Powell**	**1.88**	**96**	⇑Sb	**Sb**	**04 25 40.1**	**+1.5**
	baz=1.9						
H13A	**Challis**	**1.92**	**261**	⇓P	**Pn**	**04 25 13.5**	**+0.2**
	baz=1.9						
H13A				⇑S	**Sn**	**04 25 38.7**	**+1.2**
	baz=1.9						
E14A	**Clinton**	**2.02**	**320**	⇓Pb	**Pb**	**04 25 17.2**	**-0.2**
	baz=2.0						
E14A				⇓Sb	**Sb**	**04 25 44.0**	**+1.4**
	baz=2.0						
J18A	**Kendall Valley**	**2.03**	**145**	⇓P	**Pn**	**04 25 15.9**	**+1.0**
	baz=2.0,SNR=20						
J18A				⇓Sb	**Sb**	**04 25 43.8**	**+0.9**
	baz=2.0						
I13A	**Wildhorse Cree**	**2.05**	**242**	⇑P	**Pn**	**04 25 15.9**	**+0.8**
	baz=2.0						
I13A				⇓Sb	**Sb**	**04 25 43.9**	**+0.5**
	baz=2.0						
E18A	**Harlowton**	**2.05**	**35**	⇑P	**Pn**	**04 25 16.0**	**+0.8**
	baz=2.1,SNR=17						
E18A				⇑S	**Sn**	**04 25 42.5**	**+1.6**
	baz=2.1						
K16A	**Soda Springs**	**2.06**	**180**	⇑P	**Pn**	**04 25 16.1**	**+0.9**
	baz=2.0,SNR=9.6						
K16A				⇓Sb	**Sb**	**04 25 44.9**	**+1.3**
	baz=2.0						
J14A	**Carey**	**2.08**	**222**	⇓P	**Pn**	**04 25 16.2**	**+0.6**
	baz=2.1,SNR=25						
J14A				⇓S	**Sn**	**04 25 43.1**	**+1.5**
	baz=2.1						
F19A	**Roth Farm, Mol**	**2.11**	**62**	⇓Pb	**Pb**	**04 25 18.7**	**-0.3**
	baz=2.1						
F19A				⇓S	**Sn**	**04 25 44.2**	**+1.9**
	baz=2.1						
F13A	**Darby**	**2.12**	**296**	⇑P	**Pn**	**04 25 16.1**	**0.0**
	baz=2.1						
F13A				⇑Sb	**Sb**	**04 25 46.6**	**+1.0**
	baz=2.1						
D16A	**Dana Ranch, Ca**	**2.14**	**1**	⇓Sb	**Sb**	**04 25 47.3**	**+1.2**
	baz=2.2						
D15A	**Lincoln**	**2.25**	**344**	⇓Sb	**Sb**	**04 25 50.6**	**+1.4**
	baz=2.3						
CHMT	**Chamberlain Mo**	**2.33**	**331**	*e*Pn	**Pn**	**04 25 19.2**	**+0.2**
CHMT				*e*S	**Sn**	**04 25 53.1**	**+5.5**
H12A	**Diamond D Ranc**	**2.34**	**263**	⇑P	**Pn**	**04 25 19.6**	**+0.5**
	baz=2.3,SNR=9.4						
H12A				⇑S	**Sn**	**04 25 49.2**	**+1.3**
	baz=2.3						
D17A	**Six Diamond Ra**	**2.35**	**15**	⇓P	**Pn**	**04 25 19.6**	**+0.3**
	baz=2.4						
D17A				⇓S	**Sn**	**04 25 49.6**	**+1.4**
	baz=2.4						
J13A	**Cove Ranch, Pi**	**2.37**	**232**	⇑Sb	**Sb**	**04 25 53.2**	**+0.3**
	baz=2.4						
E13A	**Victor**	**2.38**	**312**	⇑Pg	**Pg**	**04 25 24.4**	**-1.9**
	baz=2.4						
E13A				⇑Sb	**Sb**	**04 25 54.8**	**+1.7**
	baz=2.4						
HLID	**Hailey**	**2.42**	**238**	⇓P	**Pn**	**04 25 20.9**	**+0.7**
	baz=2.4,SNR=32						
HLID				⇑Sb	**Sb**	**04 25 54.2**	**+0.2**
	baz=2.4						
HLID	**Hailey**	**2.42**	**238**	*e*Pn	**Pn**	**04 25 21.0**	**+0.8**
HLID				*e*S	**Sn**	**04 25 53.8**	**+4.0**
G20A	**Bridger**	**2.43**	**81**	⇑Pb	**Pb**	**04 25 24.5**	**+0.1**
	baz=2.4						
G20A				⇑Sb	**Sb**	**04 25 55.0**	**+0.6**
	baz=2.4						
E19A	**Rath Farm, Rou**	**2.53**	**51**	⇑Sb	**Sb**	**04 25 58.8**	**+1.6**
	baz=2.5						
MSO	**Missoula**	**2.54**	**321**	⇓P	**Pn**	**04 25 21.7**	**-0.1**
	baz=2.5						
MSO				⇓Sb	**Sb**	**04 25 59.2**	**+1.8**
	baz=2.5						
MSO	**Missoula**	**2.54**	**321**	*e*Pn	**Pn**	**04 25 21.8**	**0.0**
MSO				*e*S	**Sg**	**04 25 59.5**	**-2.6**
D14A	**Greenough**	**2.56**	**330**	⇑Sb	**Sb**	**04 26 00.2**	**+2.0**
	baz=2.6						
PD01	**Pinedale Array**	**2.57**	**145**	*e*Pn	**Pn**	**04 25 24.1**	**+1.8**
PD01				*e*S	**Sn**	**04 25 58.0**	**+4.4**
D18A	**Linhart Farms,**	**2.63**	**28**	⇓S	**Sn**	**04 25 55.9**	**+0.9**
	baz=2.6						
G12A	**Big Creek, Yel**	**2.65**	**276**	⇑Sb	**Sb**	**04 26 02.3**	**+1.6**
	baz=2.6						
SLMT	**Seeley Lake**	**2.69**	**332**	*e*Pn	**Pn**	**04 25 23.4**	**-0.6**
SLMT				*e*S	**Sg**	**04 26 07.1**	**-0.1**
F12A	**Elk City**	**2.72**	**290**	⇑Sb	**Sb**	**04 26 03.9**	**+1.3**
	baz=2.7						
I12A	**Atlanta**	**2.76**	**248**	⇓Sb	**Sb**	**04 26 05.2**	**+1.4**
	baz=2.7						
HWUT	**Hardware Ranch**	**3.28**	**179**	*e*Pn	**Pn**	**04 25 33.7**	**+1.6**
MFID	**Camas Ranch**	**3.38**	**246**	*e*Pn	**Pn**	**04 25 32.4**	**-1.0**
MFID				*e*S	**Sg**	**04 26 22.7**	**-6.3**
BSMT	**Bassoo Peak**	**3.69**	**325**	*e*Pn	**Pn**	**04 25 36.6**	**-1.2**
BSMT				*e*S	**Sg**	**04 26 32.9**	**-6.3**

*ISCJB **02** 04:29:29.4±0.2, 18°.39N±0°.04×145°.66E±0°.06, h121km, mb4.6/70, Error ellipse: s-maj=8.3km s-min=5.9km az=15.2*

*NEIC **02** 04:29:30.9±0.2, 18°.37N×145°.74E, mb4.7/39, Error ellipse: s-maj=6.9km s-min=4.3km az=111.0*

*MOS **02** 04:29:31.6±0.9, 18°.32N×145°.60E, h147km, mb4.5/34, Error ellipse: s-maj=14.0km s-min=7.2km az=90.4*

*IDC **02** 04:29:31.0±0.5, 18°.38N×145°.72E, h124km±3km, mb4.2/27, mb1 4.3/29, mb1mx4.3/32, mbtmp4.2/29, MS3.6/4, Ms1 3.7/4, ms1mx3.0/33, Error ellipse: s-maj=13.1km s-min=7.2km az=95.0*

ISC 02 04:29:31.2±0.2, 18°.34N±0°.04×145°.74E±0°.06, h123km, h123km±.9km: pP-P, n172, σ0.85/167, mb4.6/70, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
GUMO	**Guam**	**4.79**	**190**	P	**Pn**	**04 30 41.9**	**+0.4**
	49nm,0.3s,baz=94,slow=4.8,SNR=8.3						
GUMO				S	**Sn**	**04 31 41.7**	**+5.6**
	34nm,0.3s,baz=126,slow=23,SNR=2.5						
GUMO	**Guam**	**4.79**	**190**	*e*Pn	**Pn**	**04 30 41.8**	**+0.3**
GUMO				*e*S	**Sn**	**04 31 41.0**	**+4.9**
GUMO	**Guam**	**4.79**	**190**	*e*P	**Pn**	**04 30 41.8**	**+0.3**
GUMO				*e*S	**Sn**	**04 31 41.1**	**+5.0**
JOW	**Kunigami**	**18.19**	**301**	P	**P**	**04 33 38.7**	**+4.2**
	6.0nm,0.3s,baz=139,slow=14,SNR=12						
JOW	**Kunigami**	**18.19**	**301**	P	**P**	**04 33 38.7**	**+4.2**
MJAR	**Matsushiro Arr**	**19.31**	**341**	P	**P**	**04 33 47.5**	**+0.9**
	0.8nm,0.3s,baz=154,slow=9.1,SNR=7.2						
MJAR				S	**S**	**04 37 20.1**	**+1.5**
	0.3nm,0.3s,baz=9.2,slow=27,SNR=4.1						
MJAR	**Matsushiro Arr**	**19.31**	**341**	P	**P**	**04 33 47.5**	**+0.9**
MJAR				S	**S**	**04 37 20.1**	**+1.5**
MJAR	**Matsushiro Arr**	**19.31**	**341**	P	**P**	**04 33 47.5**	**+0.9**
MJAR				S	**S**	**04 37 20.1**	**+1.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**19.31**	**341**	*e*P	**P**	**04 33 50.0**	**+3.4**
MAJO	**Matsushiro**	**19.31**	**341**	*e*P	**P**	**04 33 50.1**	**+3.5**
MAT	**Matsushiro**	**19.31**	**341**	P	**P**	**04 33 47.7**	**+1.1**
MAT				S	**S**	**04 37 19.5**	**+0.9**
YHNB	**Yeheng**	**23.50**	**290**	*e*P	**P**	**04 34 33.8**	**+3.7**
SSLB	**Suanglung**	**23.74**	**287**	*e*P	**P**	**04 34 34.0**	**+1.8**
	comp=Z,14nm,0.7s,mb4.4						
KSRS	**Korea Array**	**24.63**	**324**	P	**P**	**04 34 39.9**	**-0.3**
	comp=Z,2.0nm,0.6s,mb3.7,baz=140,slow=8.1,SNR=6.8						
KSRS				pP		04 35 04.7	
	comp=Z,5.9nm,0.9s,baz=146,slow=9.7,SNR=5.0						
KSRS				sP	sP	04 35 20.7	-0.2
	comp=Z,3.7nm,0.8s,baz=147,slow=8.7,SNR=2.7						
KSRS	**Korea Array**	**24.63**	**324**	P	**P**	**04 34 39.9**	**-0.3**
KSRS				*PP		04 35 04.7	
KSRS				*SP	sP	04 35 20.7	-0.2
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
KSRS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
KSAR	**Wonju Array Be**	**24.64**	**324**	P	**P**	**04 34 39.9**	**-0.4**
KSAR				pP		04 35 04.7	
KSAR				sP	sP	04 35 20.7	-0.3
KSAR	**Wonju Array Be**	**24.64**	**324**	P	**P**	**04 34 39.9**	**-0.4**
KSAR				*PP		04 35 04.7	
KSAR				*SP	sP	04 35 20.7	-0.3
ASAJ	**Asahikawa**	**25.84**	**355**	P	**P**	**04 34 51.6**	**+0.6**
	comp=Z,19nm,1.1s,mb4.4,baz=170,slow=13,SNR=3.1						
ASAJ	**Asahikawa**	**25.84**	**355**	P	**P**	**04 34 51.6**	**+0.6**
ASAJ	**Asahikawa**	**25.84**	**355**	P	**P**	**04 34 51.7**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,19nm,1.1s						
PMG	**Port Moresby**	**27.60**	**177**	P	**P**	**04 35 06.3**	**-0.8**
	comp=Z,5.8nm,0.5s,mb4.4,baz=328,slow=8.4,SNR=4.8						
PMG	**Port Moresby**	**27.60**	**177**	*e*P	**P**	**04 35 06.2**	**-0.9**
	comp=Z,5.3nm,0.6s,mb4.2						
PMG	**Port Moresby**	**27.60**	**177**	*e*P	**P**	**04 35 06.2**	**-0.9**
PMG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NJ2	**Nanjing**	**27.80**	**305**	*e*P	**P**	**04 35 08.6**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s,mb4.9						
HNR	**Honiara**	**30.95**	**152**	LR	LR	04 47 16.5	
	comp=Z,34nm,20.7s,baz=154,slow=34						
KKM	**Kota Kinabalu**	**31.27**	**251**	*e*P	**P**	**04 35 42.0**	**+2.3**
	comp=Z,9.0nm,0.6s,mb4.7						
KAPI	**Kappang**	**34.57**	**230**	P	**P**	**04 36 08.8**	**+0.5**
	comp=Z,5.6nm,0.8s,mb4.5,baz=206,slow=18,SNR=4.2						
KAPI	**Kappang**	**34.57**	**230**	P	**P**	**04 36 08.8**	**+0.5**
PETK	**Petropavlovsk-**	**35.93**	**12**	P	**P**	**04 36 20.1**	**+0.6**
	comp=Z,3.7nm,0.6s,mb4.5,baz=191,slow=10,SNR=6.9						
PETK				LR	LR	04 49 02.3	
	comp=Z,106nm,20.3s,baz=340,slow=33						
PETK	**Petropavlovsk-**	**35.93**	**12**	P	**P**	**04 36 20.1**	**+0.6**
PETK	**Petropavlovsk-**	**35.93**	**12**	P	**P**	**04 36 20.2**	**+0.7**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CTA	**Charters Tower**	**38.19**	**179**	P	**P**	**04 36 39.2**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=4.5,slow=9.1,SNR=2.9						
CTA	**Charters Tower**	**38.19**	**179**	P	**P**	**04 36 39.2**	**+0.2**
CTA	**Charters Tower**	**38.19**	**179**	P	**P**	**04 36 39.2**	**+0.2**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRAB	**Tennant Creek**	**39.64**	**197**	*e*P	**P**	**04 36 51.2**	**+0.2**
	comp=Z,9.1nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**39.64**	**197**	*e*P	**P**	**04 36 51.2**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**39.65**	**197**	*e*P	**P**	**04 36 51.5**	**+0.4**
WRA	**Warramunga Arr**	**39.65**	**197**	P	**P**	**04 36 50.8**	**-0.4**
	comp=Z,5.7nm,0.9s,mb4.4,baz=19,slow=8.4,SNR=27						
WRA				PcP	PcP	04 38 54.7	-1.1
	comp=Z,0.5nm,0.6s,baz=13,slow=3.5,SNR=4.1						
WRA				ScP	ScP	04 42 30.9	-2.3
	comp=Z,0.9nm,0.8s,baz=6.7,slow=4.4,SNR=6.7						
WRA	**Warramunga Arr**	**39.65**	**197**	P	**P**	**04 36 50.8**	**-0.4**
WRA				PcP	PcP	04 38 54.7	-1.1
WRA				ScP	ScP	04 42 30.9	-2.3
WRA	**Warramunga Arr**	**39.65**	**197**	P	**P**	**04 36 50.8**	**-0.4**
WRA						04 38 54.7	
WRA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.25**	**210**	P	**P**	**04 37 04.9**	**+0.5**
	comp=N,8.9nm,0.8s,mb4.7,baz=38,slow=8.9,SNR=19						
FITZ	**Fitzroy Crossi**	**41.25**	**210**	P	**P**	**04 37 04.9**	**+0.5**
AS31	**Alice Springs**	**43.31**	**196**	*e*P	**P**	**04 37 21.6**	**+0.6**
ASAR	**Alice Springs**	**43.31**	**196**	P	**P**	**04 37 20.0**	**-1.0**
	comp=N,2.1nm,0.8s,mb4.0,baz=15,slow=6.7,SNR=15						
ASAR				PcP	PcP	04 39 06.7	-1.1
	comp=N,0.9nm,0.8s,baz=64,slow=1.4,SNR=4.9						
ASAR				ScP	ScP	04 42 45.4	-2.4
	comp=N,0.6nm,0.8s,baz=19,slow=3.9,SNR=4.9						
ASAR	**Alice Springs**	**43.31**	**196**	P	**P**	**04 37 20.0**	**-1.0**
ASAR				PcP	PcP	04 39 06.7	-1.1
ASAR				ScP	ScP	04 42 45.4	-2.4
ASAR	**Alice Springs**	**43.31**	**196**	P	**P**	**04 37 20.0**	**-1.0**
ASAR						04 39 06.7	
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
SONM	**Songino Array**	**43.45**	**322**	P	**P**	**04 37 21.2**	**-0.7**
	comp=N,1.5nm,0.6s,mb3.9,baz=138,slow=8.6,SNR=6.5						
SONM	**Songino Array**	**43.45**	**322**	P	**P**	**04 37 21.2**	**-0.7**
SONM	**Songino Array**	**43.45**	**322**	P	**P**	**04 37 21.2**	**-0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.30**	**278**	P	**P**	**04 37 18.9**	**-10**
	comp=Z,2.9nm,0.7s,mb4.1,baz=84,slow=5.9,SNR=11						
CMAR				LR	LR	04 57 57.0	
	comp=Z,26nm,18.0s,baz=238,slow=38						
CMAR	**Chiang Mai Arr**	**44.30**	**278**	P	**P**	**04 37 18.9**	**-10**
CMAR	**Chiang Mai Arr**	**44.30**	**278**	P	**P**	**04 37 18.9**	**-10**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,27nm,18.0s						
SEY	**Seymchan**	**44.79**	**4**	*i* P	**P**	**04 37 33.0**	**+0.7**
STKA	**Stephens Creek**	**50.08**	**185**	P	**P**	**04 38 14.2**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=4.7,slow=8.7,SNR=5.5						
STKA	**Stephens Creek**	**50.08**	**185**	P	**P**	**04 38 14.2**	**+0.6**
STKA	**Stephens Creek**	**50.08**	**185**	P	**P**	**04 38 14.2**	**+0.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AFI	**Afiamalu**	**52.74**	**125**	P	**P**	**04 38 34.6**	**+0.9**
	comp=Z,19nm,0.2s,mb5.7,baz=96,slow=9.4,SNR=3.4						
AFI	**Afiamalu**	**52.74**	**125**	P	**P**	**04 38 34.6**	**+0.9**
AFI	**Afiamalu**	**52.74**	**125**	P	**P**	**04 38 34.6**	**+0.9**
AFI				pmax	pmax		
	comp=Z,19nm,0.2s,mb5.8						
ZALV	**Zalesovo Beam**	**58.32**	**323**	P	**P**	**04 39 12.5**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=110,slow=7.4,SNR=8.6						
ZALV				pP	pP	04 39 42.0	-0.6
	comp=Z,1.8nm,0.8s,baz=122,slow=7.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**58.32**	**323**	P	**P**	**04 39 12.5**	**-0.6**
ZALV				pP	pP	04 39 42.0	-0.6
ZALV	**Zalesovo Beam**	**58.32**	**323**	P	**P**	**04 39 12.5**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**58.74**	**314**	P	**P**	**04 39 15.7**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.2,baz=88,slow=9.7,SNR=12						
MKAR				pP	pP	04 39 44.5	-1.1
	comp=Z,2.0nm,0.9s,baz=94,slow=9.9,SNR=4.6						
MKAR	**Makanchi Array**	**58.74**	**314**	P	**P**	**04 39 15.7**	**-0.5**
MKAR				pP	pP	04 39 44.5	-1.1
MKAR	**Makanchi Array**	**58.74**	**314**	P	**P**	**04 39 15.7**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KDAK	**Kodiak Island**	**59.64**	**33**	P	**P**	**04 39 22.3**	**+0.2**
	comp=Z,10nm,

INK pmax pmax
comp=Z,11nm,0.8s
INK pmax pmax
comp=Z,8.0nm,0.9s
DLBC Dease Lake 71.57 33 P **P 04 40 39.5 +0.7**
comp=Z,16nm,0.9s,mb4.9,baz=309,slow=4.5,SNR=18
DLBC pP pP 04 41 10.2 +0.8
comp=Z,6.2nm,0.9s,baz=264,slow=8.2,SNR=2.8
DLBC Dease Lake 71.57 33 *e*P **P 04 40 39.6 +0.8**
DLBC pP pP 04 41 10.2 +0.8
DLBC *e*pP pP 04 41 10.5 +1.1
ARU Arti 73.38 325 P **P 04 40 48.6 -0.9**
BBB Bella Bella 73.40 40 P **P 04 40 49.6 -0.1**
comp=Z,22nm,1.0s,mb5.0,baz=320,slow=12,SNR=3.0
BBB Bella Bella 73.40 40 P **P 04 40 49.6 -0.1**
ABKAR Akbulak array 73.63 317 *e*P **P 04 40 49.2 -1.9**
comp=Z,1.7nm,0.5s,mb4.0
ABKAR *e*pP pP 04 41 22.1 +0.2
GNW Green Mountain 77.65 44 *e*P **P 04 41 14.5 +0.5**
comp=Z,12nm,1.0s,mb4.6
JCW Jim Creek 78.08 43 *e*P **P 04 41 16.8 +0.4**
comp=Z,42nm,0.8s,mb5.2
YKA Yellowknife Ar 78.29 28 P **P 04 41 16.4 -0.9**
comp=Z,5.8nm,0.7s,mb4.4,baz=290,slow=5.3,SNR=12
YKA pP pP 04 41 47.5 -0.9
comp=Z,9.5nm,0.8s,baz=290,slow=5.7,SNR=13
YKA Yellowknife Ar 78.29 28 P **P 04 41 16.4 -0.9**
YKA pP pP 04 41 47.5 -0.9
YKA Yellowknife Ar 78.29 28 P **P 04 41 16.4 -0.9**
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA pmax pmax
comp=Z,10.0nm,0.8s
LON Longmire 78.52 45 *e*P **P 04 41 19.0 +0.1**
comp=Z,6.9nm,0.9s,mb4.5
LON Longmire 78.52 45 *e*P **P 04 41 19.0 +0.1**
LON pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
ETW Entiat 79.27 43 *e*P **P 04 41 23.0 0.0**
comp=Z,30nm,0.8s,mb5.2
RES Resolute Bay 79.77 14 P **P 04 41 24.6 -0.6**
comp=Z,5.7nm,0.9s,mb4.4,baz=331,slow=4.3,SNR=11
RES pP pP 04 41 56.3 0.0
comp=Z,3.1nm,0.8s,baz=323,slow=6.2,SNR=3.5
RES Resolute Bay 79.77 14 *e*P **P 04 41 24.5 -0.7**
comp=Z,5.7nm,0.9s,mb4.4
RES pP pP 04 41 56.3 0.0
RES Resolute Bay 79.77 14 P **P 04 41 24.6 -0.6**
RES pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
RES pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
RSW Rattlesnake Hi 80.09 44 *e*P **P 04 41 28.2 +0.8**
comp=Z,9.1nm,0.7s,mb4.7
RSW *e*pP pP 04 41 59.1 +0.5
RSW *e*sP sP 04 42 13.1 +1.4
OD2 Odessa Site #2 80.39 43 *e*P **P 04 41 28.9 -0.1**
comp=Z,22nm,1.1s,mb4.9
OD2 *e*pP pP 04 41 59.8 -0.4
NEW Newport 81.16 42 *e*P **P 04 41 32.9 -0.2**
comp=Z,12nm,1.0s,mb4.7
NEW *e*pP pP 04 42 04.0 -0.3
NEW Newport 81.16 42 *e*P **P 04 41 32.9 -0.2**
NEW pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 81.89 53 *e*P **P 04 41 37.1 0.0**
comp=Z,13nm,1.0s,mb4.7
CMB *e*pP pP 04 42 08.0 -0.5
CMB Columbia Colle 81.89 53 *e*P **P 04 41 37.1 -0.1**
CMB pmax pmax
comp=Z,13nm,1.0s,mb4.7
KEV Kevo 82.29 342 *e*P **P 04 41 36.5 -2.1**
KEV Kevo 82.29 342 *e*p **P 04 41 36.5 -2.1**
ARCES ARCESS Array B 82.85 342 P **P 04 41 40.3 -1.2**
comp=Z,4.4nm,0.8s,mb4.3,baz=81,slow=8.7,SNR=6.5
ARCES ARCESS Array B 82.85 342 P **P 04 41 40.3 -1.2**
ARCES ARCESS Array B 82.85 342 P **P 04 41 40.3 -1.2**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 83.33 52 P **P 04 41 44.9 +0.2**
comp=Z,8.4nm,0.8s,mb4.6,baz=266,slow=6.1,SNR=54
NVAR pP pP 04 42 15.5 -0.5
comp=Z,6.0nm,0.9s,baz=268,slow=6.1,SNR=5.8
NVAR Mina Array Bea 83.33 52 P **P 04 41 44.9 +0.2**
NVAR pP pP 04 42 15.5 -0.5
JOF Joensuu 84.36 335 *e*P **P 04 41 46.8 -2.5**
JOF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
JOF Joensuu 84.36 335 *e*p **P 04 41 46.8 -2.5**
comp=Z,4.3nm,0.8s,mb4.3
HLID Hailey 84.46 46 *e*P **P 04 41 50.5 +0.3**
comp=Z,9.2nm,1.3s,mb4.5
LRM Limekiln Ridge 84.98 43 *e*P **P 04 41 52.9 +0.1**
comp=Z,129nm,0.9s,mb5.9
LRM *e*pP pP 04 42 24.1 -0.2
HRY Holter Researc 85.06 42 *e*P **P 04 41 53.3 +0.1**
comp=Z,20nm,0.6s,mb5.2
QLMT Earthquake Lak 86.01 44 *e*P **P 04 41 58.8 +0.8**
comp=Z,2.6nm,0.8s,mb4.2
QLMT *e*pP pP 04 42 30.0 +0.5
QLMT *e*sP sP 04 42 45.0 +2.4
ZEI Tsey 86.09 314 *e*P **P 04 41 56.0 -2.4**
ZEI pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
YMR Madison River 86.38 44 *e*P **P 04 42 00.7 +0.9**
comp=Z,22nm,0.8s,mb5.1
YMR *e*pP pP 04 42 32.1 +0.8
RRI2 Red Ridge 86.64 45 *e*P **P 04 42 01.4 +0.4**
comp=Z,9.6nm,0.8s,mb4.8
RRI2 *e*pP pP 04 42 32.9 +0.2
IMW Indian Meadow 86.69 45 *e*P **P 04 42 02.2 +0.9**
comp=Z,5.1nm,0.7s,mb4.6
IMW *e*pP pP 04 42 33.3 +0.4
DUG Dugway 86.76 49 *e*P **P 04 42 01.8 +0.1**
comp=Z,16nm,1.1s,mb4.8
DUG *e*pP pP 04 42 33.1 -0.2
DUG Dugway 86.76 49 *e*P **P 04 42 01.8 +0.1**
DUG pmax pmax
comp=Z,16nm,1.1s,mb4.9
FLWY Flagg Ranch 86.78 45 *e*P **P 04 42 02.8 +1.1**
comp=Z,12nm,0.8s,mb4.9
FLWY *e*pP pP 04 42 33.6 +0.3
TPAW Teton Pass 86.83 45 *e*P **P 04 42 02.2 +0.2**
comp=Z,3.9nm,0.6s,mb4.5
HWUT Hardware Ranch 87.12 47 *e*P **P 04 42 03.4 0.0**
comp=Z,12nm,0.8s,mb4.9
HWUT *e*pP pP 04 42 34.8 -0.3
ARUT Antelope Range 87.17 51 *e*P **P 04 42 03.8 +0.1**
comp=Z,9.2nm,0.7s,mb4.8
ARUT *e*pP pP 04 42 35.2 -0.1
ARUT Antelope Range 87.17 51 *e*P **P 04 42 03.8 +0.1**
ARUT pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
FINES FINESS Array B 87.23 335 P **P 04 42 01.4 -2.2**
comp=Z,2.0nm,0.5s,mb4.3,baz=65,slow=4.8,SNR=12
FINES FINESS Array B 87.23 335 P **P 04 42 01.4 -2.2**
FINES FINESS Array B 87.23 335 P **P 04 42 01.4 -2.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FFC Flin Flon 87.38 33 *i* P **P 04 42 04.3 -0.1**
JLU Jordanelle 87.58 48 *e*P **P 04 42 05.6 0.0**
comp=Z,10nm,0.8s,mb4.9
JLU *e*pP pP 04 42 33.8 -3.5
MSU Marysvale 87.83 50 *e*P **P 04 42 07.2 +0.3**
comp=Z,5.6nm,0.9s,mb4.6
MSU Marysvale 87.83 50 *e*P **P 04 42 07.2 +0.3**
MSU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
PDAR Pinedale Array 88.05 45 P **P 04 42 07.2 -0.6**
comp=Z,1.7nm,0.7s,mb4.2,baz=233,slow=1.9,SNR=16
PDAR Pinedale Array 88.05 45 P **P 04 42 07.2 -0.6**
SRU San Rafael 88.80 49 *e*P **P 04 42 11.1 -0.3**
comp=Z,12nm,0.7s,mb5.0
SRU *e*pP pP 04 42 42.7 -0.5
SRU *e*sP sP 04 42 57.8 +1.6
SRU San Rafael 88.80 49 *e*P **P 04 42 11.1 -0.3**
SRU pmax pmax
comp=Z,12nm,0.7s,mb5.0
WUAZ Wupatki 89.54 53 *e*P **P 04 42 15.4 +0.4**
comp=Z,13nm,0.9s,mb5.0
WUAZ *e*pP pP 04 42 47.0 +0.3
LAZ Ladron 93.18 52 *e*P **P 04 42 32.5 +0.7**
comp=Z,0.7nm,0.6s,mb4.2
BRTR Keskin Array B 94.39 314 P **P 04 42 35.6 -1.7**
comp=Z,1.2nm,0.8s,mb4.3,baz=102,slow=4.2,SNR=6.9
BRTR Keskin Array B 94.39 314 P **P 04 42 35.6 -1.7**
BRTR Keskin Array B 94.39 314 P **P 04 42 35.6 -1.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 98.01 56 P **P 04 42 54.9 +0.9**
comp=Z,0.6nm,0.8s,mb4.2,baz=292,slow=6.6,SNR=7.2
TXAR Lajitas Array 98.01 56 P **P 04 42 54.9 +0.9**
TXAR Lajitas Array 98.01 56 P **P 04 42 54.9 +0.9**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
VNA2 Neumayer-Watz 125.02 190 *e* PKPdf 04 48 14.9 -1.3
baz=250,slow=1.7
VNA3 Neumayer Olymp 125.12 189 *e* PKPdf 04 48 14.8 -1.5
SDV Santo Domingo 135.06 56 *e*PKPdf PKPdf 04 48 36.2 -0.7
PLCA Paso Flores 141.73 133 PKhKP PKPpre 04 48 44.0
comp=Z,2.0nm,0.9s,baz=243,slow=4.5,SNR=4.3
PLCA Paso Flores 141.73 133 PKPpre PKPpre 04 48 44.0
LCO Las Campanas 145.11 115 *e*PKPdf PKPdf 04 48 54.4 -0.2
LPAZ La Paz 147.63 92 *e*PKPdf PKPdf 04 48 59.8 +0.6
LPAZ *e*PKPbc PKPbc 04 49 02.7 +0.7
LPAZ La Paz 147.63 92 *e*PKIKP PKPdf 04 48 59.8 +0.6
LPAZ *e* 04 49 02.7
CPUP Villa Florida 157.25 115 PKP PKPdf 04 49 09.2 -4.0
comp=Z,0.7nm,0.7s,baz=203,slow=7.4,SNR=3.0
CPUP PKPab PKPab 04 49 44.5 -0.2
comp=Z,2.1nm,0.8s,baz=289,slow=4.3,SNR=4.4
CPUP Villa Florida 157.25 115 PKP PKPdf 04 49 09.2 -4.0
CPUP PKPab PKPab 04 49 44.5 -0.2
CPUP Villa Florida 157.25 115 PKIKP PKPdf 04 49 09.2 -3.9
CPUP 04 49 44.6
CPUP pmax pmax
comp=Z,1.0nm,0.7s
CPUP pmax pmax
comp=Z,2.0nm,0.8s

ATH ***02*** *04:38:47.4, 41.°09N×23.°28E, h20km±1km, MD3.6/8*
SOF ***02*** *04:38:47.2, 41.°04N×23.°33E, h6km, MD2.7*
THE ***02*** *04:38:48.9, 41.°07N×23.°35E, h1km±1km, ML3.0/11, Error ellipse: s-maj=1.5km s-min=0.4km az=219.0*
CSEM ***02*** *04:38:48.4±0.1, 41.°08N×23.°34E, h5km, ML3.0/11, Error ellipse: s-maj=2.2km s-min=2.0km az=124.0*
ISCJB ***02*** *04:38:48.2±0.3, 41.°08N±0.°02×23.°33E±0.°02, h4km±3km, Error ellipse: s-maj=3.1km s-min=2.7km az=28.7*
SKO ***02*** *04:38:49.1, 41.°10N×23.°33E, h4km, M2.4, ML2.6*
BEO ***02*** *04:38:55.8±1.2, 41.°34N×23.°28E, h0km, ML2.8/2*

ISC 02 04:38:48.7±0.3, 41.°09N±0.°02×23.°33E±0.°02, h6km±3km, n71, o0°83/111, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.20**	**83**	P	**Pg**	**04 38 52.5**	**0.0**
SRS				S	**Sg**	**04 38 55.3**	**+0.1**
SRS	**Serrai**	**0.20**	**83**	P	**Pg**	**04 38 52.5**	**0.0**
SRS				S	**Sg**	**04 38 55.3**	**+0.1**
SOH	**Sokhos**	**0.27**	**177**	*e*PB	**Pg**	**04 38 54.0**	**+0.1**
SOH				*e*SB	**Sg**	**04 38 58.0**	**+0.5**
SOH	**Sokhos**	**0.27**	**177**	P	**Pg**	**04 38 54.1**	**+0.2**
SOH				S	**Sg**	**04 38 57.7**	**+0.2**
SOH	**Sokhos**	**0.27**	**177**	P	**Pg**	**04 38 54.1**	**+0.2**
SOH				S	**Sg**	**04 38 57.7**	**+0.2**
KNT	**Kendrikon**	**0.34**	**282**	P	**Pg**	**04 38 55.8**	**+0.6**
KNT				S	**Sg**	**04 39 00.7**	**+1.1**
KNT	**Kendrikon**	**0.34**	**282**	P	**Pg**	**04 38 55.8**	**+0.6**
KNT				S	**Sg**	**04 39 00.7**	**+1.1**
NVR	**Nevrokopi**	**0.47**	**57**	*e*PN	**Pg**	**04 38 57.8**	**0.0**
NVR				*e*SN	**Sg**	**04 39 04.6**	**+0.6**
NVR	**Nevrokopi**	**0.47**	**57**	P	**Pg**	**04 38 57.8**	**0.0**
NVR				S	**Sg**	**04 39 04.9**	**+0.9**
NVR	**Nevrokopi**	**0.47**	**57**	P	**Pg**	**04 38 57.8**	**0.0**
NVR				S	**Sg**	**04 39 04.9**	**+0.9**
HORT	**Hortiatis**	**0.52**	**200**	P	**Pg**	**04 38 58.8**	**+0.1**
HORT				S	**Sg**	**04 39 06.2**	**+0.7**
HORT	**Hortiatis**	**0.52**	**200**	P	**Pg**	**04 38 58.8**	**+0.1**
HORT				S	**Sg**	**04 39 06.2**	**+0.7**
THE	**Thessaloniki**	**0.54**	**211**	P	**Pg**	**04 38 59.0**	**0.0**
THE				S	**Sg**	**04 39 06.0**	**0.0**
THE	**Thessaloniki**	**0.54**	**211**	P	**Pg**	**04 38 59.0**	**0.0**
THE				S	**Sg**	**04 39 06.0**	**0.0**
MMB	**Musomiste**	**0.58**	**31**	*i* Pg	**Pg**	**04 38 59.1**	**-0.7**
MMB	**Musomiste**	**0.58**	**31**	*i* Pg	**Pg**	**04 38 59.1**	**-0.7**
VAY	**Valandovo**	**0.62**	**292**	*i* Pg	**Pg**	**04 39 00.9**	**+0.4**
VAY				*i* Sg	**Sg**	**04 39 09.3**	**+0.7**
VAY				*e*Lg		04 39 09.7	
	comp=N,268nm,0.2s						
VAY				*e*Lg		04 39 10.0	
	comp=E,148nm,0.3s						
VAY	**Valandovo**	**0.62**	**292**	*i* Pg	**Pg**	**04 39 00.9**	**+0.3**
VAY				*i* Sg	**Sg**	**04 39 09.2**	**+0.6**
VAY				*e*Lg		04 39 09.7	
	comp=E,268nm,0.2s						
GRG	**Griva**	**0.72**	**259**	P	**Pg**	**04 39 02.4**	**0.0**
GRG				S	**Sg**	**04 39 12.9**	**+1.1**
GRG	**Griva**	**0.72**	**259**	P	**Pg**	**04 39 02.4**	**0.0**
GRG				S	**Sg**	**04 39 12.9**	**+1.1**
PLG	**Polygyros**	**0.72**	**173**	*e*PN	**Pg**	**04 39 01.6**	**-0.9**
PLG	**Polygyros**	**0.72**	**173**	P	**Pg**	**04 39 01.6**	**-0.9**
PLG				S	**Sg**	**04 39 12.4**	**+0.5**
PLG	**Polygyros**	**0.72**	**173**	P	**Pg**	**04 39 01.6**	**-0.9**
PLG				S	**Sg**	**04 39 12.4**	**+0.5**
KKB	**Krupnik**	**0.80**	**346**	Pg	**Pg**	**04 39 03.5**	**-0.5**
KKB	**Krupnik**	**0.80**	**346**	Pg	**Pg**	**04 39 03.5**	**-0.5**
KAVA	**Kavala**	**0.90**	**96**	P	**Pg**	**04 39 04.8**	**-1.1**
KAVA				S	**Sg**	**04 39 17.8**	**+0.3**
KAVA	**Kavala**	**0.90**	**96**	P	**Pg**	**04 39 04.8**	**-1.1**
KAVA				S	**Sg**	**04 39 17.8**	**+0.3**
OUR	**Ouranopolis**	**0.90**	**147**	P	**Pg**	**04 39 05.9**	**-0.1**
OUR				S	**Sg**	**04 39 18.0**	**+0.3**
OUR	**Ouranopolis**	**0.90**	**147**	P	**Pg**	**04 39 05.9**	**-0.1**
OUR				S	**Sg**	**04 39 18.0**	**+0.3**
LIT	**Litokhoron**	**1.18**	**213**	*e*PN	**Pn**	**04 39 09.4**	**-2.3**
LIT	**Litokhoron**	**1.18**	**213**	P	**Pg**	**04 39 10.4**	**-0.9**
LIT				S	**Sg**	**04 39 28.2**	**+1.6**
LIT	**Litokhoron**	**1.18**	**213**	*e*Pn	**Pn**	**04 39 09.4**	**-2.3**
LIT	**Litokhoron**	**1.18**	**213**	P	**Pg**	**04 39 10.4**	**-0.9**
LIT				S	**Sg**	**04 39 28.2**	**+1.6**
PAIG	**Paliouri**	**1.19**	**167**	P	**Pg**	**04 39 10.1**	**-1.4**
PAIG				S	**Sg**	**04 39 26.9**	**-0.1**
PAIG	**Paliouri**	**1.19**	**167**	P	**Pg**	**04 39 10.1**	**-1.4**
PAIG				S	**Sg**	**04 39 26.9**	**-0.1**
KZN	**Kozani**	**1.42**	**237**	*e*PN	**Pn**	**04 39 14.2**	**-0.9**
KZN	**Kozani**	**1.42**	**237**	*e*Pn	**Pn**	**04 39 14.2**	**-0.9**
PLD	**Plovdiv**	**1.44**	**45**	P	**Pn**	**04 39 15.9**	**+0.6**
PLD				S	**Sb**	**04 39 36.0**	**+1.4**
PLD	**Plovdiv**	**1.44**	**45**	P	**Pn**	**04 39 16.5**	**+1.2**
PLD	**Plovdiv**	**1.44**	**45**	P	**Pn**	**04 39 15.9**	**+0.6**
PLD				S	**Sb**	**04 39 36.0**	**+1.4**
VTS	**Vitosha**	**1.50**	**356**	*e*Pg	**Pg**	**04 39 17.7**	**+0.3**
VTS				*e*Sg	**Sg**	**04 39 36.1**	**-0.8**
VTS	**Vitosha**	**1.50**	**356**	P	**Pn**	**04 39 16.8**	**+0.6**
VTS				S	**Sn**	**04 39 37.2**	**+1.1**
VTS	**Vitosha**	**1.50**	**356**	P	**Pn**	**04 39 16.8**	**+0.6**
VTS	**Vitosha**	**1.50**	**356**	*e*Pg	**Pg**	**04 39 17.7**	**+0.3**
VTS				*e*Sg	**Sg**	**04 39 36.1**	**-0.8**
VTS				S	**Sn**	**04 39 37.2**	**+1.1**
FNA	**Florina**	**1.51**	**259**	P	**Pn**	**04 39 16.4**	**+0.1**
FNA	**Florina**	**1.51**	**259**	P	**Pn**	**04 39 16.4**	**+0.1**
BIA	**Bitola**	**1.52**	**268**	*e*Pn	**Pn**	**04 39 16.6**	**+0.2**
BIA	**Bitola**	**1.52**	**268**	*e*Pn	**Pn**	**04 39 16.5**	**+0.1**
PGB	**Panagyurishte**	**1.58**	**23**	P	**Pn**	**04 39 17.7**	**+0.4**
PGB	**Panagyurishte**	**1.58**	**23**	P	**Pn**	**04 39 17.7**	**+0.4**
KRUS	**Krusevo**	**1.60**	**281**	*i* Pn	**Pn**	**04 39 17.0**	**-0.4**
KRUS	**Krusevo**	**1.60**	**281**	*i* Pn	**Pn**	**04 39 17.0**	**-0.5**
KDZ	**Kurdzhali**	**1.66**	**70**	P	**Pn**	**04 39 18.0**	**-0.4**
KDZ	**Kurdzhali**	**1.66**	**70**	P	**Pn**	**04 39 18.0**	**-0.4**
RDO	**Rodhopi**	**1.67**	**87**	*e*PN	**Pn**	**04 39 18.0**	**-0.4**
RDO				*e*SN	**Sn**	**04 39 40.9**	**+0.8**
RDO	**Rodhopi**	**1.67**	**87**	P	**Pn**	**04 39 18.6**	**+0.2**
RDO				S	**Sn**	**04 39 41.9**	**+1.8**
RDO	**Rodhopi**	**1.67**	**87**	*e*Pn	**Pn**	**04 39 18.0**	**-0.4**
RDO	**Rodhopi**	**1.67**	**87**	P	**Pn**	**04 39 18.6**	**+0.2**
RDO				*e*Sn	**Sn**	**04 39 40.9**	**+0.8**
RDO				S	**Sn**	**04 39 41.9**	**+1.8**
NEO	**Neokhori**	**1.79**	**183**	*e*PN	**Pn**	**04 39 19.0**	**-1.0**
NEO	**Neokhori**	**1.79**	**183**	*e*Pn	**Pn**	**04 39 18.8**	**-1.2**
THL	**Klokotos Trika**	**1.83**	**214**	*e*PN	**Pn**	**04 39 19.4**	**-1.2**
THL	**Klokotos Trika**	**1.83**	**214**	*e*Pn	**Pn**	**04 39 19.2**	**-1.4**
LIA	**Limnos Island**	**1.85**	**130**	P	**Pn**	**04 39 21.2**	**+0.3**
LIA	**Limnos Island**	**1.85**	**130**	P	**Pn**	**04 39 21.2**	**+0.3**
ALN	**Alexandroupoli**	**2.06**	**95**	*e*PN	**Pn**	**04 39 23.7**	**-0.2**
ALN	**Alexandroupoli**	**2.06**	**95**	*e*Pn	**Pn**	**04 39 23.7**	**-0.2**
BARS	**Barje**	**2.06**	**327**	*e*Pn	**Pn**	**04 39 28.4**	**+4.5**
BARS				*e*Sg	**Sg**	**04 39 54.1**	**-0.8**
AGG	**Agios Georgios**	**2.21**	**201**	*e*PB	**Pb**	**04 39 24.5**	**-4.4**
AGG	**Agios Georgios**	**2.21**	**201**	*e*Pb	**Pb**	**04 39 24.5**	**-4.4**
ZAPS	**Zavoj**	**2.24**	**347**	*e*Pn	**Pn**	**04 39 30.8**	**+4.5**
ZAPS				*e*Sg	**Sg**	**04 39 58.6**	**-2.1**
MPEP	**Malo Peshtene**	**2.28**	**7**	P	**Pn**	**04 39 31.4**	**+4.5**

GUC 02 04:50:54.0±0.7, 34.°38S×70.°19W, h1km±3km, MD3.5, ML1.9, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.42**	**307**	⇑*i*P	Pg	04 51 02.3	+0.1
CACH				*e*S	Sg	04 51 07.6	0.0
LMEL	**Las Melosas**	**0.53**	**359**	⇑*i*P	Pg	04 51 04.3	+0.3
LMEL				*i* S	Sg	04 51 12.5	+1.6
LMEL				AML	AML	04 51 13.9	
	comp=E,247nm,0.2s						
CHCH	**Chadas Angostu**	**0.58**	**319**	⇑*i*P	Pg	04 51 05.5	+0.3
CHCH				*i* S	Sg	04 51 14.1	+1.4
ANTU	**Antumapu**	**0.88**	**335**	⇑*i*P	Pg	04 51 10.9	0.0
ANTU				*e*S	Sg	04 51 23.5	+1.2
ANTU				AML	AML	04 51 28.2	
	comp=N,72nm,0.8s						
CLCH	**Cerro Calan**	**1.02**	**344**	⇑*i*P	Pg	04 51 13.3	-0.1
CLCH				*i* S	Sg	04 51 27.9	+1.2
CLCH				AML	AML	04 51 33.8	
	comp=N,73nm,0.7s						
FCH	**Farellones**	**1.05**	**356**	*e*P	Pg	04 51 17.8	+3.7
FCH				*i* S	Sg	04 51 33.9	+6.2
FCH				AML	AML	04 51 37.8	
	comp=E,51nm,0.3s						

NEIC ***02*** *04:52:04.2, 39.°68S×173.°44E, h12km, ML3.7(WEL), After WEL.*

WEL 02 04:52:04.4±0.1, 39.°70S×173.°49E, h12km, ML3.7/37, Error ellipse: s-maj=1.8km s-min=0.8km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRZ	**Ngariki Road**	**0.50**	**44**	P*	Pb	04 52 14.1	-1.0
NRZ	**Ngariki Road**	**0.50**	**44**	P*	Pb	04 52 14.1	-1.0
NWEZ	**Newall Road**	**0.51**	**35**	P*	Pb	04 52 14.4	-1.0
NWEZ				*e*S*	Sg	04 52 22.2	+1.0
NWEZ	**Newall Road**	**0.51**	**35**	P*	Pb	04 52 14.4	-1.0
NWEZ				S*	Sg	04 52 22.6	+1.4
DFE	**Dawson Falls**	**0.60**	**52**	P*	Pb	04 52 15.8	-1.0
DFE	**Dawson Falls**	**0.60**	**52**	P*	Pb	04 52 15.8	-1.0
PKE	**Pukeiti**	**0.63**	**38**	P*	Pb	04 52 16.5	-0.9
PKE				S*	Sb	04 52 25.4	-0.8
PKE	**Pukeiti**	**0.63**	**38**	P*	Pb	04 52 16.5	-0.9
NEZ	**North Egmont**	**0.63**	**48**	P*	Pb	04 52 16.2	-1.2
NEZ	**North Egmont**	**0.63**	**48**	P*	Pb	04 52 16.2	-1.2
DREZ	**Durham Road**	**0.75**	**48**	*e*P*	Pb	04 52 18.4	-1.0
DREZ	**Durham Road**	**0.75**	**48**	P*	Pb	04 52 18.5	-0.8
RAEZ	**Rainy Point**	**0.81**	**60**	P*	Pb	04 52 19.3	-1.1
RAEZ	**Rainy Point**	**0.81**	**60**	P*	Pb	04 52 19.3	-1.1
MHEZ	**Mangahewa**	**0.89**	**47**	P*	Pb	04 52 21.1	-0.7
MHEZ				*e*S*	Sb	04 52 33.6	-0.1
MHEZ	**Mangahewa**	**0.89**	**47**	P*	Pb	04 52 21.1	-0.7
MHEZ				S*	Sb	04 52 33.8	+0.1
VRZ	**Vera Road**	**1.14**	**60**	P*	Pb	04 52 24.1	-1.9
VRZ				*e*S*	Sb	04 52 40.5	-0.2
VRZ	**Vera Road**	**1.14**	**60**	P*	Pb	04 52 24.6	-1.4
DUWZ	**D'Urville Isla**	**1.16**	**163**	P*	Pb	04 52 25.0	-1.3
DUWZ	**D'Urville Isla**	**1.16**	**163**	P*	Pb	04 52 25.1	-1.2
WAZ	**Wanganui**	**1.16**	**93**	P*	Pb	04 52 25.1	-1.2
WAZ				S*	Sb	04 52 40.9	-0.4
WAZ	**Wanganui**	**1.16**	**93**	P*	Pb	04 52 25.1	-1.2
QRZ	**Quartz Range**	**1.35**	**213**	PN	Pn	04 52 27.8	-1.2
QRZ	**Quartz Range**	**1.35**	**213**	Pn	Pn	04 52 27.8	-1.2
PKVZ	**Pokaka**	**1.49**	**75**	PN	Pn	04 52 30.3	-0.7
PKVZ	**Pokaka**	**1.49**	**75**	Pn	Pn	04 52 30.3	-0.7
NNZ	**Nelson**	**1.52**	**183**	PN	Pn	04 52 30.8	-0.7
NNZ				SN	Sn	04 52 51.0	-0.2
NNZ	**Nelson**	**1.52**	**183**	Pn	Pn	04 52 30.8	-0.7
NNZ				Sn	Sn	04 52 52.1	+0.9
HIZ	**Hauiti**	**1.59**	**42**	*e*PN	Pn	04 52 31.3	-1.0
HIZ	**Hauiti**	**1.59**	**42**	Pn	Pn	04 52 31.2	-1.1
KIW	**Kapiti Island**	**1.59**	**137**	*e*PN	Pn	04 52 32.2	-0.2
KIW	**Kapiti Island**	**1.59**	**137**	Pn	Pn	04 52 32.4	0.0
TCW	**Tory Channel**	**1.63**	**159**	PN	Pn	04 52 33.0	+0.1
TCW	**Tory Channel**	**1.63**	**159**	Pn	Pn	04 52 33.1	+0.2
TWVZ	**Taurewa**	**1.63**	**68**	PN	Pn	04 52 32.1	-0.9
TWVZ	**Taurewa**	**1.63**	**68**	Pn	Pn	04 52 32.1	-0.9
TRVZ	**Turoa**	**1.64**	**77**	PN	Pn	04 52 32.7	-0.3
TRVZ	**Turoa**	**1.64**	**77**	Pn	Pn	04 52 32.7	-0.3
FWVZ	**Far West T-bar**	**1.66**	**75**	PN	Pn	04 52 32.8	-0.4
FWVZ	**Far West T-bar**	**1.66**	**75**	Pn	Pn	04 52 32.9	-0.4
DRZ	**Dome Shelter**	**1.66**	**76**	*e*PN	Pn	04 52 32.6	-0.7
DRZ	**Dome Shelter**	**1.66**	**76**	Pn	Pn	04 52 33.8	+0.5
WPVZ	**Whakapapa**	**1.67**	**74**	PN	Pn	04 52 32.9	-0.5
WPVZ	**Whakapapa**	**1.67**	**74**	Pn	Pn	04 52 32.9	-0.5
WNVZ	**Wahianoa**	**1.67**	**78**	Pn	Pn	04 52 33.8	+0.3
OGWZ	**Otaki Gorge**	**1.71**	**132**	PN	Pn	04 52 34.0	0.0
OGWZ	**Otaki Gorge**	**1.71**	**132**	Pn	Pn	04 52 34.1	+0.1
NGZ	**Ngauruhoe**	**1.72**	**73**	PN	Pn	04 52 33.6	-0.4
NGZ	**Ngauruhoe**	**1.72**	**73**	Pn	Pn	04 52 33.6	-0.4
WTVZ	**West Tongariro**	**1.73**	**71**	PN	Pn	04 52 33.7	-0.5
WTVZ	**West Tongariro**	**1.73**	**71**	Pn	Pn	04 52 33.7	-0.5
TUVZ	**Tukino**	**1.73**	**76**	PN	Pn	04 52 34.5	+0.2
TUVZ	**Tukino**	**1.73**	**76**	Pn	Pn	04 52 34.5	+0.2
OTVZ	**Oturere**	**1.77**	**73**	PN	Pn	04 52 35.0	+0.2
OTVZ	**Oturere**	**1.77**	**73**	Pn	Pn	04 52 35.0	+0.2
TUWZ	**Tuamarina**	**1.77**	**169**	PN	Pn	04 52 35.0	+0.2
TUWZ	**Tuamarina**	**1.77**	**169**	Pn	Pn	04 52 35.0	+0.2
KRVZ	**Karewarewa**	**1.77**	**71**	PN	Pn	04 52 34.5	-0.3

MKAZ	**Moumakai**	**2.90**	**28**	PN	Pn	04 52 50.2	-0.1
MKAZ	**Moumakai**	**2.90**	**28**	Pn	Pn	04 52 50.2	-0.1
URZ	**Urewera**	**3.17**	**64**	*e*Pn	Pn	04 52 54.9	+0.8
WCZ	**Waipu Caves**	**3.81**	**10**	*e*Pn	Pn	04 53 01.7	-1.2
WCZ	**Waipu Caves**	**3.81**	**10**	Pn	Pn	04 53 01.9	-0.9
WVZ	**Waitaha Valley**	**3.96**	**211**	*e*PN	Pn	04 53 05.2	+0.2
WVZ	**Waitaha Valley**	**3.96**	**211**	Pn	Pn	04 53 05.2	+0.2
FOZ	**Fox Glacier**	**4.80**	**215**	*e*PN	Pn	04 53 17.1	+0.6
FOZ	**Fox Glacier**	**4.80**	**215**	Pn	Pn	04 53 17.1	+0.6

IDC 02 05:07:10.6±1.2, 13°.14N×120°.75E, h0km, mb4.0/3, mb1 4.4/3, mb1mx3.6/21, mbtmp4.1/3, Error ellipse: s-maj=35.6km s-min=10.6km az=94.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.97**	**11**	Pg	Pg	05 07 27.4	-1.9
	216nm,0.3s,baz=186,slow=3.0,SNR=9.2						
TGY				Lg		05 07 44.4	
	250nm,0.3s,baz=204,slow=23,SNR=15						
CMAR	**Chiang Mai Arr**	**21.63**	**287**	P	P	05 12 02.9	+0.2
	0.8nm,0.3s,baz=87,slow=8.5,SNR=5.0						
WRA	**Warramunga Arr**	**35.49**	**158**	P	P	05 14 09.2	0.0
	2.3nm,0.6s,baz=336,slow=9.7,SNR=47						
ASAR	**Alice Springs**	**38.78**	**161**	P	P	05 14 37.4	+0.3
	1.6nm,0.6s,baz=340,slow=7.1,SNR=34						

*BJI **02** 05:11:36.0, 27°.02N×87°.64E, h21km, mB4.7/20, mb4.4/31, Ms4.2/20, Ms7 3.9/21*
*IDC **02** 05:11:38.7±0.5, 27°.39N×88°.02E, h0km, mb4.3/23, mb1 4.4/25, mb1mx4.3/31, mbtmp4.3/25, ML4.3/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/31, Error ellipse: s-maj=19.4km s-min=12.2km az=42.0*
*ISCJB **02** 05:11:41.6±0.4, 27°.30N±0°.03×87°.95E±0°.02, h34km±3km, mb4.7/71, MS3.8/12, Error ellipse: s-maj=4.9km s-min=3.1km az=12.8*
*NDI **02** 05:11:41.8±5.7, 27°.22N×87°.83E, h14km±30km, ML5.0, mb5.2(NEIC)*
*LDG **02** 05:11:42.6±0.3, 27°.58N×87°.78E, h33km, Mb5.1/25, Ms3.7/4, Error ellipse: s-maj=14.4km s-min=5.5km az=161.0*
*DMN **02** 05:11:42.9±0.5, 27°.32N×87°.99E, h2km, Ml5.6/6, Error ellipse: s-maj=8.7km s-min=6.7km az=93.0*
*NEIC **02** 05:11:42.0±0.7, 27°.37N×88°.05E, h25km±5km, mb5.2/35, Error ellipse: s-maj=6.1km s-min=4.0km az=206.0*
NEIC Felt [III] at Gangtok and [II] at Legship. Felt strongly at Shiliguri. Also felt at Geyzing.
*MOS **02** 05:11:43.2±1.0, 27°.37N×87°.98E, h47km, mb4.8/30, Error ellipse: s-maj=8.2km s-min=4.2km az=128.6*
ISC 02 05:11:42.3±0.5, 27°.32N±0°.03×87°.97E±0°.02, h24km±3km, h23km±.5km; pP-P, n366, σ1°.17/402, mb4.7/71, MS3.8/12, 11C-13D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**0.24**	**278**	*e*Pg	**Pb**	**05 11 47.1**	**-1.2**
TAPN				*e*Sg	**Sb**	**05 11 51.4**	**-0.9**
	58μm,0.3s						
TAPN	**Taplejung**	**0.24**	**278**	*e*Pg	**Pb**	**05 11 47.1**	**-1.2**
TAPN				*e*Sg	**Sb**	**05 11 51.4**	**-0.9**
ODAN	**Odare**	**0.69**	**229**	*e*Pg	**Pb**	**05 11 56.1**	**+0.5**
ODAN				*e*Sg	**Sb**	**05 12 06.0**	**+1.2**
	25μm,0.4s						
ODAN	**Odare**	**0.69**	**229**	*e*Pg	**Pb**	**05 11 56.1**	**+0.5**
ODAN				*e*Sg	**Sb**	**05 12 06.0**	**+1.2**
SLGI	**Shiliguri**	**0.73**	**147**	*e*PKP	**Pb**	**05 11 56.0**	**-0.3**
SLGI				*e*S	**Sb**	**05 12 07.0**	**+1.1**
RAMN	**Ramite**	**1.28**	**254**	*e*Pn	**Pn**	**05 12 06.3**	**+1.7**
RAMN				*e*Sn	**Sn**	**05 12 23.9**	**+2.9**
	15μm,0.3s						
RAMN	**Ramite**	**1.28**	**254**	*e*Pn	**Pn**	**05 12 06.3**	**+1.7**
RAMN				*e*Sn	**Sn**	**05 12 23.9**	**+2.9**
JIRN	**Jiri**	**1.62**	**283**	*e*Pn	**Pn**	**05 12 12.0**	**+2.7**
JIRN				*e*Sn	**Sn**	**05 12 31.8**	**+2.3**
	14μm,0.2s						
JIRN	**Jiri**	**1.62**	**283**	*e*Pn	**Pn**	**05 12 12.0**	**+2.7**
JIRN				*e*Sn	**Sn**	**05 12 31.8**	**+2.3**
GUN	**Gumba**	**1.95**	**288**	*e*Pn	**Pn**	**05 12 16.5**	**+2.6**
GUN	**Gumba**	**1.95**	**288**	*e*Pn	**Pn**	**05 12 16.5**	**+2.6**
PKI	**Pulchoki**	**2.29**	**277**	*e*Pn	**Pn**	**05 12 20.6**	**+2.0**
PKI	**Pulchoki**	**2.29**	**277**	*e*Pn	**Pn**	**05 12 20.6**	**+2.0**
PKI	**Pulchoki**	**2.29**	**277**	*e*P	**Pn**	**05 12 20.6**	**+2.0**
KKN	**Kakani**	**2.44**	**282**	*e*Pn	**Pn**	**05 12 22.5**	**+1.9**
KKN	**Kakani**	**2.44**	**282**	*e*Pn	**Pn**	**05 12 22.5**	**+1.9**
KKN	**Kakani**	**2.44**	**282**	*e*P	**Pn**	**05 12 22.5**	**+1.9**
DMN	**Daman**	**2.56**	**277**	*e*Pn	**Pn**	**05 12 24.3**	**+2.0**
DMN				*e*Sn	**Sn**	**05 12 54.3**	**+1.5**
	3μm,0.3s						
DMN	**Daman**	**2.56**	**277**	*e*Pn	**Pn**	**05 12 24.3**	**+2.0**
DMN				*e*Sn	**Sn**	**05 12 54.3**	**+1.5**
GKN	**Gorkha**	**3.04**	**284**	*e*Pn	**Pn**	**05 12 30.8**	**+2.0**
GKN				*e*Sn	**Sn**	**05 13 06.2**	**+1.8**
	5μm,0.3s						
GKN	**Gorkha**	**3.04**	**284**	*e*Pn	**Pn**	**05 12 30.8**	**+2.0**
GKN				*e*Sn	**Sn**	**05 13 06.2**	**+1.8**
LSA	**Lhasa**	**3.67**	**49**	*e*Pn	**Pn**	**05 12 39.5**	**+2.0**
LSA	**Lhasa**	**3.67**	**49**	*e*P	**Pn**	**05 12 39.5**	**+2.0**
DANN	**Dangsing**	**3.87**	**286**	*e*Pn	**Pn**	**05 12 41.4**	**+1.1**
DANN				*e*Sn	**Sn**	**05 13 25.8**	**+0.8**
	3μm,0.4s						
DANN	**Dangsing**	**3.87**	**286**	*e*Pn	**Pn**	**05 12 41.4**	**+1.1**
DANN				*e*Sn	**Sn**	**05 13 25.8**	**+0.8**
KOLN	**Koldanda**	**3.91**	**278**	*e*Pn	**Pn**	**05 12 41.9**	**+1.1**
KOLN	**Koldanda**	**3.91**	**278**	*e*Pn	**Pn**	**05 12 41.9**	**+1.1**
SHL	**Shillong**	**3.92**	**116**	*e*PKP	**Pn**	**05 12 41.2**	**+0.3**
SHL				*e*S	**Sn**	**05 13 25.3**	**-0.8**
PYUN	**Piuthan**	**4.49**	**281**	*e*Pn	**Pn**	**05 12 49.9**	**+1.2**
PYUN				*e*Sn	**Sn**	**05 13 39.0**	**-1.2**
	3μm,0.5s						
PYUN	**Piuthan**	**4.49**	**281**	*e*Pn	**Pn**	**05 12 49.9**	**+1.2**
PYUN				*e*Sn	**Sn**	**05 13 39.0**	**-1.2**
CAL	**Calcutta**	**4.77**	**176**	*e*PKP	**Pn**	**05 12 52.3**	**-0.4**
CAL				*e*S	**Sn**	**05 13 43.3**	**-3.8**
CAL				AML	AML	05 14 40.9	
	comp=N,2μm,0.3s						
CAL				AML	AML	05 14 41.3	
	comp=E,2μm,1.1s						
ALBI	**Allahabad**	**5.88**	**252**	*e*PKP	**Pn**	**05 13 06.5**	**-1.5**
IMP	**Imphal**	**5.92**	**114**	*e*PKP	**Pn**	**05 13 11.0**	**+2.4**
IMP				*ex*	x	05 14 16.0	
LGTI	**Lohaghat**	**7.13**	**289**	*ex*	x	05 13 29.7	
LGTI				*ex*	x	05 14 51.2	
PTH	**Pithoragarh**	**7.18**	**290**	*e*PKP	**Pn**	**05 13 25.8**	**0.0**
PTH				*ex*	x	05 14 47.2	
BWNR	**Bhubaneshwar**	**7.27**	**196**	*ex*	x	05 13 21.0	
BWNR				*ex*	x	05 15 19.0	
DDI	**Dehra Dun**	**9.20**	**291**	*e*PKP	**Pn**	**05 13 51.8**	**-1.7**
DDI				*ex*	x	05 15 30.0	
NDI	**New Delhi**	**9.60**	**281**	*e*PKP	**Pn**	**05 13 56.0**	**-3.0**
NDI				*e*S	**Sn**	**05 15 38.0**	**-8.2**
SMLA	**Simla**	**10.17**	**294**	*i* x	**Pn**	**05 14 04.2**	**-2.6**
SMLA				*i* S	**Sn**	**05 15 50.2**	**-10**
SMLA				AML	AML	05 15 59.0	
	comp=N,1μm,0.4s						
SMLA				‖AML	AML	05 16 00.5	
	comp=E,1μm,0.4s						
NGP	**Nagpur**	**10.19**	**235**	*e*PKP	**Pn**	**05 14 04.6**	**-2.5**
NGP				*e*S	**Sn**	**05 15 54.9**	**-5.8**
KUDL	**Kundal**	**10.21**	**277**	*e*PKP	**Pn**	**05 14 03.7**	**-3.6**
KUDL				*e*S	**Sn**	**05 15 49.8**	**-11**
BHPL	**Bhopal**	**10.37**	**249**	*e*PKP	**Pn**	**05 14 08.4**	**-1.1**
BHPL				*ex*	x	05 15 58.5	
SDNR	**Sundarnagar**	**10.46**	**296**	*e*PKP	**Pn**	**05 14 10.0**	**-0.7**
SDNR				*ex*	x	05 16 05.0	
KHET	**Khetri**	**10.81**	**277**	*e*PKP	**Pn**	**05 14 13.6**	**-2.0**
KHET				*e*S	**Sn**	**05 16 04.5**	**-11**
AJM	**Ajmer**	**11.93**	**269**	*ex*	**Pn**	**05 14 28.0**	**-2.9**
AJM				*ex*	x	05 16 34.0	
AKL	**Akola**	**11.98**	**239**	*e*PKP	**Pn**	**05 14 29.6**	**-2.0**
AKL				*i* x	x	05 16 36.8	
HYB	**Hyderabad**	**13.14**	**223**	*i* P	**Pn**	**05 14 46.0**	**-1.5**
HYB				*e*PP		05 14 56.0	
HYB				*e*S	**Sn**	**05 17 15.5**	**+2.5**
CHTO	**Chiang Mai**	**13.17**	**128**	Pn	**Pn**	**05 14 50.3**	**+2.4**
CHTO	**Chiang Mai**	**13.17**	**128**	P	**Pn**	**05 14 50.3**	**+2.4**
CMAR	**Chiang Mai Arr**	**13.41**	**129**	Pn	**Pn**	**05 14 49.6**	**-1.5**
	comp=E,0.5nm,0.3s,baz=300,slow=15,SNR=4.3						
CMAR				Sn	**Sn**	**05 17 36.3**	**+17**
	comp=E,0.3nm,0.3s,baz=162,slow=37,SNR=3.2						
CMAR				LR	LR	05 20 51.0	
	comp=E,108nm,19.6s,baz=310,slow=41						
CMAR	**Chiang Mai Arr**	**13.41**	**129**	Pn	**Pn**	**05 14 49.6**	**-1.5**
CMAR				Sn	**Sn**	**05 17 36.3**	**+17**
CMAR	**Chiang Mai Arr**	**13.41**	**129**	P	**Pn**	**05 14 49.7**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,108nm,19.6s						
KMI	**Kunming**	**13.44**	**96**	P	**Pn**	**05 14 51.4**	**-0.1**
KMI				pP		05 14 58.4	
KMI				sP		05 15 02.0	
KMI				S	**Sn**	**05 17 21.4**	**+1.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,70nm,4.4s						
KMI				LR	LR		
	comp=N,130nm,9.9s						
KMI				LR	LR		
	comp=E,440nm,13.4s						
KMI				LR	LR		
	comp=Z,500nm,13.4s						
KMI	**Kunming**	**13.44**	**96**	P	**Pn**	**05 14 51.4**	**-0.1**
	comp=Z,7.0nm,0.8s						
KMI				pP		05 14 58.4	
KMI				sP		05 15 02.0	
KMI				S	**Sn**	**05 17 21.4**	**+1.3**
KMI	**Kunming**	**13.44**	**96**	P	**Pn**	**05 14 51.4**	**-0.1**
KMI				S	**Sn**	**05 17 21.4**	**+1.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LATR	**Latur**	**13.74**	**232**	*ex*	**Pn**	**05 14 53.1**	**-2.6**
LATR				*ex*	x	05 17 17.8	
NIL	**Nilore**	**14.17**	**300**	*e*Pn	**Pn**	**05 15 01.7**	**+0.2**
NIL	**Nilore**	**14.17**	**300**	*e*P	**Pn**	**05 15 01.7**	**+0.3**
CD2	**Chengdu**	**14.26**	**72**	*e*P	**Pn**	**05 15 03.3**	**+0.7**
CD2				pP	pP	05 15 08.9	-7.3
CD2				sP	sP	05 15 13.2	-6.1
CD2				PP		05 15 15.1	
CD2				S	**Sn**	**05 17 41.1**	**+1.1**
CD2				SS		05 17 57.6	
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,460nm,9.6s						
CD2				LR	LR		
	comp=E,480nm,14.4s						
CD2				LR	LR		
	comp=Z,440nm,10.8s						
CEP	**Cherat**	**15.27**	**299**	P	**Pn**	**05 15 12.9**	**-3.4**
CEP				S	**Sn**	**05 17 58.0**	**-6.8**
GTA	**Gaotai**	**15.58**	**36**	*e*P	**Pn**	**05 15 14.5**	**-5.8**
GTA				pP	pP	05 15 19.8	-11
GTA				sP	sP	05 15 24.2	-10
GTA				S	**Sn**	**05 17 57.9**	**-14**
GTA				sS	sS	05 18 08.5	-29
GTA				SS		05 18 14.9	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,100nm,6.4s						
GTA				LR	LR		
	comp=N,250nm,9.7s						
GTA				LR	LR		
	comp=E,380nm,12.3s						
GTA				LR	LR		
	comp=Z,430nm,13.3s						
POO	**Poona**	**15.67**	**239**	*e*PKP	**Pn**	**05 15 21.0**	**-0.5**
POO				*ex*	x	05 18 23.0	
KSH	**Kashi**	**15.74**	**324**	P	**Pn**	**05 15 17.3**	**-5.1**
KSH				pP	pP	05 15 23.0	-10
KSH				sP	sP	05 15 27.6	-8.2
KSH				PP		05 15 30.4	
KSH				S	**Sn**	**05 18 03.8**	**-12**
KSH				PcP	PcP	05 20 23.9	+2.2
KSH				pmax	pmax		
	comp=Z,17nm,0.8s						
KSH				pmax	pmax		
	comp=Z,140nm,5.6s						
KSH				LR	LR		
	comp=N,160nm,6.4s						
KSH				LR	LR		
	comp=E,260nm,6.6s						
KSH				LR	LR		
	comp=Z,690nm,8.5s						
LZH	**Lanzhou**	**16.07**	**53**	*e*P	**Pn**	**05 15 29.5**	**+2.8**
LZH				pP	pP	05 15 36.3	-0.1
LZH				sP	sP	05 15 41.2	+1.7
LZH				S	**Sn**	**05 18 25.0**	**+0.8**
LZH				SS		05 18 46.0	
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,73nm,5.0s						
LZH				LR	LR		
	comp=N,610nm,12.7s						
LZH				LR	LR		
	comp=E,520nm,5.9s						
LZH				LR	LR		
	comp=Z,470nm,7.0s						
LZH	**Lanzhou**	**16.07**	**53**	*e*P	**Pn**	**05 15 29.5**	**+2.8**
	comp=Z,13nm,1.0s						
LZH				pP	pP	05 15 36.3	-0.1
LZH				sP	sP	05 15 41.2	+1.7
LZH				S	**Sn**	**05 18 25.0**	**+0.8**
LZH				sS	sS	05 18 34.0	-14
LZH				SS		05 18 46.0	
LZH	**Lanzhou**	**16.07**	**53**	*e*P	**Pn**	**05 15 29.5**	**+2.8**
LZH				S	**Sn**	**05 18 25.0**	**+0.8**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
KAD	**Karad**	**16.17**	**235**	*ex*	**Pn**	**05 15 25.3**	**-2.8**
KAD				*ex*	x	05 18 19.3	
WMQ	**Urumqi**	**16.47**	**359**	P	**Pn**	**05 15 33.3**	**+1.6**
WMQ				pP	pP	05 15 39.1	-1.6
WMQ				sP	sP	05 15 43.3	-0.5
WMQ				pmax	pmax		
	comp=Z,12nm,1.2s						
WMQ				LR	LR		
	comp=N,390nm,14.0s						
WMQ				LR	LR		
	comp=E,270nm,13.0s						
WMQ				LR	LR		
	comp=Z,160nm,17.0s						
GYA	**Guiyang**	**16.70**	**89**	P	**Pn**	**05 15 33.8**	**-0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ULHL	**Ulahol**	**17.71**	**330**	P	**Pn**	**05 15 49.7**	**+2.5**
	SNR=9.3						
KBL	**Kabul**	**17.75**	**299**	*e*P	**Pn**	**05 15 48.9**	**+1.1**
	comp=Z,41nm,1.0s						
KBL				S	**Sn**	**05 18 50.9**	**-14**
KBL	**Kabul**	**17.75**	**299**	*e*P	**Pn**	**05 15 48.9**	**+1.1**
KBL				pmax	pmax		
	comp=Z,41nm,1.0s						
KZA	**Kyzart**	**18.03**	**328**	P	**Pn**	**05 15 49.5**	**-1.7**
	SNR=8.9						
TKM2	**Tokmak 2**	**18.54**	**330**	P	**Pn**	**05 15 56.7**	**-0.6**
	SNR=8.5						
TKM2	**Tokmak 2**	**18.54**	**330**	*e*P	**Pn**	**05 15 56.5**	**-0.8**
	comp=Z,7.7nm,0.8s						
TKM2	**Tokmak 2**	**18.54**	**330**	*i* P	**Pn**	**05 15 56.7**	**-0.6**
KBK	**Karagaybulak**	**18.62**	**329**	P	**Pn**	**05 15 58.7**	**+0.4**
	SNR=8.6						
AAK	**Ala-Archa**	**18.82**	**328**	P	**Pn**	**05 15 59.7**	**-1.0**
	SNR=9.4						
AAK	**Ala-Archa**	**18.82**	**328**	*e*P	**Pn**	**05 15 59.4**	**-1.3**
	comp=Z,52nm,0.9s						
AAK	**Ala-Archa**	**18.82**	**328**	‖*e*P	**Pn**	**05 16 01.4**	**+0.7**
AAK				pmax	pmax		
	comp=Z,29nm,0.9s						
AAK				MLR	MLR		
	comp=Z,769nm,15.0s						
AAK	**Ala-Archa**	**18.82**	**328**	Pn	**Pn**	**05 16 01.1**	**+0.4**
	comp=Z,72nm,0.7s,SNR=7.5						
AML	**Almayashu**	**18.83**	**325**	P	**Pn**	**05 16 03.2**	**+2.3**
	SNR=14						
EKS2	**Erkin-Say**	**19.18**	**327**	P	**Pn**	**05 16 05.6**	**+0.5**
	SNR=13						
EKS2	**Erkin-Say**	**19.18**	**327**	*e*P	**Pn**	**05 16 05.5**	**+0.3**
	comp=Z,10nm,0.6s						
EKS2	**Erkin-Say**	**19.18**	**327**	*e*P	**Pn**	**05 16 05.5**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XAN	**Xi'an**	**19.21**	**64**	P	**Pn**	**05 16 10.1**	**+4.6**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,30nm,6.1s						
MK31	**Makanchi Array**	**19.95**	**349**	*e*P	**Pn**	**05 16 11.8**	**-2.5**
MK31	**Makanchi Array**	**19.95**	**349**	P	**Pn**	**05 16 12.2**	**-2.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**19.95**	**349**	P	**Pn**	**05 16 11.3**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=167,slow=9.6,SNR=39						
MKAR				LR	LR	05 25 05.8	
	comp=Z,150nm,18.2s,baz=168,slow=41						
MKAR	**Makanchi Array**	**19.95**	**349**	*e*P	**Pn**	**05 16 12.2**	**-2.0**
MKAR	**Makanchi Array**	**19.95**	**349**	*e*P	**Pn**	**05 16 12.2**	**-2.1**
KKAR	**Karatay Array**	**21.18**	**323**	*e*P	**P**	**05 16 25.3**	**-0.6**
	comp=Z,5.2nm,0.7s,mb4.0						
KKAR	**Karatay Array**	**21.18**	**323**	*e*P	**P**	**05 16 25.3**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
QIZ	**Qiongzhong**	**21.71**	**108**	P	**P**	**05 16 31.0**	**-0.7**
QIZ				S	**S**	**05 20 30.6**	**-0.3**
QIZ				LR	LR		
	comp=Z,80nm,18.1s,MS3.2						
WHN	**Wuhan**	**23.29**	**76**	P	**P**	**05 16 47.5**	**-1.0**
WHN				S	**S**	**05 21 02.0**	**+2.7**
WHN				LR	LR		
	comp=N,660nm,11.2s						
WHN				LR	LR		
	comp=E,380nm,9.1s						
WHN				LR	LR		
	comp=Z,640nm,16.3s						
HHC	**Hu-ho-hao-te**	**23.66**	**49**	*e*P	**P**	**05 16 50.3**	**-1.6**
HHC				pP		05 16 57.5	
HHC				sP	sP	05 16 59.5	-2.4
HHC				PP		05 17 21.3	
HHC				PcP	PcP	05 20 37.5	+1.6
HHC				S	**S**	**05 21 01.3**	**-3.8**
HHC				ScP	ScP	05 24 14.5	+1.8
HHC				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.3						
HHC				pmax	pmax		
	comp=Z,110nm,7.9s						
HHC				LR	LR		
	comp=N,220nm,14.9s,MS3.9						
HHC				LR	LR		
	comp=E,280nm,16.8s,MS3.9						
HHC				LR	LR		
	comp=Z,220nm,11.9s,MS3.9						
KURK	**Kurchatov**	**24.43**	**346**	P	**P**	**05 16 57.9**	**-0.9**
	comp=Z,13nm,0.7s,mb4.5,baz=162,slow=9.2,SNR=45						
KURK	**Kurchatov**	**24.43**	**346**	*e*P	**P**	**05 16 58.6**	**-0.3**
	comp=Z,47nm,1.1s,mb4.8						
KURK	**Kurchatov**	**24.43**	**346**	‖*e*P	**P**	**05 16 58.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,130nm,15.6s						
SONM	**Songino Array**	**25.03**	**30**	P	**P**	**05 17 04.9**	**+0.5**
	comp=Z,9.6nm,0.9s,mb4.3,baz=220,slow=9.2,SNR=33						
SONM				PcP	PcP	05 20 39.9	+1.1
	comp=Z,0.6nm,0.8s,baz=219,slow=1.1,SNR=3.6						
SONM				LR	LR	05 27 47.8	
	comp=Z,138nm,21.9s,MS3.4,baz=347,slow=39						
SONM	**Songino Array**	**25.03**	**30**	P	**P**	**05 17 04.9**	**+0.5**
SONM				PcP	PcP	05 20 39.9	+1.1
SONM	**Songino Array**	**25.03**	**30**	P	**P**	**05 17 04.9**	**+0.5**
SONM						05 20 39.9	
SONM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,138nm,21.9s						
ULN	**Ulaanbaatar**	**25.35**	**31**	*e*P	**P**	**05 17 07.3**	**0.0**
	comp=Z,34nm,1.2s,mb4.8						
ULN	**Ulaanbaatar**	**25.35**	**31**	*e*P	**P**	**05 17 07.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,34nm,1.2s,mb4.8						
ZAK	**Zakamensk**	**25.83**	**23**	*e*P	**P**	**05 17 13.9**	**+2.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
BJI	**Beijing**	**26.56**	**54**	P	**P**	**05 17 18.0**	**-0.3**
BJI				S	**S**	**05 21 59.5**	**+8.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
BJI				pmax	pmax		
	comp=Z,120nm,7.3s						
BJI				LR	LR		
	comp=N,450nm,10.0s,MS4.3						
BJI				LR	LR		
	comp=E,190nm,11.9s,MS4.3						
BJI				LR	LR		
	comp=Z,230nm,23.1s						
ZAA0	**Zalesovo Array**	**26.71**	**356**	*e*P	**P**	**05 17 18.6**	**-0.8**
ZALV	**Zalesovo Beam**	**26.71**	**356**	P	**P**	**05 17 18.7**	**-0.8**
	comp=Z,11nm,0.8s,mb4.5,baz=178,slow=8.9,SNR=40						
ZALV	**Zalesovo Beam**	**26.71**	**356**	P	**P**	**05 17 18.7**	**-0.8**
ZALV	**Zalesovo Beam**	**26.71**	**356**	P	**P**	**05 17 18.7**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
TLY	**Talaya**	**27.05**	**22**	*e*P	**P**	**05 17 23.0**	**+0.4**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
TLY				MLR	MLR		
	comp=Z,169nm,15.0s,MS3.7						
NJ2	**Nanjing**	**27.19**	**73**	*e*P	**P**	**05 17 24.7**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.9						
NVS	**Novosibirsk**	**27.72**	**354**	*i* P	**P**	**05 17 26.4**	**-2.1**
NVS				pmax	pmax		
	comp=Z,41nm,2.5s,mb4.6						
NVS				pmax	pmax		
	comp=N,8.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,12nm,2.2s						
BVA0	**Borovoye Array**	**28.82**	**338**	P	**P**	**05 17 39.1**	**+0.7**
BVAR	**Borovoye Array**	**28.82**	**338**	P	**P**	**05 17 37.7**	**-0.7**
	comp=E,1.7nm,0.6s,mb4.0,baz=140,slow=7.8,SNR=11						
BVAR				PcP	PcP	05 20 47.9	+0.3
	comp=E,0.4nm,0.4s,baz=153,slow=4.4,SNR=3.0						
BVAR	**Borovoye Array**	**28.82**	**338**	P	**P**	**05 17 37.7**	**-0.7**
BVAR				PcP	PcP	05 20 47.9	+0.3
BVAR	**Borovoye Array**	**28.82**	**338**	P	**P**	**05 17 37.7**	**-0.7**
BVAR						05 20 47.9	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**28.89**	**338**	*e*P	**P**	**05 17 38.6**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.0						
BRVK	**Borovoye**	**28.89**	**338**	*e*P	**P**	**05 17 38.6**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
AB31

comp=Z,12nm,1.0s,mb4.8
GNI Garni 37.81 301 *e*P P 05 18 59.6 +2.9
comp=Z,20nm,1.1s,mb4.8
GNI Garni 37.81 301⇑ *e*P P 05 19 00.0 +3.2
GNI pmax pmax
comp=Z,33nm,1.7s
GNI MLR MLR
comp=Z,33nm,15.0s
ZEI Tsey 38.78 305 *e*P P 05 19 05.3 +0.4
ZEI pmax pmax
comp=Z,16nm,1.0s,mb4.7
KIV Kislovodsk 39.84 307 *e*P P 05 19 16.0 +2.2
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
KIV MLR MLR
comp=Z,108nm,16.0s,MS3.8
MJAR Matsushiro Arr 43.20 65 P P 05 19 41.8 +0.3
comp=Z,0.8nm,0.3s,mb3.9,baz=283,slow=9.0,SNR=4.2
MJAR Matsushiro Arr 43.20 65 P P 05 19 41.8 +0.3
MJAR Matsushiro Arr 43.20 65 P P 05 19 41.8 +0.3
MJAR pmax pmax
comp=Z,1.0nm,0.3s
ASF Jabal al Asfar 44.28 289 P P 05 19 52.0 +1.8
comp=Z,2.2nm,0.8s,mb3.9,baz=306,slow=2.6,SNR=4.7
ASF Jabal al Asfar 44.28 289 P P 05 19 52.0 +1.8
ASF Jabal al Asfar 44.28 289 P P 05 19 52.0 +1.9
ASF pmax pmax
comp=Z,2.0nm,0.8s
MMAI Mount Meron Ar 45.42 290 P P 05 20 01.2 +1.9
comp=Z,0.8nm,0.4s,mb3.9,baz=88,slow=10,SNR=3.0
MMAI Mount Meron Ar 45.42 290 P P 05 20 01.2 +1.9
OBN Obninsk 46.17 322 *i* P P 05 20 05.9 +1.1
OBN *e* 05 20 15.3
OBN *e*S S 05 26 48.5 -0.9
OBN pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.8
BR131 Keskin Array S 46.32 300 *e*P P 05 20 06.8 +0.6
comp=Z,4.1nm,0.8s,mb4.4
BRTR Keskin Array B 46.32 300 P P 05 20 06.5 +0.2
comp=Z,3.5nm,0.7s,mb4.4,baz=111,slow=7.5,SNR=19
BRTR Keskin Array B 46.32 300 P P 05 20 06.5 +0.2
BRTR Keskin Array B 46.32 300 P P 05 20 06.5 +0.3
BRTR pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 49.77 315 P P 05 20 32.9 +0.2
comp=Z,1.7nm,0.5s,mb4.4,baz=81,slow=7.2,SNR=12
AKASG Malin Array Be 49.77 315 P P 05 20 32.9 +0.2
AKASG Malin Array Be 49.77 315 P P 05 20 32.9 +0.1
AKASG pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 50.97 331 *e*P P 05 20 41.7 0.0
JOF pmax pmax
comp=Z,14nm,0.4s,mb5.2
JOF Joensuu 50.97 331 *e*p P 05 20 41.7 0.0
comp=Z,14nm,0.4s,mb5.2
VRI Vrincioaia 51.27 308 ⇓P P 05 20 46.1 +1.9
VRI Vrincioaia 51.27 308 ⇓*i*P P 05 20 46.1 +1.9
TESR 51.32 309 ⇑*i*P P 05 20 45.1 +0.6
PLOR Plostina 51.33 308 ⇑P P 05 20 46.3 +1.7
PLOR Plostina 51.33 308 ⇑*i*P P 05 20 46.3 +1.7
BURAR Bucovina Array 52.29 311 ⇓P P 05 20 52.6 +0.9
BURAR Bucovina Array 52.29 311 ⇓*i*P P 05 20 52.6 +0.9
BUR08 Bucovina Ar. S 52.30 311 *e*P P 05 20 51.5 -0.3
FINES FINESS Array B 53.01 328 P P 05 20 56.1 -0.7
comp=Z,7.2nm,0.5s,mb4.9,baz=108,slow=7.7,SNR=38
FINES FINESS Array B 53.01 328 P P 05 20 56.1 -0.7
FINES FINESS Array B 53.01 328 P P 05 20 56.1 -0.7
FINES pmax pmax
comp=Z,7.0nm,0.5s
KAF Kangasniemi 53.03 329 *e*P P 05 20 56.4 -0.6
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KAF Kangasniemi 53.03 329 *e*p P 05 20 56.4 -0.6
comp=Z,3.6nm,0.7s,mb4.4
LOT Lotru 53.36 308 ⇓*i*P P 05 21 01.2 +1.5
VTS Vitosha 53.99 304 ⇑P P 05 21 05.4 +1.0
VTS Vitosha 53.99 304 ⇑*i*P P 05 21 05.4 +1.0
DRGR 54.02 310 ⇑P P 05 21 05.8 +1.3
DRGR 54.02 310 ⇑*i*P P 05 21 05.8 +1.3
GZR Gura Zlata 54.06 308 ⇑*i*P P 05 21 04.8 0.0
KOLS Kolonicke sedl 54.22 312 *e*P P 05 21 05.7 -0.2
KOLS Kolonicke sedl 54.22 312 *e*P P 05 21 05.7 -0.2
KEV Kevo 54.67 338 *e*P P 05 21 08.0 -0.9
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KEV Kevo 54.67 338 *e*p P 05 21 08.0 -0.9
comp=Z,4.9nm,0.8s,mb4.6
CRVS Cervenica-Dubn 54.76 312 *e*P P 05 21 10.7 +0.9
CRVS Cervenica-Dubn 54.76 312 *e*P P 05 21 10.6 +0.8
BZS Buzias 54.86 308 ⇓P P 05 21 11.0 +0.4
BZS Buzias 54.86 308 ⇓*i*P P 05 21 11.0 +0.4
ARCES ARCESS Array B 55.11 338 P P 05 21 11.4 -0.6
comp=Z,2.5nm,0.6s,mb4.4,baz=101,slow=7.1,SNR=39
ARCES ARCESS Array B 55.11 338 P P 05 21 11.4 -0.6
ARCES ARCESS Array B 55.11 338 P P 05 21 11.4 -0.7
ARCES pmax pmax
comp=Z,3.0nm,0.6s
NIE Niedzica 55.49 313 *e*P P 05 21 16.8 +1.7
NIE Niedzica 55.49 313 *e*P P 05 21 16.8 +1.7
KMBO Kilima Mbogo 56.34 248 *e*P P 05 21 22.3 +0.6
comp=Z,0.9nm,0.6s,mb4.0
KMBO Kilima Mbogo 56.34 248 *e*P P 05 21 22.3 +0.6
KMBO pmax pmax
comp=Z,1.0nm,0.6s
OKC Ostrava-Krasne 56.87 313 *e*P P 05 21 25.7 +0.8
OKC Ostrava-Krasne 56.87 313 *e*P P 05 21 25.7 +0.8
OKC *e*pP pP 05 21 32.1 -0.3
PKSM Moragy 56.87 309 ⇓P P 05 21 25.1 +0.1
PKSM Moragy 56.87 309 ⇓*i*P P 05 21 25.1 +0.1
MORC Moravsky Berou 57.26 313 *e*P P 05 21 28.2 +0.4
comp=Z,5.1nm,0.8s,mb4.6
MORC Moravsky Berou 57.26 313 *e*P P 05 21 28.2 +0.5
MORC pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VRAC Vranov 57.92 313 ⇑P P 05 21 33.6 +1.2
VRAC Vranov 57.92 313 ⇑*i*P P 05 21 33.6 +1.2
DPC Dobruska-Polom 58.00 314 *e*P P 05 21 33.5 +0.6
DPC Dobruska-Polom 58.00 314 *e*P P 05 21 33.5 +0.6
DPC *e*pP pP 05 21 40.0 -0.4
UPC Upice 58.18 314 *e*P P 05 21 35.7 +1.5
UPC Upice 58.18 314 *e*P P 05 21 35.7 +1.5
TREC Trest 58.64 313 *e*P P 05 21 37.6 +0.2
TREC Trest 58.64 313 *e*P P 05 21 37.6 +0.2
PERS Pernice 59.23 310 *i* P P 05 21 42.2 +0.6
BOJS Bojanci 59.31 309 *i* P P 05 21 42.4 +0.3
BRG Berggiesshubel 59.45 315 *e*P P 05 21 42.8 -0.2
comp=Z,8.6nm,0.9s,mb4.8
BRG Berggiesshubel 59.45 315 *e*P P 05 21 42.8 -0.2
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
VISS Visnje 59.55 309 *i* P P 05 21 44.3 +0.5
GERES GERESS Array B 59.87 313 P P 05 21 46.6 +0.7
comp=Z,6.3nm,0.8s,mb4.7,baz=79,slow=6.9,SNR=34
GERES LR LR 05 50 53.7
comp=Z,60nm,20.1s,MS3.7,baz=77,slow=39
GERES GERESS Array B 59.87 313 P P 05 21 46.6 +0.7
GERES GERESS Array B 59.87 313 P P 05 21 46.6 +0.7
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES MLR MLR
comp=Z,60nm,20.1s
KHC Kasperske Hory 59.91 313 *e*P P 05 21 46.1 -0.1
KHC Kasperske Hory 59.91 313 *e*P P 05 21 46.1 -0.1
KHC *e*pP pP 05 21 53.1 -0.6
JAVS Javornik 60.07 309 *i* P P 05 21 47.4 +0.1
NB2 NORSAR Subarra 60.13 327 P P 05 21 46.4 -1.1
comp=Z,3.8nm,0.8s,mb4.5,baz=86,slow=6.9
NOA NORSAR Array B 60.13 327 P P 05 21 46.6 -0.9
comp=Z,1.8nm,0.6s,mb4.3,baz=87,slow=6.7,SNR=10
NOA LR LR 05 50 36.0
comp=Z,28nm,18.0s,MS3.5,baz=295,slow=39
NOA NORSAR Array B 60.13 327 P P 05 21 46.6 -0.9
NOA NORSAR Array B 60.13 327 P P 05 21 46.6 -0.9
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,28nm,18.0s
CEL Celeste 60.20 300 *e*P P 05 21 48.2 -0.2
comp=Z,62nm,1.1s,mb5.5
TUE Stuetta 63.18 311 *e*P P 05 22 07.7 -0.7
comp=Z,5.8nm,0.8s,mb4.8
CDF Champ du Feu 64.14 313 *e*P P 05 22 13.9 -0.7
comp=Z,18nm,1.1s,mb4.7
CDF Champ du Feu 64.14 313 *e*P P 05 22 13.9 -0.7
comp=Z,18nm,1.1s,mb5.0
CDF Champ du Feu 64.14 313 *e*P P 05 22 13.9 -0.7
CDF pmax pmax
comp=Z,18nm,1.1s,mb5.0
PGF Pioggiola 64.32 306 *e*P P 05 22 15.5 -0.4
PGF Pioggiola 64.32 306 *e*P P 05 22 15.5 -0.4
PGF Pioggiola 64.32 306 *e*P P 05 22 15.5 -0.4
HINF Hinteralfeld 64.55 312 *e*P P 05 22 16.3 -1.0
comp=Z,45nm,1.4s,mb5.0
HINF Hinteralfeld 64.55 312 *e*P P 05 22 16.3 -1.0
comp=Z,45nm,1.4s,mb5.3
HINF Hinteralfeld 64.55 312 *e*P P 05 22 16.3 -1.0
HINF pmax pmax
comp=Z,45nm,1.4s,mb5.3
HAU Haudompre 64.83 313 *e*P P 05 22 18.3 -0.8
comp=Z,17nm,0.8s,mb4.8
HAU *e*R
comp=Z,81nm,17.8s
HAU Haudompre 64.83 313 *e*P P 05 22 18.3 -0.8
comp=Z,17nm,0.8s,mb5.1
HAU Haudompre 64.83 313 *e*P P 05 22 18.3 -0.8
HAU pmax pmax
comp=Z,17nm,0.8s,mb5.1
WRA Warramunga Arr 64.99 131 P P 05 22 21.1 +0.6
comp=Z,0.9nm,0.4s,mb4.2,baz=326,slow=6.6,SNR=38
WRA Warramunga Arr 64.99 131 P P 05 22 21.1 +0.6
WRA Warramunga Arr 64.99 131 P P 05 22 21.1 +0.6
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 64.99 131 *e*P P 05 22 20.6 +0.1
comp=Z,8.4nm,1.1s,mb4.7
WRAB Tennant Creek 64.99 131 *e*P P 05 22 20.6 +0.1
WRAB pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
WB2 Warramunga Arr 65.00 131 *e*P P 05 22 20.6 +0.1
SBF Sospel 65.10 308 *e*P P 05 22 20.4 -0.6
comp=Z,46nm,0.8s,mb5.2
SBF Sospel 65.10 308 *e*P P 05 22 20.4 -0.6
comp=Z,46nm,0.8s,mb5.6
SBF Sospel 65.10 308 *e*P P 05 22 20.4 -0.6
SBF pmax pmax
comp=Z,46nm,0.8s,mb5.6
PAGF Fort de Pagny 65.11 313 *e*P P 05 22 20.2 -0.7
PAGF Fort de Pagny 65.11 313 *e*P P 05 22 20.2 -0.7
LPG La Plagne 65.17 310 *e*P P 05 22 21.2 -0.2
comp=Z,46nm,1.0s,mb5.2
LPG La Plagne 65.17 310 *e*P P 05 22 21.2 -0.2
comp=Z,46nm,1.0s,mb5.5
LPG La Plagne 65.17 310 *e*P P 05 22 21.2 -0.2
LPG pmax pmax
comp=Z,46nm,1.0s,mb5.5
LPL La Plagne 65.17 310 *e*P P 05 22 21.3 -0.1
comp=Z,35nm,0.9s,mb5.1
LPL La Plagne 65.17 310 *e*P P 05 22 21.3 -0.1
comp=Z,35nm,0.9s,mb5.4
LPL La Plagne 65.17 310 *e*P P 05 22 21.3 -0.1
LPL pmax pmax
comp=Z,35nm,0.9s,mb5.4
GIVF Givet 65.32 315 *e*P P 05 22 20.6 -1.7
GIVF Givet 65.32 315 *e*P P 05 22 20.6 -1.7
GIVF Givet 65.32 315 *e*P P 05 22 20.6 -1.7
CABF La Chapelle 65.34 311 *e*P P 05 22 21.8 -0.7
CABF La Chapelle 65.34 311 *e*P P 05 22 21.8 -0.7
CABF La Chapelle 65.34 311 *e*P P 05 22 21.8 -0.7
MBDF Montbardon 65.34 309 *e*P P 05 22 21.3 -1.2
comp=Z,24nm,0.9s,mb4.9
MBDF Montbardon 65.34 309 *e*P P 05 22 21.3 -1.2
comp=Z,24nm,0.9s,mb5.2
MBDF Montbardon 65.34 309 *e*P P 05 22 21.3 -1.2
MBDF pmax pmax
comp=Z,24nm,0.9s,mb5.2
MEZF Maizieres J'vi 65.56 314 *e*P P 05 22 23.1 -0.7
MEZF Maizieres J'vi 65.56 314 *e*P P 05 22 23.1 -0.7
SFTF Sexfontaines 65.64 313 *e*P P 05 22 23.5 -0.9
SFTF Sexfontaines 65.64 313 *e*P P 05 22 23.5 -0.9
BAIF Baives 65.71 315 *e*P P 05 22 24.3 -0.5
BAIF Baives 65.71 315 *e*P P 05 22 24.3 -0.5
BAIF Baives 65.71 315 *e*P P 05 22 24.3 -0.5
FRF La Foret Royal 65.73 308 *e*P P 05 22 24.2 -0.9
comp=Z,48nm,1.0s,mb5.2
FRF La Foret Royal 65.73 308 *e*P P 05 22 24.2 -0.9
comp=Z,48nm,1.0s,mb5.5
FRF La Foret Royal 65.73 308 *e*P P 05 22 24.2 -0.9
FRF pmax pmax
comp=Z,48nm,1.0s,mb5.5
LMR La Mourre 65.89 308 *e*P P 05 22 25.2 -0.9
comp=Z,28nm,0.9s,mb5.0
LMR La Mourre 65.89 308 *e*P P 05 22 25.2 -0.9
comp=Z,28nm,0.9s,mb5.3
LMR La Mourre 65.89 308 *e*P P 05 22 25.2 -0.9
LMR pmax pmax
comp=Z,28nm,0.9s,mb5.3
ORIF Oris-en-Rattie 65.91 310 *e*P P 05 22 25.8 -0.4
ORIF *e*R
comp=Z,92nm,19.8s
ORIF Oris-en-Rattie 65.91 310 *e*P P 05 22 25.8 -0.4
ORIF Oris-en-Rattie 65.91 310 *e*P P 05 22 25.8 -0.4
KEST Kesra 65.91 299 P P 05 22 26.8 +0.5
comp=Z,5.1nm,1.0s,mb4.5,baz=225,slow=2.2,SNR=8.2
KEST Kesra 65.91 299 P P 05 22 26.8 +0.5
SMRF Simiane la Rot 66.37 309 *e*P P 05 22 28.7 -0.5
comp=Z,98nm,1.4s,mb5.3
SMRF Simiane la Rot 66.37 309 *e*P P 05 22 28.7 -0.5
comp=Z,98nm,1.4s,mb5.6
LOR Lormes 66.65 312 *e*P P 05 22 29.6 -1.3
LOR Lormes 66.65 312 *e*P P 05 22 29.6 -1.3
LOR Lormes 66.65 312 *e*P P 05 22 29.6 -1.3
VIVF Saint-Julien-l 66.75 310 *e*P P 05 22 30.8 -0.8
comp=Z,39nm,1.1s,mb5.0
VIVF Saint-Julien-l 66.75 310 *e*P P 05 22 30.8 -0.8
comp=Z,39nm,1.1s,mb5.3
VIVF Saint-Julien-l 66.75 310 *e*P P 05 22 30.8 -0.8
VIVF pmax pmax
comp=Z,39nm,1.1s,mb5.3
SMF Signal de Mont 66.83 312 *e*P P 05 22 30.9 -1.1
comp=Z,45nm,1.1s,mb5.1
SMF Signal de Mont 66.83 312 *e*P P 05 22 30.9 -1.1
comp=Z,45nm,1.1s,mb5.4
SMF Signal de Mont 66.83 312 *e*P P 05 22 30.9 -1.1
SMF pmax pmax
comp=Z,45nm,1.1s,mb5.4
SSF Saint Saulge 66.93 312 *e*P P 05 22 31.7 -1.0
comp=Z,42nm,1.2s,mb5.0
SSF Saint Saulge 66.93 312 *e*P P 05 22 31.7 -1.0
comp=Z,42nm,1.2s,mb5.3
SSF Saint Saulge 66.93 312 *e*P P 05 22 31.7 -1.0
SSF pmax pmax
comp=Z,42nm,1.2s,mb5.3
AVF Avril sur Loir 67.11 312 *e*P P 05 22 32.8 -1.0
comp=Z,33nm,1.1s,mb5.0
AVF Avril sur Loir 67.11 312 *e*P P 05 22 32.8 -1.0
comp=Z,33nm,1.1s,mb5.3
AVF Avril sur Loir 67.11 312 *e*P P 05 22 32.8 -1.0
AVF pmax pmax
comp=Z,33nm,1.1s,mb5.3
AS31 Alice Springs 67.34 134 *e*P P 05 22 36.3 +0.8
ASAR Alice Springs 67.34 134 P P 05 22 36.4 +0.9
comp=Z,1.5nm,0.8s,mb4.1,baz=317,slow=6.5,SNR=19
ASAR Alice Springs 67.34 134 P P 05 22 36.4 +0.9
ASAR Alice Springs 67.34 134 P P 05 22 36.4 +0.9
ASAR pmax pmax
comp=Z,2.0nm,0.8s
HYF Humbligny 67.45 313 *e*P P 05 22 35.5 -0.4
HYF Humbligny 67.45 313 *e*P P 05 22 35.5 -0.4
BGF Bois d'Agland 67.51 312 *e*P P 05 22 35.3 -1.1
BGF Bois d'Agland 67.51 312 *e*P P 05 22 35.3 -1.1
BGF Bois d'Agland 67.51 312 *e*P P 05 22 35.3 -1.1
LASF Ste Croix 67.53 309 *e*P P 05 22 36.1 -0.4
comp=Z,38nm,1.0s,mb5.1
LASF Ste Croix 67.53 309 *e*P P 05 22 36.1 -0.4
comp=Z,38nm,1.0s,mb5.4
TCF Toulx Ste Croi 68.01 312 *e*P P 05 22 39.0 -0.5
comp=Z,49nm,1.1s,mb5.1
TCF Toulx Ste Croi 68.01 312 *e*P P 05 22 39.0 -0.5
comp=Z,49nm,1.1s,mb5.5
TCF Toulx Ste Croi 68.01 312 *e*P P 05 22 39.0 -0.5
TCF pmax pmax
comp=Z,49nm,1.1s,mb5.5
CAF Calviac 68.51 310 *e*P P 05 22 42.2 -0.5
comp=Z,31nm,1.0s,mb4.9
CAF Calviac 68.51 310 *e*P P 05 22 42.2 -0.5
comp=Z,31nm,1.0s,mb5.2
CAF Calviac 68.51 310 *e*P P 05 22 42.2 -0.5
CAF pmax pmax
comp=Z,31nm,1.0s,mb5.2
RJF Les Rejaudoux 68.76 311 *e*P P 05 22 44.0 -0.3
comp=Z,33nm,1.0s,mb4.9
RJF Les Rejaudoux 68.76 311 *e*P P 05 22 44.0 -0.3
comp=Z,33nm,1.0s,mb5.2
RJF Les Rejaudoux 68.76 311 *e*P P 05 22 44.0 -0.3
RJF pmax pmax
comp=Z,33nm,1.0s,mb5.2
LDF La Druitiere 68.84 315 *e*P P 05 22 43.5 -1.2
LDF La Druitiere 68.84 315 *e*P P 05 22 43.5 -1.2
LDF La Druitiere 68.84 315 *e*P P 05 22 43.5 -1.2
MTLF Montolieu 68.89 309 *e*P P 05 22 44.4 -0.7
comp=Z,34nm,1.1s,mb4.9
MTLF Montolieu 68.89 309 *e*P P 05 22 44.4 -0.7
comp=Z,34nm,1.1s,mb5.2
MTLF Montolieu 68.89 309 *e*P P 05 22 44.4 -0.7
MTLF pmax pmax
comp=Z,34nm,1.1s,mb5.2
FLN La Foliniere 69.01 315 *e*P P 05 22 44.7 -1.0
FLN *e*R
comp=Z,135nm,22.8s
FLN La Foliniere 69.01 315 *e*P P 05 22 44.7 -1.0
FLN La Foliniere 69.01 315 *e*P P 05 22 44.7 -1.0
LFF La Frestale 69.40 311 *e*P P 05 22 47.9 -0.3
LFF La Frestale 69.40 311 *e*P P 05 22 47.9 -0.3
LFF La Frestale 69.40 311 *e*P P 05 22 47.9 -0.3
MFF Saint Martin d 69.47 313 *e*P P 05 22 47.4 -1.2
comp=Z,51nm,1.3s,mb5.0
MFF Saint Martin d 69.47 313 *e*P P 05 22 47.4 -1.2
comp=Z,51nm,1.3s,mb5.3
MFF Saint Martin d 69.47 313 *e*P P 05 22 47.4 -1.2
MFF pmax pmax
comp=Z,51nm,1.3s,mb5.3
EPF Esparros 70.29 309 *e*P P 05 22 53.9 +0.2
EPF Esparros 70.29 309 *e*P P 05 22 53.9 +0.2
EPF Esparros 70.29 309 *e*P P 05 22 53.9 +0.2
SGMF Saint Gilles 70.48 315 *e*P P 05 22 54.0 -0.8
SGMF Saint Gilles 70.48 315 *e*P P 05 22 54.0 -0.8
SGMF Saint Gilles 70.48 315 *e*P P 05 22 54.0 -0.8
ETSF Etsaut 70.95 309 *e*P P 05 22 57.4 -0.4
comp=Z,10nm,0.7s,mb4.6
ETSF Etsaut 70.95 309 *e*P P 05 22 57.4 -0.4
comp=Z,10nm,0.7s,mb4.9
ETSF Etsaut 70.95 309 *e*P P 05 22 57.4 -0.4
ETSF pmax pmax
comp=Z,11nm,0.7s,mb4.9
SJPF Ste Jean 71.34 309 *e*P P 05 22 59.7 -0.4
SJPF Ste Jean 71.34 309 *e*P P 05 22 59.7 -0.4
SJPF Ste Jean 71.34 309 *e*P P 05 22 59.7 -0.4
CTAO Charters Tower 73.51 124 *e*P P 05 23 11.1 -2.2
comp=Z,7.8nm,1.2s,mb4.5
CTAO Charters Tower 73.51 124 *e*P P 05 23 11.1 -2.2
CTAO pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
SUMG Summit 73.97 345 *e*P P 05 23 16.2 +1.0
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 73.97 345 *i* P P 05 23 16.2 +1.0
comp=Z,4.9nm,1.0s,mb4.4
ESDC Sonseca Array 74.51 307 P P 05 23 18.8 -0.1
comp=Z,2.9nm,0.8s,mb4.3,baz=57,slow=6.7,SNR=12
ESDC Sonseca Array 74.51 307 P P 05 23 18.8 -0.2
STKA Stephens Creek 77.93 136 P P 05 23 38.5 +0.1
comp=Z,0.7nm,0.5s,baz=349,slow=10,SNR=2.9
STKA Stephens Creek 77.93 136 P P 05 23 38.5 +0.1
STKA Stephens Creek 77.93 136 P P 05 23 38.5 +0.1
STKA pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 78.88 21 P P 05 23 42.7 -0.4
comp=Z,1.3nm,1.0s,baz=292,slow=4.4,SNR=8.4
ILAR Eielson Array 78.88 21 P P 05 23 42.7 -0.4
ILAR Eielson Array 78.88 21 P P 05 23 42.7 -0.4
ILAR pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 79.86 14 *e*P P 05 23 48.7 +0.2
comp=Z,12nm,1.3s,mb4.7
INK Inuvik 79.86 14 *e*P P 05 23 48.7 +0.2
INK pmax pmax
comp=Z,11nm,1.3s
TORD Torodi Ar. Bea 80.83 280 P P 05 23 54.1 -0.5
comp=Z,1.8nm,0.8s,mb4.1,baz=66,slow=4.8,SNR=19
TORD LR LR 06 02 48.4
comp=Z,59nm,18.9s,MS4.0,baz=345,slow=38
TORD Torodi Ar. Bea 80.83 280 P P 05 23 54.1 -0.5
KDAK Kodiak Island 81.31 28 LR LR 06 03 43.2
comp=Z,391nm,21.4s,MS4.7,baz=146,slow=38
DAWY Dawson 81.67 19 *e*P P 05 23 57.6 -0.6
YKA Yellowknife Ar 88.69 10 P P 05 24 32.3 -1.0
comp=Z,1.5nm,0.8s,mb4.4,baz=338,slow=5.3,SNR=5.9
YKA Yellowknife Ar 88.69 10 P P 05 24 32.4 -1.0
YKA Yellowknife Ar 88.69 10 P P 05 24 32.3 -1.0
YKA pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 89.48 277 P P 05 24 37.5 -0.5
comp=Z,5.3nm,0.9s,mb4.9,baz=39,slow=8.2,SNR=4.1
DBIC Dimbokro 89.48 277 P P 05 24 37.5 -0.5
DBIC Dimbokro 89.48 277 P P 05 24 37.5 -0.5
DBIC pmax pmax
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 122.58 12 PKP PKPdf 05 30 36.5 +0.2
comp=Z,0.3nm,0.4s,baz=239,slow=0.4,SNR=12
TXAR Lajitas Array 122.58 12 PKP PKPdf 05 30 36.5 +0.2
TXAR Lajitas Array 122.58 12 PKIKP PKPdf 05 30 36.5 +0.2
CPUP Villa Florida 149.08 264 PKPbc PKPbc 05 31 28.2 -0.7
comp=Z,5.2nm,0.6s,baz=52,slow=3.3,SNR=24
CPUP Villa Florida 149.08 264 PKPbc PKPbc 05 31 28.2 -0.7
OTAV Otavalo 149.65 332 *e*PKPbc PKPbc 05 31 31.4 +0.7

ISCJB ***02*** *05:47:02.9±0.3, 37°.75S±0°.03×176°.38E±0°.06, h203km±2km, mb4.4/11, Error ellipse: s-maj=7.3km s-min=5.4km az=174.7*
IDC ***02*** *05:47:02.9±0.5, 37°.85S×176°.36E, h190km±5km, mb3.9/5, mb1 4.1/6, mb1mx3.9/13, mbtmp4.0/6, Error ellipse: s-maj=21.4km s-min=14.1km az=11.0*
WEL ***02*** *05:47:03.5±0.3, 37°.58S×176°.54E, h192km±2km, ML5.3/23, Error ellipse: s-maj=2.2km s-min=1.8km az=90.0*
WEL Felt from Coromandel to Marlborough, maximum reported intensity MM 5.
NEIC ***02*** *05:47:03.5, 37°.58S×176°.54E, h192km, mb3.9/4, After WEL.*

ISC 02 05:47:03.8±0.3, 37°.75S±0°.03×176°.39E±0°.06, h198km±2km, n136, σ1927/142, mb4.4/11, 1C-2D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.10**	**281**	⇓PN	**Pn**	**05 47 29.0**	**-0.7**
TGRZ				SN	**Sn**	**05 47 48.9**	**-0.8**
OPRZ	**Ohinepanea**	**0.16**	**126**	PN	**Pn**	**05 47 28.8**	**-0.9**
OPRZ				SN	**Sn**	**05 47 48.6**	**-1.2**
KARZ	**Kaharoa**	**0.29**	**203**	*e*PN	**Pn**	**05 47 29.7**	**-0.3**
TARZ	**Mount Tarawera**	**0.49**	**169**	*e*PN	**Pn**	**05 47 31.1**	**+0.6**
RRRZ	**Republican Roa**	**0.60**	**170**	PN	**Pn**	**05 47 31.0**	**0.0**
HRRZ	**Handcock Road**	**0.65**	**187**	PN	**Pn**	**05 47 31.6**	**+0.4**
WIZ	**White Island**	**0.67**	**71**	PN	**Pn**	**05 47 29.7**	**-1.6**
PRRZ	**Plateau Road**	**0.75**	**180**	PN	**Pn**	**05 47 32.3**	**+0.6**
URZ	**Urewera**	**0.77**	**132**	⇑PN	**Pn**	**05 47 31.0**	**-0.8**
URZ				SN	**Sn**	**05 47 51.8**	**-1.8**
URZ	**Urewera**	**0.77**	**132**	P	**Pn**	**05 47 31.0**	**-0.8**
	109nm,0.3s,baz=273,slow=2.8,SNR=849						
URZ				S	**Sn**	**05 47 51.3**	**-2.3**
	585nm,0.3s,baz=124,slow=20,SNR=40						
URZ	**Urewera**	**0.77**	**132**	*e*Pn	**Pn**	**05 47 30.9**	**-0.9**
URZ				*e*Sn	**Sn**	**05 47 51.4**	**-2.2**
ALRZ	**Allen Road**	**0.81**	**182**	PN	**Pn**	**05 47 32.6**	**+0.5**
WHTZ	**Whakaora**	**0.98**	**200**	PN	**Pn**	**05 47 34.4**	**+1.3**
MWZ	**Matawai**	**1.07**	**123**	PN	**Pn**	**05 47 32.9**	**-0.8**
WATZ	**Wairara**	**1.09**	**208**	PN	**Pn**	**05 47 35.2**	**+1.3**
KUZ	**Kuaotunu**	**1.13**	**332**	PN	**Pn**	**05 47 32.5**	**-1.8**
MKAZ	**Moumakai**	**1.16**	**303**	⇓PN	**Pn**	**05 47 33.8**	**-0.7**
HATZ	**Hinemaiaia**	**1.16**	**191**	PN	**Pn**	**05 47 35.2**	**+0.8**
RATZ	**Rangitukua**	**1.22**	**203**	PN	**Pn**	**05 47 36.0**	**+1.2**
RAHZ	**Arahi**	**1.29**	**155**	PN	**Pn**	**05 47 36.1**	**+0.7**
RITZ	**Rihia Road**	**1.30**	**199**	PN	**Pn**	**05 47 36.9**	**+1.5**
KATZ	**Kakaramea**	**1.34**	**204**	PN	**Pn**	**05 47 37.0**	**+1.2**
NMHZ	**Naumai**	**1.39**	**166**	PN	**Pn**	**05 47 37.7**	**+1.4**
OTAZ	**Otara**	**1.41**	**304**	PN	**Pn**	**05 47 36.0**	**-0.5**
BKZ	**Black Stump Fm**	**1.42**	**177**	PN	**Pn**	**05 47 36.9**	**+0.4**
HIZ	**Hauiti**	**1.43**	**237**	PN	**Pn**	**05 47 37.5**	**+0.9**
KRVZ	**Karewarewa**	**1.47**	**203**	PN	**Pn**	**05 47 38.1**	**+1.1**
WTVZ	**West Tongariro**	**1.50**	**204**	PN	**Pn**	**05 47 38.4**	**+1.1**

PUZ	Puketiti	1.51	103	PN	Pn	05 47 36.0 -1.3
TWVZ	Taurewa	1.52	209	PN	Pn	05 47 38.6 +1.3
OTVZ	Oturere	1.52	202	PN	Pn	05 47 38.9 +1.5
MXZ	Matakaoa Point	1.53	84	PN	Pn	05 47 35.8 -1.8
NGZ	Ngauruhoe	1.55	203	PN	Pn	05 47 39.2 +1.5
WPVZ	Whakapapa	1.60	204	PN	Pn	05 47 39.3 +1.3
CNGZ	Carnagh Statio	1.61	118	PN	Pn	05 47 38.3 0.0
KNZ	Kokohu	1.62	142	PN	Pn	05 47 38.5 +0.2
TUVZ	Tukino	1.62	201	PN	Pn	05 47 39.6 +1.2
FWVZ	Far West T-bar	1.64	203	PN	Pn	05 47 39.8 +1.3
DRZ	Dome Shelter	1.66	203	PN	Pn	05 47 40.6 +2.0
WTAZ	Waiatarua	1.66	299	PN	Pn	05 47 38.2 -0.6
PRGZ	Paritu Road	1.66	135	PN	Pn	05 47 38.7 +0.1
TRVZ	Turoa	1.68	203	PN	Pn	05 47 40.2 +1.3
ABAZ	Army Bay	1.69	312	PN	Pn	05 47 38.3 -0.8
WNVZ	Wahianoa	1.69	201	PN	Pn	05 47 40.1 +1.2
MCHZ	McNeill Hill	1.71	172	PN	Pn	05 47 40.4 +1.3
MOVZ	Moawhango	1.73	197	PN	Pn	05 47 39.9 +0.5
BHHZ	Black Hill Sta	1.76	188	PN	Pn	05 47 40.2 +0.6
MTVZ	Mangateitei	1.79	203	PN	Pn	05 47 41.1 +1.2
MHGZ	Mahia Peninsul	1.84	140	PN	Pn	05 47 40.9 +0.5
VRZ	Vera Road	1.88	222	PN	Pn	05 47 42.4 +1.6
CKHZ	Cape Kidnapper	1.98	164	PN	Pn	05 47 42.8 +0.9
KAHZ	Kahuranaki	2.08	170	PN	Pn	05 47 43.8 +1.0
MHEZ	Mangahewa	2.10	230	PN	Pn	05 47 45.0 +2.0
PNHZ	Pukenui	2.17	184	PN	Pn	05 47 44.3 +0.5
RAEZ	Rainy Point	2.19	225	PN	Pn	05 47 46.3 +2.3
WAZ	Wanganui	2.28	208	PN	Pn	05 47 46.0 +0.9
PXZ	Pawanui	2.31	171	PN	Pn	05 47 45.7 +0.4
WPHZ	Waipukurau	2.31	179	PN	Pn	05 47 45.8 +0.4
TSZ	Takapari Road	2.33	188	PN	Pn	05 47 45.9 +0.3
NEZ	North Egmont	2.35	229	PN	Pn	05 47 48.3 +2.5
PKE	Pukeiti	2.37	232	PN	Pn	05 47 48.2 +2.2
DFE	Dawson Falls	2.39	228	PN	Pn	05 47 48.5 +2.3
WCZ	Waipu Caves	2.44	317	PN	Pn	05 47 44.9 -1.9
NRZ	Ngariki Road	2.49	230	PN	Pn	05 47 49.3 +1.9
NWEZ	Newall Road	2.50	232	PN	Pn	05 47 49.7 +2.3
PRHZ	Porangahau	2.52	176	PN	Pn	05 47 48.0 +0.3
DVHZ	Dannevirke	2.55	184	PN	Pn	05 47 48.1 +0.1
MRZ	Mangatainoka R	2.98	192	PN	Pn	05 47 52.3 -0.6
TIWZ	Tintock	3.05	187	PN	Pn	05 47 53.6 -0.2
OGWZ	Otaki Gorge	3.21	197	PN	Pn	05 47 55.3 -0.4
KIW	Kapiti Island	3.31	200	PN	Pn	05 47 56.2 -0.7
TMWZ	Te Maipa	3.38	186	PN	Pn	05 47 57.0 -0.7
OUZ	Omahuta	3.38	317	PN	Pn	05 47 56.4 -1.4
OUZ	Omahuta	3.38	317	ePn	Pn	05 47 56.3 -1.6
MTW	Mount Morrison	3.47	191	PN	Pn	05 47 57.8 -1.1
CAW	Cannon Point	3.51	197	PN	Pn	05 47 58.4 -0.9
DUWZ	D'Urville Isla	3.60	211	PN	Pn	05 47 59.5 -0.9
TRWZ	Traveller	3.69	188	PN	Pn	05 48 00.4 -1.0
PAWZ	Paruwai Farm	3.70	191	PN	Pn	05 48 00.5 -1.1
WEL	Wellington	3.75	199	PN	Pn	05 48 01.3 -0.9
MSWZ	Moikau Station	3.77	193	PN	Pn	05 48 01.1 -1.4
SNZO	South Karori	3.79	200	PN	Pn	05 48 01.3 -1.4
SNZO	South Karori	3.79	200	ePn	Pn	05 48 01.1 -1.6
SNZO				eSn	Sn	05 48 47.2 -1.9
TCW	Tory Channel	3.83	205	PN	Pn	05 48 02.0 -1.2
BHW	Baring Head	3.84	197	PN	Pn	05 48 01.9 -1.4
PLWZ	Palliser	3.92	193	PN	Pn	05 48 02.9 -1.4
TUWZ	Tuamarina	4.13	206	PN	Pn	05 48 05.5 -1.6
NNZ	Nelson	4.17	213	PN	Pn	05 48 05.9 -1.7
QRZ	Quartz Range	4.29	223	PN	Pn	05 48 07.4 -1.6
BSWZ	Blackbirch Sta	4.41	205	PN	Pn	05 48 09.1 -1.4
KHZ	Kahutara	5.15	204	PN	Pn	05 48 18.2 -1.7
KHZ	Kahutara	5.15	204	ePn	Pn	05 48 18.3 -1.6
	474nm,0.3s					
KHZ				eSn	Sn	05 49 18.5 -1.5
DSZ	Denniston Nort	5.33	220	PN	Pn	05 48 19.9 -2.3
LTZ	Lake Taylor	5.93	211	PN	Pn	05 48 27.8 -2.2
CRLZ	Canterbury Las	6.49	205	PN	Pn	05 48 34.1 -3.1
MQZ	McQueen's Vall	6.59	204	PN	Pn	05 48 35.1 -3.4
WVZ	Waitaha Valley	6.85	217	PN	Pn	05 48 39.0 -2.9
RPZ	Rata Peaks	7.21	213	P	Pn	05 48 44.8 -1.7
	21nm,0.3s,baz=11,slow=1.9,SNR=70					
RPZ				S	Sn	05 50 02.4 -5.7
	48nm,0.3s,baz=16,slow=22,SNR=14					
RPZ	Rata Peaks	7.21	213	ePn	Pn	05 48 44.4 -2.1
RPZ				S	Sn	05 50 02.4 -5.7
FOZ	Fox Glacier	7.72	219	PN	Pn	05 48 48.7 -4.6
LBZ	Lake Benmore	8.12	213	PN	Pn	05 48 55.4 -3.0
ODZ	Otahua Downs	8.47	209	PN	Pn	05 49 00.6 -2.3
ODZ	Otahua Downs	8.47	209	ePn	Pn	05 49 00.4 -2.6
	100nm,0.5s					
ODZ				eSn	Sn	05 50 27.3 -11
CMSA	Cobar Meteorol	25.93	275	eP	P	05 52 19.7 +1.9
	36nm,0.4s,mb5.3					
STKA	Stephens Creek	29.05	271	P	P	05 52 47.0 +1.6
	5.4nm,0.6s,mb4.4,baz=114,slow=10.0,SNR=12					
STKA	Stephens Creek	29.05	271	eP	P	05 52 47.5 +2.0
	4.1nm,0.6s,mb4.2					
STKA	Stephens Creek	29.05	271	eP	P	05 52 47.4 +1.9
	1.5nm,1.0s,mb3.6					
BBOO	Buckleboo	33.11	266	eP	P	05 53 21.5 +0.5
	28nm,0.4s,mb5.1					
AS31	Alice Springs	38.80	279	eP	P	05 54 09.4 0.0
ASAR	Alice Springs	38.80	279	P	P	05 54 09.4 0.0
	3.1nm,0.5s,mb4.1,baz=127,slow=8.6,SNR=72					
ASAR				S	S	05 59 52.9 +0.8
	0.4nm,0.8s,baz=132,slow=14,SNR=5.1					
ASAR	Alice Springs	38.80	279	P	P	05 54 09.4 0.0
ASAR				S	S	05 59 52.9 +0.8
FORT	Forrest	40.18	265	eP	P	05 54 21.0 +0.2
	13nm,0.5s,mb4.6					
FORT	Forrest	40.18	265	eP	P	05 54 20.5 -0.3
WB2	Warramunga Arr	40.49	284	eP	P	05 54 22.8 -0.6
WRAB	Tennant Creek	40.49	284	eP	P	05 54 22.9 -0.5
	3.7nm,0.7s,mb3.9					
WRA	Warramunga Arr	40.50	284	P	P	05 54 23.1 -0.4
	3.7nm,0.5s,mb4.1,baz=122,slow=7.8,SNR=33					
WRA				S	S	06 00 17.5 +0.1
	0.4nm,0.9s,baz=121,slow=15,SNR=3.2					
WRA	Warramunga Arr	40.50	284	P	P	05 54 23.1 -0.4
WRA				S	S	06 00 17.5 +0.1
FITZ	Fitzroy Crossi	48.30	279	P	P	05 55 25.2 0.0
	2.5nm,0.7s,mb3.7,baz=136,slow=8.3,SNR=12					
FITZ	Fitzroy Crossi	48.30	279	eP	P	05 55 25.0 -0.2
	4.7nm,0.8s,mb3.9					
FITZ	Fitzroy Crossi	48.30	279	eP	P	05 55 24.8 -0.4
	3.1nm,0.8s,mb3.7					
MEEK	Meekatharra	49.44	265	eP	P	05 55 33.0 -0.8
	61nm,0.6s,mb5.1					
QSPA	South Pole Qui	52.38	180	eP	P	05 55 57.8 +2.9
	5.6nm,0.5s,mb4.2					
SNAA	Sanae	70.88	180	e	P	05 57 54.8 -3.8
VNA3	Neumayer Olymp	71.23	178	e	P	05 58 01.3 +0.6
VNA2	Neumayer--Watz	71.60	179	e	P	05 58 03.9 +1.0
VNA1	Neumayer--Stat	71.86	178	e	P	05 58 05.9 +1.5
PLCA	Paso Flores	80.78	135	P	P	05 58 56.3 +1.2
	2.4nm,0.7s,mb3.9,baz=228,slow=6.4,SNR=6.8					
PLCA	Paso Flores	80.78	135		P	05 58 56.3 +1.2
ARCES	ARCESS Array B	144.51	343	PKP	PKPdf	06 06 12.5 -2.8
	2.8nm,0.8s,baz=52,slow=1.9,SNR=7.4					
ARCES	ARCESS Array B	144.51	343	PKP	PKPdf	06 06 12.5 -2.8
DBIC	Dimbokro	149.04	178	PKPbc	PKPbc	06 06 27.8 -1.2
	3.0nm,1.0s,baz=135,slow=2.9,SNR=3.9					
DBIC	Dimbokro	149.04	178	PKPbc	PKPbc	06 06 27.8 -1.2
FINES	FINESS Array B	149.94	332	PKPbc	PKPbc	06 06 27.1 -2.5
	1.9nm,0.8s,baz=54,slow=3.3,SNR=4.7					
FINES	FINESS Array B	149.94	332	PKPbc	PKPbc	06 06 27.1 -2.5
TORD	Torodi Ar. Bea	155.05	192	PKPbc	PKPdf	06 06 41.5 +8.0
	0.1nm,0.3s,baz=144,slow=1.6,SNR=2.9					
TORD				PKPab	PKPab	06 06 57.9 -0.7
	0.3nm,0.4s,baz=160,slow=3.2,SNR=5.9					
TORD	Torodi Ar. Bea	155.05	192	PKPbc	PKPdf	06 06 41.5 +8.0
TORD				PKPab	PKPab	06 06 57.9 -0.7

IDC 02 05:52:02.0±24.0, 16°59S×172°34W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.2/4, Error ellipse: s-maj=464.7km s-min=172.7km az=71.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	39.38	258	P	P	05 59 33.0	-0.8
	1.6nm,0.3s,baz=84,slow=9.2,SNR=5.2						
STKA	Stephens Creek	44.34	241	P	P	06 00 14.5	+0.4
	1.1nm,0.6s,baz=70,slow=12,SNR=2.6						
WRA	Warramunga Arr	50.57	258	P	P	06 01 02.9	0.0
	0.9nm,0.8s,baz=97,slow=6.5,SNR=8.7						
ASAR	Alice Springs	50.72	253	P	P	06 01 04.1	+0.2
	6.4nm,0.7s,baz=88,slow=8.3,SNR=72						

*ISCJB **02** 06:01:17.9±0.7, 17°9S×0°2×178°6W±0°1, h603km±10km, mb3.8/13, Error ellipse: s-maj=27.5km s-min=9.8km az=151.7*
*IDC **02** 06:01:18.1±1.5, 17°79S×178°62W, h583km±17km, mb3.4/11, mb1 3.6/12, mb1mx3.5/19, mbtmp3.4/12, Error ellipse: s-maj=36.9km s-min=10.2km az=152.0*
*NEIC **02** 06:01:19.1±0.6, 17°87S×178°56W, h601km±7km, mb3.6/4, Error ellipse: s-maj=18.9km s-min=8.3km az=151.0*

ISC 02 06:01:19.3±0.8, 17°9S±0°2×178°6W±0°1, h602km±10km, n39, σ0°74/34, mb3.8/13, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.22	272	eP	P	06 02 40.9	+1.0
AFI	Afiamalu	7.63	60	P	P	06 03 13.9	-1.4
	1.7nm,0.3s,baz=276,slow=10,SNR=5.3						
AFI				S	S	06 04 45.4	-4.8
	1.9nm,0.3s,baz=4.4,slow=22,SNR=3.0						
AFI	Afiamalu	7.63	60	P	P	06 03 13.9	-1.4
AFI				S	S	06 04 45.4	-4.8
OUZ	Omahuta	18.64	200	eP	P	06 05 00.7	+0.3
	14nm,0.8s						
PMG	Port Moresby	34.30	280	P	P	06 07 17.7	+0.3
	3.5nm,0.4s,mb4.3,baz=131,slow=9.3,SNR=4.1						
PMG	Port Moresby	34.30	280	P	P	06 07 17.7	+0.3
COEN	Coen	36.95	270	eP	P	06 07 40.4	+1.1
	31nm,0.7s						
STKA	Stephens Creek	38.51	241	P	P	06 07 52.2	+0.5
	7.3nm,0.9s,mb4.2,baz=77,slow=6.6,SNR=10						
STKA	Stephens Creek	38.51	241	eP	P	06 07 51.6	-0.1
	1.4nm,0.8s,mb3.5						
WRAB	Tennant Creek	44.48	260	eP	P	06 08 37.8	-0.9
	1.4nm,0.6s,mb3.7						
WRA	Warramunga Arr	44.49	260	P	P	06 08 38.3	-0.5
	1.2nm,0.7s,mb3.6,baz=96,slow=7.5,SNR=43						
WRA	Warramunga Arr	44.49	260	P	P	06 08 38.3	-0.5
AS31	Alice Springs	44.65	254	eP	P	06 08 39.6	-0.5
ASAR	Alice Springs	44.65	254	P	P	06 08 39.8	-0.3
	6.1nm,0.7s,mb4.2,baz=85,slow=8.6,SNR=82						
ASAR				S	S	06 14 33.3	-0.6
	0.4nm,0.4s,baz=89,slow=16,SNR=7.2						
ASAR	Alice Springs	44.65	254	P	P	06 08 39.8	-0.3
ASAR				S	S	06 14 33.3	-0.6
FITZ	Fitzroy Crossi	52.88	261	P	P	06 09 40.5	-0.2
	1.0nm,0.8s,mb3.2,baz=103,slow=14,SNR=3.4						
FITZ	Fitzroy Crossi	52.88	261	P	P	06 09 40.5	-0.2
MJAR	Matsushiro Arr	67.78	323	P	P	06 11 17.5	-0.8
	1.6nm,0.4s,mb3.8,baz=160,slow=5.7,SNR=4.3						
MJAR	Matsushiro Arr	67.78	323	P	P	06 11 17.5	-0.8
PETK	Petropavlovsk-	73.60	345	P	P	06 11 53.1	+1.0
	2.7nm,0.6s,mb4.0,baz=122,slow=5.6,SNR=4.6						
PETK	Petropavlovsk-	73.60	345	P	P	06 11 53.1	+1.0
ISA	Isabella	77.90	46	eP	P	06 12 16.4	+0.1
	2.2nm,0.8s,mb3.6						
NVAR	Mina Array Bea	79.50	44	P	P	06 12 25.4	+0.8
	1.6nm,0.7s,mb3.4,baz=229,slow=9.1,SNR=11						
NVAR	Mina Array Bea	79.50	44	P	P	06 12 25.4	+0.8
ILAR	Eielson Array	85.88	13	P	P	06 12 55.0	-0.9
	0.8nm,0.5s,mb3.6,baz=223,slow=4.9,SNR=18						
ILAR	Eielson Array	85.88	13	P	P	06 12 55.0	-0.9
TXAR	Lajitas Array	86.10	58	P	P	06 12 58.8	+1.0
	2.2nm,0.8s,mb3.8,baz=191,slow=6.0,SNR=24						
TXAR	Lajitas Array	86.10	58	P	P	06 12 58.8	+1.0
PDAR	Pinedale Array	87.43	43	P	P	06 13 03.9	+0.2
	2.2nm,1.0s,mb3.9,baz=214,slow=1.8,SNR=11						
PDAR	Pinedale Array	87.43	43	P	P	06 13 03.9	+0.2
BRTR	Keskin Array B	144.65	315	PKP	PKPdf	06 19 49.0	+0.5
	1.1nm,0.5s,baz=48,slow=1.8,SNR=7.8						
BRTR	Keskin Array B	144.65	315	PKP	PKPdf	06 19 49.0	+0.5
CLL	Collm	145.39	347	∥,i PKPbc	PKPbc	06 19 51.0	+0.2
	comp=Z,11nm,0.7s						
MLR	Muntele Rosu	145.72	329	PKPbc	PKPbc	06 19 52.0	+0.1
	comp=Z,0.7nm,0.9s,baz=247,slow=4.0,SNR=3.2						
MLR	Muntele Rosu	145.72	329	PKPbc	PKPbc	06 19 52.0	+0.1
GERES	GERESS Array B	147.53	345	PKPbc	PKPbc	06 19 57.0	+0.3
	comp=Z,2.1nm,0.7s,baz=14,slow=2.8,SNR=12						
GERES	GERESS Array B	147.53	345	PKPbc	PKPbc	06 19 57.0	+0.3
DAVOX	Davos/Dischmat	150.33	348	PKPbc	PKPbc	06 20 03.9	+0.3
	comp=Z,2.9nm,0.6s,baz=330,slow=4.7,SNR=6.2						
DAVOX	Davos/Dischmat	150.33	348	PKPbc	PKPbc	06 20 03.9	+0.3

CASC 02 06:08:13.7±8.0, 13°32N×88°98W, h36km±65km, MD3.6, ML3.3, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	1.81	66	eP	Pn	06 08 44.7	+2.3
NBG	Las Nubes	1.83	314	eP	Pn	06 08 46.9	+4.2
NBG				eS	Sn	06 09 02.6	-2.0
PCG	Pacaya	1.91	304	eP	Pn	06 08 49.2	+5.5
PCG				eS	Sn	06 09 05.8	-0.8
CRIN	San Cristobal	1.98	108	eP	Pn	06 08 44.7	+0.1
CRIN				eS	Sn	06 09 07.8	-0.4
CRIN				AML	AML	06 09 15.7	
	comp=E,903nm,0.6s						
TEL3	Telica 3	2.21	110	eP	Pn	06 08 47.4	-0.5
FG6		2.22	304	eP	Pn	06 08 52.4	+4.3
FG6				eS	Sn	06 09 11.0	-3.4
CNGN	Cerro Negro	2.37	110	eP	Pn	06 08 49.1	-0.9
CNGN				eS	Sn	06 09 16.1	-1.8
TP2	Tecpan 2	2.46	306	eP	Pn	06 08 54.1	+2.8
TP2				eS	Sn	06 09 17.1	-3.1
JAT	Jato	2.77	291	eP	Pn	06 08 58.5	+2.9
JAT				eS	Sn	06 09 25.6	-2.2
XAVN	Gruta Xavier	2.83	114	eP	Pn	06 08 56.0	-0.5

*ISCJB **02** 06:13:48.3±0.7, 52°6N±0°1×172°42E±0°05, h50km±7km, mb4.0/25, Error ellipse: s-maj=20.2km s-min=4.9km az=0.7*
*MOS **02** 06:13:48.5±1.0, 52°68N×172°45E, h50km, mb4.3/18, Error ellipse: s-maj=12.2km s-min=11.5km az=30.6*
*NEIC **02** 06:13:50.8±0.8, 52°70N×172°56E, h51km±7km, mb4.2/14, Error ellipse: s-maj=13.7km s-min=5.3km az=181.0*
*IDC **02** 06:13:50.8±3.2, 52°82N×172°54E, h48km±31km, mb3.8/14, mb1 4.0/15, mb1mx3.8/31, mbtmp3.8/15, ML4.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/34, Error ellipse: s-maj=42.8km s-min=12.6km az=2.0*
*KRSC **02** 06:13:52.6±1.4, 52°70N×171°43E, h10km±10km, ML4.2*

ISC 02 06:13:50.5±0.6, 52°7N±0°1×172°52E±0°05, h45km±7km, n86, σ0°65/99, mb4.0/25, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	0.96	90	ePn	Pn	06 14 06.7	-0.8
SMY				eSn	Sn	06 14 19.7	-0.3
SMY	Shemya	0.96	90	eP	Pn	06 14 06.7	-0.8
SMY				e		06 14 19.7	
BKI	Bering	4.59	305	P	Pn	06 14 58.2	+1.0
BKI				eS	Sn	06 15 45.1	-4.1
BKI	Bering	4.59	305	P	Pn	06 14 58.2	+1.0
BKI				S	Sn	06 15 45.1	-4.1
KBTR	Krutoberegovo	6.64	305	P	Pn	06 15 25.5	+0.2
KBTR				S	Sn	06 16 32.7	-6.8
KBTR	Krutoberegovo	6.64	305	P	Pn	06 15 25.5	+0.2
KBTR				S	Sn	06 16 32.7	-6.8
MKZ	Mys Kozlova	6.67	290	P	Pn	06 15 24.4	-1.4
MKZ				eS	Sn	06 16 33.0	-7.4
MKZ	Mys Kozlova	6.67	290	P	Pn	06 15 24.4	-1.4
MKZ				S	Sn	06 16 33.0	-7.4
SPN	Mys Shipunski	7.57	278	S	Sn	06 16 53.7	-8.7
SDLR	Sedlovina	8.25	279	eP	Pn	06 15 46.7	-0.7
UGLR	Uglovaya	8.29	279	eP	Pn	06 15 48.0	+0.1
AVH	Avacha	8.34	279	eP	Pn	06 15 48.5	-0.1
KOK	Koryaka	8.40	279	eP	Pn	06 15 49.4	0.0
PET	Petropavlovsk	8.40	277	P	Pn	06 15 50.0	+0.6
PET	Petropavlovsk	8.40	277	eP	Pn	06 15 50.3	+0.9
PET				eS	Sn	06 17 15.5	-7.3
PET				pmax	pmax		
	comp=Z,11nm,0.4s						
PET				smax			
	comp=E,32nm,0.5s						
RUS	Russkaya	8.54	274	P	Pn	06 15 50.7	-0.7
RUS				S	Sn	06 17 17.1	-9.2
RUS	Russkaya	8.54	274	P	Pn	06 15 50.7	-0.7
RUS				S	Sn	06 17 17.1	-9.2
GNL	Ganaly	8.81	282	P	Pn	06 15 55.7	+0.7
PETK	Petropavlovsk-	8.97	278	P	Pn	06 15 58.8	+1.6
	comp=E,2.1nm,0.3s,baz=97,slow=18,SNR=11						
PETK				S	Sn	06 17 36.4	-0.3
	comp=E,1.2nm,0.3s,baz=79,slow=31,SNR=4.3						
PETK				LR	LR	06 18 42.8	
	comp=E,44nm,19.0s,baz=256,slow=33						
PETK	Petropavlovsk-	8.97	278	P	Pn	06 15 58.8	+1.6
PETK				S	Sn	06 17 36.4	-0.3
PETK	Petropavlovsk-	8.97	278	P	Pn	06 15 58.8	+1.6
PETK				S	Sn	06 17 36.4	-0.4
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax			
	comp=N,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,44nm,19.0s						
MIPR	Malaya Ipel'ka	9.63	274	eP	Pn	06 16 06.8	+0.5
TNA	Tin City	16.19	30	eP	Pn	06 17 35.7	+1.2
	comp=Z,1.8nm,0.5s						
KDAK	Kodiak Island	20.36	62	P	P	06 18 21.5	-1.2
	comp=Z,4.4nm,0.3s,baz=237,slow=1.7,SNR=15						
KDAK	Kodiak Island	20.36	62	eP	P	06 18 21.7	-1.1
	comp=Z,4.3nm,0.5s						
KDAK	Kodiak Island	20.36	62	eP	P	06 18 21.7	-1.0
KDAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TRF	Thorofare Moun	22.04	46	eP	P	06 18 41.0	+0.2
	comp=Z,4.5nm,0.9s,mb3.9						
SML	Sawmill	22.69	51	eP	P	06 18 47.8	+0.1
	comp=Z,2.4nm,0.8s,mb3.7						
SML	Sawmill	22.69	51	eP	P	06 18 47.8	+0.1
SML				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
MCK	McKinley	22.69	46	eP	P	06 18 48.7	+1.0
	comp=Z,4.7nm,0.8s,mb4.0						
MCK	McKinley	22.69	46	eP	P	06 18 48.7	+1.0
MCK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
COLA	College	23.38	43	eP	P	06 18 54.9	+0.1
	comp=Z,4.9nm,0.8s,mb4.0						
COLA	College	23.38	43	eP	P	06 18 54.9	+0.1
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
ILAR	Eielson Array	23.77	44	P	P	06 18 57.1	-1.2
	comp=Z,0.9nm,0.6s,mb3.4,baz=252,slow=8.8,SNR=18						
ILAR	Eielson Array	23.77	44	P	P	06 18 57.1	-1.2
ILAR	Eielson Array	23.77	44	P	P	06 18 57.2	-1.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	29.54	38	P	P	06 19 50.4	+0.2
	comp=Z,0.6nm,0.4s,mb3.7,baz=265,slow=12,SNR=8.3						
INK	Inuvik	29.54	38	P	P	06 19 50.4	+0.2
INK	Inuvik	29.54	38	P	P	06 19 50.4	+0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	38.16	46	P	P	06 21 04.9	+0.1
	comp=Z,2.3nm,0.7s,mb4.0,baz=288,slow=7.5,SNR=7.7						
YKA	Yellowknife Ar	38.16	46	P	P	06 21 05.0	+0.1
YKA	Yellowknife Ar	38.16	46	P	P	06 21 04.9	0.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	41.20	291	P	P	06 21 30.9	+0.6
	comp=Z,0.7nm,0.7s,mb3.4,baz=67,slow=11,SNR=2.6						
SONM	Songino Array	41.20	291	P	P	06 21 30.9	+0.6
SONM	Songino Array	41.20	291	P	P	06 21 30.9	+0.6
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WALA	Waterton Lakes	44.67	64	eP	P	06 21 58.1	-0.3
	comp=Z,0.2nm,0.7s,mb3.1						
HLID	Hailey	47.63	70	eP	P	06 22 21.7	0.0
	comp=Z,2.0nm,0.8s,mb4.2						
NVAR	Mina Array Bea	48.61	78	P	P	06 22 29.3	0.0
	comp=Z,1.4nm,0.7s,mb4.1,baz=299,slow=7.9,SNR=11						
NVAR	Mina Array Bea	48.61	78	P	P	06 22 29.3	0.0
DUG	Dugway	50.69	73	eP	P	06 22 45.1	-0.1
	comp=Z,2.1nm,0.7s,mb4.2						
DUG	Dugway	50.69	73	eP	P	06 22 45.1	0.0
DUG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BW06	Boulder Array	50.89	68	eP	P	06 22 46.1	-0.5
	comp=Z,3.6nm,0.9s,mb4.3						
PDAR	Pinedale Array	50.89	68	P	P	06 22 46.5	-0.1
	comp=Z,3.0nm,0.5s,mb4.5,baz=328,slow=2.4,SNR=32						
PDAR	Pinedale Array	50.89	68	P	P	06 22 46.5	-0.1
RSSD	Black Hills	53.07	64	eP	P	06 23 02.8	0.0
	comp=Z,2.2nm,0.6s,mb4.3						
RSSD	Black Hills	53.07	64	eP	P	06 23 02.8	0.0
RSSD				pmax

ARCES ARCESS Array B 123.00 345 PKP PKPdf 06 46 58.5 -0.1
1.5nm,0.8s,baz=41,slow=2.2,SNR=5.5

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*ISK **02** 06:37:51.7, 39.°47N×26.°07E, h5km, MD2.7*
*DDA **02** 06:37:52.8, 39.°53N×26.°04E, h6km±4km, Md2.8*
*CSEM **02** 06:37:53.2±0.7, 39.°49N×26.°02E, h10km, MD2.7, Error ellipse: s-maj=13.4km s-min=8.7km az=48.0*
ISC 02 06:37:52.7±1.9, 39.°47N±0.°09×25.°99E±0.°09, h12km±8km, n26, σ0.94/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.38**	**7**	*i* P	**Pg**	**06 37 59.5**	**-0.7**
BOZC				*i* S	**Sg**	**06 38 05.4**	**+0.1**
EZN	**Ezine**	**0.44**	**35**	*e*PG	**Pg**	**06 38 00.8**	**-0.6**
EZN				*e*SG	**Sg**	**06 38 07.7**	**+0.4**
EZN	**Ezine**	**0.44**	**35**	*e*Pg	**Pg**	**06 38 00.8**	**-0.6**
EZN				*e*Sg	**Sg**	**06 38 07.7**	**+0.4**
GADA	**Gvkgeada**	**0.73**	**354**	*e*PG	**Pg**	**06 38 06.7**	**-0.2**
GADA	**Gvkgeada**	**0.73**	**354**	*e*Pg	**Pg**	**06 38 06.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.00**	**21**	*e*PG	**Pg**	**06 38 11.4**	**-0.6**
GELI				*e*SG	**Sg**	**06 38 26.2**	**+1.2**
GELI	**Tayfur-Gelibol**	**1.00**	**21**	*e*Pg	**Pg**	**06 38 11.4**	**-0.6**
GELI				*e*Sg	**Sg**	**06 38 26.3**	**+1.2**
LPK	**Lapseki**	**1.08**	**33**	*e*PG	**Pg**	**06 38 12.8**	**-0.8**
LPK	**Lapseki**	**1.08**	**33**	*e*Pg	**Pg**	**06 38 12.8**	**-0.7**
ERIK	**Erikli-Kesan**	**1.27**	**18**	*e*PN	**Pn**	**06 38 16.5**	**+0.3**
ERIK	**Erikli-Kesan**	**1.27**	**18**	*e*Pn	**Pn**	**06 38 16.5**	**+0.3**
BALY	**Balya**	**1.28**	**77**	*i* P	**Pn**	**06 38 16.8**	**+0.3**
BALY				*i* S	**Sb**	**06 38 33.6**	**+0.4**
BALY	**Balya**	**1.28**	**77**	*i* P	**Pn**	**06 38 16.8**	**+0.4**
BALY				*i* S	**Sb**	**06 38 33.6**	**+0.4**
KRBG	**Karabiga-Canak**	**1.36**	**47**	*e*PN	**Pn**	**06 38 17.2**	**-0.3**
KRBG	**Karabiga-Canak**	**1.36**	**47**	*e*Pn	**Pn**	**06 38 17.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**66**	*e*PN	**Pn**	**06 38 18.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.43**	**66**	*e*Pn	**Pn**	**06 38 18.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.52**	**36**	*e*PN	**Pn**	**06 38 21.0**	**+1.3**
RKY	**Sarkoy-Tekirda**	**1.52**	**36**	*e*Pn	**Pn**	**06 38 21.0**	**+1.3**
SART	**Tekirdag**	**1.52**	**36**	*i* P	**Pn**	**06 38 16.9**	**-2.8**
SART				*i* S	**Sn**	**06 38 37.7**	**-1.7**
SART	**Tekirdag**	**1.52**	**36**	*i* P	**Pn**	**06 38 16.9**	**-2.8**
SART				*i* S	**Sn**	**06 38 37.7**	**-1.7**
MFT	**Murefte**	**1.65**	**36**	*e*PN	**Pn**	**06 38 22.7**	**+1.3**
MFT	**Murefte**	**1.65**	**36**	*e*Pn	**Pn**	**06 38 22.7**	**+1.3**
MRMT	**Marmara Adasi**	**1.67**	**47**	*e*PN	**Pn**	**06 38 23.1**	**+1.3**
MRMT	**Marmara Adasi**	**1.67**	**47**	*e*Pn	**Pn**	**06 38 23.1**	**+1.3**
DURS	**Dursunbey**	**1.92**	**85**	*i* P	**Sn**	**06 38 48.5**	**-0.8**

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*BJI **02** 07:04:24.6, 41.°85N×83.°39E, h14km, ML3.2/5*
NNC 02 07:05:24.7±7.7, 43.°07N×84.°86E, h0km, mb3.8, mpv3.6, 2C-2D, Error ellipse: s-maj=94.8km s-min=33.9km az=115.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.15**	**335**	⇓Pn	Pn	07 06 32.0	+2.7
	4.1nm,0.3s,baz=166,slow=15,SNR=16						
MK31				⇑Lg		07 07 36.2	
	38nm,0.5s,baz=167,slow=26,SNR=8.7						
KSH	**Kashi**	**7.57**	**245**	*e*Pn	Pn	07 06 58.0	-18
KSH				*e*Sn	Sn	07 08 05.4	-37
KSH				smax			
	comp=N,13nm,0.9s						
KSH				smax			
	comp=E,27nm,1.4s						
KURK	**Kurchatov**	**8.76**	**333**	⇓Lg		07 10 02.3	
	comp=E,12nm,0.9s						
KK31	**Karatay Array**	**10.50**	**275**	⇑Pn	Pn	07 07 59.2	+2.7
	comp=E,0.9nm,0.7s						

IDC 02 07:34:17.1±2.0, 15.°27S×173.°38W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.6/6, Error ellipse: s-maj=118.9km s-min=20.4km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.06**	**49**	Pn	Pn	07 34 50.9	-2.1
	66nm,0.3s,baz=168,slow=1.5,SNR=116						
AFI				Sn	Sn	07 35 09.2	-10
	186nm,0.3s,baz=358,slow=21,SNR=13						
WRA	**Warramunga Arr**	**49.90**	**257**	P	P	07 43 12.0	-0.8
	0.3nm,0.6s,baz=91,slow=6.8,SNR=13						
ASAR	**Alice Springs**	**50.17**	**252**	P	P	07 43 14.3	-0.5
	1.1nm,0.6s,baz=86,slow=8.2,SNR=22						
TXAR	**Lajitas Array**	**80.52**	**56**	P	P	07 46 32.6	+1.1
	0.4nm,0.8s,baz=216,slow=6.2,SNR=4.9						
PDAR	**Pinedale Array**	**82.16**	**42**	P	P	07 46 39.8	-0.1
	0.6nm,0.8s,baz=230,slow=6.7,SNR=4.5						
ILAR	**Eielson Array**	**82.32**	**11**	P	P	07 46 40.2	0.0
	0.2nm,0.6s,baz=227,slow=5.7,SNR=4.4						
GERES	**GERESS Array B 146.02 352**			PKPbc	PKPbc	07 53 58.9	+0.1
	0.3nm,0.5s,baz=3.5,slow=3.2,SNR=2.8						
BRTR	**Keskin Array B**	**146.07**	**321**	PKPbc	PKPbc	07 54 00.4	+1.1
	1.4nm,0.7s,baz=123,slow=4.6,SNR=6.2						

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*ISCJB **02** 07:38:38.4±0.8, 27.°2N±0.°1×88.°19E±0.°07, h10km, mb3.6/9, Error ellipse: s-maj=16.8km s-min=6.1km az=25.5*
*IDC **02** 07:38:39.3±1.0, 27.°40N×88.°00E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/26, mbtmp3.6/10, ML3.6/1, Error ellipse: s-maj=37.5km s-min=19.3km az=60.0*
ISC 02 07:38:40.7±0.8, 27.°5N±0.°1×88.°3E±0.°1, h10km, n12, σ0.92/16, mb3.6/9, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**0.34**	**111**	*e*PKP	**Pg**	**07 38 46.0**	**-1.5**
GTK				*e*S	**Sg**	**07 38 52.0**	**0.0**
SHL	**Shillong**	**3.75**	**119**	*e*PN	**Pn**	**07 39 44.0**	**+5.3**
SHL				*e*PG	**Pg**	**07 39 53.0**	**+0.4**
SHL				*e*SN	**Sn**	**07 40 29.0**	**+6.1**
SHL				*i* SG	**Sg**	**07 40 41.0**	**-0.3**
MKAR	**Makanchi Array**	**19.87**	**348**	P	**Pn**	**07 43 13.2**	**-0.2**
	0.2nm,0.3s,baz=176,slow=10,SNR=6.1						
KURK	**Kurchatov**	**24.36**	**345**	P	**P**	**07 43 58.2**	**-0.5**
	1.5nm,0.7s,mb3.5,baz=161,slow=9.4,SNR=10						
SONM	**Songino Array**	**24.79**	**30**	P	**P**	**07 44 04.7**	**+2.1**
	1.6nm,0.9s,mb3.5,baz=215,slow=10.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**26.59**	**355**	P	**P**	**07 44 19.5**	**+0.7**
	0.3nm,0.3s,mb3.3,baz=170,slow=9.0,SNR=4.6						
FINES	**FINESS Array B**	**53.02**	**328**	P	**P**	**07 47 56.5**	**-1.0**
	1.7nm,0.6s,mb4.2,baz=98,slow=7.9,SNR=4.5						
ARCES	**ARCESS Array B**	**55.08**	**338**	P	**P**	**07 48 11.7**	**-0.7**
	4.4nm,1.0s,mb4.5,baz=104,slow=7.6,SNR=3.8						
GERES	**GERESS Array B**	**59.96**	**313**	P	**P**	**07 48 46.3**	**-0.8**
	0.6nm,0.6s,mb3.8,baz=60,slow=5.8,SNR=3.4						
WRA	**Warramunga Arr**	**64.89**	**132**	P	**P**	**07 49 20.9**	**+0.5**
	0.2nm,0.5s,mb3.5,baz=322,slow=6.9,SNR=3.8						
ASAR	**Alice Springs**	**67.26**	**135**	P	**P**	**07 49 37.2**	**+1.6**
	0.2nm,0.7s,mb3.3,baz=293,slow=5.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**81.05**	**280**	P	**P**	**07 50 56.6**	**+0.2**
	0.2nm,0.7s,mb3.2,baz=54,slow=7.3,SNR=3.5						

GUC 02 07:40:45.2±0.7, 34.°14S×71.°99W, h33km±4km, MD3.8, ML3.1, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.51**	**70**	⇓*i*P	Pb	07 40 56.2	+0.3
LNV				*e*S	Sb	07 41 03.7	+0.4
CHCH	**Chadas Angostu**	**1.13**	**80**	⇑*i*P	Pn	07 41 05.4	+0.8
CHCH				*i* S	Sn	07 41 20.2	+1.3
IHA	**Instituto Hidr**	**1.14**	**15**	⇑*i*P	Pn	07 41 05.1	+0.2
IHA				*e*S	Sn	07 41 20.7	+1.3
CACH	**El Canelo**	**1.15**	**89**	⇓*i*P	Pn	07 41 06.4	+1.5
CACH				*i* S	Sn	07 41 22.3	+2.7
ANTU	**Antumapu**	**1.26**	**64**	⇑*i*P	Pn	07 41 07.4	+0.9
ANTU				*i* S	Sn	07 41 23.8	+1.5
ANTU				AML	AML	07 41 25.2	
	comp=N,704nm,0.3s						
TALC	**Talca**	**1.29**	**167**	⇓*i*P	Pn	07 41 07.6	+0.7
TALC				*i* S	Sn	07 41 24.4	+1.3
TALC				AML	AML	07 41 25.5	
	comp=E,3μm,0.1s						
FSR	**Penalolen**	**1.38**	**62**	*e*S	Sn	07 41 27.3	+2.0
FSR				AML	AML	07 41 30.3	
	comp=E,126nm,0.3s						
LACH	**Col Las Americ**	**1.39**	**61**	*e*P	Pn	07 41 09.4	+1.1
LACH				*i* S	Sn	07 41 27.6	+2.1
LACH				AML	AML	07 41 31.8	
	comp=N,273nm,0.5s						
CLCH	**Cerro Calan**	**1.41**	**59**	⇓*i*P	Pn	07 41 09.9	+1.3
CLCH				*i* S	Sn	07 41 28.2	+2.1
CLCH				AML	AML	07 41 32.2	
	comp=N,570nm,0.8s						
ROCH	**El Roble**	**1.42**	**35**	⇑*i*P	Pn	07 41 09.8	+1.1
ROCH				*i* S	Sn	07 41 28.7	+2.5
ROCH				AML	AML	07 41 31.3	
	comp=N,325nm,0.4s						
SJCH	**San Jose de Ma**	**1.44**	**70**	*e*P	Pn	07 41 10.6	+1.6
SJCH				*e*S	Sn	07 41 29.4	+2.5
SJCH				AML	AML	07 41 31.2	
	comp=N,459nm,0.6s						
PEL	**Peldehue**	**1.47**	**48**	*e*P	Pn	07 41 10.9	+1.5
PEL				*i* S	Sn	07 41 29.8	+2.3
PEL				AML	AML	07 41 30.7	
	comp=E,944nm,0.5s						
LMEL	**Las Melosas**	**1.51**	**80**	⇑*i*P	Pn	07 41 11.4	+1.5
LMEL				*i* S	Sn	07 41 31.3	+2.9
LMEL				AML	AML	07 41 33.2	
	comp=N,994nm,0.1s						
LNCH	**Linares**	**1.74**	**170**	*e*P	Pn	07 41 14.3	+1.2
LNCH				*i* S	Sn	07 41 36.9	+2.8
LNCH				AML	AML	07 41 39.4	
	comp=E,250nm,0.3s						

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*NEIC **02** 07:53:05.5, 19.°95N×64.°33W, h62km, MD3.5(RSPR), After RSPR.*
RSPR 02 07:53:05.5, 19.°95N×64.°33W, h62km±10km, MD3.5/6, 18C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.55**	**190**	⇓*e*P	Pn	07 53 30.1	-0.9
TBVI	**Tortola**	**1.55**	**190**	⇓*e*P	Pn	07 53 30.1	-0.9
STVI	**Saint Thomas**	**1.70**	**201**	⇓*e*P	Pn	07 53 32.1	-0.9
STVI	**Saint Thomas**	**1.70**	**201**	⇓*e*P	Pn	07 53 32.1	-0.9
STVI				*e*S	Sn	07 53 53.1	-0.6
MTP	**Monte Pirata**	**2.18**	**212**	⇓*e*P	Pn	07 53 39.1	-0.4
MTP	**Monte Pirata**	**2.18**	**212**	⇓*e*P	Pn	07 53 39.1	-0.4
MTP				*e*S	Sn	07 54 04.7	-0.7
CBYP	**Canovanas**	**2.21**	**221**	⇓*e*P	Pn	07 53 39.2	-0.7
CBYP	**Canovanas**	**2.21**	**221**	⇓*e*P	Pn	07 53 39.2	-0.7
CBYP				*e*S	Sn	07 54 05.6	-0.6
HUMP	**Col San Antoni**	**2.31**	**219**	⇓*e*P	Pn	07 53 40.4	-0.8
HUMP	**Col San Antoni**	**2.31**	**219**	⇓*e*P	Pn	07 53 40.4	-0.8
HUMP				*e*S	Sn	07 54 07.8	-0.6
CPD	**Cerro la Pandu**	**2.43**	**219**	*e*S	Sn	07 54 11.1	-0.3
SJG	**San Juan**	**2.52**	**224**	⇓*e*P	Pn	07 53 43.5	-0.6
SJG	**San Juan**	**2.52**	**224**	⇓*e*P	Pn	07 53 43.6	-0.4
SJG	**San Juan**	**2.52**	**224**	⇓*e*P	Pn	07 53 43.5	-0.6
SJG				⇓*e*P		07 53 43.6	
SJG				*e*S	Sn	07 54 12.9	-0.7
AOPR	**Arecibo Observ**	**2.80**	**236**	⇑*e*P	Pn	07 53 47.4	-0.5
AOPR	**Arecibo Observ**	**2.80**	**236**	⇑*e*P	Pn	07 53 47.4	-0.5
AOPR				*e*S	Sn	07 54 20.3	-0.2
CELP	**Cerrillos**	**2.83**	**229**	⇓*e*P	Pn	07 53 48.1	-0.3
CELP	**Cerrillos**	**2.83**	**229**	⇓*e*P	Pn	07 53 48.1	-0.3
AGPR	**Aguadilla, PR**	**3.02**	**241**	⇑*e*P	Pn	07 53 50.3	-0.6
AGPR	**Aguadilla, PR**	**3.02**	**241**	⇑*e*P	Pn	07 53 50.3	-0.6
AGPR				*e*S	Sn	07 54 25.2	-0.7
LSP	**Las Mesas**	**3.15**	**236**	⇑*e*P	Pn	07 53 52.3	-0.4
LSP	**Las Mesas**	**3.15**	**236**	⇑*e*P	Pn	07 53 52.3	-0.4
CRPR	**Cabo Rojo, PR**	**3.27**	**234**	⇓*e*P	Pn	07 53 54.2	-0.2
CRPR	**Cabo Rojo, PR**	**3.27**	**234**	⇓*e*P	Pn	07 53 54.2	-0.2
SDDR	**Presa de Saban**	**6.64**	**263**	*e*Pn	Pn	07 54 40.4	-0.1
	16nm,0.4s						

GUC 02 08:29:27.9±0.8, 34.°04S×70.°11W, h20km±3km, MD3.6, ML2.4, 3C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.20**	**338**	⇑*i*P	Pg	08 29 32.0	-1.1
LMEL				*i* S	Sg	08 29 35.6	-1.0
LMEL				AML	AML	08 29 35.9	
	comp=E,2μm,0.2s						
CACH	**El Canelo**	**0.41**	**259**	⇓*i*P	Pb	08 29 36.0	-0.5
CACH				*i* S	Sg	08 29 42.1	-0.2
SJCH	**San Jose de Ma**	**0.45**	**333**	⇑*i*P	Pb	08 29 36.5	-0.6
SJCH				*i* S	Sg	08 29 43.2	-0.1
SJCH				AML	AML	08 29 43.5	
	comp=E,459nm,0.3s						
CHCH	**Chadas Angostu**	**0.46**	**283**	⇑*i*P	Pb	08 29 36.9	-0.5
CHCH				*i* S	Sg	08 29 43.8	+0.1
ANTU	**Antumapu**	**0.64**	**317**	⇓*i*P	Pb	08 29 40.3	-0.1
ANTU				*i* S	Sb	08 29 49.6	+0.8
ANTU				AML	AML	08 29 50.2	
	comp=E,207nm,0.5s						
FCH	**Farellones**	**0.72**	**348**	⇓*i*P	Pb	08 29 42.4	+0.5
FCH				*i* S	Sb	08 29 52.7	+1.4
FCH				AML	AML	08 29 53.7	
	comp=E,296nm,0.3s						
CLCH	**Cerro Calan**	**0.73**	**331**	⇓*i*P	Pb	08 29 41.7	-0.3
CLCH				*i* S	Sb	08 29 52.4	+0.8
CLCH				AML	AML	08 29 54.6	
	comp=E,367nm,0.6s						
PEL	**Peldehue**	**1.01**	**332**	⇓*i*P	Pb	08 29 46.8	0.0
PEL				*i* S	Sb	08 30 00.5	+0.8
PEL				AML	AML	08 30 01.5	
	comp=E,203nm,0.3s						
LNV	**Longovilo**	**1.08**	**274**	*e*P	Pn	08 29 47.6	-0.3
LNV				*i* S	Sb	08 30 02.6	+1.0
ROCH	**El Roble**	**1.30**	**325**	*e*P	Pn	08 29 51.5	+0.6
ROCH				*i* S	Sn	08 30 09.2	+1.5
ROCH				AML	AML	08 30 14.5	
	comp=N,86nm,0.6s						

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*NEIC **02** 09:04:23.9±0.4, 1.°97N×127.°29E, h35km, mb4.5/3, Error ellipse: s-maj=14.8km s-min=6.8km az=79.0*
*IDC **02** 09:04:25.8±2.7, 1.°92N×127.°19E, h52km±24km, mb3.9/11, mb1 4.1/13, mb1mx3.9/20, mbtmp3.9/13, ML4.1/2, MS3.9/2, Ms1 3.9/2, ms1mx2.8/32, Error ellipse: s-maj=27.4km s-min=9.8km az=81.0*
*ISCJB **02** 09:04:26.9±1.0, 1.°89N±0.°05×127.°11E±0.°07, h82km±9km, mb4.4/20, Error ellipse: s-maj=11.6km s-min=8.2km az=160.0*
*DJA **02** 09:04:33, 1.°15N×126.°74E, h10km, MLv4.2/5*
ISC 02 09:04:27.4±1.0, 1.°90N±0.°05×127.°19E±0.°07, h68km±9km, n49, σ0.77/55, mb4.4/20, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**171**	P	**Pn**	**09 04 47.0**	**-0.6**
TNTI				S	**Sn**	**09 04 56.6**	**-6.0**
SGSI	**Sangihe**	**2.43**	**317**	P	**Pn**	**09 05 23.9**	**+19**
LBMI	**Labuha**	**2.54**	**173**	P	**Pn**	**09 05 07.0**	**+0.6**
LBMI				S	**Sn**	**09 05 49.4**	**+13**
KMSI	**Cibinong**	**3.47**	**248**	P	**Pn**	**09 05 19.9**	**+0.9**
GTOI	**Gorontalo**	**4.37**	**253**	P	**Pn**	**09 05 31.4**	**+0.2**
MRSI	**Marisa**	**5.44**	**255**	P	**Pn**	**09 05 46.8**	**+0.9**
KAPI	**Kappang**	**10.12**	**227**	P	**Pn**	**09 06 50.0**	**0.0**
	0.9nm,0.3s,baz=208,slow=23,SNR=4.0						
KAPI				S	**Sn**	**09 08 41.8**	**-0.2**
	0.5nm,0.3s,baz=70,slow=21,SNR=2.2						
KAPI	**Kappang**	**10.12**	**227**	P	**Pn**	**09 06 50.0**	**0.0**
KAPI				S	**Sn**	**09 08 41.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.94**	**184**	P	**Pn**	**09 08 53.9**	**-2.2**
	0.6nm,0.3s,baz=18,slow=11,SNR=14						
FITZ	**Fitzroy Crossi**	**19.94**	**184**	*e*P	**Pn**	**09 08 53.4**	**-2.7**
	5.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.94**	**184**	P	**Pn**	**09 08 53.9**	**-2.2**
WRAB	**Tennant Creek**	**22.81**	**162**	*e*P	**P**	**09 09 23.9**	**-0.7**
	15nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**22.81**	**162**	P	**P**	**09 09 24.1**	**-0.5**
	10nm,0.5s,mb4.4,baz=342,slow=10,SNR=54						
WRA				S	**S**	**09 13 30.6**	**+1.8**
	0.6nm,0.6s,baz=342,slow=18,SNR=4.9						
WRA	**Warramunga Arr**	**22.81**	**162**	P	**P**	**09 09 24.1**	**-0.5**
WRA				S	**S**	**09 13 30.6**	**+1.8**
WB2	**Warramunga Arr**	**22.82**	**162**	*e*P	**P**	**09 09 24.0**	**-0.6**
AS31	**Alice Springs**	**26.24**	**166**	*e*P	**P**	**09 09 56.0**	**-0.2**
ASAR	**Alice Springs**	**26.24**	**166**	P	**P**	**09 09 55.9**	**-0.2**
	3.6nm,0.5s,mb4.1,baz=348,slow=7.2,SNR=121						
ASAR				S	**S**	**09 14 27.0**	**+3.3**
	0.5nm,0.9s,baz=355,slow=20,SNR=4.2						
ASAR	**Alice Springs**	**26.24**	**166**	P	**P**	**09 09 55.9**	**-0.2**
ASAR				S	**S**	**09 14 27.0**	**+3.3**
MEEK	**Meekatharra**	**29.56**	**196**	*e*P	**P**	**09 10 25.6**	**-0.1**
	43nm,0.9s,mb5.1						
CMAR	**Chiang Mai Arr**	**32.21**	**303**	P	**P**	**09 10 47.6**	**-1.7**
	0.8nm,0.3s,mb3.9,baz=110,slow=6.8,SNR=5.3						
CMAR	**Chiang Mai Arr**	**32.21**	**303**	P	**P**	**09 10 47.6**	**-1.7**
FORT	**Forrest**	**32.51**	**179**	*e*P	**P**	**09 10 51.5**	**-0.2**
	6.5nm,0.6s,mb4.6						
KMBL	**Kambalda**	**33.47**	**188**	*e*P	**P**	**09 10 59.8**	**-0.2**
	36nm,1.6s,mb5.0						
BLDU	**Ballidu**	**33.84**	**196**	*e*P	**P**	**09 11 03.6**	**+0.3**
KLBR	**Kellerberrin**	**34.50**	**194**	*e*P	**P**	**09 11 08.7**	**-0.2**
	4.5nm,0.4s,mb4.7						
HNR	**Honiara**	**34.52**	**110**	LR	LR	09 26 24.9	
	comp=Z,293nm,18.0s,baz=230,slow=38						
KSAR	**Wonju Array Be**	**35.37**	**1**	P	**P**	**09 11 16.6**	**+0.2**
KSRS	**Korea Array**	**35.38**	**1**	P	**P**	**09 11 16.6**	**+0.1**
	0.9nm,0.5s,mb3.8,baz=180,slow=10.0,SNR=4.2						
BBOO	**Buckleboo**	**35.53**	**167**	*e*P	**P**	**09 11 17.4**	**-0.4**
	23nm,0.5s,mb5.4						
NWAO	**Narrogin (SRO)**	**35.90**	**194**	P	**P**	**09 11 21.4**	**+0.4**
	4.3nm,0.5s,mb4.7,baz=3.7,slow=18,SNR=7.0						
NWAO	**Narrogin (SRO)**	**35.90**	**194**	P	**P**	**09 11 21.4**	**+0.4**
STKA	**Stephens Creek**	**36.27**	**159**	P	**P**	**09 11 24.6**	**+0.4**
	11nm,0.7s,mb4.9,baz=337,slow=8.3,SNR=19						
STKA	**Stephens Creek**	**36.27**	**159**	*e*P	**P**	**09 11 24.1**	**-0.1**
	7.2nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**36.27**	**159**	P	**P**	**09 11 24.6**	**+0.4**
CMSA	**Cobar Meteorol**	**37.62**	**154**	*e*P	**P**	**09 11 36.4**	**+0.8**
	7.9nm,0.5s,mb4.8						
ARMA	**Armidale**	**39.70**	**146**	*e*P	**P**	**09 11 55.0**	**+1.9**
ASAJ	**Asahikawa**	**44.20**	**16**	LR	LR	09 29 24.4	
	comp=Z,71nm,20.1s,baz=5.3,slow=34						
SONM	**Songino Array**	**49.16**	**342**	P	**P**	**09 13 08.7**	**+0.3**
	1.3nm,0.6s,mb4.0,baz=153,slow=9.0,SNR=6.4						
SONM	**Songino Array**	**49.16**	**342**	P	**P**	**09 13 08.7**	**+0.3**
PETK	**Petropavlovsk-**	**56.94**	**21**	P	**P**	**09 14 05.5**	**+0.1**
	2.3nm,0.7s,mb4.3,baz=204,slow=3.3,SNR=4.1						
PETK	**Petropavlovsk-**	**56.94**	**21**	P	**P**	**09 14 05.5**	**+0.1**
MKAR	**Makanchi Array**	**59.31**	**326**	P	**P**	**09 14 21.8**	**-0.3**
	0.9nm,0.4s,mb4.1,baz=120,slow=8.2,SNR=16						
MKAR	**Makanchi Array**	**59.31**	**326**	P	**P**	**09 14 21.8**	**-0.3**
ZALV	**Zalesovo Beam**	**62.41**	**333**	P	**P**	**09 14 44.1**	**+1.1**
	0.3nm,0.3s,mb3.7,baz=120,slow=8.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**62.41**	**333**	P	**P**	**09 14 44.1**	**+1.1**
KURK	**Kurchatov**	**63.52**	**328**	*e*P	**P**	**09 14 50.2**	**-0.2**
	9.3nm,0.8s,mb4.7						
ABKAR	**Akbulak array**	**73.85**	**321**	*e*P	**P**	**09 15 54.0**	**-0.7**
	1.5nm,0.7s,mb3.8						
ILAR	**Eielson Array**	**86.54**	**25**	P	**P**	**09 17 02.5**	**-0.2**
	0.3nm,0.8s,mb3.3,baz=239,slow=5.1,SNR=4.9						
ILAR	**Eielson Array**	**86.54**	**25**	P	**P**	**09 17 02.5**	**-0.2**

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*ISCJB **02** 09:10:54.8±1.2, 2.°49S±0.°03×140.°12E±0.°04, h15km±7km, mb4.8/42, MS3.9/13, Error ellipse: s-maj=6.2km s-min=4.8km az=163.8*
*IDC **02** 09:10:54.0±0.7, 2.°55S×139.°97E, h0km, mb4.5/11, mb1 4.6/14, mb1mx4.5/18, mbtmp4.5/14, ML4.1/3, MS3.7/13, Ms1 3.7/13, ms1mx3.5/24, Error ellipse: s-maj=17.9km s-min=8.8km az=102.0*
*MOS **02** 09:10:56.5±0.8, 2.°51S×140.°11E, h30km, mb4.9/16, Error ellipse: s-maj=16.0km s-min=8.2km az=112.4*
*DJA **02** 09:10:56, 2.°48S×140.°19E, h10km, mb4.8/14*
*BJI **02** 09:10:57.1, 2.°60S×140.°28E, h44km, mB5.0/14, mb5.0/27, Ms4.8/9, Ms7 4.5/11*
*NEIC **02** 09:10:59.8±1.4, 2.°50S×140.°07E, h40km±14km, mb4.9/20, Error ellipse: s-maj=9.7km s-min=7.5km az=71.0*
NEIC Felt [IV] at Genyem and [III] at Jayapura and Sentani.
ISC 02 09:10:59.4±1.5, 2.°53S±0.°03×140.°04E±0.°05, h32km±10km, h36km±2.2km: pP-P, n151, σ1.23/153, mb4.8/41, MS3.9/13, 3C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.67**	**88**	P	**Pb**	**09 11 05.6**	**-7.1**
JAY	**Jayapura**	**0.67**	**88**	P	**Pb**	**09 11 05.6**	**-7.1**
JAY				S	**Sb**	**09 11 13.2**	**-8.5**
SMPI	**Sarmi**	**1.43**	**292**	P	**Pn**	**09 11 22.3**	**-0.8**
PMG	**Port Moresby**	**9.84**	**134**	Pn	**Pn**	**09 13 19.2**	**+0.5**
	1.1

	comp=Z,22nm,1.5s						
KAPI	**Kappang**	**20.39 262**	P	**P**	**09 15 33.6**	**-0.2**	
	comp=Z,5.0nm,0.9s,baz=81,slow=13,SNR=3.1						
KAPI	**Kappang**	**20.39 262**	*e*P	**P**	**09 15 34.8**	**+1.0**	
	comp=Z,16nm,1.0s						
KAPI	**Kappang**	**20.39 262**	P	**P**	**09 15 41.8**	**+8.0**	
FITZ	**Fitzroy Crossi**	**20.94 221**	P	**P**	**09 15 39.8**	**+0.1**	
	comp=Z,16nm,0.8s,baz=54,slow=9.4,SNR=29						
FITZ			S	**S**	**09 19 32.0**	**+0.3**	
	comp=Z,17nm,1.0s,baz=97,slow=14,SNR=8.2						
FITZ			LR	LR	09 24 22.5		
	comp=Z,176nm,18.9s,MS3.5,baz=41,slow=39						
FITZ	**Fitzroy Crossi**	**20.94 221**	*e*P	**P**	**09 15 39.9**	**+0.2**	
	comp=Z,39nm,0.8s						
FITZ			*e*S	**S**	**09 19 30.2**	**-1.4**	
FITZ	**Fitzroy Crossi**	**20.94 221**	*e*P	**P**	**09 15 40.0**	**+0.3**	
	comp=Z,26nm,0.9s						
FITZ			S	**S**	**09 19 32.0**	**+0.3**	
FITZ	**Fitzroy Crossi**	**20.94 221**	P	**P**	**09 15 39.4**	**-0.3**	
	comp=Z,34nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.94 221**	P	**P**	**09 15 38.9**	**-0.8**	
	comp=Z,34nm,0.9s						
HNR	**Honiara**	**20.95 110**	P	**P**	**09 15 37.8**	**-2.0**	
	comp=Z,62nm,0.6s,baz=205,slow=4.7,SNR=7.0						
HNR	**Honiara**	**20.95 110**	*e*P	**P**	**09 15 38.4**	**-1.4**	
	comp=Z,99nm,1.0s						
HNR	**Honiara**	**20.95 110**	*e*P	**P**	**09 15 38.4**	**-1.4**	
HNR			pmax	pmax			
	comp=Z,99nm,1.0s						
AS31	**Alice Springs**	**21.83 195**	*e*P	**P**	**09 15 48.8**	**-0.4**	
ASAR	**Alice Springs**	**21.83 195**	P	**P**	**09 15 48.4**	**-0.8**	
	comp=Z,11nm,0.6s,mb4.5,baz=27,slow=11,SNR=67						
ASAR			S	**S**	**09 19 53.2**	**+4.3**	
	comp=Z,6.7nm,1.0s,baz=13,slow=30,SNR=5.2						
ASAR	**Alice Springs**	**21.83 195**	P	**P**	**09 15 48.4**	**-0.8**	
ASAR			S	**S**	**09 19 53.2**	**+4.3**	
ASAR	**Alice Springs**	**21.83 195**	P	**P**	**09 15 48.4**	**-0.8**	
ASAR			S	**S**	**09 19 53.2**	**+4.3**	
ASAR			pmax	pmax			
	comp=Z,11nm,0.6s						
ASAR			smax				
	comp=N,7.0nm,1.0s						
MYLDM	**Lahad Datu**	**22.84 290**	P	**P**	**09 16 02.3**	**+2.2**	
	comp=N,95nm,1.5s,mb5.0						
MYLDM	**Lahad Datu**	**22.84 290**	P	**P**	**09 16 02.2**	**+2.1**	
QLP	**Quilpie**	**24.25 171**	*e*P	**P**	**09 16 14.9**	**+1.3**	
EIDS	**Eidsvold**	**25.07 156**	*e*P	**P**	**09 16 23.2**	**+2.1**	
	comp=N,211nm,1.8s,mb5.4						
MBWA	**Marble Bar**	**27.09 225**	*e*P	**P**	**09 16 39.1**	**-0.3**	
MBWA	**Marble Bar**	**27.09 225**	*e*P	**P**	**09 16 39.6**	**+0.1**	
	comp=N,19nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**29.22 177**	P	**P**	**09 16 59.0**	**+0.6**	
	comp=N,3.7nm,0.8s,mb4.2,baz=342,slow=12,SNR=6.2						
STKA			LR	LR	09 30 19.0		
	comp=N,313nm,18.7s,MS4.0,baz=8.5,slow=40						
STKA	**Stephens Creek**	**29.22 177**	*e*P	**P**	**09 16 57.7**	**-0.7**	
	comp=N,4.4nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**29.22 177**	*e*P	**P**	**09 16 59.0**	**+0.7**	
	comp=N,24nm,2.5s,mb4.5						
STKA	**Stephens Creek**	**29.22 177**	P	**P**	**09 16 59.0**	**+0.6**	
STKA			pmax	pmax			
	comp=Z,4.0nm,0.8s						
STKA			MLR	MLR			
	comp=Z,313nm,18.7s						
CMSA	**Cobar Meteorol**	**29.34 170**	*e*P	**P**	**09 17 01.4**	**+2.0**	
	comp=Z,61nm,1.2s,mb5.2						
FORT	**Forrest**	**30.29 201**	*e*P	**P**	**09 17 08.9**	**+1.1**	
	comp=Z,12nm,0.6s,mb4.8						
FORT	**Forrest**	**30.29 201**	*e*P	**P**	**09 17 09.0**	**+1.2**	
	comp=Z,24nm,0.7s,mb5.0						
MEEK	**Meekatharra**	**31.57 219**	*e*P	**P**	**09 17 19.2**	**0.0**	
	comp=Z,37nm,0.9s,mb5.2						
YNG	**Young**	**32.55 167**	*e*P	**P**	**09 17 30.0**	**+2.3**	
	comp=Z,11nm,0.6s,mb5.0						
CNB	**Canberra Magne**	**33.75 166**	*e*P	**P**	**09 17 40.6**	**+2.5**	
	comp=Z,56nm,0.7s,mb5.6						
MDSI	**Maura Dua**	**35.84 266**	P	**P**	**09 17 54.9**	**-1.6**	
	comp=Z,530nmcomp=Z,14nm,1.2s,mb4.8						
JNU	**Nakatsue**	**36.50 347**	*e*P	**P**	**09 18 00.8**	**-1.1**	
	comp=Z,16nm,1.4s,mb4.7						
QIZ	**Qiongzhong**	**36.61 307**	P	**P**	**09 18 02.1**	**-0.9**	
QIZ			S	**S**	**09 23 44.3**	**+0.2**	
NWAO	**Narrogin (SRO)**	**37.03 213**	LR	LR	09 34 59.5		
	comp=Z,247nm,19.0s,MS4.0,baz=63,slow=39						
NJ2	**Nanjing**	**39.84 331**	*e*P	**P**	**09 18 29.8**	**-0.2**	
NJ2			pmax	pmax			
	comp=Z,20nm,0.8s,mb4.9						
KSAR	**Wonju Array Be**	**41.34 345**	P	**P**	**09 18 41.3**	**-1.0**	
KSAR	**Wonju Array Be**	**41.34 345**	P	**P**	**09 18 41.3**	**-1.0**	
KSRS	**Korea Array**	**41.34 345**	P	**P**	**09 18 41.3**	**-1.0**	
	comp=Z,1.1nm,0.8s,mb3.5,baz=163,slow=9.1,SNR=6.1						
KSRS			LR	LR	09 33 45.4		
	comp=Z,54nm,19.7s,MS3.4,baz=185,slow=33						
KSRS	**Korea Array**	**41.34 345**	P	**P**	**09 18 41.3**	**-1.0**	
KSRS			pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.5						
PSI	**Prapat**	**41.44 277**	P	**P**	**09 18 42.0**	**-1.5**	
	comp=Z,36nm,1.2s,mb4.9						
GYA	**Guiyang**	**43.24 314**	P	**P**	**09 18 59.0**	**+1.0**	
GYA			pP	pP	09 19 08.5	+1.0	
GYA			sP	sP	09 19 15.5	+4.2	
GYA			ScP	ScP	09 24 35.0	-1.1	
GYA			S	**S**	**09 25 24.8**	**+1.6**	
GYA			sS	sS	09 25 41.0	+2.2	
GYA			SS	SS	09 28 31.4	-5.9	
GYA			pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.5						
GYA			pmax	pmax			
	comp=Z,110nm,4.9s						
GYA			LR	LR			
	comp=N,480nm,17.6s,MS4.5						
GYA			LR	LR			
	comp=E,360nm,18.0s,MS4.5						
GYA			LR	LR			
	comp=Z,490nm,17.8s,MS4.5						
CHRT	**Chiangrai**	**45.35 301** ⇑	P	**P**	**09 19 13.0**	**-2.0**	
	comp=Z,105nm,1.0s,mb5.6						
KMI	**Kunming**	**45.42 310**	P	**P**	**09 19 15.9**	**+0.4**	
KMI			pmax	pmax			
	comp=Z,18nm,0.9s,mb4.9						
KMI	**Kunming**	**45.42 310**	P	**P**	**09 19 15.9**	**+0.4**	
	comp=Z,18nm,0.9s,mb4.9						
KMI	**Kunming**	**45.42 310**	P	**P**	**09 19 15.9**	**+0.4**	
KMI			pmax	pmax			
	comp=Z,18nm,0.9s,mb4.9						
CM31	**Chiang Mai Arr**	**45.50 299**	*e*P	**P**	**09 19 16.0**	**-0.2**	
	comp=Z,44nm,1.3s,mb5.2						
CMAR	**Chiang Mai Arr**	**45.50 299**	P	**P**	**09 19 16.1**	**-0.1**	
	comp=Z,11nm,1.0s,mb4.7,baz=119,slow=5.9,SNR=47						
CMAR			LR	LR	09 39 17.9		
	comp=Z,50nm,18.2s,MS3.5,baz=264,slow=38						
CMAR	**Chiang Mai Arr**	**45.50 299**	P	**P**	**09 19 16.1**	**-0.1**	
CMAR	**Chiang Mai Arr**	**45.50 299**	P	**P**	**09 19 16.2**	**0.0**	
CMAR			pmax	pmax			
	comp=Z,11nm,1.0s						
CMAR			MLR	MLR			
	comp=Z,50nm,18.2s						
CHG	**Chiang Mai**	**45.64 299** ⇓	P	**P**	**09 19 16.9**	**-0.4**	
	comp=Z,15nm,1.2s,mb4.8						
CHTO	**Chiang Mai**	**45.64 299**	*e*P	**P**	**09 19 17.0**	**-0.3**	
	comp=Z,17nm,1.1s,mb4.9						
CHTO	**Chiang Mai**	**45.64 299**	*e*P	**P**	**09 19 17.0**	**-0.3**	
CHTO			pmax	pmax			
	comp=Z,17nm,1.1s,mb4.9						
CHTO	**Chiang Mai**	**45.64 299**	P	**P**	**09 19 16.9**	**-0.4**	
	comp=Z,18nm,1.3s,mb4.8						
XAN	**Xi'an**	**46.70 324**	P	**P**	**09 19 24.1**	**-1.3**	
XAN			pP	pP	09 19 37.9	+3.0	
XAN			pmax	pmax			
	comp=Z,3.0nm,1.4s,mb4.0						
XAN			pmax	pmax			
	comp=Z,35nm,6.5s						
BJI	**Beijing**	**47.68 335**	P	**P**	**09 19 33.6**	**+0.7**	
BJI			pmax	pmax			
	comp=Z,11nm,0.8s,mb4.9						
BJI			LR	LR			
	comp=Z,83nm,26.0s,MS3.6						
CD2	**Chengdu**	**47.95 317**	*e*P	**P**	**09 19 35.2**	**0.0**	
CD2			pP	pP	09 19 45.0	+0.3	
CD2			sP	sP	09 19 48.9	+0.4	
CD2			PP	PP	09 21 26.4	-1.1	
CD2			S	**S**	**09 26 29.8**	**-1.2**	
CD2			sS	sS	09 26 46.3	-0.4	
CD2			SS	SS	09 29 53.2	-7.0	
CD2			pmax	pmax			
	comp=Z,20nm,1.0s,mb5.1						
CD2			pmax	pmax			
	comp=Z,50nm,5.2s						
CD2			LR	LR			
	comp=Z,220nm,10.8s,MS4.4						
CN2	**Changchun**	**47.95 346**	*e*P	**P**	**09 19 36.8**	**+1.9**	
CN2			*es*P	sP	09 19 51.7	+3.4	
CN2			*e*S	**S**	**09 26 31.1**	**+0.6**	
CN2			pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.1						
CN2			pmax	pmax			
	comp=Z,200nm,3.0s						
RPZ	**Rata Peaks**	**49.38 151**	*e*P	**P**	**09 19 49.2**	**+3.2**	
	comp=Z,20nm,1.0s,mb5.1						
HHC	**Hu-ho-hao-te**	**50.39 332**	*e*P	**P**	**09 19 55.2**	**+1.5**	
HHC			pP	pP	09 20 05.3	+2.1	
HHC			sP	sP	09 20 07.7	+0.7	
HHC			PcP	PcP	09 21 11.9	0.0	
HHC			PP	PP	09 21 51.2	+1.7	
HHC			ScP	ScP	09 25 03.8	-1.9	
HHC			S	**S**	**09 27 06.3**	**+1.4**	
HHC			sS	sS	09 27 21.8	+1.1	
HHC			ScS	ScS	09 29 40.9	-1.6	
HHC			SS	SS	09 30 38.0	-1.1	
HHC			pmax	pmax			
	comp=Z,20nm,1.5s,mb4.9						
HHC			pmax	pmax			
	comp=Z,81nm,7.1s						
HHC			LR	LR			
	comp=N,160nm,15.5s,MS4.4						
HHC			LR	LR			
	comp=E,170nm,11.9s,MS4.4						
HHC			LR	LR			
	comp=Z,130nm,16.7s,MS4.0						
LZH	**Lanzhou**	**51.15 322**	*e*P	**P**	**09 20 00.5**	**+1.0**	
LZH			pP	pP	09 20 10.0	+0.9	
LZH			sP	sP	09 20 13.0	+0.1	
LZH			pmax	pmax			
	comp=Z,26nm,1.0s,mb5.1						
LZH			pmax	pmax			
	comp=Z,95nm,4.0s						
LZH	**Lanzhou**	**51.15 322**	*e*P	**P**	**09 20 00.5**	**+1.0**	
	comp=Z,26nm,1.0s,mb5.1						
LZH			pP	pP	09 20 10.0	+0.9	
LZH			sP	sP	09 20 13.0	+0.1	
LZH	**Lanzhou**	**51.15 322**	*e*P	**P**	**09 20 00.5**	**+1.0**	
LZH			*PP	pP	09 20 10.0	+0.9	
LZH			*SP	sP	09 20 13.0	+0.1	
LZH			pmax	pmax			
	comp=Z,26nm,1.0s,mb5.1						
PETK	**Petropavlovsk-**	**57.39 13**	P	**P**	**09 20 43.8**	**-0.9**	
	comp=Z,2.1nm,0.8s,mb4.2,baz=168,slow=7.6,SNR=3.5						
PETK			LR	LR	09 40 53.6		
	comp=Z,93nm,20.4s,MS3.9,baz=350,slow=31						
PETK	**Petropavlovsk-**	**57.39 13**	P	**P**	**09 20 43.8**	**-0.9**	
PETK	**Petropavlovsk-**	**57.39 13**	P	**P**	**09 20 43.8**	**-0.8**	
PETK			pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2						
WMQ	**Urumqi**	**65.70 321**	*e*P	**P**	**09 21 41.1**	**+0.2**	
WMQ			pmax	pmax			
	comp=Z,21nm,1.0s,mb5.1						
MK31	**Makanchi Array**	**70.46 322**	*e*P	**P**	**09 22 10.7**	**-0.1**	
MK31	**Makanchi Array**	**70.46 322**	*e*P	**P**	**09 22 10.7**	**-0.1**	
MKAR	**Makanchi Array**	**70.46 322**	P	**P**	**09 22 10.4**	**-0.3**	
	comp=Z,8.3nm,0.7s,mb4.8,baz=112,slow=7.9,SNR=39						
MKAR	**Makanchi Array**	**70.46 322**	P	**P**	**09 22 10.4**	**-0.3**	
MKAR	**Makanchi Array**	**70.46 322**	P	**P**	**09 22 10.5**	**-0.3**	
MKAR			pmax	pmax			
	comp=Z,8.0nm,0.7s						
KSH	**Kashi**	**71.93 313**	P	**P**	**09 22 21.2**	**+1.4**	
KSH			pP	pP	09 22 31.6	+1.8	
KSH			sP	sP	09 22 35.8	+2.3	
KSH			PcP	PcP	09 22 40.9	+2.5	
KSH			PP	PP	09 25 03.4	+3.5	
KSH			S	S	09 31 39.2	+0.2	
KSH			sS	sS	09 31 56.5	+1.1	
KSH			SKS		09 32 18.6		
KSH			ScS	ScS	09 32 21.6	-2.0	
KSH			pmax	pmax			
	comp=Z,24nm,1.2s,mb5.0						
KSH			pmax	pmax			
	comp=Z,110nm,4.8s						
KSH			LR	LR			
	comp=N,140nm,5.7s						
KSH			LR	LR			
	comp=E,130nm,5.5s						
KSH			LR	LR			
	comp=Z,190nm,6.0s						
ZAA0	**Zalesovo Array**	**72.45 329**	*e*P	**P**	**09 22 21.1**	**-1.6**	
ZALV	**Zalesovo Beam**	**72.45 329**	P	**P**	**09 22 21.2**	**-1.4**	
	comp=Z,5.0nm,0.7s,mb4.5,baz=108,slow=5.8,SNR=17						
ZALV			LR	LR	09 56 05.2		
	comp=Z,39nm,18.4s,MS3.7,baz=64,slow=37						
ZALV	**Zalesovo Beam**	**72.45 329**	P	**P**	**09 22 21.2**	**-1.4**	
ZALV	**Zalesovo Beam**	**72.45 329**	P	**P**	**09 22 21.2**	**-1.4**	
ZALV			pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5						
ZALV			MLR	MLR			
	comp=Z,39nm,18.4s,MS3.7						
KZA	**Kyzart**	**73.29 315**	P	**P**	**09 22 29.4**	**+1.5**	
	SNR=19						
TKM2	**Tokmak 2**	**73.33 316**	P	**P**	**09 22 28.4**	**+0.4**	
	SNR=8.3						
TKM2	**Tokmak 2**	**73.33 316**	*e*P	**P**	**09 22 28.4**	**+0.3**	
	comp=Z,15nm,1.2s,mb4.8						
TKM2	**Tokmak 2**	**73.33 316**	*e*P	**P**	**09 22 28.4**	**+0.3**	
TKM2			pmax	pmax			
	comp=Z,15nm,1.2s,mb4.8						
NVS	**Novosibirsk**	**73.70 330** ⇑	*i*P	**P**	**09 22 27.5**	**-2.5**	
NVS			pmax	pmax			
	comp=Z,23nm,1.5s,mb4.9						
NVS			pmax	pmax			
	comp=N,6.0nm,1.4s						
NVS			pmax	pmax			
	comp=E,14nm,1.4s						
AAK	**Ala-Archa**	**74.00 316**	*e*P	**P**	**09 22 32.0**	**-0.1**	
	comp=E,44nm,1.2s,mb5.3						
AAK	**Ala-Archa**	**74.00 316***c*	*i*P	**P**	**09 22 31.7**	**-0.3**	
AAK			pmax	pmax			
	comp=Z,18nm,1.2s,mb4.9						
AAK	**Ala-Archa**	**74.00 316**	P	**P**	**09 22 32.1**	**+0.1**	
USP	**Ospenovka**	**74.20 316**	P	**P**	**09 22 33.4**	**+0.2**	
	SNR=8.0						
KURK	**Kurchatov**	**74.34 325**	*e*P	**P**	**09 22 33.0**	**-0.8**	
KURK			pmax	pmax			
	comp=Z,13nm,1.2s,mb4.7						
AML	**Almayashu**	**74.40 315**	P	**P**	**09 22 35.0**	**+0.6**	
	SNR=16						
EKS2	**Erkin-Say**	**74.51 316**	P	**P**	**09 22 35.6**	**+0.7**	
	SNR=9.9						
KKAR	**Karatay Array**	**76.93 315**	*e*P	**P**	**09 22 48.5**	**-0.4**	
	comp=Z,1.0nm,0.3s,mb4.2						
KKAR	**Karatay Array**	**76.93 315**	*e*P	**P**	**09 22 48.5**	**-0.3**	
KKAR			pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.2						
BVAR	**Borovoye Array**	**79.93 325**	LR	LR	10 00 11.6		
	comp=Z,76nm,21.5s,MS4.0,baz=243,slow=37						
ILAR	**Eielson Array**	**85.13 24**	P	**P**	**09 23 30.6**	**-1.4**	
	comp=Z,2.7nm,0.8s,mb4.5,baz=261,slow=4.7,SNR=10						
ILAR	**Eielson Array**	**85.13 24**	P	**P**	**09 23 30.6**	**-1.4**	
ILAR	**Eielson Array**	**85.13 24**	P	**P**	**09 23 30.6**	**-1.4**	
ILAR			pmax	pmax			
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**85.44 320**	*e*P	**P**	**09 23 32.1**	**-1.8**	
	comp=Z,1.5nm,0.7s,mb4.2						
QSPA	**South Pole Qui**	**87.41 180**	*e*P	**P**	**09 23 43.1**	**+0.1**	
	comp=Z,4.3nm,0.7s,mb4.8						
YKA	**Yellowknife Ar**	**99.31 27**	LR	LR	10 06 47.6		
	comp=Z,16nm,18.4s,MS3.6,baz=35,slow=34						
TORD	**Torodi Ar. Bea**	**137.48 287**	PKP	PKPdf	09 30 19.8	-1.2	
	comp=Z,0.7nm,0.8s,baz=38,slow=2.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**137.48 287**	PKP	PKPdf	09 30 19.8	-1.2	
DBIC	**Dimbokro**	**144.77 278**	PKP	PKPdf	09 30 32.5	-1.7	
	comp=Z,12nm,0.8s,baz=67,slow=5.3,SNR=12						
DBIC	**Dimbokro**	**144.77 278**	PKP	PKPdf	09 30 32.5	-1.7	
DBIC	**Dimbokro**	**144.77 278**	PKIKP	PKPdf	09 30 32.6	-1.6	
DBIC			pmax	pmax			
	comp=Z,12nm,0.8s						
LPAZ	**La Paz**	**146.47 125**	*e*PKPbc	PKPbc	09 30 40.0	+1.7	
LPAZ	**La Paz**	**146.47 125**	*e*PKP2	PKPab	09 30 40.0	+0.7	
CPUP	**Villa Florida**	**146.76 151**	PKPbc	PKPbc	09 30 39.9	+0.9	
	comp=Z,1.6nm,0.6s,baz=231,slow=4.1,SNR=9.5						
CPUP	**Villa Florida**	**146.76 151**	PKPbc	PKPbc	09 30 39.9	+0.9	
CPUP	**Villa Florida**	**146.76 151**	PKP2	PKPab	09 30 39.9	-0.3	
CPUP			pmax	pmax			
	comp=Z,2.0nm,0.6s						
SDV	**Santo Domingo**	**148.86 77**	*e*PKPdf	PKPdf	09 30 40.5	-0.6	
SDV			*e*PKPbc	PKPbc	09 30 44.1	-0.9	

IDC 02 09:35:08.4±2.2, 6°.09N×126°.94E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.7/5, Error ellipse: s-maj=198.8km s-min=21.9km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.87**	**164**	P	P	09 40 50.8	-0.3
	0.2nm,0.7s,baz=344,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**30.34**	**167**	P	P	09 41 22.4	+0.4
	0.1nm,0.3s,baz=339,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**55.76**	**324**	P	P	09 44 47.3	+0.3
	1.0nm,0.5s,baz=115,slow=7.1,SNR=12						
KURK	**Kurchatov**	**59.88**	**327**	P	P	09 45 15.7	-0.3
	1.9nm,0.5s,baz=126,slow=7.0,SNR=12						
BVAR	**Borovoye Array**	**65.48**	**326**	P	P	09 45 53.4	+0.1
	0.8nm,0.6s,baz=124,slow=7.8,SNR=4.2						

IDC 02 09:40:07.6±3.4, 16°.35S×176°.38W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.0/18, mbtmp4.4/5, Error ellipse: s-maj=129.2km s-min=68.7km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**31.63**	**248**	*e*P	P	09 46 33.4	+0.8
	8.4nm,0.3s						
CTA	**Charters Tower**	**35.64**	**258**	P	P	09 47 09.2	+1.6
	0.9nm,0.3s,baz=117,slow=6.8,SNR=3.9						
CMSA	**Cobar Meteorol**	**37.60**	**239**	*e*P	P	09 47 24.7	+0.5
	26nm,0.6s						
QLP	**Quilpie**	**37.91**	**248**	*e*P	P	09 47 26.9	+0.1
STKA	**Stephens Creek**	**41.08**	**240**	P	P	09 47 53.7	+0.5
	3.4nm,0.5s,baz=89,slow=9.4,SNR=23						
STKA	**Stephens Creek**	**41.08**	**240**	*e*P	P	09 47 53.7	+0.5
	2.7nm,0.4s						
BBOO	**Buckleboo**	**45.86**	**240**	*e*P	P	09 48 30.9	-0.9
	21nm,0.3s						
WRA	**Warramunga Arr**	**46.84**	**258**	P	P	09 48 38.7	-1.0
	0.7nm,0.3s,baz=94,slow=7.9,SNR=22						
WRA			PcP	PcP	09 50 13.0	+0.1
	0.2nm,0.4s,baz=91,slow=3.3,SNR=3.3						
ASAR	**Alice Springs**	**47.09**	**253**	P	P	09 48 41.0	-0.7
	9.7nm,0.5s,baz=89,slow=8.1,SNR=277						
ASAR			PcP	PcP	09 50 13.4	-0.3
	0.3nm,0.4s,baz=102,slow=4.0,SNR=4.2						
FORT	**Forrest**	**52.43**	**244**	*e*P	P	09 49 19.8	-2.4
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**55.21**	**259**	P	P	09 49 42.4	-0.3
	1.8nm,0.5s,baz=103,slow=5.4,SNR=6.4						

IGQ 02 09:44:09.9, 0°.50N×80°.05W, h11km±4km, Mb4.0, Ms3.8, 1C-12D, Error ellipse: s-maj=6.2km s-min=2.7km az=104.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	**Pino**	**1.58**	**114**	P	Pn	09 44 39.9	+2.1
TERV	**Terraza Guagua**	**1.59**	**115**	P	Pn	09 44 40.4	+2.4
YANA	**Yana**	**1.60**	**113**	⇓S	Sn	09 45 02.0	+3.3
YANA	**Yana**	**1.60**	**113**	⇓P	Pn	09 44 40.0	+1.9
GGP	**Refugio Guagua**	**1.60**	**115**	⇓S	Sn	09 45 01.5	+2.7
GGP	**Refugio Guagua**	**1.60**	**115**	⇓P	Pn	09 44 39.7	+1.6
JUA2	**San Juan 2**	**1.60**	**116**	P	Pn	09 44 40.3	+2.1
OTAV	**Otavalo**	**1.62**	**99**	⇓P	Pn	09 44 40.9	+2.5
PITA	**Cotopaxi Volc**	**1.92**	**123**	P	Pn	09 44 45.3	+2.7
BREF	**Cotopaxi Volca**	**1.98**	**126**	⇓P	Pn	09 44 46.2	+2.8
VC1	**Cotopaxi 1**	**2.00**	**125**	P	Pn	09 44 46.9	+3.3
BVC2	**Cotopaxi Volca**	**2.00**	**125**	⇓P	Pn	09 44 46.4	+2.8
BMOR	**Cotopaxi Volca**	**2.00**	**128**	⇓P	Pn	09 44 46.1	+2.4
MOV1	**Cotopaxi Vol s**	**2.01**	**127**	P	Pn	09 44 46.4	+2.7
BTAM	**Cotopaxi Volca**	**2.02**	**125**	⇓P	Pn	09 44 46.7	+2.8
CAYA	**Cayambe**	**2.10**	**102**	⇓P	Pn	09 44 49.6	+4.6
ANTI	**Antisana**	**2.11**	**117**	⇑P	Pn	09 44 48.6	+3.5
BRUN	**Tungurahua Vol**	**2.51**	**139**	⇓P	Pn	09 44 53.9	+3.2
BULB	**Ulba Tungurahu**	**2.52**	**140**	⇓P	Pn	09 44 53.9	+3.0
BMAS	**Trigal station**	**2.53**	**142**	P	Pn	09 44 54.4	+3.5
ARRY	**Arrayan**	**2.55**	**141**	P	Pn	09 44 54.3	+3.1
PAT1	**Patacocha**	**2.56**	**141**	P	Pn	09 44 54.8	+3.4

TRN ***02*** *09:47:57.1, 19°.42N×65°.26W, h34km, MD3.5(RSPR)*
NEIC ***02*** *09:47:58.6, 19°.47N×65°.25W, h57km, MD3.5(RSPR), After RSPR.*

RSPR 02 09:47:58.6, 19°.47N×65°.25W, h57km±9km, MD3.5/3, 18C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.15**	**166**⇑	*e*P	Pn	09 48 17.5	-0.9
STVI	**Saint Thomas**	**1.15**	**166**⇑	*e*P	Pn	09 48 17.5	-0.9
STVI				*e*S	Sn	09 48 32.4	-0.9
STVI	**Saint Thomas**	**1.15**	**166**⇑	*e*P	Pn	09 48 17.5	-0.9
STVI				*e*S	Sn	09 48 32.4	-0.9
TBVI	**Tortola**	**1.21**	**150**⇑	*e*P	Pn	09 48 18.5	-0.8
TBVI	**Tortola**	**1.21**	**150**⇑	*e*P	Pn	09 48 18.5	-0.8
TBVI	**Tortola**	**1.21**	**150**⇑	*e*P	Pn	09 48 18.5	-0.8
CBYP	**Canovanas**	**1.32**	**206**⇑	*e*P	Pn	09 48 19.9	-0.9
CBYP	**Canovanas**	**1.32**	**206**⇑	*

GONE	Gonen-Balikesi	0.95	8	ePG	Pg	10 03 29.8	-0.6
GONE	Gonen-Balikesi	0.95	8	ePg	Pg	10 03 29.8	-0.7
DST	Dursunbey	0.99	60	ePG	Pg	10 03 31.1	-0.1
DST	Dursunbey	0.99	60	ePg	Pg	10 03 31.2	-0.1
MANT	Manisa	1.02	127	iP	Pg	10 03 31.9	-0.1
MANT	Manisa	1.02	127	iP	Pg	10 03 31.9	0.0
MANT				iS	Sg	10 03 45.6	+0.4
KULA	Kula-Manisa	1.08	123	ePN	Pn	10 03 32.5	-0.9
KULA	Kula-Manisa	1.08	123	ePn	Pn	10 03 32.6	-0.9
EDC	Edincik	1.27	12	ePN	Pn	10 03 36.4	+0.2
EDC	Edincik	1.27	12	ePn	Pn	10 03 36.4	+0.3
KRBG	Karabiga-Canak	1.29	353	ePN	Pn	10 03 36.5	-0.1
KRBG	Karabiga-Canak	1.29	353	ePn	Pn	10 03 36.5	0.0
KCTX	Karacabey (Bur	1.33	29	ePN	Pn	10 03 37.3	+0.4
KCTX	Karacabey (Bur	1.33	29	ePn	Pn	10 03 37.3	+0.3
LPK	Lapseki	1.39	336	ePN	Pn	10 03 37.2	-0.6
LPK	Lapseki	1.39	336	ePn	Pn	10 03 37.2	-0.6
AYDN	Tasoluk	1.47	169	iP	Pn	10 03 39.0	+0.1
AYDN	Tasoluk	1.47	169	iP	Pn	10 03 39.0	0.0
AYDN				iS	Sn	10 03 57.5	-0.9
MRMT	Marmara Adasi	1.49	2	ePN	Pn	10 03 39.6	+0.4
MRMT	Marmara Adasi	1.49	2	ePn	Pn	10 03 39.6	+0.3
GELI	Tayfur-Gelibol	1.52	328	ePN	Pn	10 03 40.1	+0.5
GELI	Tayfur-Gelibol	1.52	328	ePn	Pn	10 03 40.1	+0.5
GDZ	Gediz	1.53	90	iP	Pn	10 03 39.1	-0.6
GDZ	Gediz	1.53	90	iP	Pn	10 03 39.2	-0.6
GDZ				iS	Sn	10 04 00.4	+0.6
RKY	Sarkoy-Tekirda	1.60	351	ePN	Pn	10 03 41.0	+0.4
RKY	Sarkoy-Tekirda	1.60	351	ePn	Pn	10 03 41.0	+0.3
ARMT	Armutlu	1.79	35	ePN	Pn	10 03 44.7	+1.4
ARMT	Armutlu	1.79	35	ePn	Pn	10 03 44.7	+1.4

ISK ***02*** *10:10:17.9, 37°.42N×38°.22E, h22km, MD2.8*
ISCJB ***02*** *10:10:18.5±0.6, 37°.47N±0°.06×38°.20E±0°.04, h10km, Error ellipse: s-maj=8.3km s-min=3.8km az=163.4*
DDA ***02*** *10:10:18.3, 37°.44N×38°.19E, h6km±5km, Md2.8*
CSEM ***02*** *10:10:18.6±0.2, 37°.47N×38°.19E, h2km, MD2.8, Error ellipse: s-maj=6.9km s-min=3.7km az=154.0*

ISC 02 10:10:18.9±0.6, 37°.45N±0°.06×38°.18E±0°.05, h5km±5km, n16, σ0§87/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	Bozova	0.09	80	iP	Pg	10 10 19.9	-1.0
ATAB				iS	Sg	10 10 21.8	-0.5
ATAB	Bozova	0.09	80	iP	Pg	10 10 19.9	-1.0
ATAB				iS	Sg	10 10 21.8	-0.5
URFA	Urfa	0.51	91	ePG	Pg	10 10 27.7	-1.0
URFA				eSG	Sg	10 10 35.9	+0.5
URFA	Urfa	0.51	91	ePg	Pg	10 10 27.7	-1.0
URFA				eSg	Sg	10 10 35.9	+0.5
GAZ	Gaziantep	0.82	250	ePG	Pg	10 10 34.9	+0.3
GAZ				eSG	Sg	10 10 47.0	+1.7
GAZ	Gaziantep	0.82	250	ePg	Pg	10 10 34.9	+0.2
GAZ				eSg	Sg	10 10 47.1	+1.8
MALT	Malatya	0.88	13	ePG	Pg	10 10 35.8	0.0
MALT	Malatya	0.88	13	ePg	Pg	10 10 35.8	0.0
MYA	Malataya	0.89	12	ePG	Pg	10 10 35.8	-0.3
MYA	Malataya	0.89	12	ePg	Pg	10 10 35.8	-0.3
KMRS	Kahramanmaras	1.02	273	ePG	Pg	10 10 37.8	-0.7
KMRS	Kahramanmaras	1.02	273	ePg	Pg	10 10 37.8	-0.7
KUZU	Kuzuini	1.11	233	iP	Pb	10 10 40.7	+0.1
KUZU				iS	Sb	10 10 55.4	0.0
KUZU	Kuzuini	1.11	233	iP	Pb	10 10 40.7	+0.1
KUZU				iS	Sb	10 10 55.3	-0.1
ELZG	Elazig	1.22	31	iP	Pn	10 10 43.1	+0.5
ELZG				iS	Sb	10 10 59.8	+1.3
ANDN	Andirin	1.46	276	iP	Pn	10 10 40.9	-5.0
ANDN				iS	Sn	10 11 03.9	-1.6

ISCJB ***02*** *10:18:46.4±0.7, 37°.23N±0°.08×28°.19E±0°.06, h9km±9km, Error ellipse: s-maj=14.1km s-min=6.3km az=19.1*
ISK ***02*** *10:18:46.0, 37°.25N×28°.19E, h6km, MD2.5*
CSEM ***02*** *10:18:46.5±0.1, 37°.23N×28°.20E, h10km, MD2.5, Error ellipse: s-maj=4.2km s-min=2.8km az=27.0*
DDA ***02*** *10:18:46.3, 37°.23N×28°.16E, h7km±2km, Md2.7*

ISC 02 10:18:46.5±1.1, 37°.23N±0°.06×28°.20E±0°.05, h12km±13km, n16, σ0§41/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.12	144	PG	Pg	10 18 49.4	-0.1
YER				eSG	Sg	10 18 51.7	+0.1
YER	Yerkesik	0.12	144	iPg	Pg	10 18 49.4	-0.1
YER				eSg	Sg	10 18 51.7	+0.1
MLSB	Milas	0.34	281	ePG	Pg	10 18 53.2	-0.1
MLSB				eSG	Sg	10 18 58.1	+0.1
MLSB	Milas	0.34	281	ePg	Pg	10 18 53.2	-0.2
MLSB				eSg	Sg	10 18 58.1	+0.1
TURN	Turunc	0.48	138	iP	Pg	10 18 55.3	-0.6
TURN	Turunc	0.48	138	iP	Pg	10 18 55.3	-0.7
AYDN	Tasoluk	0.50	330	iP	Pg	10 18 56.3	0.0
AYDN	Tasoluk	0.50	330	iP	Pg	10 18 56.3	0.0
DAT	Datca	0.70	225	ePG	Pg	10 19 01.1	+1.0
DAT	Datca	0.70	225	ePg	Pg	10 19 01.1	+0.9
BODT	Bodrum	0.73	257	ePG	Pg	10 19 00.2	-0.4
BODT	Bodrum	0.73	257	ePg	Pg	10 19 00.2	-0.4
DNZL	Cakiroluk	0.82	56	iP	Pg	10 19 02.8	+0.5
DNZL	Cakiroluk	0.82	56	iP	Pg	10 19 02.8	+0.5
GCAM	G?zelcaml?	0.90	302	iP	Pg	10 19 03.6	-0.2
GCAM				iS	Sg	10 19 15.6	0.0
GCAM	G?zelcaml?	0.90	302	iP	Pg	10 19 03.6	-0.3
GCAM				iS	Sg	10 19 15.6	0.0

ISCJB ***02*** *10:22:10.6±0.2, 50°.86N±0°.02×101°.85W±0°.03, h0km, mb3.6/4, Error ellipse: s-maj=2.9km s-min=2.3km az=159.7*
PGC ***02*** *10:22:14.7±0.0, 50°.84N×101°.73W, h1km, ML3.9/2, Mn3.4*
PGC 53km Nne of Esterhazy, Sk Manitoba Province, Canada Felt (III-IV) at Landenburg. Sk. Ressenti (III-IV) Landenburg. Sk. Induced.
NEIC ***02*** *10:22:14.7, 50°.84N×101°.73W, h1km, mb3.6/1, MN3.4(PGC), After PGC.*
NEIC Felt [IV] at Langenburg, Saskatchewan.
IDC ***02*** *10:22:15.4±0.7, 50°.79N×101°.74W, h0km, mb3.6/4, mb1 4.0/10, mb1mx3.7/30, mbtmp3.8/10, ML4.0/5, Error ellipse: s-maj=10.5km s-min=7.2km az=172.0*

ISC 02 10:22:13.8±0.2, 50°.83N±0°.02×101°.87W±0°.03, h0km, n236, σ1§11/342, mb3.6/4, 116C-118D, Manitoba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A24A	Westby	2.36	217	⇑P	Pn	10 22 55.4	+1.7
baz=2.2							
A24A				⇓S	Sn	10 23 24.9	+1.7
baz=2.2							
A23A	Redstone	2.70	227	⇑S	Sn	10 23 32.9	+1.2
baz=2.6							
DGMT	Dagmar	2.81	214	⇑P	Pn	10 23 01.5	+1.6
baz=2.7							
DGMT				⇓S	Sn	10 23 35.6	+1.2
baz=2.7							
DGMT	Dagmar	2.81	214	ePn	Pn	10 23 01.4	+1.5
DGMT				eSn	Sn	10 23 34.4	+0.1
B23A	Brockton	3.12	222	⇓P	Pn	10 23 05.6	+1.4
baz=3.0							
B23A				⇓S	Sn	10 23 43.3	+1.2
baz=3.0							
A22A	Carney Farms,	3.20	236	⇓P	Pn	10 23 06.9	+1.7
baz=3.1							
A22A				⇑S	Sn	10 23 45.0	+1.0
baz=3.1							
MDND	Maddock	3.33	153	⇓P	Pn	10 23 09.9	+2.8
baz=3.3							
MDND				⇑S	Sn	10 23 51.8	+4.5
baz=3.3							
B22A	Reddig Ranch S	3.69	228	⇑P	Pn	10 23 13.0	+1.0
baz=3.5							
B22A				⇓S	Sn	10 23 55.3	-0.9
baz=3.5							
C24A	Savage	3.71	208	⇓P	Pn	10 23 13.2	+1.0
baz=3.6							
C24A				⇑S	Sn	10 23 56.5	0.0
baz=3.6							
C23A	Lambert	3.73	217	⇓P	Pn	10 23 13.8	+1.3
baz=3.6							
C23A				⇓S	Sn	10 23 57.3	+0.3
baz=3.6							
A21A	Bergtoll Ranch	3.75	243	⇓P	Pn	10 23 14.1	+1.3
baz=3.6							
A21A				⇓S	Sn	10 23 57.7	+0.1
baz=3.6							
ULM	Lac du Bonnet	3.87	96	Pn	Pn	10 23 14.1	-0.3
2.9nm,0.3s,baz=282,slow=12,SNR=16							
ULM				Pg	Pg	10 23 22.8	-5.0
7.5nm,0.3s,baz=285,slow=16,SNR=34							
ULM				Sn	Sn	10 23 58.0	-2.4
8.2nm,0.3s,baz=333,slow=11,SNR=5.4							
ULM				Lg		10 24 13.5	
9.1nm,0.3s,baz=353,slow=9.4,SNR=3.7							
ULM	Lac du Bonnet	3.87	96	ePn	Pn	10 23 14.2	-0.2
ULM				ePb	Pb	10 23 19.1	-3.6
ULM				ePg	Pg	10 23 22.9	-4.9
ULM				eSg	Sg	10 24 12.7	-5.2
ULM				Lg		10 24 13.5	
ULM	Lac du Bonnet	3.87	96	⇑Pn	Pn	10 23 14.1	-0.3
ULM				⇓Pg	Pg	10 23 22.7	-5.1
ULM				⇑Sg	Sg	10 24 11.6	-6.3
FFC	Flin Flon	3.90	359	ePn	Pn	10 23 16.7	+1.8
FFC				ePg	Pg	10 23 25.7	-2.7
FFC				eSg	Sg	10 24 17.2	-1.7
C22A	Vida	4.06	222	⇓P	Pn	10 23 18.3	+1.3
baz=3.9							
C22A				⇓S	Sn	10 24 04.5	-0.6
baz=3.9							
B21A	Ellsworth Farm	4.12	236	⇑P	Pn	10 23 19.3	+1.4
baz=4.0							
B21A				⇑S	Sn	10 24 06.0	-0.8
baz=4.0							
D23A	Lindsay	4.27	212	⇑P	Pn	10 23 21.1	+1.2
baz=4.1							
D23A				⇓S	Sn	10 24 10.3	-0.1
baz=4.1							
A20A	Cobblestone Ra	4.38	246	⇑P	Pn	10 23 22.4	+1.0
baz=4.2							
A20A				⇑S	Sn	10 24 12.7	-0.4
baz=4.2							
C21A	Desert Coulee	4.55	231	⇑P	Pn	10 23 24.5	+0.7
baz=4.4							
C21A				⇓S	Sn	10 24 16.0	-1.4
baz=4.4							
E24A	Baker	4.57	202	⇓P	Pn	10 23 25.2	+1.2
baz=4.5							
E24A				⇑S	Sn	10 24 16.8	-1.0
baz=4.5							
D22A	Cohagen	4.65	219	⇑P	Pn	10 23 26.2	+1.1
baz=4.5							
D22A				⇓S	Sn	10 24 18.4	-1.4
baz=4.5							
AGMN	Agassiz Nation	4.66	121	ePn	Pn	10 23 24.6	-0.6
AGMN				ePg	Pg	10 23 36.1	-6.9
AGMN				eSg	Sg	10 24 37.3	-6.1
B20A	Solberg Farm,	4.66	241	⇓P	Pn	10 23 26.5	+1.2
baz=4.5							
B20A				⇓S	Sn	10 24 19.0	-1.0
baz=4.5							
A19A	Klindworth Far	4.84	249	⇓P	Pn	10 23 29.0	+1.3
baz=4.7							
A19A				⇓S	Sn	10 24 23.6	-0.8
baz=4.7							
E23A	Ismay	4.90	209	⇓P	Pn	10 23 30.2	+1.6
baz=4.8							
E23A				⇑S	Sn	10 24 25.2	-0.7
baz=4.8							
LAO	LASA Array	5.05	216	⇑S	Sn	10 24 28.4	-1.2
baz=4.9							
D21A	La Casta Ranch	5.06	224	⇓P	Pn	10 23 31.7	+0.9
baz=4.9							
D21A				⇓S	Sn	10 24 28.5	-1.4
baz=4.9							
C20A	Veseth Ranch,	5.09	235	⇑P	Pn	10 23 32.2	+1.0
baz=4.9							
C20A				⇓S	Sn	10 24 28.9	-1.6
baz=4.9							
E22A	Miles City	5.16	213	⇓P	Pn	10 23 33.5	+1.3
baz=5.0							
E22A				⇓S	Sn	10 24 31.0	-1.4
baz=5.0							
B19A	Brinkman Farms	5.18	245	⇑P	Pn	10 23 33.7	+1.3
baz=5.0							
B19A				⇓S	Sn	10 24 31.0	-1.7
baz=5.0							
F24A	Ekalaka	5.28	200	⇑P	Pn	10 23 34.9	+1.1
baz=5.2							
F24A				⇑S	Sn	10 24 34.6	-0.6
baz=5.2							
EPLO	Experimental L	5.35	99	ePn	Pn	10 23 33.9	-0.8
EPLO	Experimental L	5.35	99	⇓Pn	Pn	10 23 33.9	-0.8
A18A	Metzger Ranch,	5.50	253	⇓P	Pn	10 23 38.2	+1.4
baz=5.4							
A18A				⇓S	Sn	10 24 38.8	-2.0
baz=5.4							
E21A	Keefer Ranch,	5.51	221	⇑S	Sn	10 24 38.7	-2.2
baz=5.4							
D20A	Manuel Ranch,	5.57	230	⇑P	Pn	10 23 38.5	+0.7
baz=5.4							
D20A				⇓S	Sn	10 24 39.2	-3.3
baz=5.4							
C19A	Slack Wire Ran	5.63	239	⇓P	Pn	10 23 39.6	+1.0
baz=5.5							
C19A				⇓S	Sn	10 24 41.3	-2.5
baz=5.5							
F23A	Volborg	5.63	206	⇑P	Pn	10 23 40.0	+1.4
baz=5.5							
B18A	Beardsley Farm	5.69	248	⇓P	Pn	10 23 40.5	+1.0
baz=5.5,SNR=10							
B18A				⇓S	Sn	10 24 43.5	-2.0
baz=5.5							
F22A	Rosebud	5.84	212	⇑P	Pn	10 23 42.7	+1.2
baz=5.7							
F22A				⇓S	Sn	10 24 47.4	-1.8
baz=5.7							
EGMT	Eagleton	5.86	244	⇓P	Pn	10 23 43.0	+1.2
baz=5.7,SNR=8.7							
EGMT				⇓S	Sn	10 24 47.7	-1.9
baz=5.7							
EGMT	Eagleton	5.86	244	ePn	Pn	10 23 43.0	+1.2
EGMT				eSn	Sn	10 24 50.4	+0.7
D19A	Cripps Ranch,	5.89	234	⇑P	Pn	10 23 42.8	+0.5
baz=5.7							
D19A				⇑S	Sn	10 24 48.7	-1.7
baz=5.7							
E20A	Meyer Farm, Mu	6.00	226	⇓P	Pn	10 23 44.2	+0.6
baz=5.8							
E20A				⇑S	Sn	10 24 49.5	-3.5
baz=5.8							
A17A	Triple J Farms	6.01	255	⇑P	Pn	10 23 44.9	+1.1
baz=5.9							
A17A				⇑S	Sn	10 24 51.2	-2.2
baz=5.9							
F21A	Absaloka Mine,	6.12	217	⇑S	Sn	10 24 54.1	-1.7
baz=6.0							
E19A	Rath Farm, Rou	6.33	229	⇑P	Pn	10 23 50.0	+1.7
baz=6.2							
E19A				⇑S	Sn	10 24 59.1	-2.2
baz=6.2							
B17A	L&G Farms, Che	6.34	250	P	Pn	10 23 49.4	+1.1
baz=6.2,SNR=8.6							
B17A				⇓S	Sn	10 24 58.7	-2.7
baz=6.2							
H24A	Dirks Ranch, A	6.35	198	⇓P	Pn	10 23 49.2	+0.7
baz=6.2							
H24A				⇓S	Sn	10 24 58.7	-3.0
baz=6.2							
D18A	Linhart Farms,	6.36	238	⇓P	Pn	10 23 49.6	+1.0
baz=6.2							
D18A				⇓S	Sn	10 24 58.9	-3.0
baz=6.2							
F20A	Billings	6.55	222	⇓S	Sn	10 25 03.7	-2.8
baz=6.4							
A16A	West Butte Ran	6.56	257	⇑P	Pn	10 23 52.2	+0.7
baz=6.4							
A16A				⇑S	Sn	10 25 03.9	-3.0
baz=6.4							
C17A	Wharram Farm,	6.65	245	P	Pn	10 23 53.3	+0.7
baz=6.5,SNR=32							
C17A				⇑S	Sn	10 25 05.8	-3.1
baz=6.5							
G21A	Lodge Grass	6.65	215	⇓P	Pn	10 23 53.5	+0.9
baz=6.5							
G21A				⇑S	Sn	10 25 06.1	-3.1
baz=6.5							
BRSD	Miller	6.69	162	⇑P	Pn	10 23 55.0	+1.9
baz=6.6							
BRSD				⇑S	Sn	10 25 08.6	-1.4
baz=6.6							
B16A	M & M Farms, S	6.83	253	⇑P	Pn	10 23 55.4	+0.2
baz=6.7							
B16A				⇓S	Sn	10 25 09.4	-4.2
baz=6.7							
F19A	Roth Farm, Mol	6.86	226	⇑P	Pn	10 23 55.8	+0.4
baz=6.7							
F19A				⇓S	Sn	10 25 10.5	-3.6
baz=6.7							
D17A	Six Diamond Ra	6.87	241	P	Pn	10 23 56.9	+1.3
baz=6.7,SNR=34							
D17A				⇑S	Sn	10 25 11.2	-3.3
baz=6.7							
RSSD	Black Hills	6.87	193	ePn	Pn	10 23 56.0	+0.3
RSSD				ePg	Pg	10 24 17.4	-8.0
ATKO	Atikokan Iron	6.94	103	ePn	Pn	10 23 55.6	-1.0
ATKO				eSn	Sn	10 25 09.8	-6.4
ATKO	Atikokan Iron	6.94	103	⇓Pn	Pn	10 23 55.6	-1.0
ATKO				⇑Sn	Sn	10 25 09.8	-6.4
G20A	Bridger	7.04	220	⇓P	Pn	10 23 58.6	+0.6
baz=6.9							
G20A				⇑S	Sn	10 25 14.6	-4.1
baz=6.9							
C16A	Fuhringer Ranc	7.13	249	⇓P	Pn	10 23 59.8	+0.5
baz=7.0,SNR=8.6							
C16A				⇓S	Sn	10 25 16.2	-4.7
baz=7.0							
GCMT	Greycliff	7.24	229	ePn	Pn	10 24 02.4	+1.7
A15A	Johnson Ranch,	7.26	259	⇓P	Pn	10 24 01.1	+0.2
baz=7.1							
A15A				⇓S	Sn	10 25 20.0	-4.0
baz=7.1							
PKLO	Pickle Lake	7.27	80	ePn	Pn	10 23 58.9	-2.3
PKLO				eSn	Sn	10 25 16.0	-8.4
PKLO	Pickle Lake	7.27	80	⇓Pn	Pn	10 23 58.9	-2.3
PKLO				⇓Sn	Sn	10 25 16.0	-8.4
E17A	Martinsdale	7.39	237	⇓P	Pn	10 24 03.2	+0.5
baz=7.2							
E17A				⇓S	Sn	10 25 23.3	-3.9
baz=7.2							
B15A	Bradely Ranch,	7.40	254	⇓P	Pn	10 24 02.7	-0.2
baz=7.2							
B15A				⇑S	Sn	10 25 23.0	-4.4
baz=7.2							
D16A	Dana Ranch, Ca	7.42	243	⇓P	Pn	10 24 03.7	+0.5
baz=7.3							
D16A				⇑S	Sn	10 25 25.0	-3.1
baz=7.3							
G18A	Lazy EL Ranch,	7.55	226	⇓P	Pn	10 24 05.1	+0.1
baz=7.4							
G18A				⇑S	Sn	10 25 26.8	-4.3
baz=7.4							
H20A	Greybull	7.58	215	⇓P	Pn	10 24 05.4	+0.1
baz=7.4							
H20A				⇑S	Sn	10 25 26.7	-5.1
baz=7.4							
I22A	9 Mile Ranch,	7.62	206	⇑P	Pn	10 24 06.4	+0.5
baz=7.5							
F17A	Fitzpatrick Pl	7.65	233	⇑P	Pn	10 24 06.4	0.0
baz=7.5							
F17A				⇑S	Sn	10 25 30.7	-3.0
baz=7.5							
C15A	Salmond Ranch,	7.66	251	⇑P	Pn	10 24 06.7	+0.3
baz=7.5,SNR=40							
C15A				⇑S	Sn	10 25 29.3	-4.5
baz=7.5							
A14A	Double T Ranch	7.69	260	⇑P	Pn	10 24 06.9	+0.1
baz=7.5							
A14A				⇓S	Sn	10 25 30.6	-4.0
baz=7.5							
HRY	Holter Researc	7.76	242	ePn	Pn	10 24 08.8	+0.9
H19A	Powell	7.81	221	⇓P	Pn	10 24 09.7	+1.2
baz=7.7							
H19A				⇑S	Sn	10 25 34.8	-2.7
baz=7.7							
B14A	Marquette Ranc	7.81	256	⇑P	Pn	10 24 09.1	+0.6
baz=7.7							
I21A	Big Trails, Te	7.93	210	⇑P	Pn	10 24 10.4	+0.3
baz=7.8							
I21A				⇑S	Sn	10 25 35.9	-4.6
baz=7.8							
ECSD	EROS Data Cent	7.95	151	ePn	Pn	10 24 08.3	-2.2
ECSD				eSn	Sn	10 25 35.2	-5.8
WALA	Waterton Lakes	7.97	262	ePn	Pn	10 24 10.6	-0.1
WALA				eSn	Sn	10 25 36.6	-4.9
WALA	Waterton Lakes	7.97	262	⇓Pn	Pn	10 24 10.6	-0.1
WALA				⇑Sn	Sn	10 25 36.6	-4.9
D15A	Lincoln	7.97	246	P	Pn	10 24 11.2	+0.5
baz=7.8,SNR=14							
D15A				⇑S	Sn	10 25 38.6	-3.0
baz=7.8							
J22A	Midwest	8.06	205	⇑P	Pn	10 24 12.7	+0.7
baz=7.9							
I20A	Worland	8.09	214	⇑P	Pn	10 24 12.3	0.0
baz=8.0							
I20A				⇑S	Sn	10 25 40.4	-4.0
baz=8.0							
H18A	Shoshone NF, C	8.09	223	⇓P	Pn	10 24 12.4	0.0
baz=7.9							
H18A				⇑S	Sn	10 25 40.2	-4.3
baz=7.9							
G17A	Pierce Place,	8.10	231	⇓P	Pn	10 24 12.5	0.0
baz=7.9							
K27A	Flueckinger Fa	8.14	182	⇑P	Pn	10 24 13.8	+0.8
baz=8.1							
K26A	Motz Farm, Whi	8.18	187	⇓P	Pn	10 24 14.6	+1.0
baz=8.1							
F16A	Kennard Place,	8.23	236	⇓P	Pn	10 24 14.2	-0.2
baz=8.1							
A13A	Flathead Natio	8.32	262	⇓P	Pn	10 24 15.8	+0.2
baz=8.2							
A13A				⇓S	Sn	10 25 47.0	-3.2
baz=8.2							
BOZ	Bozeman (W)	8.33	235	⇓P	Pn	10 24 15.5	-0.1
baz=8.2							
BOZ	Bozeman (W)	8.33	235	ePn	Pn	10 24 14.8	-0.8
I19A	Meeteetse	8.34	218	⇑P	Pn	10 24 16.1	+0.4
baz=8.2							
C14A	Swan Lake	8.35	253	⇑P	Pn	10 24 16.1	+0.2
baz=8.2							
C14A				⇓S	Sn	10 25 46.8	-3.9
baz=8.2							
TBO	Thunder Bay	8.36	100	ePn	Pn	10 24 14.6	-1.5
TBO				eSn	Sn	10 25 43.0	-8.2
TBO	Thunder Bay	8.36	100	⇑Pn	Pn	10 24 14.6	-1.5
TBO				⇑Sn	Sn	10 25 43.0	-8.2
E15A	Deer Lodge	8.39	242	⇑P	Pn	10 24 16.6	+0.1
baz=8.2,SNR=6.5							
J21A	Lysite	8.40	209	⇓P	Pn	10 24 17.0	+0.4
baz=8.3							
J21A				⇑S	Sn	10 25 47.3	-4.8
baz=8.3							
SLMT	Seeley Lake	8.44	249	ePn	Pn	10 24 17.3	+0.1
YBMT	Yellow Bay	8.47	254	ePn	Pn	10 24 18.2	+0.7
D14A	Greenough	8.53	248	P	Pn	10 24 18.5	+0.1
baz=8.4,SNR=73							
D14A				⇑S	Sn	10 25 49.9	-5.3
baz=8.4							
B13A	Whitefish	8.55	258	⇓P	Pn	10 24 18.8	+0.2
baz=8.4							
B13A				⇑S	Sn	10 25 51.3	-4.4
baz=8.4							
J20A	Shoshoni	8.60	212	⇑P	Pn	10 24 19.8	+0.5
baz=8.5							
J20A				⇑S

	baz=8.8					
BSMT	Bassoo Peak	8.95	256	ePn	Pn	10 24 26.4 +2.3
K21A	Alcova	8.99	206	⇓P	Pn	10 24 25.0 +0.3
	baz=8.9					
J19A	Crowheart	9.02	216	⇓P	Pn	10 24 25.9 +0.8
	baz=8.9					
DLMT	Dillon	9.02	237	ePn	Pn	10 24 25.3 +0.1
D13A	Huson	9.09	251	⇑P	Pn	10 24 25.9 -0.1
	baz=8.9					
G15A	Dillon	9.10	236	⇑P	Pn	10 24 26.1 -0.1
	baz=8.9					
A12A	Yaak River Ran	9.10	263	⇑P	Pn	10 24 25.9 -0.3
	baz=8.9					
L23A	Garrett	9.11	198	⇑P	Pn	10 24 26.6 +0.2
	baz=9.0					
F14A	Wisdom	9.16	241	⇓P	Pn	10 24 27.0 0.0
	baz=9.0					
E13A	Victor	9.26	246	⇓P	Pn	10 24 27.9 -0.5
	baz=9.1					
K20A	Yellowstone Ra	9.30	211	⇓P	Pn	10 24 29.0 0.0
	baz=9.2					
K19A	Absolon Red Bu	9.32	213	⇓P	Pn	10 24 29.1 -0.2
	baz=9.2					
C12B	Naegeli Ranch,	9.43	256	⇓P	Pn	10 24 30.8 +0.1
	baz=9.3					
NANO	Nakina Ontario	9.49	87	ePn	Pn	10 24 29.8 -1.8
NANO				eSn	Sn	10 26 08.5 -10
NANO	Nakina Ontario	9.49	87	⇑Pn	Pn	10 24 29.8 -1.8
NANO				⇑Sn	Sn	10 26 08.5 -10
MCMT	McKenzie Canyo	9.51	235	ePn	Pn	10 24 33.8 +1.9
M24A	Cheyenne	9.59	193	⇑P	Pn	10 24 33.4 +0.5
	baz=9.5					
J17A	Brown Place, J	9.60	222	⇓P	Pn	10 24 33.1 +0.1
	baz=9.4					
GTO	Geraldton	9.61	91	ePn	Pn	10 24 29.6 -3.5
GTO				eSn	Sn	10 26 11.0 -11
GTO	Geraldton	9.61	91	⇓Pn	Pn	10 24 29.6 -3.5
GTO				⇓Sn	Sn	10 26 11.0 -11
BW06	Boulder Array	9.63	216	⇓P	Pn	10 24 33.7 +0.2
	baz=9.5					
PDAR	Pinedale Array	9.63	216	Pn	Pn	10 24 34.8 +1.2
	0.4nm,0.3s,baz=49,slow=15,SNR=23					
PDAR				Pg	Pn	10 25 06.5 +33
	0.3nm,0.3s,baz=57,slow=16,SNR=4.1					
PDAR				Sn	Sn	10 26 20.9 -1.5
	0.5nm,0.3s,baz=53,slow=24,SNR=6.5					
PDAR				Lg		10 27 12.5
	0.8nm,0.3s,baz=51,slow=33,SNR=5.6					
PDAR	Pinedale Array	9.63	216	Pn	Pn	10 24 34.8 +1.2
PDAR				Pg	Pn	10 25 06.5 +33
PDAR				Sn	Sn	10 26 20.9 -1.5
PDAR				Lg		10 27 12.5
D12A	Red Ives Fores	9.64	252	⇑P	Pn	10 24 33.3 -0.3
	baz=9.5					
F13A	Darby	9.71	244	P	Pn	10 24 34.3 -0.3
	baz=9.6,SNR=7.2					
M23A	Laramie	9.74	197	⇑P	Pn	10 24 35.2 +0.3
	baz=9.6					
BGNE	Belgrade	9.77	163	⇑P	Pn	10 24 37.2 +1.8
	baz=9.7					
C11A	Tepee Creek (N	9.86	258	⇑P	Pn	10 24 36.3 -0.3
	baz=9.7					
L20A	Wamsutter	9.89	209	⇑P	Pn	10 24 38.2 +1.1
	baz=9.8					
OGNE	Ogallala	9.89	181	⇑P	Pn	10 24 37.4 +0.4
	baz=9.8					
K18A	Toltan Ranch,	9.93	217	⇑P	Pn	10 24 39.3 +1.8
	baz=9.8					
M21A	Separation Pea	9.98	204	⇑P	Pn	10 24 38.0 -0.3
	baz=9.9					
M22A	Cedar Creek Ra	9.98	201	⇑P	Pn	10 24 38.9 +0.6
	baz=9.9					
G13A	Cobalt	10.08	240	⇓P	Pn	10 24 39.3 -0.4
	baz=9.9					
E12A	Beaver Dam Sad	10.09	249	⇑P	Pn	10 24 39.1 -0.6
	baz=9.9					
L19A	Farson	10.14	213	⇑P	Pn	10 24 41.1 +0.7
	baz=10.0					
NEW	Newport	10.24	261	⇓P	Pn	10 24 41.7 -0.1
	baz=10					
NEW	Newport	10.24	261	ePn	Pn	10 24 40.9 -0.9
F12A	Elk City	10.26	246	⇓P	Pn	10 24 41.7 -0.4
	baz=10					
SLEB	Sale Mountain	10.26	278	eP	Pn	10 24 42.4 +0.3
SLEB				eSn	Sn	10 26 31.5 -6.2
SLEB	Sale Mountain	10.26	278	⇓P	Pn	10 24 42.4 +0.3
SLEB				⇑Sn	Sn	10 26 31.5 -6.2
M20A	Sweetwater, Wa	10.31	207	⇑P	Pn	10 24 43.1 +0.2
	baz=10					
N23A	Red Feather La	10.34	197	⇓P	Pn	10 24 43.1 -0.1
	baz=10					
PNPO	Pukaskwa Natio	10.34	96	⇑Sn	Sn	10 26 29.2 -10
MNB	Mounoet Dainar	10.39	284	eP	Pn	10 24 44.5 +0.7
MNB				eSn	Sn	10 26 35.0 -5.8
MNB	Mounoet Dainar	10.39	284	⇓P	Pn	10 24 44.5 +0.7
MNB				⇓Sn	Sn	10 26 35.0 -5.8
K16A	Soda Springs	10.40	223	⇑P	Pn	10 24 43.7 -0.3
	baz=10					
H13A	Challis	10.43	238	⇑P	Pn	10 24 44.2 -0.3
	baz=10					
DOWB	Downie Slide	10.48	280	eP	Pn	10 24 45.7 +0.6
DOWB	Downie Slide	10.48	280	⇑P	Pn	10 24 45.7 +0.6
N22A	Wattenberg Ran	10.53	199	⇓P	Pn	10 24 46.7 +1.0
	baz=10					
L17A	Cokeville	10.71	219	⇑P	Pn	10 24 49.2 +0.9
	baz=11					
H12A	Diamond D Ranc	10.77	239	⇑P	Pn	10 24 48.8 -0.3
	baz=11					
I13A	Wildhorse Cree	10.80	235	⇑P	Pn	10 24 49.6 +0.1
	baz=11					
N21A	Black Mountain	10.81	203	⇑P	Pn	10 24 49.9 +0.2
	baz=11					
BLBC	Blue River	10.91	283	⇑P	Pn	10 24 50.4 -0.6
BLBC				⇑Sn	Sn	10 26 47.6 -6.1
O24A	Longmont	10.94	193	⇑P	Pn	10 24 51.9 +0.5
	baz=11					
N20A	Spence Gulch,	10.94	206	⇑P	Pn	10 24 51.4 -0.1
	baz=11					
M18A	Lyman	10.98	214	⇓P	Pn	10 24 51.8 -0.2
	baz=11					
O23A	Lake Granby, G	10.99	196	⇑P	Pn	10 24 52.5 +0.4
	baz=11					
L16A	Fish Haven	11.01	220	⇓P	Pn	10 24 52.8 +0.5
	baz=11					
C09A	Chrisman Ranch	11.13	261	⇑P	Pn	10 24 53.7 -0.3
	baz=11					
O22A	Kremmling	11.16	199	⇑P	Pn	10 24 54.8 +0.3
	baz=11					
ARVN	Arviat, NU	11.16	20	⇑P	Pn	10 24 53.3 -1.1
ARVN				⇓Sn	Sn	10 26 49.6 -10
M17A	Scullys Gap (B	11.16	216	⇑P	Pn	10 24 54.5 0.0
	baz=11					
J13A	Cove Ranch, Pi	11.20	233	⇓P	Pn	10 24 54.7 -0.2
	baz=11					
HLID	Hailey	11.20	234	⇑P	Pn	10 24 54.9 -0.1
	baz=11					
HLID	Hailey	11.20	234	Pn	Pn	10 24 58.7 +3.7
JFWS	Jewell Farm	11.21	130	ePn	Pn	10 24 53.1 -2.0
N18A	Larsen Ranch,	11.25	212	⇑P	Pn	10 24 55.2 -0.5
	baz=11					
F10A	Beach Ranch, E	11.30	250	⇓P	Pn	10 24 56.1 -0.3
	baz=11					
O21A	Pagoda	11.32	202	⇓P	Pn	10 24 56.5 0.0
	baz=11					
K14A	Jones Ranch, D	11.35	227	⇓P	Pn	10 24 56.7 -0.3
	baz=11					
VIMO	Victor Mine	11.39	73	⇑Sn	Sn	10 26 53.8 -12
I12A	Atlanta	11.42	237	⇑P	Pn	10 24 58.1 +0.1
	baz=11					
P25A	Willow Gulch B	11.44	189	⇓P	Pn	10 24 57.3 -0.9
	baz=11					
PNT	Penticton	11.51	269	⇑P	Pn	10 24 58.6 -0.5
OD2	Odessa Site #2	11.56	259	ePn	Pn	10 24 59.1 -0.8
O20A	White River Ci	11.59	205	⇑P	Pn	10 25 00.7 +0.4
	baz=12					
E09A	Wood Farm, Sta	11.59	254	⇑P	Pn	10 24 59.6 -0.8
	baz=11					
M16A	Huntsville	11.68	219	⇓P	Pn	10 25 01.2 -0.3
	baz=12					
N17A	Moffit Pass	11.69	216	⇓P	Pn	10 25 01.5 -0.2
	baz=12					
O19A	Miners Draw (B	11.69	208	⇓P	Pn	10 25 01.3 -0.4
	baz=12					
P22A	Eagle	11.75	199	⇓P	Pn	10 25 02.6 +0.1
	baz=12					
P21A	Newcastle	11.97	201	⇓P	Pn	10 25 05.8 +0.3
	baz=12					
O18A	Roosevelt	12.00	211	⇑P	Pn	10 25 06.2 +0.3
	baz=12					
Q25A	Bedland, Calha	12.04	189	⇓P	Pn	10 25 05.7 -0.7
	baz=12					
MFID	Camas Ranch	12.05	237	⇑P	Pn	10 25 06.7 +0.1
	baz=12					
Q24A	Divide	12.09	192	⇑P	Pn	10 25 07.2 0.0
	baz=12					
E08A	Dider Farm, El	12.16	256	⇓P	Pn	10 25 07.2 -0.9
	baz=12					
JLU	Jordanelle	12.21	217	ePn	Pn	10 25 08.8 -0.1
P19A	Cripple Cowboy	12.26	207	⇑P	Pn	10 25 09.8 +0.3
	baz=12					
KSU1	Kansas State U	12.30	160	ePn	Pn	10 25 08.1 -2.0
O17A	Robinson Place	12.31	214	⇓P	Pn	10 25 09.8 -0.3
	baz=12					
Q22A	Crested Butte,	12.49	198	⇑P	Pn	10 25 12.7 +0.2
	baz=12					
KAPO	Kapuskasing	12.50	89	⇓P	Pn	10 25 08.4 -4.2
E07A	Sunnyside	12.62	257	⇑P	Pn	10 25 13.8 -0.6
	baz=12					
Q21A	Lamborn Mesa,	12.65	201	⇑P	Pn	10 25 14.4 -0.5
	baz=12					
Q19A	Hogan Spring (	12.97	207	⇑P	Pn	10 25 18.1 -1.1
	baz=13					
PV01	Paradox Valley	13.56	203	ePn	Pn	10 25 27.7 +0.5
YKA	Yellowknife Ar	13.59	334	Pn	Pn	10 25 25.7 -1.8
	1.0nm,0.3s,baz=133,slow=12,SNR=24					
YKA				Sn	Sn	10 27 52.5 -6.5
	0.8nm,0.3s,baz=85,slow=16,SNR=7.4					
YKA				Lg		10 29 23.5
	0.4nm,0.3s,baz=201,slow=20,SNR=3.8					
YKA	Yellowknife Ar	13.59	334	Pn	Pn	10 25 25.7 -1.8
YKA				Sn	Sn	10 27 52.5 -6.4
YKA				Lg		10 29 23.6
YKW3	Yellowknife Ar	13.65	334	⇑P	Pn	10 25 26.5 -1.8
SADO	Sadowa	16.40	103	Pn	Pn	10 26 00.1 -4.9
	0.4nm,0.3s,baz=302,slow=15,SNR=2.7					
SADO				Sn	Sn	10 28 53.5 -14
	0.4nm,0.3s,baz=98,slow=3.4,SNR=3.3					
SADO	Sadowa	16.40	103	Pn	Pn	10 26 00.1 -4.9
SADO				Sn	Sn	10 28 53.5 -14
NVAR	Mina Array Bea	17.00	229	P	Pn	10 26 16.4 +3.7
	0.1nm,0.3s,baz=64,slow=35,SNR=3.7					
NVAR	Mina Array Bea	17.00	229	P	Pn	10 26 16.4 +3.7
MIAR	Mount Ida	17.36	156	ePn	Pn	10 26 13.9 -3.4
	2.8nm,0.6s					
TKL	Tuckaleechee C	20.01	132	P	P	10 26 48.4 +0.5
	0.4nm,0.3s,baz=311,slow=9.3,SNR=9.1					
TKL	Tuckaleechee C	20.01	132	P	P	10 26 48.4 +0.5
SCHQ	Schefferville	21.40	66	P	P	10 27 02.3 -0.4
	2.7nm,0.7s,mb3.7,baz=266,slow=13,SNR=3.6					
SCHQ	Schefferville	21.40	66	P	P	10 27 02.3 -0.4
TXAR	Lajitas Array	21.52	184	P	P	10 27 05.5 +1.4
	0.9nm,0.6s,mb3.4,baz=8.3,slow=9.8,SNR=18					
TXAR	Lajitas Array	21.52	184	P	P	10 27 05.5 +1.4
INK	Inuvik	23.30	330	P	P	10 27 24.6 +1.9
	1.5nm,0.6s,mb3.7,baz=120,slow=12,SNR=6.1					
INK	Inuvik	23.30	330	P	P	10 27 24.6 +1.9
RES	Resolute Bay	24.12	5	P	P	10 27 31.6 +0.9
	1.8nm,0.9s,mb3.6,baz=187,slow=13,SNR=5.4					
RES	Resolute Bay	24.12	5	P	P	10 27 31.6 +0.9

*NEIC **02** 10:26:05.9, 36°.72S×177°.38E, h189km, MG3.7(WEL), After WEL.*
WEL 02 10:26:05.4±0.5, 36°.70S×177°.36E, h193km±5km, ML3.7/7, Error ellipse: s-maj=6.3km s-min=6.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	1.55	153	PN	Pn	10 26 38.6	-0.3
PUZ				SN	Sn	10 27 03.4	-1.5
PUZ	Puketiti	1.55	153	Pn	Pn	10 26 38.6	-0.3
PUZ				Sn	Sn	10 27 03.5	-1.5
URZ	Urewera	1.57	187	PN	Pn	10 26 39.4	+0.4
URZ				SN	Sn	10 27 05.5	+0.2
URZ	Urewera	1.57	187	Pn	Pn	10 26 39.4	+0.4
MWZ	Matawai	1.64	175	PN	Pn	10 26 39.9	+0.2
MWZ				SN	Sn	10 27 06.9	+0.4
MWZ	Matawai	1.64	175	Pn	Pn	10 26 39.9	+0.2
CNGZ	Carnagh Statio	1.91	160	PN	Pn	10 26 42.7	+0.4
CNGZ	Carnagh Statio	1.91	160	Pn	Pn	10 26 42.7	+0.4
PRGZ	Paritu Road	2.26	170	PN	Pn	10 26 46.3	+0.2
PRGZ	Paritu Road	2.26	170	Pn	Pn	10 26 46.3	+0.2
KNZ	Kokohu	2.33	174	PN	Pn	10 26 46.8	-0.1
KNZ	Kokohu	2.33	174	Pn	Pn	10 26 46.8	-0.1
NMHZ	Naumai	2.44	190	PN	Pn	10 26 49.1	+1.1
NMHZ	Naumai	2.44	190	Pn	Pn	10 26 49.2	+1.2
MHGZ	Mahia Peninsul	2.49	170	PN	Pn	10 26 48.8	+0.1
MHGZ	Mahia Peninsul	2.49	170	Pn	Pn	10 26 48.8	+0.1
BKZ	Black Stump Fm	2.56	195	PN	Pn	10 26 49.7	+0.3
BKZ	Black Stump Fm	2.56	195	Pn	Pn	10 26 49.7	+0.3
MCHZ	McNeill Hill	2.79	191	PN	Pn	10 26 52.8	+0.7
MCHZ	McNeill Hill	2.79	191	Pn	Pn	10 26 52.8	+0.7
BHHZ	Black Hill Sta	2.97	200	PN	Pn	10 26 54.4	+0.3
BHHZ	Black Hill Sta	2.97	200	Pn	Pn	10 26 54.4	+0.3
KAHZ	Kahuranaki	3.12	187	PN	Pn	10 26 56.0	+0.1
KAHZ	Kahuranaki	3.12	187	Pn	Pn	10 26 56.0	+0.1
PNHZ	Pukenui	3.34	195	PN	Pn	10 26 58.2	-0.5
PNHZ	Pukenui	3.34	195	Pn	Pn	10 26 58.2	-0.4
PXZ	Pawanui	3.35	187	PN	Pn	10 26 58.0	-0.7
PXZ				SN	Sn	10 27 39.5	-1.3
PXZ	Pawanui	3.35	187	Pn	Pn	10 26 58.0	-0.7
PXZ				Sn	Sn	10 27 39.5	-1.2
WPHZ	Waipukurau	3.44	192	Pn	Pn	10 26 59.5	-0.4
TSZ	Takapari Road	3.53	198	PN	Pn	10 27 00.3	-0.7
TSZ	Takapari Road	3.53	198	Pn	Pn	10 27 00.3	-0.7
PRHZ	Porangahau	3.61	189	ePN	Pn	10 27 01.2	-0.7
OGWZ	Otaki Gorge	4.46	202	PN	Pn	10 27 11.2	-1.3
OGWZ	Otaki Gorge	4.46	202	Pn	Pn	10 27 11.2	-1.3
MTW	Mount Morrison	4.68	197	PN	Pn	10 27 13.5	-1.9
MTW	Mount Morrison	4.68	197	Pn	Pn	10 27 13.5	-1.9

IGQ 02 10:31:01.8, 0°.49N×80°.00W, h12km±5km, Mb4.1, Ms3.9, 2C-4D, Error ellipse: s-maj=6.8km s-min=2.8km az=112.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPR	La Hesperia	1.43	126	S	Sn	10 31 45.8	-0.5
HSPR	La Hesperia	1.43	126	P	Pn	10 31 27.6	+0.1
PINO	Pino	1.54	115	P	Pn	10 31 31.2	+2.1
TERV	Terraza Guagua	1.55	115	P	Pn	10 31 32.4	+3.1
YANA	Yana	1.56	113	S	Sn	10 31 53.1	+3.7
YANA	Yana	1.56	113	P	Pn	10 31 31.3	+1.9
GGP	Refugio Guagua	1.56	115	S	Sn	10 31 52.5	+3.0
GGP	Refugio Guagua	1.56	115	P	Pn	10 31 30.9	+1.6
JUA2	San Juan 2	1.56	117	P	Pn	10 31 31.5	+2.0
PITA	Cotopaxi Volc	1.89	124	P	Pn	10 31 36.5	+2.6
BREF	Cotopaxi Volca	1.94	126	⇓P	Pn	10 31 37.2	+2.5
VC1	Cotopaxi 1	1.96	125	P	Pn	10 31 37.9	+3.1
BVC2	Cotopaxi Volca	1.96	126	⇓P	Pn	10 31 37.8	+2.9
BMOR	Cotopaxi Volca	1.97	128	⇓P	Pn	10 31 37.1	+2.1
MOV1	Cotopaxi Vol s	1.97	127	P	Pn	10 31 37.8	+2.7
BTAM	Cotopaxi Volca	1.98	126	P	Pn	10 31 38.0	+2.8
COV1	Cotopaxi Volc	2.02	125	P	Pn	10 31 37.8	+2.1
CAYA	Cayambe	2.06	102	⇓P	Pn	10 31 41.5	+5.3
ANTI	Antisana	2.07	117	⇑P	Pn	10 31 39.9	+3.5
BRUN	Tungurahua Vol	2.48	140	P	Pn	10 31 44.6	+2.5
BULB	Ulba Tungurahu	2.49	140	P	Pn	10 31 45.4	+3.1
BMAS	Trigal station	2.50	142	⇑P	Pn	10 31 45.9	+3.5
ARRY	Arrayan	2.52	142	P	Pn	10 31 45.1	+2.5
PAT1	Patacocha	2.53	142	S	Sn	10 32 16.9	+3.4
PAT1	Patacocha	2.53	142	P	Pn	10 31 46.4	+3.7

*NEIC **02** 10:32:48.0±0.9, 30°.58S×179°.58W, h337km±14km, mb3.8/1, Error ellipse: s-maj=41.8km s-min=19.1km az=118.0*
*IDC **02** 10:32:52.7±7.7, 31°.14S×179°.57W, h384km±80km, mb2.6/1, mb1 3.2/2, mb1mx2.8/14, mbtmp3.1/2, Error ellipse: s-maj=86.1km s-min=46.9km az=14.0*
ISC 02 10:32:46.6±1.2, 30°.9S±0°.1×179°.2W±0°.5, h352km±19km, n28, σ1°.00/35, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.00	34	ePn	Pn	10 33 37.8	-0.3
RAO				eS	S	10 34 19.1	-0.4
MXZ	Matakaoa Point	6.94	197	ePN	Pn	10 34 33.4	+5.2
MXZ				eSN	S	10 35 50.7	-0.1
PUZ	Puketiti	7.44	196	PN	Pn	10 34 40.5	+6.5
CNGZ	Carnagh Statio	7.84	195	ePN	Pn	10 34 42.8	+4.1
MWZ	Matawai	7.87	199	ePN	Pn	10 34 39.8	+0.6
MWZ				SN	S	10 36 10.8	-0.1
URZ	Urewera	7.93	202	P	Pn	10 34 43.3	+3.5
	5.9nm,0.3s,baz=285,slow=1.7,SNR=90					
URZ				S	S	10 36 12.2	+0.1
	7.6nm,0.3s,baz=132,slow=23,SNR=18					
URZ	Urewera	7.93	202	P	Pn	10 34 43.3	+3.5
URZ				S	S	10 36 12.2	+0.1
URZ	Urewera	7.93	202	ePN	Pn	10 34 40.8	+1.0
URZ				SN	S	10 36 12.3	+0.2
MHGZ	Mahia Peninsul	8.55	195	ePN	Pn	10 34 52.6	+5.4
BKZ	Black Stump Fm	8.95	202	ePN	Pn	10 34 53.3	+1.4
BKZ				SN	S	10 36 34.2	-0.2
MCHZ	McNeill Hill	9.14	200	ePN	Pn	10 34 55.5	+1.4
PXZ	Pawanui	9.64	198	ePN	Pn	10 34 59.4	-0.7
PXZ				eSN	S	10 36 46.1	-3.4
TSZ	Takapari Road	9.93	202	ePN	Pn	10 35 02.4	-1.2
TSZ				eSN	S	10 36 51.6	-4.3
OGWZ	Otaki Gorge	10.88	203	ePN	Pn	10 35 14.6	-0.2
KIW	Kapiti Island	11.01	204	ePN	Pn	10 35 17.5	+1.1
TCW	Tory Channel	11.54	205	ePN	Pn	10 35 23.0	+0.2
NNZ	Nelson	11.90	208	ePN	Pn	10 35 25.8	-1.1
NNZ				eSN	S	10 37 34.9	-4.3
QRZ	Quartz Range	11.94	212	ePN	Pn	10 35 28.5	+1.1
THZ	Tophouse	12.55	208	ePN	Pn	10 35 33.8	-0.8
THZ				eSN	S	10 37 49.4	-3.2
KHZ	Kahutara	12.86	205	ePN	Pn	10 35 38.0	-0.3
DSZ	Denniston Nort	13.01	211	ePN	Pn	10 35 40.9	+0.9
WRAB	Tennant Creek	43.10	273	eP	P	10 40 12.5	-1.1
	3.3nm,0.6s					
WRA	Warramunga Arr	43.10	273	P	P	10 40 14.3	+0.8
	0.2nm,0.4s,baz=110,slow=8.1,SNR=3.5					
WRA	Warramunga Arr	43.10	273	P	P	10 40 14.3	+0.8
FINES	FINESS Array B	145.28	339	PKPbc	PKPbc	10 51 44.2	+1.7
	2.1nm,0.4s,baz=62,slow=4.5,SNR=12					
FINES	FINESS Array B	145.28	339	PKPbc	PKPbc	10 51 44.2	+1.7
BRTR	Keskin Array B	151.94	297	PKPbc	PKPbc	10 52 02.5	+2.3
	0.3nm,0.3s,baz=66,slow=4.3,SNR=3.1					
BRTR	Keskin Array B	151.94	297	PKPbc	PKPbc	10 52 02.5	+2.3

*ISCJB **02** 10:33:55.6±4.3, 5°.9S±0°.3×148°.3E±0°.4, h51km±42km, mb4.0/3, Error ellipse: s-maj=69.4km s-min=25.6km az=34.8*
*IDC **02** 10:33:56.9±6.9, 6°.03S×148°.57E, h51km±68km, mb3.8/3, mb1 4.1/5, mb1mx3.6/16, mbtmp3.9/5, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/20, Error ellipse: s-maj=77.1km s-min=33.1km az=135.0*
*NEIC **02** 10:33:59.0±3.0, 6°.23S×148°.75E, h76km±33km, mb4.3/1, Error ellipse: s-maj=82.5km s-min=17.5km az=133.0*
ISC 02 10:33:55.8±4.5, 5°.8S±0°.3×148°.2E±0°.3, h38km±46km, n16, σ0°.61/15, mb4.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.73	197	P	Pn	10 34 51.2	+0.3
	5.8nm,0.3s,baz=7.0,slow=7.4,SNR=19						
PMG				S	Sn	10 35 33.1	-0.5
	63nm,0.3s,baz=3.3,slow=21,SNR=27						
PMG	Port Moresby	3.73	197	ePn	Pn	10 34 51.4	+0.6
PMG				eSn	Sn	10 35 34.3	+0.7
CTA	Charters Tower	14.32	188	LR	LR	10 42 15.4	
	comp=Z,56nm,21.3s,baz=50,slow=35						
WRAB	Tennant Creek	19.48	223	eP	Pn	10 38 20.6	-0.5
WB2	Warramunga Arr	19.48	223	eP	Pn	10 38 20.6	-0.5
WRA	Warramunga Arr	19.49	223	P	Pn	10 38 20.7	-0.5
	0.7nm,0.3s,baz=50,slow=11,SNR=46						
WRA	Warramunga Arr	19.49	223	P	Pn	10 38 20.7	-0.5
AS31	Alice Springs	22.48	216	eP	P	10 38 51.9	-0.1
ASAR	Alice Springs	22.49	216	P	P	10 38 51.9	-0.1
	2.9nm,0.7s,mb3.8,baz=46,slow=9.7,SNR=58						
ASAR	Alice Springs	22.49	216	P	P	10 38 51.9	-0.1
FITZ	Fitzroy Crossi	25.22	239	P	P	10 39 19.6	+1.3
	14nm,1.0s,mb4.4,baz=96,slow=7.4,SNR=16						
FITZ	Fitzroy Crossi	25.22	239	eP	P	10 39 19.8	+1.6
	7.9nm,0.8s,mb4.3						
ILAR	Eielson Array	84.82	23	P	P	10 46 25.9	-0.2
	0.5nm,0.6s,mb3.8,baz=252,slow=5.0,SNR=8.2						
ILAR	Eielson Array	84.82	23	P	P	10 46 25.9	-0.2
TORD	Torodi Ar. Bea	146.24	285	PKPbc	PKPbc	10 53 33.9	+0.6
	0.3nm,0.5s,baz=58,slow=3.9,SNR=3.5						
TORD	Torodi Ar. Bea	146.24	285	PKPbc	PKPbc	10 53 33.9	+0.6

*ISK **02** 10:35:30.8, 39°.98N×28°.18E, h8km, MD2.7*
*DDA **02** 10:35:30.3, 39°.98N×28°.17E, h22km±2km, Md2.8*
*ISCJB **02** 10:35:31.1±0.3, 39°.98N±0°.02×28°.17E±0°.03, h9km±3km, Error ellipse: s-maj=3.4km s-min=2.6km az=148.5*
*CSEM **02** 10:35:31.3±0.1, 39°.97N×28°.18E, h10km, MD2.7, Error ellipse: s-maj=2.2km s-min=1.7km az=58.0*
ISC 02 10:35:31.4±0.3, 39°.97N±0°.02×28°.17E±0°.03, h10km±3km, n77, σ0°.61/108, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	Karacabey (Bur	0.33	25	PG	Pg	10 35 38.0	+0.1
KCTX	Karacabey (Bur	0.33	25	*i* Pg	Pg	10 35 38.0	+0.1
GONE	Gonen-Balikesi	0.38	281	PG	Pg	10

TKR	**Tekirdag**	**1.13**	**335**	*e*Pn	**Pn**	**10 35 52.9**	**-0.4**
LPK	**Lapseki**	**1.16**	**291**	*e*PN	**Pn**	**10 35 52.5**	**-1.2**
LPK	**Lapseki**	**1.16**	**291**	*e*Pn	**Pn**	**10 35 52.5**	**-1.1**
SLVT	**Silivri**	**1.26**	**1**	*e*PN	**Pn**	**10 35 55.3**	**+0.2**
SLVT	**Silivri**	**1.26**	**1**	*e*Pn	**Pn**	**10 35 55.3**	**+0.3**
ADVT	**Abdulvahap**	**1.28**	**68**	*e*PN	**Pn**	**10 35 55.3**	**-0.1**
ADVT	**Abdulvahap**	**1.28**	**68**	*e*Pn	**Pn**	**10 35 55.3**	**-0.1**
ISK	**Istanbul-Kandi**	**1.28**	**31**	*e*PN	**Pn**	**10 35 55.4**	**0.0**
ISK	**Istanbul-Kandi**	**1.28**	**31**	*e*Pn	**Pn**	**10 35 55.4**	**0.0**
CTKS	**Kestanelik-??a**	**1.29**	**11**	*e*PN	**Pn**	**10 35 56.1**	**+0.6**
CTKS	**Kestanelik-??a**	**1.29**	**11**	*e*Pn	**Pn**	**10 35 56.1**	**+0.6**
BGKT	**Bogazkoy**	**1.29**	**20**	*e*PN	**Pn**	**10 35 55.1**	**-0.5**
BGKT	**Bogazkoy**	**1.29**	**20**	*e*Pn	**Pn**	**10 35 55.1**	**-0.4**
GDZ	**Gediz**	**1.34**	**131**	*i* P	**Pn**	**10 35 56.1**	**-0.1**
GDZ				*i* S	**Sb**	**10 36 13.4**	**-0.5**
GDZ	**Gediz**	**1.34**	**131**	*i* P	**Pn**	**10 35 56.1**	**-0.1**
GDZ				*i* S	**Sb**	**10 36 13.4**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.37**	**289**	*e*PN	**Pn**	**10 35 57.0**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.37**	**289**	*e*Pn	**Pn**	**10 35 57.1**	**+0.5**
KLYT	**Kilyos**	**1.44**	**27**	*e*PN	**Pn**	**10 35 57.4**	**-0.1**
KLYT	**Kilyos**	**1.44**	**27**	*e*Pn	**Pn**	**10 35 57.4**	**-0.2**
ERIK	**Erikli-Kesan**	**1.45**	**299**	*e*PN	**Pn**	**10 35 58.2**	**+0.6**
ERIK	**Erikli-Kesan**	**1.45**	**299**	*e*Pn	**Pn**	**10 35 58.2**	**+0.5**
CTYL	**Yal??k??y-??at**	**1.50**	**3**	*e*PN	**Pn**	**10 35 59.6**	**+1.2**
CTYL	**Yal??k??y-??at**	**1.50**	**3**	*e*Pn	**Pn**	**10 35 59.6**	**+1.2**
KULA	**Kula-Manisa**	**1.50**	**165**	*e*PN	**Pn**	**10 35 59.4**	**+1.0**
KULA	**Kula-Manisa**	**1.50**	**165**	*e*Pn	**Pn**	**10 35 59.4**	**+1.0**
MANT	**Manisa**	**1.51**	**168**	*i* P	**Pn**	**10 35 57.0**	**-1.5**
MANT				*i* S	**Sn**	**10 36 18.8**	**+0.6**
MANT	**Manisa**	**1.51**	**168**	*i* P	**Pn**	**10 35 57.0**	**-1.5**
MANT				*i* S	**Sn**	**10 36 18.8**	**+0.6**
SILT	**Sile**	**1.63**	**43**	*e*PN	**Pn**	**10 36 00.6**	**+0.5**
SILT	**Sile**	**1.63**	**43**	*e*Pn	**Pn**	**10 36 00.6**	**+0.5**
BOZC	**Bozcaada**	**1.64**	**266**	*i* P	**Pn**	**10 36 00.6**	**+0.3**
BOZC				*i* S	**Sn**	**10 36 20.9**	**-0.5**
ENEZ	**Enez**	**1.72**	**297**	*e*PN	**Pn**	**10 36 01.8**	**+0.4**
ENEZ	**Enez**	**1.72**	**297**	*e*Pn	**Pn**	**10 36 01.8**	**+0.4**
ALT	**Altintas**	**1.75**	**121**	*e*PN	**Pn**	**10 36 02.0**	**+0.1**
ALT	**Altintas**	**1.75**	**121**	*e*Pn	**Pn**	**10 36 02.0**	**+0.1**
GADA	**Gvkgeada**	**1.76**	**278**	*e*PN	**Pn**	**10 36 01.8**	**-0.1**
GADA	**Gvkgeada**	**1.76**	**278**	*e*Pn	**Pn**	**10 36 01.8**	**-0.1**
GULT	**Gulveren**	**1.85**	**75**	*e*PN	**Pn**	**10 36 03.2**	**0.0**
GULT	**Gulveren**	**1.85**	**75**	*e*Pn	**Pn**	**10 36 03.2**	**0.0**
KHAL	**Karahalli**	**1.90**	**147**	*i* P	**Pn**	**10 36 03.0**	**-0.9**
KHAL				*i* S	**Sn**	**10 36 28.6**	**+0.8**
KHAL	**Karahalli**	**1.90**	**147**	*i* P	**Pn**	**10 36 03.0**	**-0.9**
KHAL				*i* S	**Sn**	**10 36 28.6**	**+0.8**

ISCJB ***02*** *10:56:20.8±0.9, 39°.36N±0°.06×28°.12E±0°.05, h5km±9km, Error ellipse: s-maj=9.8km s-min=5.3km az=18.6*
CSEM ***02*** *10:56:21.1±0.3, 39°.38N×28°.13E, h10km, MD2.5, Error ellipse: s-maj=8.0km s-min=4.6km az=33.0*
ISK ***02*** *10:56:21.0, 39°.38N×28°.13E, h8km, MD2.5*
ISC 02 10:56:21.3±0.9, 39°.37N±0°.06×28°.13E±0°.05, h11km±8km, n20, σ0s80/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.33**	**325**	*e*PG	**Pg**	**10 56 27.6**	**-0.2**
BALB				*e*SG	**Sg**	**10 56 33.6**	**+1.3**
BALB	**Balikesir**	**0.33**	**325**	*e*Pg	**Pg**	**10 56 27.6**	**-0.3**
BALB				*e*Sg	**Sg**	**10 56 33.6**	**+1.3**
DURS	**Dursunbey**	**0.35**	**50**	*i* P	**Pg**	**10 56 27.4**	**-0.9**
DURS	**Dursunbey**	**0.35**	**50**	*i* P	**Pg**	**10 56 27.4**	**-0.9**
DURS				*i* S	**Sg**	**10 56 32.9**	**-0.2**
DST	**Dursunbey**	**0.45**	**59**	*e*PG	**Pg**	**10 56 29.9**	**-0.2**
DST				*e*SG	**Sg**	**10 56 36.9**	**+0.8**
DST	**Dursunbey**	**0.45**	**59**	*e*Pg	**Pg**	**10 56 29.9**	**-0.2**
DST				*e*Sg	**Sg**	**10 56 36.9**	**+0.9**
BALY	**Balya**	**0.54**	**313**	*i* P	**Pg**	**10 56 31.0**	**-0.8**
BALY	**Balya**	**0.54**	**313**	*i* P	**Pg**	**10 56 31.0**	**-0.8**
BALY				*i* S	**Sg**	**10 56 39.4**	**+0.6**
GONE	**Gonen-Balikesi**	**0.75**	**333**	*e*PG	**Pg**	**10 56 35.0**	**-0.9**
GONE	**Gonen-Balikesi**	**0.75**	**333**	*e*Pg	**Pg**	**10 56 35.0**	**-0.9**
KCTX	**Karacabey (Bur**	**0.91**	**11**	*e*PG	**Pg**	**10 56 38.6**	**-0.3**
KCTX	**Karacabey (Bur**	**0.91**	**11**	*e*Pg	**Pg**	**10 56 38.6**	**-0.2**
KULA	**Kula-Manisa**	**0.95**	**154**	*e*PG	**Pg**	**10 56 40.5**	**+0.8**
KULA	**Kula-Manisa**	**0.95**	**154**	*e*Pg	**Pg**	**10 56 40.5**	**+0.8**
GDZ	**Gediz**	**1.09**	**105**	*i* P	**Pb**	**10 56 40.6**	**-1.6**
GDZ				*i* S	**Sb**	**10 56 57.4**	**+1.0**
GDZ	**Gediz**	**1.09**	**105**	*i* P	**Pb**	**10 56 40.6**	**-1.6**
GDZ				*i* S	**Sb**	**10 56 57.4**	**+1.0**
KRBG	**Karabiga-Canak**	**1.20**	**328**	*e*PN	**Pn**	**10 56 43.9**	**-0.2**
KRBG	**Karabiga-Canak**	**1.20**	**328**	*e*Pn	**Pn**	**10 56 43.9**	**-0.2**
ARMT	**Armutlu**	**1.32**	**25**	*e*PN	**Pn**	**10 56 46.4**	**+0.7**
ARMT	**Armutlu**	**1.32**	**25**	*e*Pn	**Pn**	**10 56 46.4**	**+0.7**

CSEM ***02*** *10:56:38.9±0.2, 33°.45N×35°.59E, h5km, ML3.1, Error ellipse: s-maj=7.4km s-min=2.6km az=93.0*
GRAL 02 10:56:39.7±0.3, 33°.45N×35°.58E, h4km±3km, MD3.1, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matarih**	**0.21**	**280**	*e*P	Pg	10 56 43.6	-0.2
MATL	**Matarih**	**0.21**	**280**	*e*P	Pg	10 56 43.6	-0.2
RCY	**Rachaya**	**0.22**	**78**	*e*P	Pg	10 56 43.7	-0.3
RCY				*e*S	Sg	10 56 46.8	-0.1
RCY	**Rachaya**	**0.22**	**78**	*e*P	Pg	10 56 43.7	-0.3
RCY				*e*S	Sg	10 56 46.8	-0.1
BEYL	**Beirut**	**0.42**	**350**	*e*P	Pg	10 56 47.3	-0.6
BEYL	**Beirut**	**0.42**	**350**	*e*P	Pg	10 56 47.3	-0.6
BHL	**Bhannes**	**0.46**	**8**	*e*P	Pg	10 56 47.8	-0.7
BHL				*e*S	Sg	10 56 54.0	-0.4
BHL	**Bhannes**	**0.46**	**8**	*e*P	Pg	10 56 47.8	-0.7
BHL				*e*S	Sg	10 56 54.0	-0.4
HWQ	**Hawqa**	**0.88**	**20**	*e*P	Pg	10 56 55.4	-1.2
HWQ	**Hawqa**	**0.88**	**20**	*e*P	Pg	10 56 55.4	-1.2
FKH	**Fakeheh**	**1.05**	**41**	*e*P	Pg	10 56 58.6	-1.3
FKH	**Fakeheh**	**1.05**	**41**	*e*P	Pg	10 56 58.6	-1.3

IDC 02 10:57:19.8±4.9, 6°.74S×129°.33E, h178km±47km, mb3.1/1, mb1 3.1/4, mb1mx2.9/16, mbtmp3.0/4, Error ellipse: s-maj=56.3km s-min=21.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.86**	**197**	P	Pn	11 00 04.7	+1.3
	0.2nm,0.3s,baz=15,slow=18,SNR=16						
FITZ				S	Sn	11 02 16.8	+1.6
	0.4nm,0.3s,baz=63,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**14.00**	**160**	P	Pn	11 00 29.1	-1.5
	0.3nm,0.3s,baz=337,slow=14,SNR=14						
WRA				S	Sn	11 03 01.0	-5.5
	0.7nm,0.3s,baz=335,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.40**	**166**	P	Pn	11 01 11.9	0.0
	0.2nm,0.3s,baz=344,slow=10,SNR=17						
ASAR				S	S	11 04 23.8	+1.4
	0.1nm,0.3s,baz=324,slow=20,SNR=5.1						
MKAR	**Makanchi Array**	**67.64**	**327**	P	P	11 07 57.4	-0.1
	0.4nm,0.6s,baz=112,slow=6.4,SNR=3.9						

ISCJB ***02*** *11:23:43.1±0.2, 36°.01N±0°.01×117°.28W±0°.02, h10km, Error ellipse: s-maj=2.1km s-min=1.9km az=161.6*
IDC ***02*** *11:23:43.1±2.0, 35°.92N×117°.31W, h0km, mb1 3.4/3, mb1mx3.3/23, mbtmp2.9/3, ML3.2/3, Error ellipse: s-maj=26.8km s-min=11.4km az=51.0*
NEIC ***02*** *11:23:44.1, 35°.98N×117°.31W, h3km, ML3.8(PAS), After PAS.*
NEIC Felt in the Trona area.
ISC 02 11:23:43.7±0.3, 35°.97N±0°.01×117°.32W±0°.02, h3km±2km, n82, σ1s04/124, 20C-28D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.17**	**302**	⇓P	**Pg**	**11 23 47.4**	**+0.5**
	baz=0.2,SNR=1000						
MPMC				⇑S	**Sg**	**11 23 50.0**	**+0.8**
	baz=0.2						
LRMC	**Laurel Mountai**	**0.58**	**212**	P	**Pg**	**11 23 55.0**	**+0.2**
	baz=0.6,SNR=144						
LRMC				⇓S	**Sg**	**11 24 03.2**	**+0.9**
	baz=0.6						
FURC	**Furnace Creek,**	**0.62**	**36**	P	**Pg**	**11 23 55.6**	**0.0**
	baz=0.6,SNR=1000						
FURC				⇓S	**Sg**	**11 24 04.1**	**+0.6**
	baz=0.6						
CWC	**Cottonwood Cre**	**0.78**	**307**	⇓P	**Pg**	**11 23 58.6**	**+0.1**
	baz=0.8,SNR=120						
CWC				⇓S	**Sg**	**11 24 09.2**	**+0.6**
	baz=0.8						
GSC	**Goldstone**	**0.79**	**148**	⇑P	**Pg**	**11 23 59.0**	**+0.2**
	baz=0.8,SNR=94						
GSC				⇑S	**Sg**	**11 24 09.6**	**+0.7**
	baz=0.8						
GSC	**Goldstone**	**0.79**	**148**	*e*Pg	**Pg**	**11 23 59.0**	**+0.3**
GSC				*e*Sg	**Sg**	**11 24 09.5**	**+0.5**
SHOC	**Shoshone**	**0.84**	**95**	P	**Pg**	**11 23 59.7**	**-0.1**
	baz=0.8,SNR=788						
SHOC				⇓S	**Sg**	**11 24 11.1**	**+0.3**
	baz=0.8						
ISA	**Isabella**	**0.99**	**252**	P	**Pg**	**11 24 02.6**	**-0.1**
	baz=1.0,SNR=1000						
ISA				⇓S	**Sg**	**11 24 15.8**	**+0.2**
	baz=1.0						
ISA	**Isabella**	**0.99**	**252**	*e*Pg	**Pg**	**11 24 02.8**	**+0.1**
ISA				*e*Sg	**Sg**	**11 24 16.1**	**+0.5**
GRAC	**Grapevine Rang**	**1.03**	**358**	⇑P	**Pg**	**11 24 03.1**	**-0.3**
	baz=1.0,SNR=690						
RRX	**Edison Barstow**	**1.12**	**167**	⇑P	**Pg**	**11 24 04.9**	**-0.2**
	baz=1.1,SNR=124						
EDW2	**Edwards Air Fo**	**1.22**	**207**	P	**Pg**	**11 24 06.4**	**-0.7**
	baz=1.2,SNR=779						
EDW2				⇑S	**Sg**	**11 24 23.7**	**+0.8**
	baz=1.2						
TUQ	**Turquoise Moun**	**1.25**	**115**	P	**Pg**	**11 24 07.0**	**-0.7**
	baz=1.2,SNR=481						
TIN	**Tinemaha**	**1.31**	**326**	⇓P	**Pg**	**11 24 08.0**	**-0.7**
	baz=1.3,SNR=34						
TIN				⇓S	**Sg**	**11 24 26.1**	**+0.4**
	baz=1.3						
HEC	**Hector,Ludlow**	**1.40**	**144**	P	**Pn**	**11 24 09.0**	**-1.0**
	baz=1.4,SNR=267						
HEC				⇑S	**Sg**	**11 24 29.1**	**+0.7**
	baz=1.4						
VES	**Vestal, Richgr**	**1.44**	**265**	⇑P	**Pn**	**11 24 10.3**	**-0.3**
	baz=1.4,SNR=78						
VES				⇑S	**Sb**	**11 24 30.3**	**+0.4**
	baz=1.4						
ARVC	**Arvin**	**1.50**	**236**	⇑Pb	**Pb**	**11 24 11.6**	**-0.4**
	baz=1.5,SNR=68						
RCTC	**Rector, Farmer**	**1.59**	**283**	⇑Pg	**Pg**	**11 24 13.5**	**-0.7**
	baz=1.6,SNR=32						
RCTC				⇓S	**Sn**	**11 24 34.4**	**+0.6**
	baz=1.6						
BBRC	**Big Bear Solar**	**1.74**	**169**	⇓P	**Pn**	**11 24 14.4**	**-0.3**
	baz=1.7,SNR=259						
BFSC	**Mount Baldy Ra**	**1.75**	**189**	P	**Pn**	**11 24 14.5**	**-0.4**
	baz=1.8,SNR=108						
BFSC				⇑Sb	**Sb**	**11 24 40.5**	**+1.7**
	baz=1.8						
OSI	**Osito Adit**	**1.78**	**221**	⇓P	**Pn**	**11 24 14.5**	**-0.7**
	baz=1.8						
OSI	**Osito Adit**	**1.78**	**221**	*e*Pn	**Pn**	**11 24 15.3**	**0.0**
OSI				*e*Sn	**Sn**	**11 24 39.1**	**+0.8**
GMRC	**Granite Mounta**	**1.80**	**131**	⇓P	**Pn**	**11 24 14.0**	**-1.6**
	baz=1.8						
GMRC				⇓Sb	**Sb**	**11 24 41.0**	**+0.8**
	baz=1.8						
MWC	**Mount Wilson**	**1.85**	**199**	*e*Pn	**Pn**	**11 24 16.2**	**0.0**
MWC				*e*Sg	**Sg**	**11 24 45.7**	**+2.7**
DECC	**Green Verdugo**	**1.91**	**206**	⇑P	**Pn**	**11 24 16.7**	**-0.3**
	baz=1.9						
PASC	**Pasadena Art C**	**1.93**	**202**	*e*Pn	**Pn**	**11 24 17.4**	**0.0**
PASC				*e*Sn	**Sn**	**11 24 42.5**	**+0.4**
LDFC	**Landfair**	**2.01**	**116**	*e*Pn	**Pn**	**11 24 16.5**	**-1.9**
LDFC				*e*Sn	**Sn**	**11 24 45.1**	**+1.1**
MLAC	**Mammoth Lakes**	**2.06**	**324**	⇓Pg	**Pg**	**11 24 22.6**	**-0.5**
	baz=2.1						
BELC	**Belle Mtn. Jos**	**2.24**	**151**	P	**Pn**	**11 24 21.2**	**-0.4**
	baz=2.3,SNR=28						
BELC				⇓Sb	**Sb**	**11 24 55.1**	**+2.2**
	baz=2.3						
SMMC	**Simmler**	**2.29**	**254**	⇓P	**Pn**	**11 24 21.9**	**-0.3**
	baz=2.3						
PKM	**Peak Mountain**	**2.31**	**243**	⇓P	**Pn**	**11 24 22.4**	**-0.1**
	baz=2.3						
BLG	**Laguna Peak**	**2.35**	**218**	⇑P	**Pn**	**11 24 22.5**	**-0.6**
	baz=2.4,SNR=5.8						
MURC	**Murrieta**	**2.37**	**178**	⇓P	**Pn**	**11 24 23.2**	**-0.1**
	baz=2.4						
PFO	**Pinyon Flat Ob**	**2.46**	**163**	⇓P	**Pn**	**11 24 24.1**	**-0.6**
	baz=2.5,SNR=14						
PFO	**Pinyon Flat Ob**	**2.46**	**163**	*e*Pn	**Pn**	**11 24 24.8**	**+0.2**
PFO				*e*Sg	**Sg**	**11 25 01.7**	**-1.0**
IRM	**Iron Mountain**	**2.53**	**135**	⇑P	**Pn**	**11 24 24.3**	**-1.4**
	baz=2.5,SNR=25						
NVAR	**Mina Array Bea**	**2.58**	**342**	Pn	**Pn**	**11 24 26.5**	**+0.2**
	2.8nm,0.3s,baz=160,slow=14,SNR=37						
NVAR				Pg	**Pg**	**11 24 31.4**	**-1.7**
	27nm,0.3s,baz=163,slow=19,SNR=104						
NVAR				Lg		11 25 06.7	
	22nm,0.3s,baz=198,slow=35,SNR=6.6						
NVAR	**Mina Array Bea**	**2.58**	**342**	Pn	**Pn**	**11 24 26.5**	**+0.2**
NVAR				Pg	**Pg**	**11 24 31.4**	**-1.7**
NVAR				Lg		11 25 06.7	
CIS	**Catalina Islan**	**2.71**	**200**	⇑P	**Pn**	**11 24 27.8**	**-0.2**
	baz=2.7,SNR=49						
R11A	**Troy Canyon, C**	**2.75**	**30**	⇓P	**Pn**	**11 24 27.9**	**-0.7**
	baz=2.8,SNR=30						
BC3	**Big Chuckawall**	**2.77**	**146**	P	**Pn**	**11 24 27.8**	**-1.1**
	baz=2.8,SNR=13						
W13A	**Hualapai Mount**	**2.93**	**106**	⇓P	**Pn**	**11 24 30.2**	**-0.8**
	baz=2.9,SNR=17						
Y12C	**Blythe**	**3.19**	**133**	P	**Pn**	**11 24 33.5**	**-1.2**
	baz=3.2,SNR=11						
CMB	**Columbia Colle**	**3.21**	**311**	*e*Pg	**Pg**	**11 24 44.8**	**-0.3**
CMB				*e*Sg	**Sg**	**11 25 27.7**	**+1.0**
SWSC	**Sam W. Stewart**	**3.27**	**157**	⇓P	**Pn**	**11 24 34.6**	**-1.2**
	baz=3.3,SNR=14						
BAR	**Barrett**	**3.33**	**171**	*e*Pn	**Pn**	**11 24 36.5**	**0.0**
BAR				*e*Sg	**Sg**	**11 25 28.6**	**-2.0**
SAO	**San Andreas Ge**	**3.43**	**285**	*e*Pn	**Pn**	**11 24 42.1**	**+4.2**
R13A	**O'Grain Ranch,**	**3.47**	**50**	⇓P	**Pn**	**11 24 38.2**	**-0.2**
	baz=3.5,SNR=10						
CCUT	**Cedar City**	**3.54**	**62**	*e*Pn	**Pn**	**11 24 40.3**	**+0.8**
CCUT				*e*Sg	**Sg**	**11 25 37.6**	**+0.1**
GLA	**Glamis**	**3.56**	**144**	⇑P	**Pn**	**11 24 38.4**	**-1.4**
	baz=3.6						
GLA	**Glamis**	**3.56**	**144**	*e*Pn	**Pn**	**11 24 38.6**	**-1.2**
GLA				*e*Sg	**Sg**	**11 25 38.9**	**+0.7**
ARUT	**Antelope Range**	**3.60**	**59**	*e*Pn	**Pn**	**11 24 41.1**	**+0.8**
ARUT				*e*Sg	**Sg**	**11 25 40.0**	**+0.8**
WCN	**Washoe City**	**3.85**	**330**	*e*Pg	**Pg**	**11 24 56.5**	**-0.9**
Y14A	**Wickenburg**	**4.08**	**119**	⇓P	**Pn**	**11 24 45.8**	**-1.1**
	baz=4.1						
U15A	**North Rim**	**4.09**	**82**	⇑P	**Pn**	**11 24 47.3**	**+0.3**
	baz=4.1						
Z13A	**Yuma Proving G**	**4.09**	**131**	⇑P	**Pn**	**11 24 45.8**	**-1.2**
	baz=4.1						
BMN	**Battle Mountai**	**4.45**	**1**	*e*Pn	**Pn**	**11 24 53.1**	**+1.1**
BMN				*e*Sn	**Sn**	**11 25 43.3**	**-1.0**
MSU	**Marysvale**	**4.82**	**57**	*e*Pg	**Pg**	**11 25 14.0**	**-2.0**
MSU				*e*Sg	**Sg**	**11 26 19.7**	**+1.2**
WUAZ	**Wupatki**	**4.85**	**94**	*e*Pn	**Pn**	**11 24 58.7**	**+1.2**
WUAZ				*e*Sg	**Sg**	**11 26 20.2**	**+0.6**
Y16A	**Circle Bar Ran**	**5.23**	**112**	⇓P	**Pn**	**11 25 02.9**	**+0.2**
	baz=5.2,SNR=7.3						
DUG	**Dugway**	**5.51**	**39**	*e*Pg	**Pg**	**11 25 26.7**	**-2.6**
	14nm,0.6s						
DUG				*e*Sg	**Sg**	**11 26 40.2**	**-0.4**
X17A	**Forest Lakes**	**5.58**	**105**	⇓P	**Pn**	**11 25 08.6**	**+1.1**
	baz=5.6,SNR=14						
Y17A	**Roosevelt**	**5.79**	**111**	⇓P	**Pn**	**11 25 10.5**	**+0.2**
	baz=5.8,SNR=6.8						
TMUT	**Trail Mountain**	**5.87**	**54**	*e*Pn	**Pn**	**11 25 12.9**	**+1.3**
	3.5nm,0.4s						
TMUT				*e*Sn	**Sn**	**11 26 21.3**	**+2.0**
MPU	**Maple Canyon**	**6.04**	**46**	*e*Pg	**Pg**	**11 25 37.9**	**-1.4**
	6.1nm,0.7s						
SRU	**San Rafael**	**6.24**	**58**	*e*Pn	**Pn**	**11 25 19.9**	**+3.4**
	9.7nm,0.5s						
SRU				*e*Sg	**Sg**	**11 27 02.6**	**-1.4**
DAU	**Daniels Canyon**	**6.51**	**45**	*e*Pn	**Pn**	**11 25 18.3**	**-2.0**
	7.5nm,0.6s						
JLU	**Jordanelle**	**6.53**	**43**	*e*Pg	**Pg**	**11 25 47.5**	**-1.2**
	6.2nm,0.6s						
JLU				*e*Sg	**Sg**	**11 27 14.5**	**+1.2**
TUC	**Tucson**	**6.53**	**122**	*e*Pn	**Pn**	**11 25 20.2**	**-0.4**
	3.3nm,0.6s						
TUC				*e*Sg	**Sg**	**11 27 14.2**	**+0.8**
WVOR	**Wild Horse Val**	**6.53**	**351**	*e*Pg	**Pg**	**11 25 48.9**	**0.0**
	11nm,1.0s						
WVOR				*e*Sg	**Sg**	**11 27 15.3**	**+1.9**
HVU	**Hansel Valley**	**6.79**	**30**	*e*Pn	**Pn**	**11 25 28.9**	**+4.8**
	6.4nm,0.7s						
PV04	**Paradox Valley**	**7.13**	**68**	*e*Pn	**Pn**	**11 25 29.4**	**+0.5**
PV04				*e*Sg	**Sg**	**11 27 31.9**	**-0.9**
MVCO	**Mesa Verde**	**7.20**	**78**	*e*Pn	**Pn**	**11 25 34.3**	**+4.6**
	40nm,1.0s						
MVCO				*e*Sg	**Sg**	**11 27 37.5**	**+2.7**
PV01	**Paradox Valley**	**7.32**	**70**	*e*Pn	**Pn**	**11 25 34.0**	**+2.6**
	579nm,0.5s						
PV01				*e*Sg	**Sg**	**11 27 38.4**	**-0.2**
Z20A	**Nine Sixteen R**	**7.74**	**109**	⇑P	**Pn**	**11 25 37.9**	**+0.7**
	baz=7.7,SNR=6.3						
HLID	**Hailey**	**7.90**	**16**	*e*Pg	**Pg**	**11 26 16.8**	**+1.8**
HLID				*e*Sg	**Sg**	**11 27 56.6**	**-0.7**
PDAR	**Pinedale Array**	**9.06**	**39**	Pn	**Pn**	**11 25 57.9**	**+2.7**
	0.1nm,0.3s,baz=215,slow=11,SNR=3.3						
PDAR				Pg	Pn	11 26 31.3	+36
	0.1nm,0.3s,baz=225,slow=18,SNR=3.7						
PDAR				Lg		11 28 28.0	
	0.1nm,0.3s,baz=222,slow=13,SNR=3.3						
PDAR	**Pinedale Array**	**9.06**	**39**	Pn	**Pn**	**11 25 57.9**	**+2.7**
PDAR				Pg	Pn	11 26 31.3	+36
PDAR				Lg		11 28 28.0	
TXAR	**Lajitas Array**	**13.26**	**116**	Pn	**Pn**	**11 26 56.0**	**+3.3**
	0.0nm,0.3s,baz=300,slow=2.7,SNR=3.8						
TXAR				Lg		11 30 45.3	
	0.0nm,0.3s,baz=285,slow=28,SNR=5.4						
TXAR	**Lajitas Array**	**13.26**	**116**	Pn	**Pn**	**11 26 56.0**	**+3.3**
TXAR				Lg		11 30 45.3	
LZG	**Guadaloupe-1**	**52.94**	**97**	*e*P	**P**	**11 33 00.8**	**-0.6**
TBG	**Guadaloupe-3**	**53.20**	**97**	*e*P	**P**	**11 33 01.0**	**-2.3**

IDC 02 11:30:32.5±5.2, 1°.58S×139°.09E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/14, mbtmp3.0/3, Error ellipse: s-maj=213.6km s-min=28.6km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.83**	**194**	P	Pn	11 34 54.0	-0.4
	0.1nm,0.3s,baz=18,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**22.52**	**192**	P	P	11 35 34.7	+0.8
	0.3nm,0.8s,baz=20,slow=9.9,SNR=4.6						
MKAR	**Makanchi Array**	**69.13**	**322**	P	P	11 41 40.5	-0.1
	0.3nm,0.9s,baz=101,slow=7.6,SNR=3.2						

ISCJB ***02*** *11:48:40.2±0.3, 43°.38N±0°.02×1°.06W±0°.02, h27km±2km, Error ellipse: s-maj=2.8km s-min=2.5km az=146.8*
CSEM ***02*** *11:48:41.0±0.1, 43°.33N×1°.00W, h15km, ML3.2/28, Error ellipse: s-maj=2.1km s-min=1.7km az=134.0*
STR ***02*** *11:48:41.7±0.3, 43°.36N×0°.96W, h5km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NEIC ***02*** *11:48:41.7, 43°.36N×0°.96W, h5km, ML3.1(STR), After STR.*
LDG ***02*** *11:48:42.2±0.1, 43°.30N×1°.01W, h10km, Md3.1/3, Ml3.2/22, Error ellipse: s-maj=1.5km s-min=1.2km az=129.0*
INMG ***02*** *11:48:42.9±1.3, 43°.27N×1°.04W, h14km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=170.0*
MDD ***02*** *11:48:42.1±0.2, 43°.31N×1°.00W, h10km, mbLg2.9/42, Error ellipse: s-maj=2.5km s-min=1.9km az=149.0, PRXIMO*
ISC 02 11:48:41.1±0.2, 43°.34N±0°.01×1°.00W±0°.02, h19km±1km, n199, σ1s07/331, 8C-3D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.14**	**159**	Pg	**Pg**	**11 48 46.4**	**+1.1**
ORDF				Sg	**Sg**	**11 48 47.7**	**-0.4**

IEPA Lg 11 49 00.1
945nm,0.1s,SNR=7.9
IPRE Itoiz 0.59 206 ⇓Pg Pg 11 48 52.4 -0.5
71nm,0.3s,SNR=18
IPRE Lg 11 48 59.8
443nm,0.3s,SNR=5.0
IPRE Itoiz 0.59 206 Pg Pg 11 48 52.4 -0.5
71nm,0.3s,SNR=18
IPRE Lg 11 48 59.8
443nm,0.3s,SNR=5.0
IUNC Unciti 0.69 212 ⇓Pg Pg 11 48 54.5 -0.1
100nm,0.2s,SNR=18
IUNC Lg 11 49 03.1
669nm,0.2s,SNR=19
IUNC Unciti 0.69 212 Pg Pg 11 48 54.5 -0.1
100nm,0.2s,SNR=18
IUNC Lg 11 49 03.1
669nm,0.2s,SNR=19
EARA Aranguren 0.71 217 ⇑Pg Pg 11 48 54.7 -0.3
63nm,0.1s,SNR=18
EARA Lg 11 49 03.2
181nm,0.1s,SNR=11
EARA Aranguren 0.71 217 Pg Pg 11 48 54.7 -0.3
63nm,0.1s,SNR=18
EARA Lg 11 49 03.2
181nm,0.1s,SNR=11
LABF Labassere 0.84 110 Pg Pg 11 48 57.1 -0.4
LABF Labassere 0.84 110 Pg Pg 11 48 57.1 -0.4
LABF Labassere 0.84 110 Pg Pg 11 48 57.1 -0.4
VIEF Viey 0.88 121 Pg Pg 11 48 57.7 -0.5
VIEF Viey 0.88 121 Pg Pg 11 48 57.7 -0.5
VIEF Viey 0.88 121 Pg Pg 11 48 57.7 -0.5
EPF Esparros 1.03 107 ePn Pn 11 48 59.9 -0.6
EPF Esparros 1.03 107 ePg Pg 11 49 00.7 -0.4
SNR=1.0
EPF eSg Sg 11 49 15.2 +0.6
77nm,0.3s,SNR=1.0
EPF Esparros 1.03 107 Pn Pn 11 48 59.9 -0.6
EPF Pg Pg 11 49 00.7 -0.4
EPF Lg 11 49 15.2
38nm,0.3s
EPF Esparros 1.03 107 ePn Pn 11 48 59.9 -0.6
EPF Esparros 1.03 107 ePg Pg 11 49 00.7 -0.4
SNR=1.0
EPF eSg Sg 11 49 15.2 +0.6
38nm,0.3s,SNR=1.0
EBIE Bielsa 1.07 128 ⇑Pg Pg 11 49 01.2 -0.6
11nm,0.1s,SNR=18
EBIE Lg 11 49 13.8
33nm,0.1s,SNR=7.9
EBIE Bielsa 1.07 128 Pg Pg 11 49 01.2 -0.5
11nm,0.1s,SNR=18
EBIE Lg 11 49 13.8
33nm,0.1s,SNR=7.9
RESF Ens 1.12 118 Pn Pn 11 49 02.4 +0.7
RESF Ens 1.12 118 Pn Pn 11 49 02.4 +0.7
RESF Ens 1.12 118 Pn Pn 11 49 02.4 +0.7
MELF Melles 1.37 109 Pg Pg 11 49 06.3 -1.3
MELF Melles 1.37 109 Pg Pg 11 49 06.3 -1.3
MELF Melles 1.37 109 Pg Pg 11 49 06.3 -1.3
ESAC San Caprasio 1.67 166 Pn Pn 11 49 09.9 +0.7
8.2nm,0.1s,SNR=13
ESAC Pg Pg 11 49 11.9 -1.2
91nm,0.2s,SNR=29
ESAC Lg 11 49 33.4
227nm,0.3s,SNR=16
ESAC San Caprasio 1.67 166 Pn Pn 11 49 09.9 +0.7
8.2nm,0.1s,SNR=13
SALF Salau 1.71 109 Pn Pn 11 49 11.0 +1.2
SALF Salau 1.71 109 Pn Pn 11 49 11.0 +1.2
SALF Salau 1.71 109 Pn Pn 11 49 11.0 +1.2
ELAN Lanestosa 1.78 267 Pn Pn 11 49 13.5 +2.8
0.5nm,0.2s,SNR=12
ELAN Pg Pg 11 49 15.6 +0.3
3.9nm,0.2s,SNR=20
ELAN Lg 11 49 37.6
11nm,0.2s,SNR=9.6
ELAN Lanestosa 1.78 267 Pn Pn 11 49 13.5 +2.8
0.5nm,0.2s,SNR=12
CSOR Sort 1.84 121 Pg Pg 11 49 14.9 -1.7
1.5nm,0.1s,SNR=22
CSOR Lg 11 49 39.2
70nm,0.3s,SNR=5.0
CSOR Sort 1.84 121 Pg Pg 11 49 14.9 -1.6
1.5nm,0.1s,SNR=22
CSOR Lg 11 49 39.2
70nm,0.3s,SNR=5.0
LFF La Frestale 2.03 38 ePn Pn 11 49 15.8 +1.6
LFF La Frestale 2.03 38 ePg Pg 11 49 20.6 +0.5
SNR=1.0
LFF eSn Sn 11 49 40.1 +1.0
LFF eSg Sg 11 49 47.9 +1.4
35nm,0.2s,SNR=1.0
LFF La Frestale 2.03 38 Pn Pn 11 49 15.8 +1.6
LFF Pg Pg 11 49 20.6 +0.5
LFF Sn Sn 11 49 40.1 +1.0
LFF Lg 11 49 47.9
18nm,0.2s
LFF La Frestale 2.03 38 ePn Pn 11 49 15.8 +1.6
LFF La Frestale 2.03 38 ePg Pg 11 49 20.6 +0.5
SNR=1.0
LFF eSn Sn 11 49 40.1 +1.0
LFF eSg Sg 11 49 47.9 +1.4
18nm,0.2s,SNR=1.0
EMIR Miracle 2.35 127 Pg Pg 11 49 24.3 -1.9
3.8nm,0.1s,SNR=6.2
EMIR Sn Sn 11 49 47.7 +0.8
1.1nm,0.0s,SNR=5.5
EMIR Lg 11 49 55.3
27nm,0.2s,SNR=5.6
EMIR Miracle 2.35 127 Pg Pg 11 49 24.3 -1.8
3.8nm,0.1s,SNR=6.2
EMIR Sn Sn 11 49 47.7 +0.8
1.1nm,0.0s,SNR=5.5
EMIR Lg 11 49 55.3
27nm,0.2s,SNR=5.6
MTLF Montolieu 2.35 89 ePn Pn 11 49 19.3 +0.7
SNR=1.0
MTLF eSn Sn 11 49 46.3 -0.6
18nm,0.2s
MTLF Montolieu 2.35 89 Pn Pn 11 49 19.3 +0.7
MTLF Sn Sn 11 49 46.3 -0.6
8.9nm,0.2s
MTLF Montolieu 2.35 89 ePn Pn 11 49 19.3 +0.7
SNR=1.0
MTLF eSn Sn 11 49 46.3 -0.6
8.9nm,0.2s
CLLI Llivia 2.35 110 Pn Pn 11 49 21.5 +2.9
0.2nm,0.1s,SNR=10.0
CLLI Pg Pg 11 49 26.2 0.0
1.3nm,0.1s,SNR=12
CLLI Lg 11 49 54.3
11nm,0.2s,SNR=12
CLLI Llivia 2.35 110 Pn Pn 11 49 21.5 +2.9
0.2nm,0.1s,SNR=10.0
EPOB Poblet 2.52 141 Pn Pn 11 49 21.4 +0.5
0.7nm,0.1s,SNR=7.9
EPOB Pg Pg 11 49 28.2 -1.1
3.2nm,0.1s,SNR=14
EPOB Sn Sn 11 49 50.1 -0.9
3.3nm,0.1s,SNR=7.9
EPOB Lg 11 49 59.1
11nm,0.2s,SNR=5.7
EPOB Poblet 2.52 141 Pn Pn 11 49 21.4 +0.5
0.7nm,0.1s,SNR=7.9
ERTA Horta de San J 2.58 157 Sn Sn 11 49 53.4 +0.7
9.5nm,0.1s,SNR=7.9
ERTA Lg 11 50 02.6
25nm,0.2s,SNR=4.8
ERTA Horta de San J 2.58 157 Sn Sn 11 49 53.4 +0.8
9.5nm,0.1s,SNR=7.9
ERTA Lg 11 50 02.6
25nm,0.2s,SNR=4.8
ETOR Torete 2.64 198 Pn Pn 11 49 22.5 -0.1
35nm,0.2s,SNR=50
ETOR Sn Sn 11 49 52.8 -1.3
46nm,0.2s,SNR=6.2
ETOR Lg 11 50 02.5
178nm,0.2s,SNR=9.2
ETOR Torete 2.64 198 Pn Pn 11 49 22.5 -0.1
35nm,0.2s,SNR=50
ETOR Lg 11 50 02.5
178nm,0.2s,SNR=9.2
RJF Les Rejaudoux 2.67 42 ePn Pn 11 49 23.3 +0.3
SNR=1.0
RJF eSn Sn 11 49 55.0 +0.2
SNR=1.0
RJF eSg Sg 11 50 07.9 +1.1
19nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.67 42 Pn Pn 11 49 23.3 +0.3
RJF Sn Sn 11 49 55.0 +0.2
RJF Lg 11 50 07.9
9.6nm,0.2s
RJF Les Rejaudoux 2.67 42 ePn Pn 11 49 23.3 +0.3
SNR=1.0
RJF eSn Sn 11 49 55.0 +0.2
SNR=1.0
RJF eSg Sg 11 50 07.9 +1.1
9.6nm,0.2s,SNR=1.0
CAF Calviac 2.72 53 ePn Pn 11 49 24.6 +0.9
SNR=1.0
CAF eSn Sn 11 49 55.7 -0.3
CAF eSg Sg 11 50 09.4 +1.0
19nm,0.2s
CAF Calviac 2.72 53 Pn Pn 11 49 24.6 +0.9
CAF Sn Sn 11 49 55.7 -0.3
CAF Lg 11 50 09.4
9.4nm,0.2s
CAF Calviac 2.72 53 ePn Pn 11 49 24.6 +0.9
SNR=1.0
CAF eSn Sn 11 49 55.7 -0.3
CAF eSg Sg 11 50 09.4 +1.0
9.4nm,0.2s
CFON Fontmartina 2.99 121 Pn Pn 11 49 29.8 +2.4
10.0nm,0.2s,SNR=16
CFON Sn Sn 11 50 04.1 +1.4
9.7nm,0.1s,SNR=46
CFON Lg 11 50 15.4
84nm,0.3s,SNR=5.0
CFON Fontmartina 2.99 121 Pn Pn 11 49 29.8 +2.4
10.0nm,0.2s,SNR=16
CFON Sn Sn 11 50 04.1 +1.4
9.7nm,0.1s,SNR=46
CFON Lg 11 50 15.4
84nm,0.3s,SNR=5.0
EJON La Jonquera 3.00 106 Pn Pn 11 49 29.5 +2.0
1.0nm,0.1s,SNR=7.9
EJON Sn Sn 11 50 03.5 +0.7
1.5nm,0.1s,SNR=7.9
EJON Lg 11 50 16.9
2.3nm,0.1s,SNR=7.9
EJON La Jonquera 3.00 106 Pn Pn 11 49 29.5 +2.0
1.0nm,0.1s,SNR=7.9
EJON Sn Sn 11 50 03.5 +0.7
1.5nm,0.1s,SNR=7.9
EJON Lg 11 50 16.9
2.3nm,0.1s,SNR=7.9
EMOS Mosqueruela 3.00 172 Pn Pn 11 49 29.2 +1.7
0.7nm,0.1s,SNR=12
EMOS Pg Pg 11 49 36.5 -2.1
1.5nm,0.1s,SNR=9.7
EMOS Sn Sn 11 50 02.7 -0.3
3.1nm,0.1s,SNR=6.9
EMOS Lg 11 50 13.2
6.5nm,0.1s,SNR=5.0
EMOS Mosqueruela 3.00 172 Pn Pn 11 49 29.2 +1.6
0.7nm,0.1s,SNR=12
EARI Arriondas 3.07 271 Pn Pn 11 49 29.3 +0.8
0.2nm,0.1s,SNR=12
EARI Sn Sn 11 50 05.2 +0.6
2.3nm,0.2s
EARI Arriondas 3.07 271 Pn Pn 11 49 29.3 +0.8
0.2nm,0.1s,SNR=12
EARI Sn Sn 11 50 05.2 +0.6
2.3nm,0.2s
MFF Saint Martin d 3.32 10 ePn Pn 11 49 32.9 +1.0
SNR=1.0
MFF eSn Sn 11 50 10.3 -0.4
MFF eSg Sg 11 50 27.9 +0.3
22nm,0.3s,SNR=1.0
MFF Saint Martin d 3.32 10 Pn Pn 11 49 32.9 +1.0
MFF Sn Sn 11 50 10.3 -0.4
MFF Lg 11 50 27.9
11nm,0.3s
MFF Saint Martin d 3.32 10 ePn Pn 11 49 32.9 +1.0
SNR=1.0
MFF eSn Sn 11 50 10.3 -0.4
MFF eSg Sg 11 50 27.9 +0.3
11nm,0.3s,SNR=1.0
GUD Guadarrama 3.58 222 Pn Pn 11 49 36.5 +1.1
1.1nm,0.2s,SNR=7.9
GUD Sn Sn 11 50 17.7 +0.6
4.1nm,0.2s,SNR=7.9
GUD Lg 11 50 30.1
6.4nm,0.2s,SNR=7.9
GUD Guadarrama 3.58 222 Pn Pn 11 49 36.5 +1.1
1.1nm,0.2s,SNR=7.9
GUD Sn Sn 11 50 17.7 +0.6
4.1nm,0.2s,SNR=7.9
LASF Ste Croix 3.60 77 ePn Pn 11 49 36.4 +0.6
SNR=1.0
LASF eSn Sn 11 50 15.7 -2.0
10.0nm,0.2s
LASF Ste Croix 3.60 77 Pn Pn 11 49 36.4 +0.6
LASF Sn Sn 11 50 15.7 -2.0
5.0nm,0.2s
LASF Ste Croix 3.60 77 ePn Pn 11 49 36.4 +0.6
SNR=1.0
LASF eSn Sn 11 50 15.7 -2.0
5.0nm,0.2s
TCF Toulx Ste Croi 3.73 37 ePn Pn 11 49 37.5 -0.1
SNR=1.0
TCF eSn Sn 11 50 19.9 -1.0
SNR=1.0
TCF eSg Sg 11 50 40.6 -0.2
12nm,0.2s,SNR=1.0
TCF Toulx Ste Croi 3.73 37 Pn Pn 11 49 37.5 -0.1
TCF Sn Sn 11 50 19.9 -1.0
TCF Lg 11 50 40.6
5.8nm,0.2s
TCF Toulx Ste Croi 3.73 37 ePn Pn 11 49 37.5 -0.1
SNR=1.0
TCF eSn Sn 11 50 19.9 -1.0
SNR=1.0
TCF eSg Sg 11 50 40.6 -0.2
5.8nm,0.2s,SNR=1.0
ECHE Chera 3.75 180 Pn Pn 11 49 38.0 +0.2
0.8nm,0.2s,SNR=4.0
ECHE Lg 11 50 34.5
9.1nm,0.4s,SNR=5.0
ECHE Chera 3.75 180 Pn Pn 11 49 38.0 +0.2
0.8nm,0.2s,SNR=4.0
BGF Bois d'Agland 4.22 39 ePn Pn 11 49 45.0 +0.7
SNR=1.0
BGF eSn Sn 11 50 32.0 -1.0
BGF eSg Sg 11 50 57.0 +0.5
40nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.22 39 Pn Pn 11 49 45.0 +0.7
BGF Sn Sn 11 50 32.0 -1.0
BGF Lg 11 50 57.0
20nm,0.4s
BGF Bois d'Agland 4.22 39 ePn Pn 11 49 45.0 +0.7
SNR=1.0
BGF eSn Sn 11 50 32.0 -1.0
BGF eSg Sg 11 50 57.0 +0.5
20nm,0.4s,SNR=1.0
ESDC Sonseca Array 4.29 212 Sn Sn 11 50 29.2 -5.4
0.4nm,0.2s,baz=36,slow=24,SNR=5.5
ESDC Lg 11 50 52.1
3.3nm,0.3s,baz=33,slow=29,SNR=7.9
VIVF Saint-Julien-l 4.36 68 ePn Pn 11 49 47.3 +1.1
SNR=1.0
VIVF eSn Sn 11 50 34.5 -2.0
VIVF eSg Sg 11 50 59.8 -1.2
6.8nm,0.5s,SNR=1.0
VIVF Saint-Julien-l 4.36 68 Pn Pn 11 49 47.3 +1.1
VIVF Sn Sn 11 50 34.5 -2.0
VIVF Lg 11 50 59.8
3.4nm,0.5s
VIVF Saint-Julien-l 4.36 68 ePn Pn 11 49 47.3 +1.1
SNR=1.0
VIVF eSn Sn 11 50 34.5 -2.0
VIVF eSg Sg 11 50 59.8 -1.2
3.4nm,0.5s,SNR=1.0
ECAL Calabor 4.46 254 Pn Pn 11 49 48.1 +0.6
1.2nm,0.2s,SNR=7.9
ECAL Sn Sn 11 50 37.1 -1.7
2.2nm,0.1s,SNR=7.9
ECAL Lg 11 51 05.6
4.3nm,0.3s,SNR=7.9
ECAL Calabor 4.46 254 Pn Pn 11 49 48.1 +0.6
1.2nm,0.2s,SNR=7.9
ECAL Sn Sn 11 50 37.1 -1.7
2.2nm,0.1s,SNR=7.9
ECAL Lg 11 51 05.6
4.3nm,0.3s,SNR=7.9
EPON Pontenova 4.48 272 Pn Pn 11 49 48.9 +0.9
0.4nm,0.1s,SNR=7.9
EPON Sn Sn 11 50 38.6 -0.9
0.8nm,0.0s,SNR=7.9
EPON Pontenova 4.48 272 Pn Pn 11 49 48.9 +1.0
0.4nm,0.1s,SNR=7.9
EPON Sn Sn 11 50 38.6 -0.9
0.8nm,0.0s,SNR=7.9
AVF Avril sur Loir 4.63 40 ePn Pn 11 49 51.0 +1.1
SNR=1.0
AVF eSn Sn 11 50 42.2 -0.8
SNR=1.0
AVF eSg Sg 11 51 09.8 +0.3
9.4nm,0.4s,SNR=1.0
AVF Avril sur Loir 4.63 40 Pn Pn 11 49 51.0 +1.1
AVF Sn Sn 11 50 42.2 -0.8
AVF Lg 11 51 09.8
4.7nm,0.4s
AVF Avril sur Loir 4.63 40 ePn Pn 11 49 51.0 +1.1
SNR=1.0
AVF eSn Sn 11 50 42.2 -0.8
SNR=1.0
AVF eSg Sg 11 51 09.8 +0.3
4.7nm,0.4s,SNR=1.0
HYF Humbligny 4.69 32 ePn Pn 11 49 51.7 +0.9
HYF eSn Sn 11 50 42.5 -2.1
HYF eSg Sg 11 51 10.5 -1.1
HYF Humbligny 4.69 32 Pn Pn 11 49 51.7 +0.9
HYF Sn Sn 11 50 42.5 -2.1
HYF Lg 11 51 10.5
HYF Humbligny 4.69 32 ePn Pn 11 49 51.7 +0.9
HYF eSn Sn 11 50 42.5 -2.1
HYF eSg Sg 11 51 10.5 -1.1
ETOB Tobarra 4.71 185 Pn Pn 11 49 52.3 +1.2
3.0nm,0.2s,SNR=7.9
ETOB Sn Sn 11 50 43.0 -2.1
0.5nm,0.3s,SNR=7.9
ETOB Lg 11 51 07.8
1.2nm,0.3s,SNR=7.9
ETOB Tobarra 4.71 185 Pn Pn 11 49 52.3 +1.3
3.0nm,0.2s,SNR=7.9
ETOB Sn Sn 11 50 43.0 -2.1
0.5nm,0.3s,SNR=7.9
ETOB Lg 11 51 07.8
1.2nm,0.3s,SNR=7.9
SMF Signal de Mont 4.77 44 ePn Pn 11 49 51.5 -0.3
SNR=1.0
SMF Signal de Mont 4.77 44 Pn Pn 11 49 51.5 -0.3
SMF Signal de Mont 4.77 44 ePn Pn 11 49 51.5 -0.3
SNR=1.0
SMRF Simiane la Rot 4.81 80 ePn Pn 11 49 53.8 +1.3
SNR=1.0
SMRF Simiane la Rot 4.81 80 Pn Pn 11 49 53.8 +1.3
SMRF Simiane la Rot 4.81 80 ePn Pn 11 49 53.8 +1.3
SNR=1.0
QUIF Quistinic 4.82 342 ePn Pn 11 49 53.0 +0.5
SNR=1.0
QUIF eSn Sn 11 50 44.7 -3.1
8.1nm,0.3s,SNR=1.0
QUIF Quistinic 4.82 342 Pn Pn 11 49 53.0 +0.5
QUIF Sn Sn 11 50 44.7 -3.1
4.1nm,0.3s
QUIF Quistinic 4.82 342 ePn Pn 11 49 53.0 +0.5
SNR=1.0
QUIF eSn Sn 11 50 44.7 -3.1
4.1nm,0.3s,SNR=1.0
EVIA Vianos 4.83 194 Pn Pn 11 49 53.2 +0.4
2.8nm,0.1s,SNR=7.9
EVIA Lg 11 51 10.8
11nm,0.5s,SNR=7.9
EVIA Vianos 4.83 194 Pn Pn 11 49 53.2 +0.5
2.8nm,0.1s,SNR=7.9
EVIA Lg 11 51 10.8
11nm,0.5s,SNR=7.9
SSF Saint Saulge 4.90 39 ePn Pn 11 49 54.0 +0.4
SNR=1.0
SSF eSg Sg 11 51 16.3 -1.9
7.4nm,0.5s,SNR=1.0
SSF Saint Saulge 4.90 39 Pn Pn 11 49 54.0 +0.4
SSF Lg 11 51 16.3
3.7nm,0.5s
SSF Saint Saulge 4.90 39 ePn Pn 11 49 54.0 +0.4
SNR=1.0
SSF eSg Sg 11 51 16.3 -1.9
3.7nm,0.5s,SNR=1.0
MVO Moncorvo 4.97 246 ePn Pn 11 49 54.7 +0.1
MVO eSn Sn 11 50 47.6 -4.0
MVO Moncorvo 4.97 246 Pn Pn 11 49 54.9 +0.3
2.5nm,0.1s,SNR=7.1
MVO Sn Sn 11 50 48.2 -3.4
0.3nm,0.1s,SNR=7.9
MVO Lg 11 51 15.7
6.0nm,0.6s,SNR=5.0
MVO Moncorvo 4.97 246 Pn Pn 11 49 54.9 +0.3
2.5nm,0.1s,SNR=7.1
MVO eSn Sn 11 50 47.6 -4.0
MVO Lg 11 51 15.7
6.0nm,0.6s,SNR=5.0
EPLA Plasencia 5.02 231 Pn Pn 11 49 54.2 -1.0
0.6nm,0.0s,SNR=7.9
EPLA Sn Sn 11 50 45.9 -6.7
0.7nm,0.0s,SNR=7.9
EPLA Lg 11 51 15.4
1.0nm,0.2s,SNR=7.9
EPLA Plasencia 5.02 231 Pn Pn 11 49 54.2 -1.0
0.6nm,0.0s,SNR=7.9
SGMF Saint Gilles 5.03 348 ePn Pn 11 49 55.6 +0.2
SNR=1.0
SGMF eSn Sn 11 50 51.0 -2.0
2.2nm,0.2s
SGMF Saint Gilles 5.03 348 Pn Pn 11 49 55.6 +0.2
SGMF Sn Sn 11 50 51.0 -2.0
1.1nm,0.2s
SGMF Saint Gilles 5.03 348 ePn Pn 11 49 55.6 +0.2
SNR=1.0
SGMF eSn Sn 11 50 51.0 -2.0
1.1nm,0.2s
GRR Gorron 5.05 1 ePn Pn 11 49 56.0 +0.3
GRR eSn Sn 11 50 52.2 -1.2
3.2nm,0.2s,SNR=1.0
GRR Gorron 5.05 1 Pn Pn 11 49 56.0 +0.3
GRR Sn Sn 11 50 52.2 -1.2
1.6nm,0.2s
GRR Gorron 5.05 1 ePn Pn 11 49 56.0 +0.3
GRR eSn Sn 11 50 52.2 -1.2
1.6nm,0.2s,SNR=1.0
ORIF Oris-en-Rattie 5.20 70 ePn Pn 11 49 59.5 +1.7
SNR=1.0
ORIF eSn Sn 11 50 55.2 -1.9
3.3nm,0.3s,SNR=1.0
ORIF Oris-en-Rattie 5.20 70 Pn Pn 11 49 59.5 +1.7
ORIF Sn Sn 11 50 55.2 -1.9
1.7nm,0.3s
ORIF Oris-en-Rattie 5.20 70 ePn Pn 11 49 59.5 +1.7
SNR=1.0
ORIF eSn Sn 11 50 55.2 -1.9
1.6nm,0.3s,SNR=1.0
LOR Lormes 5.21 39 ePn Pn 11 49 58.3 +0.4
baz=214,SNR=1.0
LOR Lormes 5.21 39 Pn Pn 11 49 58.3 +0.4
LOR Lormes 5.21 39 ePn Pn 11 49 58.3 +0.4
baz=214,SNR=1.0
ROSF Rostrenen 5.24 343 ePn Pn 11 49 57.9 -0.4
SNR=1.0
ROSF eSn Sn 11 50 56.7 -1.5
3.0nm,0.3s
ROSF Rostrenen 5.24 343 Pn Pn 11 49 57.9 -0.4
ROSF Sn Sn 11 50 56.7 -1.5
1.5nm,0.3s
ROSF Rostrenen 5.24 343 ePn Pn 11 49 57.9 -0.4
SNR=1.0
ROSF eSn Sn 11 50 56.7 -1.5
1.5nm,0.3s
LDF La Druitiere 5.29 6 ePn Pn 11 49 59.4 +0.4
SNR=1.0
LDF eSn Sn 11 50 57.6 -1.7
7.7nm,0.3s
LDF eSg Sg 11 51 30.8 +0.1
8.1nm,0.4s,SNR=1.0
LDF La Druitiere 5.29 6 ePn Pn 11 49 59.4 +0.4
SNR=1.0
LDF eSn Sn 11 50 57.6 -1.7
3.8nm,0.3s
LDF eSg Sg 11 51 30.8 +0.1
4.1nm,0.4s,SNR=1.0

POLO	**Lamas de Olo**	**5.40**	**251**	*e*Pn	**Pn**	**11 50 01.5**	**+1.0**
POLO				*e*Sn	**Sn**	**11 51 00.4**	**-1.7**
POLO	**Lamas de Olo**	**5.40**	**251**	*e*Pn	**Pn**	**11 50 01.5**	**+1.0**
POLO				*e*Sn	**Sn**	**11 51 00.4**	**-1.7**
FLN	**La Foliniere**	**5.43**	**4**	*e*Pn	**Pn**	**11 50 01.5**	**+0.5**
	baz=185,SNR=1.0						
FLN				*e*Sn	**Sn**	**11 51 01.5**	**-1.4**
	2.9nm,0.3s						
FLN	**La Foliniere**	**5.43**	**4**	Pn	**Pn**	**11 50 01.5**	**+0.5**
FLN				Sn	**Sn**	**11 51 01.5**	**-1.4**
	1.4nm,0.3s						
FLN	**La Foliniere**	**5.43**	**4**	*e*Pn	**Pn**	**11 50 01.5**	**+0.5**
	baz=185,SNR=1.0						
FLN				*e*Sn	**Sn**	**11 51 01.5**	**-1.4**
	1.5nm,0.3s						
LMR	**La Mourre**	**5.48**	**88**	*e*Pn	**Pn**	**11 50 02.2**	**+0.6**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**11 51 00.9**	**-3.2**
	1.5nm,0.2s						
LMR	**La Mourre**	**5.48**	**88**	Pn	**Pn**	**11 50 02.2**	**+0.6**
LMR				Sn	**Sn**	**11 51 00.9**	**-3.2**
	0.8nm,0.2s						
LMR	**La Mourre**	**5.48**	**88**	*e*Pn	**Pn**	**11 50 02.2**	**+0.6**
	SNR=1.0						
FRF	**La Foret Royal**	**5.57**	**85**	*e*Pn	**Pn**	**11 50 03.9**	**+1.0**
FRF				*e*Sn	**Sn**	**11 51 03.7**	**-2.7**
	3.8nm,0.3s						
FRF	**La Foret Royal**	**5.57**	**85**	Pn	**Pn**	**11 50 03.9**	**+1.0**
FRF				Sn	**Sn**	**11 51 03.7**	**-2.7**
	1.9nm,0.3s						
FRF	**La Foret Royal**	**5.57**	**85**	*e*Pn	**Pn**	**11 50 03.9**	**+1.0**
EQES	**Quesada**	**5.75**	**197**	Pn	**Pn**	**11 50 05.2**	**-0.2**
	0.4nm,0.1s,SNR=7.9						
EQES				Lg		11 51 41.0	
	1.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.75**	**197**	Pn	**Pn**	**11 50 05.2**	**-0.2**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.84**	**209**	Pn	**Pn**	**11 50 06.4**	**-0.2**
	1.7nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**11 51 07.2**	**-5.7**
	1.7nm,0.2s,SNR=7.9						
EADA				Lg		11 51 43.4	
	1.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.84**	**209**	Pn	**Pn**	**11 50 06.4**	**-0.1**
	1.7nm,0.2s,SNR=7.9						
LPL	**La Plagne**	**5.95**	**66**	*e*Pn	**Pn**	**11 50 10.3**	**+2.2**
	SNR=1.0						
LPL	**La Plagne**	**5.95**	**66**	Pn	**Pn**	**11 50 10.3**	**+2.2**
LPL	**La Plagne**	**5.95**	**66**	*e*Pn	**Pn**	**11 50 10.3**	**+2.2**
	SNR=1.0						
LPG	**La Plagne**	**5.96**	**66**	*e*Pn	**Pn**	**11 50 10.8**	**+2.6**
	SNR=1.0						
LPG	**La Plagne**	**5.96**	**66**	Pn	**Pn**	**11 50 10.8**	**+2.6**
LPG	**La Plagne**	**5.96**	**66**	*e*Pn	**Pn**	**11 50 10.8**	**+2.6**
	SNR=1.0						
SBF	**Sospel**	**6.15**	**82**	*e*Pn	**Pn**	**11 50 12.2**	**+1.4**
	SNR=1.0						
SBF	**Sospel**	**6.15**	**82**	Pn	**Pn**	**11 50 12.2**	**+1.4**
SBF	**Sospel**	**6.15**	**82**	*e*Pn	**Pn**	**11 50 12.2**	**+1.4**
	SNR=1.0						
PMRV	**Marv??o**	**6.19**	**233**	*e*Pn	**Pn**	**11 50 11.9**	**+0.5**
PMRV				*e*Sn	**Sn**	**11 51 16.3**	**-5.3**
PMRV				A		11 51 20.3	
	3.5nm,0.5s						
PMRV	**Marv??o**	**6.19**	**233**	Pn	**Pn**	**11 50 11.9**	**+0.5**
PMRV				Sn	**Sn**	**11 51 16.3**	**-5.3**
	3.5nm,0.5s						
PMRV	**Marv??o**	**6.19**	**233**	*e*Pn	**Pn**	**11 50 11.9**	**+0.5**
PESTR	**Estremoz**	**6.69**	**230**	*e*Pn	**Pn**	**11 50 18.1**	**-0.1**
PESTR	**Estremoz**	**6.69**	**230**	Pn	**Pn**	**11 50 18.1**	**-0.1**
PESTR	**Estremoz**	**6.69**	**230**	*e*Pn	**Pn**	**11 50 18.1**	**-0.1**
PGF	**Pioggiola**	**7.38**	**93**	*e*Pn	**Pn**	**11 50 27.6**	**-0.1**
	SNR=1.0						
PGF	**Pioggiola**	**7.38**	**93**	Pn	**Pn**	**11 50 27.6**	**-0.1**
PGF	**Pioggiola**	**7.38**	**93**	*e*Pn	**Pn**	**11 50 27.6**	**-0.1**
	SNR=1.0						

CSEM ***02*** *11:57:06.9±0.1, 40°.57N×24°.66E, h10km, ML2.5/8, Error ellipse: s-maj=3.4km s-min=2.4km az=7.0*
SOF ***02*** *11:57:06.1, 40°.58N×24°.73E, h10km, MD2.6*
ISCJB ***02*** *11:57:07.8±0.3, 40°.56N±0°.02×24°.64E±0°.02, h23km±4km, Error ellipse: s-maj=4.1km s-min=2.9km az=2.3*
THE ***02*** *11:57:07.4, 40°.56N×24°.65E, h16km±1km, ML2.5/8, Error ellipse: s-maj=1.3km s-min=0.6km az=303.0*
ATH ***02*** *11:57:07.1, 40°.58N×24°.67E, h33km, MD2.9/4*
ISK ***02*** *11:57:08.3, 40°.44N×24°.79E, h10km, MD3.0*
ISC 02 11:57:07.7±0.4, 40°.56N±0°.02×24°.64E±0°.02, h20km±5km, n49, σ0°87/83, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.45**	**347**	P	**Pb**	**11 57 15.6**	**-1.3**
KAVA				S	**Sb**	**11 57 23.5**	**+0.3**
KAVA	**Kavala**	**0.45**	**347**	P	**Pb**	**11 57 15.6**	**-1.3**
KAVA				S	**Sb**	**11 57 23.5**	**+0.3**
OUR	**Ouranopolis**	**0.55**	**246**	P	**Pb**	**11 57 17.9**	**-0.8**
OUR				S	**Sb**	**11 57 26.2**	**+0.1**
OUR	**Ouranopolis**	**0.55**	**246**	P	**Pb**	**11 57 17.9**	**-0.8**
OUR				S	**Sb**	**11 57 26.2**	**+0.1**
LIA	**Limnos Island**	**0.78**	**148**	*e*PN	**Pn**	**11 57 22.8**	**-0.7**
LIA				*e*SN	**Sn**	**11 57 33.8**	**-0.8**
LIA	**Limnos Island**	**0.78**	**148**	P	**Pb**	**11 57 22.4**	**-0.1**
LIA				S	**Sb**	**11 57 33.4**	**+0.7**
LIA	**Limnos Island**	**0.78**	**148**	P	**Pb**	**11 57 22.4**	**-0.1**
LIA	**Limnos Island**	**0.78**	**148**	*e*Pn	**Pn**	**11 57 22.8**	**-0.7**
LIA				S	**Sb**	**11 57 33.4**	**+0.7**
LIA				*e*Sn	**Sn**	**11 57 33.8**	**-0.8**
RDO	**Rodhopi**	**0.90**	**49**	*e*PN	**Pn**	**11 57 23.6**	**-1.6**
RDO				*e*SN	**Sn**	**11 57 36.6**	**-0.9**
RDO	**Rodhopi**	**0.90**	**49**	P	**Pb**	**11 57 23.4**	**-1.2**
RDO				S	**Sb**	**11 57 36.4**	**+0.3**
RDO	**Rodhopi**	**0.90**	**49**	P	**Pb**	**11 57 23.4**	**-1.2**
RDO				*e*Sn	**Sn**	**11 57 36.6**	**-0.9**
PLG	**Polygyros**	**0.93**	**259**	*e*PN	**Pn**	**11 57 25.0**	**-0.6**
PLG				*e*SN	**Sn**	**11 57 37.6**	**-0.8**
PLG	**Polygyros**	**0.93**	**259**	P	**Pb**	**11 57 25.1**	**0.0**
PLG				S	**Sb**	**11 57 37.8**	**+0.7**
PLG	**Polygyros**	**0.93**	**259**	P	**Pb**	**11 57 25.1**	**0.0**
PLG				S	**Sb**	**11 57 37.8**	**+0.7**
PAIG	**Paliouri**	**0.97**	**230**	P	**Pb**	**11 57 25.4**	**-0.4**
PAIG				S	**Sb**	**11 57 39.1**	**+0.9**
PAIG	**Paliouri**	**0.97**	**230**	P	**Pb**	**11 57 25.4**	**-0.4**
PAIG				S	**Sb**	**11 57 39.1**	**+0.9**
SRS	**Serrai**	**0.97**	**305**	P	**Pb**	**11 57 25.7**	**-0.2**
SRS				S	**Sb**	**11 57 38.5**	**+0.2**
SRS	**Serrai**	**0.97**	**305**	P	**Pb**	**11 57 25.7**	**-0.2**
SRS				S	**Sb**	**11 57 38.5**	**+0.2**
NVR	**Nevrokopi**	**0.99**	**323**	*e*PN	**Pb**	**11 57 26.1**	**0.0**
NVR				*e*SN	**Sn**	**11 57 39.4**	**-0.3**
NVR	**Nevrokopi**	**0.99**	**323**	P	**Pb**	**11 57 26.1**	**0.0**
NVR				S	**Sb**	**11 57 39.7**	**+1.0**
NVR	**Nevrokopi**	**0.99**	**323**	P	**Pb**	**11 57 26.1**	**0.0**
NVR				S	**Sb**	**11 57 39.7**	**+1.0**
SOH	**Sokhos**	**1.01**	**285**	*e*PN	**Pb**	**11 57 26.5**	**-0.1**
SOH	**Sokhos**	**1.01**	**285**	P	**Pb**	**11 57 26.5**	**-0.1**
SOH				S	**Sb**	**11 57 40.2**	**+0.7**
SOH	**Sokhos**	**1.01**	**285**	P	**Pb**	**11 57 26.5**	**-0.1**
SOH				S	**Sb**	**11 57 40.2**	**+0.7**
GADA	**Gvkgeada**	**1.03**	**111**	*e*PG	**Pb**	**11 57 25.3**	**-1.5**
GADA				*e*SG	**Sb**	**11 57 37.5**	**-2.3**
GADA	**Gvkgeada**	**1.03**	**111**	*e*Pg	**Pb**	**11 57 25.3**	**-1.5**
GADA				*e*Sg	**Sb**	**11 57 39.2**	**-0.6**
ALN	**Alexandroupoli**	**1.12**	**72**	*e*PN	**Pn**	**11 57 27.6**	**-0.6**
ALN				*e*SN	**Sn**	**11 57 42.3**	**-0.7**
ALN	**Alexandroupoli**	**1.12**	**72**	P	**Pn**	**11 57 27.7**	**-0.5**
ALN				S	**Sb**	**11 57 42.8**	**+0.4**
ALN	**Alexandroupoli**	**1.12**	**72**	P	**Pn**	**11 57 27.7**	**-0.5**
ALN				*e*Sn	**Sn**	**11 57 42.2**	**-0.8**
ALN				S	**Sb**	**11 57 42.8**	**+0.4**
RZN	**Rozhen**	**1.13**	**3**	*i* P	**Pn**	**11 57 28.0**	**-0.3**
RZN	**Rozhen**	**1.13**	**3**	*i* P	**Pn**	**11 57 28.0**	**-0.3**
ENEZ	**Enez**	**1.16**	**81**	*e*PG	**Pn**	**11 57 29.7**	**+0.9**
ENEZ				*e*SG	**Sb**	**11 57 44.3**	**+0.6**
ENEZ	**Enez**	**1.16**	**81**	*e*Pn	**Pn**	**11 57 29.7**	**+0.9**
ENEZ				*e*Sn	**Sn**	**11 57 44.3**	**+0.2**
HORT	**Hortiatis**	**1.18**	**272**	P	**Pn**	**11 57 28.5**	**-0.5**
HORT	**Hortiatis**	**1.18**	**272**	P	**Pn**	**11 57 28.5**	**-0.5**
KDZ	**Kurdzhali**	**1.24**	**28**	*i* P	**Pn**	**11 57 28.5**	**-1.3**
KDZ	**Kurdzhali**	**1.24**	**28**	*i* P	**Pn**	**11 57 28.5**	**-1.3**
GELI	**Tayfur-Gelibol**	**1.41**	**96**	*e*PN	**Pn**	**11 57 33.2**	**+1.0**
GELI				*e*SN	**Sn**	**11 57 50.9**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.41**	**96**	*e*Pn	**Pn**	**11 57 33.2**	**+1.1**
GELI				*e*Sn	**Sn**	**11 57 50.9**	**+0.8**
ERIK	**Erikli-Kesan**	**1.43**	**85**	*e*PN	**Pn**	**11 57 33.8**	**+1.4**
ERIK	**Erikli-Kesan**	**1.43**	**85**	*e*Pn	**Pn**	**11 57 33.8**	**+1.4**
ERIK				*e*Sn	**Sn**	**11 57 52.1**	**+1.5**
KKB	**Krupnik**	**1.76**	**319**	*i* P	**Pn**	**11 57 38.0**	**+1.0**
KKB	**Krupnik**	**1.76**	**319**	*i* P	**Pn**	**11 57 38.0**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.93**	**85**	*e*PN	**Pn**	**11 57 40.4**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.93**	**85**	*e*Pn	**Pn**	**11 57 40.4**	**+1.0**
KRBG	**Karabiga-Canak**	**2.03**	**94**	*e*PN	**Pn**	**11 57 41.5**	**+0.7**
KRBG	**Karabiga-Canak**	**2.03**	**94**	*e*Pn	**Pn**	**11 57 41.5**	**+0.8**
EDRB	**Edirne**	**2.04**	**50**	*e*PN	**Pn**	**11 57 44.1**	**+3.2**
EDRB	**Edirne**	**2.04**	**50**	*e*Pn	**Pn**	**11 57 44.1**	**+3.2**

ISCJB ***02*** *12:27:34.6±0.2, 36°.04N±0°.01×117°.27W±0°.02, h10km, Error ellipse: s-maj=2.2km s-min=1.9km az=144.0*
NEIC ***02*** *12:27:35.1, 35°.99N×117°.30W, h3km, ML3.4(PAS), After PAS.*
NEIC Felt in the Trona area.
ISC 02 12:27:34.7±0.3, 36°.01N±0°.01×117°.29W±0°.02, h1km±3km, n55, σ1°18/102, 28C-27D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.17**	**288**	⇓P	**Pg**	**12 27 38.4**	**+0.6**
	baz=0.2,SNR=1000						
MPMC				⇓S	**Sg**	**12 27 41.0**	**+0.9**
	baz=0.2						
FURC	**Furnace Creek,**	**0.58**	**37**	P	**Pg**	**12 27 46.5**	**+0.8**
	baz=0.6,SNR=813						
FURC				⇑S	**Sg**	**12 27 54.9**	**+1.6**
	baz=0.6						
LRMC	**Laurel Mountai**	**0.62**	**211**	P	**Pg**	**12 27 46.1**	**-0.5**
	baz=0.6,SNR=81						
LRMC				⇓S	**Sg**	**12 27 54.2**	**-0.4**
	baz=0.6						
CWC	**Cottonwood Cre**	**0.77**	**304**	⇓P	**Pg**	**12 27 49.7**	**+0.3**
	baz=0.8,SNR=50						
CWC				⇓S	**Sg**	**12 28 00.4**	**+1.0**
	baz=0.8						
GSC	**Goldstone**	**0.81**	**150**	P	**Pg**	**12 27 50.1**	**-0.1**
	baz=0.8,SNR=38						
GSC				⇑S	**Sg**	**12 28 00.9**	**+0.3**
	baz=0.8						
GSC	**Goldstone**	**0.81**	**150**	*e*Pg	**Pg**	**12 27 49.9**	**-0.2**
GSC				*e*Sg	**Sg**	**12 28 00.5**	**-0.1**
SHOC	**Shoshone**	**0.83**	**97**	P	**Pg**	**12 27 50.7**	**+0.1**
	baz=0.8,SNR=792						
GRAC	**Grapevine Rang**	**0.99**	**356**	⇑P	**Pg**	**12 27 54.0**	**+0.3**
	baz=1.0,SNR=106						
ISA	**Isabella**	**1.02**	**251**	P	**Pg**	**12 27 53.8**	**-0.4**
	baz=1.0,SNR=973						
ISA				⇑S	**Sg**	**12 28 07.1**	**-0.3**
	baz=1.0						
ISA	**Isabella**	**1.02**	**251**	*e*Pg	**Pg**	**12 27 53.8**	**-0.4**
ISA				*e*Sg	**Sg**	**12 28 07.2**	**-0.1**
RRX	**Edison Barstow**	**1.15**	**168**	⇑P	**Pg**	**12 27 56.0**	**-0.7**
	baz=1.1,SNR=87						
RRX				⇓S	**Sg**	**12 28 12.5**	**+0.9**
	baz=1.1						
TUQ	**Turquoise Moun**	**1.25**	**117**	P	**Pg**	**12 27 57.8**	**-0.8**
	baz=1.2,SNR=226						
TUQ				⇓S	**Sg**	**12 28 15.5**	**+0.6**
	baz=1.2						
EDW2	**Edwards Air Fo**	**1.26**	**207**	P	**Pg**	**12 27 57.5**	**-1.3**
	baz=1.2,SNR=1000						
EDW2				⇓S	**Sg**	**12 28 15.1**	**0.0**
	baz=1.2						
TIN	**Tinemaha**	**1.29**	**325**	⇓Pg	**Pg**	**12 27 59.9**	**+0.5**
	baz=1.3						
TIN				⇑S	**Sg**	**12 28 17.4**	**+1.4**
	baz=1.3						
HEC	**Hector,Ludlow**	**1.42**	**146**	P	**Pn**	**12 27 59.9**	**-1.5**
	baz=1.4,SNR=127						
HEC				⇑S	**Sg**	**12 28 20.3**	**+0.2**
	baz=1.4						
VES	**Vestal, Richgr**	**1.46**	**264**	⇑P	**Pn**	**12 28 01.4**	**-0.7**
	baz=1.4,SNR=51						
VES				⇑S	**Sg**	**12 28 21.6**	**-0.1**
	baz=1.4						
ARVC	**Arvin**	**1.53**	**235**	⇑Pb	**Pb**	**12 28 02.7**	**-1.0**
	baz=1.5,SNR=36						
RCTC	**Rector, Farmer**	**1.60**	**281**	⇑Pb	**Pb**	**12 28 04.6**	**-0.5**
	baz=1.6,SNR=11						
RCTC				⇑S	**Sn**	**12 28 25.2**	**-0.2**
	baz=1.6						
BBRC	**Big Bear Solar**	**1.77**	**170**	⇓Pb	**Pb**	**12 28 07.0**	**-0.9**
	baz=1.8,SNR=113						
BBRC				⇑Sb	**Sb**	**12 28 31.4**	**+0.9**
	baz=1.8						
BFSC	**Mount Baldy Ra**	**1.79**	**190**	⇑P	**Pn**	**12 28 05.6**	**-1.1**
	baz=1.8,SNR=55						
BFSC				⇑Sb	**Sb**	**12 28 31.8**	**+0.6**
	baz=1.8						
GMRC	**Granite Mounta**	**1.81**	**132**	⇑P	**Pn**	**12 28 04.9**	**-2.0**
	baz=1.8						
GMRC				⇓S	**Sn**	**12 28 31.4**	**+0.8**
	baz=1.8						
OSI	**Osito Adit**	**1.82**	**220**	*e*Pn	**Pn**	**12 28 06.5**	**-0.5**
OSI				*e*Sn	**Sn**	**12 28 36.6**	**+6.0**
MWC	**Mount Wilson**	**1.89**	**200**	*e*Pn	**Pn**	**12 28 07.2**	**-0.8**
MWC				*e*Sn	**Sn**	**12 28 32.2**	**-0.2**
DECC	**Green Verdugo**	**1.95**	**206**	⇓Pb	**Pb**	**12 28 10.3**	**-0.6**
	baz=1.9						
DECC				⇑Sb	**Sb**	**12 28 36.9**	**+1.2**
	baz=1.9						
PASC	**Pasadena Art C**	**1.97**	**202**	*e*Pn	**Pn**	**12 28 08.3**	**-0.8**
PASC				*e*Sn	**Sn**	**12 28 33.7**	**-0.8**
LDFC	**Landfair**	**2.01**	**117**	*e*Pn	**Pn**	**12 28 07.3**	**-2.3**
LDFC				*e*Sn	**Sn**	**12 28 35.3**	**-0.1**
BELC	**Belle Mtn. Jos**	**2.27**	**152**	⇓P	**Pn**	**12 28 12.1**	**-1.1**
	baz=2.3,SNR=40						
BELC				⇑Sb	**Sb**	**12 28 46.4**	**+1.5**
	baz=2.3						
SMMC	**Simmler**	**2.31**	**253**	⇓Pb	**Pb**	**12 28 16.4**	**-0.7**
	baz=2.3						
SMMC				⇓Sb	**Sb**	**12 28 47.3**	**+1.2**
	baz=2.3						
PKM	**Peak Mountain**	**2.34**	**242**	⇓Sb	**Sb**	**12 28 48.8**	**+1.8**
	baz=2.3						
MURC	**Murrieta**	**2.40**	**178**	P	**Pn**	**12 28 14.4**	**-0.7**
	baz=2.4,SNR=28						
MURC				⇓Sb	**Sb**	**12 28 49.9**	**+1.2**
	baz=2.4						
PFO	**Pinyon Flat Ob**	**2.49**	**164**	⇓P	**Pn**	**12 28 14.9**	**-1.4**
	baz=2.5						
PFO				⇓Sb	**Sb**	**12 28 52.9**	**+1.6**
	baz=2.5						
PFO	**Pinyon Flat Ob**	**2.49**	**164**	*e*Pn	**Pn**	**12 28 15.1**	**-1.1**
PFO				*e*Sn	**Sn**	**12 28 46.7**	**-0.5**
NEE2	**Needles Airpor**	**2.51**	**119**	⇑P	**Pn**	**12 28 15.1**	**-1.5**
	baz=2.5						
NEE2				⇓Sb	**Sb**	**12 28 54.3**	**+2.4**
	baz=2.5						
IRM	**Iron Mountain**	**2.55**	**136**	⇓P	**Pn**	**12 28 15.2**	**-1.9**
	baz=2.5						
IRM				⇑Sb	**Sb**	**12 28 54.8**	**+1.8**
	baz=2.5						
R11A	**Troy Canyon, C**	**2.71**	**30**	P	**Pn**	**12 28 19.1**	**-0.2**
	baz=2.7,SNR=8.3						
R11A				⇓Sb	**Sb**	**12 29 00.1**	**+2.6**
	baz=2.7						
CIS	**Catalina Islan**	**2.75**	**200**	⇓P	**Pn**	**12 28 19.0**	**-0.9**
	baz=2.7						
CIS				⇑Sb	**Sb**	**12 29 00.9**	**+2.1**
	baz=2.7						
BC3	**Big Chuckawall**	**2.79**	**147**	P	**Pn**	**12 28 18.8**	**-1.7**
	baz=2.8,SNR=12						
BC3				⇑Sb	**Sb**	**12 29 01.9**	**+1.9**
	baz=2.8						
W13A	**Hualapai Mount**	**2.92**	**107**	⇑P	**Pn**	**12 28 21.4**	**-0.8**
	baz=2.9,SNR=10						
W13A				⇑Sb	**Sb**	**12 29 06.9**	**+3.2**
	baz=2.9						
109C	**Camp Elliot, M**	**3.12**	**177**	⇑Sb	**Sb**	**12 29 10.7**	**+1.4**
	baz=3.1						
MONP	**Monument Peak**	**3.19**	**167**	⇓Sb	**Sb**	**12 29 13.0**	**+1.4**
	baz=3.2						
CMB	**Columbia Colle**	**3.20**	**310**	*e*Pn	**Pn**	**12 28 27.0**	**+1.1**
CMB				*e*Sn	**Sn**	**12 29 06.1**	**+1.4**
Y12C	**Blythe**	**3.20**	**134**	⇓P	**Pn**	**12 28 24.1**	**-2.0**
	baz=3.2,SNR=8.6						
Y12C				⇓Sb	**Sb**	**12 29 14.6**	**+2.8**
	baz=3.2						
SWSC	**Sam W. Stewart**	**3.30**	**158**	⇓P	**Pn**	**12 28 25.4**	**-2.0**
	baz=3.3						
SWSC				⇑Sb	**Sb**	**12 29 17.2**	**+2.6**
	baz=3.3						
BAR	**Barrett**	**3.36**	**171**	*e*Pn	**Pn**	**12 28 27.6**	**-0.7**
BAR				*e*Sn	**Sn**	**12 29 08.9**	**+0.2**
SAO	**San Andreas Ge**	**3.44**	**284**	*e*Pn	**Pn**	**12 28 27.6**	**-1.7**
SAO				*e*Sn	**Sn**	**12 29 11.4**	**+0.9**
CCUT	**Cedar City**	**3.51**	**63**	*e*Pn	**Pn**	**12 28 31.2**	**+0.9**
CCUT				*e*Sn	**Sn**	**12 29 11.3**	**-1.2**
ARUT	**Antelope Range**	**3.56**	**59**	*e*Pn	**Pn**	**12 28 31.8**	**+0.8**
ARUT				*e*Sg	**Sg**	**12 29 30.2**	**+1.1**
GLA	**Glamis**	**3.58**	**145**	⇑P	**Pn**	**12 28 29.8**	**-1.6**
	baz=3.6						
GLA	**Glamis**	**3.58**	**145**	*e*Pn	**Pn**	**12 28 30.0**	**-1.3**
GLA				*e*Sg	**Sg**	**12 29 30.0**	**+0.2**
WCN	**Washoe City**	**3.82**	**330**	*e*Pg	**Pg**	**12 28 47.4**	**-0.5**
WCN				*e*Sg	**Sg**	**12 29 42.2**	**+4.7**
Z13A	**Yuma Proving G**	**4.10**	**132**	⇑P	**Pn**	**12 28 36.7**	**-1.7**
	baz=4.1,SNR=8.6						
BMN	**Battle Mountai**	**4.42**	**1**	*e*Pn	**Pn**	**12 28 43.3**	**+0.5**
BMN				*e*Sg	**Sg**	**12 30 00.2**	**+3.7**
MSU	**Marysvale**	**4.79**	**57**	*e*Pg	**Pg**	**12 29 05.4**	**-1.0**
MSU				*e*Sn	**Sn**	**12 29 43.6**	**-0.2**
WUAZ	**Wupatki**	**4.84**	**94**	*e*Pg	**Pg**	**12 29 04.2**	**-3.2**
WUAZ				*e*Sg	**Sg**	**12 30 11.1**	**+1.0**
DUG	**Dugway**	**5.47**	**39**	*e*Pg	**Pg**	**12 29 17.5**	**-2.0**
	6.4nm,0.7s						
DUG				*e*Sg	**Sg**	**12 30 29.6**	**-0.8**

IDC 02 12:28:19.1±1.5, 13°.42N×120°.86E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=82.2km s-min=14.4km az=85.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.69**	**6**	Pn	Pg	12 28 36.5	+4.2
	126nm,0.3s,baz=254,slow=4.0,SNR=5.5						
TGY				Sn	Sg	12 28 47.9	+6.7
	128nm,0.3s,baz=154,slow=2.2,SNR=5.3						
WRA	**Warramunga Arr**	**35.70**	**158**	P	P	12 35 19.2	-0.3
	0.4nm,0.4s,baz=336,slow=9.7,SNR=7.9						
SONM	**Songino Array**	**36.37**	**344**	P	P	12 35 25.0	0.0
	0.4nm,0.7s,baz=172,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**39.00**	**161**	P	P	12 35 47.6	+0.2
	0.3nm,0.5s,baz=339,slow=7.0,SNR=16						

BJI ***02*** *12:31:36.6, 19°.00N×146°.31E, h121km, mB5.3/35, mb5.1/59*
MOS ***02*** *12:31:41.3±1.0, 19°.14N×145°.63E, h131km, mb5.6/94, MS5.1/26, Error ellipse: s-maj=6.7km s-min=4.3km az=102.9*
ISCJB ***02*** *12:31:42.1±0.1, 19°.14N±0°.02×145°.69E±0°.02, h129km, mb5.6/376, Error ellipse: s-maj=2.6km s-min=1.9km az=153.3*
NEIC ***02*** *12:31:43.9±0.1, 19°.11N×145°.75E, mb5.9/214, MW5.9, MW5.9, Error ellipse: s-maj=3.1km s-min=2.8km az=155.0, Moment Tensor Solution. s74 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97; $M_{\theta\theta}$4.64; $M_{\phi\phi}$-3.66; $M_{r\theta}$-5.96; $M_{\theta\phi}$1.42; $M_{\phi r}$4.25; Best double couple: $M_0$8.60000×10^{17} NP1: ϕ_s123.00000°, δ86.00000°, λ-59.00000°. NP2: ϕ_s219.00000°, δ31.00000°, λ-173.00000°. Principal axes: T 8.5300, Plg34.0000°, Azm186.0000°; N 0.1000, Plg30.0000°, Azm300.0000°; P -8.6200, Plg40.0000°, Azm61.0000°;*
GCMT ***02*** *12:31:44.9±0.1, 19°.17N×145°.99E, h119km, MW5.9, Moment Tensor Solution. s109,c227; s68,c89; Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.00000×10^{18} NP1:ϕ_s220.00000°, δ39.00000°, λ-171.00000°. NP2:ϕ_s123.00000°, δ84.00000°, λ-52.00000°. Principal axes: T 1.0200, Plg29.0000°, Azm183.0000°; N -0.0300, Plg38.0000°, Azm298.0000°; P -0.9900, Plg38.0000°, Azm67.0000°; Data Used: II IU CN IC G. Surface waves: sta=114, comp=262, per= 50.*
IDC ***02*** *12:31:44.6±0.8, 19°.12N×145°.79E, h148km±5km, mb5.1/38, mb1 5.1/40, mb1mx5.1/40, mbtmp5.1/40, MS4.9/31, Ms1 5.0/31, ms1mx4.8/39 Error ellipse: s-maj=8.7km s-min=4.7km az=92.0*
DJA ***02*** *12:31:46, 19°.03N×145°.90E, h158km, Mw5.7/77*
SZGRF ***02*** *12:31:51.4, 20°.86N×146°.68E, h33km, mb5.3, Mariana Islands region*
**ISC 02 12:31:43.7±0.1, 19°.16N±0°.02×145°.73E±0°.01, h131km, h131km±1.3km:pP-P, n1255, σ0°91/1233

comp=Z,1μm,2.6s,mb5.8
MATI Mati 22.49 240 *e*P **P 12 36 34.2 +1.6**
LLP Lapu-Lapu 22.79 250⇑*e*P **P 12 36 36.2 +0.8**
CAUP Cauayan 22.83 268 *e*P **P 12 36 37.8 +2.0**
ERM Erimo 22.89 355 *e*P **P 12 36 37.2 +1.2**
comp=Z,2μm,2.4s,mb6.2
ERM Erimo 22.89 355 *e*P **P 12 36 37.2 +1.2**
ERM pmax pmax
comp=Z,2μm,2.4s,mb6.2
NACB Ninganchiao 22.96 287 *e*P **P 12 36 38.0 +1.0**
comp=Z,167nm,1.1s,mb5.4
DAV Davao City (W) 22.98 241 P **P 12 36 37.9 +0.8**
comp=Z,202nm,0.5s,mb5.8,baz=137,slow=19,SNR=9.5
DAV LR LR 12 44 32.6
comp=Z,3μm,21.0s,baz=266,slow=33
DAV Davao City (W) 22.98 241 *e*P **P 12 36 39.0 +1.8**
comp=Z,205nm,0.5s,mb5.8
DAV Davao City (W) 22.98 241 P **P 12 36 38.7 +1.6**
comp=Z,563nm,0.8s,mb6.1
DAV Davao City (W) 22.98 241⇑*e*P **P 12 36 38.0 +0.8**
DAV Davao City (W) 22.98 241 P **P 12 36 38.6 +1.5**
SNR=13
BUKP Musuan 22.98 244 *e*P **P 12 36 39.0 +1.9**
CGP Cagayan de Oro 23.00 245⇓*e*P **P 12 36 38.7 +1.3**
YULB Yu-li 23.14 285 *e*P **P 12 36 39.5 +0.9**
comp=Z,516nm,1.9s,mb5.6
TBP Tagbilaran 23.15 249 *e*P **P 12 36 39.4 +0.7**
TATO Taipei 23.18 289 *e*P **P 12 36 38.1 -0.8**
comp=Z,95nm,1.0s,mb5.2
YHNB Yeheng 23.23 288 *e*P **P 12 36 39.7 +0.3**
comp=Z,378nm,1.0s,mb5.8
YHNB *e*ScP ScP 12 43 46.6 -2.8
TWG Pinlang 23.30 283 *e*P **P 12 36 40.2 +0.2**
comp=Z,289nm,1.3s,mb5.5
TWG *e*ScP ScP 12 43 50.2 +0.6
RCP Roxas 23.40 254⇑*e*P **P 12 36 41.8 +0.8**
SSLB Suanglung 23.50 286 *e*P **P 12 36 43.4 +1.5**
comp=Z,378nm,1.0s,mb5.8
KWAJ Kwajalein Atol 23.57 113 *e*P **P 12 36 41.0 -1.6**
comp=Z,691nm,1.3s,mb6.0
KWAJ Kwajalein Atol 23.57 113 *e*P **P 12 36 41.0 -1.6**
KWAJ pmax pmax
comp=Z,691nm,1.3s,mb6.0
BOAC Boac 23.60 260 *e*P **P 12 36 44.4 +1.6**
TPUB Ta-pu 23.74 284 *e*P **P 12 36 44.9 +0.8**
comp=Z,119nm,0.9s,mb5.4
TPUB *e*ScP ScP 12 43 49.2 -1.6
GUIM Jordan 23.89 253 *e*P **P 12 36 47.0 +1.5**
KSRS Korea Array 23.96 323 P **P 12 36 45.0 -0.9**
comp=Z,106nm,0.7s,mb5.5,baz=144,slow=8.3,SNR=135
KSRS ScP ScP 12 43 47.3 -3.8
comp=Z,37nm,0.9s,baz=137,slow=3.1,SNR=44
KSRS LR LR 12 45 52.0
comp=Z,3μm,18.3s,baz=140,slow=35
KSRS Korea Array 23.96 323 P **P 12 36 45.0 -0.9**
KSRS pmax pmax
comp=Z,106nm,0.7s,mb5.5
KSRS pmax pmax
comp=N,37nm,0.9s
KSRS MLR MLR
comp=Z,3μm,18.3s
KSAR Wonju Array Be 23.98 323 P **P 12 36 45.0 -1.0**
KSAR ScP ScP 12 43 47.3 -3.8
KSAR Wonju Array Be 23.98 323 P **P 12 36 45.0 -1.0**
CTBH Cotabato--PC H 24.01 243⇑*i*P **P 12 36 47.8 +1.2**
TGY Tagaytay City 24.27 262 P **P 12 36 50.6 +1.7**
comp=Z,267nm,0.7s,mb5.9,baz=126,slow=15,SNR=7.5
TGY Tagaytay City 24.27 262 P **P 12 36 50.6 +1.7**
TGY Tagaytay City 24.27 262 P **P 12 36 50.6 +1.7**
TGY pmax pmax
comp=Z,267nm,0.7s
PAGZ Pagadian 24.43 246 *e*P **P 12 36 52.5 +2.1**
INCN Inchon 24.73 322 *e*P **P 12 36 53.3 +0.4**
comp=Z,116nm,1.1s,mb5.3
ASAJ Asahikawa 25.02 355 P **P 12 36 56.1 +0.7**
comp=Z,67nm,0.5s,mb5.4,baz=218,slow=9.2,SNR=82
ASAJ ScP ScP 12 43 51.0 -2.9
comp=Z,21nm,0.7s,baz=127,slow=4.8,SNR=5.1
ASAJ LR LR 12 46 48.4
comp=Z,2μm,21.2s,baz=179,slow=36
ASAJ Asahikawa 25.02 355 *e*P **P 12 36 56.0 +0.6**
comp=Z,490nm,1.6s,mb5.8
ASAJ ScP ScP 12 43 51.0 -2.9
ASAJ *e*ScP ScP 12 43 52.8 -1.1
ASAJ Asahikawa 25.02 355 P **P 12 36 56.1 +0.7**
ASAJ pmax pmax
comp=Z,67nm,0.5s
ASAJ pmax pmax
comp=N,21nm,0.7s
ASAJ MLR MLR
comp=Z,2μm,21.2s
SGSI Sangihe 25.02 235 P **P 12 36 56.4 +0.7**
comp=Z,7μmcomp=Z,289nm,0.7s,mb5.9
SSE Sheshan 25.14 303 P **P 12 36 56.7 +0.1**
SSE pP pP 12 37 21.4 -3.0
SSE sP sP 12 37 38.8 -0.9
SSE S **S 12 41 12.5 +0.6**
SSE pmax pmax
comp=Z,55nm,0.7s,mb5.2
SSE pmax pmax
comp=Z,170nm,5.3s
SSE LR LR
comp=N,7μm,15.5s
SSE LR LR
comp=E,6μm,16.7s
SSE LR LR
comp=Z,4μm,20.9s
SSE Sheshan 25.14 303 P **P 12 36 56.7 +0.1**
comp=Z,55nm,0.7s,mb5.2
SSE pP pP 12 37 21.4 -3.0
SSE sP sP 12 37 38.8 -0.9
SSE S **S 12 41 12.5 +0.6**
SSE sS sS 12 41 51.9 -8.9
SSE LR LR
comp=Z,4μm,20.9s
CUYO Cuyo Island 25.23 254 *e*P **P 12 36 59.0 +1.3**
BUSP Coron 25.58 258 *e*P **P 12 37 02.4 +1.6**
TNTI Ternate 25.65 227 P **P 12 37 02.1 +0.6**
comp=Z,7μmcomp=Z,210nm,1.1s,mb5.7
QZH Quanzhou 25.78 288⇓*i*P **P 12 37 02.4 -0.1**
QZH pmax pmax
comp=Z,110nm,1.2s,mb5.4
QZH LR LR
comp=N,5μm,13.8s
QZH LR LR
comp=E,3μm,6.8s
QZH LR LR
comp=Z,8μm,15.8s
VLA Vladivostok 26.58 337⇑*i*P **P 12 37 07.1 -2.4**
VLA *i* *PP pP 12 37 34.8 -2.6
VLA *e*S **S 12 41 32.8 -1.7**
VLA pmax pmax
comp=Z,156nm,1.1s,mb5.5
LBMI Labuha 26.60 224 P **P 12 37 10.3 +0.3**
comp=Z,5μmcomp=Z,255nm,1.0s,mb5.8
NJ2 Nanjing 27.34 303 *e*P **P 12 37 17.2 +0.8**
NJ2 pP pP 12 37 43.5 -0.9
NJ2 sP sP 12 37 57.2 -2.4
NJ2 PP PP 12 38 10.5 -10
NJ2 pmax pmax
comp=Z,20nm,0.7s,mb4.9
NJ2 pmax pmax
comp=Z,210nm,4.4s
NJ2 LR LR
comp=N,7μm,14.0s
NJ2 LR LR
comp=E,4μm,14.6s
NJ2 LR LR
comp=Z,3μm,13.2s
MSAI Masohi 27.81 218 P **P 12 37 21.6 +0.8**
comp=Z,1μmcomp=Z,66nm,1.9s,mb5.0
YSS Yuzh-Sakhalins 27.83 356 *e*P **P 12 37 20.4 -0.2**
comp=Z,296nm,1.3s,mb5.9
YSS Yuzh-Sakhalins 27.83 356⇑*i*P **P 12 37 20.0 -0.6**
YSS *e**PP pP 12 37 47.5 -1.1
YSS *e**SP sP 12 38 02.0 -1.8
YSS *i* S **S 12 41 54.0 +0.1**
YSS pmax pmax
comp=Z,70nm,0.5s,mb5.7
YSS MLR MLR
comp=N,1μm,16.0s
YSS MLR MLR
comp=Z,1μm,16.0s
KMSI Cibinong 28.21 232 P **P 12 37 25.2 +0.8**
comp=Z,8μmcomp=Z,292nm,1.0s,mb6.0
PMG Port Moresby 28.42 177 P **P 12 37 23.9 -2.2**
comp=Z,105nm,0.8s,mb5.6,baz=359,slow=7.9,SNR=41
PMG S **S 12 42 02.9 -1.0**
comp=Z,25nm,0.8s,baz=247,slow=21,SNR=3.8
PMG ScP ScP 12 44 02.6 -1.9
comp=Z,61nm,0.8s,baz=22,slow=9.1,SNR=9.9
PMG Port Moresby 28.42 177 *e*P **P 12 37 23.6 -2.6**
comp=Z,211nm,0.9s,mb5.9
PMG S **S 12 42 02.9 -1.0**
PMG ScP ScP 12 44 02.6 -1.9
PMG *e*ScP ScP 12 44 05.2 +0.7
PMG Port Moresby 28.42 177 P **P 12 37 23.9 -2.3**
PMG S **S 12 42 02.9 -1.0**
PMG pmax pmax
comp=Z,105nm,0.9s
PMG smax
comp=N,25nm,0.8s
PMG pmax pmax
comp=N,61nm,0.8s
PMG Port Moresby 28.42 177 P **P 12 37 23.7 -2.5**
comp=N,4μmcomp=N,281nm,0.8s,mb6.0
AAI Ambon 28.52 219 P **P 12 37 26.8 -0.3**
comp=N,4μmcomp=N,384nm,0.8s,mb6.2
DL2 Dalian 28.68 318 P **P 12 37 30.9 +2.6**
DL2 pP pP 12 37 55.9 -0.5
DL2 sP sP 12 38 06.7 -4.9
DL2 S **S 12 42 11.9 +4.3**
DL2 sS sS 12 42 58.2 +1.3
DL2 pmax pmax
comp=Z,50nm,1.2s,mb5.1
DL2 LR LR
comp=E,1μm,13.7s
DL2 LR LR
comp=Z,1μm,17.6s
MDJ Mudanjiang 28.73 336 P **P 12 37 29.8 +1.2**
MDJ pP pP 12 37 54.4 -2.4
MDJ sP sP 12 38 08.8 -3.2
MDJ PcP PcP 12 40 34.5 -1.2
MDJ S **S 12 42 10.1 +1.9**
MDJ sS sS 12 42 59.1 +1.5
MDJ ScP ScP 12 44 05.8 +0.8
MDJ pmax pmax
comp=Z,21nm,1.1s,mb4.8
MDJ pmax pmax
comp=Z,320nm,7.8s
MDJ LR LR
comp=N,2μm,26.7s
MDJ LR LR
comp=E,3μm,22.2s
MDJ LR LR
comp=Z,4μm,37.8s
MDJ Mudanjiang 28.73 336 *e*P **P 12 37 29.3 +0.6**
comp=Z,138nm,1.3s,mb5.5
NLAI Namlea 28.83 221 P **P 12 37 30.4 +0.5**
comp=Z,2μmcomp=Z,116nm,1.1s,mb5.5
GTOI Gorontalo 28.90 233 P **P 12 37 31.0 +0.5**
comp=Z,4μmcomp=Z,90nm,1.9s,mb5.2
SNY Shenyang 29.41 325⇑P **P 12 37 38.6 +3.9**
SNY S **S 12 42 15.1 -3.9**
SNY pmax pmax
comp=Z,17nm,0.8s,mb4.8
SNY LR LR
comp=N,3μm,15.0s
SNY LR LR
comp=E,3μm,14.4s
SNY LR LR
comp=Z,2μm,16.5s
MRSI Marisa 29.82 234 P **P 12 37 39.6 +1.0**
comp=Z,3μmcomp=Z,206nm,1.0s,mb5.8
CN2 Changchun 29.88 330 *e*P **P 12 37 41.8 +3.0**
CN2 *e*pP pP 12 38 08.9 +1.8
CN2 *e*sP sP 12 38 24.3 +2.1
CN2 *e*S **S 12 42 28.8 +2.5**
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,17.0s
CN2 LR LR
comp=E,4μm,17.0s
CN2 LR LR
comp=Z,3μm,14.0s
MYLDM Lahad Datu 29.96 246 P **P 12 37 42.7 +2.8**
comp=Z,4μmcomp=Z,128nm,0.9s,mb5.7
LUWI Luwuk 30.19 231 P **P 12 37 41.2 -0.7**
comp=Z,3μmcomp=Z,186nm,1.1s,mb5.7
GZH Guangzhou 30.43 283 P **P 12 37 43.9 0.0**
GZH S **S 12 42 34.9 -0.4**
GZH LR LR
comp=N,2μm,17.1s
GZH LR LR
comp=E,4μm,16.1s
GZH LR LR
comp=Z,7μm,16.8s
HABR Khabarovsk 30.49 346*c*eP **P 12 37 43.5 -0.6**
HABR *e**PP pP 12 38 09.2 -3.2
HABR *SP sP 12 38 25.7 -1.8
HABR *e* 12 38 47.4
HABR *e* 12 40 37.2
HABR *e*S **S 12 42 36.5 +0.8**
HABR *e**SS sS 12 43 23.8 -1.4
HABR *e* 12 44 22.3
HABR *e* 12 48 04.0
HABR pmax pmax
comp=Z,441nm,1.8s,mb5.9
HABR pmax pmax
comp=N,207nm,2.4s
HABR pmax pmax
comp=E,297nm,2.4s
HABR pmax pmax
comp=Z,619nm,2.3s,mb5.9
WHN Wuhan 30.55 298 P Px 12 37 57.5
WHN S **S 12 42 34.7 -2.3**
WHN ScP ScP 12 44 08.8 -2.4
WHN pmax pmax
comp=Z,360nm,1.6s,mb5.8
WHN LR LR
comp=N,17μm,16.8s
WHN LR LR
comp=E,28μm,24.8s
WHN LR LR
comp=Z,9μm,22.5s
KDM Kudat 30.61 250 P **P 12 37 47.6 +2.0**
SDKM Sandakan 30.87 248 P **P 12 37 48.8 +0.9**
TSM Tawau 30.94 245 P **P 12 37 50.0 +1.5**
KKM Kota Kinabalu 31.55 249 P **P 12 37 56.0 +2.1**
KKM Kota Kinabalu 31.55 249 *e*P **P 12 37 55.5 +1.6**
comp=Z,130nm,0.8s,mb5.7
KKM Kota Kinabalu 31.55 249 P **P 12 37 55.6 +1.8**
comp=Z,2μmcomp=Z,214nm,0.9s,mb5.9
HNR Honiara 31.68 153 P **P 12 37 52.2 -2.7**
comp=Z,42nm,0.6s,mb5.3,baz=200,slow=5.4,SNR=5.3
HNR S **S 12 42 52.0 -2.9**
comp=Z,110nm,1.0s,baz=216,slow=5.3,SNR=5.6
HNR LR LR 12 49 39.0
comp=Z,2μm,19.1s,baz=335,slow=34
HNR Honiara 31.68 153 *e*P **P 12 37 53.1 -1.9**
comp=Z,271nm,1.1s,mb5.9
HNR S **S 12 42 52.0 -2.9**
HNR *e*S **S 12 42 52.8 -2.1**
HNR Honiara 31.68 153 *e*P **P 12 37 53.1 -1.9**
HNR S **S 12 42 52.0 -2.9**
HNR *e*S **S 12 42 52.8 -2.1**
HNR pmax pmax
comp=Z,271nm,1.1s,mb5.9
KLR Kul'dur 32.04 343 *e*P **P 12 37 54.4 -3.3**
KLR *e* pP 12 38 25.5 -0.5
KLR *e*S **S 12 42 54.7 -5.1**
KLR *e* 12 43 45.0
KLR pmax pmax
comp=N,100nm,1.6s
KLR pmax pmax
comp=E,280nm,1.6s
KLR pmax pmax
comp=Z,770nm,1.6s,mb6.2
KLR MLR MLR
comp=N,2μm,13.5s
KLR MLR MLR
comp=E,2μm,13.5s
KLR MLR MLR
comp=Z,5μm,13.5s
SKR Severo-Kuril's 32.52 12 *e*P **P 12 38 01.5 -0.4**
SKR *e*S **S 12 43 09.0 +1.8**
SKR pmax pmax
comp=Z,180μm,1.0s
SKR smax
comp=E,4μm,10.0s
SKR MLR MLR
comp=N,3μm,16.0s
SKR MLR MLR
comp=Z,3μm,16.0s
BJT Baijiatuau 32.81 316 *e*P **P 12 38 04.8 +0.2**
comp=Z,60nm,0.9s,mb5.3
BJT *e*ScP ScP 12 44 16.2 -2.5
BJT Baijiatuau 32.81 316 *e*P **P 12 38 04.8 +0.2**
BJT pmax pmax
comp=Z,60nm,0.9s
BJI Beijing 32.82 316 P **P 12 38 04.7 0.0**
BJI pP pP 12 38 32.2 -0.9
BJI sP sP 12 38 46.3 -1.9
BJI PcP PcP 12 40 46.3 -0.3
BJI S **S 12 43 11.3 -1.0**
BJI pmax pmax
comp=Z,52nm,1.1s,mb5.2
BJI pmax pmax
comp=Z,410nm,5.5s
BJI LR LR
comp=N,3μm,14.0s
BJI LR LR
comp=E,3μm,17.8s
BJI LR LR
comp=Z,2μm,30.7s
COEN Coen 33.01 185 *e*P **P 12 38 04.9 -1.6**
comp=Z,621nm,0.6s,mb6.5
COEN *e*ScP ScP 12 44 18.6 -1.0
COEN Coen 33.01 185 P **P 12 38 05.2 -1.3**
comp=Z,3μmcomp=Z,144nm,1.0s,mb5.6
MSSI Masamba 33.01 232 P **P 12 38 08.5 +1.9**
comp=Z,6μmcomp=Z,210nm,2.1s,mb5.5
BBSI Bau Bau 33.47 225 P **P 12 38 12.4 +1.8**
comp=Z,3μmcomp=Z,223nm,1.0s,mb5.8
TTSI Tana Toraja 33.71 232 P **P 12 38 14.5 +1.8**
comp=Z,6μmcomp=Z,401nm,0.9s,mb6.1
QIZ Qiongzhong 33.88 276 P **P 12 38 15.6 +1.5**
QIZ pP pP 12 38 42.0 -0.6
QIZ sP sP 12 38 55.5 -2.1
QIZ S **S 12 43 32.3 +3.3**
QIZ sS sS 12 44 18.1 -0.7
QIZ pmax pmax
comp=Z,28nm,1.4s,mb4.8
QIZ pmax pmax
comp=Z,320nm,4.9s
QIZ LR LR
comp=N,2μm,15.2s
QIZ LR LR
comp=E,920nm,18.5s
QIZ LR LR
comp=Z,3μm,17.0s
SMKI Samarinda 34.10 238 P **P 12 38 19.3 +3.2**
comp=Z,9μmcomp=Z,357nm,1.0s,mb6.1
SPSI Sidrap Palu 34.36 231 P **P 12 38 19.0 +0.7**
comp=Z,3μmcomp=Z,236nm,1.0s,mb5.9
TIY Taiyuan 34.38 310 *e*P **P 12 38 18.6 +0.4**
TIY sP sP 12 39 02.7 +0.9
TIY S **S 12 43 38.0 +1.7**
TIY sS sS 12 44 24.1 -2.1
TIY LR LR
comp=N,2μm,13.4s
TIY LR LR
comp=E,2μm,14.2s
TIY LR LR
comp=Z,1μm,13.2s
BKSI Bulukumba 35.04 229 P **P 12 38 24.7 +0.6**
comp=Z,2μmcomp=Z,106nm,1.1s,mb5.4
KAPI Kappang 35.09 229 P **P 12 38 24.5 -0.1**
comp=Z,87nm,0.9s,mb5.4,baz=65,slow=6.2,SNR=54
KAPI Kappang 35.09 229 *e*P **P 12 38 24.7 +0.1**
comp=Z,107nm,0.9s,mb5.5
KAPI *e*ScP ScP 12 44 26.5 -0.7
KAPI Kappang 35.09 229 P **P 12 38 24.8 +0.2**
comp=Z,3μmcomp=Z,151nm,1.1s,mb5.5
KAPI Kappang 35.09 229 P **P 12 38 24.7 +0.1**
SNR=17
PEA0B Petropavlovsk- 35.13 13 *e*P **P 12 38 24.6 +0.1**
PEA0B *e*PcP PcP 12 40 52.7 -0.2
PETK Petropavlovsk- 35.13 13 P **P 12 38 24.4 -0.1**
comp=Z,26nm,0.7s,mb5.0,baz=191,slow=9.2,SNR=74
PETK PcP PcP 12 40 52.3 -0.6
comp=Z,34nm,0.8s,baz=190,slow=5.3,SNR=7.5
PETK ScP ScP 12 44 22.2 -4.4
comp=Z,22nm,0.9s,baz=180,slow=4.9,SNR=10.0
PETK LR LR 12 51 07.0
comp=Z,2μm,19.3s,baz=202,slow=33
PETK Petropavlovsk- 35.13 13 P **P 12 38 24.4 -0.1**
PETK PcP PcP 12 40 52.3 -0.6
PETK ScP ScP 12 44 22.2 -4.4
PETK Petropavlovsk- 35.13 13 P **P 12 38 24.4 -0.1**
PETK 12 40 52.3
PETK pmax pmax
comp=Z,26nm,0.7s,mb5.0
PETK pmax pmax
comp=Z,34nm,0.8s,mb5.0
PETK pmax pmax
comp=N,22nm,0.9s
PET Petropavlovsk 35.26 14 *e*P **P 12 38 25.6 0.0**
comp=N,115nm,1.1s,mb5.4
PET *e*PcP PcP 12 40 52.8 -0.5
PET *e*ScP ScP 12 44 25.7 -1.3
PET Petropavlovsk 35.26 14⇓*i*P **P 12 38 24.5 -1.0**
PET *e**PP pP 12 38 53.0 -1.2
PET *e**SP sP 12 39 08.6 -0.6
PET *e* 12 40 52.3
PET *e*S **S 12 43 49.4 0.0**
PET *e* 12 48 30.6
PET pmax pmax
comp=Z,106nm,1.0s,mb5.4
PET pmax pmax
comp=Z,700nm,10.8s
PET pmax pmax
comp=Z,52nm,1.2s,mb5.0
BTM Bintulu 35.63 248 P **P 12 38 31.1 +1.9**
XAN Xi'an 35.88 302 P **P 12 38 30.1 -1.0**
XAN pP pP 12 38 57.6 -2.2
XAN sP sP 12 39 12.1 -2.8
XAN PP PP 12 39 52.2 -3.1
XAN LR LR
comp=N,4μm,20.6s
XAN LR LR
comp=E,780nm,19.0s
XAN LR LR
comp=Z,910nm,18.7s
MMRI Maumere 36.04 222 P **P 12 38 32.2 -0.5**
comp=Z,6μmcomp=Z,320nm,1.1s,mb5.9
HHC Hu-ho-hao-te 36.30 314⇓P **P 12 38 34.7 +0.1**
HHC pP pP 12 39 01.2 -2.2
HHC sP sP 12 39 17.9 -0.5
HHC PP PP 12 40 01.9 +2.1
HHC S **S 12 44 06.9 +1.2**
HHC ScP ScP 12 44 29.5 -1.6
HHC PcS PcS 12 44 43.8 -0.7
HHC ScS ScS 12 48 36.9 -0.5
HHC pmax pmax
comp=Z,30nm,1.2s,mb4.8
HHC pmax pmax
comp=Z,200nm,8.3s
HHC LR LR
comp=N,2μm,15.5s
HHC LR LR
comp=E,2μm,16.7s
HHC LR LR
comp=Z,2μm,23.8s
HIA Hailar 36.57 331 *e*P **P 12 38 36.8 +0.1**
comp=Z,58nm,0.8s,mb5.3
HIA Hailar 36.57 331 *e*P **P 12 38 36.8 0.0**
HIA pmax pmax
comp=Z,58nm,0.8s
GYA Guiyang 36.63 289 P **P 12 38 38.3 +0.7**
GYA pP pP 12 39 07.8 +1.4
GYA PP PP 12 40 08.6 +5.0
GYA PcP PcP 12 40 58.9 +0.9
GYA S **S 12 44 10.0 -1.1**
GYA PcS PcS 12 44 45.6 -0.6
GYA sS sS 12 45 04.0 +2.8
GYA SS SS 12 46 47.9 -8.6
GYA pmax pmax
comp=Z,40nm,0.8s,mb5.1
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=N,3μm,15.2s

GYA LR LR
comp=E,2μm,16.8s
GYA LR LR
comp=Z,3μm,21.4s
KBKI Kotabaru 36.66 236 P **P 12 38 38.1 +0.1**
comp=Z,2μmcomp=Z,122nm,0.9s,mb5.5
SBUM Sibu 36.74 247 P **P 12 38 41.0 +2.3**
SBUM Sibu 36.74 247 P **P 12 38 40.2 +1.5**
comp=Z,4μmcomp=Z,250nm,1.1s,mb5.8
BTO Baotou 37.26 313 *e*P **P 12 38 42.3 -0.4**
BBKI Banjar Baru 37.80 237 P **P 12 38 48.4 +0.8**
comp=Z,5μmcomp=Z,124nm,1.4s,mb5.3
BMNI Bima 38.31 226 P **P 12 38 50.9 -1.0**
comp=Z,1μmcomp=Z,105nm,0.8s,mb5.5
STKI Sintang 38.58 244 P **P 12 38 55.3 +1.1**
comp=Z,6μmcomp=Z,112nm,1.0s,mb5.5
KSM Kuching 38.88 247 P **P 12 38 57.3 +0.6**
KSM Kuching 38.88 247 *e*P **P 12 38 57.1 +0.4**
comp=Z,110nm,1.0s,mb5.4
KSM *e*ScP ScP 12 44 42.2 +0.9
KSM Kuching 38.88 247 P **P 12 38 56.8 +0.1**
comp=Z,2μmcomp=Z,123nm,1.0s,mb5.5
CTA Charters Tower 39.01 179 P **P 12 38 55.8 -1.7**
comp=Z,66nm,0.8s,mb5.3,baz=3.7,slow=8.6,SNR=37
CTA ScP ScP 12 44 40.0 -1.6
comp=Z,18nm,0.8s,baz=13,slow=6.6,SNR=6.3
CTA LR LR 12 53 50.2
comp=Z,1μm,19.0s,baz=351,slow=34
CTA Charters Tower 39.01 179 *e*P **P 12 38 55.8 -1.8**
comp=Z,43nm,0.6s,mb5.2
CTA *e*pP pP 12 39 26.0 -0.6
CTA *e*PP PP 12 40 25.8 -4.0
CTA *e*SCP ScP 12 44 41.0 -0.6
CTA Charters Tower 39.01 179 P **P 12 38 55.8 -1.7**
CTA ScP ScP 12 44 40.0 -1.6
CTA Charters Tower 39.01 179 P **P 12 38 55.8 -1.8**
CTA 12 44 40.0
CTA pmax pmax
comp=Z,66nm,0.8s
CTA pmax pmax
comp=N,18nm,0.8s
CTAO Charters Tower 39.01 179 *e*P **P 12 38 55.6 -1.9**
comp=N,90nm,0.9s,mb5.4
CTAO *e*ScP ScP 12 44 41.4 -0.1
CTAO Charters Tower 39.01 179 *e*P **P 12 38 55.6 -2.0**
CTAO *e* 12 44 41.4
CTAO pmax pmax
comp=Z,90nm,0.9s,mb5.4
CTAO Charters Tower 39.01 179 P **P 12 38 56.2 -1.4**
comp=Z,2μmcomp=Z,130nm,1.6s,mb5.3
UBT Ubonrachathani 39.02 271 P pP 12 39 31.7 +4.8
CD2 Chengdu 39.57 296 *e*P **P 12 39 05.5 +3.3**
CD2 pP pP 12 39 34.0 +2.6
CD2 sP sP 12 39 48.4 +2.1
CD2 PP PP 12 40 43.0 +7.3
CD2 PcP PcP 12 41 09.8 +2.7
CD2 S **S 12 44 59.7 +4.4**
CD2 sS sS 12 45 49.3 +3.3
CD2 SS SS 12 47 55.0 -0.5
CD2 ScS ScS 12 48 57.4 +0.8
CD2 pmax pmax
comp=Z,40nm,1.0s,mb5.0
CD2 pmax pmax
comp=Z,210nm,7.2s
CD2 LR LR
comp=N,7μm,16.8s
CD2 LR LR
comp=E,5μm,15.6s
CD2 LR LR
comp=Z,6μm,18.0s
KMI Kunming 40.13 286 P **P 12 39 08.1 +1.2**
KMI pP pP 12 39 34.8 -1.3
KMI S **S 12 45 01.3 -2.5**
KMI pmax pmax
comp=Z,38nm,1.9s,mb4.7
KMI pmax pmax
comp=Z,820nm,5.3s
KMI LR LR
comp=N,2μm,16.9s
KMI LR LR
comp=E,3μm,14.3s
KMI LR LR
comp=Z,2μm,17.8s
KMI Kunming 40.13 286 P **P 12 39 08.1 +1.2**
comp=Z,38nm,1.9s,mb4.7
KMI pP pP 12 39 34.8 -1.3
KMI PPP 12 41 12.7
KMI S **S 12 45 01.3 -2.5**
KMI sS sS 12 45 47.5 -7.0
KMI SS SS 12 47 53.7 -13
KMI SSS 12 48 33.4
KMI LR LR
comp=Z,2μm,17.8s
KMI Kunming 40.13 286 P **P 12 39 08.1 +1.2**
KMI *PP pP 12 39 34.8 -1.3
KMI PPP 12 41 12.7
KMI S **S 12 45 01.3 -2.5**
KMI *SS sS 12 45 47.5 -7.0
KMI SS SS 12 47 53.7 -13
KMI SSS 12 48 33.4
KMI pmax pmax
comp=Z,38nm,1.9s,mb4.7
KMI MLR MLR
comp=Z,2μm,17.8s
MTNI Mataram 40.15 229 P **P 12 39 07.1 0.0**
comp=Z,5μmcomp=Z,282nm,1.1s,mb5.8
LZH Lanzhou 40.41 303 *e*P **P 12 39 11.7 +2.6**
LZH pP pP 12 39 37.0 -1.3
LZH sP sP 12 39 54.0 +0.8
LZH S **S 12 45 09.2 +1.4**
LZH pmax pmax
comp=Z,30nm,1.0s,mb4.9
LZH pmax pmax
comp=Z,210nm,7.5s
LZH LR LR
comp=N,6μm,14.8s
LZH LR LR
comp=E,4μm,17.5s
LZH LR LR
comp=Z,6μm,15.6s
LZH Lanzhou 40.41 303 *e*P **P 12 39 11.7 +2.6**
comp=Z,30nm,1.0s,mb4.9
LZH pP pP 12 39 37.0 -1.3
LZH sP sP 12 39 54.0 +0.8
LZH S **S 12 45 09.2 +1.4**
LZH sS sS 12 45 53.2 -5.3
LZH SS SS 12 48 32.0 +20
LZH LR LR
comp=Z,6μm,15.6s
LZH Lanzhou 40.41 303 *e*P **P 12 39 11.7 +2.6**
LZH *PP pP 12 39 37.0 -1.3
LZH *SP sP 12 39 54.0 +0.8
LZH S **S 12 45 09.2 +1.4**
LZH pmax pmax
comp=Z,30nm,1.0s,mb4.9
LZH MLR MLR
comp=Z,6μm,15.6s
WRAB Tennant Creek 40.42 197 *e*P **P 12 39 08.3 -1.0**
comp=Z,708nm,0.7s,mb6.4
WRAB *e*ScP ScP 12 44 46.1 -1.0
WRAB *e*S **S 12 45 08.0 0.0**
WRAB Tennant Creek 40.42 197 *e*P **P 12 39 08.3 -1.0**
WRAB *e*S **S 12 45 08.0 0.0**
WRAB pmax pmax
comp=Z,707nm,0.7s,mb6.4
WRAB Tennant Creek 40.42 197 P **P 12 39 09.0 -0.3**
comp=Z,1μm,0.8s,mb6.5
WB2 Warramunga Arr 40.43 197 *e*P **P 12 39 12.2 +2.9**
WRA Warramunga Arr 40.43 197 P **P 12 39 09.2 -0.2**
comp=Z,450nm,0.9s,mb6.1,baz=18,slow=8.9,SNR=834
WRA ScP ScP 12 44 44.9 -2.3
comp=Z,33nm,0.8s,baz=13,slow=4.0,SNR=14
WRA S **S 12 45 06.3 -1.9**
comp=Z,42nm,1.0s,baz=16,slow=14,SNR=9.6
WRA LR LR 12 55 06.6
comp=Z,3μm,20.8s,baz=345,slow=35
WRA Warramunga Arr 40.43 197 P **P 12 39 09.2 -0.2**
WRA ScP ScP 12 44 44.9 -2.3
WRA S **S 12 45 06.3 -1.9**
WRA Warramunga Arr 40.43 197 P **P 12 39 09.2 -0.1**
WRA S **S 12 45 06.3 -1.9**
WRA pmax pmax
comp=Z,451nm,0.9s
WRA pmax pmax
comp=N,33nm,0.9s

WRA smax
comp=N,42nm,1.0s
WRA MLR MLR
comp=Z,3μm,20.8s
SRBI Singaraja 40.47 231 P **P 12 39 10.6 +0.8**
comp=Z,3μmcomp=Z,210nm,0.9s,mb5.8
CLNS Chul'man 40.70 343 *e*P **P 12 39 11.0 -0.1**
CLNS *e**PP pP 12 39 43.6 +3.2
CLNS *e* 12 40 47.7
CLNS *e* 12 41 10.8
CLNS *e*PPP 12 41 19.7
CLNS *e*S **S 12 45 07.7 -3.7**
CLNS pmax pmax
comp=Z,94nm,1.3s,mb5.3
CLNS pmax pmax
comp=N,46nm,1.1s
CLNS pmax pmax
comp=E,50nm,1.3s
CLNS pmax pmax
comp=Z,22nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,20nm,1.1s
CLNS pmax pmax
comp=N,32nm,1.0s
CLNS smax
comp=E,616nm,12.3s
CLNS smax
comp=N,633nm,12.7s
KMMI Kalianget 40.72 233 P **P 12 39 14.2 +2.4**
comp=N,4μmcomp=N,162nm,1.1s,mb5.6
IGBI Denpasar 41.01 230 P **P 12 39 13.2 -1.0**
comp=N,110nm,1.0s,mb5.4
CIT Chita 41.33 330 *e*P **P 12 39 17.2 +0.9**
CIT *e* pP 12 39 50.5 +4.8
CIT *e* 12 40 01.6
CIT pmax pmax
comp=Z,359nm,1.7s,mb5.7
BLJI Banyuglugur 41.45 233 P **P 12 39 19.2 +1.4**
comp=Z,4μmcomp=Z,165nm,2.1s,mb5.3
JAGI Jajag, Banyuwa 41.50 231 P **P 12 39 17.7 -0.6**
comp=Z,2μmcomp=Z,131nm,1.0s,mb5.5
GMJI Gumukmas 41.90 232 P **P 12 39 21.5 0.0**
comp=Z,2μmcomp=Z,90nm,0.9s,mb5.4
FITZ Fitzroy Crossi 41.96 209 P **P 12 39 22.0 +0.1**
comp=Z,131nm,0.8s,mb5.6,baz=31,slow=9.8,SNR=398
FITZ ScP ScP 12 44 51.2 -2.0
comp=Z,18nm,0.8s,baz=99,slow=2.3,SNR=3.8
FITZ S **S 12 45 30.4 -0.4**
comp=Z,30nm,0.9s,baz=216,slow=19,SNR=14
FITZ Fitzroy Crossi 41.96 209 *e*P **P 12 39 21.9 0.0**
comp=Z,186nm,0.6s,mb5.9
FITZ *e* 12 40 31.7
FITZ *e*S **S 12 45 30.7 -0.1**
FITZ *e*SCS ScS 12 49 09.5 -1.6
FITZ Fitzroy Crossi 41.96 209 P **P 12 39 22.0 +0.1**
FITZ ScP ScP 12 44 51.2 -2.0
FITZ S **S 12 45 30.4 -0.4**
FITZ Fitzroy Crossi 41.96 209 P **P 12 39 22.2 +0.3**
comp=Z,4μmcomp=Z,287nm,1.2s,mb5.8
ULN Ulaanbaatar 42.43 321 *e*P **P 12 39 25.5 +0.1**
comp=Z,63nm,1.1s,mb5.2
ULN Ulaanbaatar 42.43 321 *e*P **P 12 39 25.5 +0.2**
ULN pmax pmax
comp=Z,63nm,1.1s,mb5.2
ULN Ulaanbaatar 42.43 321 P **P 12 39 25.7 +0.4**
comp=Z,1μmcomp=Z,54nm,0.8s,mb5.2
ULN Ulaanbaatar 42.43 321 P **P 12 39 26.1 +0.7**
SNR=18
KRKI Karangkates 42.58 233 P **P 12 39 27.3 +0.3**
comp=Z,222nm,0.9s,mb5.8
SONM Songino Array 42.80 321 P **P 12 39 28.6 +0.2**
comp=Z,40nm,0.6s,mb5.2,baz=136,slow=8.9,SNR=120
SONM ScP ScP 12 44 53.4 -2.8
comp=Z,9.2nm,0.9s,baz=100,slow=3.6,SNR=5.7
SONM LR LR 12 58 14.2
comp=Z,3μm,18.5s,baz=116,slow=37
SONM Songino Array 42.80 321 P **P 12 39 28.6 +0.2**
SONM ScP ScP 12 44 53.4 -2.8
SONM Songino Array 42.80 321 P **P 12 39 28.6 +0.2**
SONM pmax pmax
comp=Z,41nm,0.6s
SONM pmax pmax
comp=N,9.0nm,0.9s
SONM MLR MLR
comp=Z,3μm,18.5s
SJI Sawahan 42.83 235 P **P 12 39 29.7 +0.7**
comp=Z,8μmcomp=Z,297nm,0.9s,mb5.9
NGJI Ngawi 42.84 235 P **P 12 39 30.6 +1.5**
comp=Z,4μmcomp=Z,142nm,0.9s,mb5.6
PWJI Pagerwojo 42.98 234 P **P 12 39 29.5 -0.8**
comp=Z,3μmcomp=Z,204nm,0.8s,mb5.8
CHRT Chiangrai 43.21 279 ||P **P 12 39 32.0 -0.1**
comp=Z,121nm,1.5s,mb5.3
SMRI Semarang 43.44 236 P **P 12 39 34.9 +0.9**
comp=Z,6μmcomp=Z,162nm,1.3s,mb5.5
NST Nakhon Sawan 43.55 273 P **P 12 39 37.0 +2.1**
comp=Z,117nm,0.8s,mb5.6
PCJI Pacitan 43.57 235 P **P 12 39 34.8 -0.2**
comp=Z,4μmcomp=Z,234nm,1.0s,mb5.8
UGM Wanagama 43.90 235 *e*P **P 12 39 37.7 0.0**
UGM Wanagama 43.90 235 P **P 12 39 37.8 +0.2**
comp=Z,6μmcomp=Z,331nm,1.1s,mb5.9
ADK Adak 43.92 33 *e*P **P 12 39 37.6 +0.3**
comp=Z,1μm,1.7s,mb6.3
ADK *e*ScP ScP 12 44 58.4 -2.2
ADK Adak 43.92 33 *e*P **P 12 39 37.6 +0.3**
ADK pmax pmax
comp=Z,1μm,1.7s,mb6.3
SEY Seymchan 43.97 4 ||*i*P **P 12 39 37.9 +0.4**
AS31 Alice Springs 44.10 196 *e*P **P 12 39 37.7 -1.3**
AS31 *e*ScP ScP 12 45 00.5 -1.2
AS31 *e*S **S 12 46 01.5 -0.5**
ASAR Alice Springs 44.10 196 P **P 12 39 37.7 -1.3**
comp=Z,80nm,0.7s,mb5.5,baz=14,slow=6.5,SNR=403
ASAR ScP ScP 12 45 00.2 -1.5
comp=Z,17nm,0.8s,baz=18,slow=4.2,SNR=8.8
ASAR S **S 12 46 00.6 -1.4**
comp=Z,24nm,0.9s,baz=19,slow=18,SNR=18
ASAR Alice Springs 44.10 196 P **P 12 39 37.7 -1.3**
ASAR ScP ScP 12 45 00.2 -1.5
ASAR S **S 12 46 00.6 -1.4**
ASAR Alice Springs 44.10 196 P **P 12 39 37.7 -1.3**
ASAR S **S 12 46 00.6 -1.4**
ASAR pmax pmax
comp=Z,80nm,0.7s
ASAR pmax pmax
comp=N,17nm,0.8s
ASAR smax
comp=N,24nm,0.9s
CHG Chiang Mai 44.13 278 ||P **P 12 39 40.6 +1.1**
comp=N,55nm,1.0s,mb5.1
CHTO Chiang Mai 44.13 278 *e*P **P 12 39 40.3 +0.8**
comp=N,78nm,1.3s,mb5.2
CHTO *e*ScP ScP 12 45 00.8 -1.4
CHTO Chiang Mai 44.13 278 *e*P **P 12 39 40.3 +0.8**
CHTO pmax pmax
comp=Z,78nm,1.3s,mb5.2
CHTO Chiang Mai 44.13 278 P **P 12 39 40.9 +1.4**
comp=Z,2μmcomp=Z,24nm,2.1s,mb4.5
CHTO Chiang Mai 44.13 278 P **P 12 39 41.2 +1.7**
SNR=7.7
CM31 Chiang Mai Arr 44.19 277 *e*P **P 12 39 42.0 +2.1**
comp=Z,301nm,1.6s,mb5.7
CMAR Chiang Mai Arr 44.19 277 P **P 12 39 41.1 +1.2**
comp=Z,19nm,0.8s,mb4.7,baz=68,slow=6.6,SNR=84
CMAR LR LR 12 56 31.5
comp=Z,1μm,19.8s,baz=81,slow=34
CMAR Chiang Mai Arr 44.19 277 P **P 12 39 41.1 +1.2**
CMAR Chiang Mai Arr 44.19 277 P **P 12 39 41.2 +1.3**
CMAR pmax pmax
comp=Z,19nm,0.9s
YAK Yakutsk 44.27 349 *e*P **P 12 39 39.4 -0.5**
YAK Yakutsk 44.27 349 *d*/*i*P **P 12 39 39.2 -0.7**
YAK *e**PP pP 12 40 05.0 -4.6
YAK *e* 12 41 20.2
YAK *e* 12 41 25.0
YAK *e*PPP 12 42 03.2
YAK *e*S **S 12 46 01.9 -1.7**
YAK *e* 12 49 19.8
YAK pmax pmax
comp=Z,379nm,0.9s,mb6.0
YAK pmax pmax
comp=N,142nm,1.0s
YAK pmax pmax
comp=E,55nm,1.5s
YAK pmax pmax
comp=Z,122nm,2.2s,mb5.1
YAK pmax pmax
comp=E,37nm,1.7s
YAK pmax pmax
comp=N,234nm,2.9s
YAK smax
comp=N,207nm,1.5s
YAK smax
comp=E,303nm,1.8s
GTA Gaotai 44.29 307 *e*P **P 12 39 40.8 +0.4**
GTA pP pP 12 40 09.0 -1.1
GTA sP sP 12 40 24.2 -0.7
GTA ScP ScP 12 45 00.0 -2.5
GTA S **S 12 46 02.0 -2.6**
GTA pmax pmax
comp=Z,20nm,1.3s,mb4.6
GTA pmax pmax
comp=Z,270nm,5.0s
GTA LR LR
comp=N,8μm,17.5s
GTA LR LR
comp=E,3μm,17.8s
GTA LR LR
comp=Z,3μm,19.2s
PPBI Pangkal Pinang 44.30 246 P **P 12 39 40.2 -0.6**
comp=Z,6μmcomp=Z,26nm,0.6s,mb5.0
BDT Bhumibol Dam 44.33 275 ||P **P 12 39 42.0 +1.0**
comp=Z,44nm,0.9s,mb5.1
MYKOM Kota Tinggi 44.47 252 P **P 12 39 44.3 +2.1**
comp=Z,3μmcomp=Z,194nm,0.9s,mb5.7
EIDS Eidsvold 44.57 173 *e*P **P 12 39 40.3 -2.4**
comp=Z,42nm,1.0s,mb5.0
NNT Nongplab 44.62 269 P **P 12 39 45.6 +2.2**
BOD Bodaibo 45.10 337 *e*P **P 12 39 45.7 -0.8**
BOD pmax pmax
comp=Z,35nm,1.4s,mb4.8
SNG Songkhla 45.38 261 P **P 12 39 51.0 +1.6**
comp=Z,140nm,0.7s,mb5.7
NOUC Port Laguerre 45.68 153 *e*P **P 12 39 49.8 -1.8**
DZM Mont Dzumac 45.71 153 *e*P **P 12 39 51.5 -0.3**
comp=Z,869nm,0.9s,mb6.4
DZM *e*S **S 12 46 12.7 -13**
comp=Z,3μm,25.2s
DZM *e*LR LR 12 52 10.6
comp=Z,6μm,26.3s
DZM Mont Dzumac 45.71 153 *e*P **P 12 39 49.4 -2.4**
DZM Mont Dzumac 45.71 153 *e*P **P 12 39 51.2 -0.6**
comp=Z,435nm,0.8s,mb6.1
ZAK Zakamensk 45.80 323 *e*P **P 12 39 51.8 -0.4**
ZAK *e* 12 40 34.7
ZAK pmax pmax
comp=Z,29nm,1.1s,mb4.8
CISI Cisompet, Garu 45.83 238 P **P 12 39 51.0 -1.9**
comp=Z,130nm,0.9s,mb5.6
NORM Noumea 45.87 153 *e*P **P 12 39 51.3 -1.7**
IPM Ipoh 45.96 257 P **P 12 39 56.2 +2.2**
IPM Ipoh 45.96 257 *e*P **P 12 39 55.5 +1.5**
comp=Z,220nm,1.4s,mb5.6
IPM *e*pP pP 12 40 24.3 +0.4
IPM Ipoh 45.96 257 P **P 12 39 55.9 +1.9**
comp=Z,2μmcomp=Z,89nm,1.0s,mb5.4
CBJI Citeko 45.97 240 P **P 12 39 54.5 +0.5**
comp=Z,194nm,1.1s,mb5.7
KULM Kulim 46.01 259 *e*P **P 12 39 56.4 +2.0**
comp=Z,378nm,1.6s,mb5.8
KULM *e*pP pP 12 40 25.8 +1.6
KULM Kulim 46.01 259 P **P 12 39 56.7 +2.3**
comp=Z,3μmcomp=Z,105nm,1.1s,mb5.4
IRK Irkutsk 46.14 326 *e*P **P 12 39 52.4 -2.4**
IRK *e* 12 40 34.9
IRK *e* 12 42 32.8
IRK *e*S **S 12 46 33.9 +3.2**
IRK pmax pmax
comp=Z,77nm,1.7s,mb5.1
TLY Talaya 46.20 325 *e*P **P 12 39 55.5 +0.2**
comp=Z,44nm,1.2s,mb5.0
TLY *e*pP pP 12 40 24.6 -0.6
TLY *e*ScP ScP 12 45 08.2 -1.9
TLY Talaya 46.20 325 *c*/*i*P **P 12 39 55.0 -0.3**
TLY *e* 12 40 42.6
TLY *e*S **S 12 46 31.5 -0.2**
TLY *e*SS SS 12 49 35.7 -23
TLY pmax pmax
comp=Z,32nm,1.0s,mb4.9
TLY Talaya 46.20 325 P **P 12 39 55.0 -0.3**
comp=Z,160nm,1.2s,mb5.5,SNR=5.4
SKJI Sukabumi 46.54 240 P **P 12 39 57.7 -0.7**
comp=Z,3μmcomp=Z,102nm,1.1s,mb5.4
RBSI Rajabasa 46.56 242 P **P 12 39 59.7 +1.0**
comp=Z,2μmcomp=Z,228nm,0.8s,mb5.9
BLSI Bandar Lampung 46.72 243 P **P 12 40 00.2 +0.3**
comp=Z,6μmcomp=Z,321nm,1.0s,mb5.9
KLI Kotabumi 46.78 243 P **P 12 39 59.5 -0.9**
comp=Z,83nm,0.8s,mb5.4
KLSI 46.80 244 P **P 12 40 00.3 -0.2**
comp=Z,5μmcomp=Z,152nm,0.9s,mb5.6
CGJI Cibinong 47.03 241 P **P 12 40 00.7 -1.6**
comp=Z,3μmcomp=Z,284nm,0.9s,mb5.9
MDSI Maura Dua 47.16 244 P **P 12 40 02.7 -0.6**
comp=Z,1μmcomp=Z,55nm,0.9s,mb5.2
MBWA Marble Bar 47.47 214 *e*P **P 12 40 05.5 -0.1**
comp=Z,915nm,2.4s,mb6.0
MBWA Marble Bar 47.47 214 P **P 12 40 05.3 -0.2**
comp=Z,3μmcomp=Z,119nm,2.3s,mb5.1
MBWA Marble Bar 47.47 214 P **P 12 40 05.9 +0.4**
SNR=12
LWLI Liwa 47.54 244 P **P 12 40 05.7 -0.5**
comp=Z,4μmcomp=Z,239nm,0.8s,mb5.9
BKNI Bangkinang 47.63 252 P **P 12 40 08.4 +1.4**
comp=Z,1μmcomp=Z,68nm,0.9s,mb5.3
MSVF Nonsavu 48.50 137 *e*P **P 12 40 13.6 0.0**
comp=Z,125nm,1.4s,mb5.3
MSVF *e*pP pP 12 40 39.9 -3.8
MSVF *e*PcP PcP 12 41 37.7 +0.1
MSVF Nonsavu 48.50 137 *e*P **P 12 40 13.6 +0.1**
MSVF *e**PP pP 12 40 39.9 -3.8
MSVF *e* 12 41 37.7
MSVF pmax pmax
comp=Z,125nm,1.4s,mb5.3
PSI Prapat 48.54 256 P **P 12 40 15.5 +1.5**
comp=Z,2μmcomp=Z,60nm,1.1s,mb5.1
PDSI Padang 48.70 251 P **P 12 40 15.3 +0.1**
comp=Z,3μmcomp=Z,76nm,0.8s,mb5.4
MNSI Mandailing Nat 48.75 254 P **P 12 40 17.1 +1.5**
comp=Z,3μmcomp=Z,152nm,0.9s,mb5.6
XMIS Christmas Isla 49.27 237 ||*i*P **P 12 40 18.6 -0.9**
comp=Z,566nm,0.8s,mb6.2
XMIS Christmas Isla 49.27 237 *e*P **P 12 40 18.8 -0.7**
XMIS Christmas Isla 49.27 237 P **P 12 40 18.6 -0.9**
comp=Z,8μmcomp=Z,238nm,1.5s,mb5.6
ARMA Armidale 49.62 173 ||*i*P **P 12 40 20.2 -1.6**
ARMA *e*pP pP 12 40 52.3 +0.2
ARMA *e*S **S 12 47 17.7 -2.5**
ARMA Armidale 49.62 173 *e*P **P 12 40 20.2 -1.6**
comp=Z,732nm,2.7s,mb5.8
SHL Shillong 49.93 288 *e*PKP **P 12 40 25.0 +0.6**
SHL *i*S **S 12 47 25.0 0.0**
TPTI 49.97 258 P **P 12 40 24.5 -0.4**
comp=Z,40nm,0.9s,mb5.0
SISI Saibi 50.11 251 P **P 12 40 25.7 -0.2**
comp=Z,4μmcomp=Z,110nm,1.0s,mb5.4
LSA Lhasa 50.39 293 P **P 12 40 28.8 +1.0**
LSA S **S 12 47 25.6 -5.7**
LSA pmax pmax
comp=Z,30nm,1.0s,mb4.9
LSA pmax pmax
comp=Z,220nm,6.0s
LSA LR LR
comp=N,2μm,18.0s
LSA LR LR
comp=E,2μm,23.0s
LSA LR LR
comp=Z,3μm,23.0s
LSA Lhasa 50.39 293 *e*P **P 12 40 28.7 +0.9**
comp=Z,86nm,0.9s,mb5.4
LSA Lhasa 50.39 293 *e*P **P 12 40 28.7 +0.9**
LSA pmax pmax
comp=Z,86nm,0.9s,mb5.4
BILL Bilibino 50.56 10 *e*P **P 12 40 28.2 -0.2**
comp=Z,390nm,1.4s,mb5.8
BILL Bilibino 50.56 10 *e*P **P 12 40 28.3 -0.1**
BILL pmax pmax
comp=Z,390nm,1.4s,mb5.8
AGT Agartala 50.65 286 *e*x x 12 40 37.0
AGT *e*x x 12 40 59.0
AKUT Akutan 50.77 35 *e*P **P 12 40 30.5 +0.2**

comp=Z,822nm,1.7s,mb6.1
AKUT LR LR
comp=Z,2µm,23.0s
STKA Stephens Creek 50.90 185 P **P** **12 40 29.4 -2.0**
comp=Z,50nm,0.8s,mb5.2,baz=350,slow=7.9,SNR=39
STKA S **S** **12 47 31.4 -6.5**
comp=Z,6.6nm,0.9s,baz=225,slow=20,SNR=3.6
STKA LR LR 13 00 41.6
comp=Z,2µm,19.7s,baz=108,slow=34
STKA Stephens Creek 50.90 185⇑ *i*P **P** **12 40 29.3 -2.1**
comp=Z,45nm,0.9s,mb5.1
STKA *e*S **S** **12 47 32.0 -5.9**
STKA Stephens Creek 50.90 185 *e*P **P** **12 40 29.4 -2.0**
comp=Z,14nm,0.9s,mb4.6
STKA S **S** **12 47 31.4 -6.5**
STKA Stephens Creek 50.90 185 P **P** **12 40 29.4 -2.0**
STKA S **S** **12 47 31.4 -6.5**
STKA pmax pmax
comp=Z,50nm,0.8s
STKA smax
comp=N,7.0nm,0.9s
FORT Forrest 52.48 199⇑ *i*P **P** **12 40 42.7 -0.5**
comp=N,235nm,0.7s,mb5.9
FORT *e*S **S** **12 48 03.2 +3.6**
FORT Forrest 52.48 199 *e*P **P** **12 40 42.9 -0.3**
comp=N,234nm,0.7s,mb5.9
BBOO Buckleboo 52.50 190 *e*P **P** **12 40 41.5 -1.7**
comp=N,756nm,0.5s,mb6.6
OPA Opana 52.54 77 *e*P **P** **12 40 44.0 +0.1**
OPA Opana 52.54 77 *e*P **P** **12 40 44.0 0.0**
KIP Kipapa 52.58 77 *e*P **P** **12 40 43.6 -0.6**
comp=N,397nm,1.1s,mb6.1
KIP Kipapa 52.58 77 *e*P **P** **12 40 43.6 -0.6**
KIP pmax pmax
comp=Z,397nm,1.1s,mb6.1
RIV Riverview 52.95 174 *e*P **P** **12 40 45.8 -0.8**
AFI Afiamalu 53.21 125 P **P** **12 40 47.7 -1.1**
comp=Z,32nm,0.8s,mb5.1,baz=65,slow=14,SNR=5.0
AFI LR LR 12 57 58.7
comp=Z,727nm,20.8s,baz=311,slow=30
AFI Afiamalu 53.21 125 P **P** **12 40 47.7 -1.1**
AFI Afiamalu 53.21 125 P **P** **12 40 47.7 -1.1**
AFI pmax pmax
comp=Z,33nm,0.8s,mb5.1
CAL Calcutta 53.47 284 *e*PKP **P** **12 40 49.5 -1.2**
CAL AMb AMB 12 40 49.6
comp=Z,1µm,0.6s,mb6.8
CAL *ex* x 12 49 00.7
TAPN Taplejung 53.53 290 *e*P **P** **12 40 51.6 +0.5**
comp=Z,115nm,1.2s,mb5.5
TAPN Taplejung 53.53 290 *e*P **P** **12 40 51.6 +0.5**
comp=Z,115nm,1.3s,mb5.5
ODAN Odare 53.85 290 *e*P **P** **12 40 53.7 +0.2**
comp=Z,29nm,0.7s,mb5.2
ODAN Odare 53.85 290 *e*P **P** **12 40 53.7 +0.2**
comp=Z,29nm,0.6s,mb5.2
WMQ Urumqi 54.03 311 *e*P **P** **12 40 54.6 +0.1**
WMQ Urumqi 54.03 311 P **P** **12 40 55.0 +0.5**
WMQ pP pP 12 41 24.6 -0.6
WMQ sP sP 12 41 38.8 -0.9
WMQ PP PP 12 42 59.6 +2.5
WMQ S **S** **12 48 20.5 0.0**
WMQ sS sS 12 49 12.2 -1.3
WMQ pmax pmax
comp=Z,82nm,1.3s,mb5.3
WMQ LR LR
comp=N,3µm,26.0s
WMQ LR LR
comp=E,2µm,18.0s
WMQ LR LR
comp=Z,1µm,21.0s
SDPT Sand Point 54.08 35 *e*P **P** **12 40 53.7 -0.9**
comp=Z,277nm,0.6s,mb6.2
SDPT LR LR
comp=Z,2µm,23.0s
CAN Canberra 54.27 177 *e*P **P** **12 40 55.5 -0.7**
comp=Z,51nm,0.8s,mb5.3
CAN Canberra 54.27 177 *e*P **P** **12 40 55.5 -0.7**
CAN pmax pmax
comp=Z,51nm,0.8s,mb5.3
CNB Canberra Magne 54.28 176 *e*P **P** **12 40 55.4 -0.9**
comp=Z,146nm,0.8s,mb5.8
CNB *e*S **S** **12 48 17.5 -6.3**
RAMN Ramite 54.55 290 *e*P **P** **12 40 58.7 +0.2**
comp=Z,20nm,0.6s,mb5.0
RAMN Ramite 54.55 290 *e*P **P** **12 40 58.7 +0.2**
comp=Z,20nm,0.6s,mb5.0
JIRN Jiri 54.85 291 *e*P **P** **12 41 01.2 +0.5**
comp=Z,22nm,0.8s,mb5.0
JIRN Jiri 54.85 291 *e*P **P** **12 41 01.2 +0.5**
comp=Z,22nm,0.8s,mb4.9
GUN Gumba 55.10 291 *e*P **P** **12 41 02.7 +0.2**
GUN Gumba 55.10 291 *e*P **P** **12 41 02.7 +0.2**
KHU Kahuku 55.14 80 *e*P **P** **12 41 02.9 0.0**
KHU Kahuku 55.14 80 *e*P **P** **12 41 02.9 0.0**
TNA Tin City 55.38 21 *e*P **P** **12 41 03.5 -0.3**
comp=Z,111nm,1.2s,mb5.5
PUH Pauahi 55.49 79 *e*P **P** **12 41 05.6 +0.2**
PKI Pulchoki 55.55 291 *e*P **P** **12 41 05.5 -0.2**
PKI Pulchoki 55.55 291 *e*P **P** **12 41 05.5 -0.2**
PKI Pulchoki 55.55 291 *e*P **P** **12 41 05.5 -0.2**
STCH Steam Cracks 55.57 79 *e*P **P** **12 41 06.2 +0.2**
KKN Kakani 55.64 291 *e*P **P** **12 41 06.2 -0.2**
KKN Kakani 55.64 291 *e*P **P** **12 41 06.2 -0.2**
KKN Kakani 55.64 291 *e*P **P** **12 41 06.2 -0.2**
DMN Daman 55.81 291 *e*P **P** **12 41 07.7 +0.1**
DMN Daman 55.81 291 *e*P **P** **12 41 07.7 +0.1**
GKN Gorkha 56.19 291 *e*P **P** **12 41 10.1 -0.2**
GKN Gorkha 56.19 291 *e*P **P** **12 41 10.1 -0.2**
TOO Toolangi 56.43 180 *e*P **P** **12 41 10.5 -1.1**
comp=Z,372nm,0.9s,mb6.2
TOO *e*SCP ScP 12 45 54.7 +0.5
DANN Dangsing 56.93 292 *e*P **P** **12 41 15.7 +0.2**
DANN Dangsing 56.93 292 *e*P **P** **12 41 15.7 +0.2**
KOLN Koldanda 57.13 291 *e*P **P** **12 41 16.5 -0.4**
KOLN Koldanda 57.13 291 *e*P **P** **12 41 16.5 -0.4**
KLBR Kellerberrin 57.16 208⇑ *i*P **P** **12 41 15.8 -1.1**
comp=Z,321nm,0.7s,mb6.3
KLBR *e*S **S** **12 49 00.1 -2.0**
COCO West Island 57.37 241 *e*P **P** **12 41 19.8 +1.1**
comp=Z,68nm,0.8s,mb5.5
COCO *e*pP pP 12 41 46.7 -3.0
COCO West Island 57.37 241 *e*P **P** **12 41 19.8 +1.1**
COCO *e**PP pP 12 41 46.7 -3.1
COCO pmax pmax
comp=Z,68nm,0.8s,mb5.5
COCO West Island 57.37 241 P **P** **12 41 20.2 +1.5**
comp=Z,4µmcomp=Z,93nm,0.9s,mb5.6
PYUN Piuthan 57.63 292 *e*P **P** **12 41 20.2 -0.2**
PYUN Piuthan 57.63 292 *e*P **P** **12 41 20.2 -0.2**
ZAA0 Zalesovo Array 57.67 322 *e*P **P** **12 41 18.8 -1.4**
ZAA0 *e*pP pP 12 41 49.0 -2.2
ZAA0 *e*sP sP 12 42 05.3 -0.4
ZAA0 *e*ScP ScP 12 45 55.3 -4.4
ZALV Zalesovo Beam 57.67 322 P **P** **12 41 19.0 -1.2**
comp=Z,54nm,0.9s,mb5.4,baz=109,slow=8.1,SNR=106
ZALV ScP ScP 12 45 55.7 -3.9
comp=Z,12nm,1.0s,baz=119,slow=5.2,SNR=4.3
ZALV LR LR 13 04 12.5
comp=Z,833nm,19.1s,baz=293,slow=34
ZALV PKPPKP 13 11 02.0
comp=Z,2.7nm,0.9s,baz=291,slow=4.5,SNR=5.9
ZALV Zalesovo Beam 57.67 322 P **P** **12 41 19.0 -1.2**
ZALV ScP ScP 12 45 55.7 -3.9
ZALV P'P' 13 11 02.0
ZALV Zalesovo Beam 57.67 322 P **P** **12 41 19.0 -1.2**
ZALV pmax pmax
comp=Z,54nm,0.9s,mb5.4
ZALV pmax pmax
comp=N,12nm,1.0s
XMAS Kiritimati 58.10 100 *e*P **P** **12 41 24.2 +0.3**
comp=N,671nm,1.6s,mb6.2
MK31 Makanchi Array 58.16 314 *e*P **P** **12 41 23.3 -0.5**
MK31 Makanchi Array 58.16 314 *e*P **P** **12 41 23.2 -0.6**
MK31 pmax pmax
comp=Z,20nm,0.7s,mb5.1
MKAR Makanchi Array 58.16 314 P **P** **12 41 23.3 -0.5**
comp=Z,7.2nm,0.6s,mb4.7,baz=90,slow=9.3,SNR=81
MKAR ScP ScP 12 45 59.5 -2.5
comp=Z,8.4nm,0.9s,baz=106,slow=3.0,SNR=4.1
MKAR LR LR 13 06 06.2
comp=Z,1µm,19.2s,baz=96,slow=35
MKAR PKP2bc 13 11 15.9
comp=Z,3.3nm,1.0s,baz=286,slow=1.8,SNR=3.7
MKAR Makanchi Array 58.16 314 P **P** **12 41 23.3 -0.5**
MKAR ScP ScP 12 45 59.5 -2.5
MKAR ⇑ *e* 13 11 15.9
MKAR Makanchi Array 58.16 314 P **P** **12 41 23.3 -0.5**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR pmax pmax
comp=N,8.0nm,0.9s
OHAK Old Harbor 58.45 34 *e*P **P** **12 41 24.7 -0.9**
comp=N,247nm,1.1s,mb6.0
OHAK LR LR
comp=Z,2µm,17.0s
NWAO Narrogin (SRO) 58.52 208 P **P** **12 41 25.9 -0.5**
comp=Z,321nm,0.8s,mb6.2,baz=43,slow=7.7,SNR=148
NWAO ScP ScP 12 46 01.7 -1.9
comp=Z,23nm,0.9s,baz=356,slow=2.3,SNR=3.8
NWAO S **S** **12 49 13.9 -6.0**
comp=Z,5.0nm,0.8s,baz=297,slow=3.3,SNR=3.2
NWAO LR LR 13 04 35.4
comp=Z,1µm,21.5s,baz=191,slow=34
NWAO Narrogin (SRO) 58.52 208 P **P** **12 41 25.9 -0.5**
NWAO ScP ScP 12 46 01.7 -1.9
NWAO S **S** **12 49 13.9 -6.0**
NWAO Narrogin (SRO) 58.52 208 P **P** **12 41 25.9 -0.5**
NWAO S **S** **12 49 13.9 -5.9**
NWAO pmax pmax
comp=Z,321nm,0.8s
NWAO pmax pmax
comp=N,23nm,0.9s
NWAO smax
comp=N,5.0nm,0.8s
NWAO Narrogin (SRO) 58.52 208 P **P** **12 41 26.3 -0.1**
SNR=8.5
NVS Novosibirsk 58.76 323⇑ *i*P **P** **12 41 25.6 -2.2**
NVS *e**PP pP 12 41 55.2 -3.7
NVS *i* 12 42 10.8
NVS *e*S **S** **12 49 19.8 -2.6**
NVS pmax pmax
comp=Z,86nm,1.4s,mb5.4
NVS pmax pmax
comp=N,16nm,1.1s
NVS pmax pmax
comp=E,41nm,1.2s
NVS smax
comp=E,203nm,2.9s
TTA Tatalina 58.83 27 *e*P **P** **12 41 27.8 -0.3**
TTA Tatalina 58.83 27 *e*P **P** **12 41 27.8 -0.3**
VIS Vishakhapatnam 58.93 280 *e*PKP **P** **12 41 29.1 -0.5**
VIS AMb AMB 12 41 49.5
comp=Z,143nm,1.5s,mb5.6
KDAK Kodiak Island 58.96 33 P **P** **12 41 28.6 -0.5**
comp=Z,81nm,0.8s,mb5.6,baz=248,slow=3.4,SNR=33
KDAK Kodiak Island 58.96 33 P **P** **12 41 28.6 -0.5**
KDAK Kodiak Island 58.96 33 P **P** **12 41 28.6 -0.5**
KDAK pmax pmax
comp=Z,81nm,0.8s,mb5.6
RSO Redoubt South 59.55 30 *e*P **P** **12 41 31.5 -1.6**
comp=Z,157nm,1.0s,mb5.8
PTH Pithoragarh 59.90 294 *e*PKP **P** **12 41 36.3 +0.2**
PTH *ex* x 12 42 08.2
OUZ Omahuta 60.21 154 *e*P **P** **12 41 38.3 +0.4**
comp=Z,134nm,0.9s,mb5.8
OUZ *e*pP pP 12 42 11.1 +1.9
PPLA Purkeypile 60.48 28 *e*P **P** **12 41 39.5 0.0**
comp=Z,924nm,1.9s,mb6.3
SLKM Skilak Lake 60.78 31 *e*P **P** **12 41 40.5 -1.0**
SLKM Skilak Lake 60.78 31 *e*P **P** **12 41 40.5 -1.0**
KURK Kurchatov 60.95 318 P **P** **12 41 42.2 -0.6**
comp=Z,30nm,0.3s,mb5.5,baz=92,slow=7.5,SNR=112
KURK LR LR 13 07 56.6
comp=Z,967nm,18.0s,baz=105,slow=36
KURK PKP2bc 13 11 04.8
comp=Z,5.8nm,0.8s,baz=280,slow=2.7,SNR=13
KURK Kurchatov 60.95 318 *e*P **P** **12 41 41.7 -1.1**
comp=Z,110nm,1.1s,mb5.6
KURK ⇑ *e* 13 11 04.8
KURK Kurchatov 60.95 318 P **P** **12 41 42.3 -0.5**
KURK pmax pmax
comp=Z,31nm,0.3s,mb5.6
KURK MLR MLR
comp=Z,967nm,18.0s
SEW Seward 61.06 31 *e*P **P** **12 41 42.5 -1.0**
comp=Z,147nm,1.1s,mb5.7
RC01 Rabbit Creek A 61.14 30 *e*P **P** **12 41 42.8 -1.1**
comp=Z,180nm,1.1s,mb5.8
MOO Moorlands 61.31 179 *e*P **P** **12 41 44.0 -1.2**
comp=Z,180nm,0.9s,mb5.9
BPAW Bear Paw Mtn. 61.33 27 *e*P **P** **12 41 44.9 -0.2**
comp=Z,292nm,1.2s,mb6.0
TRF Thorofare Moun 61.46 27 *e*P **P** **12 41 45.2 -0.8**
comp=Z,250nm,1.1s,mb6.0
PMR Palmer 61.54 30 *e*P **P** **12 41 45.3 -1.3**
comp=Z,312nm,1.4s,mb6.0
PMR LR LR
comp=Z,1µm,20.0s
PMR Palmer 61.54 30 *e*P **P** **12 41 45.3 -1.3**
PMR pmax pmax
comp=Z,312nm,1.4s,mb6.0
PMR MLR MLR
comp=Z,1µm,20.0s
DDI Dehra Dun 61.68 295 *ex* **P** **12 41 45.0 -3.1**
TAU Tasmania Unive 61.78 179 *e*P **P** **12 41 47.1 -1.3**
comp=Z,67nm,1.0s,mb5.4
TAU Tasmania Unive 61.78 179 *e*P **P** **12 41 47.1 -1.2**
TAU pmax pmax
comp=Z,67nm,1.0s,mb5.4
SML Sawmill 61.95 29 *e*P **P** **12 41 48.7 -0.7**
comp=Z,43nm,0.8s,mb5.3
SML Sawmill 61.95 29 *e*P **P** **12 41 48.7 -0.7**
SML pmax pmax
comp=Z,43nm,0.8s,mb5.3
MCK McKinley 62.11 27 *e*P **P** **12 41 49.2 -1.2**
comp=Z,697nm,1.8s,mb6.2
MCK McKinley 62.11 27 *e*P **P** **12 41 49.2 -1.2**
MCK pmax pmax
comp=Z,697nm,1.8s,mb6.2
SDNR Sundarnagar 62.47 296 *e*PKP **P** **12 41 53.0 -0.4**
SDNR *ex* x 12 42 28.0
COLD Coldfoot 62.52 23 *e*P **P** **12 41 53.3 +0.3**
comp=Z,218nm,1.5s,mb5.8
KSH Kashi 62.63 305 P **P** **12 41 57.5 +3.2**
KSH pP pP 12 42 28.2 +2.4
KSH PcP PcP 12 42 34.7 +2.7
KSH sP sP 12 42 42.5 +2.4
KSH PP PP 12 44 18.5 +5.0
KSH ScP ScP 12 46 23.6 +1.6
KSH PcS PcS 12 46 36.5 +1.1
KSH S **S** **12 50 14.2 +2.0**
KSH sS sS 12 51 07.4 +0.9
KSH ScS ScS 12 51 34.6 +0.2
KSH SS SS 12 54 24.8 +6.1
KSH pmax pmax
comp=Z,17nm,1.0s,mb4.8
KSH pmax pmax
comp=Z,140nm,3.3s
KSH LR LR
comp=N,1µm,13.1s
KSH LR LR
comp=E,910nm,13.1s
KSH LR LR
comp=Z,1µm,18.5s
AYAN Aya Nagar 62.72 293 *e*PKP **P** **12 41 53.7 -1.4**
TKM2 Tokmak 2 62.78 309 *e*P **P** **12 41 55.6 +0.3**
comp=Z,28nm,0.8s,mb5.2
TKM2 Tokmak 2 62.78 309 *e*P **P** **12 41 55.6 +0.4**
TKM2 pmax pmax
comp=Z,28nm,0.8s,mb5.1
KKR Kurukshetra 62.78 294 *e*PKP **P** **12 41 55.3 -0.2**
KKR AMb AMB 12 41 57.8
comp=Z,202nm,0.3s,mb6.4
SONA Sohna 62.79 292 *e*PKP **P** **12 41 54.1 -1.5**
COLA College 62.84 26 *e*P **P** **12 41 54.5 -0.8**
comp=Z,45nm,0.8s,mb5.3
COLA College 62.84 26 *e*P **P** **12 41 54.5 -0.7**
COLA pmax pmax
comp=Z,45nm,0.8s,mb5.3
BHK Bhakra 62.95 296 *ex* x 12 42 06.0
DIV Divide 63.04 30 *e*P **P** **12 41 56.6 0.0**
comp=Z,516nm,1.6s,mb6.1
ILAR Eielson Array 63.22 26 P **P** **12 41 55.9 -1.8**
comp=Z,31nm,0.6s,mb5.3,baz=244,slow=5.3,SNR=329
ILAR LR LR 13 06 12.2
comp=Z,1µm,21.3s,baz=270,slow=33
ILAR PKPPKP 13 10 48.1
comp=Z,0.5nm,0.9s,baz=329,slow=2.5,SNR=4.1
ILAR PKP2bc 13 11 01.6
comp=Z,0.7nm,0.8s,baz=121,slow=2.2,SNR=4.7
ILAR Eielson Array 63.22 26 P **P** **12 41 55.9 -1.8**
ILAR P'P' 13 10 48.1
ILAR ⇑ *e* 13 11 01.6
ILAR Eielson Array 63.22 26 P **P** **12 41 55.9 -1.8**
ILAR pmax pmax
comp=Z,31nm,0.6s
BHPL Bhopal 63.29 287 *e*PKP **P** **12 41 58.0 -0.9**
HYB Hyderabad 63.44 280 *i* P **P** **12 41 59.0 -1.0**
HYB *e*pP pP 12 42 32.0 +0.4
HYB *e*S **S** **12 50 24.0 +1.1**
PAX Paxson 63.49 28 *e*P **P** **12 41 59.1 -0.4**
comp=Z,53nm,0.6s,mb5.5
PAX Paxson 63.49 28 *e*P **P** **12 41 59.1 -0.4**
PAX pmax pmax
comp=Z,53nm,0.6s,mb5.5
FRU Bishkek 63.51 309 *e*P **P** **12 42 00.0 0.0**
FRU *e* pP 12 42 30.0 -1.6
FRU *e* 12 42 47.0
FRU *e* 12 50 37.0
FRU pmax pmax
comp=Z,100nm,2.5s,mb5.2
FRU smax
comp=N,400nm,3.2s
HIZ Hauiti 63.55 155 PN **P** **12 42 00.1 0.0**
AAK Ala-Archa 63.60 309 *e*P **P** **12 42 00.5 -0.1**
comp=N,83nm,1.0s,mb5.5
AAK Ala-Archa 63.60 309 *e*P **P** **12 42 00.5 -0.2**
AAK pmax pmax
comp=Z,83nm,1.0s,mb5.5
AAK Ala-Archa 63.60 309 P **P** **12 42 00.4 -0.3**
comp=Z,3µmcomp=Z,69nm,0.8s,mb5.5
AAK Ala-Archa 63.60 309 P **P** **12 42 00.9 +0.2**
comp=Z,61nm,1.3s,mb5.3,SNR=6.4
KHET Khetri 63.93 292 *e*PKP **P** **12 42 02.6 -0.5**
EKS2 Erkin-Say 64.13 309 *e*P **P** **12 42 03.7 -0.4**
comp=Z,19nm,0.9s,mb4.9
EKS2 Erkin-Say 64.13 309 *e*P **P** **12 42 03.7 -0.4**
EKS2 pmax pmax
comp=Z,19nm,0.9s,mb4.9
AKL Akola 64.16 284 *e*PKP **P** **12 42 02.5 -2.2**
AKL AMb AMB 12 42 42.5
comp=Z,216nm,1.8s,mb5.7
AKL *i* x x 12 51 25.1
RATZ Rangitukua 64.22 154 PN **P** **12 42 04.4 -0.2**
DOT Dot Lake 64.23 28 *e*P **P** **12 42 03.6 -0.7**
comp=Z,102nm,1.3s,mb5.5
MENT Mentasta 64.27 29 *e*P **P** **12 42 03.9 -0.7**
URZ Urewera 64.27 153 P **P** **12 42 02.7 -2.2**
comp=Z,95nm,0.9s,mb5.6,baz=334,slow=3.9,SNR=32
URZ Urewera 64.27 153 *e*P **P** **12 42 03.1 -1.8**
comp=Z,135nm,1.0s,mb5.7
URZ Urewera 64.27 153 PN **P** **12 42 02.8 -2.2**
MWZ Matawai 64.52 153 PN **P** **12 42 04.4 -2.1**
QRZ Quartz Range 64.67 158 PN **P** **12 42 06.9 -0.6**
BHHZ Black Hill Sta 64.87 154 *e*PN **P** **12 42 07.1 -1.7**
MCHZ McNeill Hill 65.09 154 PN **P** **12 42 08.8 -1.4**
KNZ Kokohu 65.15 153 PN **P** **12 42 08.4 -2.2**
AJM Ajmer 65.21 291 *e*PKP **P** **12 42 10.0 -1.4**
AJM *ex* x 12 42 42.0
TSZ Takapari Road 65.31 155 PN **P** **12 42 09.8 -1.8**
EGAK Eagle 65.64 27 *e*P **P** **12 42 12.7 -0.8**
comp=Z,299nm,1.5s,mb5.9
SNZO South Karori 65.89 156 *e*P **P** **12 42 13.1 -2.3**
comp=Z,250nm,0.8s,mb6.1
PNL Peninsula 66.03 32 *e*P **P** **12 42 16.2 +0.2**
comp=Z,404nm,1.6s,mb6.0
WVZ Waitaha Valley 66.07 160 PN **P** **12 42 14.1 -2.3**
BVA0 Borovoye Array 66.14 320 *i* P **P** **12 42 15.8 -1.1**
BVA0 pmax pmax
comp=Z,21nm,1.0s,mb4.9
BVAR Borovoye Array 66.14 320 P **P** **12 42 16.5 -0.4**
comp=Z,77nm,0.8s,mb5.6,baz=94,slow=7.7,SNR=213
BVAR S S 12 50 52.6 -2.3
comp=Z,3.1nm,0.9s,baz=98,slow=11,SNR=5.1
BVAR PKP2bc 13 10 52.9
comp=Z,3.8nm,0.9s,baz=318,slow=2.0,SNR=9.8
BVAR LR LR 13 11 44.2
comp=Z,2µm,18.0s,baz=80,slow=36
BVAR Borovoye Array 66.14 320 P **P** **12 42 16.5 -0.4**
BVAR S S 12 50 52.6 -2.3
BVAR ⇑ *e* 13 10 52.9
BVAR Borovoye Array 66.14 320 P **P** **12 42 16.5 -0.4**
BVAR S S 12 50 52.6 -2.3
BVAR pmax pmax
comp=Z,77nm,0.8s
BVAR smax
comp=N,3.0nm,0.9s
BVAR pmax pmax
comp=Z,4.0nm,0.9s
BVAR MLR MLR
comp=Z,2µm,18.0s
BRVK Borovoye 66.20 320 *e*P **P** **12 42 16.5 -0.8**
comp=Z,89nm,0.9s,mb5.6
BRVK Borovoye 66.20 320 *e*P **P** **12 42 16.5 -0.8**
BRVK pmax pmax
comp=Z,89nm,0.9s,mb5.6
PLWZ Palliser 66.33 156 PN **P** **12 42 16.0 -2.1**
DAWY Dawson 66.33 28 *e*P **P** **12 42 17.8 -0.1**
TRWZ Traveller 66.35 156 PN **P** **12 42 16.4 -1.8**
KHZ Kahutara 66.43 158 *e*P **P** **12 42 16.0 -2.7**
comp=Z,76nm,0.6s,mb5.7
KK31 Karatay Array 66.50 309 *i* P **P** **12 42 18.4 -1.0**
KK31 pmax pmax
comp=Z,31nm,0.7s,mb5.2
KKAR Karatay Array 66.50 309 *e*P **P** **12 42 18.8 -0.6**
comp=Z,56nm,0.9s,mb5.4
KKAR Karatay Array 66.50 309 *e*P **P** **12 42 18.8 -0.6**
KKAR pmax pmax
comp=Z,56nm,0.9s,mb5.4
RPZ Rata Peaks 66.74 160 P **P** **12 42 18.1 -2.6**
comp=Z,150nm,0.9s,mb5.8,baz=339,slow=0.6,SNR=60
RPZ Rata Peaks 66.74 160 P **P** **12 42 18.1 -2.6**
RPZ Rata Peaks 66.74 160 PN **P** **12 42 18.0 -2.7**
RAR Rarotonga 66.74 124 P **P** **12 42 19.8 -1.4**
comp=Z,70nm,1.0s,mb5.5,baz=243,slow=2.8,SNR=4.1
RAR Rarotonga 66.74 124 P **P** **12 42 19.8 -1.4**
RAR Rarotonga 66.74 124 P **P** **12 42 19.8 -1.4**
RAR pmax pmax
comp=Z,70nm,1.0s
LBZ Lake Benmore 67.08 161 PN **P** **12 42 20.5 -2.3**
TRD Trivandrum 67.26 271⇑ *ex* x 12 42 40.7
TRD *e*S S 12 51 06.7 -3.0
KAD Karad 67.52 281 *e*PKP **P** **12 42 24.0 -2.3**
POO Poona 67.54 283 *e*PKP **P** **12 42 25.5 -0.9**
ODZ Otahua Downs 67.81 161 *e*P **P** **12 42 25.9 -1.5**
comp=Z,104nm,0.8s,mb5.6
ODZ Otahua Downs 67.81 161 *e*PN **P** **12 42 25.4 -2.0**
SKAG Skagway 68.09 33 *e*P **P** **12 42 29.5 +0.4**
comp=Z,995nm,2.5s,mb6.1
SKAG LR LR
comp=Z,900nm,21.0s
SIT Sitka 68.14 35 *e*P **P** **12 42 29.5 +0.1**
comp=Z,525nm,2.3s,mb5.9
SIT LR LR
comp=Z,600nm,20.0s
SIT Sitka 68.14 35 *e*P **P** **12 42 29.5 +0.1**
SIT pmax pmax
comp=Z,525nm,2.3s,mb5.9
SIT MLR MLR
comp=Z,600nm,20.0s
KBL Kabul 68.66 300 *e*P **P** **12 42 32.6 -0.5**
comp=Z,93nm,1.1s,mb5.4
KBL Kabul 68.66 300 *e*P **P** **12 42 32.6 -0.5**
KBL pmax pmax
comp=Z,93nm,1.1s,mb5.4
INK Inuvik 68.94 23 P **P** **12 42 33.4 -0.8**
comp=Z,24nm,0.3s,mb5.3,baz=257,slow=5.3,SNR=132
INK S S 12 51 24.5 -3.3
comp=Z,4.9nm,0.9s,baz=84,slow=28,SNR=18
INK Inuvik 68.94 23 P **P** **12 42 33.4 -0.8**
INK S S 12 51 24.5 -3.3
INK Inuvik 68.94 23 P **P** **12 42 33.4 -0.8**
INK S S 12 51 24.5 -3.3
INK pmax pmax
comp=Z,25nm,0.4s
INK smax
comp=N,5.0nm,0.9s
CRAG Craig 69.45 37 *e*P **P** **12 42 37.6 0.0**
comp=N,482nm,2.0s,mb5.9
CRAG LR LR
comp=Z,700nm,19.0s
WRAK Wrangell Islan 69.81 36 *e*P **P** **12 42 40.0 +0.2**
comp=Z,627nm,1.9s,mb6.0
DIB Dawson Inlet, 70.01 39 T 13 57 32.1
SNR=5.5

DLBC Dease Lake 70.89 34 P **P 12 42 46.9 +0.6**
comp=Z,34nm,0.6s,mb5.3,baz=281,slow=6.2,SNR=73
DLBC Dease Lake 70.89 34 P **P 12 42 46.9 +0.6**
SVE Sverdlovsk 71.52 325⇑*i*P **P 12 42 49.7 -0.4**
SVE *e*PPP 12 47 15.2
SVE *e*S S 12 51 56.9 -1.3
SVE *e* 12 52 37.1
SVE *e*SS SS 12 56 35.9 +0.6
SVE *e* 12 59 37.7
SVE pmax pmax
comp=Z,71nm,1.0s,mb5.3
ARU Arti 72.71 324 *e*P **P 12 42 56.1 -1.0**
comp=Z,68nm,1.0s,mb5.3
ARU Arti 72.71 324 *d i*P **P 12 42 56.0 -1.2**
ARU *PP pP 12 43 29.0 -0.6
ARU *SP sP 12 43 40.7 -3.0
ARU *e* 12 45 37.6
ARU S S 12 52 11.3 -0.5
ARU pmax pmax
comp=Z,71nm,1.7s,mb5.1
ARU Arti 72.71 324 P **P 12 42 56.0 -1.2**
comp=Z,344nm,0.7s,mb6.2,SNR=5.5
AB31 Akbulak array 73.02 317 P **P 12 42 57.8 -1.4**
AB31 pmax pmax
comp=Z,28nm,0.5s,mb5.2
ABKAR Akbulak array 73.02 317 *e*P **P 12 42 57.8 -1.4**
comp=Z,23nm,0.5s,mb5.2
SOKR Solikamsk 73.16 328 *d i*P **P 12 42 58.9 -0.9**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.2
PPT Papeete 73.29 116 *e*S S 12 52 13.5 -6.0
comp=Z,3μm,26.5s
PPT *e*SS SS 12 56 57.0 -7.5
comp=Z,1μm,24.5s
PPT *e*LQ 13 01 34.4
comp=Z,3μm,29.0s
PPT *e*LR LR 13 05 18.6
comp=Z,3μm,30.8s,baz=293
PPT2 Papeete2 73.30 116 *e*P **P 12 43 02.0 +0.7**
comp=Z,143nm,1.3s,mb5.5
PAE Paea 73.33 116 *e*P **P 12 43 00.8 -0.7**
comp=Z,22nm,1.2s,mb4.8
TIAR Tiarei 73.48 116 *e*P **P 12 43 01.9 -0.5**
comp=Z,189nm,1.2s,mb5.7
PMOR Pomariorio Ree 73.61 113 *e*P **P 12 43 03.2 0.0**
comp=Z,473nm,1.3s,mb6.1
AKTO Aktyubinsk 74.04 318 P **P 12 43 03.6 -1.5**
comp=Z,14nm,0.6s,mb4.8,baz=90,slow=7.8,SNR=54
AKTO LR LR 13 15 13.4
comp=Z,1μm,20.6s,baz=74,slow=35
AKTO Aktyubinsk 74.04 318 P **P 12 43 03.6 -1.5**
AKTO Aktyubinsk 74.04 318 P **P 12 43 03.7 -1.4**
AKTO pmax pmax
comp=Z,14nm,0.6s,mb4.9
AKTO MLR MLR
comp=Z,1μm,20.6s
MEH Mehetia 74.71 115 *e*P **P 12 43 08.9 -0.6**
comp=Z,126nm,1.2s,mb5.4
TBI Tubuai 76.04 121 *e*P **P 12 43 17.7 +0.7**
comp=Z,197nm,1.0s,mb5.7
TBI *e*S S 12 52 42.8 -7.2
comp=Z,2μm,29.2s
TBI *e*SS SS 12 57 35.7 -10
comp=Z,1μm,26.5s
TBI *e*LQ 13 03 17.7
comp=Z,2μm,33.0s
TBI *e*LR LR 13 05 56.4
comp=Z,1μm,29.5s
PGC Sidney 76.39 43 *e*P **P 12 43 19.0 +0.3**
comp=Z,18nm,1.6s,mb4.5
NLWA Neilton Lookou 76.42 44 *e*P **P 12 43 19.6 +0.9**
comp=Z,407nm,1.5s,mb5.8
E03A Lebam 76.82 45⇑P **P 12 43 21.7 +0.6**
baz=77
GNW Green Mountain 77.06 44 *e*P **P 12 43 23.1 +0.7**
comp=Z,210nm,1.4s,mb5.6
KEBM Edson Butte 77.18 49 *e*P **P 12 43 24.4 +1.2**
comp=Z,997nm,1.6s,mb6.2
A05A Maple Falls 77.19 42⇓P **P 12 43 23.2 +0.1**
baz=77
A05A ⇑S S 12 53 01.1 -0.6
baz=77
COR Corvallis 77.48 47 *e*P **P 12 43 26.1 +1.3**
comp=Z,1μm,1.9s,mb6.2
COR Corvallis 77.48 47 *e*P **P 12 43 26.1 +1.3**
COR pmax pmax
comp=Z,1μm,1.9s,mb6.2
JCW Jim Creek 77.49 43 *e*P **P 12 43 25.4 +0.7**
comp=Z,1μm,1.5s,mb6.2
YKA Yellowknife Ar 77.57 28 P **P 12 43 24.2 -0.7**
comp=Z,58nm,0.6s,mb5.4,baz=286,slow=5.7,SNR=228
YKA PKiKP PKiKP 12 49 00.5 -3.0
comp=Z,1.5nm,0.6s,baz=301,slow=1.6,SNR=3.8
YKA Yellowknife Ar 77.57 28 P **P 12 43 24.2 -0.7**
YKA PKiKP PKiKP 12 49 00.5 -3.0
YKA Yellowknife Ar 77.57 28 P **P 12 43 24.2 -0.7**
YKA pmax pmax
comp=Z,58nm,0.6s
YKA pmax pmax
comp=Z,2.0nm,0.6s
ALE Alert 77.65 4 P **P 12 43 25.0 -0.1**
comp=Z,588nm,1.2s,mb6.1,SNR=9.2
RPW Rockport 77.69 43 *e*P **P 12 43 21.6 -4.3**
comp=Z,148nm,1.6s,mb5.4
D05A Enumclaw 77.71 44⇑P **P 12 43 27.0 +1.0**
baz=78
D05A ⇑S S 12 53 07.7 +0.3
baz=78
KRMB Red Mountain 77.82 50 *e*P **P 12 43 27.9 +1.1**
comp=Z,552nm,1.9s,mb5.9
LON Longmire 77.94 45 *e*P **P 12 43 27.1 -0.2**
comp=Z,207nm,1.5s,mb5.5
LON Longmire 77.94 45 *e*P **P 12 43 27.1 -0.2**
LON pmax pmax
comp=Z,207nm,1.5s,mb5.5
KHMM Horse Mountain 78.12 51 *e*P **P 12 43 29.5 +1.1**
comp=Z,437nm,1.4s,mb5.9
TAOE Nuku Hiva Isla 78.13 104 *e*S S 12 53 12.2 -0.8
comp=Z,390nm,28.1s
TAOE *e*LR LR 13 07 11.2
comp=Z,1μm,33.9s
H04A Detroit Lake 78.22 47⇑P **P 12 43 29.0 +0.1**
baz=78
HUMO Hull Mountain 78.23 49 *e*P **P 12 43 29.4 +0.4**
comp=Z,389nm,1.5s,mb5.8
HOOD Mount Hood Mea 78.42 46 *e*P **P 12 43 30.3 +0.3**
comp=Z,418nm,1.4s,mb5.9
KCPM Cahto Peak 78.54 52 *e*P **P 12 43 31.5 +0.7**
comp=Z,657nm,1.6s,mb6.0
KIPM Iron Peak 78.58 52 *e*P **P 12 43 31.3 +0.3**
comp=Z,854nm,1.7s,mb6.1
KIPM *e*pP pP 12 44 05.8 +2.0
YBH Yreka Blue Hor 78.63 50 *e*P **P 12 43 31.8 +0.5**
comp=Z,304nm,1.5s,mb5.7
YBH Yreka Blue Hor 78.63 50 *e*P **P 12 43 31.8 +0.6**
YBH pmax pmax
comp=Z,304nm,1.5s
ETW Entiat 78.68 44 *e*P **P 12 43 31.7 +0.3**
comp=Z,983nm,1.6s,mb6.2
SPITS Spitsbergen Ar 78.72 351 P **P 12 43 30.7 -0.4**
comp=Z,5.0nm,0.4s,mb4.5,baz=145,slow=12,SNR=127
SPITS PKKPbc PKKPbc 13 02 22.9 -4.3
comp=Z,15nm,1.1s,baz=161,slow=5.3,SNR=6.6
SPITS Spitsbergen Ar 78.72 351 P **P 12 43 30.7 -0.4**
SPITS PKKPbc PKKPbc 13 02 22.9 -4.3
SPITS Spitsbergen Ar 78.72 351 P **P 12 43 30.7 -0.3**
SPITS pmax pmax
comp=Z,5.0nm,0.4s
SPITS pmax pmax
comp=Z,15nm,1.1s
SPB4 Spitsbergen Ar 78.72 351 *e*P **P 12 43 30.9 -0.1**
KBS Kingsbay 78.83 352 *e*P **P 12 43 31.3 -0.4**
KBS Kingsbay 78.83 352 *e*P **P 12 43 31.5 -0.2**
comp=Z,57nm,0.9s,mb5.2
KBS Kingsbay 78.83 352 *e*P **P 12 43 31.5 -0.2**
KBS pmax pmax
comp=Z,57nm,0.9s,mb5.2
RES Resolute Bay 78.97 14 P **P 12 43 32.1 -0.3**
comp=Z,36nm,0.7s,mb5.1,baz=302,slow=6.2,SNR=62
RES Resolute Bay 78.97 14 *e*P **P 12 43 32.2 -0.3**
comp=Z,196nm,1.4s,mb5.5
RES Resolute Bay 78.97 14 *e*P **P 12 43 32.2 -0.3**
RES pmax pmax
comp=Z,197nm,1.4s,mb5.5
WDC Whiskeytown Da 79.07 51 *e*P **P 12 43 33.7 +0.1**
comp=Z,618nm,1.8s,mb5.9
WDC *e*pP pP 12 44 04.0 -2.4
WDC Whiskeytown Da 79.07 51 *e*P **P 12 43 33.7 +0.1**
WDC *e**PP pP 12 44 04.1 -2.4
WDC pmax pmax
comp=Z,619nm,1.8s,mb5.9
HOPS Hopland 79.10 53 *e*P **P 12 43 34.0 +0.1**
comp=Z,269nm,1.5s,mb5.7
G06A Carlson Farm, 79.13 46⇑P **P 12 43 34.0 +0.1**
baz=79,SNR=47
E07A Sunnyside 79.29 44⇓P **P 12 43 35.3 +0.6**
baz=79,SNR=89
F07A Phinny Hill Vi 79.42 45⇑P **P 12 43 35.8 +0.3**
baz=79,SNR=18
MCCM Marconi Confer 79.48 53 *e*P **P 12 43 36.2 +0.3**
comp=Z,1μm,2.2s,mb6.1
RSW Rattlesnake Hi 79.51 45 *e*P **P 12 43 36.3 +0.4**
comp=Z,286nm,1.2s,mb5.8
RSW *e*pP pP 12 44 12.4 +3.7
RSW *e*PP PP 12 46 37.0 -0.7
HAWA Hanford 79.55 45 *e*P **P 12 43 36.4 +0.3**
comp=Z,594nm,1.6s,mb6.0
K05A Summer Lake 79.66 48⇑P **P 12 43 37.4 +0.6**
baz=80
OD2 Odessa Site #2 79.80 43 *e*P **P 12 43 37.3 -0.2**
comp=Z,783nm,1.7s,mb6.1
E08A Dider Farm, El 79.83 44⇓P **P 12 43 38.0 +0.3**
baz=80,SNR=70
C09A Chrisman Ranch 79.96 43⇓P **P 12 43 38.3 0.0**
baz=80,SNR=55
LVZ Lovozero 80.02 339 *e*P **P 12 43 37.8 -0.4**
comp=Z,82nm,1.4s,mb5.2
LVZ Lovozero 80.02 339 *e*P **P 12 43 37.2 -1.0**
LVZ pmax pmax
comp=Z,48nm,1.3s,mb5.0
I07A Izee 80.24 47⇓P **P 12 43 40.0 +0.1**
baz=80,SNR=26
G08A Pilot Rock 80.25 45⇓P **P 12 43 40.1 +0.2**
baz=80,SNR=67
MOD Modoc 80.31 49 *e*P **P 12 43 40.6 +0.2**
comp=Z,376nm,1.4s,mb5.8
MOD *e*pP pP 12 44 16.6 +3.3
E09A Wood Farm, Sta 80.43 44⇓P **P 12 43 40.9 +0.1**
baz=80,SNR=83
LNOR Lincton Mounta 80.53 45 *e*P **P 12 43 41.5 +0.1**
comp=Z,498nm,2.0s,mb5.8
LNOR Lincton Mounta 80.53 45 *e*P **P 12 43 41.5 +0.1**
LNOR pmax pmax
comp=Z,498nm,2.0s,mb5.8
NEW Newport 80.55 42⇑P **P 12 43 41.4 -0.1**
baz=80,SNR=83
NEW Newport 80.55 42 *e*P **P 12 43 41.4 -0.1**
comp=Z,460nm,1.5s,mb5.9
NEW *e*pP pP 12 44 16.8 +2.4
NEW Newport 80.55 42 *e*P **P 12 43 41.4 -0.1**
NEW *e**PP pP 12 44 16.8 +2.4
NEW pmax pmax
comp=Z,460nm,1.5s
APA Apatity 80.59 339⇑*i*P **P 12 43 40.2 -1.1**
APA *i **SP pP 12 44 18.0 +3.8
APA *i* S S 12 53 32.0 -5.2
APA *i* PS 12 54 38.0
APA *i* SS SS 12 58 46.0 -5.7
APA pmax pmax
comp=Z,120nm,1.3s,mb5.4
APA MLR MLR
comp=Z,1μm,19.0s
SAO San Andreas Ge 80.97 54 *e*P **P 12 43 44.1 +0.1**
comp=Z,722nm,2.2s,mb5.9
SAO San Andreas Ge 80.97 54 *e*P **P 12 43 44.1 +0.2**
SAO pmax pmax
comp=Z,722nm,2.2s,mb5.9
J08A Circle Bar Ran 81.17 47⇑P **P 12 43 45.3 +0.4**
baz=81,SNR=121
F10A Beach Ranch, E 81.20 44⇑P **P 12 43 44.9 -0.1**
baz=81,SNR=63
C11A Tepee Creek (N 81.24 42⇓P **P 12 43 45.5 +0.4**
baz=81
A12A Yaak River Ran 81.27 41⇓P **P 12 43 46.0 +0.7**
baz=81,SNR=69
WVOR Wild Horse Val 81.34 48 *e*P **P 12 43 46.0 +0.2**
comp=Z,823nm,1.8s,mb6.1
WVOR Wild Horse Val 81.34 48 *e*P **P 12 43 46.0 +0.2**
WVOR pmax pmax
comp=Z,823nm,1.8s,mb6.1
CMB Columbia Colle 81.39 53 *e*P **P 12 43 46.1 -0.1**
comp=Z,445nm,1.4s,mb5.9
CMB Columbia Colle 81.39 53 *e*P **P 12 43 46.1 -0.1**
CMB pmax pmax
comp=Z,445nm,1.4s,mb5.9
B12A Libby 81.46 42⇑P **P 12 43 46.6 +0.3**
baz=81,SNR=25
WCN Washoe City 81.48 51⇓P **P 12 43 47.0 +0.4**
baz=81
WCN Washoe City 81.48 51 *e*P **P 12 43 45.9 -0.7**
comp=Z,632nm,1.8s,mb6.0
WCN Washoe City 81.48 51 *e*P **P 12 43 45.9 -0.7**
WCN pmax pmax
comp=Z,632nm,1.8s,mb6.0
BMO Blue Mountains 81.50 46 *e*P **P 12 43 46.5 0.0**
comp=Z,356nm,1.4s,mb5.8
KEV Kevo 81.50 342 *e*P **P 12 43 45.4 -0.7**
comp=Z,153nm,1.4s,mb5.4
KEV Kevo 81.50 342 *e*P **P 12 43 45.4 -0.7**
KEV pmax pmax
comp=Z,153nm,1.4s,mb5.4
KEV Kevo 81.50 342 *e*p **P 12 43 44.8 -1.3**
comp=Z,34nm,0.7s,mb5.1
C12B Naegeli Ranch, 81.78 42⇑P **P 12 43 48.0 0.0**
baz=82,SNR=45
A13A Flathead Natio 82.04 41⇑P **P 12 43 49.9 +0.6**
baz=82
ARCES ARCESS Array B 82.06 342 P **P 12 43 48.4 -0.6**
comp=Z,32nm,0.5s,mb5.2,baz=80,slow=7.0,SNR=244
ARCES LR LR 13 22 37.7
comp=Z,997nm,20.9s,baz=60,slow=37
ARCES ARCESS Array B 82.06 342 P **P 12 43 48.4 -0.6**
ARCES ARCESS Array B 82.06 342 P **P 12 43 48.4 -0.6**
ARCES pmax pmax
comp=Z,33nm,0.5s
ARCES MLR MLR
comp=Z,997nm,20.9s
ARE0 ARCESS Array S 82.06 342 *e*P **P 12 43 48.5 -0.6**
ARE0 *e*pP pP 12 44 17.8 -4.3
D12A Red Ives Fores 82.08 43⇓P **P 12 43 49.6 0.0**
baz=82,SNR=75
E12A Beaver Dam Sad 82.15 44⇓P **P 12 43 50.0 +0.1**
baz=82
BSMT Bassoo Peak 82.17 42 *e*P **P 12 43 50.4 +0.4**
comp=Z,490nm,1.5s,mb5.9
BSMT *e*pP pP 12 44 26.6 +3.6
BSMT *e*PP PP 12 46 57.9 -1.8
B13A Whitefish 82.19 42⇓P **P 12 43 50.6 +0.4**
baz=82,SNR=98
WALA Waterton Lakes 82.30 41 *e*P **P 12 43 50.9 +0.2**
comp=Z,11nm,1.5s,mb4.3
WALA *e*pP pP 12 44 22.6 -1.2
C13A Hot Springs 82.36 42⇓P **P 12 43 50.9 -0.1**
baz=82,SNR=81
BLMT Blacktail Moun 82.38 42 *e*P **P 12 43 50.6 -0.5**
comp=Z,569nm,1.5s,mb6.0
BLMT *e*pP pP 12 44 27.0 +2.8
SMMC Simmler 82.52 55⇓P **P 12 43 52.5 +0.3**
baz=82,SNR=30
JTMT Jette 82.52 42 *e*P **P 12 43 51.8 -0.1**
comp=Z,380nm,1.7s,mb5.8
A14A Double T Ranch 82.64 41⇑P **P 12 43 52.9 +0.4**
baz=82,SNR=90
D13A Huson 82.64 43⇓P **P 12 43 52.0 -0.5**
baz=82,SNR=54
YBMT Yellow Bay 82.66 42 *e*P **P 12 43 52.6 +0.1**
comp=Z,62nm,0.7s,mb5.5
MLAC Mammoth Lakes 82.69 53⇓P **P 12 43 53.5 +0.6**
baz=82,SNR=7.3
SWMT Swartz Lake 82.79 42 *e*P **P 12 43 52.8 -0.5**
comp=Z,89nm,1.2s,mb5.4
SWMT *e*pP pP 12 44 29.1 +2.8
SWMT *e*PP PP 12 47 02.9 -1.8
PKM Peak Mountain 82.79 56⇓P **P 12 43 54.0 +0.5**
baz=83,SNR=46
RCTC Rector, Farmer 82.80 54⇑P **P 12 43 53.0 -0.5**
baz=83,SNR=18
NVAR Mina Array Bea 82.83 52 P **P 12 43 54.1 +0.4**
comp=Z,173nm,0.8s,mb5.8,baz=268,slow=6.1,SNR=576
NVAR LR LR 13 12 56.7
comp=Z,868nm,21.2s,baz=90,slow=30
NVAR Mina Array Bea 82.83 52 P **P 12 43 54.1 +0.4**
C14A Swan Lake 82.86 42⇑P **P 12 43 53.7 +0.1**
baz=83
B14A Marquette Ranc 82.94 41⇑P **P 12 43 54.2 +0.2**
baz=83,SNR=86
MFID Camas Ranch 82.97 47⇑P **P 12 43 54.3 0.0**
baz=83,SNR=212
MFID Camas Ranch 82.97 47 *e*P **P 12 43 54.4 +0.1**
comp=Z,348nm,1.2s,mb6.0
MFID *e*pP pP 12 44 29.8 +2.4
MAK Makhachkala 82.98 313 *e*P **P 12 43 51.6 -2.7**
MAK *e**PP pP 12 44 26.3 -1.1
MAK *e**SP sP 12 44 37.1 -4.2
MAK *e*S S 12 53 58.1 -4.5
MAK *e**SS sS 12 54 48.0 -12
MAK pmax pmax
comp=Z,29nm,0.3s,mb5.5
MAK MLR MLR
comp=Z,2μm,22.0s
BMN Battle Mountai 82.98 50 *e*P **P 12 43 54.7 +0.3**
comp=Z,316nm,1.5s,mb5.8
BMN Battle Mountai 82.98 50 *e*P **P 12 43 54.7 +0.3**
BMN pmax pmax
comp=Z,316nm,1.5s,mb5.8
SBC Santa Barbara 83.02 56⇑P **P 12 43 54.8 +0.1**
baz=83,SNR=5.6
KTK1 Kautokeino 83.03 342 *e*P **P 12 43 52.6 -1.4**
KTK1 AMB AMB 12 43 54.3
comp=Z,242nm,3.2s
KTK1 *e*pP pP 12 44 27.3 +0.1
E13A Victor 83.04 43⇑P **P 12 43 53.6 -0.9**
baz=83,SNR=52
A15A Johnson Ranch, 83.06 41⇑P **P 12 43 54.6 0.0**
baz=83,SNR=131
MSO Missoula 83.06 43⇑P **P 12 43 54.0 -0.7**
baz=83,SNR=31
MSO Missoula 83.06 43 *e*P **P 12 43 53.8 -0.9**
comp=Z,200nm,1.9s,mb5.5
MSO *e*PP PP 12 47 04.9 -2.0
VES Vestal, Richgr 83.06 55⇑P **P 12 43 54.2 -0.7**
baz=83,SNR=76
F13A Darby 83.17 44⇓P **P 12 43 54.6 -0.6**
baz=83,SNR=173
SLMT Seeley Lake 83.20 42 *e*P **P 12 43 54.7 -0.6**
comp=Z,353nm,1.6s,mb5.8
SLMT *e*PP PP 12 47 05.9 -2.2
BSC Santa Cruz Isl 83.22 57⇓P **P 12 43 55.3 -0.5**
baz=83
H12A Diamond D Ranc 83.25 45⇑P **P 12 43 55.5 -0.2**
baz=83,SNR=94
D14A Greenough 83.25 43⇓P **P 12 43 55.1 -0.5**
baz=83,SNR=54
I12A Atlanta 83.32 46⇓P **P 12 43 56.0 0.0**
baz=83,SNR=71
TIN Tinemaha 83.33 53⇑P **P 12 43 56.6 +0.4**
baz=83,SNR=18
B15A Bradely Ranch, 83.40 41⇑P **P 12 43 56.4 0.0**
baz=83,SNR=137
CHMT Chamberlain Mo 83.47 43 *e*P **P 12 43 56.1 -0.6**
comp=Z,134nm,1.7s,mb5.4
CHMT *e*PP PP 12 47 08.6 -1.7
G13A Cobalt 83.48 45⇓P **P 12 43 56.7 -0.2**
baz=83,SNR=215
ARVC Arvin 83.49 55⇓P **P 12 43 56.9 -0.2**
baz=83
E14A Clinton 83.50 43⇑P **P 12 43 56.2 -0.7**
baz=83
C15A Salmond Ranch, 83.57 42⇑P **P 12 43 57.1 -0.1**
baz=83,SNR=95
ISA Isabella 83.59 55⇓P **P 12 43 56.7 -0.9**
baz=83
ISA Isabella 83.59 55 *e*P **P 12 43 56.8 -0.8**
comp=Z,156nm,1.5s,mb5.5
ISA Isabella 83.59 55 *e*P **P 12 43 56.8 -0.8**
ISA pmax pmax
comp=Z,156nm,1.5s,mb5.5
JOF Joensuu 83.61 335 *e*P **P 12 43 55.1 -2.0**
JOF pmax pmax
comp=Z,61nm,0.4s,mb5.7
JOF Joensuu 83.61 335 *e*p **P 12 43 55.1 -2.0**
comp=Z,61nm,0.4s,mb5.7
BLG Laguna Peak 83.63 56⇓P **P 12 43 57.2 -0.6**
baz=84
CWC Cottonwood Cre 83.64 54⇓P **P 12 43 57.7 -0.2**
baz=84
H13A Challis 83.65 45⇓P **P 12 43 57.8 +0.1**
baz=84
OSI Osito Adit 83.73 56⇓P **P 12 43 58.3 0.0**
baz=84,SNR=6.0
OSI Osito Adit 83.73 56 *e*P **P 12 43 58.4 0.0**
comp=Z,533nm,1.9s,mb6.0
A16A West Butte Ran 83.77 40⇓P **P 12 43 58.2 0.0**
baz=84
F14A Wisdom 83.79 44⇑P **P 12 43 57.8 -0.6**
baz=84
DAG Danmarks Havn 83.81 356 *i* P **P 12 43 56.9 -1.0**
DAG *i* pP 12 44 33.0 +1.9
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
DAG Danmarks Havn 83.81 356 *i* P **P 12 43 56.9 -1.0**
comp=Z,8.1nm,0.9s,mb4.5
DAG *i* pP 12 44 33.0 +1.9
HLID Hailey 83.89 46⇑P **P 12 43 59.2 +0.2**
baz=84
HLID Hailey 83.89 46 *e*P **P 12 43 59.3 +0.3**
comp=Z,255nm,1.5s,mb5.7
D15A Lincoln 83.89 42⇓P **P 12 43 58.6 -0.3**
baz=84,SNR=50
B16A M & M Farms, S 83.90 41⇑P **P 12 43 58.7 -0.2**
baz=84,SNR=40
G14A Jackson 83.94 44⇑P **P 12 43 58.6 -0.6**
baz=84,SNR=9.7
I13A Wildhorse Cree 83.97 46⇑P **P 12 43 59.7 +0.4**
baz=84,SNR=97
GRAC Grapevine Rang 84.00 53⇓P **P 12 43 59.7 +0.1**
baz=84
E15A Deer Lodge 84.04 43⇓P **P 12 43 59.5 -0.2**
baz=84,SNR=138
MOS Moscow 84.09 327 *e*P **P 12 43 57.4 -2.3**
MOS *e**PP pP 12 44 29.2 -3.7
MOS *e* 12 47 13.0
MOS *e*S S 12 54 07.9 -5.4
MOS *e**SS sS 12 55 00.2 -10
MOS pmax pmax
comp=Z,87nm,1.1s,mb5.4
C16A Fuhringer Ranc 84.10 41⇑P **P 12 43 59.6 -0.4**
baz=84,SNR=103
J13A Cove Ranch, Pi 84.11 46⇑P **P 12 44 00.3 +0.2**
baz=84,SNR=133
DECC Green Verdugo 84.16 56⇑P **P 12 43 59.8 -0.7**
baz=84
MPMC Manual Prospec 84.22 54⇑P **P 12 44 01.0 +0.2**
baz=84
EDW2 Edwards Air Fo 84.22 55⇑P **P 12 44 00.7 -0.1**
baz=84
LRMC Laurel Mountai 84.26 55⇓P **P 12 44 00.9 -0.1**
baz=84,SNR=29
PASC Pasadena Art C 84.30 56 *e*P **P 12 44 00.7 -0.6**
comp=Z,337nm,1.6s,mb5.8
PASC *e*PP PP 12 47 17.1 -0.4
A17A Triple J Farms 84.31 40⇓P **P 12 44 00.9 -0.1**
baz=84
F15A Butte 84.35 43⇓P **P 12 44 01.2 0.0**
baz=84,SNR=105
FMP Fort Macarthur 84.36 56⇓P **P 12 44 01.2 -0.4**
baz=84,SNR=10
CIS Catalina Islan 84.38 57⇑P **P 12 44 01.1 -0.5**
baz=84
MWC Mount Wilson 84.38 56 *e*P **P 12 44 01.2 -0.4**
comp=Z,301nm,1.5s,mb5.8
MWC Mount Wilson 84.38 56 *e*P **P 12 44 01.2 -0.5**
MWC pmax pmax
comp=Z,301nm,1.5s,mb5.8
LRM Limekiln Ridge 84.39 43 *e*P **P 12 44 01.5 0.0**
comp=Z,1μm,1.0s,mb6.5
SCI San Clemente I 84.40 57⇑P **P 12 44 01.3 -0.5**
baz=84
I14A Mackay 84.41 45⇑P **P 12 44 02.3 +0.7**
baz=84,SNR=186
I14A ⇑S S 12 54 15.1 -1.9
baz=84
HRY Holter Researc 84.45 42 *e*P **P 12 44 01.9 +0.2**
comp=Z,376nm,1.1s,mb6.0
DLMT Dillon 84.46 44 *e*P **P 12 44 01.6 -0.2**
comp=Z,925nm,1.9s,mb6.2
DLMT *e*pP pP 12 44 38.2 +3.1
MCMT McKenzie Canyo 84.49 44 *e*P **P 12 44 02.1 +0.1**
comp=Z,202nm,1.8s,mb5.5
B17A L&G Farms, Che 84.50 41⇑P **P 12 44 02.1 +0.1**
baz=84,SNR=173

D16A **Dana Ranch, Ca** 84.52 42 ⇓P P 12 44 02.3 +0.3
baz=84,SNR=126
FURC **Furnace Creek,** 84.56 53 ⇑P P 12 44 02.5 0.0
baz=84,SNR=106
J14A **Carey** 84.59 46 ⇑P P 12 44 03.2 +0.7
baz=84,SNR=184
G15A **Dillon** 84.60 44 ⇑P P 12 44 02.5 0.0
baz=84,SNR=115
E16A **East Helena** 84.62 43 ⇑P P 12 44 02.8 +0.2
baz=84,SNR=96
BFSC **Mount Baldy Ra** 84.69 56 ⇓P P 12 44 02.6 -0.6
baz=84
H15A **Lima** 84.70 45 ⇓P P 12 44 03.4 +0.3
baz=84,SNR=107
C17A **Wharram Farm,** 84.78 41 ⇓P P 12 44 03.1 -0.3
baz=85,SNR=116
A18A **Metzger Ranch,** 84.84 40 ⇓P P 12 44 03.7 +0.1
baz=85
R11A **Troy Canyon, C** 84.87 51 ⇑P P 12 44 04.4 +0.4
baz=85,SNR=237
OBN **Obninsk** 84.91 327 eP P 12 44 02.3 -1.5
OBN e*PP pP 12 44 35.7 -1.4
OBN eS S 12 54 13.2 -8.2
OBN eSS SS 12 59 54.4 -1.6
OBN pmax pmax
comp=Z,107nm,2.5s,mb5.1
OBN MLR MLR
comp=Z,800nm,18.0s
F16A **Kennard Place,** 84.94 43 ⇓P P 12 44 04.3 +0.1
baz=85,SNR=200
DGRG **David-gareji** 84.98 312 P P 12 44 04.4 -0.1
BOZ **Bozeman (W)** 84.98 43 ⇑P P 12 44 04.6 +0.2
baz=85,SNR=105
BOZ **Bozeman (W)** 84.98 43 eP P 12 44 04.6 +0.2
comp=Z,456nm,1.7s,mb5.9
BOZ **Bozeman (W)** 84.98 43 eP P 12 44 04.6 +0.2
BOZ pmax pmax
comp=Z,456nm,1.7s,mb5.9
RRX **Edison Barstow** 84.99 55 ⇓P P 12 44 04.8 +0.2
baz=85
GSC **Goldstone** 85.00 55 ⇓P P 12 44 04.6 -0.1
baz=85
GSC **Goldstone** 85.00 55 eP P 12 44 04.5 -0.2
comp=Z,262nm,1.4s,mb5.8
GSC **Goldstone** 85.00 55 eP P 12 44 04.5 -0.2
GSC pmax pmax
comp=Z,262nm,1.4s,mb5.8
D17A **Six Diamond Ra** 85.01 42 ⇑P P 12 44 04.7 +0.2
baz=85,SNR=212
G16A **Moss Hill, Enn** 85.03 44 ⇓P P 12 44 04.9 +0.2
baz=85,SNR=219
I15A **Monteview** 85.04 45 ⇑P P 12 44 05.5 +0.8
baz=85,SNR=71
B18A **Beardsley Farm** 85.09 40 ⇓P P 12 44 04.9 -0.1
baz=85,SNR=111
K14A **Jones Ranch, D** 85.10 47 ⇑P P 12 44 05.9 +0.8
baz=85,SNR=145
E17A **Martinsdale** 85.17 42 ⇓P P 12 44 05.7 +0.4
baz=85
VSR **Storozhevoye** 85.17 323 eP P 12 44 02.9 -2.3
VSR e*PP pP 12 44 33.6 -4.9
VSR eS S 12 54 18.6 -5.6
VSR pmax pmax
comp=Z,30nm,1.0s,mb5.0
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.5s
VSR smax
comp=N,860nm,5.5s
VSR smax
comp=Z,180nm,4.0s
VSR smax
comp=E,260nm,3.9s
SHOC **Shoshone** 85.19 54 ⇓P P 12 44 05.6 -0.1
baz=85
L14A **Malta** 85.25 47 ⇑P P 12 44 06.5 +0.6
baz=85,SNR=242
EGMT **Eagleton** 85.25 41 ⇓P P 12 44 05.5 -0.2
baz=85
EGMT **Eagleton** 85.25 41 eP P 12 44 05.3 -0.4
comp=E,312nm,1.4s,mb5.8
BBRC **Big Bear Solar** 85.26 56 ⇓P P 12 44 05.7 -0.4
baz=85
MURC **Murrieta** 85.26 56 ⇓P P 12 44 05.6 -0.5
baz=85
J15A **Blackfoot** 85.29 46 ⇑P P 12 44 07.2 +1.1
baz=85,SNR=354
MTA **Mtatsminda** 85.30 312 P P 12 44 04.9 -1.2
TBLG **Delisi** 85.33 313 eP P 12 44 05.0 -1.2
TBLG **Delisi** 85.33 313 P P 12 44 05.0 -1.2
QLMT **Earthquake Lak** 85.43 44 eP P 12 44 07.5 +0.8
comp=E,27nm,0.8s,mb5.0
K15A **Arbon** 85.49 46 ⇓P P 12 44 07.6 +0.6
baz=85,SNR=81
A19A **Klindworth Far** 85.51 40 ⇓P P 12 44 07.0 +0.1
baz=85
F17A **Fitzpatrick Pl** 85.51 43 ⇓P P 12 44 07.3 +0.3
baz=85,SNR=81
HEC **Hector,Ludlow** 85.52 55 ⇑P P 12 44 07.1 -0.2
baz=85
ZEI **Tsey** 85.52 314 eP P 12 44 05.0 -2.2
ZEI pmax pmax
comp=Z,15nm,0.9s,mb4.7
D18A **Linhart Farms,** 85.55 41 ⇓P P 12 44 07.4 +0.2
baz=85,SNR=46
B19A **Brinkman Farms** 85.58 40 ⇑P P 12 44 07.3 -0.1
baz=85,SNR=55
109C **Camp Elliot, M** 85.58 57 ⇓P P 12 44 07.1 -0.5
baz=85
H16A **Russell Place,** 85.59 44 ⇓P P 12 44 08.6 +1.1
baz=85,SNR=152
TUQ **Turquoise Moun** 85.63 54 ⇓P P 12 44 07.9 0.0
baz=85
HVU **Hansel Valley** 85.66 47 eP P 12 44 08.3 +0.5
comp=Z,502nm,1.4s,mb6.0
HVU ePP PP 12 47 27.1 -1.2
HVU **Hansel Valley** 85.66 47 eP P 12 44 08.3 +0.4
HVU e 12 47 27.1
HVU pmax pmax
comp=Z,502nm,1.4s,mb6.0
DRV **Dumont d'Urvil** 85.67 182 P P 12 44 03.0 -4.2
DRV **Dumont d'Urvil** 85.67 182 PP PP 12 47 17.0 -11
DRV S S 12 54 26.0 -2.1
DRV SS SS 12 59 47.0 -21
DRV R 13 13 00.0
G17A **Pierce Place,** 85.69 43 ⇑P P 12 44 08.7 +0.7
baz=86,SNR=54
I16A **Newdale** 85.75 45 ⇑P P 12 44 09.2 +1.0
baz=86,SNR=135
YMR **Madison River** 85.79 44 eP P 12 44 09.7 +1.3
comp=Z,314nm,0.8s,mb6.1
YMR epP pP 12 44 45.2 +3.4
C19A **Slack Wire Ran** 85.80 41 ⇓P P 12 44 08.8 +0.4
baz=86
PFO **Pinyon Flat Ob** 85.84 56 ⇓P P 12 44 08.7 -0.3
baz=86
PFO **Pinyon Flat Ob** 85.84 56 eP P 12 44 08.6 -0.4
comp=Z,240nm,1.4s,mb5.7
PFO **Pinyon Flat Ob** 85.84 56 eP P 12 44 08.6 -0.4
PFO pmax pmax
comp=Z,240nm,1.4s,mb5.7
L15A **Malad City** 85.85 47 ⇓P P 12 44 08.9 +0.1
baz=86,SNR=145
KIV **Kislovodsk** 85.89 315 eP P 12 44 07.3 -1.7
KIV e 12 54 19.8
KIV eSS SS 13 00 14.7 +3.5
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.6
KIV MLR MLR
comp=Z,813nm,19.0s
ONI **Oni** 85.90 314 P P 12 44 07.4 -1.6
GNI **Garni** 85.90 311 eP P 12 44 06.7 -2.4
GNI pmax pmax
comp=Z,9.0nm,0.9s
YFT **Old Faithful** 85.96 44 eP P 12 44 11.6 +2.3
comp=Z,310nm,1.1s,mb6.0
YNR **Norris Junctio** 85.96 44 eP P 12 44 11.0 +1.7
comp=Z,803nm,1.4s,mb6.3
STEI **Steigen** 85.98 343 eP P 12 44 07.5 -1.4
STEI epP pP 12 44 37.3 -4.9
BAR **Barrett** 85.99 57 eP P 12 44 09.1 -0.6
comp=Z,463nm,1.8s,mb5.9
M15A **Larsen Ranch,** 86.01 48 ⇓P P 12 44 09.8 +0.2
baz=86,SNR=214
KAF **Kangasniemi** 86.01 336 eP P 12 44 06.0 -3.2
KAF pmax pmax
comp=Z,11nm,0.4s,mb4.9
KAF **Kangasniemi** 86.01 336 ep P 12 44 06.0 -3.2
comp=Z,11nm,0.4s,mb4.9
A20A **Cobblestone Ra** 86.02 39 ⇑P P 12 44 09.5 0.0
baz=86,SNR=58
GMRC **Granite Mounta** 86.06 55 ⇓P P 12 44 09.9 -0.1
baz=86,SNR=94
DCID1 **Drake Creek** 86.06 45 eP P 12 44 10.5 +0.7
comp=Z,372nm,1.3s,mb6.0
BELC **Belle Mtn. Jos** 86.07 55 ⇓P P 12 44 09.7 -0.3
baz=86,SNR=61
RRI2 **Red Ridge** 86.07 45 eP P 12 44 10.3 +0.5
comp=Z,276nm,1.1s,mb5.9
RRI2 epP pP 12 44 46.1 +2.9
K16A **Soda Springs** 86.08 46 ⇓P P 12 44 10.9 +1.0
baz=86,SNR=229
IMW **Indian Meadow** 86.11 45 eP P 12 44 10.8 +0.8
comp=Z,230nm,1.1s,mb5.8
MONP **Monument Peak** 86.12 57 ⇓P P 12 44 10.2 -0.1
baz=86,SNR=72
F18A **Big Timber** 86.12 43 ⇑P P 12 44 10.4 +0.3
baz=86,SNR=90
R13A **O'Grain Ranch,** 86.12 51 ⇓P P 12 44 10.9 +0.7
baz=86
D19A **Cripps Ranch,** 86.14 41 ⇑P P 12 44 10.2 +0.1
baz=86,SNR=130
B20A **Solberg Farm,** 86.14 40 ⇓P P 12 44 09.9 -0.2
baz=86
H17A **Grant Village** 86.16 44 ⇓P P 12 44 12.2 +1.9
baz=86
N15A **Stansbury Isla** 86.17 48 ⇓P P 12 44 10.6 +0.2
baz=86
GCMT **Greycliff** 86.20 43 eP P 12 44 10.6 +0.2
comp=Z,94nm,1.0s,mb5.5
GCMT epP pP 12 44 44.1 +0.4
FLWY **Flagg Ranch** 86.20 45 eP P 12 44 11.5 +1.1
comp=Z,351nm,1.0s,mb6.0
LKWY **Lake** 86.21 44 eP P 12 44 12.9 +2.4
comp=Z,787nm,1.8s,mb6.1
LKWY epP pP 12 44 46.4 +2.6
LKWY **Lake** 86.21 44 eP P 12 44 12.9 +2.4
LKWY e*PP pP 12 44 46.4 +2.6
LKWY pmax pmax
comp=Z,787nm,1.8s,mb6.1
DUG **Dugway** 86.22 49 ⇓P P 12 44 11.0 +0.3
baz=86,SNR=257
DUG **Dugway** 86.22 49 eP P 12 44 10.7 +0.1
comp=Z,265nm,1.1s,mb5.9
DUG epP pP 12 44 45.9 +1.9
DUG **Dugway** 86.22 49 eP P 12 44 10.7 0.0
DUG e*PP pP 12 44 45.9 +1.9
DUG pmax pmax
comp=Z,265nm,1.1s,mb5.9
TPAW **Teton Pass** 86.26 45 eP P 12 44 11.4 +0.7
comp=Z,311nm,1.4s,mb5.8
MOOW **Moose Ponds** 86.30 45 eP P 12 44 11.4 +0.5
comp=Z,160nm,1.1s,mb5.7
MOOW epP pP 12 44 41.7 -2.6
MOOW ePP PP 12 47 30.9 -2.4
AKH **Akhalkalaki** 86.31 313 P P 12 44 09.1 -2.0
I17A **Pilgrim Ck.** 86.34 45 ⇓P P 12 44 12.4 +1.2
baz=86,SNR=22
REDW **Red Top Meadow** 86.38 45 eP P 12 44 11.7 +0.3
comp=Z,419nm,1.7s,mb5.9
LDFC **Landfair** 86.38 54 eP P 12 44 11.5 0.0
comp=Z,442nm,1.3s,mb6.0
SNOW **Snow King Moun** 86.40 45 eP P 12 44 11.9 +0.4
comp=Z,255nm,1.5s,mb5.7
SNOW ePP PP 12 47 32.2 -1.9
O15A **The Old Anders** 86.43 49 ⇓P P 12 44 12.0 +0.3
baz=86,SNR=40
AHID **Auburn Hatcher** 86.44 46 eP P 12 44 11.8 +0.1
comp=Z,71nm,0.7s,mb5.5
LOHW **Long Hollow** 86.44 45 eP P 12 44 12.0 +0.3
comp=Z,163nm,1.3s,mb5.6
LOHW ePP PP 12 47 32.6 -1.9
DVTC **Desert V Tower** 86.45 57 ⇑P P 12 44 11.8 -0.1
baz=86
G18A **Lazy EL Ranch,** 86.45 43 ⇓P P 12 44 12.0 +0.3
baz=86
C20A **Veseth Ranch,** 86.46 41 ⇑P P 12 44 12.0 +0.4
baz=86
J17A **Brown Place, J** 86.47 45 ⇑P P 12 44 12.4 +0.6
baz=86,SNR=66
FINES **FINESS Array B** 86.48 335 P P 12 44 09.4 -2.1
comp=Z,30nm,0.4s,mb5.4,baz=66,slow=4.3,SNR=248
FINES LR LR 13 23 51.4
comp=Z,1μm,20.6s,baz=254,slow=36
FINES **FINESS Array B** 86.48 335 P P 12 44 09.4 -2.1
FINES **FINESS Array B** 86.48 335 P P 12 44 09.4 -2.1
FINES pmax pmax
comp=Z,30nm,0.4s
FINES MLR MLR
comp=Z,1μm,20.6s
E19A **Rath Farm, Rou** 86.49 42 ⇓P P 12 44 11.7 -0.1
baz=86
L16A **Fish Haven** 86.50 47 ⇑P P 12 44 12.5 +0.5
baz=86,SNR=240
NOQ **North Oquirrh** 86.54 48 eP P 12 44 12.1 -0.1
comp=Z,632nm,1.7s,mb6.2
NOQ epP pP 12 44 45.6 +0.1
HWUT **Hardware Ranch** 86.56 47 eP P 12 44 12.5 +0.2
comp=Z,332nm,1.0s,mb6.1
HWUT epP pP 12 44 47.4 +1.7
K17A **Gardner Place,** 86.57 46 ⇑P P 12 44 12.3 0.0
baz=86
A21A **Bergtoll Ranch** 86.57 39 ⇓P P 12 44 12.0 -0.2
baz=86
SWSC **Sam W. Stewart** 86.59 56 ⇓P P 12 44 12.2 -0.5
baz=86,SNR=30
BC3 **Big Chuckawall** 86.61 56 ⇑P P 12 44 12.6 -0.1
baz=86,SNR=118
M16A **Huntsville** 86.63 47 ⇓P P 12 44 12.5 -0.1
baz=86
D20A **Manuel Ranch,** 86.63 41 ⇓P P 12 44 12.7 +0.1
baz=86
F19A **Roth Farm, Mol** 86.63 42 ⇑P P 12 44 12.6 0.0
baz=86,SNR=44
H18A **Shoshone NF, C** 86.64 44 ⇑P P 12 44 13.3 +0.7
baz=86
ABTO **Aybut** 86.65 287 P P 12 44 12.7 -0.5
SNR=6.3
ARUT **Antelope Range** 86.66 51 eP P 12 44 13.2 +0.3
comp=Z,264nm,1.2s,mb5.9
ARUT **Antelope Range** 86.66 51 eP P 12 44 13.2 +0.4
ARUT pmax pmax
comp=Z,264nm,1.2s,mb5.9
IRM **Iron Mountain** 86.67 55 ⇓P P 12 44 12.9 -0.1
baz=86,SNR=91
FFC **Flin Flon** 86.69 33 i P P 12 44 12.2 -0.4
comp=Z,439nm,1.4s,mb6.1
RLMT **Red Lodge** 86.72 43 ⇓P P 12 44 13.7 +0.7
baz=86,SNR=7.0
RLMT **Red Lodge** 86.72 43 eP P 12 44 14.2 +1.2
comp=Z,564nm,1.4s,mb6.2
B21A **Ellsworth Farm** 86.75 40 ⇑P P 12 44 12.9 -0.2
baz=87
CTU **Camp Tracy** 86.78 48 eP P 12 44 13.5 +0.1
comp=Z,1μm,2.0s,mb6.3
CCUT **Cedar City** 86.80 51 eP P 12 44 14.1 +0.6
comp=Z,380nm,1.5s,mb6.0
CCUT epP pP 12 44 49.8 +2.8
P15A **Leamington** 86.84 49 ⇓P P 12 44 13.9 +0.2
baz=87,SNR=84
L17A **Cokeville** 86.85 46 ⇑P P 12 44 13.7 0.0
baz=87
NEE2 **Needles Airpor** 86.86 54 ⇑P P 12 44 13.9 0.0
baz=87
E20A **Meyer Farm, Mu** 86.88 42 ⇑P P 12 44 13.5 -0.3
baz=87,SNR=42
N16A **Rees Ranch, Co** 86.93 48 ⇓P P 12 44 14.3 +0.2
baz=87
I18A **Diamond G Ranc** 86.93 45 ⇑P P 12 44 14.5 +0.4
baz=87
C21A **Desert Coulee** 86.96 40 ⇑P P 12 44 14.3 +0.1
baz=87
J18A **Kendall Valley** 86.99 45 ⇑P P 12 44 14.8 +0.4
baz=87
JLU **Jordanelle** 87.03 48 eP P 12 44 14.8 +0.1
comp=Z,320nm,1.1s,mb6.1
JLU epP pP 12 44 50.0 +2.0
H19A **Powell** 87.09 44 ⇓P P 12 44 15.7 +0.9
baz=87
MPU **Maple Canyon** 87.13 49 eP P 12 44 15.2 +0.1
comp=Z,401nm,1.5s,mb6.0
O16A **Springville** 87.15 48 ⇓P P 12 44 15.5 +0.3
baz=87
F20A **Billings** 87.16 42 ⇓P P 12 44 14.8 -0.3
baz=87
A22A **Carney Farms,** 87.17 39 ⇓P P 12 44 14.4 -0.7
baz=87
K18A **Toltan Ranch,** 87.21 46 ⇑P P 12 44 15.9 +0.5
baz=87
M17A **Scullys Gap (B** 87.24 47 ⇓P P 12 44 15.6 0.0
baz=87
DAU **Daniels Canyon** 87.24 48 eP P 12 44 15.9 +0.3
comp=Z,237nm,1.1s,mb5.9
DAU epP pP 12 44 51.4 +2.4
DAU ePP PP 12 47 41.1 +0.1
DAU **Daniels Canyon** 87.24 48 eP P 12 44 15.9 +0.3
DAU e*PP pP 12 44 51.4 +2.4
DAU e 12 47 41.1
DAU pmax pmax
comp=Z,237nm,1.1s,mb5.9
P16A **Fountain Green** 87.26 49 ⇓P P 12 44 16.3 +0.6
baz=87
Y12C **Blythe** 87.30 55 ⇑P P 12 44 15.9 -0.1
baz=87
W13A **Hualapai Mount** 87.31 54 ⇓P P 12 44 16.2 +0.1
baz=87
MSU **Marysvale** 87.31 50 eP P 12 44 16.6 +0.6
comp=Z,245nm,1.4s,mb5.8
MSU ePP PP 12 47 41.1 -0.5
MSU **Marysvale** 87.31 50 eP P 12 44 16.6 +0.6
MSU e 12 47 41.2
MSU pmax pmax
comp=Z,245nm,1.4s,mb5.8
GLA **Glamis** 87.31 56 ⇓P P 12 44 16.2 +0.1
baz=87
GLA **Glamis** 87.31 56 eP P 12 44 16.0 -0.1
comp=Z,317nm,1.5s,mb5.9
GLA epP pP 12 44 46.8 -2.8
GLA **Glamis** 87.31 56 eP P 12 44 16.0 -0.1
GLA e*PP pP 12 44 46.8 -2.8
GLA pmax pmax
comp=Z,317nm,1.5s,mb5.9
N17A **Moffit Pass** 87.33 48 ⇓P P 12 44 16.0 0.0
baz=87
I19A **Meeteetse** 87.34 44 ⇓P P 12 44 16.6 +0.5
baz=87
R15A **Junction** 87.35 50 ⇓P P 12 44 16.9 +0.7
baz=87
D21A **La Casta Ranch** 87.35 41 ⇓P P 12 44 15.6 -0.4
baz=87
G20A **Bridger** 87.36 43 ⇑P P 12 44 15.9 -0.2
baz=87
B22A **Reddig Ranch S** 87.42 39 ⇑P P 12 44 16.0 -0.4
baz=87
MOR8 **Moi Rana** 87.44 342 eP P 12 44 13.2 -2.8
PD01 **Pinedale Array** 87.46 45 eP P 12 44 16.2 -0.5
PD01 epP pP 12 44 51.9 +1.8
PD02 **Pinedale Array** 87.47 45 eP P 12 44 16.1 -0.5
PD02 ePP PP 12 47 41.4 -1.4
BW06 **Boulder Array** 87.48 45 ⇑P P 12 44 16.1 -0.6
baz=87
BW06 **Boulder Array** 87.48 45 eP P 12 44 16.2 -0.5
comp=Z,46nm,1.0s,mb5.3
PDAR **Pinedale Array** 87.48 45 P P 12 44 16.1 -0.6
comp=Z,15nm,0.6s,mb5.0,baz=238,slow=1.5,SNR=131
PDAR PP PP 12 47 41.1 -1.8
comp=Z,2.3nm,0.9s,baz=339,slow=3.7,SNR=4.0
PDAR LR LR 13 19 01.1
comp=Z,464nm,18.9s,baz=298,slow=32
PDAR **Pinedale Array** 87.48 45 P P 12 44 16.1 -0.6
PDAR PP PP 12 47 41.1 -1.8
L18A **Fontenelle, Gr** 87.49 46 ⇑P P 12 44 17.1 +0.3
baz=87
E21A **Keefer Ranch,** 87.53 41 ⇑P P 12 44 16.7 -0.1
baz=87
J19A **Crowheart** 87.62 45 ⇓P P 12 44 17.8 +0.4
baz=87
MIB **Mutribah** 87.62 301 eP P 12 44 15.5 -2.2
M18A **Lyman** 87.67 47 ⇑P P 12 44 17.5 -0.1
baz=88
O17A **Robinson Place** 87.69 48 ⇓P P 12 44 18.2 +0.5
baz=88
TMUT **Trail Mountain** 87.71 49 eP P 12 44 17.9 +0.1
comp=Z,149nm,1.1s,mb5.7
TMUT ePP PP 12 47 44.2 -0.5
C22A **Vida** 87.73 40 ⇑P P 12 44 17.2 -0.6
baz=88
A23A **Redstone** 87.79 38 ⇓P P 12 44 17.6 -0.5
baz=88
F21A **Absaloka Mine,** 87.80 42 ⇓P P 12 44 17.9 -0.3
baz=88
H20A **Greybull** 87.81 43 ⇓P P 12 44 18.3 +0.1
baz=88
D22A **Cohagen** 87.82 40 ⇑P P 12 44 18.3 +0.1
baz=88
Q16A **Castle Valley** 87.88 49 ⇑P P 12 44 19.3 +0.6
baz=88
L19A **Farson** 87.89 46 ⇑P P 12 44 18.9 +0.3
baz=88
VSU **Vasula** 87.89 333 eP P 12 44 15.9 -2.4
VSU pmax pmax
comp=Z,43nm,1.2s,mb5.2
NAY **Al-Naaiem** 87.90 300 eP P 12 44 16.1 -2.9
R16A **Teasdale** 87.90 50 ⇑P P 12 44 19.7 +0.9
baz=88
K19A **Absolon Red Bu** 87.94 45 ⇑P P 12 44 18.4 -0.5
baz=88
I20A **Worland** 87.95 44 ⇓P P 12 44 18.9 0.0
baz=88
B23A **Brockton** 87.95 39 ⇑P P 12 44 18.5 -0.4
baz=88
P17A **Butcher Ranch,** 87.97 49 ⇑P P 12 44 19.3 +0.2
baz=88
LAO **LASA Array** 87.99 41 ⇑P P 12 44 19.0 0.0
baz=88
LAO **LASA Array** 87.99 41 eP P 12 44 18.9 -0.2
comp=Z,309nm,1.3s,mb6.0
G21A **Lodge Grass** 88.00 43 ⇓P P 12 44 18.8 -0.3
baz=88
SOC **Sochi** 88.01 316 eP P 12 44 16.4 -2.8
SOC e*PP pP 12 44 50.1 -2.6
SOC ePPP 12 49 39.0
SOC eS S 12 54 31.3 -21
SOC eSS SS 13 00 34.1 -8.0
SOC pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
SOC MLR MLR
comp=Z,971nm,19.0s
U15A **North Rim** 88.01 52 ⇓P P 12 44 20.3 +0.9
baz=88
S16A **Weppner Ranch,** 88.03 51 ⇑P P 12 44 20.0 +0.5
baz=88
RKT **Rikitea** 88.04 115 eP P 12 44 21.9 +2.3
comp=Z,39nm,1.0s,mb5.2
RKT epP pP 12 44 52.9 -0.2
comp=Z,57nm,1.3s
RKT eS S 12 54 47.5 -5.2
comp=Z,2μm,31.5s
RKT eSS SS 13 00 35.6 -8.7
comp=Z,1μm,30.2s
RKT eLQ 13 07 19.9
comp=Z,3μm,36.0s
RKT eLR LR 13 12 06.5
comp=Z,1μm,35.5s,baz=286
N18A **Larsen Ranch,** 88.12 47 ⇓P P 12 44 19.4 -0.4
baz=88
C23A **Lambert** 88.13 40 ⇓P P 12 44 19.7 0.0
baz=88
O18A **Roosevelt** 88.17 48 ⇓P P 12 44 20.4 +0.3
baz=88
Z13A **Yuma Proving G** 88.18 56 ⇓P P 12 44 20.8 +0.6
baz=88
J20A **Shoshoni** 88.23 44 ⇓P P 12 44 20.3 0.0
baz=88
113A **Mohawk Valley,** 88.25 56 ⇑P P 12 44 20.5 0.0
baz=88
P18A **Preston Nutter** 88.26 49 ⇓P P 12 44 20.8 +0.3
baz=88
M19A **Rock Springs** 88.27 47 ⇑P P 12 44 20.4 0.0
baz=88
SRU **San Rafael** 88.27 49 eP P 12 44 20.2 -0.4
comp=Z,246nm,1.1s,mb6.0
SRU epP pP 12 44 51.9 -2.1
SRU **San Rafael** 88.27 49 eP P 12 44 20.2 -0.3
SRU e*PP pP 12 44 51.9 -2.1
SRU pmax pmax
comp=Z,246nm,1.1s,mb6.0
E22A **Miles City** 88.27 41 ⇓P P 12 44 20.1 -0.3
baz=88

A24A Westby 88.32 38 ⇓P P 12 44 19.8 -0.7
baz=88
K20A Yellowstone Ra 88.34 45 ⇓P P 12 44 20.8 0.0
baz=88
H21A Big Horn, Sher 88.37 43 ⇑P P 12 44 21.2 +0.3
baz=88
F22A Rosebud 88.37 42 ⇑P P 12 44 20.5 -0.3
baz=88
D23A Lindsay 88.40 40 ⇓P P 12 44 21.2 +0.2
baz=88
R17A Hanksville Air 88.41 50 ⇑P P 12 44 21.4 +0.2
baz=88
Y14A Wickenburg 88.41 55 ⇓P P 12 44 21.5 +0.2
baz=88
DGMT Dagmar 88.42 39 ⇓P P 12 44 19.9 -1.1
baz=88
DGMT Dagmar 88.42 39 *e*P **P 12 44 20.6 -0.4**
comp=Z,315nm,1.9s,mb5.8
DGMT *e*pP pP 12 44 54.4 -0.1
DGMT *e*PP PP 12 47 50.3 +0.1
SUMG Summit 88.45 1 *e*P **P 12 44 21.6 +0.9**
comp=Z,16nm,0.8s,mb4.9
SUMG Summit 88.45 1 *e*P **P 12 44 21.6 +0.9**
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 88.45 1 *i* P **P 12 44 21.1 +0.4**
comp=Z,13nm,0.9s,mb4.8
N19A John Jarvie Ra 88.50 47 ⇑P P 12 44 21.1 -0.5
baz=88
Q18A Rafter H Ranch 88.55 49 ⇓P P 12 44 21.7 -0.2
baz=88
I21A Big Trails, Te 88.55 44 ⇑P P 12 44 21.3 -0.5
baz=88
L20A Wamsutter 88.62 46 ⇑P P 12 44 22.5 +0.4
baz=88
E23A Ismay 88.64 41 ⇑P P 12 44 22.1 0.0
baz=88
S17A Black Ridge (B 88.65 51 ⇓P P 12 44 22.0 -0.3
baz=88
J21A Lysite 88.65 44 ⇑P P 12 44 22.3 0.0
baz=88
Z14A Wintersburg 88.67 55 ⇓P P 12 44 22.6 +0.1
baz=88
C24A Savage 88.71 40 ⇑P P 12 44 22.2 -0.3
baz=88
BHD Baghdad 88.72 305 *i* x x 12 44 54.9
BHD *i* x x 12 47 46.0
BHD *i* x x 12 54 29.0
BHD *i* x x 12 54 52.3
BHD *i* x x 12 55 06.7
O19A Miners Draw (B 88.78 48 ⇑P P 12 44 22.9 0.0
baz=89
H22A Clearmont 88.83 43 ⇑P P 12 44 22.9 -0.1
baz=89
T17A Navajo Res., N 88.90 51 ⇑P P 12 44 23.7 +0.1
baz=89
Y15A Casa Rosa Ranc 88.92 54 ⇑P P 12 44 24.3 +0.6
baz=89
F23A Volborg 88.93 42 ⇑P P 12 44 23.1 -0.4
baz=89
M20A Sweetwater, Wa 88.94 46 ⇑P P 12 44 23.8 +0.2
baz=89
114A Black Gap (USA 88.95 56 ⇓P P 12 44 24.4 +0.6
baz=89
ANN Anapa 88.98 317 *e*P **P 12 44 20.8 -2.9**
ANN *e**PP pP 12 44 55.1 -2.2
ANN *e*S SKSac 12 54 36.7 -4.6
ANN pmax pmax
comp=Z,35nm,1.3s,mb5.1
ANN MLR MLR
comp=Z,504nm,21.0s
U16A Tuba City 88.99 52 ⇓P P 12 44 24.6 +0.6
baz=89
R18A Canyonlands Na 89.01 50 ⇓P P 12 44 23.6 -0.5
baz=89
I22A 9 Mile Ranch, 89.05 44 ⇓P P 12 44 24.4 +0.3
baz=89
WUAZ Wupatki 89.05 53 ⇓P P 12 44 25.1 +0.9
baz=89
WUAZ Wupatki 89.05 53 *e*P **P 12 44 24.9 +0.6**
comp=Z,318nm,1.1s,mb6.2
WUAZ *e*pP pP 12 44 57.3 -0.5
WUAZ *e*PP PP 12 47 54.8 -0.8
K21A Alcova 89.08 45 ⇑P P 12 44 24.5 +0.2
baz=89
P19A Cripple Cowboy 89.15 48 ⇑P P 12 44 25.1 +0.4
baz=89
N20A Spence Gulch, 89.16 47 ⇓P P 12 44 25.0 +0.3
baz=89
U17A Shonto 89.16 51 ⇑P P 12 44 25.6 +0.9
baz=89
S18A Hurst Farm, Bl 89.21 50 ⇑P P 12 44 24.8 -0.2
baz=89
E24A Baker 89.23 40 ⇑P P 12 44 24.7 -0.2
baz=89
Q19A Hogan Spring (89.23 49 ⇓P P 12 44 25.0 -0.1
baz=89
J22A Midwest 89.26 44 ⇑P P 12 44 25.1 0.0
baz=89
L21A Rawlins 89.29 46 ⇓P P 12 44 25.4 +0.1
baz=89
214A Organ Pipe Nat 89.30 56 ⇑P P 12 44 26.2 +0.7
baz=89
Z15A Gila River Ind 89.31 55 ⇑P P 12 44 25.9 +0.3
baz=89
X16A Lo Mia Camp, P 89.42 54 ⇑P P 12 44 26.9 +0.8
baz=89
V17A Tonalea, Kykot 89.44 52 ⇑P P 12 44 27.0 +0.9
baz=89
M21A Separation Pea 89.45 46 ⇓P P 12 44 26.2 +0.2
baz=89
H23A Clabaugh Cattl 89.45 43 ⇓P P 12 44 25.2 -0.7
baz=89
O20A White River Ci 89.46 47 ⇓P P 12 44 26.1 -0.1
baz=89
F24A Ekalaka 89.47 41 ⇓P P 12 44 25.3 -0.7
baz=89
115A Sonoran Desert 89.48 56 ⇓P P 12 44 26.9 +0.6
baz=89
R19A Curley Farm, L 89.50 49 ⇓P P 12 44 26.1 -0.2
baz=89
RWWY Rawlins 89.52 46 *e*P **P 12 44 26.4 +0.1**
comp=Z,715nm,2.0s,mb6.2
RWWY *e*pP pP 12 45 03.0 +3.2
RWWY *e*PP PP 12 47 57.6 -1.5
K22A Casper 89.56 45 ⇑P P 12 44 26.5 0.0
baz=89
MICGM Minsk 89.57 329⇓ *e*P **P 12 44 22.0 -4.3**
MNK Minsk 89.60 329⇓ *e*P **P 12 44 22.0 -4.4**
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
Y16A Circle Bar Ran 89.60 54 ⇓P P 12 44 27.7 +0.8
baz=89
P20A De Beque 89.62 48 ⇓P P 12 44 27.1 +0.2
baz=89
IZAR Zarasai 89.65 331 *e*P **P 12 44 25.1 -1.6**
IZAR AMB AMB 12 44 26.6
comp=Z,51nm,1.2s,mb5.3
I23A Meade Ranch, G 89.68 43 ⇑P P 12 44 26.3 -0.7
baz=90
N21A Black Mountain 89.70 47 ⇑P P 12 44 27.4 +0.2
baz=90
PV04 Paradox Valley 89.72 49 *e*P **P 12 44 27.5 +0.2**
PV04 *e*PP PP 12 47 59.7 -1.1
W17A Winslow 89.72 53 ⇑P P 12 44 28.4 +1.0
baz=90
ISAL Salakas 89.81 330 *e*P **P 12 44 25.7 -1.6**
ISAL AMB AMB 12 44 27.4
comp=Z,34nm,1.2s,mb5.2
S19A Harvey Farm, M 89.81 50 ⇑P P 12 44 27.6 -0.2
baz=90
U18A Rough Rock, Ch 89.81 51 ⇓P P 12 44 28.5 +0.6
baz=90
Z16A Peralta Trail, 89.85 55 ⇑P P 12 44 28.5 +0.4
baz=90
J23A Dilts Ranch, B 89.87 44 ⇓P P 12 44 27.4 -0.5
baz=90
L22A Ellis Ranch, M 89.89 45 ⇓P P 12 44 28.4 +0.3
baz=90
IIGN Ignalina 89.89 330 *e*P **P 12 44 26.2 -1.6**
IIGN AMB AMB 12 44 27.7
comp=Z,30nm,1.3s,mb5.1
H24A Dirks Ranch, A 89.91 42 ⇑P P 12 44 27.4 -0.7
baz=90
Q20A Ridgley Place, 89.92 49 ⇑P P 12 44 28.6 +0.3
baz=90
116A Eloy 89.94 56 ⇑P P 12 44 28.9 +0.4
baz=90
X17A Forest Lakes 89.94 54 ⇓P P 12 44 29.7 +1.2
baz=90
O21A Pagoda 89.97 47 ⇑P P 12 44 28.8 +0.3
baz=90
V18A Ganado 90.05 52 ⇓P P 12 44 29.7 +0.7
baz=90
M22A Cedar Creek Ra 90.05 46 ⇓P P 12 44 29.2 +0.3
baz=90
PV01 Paradox Valley 90.06 49 *e*P **P 12 44 29.0 0.0**
comp=Z,13µm,1.0s
PV01 *e*PP PP 12 48 03.0 -0.6
K23A Bowen Ranch, D 90.11 44 ⇓P P 12 44 28.7 -0.4
baz=90
Y17A Roosevelt 90.16 54 ⇑P P 12 44 30.2 +0.7
baz=90
R20A Redvale 90.18 49 ⇑P P 12 44 29.5 0.0
baz=90
SCO Scoresbysund 90.18 356 *i* P **P 12 44 28.4 -0.4**
SCO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SCO Scoresbysund 90.18 356 *i* P **P 12 44 28.4 -0.4**
comp=Z,9.6nm,1.1s,mb4.6
I24A Kuemmerle Ranc 90.26 43 ⇑P P 12 44 28.8 -1.0
baz=90
T19A Beclabito 90.27 51 ⇑P P 12 44 30.6 +0.6
baz=90
P21A Newcastle 90.27 48 ⇑P P 12 44 30.5 +0.5
baz=90
S20A Disappointment 90.34 50 ⇑P P 12 44 30.4 +0.1
baz=90
L23A Garrett 90.34 45 ⇑P P 12 44 29.9 -0.3
baz=90
216A Three Points, 90.35 56 ⇑P P 12 44 31.2 +0.8
baz=90
U19A Dine' College, 90.36 51 ⇑P P 12 44 30.8 +0.5
baz=90
N22A Wattenberg Ran 90.41 46 ⇑P P 12 44 31.0 +0.4
baz=90
W18A Petrified Fore 90.44 53 ⇑P P 12 44 31.6 +0.8
baz=90
Q21A Lamborn Mesa, 90.48 48 ⇑P P 12 44 31.5 +0.7
baz=90
J24A Dixon Ranch, L 90.48 43 ⇑P P 12 44 30.3 -0.5
baz=90
MVCO Mesa Verde 90.50 50 ⇓P P 12 44 31.4 +0.4
baz=90
MVCO Mesa Verde 90.50 50 *e*P **P 12 44 31.2 +0.2**
comp=Z,507nm,1.7s,mb6.2
MVCO *e*pP pP 12 45 01.7 -2.9
MVCO *e*PP PP 12 48 05.5 -1.6
X18A Snowflake 90.51 53 ⇑P P 12 44 32.0 +0.8
baz=90
RSSD Black Hills 90.52 43 *e*P **P 12 44 29.9 -1.1**
comp=Z,171nm,1.5s,mb5.9
RSSD *e*pP pP 12 45 02.9 -1.7
RSSD Black Hills 90.52 43 *e*P **P 12 44 29.9 -1.1**
RSSD *e**PP pP 12 45 02.9 -1.6
RSSD pmax pmax
comp=Z,171nm,1.5s,mb5.9
Z17A San Carlos Hig 90.61 54 ⇓P P 12 44 32.6 +1.1
baz=90
M23A Laramie 90.62 45 ⇓P P 12 44 31.9 +0.4
baz=90
O22A Kremmling 90.63 47 ⇑P P 12 44 31.7 +0.2
baz=90
K24A Anderson Ranch 90.66 44 ⇓P P 12 44 31.1 -0.5
baz=90
117A Oracle 90.69 55 ⇓P P 12 44 32.6 +0.7
baz=90
R21A Cimarron 90.69 49 ⇓P P 12 44 32.8 +0.9
baz=90
W19A Sanders 90.70 52 ⇑P P 12 44 32.8 +0.8
baz=90
V19A Window Rock 90.71 52 ⇓P P 12 44 33.1 +1.1
baz=90
N23A Red Feather La 90.72 46 ⇑P P 12 44 33.1 +1.2
baz=90
P22A Eagle 90.72 47 ⇓P P 12 44 32.7 +0.7
baz=90
Y18A Canyon Day Jun 90.75 54 ⇓P P 12 44 33.3 +1.1
baz=91
TUC Tucson 90.75 55 *e*P **P 12 44 32.8 +0.5**
comp=Z,200nm,1.4s,mb6.0
TUC *e*pP pP 12 45 04.0 -1.9
TUC Tucson 90.75 55 *e*P **P 12 44 32.8 +0.5**
TUC *e**PP pP 12 45 04.0 -1.9
TUC pmax pmax
comp=Z,200nm,1.4s,mb6.0
SMCO Snowmass 90.75 48 *e*P **P 12 44 33.4 +1.2**
comp=Z,268nm,1.4s,mb6.1
S21A Coal Bank Pass 90.82 50 ⇓P P 12 44 33.1 +0.6
baz=91
U20A Newcomb 90.83 51 ⇑P P 12 44 32.8 +0.2
baz=91
PHWY Pilot Hill 90.87 46 *e*P **P 12 44 33.1 +0.5**
comp=Z,342nm,1.8s,mb6.1
PHWY *e*pP pP 12 45 03.7 -2.5
PHWY *e*PP PP 12 48 08.4 -1.5
L24A Wheatland 90.89 45 ⇑P P 12 44 32.9 +0.2
baz=91
Q22A Crested Butte, 90.94 48 ⇑P P 12 44 33.6 +0.6
baz=91
217A Green Valley 90.94 56 ⇓P P 12 44 34.1 +0.9
baz=91
AKASG Malin Array Be 90.94 325 P **P 12 44 29.7 -3.1**
comp=Z,1.0nm,0.3s,mb4.3,baz=48,slow=5.2,SNR=9.4
AKASG LR LR 13 25 25.1
comp=Z,1µm,20.4s,baz=45,slow=35
AKASG Malin Array Be 90.94 325 P **P 12 44 29.7 -3.1**
AKASG Malin Array Be 90.94 325 P **P 12 44 29.7 -3.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG MLR MLR
comp=Z,1µm,20.4s
KIEV Kiev 90.95 325 *e*P **P 12 44 31.2 -1.7**
comp=Z,7.9nm,0.8s,mb4.8
KIEV Kiev 90.95 325 *e*P **P 12 44 31.2 -1.6**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SIM Simferopol' 91.00 319 P **P 12 44 31.3 -1.9**
SIM *e* 12 54 51.0
SIM *e*S S 12 55 14.0 -5.6
SIM pmax pmax
comp=Z,12nm,0.7s,mb5.0
SIM MLR MLR
comp=Z,500nm,18.0s
Z18A Geronimo 91.02 54 ⇓P P 12 44 34.6 +1.0
baz=91
O23A Lake Granby, G 91.04 47 ⇑P P 12 44 34.2 +0.8
baz=91
X19A St. Johns 91.05 53 ⇓P P 12 44 34.6 +0.9
baz=91
V20A Brimhall 91.11 51 ⇑P P 12 44 34.6 +0.7
baz=91
M24A Cheyenne 91.22 45 ⇑P P 12 44 34.9 +0.7
baz=91
118A Homack Ranch, 91.25 55 ⇓P P 12 44 35.5 +0.9
baz=91
Y19A Nutrioso 91.27 53 ⇑P P 12 44 36.1 +1.4
baz=91
T21A Navajo Lake 91.29 50 ⇓P P 12 44 35.0 +0.4
baz=91
R22A Saguache, Gunn 91.32 49 ⇑P P 12 44 35.7 +0.9
baz=91
K25A Mack Ranch, Ha 91.33 44 ⇓P P 12 44 34.7 0.0
baz=91
W20A Ramah 91.36 52 ⇓P P 12 44 35.6 +0.6
baz=91
MDND Maddock 91.41 38 ⇓P P 12 44 34.2 -0.8
baz=91
ISCO Idaho Springs 91.43 47 ⇑P P 12 44 36.3 +1.0
baz=91
ISCO Idaho Springs 91.43 47 *e*P **P 12 44 35.8 +0.6**
comp=Z,94nm,1.1s,mb5.7
ISCO *e*pP pP 12 45 07.8 -1.1
ISCO Idaho Springs 91.43 47 *e*P **P 12 44 35.8 +0.5**
ISCO *e**PP pP 12 45 07.8 -1.1
ISCO pmax pmax
comp=Z,94nm,1.1s,mb5.7
U21A Nageezi 91.44 51 ⇓P P 12 44 35.6 +0.2
baz=91
218A Dragoon 91.46 55 ⇓P P 12 44 36.6 +1.0
baz=91
P23A Jefferson 91.46 47 ⇑P P 12 44 36.8 +1.4
baz=91
N24A Carr 91.47 46 ⇓P P 12 44 36.5 +1.0
baz=91
S22A 4UR Ranch, Cre 91.47 49 ⇓P P 12 44 36.3 +0.7
baz=91
Z19A T-Link Ranch, 91.53 54 ⇑P P 12 44 37.1 +1.2
baz=91
X20A Quemado 91.60 53 ⇓P P 12 44 37.5 +1.3
baz=91
O24A Longmont 91.66 46 ⇑P P 12 44 37.0 +0.7
baz=92
Q23A Hartsel 91.67 48 ⇑P P 12 44 36.9 +0.5
baz=92
V21A Milan 91.71 51 ⇓P P 12 44 37.3 +0.6
baz=92
119A Ashpeak Ranch, 91.72 55 ⇑P P 12 44 37.7 +0.9
baz=92
318A Bisbee 91.72 56 ⇓P P 12 44 37.7 +0.9
baz=92
T22A Edith 91.74 50 ⇓P P 12 44 37.2 +0.5
baz=92
K26A Motz Farm, Whi 91.74 43 ⇓P P 12 44 36.3 -0.3
baz=92
M25A Palm-Egli Farm 91.75 45 ⇓P P 12 44 36.9 +0.2
baz=92
Y20A Horse Springs, 91.96 53 ⇑P P 12 44 39.0 +1.2
baz=92
HFS Hagfors 91.97 338 ScS ScS 12 55 27.7 -2.2
comp=Z,4.6nm,1.0s,baz=108,slow=4.8,SNR=3.8
HFS PKKPbc PKKPbc 13 01 51.2 -4.3
comp=Z,3.1nm,0.7s,baz=134,slow=4.3,SNR=6.9
R23A Moffat 91.99 48 ⇑P P 12 44 38.6 +0.7
baz=92
W21A San Fidel 92.00 52 ⇓P P 12 44 38.4 +0.4
baz=92
N25A Grover 92.01 45 ⇓P P 12 44 38.4 +0.4
baz=92
U22A Llaves 92.04 50 ⇓P P 12 44 38.6 +0.5
baz=92
P24A Kohler Place, 92.05 47 ⇓P P 12 44 39.0 +0.9
baz=92
219A White Tail Can 92.06 55 ⇓P P 12 44 39.3 +0.9
baz=92
S23A Nye Farm, Mont 92.08 49 ⇓P P 12 44 38.8 +0.5
baz=92
SUW Suwalki 92.11 330 *e*P **P 12 44 36.2 -1.9**
SUW *e*SKSac SKSac 12 54 55.4 -3.6
SUW *e*S S 12 55 24.1 -5.1
SUW LMZ 13 19 19.0
comp=Z,2µm,37.6s
SUW Suwalki 92.11 330 *e*P **P 12 44 36.1 -2.0**
comp=Z,96nm,0.7s,mb5.9
SUW Suwalki 92.11 330 *e*P **P 12 44 36.2 -1.9**
SUW *e* 12 54 55.4
SUW *e*S S 12 55 24.1 -5.1
Z20A Nine Sixteen R 92.12 54 ⇓P P 12 44 39.6 +1.0
baz=92
Q24A Divide 92.12 47 ⇓P P 12 44 39.2 +0.7
baz=92
NOA NORSAR Array B 92.15 340 P **P 12 44 36.1 -2.0**
comp=Z,7.5nm,0.8s,mb4.8,baz=45,slow=4.5,SNR=17
NOA PP PP 12 48 21.9 +2.7
comp=Z,3.7nm,0.8s,baz=35,slow=7.9,SNR=4.4
NOA PKKPbc PKKPbc 13 01 51.0 -4.0
comp=Z,1.7nm,0.8s,baz=226,slow=2.7,SNR=5.9
NOA LR LR 13 28 02.9
comp=Z,616nm,20.9s,baz=45,slow=37
NOA NORSAR Array B 92.15 340 P **P 12 44 36.1 -2.0**
NOA PP PP 12 48 21.9 +2.7
NOA PKKPbc PKKPbc 13 01 51.0 -4.0
NOA NORSAR Array B 92.15 340 P **P 12 44 36.1 -2.0**
NOA 12 48 21.9
NOA 13 01 51.0
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,616nm,20.9s
X21A Alamocita Cree 92.18 52 ⇓P P 12 44 39.6 +0.8
baz=92
ULM Lac du Bonnet 92.20 34 P **P 12 44 37.6 -1.0**
comp=Z,34nm,0.8s,mb5.4,baz=310,slow=5.7,SNR=38
ULM LR LR 13 22 16.7
comp=Z,786nm,21.0s,baz=99,slow=33
ULM Lac du Bonnet 92.20 34 P **P 12 44 37.6 -1.0**
ULM Lac du Bonnet 92.20 34 P **P 12 44 37.6 -1.0**
ULM pmax pmax
comp=Z,34nm,0.9s
V22A San Miguel Ran 92.20 51 ⇑P P 12 44 39.1 +0.2
baz=92
319A Douglas 92.30 56 ⇓P P 12 44 40.3 +0.9
baz=92
120A U Bar Ranch, L 92.32 54 ⇓P P 12 44 40.6 +1.0
baz=92
K27A Flueckinger Fa 92.35 43 ⇓P P 12 44 38.9 -0.6
baz=92
T23A Casias Ranch, 92.35 50 ⇑P P 12 44 40.0 +0.5
baz=92
SDCO Great Sand Dun 92.42 49 ⇑P P 12 44 40.1 +0.2
baz=92
SDCO Great Sand Dun 92.42 49 *e*P **P 12 44 39.6 -0.3**
comp=Z,160nm,1.5s,mb5.8
SDCO *e*pP pP 12 45 14.2 +0.7
Y21A Point of Rocks 92.44 53 ⇓P P 12 44 41.0 +0.9
baz=92
R24A Sanders Place, 92.48 48 ⇓P P 12 44 40.6 +0.5
baz=92
U23A El Rito 92.55 50 ⇑P P 12 44 40.7 +0.2
baz=92
P25A Willow Gulch B 92.56 47 ⇓P P 12 44 41.0 +0.5
baz=92
W22A Albuquerque 92.59 52 ⇓P P 12 44 41.7 +0.9
baz=92
220A Playas Peak, P 92.67 55 ⇓P P 12 44 41.8 +0.6
baz=92
S24A Houchin Ranch, 92.67 49 ⇓P P 12 44 41.9 +0.8
baz=92
LAZ Ladron 92.68 52 *e*P **P 12 44 41.4 +0.2**
comp=Z,50nm,1.2s,mb5.5
LAZ *e*pP pP 12 45 16.4 +1.6
X22A Bernardo 92.73 52 ⇑P P 12 44 42.3 +0.9
baz=92
Z21A St. Cloud Mine 92.74 53 ⇑P P 12 44 42.4 +0.9
baz=92
Q25A Bedland, Calha 92.77 47 ⇓P P 12 44 41.7 +0.2
baz=93
O26A Horse Wrangler 92.80 46 ⇓P P 12 44 41.5 -0.1
baz=93
V23A Ortiz Mt. (NFS 92.81 51 ⇑P P 12 44 42.7 +0.9
baz=93
LENM Lemitar 92.90 52 *e*P **P 12 44 42.6 +0.4**
comp=Z,119nm,1.8s,mb5.7
ANMO Albuquerque 92.95 52 *e*P **P 12 44 42.3 -0.1**
comp=Z,137nm,1.3s,mb5.9
ANMO *e*pP pP 12 45 13.6 -2.4
ANMO *e*PP PP 12 48 25.7 -0.7
ANMO Albuquerque 92.95 52 *e*P **P 12 44 42.3 -0.1**
ANMO *e**PP pP 12 45 13.6 -2.4
ANMO *e* 12 48 25.7
ANMO pmax pmax
comp=Z,137nm,1.3s
121A Cookes Peak, D 92.98 54 ⇑P P 12 44 43.7 +1.1
baz=93
Y22D IRIS PASSCAL I 92.98 53 ⇑P P 12 44 43.3 +0.8
baz=93
Y22A Socorro 93.01 53 ⇑P P 12 44 43.2 +0.5
baz=93
T24A Torres, Weston 93.04 49 ⇑P P 12 44 43.8 +1.1
baz=93
W23A Werner Place, 93.09 51 ⇑P P 12 44 43.8 +0.8
baz=93
LPM Los Pinos Moun 93.10 52 *e*P **P 12 44 43.2 +0.1**
comp=Z,76nm,1.5s,mb5.6
LPM *e*pP pP 12 45 18.1 +1.4
LPM *e*PP PP 12 48 17.6 -10
R25A Fountain Ranch 93.10 48 ⇓P P 12 44 42.7 -0.3
baz=93
KIS Kishinev 93.15 322 *e* sP 12 45 32.0 +1.5
KIS LRM 13 30 00.0
comp=Z,900nm,16.0s
BNM Barren Site 93.17 52 *e*P **P 12 44 43.6 +0.2**
comp=Z,92nm,1.4s,mb5.7
BNM *e*pP pP 12 45 17.9 +0.9
221A Mesquite Ranch 93.20 55 ⇓P P 12 44 44.4 +0.7
baz=93
S25A Robets Cordova 93.21 48 ⇑P P 12 44 43.5 0.0

baz=93
AGMN Agassiz Nation 93.29 36 *e*P **P 12 44 42.5 -1.1**
comp=Z,183nm,1.6s,mb6.0
AGMN *e*PP PP 12 48 25.1 -3.4
Z22A Elephant Butte 93.30 53 ⇑P **P 12 44 44.7 +0.6**
baz=93
X23A Hourglass Bar 93.31 52 ⇑P **P 12 44 44.6 +0.5**
baz=93
OGNE Ogallala 93.33 45 ⇓P **P 12 44 43.4 -0.6**
baz=93
OGNE Ogallala 93.33 45 *e*P **P 12 44 43.7 -0.3**
comp=Z,326nm,1.8s,mb6.2
T25A Trinidad 93.47 49 ⇓P **P 12 44 45.2 +0.4**
baz=93
V24A Rampart Ranch, 93.48 50 ⇑P **P 12 44 45.7 +0.9**
baz=93
122A Conniff Cattle 93.51 54 ⇓P **P 12 44 46.1 +1.1**
baz=93
BRSD Miller 93.55 40 ⇑P **P 12 44 43.5 -1.4**
baz=93
W24A Lazy 6 Ranch, 93.61 51 ⇓P **P 12 44 45.8 +0.4**
baz=93
FOO Floro 93.62 342 *e* pP 12 45 19.4 +0.9
FOO *i* 12 49 04.8
FOO *i* 12 57 21.3
FOO AMS AMS 13 20 51.5
comp=Z,398nm,5.5s
222A Williams Famil 93.68 54 ⇓P **P 12 44 46.3 +0.5**
baz=94
Y23A Lovelace Mesa, 93.69 52 ⇓P **P 12 44 46.0 +0.1**
baz=94
KONO Kongsberg 93.73 339 *i* x 12 49 06.8
KONO *e*SKS 12 55 04.8
KONO AMS AMS 13 26 23.8
comp=Z,746nm,18.9s
U25A Circle Dot Ran 93.81 50 ⇓P **P 12 44 46.5 +0.2**
baz=94
BR131 Keskin Array S 93.81 314 *e*P **P 12 44 43.5 -2.8**
comp=Z,5.8nm,0.8s,mb4.8
BRTR Keskin Array B 93.81 314 P **P 12 44 43.9 -2.4**
comp=Z,3.8nm,0.8s,mb4.6,baz=101,slow=4.0,SNR=15
BRTR PKKPbc PKKPbc 13 01 48.8 -1.3
comp=Z,2.2nm,0.8s,baz=193,slow=3.8,SNR=8.9
BRTR LR LR 13 26 19.4
comp=Z,328nm,21.4s,baz=235,slow=35
BRTR Keskin Array B 93.81 314 P **P 12 44 43.9 -2.4**
BRTR PKKPbc PKKPbc 13 01 48.8 -1.3
BRTR Keskin Array B 93.81 314 P **P 12 44 43.9 -2.4**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,328nm,21.4s
Z23A Rita Site, Whi 93.85 53 ⇓P **P 12 44 47.2 +0.6**
baz=94
X24A Lazy VL Ranch, 93.88 52 ⇓P **P 12 44 46.8 +0.1**
baz=94
V25A Rancho No Teng 93.91 50 ⇑P **P 12 44 47.3 +0.5**
baz=94
123A Bell Site, Whi 94.10 54 ⇓P **P 12 44 48.5 +0.7**
baz=94
Y24A Capitan 94.16 52 ⇓P **P 12 44 47.8 -0.1**
baz=94
223A Chaparral, Ant 94.24 54 ⇓P **P 12 44 48.7 +0.3**
baz=94
U26A Atchley Ranch, 94.28 49 ⇑P **P 12 44 48.6 +0.2**
baz=94
W25A X Bar L Ranch, 94.30 51 ⇓P **P 12 44 48.5 -0.1**
baz=94
X25A Clemmons Ranch 94.46 51 ⇑P **P 12 44 49.4 0.0**
baz=94
V26A Tequesquite Ra 94.53 50 ⇓P **P 12 44 49.4 -0.2**
baz=94
124A Stringfield Ra 94.68 53 ⇓P **P 12 44 50.9 +0.5**
baz=94
Y25A Mesa, Roswell 94.71 52 ⇓P **P 12 44 50.1 -0.4**
baz=94
BUR08 Bucovina Ar. S 94.84 324 *e*P **P 12 44 48.8 -1.9**
W26A Owens Ranch, T 94.87 50 ⇓P **P 12 44 51.6 +0.4**
baz=95
224A Cornudas Mount 94.91 54 ⇑P **P 12 44 51.9 +0.5**
baz=95
ASF Jabal al Asfar 94.93 306 LR LR 13 31 32.0
comp=Z,380nm,21.8s,baz=299,slow=38
Z25A Roswell 94.98 52 ⇓P **P 12 44 52.0 +0.2**
baz=95
KWP Kalwaria Pacla 95.00 327 *e*P **P 12 44 49.0 -2.4**
KWP *e*pP pP 12 45 20.4 -4.7
KWP *e*S S 12 55 49.4 -5.3
KWP LMZ 13 25 15.8
comp=Z,1μm,26.7s
KWP Kalwaria Pacla 95.00 327 *e*P **P 12 44 49.0 -2.4**
KWP *e**PP pP 12 45 20.4 -4.7
KWP *e*S S 12 55 49.4 -5.3
BSD Bornholm Skovb 95.05 334 *i* P **P 12 44 48.9 -2.6**
BSD pmax pmax
comp=Z,28nm,1.0s,mb5.5
BSD MLR MLR
comp=Z,790nm,22.0s
BSD Bornholm Skovb 95.05 334 *i* P **P 12 44 48.9 -2.6**
comp=Z,28nm,1.0s,mb5.5
BSD
comp=Z,790nm,22.0s
X26A CR and CF Fran 95.08 51 ⇑P **P 12 44 51.9 -0.3**
baz=95
MNTX Cornudas Mount 95.18 54 ⇓P **P 12 44 52.9 +0.2**
baz=95
MNTX Cornudas Mount 95.18 54 *e*P **P 12 44 52.6 0.0**
comp=Z,64nm,1.2s,mb5.7
324A Moseley Ranch, 95.21 54 ⇓P **P 12 44 53.2 +0.3**
baz=95
125A Gardner Draw, 95.30 53 ⇑P **P 12 44 53.6 +0.3**
baz=95
ECSD EROS Data Cent 95.35 40 *e*P **P 12 44 52.1 -1.1**
comp=Z,154nm,1.8s,mb5.9
Y26A Elida 95.36 51 ⇓P **P 12 44 53.2 -0.3**
baz=95
W27A Bowe Ranch, En 95.39 50 ⇑P **P 12 44 53.7 +0.1**
baz=95
225A Deer Hill, Car 95.42 53 ⇑P **P 12 44 54.1 +0.3**
baz=95
Z26A Caprock 95.54 52 ⇓P **P 12 44 54.0 -0.3**
baz=95
X27A F and S Farms, 95.56 51 ⇓P **P 12 44 54.3 0.0**
baz=95
BGNE Belgrade 95.63 43 ⇑P **P 12 44 53.0 -1.5**
baz=95
325A Bean Ranch, Si 95.64 54 ⇑P **P 12 44 55.1 +0.3**
baz=95
KOLS Kolonicke sedl 95.65 326 *e*P **P 12 44 54.0 -0.4**
KOLS Kolonicke sedl 95.65 326 *e*P **P 12 44 54.0 -0.4**
CPRX Cap Rock 95.73 52 *e*P **P 12 44 54.6 -0.6**
comp=Z,111nm,1.5s,mb6.0
CPRX *e*pP pP 12 45 26.3 -2.5
126A Clayton Basin, 95.79 53 ⇑P **P 12 44 55.1 -0.3**
baz=96
Y27A Causey 95.86 51 ⇑P **P 12 44 55.5 -0.3**
baz=96
425A Indio Mountain 95.88 55 ⇑P **P 12 44 56.1 +0.2**
baz=96
CBKS Cedar Bluff 95.91 46 ⇑P **P 12 44 54.8 -1.1**
baz=96
CBKS Cedar Bluff 95.91 46 *e*P **P 12 44 55.0 -0.9**
comp=Z,17nm,0.8s,mb5.4
CBKS *e*pP pP 12 45 28.6 -0.9
CBKS Cedar Bluff 95.91 46 *e*P **P 12 44 55.0 -0.9**
CBKS *e**PP pP 12 45 28.6 -0.9
CBKS pmax pmax
comp=Z,17nm,0.8s,mb5.4
226A Malaga, Loving 95.99 53 ⇑P **P 12 44 56.8 +0.4**
baz=96
Z27A Tatum 96.09 52 ⇑P **P 12 44 56.1 -0.7**
baz=96
CRVS Cervenica-Dubn 96.09 327 *e*P **P 12 44 53.2 -3.2**
CRVS *e* 12 45 32.3
CRVS Cervenica-Dubn 96.09 327 *e*P **P 12 44 53.2 -3.2**
CRVS *e*pP pP 12 45 32.3 +2.2
MSTX Muleshoe 96.11 51 ⇓P **P 12 44 56.4 -0.4**
baz=96
127A Arkansas Junct 96.27 52 ⇑P **P 12 44 57.1 -0.6**
baz=96
326A Caldwell Ranch 96.42 54 ⇑P **P 12 44 58.4 0.0**
baz=96
AMTX Amarillo 96.47 50 ⇓P **P 12 44 58.7 +0.2**
baz=96
AMTX Amarillo 96.47 50 *e*P **P 12 44 58.4 -0.1**
comp=Z,262nm,1.8s,mb6.3
AMTX *e*pP pP 12 45 29.1 -3.1
227A Bennet, Jal 96.63 53 ⇑P **P 12 44 59.0 -0.2**
baz=96
426A McDonald Obser 96.67 54 ⇓P **P 12 44 59.6 +0.1**
baz=96
327A Balmorhea Ranc 96.77 54 ⇑P **P 12 44 59.8 -0.1**
baz=97
SPMN St. Paul 96.77 37 ⇑P **P 12 45 00.2 +0.6**
baz=97
526A Mary Lane Ranc 96.90 55 ⇑P **P 12 45 00.3 -0.3**
baz=97
VNDA Vanda 96.94 177 *e*P **P 12 44 58.4 -1.1**
comp=Z,3.7nm,0.9s,mb4.7
VNDA Vanda 96.94 177 *e*P **P 12 44 58.4 -1.1**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
427A Hayter Ranch, 97.07 54 ⇑P **P 12 45 01.4 +0.1**
baz=97
626A Big Bend Ranch 97.09 56 ⇑P **P 12 45 01.5 +0.1**
baz=97
OKC Ostrava-Krasne 97.16 329 AMS AMS 13 30 00.0
comp=Z,700nm,16.9s
527A Woodward Ranch 97.23 55 ⇑P **P 12 45 02.1 +0.1**
baz=97
328A Wristen Ranch, 97.28 53 ⇑P **P 12 45 02.0 -0.3**
baz=97
KSP Ksiaz 97.38 330 *e*P **P 12 45 02.1 -0.1**
KSP LMZ 13 21 25.2
comp=Z,1μm,37.9s
TXAR Lajitas Array 97.55 56 P **P 12 45 03.4 -0.1**
comp=Z,6.5nm,0.7s,mb5.2,baz=282,slow=3.0,SNR=49
TXAR PP PP 12 49 04.9 +2.7
comp=Z,1.2nm,1.0s,baz=270,slow=6.3,SNR=3.6
TXAR PKKPbc PKKPbc 13 01 39.2 -0.5
comp=Z,0.8nm,0.7s,baz=132,slow=5.4,SNR=10
TXAR LR LR 13 25 35.4
comp=Z,482nm,20.1s,baz=270,slow=33
TXAR Lajitas Array 97.55 56 P **P 12 45 03.4 -0.1**
TXAR PP PP 12 49 04.9 +2.7
TXAR PKKPbc PKKPbc 13 01 39.2 -0.5
TXAR Lajitas Array 97.55 56 P **P 12 45 03.4 -0.1**
TXAR 12 49 04.9
TXAR pmax pmax
comp=Z,7.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
428A Kincaid Ranch, 97.68 54 ⇑P **P 12 45 04.6 +0.6**
baz=98
DPC Dobruska-Polom 97.70 330 *e*PP PP 12 48 57.2 -5.2
DPC *e*x x 12 49 29.0
DPC *e*x x 12 49 57.9
DPC *e*SKS 12 55 26.1
DPC *e*S S 12 56 11.1 -6.8
DPC *e*x x 12 58 11.6
DPC AMS AMS 13 30 40.0
comp=Z,700nm,19.2s
627A Terlingua Ranc 97.72 55 ⇓P **P 12 45 04.5 +0.3**
baz=98
UPC Upice 97.73 330 *e*PP PP 12 48 59.4 -3.3
UPC *e*x x 12 49 38.2
BSEG Bad Segeberg 97.75 335 *e*P pP 12 45 37.9 +0.4
BSEG *e*PP PP 12 49 15.2 +12
528A Cox Ranch, San 97.86 54 ⇑P **P 12 45 05.0 +0.2**
baz=98
628A Black Gap, Mar 98.09 55 ⇑P **P 12 45 06.0 +0.1**
baz=98
ATD Arta Tunnel 98.15 285 LR LR 13 27 03.0
comp=Z,262nm,19.6s,baz=347,slow=34
PVCC Panska Ves 98.39 331 *e*PP PP 12 49 06.2 -1.5
PVCC AMS AMS 13 34 10.0
comp=Z,900nm,20.8s
BRG Berggiesshubel 98.43 331 *e*PDIF **P 12 45 04.7 -2.3**
comp=Z,5.9nm,0.9s,mb5.0
BRG *e*PP PP 12 49 07.3 -0.8
comp=Z,36nm,1.6s
BRG SKS 12 56 12.0
BRG SDIF S 12 56 12.0 -12
BRG SS SS 13 03 03.0 -7.0
BRG
comp=N,927nm,15.6s
BRG
comp=E,729nm,17.7s
BRG
comp=Z,1μm,16.4s
BRG Berggiesshubel 98.43 331 *e*P pP 12 45 41.1 +0.4
BRG *e*PP PP 12 49 20.9 +13
BRG Berggiesshubel 98.43 331 *e*P **P 12 45 04.7 -2.3**
BRG *e* 12 49 07.3
BRG S S 12 56 12.0 -12
BRG SS SS 13 03 03.0 -7.0
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
BRG pmax pmax
comp=Z,36nm,1.6s,mb5.5
BRG MLR MLR
comp=N,927nm,15.6s
BRG MLR MLR
comp=E,729nm,17.7s
BRG MLR MLR
comp=Z,1μm,16.4s
CLL Collm 98.55 332 *e*P pP 12 45 41.7 +0.5
CLL *e*PP PP 12 49 21.5 +13
CLL Collm 98.55 332 ⇑*i*P **P 12 45 05.0 -2.4**
CLL *e* 12 55 30.0
CLL *e*S S 12 56 23.0 -2.0
CLL pmax pmax
comp=Z,22nm,1.3s,mb5.4
CLL Collm 98.55 332 ⇑*i*Pdif **P 12 45 05.0 -2.4**
comp=Z,22nm,1.3s,mb5.4
CLL *e* 12 45 10.0
CLL *e* 12 45 31.0
CLL *e*PP PP 12 49 14.0 +5.2
CLL *e*pPP 12 49 42.0
CLL *e*(sPP) 12 50 00.0
CLL *e*SKSac SKSac 12 55 30.0 -3.2
CLL *e*Sdif S 12 56 23.0 -2.0
CLL *e* 12 57 05.0
CLL *e*(PS) 12 58 20.0
CLL *e*SS SS 13 03 13.0 +1.5
CLL *e* 13 03 55.0
CLL *e*SSSS 13 10 30.0
WMOK Wichita Mounta 98.62 49 *e*P **P 12 45 07.6 -0.6**
comp=Z,48nm,1.4s,mb5.7
WMOK *e*pP pP 12 45 41.6 -0.3
WMOK Wichita Mounta 98.62 49 *e*P **P 12 45 07.6 -0.6**
WMOK *e**PP pP 12 45 41.6 -0.3
WMOK pmax pmax
comp=Z,49nm,1.4s,mb5.7
TREC Trest 98.81 330 AMS AMS 13 36 30.0
comp=Z,900nm,21.4s
CLZ Clausthal 99.29 334 *e*P pP 12 45 44.8 +0.3
CLZ *e*PP PP 12 49 27.3 +13
TANN Tannenbergstha 99.42 332 *e*P pP 12 45 46.2 +1.1
TANN *e*PP PP 12 49 28.5 +13
NKC Novy Kostel 99.56 332 AMS AMS 13 30 00.0
comp=Z,900nm,20.3s
MOX Moxa 99.63 332 *e*P pP 12 45 47.7 +1.7
MOX *e*PP PP 12 49 29.9 +13
KHC Kasperske Hory 99.83 330 *e*P Pdif 12 45 11.0 -2.1
KHC *e*PP PP 12 49 16.0 -2.6
KHC *e*x x 12 49 23.0
KHC AMS AMS 13 28 30.0
comp=Z,1μm,20.9s
GEC2 GERESS Array S 99.97 330 *e*P pP 12 45 48.0 +0.4
GEC2 *e*PP PP 12 49 32.6 +13
GERES GERESS Array B 99.97 330 P Pdif 12 45 11.7 -2.1
comp=Z,0.6nm,0.3s,baz=35,slow=4.9,SNR=4.6
GERES PP PP 12 49 20.1 +0.3
comp=Z,0.9nm,0.7s,baz=82,slow=9.6,SNR=4.3
GERES PKKPbc PKKPbc 13 01 30.9 -2.8
comp=Z,1.7nm,0.7s,baz=199,slow=2.8,SNR=8.8
GERES GERESS Array B 99.97 330 P Pdif 12 45 11.7 -2.1
GERES PP PP 12 49 20.1 +0.3
GERES PKKPbc PKKPbc 13 01 30.9 -2.8
GERES GERESS Array B 99.97 330 P Pdif 12 45 11.7 -2.1
GERES 12 49 20.1
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,2.0nm,0.7s
JCT Junction City 99.98 53 ⇑P Pdif 12 45 14.0 +0.1
baz=100
JCT Junction City 99.98 53 *e*Pdif Pdif 12 45 13.9 +0.1
comp=Z,140nm,1.7s
JCT Junction City 99.98 53 *e*P Pdif 12 45 13.9 +0.1
JCT pmax pmax
comp=Z,140nm,1.7s,mb6.1
IBBN Ibbenburen 100.00 335 *e*P pP 12 45 49.6 +2.0
IBBN *e*PP PP 12 49 32.0 +12
ROTZ Rotzenmuhle 100.00 331 *e*P pP 12 45 48.2 +0.5
ROTZ *e*PP PP 12 49 33.7 +14
WET Wettzell 100.14 331 *e*P 12 45 50.1
WET *e*PP PP 12 49 34.7 +14
UBBA Unterbreizbach 100.20 333 *e*P 12 45 49.6
UBBA *e*PP PP 12 49 34.2 +13
GRF Grafenberg Arr 100.50 332 *e*P 12 45 51.2
GRF *e*PP PP 12 49 36.8 +13
GRF *e*PPP 12 51 55.5
GRF *e*PS PS 12 58 40.5 +13
GRF *e*SS SS 13 04 07.6 +29
GRF *e*L 13 33 34.6
comp=Z,1μm,19.6s
BUG Bochum--Univer 100.86 335 *e*PP PP 12 49 38.6 +12
RJOB Jochberg 101.18 330 *e*P 12 45 53.7
RJOB *e*PP PP 12 49 42.3 +13
SCHQ Schefferville 101.23 19 P Pdif 12 45 19.1 -0.2
comp=Z,3.4nm,0.8s,baz=254,slow=9.2,SNR=3.8
SCHQ Schefferville 101.23 19 P Pdif 12 45 19.1 -0.2
TNS Taunus Mts 101.31 334 *e*P 12 45 55.1
TNS *e*PP PP 12 49 42.6 +13
FUR Furstenfeldbru 101.58 331 *e*P 12 45 55.1
FUR *e*PP PP 12 49 45.4 +14
STU Stuttgart 102.08 332 *e*P 12 45 58.5
STU *e*PP PP 12 49 48.6 +13
WLF Walferdange 102.69 334 *e*P 12 46 00.1
WLF *e*PP PP 12 49 53.3 +13
BFO Black Forest 102.79 332 *e*P 12 46 01.7
BFO *e*PP PP 12 49 53.5 +13
MAW Mawson 104.85 203 PP PP 12 49 50.1 -6.6
comp=Z,4.8nm,0.8s,baz=55,slow=5.1,SNR=4.9
MAW Mawson 104.85 203 PP PP 12 49 50.1 -6.6
WVT Waverly 105.25 42 *e*PKPdf PKiKP 12 49 50.3 -0.9
PLAL Pickwick Lake 105.79 44 *e*PKPdf PKiKP 12 49 51.0 -1.3
TKL Tuckaleechee C 108.09 41 *e*PKPdf PKiKP 12 49 56.0 -0.5
QSPA South Pole Qui 108.97 180 PKiKP PKiKP 12 49 56.5 -0.3
comp=Z,11nm,1.1s,baz=349,slow=2.7,SNR=8.9
QSPA South Pole Qui 108.97 180 *e*PKPdf PKiKP 12 49 56.9 +0.1
ESDC Sonseca Array 114.98 335 PP PP 12 51 00.2 -9.1
comp=Z,0.4nm,0.3s,baz=17,slow=6.1,SNR=4.3
ESDC PKKPab PKKPab 13 00 52.1 -2.2
comp=Z,7.9nm,0.8s,baz=213,slow=5.1,SNR=21
LSZ Lusaka 120.48 263 *e*PKPdf PKPdf 12 50 19.5 -1.1
LSZ Lusaka 120.48 263 *e*PKIKP PKPdf 12 50 19.5 -1.1
JTS JuntasAbangare 122.11 64 PKP PKPdf 12 50 22.3 -1.5
comp=Z,21nm,1.0s,baz=272,slow=3.2,SNR=6.1
JTS JuntasAbangare 122.11 64 PKP PKPdf 12 50 22.3 -1.5
JTS JuntasAbangare 122.11 64 PKIKP PKPdf 12 50 22.3 -1.5
JTS pmax pmax
comp=Z,21nm,1.0s
TAM Tamanrasset 123.00 315 *e*PKPdf PKPdf 12 50 24.7 -0.6
TAM Tamanrasset 123.00 315 *e*PKIKP PKPdf 12 50 24.7 -0.6
SNAA Sanae 124.38 192 *e* PKPdf 12 50 20.6 -5.8
SNAA Sanae 124.38 192 *e*PKPdf PKPdf 12 50 20.4 -6.0
SNAA Sanae 124.38 192 *e*PKIKP PKPdf 12 50 20.4 -6.0
LBTB Lobatse 124.59 252 *e*PKPdf PKPdf 12 50 26.9 -1.3
LBTB Lobatse 124.59 252 *e*PKIKP PKPdf 12 50 26.9 -1.3
VNA2 Neumayer--Watz 125.83 191 *e* PKPdf 12 50 28.2 -1.0
baz=116,slow=0.6
VNA3 Neumayer Olymp 125.93 190 *e* PKPdf 12 50 28.1 -1.3
VNA1 Neumayer--Stat 126.21 190 *e* PKPdf 12 50 27.2 -2.8
BCIP Isla Barro Col 127.00 62 *e*PKPdf PKPdf 12 50 31.8 -1.4
MSKU Masuku 130.02 284 SKPbc 12 53 47.0
comp=Z,23nm,0.8s,baz=11,slow=5.5,SNR=7.3
LRS Lares 130.92 43 *e*PKPdf PKPdf 12 50 39.5 -1.1
CELP Cerrillos 131.25 43 *e*PKPdf PKPdf 12 50 41.2 +0.1
SJG San Juan 131.50 42 SKPbc SKPbc 12 53 54.8 -0.2
comp=Z,205nm,1.0s,baz=338,slow=3.4,SNR=25
SJG San Juan 131.50 42 SKPbc SKPbc 12 53 54.8 -0.2
TORD Torodi Ar. Bea 132.19 309 PKP PKPdf 12 50 41.5 -1.4
comp=Z,6.2nm,0.8s,baz=20,slow=1.7,SNR=20
TORD PP PP 12 53 04.1 -1.7
comp=Z,3.8nm,1.0s,baz=32,slow=3.7,SNR=3.7
TORD SKPbc SKPbc 12 53 54.0 -3.6
comp=Z,20nm,0.9s,baz=42,slow=2.8,SNR=15
TORD SKKPbc 13 03 23.4
comp=Z,3.1nm,0.8s,baz=238,slow=3.9,SNR=8.3
TORD SKKP 13 03 56.5
comp=Z,2.9nm,1.2s,baz=214,slow=3.0,SNR=4.1
TORD Torodi Ar. Bea 132.19 309 PKP PKPdf 12 50 41.5 -1.4
TORD PP PP 12 53 04.1 -1.7
TORD SKPbc SKPbc 12 53 54.0 -3.6
TORD SKKPbc 13 03 23.4
TORD SKKP 13 03 56.5
OTAV Otavalo 132.58 71 *e*PKPpre PKPpre 12 50 36.4
ROSC El Rosal 133.91 63 PKP PKPdf 12 50 46.6 +0.3
comp=Z,12nm,0.5s,baz=86,slow=6.9,SNR=7.9
ROSC El Rosal 133.91 63 PKP PKPdf 12 50 46.6 +0.3
SDV Santo Domingo 134.60 55 *e*PKPpre PKPpre 12 50 41.7
SDV *e*PKPdf PKPdf 12 50 47.6 0.0
ATAH Atahualpa 135.53 80 PKP PKPdf 12 50 49.6 +0.3
comp=Z,26nm,0.9s,baz=7.0,slow=2.6,SNR=11
ATAH SKP 12 54 10.5
comp=Z,83nm,0.9s,baz=312,slow=2.5,SNR=32
ATAH Atahualpa 135.53 80 PKP PKPdf 12 50 49.6 +0.3
ATAH SKP 12 54 10.5
NNA Nana 138.46 87 PKP PKPdf 12 50 53.8 -0.9
comp=Z,19nm,0.8s,baz=273,slow=5.2,SNR=7.4
NNA SKPbc SKPbc 12 54 15.2 -2.0
comp=Z,19nm,0.9s,baz=306,slow=4.6,SNR=7.7
NNA Nana 138.46 87 PKP PKPdf 12 50 53.8 -0.9
NNA *e*PKPdf PKPdf 12 50 54.4 -0.3
NNA SKPbc SKPbc 12 54 15.2 -2.0
NNA Nana 138.46 87 PKIKP PKPdf 12 50 53.8 -0.9
NNA pmax pmax
comp=Z,19nm,0.9s
NNA pmax pmax
comp=N,19nm,0.9s
DBIC Dimbokro 141.29 309 PKhKP PKPpre 12 50 51.2
comp=N,4.6nm,0.6s,baz=354,slow=4.0,SNR=11
DBIC SKP 12 54 21.7
comp=N,67nm,0.8s,baz=33,slow=2.7,SNR=23
DBIC Dimbokro 141.29 309 *e*PKPpre PKPpre 12 50 50.4
DBIC PKPpre PKPpre 12 50 51.2
DBIC SKP 12 54 21.7
DBIC Dimbokro 141.29 309 PKHKP PKPpre 12 50 51.2
DBIC pmax pmax
comp=Z,5.0nm,0.6s
DBIC pmax pmax
comp=N,67nm,0.8s
BBTS Babate 142.12 331 SKPbc SKPbc 12 54 26.6 -0.3
comp=N,22nm,0.9s,baz=340,slow=3.4,SNR=3.8
BBTS Babate 142.12 331 SKPbc SKPbc 12 54 26.6 -0.3
PLCA Paso Flores 142.29 133 PKhKP PKPpre 12 50 55.6
comp=N,18nm,0.8s,baz=228,slow=3.1,SNR=32
PLCA SKPbc SKPbc 12 54 26.4 -0.1
comp=N,25nm,0.8s,baz=198,slow=2.5,SNR=5.5
PLCA Paso Flores 142.29 133 PKPpre PKPpre 12 50 55.6
PLCA *e*PKPpre PKPpre 12 50 55.8
PLCA SKPbc SKPbc 12 54 26.4 -0.1
SACV Santiago Islan 144.50 342 *e*PKPdf PKPdf 12 51 03.8 -1.7
LCO Las Campanas 145.45 113 *e*PKPbc PKPbc 12 51 07.0 0.0
LPAZ La Paz 147.65 90 *e*PKPdf PKPdf 12 51 10.7 -0.1
LPAZ *e*PKPbc PKPbc 12 51 14.4 +0.7
LPAZ *e*PKPab PKPab 12 51 16.0 -0.2
LPAZ La Paz 147.65 90 *e*PKIKP PKPdf 12 51 10.7 -0.1
LPAZ *e* 12 51 14.4
TRQA Tornquist 149.42 134 *e*PKPdf PKPdf 12 51 12.2 -0.9
TRQA *e*PKPab PKPab 12 51 22.5 -0.3
CPUP Villa Florida 157.59 113 PKP PKPdf 12 51 24.0 -1.1
comp=N,10nm,0.9s,baz=233,slow=0.7,SNR=14
CPUP PKPab PKPab 12 51 56.9 -0.8
comp=N,33nm,0.9s,baz=243,slow=6.1,SNR=5.0
CPUP Villa Florida 157.59 113 PKP PKPdf 12 51 24.0 -1.1
CPUP PKPab PKPab 12 51 56.9 -0.8
CPUP Villa Florida 157.59 113 PKIKP PKPdf 12 51 24.0 -1.1
CPUP 12 51 56.9
CPUP pmax pmax
comp=Z,10.0nm,0.9s
CPUP pmax pmax
comp=Z,33nm,0.9s

IGQ 02 12:41:49.6, 0.98N×79.06W, h30km±1km, Mb4.0, Ms3.8, 4C-13D, Error ellipse: s-maj=2.6km s-min=2.2km az=46.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LITE	Lita	0.72	104	S	Sb	12 42 14.6	+1.4
LITE	Lita	0.72	104	P	Pb	12 42 04.0	+0.4
GOLV	Golondrinas	0.77	186	⇓P	Pn	12 42 05.5	+1.1
OTAV	Otavalo	0.95	140	⇓P	Pn	12 42 08.0	+1.0
YANA	Yana	1.19	156	⇓P	Pn	12 42 12.1	+1.9
YANA	Yana	1.19	156	⇓S	Sn	12 42 27.8	+2.3
PINO	Pino	1.22	158	⇑P	Pn	12 42 12.8	+2.3
TERV	Terraza Guagua	1.23	158	S	Sn	12 42 29.4	+3.0
TERV	Terraza Guagua	1.23	158	P	Pn	12 42 12.8	+2.1
GGP	Refugio Guagua	1.23	158	⇑P	Pn	12 42 12.6	+1.8
JUA2	San Juan 2	1.27	159	⇓P	Pn	12 42 13.2	+2.0
CAYA	Cayambe	1.40	130	P	Pn	12 42 15.0	+1.9
PITA	Cotopaxi Volc	1.65	158	S	Sn	12 42 41.6	+4.8
PITA	Cotopaxi Volc	1.65	158	P	Pn	12 42 19.3	+2.8
ANTI	Antisana	1.68	148	⇓P	Pn	12 42 19.6	+2.6
VC1	Cotopaxi 1	1.74	158	P	Pn	12 42 20.6	+2.9
BREF	Cotopaxi Volca	1.75	159	⇓P	Pn	12 42 21.2	+3.3
BREF	Cotopaxi Volca	1.75	159	⇓S	Sn	12 42 43.8	+4.6
BVC2	Cotopaxi Volca	1.75	158	⇓S	Sn	12 42 43.5	+4.3
BVC2	Cotopaxi Volca	1.75	158	⇓P	Pn	12 42 21.0	+3.2
BTAM	Cotopaxi Volca	1.77	158	P	Pn	12 42 21.1	+3.0
COV1	Cotopaxi Volc	1.78	156	⇑S	Sn	12 42 43.9	+4.0
COV1	Cotopaxi Volc	1.78	156	⇑P	Pn	12 42 21.4	+3.1
MOV1	Cotopaxi Vol s	1.79	160	⇓P	Pn	12 42 21.6	+3.1
TAMB	Tambo	1.80	157	P	Pn	12 42 21.7	+3.2
BMOR	Cotopaxi Volca	1.80	160	⇓S	Sn	12 42 44.0	+3.5
BMOR	Cotopaxi Volca	1.80	160	⇓P	Pn	12 42 21.3	+2.7
PISA	Pisayambo	2.13	161	P	Pn	12 42 27.5	+4.4

DJA 02 12:47:10, 1.33N×122.19E, h10km, MLv4.2/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.88	196	P	Pg	12 47 26.6	-0.4
MRSI				S	Sg	12 47 37.6	-1.0
GTOI	Gorontalo	1.07	130	P	Pg	12 47 28.8	-1.8
GTOI				S	Sg	12 47 44.0	-0.6
KMSI	Cibinong	1.94	113	P	Pn	12 47 48.9	+5.8
LUWI	Luwuk	2.43	166	P	Pn	12 47 51.1	+1.4
MSSI	Masamba	4.29	206	P	Pn	12 48 16.6	+1.3
TTSI	Tana Toraja	4.95	209	P	Pn	12 48 25.6	+1.1
MYLDM	Lahad Datu	5.31	316	P	Pn	12 48 28.5	-0.9
	0.2nm20nm,2.6s						
KAPI	Kappang	6.76	201	P	Pn	12 48 48.1	-1.2

*ISCJB **02** 12:47:50.5±0.7, 29.93N±0.07×68.0E±0.2, h10km, mb3.8/10, Error ellipse: s-maj=19.5km s-min=9.4km az=11.5*
*IDC **02** 12:47:51.4±1.1, 29.92N×67.93E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/30, mbtmp3.7/9, Error ellipse: s-maj=28.6km s-min=22.1km az=84.0*
*NEIC **02** 12:47:52.8±0.9, 29.94N×68.05E, h10km, mb4.4/2, Error ellipse: s-maj=22.8km s-min=13.4km az=93.0*
ISC 02 12:47:52.2±0.7, 29.89N±0.07×68.0E±0.1, h10km, n27, σ1.37/29, mb3.8/10, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	4.72	11	ePn	Pn	12 49 05.9	+2.4
KBL				eSn	Sn	12 49 59.9	+1.6
KK31	Karatay Array	13.34	8	Pn	Pn	12 50 59.0	-2.6
	0.8nm,0.4s,baz=181,slow=13,SNR=9.9						
KK31				Sn	Sn	12 53 23.5	-6.4
	0.6nm,0.4s,baz=175,slow=28,SNR=4.2						
KKAR	Karatay Array	13.34	8	ePn	Pn	12 51 01.3	-0.3
	1.6nm,0.3s						
EKS2	Erkin-Say	13.57	19	ePn	Pn	12 51 04.3	-0.4
	5.3nm,0.7s						
AAK	Ala-Archa	13.75	21	ePn	Pn	12 51 06.3	-0.9
TKM2	Tokmak 2	14.36	23	ePn	Pn	12 51 13.9	-1.6
	54nm,1.9s						
MK31	Makanchi Array	20.21	29	eP	P	12 52 26.6	-0.5
MKAR	Makanchi Array	20.21	29	P	P	12 52 26.4	-0.8
	0.6nm,0.4s,baz=211,slow=11,SNR=9.1						
MKAR	Makanchi Array	20.21	29	P	P	12 52 26.4	-0.8
AKTO	Aktyubinsk	21.85	343	P	P	12 52 45.9	+1.1
	0.9nm,0.3s,mb3.7,baz=152,slow=12,SNR=4.7						
AKTO	Aktyubinsk	21.85	343	P	P	12 52 45.9	+1.1
KURK	Kurchatov	22.28	18	P	P	12 52 47.0	-2.4
	0.9nm,0.3s,mb3.7,baz=211,slow=9.8,SNR=3.2						
KURK	Kurchatov	22.28	18	P	P	12 52 47.0	-2.4
BVAR	Borovoye Array	23.18	4	P	P	12 52 59.0	+0.1
	1.0nm,0.5s,mb3.5,baz=169,slow=8.7,SNR=6.9						
BVAR	Borovoye Array	23.18	4	P	P	12 52 59.0	+0.1
ZALV	Zalesovo Beam	26.97	22	P	P	12 53 35.8	+2.0
	0.8nm,0.3s,mb3.7,baz=224,slow=10.0,SNR=4.5						
ZALV	Zalesovo Beam	26.97	22	P	P	12 53 35.8	+2.0
KMBO	Kilima Mbogo	42.55	229	eP	P	12 55 46.3	-2.1
	15nm,0.8s,mb4.8						
ARCES	ARCESS Array B	46.41	341	P	P	12 56 20.0	+1.4
	2.2nm,0.8s,mb4.1,baz=126,slow=8.2,SNR=4.3						
ARCES	ARCESS Array B	46.41	341	P	P	12 56 20.0	+1.4
TORD	Torodi Ar. Bea	63.11	270	P	P	12 58 20.3	-0.1
	0.7nm,0.9s,mb3.8,baz=48,slow=6.0,SNR=2.4						
TORD	Torodi Ar. Bea	63.11	270	P	P	12 58 20.3	-0.1
WRA	Warramunga Arr	80.82	119	P	P	13 00 08.0	+1.5
	0.3nm,0.9s,mb3.2,baz=320,slow=4.7,SNR=3.3						
WRA	Warramunga Arr	80.82	119	P	P	13 00 08.0	+1.5
WRAB	Tennant Creek	80.82	119	eP	P	13 00 06.4	-0.1
	1.5nm,1.0s,mb3.9						
ASAR	Alice Springs	82.71	122	P	P	13 00 17.5	+1.1
	0.3nm,0.6s,mb3.5,baz=302,slow=5.4,SNR=5.6						
ASAR	Alice Springs	82.71	122	P	P	13 00 17.5	+1.1

*IDC **02** 12:56:55.8±1.0, 30.08N×67.60E, h0km, mb3.7/11, mb1 4.0/11, mb1mx3.7/30, mbtmp3.8/11, Error ellipse: s-maj=25.0km s-min=22.3km az=60.0*
*NEIC **02** 12:56:57.7±0.8, 30.04N×67.88E, h10km, mb3.8/2, Error ellipse: s-maj=14.2km s-min=12.1km az=158.0*
*ISCJB **02** 12:57:00.0±1.6, 30.18N±0.08×67.92E±0.10, h33km±14km, mb3.7/11, Error ellipse: s-maj=16.5km s-min=9.4km az=40.5*
*NNC **02** 12:57:10.9±5.0, 31.40N×67.47E, h0km, mb3.4, Error ellipse: s-maj=61.7km s-min=41.6km az=74.0*
ISC 02 12:57:00.5±2.0, 30.10N±0.07×67.9E±0.1, h26km±14km, n37, σ1.20/41, mb3.7/11, 6C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUE	Quetta	0.81	277	P	Pb	12 57 15.0	-0.9
QUE				S	Sb	12 57 27.0	+0.6
KBL	Kabul	4.54	12	ePn	Pn	12 58 07.8	+0.3
KBL				eSn	Sn	12 59 04.4	+5.0
DDI	Dehra Dun	8.81	86	ex	x	12 59 50.0	
KK31	Karatay Array	13.15	9	Pn	Pn	13 00 05.3	-0.2
	0.8nm,0.4s,baz=191,slow=13,SNR=13						
KK31				⇑Sn	Sn	13 02 24.0	-6.8
	3.5nm,0.8s,baz=195,slow=22,SNR=4.8						
KKAR	Karatay Array	13.15	9	ePn	Pn	13 00 06.2	+0.7
	1.9nm,0.4s						
KKAR				eSn	Sn	13 02 29.7	-1.1
TKM2	Tokmak 2	14.21	24	⇓Pn	Pn	13 00 17.8	-2.2
	4.4nm,0.8s						
AB31	Akbulak array	20.06	345	⇑P	P	13 01 33.3	+1.7
	0.8nm,0.5s						
AB31				⇑S	S	13 04 59.6	-16
	1.2nm,0.8s,baz=206,slow=14,SNR=5.7						
ABKAR	Akbulak array	20.06	345	eP	P	13 01 33.4	+1.8
	1.6nm,0.5s						
MK31	Makanchi Array	20.08	30	⇑P	P	13 01 31.2	-0.6
	2.6nm,0.8s,baz=282,slow=15,SNR=31						
MK31	Makanchi Array	20.08	30	eP	P	13 01 31.4	-0.4
MKAR	Makanchi Array	20.08	30	P	P	13 01 31.1	-0.7
	1.0nm,0.4s,baz=210,slow=11,SNR=26						
MKAR	Makanchi Array	20.08	30	P	P	13 01 31.1	-0.7
AKTO	Aktyubinsk	21.63	343	⇑P	P	13 01 50.5	+2.0
	1.4nm,1.6s,mb3.1						
KURK	Kurchatov	22.12	18	⇑P	P	13 01 54.3	+0.6
	3.7nm,1.1s,mb3.7						
KURK	Kurchatov	22.12	18	P	P	13 01 51.7	-2.0
	2.7nm,0.6s,mb3.8,baz=209,slow=9.8,SNR=12						
KURK	Kurchatov	22.12	18	P	P	13 01 51.7	-2.0
BVA0	Borovoye Array	22.98	4	P	P	13 02 04.4	+1.5
	0.1nm,0.9s,baz=201,slow=4.7,SNR=8.0						
BVAR	Borovoye Array	22.98	4	P	P	13 02 02.6	-0.3
	1.2nm,0.5s,mb3.6,baz=199,slow=7.2,SNR=5.9						
BVAR	Borovoye Array	22.98	4	P	P	13 02 02.6	-0.3
BRVK	Borovoye	23.01	4	eP	P	13 02 03.1	0.0
ZALV	Zalesovo Beam	26.81	22	P	P	13 02 40.3	+2.0
	0.7nm,0.3s,mb3.6,baz=224,slow=12,SNR=4.8						
ZALV	Zalesovo Beam	26.81	22	P	P	13 02 40.3	+2.0
MLR	Muntele Rosu	36.09	307	P	P	13 03 58.0	-1.9
	0.7nm,1.0s,mb3.5,baz=128,slow=18,SNR=2.6						
MLR	Muntele Rosu	36.09	307	P	P	13 03 58.0	-1.9
ARCES	ARCESS Array B	46.19	341	P	P	13 05 22.5	-0.1
	2.5nm,0.9s,mb4.2,baz=110,slow=7.8,SNR=3.6						
ARCES	ARCESS Array B	46.19	341	P	P	13 05 22.5	-0.1
NOA	NORSAR Array B	48.11	327	P	P	13 05 34.2	-3.5
	1.5nm,1.0s,mb4.0,baz=108,slow=7.6,SNR=2.5						
NOA	NORSAR Array B	48.11	327	P	P	13 05 34.2	-3.5
TORD	Torodi Ar. Bea	63.02	270	P	P	13 07 23.9	-1.7
	0.8nm,0.9s,mb3.9,baz=64,slow=5.0,SNR=4.5						
TORD	Torodi Ar. Bea	63.02	270	P	P	13 07 23.9	-1.7
WRA	Warramunga Arr	81.00	119	P	P	13 09 13.9	+0.8
	0.6nm,1.0s,mb3.5,baz=321,slow=4.9,SNR=5.1						
WRA	Warramunga Arr	81.00	119	P	P	13 09 13.9	+0.8
WRAB	Tennant Creek	81.00	119	eP	P	13 09 13.2	+0.1
	1.5nm,1.1s,mb3.8						
ASAR	Alice Springs	82.89	122	P	P	13 09 23.4	+0.4
	0.4nm,0.6s,mb3.6,baz=303,slow=5.5,SNR=8.6						
ASAR	Alice Springs	82.89	122	P	P	13 09 23.4	+0.4
YKA	Yellowknife Ar	87.72	1	P	P	13 09 45.9	-0.6
	3.2nm,1.1s,baz=354,slow=5.7,SNR=3.1						
YKA	Yellowknife Ar	87.72	1	P	P	13 09 45.9	-0.6

*IDC **02** 13:00:44.0±0.9, 30.97N×56.75E, h0km, mb4.1/20, mb1 4.2/23, mb1mx4.1/33, mbtmp4.1/23, ML4.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/39, Error ellipse: s-maj=22.0km s-min=13.3km az=7.0*
*ISCJB **02** 13:00:44.4±0.8, 31.08N±0.04×56.80E±0.03, h6km±5km, mb4.1/25, Error ellipse: s-maj=6.4km s-min=3.6km az=160.4*
*BJI **02** 13:00:45.2, 31.56N×56.45E, h15km, mb4.5/5*
*THR **02** 13:00:46.0±0.9, 31.11N×56.79E, h18km±12km, ML4.5*
*NEIC **02** 13:00:46.8±1.2, 31.05N×56.79E, h15km±9km, mb4.4/4, ML4.5(THR), Error ellipse: s-maj=7.9km s-min=4.9km az=188.0*
*CSEM **02** 13:00:46.3±0.2, 31.04N×56.82E, h10km, mb4.1/19, Error ellipse: s-maj=5.4km s-min=3.5km az=159.0*
*KISR **02** 13:00:48.7±0.8, 31.30N×55.98E, h3km±999km, ML4.0*
*MOS **02** 13:00:48.2±0.9, 31.08N×56.76E, h39km, mb4.2/18, Error ellipse: s-maj=11.9km s-min=9.4km az=78.6*
*TEH **02** 13:00:49.6, 31.15N×56.78E, h20km*
ISC 02 13:00:47.0±0.9, 31.06N±0.04×56.82E±0.03, h14km±6km, n206, σ0.87/223, mb4.1/25, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	1.08	183	ePg	Pg	13 01 07.0	-0.8
KRBR	Kerman	1.08	183	ePg	Pg	13 01 07.3	-0.5
KRBR				AML	AML	13 01 26.0	
	comp=N,12μm,0.9s						
KRBR				AML	AML	13 01 34.3	
	comp=E,9μm,0.8s						
KRBR	Kerman	1.08	183	ePg	Pg	13 01 07.0	-0.8
IBAF	Bafgh	1.20	297	e	Sg	13 01 29.9	+4.3
	comp=Z,56μm,0.2s						
IBAF				ePg	Pg	13 01 05.6	-4.5
IMEH	Mehriz	1.92	280	ePn	Pn	13 01 18.8	-0.6
IMEH				e		13 01 47.6	
	comp=Z,60μm,0.2s						
IMEH	Mehriz	1.92	280	ePn	Pn	13 01 18.8	-0.6
IKOO	Kooshah	2.30	53	ePn	Pn	13 01 25.5	+0.9
IKOO				eSg	Sg	13 02 00.8	-0.3
IKOO				e		13 02 01.4	
	comp=Z,37μm,0.2s						
IKOO	Kooshah	2.30	53	ePn	Pn	13 01 25.5	+0.9
IKOO				eSg	Sg	13 02 00.8	-0.3
ICHK	Chekchek	2.37	300	ePn	Pn	13 01 25.8	+0.2
ICHK				eSn	Sn	13 01 54.4	-0.1
ICHK				e		13 02 00.1	
	comp=Z,54μm,0.4s						
ICHK	Chekchek	2.37	300	ePn	Pn	13 01 25.8	+0.2
ITEG	Tejag	2.46	41	ePn	Pn	13 01 27.3	+0.6
ITEG				eSg	Sg	13 02 04.3	-1.7
ITEG				e		13 02 07.7	
	comp=Z,23μm,0.2s						
ITEG	Tejag	2.46	41	ePn	Pn	13 01 27.3	+0.6
ITEG				eSg	Sg	13 02 04.3	-1.7
TABS	Tabas	2.59	5	ePn	Pn	13 01 28.7	+0.1
TABS				AML	AML	13 02 14.2	
	comp=N,2μm,0.9s						
ISAD	Sadrabad	2.81	288	ePn	Pn	13 01 32.1	+0.5
ISAD				e		13 02 12.7	
	comp=Z,19μm,0.2s						
ISAD	Sadrabad	2.81	288	ePn	Pn	13 01 32.1	+0.5
IDAH	Dahanechah	3.08	56	ePn	Pn	13 01 37.0	+1.6
IDAH				e		13 02 36.5	
	comp=Z,16μm,0.5s						
IDAH	Dahanechah	3.08	56	ePn	Pn	13 01 37.0	+1.6
IMON	Monand	3.22	48	ePn	Pn	13 01 38.5	+1.3
IMON				e		13 01 50.1	
	comp=Z,10μm,0.2s						
IMON				eSg	Sg	13 02 30.1	-0.3
IMON	Monand	3.22	48	ePn	Pn	13 01 38.5	+1.3
IMON				eSg	Sg	13 02 30.1	-0.3
IPAR	Pars	3.48	251	ePn	Pn	13 01 42.5	+1.7
IPAR				e		13 02 46.0	
	comp=Z,9μm,0.4s						
IPAR	Pars	3.48	251	ePn	Pn	13 01 42.5	+1.7
IBND	Bandar-abas	3.61	184	ePn	Pn	13 01 46.0	+3.4
IBND				e		13 03 07.5	
	comp=Z,12μm,0.3s						
IBND	Bandar-abas	3.61	184	ePn	Pn	13 01 46.0	+3.4
ISRV	Sarvestan	3.62	243	ePn	Pn	13 01 44.5	+1.8
ISRV				e		13 02 57.7	
	comp=Z,10μm,0.5s						
ISRV	Sarvestan	3.62	243	ePn	Pn	13 01 44.5	+1.8
NASN	Na'in	3.83	298	ePn	Pn	13 01 45.0	-0.6
NASN				eSg	Sg	13 02 44.0	-6.0
NASN	Na'in	3.83	298	ePn	Pn	13 01 45.8	+0.3
NASN				eSg	Sg	13 02 44.1	-5.8
NASN	Na'in	3.83	298	ePn	Pn	13 01 45.0	-0.6
NASN				eSg	Sg	13 02 44.1	-5.9
IZEF	Zefreh	4.23	297	ePn	Pn	13 01 51.6	+0.4
IZEF				e		13 03 04.7	
	comp=Z,3μm,0.3s						
IZEF	Zefreh	4.23	297	ePn	Pn	13 01 51.6	+0.4
IGAR	Gharneh	4.29	289	ePn	Pn	13 01 52.5	+0.6
IGAR				e		13 03 14.3	
	comp=Z,2μm,0.4s						
IKLH	Kolahrood	4.98	298	ePn	Pn	13 02 02.1	+0.6
IKLH				e		13 03 27.4	
	comp=Z,3μm,0.5s						
IKLH	Kolahrood	4.98	298	ePn	Pn	13 02 02.1	+0.6
IANJ	Anjilo	5.02	332	ePn	Pn	13 02 01.7	-0.3
IANJ				e		13 03 36.6	
	comp=Z,4μm,0.4s						
IANJ	Anjilo	5.02	332	ePn	Pn	13 02 01.7	-0.3
ISFB	Sefidab	5.07	312	ePn	Pn	13 02 03.3	+0.7
ISFB				eSg	Sg	13 03 24.9	-4.8
ISFB				e		13 03 30.3	
	comp=Z,4μm,0.4s						
ISFB	Sefidab	5.07	312	ePn	Pn	13 02 03.3	+0.7
ILAS	Lasjerd	5.39	324	ePn	Pn	13 02 07.5	+0.5
ILAS				e		13 03 56.5	
	comp=Z,3μm,0.4s						
ILAS	Lasjerd	5.39	324	ePn	Pn	13 02 07.5	+0.5
IMOG	Moghan	5.46	22	ePn	Pn	13 02 09.0	+1.1
IMOG				e		13 03 59.8	
	comp=Z,1μm,0.5s						
IMOG	Moghan	5.46	22	ePn	Pn	13 02 09.0	+1.1
ISHM	Shahmirzad	5.58	329	ePn	Pn	13 02 09.4	-0.2
ISHM				e		13 03 57.1	
	comp=Z,4μm,0.4s						
ISHM	Shahmirzad	5.58	329	ePn	Pn	13 02 09.4	-0.2
IPAY	Payeh	5.67	18	ePn	Pn	13 02 11.2	+0.3
IPAY				e		13 04 05.9	
	comp=Z,2μm,0.4s						
IPAY	Payeh	5.67	18	ePn	Pn	13 02 11.2	+0.3
ISRO	Mashad	5.68	22	ePn	Pn	13 02 11.9	+0.8
ISRO	Mashad	5.68	22	ePn	Pn	13 02 11.9	+0.8
IFIR	Firoozkooh	5.70	324	ePn	Pn	13 02 11.1	-0.2
IFIR				e		13 02 33.2	
	comp=Z,760nm,0.2s						
IFIR	Firoozkooh	5.70	324	ePn	Pn	13 02 11.1	-0.2
IAKL	Akhelmad	5.76	16	ePn	Pn	13 02 12.5	+0.4
IAKL				e		13 03 58.4	
	comp=Z,3μm,0.4s						
IKIA	Kiasar	5.76	334	ePn	Pn	13 02 12.3	+0.1
IKIA				eSg	Sg	13 03 46.2	-5.8
IKIA				e		13 03 58.3	
	comp=Z,2μm,0.3s						
IKIA	Kiasar	5.76	334	ePn	Pn	13 02 12.3	+0.1
IVRN	Varamin	5.80	314	ePn	Pn	13 02 12.8	0.0
IVRN				e		13 04 02.7	
	comp=Z,2μm,0.4s						
IVRN	Varamin	5.80	314	ePn	Pn	13 02 12.8	0.0
IKRD	Kardeh	5.87	13	ePn	Pn	13 02 17.6	+3.9
IKRD				e		13 04 19.5	
	comp=Z,3μm,0.7s						
IMYA	Miami	5.93	27	ePn	Pn	13 02 15.0	+0.5
IMYA				e		13 04 18.4	
	comp=Z,2μm,0.5s						
IMYA	Miami	5.93	27	ePn	Pn	13 02 15.0	+0.5
IGLO	Ghaloghah	5.97	336	ePn	Pn	13 02 16.7	+1.7
IGLO				e		13 04 17.3	
	comp=Z,4μm,0.5s						
ISFR	Sfrayin	6.06	9	ePn	Pn	13 02 17.0	+0.8
ISFR				e		13 03 00.2	
	comp=Z,2μm,0.4s						
DAMV	Damavand	6.10	320	ePn	Pn	13 02 16.5	-0.3
DAMV				AML	AML	13 04 15.9	
	comp=E,136nm,1.7s						
ISHV	Shirvan	6.50	6	ePn	Pn	13 02 22.6	+0.3
ISHV				e		13 04 35.5	
	comp=Z,4μm,0.5s						
ISHV	Shirvan	6.50	6	ePn	Pn	13 02 22.6	+0.3
IEMG	Emamgholi	6.52	13	ePn	Pn	13 02 22.7	+0.2
IEMG				e		13 04 25.9	
	comp=Z,1μm,0.3s						
IEMG	Emamgholi	6.52	13	ePn	Pn	13 02 22.7	+0.2
IR3	Iran Long-Peri	6.55	314	ePn	Pn	13 02 23.4	+0.4
IR3	Iran Long-Peri	6.55	314	ePn	Pn	13 02 23.4	+0.4
ASAO	Ashtian	6.70	303	ePn	Pn	13 02 24.0	-1.0
ASAO	Ashtian	6.70	303	ePn	Pn	13 02 24.9	0.0
ASAO	Ashtian	6.70	303	ePn	Pn	13 02 25.0	0.0
QRN	Al-Qurain	8.06	256	eP	Pn	13 02 43.2	-0.6
QRN				eS	Sn	13 04 09.8	-5.0
QRN				AML	AML	13 04 13.6	
	comp=Z,29nm,0.6s						
KBD	Kabd	8.13	259	eP	Pn	13 02 43.9	-0.7
KBD	Kabd	8.13	259	eP	Pn	13 02 43.9	-0.8
RDF	Al-Radifah	8.32	258	eP	Pn	13 02 47.4	+0.1
RDF				eS	Sn	13 04 15.6	-5.4
RDF				AML	AML	13 04 18.7	
	comp=Z,19nm,0.7s						
RDF	Al-Radifah	8.32	258	eP	Pn	13 02 47.4	+0.1
NAY	Al-Naaiem	8.49	260	eP	Pn	13 02 49.3	-0.3
NAY				eS	Sn	13 04 19.3	-5.9
NAY				AML	AML	13 04 20.4	
	comp=Z,7.2nm,0.6s						
NAY	Al-Naaiem	8.49	260	eP	Pn	13 02 49.3	-0.3
SNGE	Sanandaj	8.91	299	ePn	Pn	13 02 55.0	-0.3
SNGE	Sanandaj	8.91	299	ePn	Pn	13 02 55.7	+0.3
SNGE	Sanandaj	8.91	299	ePn	Pn	13 02 55.0	-0.3
IBST	Bostanabad	10.54	312	ePn	Pn	13 03 17.3	-0.4
IBST	Bostanabad	10.54	312	ePn	Pn	13 03 17.3	-0.4
BHD	Baghdad	10.77	285	ex	x	13 03 02.0	
BHD				ex	x	13 04 50.5	
BHD				i x	x	13 05 52.5	
GNI	Garni	13.36	316	eP	Pn	13 04 04.2	+7.9
ZEI	Tsey	15.58	322	eP	Pn	13 04 32.2	+6.0
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEI	Tsey	15.58	322	eP	Pn	13 04 32.2	+6.0
	comp=Z,10.0nm,0.7s						
ASF	Jabal al Asfar	17.01	279	Pn	Pn	13 04 43.6	-1.0
	comp=Z,0.3nm,0.3s,baz=303,slow=7.0,SNR=6.3						
ASF				LR	LR	13 12 50.7	
	comp=Z,179nm,20.9s,baz=113,slow=43						
ASF	Jabal al Asfar	17.01	279	Pn	Pn	13 04 43.6	-1.0
ASF	Jabal al Asfar	17.01	279	P	Pn	13 04 43.6	-1.0
ASF				MLR	MLR		
	comp=Z,179nm,20.9s						
KIV	Kislovodsk	17.04	323	eP	Pn	13 04 48.3	+3.4
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
KIV	Kislovodsk	17.04	323	eP	Pn	13 04 48.3	+3.4
	comp=Z,24nm,1.1s						
AAK	Ala-Archa	18.22	46	eP	Pn	13 04 59.8	+0.2
	comp=Z,86nm,1.4s						
AAK	Ala-Archa	18.22	46	eP	Pn	13 04 59.8	+0.3
AAK				pmax	pmax		
	comp=Z,87nm,1.4s						
AAK	Ala-Archa	18.22	46	eP	Pn	13 04 59.8	+0.3
	comp=Z,87nm,1.4s						
MMAI	Mount Meron Ar	18.26	282	P	Pn	13 05 00.0	-0.1
	comp=Z,1.1nm,0.3s,baz=84,slow=14,SNR=2.7						
MMAI	Mount Meron Ar	18.26	282	P	Pn	13 05 00.0	-0.1
MMAI	Mount Meron Ar	18.26	282	P	Pn	13 05 00.0	-0.1
ABKAR	Akbulak array	18.33	7	eP	Pn	13 05 00.1	-0.7
	comp=Z,1.4nm,0.7s						
ABKAR	Akbulak array	18.33	7	eP	Pn	13 05 00.1	-0.7
	comp=Z,1.4nm,0.7s						
EIL	Elat	18.92	271	P	Pn	13 05 09.2	+1.0
	comp=Z,0.8nm,0.3s,baz=60,slow=9.7,SNR=3.7						
EIL	Elat	18.

KURK pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
KURK Kurchatov 25.47 33 P **P 13 06 14.3 -0.2**
comp=Z,6.0nm,0.8s,mb4.2
MLR Muntele Rosu 27.99 310 P **P 13 06 36.6 -0.8**
comp=Z,0.8nm,0.9s,mb3.3,baz=196,slow=15,SNR=2.3
MLR Muntele Rosu 27.99 310 P **P 13 06 36.6 -0.8**
MLR Muntele Rosu 27.99 310 P **P 13 06 36.6 -0.8**
MLR pmax pmax
comp=Z,1.0nm,0.9s
MLR Muntele Rosu 27.99 310 P **P 13 06 36.6 -0.8**
comp=Z,1.0nm,0.9s,mb3.5
OBN Obninsk 28.02 335 *e*P **P 13 06 42.1 +4.6**
OBN pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
OBN MLR MLR
comp=Z,800nm,18.0s
AKASG Malin Array Be 28.38 322 P **P 13 06 39.6 -1.1**
comp=Z,2.1nm,0.7s,mb3.9,baz=124,slow=8.3,SNR=4.1
AKASG Malin Array Be 28.38 322 P **P 13 06 39.6 -1.1**
AKASG Malin Array Be 28.38 322 P **P 13 06 39.7 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 28.38 322 P **P 13 06 39.7 -1.0**
comp=Z,2.0nm,0.7s,mb3.9
KIEV Kiev 28.38 322 *e*P **P 13 06 48.2 +7.4**
ZAA0 Zalesovo Array 30.46 33 *e*P **P 13 06 58.8 -0.4**
ZAA0 Zalesovo Array 30.46 33 *e*P **P 13 06 58.8 -0.3**
ZALV Zalesovo Beam 30.46 33 P **P 13 06 59.1 -0.1**
comp=Z,8.2nm,0.7s,mb4.6,baz=241,slow=8.8,SNR=38
ZALV Zalesovo Beam 30.46 33 P **P 13 06 59.1 -0.1**
ZALV Zalesovo Beam 30.46 33 P **P 13 06 59.1 0.0**
ZALV pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
ZALV Zalesovo Beam 30.46 33 P **P 13 06 59.1 0.0**
comp=Z,8.0nm,0.7s,mb4.6
GTA Gaotai 35.82 65 *e*P **P 13 07 48.1 +2.0**
GTA pP pP 13 07 55.2 +4.9
GTA sP sP 13 07 59.5 +7.5
GTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FINES FINESS Array B 36.42 336 P **P 13 07 50.4 -0.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=119,slow=11,SNR=6.0
FINES FINESS Array B 36.42 336 P **P 13 07 50.4 -0.6**
FINES FINESS Array B 36.42 336 P **P 13 07 50.4 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 36.42 336 P **P 13 07 50.4 -0.6**
comp=Z,3.0nm,0.7s,mb4.3
GERES GERESS Array B 36.95 311 P **P 13 07 55.0 -0.6**
comp=Z,1.1nm,0.6s,mb3.9,baz=105,slow=8.4,SNR=5.7
GERES GERESS Array B 36.95 311 P **P 13 07 55.0 -0.6**
GERES GERESS Array B 36.95 311 P **P 13 07 55.0 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 36.95 311 P **P 13 07 55.0 -0.6**
comp=Z,1.0nm,0.6s,mb3.8
CLL Collm 37.97 315 *e*P **P 13 08 05.0 +0.8**
comp=Z,4.0nm,0.8s,mb4.2
CHTO Chiang Mai 39.87 98 *e*P **P 13 08 20.9 +0.3**
comp=Z,5.1nm,0.9s,mb4.2
CHTO Chiang Mai 39.87 98 *e*P **P 13 08 20.9 +0.3**
CHTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CHTO Chiang Mai 39.87 98 *e*P **P 13 08 20.9 +0.3**
comp=Z,5.0nm,0.9s,mb4.2
CMAR Chiang Mai Arr 40.03 98 P **P 13 08 22.1 +0.2**
comp=Z,1.7nm,0.8s,mb3.8,baz=292,slow=8.5,SNR=11
CMAR Chiang Mai Arr 40.03 98 P **P 13 08 22.1 +0.2**
CMAR Chiang Mai Arr 40.03 98 P **P 13 08 22.1 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 40.03 98 P **P 13 08 22.1 +0.2**
comp=Z,2.0nm,0.9s,mb3.9
HFS Hagfors 40.72 328 P **P 13 08 26.8 -0.2**
comp=Z,4.3nm,0.9s,mb4.1,baz=111,slow=8.4,SNR=4.4
HFS Hagfors 40.72 328 P **P 13 08 26.8 -0.2**
HFS Hagfors 40.72 328 P **P 13 08 26.8 -0.2**
HFS pmax pmax
comp=Z,4.0nm,0.9s
HFS Hagfors 40.72 328 P **P 13 08 26.8 -0.2**
comp=Z,4.0nm,0.9s,mb4.0
SONM Songino Array 41.03 51 P **P 13 08 30.4 +0.5**
comp=Z,2.2nm,0.7s,mb3.9,baz=256,slow=8.3,SNR=7.3
SONM Songino Array 41.03 51 P **P 13 08 30.4 +0.5**
SONM Songino Array 41.03 51 P **P 13 08 30.4 +0.6**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 41.03 51 P **P 13 08 30.4 +0.6**
comp=Z,2.0nm,0.7s,mb3.9
NOA NORSAR Array B 42.21 329 P **P 13 08 38.7 -0.6**
comp=Z,1.4nm,0.8s,mb3.6,baz=115,slow=8.1,SNR=3.2
NOA NORSAR Array B 42.21 329 P **P 13 08 38.7 -0.6**
NOA NORSAR Array B 42.21 329 P **P 13 08 38.7 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 42.21 329 P **P 13 08 38.7 -0.6**
comp=Z,1.0nm,0.8s,mb3.5
TORD Torodi Ar. Bea 53.56 263 P **P 13 10 06.0 -1.8**
comp=Z,2.6nm,0.7s,mb4.3,baz=59,slow=7.4,SNR=18
TORD Torodi Ar. Bea 53.56 263 P **P 13 10 06.0 -1.8**
TORD Torodi Ar. Bea 53.56 263 P **P 13 10 06.1 -1.7**
KSAR Wonju Array Be 57.83 63 P **P 13 10 36.9 -1.3**
KSAR Wonju Array Be 57.83 63 P **P 13 10 36.9 -1.3**
KSAR Wonju Array Be 57.83 63 P **P 13 10 36.9 -1.3**
KSRS Korea Array 57.85 63 P **P 13 10 36.9 -1.5**
comp=Z,2.6nm,0.8s,mb4.3,baz=280,slow=6.7,SNR=5.6
KSRS Korea Array 57.85 63 P **P 13 10 36.9 -1.5**
KSRS pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KSRS Korea Array 57.85 63 P **P 13 10 36.9 -1.5**
comp=Z,3.0nm,0.8s,mb4.4
SCHQ Schefferville 81.75 331 P **P 13 13 04.2 -0.9**
comp=Z,4.0nm,0.9s,mb4.3,baz=256,slow=16,SNR=4.1
SCHQ Schefferville 81.75 331 P **P 13 13 04.2 -0.9**
SCHQ Schefferville 81.75 331 P **P 13 13 04.2 -0.9**
ILAR Eielson Array 82.70 10 P **P 13 13 08.4 -1.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=322,slow=4.6,SNR=7.8
ILAR Eielson Array 82.70 10 P **P 13 13 08.4 -1.5**
ILAR Eielson Array 82.70 10 P **P 13 13 08.4 -1.5**
ILAR Eielson Array 82.70 10 P **P 13 13 08.4 -1.5**
YKA Yellowknife Ar 86.52 356 P **P 13 13 29.5 +0.3**
comp=Z,0.6nm,0.6s,mb4.0,baz=163,slow=15,SNR=4.3
YKA Yellowknife Ar 86.52 356 P **P 13 13 29.6 +0.3**
YKA Yellowknife Ar 86.52 356 P **P 13 13 29.5 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 86.52 356 P **P 13 13 29.5 +0.2**
comp=Z,1.0nm,0.6s,mb4.2
WRA Warramunga Arr 89.97 113 P **P 13 13 45.6 -0.8**
comp=Z,0.5nm,0.8s,mb3.9,baz=317,slow=4.0,SNR=7.5
WRA Warramunga Arr 89.97 113 P **P 13 13 45.6 -0.8**
WRA Warramunga Arr 89.97 113 P **P 13 13 45.6 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 89.97 113 P **P 13 13 45.6 -0.8**
comp=Z,1.0nm,0.8s,mb4.2
ASAR Alice Springs 91.66 117 P **P 13 13 53.4 -0.8**
comp=Z,0.5nm,0.8s,mb3.9,baz=307,slow=5.0,SNR=5.8
ASAR Alice Springs 91.66 117 P **P 13 13 53.4 -0.8**
ASAR Alice Springs 91.66 117 P **P 13 13 53.4 -0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 91.66 117 P **P 13 13 53.4 -0.8**
comp=Z,1.0nm,0.8s,mb4.2

BJI ***02*** *13:18:02.7, 1°.76N×129°.28E, h200km, mB4.7/4, mb4.5/5*
ISCJB ***02*** *13:18:12.6±0.5, 2°.62N±0°.03×128°.49E±0°.04, h218km±4km, mb4.4/40, Error ellipse: s-maj=7.2km s-min=4.7km az=168.4*
IDC ***02*** *13:18:13.8±1.3, 2°.57N×128°.53E, h218km±12km, mb3.9/18, mb1 4.0/19, mb1mx3.9/24, mbtmp3.9/19, Error ellipse: s-maj=21.4km s-min=7.4km az=74.0*
NEIC ***02*** *13:18:13.6±1.0, 2°.62N×128°.62E, h217km±9km, mb4.7/19, Error ellipse: s-maj=9.9km s-min=4.7km az=65.0*
MOS ***02*** *13:18:15.8±0.9, 2°.57N×128°.53E, h254km, mb4.5/19, Error ellipse: s-maj=21.0km s-min=8.4km az=116.0*
DJA ***02*** *13:18:17, 2°.47N×128°.25E, h218km, MLv4.8/9*
ISC 02 13:18:13.8±0.6, 2°.56N±0°.03×128°.43E±0°.05, h213km±5km, n138, σ1§10/151, mb4.4/40, 1C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.07**	**211**	P	**Pn**	**13 18 54.4**	**+0.4**
TNTI				S	**S**	**13 19 28.7**	**+3.2**
SGSI	**Sangihe**	**3.11**	**291**	P	**Pn**	**13 19 04.5**	**-0.9**
SGSI				S	**S**	**13 19 43.6**	**-2.2**
LBMI	**Labuha**	**3.31**	**196**	P	**Pn**	**13 19 08.7**	**+0.9**
LBMI				S	**S**	**13 19 52.9**	**+2.6**
KMSI	**Cibinong**	**4.87**	**246**	P	**Pn**	**13 19 26.8**	**-0.1**
KMSI				S	**S**	**13 20 23.9**	**-0.7**
DAV	**Davao City (W)**	**5.30**	**328**	P	**Pn**	**13 19 32.4**	**0.0**
	62nm,0.3s,baz=224,slow=3.5,SNR=4.5						
DAV	**Davao City (W)**	**5.30**	**328**	P	**Pn**	**13 19 32.4**	**0.0**
GTOI	**Gorontalo**	**5.75**	**251**	P	**Pn**	**13 19 38.8**	**+0.7**
	0.6nm2μm181nm,0.7s						
GTOI				S	**S**	**13 20 44.4**	**-0.5**
	0.6nm2μm181nm,0.7s						
MSAI	**Masohi**	**5.89**	**175**	P	**Pn**	**13 19 42.8**	**+2.9**
	0.1nm332nm24nm,1.0s						
NLAI	**Namlea**	**5.91**	**193**	P	**Pn**	**13 19 40.6**	**+0.4**
	0.4nm1μm54nm,0.9s						
NLAI				S	**S**	**13 20 47.7**	**-1.1**
	0.4nm1μm54nm,0.9s						
CTBH	**Cotabato--PC H**	**6.23**	**318**	*e*P	**Pn**	**13 19 42.0**	**-2.2**
BUKP	**Musuan**	**6.26**	**328**	*e*P	**Pn**	**13 19 43.1**	**-1.5**
LUWI	**Luwuk**	**6.70**	**238**	P	**Pn**	**13 19 50.9**	**+0.6**
	1.2nm3μm133nm,0.7s						
LUWI				S	**S**	**13 21 01.8**	**-5.2**
	1.2nm3μm133nm,0.7s						
MRSI	**Marisa**	**6.81**	**252**	P	**Pn**	**13 19 51.7**	**-0.1**
	0.5nm1μm143nm,0.7s						
MRSI				S	**S**	**13 21 10.2**	**+0.5**
	0.5nm1μm143nm,0.7s						
PAGZ	**Pagadian**	**7.27**	**316**	*e*P	**Pn**	**13 19 57.1**	**-0.6**
APSI	**Ampana**	**7.61**	**243**	S	**S**	**13 21 24.5**	**-3.9**
MSSI	**Masamba**	**9.57**	**238**	S	**S**	**13 21 59.5**	**-15**
MYLDM	**Lahad Datu**	**10.24**	**285**	P	**Pn**	**13 20 37.9**	**+1.8**
	19nm,2.4s						
TTSI	**Tana Toraja**	**10.25**	**237**	P	**Pn**	**13 20 36.3**	**+0.1**
	1μm45nm,1.1s						
TTSI				S	**S**	**13 22 26.5**	**-4.6**
	1μm45nm,1.1s						
SPSI	**Sidrap Palu**	**10.82**	**233**	P	**Pn**	**13 20 44.8**	**+1.4**
SPSI				S	**S**	**13 22 41.7**	**-2.8**
BKSI	**Bulukumba**	**11.41**	**227**	S	**S**	**13 22 57.4**	**-1.2**
KAPI	**Kappang**	**11.48**	**229**	P	**Pn**	**13 20 55.6**	**+3.7**
	1.4nm,0.3s,baz=49,slow=9.5,SNR=4.4						
KAPI				S	**S**	**13 22 58.2**	**-2.1**
	1.6nm,0.3s,baz=111,slow=20,SNR=6.0						
KAPI	**Kappang**	**11.48**	**229**	*e*P	**Pn**	**13 20 55.6**	**+3.7**
KAPI				S	**S**	**13 22 58.2**	**-2.1**
KKM	**Kota Kinabalu**	**12.66**	**286**	*e*P	**Pn**	**13 21 06.7**	**0.0**
BMNI	**Bima**	**14.69**	**221**	P	**Pn**	**13 21 35.3**	**+3.4**
MTNI	**Mataram**	**16.53**	**228**	P	**P**	**13 21 56.3**	**+3.4**
KSM	**Kuching**	**18.14**	**267**	*e*P	**P**	**13 22 12.5**	**+1.9**
	117nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.72**	**188**	P	**P**	**13 22 37.1**	**-0.9**
	3.1nm,0.4s,baz=19,slow=8.0,SNR=10						
FITZ	**Fitzroy Crossi**	**20.72**	**188**	*e*P	**P**	**13 22 37.4**	**-0.6**
	4.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.72**	**188**	*e*P	**P**	**13 22 37.0**	**-1.0**
	3.1nm,0.5s						
WRAB	**Tennant Creek**	**23.10**	**166**	*e*P	**P**	**13 23 00.5**	**-0.5**
	29nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**23.10**	**166**	*e*P	**P**	**13 23 00.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**23.10**	**166**	P	**P**	**13 23 00.1**	**-1.0**
	comp=Z,21nm,0.3s,mb5.1,baz=342,slow=10,SNR=286						
WRA				S	**S**	**13 26 54.3**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=348,slow=18,SNR=3.7						
WRA				ScP	ScP	13 30 00.2	-1.1
	comp=Z,0.5nm,0.6s,baz=342,slow=2.8,SNR=5.0						
WRA	**Warramunga Arr**	**23.10**	**166**	P	**P**	**13 23 00.1**	**-1.0**
WRA				S	**S**	**13 26 54.3**	**-1.9**
WRA				ScP	ScP	13 30 00.2	-1.1
WRA	**Warramunga Arr**	**23.10**	**166**	P	**P**	**13 23 00.1**	**-1.0**
WRA				S	**S**	**13 26 54.3**	**-1.9**
WRA				pmax	pmax		
	comp=Z,21nm,0.3s						
WRA				smax			
	comp=N,1.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
WB2	**Warramunga Arr**	**23.11**	**166**	*e*P	**P**	**13 23 00.6**	**-0.5**
AS31	**Alice Springs**	**26.61**	**169**	*e*P	**P**	**13 23 32.5**	**-0.2**
ASAR	**Alice Springs**	**26.61**	**169**	P	**P**	**13 23 32.6**	**-0.1**
	comp=N,12nm,0.6s,mb4.7,baz=354,slow=7.7,SNR=549						
ASAR				ScP	ScP	13 30 10.6	-0.6
	comp=N,1.1nm,0.8s,baz=346,slow=2.7,SNR=9.3						
ASAR	**Alice Springs**	**26.61**	**169**	P	**P**	**13 23 32.6**	**-0.1**
ASAR				ScP	ScP	13 30 10.6	-0.6
ASAR	**Alice Springs**	**26.61**	**169**	P	**P**	**13 23 32.7**	**0.0**
ASAR				pmax	pmax		
	comp=Z,12nm,0.6s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
CTA	**Charters Tower**	**28.51**	**143**	P	**P**	**13 23 49.9**	**+0.3**
	comp=N,3.1nm,0.7s,mb4.1,baz=331,slow=21,SNR=3.1						
CTA	**Charters Tower**	**28.51**	**143**	P	**P**	**13 23 49.9**	**+0.3**
CTA	**Charters Tower**	**28.51**	**143**	P	**P**	**13 23 49.9**	**+0.3**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CM31	**Chiang Mai Arr**	**32.92**	**301**	*e*P	**P**	**13 24 29.9**	**+1.4**
	comp=Z,1.6nm,0.4s,mb3.9						
CMAR	**Chiang Mai Arr**	**32.92**	**301**	P	**P**	**13 24 29.8**	**+1.3**
	comp=Z,5.9nm,0.8s,mb4.2,baz=117,slow=7.2,SNR=49						
CMAR				ScP	ScP	13 30 31.6	-0.2
	comp=Z,0.9nm,0.9s,baz=166,slow=1.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**32.92**	**301**	P	**P**	**13 24 29.8**	**+1.3**
CMAR				ScP	ScP	13 30 31.6	-0.2
CMAR	**Chiang Mai Arr**	**32.92**	**301**	P	**P**	**13 24 29.8**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR				pmax	pmax		
	comp=N,1.0nm,1.0s						
CHTO	**Chiang Mai**	**33.08**	**301**	*e*P	**P**	**13 24 30.4**	**+0.6**
	comp=N,23nm,1.4s,mb4.5						
CHTO	**Chiang Mai**	**33.08**	**301**	*e*P	**P**	**13 24 30.4**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.5						
FORT	**Forrest**	**33.16**	**181**	*e*P	**P**	**13 24 30.3**	**0.0**
	comp=Z,12nm,0.7s,mb4.5						
KSAR	**Wonju Array Be**	**34.72**	**359**	P	**P**	**13 24 43.5**	**0.0**
KSRS	**Korea Array**	**34.73**	**359**	P	**P**	**13 24 43.5**	**-0.1**
	comp=Z,1.7nm,0.5s,mb3.9,baz=177,slow=9.6,SNR=11						
KSRS	**Korea Array**	**34.73**	**359**	P	**P**	**13 24 43.6**	**-0.1**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
MJAR	**Matsushiro Arr**	**35.00**	**14**	P	**P**	**13 24 44.2**	**-1.8**
	comp=Z,2.9nm,0.9s,mb3.8,baz=193,slow=11,SNR=6.4						
MJAR	**Matsushiro Arr**	**35.00**	**14**	P	**P**	**13 24 44.2**	**-1.8**
MJAR	**Matsushiro Arr**	**35.00**	**14**	P	**P**	**13 24 44.2**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLBR	**Kellerberrin**	**35.45**	**196**	*e*P	**P**	**13 24 49.6**	**-0.3**
	comp=Z,22nm,1.3s,mb4.5						
BBOO	**Buckleboo**	**35.91**	**169**	*e*P	**P**	**13 24 53.5**	**-0.4**
	comp=Z,336nm,0.4s						
STKA	**Stephens Creek**	**36.46**	**161**	P	**P**	**13 24 58.8**	**+0.3**
	comp=Z,10nm,0.3s,mb4.8,baz=341,slow=7.3,SNR=34						
STKA	**Stephens Creek**	**36.46**	**161**	*e*P	**P**	**13 24 58.6**	**+0.1**
	comp=Z,7.4nm,0.3s,mb4.7						
STKA	**Stephens Creek**	**36.46**	**161**	*e*P	**P**	**13 24 58.2**	**-0.3**
STKA	**Stephens Creek**	**36.46**	**161**	P	**P**	**13 24 58.8**	**+0.3**
STKA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ARMA	**Armidale**	**39.57**	**148**	*e*P	**P**	**13 25 24.9**	**+0.4**
LZH	**Lanzhou**	**40.37**	**329**	*e*P	**P**	**13 25 33.0**	**+2.0**
LZH				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.6						
LZH				pmax	pmax		
	comp=Z,110nm,4.2s						
LZH	**Lanzhou**	**40.37**	**329**	*e*P	**P**	**13 25 33.0**	**+2.0**
LZH				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.6						
LSA	**Lhasa**	**44.48**	**311**	*e*P	**P**	**13 26 06.0**	**+1.7**
	comp=Z,6.3nm,0.6s,mb4.1						
LSA	**Lhasa**	**44.48**	**311**	*e*P	**P**	**13 26 06.0**	**+1.8**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
GTA	**Gaotai**	**44.97**	**328**	*e*P	**P**	**13 26 08.7**	**+0.8**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
TAPN	**Taplejung**	**46.07**	**306**	*e*P	**P**	**13 26 17.8**	**+1.0**
	comp=Z,17nm,0.7s,mb4.5						
TAPN	**Taplejung**	**46.07**	**306**	*e*P	**P**	**13 26 17.8**	**+1.0**
	comp=Z,17nm,0.7s,mb4.5						
ODAN	**Odare**	**46.13**	**306**	*e*P	**P**	**13 26 18.1**	**+0.9**
	comp=Z,39nm,0.6s,mb4.9						
ODAN	**Odare**	**46.13**	**306**	*e*P	**P**	**13 26 18.1**	**+0.9**
	comp=Z,39nm,0.6s,mb4.9						
RAMN	**Ramite**	**46.81**	**305**	*e*P	**P**	**13 26 23.6**	**+1.1**
	comp=Z,54nm,0.5s,mb5.2						
RAMN	**Ramite**	**46.81**	**305**	*e*P	**P**	**13 26 23.6**	**+1.1**
	comp=Z,54nm,0.5s,mb5.1						
JIRN	**Jiri**	**47.43**	**306**	*e*P	**P**	**13 26 28.4**	**+1.1**
	comp=Z,9.7nm,0.3s,mb4.6						
JIRN	**Jiri**	**47.43**	**306**	*e*P	**P**	**13 26 28.4**	**+1.1**
	comp=Z,9.7nm,0.3s,mb4.6						
GUN	**Gumba**	**47.78**	**306**	*e*P	**P**	**13 26 31.0**	**+1.0**
	comp=Z,44nm,0.5s,mb5.0						
GUN	**Gumba**	**47.78**	**306**	*e*P	**P**	**13 26 31.0**	**+1.0**
	comp=Z,44nm,0.5s,mb5.0						
PKI	**Pulchoki**	**48.03**	**305**	*e*P	**P**	**13 26 32.3**	**+0.4**
	comp=Z,12nm,0.4s,mb4.6						
PKI	**Pulchoki**	**48.03**	**305**	*e*P	**P**	**13 26 32.3**	**+0.4**
	comp=Z,12nm,0.4s,mb4.6						
PKI	**Pulchoki**	**48.03**	**305**	*e*P	**P**	**13 26 32.3**	**+0.4**
PKI				pmax	pmax		
	comp=Z,12nm,0.4s,mb4.6						
KKN	**Kakani**	**48.22**	**306**	*e*P	**P**	**13 26 33.8**	**+0.5**
	comp=Z,16nm,0.4s,mb4.7						
KKN	**Kakani**	**48.22**	**306**	*e*P	**P**	**13 26 33.8**	**+0.5**
	comp=Z,16nm,0.4s,mb4.7						
KKN	**Kakani**	**48.22**	**306**	*e*P	**P**	**13 26 33.8**	**+0.5**
KKN				pmax	pmax		
	comp=Z,16nm,0.4s,mb4.7						
DMN	**Daman**	**48.29**	**305**	*e*P	**P**	**13 26 34.3**	**+0.4**
	comp=Z,22nm,0.7s,mb4.6						
DMN	**Daman**	**48.29**	**305**	*e*P	**P**	**13 26 34.3**	**+0.4**
	comp=Z,22nm,0.7s,mb4.6						
ULN	**Ulaanbaatar**	**48.76**	**341**	*e*P	**P**	**13 26 37.5**	**+0.5**
	comp=Z,1.7nm,0.6s,mb3.5						
ULN	**Ulaanbaatar**	**48.76**	**341**	*e*P	**P**	**13 26 37.5**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
GKN	**Gorkha**	**48.83**	**306**	*e*P	**P**	**13 26 38.3**	**+0.4**
	comp=Z,8.2nm,0.4s,mb4.4						
GKN	**Gorkha**	**48.83**	**306**	*e*P	**P**	**13 26 38.3**	**+0.4**
	comp=Z,8.2nm,0.4s,mb4.4						
SONM	**Songino Array**	**48.95**	**340**	P	**P**	**13 26 38.2**	**-0.3**
	comp=Z,1.6nm,0.6s,mb3.5,baz=146,slow=10,SNR=5.5						
SONM	**Songino Array**	**48.95**	**340**	P	**P**	**13 26 38.2**	**-0.3**
SONM	**Songino Array**	**48.95**	**340**	P	**P**	**13 26 38.2**	**-0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KOLN	**Koldanda**	**49.58**	**305**	*e*P	**P**	**13 26 44.7**	**+1.0**
KOLN	**Koldanda**	**49.58**	**305**	*e*P	**P**	**13 26 44.7**	**+1.0**
DANN	**Dangsing**	**49.67**	**306**	*e*P	**P**	**13 26 45.2**	**+0.8**
	comp=Z,69nm,0.5s,mb5.2						
DANN	**Dangsing**	**49.67**	**306**	*e*P	**P**	**13 26 45.2**	**+0.8**
	comp=Z,69nm,0.5s,mb5.2						
PYUN	**Piuthan**	**50.20**	**305**	*e*P	**P**	**13 26 49.4**	**+1.0**
	comp=Z,25nm,0.4s,mb4.9						
PYUN	**Piuthan**	**50.20**	**305**	*e*P	**P**	**13 26 49.4**	**+1.0**
	comp=Z,25nm,0.4s,mb4.9						
PETK	**Petropavlovsk-**	**55.89**	**21**	P	**P**	**13 27 29.1**	**-0.2**
	comp=Z,2.4nm,0.8s,mb3.8,baz=170,slow=6.1,SNR=4.9						
PETK	**Petropavlovsk-**	**55.89**	**21**	P	**P**	**13 27 29.1**	**-0.2**
PETK	**Petropavlovsk-**	**55.89**	**21**	P	**P**	**13 27 29.1**	**-0.2**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
YAK	**Yakutsk**	**59.33**	**1**	*e*P	**P**	**13 27 52.7**	**-0.5**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
MK31	**Makanchi Array**	**59.48**	**325**	*e*P	**P**	**13 27 54.3**	**-0.1**
MK31	**Makanchi Array**	**59.48**	**325**	*e*P	**P**	**13 27 54.3**	**-0.2**
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**13 27 54.5**	**0.0**
	comp=Z,3.9nm,0.4s,mb4.4,baz=115,slow=8.0,SNR=67						
MKAR				PcP	PcP	13 28 39.0	-0.7
	comp=Z,1.2nm,0.7s,baz=118,slow=4.8,SNR=6.1						
MKAR				ScP	ScP	13 32 18.7	-1.5
	comp=Z,0.4nm,0.6s,baz=104,slow=4.6,SNR=3.4						
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**13 27 54.5**	**0.0**
MKAR				PcP	PcP	13 28 39.0	-0.7
MKAR				ScP	ScP	13 32 18.6	-1.5
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**13 27 54.5**	**0.0**
MKAR				pP	pP	13 28 39.0	-3.8
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAA0	**Zalesovo Array**	**62.40**	**333**	*e*P	**P**	**13 28 12.7**	**-1.3**
ZALV	**Zalesovo Beam**	**62.40**	**333**	P	**P**	**13 28 12.6**	**-1.3**
	comp=Z,1.3nm,0.4s,mb3.9,baz=113,slow=6.5,SNR=7.2						
ZALV	**Zalesovo Beam**	**62.40**	**333**	P	**P**	**13 28 12.6**	**-1.3**
ZALV	**Zalesovo Beam**	**62.40**	**333**	P	**P**	**13 28 12.6**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KURK	**Kurchatov**	**63.63**	**327**	P	**P**	**13 28 21.7**	**-0.5**
	comp=Z,8.7nm,0.5s,mb4.6,baz=127,slow=6.0,SNR=95						
KURK	**Kurchatov**	**63.63**	**327**	*e*P	**P**	**13 28 21.7**	**-0.5**
KURK	**Kurchatov**	**63.63**	**327**	*d*P	**P**	**13 28 21.5**	**-0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
KKAR	**Karatay Array**	**65.24**	**317**	*e*P	**P**	**13 28 32.4**	**-0.3**
	comp=Z,3.8nm,0.9s,mb4.0						
KKAR	**Karatay Array**	**65.24**	**317**	*e*P	**P**	**13 28 32.4**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**69.22**	**327**	P	**P**	**13 28 56.9**	**-0.6**
	comp=Z,3.8nm,0.6s,mb4.2,baz=122,slow=7.2,SNR=28						
BVAR	**Borovoye Array**	**69.22**	**327**	P	**P**	**13 28 56.9**	**-0.6**
BVAR	**Borovoye Array**	**69.22**	**327**	P	**P**	**13 28 56.9**

MDNY	**Mudanya-Bursa**	**0.17**	**297**	*i* Pg	**Pg**	**13 27 24.8**	**+0.1**
MDNY				*e*Sg	**Sg**	**13 27 27.9**	**+0.3**
ARMT	**Armutlu**	**0.32**	**329**	*e*PG	**Pg**	**13 27 27.7**	**+0.5**
ARMT	**Armutlu**	**0.32**	**329**	*e*Pg	**Pg**	**13 27 27.7**	**+0.6**
YLV	**Yalova**	**0.35**	**39**	*e*PG	**Pg**	**13 27 27.9**	**+0.2**
YLV				*e*SG	**Sg**	**13 27 33.1**	**+0.4**
YLV	**Yalova**	**0.35**	**39**	*e*Pg	**Pg**	**13 27 27.9**	**+0.2**
YLV				*e*Sg	**Sg**	**13 27 33.1**	**+0.4**
ADVT	**Abdulvahap**	**0.52**	**74**	*e*PG	**Pg**	**13 27 30.5**	**-0.2**
ADVT	**Abdulvahap**	**0.52**	**74**	*e*Pg	**Pg**	**13 27 30.5**	**-0.2**
KCTX	**Karacabey (Bur**	**0.56**	**268**	*e*PG	**Pg**	**13 27 31.3**	**0.0**
KCTX	**Karacabey (Bur**	**0.56**	**268**	*e*Pg	**Pg**	**13 27 31.3**	**0.0**
CAVI	**Cavuskoy**	**0.59**	**98**	*e*PG	**Pg**	**13 27 31.8**	**-0.1**
CAVI	**Cavuskoy**	**0.59**	**98**	*e*Pg	**Pg**	**13 27 31.8**	**-0.2**
DST	**Dursunbey**	**0.77**	**208**	*e*PG	**Pg**	**13 27 33.8**	**-1.6**
DST	**Dursunbey**	**0.77**	**208**	*e*Pg	**Pg**	**13 27 33.8**	**-1.6**
ISK	**Istanbul-Kandi**	**0.77**	**359**	*e*PG	**Pg**	**13 27 35.2**	**-0.3**
ISK	**Istanbul-Kandi**	**0.77**	**359**	*e*Pg	**Pg**	**13 27 35.2**	**-0.3**
EYL	**Eskiyayla**	**0.84**	**71**	*e*PG	**Pg**	**13 27 36.3**	**-0.5**
EYL	**Eskiyayla**	**0.84**	**71**	*e*Pg	**Pg**	**13 27 36.3**	**-0.4**
BNT	**Bandirma**	**0.89**	**275**	*e*PG	**Pg**	**13 27 37.3**	**-0.3**
BNT	**Bandirma**	**0.89**	**275**	*e*Pg	**Pg**	**13 27 37.3**	**-0.3**
BGKT	**Bogazkoy**	**0.92**	**345**	*e*PG	**Pg**	**13 27 38.4**	**+0.1**
BGKT	**Bogazkoy**	**0.92**	**345**	*e*Pg	**Pg**	**13 27 38.4**	**+0.2**
EDC	**Edincik**	**0.93**	**274**	*e*PG	**Pg**	**13 27 38.6**	**+0.2**
EDC	**Edincik**	**0.93**	**274**	*e*Pg	**Pg**	**13 27 38.6**	**+0.2**
GPA	**Golpazari**	**0.94**	**90**	*e*PG	**Pg**	**13 27 38.4**	**-0.2**
SILT	**Sile**	**0.96**	**26**	*e*PG	**Pg**	**13 27 38.5**	**-0.4**
SILT	**Sile**	**0.96**	**26**	*e*Pg	**Pg**	**13 27 38.5**	**-0.5**
KLYT	**Kilyos**	**0.96**	**358**	*e*PG	**Pg**	**13 27 39.4**	**+0.4**
KLYT	**Kilyos**	**0.96**	**358**	*e*Pg	**Pg**	**13 27 39.4**	**+0.4**
ELBA	**Catalca**	**0.99**	**330**	*i* P	**Pb**	**13 27 38.6**	**-0.5**
ELBA				*i* S	**Sb**	**13 27 52.7**	**+0.9**
ELBA	**Catalca**	**0.99**	**330**	*i* P	**Pb**	**13 27 38.6**	**-0.4**
ELBA				*i* S	**Sb**	**13 27 52.7**	**+0.9**
CTKS	**Kestanelik-??a**	**1.04**	**335**	*e*PG	**Pg**	**13 27 39.9**	**-0.6**
CTKS	**Kestanelik-??a**	**1.04**	**335**	*e*Pg	**Pg**	**13 27 39.9**	**-0.6**
GONE	**Gonen-Balikesi**	**1.10**	**258**	*e*PN	**Pn**	**13 27 40.2**	**-0.8**
GONE	**Gonen-Balikesi**	**1.10**	**258**	*e*Pn	**Pn**	**13 27 40.2**	**-0.7**
GULT	**Gulveren**	**1.10**	**82**	*e*PN	**Pn**	**13 27 41.2**	**+0.2**
GULT	**Gulveren**	**1.10**	**82**	*e*Pn	**Pn**	**13 27 41.2**	**+0.2**
BALB	**Balikesir**	**1.13**	**235**	*e*PN	**Pn**	**13 27 41.2**	**-0.1**
BALB	**Balikesir**	**1.13**	**235**	*e*Pn	**Pn**	**13 27 41.2**	**-0.2**
SLVT	**Silivri**	**1.15**	**325**	*e*PN	**Pn**	**13 27 42.1**	**+0.5**
SLVT	**Silivri**	**1.15**	**325**	*e*Pn	**Pn**	**13 27 42.2**	**+0.5**
MRMT	**Marmara Adasi**	**1.18**	**286**	*e*PN	**Pn**	**13 27 41.2**	**-0.8**
MRMT	**Marmara Adasi**	**1.18**	**286**	*e*Pn	**Pn**	**13 27 41.2**	**-0.8**
GDZ	**Gediz**	**1.24**	**165**	*i* P	**Pn**	**13 27 41.4**	**-1.5**
GDZ				*i* S	**Sb**	**13 27 58.8**	**-0.1**
GDZ	**Gediz**	**1.24**	**165**	*i* P	**Pn**	**13 27 41.3**	**-1.6**
GDZ				*i* S	**Sb**	**13 27 58.8**	**-0.2**
BALY	**Balya**	**1.25**	**244**	*i* P	**Pn**	**13 27 42.7**	**-0.3**
BALY				*i* S	**Sb**	**13 28 00.2**	**+0.9**
BALY	**Balya**	**1.25**	**244**	*i* P	**Pn**	**13 27 42.7**	**-0.4**
BALY				*i* S	**Sb**	**13 28 00.2**	**+0.9**
CTYL	**Yal??k??y-??at**	**1.33**	**333**	*e*PN	**Pn**	**13 27 43.6**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.33**	**333**	*e*Pn	**Pn**	**13 27 43.6**	**-0.5**
KRBG	**Karabiga-Canak**	**1.37**	**275**	*e*PN	**Pn**	**13 27 43.9**	**-0.8**
KRBG	**Karabiga-Canak**	**1.37**	**275**	*e*Pn	**Pn**	**13 27 43.9**	**-0.8**
MFT	**Murefte**	**1.46**	**290**	*e*PN	**Pn**	**13 27 46.3**	**+0.3**
MFT	**Murefte**	**1.46**	**290**	*e*Pn	**Pn**	**13 27 46.3**	**+0.4**
ALT	**Altintas**	**1.47**	**147**	*e*PN	**Pn**	**13 27 45.8**	**-0.3**
ALT	**Altintas**	**1.47**	**147**	*e*Pn	**Pn**	**13 27 45.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.51**	**286**	*e*PN	**Pn**	**13 27 46.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.51**	**286**	*e*Pn	**Pn**	**13 27 46.5**	**-0.1**
MDU	**Mudurnu**	**1.64**	**83**	*e*PN	**Pn**	**13 27 48.0**	**-0.4**
MDU	**Mudurnu**	**1.64**	**83**	*e*Pn	**Pn**	**13 27 48.0**	**-0.4**
AKS	**Akhisar**	**1.72**	**215**	*e*PN	**Pn**	**13 27 49.6**	**+0.1**
AKS	**Akhisar**	**1.72**	**215**	*e*Pn	**Pn**	**13 27 49.6**	**+0.1**
LPK	**Lapseki**	**1.78**	**273**	*e*PN	**Pn**	**13 27 49.4**	**-0.9**
LPK	**Lapseki**	**1.78**	**273**	*e*Pn	**Pn**	**13 27 49.4**	**-0.9**
MANT	**Manisa**	**1.84**	**193**	*i* P	**Pn**	**13 27 52.7**	**+1.5**
MANT				*i* S	**Sn**	**13 28 16.0**	**+1.9**
MANT	**Manisa**	**1.84**	**193**	*i* P	**Pn**	**13 27 52.7**	**+1.5**
MANT				*i* S	**Sn**	**13 28 16.0**	**+1.9**
KHAL	**Karahalli**	**1.94**	**170**	*i* P	**Pn**	**13 27 55.0**	**+2.4**
KHAL				*i* S	**Sn**	**13 28 21.0**	**+4.4**
KHAL	**Karahalli**	**1.94**	**170**	*i* P	**Pn**	**13 27 55.0**	**+2.4**
KHAL				*i* S	**Sn**	**13 28 21.0**	**+4.4**

IDC 02 13:36:55.2±7.6, 6°46′S×154°62′E, h158km±59km, mb3.0/3, mb1 3.3/4, mb1mx3.1/16, mbtmp3.1/4, Error ellipse: s-maj=99.2km s-min=28.6km az=125.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.94**	**248**	P	Pn	13 38 46.8	-1.1
	1.2nm,0.3s,baz=11,slow=15,SNR=5.8						
PMG				S	Sn	13 40 18.8	+2.2
	0.3nm,0.3s,baz=139,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**23.82**	**234**	P	P	13 41 54.8	+0.9
	0.9nm,0.5s,baz=58,slow=9.3,SNR=44						
WRA				PcP	PcP	13 45 33.6	+0.6
	0.2nm,0.5s,baz=63,slow=2.6,SNR=8.3						
ASAR	**Alice Springs**	**26.25**	**227**	P	P	13 42 15.2	-0.6
	0.2nm,0.5s,baz=57,slow=10,SNR=10						
ILAR	**Eielson Array**	**83.02**	**22**	P	P	13 49 03.1	+0.6
	0.3nm,0.7s,baz=240,slow=7.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**152.52**	**286**	PKPbc	PKPbc	13 56 32.6	-1.4
	0.2nm,0.4s,baz=68,slow=3.9,SNR=2.9						

*ISCJB **02** 13:37:20.3±0.4, 12°.15N±0°.06×87°.18W±0°.06, h71km±7km, mb3.6/4, Error ellipse: s-maj=12.7km s-min=3.3km az=43.6*
*IDC **02** 13:37:20.4±1.7, 12°.31N×87°.05W, h61km±20km, mb3.4/3, mb1 3.9/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=93.0km s-min=11.9km az=42.0*
*NEIC **02** 13:37:21.3±0.9, 12°.14N×87°.16W, h77km±9km, mb3.6/1, Error ellipse: s-maj=26.7km s-min=8.5km az=225.0*
*CASC **02** 13:37:21.0±2.1, 12°.18N×87°.17W, h61km±14km, MD4.1, ML3.9, mb3.6(NEIC)*
ISC 02 13:37:21.2±0.4, 12°.17N±0°.05×87°.18W±0°.05, h65km±7km, n47, σ0°79/55, mb3.6/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.38**	**49**	*e*P	**Pn**	**13 37 31.9**	**-0.6**
TEL3	**Telica 3**	**0.52**	**39**	*e*P	**Pn**	**13 37 33.5**	**-0.2**
MIRN	**Miramar**	**0.53**	**59**	*e*P	**Pn**	**13 37 33.6**	**-0.3**
CRIN	**San Cristobal**	**0.54**	**14**	*e*P	**Pn**	**13 37 33.8**	**-0.3**
CRIN				*e*S	**Sn**	**13 37 43.2**	**-0.2**
CNGN	**Cerro Negro**	**0.58**	**55**	*e*P	**Pn**	**13 37 34.0**	**-0.4**
CNGN				*e*S	**Sn**	**13 37 44.7**	**+0.7**
CNGN				AML	AML	13 37 48.5	
	comp=N,7μm,0.1s						
COPN	**Copaltepe**	**0.58**	**89**	*e*P	**Pn**	**13 37 33.9**	**-0.5**
XAVN	**Gruta Xavier**	**0.84**	**91**	*e*P	**Pn**	**13 37 37.3**	**-0.1**
MGAN	**Managua**	**0.91**	**91**	*e*P	**Pn**	**13 37 38.1**	**-0.3**
MGAN				*e*S	**Sn**	**13 37 50.7**	**-0.3**
MGAN				AML	AML	13 37 52.5	
	comp=Z,2μm,0.4s						
TICN	**Ticuantepe**	**0.94**	**98**	*e*P	**Pn**	**13 37 38.7**	**0.0**
HUEN		**1.00**	**80**	*e*P	**Pn**	**13 37 39.4**	**-0.1**
HUEN				*e*S	**Sn**	**13 37 52.8**	**-0.3**
CNCH	**Conchagua**	**1.27**	**330**	*e*P	**Pn**	**13 37 42.8**	**-0.3**
CNCH				*e*S	**Sn**	**13 37 59.4**	**0.0**
BLLM	**Bellamira**	**1.63**	**321**	*e*P	**Pn**	**13 37 47.7**	**-0.2**
BLLM				*e*S	**Sn**	**13 38 08.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.88**	**357**	*e*Pn	**Pn**	**13 37 51.8**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.88**	**357**	*e*P	**Pn**	**13 37 51.8**	**+0.6**
TGUH				*e*S	**Sn**	**13 38 14.2**	**+0.3**
CAHU	**Cacacuatique**	**1.88**	**328**	*e*P	**Pn**	**13 37 51.5**	**+0.2**
CAHU				*e*S	**Sn**	**13 38 16.2**	**+2.3**
SNVI	**San Vicente**	**2.16**	**312**	*e*S	**Sn**	**13 38 20.7**	**0.0**
LAPC	**Finca la Perla**	**2.21**	**129**	*i* P	**Pn**	**13 37 54.7**	**-0.9**
GPS2	**Hotel Rinc`‡n**	**2.28**	**128**	*i* P	**Pn**	**13 37 57.3**	**+0.7**
LFRS	**El Faro**	**2.34**	**308**	*e*P	**Pn**	**13 37 57.3**	**-0.1**
LBRS	**Las Brisas**	**2.40**	**311**	*e*P	**Pn**	**13 37 58.2**	**0.0**
MESS	**Mesas**	**2.41**	**126**	*i* P	**Pn**	**13 37 58.0**	**-0.4**
MESS				*i* S	**Sn**	**13 38 25.4**	**-1.4**
CUI	**Cuipilapa**	**2.48**	**127**	*i* P	**Pn**	**13 37 59.5**	**+0.2**
JTS	**JuntasAbangare**	**2.87**	**130**	P	**Pn**	**13 38 05.4**	**+0.7**
	comp=Z,6.4nm,0.3s,baz=339,slow=17,SNR=18						
JTS				S	**Sn**	**13 38 37.5**	**-0.6**
	comp=Z,12nm,0.3s,baz=304,slow=22,SNR=4.3						
JTS	**JuntasAbangare**	**2.87**	**130**	*e*Pn	**Pn**	**13 38 04.1**	**-0.6**
JTS				S	**Sn**	**13 38 37.5**	**-0.6**
SBLS	**San Blas**	**2.90**	**305**	*e*P	**Pn**	**13 38 05.9**	**+0.8**
JCR	**Jicaral**	**3.07**	**138**	*e*P	**Pn**	**13 38 07.7**	**+0.3**
JCR				*e*S	**Sn**	**13 38 37.8**	**-5.1**
CGA2	**Cerro Gallo 2**	**3.42**	**128**	*e*P	**Pn**	**13 38 14.6**	**+2.5**
CGA2				*e*S	**Sn**	**13 38 52.5**	**+1.0**
LAJ	**Bijagual**	**3.78**	**127**	*e*P	**Pn**	**13 38 15.3**	**-1.7**
BUS	**Buena Vista**	**4.25**	**127**	*e*P	**Pn**	**13 38 25.4**	**+2.0**
BUS				*e*S	**Sn**	**13 39 12.7**	**+0.9**
BCIP	**Isla Barro Col**	**7.81**	**112**	*e*P	**Pn**	**13 39 12.6**	**+0.4**
CMIG	**Matias Romero**	**8.92**	**304**	P	**Pn**	**13 39 27.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=154,slow=14,SNR=4.7						
CMIG				S	**Sn**	**13 41 04.5**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=232,slow=17,SNR=3.5						
CMIG	**Matias Romero**	**8.92**	**304**	P	**Pn**	**13 39 27.7**	**+0.3**
CMIG				S	**Sn**	**13 41 04.5**	**-1.9**
TXAR	**Lajitas Array**	**22.96**	**321**	P	**P**	**13 42 19.6**	**-0.6**
	comp=Z,2.1nm,0.6s,mb3.8,baz=136,slow=9.9,SNR=40						
TXAR				PcP	PcP	13 46 08.9	+0.4
	comp=Z,0.2nm,0.6s,baz=94,slow=3.6,SNR=3.2						
TXAR	**Lajitas Array**	**22.96**	**321**	P	**P**	**13 42 19.6**	**-0.6**
TXAR				PcP	PcP	13 46 08.9	+0.4
PDAR	**Pinedale Array**	**36.15**	**332**	P	**P**	**13 44 16.4**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=127,slow=10.0,SNR=6.5						
PDAR				PcP	PcP	13 46 41.3	-0.5
	comp=Z,0.2nm,0.6s,baz=65,slow=2.4,SNR=2.1						
PDAR	**Pinedale Array**	**36.15**	**332**	P	**P**	**13 44 16.4**	**-0.9**
PDAR				PcP	PcP	13 46 41.3	-0.5
NVAR	**Mina Array Bea**	**38.09**	**319**	P	**P**	**13 44 34.2**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=142,slow=7.5,SNR=3.7						
NVAR				PcP	PcP	13 46 47.8	0.0
	comp=Z,0.9nm,0.6s,baz=132,slow=4.2,SNR=7.3						
NVAR	**Mina Array Bea**	**38.09**	**319**	P	**P**	**13 44 34.2**	**+0.4**
NVAR				PcP	PcP	13 46 47.8	0.0
HLID	**Hailey**	**39.12**	**328**	P	**P**	**13 44 42.2**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.4						
KSRS	**Korea Array**	**120.65**	**328**	PKP	PKPdf	13 56 05.0	-1.2
	comp=Z,1.3nm,0.9s,baz=32,slow=1.0,SNR=4.7						
KSAR	**Wonju Array Be**	**120.68**	**328**	PKP	PKPdf	13 56 05.0	-1.2
ASAR	**Alice Springs**	**139.41**	**248**	PKP	PKPdf	13 56 41.1	-0.9
	comp=Z,0.5nm,0.6s,baz=113,slow=2.1,SNR=5.9						
ASAR	**Alice Springs**	**139.41**	**248**	PKP	PKPdf	13 56 41.1	-0.9
WRA	**Warramunga Arr**	**139.44**	**254**	PKhKP	PKPpre	13 56 39.1	
	comp=Z,0.9nm,0.6s,baz=90,slow=2.5,SNR=14						
WRA				PKP	PKPdf	13 56 41.9	-0.2
	comp=Z,0.9nm,0.6s,baz=89,slow=2.5,SNR=16						
WRA	**Warramunga Arr**	**139.44**	**254**	PKPpre	PKPpre	13 56 39.1	
WRA				PKP	PKPdf	13 56 41.9	-0.2
CMAR	**Chiang Mai Arr**	**148.98**	**349**	PKPbc	PKPbc	13 57 00.1	-2.7
	comp=Z,0.8nm,0.7s,baz=334,slow=3.4,SNR=5.6						
CMAR	**Chiang Mai Arr**	**148.98**	**349**	PKPbc	PKPbc	13 57 00.1	-2.7

*IDC **02** 13:45:17.5±1.6, 16°.84S×173°.72W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.7/7, ML2.5/1, Error ellipse: s-maj=94.4km s-min=19.9km az=144.0*
*ISCJB **02** 13:45:23.1±2.3, 16°.3S±0°.2×174°.1W±0°.2, h41km±23km, mb3.6/6, Error ellipse: s-maj=42.8km s-min=17.3km az=138.0*
*NEIC **02** 13:45:24.4±1.7, 16°.43S×173°.99W, h41km±17km, Error ellipse: s-maj=29.0km s-min=11.3km az=134.0*
ISC 02 13:45:24.0±2.1, 16°.4S±0°.2×174°.0W±0°.2, h36km±22km, n18, σ0°87/18, mb3.6/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.26**	**41**	Pn	**Pn**	**13 46 13.5**	**+0.9**
	25nm,0.3s,baz=172,slow=4.1,SNR=91						
AFI				Sn	**Sn**	**13 46 46.9**	**-3.3**
	65nm,0.3s,baz=31,slow=23,SNR=13						
AFI	**Afiamalu**	**3.26**	**41**	Pn	**Pn**	**13 46 13.5**	**+0.9**
AFI				Sn	**Sn**	**13 46 46.9**	**-3.3**
URZ	**Urewera**	**23.16**	**198**	P	**P**	**13 50 27.4**	**+0.1**
STKA	**Stephens Creek**	**43.06**	**241**	P	**P**	**13 53 20.1**	**-0.4**
	2.9nm,1.1s,mb3.9,baz=90,slow=7.1,SNR=2.2						
STKA	**Stephens Creek**	**43.06**	**241**	P	**P**	**13 53 20.1**	**-0.4**
WB2	**Warramunga Arr**	**49.06**	**258**	P	**P**	**13 54 08.5**	**+0.5**
WRA	**Warramunga Arr**	**49.08**	**258**	P	**P**	**13 54 07.5**	**-0.6**
	0.2nm,0.6s,mb3.3,baz=94,slow=7.0,SNR=6.3						
WRA	**Warramunga Arr**	**49.08**	**258**	P	**P**	**13 54 07.5**	**-0.6**
ASAR	**Alice Springs**	**49.27**	**253**	P	**P**	**13 54 08.9**	**-0.6**
	0.9nm,0.5s,mb4.1,baz=88,slow=8.1,SNR=18						
ASAR	**Alice Springs**	**49.27**	**253**	P	**P**	**13 54 08.9**	**-0.6**
TXAR	**Lajitas Array**	**81.63**	**56**	P	**P**	**13 57 38.1**	**-0.5**
	0.4nm,1.0s,mb3.3,baz=271,slow=8.9,SNR=3.4						
TXAR	**Lajitas Array**	**81.63**	**56**	P	**P**	**13 57 38.1**	**-0.5**
PDAR	**Pinedale Array**	**83.37**	**42**	P	**P**	**13 57 47.3**	**-0.1**
	0.4nm,0.6s,mb3.7,baz=242,slow=5.0,SNR=3.2						
PDAR	**Pinedale Array**	**83.37**	**42**	P	**P**	**13 57 47.3**	**-0.1**
ILAR	**Eielson Array**	**83.51**	**11**	P	**P**	**13 57 49.0**	**+1.5**
	0.1nm,0.4s,mb3.3,baz=226,slow=5.8,SNR=5.1						
ILAR	**Eielson Array**	**83.51**	**11**	P	**P**	**13 57 49.0**	**+1.5**
BRTR	**Keskin Array B**	**146.55**	**320**	PKPbc	PKPbc	14 05 02.2	+0.5
	0.6nm,0.5s,baz=100,slow=1.4,SNR=3.7						
BRTR	**Keskin Array B**	**146.55**	**320**	PKPbc	PKPbc	14 05 02.2	+0.5

*ISCJB **02** 13:48:29.3±0.7, 38°.71N±0°.06×35°.75E±0°.04, h3km±10km, Error ellipse: s-maj=9.6km s-min=5.0km az=12.4*
*CSEM **02** 13:48:29.0±0.3, 38°.70N×35°.77E, h2km, MD3.0, Error ellipse: s-maj=7.3km s-min=5.4km az=21.0*
*ISK **02** 13:48:29.5, 38°.74N×35°.75E, h10km, MD3.0*
*DDA **02** 13:48:29.9, 38°.79N×35°.71E, h7km±5km, Md3.1*
ISC 02 13:48:29.5±0.8, 38°.69N±0°.06×35°.78E±0°.04, h1km±10km, n20, σ0°84/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.17**	**19**	*e*PG	**Pg**	**13 48 32.0**	**-0.7**
BNN				*e*SG	**Sg**	**13 48 35.6**	**+0.7**
BNN	**Bunyan**	**0.17**	**19**	*e*Pg	**Pg**	**13 48 32.0**	**-0.7**
BNN				*e*Sg	**Sg**	**13 48 35.6**	**+0.7**
PINB	**Pinarbasi**	**0.49**	**92**	*i* P	**Pg**	**13 48 39.5**	**+0.6**
PINB				*i* S	**Sg**	**13 48 49.6**	**+4.3**
PINB	**Pinarbasi**	**0.49**	**92**	*i* P	**Pg**	**13 48 39.5**	**+0.6**
PINB				*i* S	**Sg**	**13 48 49.6**	**+4.3**
SARI	**SarD1z-Kayseri**	**0.72**	**91**	*e*PG	**Pg**	**13 48 41.7**	**-1.6**
SARI				*e*SG	**Sg**	**13 48 51.8**	**-0.9**
SARI	**SarD1z-Kayseri**	**0.72**	**91**	*e*Pg	**Pg**	**13 48 41.7**	**-1.6**
SARI				*e*Sg	**Sg**	**13 48 51.8**	**-0.9**
AVNT	**Avonos**	**0.72**	**277**	*i* P	**Pg**	**13 48 42.4**	**-1.0**
AVNT				*i* S	**Sg**	**13 48 53.6**	**+0.9**
AVNT	**Avonos**	**0.72**	**277**	*i* P	**Pg**	**13 48 42.3**	**-1.1**
AVNT				*i* S	**Sg**	**13 48 53.6**	**+0.8**
YOZ	**Yozgat**	**1.01**	**340**	*e*PG	**Pg**	**13 48 48.9**	**0.0**
YOZ	**Yozgat**	**1.01**	**340**	*e*Pg	**Pg**	**13 48 48.9**	**+0.1**
KOZT	**Kozan**	**1.21**	**178**	*e*PN	**Pn**	**13 48 53.4**	**-0.2**
KMRS	**Kahramanmaras**	**1.48**	**143**	*e*PN	**Pn**	**13 48 57.6**	**+0.3**
KMRS	**Kahramanmaras**	**1.48**	**143**	*e*Pn	**Pn**	**13 48 57.6**	**+0.3**
DARE	**Darende-Malaty**	**1.61**	**80**	*e*PN	**Pn**	**13 48 54.4**	**-4.6**
CORM	**Corum**	**1.73**	**329**	*e*PN	**Pn**	**13 49 00.2**	**-0.4**
CORM	**Corum**	**1.73**	**329**	*e*Pn	**Pn**	**13 49 00.3**	**-0.4**
AKCD	**Akcadag**	**1.73**	**103**	*i* P	**Pg**	**13 49 04.0**	**+1.3**
AKCD				*i* S	**Sg**	**13 49 29.6**	**+4.6**
AKCD	**Akcadag**	**1.73**	**103**	*i* P	**Pg**	**13 49 04.0**	**+1.3**
PTK	**Pertek**	**2.83**	**85**	*e*PN	**Pn**	**13 49 16.3**	**+0.4**
PTK	**Pertek**	**2.83**	**85**	*e*Pn	**Pn**	**13 49 16.3**	**+0.4**

IDC 02 14:17:30.8±3.6, 3°.90N×95°.59E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=133.3km s-min=31.7km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.84**	**13**	Pn	Pn	14 21 00.8	-1.2
	baz=211,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**44.26**	**347**	P	P	14 25 42.2	+0.2
	0.4nm,0.5s,baz=169,slow=8.0,SNR=4.1						
WRA	**Warramunga Arr**	**44.84**	**123**	P	P	14 25 47.0	0.0
	0.4nm,1.1s,baz=296,slow=9.6,SNR=3.1						

*ISCJB **02** 14:40:17.6±0.7, 50°.89N±0°.06×157°.3E±0°.1, h76km±6km, mb3.7/11, Error ellipse: s-maj=14.8km s-min=5.3km az=40.5*
*MOS **02** 14:40:17.2±1.1, 51°.00N×157°.17E, h73km, mb4.1/7, Error ellipse: s-maj=21.8km s-min=8.4km az=71.0*
*IDC **02** 14:40:17.7±0.7, 51°.06N×157°.11E, h57km±6km, mb3.5/10, mb1 3.8/11, mb1mx3.5/26, mbtmp3.5/11, Error ellipse: s-maj=23.8km s-min=14.1km az=146.0*
*KRSC **02** 14:40:18.6±0.9, 50°.87N×158°.11E, h38km±42km, ML4.7*
*NEIC **02** 14:40:18.1±0.5, 50°.94N×157°.14E, mb4.2/3, Error ellipse: s-maj=14.0km s-min=8.5km az=130.0*
ISC 02 14:40:18.8±0.7, 50°.90N±0°.06×157°.3E±0°.1, h68km±6km, h61km±1.2km: pP-P, n63, σ1°13/82, mb3.7/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.80**	**255**	*e*PN	**Pn**	**14 40 34.5**	**-0.1**
SKR				*e*S	**Sn**	**14 40 46.5**	**+0.2**
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,310nm,0.5s						
SKR				smax			
	comp=N,3μm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
SKR				smax			
	comp=Z,620nm,0.5s						
MIPR	**Malaya Ipel'ka**	**1.42**	**346**	*i* P	**Pn**	**14 40 43.2**	**+0.6**
MIPR				*i* S	**Sn**	**14 41 01.2**	**+0.7**
RUS	**Russkaya**	**1.70**	**25**	*e*P	**Pn**	**14 40 45.1**	**-1.2**
RUS				*i* S	**Sn**	**14 41 04.7**	**-2.5**
RUS	**Russkaya**	**1.70**	**25**	PN	**Pn**	**14 40 45.1**	**-1.2**
RUS				S	**Sn**	**14 41 04.7**	**-2.5**
GRL	**Gorelyy**	**1.72**	**15**	*i* P	**Pn**	**14 40 46.8**	**+0.3**
GRL				*i* S	**Sn**	**14 41 07.3**	**-0.2**
PEA0B	**Petropavlovsk-**	**2.22**	**6**	*e*P	**Pn**	**14 40 53.5**	**+0.2**
PETK	**Petropavlovsk-**	**2.22**	**6**	P	**Pn**	**14 40 53.8**	**+0.5**
	comp=Z,9.0nm,0.3s,baz=170,slow=18,SNR=209						
PETK				S	**Sn**	**14 41 23.6**	**+3.9**
	comp=Z,13nm,0.3s,baz=118,slow=19,SNR=7.0						
PETK	**Petropavlovsk-**	**2.22**	**6**	P	**Pn**	**14 40 53.8**	**+0.5**
PETK				S	**Sn**	**14 41 23.6**	**+3.9**
PETK	**Petropavlovsk-**	**2.22**	**6**	PN	**Pn**	**14 40 53.8**	**+0.5**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PET	**Petropavlovsk**	**2.28**	**21**	*i* P	**Pn**	**14 40 54.1**	**0.0**
PET				*i* S	**Sn**	**14 41 20.2**	**-0.9**
PET	**Petropavlovsk**	**2.28**	**21**	*e*P	**Pn**	**14 40 53.4**	**-0.6**
PET	**Petropavlovsk**	**2.28**	**21**	PN	**Pn**	**14 40 54.1**	**0.0**
PET				S	**Sn**	**14 41 20.2**	**-0.9**
UGLR	**Uglovaya**	**2.49**	**21**	*e*P	**Pn**	**14 40 57.8**	**+0.9**
UGLR				*i* S	**Sn**	**14 41 25.9**	**-0.3**
AVH	**Avacha**	**2.52**	**20**	*i* P	**

*NEIC **02** 14:40:27.0, 17°.19N×91°.73W, h47km, mb4.1/8, MD4.3(MEX), After MEX.*

ISC 02 14:40:26.8±0.9, 17°.15N±0°.04×91°.84W±0°.04, h24km±8km, n49, σ1°.14/69, mb3.9/8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**0.86**	**242**	*eP*	**Pb**	**14 40 42.5**	**-0.7**
SCX				*i* S	**Sb**	**14 40 55.4**	**+1.1**
SCX	**San Cristobal**	**0.86**	**242**	*eP*	**Pb**	**14 40 42.5**	**-0.7**
SCX				*i* S	**Sb**	**14 40 55.4**	**+1.1**
CCIG	**Comitan**	**0.91**	**198**	*eP*	**Pb**	**14 40 43.2**	**-0.7**
CCIG				*i* S	**Sb**	**14 40 55.8**	**+0.3**
CCIG	**Comitan**	**0.91**	**198**	*eP*	**Pb**	**14 40 43.2**	**-0.7**
CCIG				*i* S	**Sb**	**14 40 55.8**	**+0.3**
TGIG		**1.28**	**254**	*eP*	**Pn**	**14 40 48.6**	**-0.6**
TGIG				*i* S	**Sn**	**14 41 05.8**	**+0.2**
TGIG		**1.28**	**254**	*eP*	**Pn**	**14 40 48.6**	**-0.6**
TGIG				*i* S	**Sn**	**14 41 05.8**	**+0.2**
PCIG		**1.95**	**223**	*eP*	**Pn**	**14 40 57.9**	**-0.6**
PCIG				*i* S	**Sn**	**14 41 21.0**	**-1.2**
PCIG		**1.95**	**223**	*eP*	**Pn**	**14 40 57.9**	**-0.6**
PCIG				*i* S	**Sn**	**14 41 21.0**	**-1.2**
THIG		**2.26**	**190**	*i* P	**Pn**	**14 41 03.4**	**+0.6**
THIG				*i* S	**Sn**	**14 41 30.7**	**+0.8**
THIG		**2.26**	**190**	*i* P	**Pn**	**14 41 03.4**	**+0.6**
THIG				*i* S	**Sn**	**14 41 30.7**	**+0.8**
CMIG	**Matias Romero**	**2.91**	**269**	Pn	**Pn**	**14 41 11.6**	**0.0**
	7.4nm,0.3s,baz=82,slow=15,SNR=45						
CMIG				Sn	**Sn**	**14 41 53.1**	**+7.3**
	29nm,0.3s,baz=189,slow=22,SNR=5.0						
CMIG	**Matias Romero**	**2.91**	**269**	*eP*	**Pn**	**14 41 11.4**	**-0.2**
CMIG				*i* S	**Sn**	**14 41 44.9**	**-1.0**
CMIG				Sn	**Sn**	**14 41 53.1**	**+7.3**
CMIG	**Matias Romero**	**2.91**	**269**	*eP*	**Pn**	**14 41 11.4**	**-0.2**
CMIG				*i* S	**Sn**	**14 41 44.9**	**-1.0**
HUIG	**Huatulco**	**4.32**	**252**	*eP*	**Pn**	**14 41 30.9**	**-0.1**
HUIG				*i* S	**Sn**	**14 42 19.6**	**-1.0**
HUIG	**Huatulco**	**4.32**	**252**	*eP*	**Pn**	**14 41 30.9**	**-0.1**
HUIG				*i* S	**Sn**	**14 42 19.6**	**-1.0**
TEIG	**Tepich**	**4.56**	**47**	Pn	**Pn**	**14 41 33.2**	**-1.1**
	16nm,0.3s,baz=253,slow=6.7,SNR=37						
TEIG				Sn	**Sn**	**14 42 25.0**	**-1.6**
	17nm,0.3s,baz=245,slow=22,SNR=3.7						
TEIG				LR	LR	14 43 52.6	
	comp=Z,510nm,18.6s,baz=248,slow=44						
TEIG	**Tepich**	**4.56**	**47**	*eP*	**Pn**	**14 41 33.0**	**-1.3**
TEIG				Sn	**Sn**	**14 42 25.0**	**-1.6**
VHO	**Vista Hermosa**	**4.68**	**270**	*i* P	**Pn**	**14 41 37.0**	**+1.1**
VHO				*i* S	**Sn**	**14 42 30.0**	**+0.5**
VHO	**Vista Hermosa**	**4.68**	**270**	*i* P	**Pn**	**14 41 37.0**	**+1.1**
VHO				*i* S	**Sn**	**14 42 30.0**	**+0.5**
TPIG	**Tehuac#an**	**5.41**	**284**	*i* P	**Pn**	**14 41 45.5**	**-0.5**
TPIG				*i* S	**Sn**	**14 42 44.9**	**-2.7**
TPIG	**Tehuac#an**	**5.41**	**284**	*i* P	**Pn**	**14 41 45.5**	**-0.5**
TPIG				*i* S	**Sn**	**14 42 44.9**	**-2.7**
UTMO	**Huajuapan**	**5.73**	**278**	*eP*	**Pn**	**14 41 50.6**	**+0.1**
UTMO				*i* S	**Sn**	**14 42 54.0**	**-1.5**
UTMO	**Huajuapan**	**5.73**	**278**	*eP*	**Pn**	**14 41 50.6**	**+0.1**
UTMO				*i* S	**Sn**	**14 42 54.0**	**-1.5**
PNIG	**Pinotepa**	**6.07**	**264**	*i* P	**Pn**	**14 41 54.5**	**-0.5**
PNIG				*i* S	**Sn**	**14 43 04.3**	**+0.5**
PNIG	**Pinotepa**	**6.07**	**264**	*i* P	**Pn**	**14 41 54.5**	**-0.5**
PNIG				*i* S	**Sn**	**14 43 04.3**	**+0.5**
JTS	**JuntasAbangare**	**9.55**	**135**	Pn	Px	14 42 24.4	
	1.2nm,0.3s,baz=318,slow=15,SNR=3.3						
JTS	**JuntasAbangare**	**9.55**	**135**	*eP*	Px	14 42 24.8	
TXAR	**Lajitas Array**	**16.27**	**320**	P	**Pn**	**14 44 17.5**	**+3.7**
	0.1nm,0.3s,baz=146,slow=14,SNR=19						
TXAR	**Lajitas Array**	**16.27**	**320**	P	**Pn**	**14 44 17.5**	**+3.7**
MIAR	**Mount Ida**	**17.40**	**355**	*eP*	**Pn**	**14 44 27.4**	**-0.6**
	10nm,0.7s						
CPRX	**Cap Rock**	**19.18**	**328**	*eP*	**Pn**	**14 44 50.8**	**+1.1**
	16nm,1.0s						
AMTX	**Amarillo**	**19.73**	**335**	*eP*	**Pn**	**14 44 54.9**	**-1.5**
	22nm,0.9s						
TKL	**Tuckaleechee C**	**19.79**	**20**	LR	LR	14 54 07.6	
	comp=Z,165nm,19.4s,baz=270,slow=41						
SIUC	**Southern Illin**	**20.62**	**6**	*eP*	**P**	**14 45 04.0**	**-0.4**
	43nm,1.1s						
BNM	**Barren Site**	**21.51**	**325**	*eP*	**P**	**14 45 15.5**	**+1.5**
	9.1nm,1.2s,mb4.1						
LENM	**Lemitar**	**21.71**	**324**	*eP*	**P**	**14 45 17.6**	**+1.4**
	10nm,1.2s,mb4.1						
LAZ	**Ladron**	**21.98**	**324**	*eP*	**P**	**14 45 21.8**	**+2.7**
	3.2nm,1.1s,mb3.7						
ANMO	**Albuquerque**	**22.02**	**326**	*eP*	**P**	**14 45 22.9**	**+3.5**
	1.6nm,0.6s,mb3.6						
SDV	**Santo Domingo**	**22.21**	**109**	*eP*	Px	14 45 07.6	
PDAR	**Pinedale Array**	**29.67**	**333**	P	**P**	**14 46 32.8**	**+2.2**
	0.4nm,0.7s,mb3.2,baz=140,slow=9.4,SNR=3.6						
PDAR	**Pinedale Array**	**29.67**	**333**	P	**P**	**14 46 32.8**	**+2.2**
NVAR	**Mina Array Bea**	**31.39**	**318**	P	**P**	**14 46 48.4**	**+2.5**
	2.0nm,0.7s,mb4.0,baz=129,slow=8.5,SNR=12						
NVAR	**Mina Array Bea**	**31.39**	**318**	P	**P**	**14 46 48.4**	**+2.5**
SCHQ	**Schefferville**	**42.24**	**21**	LR	LR	15 07 56.5	
	comp=Z,165nm,18.1s,baz=327,slow=39						
YKA	**Yellowknife Ar**	**48.02**	**346**	P	**P**	**14 49 03.2**	**-0.4**
	6.1nm,0.8s,mb4.7,baz=145,slow=7.4,SNR=11						
YKA	**Yellowknife Ar**	**48.02**	**346**	P	**P**	**14 49 03.2**	**-0.4**
ILAR	**Eielson Array**	**60.03**	**336**	P	**P**	**14 50 30.9**	**-0.4**
	0.3nm,0.9s,mb3.3,baz=104,slow=3.8,SNR=3.4						
ILAR	**Eielson Array**	**60.03**	**336**	P	**P**	**14 50 30.9**	**-0.4**
ASAR	**Alice Springs**	**136.78**	**254**	PKP	PKPdf	14 59 41.6	-6.3
	0.3nm,0.9s,baz=115,slow=4.2,SNR=3.3						

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*IDC **02** 14:41:02.8±3.3, 30°.35S×177°.61W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=72.6km s-min=45.7km az=117.0*

ISC 02 14:41:08.6±1.5, 31°.01S±0°.09×176°.7W±0°.3, h100km, n25, σ1°.17/24, mb3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**7.72**	**211**	PN	**Pn**	**14 42 59.5**	**+1.2**
MXZ				SN	**Sn**	**14 44 24.6**	**+0.5**
PUZ	**Puketiti**	**8.17**	**209**	PN	**Pn**	**14 43 05.4**	**+1.1**
PUZ				SN	**Sn**	**14 44 34.9**	**-0.1**
CNGZ	**Carnagh Statio**	**8.54**	**208**	PN	**Pn**	**14 43 11.6**	**+2.2**
MWZ	**Matawai**	**8.71**	**211**	PN	**Pn**	**14 43 12.1**	**+0.5**
MWZ				SN	**Sn**	**14 44 48.2**	**+0.3**
URZ	**Urewera**	**8.84**	**213**	Pn	**Pn**	**14 43 13.4**	**0.0**
	0.8nm,0.3s,baz=68,slow=13,SNR=11						
URZ				Sn	Sx	14 44 30.1	
	0.6nm,0.3s,baz=23,slow=16,SNR=2.5						
URZ	**Urewera**	**8.84**	**213**	PN	**Pn**	**14 43 13.0**	**-0.4**
URZ				SN	**Sn**	**14 44 52.2**	**+1.0**
WCZ	**Waipu Caves**	**8.93**	**234**	*e*PN	**Pn**	**14 43 22.0**	**+7.3**
KNZ	**Kokohu**	**9.22**	**208**	PN	**Pn**	**14 43 18.6**	**0.0**
MHGZ	**Mahia Peninsul**	**9.24**	**207**	*e*PN	**Pn**	**14 43 20.0**	**+1.2**
BKZ	**Black Stump Fm**	**9.85**	**212**	PN	**Pn**	**14 43 26.7**	**-0.5**
BKZ				*e*SN	**Sn**	**14 45 13.4**	**-2.4**
KAHZ	**Kahuranaki**	**10.20**	**209**	PN	**Pn**	**14 43 31.4**	**-0.6**
PXZ	**Pawanui**	**10.41**	**208**	PN	**Pn**	**14 43 32.8**	**-1.9**
PRHZ	**Porangahau**	**10.70**	**208**	PN	**Pn**	**14 43 37.5**	**-1.2**
TSZ	**Takapari Road**	**10.81**	**211**	PN	**Pn**	**14 43 38.6**	**-1.6**
DVHZ	**Dannevirke**	**10.92**	**210**	SN	Sx	14 45 38.7	
MRZ	**Mangatainoka R**	**11.47**	**211**	*e*PN	**Pn**	**14 43 45.1**	**-4.1**
MRZ				SN	Sx	14 45 48.1	
TMWZ	**Te Maipa**	**11.71**	**209**	SN	Sx	14 45 55.7	
TCW	**Tory Channel**	**12.51**	**213**	SN	Sx	14 46 11.2	
THZ	**Tophouse**	**13.59**	**215**	*e*PN	**Pn**	**14 44 12.8**	**-4.3**
THZ				SN	Sx	14 46 36.7	
KHZ	**Kahutara**	**13.79**	**212**	SN	Sx	14 46 42.8	
MQZ	**McQueen's Vall**	**15.21**	**211**	SN	Sx	14 47 12.1	
STKA	**Stephens Creek**	**35.41**	**257**	P	**P**	**14 47 56.9**	**+1.9**
	1.6nm,0.7s,mb4.0,baz=96,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**44.17**	**267**	P	**P**	**14 49 07.2**	**-0.4**
	0.4nm,0.5s,mb3.4,baz=103,slow=7.4,SNR=13						
WRA	**Warramunga Arr**	**45.21**	**272**	P	**P**	**14 49 14.9**	**-1.0**
	1.2nm,0.3s,mb4.1,baz=111,slow=8.1,SNR=56						
FINES	**FINESS Array B**	**146.08**	**340**	PKPbc	PKPbc	15 00 40.7	+4.4
	5.9nm,1.2s,baz=31,slow=8.3,SNR=3.5						

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*ISCJB **02** 14:42:21.7±0.6, 26°.05N±0°.10×124°.61E±0°.08, h188km±9km, mb3.7/4, Error ellipse: s-maj=19.0km s-min=6.4km az=146.8*

*JMA **02** 14:42:23.7±0.3, 26°.16N×124°.50E, h165km, M3.5*

*NEIC **02** 14:42:26.2±1.2, 25°.91N×124°.13E, h214km±11km, Error ellipse: s-maj=25.3km s-min=13.6km az=101.0*

*IDC **02** 14:42:28.8±7.0, 26°.01N×124°.35E, h242km±81km, mb3.3/4, mb1 3.3/5, mb1mx3.0/24, mbtmp3.2/5, Error ellipse: s-maj=80.9km s-min=18.7km az=64.0*

ISC 02 14:42:22.6±0.6, 26°.08N±0°.10×124°.59E±0°.08, h181km±9km, n24, σ0°.82/33, mb3.7/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.41**	**153**	P	**Pn**	**14 42 55.0**	**+1.1**
JMJ				S	**Sn**	**14 43 18.1**	**+0.1**
JTJ	**Tarama**	**1.44**	**176**	P	**Pn**	**14 42 54.9**	**+0.8**
JOGS	**Gusukube**	**1.51**	**150**	P	**Pn**	**14 42 56.0**	**+1.2**
JOGS				S	**Sn**	**14 43 20.0**	**+0.4**
JIJ	**Ishigaki jima**	**1.75**	**193**	P	**Pn**	**14 42 57.3**	**+0.1**
JIJ				S	**Sn**	**14 43 22.4**	**-1.6**
IRIF	**Iriomote-Funau**	**1.90**	**204**	P	**Pn**	**14 42 58.9**	**+0.1**
IRIF				S	**Sn**	**14 43 26.9**	**+0.2**
JKRS	**Kuro-shima**	**1.91**	**196**	P	**Pn**	**14 42 59.0**	**+0.2**
JKRS				S	**Sn**	**14 43 25.5**	**-1.3**
JKE	**Kume jima 2**	**1.99**	**82**	P	**Pn**	**14 43 00.3**	**+0.6**
JKE				*e*S	**Sn**	**14 43 28.6**	**+0.3**
HATJ	**Hateruma jima**	**2.13**	**200**	S	**Sn**	**14 43 30.1**	**-1.1**
YOJ	**Yonaguni jima**	**2.15**	**222**	P	**Pn**	**14 43 02.7**	**+1.3**
YOJ				S	**Sn**	**14 43 31.8**	**+0.3**
JAGN	**Aguni-jima**	**2.44**	**77**	P	**Pn**	**14 43 05.0**	**+0.4**
JAGN				S	**Sn**	**14 43 35.6**	**-1.6**
NACB	**Ninganchiao**	**3.31**	**236**	*e*P	**Pn**	**14 43 15.7**	**+0.6**
JOW	**Kunigami**	**3.39**	**76**	P	**Pn**	**14 43 16.0**	**-0.1**
JOW				S	**Sn**	**14 43 53.9**	**-3.9**
YULB	**Yu-li**	**4.01**	**229**	*e*P	**Pn**	**14 43 23.1**	**-0.8**
JTK	**Tokunoshima**	**4.25**	**65**	*e*S	**Sn**	**14 44 13.3**	**-4.0**
KSAR	**Wonju Array Be**	**11.67**	**13**	P	**Pn**	**14 45 09.8**	**+6.2**
KSRS	**Korea Array**	**11.69**	**13**	P	**Pn**	**14 45 09.8**	**+5.9**
	0.4nm,0.3s,baz=194,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**39.22**	**313**	P	**P**	**14 49 33.0**	**-0.1**
	0.5nm,0.5s,mb3.4,baz=100,slow=9.4,SNR=8.0						
MKAR	**Makanchi Array**	**39.22**	**313**	P	**P**	**14 49 33.0**	**-0.1**
ZALV	**Zalesovo Beam**	**40.42**	**324**	P	**P**	**14 49 42.2**	**-0.6**
	1.9nm,0.5s,mb4.0,baz=112,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**40.42**	**324**	P	**P**	**14 49 42.2**	**-0.6**
WRA	**Warramunga Arr**	**46.72**	**167**	P	**P**	**14 50 33.6**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=349,slow=8.6,SNR=3.7						
WRA	**Warramunga Arr**	**46.72**	**167**	P	**P**	**14 50 33.6**	**+0.2**
FINES	**FINESS Array B**	**71.37**	**330**	P	**P**	**14 53 22.0**	**-0.4**
	3.7nm,0.9s,mb4.1,baz=67,slow=4.7,SNR=4.6						
FINES	**FINESS Array B**	**71.37**	**330**	P	**P**	**14 53 22.0**	**-0.4**

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*LDG **02** 15:00:45.5±0.3, 12°.22S×166°.69E, h80km, Mb4.8/3, Ms4.1/5, Error ellipse: s-maj=42.9km s-min=9.6km az=83.0*

*NOU **02** 15:00:46.1±1.3, 12°.37S×166°.09E, h30km±999km, MD4.2, ML4.0*

*NEIC **02** 15:00:47.2±0.3, 12°.59S×166°.76E, mb5.0/19, Error ellipse: s-maj=9.9km s-min=7.7km az=143.0*

*IDC **02** 15:00:47.6±0.7, 12°.63S×166°.72E, h98km±5km, mb4.3/19, mb1 4.3/21, mb1mx4.3/25, mbtmp4.3/21, MS3.8/11, Ms1 3.8/11, ms1mx3.5/24, Error ellipse: s-maj=13.4km s-min=12.5km az=128.0*

*ISCJB **02** 15:00:48.5±1.3, 12°.68S±0°.05×166°.64E±0°.07, h117km±11km, mb4.7/43, Error ellipse: s-maj=11.8km s-min=6.9km az=155.7*

*BJI **02** 15:00:55.1, 12°.66S×166°.49E, h172km, mB4.9/13, mb4.6/22*

ISC 02 15:00:49.8±1.0, 12°.68S±0°.05×166°.69E±0°.07, h117km±9km, h99km±3.7km: pP-P, n170, σ0°.89/114, mb4.7/42, 5C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.36**	**295**	P	**Pn**	**15 02 33.1**	**-1.6**
	47nm,0.3s,baz=142,slow=6.5,SNR=32						
HNR				S	**Sn**	**15 03 54.0**	**-2.7**
	165nm,0.3s,baz=355,slow=20,SNR=11						
HNR	**Honiara**	**7.36**	**295**	*e*P	**Pn**	**15 02 34.6**	**-0.2**
	284nm,0.8s						
HNR				*e*S	**Sn**	**15 03 51.1**	**-5.6**
DZM	**Mont Dzumac**	**9.34**	**181**	*e*Pn	**Pn**	**15 03 02.7**	**+1.1**
	28nm,0.3s						
DZM				*e*Sn	**Sn**	**15 04 43.3**	**-1.5**
	19nm,0.2s						
DZM				*e*LR	LR	15 05 34.7	
	542nm,27.3s						
DZM	**Mont Dzumac**	**9.34**	**181**	*e*P	**Pn**	**15 03 02.4**	**+0.8**
DZM				*e*S	**Sn**	**15 04 43.1**	**-1.6**
DZM				AMP		15 04 51.7	
	comp=Z,346nm,0.0s						
NOUC	**Port Laguerre**	**9.38**	**182**	*e*P	**Pn**	**15 03 03.1**	**+1.1**
NOUC				*e*S	**Sn**	**15 04 42.7**	**-2.9**
NOUC				AMP		15 04 49.9	
	comp=Z,26nm,4.3s						
BAYA	**Yate Dam**	**9.43**	**179**	*e*P	**Pn**	**15 03 03.2**	**+0.5**
BAYA				*e*S	**Sn**	**15 04 46.3**	**-0.5**
PLUM	**Mont Dore**	**9.54**	**180**	*e*P	**Pn**	**15 03 05.5**	**+1.2**
PLUM				*e*S	**Sn**	**15 04 48.6**	**-0.9**
EIDS	**Eidsvold**	**19.39**	**227**	*e*P	**P**	**15 05 08.6**	**+1.9**
	comp=Z,260nm,0.8s						
EIDS	**Eidsvold**	**19.39**	**227**	*e*P	**P**	**15 05 08.5**	**+1.8**
	comp=Z,44nm,0.8s						
PMG	**Port Moresby**	**19.44**	**278**	P	**P**	**15 05 08.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=76,slow=3.8,SNR=5.1						
PMG	**Port Moresby**	**19.44**	**278**	P	**P**	**15 05 08.2**	**+0.8**
CTA	**Charters Tower**	**20.93**	**247**	P	**P**	**15 05 24.1**	**+0.7**
	comp=Z,22nm,0.7s,baz=78,slow=11,SNR=24						
CTA				LR	LR	15 12 34.4	
	comp=Z,156nm,18.7s,baz=74,slow=34						
CTA	**Charters Tower**	**20.93**	**247**	*e*P	**P**	**15 05 24.0**	**+0.7**
	comp=Z,19nm,0.8s						
CTA	**Charters Tower**	**20.93**	**247**	P	**P**	**15 05 24.1**	**+0.7**
CTAO	**Charters Tower**	**20.93**	**247**	*e*P	**P**	**15 05 24.0**	**+0.7**
	comp=Z,25nm,0.8s						
AFI	**Afiamalu**	**20.99**	**96**	P	**P**	**15 05 24.8**	**+0.7**
	comp=Z,46nm,0.9s,baz=199,slow=8.8,SNR=4.1						
AFI				LR	LR	15 10 54.6	
	comp=Z,116nm,19.2s,baz=283,slow=29						
AFI	**Afiamalu**	**20.99**	**96**	P	**P**	**15 05 24.8**	**+0.7**
RMQ	**Roma**	**21.73**	**228**	*e*P	**P**	**15 05 33.3**	**+1.5**
	comp=Z,71nm,0.7s,mb5.1						
ARMA	**Armidale**	**22.49**	**216**	*e*P	**P**	**15 05 41.6**	**+1.8**
ARMA				*e*S	**S**	**15 09 41.9**	**+4.0**
ARMA	**Armidale**	**22.49**	**216**	*e*P	**P**	**15 05 41.7**	**+2.0**
	comp=Z,32nm,1.2s,mb4.5						
URZ	**Urewera**	**27.12**	**162**	LR	LR	15 15 34.3	
	comp=Z,150nm,20.8s,baz=332,slow=33						
STKA	**Stephens Creek**	**29.94**	**226**	P	**P**	**15 06 48.5**	**+1.5**
	comp=Z,3.4nm,0.4s,mb4.3,baz=51,slow=9.1,SNR=22						
STKA				LR	LR	15 16 60.0	
	comp=Z,264nm,20.1s,baz=27,slow=32						
STKA	**Stephens Creek**	**29.94**	**226**	*e*P	**P**	**15 06 48.5**	**+1.5**
	comp=Z,4.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**29.94**	**226**	*e*P	**P**	**15 06 48.5**	**+1.6**
	comp=Z,1.1nm,0.6s,mb3.7						
RPZ	**Rata Peaks**	**31.16**	**174**	P	**P**	**15 06 57.2**	**-0.2**
	comp=Z,10nm,0.5s,mb4.9,baz=324,slow=5.0,SNR=12						
RPZ				LR	LR	15 16 23.0	
	comp=Z,83nm,21.1s,baz=17,slow=30						
RPZ	**Rata Peaks**	**31.16**	**174**	*e*P	**P**	**15 06 57.6**	**+0.1**
	comp=Z,24nm,1.0s,mb4.9						
WRAB	**Tennant Creek**	**31.82**	**253**	*e*P	**P**	**15 07 02.5**	**-1.2**
	comp=Z,4.5nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**31.82**	**253**	*e*P	**P**	**15 07 02.9**	**-0.8**
WRA	**Warramunga Arr**	**31.84**	**253**	P	**P**	**15 07 03.0**	**-0.8**
	comp=Z,6.9nm,0.5s,mb4.6,baz=85,slow=9.3,SNR=144						
WRA				PcP	PcP	15 09 51.6	-0.6
	comp=Z,0.8nm,0.9s,baz=87,slow=3.5,SNR=3.0						
WRA				ScP	ScP	15 13 26.6	+1.6
	comp=Z,0.9nm,0.8s,baz=78,slow=3.3,SNR=7.0						
WRA	**Warramunga Arr**	**31.84**	**253**	P	**P**	**15 07 03.0**	**-0.8**
WRA				PcP	PcP	15 09 51.6	-0.6
WRA				ScP	ScP	15 13 26.6	+1.6
AS31	**Alice Springs**	**32.93**	**246**	*e*P	**P**	**15 07 12.5**	**-0.9**
ASAR	**Alice Springs**	**32.93**	**246**	P	**P**	**15 07 12.5**	**-0.8**
	comp=Z,10nm,0.6s,mb4.8,baz=68,slow=10.0,SNR=233						
ASAR				PcP	PcP	15 09 54.3	-0.8
	comp=Z,0.6nm,0.7s,baz=63,slow=1.9,SNR=3.3						
ASAR				ScP	ScP	15 13 30.2	+1.5
	comp=Z,0.9nm,0.9s,baz=88,slow=3.1,SNR=5.9						
ASAR	**Alice Springs**	**32.93**	**246**	P	**P**	**15 07 12.5**	**-0.8**
ASAR				PcP	PcP	15 09 54.3	-0.8
ASAR				ScP	ScP	15 13 30.2	+1.5
GUMO	**Guam**	**33.90**	**320**	LR	LR	15 18 31.6	
	comp=Z,135nm,20.7s,baz=161,slow=31						
BBOO	**Buckleboo**	**34.43**	**229**	*e*P	**P**	**15 07 26.8**	**+0.6**
	comp=Z,30nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**39.88**	**257**	P	**P**	**15 08 12.5**	**0.0**
	comp=Z,2.9nm,0.5s,mb4.3,baz=99,slow=9.5,SNR=12						
FITZ	**Fitzroy Crossi**	**39.88**	**257**	*e*P	**P**	**15 08 12.2**	**-0.3**
	comp=Z,6.6nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**39.88**	**257**	P	**P**	**15 08 12.5**	**0.0**
FORT	**Forrest**	**39.90**	**237**	*e*P	**P**	**15 08 13.0**	**+0.5**
	comp=Z,13nm,0.7s,mb4.9						
PPT	**Papeete**	**42.43**	**102**	*e*LR	LR	15 20 47.4	
	comp=Z,476nm,30.8s						
TBI	**Tubuai**	**42.88**	**111**	*e*LR	LR	15 21 06.1	
	comp=Z,205nm,35.8s						
MBWA	**Marble Bar**	**45.57**	**253**	*e*P	**P**	**15 08 59.4**	**+1.0**
MEEK	**Meekatharra**	**47.09**	**245**	*e*P	**P**	**15 09 10.9**	**+0.7**
	comp=Z,49nm,0.7s,mb5.3						
NWAO	**Narrogin (SRO)**	**49.34**	**237**	P	**P**	**15 09 27.1**	**-0.4**
	comp=Z,5.6nm,0.5s,mb4.7,baz=63,slow=5.5,SNR=8.8						
NWAO				LR	LR	15 29 38.4	
	comp=Z,146nm,19.8s,baz=299,slow=35						
NWAO	**Narrogin (SRO)**	**49.34**	**237**	P	**P**	**15 09 27.1**	**-0.4**
MJAR	**Matsushiro Arr**	**55.84**	**332**	P	**P**	**15 10 14.0**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=173,slow=8.7,SNR=5.8						
MJAR				pP	pP	15 10 37.7	-5.3
	comp=Z,2.3nm,0.7s,baz=174,slow=8.4,SNR=4.8						
MJAR	**Matsushiro Arr**	**55.84**	**332**	P	**P**	**15 10 14.0**	**-1.1**
MJAR				pP	pP	15 10 37.7	-5.3
RKT	**Rikitea**	**56.17**	**109**	*e*LR	LR	15 27 14.0	
	comp=Z,180nm,37.5s						
ASAJ	**Asahikawa**	**60.63**	**340**	P	**P**	**15 10 48.1**	**-0.2**
	comp=Z,12nm,1.1s,mb4.8,baz=202,slow=11,SNR=4.7						
ASAJ	**Asahikawa**	**60.63**	**340**	P	**P**	**15 10 48.1**	**-0.2**
KSRS	**Korea Array**	**61.74**	**326**	P	**P**	**15 10 56.1**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=136,slow=7.8,SNR=8.6						
KSAR	**Wonju Array Be**	**61.75**	**326**	P	**P**	**15 10 56.1**	**+0.1**
PETK	**Petropavlovsk-**	**65.97**	**354**	LR	LR	15 38 06.1	
	comp=Z,69nm,21.2s,baz=353,slow=34						
CN2	**Changchun**	**67.61**	**329**	*e*P	**P**	**15 11 34.2**	**+0.3**
CN2				*e*sP	sP	15 12 34.0	+19
CN2				*e*S	S	15 20 18.5	-3.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
ENH	**Enshi**	**69.64**	**309**	*e*P	**P**	**15 11 45.9**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.5						
GYA	**Guiyang**	**70.09**	**304**	*e*P	**P**	**15 11 50.0**	**+0.3**
GYA				pP	pP	15 12 30.8	+12
GYA				sP	sP	15 12 49.6	+18
GYA				S	S	15 20 44.0	-7.7
GYA				SKS		15 21 30.5	
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
BJI	**Beijing**	**70.32**	**321**	P	**P**	**15 11 51.9**	**+1.1**
BJI				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
KMI	**Kunming**	**72.76**	**301**	P	**P**	**15 12 06.0**	**+0.2**
KMI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.7						
KMI	**Kunming**	**72.76**	**301**	P	**P**	**15 12 06.0**	**+0.2**
	comp=Z,13nm,1.1s,mb4.7						
KMI				pP	pP	15 12 25.7	-9.3
CMAR	**Chiang Mai Arr**	**73.61**	**294**	P	**P**	**15 12 11.8**	**+0.9**
	comp=Z,2.6nm,0.8s,mb4.0,baz=125,slow=4.7,SNR=21						
CMAR				pP	pP	15 12 36.2	-3.9
	comp

DANN	Dangsing	89.84	299	eP	P	15 13 35.2	-0.6
	comp=Z,14nm,0.7s,mb5.2						
DANN	Dangsing	89.84	299	eP	P	15 13 35.2	-0.6
	comp=Z,14nm,0.7s,mb5.2						
PYUN	Piuthan	90.43	299	eP	P	15 13 37.5	-1.1
	comp=Z,9.1nm,0.9s,mb4.9						
PYUN	Piuthan	90.43	299	eP	P	15 13 37.5	-1.1
	comp=Z,9.1nm,0.9s,mb4.9						
WMQ	Urumqi	90.89	315	eP	P	15 13 40.1	-0.3
HYB	Hyderabad	91.98	287	i P	P	15 13 45.0	-1.0
PDAR	Pinedale Array	93.97	47	LR	LR	15 46 34.6	
	comp=Z,54nm,21.0s,baz=148,slow=29						
MK31	Makanchi Array	95.34	317	eP	P	15 14 00.3	-0.5
MKAR	Makanchi Array	95.34	317	P	P	15 14 00.6	-0.2
	comp=Z,4.0nm,0.6s,mb5.0,baz=91,slow=6.8,SNR=48						
MKAR				pP	pP	15 14 25.6	-5.5
	comp=Z,2.4nm,0.8s,baz=89,slow=6.1,SNR=6.7						
MKAR	Makanchi Array	95.34	317	P	P	15 14 00.6	-0.2
MKAR				pP	pP	15 14 25.6	-5.5
ZAAO	Zalesovo Array	95.41	324	eP	P	15 13 59.7	-1.2
ZALV	Zalesovo Beam	95.41	324	P	P	15 13 59.9	-1.1
	comp=Z,2.9nm,0.7s,mb4.8,baz=118,slow=4.6,SNR=15						
ZALV				pP	pP	15 14 25.4	-5.9
	comp=Z,2.4nm,0.9s,baz=114,slow=6.5,SNR=4.3						
ZALV	Zalesovo Beam	95.41	324	P	P	15 13 59.9	-1.1
ZALV				pP	pP	15 14 25.4	-5.9
SNAA	Sanae	95.55	183	e	P	15 13 56.3	-5.1
TXAR	Lajitas Array	95.80	61	P	P	15 14 03.7	+0.4
	comp=Z,0.2nm,0.6s,mb3.7,baz=212,slow=4.4,SNR=4.1						
TXAR				LR	LR	15 45 52.5	
	comp=Z,72nm,21.9s,baz=95,slow=28						
TXAR	Lajitas Array	95.80	61	P	P	15 14 03.7	+0.4
VNA3	Neumayer Olymp	96.24	181	e	P	15 14 03.6	-0.9
VNA2	Neumayer--Watz	96.50	182	e	P	15 14 04.8	-0.9
ARCES	ARCESS Array B	118.14	346	PKP	PKPdf	15 19 21.5	-1.0
	comp=Z,4.6nm,1.0s,baz=40,slow=6.3,SNR=12						
ARCES	ARCESS Array B	118.14	346	PKP	PKPdf	15 19 21.5	-1.0
FINES	FINESS Array B	123.62	339	PKP	PKPdf	15 19 32.5	-0.7
	comp=Z,2.0nm,0.8s,baz=226,slow=5.0,SNR=3.7						
FINES	FINESS Array B	123.62	339	PKP	PKPdf	15 19 32.5	-0.7
NOA	NORSAR Array B	128.51	345	PKP	PKPdf	15 19 42.2	-0.4
	comp=Z,0.6nm,0.8s,baz=8.4,slow=3.0,SNR=2.5						
NOA	NORSAR Array B	128.51	345	PKP	PKPdf	15 19 42.2	-0.4
GERES	GERESS Array B	137.57	334	PKP	PKPdf	15 20 01.9	+2.0
	comp=Z,0.4nm,0.2s,baz=132,slow=2.0,SNR=3.5						
GERES	GERESS Array B	137.57	334	PKP	PKPdf	15 20 01.9	+2.0
SFTF	Sexfontaines	141.42	340	ePKP1	PKPdf	15 20 06.4	-0.6
SFTF	Sexfontaines	141.42	340	eP	PKPdf	15 20 06.4	-0.6
CABF	La Chapelle	142.43	338	ePKP1	PKPdf	15 20 08.3	-0.6
CABF	La Chapelle	142.43	338	eP	PKPdf	15 20 08.3	-0.6
LPL	La Plagne	143.10	336	⇑i PKP1	PKPdf	15 20 09.2	-0.9
	comp=Z,5.5nm,0.6s						
LPL	La Plagne	143.10	336	i P	PKPdf	15 20 09.2	-0.9
LPG	La Plagne	143.11	336	ePKP1	PKPdf	15 20 08.4	-1.7
LPG	La Plagne	143.11	336	eP	PKPdf	15 20 08.4	-1.7
MBDF	Montbardon	143.74	336	ePKP1	PKPdf	15 20 08.6	-2.7
	comp=Z,12nm,0.8s						
MBDF	Montbardon	143.74	336	eP	PKPdf	15 20 08.6	-2.7
ORIF	Oris-en-Rattie	143.93	337	ePKP1	PKPdf	15 20 09.9	-1.7
	comp=Z,34nm,0.7s						
ORIF				eR			
	comp=Z,58nm,21.0s						
ORIF	Oris-en-Rattie	143.93	337	eP	PKPdf	15 20 09.9	-1.7
TCF	Toulx Ste Croi	144.02	342	ePKP1	PKPdf	15 20 09.7	-2.0
	comp=Z,10nm,0.7s						
TCF	Toulx Ste Croi	144.02	342	eP	PKPdf	15 20 09.7	-2.0
SBF	Sospel	144.17	334	⇑i PKP1	PKPdf	15 20 09.9	-2.1
	comp=Z,58nm,0.7s						
SBF	Sospel	144.17	334	i P	PKPdf	15 20 09.9	-2.1
MFF	Saint Martin d	144.41	344	⇑i PKP1	PKPdf	15 20 11.0	-1.4
	comp=Z,26nm,0.7s						
MFF	Saint Martin d	144.41	344	i P	PKPdf	15 20 11.0	-1.4
VIVF	Saint-Julien-l	144.44	338	ePKP1	PKPdf	15 20 11.5	-1.0
	comp=Z,18nm,0.7s						
VIVF	Saint-Julien-l	144.44	338	eP	PKPdf	15 20 11.5	-1.0
PGF	Pioggiola	144.50	331	ePKP1	PKPdf	15 20 11.3	-1.4
	comp=Z,33nm,0.6s						
PGF	Pioggiola	144.50	331	eP	PKPdf	15 20 11.3	-1.4
FRF	La Foret Royal	144.75	335	⇑i PKP1	PKPdf	15 20 11.9	-1.2
	comp=Z,35nm,0.7s						
FRF	La Foret Royal	144.75	335	i P	PKPdf	15 20 11.9	-1.2
SMRF	Simiane la Rot	144.84	336	ePKP1	PKPdf	15 20 12.8	-0.4
	comp=Z,40nm,0.9s						
SMRF	Simiane la Rot	144.84	336	eP	PKPdf	15 20 12.8	-0.4
LMR	La Mourre	144.99	334	⇑i PKP1	PKPdf	15 20 12.8	-0.7
	comp=Z,22nm,0.5s						
LMR	La Mourre	144.99	334	i P	PKPdf	15 20 12.8	-0.7
RJF	Les Rejaudoux	145.12	342	ePKP1	PKPbc	15 20 13.5	+0.2
RJF				eR			
	comp=Z,75nm,20.2s						
RJF	Les Rejaudoux	145.12	342	eP	PKPbc	15 20 13.5	+0.2
CAF	Calviac	145.28	341	ePKP1	PKPbc	15 20 14.1	+0.2
CAF	Calviac	145.28	341	eP	PKPbc	15 20 14.1	+0.2
LASF	Ste Croix	145.41	338	ePKP1	PKPbc	15 20 14.0	-0.3
	comp=Z,27nm,1.1s						
LASF	Ste Croix	145.41	338	eP	PKPdf	15 20 14.0	-0.2
LFF	La Frestale	145.68	342	ePKP1	PKPbc	15 20 15.1	0.0
	comp=Z,19nm,0.5s						
LFF	La Frestale	145.68	342	eP	PKPdf	15 20 15.1	+0.5
MTLF	Montolieu	146.63	339	ePKP1	PKPbc	15 20 18.2	+0.2
	comp=Z,12nm,0.6s						
MTLF	Montolieu	146.63	339	eP	PKPdf	15 20 18.2	+1.9
SJPF	Ste Jean	147.92	343	ePKP1	PKPbc	15 20 19.1	-2.5
SJPF	Ste Jean	147.92	343	eP	PKPdf	15 20 19.1	+0.7
ETSF	Etsaut	147.93	342	ePKP1	PKPbc	15 20 20.3	-1.3
ETSF	Etsaut	147.93	342	eP	PKPdf	15 20 20.3	+1.9
KEST	Kesra	149.27	322	PKPbc	PKPbc	15 20 25.5	+0.3
	comp=Z,4.5nm,0.7s,baz=95,slow=2.8,SNR=11						
KEST	Kesra	149.27	322	ePKPbc	PKPbc	15 20 25.5	+0.2
ESDC	Sonseca Array	151.87	345	PKPbc	PKPbc	15 20 31.4	+0.2
	comp=Z,2.0nm,0.7s,baz=14,slow=2.9,SNR=6.2						
ESDC				PKPab	PKPab	15 20 40.5	-0.2
	comp=Z,0.8nm,0.4s,baz=24,slow=2.9,SNR=3.6						
ESDC	Sonseca Array	151.87	345	PKPbc	PKPbc	15 20 31.4	+0.2
ESDC				PKPab	PKPab	15 20 40.5	-0.2
TORD	Torodi Ar. Bea	165.36	273	PKPab	PKPab	15 21 40.1	+0.1
	comp=Z,3.2nm,0.8s,baz=83,slow=4.8,SNR=20						
TORD	Torodi Ar. Bea	165.36	273	PKPab	PKPab	15 21 40.1	+0.1

KRSC ***02*** *15:35:58.9±0.7, 55°.83N×162°.54E, h52km±51km, ML4.0*
MOS ***02*** *15:35:59.6±1.4, 55°.83N×162°.59E, h41km, mb4.2/1, Error ellipse: s-maj=23.2km s-min=14.0km az=76.2*
ISCJB ***02*** *15:36:00.0±0.6, 55°.79N±0°.04×162°.57E±0°.06, h48km±14km, Error ellipse: s-maj=6.8km s-min=5.5km az=29.2*

ISC 02 15:36:00.9±0.7, 55°.82N±0°.04×162°.58E±0°.06, h44km±19km, n30, σ1§10/52, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.41	19	i P	Pn	15 36 09.7	-1.0
KBTR				i S	Sn	15 36 18.2	+0.6
KBTR	Krutoberegovo	0.41	19	PN	Pn	15 36 09.7	-1.0
KBTR				S	Sn	15 36 18.2	+0.6
SMKR	Semkarok	0.99	321	eP	Pn	15 36 17.9	-0.4
SMKR				i S	Sn	15 36 31.1	+0.1
BDR	Baidarnaya	1.07	315	eP	Pn	15 36 19.1	-0.4
BDR				i S	Sn	15 36 34.0	+0.8
SRKR	Sorokina	1.15	317	P	Pn	15 36 17.9	-2.6
KLY	Klyuchi	1.19	295	P	Pn	15 36 17.6	-3.5
KLY				i S	Sn	15 36 31.6	-4.4
KLY	Klyuchi	1.19	295	PN	Pn	15 36 17.6	-3.5
KLY				S	Sn	15 36 31.6	-4.4
KMNR	Kamenistaya	1.33	268	P	Pn	15 36 22.1	-0.8
KMNR				i S	Sn	15 36 39.6	+0.2
MKZ	Mys Kozlova	1.36	201	eP	Pn	15 36 22.2	-1.2
MKZ				i S	Sn	15 36 38.9	-1.2
MKZ	Mys Kozlova	1.36	201	PN	Pn	15 36 22.2	-1.2
MKZ				S	Sn	15 36 38.9	-1.2
TUMR	Tumrok	1.49	250	eP	Pn	15 36 25.0	-0.1
TUMR				i S	Sn	15 36 44.5	+1.2
KOZR	Kozyr	1.53	280	PN	Pn	15 36 26.0	+0.3
KOZR				S	Sn	15 36 46.1	+1.7
KOZ	Kozyrevsk	1.54	280	eP	Pn	15 36 26.0	+0.1
KOZ				i S	Sn	15 36 46.1	+1.4
SRDR	Sredinnyy	1.68	288	eP	Pn	15 36 25.9	-1.9
SRDR				i S	Sn	15 36 45.8	-2.3
BKI	Bering	2.02	106	eP	Pn	15 36 33.1	+0.6
BKI				i S	Sn	15 36 57.5	+1.0
BKI	Bering	2.02	106	PN	Pn	15 36 33.1	+0.6
BKI				S	Sn	15 36 57.5	+1.0
ESO	Esso	2.19	274	eP	Pn	15 36 36.2	+1.4
ESO	Esso	2.19	274	PN	Pn	15 36 36.2	+1.4
SPN	Mys Shipunski	3.11	210	P	Pn	15 36 46.0	-1.4
SPN				i S	Sn	15 37 20.3	-3.0
SPN	Mys Shipunski	3.11	210	PN	Pn	15 36 46.0	-1.4
SDLR	Sedlovina	3.34	222	i P	Pn	15 36 50.7	+0.2
AVH	Avacha	3.40	223	i P	Pn	15 36 52.3	+0.9
AVH				i S	Sn	15 37 31.0	+0.6
UGLR	Uglovaya	3.41	221	eP	Pn	15 36 52.1	+0.6
UGLR				eS	Sn	15 37 30.0	-0.7
KOK	Koryaka	3.42	224	eP	Pn	15 36 52.9	+1.2
GNL	Ganaly	3.43	234	i P	Pn	15 36 52.5	+0.7
PET	Petropavlovsk	3.62	221	eP	Pn	15 36 54.8	+0.4
PET				i S	Sn	15 37 35.6	-0.3
PET	Petropavlovsk	3.62	221	ePN	Pn	15 36 54.5	+0.1
PET				eS	Sn	15 37 36.7	+0.8
PET				pmax	pmax		
	comp=Z,33nm,0.6s						
PET				smax			
	comp=N,125nm,0.7s						
RUS	Russkaya	4.15	217	P	Pn	15 37 03.2	+1.5
RUS				i S	Sn	15 37 48.8	-0.1
RUS	Russkaya	4.15	217	PN	Pn	15 37 03.2	+1.5
RUS				S	Sn	15 37 48.8	-0.1
MIPR	Malaya Ipel'ka	4.94	226	P	Pn	15 37 11.8	-0.7

ISCJB ***02*** *16:15:14.2±1.1, 21°.3S±0°.2×178°.5W±0°.2, h551km±17km, mb3.7/6, Error ellipse: s-maj=28.5km s-min=18.8km az=141.8*
IDC ***02*** *16:15:14.5±3.4, 21°.09S×178°.71W, h527km±30km, mb3.1/4, mb1 3.4/5, mb1mx3.1/16, mbtmp3.2/5, Error ellipse: s-maj=124.0km s-min=18.2km az=147.0*
NEIC ***02*** *16:15:14.4±0.9, 21°.35S×178°.52W, h538km±9km, mb3.8/2, Error ellipse: s-maj=20.7km s-min=11.3km az=143.0*

ISC 02 16:15:14.5±1.2, 21°.3S±0°.2×178°.5W±0°.2, h543km±17km, n22, σ0§60/16, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.84	317	eP	P	16 16 43.4	+0.7
AFI	Afiamalu	9.77	42	P	P	16 17 29.2	-0.9
	4.2nm,0.3s,baz=350,slow=4.2,SNR=8.5						
AFI	Afiamalu	9.77	42	P	P	16 17 29.2	-0.8
URZ	Urewera	17.29	192	eP	P	16 18 46.3	+0.3
CTAO	Charters Tower	32.96	266	eP	P	16 21 05.0	+0.2
	1.7nm,0.4s,mb3.9						
STKA	Stephens Creek	37.02	245	P	P	16 21 39.1	+0.7
	1.4nm,0.6s,mb3.7,baz=173,slow=3.6,SNR=5.3						
STKA	Stephens Creek	37.02	245	P	P	16 21 39.1	+0.7
AS31	Alice Springs	43.89	258	eP	P	16 22 33.0	-0.3
ASAR	Alice Springs	43.89	258	P	P	16 22 33.3	0.0
	2.0nm,0.5s,mb3.9,baz=93,slow=8.2,SNR=108						
ASAR	Alice Springs	43.89	258	P	P	16 22 33.3	0.0
WB2	Warramunga Arr	44.03	263	eP	P	16 22 33.9	-0.6
WRAB	Tennant Creek	44.03	263	eP	P	16 22 33.9	-0.6
	0.6nm,0.4s,mb3.5						
WRA	Warramunga Arr	44.04	263	P	P	16 22 34.0	-0.6
	0.6nm,0.3s,mb3.6,baz=95,slow=7.8,SNR=77						
WRA	Warramunga Arr	44.04	263	P	P	16 22 34.0	-0.6
ILAR	Eielson Array	89.22	13	P	P	16 27 13.2	+1.1
	0.3nm,0.4s,mb3.5,baz=218,slow=5.2,SNR=11						
ILAR	Eielson Array	89.22	13	P	P	16 27 13.2	+1.1
ARCES	ARCESS Array B	129.65	349	PKP	PKPdf	16 33 22.2	+1.0
	2.4nm,0.7s,baz=359,slow=4.9,SNR=4.7						
ARCES	ARCESS Array B	129.65	349	PKP	PKPdf	16 33 22.2	+1.0
AKASG	Malin Array Be	143.51	330	PKP	PKPdf	16 33 46.3	-1.0
	1.6nm,0.4s,baz=44,slow=4.2,SNR=9.0						
AKASG	Malin Array Be	143.51	330	PKP	PKPdf	16 33 46.3	-1.0
GERES	GERESS Array B	150.87	343	PKPbc	PKPbc	16 34 07.0	+1.3
	0.3nm,0.5s,baz=8.5,slow=2.7,SNR=3.7						
GERES	GERESS Array B	150.87	343	PKPbc	PKPbc	16 34 07.0	+1.3

MAN 02 16:27:56.8±99N×126°.30E, h29km±4.1, ML2.9, MS2.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	1.65	228	eP	Pn	16 28 23.6	+0.7
BUKP				eS	Sn	16 28 35.5	-7.6
CGP	Cagayan de Oro	1.67	252	⇑eP	Pn	16 28 23.9	+0.6
CGP				i S	Sn	16 28 43.7	-0.1
MATI	Mati	2.03	181	eP	Pn	16 28 28.3	+0.1
MATI				eS	Sn	16 28 40.7	-12
CTBH	Cotabato--PC H	2.69	229	⇑i P	Pn	16 28 37.7	+0.4

ISCJB ***02*** *16:41:19.0±0.2, 35°.97N±0°.02×117°.28W±0°.02, h10km, Error ellipse: s-maj=2.3km s-min=2.1km az=19.1*
NEIC ***02*** *16:41:19.5, 35°.97N×117°.32W, h2km, ML3.7(PAS), After PAS.*
NEIC Felt in the Trona area.

ISC 02 16:41:19.1±0.2, 35°.99N×117°.27W±0°.02, h10km, n56, σ1§11/97, 29C-21D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	Manual Prospec	0.19	293	⇓P	Pg	16 41 22.7	-0.5
	baz=0.2,SNR=1000						
MPMC				⇓S	Sg	16 41 25.3	-0.7
	baz=0.2						
FURC	Furnace Creek,	0.59	35	P	Pg	16 41 31.3	+0.8
	baz=0.6,SNR=587						
FURC				⇑S	Sg	16 41 39.8	+1.6
	baz=0.6						
LRMC	Laurel Mountai	0.61	214	P	Pg	16 41 30.2	-0.8
	baz=0.6,SNR=118						
LRMC				⇑S	Sg	16 41 38.1	-0.8
	baz=0.6						
GSC	Goldstone	0.78	151	P	Pg	16 41 34.4	+0.2
	baz=0.8,SNR=70						
GSC				⇑S	Sg	16 41 45.3	+0.9
	baz=0.8						
GSC	Goldstone	0.78	151	ePg	Pg	16 41 34.3	+0.1
GSC				eSg	Sg	16 41 44.4	0.0
CWC	Cottonwood Cre	0.80	305	⇑P	Pg	16 41 34.0	-0.4
	baz=0.8,SNR=181						
CWC				⇑S	Sg	16 41 44.8	0.0
	baz=0.8						
SHOC	Shoshone	0.81	96	P	Pg	16 41 35.4	+0.6
	baz=0.8,SNR=136						
SHOC				⇑S	Sg	16 41 47.0	+1.7
	baz=0.8						
GRAC	Grapevine Rang	1.01	356	⇑P	Pg	16 41 38.7	0.0
	baz=1.0,SNR=53						
GRAC				⇑S	Sg	16 41 53.4	+1.5
	baz=1.0						
ISA	Isabella	1.03	252	P	Pg	16 41 38.0	-0.9
	baz=1.0,SNR=198						
ISA				⇓S	Sg	16 41 51.1	-1.2
	baz=1.0						
ISA	Isabella	1.03	252	ePg	Pg	16 41 37.9	-1.1
ISA				eSg	Sg	16 41 50.8	-1.5
RRX	Edison Barstow	1.13	169	⇓P	Pb	16 41 40.3	-0.3
	baz=1.1,SNR=69						
RRX				⇑S	Sb	16 41 56.1	+0.7
	baz=1.1						
TUQ	Turquoise Moun	1.23	116	P	Pn	16 41 42.5	+0.1
	baz=1.3,SNR=572						
TUQ				⇑S	Sb	16 41 59.7	+1.4
	baz=1.3						
EDW2	Edwards Air Fo	1.25	208	P	Pn	16 41 41.7	-1.0
	baz=1.2,SNR=663						
EDW2				⇑S	Sb	16 41 58.3	-0.6
	baz=1.2						
TIN	Tinemaha	1.31	324	⇑P	Pn	16 41 43.3	-0.3
	baz=1.3,SNR=20						
TIN				⇑S	Sb	16 42 01.2	+0.3
	baz=1.3						
HEC	Hector,Ludlow	1.39	146	P	Pn	16 41 44.4	-0.1
	baz=1.4,SNR=323						
HEC				⇑S	Sb	16 42 03.2	+0.3
	baz=1.4						
VES	Vestal, Richgr	1.48	265	⇑Pg	Pg	16 41 46.4	-1.1
	baz=1.4,SNR=58						
VES				⇓Sb	Sb	16 42 05.7	+0.2
	baz=1.4						
ARVC	Arvin	1.53	236	⇓Pb	Pb	16 41 46.7	-0.9
	baz=1.5						
ARVC				⇑Sb	Sb	16 42 07.4	+0.3
	baz=1.5						
BBRC	Big Bear Solar	1.74	170	⇓Pg	Pg	16 41 52.2	-0.4
	baz=1.7						
BBRC				⇑Sb	Sb	16 42 14.2	+1.0
	baz=1.7						
BFSC	Mount Baldy Ra	1.77	190	⇓P	Pn	16 41 49.6	-0.3
	baz=1.8,SNR=35						
BFSC				⇑Sb	Sb	16 42 14.9	+1.0
	baz=1.8						
GMRC	Granite Mounta	1.79	132	P	Pn	16 41 49.5	-0.5
	baz=1.8,SNR=240						
GMRC				⇑Sb	Sb	16 42 16.0	+1.6
	baz=1.8						
OSI	Osito Adit	1.81	221	⇓Pb	Pb	16 41 51.9	-0.5
	baz=1.8						
OSI				⇓Sb	Sb	16 42 15.7	+0.6
	baz=1.8						
OSI	Osito Adit	1.81	221	ePn	Pn	16 41 49.9	-0.5
OSI				eS	Sn	16 42 14.5	+1.1
MWC	Mount Wilson	1.87	200	ePn	Pn	16 41 51.2	-0.1
MWC				ePg	Pg	16 41 53.8	-1.3
MWC				eSg	Sg	16 42 18.2	-1.2
DECC	Green Verdugo	1.94	207	⇓Sb	Sb	16 42 19.4	+0.7
	baz=1.9						
PASC	Pasadena Art C	1.96	203	ePn	Pn	16 41 52.0	-0.4
PASC				eSg	Sn	16 42 19.9	+2.8
LDFC	Landfair	1.98	117	ePn	Pn	16 41 51.9	-0.8
LDFC				eSg	Sn	16 42 19.4	+1.8
BELC	Belle Mtn. Jos	2.24	152	P	Pn	16 41 56.5	+0.2
	baz=2.2,SNR=264						
BELC				⇑Sb	Sb	16 42 29.6	+2.2
	baz=2.2						
SMMC	Simmler	2.32	254	⇑Sb	Sb	16 42 31.3	+1.5
	baz=2.3						
PKM	Peak Mountain	2.35	243	⇑Sb	Sb	16 42 32.0	+1.5
	baz=2.3						
BLG	Laguna Peak	2.38	219	⇓Sb	Sb	16 42 33.1	+1.6
	baz=2.3						
MURC	Murrieta	2.38	179	⇓P	Pn	16 41 58.5	+0.3
	baz=2.4,SNR=52						
MURC				⇓Sb	Sg	16 42 33.9	-1.8
	baz=2.4						
PFO	Pinyon Flat Ob	2.46	164	P	Pn	16 41 59.4	+0.1
	baz=2.5,SNR=11						
PFO				⇑S	Sn	16 42 29.4	-0.2
	baz=2.5						
PFO	Pinyon Flat Ob	2.46	164	ePn	Pn	16 41 59.1	-0.3
PFO				ePg	Pg	16 42 05.0	-1.4
NEE2	Needles Airpor	2.49	119	⇓P	Pn	16 41 59.5	-0.1
	baz=2.5						
NEE2				⇑Sb	Sg	16 42 38.0	-1.0
	baz=2.5						
IRM	Iron Mountain	2.52	136	P	Pn	16 41 59.8	-0.3
	baz=2.5,SNR=23						
IRM				⇑Sb	Sg	16 42 39.2	-0.9
	baz=2.5						
SBC	Santa Barbara	2.52	233	⇓Sg	Sg	16 42 41.3	+1.1
	baz=2.5						
R11A	Troy Canyon, C	2.72	29	⇓P	Pn	16 42 03.7	+0.9
	baz=2.8,SNR=13						
R11A				⇑Sb	Sg	16 42 44.8	-1.6
	baz=2.8						
CIS	Catalina Islan	2.74	200	⇓Sb	Sb	16 42 44.8	+3.0
	baz=2.7						
BC3	Big Chuckawall	2.77	147	P	Pn	16 42 03.2	-0.3
	baz=2.8,SNR=12						
W13A	Hualapai Mount	2.90	107	⇓P	Pn	16 42 05.7	+0.3
	baz=2.9,SNR=10.0						
Y12C	Blythe	3.17	134	⇑P	Pn	16 42 08.8	-0.4
	baz=3.2,SNR=13						
CMB	Columbia Colle	3.22	310	ePn	Pn	16 42 11.0	+1.2
CMB				ePg	Pg	16 42 15.8	-5.0
CMB				eSg	Sg	16 42 56.9	-5.8
SWSC	Sam W. Stewart	3.27	158	⇓P	Pn	16 42 09.6	-0.9
	baz=3.3,SNR=6.8						
BAR	Barrett	3.33	171	ePn	Pn	16 42 11.6	+0.2
BAR				ePg	Pg	16 42 19.1	-3.9
SAO	San Andreas Ge	3.46	284	eP	Pn	16 42 17.3	+4.3
CCUT	Cedar City	3.51	62	ePn	Pn	16 42 15.7	+2.0
CCUT				ePg	Pg	16 42 25.2	-1.1
GLA	Glamis	3.56	145	⇑P	Pn	16 42 13.7	-0.7
	baz=3.6,SNR=14						
GLA	Glamis	3.56	145	ePn	Pn	16 42 13.3	-1.1
GLA				Pg	Pg	16 42 25.4	-1.9
GLA				eSg	Sg	16 43 11.1	-2.3
ARUT	Antelope Range	3.56	59	ePn	Pn	16 42 15.8	+1.4
ARUT				ePg	Pg	16 42 26.8	-0.5
Z13A	Yuma Proving G	4.08	132	⇑P	Pn	16 42 21.2	-0.3
	baz=4.1,SNR=19						
BMN	Battle Mountai	4.44	0	Pn	Pn	16 42 30.0	+3.5
BMN				ePg	Pg	16 42 42.0	-2.2
MSU	Marysvale	4.78	57	ePg	Pg	16 42 49.0	-1.8
WUAZ	Wupatki	4.82	94	ePg	Pg	16 42 48.1	-3.4
115A	Sonoran Desert	5.31	127	⇓P	Pn	16 42 38.9	+0.5
	baz=5.3						
DUG	Dugway	5.48	39	ePg	Pg	16 43 01.6	-2.5
	16nm,0.8s						
HHC	Hu-ho-hao-te	91.36	325	eP	P	16 54 27.4	+2.2
HHC				PP	PP	16 58 05.5	+3.6
HHC				SKS		17 04 58.2	
HHC				S	S	17 05 24.4	+0.1
HHC				ScS	ScS	17 05 25.5	-1.8
HHC				SS	SS	17 11 30.7	+2.6
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,9.5s						
HHC				LR	LR		

TUQ			⇑S		Sb	16 53 49.6 +1.1
	baz=1.3					
EDW2	**Edwards Air Fo**	**1.24 208**	⇑P		**Pn**	**16 53 31.2 -1.2**
	baz=1.2,SNR=510					
EDW2			⇑S		**Sb**	**16 53 48.4 -0.1**
	baz=1.2					
TIN	**Tinemaha**	**1.31 325**	⇑P		**Pn**	**16 53 33.3 -0.1**
	baz=1.3					
TIN			⇑S		**Sb**	**16 53 51.1 +0.6**
	baz=1.3					
HEC	**Hector,Ludlow**	**1.39 145**	P		**Pn**	**16 53 33.9 -0.5**
	baz=1.4,SNR=246					
HEC			⇑S		**Sb**	**16 53 54.3 +1.4**
	baz=1.4					
VES	**Vestal, Richgr**	**1.46 265**	⇓P		**Pn**	**16 53 35.5 0.0**
	baz=1.4					
VES			⇓S		**Sn**	**16 53 55.3 +0.6**
	baz=1.4					
ARVC	**Arvin**	**1.52 236**	⇓P		**Pn**	**16 53 36.4 +0.2**
	baz=1.5,SNR=44					
ARVC			⇓S		**Sn**	**16 53 57.2 +1.2**
	baz=1.5					
RCTC	**Rector, Farmer**	**1.61 282**	⇑P		**Pn**	**16 53 38.2 +0.7**
	baz=1.6					
RCTC			⇑S		**Sn**	**16 53 59.6 +1.2**
	baz=1.6					
BBRC	**Big Bear Solar**	**1.74 170**	⇓P		**Pn**	**16 53 39.1 -0.2**
	baz=1.7					
BBRC			⇑S		**Sn**	**16 54 04.1 +2.5**
	baz=1.7					
BFSC	**Mount Baldy Ra**	**1.77 190**	⇑P		**Pn**	**16 53 39.3 -0.4**
	baz=1.8,SNR=53					
BFSC			⇓S		**Sn**	**16 54 04.4 +2.3**
	baz=1.8					
GMRC	**Granite Mounta**	**1.79 132**	P		**Pn**	**16 53 39.0 -1.0**
	baz=1.8,SNR=162					
GMRC			⇑S		**Sn**	**16 54 05.3 +2.5**
	baz=1.8					
OSI	**Osito Adit**	**1.80 221**	⇑P		**Pn**	**16 53 39.6 -0.5**
	baz=1.8					
OSI			⇑Sb		**Sb**	**16 54 06.2 +1.5**
	baz=1.8					
OSI	**Osito Adit**	**1.80 221**	*e*Pn		**Pn**	**16 53 39.7 -0.4**
OSI			*e*Sg		**Sg**	**16 54 05.7 -1.1**
MWC	**Mount Wilson**	**1.86 200**	*e*Pn		**Pn**	**16 53 40.6 -0.4**
MWC			*e*Sg		**Sg**	**16 54 07.9 -1.1**
DECC	**Green Verdugo**	**1.93 207**	⇑Sb		**Sb**	**16 54 10.3 +1.9**
	baz=1.9					
PASC	**Pasadena Art C**	**1.95 202**	*e*Pn		**Pn**	**16 53 41.7 -0.5**
PASC			*e*Sg		**Sg**	**16 54 09.2 -2.5**
LDFC	**Landfair**	**2.00 116**	*e*Pn		**Pn**	**16 53 41.5 -1.3**
LDFC			*e*Pg		**Pg**	**16 53 44.9 -2.3**
LDFC			*e*Sn		**Sn**	**16 54 08.9 +1.1**
BELC	**Belle Mtn. Jos**	**2.24 151**	P		**Pn**	**16 53 46.0 -0.2**
	baz=2.2,SNR=1000					
BELC			⇓Sb		**Sb**	**16 54 20.6 +3.1**
	baz=2.2					
SMMC	**Simmler**	**2.31 254**	⇓Sb		**Sb**	**16 54 21.3 +2.1**
	baz=2.3					
PKM	**Peak Mountain**	**2.33 243**	⇓Sb		**Sb**	**16 54 22.0 +2.0**
	baz=2.3					
MURC	**Murrieta**	**2.38 178**	P		**Pn**	**16 53 48.1 +0.1**
	baz=2.4,SNR=31					
PFO	**Pinyon Flat Ob**	**2.47 164**	P		**Pn**	**16 53 48.9 -0.3**
	baz=2.5,SNR=20					
PFO	**Pinyon Flat Ob**	**2.47 164**	*e*Pn		**Pn**	**16 53 48.9 -0.3**
PFO			*e*Pg		**Pg**	**16 53 54.5 -1.8**
PFO			*e*Sg		**Sg**	**16 54 27.0 -1.3**
IRM	**Iron Mountain**	**2.53 135**	P		**Pn**	**16 53 49.3 -0.8**
	baz=2.5,SNR=58					
R11A	**Troy Canyon, C**	**2.73 29**	P		**Pn**	**16 53 53.1 +0.3**
	baz=2.8,SNR=46					
CIS	**Catalina Islan**	**2.73 200**	⇑P		**Pn**	**16 53 52.7 -0.1**
	baz=2.7,SNR=11					
BC3	**Big Chuckawall**	**2.77 146**	P		**Pn**	**16 53 52.7 -0.7**
	baz=2.8,SNR=59					
W13A	**Hualapai Mount**	**2.91 107**	P		**Pn**	**16 53 55.6 +0.2**
	baz=2.9,SNR=20					
109C	**Camp Elliot, M**	**3.09 177**	⇓P		**Pn**	**16 53 57.9 +0.1**
	baz=3.1					
MONP	**Monument Peak**	**3.17 167**	⇑P		**Pn**	**16 53 58.9 0.0**
	baz=3.2,SNR=7.0					
Y12C	**Blythe**	**3.18 134**	P		**Pn**	**16 53 58.4 -0.7**
	baz=3.2,SNR=22					
CMB	**Columbia Colle**	**3.21 310**	*e*Pg		**Pn**	**16 54 05.5 +6.0**
CMB			*e*Sg		**Sn**	**16 54 45.9 +8.0**
SWSC	**Sam W. Stewart**	**3.28 157**	P		**Pn**	**16 53 59.2 -1.2**
	baz=3.3,SNR=14					
BAR	**Barrett**	**3.33 171**	*e*Pn		**Pn**	**16 54 01.2 0.0**
BAR			*e*Pg		**Pg**	**16 54 08.4 -4.5**
BAR			*e*Sg		**Sg**	**16 54 49.9 -6.2**
SAO	**San Andreas Ge**	**3.44 284**	*e*Pg		**Pn**	**16 54 06.6 +3.9**
CCUT	**Cedar City**	**3.52 62**	*e*Pn		**Pn**	**16 54 05.1 +1.4**
CCUT			*e*Pg		**Pg**	**16 54 14.9 -1.6**
GLA	**Glamis**	**3.56 144**	P		**Pn**	**16 54 03.2 -1.1**
	baz=3.6,SNR=62					
GLA	**Glamis**	**3.56 144**	*e*Pn		**Pn**	**16 54 03.1 -1.2**
GLA			*e*Pg		**Pg**	**16 54 14.2 -3.1**
ARUT	**Antelope Range**	**3.57 59**	*e*Pn		**Pn**	**16 54 05.2 +0.7**
ARUT			*e*Pg		**Pg**	**16 54 15.2 -2.2**
U15A	**North Rim**	**4.07 82**	⇑P		**Pn**	**16 54 12.9 +1.7**
	baz=4.1					
Z13A	**Yuma Proving G**	**4.08 132**	⇓P		**Pn**	**16 54 10.7 -0.8**
	baz=4.1,SNR=43					
SAC	**San Andreas**	**4.41 293**	Pn		**Pn**	**16 54 14.6 -1.4**
SAC			*e*Pg		**Pg**	**16 54 32.2 -1.3**
Z14A	**Wintersburg**	**4.43 125**	⇓P		**Pn**	**16 54 16.2 -0.1**
	baz=4.4,SNR=5.3					
BMN	**Battle Mountai**	**4.44 1**	*e*Pn		**Pn**	**16 54 17.6 +1.2**
MSU	**Marysvale**	**4.80 57**	Pn		**Pn**	**16 54 23.6 +2.4**
MSU			*e*Pg		**Pg**	**16 54 38.4 -2.5**
WUAZ	**Wupatki**	**4.83 94**	*e*Pn		**Pn**	**16 54 23.7 +1.9**
WUAZ			*e*Pg		**Pg**	**16 54 37.9 -3.8**
WUAZ			*e*Sg		**Sg**	**16 55 41.3 -2.9**
114A	**Black Gap (USA**	**4.87 130**	⇑P		**Pn**	**16 54 21.6 -0.7**
	baz=4.9,SNR=6.2					
Y16A	**Circle Bar Ran**	**5.21 112**	⇑P		**Pn**	**16 54 28.2 +1.2**
	baz=5.2					
115A	**Sonoran Desert**	**5.32 127**	⇓P		**Pn**	**16 54 28.7 +0.3**
	baz=5.3,SNR=16					
Y17A	**Roosevelt**	**5.77 111**	⇑P		**Pn**	**16 54 35.8 +1.1**
	baz=5.8					
TMUT	**Trail Mountain**	**5.85 54**	*e*Pg		**Pg**	**16 54 58.4 -2.6**
	21nm,0.5s					
MPU	**Maple Canyon**	**6.01 46**	*e*Pg		**Pg**	**16 55 03.3 -0.9**
	14nm,0.4s					
SRU	**San Rafael**	**6.22 58**	*e*Pn		**Pn**	**16 54 41.9 +1.1**
	26nm,0.7s					
MOD	**Modoc**	**6.36 339**	*e*Pg		**Pg**	**16 55 10.5 -0.3**
	24nm,1.3s					
DAU	**Daniels Canyon**	**6.49 45**	*e*Pg		**Pg**	**16 55 12.1 -1.2**
	37nm,1.1s					
JLU	**Jordanelle**	**6.51 43**	*e*Pg		**Pg**	**16 55 12.2 -1.3**
	18nm,0.8s					
TUC	**Tucson**	**6.52 122**	*e*Pn		**Pn**	**16 54 45.0 0.0**
	4.7nm,0.6s					
PV04	**Paradox Valley**	**7.11 68**	*e*Pn		**Pn**	**16 54 55.8 +2.7**
MVCO	**Mesa Verde**	**7.18 78**	Pn		**Pn**	**16 54 53.7 -0.3**
	38nm,0.8s					
HHC	**Hu-ho-hao-te**	**91.36 325**	*e*P		**P**	**17 06 16.9 +1.8**
HHC			PP		PP	17 09 55.1 +3.4
HHC			SKS			17 16 47.8
HHC			S		S	17 17 14.0 -0.2
HHC			SS		SS	17 23 18.1 +0.2
HHC			pmax		pmax	
	comp=Z,11nm,1.1s					
HHC			pmax		pmax	
	comp=Z,130nm,7.1s					
HHC			LR		LR	
	comp=N,150nm,14.3s					
HHC			LR		LR	
	comp=E,230nm,14.3s					
HHC			LR		LR	
	comp=Z,110nm,13.1s					
WMQ	**Urumqi**	**97.39 342**	*e*P		**P**	**17 06 45.0 +2.4**

IDC ***02*** *16:59:48.3±0.7, 30°.18S×177°.02W, h0km, mb4.3/9, mb1 4.5/11, mb1mx4.3/18, mbtmp4.3/11, ML4.0/2, MS4.1/2, Ms1 4.1/2, ms1mx3.3/27, Error ellipse: s-maj=23.0km s-min=19.8km az=127.0*

ISCJB ***02*** *16:59:52.0±0.7, 30°.30S±0°.06×177°.2W±0°.1, h33km, mb4.3/10, MS4.2/2, Error ellipse: s-maj=14.6km s-min=8.6km az=10.4*

NEIC ***02*** *16:59:53.8±0.6, 30°.06S×177°.03W, h35km, mb4.5/2, Error ellipse: s-maj=19.1km s-min=15.1km az=187.0*

ISC 02 16:59:53.7±0.7, 30°.22S±0°.06×177°.2W±0°.1, h35km, n47, σ1♀22/34, mb4.3/10, MS4.2/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.17**	**326**	*e*P	**Pn**	**17 00 12.5**	**-1.0**
URZ	**Urewera**	**9.31**	**209**	Pn	**Pn**	**17 02 03.1**	**-2.3**
	0.7nm,0.3s,baz=85,slow=12,SNR=4.2						
URZ				Sn	**Sn**	**17 03 50.3**	**+1.5**
	1.7nm,0.3s,baz=280,slow=22,SNR=4.8						
URZ	**Urewera**	**9.31**	**209**	*e*P	**Pn**	**17 02 03.0**	**-2.3**
URZ				Sn	**Sn**	**17 03 50.3**	**+1.5**
KHZ	**Kahutara**	**14.28**	**209**	*e*P	**Pn**	**17 03 07.7**	**-5.6**
RPZ	**Rata Peaks**	**16.41**	**212**	Pn	**Pn**	**17 03 39.5**	**-1.6**
	1.0nm,0.3s,baz=224,slow=5.7,SNR=3.3						
RPZ	**Rata Peaks**	**16.41**	**212**	Pn	**Pn**	**17 03 39.5**	**-1.6**
ODZ	**Otahua Downs**	**17.64**	**210**	*e*P	**Pn**	**17 03 54.3**	**-2.2**
ARMA	**Armidale**	**26.90**	**262**	*e*P	**P**	**17 05 35.8**	**+4.4**
CTA	**Charters Tower**	**34.48**	**278**	*e*P	**P**	**17 06 40.4**	**+2.0**
	3.9nm,0.8s,mb4.4,baz=110,slow=11,SNR=3.1						
CTA	**Charters Tower**	**34.48**	**278**	P	**P**	**17 06 40.4**	**+2.0**
CTAO	**Charters Tower**	**34.48**	**278**	*e*P	**P**	**17 06 40.3**	**+1.9**
	6.6nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**35.22**	**257**	P	**P**	**17 06 47.5**	**+2.8**
	3.6nm,0.7s,mb4.4,baz=91,slow=10,SNR=9.0						
STKA	**Stephens Creek**	**35.22**	**257**	*e*P	**P**	**17 06 47.5**	**+2.9**
AS31	**Alice Springs**	**43.84**	**266**	*e*P	**P**	**17 07 57.1**	**+0.6**
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**17 07 56.9**	**+0.3**
	5.1nm,0.8s,mb4.3,baz=104,slow=7.6,SNR=62						
ASAR				PcP	PcP	17 09 42.6	0.0
	0.6nm,0.9s,baz=92,slow=5.3,SNR=4.2						
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**17 07 56.9**	**+0.3**
ASAR				PcP	PcP	17 09 42.6	0.0
WB2	**Warramunga Arr**	**44.80**	**272**	*e*P	**P**	**17 08 04.0**	**-0.3**
WRAB	**Tennant Creek**	**44.80**	**272**	*e*P	**P**	**17 08 03.5**	**-0.9**
	4.7nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**44.81**	**272**	P	**P**	**17 08 04.0**	**-0.4**
	3.5nm,0.7s,mb4.3,baz=110,slow=8.1,SNR=50						
WRA	**Warramunga Arr**	**44.81**	**272**	P	**P**	**17 08 04.0**	**-0.4**
GUMO	**Guam**	**56.87**	**314**	LR	LR	17 29 13.2	
	comp=Z,78nm,18.3s,MS3.8,baz=180,slow=31						
QSPA	**South Pole Qui**	**59.89**	**180**	P	**P**	**17 09 57.1**	**+1.8**
	1.3nm,0.7s,mb4.1,baz=55,slow=3.8,SNR=8.6						
QSPA	**South Pole Qui**	**59.89**	**180**	P	**P**	**17 09 57.1**	**+1.8**
VNA3	**Neumayer Olymp**	**78.43**	**176**	*e*	**P**	**17 11 50.3**	**0.0**
MJAR	**Matsushiro Arr**	**78.51**	**325**	P	**P**	**17 11 50.8**	**-0.4**
	2.7nm,0.8s,mb4.2,baz=144,slow=5.1,SNR=5.7						
MJAR	**Matsushiro Arr**	**78.51**	**325**	P	**P**	**17 11 50.8**	**-0.4**
VNA2	**Neumayer--Watz**	**78.88**	**177**	*e*	**P**	**17 11 53.1**	**+0.3**
	baz=190,slow=2.6						
PLCA	**Paso Flores**	**82.10**	**133**	P	**P**	**17 12 10.7**	**0.0**
	2.7nm,0.9s,mb4.2,baz=287,slow=4.9,SNR=5.5						
PLCA	**Paso Flores**	**82.10**	**133**	P	**P**	**17 12 10.7**	**0.0**
PETK	**Petropavlovsk-**	**85.82**	**345**	P	**P**	**17 12 29.7**	**+0.7**
	2.3nm,0.8s,mb4.5,baz=143,slow=8.0,SNR=5.2						
PETK	**Petropavlovsk-**	**85.82**	**345**	P	**P**	**17 12 29.7**	**+0.7**
NVAR	**Mina Array Bea**	**87.62**	**42**	P	**P**	**17 12 37.9**	**-0.3**
	1.3nm,0.9s,mb4.2,baz=226,slow=8.0,SNR=5.9						
NVAR	**Mina Array Bea**	**87.62**	**42**	P	**P**	**17 12 37.9**	**-0.3**
JTS	**JuntasAbangare**	**97.00**	**82**	LR	LR	17 47 38.7	
	comp=Z,161nm,20.5s,MS4.5,baz=31,slow=30						
JOF	**Joensuu**	**142.51**	**339**	*e*pkp	PKPdf	17 19 25.4	+3.4
KAF	**Kangasniemi**	**144.62**	**341**	*e*pkp	PKPdf	17 19 23.8	-1.9
FINES	**FINESS Array B**	**145.22**	**341**	PKPbc	PKPbc	17 19 25.6	-0.9
	12nm,0.8s,baz=56,slow=7.1,SNR=13						
FINES	**FINESS Array B**	**145.22**	**341**	PKPbc	PKPbc	17 19 25.6	-0.9
NOA	**NORSAR Array B**	**148.68**	**352**	PKPbc	PKPbc	17 19 36.1	-0.3
	1.4nm,0.8s,baz=0.4,slow=4.0,SNR=4.2						
NOA	**NORSAR Array B**	**148.68**	**352**	PKPbc	PKPbc	17 19 36.1	-0.3
AKASG	**Malin Array Be**	**151.59**	**324**	PKPbc	PKPbc	17 19 43.4	-0.4
	5.5nm,0.9s,baz=49,slow=2.5,SNR=14						
AKASG				PKPab	PKPab	17 19 51.7	-0.7
	1.0nm,0.6s,baz=51,slow=3.3,SNR=4.9						
AKASG	**Malin Array Be**	**151.59**	**324**	PKPbc	PKPbc	17 19 43.4	-0.4
AKASG				PKPab	PKPab	17 19 51.7	-0.7
BRTR	**Keskin Array B**	**153.15**	**299**	PKPbc	PKPbc	17 19 47.6	0.0
	1.0nm,0.8s,baz=134,slow=3.6,SNR=5.5						
BRTR				PKPab	PKPab	17 20 00.3	+0.9
	1.2nm,0.8s,baz=46,slow=3.6,SNR=5.7						
BRTR	**Keskin Array B**	**153.15**	**299**	PKPbc	PKPbc	17 19 47.6	0.0
BRTR				PKPab	PKPab	17 20 00.3	+0.9
CLL	**Collm**	**157.62**	**343**	*e*PKPab	PKPab	17 20 18.0	0.0
GERES	**GERESS Array B**	**159.64**	**339**	PKPab	PKPab	17 20 28.1	+1.3
	0.7nm,0.7s,baz=27,slow=9.0,SNR=4.9						
GERES	**GERESS Array B**	**159.64**	**339**	PKPab	PKPab	17 20 28.1	+1.3

SZGRF ***02*** *17:05:47.9, 23°.13S×168°.18E, h124km, New Caledonia*

NOU ***02*** *17:05:48.3±0.8, 19°.38S×169°.22E, h10km, ML4.5*

LDG ***02*** *17:05:51.4±0.2, 20°.01S×169°.60E, h110km, Mb5.0/3, Ms4.1/5, Error ellipse: s-maj=17.2km s-min=4.1km az=135.0*

ISCJB ***02*** *17:05:52.1±0.1, 20°.34S±0°.04×169°.60E±0°.03, h123km, mb4.9/67, Error ellipse: s-maj=6.4km s-min=3.4km az=154.0*

NEIC ***02*** *17:05:53.4±0.2, 20°.36S×169°.63E, mb5.0/37, Error ellipse: s-maj=6.5km s-min=5.7km az=160.0*

IDC ***02*** *17:05:53.5±0.5, 20°.36S×169°.61E, h126km±3km, mb4.5/23, mb1 4.6/26, mb1mx4.6/27, mbtmp4.6/26, MS4.1/5, Ms1 4.1/5, ms1mx3.6/19, Error ellipse: s-maj=11.4km s-min=9.3km az=158.0*

GCMT ***02*** *17:05:55.9±0.3, 20°.40S×169°.69E, h141km±2km, MW5.1, Moment Tensor Solution. s34,c40; s78,c99; Moment tensor: Scale 10^16^Nm; Mrr=3.43±.15; Mθθ=0.90±.21; Mφφ=4.32±.21; Mrθ=0.19±.13; Mrφ=-1.31±.21; Mθφ=2.66±.14; Best double couple: M0=4.90000×10^16^ NP1:φs=330.00000°, δ=31.00000°, λ=-115.00000°. NP2:φs=179.00000°, δ=62.00000°, λ=-76.00000°. Principal axes: T 5.3700, Plg=16.0000°, Azm=259.0000°; N -1.0300, Plg=13.0000°, Azm=352.0000°; P -4.3500, Plg=69.0000°, Azm=119.0000°; Data Used: II IU G IC CN.*

MOS ***02*** *17:05:56.8±3.2, 20°.18S×169°.48E, h146km, mb5.1/22 Error ellipse: s-maj=9.5km s-min=8.3km az=29.0*

VIE ***02*** *17:05:56.9, 20°.30S×169°.70E, h163km, mb5.0 319 km SSE of Port Vila*

BJI ***02*** *17:05:59.9, 19°.43S×169°.51E, h163km, mB4.9/23, mb4.9/41*

DJA ***02*** *17:06:02, 20°.51S×169°.51E, h200km, mb4.7/9*

ISC 02 17:05:53.6±0.1, 20°.37S±0°.04×169°.63E±0°.03, h125km, h125km±1.4km:pP-P, n484, σ0♀71/279, mb4.9/67, 63C-44D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.11**	**235**	*e*P	**Pn**	**17 06 41.5**	**0.0**
	comp=Z,448nm,1.4s						
BAYA				AMP		17 07 20.5	
	comp=Z,448nm,1.4s						
PLUM	**Mont Dore**	**3.37**	**235**	AMP		17 07 30.4	
	comp=Z,4μm,1.7s						
DZM	**Mont Dzumac**	**3.42**	**240**	*e*Pn	**Pn**	**17 06 46.0**	**+0.4**
DZM				*e*Sn	**Sn**	**17 07 26.0**	**+0.3**
	comp=Z,3μm,0.2s						
DZM	**Mont Dzumac**	**3.42**	**240**	*e*P	**Pn**	**17 06 43.9**	**-1.7**
DZM				*e*S	**Sn**	**17 07 25.1**	**-0.7**
DZM				AMP		17 07 32.6	
	comp=Z,21μm,3.4s						
NORM	**Noumea**	**3.47**	**237**	AMP		17 07 27.7	
	comp=Z,4μm,5.8s						
NOUC	**Port Laguerre**	**3.55**	**240**	*e*P	**Pn**	**17 06 46.3**	**-1.0**
NOUC				*e*S	**Sn**	**17 07 29.7**	**+0.9**
NOUC				AMP		17 07 42.1	
	comp=Z,1μm,1.7s						
MSVF	**Nonsavu**	**8.39**	**73**	⇑*i*P	**Pn**	**17 07 54.4**	**+2.0**
	comp=Z,362nm,1.4s						
MSVF	**Nonsavu**	**8.39**	**73**	Pn	**Pn**	**17 07 55.0**	**+2.6**
	comp=Z,944nm,1.0s,SNR=19						
MSVF	**Nonsavu**	**8.39**	**73**	⇑*i*P	**Pn**	**17 07 54.4**	**+2.0**
MSVF				pmax	pmax		
	comp=Z,362nm,1.4s						
HNR	**Honiara**	**14.33**	**318**	P	**Pn**	**17 09 12.3**	**+1.5**
	comp=Z,6.7nm,0.3s,baz=75,slow=5.4,SNR=8.0						
HNR	**Honiara**	**14.33**	**318**	P	**Pn**	**17 09 12.3**	**+1.5**
HNR				*e*Pn	**Pn**	**17 09 13.3**	**+2.5**
HNR	**Honiara**	**14.33**	**318**	P	**Pn**	**17 09 12.3**	**+1.5**
FUNA	**Funafuti**	**14.97**	**40**	P	**Pn**	**17 09 17.8**	**-1.1**
OUZ	**Omahuta**	**15.21**	**168**	*e*P	**Pn**	**17 09 22.2**	**+0.5**
	comp=Z,62nm,0.9s						
EIDS	**Eidsvold**	**17.80**	**250**	*e*P	**Pn**	**17 09 54.6**	**+1.2**
	comp=Z,152nm,1.4s						
AFI	**Afiamalu**	**18.89**	**73**	P	**P**	**17 10 04.4**	**-0.1**
	comp=Z,4.5nm,0.3s,baz=46,slow=16,SNR=4.1						
AFI	**Afiamalu**	**18.89**	**73**	P	**P**	**17 10 04.4**	**-0.1**
AFI	**Afiamalu**	**18.89**	**73**	P	**P**	**17 10 04.4**	**0.0**
URZ	**Urewera**	**18.98**	**162**	P	**P**	**17 10 05.8**	**+0.6**
	comp=Z,9.4nm,0.3s,baz=345,slow=2.9,SNR=52						
URZ	**Urewera**	**18.98**	**162**	*e*P	**P**	**17 10 05.7**	**+0.5**
	comp=Z,57nm,0.6s						
ARMA	**Armidale**	**19.07**	**235**	*e*P	**P**	**17 10 09.2**	**+2.9**
ARMA				*e*S	**S**	**17 13 49.9**	**+14**
ARMA	**Armidale**	**19.07**	**235**	*e*P	**P**	**17 10 09.1**	**+2.8**
	comp=Z,76nm,1.0s						
SNZO	**South Karori**	**21.32**	**169**	*e*P	**P**	**17 10 30.4**	**0.0**
CTA	**Charters Tower**	**21.93**	**267**	P	**P**	**17 10 38.3**	**+1.2**
	comp=Z,19nm,0.5s,mb4.7,baz=87,slow=12,SNR=29						
CTA	**Charters Tower**	**21.93**	**267**	*e*P	**P**	**17 10 38.3**	**+1.2**
	comp=Z,21nm,0.8s,mb4.5						
CTA				*e*pP		17 11 04.8	
CTA				*e*S	**S**	**17 14 33.9**	**+2.6**
CTA	**Charters Tower**	**21.93**	**267**	P	**P**	**17 10 38.3**	**+1.2**
CTA	**Charters Tower**	**21.93**	**267**	P	**P**	**17 10 38.3**	**+1.2**
CTAO	**Charters Tower**	**21.93**	**267**	*e*P	**P**	**17 10 38.5**	**+1.5**
	comp=Z,67nm,1.1s,mb4.9						
CTAO				*e*pP		17 11 04.7	
CTAO	**Charters Tower**	**21.93**	**267**	*e*P	**P**	**17 10 38.5**	**+1.4**
CTAO				*e**PP		17 11 04.7	
CTAO				pmax	pmax		
	comp=Z,67nm,1.1s,mb4.9						
CTAO	**Charters Tower**	**21.93**	**267**	P	**P**	**17 10 38.0**	**+0.9**
	comp=Z,848nmcomp=Z,55nm,1.2s,mb4.8						
CNB	**Canberra Magne**	**23.23**	**226**	⇑*i*P	**P**	**17 10 50.8**	**+1.2**
	comp=Z,55nm,0.4s,mb5.2						
RPZ	**Rata Peaks**	**23.31**	**177**	P	**P**	**17 10 50.9**	**+0.6**
	comp=Z,24nm,0.7s,mb4.6,baz=57,slow=1.4,SNR=12						
RPZ	**Rata Peaks**	**23.31**	**177**	*e*P	**P**	**17 10 50.3**	**+0.1**
	comp=Z,38nm,1.0s,mb4.7						
RPZ				*e*pP		17 11 18.9	
QLP	**Quilpie**	**24.07**	**250**	*e*P	**P**	**17 10 57.7**	**+0.3**
QLP				*e*pP		17 11 25.6	
PMG	**Port Moresby**	**24.26**	**293**	P	**P**	**17 10 59.6**	**+0.4**
	comp=Z,21nm,0.8s,mb4.5,baz=125,slow=7.4,SNR=8.2						
PMG	**Port Moresby**	**24.26**	**293**	*e*P	**P**	**17 10 59.5**	**+0.3**
	comp=Z,29nm,1.1s,mb4.5						
PMG	**Port Moresby**	**24.26**	**293**	*c i*P	**P**	**17 10 59.8**	**+0.6**
PMG				pmax	pmax		
	comp=Z,26nm,1.2s						
PMG	**Port Moresby**	**24.26**	**293**	P	**P**	**17 11 00.7**	**+1.5**
	comp=Z,593nmcomp=Z,28nm,0.9s,mb4.6						
COEN	**Coen**	**26.04**	**280**	*e*P	**P**	**17 11 16.4**	**+1.1**
	comp=Z,73nm,0.9s,mb5.1						
COEN	**Coen**	**26.04**	**280**	P	**P**	**17 11 16.9**	**+1.5**
	comp=Z,24nm,1.4s,mb4.4						
STKA	**Stephens Creek**	**27.57**	**240**	P	**P**	**17 11 29.6**	**+0.7**
	comp=Z,13nm,0.7s,mb4.6,baz=82,slow=9.2,SNR=45						
STKA				PcP	PcP	17 14 42.9	-0.7
	comp=Z,7.5nm,1.0s,baz=112,slow=4.6,SNR=4.1						
STKA				LR	LR	17 20 12.4	
	comp=Z,287nm,21.0s,baz=43,slow=31						
STKA	**Stephens Creek**	**27.57**	**240**	*e*P	**P**	**17 11 29.4**	**+0.5**
	comp=Z,9.2nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**27.57**	**240**	*e*P	**P**	**17 11 29.3**	**+0.4**
	comp=Z,1.3nm,0.6s,mb3.6						
STKA				*e*pP	pP	17 11 57.0	+1.1
STKA				PcP	PcP	17 14 42.9	-0.7
STKA	**Stephens Creek**	**27.57**	**240**	*e*P	**P**	**17 11 29.3**	**+0.4**
STKA				*e**PP	pP	17 11 57.0	+1.1
STKA						17 14 42.9	
STKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RAR	**Rarotonga**	**28.60**	**97**	LR	LR	17 19 53.3	
	comp=Z,299nm,19.4s,baz=284,slow=29						
WB2	**Warramunga Arr**	**33.08**	**264**	*e*P	**P**	**17 12 16.3**	**-1.3**
WB2				*e*PcP	PcP	17 14 57.3	-1.0
WB2				*e*S	**S**	**17 17 25.6**	**-2.0**
WRAB	**Tennant Creek**	**33.08**	**265**	*e*P	**P**	**17 12 16.1**	**-1.5**
	comp=Z,5.6nm,0.6s,mb4.6						
WRAB				*e*S	**S**	**17 17 24.2**	**-3.4**
WRAB	**Tennant Creek**	**33.08**	**265**	P	**P**	**17 12 16.2**	**-1.4**
	comp=Z,70nm,1.2s,mb5.4,SNR=16						
WRAB	**Tennant Creek**	**33.08**	**265**	*e*P	**P**	**17 12 16.1**	**-1.5**
WRAB				*e*S	**S**	**17 17 24.2**	**-3.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**33.08**	**265**	P	**P**	**17 12 17.6**	**0.0**
	comp=Z,24nm,1

VNDA pmax pmax
comp=Z,13nm,1.0s
SBA Scott Base 57.55 181 *e*P **P 17 15 30.3 +0.8**
comp=Z,60nm,1.0s,mb5.6
SBA Scott Base 57.55 181 *e*P **P 17 15 30.3 +0.8**
SBA pmax pmax
comp=Z,60nm,1.0s,mb5.6
MJAR Matsushiro Arr 63.91 332 P **P 17 16 12.5 -0.6**
comp=Z,10nm,0.8s,mb4.7,baz=169,slow=7.8,SNR=22
MJAR Matsushiro Arr 63.91 332 P **P 17 16 12.5 -0.6**
MJAR Matsushiro Arr 63.91 332 P **P 17 16 12.5 -0.6**
MAJO Matsushiro 63.91 332 *e*P **P 17 16 12.5 -0.6**
comp=Z,9.4nm,0.6s,mb4.8
MAJO Matsushiro 63.91 332 *e*P **P 17 16 12.5 -0.6**
MAJO pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
MAT Matsushiro 63.91 332 P **P 17 16 12.7 -0.4**
MAT *e*S **S 17 24 34.0 -4.9**
KSRS Korea Array 69.64 326 P **P 17 16 49.2 -0.2**
comp=Z,3.1nm,1.1s,mb4.1,baz=158,slow=7.9,SNR=9.1
KSAR Wonju Array Be 69.65 326 P **P 17 16 49.2 -0.2**
KSAR Wonju Array Be 69.65 326 P **P 17 16 49.2 -0.2**
QSPA South Pole Qui 69.69 180 P **P 17 16 48.9 -0.3**
comp=Z,52nm,0.7s,mb5.5,baz=347,slow=0.8,SNR=214
QSPA South Pole Qui 69.69 180 *e*P **P 17 16 48.6 -0.5**
comp=Z,92nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 71.26 341 P **P 17 16 58.6 -0.4**
YSS Yuzh-Sakhalins 71.26 341 P **P 17 16 58.6 -0.4**
PSI Prapat 72.97 280 P **P 17 17 09.7 -0.3**
comp=Z,29nm,1.1s,mb5.0
WHN Wuhan 73.37 312 P **P 17 17 12.5 +0.5**
PETK Petropavlovsk- 73.89 353 P **P 17 17 14.3 -0.2**
comp=Z,5.2nm,0.8s,mb4.3,baz=170,slow=9.0,SNR=4.3
PETK Petropavlovsk- 73.89 353 P **P 17 17 14.3 -0.2**
PETK Petropavlovsk- 73.89 353 P **P 17 17 14.3 -0.1**
MDJ Mudanjiang 74.28 331 P **P 17 17 16.9 0.0**
MDJ pP pP 17 17 55.5 +7.3
MDJ sP sP 17 18 13.0 +11
MDJ PP PP 17 20 03.4 -1.4
MDJ S S 17 26 39.7 -0.9
MDJ sS sS 17 27 44.5 +10
MDJ pmax pmax
comp=Z,11nm,1.0s,mb4.5
MDJ pmax pmax
comp=Z,120nm,4.3s
MDJ Mudanjiang 74.28 331 *e*P **P 17 17 16.9 0.0**
HABR Khabarovsk 75.17 337 P **P 17 17 23.9 +1.9**
HABR *e* 17 17 34.4
HABR *e**SP sP 17 17 59.3 -7.4
HABR *e* 17 20 13.2
HABR *e* 17 27 26.8
HABR *e**SS sS 17 27 40.4 -3.9
HABR pmax pmax
comp=E,61nm,2.0s
HABR pmax pmax
comp=N,49nm,2.5s
HABR pmax pmax
comp=Z,69nm,2.5s,mb4.9
HABR MLR MLR
comp=Z,187nm,21.0s
CN2 Changchun 75.60 329 *e*P **P 17 17 24.9 +0.4**
CN2 *es*P sP 17 18 22.8 +13
CN2 *e*S S 17 26 54.4 -0.9
CN2 pmax pmax
comp=Z,30nm,0.7s,mb5.1
CN2 pmax pmax
comp=Z,200nm,3.0s
ENH Enshi 76.67 310 *e*P **P 17 17 30.2 -0.7**
comp=Z,61nm,1.6s,mb5.1
GYA Guiyang 76.76 305⇑ *i*P **P 17 17 32.0 +0.5**
GYA pP pP 17 18 13.2 +10
GYA sP sP 17 18 31.6 +15
GYA PP PP 17 20 30.0 +3.9
GYA S S 17 27 05.3 -3.3
GYA SKS 17 27 25.8
GYA sS sS 17 28 16.0 +13
GYA pmax pmax
comp=Z,20nm,1.0s,mb4.8
GYA pmax pmax
comp=Z,120nm,5.4s
KLR Kul'dur 77.04 336 *e*P **P 17 17 29.3 -3.2**
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.0
MAW Mawson 77.53 202 P **P 17 17 35.9 +0.7**
comp=Z,12nm,0.8s,mb4.7,baz=113,slow=8.1,SNR=15
MAW pP pP 17 18 07.3 +0.7
comp=Z,5.0nm,0.8s,baz=119,slow=12,SNR=2.9
MAW Mawson 77.53 202 *e*P **P 17 17 35.6 +0.5**
comp=Z,3.9nm,1.1s,mb4.0
MAW *e*pP pP 17 18 07.4 +0.7
MAW Mawson 77.53 202 *e*P **P 17 17 35.7 +0.6**
MAW *e**PP pP 17 18 07.4 +0.8
MAW pmax pmax
comp=Z,4.0nm,1.1s
BJT Baijiatuau 78.03 321 *e*P **P 17 17 38.2 -0.1**
BJT Baijiatuau 78.03 321 *e*P **P 17 17 38.2 0.0**
BJI Beijing 78.04 321 P **P 17 17 38.7 +0.4**
BJI sS sS 17 28 21.7 +5.5
BJI pmax pmax
comp=Z,26nm,0.8s,mb5.0
BJI pmax pmax
comp=Z,160nm,8.1s
XAN Xi'an 79.14 312 P **P 17 17 45.1 +0.6**
XAN pP pP 17 18 24.7 +8.6
XAN sP sP 17 18 39.5 +10
XAN pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
XAN pmax pmax
comp=Z,28nm,6.0s
KMI Kunming 79.17 302 P **P 17 17 46.4 +1.5**
KMI pmax pmax
comp=Z,29nm,1.0s,mb5.1
KMI Kunming 79.17 302 P **P 17 17 46.4 +1.5**
comp=Z,29nm,1.0s,mb5.1
KMI Kunming 79.17 302 P **P 17 17 46.4 +1.5**
KMI pmax pmax
comp=Z,29nm,1.0s,mb5.1
CHRT Chiangrai 79.20 296⇓P **P 17 17 45.5 +0.4**
comp=Z,147nm,1.7s,mb5.5
CM31 Chiang Mai Arr 79.30 294 *e*P **P 17 17 47.3 +1.6**
comp=Z,13nm,0.7s,mb4.9
CMAR Chiang Mai Arr 79.30 294 P **P 17 17 47.5 +1.8**
comp=Z,17nm,0.9s,mb4.9,baz=135,slow=4.4,SNR=104
CMAR pP pP 17 18 17.5 +0.2
comp=Z,3.9nm,0.8s,baz=137,slow=4.5,SNR=4.6
CMAR Chiang Mai Arr 79.30 294 P **P 17 17 47.5 +1.8**
CMAR pP pP 17 18 17.5 +0.2
CMAR Chiang Mai Arr 79.30 294 P **P 17 17 47.5 +1.8**
CHG Chiang Mai 79.45 295⇑P **P 17 17 47.0 +0.5**
comp=Z,26nm,1.0s,mb5.0
CHTO Chiang Mai 79.45 295 *e*P **P 17 17 47.5 +1.0**
comp=Z,31nm,1.1s,mb5.0
CHTO *e*pP pP 17 18 16.2 -1.9
CHTO Chiang Mai 79.45 295 *e*P **P 17 17 47.5 +1.0**
CHTO pmax pmax
comp=Z,31nm,1.1s,mb5.0
CHTO Chiang Mai 79.45 295 P **P 17 17 47.5 +1.0**
comp=Z,32nm,0.9s,mb5.1
CD2 Chengdu 81.21 307 *e*P **P 17 17 56.2 +0.5**
CD2 pP pP 17 18 35.8 +8.4
CD2 sP sP 17 18 55.2 +14
CD2 PP PP 17 21 05.9 +2.9
CD2 S S 17 27 52.0 -3.7
CD2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CD2 pmax pmax
comp=Z,40nm,5.8s
HHC Hu-ho-hao-te 81.31 319 *e*P **P 17 17 56.5 +0.6**
HHC pP pP 17 18 36.5 +8.8
HHC sP sP 17 18 53.8 +13
HHC PP PP 17 21 06.6 +2.9
HHC S S 17 27 52.5 -3.8
HHC sS sS 17 29 02.1 +11
HHC pmax pmax
comp=Z,26nm,0.8s,mb5.1
HHC pmax pmax
comp=Z,82nm,4.8s
HIA Hailar 82.26 330 *e*P **P 17 17 59.9 -0.8**
comp=Z,6.6nm,0.9s,mb4.5
HIA Hailar 82.26 330 *e*P **P 17 17 59.9 -0.8**
HIA pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 83.75 312 *e*P **P 17 18 10.5 +1.8**
LZH pmax pmax
comp=Z,36nm,1.0s,mb5.2
LZH pmax pmax
comp=Z,120nm,4.0s
LZH Lanzhou 83.75 312 *e*P **P 17 18 10.5 +1.8**
comp=Z,36nm,1.0s,mb5.2
LZH pP pP 17 18 16.0 -25
LZH sP sP 17 18 19.0 -35
LZH Lanzhou 83.75 312 *e*P **P 17 18 10.5 +1.8**
LZH pmax pmax
comp=Z,36nm,1.0s,mb5.2
SYO Syowa Base 83.96 196⇑ *e*P **P 17 18 06.7 -2.6**
KDAK Kodiak Island 83.97 19 P **P 17 18 09.2 -0.1**
comp=Z,16nm,0.9s,mb4.8,baz=102,slow=22,SNR=7.9
KDAK Kodiak Island 83.97 19 P **P 17 18 09.2 -0.1**
KDAK Kodiak Island 83.97 19 *ce*P **P 17 18 09.3 0.0**
PMSA Palmer Station 85.73 160 P **P 17 18 17.9 -0.3**
comp=Z,26nm,0.7s,mb5.2,baz=303,slow=18,SNR=4.1
PMSA pP pP 17 18 48.9 -1.4
comp=Z,51nm,1.1s,baz=353,slow=20,SNR=2.2
PMSA Palmer Station 85.73 160 *e*P **P 17 18 17.7 -0.5**
comp=Z,36nm,0.8s,mb5.4
PMSA pP pP 17 18 48.9 -1.4
BSC Santa Cruz Isl 86.30 52⇑P **P 17 18 21.4 -0.1**
baz=86
PKM Peak Mountain 86.58 51⇓P **P 17 18 23.4 +0.5**
baz=87
CIS Catalina Islan 86.94 53⇑P **P 17 18 23.8 -0.8**
baz=87
ARVC Arvin 87.40 51⇓P **P 17 18 27.2 +0.4**
baz=88
CMB Columbia Colle 87.63 48 *e*P **P 17 18 27.8 0.0**
comp=Z,29nm,1.3s,mb5.2
CMB *e*pP pP 17 18 60.0 -0.1
CMB Columbia Colle 87.63 48 *e*P **P 17 18 27.8 -0.1**
CMB pmax pmax
comp=Z,29nm,1.3s,mb5.2
NVL N'lazarevskaya 87.79 187 *e*P **P 17 18 28.1 0.0**
NVL pmax pmax
comp=Z,21nm,0.6s,mb5.3
MAIT Maitri 87.80 187 *e*P **P 17 18 27.8 -0.3**
BFSC Mount Baldy Ra 87.87 52⇑P **P 17 18 29.1 +0.1**
baz=88,SNR=6.3
ISA Isabella 87.90 51⇑P **P 17 18 29.1 -0.1**
baz=88,SNR=9.5
ISA Isabella 87.90 51 *e*P **P 17 18 29.3 +0.1**
comp=Z,57nm,1.5s,mb5.4
ISA *e*pP pP 17 19 01.8 +0.3
ISA Isabella 87.90 51 *e*P **P 17 18 29.3 +0.1**
ISA *e**PP pP 17 19 01.8 +0.4
ISA pmax pmax
comp=Z,57nm,1.5s,mb5.4
EDW2 Edwards Air Fo 87.91 52⇓P **P 17 18 28.8 -0.4**
baz=88,SNR=6.0
MURC Murrieta 87.93 53⇓P **P 17 18 29.3 -0.1**
baz=88
ULN Ulaanbaatar 87.98 323 *e*P **P 17 18 29.4 +0.2**
comp=Z,50nm,1.6s,mb5.3
ULN *e*pP pP 17 18 59.8 -1.7
ULN Ulaanbaatar 87.98 323 *e*P **P 17 18 29.4 +0.1**
ULN pmax pmax
comp=Z,50nm,1.6s,mb5.3
ULN Ulaanbaatar 87.98 323 P **P 17 18 29.1 -0.2**
SNAA Sanae 88.06 182 *e* **P 17 18 23.5 -5.9**
SNAA Sanae 88.06 182 *e*P **P 17 18 23.3 -6.1**
comp=Z,19nm,0.9s,mb5.1
SNAA Sanae 88.06 182 *e*P **P 17 18 23.3 -6.1**
SNAA pmax pmax
comp=Z,19nm,0.9s
PMR Palmer 88.08 18 P **P 17 18 29.5 +0.1**
comp=Z,5.6nm,0.7s,mb4.7
PMR Palmer 88.08 18 P **P 17 18 29.5 +0.1**
PMR pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
GTA Gaotai 88.16 313 *e*P **P 17 18 31.2 +0.9**
GTA pmax pmax
comp=Z,15nm,0.9s,mb5.0
BILL Bilibino 88.18 359 *e*P **P 17 18 28.3 -1.5**
BILL Bilibino 88.18 359 *e*P **P 17 18 28.3 -1.4**
MONP Monument Peak 88.21 54⇓P **P 17 18 30.6 -0.1**
baz=88
SONM Songino Array 88.33 323 P **P 17 18 31.1 +0.2**
comp=Z,6.1nm,0.8s,mb4.7,baz=119,slow=4.3,SNR=13
SONM pP pP 17 19 02.4 -0.7
comp=Z,1.4nm,0.5s,baz=129,slow=0.9,SNR=2.3
SONM Songino Array 88.33 323 P **P 17 18 31.1 +0.2**
SONM pP pP 17 19 02.4 -0.7
SONM Songino Array 88.33 323 P **P 17 18 31.1 +0.2**
DVTC Desert V Tower 88.35 54⇓P **P 17 18 31.5 +0.1**
baz=88
PFO Pinyon Flat Ob 88.49 53⇑P **P 17 18 31.9 -0.1**
baz=88
SWSC Sam W. Stewart 88.71 54⇓P **P 17 18 32.9 -0.1**
baz=89,SNR=5.9
TIN Tinemaha 88.71 50⇓P **P 17 18 33.0 0.0**
baz=89
MPMC Manual Prospec 88.80 51⇑P **P 17 18 33.5 +0.1**
baz=89,SNR=15
GSC Goldstone 88.97 52⇑P **P 17 18 33.8 -0.4**
baz=89
GSC Goldstone 88.97 52 *e*P **P 17 18 34.0 -0.2**
comp=Z,33nm,1.4s,mb5.2
GSC *e*pP pP 17 19 07.2 +0.7
GSC Goldstone 88.97 52 *e*P **P 17 18 34.0 -0.2**
GSC *e**PP pP 17 19 07.2 +0.7
GSC pmax pmax
comp=Z,33nm,1.4s,mb5.2
BELC Belle Mtn. Jos 89.00 53⇓P **P 17 18 34.5 0.0**
baz=89,SNR=12
HEC Hector,Ludlow 89.11 52⇓P **P 17 18 34.8 -0.1**
baz=89,SNR=6.0
BC3 Big Chuckawall 89.27 54⇑P **P 17 18 35.6 -0.1**
baz=89,SNR=12
NVAR Mina Array Bea 89.27 48 P **P 17 18 36.2 +0.6**
comp=Z,12nm,1.0s,mb4.9,baz=226,slow=7.8,SNR=38
NVAR pP pP 17 19 08.0 +0.2
comp=Z,3.3nm,0.8s,baz=229,slow=7.8,SNR=4.3
NVAR Mina Array Bea 89.27 48 P **P 17 18 36.2 +0.6**
NVAR pP pP 17 19 08.0 +0.2
GRAC Grapevine Rang 89.30 50⇓P **P 17 18 36.1 +0.4**
baz=89
FURC Furnace Creek, 89.43 51⇓P **P 17 18 36.6 +0.2**
baz=90
GLA Glamis 89.49 54⇑P **P 17 18 36.8 +0.1**
baz=90,SNR=14
GLA Glamis 89.49 54 *e*P **P 17 18 37.4 +0.6**
comp=Z,39nm,1.1s,mb5.3
GLA Glamis 89.49 54 *e*P **P 17 18 37.4 +0.7**
GLA pmax pmax
comp=Z,39nm,1.1s,mb5.3
K05A Summer Lake 89.52 44⇓P **P 17 18 36.7 +0.1**
baz=90
GMRC Granite Mounta 89.59 53⇑P **P 17 18 36.6 -0.6**
baz=90,SNR=10
H04A Detroit Lake 89.64 41⇓P **P 17 18 37.2 +0.1**
baz=90
TUQ Turquoise Moun 89.67 52⇓P **P 17 18 37.3 -0.2**
baz=90,SNR=7.3
IRM Iron Mountain 89.71 53⇑P **P 17 18 37.4 -0.4**
baz=90,SNR=14
E03A Lebam 89.73 39⇑P **P 17 18 38.0 +0.4**
baz=90
Y12C Blythe 90.01 54⇑P **P 17 18 39.1 0.0**
baz=90,SNR=8.4
113A Mohawk Valley, 90.19 55⇓P **P 17 18 39.6 -0.4**
baz=90
LSA Lhasa 90.43 302 *e*P **P 17 18 40.7 -0.5**
comp=Z,6.5nm,1.0s,mb4.7
LSA Lhasa 90.43 302 *e*P **P 17 18 40.7 -0.5**
LSA pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
Z13A Yuma Proving G 90.45 55⇓P **P 17 18 41.3 +0.1**
baz=90,SNR=18
BOD Bodaibo 90.50 334 *e*P **P 17 18 40.2 -0.6**
BOD pmax pmax
comp=Z,11nm,1.4s,mb4.8
214A Organ Pipe Nat 90.60 56⇑P **P 17 18 42.2 +0.2**
baz=91,SNR=9.2
GNW Green Mountain 90.68 39 *e*P **P 17 18 42.1 +0.2**
comp=Z,7.3nm,1.0s,mb4.8
GNW *e*pP pP 17 19 14.9 +0.6
114A Black Gap (USA 90.86 55⇑P **P 17 18 43.0 -0.1**
baz=91,SNR=7.4
G06A Carlson Farm, 90.87 42⇓P **P 17 18 43.2 +0.3**
baz=91
D05A Enumclaw 90.99 39⇑P **P 17 18 43.8 +0.4**
baz=91
I07A Izee 91.05 43⇓P **P 17 18 43.8 +0.1**
baz=91
W13A Hualapai Mount 91.05 53⇑P **P 17 18 43.9 0.0**
baz=91,SNR=8.7
Z14A Wintersburg 91.06 55⇑P **P 17 18 44.3 +0.3**
baz=91,SNR=7.6
R11A Troy Canyon, C 91.16 49⇑P **P 17 18 44.4 0.0**
baz=91
ILAR Eielson Array 91.19 17 P **P 17 18 41.9 -2.0**
comp=Z,1.7nm,0.5s,mb4.4,baz=238,slow=4.9,SNR=38
ILAR pP pP 17 19 15.2 -1.1
comp=Z,1.1nm,0.8s,baz=241,slow=6.4,SNR=2.6
ILAR LR LR 17 57 26.6
comp=Z,138nm,18.1s,baz=104,slow=34
ILAR Eielson Array 91.19 17 P **P 17 18 41.9 -2.0**
ILAR pP pP 17 19 15.2 -1.1
ILAR Eielson Array 91.19 17 P **P 17 18 41.9 -2.0**
ILAR *PP pP 17 19 15.2 -1.0
Y14A Wickenburg 91.24 54⇓P **P 17 18 44.8 -0.1**
baz=91
115A Sonoran Desert 91.35 56⇓P **P 17 18 45.3 -0.1**
baz=91
J08A Circle Bar Ran 91.38 44⇑P **P 17 18 45.4 +0.1**
baz=92
ZAK Zakamensk 91.42 324 *e*P **P 17 18 45.0 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.4s,mb4.7
F07A Phinny Hill Vi 91.62 41⇑P **P 17 18 46.5 +0.2**
baz=92
216A Three Points, 91.67 57⇓P **P 17 18 46.9 0.0**
baz=92
116A Eloy 91.70 56⇓P **P 17 18 47.5 +0.5**
baz=92,SNR=6.0
Y15A Casa Rosa Ranc 91.76 54⇑P **P 17 18 47.7 +0.4**
baz=92,SNR=14
TLY Talaya 91.89 325 *e*P **P 17 18 46.1 -1.3**
TLY pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
G08A Pilot Rock 91.95 42⇑P **P 17 18 47.9 0.0**
baz=92
217A Green Valley 92.09 57⇑P **P 17 18 49.2 +0.3**
baz=92,SNR=11
Z16A Peralta Trail, 92.22 55⇑P **P 17 18 49.3 -0.1**
baz=92
R13A O'Grain Ranch, 92.24 50⇑P **P 17 18 49.5 +0.1**
baz=92
TUC Tucson 92.32 56 *e*P **P 17 18 50.2 +0.3**
comp=Z,10.0nm,1.0s,mb5.0
TUC Tucson 92.32 56 *e*P **P 17 18 50.2 +0.3**
TUC pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
Y16A Circle Bar Ran 92.39 55⇑P **P 17 18 50.7 +0.5**
baz=92,SNR=16
117A Oracle 92.45 56⇓P **P 17 18 50.5 0.0**
baz=92,SNR=12
ARUT Antelope Range 92.47 51 *e*P **P 17 18 49.0 -1.5**
comp=Z,13nm,1.3s,mb5.0
ARUT Antelope Range 92.47 51 *e*P **P 17 18 49.0 -1.4**
ARUT pmax pmax
comp=Z,13nm,1.3s,mb5.0
318A Bisbee 92.61 58⇑P **P 17 18 51.3 0.0**
baz=93,SNR=7.5
X16A Lo Mia Camp, P 92.62 54⇑P **P 17 18 51.7 +0.4**
baz=93,SNR=10
U15A North Rim 92.77 52⇑P **P 17 18 52.1 +0.2**
baz=93
218A Dragoon 92.77 57⇓P **P 17 18 51.8 -0.2**
baz=93,SNR=11
Y17A Roosevelt 92.80 55⇑P **P 17 18 52.1 0.0**
baz=93,SNR=6.0
EGAK Eagle 92.86 19 *e*P **P 17 18 50.2 -1.4**
comp=Z,2.5nm,0.5s,mb4.8
DLBC Dease Lake 92.87 27 P **P 17 18 52.2 +0.5**
comp=Z,3.1nm,0.3s,mb5.0,baz=107,slow=25,SNR=6.6
DLBC pP pP 17 19 24.5 +0.4
comp=Z,1.8nm,0.3s,baz=167,slow=17,SNR=2.1
DLBC Dease Lake 92.87 27 P **P 17 18 52.2 +0.5**
DLBC pP pP 17 19 24.5 +0.3
118A Homack Ranch, 93.08 56⇓P **P 17 18 53.7 +0.3**
baz=93,SNR=10
WUAZ Wupatki 93.10 53⇑P **P 17 18 53.5 +0.1**
baz=93
219A White Tail Can 93.40 57⇓P **P 17 18 54.7 -0.2**
baz=93,SNR=5.7
Y18A Canyon Day Jun 93.46 55⇑P **P 17 18 55.3 +0.2**
baz=94,SNR=5.5
U16A Tuba City 93.52 53⇑P **P 17 18 55.7 +0.3**
baz=94
V17A Tonalea, Kykot 93.58 53⇑P **P 17 18 55.8 +0.2**
baz=94
119A Ashpeak Ranch, 93.65 57⇑P **P 17 18 56.1 +0.1**
baz=94
220A Playas Peak, P 93.94 58⇓P **P 17 18 56.9 -0.5**
baz=94
HLID Hailey 94.14 45⇓P **P 17 18 57.6 -0.4**
baz=94
H12A Diamond D Ranc 94.25 44⇑P **P 17 18 58.3 -0.2**
baz=94
S17A Black Ridge (B 94.33 52⇓P **P 17 18 58.9 -0.1**
baz=94
I13A Wildhorse Cree 94.47 45⇓P **P 17 18 59.4 -0.1**
baz=94
H13A Challis 94.65 44⇑P **P 17 19 00.1 -0.2**
baz=95
I14A Mackay 94.92 45⇓P **P 17 19 01.9 +0.3**
baz=95
U19A Dine' College, 95.02 53⇓P **P 17 19 02.1 -0.1**
baz=95
F13A Darby 95.09 43⇓P **P 17 19 02.0 -0.3**
baz=95
R18A Canyonlands Na 95.28 51⇓P **P 17 19 03.3 0.0**
baz=95
O17A Robinson Place 95.34 49⇑P **P 17 19 03.9 +0.3**
baz=95
Y21A Point of Rocks 95.37 56⇓P **P 17 19 03.7 -0.2**
baz=95
U21A Nageezi 96.23 54⇑P **P 17 19 07.7 0.0**
baz=96
MNTX Cornudas Mount 96.38 59⇑P **P 17 19 08.5 0.0**
baz=96
425A Indio Mountain 96.39 60⇑P **P 17 19 08.7 +0.1**
baz=96
224A Cornudas Mount 96.39 58⇑P **P 17 19 08.5 -0.1**
baz=96
124A Stringfield Ra 96.66 58⇑P **P 17 19 09.4 -0.3**
baz=97
626A Big Bend Ranch 96.67 61⇑P **P 17 19 09.7 -0.2**
baz=97
J18A Kendall Valley 96.95 47⇑P **P 17 19 10.5 -0.3**
baz=97
TXAR Lajitas Array 96.98 61 P **P 17 19 11.7 +0.4**
comp=Z,1.2nm,0.9s,mb4.3,baz=225,slow=5.1,SNR=9.7
TXAR LR LR 17 59 37.7
comp=Z,60nm,18.5s,baz=350,slow=33
TXAR Lajitas Array 96.98 61 P **P 17 19 11.7 +0.4**
TXAR Lajitas Array 96.98 61 P **P 17 19 11.7 +0.4**
BW06 Boulder Array 97.11 47⇑P **P 17 19 11.8 +0.3**
baz=97
PDAR Pinedale Array 97.11 47 P **P 17 19 11.5 0.0**
comp=Z,0.6nm,0.5s,mb4.3,baz=191,slow=2.0,SNR=5.7
PDAR PKKPbc PKKPbc 17 35 50.5 -1.9
comp=Z,0.5nm,0.9s,baz=48,slow=2.2,SNR=4.2
PDAR Pinedale Array 97.11 47 P **P 17 19 11.5 0.0**
PDAR PKKPbc PKKPbc 17 35 50.5 -1.9
627A Terlingua Ranc 97.25 61⇑P **P 17 19 11.6 -0.9**
baz=97
S22A 4UR Ranch, Cre 97.31 53⇓P **P 17 19 12.8 +0.2**
baz=97
J19A Crowheart 97.63 47⇑P **P 17 19 14.3 +0.4**
baz=98
Y25A Mesa, Roswell 97.67 57⇑P **P 17 19 13.9 -0.4**
baz=98
WMQ Urumqi 98.24 314 *e*P **P 17 19 16.4 -0.2**
WMQ pmax pmax
comp=Z,8.0nm,0.6s,mb5.4
YKA Yellowknife Ar 101.50 27 P Pdif 17 19 30.7 -0.4
comp=Z,1.3nm,0.7s,baz=256,slow=5.0,SNR=4.1
YKA Yellowknife Ar 101.50 27 P Pdif 17 19 30.7 -0.4
YKA Yellowknife Ar 101.50 27 P Pdif 17 19 30.7 -0.4
MKAR Makanchi Array 102.79 315 Pdiff Pdif 17 19 37.2 +0.4
comp=Z,1.1nm,0.7s,baz=89,slow=6.2,SNR=14
MKAR PKKPbc PKKPbc 17 35 32.7 -3.6
comp=Z,0.4nm,0.5s,baz=271,slow=3.1,SNR=9.1
MKAR Makanchi Array 102.79 315 Pdif Pdif 17 19 37.2 +0.4
MKAR PKKPbc PKKPbc 17 35 32.7 -3.6
MKAR Makanchi Array 102.79 315 P Pdif 17 19 37.2 +0.4
ZALV Zalesovo Beam 103.23 323 Pdiff Pdif 17 19 37.8 -1.0
comp=Z,1.1nm,0.6s,baz=101,slow=3.9,SNR=4.5

ZALV	Zalesovo Beam	103.23 323	Pdif	Pdif	17 19 37.8	-1.0
ZALV	Zalesovo Beam	103.23 323	P	Pdif	17 19 37.8	-1.0
ARU	Arti	118.36 324	*i* PKIKP	PKPdf	17 24 24.1	-1.7
ARU					17 25 42.6	
ARU					17 31 08.7	
ARU			SS	SS	17 41 43.5	-6.9
ARCES	ARCESS Array B	126.24 345	PKP	PKPdf	17 24 38.9	-1.7
	comp=Z,3.5nm,0.7s,baz=58,slow=1.7,SNR=22					
ARCES	ARCESS Array B	126.24 345	PKP	PKPdf	17 24 38.9	-1.7
ARCES	ARCESS Array B	126.24 345	PKIKP	PKPdf	17 24 38.9	-1.7
JOF	Joensuu	128.92 337	*e*PKIKP	PKPdf	17 24 43.4	-2.5
JOF	Joensuu	128.92 337	*e*pkp	PKPdf	17 24 43.4	-2.5
OBN	Obninsk	130.63 326	*e*PKIKP	PKPdf	17 24 49.2	-0.1
OBN			*e*		17 31 44.8	
OBN			*e*PS	PS	17 37 20.2	+0.3
OBN			pmax	pmax		
	comp=Z,4.0nm,0.9s					
KAF	Kangasniemi	131.23 338	*e*PKIKP	PKPdf	17 24 48.5	-1.8
KAF	Kangasniemi	131.23 338	*e*pkp	PKPdf	17 24 48.5	-1.8
FINES	FINESS Array B	131.76 337	PKhKP	PKPpre	17 24 42.7	
	comp=Z,3.8nm,0.9s,baz=192,slow=1.8,SNR=3.8					
FINES			PKP	PKPdf	17 24 49.9	-1.4
	comp=Z,4.2nm,0.9s,baz=70,slow=1.6,SNR=4.7					
FINES	FINESS Array B	131.76 337	PKPpre	PKPpre	17 24 42.7	
FINES			PKP	PKPdf	17 24 49.9	-1.4
FINES	FINESS Array B	131.76 337	PKHKP	PKPpre	17 24 42.7	
FINES					17 24 49.9	
AKASG	Malin Array Be	136.61 324	PKP	PKPdf	17 24 59.8	-0.9
	comp=Z,2.1nm,0.6s,baz=50,slow=2.5,SNR=12					
AKASG	Malin Array Be	136.61 324	PKP	PKPdf	17 24 59.8	-0.9
AKASG	Malin Array Be	136.61 324	*c i* PKIKP	PKPdf	17 24 59.7	-1.0
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
NB2	NORSAR Subarra	136.62 345	PKPdf	PKPpre	17 24 47.8	
	comp=Z,2.9nm,1.1s,baz=31,slow=1.9					
NOA	NORSAR Array B	136.62 345	PKhKP	PKPpre	17 24 50.4	
	comp=Z,1.6nm,0.9s,baz=44,slow=1.8,SNR=4.2					
NOA	NORSAR Array B	136.62 345	PKPpre	PKPpre	17 24 50.4	
NOA	NORSAR Array B	136.62 345	PKHKP	PKPpre	17 24 50.4	
BRTR	Keskin Array B	137.78 307	PKP	PKPdf	17 25 03.9	+0.7
	comp=Z,1.1nm,0.7s,baz=129,slow=3.6,SNR=7.0					
BRTR			SKPbc	SKPbc	17 28 25.2	-0.4
	comp=Z,0.2nm,0.4s,baz=352,slow=2.9,SNR=3.7					
BRTR	Keskin Array B	137.78 307	PKP	PKPdf	17 25 03.9	+0.7
BRTR			SKPbc	SKPbc	17 28 25.2	-0.4
BRTR	Keskin Array B	137.78 307	*c i* PKIKP	PKPdf	17 25 03.9	+0.7
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
KOLS	Kolonicke sedl	141.36 325	*e*PKP	PKPdf	17 25 04.7	-4.7
CRVS	Cervenica-Dubn	141.81 326	*e*PKP	PKPdf	17 25 06.1	-4.1
DRGR		142.33 322	⫬PKHKP	PKPpre	17 25 07.1	
DRGR		142.33 322	⫬*i* P	PKPdf	17 25 07.1	-4.1
BSEG	Bad Segeberg	142.94 340	*e*PKPbc	PKPdf	17 25 07.8	-4.3
BSEG	Bad Segeberg	142.94 340	*e*PKHKP	PKPpre	17 25 07.8	
GZR	Gura Zlata	143.03 320	⫬*i* P	PKPdf	17 25 09.1	-3.4
KRLC	Kraliky	143.37 330	*e*PKP	PKPpre	17 25 09.7	
DPC	Dobruska-Polom	143.38 331	*e*PKP	PKPpre	17 25 09.9	
UPC	Upice	143.41 332	*e*PKP	PKPpre	17 25 09.8	
BZS	Buzias	143.60 321	⫬PKHKP	PKPpre	17 25 10.5	
VRAC	Vranov	143.99 330	⫬PKP	PKPdf	17 25 12.1	-2.0
PVCC	Panska Ves	144.03 333	*e*PKIKP	PKPdf	17 25 12.2	-1.9
PVCC	Panska Ves	144.03 333	*e*PKP	PKPdf	17 25 12.2	-1.9
PVCC			*ep*PKP	pPKPdf	17 25 44.6	-3.3
BRG	Berggiesshubel	144.03 334	*i* PKP	PKPdf	17 25 11.8	-2.3
	comp=Z,48nm,0.8s					
BRG			*e*		17 25 45.9	
	comp=Z,10nm,1.1s					
BRG			*e*		17 27 09.9	
	comp=Z,6.2nm,1.2s					
BRG	Berggiesshubel	144.03 334	*e*PKPbc	PKPdf	17 25 11.6	-2.5
BRG	Berggiesshubel	144.03 334	*i* PKIKP	PKPdf	17 25 11.8	-2.3
BRG			pmax	pmax		
	comp=Z,48nm,0.8s					
BRG			pmax	pmax		
	comp=Z,11nm,1.1s					
BRG			pmax	pmax		
	comp=Z,6.0nm,1.2s					
CLL	Collm	144.09 335	*e*PKPbc	PKPdf	17 25 11.5	-2.7
CLL	Collm	144.09 335	⫯*i* PKIKP	PKPdf	17 25 12.0	-2.2
CLL			pmax	pmax		
	comp=Z,37nm,0.7s					
VTS	Vitosha	144.14 316	⫬PKIKP	PKPdf	17 25 12.6	-2.0
ZST	Bratislava	144.49 328	*e*PKIKP	PKPdf	17 25 14.5	-0.5
TREC	Trest	144.51 331	*e*PKIKP	PKPdf	17 25 13.4	-1.6
TREC	Trest	144.51 331	*e*PKP	PKPdf	17 25 13.4	-1.6
CLZ	Clausthal	144.65 338	*e*PKPbc	PKPdf	17 25 13.7	-1.5
CLZ	Clausthal	144.65 338	*e*PKIKP	PKPdf	17 25 13.7	-1.5
ESK	Eskdalemuir	144.69 353	*e*PKPdf	PKPdf	17 25 12.0	-3.1
ESK	Eskdalemuir	144.69 353	*e*PKHKP	PKPpre	17 25 12.0	
TANN	Tannenbergstha	145.00 334	*e*PKPbc	PKPdf	17 25 14.9	-0.9
IBBN	Ibbenburen	145.14 340	*e*PKPbc	PKPbc	17 25 14.9	-0.9
NKC	Novy Kostel	145.14 334	*e*PKIKP	PKPdf	17 25 15.8	-0.2
NKC	Novy Kostel	145.14 334	*e*PKP	PKPdf	17 25 15.8	-0.2
NKC			*ep*PKP	pPKPdf	17 25 47.6	-2.3
MOX	Moxa	145.15 335	*e*PKPbc	PKPbc	17 25 15.2	-0.7
MOX	Moxa	145.15 335	*e*PKIKP	PKPdf	17 25 15.2	-0.9
CONA	Conrad Observa	145.29 329	*i* PKPab	PKPab	17 25 16.7	+0.1
	SNR=34					
CONA	Conrad Observa	145.29 329	*i* PKPab	PKPab	17 25 16.7	+0.1
	SNR=34					
KHC	Kasperske Hory	145.49 332	*e*PKPdf	PKPdf	17 25 16.2	-0.5
KHC			*ep*PKPdf	pPKPdf	17 25 48.3	-2.2
KHC	Kasperske Hory	145.49 332	*e*PKIKP	PKPdf	17 25 16.2	-0.5
KHC	Kasperske Hory	145.49 332	*e*PKP	PKPdf	17 25 16.1	-0.6
KHC			*ep*PKP	pPKPdf	17 25 48.2	-2.3
ROTZ	Rotzenmuhle	145.60 334	*e*PKPbc	PKPbc	17 25 16.9	-0.4
UBBA	Unterbreizbach	145.62 337	*e*PKPbc	PKPbc	17 25 16.8	-0.5
GEC2	GERESS Array S	145.65 331	*e*PKPbc	PKPbc	17 25 16.9	-0.6
GEC2	GERESS Array S	145.65 331	*e*PKIKP	PKPdf	17 25 16.9	-0.1
GERES	GERESS Array B	145.65 331	PKPbc	PKPbc	17 25 17.4	-0.1
	comp=Z,11nm,0.6s,baz=33,slow=2.9,SNR=99					
GERES			*ep*PKPbc	pPKPbc	17 25 49.9	-0.9
	comp=Z,5.1nm,0.7s,baz=35,slow=3.6,SNR=5.5					
GERES	GERESS Array B	145.65 331	PKPbc	PKPbc	17 25 17.4	-0.1
GERES			*ep*PKPbc	pPKPbc	17 25 49.9	-0.9
GERES	GERESS Array B	145.65 331	PKIKP	PKPdf	17 25 17.4	+0.4
IDI	Anoyia	145.66 303	*e*PKPdf	PKPdf	17 25 16.6	-0.8
WET	Wettzell	145.79 333	*e*PKPbc	PKPbc	17 25 17.5	-0.4
WET	Wettzell	145.79 333	*e*PKIKP	PKPdf	17 25 17.5	+0.3
BUG	Bochum--Univer	146.04 340	*e*PKPbc	PKPbc	17 25 17.8	-0.8
GRF	Grafenberg Arr	146.06 335	*e*PKPbc	PKPbc	17 25 17.8	-0.9
GRF			*ep*PKPbc	pPKPbc	17 25 50.8	-1.2
GRF	Grafenberg Arr	146.06 335	*e*PKIKP	PKPdf	17 25 17.8	+0.2
MOA	Molln	146.11 330	*i* PKPab	PKPbc	17 25 18.4	-0.5
	SNR=7.5					
TNS	Taunus Mts	146.68 338	*e*PKPbc	PKPbc	17 25 19.9	-0.6
TNS	Taunus Mts	146.68 338	*e*PKIKP	PKPbc	17 25 19.9	-0.6
RJOB	Jochberg	146.88 331	*e*PKPab	PKPab	17 25 22.7	0.0
TOD	Tromm	147.06 337	PKP	PKPbc	17 25 20.3	-1.3
TOD	Tromm	147.06 337	PKIKP	PKPbc	17 25 20.3	-1.3
FUR	Furstenfeldbru	147.22 333	*e*PKPbc	PKPbc	17 25 21.4	-0.7
FUR			*e*PKPab	PKPab	17 25 24.3	+0.2
FUR	Furstenfeldbru	147.22 333	*e*PKP2	PKPab	17 25 24.3	+0.2
ABH	Alteburg	147.28 338	PKP	PKPbc	17 25 21.1	-1.1
STU	Stuttgart	147.59 336	*e*PKPbc	PKPbc	17 25 22.4	-0.7
STU			*e*PKPab	PKPab	17 25 25.4	-0.1
RUP	Ruppelstein	147.60 339	PKP	PKPbc	17 25 22.0	-1.1
RUP	Ruppelstein	147.60 339	PKIKP	PKPbc	17 25 22.0	-1.1
MOTA	Moosalm	147.93 332	*i* PKiKP	PKPbc	17 25 23.4	-0.6
	SNR=8.4					
WLF	Walferdange	147.93 340	*e*PKPbc	PKPbc	17 25 23.7	-0.3
WLF	Walferdange	147.93 340	*e*PKPbc	PKPbc	17 25 23.6	-0.4
WLF			*ep*PKPdf	pPKPdf	17 25 55.6	+1.0
WLF	Walferdange	147.93 340	*e*PKIKP	PKPbc	17 25 23.6	-0.4
LANF	Langenberg	147.95 337	PKP	PKPbc	17 25 23.8	-0.2
LANF	Langenberg	147.95 337	PKP2	PKPbc	17 25 23.8	-0.2
GIVF	Givet	147.97 341	*e*PKP1	PKPbc	17 25 22.9	-1.1
	comp=Z,27nm,0.6s					
GIVF	Givet	147.97 341	*e*P	PKPbc	17 25 22.9	-1.1
GIVF	Givet	147.97 341	*e*PKIKP	PKPbc	17 25 22.9	-1.1
BAIF	Baives	148.19 342	*e*PKP1	PKPbc	17 25 23.4	-1.2
BAIF	Baives	148.19 342	*e*P	PKPbc	17 25 23.4	-1.2
BAIF	Baives	148.19 342	*e*PKIKP	PKPbc	17 25 23.4	-1.2
BFO	Black Forest	148.29 336	*e*PKPbc	PKPbc	17 25 24.2	-0.7
BFO			*e*PKPab	PKPab	17 25 28.0	-0.3
BFO	Black Forest	148.29 336	*e*PKPbc	PKPbc	17 25 23.9	-1.0
BFO			*e*PKPab	PKPab	17 25 27.7	-0.6
BFO			*ep*PKPdf	pPKPdf	17 25 53.4	-1.8
BFO	Black Forest	148.29 336	*e*PKIKP	PKPbc	17 25 23.9	-1.0
BFO			*e*		17 25 27.7	
SPAK	Spaichingen-Ko	148.30 335	PKP	PKPbc	17 25 23.3	-1.7
FETA	Feichten	148.34 332	*i* PKiKP	PKiKP	17 25 24.6	-2.0
	SNR=13					
CDF	Champ du Feu	148.61 337	*e*PKP1	PKPbc	17 25 24.4	-1.4
	comp=Z,13nm,0.6s					
CDF	Champ du Feu	148.61 337	*e*P	PKPbc	17 25 24.4	-1.4
CDF	Champ du Feu	148.61 337	*e*PKIKP	PKPbc	17 25 24.4	-1.4
FELD	Feldberg im Sc	148.79 336	PKP	PKPbc	17 25 25.5	-0.7
ECH	Echery	148.82 337	PKP	PKPbc	17 25 25.5	-0.8
ECH	Echery	148.82 337	PKIKP	PKPbc	17 25 25.5	-0.8
PAGF	Fort de Pagny	149.03 339	*e*PKP1	PKPbc	17 25 25.8	-1.0
PAGF	Fort de Pagny	149.03 339	*e*P	PKPbc	17 25 25.8	-1.0
MOF	Molkenrain	149.13 337	PKP	PKPbc	17 25 26.6	-0.5
MOF	Molkenrain	149.13 337	PKIKP	PKPbc	17 25 26.6	-0.5
THEF	They Montfort	149.23 338	PKP	PKPbc	17 25 26.9	-0.4
THEF	They Montfort	149.23 338	PKHKP	PKPbc	17 25 26.9	-0.4
HINF	Hinteralfeld	149.27 337	*e*PKP1	PKPbc	17 25 25.9	-1.5
	comp=Z,10nm,0.6s					
HINF	Hinteralfeld	149.27 337	*e*P	PKPbc	17 25 25.9	-1.5
HINF	Hinteralfeld	149.27 337	*e*PKIKP	PKPbc	17 25 25.9	-1.5
HAU	Haudompre	149.29 338	*e*PKP1	PKPbc	17 25 26.1	-1.4
HAU			*e*R			
	comp=Z,65nm,21.0s					
HAU	Haudompre	149.29 338	*e*P	PKPbc	17 25 26.1	-1.4
HAU	Haudompre	149.29 338	*e*PKHKP	PKPbc	17 25 26.1	-1.4
MEZF	Maizieres J'vi	149.30 340	*e*PKP1	PKPbc	17 25 26.6	-0.9
	comp=Z,23nm,0.7s					
MEZF	Maizieres J'vi	149.30 340	*e*P	PKPbc	17 25 26.6	-0.9
TUE	Stuetta	149.37 333	*e*PKPbc	PKPbc	17 25 26.9	-0.8
SFTF	Sexfontaines	149.57 339	*e*PKP1	PKPbc	17 25 27.0	-1.1
	comp=Z,23nm,0.6s					
SFTF	Sexfontaines	149.57 339	*e*P	PKPbc	17 25 27.0	-1.1
LOMF	Lomont	149.67 337	PKP	PKPbc	17 25 28.1	-0.3
LOMF	Lomont	149.67 337	PKHKP	PKPbc	17 25 28.1	-0.3
AQU	L'Aquila	150.30 323	*e*PKPbc	PKPbc	17 25 30.4	+0.2
AQU	L'Aquila	150.30 323	*e*PKIKP	PKPbc	17 25 30.4	+0.3
CABF	La Chapelle	150.56 337	*e*PKP1	PKPbc	17 25 29.9	-0.7
	comp=Z,28nm,0.6s					
CABF	La Chapelle	150.56 337	*e*P	PKPbc	17 25 29.9	-0.7
CABF	La Chapelle	150.56 337	*e*PKIKP	PKPbc	17 25 29.9	-0.7
FLN	La Foliniere	150.57 347	*e*PKP1	PKPbc	17 25 29.0	-1.5
	comp=Z,38nm,0.6s					
FLN			*e*R			
	comp=Z,74nm,17.5s					
FLN	La Foliniere	150.57 347	*e*P	PKPbc	17 25 29.0	-1.5
FLN	La Foliniere	150.57 347	*e*PKIKP	PKPbc	17 25 29.0	-1.5
LDF	La Druitiere	150.65 346	*e*PKP1	PKPbc	17 25 28.9	-1.8
	comp=Z,21nm,0.5s					
LDF	La Druitiere	150.65 346	*e*P	PKPbc	17 25 28.9	-1.8
LDF	La Druitiere	150.65 346	*e*PKIKP	PKPbc	17 25 28.9	-1.8
LOR	Lormes	150.77 340	*e*PKP1	PKPbc	17 25 29.7	-1.4
	comp=Z,16nm,0.5s					
LOR			*e*R			
	comp=Z,56nm,20.2s					
LOR	Lormes	150.77 340	*e*P	PKPbc	17 25 29.7	-1.4
LOR	Lormes	150.77 340	*e*PKIKP	PKPbc	17 25 29.7	-1.4
GRR	Gorron	151.01 347	*e*PKP1	PKPbc	17 25 30.1	-1.5
	comp=Z,26nm,0.5s					
GRR	Gorron	151.01 347	*e*P	PKPbc	17 25 30.1	-1.5
GRR	Gorron	151.01 347	*e*PKIKP	PKPbc	17 25 30.1	-1.5
SSF	Saint Saulge	151.07 340	*e*PKP1	PKPbc	17 25 30.5	-1.3
	comp=Z,14nm,0.6s					
SSF	Saint Saulge	151.07 340	*e*P	PKPbc	17 25 30.5	-1.3
SSF	Saint Saulge	151.07 340	*e*PKIKP	PKPbc	17 25 30.5	-1.3
LPL	La Plagne	151.22 335	*e*PKP1	PKPbc	17 25 31.4	-0.8
	comp=Z,20nm,0.7s					
LPL	La Plagne	151.22 335	*e*P	PKPbc	17 25 31.4	-0.8
LPL	La Plagne	151.22 335	*e*PKIKP	PKPbc	17 25 31.4	-0.8
LPG	La Plagne	151.23 335	*e*PKP1	PKPbc	17 25 31.5	-0.7
	comp=Z,24nm,0.6s					
LPG	La Plagne	151.23 335	*e*P	PKPbc	17 25 31.5	-0.7
LPG	La Plagne	151.23 335	*e*PKIKP	PKPbc	17 25 31.5	-0.7
SMF	Signal de Mont	151.33 339	*e*PKP1	PKPbc	17 25 30.7	-1.7
SMF	Signal de Mont	151.33 339	*e*P	PKPbc	17 25 30.7	-1.7
SMF	Signal de Mont	151.33 339	*e*PKIKP	PKPbc	17 25 30.7	-1.7
AVF	Avril sur Loir	151.36 340	*e*PKP1	PKPbc	17 25 31.4	-1.0
AVF	Avril sur Loir	151.36 340	*e*P	PKPbc	17 25 31.4	-1.0
AVF	Avril sur Loir	151.36 340	*e*PKIKP	PKPbc	17 25 31.4	-1.0
SGMF	Saint Gilles	151.47 349	*e*PKP1	PKPbc	17 25 30.9	-1.7
	comp=Z,33nm,0.7s					
SGMF	Saint Gilles	151.47 349	*e*P	PKPbc	17 25 30.9	-1.7
SGMF	Saint Gilles	151.47 349	*e*PKIKP	PKPbc	17 25 30.9	-1.7
ROSF	Rostrenen	151.51 350	*e*PKP1	PKPbc	17 25 30.9	-1.8
	comp=Z,22nm,0.6s					
ROSF	Rostrenen	151.51 350	*e*P	PKPbc	17 25 30.9	-1.8
ROSF	Rostrenen	151.51 350	*e*PKIKP	PKPbc	17 25 30.9	-1.8
BNI	Bardonecchia	151.62 334	*e*PKPbc	PKPbc	17 25 32.3	-0.8
BNI	Bardonecchia	151.62 334	*e*PKIKP	PKPbc	17 25 32.3	-0.8
BGF	Bois d'Agland	151.72 341	*e*PKP1	PKPbc	17 25 31.9	-1.4
	comp=Z,17nm,0.5s					
BGF	Bois d'Agland	151.72 341	*e*P	PKPbc	17 25 31.9	-1.4
BGF	Bois d'Agland	151.72 341	*e*PKIKP	PKPbc	17 25 31.9	-1.4
MBDF	Montbardon	151.85 334	*e*PKP1	PKPbc	17 25 32.2	-1.4
	comp=Z,22nm,0.9s					
MBDF	Montbardon	151.85 334	*e*P	PKPbc	17 25 32.2	-1.4
MBDF	Montbardon	151.85 334	*e*PKIKP	PKPbc	17 25 32.2	-1.4
QUIF	Quistinic	151.90 350	*e*PKP1	PKPbc	17 25 31.8	-1.8
	comp=Z,11nm,0.7s					
QUIF	Quistinic	151.90 350	*e*P	PKPbc	17 25 31.8	-1.8
QUIF	Quistinic	151.90 350	*e*PKIKP	PKPbc	17 25 31.8	-1.8
ORIF	Oris-en-Rattie	152.06 335	*e*PKP1	PKPbc	17 25 32.9	-1.2
	comp=Z,21nm,0.6s					
ORIF			*e*R			
	comp=Z,58nm,20.8s					
ORIF	Oris-en-Rattie	152.06 335	*e*P	PKPbc	17 25 32.9	-1.2
ORIF	Oris-en-Rattie	152.06 335	*e*PKIKP	PKPbc	17 25 32.9	-1.2
TCF	Toulx Ste Croi	152.16 341	*e*PKP1	PKPbc	17 25 32.8	-1.5
	comp=Z,15nm,0.7s					
TCF	Toulx Ste Croi	152.16 341	*e*P	PKPbc	17 25 32.8	-1.5
TCF	Toulx Ste Croi	152.16 341	*e*PKIKP	PKPbc	17 25 32.8	-1.5
PGF	Pioggiola	152.52 328	*e*PKP1	PKPbc	17 25 33.7	-1.5
	comp=Z,58nm,0.7s					
PGF	Pioggiola	152.52 328	*e*P	PKPbc	17 25 33.7	-1.5
PGF	Pioggiola	152.52 328	*e*PKIKP	PKPbc	17 25 33.7	-1.5
MFF	Saint Martin d	152.53 345	*e*PKP1	PKPbc	17 25 33.4	-1.7
	comp=Z,8.4nm,0.5s					
MFF	Saint Martin d	152.53 345	*e*P	PKPbc	17 25 33.4	-1.7
MFF	Saint Martin d	152.53 345	*e*PKIKP	PKPbc	17 25 33.4	-1.7
VIVF	Saint-Julien-l	152.58 336	*e*PKP1	PKPbc	17 25 33.9	-1.4
VIVF	Saint-Julien-l	152.58 336	*e*P	PKPbc	17 25 33.9	-1.4
VIVF	Saint-Julien-l	152.58 336	*e*PKIKP	PKPbc	17 25 33.9	-1.4
FRF	La Foret Royal	152.84 332	*e*PKP1	PKPbc	17 25 34.1	-1.8
	comp=Z,11nm,0.6s					
FRF	La Foret Royal	152.84 332	*e*P	PKPbc	17 25 34.1	-1.8
FRF	La Foret Royal	152.84 332	*e*PKIKP	PKPbc	17 25 34.1	-1.8
SMRF	Simiane la Rot	152.96 334	*e*PKP1	PKPbc	17 25 35.2	-0.9
	comp=Z,9.1nm,0.6s					
SMRF	Simiane la Rot	152.96 334	*e*P	PKPbc	17 25 35.2	-0.9
LMR	La Mourre	153.08 332	*e*PKP1	PKPbc	17 25 34.7	-1.7
	comp=Z,12nm,0.7s					
LMR	La Mourre	153.08 332	*e*P	PKPbc	17 25 34.7	-1.7
LMR	La Mourre	153.08 332	*e*PKIKP	PKPbc	17 25 34.7	-1.7
LASF	Ste Croix	153.55 337	*e*PKP1	PKPbc	17 25 36.1	-1.3
	comp=Z,21nm,0.9s					
LASF	Ste Croix	153.55 337	*e*P	PKPbc	17 25 36.1	-1.3
KEST	Kesra	156.89 316	PKPab	PKPab	17 26 05.8	+0.9
	comp=Z,3.0nm,0.9s,baz=90,slow=3.7,SNR=5.6					
KEST	Kesra	156.89 316	PKPab	PKPab	17 26 05.8	+0.9
DBIC	Dimbokro	165.37 202	PKPab	PKPab	17 26 42.6	+0.3
	comp=Z,16nm,1.0s,baz=135,slow=3.1,SNR=12					
DBIC	Dimbokro	165.37 202	PKPab	PKPab	17 26 42.6	+0.3
DBIC	Dimbokro	165.37 202	PKP2	PKPab	17 26 42.6	+0.3
TORD	Torodi Ar. Bea	166.40 240	PKP	PKPdf	17 25 43.5	-1.3
	comp=Z,1.6nm,0.9s,baz=130,slow=0.9,SNR=8.7					
TORD			PKPab	PKPab	17 26 46.3	-0.7
	comp=Z,1.3nm,0.5s,baz=116,slow=4.5,SNR=8.0					
TORD	Torodi Ar. Bea	166.40 240	PKP	PKPdf	17 25 43.5	-1.3
TORD			PKPab	PKPab	17 26 46.3	-0.7

IDC 02 17:17:35.5±5.6, 29°.97S×177°.11W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=215.4km s-min=51.7km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.33 256		P	P	17 24 33.0	+0.5
	2.4nm,0.9s,baz=115,slow=14,SNR=4.5						
ASAR	Alice Springs	43.91 266		P	P	17 25 43.6	-0.5
	0.6nm,0.9s,baz=103,slow=7.3,SNR=9.7						
WRA	Warramunga Arr	44.86 271		P	P	17 25 51.4	-0.3
	0.5nm,0.4s,baz=111,slow=8.1,SNR=11						
FINES	FINESS Array B	145.00 341		PKPbc	PKPdf	17 37 12.8	-1.2
	2.5nm,0.8s,baz=52,slow=3.8,SNR=6.5						

IDC 02 17:48:59.5±4.0, 3°.46S×131°.22E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/15, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=281.8km s-min=28.3km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.66	170	Pn	Pn	17 52 52.5	-2.1
	0.1nm,0.3s,baz=350,slow=11,SNR=11						
WRA				Sn	Sn	17 55 49.2	-11
	0.2nm,0.3s,baz=347,slow=24,SNR=4.8						
ASAR	Alice Springs	20.26	173	P	P	17 53 37.6	+1.0
	0.8nm,0.5s,baz=350,slow=12,SNR=30						
MKAR	Makanchi Array	65.98	325	P	P	17 59 47.8	+0.1
	0.4nm,0.7s,baz=109,slow=7.8,SNR=3.6						

*ISCJB **02** 18:39:52.3±3.7, 17°.96N±0°.08×147°.2E±0°.3, h69km±28km, mb3.7/6, Error ellipse: s-maj=53.0km s-min=14.1km az=178.5*
*IDC **02** 18:39:55.7±5.2, 17°.97N×146°.93E, h73km±38km, mb3.3/6, mb1 3.6/7, mb1mx3.4/22, mbtmp3.4/7, ML4.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/13, Error ellipse: s-maj=60.5km s-min=15.9km az=83.0*
*NEIC **02** 18:39:55.6±3.1, 17°.89N×146°.93E, h75km±21km, mb4.3/1, Error ellipse: s-maj=59.8km s-min=12.4km az=84.0*
ISC 02 18:39:54.5±3.5, 17°.94N±0°.09×147°.2E±0°.3, h73km±25km, n15, σ0s77/18, mb3.7/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.86	208	P	Pn	18 41 04.1	-1.1
	9.8nm,0.3s,baz=26,slow=9.3,SNR=5.2						
GUMO				S	Sn	18 42 00.7	+0.5
	9.1nm,0.3s,baz=174,slow=23,SNR=2.6						
GUMO	Guam	4.86	208	P	Pn	18 41 04.1	-1.1
GUMO				S	Sn	18 42 00.7	+0.5
GUMO				*e*Sn	Sn	18 42 01.4	+1.2
MJAR	Matsushiro Arr	20.16	339	P	P	18 44 24.0	+1.2
	1.2nm,0.6s,baz=162,slow=10.0,SNR=4.4						
MJAR	Matsushiro Arr	20.16	339	P	P	18 44 24.0	+1.2
KSRS	Korea Array	25.77	323	P	P	18 45 18.6	+0.2
	2.1nm,1.1s,mb3.5,baz=64,slow=30,SNR=4.1						
KSRS				LR	LR	18 54 22.1	
	comp=Z,26nm,20.8s,baz=80,slow=34						
KSAR	Wonju Array Be	25.78	323	P	P	18 45 18.6	+0.1
WRAB	Tennant Creek	39.68	199	*e*P	P	18 47 19.2	-0.4
	2.8nm,0.8s,mb4.1						
WRA	Warramunga Arr	39.70	199	P	P	18 47 19.8	+0.1
	1.4nm,0.7s,mb3.9,baz=22,slow=8.7,SNR=16						
WRA				PcP	PcP	18 49 26.7	+1.5
	0.3nm,0.6s,baz=17,slow=3.4,SNR=5.5						
WRA	Warramunga Arr	39.70	199	P	P	18 47 19.8	+0.1
WRA				PcP	PcP	18 49 26.7	+1.5
ASAR	Alice Springs	43.33	198	P	P	18 47 50.4	+1.0
	0.6nm,0.6s,mb3.5,baz=22,slow=8.2,SNR=

WRA	Warramunga Arr	19.39 119	P	Pn	19 09 23.5	-0.6
	0.0nm,0.3s,baz=295,slow=12,SNR=3.6					
ASAR	Alice Springs	20.86 129	P	P	19 09 38.5	-0.5
	0.5nm,0.7s,baz=300,slow=10,SNR=6.4					
MKAR	Makanchi Array	65.16 335	P	P	19 15 38.4	+0.2
	0.1nm,0.4s,baz=153,slow=6.8,SNR=5.1					

*IDC **02** 19:30:14.3±1.7, 0.87S×134.61E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/17, mbtmp4.0/5, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/26, Error ellipse: s-maj=78.3km s-min=22.1km az=69.0*

*ISCJB **02** 19:30:17.0±1.2, 0.8S±0.1×135.3E±0.4, h33km, mb3.8/4, Error ellipse: s-maj=53.1km s-min=14.7km az=164.8*

*NEIC **02** 19:30:19.0±1.0, 0.75S×135.37E, h35km, mb3.9/3, Error ellipse: s-maj=37.2km s-min=12.8km az=72.0*

ISC 02 19:30:19.3±1.2, 0.8S±0.1×135.2E±0.3, h35km, n16, σ0.88/15, mb3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	17.21	33	LR	LR	19 38 51.7	
	comp=Z,80nm,21.8s,baz=268,slow=29						
WRAB	Tennant Creek	19.02 183		eP	Pn	19 34 39.1	-0.1
	9.7nm,1.0s						
WB2	Warramunga Arr	19.02 183		eP	Pn	19 34 39.4	0.0
WRA	Warramunga Arr	19.02 183		P	Pn	19 34 38.4	-0.9
	0.4nm,0.3s,baz=356,slow=11,SNR=48						
WRA	Warramunga Arr	19.02 183		P	Pn	19 34 38.4	-0.9
CTA	Charters Tower	21.98 151		P	P	19 35 11.0	+0.7
	2.6nm,0.6s,mb3.9,baz=326,slow=8.9,SNR=4.4						
CTA	Charters Tower	21.98 151		P	P	19 35 11.0	+0.7
CTAO	Charters Tower	21.98 151		eP	P	19 35 09.4	-0.9
	6.5nm,0.8s,mb4.1						
AS31	Alice Springs	22.75 183		eP	P	19 35 19.1	+0.6
ASAR	Alice Springs	22.75 183		P	P	19 35 19.2	+0.7
	3.9nm,0.8s,mb3.9,baz=8.4,slow=11,SNR=38						
ASAR	Alice Springs	22.75 183		P	P	19 35 19.2	+0.7
STKA	Stephens Creek	31.47 170		P	P	19 36 37.5	-0.2
	1.1nm,0.6s,mb3.9,baz=0.0,slow=9.1,SNR=5.3						
STKA	Stephens Creek	31.47 170		eP	P	19 36 37.1	-0.6
	0.7nm,0.7s,mb3.6						
MK31	Makanchi Array	66.19 323		P	P	19 41 05.1	+1.6
MKAR	Makanchi Array	66.19 323		P	P	19 41 01.9	-1.6
	0.3nm,0.4s,mb3.6,baz=103,slow=7.6,SNR=9.7						
MKAR	Makanchi Array	66.19 323		P	P	19 41 01.9	-1.6

*IDC **02** 19:52:08.1±5.5, 26.79S×178.45W, h253km±52km, mb3.6/8, mb1 3.9/9, mb1mx3.7/14, mbtmp3.6/9, Error ellipse: s-maj=25.3km s-min=23.3km az=13.0*

*ISCJB **02** 19:52:10.8±0.9, 26.85S±0.06×178.6W±0.1, h287km±9km, mb3.9/15, Error ellipse: s-maj=17.1km s-min=10.0km az=1.1*

*NEIC **02** 19:52:11.4±0.8, 26.79S×178.52W, h284km±8km, mb4.1/8, Error ellipse: s-maj=14.1km s-min=10.6km az=92.0*

ISC 02 19:52:11.7±1.0, 26.79S±0.08×178.5W±0.1, h283km±9km, n44, σ0.88/37, mb3.9/15, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.51	168	⇓ePn	Pn	19 53 01.6	+0.2
RAO				eS	S	19 53 30.0	-11
MSVF	Nonsavu	9.55	340	⇓ePn	Pn	19 54 25.0	+0.6
	111nm,0.9s						
URZ	Urewera	12.01 197		P	Pn	19 54 52.6	-1.9
	1.7nm,0.3s,baz=267,slow=2.2,SNR=18						
URZ				S	S	19 57 00.8	-7.3
	6.7nm,0.3s,baz=80,slow=21,SNR=9.8						
URZ	Urewera	12.01 197		P	Pn	19 54 52.6	-1.9
URZ				S	S	19 57 00.8	-7.3
DZM	Mont Dzumac	14.46 286		eP	Pn	19 55 27.8	+3.4
	11nm,0.7s						
ASAR	Alice Springs	42.94 263		P	P	19 59 43.5	+0.1
	2.7nm,0.7s,mb3.6,baz=94,slow=7.0,SNR=67						
ASAR	Alice Springs	42.94 263		P	P	19 59 43.5	+0.1
WB2	Warramunga Arr	43.59 269		eP	P	19 59 48.2	-0.3
WRAB	Tennant Creek	43.59 269		eP	P	19 59 48.2	-0.3
	3.7nm,0.8s,mb3.7						
WRA	Warramunga Arr	43.60 269		P	P	19 59 48.5	-0.2
	3.6nm,0.7s,mb3.7,baz=104,slow=7.9,SNR=36						
WRA	Warramunga Arr	43.60 269		P	P	19 59 48.5	-0.2
VNDA	Vanda	51.63 185		eP	P	20 00 50.4	+1.3
	1.2nm,0.8s,mb3.3						
QSPA	South Pole Qui	63.30 180		P	P	20 02 11.1	+1.0
	1.7nm,0.8s,mb3.7						
MJAR	Matsushiro Arr	75.02 325		P	P	20 03 21.9	-0.3
	4.6nm,0.5s,mb4.4,baz=154,slow=5.6,SNR=20						
MJAR	Matsushiro Arr	75.02 325		P	P	20 03 21.9	-0.3
MAJO	Matsushiro	75.02 325		eP	P	20 03 21.7	-0.6
	5.3nm,0.6s,mb4.3						
MAT	Matsushiro	75.02 325		P	P	20 03 21.7	-0.6
MAW	Mawson	75.51 200		P	P	20 03 25.2	+0.5
	1.7nm,0.5s,mb3.9,baz=158,slow=5.4,SNR=7.1						
MAW	Mawson	75.51 200		P	P	20 03 25.2	+0.5
KSRS	Korea Array	81.30 320		P	P	20 03 57.0	+0.4
	1.5nm,0.6s,mb3.9,baz=134,slow=6.8,SNR=7.3						
YSS	Yuzh-Sakhalins	81.30 334		eP	P	20 03 56.4	+0.1
	66nm,1.3s,mb5.2						
KSAR	Wonju Array Be	81.32 320		P	P	20 03 57.0	+0.4
SNAA	Sanae	81.76 179		eP	P	20 03 53.9	-4.7
VNA3	Neumayer Olymp	81.92 176		e	P	20 03 58.8	-0.6
VNA2	Neumayer--Watz	82.35 177		e	P	20 04 01.5	-0.1
	baz=176,slow=3.1						
VNA1	Neumayer--Stat	82.58 177		e	P	20 04 03.7	+0.9
ISA	Isabella	84.09 45		eP	P	20 04 12.2	+1.3
	3.2nm,0.7s,mb4.3						
CMB	Columbia Colle	84.41 42		P	P	20 04 09.7	-2.8
	3.5nm,0.9s,mb4.2						
NVAR	Mina Array Bea	85.93 43		P	P	20 04 20.2	+0.3
	0.6nm,0.5s,mb3.7,baz=230,slow=7.0,SNR=3.3						
NVAR	Mina Array Bea	85.93 43		P	P	20 04 20.2	+0.3
TXAR	Lajitas Array	90.85 57		P	P	20 04 43.0	-0.4
	0.3nm,0.7s,mb3.2,baz=205,slow=11,SNR=4.3						
TXAR	Lajitas Array	90.85 57		P	P	20 04 43.0	-0.4
ILAR	Eielson Array	94.53 13		P	P	20 04 58.5	-0.9
	0.2nm,0.4s,mb3.6,baz=208,slow=5.1,SNR=1.8						
ILAR	Eielson Array	94.53 13		P	P	20 04 58.5	-0.9
ARCES	ARCESS Array B	134.98 348		PKP	PKPdf	20 10 56.0	-0.2
	2.8nm,1.1s,baz=59,slow=3.5,SNR=2.7						
ARCES	ARCESS Array B	134.98 348		PKP	PKPdf	20 10 56.0	-0.2
FINES	FINESS Array B	141.60 341		PKhKP	PKPpre	20 11 01.2	
	2.6nm,0.8s,baz=93,slow=2.8,SNR=5.3						
FINES	FINESS Array B	141.60 341		PKPpre	PKPpre	20 11 01.2	
NOA	NORSAR Array B	145.13 352		PKPbc	PKPbc	20 11 14.3	-0.6
	3.2nm,0.9s,baz=16,slow=2.9,SNR=4.9						
NOA	NORSAR Array B	145.13 352		PKPbc	PKPbc	20 11 14.3	-0.6
AKASG	Malin Array Be	148.10 326		PKPbc	PKPbc	20 11 22.6	-1.1
	1.9nm,0.5s,baz=41,slow=3.6,SNR=7.4						
AKASG	Malin Array Be	148.10 326		PKPbc	PKPbc	20 11 22.6	-1.1
BRTR	Keskin Array B	150.33 304		PKPbc	PKPbc	20 11 28.8	-0.7
	0.6nm,0.5s,baz=128,slow=3.4,SNR=4.5						
BRTR				PKPab	PKPab	20 11 35.6	-1.3
	0.5nm,0.6s,baz=79,slow=3.7,SNR=4.9						
BRTR	Keskin Array B	150.33 304		PKPbc	PKPbc	20 11 28.8	-0.7
BRTR				PKPab	PKPab	20 11 35.6	-1.3

*ISCJB **02** 20:03:23.5±1.3, 21.14S±0.06×68.56W±0.1, h89km±13km, mb4.4/20, Error ellipse: s-maj=17.0km s-min=7.2km az=151.3*

*IDC **02** 20:03:24.1±3.1, 21.04S×68.48W, h77km±28km, mb4.1/9, mb1 4.2/11, mb1mx4.0/16, mbtmp4.1/11, Error ellipse: s-maj=23.5km s-min=17.9km az=58.0*

*NEIC **02** 20:03:25.9±1.0, 21.22S×68.61W, h100km±10km, mb4.5/15, Error ellipse: s-maj=15.9km s-min=8.2km az=72.0*

ISC 02 20:03:24.9±1.0, 21.20S±0.05×68.61W±0.09, h86km±10km, n64, σ1.27/54, mb4.4/20, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.91	5	ePn	Pn	20 04 40.7	+4.4
LCO	Las Campanas	8.01	193	ePn	Pn	20 05 17.2	-1.2
	21nm,0.5s						
LCO				eSn	Sn	20 06 44.4	-3.0
CFAA	Coronel Fontan	10.37 178		P	Pn	20 05 50.6	-0.1
	0.2nm,0.3s,baz=5.6,slow=12,SNR=5.0						
CFAA				S	Sn	20 07 40.5	-4.5
	0.5nm,0.3s,baz=173,slow=13,SNR=7.5						
CFAA	Coronel Fontan	10.37 178		P	Pn	20 05 50.6	-0.1
CFAA				S	Sn	20 07 40.5	-4.5
CPUP	Villa Florida	11.52 118		P	Pn	20 06 08.8	+2.3
	0.6nm,0.3s,baz=284,slow=10,SNR=3.4						
CPUP	Villa Florida	11.52 118		P	Pn	20 06 08.8	+2.3
NNA	Nana	12.08 318		P	Pn	20 06 13.9	-0.2
	1.8nm,0.3s,baz=229,slow=7.9,SNR=2.8						
NNA	Nana	12.08 318		Pn	Pn	20 06 13.5	-0.6
NNA				eSn	Sn	20 08 27.5	+0.5
ATAH	Atahualpa	16.88 325		P	Pn	20 07 18.5	+2.6
	0.5nm,0.3s,baz=233,slow=9.7,SNR=5.8						
ATAH	Atahualpa	16.88 325		P	Pn	20 07 18.5	+2.6
TRQA	Tornquist	17.75 163		eP	Pn	20 07 26.6	+0.2
	8.7nm,1.2s						
PLCA	Paso Flores	19.54 184		P	Pn	20 07 48.7	+1.0
	0.1nm,0.3s,baz=9.0,slow=12,SNR=8.3						
PLCA	Paso Flores	19.54 184		eP	Pn	20 07 47.6	-0.1
	2.2nm,0.7s						
OTAV	Otavalo	23.37 334		P	P	20 08 27.6	+1.6
RCBR	Riachuelo	35.17 69		P	P	20 10 09.8	-1.0
	5.3nm,0.7s,mb4.5,baz=210,slow=6.3,SNR=4.7						
RCBR	Riachuelo	35.17 69		P	P	20 10 09.8	-1.0
CELP	Cerrillos	39.08 3		eP	P	20 10 41.2	-2.6
SJG	San Juan	39.14 4		eP	P	20 10 41.7	-2.6
	50nm,1.2s,mb5.2						
TEIG	Tepich	45.44 334		eP	P	20 11 34.8	-0.6
	7.9nm,0.8s,mb4.5						
SWET	Sewanee	58.46 343		eP	P	20 13 10.8	-1.1
	10.0nm,0.6s,mb5.0						
WVT	Waverly	59.85 342		eP	P	20 13 20.0	-1.4
	12nm,0.6s,mb5.1						
VNA3	Neumayer Olymp	60.27 161		e	P	20 13 25.4	+1.5
MIAR	Mount Ida	60.30 336		eP	P	20 13 23.9	-0.7
	5.1nm,0.5s,mb4.8						
VNA1	Neumayer--Stat	60.47 161		e	P	20 13 27.1	+1.8
TXAR	Lajitas Array	60.54 325		P	P	20 13 26.1	-0.2
	0.6nm,0.6s,mb3.8,baz=149,slow=9.9,SNR=7.1						
TXAR	Lajitas Array	60.54 325		P	P	20 13 26.1	-0.2
VNA2	Neumayer--Watz	60.84 161		e	P	20 13 28.6	+0.8
	baz=299,slow=7.0						
SNAA	Sanae	62.47 161		e	P	20 13 35.8	-3.0
SNAA	Sanae	62.47 161		eP	P	20 13 35.0	-3.7
	9.0nm,1.4s,mb4.6						
ANMO	Albuquerque	66.40 327		P	P	20 14 04.8	-0.1
DBIC	Dimbokro	68.38 73		P	P	20 14 17.1	-0.8
	4.0nm,0.7s,mb4.4,baz=241,slow=4.8,SNR=9.7						
DBIC	Dimbokro	68.38 73		eP	P	20 14 16.9	-1.0
	6.4nm,0.8s,mb4.5						
QSPA	South Pole Qui	68.99 180		eP	P	20 14 21.8	+1.2
	2.0nm,0.6s,mb4.1						
ARUT	Antelope Range	72.24 324		eP	P	20 14 41.5	+0.7
	3.6nm,0.6s,mb4.4						
ISA	Isabella	73.67 320		eP	P	20 14 50.7	+1.4
PDAR	Pinedale Array	73.99 330		P	P	20 14 51.8	+0.7
	0.9nm,0.8s,mb3.5,baz=117,slow=5.8,SNR=4.9						
PDAR	Pinedale Array	73.99 330		P	P	20 14 51.8	+0.7
HWUT	Hardware Ranch	74.08 328		eP	P	20 14 50.2	-1.3
	4.5nm,0.8s,mb4.2						
ULM	Lac du Bonnet	75.11 342		P	P	20 14 56.4	-1.0
	3.2nm,0.5s,mb4.3,baz=172,slow=7.2,SNR=6.3						
ULM	Lac du Bonnet	75.11 342		P	P	20 14 56.4	-1.0
FLWY	Flagg Ranch	75.53 330		eP	P	20 15 01.4	+1.5
	19nm,1.5s,mb4.6						
SCHQ	Schefferville	75.73 1		P	P	20 15 00.2	-0.6
	4.6nm,0.8s,mb4.3,baz=225,slow=2.0,SNR=3.6						
SCHQ	Schefferville	75.73 1		P	P	20 15 00.2	-0.6
HLID	Hailey	76.94 328		eP	P	20 15 09.3	+1.5
	2.2nm,0.8s,mb3.9						
TORD	Torodi Ar. Bea	76.99 70		P	P	20 15 07.8	-1.0
	4.1nm,0.5s,mb4.4,baz=250,slow=5.6,SNR=83						
TORD	Torodi Ar. Bea	76.99 70		P	P	20 15 07.8	-1.0
MAW	Mawson	84.54 163		P	P	20 15 49.1	+0.9
	2.2nm,0.5s,mb4.3,baz=217,slow=11,SNR=7.4						
MAW	Mawson	84.54 163		eP	P	20 15 48.6	+0.4
	0.6nm,0.6s,mb3.7						
YKA	Yellowknife Ar	91.00 340		P	P	20 16 18.6	-0.3
	1.9nm,0.5s,mb4.5,baz=132,slow=4.6,SNR=19						
YKA	Yellowknife Ar	91.00 340		P	P	20 16 18.6	-0.3
ASAR	Alice Springs	130.31 207		PKP	PKPdf	20 22 25.9	0.0
	0.7nm,0.5s,baz=138,slow=1.9,SNR=14						
ASAR	Alice Springs	130.31 207		PKP	PKPdf	20 22 25.9	0.0
WRA	Warramunga Arr	133.35 210		PKP	PKPdf	20 22 32.0	+0.2
	1.2nm,0.6s,baz=157,slow=1.7,SNR=31						
WRA	Warramunga Arr	133.35 210		PKP	PKPdf	20 22 32.0	+0.2
ZAA0	Zalesovo Array	141.56 25		ePKPdf	PKPdf	20 22 45.7	-0.2
ZALV	Zalesovo Beam	141.56 25		PKhKP	PKPpre	20 22 42.5	
	1.6nm,0.5s,baz=339,slow=5.1,SNR=7.2						
ZALV				PKP	PKPdf	20 22 46.1	+0.3
	2.1nm,0.6s,baz=301,slow=2.7,SNR=10						
ZALV	Zalesovo Beam	141.56 25		PKPpre	PKPpre	20 22 42.5	
ZALV				PKP	PKPdf	20 22 46.1	+0.3
MK31	Makanchi Array	145.23 36		ePKPdf	PKPdf	20 22 52.4	-0.1
MKAR	Makanchi Array	145.23 36		PKPbc	PKPbc	20 22 52.5	+0.1
	5.6nm,0.8s,baz=337,slow=2.7,SNR=56						
MKAR	Makanchi Array	145.23 36		PKPbc	PKPbc	20 22 52.5	+0.1
MJAR	Matsushiro Arr	152.10 309		PKPbc	PKPbc	20 23 10.5	-0.1
	2.3nm,0.8s,baz=99,slow=2.6,SNR=5.6						
MJAR	Matsushiro Arr	152.10 309		PKPbc	PKPbc	20 23 10.6	-0.1
SONM	Songino Array	153.12 7		PKPbc	PKPbc	20 23 12.8	+0.3
	1.5nm,0.8s,baz=322,slow=2.0,SNR=3.6						
SONM	Songino Array	153.12 7		PKPbc	PKPbc	20 23 12.8	+0.3

KRSC 02 20:15:44.6±0.8, 51.66N×161.71E, h43km±43km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.77 325		S	Sn	20 16 34.7	+0.7
NLC	Nalytchevo	2.10 317		S	Sn	20 16 42.8	+0.9
RUS	Russkaya	2.12 293		P	Pn	20 16 18.6	+1.1
RUS				S	Sn	20 16 43.5	+0.9
PET	Petropavlovsk	2.32 307		P	Pn	20 16 23.0	+2.8
PET				S	Sn	20 16 50.3	+2.8
UGLR	Uglovaya	2.35 312		P	Pn	20 16 24.2	+3.6
SDLR	Sedlovina	2.37 314		P	Pn	20 16 24.3	+3.4
AVH	Avacha	2.43 313		eP	Pn	20 16 25.6	+3.9
KOK	Koryaka	2.49 312		P	Pn	20 16 27.1	+4.5
MKZ	Mys Kozlova	2.90 0		eP	Pn	20 16 31.1	+2.9
MKZ				S	Sn	20 17 05.8	+4.0
GNL	Ganaly	3.07 313		eP	Pn	20 16 34.5	+4.0
MIPR	Malaya Ipel'ka	3.12 283		eP	Pn	20 16 32.8	+1.5
BKI	Bering	4.37 34		P	Pn	20 16 51.0	+2.7
BKI				S	Sn	20 17 38.9	+1.0
KBTR	Krutoberegovo	4.60 8		P	Pn	20 16 55.2	+3.7

IDC 02 20:40:32.2±13.0, 10.40N×139.75E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=354.0km s-min=34.6km az=59.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.61 190		P	P	20 46 47.9	-0.2
	0.5nm,1.1s,baz=12,slow=9.3,SNR=5.4						
ASAR	Alice Springs	34.33 190		P	P	20 47 21.0	+0.3
	0.3nm,0.8s,baz=13,slow=12,SNR=3.4						
CMAR	Chiang Mai Arr	40.25 286		P	P	20 48 11.1	-0.1
	0.7nm,0.8s,baz=91,slow=6.5,SNR=5.4						

*NEIC **02** 20:47:49.6±0.9, 36.20N×71.70E, h10km, mb3.8/2, Error ellipse: s-maj=11.8km s-min=7.9km az=166.0*

*ISCJB **02** 20:47:51.7±0.6, 36.40N±0.04×71.33E±0.10, h153km±13km, Error ellipse: s-maj=12.8km s-min=6.0km az=174.8*

*NNC **02** 20:47:57.0±11.0, 36.82N×70.81E, h124km±237km, mb2.9, mpv3.6, Error ellipse: s-maj=97.5km s-min=70.2km az=24.0*

ISC 02 20:47:52.7±0.6, 36.39N±0.04×71.32E±0.09, h152km±11km, n32, σ0.87/40, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.60 169		P	Pn	20 48 36.2	+1.1
CEP				S	Sn	20 49 07.0	-0.9
KBL	Kabul	2.62 226		ePn	Pn	20 48 35.7	+0.4
KBL				eSn	Sn	20 49 06.8	-1.4
CHCP	Chirah Chowk	3.15 149		P	Pn	20 48 43.7	+1.7
THW	Thamme Wali	3.60 174		P	Pn	20 48 48.9	+1.1
AAK	Ala-Archa	6.70 20		ePn	Pn	20 49 29.6	+1.0
	13nm,0.4s						
AAK				eSn	Sn	20 50 42.3	-1.5
KK31	Karatay Array	6.74 355		⇑P	Pn	20 49 28.8	-0.3
	2.0nm,0.3s,baz=194,slow=16,SNR=4.4						
KK31				⇑S	Sn	20 50 38.7	-6.0
	2.6nm,0.4s,baz=188,slow=26,SNR=5.6						
TKM2	Tokmak 2	7.31 25		⇓P	Pn	20 49 36.8	+0.1
	2.2nm,0.5s						
TKM2				⇓S	Sn	20 50 58.9	+0.5
	4.4nm,1.0s						
PYUN	Piuthan	12.87 127		eP	Pn	20 50 49.6	-0.4
	7.5nm,0.4s						
PYUN	Piuthan	12.87 127		eP	Pn	20 50 49.6	-0.4
	7.5nm,0.4s						
DANN	Dangsing	13.21 124		eP	Pn	20 50 53.8	-0.6
	4.9nm,0.3s						
DANN	Dangsing	13.21 124		eP	Pn	20 50 53.8	-0.6
	4.9nm,0.3s						
KOLN	Koldanda	13.49 126		eP	Pn	20 50 57.1	-0.9
	6.1nm,0.4s						
KOLN	Koldanda	13.49 126		eP	Pn	20 50 57.1	-0.9
	6.1nm,0.4s						
GKN	Gorkha	14.02 123		eP	Pn	20 51 04.2	-0.5
	8.2nm,0.4s						
GKN				eS	Sn	20 53 30.5	-10
GKN	Gorkha	14.02 123		eP	Pn	20 51 04.2	-0.5
	8.2nm,0.4s						
GKN				eS	Sn	20 53 30.5	-10
DMN	Daman	14.59 123		eP	Pn	20 51 12.0	+0.1
DMN	Daman	14.59 123		eP	Pn	20 51 12.0	+0.1
KKN	Kakani	14.60 122		eP	Pn	20 51 10.6	-1.3
KKN	Kakani	14.60 122		eP	Pn	20 51 10.6	-1.3
PKI	Pulchoki	14.82 122		eP	Pn	20 51 14.0	-0.8
PKI	Pulchoki	14.82 122		eP	Pn	20 51 14.0	-0.8
GUN	Gumba	14.94 120		eP	Pn	20 51 16.5	+0.4
GUN	Gumba	14.94 120		eP	Pn	20 51 16.5	+0.4
JIRN	Jiri	15.31 120		eP	Pn	20 51 20.4	-0.3
	1.8nm,0.3s						
JIRN	Jiri	15.31 120		eP	Pn	20 51 20.4	-0.3
	1.8nm,0.3s						
AB31	Akbulak array	15.31 331		P	Pn	20 51 20.9	+0.4
	0.2nm,0.3s,baz=2.1,slow=26,SNR=29						
AB31				⇓S	S	20 53 58.5	-13
	baz=149,slow=23,SNR=2.9						
RAMN	Ramite	16.03 122		eP	Pn	20 51 29.6	-0.1
RAMN	Ramite	16.03 122		eP	Pn	20 51 29.6	-0.1
TAPN	Taplejung	16.56 118		eP	Pn	20 51 37.3	+1.2
	3.2nm,0.4s						
TAPN	Taplejung	16.56 118		eP	Pn	20 51 37.3	+1.2
	3.2nm,0.4s						
ODAN	Odare	16.64 120		eP	Pn	20 51 38.1	+1.1
	4.0nm,0.6s						
ODAN	Odare	16.64 120		eP	Pn	20 51 38.1	+1.1
	4.0nm,0.6s						

IDC 02 21:09:48.9±3.5, 5.85S×129.06E, h424km±38km, mb2.8/1, mb1 2.5/4, mb1mx2.4/16, mbtmp2.3/4, Error ellipse: s-maj=67.7km s-min=14.8km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.63 195		P	P	21 12 33.8	-1.2
	baz=20,slow=11						
FITZ				S	S	21 14 53.5	+1.3
	0.1nm,0.3s,baz=16,slow=15,SNR=1.3						
WRA	Warramunga Arr	14.92 160		P	P	21 12 59.2	-0.6
	0.1nm,0.3s,baz=344,slow=12,SNR=4.1						
WRA				S	S	21 15 41.2	+3.5
	0.1nm,0.3s,baz=337,slow=22,SNR=2.8						
ASAR	Alice Springs	18.32 166		P	P	21 13 36.5	+0.6
	0.1nm,0.3s,baz=346,slow=11,SNR=2.7						
ASAR				S	S	21 16 43.2	+0.6
	0.0nm,0.3s,baz=350,slow=21,SNR=1.5						
MKAR	Makanchi Array	66.76 327		P	P	21 19 56.6	+0.1
	0.2nm,0.4s,baz=116,slow=7.6,SNR=2.8						

*NEIC **02** 21:12:27.1, 16.73N×99.71W, h15km, MD3.3(MEX), After MEX.*

MEX 02 21:12:26.2±0.8, 16.74N×99.72W, h34km±10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.19 313		eP	Pb	21 12 32.0	-0.8
ACX				i S	Sb	21 12 36.1	-1.1
ACX	Acapulco	0.19 313		eP	Pb	21 12 32.0	-0.8
ACX				i S	Sb	21 12 36.1	-1.1
CAIG	El Cayaco	0.61 300		eP	Pn	21 12 37.5	-1.0
CAIG				i S	Sb	21 12 44.0	-3.0
CAIG	El Cayaco	0.61 300		eP	Pn	21 12 37.5	-1.0
CAIG				i S	Sb	21 12 44.0	-3.0
MEIG	Mezcala	1.18 4		eP	Pn	21 12 45.1	-1.3
MEIG				i S	Sn	21 13 00.4	-0.9
MEIG	Mezcala	1.18 4		eP	Pn	21 12 45.1	-1.3
MEIG				i S	Sn	21 12 58.4	-2.9
PNIG	Pinotepa	1.56 103		eP	Pn	21 12 50.4	-1.2
PNIG				i S	Sn	21 13 09.9	-0.8
PNIG	Pinotepa	1.56 103		eP	Pn	21 12 50.3	-1.3
PNIG				i S	Sn	21 13 07.8	-2.9
ZIIG	Zihuatanejo	1.88 297		i P	Pn	21 12 54.2	-1.7
ZIIG				i S	Sn	21 13 17.7	-0.8
ZIIG	Zihuatanejo	1.88 297		i P	Pn	21 12 53.8	-2.1
ZIIG				i S	Sn	21 13 16.4	-2.1
UTMO	Huajuapan	2.12 59		i P	Pn	21 13 00.3	+1.0
UTMO				i S	Sn	21 13 25.6	+1.1
UTMO	Huajuapan	2.12 59		i P	Pn	21 12 58.9	-0.4
UTMO				i S	Sn	21 13 23.3	-1.3

*NIED **02** 21:29:00, 42.80N×145.30E, h59km, Mw3.5 Best double couple: M0=2.04000×10^14

ERM				*e*Sn	Sn	21 30 41.7	-1.5
ERM	**Erimo**	**1.77**	**245**	*e*PN	Pn	21 30 23.8	+2.2
ERM				*e*		21 30 41.7	
JMP	**Maruseppu**	**1.87**	**311**	P	Pn	21 30 23.5	+0.5
ASAJ	**Asahikawa**	**2.38**	**305**	P	Pn	21 30 31.1	+1.4
	comp=N,16nm,0.3s,baz=142,slow=9.6,SNR=96						
ASAJ				S	Sn	21 30 58.4	+0.5
	comp=N,7.0nm,0.3s,baz=65,slow=31,SNR=6.7						
ASAJ	**Asahikawa**	**2.38**	**305**	P	Pn	21 30 31.1	+1.4
ASAJ				S	Sn	21 30 58.4	+0.5
ASAJ	**Asahikawa**	**2.38**	**305**	PN	Pn	21 30 31.2	+1.4
ASAJ				S	Sn	21 30 58.4	+0.5
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
SONM	**Songino Array**	**27.62**	**294**	P	P	21 35 33.7	+0.4
	comp=N,1.4nm,0.7s,mb3.6,baz=83,slow=11,SNR=3.6						
SONM	**Songino Array**	**27.62**	**294**	P	P	21 35 33.7	+0.4
SONM	**Songino Array**	**27.62**	**294**	P	P	21 35 33.7	+0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**40.51**	**308**	P	P	21 37 23.2	-1.3
	comp=Z,0.7nm,0.4s,mb3.8,baz=72,slow=9.3,SNR=6.5						
ZALV	**Zalesovo Beam**	**40.51**	**308**	P	P	21 37 23.2	-1.3
ZALV	**Zalesovo Beam**	**40.51**	**308**	P	P	21 37 23.3	-1.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**43.06**	**36**	P	P	21 37 45.1	0.0
	comp=Z,0.7nm,0.9s,mb3.4,baz=259,slow=6.3,SNR=5.5						
ILAR	**Eielson Array**	**43.06**	**36**	P	P	21 37 45.1	0.0
ILAR	**Eielson Array**	**43.06**	**36**	P	P	21 37 45.2	0.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**43.84**	**298**	P	P	21 37 51.4	-0.3
	comp=Z,0.7nm,0.7s,mb3.5,baz=85,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**43.84**	**298**	P	P	21 37 51.4	-0.3
MKAR	**Makanchi Array**	**43.84**	**298**	P	P	21 37 51.4	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**44.95**	**304**	*e*P	P	21 38 00.1	-0.4
	comp=Z,0.6nm,0.5s,mb3.6						
KURK	**Kurchatov**	**44.95**	**304**	*e*P	P	21 38 00.1	-0.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
YKA	**Yellowknife Ar**	**57.35**	**33**	P	P	21 39 33.6	+0.5
	comp=Z,0.8nm,0.8s,mb3.8,baz=291,slow=6.7,SNR=2.6						
YKA	**Yellowknife Ar**	**57.35**	**33**	P	P	21 39 33.6	+0.5
YKA	**Yellowknife Ar**	**57.35**	**33**	P	P	21 39 33.6	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**59.68**	**339**	P	P	21 39 49.6	+0.5
	comp=Z,5.1nm,1.1s,mb4.5,baz=66,slow=9.2,SNR=2.8						
ARCES	**ARCESS Array B**	**59.68**	**339**	P	P	21 39 49.6	+0.5
ARCES	**ARCESS Array B**	**59.68**	**339**	P	P	21 39 49.6	+0.4
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**63.23**	**192**	P	P	21 40 13.2	-0.4
	comp=Z,0.4nm,0.9s,mb3.3,baz=6.5,slow=7.3,SNR=2.4						
WRA	**Warramunga Arr**	**63.23**	**192**	P	P	21 40 13.2	-0.4
WRA	**Warramunga Arr**	**63.23**	**192**	P	P	21 40 13.2	-0.4
FINES	**FINESS Array B**	**65.11**	**332**	P	P	21 40 25.7	+0.2
	comp=Z,2.3nm,0.7s,mb4.1,baz=43,slow=6.3,SNR=7.2						
FINES	**FINESS Array B**	**65.11**	**332**	P	P	21 40 25.7	+0.2
FINES	**FINESS Array B**	**65.11**	**332**	P	P	21 40 25.7	+0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**70.01**	**338**	P	P	21 40 55.8	-0.5
	comp=Z,0.3nm,0.5s,mb3.4,baz=15,slow=5.1,SNR=2.8						
NOA	**NORSAR Array B**	**70.01**	**338**	P	P	21 40 55.8	-0.5
NOA	**NORSAR Array B**	**70.01**	**338**	P	P	21 40 55.8	-0.6
AKASG	**Malin Array Be**	**71.55**	**323**	P	P	21 41 05.4	-0.5
	comp=Z,0.5nm,0.4s,mb3.7,baz=42,slow=7.1,SNR=2.9						
AKASG	**Malin Array Be**	**71.55**	**323**	P	P	21 41 05.4	-0.5
AKASG	**Malin Array Be**	**71.55**	**323**	P	P	21 41 05.4	-0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*IDC **02** 21:39:27.4±1.1, 12°.27N×125°.54E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, MS3.0/3, Ms1 3.0/3, ms1mx2.7/37, Error ellipse: s-maj=64.3km s-min=16.4km az=61.0*
*MAN **02** 21:39:30, 12°.43N×125°.65E, h26km, mb4.9, ML3.8, MS3.8*
*NEIC **02** 21:39:32.3±0.4, 12°.26N×125°.59E, h35km, mb4.3/3, Error ellipse: s-maj=16.6km s-min=8.3km az=52.0*
ISC 02 21:39:28.7±2.0, 12°.38N±0°.06×125°.69E±0°.07, h10km±12km, n26, σ0s75/26, mb3.9/9, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.01**	**277**	*e*P	Pg	21 39 48.7	+0.4
CNP				*e*S	Sg	21 40 01.2	-0.3
PLP	**Palo**	**1.40**	**210**	⇓*e*P	Pn	21 39 53.6	-0.7
PLP				*e*S	Sn	21 40 13.7	+0.8
PVCP	**Virac**	**1.93**	**309**	*e*P	Pn	21 40 00.8	-0.9
PVCP				*e*S	Sn	21 40 19.4	-6.5
RCP	**Roxas**	**3.00**	**255**	⇑*e*P	Pn	21 40 17.6	+1.3
DAV	**Davao City (W)**	**5.28**	**181**	LR	LR	21 42 49.4	
	comp=Z,98nm,20.7s,baz=210,slow=39						
JOW	**Kunigami**	**14.58**	**9**	LR	LR	21 47 19.1	
	comp=Z,93nm,19.8s,baz=55,slow=32						
GUMO	**Guam**	**18.72**	**84**	LR	LR	21 49 37.7	
	comp=Z,36nm,19.2s,baz=242,slow=32						
GUMO	**Guam**	**18.72**	**84**	*e*P	Pn	21 43 49.3	+1.2
	22nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.47**	**287**	P	P	21 45 05.6	-0.7
	1.5nm,0.8s,mb3.5,baz=95,slow=7.5,SNR=13						
CMAR	**Chiang Mai Arr**	**26.47**	**287**	P	P	21 45 05.6	-0.7
COEN	**Coen**	**31.38**	**146**	*e*P	P	21 45 49.5	-0.6
WRA	**Warramunga Arr**	**33.23**	**165**	P	P	21 46 04.7	-1.4
	0.3nm,0.6s,mb3.4,baz=348,slow=9.1,SNR=4.0						
WRA				PcP	PcP	21 48 48.6	-0.2
	0.8nm,0.8s,baz=340,slow=3.1,SNR=5.9						
WRA	**Warramunga Arr**	**33.23**	**165**	P	P	21 46 04.7	-1.4
WRA				PcP	PcP	21 48 48.6	-0.2
ASAR	**Alice Springs**	**36.71**	**167**	P	P	21 46 35.7	-0.5
	0.4nm,0.5s,mb3.5,baz=359,slow=9.1,SNR=6.6						
ASAR				PcP	PcP	21 48 58.5	-0.3
	0.5nm,0.8s,baz=326,slow=2.5,SNR=4.5						
ASAR	**Alice Springs**	**36.71**	**167**	P	P	21 46 35.7	-0.5
ASAR				PcP	PcP	21 48 58.5	-0.3
STKA	**Stephens Creek**	**46.57**	**161**	P	P	21 47 57.9	+1.0
	1.8nm,0.6s,mb4.2,baz=328,slow=8.4,SNR=5.9						
STKA	**Stephens Creek**	**46.57**	**161**	*e*P	P	21 47 57.0	+0.2
	0.4nm,0.5s,mb3.6						
MKAR	**Makanchi Array**	**50.02**	**322**	P	P	21 48 23.9	+0.5
	1.8nm,0.8s,mb4.2,baz=112,slow=9.3,SNR=13						
MKAR	**Makanchi Array**	**50.02**	**322**	P	P	21 48 23.9	+0.5
ZALV	**Zalesovo Beam**	**52.52**	**331**	P	P	21 48 42.4	+0.4
	0.6nm,0.6s,mb3.7,baz=120,slow=8.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**52.52**	**331**	P	P	21 48 42.4	+0.4
KURK	**Kurchatov**	**54.02**	**325**	*e*P	P	21 48 53.1	-0.1
	4.4nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**59.62**	**325**	P	P	21 49 33.2	+0.4
	2.1nm,0.9s,mb4.2,baz=126,slow=12,SNR=7.9						
BVAR	**Borovoye Array**	**59.62**	**325**	P	P	21 49 33.2	+0.4
AKASG	**Malin Array Be**	**84.58**	**321**	P	P	21 52 01.9	-0.5
	0.4nm,0.4s,mb3.9,baz=95,slow=2.6,SNR=5.8						
AKASG	**Malin Array Be**	**84.58**	**321**	P	P	21 52 01.9	-0.5

*IDC **02** 21:51:56.2±1.3, 31°.46S×177°.89W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/16, mbtmp4.0/4, ML3.6/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/21, Error ellipse: s-maj=40.2km s-min=34.9km az=180.0*
*NEIC **02** 21:52:01.3±0.8, 31°.57S×177°.85W, h35km, mb4.2/1, Error ellipse: s-maj=18.3km s-min=14.1km az=130.0*
ISC 02 21:51:58.4±4.1, 31°.6S±0°.2×177°.5W±0°.6, h35km, n28, σ0s23/13, mb4.0/4, MS3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.01**	**212**	Pn	Pn	21 53 52.3	0.0
	0.9nm,0.3s,baz=345,slow=16,SNR=3.3						
URZ				Sn	Sx	21 55 11.4	
	1.3nm,0.3s,baz=177,slow=18,SNR=11						
URZ	**Urewera**	**8.01**	**212**	Pn	Pn	21 53 52.3	0.0
URZ				Sn	Sx	21 55 11.4	
OUZ	**Omahuta**	**8.31**	**242**	*e*Pn	Pn	21 53 56.5	0.0
	7.1nm,0.5s						
ARMA	**Armidale**	**26.49**	**264**	*e*P	P	21 57 32.4	-0.1
CTA	**Charters Tower**	**34.47**	**281**	P	P	21 58 43.3	+0.2
	3.0nm,0.8s,mb4.3,baz=108,slow=9.6,SNR=2.0						
CTA	**Charters Tower**	**34.47**	**281**	P	P	21 58 43.3	+0.2
STKA	**Stephens Creek**	**34.69**	**258**	LR	LR	22 10 35.6	
	comp=Z,100nm,20.4s,MS3.5,baz=25,slow=33						
ASAR	**Alice Springs**	**43.53**	**268**	P	P	21 59 58.6	-0.2
	0.5nm,0.4s,mb3.6,baz=104,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**43.53**	**268**	P	P	21 59 58.6	-0.2
WB2	**Warramunga Arr**	**44.61**	**273**	*e*P	P	22 00 07.8	+0.3
WRAB	**Tennant Creek**	**44.62**	**273**	*e*P	P	22 00 07.5	-0.1
	2.5nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**44.62**	**273**	P	P	22 00 07.2	-0.5
	0.9nm,0.3s,mb4.1,baz=113,slow=8.0,SNR=34						
WRA	**Warramunga Arr**	**44.62**	**273**	P	P	22 00 07.2	-0.4
FITZ	**Fitzroy Crossi**	**52.83**	**271**	LR	LR	22 22 59.5	
	comp=Z,41nm,18.8s,MS3.5,baz=288,slow=36						
FITZ	**Fitzroy Crossi**	**52.83**	**271**	P	P	22 01 11.0	+0.3
VNA3	**Neumayer Olymp**	**77.09**	**176**	*e*	Px	22 04 00.2	
VNA2	**Neumayer--Watz**	**77.53**	**177**	*e*	Px	22 04 02.8	
	baz=179,slow=4.9						
CPUP	**Villa Florida**	**98.88**	**128**	LR	LR	22 47 38.8	
	comp=Z,21nm,18.3s,MS3.7,baz=34,slow=34						
KURK	**Kurchatov**	**122.21**	**313**	PKP	PKPdf	22 10 49.9	+0.9
	0.3nm,0.9s,baz=124,slow=2.4,SNR=3.1						
KURK	**Kurchatov**	**122.21**	**313**	PKP	PKPdf	22 10 50.0	+0.9
FINES	**FINESS Array B**	**146.42**	**340**	PKPbc	PKPbc	22 11 38.2	+3.2
	1.5nm,0.5s,baz=62,slow=4.1,SNR=13						
FINES	**FINESS Array B**	**146.42**	**340**	PKPbc	PKPbc	22 11 38.2	+3.2
MMAI	**Mount Meron Ar**	**152.25**	**282**	PKPbc	PKPbc	22 11 53.7	+3.1
	0.4nm,0.3s,baz=72,slow=4.7,SNR=3.7						
MMAI	**Mount Meron Ar**	**152.25**	**282**	PKPbc	PKPbc	22 11 53.7	+3.1
BRTR	**Keskin Array B**	**153.56**	**297**	PKPbc	PKPbc	22 11 55.9	+2.6
	0.7nm,0.7s,baz=90,slow=3.4,SNR=4.2						
BRTR	**Keskin Array B**	**153.56**	**297**	PKPbc	PKPbc	22 11 55.9	+2.6
TORD	**Torodi Ar. Bea**	**161.63**	**177**	PKPab	PKPab	22 12 44.8	+3.8
	0.4nm,0.8s,baz=205,slow=3.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**161.63**	**177**	PKPab	PKPab	22 12 44.8	+3.8

*CSEM **02** 21:55:27.9, 12°.06N×43°.83E, h5km, ML3.6, After DHMR*
DHMR 02 21:55:26.3±1.5, 12°.05N×43°.65E, h7km±10km, ML3.6, 1C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.26**	**21**	⇑*i*P	Pn	21 55 50.0	-0.3
TRBA				*i* S	Sb	21 56 07.4	+0.7
TRBA				AML	AML	21 56 10.2	
	comp=N,1μm,0.5s						
UDYN	**Al 'Udayn**	**1.93**	**9**	⇓*i*P	Pn	21 56 01.1	+1.6
UDYN				*i* S	Sn	21 56 28.1	+4.0
UDYN				AML	AML	21 56 34.0	
	comp=E,1μm,0.4s						
UDYN	**Al 'Udayn**	**1.93**	**9**	*i* P	Pn	21 56 01.2	+1.7
UDYN				*i* S	Sn	21 56 28.2	+4.1
	comp=E,618nm,0.4s						
LBOS		**2.39**	**41**	*i* P	Pn	21 56 08.7	+2.8
LBOS				*i* S	Sn	21 56 40.4	+5.1
DHBB	**Dhamar BB**	**2.60**	**16**	*i* P	Pn	21 56 11.0	+2.1
DHBB				*i* S	Sn	21 56 47.2	+6.5
BDHA	**Al Bayda'**	**2.67**	**44**	*i* P	Pn	21 56 11.8	+2.0
BDHA				*i* S	Sn	21 56 47.5	+5.1
BDHA				AML	AML	21 57 05.0	
	comp=E,298nm,0.7s						
BDHA	**Al Bayda'**	**2.67**	**44**	*i* P	Pn	21 56 11.8	+2.0
BDHA				*i* S	Sn	21 56 47.5	+5.1
	comp=E,149nm,0.7s						
HAJJ	**Hajjah**	**3.63**	**359**	*i* P	Pn	21 56 25.9	+3.0
HAJJ				*i* S	Sn	21 57 11.3	+5.3

IDC 02 22:14:43.4±1.7, 7°.46S×124°.22E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=116.1km s-min=25.7km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.66**	**173**	Pn	Pn	22 17 18.0	+0.5
	0.2nm,0.3s,baz=358,slow=12,SNR=11						
FITZ				Sn	Sn	22 19 03.0	-15
	2.0nm,0.3s,baz=209,slow=5.1,SNR=13						
WRA	**Warramunga Arr**	**15.82**	**143**	Pn	Pn	22 18 29.7	+2.1
	0.4nm,0.3s,baz=316,slow=13,SNR=30						
WRA				Sn	Sn	22 21 10.9	-13
	0.2nm,0.3s,baz=310,slow=25,SNR=44						
ASAR	**Alice Springs**	**18.60**	**151**	P	Pn	22 19 01.0	-1.5
	0.3nm,0.3s,baz=328,slow=12,SNR=24						
ASAR				S	Sn	22 22 15.3	-16
	0.0nm,0.3s,baz=318,slow=23,SNR=3.2						
STKA	**Stephens Creek**	**29.19**	**149**	P	P	22 20 43.4	-3.3
	0.5nm,0.4s,baz=319,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**65.60**	**330**	P	P	22 25 29.2	+0.1
	0.3nm,0.5s,baz=137,slow=8.2,SNR=7.1						

IDC 02 22:18:05.9±1.2, 11°.25N×138°.84E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/18, Error ellipse: s-maj=53.9km s-min=23.7km az=88.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**25.18**	**359**	LR	LR	22 32 31.3	
	comp=Z,53nm,19.9s,baz=215,slow=34						
WRA	**Warramunga Arr**	**31.31**	**188**	P	P	22 24 29.9	+1.8
	0.3nm,0.8s,baz=358,slow=7.3,SNR=1.9						
ASAR	**Alice Springs**	**35.04**	**188**	P	P	22 24 59.1	-1.4
	0.3nm,0.5s,baz=16,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**59.18**	**318**	P	P	22 28 09.0	+0.3
	0.8nm,0.7s,baz=107,slow=8.0,SNR=9.3						
ZALV	**Zalesovo Beam**	**60.20**	**327**	P	P	22 28 15.4	-0.1
	0.5nm,0.6s,baz=99,slow=8.9,SNR=3.6						
ILAR	**Eielson Array**	**73.19**	**26**	P	P	22 29 38.4	0.0
	0.3nm,0.8s,baz=252,slow=5.6,SNR=4.0						

DJA 02 22:36:33, 0°.51S×122°.64E, h10km, MLv3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.54**	**166**	P	Pg	22 36 41.7	-1.9
LUWI				S	Sg	22 36 53.2	+2.4
APSI	**Ampana**	**1.07**	**248**	P	Pg	22 36 52.9	-0.7
APSI				S	Sg	22 37 09.8	+2.3
GTOI	**Gorontalo**	**1.20**	**18**	P	Pb	22 36 55.2	-0.6
GTOI				S	Sb	22 37 12.4	+1.1
MRSI	**Marisa**	**1.20**	**324**	P	Pn	22 36 54.2	-1.7
MRSI				S	Sb	22 37 09.8	-1.8
KMSI	**Cibinong**	**1.72**	**51**	P	Pn	22 37 06.2	+3.2
KMSI				S	Sn	22 37 24.6	-0.5

*IDC **02** 22:54:13.9±1.3, 35°.98N×71°.13E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.7/30, mbtmp3.9/12, ML3.7/4, Error ellipse: s-maj=26.8km s-min=23.2km az=128.0*
*ISCJB **02** 22:54:26.8±0.4, 36°.47N±0°.03×71°.24E±0°.07, h114km±7km, mb3.9/7, Error ellipse: s-maj=9.2km s-min=4.4km az=11.7*
*NEIC **02** 22:54:27.7±1.0, 36°.48N×71°.24E, h101km±9km, mb3.5/1, Error ellipse: s-maj=15.0km s-min=9.8km az=128.0*
*NNC **02** 22:54:32.9±6.2, 36°.93N×70°.69E, h120km±74km, mb3.1, mpv4.3, Error ellipse: s-maj=49.0km s-min=30.3km az=17.0*
ISC 02 22:54:28.0±0.4, 36°.46N±0°.03×71°.23E±0°.07, h110km±6km, n59, σ1s12/72, mb3.9/7, 5C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.61**	**224**	*e*Pn	Pn	22 55 08.9	0.0
KBL				*e*Sn	Sn	22 55 41.6	+1.3
CEP	**Cherat**	**2.69**	**168**	P	Pn	22 55 10.4	+0.5
CEP				S	Sn	22 55 42.0	0.0
CHCP	**Chirah Chowk**	**3.25**	**149**	P	Pn	22 55 19.3	+1.9
THW	**Thamme Wali**	**3.68**	**173**	P	Pn	22 55 22.9	-0.1
AML	**Almayashu**	**5.98**	**18**	P	Pn	22 55 54.6	+0.6
	SNR=94						
UCH	**Uchtor**	**6.30**	**23**	P	Sn	22 57 09.6	+0.7
	SNR=7.3						
KZA	**Kyzart**	**6.42**	**28**	P	Pn	22 56 00.5	+0.5
	SNR=9.6						
EKS2	**Erkin-Say**	**6.50**	**17**	P	Pn	22 56 01.6	+0.6
	SNR=20						
EKS2	**Erkin-Say**	**6.50**	**17**	*e*Pn	Pn	22 56 01.4	+0.3
	17nm,0.6s						
EKS2				*e*Sn	Sn	22 57 13.6	-0.1
KK31	**Karatay Array**	**6.66**	**355**	P	Pn	22 56 02.5	-0.7
	14nm,0.3s,baz=175,slow=12,SNR=187						
KK31				⇓S	Sn	22 57 13.2	-4.4
	25nm,0.6s,baz=188,slow=23,SNR=10						
KKAR	**Karatay Array**	**6.66**	**355**	*e*Pn	Pn	22 56 02.6	-0.7
	35nm,0.3s						
KKAR				*e*Sn	Sn	22 57 14.6	-3.0
AAK	**Ala-Archa**	**6.66**	**21**	P	Pn	22 56 04.0	+0.7
	SNR=32						
AAK	**Ala-Archa**	**6.66**	**21**	*e*Pn	Pn	22 56 04.0	+0.7
	125nm,0.5s						
AAK				*e*Sn	Sn	22 57 18.1	+0.4
KBK	**Karagaybulak**	**6.83**	**24**	P	Pn	22 56 06.3	+0.8
	SNR=11						
SDNR	**Sundarnagar**	**6.87**	**134**	*ex*	x	22 56 39.0	
SDNR				*e*S	Sn	22 57 19.0	-3.8
ULHL	**Ulahol**	**6.96**	**32**	P	Pn	22 56 08.2	+0.9
	SNR=9.4						
CHMS	**Chumysh**	**7.08**	**21**	P	Pn	22 56 09.1	+0.2
	SNR=16						
USP	**Ospenovka**	**7.25**	**19**	P	Pn	22 56 11.4	+0.2
	SNR=22						
TKM2	**Tokmak 2**	**7.28**	**26**	P	Pn	22 56 11.8	+0.1
	SNR=15						
TKM2	**Tokmak 2**	**7.28**	**26**	⇓P	Pn	22 56 12.0	+0.3
	6.6nm,0.5s						
TKM2				⇓S	Sn	22 57 32.8	+0.2
	11nm,0.8s						
TKM2	**Tokmak 2**	**7.28**	**26**	*e*Pn	Pn	22 56 11.9	+0.3
	11nm,0.4s						
TKM2				*e*Sn	Sn	22 57 32.9	+0.3
DDI	**Dehra Dun**	**8.36**	**135**	*ex*	x	22 59 58.5	
KHET	**Khetri**	**9.21**	**154**	*e*S	Sn	22 58 09.9	-10
KHET				AML	AML	22 58 23.0	
	comp=N,12nm,0.3s						
KHET				AML	AML	22 58 25.3	
	comp=E,18nm,0.0s						
AYAN	**Aya Nagar**	**9.38**	**146**	*e*PKP	Pn	22 56 38.9	-1.3
KUDL	**Kundal**	**9.40**	**150**	*e*PKP	Pn	22 56 40.0	-0.6
KUDL				*e*S	Sn	22 58 14.0	-10
SONA	**Sohna**	**9.56**	**147**	*e*PKP	Pn	22 56 41.0	-1.7
SONA				*e*S	Sn	22 58 18.8	-9.4
SONA				AML	AML	22 58 57.5	
	comp=E,13nm,0.1s						
SONA				AML	AML	22 58 58.4	
	comp=N,17nm,0.2s						
MK31	**Makanchi Array**	**13.22**	**35**	⇑P	Pn	22 57 35.5	+4.3
	comp=N,0.8nm,0.5s,baz=209,slow=11,SNR=16						
MK31	**Makanchi Array**	**13.22**	**35**	*e*Pn	Pn	22 57 30.7	-0.5
MKAR	**Makanchi Array**	**13.22**	**35**	Pn	Pn	22 57 30.8	-0.4
	comp=N,0.1nm,0.3s,baz=219,slow=15,SNR=4.5						
MKAR	**Makanchi Array**	**13.22**	**35**	Pn	Pn	22 57 30.8	-0.4
KURBB	**Kurchatov Arra**	**15.11**	**18**	⇑P	Pn	22 57 57.2	+1.9
	comp=N,0.5nm,0.7s						
AB31	**Akbulak array**	**15.21**	**331**	⇑P	Pn	22 57 54.8	-1.9
	comp=N,0.4nm,0.3s,baz=33,slow=23,SNR=32						
AB31				S	S	23 00 31.9	-22
	comp=N,0.9nm,0.4s,baz=149,slow=23,SNR=6.2						
ABKAR	**Akbulak array**	**15.21**	**331**	*e*Pn	Pn	22 57 54.9	-1.8
	comp=N,1.1nm,0.3s						
ABKAR				*e*Sn	Sn	23 00 28.1	-17
KURK	**Kurchatov**	**15.21**	**18**	Pn	Pn	22 57 54.1	-2.6
	comp=N,0.2nm,0.3s,baz=206,slow=10,SNR=20						
VOSK	**Vostochnaya**	**16.27**	**359**	⇑P	Pn	22 58 05.7	-4.1
	comp=N,2.0nm,1.0s						
BVA0	**Borovoye Array**	**16.58**	**358**	P	Pn	22 58 13.0	-0.6
	comp=N,0.6nm,1.2s,baz=167,slow=13,SNR=16						
BVAR	**Borovoye Array**	**16.58**	**358**	P	Pn	22 58 12.5	-1.1
	comp=N,0.3nm,0.3s,baz=168,slow=11,SNR=12						
BVAR	**Borovoye Array**	**16.58**	**358**	P	Pn	22 58 12.5	-1.1
AKTO	**Aktyubinsk**	**16.91**	**330**	⇓P	Pn	22 58 16.5	-1.2
	comp=N,1.1nm,1.4s						
AKTO				⇑S	S	23 01 10.1	-16
	comp=N,0.4nm,1.0s						
AKTO	**Aktyubinsk**	**16.91**	**330**	P	Pn	22 58 16.2	-1.5
	comp=N,0.4nm,0.3s,baz=138,slow=8.3,SNR=8.9						
AKTO				S	S	23 01 12.7	-14
	comp=N,0.1nm,0.3s,baz=165,slow=19,SNR=4.1						
AKTO	**Aktyubinsk**	**16.91**	**330**	P	Pn	22 58 16.2	-1.5
AKTO				S	S	23 01 12.7	-14
ZAA0	**Zalesovo Array**	**19.88**	**24**	*e*P	P	22 58 49.9	-0.4
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	P	22 58 50.1	-0.2
	comp=N,2.5nm,0.3s,baz=213,slow=11,SNR=21						
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	P	22 58 50.1	-0.2
FINES	**FINESS Array B**	**37.62**	**326**	P	P	23 01 33.5	+1.8
	comp=N,3.7nm,1.0s,mb4.2,baz=156,slow=9.

UPC	Upice	1.68 295	ePG	Pg	23 00 18.6	-1.1
UPC			eSG	Sg	23 00 41.9	+0.5
UPC	Upice	1.68 295	Pg	Pg	23 00 18.6	-1.1
UPC			Sg	Sg	23 00 41.9	+0.5
KSP	Ksiaz	1.69 308	ePg	Pg	23 00 18.3	-1.6
KSP			eSg	Sg	23 00 42.2	+0.4
STHS	Stebnicka Huta	1.90 102	ePN	Pn	23 00 22.9	+1.7
STHS			eSN	Sn	23 00 48.7	+2.9
STHS	Stebnicka Huta	1.90 102	ePn	Pn	23 00 22.9	+1.7
KECS	Kecovo	1.92 134	ePN	Pn	23 00 20.1	-1.5
KECS			eSN	Sn	23 00 46.5	0.0
KECS	Kecovo	1.92 134	ePn	Pn	23 00 20.1	-1.5
KECS			eSn	Sn	23 00 46.6	+0.1
CRVS	Cervenica-Dubn	2.21 114	ePN	Pn	23 00 27.9	+2.4
CRVS			eSN	Sn	23 00 55.6	+2.1
CRVS	Cervenica-Dubn	2.21 114	ePn	Pn	23 00 27.9	+2.4
CRVS			eSn	Sn	23 00 55.6	+2.1
BRG	Berggiesshubel	3.04 292	PG	Pg	23 00 42.2	-3.6
BRG			SG	Sg	23 01 23.7	-1.5
	3.5nm,0.3s					
KHC	Kasperske Hory	3.22 259	ePG	Pg	23 00 46.6	-2.7
KHC			eSG	Sg	23 01 31.1	+0.1
	4.2nm,0.5s					
KHC	Kasperske Hory	3.22 259	Pg	Pg	23 00 46.6	-2.7
KHC			Sg	Sg	23 01 31.1	+0.1
	4.2nm,0.5s					

IDC 02 23:00:32.8±1.4, 13°.73N×92°.96E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/25, mbtmp3.4/7, ML3.8/1, Error ellipse: s-maj=40.8km s-min=26.0km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.42	50	Pn	Pn	23 02 21.1	-1.3
	0.4nm,0.3s,baz=241,slow=15,SNR=2.7						
MKAR	Makanchi Array	34.15	347	P	P	23 07 20.0	+0.6
	0.2nm,0.6s,baz=176,slow=11,SNR=2.4						
KURK	Kurchatov	38.68	345	P	P	23 07 57.5	-0.6
	0.3nm,0.7s,baz=164,slow=7.5,SNR=3.8						
ZALV	Zalesovo Beam	40.63	353	P	P	23 08 14.5	+0.2
	0.3nm,0.4s,baz=168,slow=7.7,SNR=3.4						
ASAR	Alice Springs	54.63	133	P	P	23 10 03.7	+0.2
	0.3nm,0.6s,baz=310,slow=6.9,SNR=5.1						
BRTR	Keskin Array B	57.82	308	P	P	23 10 25.4	-0.8
	0.4nm,0.7s,baz=111,slow=7.9,SNR=3.2						
GERES	GERESS Array B	72.74	317	P	P	23 12 03.5	+0.7
	0.7nm,0.7s,baz=74,slow=5.7,SNR=4.9						

ISCJB 02 23:06:34.6±0.5, 14°.57N±0°.06×92°.36W±0°.04, h101km±5km, mb4.0/6, Error ellipse: s-maj=11.8km s-min=3.8km az=30.4
CASC 02 23:06:35.7±1.5, 14°.45N×92°.25W, h114km±17km, MD3.9, ML4.3, mb3.8(NEIC)
NEIC 02 23:06:36.0±0.7, 14°.61N×92°.26W, h91km±5km, mb3.8/1, MD4.4(MEX), Error ellipse: s-maj=13.0km s-min=7.3km az=202.0
IDC 02 23:06:36.3±2.2, 14°.77N×92°.16W, h88km±16km, mb3.7/6, mb1 4.1/10, mb1mx3.8/26, mbtmp3.9/10, Error ellipse: s-maj=23.3km s-min=14.4km az=18.0
MEX 02 23:06:39.6±1.2, 14°.65N×92°.57W, h75km±14km, MD4.4
ISC 02 23:06:35.9±0.5, 14°.59N±0°.06×92°.35W±0°.04, h92km±5km, n63, σ1°.10/79, mb4.0/6, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.33	15	eP	Pn	23 06 50.0	+0.3
THIG				i S	Sn	23 06 59.6	-0.2
THIG		0.33	15	eP	Pn	23 06 50.0	+0.3
THIG				i S	Sn	23 06 59.6	-0.2
JAT	Jato	0.75	111	↓iP	Pn	23 06 53.7	+0.7
PCIG		1.39	323	eP	Pn	23 07 01.1	+0.8
PCIG				i S	Sn	23 07 14.9	-3.8
PCIG		1.39	323	eP	Pn	23 07 01.1	+0.8
PCIG				i S	Sn	23 07 14.9	-3.8
FG6		1.43	91	eP	Pn	23 07 01.8	+1.1
CCIG	Comitan	1.69	7	eP	Pn	23 07 05.3	+1.1
CCIG				i S	Sn	23 07 26.2	+0.6
CCIG	Comitan	1.69	7	eP	Pn	23 07 05.3	+1.1
CCIG				i S	Sn	23 07 26.2	+0.6
PCG	Pacaya	1.70	96	eP	Pn	23 07 04.8	+0.6
PCG				eS	Sn	23 07 26.2	+0.4
GCG	Guatemala City	1.76	90	eP	Pn	23 07 04.1	-1.0
GCG				eS	Sn	23 07 28.1	+0.9
IXG	Ixpaco	1.89	102	eP	Pn	23 07 07.1	+0.5
NBG	Las Nubes	1.94	90	eP	Pn	23 07 08.0	+0.6
NBG				eS	Sn	23 07 34.0	+2.6
TGIG		2.29	341	eP	Pn	23 07 11.9	-0.1
TGIG				i S	Sn	23 07 38.5	-1.2
TGIG		2.29	341	eP	Pn	23 07 11.9	-0.1
TGIG				i S	Sn	23 07 38.5	-1.2
RBDL	Robledal	2.63	100	eP	Pn	23 07 15.9	-0.6
RTR	El Retiro	2.71	104	eP	Pn	23 07 17.4	-0.2
SBLS	San Blas	2.75	105	eP	Pn	23 07 17.6	-0.5
SBLS				eS	Sn	23 07 50.8	+0.2
SNJE	San Jose	2.76	105	eP	Pn	23 07 17.6	-0.6
MTO2	Montecristo 2	2.90	93	eP	Pn	23 07 19.2	-0.9
BOQS	Boqueron	3.10	106	eP	Pn	23 07 22.2	-0.6
SNET	Serv Nac Est T	3.16	106	eS	Sn	23 07 59.3	-1.1
SNET				eS	Sn	23 08 00.0	-0.4
SNET				AML	AML	23 08 03.2	
	comp=Z,2μm,0.3s						
LFRS	El Faro	3.34	106	eP	Pn	23 07 25.7	-0.3
CMIG	Matias Romero	3.48	316	P	Pn	23 07 29.1	+1.2
	comp=Z,12nm,0.3s,baz=141,slow=11,SNR=94						
CMIG				S	Sn	23 08 08.3	+0.2
	comp=Z,45nm,0.3s,baz=136,slow=8.5,SNR=6.5						
CMIG	Matias Romero	3.48	316	eP	Pn	23 07 28.8	+0.9
CMIG				S	Sn	23 08 08.3	+0.2
CMIG	Matias Romero	3.48	316	eP	Pn	23 07 28.8	+0.9
CMIG				i S	Sn	23 08 05.0	-3.0
SNVI	San Vicente	3.55	106	eS	Sn	23 08 09.3	-0.5
HUIG	Huatulco	3.81	288	eP	Pn	23 07 31.4	-0.9
HUIG	Huatulco	3.81	288	eP	Pn	23 07 31.4	-0.9
HUIG				i S	Sn	23 08 11.8	-4.3
CAHU	Cacacuatique	4.10	101	eP	Pn	23 07 35.4	-0.9
VHO	Vista Hermosa	4.88	301	i P	Pn	23 07 47.8	+0.9
VHO	Vista Hermosa	4.88	301	i P	Pn	23 07 47.8	+0.9
VHO				i S	Sn	23 08 38.9	-3.3
TGUH	Tegucigalpa,Un	4.95	96	ePn	Pn	23 07 46.9	-1.0
PNIG	Pinotepa	5.85	289	eP	Pn	23 08 01.4	+1.4
PNIG	Pinotepa	5.85	289	eP	Pn	23 08 01.4	+1.4
PNIG				i S	Sn	23 09 03.9	-1.8
UTMO	Huajuapan	6.14	302	eP	Pn	23 08 05.2	+1.1
UTMO	Huajuapan	6.14	302	eP	Pn	23 08 05.2	+1.1
UTMO				i S	Sn	23 09 10.7	-2.3
TEIG	Tepich	6.82	34	P	Pn	23 08 11.1	-2.2
	comp=Z,34nm,0.3s,baz=271,slow=0.7,SNR=78						
TEIG				S	Sn	23 09 24.0	-5.5
	comp=Z,38nm,0.3s,baz=224,slow=23,SNR=11						
TEIG	Tepich	6.82	34	P	Pn	23 08 11.1	-2.2
TEIG				S	Sn	23 09 24.0	-5.5
JTS	JuntasAbangare	8.40	120	P	Pn	23 08 34.8	-0.1
	comp=Z,13nm,0.3s,baz=324,slow=18,SNR=32						
JTS				S	Sn	23 09 59.7	-8.3
	comp=Z,2.0nm,0.3s,baz=299,slow=19,SNR=2.1						
JTS	JuntasAbangare	8.40	120	P	Pn	23 08 34.8	-0.1
JTS				S	Sn	23 09 59.7	-8.3
TXAR	Lajitas Array	18.02	326	P	Pn	23 10 42.0	+1.8
	comp=Z,0.2nm,0.3s,baz=151,slow=11,SNR=29						
TXAR	Lajitas Array	18.02	326	P	Pn	23 10 42.0	+1.8
MNTX	Cornudas Mount	20.78	327	eP	P	23 11 11.0	+1.3
	comp=Z,3.1nm,0.6s						
TKL	Tuckaleechee C	22.35	19	P	P	23 11 24.7	-1.5
	comp=Z,6.9nm,0.8s,mb4.0,baz=192,slow=8.5,SNR=6.9						
TKL	Tuckaleechee C	22.35	19	P	P	23 11 24.7	-1.5
ANMO	Albuquerque	23.92	330	P	P	23 11 42.9	+1.6
	comp=Z,3.6nm,0.7s,mb3.8,baz=137,slow=8.6,SNR=7.0						
ANMO	Albuquerque	23.92	330	P	P	23 11 42.9	+1.6
NVAR	Mina Array Bea	33.00	321	P	P	23 13 05.1	+3.0
	comp=Z,4.6nm,0.8s,mb4.4,baz=133,slow=8.9,SNR=12						
NVAR	Mina Array Bea	33.00	321	P	P	23 13 05.1	+3.0
YKA	Yellowknife Ar	50.37	347	P	P	23 15 22.1	-1.2
	comp=Z,0.9nm,0.5s,mb4.0,baz=134,slow=8.8,SNR=5.0						
YKA	Yellowknife Ar	50.37	347	P	P	23 15 22.1	-1.2
INK	Inuvik	59.78	344	P	P	23 16 30.9	0.0
	comp=Z,1.1nm,0.7s,mb4.0,baz=151,slow=10,SNR=4.5						
INK	Inuvik	59.78	344	P	P	23 16 30.9	0.0
ILAR	Eielson Array	62.16	337	P	P	23 16 47.1	0.0
	comp=Z,1.2nm,1.1s,mb3.9,baz=141,slow=3.7,SNR=7.3						
ILAR	Eielson Array	62.16	337	P	P	23 16 47.1	0.0
BOSA	Boshof	120.92	115	PKP	PKPdf	23 25 18.2	+0.1
	comp=Z,1.5nm,0.5s,baz=271,slow=4.0,SNR=8.2						
BOSA	Boshof	120.92	115	PKP	PKPdf	23 25 18.2	+0.1
WRA	Warramunga Arr	135.20	256	PKP	PKPdf	23 25 45.8	+0.3
	comp=Z,0.4nm,0.7s,baz=89,slow=2.5,SNR=4.7						
WRA	Warramunga Arr	135.20	256	PKP	PKPdf	23 25 45.8	+0.3
ASAR	Alice Springs	135.54	251	PKP	PKPdf	23 25 46.6	+0.5
	comp=Z,0.4nm,0.8s,baz=104,slow=1.6,SNR=4.8						
ASAR	Alice Springs	135.54	251	PKP	PKPdf	23 25 46.6	+0.5
CMAR	Chiang Mai Arr	145.32	341	PKPbc	PKPbc	23 26 03.5	-0.3
	comp=Z,1.0nm,0.6s,baz=4.2,slow=2.0,SNR=6.9						
CMAR	Chiang Mai Arr	145.32	341	PKPbc	PKPbc	23 26 03.5	-0.3

DDA 02 23:14:12.6, 37°.14N×32°.73E, h7km±3km, Md3.7, Ml3.9
ISCJB 02 23:14:13.4±0.9, 37°.13N±0°.03×32°.72E±0°.04, h5km±8km, Error ellipse: s-maj=4.8km s-min=4.6km az=163.1
CSEM 02 23:14:13.7±0.1, 37°.12N×32°.72E, h2km, MD3.7, Error ellipse: s-maj=2.7km s-min=2.5km az=15.0
ISK 02 23:14:13.0, 37°.11N×32°.71E, h6km, MD3.7
ISC 02 23:14:13.9±0.9, 37°.12N±0°.03×32°.73E±0°.04, h3km±8km, n77, σ0°.71/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	Hadim	0.25	230	PG	Pg	23 14 18.2	-0.4
HDMB				eSG	Sg	23 14 21.5	-0.4
HDMB	Hadim	0.25	230	i Pg	Pg	23 14 18.2	-0.4
HDMB				eSg	Sg	23 14 21.5	-0.4
KONT	Konya--Tatoy	0.87	341	ePG	Pg	23 14 30.2	-0.3
KONT	Konya--Tatoy	0.87	341	ePg	Pg	23 14 30.3	-0.2
GAZI	Gazipasa	0.95	200	i P	Pg	23 14 32.1	+0.1
GAZI				i S	Sg	23 14 44.5	+0.2
GAZI	Gazipasa	0.95	200	i P	Pg	23 14 32.1	+0.1
GAZI				i S	Sg	23 14 44.5	+0.2
LADK	Ladik-KONYA	1.11	345	ePN	Pn	23 14 34.4	-1.9
LADK				eSN	Sn	23 14 49.9	-2.3
LADK	Ladik-KONYA	1.11	345	ePn	Pn	23 14 34.4	-2.0
LADK				eSn	Sn	23 14 49.9	-2.3
SULT	Sultanhani-AKS	1.24	30	ePN	Pn	23 14 38.2	0.0
SULT	Sultanhani-AKS	1.24	30	ePn	Pn	23 14 38.2	0.0
MERS	Mersin	1.46	100	ePN	Pn	23 14 40.5	-0.7
MERS	Mersin	1.46	100	ePn	Pn	23 14 40.5	-0.7
KDHN	Kadinhani	1.48	341	i P	Pn	23 14 40.2	-1.2
KDHN	Kadinhani	1.48	341	i P	Pn	23 14 40.2	-1.2
GULE	Gulek	1.65	84	i P	Pn	23 14 43.6	-0.1
GULE	Gulek	1.65	84	i P	Pn	23 14 43.6	-0.1
BCK	Bucak	1.74	282	ePN	Pn	23 14 45.3	+0.4
BCK	Bucak	1.74	282	ePn	Pn	23 14 45.3	+0.3
KORT	Korkueli	1.90	267	i P	Pn	23 14 46.3	-1.0
KORT	Korkueli	1.90	267	i P	Pn	23 14 46.3	-1.0
LFK	Lefkose	1.95	160	ePN	Pn	23 14 47.6	-0.3
LFK	Lefkose	1.95	160	ePn	Pn	23 14 47.6	-0.3
EREN	Erenkoy	1.97	143	ePN	Pn	23 14 48.6	+0.4
EREN	Erenkoy	1.97	143	ePn	Pn	23 14 48.7	+0.5
LEF	Lefka	2.00	176	ePN	Pn	23 14 48.2	-0.5
LEF	Lefka	2.00	176	ePn	Pn	23 14 48.2	-0.4
BOLV	Bolvadin	2.12	319	i P	Pn	23 14 50.7	+0.5
BOLV	Bolvadin	2.12	319	i P	Pn	23 14 50.7	+0.4
KRTS	Karatas	2.20	104	ePN	Pn	23 14 51.7	+0.4
KRTS	Karatas	2.20	104	ePn	Pn	23 14 51.7	+0.4
CSS	Prodhromos	2.21	167	ePN	Pn	23 14 50.3	-1.2
CSS	Prodhromos	2.21	167	ePn	Pn	23 14 50.3	-1.2
SHUT	Suhut-Afyon	2.23	310	ePN	Pn	23 14 52.6	+0.8
SHUT	Suhut-Afyon	2.23	310	ePn	Pn	23 14 52.6	+0.8
ELL	Elmali	2.29	261	ePN	Pn	23 14 52.3	-0.2
ELL	Elmali	2.29	261	ePn	Pn	23 14 52.3	-0.2
AFSR	Af¨ar-Bala (A	2.33	7	ePN	Pn	23 14 52.8	-0.4
AFSR	Af¨ar-Bala (A	2.33	7	ePn	Pn	23 14 52.8	-0.4
CEYT	Ceyhan	2.42	92	ePN	Pn	23 14 54.2	-0.1
CEYT	Ceyhan	2.42	92	ePn	Pn	23 14 54.3	-0.1
KOZT	Kozan	2.50	81	ePN	Pn	23 14 55.5	0.0
SVRH	Sivrihisar-ESK	2.50	338	ePN	Pn	23 14 54.9	-0.6
SVRH	Sivrihisar-ESK	2.50	338	ePn	Pn	23 14 54.9	-0.6
GLHS	Glhisar (BURDU	2.58	272	ePN	Pn	23 14 56.7	+0.2
GLHS	Glhisar (BURDU	2.58	272	ePn	Pn	23 14 56.7	+0.2
LOD	Lodumlu	2.76	1	ePN	Pn	23 14 59.6	+0.5
LOD	Lodumlu	2.76	1	ePn	Pn	23 14 59.6	+0.6
ESKT	Eskisehir	2.81	329	ePN	Pn	23 15 00.3	+0.6
ESKT	Eskisehir	2.81	329	ePn	Pn	23 15 00.3	+0.6
ALT	Altintas	2.82	314	ePN	Pn	23 15 00.0	+0.1
ALT	Altintas	2.82	314	ePn	Pn	23 15 00.0	+0.1
HTY	Hatay	2.92	109	ePN	Pn	23 15 01.2	0.0
HTY	Hatay	2.92	109	ePn	Pn	23 15 01.2	-0.1
BNN	Bunyan	3.01	54	ePN	Pn	23 15 02.8	+0.4
BNN	Bunyan	3.01	54	ePn	Pn	23 15 02.8	+0.3
YOZ	Yozgat	3.23	38	ePN	Pn	23 15 06.0	+0.4
YOZ	Yozgat	3.23	38	ePn	Pn	23 15 06.0	+0.4
KMRS	Kahramanmaras	3.35	82	ePN	Pn	23 15 07.7	+0.6
KMRS	Kahramanmaras	3.35	82	ePn	Pn	23 15 07.7	+0.6
CORM	Corum	3.40	25	ePN	Pn	23 15 08.4	+0.6
CORM	Corum	3.40	25	ePn	Pn	23 15 08.4	+0.6
SARI	SarD1z-Kayseri	3.50	63	ePN	Pn	23 15 05.5	-3.8
SARI	SarD1z-Kayseri	3.50	63	ePn	Pn	23 15 05.5	-3.8
KULA	Kula-Manisa	3.50	295	ePN	Pn	23 15 10.1	+0.8
KULA	Kula-Manisa	3.50	295	ePn	Pn	23 15 10.1	+0.8
MDUB	Mudurnu	3.55	341	ePN	Pn	23 15 10.8	+0.9
MDUB	Mudurnu	3.55	341	ePn	Pn	23 15 10.8	+0.9
YER	Yerkesik	3.55	272	ePN	Pn	23 15 10.4	+0.5
YER	Yerkesik	3.55	272	ePn	Pn	23 15 10.4	+0.5
GAZ	Gaziantep	3.58	88	ePN	Pn	23 15 10.8	+0.4
GAZ	Gaziantep	3.58	88	ePn	Pn	23 15 10.8	+0.4
GULT	Gulveren	3.73	333	ePN	Pn	23 15 13.2	+0.9
GULT	Gulveren	3.73	333	ePn	Pn	23 15 13.2	+0.9
MLSB	Milas	3.95	274	ePN	Pn	23 15 16.1	+0.6
MLSB	Milas	3.95	274	ePn	Pn	23 15 16.1	+0.7
DAT	Datca	4.14	266	ePN	Pn	23 15 18.7	+0.7
DAT	Datca	4.14	266	ePn	Pn	23 15 18.7	+0.7

ISCJB 02 23:20:08.8±0.9, 17°.7S±0°.3×178°.7W±0°.2, h622km±16km, mb3.8/11, Error ellipse: s-maj=57.3km s-min=11.0km az=151.9
NEIC 02 23:20:08.7±1.0, 17°.71S×178°.59W, h606km±14km, mb4.0/5, Error ellipse: s-maj=52.6km s-min=9.8km az=154.0
IDC 02 23:20:09.3±1.5, 17°.34S×178°.83W, h606km±25km, mb3.2/7, mb1 3.6/8, mb1mx3.4/17, mbtmp3.3/8, Error ellipse: s-maj=78.8km s-min=12.2km az=152.0
ISC 02 23:20:09.2±0.9, 17°.7S±0°.3×178°.7W±0°.2, h610km±14km, n26, σ0°.74/30, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.60	61	P	P	23 22 04.2	-1.0
	2.5nm,0.3s,baz=225,slow=19,SNR=4.2						
AFI				S	S	23 23 40.5	+0.4
	2.4nm,0.3s,baz=53,slow=20,SNR=4.1						
AFI	Afiamalu	7.60	61	P	P	23 22 04.2	-1.0
AFI				S	S	23 23 40.5	+0.4
ARMA	Armidale	29.86	239	eP	P	23 25 29.5	+0.3
	2.6nm,0.6s,mb4.0						
CTA	Charters Tower	33.26	260	eP	P	23 25 59.0	+0.8
	4.1nm,0.5s,mb4.3						
CTAO	Charters Tower	33.26	260	eP	P	23 25 58.4	+0.2
	4.9nm,0.5s,mb4.4						
CNB	Canberra Magne	33.39	232	eP	P	23 25 59.1	+0.1
	35nm,0.6s						
COEN	Coen	36.88	270	eP	P	23 26 30.2	+2.1
	80nm,0.6s						
STKA	Stephens Creek	38.54	241	P	P	23 26 41.9	+0.4
	5.3nm,0.5s,mb4.3,baz=87,slow=8.7,SNR=19						
STKA	Stephens Creek	38.54	241	eP	P	23 26 41.0	-0.4
	4.4nm,0.6s,mb4.2						
STKA	Stephens Creek	38.54	241	eP	P	23 26 41.5	+0.1
	1.0nm,0.5s,mb3.6						
WB2	Warramunga Arr	44.44	259	eP	P	23 27 27.5	-0.3
WRAB	Tennant Creek	44.44	259	eP	P	23 27 26.6	-1.3
	3.6nm,0.5s,mb4.2						
WRA	Warramunga Arr	44.45	259	P	P	23 27 27.7	-0.2
	3.5nm,0.5s,mb4.2,baz=95,slow=7.4,SNR=133						
WRA	Warramunga Arr	44.45	259	P	P	23 27 27.7	-0.2
AS31	Alice Springs	44.63	254	eP	P	23 27 29.9	+0.6
ASAR	Alice Springs	44.64	254	P	P	23 27 29.5	+0.2
	17nm,0.6s,mb4.8,baz=86,slow=8.8,SNR=205						
ASAR				S	S	23 33 21.2	-1.4
	0.5nm,0.7s,baz=90,slow=16,SNR=5.1						
ASAR	Alice Springs	44.64	254	P	P	23 27 29.5	+0.2
ASAR				S	S	23 33 21.2	-1.4
FITZ	Fitzroy Crossi	52.84	260	eP	P	23 28 29.2	-0.6
	0.7nm,0.5s,mb3.2						
NVAR	Mina Array Bea	79.41	44	P	P	23 31 13.7	+0.2
	0.2nm,0.3s,mb3.0,baz=251,slow=8.5,SNR=2.3						
NVAR	Mina Array Bea	79.41	44	P	P	23 31 13.7	+0.2
ILAR	Eielson Array	85.71	13	P	P	23 31 43.6	-0.7
	0.4nm,0.5s,mb3.4,baz=219,slow=4.8,SNR=12						
ILAR	Eielson Array	85.71	13	P	P	23 31 43.6	-0.7
TXAR	Lajitas Array	86.06	58	P	P	23 31 47.4	+0.5
	0.5nm,0.8s,mb3.2,baz=219,slow=6.1,SNR=6.7						
TXAR	Lajitas Array	86.06	58	P	P	23 31 47.4	+0.5
PDAR	Pinedale Array	87.34	44	P	P	23 31 52.7	+0.2
	0.4nm,0.6s,mb3.3,baz=251,slow=2.7,SNR=3.8						
PDAR	Pinedale Array	87.34	44	P	P	23 31 52.7	+0.2

ISCJB 02 23:24:35.9±1.7, 34°.79N±0°.03×80°.02E±0°.06, h15km±11km, mb3.9/14, Error ellipse: s-maj=7.6km s-min=4.3km az=175.0
IDC 02 23:24:35.2±0.7, 34°.69N×79°.99E, h0km, mb3.9/13, mb1 4.0/17, mb1mx3.8/30, mbtmp3.9/17, ML3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/43, Error ellipse: s-maj=23.4km s-min=13.9km az=46.0
NEIC 02 23:24:36.8±0.3, 34°.71N×80°.01E, h10km, mb3.8/3, Error ellipse: s-maj=9.1km s-min=5.1km az=46.0
ISC 02 23:24:40.8±1.4, 34°.77N±0°.03×80°.12E±0°.05, h35km±11km, n51, σ1°.19/63, mb3.9/14, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	Sundarnagar	4.20	220	ePB	Pb	23 25 55.0	+1.1
SDNR				eSB	Sb	23 26 51.0	+6.9
DDI	Dehra Dun	4.77	202	ePKP	Pn	23 25 52.0	+1.9
DDI				eSB	Sb	23 27 10.0	+10
NDI	New Delhi	6.55	203	eS	Sn	23 27 30.0	+1.8
AYAN	Aya Nagar	6.77	203	ePKP	Pn	23 26 19.3	+1.7
AYAN				eS	Sn	23 27 32.9	-0.6
SONA	Sohna	7.00	203	ePKP	Pn	23 26 21.0	+0.2
SONA				ex	x	23 27 19.5	
SONA				AML	AML	23 27 55.6	
	comp=E,22nm,0.2s						
SONA				AML	AML	23 27 58.5	
	comp=N,29nm,0.2s						
KUDL	Kundal	7.30	206	ePKP	Pn	23 26 25.2	+0.3
KUDL				eS	Sn	23 27 45.9	-0.6
TKM2	Tokmak 2	8.87	338	ePn	Pn	23 26 44.5	-1.9
	comp=N,4.5nm,0.8s						
TKM2				eSn	Sn	23 28 26.4	+1.3
AAK	Ala-Archa	9.00	332	ePn	Pn	23 26 47.8	-0.4
	comp=N,20nm,0.6s						
AAK				Sn	Sn	23 28 30.8	+2.6
KBL	Kabul	9.13	272	ePn	Pn	23 26 46.6	-3.4
	comp=N,3.7nm,0.5s						
KBL				eSn	Sn	23 28 29.3	-2.3
EKS2	Erkin-Say	9.31	330	ePn	Pn	23 26 52.0	-0.4
EKS2				eSn	Sn	23 28 37.4	+1.6
LSA	Lhasa	10.62	115	ePn	Pn	23 27 10.7	+0.3
	comp=N,8.0nm,0.8s						
KKAR	Karatay Array	11.18	321	ePn	Pn	23 27 17.8	-0.4
KKAR				eSn	Sn	23 29 23.4	+1.6
MK31	Makanchi Array	12.12	7	ePn	Pn	23 27 30.1	-0.9
MK31				eSn	Sn	23 29 45.8	+1.1
MKAR	Makanchi Array	12.12	7	Pn	Pn	23 27 29.9	-1.0
	comp=N,0.4nm,0.3s,baz=181,slow=13,SNR=19						
MKAR				Sn	Sn	23 29 38.3	-6.5
	comp=N,0.2nm,0.3s,baz=188,slow=20,SNR=3.5						
MKAR	Makanchi Array	12.12	7	Pn	Pn	23 27 29.9	-1.0
MKAR				Sn	Sn	23 29 38.2	-6.5
KURK	Kurchatov	15.97	357	Pn	Pn	23 28 19.2	-3.5
	comp=N,0.1nm,0.3s,baz=183,slow=11,SNR=11						
KURK				LR	LR	23 34 34.3	
	comp=N,26nm,18.5s,baz=345,slow=38						
KURK	Kurchatov	15.97	357	ePn	Pn	23 28 23.2	+0.5
	comp=N,6.8nm,1.0s						
ZALV	Zalesovo Beam	19.46	8	P	Pn	23 29 02.6	-3.1
	comp=N,0.1nm,0.3s,baz=212,slow=13,SNR=3.7						
ZALV	Zalesovo Beam	19.46	8	P	Pn	23 29 02.6	-3.0
BVAR	Borovoye Array	19.52	342	P	Pn	23 29 03.2	-3.2
	comp=N,0.2nm,0.3s,baz=150,slow=11,SNR=14						
BVAR	Borovoye Array	19.52	342	P	Pn	23 29 03.2	-3.2
ABKAR	Akbulak array	20.75	320	eP	P	23 29 18.3	0.0
	comp=N,1.5nm,0.6s						
AKTO

MACK	**Trabzon**	**1.16**	**23**	*i* P	**Pb**	**23 37 51.5**	**+0.4**
GRSN	**GIRESUNGRSN**	**1.25**	**327**	*i* P	**Pn**	**23 37 51.7**	**-0.6**
GRSN	**GIRESUNGRSN**	**1.25**	**327**	*i* P	**Pn**	**23 37 51.7**	**-0.6**
BINT	**Bingol**	**1.44**	**134**	*e*Pn	**Pn**	**23 37 54.0**	**-0.9**
BNGB	**Bing¶ll**	**1.47**	**126**	*e*PN	**Pn**	**23 37 54.0**	**-1.4**
RSDY	**Resadiye-TOKAT**	**1.50**	**291**	*e*PN	**Pn**	**23 37 56.5**	**+0.8**
RSDY	**Resadiye-TOKAT**	**1.50**	**291**	*e*Pn	**Pn**	**23 37 56.5**	**+0.8**
SVRC	**Sivrice-ELAZID**	**1.50**	**176**	*e*PN	**Pn**	**23 37 55.5**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.50**	**176**	*e*Pn	**Pn**	**23 37 55.5**	**-0.3**
MYA	**Malataya**	**1.65**	**200**	*e*PN	**Pn**	**23 37 58.2**	**+0.4**
MYA	**Malataya**	**1.65**	**200**	*e*Pn	**Pn**	**23 37 58.3**	**+0.5**
MALT	**Malatya**	**1.66**	**200**	*e*PN	**Pn**	**23 37 58.9**	**+0.9**
MALT	**Malatya**	**1.66**	**200**	*e*Pn	**Pn**	**23 37 58.9**	**+0.9**
AKCD	**Akcadag**	**1.85**	**212**	*i* P	**Pn**	**23 38 02.9**	**+2.3**
AKCD				*i* S	**Sn**	**23 38 28.2**	**+4.4**
AKCD	**Akcadag**	**1.85**	**212**	*i* P	**Pn**	**23 38 02.9**	**+2.3**
AKCD				*i* S	**Sn**	**23 38 28.2**	**+4.4**
BCA	**Borcka**	**2.44**	**49**	*e*PN	**Pn**	**23 38 07.7**	**-1.0**
BCA	**Borcka**	**2.44**	**49**	*e*Pn	**Pn**	**23 38 07.7**	**-1.0**

ISCJB ***02*** *23:42:10.7±0.5, 0.°03S±0.°07×28.°02E±0.°06, h10km, mb3.9/13, MS3.1/4, Error ellipse: s-maj=10.5km s-min=8.2km az=2.7*
IDC ***02*** *23:42:11.2±0.8, 0.°03S×27.°92E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.9/22, mbtmp4.0/13, ML4.9/1, MS3.2/5, Ms1 3.1/5, ms1mx2.9/30, Error ellipse: s-maj=23.4km s-min=17.8km az=114.0*
NEIC ***02*** *23:42:12.2±0.5, 0.°12S×28.°00E, h10km, mb3.9/3, Error ellipse: s-maj=12.5km s-min=9.8km az=104.0*
ISC 02 23:42:12.9±0.5, 0.°02S±0.°07×27.°97E±0.°06, h10km, n32, σ0.°86/34, mb3.9/13, MS3.1/4, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.35**	**97**	*e*Pn	**Pn**	**23 44 25.9**	**-1.9**
	5.4nm,0.8s						
KMBO				*e*Sn	**Sn**	**23 46 13.2**	**+0.1**
MSKU	**Masuku**	**14.45**	**263**	Pn	**Pn**	**23 45 36.9**	**-0.7**
	5.2nm,0.3s,baz=249,slow=18,SNR=14						
MSKU				Sn	**Sn**	**23 48 06.4**	**-12**
	3.5nm,0.3s,baz=349,slow=18,SNR=4.0						
MSKU				Lg		23 49 46.0	
	baz=169,slow=24,SNR=3.7						
MSKU	**Masuku**	**14.45**	**263**	Pn	**Pn**	**23 45 36.9**	**-0.7**
MSKU				Sn	**Sn**	**23 48 06.4**	**-12**
MSKU				Lg		23 49 46.0	
LSZ	**Lusaka**	**15.16**	**179**	*e*Pn	**Pn**	**23 45 43.1**	**-4.1**
	2.2nm,0.9s						
ATD	**Arta Tunnel**	**18.71**	**52**	LR	LR	23 53 54.9	
	comp=Z,53nm,21.3s,baz=237,slow=38						
TSUM	**Tsumeb**	**21.61**	**208**	*e*P	**P**	**23 47 02.8**	**-0.6**
	5.3nm,0.8s,mb4.0						
TSUM				*e*S	**S**	**23 51 09.0**	**+6.2**
LBTB	**Lobatse**	**24.95**	**185**	P	**P**	**23 47 37.0**	**+0.4**
	7.2nm,1.1s,mb4.1,baz=6.9,slow=10.0,SNR=4.5						
LBTB				LR	LR	23 57 37.6	
	comp=Z,82nm,18.2s,MS3.3,baz=48,slow=37						
LBTB	**Lobatse**	**24.95**	**185**	*e*P	**P**	**23 47 36.8**	**+0.2**
	3.4nm,0.8s,mb3.9						
BOSA	**Boshof**	**28.55**	**185**	P	**P**	**23 48 08.6**	**-0.4**
	2.0nm,0.9s,mb3.8,baz=352,slow=7.1,SNR=2.7						
BOSA				LR	LR	23 59 40.9	
	comp=Z,72nm,20.4s,MS3.3,baz=184,slow=37						
BOSA	**Boshof**	**28.55**	**185**	P	**P**	**23 48 08.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**29.15**	**298**	P	**P**	**23 48 14.2**	**-0.3**
	1.0nm,0.4s,mb3.9,baz=107,slow=7.8,SNR=10						
TORD				LR	LR	23 59 29.4	
	comp=Z,31nm,21.8s,MS2.9,baz=320,slow=36						
TORD	**Torodi Ar. Bea**	**29.15**	**298**	P	**P**	**23 48 14.2**	**-0.3**
DBIC	**Dimbokro**	**33.42**	**282**	P	**P**	**23 48 52.1**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=100,slow=7.4,SNR=3.7						
KEST	**Kesra**	**39.58**	**336**	LR	LR	00 05 15.1	
	comp=Z,20nm,20.1s,MS3.0,baz=220,slow=35						
BRTR	**Keskin Array B**	**39.90**	**7**	P	**P**	**23 49 48.3**	**+1.3**
	1.2nm,0.7s,mb3.7,baz=175,slow=9.7,SNR=12						
BRTR	**Keskin Array B**	**39.90**	**7**	P	**P**	**23 49 48.3**	**+1.3**
GERES	**GERESS Array B**	**50.21**	**348**	P	**P**	**23 51 09.3**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=165,slow=9.1,SNR=3.5						
GERES	**GERESS Array B**	**50.21**	**348**	P	**P**	**23 51 09.3**	**+0.4**
AKASG	**Malin Array Be**	**50.55**	**1**	P	**P**	**23 51 10.8**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=186,slow=8.4,SNR=3.2						
AKASG	**Malin Array Be**	**50.55**	**1**	P	**P**	**23 51 10.8**	**-0.6**
NOA	**NORSAR Array B**	**62.24**	**351**	P	**P**	**23 52 33.9**	**-0.8**
	0.7nm,0.6s,mb4.0,baz=162,slow=6.8,SNR=3.7						
NOA	**NORSAR Array B**	**62.24**	**351**	P	**P**	**23 52 33.9**	**-0.8**
MKAR	**Makanchi Array**	**66.39**	**38**	P	**P**	**23 53 02.2**	**0.0**
	1.6nm,0.6s,mb4.2,baz=243,slow=5.4,SNR=14						
MKAR	**Makanchi Array**	**66.39**	**38**	P	**P**	**23 53 02.2**	**0.0**
ARCES	**ARCESS Array B**	**69.45**	**359**	P	**P**	**23 53 20.4**	**-0.5**
	1.7nm,0.6s,mb4.2,baz=180,slow=6.1,SNR=11						
ARCES	**ARCESS Array B**	**69.45**	**359**	P	**P**	**23 53 20.4**	**-0.5**
ZALV	**Zalesovo Beam**	**71.16**	**32**	P	**P**	**23 53 31.7**	**0.0**
	1.2nm,0.8s,mb3.9,baz=243,slow=5.6,SNR=5.5						
ZALV	**Zalesovo Beam**	**71.16**	**32**	P	**P**	**23 53 31.7**	**0.0**
VNA2	**Neumayer--Watz**	**74.43**	**191**	*e*	**P**	**23 53 52.2**	**+1.4**
VNA3	**Neumayer Olymp**	**75.14**	**192**	*e*	**P**	**23 53 56.2**	**+1.3**
SONM	**Songino Array**	**82.25**	**42**	P	**P**	**23 54 35.9**	**+1.4**
	0.5nm,0.7s,mb3.5,baz=265,slow=6.5,SNR=3.0						
SONM	**Songino Array**	**82.25**	**42**	P	**P**	**23 54 35.9**	**+1.4**

CSEM ***02*** *23:58:24.8±0.5, 40.°93N×38.°40E, h8km, MD2.8, Error ellipse: s-maj=14.6km s-min=7.7km az=169.0*
DDA ***02*** *23:58:24.8, 40.°90N×38.°41E, h7km±2km, Md2.8*
ISCJB ***02*** *23:58:25.2±0.6, 40.°88N±0.°05×38.°41E±0.°04, h6km±7km, Error ellipse: s-maj=8.2km s-min=5.2km az=177.2*
ISK ***02*** *23:58:25.3, 41.°13N×38.°73E, h17km, MD2.6*
ISC 02 23:58:25.2±0.8, 40.°92N±0.°06×38.°40E±0.°04, h10km±6km, n16, σ0.°83/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRSN	**GIRESUNGRSN**	**0.10**	**275**	*e*P	**Pg**	**23 58 27.5**	**-0.2**
GRSN				*i* S	**Sg**	**23 58 29.4**	**-0.1**
GRSN	**GIRESUNGRSN**	**0.10**	**275**	*e*P	**Pg**	**23 58 27.5**	**-0.2**
GRSN				*i* S	**Sg**	**23 58 29.4**	**-0.1**
ESPY	**Espiye-Giresun**	**0.25**	**90**	*e*PG	**Pg**	**23 58 30.5**	**+0.2**
ESPY				*e*SG	**Sg**	**23 58 34.5**	**+0.8**
ESPY	**Espiye-Giresun**	**0.25**	**90**	*e*Pg	**Pg**	**23 58 30.5**	**+0.2**
ESPY				*e*Sg	**Sg**	**23 58 34.5**	**+0.8**
SUSE	**Susehri**	**0.72**	**192**	*i* P	**Pg**	**23 58 38.8**	**-0.3**
SUSE				*i* S	**Sg**	**23 58 48.5**	**0.0**
SUSE	**Susehri**	**0.72**	**192**	*i* P	**Pg**	**23 58 38.8**	**-0.3**
SUSE				*i* S	**Sg**	**23 58 48.5**	**0.0**
GUMT	**Gumushane**	**0.94**	**119**	*e*PG	**Pg**	**23 58 42.9**	**-0.4**
GUMT				*e*SG	**Sg**	**23 58 55.2**	**-0.4**
GUMT	**Gumushane**	**0.94**	**119**	*e*Pg	**Pg**	**23 58 42.9**	**-0.4**
GUMT				*e*Sg	**Sg**	**23 58 55.2**	**-0.3**
MACK	**Trabzon**	**1.04**	**88**	*i* P	**Pg**	**23 58 45.0**	**-0.2**
MACK				*i* S	**Sg**	**23 58 59.0**	**+0.3**
MACK	**Trabzon**	**1.04**	**88**	*i* P	**Pg**	**23 58 45.0**	**-0.2**
MACK				*i* S	**Sg**	**23 58 59.0**	**+0.3**
ERBA	**Erbaa**	**1.27**	**260**	*e*P	**Pn**	**23 58 49.1**	**+0.2**
ERBA	**Erbaa**	**1.27**	**260**	*e*P	**Pn**	**23 58 49.2**	**+0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.43**	**111**	*e*PN	**Pn**	**23 58 49.2**	**-1.9**
BAYT	**Ayd¯–ntepe-Bay**	**1.43**	**111**	*e*Pn	**Pn**	**23 58 49.2**	**-2.0**
KEMA	**Kemaliye**	**1.65**	**177**	*i* P	**Pn**	**23 58 56.6**	**+2.4**
KEMA	**Kemaliye**	**1.65**	**177**	*i* P	**Pn**	**23 58 56.6**	**+2.4**

IDC ***03*** *00:44:53.1±1.0, 2.°37N×128.°55E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, Error ellipse: s-maj=62.3km s-min=16.4km az=77.0*
ISCJB ***03*** *00:44:59.6±1.9, 2.°28N±0.°07×128.°6E±0.°1, h65km±15km, mb4.2/15, Error ellipse: s-maj=21.2km s-min=6.8km az=154.3*
NEIC ***03*** *00:45:03.4±4.3, 2.°30N×128.°67E, h91km±44km, mb3.9/4, Error ellipse: s-maj=14.8km s-min=8.5km az=66.0*
DJA ***03*** *00:45:10, 0.°95N×125.°99E, h20km, MLv3.7/5*
ISC 03 00:45:00.7±1.8, 2.°27N±0.°07×128.°6E±0.°1, h58km±15km, n49, σ0.°61/52, mb4.3/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.90**	**219**	P	**Pn**	**00 45 30.7**	**-0.1**
TNTI				S	**Sn**	**00 45 52.8**	**-0.9**
LBMI	**Labuha**	**3.07**	**200**	P	**Pn**	**00 45 47.5**	**+0.7**
LBMI				S	**Sn**	**00 46 21.9**	**-0.4**
SGSI	**Sangihe**	**3.34**	**295**	P	**Pn**	**00 45 51.1**	**+0.7**
SGSI				S	**Sn**	**00 46 28.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.44**	**188**	P	**P**	**00 49 33.4**	**-0.1**
	1.2nm,0.6s,baz=11,slow=8.1,SNR=6.2						
FITZ	**Fitzroy Crossi**	**20.44**	**188**	P	**P**	**00 49 33.4**	**-0.1**
WRAB	**Tennant Creek**	**22.78**	**166**	*e*P	**P**	**00 49 58.8**	**+0.3**
	5.3nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**22.79**	**166**	P	**P**	**00 49 58.9**	**+0.4**
	1.5nm,0.5s,mb3.7,baz=332,slow=12,SNR=28						
WRA	**Warramunga Arr**	**22.79**	**166**	P	**P**	**00 49 58.9**	**+0.4**
WB2	**Warramunga Arr**	**22.79**	**166**	*e*P	**P**	**00 49 58.5**	**0.0**
MBWA	**Marble Bar**	**24.83**	**200**	P	**P**	**00 50 17.8**	**+0.1**
AS31	**Alice Springs**	**26.29**	**169**	*e*P	**P**	**00 50 30.7**	**-0.2**
ASAR	**Alice Springs**	**26.30**	**169**	P	**P**	**00 50 31.3**	**+0.4**
	1.0nm,0.6s,mb3.5,baz=354,slow=8.2,SNR=17						
ASAR	**Alice Springs**	**26.30**	**169**	P	**P**	**00 50 31.3**	**+0.4**
MJAR	**Matsushiro Arr**	**35.25**	**14**	P	**P**	**00 51 48.5**	**-1.3**
	1.1nm,0.3s,mb4.2,baz=188,slow=10,SNR=4.4						
MJAR	**Matsushiro Arr**	**35.25**	**14**	P	**P**	**00 51 48.5**	**-1.3**
STKA	**Stephens Creek**	**36.14**	**161**	P	**P**	**00 51 58.0**	**+0.6**
	2.6nm,0.4s,mb4.5,baz=348,slow=7.8,SNR=13						
STKA	**Stephens Creek**	**36.14**	**161**	*e*P	**P**	**00 51 57.6**	**+0.2**
	0.5nm,0.3s,mb3.9						
LSA	**Lhasa**	**44.77**	**311**	*e*P	**P**	**00 53 09.0**	**+0.2**
	2.3nm,0.5s,mb4.3						
TAPN	**Taplejung**	**46.35**	**306**	*e*P	**P**	**00 53 21.0**	**-0.3**
	4.8nm,0.6s,mb4.6						
TAPN	**Taplejung**	**46.35**	**306**	*e*P	**P**	**00 53 21.0**	**-0.3**
	4.8nm,0.6s,mb4.6						
ODAN	**Odare**	**46.40**	**306**	*e*P	**P**	**00 53 22.1**	**+0.4**
	12nm,0.6s,mb5.0						
ODAN	**Odare**	**46.40**	**306**	*e*P	**P**	**00 53 22.1**	**+0.4**
	12nm,0.6s,mb5.0						
RAMN	**Ramite**	**47.08**	**305**	*e*P	**P**	**00 53 27.7**	**+0.7**
	16nm,0.6s,mb5.1						
RAMN	**Ramite**	**47.08**	**305**	*e*P	**P**	**00 53 27.7**	**+0.7**
	16nm,0.6s,mb5.1						
JIRN	**Jiri**	**47.70**	**306**	*e*P	**P**	**00 53 32.5**	**+0.6**
	4.6nm,0.5s,mb4.8						
JIRN	**Jiri**	**47.70**	**306**	*e*P	**P**	**00 53 32.5**	**+0.6**
	4.6nm,0.5s,mb4.8						
GUN	**Gumba**	**48.06**	**306**	*e*P	**P**	**00 53 35.3**	**+0.7**
	22nm,0.5s						
GUN	**Gumba**	**48.06**	**306**	*e*P	**P**	**00 53 35.3**	**+0.7**
	22nm,0.5s						
PKI	**Pulchoki**	**48.30**	**306**	*e*P	**P**	**00 53 36.5**	**0.0**
PKI	**Pulchoki**	**48.30**	**306**	*e*P	**P**	**00 53 36.5**	**0.0**
KKN	**Kakani**	**48.49**	**306**	*e*P	**P**	**00 53 38.1**	**+0.1**
	10.0nm,0.5s,mb5.1						
KKN	**Kakani**	**48.49**	**306**	*e*P	**P**	**00 53 38.1**	**+0.1**
	10.0nm,0.5s,mb5.1						
DMN	**Daman**	**48.56**	**305**	*e*P	**P**	**00 53 39.0**	**+0.5**
DMN	**Daman**	**48.56**	**305**	*e*P	**P**	**00 53 39.0**	**+0.5**
GKN	**Gorkha**	**49.10**	**306**	*e*P	**P**	**00 53 42.3**	**-0.3**
	5.4nm,0.3s,mb5.1						
GKN	**Gorkha**	**49.10**	**306**	*e*P	**P**	**00 53 42.3**	**-0.3**
	5.4nm,0.3s,mb5.1						
SONM	**Songino Array**	**49.27**	**340**	P	**P**	**00 53 43.6**	**0.0**
	0.4nm,0.6s,mb3.6,baz=147,slow=8.2,SNR=2.2						
SONM	**Songino Array**	**49.27**	**340**	P	**P**	**00 53 43.6**	**0.0**
KOLN	**Koldanda**	**49.85**	**305**	*e*P	**P**	**00 53 48.8**	**+0.4**
	29nm,0.7s						
KOLN	**Koldanda**	**49.85**	**305**	*e*P	**P**	**00 53 48.8**	**+0.4**
	29nm,0.7s						
DANN	**Dangsing**	**49.95**	**306**	*e*P	**P**	**00 53 49.3**	**+0.2**
	29nm,0.6s						
DANN	**Dangsing**	**49.95**	**306**	*e*P	**P**	**00 53 49.3**	**+0.2**
	29nm,0.6s						
PYUN	**Piuthan**	**50.48**	**305**	*e*P	**P**	**00 53 53.7**	**+0.6**
	22nm,0.8s						
PYUN	**Piuthan**	**50.48**	**305**	*e*P	**P**	**00 53 53.7**	**+0.6**
	22nm,0.8s						
MK31	**Makanchi Array**	**59.79**	**325**	*e*P	**P**	**00 54 59.0**	**-0.8**
MKAR	**Makanchi Array**	**59.79**	**325**	P	**P**	**00 54 59.3**	**-0.6**
	0.4nm,0.4s,mb3.9,baz=112,slow=7.7,SNR=19						
MKAR	**Makanchi Array**	**59.79**	**325**	P	**P**	**00 54 59.3**	**-0.6**
KBL	**Kabul**	**63.86**	**308**	P	**P**	**00 55 26.7**	**-0.7**
ABKAR	**Akbulak array**	**74.43**	**321**	*e*P	**P**	**00 56 30.5**	**-2.1**
	0.4nm,0.6s,mb3.5						

DJA 03 00:54:44.7±94S×107.°27E, h19km, MLv3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.66**	**55**	P	Pb	00 54 57.5	+0.6
CISI				S	Sb	00 55 06.9	+1.1
LEM	**Lembang**	**1.16**	**17**	P	Pn	00 55 05.5	+0.3
GMJI	**Sukabumi**	**1.17**	**323**	P	Pn	00 55 03.5	-1.8
CMJI	**Cimerak**	**1.18**	**83**	P	Pn	00 55 05.2	-0.3
CMJI				S	Sb	00 55 20.1	-0.5
CGJI	**Cibinong**	**2.05**	**310**	P	Pn	00 55 18.6	+1.2
CGJI				S	Sn	00 55 39.4	-3.0

IDC 03 00:58:27.9±10.0, 6.°74S×129.°35E, h216km±121km, mb2.8/1, mb1 2.7/4, mb1mx2.6/16, mbtmp2.6/4, Error ellipse: s-maj=72.4km s-min=49.1km az=36.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.86**	**197**	P	Pn	01 01 10.7	+0.1
	0.1nm,0.3s,baz=17,slow=11,SNR=2.7						
FITZ				S	S	01 03 23.5	+0.4
	0.1nm,0.3s,baz=229,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**13.99**	**160**	P	Pn	01 01 36.8	-0.4
	0.2nm,0.3s,baz=342,slow=12,SNR=15						
WRA				S	S	01 03 59.3	-13
	0.1nm,0.3s,baz=346,slow=20,SNR=6.0						
ASAR	**Alice Springs**	**17.39**	**166**	P	P	01 02 16.2	+0.2
	0.1nm,0.3s,baz=335,slow=8.5,SNR=4.3						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	01 09 01.7	+0.1
	0.4nm,0.9s,baz=109,slow=7.7,SNR=4.7						

ISCJB ***03*** *01:22:39.9±0.6, 54.°80N±0.°07×161.°50W±0.°07, h63km±4km, mb3.9/17, Error ellipse: s-maj=13.7km s-min=3.5km az=154.2*
IDC ***03*** *01:22:39.9±3.4, 54.°93N×161.°57W, h45km±29km, mb3.8/13, mb1 3.8/16, mb1mx3.8/26, mbtmp3.7/16, ML3.5/3, Error ellipse: s-maj=27.9km s-min=17.3km az=177.0*
NEIC ***03*** *01:22:40.3, 54.°69N×161.°51W, h11km, mb3.9/2, ML3.8(AEIC), After AEIC.*
ISC 03 01:22:41.2±0.5, 54.°79N±0.°07×161.°53W±0.°07, h57km±4km, n78, σ1.°11/83, mb3.9/17, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.41**	**332**	P	**Pn**	**01 22 50.4**	**-1.5**
DRIA	**Deer Island**	**0.46**	**293**	P	**Pn**	**01 22 50.6**	**-1.9**
DT1	**Dutton Round H**	**0.53**	**307**	P	**Pn**	**01 22 51.9**	**-1.4**
DTNA	**Dutton South F**	**0.55**	**311**	P	**Pn**	**01 22 52.3**	**-1.1**
HAG	**Hague Volcano**	**0.57**	**338**	P	**Pn**	**01 22 53.1**	**-0.6**
PS4A	**Pavlof South-4**	**0.58**	**342**	P	**Pn**	**01 22 53.1**	**-0.7**
PVV	**Pavlof Volcano**	**0.60**	**346**	P	**Pn**	**01 22 53.4**	**-0.7**
SDPT	**Sand Point**	**0.83**	**47**	P	**Pn**	**01 22 55.5**	**-1.3**
SDPT				S	**Sn**	**01 23 07.5**	**-0.8**
FALS	**False Pass**	**1.09**	**274**	P	**Pn**	**01 22 59.2**	**-1.1**
FALS				S	**Sn**	**01 23 15.8**	**+1.3**
SSLS	**Shishaldin Sou**	**1.43**	**268**	P	**Pn**	**01 23 04.7**	**-0.1**
SSLS				S	**Sn**	**01 23 24.0**	**+1.4**
VNWF	**Veniaminof 8**	**1.77**	**39**	P	**Pn**	**01 23 11.0**	**+1.7**
VNHG	**Veniaminof 1**	**1.97**	**42**	P	**Pn**	**01 23 13.3**	**+1.3**
CHGN	**Chignik**	**2.33**	**48**	*e*Pn	**Pn**	**01 23 16.6**	**-0.4**
CHGN				*e*Sn	**Sn**	**01 23 46.8**	**+2.3**
AKUT	**Akutan**	**2.56**	**257**	P	**Pn**	**01 23 20.0**	**-0.1**
AKUT				S	**Sn**	**01 23 51.8**	**+1.7**
ANPB	**Aniakchak Plen**	**2.73**	**41**	P	**Pn**	**01 23 22.8**	**+0.3**
ANPK	**Aniakchak Peak**	**2.81**	**42**	P	**Pn**	**01 23 24.0**	**+0.4**
UNV	**Unalaska Valle**	**3.06**	**254**	P	**Pn**	**01 23 27.0**	**0.0**
UNV				S	**Sn**	**01 24 02.7**	**+0.3**
MSW	**Makushin Switc**	**3.19**	**256**	P	**Pn**	**01 23 28.7**	**-0.2**
MSW				S	**Sn**	**01 24 06.2**	**+0.6**
MREP	**Makushin Rep't**	**3.21**	**254**	P	**Pn**	**01 23 28.7**	**-0.4**
PLK4	**Peulik 4**	**4.06**	**43**	P	**Pn**	**01 23 42.4**	**+1.8**
NIKO	**Nikolski**	**4.70**	**250**	P	**Pn**	**01 23 50.2**	**+0.8**
ANCK	**Angle Creek**	**4.78**	**42**	P	**Pn**	**01 23 51.2**	**+0.6**
KABR	**Katmai Barrier**	**4.94**	**45**	P	**Pn**	**01 23 53.2**	**+0.4**
OHAK	**Old Harbor**	**5.23**	**59**	P	**Pn**	**01 23 54.9**	**-1.8**
KDAK	**Kodiak Island**	**5.81**	**55**	P	**Pn**	**01 24 03.5**	**-1.3**
	0.7nm,0.3s,baz=345,slow=17,SNR=43						
KDAK				S	**Sn**	**01 25 06.7**	**-3.2**
	0.5nm,0.3s,baz=336,slow=20,SNR=4.0						
KDAK	**Kodiak Island**	**5.81**	**55**	P	**Pn**	**01 24 03.3**	**-1.4**
RSO	**Redoubt South**	**7.38**	**36**	*e*Pn	**Pn**	**01 24 28.4**	**+2.3**
BRLK	**Bradley Lake**	**7.62**	**45**	P	**Pn**	**01 24 29.6**	**+0.3**
CKL	**Chakachamna La**	**8.06**	**33**	P	**Pn**	**01 24 37.2**	**+1.8**
SLKM	**Skilak Lake**	**8.34**	**42**	*e*Pn	**Pn**	**01 24 40.0**	**+0.8**
SEW	**Seward**	**8.41**	**46**	*e*Pn	**Pn**	**01 24 40.1**	**0.0**
STLK	**Strandline Lak**	**8.45**	**33**	P	**Pn**	**01 24 41.6**	**+0.9**
TT01	**Tatalina**	**8.62**	**17**	P	**Pn**	**01 24 43.8**	**+0.7**
RC01	**Rabbit Creek A**	**8.89**	**40**	*e*Pn	**Pn**	**01 24 47.5**	**+0.8**
TRF	**Thorofare Moun**	**10.41**	**29**	*e*Pn	**Pn**	**01 25 07.9**	**+0.4**
	41nm,1.5s						
MCK	**McKinley**	**11.02**	**31**	*e*Pn	**Pn**	**01 25 16.4**	**+0.6**
TNA	**Tin City**	**11.25**	**346**	*e*Pn	**Pn**	**01 25 20.2**	**+1.2**
	8.6nm,0.5s						
ILAR	**Eielson Array**	**12.39**	**30**	P	**Pn**	**01 25 31.2**	**-3.2**
	0.1nm,0.3s,baz=221,slow=14,SNR=5.5						
ILAR	**Eielson Array**	**12.39**	**30**	P	**Pn**	**01 25 31.2**	**-3.2**
DAWY	**Dawson**	**14.52**	**41**	*e*Pn	**Pn**	**01 26 01.2**	**-2.0**
INK	**Inuvik**	**18.76**	**33**	P	**Pn**	**01 26 53.3**	**-2.7**
	0.2nm,0.3s,baz=240,slow=12,SNR=13						
INK	**Inuvik**	**18.76**	**33**	P	**Pn**	**01 26 53.3**	**-2.7**
INK				*e*Pn	**Pn**	**01 26 55.7**	**-0.4**
PETK	**Petropavlovsk-**	**23.82**	**283**	P	**P**	**01 27 48.4**	**-0.1**
	1.9nm,0.3s,mb3.9,baz=89,slow=13,SNR=4.7						
PETK	**Petropavlovsk-**	**23.82**	**283**	P	**P**	**01 27 48.4**	**-0.1**
YKA	**Yellowknife Ar**	**25.09**	**53**	P	**P**	**01 28 00.1**	**+0.1**
	1.0nm,0.6s,mb3.5,baz=272,slow=9.1,SNR=6.6						
YKA	**Yellowknife Ar**	**25.09**	**53**	P	**P**	**01 28 00.1**	**+0.1**
NEW	**Newport**	**28.00**	**85**	*e*P	**P**	**01 28 27.3**	**+1.0**
	4.1nm,1.2s,mb3.9						
WVOR	**Wild Horse Val**	**30.44**	**96**	*e*P	**P**	**01 28 47.9**	**-0.1**
	0.5nm,0.4s,mb3.6						
ULM	**Lac du Bonnet**	**38.90**	**69**	P	**P**	**01 30 00.8**	**0.0**
	2.4nm,0.6s,mb4.1,baz=333,slow=6.8,SNR=2.8						
ULM	**Lac du Bonnet**	**38.90**	**69**	P	**P**	**01 30 00.8**	**0.0**
TXAR	**Lajitas Array**	**48.22**	**97**	P	**P**	**01 31 16.6**	**+0.8**
	0.1nm,0.5s,mb3.1,baz=306,slow=4.3,SNR=2.0						
TXAR				pP	pP	01 31 28.2	-2.7
	0.5nm,0.7s,baz=305,slow=6.1,SNR=7.0						
TXAR				PcP	PcP	01 32 42.2	0.0
	0.1nm,0.5s,baz=289,slow=1.0,SNR=4.6						
TXAR	**Lajitas Array**	**48.22**	**97**	P	**P**	**01 31 16.6**	**+0.8**
TXAR				pP	pP	01 31 28.2	-2.7
TXAR				PcP	PcP	01 32 42.2	0.0
SONM	**Songino Array**	**53.96**	**304**	P	**P**	**01 31 59.2**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=56,slow=6.0,SNR=5.7						
SONM				PcP	PcP	01 33 03.1	-0.2
	0.8nm,0.8s,baz=66,slow=2.3,SNR=3.9						
SONM	**Songino Array**	**53.96**	**304**	P	**P**	**01 31 59.2**	**+0.5**
SONM				PcP	PcP	01 33 03.1	-0.2
ZALV	**Zalesovo Beam**	**58.65**	**321**	PcP	PcP	01 33 21.6	+0.2
	0.6nm,0.6s,baz=33,slow=3.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**58.65**	**321**	PcP	PcP	01 33 21.6	+0.2
FINES	**FINESS Array B**	**63.95**	**356**	P	**P**	**

FITZ Fitzroy Crossi 31.97 171 P **P 01 40 00.5 -0.9**
1.1nm,1.0s,mb3.5,baz=12,slow=9.3,SNR=2.3
FITZ Fitzroy Crossi 31.97 171 P **P 01 40 00.5 -0.9**
WRA Warramunga Arr 36.01 158 P **P 01 40 36.0 -0.3**
0.1nm,0.3s,mb3.2,baz=340,slow=9.0,SNR=5.0
WRA Warramunga Arr 36.01 158 P **P 01 40 36.0 -0.3**
SONM Songino Array 36.06 344 P **P 01 40 36.7 +0.3**
0.5nm,0.4s,mb3.8,baz=165,slow=11,SNR=2.9
SONM Songino Array 36.06 344 P **P 01 40 36.7 +0.3**
ASAR Alice Springs 39.31 161 P **P 01 41 05.2 +1.2**
0.3nm,0.3s,mb3.5,baz=338,slow=8.0,SNR=6.2
ASAR Alice Springs 39.31 161 P **P 01 41 05.2 +1.2**
MKAR Makanchi Array 46.06 324 P **P 01 41 58.6 +0.3**
0.1nm,0.3s,mb3.1,baz=119,slow=8.1,SNR=6.4
MKAR Makanchi Array 46.06 324 P **P 01 41 58.6 +0.3**
ZALV Zalesovo Beam 49.07 333 P **P 01 42 20.6 -0.9**
0.3nm,0.4s,mb3.6,baz=138,slow=6.9,SNR=2.4
ZALV Zalesovo Beam 49.07 333 P **P 01 42 20.6 -0.9**
KURK Kurchatov 50.21 326 P **P 01 42 31.2 +1.1**
0.8nm,0.3s,mb4.1,baz=137,slow=48,SNR=1.7
KURK Kurchatov 50.21 326 P **P 01 42 31.2 +1.1**
BVAR Borovoye Array 55.80 326 P **P 01 43 11.0 -0.1**
0.4nm,0.5s,mb3.7,baz=114,slow=9.4,SNR=3.8
BVAR Borovoye Array 55.80 326 P **P 01 43 11.0 -0.1**
ABKAR Akbulak array 60.76 319 *e*P **P 01 43 45.5 -0.3**
0.5nm,0.5s,mb3.8
ARCES ARCESS Array B 79.09 339 P **P 01 45 37.0 -0.5**
2.0nm,0.8s,mb4.0,baz=86,slow=7.4,SNR=5.1
ARCES ARCESS Array B 79.09 339 P **P 01 45 37.0 -0.5**

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*ISCJB **03** 01:34:38.8±0.6, 40.°91N±0.°03×42.°35E±0.°03, h1km±7km, Error ellipse: s-maj=5.6km s-min=3.5km az=173.0*
*ISK **03** 01:34:39.0, 40.°94N×42.°36E, h9km, MD2.9*
*DDA **03** 01:34:39.0, 40.°90N×42.°32E, h7km±1km, Md2.9*
*TIF **03** 01:34:39.3, 40.°81N×42.°40E, h10km±1km*
*CSEM **03** 01:34:39.4±0.3, 40.°88N×42.°31E, h2km, MD2.9, Error ellipse: s-maj=8.3km s-min=4.9km az=37.0*
ISC 03 01:34:39.7±0.5, 40.°89N±0.°03×42.°33E±0.°03, h7km±7km, n27, σ0°73/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAGI	**Agillar**	**0.36**	**301**	*i* P	**Pg**	**01 34 47.0**	**+0.2**
DAGI				*i* S	**Sg**	**01 34 52.6**	**+1.0**
ARTV	**Artvin**	**0.42**	**314**	*i* P	**Pg**	**01 34 47.2**	**-0.6**
ARTV				*i* S	**Sg**	**01 34 53.6**	**+0.3**
ARTV	**Artvin**	**0.42**	**314**	*i* P	**Pg**	**01 34 47.2**	**-0.6**
ARTV				*i* S	**Sg**	**01 34 53.6**	**+0.3**
DDEM	**Demirkent**	**0.44**	**270**	*i* P	**Pg**	**01 34 48.0**	**-0.2**
DDEM				*i* S	**Sg**	**01 34 54.1**	**+0.2**
DDEM	**Demirkent**	**0.44**	**270**	*i* P	**Pg**	**01 34 48.0**	**-0.2**
DDEM				*i* S	**Sg**	**01 34 54.1**	**+0.2**
KARS	**Kars**	**0.63**	**115**	*e*PG	**Pg**	**01 34 52.4**	**+0.6**
KARS				*e*SG	**Sg**	**01 35 01.2**	**+1.1**
KARS	**Kars**	**0.63**	**115**	*e*Pg	**Pg**	**01 34 52.4**	**+0.6**
KARS				*e*Sg	**Sg**	**01 35 01.2**	**+1.2**
BCA	**Borcka**	**0.77**	**316**	*e*PG	**Pg**	**01 34 53.8**	**-0.6**
BCA				*e*SG	**Sg**	**01 35 04.2**	**-0.1**
BCA	**Borcka**	**0.77**	**316**	*e*Pg	**Pg**	**01 34 53.8**	**-0.6**
BCA				*e*Sg	**Sg**	**01 35 04.2**	**-0.2**
HOMI	**Horasan**	**0.91**	**201**	*e*P	**Pg**	**01 34 56.7**	**-0.4**
AKH	**Akhalkalaki**	**1.02**	**59**	P	**Pg**	**01 34 58.7**	**-0.6**
AKH				S	**Sg**	**01 35 13.1**	**+0.5**
PZAR	**Pazar-Rize**	**1.12**	**285**	*e*PN	**Pn**	**01 35 01.3**	**-0.4**
PZAR	**Pazar-Rize**	**1.12**	**285**	*e*Pn	**Pn**	**01 35 01.3**	**-0.4**
ERZM	**Erzurum**	**1.23**	**217**	*i* P	**Pb**	**01 35 02.3**	**-0.9**
ERZM	**Erzurum**	**1.23**	**217**	*i* P	**Pb**	**01 35 02.3**	**-0.9**
EZM	**Erzurum**	**1.23**	**217**	*e*PN	**Pn**	**01 35 03.5**	**+0.2**
AGRB	**Hanur-Agry**	**1.41**	**159**	*e*PN	**Pn**	**01 35 05.7**	**0.0**
AGRB	**Hanur-Agry**	**1.41**	**159**	*e*Pn	**Pn**	**01 35 05.7**	**-0.1**
KOPT	**Kop Dagi**	**1.65**	**239**	*e*P	**Pg**	**01 35 11.1**	**-0.2**
KOPT	**Kop Dagi**	**1.65**	**239**	*e*P	**Pg**	**01 35 11.1**	**-0.2**
GOR	**Gori**	**1.73**	**50**	P	**Sg**	**01 35 36.2**	**+1.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.74**	**254**	*e*PN	**Pn**	**01 35 10.7**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**1.74**	**254**	*e*Pn	**Pn**	**01 35 10.7**	**+0.5**
ONI	**Oni**	**1.89**	**26**	P	**Pg**	**01 35 15.2**	**-0.8**
ONI				S	**Sg**	**01 35 41.1**	**+0.5**
TBLG	**Delisi**	**2.00**	**64**	P	**Pg**	**01 35 15.9**	**-2.2**
TBLG				S	**Sg**	**01 35 43.3**	**-0.7**
GUMT	**Gumushane**	**2.21**	**260**	*e*PN	**Pn**	**01 35 17.9**	**+1.2**
GUMT	**Gumushane**	**2.21**	**260**	*e*Pn	**Pn**	**01 35 17.9**	**+1.2**

IDC 03 01:47:55.9±4.2, 4.°01S×151.°58E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/15, mbtmp3.2/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/17, Error ellipse: s-maj=187.0km s-min=53.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.10**	**225**	P	P	01 53 03.2	-0.3
0.3nm,0.7s,baz=48,slow=10,SNR=2.6
ASAR Alice Springs 25.95 220 P P 01 53 31.0 +0.8
0.1nm,0.3s,baz=63,slow=8.5,SNR=2.1
URZ Urewera 41.28 149 LR LR 02 10 14.7
comp=Z,136nm,20.3s,baz=315,slow=32
TORD Torodi Ar. Bea 148.91 289 PKPbc PKPbc 02 07 45.8 -0.9
0.4nm,0.9s,baz=96,slow=1.4,SNR=2.6

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*IDC **03** 01:48:20.4±15.0, 36.°12N×70.°41E, h161km±152km, mb3.1/2, mb1 3.0/6, mb1mx2.8/29, mbtmp3.0/6, ML3.6/4, Error ellipse: s-maj=92.2km s-min=57.1km az=171.0*
*ISCJB **03** 01:48:25.5±0.7, 36.°65N±0.°05×70.°24E±0.°08, h179km±11km, Error ellipse: s-maj=12.0km s-min=7.3km az=33.2*
*NEIC **03** 01:48:25.5±1.0, 36.°49N×70.°35E, h198km±13km, mb3.6/2, Error ellipse: s-maj=22.6km s-min=11.0km az=129.0*
*NNC **03** 01:48:30.7±5.2, 37.°39N×69.°45E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=60.8km s-min=36.8km az=110.0*
ISC 03 01:48:26.5±0.7, 36.°66N±0.°06×70.°2E±0.°1, h173km±10km, n31, σ1°00/38, 4C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.32**	**205**	*e*Pn	**Pn**	**01 49 06.8**	**+0.1**
KBL				*e*Sn	**Sn**	**01 49 36.8**	**-1.1**
AML	**Almayashu**	**6.09**	**25**	P	**Pn**	**01 49 55.6**	**+1.1**
SNR=119
KK31 Karatay Array 6.44 2 Pn **Pn 01 50 00.3 +1.2**
1.0nm,0.2s,baz=170,slow=9.1,SNR=87
KK31 ⇑Sn **Sn 01 51 10.5 -1.5**
2.9nm,0.4s,baz=141,slow=19,SNR=5.3
KKAR Karatay Array 6.44 2 *e*Pn **Pn 01 50 00.0 +0.9**
4.4nm,0.3s
KKAR *e*Sn **Sn 01 51 11.1 -0.9**
UCH Uchtor 6.48 30 P **Sn 01 51 12.9 0.0**
SNR=14
EKS2 Erkin-Say 6.59 24 P **Pn 01 50 02.4 +1.2**
SNR=22
EKS2 Erkin-Say 6.59 24 *e*Pn **Pn 01 50 02.0 +0.9**
11nm,0.6s
EKS2 *e*Sn **Sn 01 51 14.3 -1.4**
KZA Kyzart 6.67 34 P **Pn 01 50 02.2 +0.1**
SNR=5.6
AAK Ala-Archa 6.82 28 P **Pn 01 50 05.2 +1.1**
SNR=11
AAK Ala-Archa 6.82 28 *e*Pn **Pn 01 50 04.7 +0.6**
42nm,0.3s
AAK *e*Sn **Sn 01 51 21.0 -0.1**
KBK Karagaybulak 7.01 30 P **Pn 01 50 07.7 +1.0**
SNR=8.0
CHMS Chumysh 7.23 27 P **Pn 01 50 10.2 +0.7**
SNR=7.3
TKM2 Tokmak 2 7.50 32 P **Pn 01 50 13.8 +0.7**
SNR=8.0
TKM2 Tokmak 2 7.50 32 *e*Pn **Pn 01 50 13.5 +0.4**
9.2nm,0.6s
MK31 Makanchi Array 13.54 38 *e*Pn **Pn 01 51 30.6 -0.9**
MKAR Makanchi Array 13.54 38 P **Pn 01 51 31.4 -0.2**
0.3nm,0.3s,baz=206,slow=9.6,SNR=14
MKAR Makanchi Array 13.54 38 P **Pn 01 51 31.4 -0.2**
AB31 Akbulak array 14.64 332 Pn **Pn 01 51 46.8 +1.5**
0.7nm,0.5s,baz=154,slow=12,SNR=18
AB31 ⇑Sn **Sn 01 54 23.0 -5.2**
0.3nm,0.5s,baz=148,slow=23
ABKAR Akbulak array 14.64 332 *e*P **Pn 01 51 45.2 -0.1**
1.1nm,0.4s
KURK Kurchatov 15.29 21 P **Pn 01 51 50.4 -2.9**
0.1nm,0.3s,baz=208,slow=12,SNR=3.9
KURK Kurchatov 15.29 21 P **Pn 01 51 50.4 -2.9**

AKTO Aktyubinsk 16.33 331 ⇑Pn **Pn 01 52 07.4 +1.5**
0.3nm,0.6s
AKTO ⇑Sn **Sn 01 55 02.1 -6.3**
0.1nm,1.0s
AKTO Aktyubinsk 16.33 331 P **Pn 01 52 06.8 +0.9**
0.2nm,0.3s,baz=143,slow=11,SNR=10.0
AKTO Aktyubinsk 16.33 331 P **Pn 01 52 06.8 +0.9**
BVAR Borovoye Array 16.36 0 P **Pn 01 52 06.7 +0.4**
0.3nm,0.3s,baz=184,slow=12,SNR=7.1
BVAR Borovoye Array 16.36 0 P **Pn 01 52 06.7 +0.4**
BRVK Borovoye 16.40 0 *e*P **Pn 01 52 05.4 -1.2**
1.3nm,0.6s
ZALV Zalesovo Beam 20.04 26 P **P 01 52 45.2 -0.7**
0.8nm,0.3s,baz=210,slow=10,SNR=8.1
ZALV Zalesovo Beam 20.04 26 P **P 01 52 45.2 -0.7**
TORD Torodi Ar. Bea 65.09 268 P **P 01 58 44.9 -3.9**
0.2nm,0.4s,baz=48,slow=5.9,SNR=8.3
TORD Torodi Ar. Bea 65.09 268 P **P 01 58 44.9 -3.9**

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*ISCJB **03** 01:52:20.4±1.1, 6.°02S±0.°04×147.°83E±0.°06, h52km±10km, mb4.8/50, MS4.3/17, Error ellipse: s-maj=9.3km s-min=6.2km az=178.3*
*IDC **03** 01:52:20.8±0.6, 5.°94S×147.°76E, h40km±5km, mb4.1/14, mb1 4.3/17, mb1mx4.3/21, mbtmp4.2/17, ML4.6/4, MS4.2/14, Ms1 4.2/14, ms1mx4.1/24, Error ellipse: s-maj=17.4km s-min=7.8km az=105.0*
*BJI **03** 01:52:20.5, 5.°74S×147.°60E, h36km, mB5.1/18, mb4.7/31, Ms4.9/19, Ms7 4.5/17*
*MOS **03** 01:52:20.1±1.2, 5.°99S×147.°74E, h47km, mb5.0/10, Error ellipse: s-maj=13.6km s-min=7.8km az=89.4*
*NEIC **03** 01:52:21.9±0.6, 5.°97S×147.°75E, h52km±6km, mb5.0/23, Error ellipse: s-maj=8.1km s-min=5.3km az=81.0*
*GCMT **03** 01:52:24.8±0.2, 6.°06S×147.°84E, h29km±1km, MW5.2, Moment Tensor Solution. s52,c72; s84,c140; Moment tensor: Scale 10^16^Nm; Mrr0.25±.22; Mθθ-3.01±.16; Mφφ2.76±.19; Mrθ-0.05±.30; Mrφ6.42±.15; Mθφ-0.74±.32; Best double couple: M0:7.10000×10^16^ NP1:φs258.00000°, δ84.00000°, λ2.00000°. NP2:φs168.00000°, δ88.00000°, λ174.00000°. Principal axes: T 6.9800, Plg6.0000°, Azm123.0000°; N 0.2000, Plg84.0000°, Azm330.0000°; P -7.1800, Plg3.0000°, Azm213.0000°; Data Used: II IU IC G CN.*
*DJA **03** 01:52:32, 6.°53S×147.°48E, h74km, mb5.1/16*
ISC 03 01:52:22.6±0.9, 6.°03S±0.°04×147.°81E±0.°05, h55km±8km, h42km±3.7km; pP-P, n158, σ1°13/158, mb4.8/50, MS4.3/17, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.41**	**191**	P	**Pn**	**01 53 13.4**	**0.0**
158nm,0.3s,baz=43,slow=5.5,SNR=255
PMG S **Sn 01 53 53.8 +1.2**
64nm,0.3s,baz=336,slow=13,SNR=4.1
PMG LR LR 01 54 07.1
comp=Z,2μm,18.6s,baz=24,slow=30
PMG Port Moresby 3.41 191 P **Pn 01 53 13.4 0.0**
PMG S **Sn 01 53 53.8 +1.2**
PMG Port Moresby 3.41 191 P **Pn 01 53 13.4 0.0**
PMG S **Sn 01 53 53.8 +1.2**
PMG Port Moresby 3.41 191 P **Pn 01 53 13.5 +0.1**
COEN Coen 9.10 210 *e*P **Pn 01 54 31.6 +0.2**
399nm,1.1s
COEN *e*S **Sn 01 56 09.8 -2.6**
COEN Coen 9.10 210 *e*Pn **Pn 01 54 31.8 +0.4**
COEN *e*Sn **Sn 01 56 10.3 -2.2**
COEN Coen 9.10 210 P **Pn 01 54 32.1 +0.7**
66nm,1.3s
SMPI Sarmi 9.93 293 P **Pn 01 54 50.7 +8.0**
7μm158nm,1.4s
HNR Honiara 12.49 106 P **Pn 01 55 17.1 -0.6**
7.0nm,0.3s,baz=280,slow=18,SNR=3.8
HNR Honiara 12.49 106 *e*Pn **Pn 01 55 17.2 -0.5**
HNR Honiara 12.49 106 *e*P **Pn 01 55 17.2 -0.5**
BAKI Biak 12.63 292 P **Pn 01 55 23.6 +3.9**
2μm132nm,1.2s
CTA Charters Tower 14.05 186 P **Pn 01 55 39.2 +0.3**
1.0nm,0.3s,baz=9.0,slow=13,SNR=8.2
CTA LR LR 02 01 13.8
comp=Z,2μm,18.9s,baz=7.2,slow=38
CTA Charters Tower 14.05 186 *e*P **Pn 01 55 39.7 +0.8**
21nm,0.9s
CTA *e*S **Sn 01 58 13.9 +0.5**
CTA Charters Tower 14.05 186 P **Pn 01 55 39.2 +0.3**
CTA Charters Tower 14.05 186 P **Pn 01 55 39.3 +0.4**
CTAO Charters Tower 14.05 186 *e*Pn **Pn 01 55 40.2 +1.2**
CTAO Charters Tower 14.05 186 *e*P **Pn 01 55 40.2 +1.3**
CTAO Charters Tower 14.05 186 P **Pn 01 55 43.8 +4.9**
666nm48nm,1.6s
TLE Tual 15.00 271 P **Pn 01 55 57.9 +6.4**
2μm234nm,1.3s
WRAB Tennant Creek 19.03 222 *e*P **Pn 01 56 39.4 -2.1**
94nm,0.8s
WRAB Tennant Creek 19.03 222 *e*P **Pn 01 56 39.4 -2.1**
WRAB pmax pmax
comp=Z,94nm,0.8s
WRAB Tennant Creek 19.03 222 P **Pn 01 56 39.8 -1.7**
comp=Z,2μmcomp=Z,143nm,1.1s
WB2 Warramunga Arr 19.04 222 *e*P **Pn 01 56 39.3 -2.2**
WRA Warramunga Arr 19.04 222 P **Pn 01 56 39.8 -1.8**
comp=Z,4.0nm,0.3s,baz=43,slow=11,SNR=160
WRA S **S 02 00 15.3 +1.6**
baz=41,slow=22,SNR=5.4
WRA LR LR 02 04 46.4
comp=Z,2μm,20.9s,baz=50,slow=39
WRA Warramunga Arr 19.04 222 P **Pn 01 56 39.8 -1.8**
WRA S **S 02 00 15.3 +1.6**
WRA Warramunga Arr 19.04 222 P **Pn 01 56 39.8 -1.8**
WRA S **S 02 00 15.4 +1.7**
EIDS Eidsvold 19.48 171 *e*P **Pn 01 56 46.5 -0.3**
comp=Z,119nm,1.4s
AAI Ambon 19.69 276 P **Pn 01 56 50.4 +1.0**
comp=Z,310nm,0.8s
QLP Quilpie 20.72 189 *e*P **P 01 56 59.3 +0.8**
NLAI Namlea 20.83 277 P **P 01 57 04.0 +4.1**
comp=Z,3μmcomp=Z,78nm,0.9s
LBMI Labuha 20.97 284 P pP 01 57 11.6 -2.1
comp=Z,192nm,1.2s,comp=Z,2μm
TNTI Ternate 21.50 288 P pP 01 57 17.7 -1.8
comp=Z,149nm,1.4s,comp=Z,3μm
AS31 Alice Springs 22.05 216 *e*P **P 01 57 13.1 +0.1**
ASAR Alice Springs 22.06 216 P **P 01 57 13.1 +0.1**
comp=Z,53nm,0.5s,mb5.2,baz=51,slow=9.1,SNR=1123
ASAR S **S 02 01 14.2 +0.9**
comp=Z,2.9nm,0.6s,baz=34,slow=24,SNR=3.9
ASAR Alice Springs 22.06 216 P **P 01 57 13.1 +0.1**
ASAR S **S 02 01 14.2 +0.9**
ASAR Alice Springs 22.06 216 P **P 01 57 13.1 +0.2**
ASAR S **S 02 01 14.2 +1.0**
DZM Mont Dzumac 24.05 133 *e*P **P 01 57 32.6 -0.2**
comp=Z,166nm,1.3s,mb5.3
DZM *e*LR LR 02 03 38.3
comp=Z,2μm,23.1s
DZM Mont Dzumac 24.05 133 *e*P **P 01 57 31.8 -1.0**
DZM Mont Dzumac 24.05 133 *e*P **P 01 57 31.9 -0.9**
comp=Z,120nm,1.4s,mb5.1
ARMA Armidale 24.52 172 *e*P **P 01 57 37.9 +0.9**
ARMA *e*S **S 02 02 04.9 +11**
ARMA Armidale 24.52 172 *e*P **P 01 57 38.1 +1.1**
comp=Z,46nm,0.8s,mb5.1
FITZ Fitzroy Crossi 24.74 239 S **S 02 01 54.5 -3.2**
comp=Z,2.4nm,0.7s,baz=110,slow=14,SNR=2.2
FITZ LR LR 02 08 18.6
comp=Z,1μm,19.7s,MS4.4,baz=64,slow=39
FITZ Fitzroy Crossi 24.74 239 *e*P **P 01 57 38.8 -0.4**
comp=Z,142nm,0.5s,mb5.8
FITZ *e*S **S 02 01 57.9 +0.2**
KDI Kendari 25.18 274 P **P 01 57 44.7 +1.4**
comp=Z,29nm,1.2s,mb4.7
MMRI Maumere 25.50 263 P **P 01 57 47.2 +1.1**
comp=Z,148nm,0.7s,mb5.6
GTOI Gorontalo 25.63 284 P **P 01 57 50.7 +3.3**
comp=Z,2μmcomp=Z,194nm,0.9s,mb5.6
STKA Stephens Creek 26.36 192 P **P 01 57 54.0 +0.3**
comp=Z,66nm,1.0s,mb5.1,baz=360,slow=9.6,SNR=40
STKA LR LR 02 08 57.2
comp=Z,2μm,19.9s,MS4.5,baz=12,slow=38
STKA Stephens Creek 26.36 192 *e*P **P 01 57 53.5 -0.2**
comp=Z,55nm,0.9s,mb5.1
STKA Stephens Creek 26.36 192 *e*P **P 01 57 53.7 0.0**
comp=Z,17nm,1.0s,mb4.5
STKA Stephens Creek 26.36 192 *e*P **P 01 57 53.7 0.0**

STKA pmax pmax
comp=Z,17nm,1.0s
KAPI Kappang 27.95 271 P **P 01 58 06.5 -1.7**
comp=Z,5.5nm,0.7s,mb4.3,baz=94,slow=3.7,SNR=5.1
KAPI Kappang 27.95 271 *e*P **P 01 58 06.2 -2.0**
comp=Z,37nm,1.1s,mb4.9
BBOO Buckleboo 28.80 201 *e*P **P 01 58 14.7 -0.9**
comp=Z,315nm,0.8s
CAN Canberra 29.16 178 *e*P **P 01 58 19.0 +0.3**
comp=Z,61nm,1.5s,mb5.1
CAN Canberra 29.16 178 *e*P **P 01 58 19.0 +0.3**
CAN pmax pmax
comp=Z,61nm,1.5s,mb5.1
CNB Canberra Magne 29.17 177 *e*P **P 01 58 19.3 +0.5**
comp=Z,58nm,0.8s,mb5.4
FORT Forrest 30.82 215 *e*P **P 01 58 33.3 -0.2**
comp=Z,26nm,0.7s,mb5.2
FORT Forrest 30.82 215 *e*P **P 01 58 32.6 -0.8**
comp=Z,43nm,0.9s,mb5.3
MBWA Marble Bar 31.08 238 *e*P **P 01 58 36.4 +0.6**
MBWA Marble Bar 31.08 238 *e*P **P 01 58 36.3 +0.4**
comp=Z,19nm,0.8s,mb5.0
OUZ Omahuta 37.52 144 *e*P **P 01 59 32.4 +1.0**
comp=Z,24nm,1.1s,mb4.8
OUZ *e*pP pP 01 59 40.4 -5.1
JOW Kunigami 37.76 331 LR LR 02 12 41.1
comp=Z,294nm,19.4s,MS4.1,baz=141,slow=32
KLBR Kellerberrin 37.91 224 *e*P **P 01 59 34.4 -0.3**
comp=Z,37nm,0.7s,mb5.2
NWAO Narrogin (SRO) 39.05 223 P **P 01 59 43.0 -1.3**
comp=Z,13nm,1.0s,mb4.6,baz=31,slow=15,SNR=3.0
NWAO Narrogin (SRO) 39.05 223 P **P 01 59 43.0 -1.3**
NWAO Narrogin (SRO) 39.05 223 P **P 01 59 43.0 -1.3**
YHNB Yeheng 39.93 321 *e*P **P 01 59 48.3 -3.4**
comp=Z,122nm,1.5s,mb5.4
URZ Urewera 41.65 145 P **P 02 00 06.1 +0.3**
comp=Z,3.0nm,0.5s,mb4.2,baz=194,slow=23,SNR=2.1
URZ Urewera 41.65 145 P **P 02 00 06.1 +0.3**
RPZ Rata Peaks 42.73 155 P **P 02 00 14.9 +0.4**
comp=Z,5.3nm,0.6s,mb4.4,baz=213,slow=4.8,SNR=2.1
RPZ Rata Peaks 42.73 155 *e*P **P 02 00 14.9 +0.4**
comp=Z,17nm,0.8s,mb4.8
MJAR Matsushiro Arr 43.30 349 P **P 02 00 18.9 -0.2**
comp=Z,5.1nm,0.9s,mb4.2,baz=174,slow=9.0,SNR=10.0
MJAR LR LR 02 18 32.0
comp=Z,152nm,18.2s,MS3.9,baz=175,slow=36
MJAR Matsushiro Arr 43.30 349 P **P 02 00 18.9 -0.2**
MJAR Matsushiro Arr 43.30 349 P **P 02 00 18.9 -0.1**
MAJO Matsushiro 43.30 349 *e*P **P 02 00 18.9 -0.1**
comp=Z,40nm,1.2s,mb5.0
MAJO Matsushiro 43.30 349 *e*P **P 02 00 18.9 -0.2**
MAJO pmax pmax
comp=Z,40nm,1.2s,mb5.0
MAT Matsushiro 43.30 349 P **P 02 00 18.5 -0.6**
MAT S **S 02 06 50.0 +7.4**
SSE Sheshan 44.85 327 P **P 02 00 32.7 +1.1**
SSE S **S 02 07 07.3 +2.0**
SSE pmax pmax
comp=Z,24nm,0.8s,mb5.1
SSE pmax pmax
comp=Z,94nm,5.2s
SSE LR LR
comp=N,220nm,22.8s,MS4.2
SSE LR LR
comp=E,270nm,23.2s,MS4.2
SSE LR LR
comp=Z,140nm,28.8s
SSE Sheshan 44.85 327 P **P 02 00 32.7 +1.1**
comp=Z,24nm,0.8s,mb5.1
SSE S **S 02 07 07.3 +2.0**
SSE LR LR
comp=Z,140nm,28.8s,MS3.7
QIZ Qiongzhong 44.94 305 P **P 02 00 29.2 -3.3**
QIZ S **S 02 07 06.3 -0.7**
QIZ pmax pmax
comp=Z,11nm,1.6s,mb4.4
QIZ pmax pmax
comp=Z,170nm,4.9s
NJ2 Nanjing 46.86 326 *e*P **P 02 00 47.5 +0.1**
NJ2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
KSRS Korea Array 47.08 338 P **P 02 00 49.0 -0.1**
comp=Z,0.6nm,0.3s,mb4.0,baz=272,slow=20,SNR=2.6
KSRS LR LR 02 18 40.4
comp=Z,166nm,20.8s,MS4.0,baz=147,slow=34
KSAR Wonju Array Be 47.08 338 P **P 02 00 49.0 -0.1**
KSAR Wonju Array Be 47.08 338 P **P 02 00 49.0 0.0**
GYA Guiyang 51.31 311 *e*P **P 02 01 22.0 +0.4**
GYA PP PP 02 03 20.0 +0.8
GYA S **S 02 08 36.0 -1.0**
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,460nm,18.2s,MS4.7
GYA LR LR
comp=E,480nm,19.8s,MS4.7
GYA LR LR
comp=Z,430nm,18.4s,MS4.5
MDJ Mudanjiang 53.02 344 P **P 02 01 34.0 +0.1**
MDJ PP PP 02 03 34.1 -0.1
MDJ PcS PcS 02 06 40.8 +0.2
MDJ S **S 02 09 01.6 +1.9**
MDJ pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
MDJ pmax pmax
comp=Z,120nm,4.6s
MDJ LR LR
comp=N,250nm,35.1s,MS4.4
MDJ LR LR
comp=E,500nm,30.7s,MS4.4
MDJ LR LR
comp=Z,200nm,23.4s
CN2 Changchun 53.56 340 *e*P **P 02 01 38.9 +1.0**
CN2 *e*S **S 02 09 07.4 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,20.0s,MS4.5
CN2 LR LR
comp=E,300nm,20.0s,MS4.5
CN2 LR LR
comp=Z,400nm,21.0s,MS4.5
KMI Kunming 53.66 307 P **P 02 01 39.7 +0.7**
KMI PP PP 02 03 42.2 +1.8
KMI S **S 02 09 07.0 -2.1**
KMI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KMI pmax pmax
comp=Z,81nm,4.4s
KMI LR LR
comp=N,180nm,11.2s,MS4.6
KMI LR LR
comp=E,200nm,10.6s,MS4.6
KMI LR LR
comp=Z,240nm,23.0s
KMI Kunming 53.66 307 P **P 02 01 39.7 +0.7**
comp=Z,6.0nm,0.5s,mb4.8
KMI pP pP 02 01 52.7 -1.1
KMI sP sP 02 01 58.5 -1.5
KMI PP PP 02 03 42.2 +1.8
KMI PPP 02 04 50.6
KMI S **S 02 09 07.0 -2.1**
KMI sS sS 02 09 26.1 -7.8
KMI SS SS 02 12 47.7 -2.9
KMI SSS 02 14 38.6
KMI LR LR
comp=Z,240nm,23.0s,MS4.2
KMI Kunming 53.66 307 P **P 02 01 39.7 +0.7**
KMI *PP pP 02 01 52.7 -1.1
KMI *SP sP 02 01 58.5 -1.5
KMI 02 03 42.2
KMI PPP 02 04 50.6
KMI S **S 02 09 07.0 -2.1**
KMI *SS sS 02 09 26.1 -7.8
KMI SS SS 02 12 47.7 -2.9
KMI SSS 02 14 38.6
KMI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KMI MLR MLR
comp=Z,240nm,23.0s,MS4.2
CMAR Chiang Mai Arr 53.98 298 pP pP 02 01 54.1 -2.1
comp=Z,3.7nm,0.9s,baz=121,slow=5.9,SNR=3.0

CMAR	Chiang Mai Arr	53.98 298	pP	pP	02 01 54.1	-2.1
CMAR	Chiang Mai Arr	53.98 298	P	pP	02 01 54.1	-2.1
BJI	Beijing	54.33 330	P	P	02 01 43.8	+0.2
BJI			pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3					
BJI			LR	LR		
	comp=N,230nm,22.7s					
BJI			LR	LR		
	comp=E,200nm,16.4s					
BJI			LR	LR		
	comp=Z,130nm,32.0s					
KLR	Kul'dur	56.79 347	eP	P	02 02 03.4	+2.3
HHC	Hu-ho-hao-te	57.29 328	eP	P	02 02 06.6	+1.8
HHC			PP	PP	02 04 16.0	+3.4
HHC			S	S	02 09 58.7	+1.7
HHC			ScS	ScS	02 11 48.4	-1.1
HHC			pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8					
HHC			pmax	pmax		
	comp=Z,200nm,6.0s					
HHC			LR	LR		
	comp=N,240nm,14.8s,MS4.8					
HHC			LR	LR		
	comp=E,480nm,17.0s,MS4.8					
HHC			LR	LR		
	comp=Z,210nm,15.8s,MS4.3					
PETK	Petropavlovsk-	59.51 7	P	P	02 02 20.6	+0.6
	comp=Z,2.1nm,0.6s,mb4.4,baz=187,slow=8.8,SNR=1.9					
PETK			pP	pP	02 02 32.0	-2.9
	comp=Z,6.7nm,0.7s,baz=156,slow=6.7,SNR=4.0					
PETK			LR	LR	02 23 26.3	
	comp=Z,291nm,20.7s,MS4.4,baz=186,slow=31					
PETK	Petropavlovsk-	59.51 7	P	P	02 02 20.6	+0.6
PETK			pP	pP	02 02 32.0	-2.9
PETK	Petropavlovsk-	59.51 7	P	P	02 02 20.6	+0.6
PETK			*PP	pP	02 02 32.0	-3.0
PPT	Papeete	62.11 107	eLR	LR	02 21 12.9	
	comp=Z,156nm,23.2s					
TBI	Tubuai	62.61 113	eLR	LR	02 21 22.5	
	comp=Z,334nm,37.5s					
SHL	Shillong	62.72 303	ePKP	sP	02 03 01.0	-2.6
GTA	Gaotai	63.29 320	eP	P	02 02 46.2	+0.4
GTA			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8					
ULN	Ulaanbaatar	64.53 331	eP	P	02 02 54.3	+0.5
	comp=Z,5.4nm,0.8s,mb4.6					
ULN	Ulaanbaatar	64.53 331	eP	P	02 02 54.3	+0.5
ULN			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6					
SONM	Songino Array	64.83 330	P	P	02 02 55.9	+0.1
	comp=Z,3.2nm,0.7s,mb4.5,baz=150,slow=5.4,SNR=20					
SONM			LR	LR	02 30 08.0	
	comp=Z,221nm,20.2s,MS4.3,baz=164,slow=35					
SONM	Songino Array	64.83 330	P	P	02 02 55.9	+0.1
SONM	Songino Array	64.83 330	P	P	02 02 55.9	+0.1
ZAK	Zakamensk	68.06 331	eP	P	02 03 14.8	-1.5
ZAK			e		02 03 43.7	
ZAK			pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8					
YAK	Yakutsk	69.30 351	eP	P	02 03 23.9	+0.1
YAK			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7					
VNDA	Vanda	71.83 177	eP	P	02 03 39.3	+0.2
	comp=Z,10.0nm,1.0s,mb4.7					
VNDA	Vanda	71.83 177	eP	P	02 03 39.3	+0.2
VNDA			pmax	pmax		
	comp=Z,10.0nm,1.0s					
HYB	Hyderabad	72.23 290	i P	P	02 03 40.5	-2.1
WMQ	Urumqi	73.34 319	eP	P	02 03 50.1	+1.4
WMQ			PP	PP	02 06 35.6	+2.8
WMQ			S	S	02 13 13.7	+0.2
WMQ			pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7					
RKT	Rikitea	75.91 112	eLR	LR	02 27 36.7	
	comp=Z,210nm,22.8s					
MK31	Makanchi Array	78.04 320	eP	P	02 04 14.0	-1.5
MK31	Makanchi Array	78.04 320	eP	P	02 04 14.0	-1.4
MKAR	Makanchi Array	78.04 320	P	P	02 04 14.6	-0.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=100,slow=8.9,SNR=20					
MKAR	Makanchi Array	78.04 320	P	P	02 04 14.6	-0.8
MKAR	Makanchi Array	78.04 320	i P	P	02 04 14.6	-0.8
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
ZALV	Zalesovo Beam	79.47 328	P	P	02 04 21.2	-1.9
	comp=Z,2.2nm,0.6s,mb4.3,baz=110,slow=5.9,SNR=11					
ZALV			LR	LR	02 38 52.9	
	comp=Z,65nm,18.9s,MS4.0,baz=250,slow=35					
ZALV	Zalesovo Beam	79.47 328	P	P	02 04 21.2	-1.9
ZALV	Zalesovo Beam	79.47 328	P	P	02 04 21.2	-1.9
KSH	Kashi	80.00 312	P	P	02 04 27.4	+1.1
KSH			PcP	PcP	02 04 35.8	+2.1
KSH			pP	pP	02 04 40.1	-1.8
KSH			PP	PP	02 07 30.5	+1.6
KSH			S	S	02 14 26.5	+0.1
KSH			SKS		02 14 35.8	
KSH			ScS	ScS	02 14 44.7	-2.2
KSH			SS	SS	02 19 38.8	+1.3
KSH			pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1					
KSH			pmax	pmax		
	comp=Z,96nm,5.3s					
KSH			LR	LR		
	comp=N,100nm,6.0s					
KSH			LR	LR		
	comp=E,140nm,4.6s					
KSH			LR	LR		
	comp=Z,190nm,5.3s					
NVS	Novosibirsk	80.69 328	eP	P	02 04 34.0	+4.3
KURK	Kurchatov	81.72 323	P	P	02 04 34.0	-1.2
	comp=Z,0.4nm,0.5s,baz=106,slow=32,SNR=1.5					
KURK	Kurchatov	81.72 323	P	P	02 04 34.0	-1.2
KURK	Kurchatov	81.72 323	eP	P	02 04 35.3	+0.1
KURK			pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3					
AAK	Ala-Archa	81.94 314	eP	P	02 04 36.0	-0.5
	comp=Z,36nm,1.2s,mb5.2					
AAK	Ala-Archa	81.94 314	eP	P	02 04 36.0	-0.6
AAK			pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2					
EKS2	Erkin-Say	82.46 314	eP	P	02 04 38.6	-0.7
	comp=Z,5.3nm,1.0s,mb4.4					
EKS2	Erkin-Say	82.46 314	eP	P	02 04 38.6	-0.7
EKS2			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4					
MAW	Mawson	82.53 203	P	P	02 04 39.0	-0.2
	comp=Z,3.2nm,0.9s,mb4.3,baz=90,slow=6.1,SNR=2.8					
MAW	Mawson	82.53 203	P	P	02 04 39.0	-0.2
MAW	Mawson	82.53 203	P	P	02 04 39.0	-0.2
QSPA	South Pole Qui	83.93 180	eP	P	02 04 46.7	+0.5
	comp=Z,26nm,1.1s,mb5.3					
ILAR	Eielson Array	85.19 23	P	P	02 04 50.6	-2.2
	comp=Z,0.5nm,0.6s,mb3.8,baz=253,slow=4.9,SNR=9.9					
ILAR			pP	pP	02 05 03.5	-5.0
	comp=Z,2.3nm,0.7s,baz=250,slow=4.4,SNR=12					
ILAR			LR	LR	02 37 09.0	
	comp=Z,186nm,20.4s,MS4.5,baz=350,slow=32					
ILAR	Eielson Array	85.19 23	P	P	02 04 50.6	-2.2
ILAR			pP	pP	02 05 03.5	-5.0
ILAR	Eielson Array	85.19 23	P	P	02 04 50.6	-2.2
ILAR			*PP	pP	02 05 03.5	-5.0
BRVK	Borovoye	87.34 324	eP	P	02 05 02.0	-1.6
	comp=Z,4.6nm,1.2s,mb4.6					
BRVK	Borovoye	87.34 324	eP	P	02 05 04.9	+1.3
BRVK			pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.4					
ABKAR	Akbulak array	93.13 319	eP	P	02 05 28.2	-2.6
	comp=Z,0.8nm,0.7s,mb4.3					
NVAR	Mina Array Bea	96.75 52	LR	LR	02 40 49.6	
	comp=Z,147nm,20.9s,MS4.4,baz=56,slow=30					
YKA	Yellowknife Ar	98.82 28	LR	LR	02 45 44.9	
	comp=Z,17nm,19.8s,MS3.5,baz=160,slow=32					
SNAA	Sanae	100.09 189	eP	Pdif	02 06 02.2	+0.1
	comp=Z,3.3nm,1.1s					
SNAA	Sanae	100.09 189	eP	Pdif	02 06 02.2	0.0
SNAA			pmax	pmax		
	comp=Z,3.0nm,1.1s					
PLCA	Paso Flores	121.65 146	PKP	PKPdf	02 11 11.6	+0.9
	comp=Z,2.1nm,1.0s,baz=3.6,slow=5.7,SNR=2.6					
PLCA	Paso Flores	121.65 146	PKP	PKPdf	02 11 11.6	+0.9
PLCA	Paso Flores	121.65 146	PKIKP	PKPdf	02 11 11.6	+0.9
GERES	GERESS Array B	122.39 326	PKP	PKPdf	02 11 11.9	+0.1
	comp=Z,0.3nm,0.7s,baz=46,slow=5.8,SNR=3.9					
GERES	GERESS Array B	122.39 326	PKP	PKPdf	02 11 11.9	+0.1
GERES	GERESS Array B	122.39 326	PKIKP	PKPdf	02 11 11.9	+0.1
LCO	Las Campanas	129.14 135	ePKPdf	PKPdf	02 11 26.1	+0.7
LPAZ	La Paz	138.09 122	ePKPdf	PKPdf	02 11 43.2	+0.8
LPAZ	La Paz	138.09 122	ePKIKP	PKPdf	02 11 43.2	+0.8
TORD	Torodi Ar. Bea	145.88 284	PKPbc	PKPbc	02 11 56.0	-1.0
	comp=Z,2.0nm,0.5s,baz=62,slow=3.1,SNR=53					
TORD			pPKPbc	pPKPbc	02 12 08.4	-4.8
	comp=Z,6.3nm,0.7s,baz=59,slow=2.9,SNR=13					
TORD	Torodi Ar. Bea	145.88 284	PKPbc	PKPbc	02 11 56.0	-1.0
TORD			pPKPbc	pPKPbc	02 12 08.4	-4.8

BJI ***03*** *02:16:28.2, 40°.97N×77°.33E, h28km, ML2.8/6*
NNC ***03*** *02:16:36.4±14.0, 40°.99N×77°.90E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=111.0km s-min=77.3km az=126.0*

ISC 03 02:16:33.7±2.0, 40°.87N±0°.06×77°.8E±0°.2, h10km, n13, σ1§29/17, 2C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	1.83	319	P	Pn	02 17 00.9	-4.3
	SNR=80						
KSH	Kashi	1.97	227	Pn	Pn	02 17 05.8	-1.3
KSH				Sn	Sn	02 17 33.2	+1.4
KSH				smax			
	comp=N,140nm,1.1s						
KSH				smax			
	comp=E,190nm,0.7s						
KZA	Kyzart	2.29	303	P	Pn	02 17 06.9	-4.7
	SNR=40						
KNDC	Almaty	2.44	345	⇓Pn	Pn	02 17 16.2	+2.6
	comp=E,28nm,0.6s						
KNDC				⇓Sn	Sn	02 17 48.3	+4.9
	comp=E,100nm,0.5s						
TKM2	Tokmak 2	2.65	321	⇑Pn	Pn	02 17 15.9	-0.5
	comp=E,5.4nm,0.4s						
TKM2				⇑Sn	Sn	02 17 48.8	+0.2
	comp=E,50nm,0.6s						
KBK	Karagaybulak	2.81	310	P	Pn	02 17 17.3	-1.3
	SNR=15						
UCH	Uchtor	2.84	300	P	Sn	02 17 51.9	-1.6
	SNR=6.7						
AAK	Ala-Archa	3.06	306	P	Pn	02 17 21.1	-1.1
	SNR=27						
CHMS	Chumysh	3.14	314	P	Sn	02 18 01.8	+1.1
	SNR=6.5						
AML	Almayashu	3.36	293	P	Pn	02 17 25.5	-0.7
	SNR=44						
USP	Ospenovka	3.46	315	P	Pn	02 17 29.1	+1.6
	SNR=8.9						
EKS2	Erkin-Say	3.53	302	P	Pn	02 17 29.7	+1.1
	SNR=17						
KK31	Karatay Array	5.90	295	⇓Pn	Pn	02 18 09.6	+8.4
	comp=E,1.9nm,0.5s,baz=119,slow=16,SNR=38						
KK31				⇓Sn	Sn	02 19 23.2	+14
	comp=E,1.5nm,0.4s,baz=118,slow=27,SNR=3.5						

IDC ***03*** *02:32:36.4±4.5, 23°.88S×66°.91W, h143km±42km, mb3.3/6, mb1 3.4/7, mb1mx3.3/18, mbtmp3.3/7, Error ellipse: s-maj=32.5km s-min=20.8km az=51.0*
NEIC ***03*** *02:32:37.9±1.0, 23°.94S×66°.87W, h162km±10km, mb3.9/2, Error ellipse: s-maj=15.7km s-min=9.2km az=72.0*
ISCJB ***03*** *02:32:38.5±0.9, 24°.01S±0°.06×67°.2W±0°.1, h185km±11km, mb3.5/6, Error ellipse: s-maj=18.3km s-min=9.2km az=170.4*
GUC ***03*** *02:32:41.6±0.5, 23°.77S×67°.68W, h224km±22km, ML4.7*

ISC 03 02:32:39.2±0.9, 24°.00S±0°.06×67°.1W±0°.1, h174km±11km, n34, σ0§96/34, mb3.5/6, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	Plate Boundary	2.77	308	eP	Pn	02 33 31.2	+6.4
PB04				eS	Sn	02 34 08.9	+8.7
PB04				AML	AML	02 34 11.7	
	comp=E,864nm,0.4s						
PB09	Plate Boundary	2.93	318	eP	Pn	02 33 28.6	+1.8
PB09				eS	Sn	02 34 03.9	+0.3
PB09				AML	AML	02 34 05.7	
	comp=N,2μm,0.6s						
MACH	Maria Elena	3.01	306	eP	Pn	02 33 28.6	+1.0
MACH				i Sg	Sn	02 34 04.6	-0.7
ANCH	Antofagasta	3.02	275	eP	Pn	02 33 28.7	+0.9
ANCH				eS	Sn	02 34 04.3	-1.1
ANCH				AML	AML	02 34 06.6	
	comp=E,3μm,0.1s						
MECH	Mejillones	3.17	286	eP	Pn	02 33 30.6	+1.0
MECH				eS	Sn	02 34 08.2	-0.7
MECH				AML	AML	02 34 14.0	
	comp=E,2μm,0.4s						
PSGC	Pisagua	5.19	327	eP	Pn	02 33 53.6	-1.9
MNMC	Miæe Miæ	5.36	334	eP	Pn	02 33 57.4	-0.3
CFAA	Coronel Fontan	7.64	187	P	Pn	02 34 27.0	-0.6
	comp=E,0.1nm,0.3s,baz=24,slow=12,SNR=7.1						
CFAA				S	Sn	02 35 47.9	-5.4
	comp=E,0.3nm,0.3s,baz=264,slow=21,SNR=14						
CFAA	Coronel Fontan	7.64	187	P	Pn	02 34 27.0	-0.6
CFAA				S	Sn	02 35 47.9	-5.4
LPAZ	La Paz	7.73	353	ePn	Pn	02 34 29.6	+0.7
	comp=E,7.7nm,0.4s						
CPUP	Villa Florida	9.18	107	ePn	Pn	02 34 42.8	-5.3
	comp=E,7.3nm,1.0s						
TRQA	Tornquist	14.69	164	eP	Pn	02 35 58.9	+0.4
	comp=E,3.0nm,0.7s						
NNA	Nana	15.09	321	eP	Pn	02 36 03.1	-0.6
	comp=E,3.5nm,0.4s						
PLCA	Paso Flores	16.93	189	P	Pn	02 36 25.8	0.0
	comp=E,0.1nm,0.3s,baz=15,slow=16,SNR=2.3						
PLCA	Paso Flores	16.93	189	P	Pn	02 36 25.8	0.0
SNAA	Sanae	59.39	161	P	P	02 42 24.1	+1.4
	comp=E,0.2nm,0.8s,mb3.0,baz=284,slow=4.2,SNR=2.4						
SNAA	Sanae	59.39	161	P	P	02 42 24.1	+1.4
TXAR	Lajitas Array	63.61	325	P	P	02 42 52.3	+0.7
	comp=E,0.1nm,0.4s,mb3.0,baz=129,slow=7.1,SNR=3.1						
TXAR	Lajitas Array	63.61	325	P	P	02 42 52.3	+0.7
DBIC	Dimbokro	67.92	72	P	P	02 43 18.3	-1.3
	comp=E,1.1nm,0.8s,mb3.6,baz=206,slow=17,SNR=0.9						
DBIC	Dimbokro	67.92	72	P	P	02 43 18.3	-1.3
TORD	Torodi Ar. Bea	76.68	69	P	P	02 44 11.0	-0.4
	comp=E,1.9nm,0.5s,mb4.0,baz=259,slow=5.9,SNR=57						
TORD	Torodi Ar. Bea	76.68	69	P	P	02 44 11.0	-0.4
PDAR	Pinedale Array	77.09	329	P	P	02 44 14.0	+0.9
	comp=E,0.3nm,0.6s,mb3.1,baz=117,slow=5.4,SNR=2.4						
PDAR	Pinedale Array	77.09	329	P	P	02 44 13.9	+0.9
BOSA	Boshof	80.84	117	P	P	02 44 32.7	-1.3
	comp=E,3.5nm,1.0s,mb3.9,baz=270,slow=2.0,SNR=3.3						
BOSA	Boshof	80.84	117	P	P	02 44 32.7	-1.3
WRA	Warramunga Arr	131.57	207	PKP	PKPdf	02 51 32.5	+0.6
	comp=E,0.2nm,0.8s,baz=158,slow=1.8,SNR=8.0						
WRA	Warramunga Arr	131.57	207	PKP	PKPdf	02 51 32.5	+0.6
ZALV	Zalesovo Beam	143.45	28	PKP	PKPdf	02 51 50.7	-1.9
	comp=E,1.3nm,0.5s,baz=304,slow=3.9,SNR=8.3						
ZALV	Zalesovo Beam	143.45	28	PKP	PKPdf	02 51 50.7	-1.9
MK31	Makanchi Array	146.60	39	ePKPbc	PKPbc	02 51 59.2	-0.9
MKAR	Makanchi Array	146.60	39	PKPbc	PKPbc	02 52 00.6	+0.5
	comp=E,2.0nm,0.6s,baz=304,slow=3.2,SNR=17						
MKAR	Makanchi Array	146.60	39	PKPbc	PKPbc	02 52 00.6	+0.5

ISCJB ***03*** *02:39:18.8±0.5, 41°.78N±0°.03×20°.09E±0°.03, h10km, Error ellipse: s-maj=4.5km s-min=2.5km az=25.7*
CSEM ***03*** *02:39:19.4±0.3, 41°.78N×20°.06E, h2km, ML2.7, Error ellipse: s-maj=6.1km s-min=3.4km az=27.0*
TIR ***03*** *02:39:19.6±0.5, 41°.83N×20°.21E, h2km±3.3km, ML2.7*
PDG ***03*** *02:39:20.8±0.3, 41°.83N×20°.03E, h8km±1km, ML2.5/10, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
BEO ***03*** *02:39:24.3±1.0, 42°.01N×20°.05E, h2km±5km, ML2.2/4*

ISC 03 02:39:19.9±0.5, 41°.78N±0°.03×20°.07E±0°.03, h0km±4km, n51, σ1§27/93, 19C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.29	108	ePG	Pg	02 39 27.1	+1.6
PHP				eSG	Sg	02 39 32.6	+3.3
PHP	Peshkopia	0.29	108	ePg	Pg	02 39 27.1	+1.6
	SNR=95						
PHP				eSg	Sg	02 39 32.6	+3.3
	SNR=95						
PUK	Puka	0.29	334	ePG	Pg	02 39 25.6	+0.1
PUK				eSG	Sg	02 39 30.9	+1.5
PUK	Puka	0.29	334	ePg	Pg	02 39 25.6	+0.1
	SNR=96						
PUK				eSg	Sg	02 39 30.9	+1.5
	SNR=96						
BCI	Bajram Curri	0.59	360	ePG	Pg	02 39 30.6	-0.5
BCI				eSG	Sg	02 39 38.7	-0.1
BCI	Bajram Curri	0.59	360	ePg	Pg	02 39 30.6	-0.5
	SNR=93						
BCI				eSg	Sg	02 39 38.7	-0.1
	SNR=93						
ULC	Ulcinj	0.64	287	⇑iPg	Pg	02 39 32.0	-0.1
ULC				eSg	Sg	02 39 41.6	+1.2
ULC	Ulcinj	0.64	287	⇑iPg	Pg	02 39 32.0	-0.1
ULC				eSg	Sg	02 39 41.6	+1.2
PVY	Plav	0.82	355	⇑iPg	Pg	02 39 34.6	-1.0
PVY				eSg	Sg	02 39 47.0	+0.8
PVY	Plav	0.82	355	⇑iPg	Pg	02 39 34.6	-1.0
PVY				eSg	Sg	02 39 47.0	+0.8
PDG	Podgorica	0.89	318	ePg	Pg	02 39 36.4	-0.4
PDG				eSg	Sg	02 39 48.2	-0.1
PDG	Podgorica	0.89	318	ePg	Pg	02 39 36.4	-0.4
PDG				eSg	Sg	02 39 48.2	-0.1
TTG	Podgorica	0.89	318	⇑iPg	Pg	02 39 35.7	-1.1
TTG				eSg	Sg	02 39 49.5	+1.2
KRUS	Krusevo	0.97	114	i Pg	Pg	02 39 37.7	-0.8
KRUS	Krusevo	0.97	114	i Pg	Pg	02 39 37.7	-0.8
BUM	Brajici-Budva	1.02	301	⇑iPg	Pg	02 39 38.6	-0.7
BUM				eSg	Sg	02 39 54.1	+1.6
BUM	Brajici-Budva	1.02	301	⇑iPg	Pg	02 39 38.6	-0.7
BUM				eSg	Sg	02 39 54.1	+1.6
SKO	Skopje	1.04	79	i Pg	Pg	02 39 40.7	+0.9
SKO				i Sg	Sg	02 39 53.7	+0.4
SKO	Skopje	1.04	79	i Pg	Pg	02 39 40.7	+0.9
SKO				i Sg	Sg	02 39 53.6	+0.3
BEY	Berane	1.10	353	⇑iPg	Pg	02 39 39.8	-1.1
BEY				eSg	Sg	02 39 56.5	+1.3
IVA	Berane	1.10	353	⇑iPg	Pg	02 39 39.8	-1.1
IVA				eSg	Sg	02 39 56.5	+1.3
BIA	Bitola	1.21	128	i Pg	Pg	02 39 41.6	-1.4
BIA				i Sg	Sg	02 39 59.7	+0.9
BIA	Bitola	1.21	128	i Pg	Pg	02 39 41.6	-1.4
BIA				i Sg	Sg	02 39 59.6	+0.9
NKY	Niksic	1.30	323	⇑iPg	Pg	02 39 44.2	-0.6
NKY				eSg	Sg	02 40 03.6	+1.8
NKY	Niksic	1.30	323	⇑iPg	Pg	02 39 44.2	-0.6
NKY				eSg	Sg	02 40 03.6	+1.8
HCY	Herceg Novi	1.35	300	⇑iPg	Pg	02 39 44.4	-1.3
HCY				eSg	Sg	02 40 05.2	+2.1
HCY	Herceg Novi	1.35	300	⇑iPg	Pg	02 39 44.4	-1.3
HCY				eSg	Sg	02 40 05.2	+2.1
SJES	Sjenica	1.48	357	ePg	Pg	02 39 47.1	-1.2
SJES				eSn	Sn	02 40 06.9	-0.9
BRY	Bratogost	1.59	315	⇑iPg	Pg	02 39 49.2	-1.2
BRY				eSg	Sg	02 40 12.6	+1.6
BRY	Bratogost	1.59	315	⇑iPg	Pg	02 39 49.2	-1.2
BRY				eSg	Sg	02 40 12.6	+1.6
PLE	Pljevlja	1.63	342	⇑iPn	Pn	02 39 50.0	+0.2
PLE				eSn	Sn	02 40 13.1	+1.7
PLE	Pljevlja	1.63	342	⇑iPn	Pn	02 39 50.0	+0.2
PLE				eSn	Sn	02 40 13.1	+1.7
SELS	Selova	1.64	28	ePg	Pg	02 39 50.1	-1.1
BARS	Barje	1.66	51	ePg	Pg	02 39 51.5	-0.2
BARS				eSg	Sg	02 40 13.2	0.0
BARS	Barje	1.66	51	ePg	Pg	02 39 51.5	-0.2
BARS				eSg	Sg	02 40 13.2	0.0
UPM	Unac-Piva	1.66	329	⇑iPn	Pn	02 39 51.0	+0.8
UPM				eSn	Sn	02 40 14.0	+1.8
UPM	Unac-Piva	1.66	329	⇑iPn	Pn	02 39 51.0	+0.8
UPM				eSn	Sn	02 40 14.0	+1.8
IVAS	Ivanjica	1.80	2	ePg	Pg	02 39 53.1	-1.2
IVAS	Ivanjica	1.80	2	ePg	Pg	02 39 53.1	-1.2
VAY	Valandovo	1.93	103	ePn	Pn	02 39 54.4	+0.5
VAY				i Sn	Sn	02 40 21.7	+2.8
VAY	Valandovo	1.93	103	ePn	Pn	02 39 54.4	+0.5
VAY				i Sn	Sn	02 40 21.7	+2.8
STON	Ston	2.07	303	i Pn	Pn	02 39 53.6	-2.2
STON				Sn	Sn	02 40 21.5	-0.8
STON	Ston	2.07	303	i Pn	Pn	02 39 53.5	-2.3
STON				Sn	Sn	02 40 21.5	-0.8
GRUS	Gruza	2.16	12	ePg	Pg	02 39 58.5	-2.8
GRUS	Gruza	2.16	12	ePg	Pg	02 39 58.5	-2.8
DIVS	Divibare	2.32	359	ePg	Pg	02 40 01.2	-3.1
DIVS				eSg	Sg	02 40 29.8	-4.6
DIVS	Divibare	2.32	359	ePg	Pg	02 40 01.2	-3.1
DIVS				eSg	Sg	02 40 29.8	-4.6
ZAPS	Zavoj	2.41	51	ePg	Pg	02 40 05.9	-0.2
ZAPS	Zavoj	2.41	51	ePg	Pg	02 40 05.9	-0.2
NVLJ	Novalja	4.71	308	ePn	Pn	02 40 30.8	-1.3
NVLJ				Sn	Sn	02 41 24.9	-2.5
NVLJ	Novalja	4.71	308	ePn	Pn	02 40 30.7	-1.4
NVLJ				Sn	Sn	02 41 24.9	-2.5

IDC 03 02:47:10.4±13.0, 56°.02S×27°.61W, h137km±120km, mb3.6/1, mb1 3.4/2, mb1mx3.1/13, mbtmp3.4/2, ML3.9/1, Error ellipse: s-maj=81.7km s-min=42.1km az=107.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	17.31	158	eP	Pn	02 51 03.2	-0.1
	baz=312,slow=13						
VNA2				e		02 51 10.3	
SNAA	Sanae	18.87	156	eP	P	02 51 13.6	-6.0
SNAA				e		02 51 18.0	
SNAA	Sanae	18.87	156	P	P	02 51 19.7	+0.1
	0.3nm,0.3s,baz=302,slow=11,SNR=51						
TORD	Torodi Ar. Bea	73.14	30	P	P	02 58 25.9	+0.1
	1.0nm,0.8s,baz=206,slow=4.5,SNR=11						
ILAR	Eielson Array	149.92	312	PKPbc	PKPbc	03 06 42.6	-0.3
	1.6nm,0.8s,baz=130,slow=2.4,SNR=16						
SONM	Songino Array	150.96	87	PKPbc	PKPbc	03 06 45.9	0.0
	0.8nm,0.5s,baz=226,slow=4.8,SNR=6.2						

NEIC ***03*** *02:47:28.2, 60°.83N×138°.02W, h1km, mb4.4/53, ML4.2(AEIC), MW4.1(USGS), MW4.2(PGC), After PGC.*
NEIC Felt [III] at Haines Junction.
IDC ***03*** *02:47:28.3±0.5, 60°.98N×138°.04W, h0km, mb4.2/16, mb1 4.3/21, mb1mx4.2/28, mbtmp4.1/21, ML3.8/5, MS3.3/6, Ms1 3.3/6, ms1m

RAGM	Ragged Mountai	3.36 263	ePn	Pn	02 48 23.6	+0.9
MENT	Mentasta	3.37 308	ePn	Pn	02 48 21.0	-1.8
MENT			ePg	Pg	02 48 30.7	-4.0
MENT			eSg	Sg	02 49 16.4	-1.8
DIV	Divide	3.81 276	P	Pn	02 48 28.5	-0.3
KLU	Klutina	3.89 281	P	Pn	02 48 30.1	+0.1
DOT	Dot Lake	3.92 316	ePn	Pn	02 48 29.3	-1.1
DOT			ePg	Pg	02 48 41.6	-3.6
DOT			eSg	Sg	02 49 29.6	-6.4
PAX	Paxson	4.08 303	P	Pn	02 48 33.2	+0.7
PAX	Paxson	4.08 303	P	Pn	02 48 33.2	+0.7
VLZ	Valdez	4.08 276	P	Pn	02 48 31.4	-1.2
EGAK	Eagle	4.09 340	ePn	Pn	02 48 33.1	+0.4
EGAK			ePg	Pg	02 48 44.3	-4.3
EGAK			eSg	Sg	02 49 38.1	-3.4
SIT	Sitka	4.15 160	ePn	Pn	02 48 34.6	+1.1
SIT			eSg	Sn	02 49 36.1	+14
SIT	Sitka	4.15 160	eP	Pn	02 48 34.6	+1.0
SCM	Sheep Creek Mo	4.59 285	P	Pn	02 48 38.9	-0.7
SCM	Sheep Creek Mo	4.59 285	P	Pn	02 48 38.9	-0.7
DLBC	Dease Lake	4.75 119	Pn	Pn	02 48 40.2	-1.5
	3.5nm,0.3s,baz=306,slow=6.2,SNR=38					
DLBC			Pg	Pg	02 48 53.7	-7.3
	11nm,0.3s,baz=322,slow=17,SNR=20					
DLBC			Lg		02 49 54.5	
	35nm,0.3s,baz=204,slow=20,SNR=16					
DLBC			LR	LR	02 50 35.6	
	comp=Z,356nm,20.9s,baz=227,slow=39					
DLBC	Dease Lake	4.75 119	P	Pn	02 48 39.8	-1.9
DLBC	Dease Lake	4.75 119	⇓Pn	Pn	02 48 39.4	-2.3
DLBC			⇑Sg	Sg	02 49 55.0	-7.5
DHY	Denali Highway	4.92 300	P	Pn	02 48 44.6	+0.6
SML	Sawmill	5.06 284	ePn	Pn	02 48 46.1	0.0
	23nm,0.8s					
SML			ePg	Pg	02 48 57.7	-9.4
SML			eSg	Sg	02 50 04.0	-8.6
SML	Sawmill	5.06 284	eP	Pn	02 48 46.1	0.0
SML			pmax	pmax		
	comp=Z,23nm,0.8s					
WRAK	Wrangell Islan	5.42 145	P	Pn	02 48 48.9	-2.0
PMR	Palmer	5.43 281	ePn	Pn	02 48 51.0	-0.1
PMR			ePg	Pg	02 49 05.7	-8.4
PMR			eSg	Sg	02 50 11.2	-13
PMR	Palmer	5.43 281	eP	Pn	02 48 51.0	-0.1
ILAR	Eielson Array	5.59 317	Pn	Pn	02 48 51.0	-2.3
	comp=Z,0.4nm,0.3s,baz=141,slow=12,SNR=26					
ILAR			Lg		02 50 25.6	
	comp=Z,8.1nm,0.3s,baz=96,slow=16,SNR=6.3					
ILAR	Eielson Array	5.59 317	Pn	Pn	02 48 51.0	-2.3
ILAR			Lg		02 50 25.6	
ILAR	Eielson Array	5.59 317	P	Pn	02 48 51.0	-2.3
RND	Reindeer	5.66 300	P	Pn	02 48 54.9	+0.7
RND	Reindeer	5.66 300	P	Pn	02 48 54.9	+0.7
PRP	Porcupine Dome	5.70 326	P	Pn	02 48 55.5	+0.7
RC01	Rabbit Creek A	5.73 276	P	Pn	02 48 55.0	-0.3
MCK	McKinley	5.82 303	P	Pn	02 48 57.2	+0.8
MCK	McKinley	5.82 303	P	Pn	02 48 57.2	+0.8
COLA	College	5.98 315	ePn	Pn	02 49 04.1	+5.5
	comp=Z,56nm,0.8s					
COLA			eSg	Sg	02 50 39.1	-2.9
COLA	College	5.98 315	eP	Pn	02 49 04.1	+5.5
COLA			pmax	pmax		
	comp=Z,57nm,0.8s					
SLKM	Skilak Lake	6.04 271	ePn	Pn	02 48 59.1	-0.4
SLKM	Skilak Lake	6.04 271	eP	Pn	02 48 59.1	-0.3
CRAG	Craig	6.08 153	ePn	Pn	02 49 06.7	+6.8
CRAG			ePg	Pg	02 49 21.9	-4.5
CRAG			eSg	Sg	02 50 34.4	-11
TRF	Thorofare Moun	6.28 299	P	Pn	02 49 03.1	+0.4
STLK	Strandline Lak	6.72 281	P	Pn	02 49 08.4	-0.5
SPU	Mount Spurr	6.85 278	ePn	Pn	02 49 12.8	+2.3
PPLA	Purkeypile	6.99 292	ePn	Pn	02 49 13.7	+1.2
PPLA			ePg	Pg	02 49 32.5	-11
PPLA			eSg	Sg	02 51 10.0	-4.3
BM3	Burnt Mountain	7.09 339	P	Pn	02 49 14.3	+0.5
RSO	Redoubt South	7.28 272	ePn	Pn	02 49 16.1	-0.4
	comp=Z,45nm,0.7s					
INK	Inuvik	7.61 13	Pn	Pn	02 49 20.8	-0.1
	comp=Z,0.6nm,0.3s,baz=193,slow=15,SNR=20					
INK			Sn	Sn	02 50 40.5	-6.5
	comp=Z,2.6nm,0.3s,baz=140,slow=14,SNR=3.1					
INK			Lg		02 51 33.2	
	comp=Z,4.4nm,0.3s,baz=105,slow=22,SNR=11					
INK	Inuvik	7.61 13	ePn	Pn	02 49 21.6	+0.7
	comp=Z,35nm,0.8s					
INK			ePg	Pg	02 49 51.0	-4.6
INK			Sn	Sn	02 50 40.5	-6.5
INK			Lg		02 51 33.2	
INK			eSg	Sg	02 51 33.7	-0.3
INK	Inuvik	7.61 13	eP	Pn	02 49 21.6	+0.7
INK					02 50 40.5	
INK			pmax	pmax		
	comp=Z,35nm,0.8s					
KDAK	Kodiak Island	8.12 253	Pn	Pn	02 49 26.2	-1.8
	comp=Z,0.9nm,0.3s,baz=119,slow=22,SNR=14					
KDAK			Sn	Sn	02 50 51.2	-8.6
	baz=127,slow=20,SNR=3.7					
KDAK	Kodiak Island	8.12 253	Pn	Pn	02 49 26.2	-1.8
KDAK			Sn	Sn	02 50 51.2	-8.6
KDAK	Kodiak Island	8.12 253	P	Pn	02 49 26.2	-1.8
KDAK			pmax	pmax		
	comp=Z,1.0nm,0.3s					
COLD	Coldfoot	8.24 325	P	Pn	02 49 30.4	+0.7
BBB	Bella Bella	10.33 144	Lg		02 52 49.5	
	comp=Z,0.3nm,0.3s,baz=283,slow=19,SNR=3.3					
YKA	Yellowknife Ar	11.15 72	Pn	Pn	02 50 07.5	-2.0
	comp=Z,2.1nm,0.3s,baz=270,slow=12,SNR=42					
YKA			Lg		02 53 17.3	
	comp=Z,0.1nm,0.3s,baz=92,slow=9.5,SNR=6.0					
YKA	Yellowknife Ar	11.15 72	Pn	Pn	02 50 07.5	-2.0
YKA			Lg		02 53 17.3	
YKA	Yellowknife Ar	11.15 72	P	Pn	02 50 07.5	-2.0
YKA			pmax	pmax		
	comp=Z,2.0nm,0.3s					
NEW	Newport	17.42 128	⇓P	Pn	02 51 33.8	+0.7
	baz=17					
NEW	Newport	17.42 128	ePn	Pn	02 51 35.8	+2.7
	comp=Z,37nm,1.9s					
NEW	Newport	17.42 128	eP	Pn	02 51 35.8	+2.7
NEW			pmax	pmax		
	comp=Z,37nm,1.9s					
A13A	Flathead Natio	17.98 121	⇓P	Pn	02 51 40.1	+0.1
	baz=18					
C11A	Tepee Creek (N	18.11 127	⇑P	Pn	02 51 41.5	-0.1
	baz=18					
A14A	Double T Ranch	18.37 120	⇑P	Pn	02 51 44.3	-0.4
	baz=18					
B13A	Whitefish	18.40 123	⇑P	Pn	02 51 45.3	+0.3
	baz=18					
C12B	Naegeli Ranch,	18.52 126	⇓P	Pn	02 51 47.0	+0.4
	baz=18					
A15A	Johnson Ranch,	18.66 119	⇓P	Pn	02 51 48.0	-0.3
	baz=19					
B14A	Marquette Ranc	18.90 121	⇓P	Pn	02 51 50.7	-0.5
	baz=19					
JTMT	Jette	18.97 124	ePn	Pn	02 51 58.7	+6.7
D12A	Red Ives Fores	19.10 127	⇓P	Pn	02 51 53.2	-0.5
	baz=19					
A16A	West Butte Ran	19.17 117	⇑P	Pn	02 51 53.3	-1.1
	baz=19					
C14A	Swan Lake	19.17 123	⇓P	Pn	02 51 53.1	-1.3
	baz=19					
B15A	Bradely Ranch,	19.24 120	⇓P	Pn	02 51 53.6	-1.7
	baz=19					
SWMT	Swartz Lake	19.27 124	ePn	Pn	02 51 58.2	+2.5
G08A	Pilot Rock	19.28 136	⇑P	Pn	02 51 54.3	-1.5
	baz=19					
D13A	Huson	19.42 125	⇓P	Pn	02 51 56.1	-1.4
	baz=19					
E12A	Beaver Dam Sad	19.55 128	⇑P	Pn	02 51 57.4	-1.5
	baz=20					
A17A	Triple J Farms	19.56 116	⇓P	Pn	02 51 57.4	-1.8
	baz=20,SNR=5.8					
C15A	Salmond Ranch,	19.64 121	⇑P	Pn	02 51 58.0	-2.1
	baz=20					
SLMT	Seeley Lake	19.70 123	eP	Pn	02 52 00.8	+0.1
D14A	Greenough	19.82 123	⇑P	Pn	02 52 00.5	-1.7
	baz=20,SNR=6.0					
MSO	Missoula	19.85 125	⇑P	Pn	02 52 00.7	-1.9
	baz=20					
MSO	Missoula	19.85 125	eP	Pn	02 52 02.4	-0.1
	comp=Z,5.4nm,0.8s					
FFC	Flin Flon	19.93 92	eP	Pn	02 52 01.7	-1.8
	comp=Z,15nm,1.1s					
FFC			pmax	pmax		
	comp=Z,15nm,1.1s					
C16A	Fuhringer Ranc	19.98 119	⇓P	Pn	02 52 02.1	-2.0
	baz=20					
CHMT	Chamberlain Mo	20.06 123	eP	P	02 52 04.4	+1.2
E13A	Victor	20.06 126	⇓P	P	02 52 03.0	-0.4
	baz=20,SNR=5.5					
I07A	Izee	20.17 139	⇓P	P	02 52 04.4	-0.1
	baz=20					
D15A	Lincoln	20.25 122	⇓P	P	02 52 05.2	-0.2
	baz=20					
E14A	Clinton	20.36 125	⇑P	P	02 52 06.6	+0.1
	baz=20					
B18A	Beardsley Farm	20.38 115	⇓P	P	02 52 06.5	-0.3
	baz=20					
A19A	Klindworth Far	20.45 113	⇑P	P	02 52 06.9	-0.5
	baz=20					
C17A	Wharram Farm,	20.53 118	⇓P	P	02 52 08.2	-0.2
	baz=20					
F13A	Darby	20.55 127	⇑P	P	02 52 08.5	-0.1
	baz=20,SNR=15					
RES	Resolute Bay	20.56 31	P	P	02 52 08.9	+0.5
	comp=Z,6.5nm,0.7s,baz=237,slow=13,SNR=7.2					
RES			Lg		02 58 12.2	
	comp=Z,3.4nm,1.0s,baz=346,slow=8.3,SNR=2.0					
RES			LR	LR	03 00 21.1	
	comp=Z,75nm,18.9s,MS3.1,baz=78,slow=38					
RES	Resolute Bay	20.56 31	eP	P	02 52 09.2	+0.7
	comp=Z,9.0nm,0.8s					
RES			Lg		02 58 12.2	
RES	Resolute Bay	20.56 31	P	P	02 52 09.0	+0.5
RES			pmax	pmax		
	comp=Z,7.0nm,0.7s					
RES			MLR	MLR		
	comp=Z,75nm,18.9s,MS3.1					
D16A	Dana Ranch, Ca	20.67 120	⇑P	P	02 52 10.5	+0.6
	baz=21,SNR=7.8					
EGMT	Eagleton	20.67 116	⇑P	P	02 52 09.6	-0.3
	baz=21					
EGMT	Eagleton	20.67 116	eP	P	02 52 10.9	+1.0
	comp=Z,9.6nm,0.9s					
E15A	Deer Lodge	20.70 123	⇑P	P	02 52 09.6	-0.6
	baz=21,SNR=8.7					
B19A	Brinkman Farms	20.70 114	⇑P	P	02 52 10.0	-0.3
	baz=21					
G12A	Big Creek, Yel	20.72 130	⇓P	P	02 52 10.3	-0.1
	baz=21					
HRY	Holter Researc	20.80 121	eP	P	02 52 12.1	+0.8
A20A	Cobblestone Ra	20.85 112	⇓P	P	02 52 11.9	+0.1
	baz=21					
F14A	Wisdom	20.91 125	⇓P	P	02 52 12.7	+0.2
	baz=21					
D17A	Six Diamond Ra	20.94 119	⇓P	P	02 52 12.7	-0.1
	baz=21					
K05A	Summer Lake	20.97 143	⇓P	P	02 52 13.5	+0.3
	baz=21					
E16A	East Helena	21.01 122	⇓P	P	02 52 13.7	+0.2
	baz=21					
J08A	Circle Bar Ran	21.15 138	⇓P	P	02 52 14.7	-0.4
	baz=21					
G13A	Cobalt	21.17 128	⇓P	P	02 52 14.9	-0.4
	baz=21,SNR=6.7					
C19A	Slack Wire Ran	21.20 116	⇑P	P	02 52 15.1	-0.5
	baz=21,SNR=5.4					
A21A	Bergtoll Ranch	21.22 110	⇑P	P	02 52 15.7	-0.2
	baz=21					
F15A	Butte	21.23 124	⇑P	P	02 52 15.8	-0.2
	baz=21					
LRM	Limekiln Ridge	21.27 124	eP	P	02 52 17.9	+1.6
D18A	Linhart Farms,	21.28 118	⇓P	P	02 52 16.4	-0.1
	baz=21					
G14A	Jackson	21.34 126	⇓P	P	02 52 17.2	+0.1
	baz=21					
E17A	Martinsdale	21.41 120	⇑P	P	02 52 18.3	+0.4
	baz=21					
DLMT	Dillon	21.59 125	eP	P	02 52 19.9	+0.1
	comp=Z,9.5nm,1.1s,mb4.1					
B21A	Ellsworth Farm	21.59 112	⇑P	P	02 52 19.8	-0.1
	baz=22					
H13A	Challis	21.60 129	⇑P	P	02 52 20.2	+0.3
	baz=22,SNR=23					
F16A	Kennard Place,	21.63 123	⇑P	P	02 52 20.7	+0.4
	baz=22					
C20A	Veseth Ranch,	21.68 114	⇓P	P	02 52 20.7	0.0
	baz=22					
A22A	Carney Farms,	21.69 109	⇓P	P	02 52 20.8	-0.1
	baz=22					
D19A	Cripps Ranch,	21.71 116	⇑P	P	02 52 20.7	-0.3
	baz=22,SNR=5.9					
E18A	Harlowton	21.73 119	⇓P	P	02 52 21.3	0.0
	baz=22					
BOZ	Bozeman (W)	21.74 123	⇓P	P	02 52 20.7	-0.8
	baz=22,SNR=8.5					
BOZ	Bozeman (W)	21.74 123	eP	P	02 52 21.9	+0.4
	comp=Z,5.9nm,1.0s,mb4.0					
BOZ	Bozeman (W)	21.74 123	eP	P	02 52 21.9	+0.4
BOZ			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0					
G15A	Dillon	21.79 125	⇓P	P	02 52 21.4	-0.5
	baz=22,SNR=7.1					
MOD	Modoc	21.90 143	eP	P	02 52 26.2	+3.1
	comp=Z,9.7nm,1.1s,mb4.2					
MCMT	McKenzie Canyo	21.93 126	eP	P	02 52 23.1	-0.3
	comp=Z,4.0nm,0.8s,mb3.9					
WVOR	Wild Horse Val	21.93 139	eP	P	02 52 24.6	+1.1
	comp=Z,12nm,1.4s,mb4.1					
WVOR	Wild Horse Val	21.93 139	eP	P	02 52 24.6	+1.1
WVOR			pmax	pmax		
	comp=Z,12nm,1.4s,mb4.1					
I12A	Atlanta	21.93 131	⇓P	P	02 52 23.5	0.0
	baz=22					
F17A	Fitzpatrick Pl	21.94 121	⇑P	P	02 52 23.6	0.0
	baz=22					
MFID	Camas Ranch	22.01 133	⇓P	P	02 52 24.2	-0.1
	baz=22					
G16A	Moss Hill, Enn	22.01 124	⇑P	P	02 52 24.3	-0.1
	baz=22,SNR=10					
D20A	Manuel Ranch,	22.09 115	⇑P	P	02 52 24.9	-0.3
	baz=22					
H15A	Lima	22.18 126	⇓P	P	02 52 25.8	-0.4
	baz=22,SNR=9.3					
I13A	Wildhorse Cree	22.21 129	⇓P	P	02 52 26.1	-0.3
	baz=22,SNR=15					
E19A	Rath Farm, Rou	22.30 117	⇓P	P	02 52 27.1	-0.3
	baz=22					
F18A	Big Timber	22.33 120	⇑P	P	02 52 27.8	0.0
	baz=22					
G17A	Pierce Place,	22.37 122	⇓P	P	02 52 28.5	+0.3
	baz=22					
HLID	Hailey	22.40 130	⇑P	P	02 52 28.3	-0.1
	baz=22					
HLID	Hailey	22.40 130	eP	P	02 52 29.0	+0.5
	comp=Z,5.3nm,1.1s,mb3.9					
GCMT	Greycliff	22.45 120	eP	P	02 52 29.1	+0.2
	comp=Z,9.6nm,1.4s,mb4.0					
I14A	Mackay	22.45 128	⇑P	P	02 52 28.8	-0.2
	baz=22,SNR=5.9					
B23A	Brockton	22.49 109	⇓P	P	02 52 28.8	-0.6
	baz=22					
E20A	Meyer Farm, Mu	22.55 116	⇑P	P	02 52 29.4	-0.6
	baz=22					
C22A	Vida	22.61 111	⇓P	P	02 52 30.3	-0.3
	baz=23					
D21A	La Casta Ranch	22.62 114	⇓P	P	02 52 30.5	-0.3
	baz=23					
J13A	Cove Ranch, Pi	22.63 130	⇑P	P	02 52 30.8	-0.1
	baz=23,SNR=7.1					
H16A	Russell Place,	22.67 124	⇓P	P	02 52 31.3	-0.1
	baz=23					
F19A	Roth Farm, Mol	22.70 119	⇑P	P	02 52 31.4	-0.2
	baz=23					
I15A	Monteview	22.76 127	⇑P	P	02 52 32.7	+0.3
	baz=23					
YMR	Madison River	22.81 123	eP	P	02 52 34.8	+1.9
	comp=Z,19nm,1.3s,mb4.4					
DGMT	Dagmar	22.86 108	⇑P	P	02 52 32.9	-0.4
	baz=23					
DGMT	Dagmar	22.86 108	eP	P	02 52 33.3	0.0
	comp=Z,25nm,1.1s,mb4.6					
G18A	Lazy EL Ranch,	22.87 120	⇑P	P	02 52 33.1	-0.4
	baz=23					
C23A	Lambert	22.89 110	⇓P	P	02 52 32.9	-0.7
	baz=23,SNR=5.5					
D22A	Cohagen	22.92 113	⇓P	P	02 52 33.3	-0.6
	baz=23,SNR=6.2					
J14A	Carey	22.94 129	⇑P	P	02 52 33.8	-0.4
	baz=23					
F20A	Billings	23.09 118	⇑P	P	02 52 35.2	-0.5
	baz=23					
RLMT	Red Lodge	23.15 120	⇓P	P	02 52 35.7	-0.7
	baz=23					
RLMT	Red Lodge	23.15 120	eP	P	02 52 36.6	+0.2
	comp=Z,10nm,1.2s,mb4.1					
LAO	LASA Array	23.25 114	⇓P	P	02 52 36.4	-1.0
	baz=23					
I16A	Newdale	23.26 125	⇓P	P	02 52 37.2	-0.4
	baz=23,SNR=13					
J15A	Blackfoot	23.29 127	⇑P	P	02 52 37.9	0.0
	baz=23					
H18A	Shoshone NF, C	23.34 121	⇓P	P	02 52 38.1	-0.3
	baz=23					
IMW	Indian Meadow	23.46 124	eP	P	02 52 40.3	+0.6
	comp=Z,12nm,0.9s,mb4.3					
DCID1	Drake Creek	23.61 125	eP	P	02 52 43.1	+1.9
	comp=Z,45nm,1.1s,mb4.8					
H19A	Powell	23.63 120	⇑P	P	02 52 41.2	-0.2
	baz=24					
MOOW	Moose Ponds	23.66 124	eP	P	02 52 44.8	+3.2
	comp=Z,11nm,1.4s,mb4.1					
J16A	Bone	23.71 126	⇓P	P	02 52 41.5	-0.6
	baz=24					
RRI2	Red Ridge	23.77 126	eP	P	02 52 43.8	+1.2
	comp=Z,9.3nm,0.9s,mb4.2					
D24A	Glendive	23.79 110	⇑P	P	02 52 42.5	-0.3
	baz=24					
TPAW	Teton Pass	23.80 125	eP	P	02 52 45.0	+2.1
	comp=Z,13nm,1.0s,mb4.3					
LOHW	Long Hollow	23.83 124	eP	P	02 52 44.5	+1.3
	comp=Z,7.7nm,1.0s,mb4.1					
SNOW	Snow King Moun	23.90 125	eP	P	02 52 45.5	+1.7
	comp=Z,11nm,1.1s,mb4.2					
REDW	Red Top Meadow	23.94 125	eP	P	02 52 44.4	+0.2
	comp=Z,6.9nm,1.0s,mb4.0					
J17A	Brown Place, J	24.00 125	⇑P	P	02 52 44.5	-0.2
	baz=24,SNR=5.9					
I18A	Diamond G Ranc	24.08 123	⇑P	P	02 52 45.5	+0.1
	baz=24					
I19A	Meeteetse	24.14 121	⇑P	P	02 52 45.8	-0.2
	baz=24,SNR=7.6					
L14A	Malta	24.15 130	⇑P	P	02 52 46.3	+0.2
	baz=24					
J18A	Kendall Valley	24.40 124	⇑P	P	02 52 48.4	0.0
	baz=24,SNR=11					
L15A	Malad City	24.50 129	⇑P	P	02 52 49.1	-0.2
	baz=24					
HVU	Hansel Valley	24.55 130	eP	P	02 52 52.1	+2.4
	comp=Z,13nm,1.2s,mb4.3					
HVU	Hansel Valley	24.55 130	eP	P	02 52 52.1	+2.4
HVU			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3					
I20A	Worland	24.58 120	⇓P	P	02 52 49.7	-0.3
	baz=24					
F24A	Ekalaka	24.69 113	⇑P	P	02 52 50.7	-0.2
	baz=25					
J19A	Crowheart	24.75 123	⇓P	P	02 52 51.2	-0.4
	baz=25					
K18A	Toltan Ranch,	24.87 125	⇓P	P	02 52 52.2	-0.5
	baz=25					
PD01	Pinedale Array	24.94 124	eP	P	02 52 53.5	+0.2
PD02	Pinedale Array	24.95 124	eP	P	02 52 52.9	-0.5
BW06	Boulder Array	24.96 124	⇓P	P	02 52 53.4	-0.1
	baz=25,SNR=10					
BW06	Boulder Array	24.96 124	eP	P	02 52 54.3	+0.8
	comp=Z,7.9nm,0.9s,mb4.2					
PDAR	Pinedale Array	24.96 124	P	P	02 52 54.2	+0.7
	comp=Z,5.5nm,0.8s,mb4.1,baz=325,slow=6.9,SNR=41					
PDAR	Pinedale Array	24.96 124	P	P	02 52 54.2	+0.7
I21A	Big Trails, Te	25.04 119	⇓P	P	02 52 53.8	-0.4
	baz=25					
J20A	Shoshoni	25.08 121	⇓P	P	02 52 54.2	-0.4
	baz=25					
HWUT	Hardware Ranch	25.15 128	eP	P	02 52 55.4	+0.2
	comp=Z,6.8nm,1.1s,mb4.1					
K19A	Absolon Red Bu	25.20 123	⇓P	P	02 52 55.8	+0.1
	baz=25					
J21A	Lysite	25.36 120	⇓P	P	02 52 57.3	+0.2
	baz=25					
H24A	Dirks Ranch, A	25.49 114	⇓P	P	02 52 57.7	-0.6
	baz=25,SNR=5.5					
K20A	Yellowstone Ra	25.55 122	⇑P	P	02 52 58.3	-0.5
	baz=26					
L19A	Farson	25.60 124	⇑P	P	02 52 58.9	-0.4
	baz=26					
NVAR	Mina Array Bea	25.69 142	P	P	02 53 00.9	+0.7
	comp=Z,5.0nm,0.9s,mb4.0,baz=322,slow=7.7,SNR=18					
NVAR	Mina Array Bea	25.69 142	P	P	02 53 00.9	+0.7
J22A	Midwest	25.71 119	⇑P	P	02 52 59.9	-0.4
	baz=26					
DUG	Dugway	25.91 132	eP	P	02 53 03.8	+1.6
	comp=Z,3.9nm,1.1s,mb3.9					
DUG	Dugway	25.91 132	eP	P	02 53 03.8	+1.6
DUG			pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.9					
K21A	Alcova	26.02 121	⇓P	P	02 53 02.9	-0.2
	baz=26					
L20A	Wamsutter	26.09 123	⇑P	P	02 53 03.5	-0.3
	baz=26					
RSSD	Black Hills	26.21 115	eP	P	02 53 05.5	+0.7
	comp=Z,6.3nm,1.0s,mb4.1					
RSSD	Black Hills	26.21 115	eP	P	02 53 05.5	+0.7
RSSD			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1					
K22A	Casper	26.31 120	⇓P	P	02 53 05.8	+0.1
	baz=26					
L21A	Rawlins	26.52 122	⇑P	P	02 53 07.6	0.0
	baz=26					
J24A	Dixon Ranch, L	26.56 116	⇑P	P	02 53 07.9	-0.1
	baz=26					
K23A	Bowen Ranch, D	26.61 118	⇓P	P	02 53 08.0	-0.4
	baz=27					
N19A	John Jarvie Ra	26.69 126	⇑P	P	02 53 08.6	-0.6
	baz=27					
L22A	Ellis Ranch, M	26.86 120	⇓P	P	02 53 10.6	-0.1
	baz=27					
P18A	Preston Nutter	27.37 129	⇑P	P	02 53 15.8	+0.6
	baz=27,SNR=7.3					
N21A	Black Mountain	27.47 123	⇑P	P	02 53 16.3	+0.1
	baz=27					
M23A	Laramie	27.62 120	⇓P	P	02 53 17.6	+0.1
	baz=28					
O20A	White River Ci	27.71 125	⇓P	P	02 53 18.2	-0.1
	baz=28					
SRU	San Rafael	27.71 130	eP	P	02 53 20.4	+2.0
	comp=Z,5.5nm,1.0s,mb4.1					
SRU	San Rafael	27.71 130	eP	P	02 53 20.4	+2.1
SRU			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2					
P19A	Cripple Cowboy	27.85 127	⇓P	P	02 53 19.5	-0.1
	baz=28					
PHWY	Pilot Hill	27.87 120	eP	P	02 53 24.8	+5.1
	comp=Z,4.8nm,1.0s,mb4.1					
P20A	De Beque	28.20 126	⇓P	P	02 53 22.6	-0.1
	baz=28					
Q19A	Hogan Spring (	28.33 128	⇑P	P	02 53 23.9	0.0
	baz=28					
O22A	Kremmling	28.37 123	⇓P	P	02 53 24.2	0.0
	baz=28					
P21A	Newcastle	28.55 125	⇑P	P	02 53 25.7	-0.1
	baz=28					
Q20A	Ridgley Place,	28.70 127	⇓P	P	02 53 26.6	-0.6
	baz=29					
R19A	Curley Farm, L	28.91 129	⇑P	P	02 53 28.9	-0.1
	baz=29					
GSC	Goldstone	29.04 143	⇑P	P	02 53 30.6	+0.5
	baz=29					
Q21A	Lamborn Mesa,	29.09 126	⇓P	P	02

V17A **Tonalea, Kykot** 30.71 133 ⇑P P 02 53 45.3 +0.4
baz=31
SDCO **Great Sand Dun** 30.86 124 ⇑P P 02 53 46.6 +0.4
baz=31
SDCO **Great Sand Dun** 30.86 124 eP P 02 53 46.8 +0.5
comp=Z,4.4nm,1.5s,mb4.1
T22A **Edith** 30.93 127 ⇑P P 02 53 46.9 0.0
baz=31
MONP **Monument Peak** 31.40 144 ⇓P P 02 53 51.4 +0.3
baz=31
V20A **Brimhall** 31.40 130 ⇑P P 02 53 51.0 -0.1
baz=31
W20A **Ramah** 31.98 130 ⇑P P 02 53 56.5 +0.3
baz=32
V23A **Ortiz Mt. (NFS** 32.32 127 ⇓P P 02 53 59.7 +0.5
baz=32,SNR=5.7
U25A **Circle Dot Ran** 32.46 124 ⇑P P 02 54 00.7 +0.3
baz=32
Y18A **Canyon Day Jun** 32.64 134 ⇓P P 02 54 02.5 +0.6
baz=33
U26A **Atchley Ranch,** 32.73 123 ⇓P P 02 54 03.3 +0.6
baz=33
X21A **Alamocita Cree** 32.85 130 ⇓P P 02 54 04.4 +0.6
baz=33
V25A **Rancho No Teng** 32.86 125 ⇓P P 02 54 04.8 +1.0
baz=33
ANMO **Albuquerque** 32.91 128 eP P 02 54 06.2 +1.8
comp=Z,21nm,2.2s,mb4.7
ANMO **Albuquerque** 32.91 128 eP P 02 54 06.2 +1.9
ANMO pmax pmax
comp=Z,21nm,2.2s
W24A **Lazy 6 Ranch,** 33.09 126 ⇑P P 02 54 06.8 +0.9
baz=33
V26A **Tequesquite Ra** 33.23 124 ⇑P P 02 54 07.6 +0.5
baz=33
Y21A **Point of Rocks** 33.29 130 ⇓P P 02 54 08.2 +0.6
baz=33
X23A **Hourglass Bar** 33.34 128 ⇑P P 02 54 08.6 +0.5
baz=33
W25A **X Bar L Ranch,** 33.46 125 ⇑P P 02 54 08.9 -0.3
baz=33
Y22A **Socorro** 33.62 129 ⇓P P 02 54 10.8 +0.3
baz=34
TUC **Tucson** 33.71 136 eP P 02 54 12.7 +1.4
comp=Z,1.8nm,0.9s,mb4.0
TUC **Tucson** 33.71 136 eP P 02 54 12.7 +1.4
TUC pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
Y23A **Lovelace Mesa,** 33.97 128 ⇓P P 02 54 14.0 +0.5
baz=34
Y24A **Capitan** 34.21 127 ⇓P P 02 54 16.0 +0.4
baz=34
Y25A **Mesa, Roswell** 34.50 126 ⇑P P 02 54 18.7 +0.5
baz=34
220A **Playas Peak, P** 34.87 133 ⇑P P 02 54 21.8 +0.5
baz=35
Z25A **Roswell** 35.06 127 ⇓P P 02 54 23.2 +0.2
baz=35
Y27A **Causey** 35.15 124 ⇑P P 02 54 23.8 +0.1
baz=35
MSTX **Muleshoe** 35.23 124 ⇓P P 02 54 24.1 -0.3
baz=35
124A **Stringfield Ra** 35.29 128 ⇓P P 02 54 25.4 +0.4
baz=35
Z26A **Caprock** 35.36 126 ⇓P P 02 54 25.6 +0.1
baz=35
Z27A **Tatum** 35.62 125 ⇓P P 02 54 27.9 +0.1
baz=36
125A **Gardner Draw,** 35.63 127 ⇓P P 02 54 28.2 +0.3
baz=36
225A **Deer Hill, Car** 36.05 128 ⇓P P 02 54 31.9 +0.4
baz=36
WMOK **Wichita Mounta** 36.23 118 eP P 02 54 33.1 0.0
comp=Z,2.3nm,0.6s,mb4.3
WMOK **Wichita Mounta** 36.23 118 eP P 02 54 33.1 +0.1
WMOK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
425A **Indio Mountain** 37.17 129 ⇑P P 02 54 41.4 +0.3
baz=37
426A **McDonald Obser** 37.64 128 ⇓P P 02 54 45.5 +0.4
baz=38
526A **Mary Lane Ranc** 38.16 129 ⇑P P 02 54 49.5 0.0
baz=38
527A **Woodward Ranch** 38.27 128 ⇓P P 02 54 50.4 0.0
baz=38
528A **Cox Ranch, San** 38.58 127 ⇑P P 02 54 53.3 +0.4
baz=38
626A **Big Bend Ranch** 38.60 129 ⇑P P 02 54 53.5 +0.3
baz=39
627A **Terlingua Ranc** 38.98 128 ⇓P P 02 54 56.6 +0.3
baz=39
TXAR **Lajitas Array** 38.98 129 P P 02 54 57.2 +0.9
comp=Z,1.6nm,0.9s,mb3.8,baz=351,slow=5.6,SNR=11
TXAR **Lajitas Array** 38.98 129 P P 02 54 57.2 +0.9
TXAR **Lajitas Array** 38.98 129 P P 02 54 57.2 +0.9
TXAR pmax pmax
comp=Z,2.0nm,0.9s
628A **Black Gap, Mar** 39.14 127 ⇓P P 02 54 58.1 +0.4
baz=39
HKT **Hockley** 41.61 119 eP P 02 55 18.2 +0.1
comp=Z,5.5nm,1.0s,mb4.1
HKT **Hockley** 41.61 119 eP P 02 55 18.2 +0.1
HKT pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
JMIC **Jan Mayen** 43.68 22 LR LR 03 14 38.0
comp=Z,60nm,19.1s,MS3.5,baz=204,slow=37
KEV **Kevo** 49.12 7 eP P 02 56 16.7 -0.5
KEV pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KEV **Kevo** 49.12 7 ep P 02 56 16.7 -0.5
comp=Z,6.9nm,1.0s,mb4.6
ARCES **ARCESS Array B** 49.25 8 P P 02 56 17.7 -0.5
comp=Z,2.8nm,0.6s,mb4.5,baz=0.0,slow=6.6,SNR=13
ARCES **ARCESS Array B** 49.25 8 P P 02 56 17.7 -0.5
ARCES **ARCESS Array B** 49.25 8 P P 02 56 17.7 -0.5
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ERM **Erimo** 49.30 285 eP P 02 56 20.9 +2.0
ERM pmax pmax
comp=Z,37nm,1.2s,mb5.3
MJAR **Matsushiro Arr** 55.97 285 P P 02 57 08.8 +0.5
comp=Z,0.6nm,0.3s,mb4.1,baz=350,slow=5.3,SNR=4.4
MJAR **Matsushiro Arr** 55.97 285 P P 02 57 08.8 +0.5
MJAR **Matsushiro Arr** 55.97 285 P P 02 57 08.8 +0.5
MJAR pmax pmax
comp=Z,1.0nm,0.3s
NOA **NORSAR Array B** 56.03 18 P P 02 57 08.3 -0.1
comp=Z,1.1nm,0.9s,mb3.9,baz=346,slow=7.2,SNR=2.6
NOA LR LR 03 23 05.1
comp=Z,8.6nm,21.4s,MS2.8,baz=210,slow=38
NOA **NORSAR Array B** 56.03 18 P P 02 57 08.3 -0.1
NOA **NORSAR Array B** 56.03 18 P P 02 57 08.3 -0.1
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA MLR MLR
comp=Z,9.0nm,21.4s
JOF **Joensuu** 56.16 6 eP P 02 57 08.3 -1.0
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
JOF **Joensuu** 56.16 6 ep P 02 57 08.3 -1.0
comp=Z,5.6nm,0.5s,mb4.8
KAF **Kangasniemi** 56.65 9 eP P 02 57 12.2 -0.6
KAF **Kangasniemi** 56.65 9 ep P 02 57 12.2 -0.6
FINES **FINESS Array B** 57.30 9 P P 02 57 16.9 -0.5
comp=Z,2.2nm,0.3s,mb4.6,baz=5.5,slow=9.3,SNR=24
FINES **FINESS Array B** 57.30 9 P P 02 57 16.9 -0.5
FINES **FINESS Array B** 57.30 9 P P 02 57 17.0 -0.4
FINES pmax pmax
comp=Z,2.0nm,0.4s
SONM **Songino Array** 59.81 315 LR LR 03 26 37.5
comp=Z,64nm,18.1s,MS3.8,baz=284,slow=39
KSRS **Korea Array** 59.96 294 P P 02 57 37.2 +0.9
comp=Z,7.7nm,0.5s,mb5.0,baz=295,slow=6.8,SNR=27
KSRS **Korea Array** 59.96 294 P P 02 57 37.2 +0.9
KSRS pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
KSAR **Wonju Array Be** 59.98 294 P P 02 57 37.2 +0.8
KSAR **Wonju Array Be** 59.98 294 P P 02 57 37.2 +0.7
ZALV **Zalesovo Beam** 60.50 333 P P 02 57 38.6 -1.2
comp=Z,0.5nm,0.4s,mb3.9,baz=15,slow=6.3,SNR=5.2
ZALV LR LR 03 30 24.4
comp=Z,23nm,19.1s,MS3.3,baz=63,slow=43
ZALV **Zalesovo Beam** 60.50 333 P P 02 57 38.6 -1.1
ZALV **Zalesovo Beam** 60.50 333 P P 02 57 38.6 -1.1
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARU **Arti** 62.22 350c iP P 02 57 50.9 -0.4
ARU 03 00 04.9
ARU S S 03 06 15.8 -0.7
ARU SS SS 03 10 16.2 -2.2
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
BJI **Beijing** 62.81 304 P P 02 57 53.4 -2.1
BJI pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
HHC **Hu-ho-hao-te** 63.94 308 eP P 02 58 03.3 +0.3
HHC pP pP 02 58 08.1 +1.8
HHC sP sP 02 58 10.3 +2.8
HHC PcP PcP 02 58 39.1 +0.6
HHC PP PP 03 00 25.7 +2.6
HHC ScP 03 02 39.5
HHC S S 03 06 37.2 -1.3
HHC sS sS 03 06 44.1 +0.3
HHC ScS ScS 03 07 52.8 -3.7
HHC SS SS 03 10 46.3 +0.2
HHC pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
HHC pmax pmax
comp=Z,160nm,5.2s
HHC LR LR
comp=N,160nm,16.1s,MS4.5
HHC LR LR
comp=E,210nm,18.6s,MS4.5
HHC LR LR
comp=Z,190nm,17.8s,MS4.3
BRVK **Borovoye** 64.11 341 eP P 02 58 04.7 +0.8
BRVK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
OBN **Obninsk** 64.18 3 eP P 02 58 03.5 -0.8
OBN e 02 58 37.8
OBN i S S 03 06 43.2 +2.2
OBN pmax pmax
comp=Z,15nm,1.0s,mb5.0
KURK **Kurchatov** 64.86 335 eP P 02 58 08.3 -0.6
comp=Z,1.8nm,0.8s,mb4.2
KURK **Kurchatov** 64.86 335 eP P 02 58 08.3 -0.6
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BAIF **Baives** 65.22 26 eP P 02 58 11.5 +0.3
comp=Z,5.1nm,0.6s,mb4.4
BAIF **Baives** 65.22 26 eP P 02 58 11.5 +0.3
comp=Z,5.1nm,0.6s,mb4.7
BAIF **Baives** 65.22 26 eP P 02 58 11.5 +0.3
BAIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
GIVF **Givet** 65.31 25 eP P 02 58 12.0 +0.2
GIVF **Givet** 65.31 25 eP P 02 58 12.0 +0.2
GIVF **Givet** 65.31 25 eP P 02 58 12.0 +0.2
LDF **La Druitiere** 65.62 29 eP P 02 58 13.6 -0.2
comp=Z,5.6nm,0.7s,mb4.4
LDF **La Druitiere** 65.62 29 eP P 02 58 13.6 -0.2
comp=Z,5.6nm,0.7s,mb4.7
LDF **La Druitiere** 65.62 29 eP P 02 58 13.6 -0.2
LDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
GRR **Gorron** 65.63 30 eP P 02 58 13.7 -0.2
comp=Z,6.3nm,0.3s,mb4.8
GRR **Gorron** 65.63 30 eP P 02 58 13.7 -0.2
comp=Z,6.3nm,0.3s,mb5.1
GRR **Gorron** 65.63 30 eP P 02 58 13.7 -0.2
GRR pmax pmax
comp=Z,6.0nm,0.3s,mb5.1
CLL **Collm** 65.67 20 eP P 02 58 14.0 -0.1
CLL **Collm** 65.67 20 eP P 02 58 14.0 -0.1
BRG **Berggiesshubel** 66.25 19 e(P) P 02 58 18.1 +0.3
comp=Z,6.3nm,1.0s,mb4.6
BRG **Berggiesshubel** 66.25 19 eP P 02 58 18.1 +0.3
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
PVCC **Panska Ves** 66.68 19 eP P 02 58 21.3 +0.7
PVCC **Panska Ves** 66.68 19 eP P 02 58 21.3 +0.7
PAGF **Fort de Pagny** 66.96 25 eP P 02 58 23.0 +0.6
DPC **Dobruska-Polom** 67.12 18 eP P 02 58 24.1 +0.7
DPC **Dobruska-Polom** 67.12 18 eP P 02 58 24.1 +0.7
CDF **Champ du Feu** 67.42 24 eP P 02 58 25.7 +0.4
CDF **Champ du Feu** 67.42 24 eP P 02 58 25.7 +0.4
CDF **Champ du Feu** 67.42 24 eP P 02 58 25.7 +0.4
KRLC **Kralicky** 67.45 17 eP P 02 58 26.0 +0.5
HYF **Humbligny** 67.50 28 eP P 02 58 26.3 +0.4
HYF **Humbligny** 67.50 28 eP P 02 58 26.3 +0.4
HAU **Haudompre** 67.61 25 eP P 02 58 26.8 +0.2
comp=Z,8.7nm,0.7s,mb4.6
HAU **Haudompre** 67.61 25 eP P 02 58 26.8 +0.2
comp=Z,8.7nm,0.7s,mb4.9
HAU **Haudompre** 67.61 25 eP P 02 58 26.8 +0.2
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
MKAR **Makanchi Array** 67.76 331 P P 02 58 26.2 -1.3
comp=Z,1.2nm,0.8s,mb4.0,baz=39,slow=7.8,SNR=3.8
MKAR **Makanchi Array** 67.76 331 P P 02 58 26.2 -1.3
MKAR **Makanchi Array** 67.76 331 P P 02 58 26.2 -1.3
MKAR pmax pmax
comp=Z,1.0nm,0.8s
LOR **Lormes** 67.78 27 eP P 02 58 27.8 +0.2
LOR **Lormes** 67.78 27 eP P 02 58 27.8 +0.2
LOR **Lormes** 67.78 27 eP P 02 58 27.8 +0.2
KHC **Kasperske Hory** 67.88 20 eP P 02 58 28.9 +0.7
KHC **Kasperske Hory** 67.88 20 eP P 02 58 28.9 +0.7
SSF **Saint Saulge** 67.90 27 eP P 02 58 28.5 +0.1
SSF **Saint Saulge** 67.90 27 eP P 02 58 28.5 +0.1
SSF **Saint Saulge** 67.90 27 eP P 02 58 28.5 +0.1
HINF **Hinteralfeld** 67.90 25 eP P 02 58 28.5 +0.1
comp=Z,6.1nm,0.8s,mb4.4
HINF **Hinteralfeld** 67.90 25 eP P 02 58 28.5 +0.1
comp=Z,6.1nm,0.8s,mb4.7
HINF **Hinteralfeld** 67.90 25 eP P 02 58 28.5 +0.1
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AVF **Avril sur Loir** 68.12 28 eP P 02 58 29.8 0.0
AVF **Avril sur Loir** 68.12 28 eP P 02 58 29.8 0.0
AVF **Avril sur Loir** 68.12 28 eP P 02 58 29.8 0.0
GERES **GERESS Array B** 68.17 20 P P 02 58 30.3 +0.2
comp=Z,0.3nm,0.5s,mb3.6,baz=346,slow=32,SNR=5.5
GERES **GERESS Array B** 68.17 20 P P 02 58 30.3 +0.2
GERES **GERESS Array B** 68.17 20 P P 02 58 30.3 +0.2
VRAC **Vranov** 68.17 18 ⇓P P 02 58 30.9 +0.8
VRAC **Vranov** 68.17 18 ⇓iP P 02 58 30.9 +0.8
AKASG **Malin Array Be** 68.20 9 P P 02 58 29.5 -0.7
comp=Z,2.9nm,0.5s,mb4.6,baz=355,slow=6.1,SNR=15
AKASG **Malin Array Be** 68.20 9 P P 02 58 29.5 -0.7
AKASG **Malin Array Be** 68.20 9 P P 02 58 29.5 -0.7
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV **Kiev** 68.21 9 eP P 02 58 28.6 -1.7
BGF **Bois d'Agland** 68.22 28 eP P 02 58 30.4 0.0
BGF **Bois d'Agland** 68.22 28 eP P 02 58 30.4 0.0
BGF **Bois d'Agland** 68.22 28 eP P 02 58 30.4 0.0
TCF **Toulx Ste Croi** 68.33 29 eP P 02 58 31.1 0.0
comp=Z,21nm,1.0s,mb4.8
TCF **Toulx Ste Croi** 68.33 29 eP P 02 58 31.1 0.0
comp=Z,21nm,1.0s,mb5.1
TCF **Toulx Ste Croi** 68.33 29 eP P 02 58 31.1 0.0
TCF pmax pmax
comp=Z,21nm,1.0s,mb5.1
SMF **Signal de Mont** 68.36 27 eP P 02 58 31.1 -0.2
comp=Z,12nm,0.8s,mb4.7
SMF **Signal de Mont** 68.36 27 eP P 02 58 31.1 -0.2
comp=Z,12nm,0.8s,mb5.0
SMF **Signal de Mont** 68.36 27 eP P 02 58 31.1 -0.2
SMF pmax pmax
comp=Z,13nm,0.8s,mb5.0
NJ2 **Nanjing** 68.50 297 eP P 02 58 34.5 +2.1
NJ2 pmax pmax
comp=Z,20nm,0.5s,mb5.3
CABF **La Chapelle** 68.89 26 eP P 02 58 35.2 +0.6
comp=Z,22nm,0.9s,mb4.8
CABF **La Chapelle** 68.89 26 eP P 02 58 35.2 +0.6
comp=Z,22nm,0.9s,mb5.1
CABF **La Chapelle** 68.89 26 eP P 02 58 35.2 +0.6
CABF pmax pmax
comp=Z,22nm,0.9s,mb5.1
WMQ **Urumqi** 69.18 326 eP P 02 58 39.0 +2.6
ABKAR **Akbulak array** 69.19 348 eP P 02 58 36.2 -0.1
CRVS **Cervenica-Dubn** 69.23 14 eP P 02 58 36.2 -0.4
CRVS e 02 58 56.2
CRVS **Cervenica-Dubn** 69.23 14 eP P 02 58 36.2 -0.4
CRVS ePCP PcP 02 58 56.1 -4.2
KOLS **Kolonicke sedl** 69.29 14 eP P 02 58 36.9 -0.2
KOLS **Kolonicke sedl** 69.29 14 eP P 02 58 36.9 -0.2
GTA **Gaotai** 69.49 316 eP P 02 58 41.0 +2.6
GTA pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS **Kecovo** 69.52 15 eP P 02 58 38.6 +0.1
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS **Kecovo** 69.52 15 eP P 02 58 38.6 +0.1
CAF **Calviac** 69.58 29 eP P 02 58 39.0 +0.1
CAF **Calviac** 69.58 29 eP P 02 58 39.0 +0.1
CAF **Calviac** 69.58 29 eP P 02 58 39.0 +0.1
PSZ **Piszkesteto** 70.00 16 eP P 02 58 42.4 +1.0
comp=Z,8.6nm,1.2s,mb4.6
PSZ **Piszkesteto** 70.00 16 eP P 02 58 42.4 +1.0
PSZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
LPL **La Plagne** 70.07 26 eP P 02 58 43.1 +1.2
comp=Z,9.9nm,0.8s,mb4.5
LPL **La Plagne** 70.07 26 eP P 02 58 43.1 +1.2
comp=Z,9.9nm,0.8s,mb4.8
LPL **La Plagne** 70.07 26 eP P 02 58 43.1 +1.2
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPG **La Plagne** 70.09 26 eP P 02 58 43.3 +1.3
comp=Z,7.1nm,0.8s,mb4.3
LPG **La Plagne** 70.09 26 eP P 02 58 43.3 +1.3
comp=Z,7.1nm,0.8s,mb4.7
LPG **La Plagne** 70.09 26 eP P 02 58 43.3 +1.3
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TRPA **Tarpa** 70.12 14 ⇓iP P 02 58 42.8 +0.7
VIVF **Saint-Julien-l** 70.25 27 eP P 02 58 43.4 +0.4
VIVF **Saint-Julien-l** 70.25 27 eP P 02 58 43.4 +0.4
VIVF **Saint-Julien-l** 70.25 27 eP P 02 58 43.4 +0.4
ORIF **Oris-en-Rattie** 70.45 26 eP P 02 58 44.2 -0.1
ORIF **Oris-en-Rattie** 70.45 26 eP P 02 58 44.2 -0.1
ORIF **Oris-en-Rattie** 70.45 26 eP P 02 58 44.2 -0.1
ETSF **Etsaut** 70.83 32 eP P 02 58 47.6 +1.0
ETSF **Etsaut** 70.83 32 eP P 02 58 47.6 +1.0
ETSF **Etsaut** 70.83 32 eP P 02 58 47.6 +1.0
BUR08 **Bucovina Ar. S** 70.89 12 eP P 02 58 46.9 0.0
BURAR **Bucovina Array** 70.92 12 ⇑P P 02 58 47.2 +0.2
BURAR **Bucovina Array** 70.92 12 ⇑iP P 02 58 47.2 +0.2
LZH **Lanzhou** 71.02 311 eP P 02 58 47.0 -0.9
LZH pP pP 02 58 51.7 +0.6
LZH sP sP 02 58 54.1 +1.8
LZH pmax pmax
comp=Z,18nm,1.3s,mb4.8
LZH **Lanzhou** 71.02 311 eP P 02 58 47.0 -0.9
LZH *PP pP 02 58 51.7 +0.6
LZH *SP sP 02 58 54.1 +1.8
LZH pmax pmax
comp=Z,18nm,1.3s,mb4.8
MTLF **Montolieu** 71.11 30 eP P 02 58 48.5 +0.2
MTLF **Montolieu** 71.11 30 eP P 02 58 48.5 +0.2
MTLF **Montolieu** 71.11 30 eP P 02 58 48.5 +0.2
SMRF **Simiane la Rot** 71.28 27 eP P 02 58 49.7 +0.4
SMRF **Simiane la Rot** 71.28 27 eP P 02 58 49.7 +0.4
FRF **La Foret Royal** 71.91 26 eP P 02 58 53.3 +0.2
FRF **La Foret Royal** 71.91 26 eP P 02 58 53.3 +0.2
FRF **La Foret Royal** 71.91 26 eP P 02 58 53.3 +0.2
LMR **La Mourre** 72.10 26 eP P 02 58 54.8 +0.6
LMR **La Mourre** 72.10 26 eP P 02 58 54.8 +0.6
LMR **La Mourre** 72.10 26 eP P 02 58 54.8 +0.6
LEOM **Leova** 72.33 10 ⇓P P 02 58 55.6 0.0
LEOM **Leova** 72.33 10 ⇓iP P 02 58 55.6 0.0
BZS **Buzias** 72.48 15 ⇓P P 02 58 56.4 -0.1
BZS **Buzias** 72.48 15 ⇓iP P 02 58 56.4 -0.1
VRI **Vrincioaia** 72.80 11 ⇓P P 02 58 58.7 +0.4
VRI **Vrincioaia** 72.80 11 ⇓iP P 02 58 58.7 +0.4
PLOR **Plostina** 72.80 11 ⇓P P 02 58 59.0 +0.6
PLOR **Plostina** 72.80 11 ⇓iP P 02 58 59.0 +0.6
GZR **Gura Zlata** 72.84 14 ⇓P P 02 58 59.1 +0.5
GZR **Gura Zlata** 72.84 14 ⇓iP P 02 58 59.1 +0.5
ESDC **Sonseca Array** 72.92 36 P P 02 58 59.3 +0.1
comp=Z,0.8nm,0.5s,mb3.9,baz=332,slow=6.5,SNR=7.2
ESDC **Sonseca Array** 72.92 36 P P 02 58 59.3 +0.1
MLR **Muntele Rosu** 73.09 12 ⇑P P 02 59 01.4 +1.3
MLR **Muntele Rosu** 73.09 12 ⇑iP P 02 59 01.4 +1.3
AAK **Ala-Archa** 73.42 336 eP P 02 59 02.4 +0.2
comp=Z,17nm,0.9s,mb5.0
AAK **Ala-Archa** 73.42 336 eP P 02 59 02.4 +0.3
AAK pmax pmax
comp=Z,17nm,0.9s,mb5.0
EKS2 **Erkin-Say** 73.54 336 eP P 02 59 03.4 +0.6
comp=Z,11nm,0.9s,mb4.8
EKS2 **Erkin-Say** 73.54 336 eP P 02 59 03.4 +0.6
EKS2 pmax pmax
comp=Z,11nm,0.9s,mb4.8
KIV **Kislovodsk** 75.43 360 eP P 02 59 13.9 +0.1
KIV pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BR131 **Keskin Array S** 79.42 7 eP P 02 59 35.7 -0.5
comp=Z,2.1nm,0.9s,mb4.1
BRTR **Keskin Array B** 79.42 7 P P 02 59 36.3 +0.1
comp=Z,1.9nm,0.8s,mb4.0,baz=2.7,slow=3.6,SNR=13
BRTR **Keskin Array B** 79.42 7 P P 02 59 36.3 +0.1
BRTR **Keskin Array B** 79.42 7 P P 02 59 36.3 +0.1
BRTR pmax pmax
comp=Z,2.0nm,0.9s
CHTO **Chiang Mai** 88.43 307 eP P 03 00 22.0 -0.4
comp=Z,1.8nm,0.6s,mb4.5
CHTO **Chiang Mai** 88.43 307 eP P 03 00 22.0 -0.4
CHTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
CMAR **Chiang Mai Arr** 88.75 307 P P 03 00 23.0 -0.9
comp=Z,1.2nm,0.3s,mb4.7,baz=2.4,slow=5.5,SNR=9.9
CMAR **Chiang Mai Arr** 88.75 307 P P 03 00 23.0 -0.9
CMAR **Chiang Mai Arr** 88.75 307 P P 03 00 23.0 -0.9
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BOSA **Boshof** 145.74 27 PKPbc PKPbc 03 07 07.0 -1.7
comp=Z,3.5nm,0.7s,baz=2.6,slow=3.7,SNR=6.3
BOSA **Boshof** 145.74 27 PKPbc PKPbc 03 07 07.0 -1.7
BOSA **Boshof** 145.74 27 PKP2 PKPab 03 07 07.0 -2.1
BOSA pmax pmax
comp=Z,4.0nm,0.7s
QSPA **South Pole Qui** 150.79 180 PKPbc PKPbc 03 07 19.0 -1.6
comp=Z,2.3nm,0.5s,baz=246,slow=1.2,SNR=7.9
QSPA **South Pole Qui** 150.79 180 PKPbc PKPbc 03 07 19.0 -1.6

*IDC **03** 02:50:12.2±3.4, 22°.16S×176°.92W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.2/6, Error ellipse: s-maj=112.9km s-min=34.6km az=138.0*

NEIC 03 02:50:15.8±1.1, 22°.56S×176°.66W, h35km, mb4.5/1, Error ellipse: s-maj=28.5km s-min=23.9km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	34.58	267	P	P	P	02 57 02.9	+1.4
2.4nm,0.5s,baz=102,slow=9.1,SNR=1.8								
CTA	**Charters Tower**	34.58	267	P	P	P	02 57 02.9	+1.4
STKA	**Stephens Creek**	38.07	247	P	P	P	02 57 32.5	+1.3
1.2nm,0.5s,baz=64,slow=6.7,SNR=6.2								
STKA	**Stephens Creek**	38.07	247	P	P	P	02 57 32.5	+1.3
AS31	**Alice Springs**	45.30	259	eP	P	P	02 58 30.3	-0.2
ASAR	**Alice Springs**	45.30	259	P	P	P	02 58 30.3	-0.2
3.1nm,0.7s,baz=94,slow=7.9,SNR=39								
ASAR	**Alice Springs**	45.30	259	P	P	P	02 58 30.3	-0.2
2.2nm,0.4s								
WB2	**Warramunga Arr**	45.58	264	eP	P	P	02 58 31.8	-0.9
WRA	**Warramunga Arr**	45.59	264	P	P	P	02 58 32.0	-0.7
2.6nm,0.6s,baz=101,slow=8.5,SNR=41								
WRA	**Warramunga Arr**	45.59	264	P	P	P	02 58 32.0	-0.7
FITZ	**Fitzroy Crossi**	54.02	263	P	P	P	02 59 36.6	-0.3
1.1nm,0.5s,baz=90,slow=7.1,SNR=2.4								
FITZ	**Fitzroy Crossi**	54.02	263	P	P	P	02 59 36.6	-0.3
VNDA	**Vanda**	55.98	186	eP	P	P	02 59 49.9	-0.4
2.2nm,0.4s								
PETK	**Petropavlovsk-**	78.57	345	P	P	P	03 02 12.9	-0.5
1.6nm,0.5s,baz=113,slow=3.7,SNR=4.1								
PETK	**Petropavlovsk-**	78.57	345	P	P	P	03 02 12.9	-0.5
ARCES	**ARCESS Array B**	131.16	350	PKP	PKPdf	PKPdf	03 09 24.4	+1.1
4.3nm,1.2s,baz=52,slow=4.8,SNR=3.9								
ARCES	**ARCESS Array B**	131.16	350	PKP	PKPdf	PKPdf	03 09 24.4	+1.1

*ISCJB **03** 02:58:17.1±2.7, 6°.03S±0°.07×150°.6E±0°.1, h31km±19km, mb4.0/10, MS3.5/8, Error ellipse: s-maj=19.3km s-min=9.4km az=25.9*

*NEIC **03** 02:58:20.8±1.6, 6°.08S×150°.64E, h54km±14km, mb4.2/1, Error ellipse: s-maj=17.2km s-min=10.9km az=105.0*

*IDC **03** 02:58:22.8±2.5, 6°.10S×150°.51E, h68km±21km, mb3.7/10, mb1 4.0/12, mb1mx3.9/17, mbtmp3.8/12, MS3.5/9,*

Ms1 3.5/9, ms1mx3.2/27, Error ellipse: s-maj=32.6km s-min=11.3km az=121.0

ISC 03 02:58:21.8±1.5, 6°09S±0°07×150°5E±0°1, h56km±13km, n43, σ0°82/41, mb4.0/10, MS3.5/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**225**	P	**Pn**	**02 59 30.4**	**+0.5**
	7.5nm,0.3s,baz=36,slow=9.3,SNR=28						
PMG				S	**Sn**	**03 00 21.1**	**-1.6**
	11nm,0.3s,baz=96,slow=14,SNR=5.6						
PMG	**Port Moresby**	**4.67**	**225**	P	**Pn**	**02 59 30.4**	**+0.5**
PMG				S	**Sn**	**03 00 21.1**	**-1.6**
COEN	**Coen**	**10.63**	**222**	*e*Pn	**Pn**	**03 00 52.0**	**+0.4**
CTA	**Charters Tower**	**14.52**	**196**	P	**Pn**	**03 01 44.0**	**-0.1**
	0.4nm,0.3s,baz=345,slow=10,SNR=3.7						
CTA				LR	LR	03 06 21.7	
	comp=Z,145nm,20.9s,baz=231,slow=33						
CTA	**Charters Tower**	**14.52**	**196**	P	**Pn**	**03 01 44.0**	**-0.1**
CTAO	**Charters Tower**	**14.52**	**196**	*e*Pn	**Pn**	**03 01 43.5**	**-0.7**
EIDS	**Eidsvold**	**19.18**	**178**	*e*P	**Pn**	**03 02 41.2**	**-1.2**
	23nm,0.6s						
RMQ	**Roma**	**20.36**	**184**	*e*P	**P**	**03 02 54.6**	**+0.9**
	63nm,0.8s						
WRAB	**Tennant Creek**	**20.87**	**227**	*e*P	**P**	**03 02 59.6**	**+0.2**
	9.2nm,0.8s						
WB2	**Warramunga Arr**	**20.88**	**227**	*e*P	**P**	**03 02 59.6**	**+0.2**
WRA	**Warramunga Arr**	**20.89**	**227**	P	**P**	**03 02 59.9**	**+0.4**
	6.6nm,0.7s,baz=52,slow=11,SNR=12						
WRA				S	**S**	**03 06 48.6**	**-0.8**
	1.2nm,1.1s,baz=50,slow=20,SNR=5.2						
WRA				PcP	PcP	03 07 06.7	+0.6
	1.0nm,0.8s,baz=51,slow=2.1,SNR=5.8						
WRA				LR	LR	03 11 36.8	
	comp=Z,95nm,19.2s,MS3.2,baz=40,slow=38						
WRA	**Warramunga Arr**	**20.89**	**227**	P	**P**	**03 02 59.9**	**+0.4**
WRA				S	**S**	**03 06 48.6**	**-0.8**
WRA				PcP	PcP	03 07 06.7	+0.6
QLP	**Quilpie**	**21.24**	**196**	*e*P	**P**	**03 03 04.0**	**+0.7**
AS31	**Alice Springs**	**23.67**	**221**	*e*P	**P**	**03 03 29.2**	**+0.8**
ASAR	**Alice Springs**	**23.67**	**221**	P	**P**	**03 03 28.9**	**+0.4**
	1.7nm,0.6s,mb3.7,baz=57,slow=8.7,SNR=26						
ASAR				S	**S**	**03 07 39.4**	**+0.1**
	0.2nm,0.8s,baz=42,slow=15,SNR=2.6						
ASAR	**Alice Springs**	**23.67**	**221**	P	**P**	**03 03 28.9**	**+0.4**
ASAR				S	**S**	**03 07 39.4**	**+0.1**
CMSA	**Cobar Meteorol**	**25.72**	**189**	*e*P	**P**	**03 03 47.7**	**+0.8**
	26nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**26.98**	**197**	P	**P**	**03 03 58.2**	**-0.1**
	4.9nm,0.7s,mb4.1,baz=23,slow=8.8,SNR=11						
STKA				LR	LR	03 15 37.1	
	comp=Z,123nm,18.2s,MS3.5,baz=205,slow=38						
STKA	**Stephens Creek**	**26.98**	**197**	*e*P	**P**	**03 03 57.8**	**-0.5**
	4.5nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**26.98**	**197**	P	**P**	**03 03 58.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.03**	**242**	P	**P**	**03 03 59.0**	**0.0**
	2.9nm,0.5s,mb4.1,baz=65,slow=7.5,SNR=31						
FITZ				LR	LR	03 16 21.4	
	comp=Z,71nm,18.9s,MS3.2,baz=193,slow=40						
FITZ	**Fitzroy Crossi**	**27.03**	**242**	*e*P	**P**	**03 03 58.8**	**-0.2**
	11nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.03**	**242**	P	**P**	**03 03 59.0**	**0.0**
JOW	**Kunigami**	**39.17**	**328**	LR	LR	03 19 32.7	
	comp=Z,48nm,19.6s,MS3.3,baz=113,slow=32						
URZ	**Urewera**	**40.11**	**147**	LR	LR	03 19 15.3	
	comp=Z,78nm,20.0s,MS3.5,baz=246,slow=31						
RPZ	**Rata Peaks**	**41.61**	**157**	LR	LR	03 21 06.4	
	comp=Z,81nm,20.3s,MS3.6,baz=138,slow=33						
KSRS	**Korea Array**	**48.16**	**336**	P	**P**	**03 06 57.4**	**+0.9**
	2.4nm,0.9s,mb4.2,baz=165,slow=8.6,SNR=5.5						
KSAR	**Wonju Array Be**	**48.17**	**336**	P	**P**	**03 06 57.4**	**+0.8**
PETK	**Petropavlovsk-**	**59.28**	**5**	LR	LR	03 30 10.5	
	comp=Z,91nm,20.4s,MS3.9,baz=299,slow=32						
SONM	**Songino Array**	**66.21**	**329**	P	**P**	**03 09 03.5**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=177,slow=7.9,SNR=3.6						
SONM	**Songino Array**	**66.21**	**329**	P	**P**	**03 09 03.5**	**-0.2**
MKAR	**Makanchi Array**	**79.79**	**320**	P	**P**	**03 10 24.4**	**+0.4**
	0.9nm,0.9s,mb3.7,baz=204,slow=17,SNR=2.1						
MKAR				LR	LR	03 46 24.4	
	comp=Z,30nm,20.6s,MS3.6,baz=172,slow=36						
MKAR	**Makanchi Array**	**79.79**	**320**	P	**P**	**03 10 24.4**	**+0.4**
ZALV	**Zalesovo Beam**	**80.96**	**327**	P	**P**	**03 10 28.6**	**-1.5**
	0.6nm,0.5s,mb3.8,baz=110,slow=6.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**80.96**	**327**	P	**P**	**03 10 28.6**	**-1.5**
ILAR	**Eielson Array**	**84.21**	**22**	P	**P**	**03 10 44.8**	**-2.0**
	0.6nm,0.8s,mb3.8,baz=253,slow=4.6,SNR=7.3						
ILAR	**Eielson Array**	**84.21**	**22**	P	**P**	**03 10 44.8**	**-2.0**
NVAR	**Mina Array Bea**	**94.68**	**52**	P	**P**	**03 11 36.8**	**-0.4**
	0.8nm,0.7s,mb4.2,baz=241,slow=7.0,SNR=5.7						
NVAR	**Mina Array Bea**	**94.68**	**52**	P	**P**	**03 11 36.8**	**-0.4**
GERES	**GERESS Array B**	**123.91**	**327**	PKP	PKPdf	03 17 13.9	+0.2
	0.7nm,0.7s,baz=42,slow=2.2,SNR=6.9						
GERES	**GERESS Array B**	**123.91**	**327**	PKP	PKPdf	03 17 13.9	+0.2
TORD	**Torodi Ar. Bea**	**148.47**	**285**	PKPbc	PKPbc	03 18 03.0	-0.3
	5.0nm,0.6s,baz=105,slow=2.8,SNR=74						
TORD	**Torodi Ar. Bea**	**148.47**	**285**	PKPbc	PKPbc	03 18 03.0	-0.3

IDC 03 03:00:31.1±18.0, 25°02S×174°76W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/16, mbtmp4.2/5, Error ellipse: s-maj=332.2km s-min=127.2km az=83.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.25**	**270**	P	P	03 07 37.3	+1.1
	6.4nm,0.5s,baz=97,slow=10,SNR=12						
STKA	**Stephens Creek**	**38.78**	**250**	P	P	03 07 56.7	-0.8
	2.3nm,0.5s,baz=97,slow=11,SNR=14						
ASAR	**Alice Springs**	**46.56**	**260**	P	P	03 09 00.5	-0.4
	1.0nm,0.4s,baz=97,slow=8.0,SNR=18						
WRA	**Warramunga Arr**	**47.09**	**265**	P	P	03 09 04.6	-0.4
	1.5nm,0.7s,baz=103,slow=7.9,SNR=11						
FITZ	**Fitzroy Crossi**	**55.49**	**265**	P	P	03 10 08.7	+0.6
	1.6nm,1.1s,baz=90,slow=9.1,SNR=1.8						

WEL 03 03:02:21.0±0.9, 37°95S×175°72E, h177km±8km, ML3.3/8, Error ellipse: s-maj=12.0km s-min=7.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.14**	**106**	PN	Pn	03 02 49.7	+0.3
URZ				SN	Sn	03 03 11.6	+0.3
BKZ	**Black Stump Fm**	**1.35**	**154**	PN	Pn	03 02 51.8	+0.5
BKZ				SN	Sn	03 03 15.3	+0.6
MWZ	**Matawai**	**1.47**	**106**	PN	Pn	03 02 52.8	+0.4
MWZ				SN	Sn	03 03 15.4	-1.3
BHHZ	**Black Hill Sta**	**1.56**	**170**	PN	Pn	03 02 53.6	+0.5
MCHZ	**McNeill Hill**	**1.67**	**153**	PN	Pn	03 02 55.4	+1.1
CKHZ	**Cape Kidnapper**	**2.01**	**149**	PN	Pn	03 02 58.0	+0.1
KAHZ	**Kahuranaki**	**2.05**	**154**	PN	Pn	03 02 58.5	+0.2
TSZ	**Takapari Road**	**2.11**	**175**	PN	Pn	03 02 58.8	-0.2
TIWZ	**Tintock**	**2.82**	**177**	PN	Pn	03 03 05.7	-1.6
OGWZ	**Otaki Gorge**	**2.89**	**188**	PN	Pn	03 03 06.7	-1.4
KIW	**Kapiti Island**	**2.97**	**192**	PN	Pn	03 03 07.4	-1.7
MTW	**Mount Morrison**	**3.21**	**183**	PN	Pn	03 03 09.5	-2.5
TCW	**Tory Channel**	**3.44**	**198**	PN	Pn	03 03 13.2	-1.7
TUWZ	**Tuamarina**	**3.73**	**201**	PN	Pn	03 03 16.7	-1.8

*ISCJB **03** 03:12:00.0±0.5, 12°95N±0°06×88°84W±0°05, h68km±4km, mb3.9/14, Error ellipse: s-maj=12.0km s-min=4.0km az=34.1*
*CASC **03** 03:12:00.6±2.2, 12°98N×88°84W, h60km±25km, MD4.5, ML4.0, mb4.0(NEIC)*
*IDC **03** 03:12:03.7±2.2, 13°14N×88°64W, h84km±21km, mb3.5/8, mb1 3.7/11, mb1mx3.5/25, mbtmp3.5/11, Error ellipse: s-maj=36.4km s-min=17.6km az=55.0*
*NEIC **03** 03:12:03.6±0.9, 13°10N×88°71W, h82km±8km, mb4.0/6, MD4.1(SNET), Error ellipse: s-maj=15.2km s-min=7.9km az=53.0*
NEIC Felt [III] at Santiago de Maria.

ISC 03 03:12:01.1±0.5, 12°97N±0°06×88°82W±0°04, h59km±5km, n57, σ0°92/66, mb3.9/14, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.64**	**359**	*e*P	**Pn**	**03 12 14.5**	**-0.1**
VSM	**San Miguel**	**0.70**	**50**	*e*P	**Pn**	**03 12 15.8**	**+0.5**
BLLM	**Bellamira**	**0.74**	**50**	⇓*e*P	**Pn**	**03 12 16.0**	**+0.3**
LBRS	**Las Brisas**	**0.79**	**344**	*e*P	**Pn**	**03 12 16.4**	**-0.1**
SNET	**Serv Nac Est T**	**0.82**	**331**	*e*P	**Pn**	**03 12 16.0**	**-0.7**
SNET				*e*S	**Sn**	**03 12 27.6**	**-0.6**
SNET				AML	AML	03 12 28.6	
	comp=Z,8μm,0.3s						
BOQS	**Boqueron**	**0.88**	**330**	*e*P	**Pn**	**03 12 17.4**	**-0.1**
CAHU	**Cacacuatique**	**0.99**	**37**	*e*P	**Pn**	**03 12 19.8**	**+0.8**
CNCH	**Conchagua**	**1.01**	**72**	*e*P	**Pn**	**03 12 19.4**	**+0.2**
SBLS	**San Blas**	**1.16**	**318**	*e*P	**Pn**	**03 12 21.1**	**-0.1**
SNJE	**San Jose**	**1.17**	**320**	*e*P	**Pn**	**03 12 21.1**	**-0.2**
SNJE				*e*S	**Sn**	**03 12 36.0**	**-0.5**
RTR	**El Retiro**	**1.22**	**319**	*e*P	**Pn**	**03 12 22.0**	**0.0**
RBDL	**Robledal**	**1.41**	**324**	⇓*i*P	**Pn**	**03 12 24.8**	**+0.2**
CRIN	**San Cristobal**	**1.75**	**99**	*e*P	**Pn**	**03 12 29.5**	**+0.4**
CRIN				*e*S	**Sn**	**03 12 51.0**	**+0.7**
CRIN				AML	AML	03 12 58.9	
	comp=E,2μm,0.4s						
TGUH	**Tegucigalpa,Un**	**1.86**	**54**	*e*Pn	**Pn**	**03 12 31.2**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.86**	**54**	*e*P	**Pn**	**03 12 31.4**	**+0.8**
TGUH				*e*S	**Sn**	**03 12 53.1**	**+0.2**
TGUH				AML	AML	03 12 56.4	
	comp=E,2μm,0.4s						
LEON	**Leon**	**1.96**	**106**	*e*P	**Pn**	**03 12 30.8**	**-1.2**
TEL3	**Telica 3**	**1.97**	**101**	*e*P	**Pn**	**03 12 31.8**	**-0.3**
CNGN	**Cerro Negro**	**2.13**	**102**	*e*P	**Pn**	**03 12 33.6**	**-0.6**
MIRN	**Miramar**	**2.13**	**104**	*e*P	**Pn**	**03 12 33.4**	**-0.8**
CSAN		**2.47**	**108**	*e*P	**Pn**	**03 12 39.5**	**+0.5**
XAVN	**Gruta Xavier**	**2.57**	**108**	*e*P	**Pn**	**03 12 40.1**	**-0.2**
MGAN	**Managua**	**2.65**	**108**	*e*P	**Pn**	**03 12 40.7**	**-0.6**
MGAN				*e*S	**Sn**	**03 13 10.5**	**-1.7**
HUEN		**2.66**	**103**	*e*P	**Pn**	**03 12 41.3**	**-0.3**
TICN	**Ticuantepe**	**2.70**	**110**	*e*P	**Pn**	**03 12 41.9**	**-0.1**
JTS	**JuntasAbangare**	**4.63**	**125**	P	**Pn**	**03 13 10.7**	**+2.1**
	comp=E,1.8nm,0.3s,baz=313,slow=20,SNR=11						
JTS				S	**Sn**	**03 13 57.3**	**-3.8**
	comp=E,2.7nm,0.3s,baz=294,slow=20,SNR=1.7						
JTS	**JuntasAbangare**	**4.63**	**125**	P	**Pn**	**03 13 10.7**	**+2.2**
JTS				S	**Sn**	**03 13 57.3**	**-3.8**
JCR	**Jicaral**	**4.78**	**130**	*e*P	**Pn**	**03 13 11.7**	**+1.1**
JCR				*e*S	**Sn**	**03 14 24.2**	**+20**
CGA2	**Cerro Gallo 2**	**5.18**	**124**	*e*P	**Pn**	**03 13 20.1**	**+4.0**
LAJ	**Bijagual**	**5.55**	**123**	*e*P	**Pn**	**03 13 19.5**	**-1.6**
LAJ				*e*S	**Sn**	**03 14 11.7**	**-12**
CMIG	**Matias Romero**	**7.14**	**306**	P	**Pn**	**03 13 44.6**	**+1.6**
	comp=E,0.5nm,0.3s,baz=138,slow=10.0,SNR=5.1						
CMIG				S	**Sn**	**03 15 01.4**	**-1.4**
	comp=E,0.5nm,0.3s,baz=12,slow=14,SNR=2.2						
CMIG	**Matias Romero**	**7.14**	**306**	P	**Pn**	**03 13 44.6**	**+1.6**
CMIG				S	**Sn**	**03 15 01.4**	**-1.4**
TEIG	**Tepich**	**7.24**	**4**	P	**Pn**	**03 13 46.2**	**+2.0**
	comp=E,2.7nm,0.3s,baz=174,slow=19,SNR=27						
TEIG	**Tepich**	**7.24**	**4**	P	**Pn**	**03 13 46.2**	**+2.0**
TXAR	**Lajitas Array**	**21.33**	**322**	P	**P**	**03 16 44.7**	**+1.4**
	comp=E,1.1nm,0.6s,mb3.4,baz=144,slow=11,SNR=21						
TXAR	**Lajitas Array**	**21.33**	**322**	P	**P**	**03 16 44.7**	**+1.4**
ATAH	**Atahualpa**	**22.50**	**152**	P	**P**	**03 16 57.6**	**+1.7**
	comp=E,2.7nm,0.6s,mb3.9,baz=16,slow=23,SNR=2.2						
ATAH	**Atahualpa**	**22.50**	**152**	P	**P**	**03 16 57.6**	**+1.7**
WMOK	**Wichita Mounta**	**23.48**	**339**	*e*P	**P**	**03 17 05.4**	**-0.1**
	comp=E,3.0nm,0.7s,mb3.8						
RSSD	**Black Hills**	**33.68**	**340**	*e*P	**P**	**03 18 37.0**	**+0.7**
	comp=E,1.2nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**34.69**	**333**	P	**P**	**03 18 45.0**	**-0.2**
	comp=E,0.3nm,0.6s,mb3.4,baz=165,slow=12,SNR=1.8						
PDAR	**Pinedale Array**	**34.69**	**333**	P	**P**	**03 18 45.0**	**-0.2**
SNOW	**Snow King Moun**	**35.78**	**332**	*e*P	**P**	**03 18 55.0**	**+0.5**
	comp=E,2.6nm,0.6s,mb4.3						
LOHW	**Long Hollow**	**35.83**	**333**	*e*P	**P**	**03 18 55.4**	**+0.5**
	comp=E,1.1nm,0.7s,mb3.9						
NVAR	**Mina Array Bea**	**36.44**	**319**	P	**P**	**03 19 00.7**	**+0.5**
	comp=E,0.2nm,0.3s,mb3.5,baz=127,slow=8.0,SNR=3.5						
NVAR				PcP	PcP	03 21 24.2	+0.9
	comp=E,0.6nm,0.7s,baz=110,slow=4.9,SNR=5.7						
NVAR	**Mina Array Bea**	**36.44**	**319**	P	**P**	**03 19 00.7**	**+0.5**
NVAR				PcP	PcP	03 21 24.2	+0.9
BOZ	**Bozeman (W)**	**37.88**	**334**	*e*P	**P**	**03 19 12.3**	**0.0**
	comp=E,0.7nm,0.6s,mb3.6						
EGMT	**Eagleton**	**39.06**	**338**	*e*P	**P**	**03 19 22.4**	**+0.3**
	comp=E,5.2nm,0.6s,mb4.4						
SCHQ	**Schefferville**	**45.18**	**18**	P	**P**	**03 20 09.6**	**-2.4**
	comp=E,4.5nm,0.8s,mb4.3,baz=218,slow=12,SNR=2.6						
SCHQ	**Schefferville**	**45.18**	**18**	P	**P**	**03 20 09.6**	**-2.4**
YKA	**Yellowknife Ar**	**52.77**	**345**	P	**P**	**03 21 08.6**	**-1.2**
	comp=E,1.0nm,0.3s,mb4.2,baz=131,slow=8.6,SNR=16						
YKA	**Yellowknife Ar**	**52.77**	**345**	P	**P**	**03 21 08.6**	**-1.2**
INK	**Inuvik**	**62.31**	**343**	P	**P**	**03 22 15.7**	**-1.2**
	comp=E,1.4nm,0.6s,mb4.3,baz=117,slow=6.6,SNR=9.8						
INK	**Inuvik**	**62.31**	**343**	P	**P**	**03 22 15.7**	**-1.2**
ILAR	**Eielson Array**	**65.01**	**336**	P	**P**	**03 22 34.0**	**-0.7**
	comp=E,0.3nm,0.6s,mb3.5,baz=175,slow=5.1,SNR=4.5						
ILAR	**Eielson Array**	**65.01**	**336**	P	**P**	**03 22 34.0**	**-0.7**
WRA	**Warramunga Arr**	**138.12**	**255**	PKP	PKPdf	03 31 19.9	-0.4
	comp=E,0.4nm,0.8s,baz=87,slow=2.1,SNR=8.2						
WRA	**Warramunga Arr**	**138.12**	**255**	PKP	PKPdf	03 31 19.9	-0.4

IDC 03 03:51:56.4±1.6, 27°07S×62°29E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=79.8km s-min=30.6km az=26.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**63.99**	**104**	P	P	04 02 33.0	+1.1
	0.5nm,0.6s,baz=248,slow=5.9,SNR=5.9						
WRA	**Warramunga Arr**	**65.67**	**101**	P	P	04 02 42.1	-0.9
	0.3nm,0.6s,baz=247,slow=5.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**71.08**	**296**	P	P	04 03 16.9	0.0
	0.5nm,0.8s,baz=108,slow=5.3,SNR=4.3						
MKAR	**Makanchi Array**	**75.71**	**14**	P	P	04 03 43.7	+0.3
	1.0nm,1.0s,baz=214,slow=9.0,SNR=4.4						

*ISCJB **03** 04:12:22.5±0.3, 60°95N±0°03×137°91W±0°06, h10km, mb3.7/4, MS3.7/2, Error ellipse: s-maj=4.9km s-min=3.2km az=40.8*
*IDC **03** 04:12:22.9±0.9, 60°92N×137°97W, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.6/28, mbtmp3.6/9, ML3.4/5, MS3.6/2, Ms1 3.6/2, ms1mx2.7/35, Error ellipse: s-maj=16.9km s-min=10.4km az=38.0*
*PGC **03** 04:12:23.0±0.1, 60°83N×137°99W, h1km, ML3.9/5*
PGC 26km west of Haines Jct., Yt Southern Yukon Territory, Canada Felt (II-III) at Haines Junction, Yt. Ressenti (II-III) Haines Junction, Yt.
*NEIC **03** 04:12:23.0, 60°83N×137°99W, h1km, mb3.7/1, ML3.9(PGC), ML3.5(AEIC), After PGC.*
NEIC Felt [III] at Haines Junction.

ISC 03 04:12:23.7±0.3, 60°90N±0°03×137°90W±0°06, h10km, n48, σ1°20/65, mb3.7/4, MS3.7/2, 5D, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYT	**Haines Junctio**	**0.21**	**112**	P	**Pg**	**04 12 27.4**	**-0.7**
HYT				S	**Sg**	**04 12 30.4**	**-0.6**
HYT	**Haines Junctio**	**0.21**	**112**	⇑P	**Pg**	**04 12 27.4**	**-0.7**
HYT				⇓S	**Sg**	**04 12 30.4**	**-0.6**
PNL	**Peninsula**	**1.44**	**212**	P	**Pn**	**04 12 47.6**	**-2.2**
PNL				S	**Sn**	**04 13 07.8**	**-1.0**
WHY	**Whitehorse**	**1.50**	**98**	P	**Pn**	**04 12 50.2**	**-0.4**
WHY				S	**Sn**	**04 13 11.3**	**+1.0**
WHY	**Whitehorse**	**1.50**	**98**	⇑Pn	**Pn**	**04 12 50.3**	**-0.3**
WHY				⇑Sg	**Sn**	**04 13 10.5**	**+0.3**
PLBC	**Pleasant Camp**	**1.64**	**151**	Pn	**Pn**	**04 12 51.0**	**-1.5**
PLBC				Sg	**Sn**	**04 13 13.2**	**-0.5**
PLBC	**Pleasant Camp**	**1.64**	**151**	⇓Pn	**Pn**	**04 12 51.0**	**-1.5**
PLBC				⇓Sg	**Sn**	**04 13 13.2**	**-0.5**
YKU2	**Yakutat**	**1.65**	**213**	*e*P	**Pn**	**04 12 52.7**	**+0.1**
CHX	**Chaix Hills**	**1.80**	**244**	P	**Pn**	**04 12 55.1**	**+0.4**
SKAG	**Skagway**	**1.94**	**137**	P	**Pn**	**04 12 55.9**	**-0.6**
SKAG				S	**Sn**	**04 13 21.6**	**+0.7**
BALM	**Baldy**	**2.17**	**275**	P	**Pn**	**04 13 00.3**	**+0.5**
WRG	**White River GI**	**2.22**	**249**	P	**Pn**	**04 13 00.9**	**+0.4**
BESE	**Bessie Mountai**	**2.79**	**145**	P	**Pn**	**04 13 08.9**	**+0.5**
BCA3	**Beaver Creek A**	**2.84**	**322**	P	**Pn**	**04 13 08.4**	**-0.6**
DAWY	**Dawson**	**3.25**	**348**	P	**Pn**	**04 13 15.1**	**+0.5**
DAWY	**Dawson**	**3.25**	**348**	⇓Pn	**Pn**	**04 13 15.2**	**+0.6**
DAWY				⇑Sg	**Sg**	**04 14 05.6**	**-2.3**
SIT	**Sitka**	**4.08**	**160**	*e*P	**Pn**	**04 13 28.4**	**+2.4**
SIT				*e*Pg	**Pg**	**04 13 34.0**	**-7.8**
SIT				*e*Sg	**Sg**	**04 14 28.1**	**-6.5**
PAX	**Paxson**	**4.13**	**303**	*e*Pn	**Pn**	**04 13 27.6**	**+0.9**
PAX				*e*Sg	**Sg**	**04 14 30.1**	**-6.1**
EGAK	**Eagle**	**4.17**	**340**	*e*Pn	**Pn**	**04 13 27.9**	**+0.7**
EGAK				*e*Pg	**Pg**	**04 13 40.0**	**-3.3**
EGAK				*e*Sg	**Sg**	**04 14 34.2**	**-3.0**
DLBC	**Dease Lake**	**4.70**	**118**	Pn	**Pn**	**04 13 34.6**	**+0.1**
	1.0nm,0.3s,baz=310,slow=11,SNR=18						
DLBC				Lg		04 14 48.5	
	22nm,0.3s,baz=213,slow=22,SNR=13						
DLBC	**Dease Lake**	**4.70**	**118**	P	**Pn**	**04 13 34.6**	**+0.1**
DLBC	**Dease Lake**	**4.70**	**118**	⇑Pn	**Pn**	**04 13 34.4**	**-0.1**
DLBC				⇓Sg	**Sg**	**04 14 48.1**	**-6.2**
WRAK	**Wrangell Islan**	**5.35**	**145**	*e*Pn	**Pn**	**04 13 43.6**	**+0.2**
	18nm,0.4s						
WRAK				*e*Pg	**Pg**	**04 14 00.4**	**-5.6**
WRAK				*e*Sg	**Sg**	**04 15 12.1**	**-3.2**
PMR	**Palmer**	**5.47**	**282**	*e*P	**Pn**	**04 13 46.8**	**+1.8**
ILAR	**Eielson Array**	**5.66**	**317**	Pn	**Pn**	**04 13 47.7**	**+0.1**
	0.3nm,0.3s,baz=138,slow=12,SNR=16						
ILAR				Lg		04 15 19.7	
	6.0nm,0.3s,baz=146,slow=10,SNR=6.0						
ILAR	**Eielson Array**	**5.66**	**317**	Pn	**Pn**	**04 13 47.7**	**+0.1**
ILAR				Lg		04 15 19.7	
PRP	**Porcupine Dome**	**5.77**	**327**	P	**Pn**	**04 13 50.3**	**+1.1**
COLA	**College**	**6.04**	**316**	*e*Pn	**Pn**	**04 13 54.3**	**+1.4**
COLA				*e*Pg	**Pg**	**04 14 11.3**	**-8.0**
COLA				*e*Sg	**Sg**	**04 15 33.3**	**-4.1**
PPLA	**Purkeypile**	**7.04**	**293**	*e*Pn	**Pn**	**04 14 05.3**	**-1.3**
BM3	**Burnt Mountain**	**7.16**	**339**	P	**Pn**	**04 14 09.2**	**+0.9**
INK	**Inuvik**	**7.67**	**12**	Pn	**Pn**	**04 14 14.8**	**-0.3**
	0.2nm,0.3s,baz=99,slow=28,SNR=14						
INK				Lg		04 16 27.6	
	1.1nm,0.3s,baz=103,slow=21,SNR=11						
INK	**Inuvik**	**7.67**	**12**	*e*Pn	**Pn**	**04 14 16.8**	**+1.6**
	7.3nm,0.8s						
INK				Lg		04 16 27.6	
KDAK	**Kodiak Island**	**8.13**	**254**	Pn	**Pn**	**04 14 19.8**	**-1.7**
	0.2nm,0.3s,baz=7.1,slow=16,SNR=3.1						
KDAK	**Kodiak Island**	**8.13**	**254**	Pn	**Pn**	**04 14 19.8**	**-1.7**
COLD	**Coldfoot**	**8.31**	**325**	*e*Pn	**Pn**	**04 14 24.5**	**+0.5**
	4.9nm,0.5s						
COLD				*e*Lg		04 16 42.3	
YKA	**Yellowknife Ar**	**11.16**	**72**	Pn	**Pn**	**04 15 02.3**	**-0.7**
	0.7nm,0.3s,baz=270,slow=12,SNR=22						
YKA				Lg		04 18 15.2	
	baz=278,slow=27,SNR=3.5						
YKA	**Yellowknife Ar**	**11.16**	**72**	Pn	**Pn**	**04 15 02.3**	**-0.7**
YKA				Lg		04 18 15.2	
RES	**Resolute Bay**	**20.61**	**31**	P	**P**	**04 17 01.6**	**-0.9**
	1.2nm,0.8s,baz=210,slow=5.2,SNR=2.8						
RES	**Resolute Bay**	**20.61**	**31**	P	**P**	**04 17 01.6**	**-0.9**
BOZ	**Bozeman (W)**	**21.69**	**123**	*e*P	**P**	**04 17 15.9**	**+1.6**
	4.2nm,1.3s,mb3.7						
PDAR	**Pinedale Array**	**24.91**	**124**	P	**P**	**04 17 48.7**	**+2.3**
	1.1nm,0.8s,mb3.4,baz=328,slow=6.4,SNR=7.9						
PDAR	**Pinedale Array**	**24.91**	**124**	P	**P**	**04 17 48.7**	**+2.3**
NVAR	**Mina Array Bea**	**25.62**	**142**	P	**P**	**04 17 56.2**	**+3.2**
	1.0nm,0.9s,mb3.4,baz=323,slow=7.4,SNR=6.2						
NVAR	**Mina Array Bea**	**25.62**	**142**	P	**P**	**04 17 56.2**	**+3.2**
FINES	**FINESS Array B**	**57.36**	**9**	P	**P**	**04 22 11.2**	**-0.1**
	3.1nm,0.9s,mb4.3,baz=358,slow=8.5,SNR=4.7						
FINES

13μm,0.2s
AML Almayashu 0.69 149 P Pg 04 26 41.1 -0.9
5μm,0.2s
AML ⇑S **Sg 04 26 50.1 -0.9**
20μm,0.3s
AML ⇑S **Sg 04 26 50.1 -0.9**
20μm,0.3s
AML Almayashu 0.69 149 *i* PG **Pg 04 26 41.1 -0.9**
AAK Ala-Archa 0.95 95 ⇑P **Pg 04 26 46.8 -0.2**
3μm,0.2s,SNR=4511
AAK ⇓S **Sg 04 26 59.9 +0.6**
8μm,0.3s
AAK ⇓S **Sg 04 26 59.9 +0.6**
8μm,0.3s
AAK Ala-Archa 0.95 95 *e*Pn **Pn 04 26 46.8 -1.9**
AAK *e*Sn **Sn 04 26 59.6 -2.9**
AAK Ala-Archa 0.95 95 *e*PG **Pg 04 26 46.8 -0.2**
AAK *e* 04 26 59.6
AAK Ala-Archa 0.95 95 P **Pg 04 26 47.0 0.0**
SNR=1597
UCH Uchtor 1.08 117 ⇑P **Pg 04 26 48.8 -0.7**
701nm,0.3s,SNR=453
UCH ⇓S **Sg 04 27 03.2 -0.4**
11μm,0.5s
UCH ⇓S **Sg 04 27 03.2 -0.4**
11μm,0.5s
USP Ospenovka 1.09 60 P **Pg 04 26 49.7 +0.1**
2μm,0.2s,SNR=325
USP ⇓S **Sg 04 27 04.8 +1.0**
16μm,0.3s
USP ⇓S **Sg 04 27 04.8 +1.0**
16μm,0.3s
USP Ospenovka 1.09 60 *i* PG **Pg 04 26 49.7 0.0**
CHMS Chumysh 1.17 76 P **Pg 04 26 50.5 -0.6**
2μm,0.2s,SNR=1540
KBK Karagaybulak 1.28 92 P **Pn 04 26 52.8 -0.4**
2μm,0.1s,SNR=562
KBK ⇓S **Sg 04 27 10.6 +0.6**
17μm,0.2s
KBK ⇓S **Sg 04 27 10.6 +0.6**
17μm,0.2s
KZA Kyzart 1.64 112 P **Pn 04 26 59.0 +0.8**
3μm,0.4s,SNR=1965
KZA ⇓S **Sn 04 27 20.7 +1.0**
7μm,0.3s
KZA ⇓S **Sn 04 27 20.7 +1.0**
7μm,0.3s
KZA Kyzart 1.64 112 *i* PN **Pn 04 26 58.9 +0.7**
TKM2 Tokmak 2 1.77 83 ⇓P **Pn 04 27 01.0 +1.1**
1μm,0.3s
TKM2 ⇓S **Sn 04 27 25.6 +2.9**
5μm,0.3s
TKM2 Tokmak 2 1.77 83 *e*Pn **Pn 04 27 00.3 +0.4**
TKM2 *e*Sn **Sn 04 27 24.3 +1.6**
TKM2 Tokmak 2 1.77 83 *e*PN **Pn 04 27 00.3 +0.4**
TKM2 *e* 04 27 24.3
KK31 Karatay Array 2.02 282 ⇓Pn **Pn 04 27 04.1 +0.7**
996nm,0.6s,baz=97,slow=13,SNR=8840
KK31 ⇑Sn **Sn 04 27 32.4 +3.5**
5μm,0.6s,baz=101,slow=29,SNR=29
KK31 Karatay Array 2.02 282 PN **Pn 04 27 04.0 +0.7**
KK31 S **Sn 04 27 31.9 +3.0**
KK31 pmax pmax
comp=Z,2μm,0.6s
KK31 smax
comp=Z,2μm,0.2s
AAA Alma-Ata 2.80 77 *i* PN **Pn 04 27 19.0 +5.0**
AAA *i* S **Sn 04 27 56.3 +8.2**
AAA pmax pmax
comp=Z,1μm,0.2s
AAA smax
comp=N,8μm,0.2s
KSH Kashi 3.82 146 P **Pn 04 27 33.4 +5.2**
KSH S **Sn 04 28 17.7 +4.3**
KSH smax
comp=N,1μm,1.2s
KSH smax
comp=E,720nm,1.0s
MK31 Makanchi Array 7.64 55 Pn **Pn 04 28 22.5 +2.0**
comp=E,41nm,0.5s,baz=235,slow=12,SNR=432
MK31 ⇑Sn **Sn 04 29 57.0 +10**
comp=E,42nm,0.5s,baz=248,slow=23,SNR=3.7
MK31 ⇓Lg 04 30 30.0
comp=E,577nm,1.0s,baz=232,slow=25,SNR=5.9
MK31 Makanchi Array 7.64 55 *e*Pn **Pn 04 28 22.2 +1.7**
MK31 Makanchi Array 7.64 55 *e*P **Pn 04 28 21.9 +1.4**
MK31 04 29 59.4
MK31 pmax pmax
comp=Z,52nm,0.4s
MK31 smax
comp=Z,113nm,0.7s
MK31 pmax pmax
comp=Z,773nm,1.1s
MKAR Makanchi Array 7.64 55 Pn **Pn 04 28 21.6 +1.1**
comp=Z,8.9nm,0.3s,baz=234,slow=14,SNR=114
MKAR Sn **Sn 04 29 47.8 +0.4**
comp=Z,9.9nm,0.3s,baz=231,slow=24,SNR=5.6
MKAR Lg 04 30 28.7
comp=Z,24nm,0.3s,baz=247,slow=28,SNR=5.3
MKAR LR LR 04 31 35.6
comp=Z,675nm,20.1s,baz=101,slow=40
MKAR Makanchi Array 7.64 55 Pn **Pn 04 28 21.6 +1.1**
MKAR Sn **Sn 04 29 47.8 +0.4**
MKAR Lg 04 30 28.7
MKAR Makanchi Array 7.64 55 P **Pn 04 28 21.6 +1.1**
MKAR 04 29 47.8
MKAR pmax pmax
comp=Z,9.0nm,0.3s
MKAR smax
comp=N,10.0nm,0.3s
MKAR MLR MLR
comp=Z,675nm,20.1s
KBL Kabul 8.79 203 *e*Pn **Pn 04 28 38.2 +1.8**
KBL *e*Sn **Sn 04 30 15.6 -0.3**
KBL Kabul 8.79 203 *e*P **Pn 04 28 38.2 +1.8**
KBL *e* 04 30 15.6
KURK Kurchatov 8.81 23 ⇑Pn **Pn 04 28 35.3 -1.3**
comp=Z,8.9nm,0.5s
KURK ⇓Sn **Sn 04 30 17.9 +1.6**
comp=Z,527nm,1.0s
KURK ⇑Lg 04 31 09.2
comp=Z,856nm,1.1s
KURK Kurchatov 8.81 23 Pn **Pn 04 28 34.0 -2.6**
comp=Z,3.3nm,0.3s,baz=210,slow=13,SNR=105
KURK Sn **Sn 04 30 09.2 -7.0**
comp=Z,7.9nm,0.3s,baz=177,slow=18,SNR=18
KURK Lg 04 31 03.2
comp=Z,6.5nm,0.3s,baz=209,slow=30,SNR=12
KURK LR LR 04 32 29.4
comp=Z,212nm,18.6s,baz=205,slow=42
KURK Kurchatov 8.81 23 *e*Pn **Pn 04 28 34.8 -1.9**
KURK *e*Sn **Sn 04 30 14.9 -1.3**
KURK Lg 04 31 03.2
KURK Kurchatov 8.81 23 P **Pn 04 28 35.3 -1.3**
KURK 04 30 11.8
KURK pmax pmax
comp=Z,9.0nm,0.5s
KURK smax
comp=Z,527nm,1.0s
KURK pmax pmax
comp=Z,857nm,1.1s
CEP Cherat 8.94 187 P **Pn 04 28 39.8 +1.3**
CEP S **Sn 04 30 13.0 -6.6**
CHCP Chirah Chowk 9.05 180 P **Pn 04 28 42.6 +2.7**
THW Thamme Wali 9.98 187 P **Pn 04 28 52.9 +0.2**
VOSK Vostochnaya 10.12 352 ⇓Pn **Pn 04 28 52.7 -1.8**
comp=Z,18nm,0.4s
VOSK ⇑Sn **Sn 04 30 49.1 +0.9**
comp=Z,101nm,0.7s
VOSK ⇓Lg 04 31 47.6
comp=Z,532nm,0.8s
VOSK Vostochnaya 10.12 352 P **Pn 04 28 52.6 -1.9**
VOSK 04 30 56.2
VOSK pmax pmax
comp=Z,24nm,0.5s
VOSK smax
comp=Z,68nm,0.6s
VOSK pmax pmax
comp=Z,539nm,1.1s
BVA0 Borovoye Array 10.48 351 ⇓Pn **Pn 04 28 57.6 -1.8**
comp=Z,3.7nm,0.5s,baz=164,slow=13,SNR=176
BVA0 ⇓Sn **Sn 04 30 54.7 -2.4**
comp=Z,17nm,1.0s,baz=173,slow=26,SNR=9.2
BVA0 ⇓Lg 04 31 58.9
comp=Z,69nm,1.0s
BVA0 Borovoye Array 10.48 351 *i* P **Pn 04 28 57.5 -1.9**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s
BVA0 pmax pmax
comp=Z,86nm,0.9s
BVAR Borovoye Array 10.48 351 Pn **Pn 04 28 58.2 -1.2**
comp=Z,6.8nm,0.3s,baz=157,slow=13,SNR=116
BVAR Sn **Sn 04 30 51.7 -5.4**
comp=Z,19nm,0.3s,baz=156,slow=23,SNR=8.4
BVAR Lg 04 32 00.1
comp=Z,13nm,0.3s,baz=156,slow=25,SNR=4.1
BVAR LR LR 04 33 45.6
comp=Z,115nm,19.6s,baz=46,slow=42
BVAR Borovoye Array 10.48 351 Pn **Pn 04 28 58.2 -1.2**
BVAR Sn **Sn 04 30 51.7 -5.4**
BVAR Lg 04 32 00.1
BVAR Borovoye Array 10.48 351 P **Pn 04 28 58.2 -1.2**
BVAR 04 30 51.7
BVAR pmax pmax
comp=Z,7.0nm,0.3s
BVAR smax
comp=N,19nm,0.3s
BVAR MLR MLR
comp=Z,115nm,19.6s
ZRNK Zerenda 10.62 346 ⇓Pn **Pn 04 28 59.9 -1.4**
comp=Z,20nm,0.5s
ZRNK ⇑Sn **Sn 04 30 56.0 -4.4**
comp=Z,45nm,0.5s
ZRNK ⇑Lg 04 32 02.8
comp=Z,455nm,1.4s
ZRNK Zerenda 10.62 346 P **Pn 04 28 59.8 -1.5**
ZRNK 04 30 54.2
ZRNK pmax pmax
comp=Z,20nm,0.5s
ZRNK smax
comp=Z,45nm,0.5s
ZRNK pmax pmax
comp=Z,455nm,1.4s
WMQ Urumqi 10.62 79 P **Pn 04 29 05.8 +4.4**
WMQ pP 04 29 09.0
WMQ PP 04 29 14.2
WMQ S **Sn 04 31 05.5 +4.8**
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,170nm,4.5s
WMQ LR LR
comp=N,1μm,6.0s
WMQ LR LR
comp=E,2μm,5.2s
WMQ LR LR
comp=Z,340nm,14.0s
SARP Sargodha 10.79 182 P **Pn 04 29 03.0 -0.8**
AB31 Akbulak array 11.30 310 Pn **Pn 04 29 08.6 -2.1**
comp=Z,14nm,0.5s,baz=117,slow=14,SNR=224
AB31 ⇓Sn **Sn 04 31 15.8 -1.4**
comp=Z,26nm,0.6s,baz=116,slow=23,SNR=4.4
AB31 ⇓Lg 04 32 22.3
comp=Z,108nm,0.8s
AB31 Akbulak array 11.30 310 P **Pn 04 29 08.6 -2.1**
AB31 pmax pmax
comp=Z,12nm,0.3s
AB31 pmax pmax
comp=Z,181nm,1.0s
AKTO Aktyubinsk 12.97 312 ⇑Pn **Pn 04 29 31.6 -2.0**
comp=Z,20nm,0.8s
AKTO ⇑Sn **Sn 04 31 56.7 -1.4**
comp=Z,7.1nm,0.8s
AKTO ⇑Lg 04 33 16.1
comp=Z,19nm,1.5s
AKTO Aktyubinsk 12.97 312 Pn **Pn 04 29 31.7 -1.8**
comp=Z,3.9nm,0.3s,baz=122,slow=14,SNR=100
AKTO LR LR 04 35 21.9
comp=Z,165nm,20.7s,baz=128,slow=41
AKTO Aktyubinsk 12.97 312 Pn **Pn 04 29 31.7 -1.8**
AKTO Aktyubinsk 12.97 312 P **Pn 04 29 31.5 -2.0**
AKTO pmax pmax
comp=Z,20nm,0.9s
AKTO pmax pmax
comp=Z,46nm,2.0s
ZAA0 Zalesovo Array 13.61 30 *e*Pn **Pn 04 29 41.5 -0.6**
ZAA0 *e*Sn **Sn 04 32 06.9 -6.7**
ZALV Zalesovo Beam 13.61 30 Pn **Pn 04 29 39.9 -2.2**
comp=Z,6.4nm,0.3s,baz=217,slow=13,SNR=71
ZALV Sn **Sn 04 32 06.5 -7.0**
comp=Z,8.7nm,0.3s,baz=224,slow=23,SNR=8.3
ZALV Lg 04 33 35.7
baz=212,slow=22,SNR=1.9
ZALV LR LR 04 35 16.8
comp=Z,214nm,19.3s,baz=311,slow=39
ZALV Zalesovo Beam 13.61 30 Pn **Pn 04 29 39.9 -2.2**
ZALV Sn **Sn 04 32 06.5 -7.0**
ZALV Lg 04 33 35.7
ZALV Zalesovo Beam 13.61 30 P **Pn 04 29 39.9 -2.3**
ZALV 04 32 06.6
ZALV pmax pmax
comp=Z,6.0nm,0.3s
ZALV smax
comp=N,9.0nm,0.3s
ZALV MLR MLR
comp=Z,214nm,19.3s
NVS Novosibirsk 13.79 25 *e*P **Pn 04 29 44.7 0.0**
NVS *e* 04 32 14.9
NDI New Delhi 14.38 166 *e*PKP **Pn 04 29 48.0 -4.8**
NDI *e*PKP 04 29 48.3
NDI AMb AMB 04 29 56.0
comp=Z,37nm,0.5s
NDI *e*S **Sn 04 32 21.0 -12**
AYAN Aya Nagar 14.56 166 *e*PKP **Pn 04 29 52.5 -2.8**
AYAN AMb AMB 04 29 53.8
comp=Z,22nm,0.5s
AYAN *e*x x 04 32 26.7
KHET Khetri 14.77 171 *e*x x 04 31 32.6
KUDL Kundal 14.79 169 *e*PKP **Pn 04 29 55.6 -2.8**
KUDL AMb AMB 04 30 00.0
comp=Z,55nm,0.8s
KUDL *e*x x 04 32 33.3
SVE Sverdlovsk 16.25 335 *e*P **Pn 04 30 14.2 -3.2**
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,608nm,10.0s
ARU Arti 16.63 331 *d i* P **Pn 04 30 19.2 -3.1**
ARU S **Sn 04 33 21.6 -5.5**
ARU pmax pmax
comp=Z,8.0nm,0.8s
MAK Makhachkala 18.83 279 *e*P **Pn 04 30 46.5 -3.2**
MAK *e*S **Sn 04 34 19.3 -1.3**
MAK pmax pmax
comp=Z,21nm,0.4s
MAK MLR MLR
comp=Z,716nm,11.0s
BHJ Bhuj 19.64 190 *e*PKP **Pn 04 30 56.5 -3.0**
BHJ AMb AMB 04 30 59.7
comp=Z,7.6nm,0.3s
BHPL Bhopal 19.74 168 *e*PKP **Pn 04 30 58.9 -1.8**
BHPL AMb AMB 04 31 07.9
comp=Z,30nm,1.1s
GTA Gaotai 20.30 90 P **P 04 31 10.6 +5.3**
GTA sS sS 04 35 07.9 +12
GTA pmax pmax
comp=Z,18nm,1.1s
GTA pmax pmax
comp=Z,120nm,4.0s
GTA LR LR
comp=N,340nm,12.6s,MS4.1
GTA LR LR
comp=E,480nm,12.6s,MS4.1
GTA LR LR
comp=Z,510nm,12.3s,MS4.1
TBLG Delisi 21.07 277 *e*P **P 04 31 13.7 +0.1**
TBLG Delisi 21.07 277 P **P 04 31 13.7 +0.2**
GNI Garni 21.46 273 *e*P **P 04 31 20.0 +2.2**
comp=Z,179nm,1.3s,mb5.2
GNI Garni 21.46 273 *e*P **P 04 31 20.0 +2.2**
GNI pmax pmax
comp=Z,179nm,1.3s
GNI Garni 21.46 273 P **P 04 31 20.4 +2.6**
SNR=34
GOR Gori 21.48 278 P **P 04 31 19.3 +1.4**
ZEI Tsey 21.48 280 *e*P **P 04 31 16.4 -1.6**
ZEI pmax pmax
comp=Z,18nm,1.4s,mb4.2
ONI Oni 21.84 280 P **P 04 31 22.6 +0.8**
ZAK Zakamensk 21.94 59 *e*P **P 04 31 23.8 +0.9**
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
AKH Akhalkalaki 22.05 277 P **P 04 31 25.5 +1.4**
KIV Kislovodsk 22.18 284 *e*P **P 04 31 25.0 -0.4**
comp=Z,26nm,0.7s,mb4.8
KIV Kislovodsk 22.18 284 *e*P **P 04 31 24.7 -0.7**
KIV *e*S **S 04 35 29.7 -0.3**
KIV pmax pmax
comp=Z,22nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,217nm,13.0s,MS3.8
KIV Kislovodsk 22.18 284 P **P 04 31 25.9 +0.5**
SNR=6.8
AKL Akola 22.19 171 *ex* **P 04 31 21.4 -4.3**
AKL AMb AMB 04 31 24.0
comp=Z,20nm,0.8s,mb4.6
TLY Talaya 22.40 56 *e*P **P 04 31 30.6 +2.9**
TLY *e*S **S 04 35 24.1 -10**
TLY pmax pmax
comp=Z,9.0nm,1.1s,mb4.1
TLY MLR MLR
comp=Z,448nm,13.0s,MS4.1
SHL Shillong 22.97 132 *e*PKP **P 04 31 31.4 -2.7**
SMDO Samad 23.31 217 P **P 04 31 39.9 +2.3**
SNR=8.8
SONM Songino Array 23.79 66 P **P 04 31 43.0 +0.9**
comp=Z,2.4nm,0.9s,mb3.6,baz=282,slow=10,SNR=8.9
SONM Songino Array 23.79 66 P **P 04 31 43.0 +0.9**
SONM Songino Array 23.79 66 P **P 04 31 43.0 +0.9**
SONM pmax pmax
comp=Z,2.0nm,0.9s
JMDO Jabal Madar 23.89 217 P **P 04 31 43.4 +0.1**
SNR=7.1
BSY Bisya 23.97 219 P **P 04 31 44.8 +0.8**
SNR=6.6
POO Poona 24.12 179 *e*PKP **P 04 31 45.0 -0.4**
ULN Ulaanbaatar 24.23 66 *e*P **P 04 31 47.0 +0.9**
comp=Z,6.5nm,1.0s,mb4.0
ULN Ulaanbaatar 24.23 66 *e*P **P 04 31 47.0 +0.8**
ULN pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
SOC Sochi 24.36 284 *e*P **P 04 31 44.9 -2.5**
SOC *e*PPP 04 32 23.8
SOC *e*S **S 04 36 07.1 0.0**
SOC MLR MLR
comp=Z,338nm,16.0s,MS3.9
LZH Lanzhou 24.49 95 *e*P **P 04 31 49.0 +0.3**
LZH PP 04 32 24.5
LZH *e*S **S 04 36 06.0 -3.4**
LZH pmax pmax
comp=Z,27nm,1.5s,mb4.5
LZH pmax pmax
comp=Z,100nm,4.2s
LZH LR LR
comp=N,610nm,13.6s,MS4.4
LZH LR LR
comp=E,690nm,14.9s,MS4.4
LZH LR LR
comp=Z,730nm,14.8s,MS4.3
LZH Lanzhou 24.49 95 *e*P **P 04 31 49.0 +0.3**
comp=Z,27nm,1.5s,mb4.5
LZH pP 04 31 53.2
LZH sP sP 04 31 56.0 +5.0
LZH PP 04 32 24.5
LZH *e*S **S 04 36 06.0 -3.4**
LZH sS sS 04 36 14.0 +1.9
LZH LR LR
comp=Z,730nm,14.8s,MS4.3
LZH Lanzhou 24.49 95 *e*P **P 04 31 49.0 +0.3**
LZH *SP sP 04 31 56.0 +5.0
LZH 04 32 24.5
LZH *e*S **S 04 36 06.0 -3.4**
LZH *SS sS 04 36 14.0 +1.9
LZH pmax pmax
comp=Z,27nm,1.5s,mb4.5
LZH MLR MLR
comp=Z,730nm,14.8s,MS4.3
BHD Baghdad 24.50 257 *ex* **P 04 31 47.0 -1.8**
BHD *ex* x 04 36 06.0
VSR Storozhevoye 24.55 302 *e*P **P 04 31 46.9 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.3s,mb4.2
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,30nm,1.2s
VSR MLR MLR
comp=Z,560nm,10.0s,MS4.4
VSR MLR MLR
comp=N,130nm,9.0s
VSR MLR MLR
comp=E,330nm,11.0s
IMP Imphal 24.73 130 *e*PKP **P 04 31 50.0 -0.9**
HYB Hyderabad 25.63 168 *i* P **P 04 31 58.0 -1.1**
HYB *e*S **S 04 36 36.0 +8.3**
ANN Anapa 25.80 287 *e*P **P 04 32 04.5 +4.1**
ANN *e**PP pP 04 32 07.8 +5.7
ANN *e* 04 32 40.8
ANN pmax pmax
comp=Z,27nm,0.8s,mb4.8
ANN MLR MLR
comp=N,212nm,13.0s,MS4.0
ANN MLR MLR
comp=E,222nm,13.0s,MS4.0
ANN MLR MLR
comp=Z,221nm,13.0s,MS3.9
MOS Moscow 26.31 312 *e*P **P 04 31 54.7 -10**
MOS *e* 04 37 38.1
MOS MLR MLR
comp=Z,700nm,11.0s,MS4.5
OBN Obninsk 26.75 310 *e*P **P 04 32 09.0 +0.1**
OBN pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
OBN MLR MLR
comp=Z,300nm,16.0s,MS3.9
CD2 Chengdu 27.00 106 *e*P **P 04 32 11.2 -0.3**
CD2 PP 04 32 57.2
CD2 S **S 04 36 46.3 -3.0**
CD2 SS 04 38 00.5
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
CD2 pmax pmax
comp=Z,40nm,4.8s
CD2 LR LR
comp=N,300nm,12.0s,MS4.3
CD2 LR LR
comp=E,510nm,14.4s,MS4.3
CD2 LR LR
comp=Z,590nm,14.2s,MS4.3
SIM Simferopol' 28.11 288 *de*P **P 04 32 25.4 +4.2**
SIM S **S 04 37 11.3 +4.8**
SIM pmax pmax
comp=Z,6.0nm,1.2s,mb4.1
SIM MLR MLR
comp=Z,170nm,16.0s,MS3.7
HHC Hu-ho-hao-te 28.50 81 *e*P **P 04 32 25.1 +0.3**
HHC PP PP 04 33 16.6 -12
HHC PcP PcP 04 35 37.1 +0.7
HHC S **S 04 37 11.9 -0.9**
HHC SS 04 38 34.3
HHC pmax pmax
comp=Z,17nm,1.1s,mb4.6
HHC pmax pmax
comp=Z,140nm,7.6s
HHC LR LR
comp=N,440nm,10.0s
HHC LR LR
comp=E,490nm,9.2s
HHC LR LR
comp=Z,410nm,12.1s,MS4.2
BR131 Keskin Array S 29.73 278 *e*P **P 04 32 36.3 +0.6**
comp=Z,2.0nm,0.6s,mb4.0
BRTR Keskin Array B 29.73 278 P **P 04 32 36.7 +1.0**
comp=Z,6.2nm,1.1s,mb4.2,baz=90,slow=7.5,SNR=22
BRTR Keskin Array B 29.73 278 P **P 04 32 36.7 +1.0**
BRTR Keskin Array B 29.73 278 P **P 04 32 36.7 +1.0**
BRTR pmax pmax
comp=Z,6.0nm,1.1s
KMI Kunming 29.93 116 P **P 04 32 39.1 +1.5**
KMI pmax pmax
comp=Z,6.0nm,1.0s,mb4.3

KMI Kunming 29.93 116 P **P 04 32 39.1 +1.5**
comp=Z,6.0nm,1.0s,mb4.3
KMI Kunming 29.93 116 P **P 04 32 39.1 +1.5**
KMI pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
AKASG Malin Array Be 30.81 300 P **P 04 32 45.0 -0.1**
comp=Z,4.0nm,0.8s,mb4.3,baz=75,slow=8.3,SNR=8.6
AKASG Malin Array Be 30.81 300 P **P 04 32 45.0 -0.1**
AKASG Malin Array Be 30.81 300 P **P 04 32 45.0 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 30.81 300 *e*P **P 04 32 45.0 -0.1**
AKBB Malin Array Si 30.81 300 *e*P **P 04 32 45.0 -0.1**
KIEV Kiev 30.82 300 *e*P **P 04 32 44.9 -0.3**
comp=Z,7.4nm,0.9s,mb4.5
KIEV Kiev 30.82 300 *e*P **P 04 32 44.9 -0.3**
KIEV pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
JOF Joensuu 31.56 324 *e*P **P 04 32 52.0 +0.4**
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
JOF Joensuu 31.56 324 *e*p **P 04 32 52.0 +0.4**
comp=Z,4.7nm,0.8s,mb4.4
GYA Guiyang 31.71 110 P **P 04 32 55.2 +1.9**
GYA PP PP 04 34 01.6 -3.2
GYA S **S 04 38 03.4 +0.1**
GYA SS SS 04 39 51.8 -27
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=N,430nm,17.2s,MS4.4
GYA LR LR
comp=E,470nm,16.8s,MS4.4
GYA LR LR
comp=Z,450nm,17.4s,MS4.2
CSS Prodhromos 31.78 269 *e*P **P 04 32 53.9 +0.1**
comp=Z,11nm,0.8s,mb4.7
BJI Beijing 32.10 80 P **P 04 32 56.7 +0.1**
BJI S **S 04 38 07.7 -1.5**
BJI LR LR
comp=N,410nm,17.9s
BJI LR LR
comp=E,360nm,10.1s
BJI LR LR
comp=Z,120nm,22.1s,MS3.5
TIRR Tirgusor 32.19 289 ⇑P **P 04 32 59.8 +2.5**
TIRR Tirgusor 32.19 289 ⇑*i*P **P 04 32 59.8 +2.5**
CMAR Chiang Mai Arr 32.56 130 P **P 04 33 00.3 -0.5**
comp=Z,1.2nm,0.3s,mb4.2,baz=316,slow=8.0,SNR=7.2
CMAR PcP PcP 04 35 47.0 -0.3
comp=Z,0.6nm,0.3s,baz=322,slow=2.8,SNR=4.2
CMAR Chiang Mai Arr 32.56 130 P **P 04 33 00.3 -0.5**
CMAR PcP PcP 04 35 47.0 -0.3
CMAR Chiang Mai Arr 32.56 130 P **P 04 33 00.3 -0.5**
CMAR 04 35 47.0
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
TESR 32.98 293 ⇓*i*P **P 04 33 04.4 +0.1**
PLOR Plostina 33.11 292 ⇑P **P 04 33 06.7 +1.3**
PLOR Plostina 33.11 292 ⇑*i*P **P 04 33 06.7 +1.3**
FINES FINESS Array B 33.52 320 P **P 04 33 08.7 0.0**
comp=Z,3.4nm,0.5s,mb4.5,baz=105,slow=8.6,SNR=13
FINES FINESS Array B 33.52 320 P **P 04 33 08.7 0.0**
FINES FINESS Array B 33.52 320 P **P 04 33 08.7 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 33.56 322 *e*P **P 04 33 04.5 -4.6**
KAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KAF Kangasniemi 33.56 322 *e*p **P 04 33 04.5 -4.6**
comp=Z,3.7nm,0.9s,mb4.3
MLR Muntele Rosu 33.67 291 LR LR 04 49 52.9
comp=Z,94nm,19.1s,MS3.5,baz=72,slow=42
MLR Muntele Rosu 33.67 291 ⇓P **P 04 33 11.8 +1.5**
MLR Muntele Rosu 33.67 291 ⇓*i*P **P 04 33 11.8 +1.5**
BURAR Bucovina Array 33.75 295 ⇓P **P 04 33 12.0 +1.0**
BURAR Bucovina Array 33.75 295 ⇓*i*P **P 04 33 12.0 +1.0**
BUR08 Bucovina Ar. S 33.76 295 *e*P **P 04 33 11.2 +0.2**
KWP Kalwaria Pacla 35.08 299 *e*P **P 04 33 23.1 +0.7**
comp=Z,14nm,0.8s,mb4.9
KWP Kalwaria Pacla 35.08 299 *e*P **P 04 33 23.1 +0.7**
KWP pmax pmax
comp=Z,14nm,0.8s,mb4.9
KWP Kalwaria Pacla 35.08 299 ⇑*i*P **P 04 33 23.5 +1.1**
TRPA Tarpa 35.44 297 ⇑*i*P **P 04 33 26.8 +1.3**
KOLS Kolonicke sedl 35.47 298 *e*P **P 04 33 25.9 +0.1**
KOLS *e* 04 34 45.3
KOLS Kolonicke sedl 35.47 298 *e*P **P 04 33 25.9 +0.1**
KOLS *e*PP PP 04 34 45.3 -0.8
DRGR 35.59 294 ⇑P **P 04 33 27.8 +1.0**
DRGR 35.59 294 ⇑*i*P **P 04 33 27.8 +1.0**
KEV Kevo 35.78 335 *e*P **P 04 33 27.4 -0.8**
KEV pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KEV Kevo 35.78 335 *e*p **P 04 33 27.4 -0.8**
comp=Z,3.3nm,0.8s,mb4.3
CRVS Cervenica-Dubn 36.00 298 *e*P **P 04 33 31.0 +0.6**
CRVS *e* 04 34 53.0
CRVS Cervenica-Dubn 36.00 298 *e*P **P 04 33 31.0 +0.6**
CRVS *e*PP PP 04 34 53.0 +1.0
ARCES ARCESS Array B 36.17 334 P **P 04 33 32.5 +0.9**
comp=Z,6.2nm,1.0s,mb4.5,baz=112,slow=9.3,SNR=14
ARCES LR LR 04 48 42.5
comp=Z,184nm,19.3s,MS3.9,baz=359,slow=37
ARCES ARCESS Array B 36.17 334 P **P 04 33 32.5 +0.9**
ARCES ARCESS Array B 36.17 334 P **P 04 33 32.5 +0.9**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES MLR MLR
comp=Z,185nm,19.3s
NIE Niedzica 36.66 299 *e*P **P 04 33 37.4 +1.5**
NIE Niedzica 36.66 299 *e*P **P 04 33 37.4 +1.5**
KECS Kecovo 36.72 298 *e*P **P 04 33 36.2 -0.3**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
KECS Kecovo 36.72 298 *e*P **P 04 33 36.2 -0.3**
OJC Ojcow 36.85 301 *e*P **P 04 33 37.9 +0.3**
OJC Ojcow 36.85 301 *e*P **P 04 33 38.0 +0.4**
OJC Ojcow 36.85 301 *e*P **P 04 33 38.0 +0.4**
PSZ Piszkesteto 37.22 297 *e*P **P 04 33 40.8 +0.1**
comp=Z,3.9nm,0.8s,mb4.3
PSZ Piszkesteto 37.22 297 *e*P **P 04 33 40.8 0.0**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
NJ2 Nanjing 37.39 91 *e*P **P 04 33 44.4 +2.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CN2 Changchun 37.53 70 *e*P **P 04 33 42.5 -1.0**
CN2 *e*S **S 04 39 29.8 -3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
CN2 pmax pmax
comp=Z,200nm,3.0s
OKC Ostrava-Krasne 37.96 300 *e*P **P 04 33 47.7 +0.7**
OKC MLR MLR
comp=Z,300nm,14.5s,MS4.2
OKC Ostrava-Krasne 37.96 300 *e*P **P 04 33 47.7 +0.7**
OKC AMS AMS 04 50 20.0
comp=Z,300nm,14.5s
YAK Yakutsk 38.00 40 *e*P **P 04 33 47.4 +0.3**
comp=Z,24nm,0.6s,mb5.1
YAK Yakutsk 38.00 40 *e*P **P 04 33 46.3 -0.9**
YAK *e*PP pP 04 33 57.6 +8.8
YAK *e*PPP 04 35 25.3
YAK *e* 04 36 03.4
YAK *e*SSS 04 42 20.5
YAK *e* 04 43 48.7
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.1
YAK pmax pmax
comp=E,19nm,1.1s
YAK MLR MLR
comp=Z,284nm,13.0s,MS4.3
YAK MLR MLR
comp=E,226nm,12.0s
MORC Moravsky Berou 38.36 300 *e*P **P 04 33 51.3 +1.0**
comp=E,11nm,1.1s,mb4.5
MORC Moravsky Berou 38.36 300 *e*P **P 04 33 51.3 +0.9**
MORC pmax pmax
comp=Z,11nm,1.1s,mb4.5
GVD Gavdhos 38.64 275 *e*P **P 04 33 52.8 -0.1**
comp=Z,144nm,0.6s,mb5.9
QIZ Qiongzhong 38.88 116 P **P 04 33 53.4 -1.6**
QIZ S **S 04 39 53.8 +0.3**
QIZ pmax pmax
comp=Z,31nm,2.1s,mb4.7
DPC Dobruska-Polom 39.02 302 *e*P **P 04 33 56.5 +0.6**
comp=Z,10nm,1.0s,mb4.5
DPC Dobruska-Polom 39.02 302 *e*P **P 04 33 56.5 +0.6**
DPC pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
DPC Dobruska-Polom 39.02 302 *e*P **P 04 33 56.6 +0.7**
DPC AMS AMS 04 50 50.0
comp=Z,500nm,8.2s
VRAC Vranov 39.06 300 LR LR 04 52 31.5
comp=Z,109nm,19.7s,MS3.7,baz=84,slow=40
UPC Upice 39.18 302 *e*P **P 04 33 57.5 +0.2**
UPC Upice 39.18 302 *e*P **P 04 33 57.5 +0.2**
HFS Hagfors 39.44 317 P **P 04 33 59.4 +0.2**
comp=Z,4.7nm,0.6s,mb4.4,baz=98,slow=11,SNR=11
HFS LR LR 04 50 47.3
comp=Z,178nm,20.5s,MS3.9,baz=81,slow=37
HFS Hagfors 39.44 317 P **P 04 33 59.4 +0.2**
HFS Hagfors 39.44 317 P **P 04 33 59.4 +0.1**
HFS pmax pmax
comp=Z,5.0nm,0.6s
HFS MLR MLR
comp=Z,178nm,20.5s
TREC Trest 39.77 300 AMS AMS 04 51 30.0
comp=Z,500nm,8.1s
PVCC Panska Ves 40.08 302 AMS AMS 04 51 30.0
comp=Z,500nm,14.0s
MDJ Mudanjiang 40.13 67 P **P 04 34 04.3 -1.0**
MDJ PcS PcS 04 39 59.7 -0.1
MDJ S **S 04 40 10.2 -1.8**
MDJ pmax pmax
comp=Z,5.0nm,2.0s,mb3.9
MDJ pmax pmax
comp=Z,98nm,4.2s
MDJ LR LR
comp=N,220nm,15.4s,MS4.3
MDJ LR LR
comp=E,220nm,11.4s,MS4.3
MDJ LR LR
comp=Z,290nm,11.7s,MS4.4
BRG Berggiesshubel 40.40 303 *e*P **P 04 34 07.8 +0.5**
comp=Z,15nm,1.4s,mb4.5
BRG
comp=N,317nm,11.9s
BRG
comp=E,315nm,17.4s
BRG
comp=Z,469nm,12.2s
BRG Berggiesshubel 40.40 303 *e*P **P 04 34 07.8 +0.5**
BRG pmax pmax
comp=Z,15nm,1.4s,mb4.5
BRG MLR MLR
comp=N,317nm,11.9s
BRG MLR MLR
comp=E,315nm,17.4s
BRG MLR MLR
comp=Z,469nm,12.2s,MS4.5
NB2 NORSAR Subarra 40.63 319 P **P 04 34 08.7 -0.5**
comp=Z,13nm,1.1s,mb4.5,baz=88,slow=8.6
NOA NORSAR Array B 40.63 319 P **P 04 34 09.2 +0.1**
comp=Z,7.4nm,0.9s,mb4.3,baz=90,slow=8.4,SNR=16
NOA LR LR 04 53 45.6
comp=Z,31nm,18.5s,MS3.2,baz=180,slow=40
NOA NORSAR Array B 40.63 319 P **P 04 34 09.2 +0.1**
NOA NORSAR Array B 40.63 319 P **P 04 34 09.2 0.0**
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA MLR MLR
comp=Z,31nm,18.5s
NAO01 NORSAR Array S 40.80 318 *e*P **P 04 34 10.3 -0.2**
comp=Z,5.0nm,0.8s,mb4.2
CLL Collm 40.88 304 *e*P **P 04 34 12.0 +0.6**
CLL *e* 04 34 22.0
CLL pmax pmax
comp=Z,14nm,1.3s,mb4.4
CLL MLR MLR
comp=Z,200nm,17.7s,MS4.0
CLL Collm 40.88 304 *e*P **P 04 34 12.0 +0.6**
comp=Z,14nm,1.3s,mb4.4
CLL *e* 04 34 22.0
CLL LmH 04 52 00.0
comp=Z,200nm,18.0s
GERES GERESS Array B 41.02 300 P **P 04 34 13.7 +1.2**
comp=Z,3.3nm,0.7s,mb4.1,baz=66,slow=7.5,SNR=36
GERES GERESS Array B 41.02 300 P **P 04 34 13.7 +1.2**
GERES GERESS Array B 41.02 300 P **P 04 34 13.7 +1.2**
GERES pmax pmax
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 41.02 300 *e*P **P 04 34 13.2 +0.6**
KHC MLR MLR
comp=Z,400nm,13.0s,MS4.5
KHC Kasperske Hory 41.02 300 *e*P **P 04 34 13.2 +0.6**
KHC AMS AMS 04 52 10.0
comp=Z,400nm,13.0s
NKC Novy Kostel 41.47 302 *e*P **P 04 34 17.5 +1.3**
NKC Novy Kostel 41.47 302 *e*P **P 04 34 17.5 +1.3**
KSRS Korea Array 41.57 78 LR LR 04 54 20.5
comp=Z,58nm,19.0s,MS3.5,baz=315,slow=40
KBA Koelnbreinsper 41.73 297 P **P 04 34 18.8 +0.4**
comp=Z,9.5nm,1.4s,mb4.2
TRI Trieste 41.86 295 *e*P **P 04 34 19.5 0.0**
comp=Z,28nm,0.8s,mb4.9
TRI Trieste 41.86 295 *e*P **P 04 34 19.5 0.0**
TRI pmax pmax
comp=Z,28nm,0.8s,mb4.9
SPITS Spitsbergen Ar 41.88 345 LR LR 04 52 56.9
comp=Z,76nm,21.9s,MS3.5,baz=15,slow=38
CEL Celeste 43.10 284 *e*P **P 04 34 30.6 +0.9**
comp=Z,50nm,1.1s,mb5.2
AQU L'Aquila 43.24 291 *e*P **P 04 34 31.1 +0.3**
comp=Z,18nm,1.1s,mb4.7
AQU L'Aquila 43.24 291 *e*P **P 04 34 31.1 +0.3**
AQU pmax pmax
comp=Z,18nm,1.1s,mb4.7
CDF Champ du Feu 45.23 301 *e*P **P 04 34 46.7 +0.1**
CDF Champ du Feu 45.23 301 *e*P **P 04 34 46.7 +0.1**
CDF Champ du Feu 45.23 301 *e*P **P 04 34 46.7 +0.1**
HINF Hinteralfeld 45.69 300 *e*P **P 04 34 50.3 +0.1**
comp=Z,20nm,1.0s,mb4.7
HINF Hinteralfeld 45.69 300 *e*P **P 04 34 50.3 +0.1**
comp=Z,20nm,1.0s,mb5.0
HINF Hinteralfeld 45.69 300 *e*P **P 04 34 50.3 +0.1**
HINF pmax pmax
comp=Z,20nm,1.0s,mb5.0
HAU Haudompre 45.95 301 *e*P **P 04 34 52.5 +0.2**
comp=Z,15nm,0.8s,mb4.7
HAU *e*R
comp=Z,220nm,20.2s
PGF Pioggiola 46.18 293 *e*P **P 04 34 54.5 +0.3**
PGF Pioggiola 46.18 293 *e*P **P 04 34 54.5 +0.3**
PGF Pioggiola 46.18 293 *e*P **P 04 34 54.5 +0.3**
LPG La Plagne 46.56 297 *e*P **P 04 34 57.5 +0.3**
LPG La Plagne 46.56 297 *e*P **P 04 34 57.5 +0.3**
LPG La Plagne 46.56 297 *e*P **P 04 34 57.5 +0.3**
LPL La Plagne 46.57 297 *e*P **P 04 34 58.0 +0.8**
comp=Z,8.0nm,0.7s,mb4.4
LPL La Plagne 46.57 297 *e*P **P 04 34 58.0 +0.8**
comp=Z,8.0nm,0.7s,mb4.8
LPL La Plagne 46.57 297 *e*P **P 04 34 58.0 +0.8**
LPL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CABF La Chapelle 46.59 299 *e*P **P 04 34 58.4 +1.0**
CABF La Chapelle 46.59 299 *e*P **P 04 34 58.4 +1.0**
CABF La Chapelle 46.59 299 *e*P **P 04 34 58.4 +1.0**
SFTF Sexfontaines 46.70 301 *e*P **P 04 34 58.6 +0.4**
comp=Z,25nm,0.9s,mb4.8
SFTF Sexfontaines 46.70 301 *e*P **P 04 34 58.6 +0.4**
comp=Z,25nm,0.9s,mb5.1
SBF Sospel 46.73 295 *e*P **P 04 34 58.8 +0.3**
comp=Z,51nm,1.1s,mb5.1
SBF Sospel 46.73 295 *e*P **P 04 34 58.8 +0.3**
comp=Z,51nm,1.1s,mb5.4
SBF Sospel 46.73 295 *e*P **P 04 34 58.8 +0.3**
SBF pmax pmax
comp=Z,51nm,1.1s,mb5.4
BNI Bardonecchia 46.78 297 *e*P **P 04 34 58.4 -0.5**
comp=Z,25nm,1.1s,mb5.0
BNI Bardonecchia 46.78 297 *e*P **P 04 34 58.4 -0.4**
BNI pmax pmax
comp=Z,25nm,1.1s,mb5.1
MBDF Montbardon 46.84 296 *e*P **P 04 34 59.2 -0.1**
comp=Z,28nm,0.9s,mb4.9
MBDF Montbardon 46.84 296 *e*P **P 04 34 59.2 -0.1**
comp=Z,28nm,0.9s,mb5.2
MBDF Montbardon 46.84 296 *e*P **P 04 34 59.2 -0.1**
MBDF pmax pmax
comp=Z,29nm,0.9s,mb5.2
ORIF Oris-en-Rattie 47.35 297 *e*P **P 04 35 02.7 -0.6**
comp=Z,35nm,1.3s,mb4.8
ORIF *e*R
comp=Z,222nm,20.8s
ORIF Oris-en-Rattie 47.35 297 *e*P **P 04 35 02.7 -0.6**
comp=Z,35nm,1.3s,mb5.1
ORIF Oris-en-Rattie 47.35 297 *e*P **P 04 35 02.7 -0.6**
ORIF pmax pmax
comp=Z,35nm,1.3s,mb5.1
FRF La Foret Royal 47.37 295 *e*P **P 04 35 03.4 -0.1**
comp=Z,21nm,0.9s,mb4.8
FRF La Foret Royal 47.37 295 *e*P **P 04 35 03.4 -0.1**
comp=Z,21nm,0.9s,mb5.1
FRF La Foret Royal 47.37 295 *e*P **P 04 35 03.4 -0.1**
FRF pmax pmax
comp=Z,21nm,0.9s,mb5.1
LMR La Mourre 47.55 295 *e*P **P 04 35 05.4 +0.5**
LMR La Mourre 47.55 295 *e*P **P 04 35 05.4 +0.5**
LMR La Mourre 47.55 295 *e*P **P 04 35 05.4 +0.5**
LOR Lormes 47.78 301 *e*P **P 04 35 06.3 -0.3**
LOR *e*R
comp=Z,142nm,22.2s
LOR Lormes 47.78 301 *e*P **P 04 35 06.3 -0.3**
LOR Lormes 47.78 301 *e*P **P 04 35 06.3 -0.3**
SMRF Simiane la Rot 47.92 296 *e*P **P 04 35 08.0 +0.2**
comp=Z,19nm,0.8s,mb4.9
SMRF Simiane la Rot 47.92 296 *e*P **P 04 35 08.0 +0.2**
comp=Z,19nm,0.8s,mb5.2
SMF Signal de Mont 48.02 300 *e*P **P 04 35 08.0 -0.5**
comp=Z,14nm,0.9s,mb4.7
SMF Signal de Mont 48.02 300 *e*P **P 04 35 08.0 -0.5**
comp=Z,14nm,0.9s,mb5.0
SMF Signal de Mont 48.02 300 *e*P **P 04 35 08.0 -0.5**
SMF pmax pmax
comp=Z,15nm,0.9s,mb5.0
SSF Saint Saulge 48.08 300 *e*P **P 04 35 09.0 0.0**
SSF Saint Saulge 48.08 300 *e*P **P 04 35 09.0 0.0**
SSF Saint Saulge 48.08 300 *e*P **P 04 35 09.0 0.0**
VIVF Saint-Julien-l 48.17 297 *e*P **P 04 35 09.9 +0.2**
comp=Z,19nm,0.8s,mb4.9
VIVF Saint-Julien-l 48.17 297 *e*P **P 04 35 09.9 +0.2**
comp=Z,19nm,0.8s,mb5.2
VIVF Saint-Julien-l 48.17 297 *e*P **P 04 35 09.9 +0.2**
VIVF pmax pmax
comp=Z,19nm,0.8s,mb5.2
AVF Avril sur Loir 48.28 300 *e*P **P 04 35 10.3 -0.2**
comp=Z,38nm,1.0s,mb5.1
AVF Avril sur Loir 48.28 300 *e*P **P 04 35 10.3 -0.2**
comp=Z,38nm,1.0s,mb5.4
AVF Avril sur Loir 48.28 300 *e*P **P 04 35 10.3 -0.2**
AVF pmax pmax
comp=Z,38nm,1.0s,mb5.4
BGF Bois d'Agland 48.69 300 *e*P **P 04 35 13.5 -0.2**
comp=Z,38nm,1.1s,mb5.0
BGF Bois d'Agland 48.69 300 *e*P **P 04 35 13.5 -0.2**
comp=Z,38nm,1.1s,mb5.3
BGF Bois d'Agland 48.69 300 *e*P **P 04 35 13.5 -0.2**
BGF pmax pmax
comp=Z,38nm,1.1s,mb5.3
LASF Ste Croix 49.01 297 *e*P **P 04 35 16.5 +0.3**
comp=Z,29nm,0.9s,mb5.0
LASF Ste Croix 49.01 297 *e*P **P 04 35 16.5 +0.3**
comp=Z,29nm,0.9s,mb5.3
TCF Toulx Ste Croi 49.20 300 *e*P **P 04 35 17.7 +0.1**
comp=Z,19nm,1.0s,mb4.8
TCF Toulx Ste Croi 49.20 300 *e*P **P 04 35 17.7 +0.1**
comp=Z,19nm,1.0s,mb5.1
TCF Toulx Ste Croi 49.20 300 *e*P **P 04 35 17.7 +0.1**
TCF pmax pmax
comp=Z,19nm,1.0s,mb5.1
MJAR Matsushiro Arr 49.34 74 P **P 04 35 19.0 +0.2**
comp=Z,0.8nm,0.3s,mb4.2,baz=279,slow=11,SNR=6.8
MJAR Matsushiro Arr 49.34 74 P **P 04 35 19.0 +0.2**
MJAR Matsushiro Arr 49.34 74 P **P 04 35 19.0 +0.2**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
LDF La Druitiere 49.77 304 *e*P **P 04 35 21.4 -0.5**
comp=Z,11nm,0.8s,mb4.6
LDF La Druitiere 49.77 304 *e*P **P 04 35 21.4 -0.5**
comp=Z,11nm,0.8s,mb4.9
LDF La Druitiere 49.77 304 *e*P **P 04 35 21.4 -0.5**
LDF pmax pmax
comp=Z,11nm,0.8s,mb4.9
CAF Calviac 49.84 298 *e*P **P 04 35 22.6 +0.1**
CAF Calviac 49.84 298 *e*P **P 04 35 22.6 +0.1**
CAF Calviac 49.84 298 *e*P **P 04 35 22.6 +0.1**
FLN La Foliniere 49.93 304 *e*P **P 04 35 22.6 -0.5**
comp=Z,18nm,0.8s,mb4.9
FLN *e*R
comp=Z,156nm,17.5s
FLN La Foliniere 49.93 304 *e*P **P 04 35 22.6 -0.5**
comp=Z,18nm,0.8s,mb5.1
FLN La Foliniere 49.93 304 *e*P **P 04 35 22.6 -0.5**
FLN pmax pmax
comp=Z,18nm,0.8s,mb5.2
RJF Les Rejaudoux 50.04 299 *e*P **P 04 35 24.5 +0.5**
comp=Z,13nm,0.8s,mb4.7
RJF *e*R
comp=Z,119nm,18.2s
RJF Les Rejaudoux 50.04 299 *e*P **P 04 35 24.5 +0.5**
RJF Les Rejaudoux 50.04 299 *e*P **P 04 35 24.5 +0.5**
GRR Gorron 50.30 304 *e*P **P 04 35 25.4 -0.5**
comp=Z,48nm,1.2s,mb5.1
GRR Gorron 50.30 304 *e*P **P 04 35 25.4 -0.5**
comp=Z,48nm,1.2s,mb5.4
GRR Gorron 50.30 304 *e*P **P 04 35 25.4 -0.5**
GRR pmax pmax
comp=Z,48nm,1.2s,mb5.4
MTLF Montolieu 50.40 296 *e*P **P 04 35 27.1 +0.3**
comp=Z,27nm,1.1s,mb4.9
MTLF Montolieu 50.40 296 *e*P **P 04 35 27.1 +0.3**
comp=Z,27nm,1.1s,mb5.2
MTLF Montolieu 50.40 296 *e*P **P 04 35 27.1 +0.3**
MTLF pmax pmax
comp=Z,27nm,1.1s,mb5.2
LFF La Frestale 50.69 299 *e*P **P 04 35 29.5 +0.6**
LFF La Frestale 50.69 299 *e*P **P 04 35 29.5 +0.6**
LFF La Frestale 50.69 299 *e*P **P 04 35 29.5 +0.6**
SGMF Saint Gilles 51.40 304 *e*P **P 04 35 33.8 -0.4**
comp=Z,18nm,0.7s,mb4.8
SGMF Saint Gilles 51.40 304 *e*P **P 04 35 33.8 -0.4**
comp=Z,18nm,0.7s,mb5.1
SGMF Saint Gilles 51.40 304 *e*P **P 04 35 33.8 -0.4**
SGMF pmax pmax
comp=Z,18nm,0.7s,mb5.1
ROSF Rostrenen 51.80 304 *e*P **P 04 35 36.9 -0.3**
ROSF Rostrenen 51.80 304 *e*P **P 04 35 36.9 -0.3**
ROSF Rostrenen 51.80 304 *e*P **P 04 35 36.9 -0.3**
ETSF Etsaut 52.42 297 *e*P **P 04 35 42.1 +0.2**
ETSF Etsaut 52.42 297 *e*P **P 04 35 42.1 +0.2**
ETSF Etsaut 52.42 297 *e*P **P 04 35 42.1 +0.2**
KMBO Kilima Mbogo 54.33 226 *e*P **P 04 35 55.9 -0.3**
comp=Z,2.8nm,1.0s,mb4.2
KMBO Kilima Mbogo 54.33 226 *e*P **P 04 35 55.9 -0.3**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
ESDC Sonseca Array 56.21 295 P **P 04 36 09.4 -0.2**
comp=Z,2.4nm,0.7s,mb4.3,baz=58,slow=8.1,SNR=14
ESDC Sonseca Array 56.21 295 P **P 04 36 09.4 -0.2**
PVRL Vila Real 57.87 298 *e*P **P 04 36 20.9 -0.4**
PMRV Marv??o 58.61 296 *e*P **P 04 36 26.8 +0.3**
comp=Z,30nm,1.4s,mb5.1
TAM Tamanrasset 58.76 273 *e*P **P 04 36 27.7 -0.1**
comp=Z,1.7nm,0.6s,mb4.2
TAM Tamanrasset 58.76 273 *e*P **P 04 36 27.7 -0.1**
TAM pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
PBAR Barrancos 59.04 295 *e*P **P 04 36 29.3 -0.2**
comp=Z,35nm,1.7s,mb5.1
PMTG Montargil 59.35 297 *e*P **P 04 36 31.5 -0.1**
PVAQ Vaqueiros 59.91 295 *e*P **P 04 36 35.8 +0.3**
COLD Coldfoot 65.53 17 *e*P **P 04 37 13.0 +0.5**
comp=Z,12nm,0.9s,mb4.9
INK Inuvik 67.49 10 *e*P **P 04 37 25.6 +0.6**
comp=Z,14nm,1.0s,mb5.0
INK Inuvik 67.49 10 *e*P **P 04 37 25.7 +0.7**
INK pmax pmax
comp=Z,14nm,1.0s
TORD Torodi Ar. Bea 67.64 267 P **P 04 37 25.6 -1.2**
comp=Z,3.7nm,0.6s,mb4.6,baz=62,slow=4.6,SNR=31
TORD Torodi Ar. Bea 67.64 267 P **P 04 37 25.6 -1.2**

COLA	**College**	**68.04**	**18**	*eP*	**P**	**04 37 29.3**	**+0.8**
	comp=Z,11nm,0.8s,mb4.9						
COLA	**College**	**68.04**	**18**	*eP*	**P**	**04 37 29.3**	**+0.8**
COLA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**68.34**	**17**	P	**P**	**04 37 30.6**	**+0.3**
	comp=Z,6.5nm,0.8s,mb4.7,baz=321,slow=5.0,SNR=75						
ILAR				LR	LR	05 09 54.6	
	comp=Z,151nm,20.7s,MS4.2,baz=322,slow=38						
ILAR	**Eielson Array**	**68.34**	**17**	P	**P**	**04 37 30.6**	**+0.3**
ILAR	**Eielson Array**	**68.34**	**17**	P	**P**	**04 37 30.7**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,151nm,20.7s						
LSZ	**Lusaka**	**70.99**	**226**	*eP*	**P**	**04 37 46.5**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.2						
LSZ	**Lusaka**	**70.99**	**226**	*eP*	**P**	**04 37 46.5**	**-0.8**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KDAK	**Kodiak Island**	**72.81**	**24**	*i* P	**P**	**04 37 58.5**	**+0.7**
YKA	**Yellowknife Ar**	**74.95**	**4**	P	**P**	**04 38 10.4**	**+0.2**
	comp=Z,5.5nm,0.7s,mb4.6,baz=351,slow=5.9,SNR=21						
YKA				LR	LR	05 16 04.0	
	comp=Z,8.3nm,18.3s,MS3.1,baz=105,slow=40						
YKA	**Yellowknife Ar**	**74.95**	**4**	P	**P**	**04 38 10.4**	**+0.2**
YKA	**Yellowknife Ar**	**74.95**	**4**	P	**P**	**04 38 10.4**	**+0.2**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,8.0nm,18.3s						
DBIC	**Dimbokro**	**76.74**	**267**	P	**P**	**04 38 20.5**	**-0.8**
	comp=Z,6.8nm,1.1s,mb4.5,baz=76,slow=8.1,SNR=3.0						
DBIC	**Dimbokro**	**76.74**	**267**	P	**P**	**04 38 20.5**	**-0.8**
DBIC	**Dimbokro**	**76.74**	**267**	P	**P**	**04 38 20.5**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SCHQ	**Schefferville**	**77.03**	**338**	P	**P**	**04 38 21.8**	**-0.4**
	comp=Z,8.3nm,0.7s,mb4.8,baz=350,slow=5.4,SNR=12						
SCHQ	**Schefferville**	**77.03**	**338**	P	**P**	**04 38 21.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**77.37**	**129**	P	**P**	**04 38 23.2**	**-1.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=333,slow=9.0,SNR=4.0						
FITZ	**Fitzroy Crossi**	**77.37**	**129**	P	**P**	**04 38 23.2**	**-1.4**
TSUM	**Tsumeb**	**80.08**	**232**	*eP*	**P**	**04 38 39.0**	**-0.5**
	comp=Z,5.1nm,1.0s,mb4.4						
LBTB	**Lobatse**	**80.42**	**223**	*eP*	**P**	**04 38 41.3**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.3						
LBTB	**Lobatse**	**80.42**	**223**	*eP*	**P**	**04 38 41.3**	**+0.1**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
FFC	**Flin Flon**	**82.84**	**357**	*eP*	**P**	**04 38 53.6**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.5						
FFC	**Flin Flon**	**82.84**	**357**	*eP*	**P**	**04 38 53.6**	**-0.1**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BOSA	**Boshof**	**83.58**	**221**	P	**P**	**04 38 57.0**	**-0.7**
	comp=Z,3.5nm,0.6s,mb4.7,baz=53,slow=5.2,SNR=9.3						
BOSA	**Boshof**	**83.58**	**221**	*eP*	**P**	**04 38 56.4**	**-1.3**
	comp=Z,3.5nm,0.5s,mb4.8						
BOSA	**Boshof**	**83.58**	**221**	*eP*	**P**	**04 38 56.4**	**-1.3**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**83.94**	**124**	P	**P**	**04 38 58.5**	**-1.2**
	comp=Z,1.5nm,1.0s,mb4.1,baz=321,slow=4.9,SNR=9.9						
WRA	**Warramunga Arr**	**83.94**	**124**	P	**P**	**04 38 58.5**	**-1.2**
WRA	**Warramunga Arr**	**83.94**	**124**	P	**P**	**04 38 58.6**	**-1.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAR	**Alice Springs**	**86.51**	**127**	P	**P**	**04 39 11.4**	**-1.1**
	comp=Z,1.9nm,0.9s,mb4.3,baz=326,slow=5.0,SNR=14						
ASAR	**Alice Springs**	**86.51**	**127**	P	**P**	**04 39 11.4**	**-1.1**
ASAR	**Alice Springs**	**86.51**	**127**	P	**P**	**04 39 11.4**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NEW	**Newport**	**88.94**	**7**	*eP*	**P**	**04 39 24.3**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.6						
NEW	**Newport**	**88.94**	**7**	*eP*	**P**	**04 39 24.3**	**+0.3**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BSMT	**Bassoo Peak**	**89.53**	**5**	*eP*	**P**	**04 39 27.4**	**+0.6**
	comp=Z,6.8nm,1.3s,mb4.8						
SLMT	**Seeley Lake**	**90.22**	**5**	*eP*	**P**	**04 39 30.7**	**+0.7**
	comp=Z,10nm,1.1s,mb5.1						
CHMT	**Chamberlain Mo**	**90.56**	**4**	*eP*	**P**	**04 39 32.1**	**+0.5**
	comp=Z,4.0nm,1.3s,mb4.6						
BOZ	**Bozeman (W)**	**91.91**	**3**	*eP*	**P**	**04 39 38.8**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.3						
BOZ	**Bozeman (W)**	**91.91**	**3**	*eP*	**P**	**04 39 38.8**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**94.86**	**2**	P	**P**	**04 39 52.0**	**+0.5**
	comp=Z,0.6nm,0.8s,mb4.1,baz=10,slow=3.3,SNR=4.0						
PDAR	**Pinedale Array**	**94.86**	**2**	P	**P**	**04 39 52.0**	**+0.5**
HWUT	**Hardware Ranch**	**95.94**	**4**	*eP*	**P**	**04 39 56.8**	**+0.3**
	comp=Z,5.6nm,0.9s,mb5.0						
DUG	**Dugway**	**97.28**	**5**	*eP*	**P**	**04 40 02.3**	**-0.3**
	comp=Z,2.1nm,1.0s,mb4.5						
DUG	**Dugway**	**97.28**	**5**	*eP*	**P**	**04 40 02.3**	**-0.3**
DUG				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.5						
NVAR	**Mina Array Bea**	**98.55**	**9**	P	**P**	**04 40 07.6**	**-0.7**
	comp=Z,0.2nm,0.5s,mb3.9,baz=345,slow=5.6,SNR=2.4						
NVAR	**Mina Array Bea**	**98.55**	**9**	P	**P**	**04 40 07.6**	**-0.7**
VNA2	**Neumayer--Watz**	**126.79**	**204**	*e*	PKPdf	04 45 31.5	-0.4
	baz=7.0,slow=2.4						
VNA2				*e*		04 45 35.8	
VNA3	**Neumayer Olymp**	**127.59**	**204**	*e*	PKPdf	04 45 32.6	-0.9
CPUP	**Villa Florida**	**136.72**	**276**	PKP	PKPdf	04 45 50.1	-2.0
	comp=Z,1.7nm,0.8s,baz=14,slow=4.2,SNR=3.6						
CPUP	**Villa Florida**	**136.72**	**276**	PKP	PKPdf	04 45 50.1	-2.0
CPUP	**Villa Florida**	**136.72**	**276**	PKIKP	PKPdf	04 45 50.1	-2.0
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TRQA	**Tornquist**	**145.86**	**262**	*e*PKPbc	PKPbc	04 46 07.7	-1.0
LCO	**Las Campanas**	**147.97**	**283**	*e*PKPdf	PKPdf	04 46 12.3	+0.3
LCO				*e*PKPbc	PKPbc	04 46 15.1	0.0
PLCA	**Paso Flores**	**153.01**	**262**	PKPbc	PKPbc	04 46 24.3	-2.4
	comp=Z,3.3nm,0.9s,baz=158,slow=1.9,SNR=4.4						
PLCA	**Paso Flores**	**153.01**	**262**	*e*PKPbc	PKPbc	04 46 26.2	-0.5

*NEIC **03** 04:31:05.5, 16°.79N×99°.67W, h6km, MD3.3(MEX), After MEX.*

MEX 03 04:31:06.1±1.3, 16°.77N×99°.73W, h16km±15km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.16**	**309**	*i* P	Pg	04 31 10.0	-0.2
ACX				*i* S	Sg	04 31 14.1	+1.0
ACX	**Acapulco**	**0.16**	**309**	*i* P	Pg	04 31 10.0	-0.2
ACX				*i* S	Sg	04 31 13.2	+0.1
CAIG	**El Cayaco**	**0.59**	**298**	*i* P	Pg	04 31 16.6	-1.0
CAIG				*i* S	Sg	04 31 25.8	+0.2
CAIG	**El Cayaco**	**0.59**	**298**	*i* P	Pg	04 31 16.6	-1.0
CAIG				*i* S	Sg	04 31 22.1	-3.4
MEIG	**Mezcala**	**1.16**	**5**	*i* P	Pn	04 31 24.2	-3.4
MEIG				*i* S	Sb	04 31 38.5	-4.0
MEIG	**Mezcala**	**1.16**	**5**	*i* P	Pn	04 31 24.2	-3.4
MEIG				*i* S	Sb	04 31 38.0	-4.5
PNIG	**Pinotepa**	**1.58**	**103**	*i* P	Pn	04 31 30.0	-3.4
PNIG				*i* S	Sn	04 31 49.0	-4.6
PNIG	**Pinotepa**	**1.58**	**103**	*i* P	Pn	04 31 30.0	-3.4
PNIG				*i* S	Sn	04 31 47.9	-5.7
UTMO	**Huajuapan**	**2.12**	**60**	*eP*	Pn	04 31 37.1	-3.7
UTMO				*i* S	Sn	04 32 02.0	-4.9
UTMO	**Huajuapan**	**2.12**	**60**	*eP*	Pn	04 31 37.1	-3.7
UTMO				*i* S	Sn	04 32 02.0	-4.9
PPM	**Popocatepetl**	**2.52**	**24**	*i* P	Pn	04 31 47.5	+1.2
PPM	**Popocatepetl**	**2.52**	**24**	*i* P	Pn	04 31 46.2	-0.1
PPM				*i* S	Sn	04 32 16.1	-0.5

IDC 03 04:34:37.9±15.0, 18°.96N×145°.00E, h482km±169km, mb3.0/5, mb1 3.1/5, mb1mx2.8/22, mbtmp3.0/5, Error ellipse: s-maj=142.2km s-min=22.4km az=78.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.05**	**196**	P	P	04 41 30.4	-0.1
	0.6nm,0.5s,baz=15,slow=8.8,SNR=7.3						
FITZ	**Fitzroy Crossi**	**41.45**	**208**	P	P	04 41 41.5	-0.2
	0.7nm,0.5s,baz=31,slow=5.9,SNR=4.6						
SONM	**Songino Array**	**42.53**	**322**	P	P	04 41 49.6	-0.3
	0.4nm,0.6s,baz=129,slow=6.8,SNR=4.0						
MKAR	**Makanchi Array**	**57.81**	**314**	P	P	04 43 42.7	+0.5
	0.3nm,0.4s,baz=96,slow=8.6,SNR=4.9						
FINES	**FINESS Array B**	**86.37**	**335**	P	P	04 46 27.5	-0.5
	2.7nm,0.9s,baz=60,slow=4.6,SNR=4.4						

DJA 03 04:37:40.1±21.5S×123°.42E, h10km, MLv3.8/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.67**	**284**	P	Pg	04 37 52.9	-0.1
LUWI				S	Sg	04 38 02.1	+0.4
APSI	**Ampana**	**1.80**	**280**	P	Pn	04 38 12.9	+1.8
APSI				S	Sn	04 38 37.8	+3.9
KMSI	**Cibinong**	**1.86**	**18**	P	Pn	04 38 13.4	+1.5
KMSI				S	Sn	04 38 38.5	+3.0
GTOI	**Gorontalo**	**1.88**	**347**	P	Pn	04 38 10.4	-1.8
GTOI				S	Sn	04 38 39.0	+3.0
MRSI	**Marisa**	**2.23**	**319**	P	Pn	04 38 17.1	0.0

IDC 03 04:39:27.7±9.9, 7°.02S×129°.60E, h125km±102km, mb3.4/2, mb1 3.4/5, mb1mx3.2/17, mbtmp3.3/5, ML3.6/3, Error ellipse: s-maj=68.1km s-min=40.4km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.67**	**199**	P	Pn	04 42 11.7	+1.3
	0.1nm,0.3s,baz=14,slow=16,SNR=23						
FITZ				S	Sn	04 44 16.7	-2.4
	0.5nm,0.3s,baz=182,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**13.64**	**161**	P	Pn	04 42 35.4	-0.8
	0.4nm,0.3s,baz=340,slow=13,SNR=21						
WRA				S	Sn	04 44 59.7	-7.0
	0.8nm,0.3s,baz=338,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.06**	**166**	P	Pn	04 43 20.4	+1.8
	0.2nm,0.3s,baz=346,slow=10,SNR=17						
ASAR				S	S	04 46 28.3	-0.6
	0.2nm,0.3s,baz=349,slow=18,SNR=5.0						
MKAR	**Makanchi Array**	**68.02**	**327**	P	P	04 50 13.9	+0.4
	0.3nm,0.3s,baz=113,slow=8.9,SNR=5.4						
KURK	**Kurchatov**	**72.33**	**329**	P	P	04 50 39.0	-0.6
	0.2nm,0.3s,baz=112,slow=4.1,SNR=4.1						

*ISCJB **03** 04:49:37.4±1.8, 16°.7S±0°.1×174°.2W±0°.1, h101km±16km, mb4.1/14, Error ellipse: s-maj=30.1km s-min=13.8km az=135.7*

*NEIC **03** 04:49:38.9±1.1, 16°.81S×174°.11W, h104km±10km, mb4.4/5, Error ellipse: s-maj=13.9km s-min=8.0km az=130.0*

*IDC **03** 04:49:39.1±2.9, 16°.75S×174°.10W, h103km±25km, mb3.8/9, mb1 4.1/10, mb1mx3.9/18, mbtmp3.9/10, Error ellipse: s-maj=29.1km s-min=16.0km az=136.0*

ISC 03 04:49:39.0±1.8, 16°.8S±0°.1×174°.1W±0°.1, h105km±16km, n38, σ0°56/28, mb4.1/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.65**	**39**	P	**Pn**	**04 50 33.5**	**0.0**
	46nm,0.3s,baz=196,slow=2.4,SNR=38						
AFI				S	**Sn**	**04 51 10.4**	**-5.3**
	177nm,0.3s,baz=234,slow=22,SNR=19						
AFI	**Afiamalu**	**3.65**	**39**	P	**Pn**	**04 50 33.5**	**0.0**
AFI				S	**Sn**	**04 51 10.4**	**-5.4**
URZ	**Urewera**	**22.74**	**198**	P	**P**	**04 54 33.4**	**+1.1**
	6.2nm,0.4s,mb4.3,baz=272,slow=4.1,SNR=14						
URZ	**Urewera**	**22.74**	**198**	P	**P**	**04 54 33.4**	**+1.1**
PMG	**Port Moresby**	**38.36**	**276**	*eP*	**P**	**04 56 49.4**	**-0.7**
	7.7nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**48.86**	**258**	P	**P**	**04 58 14.1**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=92,slow=6.9,SNR=7.3						
WRA	**Warramunga Arr**	**48.86**	**258**	P	**P**	**04 58 14.1**	**-0.1**
AS31	**Alice Springs**	**49.03**	**253**	*eP*	**P**	**04 58 15.4**	**-0.1**
ASAR	**Alice Springs**	**49.03**	**253**	P	**P**	**04 58 15.9**	**+0.4**
	8.6nm,0.5s,mb4.9,baz=88,slow=8.4,SNR=156						
ASAR	**Alice Springs**	**49.03**	**253**	P	**P**	**04 58 15.9**	**+0.4**
VNDA	**Vanda**	**61.94**	**186**	*eP*	**P**	**04 59 45.8**	**-1.3**
	0.7nm,0.6s,mb3.9						
PETK	**Petropavlovsk-**	**73.73**	**343**	P	**P**	**05 01 02.0**	**+0.8**
	5.2nm,0.7s,mb4.3,baz=148,slow=9.5,SNR=4.5						
PETK	**Petropavlovsk-**	**73.73**	**343**	P	**P**	**05 01 02.0**	**+0.8**
NVAR	**Mina Array Bea**	**75.82**	**42**	P	**P**	**05 01 14.2**	**+0.6**
	2.3nm,0.8s,mb4.0,baz=228,slow=9.8,SNR=7.3						
NVAR	**Mina Array Bea**	**75.82**	**42**	P	**P**	**05 01 14.2**	**+0.6**
TXAR	**Lajitas Array**	**81.96**	**56**	P	**P**	**05 01 47.3**	**-0.1**
	0.2nm,0.7s,mb3.1,baz=215,slow=11,SNR=4.0						
TXAR	**Lajitas Array**	**81.96**	**56**	P	**P**	**05 01 47.3**	**-0.1**
MCK	**McKinley**	**82.60**	**11**	*eP*	**P**	**05 01 49.8**	**-0.1**
	3.3nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**83.76**	**42**	P	**P**	**05 01 56.4**	**0.0**
	1.3nm,0.8s,mb3.8,baz=225,slow=4.0,SNR=7.1						
PDAR	**Pinedale Array**	**83.76**	**42**	P	**P**	**05 01 56.4**	**0.0**
COLA	**College**	**83.84**	**11**	*eP*	**P**	**05 01 56.2**	**-0.1**
	5.1nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**83.93**	**11**	P	**P**	**05 01 56.5**	**-0.3**
	0.5nm,0.5s,mb3.6,baz=215,slow=5.0,SNR=13						
ILAR	**Eielson Array**	**83.93**	**11**	P	**P**	**05 01 56.5**	**-0.3**
BILL	**Bilibino**	**85.78**	**353**	*eP*	**P**	**05 02 05.5**	**-0.4**
	3.2nm,0.9s,mb4.2						
CMAR	**Chiang Mai Arr**	**92.38**	**288**	P	**P**	**05 02 38.7**	**+0.4**
	0.5nm,0.3s,mb4.2,baz=83,slow=2.8,SNR=3.7						
CMAR	**Chiang Mai Arr**	**92.38**	**288**	P	**P**	**05 02 38.7**	**+0.4**
KMBO	**Kilima Mbogo**	**144.30**	**243**	*e*PKPdf	PKPdf	05 09 03.7	0.0
BUR08	**Bucovina Ar. S**	**145.35**	**337**	*e*PKPbc	PKPbc	05 09 05.5	+1.0
MORC	**Moravsky Berou**	**145.76**	**347**	*e*PKPbc	PKPbc	05 09 07.3	+1.6
BR131	**Keskin Array S**	**146.76**	**319**	*e*PKPbc	PKPbc	05 09 09.7	+0.7
BRTR	**Keskin Array B**	**146.76**	**319**	PKPbc	PKPbc	05 09 09.8	+0.9
	2.9nm,0.7s,baz=130,slow=3.4,SNR=15						
BRTR	**Keskin Array B**	**146.76**	**319**	PKPbc	PKPbc	05 09 09.8	+0.9
GERES	**GERESS Array B**	**147.39**	**350**	PKPbc	PKPbc	05 09 10.7	+0.3
	0.7nm,0.7s,baz=32,slow=5.3,SNR=4.1						
GERES	**GERESS Array B**	**147.39**	**350**	PKPbc	PKPbc	05 09 10.7	+0.3
DAVOX	**Davos/Dischmat**	**149.90**	**355**	PKPbc	PKPbc	05 09 17.9	+0.9
	baz=0.0,slow=2.0						
DAVOX	**Davos/Dischmat**	**149.90**	**355**	PKPbc	PKPbc	05 09 17.9	+0.9
TORD	**Torodi Ar. Bea**	**174.58**	**131**	PKPab	PKPab	05 11 11.0	0.0
	0.4nm,1.0s,baz=253,slow=5.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**174.58**	**131**	PKPab	PKPab	05 11 11.0	0.0

JMA 03 04:55:15.5±0.2, 28°.81N×143°.00E, h97km, M3.9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.85**	**203**	P	Pn	04 55 46.4	+0.3
CBIJ				*eS*	Sn	04 56 09.7	+0.4
JOD2	**Odawara 2**	**7.24**	**334**	P	Pn	04 56 58.6	0.0
JRY	**Ryogami san**	**7.98**	**335**	P	Pn	04 57 09.8	+1.2
JRY				*eS*	Sn	04 58 38.3	+1.2
MAT	**Matsushiro**	**8.70**	**334**	P	Pn	04 57 20.8	+2.3

IDC 03 05:13:36.8±7.0, 5°.42S×146°.68E, h152km±72km, mb3.2/3, mb1 3.4/5, mb1mx3.2/16, mbtmp3.2/5, Error ellipse: s-maj=79.8km s-min=24.8km az=141.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.99**	**173**	P	Pn	05 14 37.4	+0.4
	4.8nm,0.3s,baz=321,slow=6.9,SNR=7.3						
PMG				S	Sn	05 15 24.1	+0.2
	5.3nm,0.3s,baz=138,slow=22,SNR=8.4						
WRA	**Warramunga Arr**	**18.78**	**219**	P	P	05 17 45.2	+0.7
	0.3nm,0.3s,baz=38,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.93**	**213**	P	P	05 18 19.1	+1.0
	0.8nm,0.8s,baz=48,slow=7.7,SNR=6.3						
FITZ	**Fitzroy Crossi**	**24.11**	**237**	P	P	05 18 38.1	-0.5
	0.9nm,0.4s,baz=64,slow=11,SNR=9.6						
ILAR	**Eielson Array**	**85.07**	**23**	P	P	05 25 55.4	+0.3
	0.7nm,0.6s,baz=250,slow=4.9,SNR=17						
TORD	**Torodi Ar. Bea**	**144.64**	**285**	PKP	PKPdf	05 32 54.0	-2.4
	0.3nm,0.9s,baz=91,slow=3.8,SNR=3.1						

IDC 03 05:22:00.1±7.7, 15°.61S×175°.80W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.5/3, Error ellipse: s-maj=341.3km s-min=35.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.54**	**257**	P	P	05 30 37.6	-0.1
	0.2nm,0.3s,baz=90,slow=8.2,SNR=7.7						
ASAR	**Alice Springs**	**47.85**	**252**	P	P	05 30 40.0	0.0
	0.6nm,0.3s,baz=87,slow=8.1,SNR=17						
ILAR	**Eielson Array**	**83.11**	**12**	P	P	05 34 27.4	+0.1
	0.1nm,0.4s,baz=221,slow=4.8,SNR=6.4						

*MOS **03** 05:22:08.8±1.7, 46°.95N×152°.73E, h35km, mb4.4/5, Error ellipse: s-maj=17.7km s-min=12.5km az=66.7*

*IDC **03** 05:22:16.0±4.8, 46°.75N×152°.61E, h89km±45km, mb3.3/7, mb1 3.6/8, mb1mx3.3/24, mbtmp3.4/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=30.6km s-min=27.6km az=164.0*

ISC 03 05:22:15.1±1.5, 46°.6N±0°.1×152°.2E±0°.2, h83km±16km, n33, σ1°37/40, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.33**	**248**	PN	**Pn**	**05 23 05.6**	**+0.7**
KUR				*eS*	**Sn**	**05 23 49.0**	**+5.6**
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,140nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.17**	**243**	*e*PN	**Pn**	**05 23 31.6**	**+1.8**
NEM2	**Nemuro 2**	**5.62**	**237**	P	**Pn**	**05 23 35.3**	**-0.6**
NEM2				*eS*	**Sn**	**05 24 38.3**	**-0.7**
JNK	**Nakash**	**6.10**	**243**	P	**Pn**	**05 23 44.2**	**+1.6**
JAK	**Akkeshi**	**6.45**	**239**	P	**Pn**	**05 23 46.7**	**-0.6**
JAK				*eS*	**Sn**	**05 24 58.8**	**-0.6**
JAR	**Ashorobuto**	**6.84**	**244**	P	**Pn**	**05 23 54.5**	**+1.8**
JAR				*eS*	**Sn**	**05 25 10.3**	**+1.3**
JOB	**Onbets**	**7.02**	**241**	P	**Pn**	**05 23 55.6**	**+0.5**
JOB				*eS*	**Sn**	**05 25 13.8**	**+0.5**
ASAJ	**Asahikawa**	**7.22**	**253**	P	**Pn**	**05 24 02.1**	**+4.3**
	comp=E,1.7nm,0.3s,baz=90,slow=16,SNR=3.9						
ASAJ	**Asahikawa**	**7.22**	**253**	PN	**Pn**	**05 24 02.1**	**+4.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**7.22**	**253**	P	**Pn**	**05 24 02.0**	**+4.2**
JCH	**Churui**	**7.47**	**241**	P	**Pn**	**05 24 00.9**	**-0.3**
JCH				*eS*	**Sn**	**05 25 23.6**	**-0.7**
ERM	**Erimo**	**7.95**	**238**	*e*PN	**Pn**	**05 24 10.5**	**+2.7**
JNBK	**Urakawa-nobuka**	**8.03**	**241**	P	**Pn**	**05 24 08.1**	**-0.8**
JKB	**Kayabe**	**9.31**	**244**	P	**Pn**	**05 24 25.8**	**-0.5**
JKB				*eS*	**Sn**	**05 26 06.8**	**-2.3**
JTM	**Tenmabayashi**	**9.94**	**238**	P	**Pn**	**05 24 32.4**	**-2.5**
JANG	**Nango**	**9.95**	**235**	P	**Pn**	**05 24 32.4**	**-2.7**
JANG				*eS*	**Sn**	**05 26 18.9**	**-6.1**
SEY	**Seymchan**	**16.38**	**0**	*eP*	**Pn**	**05 25 52.6**	**-7.0**
YAK	**Yakutsk**	**20.13**	**328**	*eP*	**P**	**05 26 40.2**	**-1.9**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**20.17**	**252**	P	**P**	**05 26 48.1**	**+5.5**
	comp=Z,0.9nm,0.3s,baz=53,slow=11,SNR=4.4						
KSRS	**Korea Array**	**20.17**	**252**	*eP*	**P**	**05 26 50.1**	**+7.5**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**46.47**	**297**	LR	LR	05 50 59.7	
	comp=Z,28nm,19.5s,baz=171,slow=37						
JOF	**Joensuu**	**61.21**	**333**	*eP*	**P**	**05 32 22.9**	**+2.3**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
NVAR	**Mina Array Bea**	**63.05**	**62**	P	**P**	**05 32 32.6**	**-0.7**
	comp=Z,0.1nm,0.4s,mb3.1,baz=305,slow=3.2,SNR=2.5						
NOA	**NORSAR Array B**	**68.18**	**341**	P	**P**	**05 33 06.1**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.7,baz=28,slow=6.2,SNR=4.8						
NOA	**NORSAR Array B**	**68.18**	**341**	P	**P**	**05 33 06.1**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.34**	**326**	P	**P**	**05 33 25.3**	**-0.2**
	comp=Z,1.2nm,0.4s,mb4.0,baz=34,slow=6.3,SNR=4.8						
AKASG	**Malin Array Be**	**71.34**	**326**	P	**P**	**05 33 25.3**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**71.86**	**198**	P	**P**	**05 33 30.4**	**+1.5**
	comp=Z,0.1nm,0.6s,mb2.8,baz=9.0,slow=5.5,SNR=4.3						
ASAR	**Alice Springs**	**71.86**	**198**	*eP*	**P**	**05

comp=N,13nm,0.6s
PYUN Piuthan 13.18 127 eP Pn 05 28 42.0 -1.3
comp=N,13nm,0.6s
DANN Dangsing 13.51 124 eP Pn 05 28 47.5 +0.1
comp=N,13nm,0.4s
DANN Dangsing 13.51 124 eP Pn 05 28 47.5 +0.1
comp=N,13nm,0.4s
KOLN Koldanda 13.80 126 eP Pn 05 28 50.9 0.0
comp=N,11nm,0.3s
KOLN Koldanda 13.80 126 eP Pn 05 28 50.9 0.0
comp=N,11nm,0.3s
GKN Gorkha 14.33 123 eP Pn 05 28 57.2 -0.2
comp=N,22nm,0.5s
GKN Gorkha 14.33 123 eP Pn 05 28 57.2 -0.2
comp=N,22nm,0.5s
DMN Daman 14.90 123 eP Pn 05 29 04.3 -0.1
comp=N,22nm,0.7s
DMN eS S 05 31 42.6 -6.9
DMN Daman 14.90 123 eP Pn 05 29 04.3 -0.1
comp=N,22nm,0.6s
DMN eS S 05 31 42.6 -6.9
KKN Kakani 14.90 122 eP Pn 05 29 04.2 -0.2
comp=N,25nm,0.5s
KKN Kakani 14.90 122 eP Pn 05 29 04.2 -0.2
comp=N,25nm,0.5s
AB31 Akbulak array 14.99 331 ⇑Pn Pn 05 29 04.4 -0.9
comp=N,2.0nm,0.6s,baz=147,slow=12,SNR=66
AB31 ⇓Sn S 05 31 49.2 -2.0
comp=N,0.6nm,0.4s,baz=149,slow=23
ABKAR Akbulak array 14.99 331 ePn Pn 05 29 04.7 -0.5
comp=N,2.1nm,0.4s
KURK Kurchatov 15.07 19 P Pn 05 29 04.1 -2.1
comp=N,0.3nm,0.3s,baz=207,slow=10,SNR=2.9
KURK Kurchatov 15.07 19 P Pn 05 29 04.1 -2.1
PKI Pulchoki 15.13 123 eP Pn 05 29 07.4 +0.2
comp=N,17nm,0.4s
GUN Gumba 15.23 121 eP Pn 05 29 08.2 -0.3
comp=N,21nm,0.4s
JIRN Jiri 15.60 121 eP Pn 05 29 13.3 +0.4
comp=N,11nm,0.4s
VOSK Vostochnaya 16.07 360 ⇑Pn Pn 05 29 18.1 -0.2
comp=N,1.8nm,0.5s
RAMN Ramite 16.34 122 eP P 05 29 21.6 +1.0
comp=N,20nm,0.7s
RAMN Ramite 16.34 122 eP P 05 29 21.6 +1.0
comp=N,20nm,0.6s
ZRNK Zerenda 16.36 356 ⇑Pn Pn 05 29 21.7 -0.1
comp=N,3.5nm,0.6s
BVA0 Borovoye Array 16.38 359 Pn Pn 05 29 22.6 +0.6
comp=N,0.5nm,0.6s,baz=227,slow=40,SNR=13
BVAR Borovoye Array 16.38 359 P P 05 29 22.6 +1.7
comp=N,0.8nm,0.3s,baz=174,slow=14,SNR=13
BVAR Borovoye Array 16.38 359 P P 05 29 22.6 +1.7
AKTO Aktyubinsk 16.68 330 ⇑Pn Pn 05 29 25.3 -0.3
comp=N,0.7nm,0.5s
AKTO ⇑Sn S 05 32 37.2 +10
comp=N,0.1nm,0.6s
AKTO Aktyubinsk 16.68 330 P P 05 29 25.6 +1.4
comp=N,1.2nm,0.3s,baz=147,slow=9.3,SNR=21
AKTO Aktyubinsk 16.68 330 P P 05 29 25.6 +1.4
ODAN Odare 16.94 121 eP P 05 29 29.5 +2.3
comp=N,23nm,0.6s
ODAN Odare 16.94 121 eP P 05 29 29.5 +2.3
comp=N,23nm,0.6s
ZALV Zalesovo Beam 19.75 25 P P 05 29 57.5 +0.1
comp=N,0.8nm,0.3s,baz=218,slow=11,SNR=9.8
ZALV LR LR 05 37 19.1
comp=N,13nm,19.6s,baz=339,slow=35
ZALV Zalesovo Beam 19.75 25 P P 05 29 57.5 +0.1
AKASG Malin Array Be 32.91 309 P P 05 31 59.4 +1.8
comp=N,1.4nm,0.6s,mb3.7,baz=79,slow=7.8,SNR=5.4
AKASG Malin Array Be 32.91 309 P P 05 31 59.4 +1.8
FINES FINESS Array B 37.40 326 P P 05 32 36.7 +0.9
comp=N,2.2nm,0.3s,mb4.1,baz=115,slow=9.2,SNR=9.9
FINES FINESS Array B 37.40 326 P P 05 32 36.7 +0.9
KAF Kangasniemi 37.54 327 eP P 05 32 37.6 +0.6
ARCES ARCESS Array B 41.03 338 P P 05 33 07.0 +1.3
comp=N,3.4nm,0.5s,mb4.0,baz=114,slow=8.6,SNR=30
ARCES ARCESS Array B 41.03 338 P P 05 33 07.0 +1.3
MDJ Mudanjiang 44.27 61 eP P 05 33 32.8 +0.8
comp=N,50nm,0.5s,mb5.1
NB2 NORSAR Subarra 44.30 323 P P 05 33 32.3 +0.2
comp=Z,2.3nm,0.5s,mb3.8,baz=97,slow=7.9
NOA NORSAR Array B 44.30 323 P P 05 33 32.6 +0.6
comp=Z,3.9nm,0.7s,mb3.9,baz=97,slow=7.8,SNR=18
NOA NORSAR Array B 44.30 323 P P 05 33 32.6 +0.6
TORD Torodi Ar. Bea 65.79 269 P P 05 36 04.7 -1.6
comp=Z,1.4nm,0.6s,mb3.8,baz=49,slow=5.1,SNR=18
TORD Torodi Ar. Bea 65.79 269 P P 05 36 04.7 -1.6
ILAR Eielson Array 74.62 16 P P 05 36 58.9 -0.1
comp=Z,0.5nm,0.8s,mb3.2,baz=321,slow=4.2,SNR=7.4
ILAR Eielson Array 74.62 16 P P 05 36 58.9 -0.1
DBIC Dimbokro 74.78 267 P P 05 36 59.5 -1.2
comp=Z,1.3nm,0.7s,mb3.7,baz=60,slow=14,SNR=2.9
DBIC Dimbokro 74.78 267 P P 05 36 59.5 -1.2
YKA Yellowknife Ar 81.09 3 P P 05 37 35.2 +0.6
comp=Z,0.8nm,0.5s,mb3.6,baz=350,slow=5.1,SNR=9.1
YKA Yellowknife Ar 81.09 3 P P 05 37 35.2 +0.6
WRA Warramunga Arr 82.01 122 P P 05 37 38.8 -1.2
comp=Z,0.4nm,0.7s,mb3.2,baz=325,slow=4.7,SNR=5.3
WRA Warramunga Arr 82.01 122 P P 05 37 38.8 -1.2
ASAR Alice Springs 84.28 125 P P 05 37 50.7 -0.9
comp=Z,0.6nm,0.8s,mb3.4,baz=320,slow=5.7,SNR=7.5
ASAR Alice Springs 84.28 125 P P 05 37 50.7 -0.9

*ISK **03** 05:32:36.2, 37°.94N×30°.98E, h9km, MD2.8*
*ISCJB **03** 05:32:37.2±0.4, 37°.95N±0°.03×30°.97E±0°.04, h10km, Error ellipse: s-maj=4.8km s-min=3.7km az=35.6*
*DDA **03** 05:32:37.2, 37°.97N×30°.92E, h10km±2km, Md2.9*
*CSEM **03** 05:32:37.0±0.1, 37°.95N×30°.98E, h12km, MD2.8, Error ellipse: s-maj=3.7km s-min=3.1km az=118.0*
ISC 03 05:32:37.3±0.7, 37°.94N±0°.03×30°.98E±0°.05, h11km±6km, n36, σ0°88/52, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	Bucak	0.57	213	ePG	Pg	05 32 48.2	-0.1
BCK				eSG	Sg	05 32 55.6	-0.1
BCK	Bucak	0.57	213	ePg	Pg	05 32 48.2	-0.1
BCK				eSg	Sg	05 32 55.6	-0.1
SHUT	Suhut-Afyon	0.70	331	ePG	Pg	05 32 50.2	-0.7
SHUT				eSG	Sg	05 33 00.2	+0.1
SHUT	Suhut-Afyon	0.70	331	ePg	Pg	05 32 50.2	-0.7
SHUT				eSg	Sg	05 33 00.2	+0.1
BOLV	Bolvadin	0.78	358	eP	Pg	05 32 51.7	-0.7
BOLV				eS	Sg	05 33 03.7	+1.1
BOLV	Bolvadin	0.78	358	eP	Pb	05 32 51.7	-0.7
BOLV				eS	Sg	05 33 03.7	+1.1
KORT	Korkueli	1.06	208	eP	Pb	05 32 58.6	+1.0
KORT				eS	Sb	05 33 16.1	+4.7
KORT	Korkueli	1.06	208	eP	Pb	05 32 58.6	+1.0
KDHN	Kadinhani	1.07	56	eP	Pb	05 32 57.5	-0.3
KDHN				eS	Sb	05 33 13.7	+1.9
KDHN	Kadinhani	1.07	56	eP	Pb	05 32 57.5	-0.3
KDHN				eS	Sb	05 33 13.7	+1.9
KONT	Konya--Tatoy	1.09	89	ePN	Pn	05 32 57.8	-0.6
KONT	Konya--Tatoy	1.09	89	ePn	Pn	05 32 57.8	-0.7
LADK	Ladik-KONYA	1.12	76	ePN	Pn	05 32 57.7	-1.2
LADK				eSN	Sn	05 33 13.7	-0.7
LADK	Ladik-KONYA	1.12	76	ePn	Pn	05 32 57.7	-1.2
LADK				eSn	Sn	05 33 13.7	-0.7
KIZT	Kizilcal	1.18	37	ePN	Pn	05 32 59.4	-0.3
KIZT	Kizilcal	1.18	37	ePn	Pn	05 32 59.4	-0.3
KHAL	Karahalli	1.25	291	⇓iP	Pn	05 32 59.9	-0.7
KHAL				iS	Sb	05 33 21.7	+4.7
KHAL	Karahalli	1.25	291	iP	Pn	05 32 59.9	-0.8
ALT	Altintas	1.31	329	ePN	Pn	05 33 00.8	-0.7
ALT	Altintas	1.31	329	ePn	Pn	05 33 00.8	-0.7
GOLH	Golhisar	1.32	239	eP	Pn	05 33 01.1	-0.6
GOLH				eS	Sb	05 33 20.1	+1.0
GOLH	Golhisar	1.32	239	eP	Pn	05 33 01.1	-0.6
GOLH				eS	Sb	05 33 20.0	+0.9
HDMB	Hadim	1.54	128	ePN	Pn	05 33 05.4	+0.7
HDMB	Hadim	1.54	128	ePn	Pn	05 33 05.4	+0.7
SVRH	Sivrihisar-ESK	1.57	16	ePN	Pn	05 33 05.2	+0.1
SVRH	Sivrihisar-ESK	1.57	16	ePn	Pn	05 33 05.2	+0.2
ESKT	Eskisehir	1.59	356	ePN	Pn	05 33 04.8	-0.5
ESKT	Eskisehir	1.59	356	ePn	Pn	05 33 04.8	-0.5
KULA	Kula-Manisa	1.92	288	ePN	Pn	05 33 09.6	-0.3
KULA	Kula-Manisa	1.92	288	ePn	Pn	05 33 09.6	-0.2
BORA	Eskisehir	1.98	348	eP	Pn	05 33 13.3	+2.5
BORA				eS	Sn	05 33 40.0	+4.4
BORA	Eskisehir	1.98	348	eP	Pn	05 33 13.3	+2.5
GAZI	Gazipasa	2.01	147	eP	Pn	05 33 15.0	+3.9
GAZI				eS	Sn	05 33 42.5	+6.4
GAZI	Gazipasa	2.01	147	eP	Pn	05 33 15.0	+4.0
DST	Dursunbey	2.49	313	ePN	Pn	05 33 17.5	-0.2
DST	Dursunbey	2.49	313	ePn	Pn	05 33 17.5	-0.2

*NEIC **03** 07:32:20.8, 41°.89S×174°.23E, h12km, ML3.7(WEL), After WEL.*
NEIC Felt at Ward.
WEL 03 07:32:21.4±0.2, 41°.87S×174°.22E, h15km±1km, ML3.8/30, Error ellipse: s-maj=1.9km s-min=1.9km az=0.0, Small foreshock 1 sec. earlier., Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.12	357	PG	Pg	07 32 24.6	-0.3
CMWZ				SG	Sg	07 32 28.6	+1.4
CMWZ	Cape Campbell	0.12	357	Pg	Pg	07 32 23.8	-1.1
CMWZ				Sg	Sg	07 32 28.7	+1.5
BSWZ	Blackbirch Sta	0.30	301	PG	Pg	07 32 27.3	-0.4
BSWZ				SG	Sg	07 32 32.1	+0.1
BSWZ	Blackbirch Sta	0.30	301	Pg	Pg	07 32 26.3	-1.4
BSWZ				Sg	Sg	07 32 33.0	+1.1
TUWZ	Tuamarina	0.49	335	P*	Pb	07 32 31.0	-0.7
TUWZ				SG	Sg	07 32 39.0	+1.5
TUWZ	Tuamarina	0.49	335	Pg	Pg	07 32 30.1	-1.0
TCW	Tory Channel	0.66	4	P*	Pb	07 32 34.0	-0.6
TCW	Tory Channel	0.66	4	P*	Pb	07 32 33.3	-1.3
SNZO	South Karori	0.67	33	P*	Pb	07 32 34.5	-0.3
SNZO	South Karori	0.67	33	P*	Pb	07 32 34.5	-0.3
BHW	Baring Head	0.67	47	P*	Pb	07 32 35.2	+0.4
BHW				SG	Sg	07 32 45.9	+2.5
BHW	Baring Head	0.67	47	P*	Pb	07 32 34.5	-0.3
BHW				Sg	Sg	07 32 45.9	+2.5
KHZ	Kahutara	0.74	223	P*	Pb	07 32 35.7	-0.3
KHZ	Kahutara	0.74	223	P*	Pb	07 32 35.1	-0.9
PLWZ	Palliser	0.83	69	P*	Pb	07 32 37.3	-0.2
PLWZ	Palliser	0.83	69	P*	Pb	07 32 37.3	-0.2
MSWZ	Moikau Station	0.90	60	P*	Pb	07 32 38.7	+0.1
MSWZ	Moikau Station	0.90	60	P*	Pb	07 32 38.0	-0.6
NNZ	Nelson	0.91	316	P*	Pb	07 32 38.4	-0.4
NNZ	Nelson	0.91	316	P*	Pb	07 32 38.4	-0.4
THZ	Tophouse	0.99	276	P*	Pb	07 32 39.9	-0.4
THZ	Tophouse	0.99	276	P*	Pb	07 32 39.1	-1.2
CAW	Cannon Point	0.99	40	P*	Pb	07 32 40.6	+0.3
CAW	Cannon Point	0.99	40	P*	Pb	07 32 39.7	-0.6
PAWZ	Paruwai Farm	1.03	62	P*	Pb	07 32 40.2	-0.7
PAWZ	Paruwai Farm	1.03	62	P*	Pb	07 32 40.2	-0.7
DUWZ	D'Urville Isla	1.09	348	P*	Pb	07 32 41.6	-0.4
DUWZ	D'Urville Isla	1.09	348	P*	Pb	07 32 41.6	-0.4
KIW	Kapiti Island	1.13	27	P*	Pb	07 32 42.0	-0.7
KIW	Kapiti Island	1.13	27	P*	Pb	07 32 42.0	-0.7
TRWZ	Traveller	1.20	67	P*	Pb	07 32 42.1	-1.6
MTW	Mount Morrison	1.20	54	P*	Pb	07 32 42.0	-1.7
MTW	Mount Morrison	1.20	54	P*	Pb	07 32 42.0	-1.7
OGWZ	Otaki Gorge	1.27	34	P*	Pb	07 32 43.5	-1.5
OGWZ	Otaki Gorge	1.27	34	P*	Pb	07 32 43.5	-1.5
HOWZ	Holdsworth Sta	1.38	45	P*	Pb	07 32 45.4	-1.4
HOWZ	Holdsworth Sta	1.38	45	P*	Pb	07 32 45.5	-1.4
TMWZ	Te Maipa	1.47	59	P*	Pb	07 32 46.0	-2.4
TMWZ	Te Maipa	1.47	59	P*	Pb	07 32 46.0	-2.4
MRZ	Mangatainoka R	1.58	41	PN	Pn	07 32 48.2	-0.8
MRZ	Mangatainoka R	1.58	41	Pn	Pn	07 32 48.1	-0.8
QRZ	Quartz Range	1.65	309	Pn	Pn	07 32 50.7	+0.9
LTZ	Lake Taylor	1.71	237	PN	Pn	07 32 50.2	-0.5
LTZ	Lake Taylor	1.71	237	Pn	Pn	07 32 50.2	-0.5
DSZ	Denniston Nort	1.81	273	PN	Pn	07 32 52.8	+0.8
DSZ	Denniston Nort	1.81	273	Pn	Pn	07 32 53.5	+1.5
BFZ	Birch Farm	1.94	53	Pn	Pn	07 32 52.4	-1.4
MQZ	McQueen's Vall	2.17	212	Pn	Pn	07 32 54.7	-2.3
WAZ	Wanganui	2.19	16	Pn	Pn	07 33 00.7	+3.5
NRZ	Ngariki Road	2.54	355	Pn	Pn	07 33 04.5	+2.4
DFE	Dawson Falls	2.54	358	Pn	Pn	07 33 05.0	+2.9
NEZ	North Egmont	2.60	358	Pn	Pn	07 33 06.2	+3.4
PKE	Pukeiti	2.68	356	Pn	Pn	07 33 06.8	+2.8
WNVZ	Wahianoa	2.75	23	Pn	Pn	07 33 07.3	+2.4
BHHZ	Black Hill Sta	2.76	31	Pn	Pn	07 33 11.1	+6.0
FWVZ	Far West T-bar	2.80	22	Pn	Pn	07 33 08.8	+3.1
TUVZ	Tukino	2.82	23	Pn	Pn	07 33 11.2	+5.3
WVZ	Waitaha Valley	2.84	244	Pn	Pn	07 33 06.2	0.0
WPVZ	Whakapapa	2.85	21	Pn	Pn	07 33 11.1	+4.8
OTVZ	Oturere	2.92	23	Pn	Pn	07 33 07.9	+0.6
WTVZ	West Tongariro	2.94	21	Pn	Pn	07 33 11.3	+3.7
KRVZ	Karewarewa	2.98	22	Pn	Pn	07 33 13.2	+5.1
ODZ	Otahua Downs	4.10	218	Pn	Pn	07 33 21.9	-1.6

*ISCJB **03** 07:50:36.2±0.5, 38°.36N±0°.03×21°.99E±0°.04, h11km±4km, Error ellipse: s-maj=5.5km s-min=4.8km az=156.8*
*CSEM **03** 07:50:36.0±0.1, 38°.35N×21°.99E, h10km, ML1.6/5, Error ellipse: s-maj=3.5km s-min=3.1km az=157.0*
*ATH **03** 07:50:36.8, 38°.35N×21°.98E, h7km±2km, MD2.5/4*
*THE **03** 07:50:36.5, 38°.36N×21°.99E, h10km±1km, ML1.6/5, Error ellipse: s-maj=1.3km s-min=0.4km az=289.0*
ISC 03 07:50:36.0±0.5, 38°.36N±0°.03×21°.97E±0°.04, h13km±4km, n20, σ0°35/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.09	325	ePG	Pg	07 50 39.0	+0.1
EFP				eSG	Sg	07 50 41.0	0.0
EFP	Efpalio	0.09	325	P	Pg	07 50 39.0	+0.1
EFP				S	Sg	07 50 40.9	-0.1
EFP	Efpalio	0.09	325	P	Pg	07 50 39.0	+0.1
EFP				S	Sg	07 50 40.9	-0.1
LAKA	Lakka	0.12	176	P	Pg	07 50 39.2	0.0
LAKA				S	Sg	07 50 41.3	-0.2
LAKA	Lakka	0.12	176	P	Pg	07 50 39.2	0.0
LAKA				S	Sg	07 50 41.3	-0.2
KALE	Kalithea	0.14	75	P	Pg	07 50 39.6	0.0
KALE				S	Sg	07 50 41.6	-0.5
KALE	Kalithea	0.14	75	P	Pg	07 50 39.6	0.0
KALE				S	Sg	07 50 41.6	-0.5
DSF	Desfina	0.44	83	P	Pg	07 50 44.7	-0.1
DSF				S	Sg	07 50 51.2	+0.4
DSF	Desfina	0.44	83	P	Pg	07 50 44.7	-0.1
DSF				S	Sg	07 50 51.2	+0.4
DESF	Desfina	0.45	82	P	Pg	07 50 44.5	-0.4
DESF	Desfina	0.45	82	P	Pg	07 50 44.5	-0.4
RLS	Riolos of Patr	0.49	233	ePB	Pb	07 50 46.5	0.0
RLS				eSB	Sb	07 50 53.7	+0.1
RLS	Riolos of Patr	0.49	233	ePb	Pb	07 50 46.5	0.0
RLS				eSb	Sb	07 50 53.7	+0.1
GUR	Goura	0.51	145	ePB	Pg	07 50 46.0	-0.1
GUR				eSB	Sb	07 50 53.6	-0.5
GUR	Goura	0.51	145	P	Pg	07 50 46.0	-0.1
GUR				S	Sg	07 50 53.7	+0.8
GUR	Goura	0.51	145	P	Pg	07 50 46.0	-0.1
GUR				eSb	Sb	07 50 53.6	-0.5
EVR	Evrytania	0.57	347	ePG	Pg	07 50 47.8	+0.5
EVR				eSB	Sb	07 50 55.8	-0.2
EVR	Evrytania	0.57	347	ePg	Pg	07 50 47.8	+0.5
EVR				eSb	Sb	07 50 55.4	-0.6
AGG	Agios Georgios	0.72	23	ePB	Pb	07 50 50.8	+0.3
AGG	Agios Georgios	0.72	23	ePb	Pb	07 50 50.8	+0.3

*NEIC **03** 08:00:47.2, 17°.00N×96°.39W, h80km, MD3.8(MEX), After MEX.*
MEX 03 08:00:47.4±0.4, 17°.01N×96°.39W, h79km±6km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.33	282	iP	Pn	08 00 58.7	-1.1
VHO				iS	Sn	08 01 07.7	-1.3
VHO	Vista Hermosa	0.33	282	iP	Pn	08 00 58.7	-1.1
VHO				iS	Sn	08 01 07.7	-1.3
HUIG	Huatulco	1.26	167	iP	Pn	08 01 08.4	-1.2
HUIG				iS	Sn	08 01 24.4	-1.9
HUIG	Huatulco	1.26	167	iP	Pn	08 01 08.4	-1.2
HUIG				iS	Sn	08 01 24.4	-1.9
CMIG	Matias Romero	1.45	86	iP	Pn	08 01 10.7	-1.3
CMIG				iS	Sn	08 01 28.2	-2.3
CMIG	Matias Romero	1.45	86	iP	Pn	08 01 10.7	-1.3
CMIG				iS	Sn	08 01 28.2	-2.3
PNIG	Pinotepa	1.77	250	iP	Pn	08 01 15.4	-0.8
PNIG				iS	Sn	08 01 35.5	-2.7
PNIG	Pinotepa	1.77	250	iP	Pn	08 01 15.4	-0.8
PNIG				iS	Sn	08 01 35.5	-2.7

GUC 03 08:18:44.6±0.7, 32°.62S×68°.68W, h150km, ML3.5, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	1.62	267	eP	Pn	08 19 16.3	+0.9
PEL	Peldehue	1.77	252	eP	Pn	08 19 17.6	+0.6
PEL				eS	Sn	08 19 43.0	+1.1
PEL				AML	AML	08 19 46.5	
comp=N,222nm,0.4s							
PCH	Pirque	1.83	237	iS	Sn	08 19 43.7	+0.5
ROCH	El Roble	2.00	259	eP	Pn	08 19 20.2	+0.6
ROCH				eS	Sn	08 19 47.7	+1.2
ROCH				AML	AML	08 19 49.6	
comp=N,222nm,0.3s							
TACH	Talagante	2.15	241	eP	Pn	08 19 22.1	+0.6
TACH				iS	Sn	08 19 50.5	+0.6
CMCH	Combarbala	2.45	306	eP	Pn	08 19 25.7	+0.6
CMCH				eS	Sn	08 19 57.0	+0.8
CMCH				AML	AML	08 19 58.8	
comp=N,522nm,0.6s							

*ISCJB **03** 08:45:53.1±0.5, 60°.82S±0°.08×25°.4W±0°.2, h10km, mb4.2/12, MS3.7/8, Error ellipse: s-maj=15.9km s-min=8.8km az=142.8*
*IDC **03** 08:45:54.8±0.7, 60°.56S×25°.43W, h0km, mb4.3/10, mb1 4.3/10, mb1mx4.2/15, mbtmp4.3/10, MS3.6/9, Ms1 3.6/9, ms1mx3.4/20, Error ellipse: s-maj=23.2km s-min=18.6km az=3.0*
*NEIC **03** 08:46:00.0±0.4, 60°.55S×25°.46W, h35km, mb4.3/2, Error ellipse: s-maj=13.4km s-min=11.5km az=179.0*
ISC 03 08:45:55.5±0.5, 60°.70S±0°.07×25°.2W±0°.2, h10km, n48, σ1°28/37, mb4.2/12, MS3.7/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.12	152	e	Pn	08 48 47.0	-0.9
VNA1				eS	Sn	08 50 53.4	-9.5
VNA3	Neumayer Olymp	12.27	156	e	Pn	08 48 48.8	-1.2
VNA3				eS	Sn	08 50 53.8	-13
VNA2	Neumayer--Watz	12.52	152	e	Pn	08 48 52.0	-1.4
VNA2				eS	Sn	08 51 03.1	-10
SNAA	Sanae	14.10	150	e	Pn	08 49 07.6	-7.4
SNAA				eS	Sn	08 51 33.8	-17
SNAA	Sanae	14.10	150	Pn	Pn	08 49 13.6	-1.4
2.1nm,0.3s,baz=308,slow=14,SNR=156							
SNAA				Sn	Sn	08 51 38.1	-13
0.7nm,0.3s,baz=316,slow=20,SNR=10							
SNAA				LR	LR	08 53 42.6	
comp=Z,67nm,18.5s,baz=23,slow=33							
SNAA	Sanae	14.10	150	Pn	Pn	08 49 13.6	-1.4
SNAA				Sn	Sn	08 51 38.1	-13
PMSA	Palmer Station	18.05	240	LR	LR	08 55 34.2	
comp=Z,16nm,21.4s,baz=342,slow=32							
PMSA	Palmer Station	18.05	240	Pn	Pn	08 50 07.2	+1.2
USHA	Ushuaia	23.45	265	P	P	08 51 06.2	+1.5
8.7nm,1.0s,mb4.2,baz=132,slow=4.0,SNR=4.0							
USHA				LR	LR	08 58 18.5	
comp=Z,117nm,18.7s,MS3.4,baz=84,slow=32							
USHA	Ushuaia	23.45	265	P	P	08 51 06.2	+1.5
QSPA	South Pole Qui	29.54	180	P	P	08 52 01.6	+2.0
3.3nm,0.7s,mb4.2,baz=191,slow=5.7,SNR=8.8							
QSPA	South Pole Qui	29.54	180	P	P	08 52 01.6	+2.0
TRQA	Tornquist	32.28	298	eP	P	08 52 23.1	-1.0
PLCA	Paso Flores	34.05	285	P	P	08 52 37.7	-1.8
2.0nm,1.0s,mb4.0,baz=104,slow=7.5,SNR=3.8							
PLCA				LR	LR	09 05 47.0	
comp=Z,97nm,18.7s,MS3.6,baz=21,slow=35							
PLCA	Paso Flores	34.05	285	P	P	08 52 37.7	-1.8
MAW	Mawson	35.85	139	LR	LR	09 05 29.9	
comp=Z,162nm,18.2s,MS3.8,baz=50,slow=33							
CFAA	Coronel Fontan	40.47	296	P	P	08 53 32.5	-1.5
0.7nm,0.7s,mb3.5,baz=164,slow=8.1,SNR=18							
CFAA	Coronel Fontan	40.47	296	P	P	08 53 32.5	-1.5
CPUP	Villa Florida	40.72	313	P	P	08 53 34.5	-1.6
0.8nm,0.4s,mb3.7,baz=121,slow=6.9,SNR=4.1							
CPUP				LR	LR	09 07 38.0	
comp=Z,60nm,19.4s,MS3.5,baz=168,slow=32							
CPUP	Villa Florida	40.72	313	P	P	08 53 34.5	-1.6
VNDA	Vanda	41.96	182	eP	P	08 53 47.2	+1.4
5.0nm,1.1s,mb4.1							
BOSA	Boshof	46.35	70	P	P	08 54 21.4	-0.1
4.5nm,0.9s,mb4.4,baz=221,slow=8.1,SNR=4.7							
BOSA				LR	LR	09 09 07.9	
comp=Z,47nm,18.5s,MS3.5,baz=344,slow=30							
BOSA	Boshof	46.35	70	P	P	08 54 21.4	-0.1
LBTB	Lobatse	49.59	67	P	P	08 54 47.4	+0.8
1.8nm,0.6s,mb4.3,baz=243,slow=11,SNR=5.2							
LBTB	Lobatse	49.59	67	P	P	08 54 47.4	+0.8
LPAZ	La Paz	53.95	306	eP	P	08 55 18.8	-0.5
3.8nm,0.7s,mb4.4							
LPAZ				ePcP	PcP	08 56 25.4	+1.0
DBIC	Dimbokro	69.04	22	P	P	08 57 01.9	+0.8
4.5nm,0.8s,mb4.4,baz=138,slow=10,SNR=5.0							
DBIC	Dimbokro	69.04	22	P	P	08 57 01.9	+0.8
KHZ	Kahutara	76.11	194	eP	P	08 57 44.6	+1.6
TORD	Torodi Ar. Bea	76.67	27	P	P	08 57 47.8	+1.5
8.9nm,0.8s,mb4.8,baz=194,slow=6.9,SNR=53							
TORD	Torodi Ar. Bea	76.67	27	P	P	08 57 47.8	+1.5
STKA	Stephens Creek	87.13	169	LR	LR	09 37 45.4	
comp=Z,57nm,18.7s,MS4.0,baz=204,slow=36							
ASAR	Alice Springs	94.23	161	P	P	08 59 15.4	+0.8
1.0nm,0.8s,mb4.3,baz=179,slow=3.8,SNR=11							
ASAR	Alice Springs	94.23	161	P	P	08 59 15.4	+0.8
FITZ	Fitzroy Crossi	98.03	152	LR	LR	09 39 36.5	
comp=Z,40nm,19.4s,MS3.9,baz=20,slow=33							
CTA	Charters Tower	99.20	172	LR	LR	09 45 15.3	
comp=Z,55nm,18.2s,MS4.1,baz=15,slow=36							
PDAR	Pinedale Array	123.61	298	PKP	PKPdf	09 04 52.4	+0.2
0.5nm,0.9s,baz=138,

JMK eS Sn 08 53 25.5 -0.8
JCH Churui 3.01 343 P Pn 08 52 58.1 -0.7
JCH eS Sn 08 53 33.2 -0.4
JOT Ohata 3.14 303 P Pn 08 53 01.0 +0.4
JOT eS Sn 08 53 37.4 +0.6
JKB Kayabe 3.43 310 P Pn 08 53 05.3 +0.7
JKB eS Sn 08 53 44.2 +0.2
NEM2 Nemuro 2 3.73 13 P Pn 08 53 06.0 -2.6
NEM2 eS Sn 08 53 47.1 -4.1
JTKR Abashiri--Toko 4.25 354 P Pn 08 53 14.9 -0.9
JTKR eS Sn 08 54 02.8 -1.4
JOSM Okushiri--Mats 4.51 303 P Pn 08 53 19.5 +0.1
JOSM eS Sn 08 54 09.3 -1.3
JHR Hokuryu 4.53 333 P Pn 08 53 21.9 +2.3
JHR eS Sn 08 54 13.5 +2.6
ASAJ Asahikawa 4.61 342 Pn Pn 08 53 22.9 +2.1
1.1nm,0.3s,baz=185,slow=14,SNR=7.8
ASAJ Sn Sn 08 54 17.9 +4.9
1.7nm,0.3s,baz=70,slow=32,SNR=6.4
ASAJ LR LR 08 55 59.8
comp=Z,97nm,19.4s,baz=235,slow=46
ASAJ Asahikawa 4.61 342 Pn Pn 08 53 22.9 +2.1
ASAJ Sn Sn 08 54 17.9 +4.9
JRY Ryogami san 5.82 232 P Pn 08 53 35.9 -1.6
JRY eS Sn 08 54 38.4 -4.5
MJAR Matsushiro Arr 5.94 239 Pn Pn 08 53 39.8 +0.7
1.9nm,0.3s,baz=66,slow=10,SNR=18
MJAR Sn Sn 08 54 49.5 +3.6
1.3nm,0.3s,baz=72,slow=24,SNR=4.5
MJAR Matsushiro Arr 5.94 239 Pn Pn 08 53 39.8 +0.7
MJAR Sn Sn 08 54 49.5 +3.6
MAJO Matsushiro 5.95 239 ePn Pn 08 53 39.8 +0.7
12nm,0.6s
MAT Matsushiro 5.95 239 P Pn 08 53 39.5 +0.4
MAT S Sn 08 54 46.7 +0.8
KSRS Korea Array 13.22 265 Pn Pn 08 55 21.7 +3.0
0.3nm,0.3s,baz=84,slow=14,SNR=3.6
KSRS LR LR 09 00 36.8
comp=Z,27nm,18.7s,baz=65,slow=37
KSAR Wonju Array Be 13.26 265 Pn Pn 08 55 21.7 +2.5
PET Petropavlovsk 16.41 31 ePn Pn 08 55 59.8 -1.0
SONM Songino Array 28.48 299 LR LR 09 11 11.6
comp=Z,52nm,19.1s,baz=240,slow=40
MKAR Makanchi Array 44.84 300 P P 09 00 27.4 +3.9
0.6nm,0.8s,mb3.5,baz=85,slow=11,SNR=4.0
MKAR Makanchi Array 44.84 300 P P 09 00 27.4 +3.9
ILAR Eielson Array 45.88 34 P P 09 00 32.0 +0.5
0.3nm,0.5s,mb3.5,baz=265,slow=5.8,SNR=6.7
ILAR Eielson Array 45.88 34 P P 09 00 32.0 +0.5
KURK Kurchatov 46.27 307 P P 09 00 39.4 +4.7
0.9nm,0.4s,mb4.1,baz=75,slow=8.8,SNR=5.4
KURK Kurchatov 46.27 307 P P 09 00 39.4 +4.7
BMRM Bremner River 47.20 39 P P 09 00 42.4 +0.5
BVAR Borovoye Array 50.62 311 P P 09 01 13.6 +5.3
0.3nm,0.5s,mb3.5,baz=60,slow=5.7,SNR=2.8
BVAR Borovoye Array 50.62 311 P P 09 01 13.6 +5.3
WRA Warramunga Arr 60.14 191 P P 09 02 15.9 -1.0
1.8nm,0.7s,mb4.2,baz=11,slow=7.1,SNR=15
WRA Warramunga Arr 60.14 191 P P 09 02 15.9 -1.0
GNW Green Mountain 63.59 49 P P 09 02 39.8 -0.2
ASAR Alice Springs 63.86 191 P P 09 02 41.5 -0.4
0.8nm,0.8s,mb3.8,baz=11,slow=6.4,SNR=7.9
ASAR Alice Springs 63.86 191 P P 09 02 41.5 -0.4
TXAR Lajitas Array 86.52 54 P P 09 04 52.3 -0.1
0.1nm,0.5s,mb3.4,baz=342,slow=0.4,SNR=4.2
TXAR Lajitas Array 86.52 54 P P 09 04 52.3 -0.1

IDC 03 08:55:08.6±9.9, 6°32N×123°64E, h650km±159km, mb2.9/7, mb1 3.0/7, mb1mx2.7/22, mbtmp2.9/7, Error ellipse: s-maj=127.5km s-min=15.0km az=53.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.35**	**175**	P	P	08 59 39.1	+0.2
	0.4nm,0.3s,baz=358,slow=10,SNR=11						
CMAR	**Chiang Mai Arr**	**26.92**	**299**	P	P	09 00 02.2	+0.8
	0.9nm,0.3s,baz=119,slow=7.3,SNR=6.1						
WRA	**Warramunga Arr**	**28.14**	**158**	P	P	09 00 11.2	-0.8
	1.0nm,0.4s,baz=333,slow=10,SNR=22						
ASAR	**Alice Springs**	**31.44**	**162**	P	P	09 00 40.9	+0.7
	1.2nm,0.3s,baz=336,slow=7.6,SNR=50						
STKA	**Stephens Creek**	**41.67**	**157**	P	P	09 02 04.2	+1.0
	0.7nm,0.4s,baz=340,slow=18,SNR=4.2						
MKAR	**Makanchi Array**	**53.69**	**326**	P	P	09 03 32.1	+0.1
	2.1nm,0.4s,baz=120,slow=7.9,SNR=44						
KURK	**Kurchatov**	**57.92**	**328**	P	P	09 04 00.8	-0.1
	2.2nm,0.6s,baz=128,slow=6.2,SNR=18						

DJA 03 09:30:06, 1°10N×120°90E, h10km, MLv3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.21**	**121**	P	Pn	09 30 28.0	-1.0
GTOI	**Gorontalo**	**2.16**	**102**	P	Pn	09 30 43.2	+1.1
PCI	**Palu**	**2.26**	**208**	P	Pn	09 30 43.4	0.0
LUWI	**Luwuk**	**2.83**	**139**	P	Pn	09 30 53.5	+2.2
LUWI				S	Sn	09 31 28.7	+3.1
TTSI	**Tana Toraja**	**4.26**	**195**	P	Pn	09 31 13.2	+2.3

*IDC **03** 09:33:13.9±15.0, 36°55N×71°74E, h70km±88km, mb3.8/4, mb1 3.8/9, mb1mx3.4/29, mbtmp3.7/9, ML3.7/5, Error ellipse: s-maj=153.8km s-min=49.3km az=170.0*
*ISCJB **03** 09:33:20.0±0.4, 36°97N±0°02×71°84E±0°05, h132km±7km, mb4.0/5, Error ellipse: s-maj=6.8km s-min=3.6km az=173.7*
*NEIC **03** 09:33:20.6±0.6, 36°94N×71°83E, h123km±8km, mb3.8/1, Error ellipse: s-maj=8.2km s-min=3.9km az=59.0*
*NNC **03** 09:33:26.3±3.7, 37°85N×71°23E, h0km, mb4.4, mpv4.5, Error ellipse: s-maj=28.6km s-min=24.8km az=8.0*
ISC 03 09:33:21.1±0.3, 36°95N±0°02×71°86E±0°05, h127km±6km, n80, σ1°16/103, mb4.2/5, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.12**	**179**	P	Pn	09 34 11.0	+1.8
CEP				S	Sn	09 34 48.0	+1.6
KBL	**Kabul**	**3.32**	**224**	ePn	Pn	09 34 12.0	+2.0
KBL				eSn	Sn	09 34 50.1	-0.9
CHCP	**Chirah Chowk**	**3.48**	**160**	P	Pn	09 34 17.4	+3.5
THW	**Thamme Wali**	**4.15**	**181**	P	Pn	09 34 23.9	+1.1
SARP	**Sargodha**	**5.07**	**172**	P	Pn	09 34 35.7	+0.7
AML	**Almayashu**	**5.36**	**15**	P	Pn	09 34 39.3	+0.4
SNR=150							
UCH	**Uchtor**	**5.65**	**20**	P	Pn	09 34 45.2	-1.3
SNR=16							
KZA	**Kyzart**	**5.75**	**26**	P	Pn	09 34 45.2	+1.1
SNR=20							
EKS2	**Erkin-Say**	**5.89**	**14**	P	Pn	09 34 46.5	+0.5
SNR=62							
EKS2	**Erkin-Say**	**5.89**	**14**	ePn	Pn	09 34 46.4	+0.5
34nm,0.6s							
EKS2				eSn	Sn	09 35 49.7	-2.5
AAK	**Ala-Archa**	**6.02**	**19**	P	Pn	09 34 48.9	+1.1
SNR=61							
AAK	**Ala-Archa**	**6.02**	**19**	ePn	Pn	09 34 48.2	+0.4
227nm,0.5s							
AAK				eSn	Sn	09 35 53.7	-1.7
KBK	**Karagaybulak**	**6.17**	**22**	P	Pn	09 34 51.2	+1.4
SNR=9.0							
KK31	**Karatay Array**	**6.23**	**351**	Pn	Pn	09 34 49.5	-1.0
34nm,0.5s,baz=175,slow=13,SNR=174							
KK31				⇓Sn	Sn	09 35 54.6	-5.8
33nm,0.6s,baz=169,slow=22,SNR=8.8							
KKAR	**Karatay Array**	**6.23**	**351**	ePn	Pn	09 34 49.5	-1.0
45nm,0.3s							
KKAR				eSn	Sn	09 35 54.0	-6.4
ULHL	**Ulahol**	**6.27**	**31**	P	Pn	09 34 53.2	+2.1
SNR=12							
CHMS	**Chumysh**	**6.43**	**19**	P	Pn	09 34 54.1	+0.8
SNR=28							
TKM2	**Tokmak 2**	**6.61**	**25**	P	Pn	09 34 57.2	+1.4
SNR=45							
TKM2	**Tokmak 2**	**6.61**	**25**	⇑Pn	Pn	09 34 57.0	+1.2
21nm,0.6s							
TKM2				⇑Sn	Sn	09 36 09.7	0.0
17nm,1.1s							
TKM2	**Tokmak 2**	**6.61**	**25**	ePn	Pn	09 34 56.9	+1.2
26nm,0.6s							
USP	**Ospenovka**	**6.62**	**17**	P	Pn	09 34 56.5	+0.7
SNR=5.4							
BHK	**Bhakra**	**6.69**	**144**	eS	Sn	09 36 10.3	-1.4
SDNR	**Sundarnagar**	**6.89**	**141**	ePKP	Pn	09 35 01.0	+1.4
SDNR				eS	Sn	09 36 14.0	-2.6
SMLA	**Simla**	**7.29**	**141**	*i* P	Pn	09 35 05.4	+0.4
SMLA				*i* x	x	09 36 21.1	
DDI	**Dehra Dun**	**8.39**	**140**	ex	x	09 36 55.7	
NDI	**New Delhi**	**9.40**	**150**	eS	Sn	09 37 08.0	-9.2
KHET	**Khetri**	**9.46**	**158**	ePKP	Pn	09 35 32.2	-2.0
KHET				AMb	AMB	09 35 35.2	
comp=Z,7.0nm,0.5s							
AYAN	**Aya Nagar**	**9.54**	**151**	ePKP	Pn	09 35 32.4	-2.9
AYAN				AMb	AMB	09 35 37.7	
comp=Z,8.6nm,0.5s							
MKAR	**Makanchi Array**	**12.52**	**35**	P	Pn	09 36 14.1	-0.6
comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=4.3							
MKAR	**Makanchi Array**	**12.52**	**35**	P	Pn	09 36 14.1	-0.6
PYUN	**Piuthan**	**12.88**	**130**	ePn	Pn	09 36 19.3	-0.2
PYUN				eSn	Sn	09 38 32.5	-9.0
comp=Z,43nm,0.5s							
PYUN	**Piuthan**	**12.88**	**130**	ePn	Pn	09 36 19.3	-0.2
PYUN				eSn	Sn	09 38 32.5	-9.0
DANN	**Dangsing**	**13.19**	**127**	ePn	Pn	09 36 23.9	+0.5
DANN				eSn	Sn	09 38 39.1	-10
comp=Z,50nm,0.9s							
DANN	**Dangsing**	**13.19**	**127**	ePn	Pn	09 36 23.9	+0.5
DANN				eSn	Sn	09 38 39.1	-10
KOLN	**Koldanda**	**13.49**	**129**	ePn	Pn	09 36 27.8	+0.4
KOLN				eSn	Sn	09 38 47.9	-8.3
comp=Z,26nm,0.6s							
KOLN	**Koldanda**	**13.49**	**129**	ePn	Pn	09 36 27.8	+0.4
KOLN				eSn	Sn	09 38 47.9	-8.3
GKN	**Gorkha**	**13.99**	**126**	ePn	Pn	09 36 33.8	+0.1
GKN				eSn	Sn	09 38 57.3	-11
comp=Z,60nm,0.7s							
GKN	**Gorkha**	**13.99**	**126**	ePn	Pn	09 36 33.8	+0.1
GKN				eSn	Sn	09 38 57.3	-11
BHPL	**Bhopal**	**14.48**	**159**	ePKP	Pn	09 36 39.1	-1.0
KKN	**Kakani**	**14.55**	**125**	ePn	Pn	09 36 40.8	-0.1
KKN				eSn	Sn	09 39 08.8	-13
comp=Z,25nm,0.6s							
KKN	**Kakani**	**14.55**	**125**	ePn	Pn	09 36 40.8	-0.1
KKN				eSn	Sn	09 39 08.8	-13
DMN	**Daman**	**14.56**	**126**	ePn	Pn	09 36 41.6	+0.6
DMN	**Daman**	**14.56**	**126**	ePn	Pn	09 36 41.6	+0.6
KURK	**Kurchatov**	**14.59**	**17**	P	Pn	09 36 41.1	0.0
comp=Z,0.1nm,0.3s,baz=205,slow=10,SNR=3.0							
KURK	**Kurchatov**	**14.59**	**17**	P	Pn	09 36 41.1	0.0
PKI	**Pulchoki**	**14.78**	**125**	ePn	Pn	09 36 44.3	+0.5
PKI	**Pulchoki**	**14.78**	**125**	ePn	Pn	09 36 44.3	+0.5
GUN	**Gumba**	**14.87**	**123**	ePn	Pn	09 36 44.4	-0.4
GUN	**Gumba**	**14.87**	**123**	ePn	Pn	09 36 44.4	-0.4
AB31	**Akbulak array**	**15.04**	**329**	Pn	Pn	09 36 44.2	-2.6
comp=Z,1.3nm,0.3s,baz=162,slow=10,SNR=96							
AB31				Sn	Sn	09 39 21.3	-12
comp=Z,7.7nm,0.6s,baz=146,slow=23,SNR=19							
ABKAR	**Akbulak array**	**15.04**	**329**	ePn	Pn	09 36 44.2	-2.6
comp=Z,2.9nm,0.3s							
JIRN	**Jiri**	**15.24**	**123**	ePn	Pn	09 36 49.0	-0.5
JIRN				eSn	Sn	09 39 26.0	-12
comp=Z,4.2nm,0.3s							
JIRN	**Jiri**	**15.24**	**123**	ePn	Pn	09 36 49.0	-0.5
JIRN				eSn	Sn	09 39 26.0	-12
RAMN	**Ramite**	**15.98**	**124**	ePn	Pn	09 36 59.5	+0.8
RAMN	**Ramite**	**15.98**	**124**	ePn	Pn	09 36 59.5	+0.8
BVAR	**Borovoye Array**	**16.10**	**357**	P	Pn	09 36 59.9	-0.1
comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=3.7							
BVAR	**Borovoye Array**	**16.10**	**357**	P	Pn	09 36 59.9	-0.1
BRVK	**Borovoye**	**16.14**	**357**	ePn	Pn	09 36 60.0	-0.5
comp=Z,1.9nm,0.3s							
TAPN	**Taplejung**	**16.47**	**121**	ePn	Pn	09 37 05.2	+0.5
TAPN				eSn	Sn	09 39 54.4	-14
comp=Z,25nm,0.9s							
TAPN	**Taplejung**	**16.47**	**121**	ePn	Pn	09 37 05.2	+0.5
TAPN				eSn	Sn	09 39 54.4	-14
ODAN	**Odare**	**16.57**	**123**	ePn	Pn	09 37 05.4	-0.5
ODAN	**Odare**	**16.57**	**123**	ePn	Pn	09 37 05.4	-0.5
AKTO	**Aktyubinsk**	**16.75**	**328**	⇓Pn	Pn	09 37 08.4	+0.5
comp=Z,1.5nm,0.8s							
AKTO				⇓Sn	Sn	09 40 03.8	-10
comp=Z,1.2nm,0.8s							
AKTO	**Aktyubinsk**	**16.75**	**328**	P	Pn	09 37 07.4	-0.4
comp=Z,0.7nm,0.3s,baz=139,slow=10.0,SNR=16							
AKTO	**Aktyubinsk**	**16.75**	**328**	P	Pn	09 37 07.4	-0.4
POO	**Poona**	**18.44**	**174**	ePKP	P	09 37 24.4	-2.4
ZALV	**Zalesovo Beam**	**19.22**	**24**	P	P	09 37 36.4	+1.5
comp=Z,0.3nm,0.3s,baz=219,slow=12,SNR=7.0							
ZALV	**Zalesovo Beam**	**19.22**	**24**	P	P	09 37 36.4	+1.5
KAD	**Karad**	**19.68**	**173**	ePKP	P	09 37 39.6	-0.7
KAD				AMb	AMB	09 37 48.9	
comp=Z,4.3nm,0.5s							
AKASG	**Malin Array Be**	**33.20**	**308**	P	P	09 39 45.0	-0.5
comp=Z,1.1nm,0.5s,mb3.9,baz=82,slow=7.0,SNR=4.4							
AKASG	**Malin Array Be**	**33.20**	**308**	P	P	09 39 45.0	-0.5
JOF	**Joensuu**	**35.83**	**329**	ep	P	09 40 09.4	+1.5
comp=Z,4.1nm,0.6s,mb4.5							
FINES	**FINESS Array B**	**37.50**	**326**	P	P	09 40 23.0	+0.9
comp=Z,2.9nm,0.6s,mb4.4,baz=116,slow=8.7,SNR=8.3							
FINES	**FINESS Array B**	**37.50**	**326**	P	P	09 40 23.0	+0.9
KAF	**Kangasniemi**	**37.62**	**327**	ep	P	09 40 23.8	+0.7
ARCES	**ARCESS Array B**	**40.99**	**337**	P	P	09 40 51.7	+0.7
comp=Z,3.3nm,1.1s,mb4.1,baz=105,slow=9.1,SNR=5.3							
ARCES	**ARCESS Array B**	**40.99**	**337**	P	P	09 40 51.7	+0.7
NB2	**NORSAR Subarra**	**44.44**	**323**	P	P	09 41 19.1	+0.2
comp=Z,1.7nm,0.7s,mb3.9,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.44**	**323**	P	P	09 41 19.4	+0.5
comp=Z,2.6nm,0.7s,mb4.1,baz=95,slow=7.7,SNR=8.6							
NOA	**NORSAR Array B**	**44.44**	**323**	P	P	09 41 19.4	+0.5

IDC 03 09:35:30.0±3.2, 2°32S×140°09E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=99.2km s-min=28.1km az=91.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.40**	**197**	P	Pn	09 39 45.9	-0.8
0.2nm,0.3s,baz=21,slow=12,SNR=12							
FITZ	**Fitzroy Crossi**	**21.14**	**221**	P	P	09 40 15.7	-1.1
1.1nm,0.8s,baz=65,slow=5.7,SNR=4.3							
ASAR	**Alice Springs**	**22.05**	**195**	P	P	09 40 27.1	+0.7
1.7nm,0.8s,baz=24,slow=10.0,SNR=15							
MKAR	**Makanchi Array**	**70.33**	**322**	P	P	09 46 45.9	+0.4
0.7nm,0.6s,baz=114,slow=7.0,SNR=5.7							

IDC 03 10:10:54.8±1.0, 37°02N×32°40W, h0km, mb3.9/12, mb1 4.2/12, mb1mx3.9/31, mbtmp3.9/12, MS3.8/21, Ms1 3.8/21, ms1mx3.6/38, Error ellipse: s-maj=35.3km s-min=16.2km az=2.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**22.42**	**74**	P	P	10 15 53.2	-1.8
0.6nm,0.4s,baz=280,slow=14,SNR=6.8							
ESDC				LR	LR	10 22 30.4	
comp=Z,99nm,19.2s,baz=280,slow=31							
BBTS	**Babate**	**26.38**	**143**	LR	LR	10 24 23.1	
comp=Z,226nm,19.5s,baz=305,slow=31							
SCHQ	**Schefferville**	**29.43**	**318**	LR	LR	10 27 25.5	
comp=Z,480nm,19.0s,baz=251,slow=34							
DAVOX	**Davos/Dischmat**	**32.59**	**59**	LR	LR	10 28 52.2	
comp=Z,46nm,18.9s,baz=262,slow=33							
SJG	**San Juan**	**35.10**	**247**	LR	LR	10 27 19.2	
comp=Z,27nm,21.5s,baz=272,slow=28							
NOA	**NORSAR Array B**	**36.31**	**35**	P	P	10 18 00.9	+1.0
1.5nm,0.8s,baz=248,slow=8.8,SNR=3.3							
TORD	**Torodi Ar. Bea**	**38.63**	**119**	P	P	10 18 20.4	+0.4
4.8nm,1.1s,baz=305,slow=5.2,SNR=12							
TORD				LR	LR	10 32 34.7	
comp=Z,178nm,22.0s,baz=300,slow=34							
DBIC	**Dimbokro**	**39.28**	**133**	LR	LR	10 33 49.8	
comp=Z,209nm,18.6s,baz=300,slow=35							
TKL	**Tuckaleechee C**	**40.99**	**284**	P	P	10 18 40.0	+0.6
2.5nm,0.7s,baz=54,slow=14,SNR=4.6							
TKL				LR	LR	10 33 07.3	
comp=Z,103nm,18.8s,baz=58,slow=32							
ULM	**Lac du Bonnet**	**46.44**	**308**	LR	LR	10 38 08.9	
comp=Z,204nm,20.2s,baz=28,slow=35							
ROSC	**El Rosal**	**49.93**	**240**	LR	LR	10 36 03.6	
comp=Z,37nm,21.2s,baz=69,slow=30							
TEIG	**Tepich**	**51.12**	**267**	LR	LR	10 37 32.8	
comp=Z,90nm,18.9s,baz=118,slow=31							
JTS	**JuntasAbangare**	**54.18**	**254**	LR	LR	10 37 56.9	
comp=Z,71nm,21.6s,baz=113,slow=30							
YKA	**Yellowknife Ar**	**54.45**	**326**	LR	LR	10 40 58.7	
comp=Z,16nm,21.9s,baz=85,slow=33							
PDAR	**Pinedale Array**	**57.55**	**302**	P	P	10 20 46.0	0.0
1.1nm,0.8s,baz=76,slow=7.8,SNR=9.2							
PDAR				LR	LR	10 44 21.6	
comp=Z,176nm,20.6s,baz=93,slow=35							
CMIG	**Matias Romero**	**58.08**	**268**	LR	LR	10 41 48.9	
comp=Z,110nm,19.9s,baz=47,slow=32							
ANMO	**Albuquerque**	**58.51**	**292**	LR	LR	10 44 06.8	
comp=Z,135nm,19.5s,baz=49,slow=34							
TXAR	**Lajitas Array**	**58.90**	**285**	P	P	10 20 55.1	-0.5
1.7nm,0.8s,baz=79,slow=6.5,SNR=21							
TXAR				LR	LR	10 44 06.8	
comp=Z,71nm,20.2s,baz=0.0,slow=34							
AKTO	**Aktyubinsk**	**62.79**	**46**	P	P	10 21 21.3	-0.6
3.3nm,0.8s,baz=283,slow=8.0,SNR=12							
NVAR	**Mina Array Bea**	**65.42**	**301**	P	P	10 21 39.8	+0.4
0.7nm,0.7s,baz=64,slow=6.1,SNR=4.0							
NVAR				LR	LR	10 50 28.4	
comp=Z,153nm,18.6s,baz=317,slow=36							
ILAR	**Eielson Array**	**66.45**	**335**	P	P	10 21 45.6	+0.1
0.5nm,0.9s,baz=59,slow=6.3,SNR=5.4							
ILAR				LR	LR	10 49 07.8	
comp=Z,104nm,18.9s,baz=145,slow=34							
BVAR	**Borovoye Array**	**68.23**	**39**	P	P	10 21 57.3	+0.3
0.7nm,0.6s,baz=300,slow=6.7,SNR=3.9							
KURK	**Kurchatov**	**73.72**	**38**	P	P	10 22 30.8	+0.4
2.3nm,0.9s,baz=311,slow=6.2,SNR=12							
MKAR	**Makanchi Array**	**78.11**	**40**	P	P	10 22 56.3	+0.7
0.9nm,0.9s,baz=305,slow=8.6,SNR=2.7							
BOSA	**Boshof**	**84.79**	**132**	LR	LR	10 55 23.2	
comp=Z,105nm,21.0s,baz=110,slow=32							
PETK	**Petropavlovsk-**	**89.81**	**354**	LR	LR	11 06 25.2	
comp=Z,58nm,18.2s,baz=168,slow=37							
WRA	**Warramunga Arr**	**159.41**	**38**	PKPab	PKPab	10 31 32.5	-0.7
0.2nm,0.8s,baz=337,slow=4.4,SNR=4.8							
ASAR	**Alice Springs**	**162.22**	**45**	PKPab	PKPab	10 31 45.7	+0.3
0.4nm,0.9s,baz=314,slow=4.5,SNR=4.3							

*ISCJB **03** 10:28:45.7±0.5, 12°41N±0°09×86°69W±0°08, h201km±4km, mb3.5/4, Error ellipse: s-maj=18.9km s-min=5.1km az=40.8*
*IDC **03** 10:28:45.4±1.2, 12°43N×86°67W, h191km±15km, mb3.3/4, mb1 3.5/6, mb1mx3.2/22, mbtmp3.2/6, Error ellipse: s-maj=29.2km s-min=16.2km az=59.0*
*NEIC **03** 10:28:46.7±0.8, 12°30N×86°94W, h195km±9km, Error ellipse: s-maj=20.8km s-min=11.9km az=46.0*
*CASC **03** 10:28:47.6±3.2, 11°45N×87°57W, h0km±6km, MD3.9, ML2.9*
ISC 03 10:28:46.4±0.5, 12°43N±0°09×86°67W±0°08, h198km±4km, n37, σ0°70/48, mb3.5/4, 1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**0.07**	**335**	ePn	Pn	10 29 11.7	-0.6
CNGN				eS	Sn	10 29 33.3	+0.9
CNGN				AML	AML	10 29 37.3	
comp=N,421nm,0.3s							
LEON	**Leon**	**0.22**	**265**	ePn	Pn	10 29 11.6	-0.9
TEL3	**Telica 3**	**0.22**	**308**	ePn	Pn	10 29 12.2	-0.3
CSAN		**0.35**	**136**	ePn	Pn	10 29 13.8	+1.1
XAVN	**Gruta Xavier**	**0.44**	**130**	ePn	Pn	10 29 13.0	0.0
CRIN	**San Cristobal**	**0.46**	**305**	ePn	Pn	10 29 12.9	-0.2
CRIN				eS	Sn	10 29 33.3	-0.4
TISN	**Laguna Tiscapa**	**0.48**	**127**	ePn	Pn	10 29 13.2	0.0
HUEN		**0.49**	**101**	ePn	Pn	10 29 13.4	+0.2
MGAN	**Managua**	**0.50**	**125**	ePn	Pn	10 29 13.1	-0.1
MGAN				eS	Sn	10 29 33.8	-0.2
TICN	**Ticuantepe**	**0.58**	**133**	ePn	Pn	10 29 13.8	+0.2
TGUH	**Tegucigalpa,Un**	**1.72**	**340**	ePn	Pn	10 29 22.3	+0.4
BLLM	**Bellamira**	**1.83**	**303**	*i* P	Pn	10 29 22.9	-0.2
CAHU	**Cacacuatique**	**2.01**	**312**	eP	Pn	10 29 25.0	+0.2
NY14	**Universidad de**	**2.09**	**148**	*i* P	Pn	10 29 27.0	+1.2
NY14				*i* S	Sn	10 29 56.0	-0.4
GPS3	**Bodega del ICE**	**2.10**	**142**	*i* P	Pn	10 29 26.6	+0.8
GPS3				*i* S	Sn	10 29 55.4	-1.1
CUI	**Cuipilapa**	**2.30**	**140**	*i* P	Pn	10 29 29.4	+1.5
SNVI	**San Vicente**	**2.42**	**299**	eP	Pn	10 29 29.1	-0.2
SNVI				eS	Sn	10 30 02.6	0.0
LBRS	**Las Brisas**	**2.65**	**300**	eP	Pn	10 29 31.5	-0.4
JTS	**JuntasAbangare**	**2.71**	**142**	P	Pn	10 29 33.2	+0.6
comp=N,4.8nm,0.3s,baz=311,slow=16,SNR=19							
JTS				S	Sn	10 30 06.9	-1.7
comp=N,14nm,0.3s,baz=293,slow=20,SNR=16							
JTS	**JuntasAbangare**	**2.71**	**142**	P	Pn	10 29 33.2	+0.6
JTS				eSn	Sn	10 30 05.4	-3.3
JTS				S	Sn	10 30 06.9	-1.7
JTS	**JuntasAbangare**	**2.71**	**142**	eP	Pn	10 29 33.0	+0.4
BOQS	**Boqueron**	**2.85**	**297**	eP	Pn	10 29 34.5	+0.3
BOQS				eS	Sn	10 30 11.8	+0.2
SBLS	**San Blas**	**3.20**	**296**	eP	Pn	10 29 38.3	0.0
SBLS				eS	Sn	10 30 18.7	-0.2
RTR	**El Retiro**	**3.25**	**297**	eP	Pn	10 29 39.3	+0.5
CMIG	**Matias Romero**	**9.20**	**301**	P	Pn	10 30 54.5	-0.8
comp=N,0.2nm,0.3s,baz=133,slow=11,SNR=9.5							
CMIG				S	Sn	10 32 27.2	-11
comp=N,0.2nm,0.3s,baz=61,slow=19,SNR=4.7							
CMIG	**Matias Romero**	**9.20**	**301**	P	Pn	10 30 54.5	-0.8

AOPR	**Arecibo Observ**	**1.71 237**	⇑*e*P	**Pn**	**10 33 08.2**	**-0.2**
AOPR			*e*S	**Sn**	**10 33 29.7**	**-0.2**
AOPR	**Arecibo Observ**	**1.71 237**	⇑*e*P	**Pn**	**10 33 08.2**	**-0.2**
AOPR			*e*S	**Sn**	**10 33 29.7**	**-0.2**
CELP	**Cerrillos**	**1.75 226**	⇑*e*P	**Pn**	**10 33 09.5**	**+0.5**
CELP	**Cerrillos**	**1.75 226**	⇑*e*P	**Pn**	**10 33 09.5**	**+0.5**
CELP	**Cerrillos**	**1.75 226**	⇑*e*P	**Pn**	**10 33 09.5**	**+0.5**
OBIP	**Obispado Ponce**	**1.79 226**	⇑*e*P	**Pn**	**10 33 10.0**	**+0.5**
OBIP	**Obispado Ponce**	**1.79 226**	⇑*e*P	**Pn**	**10 33 10.0**	**+0.5**
OBIP			*e*S	**Sn**	**10 33 32.2**	**+0.3**
OBIP	**Obispado Ponce**	**1.79 226**	⇑*e*P	**Pn**	**10 33 10.3**	**+0.7**
OBIP			*e*S	**Sn**	**10 33 32.2**	**+0.3**
ICM	**Isla Caja Muer**	**1.84 221**	⇓*e*P	**Pn**	**10 33 10.8**	**+0.5**
ICM	**Isla Caja Muer**	**1.84 221**	⇓*e*P	**Pn**	**10 33 10.8**	**+0.5**
ICM			*e*S	**Sn**	**10 33 33.5**	**+0.3**
ICM	**Isla Caja Muer**	**1.84 221**	⇓*e*P	**Pn**	**10 33 10.8**	**+0.5**
ICM			*e*S	**Sn**	**10 33 33.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.18 234**	⇑*e*P	**Pn**	**10 33 15.9**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.18 234**	⇑*e*P	**Pn**	**10 33 15.9**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.18 234**	⇑*e*P	**Pn**	**10 33 15.9**	**+1.0**

MEX 03 10:41:46.8±0.7,**19°29N**×**102°87W**,**h8**km±9km,**MD3.5, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.71**	**286**	*e*P	Pg	10 41 59.4	-1.2
EZ5V				*i* S	Sg	10 42 08.7	-1.2
R15V		**1.05**	**264**	*e*P	Pg	10 42 04.5	-2.5
R15V				*i* S	Sg	10 42 17.8	-3.0
MMIG	**Aquila**	**1.09**	**204**	*i* P	Pg	10 42 03.9	-3.8
MMIG				*i* S	Sg	10 42 18.4	-3.5
SFJM	**Santa Fe**	**1.21**	**353**	*i* P	Pb	10 42 06.2	-3.7
SFJM				*i* S	Sb	10 42 21.8	-3.8
ZIIG	**Zihuatanejo**	**2.14**	**141**	*i* P	Pn	10 42 19.7	-3.1
ZIIG				*i* S	Sn	10 42 46.0	-3.5
ANIG	**Ahuacatlan**	**2.34**	**319**	*i* P	Pn	10 42 21.8	-3.9
ANIG				*i* S	Sn	10 42 52.7	-1.9

NEIC ***03*** *10:59:27.4±2.6, 6°.99S×129°.26E, h79km±28km, mb4.2/2, Error ellipse: s-maj=20.3km s-min=13.4km az=202.0*
IDC ***03*** *10:59:30.1±7.3, 7°.11S×129°.12E, h105km±73km, mb3.5/5, mb1 3.8/8, mb1mx3.5/18, mbtmp3.6/8, ML4.0/3, Error ellipse: s-maj=67.2km s-min=22.6km az=46.0*
ISC 03 10:59:34.0±2.4,**7°.3S**±0°.1×**129°.3E**±0°.1,**h153**km±27km,**n23,** σ**1**§**32**/**33**,**mb3.6**/**4**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.28**	**198**	P	**Pn**	**11 02 10.1**	**-0.8**
	0.3nm,0.3s,baz=17,slow=11,SNR=29						
FITZ				S	**Sn**	**11 04 07.1**	**-8.7**
	1.8nm,0.3s,baz=55,slow=19,SNR=8.7						
FITZ	**Fitzroy Crossi**	**11.28**	**198**	*e*P	**Pn**	**11 02 10.7**	**-0.2**
	5.6nm,0.6s						
FITZ				*e*S	**Sn**	**11 04 06.7**	**-9.0**
FITZ	**Fitzroy Crossi**	**11.28**	**198**	P	**Pn**	**11 02 10.1**	**-0.8**
FITZ				S	**Sn**	**11 04 07.1**	**-8.6**
WRAB	**Tennant Creek**	**13.46**	**159**	*e*Pn	**Pn**	**11 02 38.9**	**-0.2**
	28nm,1.0s						
WRAB				*e*Sn	**Sn**	**11 04 56.4**	**-12**
WRA	**Warramunga Arr**	**13.47**	**159**	P	**Pn**	**11 02 38.8**	**-0.3**
	0.7nm,0.3s,baz=346,slow=13,SNR=28						
WRA				S	**Sn**	**11 05 02.0**	**-6.3**
	2.8nm,0.3s,baz=327,slow=24,SNR=11						
WRA	**Warramunga Arr**	**13.47**	**159**	P	**Pn**	**11 02 38.8**	**-0.3**
WRA				S	**Sn**	**11 05 02.0**	**-6.3**
WB2	**Warramunga Arr**	**13.47**	**159**	*e*Pn	**Pn**	**11 02 38.8**	**-0.3**
COEN	**Coen**	**15.16**	**117**	*e*Pn	**Pn**	**11 02 59.9**	**-0.4**
	19nm,0.3s						
COEN				*e*Sn	**Sn**	**11 05 37.8**	**-11**
MBWA	**Marble Bar**	**16.56**	**213**	*e*Pn	**Pn**	**11 03 18.4**	**+0.9**
	3.9nm,0.8s						
AS31	**Alice Springs**	**16.84**	**165**	*e*Pn	**Pn**	**11 03 23.4**	**+2.5**
AS31				*e*Sn	**Sn**	**11 06 18.0**	**-11**
ASAR	**Alice Springs**	**16.84**	**165**	P	**Pn**	**11 03 23.6**	**+2.7**
	2.4nm,0.3s,baz=340,slow=10.0,SNR=311						
ASAR				S	**S**	**11 06 26.4**	**-1.7**
	0.7nm,0.3s,baz=349,slow=26,SNR=6.2						
ASAR	**Alice Springs**	**16.84**	**165**	P	**Pn**	**11 03 23.6**	**+2.7**
ASAR				S	**S**	**11 06 26.4**	**-1.7**
CTA	**Charters Tower**	**20.77**	**129**	P	**P**	**11 04 07.4**	**+4.3**
	1.3nm,0.5s,baz=300,slow=12,SNR=2.5						
CTA	**Charters Tower**	**20.77**	**129**	P	**P**	**11 04 07.4**	**+4.3**
STKA	**Stephens Creek**	**26.99**	**156**	P	**P**	**11 05 03.8**	**+2.2**
	3.9nm,0.5s,mb4.3,baz=340,slow=6.8,SNR=9.9						
STKA	**Stephens Creek**	**26.99**	**156**	*e*P	**P**	**11 05 03.8**	**+2.2**
	2.5nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**26.99**	**156**	P	**P**	**11 05 03.8**	**+2.2**
CMAR	**Chiang Mai Arr**	**39.40**	**311**	P	**P**	**11 06 47.3**	**-1.8**
	0.5nm,0.4s,mb3.5,baz=129,slow=7.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**39.40**	**311**	P	**P**	**11 06 47.3**	**-1.8**
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**11 10 17.0**	**-0.3**
	0.2nm,0.4s,mb3.2,baz=118,slow=8.1,SNR=5.9						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**11 10 17.0**	**-0.3**
KURK	**Kurchatov**	**72.42**	**329**	P	**P**	**11 10 44.0**	**+0.5**
	0.4nm,0.5s,mb3.4,baz=132,slow=5.2,SNR=5.9						
KURK	**Kurchatov**	**72.42**	**329**	P	**P**	**11 10 44.0**	**+0.5**

ISCJB ***03*** *11:16:23.0±0.5, 9°.72S±0°.08×159°.09E±0°.07, h33km, mb4.1/15, MS3.4/2, Error ellipse: s-maj=13.3km s-min=7.0km az=147.3*
IDC ***03*** *11:16:23.2±6.7, 9°.87S×159°.20E, h26km±48km, mb4.0/13, mb1 4.1/14, mb1mx4.1/18, mbtmp4.0/14, ML4.0/1, MS3.5/3, Ms1 3.4/3, ms1mx2.8/25, Error ellipse: s-maj=30.0km s-min=12.5km az=145.0*
NEIC ***03*** *11:16:24.7±0.4, 9°.75S×159°.15E, h35km, mb4.0/4, Error ellipse: s-maj=14.6km s-min=7.3km az=128.0*
ISC 03 11:16:24.2±4.7,**9°.8S**±0°.1×**159°.17E**±0°.08,**h31**km±35km, **n36**,σ**0**§**80**/**38**,**mb4.1**/**15**,**MS3.4**/**2**,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.83**	**67**	Pn	**Pn**	**11 16 39.3**	**-0.5**
	432nm,0.3s,baz=219,slow=3.8,SNR=254						
HNR				Sn	**Sn**	**11 16 50.5**	**-0.4**
	2µm,0.3s,baz=178,slow=8.6,SNR=82						
HNR	**Honiara**	**0.83**	**67**	Pn	**Pn**	**11 16 39.3**	**-0.5**
HNR				Sn	**Sn**	**11 16 50.5**	**-0.5**
CTA	**Charters Tower**	**16.15**	**229**	Pn	**Pn**	**11 20 08.2**	**-0.9**
	0.4nm,0.3s,baz=45,slow=15,SNR=4.0						
CTA				LR	LR	11 25 37.1	
	comp=Z,123nm,18.1s,baz=51,slow=34						
CTA	**Charters Tower**	**16.15**	**229**	*e*P	**Pn**	**11 20 10.5**	**+1.4**
	5.3nm,0.8s						
CTA	**Charters Tower**	**16.15**	**229**	Pn	**Pn**	**11 20 08.2**	**-0.9**
CTAO	**Charters Tower**	**16.15**	**229**	*e*Pn	**Pn**	**11 20 10.5**	**+1.4**
	16nm,1.3s						
EIDS	**Eidsvold**	**17.33**	**205**	*e*Pn	**Pn**	**11 20 25.2**	**+1.3**
	7.3nm,0.9s						
ARMA	**Armidale**	**21.73**	**198**	*e*P	**P**	**11 21 13.8**	**+0.7**
	6.4nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**26.00**	**244**	*e*P	**P**	**11 21 53.4**	**-1.2**
	2.4nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**26.02**	**244**	P	**P**	**11 21 53.9**	**-0.9**
	1.4nm,0.5s,mb3.7,baz=71,slow=10.0,SNR=24						
WRA				LR	LR	11 31 33.7	
	comp=Z,72nm,19.9s,MS3.2,baz=75,slow=35						
WRA	**Warramunga Arr**	**26.02**	**244**	P	**P**	**11 21 53.9**	**-0.9**
STKA	**Stephens Creek**	**27.39**	**214**	P	**P**	**11 22 06.3**	**-0.6**
	3.8nm,0.8s,mb4.0,baz=42,slow=17,SNR=7.7						
STKA				LR	LR	11 33 12.1	
	comp=Z,136nm,19.8s,MS3.5,baz=206,slow=37						
STKA	**Stephens Creek**	**27.39**	**214**	*e*P	**P**	**11 22 07.1**	**+0.2**
	2.0nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**27.39**	**214**	P	**P**	**11 22 06.3**	**-0.6**
ASAR	**Alice Springs**	**27.81**	**237**	P	**P**	**11 22 09.4**	**-1.4**
	1.2nm,0.8s,mb3.6,baz=61,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**27.81**	**237**	P	**P**	**11 22 09.4**	**-1.4**
MJAR	**Matsushiro Arr**	**50.09**	**338**	P	**P**	**11 25 16.4**	**0.0**
	0.7nm,0.4s,mb4.0,baz=161,slow=7.7,SNR=3.4						
MJAR	**Matsushiro Arr**	**50.09**	**338**	P	**P**	**11 25 16.4**	**0.0**
KSRS	**Korea Array**	**55.34**	**330**	P	**P**	**11 25 55.5**	**+0.4**
	1.4nm,0.6s,mb4.2,baz=150,slow=6.5,SNR=6.4						
KSAR	**Wonju Array Be**	**55.35**	**330**	P	**P**	**11 25 55.5**	**+0.3**
PETK	**Petropavlovsk-**	**62.62**	**359**	P	**P**	**11 26 46.2**	**+0.8**
	3.0nm,0.6s,mb4.6,baz=190,slow=10,SNR=3.3						
PETK	**Petropavlovsk-**	**62.62**	**359**	P	**P**	**11 26 46.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**65.69**	**295**	P	**P**	**11 27 06.8**	**+0.5**
	1.2nm,0.5s,mb4.2,baz=126,slow=5.6,SNR=7.9						
CMAR	**Chiang Mai Arr**	**65.69**	**295**	P	**P**	**11 27 06.8**	**+0.5**
SONM	**Songino Array**	**73.89**	**326**	P	**P**	**11 27 57.2**	**+1.0**
	2.2nm,0.7s,mb4.2,baz=136,slow=4.0,SNR=15						
SONM	**Songino Array**	**73.89**	**326**	P	**P**	**11 27 57.2**	**+1.0**
ILAR	**Eielson Array**	**84.46**	**20**	P	**P**	**11 28 53.2**	**-0.3**
	0.8nm,0.5s,mb4.1,baz=245,slow=4.7,SNR=16						
ILAR	**Eielson Array**	**84.46**	**20**	P	**P**	**11 28 53.2**	**-0.3**
MKAR	**Makanchi Array**	**88.20**	**318**	P	**P**	**11 29 12.2**	**-0.1**
	1.7nm,0.7s,mb4.4,baz=90,slow=4.6,SNR=8.2						
MKAR	**Makanchi Array**	**88.20**	**318**	P	**P**	**11 29 12.2**	**-0.1**
ZALV	**Zalesovo Beam**	**88.77**	**325**	P	**P**	**11 29 13.8**	**-1.1**
	0.7nm,0.4s,mb4.3,baz=116,slow=6.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**88.77**	**325**	P	**P**	**11 29 13.8**	**-1.1**
NVAR	**Mina Array Bea**	**90.20**	**51**	P	**P**	**11 29 23.1**	**+1.2**
	0.6nm,0.8s,mb4.0,baz=231,slow=7.1,SNR=4.7						
NVAR	**Mina Array Bea**	**90.20**	**51**	P	**P**	**11 29 23.1**	**+1.2**
PDAR	**Pinedale Array**	**97.47**	**48**	P	**P**	**11 29 55.2**	**0.0**
	0.3nm,0.8s,mb3.8,baz=298,slow=1.9,SNR=2.6						
PDAR	**Pinedale Array**	**97.47**	**48**	P	**P**	**11 29 55.2**	**0.0**

DJA ***03*** *11:37:00, 53°.16N×160°.12E, h22km, mb5.4/8*
BJI ***03*** *11:37:01.8, 53°.21N×159°.68E, h48km, mB5.1/32, mb5.2/47, Ms4.7/40, Ms7 4.3/38*
ISCJB ***03*** *11:37:03.2±0.1, 52°.99N±0°.02×159°.59E±0°.02, h44km, mb5.3/344, MS4.2/51, Error ellipse: s-maj=3.2km s-min=1.6km az=172.0*
MOS ***03*** *11:37:03.9±1.1, 52°.95N×159°.57E, h51km, mb5.5/117, MS4.2/31, Error ellipse: s-maj=6.5km s-min=3.4km az=93.5*
MOS Felt (III-IV) at Petropavlovsk-Kamchatskiy.
BGS ***03*** *11:37:04.1±1.5, 53°.03N×158°.88E, h33km, mb5.5*
NEIC ***03*** *11:37:05.0±0.1, 52°.98N×159°.62E, mb5.4/209, Error ellipse: s-maj=4.0km s-min=2.2km az=164.0*
NEIC Felt at Petropavlovsk-Kamchatskiy.
KRSC ***03*** *11:37:05.1±1.3, 52°.84N×159°.95E, h42km±22km, ML5.4*
TEH ***03*** *11:37:05.0, 53°.12N×159°.51E, h41km*
IDC ***03*** *11:37:09.6±0.8, 53°.03N×159°.53E, h89km±6km, mb4.8/36, mb1 4.9/37, mb1mx4.9/37, mbtmp4.8/37, MS4.1/24, Ms1 4.1/24, ms1mx3.9/35, Error ellipse: s-maj=11.6km s-min=7.5km az=142.0*
GCMT ***03*** *11:37:09.1±0.2, 52°.86N×160°.09E, h59km±1km, MW5.1, Moment Tensor Solution. s60,c94; s71,c114; Moment tensor: Scale 10^{16}Nm; M_{rr}4.45±.15; $M_{\theta\theta}$-1.60±.12; $M_{\phi\phi}$-2.86±.11; $M_{r\theta}$1.05±.10; $M_{r\phi}$-2.58±.09; $M_{\theta\phi}$1.69±.09; Best double couple: $M_0$5.10000×10^{16} NP1:ϕ_s221.00000°, δ34.00000°, λ.95.00000°. NP2:ϕ_s35.00000°, δ57.00000°, λ87.00000°. Principal axes: T 4.8600, Plg78.0000°, Azm295.0000°; N 0.4200, Plg3.0000°, Azm37.0000°; P -5.2900, Plg11.0000°, Azm128.0000°; Data Used: II IU CN IC G.*
SZGRF ***03*** *11:37:10.7, 53°.13N×159°.30E, h33km, mb5.7, MS4.2, Near east coast of Kamchatka Peninsula, Russia*
ISC 03 11:37:05.5±0.1,**53°.04N**±0°.02×**159°.51E**±0°.02,**h46**km, **h46**km±.5km:**pP-P**,**n1471**,σ**0**§**79**/1480,**mb5.3**/344,**MS4.2**/51, **392C-235D**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.17**	**322**	*i* P	**Pn**	**11 37 15.6**	**+2.5**
NLC	**Nalytchevo**	**0.17**	**322**	PN	**Pn**	**11 37 15.6**	**+2.5**
SPN	**Mys Shipunski**	**0.31**	**79**	*i* P	**Pn**	**11 37 13.5**	**-0.8**
SPN	**Mys Shipunski**	**0.31**	**79**	PN	**Pn**	**11 37 13.5**	**-0.8**
SDLR	**Sedlovina**	**0.45**	**302**	*i* P	**Pn**	**11 37 19.5**	**+3.7**
UGLR	**Uglovaya**	**0.45**	**292**	*i* P	**Pn**	**11 37 19.6**	**+3.8**
AVH	**Avacha**	**0.52**	**296**	*i* P	**Pn**	**11 37 20.7**	**+4.0**
PET	**Petropavlovsk**	**0.52**	**268**	*i* P	**Pn**	**11 37 19.8**	**+3.1**
PET				*i* S	**Sn**	**11 37 30.3**	**+5.6**
PET	**Petropavlovsk**	**0.52**	**268**	*e*Pg	**Pn**	**11 37 19.6**	**+2.9**
PET				*e*Sg	**Sn**	**11 37 30.6**	**+6.0**
PET	**Petropavlovsk**	**0.52**	**268**	⇓*i*PN	**Pn**	**11 37 19.2**	**+2.5**
PET				*e*S	**Sn**	**11 37 30.6**	**+5.9**
PET				pmax	pmax		
	comp=Z,60µm,0.8s						
PET				smax			
	comp=E,252µm,0.6s						
INSR	**Institute**	**0.55**	**273**	*i* P	**Pn**	**11 37 20.4**	**+3.4**
INSR				*i* S	**Sn**	**11 37 31.5**	**+6.2**
KOK	**Koryaka**	**0.58**	**296**	*i* P	**Pn**	**11 37 21.5**	**+4.0**
RUS	**Russkaya**	**0.86**	**225**	*i* P	**Pn**	**11 37 21.8**	**+0.7**
RUS	**Russkaya**	**0.86**	**225**	PN	**Pn**	**11 37 21.8**	**+0.7**
GRL	**Gorelyy**	**1.00**	**241**	*i* P	**Pn**	**11 37 25.7**	**+2.6**
PEA0B	**Petropavlovsk-**	**1.10**	**274**	*e*Pn	**Pn**	**11 37 28.4**	**+4.1**
PEA0B				*e*Sn	**Sn**	**11 37 45.2**	**+6.9**
PETK	**Petropavlovsk-**	**1.10**	**274**	P	**Pn**	**11 37 28.7**	**+4.4**
	comp=E,4µm,0.3s,baz=94,slow=18						
PETK				S	**Sn**	**11 37 46.6**	**+8.3**
	comp=E,5µm,0.3s,baz=247,slow=22,SNR=20						
PETK	**Petropavlovsk-**	**1.10**	**274**	P	**Pn**	**11 37 28.7**	**+4.4**
PETK				S	**Sn**	**11 37 46.6**	**+8.3**
PETK	**Petropavlovsk-**	**1.10**	**274**	PN	**Pn**	**11 37 28.7**	**+4.4**
GNL	**Ganaly**	**1.15**	**305**	*i* P	**Pn**	**11 37 29.8**	**+4.8**
MIPR	**Malaya Ipel'ka**	**1.84**	**247**	*i* P	**Pn**	**11 37 38.2**	**+3.6**
ESO	**Esso**	**2.93**	**351**	*i* P	**Pn**	**11 37 53.2**	**+3.8**
ESO				*e*S	**Sn**	**11 38 28.8**	**+5.5**
ESO	**Esso**	**2.93**	**351**	PN	**Pn**	**11 37 53.2**	**+3.8**
ESO				S	**Sn**	**11 38 28.8**	**+5.5**
SKR	**Severo-Kuril's**	**3.16**	**223**	*e*PN	**Pn**	**11 37 55.0**	**+2.3**
SKR				*e*S	**Sn**	**11 38 32.0**	**+2.9**
SKR				pmax	pmax		
	comp=Z,150nm,0.4s						
SKR				smax			
	comp=E,2µm,0.5s						
SKR				smax			
	comp=N,5µm,0.4s						
SKR				smax			
	comp=N,6µm,2.0s						
SKR				smax			
	comp=E,10µm,2.0s						
SKR				MLR	MLR		
	comp=N,7µm,8.0s						
SKR				MLR	MLR		
	comp=E,7µm,8.0s						
SKR				MLR	MLR		
	comp=Z,5µm,8.0s						
KLY	**Klyuchi**	**3.35**	**11**	*e*P	**Pn**	**11 37 59.2**	**+4.1**
KLY				*i* S	**Sn**	**11 38 38.0**	**+4.4**
KLY	**Klyuchi**	**3.35**	**11**	PN	**Pn**	**11 37 59.2**	**+4.1**
KLY				S	**Sn**	**11 38 38.0**	**+4.4**
BDR	**Baidarnaya**	**3.67**	**15**	*i* P	**Pn**	**11 38 03.5**	**+3.9**
BDR				*i* S	**Sn**	**11 38 46.8**	**+5.3**
KBTR	**Krutoberegovo**	**3.71**	**30**	*e*P	**Pn**	**11 38 01.5**	**+1.4**
KBTR				*i* S	**Sn**	**11 38 43.2**	**+0.7**
KBTR	**Krutoberegovo**	**3.71**	**30**	PN	**Pn**	**11 38 01.5**	**+1.4**
KBTR				S	**Sn**	**11 38 43.2**	**+0.7**
SMKR	**Semkarok**	**3.73**	**17**	*i* P	**Pn**	**11 38 03.7**	**+3.4**
SMKR				*e*S	**Sn**	**11 38 46.9**	**+4.0**
SRKR	**Sorokina**	**3.75**	**14**	*i* P	**Pn**	**11 38 04.8**	**+4.2**
FX1	**Attu Island--F**	**8.25**	**86**	P	**Pn**	**11 38 59.9**	**-2.4**
	comp=Z,154nm,0.3s,baz=279,slow=1.1,SNR=58						
FX1				S	**Sn**	**11 40 22.9**	**-11**
	comp=Z,88nm,0.3s,baz=320,slow=19,SNR=9.5						
FX1				LR	LR	11 41 54.3	
	comp=Z,2µm,21.7s,baz=109,slow=34						
FX1	**Attu Island--F**	**8.25**	**86**	P	**Pn**	**11 38 59.9**	**-2.4**
FX1				S	**Sn**	**11 40 22.9**	**-11**
FX1	**Attu Island--F**	**8.25**	**86**	PN	**Pn**	**11 38 59.9**	**-2.4**
FX1				pmax	pmax		
	comp=Z,154nm,0.3s						
FX1				MLR	MLR		
	comp=Z,2µm,21.7s						
SMY	**Shemya**	**8.83**	**86**	*e*P	**Pn**	**11 39 08.4**	**-1.9**
SMY	**Shemya**	**8.83**	**86**	*e*PN	**Pn**	**11 39 08.4**	**-1.9**
SEY	**Seymchan**	**10.61**	**342**	*e*PN	**Pn**	**11 39 40.4**	**+5.8**
KUR	**Kuril'sk**	**10.91**	**229**	*e*PN	**Pn**	**11 39 48.0**	**+9.2**
KUR				*e*S	**Sn**	**11 41 43.0**	**+3.7**
KUR				pmax	pmax		
	comp=Z,210nm,0.9s						
KUR				pmax	pmax		
	comp=N,150nm,1.0s						
KUR				smax			
	comp=N,250nm,1.0s						
KUR				smax			
	comp=E,170nm,0.9s						
YSS	**Yuzh-Sakhalins**	**12.37**	**247**	*e*Pn	**Pn**	**11 40 03.9**	**+5.2**
YSS	**Yuzh-Sakhalins**	**12.37**	**247**	⇓*e*PN	**Pn**	**11 40 03.2**	**+4.5**
YSS				*e*S	**Sn**	**11 42 24.0**	**+9.0**
YSS				pmax	pmax		
	comp=Z,50nm,1.2s						
YSS				MLR	MLR		
	comp=E,800nm,16.0s						
YSS				MLR	MLR		
	comp=Z,1µm,16.0s						
YUK	**Yuzh-Kuril'sk**	**12.75**	**230**	*i* PN	**Pn**	**11 40 04.5**	**+0.6**
YUK				pmax	pmax		
	comp=N,53nm,0.5s						
YUK				pmax	pmax		
	comp=E,120nm,0.4s						
YUK				pmax	pmax		
	comp=Z,376nm,0.4s						
YUK				pmax	pmax		
	comp=Z,519nm,0.9s						
YUK				MLR	MLR		
	comp=N,438nm,19.0s						
YUK				MLR	MLR		
	comp=E,428nm,19.0s						
YUK				MLR	MLR		
	comp=Z,835nm,19.0s						
ASAJ	**Asahikawa**	**14.29**	**238**	P	**Pn**	**11 40 26.8**	**+1.9**
	comp=Z,6.6nm,0.3s,baz=54,slow=12,SNR=67						
ASAJ	**Asahikawa**	**14.29**	**238**	*e*Pn	**Pn**	**11 40 25.4**	**+0.5**
ASAJ	**Asahikawa**	**14.29**	**238**	P	**Pn**	**11 40 26.8**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
BILL	**Bilibino**	**15.39**	**10**	*e*Pn	**Pn**	**11 40 38.5**	**-0.7**
	comp=Z,131nm,0.8s						
BILL	**Bilibino**	**15.39**	**10**	*e*P	**Pn**	**11 40 38.5**	**-0.7**
BILL				pmax	pmax		
	comp=Z,131nm,0.8s						
ERM	**Erimo**	**15.57**	**231**	Pn	**Pn**	**11 40 39.0**	**-2.6**
	comp=Z,1µm,0.5s,SNR=12						
ERM	**Erimo**	**15.57**	**231**	*e*Pn	**Pn**	**11 40 40.8**	**-0.8**
	comp=Z,103nm,0.4s						
ERM				*e*Sn	**Sn**	**11 43 34.6**	**+1.8**
ERM	**Erimo**	**15.57**	**231**	*e*P	**Pn**	**11 40 40.8**	**-0.8**
ERM				*e*		11 43 34.6	
ERM				pmax	pmax		
	comp=Z,103nm,0.4s						
HABR	**Khabarovsk**	**16.11**	**263**	*e*P	**Pn**	**11 40 48.2**	**-0.2**
HABR				*e*S	**S**	**11 43 45.5**	**-12**
HABR				pmax	pmax		
	comp=Z,141nm,1.2s						
HABR				pmax	pmax		
	comp=N,45nm,1.2s						
HABR				pmax	pmax		
	comp=E,116nm,1.2s						
HABR				MLR	MLR		
	comp=Z,625nm,19.0s						
KLR	**Kul'dur**	**17.78**	**269**	*e*P	**Pn**	**11 41 09.0**	**-0.3**
KLR				pmax	pmax		
	comp=E,220nm,2.2s						
KLR				pmax	pmax		
	comp=Z,390nm,2.2s						
KLR				MLR	MLR		
	comp=Z,1µm,14.5s						
YAK	**Yakutsk**	**18.21**	**311**	*e*Pn	**Pn**	**11 41 15.2**	**+0.8**
	comp=Z,205nm,0.8s						
YAK	**Yakutsk**	**18.21**	**311**	*e*P	**Pn**	**11 41 14.5**	**+0.1**
YAK				*e*S	**S**	**11 44 38.8**	**-1.1**
YAK				pmax	pmax		
	comp=Z,129nm,0.9s						
YAK				pmax	pmax		
	comp=E,46nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,326nm,1.1s						
YAK				pmax	pmax		
	comp=N,159nm,1.5s						
YAK				pmax	pmax		
	comp=E,180nm,1.1s						
YAK				smax			
	comp=N,755nm,2.8s						
YAK				smax			
	comp=E,830nm,3.9s						
YAK				MLR	MLR		
	comp=Z,1µm,21.0s						
YAK				MLR	MLR		
	comp=N,796nm,20.0s						
YAK				MLR	MLR		
	comp=E,789nm,20.0s						
CLNS	**Chul'man**	**20.11**	**295**	*e*P	**P**	**11 41 37.0**	**+2.0**
CLNS				*e*		11 41 51.5	
CLNS				pmax	pmax		
	comp=Z,110nm,0.8s						
CLNS				pmax	pmax		
	comp=E,92nm,0.9s						
CLNS				pmax	pmax		
	comp=N,80nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,33nm,0.6s						
CLNS				pmax	pmax		
	comp=N,12nm,0.6s						
CLNS				pmax	pmax		
	comp=E,48nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,268nm,13.0s,MS3.8						
CLNS				MLR	MLR		
	comp=N,99nm,13.0s,MS3.7						
CLNS				MLR	MLR		
	comp=E,226nm,13.0s,MS3.7						
TNA	**Tin City**	**20.52**	**40**	*e*P	**P**	**11 41 40.0**	**+0.7**
	comp=E,106nm,0.9s						
VLA	**Vladivostok**	**20.83**	**253**	⇓*i*P	**P**	**11 41 41.3**	**-1.6**
VLA	

CN2				LR	LR		
	comp=Z,600nm,17.0s,MS4.2						
HIA	**Hailar**	**25.00**	**277**	*e*P	**P**	**11 42 24.4**	**-0.2**
	comp=Z,179nm,0.6s,mb5.8						
HIA				*e*PcP	PcP	11 45 58.7	+0.4
HIA	**Hailar**	**25.00**	**277**	*e*P	**P**	**11 42 24.4**	**-0.2**
HIA				*e*		11 45 58.7	
HIA				pmax	pmax		
	comp=Z,179nm,0.6s						
TTA	**Tatalina**	**25.05**	**49**	*e*P	**P**	**11 42 24.0**	**-0.9**
TTA	**Tatalina**	**25.05**	**49**	*e*P	**P**	**11 42 24.0**	**-0.9**
BOD	**Bodaibo**	**25.86**	**299**	*e*P	**P**	**11 42 31.8**	**-0.5**
BOD				pmax	pmax		
	comp=Z,32nm,0.8s,mb4.9						
SNY	**Shenyang**	**26.49**	**260**	⇑P	**P**	**11 42 37.2**	**-0.9**
SNY				S	**S**	**11 47 11.7**	**+2.9**
SNY				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.8						
SNY				pmax	pmax		
	comp=Z,280nm,3.8s						
SNY				LR	LR		
	comp=N,460nm,19.6s,MS4.3						
SNY				LR	LR		
	comp=E,630nm,17.6s,MS4.3						
SNY				LR	LR		
	comp=Z,480nm,21.1s,MS4.0						
RSO	**Redoubt South**	**26.67**	**55**	P	**P**	**11 42 38.3**	**-1.3**
	comp=Z,30nm,0.9s,mb4.8						
PPLA	**Purkeypile**	**26.80**	**49**	*e*P	**P**	**11 42 42.2**	**+1.5**
	comp=Z,87nm,1.5s,mb5.1						
OHAK	**Old Harbor**	**26.87**	**62**	*e*P	**P**	**11 42 41.1**	**-0.3**
	comp=Z,205nm,2.2s,mb5.3						
KSRS	**Korea Array**	**26.87**	**247**	P	**P**	**11 42 41.7**	**+0.1**
	comp=Z,52nm,1.0s,mb5.0,baz=45,slow=8.0,SNR=38						
KSRS				PcP	PcP	11 46 03.4	+0.5
	comp=Z,6.7nm,0.8s,baz=353,slow=1.9,SNR=14						
KSRS				LR	LR	11 54 46.5	
	comp=Z,364nm,19.2s,MS4.0,baz=55,slow=39						
KSRS	**Korea Array**	**26.87**	**247**	P	**P**	**11 42 41.7**	**+0.1**
KSRS						11 46 03.4	
KSRS				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.0						
KSRS				MLR	MLR		
	comp=Z,364nm,19.2s,MS4.0						
KSAR	**Wonju Array Be**	**26.90**	**247**	P	**P**	**11 42 41.7**	**-0.2**
KSAR				PcP	PcP	11 46 03.4	+0.4
KSAR	**Wonju Array Be**	**26.90**	**247**	P	**P**	**11 42 41.7**	**-0.2**
KSAR						11 46 03.4	
SPU	**Mount Spurr**	**26.95**	**53**	*e*P	**P**	**11 42 42.4**	**+0.3**
SPU				*e*pP	pP	11 42 53.4	-0.7
KDAK	**Kodiak Island**	**27.14**	**61**	P	**P**	**11 42 42.2**	**-1.6**
	comp=Z,8.8nm,0.6s,mb4.4,baz=270,slow=6.1,SNR=4.9						
KDAK	**Kodiak Island**	**27.14**	**61**	P	**P**	**11 42 42.2**	**-1.5**
KDAK	**Kodiak Island**	**27.14**	**61**	P	**P**	**11 42 42.2**	**-1.6**
KDAK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.5						
BPAW	**Bear Paw Mtn.**	**27.34**	**47**	*e*P	**P**	**11 42 46.1**	**+0.6**
	comp=Z,26nm,1.1s,mb4.7						
BPAW				*e*pP	pP	11 42 57.1	-0.5
INCN	**Inchon**	**27.57**	**249**	*e*P	**P**	**11 42 48.1**	**+0.2**
	comp=Z,17nm,0.7s,mb4.8						
TRF	**Thorofare Moun**	**27.65**	**48**	*e*P	**P**	**11 42 48.6**	**+0.3**
	comp=Z,39nm,1.0s,mb5.0						
COLD	**Coldfoot**	**27.82**	**40**	*e*P	**P**	**11 42 49.4**	**-0.4**
	comp=Z,25nm,1.0s,mb4.8						
MCK	**McKinley**	**28.25**	**47**	*e*P	**P**	**11 42 53.2**	**-0.5**
	comp=Z,35nm,1.1s,mb4.9						
MCK	**McKinley**	**28.25**	**47**	*e*P	**P**	**11 42 53.2**	**-0.4**
MCK				pmax	pmax		
	comp=Z,35nm,1.1s,mb4.9						
JNU	**Nakatsue**	**28.57**	**237**	*e*P	**P**	**11 42 57.6**	**+0.8**
	comp=Z,25nm,0.8s,mb5.0						
SML	**Sawmill**	**28.67**	**51**	*e*P	**P**	**11 42 56.8**	**-0.6**
	comp=Z,7.2nm,0.8s,mb4.5						
SML	**Sawmill**	**28.67**	**51**	*e*P	**P**	**11 42 56.8**	**-0.6**
SML				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
COLA	**College**	**28.69**	**45**	*e*P	**P**	**11 42 56.8**	**-0.7**
	comp=Z,38nm,1.1s,mb5.0						
COLA				*e*pP	pP	11 43 08.7	-1.0
COLA	**College**	**28.69**	**45**	*e*P	**P**	**11 42 56.8**	**-0.7**
COLA				*e**PP	pP	11 43 08.7	-1.0
COLA				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.0						
CBIJ	**Chichi jima**	**28.95**	**213**	P	**P**	**11 42 59.8**	**-0.5**
	comp=Z,43nm,0.6s,mb5.3,baz=16,slow=7.4,SNR=2.3						
CBIJ				LR	LR	11 52 48.9	
	comp=Z,198nm,20.4s,MS3.7,baz=336,slow=32						
CBIJ	**Chichi jima**	**28.95**	**213**	P	**P**	**11 42 59.8**	**-0.5**
ILAR	**Eielson Array**	**29.10**	**45**	P	**P**	**11 43 00.1**	**-1.1**
	comp=Z,13nm,0.7s,mb4.8,baz=262,slow=7.6,SNR=129						
ILAR				PcP	PcP	11 46 05.8	-2.0
	comp=Z,2.8nm,1.0s,baz=273,slow=3.2,SNR=4.5						
ILAR				LR	LR	11 55 51.3	
	comp=Z,216nm,19.3s,MS3.8,baz=96,slow=38						
ILAR	**Eielson Array**	**29.10**	**45**	P	**P**	**11 43 00.1**	**-1.1**
ILAR				PcP	PcP	11 46 05.8	-2.0
ILAR	**Eielson Array**	**29.10**	**45**	P	**P**	**11 43 00.1**	**-1.1**
ILAR						11 46 05.8	
ILAR				pmax	pmax		
	comp=Z,13nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,216nm,19.3s						
PAX	**Paxson**	**29.86**	**49**	*e*P	**P**	**11 43 08.5**	**+0.5**
	comp=Z,54nm,2.0s,mb4.9						
PAX	**Paxson**	**29.86**	**49**	*e*P	**P**	**11 43 08.5**	**+0.5**
PAX				pmax	pmax		
	comp=Z,54nm,2.0s,mb4.9						
DOT	**Dot Lake**	**30.42**	**47**	*e*P	**P**	**11 43 11.4**	**-1.5**
	comp=Z,4.2nm,0.7s,mb4.3						
MENT	**Mentasta**	**30.66**	**49**	*e*P	**P**	**11 43 14.4**	**-0.6**
EGAK	**Eagle**	**31.55**	**45**	*e*P	**P**	**11 43 21.8**	**-1.0**
	comp=Z,31nm,0.6s,mb5.3						
BJI	**Beijing**	**32.01**	**264**	P	**P**	**11 43 26.6**	**-0.5**
BJI				pP	pP	11 43 38.4	-0.9
BJI				sP	sP	11 43 43.8	-1.0
BJI				S	**S**	**11 48 35.4**	**0.0**
BJI				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.9						
BJI				pmax	pmax		
	comp=Z,140nm,4.2s						
BJI				LR	LR		
	comp=N,630nm,21.3s,MS4.4						
BJI				LR	LR		
	comp=E,470nm,20.2s,MS4.4						
BJI				LR	LR		
	comp=Z,350nm,31.2s						
BJT	**Baijiatuau**	**32.03**	**264**	*e*P	**P**	**11 43 26.8**	**-0.5**
	comp=Z,12nm,0.4s,mb5.1						
BJT	**Baijiatuau**	**32.03**	**264**	*e*P	**P**	**11 43 26.8**	**-0.5**
BJT				pmax	pmax		
	comp=Z,12nm,0.4s						
DAWY	**Dawson**	**32.41**	**46**	*e*P	**P**	**11 43 29.9**	**-0.4**
ULN	**Ulaanbaatar**	**33.17**	**283**	*e*P	**P**	**11 43 37.6**	**+0.4**
	comp=Z,20nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**33.17**	**283**	*e*P	**P**	**11 43 37.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**33.17**	**283**	P	**P**	**11 43 37.8**	**+0.6**
	comp=Z,27nm,1.0s,mb5.1						
TLY	**Talaya**	**33.41**	**291**	*e*P	**P**	**11 43 39.6**	**+0.3**
TLY				*e*		11 44 49.4	
TLY				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
TLY				MLR	MLR		
	comp=Z,192nm,17.0s,MS3.9						
SONM	**Songino Array**	**33.57**	**283**	P	**P**	**11 43 41.1**	**+0.4**
	comp=Z,14nm,0.7s,mb5.0,baz=66,slow=7.2,SNR=66						
SONM				PcP	PcP	11 46 20.4	+0.3
	comp=Z,15nm,0.7s,baz=71,slow=1.2,SNR=21						
SONM	**Songino Array**	**33.57**	**283**	P	**P**	**11 43 41.1**	**+0.4**
SONM				PcP	PcP	11 46 20.4	+0.3
SONM	**Songino Array**	**33.57**	**283**	P	**P**	**11 43 41.1**	**+0.4**
SONM						11 46 20.4	
SONM				pmax	pmax		
	comp=Z,15nm,0.7s						
INK	**Inuvik**	**34.13**	**38**	P	**P**	**11 43 45.7**	**+0.4**
	comp=Z,45nm,0.5s,mb5.6,baz=294,slow=7.0,SNR=212						
INK				PcP	PcP	11 46 20.4	-1.0
	comp=Z,1.9nm,0.4s,baz=304,slow=3.0,SNR=3.2						
INK				LR	LR	11 59 47.4	
	comp=Z,117nm,20.3s,MS3.6,baz=141,slow=40						
INK	**Inuvik**	**34.13**	**38**	*e*P	**P**	**11 43 45.2**	**0.0**
	comp=Z,66nm,0.8s,mb5.6						
INK				PcP	PcP	11 46 20.4	-1.0
INK	**Inuvik**	**34.13**	**38**	P	**P**	**11 43 45.7**	**+0.4**
INK						11 46 20.4	
	comp=Z,45nm,0.5s						
INK				pmax	pmax		
	comp=Z,117nm,20.3s						
ZAK	**Zakamensk**	**34.19**	**289**	*e*P	**P**	**11 43 44.3**	**-1.7**
ZAK				*e*	pP	11 43 59.1	+0.8
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
HHC	**Hu-ho-hao-te**	**34.29**	**269**	*e*P	**P**	**11 43 48.3**	**+1.3**
HHC				pP	pP	11 44 00.3	+1.0
HHC				sP	sP	11 44 05.8	+1.0
HHC				PP	PP	11 45 04.3	-0.8
HHC				PcP	PcP	11 46 24.4	+2.1
HHC				S	**S**	**11 49 11.5**	**+0.7**
HHC				sS	sS	11 49 31.6	+0.2
HHC				SS	SS	11 51 21.6	-19
HHC				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
HHC				pmax	pmax		
	comp=Z,120nm,5.5s						
HHC				LR	LR		
	comp=N,400nm,15.3s,MS4.5						
HHC				LR	LR		
	comp=E,520nm,15.9s,MS4.5						
HHC				LR	LR		
	comp=Z,370nm,14.1s,MS4.3						
JOW	**Kunigami**	**34.99**	**234**	*e*P	**P**	**11 43 53.7**	**+0.5**
	comp=Z,68nm,0.5s,mb5.8						
SKAG	**Skagway**	**35.42**	**53**	*e*P	**P**	**11 43 57.2**	**+0.6**
	comp=Z,42nm,0.8s,mb5.4						
NJ2	**Nanjing**	**35.91**	**251**	*e*P	**P**	**11 44 00.6**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
WRAK	**Wrangell Islan**	**38.03**	**57**	*e*P	**P**	**11 44 19.8**	**+1.0**
	comp=Z,22nm,0.8s,mb4.9						
WRAK				*e*pP	pP	11 44 31.6	+0.4
WRAK				*e*sP	sP	11 44 35.7	-0.9
DLBC	**Dease Lake**	**38.36**	**53**	P	**P**	**11 44 22.3**	**+0.9**
	comp=Z,20nm,0.8s,mb4.9,baz=296,slow=8.4,SNR=48						
DLBC				PcP	PcP	11 46 33.9	-0.2
	comp=Z,4.2nm,0.8s,baz=243,slow=4.5,SNR=3.4						
DLBC	**Dease Lake**	**38.36**	**53**	*e*P	**P**	**11 44 22.4**	**+0.9**
DLBC				PcP	PcP	11 46 33.9	-0.2
WHN	**Wuhan**	**39.61**	**254**	⇓P	**P**	**11 44 31.5**	**-0.8**
WHN				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.4						
WHN				LR	LR		
	comp=Z,570nm,25.4s,MS4.3						
TATO	**Taipei**	**39.97**	**240**	*e*P	**P**	**11 44 36.9**	**+1.6**
	comp=Z,38nm,0.6s,mb5.3						
YHNB	**Yeheng**	**40.27**	**240**	*e*P	**P**	**11 44 38.6**	**+0.8**
	comp=Z,13nm,0.6s,mb4.8						
NACB	**Ninganchiao**	**40.56**	**240**	*e*P	**P**	**11 44 40.9**	**+0.6**
	comp=Z,15nm,0.7s,mb4.7						
SSLB	**Suanglung**	**41.22**	**240**	*e*P	**P**	**11 44 47.0**	**+1.4**
	comp=Z,30nm,0.8s,mb5.0						
YULB	**Yu-li**	**41.36**	**239**	*e*P	**P**	**11 44 47.0**	**+0.2**
	comp=Z,28nm,0.6s,mb5.1						
TPUB	**Ta-pu**	**41.78**	**240**	*e*P	**P**	**11 44 50.5**	**+0.3**
	comp=Z,240nm,1.8s,mb5.5						
TWG	**Pinlang**	**41.95**	**239**	*e*P	**P**	**11 44 53.8**	**+2.2**
	comp=Z,73nm,0.7s,mb5.4						
LZH	**Lanzhou**	**41.99**	**269**	*e*P	**P**	**11 44 51.6**	**-0.2**
LZH				pP	pP	11 45 04.0	-0.3
LZH				sP	sP	11 45 09.0	-0.7
LZH				PP	PP	11 46 32.2	+2.8
LZH				*e*S	**S**	**11 51 03.0**	**-4.1**
LZH				sS	sS	11 51 28.0	0.0
LZH				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.9						
LZH				pmax	pmax		
	comp=Z,160nm,4.5s						
LZH				LR	LR		
	comp=N,1μm,15.1s,MS5.0						
LZH				LR	LR		
	comp=E,770nm,14.9s,MS5.0						
LZH				LR	LR		
	comp=Z,1μm,15.1s,MS5.0						
LZH	**Lanzhou**	**41.99**	**269**	*e*P	**P**	**11 44 51.6**	**-0.2**
	comp=Z,33nm,1.0s,mb4.9						
LZH				pP	pP	11 45 04.0	-0.3
LZH				sP	sP	11 45 09.0	-0.7
LZH				PP	PP	11 46 32.2	+2.8
LZH				*e*S	**S**	**11 51 03.0**	**-4.1**
LZH				sS	sS	11 51 28.0	0.0
LZH				LR	LR		
	comp=Z,1μm,15.1s,MS5.0						
LZH	**Lanzhou**	**41.99**	**269**	*e*P	**P**	**11 44 51.6**	**-0.2**
LZH				*PP	pP	11 45 04.0	-0.3
LZH				*SP	sP	11 45 09.0	-0.7
LZH						11 46 32.2	
LZH				*e*S	**S**	**11 51 03.0**	**-4.1**
LZH				*SS	sS	11 51 28.0	0.0
LZH				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.9						
LZH				MLR	MLR		
	comp=Z,1μm,15.1s,MS5.0						
BBB	**Bella Bella**	**42.21**	**61**	P	**P**	**11 44 52.6**	**-0.8**
	comp=Z,10nm,0.9s,mb4.5,baz=282,slow=7.5,SNR=3.6						
BBB	**Bella Bella**	**42.21**	**61**	P	**P**	**11 44 52.6**	**-0.8**
GTA	**Gaotai**	**42.26**	**276**	⇑*i*P	**P**	**11 44 54.3**	**+0.3**
GTA				pP	pP	11 45 05.5	-1.0
GTA				sP	sP	11 45 10.1	-1.8
GTA				PP	PP	11 46 37.0	+4.7
GTA				PcP	PcP	11 46 47.6	+0.5
GTA				S	**S**	**11 51 11.7**	**+0.6**
GTA				sS	sS	11 51 32.6	+0.5
GTA				pmax	pmax		
	comp=Z,50nm,0.6s,mb5.3						
GTA				pmax	pmax		
	comp=Z,120nm,6.2s						
GTA				LR	LR		
	comp=N,280nm,19.4s,MS4.4						
GTA				LR	LR		
	comp=E,340nm,19.4s,MS4.4						
GTA				LR	LR		
	comp=Z,310nm,23.7s,MS4.1						
ZAA0	**Zalesovo Array**	**42.51**	**302**	*e*P	**P**	**11 44 54.4**	**-1.4**
ZAA0				*e*PcP	PcP	11 46 47.3	-0.3
ZALV	**Zalesovo Beam**	**42.51**	**302**	P	**P**	**11 44 54.4**	**-1.5**
	comp=Z,12nm,0.6s,mb4.8,baz=60,slow=7.0,SNR=60						
ZALV				PcP	PcP	11 46 47.2	-0.4
	comp=Z,7.0nm,0.6s,baz=54,slow=5.7,SNR=7.1						
ZALV				PKiKP	PKiKP	11 53 49.9	-2.0
	comp=Z,0.9nm,0.7s,baz=75,slow=1.6,SNR=3.5						
ZALV				LR	LR	12 03 57.1	
	comp=Z,348nm,18.9s,MS4.3,baz=59,slow=38						
ZALV	**Zalesovo Beam**	**42.51**	**302**	P	**P**	**11 44 54.4**	**-1.5**
ZALV				PcP	PcP	11 46 47.2	-0.4
ZALV				PKiKP	PKiKP	11 53 49.9	-2.0
ZALV	**Zalesovo Beam**	**42.51**	**302**	P	**P**	**11 44 54.4**	**-1.4**
ZALV						11 46 47.2	
ZALV				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
ZALV				MLR	MLR		
	comp=Z,348nm,19.0s,MS4.3						
NVS	**Novosibirsk**	**42.85**	**304**	⇓*i*P	**P**	**11 44 55.6**	**-3.0**
NVS				*e*		11 46 40.3	
NVS				*e*S	**S**	**11 51 16.1**	**-3.4**
NVS				pmax	pmax		
	comp=N,13nm,0.8s						
NVS				pmax	pmax		
	comp=E,34nm,0.8s						
NVS				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.4						
NVS				smax			
	comp=N,16nm,1.9s						
NVS				smax			
	comp=E,9.0nm,1.9s						
ALE	**Alert**	**43.02**	**7**	P	**P**	**11 44 59.0**	**-0.7**
	comp=E,324nm,0.7s,mb6.2,SNR=18						
YKA	**Yellowknife Ar**	**43.44**	**42**	P	**P**	**11 45 03.0**	**-0.2**
	comp=E,27nm,0.7s,mb5.1,baz=297,slow=7.8,SNR=45						
YKA				LR	LR	12 04 32.5	
	comp=E,20nm,21.9s,MS3.0,baz=180,slow=38						
YKA	**Yellowknife Ar**	**43.44**	**42**	P	**P**	**11 45 03.0**	**-0.2**
YKA	**Yellowknife Ar**	**43.44**	**42**	P	**P**	**11 45 03.0**	**-0.2**
YKA				pmax	pmax		
	comp=Z,27nm,0.7s						
RES	**Resolute Bay**	**43.51**	**22**	*e*P	**P**	**11 45 03.5**	**-0.1**
	comp=Z,20nm,0.6s,mb5.0						
RES				*e*pP	pP	11 45 15.9	-0.3
RES				*e*PcP	PcP	11 46 49.9	-0.7
RES	**Resolute Bay**	**43.51**	**22**	*e*P	**P**	**11 45 03.5**	**-0.1**
RES				*e**PP	pP	11 45 15.9	-0.3
RES				*e*		11 46 49.9	
RES				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.0						
CD2	**Chengdu**	**45.61**	**264**	*e*P	**P**	**11 45 20.3**	**-0.7**
CD2				pP	pP	11 45 32.7	-0.9
CD2				sP	sP	11 45 38.2	-0.8
CD2				PP	PP	11 47 07.5	-0.7
CD2				PcS	PcS	11 50 51.3	-1.5
CD2				S	**S**	**11 51 58.4**	**-1.7**
CD2				sS	sS	11 52 18.8	-2.4
CD2				ScS	ScS	11 55 10.1	-2.8
CD2				SS	SS	11 55 13.3	-11
CD2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
CD2				pmax	pmax		
	comp=Z,140nm,10.2s						
CD2				LR	LR		
	comp=N,470nm,24.0s,MS4.5						
CD2				LR	LR		
	comp=E,460nm,19.2s,MS4.5						
CD2				LR	LR		
	comp=Z,220nm,19.2s,MS4.1						
WMQ	**Urumqi**	**46.66**	**289**	P	**P**	**11 45 28.9**	**-0.1**
WMQ				pP	pP	11 45 38.8	-2.9
WMQ				sP	sP	11 45 42.7	-4.3
WMQ				PP	PP	11 47 18.2	-0.7
WMQ				S	**S**	**11 52 14.7**	**-0.1**
WMQ				sS	sS	11 52 31.2	-4.7
WMQ				pmax	pmax		
	comp=Z,61nm,0.7s,mb5.6						
WMQ				pmax	pmax		
	comp=Z,220nm,4.0s						
WMQ				LR	LR		
	comp=N,320nm,6.2s						
WMQ				LR	LR		
	comp=E,340nm,5.0s						
WMQ				LR	LR		
	comp=Z,310nm,32.0s,MS4.1						
KBS	**Kingsbay**	**46.88**	**352**	*e*P	**P**	**11 45 30.8**	**+0.4**
KBS	**Kingsbay**	**46.88**	**352**	*ce*P	**P**	**11 45 31.2**	**+0.9**
KBS				pmax	pmax		
	comp=Z,64nm,1.7s,mb5.3						
SPA0	**Spitsbergen Ar**	**47.13**	**350**	*e*P	**P**	**11 45 32.1**	**-0.2**
SPITS	**Spitsbergen Ar**	**47.13**	**350**	P	**P**	**11 45 32.0**	**-0.3**
	comp=Z,40nm,0.5s,mb5.6,baz=66,slow=2.4,SNR=112						
SPITS	**Spitsbergen Ar**	**47.13**	**350**	P	**P**	**11 45 32.0**	**-0.3**
SPITS	**Spitsbergen Ar**	**47.13**	**350**	P	**P**	**11 45 32.0**	**-0.3**
SPITS				pmax	pmax		
	comp=Z,40nm,0.5s						
SPB4	**Spitsbergen Ar**	**47.13**	**350**	*e*P	**P**	**11 45 32.5**	**+0.2**
GYA	**Guiyang**	**47.15**	**257**	P	**P**	**11 45 32.1**	**-0.9**
GYA				pP	pP	11 45 44.5	-1.2
GYA				PcP	PcP	11 47 05.1	+1.0
GYA				PP	PP	11 47 22.2	-1.8
GYA				S	**S**	**11 52 17.7**	**-4.4**
GYA				sS	sS	11 52 39.2	-4.1
GYA				SS	SS	11 55 37.8	-12
GYA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
GYA				pmax	pmax		
	comp=Z,130nm,4.0s						
GYA				LR	LR		
	comp=N,370nm,19.5s,MS4.5						
GYA				LR	LR		
	comp=E,310nm,20.5s,MS4.5						
GYA				LR	LR		
	comp=Z,550nm,28.2s						
A05A	**Maple Falls**	**47.17**	**62**	⇑P	**P**	**11 45 32.3**	**-0.7**
	baz=47						
KURK	**Kurchatov**	**47.46**	**302**	*e*P	**P**	**11 45 33.9**	**-1.3**
	comp=Z,57nm,0.6s,mb5.7						
KURK				*e*PcP	PcP	11 47 04.3	-0.5
KURK	**Kurchatov**	**47.46**	**302**	P	**P**	**11 45 34.7**	**-0.5**
	comp=Z,567nm,0.6s,mb6.7,SNR=64						
KURK	**Kurchatov**	**47.46**	**302**	*e*P	**P**	**11 45 33.9**	**-1.3**
KURK				*e*		11 47 04.3	
KURK				pmax	pmax		
	comp=Z,57nm,0.6s,mb5.7						
JCW	**Jim Creek**	**47.74**	**62**	*e*P	**P**	**11 45 37.3**	**0.0**
E03A	**Lebam**	**47.85**	**65**	⇓P	**P**	**11 45 38.3**	**0.0**
	baz=48						
MK31	**Makanchi Array**	**47.86**	**295**	*e*P	**P**	**11 45 37.3**	**-1.0**
MK31	**Makanchi Array**	**47.86**	**295**	*i*P	**P**	**11 45 37.0**	**-1.3**
MK31				pmax	pmax		
	comp=Z,14nm,0.4s,mb5.3						
MKAR	**Makanchi Array**	**47.86**	**295**	P	**P**	**11 45 37.1**	**-1.2**
	comp=Z,19nm,0.5s,mb5.4,baz=57,slow=6.8,SNR=262						
MKAR				PcP	PcP	11 47 06.0	-0.3
	comp=Z,3.0nm,0.7s,baz=38,slow=5.4,SNR=2.4						
MKAR	**Makanchi Array**	**47.86**	**295**	P	**P**	**11 45 37.1**	**-1.2**
MKAR				PcP	PcP	11 47 06.0	-0.3
MKAR	**Makanchi Array**	**47.86**	**295**	P	**P**	**11 45 37.1**	**-1.2**
MKAR						11 47 06.0	
MKAR				pmax	pmax		
	comp=Z,19nm,0.5s						
D05A	**Enumclaw**	**48.31**	**64**	⇓P	**P**	**11 45 41.3**	**-0.5**
	baz=48						
LON	**Longmire**	**48.68**	**64**	*e*P	**P**	**11 45 46.1**	**+1.5**
	comp=Z,8.2nm,1.1s,mb4.7						
LON	**Longmire**	**48.68**	**64**	*e*P	**P**	**11 45 46.2**	**+1.6**
LON				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
ETW	**Entiat**	**48.95**	**62**	*e*P	**P**	**11 45 46.3**	**-0.4**
HOOD	**Mount Hood Mea**	**49.66**	**65**	*e*P	**P**	**11 45 50.8**	**-1.3**
	comp=Z,134nm,0.6s,mb6.2						
H04A	**Detroit Lake**	**49.76**	**66**	⇑P	**P**	**11 45 52.6**	**-0.3**
	baz=50						
E07A	**Sunnyside**	**49.85**	**63**	⇑P	**P**	**11 45 53.0**	**-0.6**
	baz=50,SNR=8.6						
C09A	**Chrisman Ranch**	**49.92**	**61**	⇓P	**P**	**11 45 53.3**	**-0.8**
	baz=50,SNR=6.1						
OD2	**Odessa Site #2**	**49.95**	**61**	*e*P	**P**	**11 45 53.3**	**-0.9**
VOSK	**Vostochnaya**	**50.05**	**308**	P	**P**	**11 45 53.0**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
HAWA	**Hanford**	**50.13**	**63**	*e*P	**P**	**11 45 55.5**	**-0.3**
	comp=Z,21nm,1.3s,mb5.0						
HAWA				*e*pP	pP	11 46 06.8	-1.6
BVA0	**Borovoye Array**	**50.15**	**308**	*i*P	**P**	**11 45 54.0**	**-1.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
BRVK	**Borovoye**	**50.18**	**308**	P	**P**	**11 45 54.1**	**-1.8**
	comp=Z,293nm,0.6s,mb6.5,SNR=22						
BRVK	**Borovoye**	**50.18**	**308**	*e*P	**P**	**11 45 54.8**	**-1.2**
	comp=Z,28nm,0.6s,mb5.5						
BRVK	**Borovoye**	**50.18**	**308**	*ce*P	**P**	**11 45 54.

comp=Z,370nm,21.2s,MS4.4
KMI Kunming 50.47 259 P **P** **11 45 57.9 -0.6**
comp=Z,11nm,0.9s,mb4.9
KMI pP pP 11 46 11.1 -0.2
KMI sP sP 11 46 15.1 -1.5
KMI PP PP 11 47 54.7 +0.4
KMI PPP 11 48 54.2
KMI S **S** **11 53 07.4 -1.5**
KMI sS sS 11 53 29.1 -1.1
KMI SS SS 11 56 40.0 -2.9
KMI SSS 11 58 12.6
KMI LR LR
comp=Z,370nm,21.2s,MS4.4
KMI Kunming 50.47 259 P **P** **11 45 57.9 -0.6**
KMI *PP pP 11 46 11.1 -0.2
KMI *SP sP 11 46 15.1 -1.5
KMI 11 47 54.7
KMI PPP 11 48 54.2
KMI S **S** **11 53 07.4 -1.5**
KMI *SS sS 11 53 29.1 -1.1
KMI SS SS 11 56 40.0 -2.9
KMI SSS 11 58 12.6
KMI pmax pmax
comp=Z,11nm,0.9s,mb4.9
KMI MLR MLR
comp=Z,370nm,21.2s,MS4.4
A12A Yaak River Ran 50.58 58 ⇓P **P** **11 45 58.7 -0.4**
baz=50,SNR=6.2
E09A Wood Farm, Sta 50.80 62 ⇑P **P** **11 46 00.2 -0.5**
baz=50,SNR=25
ZRNK Zerenda 50.85 309 P **P** **11 45 59.1 -1.9**
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
B12A Libby 50.90 59 ⇓P **P** **11 46 01.0 -0.5**
baz=51
MSLP Maasin 51.07 226 *eP* **P** **11 46 03.3 +0.3**
QIZ Qiongzhong 51.09 248 P **P** **11 46 04.6 +1.3**
QIZ S **S** **11 53 19.2 +1.6**
QIZ pmax pmax
comp=Z,50nm,1.1s,mb5.4
QIZ Qiongzhong 51.09 248 *eP* **P** **11 46 04.6 +1.3**
comp=Z,83nm,0.9s,mb5.7
G08A Pilot Rock 51.14 64 ⇑P **P** **11 46 02.7 -0.6**
baz=51,SNR=5.6
A13A Flathead Natio 51.21 58 ⇓P **P** **11 46 03.4 -0.4**
baz=51,SNR=32
YBH Yreka Blue Hor 51.37 69 *eP* **P** **11 46 06.0 +0.9**
comp=Z,103nm,2.5s,mb5.3
YBH *e*pP pP 11 46 18.3 +0.4
YBH Yreka Blue Hor 51.37 69 *eP* **P** **11 46 06.0 +0.9**
YBH *e**PP pP 11 46 18.3 +0.4
YBH pmax pmax
comp=Z,103nm,2.5s
WALA Waterton Lakes 51.38 57 *eP* **P** **11 46 04.5 -0.6**
comp=Z,0.7nm,0.8s
WALA *e*pP pP 11 46 17.2 -0.6
WALA *e*PcP PcP 11 47 19.5 +0.4
C12B Naegeli Ranch, 51.44 59 ⇑P **P** **11 46 05.1 -0.5**
baz=51,SNR=6.4
B13A Whitefish 51.54 58 ⇓P **P** **11 46 05.8 -0.5**
baz=51,SNR=14
I07A Izee 51.62 65 ⇓P **P** **11 46 06.5 -0.5**
baz=51
F10A Beach Ranch, E 51.63 62 ⇑P **P** **11 46 06.3 -0.7**
baz=51,SNR=7.6
GUIM Jordan 51.64 229 *eP* **P** **11 46 07.9 +0.6**
A14A Double T Ranch 51.69 57 ⇑P **P** **11 46 06.7 -0.6**
baz=51,SNR=14
BSMT Bassoo Peak 51.71 59 *eP* **P** **11 46 07.5 0.0**
K05A Summer Lake 51.74 67 ⇑P **P** **11 46 07.9 +0.1**
baz=52,SNR=6.1
SOKR Solikamsk 51.80 321 *d iP* **P** **11 46 07.5 -0.5**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BLMT Blacktail Moun 51.82 58 *eP* **P** **11 46 08.4 0.0**
C13A Hot Springs 51.93 59 ⇑P **P** **11 46 08.5 -0.7**
baz=52,SNR=14
A15A Johnson Ranch, 52.03 57 ⇓P **P** **11 46 08.8 -1.1**
baz=52,SNR=12
JTMT Jette 52.04 59 *eP* **P** **11 46 09.9 -0.1**
SVE Sverdlovsk 52.08 316⇑ *eP* **P** **11 46 10.0 -0.1**
SVE *e* 11 47 20.9
SVE pmax pmax
comp=Z,18nm,1.0s,mb5.0
SVE MLR MLR
comp=Z,553nm,19.0s,MS4.6
YBMT Yellow Bay 52.10 58 *eP* **P** **11 46 10.6 +0.1**
B14A Marquette Ranc 52.16 58 ⇑P **P** **11 46 10.1 -0.7**
baz=52,SNR=9.5
C14A Swan Lake 52.30 58 ⇑P **P** **11 46 11.6 -0.4**
baz=52
BMO Blue Mountains 52.32 63 *eP* **P** **11 46 11.6 -0.5**
comp=Z,8.6nm,1.1s,mb4.6
BMO *e*pP pP 11 46 22.8 -2.1
SWMT Swartz Lake 52.34 59 *eP* **P** **11 46 11.8 -0.4**
D13A Huson 52.37 59 ⇓P **P** **11 46 11.5 -1.0**
baz=52,SNR=6.3
B15A Bradely Ranch, 52.55 57 ⇓P **P** **11 46 13.0 -0.7**
baz=52,SNR=20
LVZ Lovozero 52.61 337 *ceP* **P** **11 46 13.3 -0.7**
LVZ pmax pmax
comp=Z,91nm,2.5s,mb5.3
MOD Modoc 52.61 68 *eP* **P** **11 46 14.8 +0.5**
comp=Z,15nm,1.0s,mb4.9
A16A West Butte Ran 52.62 56 ⇑P **P** **11 46 13.5 -0.8**
baz=52
J08A Circle Bar Ran 52.66 65 ⇑P **P** **11 46 14.1 -0.6**
baz=52
KEV Kevo 52.75 341 *eP* **P** **11 46 13.5 -1.5**
KEV pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
KEV Kevo 52.75 341 *ep* **P** **11 46 13.5 -1.5**
comp=Z,7.4nm,0.5s,mb4.9
SLMT Seeley Lake 52.77 59 *eP* **P** **11 46 15.1 -0.4**
MSO Missoula 52.81 59 ⇓P **P** **11 46 15.0 -0.7**
baz=52,SNR=12
MSO Missoula 52.81 59 *eP* **P** **11 46 15.1 -0.6**
comp=Z,10nm,1.2s,mb4.6
MSO *e*pP pP 11 46 27.8 -0.8
MSO *e*PcP PcP 11 47 23.9 -0.6
D14A Greenough 52.87 59 ⇑P **P** **11 46 15.6 -0.6**
baz=53,SNR=18
C15A Salmond Ranch, 52.88 58 ⇓P **P** **11 46 15.8 -0.4**
baz=53,SNR=26
E13A Victor 52.93 60 ⇑P **P** **11 46 15.9 -0.7**
baz=53,SNR=7.8
A17A Triple J Farms 53.07 56 ⇓P **P** **11 46 16.6 -1.0**
baz=53,SNR=15
CHMT Chamberlain Mo 53.11 59 *eP* **P** **11 46 17.4 -0.6**
APA Apatity 53.16 337⇑ *eP* **P** **11 46 17.2 -0.8**
APA MLR MLR
comp=Z,700nm,19.0s,MS4.7
WVOR Wild Horse Val 53.19 66 *eP* **P** **11 46 18.6 0.0**
comp=Z,14nm,1.3s,mb4.7
WVOR *e*pP pP 11 46 30.3 -1.1
WVOR *e*PcP PcP 11 47 26.1 +0.1
WVOR Wild Horse Val 53.19 66 *eP* **P** **11 46 18.6 +0.1**
WVOR *e**PP pP 11 46 30.3 -1.1
WVOR *e* 11 47 26.1
WVOR pmax pmax
comp=Z,14nm,1.3s,mb4.7
ARU Arti 53.20 317 *eP* **P** **11 46 17.5 -0.9**
ARU Arti 53.20 317 *c iP* **P** **11 46 17.3 -1.1**
ARU *PP pP 11 46 32.8 +1.5
ARU *e* 11 47 24.2
ARU *e* 11 48 16.2
ARU PPP 11 49 23.0
ARU S **S** **11 53 44.1 -1.5**
ARU SS SS 11 57 20.8 -4.0
ARU pmax pmax
comp=Z,56nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,345nm,20.0s,MS4.4
ARU Arti 53.20 317 P **P** **11 46 17.1 -1.3**
comp=Z,424nm,0.5s,mb6.6,SNR=13
ARCES ARCESS Array B 53.23 342 P **P** **11 46 17.4 -1.1**
comp=Z,18nm,0.8s,mb5.1,baz=40,slow=7.6,SNR=123
ARCES PcP PcP 11 47 25.4 -0.3
comp=Z,14nm,0.7s,baz=38,slow=4.6,SNR=9.2
ARCES LR LR 12 13 12.9
comp=Z,151nm,19.2s,MS4.1,baz=21,slow=41
ARCES ARCESS Array B 53.23 342 P **P** **11 46 17.4 -1.1**
ARCES PcP PcP 11 47 25.4 -0.3
ARCES ARCESS Array B 53.23 342 P **P** **11 46 17.4 -1.1**
ARCES 11 47 25.5
ARCES pmax pmax
comp=Z,18nm,0.8s MLR MLR
ARCES
comp=Z,151nm,19.3s
ARE0 ARCESS Array S 53.23 342 *eP* **P** **11 46 17.2 -1.2**
ARE0 ARCESS Array S 53.23 342 *eP* **P** **11 46 17.4 -1.0**
ARE0 *e*PcP PcP 11 47 25.4 -0.3
F13A Darby 53.29 61 ⇑P **P** **11 46 18.4 -0.8**
baz=53,SNR=9.0
C16A Fuhringer Ranc 53.30 57 ⇓P **P** **11 46 18.4 -0.9**
baz=53,SNR=17
E14A Clinton 53.31 59 ⇑P **P** **11 46 19.0 -0.5**
baz=53,SNR=14
FFC Flin Flon 53.31 46 *eP* **P** **11 46 18.9 -0.3**
comp=Z,26nm,0.8s,mb5.2
FFC Flin Flon 53.31 46 P **P** **11 46 18.9 -0.4**
comp=Z,192nm,0.8s,mb6.1,SNR=9.4
FFC Flin Flon 53.31 46 *eP* **P** **11 46 19.0 -0.3**
FFC pmax pmax
comp=Z,26nm,0.8s,mb5.2
D15A Lincoln 53.40 58 ⇓P **P** **11 46 19.5 -0.6**
baz=53,SNR=8.6
B17A L&G Farms, Che 53.45 56 ⇓P **P** **11 46 19.3 -1.1**
baz=53,SNR=9.2
A18A Metzger Ranch, 53.51 55 ⇓P **P** **11 46 19.8 -1.0**
baz=53
OHCM Honcut 53.66 71 *eP* **P** **11 46 21.9 -0.2**
OHCM *e*pP pP 11 46 34.1 -0.8
E15A Deer Lodge 53.75 59 ⇓P **P** **11 46 21.9 -0.7**
baz=54,SNR=15
F14A Wisdom 53.78 60 ⇓P **P** **11 46 22.1 -0.7**
baz=54
G13A Cobalt 53.80 61 ⇓P **P** **11 46 22.5 -0.5**
baz=54,SNR=16
H12A Diamond D Ranc 53.83 62 ⇑P **P** **11 46 22.5 -0.8**
baz=54
B18A Beardsley Farm 53.90 56 ⇑P **P** **11 46 22.9 -0.8**
baz=54,SNR=12
C17A Wharram Farm, 53.91 57 ⇑P **P** **11 46 22.9 -0.9**
baz=54,SNR=21
D16A Dana Ranch, Ca 53.91 58 ⇓P **P** **11 46 23.4 -0.4**
baz=54,SNR=9.6
HRY Holter Researc 53.98 58 *eP* **P** **11 46 24.2 -0.1**
TKM2 Tokmak 2 53.99 295 P **P** **11 46 23.9 -0.5**
SNR=34
TKM2 Tokmak 2 53.99 295 *eP* **P** **11 46 23.9 -0.6**
TKM2 Tokmak 2 53.99 295 *i P* **P** **11 46 23.9 -0.6**
SUMG Summit 54.05 7 *eP* **P** **11 46 24.8 +0.3**
comp=Z,131nm,0.9s,mb5.9
SUMG Summit 54.05 7⇑ *iP* **P** **11 46 25.4 +0.9**
SUMG pmax pmax
comp=Z,110nm,0.9s
SUMG Summit 54.05 7⇑ *iP* **P** **11 46 25.4 +0.9**
comp=Z,109nm,0.9s,mb5.8
MFID Camas Ranch 54.07 64 ⇓P **P** **11 46 24.4 -0.6**
baz=54,SNR=7.1
MFID Camas Ranch 54.07 64 *eP* **P** **11 46 25.0 0.0**
LSA Lhasa 54.08 273 P **P** **11 46 26.0 +0.7**
LSA pmax pmax
comp=Z,20nm,0.8s,mb5.1
LSA Lhasa 54.08 273 *eP* **P** **11 46 26.0 +0.7**
comp=Z,18nm,0.6s,mb5.2
LSA Lhasa 54.08 273 *eP* **P** **11 46 26.0 +0.7**
LSA pmax pmax
comp=Z,18nm,0.6s,mb5.2
ULHL Ulahol 54.09 294 P **P** **11 46 24.9 -0.3**
SNR=40
H13A Challis 54.14 62 ⇓P **P** **11 46 25.0 -0.5**
baz=54,SNR=12
EGMT Eagleton 54.15 56 ⇑P **P** **11 46 24.7 -0.9**
baz=54
E16A East Helena 54.17 58 ⇓P **P** **11 46 25.6 -0.1**
baz=54,SNR=6.4
I12A Atlanta 54.19 63 ⇑P **P** **11 46 25.6 -0.3**
baz=54,SNR=6.0
F15A Butte 54.22 59 ⇓P **P** **11 46 25.8 -0.2**
baz=54,SNR=5.4
LRM Limekiln Ridge 54.25 59 *eP* **P** **11 46 26.3 0.0**
D17A Six Diamond Ra 54.27 57 ⇑P **P** **11 46 26.1 -0.2**
baz=54,SNR=14
B19A Brinkman Farms 54.27 55 ⇓P **P** **11 46 25.8 -0.5**
baz=54,SNR=18
USP Ospenovka 54.36 296 P **P** **11 46 26.7 -0.4**
SNR=26
CHMS Chumysh 54.40 296 P **P** **11 46 26.8 -0.6**
SNR=11
DLMT Dillon 54.48 60 *eP* **P** **11 46 27.9 -0.1**
comp=Z,38nm,1.8s,mb5.0
A20A Cobblestone Ra 54.49 54 ⇑P **P** **11 46 27.5 -0.4**
baz=54,SNR=7.5
KBK Karagaybulak 54.52 296 P **P** **11 46 28.4 0.0**
SNR=5.7
E17A Martinsdale 54.64 58 ⇓P **P** **11 46 29.3 +0.1**
baz=54
I13A Wildhorse Cree 54.65 62 ⇑P **P** **11 46 29.1 -0.1**
baz=54,SNR=19
WCN Washoe City 54.67 70 ⇓P **P** **11 46 29.7 +0.3**
baz=54,SNR=8.2
WCN Washoe City 54.67 70 *eP* **P** **11 46 30.1 +0.7**
WCN Washoe City 54.67 70 *eP* **P** **11 46 30.1 +0.7**
G15A Dillon 54.67 60 ⇑P **P** **11 46 29.1 -0.2**
baz=54,SNR=14
D18A Linhart Farms, 54.69 57 ⇓P **P** **11 46 29.3 -0.1**
baz=54,SNR=5.6
C19A Slack Wire Ran 54.70 56 ⇑P **P** **11 46 29.2 -0.3**
baz=54,SNR=19
F16A Kennard Place, 54.70 59 ⇓P **P** **11 46 29.4 -0.2**
baz=54
HLID Hailey 54.73 63 ⇑P **P** **11 46 29.7 -0.1**
baz=54,SNR=8.7
HLID Hailey 54.73 63 *eP* **P** **11 46 29.8 0.0**
comp=Z,5.8nm,1.1s,mb4.5
KZA Kyzart 54.75 295 P **P** **11 46 30.1 +0.1**
SNR=13
AAK Ala-Archa 54.79 296 P **P** **11 46 29.5 -0.7**
SNR=37
AAK Ala-Archa 54.79 296 *eP* **P** **11 46 29.4 -0.9**
AAK Ala-Archa 54.79 296 *i P* **P** **11 46 29.5 -0.7**
AAK Ala-Archa 54.79 296 P **P** **11 46 29.6 -0.6**
comp=Z,2µmcomp=Z,213nm,1.2s,mb6.0
AAK Ala-Archa 54.79 296 P **P** **11 46 29.0 -1.2**
comp=Z,289nm,0.8s,mb6.4,SNR=40
BOZ Bozeman (W) 54.79 59 ⇑P **P** **11 46 30.3 0.0**
baz=54,SNR=16
BOZ Bozeman (W) 54.79 59 *eP* **P** **11 46 30.3 +0.1**
comp=Z,7.4nm,0.9s,mb4.7
BOZ *e*pP pP 11 46 42.4 -0.7
BOZ *e*PcP PcP 11 47 31.8 -0.3
BOZ Bozeman (W) 54.79 59 *eP* **P** **11 46 30.3 +0.1**
BOZ *e**PP pP 11 46 42.4 -0.7
BOZ *e* 11 47 31.8
BOZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
H15A Lima 54.96 61 ⇑P **P** **11 46 31.1 -0.3**
baz=55,SNR=10
J13A Cove Ranch, Pi 54.97 63 ⇑P **P** **11 46 31.4 -0.1**
baz=55,SNR=8.2
G16A Moss Hill, Enn 54.98 60 ⇑P **P** **11 46 31.4 -0.2**
baz=55,SNR=26
I14A Mackay 55.00 62 ⇑P **P** **11 46 32.1 +0.3**
baz=55,SNR=19
E18A Harlowton 55.05 57 ⇓P **P** **11 46 32.5 +0.4**
baz=55,SNR=6.9
F17A Fitzpatrick Pl 55.12 58 ⇓P **P** **11 46 32.5 -0.1**
baz=55,SNR=8.2
EKS2 Erkin-Say 55.16 296 P **P** **11 46 32.3 -0.6**
SNR=42
EKS2 Erkin-Say 55.16 296 *eP* **P** **11 46 32.2 -0.7**
EKS2 Erkin-Say 55.16 296 *eP* **P** **11 46 32.2 -0.7**
D19A Cripps Ranch, 55.17 56 ⇑P **P** **11 46 32.8 -0.1**
baz=55,SNR=10
CMB Columbia Colle 55.18 71 *eP* **P** **11 46 32.8 -0.3**
CMB Columbia Colle 55.18 71 *eP* **P** **11 46 32.8 -0.3**
C20A Veseth Ranch, 55.23 55 ⇓P **P** **11 46 33.2 -0.1**
baz=55,SNR=11
B21A Ellsworth Farm 55.24 54 ⇑P **P** **11 46 33.1 -0.3**
baz=55
BMN Battle Mountai 55.32 67 *eP* **P** **11 46 34.6 +0.5**
comp=Z,23nm,1.0s,mb5.2
BMN *e*pP pP 11 46 46.8 -0.2
BMN Battle Mountai 55.32 67 *eP* **P** **11 46 34.6 +0.5**
BMN *e**PP pP 11 46 46.8 -0.2
BMN pmax pmax
comp=Z,23nm,1.0s,mb5.2
J14A Carey 55.37 62 ⇓P **P** **11 46 35.2 +0.7**
baz=55,SNR=18
A22A Carney Farms, 55.38 53 ⇑P **P** **11 46 34.2 -0.2**
baz=55,SNR=12
QLMT Earthquake Lak 55.45 60 *eP* **P** **11 46 35.2 +0.2**
QLMT *e*pP pP 11 46 47.9 0.0
I15A Monteview 55.46 61 ⇑P **P** **11 46 35.3 +0.2**
baz=55
G17A Pierce Place, 55.48 59 ⇓P **P** **11 46 35.5 +0.4**
baz=55,SNR=6.9
AML Almayashu 55.56 296 P **P** **11 46 35.9 +0.1**
SNR=24
D20A Manuel Ranch, 55.59 56 ⇑P **P** **11 46 36.1 +0.1**
baz=55,SNR=15
F18A Big Timber 55.60 58 ⇓P **P** **11 46 36.3 +0.3**
baz=55,SNR=18
C21A Desert Coulee 55.61 55 ⇑P **P** **11 46 36.1 +0.1**
baz=55
H16A Russell Place, 55.63 60 ⇓P **P** **11 46 36.7 +0.4**
baz=55,SNR=12
E19A Rath Farm, Rou 55.70 57 ⇓P **P** **11 46 36.6 -0.1**
baz=55,SNR=8.1
YMR Madison River 55.80 60 *eP* **P** **11 46 37.9 +0.4**
comp=Z,76nm,1.0s,mb5.7
YMR *e*pP pP 11 46 50.2 -0.2
YMR *e*PcP PcP 11 47 36.9 +0.9
B22A Reddig Ranch S 55.82 54 ⇓P **P** **11 46 37.4 -0.2**
baz=56,SNR=6.7
J15A Blackfoot 55.90 62 ⇑P **P** **11 46 38.7 +0.5**
baz=56,SNR=6.1
A23A Redstone 55.91 52 ⇓P **P** **11 46 38.1 -0.1**
baz=56
YNR Norris Junctio 55.92 59 *eP* **P** **11 46 39.7 +1.3**
E20A Meyer Farm, Mu 56.00 56 ⇑P **P** **11 46 39.0 +0.1**
baz=56,SNR=15
IMP Imphal 56.00 267 *e*PKP **P** **11 46 39.0 -0.2**
YFT Old Faithful 56.02 60 *eP* **P** **11 46 41.0 +2.0**
F19A Roth Farm, Mol 56.03 57 ⇓P **P** **11 46 39.0 -0.1**
baz=56,SNR=8.6
I16A Newdale 56.07 61 ⇑P **P** **11 46 40.1 +0.7**
baz=56,SNR=13
G18A Lazy EL Ranch, 56.08 58 ⇓P **P** **11 46 39.0 -0.5**
baz=56,SNR=6.3
K14A Jones Ranch, D 56.09 63 ⇓P **P** **11 46 40.3 +0.7**
baz=56,SNR=15
NVAR Mina Array Bea 56.09 70 P **P** **11 46 40.3 +0.6**
comp=Z,9.4nm,0.8s,mb4.9,baz=295,slow=7.4,SNR=78
NVAR LR LR 12 07 58.3
comp=Z,95nm,20.4s,MS3.9,baz=312,slow=33
NVAR Mina Array Bea 56.09 70 P **P** **11 46 40.3 +0.6**
KSH Kashi 56.10 292 P **P** **11 46 43.0 +3.3**
KSH pP pP 11 46 56.2 +3.5
KSH sP sP 11 47 01.3 +3.3
KSH PcP PcP 11 47 41.3 +4.0
KSH PP PP 11 48 50.5 +5.8
KSH ScP ScP 11 51 33.5 +1.2
KSH PcS PcS 11 51 39.4 +1.7
KSH S **S** **11 54 27.6 +2.6**
KSH ScS ScS 11 56 24.8 +0.1
KSH SS SS 11 58 15.0 +3.8
KSH pmax pmax
comp=Z,22nm,1.1s,mb5.1
KSH pmax pmax
comp=Z,110nm,4.0s
KSH LR LR
comp=N,140nm,6.5s
KSH LR LR
comp=E,100nm,4.8s
KSH LR LR
comp=Z,130nm,6.2s
LKWY Lake 56.17 59 *eP* **P** **11 46 40.6 +0.5**
comp=Z,15nm,0.9s,mb5.0
LKWY *e*PcP PcP 11 47 39.2 +1.8
LKWY Lake 56.17 59 *eP* **P** **11 46 40.6 +0.5**
LKWY *e* 11 47 39.3
LKWY pmax pmax
comp=Z,15nm,0.9s,mb5.0
D21A La Casta Ranch 56.18 55 ⇑P **P** **11 46 40.1 0.0**
baz=56,SNR=11
B23A Brockton 56.19 53 ⇑P **P** **11 46 39.9 -0.3**
baz=56,SNR=9.7
H17A Grant Village 56.19 60 ⇑P **P** **11 46 41.8 +1.6**
baz=56,SNR=13
C22A Vida 56.26 54 ⇓P **P** **11 46 40.4 -0.3**
baz=56,SNR=6.7
K15A Arbon 56.34 62 ⇓P **P** **11 46 42.3 +1.0**
baz=56,SNR=22
FLWY Flagg Ranch 56.34 60 *eP* **P** **11 46 42.3 +0.9**
comp=Z,16nm,0.9s,mb5.0
FLWY *e*PcP PcP 11 47 39.1 +1.0
MLAC Mammoth Lakes 56.34 71 ⇓P **P** **11 46 42.1 +0.7**
baz=56
IMW Indian Meadow 56.35 60 *eP* **P** **11 46 41.9 +0.6**
comp=Z,10nm,0.8s,mb4.9
IMW *e*pP pP 11 46 54.8 +0.4
IMW *e*PcP PcP 11 47 38.4 +0.2
A24A Westby 56.35 52 ⇓P **P** **11 46 41.0 -0.3**
baz=56
RLMT Red Lodge 56.37 58 ⇑P **P** **11 46 42.1 +0.5**
baz=56,SNR=27
RLMT Red Lodge 56.37 58 *eP* **P** **11 46 41.7 +0.1**
comp=Z,25nm,0.9s,mb5.2
RLMT *e*PcP PcP 11 47 38.4 +0.2
J16A Bone 56.42 61 ⇑P **P** **11 46 42.6 +0.7**
baz=56,SNR=5.5
DCID1 Drake Creek 56.42 61 *eP* **P** **11 46 43.2 +1.2**
STEI Steigen 56.45 345 *eP* **P** **11 46 41.1 -0.6**
F20A Billings 56.47 57 ⇓P **P** **11 46 42.4 +0.1**
baz=56,SNR=14
H18A Shoshone NF, C 56.47 59 ⇓P **P** **11 46 42.7 +0.4**
baz=56,SNR=11
E21A Keefer Ranch, 56.50 56 ⇓P **P** **11 46 42.6 +0.1**
baz=56,SNR=9.6
D22A Cohagen 56.52 55 ⇑P **P** **11 46 42.7 +0.1**
baz=56,SNR=13
RRI2 Red Ridge 56.52 61 *eP* **P** **11 46 43.5 +0.9**
C23A Lambert 56.56 54 ⇓P **P** **11 46 42.7 -0.2**
baz=56
DGMT Dagmar 56.57 52 ⇑P **P** **11 46 42.8 -0.1**
baz=56,SNR=6.8
DGMT Dagmar 56.57 52 *eP* **P** **11 46 42.9 -0.1**
comp=Z,23nm,1.0s,mb5.2
KK31 Karatay Array 56.60 299 *eP* **P** **11 46 41.6 -1.6**
KK31 pmax pmax
comp=Z,16nm,0.6s,mb5.2
KKAR Karatay Array 56.60 299 *eP* **P** **11 46 41.7 -1.5**
comp=Z,19nm,0.6s,mb5.3
KKAR Karatay Array 56.60 299 *eP* **P** **11 46 41.7 -1.5**
KKAR pmax pmax
comp=Z,19nm,0.6s,mb5.3
TPAW Teton Pass 56.62 61 *eP* **P** **11 46 44.5 +1.1**
SHL Shillong 56.65 269 *e*PKP **P** **11 46 45.5 +1.7**
MTUM Tungsten Hills 56.69 71 *eP* **P** **11 46 44.8 +0.8**
MTUM *e*pP pP 11 46 55.1 -1.8
LOHW Long Hollow 56.72 60 *eP* **P** **11 46 44.8 +0.7**
K16A Soda Springs 56.74 62 ⇓P **P** **11 46 45.5 +1.4**
baz=56,SNR=20
SNOW Snow King Moun 56.74 61 *eP* **P** **11 46 45.2 +1.0**
comp=Z,7.8nm,0.7s,mb4.8
SNOW *e*PcP PcP 11 47 40.3 +0.6
REDW Red Top Meadow 56.76 61 *eP* **P** **11 46 45.5 +1.1**
SCO Scoresbysund 56.78 1⇑ *iP* **P** **11 46 44.5 +0.4**
SCO pmax pmax
comp=Z,16nm,1.0s,mb5.0
SCO Scoresbysund 56.78 1⇑ *iP* **P** **11 46 44.5 +0.4**
comp=Z,16nm,1.0s,mb5.0
LAO LASA Array 56.82 55 ⇓P **P** **11 46 45.1 +0.4**
baz=56,SNR=10
LAO LASA Array 56.82 55 *eP* **P** **11 46 44.9 +0.2**
comp=Z,26nm,0.9s,mb5.3
LAO *e*pP pP 11 46 57.6 -0.1
H19A Powell 56.83 58 ⇑P **P** **11 46 45.5 +0.7**
baz=56,SNR=9.2
HVU Hansel Valley 56.83 63 *eP* **P** **11 46 45.7 +0.8**
HVU Hansel Valley 56.83 63 *eP* **P** **11 46 45.7 +0.8**
J17A Brown Place, J 56.83 61 ⇓P **P** **11 46 45.8 +1.0**
baz=57,SNR=12
G20A Bridger 56.84 58 ⇑P **P** **11 46 44.7 -0.2**
baz=57,SNR=16
L15A Malad City 56.88 63 ⇓P **P** **11 46 45.9 +0.6**
baz=57,SNR=18
F21A Absaloka Mine, 56.97 56 ⇑P **P** **11 46 45.9 +0.1**
baz=57
D23A Lindsay 56.98 54 ⇑P **P** **11 46 46.1 +0.2**
baz=57,SNR=7.3
RCTC Rector, Farmer 57.03 72 ⇑P **P** **11 46 46.8 +0.4**
baz=57
I18A Diamond G Ranc 57.07 60 ⇓P **P** **11 46 47.3 +0.8**
baz=57,SNR=5.5

C24A **Savage** 57.12 53 ⇑P P 11 46 46.5 -0.3
baz=57
E22A **Miles City** 57.13 55 ⇓P P 11 46 46.8 -0.1
baz=57
K17A **Gardner Place,** 57.15 61 ⇑P P 11 46 47.3 +0.2
baz=57,SNR=5.0
M15A **Larsen Ranch,** 57.23 63 ⇑P P 11 46 48.1 +0.4
baz=57,SNR=9.8
I19A **Meeteetse** 57.26 59 ⇓P P 11 46 48.1 +0.2
baz=57
J18A **Kendall Valley** 57.30 60 ⇓P P 11 46 48.8 +0.6
baz=57,SNR=11
G21A **Lodge Grass** 57.35 57 ⇑P P 11 46 48.1 -0.4
baz=57,SNR=6.5
L16A **Fish Haven** 57.39 62 ⇓P P 11 46 49.2 +0.4
baz=57,SNR=10.0
E23A **Ismay** 57.41 55 ⇑P P 11 46 49.0 +0.1
baz=57,SNR=5.3
F22A **Rosebud** 57.44 56 ⇑P P 11 46 49.2 +0.1
baz=57
VES **Vestal, Richgr** 57.45 72 ⇓P P 11 46 48.6 -0.7
baz=57
D24A **Glendive** 57.45 54 ⇑P P 11 46 49.4 +0.2
baz=57
H20A **Greybull** 57.46 58 ⇓P P 11 46 48.9 -0.3
baz=57
JOF **Joensuu** 57.47 335 *e*P P 11 46 49.1 +0.1
JOF pmax pmax
comp=Z,16nm,0.5s,mb5.3
JOF **Joensuu** 57.47 335 *e*p P 11 46 49.1 +0.1
comp=Z,16nm,0.5s,mb5.3
CHG **Chiang Mai** 57.55 258 ⇑P P 11 46 50.0 -0.2
comp=Z,25nm,0.7s,mb5.3
CHTO **Chiang Mai** 57.55 258 *e*P P 11 46 50.3 +0.1
comp=Z,17nm,0.8s,mb5.1
CHTO **Chiang Mai** 57.55 258 *e*P P 11 46 50.3 +0.1
CHTO pmax pmax
comp=Z,17nm,0.8s,mb5.1
CHTO **Chiang Mai** 57.55 258 P P 11 46 50.0 -0.2
comp=Z,358nmcomp=Z,33nm,0.8s,mb5.4
AB31 **Akbulak array** 57.56 310 *e*P P 11 46 48.4 -1.5
AB31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
ABKAR **Akbulak array** 57.56 310 *e*P P 11 46 48.2 -1.6
comp=Z,5.0nm,0.4s,mb4.9
AKTO **Aktyubinsk** 57.60 312 P P 11 46 48.5 -1.6
HWUT **Hardware Ranch** 57.60 63 *e*P P 11 46 50.8 +0.5
comp=Z,65nm,1.1s,mb5.6
HWUT *e*pP pP 11 47 03.5 +0.2
CWC **Cottonwood Cre** 57.61 71 ⇑P P 11 46 50.9 +0.5
baz=57
GRAC **Grapevine Rang** 57.62 70 ⇑P P 11 46 51.3 +0.9
baz=57
L17A **Cokeville** 57.63 62 ⇓P P 11 46 51.0 +0.5
baz=57,SNR=19
R11A **Troy Canyon, C** 57.68 68 ⇓P P 11 46 50.9 0.0
baz=57,SNR=14
K18A **Toltan Ranch,** 57.69 61 ⇓P P 11 46 51.9 +1.0
baz=57,SNR=40
I20A **Worland** 57.77 59 ⇓P P 11 46 51.8 +0.3
baz=58,SNR=11
J19A **Crowheart** 57.77 60 ⇑P P 11 46 52.2 +0.7
baz=58,SNR=13
G22A **Birney** 57.81 56 ⇓P P 11 46 51.6 -0.1
baz=58,SNR=9.9
CM31 **Chiang Mai Arr** 57.83 258 *e*P P 11 46 53.3 +1.1
comp=Z,8.7nm,0.6s,mb5.0
CM31 *e*PcP PcP 11 47 44.4 +0.1
CMAR **Chiang Mai Arr** 57.83 258 P P 11 46 52.5 +0.3
comp=Z,8.9nm,0.7s,mb4.9,baz=21,slow=7.2,SNR=51
CMAR PcP PcP 11 47 44.2 0.0
comp=Z,9.4nm,0.8s,baz=16,slow=3.3,SNR=12
CMAR LR LR 12 15 18.1
comp=Z,179nm,18.4s,MS4.2,baz=43,slow=40
CMAR **Chiang Mai Arr** 57.83 258 P P 11 46 52.5 +0.3
CMAR PcP PcP 11 47 44.2 0.0
CMAR **Chiang Mai Arr** 57.83 258 P P 11 46 52.5 +0.3
CMAR 11 47 44.3
CMAR pmax pmax
comp=Z,9.0nm,0.7s
CMAR MLR MLR
comp=Z,179nm,18.4s
PD01 **Pinedale Array** 57.84 60 *e*P P 11 46 52.0 +0.1
PD01 *e*pP pP 11 47 04.6 -0.3
PD02 **Pinedale Array** 57.84 60 *e*P P 11 46 52.1 +0.1
PD02 *e*pP pP 11 47 04.9 -0.1
PD02 *e*PcP PcP 11 47 42.4 -1.7
H21A **Big Horn, Sher** 57.85 57 ⇓P P 11 46 52.0 0.0
baz=58,SNR=14
E24A **Baker** 57.85 54 ⇓P P 11 46 52.2 +0.2
baz=58
BW06 **Boulder Array** 57.85 60 ⇑P P 11 46 52.3 +0.2
baz=58,SNR=32
PDAR **Pinedale Array** 57.85 60 P P 11 46 52.2 +0.1
comp=Z,19nm,0.8s,mb5.2,baz=316,slow=2.7,SNR=125
PDAR LR LR 12 12 30.2
comp=Z,86nm,19.2s,MS3.9,baz=330,slow=37
PDAR PKPPKP 12 16 26.4
comp=Z,0.6nm,0.9s,baz=94,slow=1.3,SNR=3.8
PDAR PKP2bc 12 16 48.4
comp=Z,1.0nm,1.0s,baz=164,slow=3.7,SNR=4.4
PDAR **Pinedale Array** 57.85 60 P P 11 46 52.2 +0.1
PDAR P'P' 12 16 26.4
PDAR ⇑*e* 12 16 48.4
DUG **Dugway** 57.91 65 ⇓P P 11 46 52.8 +0.3
baz=58,SNR=14
ISA **Isabella** 57.93 72 ⇑P P 11 46 51.7 -1.0
baz=58,SNR=5.2
O15A **The Old Anders** 58.04 64 ⇑P P 11 46 54.2 +0.8
baz=58
SFJD **Kangerlussuaq** 58.15 13 *e*P P 11 46 52.5 -1.3
SFJD **Kangerlussuaq** 58.15 13⇑*i*P P 11 46 53.0 -0.8
SFJD pmax pmax
comp=Z,31nm,0.9s,mb5.3
SFJD **Kangerlussuaq** 58.15 13⇑*i*P P 11 46 53.0 -0.8
comp=Z,31nm,0.9s,mb5.3
N16A **Rees Ranch, Co** 58.17 63 ⇑P P 11 46 54.7 +0.4
baz=58
M17A **Scullys Gap (B** 58.18 62 ⇑P P 11 46 54.5 +0.1
baz=58,SNR=9.3
MOR8 **Moi Rana** 58.18 344 *e*P P 11 46 51.7 -2.3
MOR8 AMB AMB 11 46 52.9
comp=Z,22nm,0.7s,mb5.3
K19A **Absolon Red Bu** 58.19 60 ⇓P P 11 46 54.1 -0.3
baz=58,SNR=12
L18A **Fontenelle, Gr** 58.19 61 ⇓P P 11 46 54.8 +0.4
baz=58,SNR=12
FLOS **Flostrand** 58.20 345 *e*P P 11 46 53.6 -0.6
J20A **Shoshoni** 58.21 59 ⇓P P 11 46 54.9 +0.3
baz=58,SNR=14
MPMC **Manual Prospec** 58.21 71 ⇓P P 11 46 54.9 +0.2
baz=58
H22A **Clearmont** 58.22 57 ⇓P P 11 46 54.4 -0.2
baz=58,SNR=6.5
STOK **Stokkvaagen** 58.26 345 *e*P P 11 46 54.0 -0.5
G23A **Biddle** 58.28 56 ⇓P P 11 46 54.6 -0.4
baz=58,SNR=7.8
FURC **Furnace Creek,** 58.28 70 ⇓P P 11 46 55.6 +0.5
baz=58,SNR=19
F24A **Ekalaka** 58.29 55 ⇓P P 11 46 55.1 0.0
baz=58,SNR=6.6
I21A **Big Trails, Te** 58.30 58 ⇓P P 11 46 55.3 +0.2
baz=58,SNR=12
JLU **Jordanelle** 58.37 63 *e*P P 11 46 55.7 0.0
comp=Z,6.6nm,1.0s,mb4.6
JLU *e*pP pP 11 47 07.8 -0.9
L19A **Farson** 58.43 61 ⇑P P 11 46 56.1 0.0
baz=58,SNR=6.4
N17A **Moffit Pass** 58.46 63 ⇓P P 11 46 56.5 +0.2
baz=58,SNR=8.3
LRMC **Laurel Mountai** 58.51 72 ⇓P P 11 46 56.5 -0.2
baz=58,SNR=8.4
M18A **Lyman** 58.53 62 ⇓P P 11 46 56.9 +0.1
baz=58
J21A **Lysite** 58.55 59 ⇑P P 11 46 57.1 +0.2
baz=58,SNR=19
K20A **Yellowstone Ra** 58.57 60 ⇑P P 11 46 56.9 -0.2
baz=58,SNR=12
DAU **Daniels Canyon** 58.61 63 *e*P P 11 46 57.9 +0.5
comp=Z,6.3nm,0.7s,mb4.8
DAU *e*PcP PcP 11 47 47.3 +0.2
DAU **Daniels Canyon** 58.61 63 *e*P P 11 46 57.9 +0.6
DAU *e* 11 47 47.3
DAU pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
O16A **Springville** 58.62 64 ⇑P P 11 46 58.2 +0.8
baz=58,SNR=17

P15A **Leamington** 58.65 65 ⇓P P 11 46 58.0 +0.3
baz=58
I22A **9 Mile Ranch,** 58.65 58 ⇑P P 11 46 57.7 0.0
baz=58,SNR=15
G24A **Alzada** 58.67 55 ⇓P P 11 46 57.6 -0.1
baz=58,SNR=7.0
MPU **Maple Canyon** 58.68 64 *e*P P 11 46 58.0 +0.2
comp=Z,10nm,0.8s,mb4.9
MPU *e*pP pP 11 47 09.6 -1.3
MPU *es*P sP 11 47 15.6 -0.6
BLG **Laguna Peak** 58.69 74 ⇓P P 11 46 58.0 -0.1
baz=58
R13A **O'Grain Ranch,** 58.70 67 ⇑P P 11 46 58.1 +0.1
baz=58,SNR=5.2
EDW2 **Edwards Air Fo** 58.76 72 ⇓P P 11 46 58.3 -0.2
baz=58,SNR=10
M19A **Rock Springs** 58.96 61 ⇓P P 11 46 59.8 0.0
baz=59
P16A **Fountain Green** 58.96 64 ⇑P P 11 46 59.9 +0.1
baz=59
J22A **Midwest** 59.00 58 ⇓P P 11 47 00.3 +0.3
baz=59,SNR=29
SHOC **Shoshone** 59.02 70 ⇑P P 11 47 00.1 -0.1
baz=59
H24A **Dirks Ranch, A** 59.02 56 ⇓P P 11 46 59.8 -0.4
baz=59,SNR=15
L20A **Wamsutter** 59.03 60 ⇓P P 11 47 00.5 +0.2
baz=59,SNR=14
O17A **Robinson Place** 59.04 63 ⇑P P 11 47 00.8 +0.4
baz=59
ULM **Lac du Bonnet** 59.11 46 P P 11 47 00.2 -0.5
comp=Z,13nm,0.5s,mb5.2,baz=312,slow=7.1,SNR=22
ULM LR LR 12 15 03.1
comp=Z,205nm,18.5s,MS4.3,baz=323,slow=38
ULM **Lac du Bonnet** 59.11 46 *e*P P 11 47 00.2 -0.5
comp=Z,22nm,1.1s,mb5.1
ULM *e*pP pP 11 47 12.7 -1.1
ULM **Lac du Bonnet** 59.11 46 *e*P P 11 47 00.2 -0.5
ULM *e**PP pP 11 47 12.7 -1.0
ULM pmax pmax
comp=Z,21nm,1.1s
GSC **Goldstone** 59.14 71 ⇓P P 11 47 01.4 +0.3
baz=59,SNR=12
GSC **Goldstone** 59.14 71 *e*P P 11 47 01.1 0.0
comp=Z,22nm,0.3s,mb5.7
GSC *e*pP pP 11 47 13.5 -0.7
GSC **Goldstone** 59.14 71 *e*P P 11 47 01.1 0.0
GSC *e**PP pP 11 47 13.5 -0.7
GSC pmax pmax
comp=Z,21nm,0.3s,mb5.7
K21A **Alcova** 59.15 59 ⇑P P 11 47 01.3 +0.2
baz=59,SNR=31
MDND **Maddock** 59.18 50 ⇑P P 11 47 01.4 +0.2
baz=59
MWC **Mount Wilson** 59.19 73 *e*P P 11 47 01.5 0.0
comp=Z,12nm,0.9s,mb4.9
MWC *e*pP pP 11 47 13.6 -0.9
MWC **Mount Wilson** 59.19 73 *e*P P 11 47 01.5 0.0
MWC *e**PP pP 11 47 13.6 -0.9
MWC pmax pmax
comp=Z,12nm,0.9s,mb4.9
ARUT **Antelope Range** 59.27 67 *e*P P 11 47 01.6 -0.4
ARUT *e*pP pP 11 47 14.9 -0.1
ARUT *e*PcP PcP 11 47 49.6 -0.2
ARUT **Antelope Range** 59.27 67 *e*P P 11 47 01.6 -0.4
ARUT *e**PP pP 11 47 15.0 0.0
ARUT *e* 11 47 49.6
NST **Nakhon Sawan** 59.32 255 P P 11 47 02.0 -0.5
N19A **John Jarvie Ra** 59.38 62 ⇓P P 11 47 02.3 -0.4
baz=59
O18A **Roosevelt** 59.38 63 ⇑P P 11 47 03.9 +1.2
baz=59,SNR=11
KAF **Kangasniemi** 59.40 337 *e*P P 11 47 02.0 -0.5
KAF pmax pmax
comp=Z,28nm,0.6s,mb5.5
KAF **Kangasniemi** 59.40 337 *e*p P 11 47 02.0 -0.5
comp=Z,28nm,0.6s,mb5.5
BFSC **Mount Baldy Ra** 59.41 73 ⇓P P 11 47 02.9 -0.1
baz=59,SNR=5.3
TMUT **Trail Mountain** 59.42 64 *e*P P 11 47 03.5 +0.5
comp=Z,18nm,1.0s,mb5.1
MSU **Marysvale** 59.45 66 *e*P P 11 47 03.9 +0.6
comp=Z,15nm,0.9s,mb5.0
MSU *e*pP pP 11 47 15.5 -0.8
MSU *e*PcP PcP 11 47 51.5 +1.0
MSU **Marysvale** 59.45 66 *e*P P 11 47 03.9 +0.7
MSU *e**PP pP 11 47 15.5 -0.8
MSU *e* 11 47 51.5
MSU pmax pmax
comp=Z,15nm,0.9s,mb5.0
M20A **Sweetwater, Wa** 59.48 61 ⇓P P 11 47 03.9 +0.5
baz=59,SNR=7.5
K22A **Casper** 59.52 59 ⇑P P 11 47 03.3 -0.3
baz=59,SNR=8.6
TUQ **Turquoise Moun** 59.55 71 ⇓P P 11 47 04.1 +0.1
baz=59,SNR=9.4
P17A **Butcher Ranch,** 59.55 64 ⇑P P 11 47 04.2 +0.3
baz=59,SNR=6.3
L21A **Rawlins** 59.57 60 ⇓P P 11 47 04.1 +0.1
baz=59,SNR=15
R15A **Junction** 59.61 66 ⇑P P 11 47 05.1 +0.7
baz=59
I24A **Kuenmerle Ranc** 59.62 57 ⇑P P 11 47 04.2 -0.1
baz=59
Q16A **Castle Valley** 59.71 65 ⇓P P 11 47 05.4 +0.3
baz=60,SNR=7.4
RSSD **Black Hills** 59.73 56 *e*P P 11 47 05.1 0.0
comp=Z,48nm,0.8s,mb5.6
RSSD **Black Hills** 59.73 56 *e*P P 11 47 05.1 +0.1
RSSD pmax pmax
comp=Z,48nm,0.8s,mb5.6
HEC **Hector,Ludlow** 59.75 71 ⇑P P 11 47 05.2 -0.1
baz=60,SNR=12
BBRC **Big Bear Solar** 59.82 72 ⇓P P 11 47 05.9 0.0
baz=60
M21A **Separation Pea** 59.83 60 ⇓P P 11 47 05.5 -0.3
baz=60,SNR=11
O19A **Miners Draw (B** 59.83 62 ⇓P P 11 47 05.7 -0.1
baz=60,SNR=6.7
RWWY **Rawlins** 59.85 60 *e*P P 11 47 05.5 -0.4
comp=Z,26nm,1.3s,mb5.1
K23A **Bowen Ranch, D** 59.90 58 ⇓P P 11 47 05.5 -0.8
baz=60,SNR=6.3
SRU **San Rafael** 59.93 64 *e*P P 11 47 06.7 +0.2
comp=Z,29nm,1.0s,mb5.3
SRU *e*PcP PcP 11 47 52.0 -0.3
SRU **San Rafael** 59.93 64 *e*P P 11 47 06.7 +0.2
SRU *e* 11 47 52.1
SRU pmax pmax
comp=Z,29nm,1.0s,mb5.3
R16A **Teasdale** 60.00 65 ⇓P P 11 47 07.5 +0.5
baz=60
L22A **Ellis Ranch, M** 60.01 59 ⇓P P 11 47 07.1 +0.1
baz=60,SNR=9.1
FINES **FINESS Array B** 60.03 336 P P 11 47 06.4 -0.5
comp=Z,24nm,0.6s,mb5.4,baz=36,slow=7.3,SNR=121
FINES PcP PcP 11 47 50.6 -1.8
comp=Z,11nm,0.7s,baz=48,slow=4.1,SNR=4.1
FINES LR LR 12 17 50.7
comp=Z,218nm,18.9s,MS4.3,baz=163,slow=41
FINES **FINESS Array B** 60.03 336 P P 11 47 06.4 -0.4
FINES PcP PcP 11 47 50.6 -1.8
FINES **FINESS Array B** 60.03 336 P P 11 47 06.4 -0.4
FINES 11 47 50.6
FINES pmax pmax
comp=Z,24nm,0.6s
FINES MLR MLR
comp=Z,218nm,18.9s
NSS **Namsos** 60.10 344 *e*P P 11 47 05.7 -1.7
MURC **Murrieta** 60.13 73 ⇑P P 11 47 07.3 -0.7
baz=60,SNR=6.6
Q18A **Rafter H Ranch** 60.15 64 ⇑P P 11 47 07.6 -0.4
baz=60
GMRC **Granite Mounta** 60.17 71 ⇑P P 11 47 08.0 -0.3
baz=60,SNR=12
LDFC **Landfair** 60.27 70 *e*P P 11 47 08.5 -0.4
comp=Z,14nm,0.8s,mb5.0
LDFC *e*pP pP 11 47 21.1 -0.8
R17A **Hanksville Air** 60.32 65 ⇓P P 11 47 09.3 +0.1
baz=60,SNR=15
L23A **Garrett** 60.33 59 ⇓P P 11 47 08.9 -0.3
baz=60,SNR=15
S16A **Weppner Ranch,** 60.34 66 ⇓P P 11 47 09.7 +0.4
baz=60,SNR=13
N21A **Black Mountain** 60.35 61 ⇓P P 11 47 09.6 +0.3
baz=60,SNR=5.5

P19A **Cripple Cowboy** 60.39 63 ⇓P P 11 47 09.8 +0.2
baz=60,SNR=12
O20A **White River Ci** 60.42 62 ⇓P P 11 47 09.9 0.0
baz=60,SNR=11
BELC **Belle Mtn. Jos** 60.54 72 ⇑P P 11 47 10.0 -0.7
baz=60
PFO **Pinyon Flat Ob** 60.56 72 ⇑P P 11 47 10.3 -0.6
baz=60
AGMN **Agassiz Nation** 60.56 48 *e*P P 11 47 09.9 -0.7
comp=Z,22nm,1.0s,mb5.2
AGMN *e*pP pP 11 47 22.2 -1.5
109C **Camp Elliot, M** 60.70 73 ⇑P P 11 47 11.6 -0.3
baz=60
Q19A **Hogan Spring (** 60.72 63 ⇑P P 11 47 11.6 -0.3
baz=60,SNR=49
L24A **Wheatland** 60.77 58 ⇑P P 11 47 12.7 +0.5
baz=60
O21A **Pagosa** 60.77 61 ⇑P P 11 47 12.8 +0.5
baz=60,SNR=15
M23A **Laramie** 60.78 59 ⇑P P 11 47 12.3 0.0
baz=60,SNR=8.8
R18A **Canyonlands Na** 60.79 64 ⇓P P 11 47 12.1 -0.3
baz=60,SNR=18
P20A **De Beque** 60.80 62 ⇓P P 11 47 12.2 -0.2
baz=60,SNR=6.5
S17A **Black Ridge (B** 60.84 65 ⇓P P 11 47 13.1 +0.4
baz=61,SNR=20
N22A **Wattenberg Ran** 60.88 60 ⇓P P 11 47 13.4 +0.4
baz=61,SNR=12
U15A **North Rim** 60.88 67 ⇓P P 11 47 13.5 +0.4
baz=61,SNR=7.5
IRM **Iron Mountain** 60.91 71 ⇑P P 11 47 13.3 +0.1
baz=61,SNR=11
W13A **Hualapai Mount** 60.95 69 ⇓P P 11 47 13.5 0.0
baz=61,SNR=11
PHWY **Pilot Hill** 61.04 59 *e*P P 11 47 13.7 -0.3
comp=Z,2.6nm,0.8s,mb4.4
PHWY *e*pP pP 11 47 26.8 -0.3
N23A **Red Feather La** 61.08 60 ⇓P P 11 47 14.7 +0.4
baz=61,SNR=22
MONP **Monument Peak** 61.10 73 ⇓P P 11 47 14.0 -0.6
baz=61
BC3 **Big Chuckawall** 61.10 72 ⇓P P 11 47 14.2 -0.3
baz=61
K26A **Motz Farm, Whi** 61.19 57 ⇓P P 11 47 14.9 -0.1
baz=61
R19A **Curley Farm, L** 61.20 64 ⇓P P 11 47 14.9 -0.3
baz=61,SNR=7.1
S18A **Hurst Farm, Bl** 61.24 65 ⇓P P 11 47 15.3 -0.1
baz=61,SNR=13
Q20A **Ridgley Place,** 61.24 63 ⇑P P 11 47 15.0 -0.4
baz=61,SNR=7.6
M24A **Cheyenne** 61.25 59 ⇑P P 11 47 15.8 +0.3
baz=61
P21A **Newcastle** 61.28 62 ⇓P P 11 47 15.9 +0.2
baz=61,SNR=15
T17A **Navajo Res., N** 61.30 66 ⇓P P 11 47 14.9 -1.0
baz=61,SNR=5.8
O22A **Kremmling** 61.30 61 ⇓P P 11 47 16.2 +0.4
baz=61
PV04 **Paradox Valley** 61.32 64 *e*P P 11 47 16.0 0.0
PV04 *e*pP pP 11 47 28.6 -0.5
DVTC **Desert V Tower** 61.45 73 ⇓P P 11 47 16.8 -0.2
baz=61
Y12C **Blythe** 61.56 71 ⇑P P 11 47 17.2 -0.5
baz=61,SNR=7.3
O23A **Lake Granby, G** 61.59 60 ⇑P P 11 47 18.8 +1.0
baz=61,SNR=13
P22A **Eagle** 61.60 61 ⇑P P 11 47 18.4 +0.5
baz=61,SNR=16
K27A **Flueckinger Fa** 61.66 56 ⇑P P 11 47 18.0 -0.2
baz=61
U17A **Shonto** 61.66 66 ⇓P P 11 47 18.2 -0.1
baz=61,SNR=5.6
M25A **Palm-Egli Farm** 61.66 58 ⇓P P 11 47 18.5 +0.2
baz=61
S19A **Harvey Farm, M** 61.67 64 ⇑P P 11 47 18.6 +0.2
baz=61,SNR=16
PV01 **Paradox Valley** 61.69 64 *e*P P 11 47 18.4 -0.1
comp=Z,610nm,0.7s,mb6.8
PV01 *e*PcP PcP 11 47 59.5 +0.1
T18A **Mexican Hat** 61.71 65 ⇑P P 11 47 18.0 -0.6
baz=61,SNR=16
Q21A **Lamborn Mesa,** 61.72 62 ⇓P P 11 47 19.0 +0.3
baz=61,SNR=19
U16A **Tuba City** 61.74 67 ⇓P P 11 47 18.9 +0.1
baz=62,SNR=13
R20A **Redvale** 61.76 63 ⇑P P 11 47 19.1 +0.2
baz=62,SNR=10
SMCO **Snowmass** 61.79 62 *e*P P 11 47 19.2 +0.1
comp=Z,15nm,0.9s,mb5.1
GLA **Glamis** 61.90 72 ⇓P P 11 47 19.9 -0.1
baz=62,SNR=5.2
NNT **Nongplab** 62.01 253 P P 11 47 22.5 +1.6
S20A **Disappointment** 62.03 64 ⇓P P 11 47 20.9 +0.1
baz=62,SNR=12
ISCO **Idaho Springs** 62.05 60 ⇑P P 11 47 21.8 +0.9
baz=62,SNR=20
ISCO **Idaho Springs** 62.05 60 *e*P P 11 47 21.2 +0.3
comp=Z,18nm,0.9s,mb5.2
ISCO **Idaho Springs** 62.05 60 *e*P P 11 47 21.2 +0.3
ISCO pmax pmax
comp=Z,18nm,0.9s,mb5.2
Q22A **Crested Butte,** 62.05 62 ⇑P P 11 47 21.6 +0.7
baz=62,SNR=18
WUAZ **Wupatki** 62.05 67 ⇑P P 11 47 21.3 +0.3
baz=62,SNR=10
WUAZ **Wupatki** 62.05 67 *e*P P 11 47 21.0 0.0
comp=Z,13nm,0.9s,mb5.1
WUAZ *e*PcP PcP 11 48 01.4 +0.4
R21A **Cimarron** 62.07 63 ⇓P P 11 47 21.6 +0.6
baz=62,SNR=29
O24A **Longmont** 62.10 60 ⇑P P 11 47 22.3 +1.1
baz=62
U18A **Rough Rock, Ch** 62.23 66 ⇓P P 11 47 22.3 +0.2
baz=62,SNR=5.8
P23A **Jefferson** 62.24 61 ⇓P P 11 47 23.0 +0.8
baz=62,SNR=5.3
Y14A **Wickenburg** 62.29 70 ⇑P P 11 47 22.8 +0.3
baz=62,SNR=7.9
V17A **Tonalea, Kykot** 62.30 67 ⇑P P 11 47 23.2 +0.6
baz=62
OBN **Obninsk** 62.37 327 *e*P P 11 47 22.0 -0.8
comp=Z,17nm,0.5s,mb5.4
OBN **Obninsk** 62.37 327 *e*P P 11 47 21.8 -1.0
OBN *i* 11 47 42.4
OBN *i* 11 47 59.3
OBN *e*S S 11 55 53.4 +7.8
OBN pmax pmax
comp=Z,23nm,0.8s,mb5.4
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.3
T19A **Beclabito** 62.40 65 ⇑P P 11 47 23.5 +0.3
baz=62,SNR=11
MVCO **Mesa Verde** 62.40 64 ⇑P P 11 47 23.8 +0.5
baz=62,SNR=5.1
VSU **Vasula** 62.45 334 *i* P P 11 47 23.7 +0.5
VSU pmax pmax
comp=Z,40nm,1.0s,mb5.5
S21A **Coal Bank Pass** 62.46 63 ⇑P P 11 47 24.5 +0.9
baz=62,SNR=23
Z13A **Yuma Proving G** 62.46 71 ⇑P P 11 47 23.6 -0.1
baz=62
Q23A **Hartsel** 62.59 61 ⇓P P 11 47 25.6 +1.1
baz=62,SNR=9.3
R22A **Saguache, Gunn** 62.60 62 ⇓P P 11 47 25.8 +1.2
baz=62,SNR=9.8
P24A **Kohler Place,** 62.63 60 ⇑P P 11 47 25.5 +0.8
baz=62
U19A **Dine' College,** 62.69 65 ⇓P P 11 47 25.6 +0.4
baz=62,SNR=18
113A **Mohawk Valley,** 62.71 71 ⇑P P 11 47 25.2 -0.2
baz=62
V18A **Ganado** 62.71 66 ⇑P P 11 47 25.9 +0.6
baz=62,SNR=14
W17A **Winslow** 62.74 67 ⇑P P 11 47 26.0 +0.5
baz=62
Z14A **Wintersburg** 62.74 70 ⇓P P 11 47 25.5 -0.1
baz=62
EYMN **Ely** 62.74 46 *e*P P 11 47 24.6 -0.8
comp=Z,32nm,0.9s,mb5.4
EYMN *e*pP pP 11 47 37.1 -1.4
X16A **Lo Mia Camp, P** 62.82 68 ⇑P P 11 47 26.8 +0.7
baz=63,SNR=11
Q24A **Divide** 62.91 61 ⇑P P 11 47 27.2 +0.6
baz=63
S22A **4UR Ranch, Cre** 62.91 63 ⇑P P 11 47 27.6 +1.0
baz=63,SNR=18

O26A Horse Wrangler 62.92 59 ⇊P P 11 47 26.8 +0.1
baz=63
U20A Newcomb 63.00 65 ⇊P P 11 47 27.4 +0.2
baz=63
P25A Willow Gulch B 63.02 60 ⇑P P 11 47 27.6 +0.3
baz=63,SNR=8.9
T21A Navajo Lake 63.09 64 ⇊P P 11 47 28.5 +0.6
baz=63,SNR=5.8
PMG Port Moresby 63.09 194 *e*P P **11 47 26.9 -1.1**
comp=Z,12nm,0.9s,mb5.0
PMG Port Moresby 63.09 194 *e*P P **11 47 26.9 -1.1**
PMG pmax pmax
comp=Z,12nm,0.9s
R23A Moffat 63.12 62 ⇑P P 11 47 28.7 +0.7
baz=63,SNR=9.9
V19A Window Rock 63.20 66 ⇊P P 11 47 28.7 +0.1
baz=63
114A Black Gap (USA 63.23 71 ⇊P P 11 47 28.6 -0.2
baz=63,SNR=6.3
W18A Petrified Fore 63.26 67 ⇑P P 11 47 29.3 +0.3
baz=63
AYAN Aya Nagar 63.35 283 *e*PKP P **11 47 27.9 -1.8**
AYAN AMb AMB 11 47 28.8
comp=Z,8.5nm,0.4s,mb5.3
S23A Nye Farm, Mont 63.38 62 ⇑P P 11 47 30.6 +0.8
baz=63,SNR=5.1
T22A Edith 63.41 63 ⇊P P 11 47 31.0 +1.0
baz=63,SNR=13
Q25A Bedland, Calha 63.42 60 ⇊P P 11 47 30.3 +0.3
baz=63
U21A Nageezi 63.44 64 ⇊P P 11 47 30.5 +0.4
baz=63,SNR=7.8
V20A Brimhall 63.46 65 ⇊P P 11 47 30.3 +0.1
baz=63,SNR=5.2
R24A Sanders Place, 63.47 61 ⇊P P 11 47 30.9 +0.6
baz=63,SNR=7.6
NB2 NORSAR Subarra 63.49 343 P P **11 47 29.7 -0.4**
comp=Z,19nm,0.4s,mb5.6,baz=24,slow=6.5
NOA NORSAR Array B 63.49 343 P P **11 47 29.8 -0.3**
comp=Z,24nm,0.5s,mb5.5,baz=23,slow=6.6,SNR=145
NOA LR LR 12 20 24.7
comp=Z,124nm,19.9s,MS4.1,baz=0.0,slow=41
NOA NORSAR Array B 63.49 343 P P **11 47 29.8 -0.3**
NOA NORSAR Array B 63.49 343 P P **11 47 29.8 -0.3**
NOA pmax pmax
comp=Z,24nm,0.5s
NOA MLR MLR
comp=Z,124nm,19.9s
KBL Kabul 63.52 293 *e*P P **11 47 28.6 -2.2**
comp=Z,17nm,0.7s,mb5.2
KBL Kabul 63.52 293 *e*P P **11 47 28.6 -2.2**
KBL pmax pmax
comp=Z,17nm,0.7s,mb5.2
SONA Sohna 63.54 282 *ex* P **11 47 29.1 -1.9**
SONA AMb AMB 11 47 30.3
comp=Z,9.3nm,0.1s,mb5.9
X18A Snowflake 63.57 67 ⇊P P 11 47 31.7 +0.6
baz=63,SNR=15
Z16A Peralta Trail, 63.62 69 ⇑P P 11 47 31.4 0.0
baz=63
SDCO Great Sand Dun 63.62 62 ⇊P P 11 47 31.8 +0.5
baz=63,SNR=13
SDCO Great Sand Dun 63.62 62 *e*P P **11 47 30.8 -0.5**
comp=Z,9.8nm,1.2s,mb4.7
SDCO *e*pP pP 11 47 43.9 -0.6
ECSD EROS Data Cent 63.63 52 *e*P P **11 47 30.3 -1.1**
comp=Z,18nm,0.9s,mb5.1
ECSD *e*pP pP 11 47 43.0 -1.5
Y17A Roosevelt 63.69 68 ⇑P P 11 47 32.0 +0.1
baz=63,SNR=10
SBUM Sibu 63.70 235 P P **11 47 33.0 +0.9**
comp=Z,35nm,1.3s,mb5.2
NC602 NORSAR Array S 63.72 343 *e*P P **11 47 30.9 -0.7**
NAO01 NORSAR Array S 63.73 343 *e*P P **11 47 31.2 -0.6**
comp=Z,12nm,0.3s,mb5.4
NAO01 *e*PcP PcP 11 48 06.7 -0.7
S24A Houchin Ranch, 63.85 62 ⇑P P 11 47 33.4 +0.5
baz=64,SNR=9.3
214A Organ Pipe Nat 63.85 71 ⇑P P 11 47 33.3 +0.3
baz=64
T23A Casias Ranch, 63.86 63 ⇑P P 11 47 33.1 +0.1
baz=64
V21A Milan 63.91 65 ⇊P P 11 47 33.5 +0.3
baz=64
U22A Llaves 63.91 64 ⇊P P 11 47 33.5 +0.3
baz=64,SNR=12
W20A Ramah 63.94 66 ⇑P P 11 47 33.5 +0.1
baz=64,SNR=14
R25A Fountain Ranch 63.97 61 ⇑P P 11 47 33.8 +0.2
baz=64,SNR=10
X19A St. Johns 64.01 67 ⇊P P 11 47 34.7 +0.7
baz=64,SNR=15
116A Eloy 64.04 70 ⇊P P 11 47 34.0 -0.2
baz=64
Y18A Canyon Day Jun 64.08 68 ⇑P P 11 47 34.8 +0.4
baz=64,SNR=10
HYA Hoyanger 64.18 346 *e*P P **11 47 34.8 +0.2**
HYA AMB AMB 11 47 36.9
comp=Z,32nm,1.0s,mb5.3
HYA *e*pP pP 11 47 47.8 0.0
Z17A San Carlos Hig 64.19 68 ⇊P P 11 47 35.2 0.0
baz=64
V22A San Miguel Ran 64.22 64 ⇊P P 11 47 35.7 +0.4
baz=64,SNR=6.3
S25A Robets Cordova 64.25 61 ⇑P P 11 47 35.7 +0.2
baz=64
SPMN St. Paul 64.26 48 ⇊P P 11 47 34.6 -0.8
baz=64
R26A Arlington 64.29 60 ⇊P P 11 47 35.6 -0.2
baz=64,SNR=10
U23A El Rito 64.30 63 ⇑P P 11 47 36.5 +0.6
baz=64,SNR=24
T24A Torres, Weston 64.36 62 ⇑P P 11 47 37.1 +0.9
baz=64,SNR=7.9
X20A Quemado 64.37 66 ⇑P P 11 47 37.3 +1.0
baz=64,SNR=14
Y19A Nutrioso 64.38 67 ⇊P P 11 47 37.3 +0.9
baz=64,SNR=8.2
KHET Khetri 64.43 283 *e*PKP P **11 47 35.2 -1.6**
117A Oracle 64.58 69 ⇑P P 11 47 37.8 +0.1
baz=64
216A Three Points, 64.59 70 ⇊P P 11 47 37.9 +0.1
baz=64,SNR=6.5
Z18A Geronimo 64.59 68 ⇊P P 11 47 38.2 +0.4
baz=64
BGNE Belgrade 64.65 54 ⇊P P 11 47 37.7 -0.3
baz=64
T25A Trinidad 64.65 62 ⇑P P 11 47 38.2 +0.1
baz=64,SNR=6.4
VSR Storozhevoye 64.67 323 *e*P P **11 47 36.7 -1.3**
VSR *e**PP pP 11 47 48.6 -2.6
VSR *e**SP sP 11 47 56.5 0.0
VSR *e* 11 48 10.2
VSR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR MLR MLR
comp=N,720nm,17.0s,MS5.0
VSR MLR MLR
comp=Z,550nm,17.0s,MS4.8
VSR MLR MLR
comp=E,350nm,18.0s,MS5.0
U24A Moreno Valley 64.73 63 ⇊P P 11 47 39.3 +0.6
baz=64,SNR=6.1
SOFL Sornfelli, Far 64.74 353 *e*P P **11 47 37.4 -0.9**
SOFL AMB AMB 11 47 38.5
comp=Z,153nm,3.3s
SOFL Sornfelli, Far 64.74 353 P P **11 47 37.4 -0.9**
SOFL AMB AMB 11 47 38.5
comp=Z,153nm,3.3s
V23A Ortiz Mt. (NFS 64.74 64 ⇑P P 11 47 40.1 +1.4
baz=64,SNR=18
TUC Tucson 64.75 69 *e*P P **11 47 35.7 -3.1**
comp=Z,3.0nm,0.9s,mb4.3
TUC Tucson 64.75 69 *e*P P **11 47 35.7 -3.1**
TUC pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
X21A Alamocita Cree 64.83 66 ⇑P P 11 47 40.4 +1.1
baz=65,SNR=26
Z19A T-Link Ranch, 64.87 68 ⇑P P 11 47 40.1 +0.5
baz=65
Y20A Horse Springs, 64.91 67 ⇑P P 11 47 40.6 +0.7
baz=65,SNR=12
118A Homack Ranch, 64.96 69 ⇑P P 11 47 40.9 +0.7
baz=65,SNR=8.3
ASK Askoy 64.97 346 *e*P P **11 47 39.0 -0.8**
RUND Rundenannen 65.02 346 *e*P P **11 47 39.1 -1.0**
BER Bergen 65.05 346 *e*P P **11 47 39.3 -1.0**
KONO Kongsberg 65.08 344 *e*P P **11 47 40.0 -0.6**
comp=Z,44nm,1.3s,mb5.3
KONO Kongsberg 65.08 344 *e*P P **11 47 40.0 -0.5**
KONO pmax pmax
comp=Z,44nm,1.3s,mb5.3
217A Green Valley 65.12 70 ⇊P P 11 47 41.5 +0.2
baz=65
ANMO Albuquerque 65.18 65 P P **11 47 41.8 +0.2**
comp=Z,8.0nm,0.9s,mb4.7,baz=323,slow=7.6,SNR=32
ANMO Albuquerque 65.18 65 P P **11 47 41.8 +0.2**
comp=Z,20nm,1.0s,mb5.1
ANMO *e*pP pP 11 47 54.5 -0.3
ANMO *e*sP sP 11 47 59.3 -0.7
ANMO Albuquerque 65.18 65 P P **11 47 41.8 +0.2**
ANMO pmax pmax
comp=Z,8.0nm,0.9s
W23A Werner Place, 65.19 64 ⇊P P 11 47 41.9 +0.2
baz=65,SNR=7.3
U25A Circle Dot Ran 65.21 62 ⇑P P 11 47 41.6 -0.1
baz=65,SNR=14
X22A Bernardo 65.21 65 ⇊P P 11 47 42.6 +0.8
baz=65
Y21A Point of Rocks 65.22 66 ⇊P P 11 47 42.5 +0.6
baz=65
LAZ Ladron 65.22 65 *e*P P **11 47 42.2 +0.3**
comp=Z,9.3nm,1.1s,mb4.7
LAZ *e*pP pP 11 47 55.3 +0.2
119A Ashpeak Ranch, 65.24 68 ⇑P P 11 47 42.3 +0.3
baz=65,SNR=6.2
V24A Rampart Ranch, 65.25 63 ⇊P P 11 47 42.8 +0.8
baz=65,SNR=19
Z20A Nine Sixteen R 65.38 67 ⇑P P 11 47 43.3 +0.4
baz=65,SNR=8.0
218A Dragoon 65.41 69 ⇑P P 11 47 43.3 +0.2
baz=65,SNR=6.6
LENM Lemitar 65.49 65 *e*P P **11 47 44.3 +0.7**
comp=Z,9.0nm,1.1s,mb4.7
LENM *e*pP pP 11 47 57.1 +0.4
KSM Kuching 65.50 236 *e*P P **11 47 44.1 +0.3**
comp=Z,18nm,0.8s,mb5.2
V25A Rancho No Teng 65.52 63 ⇑P P 11 47 43.9 +0.1
baz=65,SNR=7.4
NACGM Naroch 65.54 332 *e* P **11 47 39.0 -4.6**
W24A Lazy 6 Ranch, 65.56 64 ⇊P P 11 47 44.7 +0.7
baz=65,SNR=10.0
U26A Atchley Ranch, 65.56 62 ⇑P P 11 47 43.9 -0.1
baz=65
LPM Los Pinos Moun 65.57 65 *e*P P **11 47 44.7 +0.6**
comp=Z,7.1nm,1.2s,mb4.6
X23A Hourglass Bar 65.61 65 ⇊P P 11 47 44.7 +0.3
baz=65,SNR=7.9
Y22A Socorro 65.66 66 ⇊P P 11 47 45.2 +0.5
baz=65,SNR=9.1
BNM Barren Site 65.69 65 *e*P P **11 47 45.2 +0.4**
comp=Z,8.7nm,1.2s,mb4.7
BNM *e*pP pP 11 47 57.9 -0.2
BNM *e*PcP PcP 11 48 15.2 -0.7
Z21A St. Cloud Mine 65.74 67 ⇑P P 11 47 46.0 +0.8
baz=66,SNR=8.2
120A U Bar Ranch, L 65.78 68 ⇊P P 11 47 45.9 +0.4
baz=66,SNR=17
BLS5 Blasjo 65.80 345 *e*P P **11 47 45.2 0.0**
BLS5 AMB AMB 11 47 46.7
comp=Z,19nm,0.6s,mb5.3
219A White Tail Can 65.84 69 ⇊P P 11 47 46.1 +0.2
baz=66,SNR=14
318A Bisbee 65.84 70 ⇊P P 11 47 45.6 -0.3
baz=66,SNR=7.8
SCHQ Schefferville 65.86 27 P P **11 47 44.8 -0.8**
comp=Z,21nm,0.7s,mb5.3,baz=346,slow=7.7,SNR=31
SCHQ LR LR 12 19 18.6
comp=Z,109nm,20.6s,MS4.0,baz=279,slow=38
SCHQ Schefferville 65.86 27 P P **11 47 44.8 -0.8**
comp=Z,7.8nm,0.7s,mb4.8
SNG Songkhla 65.89 249 P P **11 47 48.0 +1.6**
V26A Tequesquite Ra 65.99 62 ⇑P P 11 47 46.2 -0.6
baz=66,SNR=13
W25A X Bar L Ranch, 66.06 63 ⇑P P 11 47 47.3 0.0
baz=66,SNR=17
LRW Lerwick 66.11 350 *e*P P **11 47 47.0 -0.2**
LRW AMB AMB 11 47 53.6
comp=Z,52nm,3.5s
Y23A Lovelace Mesa, 66.17 65 ⇑P P 11 47 48.3 +0.3
baz=66,SNR=27
Z22A Elephant Butte 66.17 66 ⇑P P 11 47 48.3 +0.2
baz=66,SNR=9.1
121A Cookes Peak, D 66.26 67 ⇊P P 11 47 49.0 +0.4
baz=66
319A Douglas 66.29 69 ⇊P P 11 47 49.1 +0.3
baz=66,SNR=12
220A Playas Peak, P 66.32 68 ⇑P P 11 47 49.1 +0.2
baz=66,SNR=8.5
X25A Clemmons Ranch 66.48 64 ⇊P P 11 47 50.5 +0.6
baz=66,SNR=11
Y24A Capitan 66.51 65 ⇊P P 11 47 50.7 +0.6
baz=66,SNR=29
W26A Owens Ranch, T 66.54 63 ⇊P P 11 47 50.1 -0.2
baz=66
122A Conniff Cattle 66.57 67 ⇊P P 11 47 51.6 +1.0
baz=66,SNR=8.2
Z23A Rita Site, Whi 66.57 66 ⇑P P 11 47 50.1 -0.5
baz=66
SCIA State Center 66.64 51 *e*P P **11 47 50.3 -0.5**
comp=Z,49nm,0.6s,mb5.7
SCIA *e*pP pP 11 48 02.6 -1.4
221A Mesquite Ranch 66.66 68 ⇊P P 11 47 51.7 +0.5
baz=66
SNART Snartemo 66.72 345 *e*P P **11 47 51.6 +0.5**
320A Kipp Ranch, An 66.74 69 ⇑P P 11 47 51.8 +0.1
baz=66
KAPI Kappang 66.84 224 P P **11 47 50.6 -1.8**
comp=Z,11nm,0.8s,mb4.9,baz=36,slow=3.9,SNR=7.9
KAPI Kappang 66.84 224 P P **11 47 50.6 -1.8**
Y25A Mesa, Roswell 66.92 64 ⇊P P 11 47 52.8 +0.1
baz=67,SNR=33
X26A CR and CF Fran 66.92 63 ⇊P P 11 47 52.8 +0.1
baz=67,SNR=6.9
W27A Bowe Ranch, En 66.93 62 ⇊P P 11 47 52.2 -0.6
baz=67
222A Williams Famil 66.96 67 ⇊P P 11 47 53.2 +0.2
baz=67
IMYA Miami 67.01 300 *e*P P **11 47 51.8 -1.5**
BHPL Bhopal 67.09 278 *e*PKP P **11 47 52.4 -1.6**
BHPL AMb AMB 11 47 54.8
comp=Z,30nm,1.0s,mb5.3
X27A F and S Farms, 67.23 62 ⇊P P 11 47 54.4 -0.3
baz=67,SNR=8.0
SUW Suwalki 67.31 334 *e*P P **11 47 54.1 -0.8**
SUW Suwalki 67.31 334 *e*P P **11 47 54.1 -0.8**
Y26A Elida 67.39 63 ⇑P P 11 47 55.4 -0.3
baz=67
Z25A Roswell 67.39 65 ⇑P P 11 47 55.5 -0.3
baz=67,SNR=7.7
KULM Kulim 67.42 247 *e*P P **11 47 56.4 +0.2**
comp=Z,12nm,0.6s,mb5.1
124A Stringfield Ra 67.42 65 ⇊P P 11 47 55.7 -0.2
baz=67,SNR=7.4
IKRD Kardeh 67.50 301 *e*P P **11 47 52.4 -4.0**
IPAY Payeh 67.50 301 *e*P P **11 47 55.6 -0.8**
VIS Vishakhapatnam 67.75 270 *ex* x 11 47 40.6
VIS AMb AMB 11 47 41.5
comp=Z,34nm,0.5s,mb5.7
Y27A Causey 67.77 63 ⇑P P 11 47 58.0 -0.2
baz=68,SNR=18
Z26A Caprock 67.80 64 ⇑P P 11 47 58.2 -0.1
baz=68,SNR=26
AMTX Amarillo 67.80 61 ⇑P P 11 47 58.1 -0.2
baz=68
224A Cornudas Mount 67.86 66 ⇑P P 11 47 58.8 0.0
baz=68,SNR=7.0
IPM Ipoh 67.88 247 *e*P P **11 47 59.0 -0.1**
comp=Z,15nm,0.6s,mb5.2
125A Gardner Draw, 67.89 65 ⇑P P 11 47 58.9 0.0
baz=68
MSTX Muleshoe 67.92 63 ⇑P P 11 47 58.6 -0.4
baz=68,SNR=11
CPRX Cap Rock 68.04 64 *e*P P **11 47 59.7 -0.1**
comp=Z,33nm,0.9s,mb5.4
CPRX *e*pP pP 11 48 12.5 -0.6
Z27A Tatum 68.18 63 ⇊P P 11 48 00.3 -0.4
baz=68,SNR=20
MUD Monsted U'grnd 68.18 343 *i* P P **11 48 01.4 +1.1**
MUD pmax pmax
comp=Z,16nm,0.8s,mb5.1
126A Clayton Basin, 68.25 64 ⇑P P 11 48 00.8 -0.4
baz=68,SNR=6.8
COP Copenhagen 68.29 341 *i* P P **11 48 01.8 +0.8**
COP pmax pmax
comp=Z,53nm,0.7s,mb5.7
COP Copenhagen 68.29 341 *i* P P **11 48 01.8 +0.8**
comp=Z,53nm,0.7s,mb5.7
BSD Bornholm Skovb 68.31 339⇑ *i*P P **11 48 01.3 +0.1**
BSD pmax pmax
comp=Z,34nm,0.7s,mb5.5
324A Moseley Ranch, 68.36 66 ⇑P P 11 48 01.4 -0.4
baz=68
AKASG Malin Array Be 68.48 329 P P **11 48 01.3 -1.0**
comp=Z,9.9nm,0.3s,mb5.3,baz=29,slow=6.7,SNR=41
AKASG LR LR 12 20 55.8
comp=Z,298nm,21.8s,MS4.5,baz=5.0,slow=38
AKASG Malin Array Be 68.48 329 P P **11 48 01.3 -1.0**
AKASG Malin Array Be 68.48 329 P P **11 48 01.3 -1.0**
AKASG pmax pmax
comp=Z,10.0nm,0.3s
AKASG MLR MLR
comp=Z,298nm,21.8s
AKBB Malin Array Si 68.48 329 *e*P P **11 48 01.2 -1.1**
AKBB Malin Array Si 68.48 329 *e*P P **11 48 01.2 -1.1**
KIEV Kiev 68.49 329 *e*P P **11 48 01.3 -1.1**
comp=Z,20nm,0.6s,mb5.3
KIEV Kiev 68.49 329 *e*P P **11 48 01.3 -1.1**
KIEV pmax pmax
comp=Z,20nm,0.6s,mb5.3
127A Arkansas Junct 68.59 64 ⇊P P 11 48 02.7 -0.6
baz=68
MVH1 Achvaich 68.60 351⇑ *e*P P **11 48 02.4 -0.5**
226A Malaga, Loving 68.65 65 ⇑P P 11 48 03.2 -0.5
baz=68,SNR=10
325A Bean Ranch, Si 68.70 66 ⇊P P 11 48 03.9 -0.1
baz=68,SNR=9.6
MCD Coleburn Disti 68.84 350⇑ *e*P P **11 48 04.0 -0.5**
MDO Dochfour 69.09 351⇑ *i*P P **11 48 05.9 -0.1**
KAC Achnashellach 69.12 351⇑ *e*P P **11 48 06.1 -0.1**
425A Indio Mountain 69.14 66 ⇑P P 11 48 06.8 +0.1
baz=69,SNR=16
KIV Kislovodsk 69.23 316 *e*P P **11 48 07.1 0.0**
comp=Z,9.1nm,0.5s,mb5.0
KIV Kislovodsk 69.23 316 *e*P P **11 48 06.7 -0.4**
KIV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KIV MLR MLR
comp=Z,270nm,18.0s,MS4.5
326A Caldwell Ranch 69.29 65 ⇑P P 11 48 07.2 -0.5
baz=69,SNR=5.7
KPL Plockton 69.31 351 *e*P P **11 48 07.2 -0.2**
KPL AMB AMB 11 48 07.8
comp=Z,99nm,1.3s,mb5.6
KSB Sheil Bridge 69.42 351⇑ *i*P P **11 48 08.2 +0.1**
WMOK Wichita Mounta 69.44 59 *e*P P **11 48 07.6 -0.9**
comp=Z,24nm,0.9s,mb5.1
WMOK *e*pP pP 11 48 20.6 -1.2
WMOK Wichita Mounta 69.44 59 *e*P P **11 48 07.6 -0.9**
WMOK *e**PP pP 11 48 20.6 -1.2
WMOK pmax pmax
comp=Z,24nm,0.9s,mb5.1
GKP Gorka Klasztor 69.49 337 *e*P P **11 48 08.5 0.0**
GKP Gorka Klasztor 69.49 337 *e*P P **11 48 08.5 0.0**
HDIL Hopedale 69.52 49 *e*P P **11 48 07.7 -1.2**
comp=Z,34nm,0.7s,mb5.4
HDIL *e*pP pP 11 48 21.0 -1.2
ZEI Tsey 69.69 315 *e*P P **11 48 08.7 -1.2**
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
426A McDonald Obser 69.75 66 ⇊P P 11 48 10.2 -0.3
baz=70,SNR=7.3
328A Wristen Ranch, 69.88 65 ⇑P P 11 48 10.9 -0.3
baz=70,SNR=31
BEL Belsk 69.91 334 *e*P P **11 48 12.1 +1.0**
BEL Belsk 69.91 334 *e*P P **11 48 12.1 +1.0**
427A Hayter Ranch, 69.96 65 ⇊P P 11 48 11.2 -0.6
baz=70,SNR=11
TUL1 Tulsa 70.06 57 ⇊P P 11 48 11.0 -1.3
baz=70,SNR=7.4
EBH Black Hill 70.18 350⇑ *e*P P **11 48 12.4 -0.4**
526A Mary Lane Ranc 70.19 66 ⇑P P 11 48 13.0 -0.2
baz=70,SNR=11
EAB Aberfoyle 70.33 350⇑ *i*P P **11 48 13.2 -0.4**
527A Woodward Ranch 70.39 66 ⇊P P 11 48 14.0 -0.4
baz=70,SNR=9.1
ESY Stoneypath 70.41 349⇑ *i*P P **11 48 13.9 -0.2**
428A Kincaid Ranch, 70.45 65 ⇊P P 11 48 14.8 +0.1
baz=70,SNR=20
EDI Edinburgh 70.47 350 *e*P P **11 48 13.2 -1.2**
EDI AMB AMB 11 48 13.4
comp=Z,29nm,1.1s,mb5.1
EDI Edinburgh 70.47 350 P P **11 48 13.2 -1.2**
EDI AMB AMB 11 48 13.4
comp=Z,29nm,1.1s,mb5.1
626A Big Bend Ranch 70.55 67 ⇊P P 11 48 15.1 -0.4
baz=70,SNR=15
EAU Auchinoon 70.57 350⇑ *e*P P **11 48 14.8 -0.3**
AAM Ann Arbor 70.59 45 *e*P P **11 48 14.6 -0.9**
comp=Z,26nm,0.6s,mb5.3
AAM Ann Arbor 70.59 45 *e*P P **11 48 14.6 -0.9**
AAM pmax pmax
comp=Z,25nm,0.6s,mb5.3
CCM Cathedral Cave 70.60 52 *e*P P **11 48 13.8 -1.7**
comp=Z,16nm,1.0s,mb4.9
CCM *e*pP pP 11 48 26.9 -2.0
CCM Cathedral Cave 70.60 52 *e*P P **11 48 13.9 -1.7**
CCM *e**PP pP 11 48 26.9 -2.0
CCM pmax pmax
comp=Z,16nm,1.0s,mb4.9
EBL Broad Law 70.60 350⇑ *i*P P **11 48 14.9 -0.4**
SLM Saint Louis 70.61 51 *e*P P **11 48 14.6 -1.0**
comp=Z,30nm,0.5s,mb5.5
SLM *e*pP pP 11 48 27.8 -1.2
SLM Saint Louis 70.61 51 *e*P P **11 48 14.6 -1.1**
SLM *e**PP pP 11 48 27.8 -1.2
SLM pmax pmax
comp=Z,30nm,0.5s,mb5.5
ANN Anapa 70.64 320 *e*P P **11 48 13.6 -2.1**
ANN pmax pmax
comp=Z,37nm,1.4s,mb5.1
ANN MLR MLR
comp=N,267nm,21.0s,MS4.6
ANN MLR MLR
comp=E,239nm,21.0s,MS4.6
ANN MLR MLR
comp=Z,312nm,21.0s,MS4.5
SFIN Scholer Farm 70.66 48 ⇑P P 11 48 14.4 -1.5
baz=70
PGBU Glenifferbraes 70.71 351⇑ *e*P P **11 48 15.9 -0.1**
PGBU AMB AMB 11 48 17.1
comp=Z,125nm,1.1s,mb5.8
SOC Sochi 70.76 318 *e*P P **11 48 14.1 -2.4**
SOC MLR MLR
comp=Z,337nm,16.0s,MS4.7
528A Cox Ranch, San 70.83 65 ⇑P P 11 48 16.9 -0.2
baz=71,SNR=13
LVV L'vov 70.83 331 *e*P P **11 48 17.2 +0.4**
HYB Hyderabad 70.87 274 *i*P P **11 48 15.5 -2.0**
TXAR Lajitas Array 70.98 67 P P **11 48 18.0 -0.1**
comp=Z,15nm,0.7s,mb5.0,baz=308,slow=4.4,SNR=218
TXAR Lajitas Array 70.98 67 P P **11 48 18.0 -0.1**
TXAR Lajitas Array 70.98 67 P P **11 48 18.0 0.0**
TXAR pmax pmax
comp=Z,15nm,0.7s
RUE Ruedersdorf 71.01 339 *e*P P **11 48 18.1 +0.3**
comp=Z,113nm,0.8s,mb5.8
627A Terlingua Ranc 71.04 66 ⇊P P 11 48 18.2 -0.3
baz=71,SNR=17
FVM French Village 71.04 52 *e*P P **11 48 16.9 -1.4**
comp=Z,38nm,1.3s,mb5.2
FVM *e*pP pP 11 48 30.3 -1.3
FVM French Village 71.04 52 *e*P P **11 48 16.9 -1.4**
FVM *e**PP pP 11 48 30.3 -1.3
FVM pmax pmax
comp=Z,38nm,1.3s,mb5.2
ESK Eskdalemuir 71.07 350⇑ *e*P P **11 48 17.1 -1.0**
ESK AMB AMB 11 48 17.4
comp=Z,126nm,1.7s,mb5.6
ESK Eskdalemuir 71.07 350 P P **11 48 17.1 -1.0**
ESK AMB AMB 11 48 17.4
comp=Z,126nm,1.7s,mb5.6
ESK Eskdalemuir 71.07 350 P P **11 48 18.1 0.0**
comp=Z,360nm,0.8s,mb6.3,SNR=13
ESK Eskdalemuir 71.07 350 *e*P P **11 48 17.9 -0.2**
comp=Z,68nm,0.9s,mb5.6

ESK Eskdalemuir 71.07 350 *eP* **P 11 48 17.9 -0.2**
ESK pmax pmax
comp=Z,68nm,0.9s,mb5.6
628A Black Gap, Mar 71.29 66 ⇓P **P 11 48 19.7 -0.3**
baz=71,SNR=12
KWP Kalwaria Pacla 71.38 332 *eP* **P 11 48 20.5 +0.4**
KWP Kalwaria Pacla 71.38 332 *eP* **P 11 48 20.8 +0.7**
comp=Z,69nm,0.6s,mb5.8
KWP Kalwaria Pacla 71.38 332 *eP* **P 11 48 20.8 +0.7**
KWP pmax pmax
comp=Z,69nm,0.6s,mb5.8
KWP Kalwaria Pacla 71.38 332 ⇓*iP* **P 11 48 21.2 +1.1**
XAL Allendale 71.41 349 *eP* **P 11 48 19.6 -0.6**
GNI Garni 71.46 313 *ceP* **P 11 48 21.2 +0.4**
GNI pmax pmax
comp=Z,22nm,1.4s
OLIL Olney 71.53 50 *eP* **P 11 48 19.0 -2.2**
comp=Z,40nm,1.1s,mb5.3
OJC Ojcow 71.64 334 *eP* **P 11 48 20.3 -1.4**
OJC Ojcow 71.64 334 *eP* **P 11 48 20.3 -1.4**
GAL1 Galloway 71.67 350 ⇑*eP* **P 11 48 21.4 -0.3**
GAL1 AMB AMB 11 48 23.3
comp=Z,73nm,2.9s,mb5.1
GAL1 Galloway 71.67 350 P **P 11 48 21.4 -0.3**
GAL1 AMB AMB 11 48 23.3
comp=Z,73nm,2.9s,mb5.1
KESW Keswick, Cumbr 71.77 349 ⇑*eP* **P 11 48 22.1 -0.2**
KESW AMB AMB 11 48 23.6
comp=Z,129nm,0.9s,mb5.8
MSNY Massena 71.81 37 *eP* **P 11 48 20.9 -1.9**
comp=Z,236nm,0.9s,mb6.1
SIUC Southern Illin 71.83 51 *eP* **P 11 48 21.8 -1.2**
comp=Z,42nm,1.0s,mb5.3
SIUC *epP* pP 11 48 35.3 -1.1
XDE Dent Fell 71.90 350 ⇑*iP* **P 11 48 23.1 -0.1**
KSP Ksiaz 71.95 336 *eP* **P 11 48 24.2 +0.6**
KSP Ksiaz 71.95 336 *eP* **P 11 48 23.8 +0.3**
KSP Ksiaz 71.95 336 ⇑*eP* **P 11 48 23.8 +0.3**
STHS Stebnicka Huta 71.98 333 *eP* **P 11 48 25.1 +1.4**
STHS pmax pmax
comp=Z,43nm,0.8s,mb5.4
STHS Stebnicka Huta 71.98 333 *eP* **P 11 48 25.0 +1.3**
WIT Witteveen 72.10 343 *eP* **P 11 48 25.6 +1.2**
comp=Z,546nm,1.2s,mb6.3
KOLS Kolonicke sedl 72.13 332 *eP* **P 11 48 25.0 +0.4**
KOLS pmax pmax
comp=Z,35nm,0.8s,mb5.3
KOLS Kolonicke sedl 72.13 332 *eP* **P 11 48 25.0 +0.4**
JCT Junction City 72.20 63 ⇓P **P 11 48 24.6 -0.8**
baz=72,SNR=9.4
JCT Junction City 72.20 63 *eP* **P 11 48 24.6 -0.8**
comp=Z,24nm,1.1s,mb5.0
JCT *epP* pP 11 48 37.1 -1.6
JCT Junction City 72.20 63 *eP* **P 11 48 24.6 -0.8**
JCT *e*PP* pP 11 48 37.1 -1.7
JCT pmax pmax
comp=Z,24nm,1.1s,mb5.0
NIE Niedzica 72.23 333 *eP* **P 11 48 25.9 +0.7**
NIE Niedzica 72.23 333 *eP* **P 11 48 25.9 +0.7**
MIAR Mount Ida 72.25 56 *eP* **P 11 48 24.6 -1.0**
comp=Z,24nm,1.2s,mb5.0
MIAR *epP* pP 11 48 37.8 -1.1
MIAR Mount Ida 72.25 56 *eP* **P 11 48 24.6 -1.0**
MIAR *e*PP* pP 11 48 37.8 -1.1
MIAR pmax pmax
comp=Z,24nm,1.2s,mb5.0
CLL Collm 72.28 339 *eP* **P 11 48 25.5 0.0**
comp=Z,120nm,0.9s,mb5.8
CLL Collm 72.28 339 ⇓*iP* **P 11 48 26.0 +0.5**
CLL pmax pmax
comp=Z,120nm,1.0s,mb5.8
CLL Collm 72.28 339 ⇓*iP* **P 11 48 26.0 +0.5**
comp=Z,120nm,1.0s,mb5.8
CLZ Clausthal 72.33 340 *eP* **P 11 48 26.8 +1.0**
comp=Z,164nm,1.1s,mb5.9
CLZ Clausthal 72.33 340 *eP* **P 11 48 26.8 +1.0**
CLZ pmax pmax
comp=Z,164nm,1.1s,mb5.9
UPC Upice 72.33 337 *eP* **P 11 48 26.4 +0.6**
UPC Upice 72.33 337 *eP* **P 11 48 26.4 +0.6**
USIN University of 72.35 50 *eP* **P 11 48 25.4 -0.8**
comp=Z,80nm,1.2s,mb5.5
USIN *epP* pP 11 48 38.5 -1.0
CRVS Cervenica-Dubn 72.39 332 *eP* **P 11 48 26.9 +0.7**
CRVS pmax pmax
comp=Z,19nm,0.9s,mb5.0
CRVS Cervenica-Dubn 72.39 332 *eP* **P 11 48 26.9 +0.7**
IBBN Ibbenburen 72.39 342 *eP* **P 11 48 26.7 +0.6**
comp=Z,207nm,1.3s,mb5.9
UZH Uzhgorod 72.40 332 ⇓*iP* **P 11 48 25.4 -0.8**
UZH *ePPP* 11 52 59.0
UZH *eS* S 11 57 43.4 -2.7
UZH MLR MLR
comp=N,300nm,14.0s,MS4.7
UZH MLR MLR
comp=E,30nm,14.0s,MS4.7
UZH MLR MLR
comp=Z,200nm,14.0s,MS4.5
DPC Dobruska-Polom 72.40 336 *eP* **P 11 48 26.9 +0.7**
DPC MLR MLR
comp=Z,300nm,26.0s,MS4.5
DPC Dobruska-Polom 72.40 336 *eP* **P 11 48 26.9 +0.7**
DPC AMS AMS 12 20 40.0
comp=Z,300nm,26.0s
GMM Mts of Mourne 72.41 351 ⇑*iP* **P 11 48 25.9 -0.3**
OKC Ostrava-Krasne 72.42 335 *eP* **P 11 48 27.4 +1.1**
OKC MLR MLR
comp=Z,400nm,16.2s,MS4.8
OKC Ostrava-Krasne 72.42 335 *eP* **P 11 48 27.4 +1.1**
OKC AMS AMS 12 23 50.0
comp=Z,400nm,16.2s
BUR08 Bucovina Ar. S 72.42 329 *eP* **P 11 48 26.3 -0.1**
PARMO Parma 72.42 52 *eP* **P 11 48 26.0 -0.6**
PARMO *epP* pP 11 48 39.1 -0.8
BURAR Bucovina Array 72.44 329 ⇑P **P 11 48 26.3 -0.2**
BURAR Bucovina Array 72.44 329 ⇑*iP* **P 11 48 26.3 -0.2**
BRG Berggiesshubel 72.47 338 *eP* **P 11 48 26.7 +0.1**
comp=Z,52nm,1.2s,mb5.3
BRG *e* pP 11 48 42.5 +2.4
comp=Z,14nm,1.0s
BRG Berggiesshubel 72.47 338 *eP* **P 11 48 26.8 +0.1**
comp=Z,52nm,1.2s,mb5.3
BRG Berggiesshubel 72.47 338 *eP* **P 11 48 26.7 0.0**
BRG *e* pP 11 48 42.5 +2.5
BRG pmax pmax
comp=Z,52nm,1.2s,mb5.3
KRLC Kraliky 72.54 336 *eP* **P 11 48 27.9 +0.8**
ACSO Alum Creek Sta 72.58 45 *eP* **P 11 48 26.1 -1.4**
comp=Z,26nm,0.7s,mb5.3
MORC Moravsky Berou 72.63 335 *eP* **P 11 48 28.1 +0.5**
comp=Z,46nm,0.8s,mb5.5
MORC Moravsky Berou 72.63 335 *eP* **P 11 48 28.1 +0.5**
MORC pmax pmax
comp=Z,46nm,0.8s,mb5.5
MORC Moravsky Berou 72.63 335 ⇑*iP* **P 11 48 27.7 +0.1**
PVCC Panska Ves 72.65 337 *eP* **P 11 48 28.5 +0.8**
PVCC Panska Ves 72.65 337 *eP* **P 11 48 28.5 +0.8**
PVCC AMS AMS 12 20 30.0
comp=Z,400nm,29.0s
WCI Wyandotte Cave 72.77 49 *eP* **P 11 48 27.4 -1.2**
comp=Z,29nm,0.9s,mb5.2
WCI *epP* pP 11 48 40.6 -1.4
WCI Wyandotte Cave 72.77 49 *eP* **P 11 48 27.4 -1.2**
WCI *e*PP* pP 11 48 40.6 -1.4
WCI pmax pmax
comp=Z,29nm,0.9s,mb5.2
TRPA Tarpa 72.78 331 ⇑*iP* **P 11 48 28.7 +0.2**
POO Poona 72.84 278 *eP*KP **P 11 48 28.8 -0.5**
POO AMb AMB 11 48 29.5
comp=Z,24nm,0.7s,mb5.3
WTSB Winterswijk 72.89 343 *eP* **P 11 48 28.8 -0.3**
comp=Z,8.9nm,0.8s,mb4.8
LIKS Likavka 72.89 334 *eP* **P 11 48 30.5 +1.3**
LIKS pmax pmax
comp=Z,45nm,1.0s,mb5.3
LIKS Likavka 72.89 334 *eP* **P 11 48 30.5 +1.3**
KBI1 Birley Grange 72.90 348 ⇑*iP* **P 11 48 29.2 +0.1**
BMR Baia Mare 72.91 331 P **P 11 48 29.7 +0.4**
TESR 72.98 328 ⇑*iP* **P 11 48 29.3 -0.4**
KECS Kecovo 73.04 333 *eP* **P 11 48 30.7 +0.7**
KECS pmax pmax
comp=Z,20nm,1.1s,mb5.0
KECS Kecovo 73.04 333 *eP* **P 11 48 30.7 +0.7**
IBAF Bafgh 73.06 300 *eP* **P 11 48 29.2 -1.3**

EZM Erzurum 73.13 315 *eP* **P 11 48 32.0 +1.3**
ICHK Chekchek 73.15 301 *eP* **P 11 48 30.4 -0.6**
MOX Moxa 73.20 339 *eP* **P 11 48 31.4 +0.4**
comp=Z,73nm,1.1s,mb5.5
MOX Moxa 73.20 339 *eP* **P 11 48 31.4 +0.4**
MOX pmax pmax
comp=Z,73nm,1.1s,mb5.5
TANN Tannenbergstha 73.23 339 *eP* **P 11 48 31.8 +0.6**
comp=Z,64nm,1.5s,mb5.3
VRAC Vranov 73.30 336 P **P 11 48 32.9 +1.3**
VRAC Vranov 73.30 336 ⇑*iP* **P 11 48 32.2 +0.6**
BUG Bochum--Univer 73.31 342 *eP* **P 11 48 31.9 +0.3**
comp=Z,86nm,1.0s,mb5.6
UBBA Unterbreizbach 73.37 340 *eP* **P 11 48 32.5 +0.5**
comp=Z,106nm,1.6s,mb5.5
ESPY Espiye-Giresun 73.39 317 *eP* **P 11 48 31.6 -0.7**
NKC Novy Kostel 73.41 339 *eP* **P 11 48 33.2 +1.0**
NKC Novy Kostel 73.41 339 *eP* **P 11 48 33.2 +1.0**
TLCR 73.43 326 ⇓P **P 11 48 32.3 -0.1**
TLCR 73.43 326 ⇓*iP* **P 11 48 32.3 -0.1**
FOEL Foel Wylfa 73.46 349 ⇑*eP* **P 11 48 31.3 -1.2**
FOEL AMB AMB 11 48 32.5
comp=Z,99nm,1.0s,mb5.7
GUMT Gumushane 73.46 316 *eP* **P 11 48 32.2 -0.5**
KOLL Kolacno 73.51 334 *eP* **P 11 48 33.9 +1.1**
KOLL Kolacno 73.51 334 *eP* **P 11 48 33.9 +1.1**
LBNH Lisbon 73.52 36 *eP* **P 11 48 31.8 -1.2**
comp=Z,11nm,0.8s,mb4.8
LBNH Lisbon 73.52 36 *eP* **P 11 48 31.8 -1.2**
LBNH pmax pmax
comp=Z,11nm,0.8s,mb4.8
VRI Vrincioaia 73.52 328 ⇓P **P 11 48 33.2 +0.3**
VRI Vrincioaia 73.52 328 ⇓*iP* **P 11 48 33.2 +0.3**
PLOR Plostina 73.56 328 ⇑P **P 11 48 33.9 +0.7**
PLOR Plostina 73.56 328 ⇑*iP* **P 11 48 33.9 +0.7**
KAD Karad 73.58 277 *eP*KP **P 11 48 33.1 -0.5**
KAD AMb AMB 11 48 34.3
comp=Z,68nm,0.7s,mb5.7
TREC Trest 73.58 336 *eP* **P 11 48 34.0 +0.8**
TREC Trest 73.58 336 *eP* **P 11 48 34.0 +0.8**
TREC AMS AMS 12 21 50.0
comp=Z,400nm,28.6s
PSZ Piszkesteto 73.72 333 *eP* **P 11 48 34.4 +0.3**
comp=Z,45nm,0.9s,mb5.4
PSZ Piszkesteto 73.72 333 *eP* **P 11 48 34.4 +0.4**
PSZ pmax pmax
comp=Z,45nm,0.9s,mb5.4
PSZ Piszkesteto 73.72 333 ⇑*eP* **P 11 48 34.7 +0.7**
PSZ Piszkesteto 73.72 333 ⇑*iP* **P 11 48 34.5 +0.5**
IMEH Mehriz 73.72 301 *eP* **P 11 48 33.0 -1.3**
CTA Charters Tower 73.72 193 P **P 11 48 33.0 -1.3**
comp=Z,17nm,0.9s,mb5.0,baz=358,slow=7.0,SNR=15
CTA Charters Tower 73.72 193 *eP* **P 11 48 32.8 -1.4**
comp=Z,12nm,0.9s,mb4.8
CTA *e* pP 11 48 48.1 +0.4
CTA Charters Tower 73.72 193 P **P 11 48 33.0 -1.3**
CTA Charters Tower 73.72 193 P **P 11 48 33.0 -1.2**
CTA pmax pmax
comp=Z,17nm,0.9s
CTAO Charters Tower 73.72 193 *eP* **P 11 48 32.8 -1.4**
comp=Z,20nm,0.9s,mb5.1
CTAO Charters Tower 73.72 193 *eP* **P 11 48 32.8 -1.4**
CTAO pmax pmax
comp=Z,21nm,0.9s,mb5.1
CTAO Charters Tower 73.72 193 P **P 11 48 33.0 -1.2**
comp=Z,22nm,1.0s,mb5.0
WVT Waverly 73.76 51 *eP* **P 11 48 33.5 -1.0**
comp=Z,12nm,0.7s,mb5.0
WVT *epP* pP 11 48 46.7 -1.3
WVT Waverly 73.76 51 *eP* **P 11 48 33.5 -1.0**
WVT *e*PP* pP 11 48 46.7 -1.2
WVT pmax pmax
comp=Z,13nm,0.7s,mb5.0
ISAD Sadrabad 73.78 302 *eP* **P 11 48 35.2 +0.5**
SMOL Smolenice 73.82 335 *eP* **P 11 48 36.7 +2.0**
SMOL Smolenice 73.82 335 *eP* **P 11 48 36.6 +1.9**
ROTZ Rotzenmuhle 73.90 339 *eP* **P 11 48 35.9 +0.8**
comp=Z,56nm,1.0s,mb5.5
DRGR 73.94 331 P **P 11 48 36.1 +0.7**
DRGR 73.94 331 ⇑*iP* **P 11 48 35.3 -0.1**
MLR Muntele Rosu 74.11 328 P **P 11 48 37.4 +1.0**
MLR Muntele Rosu 74.11 328 ⇑*iP* **P 11 48 36.3 -0.1**
BNGB Bing¶ll 74.18 315 *eP* **P 11 48 35.8 -1.2**
GRF Grafenberg Arr 74.19 339 *eP* **P 11 48 37.7 +1.0**
comp=Z,134nm,0.9s,mb5.9
GRF *eL* 12 23 14.0
comp=Z,126nm,19.7s
GRF Grafenberg Arr 74.19 339 *eP* **P 11 48 37.7 +1.0**
GRF pmax pmax
comp=Z,134nm,0.9s,mb5.9
GRF MLR MLR
comp=Z,100nm,19.7s,MS4.1
GRFO Grafenberg 74.19 339 *eP* **P 11 48 37.7 +0.9**
comp=Z,110nm,0.9s,mb5.8
GRFO Grafenberg 74.19 339 *eP* **P 11 48 37.7 +0.9**
GRFO pmax pmax
comp=Z,111nm,0.9s,mb5.8
KHC Kasperske Hory 74.19 338 *eP* **P 11 48 37.3 +0.5**
comp=Z,78nm,1.0s,mb5.6
KHC Kasperske Hory 74.19 338 *eP* **P 11 48 37.3 +0.5**
KHC pmax pmax
comp=Z,78nm,1.0s,mb5.6
KHC Kasperske Hory 74.19 338 *eP* **P 11 48 37.5 +0.7**
KHC AMS AMS 12 18 40.0
comp=Z,300nm,32.5s
HGN Heimansgroeve 74.20 343 *eP* **P 11 48 36.7 -0.1**
comp=Z,122nm,0.9s,mb5.8
ZST Bratislava 74.20 335 *eP* **P 11 48 38.5 +1.6**
ZST pmax pmax
comp=Z,49nm,0.7s,mb5.5
ZST Bratislava 74.20 335 *eP* **P 11 48 38.5 +1.6**
TIRR Tirgusor 74.21 326 *eP* **P 11 48 36.9 -0.1**
comp=Z,40nm,1.1s,mb5.3
TIRR Tirgusor 74.21 326 *eP* **P 11 48 36.9 -0.1**
TIRR pmax pmax
comp=Z,40nm,1.1s,mb5.3
TIRR Tirgusor 74.21 326 ⇓*iP* **P 11 48 35.2 -1.8**
BEBN Eben Emael 74.21 343 P **P 11 48 37.8 +0.9**
TNS Taunus Mts 74.25 341 *eP* **P 11 48 37.7 +0.6**
comp=Z,71nm,0.9s,mb5.6
TNS Taunus Mts 74.25 341 *eP* **P 11 48 37.7 +0.6**
TNS pmax pmax
comp=Z,71nm,0.9s,mb5.6
MCH1 Michaelchurch 74.31 349 ⇑*eP* **P 11 48 37.6 +0.2**
MCH1 AMB AMB 11 48 39.2
comp=Z,67nm,0.8s,mb5.6
OXF Oxford 74.32 53 *eP* **P 11 48 36.6 -1.2**
comp=Z,50nm,1.0s,mb5.4
OXF *epP* pP 11 48 49.8 -1.5
OXF Oxford 74.32 53 *eP* **P 11 48 36.6 -1.2**
OXF *e*PP* pP 11 48 49.8 -1.4
OXF pmax pmax
comp=Z,50nm,1.0s,mb5.4
MEM Membach 74.33 343 P **P 11 48 38.1 +0.5**
comp=Z,126nm,1.1s,mb5.8
WET Wettzell 74.34 338 *eP* **P 11 48 38.5 +0.9**
comp=Z,73nm,0.9s,mb5.6
WET Wettzell 74.34 338 *eP* **P 11 48 38.5 +0.9**
WET pmax pmax
comp=Z,73nm,0.9s,mb5.6
BUD Budapest 74.35 333 ⇑*eP* **P 11 48 38.8 +1.0**
SSPA Standing Stone 74.36 42 *eP* **P 11 48 36.4 -1.6**
comp=Z,28nm,1.2s,mb5.1
GEC2 GERESS Array S 74.43 337 *eP* **P 11 48 38.6 +0.4**
comp=Z,64nm,1.2s,mb5.4
GEC2 GERESS Array S 74.43 337 *eP* **P 11 48 38.6 +0.4**
GEC2 pmax pmax
comp=Z,64nm,1.2s,mb5.4
GERES GERESS Array B 74.43 337 P **P 11 48 38.5 +0.3**
comp=Z,24nm,0.4s,mb5.5,baz=32,slow=5.8,SNR=148
GERES LR LR 12 25 17.6
comp=Z,203nm,21.1s,MS4.4,baz=205,slow=39
GERES GERESS Array B 74.43 337 P **P 11 48 38.5 +0.3**
GERES GERESS Array B 74.43 337 P **P 11 48 38.5 +0.3**
GERES pmax pmax
comp=Z,25nm,0.4s
GERES MLR MLR
comp=Z,203nm,21.1s
VOIR 74.44 329 ⇓P **P 11 48 39.5 +1.2**
VOIR 74.44 329 ⇓*iP* **P 11 48 39.5 +1.2**
PLAL Pickwick Lake 74.58 52 *eP* **P 11 48 37.8 -1.5**
comp=Z,25nm,1.1s,mb5.1
PLAL *epP* pP 11 48 50.8 -2.0
BCLA Clavier 74.64 343 P **P 11 48 39.6 +0.2**
comp=Z,39nm,1.2s,mb5.2

HGH Gray Hill 74.64 349 ⇑*iP* **P 11 48 39.3 0.0**
SWN1 Swindon 74.64 348 *eP* **P 11 48 39.1 -0.3**
SWN1 AMB AMB 11 48 40.7
comp=Z,195nm,0.9s,mb6.0
SWN1 Swindon 74.64 348 P **P 11 48 39.1 -0.3**
SWN1 AMB AMB 11 48 40.7
comp=Z,195nm,0.9s,mb6.0
SNF Seneffe 74.73 344 P **P 11 48 39.8 -0.1**
comp=Z,26nm,0.9s,mb5.2
CONA Conrad Observa 74.76 336 ⇓*eP* **P 11 48 41.2 +1.1**
comp=Z,54nm,0.6s,mb5.7
CONA Conrad Observa 74.76 336 ⇓*eP* **P 11 48 41.2 +1.1**
comp=Z,54nm,0.6s,mb5.7
WOL Wolverton 74.77 348 *eP* **P 11 48 39.4 -0.7**
WOL AMB AMB 11 48 41.0
comp=Z,133nm,1.0s,mb5.8
TOD Tromm 74.77 341 *eP* **P 11 48 39.7 -0.4**
TOD Tromm 74.77 341 *eP* **P 11 48 39.7 -0.4**
PTK Pertek 74.81 316 *eP* **P 11 48 39.9 -0.7**
SOP Sopron 74.81 335 ⇑*eP* **P 11 48 41.7 +1.3**
PSN Preselentsi 74.97 326 *eP* **P 11 48 41.6 +0.2**
RUP Ruppelstein 75.01 342 *eP* **P 11 48 41.1 -0.4**
RUP Ruppelstein 75.01 342 *eP* **P 11 48 41.1 -0.4**
GIVF Givet 75.03 343 ⇑*iP* **P 11 48 42.0 +0.4**
comp=Z,103nm,0.9s,mb5.5
GIVF Givet 75.03 343 ⇑*iP* **P 11 48 42.0 +0.4**
comp=Z,103nm,0.9s,mb5.8
GIVF Givet 75.03 343 ⇑*iP* **P 11 48 42.0 +0.4**
GIVF pmax pmax
comp=Z,103nm,0.9s,mb5.8
DZM Mont Dzumac 75.03 173 *eP* **P 11 48 41.5 -0.3**
comp=Z,72nm,1.3s,mb5.4
DZM *e*LR LR 12 11 47.1
comp=Z,308nm,26.5s
DOU Dourbes 75.08 344 P **P 11 48 42.2 +0.3**
comp=Z,24nm,1.0s,mb5.1
TOS Tosya 75.16 320 *eP* **P 11 48 43.6 +1.1**
BAIF Baives 75.18 344 ⇑*iP* **P 11 48 43.0 +0.5**
comp=Z,117nm,0.7s,mb5.6
BAIF Baives 75.18 344 ⇑*iP* **P 11 48 43.0 +0.5**
comp=Z,117nm,0.7s,mb5.9
BAIF Baives 75.18 344 ⇑*iP* **P 11 48 43.0 +0.5**
BAIF pmax pmax
comp=Z,117nm,0.7s,mb5.9
GZR Gura Zlata 75.18 330 P **P 11 48 42.9 +0.3**
WLF Walferdange 75.22 342 P **P 11 48 43.8 +1.1**
WLF Walferdange 75.22 342 *eP* **P 11 48 43.5 +0.8**
comp=Z,30nm,1.1s,mb5.1
WLF Walferdange 75.22 342 *eP* **P 11 48 42.0 -0.7**
comp=Z,39nm,1.0s,mb5.3
WLF Walferdange 75.22 342 *eP* **P 11 48 42.0 -0.7**
WLF pmax pmax
comp=Z,39nm,1.0s,mb5.3
MOA Molln 75.23 337 ⇓*eP* **P 11 48 43.2 +0.4**
comp=Z,33nm,0.7s,mb5.4
MOA Molln 75.23 337 ⇓*eP* **P 11 48 43.2 +0.4**
comp=Z,33nm,0.7s,mb5.4
BZS Buzias 75.32 331 P **P 11 48 43.4 0.0**
BZS Buzias 75.32 331 ⇓*iP* **P 11 48 43.1 -0.3**
SWET Sewanee 75.40 50 *eP* **P 11 48 42.6 -1.5**
comp=Z,38nm,0.8s,mb5.4
SWET *epP* pP 11 48 55.8 -1.6
ARSA Arzberg 75.48 336 ⇓*iP* **P 11 48 45.1 +0.9**
comp=Z,46nm,0.6s,mb5.6
ARSA Arzberg 75.48 336 ⇓*iP* **P 11 48 45.1 +0.9**
comp=Z,46nm,0.6s,mb5.6
STU Stuttgart 75.48 340 *eP* **P 11 48 44.7 +0.4**
comp=Z,78nm,1.0s,mb5.6
STU Stuttgart 75.48 340 *eP* **P 11 48 44.7 +0.4**
comp=Z,41nm,0.8s,mb5.4
STU Stuttgart 75.48 340 *eP* **P 11 48 44.7 +0.4**
STU pmax pmax
comp=Z,41nm,0.8s,mb5.4
SAFT Safranbolu 75.49 321 *eP* **P 11 48 44.9 +0.4**
LANF Langenberg 75.56 341 *eP* **P 11 48 45.4 +0.7**
LANF Langenberg 75.56 341 *eP* **P 11 48 45.4 +0.7**
LANF Langenberg 75.56 341 *eP* **P 11 48 45.4 +0.7**
PAL Palisades 75.60 39 *eP* **P 11 48 43.7 -1.4**
comp=Z,47nm,1.1s,mb5.3
PAL *epP* pP 11 48 56.9 -1.6
PAL Palisades 75.60 39 *eP* **P 11 48 43.7 -1.4**
PAL *e*PP* pP 11 48 56.9 -1.6
PAL pmax pmax
comp=Z,47nm,1.1s,mb5.3
FUR Furstenfeldbru 75.62 339 *eP* **P 11 48 45.6 +0.6**
comp=Z,113nm,1.1s,mb5.7
FUR Furstenfeldbru 75.62 339 *eP* **P 11 48 45.6 +0.6**
FUR pmax pmax
comp=Z,113nm,1.1s,mb5.7
PKSM Moragy 75.62 333 P **P 11 48 45.2 +0.1**
CORM Corum 75.66 320 *eP* **P 11 48 45.7 +0.2**
PRD Provadia 75.67 326 *eP* **P 11 48 45.7 +0.3**
RJOB Jochberg 75.68 338 *eP* **P 11 48 46.2 +0.8**
comp=Z,57nm,0.9s,mb5.5
SDMD Soldier's Deli 75.83 42 *eP* **P 11 48 45.2 -1.2**
comp=Z,22nm,0.9s,mb5.1
YOZ Yozgat 75.85 319 *eP* **P 11 48 47.0 +0.5**
CPCT Cooper Cave 75.86 49 *eP* **P 11 48 44.0 -2.6**
WRAB Tennant Creek 75.87 204 *eP* **P 11 48 45.6 -1.0**
comp=Z,25nm,0.9s,mb5.2
WRAB Tennant Creek 75.87 204 P **P 11 48 45.9 -0.8**
comp=Z,170nm,1.0s,mb5.9,SNR=9.3
WRAB Tennant Creek 75.87 204 *eP* **P 11 48 45.6 -1.1**
WRAB pmax pmax
comp=Z,25nm,0.9s,mb5.1
WRAB Tennant Creek 75.87 204 P **P 11 48 45.6 -1.1**
comp=Z,53nm,1.3s,mb5.3
WB2 Warramunga Arr 75.88 204 *eP* **P 11 48 45.5 -1.2**
WRA Warramunga Arr 75.89 204 P **P 11 48 45.6 -1.1**
comp=Z,18nm,0.9s,mb5.0,baz=17,slow=6.1,SNR=74
WRA LR LR 12 17 41.5
comp=Z,77nm,21.4s,MS4.0,baz=80,slow=32
WRA Warramunga Arr 75.89 204 P **P 11 48 45.6 -1.1**
WRA Warramunga Arr 75.89 204 P **P 11 48 45.7 -1.1**
WRA pmax pmax
comp=Z,18nm,0.9s
TKL Tuckaleechee C 76.02 49 P **P 11 48 46.4 -1.2**
comp=Z,8.1nm,0.7s,mb4.8,baz=317,slow=2.0,SNR=12
TKL Tuckaleechee C 76.02 49 P **P 11 48 46.4 -1.2**
comp=Z,20nm,1.0s,mb5.0
TKL Tuckaleechee C 76.02 49 P **P 11 48 46.4 -1.2**
TKL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KOGS Kog 76.04 335 *iP* **P 11 48 47.9 +0.5**
BFO Black Forest 76.08 341 *eP* **P 11 48 48.0 +0.3**
comp=Z,52nm,1.0s,mb5.4
BFO Black Forest 76.08 341 P **P 11 48 48.7 +1.0**
comp=Z,322nm,0.7s,mb6.4,SNR=11
BFO Black Forest 76.08 341 *eP* **P 11 48 48.0 +0.4**
comp=Z,88nm,1.3s,mb5.5
BFO Black Forest 76.08 341 *eP* **P 11 48 48.0 +0.3**
BFO pmax pmax
comp=Z,52nm,1.0s,mb5.4
SZH Strazhica 76.09 327 *eP* **P 11 48 47.3 -0.6**
SOKA Soboth 76.13 336 ⇑*eP* **P 11 48 48.8 +0.8**
comp=Z,68nm,0.5s,mb5.9
SOKA Soboth 76.13 336 ⇑*eP* **P 11 48 48.8 +0.8**
comp=Z,68nm,0.5s,mb5.8
PERS Pernice 76.15 336 *iP* **P 11 48 48.9 +0.8**
KBA Koelnbreinsper 76.17 337 ⇑*eP* **P 11 48 49.6 +1.4**
comp=Z,320nm,0.7s,mb6.3
KBA Koelnbreinsper 76.17 337 ⇑*eP* **P 11 48 49.6 +1.4**
comp=Z,320nm,0.7s,mb6.4
KBA Koelnbreinsper 76.17 337 ⇑*eP* **P 11 48 49.6 +1.4**
BLA Blacksburg 76.20 45 *eP* **P 11 48 47.4 -1.2**
comp=Z,18nm,0.9s,mb5.0
BLA Blacksburg 76.20 45 *eP* **P 11 48 47.4 -1.2**
BLA pmax pmax
comp=Z,18nm,0.9s,mb5.0
SPAK Spaichingen-Ko 76.20 340 *eP* **P 11 48 48.0 -0.4**
CDF Champ du Feu 76.21 341 ⇑*iP* **P 11 48 49.0 +0.6**
comp=Z,184nm,0.9s,mb5.7
CDF Champ du Feu 76.21 341 ⇑*iP* **P 11 48 49.0 +0.6**
comp=Z,184nm,0.9s,mb6.0
CDF Champ du Feu 76.21 341 ⇑*iP* **P 11 48 49.0 +0.6**
CDF pmax pmax
comp=Z,184nm,0.9s,mb6.0
BNN Bunyan 76.31 318 *eP* **P 11 48 48.0 -1.1**
WATA Walderalm 76.33 338 ⇑*eP* **P 11 48 50.1 +0.9**
comp=Z,32nm,0.5s,mb5.5
WATA Walderalm 76.33 338 ⇑*eP* **P 11 48 50.1 +0.9**
comp=Z,32nm,0.5s,mb5.5
WATA Walderalm 76.33 338 ⇑*eP* **P 11 48 50.1 +1.0**
WATA pmax pmax
comp=Z,32nm,0.5s,mb5.5
PVL Pavlikeni 76.34 327 *eP* **P 11 48 48.3 -0.9**

PAGF Fort de Pagny 76.36 342⇑iP P 11 48 50.2 +0.9
comp=Z,70nm,0.9s,mb5.3
RETA Reutte 76.37 339⇑eP P 11 48 50.1 +0.7
comp=Z,34nm,0.6s,mb5.4
RETA Reutte 76.37 339⇑eP P 11 48 50.1 +0.7
comp=Z,34nm,0.6s,mb5.5
WTTA Wattenberg 76.39 338⇑iP P 11 48 50.7 +1.2
comp=Z,68nm,0.7s,mb5.7
WTTA Wattenberg 76.39 338⇑iP P 11 48 50.7 +1.2
comp=Z,68nm,0.7s,mb5.7
WTTA Wattenberg 76.39 338⇑iP P 11 48 50.7 +1.3
WTTA pmax pmax
comp=Z,68nm,0.7s,mb5.7
LIBD Limburg 76.39 341 eP P 11 48 50.2 +0.7
LIBD Limburg 76.39 341 eP P 11 48 50.2 +0.7
OBKA Obir 76.41 336⇓eP P 11 48 50.3 +0.7
comp=Z,65nm,0.6s,mb5.7
OBKA Obir 76.41 336⇓eP P 11 48 50.3 +0.7
comp=Z,65nm,0.6s,mb5.7
ECH Echery 76.42 341 eP P 11 48 49.9 +0.3
comp=Z,96nm,1.1s,mb5.6
ECH Echery 76.42 341 eP P 11 48 49.9 +0.3
ECH pmax pmax
comp=Z,96nm,1.1s,mb5.6
ECH Echery 76.42 341 eP P 11 48 50.1 +0.5
MOTA Moosalm 76.43 339⇑eP P 11 48 50.4 +0.7
comp=Z,58nm,0.7s,mb5.6
MOTA Moosalm 76.43 339⇑eP P 11 48 50.4 +0.7
comp=Z,58nm,0.7s,mb5.6
MOTA Moosalm 76.43 339⇑eP P 11 48 50.4 +0.7
MOTA pmax pmax
comp=Z,58nm,0.7s,mb5.6
BR131 Keskin Array S 76.44 320 eP P 11 48 49.8 0.0
comp=Z,8.1nm,0.6s,mb4.8
BRTR Keskin Array B 76.44 320 P P 11 48 49.6 -0.2
comp=Z,15nm,0.9s,mb4.9,baz=46,slow=3.6,SNR=56
BRTR LR LR 12 28 35.7
comp=Z,151nm,20.2s,MS4.3,baz=22,slow=40
BRTR Keskin Array B 76.44 320 P P 11 48 49.6 -0.2
BRTR Keskin Array B 76.44 320 P P 11 48 49.7 -0.2
BRTR pmax pmax
comp=Z,15nm,0.9s
MYKA Terra Mystica 76.52 337⇑iP P 11 48 50.6 +0.4
comp=Z,21nm,0.5s,mb5.4
MYKA Terra Mystica 76.52 337⇑iP P 11 48 50.6 +0.4
comp=Z,21nm,0.5s,mb5.3
MEZF Maizieres J'vi 76.53 343⇑iP P 11 48 51.0 +0.8
comp=Z,299nm,1.3s,mb5.8
MEZF Maizieres J'vi 76.53 343⇑iP P 11 48 51.0 +0.8
comp=Z,299nm,1.3s,mb6.1
FELD Feldberg im Sc 76.58 341 eP P 11 48 50.8 +0.3
THEF They Montfort 76.63 342 eP P 11 48 51.3 +0.5
THEF They Montfort 76.63 342 eP P 11 48 51.3 +0.5
THEF They Montfort 76.63 342 eP P 11 48 51.3 +0.5
FITZ Fitzroy Crossi 76.66 213 P P 11 48 51.0 -0.2
comp=Z,22nm,0.9s,mb5.1,baz=25,slow=4.4,SNR=37
FITZ Fitzroy Crossi 76.66 213 eP P 11 48 50.8 -0.4
comp=Z,40nm,1.0s,mb5.3
FITZ Fitzroy Crossi 76.66 213 P P 11 48 51.0 -0.2
ABTA Abfaltersbach 76.67 337⇓iP P 11 48 51.6 +0.5
comp=Z,121nm,0.7s,mb5.9
ABTA Abfaltersbach 76.67 337⇓iP P 11 48 51.6 +0.5
comp=Z,121nm,0.7s,mb5.9
SILT Sile 76.69 323 eP P 11 48 51.2 -0.1
MDUB Mudurnu 76.72 322 eP P 11 48 50.6 -0.8
DAVA Damuels 76.75 339⇑eP P 11 48 52.2 +0.7
comp=Z,91nm,1.1s,mb5.6
DAVA Damuels 76.75 339⇑eP P 11 48 52.2 +0.7
comp=Z,91nm,1.1s,mb5.6
MOF Molkenrain 76.77 341 eP P 11 48 52.1 +0.5
MOF Molkenrain 76.77 341 eP P 11 48 52.1 +0.5
MOF Molkenrain 76.77 341 eP P 11 48 52.1 +0.5
HAU Haudompre 76.77 342⇑iP P 11 48 52.1 +0.5
comp=Z,152nm,1.0s,mb5.6
HAU eR
comp=Z,216nm,22.5s
HAU Haudompre 76.77 342⇑iP P 11 48 52.1 +0.5
comp=Z,152nm,1.0s,mb5.9
HAU Haudompre 76.77 342⇑iP P 11 48 52.1 +0.5
HAU pmax pmax
comp=Z,152nm,1.0s,mb5.9
KLYT Kilyos 76.82 324 eP P 11 48 51.4 -0.6
FETA Feichten 76.82 339⇑iP P 11 48 52.9 +1.0
comp=Z,105nm,1.0s,mb5.7
FETA Feichten 76.82 339⇑iP P 11 48 52.9 +1.0
comp=Z,105nm,1.0s,mb5.7
SFTF Sexfontaines 76.82 343⇑iP P 11 48 52.4 +0.5
comp=Z,246nm,0.9s,mb5.8
SFTF Sexfontaines 76.82 343⇑iP P 11 48 52.4 +0.5
comp=Z,246nm,0.9s,mb6.1
LJU Ljubljana 76.85 336 iP P 11 48 52.3 +0.2
HINF Hinteralfeld 76.86 341⇑iP P 11 48 52.3 +0.2
comp=Z,54nm,0.8s,mb5.2
HINF Hinteralfeld 76.86 341⇑iP P 11 48 52.3 +0.2
comp=Z,54nm,0.8s,mb5.5
HINF Hinteralfeld 76.86 341⇑iP P 11 48 52.3 +0.2
HINF pmax pmax
comp=Z,54nm,0.8s,mb5.5
CADS Cadrg 76.87 336 iP P 11 48 52.0 -0.2
CTYL Yal??k??y-??at 76.89 325 eP P 11 48 52.0 -0.3
AFSR Af´ar-Bala (A 76.90 320 eP P 11 48 51.5 -0.9
JSA Saint Aubin 76.97 348⇑eP P 11 48 51.9 -0.8
JSA AMB AMB 11 48 52.7
comp=Z,137nm,0.9s,mb5.9
JSA Saint Aubin 76.97 348 P P 11 48 51.9 -0.8
JSA AMB AMB 11 48 52.7
comp=Z,137nm,0.9s,mb5.9
BGKT Bogazkoy 76.97 324 eP P 11 48 51.4 -1.5
GULT Gulveren 77.00 322 eP P 11 48 53.2 +0.2
VOY Vojsko 77.02 336 eP P 11 48 52.2 -0.8
VOY e pP 11 49 00.8 -5.7
CTKS Kestanelik-??a 77.02 324 eP P 11 48 52.9 -0.2
BBS Basel-Blauen 77.07 341 eP P 11 48 52.8 -0.5
BBS Basel-Blauen 77.07 341 eP P 11 48 52.8 -0.5
EDRB Edirne 77.09 326 eP P 11 48 53.3 -0.2
FLN La Foliniere 77.16 347⇑iP P 11 48 53.7 -0.1
comp=Z,216nm,0.9s,mb5.8
FLN eR
comp=Z,189nm,22.5s
FLN La Foliniere 77.16 347⇑iP P 11 48 53.7 -0.1
comp=Z,216nm,0.9s,mb6.1
FLN La Foliniere 77.16 347⇑iP P 11 48 53.7 -0.1
FLN pmax pmax
comp=Z,216nm,0.9s,mb6.1
BOJS Bojanci 77.17 335 iP P 11 48 54.1 +0.2
DIVS Divibare 77.18 331 P P 11 48 53.7 -0.3
LDF La Druitiere 77.28 346⇑iP P 11 48 54.2 -0.2
comp=Z,43nm,0.7s,mb5.2
LDF La Druitiere 77.28 346⇑iP P 11 48 54.2 -0.2
comp=Z,43nm,0.7s,mb5.5
LDF La Druitiere 77.28 346⇑iP P 11 48 54.2 -0.2
LDF pmax pmax
comp=Z,43nm,0.7s,mb5.5
LOMF Lomont 77.31 341 eP P 11 48 55.0 +0.4
LOMF Lomont 77.31 341 eP P 11 48 55.0 +0.4
LOMF Lomont 77.31 341 eP P 11 48 55.0 +0.4
PGB Panagyurishte 77.31 328 eP P 11 48 54.7 0.0
DIM Dimitrovgrad 77.31 327 eP P 11 48 55.2 +0.4
TRI Trieste 77.35 336 eP P 11 48 54.7 -0.2
comp=Z,39nm,0.5s,mb5.6
TRI Trieste 77.35 336 eP P 11 48 54.7 -0.2
TRI pmax pmax
comp=Z,39nm,0.5s,mb5.6
CAVI Cavuskoy 77.45 323 eP P 11 48 55.6 0.0
ARMT Armutlu 77.49 324 eP P 11 48 55.2 -0.6
KMSC Kings Mountain 77.55 47 ⇑P P 11 48 55.1 -1.1
baz=77
GRR Gorron 77.58 347⇑iP P 11 48 56.4 +0.3
comp=Z,154nm,0.6s,mb5.8
GRR Gorron 77.58 347⇑iP P 11 48 56.4 +0.3
comp=Z,154nm,0.6s,mb6.1
GRR Gorron 77.58 347⇑iP P 11 48 56.4 +0.3
GRR pmax pmax
comp=Z,155nm,0.6s,mb6.1
VTS Vitosha 77.58 329 P P 11 48 56.1 -0.1
VTS Vitosha 77.58 329 ⇑P P 11 48 56.1 -0.1
VTS Vitosha 77.58 329 eP P 11 48 55.7 -0.5
VTS Vitosha 77.58 329⇑iP P 11 48 56.1 -0.1
TUE Stuetta 77.64 339 eP P 11 48 57.3 +0.8
comp=Z,111nm,0.6s,mb6.0
MDNY Mudanya-Bursa 77.65 324 eP P 11 48 56.4 -0.3
ESKT Eskisehir 77.68 322 eP P 11 48 56.8 0.0
KIZT Kizilcal 77.85 321 eP P 11 48 57.7 -0.1
MFT Murefte 77.85 325 eP P 11 48 58.2 +0.5
RZN Rozhen 77.91 327 eP P 11 48 57.8 -0.3

KCTX Karacabey (Bur 77.93 324 eP P 11 48 58.1 -0.2
LOR Lormes 77.94 343⇑iP P 11 48 58.5 +0.4
comp=Z,152nm,0.9s,mb5.6
LOR eR
comp=Z,237nm,21.2s
LOR Lormes 77.94 343⇑iP P 11 48 58.5 +0.4
comp=Z,152nm,0.9s,mb5.9
LOR Lormes 77.94 343⇑iP P 11 48 58.5 +0.4
LOR pmax pmax
comp=Z,152nm,0.9s,mb5.9
SGMF Saint Gilles 77.94 348⇑iP P 11 48 58.4 +0.3
comp=Z,274nm,0.6s,mb6.0
SGMF Saint Gilles 77.94 348⇑iP P 11 48 58.4 +0.3
comp=Z,274nm,0.6s,mb6.4
SGMF Saint Gilles 77.94 348⇑iP P 11 48 58.4 +0.3
ROSF Rostrenen 77.94 348⇑iP P 11 48 58.5 +0.3
comp=Z,274nm,0.9s,mb5.9
ROSF Rostrenen 77.94 348⇑iP P 11 48 58.5 +0.3
comp=Z,274nm,0.9s,mb6.2
ROSF Rostrenen 77.94 348⇑iP P 11 48 58.5 +0.3
ROSF pmax pmax
comp=Z,274nm,0.9s,mb6.2
RKY Sarkoy-Tekirda 77.97 325 eP P 11 48 58.9 +0.4
BNT Bandirma 78.00 324 eP P 11 48 58.9 +0.3
PLE Pljevlja 78.06 331⇑iP P 11 48 59.4 +0.5
BST Brest 78.07 349 eP P 11 48 59.2 +0.3
BST Brest 78.07 349 eP P 11 48 59.2 +0.3
RDO Rodhopi 78.12 326 P P 11 48 59.4 +0.1
HYF Humbligny 78.14 344⇑iP P 11 49 00.1 +0.8
HYF Humbligny 78.14 344⇑iP P 11 49 00.1 +0.8
NVLJ Novalja 78.15 335 P P 11 48 58.8 -0.5
CABF La Chapelle 78.16 342⇑iP P 11 49 00.2 +0.8
comp=Z,205nm,1.0s,mb5.7
CABF La Chapelle 78.16 342⇑iP P 11 49 00.2 +0.8
comp=Z,205nm,1.0s,mb6.0
CABF La Chapelle 78.16 342⇑iP P 11 49 00.2 +0.8
CABF pmax pmax
comp=Z,205nm,1.0s,mb6.0
KRBG Karabiga-Canak 78.19 325 eP P 11 48 59.0 -0.7
SSF Saint Saulge 78.20 344⇑iP P 11 49 00.0 +0.4
comp=Z,98nm,0.8s,mb5.5
SSF Saint Saulge 78.20 344⇑iP P 11 49 00.0 +0.4
comp=Z,98nm,0.8s,mb5.8
SSF Saint Saulge 78.20 344⇑iP P 11 49 00.0 +0.4
SSF pmax pmax
comp=Z,99nm,0.8s,mb5.8
ERIK Erikli-Kesan 78.22 325 eP P 11 48 59.7 -0.1
KKB Krupnik 78.28 328 eP P 11 48 59.6 -0.5
ENEZ Enez 78.28 326 eP P 11 48 59.8 -0.4
JSC Jenkinsville 78.30 48 eP P 11 48 59.0 -1.4
JSC Jenkinsville 78.30 48 eP P 11 48 59.0 -1.4
UPM Unac-Piva 78.32 332⇑iP P 11 49 00.2 -0.1
MMB Musomiste 78.32 328 eP P 11 49 00.4 +0.1
IVA Berane 78.33 331⇑iP P 11 49 00.7 +0.3
QUIF Quistinic 78.34 348⇑iP P 11 49 00.4 0.0
comp=Z,172nm,0.8s,mb5.7
QUIF Quistinic 78.34 348⇑iP P 11 49 00.4 0.0
comp=Z,172nm,0.8s,mb6.0
QUIF Quistinic 78.34 348⇑iP P 11 49 00.4 0.0
QUIF pmax pmax
comp=Z,172nm,0.8s,mb6.0
ALT Altintas 78.36 322 eP P 11 49 00.4 -0.2
GELI Tayfur-Gelibol 78.47 325 eP P 11 49 00.8 -0.4
AVF Avril sur Loir 78.48 344⇑iP P 11 49 01.7 +0.5
comp=Z,210nm,0.9s,mb5.8
AVF Avril sur Loir 78.48 344⇑iP P 11 49 01.7 +0.5
comp=Z,210nm,0.9s,mb6.1
AVF Avril sur Loir 78.48 344⇑iP P 11 49 01.7 +0.5
AVF pmax pmax
comp=Z,210nm,0.9s,mb6.1
NVR Nevrokopi 78.49 328 P P 11 49 01.4 +0.1
SMF Signal de Mont 78.54 343⇑iP P 11 49 02.0 +0.5
comp=Z,149nm,1.0s,mb5.6
SMF Signal de Mont 78.54 343⇑iP P 11 49 02.0 +0.5
comp=Z,149nm,1.0s,mb5.9
SMF Signal de Mont 78.54 343⇑iP P 11 49 02.0 +0.5
SMF pmax pmax
comp=Z,149nm,1.0s,mb5.9
PVY Plav 78.57 331 eP P 11 49 00.9 -0.8
NKY Niksic 78.65 331⇑iP P 11 49 00.6 -1.6
MIB Mutribah 78.69 305 eP P 11 49 01.2 -1.4
MIB AMb AMB 11 49 04.3
comp=Z,71nm,0.7s,mb5.7
SKO Skopje 78.69 329 iP P 11 49 02.8 +0.4
BRY Bratogost 78.70 332⇑iP P 11 49 01.8 -0.6
UMR Umm Al-Rimmam 78.71 304 eP P 11 49 01.3 -1.4
TRD Trivandrum 78.78 269 ePKP P 11 49 03.1 -0.1
TRD AMb AMB 11 49 05.5
comp=Z,79nm,0.8s,mb5.7
SRS Serrai 78.79 328 P P 11 49 02.8 -0.1
BGF Bois d'Agland 78.80 344⇑iP P 11 49 03.4 +0.5
comp=Z,117nm,0.9s,mb5.5
BGF Bois d'Agland 78.80 344⇑iP P 11 49 03.4 +0.5
comp=Z,117nm,0.9s,mb5.8
BGF Bois d'Agland 78.80 344⇑iP P 11 49 03.4 +0.5
BGF pmax pmax
comp=Z,117nm,0.9s,mb5.8
TTG Podgorica 78.92 331⇑iP P 11 49 02.9 -0.8
VAY Valandovo 78.93 328⇑iP P 11 49 03.5 -0.2
RSL Roselend 78.95 341 eP P 11 49 04.9 +1.2
RSL Roselend 78.95 341 eP P 11 49 04.9 +1.2
RSL Roselend 78.95 341 eP P 11 49 04.9 +1.2
STON Ston 78.96 332 P P 11 49 01.8 -2.0
LPL La Plagne 79.09 341⇑iP P 11 49 06.2 +1.7
comp=Z,320nm,0.8s,mb6.0
LPL La Plagne 79.09 341⇑iP P 11 49 06.2 +1.7
comp=Z,320nm,0.8s,mb6.3
LPL La Plagne 79.09 341⇑iP P 11 49 06.2 +1.7
LPG La Plagne 79.10 341⇑iP P 11 49 06.4 +1.8
comp=Z,384nm,0.8s,mb6.1
LPG La Plagne 79.10 341⇑iP P 11 49 06.4 +1.8
comp=Z,384nm,0.8s,mb6.4
LPG La Plagne 79.10 341⇑iP P 11 49 06.4 +1.8
HCY Herceg Novi 79.13 332⇑iP P 11 49 04.0 -0.8
BUM Brajici-Budva 79.15 331⇑iP P 11 49 04.4 -0.5
TCF Toulx Ste Croi 79.16 344⇑iP P 11 49 05.5 +0.6
comp=Z,103nm,0.7s,mb5.5
TCF Toulx Ste Croi 79.16 344⇑iP P 11 49 05.5 +0.6
comp=Z,103nm,0.7s,mb5.9
TCF Toulx Ste Croi 79.16 344⇑iP P 11 49 05.5 +0.6
TCF pmax pmax
comp=Z,103nm,0.7s,mb5.9
NAY Al-Naaiem 79.19 305 eP P 11 49 03.9 -1.5
NAY AMb AMB 11 49 06.9
comp=Z,36nm,1.3s,mb5.1
MFF Saint Martin d 79.22 346⇑iP P 11 49 05.8 +0.6
comp=Z,102nm,0.6s,mb5.6
MFF Saint Martin d 79.22 346⇑iP P 11 49 05.8 +0.6
comp=Z,102nm,0.6s,mb5.9
MFF Saint Martin d 79.22 346⇑iP P 11 49 05.8 +0.6
MFF pmax pmax
comp=Z,102nm,0.6s,mb5.9
PLDF La Plantade 79.23 343 eP P 11 49 06.5 +1.2
PLDF La Plantade 79.23 343 eP P 11 49 06.5 +1.2
PLDF La Plantade 79.23 343 eP P 11 49 06.5 +1.2
AGO Saint Agoulin 79.24 344 eP P 11 49 06.7 +1.4
AGO Saint Agoulin 79.24 344 eP P 11 49 06.7 +1.4
QRN Al-Qurain 79.27 304 eP P 11 49 04.5 -1.3
QRN AMb AMB 11 49 08.5
comp=Z,93nm,0.9s,mb5.7
KRUS Krusevo 79.30 329⇑iP P 11 49 05.2 -0.5
RDF Al-Radifah 79.31 304 eP P 11 49 05.3 -0.7
RDF AMb AMB 11 49 12.6
comp=Z,87nm,1.4s,mb5.5
GRG Griva 79.31 328 P P 11 49 06.3 +0.5
ULC Ulcinj 79.36 331⇑iP P 11 49 05.3 -0.7
LIA Limnos Island 79.36 326 P P 11 49 03.5 -2.6
PLG Polygyros 79.51 327 P P 11 49 06.4 -0.5
BNI Bardonecchia 79.55 341 eP P 11 49 08.4 +1.4
comp=Z,34nm,0.6s,mb5.5
BNI Bardonecchia 79.55 341 eP P 11 49 08.5 +1.5
BNI pmax pmax
comp=Z,34nm,0.6s,mb5.5
PYM Petit Puy Mans 79.55 344 eP P 11 49 08.2 +1.2
PYM Petit Puy Mans 79.55 344 eP P 11 49 08.2 +1.2
PYM Petit Puy Mans 79.55 344 eP P 11 49 08.2 +1.2
AS31 Alice Springs 79.56 204 eP P 11 49 06.7 -0.5
ASAR Alice Springs 79.57 204 P P 11 49 07.0 -0.1
comp=Z,12nm,0.8s,mb4.8,baz=14,slow=5.7,SNR=119
ASAR Alice Springs 79.57 204 P P 11 49 07.0 -0.1
ASAR Alice Springs 79.57 204 P P 11 49 07.1 -0.1
ASAR pmax pmax
comp=Z,12nm,0.8s
BIA Bitola 79.60 329 eP P 11 49 06.6 -0.7

VLC Villacollemand 79.61 338 eP P 11 49 08.3 +1.0
comp=Z,81nm,0.6s,mb5.8
OG22 Abries 79.71 341 eP P 11 49 09.0 +1.1
OG22 Abries 79.71 341 eP P 11 49 09.0 +1.1
SSB Saint Sauveur 79.74 342 eP P 11 49 08.8 +0.8
comp=Z,56nm,0.6s,mb5.7
SSB Saint Sauveur 79.74 342 eP P 11 49 08.8 +0.8
SSB pmax pmax
comp=Z,56nm,0.6s,mb5.7
ORIF Oris-en-Rattie 79.83 341⇑iP P 11 49 10.1 +1.5
comp=Z,266nm,0.9s,mb5.9
ORIF eR
comp=Z,105nm,19.2s
ORIF Oris-en-Rattie 79.83 341⇑iP P 11 49 10.1 +1.5
comp=Z,266nm,0.9s,mb6.2
ORIF Oris-en-Rattie 79.83 341⇑iP P 11 49 10.1 +1.5
PAIG Paliouri 79.83 327 P P 11 49 07.8 -0.9
MBDF Montbardon 79.84 341⇑iP P 11 49 09.6 +1.0
comp=Z,97nm,0.7s,mb5.5
MBDF Montbardon 79.84 341⇑iP P 11 49 09.6 +1.0
comp=Z,97nm,0.7s,mb5.8
MBDF Montbardon 79.84 341⇑iP P 11 49 09.6 +1.0
MBDF pmax pmax
comp=Z,97nm,0.7s,mb5.8
LBL Lubilhac 80.01 343 eP P 11 49 10.8 +1.3
LBL Lubilhac 80.01 343 eP P 11 49 10.8 +1.3
LBL Lubilhac 80.01 343 eP P 11 49 10.8 +1.3
LIT Litokhoron 80.06 328 P P 11 49 08.9 -1.0
VIVF Saint-Julien-l 80.12 342⇑iP P 11 49 11.3 +1.2
comp=Z,257nm,0.9s,mb5.8
VIVF Saint-Julien-l 80.12 342⇑iP P 11 49 11.3 +1.2
comp=Z,257nm,0.9s,mb6.2
VIVF Saint-Julien-l 80.12 342⇑iP P 11 49 11.3 +1.2
NEST Nestorio 80.23 329 P P 11 49 10.7 -0.1
RJF Les Rejaudoux 80.23 344⇑iP P 11 49 11.4 +0.7
comp=Z,66nm,0.7s,mb5.4
RJF eR
comp=Z,202nm,20.2s
RJF Les Rejaudoux 80.23 344⇑iP P 11 49 11.4 +0.7
comp=Z,66nm,0.7s,mb5.7
RJF Les Rejaudoux 80.23 344⇑iP P 11 49 11.4 +0.7
RJF pmax pmax
comp=Z,66nm,0.7s,mb5.7
OCF Saint Nazaire 80.27 342 eP P 11 49 12.6 +1.7
OG26 St.-Nazaire-De 80.27 342 eP P 11 49 12.6 +1.7
OG25 Le Caire 80.32 341 eP P 11 49 12.5 +1.3
OG25 Le Caire 80.32 341 eP P 11 49 12.5 +1.3
SAOF Saorge 80.39 340 eP P 11 49 11.9 +0.3
SAOF Saorge 80.39 340 eP P 11 49 11.9 +0.3
SAOF Saorge 80.39 340 eP P 11 49 11.9 +0.3
AUTN L'Aution 80.41 340 eP P 11 49 12.3 +0.6
AUTN L'Aution 80.41 340 eP P 11 49 12.3 +0.6
AUTN L'Aution 80.41 340 eP P 11 49 12.3 +0.6
TOUF Mont Tournerai 80.43 340 eP P 11 49 12.4 +0.6
TOUF Mont Tournerai 80.43 340 eP P 11 49 12.4 +0.6
TOUF Mont Tournerai 80.43 340 eP P 11 49 12.4 +0.6
CAF Calviac 80.51 344⇑iP P 11 49 13.5 +1.3
comp=Z,111nm,0.7s,mb5.6
CAF Calviac 80.51 344⇑iP P 11 49 13.5 +1.3
comp=Z,111nm,0.7s,mb5.9
CAF Calviac 80.51 344⇑iP P 11 49 13.5 +1.3
CAF pmax pmax
comp=Z,111nm,0.7s,mb5.9
SBF Sospel 80.53 340⇑iP P 11 49 12.7 +0.3
comp=Z,113nm,0.8s,mb5.6
SBF Sospel 80.53 340⇑iP P 11 49 12.7 +0.3
comp=Z,113nm,0.8s,mb5.8
SBF Sospel 80.53 340⇑iP P 11 49 12.7 +0.3
SBF pmax pmax
comp=Z,113nm,0.8s,mb5.8
MVIF Mont Vial 80.56 340 eP P 11 49 13.1 +0.6
MVIF Mont Vial 80.56 340 eP P 11 49 13.1 +0.6
MVIF Mont Vial 80.56 340 eP P 11 49 13.1 +0.6
AQU L'Aquila 80.59 335 eP P 11 49 13.1 +0.4
comp=Z,120nm,0.8s,mb5.9
AQU L'Aquila 80.59 335 eP P 11 49 13.1 +0.4
AQU pmax pmax
comp=Z,120nm,0.8s,mb5.9
REVF Revere 80.67 340 eP P 11 49 13.6 +0.5
REVF Revere 80.67 340 eP P 11 49 13.6 +0.5
REVF Revere 80.67 340 eP P 11 49 13.6 +0.5
LFF La Frestale 80.71 345⇑iP P 11 49 14.3 +1.0
comp=Z,102nm,0.7s,mb5.6
LFF La Frestale 80.71 345⇑iP P 11 49 14.3 +1.0
comp=Z,102nm,0.6s,mb5.9
LFF La Frestale 80.71 345⇑iP P 11 49 14.3 +1.0
LFF pmax pmax
comp=Z,102nm,0.6s,mb5.9
CALN Calern 80.75 340 eP P 11 49 14.1 +0.6
CALN Calern 80.75 340 eP P 11 49 14.1 +0.6
CALN Calern 80.75 340 eP P 11 49 14.1 +0.6
SMRF Simiane la Rot 80.80 341⇑iP P 11 49 15.2 +1.4
comp=Z,73nm,0.8s,mb5.3
SMRF Simiane la Rot 80.80 341⇑iP P 11 49 15.2 +1.4
comp=Z,73nm,0.8s,mb5.7
VILF Villemus 80.89 341 eP P 11 49 15.4 +1.1
VILF Villemus 80.89 341 eP P 11 49 15.4 +1.1
FRF La Foret Royal 80.98 340⇑iP P 11 49 15.1 +0.3
comp=Z,59nm,0.8s,mb5.3
FRF La Foret Royal 80.98 340⇑iP P 11 49 15.1 +0.3
comp=Z,59nm,0.8s,mb5.6
FRF La Foret Royal 80.98 340⇑iP P 11 49 15.1 +0.3
FRF pmax pmax
comp=Z,59nm,0.8s,mb5.6
JAN Janina 80.99 329 P P 11 49 15.2 +0.3
LASF Ste Croix 81.02 342⇑iP P 11 49 16.4 +1.4
comp=Z,75nm,0.8s,mb5.4
LASF Ste Croix 81.02 342⇑iP P 11 49 16.4 +1.4
comp=Z,75nm,0.8s,mb5.7
PRAF Pradon 81.04 341 eP P 11 49 16.6 +1.5
PRAF Pradon 81.04 341 eP P 11 49 16.6 +1.5
TREF Trevaresse 81.17 341 eP P 11 49 16.9 +1.1
TREF Trevaresse 81.17 341 eP P 11 49 16.9 +1.1
LMR La Mourre 81.23 340⇑iP P 11 49 16.7 +0.6
comp=Z,167nm,1.1s,mb5.6
LMR La Mourre 81.23 340⇑iP P 11 49 16.7 +0.6
comp=Z,167nm,1.1s,mb5.9
LMR La Mourre 81.23 340⇑iP P 11 49 16.7 +0.6
LMR pmax pmax
comp=Z,167nm,1.1s,mb5.9
DSL Palaion Diasel 81.39 329 P P 11 49 16.7 -0.3
GELF Grande-Etoile 81.40 341 eP P 11 49 18.3 +1.3
GELF Grande-Etoile 81.40 341 eP P 11 49 18.3 +1.3
PMOR Pomariorio Ree 81.41 129 eT 13 18 37.1
comp=Z,11nm,0.2s
BERF Bertagne 81.41 341 eP P 11 49 18.1 +1.0
BERF Bertagne 81.41 341 eP P 11 49 18.1 +1.0
PGF Pioggiola 81.45 338⇑iP P 11 49 17.6 +0.3
comp=Z,92nm,0.7s,mb5.5
PGF Pioggiola 81.45 338⇑iP P 11 49 17.6 +0.3
comp=Z,92nm,0.7s,mb5.8
PGF Pioggiola 81.45 338⇑iP P 11 49 17.6 +0.3
PGF pmax pmax
comp=Z,92nm,0.7s,mb5.8
MBWA Marble Bar 81.54 217 eP P 11 49 17.0 -0.8
ASF Jabal al Asfar 81.58 314 LR LR 12 33 13.6
comp=Z,104nm,18.4s,MS4.2,baz=236,slow=41
DSF Desfina 81.58 327 P P 11 49 16.1 -2.0
MTLF Montolieu 82.03 343⇑iP P 11 49 21.6 +1.3
comp=Z,106nm,0.8s,mb5.5
MTLF Montolieu 82.03 343⇑iP P 11 49 21.6 +1.3
comp=Z,106nm,0.8s,mb5.8
MTLF Montolieu 82.03 343⇑iP P 11 49 21.6 +1.3
MTLF pmax pmax
comp=Z,106nm,0.8s,mb5.8
CUC Castrocucco 82.16 333 eP P 11 49 20.1 -0.9
comp=Z,56nm,1.0s,mb5.5
LRDF Laroque-de-Fa 82.36 343 eP P 11 49 23.6 +1.6
LRDF Laroque-de-Fa 82.36 343 eP P 11 49 23.6 +1.6
VLS Valsamata 82.42 329 P P 11 49 21.7 -0.7
MLS Moulis 82.59 344 eP P 11 49 24.6 +1.4
MLS Moulis 82.59 344 eP P 11 49 24.6 +1.4
EPF Esparros 82.64 345⇑iP P 11 49 24.0 +0.5
comp=Z,128nm,1.0s,mb5.6
EPF Esparros 82.64 345⇑iP P 11 49 24.0 +0.5
comp=Z,128nm,1.0s,mb5.9
EPF Esparros 82.64 345⇑iP P 11 49 24.0 +0.5
EPF pmax pmax
comp=Z,128nm,1.0s,mb5.9
FILF Fillols 82.72 343 eP P 11 49 25.2 +1.3
FILF Fillols 82.72 343 eP P 11 49 25.2 +1.3
SJAF Saint Jean de 82.74 343 eP P 11 49 25.1 +1.1
SJAF Saint Jean de 82.74 343 eP P 11 49 25.1 +1.1
SJPF Ste Jean 82.80 346⇑iP P 11 49 25.9 +1.6
comp=Z,73nm,0.6s,mb5.6

SJPF	Ste Jean	82.80 346	⇑ *i* P		P	11 49 25.9 +1.6
	comp=Z,73nm,0.6s,mb5.9					
SJPF	Ste Jean	82.80 346	⇑ *i* P		P	11 49 25.9 +1.6
SJPF			pmax	pmax		
	comp=Z,73nm,0.6s,mb5.9					
VIEF	Viey	82.83 345	*e*P		P	11 49 26.1 +1.6
VIEF	Viey	82.83 345	*e*P		P	11 49 26.1 +1.6
RESF	Ens	82.86 345	*e*P		P	11 49 26.5 +1.9
RESF	Ens	82.86 345	*e*P		P	11 49 26.5 +1.9
PPT	Papeete	82.87 132	*e*LR		LR	12 15 25.7
	comp=Z,557nm,29.2s,baz=327					
ITM	Ithomi	82.90 327	P		P	11 49 23.7 -1.3
ETSF	Etsaut	82.91 345	⇑ *i* P		P	11 49 26.4 +1.5
	comp=Z,167nm,0.7s,mb5.9					
ETSF	Etsaut	82.91 345	⇑ *i* P		P	11 49 26.4 +1.5
	comp=Z,167nm,0.7s,mb6.2					
ETSF	Etsaut	82.91 345	⇑ *i* P		P	11 49 26.4 +1.5
ETSF			pmax	pmax		
	comp=Z,167nm,0.7s,mb6.2					
VALF	Valcebollere	82.97 343	*e*P		P	11 49 27.0 +1.8
VALF	Valcebollere	82.97 343	*e*P		P	11 49 27.0 +1.8
KYTH	Kithira	83.35 326	P		P	11 49 26.2 -1.1
IDI	Anoyia	83.60 324	*e*P		P	11 49 26.2 -2.4
	comp=Z,39nm,0.5s,mb5.8					
CEL	Celeste	83.75 332	*e*P		P	11 49 27.7 -1.7
	comp=Z,46nm,0.8s,mb5.7					
KARN	Karanos	83.84 325	P		P	11 49 25.7 -4.1
SIVA	Sivas	83.88 324	P		P	11 49 29.0 -1.0
EIL	Elat	84.58 314	LR		LR	12 32 23.6
	comp=Z,166nm,20.9s,MS4.4,baz=227,slow=39					
PGAV	Gavieira, Arco	84.78 351	*e*P		P	11 49 35.2 +0.7
PBRG	Braganca	84.79 350	*e*P		P	11 49 35.3 +0.8
	comp=Z,76nm,1.5s,mb5.6					
RAYN	Ar Rayn	84.79 303	P		P	11 49 34.5 -0.3
	comp=Z,453nm,0.8s,mb6.6,SNR=14					
POLO	Lamas de Olo	85.33 350	*e*P		P	11 49 38.0 +0.8
	comp=Z,48nm,1.0s,mb5.6					
PVRL	Vila Real	85.41 350	*e*P		P	11 49 38.5 +0.9
	comp=Z,175nm,1.5s,mb6.0					
MVO	Moncorvo	85.45 350	*e*P		P	11 49 38.0 +0.2
	comp=Z,135nm,1.0s,mb6.0					
PVIS	Viseu	85.99 350	*e*P		P	11 49 41.0 +0.5
	comp=Z,79nm,1.1s,mb5.9					
STKA	Stephens Creek	85.99 195	P		P	11 49 39.8 -0.5
	comp=Z,11nm,0.8s,mb5.1,baz=344,slow=6.3,SNR=19					
STKA			LR	LR		12 24 18.9
	comp=Z,124nm,19.1s,MS4.3,baz=25,slow=33					
STKA	Stephens Creek	85.99 195	*e*P		P	11 49 39.5 -0.8
	comp=Z,10nm,0.9s,mb5.0					
STKA			*e*		pP	11 49 52.8 -1.2
STKA	Stephens Creek	85.99 195	P		P	11 49 39.8 -0.5
	comp=Z,27nm,0.8s,mb5.5					
STKA			*e*pP		pP	11 49 53.0 -0.9
STKA	Stephens Creek	85.99 195	P		P	11 49 39.8 -0.5
STKA			pmax	pmax		
	comp=Z,11nm,0.8s					
MTE	Manteigas	86.26 350	*e*P		P	11 49 42.7 +0.8
	comp=Z,88nm,1.0s,mb5.9					
MTE	Manteigas	86.26 350	*e*P		P	11 49 42.3 +0.5
	comp=Z,79nm,0.9s,mb5.9					
ESDC	Sonseca Array	86.56 347	P		P	11 49 43.3 0.0
	comp=Z,25nm,0.7s,mb5.5,baz=3.3,slow=4.8,SNR=53					
ESDC	Sonseca Array	86.56 347	P		P	11 49 43.3 0.0
ESLA	Sonseca Array	86.56 347	*e*P		P	11 49 43.1 -0.2
	comp=Z,9.1nm,0.9s,mb5.0					
PAB	San Pablo	86.73 348	*e*P		P	11 49 44.2 0.0
	comp=Z,24nm,0.9s,mb5.4					
PAB	San Pablo	86.73 348	*e*P		P	11 49 44.2 0.0
PAB			pmax	pmax		
	comp=Z,24nm,0.9s,mb5.4					
PCBR	Castelo Branco	86.81 350	*e*P		P	11 49 44.7 +0.1
	comp=Z,60nm,1.0s,mb5.8					
KEST	Kesra	87.86 336	P		P	11 49 49.6 -0.1
	comp=Z,7.6nm,0.6s,mb5.1,baz=243,slow=3.3,SNR=13					
KEST			LR	LR		12 34 34.1
	comp=Z,92nm,20.8s,MS4.2,baz=304,slow=39					
KEST	Kesra	87.86 336	P		P	11 49 49.6 -0.1
	comp=Z,23nm,1.0s,mb5.4					
TBI	Tubuai	88.00 134	*e*LR		LR	12 17 50.0
	comp=Z,274nm,23.5s					
TBI			*e*T			13 26 50.9
	comp=Z,9.2nm,0.2s					
EVO	Evora	88.16 350	⇑ *i* P		P	11 49 51.4 +0.3
	comp=Z,39nm,1.1s,mb5.3					
EVO			*e*R			
	comp=Z,106nm,18.8s					
EVOP	Sao Brissos	88.18 350	⇑ *i* P		P	11 49 51.4 +0.3
	comp=Z,39nm,1.1s,mb5.5					
EVOP	Sao Brissos	88.18 350	⇑ *i* P		P	11 49 51.4 +0.3
EVOP			pmax	pmax		
	comp=Z,39nm,1.1s,mb5.5					
PBAR	Barrancos	88.41 349	*e*P		P	11 49 53.9 +1.6
	comp=Z,34nm,1.3s,mb5.4					
PVAQ	Vaqueiros	89.25 350	*e*P		P	11 49 55.7 -0.5
KLBR	Kellerberrin	91.78 215	*e*P		P	11 50 05.9 -1.9
	comp=Z,99nm,1.9s,mb5.8					
NWAO	Narrogin (SRO)	93.18 215	P		P	11 50 12.8 -1.4
	comp=Z,6.6nm,0.8s,mb5.1,baz=18,slow=6.4,SNR=3.3					
NWAO			LR	LR		12 34 47.4
	comp=Z,40nm,18.6s,MS3.9,baz=337,slow=37					
NWAO	Narrogin (SRO)	93.18 215	P		P	11 50 12.8 -1.4
NWAO	Narrogin (SRO)	93.18 215	P		P	11 50 12.8 -1.4
NWAO			pmax	pmax		
	comp=Z,7.0nm,0.8s					
NWAO			MLR	MLR		
	comp=Z,40nm,18.6s					
RKT	Rikitea	94.64 123	*e*LR		LR	12 20 58.5
	comp=Z,256nm,27.2s,baz=321					
RKT			*e*T			13 35 09.0
	comp=Z,1.7nm,0.2s					
TORD	Torodi Ar. Bea	111.38 337	Pdiff	Pdif		11 51 36.1 -0.1
	comp=Z,0.2nm,0.6s,baz=261,slow=3.8,SNR=3.1					
TORD			PKiKP	PKiKP		11 55 33.5 -0.9
	comp=Z,1.2nm,0.5s,baz=1.0,slow=1.5,SNR=9.1					
TORD			PP	PP		11 56 12.1 -2.1
	comp=Z,0.8nm,0.7s,baz=9.4,slow=8.1,SNR=3.7					
TORD			PKKPbc	PKKPbc		12 06 26.6 -0.7
	comp=Z,0.3nm,0.5s,baz=186,slow=4.4,SNR=4.0					
TORD	Torodi Ar. Bea	111.38 337	Pdif	Pdif		11 51 36.1 -0.1
TORD			PKiKP	PKiKP		11 55 33.5 -0.9
TORD			PP	PP		11 56 12.1 -2.1
TORD			PKKPbc	PKKPbc		12 06 26.6 -0.7
DBIC	Dimbokro	119.06 342	PKP	PKPdf		11 55 47.6 -1.6
	comp=Z,8.0nm,0.7s,baz=353,slow=2.0,SNR=14					
DBIC	Dimbokro	119.06 342	PKP	PKPdf		11 55 47.6 -1.6
DBIC	Dimbokro	119.06 342	PKIKP	PKPdf		11 55 47.6 -1.6
DBIC			pmax	pmax		
	comp=Z,8.0nm,0.7s					
LPAZ	La Paz	127.80 64	*e*PKPdf	PKPdf		11 56 05.4 -0.3
LPAZ	La Paz	127.80 64	*e*PKIKP	PKPdf		11 56 05.4 -0.3
VNDA	Vanda	130.30 179	*e*PKPdf	PKPdf		11 56 07.8 -0.9
VNDA	Vanda	130.30 179	*e*PKIKP	PKPdf		11 56 07.8 -0.9
TSUM	Tsumeb	135.22 304	*e*PKPdf	PKPdf		11 56 19.8 +0.1
LBTB	Lobatse	135.66 291	*e*PKPdf	PKPdf		11 56 20.6 +0.2
LBTB	Lobatse	135.66 291	*e*PKIKP	PKPdf		11 56 20.6 +0.2
LCO	Las Campanas	136.31 77	*e*PKPdf	PKPdf		11 56 21.4 -0.1
BOSA	Boshof	138.61 288	PKhKP	PKPpre		11 56 16.5
	comp=Z,1.5nm,0.4s,baz=328,slow=21,SNR=3.8					
BOSA			PKP	PKPdf		11 56 25.3 -0.4
	comp=Z,11nm,0.8s,baz=52,slow=2.4,SNR=12					
BOSA	Boshof	138.61 288	*e*PKPdf	PKPdf		11 56 25.2 -0.5
BOSA	Boshof	138.61 288	PKHKP	PKPpre		11 56 16.5
BOSA						11 56 25.3
BOSA			pmax	pmax		
	comp=Z,2.0nm,0.4s					
BOSA			pmax	pmax		
	comp=Z,11nm,0.8s					
CPUP	Villa Florida	141.75 60	PKhKP	PKPpre		11 56 23.8
	comp=Z,1.3nm,0.6s,baz=315,slow=5.7,SNR=3.5					
CPUP	Villa Florida	141.75 60	PKPpre	PKPpre		11 56 23.8
CPUP	Villa Florida	141.75 60	PKHKP	PKPpre		11 56 23.8
CPUP			pmax	pmax		
	comp=Z,1.0nm,0.6s					
QSPA	South Pole Qui	142.78 180	*e*PKPdf	PKPdf		11 56 26.0 -5.7
PLCA	Paso Flores	144.36 90	PKP	PKPdf		11 56 33.5 -2.1
	comp=Z,20nm,0.8s,baz=304,slow=4.4,SNR=39					
PLCA	Paso Flores	144.36 90	*e*PKPdf	PKPdf		11 56 33.4 -2.2
PLCA	Paso Flores	144.36 90	PKIKP	PKPdf		11 56 33.5 -2.1
PLCA			pmax	pmax		
	comp=Z,20nm,0.8s					
TRQA	Tornquist	147.82 79	*e*PKPbc	PKPbc		11 56 43.5 -1.0
SYO	Syowa Base	148.44 217	‖ *e*PKPdf	PKPdf		11 56 42.4 +0.8
SYO	Syowa Base	148.44 217	‖ *e*PKPab	PKPab		11 56 51.5 +2.8
VNA3	Neumayer Olymp	161.11 191	*e*	PKPab		11 57 40.7 -1.8
VNA2	Neumayer--Watz	161.11 193	*e*	PKPab		11 57 41.3 -1.3
VNA1	Neumayer--Stat	161.48 193	*e*	PKPab		11 57 43.3 -0.9

ISCJB ***03*** *12:21:14.8±0.8, 51°.72N±0°.06×158°.3E±0°.1, h71km±8km, mb3.6/4, Error ellipse: s-maj=14.8km s-min=6.4km az=40.5*
MOS ***03*** *12:21:14.0±0.7, 51°.69N×158°.32E, h70km, mb3.9/1, Error ellipse: s-maj=35.1km s-min=11.3km az=82.3*
KRSC ***03*** *12:21:15.7±0.9, 51°.76N×158°.44E, h50km±39km, ML4.2*
IDC ***03*** *12:21:18.4±5.8, 52°.03N×158°.86E, h56km±60km, mb3.4/4, mb1 3.9/4, mb1mx3.3/24, mbtmp3.4/4, Error ellipse: s-maj=51.3km s-min=44.4km az=121.0*

ISC 03 12:21:15.9±0.8, 51°.71N±0°.06×158°.2E±0°.1, h62km±9km, n27, σ0°90/41, mb3.7/4, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.74	13	*i* P	Pn	12 21 30.0	-0.7
RUS				*i* S	Sn	12 21 40.7	-0.9
RUS	Russkaya	0.74	13	PN	Pn	12 21 30.0	-0.7
RUS				S	Sn	12 21 40.7	-0.9
GRL	Gorelyy	0.85	353	*i* P	Pn	12 21 32.2	+0.2
GRL				*i* S	Sn	12 21 44.5	+0.6
MIPR	Malaya Ipel'ka	1.07	302	*i* P	Pn	12 21 34.8	-0.1
MIPR				*i* S	Sn	12 21 49.0	0.0
PET	Petropavlovsk	1.34	11	*i* P	Pn	12 21 38.2	-0.2
PET				*i* S	Sn	12 21 54.7	-0.6
PET	Petropavlovsk	1.34	11	⇑ *i* PN	Pn	12 21 38.3	-0.1
PET				*e*S	Sn	12 21 55.3	0.0
PET				pmax	pmax		
	comp=Z,144nm,0.2s						
PET				smax			
	comp=N,1μm,0.5s						
PET				smax			
	comp=E,927nm,0.5s						
PETK	Petropavlovsk-	1.44	347	P	Pn	12 21 39.9	+0.2
	comp=E,30nm,0.3s,baz=149,slow=16,SNR=647						
PETK				S	Sn	12 21 56.6	-1.0
	comp=E,37nm,0.3s,baz=142,slow=17,SNR=14						
PETK	Petropavlovsk-	1.44	347	PN	Pn	12 21 39.9	+0.2
PETK				S	Sn	12 21 56.6	-1.0
PETK				pmax	pmax		
	comp=Z,30nm,0.3s						
PETK				smax			
	comp=N,37nm,0.3s						
AVH	Avacha	1.59	11	*i* P	Pn	12 21 42.5	+0.8
AVH				*i* S	Sn	12 22 02.2	+1.0
KOK	Koryaka	1.60	9	*i* P	Pn	12 21 43.1	+1.2
KOK				*i* S	Sn	12 22 02.9	+1.3
NLC	Nalytchevo	1.61	24	*e*P	Pn	12 21 40.7	-1.3
NLC				*i* S	Sn	12 21 58.9	-2.9
NLC	Nalytchevo	1.61	24	PN	Pn	12 21 40.7	-1.3
NLC				S	Sn	12 21 58.9	-2.9
SDLR	Sedlovina	1.62	14	*i* P	Pn	12 21 42.1	0.0
SDLR				*i* S	Sn	12 22 01.2	-0.8
SKR	Severo-Kuril's	1.69	233	*e*PN	Pn	12 21 43.5	+0.5
SKR				*e*S	Sn	12 22 03.1	-0.5
SKR				pmax	pmax		
	comp=E,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax			
	comp=N,820nm,0.4s						
SKR				smax			
	comp=E,490nm,0.4s						
SKR				smax			
	comp=Z,150nm,0.5s						
GNL	Ganaly	2.00	355	*i* P	Pn	12 21 47.8	+0.6
ESO	Esso	4.23	4	*e*P	Pn	12 22 19.1	+1.4
ESO	Esso	4.23	4	PN	Pn	12 22 19.1	+1.4
KBTR	Krutoberegovo	5.25	29	*i* P	Pn	12 22 32.4	+0.7
KBTR	Krutoberegovo	5.25	29	PN	Pn	12 22 32.4	+0.7
ERM	Erimo	14.13	233	*e*P	Pn	12 24 41.3	+8.6
ERM				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK	Yakutsk	18.55	315	*e*P	Pn	12 25 26.9	-1.1
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ILAR	Eielson Array	30.60	44	P	P	12 27 21.8	-1.6
	comp=Z,0.7nm,0.7s,mb3.6,baz=261,slow=6.8,SNR=12						
ILAR	Eielson Array	30.60	44	P	P	12 27 21.8	-1.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	Mina Array Bea	57.30	68	P	P	12 30 57.9	+0.9
	comp=Z,0.4nm,0.7s,mb3.6,baz=308,slow=7.9,SNR=3.6						
PDAR	Pinedale Array	59.20	59	P	P	12 31 10.8	+0.5
	comp=Z,1.0nm,0.7s,mb4.0,baz=312,slow=3.5,SNR=11						
TXAR	Lajitas Array	72.24	65	P	P	12 32 33.9	-0.4
	comp=Z,0.4nm,0.5s,mb3.6,baz=299,slow=4.8,SNR=8.4						
TXAR	Lajitas Array	72.24	65	P	P	12 32 33.9	-0.4

IDC ***03*** *12:21:40.7±1.9, 2°.94N×96°.81E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=80.9km s-min=20.3km az=57.0*
ISCJB ***03*** *12:21:41.7±0.8, 2°.97N±0°.06×97°.03E±0°.05, h10km, mb3.9/9, Error ellipse: s-maj=9.4km s-min=6.4km az=12.1*
DJA ***03*** *12:21:46, 3°.30N×97°.14E, h6km, MLv4.2/9*
NEIC ***03*** *12:21:46.1±1.0, 3°.04N×96°.99E, h35km, mb4.0/3, Error ellipse: s-maj=21.5km s-min=13.9km az=49.0*
NEIC Felt [III] at Tapaktuan.

ISC 03 12:21:43.0±0.7, 2°.96N±0°.06×97°.00E±0°.05, h10km, n29, σ1°20/32, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		0.35	32	P	Pg	12 21 48.9	-1.1
TSI	Tuntungan	1.66	71	P	Pn	12 22 12.2	0.0
TSI				S	Sn	12 22 31.9	-1.6
PSI	Prapat	1.93	95	P	Pn	12 22 18.0	+2.0
LHMI	Lhok Sumawe	2.25	359	P	Pn	12 22 20.2	-0.2
BSI	Banda Aceh	3.04	326	P	Pn	12 22 32.5	+1.3
BSI				S	Sn	12 23 08.5	+0.9
MNSI	Mandailing Nat	3.36	130	P	Pn	12 22 41.7	+6.0
IPM	Ipoh	4.30	69	*e*Pn	Pn	12 22 49.6	+1.1
KULM	Kulim	4.32	57	*e*Pn	Pn	12 22 48.2	-0.6
KULM				*e*Sg	Sg	12 24 03.1	+1.3
KULM	Kulim	4.32	57	P	Pn	12 22 47.9	-0.9
PDSI	Padang	5.18	138	P	Pn	12 23 06.2	+5.5
CM31	Chiang Mai Arr	15.52	7	*e*P	Pn	12 25 27.5	+5.4
	3.9nm,0.7s						
CMAR	Chiang Mai Arr	15.52	7	Pn	Pn	12 25 23.4	+1.3
	0.3nm,0.3s,baz=198,slow=12,SNR=4.9						
CMAR	Chiang Mai Arr	15.52	7	Pn	Pn	12 25 23.4	+1.3
WRA	Warramunga Arr	43.15	123	P	P	12 29 43.9	-0.3
	1.1nm,0.7s,mb3.7,baz=300,slow=9.4,SNR=8.6						
WRA	Warramunga Arr	43.15	123	P	P	12 29 43.9	-0.3
WRAB	Tennant Creek	43.16	123	P	P	12 29 44.0	-0.2
	2.1nm,0.9s,mb3.9						
ASAR	Alice Springs	44.63	128	P	P	12 29 57.2	+1.1
	0.5nm,0.9s,mb3.4,baz=297,slow=7.6,SNR=5.1						
ASAR	Alice Springs	44.63	128	P	P	12 29 57.2	+1.2
SONM	Songino Array	45.43	9	P	P	12 30 01.4	-0.7
	0.6nm,0.7s,mb3.5,baz=190,slow=8.9,SNR=4.8						
SONM	Songino Array	45.43	9	P	P	12 30 01.4	-0.7
ULN	Ulaanbaatar	45.57	9	P	P	12 29 60.0	-3.1
	2.9nm,0.2s,mb4.9						
KURK	Kurchatov	50.05	345	P	P	12 30 34.8	-3.0
	0.5nm,0.4s,mb3.9,baz=160,slow=7.2,SNR=5.2						
KURK	Kurchatov	50.05	345	P	P	12 30 34.8	-3.0
ZALV	Zalesovo Beam	51.80	351	P	P	12 30 49.9	-1.0
	0.8nm,0.4s,mb4.0,baz=177,slow=6.3,SNR=4.1						
ZALV	Zalesovo Beam	51.80	351	P	P	12 30 49.9	-1.0
BVAR	Borovoye Array	54.53	341	P	P	12 31 11.7	+0.6
	0.5nm,0.5s,mb3.8,baz=140,slow=5.4,SNR=2.7						
BVAR	Borovoye Array	54.53	341	P	P	12 31 11.7	+0.6
AKTO	Aktyubinsk	57.59	332	P	P	12 31 31.8	-1.2
	0.9nm,0.5s,mb4.0,baz=55,slow=11,SNR=4.1						
AKTO	Aktyubinsk	57.59	332	P	P	12 31 31.8	-1.2

KRSC 03 12:31:53.4±0.7, 54°.79N×162°.22E, h43km±43km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.46	13	*e*P	Pn	12 32 18.9	+1.7
KBTR				*i* S	Sn	12 32 37.3	+2.1
SMKR	Semkarok	1.85	347	P	Pn	12 32 25.0	+2.5
SMKR				*i* S	Sn	12 32 47.6	+3.0
SRKR	Sorokina	1.96	343	P	Pn	12 32 26.1	+2.0
ESO	Esso	2.31	301	*e*P	Pn	12 32 30.1	+1.2
ESO				*i* S	Sn	12 32 57.5	+1.5
NLC	Nalytchevo	2.35	227	*e*P	Pn	12 32 30.8	+1.4
NLC				*i* S	Sn	12 32 58.6	+1.6
SDLR	Sedlovina	2.48	234	*i* P	Pn	12 32 33.7	+2.4
SDLR				*e*S	Sn	12 33 02.8	+2.5
AVH	Avacha	2.56	235	*i* P	Pn	12 32 35.1	+2.8
AVH				*i* S	Sn	12 33 04.9	+2.7
KOK	Koryaka	2.59	236	*i* P	Pn	12 32 35.5	+2.8
GNL	Ganaly	2.74	248	*i* P	Pn	12 32 37.3	+2.5
PET	Petropavlovsk	2.75	231	*i* P	Pn	12 32 37.6	+2.6
PET				*i* S	Sn	12 33 09.2	+2.3
RUS	Russkaya	3.23	225	P	Pn	12 32 43.3	+1.8
MIPR	Malaya Ipel'ka	4.12	235	P	Pn	12 32 58.0	+4.3

IDC ***03*** *12:42:54.4±2.6, 14°.64S×166°.35E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.8/1, MS3.4/3, Ms1 3.4/3, ms1mx2.6/27, Error ellipse: s-maj=106.9km s-min=29.0km az=141.0*
NEIC ***03*** *12:42:58.7±1.0, 14°.94S×166°.54E, h35km, mb4.4/1, Error ellipse: s-maj=18.9km s-min=16.1km az=78.0*
ISCJB ***03*** *12:43:01.0±5.1, 15°.3S±0°.2×166°.6E±0°.2, h74km±50km, mb3.8/6, Error ellipse: s-maj=34.3km s-min=29.4km az=157.0*

ISC 03 12:43:00.4±4.1, 15°.1S±0°.2×166°.5E±0°.2, h49km±40km, n15, σ0°77/16, mb3.9/6, MS3.3/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.90	181	*e*Pn	Pn	12 44 40.0	+1.0
DZM				*e*Sn	Sn	12 45 55.3	-0.9
CTA	Charters Tower	19.94	253	P	Pn	12 47 29.4	-1.0
	0.2nm,0.3s,baz=68,slow=15,SNR=5.1						
CTA				LR	LR	12 54 14.8	
	comp=Z,90nm,18.3s,baz=55,slow=34						
CTA	Charters Tower	19.94	253	P	Pn	12 47 29.4	-1.0
STKA	Stephens Creek	28.19	229	P	P	12 48 50.0	+1.6
	1.0nm,0.8s,mb3.5,baz=51,slow=6.5,SNR=2.8						
STKA	Stephens Creek	28.19	229	P	P	12 48 50.0	+1.6
WRAB	Tennant Creek	31.03	256	*e*P	P	12 49 13.8	+0.1
	11nm,1.6s,mb4.4						
WRA	Warramunga Arr	31.04	256	P	P	12 49 13.5	-0.2
	0.4nm,0.5s,mb3.5,baz=82,slow=6.9,SNR=12						
WRA				LR	LR	13 00 29.0	
	comp=Z,59nm,21.0s,MS3.2,baz=95,slow=34						
WRA	Warramunga Arr	31.04	256	P	P	12 49 13.5	-0.2
AS31	Alice Springs	31.86	249	*e*P	P	12 49 21.0	0.0
ASAR	Alice Springs	31.86	249	P	P	12 49 20.9	-0.2
	1.2nm,0.7s,mb3.9,baz=72,slow=9.7,SNR=25						
ASAR	Alice Springs	31.86	249	P	P	12 49 20.9	-0.2
FITZ	Fitzroy Crossi	39.24	260	P	P	12 50 24.6	+0.3
	2.4nm,0.9s,mb3.9,baz=76,slow=8.3,SNR=4.8						
FITZ				LR	LR	13 06 38.9	
	comp=Z,50nm,19.1s,MS3.4,baz=144,slow=36						
FITZ	Fitzroy Crossi	39.24	260	P	P	12 50 24.6	+0.3
ILAR	Eielson Array	87.13	18	P	P	12 55 39.9	-0.7
	0.8nm,0.8s,mb4.0,baz=234,slow=6.2,SNR=8.3						
ILAR	Eielson Array	87.13	18	P	P	12 55 39.9	-0.7

IDC ***03*** *13:34:16.7±2.8, 7°.74S×74°.44W, h129km±27km, mb3.3/7, mb1 3.6/9, mb1mx3.5/19, mbtmp3.3/9, Error ellipse: s-maj=37.2km s-min=18.2km az=35.0*
NEIC ***03*** *13:34:17.4±1.2, 7°.87S×74°.48W, h139km±13km, mb4.2/1, Error ellipse: s-maj=20.8km s-min=9.5km az=222.0*
ISCJB ***03*** *13:34:18.3±1.6, 8°.0S±0°.1×74°.7W±0°.1, h167km±18km, mb3.4/7, Error ellipse: s-maj=25.8km s-min=11.1km az=139.3*

ISC 03 13:34:19.0±1.6, 8°.0S±0°.1×74°.6W±0°.1, h157km±19km, n23, σ0°58/25, mb3.4/7, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.84	283	P	Pn	13 35 17.7	+0.3
	1.5nm,0.3s,baz=56,slow=8.1,SNR=9.6						
ATAH				S	Sn	13 36 02.1	-0.6
	12nm,0.3s,baz=261,slow=22,SNR=7.2						
ATAH	Atahualpa	3.84	283	P	Pn	13 35 17.7	+0.3
ATAH				S	Sn	13 36 02.1	-0.6
NNA	Nana	4.54	209	P	Pn	13 35 28.1	+1.7
	6.5nm,0.3s,baz=19,slow=5.7,SNR=9.7						
NNA				S	Sn	13 36 18.7	-0.4
	44nm,0.3s,baz=177,slow=17,SNR=20						
NNA	Nana	4.54	209	*e*Pn	Pn	13 35 26.4	-0.1
NNA				S	Sn	13 36 18.7	-0.4
LPAZ	La Paz	10.40	143	*e*Pn	Pn	13 36 44.4	+0.2
TXAR	Lajitas Array	46.47	324	P	P	13 42 31.6	+1.1
	0.3nm,0.6s,mb3.1,baz=150,slow=7.5,SNR=4.4						
TXAR			PcP	PcP		13 44 03.0	+0.6
	0.1nm,0.5s,baz=123,slow=4.4,SNR=3.1						
TXAR				S	S	13 49 16.5	+10
	0.5nm,0.5s,baz=87,slow=32,SNR=6.9						
TXAR	Lajitas Array	46.47	324	P	P	13 42 31.6	+1.1
TXAR			PcP	PcP		13 44 03.0	+0.6
TXAR				S	S	13 49 16.5	+10
PDAR	Pinedale Array	59.71	331	P	P	13 44 07.0	0.0
	0.2nm,0.6s,mb3.2,baz=90,slow=1.8,SNR=3.2						
PDAR			PcP	PcP		13 44 52.6	+0.3
	0.3nm,0.4s,baz=110,slow=6.2,SNR=5.9						
PDAR	Pinedale Array	59.71	331	P	P	13 44 07.0	0.0
PDAR			PcP	PcP		13 44 52.6	+0.3
NVAR	Mina Array Bea	61.51

THZ	Tophouse	19.88 201	ePN	P		13 58 26.7	0.0
RPZ	Rata Peaks	22.24 202	P	P		13 58 51.1	+0.2
5.4nm,0.5s,mb4.3,baz=236,slow=21,SNR=6.0							
RPZ	Rata Peaks	22.24 202	P	P		13 58 51.0	+0.2
CTA	Charters Tower	33.45 269	P	P		14 00 31.4	+0.5
3.1nm,0.4s,mb4.2,baz=94,slow=8.6,SNR=6.4							
CTA	Charters Tower	33.45 269	P	P		14 00 31.4	+0.5
CTAO	Charters Tower	33.45 269	eP	P		14 00 32.7	+1.8
2.3nm,0.5s,mb4.0							
STKA	Stephens Creek	36.74 248	P	P		14 00 58.9	+0.1
1.1nm,0.5s,mb3.7,baz=94,slow=11,SNR=9.2							
STKA	Stephens Creek	36.74 248	P	P		14 00 58.9	+0.1
ASAR	Alice Springs	44.06 260	P	P		14 01 58.6	-0.2
0.5nm,0.5s,mb3.1,baz=102,slow=7.3,SNR=8.5							
ASAR	Alice Springs	44.06 260	P	P		14 01 58.6	-0.2
WB2	Warramunga Arr	44.40 265	eP	P		14 02 01.6	-0.1
WRAB	Tennant Creek	44.40 265	eP	P		14 02 01.5	-0.2
0.6nm,0.3s,mb3.4							
WRA	Warramunga Arr	44.41 265	P	P		14 02 01.6	-0.1
0.8nm,0.4s,mb3.4,baz=96,slow=8.5,SNR=31							
WRA			ScP	ScP		14 07 08.3	-5.9
0.4nm,0.7s,baz=96,slow=3.9,SNR=5.4							
WRA	Warramunga Arr	44.41 265	P	P		14 02 01.6	-0.1
WRA			ScP	ScP		14 07 08.3	-5.9
FITZ	Fitzroy Crossi	52.83 264	P	P		14 03 05.8	-0.1
0.5nm,0.4s,mb3.3,baz=92,slow=6.4,SNR=5.0							
FITZ	Fitzroy Crossi	52.83 264	P	P		14 03 05.8	-0.1
NVAR	Mina Array Bea	83.03 43	P	P		14 06 13.9	+0.5
1.2nm,0.8s,mb3.7,baz=226,slow=8.1,SNR=7.5							
NVAR	Mina Array Bea	83.03 43	P	P		14 06 13.9	+0.5
TXAR	Lajitas Array	88.50 57	P	P		14 06 41.0	+0.5
0.7nm,0.8s,mb3.5,baz=218,slow=5.9,SNR=6.7							
TXAR	Lajitas Array	88.50 57	P	P		14 06 41.0	+0.5
PDAR	Pinedale Array	90.97 43	P	P		14 06 51.6	0.0
0.9nm,0.9s,mb3.7,baz=177,slow=3.0,SNR=6.0							
PDAR	Pinedale Array	90.97 43	P	P		14 06 51.6	0.0
ILAR	Eielson Array	91.09 13	P	P		14 06 50.5	-1.1
0.2nm,0.5s,mb3.3,baz=220,slow=5.8,SNR=9.2							
ILAR	Eielson Array	91.09 13	P	P		14 06 50.5	-1.1

ISCJB ***03*** *14:16:26.9±0.5, 40°.61N±0°.04×30°.34E±0°.04, h13km±4km, Error ellipse: s-maj=6.3km s-min=4.9km az=163.1*
ISK ***03*** *14:16:26.5, 40°.59N×30°.36E, h14km, MD2.5*
CSEM ***03*** *14:16:26.9±0.2, 40°.61N×30°.35E, h15km, MD2.5, Error ellipse: s-maj=4.5km s-min=3.5km az=170.0*

ISC 03 14:16:27.1±0.6, 40°.62N±0°.04×30°.34E±0°.04, h14km±4km, n28, σ0°70/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	Sapanca-Adapaz	0.07	339	ePG	Pg	14 16 30.0	-0.1
SPNC				eSG	Sg	14 16 32.9	+0.8
SPNC	Sapanca-Adapaz	0.07	339	ePg	Pg	14 16 30.0	-0.1
SPNC				eSg	Sg	14 16 32.9	+0.8
GULT	Gulveren	0.23	145	ePG	Pg	14 16 31.6	-0.5
GULT				eSG	Sg	14 16 35.4	-0.2
GULT	Gulveren	0.23	145	ePg	Pg	14 16 31.6	-0.6
GULT				eSg	Sg	14 16 35.4	-0.2
GPA	Golpazari	0.33	184	ePG	Pg	14 16 32.9	-1.0
GPA	Golpazari	0.33	184	ePg	Pg	14 16 32.9	-1.0
HENT	Hendek	0.47	64	i P	Pg	14 16 35.9	-0.6
HENT	Hendek	0.47	64	i P	Pg	14 16 35.8	-0.7
HENT				i S	Sg	14 16 43.3	+0.5
ADVT	Abdulvahap	0.50	248	ePG	Pg	14 16 36.1	-0.8
ADVT	Abdulvahap	0.50	248	ePg	Pg	14 16 36.2	-0.8
CAVI	Cavuskoy	0.56	223	ePG	Pg	14 16 38.2	0.0
CAVI				eSG	Sg	14 16 46.6	+0.8
CAVI	Cavuskoy	0.56	223	ePg	Pg	14 16 38.2	0.0
CAVI				eSg	Sg	14 16 46.6	+0.9
MDUB	Mudurnu	0.67	102	ePG	Pg	14 16 39.6	-0.6
MDUB				eSG	Sg	14 16 49.0	0.0
MDUB	Mudurnu	0.67	102	ePg	Pg	14 16 39.6	-0.6
MDUB				eSg	Sg	14 16 49.1	+0.1
YLV	Yalova	0.74	266	ePG	Pg	14 16 41.0	-0.6
YLV	Yalova	0.74	266	ePg	Pg	14 16 41.0	-0.5
BORA	Eskisehir	0.74	173	i P	Pg	14 16 41.4	-0.2
BORA	Eskisehir	0.74	173	i P	Pg	14 16 41.4	-0.2
BORA				i S	Sg	14 16 53.0	+1.7
ESKT	Eskisehir	1.16	160	ePN	Pn	14 16 49.0	+0.1
ESKT	Eskisehir	1.16	160	ePn	Pn	14 16 49.1	+0.2
SGKT	Sivrigoynuk	1.31	91	i P	Pn	14 16 52.1	+1.3
SGKT	Sivrigoynuk	1.31	91	i P	Pn	14 16 52.2	+1.3
SVRH	Sivrihisar-ESK	1.48	142	ePN	Pn	14 16 52.5	-0.8
SVRH	Sivrihisar-ESK	1.48	142	ePn	Pn	14 16 52.5	-0.8
CTKS	Kestanelik-??a	1.52	295	ePN	Pn	14 16 54.4	+0.5
CTKS	Kestanelik-??a	1.52	295	ePn	Pn	14 16 54.4	+0.5
ALT	Altintas	1.57	187	ePN	Pn	14 16 54.2	-0.4
ALT	Altintas	1.57	187	ePn	Pn	14 16 54.2	-0.3

GUC 03 14:21:05.6±0.7, 31°.34S×67°.61W, h144km±58km, ML4.6, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	2.87	241	eP	Pn	14 21 52.9	+1.9
CMCH	Combarbala	2.91	272⇓	eP	Pn	14 21 52.1	+0.5
CMCH				eS	Sn	14 22 28.1	+1.0
CMCH				AML	AML	14 22 31.7	
comp=E,10μm,0.5s							
TLL	Tololo Astrono	2.99	292⇑	eP	Pn	14 21 53.9	+1.3
TLL				eS	Sn	14 22 30.3	+1.4
TLL				AML	AML	14 22 37.0	
comp=E,933nm,0.6s							
FCH	Farellones	3.02	228	eP	Pn	14 21 58.3	+5.4
FCH				eS	Sn	14 22 35.2	+5.7
FCH				AML	AML	14 22 41.3	
comp=E,333nm,0.6s							
PEL	Peldehue	3.17	235	eP	Pn	14 21 55.9	+1.1
PEL				eS	Sn	14 22 33.6	+0.6
OVCH	Ovalle	3.17	282	eP	Pn	14 21 55.4	+0.5
OVCH				eS	Sn	14 22 35.8	+2.8
CLCH	Cerro Calan	3.22	230⇑	i P	Pn	14 21 58.2	+2.7
CLCH				AML	AML	14 22 46.6	
comp=N,842nm,0.6s							
ROCH	El Roble	3.32	240⇑	eP	Pn	14 21 58.0	+1.3
ROCH				eS	Sn	14 22 37.8	+1.5
ROCH				AML	AML	14 22 49.1	
comp=N,583nm,0.5s							
PCH	Pirque	3.35	226	eP	Pn	14 21 59.8	+2.6
CHNG	Los Chungos	3.37	260	eP	Pn	14 21 58.0	+0.6
CHNG				eS	Sn	14 22 42.6	+5.1
CHCH	Chadas Angostu	3.65	224	eP	Pn	14 22 04.1	+3.1

CSEM ***03*** *14:48:47.8±0.3, 38°.66N×35°.93E, h2km, MD2.5, Error ellipse: s-maj=6.7km s-min=4.6km az=31.0*
ISCJB ***03*** *14:48:48.3±0.7, 38°.70N±0°.05×35°.94E±0°.05, h10km, Error ellipse: s-maj=8.1km s-min=4.7km az=26.3*
ISK ***03*** *14:48:48.6, 38°.70N×35°.86E, h10km, MD2.5*

ISC 03 14:48:48.5±0.9, 38°.67N±0°.06×35°.92E±0°.05, h5km±13km, n13, σ0°92/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	Bunyan	0.20	343	ePG	Pg	14 48 52.1	-0.2
BNN				eSG	Sg	14 48 55.5	+0.6
BNN	Bunyan	0.20	343	ePg	Pg	14 48 52.1	-0.2
BNN				eSg	Sg	14 48 55.5	+0.6
PINB	Pinarbasi	0.38	88	i P	Pg	14 48 58.4	+2.6
PINB	Pinarbasi	0.38	88	i P	Pg	14 48 58.4	+2.6
SARI	SarD1z-Kayseri	0.61	89	ePG	Pg	14 48 59.2	-1.0
SARI				eSG	Sg	14 49 07.2	-0.9
SARI	SarD1z-Kayseri	0.61	89	ePg	Pg	14 48 59.2	-1.0
SARI				eSg	Sg	14 49 07.3	-0.8
AVNT	Avonos	0.84	278	i P	Pg	14 49 03.9	-0.7
AVNT	Avonos	0.84	278	i P	Pg	14 49 03.9	-0.6
AVNT				eS	Sg	14 49 15.2	-0.2
YOZ	Yozgat	1.08	335	ePG	Pg	14 49 09.2	+0.1
YOZ				eSG	Sg	14 49 23.6	+0.4
YOZ	Yozgat	1.08	335	ePg	Pg	14 49 09.2	+0.1
YOZ				eSg	Sg	14 49 23.6	+0.5
KOZT	Kozan	1.19	183	ePN	Pn	14 49 12.8	+1.1
CORM	Corum	1.81	327	ePN	Pn	14 49 19.4	-0.8
CORM	Corum	1.81	327	ePn	Pn	14 49 19.4	-0.9

IDC ***03*** *14:52:20.1±0.9, 18°.41N×145°.72E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.8/8, Error ellipse: s-maj=30.9km s-min=19.0km az=107.0*

ISCJB ***03*** *14:52:23.5±0.8, 18°.4N±0°.1×145°.6E±0°.2, h33km, mb3.8/9, Error ellipse: s-maj=27.3km s-min=14.8km az=7.2*
NEIC ***03*** *14:52:25.5±0.6, 18°.39N×145°.71E, h35km, mb4.1/2, Error ellipse: s-maj=20.1km s-min=11.0km az=98.0*

ISC 03 14:52:25.6±0.8, 18°.4N±0°.1×145°.7E±0°.2, h35km, n18, σ0°52/18, mb3.8/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	39.67	197	eP	P	14 59 54.5	+0.1
1.4nm,0.5s,mb4.0							
WB2	Warramunga Arr	39.68	197	eP	P	14 59 54.7	+0.2
WRA	Warramunga Arr	39.68	197	P	P	14 59 54.7	+0.2
1.2nm,0.5s,mb3.9,baz=17,slow=8.6,SNR=17							
WRA	Warramunga Arr	39.68	197	P	P	14 59 54.7	+0.2
FITZ	Fitzroy Crossi	41.27	210	P	P	15 00 07.0	-0.6
1.3nm,0.8s,mb3.6,baz=292,slow=6.5,SNR=12							
FITZ	Fitzroy Crossi	41.27	210	P	P	15 00 07.0	-0.6
ASAR	Alice Springs	43.35	196	P	P	15 00 24.2	-0.3
0.2nm,0.5s,mb3.1,baz=14,slow=14,SNR=9.8							
ASAR	Alice Springs	43.35	196	P	P	15 00 24.2	-0.3
CMAR	Chiang Mai Arr	44.24	278	P	P	15 00 32.9	+0.9
2.0nm,0.8s,mb3.9,baz=68,slow=6.5,SNR=16							
CMAR	Chiang Mai Arr	44.24	278	P	P	15 00 32.9	+0.9
MKAR	Makanchi Array	58.66	314	P	P	15 02 19.6	+0.1
0.7nm,0.9s,mb3.7,baz=75,slow=8.5,SNR=3.3							
MKAR	Makanchi Array	58.66	314	P	P	15 02 19.6	+0.1
KURK	Kurchatov	61.49	318	P	P	15 02 37.5	-1.3
0.5nm,0.5s,mb3.9,baz=91,slow=7.3,SNR=4.0							
KURK	Kurchatov	61.49	318	eP	P	15 02 38.0	-0.7
0.9nm,0.5s,mb4.2							
ILAR	Eielson Array	63.93	26	P	P	15 02 54.6	-0.2
0.7nm,0.8s,mb3.8,baz=251,slow=5.4,SNR=10							
ILAR	Eielson Array	63.93	26	P	P	15 02 54.6	-0.2
NVAR	Mina Array Bea	83.34	52	P	P	15 04 49.8	+0.5
1.1nm,0.7s,mb4.0,baz=269,slow=6.2,SNR=8.1							
NVAR	Mina Array Bea	83.34	52	P	P	15 04 49.8	+0.5

NEIC ***03*** *14:55:17.9, 16°.93N×94°.85W, h124km, MD3.7(MEX), After MEX.*

MEX 03 14:55:18.3±1.0, 16°.90N×94°.84W, h120km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.20	347	eP	Pn	14 55 33.4	-1.6
CMIG				i S	Sn	14 55 45.5	-2.0
CMIG	Matias Romero	0.20	347	eP	Pn	14 55 33.4	-1.6
CMIG				i S	Sn	14 55 45.5	-2.0
TGIG		1.65	94	i P	Pn	14 55 47.0	-0.5
TGIG				i S	Sn	14 56 07.4	-2.3
TGIG		1.65	94	i P	Pn	14 55 47.0	-0.5
TGIG				i S	Sn	14 56 07.4	-2.3
HUIG	Huatulco	1.66	228	i P	Pn	14 55 45.4	-2.2
HUIG				i S	Sn	14 56 08.8	-1.2
HUIG	Huatulco	1.66	228	i P	Pn	14 55 45.4	-2.2
HUIG				i S	Sn	14 56 08.8	-1.2
VHO	Vista Hermosa	1.82	276	eP	Pn	14 55 49.3	-0.3
VHO				i S	Sn	14 56 13.1	-0.4
VHO	Vista Hermosa	1.82	276	eP	Pn	14 55 49.3	-0.3
VHO				i S	Sn	14 56 13.1	-0.4
PCIG		1.96	127	i P	Pn	14 55 51.1	-0.2
PCIG				i S	Sn	14 56 15.0	-1.4
PCIG		1.96	127	i P	Pn	14 55 51.1	-0.2
PCIG				i S	Sn	14 56 15.0	-1.4
UTMO	Huajuapan	2.98	289	i P	Pn	14 56 03.4	-1.0
UTMO				i S	Sn	14 56 37.2	-2.6
UTMO	Huajuapan	2.98	289	i P	Pn	14 56 03.4	-1.0
UTMO				i S	Sn	14 56 37.2	-2.6
PNIG	Pinotepa	3.19	261	i P	Pn	14 56 05.3	-1.9
PNIG				i S	Sn	14 56 42.0	-2.8
PNIG	Pinotepa	3.19	261	i P	Pn	14 56 05.3	-1.9
PNIG				i S	Sn	14 56 42.0	-2.8

ISCJB ***03*** *15:16:39.2±0.7, 11°.05N±0°.03×61°.56W±0°.04, h81km±8km, Error ellipse: s-maj=6.6km s-min=5.1km az=22.7*
FUNV ***03*** *15:16:40.5, 11°.08N×61°.45W, h33km, MW3.0*
TRN ***03*** *15:16:41.8, 11°.12N×61°.50W, h61km, MD2.7*

ISC 03 15:16:40.3±0.7, 11°.06N±0°.03×61°.56W±0°.04, h73km±9km, n18, σ0°78/29, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.43	160⇑	i P	Pn	15 16 54.0	+1.2
TRN				eS	Sn	15 17 01.9	0.0
TBH	Brigand Hill	0.74	140	eP	Pn	15 16 57.8	+1.9
GUIV	Guiria	0.77	238	eP	Pn	15 16 56.2	0.0
GUIV				eS	Sn	15 17 07.6	-0.4
TPR	Prospect	0.77	80	eP	Pn	15 16 57.3	+1.1
TPR				eS	Sn	15 17 07.2	-0.8
TOSP	Speyside	1.03	76	eP	Pn	15 16 59.3	+0.1
TOSP				eS	Sn	15 17 12.3	-1.2
GRW	Mount Saint Ca	1.10	355⇓	eP	Pn	15 17 00.8	+0.6
GRW				eS	Sn	15 17 14.9	-0.1
GRHS	Sauteurs	1.16	356	eP	Pn	15 17 00.9	0.0
GRHS				eS	Sn	15 17 15.4	-1.0
GRSS	Sisters	1.23	357	eP	Pn	15 17 01.9	0.0
GRSS				eS	Sn	15 17 18.2	+0.1
GUNV	Guanoco	1.63	237	eP	Pn	15 17 08.2	+1.1
GUNV				eS	Sn	15 17 27.9	+0.6
CRUV	Carupano	1.69	257	eP	Pn	15 17 07.7	-0.2
CRUV				eS	Sn	15 17 28.6	-0.3
SVB	Belmont	2.22	8	eP	Pn	15 17 15.2	+0.2
ORIV	Oritupano	2.69	223	eP	Pn	15 17 22.4	+1.1
RIOV	Rio Grande	2.98	185	eP	Pn	15 17 25.2	-0.1
RIOV				eS	Sn	15 17 58.0	-2.0
IBAV	Isla La Blanqu	3.06	285	eP	Pn	15 17 26.7	+0.3
GURV	El Guri	3.61	205	eP	Pn	15 17 33.4	-0.5
CUPV	Cœpira	4.28	257	eP	Pn	15 17 43.4	+0.3
CUPV				eS	Sn	15 18 30.8	-0.9
LUEV	Luepa	5.18	179	eP	Pn	15 17 55.0	-0.4
BAUV	El Baul	6.73	252	eP	Pn	15 18 15.9	-0.6

IDC ***03*** *15:27:54.0±9.4, 3°.19N×126°.40E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=156.0km s-min=96.3km az=143.0*
ISCJB ***03*** *15:28:10.9±0.8, 2°.60N±0°.06×126°.03E±0°.07, h132km±7km, mb3.8/3, Error ellipse: s-maj=12.7km s-min=8.4km az=139.2*
DJA ***03*** *15:28:13, 2°.55N×126°.03E, h97km, MLv4.2/8*

ISC 03 15:28:11.9±0.8, 2°.61N±0°.06×126°.03E±0°.07, h127km±7km, n13, σ0°64/17, mb3.8/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.18	335	P	Pn	15 28 36.4	0.0
SGSI				S	Sn	15 28 54.7	-0.3
MNI	Manado	1.65	226	P	Pn	15 28 41.1	-0.5
MNI				S	Sn	15 29 03.2	-1.1
TNTI	Ternate	2.26	144	P	Pn	15 28 49.4	+0.4
TNTI				S	Sn	15 29 17.8	+0.3
KMSI	Cibinong	2.87	225	P	Pn	15 28 57.3	+0.5
LBMI	Labuha	3.54	155	P	Pn	15 29 06.1	+0.5
LBMI				S	Sn	15 29 46.6	-0.6
GTOI	Gorontalo	3.59	237	P	Pn	15 29 06.3	0.0
MRSI	Marisa	4.60	243	P	Pn	15 29 20.1	+0.5
LUWI	Luwuk	4.87	222	P	Pn	15 29 25.2	+1.9
AAI	Ambon	6.62	161	P	Pn	15 29 46.8	0.0
3μm172nm,0.7s							
FITZ	Fitzroy Crossi	20.58	181	P	P	15 32 40.0	-0.9
1.3nm,0.5s,baz=18,slow=11,SNR=5.5							
WRA	Warramunga Arr	23.85	160	P	P	15 33 13.1	-0.5
5.3nm,0.7s,mb4.0,baz=343,slow=10,SNR=63							
ASAR	Alice Springs	27.22	164	P	P	15 33 43.8	-0.2
0.3nm,0.4s,mb3.1,baz=344,slow=7.0,SNR=16							
STKA	Stephens Creek	37.34	158	P	P	15 35 12.4	+0.2
1.8nm,0.6s,mb4.2,baz=330,slow=9.7,SNR=8.3							

JMA ***03*** *15:53:45.7±0.3, 23°.74N×122°.50E, h32km, M2.8*
ISCJB ***03*** *15:53:46.1±0.3, 23°.72N±0°.02×122°.46E±0°.02, h33km, Error ellipse: s-maj=3.3km s-min=2.2km az=152.7*
TAP ***03*** *15:53:47.3, 23°.72N×122°.38E, h29km, ML3.1, D*

ISC 03 15:53:46.6±0.3, 23°.73N±0°.02×122°.47E±0°.02, h35km, n47, σ0°72/82, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.87	294	eP	Pn	15 54 02.2	-0.2
baz=297							
TWD				S	Sn	15 54 12.9	-0.9
baz=297							
YOJ	Yonaguni jima	0.89	34	P	Pn	15 54 01.5	-1.1
YOJ				S	Sn	15 54 12.5	-1.7
ESL	Shilin	0.95	275	eP	Pn	15 54 02.7	-0.7
baz=276							
ESL				eS	Sn	15 54 14.8	-1.0
baz=276							
ENA	Nanau	0.96	317	eP	Pn	15 54 03.7	+0.1
baz=320							
ENA				eS	Sn	15 54 16.4	+0.3
baz=320							
TWC	Suao	1.04	327	P	Pn	15 54 05.2	+0.5
baz=331							
TWC				eS	Sn	15 54 17.7	-0.4
baz=331							
EHY	Hungye	1.07	258	P	Pn	15 54 05.2	+0.1
baz=257							
EHY				eS	Sn	15 54 18.9	+0.1
baz=257							
TWF1	Yuli	1.14	251	P	Pn	15 54 06.0	0.0
baz=249							
TWF1				eS	Sn	15 54 20.2	-0.1
baz=249							
WHF	Hehuan Shan	1.17	291	P	Pn	15 54 06.6	0.0
baz=292							
WHF				eS	Sn	15 54 20.4	-0.9
baz=292							
CHKT	Chengkung	1.19	238	P	Pn	15 54 06.4	-0.3
baz=236							
CHKT				S	Sn	15 54 20.9	-0.7
baz=236							
NNS	Nan Shan	1.22	306	P	Pn	15 54 07.8	+0.6
baz=308							
NNS				eS	Sn	15 54 21.5	-1.0
baz=308							
ENTT	Nioudou	1.23	318	P	Pn	15 54 07.8	+0.6
baz=321							
ENTT				eS	Sn	15 54 22.6	0.0
baz=321							
TWE	Neicheng	1.23	324	P	Pn	15 54 07.6	+0.3
baz=327							
TWE				eS	Sn	15 54 22.9	+0.2
baz=327							
HATJ	Hateruma jima	1.27	75	P	Pn	15 54 07.1	-0.8
HATJ				eS	Sn	15 54 23.2	-0.5
TWT	Tachien	1.29	294	eS	Sn	15 54 24.0	-0.2
baz=295							
IRIF	Iriomote-Funau	1.30	62	P	Pn	15 54 08.0	-0.4
IRIF				S	Sn	15 54 24.4	-0.2
TWB1	Santiao Chiao	1.35	341	eP	Pn	15 54 10.5	+1.5
baz=344							
TWB1				eS	Sn	15 54 28.1	+2.4
baz=344							
NSK	Sanguang	1.38	313	P	Pn	15 54 09.8	+0.4
baz=315							
NSK				eS	Sn	15 54 26.1	-0.4
baz=315							
YUS	Yu-Shan	1.41	261	eP	Pn	15 54 09.9	+0.1
baz=259							
ELDTW	Lidau	1.43	248	i P	Pn	15 54 10.3	+0.2
baz=246							
ELDTW				eS	Sn	15 54 27.1	-0.7
baz=246							
SMLT	Sun Moon Lake	1.44	276	P	Pn	15 54 10.8	+0.5
baz=276							
SMLT				eS	Sn	15 54 27.1	-0.9
baz=276							
TYC	Yuchr	1.48	277	eP	Pn	15 54 11.1	+0.3
baz=277							
TYC				eS	Sn	15 54 27.8	-1.1
baz=277							
JKRS	Kuro-shima	1.50	70	P	Pn	15 54 10.7	-0.3
JKRS				eS	Sn	15 54 29.4	0.0
ALS	Alishan	1.54	262	eP	Pn	15 54 12.2	+0.7
baz=261							
ALS				eS	Sn	15 54 29.9	-0.4
baz=261							
TTN	Taitung	1.55	232	eP	Pn	15 54 12.2	+0.5
baz=229							
TWG	Pinlang	1.57	235	eP	Pn	15 54 12.2	+0.3
baz=233							
TWG				eS	Sn	15 54 30.8	-0.2
baz=233							
NSTT	Nanjuang	1.61	304	eP	Pn	15 54 12.8	+0.3
baz=305							
NSTT				eS	Sn	15 54 32.0	-0.1
baz=305							
WNT	Mingjian	1.64	276	eP	Pn	15 54 13.7	+0.8
baz=275							
JIJ	Ishigaki jima	1.66	67	P	Pn	15 54 12.4	-0.8
JIJ				S	Sn	15 54 32.0	-1.3
STYT	Tauyuan	1.67	251	P	Pn	15 54 14.2	+0.8
baz=249							
STYT				eS	Sn	15 54 32.7	-0.8
baz=249							
TWQ1	Liyutan	1.67	292	eP	Pn	15 54 15.6	+2.3
baz=293							
TWS1	Kuangyinshan	1.67	325	eP	Pn	15 54 14.7	+1.4
baz=327							
TWS1				eS	Sn	15 54 34.1	+0.6
baz=327							
NSY	Sanyi	1.70	294	eP	Pn	15 54 14.4	+0.6
baz=295							
WGK	Gukeng	1.75	269	eP	Pn	15 54 14.9	+0.5
baz=268							
WGK				eS	Sn	15 54 34.7	-0.8
baz=268							
CHN4	Tsaushan	1.76	258	eP	Pn	15 54 16.3	+1.7
baz=257							
ECL	Taimali	1.79	231	i P	Pn	15 54 15.3	+0.3
baz=229							
ECL				eS	Sn	15 54 36.1	-0.4
baz=229							
CHN1	Nanshi	1.86	253	eP	Pn	15 54 16.0	0.0
baz=252							
CHN1				eS	Sn	15 54 38.0	-0.2
baz=252							
LAY	Lan-yu	1.88	207	eP	Pn	15 54 16.8	+0.5
baz=204							
LAY				eS	Sn	15 54 39.2	+0.4
baz=204							
SSD	Sandimen	1.95	240	eP	Pn	15 54 17.9	+0.7
baz=238							
SSD				eS	Sn	15 54 40.1	-0.4
baz=238							
EAST	Anshuo	2.00	228	eP	Pn	15 54 18.6	+0.6
baz=226							
WTCT	Ta-ch'eng	2.00	274	eS	Sn	15 54 40.7	-1.1
baz=274							
WSF	Szhu	2.06	268	eP	Pn	15 54 19.5	+0.8
baz=267							
WSF				eS	Sn	15 54 42.7	-0.4
baz=267							
SGLT	Jiouru	2.07	242	eP	P

IDC 03 16:17:08.9±1.7, 1°.53N×125°.12E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.6/4, Error ellipse: s-maj=191.2km s-min=23.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.18**	**157**	P	P	16 22 16.9	-0.4
	0.4nm,0.3s,baz=336,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.46**	**162**	P	P	16 22 48.6	+0.9
	0.2nm,0.3s,baz=340,slow=8.4,SNR=11						
STKA	**Stephens Creek**	**36.71**	**156**	P	P	16 24 17.4	-0.5
	1.7nm,0.8s,baz=333,slow=6.8,SNR=5.0						
MKAR	**Makanchi Array**	**58.47**	**327**	P	P	16 27 06.7	0.0
	0.2nm,0.4s,baz=112,slow=7.4,SNR=3.3						

GUC 03 16:31:20.5±1.0, 30°.06S×71°.34W, h69km±5km, ML3.7, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.17**	**28**	⇓*i*P	Pn	16 31 31.2	+0.3
LSCH				*e*S	Sn	16 31 38.4	0.0
TLL	**Tololo Astrono**	**0.47**	**103**	*e*P	Pn	16 31 34.3	+1.4
TLL				*e*S	Sn	16 31 43.8	+1.7
TLL				AML	AML	16 31 44.9	
	comp=E,3μm,0.5s						
OVCH	**Ovalle**	**0.56**	**168**	*e*P	Pn	16 31 34.2	+0.4
OVCH				*e*S	Sn	16 31 44.6	+1.0
CMCH	**Combarbala**	**1.15**	**165**	*e*P	Pn	16 31 41.3	+0.4
CMCH				*i* S	Sn	16 31 56.9	+0.9
CMCH				AML	AML	16 31 58.0	
	comp=E,2μm,0.3s						
LCO	**Las Campanas**	**1.18**	**28**	⇓*i*P	Pn	16 31 41.8	+0.6
LCO				*e*S	Sn	16 31 57.3	+0.6
LCO				AML	AML	16 31 58.9	
	comp=N,894nm,0.3s						
CHNG	**Los Chungos**	**1.82**	**184**	*e*P	Pn	16 31 50.2	+0.4
CHNG				*e*S	Sn	16 32 12.4	+0.5
ROCH	**El Roble**	**2.92**	**175**	⇓*e*P	Pn	16 32 05.7	+1.1
ROCH				*e*S	Sn	16 32 40.0	+1.5
PEL	**Peldehue**	**3.13**	**170**	*e*P	Pn	16 32 08.1	+0.7
PEL				*e*S	Sn	16 32 44.0	+0.5
PEL				AML	AML	16 32 48.6	
	comp=N,298nm,0.2s						
FCH	**Farellones**	**3.38**	**165**	*e*P	Pn	16 32 13.4	+2.6
FCH				AML	AML	16 32 55.5	
	comp=E,230nm,0.2s						
CLCH	**Cerro Calan**	**3.40**	**169**	*e*P	Pn	16 32 12.7	+1.6
CLCH				AML	AML	16 32 54.2	
	comp=E,190nm,0.6s						

*NEIC **03** 16:51:57.5, 17°.06N×94°.79W, h125km, MD3.9(MEX), After MEX.*

MEX 03 16:51:57.4±0.9, 17°.05N×94°.78W, h126km±7km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.11**	**293**	*e*P	Pn	16 52 12.7	-1.8
CMIG				*i* S	Sn	16 52 25.9	-1.6
CMIG	**Matias Romero**	**0.11**	**293**	*e*P	Pn	16 52 12.7	-1.8
CMIG				*i* S	Sn	16 52 25.9	-1.6
TGIG		**1.61**	**99**	*i* P	Pn	16 52 25.5	-0.9
TGIG				*i* S	Sn	16 52 46.6	-2.0
TGIG		**1.61**	**99**	*i* P	Pn	16 52 25.5	-0.9
TGIG				*i* S	Sn	16 52 46.6	-2.0
HUIG	**Huatulco**	**1.80**	**225**	*i* P	Pn	16 52 26.8	-2.0
HUIG				*i* S	Sn	16 52 51.1	-1.6
HUIG	**Huatulco**	**1.80**	**225**	*i* P	Pn	16 52 26.8	-2.0
HUIG				*i* S	Sn	16 52 51.1	-1.6
OXX	**Oaxaca**	**1.86**	**271**	*i* P	Pn	16 52 28.9	-0.6
OXX	**Oaxaca**	**1.86**	**271**	*i* P	Pn	16 52 28.9	-0.6
VHO	**Vista Hermosa**	**1.87**	**271**	*i* P	Pn	16 52 28.6	-1.0
VHO				*i* S	Sn	16 52 53.5	-0.7
VHO	**Vista Hermosa**	**1.87**	**271**	*i* P	Pn	16 52 28.6	-1.0
VHO				*i* S	Sn	16 52 53.5	-0.7
PCIG		**2.00**	**132**	*e*P	Pn	16 52 30.8	-0.5
PCIG				*i* S	Sn	16 52 55.8	-1.3
PCIG		**2.00**	**132**	*e*P	Pn	16 52 30.8	-0.5
PCIG				*i* S	Sn	16 52 55.8	-1.3
CCIG	**Comitan**	**2.64**	**106**	*i* P	Pn	16 52 38.9	-0.4
CCIG				*i* S	Sn	16 53 10.1	-1.4
CCIG	**Comitan**	**2.64**	**106**	*i* P	Pn	16 52 38.9	-0.4
CCIG				*i* S	Sn	16 53 10.1	-1.4
UTMO	**Huajuapan**	**2.99**	**286**	*i* P	Pn	16 52 42.5	-1.3
UTMO				*i* S	Sn	16 53 17.3	-2.3
UTMO	**Huajuapan**	**2.99**	**286**	*i* P	Pn	16 52 42.5	-1.3
UTMO				*i* S	Sn	16 53 17.3	-2.3
PNIG	**Pinotepa**	**3.28**	**259**	*i* P	Pn	16 52 44.2	-3.3
PNIG				*i* S	Sn	16 53 24.1	-2.1
PNIG	**Pinotepa**	**3.28**	**259**	*i* P	Pn	16 52 44.2	-3.3
PNIG				*i* S	Sn	16 53 24.1	-2.1

WEL 03 16:58:54.1±0.4, 38°.88S×178°.07E, h26km±3km, ML4.2/1, Error ellipse: s-maj=4.1km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGZ	**Paritu Road**	**0.15**	**252**	P*	Pb	16 58 58.6	-0.8
PRGZ				S*	Sb	16 59 03.7	+0.7
PRGZ				S*	Sb	16 59 03.7	+0.7
MHGZ	**Mahia Peninsul**	**0.31**	**205**	P*	Pb	16 59 01.6	+0.3
MHGZ				S*	Sb	16 59 06.7	+0.5
KNZ	**Kokohu**	**0.34**	**245**	P*	Pb	16 59 01.4	-0.5
KNZ				S*	Sb	16 59 08.3	+1.1
CNGZ	**Carnagh Statio**	**0.40**	**15**	P*	Pb	16 59 03.2	+0.4
MWZ	**Matawai**	**0.69**	**322**	P*	Pb	16 59 07.0	-0.5
MWZ				S*	Sb	16 59 17.4	+0.8
URZ	**Urewera**	**0.97**	**309**	PN	Pn	16 59 11.5	-0.5
URZ				SN	Sn	16 59 25.1	+0.1

IDC 03 17:12:19.1±3.4, 50°.97N×178°.99E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=96.3km s-min=35.5km az=177.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**22.44**	**39**	P	P	17 17 19.0	0.0
	0.5nm,1.0s,baz=245,slow=8.6,SNR=7.3						
SONM	**Songino Array**	**45.58**	**296**	LR	LR	17 38 51.9	
	comp=Z,26nm,19.8s,baz=211,slow=35						
PDAR	**Pinedale Array**	**47.76**	**71**	P	P	17 20 57.9	+0.3
	0.6nm,0.7s,baz=316,slow=4.1,SNR=5.3						
MKAR	**Makanchi Array**	**59.19**	**307**	P	P	17 22 21.5	+0.1
	0.3nm,0.7s,baz=48,slow=7.4,SNR=4.1						

*IDC **03** 17:15:22.9±53.0, 17°.10S×178°.19E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=954.0km s-min=152.1km az=76.0*
*NOU **03** 17:16:50.2±0.6, 18°.90S×168°.95E, h30km, MD2.8, ML2.8*

ISC 03 17:16:51.2±2.3, 18°.53S±0°.08×167°.9E±0°.3, h35km, n8, σ0°.97/11, mb3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.77**	**200**	*e*P	**Pn**	**17 17 47.7**	**+0.9**
DZM				*e*S	**Sn**	**17 18 29.7**	**-0.3**
DZM				AMP		17 18 47.2	
	comp=Z,168nm,0.0s						
NOUC	**Port Laguerre**	**3.85**	**202**	*e*P	**Pn**	**17 17 48.8**	**+0.9**
NOUC				*e*S	**Sn**	**17 18 33.3**	**+1.4**
NOUC				AMP		17 18 47.0	
	comp=Z,11nm,2.5s						
LASL	**Noumea**	**3.89**	**198**	*e*P	**Pn**	**17 17 48.7**	**+0.2**
PLUM	**Mont Dore**	**3.90**	**197**	*e*P	**Pn**	**17 17 48.0**	**-0.6**
NORM	**Noumea**	**3.90**	**199**	*e*P	**Pn**	**17 17 48.6**	**-0.1**
NORM				*e*S	**Sn**	**17 18 31.9**	**-1.4**
STKA	**Stephens Creek**	**27.14**	**236**	P	**P**	**17 22 29.1**	**-2.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=76,slow=8.3,SNR=3.3						
WRA	**Warramunga Arr**	**31.66**	**262**	P	**P**	**17 23 12.2**	**+0.8**
	comp=Z,0.2nm,0.4s,mb3.3,baz=98,slow=8.4,SNR=5.6						
ASAR	**Alice Springs**	**32.04**	**255**	P	**P**	**17 23 14.8**	**+0.1**
	comp=Z,1.4nm,0.5s,mb4.0,baz=84,slow=8.7,SNR=46						

IDC 03 17:22:07.3±6.2, 5°.59S×111°.01W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.8/4, MS2.6/1, Ms1 2.6/1, ms1mx2.5/29, Error ellipse: s-maj=191.9km s-min=107.7km az=139.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.64**	**27**	LR	LR	17 28 57.9	
	comp=Z,30nm,21.9s,baz=105,slow=30						
TORD	**Torodi Ar. Bea**	**22.49**	**34**	P	P	17 27 08.3	-0.2
	7.8nm,1.1s,baz=218,slow=8.2,SNR=17						
GERES	**GERESS Array B**	**58.35**	**19**	P	P	17 32 05.2	+1.0
	1.2nm,0.8s,baz=207,slow=4.5,SNR=7.0						
BRTR	**Keskin Array B**	**61.02**	**38**	P	P	17 32 23.7	+0.9
	0.5nm,0.6s,baz=215,slow=6.7,SNR=3.2						
AKASG	**Malin Array Be**	**65.89**	**27**	P	P	17 32 53.2	-1.6
	0.3nm,0.4s,baz=233,slow=7.4,SNR=4.4						

*ISCJB **03** 17:26:00.7±0.3, 23°.71N±0°.02×122°.53E±0°.02, h33km, Error ellipse: s-maj=3.3km s-min=2.3km az=153.0*
*JMA **03** 17:26:00.4±0.3, 23°.78N×122°.49E, h40km, M2.7*
*TAP **03** 17:26:01.0, 23°.79N×122°.49E, h36km±1km, ML3.4, C*

ISC 03 17:26:01.2±0.3, 23°.72N±0°.02×122°.54E±0°.02, h35km, n49, σ1°.10/88, 4C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.86**	**30**	P	**Pn**	**17 26 15.9**	**-0.9**
YOJ				*e*S	**Sn**	**17 26 26.9**	**-1.2**
TWD	**Chiawan**	**0.94**	**293**	P	**Pn**	**17 26 16.1**	**-1.8**
TWD	baz=278			S	**Sn**	**17 26 27.2**	**-2.9**
ENA	**Nanau**	**1.02**	**314**	P	**Pn**	**17 26 17.9**	**-1.1**
ENA	baz=312			*e*S	**Sn**	**17 26 30.7**	**-1.3**
ESL	**Shilin**	**1.02**	**276**	P	**Pn**	**17 26 17.1**	**-1.9**
ESL	baz=269			*e*S	**Sn**	**17 26 29.2**	**-2.9**
TWC	**Suao**	**1.09**	**325**	P	**Pn**	**17 26 19.0**	**-1.0**
TWC	baz=324			*e*S	**Sn**	**17 26 32.5**	**-1.4**
EHY	**Hungye**	**1.14**	**260**	⇑*i*P	**Pn**	**17 26 19.7**	**-1.0**
EHY	baz=253			*e*S	**Sn**	**17 26 33.6**	**-1.4**
TWF1	**Yuli**	**1.20**	**253**	⇑*i*P	**Pn**	**17 26 20.6**	**-0.9**
TWF1	baz=238			*e*S	**Sn**	**17 26 36.2**	**-0.3**
HATJ	**Hateruma jima**	**1.21**	**74**	P	**Pn**	**17 26 21.8**	**+0.2**
HATJ				*e*S	**Sn**	**17 26 37.3**	**+0.6**
WHF	**Hehuan Shan**	**1.24**	**290**	P	**Pn**	**17 26 21.2**	**-0.9**
CHKT	**Chengkung**	**1.24**	**241**	P	**Pn**	**17 26 20.6**	**-1.5**
CHKT	baz=225			S	**Sn**	**17 26 35.5**	**-2.2**
IRIF	**Iriomote-Funau**	**1.25**	**60**	P	**Pn**	**17 26 22.3**	**+0.1**
IRIF				*e*S	**Sn**	**17 26 38.8**	**+1.0**
ILA	**Ilan**	**1.27**	**325**	*e*S	**Sn**	**17 26 39.8**	**+1.5**
ENTT	**Nioudou**	**1.28**	**316**	P	**Pn**	**17 26 22.0**	**-0.6**
ENTT	baz=313			*e*S	**Sn**	**17 26 38.4**	**-0.1**
TWE	**Neicheng**	**1.28**	**322**	*i* P	**Pn**	**17 26 22.1**	**-0.5**
TWE	baz=320			*e*S	**Sn**	**17 26 37.6**	**-0.9**
NNS	**Nan Shan**	**1.29**	**304**	P	**Pn**	**17 26 22.1**	**-0.7**
NNS	baz=293			*e*S	**Sn**	**17 26 37.5**	**-1.3**
TWT	**Tachien**	**1.36**	**293**	*e*P	**Pn**	**17 26 25.3**	**+1.6**
TWB1	**Santiao Chiao**	**1.38**	**339**	*e*P	**Pn**	**17 26 23.4**	**-0.6**
TWB1	baz=339			*e*S	**Sn**	**17 26 41.6**	**+0.6**
JKRS	**Kuro-shima**	**1.44**	**69**	P	**Pn**	**17 26 25.3**	**+0.5**
JKRS				*e*S	**Sn**	**17 26 42.7**	**+0.2**
NSK	**Sanguang**	**1.44**	**312**	P	**Pn**	**17 26 24.3**	**-0.5**
NSK	baz=309			*e*S	**Sn**	**17 26 41.1**	**-1.4**
YUS	**Yu-Shan**	**1.48**	**261**	P	**Pn**	**17 26 25.4**	**+0.1**
YUS	baz=255			*e*S	**Sn**	**17 26 43.0**	**-0.4**
ELDTW	**Lidau**	**1.50**	**250**	*i* P	**Pn**	**17 26 24.8**	**-0.8**
ELDTW	baz=232			*e*S	**Sn**	**17 26 43.0**	**-0.9**
SMLT	**Sun Moon Lake**	**1.51**	**277**	*i* P	**Pn**	**17 26 25.5**	**-0.3**
SMLT	baz=271			*e*S	**Sn**	**17 26 44.7**	**+0.4**
TYC	**Yuchr**	**1.55**	**277**	*e*P	**Pn**	**17 26 26.0**	**-0.4**
TYC	baz=272			*e*S	**Sn**	**17 26 45.7**	**+0.4**
JIJ	**Ishigaki jima**	**1.60**	**66**	P	**Pn**	**17 26 26.7**	**-0.3**
JIJ				*e*S	**Sn**	**17 26 46.4**	**-0.1**
ALS	**Alishan**	**1.60**	**263**	⇑*i*P	**Pn**	**17 26 27.6**	**+0.5**
ALS	baz=257			*e*S	**Sn**	**17 26 46.7**	**+0.1**
TWG	**Pinlang**	**1.62**	**237**	⇑*i*P	**Pn**	**17 26 26.6**	**-0.7**
TWG	baz=224			*e*S	**Sn**	**17 26 46.0**	**-1.0**
NSTT	**Nanjuang**	**1.67**	**303**	*e*P	**Pn**	**17 26 28.9**	**+0.9**
NSTT	baz=289			*e*S	**Sn**	**17 26 48.8**	**+0.5**
WNT	**Mingjian**	**1.71**	**276**	*e*P	**Pn**	**17 26 29.8**	**+1.3**
TWS1	**Kuangyinshan**	**1.71**	**324**	*e*P	**Pn**	**17 26 28.4**	**-0.2**
TWS1	baz=321			*e*S	**Sn**	**17 26 49.7**	**+0.4**
STYT	**Tauyuan**	**1.73**	**252**	P	**Pn**	**17 26 29.0**	**+0.2**
STYT	baz=239			*e*S	**Sn**	**17 26 49.7**	**+0.1**
TWQ1	**Liyutan**	**1.73**	**292**	P	**Pn**	**17 26 30.0**	**+1.1**
TWQ1	baz=287			*e*S	**Sn**	**17 26 50.4**	**+0.6**
TCU	**Taichung**	**1.76**	**284**	*e*P	**Pn**	**17 26 30.4**	**+1.2**
TCU	baz=279			*e*S	**Sn**	**17 26 51.4**	**+1.0**
NSY	**Sanyi**	**1.77**	**293**	*e*P	**Pn**	**17 26 30.0**	**+0.7**
NSY	baz=289			*e*S	**Sn**	**17 26 51.4**	**+0.8**
TWY	**Chenhua**	**1.77**	**331**	*e*P	**Pn**	**17 26 30.8**	**+1.4**
WGK	**Gukeng**	**1.81**	**269**	*e*P	**Pn**	**17 26 30.7**	**+0.7**
WGK	baz=264			*e*S	**Sn**	**17 26 52.9**	**+1.2**
CHN4	**Tsaushan**	**1.82**	**259**	*e*P	**Pn**	**17 26 31.4**	**+1.3**
CHN4	baz=247			*e*S	**Sn**	**17 26 54.3**	**+2.3**
ECL	**Taimali**	**1.84**	**233**	P	**Pn**	**17 26 29.4**	**-0.9**
ECL	baz=228			S	**Sn**	**17 26 50.6**	**-1.7**
LAY	**Lan-yu**	**1.90**	**209**	P	**Pn**	**17 26 30.1**	**-1.2**
LAY	baz=205			*e*S	**Sn**	**17 26 52.5**	**-1.4**
CHN1	**Nanshi**	**1.92**	**254**	P	**Pn**	**17 26 32.8**	**+1.3**
CHN1	baz=249			*e*S	**Sn**	**17 26 57.4**	**+2.9**
SSD	**Sandimen**	**2.00**	**242**	P	**Pn**	**17 26 32.8**	**+0.2**
	baz=231						
EAST	**Anshuo**	**2.05**	**230**	P	**Pn**	**17 26 32.9**	**-0.4**
	baz=233						
EAST				*e*S	**Sn**	**17 26 56.6**	**-0.9**
	baz=233						
CHN3	**Shinhua**	**2.10**	**253**	*e*P	**Pn**	**17 26 37.2**	**+3.3**
	baz=260						
WSF	**Szhu**	**2.13**	**268**	*e*P	**Pn**	**17 26 36.0**	**+1.7**
	baz=251						
WSF				*e*S	**Sn**	**17 27 02.0**	**+2.5**
	baz=251						
TWM1	**Shoushan**	**2.14**	**246**	*e*P	**Pn**	**17 26 36.1**	**+1.6**
	baz=242						
CHN8	**Yiju**	**2.17**	**261**	*e*P	**Pn**	**17 26 36.1**	**+1.3**
	baz=255						
CHN8				*e*S	**Sn**	**17 27 02.6**	**+2.1**
	baz=255						
JTJ	**Tarama**	**2.18**	**65**	P	**Pn**	**17 26 35.8**	**+0.8**
SCZT	**Fangliau**	**2.22**	**233**	*e*P	**Pn**	**17 26 36.0**	**+0.4**
	baz=223						
SCZT				*e*S	**Sn**	**17 27 03.7**	**+1.9**
	baz=223						
WDGT	**Dungji**	**2.68**	**261**	*e*P	**Pn**	**17 26 42.5**	**+0.5**
	baz=256						
PNG	**Penghu**	**2.74**	**267**	*e*P	**Pn**	**17 26 43.2**	**+0.4**
	baz=252						
PNG				*e*S	**Sn**	**17 27 15.2**	**+0.5**
	baz=252						

*JMA **03** 17:27:54.4±0.6, 23°.79N×122°.47E, h40km, M2.2*

TAP 03 17:27:54.2, 23°.73N×122°.37E, h18km±1km, ML2.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.79**	**296**	*e*P	Pb	17 28 09.7	+0.3
	baz=296						
TWD				S	Sb	17 28 20.8	+1.1
	baz=296						
ESL	**Shilin**	**0.86**	**276**	*e*P	Pb	17 28 11.1	+0.4
	baz=275						
ESL				*e*S	Sb	17 28 22.7	+0.8
	baz=275						
ENA	**Nanau**	**0.90**	**321**	P	Pb	17 28 11.8	+0.5
	baz=320						
ENA				*e*S	Sb	17 28 24.4	+1.4
	baz=320						
YOJ	**Yonaguni jima**	**0.93**	**39**	P	Pb	17 28 09.8	-2.2
EHY	**Hungye**	**0.98**	**257**	P	Pb	17 28 13.5	+0.7
	baz=256						
EHY				S	Sb	17 28 27.2	+1.8
	baz=256						
TWC	**Suao**	**0.99**	**332**	P	Pb	17 28 13.1	+0.1
	baz=332						
TWC				*e*S	Sb	17 28 26.1	+0.4
	baz=332						
TWF1	**Yuli**	**1.05**	**249**	*i* P	Pb	17 28 14.2	+0.2
	baz=248						
TWF1				S	Sb	17 28 29.3	+1.9
	baz=248						
WHF	**Hehuan Shan**	**1.09**	**292**	*e*P	Pb	17 28 15.4	+0.8
	baz=292						
WHF				*e*S	Sb	17 28 28.3	-0.1
	baz=292						
CHKT	**Chengkung**	**1.12**	**236**	P	Pn	17 28 14.7	-0.4
	baz=235						
CHKT				S	Sb	17 28 29.1	-0.2
	baz=235						
NNS	**Nan Shan**	**1.15**	**308**	P	Pn	17 28 15.8	+0.4
	baz=307						
NNS				*e*S	Sb	17 28 31.1	+0.9
	baz=307						
ENTT	**Nioudou**	**1.16**	**321**	P	Pn	17 28 15.6	-0.1
	baz=321						
ENTT				*e*S	Sb	17 28 32.1	+1.5
	baz=321						
TWE	**Neicheng**	**1.17**	**327**	P	Pn	17 28 16.0	+0.2
	baz=327						
TWE				*e*S	Sb	17 28 31.2	+0.3
	baz=327						
NSK	**Sanguang**	**1.31**	**316**	P	Pn	17 28 18.1	+0.3
	baz=315						
NSK				*e*S	Sn	17 28 34.9	0.0
	baz=315						
SMLT	**Sun Moon Lake**	**1.35**	**277**	*e*P	Pn	17 28 19.8	+1.6
	baz=276						
SMLT				*e*S	Sn	17 28 36.5	+0.7
	baz=276						
ELDTW	**Lidau**	**1.35**	**247**	*i* P	Pn	17 28 18.5	+0.2
	baz=246						
ELDTW				*e*S	Sn	17 28 36.2	+0.4
	baz=246						
HATJ	**Hateruma jima**	**1.35**	**76**	*e*S	Sn	17 28 31.2	-4.7
IRIF	**Iriomote-Funau**	**1.38**	**64**	P	Pn	17 28 16.3	-2.4
IRIF				S	Sn	17 28 32.7	-3.8
TYC	**Yuchr**	**1.39**	**277**	*e*P	Pn	17 28 20.6	+1.8
	baz=277						
TYC				*e*S	Sn	17 28 37.4	+0.6
	baz=277						
ALS	**Alishan**	**1.45**	**262**	P	Pn	17 28 21.3	+1.7
	baz=261						
ALS				*e*S	Sn	17 28 40.4	+2.2
	baz=261						
TWG	**Pinlang**	**1.50**	**233**	P	Pn	17 28 20.4	+0.1
	baz=232						
TWG				S	Sn	17 28 39.4	0.0
	baz=232						
NSTT	**Nanjuang**	**1.54**	**306**	*e*P	Pn	17 28 21.9	+1.2
	baz=305						
NSTT				*e*S	Sn	17 28 41.6	+1.3
	baz=305						
WNT	**Mingjian**	**1.55**	**276**	*e*P	Pn	17 28 23.4	+2.4
	baz=275						
TWQ1	**Liyutan**	**1.58**	**293**	*e*P	Pn	17 28 23.9	+2.5
	baz=292						
TWQ1				*e*S	Sn	17 28 44.1	+2.7
	baz=292						
JKRS	**Kuro-shima**	**1.58**	**71**	P	Pn	17 28 19.7	-1.8
STYT	**Tauyuan**	**1.58**	**249**	*e*P	Pn	17 28 22.7	+1.2
	baz=248						
STYT				*e*S	Sn	17 28 43.3	+1.8
	baz=248						
TWS1	**Kuangyinshan**	**1.61**	**328**	*e*P	Pn	17 28 22.6	+0.8
	baz=327						
TWS1				*e*S	Sn	17 28 43.3	+1.0
	baz=327						
WGK	**Gukeng**	**1.66**	**269**	*e*P	Pn	17 28 23.6	+1.2
	baz=268						
CHN4	**Tsaushan**	**1.67**	**257**	*e*P	Pn	17 28 26.0	+3.4
	baz=256						
ECL	**Taimali**	**1.72**	**229**	P	Pn	17 28 23.2	-0.2
	baz=228						
ECL				*e*S	Sn	17 28 44.2	-0.8
	baz=228						
JIJ	**Ishigaki jima**	**1.74**	**69**	P	Pn	17 28 20.8	-2.8
JIJ				S	Sn	17 28 40.2	-5.2
CHN1	**Nanshi**	**1.77**	**252**	*e*P	Pn	17 28 26.6	+2.5
	baz=252						
SSD	**Sandimen**	**1.87**	**239**	*e*P	Pn	17 28 26.1	+0.7
	baz=238						
EAST	**Anshuo**	**1.94**	**226**	*e*P	Pn	17 28 26.8	+0.4
	baz=225						
SCZT	**Fangliau**	**2.10**	**230**	*e*P	Pn	17 28 30.5	+1.9
	baz=229						
JTJ	**Tarama**	**2.32**	**67**	*e*S	Sn	17 28 56.0	-3.6
PNG	**Penghu**	**2.58**	**267**	*e*P	Pn	17 28 36.2	+1.0
	baz=266						

*IDC **03** 17:30:18.5±39.0, 19°.14S×168°.14E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.2/4, MS3.6/1, Ms1 3.6/1, ms1mx2.5/25, Error ellipse: s-maj=664.2km s-min=102.2km az=78.0*

NEIC 03 17:29:26.0±5.0, 17°.23S×174°.91E, h35km, Error ellipse: s-maj=115.0km s-min=39.5km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.31**	**237**	*e*P	Pn	17 31 37.9	+0.1
	14nm,0.8s						
STKA	**Stephens Creek**	**33.47**	**238**	P	P	17 36 02.0	+0.1
	1.3nm,0.7s,baz=55,slow=8.8,SNR=4.4						
STKA	**Stephens Creek**	**33.47**	**238**	P	P	17 36 02.0	+0.1
WB2	**Warramunga Arr**	**38.47**	**259**	*e*P	P	17 36 45.1	+0.2
WRA	**Warramunga Arr**	**38.48**	**259**	P	P	17 36 45.1	+0.2
	0.6nm,0.4s,baz=92,slow=8.6,SNR=32						

WRA	**Warramunga Arr**	**38.48 259**	P	P	17 36 45.1	+0.2
AS31	**Alice Springs**	**38.85 254**	*e*P	P	17 36 47.9	-0.1
ASAR	**Alice Springs**	**38.85 254**	P	P	17 36 48.0	0.0
	4.9nm,0.5s,baz=82,slow=9.4,SNR=209					
ASAR	**Alice Springs**	**38.85 254**	P	P	17 36 48.0	0.0
FITZ	**Fitzroy Crossi**	**46.84 261**	P	P	17 37 57.3	+4.4
	2.6nm,0.8s,baz=110,slow=9.5,SNR=9.5					
FITZ	**Fitzroy Crossi**	**46.84 261**	P	P	17 37 57.3	+4.4
DAV	**Davao City (W)**	**54.39 292**	LR	LR	17 58 55.2	
	comp=Z,63nm,19.6s,baz=241,slow=35					

IDC 03 17:30:45.9±6.7, 5°59S×11°70W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.8/4, MS3.9/24, Ms1 3.9/24, ms1mx3.8/29, Error ellipse: s-maj=207.8km s-min=107.7km az=144.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**20.68**	**347**	LR	LR	17 42 45.6	
	comp=Z,205nm,19.7s,baz=291,slow=35						
TORD	**Torodi Ar. Bea**	**22.88**	**35**	P	P	17 35 51.3	+0.1
	7.2nm,1.1s,baz=210,slow=8.3,SNR=18						
TORD				LR	LR	17 43 52.8	
	comp=Z,566nm,19.8s,baz=200,slow=34						
MSKU	**Masuku**	**25.55**	**82**	LR	LR	17 43 47.9	
	comp=Z,548nm,21.4s,baz=290,slow=31						
BOSA	**Boshof**	**41.80**	**128**	LR	LR	17 51 25.6	
	comp=Z,134nm,19.9s,baz=88,slow=30						
ESDC	**Sonseca Array**	**45.60**	**8**	LR	LR	17 56 52.3	
	comp=Z,94nm,18.5s,baz=305,slow=34						
KEST	**Kesra**	**45.61**	**24**	LR	LR	17 59 05.2	
	comp=Z,125nm,19.5s,baz=165,slow=37						
CPUP	**Villa Florida**	**48.14**	**239**	LR	LR	17 57 31.5	
	comp=Z,288nm,19.0s,baz=61,slow=33						
EIL	**Elat**	**56.84**	**49**	LR	LR	18 03 32.5	
	comp=Z,120nm,20.8s,baz=251,slow=35						
GERES	**GERESS Array B**	**58.58**	**19**	P	P	17 40 44.4	0.0
	2.3nm,1.0s,baz=202,slow=10,SNR=7.5						
GERES				LR	LR	18 07 26.4	
	comp=Z,145nm,19.4s,baz=103,slow=38						
BRTR	**Keskin Array B**	**61.45**	**39**	P	P	17 41 04.5	+0.2
	0.5nm,0.8s,baz=217,slow=6.3,SNR=4.5						
BRTR				LR	LR	18 09 01.9	
	comp=Z,48nm,21.0s,baz=49,slow=37						
PLCA	**Paso Flores**	**62.99**	**227**	LR	LR	18 04 42.6	
	comp=Z,100nm,19.1s,baz=270,slow=32						
ROSC	**El Rosal**	**63.40**	**278**	LR	LR	18 09 00.5	
	comp=Z,160nm,18.3s,baz=200,slow=36						
VNA2	**Neumayer--Watz**	**65.31**	**178**	*e*	P	17 41 21.2	-8.1
	baz=3.7,slow=8.4						
AKASG	**Malin Array Be**	**66.20**	**27**	P	P	17 41 35.5	+0.1
	0.6nm,0.6s,baz=228,slow=7.2,SNR=5.3						
AKASG				LR	LR	18 13 49.6	
	comp=Z,46nm,18.2s,baz=215,slow=39						
SNAA	**Sanae**	**66.24**	**177**	*e*	P	17 41 20.8	-14
NOA	**NORSAR Array B**	**68.80**	**12**	LR	LR	18 10 32.5	
	comp=Z,37nm,18.3s,baz=180,slow=35						
FINES	**FINESS Array B**	**72.95**	**18**	LR	LR	18 14 10.6	
	comp=Z,64nm,21.8s,baz=289,slow=36						
MAW	**Mawson**	**79.00**	**158**	LR	LR	18 12 56.1	
	comp=Z,61nm,19.4s,baz=151,slow=32						
ARCES	**ARCESS Array B**	**79.15**	**13**	LR	LR	18 15 53.3	
	comp=Z,52nm,19.4s,baz=1.8,slow=34						
QSPA	**South Pole Qui**	**84.51**	**180**	LR	LR	18 13 13.1	
	comp=Z,70nm,20.7s,baz=200,slow=30						
ULM	**Lac du Bonnet**	**90.54**	**320**	LR	LR	18 17 37.1	
	comp=Z,138nm,18.4s,baz=38,slow=31						
TXAR	**Lajitas Array**	**94.42**	**299**	LR	LR	18 22 06.3	
	comp=Z,47nm,18.8s,baz=145,slow=33						
KURK	**Kurchatov**	**94.49**	**40**	LR	LR	18 33 07.6	
	comp=Z,47nm,20.2s,baz=290,slow=40						
MKAR	**Makanchi Array**	**96.77**	**44**	LR	LR	18 33 26.7	
	comp=Z,90nm,18.6s,baz=352,slow=39						
ZALV	**Zalesovo Beam**	**98.33**	**36**	LR	LR	18 27 35.3	
	comp=Z,41nm,21.5s,baz=241,slow=35						
PDAR	**Pinedale Array**	**99.54**	**312**	LR	LR	18 28 29.6	
	comp=Z,54nm,18.3s,baz=80,slow=35						

IDC 03 17:39:28.9±3.3, 31°57S×178°27W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/15, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=71.9km s-min=47.0km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.68**	**208**	Pn	Pn	17 41 21.3	-0.7
	0.4nm,0.3s,baz=14,slow=23,SNR=3.2						
URZ				Sn	Sn	17 42 43.3	-6.4
	0.5nm,0.3s,baz=196,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**42.83**	**268**	P	P	17 47 28.3	-0.4
	0.4nm,0.4s,baz=107,slow=7.2,SNR=24						
WRA	**Warramunga Arr**	**43.92**	**274**	P	P	17 47 38.1	+0.5
	0.7nm,0.6s,baz=113,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**146.15**	**339**	PKPbc	PKPbc	17 59 09.4	-0.8
	8.2nm,1.0s,baz=54,slow=5.5,SNR=3.6						

MAN 03 17:42:48, 12°32N×123°81E, h27km, mb3.9, ML2.7, MS2.3, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.19**	**282**	⇓*i*P	Pb	17 42 51.7	-2.0
MMPH				*i* S	Sb	17 42 55.1	-2.5
CNP	**Cataman**	**0.85**	**77**	*e*P	Pb	17 43 04.1	-0.1
RCP	**Roxas**	**1.29**	**234**	⇓*e*P	Pn	17 43 10.5	+0.3
RCP				*e*S	Sn	17 43 28.3	+1.7
PVCP	**Virac**	**1.31**	**15**	*e*P	Pn	17 43 11.2	+0.6
OCLP	**Ormoc**	**1.48**	**148**	*e*P	Pn	17 43 14.1	+1.2
AUQP	**San Andres**	**1.49**	**312**	*e*P	Pn	17 43 14.4	+1.4
PLP	**Palo**	**1.62**	**135**	⇓*e*P	Pn	17 43 15.0	+0.3
PLP				*e*S	Sn	17 43 37.7	+2.9
OTRP	**Odiongan**	**1.75**	**272**	*e*P	Pn	17 43 17.2	+0.6
GUIM	**Jordan**	**2.06**	**216**	*e*P	Pn	17 43 22.3	+1.4
BOAC	**Boac**	**2.23**	**301**	*e*P	Pn	17 43 23.8	+0.6
MSLP	**Maasin**	**2.40**	**155**	*e*P	Pn	17 43 26.9	+1.3

*IDC **03** 17:46:20.5±1.6, 0°72N×126°68E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=154.3km s-min=23.1km az=65.0*
*DJA **03** 17:46:25, 0°71N×126°18E, h78km, MLv3.7/9*
ISC 03 17:46:26.0±2.9, 0°56N±0°08×126°16E±0°04, h29km±25km, n13, σ0°98/16, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**80**	P	**Pn**	**17 46 47.7**	**+0.5**
TNTI				S	**Sn**	**17 47 03.7**	**+0.9**
MNI	**Manado**	**1.58**	**304**	P	**Pn**	**17 46 51.9**	**-0.2**
MNI				S	**Sn**	**17 47 12.4**	**+0.8**
LBMI	**Labuha**	**1.79**	**132**	P	**Pn**	**17 46 55.8**	**+0.8**
KMSI	**Cibinong**	**2.18**	**270**	P	**Pn**	**17 47 00.0**	**-0.3**
KMSI				S	**Sn**	**17 47 27.5**	**+1.2**
GTOI	**Gorontalo**	**3.15**	**271**	P	**Pn**	**17 47 13.5**	**-0.2**
SGSI	**Sangihe**	**3.17**	**349**	P	**Pn**	**17 47 10.9**	**-3.0**
LUWI	**Luwuk**	**3.74**	**245**	P	**Pn**	**17 47 22.2**	**+0.4**
MRSI	**Marisa**	**4.22**	**269**	P	**Pn**	**17 47 28.1**	**-0.3**
AAI	**Ambon**	**4.68**	**154**	P	**Pn**	**17 47 35.8**	**+1.0**
WRA	**Warramunga Arr**	**21.90**	**159**	P	**P**	**17 51 13.7**	**-3.2**
	0.6nm,0.3s,mb3.4,baz=339,slow=11,SNR=30						
ASAR	**Alice Springs**	**25.23**	**163**	P	**P**	**17 51 48.8**	**-0.7**
	0.7nm,0.3s,mb3.6,baz=345,slow=11,SNR=39						
ASAR				PcP	PcP	17 55 22.1	-0.7
	0.2nm,0.7s,baz=1.0,slow=2.0,SNR=4.1						
STKA	**Stephens Creek**	**35.42**	**157**	P	**P**	**17 53 18.2**	**-1.3**
	1.7nm,0.8s,mb4.0,baz=321,slow=9.5,SNR=10						
MKAR	**Makanchi Array**	**59.84**	**327**	P	**P**	**17 56 28.8**	**-0.1**
	0.6nm,0.7s,mb3.7,baz=129,slow=7.9,SNR=7.1						

*IDC **03** 18:26:20.6±0.7, 38°83N×71°40E, h0km, mb3.9/12, mb1 4.1/17, mb1mx3.9/31, mbtmp3.9/17, ML3.9/5, MS3.2/4, Ms1 3.3/4, ms1mx2.7/35, Error ellipse: s-maj=13.3km s-min=11.6km az=80.0*
*BJI **03** 18:26:22.7, 39°23N×71°06E, h33km, mB4.5/4, mb4.4/11, ML4.0/4*
*ISCJB **03** 18:26:27.7±0.6, 38°98N±0°03×71°44E±0°06, h69km±7km, mb3.9/20, Error ellipse: s-maj=8.1km s-min=5.4km az=174.5*
*MOS **03** 18:26:27.0±2.6, 39°00N×71°54E, h56km, mb4.2/17, Error ellipse: s-maj=9.8km s-min=5.4km az=83.5*

*NEIC **03** 18:26:28.1±1.1, 38°89N×71°61E, h59km±12km, mb4.3/7, Error ellipse: s-maj=13.9km s-min=10.1km az=75.0*
*NNC **03** 18:26:29.2±2.9, 39°65N×71°57E, h0km, mb4.3, mpv4.4, Error ellipse: s-maj=26.8km s-min=14.4km az=177.0*
ISC 03 18:26:29.5±0.5, 39°00N±0°03×71°42E±0°06, h67km±6km, n136, σ1°26/153, mb3.9/20, 11C-12D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.57**	**80**	⇓*i*Pn	**Pn**	**18 27 17.9**	**-4.4**
KSH				Sg	**Sn**	**18 28 02.9**	**-0.4**
KSH				smax			
	comp=N,520nm,0.7s						
KSH				smax			
	comp=E,380nm,0.9s						
AML	**Almayashu**	**3.57**	**28**	P	**Pn**	**18 27 22.6**	**+0.2**
	SNR=107						
AML	**Almayashu**	**3.57**	**28**	*i* PN	**Pn**	**18 27 22.6**	**+0.2**
UCH	**Uchtor**	**3.99**	**35**	P	**Pn**	**18 27 30.0**	**+1.9**
	SNR=87						
EKS2	**Erkin-Say**	**4.07**	**25**	P	**Pn**	**18 27 29.7**	**+0.6**
	SNR=63						
EKS2	**Erkin-Say**	**4.07**	**25**	*e*P	**Pn**	**18 27 29.5**	**+0.3**
EKS2	**Erkin-Say**	**4.07**	**25**	*e*PN	**Pn**	**18 27 29.5**	**+0.3**
KK31	**Karatay Array**	**4.16**	**351**	Pn	**Pn**	**18 27 29.6**	**-0.8**
	comp=E,58nm,0.3s,baz=172,slow=12,SNR=3041						
KK31				⇓Lg		18 28 19.7	
	comp=E,308nm,0.7s,baz=150,slow=20,SNR=7.0						
KKAR	**Karatay Array**	**4.16**	**351**	*e*P	**Pn**	**18 27 29.2**	**-1.2**
KKAR				*e*S	**Sn**	**18 28 19.7**	**+2.1**
KKAR	**Karatay Array**	**4.16**	**351**	*e*PN	**Pn**	**18 27 29.2**	**-1.2**
KKAR				*e*S	**Sn**	**18 28 19.7**	**+2.1**
KZA	**Kyzart**	**4.24**	**42**	P	**Pn**	**18 27 31.6**	**+0.1**
	SNR=64						
KZA	**Kyzart**	**4.24**	**42**	*i* PN	**Pn**	**18 27 31.6**	**+0.2**
AAK	**Ala-Archa**	**4.31**	**32**	P	**Pn**	**18 27 32.9**	**+0.5**
	SNR=43						
AAK	**Ala-Archa**	**4.31**	**32**	*e*P	**Pn**	**18 27 32.7**	**+0.2**
AAK	**Ala-Archa**	**4.31**	**32**	*i* PN	**Pn**	**18 27 32.8**	**+0.3**
KBK	**Karagaybulak**	**4.53**	**35**	P	**Pn**	**18 27 36.4**	**+1.0**
	SNR=57						
FRU	**Bishkek**	**4.53**	**31**	*i* PN	**Pn**	**18 27 36.0**	**+0.6**
FRU				*i* S	**Sn**	**18 28 31.0**	**+4.3**
FRU				pmax	pmax		
	comp=E,1μm,1.6s						
CHMS	**Chumysh**	**4.72**	**31**	P	**Pn**	**18 27 38.4**	**+0.3**
	SNR=33						
KBL	**Kabul**	**4.84**	**204**	*e*P	**Pn**	**18 27 40.5**	**+0.7**
KBL	**Kabul**	**4.84**	**204**	*e*PN	**Pn**	**18 27 40.5**	**+0.7**
USP	**Ospenovka**	**4.85**	**28**	P	**Pn**	**18 27 40.3**	**+0.4**
	SNR=44						
ULHL	**Ulahol**	**4.89**	**47**	P	**Pn**	**18 27 40.0**	**-0.4**
	SNR=27						
TKM2	**Tokmak 2**	**5.03**	**38**	P	**Pn**	**18 27 43.5**	**+1.1**
	SNR=72						
TKM2	**Tokmak 2**	**5.03**	**38**	⇓Pg	**Pn**	**18 27 50.0**	**+7.7**
	comp=E,20nm,0.6s						
TKM2				⇑Lg		18 28 48.7	
	comp=E,133nm,0.6s						
TKM2	**Tokmak 2**	**5.03**	**38**	*e*P	**Pn**	**18 27 42.0**	**-0.3**
	comp=E,51nm,0.6s						
TKM2	**Tokmak 2**	**5.03**	**38**	*i* PN	**Pn**	**18 27 43.4**	**+1.1**
CEP	**Cherat**	**5.18**	**176**	P	**Pn**	**18 27 46.4**	**+2.0**
CEP				S	**Sn**	**18 28 50.0**	**+7.2**
CHCP	**Chirah Chowk**	**5.53**	**164**	P	**Pn**	**18 27 52.0**	**+2.8**
KNDC	**Almaty**	**5.94**	**43**	⇓Pg	**Pn**	**18 28 05.9**	**+11**
	comp=E,36nm,0.7s						
KNDC				⇑Lg		18 29 20.3	
	comp=E,207nm,0.8s						
THW	**Thamme Wali**	**6.20**	**178**	P	**Pn**	**18 27 59.0**	**+0.7**
THW				S	**Sn**	**18 29 11.0**	**+3.2**
SDNR	**Sundarnagar**	**8.75**	**147**	*e*PKP	**Pn**	**18 28 34.0**	**+0.8**
SDNR				*ex*	x	18 30 11.0	
SMLA	**Simla**	**9.15**	**147**	*i* P	**Pn**	**18 28 36.7**	**-2.0**
SMLA				*i* x	x	18 30 16.4	
SMLA				AML	AML	18 30 21.9	
	comp=E,118nm,0.5s						
SMLA				⇓AML	AML	18 30 22.0	
	comp=N,186nm,0.5s						
DDI	**Dehra Dun**	**10.23**	**146**	*e*S	**Sn**	**18 30 38.5**	**-8.0**
MK31	**Makanchi Array**	**11.13**	**42**	⇓Lg		18 32 00.9	
	comp=N,13nm,1.1s						
MKAR	**Makanchi Array**	**11.13**	**42**	Pn	**Pn**	**18 29 05.0**	**-0.7**
	comp=N,0.3nm,0.3s,baz=240,slow=15,SNR=9.6						
MKAR				Lg		18 32 19.0	
	comp=N,0.2nm,0.3s,baz=228,slow=29,SNR=4.1						
MKAR	**Makanchi Array**	**11.13**	**42**	Pn	**Pn**	**18 29 05.0**	**-0.6**
MKAR				Lg		18 32 19.0	
MKAR	**Makanchi Array**	**11.13**	**42**	*i* P	**Pn**	**18 29 05.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KHET	**Khetri**	**11.49**	**160**	*e*S	**Sn**	**18 31 06.0**	**-11**
KUDL	**Kundal**	**11.62**	**157**	*e*PKP	**Pn**	**18 29 10.5**	**-1.9**
KUDL				*e*S	**Sn**	**18 31 11.8**	**-8.7**
SONA	**Sohna**	**11.71**	**155**	*e*S	**Sn**	**18 31 13.8**	**-8.8**
KURBB	**Kurchatov Arra**	**12.66**	**21**	Pn	**Pn**	**18 29 20.9**	**-5.5**
	comp=Z,1.3nm,1.4s						
KURBB				Lg		18 32 51.4	
	comp=Z,4.4nm,0.7s						
KURK	**Kurchatov**	**12.77**	**21**	⇓Pn	**Pn**	**18 29 23.9**	**-4.0**
	comp=Z,6.4nm,1.3s						
KURK				⇑Lg		18 32 51.4	
	comp=Z,25nm,1.1s						
KURK	**Kurchatov**	**12.77**	**21**	Pn	**Pn**	**18 29 21.9**	**-6.0**
	comp=Z,0.1nm,0.3s,baz=218,slow=13,SNR=16						
KURK				Sn	**Sn**	**18 31 41.7**	**-6.4**
	comp=Z,0.0nm,0.3s,baz=210,slow=28,SNR=3.1						
KURK				Lg		18 33 08.7	
	comp=Z,0.1nm,0.3s,baz=210,slow=26,SNR=5.2						
KURK	**Kurchatov**	**12.77**	**21**	*e*P	**Pn**	**18 29 22.6**	**-5.3**
	comp=Z,5.6nm,1.2s						
KURK				Sn	**Sn**	**18 31 41.7**	**-6.4**
KURK				Lg		18 33 08.7	
KURK	**Kurchatov**	**12.77**	**21**	*e*P	**Pn**	**18 29 22.6**	**-5.3**
KURK						18 31 41.7	
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
AB31	**Akbulak array**	**13.14**	**325**	Pn	**Pn**	**18 29 27.8**	**-5.2**
	comp=Z,5.5nm,0.5s,baz=141,slow=12,SNR=175						
AB31				⇓Sn	**Sn**	**18 31 53.4**	**-3.8**
	comp=Z,5.0nm,0.4s,baz=139,slow=23,SNR=9.1						
ABKAR	**Akbulak array**	**13.14**	**325**	*e*P	**Pn**	**18 29 27.5**	**-5.4**
	comp=Z,9.3nm,0.4s						
VOSK	**Vostochnaya**	**13.73**	**359**	⇑Pn	**Pn**	**18 29 36.1**	**-4.7**
	comp=Z,6.8nm,0.9s						
VOSK				⇓Lg		18 33 24.3	
	comp=Z,23nm,1.1s						
BVA0	**Borovoye Array**	**14.05**	**357**	⇑Pn	**Pn**	**18 29 40.7**	**-4.3**
	comp=Z,0.4nm,0.6s,baz=162,slow=14,SNR=24						
BVA0				⇑Lg		18 33 33.6	
	comp=Z,2.3nm,1.2s,baz=173,slow=29,SNR=3.7						
BVAR	**Borovoye Array**	**14.05**	**357**	Pn	**Pn**	**18 29 40.9**	**-4.1**
	comp=Z,0.7nm,0.3s,baz=168,slow=14,SNR=16						
BVAR				Sn	**Sn**	**18 32 13.8**	**-5.4**
	comp=Z,0.5nm,0.3s,baz=168,slow=22,SNR=3.4						
BVAR				Lg		18 34 01.5	
	comp=Z,0.1nm,0.3s,baz=157,slow=27,SNR=3.4						
BVAR				LR	LR	18 35 47.1	
	comp=Z,43nm,19.2s,baz=70,slow=40						
BVAR	**Borovoye Array**	**14.05**	**357**	Pn	**Pn**	**18 29 40.9**	**-4.1**
BVAR				Sn	**Sn**	**18 32 13.8**	**-5.4**
BVAR				Lg		18 34 01.5	
BVAR	**Borovoye Array**	**14.05**	**357**	P	**Pn**	**18 29 40.9**	**-4.1**
BVAR						18 32 13.8	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,43nm,19.2s						
ZRNK	**Zerenda**	**14.05**	**354**	⇑Pn	**Pn**	**18 29 40.9**	**-4.1**
	comp=Z,4.8nm,0.7s						
ZRNK				⇑Lg		18 33 35.4	
	comp=Z,25nm,1.1s						
BRVK	**Borovoye**	**14.08**	**357**	⇑Pn	**Pn**	**18 29 41.4**	**-4.1**
	comp=Z,3.7nm,0.6s						
BRVK				⇓Lg		18 33 34.2	
	comp=Z,22nm,1.1s						
BRVK	**Borovoye**	**14.08**	**357**	*e*P	**Pn**	**18 29 40.9**	**-4.5**
	comp=Z,4.3nm,0.6s						
BRVK	**Borovoye**	**14.08**	**357**	*e*P	**Pn**	**18 29 40.9**	**-4.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PYUN	**Piuthan**	**14.52**	**135**	*e*P	**Pn**	**18 29 45.1**	**-6.2**
	comp=Z,12nm,0.3s						
PYUN				*e*S	**Sn**	**18 32 22.5**	**-8.4**
PYUN	**Piuthan**	**14.52**	**135**	*e*P	**Pn**	**18 29 45.1**	**-6.2**
	comp=Z,12nm,0.3s						
PYUN				*e*S	**Sn**	**18 32 22.5**	**-8.4**
DANN	**Dangsing**	**14.76**	**132**	*e*P	**Pn**	**18 29 48.5**	**-6.0**
	comp=Z,22nm,0.3s						
DANN	**Dangsing**	**14.76**	**132**	*e*P	**Pn**	**18 29 48.5**	**-6.0**
	comp=Z,22nm,0.3s						
AKTO	**Aktyubinsk**	**14.86**	**325**	⇓Pn	**Pn**	**18 29 50.9**	**-4.6**
	comp=Z,1.9nm,0.6s						
AKTO				⇓Sn	**Sn**	**18 32 32.9**	**-5.9**
	comp=Z,1.4nm,0.8s						
AKTO	**Aktyubinsk**	**14.86**	**325**	Pn	**Pn**	**18 29 51.2**	**-4.4**
	comp=Z,1.1nm,0.3s,baz=126,slow=14,SNR=18						
AKTO				Sn	**Sn**	**18 32 33.1**	**-5.8**
	comp=Z,0.5nm,0.3s,baz=352,slow=23,SNR=6.6						
AKTO				Lg		18 34 14.8	
	comp=Z,0.0nm,0.3s,baz=23,slow=22,SNR=1.6						
AKTO	**Aktyubinsk**	**14.86**	**325**	Pn	**Pn**	**18 29 51.2**	**-4.4**
AKTO				Sn	**Sn**	**18 32 33.1**	**-5.8**
AKTO				Lg		18 34 14.8	
AKTO	**Aktyubinsk**	**14.86**	**325**	P	**Pn**	**18 29 51.2**	**-4.4**
AKTO						18 32 33.1	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
KOLN	**Koldanda**	**15.11**	**134**	*e*P	**Pn**	**18 29 53.7**	**-5.3**
KOLN	**Koldanda**	**15.11**	**134**	*e*P	**Pn**	**18 29 53.7**	**-5.3**
GKN	**Gorkha**	**15.53**	**131**	*e*P	**Pn**	**18 29 59.4**	**-5.0**
	comp=N,26nm,0.3s						
GKN	**Gorkha**	**15.53**	**131**	*e*P	**Pn**	**18 29 59.4**	**-5.0**
	comp=N,26nm,0.3s						
KKN	**Kakani**	**16.07**	**130**	*e*P	**Pn**	**18 30 05.1**	**-6.1**
	comp=N,15nm,0.5s						
KKN	**Kakani**	**16.07**	**130**	*e*P	**Pn**	**18 30 05.1**	**-6.1**
	comp=N,15nm,0.5s						
KKN	**Kakani**	**16.07**	**130**	*e*P	**Pn**	**18 30 05.1**	**-6.1**
KKN				pmax	pmax		
	comp=Z,15nm,0.5s						
DMN	**Daman**	**16.10**	**131**	*e*P	**Pn**	**18 30 05.6**	**-6.0**
	comp=Z,5.0nm,0.3s						
DMN	**Daman**	**16.10**	**131**	*e*P	**Pn**	**18 30 05.6**	**-6.0**
	comp=Z,5.0nm,0.3s						
PKI	**Pulchoki**	**16.31**	**130**	*e*P	**Pn**	**18 30 09.4**	**-4.8**
	comp=Z,9.9nm,0.3s						
PKI	**Pulchoki**	**16.31**	**130**	*e*P	**Pn**	**18 30 09.4**	**-4.8**
	comp=Z,9.9nm,0.3s						
PKI	**Pulchoki**	**16.31**	**130**	*e*P	**Pn**	**18 30 09.4**	**-4.8**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.3s						
GUN	**Gumba**	**16.34**	**128**	*e*P	**Pn**	**18 30 09.7**	**-4.9**
	comp=Z,11nm,0.4s						
GUN	**Gumba**	**16.34**	**128**	*e*P	**Pn**	**18 30 09.7**	**-4.9**
	comp=Z,11nm,0.4s						
JIRN	**Jiri**	**16.71**	**128**	*e*P	**Pn**	**18 30 13.7**	**-5.5**
	comp=Z,3.3nm,0.3s						
JIRN	**Jiri**	**16.71**	**128**	*e*P	**Pn**	**18 30 13.7**	**-5.5**
	comp=Z,3.3nm,0.3s						
ZALV	**Zalesovo Beam**	**17.52**	**27**	P	**Pn**	**18 30 27.0**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=216,slow=9.3,SNR=25						
ZALV				Lg		18 35 48.0	
	comp=Z,0.1nm,0.3s,baz=219,slow=24,SNR=5.1						
ZALV	**Zalesovo Beam**	**17.52**	**27**	P	**Pn**	**18 30 27.0**	**-2.0**
ZALV				Lg		18 35 48.0	
ZALV	**Zalesovo Beam**	**17.52**	**27**	P	**Pn**	**18 30 27.0**	**-2.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVS	**Novosibirsk**	**17.74**	**23**	*e*P	**Pn**	**18 30 34.1**	**+2.5**
NVS				*e*S	**S**	**18 33 47.5**	**-4.5**
NVS				pmax	pmax		
	comp=N,5.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,7.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.7s						
NVS				smax			
	comp=N,13nm,2.1s						
NVS				smax			
	comp=E,1.0nm,2.1s						
SVE	**Sverdlovsk**	**19.20**	**342**	*e*P	**Pn**	**18 30 46.8**	**-2.4**
ARU	**Arti**	**19.41**	**338**	*c i*P	**Pn**	**18 30 49.2**	**-2.5**
ARU				S	**S**	**18 34 17.7**	**-7.9**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GNI	**Garni**	**20.58**	**282**	*ce*P	**P**	**18 31 07.7**	**+4.9**
GNI				pmax	pmax		
	comp=Z,15nm,1.7s						
ZEI	**Tsey**	**21.11**	**289**	*e*P	**P**	**18 31 09.2**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
SHL	**Shillong**	**21.81**	**122**	*e*PKP	**P**	**18 31 19.0**	**+2.9**
GTA	**Gaotai**	**21.97**	**80**	*e*P	**P**	**18 31 17.9**	**+0.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.7						
KIV	**Kislovodsk**	**22.04**	**292**	*e*P	**P**	**18 31 23.4**	**+5.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.2						
KIV				MLR	MLR		
	comp=Z,27nm,12.0s						
ZAK	**Zakamensk**	**25.15**	**53**	*e*P	**P**	**18 31 48.1**	**-0

NOA	**NORSAR Array B**	**42.61**	**321**	P	**P**	**18 34 18.5**	**-0.2**
NOA	**NORSAR Array B**	**42.61**	**321**	P	**P**	**18 34 18.5**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,35nm,18.2s						
TORD	**Torodi Ar. Bea**	**66.13**	**268**	P	**P**	**18 37 09.8**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=49,slow=5.7,SNR=14						
TORD	**Torodi Ar. Bea**	**66.13**	**268**	P	**P**	**18 37 09.8**	**-0.2**
INK	**Inuvik**	**71.39**	**10**	P	**P**	**18 37 43.0**	**+1.1**
	comp=Z,2.0nm,0.6s,mb4.2,baz=342,slow=4.5,SNR=7.5						
INK	**Inuvik**	**71.39**	**10**	P	**P**	**18 37 43.0**	**+1.1**
INK	**Inuvik**	**71.39**	**10**	P	**P**	**18 37 43.0**	**+1.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**72.29**	**16**	P	**P**	**18 37 47.0**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.4,baz=323,slow=4.1,SNR=5.1						
ILAR	**Eielson Array**	**72.29**	**16**	P	**P**	**18 37 47.0**	**-0.3**
ILAR	**Eielson Array**	**72.29**	**16**	P	**P**	**18 37 47.0**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**78.74**	**3**	P	**P**	**18 38 24.9**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.7,baz=352,slow=6.0,SNR=4.6						
YKA	**Yellowknife Ar**	**78.74**	**3**	P	**P**	**18 38 24.9**	**+0.7**
YKA	**Yellowknife Ar**	**78.74**	**3**	P	**P**	**18 38 24.9**	**+0.7**
WRA	**Warramunga Arr**	**83.03**	**122**	P	**P**	**18 38 47.9**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=322,slow=4.7,SNR=15						
WRA	**Warramunga Arr**	**83.03**	**122**	P	**P**	**18 38 47.9**	**+0.2**
WRA	**Warramunga Arr**	**83.03**	**122**	P	**P**	**18 38 47.9**	**+0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**85.41**	**125**	P	**P**	**18 38 60.0**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=314,slow=4.2,SNR=12						
ASAR	**Alice Springs**	**85.41**	**125**	P	**P**	**18 38 60.0**	**+0.3**
ASAR	**Alice Springs**	**85.41**	**125**	P	**P**	**18 39 00.0**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

MAN 03 18:33:57.12±46N×123.72E, h27km, mb4.3, ML3.2, MS3.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.13**	**223**	⇑iP	Pb	18 33 58.5	-3.6
MMPH				*i* S	Sb	18 34 00.7	-5.0
CNP	**Catarman**	**0.93**	**87**	*e*P	Pn	18 34 14.2	-0.1
PVCP	**Virac**	**1.21**	**21**	*e*P	Pn	18 34 18.5	+0.3
PVCP				*e*S	Sn	18 34 34.2	+0.5
RCP	**Roxas**	**1.30**	**227**	*e*P	Pn	18 34 19.3	-0.2
RCP				*e*S	Sn	18 34 37.1	+1.1
AUQP	**San Andres**	**1.33**	**310**	*e*P	Pn	18 34 20.9	+1.0
OCLP	**Ormoc**	**1.65**	**148**	*e*P	Pn	18 34 25.4	+1.2
OTRP	**Odiongan**	**1.66**	**267**	*e*P	Pn	18 34 24.2	-0.1
PLP	**Palo**	**1.78**	**136**	⇓*e*P	Pn	18 34 26.1	+0.1
PLP				*e*S	Sn	18 34 49.3	+1.5
GUIM	**Jordan**	**2.13**	**211**	*e*P	Pn	18 34 31.6	+0.8
MSLP	**Maasin**	**2.56**	**154**	*e*P	Pn	18 34 37.8	+1.0

IDC 03 18:34:37.5±1.2, 51.29N×178.34E, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.5/25, mbtmp3.4/5, MS3.9/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=45.2km s-min=25.7km az=162.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**22.45**	**40**	P	P	18 39 36.2	-1.3
	0.6nm,0.9s,baz=252,slow=11,SNR=5.7						
NVAR	**Mina Array Bea**	**45.34**	**81**	P	P	18 42 59.1	+2.0
	0.3nm,0.6s,baz=301,slow=7.3,SNR=2.9						
PDAR	**Pinedale Array**	**48.03**	**70**	P	P	18 43 17.1	-1.0
	0.4nm,0.6s,baz=298,slow=3.2,SNR=4.0						
MKAR	**Makanchi Array**	**58.67**	**307**	P	P	18 44 37.2	+0.9
	0.4nm,0.6s,baz=54,slow=7.0,SNR=5.3						
BVAR	**Borovoye Array**	**59.78**	**318**	LR	LR	19 14 27.7	
	comp=Z,86nm,18.1s,baz=262,slow=40						
WRA	**Warramunga Arr**	**80.73**	**221**	P	P	18 46 51.6	-0.8
	0.3nm,0.6s,baz=31,slow=6.1,SNR=5.2						

*TIF **03** 18:47:24.6, 41.05N×43.87E, h19km±2km*
*CSEM **03** 18:47:25.7±0.2, 41.06N×43.90E, h2km, ML1.9, Error ellipse: s-maj=3.1km az=148.0*
*ISCJB **03** 18:47:26.5±0.6, 41.07N±0.04×43.90E±0.04, h10km, Error ellipse: s-maj=5.6km s-min=3.2km az=150.3*
*DDA **03** 18:47:32.5, 40.90N×43.34E, h7km±9km, Md2.8*
ISC 03 18:47:26.5±0.6, 41.07N±0.04×43.92E±0.04, h10km, n22, σ0.87/40, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.47**	**317**	P	**Pg**	**18 47 34.5**	**-1.2**
AKH				S	**Sg**	**18 47 40.6**	**-1.2**
AKH	**Akhalkalaki**	**0.47**	**317**	P	**Pg**	**18 47 34.5**	**-1.2**
AKH				S	**Sg**	**18 47 40.6**	**-1.3**
DIGO	**Kars**	**0.77**	**212**	*i* P	**Pg**	**18 47 40.2**	**-1.1**
DIGO				*i* S	**Sg**	**18 47 50.7**	**-0.7**
DIGO	**Kars**	**0.77**	**212**	*i* P	**Pg**	**18 47 40.2**	**-1.2**
DIGO				*i* S	**Sg**	**18 47 50.7**	**-0.7**
TBLG	**Delisi**	**0.91**	**43**	P	**Pg**	**18 47 43.3**	**-0.7**
TBLG				S	**Sg**	**18 47 55.8**	**0.0**
TBLG	**Delisi**	**0.91**	**43**	P	**Pg**	**18 47 43.3**	**-0.7**
TBLG				S	**Sg**	**18 47 55.8**	**0.0**
MTA	**Mtatsminda**	**0.91**	**46**	P	**Sg**	**18 47 55.7**	**-0.1**
MTA	**Mtatsminda**	**0.91**	**46**	S	**Sg**	**18 47 55.7**	**-0.2**
GOR	**Gori**	**0.93**	**9**	P	**Sg**	**18 47 56.6**	**+0.1**
GOR	**Gori**	**0.93**	**9**	S	**Sg**	**18 47 56.6**	**+0.1**
DGRG	**David-gareji**	**1.16**	**70**	P	**Pb**	**18 47 47.8**	**-0.9**
DGRG				S	**Sb**	**18 48 05.6**	**+1.8**
DGRG	**David-gareji**	**1.16**	**70**	P	**Pb**	**18 47 47.8**	**-0.9**
DGRG				S	**Sb**	**18 48 05.6**	**+1.8**
ARTV	**Artvin**	**1.51**	**275**	*i* P	**Pn**	**18 47 52.6**	**-0.9**
ARTV				*i* S	**Sn**	**18 48 12.9**	**-0.3**
ARTV	**Artvin**	**1.51**	**275**	*i* P	**Pn**	**18 47 52.6**	**-0.9**
ARTV				*i* S	**Sn**	**18 48 12.9**	**-0.3**
DAGI	**Agillar**	**1.51**	**271**	*i* P	**Pn**	**18 47 54.0**	**+0.4**
DAGI				*i* S	**Sn**	**18 48 12.9**	**-0.5**
ONI	**Oni**	**1.56**	**347**	P	**Pn**	**18 47 54.0**	**-0.3**
ONI				S	**Sn**	**18 48 15.0**	**+0.4**
DDEM	**Demirkent**	**1.65**	**265**	*i* P	**Pn**	**18 47 57.1**	**+1.6**
DDEM				*e*S	**Sn**	**18 48 17.6**	**+0.8**
DDEM	**Demirkent**	**1.65**	**265**	*i* P	**Pn**	**18 47 57.1**	**+1.6**
DDEM				*e*S	**Sn**	**18 48 17.6**	**+0.9**
DBAD	**Bademkaya**	**1.68**	**269**	*i* P	**Pn**	**18 47 56.4**	**+0.5**
DBAD				*i* S	**Sn**	**18 48 18.6**	**+1.1**
DBAD	**Bademkaya**	**1.68**	**269**	*i* P	**Pn**	**18 47 56.4**	**+0.5**
DBAD				*i* S	**Sn**	**18 48 18.6**	**+1.1**
DBOC	**Borcka**	**1.72**	**280**	*i* P	**Pn**	**18 47 57.1**	**+0.6**
DBOC				*e*S	**Sn**	**18 48 19.5**	**+1.0**
DBOC	**Borcka**	**1.72**	**280**	*i* P	**Pn**	**18 47 57.1**	**+0.6**
DBOC				*e*S	**Sn**	**18 48 19.5**	**+1.0**

BEO 03 19:02:20.3±1.0, 42.09N×23.55E, h0km, ML1.5/3, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.56**	**333**	*e*Pg	Pg	19 02 30.9	-0.2
VTS				*e*Sg	Sg	19 02 37.7	-0.7
VAY	**Valandovo**	**1.06**	**224**	*e*Pg	Pg	19 02 38.9	-1.7
VAY				*e*Sg	Sg	19 02 54.7	+0.3
ZAPS	**Zavoj**	**1.36**	**331**	*e*Pg	Pg	19 02 44.7	-1.7
ZAPS				*e*Sg	Sg	19 03 04.1	0.0
BARS	**Barje**	**1.48**	**300**	*e*Pg	Pg	19 02 46.0	-2.6
BARS				*e*Sg	Sg	19 03 06.9	-0.8

DJA 03 19:02:48.9±99S×113.99E, h74km, MLv3.7/14, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.52**	**6**	P	Pn	19 03 15.3	+1.9
JAGI				S	Sn	19 03 32.4	-0.1
IGBI	**Denpasar**	**1.63**	**44**	P	Pn	19 03 16.1	+1.3
IGBI				S	Sn	19 03 37.1	+2.0
NBBI	**Negara**	**1.73**	**21**	P	Pn	19 03 18.7	+2.6
NBBI				S	Sn	19 03 40.0	+2.6
GMJI	**Gumukmas**	**1.79**	**342**	P	Pn	19 03 18.9	+2.0
GMJI				S	Sn	19 03 39.7	+0.8
BYJI	**Banyuwangi**	**1.80**	**12**	P	Pn	19 03 17.7	+0.6
BYJI				S	Sn	19 03 41.0	+1.8
ABJI	**Asem Bagus**	**2.19**	**6**	P	Pn	19 03 24.2	+1.8
ABJI				S	Sn	19 03 49.8	+1.2
SRBI	**Singaraja**	**2.25**	**33**	P	Pn	19 03 24.6	+1.5
SRBI				S	Sn	19 03 51.5	+1.6
BLJI	**Banyuglugur**	**2.27**	**350**	S	Sn	19 03 53.1	+2.8
KHKI	**Kahang-Kahang**	**2.27**	**45**	P	Pn	19 03 23.2	-0.2
KHKI				S	Sn	19 03 52.9	+2.4
KRKI	**Karangkates**	**2.37**	**320**	P	Pn	19 03 24.2	-0.5
MTNI	**Mataram**	**2.54**	**58**	P	Pn	19 03 28.8	+1.8
MTNI				S	Sn	19 03 58.5	+1.6
PWJI	**Pagerwojo**	**2.91**	**312**	P	Pn	19 03 32.5	+0.4
PWJI				S	Sn	19 04 08.1	+2.0
KMMI	**Kalianget**	**2.92**	**360**	P	Pn	19 03 33.1	+0.9
SJI	**Sawahan**	**3.14**	**315**	P	Pn	19 03 36.0	+0.6
SJI				S	Sn	19 04 14.1	+2.6
PCJI	**Pacitan**	**3.30**	**302**	P	Pn	19 03 38.3	+0.9
UGM	**Wanagama**	**4.00**	**301**	P	Pn	19 03 47.0	+0.1

*DDA **03** 19:03:17.1, 41.04N×25.88E, h7km±97km, Md2.9*
*CSEM **03** 19:03:18.9±0.1, 41.25N×25.50E, h2km, MD2.7, Error ellipse: s-maj=3.4km s-min=2.2km az=5.0*
*ATH **03** 19:03:19.5, 41.17N×25.48E, h3km±1km, MD2.7/4*
ISC 03 19:03:19.1±1.2, 41.24N±0.06×25.51E±0.04, h2km±7km, n39, σ0.42/54, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	**Rodhopi**	**0.10**	**166**	*e*PG	**Pg**	**19 03 21.0**	**0.0**
RDO				*e*SG	**Sg**	**19 03 21.5**	**-0.8**
RDO	**Rodhopi**	**0.10**	**166**	*e*Pg	**Pg**	**19 03 21.0**	**0.0**
RDO				*e*Sg	**Sg**	**19 03 21.5**	**-0.8**
ALN	**Alexandroupoli**	**0.53**	**130**	*e*PG	**Pg**	**19 03 29.6**	**+0.3**
ALN				*e*SG	**Sg**	**19 03 36.4**	**+0.2**
ALN	**Alexandroupoli**	**0.53**	**130**	*e*Pg	**Pg**	**19 03 29.6**	**+0.3**
ALN				*e*Sg	**Sg**	**19 03 36.4**	**+0.2**
ENEZ	**Enez**	**0.70**	**136**	*e*PG	**Pg**	**19 03 32.7**	**+0.2**
ENEZ				*e*SG	**Sg**	**19 03 41.8**	**+0.1**
ENEZ	**Enez**	**0.70**	**136**	*e*Pg	**Pg**	**19 03 32.7**	**+0.1**
ENEZ				*e*Sg	**Sg**	**19 03 41.8**	**+0.1**
ERIK	**Erikli-Kesan**	**0.95**	**126**	*e*PG	**Pg**	**19 03 37.1**	**-0.3**
ERIK				*e*SG	**Sg**	**19 03 50.1**	**+0.4**
ERIK	**Erikli-Kesan**	**0.95**	**126**	*e*Pg	**Pg**	**19 03 37.1**	**-0.2**
ERIK				*e*Sg	**Sg**	**19 03 50.1**	**+0.4**
GADA	**Gvkgeada**	**1.09**	**164**	*e*PG	**Pg**	**19 03 39.8**	**-0.2**
GADA	**Gvkgeada**	**1.09**	**164**	*e*Pg	**Pg**	**19 03 39.8**	**-0.2**
EDRB	**Edirne**	**1.11**	**57**	*e*PN	**Pn**	**19 03 41.0**	**-0.6**
EDRB	**Edirne**	**1.11**	**57**	*e*Pn	**Pn**	**19 03 41.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.12**	**139**	*e*PG	**Pg**	**19 03 40.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.12**	**139**	*e*Pg	**Pg**	**19 03 40.4**	**-0.1**
LPK	**Lapseki**	**1.29**	**132**	*e*PN	**Pn**	**19 03 43.2**	**-0.8**
LPK	**Lapseki**	**1.29**	**132**	*e*Pn	**Pn**	**19 03 43.2**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.38**	**113**	*e*PN	**Pn**	**19 03 45.4**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.38**	**113**	*e*Pn	**Pn**	**19 03 45.4**	**+0.1**
SART	**Tekirdag**	**1.38**	**113**	*i* P	**Pn**	**19 03 45.0**	**-0.4**
SART				*i* S	**Sg**	**19 04 04.2**	**+0.7**
SART	**Tekirdag**	**1.38**	**113**	*i* P	**Pn**	**19 03 45.0**	**-0.3**
SART				*i* S	**Sg**	**19 04 04.2**	**+0.7**
MFT	**Murefte**	**1.42**	**108**	*e*PN	**Pn**	**19 03 46.2**	**+0.4**
MFT	**Murefte**	**1.42**	**108**	*e*Pn	**Pn**	**19 03 46.2**	**+0.4**
BOZC	**Bozcaada**	**1.46**	**163**	*e*P	**Pn**	**19 03 45.8**	**-0.6**
BOZC				*e*S	**Sb**	**19 04 06.0**	**+0.1**
EZN	**Ezine**	**1.55**	**156**	*e*PN	**Pn**	**19 03 47.4**	**-0.2**
EZN	**Ezine**	**1.55**	**156**	*e*Pn	**Pn**	**19 03 47.4**	**-0.2**
KRBG	**Karabiga-Canak**	**1.60**	**121**	*e*PN	**Pn**	**19 03 49.2**	**+0.9**
KRBG	**Karabiga-Canak**	**1.60**	**121**	*e*Pn	**Pn**	**19 03 49.2**	**+0.8**
SOH	**Sokhos**	**1.68**	**256**	*e*PB	**Pb**	**19 03 50.3**	**-0.4**
SOH				*e*SB	**Sb**	**19 04 13.0**	**+0.7**
SOH	**Sokhos**	**1.68**	**256**	*e*Pb	**Pb**	**19 03 50.3**	**-0.4**
SOH				*e*Sb	**Sb**	**19 04 13.0**	**+0.7**
MRMT	**Marmara Adasi**	**1.71**	**111**	*e*PN	**Pn**	**19 03 50.0**	**+0.2**
MRMT	**Marmara Adasi**	**1.71**	**111**	*e*Pn	**Pn**	**19 03 50.0**	**+0.2**
PLG	**Polygyros**	**1.79**	**242**	*e*PN	**Pn**	**19 03 51.2**	**+0.3**
PLG				*e*SB	**Sb**	**19 04 15.5**	**+0.2**
PLG	**Polygyros**	**1.79**	**242**	*e*Pn	**Pn**	**19 03 51.2**	**+0.3**
PLG				*e*Sb	**Sb**	**19 04 15.5**	**+0.2**
BNT	**Bandirma**	**2.04**	**115**	*e*PN	**Pn**	**19 03 54.0**	**-0.3**
BNT	**Bandirma**	**2.04**	**115**	*e*Pn	**Pn**	**19 03 54.0**	**-0.3**
GONE	**Gonen-Balikesi**	**2.04**	**125**	*e*PN	**Pn**	**19 03 54.3**	**-0.1**
GONE	**Gonen-Balikesi**	**2.04**	**125**	*e*Pn	**Pn**	**19 03 54.3**	**-0.1**
CTKS	**Kestanelik-??a**	**2.26**	**89**	*e*PN	**Pn**	**19 03 57.4**	**0.0**
CTKS	**Kestanelik-??a**	**2.26**	**89**	*e*Pn	**Pn**	**19 03 57.4**	**0.0**

*ISCJB **03** 19:13:49.1±0.7, 28.60S±0.04×71.25W±0.10, h57km±6km, mb4.0/5, Error ellipse: s-maj=14.6km s-min=6.3km az=1.9*
*IDC **03** 19:13:49.7±0.8, 28.54S×71.19W, h49km±5km, mb3.8/5, mb1 3.9/7, mb1mx3.7/16, mbtmp3.7/7, MS3.1/1, Ms1 3.0/1, ms1mx2.0/21, Error ellipse: s-maj=30.8km s-min=12.2km az=55.0*
*GUC **03** 19:13:49.5±0.9, 28.67S×71.31W, h39km±5km, ML4.3*
*NEIC **03** 19:13:53.1±1.8, 28.64S×71.09W, h78km±15km, mb4.3/2, Error ellipse: s-maj=20.5km s-min=15.2km az=97.0*
ISC 03 19:13:49.9±0.8, 28.59S±0.04×71.3W±0.1, h47km±8km, n33, σ0.80/29, mb4.0/5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.48**	**89**	⇓*i*P	**Pn**	**19 14 00.3**	**-0.4**
VACH				*i* S	**Sn**	**19 14 07.9**	**-0.5**
LSCH	**La Serena**	**1.32**	**178**	*e*P	**Pn**	**19 14 11.2**	**-0.7**
LSCH				*i* S	**Sn**	**19 14 27.9**	**-0.3**
CDCH	**Caldera**	**1.58**	**16**	*e*P	**Pn**	**19 14 14.4**	**-0.9**
CDCH				*e*S	**Sn**	**19 14 35.6**	**+1.0**
TLL	**Tololo Astrono**	**1.63**	**164**	⇓*i*P	**Pn**	**19 14 16.8**	**+0.6**
TLL				*e*S	**Sn**	**19 14 37.0**	**+1.0**
TLL				AML	AML	19 14 49.3	
	comp=E,2μm,0.8s						
OVCH	**Ovalle**	**2.02**	**177**	*e*P	**Pn**	**19 14 20.9**	**-0.5**
OVCH				AML	AML	19 14 57.1	
	comp=N,3μm,0.4s						
CMCH	**Combarbala**	**2.59**	**174**	*e*P	**Pn**	**19 14 28.3**	**-1.0**
CMCH				AML	AML	19 15 16.8	
	comp=E,8μm,0.6s						
CFAA	**Coronel Fontan**	**4.02**	**139**	P	**Pn**	**19 14 50.1**	**+1.3**
	comp=E,1.0nm,0.3s,baz=316,slow=13,SNR=48						
CFAA				S	**Sn**	**19 15 34.9**	**+0.3**
	comp=E,2.4nm,0.3s,baz=201,slow=18,SNR=9.3						
CFAA	**Coronel Fontan**	**4.02**	**139**	P	**Pn**	**19 14 50.1**	**+1.3**
CFAA				S	**Sn**	**19 15 34.9**	**+0.3**
PLCA	**Paso Flores**	**12.13**	**177**	LR	LR	19 21 00.1	
	comp=E,79nm,19.8s,baz=79,slow=35						
TRQA	**Tornquist**	**12.24**	**143**	*e*P	**Pn**	**19 16 42.5**	**+1.0**
CPUP	**Villa Florida**	**12.62**	**83**	P	**Pn**	**19 16 46.6**	**-0.1**
	comp=E,0.2nm,0.3s,baz=235,slow=16,SNR=1.9						
CPUP	**Villa Florida**	**12.62**	**83**	P	**Pn**	**19 16 46.6**	**-0.1**
VNA2	**Neumayer--Watz**	**54.78**	**159**	*e*	**P**	**19 23 14.2**	**-0.2**
	baz=293,slow=8.6						
SNAA	**Sanae**	**56.38**	**159**	*e*	**P**	**19 23 19.3**	**-6.6**
SNAA	**Sanae**	**56.38**	**159**	P	**P**	**19 23 25.4**	**-0.5**
	comp=E,0.8nm,0.6s,mb4.0,baz=291,slow=8.3,SNR=13						
SNAA	**Sanae**	**56.38**	**159**	*e*P	**P**	**19 23 18.4**	**-7.5**
	comp=E,3.3nm,0.9s,mb4.4						
TXAR	**Lajitas Array**	**65.38**	**329**	P	**P**	**19 24 28.7**	**+1.2**
	comp=E,0.4nm,0.5s,mb3.7,baz=135,slow=5.6,SNR=3.4						
TXAR	**Lajitas Array**	**65.38**	**329**	P	**P**	**19 24 28.7**	**+1.2**
PDAR	**Pinedale Array**	**79.25**	**332**	P	**P**	**19 25 50.5**	**+0.5**
	comp=E,0.7nm,0.6s,mb3.8,baz=128,slow=8.0,SNR=7.0						
PDAR	**Pinedale Array**	**79.25**	**332**	P	**P**	**19 25 50.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**81.79**	**70**	P	**P**	**19 26 03.3**	**-0.9**
	comp=E,2.5nm,0.6s,mb4.3,baz=268,slow=5.2,SNR=25						
TORD				pP	pP	19 26 17.1	-0.8
	comp=E,0.7nm,0.4s,baz=272,slow=5.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**81.79**	**70**	P	**P**	**19 26 03.3**	**-0.9**
TORD				pP	pP	19 26 17.1	-0.8
BOSA	**Boshof**	**82.05**	**118**	P	**P**	**19 26 04.2**	**-1.3**
	comp=E,1.7nm,0.5s,mb4.2,baz=350,slow=16,SNR=5.9						
BOSA	**Boshof**	**82.05**	**118**	*e*P	**P**	**19 26 04.4**	**-1.0**
	comp=E,2.3nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**122.65**	**208**	PKP	PKPdf	19 32 39.6	-1.3
	comp=E,0.4nm,0.8s,baz=144,slow=1.8,SNR=4.9						
ASAR				pPKP	pPKPdf	19 32 55.7	+0.4
	comp=E,0.4nm,0.9s,baz=128,slow=1.5,SNR=2.4						
ASAR	**Alice Springs**	**122.65**	**208**	PKP	PKPdf	19 32 39.6	-1.3
ASAR				pPKP	pPKPdf	19 32 55.7	+0.4
WRA	**Warramunga Arr**	**125.76**	**210**	PKP	PKPdf	19 32 46.1	-0.9
	comp=E,0.6nm,0.5s,baz=157,slow=1.7,SNR=18						
WRA				pPKP	pPKPdf	19 33 01.9	+0.5
	comp=E,0.6nm,0.7s,baz=159,slow=1.6,SNR=3.7						
WRA	**Warramunga Arr**	**125.76**	**210**	PKP	PKPdf	19 32 46.1	-0.9
WRA				pPKP	pPKPdf	19 33 01.9	+0.5
ZAA0	**Zalesovo Array**	**149.24**	**28**	*e*PKPbc	PKPbc	19 33 32.5	-0.4
ZALV	**Zalesovo Beam**	**149.24**	**28**	PKPbc	PKPbc	19 33 32.3	-0.5
	comp=E,6.5nm,0.5s,baz=296,slow=4.8,SNR=4.1						
ZALV				pPKPbc	pPKPbc	19 33 45.8	-1.3
	comp=E,1.6nm,0.5s,baz=304,slow=3.6,SNR=4.9						
ZALV	**Zalesovo Beam**	**149.24**	**28**	PKPbc	PKPbc	19 33 32.3	-0.5
ZALV				pPKPbc	pPKPbc	19 33 45.8	-1.3
MKAR	**Makanchi Array**	**152.51**	**41**	PKPbc	PKPbc	19 33 40.2	-0.5
	comp=E,1.2nm,0.4s,baz=312,slow=1.6,SNR=18						
MKAR				PKPab	PKPab	19 33 48.2	-3.0
	comp=E,0.5nm,0.5s,baz=302,slow=2.8,SNR=4.2						
MKAR				pPKPbc	pPKPbc	19 33 54.9	-0.2
	comp=E,0.9nm,0.6s,baz=316,slow=1.6,SNR=2.7						
MKAR	**Makanchi Array**	**152.51**	**41**	PKPbc	PKPbc	19 33 40.2	-0.5
MKAR				PKPab	PKPab	19 33 48.2	-3.0
MKAR				pPKPbc	pPKPbc	19 33 54.9	-0.2

*TIF **03** 19:24:21.9, 43.30N×43.96E, h13km±2km*
*ISCJB **03** 19:24:23.3±0.3, 43.28N±0.02×43.90E±0.02, h6km±2km, Error ellipse: s-maj=2.9km s-min=2.4km az=4.7*
*CSEM **03** 19:24:23.4±0.1, 43.27N×43.90E, h5km, mb4.1, Error ellipse: s-maj=2.9km s-min=2.4km az=9.0*
*MOS **03** 19:24:23.1±1.4, 43.28N×43.95E, h9km, mb4.1/1, Error ellipse: s-maj=7.3km s-min=5.7km az=43.2*
MOS Felt (II-III) at Verchnyaya Balkariya.
ISC 03 19:24:23.8±0.3, 43.28N±0.02×43.90E±0.02, h5km±2km, n77, σ1.00/135, 6C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNR	**Lesken**	**0.06**	**264**	⇓*i*PG	**Pg**	**19 24 27.1**	**+1.8**
LSNR				*i* S	**Sg**	**19 24 30.8**	**+4.4**
LSNR	**Lesken**	**0.06**	**264**	*i* Pg	**Pg**	**19 24 27.1**	**+1.8**
KORR	**Kora**	**0.23**	**148**	⇓*i*PG	**Pg**	**19 24 28.4**	**+0.1**
KORR				*i* S	**Sg**	**19 24 33.0**	**+1.7**
KORR	**Kora**	**0.23**	**148**	*i* Pg	**Pg**	**19 24 28.4**	**+0.1**
KORR				*i* Sg	**Sg**	**19 24 33.0**	**+1.7**
ARNR	**Ardon**	**0.29**	**108**	⇓*i*PG	**Pg**	**19 24 29.5**	**+0.1**
ARNR				*e*S	**Sg**	**19 24 34.7**	**+1.5**
ARNR	**Ardon**	**0.29**	**108**	*i* Pg	**Pg**	**19 24 29.5**	**+0.1**
ARNR				*e*Sg	**Sg**	**19 24 34.7**	**+1.5**
KMSR	**Komsomolskaya**	**0.30**	**72**	⇑*i*PG	**Pg**	**19 24 29.7**	**+0.1**
KMSR				*i* S	**Sg**	**19 24 34.8**	**+1.3**
KMSR	**Komsomolskaya**	**0.30**	**72**	*i* Pg	**Pg**	**19 24 29.7**	**+0.1**
KMSR				*i* Sg	**Sg**	**19 24 34.8**	**+1.3**
DIGR	**Digorskoe uzhe**	**0.45**	**212**	⇓*i*PG	**Pg**	**19 24 32.2**	**-0.2**
DIGR				*i* S	**Sg**	**19 24 38.7**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.45**	**212**	*i* Pg	**Pg**	**19 24 32.2**	**-0.2**
DIGR				*i* Sg	**Sg**	**19 24 38.7**	**+0.5**
BTKR	**Batakoyurt**	**0.48**	**79**	*e*PG	**Pg**	**19 24 32.6**	**-0.3**
BTKR				*i* S	**Sg**	**19 24 39.3**	**+0.1**
BTKR	**Batakoyurt**	**0.48**	**79**	*e*Pg	**Pg**	**19 24 32.6**	**-0.3**
BTKR				*i* Sg	**Sg**	**19 24 39.3**	**+0.1**
ZEI	**Tsey**	**0.51**	**180**	⇑*i*PG	**Pg**	**19 24 32.5**	**-1.1**
ZEI				*i* S	**Sg**	**19 24 39.3**	**-0.9**
ZEI	**Tsey**	**0.51**	**180**	*i* Pg	**Pg**	**19 24 32.5**	**-1.1**
ZEI				*i* Sg	**Sg**	**19 24 39.3**	**-0.9**
LACR	**Lac**	**0.54**	**147**	⇑*i*PG	**Pg**	**19 24

MAK	**Makhachkala**	**2.66**	**96**	*e*PN	**Pn**	**19 25 09.0**	**+1.8**
MAK				*e*		19 25 42.4	
MAK				pmax	pmax		
	comp=Z,57nm,0.2s						
MAK				smax			
	comp=E,661nm,0.8s						
MAK				smax			
	comp=N,677nm,0.4s						
MAK				smax			
	comp=N,1μm,0.6s						
MAK	**Makhachkala**	**2.66**	**96**	*e*Pn	**Pn**	**19 25 09.0**	**+1.8**
	comp=N,57nm,0.2s						
DBAD	**Bademkaya**	**2.79**	**217**	*i* P	**Pn**	**19 25 09.4**	**+0.3**
DBAD	**Bademkaya**	**2.79**	**217**	*i* P	**Pn**	**19 25 09.4**	**+0.3**
DBAD				*i* S	**Sn**	**19 25 47.7**	**+4.6**
DDEM	**Demirkent**	**2.87**	**215**	*i* P	**Pn**	**19 25 10.5**	**+0.4**
DDEM	**Demirkent**	**2.87**	**215**	*i* P	**Pn**	**19 25 10.5**	**+0.3**
DDEM				*i* S	**Sn**	**19 25 48.8**	**+3.7**
DIGO	**Kars**	**2.89**	**188**	*i* P	**Pn**	**19 25 09.6**	**-0.8**
DIGO	**Kars**	**2.89**	**188**	*i* P	**Pn**	**19 25 09.6**	**-0.8**
SOC	**Sochi**	**3.06**	**277**	*e*PN	**Pn**	**19 25 16.6**	**+3.8**
GNI	**Garni**	**3.19**	**168**	*d i*PN	**Pn**	**19 25 19.1**	**+4.6**
HOMI	**Horasan**	**3.56**	**205**	*e*P	**Pn**	**19 25 19.1**	**-0.5**
ERZM	**Erzurum**	**3.87**	**210**	*e*P	**Pn**	**19 25 24.5**	**+0.6**
ERZM	**Erzurum**	**3.87**	**210**	*e*P	**Pn**	**19 25 24.5**	**+0.6**
SUSE	**Susehri**	**5.25**	**236**	*i* P	**Pn**	**19 25 42.7**	**-0.2**
SUSE	**Susehri**	**5.25**	**236**	*i* P	**Pn**	**19 25 42.7**	**-0.2**
SUSE				*i* S	**Sn**	**19 26 44.0**	**+0.3**

*ISCJB **03** 20:12:40.9±2.5, 7°.2S±0°.2×155°.88E±0°.08, h34km±26km, mb3.8/5, Error ellipse: s-maj=30.4km s-min=12.4km az=5.2*
*IDC **03** 20:12:41.3±1.0, 7°.19S×155°.88E, h27km±3km, mb3.8/5, mb1 3.9/7, mb1mx3.7/17, mbtmp3.9/7, ML3.3/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/28, Error ellipse: s-maj=26.4km s-min=21.9km az=113.0*
*NEIC **03** 20:12:42.5±0.9, 7°.12S×155°.84E, h35km, mb3.8/1, Error ellipse: s-maj=23.0km s-min=15.8km az=11.0*

ISC 03 20:12:43.3±2.0, 7°.1S±0°.2×155°.91E±0°.07, h40km±22km, h25km±3.2km; pP-P, n21, σ1°00/17, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.61**	**120**	Pn	**Pn**	**20 13 50.6**	**+0.2**
	13nm,0.3s,baz=240,slow=3.9,SNR=6.5						
HNR				Sn	**Sn**	**20 14 42.3**	**-0.3**
	28nm,0.3s,baz=273,slow=19,SNR=3.8						
HNR				LR	LR	20 15 31.4	
	comp=Z,310nm,19.4s,baz=130,slow=37						
HNR	**Honiara**	**4.61**	**120**	Pn	**Pn**	**20 13 50.6**	**+0.2**
HNR				Sn	**Sn**	**20 14 42.3**	**-0.3**
PMG	**Port Moresby**	**8.95**	**255**	Pn	**Pn**	**20 14 49.3**	**-0.8**
	0.3nm,0.3s,baz=54,slow=9.6,SNR=2.2						
PMG	**Port Moresby**	**8.95**	**255**	Pn	**Pn**	**20 14 49.3**	**-0.8**
CTA	**Charters Tower**	**15.93**	**215**	LR	LR	20 21 25.7	
	comp=Z,78nm,18.5s,baz=228,slow=33						
CTAO	**Charters Tower**	**15.93**	**215**	*e*P	**Pn**	**20 16 26.8**	**+2.2**
	7.9nm,1.1s						
WRA	**Warramunga Arr**	**24.50**	**237**	P	**P**	**20 17 58.8**	**-0.1**
	3.5nm,0.6s,mb3.9,baz=62,slow=9.5,SNR=59						
WRA	**Warramunga Arr**	**24.50**	**237**	P	**P**	**20 17 58.8**	**-0.1**
ASAR	**Alice Springs**	**26.77**	**230**	P	**P**	**20 18 18.1**	**-1.4**
	0.5nm,0.5s,mb3.3,baz=59,slow=9.6,SNR=14						
ASAR				pP	pP	20 18 26.4	-4.1
	0.5nm,0.6s,baz=60,slow=9.4,SNR=4.4						
ASAR	**Alice Springs**	**26.77**	**230**	P	**P**	**20 18 18.1**	**-1.4**
ASAR				pP	pP	20 18 26.4	-4.1
FITZ	**Fitzroy Crossi**	**31.43**	**247**	LR	LR	20 31 02.8	
	comp=Z,42nm,20.9s,baz=79,slow=35						
CMAR	**Chiang Mai Arr**	**61.66**	**295**	pP	pP	20 23 05.3	-4.0
	0.3nm,0.5s,baz=120,slow=5.3,SNR=2.9						
CMAR				sP	sP	20 23 09.8	-4.2
	0.8nm,0.8s,baz=118,slow=5.1,SNR=6.5						
CMAR				LR	LR	20 47 23.8	
	comp=Z,13nm,18.4s,baz=195,slow=34						
CMAR	**Chiang Mai Arr**	**61.66**	**295**	pP	pP	20 23 05.3	-4.0
CMAR				sP	sP	20 23 09.8	-4.2
SONM	**Songino Array**	**69.94**	**327**	P	**P**	**20 23 51.6**	**+1.3**
	0.4nm,0.4s,mb3.7,baz=141,slow=6.6,SNR=8.6						
SONM				pP	pP	20 23 58.9	-3.4
	0.7nm,0.4s,baz=134,slow=6.3,SNR=4.9						
SONM				sP	sP	20 24 03.1	-3.8
	0.8nm,0.4s,baz=134,slow=6.4,SNR=7.0						
SONM	**Songino Array**	**69.94**	**327**	P	**P**	**20 23 51.6**	**+1.3**
SONM				pP	pP	20 23 58.9	-3.4
SONM				sP	sP	20 24 03.1	-3.8
MKAR	**Makanchi Array**	**84.10**	**318**	P	**P**	**20 25 10.1**	**+0.1**
	0.9nm,0.6s,mb4.1,baz=102,slow=6.1,SNR=8.9						
MKAR				pP	pP	20 25 18.6	-3.7
	3.5nm,0.8s,baz=84,slow=5.0,SNR=7.8						
MKAR				sP	sP	20 25 22.6	-4.1
	2.6nm,0.7s,baz=104,slow=6.1,SNR=11						
MKAR	**Makanchi Array**	**84.10**	**318**	P	**P**	**20 25 10.1**	**+0.1**
MKAR				pP	pP	20 25 18.6	-3.7
MKAR				sP	sP	20 25 22.6	-4.1
ZALV	**Zalesovo Beam**	**84.80**	**326**	P	**P**	**20 25 12.7**	**-0.7**
	0.3nm,0.4s,mb3.8,baz=118,slow=6.2,SNR=3.5						
ZALV				sP	sP	20 25 24.6	-5.5
	0.7nm,0.4s,baz=104,slow=4.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**84.80**	**326**	P	**P**	**20 25 12.7**	**-0.7**
ZALV				sP	sP	20 25 24.6	-5.5
TORD	**Torodi Ar. Bea**	**153.94**	**285**	PKPbc	PKPbc	20 32 37.1	-2.4
	0.2nm,0.6s,baz=88,slow=2.3,SNR=4.4						
TORD				sPKPbc		20 32 50.0	
	0.8nm,0.9s,baz=62,slow=2.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**153.94**	**285**	PKPbc	PKPbc	20 32 37.1	-2.4
TORD				sPKPbc		20 32 50.0	

IDC 03 20:25:54.9±2.1, 0°.76N×125°.90E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/18, mbtmp3.3/3, Error ellipse: s-maj=181.6km s-min=27.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.18**	**159**	P	P	20 30 52.3	-0.4
	0.5nm,0.5s,baz=337,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**25.50**	**163**	P	P	20 31 25.5	+0.4
	0.5nm,0.9s,baz=341,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**59.54**	**327**	P	P	20 36 00.2	+0.1
	0.2nm,0.4s,baz=129,slow=7.4,SNR=3.9						

IDC 03 20:27:48.4±10.0, 18°.45S×178°.32W, h564km±126km, mb2.6/4, mb1 2.9/4, mb1mx2.8/16, mbtmp2.6/4, Error ellipse: s-maj=157.5km s-min=37.6km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.62**	**260**	P	P	20 35 11.3	-0.1
	0.2nm,0.3s,baz=95,slow=7.8,SNR=13						
ASAR	**Alice Springs**	**44.73**	**255**	P	P	20 35 12.3	+0.1
	0.2nm,0.4s,baz=88,slow=8.4,SNR=8.9						
NVAR	**Mina Array Bea**	**79.76**	**44**	P	P	20 38 58.6	+0.2
	0.3nm,0.6s,baz=228,slow=9.5,SNR=2.9						
ILAR	**Eielson Array**	**86.40**	**13**	P	P	20 39 31.7	+0.9
	0.3nm,0.8s,baz=219,slow=5.8,SNR=6.4						
GERES	**GERESS Array B**	**148.16**	**345**	PKPbc	PKPbc	20 46 30.1	-1.0
	0.4nm,0.6s,baz=30,slow=6.0,SNR=3.1						

*NIED **03** 21:03:00, 41°.60N×142°.90E, h23km, Mw3.7 Best double couple: M0:4.36000×1014 NP1:φs11.00000°, δ53.00000°, λ-112.00000°. NP2:φs224.00000°, δ42.00000°, λ-64.00000°.*
*ISCJB **03** 21:03:01.9±0.6, 41°.63N±0°.04×142°.95E±0°.05, h35km±5km, mb4.1/20, Error ellipse: s-maj=7.7km s-min=4.7km az=40.8*
*JMA **03** 21:03:01.3±0.2, 41°.60N×142°.93E, h28km±3km, M3.9*
JMA Felt I J1.
*NEIC **03** 21:03:04.2±0.8, 41°.68N×142°.96E, h41km±7km, mb4.0/5, Error ellipse: s-maj=11.3km s-min=7.1km az=121.0*
NEIC Recorded [1 JMA] in southern Hokkaido.
*IDC **03** 21:03:06.9±1.9, 41°.60N×142°.80E, h63km±17km, mb3.6/12, mb1 3.7/15, mb1mx3.6/29, mbtmp3.6/15, Error ellipse: s-maj=19.7km s-min=12.2km az=106.0*

ISC 03 21:03:01.9±0.8, 41°.64N±0°.03×142°.85E±0°.06, h18km±5km, n71, σ0°81/81, mb4.1/20, 3C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.44**	**32**	*e*Pn	**Pg**	**21 03 10.7**	**-0.1**
ERM				*e*Sn	**Sg**	**21 03 16.3**	**-0.5**
JEM	**Erimo**	**0.44**	**32**	↓P	**Pg**	**21 03 10.6**	**-0.2**
JEM				*e*S	**Sg**	**21 03 17.1**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.64**	**354**	↑P	**Pb**	**21 03 14.4**	**-0.2**
JNBK				*e*S	**Sb**	**21 03 23.8**	**+0.6**
JCH	**Churui**	**1.04**	**21**	↑P	**Pb**	**21 03 20.6**	**-0.8**
JBT2	**Biratori 2**	**1.19**	**342**	P	**Pn**	**21 03 22.9**	**-0.8**
JOT	**Ohata**	**1.38**	**260**	P	**Pn**	**21 03 25.8**	**-0.4**
JOT				*e*S	**Sn**	**21 03 43.4**	**-0.6**
JKB	**Kayabe**	**1.38**	**281**	P	**Pn**	**21 03 25.5**	**-0.8**
JKB				*e*S	**Sn**	**21 03 43.5**	**-0.6**
JOB	**Onbets**	**1.46**	**30**	P	**Pn**	**21 03 28.1**	**+0.8**
JNB	**Noboribetsu**	**1.58**	**302**	↑P	**Pn**	**21 03 28.6**	**-0.4**
JNB				*e*S	**Sn**	**21 03 49.1**	**+0.1**
JEW	**Eniwo**	**1.58**	**319**	P	**Pn**	**21 03 29.8**	**+0.7**
JEW				*e*S	**Sn**	**21 03 50.2**	**+1.1**
JTM	**Tenmabayashi**	**1.59**	**238**	P	**Pn**	**21 03 28.8**	**-0.4**
JTM				*e*S	**Sn**	**21 03 48.8**	**-0.5**
JANG	**Nango**	**1.62**	**219**	P	**Pn**	**21 03 28.5**	**-1.1**
ASAJ	**Asahikawa**	**2.48**	**356**	P	**Pn**	**21 03 43.5**	**+2.2**
	10nm,0.3s,baz=205,slow=9.1,SNR=88						
ASAJ				S	**Sn**	**21 04 16.1**	**+4.9**
	12nm,0.3s,baz=0.0,slow=20,SNR=8.7						
ASAJ	**Asahikawa**	**2.48**	**356**	P	**Pn**	**21 03 43.5**	**+2.2**
ASAJ				*e*Sn	**Sn**	**21 04 15.5**	**+4.4**
MAJO	**Matsushiro**	**6.24**	**217**	*e*Pn	**Pn**	**21 04 35.2**	**+2.1**
	8.3nm,0.4s						
MAT	**Matsushiro**	**6.24**	**217**	P	**Pn**	**21 04 34.9**	**+1.8**
MJAR	**Matsushiro Arr**	**6.24**	**217**	P	**Pn**	**21 04 35.3**	**+2.2**
	1.5nm,0.3s,baz=38,slow=13,SNR=23						
MJAR	**Matsushiro Arr**	**6.24**	**217**	P	**Pn**	**21 04 35.3**	**+2.2**
KSRS	**Korea Array**	**12.26**	**255**	P	**Pn**	**21 06 00.1**	**+4.6**
	0.4nm,0.3s,baz=62,slow=13,SNR=5.8						
KSAR	**Wonju Array Be**	**12.29**	**255**	P	**Pn**	**21 06 00.1**	**+4.2**
YHNB	**Yeheng**	**24.59**	**233**	P	**P**	**21 08 21.5**	**+0.6**
ULN	**Ulaanbaatar**	**26.00**	**296**	P	**P**	**21 08 33.7**	**+0.1**
SONM	**Songino Array**	**26.45**	**296**	P	**P**	**21 08 37.7**	**+0.2**
	0.2nm,0.5s,baz=96,slow=9.0,SNR=2.4						
SONM	**Songino Array**	**26.45**	**296**	P	**P**	**21 08 37.7**	**+0.2**
ENH	**Enshi**	**29.12**	**258**	*e*P	**P**	**21 09 01.1**	**-0.5**
	2.0nm,0.4s,mb4.2						
ZALV	**Zalesovo Beam**	**39.78**	**308**	P	**P**	**21 10 33.3**	**-0.2**
	0.6nm,0.6s,mb3.5,baz=90,slow=7.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**39.78**	**308**	P	**P**	**21 10 33.3**	**-0.2**
MKAR	**Makanchi Array**	**42.77**	**298**	P	**P**	**21 10 57.8**	**-0.4**
	0.5nm,0.6s,mb3.4,baz=83,slow=9.6,SNR=6.0						
MKAR	**Makanchi Array**	**42.77**	**298**	P	**P**	**21 10 57.8**	**-0.4**
KURK	**Kurchatov**	**44.10**	**305**	P	**P**	**21 11 09.2**	**+0.5**
	1.0nm,0.2s,mb4.1,baz=77,slow=8.6,SNR=6.9						
KURK	**Kurchatov**	**44.10**	**305**	*e*P	**P**	**21 11 07.7**	**-1.1**
	1.8nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**45.04**	**35**	P	**P**	**21 11 15.7**	**-0.4**
	0.5nm,0.5s,mb3.6,baz=263,slow=5.9,SNR=11						
ILAR	**Eielson Array**	**45.04**	**35**	P	**P**	**21 11 15.7**	**-0.4**
TAPN	**Taplejung**	**46.88**	**270**	*e*P	**P**	**21 11 31.4**	**+0.3**
TAPN	**Taplejung**	**46.88**	**270**	*e*P	**P**	**21 11 31.4**	**+0.3**
ODAN	**Odare**	**47.38**	**270**	*e*P	**P**	**21 11 34.6**	**-0.4**
ODAN	**Odare**	**47.38**	**270**	*e*P	**P**	**21 11 34.6**	**-0.4**
JIRN	**Jiri**	**47.85**	**272**	*e*P	**P**	**21 11 39.5**	**+0.8**
	0.8nm,0.3s,mb4.3						
JIRN	**Jiri**	**47.85**	**272**	*e*P	**P**	**21 11 39.5**	**+0.8**
	0.8nm,0.3s,mb4.2						
RAMN	**Ramite**	**47.92**	**271**	*e*P	**P**	**21 11 38.7**	**-0.5**
	5.0nm,0.6s,mb4.8						
RAMN	**Ramite**	**47.92**	**271**	*e*P	**P**	**21 11 38.7**	**-0.5**
	5.0nm,0.6s,mb4.7						
GUN	**Gumba**	**47.95**	**272**	*e*P	**P**	**21 11 39.5**	**+0.1**
	11nm,0.4s						
GUN	**Gumba**	**47.95**	**272**	*e*P	**P**	**21 11 39.5**	**+0.1**
	11nm,0.4s						
BVAR	**Borovoye Array**	**48.40**	**310**	P	**P**	**21 11 42.4**	**-0.2**
	0.5nm,0.4s,mb3.9,baz=89,slow=8.9,SNR=5.1						
BVAR	**Borovoye Array**	**48.40**	**310**	P	**P**	**21 11 42.4**	**-0.2**
KKN	**Kakani**	**48.46**	**273**	*e*P	**P**	**21 11 43.4**	**0.0**
	7.6nm,0.8s,mb4.8						
KKN	**Kakani**	**48.46**	**273**	*e*P	**P**	**21 11 43.4**	**0.0**
	7.6nm,0.8s,mb4.8						
DMN	**Daman**	**48.69**	**272**	*e*P	**P**	**21 11 45.6**	**+0.5**
DMN	**Daman**	**48.69**	**272**	*e*P	**P**	**21 11 45.6**	**+0.5**
GKN	**Gorkha**	**48.83**	**273**	*e*P	**P**	**21 11 46.2**	**0.0**
	4.1nm,0.4s,mb4.8						
GKN	**Gorkha**	**48.83**	**273**	*e*P	**P**	**21 11 46.2**	**0.0**
	4.1nm,0.4s,mb4.8						
DANN	**Dangsing**	**49.30**	**274**	*e*P	**P**	**21 11 50.5**	**+0.7**
	19nm,0.6s						
DANN	**Dangsing**	**49.30**	**274**	*e*P	**P**	**21 11 50.5**	**+0.7**
	19nm,0.6s						
KOLN	**Koldanda**	**49.73**	**274**	*e*P	**P**	**21 11 53.5**	**+0.4**
	1.9nm,0.3s,mb4.6						
KOLN	**Koldanda**	**49.73**	**274**	*e*P	**P**	**21 11 53.5**	**+0.4**
	1.9nm,0.3s,mb4.6						
INK	**Inuvik**	**49.80**	**29**	P	**P**	**21 11 52.5**	**-0.6**
	0.5nm,0.3s,mb4.0,baz=288,slow=5.1,SNR=5.0						
INK	**Inuvik**	**49.80**	**29**	*e*P	**P**	**21 11 52.4**	**-0.7**
	1.1nm,0.7s,mb4.0						
EKS2	**Erkin-Say**	**49.88**	**296**	*e*P	**P**	**21 11 53.7**	**-0.3**
	0.7nm,0.7s,mb3.8						
PYUN	**Piuthan**	**50.01**	**274**	*e*P	**P**	**21 11 55.6**	**+0.4**
	4.2nm,0.8s,mb4.5						
PYUN	**Piuthan**	**50.01**	**274**	*e*P	**P**	**21 11 55.6**	**+0.4**
	4.2nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**61.77**	**189**	*e*P	**P**	**21 13 18.5**	**-0.8**
	2.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**61.78**	**189**	P	**P**	**21 13 18.1**	**-1.2**
	1.0nm,0.6s,mb4.2,baz=5.5,slow=6.9,SNR=24						
WRA	**Warramunga Arr**	**61.78**	**189**	P	**P**	**21 13 18.1**	**-1.2**
FINES	**FINESS Array B**	**65.27**	**332**	P	**P**	**21 13 41.1**	**-1.0**
	5.2nm,1.0s,mb4.5,baz=51,slow=7.3,SNR=4.7						
FINES	**FINESS Array B**	**65.27**	**332**	P	**P**	**21 13 41.1**	**-1.0**
ASAR	**Alice Springs**	**65.50**	**189**	P	**P**	**21 13 43.4**	**-0.5**
	0.7nm,0.8s,mb3.7,baz=13,slow=8.6,SNR=6.9						
ASAR	**Alice Springs**	**65.50**	**189**	P	**P**	**21 13 43.4**	**-0.5**
HFS	**Hagfors**	**70.35**	**336**	P	**P**	**21 14 13.0**	**-1.1**
	2.0nm,0.8s,mb4.1,baz=45,slow=4.7,SNR=4.5						
HFS	**Hagfors**	**70.35**	**336**	P	**P**	**21 14 13.0**	**-1.1**
NVAR	**Mina Array Bea**	**71.38**	**55**	P	**P**	**21 14 22.2**	**+1.5**
	0.8nm,0.7s,mb3.8,baz=288,slow=6.6,SNR=2.3						
NVAR	**Mina Array Bea**	**71.38**	**55**	P	**P**	**21 14 22.2**	**+1.5**

IDC 03 21:10:32.8±6.6, 20°.34S×178°.51W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.7/4, Error ellipse: s-maj=277.6km s-min=37.1km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.09**	**257**	P	P	21 18 42.8	-0.1
	0.8nm,0.6s,baz=101,slow=8.1,SNR=15						
WRA	**Warramunga Arr**	**44.15**	**262**	P	P	21 18 43.7	+0.3
	0.7nm,0.8s,baz=95,slow=8.2,SNR=23						
ILAR	**Eielson Array**	**88.27**	**13**	P	P	21 23 25.8	+0.3
	0.3nm,0.5s,baz=212,slow=5.2,SNR=6.6						
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	P	21 23 32.2	-0.7
	0.5nm,0.8s,baz=157,slow=3.6,SNR=4.3						

*ISCJB **03** 21:14:58.8±0.7, 6°.4S±0°.1×11°.1W±0°.1, h10km, mb4.3/12, MS3.8/18, Error ellipse: s-maj=22.2km s-min=14.4km az=37.9*
*IDC **03** 21:14:58.9±1.1, 6°.42S×11°.14W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/24, mbtmp4.2/10, MS3.8/19, Ms1 3.8/19, ms1mx3.7/25, Error ellipse: s-maj=35.0km s-min=23.5km az=98.0*
*NEIC **03** 21:15:00.4±0.6, 6°.40S×11°.13W, h10km, mb4.9/3, Error ellipse: s-maj=16.9km s-min=10.9km az=135.0*

ISC 03 21:15:00.8±0.7, 6°.4S±0°.1×11°.1W±0°.1, h10km, n41, σ0°76/28, mb4.3/12, MS3.8/18, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**14.43**	**26**	LR	LR	21 22 49.5	
	comp=Z,277nm,20.2s,baz=187,slow=33						
DBIC	**Dimbokro**	**14.43**	**26**	*e*Pn	**Pn**	**21 18 24.5**	**-0.7**
	2.0nm,0.7s						
BBTS	**Babate**	**21.61**	**346**	P	**P**	**21 19 51.1**	**0.0**
	28nm,0.8s,mb4.8,baz=200,slow=9.7,SNR=3.8						
BBTS				LR	LR	21 26 50.4	
	comp=Z,148nm,20.4s,MS3.4,baz=126,slow=33						
BBTS	**Babate**	**21.61**	**346**	P	**P**	**21 19 51.1**	**0.0**
TORD	**Torodi Ar. Bea**	**23.24**	**33**	P	**P**	**21 20 07.8**	**-0.7**
	12nm,1.1s,mb4.2,baz=216,slow=9.7,SNR=27						
TORD				LR	LR	21 28 08.4	
	comp=Z,347nm,19.8s,MS3.8,baz=210,slow=34						
TORD	**Torodi Ar. Bea**	**23.24**	**33**	P	**P**	**21 20 07.8**	**-0.7**
RCBR	**Riachuelo**	**24.63**	**270**	LR	LR	21 27 21.7	
	comp=Z,360nm,21.3s,MS3.8,baz=34,slow=30						
MSKU	**Masuku**	**25.13**	**80**	P	**P**	**21 20 25.9**	**-0.4**
	7.6nm,0.6s,mb4.4,baz=239,slow=16,SNR=5.8						
MSKU				LR	LR	21 28 03.5	
	comp=Z,289nm,21.2s,MS3.8,baz=265,slow=31						
MSKU	**Masuku**	**25.13**	**80**	P	**P**	**21 20 25.9**	**-0.4**
BOSA	**Boshof**	**40.87**	**127**	LR	LR	21 36 33.1	
	comp=Z,66nm,19.6s,MS3.5,baz=90,slow=32						
KEST	**Kesra**	**46.14**	**23**	LR	LR	21 43 00.8	
	comp=Z,88nm,19.7s,MS3.7,baz=96,slow=36						
ESDC	**Sonseca Array**	**46.34**	**8**	P	**P**	**21 23 25.6**	**-1.4**
	3.3nm,1.1s,mb4.2,baz=185,slow=5.9,SNR=6.8						
ESDC	**Sonseca Array**	**46.34**	**8**	P	**P**	**21 23 25.6**	**-1.4**
CPUP	**Villa Florida**	**48.21**	**240**	LR	LR	21 41 58.1	
	comp=Z,135nm,19.0s,MS3.9,baz=67,slow=34						
TRQA	**Tornquist**	**55.70**	**228**	P	**P**	**21 24 37.3**	**-0.3**
GERES	**GERESS Array B**	**59.17**	**19**	P	**P**	**21 25 01.9**	**+0.1**
	3.2nm,1.0s,mb4.3,baz=187,slow=6.5,SNR=10						
GERES				LR	LR	21 51 51.4	
	comp=Z,85nm,18.4s,MS3.9,baz=276,slow=37						
GERES	**GERESS Array B**	**59.17**	**19**	P	**P**	**21 25 01.9**	**+0.1**
KOLL	**Kolacno**	**60.58**	**22**	*e*P	**P**	**21 25 12.6**	**+1.1**
KECS	**Kecovo**	**61.30**	**23**	*e*P	**P**	**21 25 17.5**	**+1.1**
BRTR	**Keskin Array B**	**61.74**	**38**	P	**P**	**21 25 19.9**	**+0.4**
	1.1nm,0.9s,mb4.0,baz=223,slow=5.6,SNR=4.7						
BRTR				PcP	PcP	21 26 00.9	+0.2
	1.5nm,1.1s,baz=201,slow=1.2,SNR=4.5						
BRTR				LR	LR	21 53 06.8	
	comp=Z,31nm,19.7s,MS3.5,baz=221,slow=37						
BRTR	**Keskin Array B**	**61.74**	**38**	P	**P**	**21 25 19.9**	**+0.4**
BRTR				PcP	PcP	21 26 00.9	+0.2
CRVS	**Cervenica-Dubn**	**62.03**	**24**	*e*P	**P**	**21 25 23.1**	**+1.8**
KOLS	**Kolonicke sedl**	**62.38**	**24**	*e*P	**P**	**21 25 24.3**	**+0.7**
PLCA	**Paso Flores**	**62.84**	**227**	LR	LR	21 50 35.2	
	comp=Z,113nm,19.0s,MS4.1,baz=270,slow=34						
ROSC	**El Rosal**	**64.07**	**279**	LR	LR	21 52 17.7	
	comp=Z,109nm,18.6s,MS4.1,baz=227,slow=35						
SNAA	**Sanae**	**65.39**	**177**	P	**P**	**21 25 42.8**	**-0.3**
	1.8nm,1.1s,mb4.0,baz=346,slow=9.3,SNR=6.4						
SNAA	**Sanae**	**65.39**	**177**	*e*P	**P**	**21 25 37.6**	**-5.6**
	7.7nm,1.4s,mb4.5						
AKASG	**Malin Array Be**	**66.68**	**27**	P	**P**	**21 25 51.7**	**0.0**
	0.4nm,0.4s,mb3.8,baz=225,slow=7.6,SNR=9.6						
AKASG				LR	LR	21 54 34.3	
	comp=Z,38nm,20.1s,MS3.6,baz=10,0.0,slow=36						
AKASG	**Malin Array Be**	**66.68**	**27**	P	**P**	**21 25 51.8**	**0.0**
SUW	**Suwalki**	**66.74**	**21**	*e*P	**P**	**21 25 51.3**	**-0.8**
	24nm,1.0s,mb5.2						
NOA	**NORSAR Array B**	**69.49**	**11**	LR	LR	21 55 55.6	
	comp=Z,32nm,19.4s,MS3.6,baz=55,slow=35						
FINES	**FINESS Array B**	**73.56**	**18**	LR	LR	21 58 56.8	
	comp=Z,65nm,18.6s,MS3.9,baz=186,slow=36						
MAW	**Mawson**	**78.03**	**158**	LR	LR	21 56 19.3	
	comp=Z,72nm,18.4s,MS4.0,baz=227,slow=32						
AKTO	**Aktyubinsk**	**81.91**	**37**	P	**P**	**21 27 20.1**	**-0.4**
	0.5nm,0.6s,mb3.6,baz=249,slow=7.8,SNR=3.6						
AKTO	**Aktyubinsk**	**81.91**	**37**	P	**P**	**21 27 20.1**	**-0.4**
ULM	**Lac du Bonnet**	**91.52**	**320**	LR	LR	22 02 51.3	
	comp=Z,89nm,21.2s,MS4.2,baz=353,slow=31						
TXAR	**Lajitas Array**	**95.30**	**299**	P	**P**	**21 28 25.5**	**0.0**
	0.4nm,0.9s,mb3.9,baz=125,slow=7.8,SNR=4.0						
TXAR	**Lajitas Array**	**95.30**	**299**	P	**P**	**21 28 25.5**	**0.0**
MKAR	**Makanchi Array**	**96.98**	**44**	LR	LR	22 15 30.7	
	comp=Z,49nm,18.1s,MS4.0,baz=353,slow=37						
SDCO	**Great Sand Dun**	**97.33**	**307**	*e*P	**P**	**21 28 34.4**	**-0.2**
	5.4n

ILAR	**Eielson Array**	**34.56**	**40**	P	**P**	**21 44 23.2**	**-0.7**
ILAR	**Eielson Array**	**34.56**	**40**	P	**P**	**21 44 23.2**	**-0.6**
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**21 46 06.4**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=71,slow=9.3,SNR=2.2						
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**21 46 06.4**	**-1.2**
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**21 46 06.4**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**47.36**	**303**	*e*P	**P**	**21 46 09.1**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9						
KURK	**Kurchatov**	**47.36**	**303**	*e*P	**P**	**21 46 09.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CMAR	**Chiang Mai Arr**	**53.83**	**256**	P	**P**	**21 46 59.1**	**+0.9**
	comp=Z,0.7nm,0.9s,mb3.6,baz=30,slow=7.3,SNR=4.9						
CMAR	**Chiang Mai Arr**	**53.83**	**256**	P	**P**	**21 46 59.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**53.83**	**256**	P	**P**	**21 46 59.2**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**62.88**	**55**	P	**P**	**21 48 01.5**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.7,baz=322,slow=2.8,SNR=2.9						
PDAR	**Pinedale Array**	**62.88**	**55**	P	**P**	**21 48 01.5**	**+0.4**
WRA	**Warramunga Arr**	**70.46**	**200**	P	**P**	**21 48 48.4**	**-1.0**
	comp=Z,0.8nm,1.0s,mb3.6,baz=11,slow=6.3,SNR=3.4						
WRA	**Warramunga Arr**	**70.46**	**200**	P	**P**	**21 48 48.5**	**-1.0**
WRA	**Warramunga Arr**	**70.46**	**200**	P	**P**	**21 48 48.4**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**74.15**	**200**	P	**P**	**21 49 11.8**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=23,slow=5.3,SNR=3.0						
ASAR	**Alice Springs**	**74.15**	**200**	P	**P**	**21 49 11.8**	**+0.4**
ASAR	**Alice Springs**	**74.15**	**200**	P	**P**	**21 49 11.8**	**+0.4**
TXAR	**Lajitas Array**	**75.72**	**62**	P	**P**	**21 49 20.7**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=308,slow=4.5,SNR=4.2						
TXAR	**Lajitas Array**	**75.72**	**62**	P	**P**	**21 49 20.7**	**+0.1**
TXAR	**Lajitas Array**	**75.72**	**62**	P	**P**	**21 49 20.7**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

KRSC 03 21:48:30.4±0.5, 52°.95N×159°.86E, h45km±24km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.18**	**34**	*i* P	Pn	21 48 37.8	-0.2
SPN				*i* S	Sn	21 48 43.8	+0.4
NLC	**Nalytchevo**	**0.38**	**306**	*i* P	Pn	21 48 39.8	-0.1
NLC				*i* S	Sn	21 48 47.2	+0.6
SDLR	**Sedlovina**	**0.67**	**300**	*i* P	Pn	21 48 43.7	+0.1
SDLR				*i* S	Sn	21 48 54.0	+0.9
PET	**Petropavlovsk**	**0.73**	**276**	*e*P	Pn	21 48 43.8	-0.6
PET				*i* S	Sn	21 48 54.6	+0.1
AVH	**Avacha**	**0.75**	**295**	*i* P	Pn	21 48 44.9	+0.4
AVH				*e*S	Sn	21 48 55.8	+1.0
KOK	**Koryaka**	**0.81**	**295**	*i* P	Pn	21 48 45.8	+0.4
KOK				*e*S	Sn	21 48 57.5	+1.1
RUS	**Russkaya**	**0.97**	**238**	*i* P	Pn	21 48 46.0	-1.5
RUS				*i* S	Sn	21 48 58.3	-1.8
GRL	**Gorelyy**	**1.16**	**251**	*i* P	Pn	21 48 50.1	0.0
GRL				*i* S	Sn	21 49 04.8	+0.1
GNL	**Ganaly**	**1.37**	**304**	*i* P	Pn	21 48 54.4	+1.4
GNL				*i* S	Sn	21 49 12.8	+2.8
MIPR	**Malaya Ipel'ka**	**2.01**	**252**	P	Pn	21 49 02.2	+0.5
TUMR	**Tumrok**	**2.34**	**4**	P	Pn	21 49 06.4	0.0
ESO	**Esso**	**3.06**	**348**	P	Pn	21 49 17.5	+1.4
BKI	**Bering**	**4.25**	**55**	P	Pn	21 49 32.6	+0.1
BKI				*i* S	Sn	21 50 16.5	-4.2

IDC ***03*** *21:57:44.9±1.2, 7°.46N×93°.82E, h22km±6km, mb3.6/9, mb1 3.8/10, mb1mx3.6/24, mbtmp3.6/10, ML3.7/1, Error ellipse: s-maj=41.7km s-min=17.1km az=60.0*
ISCJB ***03*** *21:57:45.1±3.1, 7°.5N±0°.1×93°.9E±0°.1, h37km±28km, mb3.9/13, Error ellipse: s-maj=29.1km s-min=8.6km az=140.8*
NEIC ***03*** *21:57:47.7±1.8, 7°.47N×93°.87E, h44km±16km, mb4.0/2, Error ellipse: s-maj=20.9km s-min=6.2km az=54.0*
ISC 03 21:57:47.8±2.5, 7°.5N±0°.1×93°.9E±0°.1, h44km±23km, **h21**km±4.0km:**pP-P, n41,** σ**0**s**64**/42, **mb3.9**/13, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.07**	**107**	*e*Pn	**Pn**	**21 59 28.3**	**-0.5**
KULM				*e*Sn	**Sn**	**22 00 48.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**11.99**	**24**	Pn	**Pn**	**22 00 36.7**	**+0.5**
	0.1nm,0.3s,baz=209,slow=14,SNR=12						
CMAR	**Chiang Mai Arr**	**11.99**	**24**	Pn	**Pn**	**22 00 36.7**	**+0.5**
ODAN	**Odare**	**20.25**	**343**	*e*P	**P**	**22 02 20.0**	**+0.5**
	4.1nm,0.6s						
ODAN	**Odare**	**20.25**	**343**	*e*P	**P**	**22 02 20.0**	**+0.5**
	4.1nm,0.6s						
RAMN	**Ramite**	**20.58**	**341**	*e*P	**P**	**22 02 23.8**	**+0.8**
	10nm,0.6s						
RAMN	**Ramite**	**20.58**	**341**	*e*P	**P**	**22 02 23.8**	**+0.8**
	10nm,0.6s						
TAPN	**Taplejung**	**20.63**	**344**	*e*P	**P**	**22 02 24.0**	**+0.5**
TAPN	**Taplejung**	**20.63**	**344**	*e*P	**P**	**22 02 24.0**	**+0.5**
DMN	**Daman**	**21.69**	**339**	*e*P	**P**	**22 02 35.1**	**+0.1**
DMN	**Daman**	**21.69**	**339**	*e*P	**P**	**22 02 35.1**	**+0.1**
KKN	**Kakani**	**21.80**	**339**	*e*P	**P**	**22 02 36.6**	**+0.5**
	2.1nm,0.4s,mb3.9						
KKN	**Kakani**	**21.80**	**339**	*e*P	**P**	**22 02 36.6**	**+0.5**
	2.1nm,0.4s,mb3.9						
GKN	**Gorkha**	**22.22**	**338**	*e*P	**P**	**22 02 40.0**	**-0.7**
	3.5nm,0.3s,mb4.2						
GKN	**Gorkha**	**22.22**	**338**	*e*P	**P**	**22 02 40.0**	**-0.7**
	3.5nm,0.3s,mb4.3						
LSA	**Lhasa**	**22.27**	**354**	*e*P	**P**	**22 02 40.1**	**-1.0**
	4.5nm,0.8s,mb4.0						
KOLN	**Koldanda**	**22.42**	**336**	*e*P	**P**	**22 02 42.5**	**-0.3**
KOLN	**Koldanda**	**22.42**	**336**	*e*P	**P**	**22 02 42.5**	**-0.3**
PYUN	**Piuthan**	**22.96**	**335**	*e*P	**P**	**22 02 48.4**	**-0.1**
PYUN	**Piuthan**	**22.96**	**335**	*e*P	**P**	**22 02 48.4**	**-0.1**
MKAR	**Makanchi Array**	**40.43**	**348**	P	**P**	**22 05 19.6**	**-2.2**
	1.1nm,1.1s,mb3.5,baz=160,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**40.43**	**348**	P	**P**	**22 05 19.6**	**-2.2**
SONM	**Songino Array**	**41.62**	**13**	P	**P**	**22 05 31.5**	**0.0**
	0.4nm,0.6s,mb3.2,baz=195,slow=7.4,SNR=5.5						
SONM				pP	pP	22 05 38.0	-5.7
	0.3nm,0.5s,baz=191,slow=11,SNR=3.3						
SONM	**Songino Array**	**41.62**	**13**	P	**P**	**22 05 31.5**	**0.0**
SONM				pP	pP	22 05 38.0	-5.7
ZALV	**Zalesovo Beam**	**46.93**	**353**	P	**P**	**22 06 14.1**	**+0.2**
	1.4nm,0.4s,mb4.3,baz=171,slow=7.9,SNR=13						
ZALV	**Zalesovo Beam**	**46.93**	**353**	P	**P**	**22 06 14.1**	**+0.2**
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**22 06 24.6**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=305,slow=8.6,SNR=8.6						
WRA				pP	pP	22 06 31.4	-5.6
	0.3nm,0.5s,baz=305,slow=8.5,SNR=3.3						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**22 06 24.6**	**-0.1**
WRA				pP	pP	22 06 31.4	-5.6
WRAB	**Tennant Creek**	**48.25**	**125**	*e*P	**P**	**22 06 25.1**	**+0.5**
	1.3nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**48.25**	**125**	*e*P	**P**	**22 06 24.5**	**-0.2**
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**22 06 37.1**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=305,slow=7.5,SNR=7.4						
ASAR				pP	pP	22 06 44.2	-5.1
	0.4nm,0.5s,baz=302,slow=7.4,SNR=4.9						
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**22 06 37.1**	**+0.1**
ASAR				pP	pP	22 06 44.2	-5.1
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**22 08 06.5**	**-0.4**
	0.3nm,0.6s,mb3.6,baz=116,slow=7.8,SNR=2.8						
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**22 08 06.5**	**-0.4**
FINES	**FINESS Array B**	**72.95**	**332**	P	**P**	**22 09 12.4**	**0.0**
	7.0nm,1.1s,mb4.5,baz=107,slow=9.1,SNR=4.3						
FINES	**FINESS Array B**	**72.95**	**332**	P	**P**	**22 09 12.4**	**0.0**
LBTB	**Lobatse**	**73.81**	**241**	P	**P**	**22 09 18.0**	**-0.1**
ARCES	**ARCESS Array B**	**75.56**	**340**	P	**P**	**22 09 27.5**	**+0.1**
	1.8nm,0.9s,mb4.0,baz=98,slow=6.5,SNR=2.4						
ARCES	**ARCESS Array B**	**75.56**	**340**	P	**P**	**22 09 27.5**	**+0.1**
GERES	**GERESS Array B**	**77.95**	**318**	P	**P**	**22 09 42.7**	**+1.4**
	0.5nm,0.5s,mb3.7,baz=90,slow=7.8,SNR=3.3						
GERES	**GERESS Array B**	**77.95**	**318**	P	**P**	**22 09 42.7**	**+1.4**

ISCJB ***03*** *22:18:41.8±0.6, 24°.52N±0°.03×122°.62E±0°.02, h90km±6km, Error ellipse: s-maj=5.6km s-min=3.2km az=176.4*
JMA ***03*** *22:18:41.0±0.2, 24°.73N×122°.63E, h95km, M1.9*
TAP ***03*** *22:18:41.2, 24°.53N×122°.69E, h83km±1km, ML3.4, D*
ISC 03 22:18:42.3±0.6, 24°.53N±0°.03×122°.62E±0°.02, h89km±6km,

n42, σ**0°70/77, 2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.36**	**100**	P	**Pn**	**22 18 55.8**	**-0.1**
YOJ				*e*S	**Sn**	**22 19 07.1**	**+1.1**
TWC	**Suao**	**0.70**	**277**	*i* P	**Pn**	**22 18 58.1**	**-0.6**
	baz=276						
TWC				S	**Sn**	**22 19 10.4**	**-0.6**
	baz=276						
TWB1	**Santiao Chiao**	**0.75**	**310**	*i* P	**Pn**	**22 18 58.7**	**-0.4**
	baz=307						
TWB1				*e*S	**Sn**	**22 19 11.1**	**-0.6**
	baz=307						
ENA	**Nanau**	**0.81**	**263**	*i* P	**Pn**	**22 18 59.6**	**-0.1**
	baz=263						
ENA				*e*S	**Sn**	**22 19 13.3**	**+0.6**
	baz=263						
ILA	**Ilan**	**0.83**	**287**	*e*P	**Pn**	**22 18 59.9**	**-0.1**
	baz=285						
ILA				*e*S	**Sn**	**22 19 13.3**	**+0.1**
	baz=285						
TWE	**Neicheng**	**0.89**	**283**	⇓*i* P	**Pn**	**22 19 00.3**	**-0.2**
	baz=281						
TWE				S	**Sn**	**22 19 14.1**	**-0.2**
	baz=281						
ENTT	**Nioudou**	**0.96**	**277**	*i* P	**Pn**	**22 19 01.5**	**0.0**
	baz=276						
ENTT				S	**Sn**	**22 19 16.2**	**+0.3**
	baz=276						
IRIF	**Iriomote-Funau**	**1.03**	**100**	P	**Pn**	**22 19 01.9**	**-0.3**
IRIF				*e*S	**Sn**	**22 19 17.8**	**+0.6**
TWD	**Chiawan**	**1.03**	**245**	P	**Pn**	**22 19 01.7**	**-0.5**
	baz=245						
TWD				*e*S	**Sn**	**22 19 16.9**	**-0.4**
	baz=245						
TWA	**Mucha**	**1.04**	**296**	*e*P	**Pn**	**22 19 01.8**	**-0.5**
	baz=294						
HWA	**Hwalien**	**1.07**	**240**	*e*P	**Pn**	**22 19 02.3**	**-0.5**
	baz=240						
HWA				*e*S	**Sn**	**22 19 17.5**	**-0.6**
	baz=240						
NNS	**Nan Shan**	**1.14**	**266**	*i* P	**Pn**	**22 19 03.5**	**0.0**
	baz=265						
NNS				S	**Sn**	**22 19 19.8**	**+0.3**
	baz=265						
NSK	**Sanguang**	**1.16**	**278**	⇓*i* P	**Pn**	**22 19 03.7**	**0.0**
	baz=277						
NSK				S	**Sn**	**22 19 19.9**	**0.0**
	baz=277						
HATJ	**Hateruma jima**	**1.18**	**113**	*e*S	**Sn**	**22 19 22.3**	**+2.0**
TWY	**Chenhua**	**1.19**	**309**	*e*P	**Pn**	**22 19 03.7**	**-0.4**
	baz=307						
TWY				*e*S	**Sn**	**22 19 20.2**	**-0.3**
	baz=307						
TWS1	**Kuangyinshan**	**1.23**	**298**	P	**Pn**	**22 19 04.1**	**-0.5**
	baz=296						
TWS1				*e*S	**Sn**	**22 19 21.0**	**-0.4**
	baz=296						
WHF	**Hehuan Shan**	**1.29**	**253**	P	**Pn**	**22 19 05.5**	**+0.2**
	baz=253						
WHF				S	**Sn**	**22 19 23.5**	**+0.8**
	baz=253						
ESL	**Shilin**	**1.29**	**237**	P	**Pn**	**22 19 04.9**	**-0.5**
	baz=237						
ESL				*e*S	**Sn**	**22 19 22.0**	**-0.8**
	baz=237						
JKRS	**Kuro-shima**	**1.30**	**102**	P	**Pn**	**22 19 05.5**	**+0.1**
JKRS				*e*S	**Sn**	**22 19 23.3**	**+0.4**
TWT	**Tachien**	**1.34**	**259**	P	**Pn**	**22 19 06.6**	**+0.6**
	baz=258						
TWT				*e*S	**Sn**	**22 19 24.5**	**+0.6**
	baz=258						
NCU	**National Centr**	**1.37**	**289**	S	**Sn**	**22 19 24.9**	**+0.3**
	baz=287						
JIJ	**Ishigaki jima**	**1.40**	**96**	P	**Pn**	**22 19 06.1**	**-0.6**
JIJ				*e*S	**Sn**	**22 19 24.2**	**-0.9**
NSTT	**Nanjuang**	**1.48**	**274**	P	**Pn**	**22 19 07.4**	**-0.2**
	baz=273						
NSTT				*i* S	**Sn**	**22 19 26.9**	**0.0**
	baz=273						
EHY	**Hungye**	**1.56**	**230**	*e*P	**Pn**	**22 19 07.8**	**-1.0**
	baz=230						
EHY				*e*S	**Sn**	**22 19 27.4**	**-1.4**
	baz=230						
TWF1	**Yuli**	**1.68**	**226**	P	**Pn**	**22 19 09.8**	**-0.5**
	baz=227						
TWF1				*e*S	**Sn**	**22 19 31.0**	**-0.5**
	baz=227						
TWQ1	**Liyutan**	**1.69**	**264**	P	**Pn**	**22 19 10.4**	**+0.1**
	baz=264						
TWQ1				*e*S	**Sn**	**22 19 31.7**	**-0.1**
	baz=264						
SMLT	**Sun Moon Lake**	**1.69**	**248**	P	**Pn**	**22 19 10.8**	**+0.4**
	baz=248						
SMLT				*e*S	**Sn**	**22 19 34.3**	**+2.5**
	baz=248						
NSY	**Sanyi**	**1.70**	**267**	*e*P	**Pn**	**22 19 10.8**	**+0.3**
	baz=266						
TYC	**Yuchr**	**1.72**	**249**	P	**Pn**	**22 19 11.2**	**+0.4**
	baz=249						
TYC				*e*S	**Sn**	**22 19 32.9**	**+0.4**
	baz=249						
CHKT	**Chengkung**	**1.83**	**219**	*e*P	**Pn**	**22 19 11.3**	**-0.8**
	baz=220						
CHKT				*e*S	**Sn**	**22 19 33.6**	**-1.3**
	baz=220						
YUS	**Yu-Shan**	**1.84**	**236**	*e*P	**Pn**	**22 19 13.0**	**+0.7**
	baz=236						
YUS				*e*S	**Sn**	**22 19 36.0**	**+0.8**
	baz=236						
JTJ	**Tarama**	**1.90**	**86**	P	**Pn**	**22 19 12.9**	**-0.2**
JTJ				*e*S	**Sn**	**22 19 36.5**	**-0.1**
ALS	**Alishan**	**1.94**	**239**	P	**Pn**	**22 19 14.7**	**+1.0**
	baz=239						
ALS				S	**Sn**	**22 19 38.7**	**+1.1**
	baz=239						
ELDTW	**Lidau**	**1.98**	**228**	P	**Pn**	**22 19 13.6**	**-0.5**
	baz=228						
ELDTW				*e*S	**Sn**	**22 19 37.6**	**-0.8**
	baz=228						
STYT	**Tauyuan**	**2.18**	**232**	*e*P	**Pn**	**22 19 17.2**	**+0.4**
	baz=232						
CHN4	**Tsaushan**	**2.19**	**238**	*e*P	**Pn**	**22 19 18.6**	**+1.7**
	baz=238						
CHN4				*e*S	**Sn**	**22 19 44.0**	**+0.5**
	baz=238						
TWG	**Pinlang**	**2.21**	**220**	*e*P	**Pn**	**22 19 16.6**	**-0.6**
	baz=220						
TWG				*e*S	**Sn**	**22 19 43.6**	**-0.3**
	baz=220						
CHN1	**Nanshi**	**2.33**	**236**	*e*P	**Pn**	**22 19 19.6**	**+0.8**
	baz=235						
CHN1				S	**Sn**	**22 19 47.9**	**+1.1**
	baz=235						
ECL	**Taimali**	**2.45**	**219**	*e*P	**Pn**	**22 19 21.6**	**+1.1**
	baz=219						
SSD	**Sandimen**	**2.54**	**226**	*e*P	**Pn**	**22 19 22.4**	**+0.8**
	baz=226						
LAY	**Lan-yu**	**2.66**	**202**	*e*P	**Pn**	**22 19 23.4**	**+0.1**
	baz=202						
LAY				*e*S	**Sn**	**22 19 52.9**	**-1.9**
	baz=202						
EAST	**Anshuo**	**2.68**	**218**	*e*P	**Pn**	**22 19 23.2**	**-0.3**
	baz=218						
EAST				*e*S	**Sn**	**22 19 54.8**	**-0.4**
	baz=218						

TRN 03 22:56:31.4, 16°.73N×61°.90W, h91km, **M3.8**(FDF), **M3.6**(FDF), **5D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.32**	**7**	*e*P	Pn	22 56 46.1	+1.1
BPA				*e*S	Sn	22 56 56.8	+1.6
LZG	**Guadaloupe-1**	**0.59**	**169**	⇓*i*P	Pn	22 56 48.5	+1.5
BCG	**Bois Riant Cap**	**0.69**	**157**	⇓*e*P	Pn	22 56 49.5	+1.6
SCG	**Saint Claude**	**0.72**	**163**	*e*P	Pn	22 56 49.9	+1.6
DOG	**Dongo Capester**	**0.74**	**159**	⇓*i*P	Pn	22 56 49.9	+1.5
PHG	**Guadaloupe-2**	**0.75**	**161**	*e*P	Pn	22 56 50.2	+1.7
SFG	**Saint Francois**	**0.82**	**125**	*e*P	Pn	22 56 50.5	+1.3
TBG	**Guadaloupe-3**	**0.90**	**164**	*e*P	Pn	22 56 51.4	+1.3
DEG	**La Desirade**	**0.90**	**117**	⇓*i*P	Pn	22 56 51.0	+0.9
MGG	**Marie-Galante**	**0.98**	**145**	⇓*i*P	Pn	22 56 52.4	+1.5
SKI	**Saint Kitts**	**1.01**	**307**	*e*P	Pn	22 56 52.5	+1.3
SKI				*e*S	Sn	22 57 07.4	+1.3
DWS	**Wesley**	**1.28**	**154**	*e*P	Pn	22 56 56.6	+2.0
DWS				*e*S	Sn	22 57 14.2	+2.3
DWS				T		06 43 18.3	
MDN	**Morne-Daniel**	**1.48**	**161**	*e*P	Pn	22 56 59.1	+2.1
DFBT	**Forest Bistro**	**1.57**	**160**	*e*P	Pn	22 57 00.1	+2.1
DFBT				*e*S	Sn	22 57 19.2	+1.0
DSHT	**Scott's Head**	**1.59**	**161**	*e*P	Pn	22 57 00.5	+2.2
FDF	**Fort de France**	**2.11**	**160**	*e*P	Pn	22 57 05.5	+0.4
FDF				*e*S	Sn	22 57 31.4	+0.6
BIM	**Bigot**	**2.34**	**160**	*e*P	Pn	22 57 08.9	+0.8
BIM				*e*S	Sn	22 57 37.6	+1.4
MVM	**Montagne Vaucl**	**2.37**	**156**	*e*P	Pn	22 57 09.1	+0.6
MVM				*e*S	Sn	22 57 37.3	+0.4
SLB	**Belfond**	**3.00**	**164**	*e*S	Sn	22 57 57.0	+5.0
MCLT	**Moule a Chique**	**3.14**	**163**	*e*P	Pn	22 57 20.4	+1.5
SVB	**Belmont**	**3.49**	**170**	*e*P	Pn	22 57 26.3	+2.7
SVB				*e*S	Sn	22 58 06.6	+2.7
TOSP	**Speyside**	**5.55**	**166**	*e*P	Pn	22 57 55.4	+3.7

NIED ***03*** *23:16:00, 38°.50N×143°.20E, h23km, Mw5.8 Best double couple: M0 5.07000×10^17 NP1:φ1=23.00000°, δ68.00000°, λ91.00000°. NP2:φ2=200.00000°, δ22.00000°, λ87.00000°.*
IDC ***03*** *23:16:51.9±0.4, 38°.53N×142°.97E, h0km, mb4.9/34, mb1 4.9/38, mb1mx4.9/39, mbtmp4.9/38, ML4.3/4, MS5.6/32, Ms1 5.6/32, ms1mx5.4/45, Error ellipse: s-maj=11.9km s-min=8.8km az=103.0*
JMA ***03*** *23:16:53.2±0.1, 38°.53N×143°.22E, h24km±3km, M6.1*
JMA Felt III J1.
NEIC ***03*** *23:16:54.9±0.1, 38°.59N×142°.88E, h14km, mb5.6/155, MS5.5/171, MW5.8, MW5.8, MW5.7(NIED), Error ellipse: s-maj=4.2km s-min=2.8km az=149.0, Moment Tensor Solution. s98 Moment tensor: Scale 10^17Nm; Mrr2.66; Mθθ-0.15; Mφφ-2.51; Mrθ2.05; Mθφ-2.04; Mφr4.49; Best double couple: M0 5.90000×10^17 NP1:φ1=25.00000°, δ74.00000°, λ86.00000°. NP2:φ2=219.00000°, δ17.00000°, λ104.00000°. Principal axes: T 5.3700, Plg61.0000°, Azm288.0000°; N 0.9900, Plg3.0000°, Azm25.0000°; P -6.3700, Plg28.0000°, Azm118.0000°;*
NEIC Recorded [3 JMA] in Miyagi and Yamagata; [2 JMA] in Akita, Aomori, Fukushima and Iwate; [1 JMA] in Chiba, Ibaraki and Saitama. Also recorded [1 JMA] in southwestern Hokkaido.
ISCJB ***03*** *23:16:54.9±0.1, 38°.57N±0°.02×142°.97E±0°.02, h25km, mb5.5/302, MS5.6/247 Error ellipse: s-maj=2.8km s-min=1.9km az=145.1*
BJI ***03*** *23:16:56.2, 38°.55N×142°.32E, h14km, mB6.1/58, mb5.5/67, Ms6.1/79, Ms7 6.0/70*
MOS ***03*** *23:16:56.0±0.9, 38°.82N×142°.89E, h24km, mb5.7/100, MS5.6/68, Error ellipse: s-maj=5.9km s-min=3.5km az=106.4*
GCMT ***03*** *23:16:58.7±0.1, 38°.56N×143°.18E, h24km, MW5.8, Moment Tensor Solution. s96,c192; s53,c58; Moment tensor: Scale 10^17Nm; Mrr3.33±.06; Mθθ-0.04±.04; Mφφ-3.30±.04; Mrθ 1.72±.07; Mθφ-1.02±.03; Mφr4.09±.10; Best double couple: M0 5.60000×10^17 NP1:φ1=190.00000°, δ19.00000°, λ79.00000°. NP2:φ2=21.00000°, δ71.00000°, λ94.00000°. Principal axes: T 5.5100, Plg64.0000°, Azm298.0000°; N 0.2200, Plg4.0000°, Azm200.0000°; P -5.7400, Plg26.0000°, Azm108.0000°; Data Used: II IU CN IC G. Surface waves: sta=109, comp=242, per= 50.*
TEH ***03*** *23:16:59.0, 38°.57N×142°.76E, h35km*
SZGRF ***03*** *23:17:00.4, 39°.27N×143°.91E, h39km, mb6.1, MS5.8, Off east coast of Honshu, Japan*
DJA ***03*** *23:17:10, 38°.58N×143°.10E, h157km, Mw5.5/44*
BGS ***03*** *23:18:03.7±2.4, 45°.07N×122°.34E, h10km, mb5.5, MS5.6*
ISC 03 23:16:57.0±0.1, 38°.62N±0°.02×142°.93E±0°.02, h26km, **h26**km±2.9km:**pP-P, n1162,** σ**1**s**04**/1128, **mb5.5**/302, **MS5.6**/247, **149C-25D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.09**	**296**	⇓P	**Pn**	**23 17 16.7**	**+0.2**
OFUJ				*e*S	**Sn**	**23 17 33.4**	**+2.7**
JIO	**Ouri**	**1.25**	**263**	⇓P	**Pn**	**23 17 18.6**	**-0.1**
JIO				*e*S	**Sn**	**23 17 37.2**	**+2.6**
MIYJ	**Miyakonagasawa**	**1.29**	**318**	⇑P	**Pn**	**23 17 19.1**	**-0.2**
JMK	**Ichinoseki**	**1.38**	**285**	⇓P	**Pn**	**23 17 21.0**	**+0.5**
JMK				*e*S	**Sn**	**23 17 41.5**	**+3.7**
JOM	**Ohasama**	**1.53**	**304**	⇑P	**Pn**	**23 17 23.3**	**+0.7**
JTH	**Tanohata**	**1.56**	**328**	⇑P	**Pn**	**23 17 22.6**	**-0.4**
JOU	**Okura**	**1.79**	**263**	⇑P	**Pn**	**23 17 26.9**	**+0.7**
JOU				*e*S	**Sn**	**23 17 51.6**	**+3.5**
JMM	**Marumori**	**1.84**	**247**	⇑P	**Pn**	**23 17 26.5**	**-0.3**
JMM				*e*S	**Sn**	**23 17 51.1**	**+1.9**
JRG	**Rokugo**	**1.95**	**294**	⇑P	**Pn**	**23 17 29.6**	**+1.3**
JYK	**Kaneyama**	**2.03**	**279**	⇑P	**Pn**	**23 17 30.5**	**+1.1**
JYK				*e*S	**Sn**	**23 17 57.5**	**+3.6**
JFK	**Kawauchi**	**2.05**	**233**	⇑P	**Pn**	**23 17 28.7**	**-1.0**
JFK				*e*S	**Sn**	**23 17 54.6**	**+0.3**
JANG	**Nango**	**2.07**	**329**	⇑P	**Pn**	**23 17 29.4**	**-0.6**
ONAJ	**Iwakimizuishiy**	**2.26**	**229**	⇑P	**Pn**	**23 17 31.3**	**-1.4**
JYS	**Shiratake**	**2.28**	**261**	P	**Pn**	**23 17 33.9**	**+1.0**
JYW	**Yuwa**	**2.31**	**294**	⇑P	**Pn**	**23 17 35.0**	**+1.7**
JFT	**Otama**	**2.32**	**243**	⇑P	**Pn**	**23 17 34.0**	**+0.6**
JFT				*e*S	**Sn**	**23

YUK			smax			
	comp=E,3μm,0.6s					
YUK			smax			
	comp=N,1μm,0.6s					
YUK			smax			
	comp=N,17μm,2.4s					
YUK			smax			
	comp=E,26μm,2.4s					
YUK			MLR	MLR		
	comp=N,17μm,19.0s					
YUK			MLR	MLR		
	comp=E,13μm,19.0s					
YUK			MLR	MLR		
	comp=Z,26μm,19.0s					
JWT	**Wachi**	**6.88 243**	⇑P	**Pn**	**23 18 37.8**	**+1.7**
KUR	**Kuril'sk**	**7.57 28**	*e*P	**Pn**	**23 18 43.0**	**-2.5**
KUR			*e*S	**Sn**	**23 20 03.6**	**-6.7**
KUR			pmax	pmax		
	comp=N,4μm,3.2s					
KUR			pmax	pmax		
	comp=Z,4μm,3.2s					
KUR			pmax	pmax		
	comp=Z,610nm,0.8s					
KUR			pmax	pmax		
	comp=N,150nm,0.5s					
KUR			pmax	pmax		
	comp=E,260nm,0.7s					
KUR			smax			
	comp=N,480nm,0.7s					
KUR			smax			
	comp=E,1μm,0.7s					
KUR			smax			
	comp=E,18μm,4.0s					
KUR			smax			
	comp=N,5μm,1.6s					
KUR			MLR	MLR		
	comp=N,51μm,16.0s					
KUR			MLR	MLR		
	comp=Z,39μm,16.0s					
KUR			MLR	MLR		
	comp=E,55μm,13.0s					
YSS	**Yuzh-Sakhalins**	**8.33 359**⇑	*e*Pn	**Pn**	**23 18 54.5**	**-1.5**
YSS			*e*Sn	**Sn**	**23 20 30.2**	**+1.0**
YSS	**Yuzh-Sakhalins**	**8.33 359**	*c i*P	**Pn**	**23 18 54.0**	**-2.0**
YSS			*e*S	**Sn**	**23 20 25.0**	**-4.2**
YSS			pmax	pmax		
	comp=N,2μm,6.0s					
YSS			pmax	pmax		
	comp=Z,2μm,6.0s					
YSS			pmax	pmax		
	comp=Z,80nm,0.9s					
YSS			MLR	MLR		
	comp=Z,29μm,15.0s					
YSS			MLR	MLR		
	comp=N,32μm,17.0s					
VLA	**Vladivostok**	**9.49 302**	*j i*P	**Pn**	**23 19 14.6**	**+2.7**
VLA			S	**Sn**	**23 21 04.4**	**+6.8**
VLA			pmax	pmax		
	comp=Z,754nm,1.3s					
JKU	**Kubokawa**	**9.59 239**	P	**Pn**	**23 19 14.9**	**+1.7**
JKI	**Kunimi**	**10.44 245**	P	**Pn**	**23 19 27.9**	**+2.9**
JFA	**Akaike**	**10.96 247**	P	**Pn**	**23 19 33.9**	**+1.9**
JNU	**Nakatsue**	**11.20 244**⇑	*e*Pn	**Pn**	**23 19 35.7**	**+0.3**
JNU			*e*Sn	**Sn**	**23 21 43.4**	**+3.7**
HABR	**Khabarovsk**	**11.38 332**	*c i*P	**Pn**	**23 19 36.4**	**-1.3**
HABR			*e*		23 21 43.5	
HABR			pmax	pmax		
	comp=E,146nm,3.0s					
HABR			pmax	pmax		
	comp=Z,285nm,3.0s					
HABR			pmax	pmax		
	comp=N,219nm,3.0s					
HABR			MLR	MLR		
	comp=N,25μm,14.0s					
HABR			MLR	MLR		
	comp=Z,38μm,18.0s					
HABR			MLR	MLR		
	comp=E,44μm,17.0s					
CBIJ	**Chichi jima**	**11.51 183**	Pn	**Pn**	**23 19 34.2**	**-5.3**
	comp=E,9.3nm,0.3s,baz=270,slow=20,SNR=4.4					
CBIJ			Sn	**Sn**	**23 21 31.6**	**-16**
	comp=E,46nm,0.3s,baz=288,slow=20,SNR=5.5					
CBIJ			LR	LR	23 23 46.7	
	comp=E,11μm,18.9s,baz=177,slow=36					
CBIJ	**Chichi jima**	**11.51 183**	Pn	**Pn**	**23 19 34.2**	**-5.3**
CBIJ			Sn	**Sn**	**23 21 31.6**	**-16**
JTU	**Tsushima**	**11.62 254**	P	**Pn**	**23 19 43.3**	**+2.3**
MDJ	**Mudanjiang**	**11.64 305**	P	**Pn**	**23 19 41.3**	**+0.1**
MDJ			S	**Sn**	**23 21 52.6**	**+2.4**
MDJ			ScP	ScP	23 29 03.8	+2.5
MDJ			PcS	PcS	23 29 05.1	+0.8
MDJ			pmax	pmax		
	comp=Z,5μm,5.7s					
MDJ			LR	LR		
	comp=N,32μm,17.2s					
MDJ			LR	LR		
	comp=E,58μm,17.2s					
MDJ			LR	LR		
	comp=Z,83μm,17.8s					
MDJ	**Mudanjiang**	**11.64 305**⇑	*i*Pn	**Pn**	**23 19 43.1**	**+1.8**
	comp=Z,620nm,1.3s					
MDJ			Sn	**Sn**	**23 22 00.2**	**+10**
KSRS	**Korea Array**	**11.89 269**	Pn	**Pn**	**23 19 48.1**	**+3.3**
	comp=Z,2.2nm,0.3s,baz=82,slow=13,SNR=48					
KSRS			LR	LR	23 24 17.5	
	comp=Z,44μm,18.2s,baz=78,slow=37					
KSRS	**Korea Array**	**11.89 269**	P	**Pn**	**23 19 48.1**	**+3.3**
KSRS			pmax	pmax		
	comp=Z,2.0nm,0.3s					
KSRS			MLR	MLR		
	comp=Z,44μm,18.2s					
KSAR	**Wonju Array Be**	**11.92 269**	Pn	**Pn**	**23 19 48.1**	**+2.9**
KSAR	**Wonju Array Be**	**11.92 269**	P	**Pn**	**23 19 48.1**	**+2.9**
JZO	**Okuchi**	**11.95 241**	P	**Pn**	**23 19 47.1**	**+1.5**
INCN	**Inchon**	**12.90 270**	*e*Pn	**Pn**	**23 19 56.9**	**-1.6**
KLR	**Kul'dur**	**13.30 326**	*e*P	**Pn**	**23 20 00.0**	**-4.0**
KLR			pmax	pmax		
	comp=N,150nm,2.0s					
KLR			pmax	pmax		
	comp=E,200nm,2.0s					
KLR			pmax	pmax		
	comp=Z,450nm,2.0s					
CN2	**Changchun**	**14.13 297**	*e*P	**Pn**	**23 20 14.8**	**-0.6**
CN2			*e*pP		23 20 22.8	
CN2			*e*PP		23 20 27.1	
CN2			*e*S	**Sn**	**23 22 50.3**	**-0.9**
CN2			*e*SS		23 23 07.0	
CN2			pmax	pmax		
	comp=Z,70nm,1.9s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,33μm,16.0s					
CN2			LR	LR		
	comp=E,33μm,16.0s					
CN2			LR	LR		
	comp=Z,31μm,17.0s					
SNY	**Shenyang**	**15.12 288**	⇑P	**Pn**	**23 20 28.3**	**-0.4**
SNY			pmax	pmax		
	comp=Z,8μm,12.0s					
SNY			LR	LR		
	comp=E,50μm,18.1s					
SNY			LR	LR		
	comp=Z,55μm,17.4s					
SKR	**Severo-Kuril's**	**15.26 33**	*e*P	**Pn**	**23 20 29.0**	**-1.4**
SKR			pmax	pmax		
	comp=Z,80nm,0.6s					
SKR			MLR	MLR		
	comp=N,11μm,16.0s					
SKR			MLR	MLR		
	comp=E,17μm,16.0s					
SKR			MLR	MLR		
	comp=Z,22μm,16.0s					
DL2	**Dalian**	**16.62 278**	P	**Pn**	**23 20 46.8**	**-1.2**
DL2			S	**Sn**	**23 23 50.5**	**-1.2**
DL2			pmax	pmax		
	comp=Z,270nm,1.4s					
DL2			pmax	pmax		
	comp=Z,5μm,12.2s					
DL2			LR	LR		
	comp=N,9μm,14.9s					
DL2			LR	LR		
	comp=E,20μm,14.0s					
DL2			LR	LR		
	comp=Z,24μm,16.1s					
JOW	**Kunigami**	**17.01 231**	Pn	**Pn**	**23 20 49.1**	**-3.8**
	comp=Z,1.5nm,0.3s,baz=35,slow=9.0,SNR=4.9					
JOW	**Kunigami**	**17.01 231**	*e*Pn	**Pn**	**23 20 52.9**	**-0.1**
PEA0B	**Petropavlovsk-**	**17.72 30**	*e*Pn	**Pn**	**23 21 02.1**	**+0.5**
PETK	**Petropavlovsk-**	**17.72 30**	P	**Pn**	**23 20 59.4**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=218,slow=9.1,SNR=7.1					
PETK			LR	LR	23 28 51.7	
	comp=Z,7μm,18.3s,baz=218,slow=40					
PETK	**Petropavlovsk-**	**17.72 30**	P	**Pn**	**23 20 59.4**	**-2.2**
PETK	**Petropavlovsk-**	**17.72 30**	P	**Pn**	**23 20 59.4**	**-2.2**
PETK			pmax	pmax		
	comp=Z,1.0nm,0.3s					
PETK			MLR	MLR		
	comp=Z,7μm,18.3s					
PET	**Petropavlovsk**	**18.04 32**	*e*P	**Pn**	**23 21 06.2**	**+0.6**
	comp=Z,222nm,1.3s					
PET	**Petropavlovsk**	**18.04 32**⇓	*i*P	**Pn**	**23 21 06.5**	**+0.9**
PET			*e*S	**Sn**	**23 24 22.5**	**-3.4**
PET			pmax	pmax		
	comp=Z,3μm,3.6s					
PET			pmax	pmax		
	comp=Z,2μm,15.0s					
PET			pmax	pmax		
	comp=Z,137nm,1.4s					
PET			MLR	MLR		
	comp=Z,17μm,15.0s					
PET			MLR	MLR		
	comp=Z,18μm,16.0s					
SSE	**Sheshan**	**19.33 254**	P	**Pn**	**23 21 18.2**	**-3.2**
SSE			sP	sP	23 21 28.9	-1.8
SSE			S	**Sn**	**23 24 54.6**	**-2.8**
SSE			pmax	pmax		
	comp=Z,250nm,1.4s					
SSE			pmax	pmax		
	comp=Z,3μm,8.3s					
SSE			LR	LR		
	comp=N,22μm,14.8s					
SSE			LR	LR		
	comp=E,14μm,14.8s					
SSE			LR	LR		
	comp=Z,28μm,15.1s					
SSE	**Sheshan**	**19.33 254**	P	**Pn**	**23 21 18.2**	**-3.2**
	comp=Z,247nm,1.4s					
SSE			sP	sP	23 21 28.9	-1.8
SSE			S	**Sn**	**23 24 54.6**	**-2.8**
SSE			sS	sS	23 25 07.7	-1.3
HIA	**Hailar**	**19.72 310**⇑	*e*P	**Pn**	**23 21 21.8**	**-4.1**
	comp=Z,115nm,1.0s					
HIA			*e*S	**Sn**	**23 25 05.2**	**-1.4**
HIA	**Hailar**	**19.72 310**⇑	*e*P	**Pn**	**23 21 21.8**	**-4.1**
HIA			*e*S	**Sn**	**23 25 05.2**	**-1.4**
HIA			pmax	pmax		
	comp=Z,115nm,1.0s					
TIA	**Tai'an**	**20.62 271**	⇑P	**P**	**23 21 31.8**	**-2.4**
TIA			pmax	pmax		
	comp=Z,200nm,1.8s					
TIA			pmax	pmax		
	comp=Z,6μm,16.7s					
TIA			LR	LR		
	comp=N,16μm,11.8s,MS5.9					
TIA			LR	LR		
	comp=E,33μm,13.7s,MS5.9					
TIA			LR	LR		
	comp=Z,36μm,12.8s,MS5.9					
NJ2	**Nanjing**	**20.67 259**	*e*P	**P**	**23 21 32.6**	**-2.2**
NJ2			pP		23 21 36.6	
NJ2			sP	sP	23 21 39.6	-5.8
NJ2			PP		23 21 54.0	
NJ2			pmax	pmax		
	comp=Z,180nm,1.0s					
NJ2			pmax	pmax		
	comp=Z,4μm,4.8s					
NJ2			LR	LR		
	comp=N,22μm,16.8s,MS5.7					
NJ2			LR	LR		
	comp=E,20μm,16.9s,MS5.7					
NJ2			LR	LR		
	comp=Z,27μm,18.6s,MS5.7					
BJI	**Beijing**	**20.72 282**	P	**P**	**23 21 32.6**	**-2.7**
BJI			pmax	pmax		
	comp=Z,150nm,1.8s					
BJI			pmax	pmax		
	comp=Z,2μm,4.2s					
BJI			LR	LR		
	comp=N,16μm,13.5s,MS6.1					
BJI			LR	LR		
	comp=E,54μm,15.1s,MS6.1					
BJI			LR	LR		
	comp=Z,21μm,16.6s,MS5.6					
BJT	**Baijiatuau**	**20.73 282**⇑	*i*P	**P**	**23 21 32.9**	**-2.5**
	comp=Z,128nm,0.6s					
BJT			*e*S	**S**	**23 25 23.0**	**-2.5**
BJT			LR	LR		
	comp=Z,19μm,20.0s,MS5.5					
BJT	**Baijiatuau**	**20.73 282**⇑	*i*P	**P**	**23 21 32.9**	**-2.5**
BJT			*e*S	**S**	**23 25 23.0**	**-2.4**
BJT			pmax	pmax		
	comp=Z,128nm,0.6s					
BJT			MLR	MLR		
	comp=Z,19μm,20.0s					
CLNS	**Chul'man**	**21.78 333**	*e*P	**P**	**23 21 46.2**	**-0.3**
CLNS			*e**PP		23 21 55.9	
CLNS			*e*		23 22 07.7	
CLNS			*e*		23 25 45.2	
CLNS			*e*S	**S**	**23 25 47.7**	**+2.0**
CLNS			*e*SS		23 26 26.8	
CLNS			pmax	pmax		
	comp=Z,298nm,2.2s,mb5.3					
CLNS			pmax	pmax		
	comp=N,308nm,2.0s					
CLNS			pmax	pmax		
	comp=E,100nm,2.0s					
CLNS			pmax	pmax		
	comp=Z,139nm,1.1s,mb5.3					
CLNS			pmax	pmax		
	comp=N,336nm,1.5s					
CLNS			pmax	pmax		
	comp=E,113nm,1.5s					
CLNS			smax			
	comp=E,3μm,12.5s					
CLNS			smax			
	comp=N,6μm,12.2s					
CLNS			MLR	MLR		
	comp=N,14μm,15.0s,MS5.7					
CLNS			MLR	MLR		
	comp=Z,17μm,14.0s,MS5.6					
CLNS			MLR	MLR		
	comp=E,21μm,17.0s,MS5.7					
TATO	**Taipei**	**22.67 239**	*e*P	**P**	**23 21 55.3**	**-0.9**
	comp=E,544nm,1.4s,mb5.8					
YHNB	**Yeheng**	**22.95 239**	*e*P	**P**	**23 21 56.2**	**-2.9**
	comp=E,130nm,1.0s,mb5.3					
NACB	**Ninganchiao**	**23.14 238**	*e*P	**P**	**23 21 58.6**	**-2.6**
	comp=E,90nm,1.1s,mb5.1					
NACB			*e*S	**S**	**23 26 10.6**	**-0.3**
SSLB	**Suanglung**	**23.83 238**	*e*P	**P**	**23 22 04.8**	**-3.1**
	comp=E,282nm,1.4s,mb5.5					
SSLB			*e*S	**S**	**23 26 22.1**	**0.0**
YULB	**Yu-li**	**23.87 237**	*e*P	**P**	**23 22 08.0**	**-0.4**
	comp=E,116nm,1.1s,mb5.2					
YULB			*e*S	**S**	**23 26 23.8**	**+0.9**
TIY	**Taiyuan**	**23.94 277**	*e*P	**P**	**23 22 05.6**	**-3.3**
TIY			pP		23 22 09.8	
TIY			pmax	pmax		
	comp=Z,3μm,6.9s					
TIY			LR	LR		
	comp=N,18μm,14.1s,MS6.0					
TIY			LR	LR		
	comp=E,28μm,14.9s,MS6.0					
TIY			LR	LR		
	comp=Z,42μm,16.9s,MS6.0					
HHC	**Hu-ho-hao-te**	**24.16 285**⇑	*i*P	**P**	**23 22 09.0**	**-1.8**
HHC			pP		23 22 13.2	
HHC			sP	sP	23 22 16.2	-5.6
HHC			PP		23 22 43.8	
HHC			PcP	PcP	23 25 50.1	-1.1
HHC			S	**S**	**23 26 26.1**	**-1.2**
HHC			sS	sS	23 26 31.5	-8.5
HHC			pmax	pmax		
	comp=Z,94nm,1.3s,mb5.1					
HHC			pmax	pmax		
	comp=Z,3μm,6.3s					
HHC			LR	LR		
	comp=N,11μm,13.7s,MS6.2					
HHC			LR	LR		
	comp=E,54μm,14.7s,MS6.2					
HHC			LR	LR		
	comp=Z,63μm,14.7s,MS6.2					
TPUB	**Ta-pu**	**24.38 238**	*e*P	**P**	**23 22 10.6**	**-2.4**
	comp=Z,311nm,1.0s,mb5.7					
TPUB			*e*S	**S**	**23 26 31.2**	**+0.2**
TWG	**Pinlang**	**24.42 236**⇑	*e*P	**P**	**23 22 09.9**	**-3.4**
	comp=Z,348nm,1.1s,mb5.7					
TWG			*e*S	**S**	**23 26 31.4**	**-0.3**
CIT	**Chita**	**24.42 313**	*e*P	**P**	**23 22 11.6**	**-1.5**
CIT			*e*		23 22 21.4	
CIT			*e*		23 22 52.6	
CIT			*e*S	**S**	**23 26 30.4**	**-0.9**
CIT			pmax	pmax		
	comp=Z,3μm,2.6s,mb6.2					
QZH	**Quanzhou**	**24.68 244**⇑	*i*P	**P**	**23 22 12.3**	**-3.4**
QZH			S	**S**	**23 26 30.5**	**-5.4**
QZH			pmax	pmax		
	comp=Z,260nm,0.8s,mb5.8					
QZH			pmax	pmax		
	comp=Z,5μm,4.3s					
QZH			LR	LR		
	comp=N,34μm,18.4s,MS6.0					
QZH			LR	LR		
	comp=E,32μm,16.9s,MS6.0					
QZH			LR	LR		
	comp=Z,32μm,15.7s,MS5.9					
WHN	**Wuhan**	**24.80 260**	P	**P**	**23 22 14.3**	**-2.4**
WHN			PP		23 22 44.4	
WHN			pmax	pmax		
	comp=Z,2μm,1.7s,mb6.3					
WHN			LR	LR		
	comp=N,37μm,12.9s,MS6.2					
WHN			LR	LR		
	comp=E,38μm,11.9s,MS6.2					
WHN			LR	LR		
	comp=Z,58μm,12.6s,MS6.3					
YAK	**Yakutsk**	**24.82 345**	*e*P	**P**	**23 22 16.3**	**-0.3**
	comp=Z,252nm,0.8s,mb5.8					
YAK			S	**S**	**23 26 39.8**	**+2.3**
YAK			LR	LR		
	comp=Z,7μm,22.0s,MS5.1					
YAK	**Yakutsk**	**24.82 345**	*e*P	**P**	**23 22 15.1**	**-1.5**
YAK			*e*PPP		23 22 51.5	
YAK			*e*S	**S**	**23 26 35.4**	**-2.0**
YAK			*e*SSS		23 27 36.1	
YAK			*e*		23 33 15.1	
YAK			pmax	pmax		
	comp=Z,59nm,1.1s,mb5.0					
YAK			pmax	pmax		
	comp=N,18nm,1.2s					
YAK			pmax	pmax		
	comp=E,29nm,1.5s					
YAK			pmax	pmax		
	comp=Z,2μm,2.5s,mb6.1					
YAK			pmax	pmax		
	comp=N,1μm,3.2s					
YAK			pmax	pmax		
	comp=E,156nm,1.1s					
YAK			smax			
	comp=N,4μm,4.6s					
YAK			smax			
	comp=E,1μm,3.0s					
YAK			MLR	MLR		
	comp=Z,19μm,15.0s,MS5.7					
YAK			MLR	MLR		
	comp=E,5μm,13.0s,MS5.6					
YAK			MLR	MLR		
	comp=N,12μm,13.0s,MS5.6					
GUMO	**Guam**	**24.99 176**	LR	LR	23 30 16.6	
	comp=N,9μm,20.6s,MS5.2,baz=9.5,slow=32					
SEY	**Seymchan**	**25.02 10**	*c e*P	**P**	**23 22 19.3**	**+0.9**
FX1	**Attu Island--F**	**25.23 46**	P	**P**	**23 22 20.6**	**+0.1**
	comp=N,18nm,0.7s,mb4.7,baz=66,slow=18,SNR=2.5					
FX1			LR	LR	23 29 44.9	
	comp=N,5μm,21.0s,MS5.0,baz=256,slow=31					
FX1	**Attu Island--F**	**25.23 46**	P	**P**	**23 22 20.6**	**+0.1**
FX1	**Attu Island--F**	**25.23 46**	P	**P**	**23 22 20.6**	**+0.1**
FX1			pmax	pmax		
	comp=Z,18nm,0.7s					
FX1			MLR	MLR		
	comp=Z,5μm,21.0s					
BTO	**Baotou**	**25.35 285**	*e*P	**P**	**23 22 19.9**	**-1.8**
BTO			pmax	pmax		
	comp=Z,55nm,2.3s,mb4.7					
BOD	**Bodaibo**	**26.88 325**	*e*P	**P**	**23 22 34.7**	**-0.6**
BOD			pmax	pmax		
	comp=Z,120nm,1.9s,mb5.1					
ULN	**Ulaanbaatar**	**27.51 301**	*e*P	**P**	**23 22 41.8**	**+0.7**
	comp=Z,2μm,2.7s,mb6.2					
ULN			LR	LR		
	comp=Z,21μm,20.0s,MS5.7					
ULN	**Ulaanbaatar**	**27.51 301**	*e*P	**P**	**23 22 41.8**	**+0.7**
ULN			pmax	pmax		
	comp=Z,2μm,2.7s,mb6.2					
ULN			MLR	MLR		
	comp=Z,21μm,20.0s,MS5.7					
ULN	**Ulaanbaatar**	**27.51 301**	P	**P**	**23 22 42.3**	**+1.3**
	SNR=48					
XAN	**Xi'an**	**27.68 271**	P	**P**	**23 22 42.0**	**-0.8**
XAN			sP	sP	23 22 49.0	-4.8
XAN			PP		23 23 29.3	
XAN			S	**S**	**23 27 20.2**	**-3.0**
XAN			SS		23 28 36.1	
XAN			pmax	pmax		
	comp=Z,63nm,1.5s,mb5.0					
XAN			pmax	pmax		
	comp=Z,860nm,10.3s					
XAN			LR	LR		
	comp=N,9μm,18.0s,MS5.4					
XAN			LR	LR		
	comp=E,5μm,21.6s,MS5.4					
XAN			LR	LR		
	comp=Z,5μm,13.7s					
SONM	**Songino Array**	**27.95 301**	P	**P**	**23 22 45.6**	**+0.6**
	comp=Z,36nm,0.9s,mb5.0,baz=104,slow=7.2,SNR=164					
SONM			LR	LR	23 34 20.6	
	comp=Z,25μm,19.0s,MS5.8,baz=92,slow=37					
SONM	**Songino Array**	**27.95 301**	P	**P**	**23 22 45.6**	**+0.6**
SONM	**Songino Array**	**27.95 301**	P	**P**	**23 22 45.6**	**+0.6**
SONM			pmax	pmax		
	comp=Z,36nm,0.9s					
SONM			MLR	MLR		
	comp=Z,25μm,19.0s					
WAKE	**Wake Island**	**28.18 126**	PFAKE		23 23 00.0	+13
WAKE			LR	LR		
	comp=Z,7μm,20.0s,MS5.3					
ENH	**Enshi**	**28.68 263**⇑	*i*P	**P**	**23 22 51.2**	**-0.5**
	comp=Z,601nm,1.1s,mb6.2					
ENH			*e*S	**S**	**23 27 39.5**	**+0.3**
ENH			LR	LR		
	comp=Z,12μm,20.0s,MS5.5					
HKC	**Hong Kong Obse**	**29.48 245**⇑	*i*P	**P**	**23 23 00.0**	**+1.2**
HKC			S	**S**	**23 28 00.0**	**+8.3**
GZH	**Guangzhou**	**29.58 247**	P	**P**	**23 22 55.3**	**-4.4**
GZH			S	**S**	**23 27 42.3**	**-11**
GZH			LR	LR		
	comp=N,22μm,17.1s,MS6.0					
GZH			LR	LR		
	comp=E,26μm,18.6s,MS6.0					
GZH			LR	LR		
	comp=Z,50μm,14.7s,MS6.3					
IRK	**Irkutsk**	**29.97 310**	*e*P	**P**	**23 23 03.4**	**+0.5**
IRK			pmax	pmax		
	comp=Z,442nm,2.2s,mb5.8					
TLY	**Talaya**	**30.24 308**⇑	*e*P	**P**	**23 23 06.1**	**+0.8**
	comp=Z,217nm,1.4s,mb5.7					
TLY			S	**S**	**23 28 04.7**	**+1.5**
TLY			LR	LR		
	comp=Z,30μm,21.0s,MS5.9					
TLY	**Talaya**	**30.24 308**	*c i*P	**P**	**23 23 05.1**	**-0.2**
TLY			*e*		23 24 16.7	
TLY			*e*S	**S**	**23 28 10.1**	**+6.9**
TLY			*e*SS	SS	23 29 59.4	-13
TLY			pmax	pmax		
	comp=Z,129nm,1.3s,mb5.5					
TLY			MLR	MLR		
	comp=Z,29μm,16.0s,MS6.0					
TLY	**Talaya**	**30.24 308**	P	**P**	**23 23 06.7**	**+1.4**
	comp=Z,534nm,1.1s,mb6.2,SNR=16					
ZAK	**Zakamensk**	**30.27 306**⇑	*i*P	**P**	**23 23 06.4**	**+0.8**
ZAK			pmax	pmax		
	comp=Z,132nm,1.2s,mb5.5					
ADK	**Adak**	**30.95 51**	PFAKE		23 23 20.0	+8.4
ADK			LR	LR		
	comp=Z,7μm,20.0s,MS5.3					
LZH	**Lanzhou**	**31.02 278**	⇑P	**P**	**23 23 12.3**	**0.0**
LZH			pP	pP	23 23 17.6	-2.5

LZH sP sP 23 23 19.1 -4.3
LZH PP PP 23 24 16.2 -6.3
LZH S **S** **23 28 13.0 -2.6**
LZH *e*SS SS 23 29 56.6 -32
LZH pmax pmax
comp=Z,940nm,1.3s,mb6.5
LZH pmax pmax
comp=Z,4μm,5.6s
LZH LR LR
comp=N,16μm,13.8s,MS6.1
LZH LR LR
comp=E,26μm,12.9s,MS6.1
LZH LR LR
comp=Z,41μm,17.2s,MS6.2
LZH Lanzhou 31.02 278 ⇑P **P** **23 23 12.3 0.0**
comp=Z,941nm,1.3s,mb6.5
LZH pP pP 23 23 17.6 -2.5
LZH sP sP 23 23 19.1 -4.3
LZH PP PP 23 24 16.2 -6.3
LZH S **S** **23 28 13.0 -2.6**
LZH sS sS 23 28 35.0 +6.5
LZH *e*SS SS 23 29 56.6 -32
LZH LR LR
comp=Z,41μm,17.2s,MS6.2
LZH Lanzhou 31.02 278 ⇑P **P** **23 23 12.3 0.0**
LZH *PP pP 23 23 17.6 -2.5
LZH *SP sP 23 23 19.1 -4.3
LZH 23 24 16.2
LZH S **S** **23 28 13.0 -2.6**
LZH *e*SS SS 23 29 56.6 -32
LZH pmax pmax
comp=Z,941nm,1.3s,mb6.5
LZH MLR MLR
comp=Z,41μm,17.2s,MS6.2
MOY Mondy 31.87 308 *e*P **P** **23 23 19.2 -0.5**
MOY pmax pmax
comp=Z,413nm,4.6s
BILL Bilibino 32.17 16 *e*P **P** **23 23 21.3 -0.9**
comp=Z,70nm,1.2s,mb5.4
BILL LR LR
comp=Z,5μm,21.0s,MS5.2
BILL Bilibino 32.17 16 *e*P **P** **23 23 21.3 -0.8**
BILL pmax pmax
comp=Z,70nm,1.2s,mb5.4
BILL MLR MLR
comp=Z,5μm,21.0s,MS5.2
GYA Guiyang 32.68 259⇑*i*P **P** **23 23 26.2 -0.9**
GYA PP PP 23 24 33.0 -8.1
GYA PcP PcP 23 26 15.1 +2.6
GYA S **S** **23 28 39.9 -1.9**
GYA SS SS 23 30 32.0 -31
GYA pmax pmax
comp=Z,90nm,1.2s,mb5.6
GYA pmax pmax
comp=Z,1μm,9.0s
GYA LR LR
comp=N,10μm,17.1s,MS5.8
GYA LR LR
comp=E,11μm,17.1s,MS5.8
GYA LR LR
comp=Z,15μm,18.6s,MS5.7
CD2 Chengdu 32.89 269⇑*i*P **P** **23 23 28.5 -0.4**
CD2 pP pP 23 23 38.1 +1.4
CD2 sP sP 23 23 42.0 +2.1
CD2 PP PP 23 24 38.6 -4.8
CD2 PcP PcP 23 26 13.2 +0.2
CD2 S **S** **23 28 42.2 -2.8**
CD2 SS SS 23 30 41.5 -25
CD2 ScS ScS 23 33 51.9 -3.5
CD2 pmax pmax
comp=Z,230nm,1.0s,mb6.1
CD2 pmax pmax
comp=Z,3μm,4.8s
CD2 LR LR
comp=N,23μm,13.2s,MS6.2
CD2 LR LR
comp=E,23μm,16.8s,MS6.2
CD2 LR LR
comp=Z,36μm,14.4s,MS6.2
GTA Gaotai 33.28 285 ⇑P **P** **23 23 33.0 +0.9**
GTA pP pP 23 23 37.7 -2.3
GTA sP sP 23 23 40.0 -3.2
GTA PP PP 23 24 45.5 -2.0
GTA S **S** **23 28 52.3 +1.5**
GTA sS sS 23 28 58.3 -5.4
GTA ScP ScP 23 29 57.8 +1.4
GTA ScS ScS 23 33 56.5 -0.6
GTA pmax pmax
comp=Z,180nm,2.0s,mb5.7
GTA pmax pmax
comp=Z,3μm,8.5s
GTA LR LR
comp=N,13μm,17.6s,MS6.3
GTA LR LR
comp=E,45μm,17.1s,MS6.3
GTA LR LR
comp=Z,53μm,17.1s,MS6.3
MIDW Midway 34.49 95 PFAKE 23 23 50.0 +7.2
MIDW LR LR
comp=Z,10μm,21.0s,MS5.5
QIZ Qiongzhong 34.68 245 P **P** **23 23 45.7 +1.2**
QIZ sP sP 23 23 48.1 -7.4
QIZ LR LR
comp=N,12μm,17.7s,MS5.7
QIZ LR LR
comp=E,5μm,18.0s,MS5.7
QIZ LR LR
comp=Z,16μm,14.5s,MS5.9
QIZ Qiongzhong 34.68 245 PFAKE 23 24 00.0 +16
QIZ LR LR
comp=Z,9μm,21.0s,MS5.5
DAV Davao City (W) 35.10 211 PFAKE 23 24 00.0 +12
DAV LR LR
comp=Z,7μm,21.0s,MS5.4
HVS Khovu-Aksy 36.39 306*c i*P **P** **23 23 59.0 +0.1**
HVS pmax pmax
comp=Z,350nm,1.3s,mb6.1
HVS MLR MLR
comp=Z,133μm,16.0s,MS6.8
KMI Kunming 36.40 260 ⇑P **P** **23 23 59.2 0.0**
KMI pP pP 23 24 02.9 -4.2
KMI sP sP 23 24 04.9 -5.4
KMI PP PP 23 25 23.9 +1.7
KMI S **S** **23 29 37.4 -1.7**
KMI sS sS 23 29 43.5 -8.6
KMI PcS PcS 23 30 11.2 +0.1
KMI pmax pmax
comp=Z,120nm,1.8s,mb5.5
KMI pmax pmax
comp=Z,2μm,3.8s
KMI LR LR
comp=N,20μm,15.3s,MS6.1
KMI LR LR
comp=E,15μm,14.7s,MS6.1
KMI LR LR
comp=Z,18μm,14.4s,MS6.0
KMI Kunming 36.40 260 ⇑P **P** **23 23 59.2 0.0**
comp=Z,119nm,1.8s,mb5.5
KMI pP pP 23 24 02.9 -4.2
KMI sP sP 23 24 04.9 -5.4
KMI PP PP 23 25 23.9 +1.7
KMI PPP 23 25 43.2
KMI S **S** **23 29 37.4 -1.7**
KMI sS sS 23 29 43.5 -8.6
KMI PcS PcS 23 30 11.2 +0.1
KMI SS SS 23 32 04.9 -14
KMI SSS 23 32 29.6
KMI ScS ScS 23 34 09.8 -4.5
KMI LR LR
comp=Z,18μm,14.4s,MS6.0
KMI Kunming 36.40 260 ⇑P **P** **23 23 59.2 0.0**
KMI *SP sP 23 24 04.9 -5.4
KMI 23 25 23.9
KMI PPP 23 25 43.2
KMI S **S** **23 29 37.4 -1.7**
KMI SS SS 23 32 04.9 -14
KMI SSS 23 32 29.6
KMI 23 34 09.8
KMI pmax pmax
comp=Z,119nm,1.8s,mb5.5
KMI MLR MLR
comp=Z,18μm,14.4s,MS6.0
TNA Tin City 38.89 30 *e*P **P** **23 24 20.3 +0.5**
comp=Z,66nm,1.1s,mb5.3

KDM Kudat 39.39 223 P **P** **23 24 30.5 +6.0**
MYLDM Lahad Datu 39.99 220 P **P** **23 24 31.9 +2.4**
SDKM Sandakan 40.27 222 P **P** **23 24 32.7 +0.9**
TNTI Ternate 40.28 205 P **P** **23 24 31.7 -0.2**
comp=Z,3μmcomp=Z,148nm,1.5s,mb5.5
KKM Kota Kinabalu 40.45 224 P **P** **23 24 35.0 +1.6**
KKM Kota Kinabalu 40.45 224 *e*P **P** **23 24 34.0 +0.7**
comp=Z,87nm,1.2s,mb5.4
KKM LR LR
comp=Z,4μm,22.0s,MS5.2
TSM Tawau 41.07 220 P **P** **23 24 39.4 +1.0**
WMQ Urumqi 41.22 296 P **P** **23 24 40.3 +0.9**
WMQ pP pP 23 24 50.1 +2.7
WMQ sP sP 23 24 54.1 +3.5
WMQ PP PP 23 26 18.8 +4.2
WMQ S **S** **23 30 50.8 -0.6**
WMQ pmax pmax
comp=Z,220nm,1.6s,mb5.5
WMQ pmax pmax
comp=Z,4μm,4.2s
WMQ LR LR
comp=N,12μm,13.4s,MS6.1
WMQ LR LR
comp=E,15μm,15.6s,MS6.1
WMQ LR LR
comp=Z,10μm,20.0s,MS5.7
LBMI Labuha 41.56 204 P **P** **23 24 42.6 +0.1**
comp=Z,3μmcomp=Z,109nm,2.1s,mb5.1
CHRT Chiangrai 41.59 256 ⇑P **P** **23 24 42.5 -0.2**
comp=Z,547nm,1.0s,mb6.1
KMSI Cibinong 41.66 209 P sP 23 24 55.7 +1.3
ZAA0 Zalesovo Array 41.76 311⇑*i*P **P** **23 24 43.4 -0.3**
ZAA0 PP PP 23 26 20.1 -0.2
ZAA0 *e*S **S** **23 30 59.1 0.0**
ZALV Zalesovo Beam 41.76 311 P **P** **23 24 43.2 -0.4**
comp=Z,9.2nm,0.4s,mb4.7,baz=95,slow=8.5,SNR=75
ZALV PcP PcP 23 26 39.7 +0.1
comp=Z,19nm,0.7s,baz=87,slow=3.5,SNR=4.0
ZALV LR LR 23 42 52.4
comp=Z,19μm,18.2s,MS6.0,baz=81,slow=37
ZALV Zalesovo Beam 41.76 311 P **P** **23 24 43.2 -0.4**
ZALV PcP PcP 23 26 39.7 +0.1
ZALV Zalesovo Beam 41.76 311 P **P** **23 24 43.3 -0.4**
ZALV 23 26 39.7
ZALV pmax pmax
comp=Z,9.0nm,0.4s,mb4.8
ZALV pmax pmax
comp=Z,19nm,0.7s,mb4.8
ZALV MLR MLR
comp=Z,19μm,18.3s,MS6.0
GTOI Gorontalo 41.98 211 P **P** **23 24 45.2 -0.7**
comp=Z,3μmcomp=Z,163nm,0.9s,mb5.7
CHGN Chignik 42.00 45 *e*P **P** **23 24 40.1 -5.5**
NVS Novosibirsk 42.64 312⇓*i*P **P** **23 24 47.4 -3.4**
NVS *e*S **S** **23 31 18.5 +6.5**
NVS pmax pmax
comp=Z,182nm,2.0s,mb5.5
NVS pmax pmax
comp=N,44nm,2.1s
NVS pmax pmax
comp=E,114nm,2.0s
NVS smax
comp=N,33nm,2.2s
NVS smax
comp=E,136nm,2.4s
CHG Chiang Mai 42.85 255 ⇑P **P** **23 24 53.4 +0.4**
comp=E,60nm,1.2s,mb5.2
CHTO Chiang Mai 42.85 255 *e*P **P** **23 24 53.1 +0.1**
comp=E,371nm,2.2s,mb5.7
CHTO LR LR
comp=Z,4μm,20.0s,MS5.3
CHTO Chiang Mai 42.85 255 *e*P **P** **23 24 53.1 +0.1**
CHTO pmax pmax
comp=Z,371nm,2.2s,mb5.7
CHTO MLR MLR
comp=Z,4μm,20.0s,MS5.3
CHTO Chiang Mai 42.85 255 P **P** **23 24 53.2 +0.2**
SNR=36
CM31 Chiang Mai Arr 43.06 255⇑*e*P **P** **23 24 54.7 0.0**
comp=Z,9.2nm,0.6s,mb4.7
CM31 *e*PcP PcP 23 26 44.3 -0.2
CM31 LR LR
comp=Z,3μm,20.0s,MS5.2
CMAR Chiang Mai Arr 43.06 255 P **P** **23 24 54.9 +0.1**
comp=Z,4.5nm,0.5s,mb4.4,baz=43,slow=7.0,SNR=50
CMAR LR LR 23 43 25.5
comp=Z,3μm,19.1s,MS5.2,baz=188,slow=37
CMAR Chiang Mai Arr 43.06 255 P **P** **23 24 54.9 +0.1**
CMAR Chiang Mai Arr 43.06 255 P **P** **23 24 54.9 +0.2**
CMAR pmax pmax
comp=Z,5.0nm,0.5s
CMAR MLR MLR
comp=Z,3μm,19.1s
LSA Lhasa 43.27 274 P **P** **23 24 58.6 +2.3**
LSA PP PP 23 26 41.8 +4.8
LSA S **S** **23 31 20.2 -1.8**
LSA pmax pmax
comp=Z,50nm,1.0s,mb5.2
LSA pmax pmax
comp=Z,400nm,5.0s
LSA LR LR
comp=N,9μm,14.0s,MS6.2
LSA LR LR
comp=E,20μm,14.0s,MS6.2
LSA LR LR
comp=Z,30μm,15.0s,MS6.3
LSA Lhasa 43.27 274⇑*i*P **P** **23 24 57.7 +1.4**
comp=Z,194nm,1.3s,mb5.7
LSA *e*PcP PcP 23 26 45.2 +0.1
LSA *e*S **S** **23 31 24.0 +2.0**
LSA LR LR
comp=Z,15μm,20.0s,MS5.9
LSA Lhasa 43.27 274⇑*i*P **P** **23 24 57.7 +1.4**
LSA *e* 23 26 45.2
LSA *e*S **S** **23 31 24.0 +2.0**
LSA pmax pmax
comp=Z,194nm,1.3s,mb5.7
LSA MLR MLR
comp=Z,15μm,20.0s,MS5.9
IMP Imphal 43.42 266 *e*PKP **P** **23 25 01.0 +3.4**
IMP *e*S **S** **23 31 31.0 +6.7**
LUWI Luwuk 43.61 210 P **P** **23 24 57.5 -1.6**
comp=Z,2μmcomp=Z,127nm,1.5s,mb5.4
MSAI Masohi 43.71 200 P **P** **23 25 01.5 +1.6**
comp=Z,2μmcomp=Z,37nm,1.8s,mb4.8
NST Nakhon Sawan 43.90 251 P **P** **23 25 00.0 -1.5**
comp=Z,34nm,1.2s,mb5.0
NLAI Namlea 44.14 203 P **P** **23 25 03.6 +0.2**
comp=Z,1μmcomp=Z,66nm,1.2s,mb5.2
AAI Ambon 44.24 201 P **P** **23 25 04.8 +0.6**
comp=Z,3μmcomp=Z,136nm,1.0s,mb5.7
MK31 Makanchi Array 44.31 301⇑*i*P **P** **23 25 04.5 +0.1**
MK31 *e*S **S** **23 31 41.2 +4.4**
MK31 Makanchi Array 44.31 301⇑*i*P **P** **23 25 04.6 +0.1**
MK31 *e*S **S** **23 31 41.2 +4.4**
MKAR Makanchi Array 44.31 301 P **P** **23 25 04.8 +0.3**
comp=Z,20nm,0.8s,mb4.9,baz=84,slow=8.7,SNR=84
MKAR LR LR 23 44 28.4
comp=Z,11μm,18.8s,MS5.8,baz=77,slow=37
MKAR Makanchi Array 44.31 301 P **P** **23 25 04.8 +0.3**
MKAR Makanchi Array 44.31 301 P **P** **23 25 04.8 +0.3**
MKAR pmax pmax
comp=Z,20nm,0.8s
MKAR MLR MLR
comp=Z,11μm,18.8s
BTM Bintulu 44.53 225 P **P** **23 25 07.5 +1.0**
SHL Shillong 44.63 269⇑*i*P **P** **23 25 07.0 -0.3**
SHL *ex* x 23 31 48.0
RSO Redoubt South 44.92 39 *e*P **P** **23 25 13.5 +4.4**
TLE Tual 45.03 194 P **P** **23 25 11.3 +0.8**
comp=Z,3μmcomp=Z,81nm,1.5s,mb5.3
KDAK Kodiak Island 45.12 43 P **P** **23 25 11.3 +0.6**
comp=Z,25nm,0.8s,mb5.1,baz=270,slow=10,SNR=5.3
KDAK Kodiak Island 45.12 43 P **P** **23 25 11.3 +0.6**
KDAK LR LR
comp=Z,7μm,20.0s,MS5.6
KDAK Kodiak Island 45.12 43 P **P** **23 25 11.4 +0.6**
KDAK pmax pmax
comp=Z,25nm,0.8s,mb5.1
PPLA Purkeypile 45.19 36 *e*P **P** **23 25 12.7 +1.5**
comp=Z,403nm,1.9s,mb5.9
SMKI Samarinda 45.50 217 P **P** **23 25 16.3 +2.1**
comp=Z,4μmcomp=Z,162nm,1.1s,mb5.8
SBUM Sibu 45.63 226 P **P** **23 25 16.1 +0.9**
SBUM Sibu 45.63 226 P **P** **23 25 15.7 +0.5**
comp=Z,1μmcomp=Z,44nm,1.3s,mb5.2

KURK Kurchatov 45.92 307 P **P** **23 25 17.6 +0.5**
comp=Z,33nm,0.5s,mb5.5,baz=81,slow=8.4,SNR=336
KURK S **S** **23 32 03.9 +4.1**
comp=Z,1.4nm,0.9s,baz=202,slow=41,SNR=2.6
KURK Kurchatov 45.92 307 *e*P **P** **23 25 17.0 -0.2**
comp=Z,231nm,1.0s,mb6.1
KURK S **S** **23 32 03.9 +4.1**
KURK LR LR
comp=Z,16μm,19.0s,MS6.0
KURK Kurchatov 45.92 307 P **P** **23 25 17.6 +0.4**
KURK S **S** **23 32 03.9 +4.0**
KURK pmax pmax
comp=Z,33nm,0.5s,mb5.5
KURK smax
comp=N,1.0nm,0.9s
KURK Kurchatov 45.92 307 P **P** **23 25 17.4 +0.3**
SNR=82
COLD Coldfoot 46.19 30 *e*P **P** **23 25 19.8 +0.7**
comp=N,43nm,1.3s,mb5.2
NNT Nongplab 46.20 248 P **P** **23 25 21.3 +1.5**
KDI Kendari 46.34 209 P **P** **23 25 21.4 +0.6**
comp=N,2μmcomp=N,73nm,1.8s,mb5.3
RC01 Rabbit Creek A 46.38 38 *e*P **P** **23 25 21.6 +1.0**
comp=N,50nm,1.0s,mb5.4
TTSI Tana Toraja 46.63 213 P **P** **23 25 22.4 -0.7**
comp=N,1μmcomp=N,38nm,1.5s,mb5.1
MCK McKinley 46.65 35 *e*P **P** **23 25 22.8 +0.1**
comp=N,173nm,1.9s,mb5.7
MCK McKinley 46.65 35 *e*P **P** **23 25 22.8 +0.1**
MCK pmax pmax
comp=Z,173nm,1.9s,mb5.7
SML Sawmill 47.01 37 *e*P **P** **23 25 26.2 +0.6**
comp=Z,26nm,1.2s,mb5.0
SML Sawmill 47.01 37 *e*P **P** **23 25 26.2 +0.7**
SML pmax pmax
comp=Z,26nm,1.2s,mb5.0
COLA College 47.10 33 *e*P **P** **23 25 27.0 +0.7**
comp=Z,83nm,1.4s,mb5.5
COLA LR LR
comp=Z,3μm,19.0s,MS5.2
COLA College 47.10 33 *e*P **P** **23 25 27.0 +0.8**
COLA pmax pmax
comp=Z,83nm,1.4s,mb5.5
COLA MLR MLR
comp=Z,3μm,19.0s,MS5.2
SPSI Sidrap Palu 47.48 212 P **P** **23 25 28.7 -1.0**
comp=Z,1μmcomp=Z,49nm,1.1s,mb5.3
KSM Kuching 47.51 227 P **P** **23 25 31.3 +1.3**
KSM Kuching 47.51 227 *e*P **P** **23 25 31.1 +1.1**
comp=Z,783nm,2.6s,mb6.3
KSM LR LR
comp=Z,2μm,20.0s,MS5.0
KSM Kuching 47.51 227 P **P** **23 25 30.5 +0.5**
comp=Z,2μmcomp=Z,85nm,1.4s,mb5.6
ILAR Eielson Array 47.52 33 P **P** **23 25 28.0 -1.5**
comp=Z,7.8nm,0.8s,mb4.8,baz=266,slow=6.4,SNR=42
ILAR Eielson Array 47.52 33 P **P** **23 25 28.0 -1.5**
ILAR Eielson Array 47.52 33 P **P** **23 25 28.0 -1.5**
ILAR pmax pmax
comp=Z,8.0nm,0.9s
BBSI Bau Bau 47.77 208 P **P** **23 25 32.1 +0.1**
comp=Z,3μmcomp=Z,106nm,1.1s,mb5.8
PMG Port Moresby 47.94 174 P **P** **23 25 31.3 -1.9**
comp=Z,24nm,0.9s,mb5.2,baz=354,slow=8.3,SNR=5.1
PMG S **S** **23 32 24.1 -5.1**
comp=Z,3.0nm,0.4s,baz=251,slow=18,SNR=1.6
PMG Port Moresby 47.94 174 *e*P **P** **23 25 32.4 -0.8**
comp=Z,38nm,0.9s,mb5.4
PMG S **S** **23 32 24.1 -5.1**
PMG LR LR
comp=Z,3μm,20.0s,MS5.2
PMG Port Moresby 47.94 174 *e*P **P** **23 25 32.4 -0.8**
PMG S **S** **23 32 24.1 -5.1**
PMG pmax pmax
comp=Z,38nm,0.9s
PMG MLR MLR
comp=Z,3μm,20.0s
PMG Port Moresby 47.94 174 P **P** **23 25 32.6 -0.6**
comp=Z,1μmcomp=Z,48nm,1.0s,mb5.5
STKI Sintang 48.01 225 P **P** **23 25 34.7 +0.8**
comp=Z,8μmcomp=Z,120nm,1.8s,mb5.6
JIRN Jiri 48.08 275 *e*P **P** **23 25 35.2 +0.9**
comp=Z,119nm,1.2s,mb5.8
JIRN Jiri 48.08 275 *e*P **P** **23 25 35.2 +0.9**
comp=Z,119nm,1.2s,mb5.8
GUN Gumba 48.20 275 *e*P **P** **23 25 36.1 +0.8**
comp=Z,1μm,1.3s,mb6.7
GUN Gumba 48.20 275 *e*P **P** **23 25 36.1 +0.8**
comp=Z,1μm,1.3s,mb6.7
PAX Paxson 48.25 36 *e*P **P** **23 25 41.0 +5.8**
comp=Z,66nm,1.7s,mb5.4
PAX Paxson 48.25 36 *e*P **P** **23 25 41.0 +5.8**
PAX pmax pmax
comp=Z,66nm,1.7s,mb5.4
DIV Divide 48.29 38 *e*P **P** **23 25 41.6 +6.0**
comp=Z,138nm,1.5s,mb5.8
KAPI Kappang 48.43 212 P **P** **23 25 35.9 -1.2**
comp=Z,19nm,0.7s,mb5.3,baz=36,slow=8.8,SNR=32
KAPI S **S** **23 32 35.5 -0.9**
comp=Z,3.0nm,0.3s,baz=286,slow=16,SNR=6.2
KAPI Kappang 48.43 212⇑*e*P **P** **23 25 35.6 -1.5**
comp=Z,436nm,1.5s,mb6.3
KAPI *e*S **S** **23 32 35.1 -1.3**
KAPI LR LR
comp=Z,2μm,20.0s,MS5.0
BKSI Bulukumba 48.56 211 P **P** **23 25 37.6 -0.5**
comp=Z,1μmcomp=Z,59nm,1.1s,mb5.5
KKN Kakani 48.73 275 *e*P **P** **23 25 39.7 +0.4**
comp=Z,416nm,1.1s,mb6.4
KKN Kakani 48.73 275 *e*P **P** **23 25 39.7 +0.4**
comp=Z,416nm,1.1s,mb6.4
KKN Kakani 48.73 275 *e*P **P** **23 25 39.7 +0.4**
KKN pmax pmax
comp=Z,416nm,1.1s,mb6.4
PKI Pulchoki 48.73 275 *e*P **P** **23 25 39.7 +0.3**
comp=Z,648nm,1.7s,mb6.4
PKI Pulchoki 48.73 275 *e*P **P** **23 25 39.7 +0.3**
comp=Z,648nm,1.7s,mb6.4
PKI Pulchoki 48.73 275 *e*P **P** **23 25 39.7 +0.3**
PKI pmax pmax
comp=Z,648nm,1.7s,mb6.4
DOT Dot Lake 48.83 35 *e*P **P** **23 25 45.5 +5.9**
comp=Z,10nm,1.0s,mb4.8
BMRM Bremner River 48.88 38 *e*P **P** **23 25 40.3 +0.3**
comp=Z,75nm,1.2s,mb5.6
DMN Daman 48.95 275 *e*P **P** **23 25 41.7 +0.7**
comp=Z,2μm,2.1s,mb6.8
DMN Daman 48.95 275 *e*P **P** **23 25 41.7 +0.7**
comp=Z,2μm,2.1s,mb6.8
CAL Calcutta 48.97 267 *e*PKP **P** **23 25 42.4 +1.1**
CAL *ex* x 23 32 51.4
MENT Mentasta 49.05 35 *e*P **P** **23 25 42.0 +0.7**
MENT *e*PcP PcP 23 27 05.4 +0.7
GKN Gorkha 49.13 276 *e*P **P** **23 25 43.0 +0.6**
comp=Z,2μm,1.7s,mb6.8
GKN Gorkha 49.13 276 *e*P **P** **23 25 43.0 +0.6**
comp=Z,2μm,1.7s,mb6.8
BBKI Banjar Baru 49.26 218 P **P** **23 25 43.1 -0.4**
BBKI Banjar Baru 49.26 218 P **P** **23 25 43.0 -0.5**
comp=Z,4μmcomp=Z,202nm,1.3s,mb6.0
DANN Dangsing 49.65 277 *e*P **P** **23 25 47.5 +1.1**
comp=Z,1μm,1.2s,mb6.8
DANN Dangsing 49.65 277 *e*P **P** **23 25 47.5 +1.1**
comp=Z,1μm,1.2s,mb6.8
ULHL Ulahol 49.72 297 P **P** **23 25 46.1 -0.7**
SNR=11
TKM2 Tokmak 2 49.95 298 P **P** **23 25 49.7 +1.2**
SNR=82
TKM2 Tokmak 2 49.95 298 *e*P **P** **23 25 49.6 +1.2**
comp=Z,188nm,1.2s,mb6.0
TKM2 LR LR
comp=Z,5μm,19.0s,MS5.5
TKM2 Tokmak 2 49.95 298 *i*P **P** **23 25 49.6 +1.2**
EGAK Eagle 49.96 33 *e*P **P** **23 25 52.1 +3.8**
comp=Z,171nm,2.0s,mb5.7
EGAK LR LR
comp=Z,3μm,19.0s,MS5.3
KOLN Koldanda 50.05 276 *e*P **P** **23 25 50.0 +0.6**
comp=Z,400nm,1.2s,mb6.3
KOLN Koldanda 50.05 276 *e*P **P** **23 25 50.0 +0.6**
comp=Z,400nm,1.2s,mb6.3
PBKI Pangkalan Bun 50.22 222 P **P** **23 25 51.2 +0.4**
comp=Z,6μmcomp=Z,109nm,1.0s,mb5.8
HNR Honiara 50.36 158 P **P** **23 25 50.2 -1.6**
comp=Z,36nm,0.3s,mb5.9,baz=172,slow=12,SNR=2.4
HNR LR LR 23 45 22.2
comp=Z,5μm,21.0s,MS5.5,baz=323,slow=34

HNR	**Honiara**	**50.36 158**	P	**P**	**23 25 50.2 -1.6**
HNR	**Honiara**	**50.36 158**	P	**P**	**23 25 50.2 -1.6**
HNR			pmax	pmax	
	comp=Z,36nm,0.3s,mb5.9				
HNR			MLR	MLR	
	comp=Z,5μm,21.0s,MS5.5				
PYUN	**Piuthan**	**50.37 277**	*e*P	**P**	**23 25 52.6 +0.8**
	comp=Z,1μm,1.2s,mb6.7				
PYUN	**Piuthan**	**50.37 277**	*e*P	**P**	**23 25 52.6 +0.8**
	comp=Z,1μm,1.2s,mb6.8				
BVAR	**Borovoye Array**	**50.41 312**	P	**P**	**23 25 51.9 +0.1**
	comp=Z,15nm,1.0s,mb5.0,baz=81,slow=8.9,SNR=36				
BVAR			S	**S**	**23 33 01.9 -1.4**
	comp=Z,0.3nm,0.4s,baz=5.7,slow=2.9,SNR=2.2				
BVAR	**Borovoye Array**	**50.41 312**	P	**P**	**23 25 51.9 +0.1**
BVAR			S	**S**	**23 33 01.9 -1.4**
BVAR	**Borovoye Array**	**50.41 312**	P	**P**	**23 25 51.9 +0.1**
BVAR			S	**S**	**23 33 01.9 -1.4**
BVAR			pmax	pmax	
	comp=Z,15nm,1.0s				
BRVK	**Borovoye**	**50.46 312**	*e*P	**P**	**23 25 52.5 +0.3**
	comp=Z,748nm,2.6s,mb6.3				
BRVK			LR	LR	
	comp=Z,13μm,21.0s,MS5.9				
BRVK	**Borovoye**	**50.46 312**	*ce*P	**P**	**23 25 52.1 -0.1**
BRVK			pmax	pmax	
	comp=Z,197nm,2.5s,mb5.7				
BRVK			MLR	MLR	
	comp=Z,16μm,12.0s,MS6.2				
BRVK	**Borovoye**	**50.46 312**	P	**P**	**23 25 52.8 +0.6**
	SNR=41				
KZA	**Kyzart**	**50.47 297**	P	**P**	**23 25 54.3 +1.9**
	SNR=42				
KBK	**Karagaybulak**	**50.48 298**	P	**P**	**23 25 53.5 +0.9**
	SNR=49				
CHMS	**Chumysh**	**50.51 298**	P	**P**	**23 25 53.1 +0.4**
	SNR=18				
USP	**Ospenovka**	**50.59 298**	P	**P**	**23 25 53.7 +0.4**
	SNR=29				
KULM	**Kulim**	**50.65 240**	P	**P**	**23 25 55.4 +1.3**
KULM	**Kulim**	**50.65 240**	*e*P	**P**	**23 25 55.1 +1.0**
	comp=Z,583nm,2.4s,mb6.1				
KULM			LR	LR	
	comp=Z,5μm,19.0s,MS5.6				
KULM	**Kulim**	**50.65 240**	P	**P**	**23 25 54.5 +0.4**
	comp=Z,2μmcomp=Z,75nm,2.1s,mb5.2				
FRU	**Bishkek**	**50.66 298**	⇑*i*P	**P**	**23 25 55.4 +1.6**
FRU			*i*	pP	23 26 05.0 +3.1
FRU			*e*S	**S**	**23 33 12.0 +5.0**
FRU			smax		
	comp=Z,15μm,16.0s				
MMRI	**Maumere**	**50.80 207**	P	**P**	**23 25 54.6 -0.6**
	comp=Z,4μmcomp=Z,142nm,2.1s,mb5.5				
AAK	**Ala-Archa**	**50.81 298**	P	**P**	**23 25 55.5 +0.5**
	SNR=29				
AAK	**Ala-Archa**	**50.81 298**	*e*P	**P**	**23 25 55.2 +0.2**
	comp=Z,2μm,2.2s,mb6.6				
AAK			LR	LR	
	comp=Z,6μm,21.0s,MS5.6				
AAK	**Ala-Archa**	**50.81 298**	*e*P	**P**	**23 25 55.2 +0.2**
AAK			pmax	pmax	
	comp=Z,2μm,2.2s,mb6.6				
AAK			MLR	MLR	
	comp=Z,6μm,21.0s,MS5.6				
AAK	**Ala-Archa**	**50.81 298**	P	**P**	**23 25 55.1 +0.1**
	comp=Z,9μmcomp=Z,250nm,2.1s,mb5.8				
AAK	**Ala-Archa**	**50.81 298**	P	**P**	**23 25 55.7 +0.7**
	SNR=50				
KSH	**Kashi**	**50.87 293**	P	**P**	**23 25 59.8 +4.3**
KSH			pP	pP	23 26 04.8 +1.2
KSH			sP	sP	23 26 06.5 -0.2
KSH			PcP	PcP	23 27 15.9 +4.1
KSH			PP	PP	23 27 57.3 +5.6
KSH			ScP	ScP	23 31 09.2 +3.0
KSH			PcS	PcS	23 31 11.4 +2.1
KSH			S	**S**	**23 33 16.2 +6.1**
KSH			sS	sS	23 33 23.7 +0.3
KSH			ScS	ScS	23 35 46.8 +2.5
KSH			SS	SS	23 36 49.3 +4.7
KSH			pmax	pmax	
	comp=Z,470nm,2.5s,mb6.0				
KSH			pmax	pmax	
	comp=Z,2μm,4.0s				
KSH			LR	LR	
	comp=N,16μm,13.3s,MS6.3				
KSH			LR	LR	
	comp=E,5μm,11.6s,MS6.3				
KSH			LR	LR	
	comp=Z,13μm,16.6s,MS6.0				
IPM	**Ipoh**	**50.98 239**	P	**P**	**23 25 57.1 +0.5**
IPM	**Ipoh**	**50.98 239**	*e*P	**P**	**23 25 56.2 -0.4**
	comp=Z,716nm,2.4s,mb6.2				
MYKOM	**Kota Tinggi**	**51.16 234**	P	**P**	**23 25 59.1 +1.2**
MYKOM	**Kota Tinggi**	**51.16 234**	P	**P**	**23 25 58.7 +0.8**
	comp=Z,2μmcomp=Z,73nm,2.2s,mb5.2				
EKS2	**Erkin-Say**	**51.30 298**	P	**P**	**23 25 59.0 +0.4**
	SNR=32				
EKS2	**Erkin-Say**	**51.30 298**	*e*P	**P**	**23 25 59.0 +0.4**
	comp=Z,488nm,2.5s,mb6.0				
EKS2	**Erkin-Say**	**51.30 298**	*e*P	**P**	**23 25 59.0 +0.4**
EKS2			pmax	pmax	
	comp=Z,488nm,2.5s,mb6.0				
KGM	**Kluang**	**51.33 235**	P	**P**	**23 26 00.7 +1.5**
AML	**Almayashu**	**51.54 297**	P	**P**	**23 26 01.9 +1.4**
	SNR=69				
BMNI	**Bima**	**52.06 211**	P	**P**	**23 26 02.9 -1.7**
	comp=Z,1μmcomp=Z,64nm,1.8s,mb5.3				
COEN	**Coen**	**52.30 180**	*e*P	**P**	**23 26 06.1 -0.2**
	comp=Z,416nm,0.8s,mb6.4				
COEN	**Coen**	**52.30 180**	P	**P**	**23 26 06.0 -0.2**
	comp=Z,1μmcomp=Z,94nm,1.0s,mb5.7				
INK	**Inuvik**	**52.43 28**	P	**P**	**23 26 06.3 -0.4**
	comp=Z,4.8nm,0.7s,mb4.5,baz=272,slow=6.3,SNR=8.9				
INK			LR	LR	23 53 54.7
	comp=Z,4μm,18.2s,MS5.5,baz=178,slow=42				
INK	**Inuvik**	**52.43 28**	⇑*e*P	**P**	**23 26 06.7 -0.1**
	comp=Z,40nm,1.1s,mb5.3				
INK	**Inuvik**	**52.43 28**	P	**P**	**23 26 06.3 -0.4**
INK			pmax	pmax	
	comp=Z,5.0nm,0.7s				
INK			MLR	MLR	
	comp=Z,4μm,18.3s				
TPI	**Tanjungpandan**	**52.47 227**	P	**P**	**23 26 08.1 +0.4**
	comp=Z,2μmcomp=Z,102nm,1.8s,mb5.5				
PPBI	**Pangkal Pinang**	**52.87 229**	P	**P**	**23 26 11.3 +0.7**
	comp=Z,72nm,1.7s,mb5.3				
KIP	**Kipapa**	**53.06 91**	PFAKE		23 26 20.0 +8.0
KIP			LR	LR	
	comp=Z,4μm,20.0s,MS5.4				
MTNI	**Mataram**	**53.20 214**	P	**P**	**23 26 11.6 -1.4**
	comp=Z,72nm,1.0s,mb5.6				
KHKI	**Kahang-Kahang**	**53.21 215**	P	**P**	**23 26 12.5 -0.6**
	comp=Z,4μmcomp=Z,221nm,1.8s,mb5.8				
LHMI	**Lhok Sumawe**	**53.24 243**	P	**P**	**23 26 14.9 +1.5**
	comp=Z,4μmcomp=Z,107nm,1.5s,mb5.5				
KKAR	**Karatay Array**	**53.38 300**	*e*P	**P**	**23 26 14.1 0.0**
KKAR	**Karatay Array**	**53.38 300**	*e*P	**P**	**23 26 14.1 0.0**
SDNR	**Sundarnagar**	**53.43 284**	*e*PKP	**P**	**23 26 15.0 +0.4**
SMLA	**Simla**	**53.45 283**	*i* P	**P**	**23 26 14.0 -0.8**
SMLA			⇓		23 26 19.5
	comp=Z,373nm,0.5s				
SMLA			*i* x	x	23 33 56.1
PSI	**Prapat**	**53.63 240**	P	**P**	**23 26 16.3 0.0**
	comp=Z,1μmcomp=Z,44nm,0.8s,mb5.4				
SKAG	**Skagway**	**53.71 39**	*e*P	**P**	**23 26 26.2 +10**
	comp=Z,82nm,1.8s,mb5.4				
BKNI	**Bangkinang**	**54.08 236**	P	**P**	**23 26 20.4 +0.9**
	comp=Z,6μmcomp=Z,206nm,1.4s,mb5.9				
NGJI	**Ngawi**	**54.30 220**	P	**P**	**23 26 22.4 +1.3**
SJI	**Sawahan**	**54.46 219**	P	**P**	**23 26 21.4 -0.8**
SJI	**Sawahan**	**54.46 219**	P	**P**	**23 26 21.6 -0.7**
	comp=Z,3μmcomp=Z,99nm,2.0s,mb5.4				
KRKI	**Karangkates**	**54.49 218**	P	**P**	**23 26 22.8 +0.3**
SMRI	**Semarang**	**54.54 221**	P	**P**	**23 26 23.5 +0.7**
SMRI	**Semarang**	**54.54 221**	P	**P**	**23 26 23.0 +0.2**
	comp=Z,4μmcomp=Z,186nm,1.8s,mb5.8				
NDI	**New Delhi**	**54.56 281**	*e*PKP	**P**	**23 26 21.0 -1.9**
MNSI	**Mandailing Nat**	**54.68 237**	P	**P**	**23 26 23.0 -0.9**
	comp=Z,1μmcomp=Z,34nm,1.8s,mb5.1				
PWJI	**Pagerwojo**	**54.69 219**	P	**P**	**23 26 22.6 -1.3**
PWJI	**Pagerwojo**	**54.69 219**	P	**P**	**23 26 22.5 -1.4**
	comp=Z,3μmcomp=Z,167nm,0.9s,mb6.1				
SVE	**Sverdlovsk**	**54.76 318**	⇓*i*P	**P**	**23 26 24.6 +0.6**
SVE			*e*		23 27 21.6
SVE			*e*		23 28 30.8
SVE			*e*S	**S**	**23 34 05.8 +3.1**
SVE			*e*		23 36 10.4
SVE			*e*SSS		23 39 45.4
SVE			pmax	pmax	
	comp=Z,121nm,0.9s,mb5.9				
SVE			pmax	pmax	
	comp=Z,1μm,15.6s				
SVE			smax		
	comp=N,1μm,17.6s				
SVE			MLR	MLR	
	comp=Z,38μm,16.0s,MS6.6				
SVE			MLR	MLR	
	comp=N,5μm,14.0s,MS6.4				
SVE			MLR	MLR	
	comp=E,26μm,16.0s,MS6.4				
PPI	**Padang Panjang**	**55.09 236**	P	**P**	**23 26 26.2 -0.6**
	comp=E,2μmcomp=E,31nm,2.2s,mb5.0				
BJII	**Banjamegara**	**55.16 221**	P	**P**	**23 26 27.7 +0.4**
BJII	**Banjamegara**	**55.16 221**	P	**P**	**23 26 27.4 +0.1**
	comp=E,2μmcomp=E,100nm,1.8s,nb5.5				
JBP	**Jabalpur**	**55.18 273**	*e*PKP	**P**	**23 26 27.1 -0.3**
JBP			*ex*	x	23 33 43.5
UGM	**Wanagama**	**55.24 220**	*e*P	**P**	**23 26 27.0 -0.9**
	comp=E,247nm,1.2s,mb6.1				
UGM	**Wanagama**	**55.24 220**	P	**P**	**23 26 31.8 +3.9**
	comp=E,0.8nmcomp=E,193nm,1.4s,mb5.9				
VIS	**Vishakhapatnam**	**55.54 266**	*ex*	x	23 26 12.7
VIS			AMb	AMB	23 26 29.9
	comp=Z,120nm,1.7s,mb5.7				
KLI	**Kotabumi**	**55.79 228**	P	**P**	**23 26 31.5 -0.4**
	comp=Z,3μmcomp=Z,195nm,1.1s,mb6.1				
SOKR	**Solikamsk**	**55.82 322**	*c i*P	**P**	**23 26 31.6 +0.1**
SOKR					23 28 38.0
SOKR			S	**S**	**23 34 17.6 +0.9**
SOKR			pmax	pmax	
	comp=Z,170nm,2.5s,mb5.6				
SOKR			MLR	MLR	
	comp=Z,10μm,15.0s,MS6.0				
LEM	**Lembang**	**55.85 224**	P	**P**	**23 26 31.9 -0.4**
	comp=Z,3μmcomp=Z,158nm,2.1s,mb5.7				
ARU	**Arti**	**55.98 318**	*e*P	**P**	**23 26 32.8 +0.1**
	comp=Z,196nm,1.3s,mb6.0				
ARU			LR	LR	
	comp=Z,23μm,19.0s,MS6.3				
ARU	**Arti**	**55.98 318**	*c i*P	**P**	**23 26 32.6 -0.1**
ARU			*e*		23 27 28.9
ARU			*e*		23 28 40.0
ARU			S	**S**	**23 34 19.6 +0.7**
ARU					23 36 18.6
ARU			pmax	pmax	
	comp=Z,851nm,10.2s				
ARU			smax		
	comp=N,1μm,17.0s				
ARU	**Arti**	**55.98 318**	P	**P**	**23 26 32.0 -0.7**
	comp=N,450nm,1.4s,mb6.3,SNR=21				
DBJI	**Dramaga**	**56.10 225**	P	**P**	**23 26 33.1 -1.0**
	comp=N,5μmcomp=N,78nm,2.3s,mb5.3				
WRAK	**Wrangell Islan**	**56.17 42**	PFAKE		23 26 50.0 +16
WRAK			LR	LR	
	comp=Z,2μm,19.0s,MS5.3				
DLBC	**Dease Lake**	**56.64 39**	P	**P**	**23 26 37.5 0.0**
	comp=Z,5.0nm,0.8s,mb4.6,baz=293,slow=5.4,SNR=10				
DLBC	**Dease Lake**	**56.64 39**	P	**P**	**23 26 37.5 0.0**
NGP	**Nagpur**	**56.98 272**	*i* P	**P**	**23 26 37.5 -2.9**
NGP			⇓*e*S	**S**	**23 34 45.6 +12**
BHPL	**Bhopal**	**57.14 275**	*e*PKP	**P**	**23 26 40.5 -1.0**
BHPL			AMb	AMB	23 26 43.2
	comp=Z,97nm,1.3s,mb5.7				
AJM	**Ajmer**	**57.63 280**	*e*PKP	**P**	**23 26 43.0 -1.9**
FUNA	**Funafuti**	**57.78 136**	PFAKE		23 27 00.0 +14
FUNA			LR	LR	
	comp=Z,10μm,19.0s,MS6.0				
ABKAR	**Akbulak array**	**57.84 310**	*e*P	**P**	**23 26 45.7 -0.3**
KBL	**Kabul**	**57.98 291**	*e*P	**P**	**23 26 47.0 -0.2**
	comp=Z,90nm,1.0s,mb5.8				
KBL	**Kabul**	**57.98 291**	*e*P	**P**	**23 26 47.0 -0.2**
KBL			pmax	pmax	
	comp=Z,90nm,1.0s,mb5.8				
ALE	**Alert**	**58.46 4**	P	**P**	**23 26 49.7 -0.2**
	comp=Z,142nm,0.9s,mb6.0,SNR=6.6				
CTA	**Charters Tower**	**58.48 176**	P	**P**	**23 26 50.2 -0.5**
	comp=Z,1.6nm,0.3s,mb4.6,baz=357,slow=7.9,SNR=3.9				
CTA	**Charters Tower**	**58.48 176**	P	**P**	**23 26 50.2 -0.5**
CTA	**Charters Tower**	**58.48 176**	P	**P**	**23 26 50.2 -0.5**
CTA			pmax	pmax	
	comp=Z,2.0nm,0.3s				
CTAO	**Charters Tower**	**58.48 176**	*e*P	**P**	**23 26 54.2 +3.6**
	comp=Z,30nm,1.3s,mb5.2				
CTAO			LR	LR	
	comp=Z,2μm,19.0s,MS5.2				
CTAO	**Charters Tower**	**58.48 176**	*e*P	**P**	**23 26 54.2 +3.5**
CTAO			pmax	pmax	
	comp=Z,30nm,1.3s,mb5.2				
CTAO			MLR	MLR	
	comp=Z,2μm,19.0s,MS5.2				
AKTO	**Aktyubinsk**	**58.52 312**	LR	LR	23 53 36.1
	comp=Z,13μm,18.5s,MS6.1,baz=78,slow=38				
FITZ	**Fitzroy Crossi**	**58.70 199**	P	**P**	**23 26 51.4 -0.9**
	comp=Z,15nm,1.0s,mb5.0,baz=10,slow=7.5,SNR=20				
FITZ			S	**S**	**23 34 50.0 -5.4**
	comp=Z,1.3nm,0.9s,baz=209,slow=19,SNR=2.1				
FITZ	**Fitzroy Crossi**	**58.70 199**	*e*P	**P**	**23 26 51.5 -0.8**
	comp=Z,276nm,1.9s,mb6.0				
FITZ			S	**S**	**23 34 50.0 -5.4**
FITZ	**Fitzroy Crossi**	**58.70 199**	P	**P**	**23 26 52.0 -0.3**
	comp=Z,966nmcomp=Z,61nm,1.7s,mb5.3				
WRAB	**Tennant Creek**	**58.79 189**	*e*P	**P**	**23 26 51.0 -1.9**
	comp=Z,162nm,1.0s,mb6.0				
WRAB			LR	LR	
	comp=Z,1μm,21.0s,MS5.0				
WRAB	**Tennant Creek**	**58.79 189**	*e*P	**P**	**23 26 51.0 -1.9**
WRAB			pmax	pmax	
	comp=Z,162nm,1.0s,mb6.0				
WRAB			MLR	MLR	
	comp=Z,1μm,21.0s,MS5.0				
WRAB	**Tennant Creek**	**58.79 189**	P	**P**	**23 26 51.5 -1.4**
WRA	**Warramunga Arr**	**58.80 189**	P	**P**	**23 26 50.8 -2.1**
	comp=Z,20nm,0.7s,mb5.2,baz=7.9,slow=7.1,SNR=93				
WRA			S	**S**	**23 34 51.7 -4.9**
	comp=Z,3.9nm,1.2s,baz=6.0,slow=12,SNR=9.0				
WRA			LR	LR	23 51 14.8
	comp=Z,1μm,22.0s,MS5.0,baz=5.0,slow=35				
WRA	**Warramunga Arr**	**58.80 189**	P	**P**	**23 26 50.8 -2.1**
WRA			S	**S**	**23 34 51.7 -4.9**
WRA	**Warramunga Arr**	**58.80 189**	P	**P**	**23 26 50.8 -2.1**
WRA			S	**S**	**23 34 51.7 -4.9**
WRA			pmax	pmax	
	comp=Z,20nm,0.7s				
WRA			smax		
	comp=N,4.0nm,1.2s				
WRA			MLR	MLR	
	comp=Z,1μm,22.0s				
AKL	**Akola**	**58.82 273**	⇓*i*P	**P**	**23 26 54.1 +0.8**
AKL			*i* x	x	23 34 43.9
SPA0	**Spitsbergen Ar**	**59.21 349**	*e*P	**P**	**23 26 55.8 +0.6**
KBS	**Kingsbay**	**59.30 350**	*e*P	**P**	**23 26 57.1 +1.3**
KBS			*e*S	**S**	**23 35 03.9 +1.9**
KBS			AMS	AMS	23 55 32.9
	comp=Z,4μm,19.0s,MS5.5				
KBS	**Kingsbay**	**59.30 350**	PFAKE		23 27 10.0 +14
KBS			LR	LR	
	comp=Z,4μm,19.0s,MS5.6				
HYB	**Hyderabad**	**59.45 268**	*i* P	**P**	**23 26 57.0 -0.6**
	comp=Z,105nm,1.0s,mb5.8				
HYB			*e*PP	PP	23 29 09.0 0.0
HYB			*e*S	**S**	**23 35 06.0 +0.6**
HYB			LR	LR	23 54 32.0
	comp=Z,5.5nm,18.0s				
LATR	**Latur**	**60.44 271**	*e*PKP	**P**	**23 27 04.0 -0.5**
RES	**Resolute Bay**	**60.77 15**	P	**P**	**23 27 05.2 -0.6**
	comp=Z,12nm,0.7s,mb5.1,baz=320,slow=7.6,SNR=19				
RES	**Resolute Bay**	**60.77 15**	P	**P**	**23 27 05.2 -0.6**
RES	**Resolute Bay**	**60.77 15**	P	**P**	**23 27 05.3 -0.6**
RES			pmax	pmax	
	comp=Z,12nm,0.7s,mb5.1				
LVZ	**Lovozero**	**61.16 336**	*e*P	**P**	**23 27 08.3 -0.3**
LVZ			*e*S	**S**	**23 35 27.2 +1.1**
LVZ			LR	LR	
	comp=Z,4μm,19.0s,MS5.6				
LVZ	**Lovozero**	**61.16 336**	*e*P	**P**	**23 27 08.3 -0.3**
LVZ			*e*S	**S**	**23 35 27.2 +1.2**
LVZ			MLR	MLR	
	comp=Z,4μm,19.0s,MS5.6				
BJO	**Bjornoya**	**61.20 345**	AMS	AMS	23 55 19.4
	comp=Z,6μm,19.4s,MS5.8				
QUE	**Quetta**	**61.62 287**	⇑*i*P	**P**	**23 27 13.0 +0.6**
QUE			*e*S	**S**	**23 35 31.0 -2.0**
QUE	**Quetta**	**61.62 287**	⇑*i*P	**P**	**23 27 13.0 +0.6**
QUE			*e*S	**S**	**23 35 31.0 -2.0**
APA	**Apatity**	**61.74 336**	⇑*i*P	**P**	**23 27 12.8 +0.3**
APA			*i*		23 29 27.0
APA			*i* S	**S**	**23 35 33.0 -0.4**
APA			*i*		23 37 02.0
APA			*i* SS	SS	23 39 32.0 -2.4
APA			pmax	pmax	
	comp=Z,28nm,1.0s,mb5.3				
APA			pmax	pmax	
	comp=Z,2μm,13.0s				
APA			MLR	MLR	
	comp=Z,7μm,15.0s,MS5.9				
YKA	**Yellowknife Ar**	**61.84 31**	P	**P**	**23 27 12.3 -0.9**
	comp=Z,1.8nm,0.7s,mb4.3,baz=304,slow=6.6,SNR=5.2				
YKA			LR	LR	23 59 05.4
	comp=Z,204nm,18.2s,MS4.3,baz=10.0,slow=41				
YKA	**Yellowknife Ar**	**61.84 31**	P	**P**	**23 27 12.3 -0.9**
YKA	**Yellowknife Ar**	**61.84 31**	P	**P**	**23 27 12.3 -1.0**
YKA			pmax	pmax	
	comp=Z,2.0nm,0.7s				
YKA			MLR	MLR	
	comp=Z,205nm,18.2s				
KEV	**Kevo**	**62.39 339**	*e*P	**P**	**23 27 16.7 -0.2**
KEV			*e*S	**S**	**23 35 42.4 +0.9**
KEV			LR	LR	
	comp=Z,4μm,19.0s,MS5.6				
KEV	**Kevo**	**62.39 339**	*e*P	**P**	**23 27 16.7 -0.2**
KEV			pmax	pmax	
	comp=Z,12nm,0.7s,mb5.1				
KEV	**Kevo**	**62.39 339**	*e*p	**P**	**23 27 16.7 -0.2**
	comp=Z,12nm,0.7s,mb5.1				
POO	**Poona**	**62.50 272**	*e*PKP	**P**	**23 27 18.2 -0.1**
POO			AMb	AMB	23 27 22.4
	comp=Z,136nm,2.0s,mb5.7				
AS31	**Alice Springs**	**62.53 189**	*e*P	**P**	**23 27 16.6 -1.7**
AS31			*e*PP	PP	23 29 34.8 -1.5
ASAR	**Alice Springs**	**62.53 189**	P	**P**	**23 27 16.7 -1.6**
	comp=Z,7.5nm,1.0s,mb4.8,baz=8.1,slow=5.4,SNR=32				
ASAR	**Alice Springs**	**62.53 189**	P	**P**	**23 27 16.7 -1.6**
ASAR	**Alice Springs**	**62.53 189**	P	**P**	**23 27 16.7 -1.6**
ASAR			pmax	pmax	
	comp=Z,8.0nm,1.0s				
KAD	**Karad**	**62.93 271**	*e*PKP	**P**	**23 27 20.5 -0.8**
KAD			AMb	AMB	23 27 25.0
	comp=Z,128nm,1.4s,mb5.9				
ARCES	**ARCESS Array B**	**62.94 339**	P	**P**	**23 27 19.9 -0.6**
	comp=Z,10nm,0.7s,mb5.0,baz=60,slow=7.4,SNR=32				
ARCES			LR	LR	23 58 59.1
	comp=Z,5μm,18.1s,MS5.7,baz=42,slow=40				
ARCES	**ARCESS Array B**	**62.94 339**	P	**P**	**23 27 19.9 -0.7**
ARCES	**ARCESS Array B**	**62.94 339**	P	**P**	**23 27 19.9 -0.6**
ARCES			pmax	pmax	
	comp=Z,10.0nm,0.7s				
ARCES			MLR	MLR	
	comp=Z,5μm,18.2s				
ARE0	**ARCESS Array S**	**62.94 339**	*e*P	**P**	**23 27 22.4 +1.8**
ARE0	**ARCESS Array S**	**62.94 339**	*e*P	**P**	**23 27 20.1 -0.4**
MBWA	**Marble Bar**	**63.32 204**	*e*P	**P**	**23 27 22.3 -1.2**
	comp=Z,29nm,1.0s,mb5.4				
MBWA			LR	LR	
	comp=Z,1μm,21.0s,MS5.1				
IMYA	**Miami**	**63.53 297**	*e*P	**P**	**23 27 25.4 +0.4**
IMYA	**Miami**	**63.53 297**	*e*P	**P**	**23 27 25.4 +0.4**
ISRO	**Mashad**	**63.99 297**	*e*P	**P**	**23 27 27.5 -0.5**
ISRO	**Mashad**	**63.99 297**	*e*P	**P**	**23 27 27.5 -0.5**
EIDS	**Eidsvold**	**64.11 172**	*e*P	**P**	**23 27 28.2 -0.5**
	comp=Z,169nm,2.1s,mb5.7				
ABKT	**Ailbek**	**64.12 299**	P	**P**	**23 27 28.2 -0.7**
	comp=Z,329nm,1.0s,mb6.3,SNR=13				
GOA	**Goa**	**64.25 270**	⇓*i*P	**P**	**23 27 30.0 0.0**
GOA			*i* S	**S**	**23 36 07.3 +1.1**
DZM	**Mont Dzumac**	**64.27 156**	*e*P	**P**	**23 27 29.3 -0.5**
	comp=Z,99nm,1.2s,mb5.7				
DZM			*e*S	**S**	**23 36 04.7 -1.2**
	comp=Z,5μm,28.9s				
DZM			*e*LR	LR	23 46 38.3
	comp=Z,7μm,22.6s				
DZM	**Mont Dzumac**	**64.27 156**	*e*P	**P**	**23 27 29.1 -0.7**
	comp=Z,58nm,1.3s,mb5.5				
DZM			*e*PcP	PcP	23 28 02.5 -1.9
DAG	**Danmarks Havn**	**64.30 355**	⇑*i*P	**P**	**23 27 28.8 -0.6**
DAG			pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.9				
DAG	**Danmarks Havn**	**64.30 355**	⇑*i*P	**P**	**23 27 28.8 -0.6**
	comp=Z,13nm,0.8s,mb5.0				
IKRD	**Kardeh**	**64.42 298**	*e*P	**P**	**23 27 27.8 -3.1**
IKRD	**Kardeh**	**64.42 298**	*e*P	**P**	**23 27 27.8 -3.1**
NLWA	**Neilton Lookou**	**64.77 49**	*e*P	**P**	**23 27 34.6 +1.7**
	comp=Z,55nm,1.1s,mb5.5				
NLWA			LR	LR	
	comp=Z,1μm,19.0s,MS5.2				
MNGI	**Mangalore**	**64.97 267**	*ex*	x	23 28 04.7
MNGI			*ex*	x	23 35 26.6
MSVF	**Nonsavu**	**65.00 143**	*e*P	**P**	**23 27 35.3 +0.6**
	comp=Z,48nm,1.1s,mb5.4				
MSVF			LR	LR	
	comp=Z,4μm,20.0s,MS5.6				
MSVF	**Nonsavu**	**65.00 143**	*e*P	**P**	**23 27 35.3 +0.6**
MSVF			pmax	pmax	
	comp=Z,48nm,1.1s,mb5.4				
MSVF			MLR	MLR	
	comp=Z,4μm,20.0s,MS5.6				
JOF	**Joensuu**	**65.13 332**	*e*P	**P**	**23 27 35.2 +0.2**
JOF			pmax	pmax	
	comp=Z,11nm,0.6s,mb5.1				
JOF	**Joensuu**	**65.13 332**	*e*p	**P**	**23 27 35.2 +0.2**
	comp=Z,11nm,0.6s,mb5.1				
GNW	**Green Mountain**	**65.29 48**	*e*P	**P**	**23 27 38.0 +1.7**
	comp=Z,49nm,1.8s,mb5.2				
XMAS	**Kiritimati**	**65.30 108**	PFAKE		23 27 50.0 +13
XMAS			LR	LR	
	comp=Z,8μm,20.0s,MS5.9				
JCW	**Jim Creek**	**65.49 47**	*e*P	**P**	**23 27 37.8 +0.2**
IDAH	**Dahanechah**	**65.53 293**	*e*P	**P**	**23 27 38.1 0.0**
IDAH	**Dahanechah**	**65.53 293**	*e*P	**P**	**23 27 38.1 0.0**
RPW	**Rockport**	**65.59 47**	*e*P	**P**	**23 27 38.0 -0.2**
TRD	**Trivandrum**	**65.99 261**	*e*PKP	**P**	**23 27 41.6 +0.3**
ITEG	**Tejag**	**66.25 294**	*e*P	**P**	**23 27 42.8 +0.1**
ITEG	**Tejag**	**66.25 294**	*e*P	**P**	**23 27 42.8 +0.1**
LON	**Longmire**	**66.31 48**	*e*P	**P**	**23 27 46.2 +3.3**
	comp=Z,241nm,2.8s,mb5.7				
LON	**Longmire**	**66.31 48**	*e*P	**P**	**23 27 46.2 +3.3**
LON			pmax	pmax	
	comp=Z,241nm,2.8s,mb5.7				
IKOO	**Kooshah**	**66.31 293**	*e*P	**P**	**23 27 40.1 -3.1**
IKOO	**Kooshah**	**66.31 293**	*e*P	**P**	**23 27 40.1 -3.1**
COCO	**West Island**	**66.37 230**	*e*P	**P**	**23 27 42.7 -1.0**
COCO			LR	LR	
	comp=Z,1

KAF pmax pmax
comp=Z,13nm,0.6s,mb5.1
KAF Kangasniemi 67.45 333 *e*p **P 23 27 49.4 -0.5**
comp=Z,13nm,0.6s,mb5.1
OBN Obninsk 67.55 323 *e*P **P 23 27 50.2 -0.4**
comp=Z,924nm,2.3s,mb6.4
OBN LR LR
comp=Z,5μm,19.0s,MS5.7
OBN Obninsk 67.55 323 *e*P **P 23 27 50.4 -0.2**
OBN *i* pP 23 27 57.6 -1.4
OBN *i* 23 28 15.8
OBN *e* 23 30 23.0
OBN *i* S S 23 36 46.4 +1.1
OBN pmax pmax
comp=Z,344nm,2.5s,mb5.9
OBN MLR MLR
comp=Z,19μm,15.0s,MS6.4
OBN Obninsk 67.55 323 P **P 23 27 50.2 -0.4**
comp=Z,317nm,0.6s,mb6.5,SNR=10
OD2 Odessa Site #2 67.75 47 *e*P **P 23 27 51.6 -0.4**
HUMO Hull Mountain 67.81 53 *e*P **P 23 27 57.2 +4.7**
comp=Z,85nm,2.0s,mb5.4
HAWA Hanford 67.82 48 *e*P **P 23 27 53.1 +0.6**
comp=Z,210nm,2.3s,mb5.8
HAWA LR LR
comp=Z,1μm,19.0s,MS5.2
FINES FINESS Array B 67.97 332 P **P 23 27 52.5 -0.6**
comp=Z,14nm,0.6s,mb5.2,baz=46,slow=9.9,SNR=55
FINES LR LR 00 00 01.0
comp=Z,12μm,19.2s,MS6.1,baz=47,slow=38
FINES FINESS Array B 67.97 332 P **P 23 27 52.5 -0.6**
FINES FINESS Array B 67.97 332 P **P 23 27 52.6 -0.6**
FINES pmax pmax
comp=Z,14nm,0.6s
FINES MLR MLR
comp=Z,12μm,19.3s
NEW Newport 68.16 45 *e*P **P 23 27 54.9 +0.2**
comp=Z,32nm,1.0s,mb5.3
NEW LR LR
comp=Z,2μm,20.0s,MS5.3
NEW Newport 68.16 45 *e*P **P 23 27 54.9 +0.3**
NEW pmax pmax
comp=Z,32nm,1.0s
NEW MLR MLR
comp=Z,2μm,20.0s
VOR Voronezh 68.22 319 P **P 23 27 53.0 -1.9**
VOR pmax pmax
comp=Z,260nm,1.8s,mb6.0
MOR8 Moi Rana 68.29 340 *e*P **P 23 27 54.3 -0.8**
MAK Makhachkala 68.43 308 *e*P **P 23 27 56.5 +0.1**
MAK *i* 23 28 19.9
MAK *e* 23 30 25.0
MAK *e*PPP 23 32 07.0
MAK *e*S S 23 36 58.8 +2.6
MAK *e* 23 37 54.4
MAK *e*SS SS 23 41 22.1 +2.7
MAK pmax pmax
comp=Z,268nm,1.5s,mb6.0
YBH Yreka Blue Hor 68.43 53 *e*P **P 23 27 58.1 +1.6**
comp=Z,25nm,1.2s,mb5.1
YBH Yreka Blue Hor 68.43 53 *e*P **P 23 27 58.1 +1.7**
YBH pmax pmax
comp=Z,25nm,1.2s
VSR Storozhevoye 68.53 319 *e*P **P 23 27 56.4 -0.5**
VSR *e* 23 30 26.1
VSR *e*S S 23 36 53.1 -4.1
VSR *e*SS SS 23 41 19.6 -1.0
VSR pmax pmax
comp=Z,60nm,1.0s,mb5.5
VSR pmax pmax
comp=N,40nm,1.2s
VSR pmax pmax
comp=E,60nm,1.2s
VSR pmax pmax
comp=Z,60nm,2.2s,mb5.1
VSR pmax pmax
comp=N,110nm,2.4s
VSR pmax pmax
comp=E,50nm,1.4s
VSR smax
comp=N,470nm,3.0s
VSR smax
comp=Z,290nm,5.8s
VSR smax
comp=E,450nm,3.7s
VSR MLR MLR
comp=Z,23μm,16.0s,MS6.5
VSR MLR MLR
comp=N,10μm,17.0s,MS6.3
VSR MLR MLR
comp=E,11μm,15.0s,MS6.3
ILAS Lasjerd 68.98 299 *e*P **P 23 28 00.1 +0.1**
ILAS Lasjerd 68.98 299 *e*P **P 23 28 00.1 +0.1**
SUMG Summit 69.10 0 *e*P **P 23 28 00.6 +0.6**
comp=E,1μm,2.8s,mb6.3
SUMG Summit 69.10 0 *e*P **P 23 28 00.6 +0.5**
SUMG pmax pmax
comp=Z,1μm,2.8s
SUMG Summit 69.10 0 *i* P **P 23 28 00.4 +0.3**
comp=Z,17nm,0.8s,mb5.0
WDC Whiskeytown Da 69.17 54 *e*P **P 23 28 03.5 +2.4**
comp=Z,263nm,2.6s,mb5.7
WDC Whiskeytown Da 69.17 54 *e*P **P 23 28 03.5 +2.5**
WDC pmax pmax
comp=Z,263nm,2.6s,mb5.7
IBAF Bafgh 69.22 294 *e*P **P 23 28 00.8 -0.7**
IBAF Bafgh 69.22 294 *e*P **P 23 28 00.8 -0.7**
WALA Waterton Lakes 69.46 43 *e*P **P 23 28 02.2 -0.5**
comp=Z,1.9nm,1.3s
ICHK Chekchek 69.69 295 *e*P **P 23 28 03.5 -0.9**
ICHK Chekchek 69.69 295 *e*P **P 23 28 03.5 -0.9**
BSMT Bassoo Peak 69.69 45 *e*P **P 23 28 01.1 -3.0**
VSU Vasula 69.70 330*c i*P **P 23 28 03.8 -0.2**
VSU pmax pmax
comp=Z,292nm,2.8s,mb5.7
BLMT Blacktail Moun 69.83 44 *e*P **P 23 28 06.9 +1.9**
MOD Modoc 69.84 52 *e*P **P 23 28 05.7 +0.5**
comp=Z,680nm,2.8s,mb6.1
BMO Blue Mountains 69.98 48 PFAKE 23 28 20.0 +14
BMO LR LR
comp=Z,1μm,20.0s,MS5.2
IMEH Mehriz 70.01 295 *e*P **P 23 28 04.6 -1.8**
IMEH Mehriz 70.01 295 *e*P **P 23 28 04.6 -1.8**
JTMT Jette 70.03 44 *e*P **P 23 28 06.9 +0.7**
ISFB Sefidab 70.04 298 *e*P **P 23 28 04.6 -1.9**
ISFB Sefidab 70.04 298 *e*P **P 23 28 04.6 -1.9**
YBMT Yellow Bay 70.11 44 *e*P **P 23 28 12.1 +5.4**
STKA Stephens Creek 70.14 181 P **P 23 28 06.2 -0.7**
comp=Z,4.0nm,0.8s,mb4.4,baz=352,slow=6.4,SNR=4.7
STKA LR LR 23 58 26.4
comp=Z,2μm,20.2s,MS5.4,baz=3.4,slow=36
STKA Stephens Creek 70.14 181 *e*P **P 23 28 04.1 -2.8**
comp=Z,2.7nm,0.8s,mb4.2
STKA *e* 23 28 14.3
STKA *e*S S 23 37 08.7 -7.6
STKA Stephens Creek 70.14 181 *e*P **P 23 28 07.2 +0.3**
STKA Stephens Creek 70.14 181 P **P 23 28 06.2 -0.7**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA MLR MLR
comp=Z,2μm,20.2s
NSS Namsos 70.22 340 *e*P **P 23 28 07.3 +0.2**
NSS AMS AMS 00 03 44.9
comp=Z,5μm,20.8s,MS5.8
IR3 Iran Long-Peri 70.25 300 *e*P **P 23 28 06.6 -1.2**
IR3 Iran Long-Peri 70.25 300 *e*P **P 23 28 06.6 -1.2**
SWMT Swartz Lake 70.32 45 *e*P **P 23 28 08.6 +0.6**
ISAD Sadrabad 70.38 295 *e*P **P 23 28 07.6 -1.0**
ISAD Sadrabad 70.38 295 *e*P **P 23 28 07.6 -1.0**
OHCM Honcut 70.54 55 *e*P **P 23 28 10.1 +0.6**
WVOR Wild Horse Val 70.56 51 *e*P **P 23 28 09.0 -0.6**
comp=Z,48nm,1.4s,mb5.2
WVOR LR LR
comp=Z,2μm,20.0s,MS5.3
WVOR Wild Horse Val 70.56 51 *e*P **P 23 28 09.0 -0.6**
WVOR pmax pmax
comp=Z,47nm,1.4s,mb5.2
WVOR MLR MLR
comp=Z,2μm,20.0s,MS5.3
DGRG David-gareji 70.58 308 P **P 23 28 10.0 +0.3**
ZEI Tsey 70.73 310 *e*P **P 23 28 10.1 -0.5**
ZEI *e* 23 28 22.2
ZEI pmax pmax
comp=Z,70nm,2.1s,mb5.2
MSO Missoula 70.75 45 *e*P **P 23 28 12.3 +1.7**
comp=Z,47nm,1.6s,mb5.2
MSO LR LR
comp=Z,878nm,19.0s,MS5.0
SLMT Seeley Lake 70.75 45 *e*P **P 23 28 11.1 +0.4**
KIV Kislovodsk 70.77 311 *e*P **P 23 28 11.6 +0.7**
comp=Z,292nm,1.3s,mb6.0
KIV LR LR
comp=Z,7μm,20.0s,MS5.9
KIV Kislovodsk 70.77 311*c i*P **P 23 28 11.4 +0.6**
KIV *e* 23 28 32.3
KIV *e* 23 30 46.5
KIV *e*PPP 23 32 31.8
KIV *e*S S 23 37 23.9 +0.1
KIV *e*SS SS 23 41 57.8 +2.4
KIV pmax pmax
comp=Z,107nm,1.1s,mb5.7
KIV pmax pmax
comp=Z,661nm,4.5s
KIV MLR MLR
comp=Z,9μm,19.0s,MS6.0
KIV Kislovodsk 70.77 311 P **P 23 28 11.6 +0.8**
SNR=68
KIV Kislovodsk 70.77 311 P **P 23 28 11.0 +0.2**
comp=Z,506nm,2.6s,mb6.0,SNR=36
MTA Mtatsminda 70.80 308 P **P 23 28 10.9 -0.1**
TBLG Delisi 70.81 308 P **P 23 28 11.5 +0.4**
TBLG Delisi 70.81 308 P **P 23 28 11.5 +0.4**
IKLH Kolahrood 71.07 298 *e*P **P 23 28 12.2 -0.6**
IKLH Kolahrood 71.07 298 *e*P **P 23 28 12.2 -0.6**
ONI Oni 71.11 310 P **P 23 28 13.7 +0.8**
IHRS Heris 71.30 304 *e*P **P 23 28 12.2 -1.9**
WCN Washoe City 71.66 54 *e*P **P 23 28 15.8 -0.5**
WCN Washoe City 71.66 54 *e*P **P 23 28 15.8 -0.5**
IZAR Zarasai 71.72 328 *e*P **P 23 28 16.4 +0.1**
IZAR AMB AMB 23 28 17.6
comp=Z,36nm,1.9s,mb5.0
GNI Garni 71.72 307 *e*P **P 23 28 17.2 +0.6**
comp=Z,159nm,1.4s,mb5.8
GNI LR LR
comp=Z,9μm,19.0s,MS6.0
GNI Garni 71.72 307*ce*P **P 23 28 17.8 +1.2**
GNI pmax pmax
comp=Z,135nm,2.5s
GNI MLR MLR
comp=Z,9μm,17.0s
GNI Garni 71.72 307 P **P 23 28 17.8 +1.2**
SNR=23
FFC Flin Flon 71.73 34 *e*P **P 23 28 15.5 -0.9**
comp=Z,63nm,1.4s,mb5.3
FFC LR LR
comp=Z,2μm,20.0s,MS5.4
FFC Flin Flon 71.73 34 *e*P **P 23 28 15.5 -0.9**
FFC pmax pmax
comp=Z,63nm,1.4s,mb5.3
FFC MLR MLR
comp=Z,2μm,20.0s,MS5.4
AKH Akhalkalaki 71.76 309 P **P 23 28 17.7 +0.8**
MICGM Minsk 71.86 326⇑ *i*P **P 23 28 16.0 -1.2**
MNK Minsk 71.88 326 *i*P **P 23 28 16.0 -1.3**
MNK *e* 23 28 32.0
MNK *e* 23 31 02.0
MNK *e*PPP 23 32 44.0
MNK *e*S S 23 37 36.0 -0.2
MNK *e*PS 23 38 20.0
MNK *e*SS SS 23 42 10.0 -1.8
MNK MLR MLR
comp=N,28μm,14.0s,MS6.8
MNK MLR MLR
comp=Z,56μm,16.0s,MS6.9
MNK MLR MLR
comp=E,28μm,15.0s,MS6.8
ISAL Salakas 71.89 328 *e*P **P 23 28 17.5 +0.1**
ISAL AMB AMB 23 28 18.8
comp=Z,48nm,1.4s,mb5.2
CMB Columbia Colle 71.98 56 *e*P **P 23 28 19.1 +0.8**
comp=Z,92nm,1.7s,mb5.4
CMB Columbia Colle 71.98 56 *e*P **P 23 28 19.1 +0.9**
CMB pmax pmax
comp=Z,92nm,1.7s,mb5.4
HRY Holter Researc 71.98 44 *e*P **P 23 28 19.1 +1.0**
IPAR Pars 71.99 294 *e*P **P 23 28 18.8 +0.4**
IIGN Ignalina 72.00 328 *e*P **P 23 28 18.1 +0.1**
IIGN AMB AMB 23 28 19.3
comp=Z,34nm,1.6s,mb5.0
NACGM Naroch 72.06 327 *e*P **P 23 28 15.0 -3.4**
ISRV Sarvestan 72.21 294 *e*P **P 23 28 19.5 -0.2**
ISHB Shabestar 72.24 305 *e*P **P 23 28 19.1 -0.7**
EGMT Eagleton 72.30 42 *e*P **P 23 28 19.7 -0.2**
comp=Z,32nm,1.0s,mb5.2
EGMT LR LR
comp=Z,2μm,19.0s,MS5.3
DLMT Dillon 72.38 46 *e*P **P 23 28 24.9 +4.4**
comp=Z,58nm,1.4s,mb5.3
HLID Hailey 72.42 48 PFAKE 23 28 30.0 +9.2
HLID LR LR
comp=Z,1μm,20.0s,MS5.2
HATD Hatta, Dubai 72.58 288 P **P 23 28 22.4 +0.4**
SNR=16
BMN Battle Mountai 72.59 52 *e*P **P 23 28 24.6 +2.7**
BMN LR LR
comp=Z,2μm,19.0s,MS5.3
BMN Battle Mountai 72.59 52 *e*P **P 23 28 24.6 +2.8**
BMN MLR MLR
comp=Z,2μm,19.0s,MS5.3
SOC Sochi 72.73 312*c i*P **P 23 28 22.4 -0.2**
SOC *e**SP sP 23 28 34.6 +0.5
SOC *e* 23 28 38.3
SOC *e* 23 30 59.3
SOC *e*PPP 23 32 46.5
SOC *i* S S 23 37 47.8 +1.5
SOC *e* 23 38 25.4
SOC *e*SS SS 23 42 26.1 +0.7
SOC pmax pmax
comp=Z,153nm,1.8s,mb5.6
SOC pmax pmax
comp=Z,1μm,2.7s,mb6.4
BOZ Bozeman (W) 72.75 45 *e*P **P 23 28 23.0 +0.3**
comp=Z,256nm,2.6s,mb5.7
BOZ LR LR
comp=Z,2μm,20.0s,MS5.3
BOZ Bozeman (W) 72.75 45 *e*P **P 23 28 23.0 +0.3**
BOZ pmax pmax
comp=Z,256nm,2.6s,mb5.7
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.3
NAZ Nazwa, Dubai 72.84 288 P **P 23 28 23.6 0.0**
SNR=7.2
NVAR Mina Array Bea 73.09 54 P **P 23 28 24.9 +0.1**
comp=Z,5.4nm,0.8s,mb4.5,baz=296,slow=6.9,SNR=32
NVAR LR LR 23 54 15.9
comp=Z,1μm,20.0s,MS5.3,baz=311,slow=31
NVAR Mina Array Bea 73.09 54 P **P 23 28 24.9 +0.1**
NB2 NORSAR Subarra 73.19 338 P **P 23 28 25.1 +0.1**
comp=Z,752nm,2.5s,mb6.2,baz=39,slow=6.2
NOA NORSAR Array B 73.19 338 P **P 23 28 24.5 -0.5**
comp=Z,22nm,0.8s,mb5.1,baz=38,slow=5.9,SNR=86
NOA LR LR 00 05 49.2
comp=Z,6μm,18.5s,MS5.9,baz=30,slow=40
NOA NORSAR Array B 73.19 338 P **P 23 28 24.5 -0.5**
NOA NORSAR Array B 73.19 338 P **P 23 28 24.5 -0.5**
NOA pmax pmax
comp=Z,22nm,0.8s
NOA MLR MLR
comp=Z,6μm,18.5s
ANN Anapa 73.29 314*c i*P **P 23 28 25.4 -0.5**
ANN *e* 23 28 41.4
ANN *e* 23 31 06.4
ANN *e*PPP 23 32 54.2
ANN *e*S S 23 37 52.9 +0.2
ANN *e* 23 38 30.7
ANN pmax pmax
comp=Z,143nm,1.9s,mb5.6
ANN pmax pmax
comp=Z,718nm,6.3s
ANN MLR MLR
comp=N,5μm,17.0s,MS6.2
ANN MLR MLR
comp=E,8μm,17.0s,MS6.2
ANN MLR MLR
comp=Z,8μm,17.0s,MS6.0
NC602 NORSAR Array S 73.33 337 *e*P **P 23 28 26.2 +0.3**
QLMT Earthquake Lak 73.36 46 *e*P **P 23 28 31.9 +5.6**
NAO01 NORSAR Array S 73.44 338 *e*P **P 23 28 26.4 0.0**
comp=Z,17nm,0.8s,mb5.0
NAO01 LR LR
comp=Z,7μm,20.0s,MS6.0
MTUM Tungsten Hills 73.55 55 *e*P **P 23 28 29.7 +2.1**
GCMT Greycliff 73.73 44 *e*P **P 23 28 28.7 +0.2**
comp=Z,22nm,1.3s,mb4.9
AKASG Malin Array Be 73.78 323 P **P 23 28 27.9 -0.8**
comp=Z,19nm,0.6s,mb5.2,baz=44,slow=6.0,SNR=88
AKASG LR LR 00 04 49.2
comp=Z,6μm,18.5s,MS5.9,baz=25,slow=39
AKASG Malin Array Be 73.78 323 P **P 23 28 27.9 -0.8**
AKASG Malin Array Be 73.78 323 P **P 23 28 27.9 -0.7**
AKASG pmax pmax
comp=Z,19nm,0.6s
AKASG MLR MLR
comp=Z,6μm,18.5s
AKBB Malin Array Si 73.78 323 *e*P **P 23 28 27.6 -1.0**
AKBB Malin Array Si 73.78 323 *e*P **P 23 28 27.6 -1.0**
CAN Canberra 73.78 175 PFAKE 23 28 40.0 +11
CAN LR LR
comp=Z,2μm,19.0s,MS5.3
KIEV Kiev 73.79 323 *e*P **P 23 28 28.0 -0.7**
comp=Z,61nm,1.0s,mb5.5
KIEV LR LR
comp=Z,5μm,20.0s,MS5.8
KIEV Kiev 73.79 323 *e*P **P 23 28 28.0 -0.7**
KIEV pmax pmax
comp=Z,61nm,1.0s,mb5.5
KIEV MLR MLR
comp=Z,5μm,20.0s,MS5.8
IDHR Dehrash 73.82 302 *e*P **P 23 28 28.2 -1.0**
LKWY Lake 74.10 45 *e*P **P 23 28 30.6 -0.1**
LKWY *e*S S 23 38 03.7 +1.9
LKWY LR LR
comp=Z,4μm,21.0s,MS5.7
LKWY Lake 74.10 45 *e*P **P 23 28 30.6 0.0**
LKWY *e*S S 23 38 03.7 +1.9
LKWY MLR MLR
comp=Z,4μm,21.0s,MS5.7
SUW Suwalki 74.20 328 *e*P **P 23 28 30.6 -0.5**
SUW Suwalki 74.20 328 *e*P **P 23 28 31.2 +0.1**
comp=Z,992nm,2.8s,mb6.2
SUW Suwalki 74.20 328 *e*P **P 23 28 31.2 +0.2**
SUW pmax pmax
comp=Z,992nm,2.8s,mb6.2
SFJD Kangerlussuaq 74.21 5 PFAKE 23 28 40.0 +9.1
SFJD LR LR
comp=Z,4μm,20.0s,MS5.7
SFJD Kangerlussuaq 74.21 5 *i* P **P 23 28 30.2 -0.7**
SFJD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SFJD Kangerlussuaq 74.21 5 *i* P **P 23 28 30.2 -0.7**
comp=Z,10nm,0.9s,mb4.8
FLWY Flagg Ranch 74.23 46 *e*P **P 23 28 38.6 +7.2**
RLMT Red Lodge 74.37 44 *e*P **P 23 28 33.5 +1.3**
RLMT LR LR
comp=Z,2μm,20.0s,MS5.4
MOOW Moose Ponds 74.42 46 *e*P **P 23 28 35.2 +2.7**
comp=Z,188nm,2.3s,mb5.6
FOO Floro 74.45 341 AMS AMS 00 05 33.7
comp=Z,4μm,20.8s,MS5.7
TPAW Teton Pass 74.46 47 *e*P **P 23 28 35.6 +2.8**
comp=Z,38nm,1.1s,mb5.2
LOHW Long Hollow 74.58 46 *e*P **P 23 28 40.0 +6.6**
comp=Z,286nm,2.8s,mb5.7
REDW Red Top Meadow 74.60 47 *e*P **P 23 28 34.7 +1.2**
comp=Z,183nm,2.3s,mb5.6
ISA Isabella 74.61 57 *e*P **P 23 28 35.1 +1.3**
comp=Z,26nm,1.5s,mb5.0
ISA Isabella 74.61 57 *e*P **P 23 28 35.1 +1.3**
ISA pmax pmax
comp=Z,27nm,1.5s,mb5.0
KONO Kongsberg 74.79 337 *e*P **P 23 28 34.8 +0.4**
KONO *e*S S 23 38 07.5 -1.4
KONO *e*SS SS 23 42 58.6 +2.9
KONO AMS AMS 00 06 40.0
comp=Z,6μm,18.4s,MS6.0
KONO Kongsberg 74.79 337⇑ *e*P **P 23 28 34.2 -0.2**
KONO *e*S S 23 38 10.3 +1.3
KONO LR LR
comp=Z,8μm,22.0s,MS6.0
KONO Kongsberg 74.79 337⇑ *e*P **P 23 28 34.2 -0.2**
KONO *e*S S 23 38 10.3 +1.3
KONO MLR MLR
comp=Z,8μm,22.0s,MS6.0
DAC Darwin (Calif) 74.82 56 PFAKE 23 28 50.0 +15
DAC LR LR
comp=Z,2μm,20.0s,MS5.4
AHID Auburn Hatcher 74.83 47 PFAKE 23 28 50.0 +15
AHID LR LR
comp=Z,2μm,21.0s,MS5.3
DGMT Dagmar 74.86 39 *e*P **P 23 28 36.4 +1.4**
comp=Z,113nm,1.6s,mb5.5
DGMT LR LR
comp=Z,2μm,20.0s,MS5.4
LAO LASA Array 75.00 42 *e*P **P 23 28 35.6 -0.3**
comp=Z,42nm,1.1s,mb5.3
LAO LR LR
comp=Z,2μm,19.0s,MS5.4
SIM Simferopol' 75.03 316*ce*P **P 23 28 36.1 0.0**
SIM 23 31 26.7
SIM *e*S S 23 38 13.8 +1.6
SIM SS SS 23 43 01.1 +0.8
SIM pmax pmax
comp=Z,28nm,0.7s,mb5.3
SIM pmax pmax
comp=Z,630nm,17.0s
NWAO Narrogin (SRO) 75.08 202 PFAKE 23 28 50.0 +14
NWAO LR LR
comp=Z,1μm,20.0s,MS5.2
HWUT Hardware Ranch 75.28 48 *e*P **P 23 28 38.5 +0.9**
HWUT LR LR
comp=Z,1μm,19.0s,MS5.2
ASK Askoy 75.35 340 *e*P **P 23 28 37.7 +0.1**
BER Bergen 75.40 340 *e*P **P 23 28 37.1 -0.7**
BER AMS AMS 00 05 39.3
comp=Z,6μm,14.7s,MS6.0
DUG Dugway 75.42 50 *e*P **P 23 28 39.1 +0.7**
comp=Z,315nm,2.6s,mb5.8
DUG LR LR
comp=Z,2μm,20.0s,MS5.3
DUG Dugway 75.42 50 *e*P **P 23 28 39.1 +0.7**
DUG pmax pmax
comp=Z,315nm,2.6s,mb5.8
DUG MLR MLR
comp=Z,2μm,20.0s,MS5.3
NOQ North Oquirrh 75.55 49 *e*P **P 23 28 46.1 +7.0**
comp=Z,66nm,1.2s,mb5.4
PASC Pasadena Art C 75.69 58 *e*P **P 23 28 40.4 +0.4**
PD02 Pinedale Array 75.69 46 *e*P **P 23 28 39.2 -0.7**
BW06 Boulder Array 75.71 46 *e*P **P 23 28 39.3 -0.6**
BW06 LR LR
comp=Z,1μm,19.0s,MS5.3
PDAR Pinedale Array 75.71 46 P **P 23 28 39.1 -0.9**
comp=Z,5.3nm,0.8s,mb4.5,baz=298,slow=1.9,SNR=29
PDAR LR LR 23 57 57.9
comp=Z,1μm,21.5s,MS5.1,baz=340,slow=33
PDAR Pinedale Array 75.71 46 P **P 23 28 39.1 -0.9**
MWC Mount Wilson 75.74 58 *e*P **P 23 28 45.8 +5.4**
comp=Z,43nm,1.4s,mb5.2
MWC Mount Wilson 75.74 58 *e*P **P 23 28 45.8 +5.5**
MWC pmax pmax
comp=Z,43nm,1.4s,mb5.2
GSC Goldstone 75.92 56 *e*P **P 23 28 43.2 +1.9**
comp=Z,40nm,1.4s,mb5.2
GSC Goldstone 75.92 56 *e*P **P 23 28 43.2 +1.9**
GSC pmax pmax
comp=Z,40nm,1.4s,mb5.2
JLU Jordanelle 75.98 49 *e*P **P 23 28 43.5 +2.0**
comp=Z,279nm,2.6s,mb5.7
BHD Baghdad 76.01 301 *i* x x 23 28 38.7
BHD *i* x x 23 38 19.5
MIB Mutribah 76.05 297 *e*P **P 23 28 41.3 -0.9**
MIB AMb AMB 23 28 44.1
comp=Z,64nm,2.1s,mb5.2
KBD Kabd 76.18 296 *e*P **P 23 28 42.5 -0.4**
KBD AMb AMB 23 28 45.0
comp=Z,65nm,2.3s,mb5.2
DAU Daniels Canyon 76.21 49 *e*P **P 23 28 45.5 +2.6**
DAU Daniels Canyon 76.21 49 *e*P **P 23 28 45.5 +2.6**
MPU Maple Canyon 76.24 50 *e*P **P 23 28 45.8 +2.8**
comp=Z,297nm,2.4s,mb5.8
QRN Al-Qurain 76.28 296 *e*P **P 23 28 42.5 -0.9**
QRN AMb AMB 23 28 56.3
comp=Z,148nm,1.2s,mb5.8
NAY Al-Naaiem 76.45 297 *e*P **P 23 28 44.0 -0.4**
NAY AMb AMB 23 28 51.1
comp=Z,28nm,0.9s,mb5.2

KIS	**Kishinev**	**76.46 320**	⇑*i*P	**P**	**23 28 43.0 -1.2**
	comp=Z,700nm,2.4s,mb6.2				
KIS	**Kishinev**	**76.46 320**	*i* PcP	PcP	23 28 59.0 +3.2
KIS	**Kishinev**	**76.46 320**	*e*PP	PP	23 31 36.0 +0.4
KIS	**Kishinev**	**76.46 320**	⇑*i*P	**P**	**23 28 43.0 -1.2**
KIS			*i*		23 28 59.0
KIS			*e*		23 31 36.0
KIS			*e*PPP		23 33 22.0
KIS			*e*		23 38 50.0
KIS			*e*PS		23 39 10.0
KIS			pmax	pmax	
	comp=Z,700nm,2.4s,mb6.2				
KIS			pmax	pmax	
	comp=Z,1μm,4.0s				
KIS			MLR	MLR	
	comp=N,10μm,16.0s,MS6.2				
KIS			MLR	MLR	
	comp=Z,15μm,16.0s,MS6.4				
KIS			MLR	MLR	
	comp=E,1μm,15.0s,MS6.2				
ARUT	**Antelope Range**	**76.53 52**	*e*P	**P**	**23 28 45.2 +0.4**
	comp=E,24nm,1.2s,mb5.0				
ARUT	**Antelope Range**	**76.53 52**	*e*P	**P**	**23 28 45.2 +0.5**
ARUT			pmax	pmax	
	comp=Z,24nm,1.2s,mb5.0				
SNART	**Snartemo**	**76.57 338**	*e*P	**P**	**23 28 45.7 +1.1**
BSD	**Bornholm Skovb**	**76.61 332**	⇑*i*P	**P**	**23 28 44.6 -0.3**
BSD			pmax	pmax	
	comp=Z,41nm,0.9s,mb5.4				
BSD			MLR	MLR	
	comp=Z,9μm,18.0s,MS6.1				
BSD	**Bornholm Skovb**	**76.61 332**	⇑*i*P	**P**	**23 28 44.6 -0.3**
	comp=Z,41nm,0.9s,mb5.4				
CCUT	**Cedar City**	**76.72 52**	*e*P	**P**	**23 28 46.9 +1.0**
	comp=Z,102nm,1.8s,mb5.5				
MALT	**Malatya**	**76.74 309**	PFAKE		23 29 00.0 +14
MALT			LR	LR	
	comp=Z,1μm,19.0s,MS5.3				
BEL	**Belsk**	**76.77 327**	*e*P	**P**	**23 28 46.5 +0.7**
BEL			*e*S	S	23 38 34.1 +3.0
BEL	**Belsk**	**76.77 327**	⇑*e*P	**P**	**23 28 46.5 +0.7**
BEL			*e*S	S	23 38 34.1 +3.0
RAO	**Raoul Island**	**76.78 145**	PFAKE		23 29 00.0 +14
RAO			LR	LR	
	comp=Z,3μm,20.0s,MS5.7				
LVV	**L'vov**	**76.80 324**	⇑*i*P	**P**	**23 28 46.0 -0.1**
LVV			*e*		23 31 33.8
LVV			*i* S	S	23 38 32.2 +0.6
LVV			*e*PS		23 38 55.6
LVV			MLR	MLR	
	comp=Z,15μm,16.0s,MS6.4				
LVV			MLR	MLR	
	comp=N,10μm,15.0s,MS6.5				
LVV			MLR	MLR	
	comp=E,12μm,15.0s,MS6.5				
MVU	**Marysvale**	**76.84 51**	PFAKE		23 29 00.0 +14
MVU			LR	LR	
	comp=Z,2μm,22.0s,MS5.3				
MSU	**Marysvale**	**76.85 51**	*e*P	**P**	**23 28 48.5 +1.9**
MSU	**Marysvale**	**76.85 51**	*e*P	**P**	**23 28 48.5 +1.9**
IAS	**Iasi**	**76.96 321**	P	**P**	**23 28 47.2 +0.2**
COP	**Copenhagen**	**77.05 334**	⇑*i*P	**P**	**23 28 47.5 +0.2**
COP			*i* S	S	23 38 34.3 +0.3
COP			pmax	pmax	
	comp=Z,50nm,0.9s,mb5.4				
COP			MLR	MLR	
	comp=Z,5μm,18.0s,MS5.9				
COP	**Copenhagen**	**77.05 334**	⇑*i*P	**P**	**23 28 47.5 +0.2**
	comp=Z,50nm,0.9s,mb5.5				
COP			*i* S	S	23 38 34.3 +0.3
LEOM	**Leova**	**77.11 320**	⇑P	**P**	**23 28 49.1 +1.3**
LEOM	**Leova**	**77.11 320**	⇑*i*P	**P**	**23 28 49.1 +1.3**
GKP	**Gorka Klasztor**	**77.15 330**	*e*P	**P**	**23 28 48.2 +0.2**
GKP			*e*S	S	23 38 35.9 +0.7
GKP	**Gorka Klasztor**	**77.15 330**	⇑*e*P	**P**	**23 28 48.2 +0.3**
GKP			*e*S	S	23 38 35.9 +0.7
LDFC	**Landfair**	**77.15 55**	*e*P	**P**	**23 28 49.9 +1.6**
	comp=Z,122nm,1.6s,mb5.6				
PFO	**Pinyon Flat Ob**	**77.17 57**	*e*P	**P**	**23 28 53.4 +4.9**
	comp=Z,53nm,1.6s,mb5.2				
PFO			LR	LR	
	comp=Z,2μm,22.0s,MS5.4				
PFO	**Pinyon Flat Ob**	**77.17 57**	*e*P	**P**	**23 28 53.4 +4.9**
PFO			pmax	pmax	
	comp=Z,53nm,1.6s,mb5.2				
PFO			MLR	MLR	
	comp=Z,2μm,22.0s,MS5.4				
LRW	**Lerwick**	**77.26 342**	*e*P	**P**	**23 28 45.6 -2.9**
LRW			AMB	AMB	23 28 47.5
	comp=Z,174nm,3.3s				
LRW			AMS	AMS	00 13 49.3
	comp=Z,2μm,15.1s,MS5.6				
SRU	**San Rafael**	**77.47 50**	*e*P	**P**	**23 28 52.1 +2.1**
SRU	**San Rafael**	**77.47 50**	*e*P	**P**	**23 28 52.1 +2.1**
MUD	**Monsted U'grnd**	**77.52 336**	*i* P	**P**	**23 28 50.2 +0.3**
MUD			*i* S	S	23 38 38.1 -1.0
MUD			pmax	pmax	
	comp=Z,15nm,0.8s,mb5.0				
MUD			MLR	MLR	
	comp=Z,8μm,19.0s,MS6.1				
MUD	**Monsted U'grnd**	**77.52 336**	*i* P	**P**	**23 28 50.2 +0.3**
	comp=Z,15nm,0.8s,mb5.0				
MUD			*i* S	S	23 38 38.1 -1.0
ULM	**Lac du Bonnet**	**77.52 34**	P	**P**	**23 28 48.9 -1.2**
	comp=Z,6.7nm,0.8s,mb4.7,baz=318,slow=7.0,SNR=9.2				
ULM	**Lac du Bonnet**	**77.52 34**	*e*P	**P**	**23 28 47.6 -2.5**
	comp=Z,30nm,1.5s,mb5.0				
ULM			LR	LR	
	comp=Z,2μm,21.0s,MS5.4				
ULM	**Lac du Bonnet**	**77.52 34**	P	**P**	**23 28 48.9 -1.2**
ULM			pmax	pmax	
	comp=Z,7.0nm,0.8s				
KWP	**Kalwaria Pacla**	**77.54 325**	*e*P	**P**	**23 28 50.8 +0.6**
KWP	**Kalwaria Pacla**	**77.54 325**	*e*P	**P**	**23 28 49.7 -0.5**
	comp=Z,231nm,1.4s,mb5.9				
KWP			LR	LR	
	comp=Z,9μm,19.0s,MS6.1				
KWP	**Kalwaria Pacla**	**77.54 325**	*e*P	**P**	**23 28 49.7 -0.5**
KWP			pmax	pmax	
	comp=Z,231nm,1.4s,mb5.9				
KWP			MLR	MLR	
	comp=Z,9μm,19.0s,MS6.1				
KWP	**Kalwaria Pacla**	**77.54 325**	⇑*i*P	**P**	**23 28 51.8 +1.6**
BAR	**Barrett**	**77.60 58**	*e*P	**P**	**23 28 52.6 +1.7**
	comp=Z,110nm,2.0s,mb5.4				
TLCR		**77.70 319**	⇑P	**P**	**23 28 52.2 +1.0**
TLCR		**77.70 319**	⇑*i*P	**P**	**23 28 52.2 +1.0**
RWWY	**Rawlins**	**77.73 46**	*e*P	**P**	**23 28 51.6 +0.2**
BUR08	**Bucovina Ar. S**	**77.80 322**	⇑*e*P	**P**	**23 28 51.8 +0.1**
BUR08			*e*PP	PP	23 31 46.7 0.0
BURAR	**Bucovina Array**	**77.81 322**	⇓P	**P**	**23 28 53.0 +1.3**
BURAR	**Bucovina Array**	**77.81 322**	⇓*i*P	**P**	**23 28 53.0 +1.3**
GHRR		**77.81 320**	⇑*i*P	**P**	**23 28 53.6 +1.8**
RSSD	**Black Hills**	**77.85 43**	*e*P	**P**	**23 28 51.2 -0.8**
RSSD	**Black Hills**	**77.85 43**	*e*P	**P**	**23 28 51.2 -0.9**
TESR		**77.88 321**	⇑*i*P	**P**	**23 28 53.0 +0.8**
PETR		**78.14 320**	⇓*i*P	**P**	**23 28 55.9 +2.3**
KOLS	**Kolonicke sedl**	**78.24 325**	*e*P	**P**	**23 28 54.6 +0.5**
KOLS			pmax	pmax	
	comp=Z,265nm,2.9s,mb5.7				
KOLS	**Kolonicke sedl**	**78.24 325**	*e*P	**P**	**23 28 54.5 +0.4**
KOLS			*e*PP	PP	23 31 51.6 +1.2
VRI	**Vrincioaia**	**78.29 320**	⇑P	**P**	**23 28 55.7 +1.2**
VRI	**Vrincioaia**	**78.29 320**	⇑*i*P	**P**	**23 28 55.7 +1.2**
PLOR	**Plostina**	**78.34 320**	P	**P**	**23 28 55.3 +0.6**
PLOR	**Plostina**	**78.34 320**	⇓*i*P	**P**	**23 28 56.0 +1.3**
STHS	**Stebnicka Huta**	**78.35 325**	*e*P	**P**	**23 28 55.6 +0.9**
STHS			pmax	pmax	
	comp=Z,24nm,1.3s,mb5.0				
STHS	**Stebnicka Huta**	**78.35 325**	*e*P	**P**	**23 28 55.6 +0.9**
OJC	**Ojcow**	**78.39 327**	*i* P	**P**	**23 28 55.2 +0.3**
OJC			*e*pP	pP	23 29 03.2 -0.2
OJC			*e*PcP	PcP	23 29 08.4 +4.3
OJC			*e*PP	PP	23 31 51.5 -0.1
OJC			*e*S	S	23 38 47.0 -1.7
OJC			L		00 06 22.1
	comp=Z,11nm,18.5s				
OJC	**Ojcow**	**78.39 327**	*e*P	**P**	**23 28 55.2 +0.3**
OJC	**Ojcow**	**78.39 327**	⇑*i*P	**P**	**23 28 55.2 +0.3**
OJC			*e**PP	pP	23 29 03.2 -0.2
OJC			*e*		23 29 08.4
OJC			*e*		23 31 51.5
OJC			*e*S	S	23 38 47.0 -1.7
UZH	**Uzhgorod**	**78.45 324**	⇓*i*P	**P**	**23 28 55.5 +0.2**
UZH			*i*	pP	23 29 05.0 +1.3
UZH			*e*S	S	23 38 49.0 -0.4
UZH			*i*		23 39 34.0
UZH			MLR	MLR	
	comp=N,4μm,15.0s,MS6.4				
UZH			MLR	MLR	
	comp=E,12μm,15.0s,MS6.4				
UZH			MLR	MLR	
	comp=Z,7μm,15.0s,MS6.1				
BMR	**Baia Mare**	**78.58 323**	P	**P**	**23 28 57.5 +1.5**
BMR	**Baia Mare**	**78.58 323**	⇑*i*P	**P**	**23 28 57.4 +1.4**
GLA	**Glamis**	**78.59 57**	*e*P	**P**	**23 29 02.0 +5.7**
GLA	**Glamis**	**78.59 57**	*e*P	**P**	**23 29 02.0 +5.7**
CRVS	**Cervenica-Dubn**	**78.63 325**	*e*P	**P**	**23 28 56.9 +0.6**
CRVS			pmax	pmax	
	comp=Z,467nm,2.7s,mb5.9				
CRVS	**Cervenica-Dubn**	**78.63 325**	*e*P	**P**	**23 28 56.8 +0.5**
CRVS			*e*S	S	23 38 53.5 +2.2
BR131	**Keskin Array S**	**78.69 312**	⇑*e*P	**P**	**23 28 56.6 -0.2**
	comp=Z,32nm,1.2s,mb5.1				
BR131			*e*PP	PP	23 31 54.1 -0.4
BR131			LR	LR	
	comp=Z,4μm,20.0s,MS5.7				
BRTR	**Keskin Array B**	**78.69 312**	P	**P**	**23 28 56.5 -0.3**
	comp=Z,4.0nm,0.5s,mb4.6,baz=64,slow=3.4,SNR=38				
BRTR			LR	LR	00 08 18.7
	comp=Z,4μm,19.6s,MS5.7,baz=210,slow=39				
BRTR	**Keskin Array B**	**78.69 312**	P	**P**	**23 28 56.5 -0.3**
BRTR	**Keskin Array B**	**78.69 312**	P	**P**	**23 28 56.5 -0.3**
BRTR			pmax	pmax	
	comp=Z,4.0nm,0.5s				
BRTR			MLR	MLR	
	comp=Z,4μm,19.6s				
TRPA	**Tarpa**	**78.70 324**	⇑*i*P	**P**	**23 28 57.2 +0.5**
MANR	**Mangalia**	**78.75 318**	⇑*i*P	**P**	**23 28 53.9 -3.1**
NIE	**Niedzica**	**78.76 326**	*e*P	**P**	**23 28 57.6 +0.6**
NIE	**Niedzica**	**78.76 326**	*e*P	**P**	**23 28 57.6 +0.6**
PGOR	**Pogoanele**	**78.83 319**	⇓*i*P	**P**	**23 28 59.3 +1.9**
AMRR	**Amara**	**78.86 319**	⇑*i*P	**P**	**23 29 08.6 +11**
PV04	**Paradox Valley**	**78.90 50**	*e*P	**P**	**23 28 59.3 +1.3**
ISR	**Istrita**	**78.91 320**	⇑P	**P**	**23 28 59.9 +2.0**
ISR	**Istrita**	**78.91 320**	⇑*i*P	**P**	**23 28 59.9 +2.0**
MLR	**Muntele Rosu**	**78.95 320**	⇑P	**P**	**23 28 59.4 +1.3**
MLR	**Muntele Rosu**	**78.95 320**	⇑*i*P	**P**	**23 28 59.4 +1.3**
AGMN	**Agassiz Nation**	**78.95 36**	*e*P	**P**	**23 28 57.3 -0.7**
	comp=Z,211nm,2.6s,mb5.6				
AGMN			LR	LR	
	comp=Z,2μm,19.0s,MS5.4				
PHWY	**Pilot Hill**	**78.97 46**	*e*P	**P**	**23 29 03.6 +5.3**
PSN	**Preselentsi**	**79.06 318**	*i* P	**P**	**23 28 58.8 +0.1**
RAC	**Raciborz**	**79.17 327**	*e*P	**P**	**23 29 00.2 +1.0**
RAC			*e*		23 31 58.6
BSEG	**Bad Segeberg**	**79.19 334**	*e*P	**P**	**23 28 58.8 -0.4**
	comp=Z,608nm,2.3s,mb6.1				
BSEG	**Bad Segeberg**	**79.19 334**	*e*P	**P**	**23 28 58.8 -0.4**
BSEG			pmax	pmax	
	comp=Z,608nm,2.3s,mb6.1				
WUAZ	**Wupatki**	**79.25 53**	*e*P	**P**	**23 29 01.1 +1.2**
WUAZ			LR	LR	
	comp=Z,2μm,21.0s,MS5.3				
PV01	**Paradox Valley**	**79.27 50**	*e*P	**P**	**23 29 00.3 +0.3**
	comp=Z,14μm,1.9s				
PV01			*e*PP	PP	23 31 58.9 -0.4
SULR		**79.36 320**	⇑*i*P	**P**	**23 29 01.5 +1.2**
KECS	**Kecovo**	**79.38 325**	*e*P	**P**	**23 29 00.6 +0.2**
KECS			pmax	pmax	
	comp=Z,47nm,2.3s,mb5.0				
KECS	**Kecovo**	**79.38 325**	*e*P	**P**	**23 29 00.6 +0.2**
OKC	**Ostrava-Krasne**	**79.38 327**	*e*P	**P**	**23 29 00.6 +0.2**
OKC			*e*		23 31 58.6
OKC			*e*S	S	23 39 01.5 +2.2
OKC	**Ostrava-Krasne**	**79.38 327**	*e*P	**P**	**23 29 00.6 +0.2**
OKC			*e*x	x	23 29 16.9
OKC			*e*PP	PP	23 31 58.6 -1.2
OKC			*e*S	S	23 39 01.5 +2.2
OKC			AMS	AMS	00 06 40.0
	comp=Z,10μm,18.4s				
KSP	**Ksiaz**	**79.38 329**	*e*P	**P**	**23 29 00.8 +0.5**
KSP			*e*S	S	23 39 00.4 +1.1
KSP	**Ksiaz**	**79.38 329**	*i* P	**P**	**23 29 00.7 +0.4**
KSP			*e*PcP	PcP	23 29 08.0 -0.4
KSP			*e*PP	PP	23 31 59.0 -0.8
KSP			*e*PPP		23 33 46.5
KSP			*e*S	S	23 38 59.6 +0.3
KSP			LM		00 07 01.0
	comp=Z,20nm,19.3s				
KSP	**Ksiaz**	**79.38 329**	⇑*i*P	**P**	**23 29 00.7 +0.4**
KSP			*e*	pP	23 29 08.0 -0.8
KSP			*e*		23 31 59.0
KSP			*e*PPP		23 33 46.5
KSP			*e*S	S	23 38 59.6 +0.3
KSP			MLR	MLR	
	comp=Z,20μm,19.3s,MS6.5				
VOIR		**79.43 321**	⇑P	**P**	**23 29 02.2 +1.5**
VOIR		**79.43 321**	⇑*i*P	**P**	**23 29 02.2 +1.5**
SMCO	**Snowmass**	**79.53 48**	*e*P	**P**	**23 29 03.6 +2.3**
LIKS	**Likavka**	**79.56 326**	*e*P	**P**	**23 29 02.4 +1.0**
LIKS			pmax	pmax	
	comp=Z,61nm,1.7s,mb5.2				
LIKS	**Likavka**	**79.56 326**	*e*P	**P**	**23 29 02.4 +1.0**
DRGR		**79.59 323**	P	**P**	**23 29 02.2 +0.6**
DRGR		**79.59 323**	⇑*i*P	**P**	**23 29 01.9 +0.3**
DGAR	**Diego Garcia**	**79.63 252**	PFAKE		23 29 10.0 +7.8
DGAR			LR	LR	
	comp=Z,2μm,22.0s,MS5.5				
MORC	**Moravsky Berou**	**79.68 328**	*e*P	**P**	**23 29 02.5 +0.5**
MORC	**Moravsky Berou**	**79.68 328**	*e*P	**P**	**23 29 02.5 +0.5**
MORC	**Moravsky Berou**	**79.68 328**	⇓*i*P	**P**	**23 29 03.2 +1.2**
DPC	**Dobruska-Polom**	**79.75 328**	*e*P	**P**	**23 29 02.9 +0.5**
DPC	**Dobruska-Polom**	**79.75 328**	*e*P	**P**	**23 29 03.1 +0.8**
DPC			*e*		23 32 02.8
DPC			*e*S	S	23 39 01.7 -1.5
DPC	**Dobruska-Polom**	**79.75 328**	*e*P	**P**	**23 29 03.1 +0.8**
DPC			*e*x	x	23 29 20.2
DPC			*e*PP	PP	23 32 02.8 -0.1
DPC			*e*S	S	23 39 01.7 -1.5
DPC			AMS	AMS	00 07 00.0
	comp=Z,9μm,17.5s				
UPC	**Upice**	**79.75 329**	*e*P	**P**	**23 29 02.7 +0.3**
UPC	**Upice**	**79.75 329**	*e*P	**P**	**23 29 02.7 +0.3**
UPC			*e*x	x	23 29 20.0
KRLC	**Kraliky**	**79.77 328**	*e*P	**P**	**23 29 03.6 +1.1**
KRLC			*e*x	x	23 29 20.1
PRD	**Provadia**	**79.80 318**	*i* P	**P**	**23 29 02.7 -0.1**
ISCO	**Idaho Springs**	**79.89 47**	*e*P	**P**	**23 29 04.2 +0.9**
ISCO			LR	LR	
	comp=Z,2μm,19.0s,MS5.5				
ISCO	**Idaho Springs**	**79.89 47**	*e*P	**P**	**23 29 04.3 +1.0**
ISCO			MLR	MLR	
	comp=Z,2μm,19.0s,MS5.5				
MVCO	**Mesa Verde**	**79.92 50**	*e*P	**P**	**23 29 05.6 +2.0**
MVCO			LR	LR	
	comp=Z,2μm,20.0s,MS5.3				
MCD	**Coleburn Disti**	**80.03 342**	*e*P	**P**	**23 29 04.3 +0.6**
PSZ	**Piszkesteto**	**80.06 325**	*e*P	**P**	**23 29 04.6 +0.6**
PSZ			LR	LR	
	comp=Z,3μm,20.0s,MS5.7				
PSZ	**Piszkesteto**	**80.06 325**	P	**P**	**23 29 04.9 +0.8**
PSZ	**Piszkesteto**	**80.06 325**	⇑*e*P	**P**	**23 29 04.8 +0.7**
PSZ	**Piszkesteto**	**80.06 325**	⇑*i*P	**P**	**23 29 04.6 +0.5**
RAR	**Rarotonga**	**80.14 127**	LR	LR	23 59 11.2
	comp=Z,3μm,18.9s,MS5.6,baz=271,slow=32				
KOLL	**Kolacno**	**80.22 326**	*e*P	**P**	**23 29 06.7 +1.8**
KOLL	**Kolacno**	**80.22 326**	*e*P	**P**	**23 29 06.7 +1.8**
BRG	**Berggiesshubel**	**80.29 330**	*e*P	**P**	**23 29 05.1 -0.2**
	comp=Z,135nm,1.8s,mb5.6				
BRG			*e*		23 29 22.5
	comp=Z,32nm,1.1s				
BRG			*e*PP	PP	23 32 03.9 -3.4
	comp=Z,12nm,1.3s				
BRG			S	S	23 39 08.0 -0.9
BRG			SS	SS	23 44 13.0 -6.0
BRG					
	comp=N,9μm,16.1s				
BRG					
	comp=E,5μm,16.0s				
BRG					
	comp=Z,14μm,16.6s				
BRG	**Berggiesshubel**	**80.29 330**	*e*P	**P**	**23 29 04.7 -0.6**
BRG	**Berggiesshubel**	**80.29 330**	*e*P	**P**	**23 29 05.1 -0.2**
BRG			*e*		23 32 03.9
BRG			S	S	23 39 08.0 -0.9
BRG			pmax	pmax	
	comp=Z,135nm,1.8s,mb5.6				
BRG			pmax	pmax	
	comp=Z,32nm,1.1s,mb5.2				
BRG			pmax	pmax	
	comp=Z,12nm,1.3s,mb4.7				
BRG			MLR	MLR	
	comp=N,9μm,16.1s,MS6.3				
BRG			MLR	MLR	
	comp=E,5μm,16.0s,MS6.3				
BRG			MLR	MLR	
	comp=Z,14μm,16.6s,MS6.4				
CLL	**Collm**	**80.31 331**	*e*P	**P**	**23 29 04.4 -1.0**
	comp=Z,422nm,2.3s,mb6.0				
CLL	**Collm**	**80.31 331**	⇑*i*P	**P**	**23 29 05.0 -0.4**
CLL			*e*S	S	23 39 12.0 +2.9
CLL			pmax	pmax	
	comp=Z,119nm,1.6s,mb5.6				
CLL			MLR	MLR	
	comp=Z,10μm,17.1s,MS6.2				
CLL	**Collm**	**80.31 331**	⇑*i*P	**P**	**23 29 05.0 -0.4**
	comp=Z,119nm,1.6s,mb5.6				
CLL			*i* pPcP		23 29 15.8
CLL			*i*		23 29 22.4
CLL			*e*PP	PP	23 32 07.0 -0.5
CLL			*e*PPP		23 34 00.0
CLL			*e*S	S	23 39 12.0 +2.9
CLL			*e*PS		23 40 01.0
CLL			*e*		23 41 24.0
CLL			*e*SS	SS	23 44 06.0 -13
CLL			*e*		23 45 12.0
CLL			*e*SSS		23 47 36.0
CLL			*e*(SSSS)		23 50 24.0
CLL			Lmax		00 07 00.0
PVCC	**Panska Ves**	**80.32 329**	*e*P	**P**	**23 29 05.8 +0.4**
PVCC			*e*S	S	23 39 11.4 +2.2
PVCC	**Panska Ves**	**80.32 329**	*e*P	**P**	**23 29 05.8 +0.4**
PVCC			*e*x	x	23 29 23.2
PVCC			*e*S	S	23 39 11.4 +2.2
PVCC			AMS	AMS	00 09 30.0
	comp=Z,13μm,14.7s				
VRAC	**Vranov**	**80.44 328**	P	**P**	**23 29 07.1 +1.0**
VRAC	**Vranov**	**80.44 328**	⇑*i*P	**P**	**23 29 06.5 +0.4**
SZH	**Strazhica**	**80.52 319**	*i* P	**P**	**23 29 05.5 -1.1**
GZR	**Gura Zlata**	**80.58 322**	⇑P	**P**	**23 29 07.8 +0.9**
GZR	**Gura Zlata**	**80.58 322**	⇑*i*P	**P**	**23 29 07.8 +0.9**
KAC	**Achnashellach**	**80.58 343**	*e*P	**P**	**23 29 07.9 +1.2**
SMOL	**Smolenice**	**80.69 327**	*e*P	**P**	**23 29 09.7 +2.2**
SMOL	**Smolenice**	**80.69 327**	*e*P	**P**	**23 29 09.7 +2.2**
PRA	**Prague**	**80.73 329**	P	**P**	**23 29 08.0 +0.4**
PRA			*e*x	x	23 29 25.0
PRA			S	S	23 39 16.0 +2.5
PRA			AMS	AMS	00 09 30.0
JMB	**Yambol**	**80.74 318**	P	**P**	**23 29 08.4 +0.5**
JMB	**Yambol**	**80.74 318**	*i* P	**P**	**23 29 07.8 -0.1**
BUD	**Budapest**	**80.78 325**	⇑*e*P	**P**	**23 29 08.4 +0.5**
KPL	**Plockton**	**80.81 343**	*e*P	**P**	**23 29 08.6 +0.7**
KPL			AMB	AMB	23 29 09.9
	comp=Z,139nm,4.2s				
KPL			AMS	AMS	00 13 40.8
	comp=Z,2μm,17.4s,MS5.6				
PVL	**Pavlikeni**	**80.86 319**	*i* P	**P**	**23 29 06.0 -2.5**
CLZ	**Clausthal**	**80.87 332**	*e*P	**P**	**23 29 07.9 -0.4**
	comp=Z,444nm,2.3s,mb6.0				
CLZ	**Clausthal**	**80.87 332**	*e*P	**P**	**23 29 07.9 -0.4**
CLZ			pmax	pmax	
	comp=Z,444nm,2.3s,mb6.0				
TREC	**Trest**	**80.91 328**	*e*P	**P**	**23 29 09.1 +0.5**
TREC			*e*S	S	23 39 17.6 +2.2
TREC	**Trest**	**80.91 328**	*e*P	**P**	**23 29 09.1 +0.5**
TREC			*e*x	x	23 29 26.1
TREC			*e*S	S	23 39 17.6 +2.2
TREC			AMS	AMS	00 09 40.0
	comp=Z,13μm,14.8s				
BZS	**Buzias**	**80.97 323**	⇑P	**P**	**23 29 09.5 +0.5**
BZS	**Buzias**	**80.97 323**	⇑*i*P	**P**	**23 29 09.5 +0.5**
ZST	**Bratislava**	**81.08 327**	*e*P	**P**	**23 29 10.3 +0.8**
ZST			pmax	pmax	
	comp=Z,308nm,2.4s,mb5.8				
ZST	**Bratislava**	**81.08 327**	*e*P	**P**	**23 29 10.3 +0.8**
RAYN	**Ar Rayn**	**81.16 293**	P	**P**	**23 29 10.5 +0.1**
	comp=Z,174nm,1.4s,mb5.8,SNR=23				
EYMN	**Ely**	**81.16 34**	PFAKE		23 29 20.0 +10
EYMN			LR	LR	
	comp=Z,2μm,20.0s,MS5.4				
TANN	**Tannenbergstha**	**81.23 330**	*e*P	**P**	**23 29 09.9 -0.4**
	comp=Z,380nm,2.8s,mb5.8				
TAU	**Tasmania Unive**	**81.24 177**	PFAKE		23 29 20.0 +10
TAU			LR	LR	
	comp=Z,2μm,22.0s,MS5.5				
EBH	**Black Hill**	**81.30 342**	*e*P	**P**	**23 29 11.4 +0.8**
SDCO	**Great Sand Dun**	**81.34 48**	*e*P	**P**	**23 29 11.2 +0.1**
	comp=Z,15nm,1.2s,mb4.8				
SDCO			LR	LR	
	comp=Z,2μm,19.0s,MS5.4				
ESY	**Stoneypath**	**81.37 341**	*e*P	**P**	**23 29 10.2 -0.8**
MOX	**Moxa**	**81.37 331**	*e*P	**P**	**23 29 10.4 -0.6**
	comp=Z,102nm,1.6s,mb5.5				
MOX	**Moxa**	**81.37 331**	*e*P	**P**	**23 29 10.4 -0.6**
MOX			pmax	pmax	
	comp=Z,102nm,1.6s,mb5.5				
NKC	**Novy Kostel**	**81.38 330**	*e*P	**P**	**23 29 11.3 +0.2**
NKC			*e*		23 32 19.4
NKC			*e*S	S	23 39 19.9 -0.4
NKC	**Novy Kostel**	**81.38 330**	*e*P	**P**	**23 29 11.3 +0.2**
NKC			*e*x	x	23 29 26.8
NKC			*e*PP	PP	23 32 19.4 +3.0
NKC			*e*S	S	23 39 19.9 -0.4
NKC			AMS	AMS	00 08 50.0
	comp=Z,9μm,16.2s				
IBBN	**Ibbenburen**	**81.41 334**	*e*P	**P**	**23 29 10.3 -0.9**
	comp=Z,394nm,2.2s,mb6.0				
EDI	**Edinburgh**	**81.51 341**	AMS	AMS	00 11 25.1
	comp=Z,4μm,17.2s,MS5.8				
EAB	**Aberfoyle**	**81.55 342**	*e*P	**P**	**23 29 13.3 +1.4**
TUC	**Tucson**	**81.69 55**	*e*P	**P**	**23 29 14.8 +1.7**
TUC	**Tucson**	**81.69 55**	*e*P	**P**	**23 29 14.8 +1.7**
SOP	**Sopron**	**81.70 327**	⇑*e*P	**P**	**23 29 13.5 +0.6**
CONA	**Conrad Observa**	**81.81 327**	*i* pP	**P**	**23 29 14.2 +0.8**
	comp=Z,43nm,1.1s,mb5.3,SNR=23				
CONA	**Conrad Observa**	**81.81 327**	*i* P	**P**	**23 29 14.2 +0.8**
	comp=Z,43nm,1.1s,mb5.3				
KHC	**Kasperske Hory**	**81.81 329**	*e*P	**P**	**23 29 13.2 -0.2**
KHC	**Kasperske Hory**	**81.81 329**	*e*P	**P**	**23 29 13.5 +0.1**
KHC			*e*		23 32 19.7
KHC			*e*S	S	23 39 26.4 +1.6
KHC	**Kasperske Hory**	**81.81 329**	*e*P	**P**	**23 29 13.5 +0.1**
KHC			*e*x	x	23 29 30.9
KH

CSS Prodhromos 82.03 309 P **P 23 29 14.4 -0.4**
CSS LR LR
comp=Z,4µm,20.0s,MS5.8
ESK Eskdalemuir 82.06 341 AMS AMS 00 10 26.2
comp=Z,3µm,18.7s,MS5.8
ESK Eskdalemuir 82.06 341 PFAKE 23 29 30.0 +15
ESK LR LR
comp=Z,3µm,19.0s,MS5.7
WET Wettzell 82.08 330 *e*P **P 23 29 14.6 -0.2**
comp=Z,327nm,2.3s,mb5.8
WET Wettzell 82.08 330 *e*P **P 23 29 14.6 -0.2**
WET pmax pmax
comp=Z,327nm,2.3s,mb5.8
ALN Alexandroupoli 82.14 317 P **P 23 29 14.4 -0.9**
RDO Rodhopi 82.23 317 P **P 23 29 14.4 -1.4**
RZN Rozhen 82.28 318 *i* P **P 23 29 14.0 -2.0**
GRF Grafenberg Arr 82.29 331 *e*P **P 23 29 15.7 -0.2**
comp=Z,734nm,2.3s,mb6.2
GRF *e*pP pP 23 29 26.6 +2.2
GRF *e*sP sP 23 29 32.1 +4.6
GRF *e*PP PP 23 32 27.3 +3.4
GRF *e*S S 23 39 30.3 +0.6
GRF Grafenberg Arr 82.29 331 *e*L 00 06 13.1
comp=Z,5µm,20.8s
GRF Grafenberg Arr 82.29 331 *e*P **P 23 29 15.7 -0.2**
GRF *e**PP pP 23 29 26.6 +2.2
GRF *e* 23 32 27.3
GRF *e*S S 23 39 30.3 +0.6
GRF pmax pmax
comp=Z,734nm,2.3s,mb6.2
GRF MLR MLR
comp=Z,4µm,20.8s,MS5.8
GRFO Grafenberg 82.29 331 *e*P **P 23 29 15.7 -0.2**
GRFO Grafenberg 82.29 331 *e*P **P 23 29 15.7 -0.2**
BUG Bochum-Univer 82.30 334 *e*P **P 23 29 14.9 -1.0**
comp=Z,675nm,3.3s
VTS Vitosha 82.40 320 P **P 23 29 17.1 +0.5**
VTS Vitosha 82.40 320 ⇑P **P 23 29 17.1 +0.5**
VTS Vitosha 82.40 320 *i* P **P 23 29 15.0 -1.6**
VTS Vitosha 82.40 320 ⇑*i*P **P 23 29 17.1 +0.5**
ARSA Arzberg 82.48 327 *i* P **P 23 29 17.3 +0.3**
comp=Z,24nm,1.1s,mb5.0,SNR=12
ARSA Arzberg 82.48 327 *i* P **P 23 29 17.2 +0.3**
comp=Z,24nm,1.1s,mb5.0
MOA Molln 82.55 328 ⇑*i*P **P 23 29 17.3 0.0**
comp=Z,37nm,1.4s,mb5.2,SNR=6,2
MOA Molln 82.55 328 ⇑*i*P **P 23 29 17.3 0.0**
comp=Z,37nm,1.4s,mb5.2
LAZ Ladron 82.61 52 *e*P **P 23 29 17.2 -0.6**
comp=Z,80nm,2.2s,mb5.4
ANMO Albuquerque 82.65 51 *e*P **P 23 29 18.0 -0.1**
ANMO LR LR
comp=Z,2µm,22.0s,MS5.4
ANMO Albuquerque 82.65 51 *e*P **P 23 29 18.0 -0.1**
ANMO MLR MLR
comp=Z,2µm,22.0s
URZ Urewera 82.71 154 LR LR 00 03 01.1
comp=Z,2µm,20.3s,MS5.6,baz=132,slow=34
URZ Urewera 82.71 154 *e*P **P 23 29 15.9 -2.1**
KOGS Kog 82.79 326 *e*P **P 23 29 18.2 -0.4**
KOGS *e* 23 29 34.9
KOGS *e*SKSac SKSac 23 39 35.6 -2.6
GAL1 Galloway 82.84 342 AMS AMS 00 12 34.9
comp=Z,3µm,19.2s,MS5.7
MMB Musomiste 82.86 319 *i* P **P 23 29 13.4 -5.6**
LENM Lemitar 82.86 52 *e*P **P 23 29 28.3 +9.1**
KAVA Kavala 82.88 318 P **P 23 29 18.5 -0.6**
TNS Taunus Mts 82.89 332 *e*P **P 23 29 18.4 -0.6**
comp=Z,619nm,3.3s
TNS Taunus Mts 82.89 332 *e*P **P 23 29 18.4 -0.6**
TNS pmax pmax
comp=Z,619nm,3.3s
LPM Los Pinos Moun 82.98 51 *e*P **P 23 29 25.2 +5.4**
KKB Krupnik 82.99 319 *i* P **P 23 29 15.1 -4.6**
BNM Barren Site 83.09 52 *e*P **P 23 29 20.3 0.0**
comp=Z,60nm,1.9s,mb5.3
BNM *e*PP PP 23 32 31.6 +0.6
GROS Grobnik 83.11 326 *i* P **P 23 29 19.9 -0.3**
PERS Pernice 83.14 327 *e*P **P 23 29 20.3 -0.1**
PERS *e* 23 29 37.0
PERS *e* 23 32 47.5
PERS *e*SKSac SKSac 23 39 39.0 -1.5
PERS *e* 23 40 45.1
SOKA Soboth 83.14 327 ⇑*i*P **P 23 29 19.9 -0.5**
comp=Z,43nm,0.9s,mb5.5
SOKA Soboth 83.14 327 ⇑*i*P **P 23 29 19.9 -0.5**
comp=Z,43nm,0.9s,mb5.5
RJOB Jochberg 83.24 329 *e*P **P 23 29 20.7 -0.2**
comp=Z,605nm,2.4s,mb6.2
TOD Tromm 83.27 332 *e*P **P 23 29 19.7 -1.3**
TOD Tromm 83.27 332 *e*P **P 23 29 19.7 -1.3**
SRS Serrai 83.27 318 P **P 23 29 20.8 -0.4**
HGN Heimansgroeve 83.32 334 *e*P **P 23 29 18.3 -3.0**
comp=Z,105nm,1.3s,mb5.7
HGN Heimansgroeve 83.32 334 *e*x x 23 29 58.4
BEBN Eben Emael 83.38 334 P **P 23 29 21.3 -0.3**
MEM Membach 83.43 334 P **P 23 29 22.3 +0.5**
SCHQ Schefferville 83.48 17 P **P 23 29 21.6 -0.4**
comp=Z,5.3nm,0.7s,mb4.7,baz=341,slow=7.3,SNR=6.5
SCHQ LR LR 00 09 54.4
comp=Z,2µm,19.2s,MS5.5,baz=176,slow=38
SCHQ Schefferville 83.48 17 P **P 23 29 21.6 -0.4**
ABH Alteburg 83.50 333 *e*P **P 23 29 21.2 -1.0**
FUR Furstenfeldbru 83.50 330 *e*P **P 23 29 21.8 -0.4**
comp=Z,806nm,2.4s,mb6.4
FUR Furstenfeldbru 83.50 330 *e*P **P 23 29 21.8 -0.4**
FUR pmax pmax
comp=Z,806nm,2.4s,mb6.4
KBA Koelnbreinsper 83.54 328 ⇑*i*P **P 23 29 22.3 -0.1**
comp=Z,35nm,1.0s,mb5.4,SNR=8.2
KBA Koelnbreinsper 83.54 328 ⇑*i*P **P 23 29 22.4 -0.1**
comp=Z,35nm,1.0s,mb5.4
KBA Koelnbreinsper 83.54 328 ⇑*i*P **P 23 29 22.4 0.0**
KBA pmax pmax
comp=Z,35nm,1.0s,mb5.4
KNT Kendrikon 83.60 319 P **P 23 29 21.4 -1.4**
SOH Sokhos 83.61 318 P **P 23 29 21.2 -1.7**
VAY Valandovo 83.65 319 *i* P **P 23 29 22.7 -0.4**
PMOR Pomariorio Ree 83.73 115 *e*P **P 23 29 23.8 0.0**
comp=Z,139nm,1.4s,mb5.9
SKO Skopje 83.74 320 *i* P **P 23 29 24.8 +1.2**
MYKA Terra Mystica 83.77 328 ⇑*i*P **P 23 29 22.0 -1.6**
comp=Z,58nm,2.0s,mb5.4
MYKA Terra Mystica 83.77 328 ⇑*i*P **P 23 29 22.0 -1.6**
comp=Z,58nm,2.0s,mb5.4
STU Stuttgart 83.81 331 *e*P **P 23 29 23.1 -0.7**
comp=Z,393nm,2.2s,mb6.2
STU Stuttgart 83.81 331 *e*P **P 23 29 24.5 +0.7**
STU Stuttgart 83.81 331 *e*P **P 23 29 24.5 +0.7**
RUP Ruppelstein 83.82 333 *e*P **P 23 29 23.0 -0.8**
RUP Ruppelstein 83.82 333 *e*P **P 23 29 23.0 -0.8**
BCLA Clavier 83.83 334 P **P 23 29 23.6 -0.3**
LJU Ljubljana 83.86 327 *e*P **P 23 29 23.6 -0.5**
LJU *e*SKSac SKSac 23 39 45.1 -0.1
CBKS Cedar Bluff 83.86 44 PFAKE 23 29 40.0 +16
CBKS LR LR
comp=Z,2µm,19.0s,MS5.5
PLG Polygyros 83.89 318 P **P 23 29 23.2 -1.1**
HORT Hortiatis 83.91 318 P **P 23 29 23.5 -0.9**
THE Thessaloniki 83.95 318 P **P 23 29 25.0 +0.3**
BOJS Bojanci 83.97 326 *i* P **P 23 29 24.2 -0.4**
GRG Griva 84.00 319 P **P 23 29 23.3 -1.6**
CADS Cadrg 84.05 327 *e*P **P 23 29 23.9 -1.1**
WATA Walderalm 84.06 329 ⇓*i*P **P 23 29 24.8 -0.2**
comp=Z,9.2nm,0.7s,mb5.0
WATA Walderalm 84.06 329 ⇓*i*P **P 23 29 24.8 -0.2**
comp=Z,9.2nm,0.7s,mb5.0
WATA Walderalm 84.06 329 ⇓*i*P **P 23 29 24.8 -0.3**
WATA pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
WTTA Wattenberg 84.09 329 ⇑*i*P **P 23 29 25.0 -0.2**
comp=Z,66nm,2.2s,mb5.4
WTTA Wattenberg 84.09 329 ⇑*i*P **P 23 29 25.0 -0.2**
comp=Z,66nm,2.2s,mb5.4
WTTA Wattenberg 84.09 329 ⇑*i*P **P 23 29 25.0 -0.2**
WTTA pmax pmax
comp=Z,66nm,2.2s,mb5.4
SNF Seneffe 84.10 335 P **P 23 29 25.5 +0.3**
comp=Z,54nm,2.5s,mb5.2
VOY Vojsko 84.14 327 *e*P **P 23 29 23.3 -2.2**
VOY *e* 23 29 26.2
VOY *e* 23 29 42.7
ABTA Abfaltersbach 84.15 328 ⇓*i*P **P 23 29 24.7 -0.8**
comp=Z,23nm,1.2s,mb5.2,SNR=9.7
ABTA Abfaltersbach 84.15 328 ⇓*i*P **P 23 29 24.7 -0.8**
comp=Z,23nm,1.2s,mb5.2
LANF Langenberg 84.16 332 *e*P **P 23 29 25.6 +0.1**
LANF Langenberg 84.16 332 *e*P **P 23 29 25.6 +0.1**
LANF Langenberg 84.16 332 *e*P **P 23 29 25.6 +0.1**
WLF Walferdange 84.17 333 P **P 23 29 26.4 +0.8**
comp=Z,75nm,2.3s,mb5.4
WLF Walferdange 84.17 333 *e*P **P 23 29 25.2 -0.4**
comp=Z,211nm,1.8s,mb6.0
WLF Walferdange 84.17 333 *e*P **P 23 29 25.1 -0.5**
comp=Z,130nm,1.8s,mb5.8
WLF *e*PP PP 23 32 37.5 -1.7
WLF LR LR
comp=Z,7µm,19.0s,MS6.1
WLF Walferdange 84.17 333 *e*P **P 23 29 25.1 -0.5**
WLF *e* 23 32 37.5
WLF pmax pmax
comp=Z,130nm,1.8s,mb5.8
WLF MLR MLR
comp=Z,7µm,19.0s,MS6.1
MOTA Moosalm 84.24 329 ⇑*i*P **P 23 29 25.9 -0.1**
comp=Z,26nm,1.0s,mb5.3,SNR=13
MOTA Moosalm 84.24 329 ⇑*i*P **P 23 29 25.9 -0.1**
comp=Z,26nm,1.0s,mb5.3
MOTA Moosalm 84.24 329 ⇑*i*P **P 23 29 25.9 -0.1**
MOTA pmax pmax
comp=Z,26nm,1.0s,mb5.3
FOEL Foel Wylfa 84.24 340 *e*P **P 23 29 25.7 -0.2**
FOEL AMB AMB 23 29 27.5
comp=Z,171nm,2.6s,mb5.7
RETA Reutte 84.26 330 ⇑*i*P **P 23 29 26.2 +0.1**
comp=Z,61nm,1.2s,mb5.6,SNR=19
RETA Reutte 84.26 330 ⇑*i*P **P 23 29 26.2 +0.1**
comp=Z,61nm,1.2s,mb5.6
GIVF Givet 84.26 334 *e*P **P 23 29 25.5 -0.6**
GIVF Givet 84.26 334 *e*P **P 23 29 25.5 -0.6**
GIVF Givet 84.26 334 *e*P **P 23 29 25.5 -0.6**
PPT Papeete 84.28 118 *e*S S 23 39 45.7 -4.9
comp=Z,3µm,32.5s
PPT *e*SS SS 23 45 19.8 -1.2
comp=Z,474nm,24.0s
PPT *e*LR LR 23 56 02.0
comp=Z,6µm,22.5s,baz=317
KRUS Krusevo 84.29 320 *i* P **P 23 29 25.8 -0.5**
DOU Dourbes 84.34 335 P **P 23 29 26.4 0.0**
TIAR Tiarei 84.44 118 *e*P **P 23 29 26.3 -1.0**
comp=Z,52nm,0.8s,mb5.7
TRI Trieste 84.45 327 PFAKE 23 29 40.0 +13
TRI LR LR
comp=Z,9µm,20.0s,MS6.1
BFO Black Forest 84.50 331 *e*P **P 23 29 26.5 -0.8**
comp=Z,337nm,2.1s,mb6.1
BFO Black Forest 84.50 331 *e*P **P 23 29 26.7 -0.6**
comp=Z,86nm,1.3s,mb5.7
BFO LR LR
comp=Z,4µm,22.0s,MS5.8
BFO Black Forest 84.50 331 *e*P **P 23 29 26.7 -0.6**
BFO pmax pmax
comp=Z,86nm,1.3s,mb5.7
BFO MLR MLR
comp=Z,4µm,22.0s,MS5.8
BAIF Baives 84.50 335 *e*P **P 23 29 26.8 -0.5**
BAIF Baives 84.50 335 *e*P **P 23 29 26.8 -0.5**
BAIF Baives 84.50 335 *e*P **P 23 29 26.8 -0.5**
SPAK Spaichingen-Ko 84.52 331 *e*P **P 23 29 26.3 -1.1**
FETA Feichten 84.65 329 ⇑*i*P **P 23 29 28.0 0.0**
comp=Z,25nm,1.0s,mb5.3,SNR=19
FETA Feichten 84.65 329 ⇑*i*P **P 23 29 28.0 0.0**
comp=Z,25nm,1.0s,mb5.3
SNZO South Karori 84.67 157 PFAKE 23 29 40.0 +12
SNZO LR LR
comp=Z,3µm,20.0s,MS5.7
DAVA Damuels 84.77 330 *i* PcP **P 23 29 28.8 +0.1**
comp=Z,56nm,0.9s,mb5.7,SNR=19
DAVA Damuels 84.77 330 *i* P **P 23 29 28.8 +0.1**
comp=Z,56nm,0.9s,mb5.7
KZN Kozani 84.81 319 P **P 23 29 27.8 -1.2**
CDF Champ du Feu 84.82 332 *e*P **P 23 29 28.7 -0.2**
comp=Z,71nm,1.0s,mb5.4
CDF Champ du Feu 84.82 332 *e*P **P 23 29 28.7 -0.2**
comp=Z,71nm,1.0s,mb5.8
CDF Champ du Feu 84.82 332 *e*P **P 23 29 28.7 -0.2**
CDF pmax pmax
comp=Z,71nm,1.0s,mb5.8
LIBD Limburg 84.92 332 *e*P **P 23 29 29.5 +0.1**
LIBD Limburg 84.92 332 *e*P **P 23 29 29.5 +0.1**
SCIA State Center 84.96 38 PFAKE 23 29 40.0 +10
SCIA LR LR
comp=Z,2µm,20.0s,MS5.5
MCH1 Michaelchurch 84.99 340 *e*P **P 23 29 29.6 -0.1**
MCH1 AMB AMB 23 29 32.5
comp=Z,191nm,2.4s,mb5.8
MCH1 AMS AMS 00 11 16.2
comp=Z,3µm,19.4s,MS5.7
TIR Tirane 85.00 321 *e*P **P 23 29 28.0 -1.9**
TIR LR LR
comp=Z,10µm,19.0s,MS6.2
TIR Tirane 85.00 321 *e*P **P 23 29 28.0 -1.9**
TIR MLR MLR
comp=Z,10µm,19.0s,MS6.2
FELD Feldberg im Sc 85.00 331 *e*P **P 23 29 29.4 -0.4**
ECH Echery 85.03 332 *e*P **P 23 29 30.0 0.0**
comp=Z,36nm,1.1s,mb5.4
ECH LR LR
comp=Z,3µm,19.0s,MS5.7
ECH Echery 85.03 332 *e*P **P 23 29 30.0 0.0**
ECH pmax pmax
comp=Z,36nm,1.1s,mb5.4
ECH MLR MLR
comp=Z,3µm,19.0s,MS5.7
ECH Echery 85.03 332 *e*P **P 23 29 29.6 -0.4**
SWN1 Swindon 85.09 339 AMS AMS 00 12 35.0
comp=Z,4µm,15.9s,MS6.0
HGH Gray Hill 85.26 339 *e*P **P 23 29 31.5 +0.4**
PAGF Fort de Pagny 85.26 333 *e*P **P 23 29 31.1 0.0**
comp=Z,44nm,1.1s,mb5.2
MOF Molkenrain 85.34 332 *e*P **P 23 29 31.0 -0.6**
MOF Molkenrain 85.34 332 *e*P **P 23 29 31.0 -0.6**
MOF Molkenrain 85.34 332 *e*P **P 23 29 31.0 -0.6**
TAOE Nuku Hiva Isla 85.41 105 *e*S S 23 40 01.9 0.0
comp=Z,4µm,26.7s
TAOE *e*LR LR 23 56 28.8
comp=Z,5µm,21.8s
THEF They Montfort 85.45 333 *e*P **P 23 29 31.7 -0.4**
THEF They Montfort 85.45 333 *e*P **P 23 29 31.7 -0.4**
THEF They Montfort 85.45 333 *e*P **P 23 29 31.7 -0.4**
HINF Hinteralfeld 85.48 332 *e*P **P 23 29 31.6 -0.6**
HINF Hinteralfeld 85.48 332 *e*P **P 23 29 31.6 -0.6**
HINF Hinteralfeld 85.48 332 *e*P **P 23 29 31.6 -0.6**
HAU Haudompre 85.50 332 *e*P **P 23 29 31.7 -0.6**
comp=Z,47nm,1.1s,mb5.3
HAU *e*R
comp=Z,7µm,21.2s
HAU Haudompre 85.50 332 *e*P **P 23 29 31.7 -0.6**
comp=Z,47nm,1.1s,mb5.6
HAU Haudompre 85.50 332 *e*P **P 23 29 31.7 -0.6**
HAU pmax pmax
comp=Z,47nm,1.1s,mb5.6
MNTX Cornudas Mount 85.52 53 PFAKE 23 29 40.0 +7.3
MNTX LR LR
comp=Z,1µm,21.0s,MS5.2
BBS Basel-Blauen 85.53 331 *e*P **P 23 29 31.2 -1.3**
BBS Basel-Blauen 85.53 331 *e*P **P 23 29 31.2 -1.3**
AMTX Amarillo 85.55 48 *e*P **P 23 29 32.2 -0.6**
comp=Z,24nm,0.9s,mb5.4
AMTX LR LR
comp=Z,2µm,20.0s,MS5.4
MEZF Maizieres J'vi 85.55 333 *e*P **P 23 29 32.4 -0.1**
MEZF Maizieres J'vi 85.55 333 *e*P **P 23 29 32.4 -0.1**
JFWS Jewell Farm 85.60 36 PFAKE 23 29 40.0 +7.1
JFWS LR LR
comp=Z,3µm,22.0s,MS5.6
TUE Stuetta 85.64 330 ⇑*e*P **P 23 29 32.8 -0.3**
comp=Z,49nm,1.2s,mb5.6
TUE LR LR
comp=Z,6µm,20.0s,MS6.0
SFTF Sexfontaines 85.80 333 *e*P **P 23 29 33.4 -0.4**
comp=Z,127nm,1.2s,mb5.7
SFTF Sexfontaines 85.80 333 *e*P **P 23 29 33.4 -0.4**
comp=Z,127nm,1.2s,mb6.0
RPZ Rata Peaks 85.82 160 LR LR 00 02 25.9
comp=Z,2µm,20.5s,MS5.4,baz=337,slow=32
LOMF Lomont 85.88 332 *e*P **P 23 29 34.2 0.0**
LOMF Lomont 85.88 332 *e*P **P 23 29 34.2 0.0**
LOMF Lomont 85.88 332 *e*P **P 23 29 34.2 0.0**
HTL Hartland 86.30 340 AMS AMS 00 12 28.0
comp=Z,3µm,19.1s,MS5.7
GLMI Grayling 86.54 32 PFAKE 23 29 50.0 +12
GLMI LR LR
comp=Z,2µm,20.0s,MS5.5
CABF La Chapelle 86.77 332 *e*P **P 23 29 38.3 -0.3**
CABF La Chapelle 86.77 332 *e*P **P 23 29 38.3 -0.3**
CABF La Chapelle 86.77 332 *e*P **P 23 29 38.3 -0.3**
LOR Lormes 87.02 333 *e*P **P 23 29 39.3 -0.5**
comp=Z,64nm,0.9s,mb5.5
LOR *e*R
comp=Z,7µm,17.2s
LOR Lormes 87.02 333 *e*P **P 23 29 39.3 -0.5**
comp=Z,64nm,0.9s,mb5.8
LOR Lormes 87.02 333 *e*P **P 23 29 39.3 -0.5**
LOR pmax pmax
comp=Z,64nm,0.9s,mb5.8
VLC Villacollemand 87.12 328 PFAKE 23 29 50.0 +10
VLC LR LR
comp=Z,9µm,19.0s,MS6.2
FLN La Foliniere 87.15 337 *e*P **P 23 29 39.8 -0.6**
comp=Z,54nm,1.0s,mb5.5
FLN *e*R
comp=Z,8µm,19.5s
FLN La Foliniere 87.15 337 *e*P **P 23 29 39.8 -0.6**
comp=Z,54nm,1.0s,mb5.7
FLN La Foliniere 87.15 337 *e*P **P 23 29 39.8 -0.6**
FLN pmax pmax
comp=Z,54nm,1.0s,mb5.7
LDF La Druitiere 87.18 336 *e*P **P 23 29 39.9 -0.7**
comp=Z,35nm,1.1s,mb5.2
LDF La Druitiere 87.18 336 *e*P **P 23 29 39.9 -0.7**
comp=Z,35nm,1.1s,mb5.5
LDF La Druitiere 87.18 336 *e*P **P 23 29 39.9 -0.7**
LDF pmax pmax
comp=Z,35nm,1.1s,mb5.5
AQU L'Aquila 87.27 325 *e*P **P 23 29 41.2 0.0**
comp=Z,62nm,1.3s,mb5.7
AQU LR LR
comp=Z,6µm,20.0s,MS6.0
AQU L'Aquila 87.27 325 *e*P **P 23 29 41.2 +0.1**
AQU pmax pmax
comp=Z,62nm,1.3s,mb5.7
AQU MLR MLR
comp=Z,6µm,20.0s,MS6.0
JSA Saint Aubin 87.28 338 AMS AMS 00 14 55.3
comp=Z,4µm,15.9s,MS6.0
SSF Saint Saulge 87.32 334 *e*P **P 23 29 40.9 -0.4**
comp=Z,45nm,1.1s,mb5.3
SSF Saint Saulge 87.32 334 *e*P **P 23 29 40.9 -0.4**
comp=Z,45nm,1.1s,mb5.6
SSF Saint Saulge 87.32 334 *e*P **P 23 29 40.9 -0.4**
SSF pmax pmax
comp=Z,45nm,1.1s,mb5.6
WMOK Wichita Mounta 87.32 47 *e*P **P 23 29 42.3 +0.7**
comp=Z,13nm,1.0s,mb5.1
WMOK LR LR
comp=Z,1µm,22.0s,MS5.3
WMOK Wichita Mounta 87.32 47 *e*P **P 23 29 42.3 +0.8**
WMOK pmax pmax
comp=Z,13nm,1.0s,mb5.1
WMOK MLR MLR
comp=Z,1µm,22.0s,MS5.3
HYF Humbligny 87.44 334 *e*P **P 23 29 42.0 +0.1**
HYF Humbligny 87.44 334 *e*P **P 23 29 42.0 +0.1**
LPL La Plagne 87.45 331 *e*P **P 23 29 41.9 -0.1**
comp=Z,42nm,1.1s,mb5.3
LPL La Plagne 87.45 331 *e*P **P 23 29 41.9 -0.1**
comp=Z,42nm,1.1s,mb5.6
LPL La Plagne 87.45 331 *e*P **P 23 29 41.9 -0.1**
LPL pmax pmax
comp=Z,42nm,1.1s,mb5.6
LPG La Plagne 87.46 331 *e*P **P 23 29 42.1 +0.1**
comp=Z,34nm,1.0s,mb5.2
LPG La Plagne 87.46 331 *e*P **P 23 29 42.1 +0.1**
comp=Z,34nm,1.0s,mb5.5
LPG La Plagne 87.46 331 *e*P **P 23 29 42.1 +0.1**
LPG pmax pmax
comp=Z,34nm,1.0s,mb5.5
SMF Signal de Mont 87.56 333 *e*P **P 23 29 41.9 -0.5**
SMF Signal de Mont 87.56 333 *e*P **P 23 29 41.9 -0.5**
SMF Signal de Mont 87.56 333 *e*P **P 23 29 41.9 -0.5**
GRR Gorron 87.59 337 *e*P **P 23 29 42.2 -0.4**
comp=Z,91nm,1.1s,mb5.6
GRR Gorron 87.59 337 *e*P **P 23 29 42.2 -0.4**
comp=Z,91nm,1.1s,mb5.9
GRR Gorron 87.59 337 *e*P **P 23 29 42.2 -0.4**
GRR pmax pmax
comp=Z,91nm,1.1s,mb5.9
AVF Avril sur Loir 87.61 334 *e*P **P 23 29 42.3 -0.4**
AVF Avril sur Loir 87.61 334 *e*P **P 23 29 42.3 -0.4**
AVF Avril sur Loir 87.61 334 *e*P **P 23 29 42.3 -0.4**
BNI Bardonecchia 87.86 331 *e*P **P 23 29 43.8 -0.2**
comp=Z,222nm,2.5s,mb6.0
BNI *e*PP PP 23 33 09.2 0.0
BNI LR LR
comp=Z,6µm,20.0s,MS6.0
BNI Bardonecchia 87.86 331 *e*P **P 23 29 43.8 -0.1**
BNI *e* 23 33 09.2
BNI pmax pmax
comp=Z,222nm,2.5s,mb6.0
BNI MLR MLR
comp=Z,6µm,20.0s,MS6.0
HDIL Hopedale 87.89 37 *e*P **P 23 29 44.0 -0.1**
comp=Z,18nm,0.8s,mb5.4
HDIL LR LR
comp=Z,2µm,19.0s,MS5.5
BGF Bois d'Agland 87.98 334 *e*P **P 23 29 44.2 -0.3**
BGF Bois d'Agland 87.98 334 *e*P **P 23 29 44.2 -0.3**
BGF Bois d'Agland 87.98 334 *e*P **P 23 29 44.2 -0.3**
CUC Castrocucco 88.01 322 PFAKE 23 30 00.0 +15
CUC LR LR
comp=Z,2µm,19.0s,MS5.5
MBDF Montbardon 88.10 330 *e*P **P 23 29 44.5 -0.6**
comp=Z,20nm,0.9s,mb5.0
MBDF Montbardon 88.10 330 *e*P **P 23 29 44.5 -0.6**
comp=Z,20nm,0.9s,mb5.3
MBDF Montbardon 88.10 330 *e*P **P 23 29 44.5 -0.6**
MBDF pmax pmax
comp=Z,20nm,0.9s,mb5.3
TXAR Lajitas Array 88.21 53 P **P 23 29 44.7 -1.2**
comp=Z,2.0nm,0.6s,mb4.5,baz=305,slow=3.2,SNR=18
TXAR LR LR 00 11 08.2
comp=Z,1µm,18.9s,MS5.4,baz=0.0,slow=37
TXAR Lajitas Array 88.21 53 P **P 23 29 44.7 -1.2**
TXAR Lajitas Array 88.21 53 P **P 23 29 44.7 -1.2**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR MLR MLR
comp=Z,1µm,18.9s
PLDF La Plantade 88.22 333 *e*P **P 23 29 45.0 -0.6**
PLDF La Plantade 88.22 333 *e*P **P 23 29 45.0 -0.6**
PLDF La Plantade 88.22 333 *e*P **P 23 29 45.0 -0.6**
SGMF Saint Gilles 88.23 338 *e*P **P 23 29 45.5 -0.1**
SGMF Saint Gilles 88.23 338 *e*P **P 23 29 45.5 -0.1**
SGMF Saint Gilles 88.23 338 *e*P **P 23 29 45.5 -0.1**
ORIF Oris-en-Rattie 88.28 331 *e*P **P 23 29 45.8 -0.1**
comp=Z,11nm,0.7s,mb4.9
ORIF *e*R
comp=Z,8µm,21.8s
ORIF Oris-en-Rattie 88.28 331 *e*P **P 23 29 45.8 -0.1**
comp=Z,11nm,0.7s,mb5.2
ORIF Oris-en-Rattie 88.28 331 *e*P **P 23 29 45.8 -0.1**
ORIF pmax pmax
comp=Z,11nm,0.7s,mb5.2
AGO Saint Agoulin 88.32 333 *e*P **P 23 29 46.1 0.0**
AGO Saint Agoulin 88.32 333 *e*P **P 23 29 46.1 0.0**
TBI Tubuai 88.32 122 *e*S S 23 40 25.0 -4.7
comp=Z,2µm,27.3s
TBI *e*SS SS 23 46 19.8 -0.4
comp=Z,453nm,27.2s
TBI *e*LR LR 23 57 45.3
comp=Z,4µm,22.0s,baz=313
ROSF Rostrenen 88.36 338 *e*P **P 23 29 46.2 0.0**
ROSF Rostrenen 88.36 338 *e*P **P 23 29 46.2 0.0**
ROSF Rostrenen 88.36 338 *e*P **P 23 29 46.2 0.0**
SAOF Saorge 88.41 330 *e*P **P 23 29 45.2 -1.4**
SAOF Saorge 88.41 330 *e*P **P 23 29 45.2 -1.4**
SAOF Saorge 88.41 330 *e*P **P 23 29 45.2 -1.4**
TCF Toulx Ste Croi 88.44 334 *e*P **P 23 29 46.5 -0.1**
TCF Toulx Ste Croi 88.44 334 *e*P **P 23 29 46.5 -0.1**
TCF Toulx Ste Croi 88.44 334 *e*P **P 23 29 46.5 -0.1**
SSB Saint Sauveur 88.47 332 PFAKE 23 30 00.0 +13
SSB LR LR
comp=Z,4µm,20.0s,MS5.8

TOUF	**Mont Tournerai**	**88.51**	**330**	*e*P	**P**	**23 29 46.3**	**-0.7**
TOUF	**Mont Tournerai**	**88.51**	**330**	*e*P	**P**	**23 29 46.3**	**-0.7**
TOUF	**Mont Tournerai**	**88.51**	**330**	*e*P	**P**	**23 29 46.3**	**-0.7**
QUIF	**Quistinic**	**88.71**	**338**	*e*P	**P**	**23 29 47.6**	**-0.3**
QUIF	**Quistinic**	**88.71**	**338**	*e*P	**P**	**23 29 47.6**	**-0.3**
QUIF	**Quistinic**	**88.71**	**338**	*e*P	**P**	**23 29 47.6**	**-0.3**
VIVF	**Saint-Julien-I**	**88.79**	**332**	*e*P	**P**	**23 29 48.0**	**-0.3**
comp=Z,24nm,0.9s,mb5.2							
VIVF	**Saint-Julien-I**	**88.79**	**332**	*e*P	**P**	**23 29 48.0**	**-0.3**
comp=Z,24nm,0.9s,mb5.5							
VIVF	**Saint-Julien-I**	**88.79**	**332**	*e*P	**P**	**23 29 48.0**	**-0.3**
VIVF				pmax	pmax		
comp=Z,24nm,0.9s,mb5.5							
CCM	**Cathedral Cave**	**88.88**	**40**	*e*P	**P**	**23 29 48.4**	**-0.5**
comp=Z,57nm,1.4s,mb5.7							
CCM	**Cathedral Cave**	**88.88**	**40**	*e*P	**P**	**23 29 48.4**	**-0.5**
CCM				pmax	pmax		
comp=Z,57nm,1.4s,mb5.7							
MFF	**Saint Martin d**	**88.95**	**336**	*e*P	**P**	**23 29 48.9**	**-0.1**
MFF	**Saint Martin d**	**88.95**	**336**	*e*P	**P**	**23 29 48.9**	**-0.1**
MFF	**Saint Martin d**	**88.95**	**336**	*e*P	**P**	**23 29 48.9**	**-0.1**
AAM	**Ann Arbor**	**89.01**	**33**	PFAKE		23 30 00.0	+11
AAM				LR	LR		
comp=Z,1μm,20.0s,MS5.4							
CEL	**Celeste**	**89.32**	**321**	PFAKE		23 30 00.0	+9.0
CEL				LR	LR		
comp=Z,9μm,20.0s,MS6.2							
FVM	**French Village**	**89.34**	**39**	*e*P	**P**	**23 29 50.4**	**-0.7**
comp=Z,86nm,1.8s,mb5.8							
FVM	**French Village**	**89.34**	**39**	*e*P	**P**	**23 29 50.4**	**-0.7**
FVM				pmax	pmax		
comp=Z,86nm,1.8s,mb5.8							
LMR	**La Mourre**	**89.37**	**330**	*e*P	**P**	**23 29 50.1**	**-1.0**
LMR	**La Mourre**	**89.37**	**330**	*e*P	**P**	**23 29 50.1**	**-1.0**
LMR	**La Mourre**	**89.37**	**330**	*e*P	**P**	**23 29 50.1**	**-1.0**
PRAF	**Pradon**	**89.50**	**331**	*e*P	**P**	**23 29 51.6**	**-0.1**
PRAF	**Pradon**	**89.50**	**331**	*e*P	**P**	**23 29 51.6**	**-0.1**
RJF	**Les Rejaudoux**	**89.53**	**334**	*e*P	**P**	**23 29 51.8**	**0.0**
RJF				*e*R			
comp=Z,8μm,22.0s							
RJF	**Les Rejaudoux**	**89.53**	**334**	*e*P	**P**	**23 29 51.8**	**0.0**
RJF	**Les Rejaudoux**	**89.53**	**334**	*e*P	**P**	**23 29 51.8**	**0.0**
CAF	**Calviac**	**89.67**	**333**	*e*P	**P**	**23 29 52.8**	**+0.4**
comp=Z,52nm,1.1s,mb5.5							
CAF	**Calviac**	**89.67**	**333**	*e*P	**P**	**23 29 52.8**	**+0.4**
comp=Z,52nm,1.1s,mb5.8							
CAF	**Calviac**	**89.67**	**333**	*e*P	**P**	**23 29 52.8**	**+0.4**
CAF				pmax	pmax		
comp=Z,52nm,1.1s,mb5.8							
LASF	**Ste Croix**	**89.76**	**332**	*e*P	**P**	**23 29 52.8**	**-0.1**
comp=Z,32nm,1.1s,mb5.2							
LASF	**Ste Croix**	**89.76**	**332**	*e*P	**P**	**23 29 52.8**	**-0.1**
comp=Z,32nm,1.1s,mb5.6							
JCT	**Junction City**	**89.78**	**50**	*e*P	**P**	**23 29 53.6**	**+0.4**
comp=Z,11nm,0.9s,mb5.2							
JCT				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
JCT	**Junction City**	**89.78**	**50**	*e*P	**P**	**23 29 53.6**	**+0.3**
JCT				pmax	pmax		
comp=Z,11nm,0.9s,mb5.2							
JCT				MLR	MLR		
comp=Z,2μm,20.0s,MS5.5							
LFF	**La Frestale**	**90.12**	**334**	*e*P	**P**	**23 29 54.7**	**+0.2**
LFF	**La Frestale**	**90.12**	**334**	*e*P	**P**	**23 29 54.7**	**+0.2**
LFF	**La Frestale**	**90.12**	**334**	*e*P	**P**	**23 29 54.7**	**+0.2**
MIAR	**Mount Ida**	**90.35**	**44**	*e*P	**P**	**23 29 54.9**	**-0.9**
comp=Z,53nm,1.4s,mb5.7							
MIAR				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
MIAR	**Mount Ida**	**90.35**	**44**	*e*P	**P**	**23 29 54.9**	**-0.9**
MIAR				pmax	pmax		
comp=Z,53nm,1.4s,mb5.7							
MIAR				MLR	MLR		
comp=Z,2μm,19.0s,MS5.5							
LONY	**Lake Ozonia**	**90.50**	**26**	PFAKE		23 30 10.0	+14
LONY				LR	LR		
comp=Z,3μm,20.0s,MS5.7							
ERPA	**Erie**	**90.66**	**30**	PFAKE		23 30 10.0	+13
ERPA				LR	LR		
comp=Z,2μm,21.0s,MS5.4							
MSEY	**Mahe Island**	**90.89**	**265**	PFAKE		23 30 10.0	+11
MSEY				LR	LR		
comp=Z,255nm,20.0s,MS4.7							
MTLF	**Montolieu**	**90.99**	**332**	*e*P	**P**	**23 29 58.6**	**0.0**
MTLF	**Montolieu**	**90.99**	**332**	*e*P	**P**	**23 29 58.6**	**0.0**
MTLF	**Montolieu**	**90.99**	**332**	*e*P	**P**	**23 29 58.6**	**0.0**
ACSO	**Alum Creek Sta**	**91.00**	**33**	*e*P	**P**	**23 29 58.3**	**-0.4**
ACSO				LR	LR		
comp=Z,2μm,21.0s,MS5.4							
VSL	**Villasalto**	**91.37**	**326**	PFAKE		23 30 10.0	+10
VSL				LR	LR		
comp=Z,3μm,21.0s,MS5.6							
PKME	**Peaks-Kenny Pk**	**91.61**	**22**	PFAKE		23 30 10.0	+8.6
PKME				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
LBNH	**Lisbon**	**91.72**	**24**	PFAKE		23 30 10.0	+8.0
LBNH				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
NATX	**Nacogdoches**	**91.84**	**46**	PFAKE		23 30 10.0	+7.2
NATX				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
WDD	**Wield Dalam**	**91.88**	**320**	PFAKE		23 30 10.0	+7.1
WDD				LR	LR		
comp=Z,5μm,20.0s,MS6.0							
ACCN	**Adirondack Com**	**91.90**	**26**	*e*P	**P**	**23 30 02.6**	**-0.2**
comp=Z,74nm,1.7s,mb5.7							
EPF	**Esparros**	**91.93**	**334**	*e*P	**P**	**23 30 02.4**	**-0.6**
EPF	**Esparros**	**91.93**	**334**	*e*P	**P**	**23 30 02.4**	**-0.6**
EPF	**Esparros**	**91.93**	**334**	*e*P	**P**	**23 30 02.4**	**-0.6**
BINY	**Binghamton**	**92.12**	**28**	PFAKE		23 30 20.0	+16
BINY				LR	LR		
comp=Z,2μm,21.0s,MS5.6							
OXF	**Oxford**	**92.56**	**41**	PFAKE		23 30 20.0	+14
OXF				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
PLAL	**Pickwick Lake**	**92.87**	**40**	PFAKE		23 30 20.0	+13
PLAL				LR	LR		
comp=Z,1μm,20.0s,MS5.4							
KVTX	**Kingsville**	**93.05**	**51**	PFAKE		23 30 20.0	+12
KVTX				LR	LR		
comp=Z,1μm,21.0s,MS5.4							
SWET	**Sewanee**	**93.74**	**38**	*e*P	**P**	**23 30 10.1**	**-1.4**
comp=Z,15nm,1.1s,mb5.3							
VBMS	**Vicksburg**	**93.77**	**43**	PFAKE		23 30 20.0	+8.3
VBMS				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
TKL	**Tuckaleechee C**	**94.41**	**36**	P	**P**	**23 30 13.7**	**-0.8**
comp=Z,1.7nm,0.6s,mb4.6,baz=315,slow=1.4,SNR=2.7							
TKL	**Tuckaleechee C**	**94.41**	**36**	P	**P**	**23 30 13.7**	**-0.8**
TKL	**Tuckaleechee C**	**94.41**	**36**	P	**P**	**23 30 13.7**	**-0.8**
TKL				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.7							
KEST	**Kesra**	**94.48**	**324**	LR	LR	00 17 05.6	
comp=Z,2μm,18.2s,MS5.7,baz=137,slow=38							
BLA	**Blacksburg**	**94.62**	**33**	PFAKE		23 30 30.0	+15
BLA				LR	LR		
comp=Z,2μm,21.0s,MS5.6							
CBN	**Corbin**	**95.04**	**31**	PFAKE		23 30 30.0	+13
CBN				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
ESDC	**Sonseca Array**	**96.39**	**335**	P	**P**	**23 30 22.7**	**-0.8**
comp=Z,1.7nm,0.7s,mb4.6,baz=14,slow=4.9,SNR=8.3							
ESDC				LR	LR	00 18 54.0	
comp=Z,5μm,18.9s,MS6.0,baz=35,slow=39							
ESDC	**Sonseca Array**	**96.39**	**335**	P	**P**	**23 30 22.7**	**-0.8**
ESLA	**Sonseca Array**	**96.39**	**335**	PFAKE		23 30 30.0	+6.5
ESLA				LR	LR		
comp=Z,35μm,19.0s,MS6.9							
GOGA	**Godfrey**	**96.39**	**38**	PFAKE		23 30 30.0	+6.4
GOGA				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
BRAL	**Brewton**	**96.54**	**41**	PFAKE		23 30 40.0	+16
BRAL				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
PAB	**San Pablo**	**96.63**	**335**	PFAKE		23 30 40.0	+15
PAB				LR	LR		
comp=Z,8μm,20.0s,MS6.2							
MTE	**Manteigas**	**96.85**	**338**	PFAKE		23 30 40.0	+14
MTE				LR	LR		
comp=Z,5μm,19.0s,MS6.0							
CNNC	**Cliffs of the**	**97.37**	**33**	PFAKE		23 30 40.0	+12
CNNC				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
NHSC	**New Hope**	**98.17**	**35**	PFAKE		23 30 40.0	+8.3
NHSC				LR	LR		
comp=Z,3μm,21.0s,MS5.7							
RKT	**Rikitea**	**98.25**	**113**	*e*PP	PP	23 34 28.6	-3.6
comp=Z,194nm,27.8s							
RKT				*e*SKSac	SKSac	23 41 05.7	-2.4
comp=Z,1μm,26.8s							
RKT				*e*SP	SP	23 43 18.5	-4.0
comp=Z,841nm,31.2s							
RKT				*e*SS	SS	23 48 38.1	-4.3
comp=Z,875nm,26.5s							
RKT				*e*LR	LR	00 02 23.8	
comp=Z,4μm,23.8s,baz=307							
RER	**Riviere de l'E**	**100.78**	**252**	PFAKE		23 30 50.0	+6.8
RER				LR	LR		
comp=Z,1μm,20.0s,MS5.3							
KMBO	**Kilima Mbogo**	**102.93**	**279**	*e*Pdif	Pdif	23 30 52.4	-0.3
comp=Z,21nm,1.9s							
KMBO				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
KMBO	**Kilima Mbogo**	**102.93**	**279**	*e*P	Pdif	23 30 52.4	-0.4
KMBO				pmax	pmax		
comp=Z,21nm,1.9s							
KMBO				MLR	MLR		
comp=Z,2μm,19.0s							
TEIG	**Tepich**	**104.32**	**49**	PFAKE		23 31 10.0	+11
TEIG				LR	LR		
comp=Z,1μm,20.0s,MS5.5							
BBSR	**BB Station**	**104.84**	**24**	PFAKE		23 31 10.0	+8.7
BBSR				LR	LR		
comp=Z,2μm,21.0s,MS5.6							
MBAR	**Mbarara**	**107.60**	**284**	PFAKE		23 35 30.0	+8.0
MBAR				LR	LR		
comp=Z,807nm,21.0s,MS5.3							
TGUH	**Tegucigalpa,Un**	**109.67**	**52**	PFAKE		23 35 40.0	+14
TGUH				LR	LR		
comp=Z,1μm,21.0s,MS5.4							
GTBY	**Guantanamo Bay**	**111.71**	**39**	PFAKE		23 35 40.0	+10
GTBY				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
MTDJ	**Mount Denham**	**111.92**	**42**	PFAKE		23 35 40.0	+10
MTDJ				LR	LR		
comp=Z,2μm,22.0s,MS5.5							
JTS	**JuntasAbangare**	**114.00**	**53**	PFAKE		23 35 50.0	+16
JTS				LR	LR		
comp=Z,750nm,21.0s,MS5.3							
SDDR	**Presa de Saban**	**114.33**	**36**	PFAKE		23 35 50.0	+15
SDDR				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
VNDA	**Vanda**	**116.45**	**175**	PFAKE		23 35 50.0	+13
VNDA				LR	LR		
comp=Z,941nm,22.0s,MS5.4							
TORD	**Torodi Ar. Bea**	**117.03**	**317**	PKP	PKPdf	23 35 38.4	-1.6
comp=Z,0.5nm,0.5s,baz=28,slow=2.5,SNR=10							
TORD				PP	PP	23 36 43.2	-5.5
comp=Z,2.5nm,1.0s,baz=43,slow=5.6,SNR=5.3							
TORD				PKKPbc	PKKPbc	23 46 08.6	+5.0
comp=Z,1.2nm,1.1s,baz=212,slow=4.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**117.03**	**317**	PKP	PKPdf	23 35 38.4	-1.6
TORD				PP	PP	23 36 43.2	-5.5
TORD				PKKPbc	PKKPbc	23 46 08.6	+5.0
SJG	**San Juan**	**117.33**	**31**	PFAKE		23 35 50.0	+10
SJG				LR	LR		
comp=Z,1μm,22.0s,MS5.5							
BCIP	**Isla Barro Col**	**118.00**	**49**	PFAKE		23 35 50.0	+8.2
BCIP				LR	LR		
comp=Z,767nm,19.0s,MS5.3							
PAYG	**Puerto Ayora**	**118.45**	**66**	PFAKE		23 35 50.0	+7.3
PAYG				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
LSZ	**Lusaka**	**118.63**	**273**	PFAKE		23 35 50.0	+7.1
LSZ				LR	LR		
comp=Z,1μm,19.0s,MS5.6							
ANWB	**Willy Bob**	**119.41**	**27**	PFAKE		23 36 00.0	+16
ANWB				LR	LR		
comp=Z,1μm,21.0s,MS5.5							
RPN	**Rapa Nui**	**119.64**	**102**	PFAKE		23 36 00.0	+15
RPN				LR	LR		
comp=Z,3μm,21.0s,MS5.9							
MAW	**Mawson**	**121.48**	**206**	PKP	PKPdf	23 35 46.2	-0.6
comp=Z,2.9nm,0.8s,baz=310,slow=7.9,SNR=3.3							
MAW	**Mawson**	**121.48**	**206**	PKP	PKPdf	23 35 46.2	-0.6
MAW				LR	LR		
comp=Z,2μm,22.0s,MS5.6							
MAW	**Mawson**	**121.48**	**206**	PKIKP	PKPdf	23 35 46.2	-0.6
MAW				pmax	pmax		
comp=Z,3.0nm,0.8s							
FDF	**Fort de France**	**122.34**	**28**	PFAKE		23 36 00.0	+10
FDF				LR	LR		
comp=Z,1μm,21.0s,MS5.6							
SDV	**Santo Domingo**	**123.35**	**41**	*e*PKPdf	PKPdf	23 35 51.3	-0.8
SDV				LR	LR		
comp=Z,425nm,21.0s,MS5.1							
BBGH	**Gun Hill**	**124.38**	**27**	PFAKE		23 36 10.0	+16
BBGH				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
GRGR	**Grenville**	**124.53**	**30**	PFAKE		23 36 10.0	+16
GRGR				LR	LR		
comp=Z,1μm,22.0s,MS5.6							
SACV	**Santiago Islan**	**125.22**	**344**	PFAKE		23 36 10.0	+14
SACV				LR	LR		
comp=Z,1μm,21.0s,MS5.5							
OTAV	**Otavalo**	**125.82**	**55**	PFAKE		23 36 10.0	+13
OTAV				LR	LR		
comp=Z,725nm,20.0s,MS5.3							
DBIC	**Dimbokro**	**125.92**	**319**	PKP	PKPdf	23 35 55.5	-1.5
comp=Z,2.5nm,0.7s,baz=315,slow=2.9,SNR=5.3							
DBIC	**Dimbokro**	**125.92**	**319**	PKP	PKPdf	23 35 55.5	-1.5
DBIC				LR	LR		
comp=Z,3μm,19.0s,MS6.0							
DBIC	**Dimbokro**	**125.92**	**319**	PKIKP	PKPdf	23 35 55.6	-1.4
DBIC				pmax	pmax		
comp=Z,3.0nm,0.7s							
LBTB	**Lobatse**	**125.99**	**265**	PFAKE		23 36 10.0	+13
LBTB				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
BOSA	**Boshof**	**128.02**	**261**	PKP	PKPdf	23 36 00.2	-0.3
comp=Z,2.5nm,0.9s,baz=15,slow=20,SNR=2.6							
BOSA	**Boshof**	**128.02**	**261**	PKP	PKPdf	23 36 00.2	-0.3
BOSA				LR	LR		
comp=Z,929nm,20.0s,MS5.5							
BOSA	**Boshof**	**128.02**	**261**	PKIKP	PKPdf	23 36 00.2	-0.3
BOSA				pmax	pmax		
comp=Z,3.0nm,0.9s							
QSPA	**South Pole Qui**	**128.35**	**180**	*e*PKPdf	PKPdf	23 35 59.2	-0.5
QSPA				LR	LR		
comp=Z,1μm,22.0s,MS5.6							
TSUM	**Tsumeb**	**129.16**	**276**	PFAKE		23 36 10.0	+7.0
TSUM				LR	LR		
comp=Z,711nm,20.0s,MS5.4							
SUR	**Sutherland**	**133.13**	**259**	PFAKE		23 36 20.0	+10
SUR				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
NNA	**Nana**	**135.84**	**64**	PFAKE		23 36 30.0	+14
NNA				LR	LR		
comp=Z,1μm,20.0s,MS5.7							
SNAA	**Sanae**	**142.61**	**197**	*e*PKPdf	PKPpre	23 36 14.1	
SNAA	**Sanae**	**142.61**	**197**	*e*PKHKP	PKPpre	23 36 14.1	
SHEL	**Horse Pasture**	**144.44**	**301**	PFAKE		23 36 40.0	+8.8
SHEL				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
LPAZ	**La Paz**	**144.86**	**59**	*e*PKPdf	PKPdf	23 36 30.8	-1.1
LPAZ				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
LPAZ	**La Paz**	**144.86**	**59**	*e*PKIKP	PKPdf	23 36 30.8	-1.1
LPAZ				MLR	MLR		
comp=Z,1μm,20.0s							
RCBR	**Riachuelo**	**147.34**	**358**	*e*PKPdf	PKPdf	23 36 36.1	-0.2
RCBR				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
LCO	**Las Campanas**	**150.60**	**81**	*e*PKPdf	PKPdf	23 36 41.2	+0.2
LCO				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
PLCA	**Paso Flores**	**154.23**	**105**	PFAKE		23 37 00.0	+14
PLCA				LR	LR		
comp=Z,1μm,20.0s,MS5.7							
CPUP	**Villa Florida**	**159.03**	**60**	PFAKE		23 37 00.0	+7.3
CPUP				LR	LR		
comp=Z,305nm,20.0s,MS5.1							
EFI	**East Falkland**	**160.35**	**138**	PFAKE		23 37 00.0	+6.6
EFI				LR	LR		
comp=Z,2μm,20.0s							
TRQA	**Tornquist**	**160.46**	**96**	PFAKE		23 37 00.0	+6.0
TRQA				LR	LR		
comp=Z,1μm,19.0s							

ROM 03 23:27:06.8±0.1, 43°.06N×13°.11E, h18km±1km, Md1.6/3, Ml1.0/2, Error ellipse: s-maj=1.3km s-min=0.5km az=176.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.16**	**248**	Pg	Pg	23 27 11.5	+0.4
CESI				Sg	Sg	23 27 14.8	+0.7
14nm,0.1s							
NRCA	**Norcia**	**0.23**	**179**	Pg	Pg	23 27 12.5	+0.3
NRCA				Sg	Sg	23 27 16.6	+0.8
9.0nm,0.1s							
GUMA	**Gualdo di Mace**	**0.61**	**90**	Pg	Pg	23 27 11.5	-7.3
GUMA				Sg	Sg	23 27 15.0	-12
43nm,0.3s							

IDC 03 23:46:31.3±5.2, 15°.38S×173°.46W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, ML2.8/1, Error ellipse: s-maj=301.6km s-min=26.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**48**	Pn	Pn	23 47 08.4	-0.5
150nm,0.3s,baz=217,slow=10,SNR=133							
AFI				Sn	Sn	23 47 29.2	-7.5
296nm,0.3s,baz=60,slow=20,SNR=6.7							
WRA	**Warramunga Arr**	**49.79**	**257**	P	P	23 55 25.9	-0.3
0.2nm,0.6s,baz=91,slow=6.9,SNR=5.0							
ASAR	**Alice Springs**	**50.06**	**252**	P	P	23 55 27.9	-0.3
1.3nm,0.6s,baz=86,slow=8.1,SNR=16							
BRTR	**Keskin Array B**	**146.10**	**321**	PKPbc	PKPbc	00 06 14.2	+0.5
0.6nm,0.7s,baz=63,slow=4.0,SNR=3.7							

*ISCJB **04** 00:08:22.6±0.5, 30°.17S±0°.03×178°.63W±0°.08, h147km±5km, mb4.5/21, Error ellipse: s-maj=11.0km s-min=4.7km az=12.4*

*IDC **04** 00:08:25.2±2.8, 29°.67S×178°.46W, h169km±23km, mb4.2/9, mb1 4.4/9, mb1mx4.2/14, mbtmp4.2/9, Error ellipse: s-maj=18.9km s-min=16.9km az=19.0*

*NEIC **04** 00:08:26.0±0.7, 29°.67S×178°.43W, h178km±6km, mb4.5/16, Error ellipse: s-maj=9.7km s-min=8.7km az=105.0*

ISC 04 00:08:23.5±0.5, 30°.21S±0°.03×178°.56W±0°.08, h145km±5km, n110, σ1§50/107, mb4.5/21, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.11**	**31**	*e*P	**Pn**	**00 08 50.3**	**+1.5**
RAO				*e*S	**Sn**	**00 09 08.1**	**+0.1**
MXZ	**Matakaoa Point**	**7.78**	**199**	PN	**Pn**	**00 10 15.8**	**+1.9**
MXZ				SN	**Sn**	**00 11 44.7**	**+4.1**
PUZ	**Puketiti**	**8.27**	**198**	PN	**Pn**	**00 10 21.5**	**+1.0**
PUZ				SN	**Sn**	**00 11 56.4**	**+4.0**
OUZ	**Omahuta**	**8.28**	**231**	*e*Pn	**Pn**	**00 10 28.9**	**+8.3**
94nm,1.2s							
CNGZ	**Carnagh Statio**	**8.68**	**197**	PN	**Pn**	**00 10 26.7**	**+0.9**
CNGZ				SN	**Sn**	**00 12 09.9**	**+7.8**
MWZ	**Matawai**	**8.73**	**201**	PN	**Pn**	**00 10 27.1**	**+0.6**
URZ	**Urewera**	**8.79**	**203**	P	**Pn**	**00 10 28.1**	**+0.7**
3.4nm,0.3s,baz=295,slow=2.0,SNR=44							
URZ				S	**Sn**	**00 12 09.5**	**+4.6**
25nm,0.3s,baz=190,slow=20,SNR=15							
URZ	**Urewera**	**8.79**	**203**	P	**Pn**	**00 10 28.1**	**+0.7**
URZ				S	**Sn**	**00 12 09.5**	**+4.6**
URZ	**Urewera**	**8.79**	**203**	PN	**Pn**	**00 10 28.7**	**+1.3**
URZ				SN	**Sn**	**00 12 12.0**	**+7.0**
PRGZ	**Paritu Road**	**9.17**	**198**	PN	**Pn**	**00 10 33.3**	**+0.8**
PRGZ				*e*SN	**Sn**	**00 12 16.2**	**+2.1**
KNZ	**Kokohu**	**9.32**	**198**	*e*SN	**Sn**	**00 12 18.3**	**+0.7**
MHGZ	**Mahia Peninsul**	**9.38**	**197**	PN	**Pn**	**00 10 35.4**	**+0.2**
RAHZ	**Arahi**	**9.40**	**201**	PN	**Pn**	**00 10 35.6**	**+0.2**
CKHZ	**Cape Kidnapper**	**10.08**	**200**	PN	**Pn**	**00 10 44.4**	**-0.1**
OTVZ	**Oturere**	**10.12**	**206**	PN	**Pn**	**00 10 47.4**	**+2.4**
KAHZ	**Kahuranaki**	**10.27**	**200**	PN	**Pn**	**00 10 46.3**	**-0.7**
WNVZ	**Wahianoa**	**10.28**	**206**	PN	**Pn**	**00 10 49.2**	**+2.0**
PXZ	**Pawanui**	**10.49**	**200**	*e*PN	**Pn**	**00 10 48.0**	**-1.9**
PXZ				SN	**Sn**	**00 12 43.8**	**-2.0**
PNHZ	**Pukenui**	**10.59**	**202**	PN	**Pn**	**00 10 49.5**	**-1.7**
WPHZ	**Waipukurau**	**10.65**	**201**	PN	**Pn**	**00 10 53.7**	**+1.7**
PRHZ	**Porangahau**	**10.77**	**200**	PN	**Pn**	**00 10 51.8**	**-1.9**
PRHZ				*e*SN	**Sn**	**00 12 54.6**	**+1.9**
DVHZ	**Dannevirke**	**10.95**	**202**	PN	**Pn**	**00 10 55.3**	**-0.7**
MRZ	**Mangatainoka R**	**11.47**	**203**	PN	**Pn**	**00 10 59.7**	**-3.1**
MRZ				*e*SN	**Sn**	**00 13 05.3**	**-4.0**
OGWZ	**Otaki Gorge**	**11.75**	**204**	PN	**Pn**	**00 11 03.9**	**-2.6**
KIW	**Kapiti Island**	**11.88**	**205**	PN	**Pn**	**00 11 05.3**	**-2.9**
CAW	**Cannon Point**	**12.04**	**204**	PN	**Pn**	**00 11 08.7**	**-1.6**
MSWZ	**Moikau Station**	**12.25**	**202**	PN	**Pn**	**00 11 11.0**	**-2.0**
SNZO	**South Karori**	**12.35**	**204**	*e*Pn	**Pn**	**00 11 21.8**	**+7.6**
TCW	**Tory Channel**	**12.42**	**206**	PN	**Pn**	**00 11 11.8**	**-3.4**
TCW				*e*SN	**Sn**	**00 13 29.0**	**-3.3**
NNZ	**Nelson**	**12.78**	**209**	*e*PN	**Pn**	**00 11 20.1**	**+0.2**
NNZ				*e*SN	**Sn**	**00 13 39.1**	**-1.9**
MSVF	**Nonsavu**	**12.80**	**345**	*e*Pn	**Pn**	**00 11 17.4**	**-2.9**
92nm,0.8s							
QRZ	**Quartz Range**	**12.83**	**212**	*e*PN	**Pn**	**00 11 20.5**	**0.0**
THZ	**Tophouse**	**13.43**	**209**	*e*PN	**Pn**	**00 11 24.0**	**-4.2**
THZ				SN	**Sn**	**00 13 54.4**	**-2.2**
CTZ	**Chatham Island**	**13.59**	**174**	PN	**Pn**	**00 11 37.2**	**+7.0**
CTZ				*e*SN	**Sn**	**00 13 59.2**	**-1.3**
KHZ	**Kahutara**	**13.74**	**205**	*e*Pn	**Pn**	**00 11 31.0

WRA				S	S	00 22 25.8	-6.2
	0.9nm,0.8s,baz=109,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**43.60 272**		P	**P**	**00 16 13.0**	**-0.5**
WRA				pP	pP	00 16 52.1	+6.3
WRA				ScP	ScP	00 21 33.1	-3.2
WRA				S	S	00 22 25.8	-6.2
FORT	**Forrest**	**45.63 255**	*eP*	P	**P**	**00 16 29.1**	**-0.3**
	16nm,0.6s,mb4.8						
SBA	**Scott Base**	**48.19 184**	*eP*	P	**P**	**00 16 54.2**	**+5.6**
	25nm,0.7s,mb5.0						
VNDA	**Vanda**	**48.24 186**	*eP*	P	**P**	**00 16 53.0**	**+4.0**
	3.6nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**51.87 270**	*eP*	P	**P**	**00 17 16.6**	**-0.6**
	3.8nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**51.87 270**	*eP*	P	**P**	**00 17 17.2**	**0.0**
	4.0nm,0.7s,mb4.2						
FITZ			*e*			00 17 59.4	
QSPA	**South Pole Qui**	**59.90 180**		P	**P**	**00 18 17.5**	**+4.2**
	16nm,0.7s,mb5.0,baz=40,slow=2.0,SNR=29						
QSPA	**South Pole Qui**	**59.90 180**	*eP*	P	**P**	**00 18 17.4**	**+4.0**
	17nm,0.8s,mb4.9						
MAW	**Mawson**	**72.31 201**		P	**P**	**00 19 34.4**	**+1.7**
	11nm,0.9s,mb4.6,baz=120,slow=12,SNR=10						
MAW	**Mawson**	**72.31 201**	*eP*	P	**P**	**00 19 34.2**	**+1.5**
	4.4nm,1.3s,mb4.0						
SYO	**Syowa Base**	**77.19 193**	⇓*eP*	P	**P**	**00 20 00.6**	**-0.2**
SYO	**Syowa Base**	**77.19 193**	⇑*eP*	P	**P**	**00 20 08.7**	**+7.9**
SNAA	**Sanae**	**78.36 179**	*e*	P	**P**	**00 20 02.9**	**-4.3**
SNAA	**Sanae**	**78.36 179**	*eP*	P	**P**	**00 20 02.5**	**-4.6**
	6.7nm,1.0s,mb4.2						
VNA3	**Neumayer Olymp**	**78.53 176**	*e*	P	**P**	**00 20 09.9**	**+1.8**
VNA2	**Neumayer--Watz**	**78.95 177**	*e*	P	**P**	**00 20 12.7**	**+2.2**
VNA1	**Neumayr--Stat**	**79.19 177**	*e*	P	**P**	**00 20 16.9**	**+5.2**
PLCA	**Paso Flores**	**82.99 133**		P	**P**	**00 20 32.0**	**-0.4**
	6.9nm,1.2s,mb4.3,baz=220,slow=3.6,SNR=5.7						
PLCA	**Paso Flores**	**82.99 133**	*eP*	P	**P**	**00 20 32.7**	**+0.3**
	3.2nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**88.43 43**	P	P	**P**	**00 20 57.2**	**-1.8**
	1.9nm,0.7s,mb4.0,baz=220,slow=8.0,SNR=15						
NVAR	**Mina Array Bea**	**88.43 43**	P	P	**P**	**00 20 57.2**	**-1.8**
TRQA	**Tornquist**	**89.91 135**	*eP*	P	**P**	**00 21 06.3**	**+0.1**
TXAR	**Lajitas Array**	**92.69 58**	P	P	**P**	**00 21 17.1**	**-2.0**
	0.3nm,0.7s,mb3.5,baz=205,slow=5.5,SNR=4.0						
TXAR	**Lajitas Array**	**92.69 58**	P	P	**P**	**00 21 17.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**92.88 290**	P	P	**P**	**00 21 19.8**	**-0.4**
	0.4nm,0.3s,mb4.0,baz=140,slow=5.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**92.88 290**	P	P	**P**	**00 21 19.8**	**-0.4**
MKAR	**Makanchi Array**	**117.28 310**	PKP	PKPdf		00 26 48.9	-2.3
	0.3nm,0.7s,baz=72,slow=0.5,SNR=4.9						
MKAR	**Makanchi Array**	**117.28 310**	PKP	PKPdf		00 26 48.9	-2.3
KURK	**Kurchatov**	**120.57 314**	PKP	PKPdf		00 26 54.8	-2.6
	0.5nm,0.6s,baz=110,slow=1.9,SNR=7.2						
KURK	**Kurchatov**	**120.57 314**	PKP	PKPdf		00 26 54.8	-2.6
ARCES	**ARCESS Array B**	**138.30 348**	PKhKP	PKPpre		00 27 19.4	
	2.6nm,0.9s,baz=69,slow=1.3,SNR=3.2						
ARCES			PKP	PKPdf		00 27 28.8	-1.6
	0.9nm,0.5s,baz=50,slow=2.8,SNR=5.1						
ARCES	**ARCESS Array B**	**138.30 348**	PKPpre	PKPpre		00 27 19.4	
ARCES			PKP	PKPdf		00 27 28.8	-1.6
JOF	**Joensuu**	**142.06 338**	*e*pkp	PKPdf		00 27 32.6	-4.8
KAF	**Kangasniemi**	**144.21 340**	*e*pkp	PKPdf		00 27 33.7	-7.5
FINES	**FINESS Array B**	**144.80 340**	PKP	PKPdf		00 27 38.4	-3.9
	2.8nm,0.3s,baz=42,slow=3.7,SNR=34						
FINES	**FINESS Array B**	**144.80 340**	PKP	PKPdf		00 27 38.4	-3.9
NB2	**NORSAR Subarra**	**148.49 351**	PKP	PKPdf		00 27 49.3	+0.8
	comp=Z,1.2nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.49 351**	PKPbc	PKPbc		00 27 49.3	-2.9
	comp=Z,0.8nm,0.7s,baz=19,slow=2.8,SNR=3.8						
NOA	**NORSAR Array B**	**148.49 351**	PKPbc	PKPbc		00 27 49.3	-2.9
HFS	**Hagfors**	**148.96 348**	PKPbc	PKPbc		00 27 50.1	-3.4
	comp=Z,1.7nm,0.5s,baz=70,slow=4.9,SNR=11						
HFS	**Hagfors**	**148.96 348**	PKPbc	PKPbc		00 27 50.1	-3.4
AKASG	**Malin Array Be**	**150.85 323**	PKPbc	PKPbc		00 27 55.7	-2.6
	comp=Z,0.9nm,0.4s,baz=47,slow=2.9,SNR=6.1						
AKASG			PKPab	PKPab		00 28 02.9	-3.3
	comp=Z,3.3nm,0.7s,baz=46,slow=2.6,SNR=7.8						
AKASG	**Malin Array Be**	**150.85 323**	PKPbc	PKPbc		00 27 55.7	-2.6
AKASG			PKPab	PKPab		00 28 02.9	-3.3
BRTR	**Keskin Array B**	**152.08 299**	PKPbc	PKPbc		00 27 59.8	-1.8
	comp=Z,1.0nm,0.7s,baz=140,slow=5.6,SNR=5.0						
BRTR	**Keskin Array B**	**152.08 299**	PKPbc	PKPbc		00 27 59.8	-1.8
DBIC	**Dimbokro**	**155.85 165**	PKPab	PKPab		00 28 28.7	+0.6
	comp=Z,5.9nm,1.0s,baz=180,slow=5.1,SNR=3.3						
DBIC	**Dimbokro**	**155.85 165**	PKPab	PKPab		00 28 28.7	+0.5
TORD	**Torodi Ar. Bea**	**163.02 181**	PKPab	PKPab		00 28 59.7	+0.5
	comp=Z,2.7nm,0.6s,baz=182,slow=2.8,SNR=18						
TORD	**Torodi Ar. Bea**	**163.02 181**	PKPab	PKPab		00 28 59.7	+0.5

HLW ***04*** *00:26:26.4, 33.°07N×35.°62E, h10km±14km, Md3.2, Ml2.6*
ISCJB ***04*** *00:26:27.4±0.9, 32.°75N±0.°06×35.°7E±0.°2, h10km, Error ellipse: s-maj=27.8km s-min=5.0km az=13.8*
CSEM ***04*** *00:26:28.1±0.2, 32.°77N×35.°67E, h10km, ML2.9, Error ellipse: s-maj=5.4km s-min=3.3km az=96.0*
GRAL ***04*** *00:26:28.7±0.3, 32.°76N×35.°59E, h2km±5km, MD3.1*
ISC 04 00:26:27.7±2.0, 32.°76N±0.°09×35.°6E±0.°2, h0km±20km, n18, σ0§53/22, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.76**	**13**	*eP*	**Pg**	**00 26 42.4**	**+0.2**
RCY				*eS*	**Sg**	**00 26 52.6**	**+0.6**
RCY	**Rachaya**	**0.76**	**13**	*eP*	**Pg**	**00 26 42.4**	**+0.2**
RCY				*eS*	**Sg**	**00 26 52.6**	**+0.6**
MATL	**Matarih**	**0.77**	**341**	*eP*	**Pg**	**00 26 42.4**	**-0.1**
MATL	**Matarih**	**0.77**	**341**	*eP*	**Pg**	**00 26 42.4**	**-0.1**
HWQ	**Hawqa**	**1.54**	**10**	*eP*	**Pn**	**00 26 55.8**	**-0.6**
HWQ	**Hawqa**	**1.54**	**10**	*eP*	**Pn**	**00 26 55.8**	**-0.6**
AMAG	**Maghara**	**2.95**	**225**	P	**Pn**	**00 27 15.2**	**-0.6**
	baz=221						
AMAG	**Maghara**	**2.95**	**225**	P	**Pn**	**00 27 15.2**	**-0.6**
HNKL	**Nakhl**	**3.15**	**207**	P	**Pn**	**00 27 18.3**	**-0.3**
	baz=205						
HNKL				S	**Sn**	**00 27 58.3**	**+1.4**
	baz=205						
HNKL				AMP		00 28 00.0	
	comp=E,20μm,0.7s,logA/T=4.5,baz=205						
HNKL	**Nakhl**	**3.15**	**207**	P	**Pn**	**00 27 18.3**	**-0.3**
HNKL				S	**Sn**	**00 27 58.3**	**+1.4**
HDHB	**Dhahab**	**4.12**	**193**	P	**Pn**	**00 27 31.8**	**0.0**
	baz=192						
HDHB	**Dhahab**	**4.12**	**193**	P	**Pn**	**00 27 31.8**	**0.0**
HKAT	**Jabal Katrina**	**4.45**	**199**	P	**Pn**	**00 27 36.3**	**-0.2**
	baz=198						
HKAT	**Jabal Katrina**	**4.45**	**199**	P	**Pn**	**00 27 36.3**	**-0.1**
TR2		**4.66**	**201**	P	**Pn**	**00 27 38.9**	**-0.4**
	baz=200						
TR2		**4.66**	**201**	P	**Pn**	**00 27 38.9**	**-0.4**
TR1		**4.95**	**197**	P	**Pn**	**00 27 43.3**	**0.0**
	baz=197						
TR1		**4.95**	**197**	P	**Pn**	**00 27 43.3**	**0.0**

IDC ***04*** *01:05:32.6±0.8, 39.°32N×73.°91E, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.9/30, mbtmp3.8/15, ML3.4/5, Error ellipse: s-maj=16.5km s-min=15.8km az=9.0*
BJI ***04*** *01:05:35.4, 39.°65N×73.°79E, h6km, mB4.5/2, mb4.1/6, ML3.7/6*
NEIC ***04*** *01:05:37.5±0.4, 39.°42N×74.°03E, h35km, mb4.1/6, Error ellipse: s-maj=10.8km s-min=5.7km az=64.0*
ISCJB ***04*** *01:05:37.8±0.6, 39.°42N±0.°03×74.°15E±0.°06, h57km±7km, mb3.8/12, Error ellipse: s-maj=8.0km s-min=4.4km az=156.5*
MOS ***04*** *01:05:37.5±1.7, 39.°42N×73.°96E, h54km, mb4.2/9, Error ellipse: s-maj=15.1km s-min=7.1km az=90.7*
NNC ***04*** *01:05:38.2±2.4, 39.°67N×73.°89E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=21.0km s-min=11.1km az=1.0*
ISC 04 01:05:39.2±0.5, 39.°47N±0.°03×74.°21E±0.°06, h52km±7km, n105, σ1§29/125, mb3.8/12, 11C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.36**	**88**	Pg	**Pn**	**01 05 59.8**	**-2.0**
KSH				Sg	**Sn**	**01 06 18.3**	**-0.5**
KSH				smax			
	comp=N,1μm,0.7s						
KSH				smax			
	comp=E,930nm,0.8s						
UCH	**Uchtor**	**2.76**	**5**	P	**Pn**	**01 06 21.5**	**+0.5**
	SNR=9.8						
AAK	**Ala-Archa**	**3.17**	**4**	*e*Pn	**Pn**	**01 06 27.7**	**+1.2**
AAK				*e*S	**Sn**	**01 07 10.7**	**+7.7**
AAK	**Ala-Archa**	**3.17**	**4**	*e*PN	**Pn**	**01 06 27.7**	**+1.2**
AAK				*e*S	**Sn**	**01 07 10.7**	**+7.7**
ULHL	**Ulahol**	**3.17**	**28**	P	**Pn**	**01 06 34.6**	**+8.0**
	SNR=5.6						
EKS2	**Erkin-Say**	**3.21**	**354**	*e*Pn	**Pn**	**01 06 26.6**	**-0.4**
EKS2				*e*S	**Sn**	**01 07 07.5**	**+3.6**
EKS2	**Erkin-Say**	**3.21**	**354**	*e*PN	**Pn**	**01 06 26.6**	**-0.4**
EKS2				*e*S	**Sn**	**01 07 07.5**	**+3.6**
FRU	**Bishkek**	**3.37**	**5**	*e*PN	**Pn**	**01 06 34.0**	**+4.7**
FRU				*i*		01 07 20.0	
FRU				pmax	pmax		
	comp=Z,200nm,1.6s						
FRU				smax			
	comp=N,1μm,1.8s						
CHMS	**Chumysh**	**3.55**	**6**	P	**Pn**	**01 06 34.1**	**+2.3**
	SNR=8.5						
TKM2	**Tokmak 2**	**3.60**	**16**	⇑Pn	**Pn**	**01 06 34.6**	**+2.1**
	comp=N,27nm,1.0s						
TKM2				⇑Pg	**Pn**	**01 06 41.2**	**+8.7**
	comp=N,36nm,0.7s						
TKM2				⇑Lg		01 07 28.7	
	comp=N,150nm,0.7s						
TKM2	**Tokmak 2**	**3.60**	**16**	*e*Pn	**Pn**	**01 06 33.5**	**+1.1**
TKM2				*e*S	**Sn**	**01 07 21.3**	**+7.6**
TKM2	**Tokmak 2**	**3.60**	**16**	*e*PN	**Pn**	**01 06 33.5**	**+1.0**
TKM2				*e*S	**Sn**	**01 07 21.3**	**+7.6**
KNDC	**Almaty**	**4.28**	**28**	⇑Pn	**Pn**	**01 06 45.4**	**+3.6**
	comp=N,68nm,0.6s						
KNDC				⇑Lg		01 07 51.9	
	comp=N,384nm,0.7s						
KK31	**Karatay Array**	**4.58**	**324**	⇑Pn	**Pn**	**01 06 44.9**	**-1.0**
	comp=N,4.6nm,0.4s,baz=136,slow=13,SNR=14						
KK31				⇑Pg	**Pn**	**01 06 55.7**	**+10**
	comp=N,19nm,0.5s,baz=140,slow=16,SNR=7.4						
KK31				Sn	**Sn**	**01 07 36.9**	**-0.8**
	comp=N,24nm,0.5s,baz=52,slow=80,SNR=5.3						
KK31				⇑Lg		01 07 54.4	
	comp=N,25nm,0.4s,baz=142,slow=15,SNR=3.7						
CHCP	**Chirah Chowk**	**5.85**	**188**	P	**Pn**	**01 07 07.3**	**+3.9**
CEP	**Cherat**	**5.93**	**199**	P	**Pn**	**01 07 07.5**	**+3.0**
CEP				S	**Sn**	**01 08 19.0**	**+7.9**
KBL	**Kabul**	**6.43**	**222**	*e*Pn	**Pn**	**01 07 11.2**	**-0.1**
	comp=N,12nm,0.6s						
KBL				*e*S	**Sn**	**01 08 32.6**	**+9.4**
KBL	**Kabul**	**6.43**	**222**	*e*PN	**Pn**	**01 07 11.2**	**0.0**
KBL				pmax	pmax		
	comp=Z,12nm,0.6s						
THW	**Thamme Wali**	**6.96**	**197**	P	**Pn**	**01 07 20.4**	**+1.9**
SARP	**Sargodha**	**7.64**	**190**	P	**Pn**	**01 07 29.3**	**+1.5**
MK31	**Makanchi Array**	**9.40**	**36**	Pn	**Pn**	**01 08 07.6**	**+16**
MK31	**Makanchi Array**	**9.40**	**36**	P	**Pn**	**01 08 07.6**	**+16**
MKAR	**Makanchi Array**	**9.40**	**36**	Pn	**Pn**	**01 07 55.7**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=4.0						
MKAR				Lg		01 10 34.6	
	comp=Z,0.2nm,0.3s,baz=211,slow=30,SNR=3.8						
MKAR	**Makanchi Array**	**9.40**	**36**	Pn	**Pn**	**01 07 55.7**	**+3.9**
MKAR				Lg		01 10 34.6	
MKAR	**Makanchi Array**	**9.40**	**36**	P	**Pn**	**01 07 55.7**	**+3.8**
KURK	**Kurchatov**	**11.66**	**14**	Pn	**Pn**	**01 08 20.4**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=200,slow=11,SNR=3.0						
KURK				Lg		01 11 41.3	
	comp=Z,0.1nm,0.3s,baz=208,slow=27,SNR=13						
KURK	**Kurchatov**	**11.66**	**14**	Pn	**Pn**	**01 08 20.4**	**-2.3**
KURK				Lg		01 11 41.3	
KURK	**Kurchatov**	**11.66**	**14**	P	**Pn**	**01 08 20.4**	**-2.4**
VOSK	**Vostochnaya**	**13.44**	**352**	⇓P	**Pn**	**01 08 44.4**	**-2.6**
	comp=Z,2.2nm,0.7s						
PYUN	**Piuthan**	**13.48**	**145**	*e*P	**Pn**	**01 08 47.7**	**+0.1**
	comp=Z,21nm,0.7s						
PYUN				*e*S	**Sn**	**01 11 15.5**	**-0.3**
PYUN	**Piuthan**	**13.48**	**145**	*e*P	**Pn**	**01 08 47.7**	**+0.1**
	comp=Z,21nm,0.7s						
PYUN				*e*S	**Sn**	**01 11 15.5**	**-0.3**
DANN	**Dangsing**	**13.62**	**142**	*e*P	**Pn**	**01 08 49.2**	**-0.4**
	comp=Z,11nm,0.4s						
DANN	**Dangsing**	**13.62**	**142**	*e*P	**Pn**	**01 08 49.2**	**-0.4**
	comp=Z,11nm,0.4s						
BVA0	**Borovoye Array**	**13.81**	**350**	⇓P	**Pn**	**01 08 52.1**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=160,slow=14,SNR=8.9						
BVAR	**Borovoye Array**	**13.81**	**350**	Pn	**Pn**	**01 08 49.1**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=158,slow=14,SNR=7.4						
BVAR				Sn	**Sn**	**01 11 14.9**	**-8.7**
	comp=Z,0.1nm,0.3s,baz=154,slow=24,SNR=2.8						
BVAR				Lg		01 12 49.0	
	comp=Z,0.3nm,0.3s,baz=152,slow=25,SNR=3.3						
BVAR	**Borovoye Array**	**13.81**	**350**	Pn	**Pn**	**01 08 49.1**	**-3.0**
BVAR				Sn	**Sn**	**01 11 14.9**	**-8.7**
BVAR				Lg		01 12 49.0	
BVAR	**Borovoye Array**	**13.81**	**350**	P	**Pn**	**01 08 49.1**	**-2.9**
BVAR						01 11 14.9	
ZRNK	**Zerenda**	**13.95**	**347**	⇑P	**Pn**	**01 08 50.8**	**-3.1**
	comp=Z,2.9nm,0.7s						
KOLN	**Koldanda**	**14.04**	**143**	*e*P	**Pn**	**01 08 54.7**	**-0.6**
	comp=Z,5.5nm,0.4s						
KOLN	**Koldanda**	**14.04**	**143**	*e*P	**Pn**	**01 08 54.7**	**-0.6**
	comp=Z,5.5nm,0.4s						
AB31	**Akbulak array**	**14.12**	**319**	⇑P	**Pn**	**01 08 51.3**	**-4.8**
	comp=Z,1.6nm,0.5s,baz=130,slow=13,SNR=11						
ABKAR	**Akbulak array**	**14.12**	**319**	*e*Pn	**Pn**	**01 08 51.6**	**-4.6**
	comp=Z,2.7nm,0.6s						
ABKAR				*e*S	**Sn**	**01 11 17.6**	**-14**
KKN	**Kakani**	**14.84**	**138**	*e*P	**Pn**	**01 09 04.7**	**-1.1**
	comp=Z,5.4nm,0.5s						
KKN	**Kakani**	**14.84**	**138**	*e*P	**Pn**	**01 09 04.7**	**-1.1**
	comp=Z,5.4nm,0.4s						
KKN	**Kakani**	**14.84**	**138**	*e*P	**Pn**	**01 09 04.7**	**-1.1**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.4s						
DMN	**Daman**	**14.90**	**139**	*e*P	**Pn**	**01 09 06.0**	**-0.6**
	comp=Z,10.0nm,0.4s						
DMN	**Daman**	**14.90**	**139**	*e*P	**Pn**	**01 09 06.0**	**-0.6**
	comp=Z,10.0nm,0.4s						
GUN	**Gumba**	**15.06**	**136**	*e*P	**Pn**	**01 09 08.8**	**+0.1**
	comp=Z,7.3nm,0.5s						
GUN	**Gumba**	**15.06**	**136**	*e*P	**Pn**	**01 09 08.8**	**+0.1**
	comp=Z,7.3nm,0.5s						
PKI	**Pulchoki**	**15.08**	**139**	*e*P	**Pn**	**01 09 07.8**	**-1.2**
	comp=Z,7.0nm,0.5s						
PKI	**Pulchoki**	**15.08**	**139**	*e*P	**Pn**	**01 09 07.8**	**-1.2**
	comp=Z,7.0nm,0.5s						
PKI	**Pulchoki**	**15.08**	**139**	*e*P	**Pn**	**01 09 07.8**	**-1.2**
PKI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
JIRN	**Jiri**	**15.42**	**136**	*e*P	**Pn**	**01 09 12.8**	**-0.6**
	comp=Z,2.9nm,0.4s						
JIRN	**Jiri**	**15.42**	**136**	*e*P	**Pn**	**01 09 12.8**	**-0.6**
	comp=Z,2.9nm,0.4s						
AKTO	**Aktyubinsk**	**15.82**	**319**	⇑P	**Pn**	**01 09 18.3**	**-0.1**
	comp=Z,1.0nm,1.0s						
AKTO	**Aktyubinsk**	**15.82**	**319**	Pn	**Pn**	**01 09 14.8**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=125,slow=14,SNR=11						
AKTO				Sn	**Sn**	**01 12 01.9**	**-11**
	comp=Z,0.1nm,0.3s,baz=235,slow=16,SNR=3.3						
AKTO	**Aktyubinsk**	**15.82**	**319**	Pn	**Pn**	**01 09 14.8**	**-3.6**
AKTO				Sn	**Sn**	**01 12 01.9**	**-11**
AKTO	**Aktyubinsk**	**15.82**	**319**	P	**Pn**	**01 09 14.8**	**-3.6**
AKTO						01 12 01.9	
ZAA0	**Zalesovo Array**	**16.18**	**23**	*e*Pn	**Pn**	**01 09 23.1**	**+0.2**
ZALV	**Zalesovo Beam**	**16.18**	**23**	Pn	**Pn**	**01 09 22.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=214,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**16.18**	**23**	Pn	**Pn**	**01 09 22.5**	**-0.3**
ZALV	**Zalesovo Beam**	**16.18**	**23**	P	**Pn**	**01 09 22.5**	**-0.3**
RAMN	**Ramite**	**16.21**	**137**	*e*P	**Pn**	**01 09 22.8**	**-0.6**
	comp=Z,5.3nm,0.4s						
RAMN	**Ramite**	**16.21**	**137**	*e*P	**Pn**	**01 09 22.8**	**-0.6**
	comp=Z,5.3nm,0.4s						
TAPN	**Taplejung**	**16.50**	**133**	*e*P	**Pn**	**01 09 26.3**	**-0.8**
	comp=Z,6.9nm,0.6s						
TAPN	**Taplejung**	**16.50**	**133**	*e*P	**Pn**	**01 09 26.3**	**-0.8**
	comp=Z,6.9nm,0.6s						
NVS	**Novosibirsk**	**16.53**	**19**	*e*P	**Pn**	**01 09 28.3**	**+1.0**
NVS				*e*S	**S**	**01 12 33.7**	**-5.4**
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NVS				smax			
	comp=N,17nm,2.4s						
NVS				smax			
	comp=E,15nm,2.4s						
ODAN	**Odare**	**16.70**	**135**	*e*P	**Pn**	**01 09 29.4**	**-0.2**
ODAN	**Odare**	**16.70**	**135**	*e*P	**Pn**	**01 09 29.4**	**-0.2**
GTA	**Gaotai**	**19.76**	**82**	*e*P	**Pn**	**01 10 09.7**	**+3.1**
GTA				pP	pP	01 10 14.3	-2.2
GTA				sP	sP	01 10 17.5	-5.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LZH	**Lanzhou**	**23.61**	**89**	*e*P	**P**	**01 10 52.5**	**+7.1**
LZH				pP		01 10 57.0	
LZH				sP	sP	01 10 59.2	-5.3
LZH				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.3						
LZH	**Lanzhou**	**23.61**	**89**	*e*P	**P**	**01 10 52.5**	**+7.1**
	comp=Z,18nm,1.4s,mb4.3						
LZH				pP		01 10 57.0	
LZH				sP	sP	01 10 59.2	-5.3
LZH	**Lanzhou**	**23.61**	**89**	*e*P	**P**	**01 10 52.5**	**+7.1**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.3						
SONM	**Songino Array**	**24.60**	**60**	P	**P**	**01 10 56.0**	**+1.7**
	comp=Z,0.3nm,0.7s,mb3.0,baz=263,slow=9.6,SNR=3.6						
SONM	**Songino Array**	**24.60**	**60**	P	**P**	**01 10 56.0**	**+1.7**
SONM	**Songino Array**	**24.60**	**60**	P	**P**	**01 10 56.0**	**+1.7**
BRTR	**Keskin Array B**	**31.08**	**284**	P	**P**	**01 11 52.1**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=89,slow=8.8,SNR=3.7						
BRTR	**Keskin Array B**	**31.08**	**284**	P	**P**	**01 11 52.1**	**-0.2**
BRTR	**Keskin Array B**	**31.08**	**284**	P	**P**	**01 11 52.2**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JOF	**Joensuu**	**34.67**	**327**	*e*P	**P**	**01 12 21.7**	**-1.7**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
JOF	**Joensuu**	**34.67**	**327**	*e*p	**P**	**01 12 21.7**	**-1.7**
	comp=Z,1.3nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**36.54**	**323**	P	**P**	**01 12 38.8**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.1,baz=120,slow=8.6,SNR=11						
FINES	**FINESS Array B**	**36.54**	**323**	P	**P**	**01 12 38.8**	**-0.6**
FINES	**FINESS Array B**	**36.54**	**323**	P	**P**	**01 12 38.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**39.44**	**335**	P	**P**	**01 13 03.9**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.1,baz=105,slow=8.4,SNR=24						
ARCES	**ARCESS Array B**	**39.44**	**335**	P	**P**	**01 13 03.9**	**+0.1**
ARCES	**ARCESS Array B**	**39.44**	**335**	P	**P**	**01 13 03.9**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GERES	**GERESS Array B**	**43.36**	**303**	P	**P**	**01 13 36.2**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.5,baz=61,slow=8.2,SNR=5.9						
GERES	**GERESS Array B**	**43.36**	**303**	P	**P**	**01 13 36.2**	**0.0**
GERES	**GERESS Array B**	**43.36**	**303**	P	**P**	**01 13 36.2**	**0.0**
NB2	**NORSAR Subarra**	**43.60**	**321**	P	**P**	**01 13 36.8**	**-1.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**43.60**	**321**	P	**P**	**01 13 37.1**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.8,baz=91,slow=8.0,SNR=7.7						
NOA	**NORSAR Array B**	**43.60**	**321**	P	**P**	**01 13 37.1**	**-0.8**
NOA	**NORSAR Array B**	**43.60**	**321**	P	**P**	**01 13 37.1**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**68.31**	**269**	P	**P**	**01 16 34.0**	**-1.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=47,slow=5.6,SNR=14						
TORD	**Torodi Ar. Bea**	**68.31**	**269**	P	**P**	**01 16 34.0**	**-1.1**
ILAR	**Eielson Array**	**71.21**	**17**	P	**P**	**01 16 52.6**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=320,slow=4.2,SNR=5.9						
ILAR	**Eielson Array**	**71.21**	**17**	P	**P**	**01 16 52.6**	**+0.4**
ILAR	**Eielson Array**	**71.21**	**17**	P	**P**	**01 16 52.7**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**81.48**	**

JFK Kawauchi 2.19 237 P **Pn 01 42 56.4 -1.3**
JANG Nango 2.21 325 P **Pn 01 42 57.0 -1.0**
JYK Kaneyama 2.24 280 P **Pn 01 42 58.3 0.0**
JFT Otama 2.48 246 P **Pn 01 43 01.7 0.0**
JFT *e*S **Sn 01 43 32.3 +0.6**
JAW Awa shima 3.09 269 P **Pn 01 43 10.4 +0.3**
JNS Sasagawa 3.14 257 P **Pn 01 43 11.0 +0.2**
ERM Erimo 3.44 360 *e*Pn **Pn 01 43 13.7 -1.1**
ERM *e*S **Sn 01 43 53.3 -1.9**
ERM Erimo 3.44 360 *e*P **Pn 01 43 13.7 -1.1**
ERM *e*S **Sn 01 43 53.3 -1.9**
MJAR Matsushiro Arr 4.45 244 Pn **Pn 01 43 29.8 +1.1**
6.9nm,0.3s,baz=61,slow=9.9,SNR=32
MJAR Sn **Sn 01 44 19.4 -0.6**
1.9nm,0.3s,baz=34,slow=16,SNR=4.3
MJAR LR LR 01 45 20.9
comp=Z,604nm,18.6s,baz=75,slow=41
MJAR Matsushiro Arr 4.45 244 Pn **Pn 01 43 29.8 +1.1**
MJAR Sn **Sn 01 44 19.4 -0.6**
MJAR Matsushiro Arr 4.45 244 P **Pn 01 43 29.8 +1.1**
MJAR 01 44 19.4
MJAR pmax pmax
comp=Z,7.0nm,0.3s
MJAR smax
comp=N,2.0nm,0.3s
MJAR MLR MLR
comp=Z,604nm,18.6s
MAJO Matsushiro 4.45 244 *e*Pn **Pn 01 43 29.6 +0.9**
MAJO Matsushiro 4.45 244 *e*P **Pn 01 43 29.6 +0.9**
MAT Matsushiro 4.45 244 P **Pn 01 43 29.7 +1.0**
MAT S **Sn 01 44 17.9 -2.2**
ASAJ Asahikawa 5.55 356 Pn **Pn 01 43 45.4 +1.4**
comp=Z,2.2nm,0.3s,baz=231,slow=9.8,SNR=5.5
ASAJ Sn **Sn 01 44 49.6 +2.2**
comp=Z,2.5nm,0.3s,baz=81,slow=19,SNR=2.7
ASAJ Asahikawa 5.55 356 Pn **Pn 01 43 45.4 +1.4**
ASAJ Sn **Sn 01 44 49.6 +2.2**
ASAJ Asahikawa 5.55 356 P **Pn 01 43 45.4 +1.5**
ASAJ 01 44 49.6
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ smax
comp=N,3.0nm,0.3s
CBIJ Chichi jima 11.48 184 Sn **Sn 01 46 59.7 -13**
comp=N,4.9nm,0.3s,baz=198,slow=20,SNR=3.5
KSRS Korea Array 12.09 269 Pn **Pn 01 45 16.6 +3.0**
comp=N,0.3nm,0.3s,baz=82,slow=14,SNR=3.9
KSRS LR LR 01 49 36.7
comp=N,183nm,20.6s,baz=267,slow=36
KSRS Korea Array 12.09 269 P **Pn 01 45 16.6 +3.0**
KSRS MLR MLR
comp=Z,183nm,20.6s
KSAR Wonju Array Be 12.13 269 Pn **Pn 01 45 16.6 +2.5**
KSAR Wonju Array Be 12.13 269 P **Pn 01 45 16.6 +2.6**
KLR Kul'dur 13.45 326 *e*P **Pn 01 45 27.8 -4.3**
BOD Bodaibo 27.03 325 *e*P **P 01 48 01.0 -2.1**
BOD pmax pmax
comp=Z,8.0nm,2.1s,mb3.9
SONM Songino Array 28.14 301 P **P 01 48 13.6 +0.4**
comp=Z,2.0nm,0.6s,mb4.0,baz=100,slow=8.8,SNR=14
SONM Songino Array 28.14 301 P **P 01 48 13.6 +0.4**
SONM Songino Array 28.14 301 P **P 01 48 13.6 +0.4**
SONM pmax pmax
comp=Z,2.0nm,0.6s
ENH Enshi 28.88 264 *e*P **P 01 48 20.3 +0.3**
comp=Z,15nm,0.8s,mb4.8
GTA Gaotai 33.48 285 *e*P **P 01 49 00.9 +0.5**
GTA pP pP 01 49 09.8 +4.5
GTA sP sP 01 49 13.8 +6.4
GTA pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
ZAA0 Zalesovo Array 41.94 311 *e*P **P 01 50 11.4 -0.2**
ZALV Zalesovo Beam 41.94 311 P **P 01 50 11.6 -0.1**
comp=Z,1.2nm,0.4s,mb3.9,baz=87,slow=9.0,SNR=8.7
ZALV PcP PcP 01 52 06.4 -0.4
comp=Z,1.6nm,0.7s,baz=91,slow=2.3,SNR=3.7
ZALV Zalesovo Beam 41.94 311 P **P 01 50 11.6 -0.1**
ZALV PcP PcP 01 52 06.4 -0.4
ZALV Zalesovo Beam 41.94 311 P **P 01 50 11.6 0.0**
ZALV 01 52 06.4
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
ZALV pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
CMAR Chiang Mai Arr 43.25 255 P **P 01 50 22.8 +0.1**
comp=Z,0.9nm,0.4s,mb3.9,baz=56,slow=8.8,SNR=2.7
CMAR Chiang Mai Arr 43.25 255 P **P 01 50 22.8 +0.1**
CMAR Chiang Mai Arr 43.25 255 P **P 01 50 22.8 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
MK31 Makanchi Array 44.51 301 P **P 01 50 27.4 -5.1**
MK31 Makanchi Array 44.51 301 P **P 01 50 27.5 -5.0**
MKAR Makanchi Array 44.51 301 P **P 01 50 32.3 -0.2**
comp=Z,1.5nm,0.8s,mb3.9,baz=89,slow=10,SNR=12
MKAR Makanchi Array 44.51 301 P **P 01 50 32.3 -0.2**
MKAR Makanchi Array 44.51 301 P **P 01 50 32.3 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 46.11 307 P **P 01 50 45.2 +0.1**
comp=Z,5.1nm,0.5s,mb4.7,baz=80,slow=8.1,SNR=42
KURK Kurchatov 46.11 307 *e*P **P 01 50 43.8 -1.3**
comp=Z,7.3nm,0.8s,mb4.7
KURK Kurchatov 46.11 307 P **P 01 50 45.2 +0.1**
KURK pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
TAPN Taplejung 47.24 274 *e*P **P 01 50 54.7 +0.4**
comp=Z,11nm,0.9s,mb4.8
TAPN Taplejung 47.24 274 *e*P **P 01 50 54.7 +0.4**
comp=Z,11nm,0.9s,mb4.8
ILAR Eielson Array 47.44 33 P **P 01 50 55.6 +0.3**
comp=Z,0.8nm,0.9s,mb3.6,baz=250,slow=7.6,SNR=5.6
ILAR Eielson Array 47.44 33 P **P 01 50 55.6 +0.3**
ILAR Eielson Array 47.44 33 P **P 01 50 55.7 +0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ODAN Odare 47.73 273 *e*P **P 01 50 58.4 +0.3**
ODAN Odare 47.73 273 *e*P **P 01 50 58.4 +0.3**
JIRN Jiri 48.28 275 *e*P **P 01 51 03.1 +0.7**
comp=Z,1.6nm,0.4s,mb4.5
JIRN Jiri 48.28 275 *e*P **P 01 51 03.1 +0.7**
comp=Z,1.6nm,0.4s,mb4.4
RAMN Ramite 48.30 274 *e*P **P 01 51 02.4 -0.2**
comp=Z,11nm,0.8s,mb5.0
RAMN Ramite 48.30 274 *e*P **P 01 51 02.4 -0.2**
comp=Z,11nm,0.8s,mb4.9
GUN Gumba 48.41 275 *e*P **P 01 51 03.7 +0.3**
comp=Z,23nm,0.9s,mb5.2
GUN Gumba 48.41 275 *e*P **P 01 51 03.7 +0.3**
comp=Z,23nm,0.9s,mb5.2
KKN Kakani 48.93 275 *e*P **P 01 51 08.5 +1.1**
comp=Z,14nm,0.7s,mb5.1
KKN Kakani 48.93 275 *e*P **P 01 51 08.5 +1.1**
comp=Z,14nm,0.7s,mb5.1
KKN Kakani 48.93 275 *e*P **P 01 51 08.5 +1.1**
KKN pmax pmax
comp=Z,14nm,0.7s,mb5.1
PKI Pulchoki 48.94 275 *e*P **P 01 51 08.4 +1.0**
PKI Pulchoki 48.94 275 *e*P **P 01 51 08.4 +1.0**
PKI Pulchoki 48.94 275 *e*P **P 01 51 08.4 +1.0**
DMN Daman 49.15 275 *e*P **P 01 51 09.0 -0.1**
comp=Z,6.7nm,0.2s,mb5.2
DMN Daman 49.15 275 *e*P **P 01 51 09.0 -0.1**
comp=Z,6.7nm,0.2s,mb5.3
GKN Gorkha 49.33 276 *e*P **P 01 51 10.4 -0.1**
GKN Gorkha 49.33 276 *e*P **P 01 51 10.4 -0.1**
DANN Dangsing 49.85 277 *e*P **P 01 51 15.0 +0.6**
comp=Z,20nm,0.5s,mb5.4
DANN Dangsing 49.85 277 *e*P **P 01 51 15.0 +0.6**
comp=Z,20nm,0.5s,mb5.4
TKM2 Tokmak 2 50.15 298 *e*P **P 01 51 16.7 +0.2**
comp=Z,3.8nm,0.7s,mb4.5
TKM2 Tokmak 2 50.15 298 *e*P **P 01 51 16.7 +0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
KOLN Koldanda 50.25 276 *e*P **P 01 51 17.9 +0.4**
comp=Z,6.2nm,0.6s,mb4.8
KOLN Koldanda 50.25 276 *e*P **P 01 51 17.9 +0.4**
comp=Z,6.2nm,0.6s,mb4.8
PYUN Piuthan 50.57 277 *e*P **P 01 51 20.1 +0.2**
comp=Z,42nm,1.1s,mb5.3
PYUN Piuthan 50.57 277 *e*P **P 01 51 20.1 +0.2**
comp=Z,42nm,1.1s,mb5.3
BVAR Borovoye Array 50.59 312 P **P 01 51 16.1 -3.5**
comp=Z,1.0nm,0.5s,mb4.0,baz=72,slow=9.3,SNR=6.0
BVAR PcP PcP 01 52 37.3 +0.1
comp=Z,1.4nm,0.8s,baz=106,slow=3.2,SNR=4.1
BVAR Borovoye Array 50.59 312 P **P 01 51 16.1 -3.5**
BVAR PcP PcP 01 52 37.3 +0.1
BVAR Borovoye Array 50.59 312 P **P 01 51 16.1 -3.5**
BVAR 01 52 37.3
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.8s
ABKAR Akbulak array 58.03 310 *e*P **P 01 52 13.1 -0.7**
comp=Z,1.5nm,0.6s,mb4.2
WRA Warramunga Arr 58.80 190 P **P 01 52 17.8 -1.6**
comp=Z,2.5nm,0.8s,mb4.3,baz=7.2,slow=7.1,SNR=18
WRA Warramunga Arr 58.80 190 P **P 01 52 17.8 -1.6**
WRA Warramunga Arr 58.80 190 P **P 01 52 17.8 -1.6**
WRA pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 62.52 190 P **P 01 52 44.2 -0.5**
comp=Z,0.9nm,0.8s,mb4.0,baz=13,slow=7.5,SNR=9.8
ASAR Alice Springs 62.52 190 P **P 01 52 44.2 -0.5**
ASAR Alice Springs 62.52 190 P **P 01 52 44.3 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 68.10 333 P **P 01 53 20.1 -0.5**
comp=Z,1.8nm,0.6s,mb4.3,baz=57,slow=10,SNR=9.3
FINES LR LR 02 25 17.4
comp=Z,78nm,19.3s,baz=58,slow=38
FINES FINESS Array B 68.10 333 P **P 01 53 20.1 -0.5**
FINES FINESS Array B 68.10 333 P **P 01 53 20.1 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,78nm,19.3s
NVAR Mina Array Bea 72.95 54 P **P 01 53 54.8 +4.2**
comp=Z,0.3nm,0.6s,mb3.4,baz=282,slow=4.5,SNR=3.1
NVAR Mina Array Bea 72.95 54 P **P 01 53 54.8 +4.2**
NB2 NORSAR Subarra 73.30 338 P **P 01 53 51.9 -0.3**
comp=Z,11nm,1.2s,mb4.7,baz=38,slow=6.2
NOA NORSAR Array B 73.30 338 P **P 01 53 52.1 -0.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=38,slow=6.0,SNR=8.9
NOA NORSAR Array B 73.30 338 P **P 01 53 52.1 -0.1**
NOA NORSAR Array B 73.30 338 P **P 01 53 52.1 -0.1**
NOA pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 73.93 323 P **P 01 53 55.6 -0.5**
comp=Z,0.9nm,0.4s,mb4.1,baz=47,slow=5.8,SNR=8.1
AKASG Malin Array Be 73.93 323 P **P 01 53 55.6 -0.5**
AKASG Malin Array Be 73.93 323 P **P 01 53 55.6 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 75.59 47 P **P 01 54 06.0 +0.1**
comp=Z,0.3nm,0.5s,mb3.5,baz=283,slow=1.3,SNR=6.0
PDAR Pinedale Array 75.59 47 P **P 01 54 06.0 +0.1**
BRTR Keskin Array B 78.87 312 P **P 01 54 24.8 +0.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=73,slow=3.6,SNR=3.7
BRTR Keskin Array B 78.87 312 P **P 01 54 24.8 +0.5**
BRTR Keskin Array B 78.87 312 P **P 01 54 24.8 +0.5**
CLL Collm 80.45 331 *e*P **P 01 54 33.0 +0.3**
GERES GERESS Array B 82.13 329 P **P 01 54 41.6 0.0**
comp=Z,0.4nm,0.6s,mb3.5,baz=0.0,slow=6.8,SNR=4.1
GERES GERESS Array B 82.13 329 P **P 01 54 41.6 0.0**
GERES GERESS Array B 82.13 329 P **P 01 54 41.7 0.0**
TXAR Lajitas Array 88.07 53 P **P 01 55 15.0 +3.2**
comp=Z,0.3nm,0.7s,mb3.7,baz=313,slow=4.5,SNR=2.9
TXAR Lajitas Array 88.07 53 P **P 01 55 15.0 +3.2**
TXAR Lajitas Array 88.07 53 P **P 01 55 15.0 +3.2**
TORD Torodi Ar. Bea 117.20 317 PKP PKPdf 02 01 05.2 -1.7
comp=Z,0.2nm,0.9s,baz=22,slow=1.6,SNR=2.6
TORD Torodi Ar. Bea 117.20 317 PKP PKPdf 02 01 05.2 -1.7
VNA2 Neumayer--Watz 144.19 196 *e* PKPdf 02 01 53.7 -2.1
baz=138,slow=3.7
VNA2 *e* 02 02 03.3
VNA3 Neumayer Olymp 144.41 195 *e* PKPdf 02 01 54.0 -2.1
VNA1 Neumayer--Stat 144.58 196 *e* PKiKP 02 02 03.3 +3.2
VNA1 *e* 02 02 16.1

IDC ***04*** *02:04:45.9±0.8, 30°.61N×83°.56E, h0km, mb3.9/13, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, MS3.7/2, Ms1 3.7/2, ms1mx2.8/45, Error ellipse: s-maj=29.0km s-min=16.4km az=54.0*
ISCJB ***04*** *02:04:46.5±0.4, 30°.59N±0°.05×83°.42E±0°.04, h10km, mb3.9/14, MS3.7/2, Error ellipse: s-maj=7.3km s-min=5.1km az=164.2*
NEIC ***04*** *02:04:47.9±0.8, 30°.57N×83°.37E, h10km, mb4.0/4, Error ellipse: s-maj=20.6km s-min=9.5km az=45.0*
NDI ***04*** *02:04:50.7±2.1, 30°.52N×83°.65E, h10km, ML3.7, mb4.0(NEIC)*
ISC 04 02:04:47.9±0.4, 30°.58N±0°.05×83°.50E±0°.06, h10km, n48,
σ1§21/52, mb3.9/14, MS3.7/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.02**	**251**	*e*PB	**Pg**	**02 05 46.0**	**+0.2**
PTH				*ex*	**Sg**	**02 06 27.2**	**+2.2**
DDI	**Dehra Dun**	**4.70**	**268**	*e*PKP	**Pn**	**02 06 03.0**	**+4.1**
DDI				*ex*	x	02 06 18.0	
ALBI	**Allahabad**	**5.46**	**196**	*ex*	**Pg**	**02 06 31.0**	**-1.5**
SDNR	**Sundarnagar**	**5.67**	**281**	*e*PKP	**Pn**	**02 06 17.0**	**+4.7**
NDI	**New Delhi**	**5.78**	**252**	*e*PKP	**Pn**	**02 06 19.0**	**+5.2**
SONA	**Sohna**	**6.06**	**249**	*e*PKP	**Pn**	**02 06 21.3**	**+3.8**
SONA				*e*S	**Sn**	**02 07 26.7**	**-0.2**
SONA				AML	AML	02 08 08.8	
	comp=E,84nm,0.3s						
SONA				AML	AML	02 08 09.2	
	comp=N,88nm,0.4s						
KUDL	**Kundal**	**6.58**	**250**	*e*PKP	**Pn**	**02 06 28.8**	**+4.1**
KUDL				*e*SB	**Sg**	**02 08 11.4**	**-7.7**
LSA	**Lhasa**	**6.69**	**96**	*e*Pn	**Pn**	**02 06 29.7**	**+3.5**
	comp=N,36nm,0.8s						
LSA				*e*S	**Sn**	**02 07 47.8**	**+5.3**
TKM2	**Tokmak 2**	**13.84**	**335**	*e*Pn	**Pn**	**02 08 05.1**	**+1.1**
HYB	**Hyderabad**	**13.86**	**200**	*i* P	**Pn**	**02 08 04.0**	**-0.4**
AAK	**Ala-Archa**	**14.02**	**332**	*e*Pn	**Pn**	**02 08 07.3**	**+0.8**
	comp=N,13nm,0.8s						
EKS2	**Erkin-Say**	**14.35**	**330**	*e*Pn	**Pn**	**02 08 11.6**	**+0.5**
MKAR	**Makanchi Array**	**16.22**	**357**	Pn	**Pn**	**02 08 38.0**	**+2.3**
	comp=N,0.3nm,0.3s,baz=178,slow=12,SNR=11						
MKAR	**Makanchi Array**	**16.22**	**357**	Pn	**Pn**	**02 08 38.0**	**+2.3**
KKAR	**Karatay Array**	**16.23**	**324**	*e*Pn	**Pn**	**02 08 32.7**	**-3.2**
	comp=N,4.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.50**	**127**	P	**Pn**	**02 09 06.5**	**+2.1**
	comp=N,0.3nm,0.3s,baz=312,slow=7.8,SNR=14						
CMAR	**Chiang Mai Arr**	**18.50**	**127**	P	**Pn**	**02 09 06.5**	**+2.1**
KURK	**Kurchatov**	**20.44**	**351**	P	**P**	**02 09 22.6**	**-2.7**
	comp=N,4.3nm,0.8s,baz=171,slow=10,SNR=19						
KURK	**Kurchatov**	**20.44**	**351**	*e*P	**P**	**02 09 23.5**	**-1.8**
	comp=N,11nm,1.0s						
ZAA0	**Zalesovo Array**	**23.37**	**2**	*e*P	**P**	**02 09 55.7**	**-0.9**
ZALV	**Zalesovo Beam**	**23.37**	**2**	P	**P**	**02 09 55.0**	**-1.5**
	comp=N,3.8nm,0.9s,mb3.8,baz=186,slow=12,SNR=15						
ZALV	**Zalesovo Beam**	**23.37**	**2**	P	**P**	**02 09 55.0**	**-1.5**
BVAR	**Borovoye Array**	**24.39**	**341**	P	**P**	**02 10 06.5**	**+0.4**
	comp=N,0.6nm,0.5s,mb3.3,baz=149,slow=9.0,SNR=7.1						
BVAR	**Borovoye Array**	**24.39**	**341**	P	**P**	**02 10 06.5**	**+0.4**
SONM	**Songino Array**	**24.59**	**39**	P	**P**	**02 10 07.6**	**-0.4**
	comp=N,1.7nm,0.8s,mb3.6,baz=227,slow=10,SNR=13						
SONM	**Songino Array**	**24.59**	**39**	P	**P**	**02 10 07.6**	**-0.4**
ABKAR	**Akbulak array**	**25.79**	**323**	*e*P	**P**	**02 10 19.2**	**+0.4**
	comp=N,1.2nm,0.5s,mb3.7						
AKTO	**Aktyubinsk**	**27.50**	**323**	P	**P**	**02 10 35.6**	**+1.4**
	comp=N,0.6nm,0.6s,mb3.3,baz=141,slow=5.4,SNR=3.6						
AKTO				LR	LR	02 23 54.9	
	comp=N,60nm,18.2s,MS3.2,baz=128,slow=42						
AKTO	**Aktyubinsk**	**27.50**	**323**	P	**P**	**02 10 35.6**	**+1.4**
AKASG	**Malin Array Be**	**44.69**	**313**	P	**P**	**02 12 60.0**	**-0.9**
	comp=N,0.6nm,0.5s,mb3.7,baz=84,slow=7.2,SNR=4.5						
AKASG	**Malin Array Be**	**44.69**	**313**	P	**P**	**02 12 60.0**	**-0.9**
FINES	**FINESS Array B**	**48.16**	**327**	P	**P**	**02 13 27.3**	**-0.6**
	comp=N,5.0nm,0.7s,mb4.7,baz=108,slow=8.9,SNR=6.3						
FINES	**FINESS Array B**	**48.16**	**327**	P	**P**	**02 13 27.3**	**-0.6**
ARCES	**ARCESS Array B**	**50.61**	**337**	P	**P**	**02 13 47.2**	**+0.7**
	comp=N,1.9nm,0.7s,mb4.1,baz=92,slow=8.5,SNR=6.8						
ARCES	**ARCESS Array B**	**50.61**	**337**	P	**P**	**02 13 47.2**	**+0.7**
NB2	**NORSAR Subarra**	**55.25**	**326**	P	**P**	**02 14 20.3**	**-0.6**
	comp=Z,4.0nm,1.1s,mb4.4,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**55.25**	**326**	P	**P**	**02 14 19.7**	**-1.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=94,slow=6.8,SNR=5.7						
NOA	**NORSAR Array B**	**55.25**	**326**	P	**P**	**02 14 19.7**	**-1.3**
WRA	**Warramunga Arr**	**70.08**	**129**	P	**P**	**02 16 00.1**	**-0.4**
	comp=Z,3.2nm,0.7s,mb4.3,baz=324,slow=6.2,SNR=41						
WRA	**Warramunga Arr**	**70.08**	**129**	P	**P**	**02 16 00.1**	**-0.3**
ASAR	**Alice Springs**	**72.43**	**132**	P	**P**	**02 16 14.4**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=320,slow=6.3,SNR=13						
ASAR	**Alice Springs**	**72.43**	**132**	P	**P**	**02 16 14.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.45**	**277**	P	**P**	**02 16 37.7**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=48,slow=4.6,SNR=5.9						
TORD				LR	LR	02 51 29.3	
	comp=Z,102nm,18.6s,MS4.2,baz=230,slow=37						
TORD	**Torodi Ar. Bea**	**76.45**	**277**	P	**P**	**02 16 37.7**	**-0.6**
ILAR	**Eielson Array**	**77.19**	**20**	P	**P**	**02 16 40.2**	**-1.4**
	comp=Z,2.0nm,0.7s,mb4.1,baz=299,slow=4.9,SNR=23						
ILAR	**Eielson Array**	**77.19**	**20**	P	**P**	**02 16 40.2**	**-1.4**
INK	**Inuvik**	**77.65**	**13**	*e*P	**P**	**02 16 43.4**	**-0.7**
	comp=Z,2.2nm,0.7s,mb4.2						
DAWY	**Dawson**	**79.82**	**18**	*e*P	**P**	**02 16 57.0**	**+0.9**

IDC ***04*** *02:16:41.1±0.9, 16°.10S×173°.64W, h0km, mb4.0/8, mb1 4.3/9, mb1mx4.2/18, mbtmp4.0/9, ML2.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=53.8km s-min=16.8km az=149.0*
ISCJB ***04*** *02:16:45.1±1.3, 15°.85±0°.5×173°.9W±0°.3, h33km, mb4.0/9, Error ellipse: s-maj=83.5km s-min=11.6km az=147.4*
NEIC ***04*** *02:16:46.2±0.6, 16°.08S×173°.63W, h35km, mb4.1/1, Error ellipse: s-maj=31.2km s-min=9.6km az=147.0*
ISC 04 02:16:47.1±1.3, 15°.85±0°.5×173°.8W±0°.3, h35km, n30,
σ0§64/21, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.73**	**47**	Pn	**Pn**	**02 17 27.9**	**-0.6**
	66nm,0.3s,baz=177,slow=1.3,SNR=17						
AFI				Sn	**Sn**	**02 17 55.7**	**-4.6**
	117nm,0.3s,baz=60,slow=23,SNR=16						
AFI	**Afiamalu**	**2.73**	**47**	Pn	**Pn**	**02 17 27.9**	**-0.6**
AFI				Sn	**Sn**	**02 17 55.7**	**-4.6**
RAR	**Rarotonga**	**14.39**	**114**	LR	LR	02 24 30.0	
	comp=Z,126nm,19.5s,baz=274,slow=33						
DZM	**Mont Dzumac**	**19.66**	**248**	*e*LR	LR	02 26 40.8	
	156nm,27.3s						
PPT	**Papeete**	**23.31**	**98**	*e*LR	LR	02 27 07.1	
	156nm,27.8s						
TBI	**Tubuai**	**24.15**	**112**	*e*LR	LR	02 27 37.5	
	191nm,27.8s						
HNR	**Honiara**	**26.33**	**281**	LR	LR	02 29 57.1	
	comp=Z,46nm,19.0s,baz=93,slow=30						
STKA	**Stephens Creek**	**43.48**	**240**	P	**P**	**02 24 46.8**	**-0.4**
	3.2nm,0.9s,mb4.1,baz=109,slow=12,SNR=5.0						
STKA	**Stephens Creek**	**43.48**	**240**	P	**P**	**02 24 46.8**	**-0.4**
WRAB	**Tennant Creek**	**49.34**	**257**	*e*P	**P**	**02 25 33.1**	**-0.2**
	1.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**49.34**	**257**	P	**P**	**02 25 32.5**	**-0.8**
	0.9nm,0.5s,mb4.1,baz=92,slow=6.9,SNR=32						
WRA	**Warramunga Arr**	**49.34**	**257**	P	**P**	**02 25 32.5**	**-0.8**
ASAR	**Alice Springs**	**49.59**	**252**	P	**P**	**02 25 34.7**	**-0.5**
	5.0nm,0.6s,mb4.7,baz=88,slow=8.0,SNR=47						
ASAR	**Alice Springs**	**49.59**	**252**	P	**P**	**02 25 34.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**57.72**	**258**	P	**P**	**02 26 36.1**	**+1.3**
	0.6nm,0.5s,mb3.9,baz=36,slow=8.1,SNR=8.8						
FITZ	**Fitzroy Crossi**	**57.72**	**258**	P	**P**	**02 26 36.1**	**+1.3**
NVAR	**Mina Array Bea**	**74.90**	**42**	P	**P**	**02 28 25.3**	**+0.9**
	0.7nm,0.8s,mb3.6,baz=225,slow=10.0,SNR=4.9						
NVAR	**Mina Array Bea**	**74.90**	**42**	P	**P**	**02 28 25.3**	**+0.8**
TXAR	**Lajitas Array**	**81.18**	**56**	P	**P**	**02 28 59.6**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=213,slow=7.6,SNR=4.6						
TXAR	**Lajitas Array**	**81.18**	**56**	P	**P**	**02 28 59.6**	**+0.1**
PDAR	**Pinedale Array**	**82.83**	**42**	P	**P**	**02 29 08.0**	**+0.1**
	1.3nm,0.7s,mb4.0,baz=221,slow=2.9,SNR=9.9						
PDAR	**Pinedale Array**	**82.83**	**42**	P	**P**	**02 29 08.0**	**+0.1**
ILAR	**Eielson Array**	**82.90**	**11**	P	**P**	**02 29 08.0**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=232,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**82.90**	**11**	P	**P**	**02 29 08.0**	**+0.3**
ARCES	**ARCESS Array B**	**124.93**	**352**	PKP	PKPdf	02 35 42.9	0.0
	3.2nm,0.9s,baz=20,slow=3.0,SNR=3.6						
ARCES	**ARCESS Array B**	**124.93**	**352**	PKP	PKPdf	02 35 42.9	0.0
BRTR	**Keskin Array B**	**146.19**	**320**	PKPbc	PKPbc	02 36 24.6	+0.6
	0.8nm,0.8s,baz=75,slow=2.6,SNR=6.3						
BRTR	**Keskin Array B**	**146.19**	**320**	PKPbc	PKPbc	02 36 24.6	+0.6
TORD	**Torodi Ar. Bea**	**174.94**	**121**	PKPab	PKPab	02 38 26.4	-2.7
	1.2nm,1.0s,baz=252,slow=4.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**174.94**	**121**	PKPab	PKPab	02 38 26.4	-2.7

CRAAG ***04*** *02:18:48.7, 37°.07N×4°.23E, MI2.6*
ISCJB ***04*** *02:18:48.4±0.3, 37°.03N±0°.02×4°.10E±0°.02, h10km, Error ellipse: s-maj=3.0km s-min=2.4km az=152.4*
IDC ***04*** *02:18:48.1±1.8, 36°.85N×4°.29E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.2/27, mbtmp3.3/4, ML3.9/2, MS3.0/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=30.7km s-min=27.0km az=168.0*
NEIC ***04*** *02:18:49.2±0.7, 36°.84N×4°.25E, h10km, MG4.4(MDD), Error ellipse: s-maj=8.1km s-min=4.2km az=146.0*
MDD ***04*** *02:18:50.7±0.9, 36°.85N×4°.23E, h12km, 9km, mb4.5/31, Error ellipse: s-maj=6.3km s-min=4.1km az=9.0, PRXIMO*
MDD EMS: V INTENSIDAD MAXIMA-CRAAG.
CSEM ***04*** *02:18:51.4±0.2, 36°.84N×4°.25E, h30km, ML2.6, Error ellipse: s-maj=4.7km s-min=3.8km az=167.0*
INMG ***04*** *02:18:53.4±1.9, 36°.96N×4°.08E, h20km±25km, Error ellipse: s-maj=23.2km s-min=5.2km az=122.0*
LDG ***04*** *02:18:55.2±0.2, 37°.07N×3°.64E, h20km, MI3.4/43, Error ellipse: s-maj=5.3km s-min=2.6km az=140.0*
STR ***04*** *02:19:01.8±0.4, 37°.76N×4°.38E, h5km, MI3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 04 02:18:50.8±0.3, 37°.00N±0°.02×4°.08E±0°.02, h10km, n362,
σ1§45/546, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.54**	**243**	P	**Pg**	**02 19 01.1**	**-0.2**
ABMS	**Boumerdes**	**0.54**	**243**	P	**Pg**	**02 19 01.1**	**-0.2**
ABA	**Alger-Bouzarea**	**0.86**	**257**	P	**Pg**	**02 19 07.4**	**0.0**
ABA	**Alger-Bouzarea**	**0.86**	**257**	P	**Pg**	**02 19 07.4**	**0.0**
ABA	**Alger-Bouzarea**	**0.86**	**257**	P	**Pg**	**02 19 07.4**	**0.0**
SET	**Setif**	**1.33**	**127**	P	**Pn**	**02 19 12.0**	**-3.4**
SET	**Setif**	**1.33**	**127**	P	**Pn**	**02 19 12.0**	**-3.4**
SET	**Setif**	**1.33**	**127**	P	**Pn**	**02 19 12.0**	**-3.4**
CKHR	**Kef el Ahmar**	**1.52**	**130**	P	**Pn**	**02 19 14.0**	**-4.0**
CKHR	**Kef el Ahmar**	**1.52**	**130**	P	**Pn**	**02 19 14.0**	**-4.0**
CKHR	**Kef el Ahmar**	**1.52**	**130**	P	**Pn**	**02 19 14.0**	**-4.0**
CASM	**Ain Smara**	**2.08**

EIBI S Sn 02 20 13.3 -0.1
51nm,0.2s,SNR=7.3
EBEN Beniarda 3.81 298 eP Pn 02 19 50.2 +0.7
EBEN e 02 20 32.9
EBEN Beniarda 3.81 298 P Pn 02 19 50.2 +0.7
5.1nm,0.2s,SNR=25
EBEN S Sn 02 20 32.9 -1.4
19nm,0.4s,SNR=7.6
EBEN Beniarda 3.81 298 P Pn 02 19 50.2 +0.7
5.1nm,0.2s,SNR=25
EBEN S Sn 02 20 32.9 -1.4
19nm,0.4s,SNR=7.6
CART Cartagena 4.09 280 ePn Pn 02 19 53.1 -0.3
CART eS Sn 02 20 38.0 -3.3
CART Cartagena 4.09 280 ePn Pn 02 19 53.1 -0.3
CART eS Sn 02 20 38.0 -3.3
EMUR La Murta 4.32 283 eP Pn 02 19 56.9 +0.4
EMUR e 02 20 45.1
EMUR La Murta 4.32 283 P Pn 02 19 56.9 +0.4
3.4nm,0.2s,SNR=19
EMUR S Sn 02 20 45.1 -1.7
21nm,0.5s,SNR=7.2
EMUR La Murta 4.32 283 P Pn 02 19 56.9 +0.4
3.4nm,0.2s,SNR=19
EMUR S Sn 02 20 45.1 -1.8
21nm,0.5s,SNR=7.2
KEST Kesra 4.44 105 Pn Pn 02 19 55.3 -2.8
0.9nm,0.3s,baz=275,slow=4.0,SNR=36
KEST Sn Sn 02 20 43.3 -6.5
0.4nm,0.3s,baz=60,slow=20,SNR=3.4
KEST Kesra 4.44 105 ePn Pn 02 19 55.1 -3.0
KEST Sn Sn 02 20 43.3 -6.5
KEST Kesra 4.44 105 ePn Pn 02 19 55.1 -3.0
KEST Sn Sn 02 20 43.3 -6.5
ECHE Chera 4.74 305 eP Pn 02 20 04.7 +2.4
ECHE e 02 20 55.6
ECHE Chera 4.74 305 P Pn 02 20 04.7 +2.4
68nm,0.6s,SNR=29
ECHE S Sn 02 20 55.6 -1.6
4.7nm,0.2s,SNR=11
ECHE Chera 4.74 305 P Pn 02 20 04.7 +2.4
68nm,0.6s,SNR=29
ECHE S Sn 02 20 55.6 -1.6
4.7nm,0.2s,SNR=11
ETOB Tobarra 4.75 292 eP Pn 02 20 04.2 +1.8
ETOB e 02 20 55.5
ETOB Tobarra 4.75 292 P Pn 02 20 04.2 +1.8
12nm,0.2s,SNR=75
ETOB S Sn 02 20 55.5 -2.0
56nm,0.7s,SNR=6.8
ETOB Tobarra 4.75 292 P Pn 02 20 04.2 +1.8
12nm,0.2s,SNR=75
ETOB S Sn 02 20 55.5 -2.0
56nm,0.7s,SNR=6.8
EMOS Mosqueruela 4.89 315 eP Pn 02 20 06.2 +1.8
EMOS e 02 21 01.0
EMOS Mosqueruela 4.89 315 P Pn 02 20 06.2 +1.8
7.3nm,0.3s,SNR=16
EMOS S Sn 02 21 01.0 -0.1
5.6nm,0.2s,SNR=6.1
EMOS Mosqueruela 4.89 315 P Pn 02 20 06.2 +1.8
7.3nm,0.3s,SNR=16
EMOS S Sn 02 21 01.0 -0.1
5.6nm,0.2s,SNR=6.1
ERTA Horta de San J 4.91 325 eP Pn 02 20 05.7 +1.1
ERTA e 02 21 00.4
ERTA Horta de San J 4.91 325 P Pn 02 20 05.7 +1.1
1.7nm,0.2s,SNR=13
ERTA S Sn 02 21 00.4 -1.1
5.5nm,0.2s,SNR=6.5
ERTA Horta de San J 4.91 325 P Pn 02 20 05.7 +1.1
1.7nm,0.2s,SNR=13
ERTA S Sn 02 21 00.4 -1.1
5.5nm,0.2s,SNR=6.5
CFON Fontmartina 4.92 346 eP Pn 02 20 05.9 +1.1
CFON e 02 21 00.6
CFON Fontmartina 4.92 346 P Pn 02 20 05.9 +1.1
38nm,0.2s,SNR=88
CFON S Sn 02 21 00.6 -1.2
19nm,0.2s,SNR=7.7
CFON Fontmartina 4.92 346 P Pn 02 20 05.9 +1.1
38nm,0.2s,SNR=88
CFON S Sn 02 21 00.6 -1.2
19nm,0.2s,SNR=7.7
EPOB Poblet 4.93 333 eP Pn 02 20 05.7 +0.8
EPOB e 02 21 00.2
EPOB Poblet 4.93 333 P Pn 02 20 05.7 +0.8
3.4nm,0.1s,SNR=58
EPOB S Sn 02 21 00.2 -1.8
9.4nm,0.2s,SNR=11
EPOB Poblet 4.93 333 P Pn 02 20 05.7 +0.8
3.4nm,0.1s,SNR=58
EPOB S Sn 02 21 00.2 -1.8
9.4nm,0.2s,SNR=11
ENIJ Nijar 5.03 272 eP Pn 02 20 05.1 -1.2
ENIJ e 02 21 04.8
ENIJ Nijar 5.03 272 P Pn 02 20 05.1 -1.2
4.2nm,0.3s,SNR=7.9
ENIJ S Sn 02 21 04.8 +0.3
25nm,0.6s,SNR=7.9
ENIJ Nijar 5.03 272 P Pn 02 20 05.1 -1.2
4.2nm,0.3s,SNR=7.9
ENIJ S Sn 02 21 04.8 +0.3
25nm,0.6s,SNR=7.9
EHUE Huescar 5.37 281 eP Pn 02 20 13.0 +2.0
EHUE e 02 21 13.0
EHUE Huescar 5.37 281 P Pn 02 20 13.0 +2.0
2.0nm,0.2s,SNR=7.9
EHUE S Sn 02 21 13.0 +0.1
3.3nm,0.2s,SNR=7.9
EHUE Huescar 5.37 281 P Pn 02 20 13.0 +2.0
2.0nm,0.2s,SNR=7.9
EHUE S Sn 02 21 13.0 +0.1
3.3nm,0.2s,SNR=7.9
EVIA Vianos 5.46 289 eP Pn 02 20 13.5 +1.3
EVIA e 02 21 12.1
EVIA Vianos 5.46 289 P Pn 02 20 13.5 +1.3
10nm,0.2s,SNR=12
EVIA S Sn 02 21 12.1 -3.0
4.7nm,0.2s
EVIA Vianos 5.46 289 P Pn 02 20 13.5 +1.3
10nm,0.2s,SNR=12
EJON La Jonquera 5.52 351 eP Pn 02 20 14.3 +1.4
EJON e 02 21 15.2
EJON La Jonquera 5.52 351 P Pn 02 20 14.4 +1.4
41nm,0.4s,SNR=74
EJON S Sn 02 21 15.2 -1.2
18nm,0.5s
EJON La Jonquera 5.52 351 P Pn 02 20 14.4 +1.4
41nm,0.4s,SNR=74
EJON S Sn 02 21 15.2 -1.3
18nm,0.5s
SJAF Saint Jean de 5.55 351 P Pn 02 20 15.0 +1.5
SJAF Saint Jean de 5.55 351 P Pn 02 20 15.0 +1.5
EBER Berja 5.58 271 eP Pn 02 20 13.1 -0.8
EBER e 02 21 17.2
EBER Berja 5.58 271 P Pn 02 20 13.1 -0.8
2.9nm,0.2s,SNR=7.3
EBER S Sn 02 21 17.2 -0.9
3.0nm,0.3s,SNR=5.9
EBER Berja 5.58 271 P Pn 02 20 13.1 -0.8
2.9nm,0.2s,SNR=7.3
EBER S Sn 02 21 17.2 -0.9
3.0nm,0.3s,SNR=5.9
VALF Valcebollere 5.62 344 P Pn 02 20 17.0 +2.6
VALF Valcebollere 5.62 344 P Pn 02 20 17.0 +2.6
FILF Fillols 5.67 349 P Pn 02 20 17.7 +2.6
FILF Fillols 5.67 349 P Pn 02 20 17.7 +2.6
CLLI Llivia 5.71 344 eP Pn 02 20 18.2 +2.6
CLLI e 02 21 20.1
CLLI Llivia 5.71 344 P Pn 02 20 18.2 +2.6
6.2nm,0.1s,SNR=163
CLLI S Sn 02 21 20.1 -1.0
5.5nm,0.3s,SNR=11
CLLI Llivia 5.71 344 P Pn 02 20 18.2 +2.6
6.2nm,0.1s,SNR=163
CLLI S Sn 02 21 20.1 -1.0
5.5nm,0.3s,SNR=11
EQES Quesada 5.75 280 eP Pn 02 20 17.9 +1.7
EQES e 02 21 22.4
EQES Quesada 5.75 280 P Pn 02 20 17.9 +1.7
18nm,0.4s,SNR=36
EQES S Sn 02 21 22.4 +0.2
29nm,0.6s,SNR=10
EQES Quesada 5.75 280 P Pn 02 20 17.9 +1.7
18nm,0.4s,SNR=36
EQES S Sn 02 21 22.4 +0.2
29nm,0.6s,SNR=10
CSOR Sort 5.83 338 eP Pn 02 20 20.1 +2.9
CSOR e 02 21 23.5
CSOR Sort 5.83 338 P Pn 02 20 20.1 +2.9
5.2nm,0.3s,SNR=29
CSOR S Sn 02 21 23.5 -0.6
18nm,0.4s,SNR=5.7
CSOR Sort 5.83 338 P Pn 02 20 20.1 +2.9
5.2nm,0.3s,SNR=29
CSOR S Sn 02 21 23.5 -0.6
18nm,0.4s,SNR=5.7
ESAC San Caprasio 5.88 325 eP Pn 02 20 20.7 +2.6
ESAC e 02 21 24.5
ESAC San Caprasio 5.88 325 P Pn 02 20 20.7 +2.6
10nm,0.3s,SNR=7.9
ESAC S Sn 02 21 24.5 -1.0
19nm,0.3s,SNR=7.9
ESAC San Caprasio 5.88 325 P Pn 02 20 20.7 +2.7
10nm,0.3s,SNR=7.9
EQUE Quentar 6.01 274 P Pn 02 20 20.9 +1.1
1.2nm,0.2s,SNR=7.9
EQUE S Sn 02 21 28.5 -0.2
2.8nm,0.3s,SNR=7.9
EQUE Quentar 6.01 274 P Pn 02 20 20.9 +1.1
1.2nm,0.2s,SNR=7.9
EQUE S Sn 02 21 28.5 -0.2
2.8nm,0.3s,SNR=7.9
LRDF Laroque-de-Fa 6.05 349 P Pn 02 20 22.1 +1.9
LRDF Laroque-de-Fa 6.05 349 P Pn 02 20 22.1 +1.9
ECOG Cogollos-Vega 6.11 275 eP Pn 02 20 22.2 +1.1
ECOG Cogollos-Vega 6.11 275 P Pn 02 20 22.2 +1.1
7.2nm,0.5s,SNR=7.9
ECOG Cogollos-Vega 6.11 275 P Pn 02 20 22.2 +1.0
7.2nm,0.5s,SNR=7.9
ETOR Torete 6.12 310 P Pn 02 20 22.4 +1.2
25nm,0.4s,SNR=14
ETOR S Sn 02 21 31.7 +0.5
8.8nm,0.4s,SNR=14
ETOR Torete 6.12 310 P Pn 02 20 22.4 +1.2
25nm,0.4s,SNR=14
ETOR S Sn 02 21 31.7 +0.5
8.8nm,0.4s,SNR=14
EGUA Guajares 6.13 271 eP Pn 02 20 20.6 -0.7
EGUA Guajares 6.13 271 P Pn 02 20 20.6 -0.7
2.1nm,0.2s,SNR=7.9
EGUA Guajares 6.13 271 P Pn 02 20 20.6 -0.8
2.1nm,0.2s,SNR=7.9
ERON Agron 6.31 273 eP Pn 02 20 25.3 +1.5
ERON Agron 6.31 273 P Pn 02 20 25.3 +1.5
6.3nm,0.6s,SNR=7.9
ERON Agron 6.31 273 P Pn 02 20 25.3 +1.4
6.3nm,0.6s,SNR=7.9
BERF Bertagne 6.42 11 P Pn 02 20 25.9 +0.5
BERF Bertagne 6.42 11 P Pn 02 20 25.9 +0.5
EBIE Bielsa 6.43 333 eP Pn 02 20 27.6 +2.0
EBIE e 02 21 38.7
EBIE Bielsa 6.43 333 P Pn 02 20 27.6 +2.0
3.5nm,0.4s,SNR=12
EBIE S Sn 02 21 38.7 -0.3
7.8nm,0.5s,SNR=9.4
EBIE Bielsa 6.43 333 P Pn 02 20 27.6 +2.0
3.5nm,0.4s,SNR=12
EBIE S Sn 02 21 38.7 -0.3
7.8nm,0.5s,SNR=9.4
MTLF Montolieu 6.49 348 ePn Pn 02 20 28.2 +1.8
SNR=1.0
MTLF eSn Sn 02 21 33.6 -6.8
3.5nm,0.2s,SNR=1.0
MTLF Montolieu 6.49 348 ePn Pn 02 20 28.2 +1.8
MTLF eSn Sn 02 21 33.6 -6.8
MTLF Montolieu 6.49 348 P Pn 02 20 28.2 +1.8
MTLF S Sn 02 21 33.6 -6.8
1.8nm,0.2s
MTLF Montolieu 6.49 348 ePn Pn 02 20 28.2 +1.8
SNR=1.0
LMR La Mourre 6.59 16 ePn Pn 02 20 26.8 -1.0
SNR=1.0
LMR eSn Sn 02 21 39.5 -3.5
7.5nm,0.2s
LMR La Mourre 6.59 16 ePn Pn 02 20 26.8 -1.0
LMR eSn Sn 02 21 39.5 -3.5
LMR La Mourre 6.59 16 P Pn 02 20 26.8 -1.0
LMR S Sn 02 21 39.5 -3.5
3.8nm,0.2s
LMR La Mourre 6.59 16 ePn Pn 02 20 26.8 -1.0
SNR=1.0
LMR eSn Sn 02 21 39.5 -3.5
3.8nm,0.2s
EPF Esparros 6.67 336 ePn Pn 02 20 29.1 +0.3
SNR=1.0
EPF eSn Sn 02 21 36.6 -8.2
3.5nm,0.2s,SNR=1.0
EPF Esparros 6.67 336 ePn Pn 02 20 29.1 +0.3
EPF eSn Sn 02 21 36.6 -8.2
EPF Esparros 6.67 336 P Pn 02 20 29.1 +0.3
EPF S Sn 02 21 36.6 -8.2
1.8nm,0.2s
EPF Esparros 6.67 336 ePn Pn 02 20 29.1 +0.3
SNR=1.0
TAVF Tavernes 6.78 12 P Pn 02 20 30.5 +0.2
TAVF S Sn 02 21 44.8 -2.7
TAVF Tavernes 6.78 12 P Pn 02 20 30.5 +0.2
TAVF S Sn 02 21 44.8 -2.7
FRF La Foret Royal 6.84 16 ePn Pn 02 20 30.4 -0.7
SNR=1.0
FRF eSn Sn 02 21 45.4 -3.6
10nm,0.2s,SNR=1.0
FRF La Foret Royal 6.84 16 ePn Pn 02 20 30.4 -0.7
FRF eSn Sn 02 21 45.4 -3.6
FRF La Foret Royal 6.84 16 P Pn 02 20 30.4 -0.7
FRF S Sn 02 21 45.4 -3.6
5.2nm,0.2s
FRF La Foret Royal 6.84 16 ePn Pn 02 20 30.4 -0.7
SNR=1.0
PRAF Pradon 6.85 7 P Pn 02 20 32.3 +1.1
PRAF Pradon 6.85 7 P Pn 02 20 32.3 +1.1
ESDC Sonseca Array 6.86 295 Pn Pn 02 20 33.2 +1.8
2.0nm,0.3s,baz=109,slow=13,SNR=29
ESDC Sn Sn 02 21 47.2 -2.3
0.1nm,0.3s,baz=110,slow=26,SNR=2.7
ESDC Sonseca Array 6.86 295 Pn Pn 02 20 33.2 +1.8
ESDC e 02 21 46.8
ESDC Sn Sn 02 21 47.2 -2.3
ESDC Sonseca Array 6.86 295 P Pn 02 20 32.6 +1.1
3.9nm,0.1s,baz=113,slow=14,SNR=33
ESDC S Sn 02 21 46.8 -2.8
0.8nm,0.1s,baz=111,slow=24,SNR=3.7
ESDC Sonseca Array 6.86 295 P Pn 02 20 32.6 +1.2
3.9nm,0.1s,baz=113,slow=14,SNR=33
ESDC Sonseca Array 6.86 295 Pn Pn 02 20 33.2 +1.8
ESLA Sonseca Array 6.86 295 ePn Pn 02 20 32.5 +1.0
ESLA eS Sn 02 21 47.7 -1.8
ESLA Sonseca Array 6.86 295 ePn Pn 02 20 32.5 +1.1
ETSF Etsaut 6.88 330 ePn Pn 02 20 30.8 -0.9
SNR=1.0
ETSF eSn Sn 02 21 41.1 -9.0
8.3nm,0.6s
ETSF Etsaut 6.88 330 ePn Pn 02 20 30.8 -0.9
ETSF eSn Sn 02 21 41.1 -9.0
ETSF Etsaut 6.88 330 P Pn 02 20 30.8 -0.9
ETSF S Sn 02 21 41.1 -9.0
4.2nm,0.6s
ETSF Etsaut 6.88 330 ePn Pn 02 20 30.8 -0.9
SNR=1.0
EADA Adamuz 6.97 282 eP Pn 02 20 32.2 -0.8
EADA e 02 21 49.2
EADA Adamuz 6.97 282 P Pn 02 20 32.2 -0.8
1.0nm,0.3s,SNR=7.9
EADA S Sn 02 21 49.2 -3.1
1.2nm,0.2s,SNR=7.9
EADA Adamuz 6.97 282 P Pn 02 20 32.2 -0.8
1.0nm,0.3s,SNR=7.9
SMRF Simiane la Rot 7.06 9 ePn Pn 02 20 35.4 +1.2
SNR=1.0
SMRF eSn Sn 02 21 49.7 -4.7
3.4nm,0.3s,SNR=1.0
SMRF Simiane la Rot 7.06 9 ePn Pn 02 20 35.4 +1.2
SMRF eSn Sn 02 21 49.7 -4.7
SMRF Simiane la Rot 7.06 9 P Pn 02 20 35.4 +1.2
SMRF S Sn 02 21 49.7 -4.7
3.4nm,0.3s
SMRF Simiane la Rot 7.06 9 ePn Pn 02 20 35.4 +1.2
SNR=1.0
LASF Ste Croix 7.07 359 ePn Pn 02 20 34.4 +0.1
SNR=1.0
LASF eSn Sn 02 21 48.9 -5.8
7.3nm,0.5s,SNR=1.0
LASF Ste Croix 7.07 359 ePn Pn 02 20 34.4 +0.1
LASF eSn Sn 02 21 48.9 -5.8
LASF Ste Croix 7.07 359 P Pn 02 20 34.4 +0.1
LASF S Sn 02 21 48.9 -5.8
3.7nm,0.5s
LASF Ste Croix 7.07 359 ePn Pn 02 20 34.4 +0.1
SNR=1.0
IEPA Eparoz 7.08 326 P Pn 02 20 37.7 +3.2
3.0nm,0.2s,SNR=7.9
IEPA S Sn 02 21 53.6 -1.4
2.4nm,0.3s,SNR=7.9
IEPA Eparoz 7.08 326 P Pn 02 20 37.7 +3.2
3.0nm,0.2s,SNR=7.9
EMIJ Mijas 7.12 269 eP Pn 02 20 33.3 -1.7
EMIJ e 02 21 52.4
EMIJ Mijas 7.12 269 P Pn 02 20 33.3 -1.7
0.3nm,0.2s,SNR=7.9
EMIJ S Sn 02 21 52.4 -3.4
2.1nm,0.4s,SNR=7.9
EMIJ Mijas 7.12 269 P Pn 02 20 33.3 -1.7
0.3nm,0.2s,SNR=7.9
IELO Elcoad 7.12 327 P Pn 02 20 37.3 +2.3
2.0nm,0.2s,SNR=7.9
IELO S Sn 02 21 54.8 -1.1
0.7nm,0.2s,SNR=7.9
IELO Elcoad 7.12 327 P Pn 02 20 37.3 +2.3
2.0nm,0.2s,SNR=7.9
STOF St-Etienne Org 7.13 11 P Pn 02 20 36.3 +1.2
STOF St-Etienne Org 7.13 11 P Pn 02 20 36.3 +1.2
IPRE Itoiz 7.14 326 P Pn 02 20 37.1 +1.8
1.2nm,0.2s,SNR=7.9
IPRE Itoiz 7.14 326 P Pn 02 20 37.1 +1.8
1.2nm,0.2s,SNR=7.9
IUNC Unciti 7.17 325 P Pn 02 20 38.1 +2.4
4.2nm,0.2s,SNR=7.9
IUNC Unciti 7.17 325 P Pn 02 20 38.1 +2.4
4.2nm,0.2s,SNR=7.9
EORO Oroz-Betelu 7.19 327 P Pn 02 20 38.5 +2.5
3.8nm,0.2s,SNR=10.0
EORO Oroz-Betelu 7.19 327 P Pn 02 20 38.5 +2.5
3.8nm,0.2s,SNR=10.0
EARA Aranguren 7.22 325 P Pn 02 20 38.6 +2.2
0.4nm,0.1s,SNR=7.9
EARA Aranguren 7.22 325 P Pn 02 20 38.6 +2.2
0.4nm,0.1s,SNR=7.9
SBF Sospel 7.32 19 ePn Pn 02 20 36.5 -1.2
SNR=1.0
SBF eSn Sn 02 21 53.7 -7.0
7.4nm,0.2s,SNR=1.0
SBF Sospel 7.32 19 ePn Pn 02 20 36.5 -1.2
SBF eSn Sn 02 21 53.7 -7.0
SBF Sospel 7.32 19 P Pn 02 20 36.5 -1.2
SBF S Sn 02 21 53.7 -7.0
3.7nm,0.2s
SBF Sospel 7.32 19 ePn Pn 02 20 36.5 -1.2
SNR=1.0
SJPF Ste Jean 7.33 328 ePn Pn 02 20 38.6 +0.7
SNR=1.0
SJPF eSn Sn 02 21 51.5 -10
2.3nm,0.3s,SNR=1.0
SJPF Ste Jean 7.33 328 ePn Pn 02 20 38.6 +0.7
SJPF eSn Sn 02 21 51.5 -10
SJPF Ste Jean 7.33 328 P Pn 02 20 38.6 +0.7
SJPF S Sn 02 21 51.5 -10
1.2nm,0.3s
SJPF Ste Jean 7.33 328 ePn Pn 02 20 38.6 +0.7
SNR=1.0
GUD Guadarrama 7.38 302 eP Pn 02 20 40.1 +1.5
GUD Guadarrama 7.38 302 P Pn 02 20 40.1 +1.5
2.8nm,0.3s,SNR=7.9
GUD Guadarrama 7.38 302 P Pn 02 20 40.1 +1.5
2.8nm,0.3s,SNR=7.9
ELIZ Elizondo 7.51 327 eP Pn 02 20 43.1 +2.8
ELIZ Elizondo 7.51 327 P Pn 02 20 43.1 +2.8
4.3nm,0.3s,SNR=7.9
ELIZ Elizondo 7.51 327 P Pn 02 20 43.1 +2.8
4.3nm,0.3s,SNR=7.9
EALK Alkurruntz 7.54 327 eP Pn 02 20 43.4 +2.6
EALK e 02 22 05.0
EALK Alkurruntz 7.54 327 P Pn 02 20 43.4 +2.6
7.8nm,0.3s,SNR=14
EALK S Sn 02 22 05.0 -1.2
5.3nm,0.4s,SNR=7.9
EALK Alkurruntz 7.54 327 P Pn 02 20 43.4 +2.6
7.8nm,0.3s,SNR=14
VIVF Saint-Julien-I 7.86 3 ePn Pn 02 20 45.2 +0.1
SNR=1.0
VIVF eSn Sn 02 22 08.5 -5.6
6.0nm,0.3s,SNR=1.0
VIVF Saint-Julien-I 7.86 3 ePn Pn 02 20 45.2 +0.1
VIVF eSn Sn 02 22 08.5 -5.6
VIVF Saint-Julien-I 7.86 3 P Pn 02 20 45.2 +0.1
VIVF S Sn 02 22 08.5 -5.6
3.0nm,0.3s
VIVF Saint-Julien-I 7.86 3 ePn Pn 02 20 45.2 +0.1
SNR=1.0
MBDF Montbardon 7.98 14 ePn Pn 02 20 48.0 +1.2
SNR=1.0
MBDF eSn Sn 02 22 12.8 -4.3
8.0nm,0.6s,SNR=1.0
MBDF Montbardon 7.98 14 ePn Pn 02 20 48.0 +1.2
MBDF eSn Sn 02 22 12.8 -4.3
MBDF Montbardon 7.98 14 P Pn 02 20 48.0 +1.2
MBDF S Sn 02 22 12.8 -4.3
4.0nm,0.6s
MBDF Montbardon 7.98 14 ePn Pn 02 20 48.0 +1.2
SNR=1.0
ORIF Oris-en-Rattie 8.03 9 ePn Pn 02 20 48.2 +0.8
SNR=1.0
ORIF eSn Sn 02 22 13.1 -5.1
3.2nm,0.5s
ORIF Oris-en-Rattie 8.03 9 ePn Pn 02 20 48.2 +0.8
ORIF eSn Sn 02 22 13.1 -5.1
ORIF Oris-en-Rattie 8.03 9 P Pn 02 20 48.2 +0.8
ORIF S Sn 02 22 13.1 -5.1
1.6nm,0.5s
ORIF Oris-en-Rattie 8.03 9 ePn Pn 02 20 48.2 +0.8
SNR=1.0
CAF Calviac 8.06 350 ePn Pn 02 20 48.3 +0.4
SNR=1.0
CAF eSn Sn 02 22 11.5 -7.6
1.3nm,0.3s
CAF Calviac 8.06 350 ePn Pn 02 20 48.3 +0.4
CAF eSn Sn 02 22 11.5 -7.6
CAF Calviac 8.06 350 P Pn 02 20 48.3 +0.4
CAF S Sn 02 22 11.5 -7.6
0.6nm,0.3s
CAF Calviac 8.06 350 ePn Pn 02 20 48.3 +0.4
SNR=1.0
SSB Saint Sauveur 8.28 2 ePn Pn 02 20 51.1 +0.3
6.0nm,0.6s
SSB eS Sn 02 22 21.9 -2.5
SSB Saint Sauveur 8.28 2 ePn Pn 02 20 51.1 +0.2
6.0nm,0.6s
SSB eS Sn 02 22 21.9 -2.5
BNI Bardonecchia 8.28 13 ePn Pn 02 20 52.8 +1.9
BNI eS Sn 02 22 23.6 -0.8
BNI Bardonecchia 8.28 13 ePn Pn 02 20 52.8 +1.9
BNI eS Sn 02 22 23.6 -0.8
LFF La Frestale 8.32 343 ePn Pn 02 20 52.1 +0.6
SNR=1.0
LFF eSn Sn 02 22 16.9 -8.6
2.8nm,0.4s,SNR=1.0
LFF La Frestale 8.32 343 ePn Pn 02 20 52.1 +0.6
LFF eSn Sn 02 22 16.9 -8.6
LFF La Frestale 8.32 343 P Pn 02 20 52.1 +0.6
LFF S Sn 02 22 16.9 -8.6
1.4nm,0.4s
LFF La Frestale 8.32 343 ePn Pn 02 20 52.1 +0.6
SNR=1.0
ELAN Lanestosa 8.47 320 eP Pn 02 20 56.5 +2.9
ELAN e 02 22 26.2
ELAN Lanestosa 8.47 320 P Pn 02 20 56.5 +2.9
3.3nm,0.3s,SNR=7.9
ELAN S Sn 02 22 26.2 -3.0
1.6nm,0.3s,SNR=7.9
ELAN Lanestosa 8.47 320 P Pn 02 20 56.5 +2.9
3.3nm,0.3s,SNR=7.9
RJF Les Rejaudoux 8.52 348 ePn Pn 02 20 55.0 +0.9
SNR=1.0
RJF eSn Sn 02 22 22.0 -8.3
1.3nm,0.3s
RJF Les Rejaudoux 8.52 348 ePn Pn 02 20 55.0 +0.9
RJF eSn Sn 02 22 22.0 -8.3

RJF Les Rejaudoux 8.52 348 P **Pn 02 20 55.0 +0.9**
RJF S **Sn 02 22 22.0 -8.3**
0.6nm,0.3s
RJF Les Rejaudoux 8.52 348 *e*Pn **Pn 02 20 55.0 +0.9**
SNR=1.0
EMIN Mina Concepcio 8.59 278 *e*P **Pn 02 20 55.1 -0.1**
EMIN *e* 02 22 28.0
EMIN Mina Concepcio 8.59 278 P **Pn 02 20 55.1 -0.1**
0.6nm,0.2s,SNR=7.9
EMIN S **Sn 02 22 28.0 -4.2**
0.3nm,0.3s,SNR=7.9
EMIN Mina Concepcio 8.59 278 P **Pn 02 20 55.1 -0.1**
0.6nm,0.2s,SNR=7.9
LPG La Plagne 8.72 12 *e*Pn **Pn 02 20 58.0 +1.0**
SNR=1.0
LPG *e*Sn **Sn 02 22 30.4 -4.9**
3.6nm,0.4s
LPG La Plagne 8.72 12 *e*Pn **Pn 02 20 58.0 +1.0**
LPG *e*Sn **Sn 02 22 30.4 -4.9**
LPG La Plagne 8.72 12 P **Pn 02 20 58.0 +1.0**
LPG S **Sn 02 22 30.4 -4.9**
1.8nm,0.4s
LPG La Plagne 8.72 12 *e*Pn **Pn 02 20 58.0 +1.0**
SNR=1.0
LPL La Plagne 8.74 12 *e*Pn **Pn 02 20 58.5 +1.3**
SNR=1.0
LPL *e*Sn **Sn 02 22 30.7 -5.0**
7.9nm,0.6s
LPL La Plagne 8.74 12 *e*Pn **Pn 02 20 58.5 +1.3**
LPL *e*Sn **Sn 02 22 30.7 -5.0**
LPL La Plagne 8.74 12 P **Pn 02 20 58.5 +1.3**
LPL S **Sn 02 22 30.7 -5.0**
4.0nm,0.6s
LPL La Plagne 8.74 12 *e*Pn **Pn 02 20 58.5 +1.3**
SNR=1.0
EBAD Badajoz 8.94 285 *e*P **Pn 02 21 00.8 +0.8**
EBAD *e* 02 22 36.6
EBAD Badajoz 8.94 285 P **Pn 02 21 00.8 +0.8**
0.2nm,0.2s,SNR=7.9
EBAD S **Sn 02 22 36.6 -4.2**
0.6nm,0.2s,SNR=7.9
EBAD Badajoz 8.94 285 P **Pn 02 21 00.8 +0.8**
0.2nm,0.2s,SNR=7.9
TCF Toulx Ste Croi 9.38 352 *e*Pn **Pn 02 21 06.5 +0.5**
SNR=1.0
TCF *e*Sn **Sn 02 22 43.0 -8.5**
0.2nm,0.2s
TCF Toulx Ste Croi 9.38 352 *e*Pn **Pn 02 21 06.5 +0.5**
TCF *e*Sn **Sn 02 22 43.0 -8.5**
TCF Toulx Ste Croi 9.38 352 P **Pn 02 21 06.5 +0.5**
TCF S **Sn 02 22 43.0 -8.5**
0.1nm,0.2s
TCF Toulx Ste Croi 9.38 352 *e*Pn **Pn 02 21 06.5 +0.5**
SNR=1.0
PVAQ Vaqueiros 9.42 276 *e*Pn **Pn 02 21 07.0 +0.4**
PVAQ *e*Sn **Sn 02 22 49.8 -2.7**
PVAQ Vaqueiros 9.42 276 P **Pn 02 21 07.0 +0.4**
PVAQ S **Sn 02 22 49.8 -2.7**
PVAQ Vaqueiros 9.42 276 *e*Pn **Pn 02 21 07.0 +0.4**
EARI Arriondas 9.49 314 *e*P **Pn 02 21 10.6 +3.1**
EARI Arriondas 9.49 314 P **Pn 02 21 10.6 +3.1**
0.8nm,0.2s,SNR=7.9
EARI Arriondas 9.49 314 P **Pn 02 21 10.6 +3.1**
0.8nm,0.2s,SNR=7.9
MVO Moncorvo 9.58 299 *e*Pn **Pn 02 21 11.9 +3.1**
MVO *e*Sn **Sn 02 22 55.7 -0.8**
MVO Moncorvo 9.58 299 *e*P **Pn 02 21 11.7 +3.0**
MVO *e* 02 22 53.0
MVO Moncorvo 9.58 299 P **Pn 02 21 11.7 +3.0**
4.1nm,0.2s,SNR=13
MVO S **Sn 02 22 53.0 -3.5**
1.0nm,0.3s,SNR=7.9
MVO Moncorvo 9.58 299 P **Pn 02 21 11.7 +2.9**
4.1nm,0.2s,SNR=13
BGF Bois d'Agland 9.59 355 *e*Pn **Pn 02 21 10.5 +1.6**
SNR=1.0
BGF *e*Sn **Sn 02 22 48.1 -8.6**
2.5nm,0.5s
BGF Bois d'Agland 9.59 355 *e*Pn **Pn 02 21 10.5 +1.6**
BGF *e*Sn **Sn 02 22 48.1 -8.6**
BGF Bois d'Agland 9.59 355 P **Pn 02 21 10.5 +1.6**
BGF S **Sn 02 22 48.1 -8.6**
1.2nm,0.5s
BGF Bois d'Agland 9.59 355 *e*Pn **Pn 02 21 10.5 +1.6**
SNR=1.0
SMF Signal de Mont 9.64 359 *e*Pn **Pn 02 21 08.7 -0.8**
SMF *e*Sn **Sn 02 22 50.0 -7.8**
0.7nm,0.3s
SMF Signal de Mont 9.64 359 *e*Pn **Pn 02 21 08.7 -0.8**
SMF *e*Sn **Sn 02 22 50.0 -7.8**
SMF Signal de Mont 9.64 359 P **Pn 02 21 08.7 -0.8**
SMF S **Sn 02 22 50.0 -7.8**
0.3nm,0.3s
SMF Signal de Mont 9.64 359 *e*Pn **Pn 02 21 08.7 -0.8**
ECAL Calabor 9.71 304 *e*P **Pn 02 21 11.4 +1.0**
ECAL Calabor 9.71 304 P **Pn 02 21 11.4 +1.0**
8.4nm,0.3s,SNR=9.2
ECAL Calabor 9.71 304 P **Pn 02 21 11.4 +0.9**
8.4nm,0.3s,SNR=9.2
CABF La Chapelle 9.72 8 *e*Pn **Pn 02 21 11.5 +0.9**
SNR=1.0
CABF *e*Sn **Sn 02 22 53.3 -6.5**
0.7nm,0.2s
CABF La Chapelle 9.72 8 *e*Pn **Pn 02 21 11.5 +0.9**
CABF *e*Sn **Sn 02 22 53.3 -6.5**
CABF La Chapelle 9.72 8 P **Pn 02 21 11.5 +0.9**
CABF S **Sn 02 22 53.3 -6.5**
0.3nm,0.2s
CABF La Chapelle 9.72 8 *e*Pn **Pn 02 21 11.5 +0.9**
SNR=1.0
AVF Avril sur Loir 9.80 357 *e*Pn **Pn 02 21 13.0 +1.3**
SNR=1.0
AVF *e*Sn **Sn 02 22 53.6 -8.1**
0.3nm,0.2s
AVF Avril sur Loir 9.80 357 *e*Pn **Pn 02 21 13.0 +1.3**
AVF *e*Sn **Sn 02 22 53.6 -8.1**
AVF Avril sur Loir 9.80 357 P **Pn 02 21 13.0 +1.3**
AVF S **Sn 02 22 53.6 -8.1**
0.2nm,0.2s
AVF Avril sur Loir 9.80 357 *e*Pn **Pn 02 21 13.0 +1.3**
SNR=1.0
PVIS Viseu 10.05 295 *e*P **Pn 02 21 17.8 +2.7**
PVIS Viseu 10.05 295 P **Pn 02 21 17.8 +2.7**
PVIS Viseu 10.05 295 *e*P **Pn 02 21 17.8 +2.7**
SSF Saint Saulge 10.06 358 *e*Pn **Pn 02 21 16.1 +0.8**
SSF *e*Sn **Sn 02 22 59.6 -8.6**
0.8nm,0.3s
SSF Saint Saulge 10.06 358 *e*Pn **Pn 02 21 16.1 +0.8**
SSF *e*Sn **Sn 02 22 59.6 -8.6**
SSF Saint Saulge 10.06 358 P **Pn 02 21 16.1 +0.8**
SSF S **Sn 02 22 59.6 -8.6**
0.4nm,0.3s
SSF Saint Saulge 10.06 358 *e*Pn **Pn 02 21 16.1 +0.8**
MFF Saint Martin d 10.10 343 *e*Pn **Pn 02 21 16.2 +0.4**
SNR=1.0
MFF *e*Sn **Sn 02 22 59.1 -10**
5.2nm,0.8s
MFF Saint Martin d 10.10 343 *e*Pn **Pn 02 21 16.2 +0.4**
MFF *e*Sn **Sn 02 22 59.1 -10**
MFF Saint Martin d 10.10 343 P **Pn 02 21 16.2 +0.4**
MFF S **Sn 02 22 59.1 -10**
2.6nm,0.8s
MFF Saint Martin d 10.10 343 *e*Pn **Pn 02 21 16.2 +0.4**
SNR=1.0
POLO Lamas de Olo 10.20 299 *e*P **Pn 02 21 20.6 +3.4**
POLO Lamas de Olo 10.20 299 *e*P **Pn 02 21 20.6 +3.4**
LOR Lormes 10.26 359 *e*Pn **Pn 02 21 19.0 +1.0**
LOR *e*Sn **Sn 02 23 04.9 -8.2**
3.3nm,0.8s
LOR Lormes 10.26 359 *e*Pn **Pn 02 21 19.0 +1.0**
LOR *e*Sn **Sn 02 23 04.9 -8.2**
LOR Lormes 10.26 359 P **Pn 02 21 19.0 +1.0**
LOR S **Sn 02 23 04.9 -8.2**
1.7nm,0.8s
LOR Lormes 10.26 359 *e*Pn **Pn 02 21 19.0 +1.0**
ELOB Lobios 10.57 301 *e*P **Pn 02 21 25.2 +2.9**
ELOB Lobios 10.57 301 P **Pn 02 21 25.2 +2.9**
0.6nm,0.2s,SNR=7.9
ELOB Lobios 10.57 301 P **Pn 02 21 25.2 +2.9**
0.6nm,0.2s,SNR=7.9
EPON Pontenova 10.66 310 *e*P **Pn 02 21 25.6 +2.1**
EPON Pontenova 10.66 310 P **Pn 02 21 25.7 +2.2**
1.4nm,0.3s,SNR=7.9
EPON Pontenova 10.66 310 *e*P **Pn 02 21 25.6 +2.1**
HINF Hinteralfeld 11.00 10 *e*Pn **Pn 02 21 28.6 +0.4**
SNR=1.0
HINF *e*Sn **Sn 02 23 24.1 -7.1**
0.7nm,0.4s
HINF Hinteralfeld 11.00 10 *e*Pn **Pn 02 21 28.6 +0.4**
HINF *e*Sn **Sn 02 23 24.1 -7.1**
HINF Hinteralfeld 11.00 10 P **Pn 02 21 28.6 +0.4**
HINF S **Sn 02 23 24.1 -7.1**
0.3nm,0.4s
HINF Hinteralfeld 11.00 10 *e*Pn **Pn 02 21 28.6 +0.4**
SNR=1.0
HAU Haudompre 11.12 8 *e*Pn **Pn 02 21 30.6 +0.8**
SNR=1.0
HAU *e*Sn **Sn 02 23 26.7 -7.5**
1.2nm,0.3s
HAU Haudompre 11.12 8 *e*Pn **Pn 02 21 30.6 +0.8**
HAU *e*Sn **Sn 02 23 26.7 -7.5**
HAU Haudompre 11.12 8 P **Pn 02 21 30.6 +0.8**
HAU S **Sn 02 23 26.7 -7.5**
0.6nm,0.3s
HAU Haudompre 11.12 8 *e*Pn **Pn 02 21 30.6 +0.8**
SNR=1.0
SFTF Sexfontaines 11.22 3 *e*Pn **Pn 02 21 30.9 -0.2**
SFTF *e*Sn **Sn 02 23 28.2 -8.4**
0.6nm,0.2s
SFTF Sexfontaines 11.22 3 *e*Pn **Pn 02 21 30.9 -0.2**
SFTF *e*Sn **Sn 02 23 28.2 -8.4**
SFTF Sexfontaines 11.22 3 P **Pn 02 21 30.9 -0.2**
SFTF S **Sn 02 23 28.2 -8.4**
0.6nm,0.2s
SFTF Sexfontaines 11.22 3 *e*Pn **Pn 02 21 30.9 -0.2**
MEZF Maizieres J'vi 11.52 3 *e*Pn **Pn 02 21 35.2 0.0**
MEZF *e*Sn **Sn 02 23 35.3 -8.5**
0.9nm,0.3s
MEZF Maizieres J'vi 11.52 3 *e*Pn **Pn 02 21 35.2 0.0**
MEZF *e*Sn **Sn 02 23 35.3 -8.5**
MEZF Maizieres J'vi 11.52 3 P **Pn 02 21 35.2 0.0**
MEZF S **Sn 02 23 35.3 -8.5**
0.9nm,0.3s
MEZF Maizieres J'vi 11.52 3 *e*Pn **Pn 02 21 35.2 0.0**
PAGF Fort de Pagny 11.61 5 *e*Pn **Pn 02 21 36.8 +0.3**
PAGF *e*Sn **Sn 02 23 37.8 -8.3**
0.2nm,0.3s
PAGF Fort de Pagny 11.61 5 *e*Pn **Pn 02 21 36.8 +0.3**
PAGF *e*Sn **Sn 02 23 37.8 -8.3**
PAGF Fort de Pagny 11.61 5 *e*Pn **Pn 02 21 36.8 +0.3**
CDF Champ du Feu 11.64 11 *e*Pn **Pn 02 21 36.0 -0.9**
CDF *e*Sn **Sn 02 23 39.3 -7.6**
0.5nm,0.3s
CDF Champ du Feu 11.64 11 *e*Pn **Pn 02 21 36.0 -0.9**
CDF *e*Sn **Sn 02 23 39.3 -7.6**
CDF Champ du Feu 11.64 11 P **Pn 02 21 36.0 -0.9**
CDF S **Sn 02 23 39.3 -7.6**
0.2nm,0.3s
CDF Champ du Feu 11.64 11 *e*Pn **Pn 02 21 36.0 -0.9**
GRR Gorron 11.94 344 *e*Pn **Pn 02 21 39.9 -1.1**
GRR *e*Sn **Sn 02 23 43.2 -11**
2.0nm,0.4s
GRR Gorron 11.94 344 *e*Pn **Pn 02 21 39.9 -1.1**
GRR *e*Sn **Sn 02 23 43.2 -11**
GRR Gorron 11.94 344 P **Pn 02 21 39.9 -1.1**
GRR S **Sn 02 23 43.2 -11**
1.0nm,0.4s
GRR Gorron 11.94 344 *e*Pn **Pn 02 21 39.9 -1.1**
LDF La Druitiere 11.99 346 *e*Pn **Pn 02 21 41.6 0.0**
SNR=1.0
LDF *e*Sn **Sn 02 23 44.6 -11**
1.3nm,0.5s
LDF La Druitiere 11.99 346 *e*Pn **Pn 02 21 41.6 0.0**
LDF *e*Sn **Sn 02 23 44.6 -11**
LDF La Druitiere 11.99 346 *e*Pn **Pn 02 21 41.6 0.0**
SNR=1.0
QUIF Quistinic 12.14 336 *e*Pn **Pn 02 21 42.4 -1.4**
SNR=1.0
QUIF *e*Sn **Sn 02 23 47.2 -12**
0.4nm,0.2s
QUIF Quistinic 12.14 336 *e*Pn **Pn 02 21 42.4 -1.4**
QUIF *e*Sn **Sn 02 23 47.2 -12**
QUIF Quistinic 12.14 336 P **Pn 02 21 42.4 -1.4**
QUIF S **Sn 02 23 47.2 -12**
0.2nm,0.2s
QUIF Quistinic 12.14 336 *e*Pn **Pn 02 21 42.4 -1.4**
SNR=1.0
FLN La Foliniere 12.22 346 *e*Pn **Pn 02 21 44.0 -0.8**
FLN *e*Sn **Sn 02 23 50.1 -11**
0.4nm,0.2s
FLN La Foliniere 12.22 346 *e*Pn **Pn 02 21 44.0 -0.8**
FLN *e*Sn **Sn 02 23 50.1 -11**
FLN La Foliniere 12.22 346 P **Pn 02 21 44.0 -0.8**
FLN S **Sn 02 23 50.1 -11**
0.2nm,0.2s
FLN La Foliniere 12.22 346 *e*Pn **Pn 02 21 44.0 -0.8**
SGMF Saint Gilles 12.26 339 *e*Pn **Pn 02 21 43.7 -1.6**
SGMF *e*Sn **Sn 02 23 50.1 -12**
2.7nm,0.5s
SGMF Saint Gilles 12.26 339 *e*Pn **Pn 02 21 43.7 -1.6**
SGMF *e*Sn **Sn 02 23 50.1 -12**
SGMF Saint Gilles 12.26 339 P **Pn 02 21 43.7 -1.6**
SGMF S **Sn 02 23 50.1 -12**
1.4nm,0.5s
SGMF Saint Gilles 12.26 339 *e*Pn **Pn 02 21 43.7 -1.6**
ROSF Rostrenen 12.55 337 *e*Pn **Pn 02 21 47.5 -1.8**
ROSF *e*Sn **Sn 02 23 56.5 -12**
1.4nm,0.2s
ROSF Rostrenen 12.55 337 *e*Pn **Pn 02 21 47.5 -1.8**
ROSF *e*Sn **Sn 02 23 56.5 -12**
ROSF Rostrenen 12.55 337 P **Pn 02 21 47.5 -1.8**
ROSF S **Sn 02 23 56.5 -12**
0.7nm,0.2s
BAIF Baives 13.05 0 *e*Pn **Pn 02 21 58.7 +2.5**
SNR=1.0
BAIF *e*Sn **Sn 02 24 11.0 -10**
0.7nm,0.3s
BAIF Baives 13.05 0 *e*Pn **Pn 02 21 58.7 +2.5**
BAIF *e*Sn **Sn 02 24 11.0 -10**
BAIF Baives 13.05 0 P **Pn 02 21 58.7 +2.5**
BAIF S **Sn 02 24 11.0 -10**
0.3nm,0.3s
BAIF Baives 13.05 0 *e*Pn **Pn 02 21 58.7 +2.5**
SNR=1.0
GIVF Givet 13.11 2 *e*Pn **Pn 02 21 56.7 -0.2**
GIVF *e*Sn **Sn 02 24 12.9 -10**
1.8nm,0.2s
GIVF Givet 13.11 2 *e*Pn **Pn 02 21 56.7 -0.2**
GIVF *e*Sn **Sn 02 24 12.9 -10**
GIVF Givet 13.11 2 P **Pn 02 21 56.7 -0.2**
GIVF S **Sn 02 24 12.9 -10**
0.9nm,0.2s
GIVF Givet 13.11 2 *e*Pn **Pn 02 21 56.7 -0.2**
GERES GERESS Array B 13.76 28 Pn **Pn 02 22 13.4 +7.6**
0.1nm,0.3s,baz=204,slow=12,SNR=6.5
GERES GERESS Array B 13.76 28 Pn **Pn 02 22 13.4 +7.6**
AKASG Malin Array Be 22.59 45 P **P 02 23 49.6 -1.6**
0.3nm,0.3s,baz=242,slow=9.7,SNR=2.8
AKASG Malin Array Be 22.59 45 P **P 02 23 49.6 -1.6**
AKASG Malin Array Be 22.59 45 P **P 02 23 49.6 -1.6**
TORD Torodi Ar. Bea 23.85 186 P **P 02 24 01.6 -2.8**
0.4nm,0.9s,baz=8.4,slow=11,SNR=3.8
TORD Torodi Ar. Bea 23.85 186 P **P 02 24 01.6 -2.8**
TORD Torodi Ar. Bea 23.85 186 P **P 02 24 01.5 -2.8**
NOA NORSAR Array B 24.48 8 LR LR 02 33 50.3
comp=Z,34nm,18.9s,baz=95,slow=37

NEIC ***04*** *02:30:02.5±2.4,37.°10N×71.°99E,h187km±14km,mb4.2/4, Error ellipse: s-maj=27.8km s-min=13.8km az=171.0*
IDC ***04*** *02:30:04.3±7.5,37.°15N×72.°03E,h204km±78km,mb3.4/5, mb1 3.3/10,mb1mx3.0/30,mbtmp3.2/10,Error ellipse: s-maj=50.9km s-min=42.9km az=114.0*
ISCJB ***04*** *02:30:08.3±1.7,37.°7N±0.°1×71.°9E±0.°1,h217km±14km, mb3.5/5,Error ellipse: s-maj=20.7km s-min=11.9km az=29.1*
NNC ***04*** *02:30:11.7±1.9,37.°90N×72.°09E,h211km±19km,mb2.5, mpv3.6,Error ellipse: s-maj=18.8km s-min=11.4km az=15.0*

ISC 04 02:30:07.6±1.6,37.°6N±0.°1×71.°8E±0.°1,h199km±12km,n40, σ0.95/47,mb3.5/5,3C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.78**	**17**	P	**Pn**	**02 31 19.1**	**0.0**
	SNR=92						
UCH	**Uchtor**	**5.09**	**23**	P	**Pn**	**02 31 23.5**	**+0.4**
	SNR=5.7						
KZA	**Kyzart**	**5.22**	**29**	P	**Pn**	**02 31 23.8**	**-0.9**
	SNR=9.4						
EKS2	**Erkin-Say**	**5.31**	**16**	P	**Pn**	**02 31 26.1**	**+0.3**
	SNR=52						
EKS2	**Erkin-Say**	**5.31**	**16**	*e*Pn	**Pn**	**02 31 25.9**	**+0.1**
	18nm,0.6s						
EKS2				*e*S	**Sn**	**02 32 27.4**	**-0.2**
AAK	**Ala-Archa**	**5.46**	**21**	P	**Pn**	**02 31 28.2**	**+0.4**
	SNR=33						
AAK	**Ala-Archa**	**5.46**	**21**	*e*Pn	**Pn**	**02 31 28.0**	**+0.2**
	105nm,0.4s						
AAK				*e*S	**Sn**	**02 32 33.2**	**+2.0**
KBK	**Karagaybulak**	**5.62**	**24**	P	**Pn**	**02 31 30.5**	**+0.7**
	SNR=12						
KK31	**Karatay Array**	**5.63**	**350**	⇓P	**Pn**	**02 31 30.2**	**+0.3**
	1.9nm,0.3s,baz=158,slow=11,SNR=103						
KK31				S	**Sn**	**02 32 33.7**	**-1.4**
	3.5nm,0.2s,baz=173,slow=18,SNR=14						
KKAR	**Karatay Array**	**5.63**	**350**	*e*Pn	**Pn**	**02 31 29.9**	**0.0**
	6.3nm,0.3s						
KKAR				*e*S	**Sn**	**02 32 33.2**	**-1.8**
ULHL	**Ulahol**	**5.78**	**35**	P	**Pn**	**02 31 30.9**	**-1.0**
	SNR=11						
CHMS	**Chumysh**	**5.87**	**21**	P	**Pn**	**02 31 33.1**	**+0.1**
	SNR=7.2						
USP	**Ospenovka**	**6.05**	**19**	P	**Pn**	**02 31 35.3**	**0.0**
	SNR=10						
TKM2	**Tokmak 2**	**6.08**	**27**	P	**Pn**	**02 31 35.7**	**-0.1**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.08**	**27**	⇑P	**Pn**	**02 31 35.5**	**-0.2**
	4.9nm,0.5s						
TKM2				⇑S	**Sn**	**02 32 41.6**	**-3.9**
	4.7nm,0.9s						
TKM2	**Tokmak 2**	**6.08**	**27**	*e*Pn	**Pn**	**02 31 35.6**	**-0.1**
	13nm,0.9s						
MKAR	**Makanchi Array**	**12.04**	**37**	P	**Pn**	**02 32 52.5**	**-0.4**
	0.0nm,0.3s,baz=235,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**12.04**	**37**	P	**Pn**	**02 32 52.5**	**-0.4**
KURK	**Kurchatov**	**14.01**	**18**	P	**Pn**	**02 33 18.1**	**+0.6**
	0.1nm,0.3s,baz=204,slow=10.0,SNR=8.0						
KURK	**Kurchatov**	**14.01**	**18**	P	**Pn**	**02 33 18.1**	**+0.6**
AB31	**Akbulak array**	**14.51**	**327**	P	**Pn**	**02 33 25.9**	**+2.2**
	0.7nm,0.5s,baz=137,slow=11,SNR=14						
AB31				S	**Sn**	**02 35 58.0**	**-7.9**
	1.0nm,0.5s,baz=151,slow=23,SNR=7.9						
ABKAR	**Akbulak array**	**14.51**	**327**	*e*Pn	**Pn**	**02 33 25.9**	**+2.2**
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**15.50**	**357**	P	**Pn**	**02 33 36.0**	**+0.4**
	0.3nm,0.3s,baz=158,slow=11,SNR=6.4						
BVAR	**Borovoye Array**	**15.50**	**357**	P	**Pn**	**02 33 36.0**	**+0.4**
AKTO	**Aktyubinsk**	**16.23**	**327**	⇑P	**Pn**	**02 33 44.8**	**+0.3**
	0.4nm,0.4s						
AKTO				⇓S	**S**	**02 36 43.6**	**+0.1**
	0.3nm,0.7s						
AKTO	**Aktyubinsk**	**16.23**	**327**	P	**Pn**	**02 33 45.0**	**+0.6**
	1.3nm,0.3s,baz=134,slow=12,SNR=25						
AKTO	**Aktyubinsk**	**16.23**	**327**	P	**Pn**	**02 33 45.0**	**+0.6**
ZALV	**Zalesovo Beam**	**18.67**	**25**	P	**P**	**02 34 10.2**	**-0.4**
	1.2nm,0.3s,baz=212,slow=9.9,SNR=17						
ZALV	**Zalesovo Beam**	**18.67**	**25**	P	**P**	**02 34 10.2**	**-0.4**
FINES	**FINESS Array B**	**36.99**	**325**	P	**P**	**02 36 57.5**	**0.0**
	3.6nm,1.0s,mb3.9,baz=120,slow=9.6,SNR=3.2						
FINES	**FINESS Array B**	**36.99**	**325**	P	**P**	**02 36 57.5**	**0.0**
ARCES	**ARCESS Array B**	**40.42**	**337**	P	**P**	**02 37 26.0**	**0.0**
	4.0nm,1.1s,mb3.8,baz=113,slow=8.9,SNR=11						
ARCES	**ARCESS Array B**	**40.42**	**337**	P	**P**	**02 37 26.0**	**0.0**
HFS	**Hagfors**	**42.65**	**321**	P	**P**	**02 37 43.7**	**-0.4**
	2.3nm,0.5s,mb3.9,baz=102,slow=13,SNR=11						
HFS	**Hagfors**	**42.65**	**321**	P	**P**	**02 37 43.7**	**-0.4**
NB2	**NORSAR Subarra**	**43.94**	**322**	P	**P**	**02 37 54.0**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.1,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**43.94**	**322**	P	**P**	**02 37 53.6**	**-0.8**
	comp=Z,1.0nm,0.9s,mb3.2,baz=96,slow=7.5,SNR=3.4						
NOA	**NORSAR Array B**	**43.94**	**322**	P	**P**	**02 37 53.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**66.41**	**269**	P	**P**	**02 40 32.8**	**-2.8**
	comp=Z,0.2nm,0.6s,mb2.9,baz=45,slow=6.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**66.41**	**269**	P	**P**	**02 40 32.8**	**-2.8**

IDC 04 02:59:15.8±3.8,6.°74S×146.°82E,h136km±36km,mb3.2/4, mb1 3.3/6,mb1mx3.2/16,mbtmp3.1/6,Error ellipse: s-maj=49.3km s-min=25.1km az=133.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.67**	**173**	P	Pn	02 59 58.4	0.0
	5.1nm,0.3s,baz=358,slow=7.5,SNR=11						
PMG				S	Sn	03 00 31.7	+0.4
	14nm,0.3s,baz=152,slow=21,SNR=36						
WRA	**Warramunga Arr**	**17.86**	**222**	P	Pn	03 03 14.3	-1.5
	0.2nm,0.3s,baz=42,slow=12,SNR=11						
ASAR	**Alice Springs**	**20.91**	**215**	P	P	03 03 47.8	+0.2
	0.8nm,0.4s,baz=54,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**23.54**	**239**	P	P	03 04 13.2	-0.6
	0.6nm,0.5s,baz=70,slow=9.3,SNR=6.4						
STKA	**Stephens Creek**	**25.48**	**190**	P	P	03 04 32.3	+1.0
	3.2nm,1.1s,baz=2.1,slow=12,SNR=4.3						
ILAR	**Eielson Array**	**86.23**	**23**	P	P	03 11 40.9	-0.7
	0.5nm,0.6s,baz=246,slow=5.6,SNR=13						
TORD	**Torodi Ar. Bea**	**145.09**	**283**	PKPbc	PKPbc	03 18 38.2	+0.4
	0.4nm,0.7s,baz=66,slow=2.5,SNR=4.8						

CASC 04 03:10:46.8±2.5,8.°34N×82.°85W,h24km±14km,MD3.8, 2C-2D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.44**	**315**	⇑*i*P	Pb	03 10 55.1	-1.0
BRU2	**Volcan**	**0.48**	**19**	⇓*i*P	Pb	03 10 55.8	-0.9
BRU2				*e*S	Sb	03 11 03.5	+0.3
BUS	**Buena Vista**	**1.50**	**323**	⇑*e*P	Pn	03 11 11.2	-1.0
QCR	**Quepos**	**1.69**	**310**	*e*P	Pn	03 11 14.1	-0.6
QCR				*e*S	Sn	03 11 36.2	+0.6
SJS	**Escuela Geolog**	**1.98**	**323**	*e*P	Pn	03 11 18.2	-0.7
SJS				*e*S	Sn	03 11 44.7	+1.8
CGA2	**Cerro Gallo 2**	**2.31**	**316**	*e*P	Pn	03 11 24.6	+1.3
CGA2				*e*S	Sn	03 11 52.9	+2.0
PTP	**Ponta Puerca**	**19.42**	**58**	⇓*i*P	x	03 10 52.4	

NIED ***04*** *03:10:00,38.°50N×143.°10E,h23km,Mw5.3 Best double couple: M0 1.14000×10^17 NP1:φ=24.00000°,δ=66.00000°, λ=90.00000°. NP2:φ=204.00000°,δ=24.00000°,λ=90.00000°.*
BJI ***04*** *03:10:51.7,38.°53N×142.°81E,h7km,mB5.7/45,mb5.4/68, Ms5.5/74,Ms7 5.3/68*
IDC ***04*** *03:10:51.6±0.4,38.°51N×143.°07E,h0km,mb4.8/27, mb1 4.9/30,mb1mx4.9/31,mbtmp4.8/30,ML4.2/3,MS4.9/27, Ms1 4.9/27,ms1mx4.7/40,Error ellipse: s-maj=14.4km s-min=10.7km az=99.0*
JMA ***04*** *03:10:53.2±0.1,38.°54N×143.°12E,h17km±3km,M5.5*
JMA Felt III J1.
ISCJB ***04*** *03:10:54.8±0.1,38.°60N±0.°02×142.°90E±0.°02,h23km, mb5.3/299,MS5.1/210,Error ellipse: s-maj=2.8km s-min=1.6km az=161.8*
NEIC ***04*** *03:10:55.0±0.1,38.°57N×142.°89E,h16km,mb5.3/160, MS4.9/136,MW5.3,MW5.3(NIED),Error ellipse: s-maj=4.4km s-min=2.9km az=147.0,Moment Tensor Solution. s76 Moment tensor: Scale 10^17Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mφθ0.00; Mφr0.00; Best double couple: M0 1.10000×10^17 NP1:φ=26.00000°, δ=68.00000°,λ=89.00000°. NP2:φ=210.00000°,δ=23.00000°, λ=94.00000°. Principal axes: T 1.0300, Plg67.0000°, Azm293.0000°; N 0.1900, Plg1.0000°, Azm26.0000°; P -1.2200, Plg22.0000°, Azm117.0000°;*
NEIC Recorded [3 JMA] in Miyagi; [2 JMA] in Aomori, Fukushima, Iwate and Yamagata; [1 JMA] in Akita, Ibaraki and Saitama.
MOS ***04*** *03:10:56.1±0.8,38.°81N×142.°86E,h26km,mb5.6/109, MS5.3/54 Error ellipse: s-maj=7.0km s-min=3.8km az=114.7*
TEH ***04*** *03:10:58.0,38.°61N×142.°79E,h35km*
SZGRF ***04*** *03:10:59.8,39.°10N×143.°88E,h33km,mb5.4,MS5.1,Off east coast of Honshu, Japan*
GCMT ***04*** *03:10:59.6±0.2,38.°58N×143.°21E,h31km,MW5.3, Moment Tensor Solution. s68,c119; s8,c8; Moment tensor: Scale 10^17Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mφθ0.00; Mφr0.00; Best double couple:*

$M_0$1.30000×10^{17} NP1ϕ_s192.00000°,δ19.00000°, λ81.00000°. NP2ϕ_s22.00000°,δ71.00000°,λ93.00000°. Principal axes: T 1.2300, Plg63.0000°, Azm297.0000°; N 0.1900, Plg3.0000°, Azm201.0000°; P -1.4200, Plg26.0000°, Azm110.0000°; Data Used: II IU IC G CN. Surface waves: sta=103, comp=189, per= 50.

DJA ***04*** *03:11:03,38°.74N×141°.47E,h10km,mb5.3/13*

ISC 04 03:10:56.7±0.1,38°.64N±0°.02×142°.90E±0°.02,h24km, h24km±3.4km:pP-P,n1303,σ0s79/1243,mb5.3/299, MS5.1/210,376C-173D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.06**	**295**	⇓P	**Pn**	**03 11 16.0**	**0.0**
JIO	**Ouri**	**1.23**	**262**	⇓P	**Pn**	**03 11 17.9**	**-0.5**
JIO				eS	**Sn**	**03 11 35.3**	**+1.1**
MIYJ	**Miyakonagasawa**	**1.26**	**318**	P	**Pn**	**03 11 18.6**	**-0.2**
JMK	**Ichinoseki**	**1.35**	**284**	⇓P	**Pn**	**03 11 20.4**	**+0.4**
JMK				eS	**Sn**	**03 11 40.0**	**+2.9**
JOM	**Ohasama**	**1.50**	**304**	⇑P	**Pn**	**03 11 22.9**	**+0.8**
JTH	**Tanohata**	**1.53**	**329**	⇑P	**Pn**	**03 11 22.3**	**-0.2**
JOU	**Okura**	**1.77**	**262**	P	**Pn**	**03 11 26.6**	**+0.7**
JOU				eS	**Sn**	**03 11 51.1**	**+3.5**
JKZ	**Kuzumaki**	**1.81**	**318**	⇑P	**Pn**	**03 11 27.1**	**+0.7**
JMM	**Marumori**	**1.83**	**246**	P	**Pn**	**03 11 26.2**	**-0.4**
JMM				eS	**Sn**	**03 11 50.6**	**+1.6**
JRG	**Rokugo**	**1.92**	**294**	⇑P	**Pn**	**03 11 29.0**	**+1.1**
JYK	**Kaneyama**	**2.00**	**279**	⇑P	**Pn**	**03 11 30.1**	**+1.1**
JANG	**Nango**	**2.04**	**329**	⇑P	**Pn**	**03 11 29.1**	**-0.4**
JANG				eS	**Sn**	**03 11 55.8**	**+1.7**
JFK	**Kawauchi**	**2.04**	**232**	⇑P	**Pn**	**03 11 28.5**	**-1.0**
JFK				eS	**Sn**	**03 11 52.8**	**-1.4**
ONAJ	**Iwakimizuishiy**	**2.26**	**228**	⇑P	**Pn**	**03 11 31.3**	**-1.3**
JYS	**Shirataka**	**2.26**	**260**	⇑P	**Pn**	**03 11 33.5**	**+0.9**
JFT	**Otama**	**2.31**	**242**	⇑P	**Pn**	**03 11 33.7**	**+0.5**
JAH	**Hinai**	**2.34**	**312**	⇑P	**Pn**	**03 11 34.4**	**+0.8**
JYA	**Atsumi**	**2.50**	**270**	⇑P	**Pn**	**03 11 36.8**	**+1.0**
JTM	**Tenmabayashi**	**2.57**	**327**	⇑P	**Pn**	**03 11 36.7**	**-0.1**
JHO	**Hitachi**	**2.74**	**223**	⇑P	**Pn**	**03 11 37.2**	**-2.0**
JFY	**Yanaizu**	**2.81**	**245**	P	**Pn**	**03 11 40.7**	**+0.7**
JAW	**Awa shima**	**2.87**	**268**	⇑P	**Pn**	**03 11 42.2**	**+1.3**
JSB	**Shiboa**	**2.89**	**236**	P	**Pn**	**03 11 41.5**	**+0.3**
JNS	**Sasagawa**	**2.94**	**255**	⇑P	**Pn**	**03 11 42.8**	**+1.0**
JSI2	**Shiura 2**	**3.08**	**322**	⇑P	**Pn**	**03 11 44.7**	**+0.9**
JHK	**Hiroka**	**3.37**	**247**	P	**Pn**	**03 11 48.7**	**+0.9**
ERM	**Erimo**	**3.38**	**3**	*e*Pn	**Pn**	**03 11 46.2**	**-1.7**
ERM				eS	**Sn**	**03 12 26.2**	**-1.0**
ERM	**Erimo**	**3.38**	**3**	*e*P	**Pn**	**03 11 46.2**	**-1.7**
ERM				eS	**Sn**	**03 12 26.2**	**-1.0**
JSD	**Sado**	**3.70**	**262**	⇑P	**Pn**	**03 11 52.9**	**+0.6**
JJN	**Nakama**	**4.05**	**249**	⇑P	**Pn**	**03 11 58.9**	**+1.8**
JRY	**Ryogami san**	**4.12**	**232**	P	**Pn**	**03 11 57.7**	**-0.4**
MJAR	**Matsushiro Arr**	**4.27**	**242**	Pn	**Pn**	**03 12 01.6**	**+1.4**
	39nm,0.3s,baz=64,slow=11,SNR=489						
MJAR				Sn	**Sn**	**03 12 56.9**	**+7.6**
	20nm,0.3s,baz=27,slow=30,SNR=3.2						
MJAR				LR	LR	03 13 51.7	
	comp=Z,20μm,18.6s,baz=60,slow=42						
MJAR	**Matsushiro Arr**	**4.27**	**242**	Pn	**Pn**	**03 12 01.6**	**+1.4**
MJAR				Sn	**Sn**	**03 12 56.9**	**+7.6**
MJAR	**Matsushiro Arr**	**4.27**	**242**	P	**Pn**	**03 12 01.6**	**+1.4**
MJAR						03 12 56.9	
MJAR				pmax	pmax		
	comp=Z,39nm,0.3s						
MJAR				smax			
	comp=N,20nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,20μm,18.6s						
MAJO	**Matsushiro**	**4.27**	**242**	*e*Pn	**Pn**	**03 12 01.8**	**+1.6**
MAJO	**Matsushiro**	**4.27**	**242**	*e*P	**Pn**	**03 12 01.8**	**+1.6**
MAT	**Matsushiro**	**4.27**	**242**	P	**Pn**	**03 12 01.9**	**+1.7**
MAT				S	**Sn**	**03 12 51.3**	**+2.0**
MAT	**Matsushiro**	**4.27**	**242**	P	**Pn**	**03 12 01.7**	**+1.5**
JNG	**Nsakai**	**4.42**	**241**	⇑P	**Pn**	**03 12 03.7**	**+1.5**
JOD2	**Odawara 2**	**4.54**	**223**	⇑P	**Pn**	**03 12 02.8**	**-1.2**
JNT	**Takato**	**4.69**	**235**	P	**Pn**	**03 12 07.3**	**+1.3**
AJI	**Ajiro2**	**4.71**	**222**	P	**Pn**	**03 12 04.8**	**-1.4**
SHZ3	**Shizuoka 3**	**5.18**	**228**	P	**Pn**	**03 12 13.1**	**+0.4**
JNY	**Yasuok**	**5.19**	**232**	⇑P	**Pn**	**03 12 14.0**	**+1.1**
ASAJ	**Asahikawa**	**5.48**	**358**	Pn	**Pn**	**03 12 15.8**	**-0.9**
	comp=Z,8.0nm,0.3s,baz=199,slow=15,SNR=49						
ASAJ				Sn	**Sn**	**03 13 17.6**	**-1.4**
	comp=Z,24nm,0.3s,baz=130,slow=33,SNR=6.6						
ASAJ				LR	LR	03 15 13.8	
	comp=Z,22μm,18.8s,baz=192,slow=47						
ASAJ	**Asahikawa**	**5.48**	**358**	*e*Pn	**Pn**	**03 12 15.8**	**-0.9**
	comp=Z,549nm,1.4s						
ASAJ				Sn	**Sn**	**03 13 17.6**	**-1.4**
ASAJ				eS	**Sn**	**03 13 17.9**	**-1.0**
ASAJ	**Asahikawa**	**5.48**	**358**	P	**Pn**	**03 12 15.8**	**-0.9**
ASAJ						03 13 17.6	
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				smax			
	comp=N,24nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,22μm,18.8s						
JYZW	**Yoshizawa**	**5.51**	**230**	P	**Pn**	**03 12 17.4**	**+0.2**
JGM	**Miyama**	**5.74**	**241**	P	**Pn**	**03 12 22.2**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**5.83**	**22**	*i* P	**Pn**	**03 12 18.3**	**-3.3**
YUK				*i* S	**Sn**	**03 13 21.2**	**-6.5**
YUK				pmax	pmax		
	comp=N,616nm,0.6s						
YUK				pmax	pmax		
	comp=E,363nm,0.6s						
YUK				pmax	pmax		
	comp=Z,680nm,0.6s						
YUK				pmax	pmax		
	comp=Z,2μm,1.4s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK				smax			
	comp=N,5μm,0.6s						
YUK				smax			
	comp=E,3μm,0.8s						
YUK				smax			
	comp=N,16μm,1.9s						
YUK				MLR	MLR		
	comp=N,5μm,20.0s						
YUK				MLR	MLR		
	comp=E,5μm,20.0s						
YUK				MLR	MLR		
	comp=Z,5μm,20.0s						
YSS	**Yuzh-Sakhalins**	**8.31**	**359**	*e*Pn	**Pn**	**03 12 54.5**	**-1.1**
YSS	**Yuzh-Sakhalins**	**8.31**	**359**	*ce*P	**Pn**	**03 12 54.0**	**-1.6**
YSS				eS	**Sn**	**03 14 27.8**	**-0.8**
YSS				pmax	pmax		
	comp=Z,600nm,4.0s						
YSS				pmax	pmax		
	comp=Z,100nm,1.0s						
YSS				MLR	MLR		
	comp=N,6μm,16.0s						
YSS				MLR	MLR		
	comp=Z,6μm,16.0s						
VLA	**Vladivostok**	**9.46**	**302**	⇓*i*P	**Pn**	**03 13 14.1**	**+2.7**
VLA				eS	**Sn**	**03 15 00.3**	**+3.4**
VLA				pmax	pmax		
	comp=Z,265nm,1.6s						
JUS	**Usuki**	**10.62**	**242**	P	**Pn**	**03 13 27.9**	**+0.6**
JFA	**Akaike**	**10.95**	**247**	P	**Pn**	**03 13 32.8**	**+1.0**
JKIT	**Kitakata**	**11.07**	**241**	P	**Pn**	**03 13 34.2**	**+0.7**
JNU	**Nakatsue**	**11.19**	**244**	*e*Pn	**Pn**	**03 13 35.3**	**+0.2**
JNU				eS	**Sn**	**03 15 48.1**	**+8.6**
HABR	**Khabarovsk**	**11.35**	**333**	*e*P	**Pn**	**03 13 34.5**	**-2.8**
HABR				*e*		03 15 38.7	
HABR				pmax	pmax		
	comp=E,93nm,1.1s						
HABR				pmax	pmax		
	comp=Z,147nm,1.1s						
HABR				pmax	pmax		
	comp=N,98nm,1.1s						
HABR				MLR	MLR		
	comp=E,5μm,12.0s						
HABR				MLR	MLR		
	comp=N,6μm,18.0s						
HABR				MLR	MLR		
	comp=Z,7μm,16.0s						
CBIJ	**Chichi jima**	**11.53**	**183**	Pn	**Pn**	**03 13 35.5**	**-4.2**
	comp=Z,10nm,0.3s,baz=268,slow=23,SNR=6.7						
CBIJ				Sn	**Sn**	**03 15 31.5**	**-16**
	comp=Z,6.8nm,0.3s,baz=336,slow=20,SNR=3.1						
CBIJ				LR	LR	03 17 46.7	
	comp=Z,2μm,18.0s,baz=357,slow=36						
CBIJ	**Chichi jima**	**11.53**	**183**	Pn	**Pn**	**03 13 35.5**	**-4.2**
CBIJ				Sn	**Sn**	**03 15 31.5**	**-16**
MDJ	**Mudanjiang**	**11.61**	**305**	P	**Pn**	**03 13 42.5**	**+1.8**
MDJ				pP		03 13 45.6	
MDJ				S	**Sn**	**03 15 58.5**	**+9.0**
MDJ				SS		03 16 08.2	
MDJ				pmax	pmax		
	comp=Z,210nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,1μm,6.5s						
MDJ				LR	LR		
	comp=N,7μm,16.6s						
MDJ				LR	LR		
	comp=E,13μm,16.6s						
MDJ				LR	LR		
	comp=Z,18μm,16.6s						
MDJ	**Mudanjiang**	**11.61**	**305**	*e*Pn	**Pn**	**03 13 42.9**	**+2.2**
	comp=Z,368nm,1.3s						
JTZ	**Takazaki**	**11.76**	**239**	P	**Pn**	**03 13 43.4**	**+0.5**
JUR	**Ureshino**	**11.87**	**246**	P	**Pn**	**03 13 45.9**	**+1.5**
KSRS	**Korea Array**	**11.87**	**269**	Pn	**Pn**	**03 13 47.1**	**+2.7**
	comp=Z,2.4nm,0.3s,baz=82,slow=13,SNR=48						
KSRS				LR	LR	03 18 15.5	
	comp=Z,10μm,18.1s,baz=78,slow=37						
KSRS	**Korea Array**	**11.87**	**269**	P	**Pn**	**03 13 47.1**	**+2.7**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,10μm,18.1s						
KSAR	**Wonju Array Be**	**11.90**	**269**	Pn	**Pn**	**03 13 47.1**	**+2.3**
KSAR	**Wonju Array Be**	**11.90**	**269**	P	**Pn**	**03 13 47.1**	**+2.3**
JZO	**Okuchi**	**11.94**	**241**	P	**Pn**	**03 13 46.5**	**+1.1**
INCN	**Inchon**	**12.87**	**270**	Pn	**Pn**	**03 13 56.9**	**-1.2**
	comp=Z,93nm,1.0s						
KLR	**Kul'dur**	**13.27**	**326**	*e*P	**Pn**	**03 14 00.0**	**-3.5**
KLR				pmax	pmax		
	comp=E,80nm,1.6s						
KLR				pmax	pmax		
	comp=Z,170nm,1.6s						
KLR				MLR	MLR		
	comp=N,8μm,13.0s						
KLR				MLR	MLR		
	comp=Z,30μm,13.0s						
CN2	**Changchun**	**14.11**	**297**	*e*P	**Pn**	**03 14 15.3**	**+0.4**
CN2				*es*P		03 14 22.0	
CN2				*e*S	**Sn**	**03 16 52.6**	**+2.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,7μm,16.0s						
CN2				LR	LR		
	comp=E,7μm,16.0s						
CN2				LR	LR		
	comp=Z,8μm,17.0s						
SNY	**Shenyang**	**15.10**	**288**	⇑P	**Pn**	**03 14 28.1**	**-0.2**
SNY				S	**Sn**	**03 17 16.5**	**+1.8**
SNY				pmax	pmax		
	comp=Z,47nm,0.9s						
SNY				pmax	pmax		
	comp=Z,2μm,12.0s						
SNY				LR	LR		
	comp=E,10μm,17.8s						
SNY				LR	LR		
	comp=Z,12μm,18.2s						
SKR	**Severo-Kuril's**	**15.25**	**34**	*e*P	**Pn**	**03 14 41.5**	**+11**
SKR				pmax	pmax		
	comp=Z,140nm,0.9s						
DL2	**Dalian**	**16.59**	**278**	⇑P	**Pn**	**03 14 49.4**	**+1.8**
DL2				S	**Sn**	**03 17 55.5**	**+4.4**
DL2				pmax	pmax		
	comp=Z,210nm,1.1s						
DL2				pmax	pmax		
	comp=Z,540nm,7.4s						
DL2				LR	LR		
	comp=N,2μm,14.1s						
DL2				LR	LR		
	comp=E,4μm,14.1s						
DL2				LR	LR		
	comp=Z,5μm,15.5s						
JOW	**Kunigami**	**17.00**	**230**	P	**Pn**	**03 14 50.1**	**-2.8**
	comp=Z,1.0nm,0.3s,baz=30,slow=5.3,SNR=5.0						
JOW	**Kunigami**	**17.00**	**230**	*e*Pn	**Pn**	**03 14 49.8**	**-3.1**
	comp=Z,33nm,1.0s						
PETK	**Petropavlovsk-**	**17.71**	**30**	P	**Pn**	**03 14 57.7**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=202,slow=10,SNR=3.2						
PETK				LR	LR	03 22 49.9	
	comp=Z,1μm,18.9s,baz=219,slow=40						
PETK	**Petropavlovsk-**	**17.71**	**30**	P	**Pn**	**03 14 57.7**	**-3.8**
PETK	**Petropavlovsk-**	**17.71**	**30**	P	**Pn**	**03 14 57.7**	**-3.8**
PETK				MLR	MLR		
	comp=Z,1μm,18.9s						
PET	**Petropavlovsk**	**18.04**	**32**	*e*Pn	**Pn**	**03 15 11.4**	**+6.0**
	comp=Z,231nm,1.6s						
PET	**Petropavlovsk**	**18.04**	**32**	*e*P	**Pn**	**03 15 12.6**	**+7.1**
PET				pmax	pmax		
	comp=Z,26nm,0.9s						
PET				MLR	MLR		
	comp=Z,4μm,18.0s						
SSE	**Sheshan**	**19.31**	**254**	⇓P	**Pn**	**03 15 21.0**	**-0.2**
SSE				S	**Sn**	**03 18 56.2**	**-0.8**
SSE				pmax	pmax		
	comp=Z,170nm,0.9s						
SSE				pmax	pmax		
	comp=Z,550nm,4.8s						
SSE				LR	LR		
	comp=N,4μm,16.1s						
SSE				LR	LR		
	comp=E,2μm,16.1s						
SSE				LR	LR		
	comp=Z,6μm,14.4s						
SSE	**Sheshan**	**19.31**	**254**	⇓P	**Pn**	**03 15 21.0**	**-0.2**
	comp=Z,170nm,0.9s						
SSE				pP	pP	03 15 30.2	+3.5
SSE				sP	sP	03 15 35.3	+5.5
SSE				S	**Sn**	**03 18 56.2**	**-0.8**
SSE				sS	sS	03 19 07.9	-0.2
HIA	**Hailar**	**19.69**	**310**	*e*P	**Pn**	**03 15 21.9**	**-3.6**
	comp=Z,271nm,1.3s						
HIA	**Hailar**	**19.69**	**310**	*e*P	**Pn**	**03 15 21.9**	**-3.6**
HIA				pmax	pmax		
	comp=Z,271nm,1.3s						
TIA	**Tai'an**	**20.59**	**271**	⇑P	**P**	**03 15 31.8**	**-2.1**
TIA				pmax	pmax		
	comp=Z,170nm,1.0s						
TIA				LR	LR		
	comp=N,4μm,10.8s,MS5.3						
TIA				LR	LR		
	comp=E,7μm,13.8s,MS5.3						
TIA				LR	LR		
	comp=Z,7μm,11.8s,MS5.3						
NJ2	**Nanjing**	**20.66**	**259**	*e*P	**P**	**03 15 32.6**	**-2.0**
NJ2				pP		03 15 37.0	
NJ2				S	**S**	**03 19 17.5**	**-6.7**
NJ2				sS	sS	03 19 25.0	-10
NJ2				pmax	pmax		
	comp=Z,70nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,650nm,10.0s						
NJ2				LR	LR		
	comp=N,5μm,17.0s,MS5.0						
NJ2				LR	LR		
	comp=E,4μm,16.5s,MS5.0						
NJ2				LR	LR		
	comp=Z,6μm,17.9s,MS5.0						
BJI	**Beijing**	**20.69**	**282**	P	**P**	**03 15 33.2**	**-1.8**
BJI				S	**S**	**03 19 24.4**	**-0.5**
BJI				pmax	pmax		
	comp=Z,76nm,0.9s						
BJI				pmax	pmax		
	comp=Z,700nm,3.5s						
BJI				LR	LR		
	comp=N,4μm,12.5s,MS5.5						
BJI				LR	LR		
	comp=E,12μm,13.5s,MS5.5						
BJI				LR	LR		
	comp=Z,5μm,15.9s,MS4.9						
BJT	**Baijiatuau**	**20.70**	**282**	*e*P	**P**	**03 15 33.2**	**-1.8**
	comp=Z,81nm,0.6s						
BJT	**Baijiatuau**	**20.70**	**282**	*e*P	**P**	**03 15 33.2**	**-1.9**
BJT				pmax	pmax		
	comp=Z,81nm,0.6s						
CLNS	**Chul'man**	**21.75**	**333**	*e*P	**P**	**03 15 43.7**	**-2.4**
CLNS				*e**PP		03 15 52.9	
CLNS				*e*		03 16 06.2	
CLNS				*e*S	**S**	**03 19 46.7**	**+1.5**
CLNS				*e*SS		03 20 24.5	
CLNS				*e*		03 26 59.4	
CLNS				pmax	pmax		
	comp=N,150nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,230nm,1.0s,mb5.6						
CLNS				pmax	pmax		
	comp=E,101nm,1.2s						
CLNS				pmax	pmax		
	comp=N,126nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,122nm,1.4s,mb5.1						
CLNS				pmax	pmax		
	comp=E,66nm,1.1s						
CLNS				smax			
	comp=N,799nm,10.0s						
CLNS				smax			
	comp=E,780nm,12.8s						
CLNS				MLR	MLR		
	comp=N,2μm,13.0s,MS5.0						
CLNS				MLR	MLR		
	comp=Z,5μm,17.0s,MS5.0						
CLNS				MLR	MLR		
	comp=E,3μm,15.0s,MS5.0						
TATO	**Taipei**	**22.66**	**239**	*e*P	**P**	**03 15 55.4**	**-0.7**
	comp=E,208nm,1.1s,mb5.5						
TATO				LR	LR		
	comp=Z,4μm,21.0s,MS4.8						
YHNB	**Yeheng**	**22.94**	**239**	*e*P	**P**	**03 15 56.5**	**-2.6**
	comp=Z,107nm,1.1s,mb5.2						
NACB	**Ninganchiao**	**23.13**	**238**	*e*P	**P**	**03 15 57.2**	**-3.9**
	comp=Z,82nm,1.1s,mb5.1						
SSLB	**Suanglung**	**23.82**	**238**	*e*P	**P**	**03 16 04.3**	**-3.6**
	comp=Z,113nm,1.0s,mb5.2						
SSLB				eS	**S**	**03 20 22.0**	**-0.1**
YULB	**Yu-li**	**23.87**	**237**	*e*P	**P**	**03 16 08.0**	**-0.3**
	comp=Z,38nm,0.6s,mb5.0						
YULB				eS	**S**	**03 20 26.4**	**+3.5**
TIY	**Taiyuan**	**23.92**	**277**	*e*P	**P**	**03 16 07.2**	**-1.5**
TIY				sP	sP	03 16 14.5	-4.4
TIY				PP		03 16 40.0	
TIY				S	**S**	**03 20 21.8**	**-1.8**
TIY				LR	LR		
	comp=N,4μm,14.4s,MS5.3						
TIY				LR	LR		
	comp=E,6μm,15.0s,MS5.3						
TIY				LR	LR		
	comp=Z,9μm,15.4s,MS5.3						
HHC	**Hu-ho-hao-te**	**24.13**	**285**	⇑*i*P	**P**	**03 16 08.5**	**-2.1**
HHC				pP		03 16 12.7	
HHC				sP	sP	03 16 15.6	-5.2
HHC				PP		03 16 42.8	
HHC				PcP	PcP	03 19 52.2	+1.0
HHC				S	**S**	**03 20 24.7**	**-2.3**
HHC				sS	sS	03 20 28.6	-10
HHC				SS		03 21 12.5	
HHC				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.2						
HHC				pmax	pmax		
	comp=Z,670nm,5.3s						
HHC				LR	LR		
	comp=N,2μm,13.1s,MS5.5						
HHC				LR	LR		
	comp=E,12μm,13.9s,MS5.5						
HHC				LR	LR		
	comp=Z,14μm,14.2s,MS5.6						
TPUB	**Ta-pu**	**24.37**	**238**	*e*P	**P**	**03 16 09.8**	**-3.1**
	comp=Z,254nm,1.0s,mb5.6						
CIT	**Chita**	**24.39**	**313**	*e*P	**P**	**03 16 11.0**	**-1.9**
CIT				*e*		03 16 23.6	
CIT				pmax	pmax		
	comp=Z,2μm,1.6s,mb6.3						
TWG	**Pinlang**	**24.41**	**236**	*e*P	**P**	**03 16 11.6**	**-1.8**
	comp=Z,335nm,1.1s,mb5.7						
QZH	**Quanzhou**	**24.67**	**244**	⇑*i*P	**P**	**03 16 11.9**	**-3.7**
QZH				S	**S**	**03 20 35.4**	**-0.5**
QZH				pmax	pmax		
	comp=Z,220nm,0.9s,mb5.7						
QZH				pmax	pmax		
	comp=Z,2μm,4.3s						
QZH				LR	LR		
	comp=N,4μm,12.5s,MS5.2						
QZH				LR	LR		
	comp=E,4μm,15.0s,MS5.2						
QZH				LR	LR		
	comp=Z,7μm,18.6s,MS5.2						
WHN	**Wuhan**	**24.78**	**260**	⇑P	**P**	**03 16 16.0**	**-0.6**
WHN				pP		03 16 24.9	
WHN				S	**S**	**03 20 41.6**	**+4.0**
WHN				LR	LR		
	comp=N,9μm,13.6s,MS5.6						
WHN				LR	LR		
	comp=E,9μm,12.6s,MS5.6						
WHN				LR	LR		
	comp=Z,13μm,12.9s,MS5.6						
YAK	**Yakutsk**	**24.79**	**345**	*e*P	**P**	**03 16 16.2**	**-0.2**
	comp=Z,241nm,0.9s,mb5.7						
YAK	**Yakutsk**	**24.79**	**345**	*e*P	**P**	**03 16 15.2**	**-1.2**
YAK				*e**PP		03 16 24.7	
YAK				*e*		03 16 51.1	
YAK				*e*PPP		03 17 00.1	
YAK				*e*		03 19 50.6	
YAK				*e*S	**S**	**03 20 37.0**	**-0.2**
YAK				*e*SS		03 21 27.6	
YAK				*e*SSS		03 21 43.1	
YAK				pmax	pmax		
	comp=Z,197nm,1.0s,mb5.6						
YAK				pmax	pmax		
	comp=E,46nm,1.3s						
YAK				pmax	pmax		
	comp=N,63nm,0.8s						
YAK				pmax	pmax		
	comp=Z,159nm,0.9s,mb5.5						
YAK				smax			
	comp=E,555nm,2.0s						
YAK				smax			
	comp=N,513nm,2.4s						
YAK				MLR	MLR		
	comp=N,3μm,15.0s,MS5.0						
YAK				MLR	MLR		
	comp=Z,4μm,14.0s,MS5.1						
YAK				MLR	MLR		
	comp=E,2μm,15.0s,MS5.0						
SEY	**Seymchan**	**25.00**	**10**	*ce*P	**P**	**03 16 19.1**	**+0.9**
GUMO	**Guam**	**25.01**	**175**	LR	LR	03 24 27.7	
	comp=E,2μm,20.8s,MS4.6,baz=13,slow=33						
BTO	**Baotou**	**25.32**	**285**	*e*P	**P**	**03 16 19.8**	**-1.6**
BTO				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.7						
BOD	**Bodaibo**	**26.84**	**325**	⇑*i*P	**P**	**03 16 34.9**	**-0.1**
BOD				pmax	pmax		
	comp=Z,103nm,1.2s,mb5.2						
ULN	**Ulaanbaatar**	**27.48**	**301**	*e*P	**P**	**03 16 41.4**	**+0.5**
	comp=Z,221nm,1.3s,mb5.5						
ULN	**Ulaanbaatar**	**27.48**	**301**	*e*P	**P**	**03 16 41.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,221nm,1.3s,mb5.5						
ULN	**Ulaanbaatar**	**27.48**	**301**	P	**P**	**03 16 41.3**	**+0.5**
	comp=Z,2μmcomp=Z,133nm,1.7s,mb5.2						
ULN	**Ulaanbaatar**	**27.48**	**301**	P	**P**	**03 16 42.0**	**+1.2**
	SNR=32						
XAN	**Xi'an**	**27.66**	**271**	P	**P**	**03 16 41.8**	**-0.8**
XAN				pP	pP	03 16 50.1	+0.3
XAN				pmax	pmax		
	comp=Z,37nm,1.2s,mb4.9						
XAN				pmax	pmax		
	comp=Z,160nm,12.1s						
XAN				LR	LR		
	comp=N,2μm,20.3s,MS4.7						
XAN				LR	LR		
	comp=E,1μm,21.1s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,17.7s,MS4.5						
SONM	**Songino Array**	**27.91**	**301**	P	**P**	**03 16 45.7**	**+0.9**
	comp=Z,86nm,1.1s,mb5.3,baz=96,slow=8.3,SNR=269						
SONM				LR	LR	03 28 18.7	
	comp=Z,5μm,19.2s,MS5.2,baz=83,slow=37						
SONM	**Songino Array**	**27.91**	**301**	P	**P**	**03 16 45.7**	**+0.9**
SONM	**Songino Array**	**27.91**	**301**	P	**P**	**03 16 45.7**	**+1.0**
SONM				pmax	pmax		
	comp=Z,86nm,1.1s						
SONM				MLR	MLR		
	comp=Z,5μm,19.2s						
ENH	**Enshi**	**28.66**	**263**	*e*P	**P**	**03 16 51.0**	**-0.5

comp=Z,306nm,0.9s,mb6.0
ENH LR LR
comp=Z,3μm,19.0s,MS4.8
GZH Guangzhou 29.57 247 P P 03 16 54.6 -5.0
GZH S **S** **03 21 48.0 -5.2**
GZH LR LR
comp=N,6μm,15.6s,MS5.4
GZH LR LR
comp=E,5μm,15.9s,MS5.4
GZH LR LR
comp=Z,11μm,15.1s,MS5.6
IRK Irkutsk 29.94 310 *e*P **P 03 17 02.7 +0.1**
IRK pmax pmax
comp=Z,300nm,1.6s,mb5.8
TLY Talaya 30.21 308 *e*P **P 03 17 05.2 +0.1**
TLY pmax pmax
comp=Z,203nm,1.4s,mb5.7
TLY MLR MLR
comp=Z,6μm,16.0s,MS5.3
ZAK Zakamensk 30.24 306 *e*P **P 03 17 05.4 +0.1**
ZAK pmax pmax
comp=Z,210nm,1.3s,mb5.7
LZH Lanzhou 30.99 278 ⇑P **P 03 17 11.7 -0.4**
LZH pP pP 03 17 16.8 -2.6
LZH sP sP 03 17 19.7 -2.7
LZH S **S** **03 22 15.7 +0.3**
LZH sS sS 03 22 23.0 -4.4
LZH *e*SS SS 03 23 57.0 -31
LZH pmax pmax
comp=Z,53nm,1.1s,mb5.3
LZH pmax pmax
comp=Z,430nm,5.3s
LZH LR LR
comp=N,4μm,15.6s,MS5.4
LZH LR LR
comp=E,6μm,14.1s,MS5.4
LZH LR LR
comp=Z,9μm,16.9s,MS5.5
LZH Lanzhou 30.99 278 ⇑P **P 03 17 11.7 -0.4**
comp=Z,53nm,1.1s,mb5.3
LZH pP pP 03 17 16.8 -2.6
LZH sP sP 03 17 19.7 -2.7
LZH PP PP 03 18 32.4 +10
LZH S **S** **03 22 15.7 +0.3**
LZH sS sS 03 22 23.0 -4.4
LZH *e*SS SS 03 23 57.0 -31
LZH LR LR
comp=Z,9μm,16.9s,MS5.5
LZH Lanzhou 30.99 278 ⇑P **P 03 17 11.7 -0.4**
LZH *SP sP 03 17 19.7 -2.7
LZH 03 18 32.4
LZH S **S** **03 22 15.7 +0.3**
LZH *e*SS SS 03 23 57.0 -31
LZH pmax pmax
comp=Z,53nm,1.1s,mb5.3
LZH MLR MLR
comp=Z,9μm,16.9s,MS5.5
TGY Tagaytay City 31.21 224 P **P 03 17 15.4 +1.2**
comp=Z,186nm,0.4s,mb6.3,baz=287,slow=0.7,SNR=4.0
TGY Tagaytay City 31.21 224 P **P 03 17 15.4 +1.2**
TGY Tagaytay City 31.21 224 P **P 03 17 15.4 +1.2**
TGY pmax pmax
comp=Z,186nm,0.4s
MOY Mondy 31.84 308 *e*P **P 03 17 20.6 +1.2**
MOY pmax pmax
comp=Z,140nm,2.2s,mb5.4
GYA Guiyang 32.66 259 ⇑*i*P **P 03 17 26.1 -0.8**
GYA PP PP 03 18 37.0 -3.9
GYA PcP PcP 03 20 09.0 -3.5
GYA S **S** **03 22 45.9 +4.2**
GYA pmax pmax
comp=Z,60nm,1.1s,mb5.4
GYA pmax pmax
comp=Z,130nm,3.0s
GYA LR LR
comp=N,2μm,17.4s,MS5.1
GYA LR LR
comp=E,2μm,17.7s,MS5.1
GYA LR LR
comp=Z,3μm,18.6s,MS5.1
CD2 Chengdu 32.87 268 *e*P **P 03 17 28.2 -0.5**
CD2 pP pP 03 17 37.8 +1.8
CD2 sP sP 03 17 41.7 +2.7
CD2 PP PP 03 18 38.2 -4.9
CD2 PcP PcP 03 20 12.9 -0.1
CD2 S **S** **03 22 41.7 -3.1**
CD2 sS sS 03 22 57.9 +1.1
CD2 SS SS 03 24 41.2 -25
CD2 ScS ScS 03 27 51.6 -3.9
CD2 pmax pmax
comp=Z,310nm,0.9s,mb6.2
CD2 pmax pmax
comp=Z,590nm,4.2s
CD2 LR LR
comp=N,5μm,16.8s,MS5.5
CD2 LR LR
comp=E,5μm,15.5s,MS5.5
CD2 LR LR
comp=Z,8μm,16.6s,MS5.5
GTA Gaotai 33.25 285 ⇑P **P 03 17 32.5 +0.6**
GTA pP pP 03 17 36.6 -2.6
GTA sP sP 03 17 39.5 -2.7
GTA PP PP 03 18 44.7 -2.5
GTA PcP PcP 03 20 14.3 +0.4
GTA S **S** **03 22 51.8 +1.3**
GTA sS sS 03 22 58.0 -4.6
GTA PcS PcS 03 23 59.5 +0.1
GTA ScS ScS 03 27 56.5 -0.7
GTA pmax pmax
comp=Z,100nm,1.0s,mb5.7
GTA pmax pmax
comp=Z,680nm,7.0s
GTA LR LR
comp=N,3μm,19.0s,MS5.6
GTA LR LR
comp=E,10μm,16.6s,MS5.6
GTA LR LR
comp=Z,11μm,16.1s,MS5.7
QIZ Qiongzhong 34.66 245 P **P 03 17 43.6 -0.8**
QIZ S **S** **03 23 13.2 +0.5**
QIZ pmax pmax
comp=Z,130nm,5.0s
QIZ LR LR
comp=N,2μm,18.3s,MS5.0
QIZ LR LR
comp=E,1μm,17.2s,MS5.0
QIZ LR LR
comp=Z,3μm,15.1s,MS5.2
QIZ Qiongzhong 34.66 245 PFAKE 03 18 00.0 +16
QIZ LR LR
comp=Z,2μm,21.0s,MS4.7
DAV Davao City (W) 35.11 211 PFAKE 03 18 00.0 +12
DAV LR LR
comp=Z,2μm,21.0s,MS4.8
HVS Khovu-Aksy 36.36 306*c i*P **P 03 17 58.9 +0.3**
HVS pmax pmax
comp=Z,582nm,1.2s,mb6.4
HVS MLR MLR
comp=Z,36μm,17.0s,MS6.2
KMI Kunming 36.38 260 ⇑P **P 03 17 59.0 -0.1**
KMI pP pP 03 18 01.8 -4.6
KMI sP sP 03 18 03.2 -6.2
KMI PP PP 03 19 20.9 -1.1
KMI PcP PcP 03 20 22.9 -0.3
KMI S **S** **03 23 37.2 -1.8**
KMI sS sS 03 23 44.0 -7.1
KMI SS SS 03 26 00.8 -17
KMI ScS ScS 03 28 14.5 +0.1
KMI pmax pmax
comp=Z,91nm,1.4s,mb5.5
KMI pmax pmax
comp=Z,550nm,3.7s
KMI LR LR
comp=N,4μm,13.0s,MS5.4
KMI LR LR
comp=E,3μm,15.0s,MS5.4
KMI LR LR
comp=Z,4μm,15.8s,MS5.3
KMI Kunming 36.38 260 ⇑P **P 03 17 59.0 -0.1**
comp=Z,91nm,1.4s,mb5.5
KMI pP pP 03 18 01.8 -4.6
KMI sP sP 03 18 03.2 -6.2
KMI PP PP 03 19 20.9 -1.1
KMI PPP 03 19 42.1
KMI PcP PcP 03 20 22.9 -0.3
KMI S **S** **03 23 37.2 -1.8**
KMI sS sS 03 23 44.0 -7.1
KMI SS SS 03 26 00.8 -17
KMI ScS ScS 03 28 14.5
KMI LR LR
comp=Z,4μm,15.8s,MS5.3
KMI Kunming 36.38 260 ⇑P **P 03 17 59.0 -0.1**
KMI *SP sP 03 18 03.2 -6.2
KMI 03 19 20.9
KMI PPP 03 19 42.1
KMI 03 20 22.9
KMI S **S** **03 23 37.2 -1.8**
KMI SS SS 03 26 00.8 -17
KMI SSS 03 26 28.9
KMI 03 28 14.5
KMI pmax pmax
comp=Z,91nm,1.4s,mb5.5
KMI MLR MLR
comp=Z,4μm,15.8s,MS5.3
TNA Tin City 38.88 30 P **P 03 18 29.6 +10**
comp=Z,45nm,1.1s,mb5.1
MYLDM Lahad Datu 39.99 220 P **P 03 18 30.3 +0.7**
MYLDM Lahad Datu 39.99 220 P **P 03 18 31.0 +1.4**
MYLDM Lahad Datu 39.99 220 P **P 03 18 31.1 +1.5**
comp=Z,1μmcomp=Z,74nm,1.1s,mb5.3
SDKM Sandakan 40.27 222 P **P 03 18 32.3 +0.4**
TSM Tawau 41.07 220 P **P 03 18 38.4 -0.1**
WMQ Urumqi 41.19 295 P **P 03 18 40.1 +0.9**
WMQ pP pP 03 18 49.9 +3.3
WMQ PP PP 03 20 18.6 +4.3
WMQ S **S** **03 24 50.6 -0.5**
WMQ sS sS 03 25 06.8 +3.5
WMQ pmax pmax
comp=Z,200nm,1.4s,mb5.5
WMQ pmax pmax
comp=Z,1μm,4.2s
WMQ LR LR
comp=N,3μm,15.4s,MS5.4
WMQ LR LR
comp=E,3μm,17.2s,MS5.4
WMQ LR LR
comp=Z,2μm,18.6s,MS5.0
CHRT Chiangrai 41.57 256 ⇑P **P 03 18 42.0 -0.6**
comp=Z,487nm,0.8s,mb6.2
ZALV Zalesovo Beam 41.73 311 P **P 03 18 43.2 -0.2**
comp=Z,29nm,0.7s,mb5.0,baz=88,slow=7.3,SNR=120
ZALV PcP PcP 03 20 39.3 -0.2
comp=Z,24nm,0.8s,baz=92,slow=2.7,SNR=4.7
ZALV LR LR 03 36 50.4
comp=Z,4μm,18.2s,MS5.4,baz=79,slow=37
ZALV Zalesovo Beam 41.73 311 P **P 03 18 43.2 -0.2**
ZALV PcP PcP 03 20 39.3 -0.2
ZALV Zalesovo Beam 41.73 311 P **P 03 18 43.2 -0.2**
ZALV 03 20 39.3
ZALV pmax pmax
comp=Z,29nm,0.7s,mb5.0
ZALV pmax pmax
comp=Z,24nm,0.8s,mb4.9
ZALV MLR MLR
comp=Z,4μm,18.2s,MS5.4
GTOI Gorontalo 41.99 211 P **P 03 18 44.8 -1.2**
comp=Z,1μmcomp=Z,122nm,1.2s,mb5.4
MRSI Marisa 42.57 212 P **P 03 18 50.5 -0.2**
comp=Z,1μmcomp=Z,104nm,1.3s,mb5.4
NVS Novosibirsk 42.60 312 ⇑*i*P **P 03 18 48.9 -1.7**
NVS *e*S **S** **03 25 08.1 -3.7**
NVS pmax pmax
comp=N,25nm,1.4s
NVS pmax pmax
comp=E,88nm,1.4s
NVS pmax pmax
comp=Z,115nm,1.4s,mb5.4
NVS smax
comp=N,10.0nm,1.6s
NVS smax
comp=E,24nm,1.6s
CHG Chiang Mai 42.83 255 ⇑P **P 03 18 52.8 -0.1**
comp=E,25nm,1.0s,mb4.9
CHTO Chiang Mai 42.83 255 *e*P **P 03 18 52.7 -0.2**
comp=E,26nm,0.7s,mb5.1
CHTO LR LR
comp=Z,789nm,20.0s,MS4.6
CHTO Chiang Mai 42.83 255 *e*P **P 03 18 52.7 -0.2**
CHTO pmax pmax
comp=Z,26nm,0.7s,mb5.1
CHTO MLR MLR
comp=Z,789nm,20.0s,MS4.6
CHTO Chiang Mai 42.83 255 P **P 03 18 52.7 -0.2**
comp=Z,759nmcomp=Z,48nm,1.3s,mb5.1
CHTO Chiang Mai 42.83 255 P **P 03 18 53.0 +0.2**
SNR=13
CM31 Chiang Mai Arr 43.05 255 *e*P **P 03 18 54.6 0.0**
comp=Z,12nm,0.7s,mb4.7
CM31 LR LR
comp=Z,1μm,20.0s,MS4.7
CMAR Chiang Mai Arr 43.05 255 P **P 03 18 54.5 -0.1**
comp=Z,6.8nm,0.8s,mb4.4,baz=43,slow=6.2,SNR=33
CMAR LR LR 03 37 57.4
comp=Z,547nm,18.7s,MS4.5,baz=200,slow=38
CMAR Chiang Mai Arr 43.05 255 P **P 03 18 54.5 -0.1**
CMAR Chiang Mai Arr 43.05 255 P **P 03 18 54.6 0.0**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR MLR MLR
comp=Z,547nm,18.7s
LSA Lhasa 43.25 274 P **P 03 18 57.8 +1.6**
LSA S **S** **03 25 20.7 -1.1**
LSA ScS ScS 03 28 57.6 +2.7
LSA pmax pmax
comp=Z,20nm,1.0s,mb4.8
LSA pmax pmax
comp=Z,240nm,7.0s
LSA LR LR
comp=N,2μm,15.0s,MS5.5
LSA LR LR
comp=E,5μm,15.0s,MS5.5
LSA LR LR
comp=Z,7μm,16.0s,MS5.6
LSA Lhasa 43.25 274 *e*P **P 03 18 57.6 +1.5**
comp=Z,112nm,1.0s,mb5.5
LSA *e* 03 20 41.0
LSA LR LR
comp=Z,3μm,20.0s,MS5.2
LSA Lhasa 43.25 274 *e*P **P 03 18 57.6 +1.4**
LSA *e* 03 20 41.0
LSA pmax pmax
comp=Z,112nm,1.0s,mb5.5
LSA MLR MLR
comp=Z,3μm,20.0s,MS5.2
IMP Imphal 43.40 266 *ex* **P 03 19 00.0 +2.6**
IMP *ex* x 03 25 53.0
BDT Bhumibol Dam 43.74 253 P **P 03 19 00.0 -0.2**
comp=Z,18nm,1.0s,mb4.8
MK31 Makanchi Array 44.28 301 *e*P **P 03 19 04.3 0.0**
MK31 Makanchi Array 44.28 301 *i* P **P 03 19 04.2 0.0**
MK31 pmax pmax
comp=Z,143nm,0.9s,mb5.7
MKAR Makanchi Array 44.28 301 P **P 03 19 04.5 +0.2**
comp=Z,28nm,0.7s,mb5.1,baz=85,slow=10,SNR=133
MKAR LR LR 03 38 06.6
comp=Z,3μm,20.6s,MS5.2,baz=254,slow=37
MKAR Makanchi Array 44.28 301 P **P 03 19 04.5 +0.2**
MKAR Makanchi Array 44.28 301 P **P 03 19 04.5 +0.3**
MKAR pmax pmax
comp=Z,28nm,0.7s
MKAR MLR MLR
comp=Z,3μm,20.6s
KDAK Kodiak Island 45.12 43 PFAKE 03 19 20.0 +9.2
KDAK LR LR
comp=Z,2μm,19.0s,MS5.0
PPLA Purkeypile 45.18 36 *e*P **P 03 19 13.7 +2.5**
comp=Z,58nm,1.5s,mb5.2
SBUM Sibu 45.63 225 P **P 03 19 16.7 +1.4**
SBUM Sibu 45.63 225 P **P 03 19 21.6 +6.3**
comp=Z,664nmcomp=Z,24nm,1.2s,mb5.0
KURK Kurchatov 45.89 307 P **P 03 19 17.4 +0.4**
comp=Z,88nm,0.6s,mb5.9,baz=81,slow=8.2,SNR=552
KURK Kurchatov 45.89 307 *e*P **P 03 19 16.8 -0.1**
comp=Z,377nm,1.2s,mb6.2
KURK LR LR
comp=Z,4μm,19.0s,MS5.3
KURK Kurchatov 45.89 307*ce*P **P 03 19 16.7 -0.2**
KURK pmax pmax
comp=Z,199nm,1.2s,mb5.9
KURK MLR MLR
comp=Z,5μm,17.0s,MS5.6
KURK Kurchatov 45.89 307 P **P 03 19 17.1 +0.1**
SNR=126
AGT Agartala 45.96 267 *e*PKP **P 03 19 16.0 -1.9**
AGT *ex* x 03 19 41.0
TARA Tarawa 46.17 136 PFAKE 03 19 30.0 +10
TARA LR LR
comp=Z,868nm,22.0s,MS4.7
COLD Coldfoot 46.18 30 *e*P **P 03 19 26.6 +7.6**
comp=Z,13nm,1.2s,mb4.7
KDI Kendari 46.35 209 P **P 03 19 21.1 +0.2**
comp=Z,559nmcomp=Z,36nm,1.6s,mb5.1
JOHN Johnston Islan 46.83 104 PFAKE 03 19 40.0 +15
JOHN LR LR
comp=Z,24μm,20.0s,MS6.2
TAPN Taplejung 47.01 273 *e*P **P 03 19 26.8 +0.7**
comp=Z,383nm,1.3s,mb6.2
TAPN Taplejung 47.01 273 *e*P **P 03 19 26.8 +0.7**
comp=Z,383nm,1.3s,mb6.2
COLA College 47.10 33 *e*P **P 03 19 27.6 +1.4**
comp=Z,15nm,0.8s,mb5.0
COLA LR LR
comp=Z,829nm,19.0s,MS4.7
COLA College 47.10 33 *e*P **P 03 19 27.6 +1.4**
COLA pmax pmax
comp=Z,15nm,0.8s,mb5.0
COLA MLR MLR
comp=Z,829nm,19.0s,MS4.7
ODAN Odare 47.50 273 *e*P **P 03 19 30.3 +0.4**
comp=Z,371nm,1.1s,mb6.2
ODAN Odare 47.50 273 *e*P **P 03 19 30.3 +0.4**
comp=Z,371nm,1.1s,mb6.2
KSM Kuching 47.51 227 *e*P **P 03 19 30.3 +0.3**
comp=Z,62nm,1.0s,mb5.6
KSM LR LR
comp=Z,486nm,19.0s,MS4.5
KSM Kuching 47.51 227 P **P 03 19 30.6 +0.6**
comp=Z,53nm,1.1s,mb5.5
ILAR Eielson Array 47.51 33 P **P 03 19 28.2 -1.2**
comp=Z,3.4nm,0.8s,mb4.4,baz=264,slow=5.9,SNR=27
ILAR Eielson Array 47.51 33 P **P 03 19 28.2 -1.2**
ILAR Eielson Array 47.51 33 P **P 03 19 28.2 -1.2**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
BBSI Bau Bau 47.78 208 P **P 03 19 31.8 -0.3**
comp=Z,945nmcomp=Z,51nm,1.0s,mb5.5
PMG Port Moresby 47.96 174 P **P 03 19 29.3 -4.1**
comp=Z,3.7nm,0.6s,mb4.6,baz=333,slow=11,SNR=2.2
PMG Port Moresby 47.96 174 *e*P **P 03 19 33.8 +0.4**
comp=Z,29nm,1.1s,mb5.2
PMG Port Moresby 47.96 174 P **P 03 19 29.3 -4.1**
PMG pmax pmax
comp=Z,4.0nm,0.6s
PMG Port Moresby 47.96 174 P **P 03 19 41.6 +8.2**
comp=Z,26nm,1.4s,mb5.1
JIRN Jiri 48.05 275 *e*P **P 03 19 35.1 +0.9**
comp=Z,133nm,1.2s,mb5.8
JIRN Jiri 48.05 275 *e*P **P 03 19 35.1 +0.9**
comp=Z,133nm,1.2s,mb5.8
RAMN Ramite 48.07 273 *e*P **P 03 19 34.9 +0.6**
comp=Z,778nm,1.1s,mb6.7
RAMN Ramite 48.07 273 *e*P **P 03 19 34.9 +0.6**
comp=Z,778nm,1.1s,mb6.7
GUN Gumba 48.18 275 *e*P **P 03 19 35.8 +0.7**
comp=Z,453nm,0.9s,mb6.5
GUN Gumba 48.18 275 *e*P **P 03 19 35.8 +0.7**
comp=Z,453nm,0.9s,mb6.5
KAPI Kappang 48.44 212 P **P 03 19 35.7 -1.4**
comp=Z,11nm,0.6s,mb5.1,baz=38,slow=5.1,SNR=18
KAPI Kappang 48.44 212 *e*P **P 03 19 35.6 -1.6**
comp=Z,90nm,1.1s,mb5.7
KAPI LR LR
comp=Z,455nm,19.0s,MS4.5
KAPI Kappang 48.44 212 P **P 03 19 36.1 -1.1**
SNR=18
KKN Kakani 48.70 275 *e*P **P 03 19 39.7 +0.5**
comp=Z,501nm,1.1s,mb6.5
KKN Kakani 48.70 275 *e*P **P 03 19 39.7 +0.5**
comp=Z,501nm,1.1s,mb6.5
KKN Kakani 48.70 275 *e*P **P 03 19 39.7 +0.5**
KKN pmax pmax
comp=Z,501nm,1.1s,mb6.5
PKI Pulchoki 48.70 275 *e*P **P 03 19 39.5 +0.3**
comp=Z,413nm,1.4s,mb6.3
PKI Pulchoki 48.70 275 *e*P **P 03 19 39.5 +0.3**
comp=Z,413nm,1.4s,mb6.3
PKI Pulchoki 48.70 275 *e*P **P 03 19 39.5 +0.3**
PKI pmax pmax
comp=Z,413nm,1.4s,mb6.3
AAA Alma-Ata 48.87 298 *e*P **P 03 19 39.6 -0.6**
AAA *e*S **S** **03 26 39.0 -3.2**
AAA pmax pmax
comp=Z,500nm,2.1s,mb6.2
AAA smax
comp=E,800nm,5.0s
AAA MLR MLR
comp=Z,3μm,15.0s,MS5.4
DMN Daman 48.92 275 *e*P **P 03 19 41.3 +0.4**
comp=Z,416nm,1.2s,mb6.3
DMN Daman 48.92 275 *e*P **P 03 19 41.3 +0.4**
comp=Z,416nm,1.2s,mb6.3
CAL Calcutta 48.95 267 *e*PKP **P 03 19 40.8 -0.3**
CAL *ex* x 03 26 50.4
MENT Mentasta 49.05 35 *e*P **P 03 19 43.2 +1.9**
GKN Gorkha 49.10 276 *e*P **P 03 19 42.6 +0.4**
comp=Z,936nm,1.3s,mb6.7
GKN Gorkha 49.10 276 *e*P **P 03 19 42.6 +0.4**
comp=Z,936nm,1.3s,mb6.7
DANN Dangsing 49.62 277 *e*P **P 03 19 47.1 +0.9**
comp=Z,773nm,0.9s,mb6.7
DANN Dangsing 49.62 277 *e*P **P 03 19 47.1 +0.9**
comp=Z,773nm,0.9s,mb6.7
ULHL Ulahol 49.69 297 P **P 03 19 47.1 +0.6**
SNR=8.6
TKM2 Tokmak 2 49.92 298 P **P 03 19 49.4 +1.1**
SNR=146
TKM2 Tokmak 2 49.92 298 *e*P **P 03 19 49.2 +1.0**
comp=Z,135nm,1.0s,mb5.9
TKM2 LR LR
comp=Z,936nm,21.0s,MS4.8
TKM2 Tokmak 2 49.92 298 *e*P **P 03 19 49.2 +1.0**
TKM2 pmax pmax
comp=Z,135nm,1.0s,mb5.9
TKM2 MLR MLR
comp=Z,936nm,21.0s,MS4.8
EGAK Eagle 49.96 33 *e*P **P 03 19 49.1 +0.9**
comp=Z,18nm,1.0s,mb5.1
EGAK LR LR
comp=Z,889nm,19.0s,MS4.8
KOLN Koldanda 50.02 276 *e*P **P 03 19 49.8 +0.6**
comp=Z,450nm,1.1s,mb6.4
KOLN Koldanda 50.02 276 *e*P **P 03 19 49.8 +0.6**
comp=Z,450nm,1.1s,mb6.4
PYUN Piuthan 50.34 277 *e*P **P 03 19 52.2 +0.5**
comp=Z,1μm,1.2s
PYUN Piuthan 50.34 277 *e*P **P 03 19 52.2 +0.5**
comp=Z,1μm,1.2s
BVA0 Borovoye Array 50.38 312 *i* P **P 03 19 51.2 -0.4**
BVA0 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BVAR Borovoye Array 50.38 312 P **P 03 19 51.6 +0.1**
comp=Z,19nm,0.7s,mb5.2,baz=73,slow=7.7,SNR=102
BVAR PcP PcP 03 21 10.1 +0.3
comp=Z,16nm,0.8s,baz=115,slow=3.1,SNR=4.9
BVAR Borovoye Array 50.38 312 P **P 03 19 51.6 +0.1**
BVAR PcP PcP 03 21 10.1 +0.3
BVAR Borovoye Array 50.38 312 P **P 03 19 51.6 0.0**
BVAR 03 21 10.1
BVAR pmax pmax
comp=Z,19nm,0.7s
BVAR pmax pmax
comp=Z,16nm,0.8s
HNR Honiara 50.39 158 LR LR 03 39 23.2
comp=Z,1μm,20.8s,MS4.9,baz=318,slow=34
BRVK Borovoye 50.43 312 P **P 03 19 52.7 +0.7**
comp=Z,220nm,0.9s,mb6.2,SNR=20
BRVK Borovoye 50.43 312 *e*P **P 03 19 52.0 +0.1**
comp=Z,48nm,0.9s,mb5.5
BRVK LR LR
comp=Z,3μm,21.0s,MS5.3
BRVK Borovoye 50.43 312*ce*P **P 03 19 52.0 0.0**
BRVK pmax pmax
comp=Z,117nm,2.5s,mb5.5
BRVK MLR MLR
comp=Z,3μm,11.0s,MS5.6
BRVK Borovoye 50.43 312 P **P 03 19 52.4 +0.4**
SNR=27

KZA	Kyzart	50.44	297	P	P	03 19 54.0 +1.8
	SNR=24					
KBK	Karagaybulak	50.45	298	P	P	03 19 53.2 +0.9
	SNR=84					
CHMS	Chumysh	50.48	298	P	P	03 19 52.9 +0.4
	SNR=18					
USP	Ospenovka	50.56	298	P	P	03 19 53.5 +0.4
	SNR=42					
FRU	Bishkek	50.62	298	eP	P	03 19 53.0 -0.6
FRU				i		03 20 03.0
FRU				pmax	pmax	
	comp=Z,23nm,2.2s,mb4.7					
KULM	Kulim	50.64	240	P	P	03 19 53.2 -0.8
KULM	Kulim	50.64	240	eP	P	03 19 53.3 -0.8
	comp=Z,51nm,1.2s,mb5.3					
KULM				LR	LR	
	comp=Z,1μm,19.0s,MS5.0					
KULM	Kulim	50.64	240	P	P	03 19 54.4 +0.4
	comp=Z,732nmcomp=Z,43nm,1.7s,mb5.1					
AAK	Ala-Archa	50.78	298	P	P	03 19 55.2 +0.4
	SNR=22					
AAK	Ala-Archa	50.78	298	eP	P	03 19 55.0 +0.2
	comp=Z,314nm,1.1s,mb6.2					
AAK				LR	LR	
	comp=Z,1μm,22.0s,MS4.9					
AAK	Ala-Archa	50.78	298	eP	P	03 19 55.0 +0.2
AAK				pmax	pmax	
	comp=Z,314nm,1.1s,mb6.2					
AAK				MLR	MLR	
	comp=Z,1μm,22.0s,MS4.9					
AAK	Ala-Archa	50.78	298	P	P	03 19 54.8 0.0
	comp=Z,4μmcomp=Z,188nm,1.1s,mb5.9					
AAK	Ala-Archa	50.78	298	P	P	03 19 55.0 +0.2
	comp=Z,313nm,1.1s,mb6.2,SNR=21					
AAK	Ala-Archa	50.78	298	P	P	03 19 55.4 +0.7
	SNR=35					
MMRI	Maumere	50.81	207	P	P	03 19 56.6 +1.3
	comp=Z,1μmcomp=Z,76nm,1.1s,mb5.5					
KSH	Kashi	50.84	293	P	P	03 19 59.3 +4.0
KSH				pP	pP	03 20 04.1 +1.3
KSH				sP	sP	03 20 06.5 +0.7
KSH				PcP	PcP	03 21 14.8 +3.0
KSH				PP	PP	03 21 57.3 +5.9
KSH				ScP	ScP	03 25 08.8 +2.4
KSH				PcS	PcS	03 25 10.9 +1.7
KSH				S	S	03 27 16.4 +6.6
KSH				sS	sS	03 27 24.5 +2.2
KSH				ScS	ScS	03 29 46.7 +2.3
KSH				SS	SS	03 30 49.6 +5.3
KSH				pmax	pmax	
	comp=Z,31nm,1.0s,mb5.2					
KSH				pmax	pmax	
	comp=Z,440nm,3.9s					
KSH				LR	LR	
	comp=N,4μm,13.4s,MS5.6					
KSH				LR	LR	
	comp=E,1μm,12.4s,MS5.6					
KSH				LR	LR	
	comp=Z,3μm,16.3s,MS5.4					
UCH	Uchtor	50.90	297	P	P	03 19 56.8 +1.0
	SNR=5.4					
IPM	Ipoh	50.98	239	eP	P	03 19 56.1 -0.5
	comp=Z,42nm,1.0s,mb5.3					
MYKOM	Kota Tinggi	51.16	234	P	P	03 19 59.3 +1.4
	comp=Z,35nm,1.5s,mb5.1					
ZRNK	Zerenda	51.20	312	P	P	03 19 57.6 -0.2
ZRNK				pmax	pmax	
	comp=Z,115nm,1.2s,mb5.7					
EKS2	Erkin-Say	51.26	298	P	P	03 19 59.0 +0.5
	SNR=40					
EKS2	Erkin-Say	51.26	298	eP	P	03 19 58.7 +0.3
	comp=Z,43nm,0.9s,mb5.4					
EKS2	Erkin-Say	51.26	298	eP	P	03 19 58.7 +0.3
EKS2				pmax	pmax	
	comp=Z,43nm,0.9s,mb5.4					
KGM	Kluang	51.32	235	P	P	03 19 59.2 0.0
AML	Almayashu	51.51	297	P	P	03 20 01.2 +1.0
	SNR=85					
PTH	Pithoragarh	51.81	280	ePKP	P	03 20 03.0 +0.3
COEN	Coen	52.32	180	eP	P	03 20 06.3 -0.1
	comp=Z,208nm,1.1s,mb6.0					
COEN	Coen	52.32	180	eP	P	03 20 06.3 -0.1
	comp=Z,405nm,1.1s,mb6.3					
COEN	Coen	52.32	180	P	P	03 20 06.9 +0.5
	comp=Z,733nmcomp=Z,60nm,1.1s,mb5.4					
INK	Inuvik	52.42	28	P	P	03 20 06.1 -0.6
	comp=Z,3.0nm,0.8s,mb4.3,baz=297,slow=9.5,SNR=9.8					
INK	Inuvik	52.42	28	eP	P	03 20 07.6 +0.9
	comp=Z,32nm,1.3s,mb5.1					
INK	Inuvik	52.42	28	eP	P	03 20 07.6 +0.9
INK				pmax	pmax	
	comp=Z,32nm,1.3s					
DDI	Dehra Dun	53.11	282	ePKP	P	03 20 10.4 -1.9
KK31	Karatay Array	53.35	300	i P	P	03 20 13.7 -0.2
KK31				pmax	pmax	
	comp=Z,267nm,1.5s,mb6.0					
KKAR	Karatay Array	53.35	300	eP	P	03 20 13.7 -0.2
	comp=Z,30nm,0.7s,mb5.3					
KKAR	Karatay Array	53.35	300	eP	P	03 20 13.7 -0.2
KKAR				pmax	pmax	
	comp=Z,30nm,0.7s,mb5.3					
SDNR	Sundarnagar	53.40	284	ePKP	P	03 20 15.0 +0.5
SMLA	Simla	53.42	283	i P	P	03 20 13.7 -0.9
SMLA				AML	AML	03 20 18.6
	comp=Z,577nm,0.6s					
SMLA				i x	x	03 27 55.8
BHK	Bhakra	53.86	284	ePKP	P	03 20 17.0 -0.8
NDI	New Delhi	54.53	281	ePKP	P	03 20 19.5 -3.2
	comp=Z,13nm,0.6s,mb5.1					
SVE	Sverdlovsk	54.73	318	⇓i P	P	03 20 24.4 +0.6
SVE				ePPP		03 23 43.6
SVE				eS	S	03 28 18.9 +16
SVE				e		03 30 12.4
SVE				pmax	pmax	
	comp=Z,117nm,0.8s,mb6.0					
SVE				MLR	MLR	
	comp=Z,8μm,16.0s,MS5.9					
SVE				MLR	MLR	
	comp=N,1μm,14.0s,MS5.8					
SVE				MLR	MLR	
	comp=E,6μm,16.0s,MS5.8					
NIL	Nilore	55.24	288	PFAKE		03 20 40.0 +12
NIL				LR	LR	
	comp=Z,68nm,19.0s,MS3.8					
SOKR	Solikamsk	55.78	322	c i P	P	03 20 31.3 0.0
SOKR				S	S	03 28 35.1 +19
SOKR				pmax	pmax	
	comp=Z,60nm,1.2s,mb5.5					
SOKR				MLR	MLR	
	comp=Z,2μm,15.0s,MS5.4					
ARU	Arti	55.95	318	eP	P	03 20 32.5 0.0
	comp=Z,152nm,1.1s,mb5.9					
ARU				e		03 20 43.7
ARU				LR	LR	
	comp=Z,5μm,19.0s,MS5.6					
ARU	Arti	55.95	318	c i P	P	03 20 32.4 -0.1
ARU				e*PP	pP	03 20 43.2 +3.1
ARU				e		03 21 34.5
ARU				e		03 22 35.1
ARU				S	S	03 28 19.1 +0.4
ARU				pmax	pmax	
	comp=Z,104nm,1.2s,mb5.7					
ARU				MLR	MLR	
	comp=Z,7μm,17.0s,MS5.8					
ARU	Arti	55.95	318	P	P	03 20 32.6 +0.1
	comp=Z,485nm,1.3s,mb6.4,SNR=18					
WRAK	Wrangell Islan	56.17	42	PFAKE		03 20 50.0 +16
WRAK				LR	LR	
	comp=Z,476nm,19.0s,MS4.6					
MTSU	Mount Surprise	56.49	178	eP	P	03 20 35.8 -0.9
	comp=Z,40nm,0.9s,mb5.5					
DLBC	Dease Lake	56.64	39	P	P	03 20 39.0 +1.5
	comp=Z,4.1nm,1.0s,mb4.4,baz=337,slow=10,SNR=5.3					
DLBC	Dease Lake	56.64	39	P	P	03 20 39.0 +1.5
BHPL	Bhopal	57.11	275	ePKP	P	03 20 40.5 -0.8
BHPL				AMb	AMB	03 20 53.3
	comp=Z,84nm,1.3s,mb5.6					
AJM	Ajmer	57.60	280	ePKP	P	03 20 43.0 -1.7
FUNA	Funafuti	57.81	136	PFAKE		03 21 00.0 +14
FUNA				LR	LR	
	comp=Z,5μm,19.0s,MS5.6					
AB31	Akbulak array	57.81	310	i P	P	03 20 45.0 -0.9
AB31				pmax	pmax	
	comp=Z,28nm,0.7s,mb5.4					
ABKAR	Akbulak array	57.81	310	eP	P	03 20 45.5 -0.3
	comp=Z,18nm,0.5s,mb5.4					
KBL	Kabul	57.95	291	eP	P	03 20 46.6 -0.4
	comp=Z,170nm,1.0s,mb6.0					
KBL				e		03 20 57.8
KBL	Kabul	57.95	291	eP	P	03 20 46.6 -0.4
KBL				e		03 20 57.8
KBL				pmax	pmax	
	comp=Z,170nm,1.0s,mb6.0					
ALE	Alert	58.44	4	P	P	03 20 49.2 -0.6
	comp=Z,148nm,1.0s,mb6.0,SNR=8.5					
CTAO	Charters Tower	58.50	176	PFAKE		03 21 00.0 +9.1
CTAO				LR	LR	
	comp=Z,386nm,20.0s,MS4.5					
FITZ	Fitzroy Crossi	58.72	199	P	P	03 20 51.4 -1.0
	comp=Z,9.3nm,0.9s,mb4.8,baz=20,slow=8.9,SNR=19					
FITZ	Fitzroy Crossi	58.72	199	eP	P	03 20 51.3 -1.1
	comp=Z,44nm,1.1s,mb5.4					
FITZ	Fitzroy Crossi	58.72	199	eP	P	03 20 51.3 -1.1
	comp=Z,62nm,1.3s,mb5.5					
FITZ	Fitzroy Crossi	58.72	199	P	P	03 20 51.6 -0.8
	comp=Z,43nm,1.3s,mb5.3					
AKL	Akola	58.79	273	⇓i P	P	03 20 53.2 +0.1
AKL				AMP		03 21 05.7
	comp=Z,166nm,1.6s					
AKL				i x	x	03 24 24.3
WRAB	Tennant Creek	58.81	189	eP	P	03 20 51.3 -1.7
	comp=Z,38nm,0.9s,mb5.4					
WRAB				LR	LR	
	comp=Z,406nm,20.0s,MS4.5					
WRAB	Tennant Creek	58.81	189	P	P	03 20 51.0 -2.0
	comp=Z,246nm,0.9s,mb6.2,SNR=13					
WRAB	Tennant Creek	58.81	189	eP	P	03 20 51.3 -1.7
WRAB				pmax	pmax	
	comp=Z,38nm,0.9s,mb5.4					
WRAB				MLR	MLR	
	comp=Z,406nm,20.0s,MS4.5					
WRAB	Tennant Creek	58.81	189	P	P	03 20 51.3 -1.7
	comp=Z,81nm,1.0s,mb5.7					
WB2	Warramunga Arr	58.82	189	eP	P	03 20 51.2 -1.8
WRA	Warramunga Arr	58.82	189	P	P	03 20 50.9 -2.2
	comp=Z,17nm,0.7s,mb5.2,baz=8.2,slow=7.2,SNR=128					
WRA				LR	LR	03 45 37.6
	comp=Z,290nm,21.7s,MS4.4,baz=30,slow=36					
WRA	Warramunga Arr	58.82	189	P	P	03 20 50.9 -2.2
WRA	Warramunga Arr	58.82	189	P	P	03 20 50.9 -2.2
WRA				pmax	pmax	
	comp=Z,17nm,0.7s					
SPA0	Spitsbergen Ar	59.18	349	eP	P	03 20 53.6 -1.4
SPA0				eS	S	03 29 02.9 +2.3
KBS	Kingsbay	59.28	350	PFAKE		03 21 10.0 +14
KBS				LR	LR	
	comp=Z,866nm,19.0s,MS4.9					
HYB	Hyderabad	59.42	268	i P	P	03 20 56.0 -1.5
	comp=Z,70nm,1.0s,mb5.7					
LATR	Latur	60.42	271	ePKP	P	03 21 04.0 -0.4
RES	Resolute Bay	60.75	15	P	P	03 21 04.9 -0.9
	comp=Z,9.4nm,0.9s,mb4.9,baz=329,slow=6.5,SNR=14					
RES	Resolute Bay	60.75	15	eP	P	03 21 04.9 -0.9
	comp=Z,32nm,1.1s,mb5.4					
RES	Resolute Bay	60.75	15	P	P	03 21 04.9 -0.9
RES				pmax	pmax	
	comp=Z,9.0nm,0.9s,mb4.9					
LVZ	Lovozero	61.13	336	PFAKE		03 21 20.0 +12
LVZ				LR	LR	
	comp=Z,1μm,20.0s,MS5.1					
LVZ	Lovozero	61.13	336	ceP	P	03 21 08.8 +0.3
LVZ				pmax	pmax	
	comp=Z,93nm,2.5s,mb5.5					
LVZ				MLR	MLR	
	comp=Z,1μm,17.0s,MS5.2					
APA	Apatity	61.71	336	⇓i P	P	03 21 10.0 -2.4
APA				i S	S	03 29 28.0 -5.2
APA				i PS		03 29 40.0
APA				pmax	pmax	
	comp=Z,40nm,1.0s,mb5.5					
APA				MLR	MLR	
	comp=Z,2μm,14.0s,MS5.3					
YKA	Yellowknife Ar	61.83	31	P	P	03 21 11.7 -1.6
	comp=Z,1.3nm,0.7s,mb4.2,baz=296,slow=5.6,SNR=4.8					
YKA				LR	LR	03 46 47.2
	comp=Z,37nm,21.3s,baz=200,slow=35					
YKA	Yellowknife Ar	61.83	31	P	P	03 21 11.7 -1.6
YKA	Yellowknife Ar	61.83	31	P	P	03 21 11.7 -1.6
YKA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
KEV	Kevo	62.36	339	PFAKE		03 21 30.0 +13
KEV				LR	LR	
	comp=Z,1μm,22.0s,MS5.0					
KEV	Kevo	62.36	339	eP	P	03 21 12.2 -4.5
KEV				pmax	pmax	
	comp=Z,11nm,0.7s,mb5.1					
KEV	Kevo	62.36	339	ep	P	03 21 12.2 -4.5
	comp=Z,11nm,0.7s,mb5.1					
POO	Poona	62.48	272	ePKP	P	03 21 17.8 -0.5
POO				AMb	AMB	03 21 31.1
	comp=Z,86nm,1.5s,mb5.7					
AS31	Alice Springs	62.55	189	eP	P	03 21 17.0 -1.4
ASAR	Alice Springs	62.55	189	P	P	03 21 16.4 -2.0
	comp=Z,5.7nm,0.7s,mb4.8,baz=9.8,slow=6.6,SNR=50					
ASAR	Alice Springs	62.55	189	P	P	03 21 16.4 -2.0
ASAR	Alice Springs	62.55	189	P	P	03 21 16.4 -2.0
ASAR				pmax	pmax	
	comp=Z,6.0nm,0.7s					
KAD	Karad	62.91	271	ePKP	P	03 21 20.0 -1.1
ARCES	ARCESS Array B	62.91	339	P	P	03 21 20.0 -0.3
	comp=Z,12nm,0.8s,mb5.0,baz=62,slow=7.9,SNR=21					
ARCES				LR	LR	03 55 49.9
	comp=Z,1μm,18.2s,MS5.1,baz=42,slow=43					
ARCES	ARCESS Array B	62.91	339	P	P	03 21 20.1 -0.3
ARCES	ARCESS Array B	62.91	339	P	P	03 21 20.0 -0.4
ARCES				pmax	pmax	
	comp=Z,12nm,0.8s					
ARE0	ARCESS Array S	62.91	339	eP	P	03 21 20.2 -0.1
ARE0				eS	S	03 29 51.1 +2.8
BHJ	Bhuj	63.14	279	ePKP	P	03 21 22.6 -0.1
MBWA	Marble Bar	63.33	204	eP	P	03 21 22.2 -1.5
MBWA	Marble Bar	63.33	204	eP	P	03 21 22.4 -1.2
	comp=Z,23nm,1.4s,mb5.1					
MBWA				LR	LR	
	comp=Z,283nm,19.0s,MS4.5					
MBWA	Marble Bar	63.33	204	P	P	03 21 34.3 +11
IMYA	Miami	63.50	296	eP	P	03 21 24.8 -0.1
ABKT	Ailbek	64.09	299	P	P	03 21 28.5 -0.2
	comp=Z,233nm,1.2s,mb6.1,SNR=11					
DAG	Danmarks Havn	64.28	355	⇑i P	P	03 21 28.6 -0.7
DAG				pmax	pmax	
	comp=Z,20nm,1.0s,mb5.1					
DAG	Danmarks Havn	64.28	355	⇑i P	P	03 21 28.6 -0.7
	comp=Z,20nm,1.0s,mb5.1					
DZM	Mont Dzumac	64.30	156	eP	P	03 21 29.1 -1.0
	comp=Z,67nm,1.4s,mb5.5					
DZM				eS	S	03 30 00.3 -6.2
	comp=Z,404nm,26.1s					
DZM				eLR	LR	03 40 41.8
	comp=Z,2μm,22.6s					
IKRD	Kardeh	64.39	298	eP	P	03 21 27.0 -3.7
NLWA	Neilton Lookou	64.77	49	eP	P	03 21 33.6 +0.7
	comp=Z,24nm,1.1s,mb5.1					
NLWA				LR	LR	
	comp=Z,500nm,19.0s,MS4.7					
QLP	Quilpie	64.89	179	eP	P	03 21 32.7 -1.1
A05A	Maple Falls	64.99	46	⇑P	P	03 21 34.4 +0.1
	baz=65					
RMQ	Roma	65.01	174	eP	P	03 21 33.9 -0.7
	comp=Z,59nm,1.4s,mb5.4					
MSVF	Nonsavu	65.04	143	PFAKE		03 21 50.0 +15
MSVF				LR	LR	
	comp=Z,1μm,19.0s,MS5.0					
JOF	Joensuu	65.10	332	eP	P	03 21 32.5 -2.4
JOF				pmax	pmax	
	comp=Z,15nm,0.8s,mb5.1					
JOF	Joensuu	65.10	332	ep	P	03 21 32.5 -2.4
	comp=Z,15nm,0.8s,mb5.1					
XMAS	Kiritimati	65.33	108	PFAKE		03 21 50.0 +13
XMAS				LR	LR	
	comp=Z,2μm,20.0s,MS5.4					
E03A	Lebam	65.38	49	⇓P	P	03 21 37.4 +0.4
	baz=65					
JCW	Jim Creek	65.49	47	eP	P	03 21 40.0 +2.3
	comp=Z,28nm,0.9s,mb5.3					
IDAH	Dahanechah	65.50	293	eP	P	03 21 38.3 +0.4
TRD	Trivandrum	65.97	261	ePKP	P	03 21 41.1 -0.2
TRD				AMb	AMB	03 21 42.7
	comp=Z,59nm,1.0s,mb5.6					
ITEG	Tejag	66.22	294	eP	P	03 21 42.0 -0.6
IKOO	Kooshah	66.28	293	eP	P	03 21 42.8 -0.2
COCO	West Island	66.37	230	PFAKE		03 21 50.0 +6.3
COCO				LR	LR	
	comp=Z,404nm,21.0s,MS4.6					
MOS	Moscow	66.66	324	eP	P	03 21 44.8 -0.2
MOS				e	pP	03 21 53.6 +0.8
MOS				e		03 22 12.7
MOS				eS	S	03 30 33.2 -1.6
MOS				eSS	SS	03 34 48.2 -3.5
MOS				pmax	pmax	
	comp=Z,122nm,1.5s,mb5.7					
MOS				pmax	pmax	
	comp=Z,400nm,2.4s,mb6.0					
MOS				MLR	MLR	
	comp=Z,5μm,15.0s,MS5.9					
MOS				MLR	MLR	
	comp=N,3μm,15.0s					
ETW	Entiat	66.71	47	eP	P	03 21 45.6 +0.1
	comp=N,14nm,0.8s,mb5.1					
HOOD	Mount Hood Mea	67.16	50	eP	P	03 21 48.6 +0.2
	comp=N,22nm,1.0s,mb5.2					
PUL	Pulkovo	67.41	330	ceP	P	03 21 48.9 -0.8
PUL				pmax	pmax	
	comp=Z,103nm,0.7s,mb6.0					
PUL				MLR	MLR	
	comp=Z,2μm,15.0s,MS5.5					
KAF	Kangasniemi	67.42	333	eP	P	03 21 47.6 -2.1
KAF				pmax	pmax	
	comp=Z,15nm,0.6s,mb5.2					
KAF	Kangasniemi	67.42	333	ep	P	03 21 47.6 -2.1
	comp=Z,14nm,0.6s,mb5.2					
OBN	Obninsk	67.52	323	eP	P	03 21 50.2 -0.3
	comp=Z,71nm,1.1s,mb5.6					
OBN				LR	LR	
	comp=Z,2μm,19.0s,MS5.3					
OBN	Obninsk	67.52	323	α i P	P	03 21 50.0 -0.5
OBN				e		03 21 54.0
OBN				i		03 22 01.0
OBN				i		03 22 11.4
OBN				e		03 24 20.1
OBN				eS	S	03 30 49.9 +4.8
OBN				e		03 31 27.0
OBN				i SS	SS	03 35 08.1 +3.2
OBN				pmax	pmax	
	comp=Z,207nm,2.5s,mb5.7					
OBN				MLR	MLR	
	comp=Z,4μm,17.0s,MS5.8					
C09A	Chrisman Ranch	67.78	46	⇑P	P	03 21 52.0 -0.2
	baz=68					
G06A	Carlson Farm,	67.81	49	⇓P	P	03 21 52.5 0.0
	baz=68					
FINES	FINESS Array B	67.94	332	P	P	03 21 52.6 -0.4
	comp=Z,29nm,0.7s,mb5.4,baz=46,slow=8.5,SNR=54					
FINES				LR	LR	03 53 59.2
	comp=Z,3μm,19.3s,MS5.5,baz=48,slow=38					
FINES	FINESS Array B	67.94	332	P	P	03 21 52.6 -0.4
FINES	FINESS Array B	67.94	332	P	P	03 21 52.6 -0.4
FINES				pmax	pmax	
	comp=Z,29nm,0.7s					
FINES				MLR	MLR	
	comp=Z,3μm,19.3s					
NEW	Newport	68.16	45	⇓P	P	03 21 54.2 -0.4
	baz=68,SNR=8.9					
NEW	Newport	68.16	45	eP	P	03 21 54.5 -0.2
	comp=Z,15nm,1.1s,mb4.9					
NEW	Newport	68.16	45	eP	P	03 21 54.5 -0.2
NEW				pmax	pmax	
	comp=Z,15nm,1.1s					
MOR8	Moi Rana	68.27	340	eP	P	03 21 53.2 -1.8
MOR8				AMB	AMB	03 21 54.4
	comp=Z,43nm,0.9s,mb5.5					
MAK	Makhachkala	68.39	308	eP	P	03 21 54.6 -1.6
MAK				e		03 22 19.5
MAK				e		03 24 26.7
MAK				ePPP		03 26 04.9
MAK				e		03 31 50.4
MAK				pmax	pmax	
	comp=Z,201nm,1.2s,mb6.0					
VSR	Storozhevoye	68.50	319	eP	P	03 21 55.6 -1.1
VSR				e		03 24 27.7
VSR				pmax	pmax	
	comp=Z,50nm,0.7s,mb5.7					
VSR				pmax	pmax	
	comp=N,50nm,1.0s					
VSR				pmax	pmax	
	comp=E,50nm,1.0s					
VSR				pmax	pmax	
	comp=Z,10.0nm,1.5s,mb4.6					
VSR				pmax	pmax	
	comp=N,30nm,1.1s					
VSR				pmax	pmax	
	comp=E,10.0nm,1.4s					
VSR				MLR	MLR	
	comp=Z,5μm,16.0s,MS5.8					
VSR				MLR	MLR	
	comp=N,3μm,18.0s,MS5.7					
VSR				MLR	MLR	
	comp=E,2μm,14.0s,MS5.7					
E09A	Wood Farm, Sta	68.56	47	⇓P	P	03 21 56.7 -0.5
	baz=68					
A12A	Yaak River Ran	68.59	44	⇑P	P	03 21 57.2 -0.2
	baz=68,SNR=5.8					
C11A	Tepee Creek (N	68.88	45	⇓P	P	03 21 59.2 0.0
	baz=69,SNR=9.7					
ILAS	Lasjerd	68.95	299	eP	P	03 21 59.9 +0.1
K05A	Summer Lake	69.03	52	⇑P	P	03 22 00.3 +0.2
	baz=69					
SUMG	Summit	69.08	0	i P	P	03 22 00.3 +0.3
SUMG				pmax	pmax	
	comp=Z,26nm,0.9s					
SUMG	Summit	69.08	0	i P	P	03 22 00.3 +0.3
	comp=Z,26nm,0.9s,mb5.2					
I07A	Izee	69.12	50	⇑P	P	03 22 01.2 +0.5
	baz=69					
IBAF	Bafgh	69.19	294	eP	P	03 22 00.9 -0.5
A13A	Flathead Natio	69.27	43	⇓P	P	03 22 01.2 -0.3
	baz=69,SNR=5.8					
C12B	Naegeli Ranch,	69.39	45	⇑P	P	03 22 01.9 -0.5
	baz=69					
F10A	Beach Ranch, E	69.39	47	⇑P	P	03 22 02.5 +0.2
	baz=69					
B13A	Whitefish	69.56	44	⇑P	P	03 22 03.4 0.0
	baz=69,SNR=15					
VSU	Vasula	69.67	330	c i P	P	03 22 03.6 -0.2
VSU				pmax	pmax	
	comp=Z,108nm,1.2s,mb5.7					
VSU				MLR	MLR	
	comp=Z,3μm,20.0s,MS5.6					
BSMT	Bassoo Peak	69.69	45	eP	P	03 22 04.8 +0.6
	comp=Z,26nm,1.7s,mb4.9					
A14A	Double T Ranch	69.78	43	⇓P	P	03 22 04.3 -0.3
	baz=70,SNR=7.1					
BLMT	Blacktail Moun	69.83	44	eP	P	03 22 05.2 +0.2
	comp=Z,13nm,1.3s,mb4.7					
D12A	Red Ives Fores	69.84	45	⇑P	P	03 22 05.4 +0.3
	baz=70					
C13A	Hot Springs	69.91	45	⇑P	P	03 22 05.9 +0.4
	baz=70					
BMO	Blue Mountains	69.98	48	eP	P	03 22 06.2 +0.2
	comp=Z,20nm,1.6s,mb4.8					
BMO				LR	LR	
	comp=Z,265nm,19.0s,MS4.5					
ISFB	Sefidab	70.01	298	eP	P	03 22 05.5 -0.9
JTMT	Jette	70.03	44	eP	P	03 22 07.5 +1.3
	comp=Z,13nm,1.1s,mb4.8					
E12A	Beaver Dam Sad	70.08	46	⇓P	P	03 22 06.4 -0.2
	baz=70,SNR=12					
A15A	Johnson Ranch,	70.14	43	⇓P	P	03 22 06.4 -0.5
	baz=70,SNR=7.5					
J08A	Circle Bar Ran	70.14	50	⇑P	P	03 22 06.8 -0.2
	baz=70					
STKA	Stephens Creek	70.16	181	P	P	03 22 05.9 -1.1
	comp=Z,2.4nm,0.8s,mb4.2,baz=347,slow=6.8,SNR=3.2					
STKA				LR	LR	03 52 26.8
	comp=Z,489nm,20.4s,MS4.7,baz=11,slow=36					
STKA	Stephens Creek	70.16	181	eP	P	03 22 06.0 -1.1
	comp=Z,5.6nm,0.9s,mb4.5					
STKA	Stephens Creek	70.16	181	P	P	03 22 05.9 -1.1
STKA	Stephens Creek	70.16	181	P	P	03 22 05.9 -1.2
STKA				pmax	pmax	
	comp=Z,2.0nm,0.8s					
B14A	Marquette Ranc	70.22	43	⇑P	P	03 22 07.0 -0.3
	baz=70,SNR=9.9					
C14A	Swan Lake	70.31	44	⇓P	P	03 22 08.0 0.0
	baz=70					
D13A	Huson	70.31	45	⇓P	P	03 22 07.5 -0.5
	baz=70,SNR=5.3					
SWMT	Swartz Lake	70.32	45	eP	P	03 22 08.0 -0.1
	comp=Z,15nm,1.1s,mb4.8					

ISAD **Sadrabad** 70.35 295 eP P 03 22 07.6 -0.9
DGRG **David-gareji** 70.55 308 P P 03 22 19.1 +10
WVOR **Wild Horse Val** 70.57 51 eP P 03 22 09.8 +0.2
comp=Z,11nm,1.1s,mb4.7
WVOR LR LR
comp=Z,577nm,19.0s,MS4.8
WVOR **Wild Horse Val** 70.57 51 eP P 03 22 09.8 +0.2
WVOR pmax pmax
comp=Z,11nm,1.1s,mb4.7
WVOR MLR MLR
comp=Z,577nm,19.0s,MS4.8
B15A **Bradely Ranch,** 70.63 43 ⇑P P 03 22 09.3 -0.6
baz=70,SNR=12
SCO **Scoresbysund** 70.63 355 eP P 03 22 08.3 -1.3
SCO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SCO **Scoresbysund** 70.63 355 i P P 03 22 08.3 -1.3
comp=Z,7.1nm,1.0s,mb4.5
ZEI **Tsey** 70.70 310 eP P 03 22 09.9 -0.6
ZEI pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
KIV **Kislovodsk** 70.74 311 eP P 03 22 10.9 +0.3
comp=Z,226nm,1.2s,mb6.0
KIV LR LR
comp=Z,2µm,21.0s,MS5.3
KIV **Kislovodsk** 70.74 311 eP P 03 22 11.0 +0.3
KIV e 03 22 34.1
KIV e 03 24 46.0
KIV eS S 03 31 22.3 -1.4
KIV pmax pmax
comp=Z,82nm,0.9s,mb5.7
KIV pmax pmax
comp=Z,131nm,5.4s
KIV MLR MLR
comp=Z,2µm,18.0s,MS5.4
KIV **Kislovodsk** 70.74 311 P P 03 22 11.6 +0.9
SNR=49
KIV **Kislovodsk** 70.74 311 P P 03 22 11.0 +0.3
comp=Z,506nm,0.8s,mb6.5,SNR=13
MSO **Missoula** 70.75 45 ⇑P P 03 22 10.6 -0.1
baz=71
MSO **Missoula** 70.75 45 eP P 03 22 11.3 +0.6
comp=Z,1.9nm,0.7s,mb4.1
MSO LR LR
comp=Z,267nm,21.0s,MS4.5
SLMT **Seeley Lake** 70.76 45 eP P 03 22 10.7 0.0
comp=Z,10nm,0.9s,mb4.8
A16A **West Butte Ran** 70.76 42 ⇓P P 03 22 10.2 -0.5
baz=71
MTA **Mtatsminda** 70.77 308 P P 03 22 10.7 -0.2
TBLG **Delisi** 70.78 308 P P 03 22 10.7 -0.3
TBLG **Delisi** 70.78 308 P P 03 22 10.8 -0.2
E13A **Victor** 70.84 46 ⇑P P 03 22 10.9 -0.3
baz=71
D14A **Greenough** 70.84 45 ⇑P P 03 22 10.7 -0.6
baz=71,SNR=5.9
C15A **Salmond Ranch,** 70.92 44 ⇑P P 03 22 11.4 -0.3
baz=71,SNR=7.9
G12A **Big Creek, Yel** 70.97 47 ⇑P P 03 22 12.0 -0.1
baz=71
B16A **M & M Farms, S** 71.02 43 ⇓P P 03 22 12.1 -0.2
baz=71
GOR **Gori** 71.02 309 P P 03 22 13.4 +1.0
IKLH **Kolahrood** 71.04 298 eP P 03 22 13.4 +0.7
ONI **Oni** 71.07 310 P P 03 22 13.3 +0.6
CHMT **Chamberlain Mo** 71.08 45 eP P 03 22 12.5 -0.2
comp=Z,3.8nm,1.0s,mb4.3
F13A **Darby** 71.15 46 ⇑P P 03 22 13.0 -0.1
baz=71
A17A **Triple J Farms** 71.23 42 ⇑P P 03 22 13.5 -0.1
baz=71
E14A **Clinton** 71.25 45 ⇑P P 03 22 13.3 -0.3
baz=71
C16A **Fuhringer Ranc** 71.37 43 ⇑P P 03 22 14.2 -0.2
baz=71,SNR=11
D15A **Lincoln** 71.41 44 ⇑P P 03 22 14.6 -0.1
baz=71
B17A **L&G Farms, Che** 71.58 43 ⇓P P 03 22 15.6 -0.1
baz=71
H12A **Diamond D Ranc** 71.58 47 ⇓P P 03 22 15.0 -0.7
baz=71
WCN **Washoe City** 71.66 54 ⇑P P 03 22 16.5 +0.2
baz=72
WCN **Washoe City** 71.66 54 eP P 03 22 17.2 +0.9
comp=Z,11nm,1.1s,mb4.7
WCN **Washoe City** 71.66 54 eP P 03 22 17.2 +0.9
WCN pmax pmax
comp=Z,11nm,1.1s,mb4.7
F14A **Wisdom** 71.67 46 ⇑P P 03 22 15.9 -0.3
baz=72
MFID **Camas Ranch** 71.68 49 ⇑P P 03 22 16.3 -0.1
baz=72
MFID **Camas Ranch** 71.68 49 eP P 03 22 16.4 0.0
comp=Z,33nm,1.6s,mb5.0
IZAR **Zarasai** 71.68 328 eP P 03 22 16.5 +0.3
IZAR AMB AMB 03 22 17.0
comp=Z,18nm,0.9s,mb5.0
GNI **Garni** 71.69 307 eP P 03 22 17.4 +0.9
comp=Z,109nm,1.4s,mb5.6
GNI LR LR
comp=Z,2µm,20.0s,MS5.3
GNI **Garni** 71.69 307 ceP P 03 22 17.4 +0.9
GNI pmax pmax
comp=Z,26nm,1.2s
GNI MLR MLR
comp=Z,3µm,22.0s
GNI **Garni** 71.69 307 P P 03 22 17.8 +1.3
SNR=18
A18A **Metzger Ranch,** 71.69 42 ⇑P P 03 22 16.2 -0.1
baz=72
E15A **Deer Lodge** 71.71 45 ⇓P P 03 22 16.2 -0.3
baz=72,SNR=5.8
FFC **Flin Flon** 71.72 34 eP P 03 22 15.8 -0.7
comp=Z,20nm,1.1s,mb5.0
FFC LR LR
comp=Z,431nm,21.0s,MS4.7
FFC **Flin Flon** 71.72 34 eP P 03 22 15.8 -0.6
FFC pmax pmax
comp=Z,20nm,1.1s,mb5.0
FFC MLR MLR
comp=Z,431nm,21.0s,MS4.7
AKH **Akhalkalaki** 71.73 309 P P 03 22 17.5 +0.8
MICGM **Minsk** 71.83 326 eP P 03 22 16.0 -1.0
MNK **Minsk** 71.85 326 eP P 03 22 16.0 -1.2
MNK pmax pmax
comp=Z,200nm,1.0s,mb6.0
MNK MLR MLR
comp=Z,11µm,14.0s,MS6.3
MNK MLR MLR
comp=N,8µm,18.0s,MS6.2
MNK MLR MLR
comp=E,7µm,16.0s,MS6.2
ISAL **Salakas** 71.86 328 eP P 03 22 17.6 +0.4
ISAL AMB AMB 03 22 18.2
comp=Z,38nm,1.0s,mb5.3
I12A **Atlanta** 71.87 48 ⇓P P 03 22 17.3 -0.2
baz=72,SNR=8.1
H13A **Challis** 71.92 47 ⇑P P 03 22 17.8 0.0
baz=72,SNR=7.5
D16A **Dana Ranch, Ca** 71.94 44 ⇓P P 03 22 17.7 -0.2
baz=72
IPAR **Pars** 71.96 294 eP P 03 22 18.7 +0.4
IIGN **Ignalina** 71.96 328 eP P 03 22 18.2 +0.4
IIGN AMB AMB 03 22 18.9
comp=Z,30nm,1.0s,mb5.2
HRY **Holter Researc** 71.98 44 eP P 03 22 19.0 +0.8
comp=Z,11nm,0.9s,mb4.8
C17A **Wharram Farm,** 72.00 43 ⇓P P 03 22 17.4 -0.8
baz=72
NACGM **Naroch** 72.03 327 eP P 03 22 15.0 -3.3
B18A **Beardsley Farm** 72.05 42 ⇑P P 03 22 18.2 -0.4
baz=72,SNR=6.7
F15A **Butte** 72.15 45 ⇑P P 03 22 18.8 -0.4
baz=72,SNR=8.2
LRM **Limekiln Ridge** 72.18 45 eP P 03 22 19.3 0.0
comp=Z,134nm,1.1s,mb5.8
EGMT **Eagleton** 72.29 42 ⇑P P 03 22 19.5 -0.5
baz=72,SNR=5.5
EGMT **Eagleton** 72.29 42 eP P 03 22 19.9 -0.1
comp=Z,47nm,1.4s,mb5.2
EGMT LR LR
comp=Z,341nm,19.0s,MS4.6
D17A **Six Diamond Ra** 72.34 43 ⇑P P 03 22 20.4 +0.1
baz=72
DLMT **Dillon** 72.38 46 eP P 03 22 20.5 0.0
comp=Z,12nm,1.0s,mb4.8
I13A **Wildhorse Cree** 72.39 48 ⇓P P 03 22 20.6 0.0
baz=72
HLID **Hailey** 72.42 48 ⇑P P 03 22 21.0 +0.1
baz=72
HLID **Hailey** 72.42 48 PFAKE 03 22 30.0 +9.2
HLID LR LR
comp=Z,293nm,20.0s,MS4.5
HATD **Hatta, Dubai** 72.56 288 P P 03 22 22.4 +0.5
SNR=10
G15A **Dillon** 72.56 46 ⇑P P 03 22 21.5 -0.1
baz=72,SNR=7.7
BMN **Battle Mountai** 72.59 52 PFAKE 03 22 30.0 +8.1
BMN LR LR
comp=Z,463nm,19.0s,MS4.8
J13A **Cove Ranch, Pi** 72.66 48 ⇓P P 03 22 22.3 0.0
baz=72
F16A **Kennard Place,** 72.66 45 ⇑P P 03 22 21.7 -0.5
baz=72,SNR=6.8
E17A **Martinsdale** 72.67 44 ⇑P P 03 22 22.2 0.0
baz=72,SNR=5.1
SOC **Sochi** 72.70 312 ci P P 03 22 22.3 -0.2
SOC e*PP pP 03 22 32.6 +2.3
SOC e*SP sP 03 22 35.6 +2.4
SOC e 03 24 58.6
SOC ePPP 03 26 47.8
SOC eS S 03 31 44.9 -1.3
SOC i SS SS 03 36 23.2 -1.9
SOC eSSS 03 39 35.1
SOC pmax pmax
comp=Z,35nm,0.8s,mb5.3
BOZ **Bozeman (W)** 72.75 45 ⇑P P 03 22 22.6 -0.1
baz=73,SNR=7.6
BOZ **Bozeman (W)** 72.75 45 eP P 03 22 22.4 -0.3
comp=Z,9.7nm,1.1s,mb4.7
BOZ LR LR
comp=Z,315nm,20.0s,MS4.6
BOZ **Bozeman (W)** 72.75 45 eP P 03 22 22.4 -0.3
BOZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BOZ MLR MLR
comp=Z,315nm,20.0s,MS4.6
I14A **Mackay** 72.76 47 ⇑P P 03 22 22.7 -0.1
baz=73
D18A **Linhart Farms,** 72.78 43 ⇓P P 03 22 22.9 0.0
baz=73
ARTV **Artvin** 72.82 309 i P P 03 22 22.9 -0.3
C19A **Slack Wire Ran** 72.85 42 ⇓P P 03 22 23.3 0.0
baz=73,SNR=10
DBOC **Borcka** 72.88 309 i P P 03 22 22.7 -0.9
DAGI **Agillar** 72.89 309 i P P 03 22 23.2 -0.5
G16A **Moss Hill, Enn** 72.91 45 ⇓P P 03 22 23.9 +0.3
baz=73
B20A **Solberg Farm,** 72.94 41 ⇑P P 03 22 23.8 0.0
baz=73
J14A **Carey** 73.09 48 ⇓P P 03 22 24.7 -0.1
baz=73,SNR=7.3
NVAR **Mina Array Bea** 73.09 54 P P 03 22 25.3 +0.4
comp=Z,2.8nm,0.8s,mb4.2,baz=282,slow=6.8,SNR=20
NVAR LR LR 03 47 34.7
comp=Z,353nm,21.2s,MS4.6,baz=259,slow=30
NVAR **Mina Array Bea** 73.09 54 P P 03 22 25.3 +0.4
DDEM **Demirkent** 73.10 309 i P P 03 22 16.5 -8.4
E18A **Harlowton** 73.12 44 ⇑P P 03 22 24.8 -0.1
baz=73
F17A **Fitzpatrick Pl** 73.12 44 ⇑P P 03 22 24.8 -0.1
baz=73
A21A **Bergtoll Ranch** 73.14 40 ⇓P P 03 22 24.4 -0.6
baz=73
NB2 **NORSAR Subarra** 73.16 338 P P 03 22 24.3 -0.6
comp=Z,37nm,0.8s,mb5.4,baz=37,slow=6.2
NOA **NORSAR Array B** 73.16 338 P P 03 22 24.5 -0.4
comp=Z,36nm,0.9s,mb5.3,baz=39,slow=6.0,SNR=82
NOA LR LR 03 59 48.1
comp=Z,1µm,18.4s,MS5.2,baz=30,slow=40
NOA **NORSAR Array B** 73.16 338 P P 03 22 24.5 -0.4
NOA **NORSAR Array B** 73.16 338 P P 03 22 24.5 -0.4
NOA pmax pmax
comp=Z,36nm,0.9s
NOA MLR MLR
comp=Z,1µm,18.4s
ANN **Anapa** 73.26 314 eP P 03 22 24.4 -1.4
ANN e 03 22 40.5
ANN eS S 03 31 52.3 -0.3
ANN pmax pmax
comp=Z,63nm,1.5s,mb5.3
ANN MLR MLR
comp=N,1µm,18.0s,MS5.5
ANN MLR MLR
comp=E,2µm,18.0s,MS5.5
ANN MLR MLR
comp=Z,2µm,18.0s,MS5.4
D19A **Cripps Ranch,** 73.29 43 ⇑P P 03 22 25.7 -0.2
baz=73
NC602 **NORSAR Array S** 73.30 337 eP P 03 22 24.0 -1.7
NC602 eS S 03 31 54.8 +2.3
TUTA **Tutak** 73.33 307 i P P 03 22 26.8 +0.5
QLMT **Earthquake Lak** 73.36 46 eP P 03 22 27.4 +1.1
comp=Z,3.9nm,1.5s,mb4.1
C20A **Veseth Ranch,** 73.41 42 ⇓P P 03 22 26.2 -0.4
baz=73
NAO01 **NORSAR Array S** 73.41 338 eP P 03 22 26.0 -0.3
comp=Z,22nm,0.9s,mb5.1
NAO01 LR LR
comp=Z,2µm,20.0s,MS5.3
G17A **Pierce Place,** 73.44 45 ⇑P P 03 22 27.1 +0.3
baz=73
HOMI **Horasan** 73.51 308 i P P 03 22 28.1 +0.8
H16A **Russell Place,** 73.54 46 ⇑P P 03 22 27.0 -0.4
baz=73
F18A **Big Timber** 73.64 44 ⇓P P 03 22 27.8 -0.1
baz=74
A22A **Carney Farms,** 73.65 40 ⇑P P 03 22 27.4 -0.6
baz=74
J15A **Blackfoot** 73.67 47 ⇑P P 03 22 28.0 -0.2
baz=74
D20A **Manuel Ranch,** 73.73 42 ⇑P P 03 22 28.3 -0.2
baz=74,SNR=6.0
GCMT **Greycliff** 73.73 44 eP P 03 22 24.3 -4.2
comp=Z,16nm,1.3s,mb4.8
AKASG **Malin Array Be** 73.74 323 P P 03 22 28.1 -0.4
comp=Z,69nm,0.9s,mb5.6,baz=44,slow=6.0,SNR=119
AKASG LR LR 03 57 22.3
comp=Z,1µm,20.4s,MS5.2,baz=25,slow=38
AKASG **Malin Array Be** 73.74 323 P P 03 22 28.1 -0.4
AKASG **Malin Array Be** 73.74 323 P P 03 22 28.1 -0.4
AKASG pmax pmax
comp=Z,69nm,0.9s
AKASG MLR MLR
comp=Z,1µm,20.5s
AKBB **Malin Array Si** 73.74 323 eP P 03 22 28.2 -0.3
AKBB **Malin Array Si** 73.74 323 eP P 03 22 28.2 -0.3
KIEV **Kiev** 73.76 323 eP P 03 22 28.0 -0.5
comp=Z,73nm,0.9s,mb5.6
KIEV LR LR
comp=Z,1µm,20.0s,MS5.2
KIEV **Kiev** 73.76 323 eP P 03 22 28.0 -0.6
KIEV pmax pmax
comp=Z,73nm,0.9s,mb5.6
KIEV MLR MLR
comp=Z,1µm,20.0s,MS5.2
K14A **Jones Ranch, D** 73.76 48 ⇑P P 03 22 29.3 +0.5
baz=74
E19A **Rath Farm, Rou** 73.79 43 ⇓P P 03 22 28.6 -0.2
baz=74,SNR=6.0
CAN **Canberra** 73.81 175 PFAKE 03 22 40.0 +11
CAN LR LR
comp=Z,482nm,19.0s,MS4.8
I16A **Newdale** 73.92 46 ⇓P P 03 22 30.1 +0.5
baz=74,SNR=8.8
ERZM **Erzurum** 73.92 308 i P P 03 22 29.5 -0.2
TPH **Tonopah** 73.99 54 PFAKE 03 22 40.0 +10
TPH LR LR
comp=Z,560nm,19.0s,MS4.9
F19A **Roth Farm, Mol** 74.09 44 ⇓P P 03 22 30.9 +0.3
baz=74
LKWY **Lake** 74.10 45 PFAKE 03 22 40.0 +9.3
LKWY LR LR
comp=Z,844nm,19.0s,MS5.0
H17A **Grant Village** 74.11 46 ⇓P P 03 22 31.9 +1.1
baz=74,SNR=5.5
E20A **Meyer Farm, Mu** 74.11 43 ⇑P P 03 22 31.0 +0.3
baz=74
VES **Vestal, Richgr** 74.11 57 ⇓P P 03 22 31.1 +0.2
baz=74
SUW **Suwalki** 74.17 328 eP P 03 22 30.5 -0.4
comp=Z,600nm,6.6s
SUW ePP PP 03 25 19.1 +3.1
SUW eS S 03 31 54.2 -8.3
SUW LMZ 03 57 18.9
comp=Z,2µm,18.8s
SUW **Suwalki** 74.17 328 eP P 03 22 30.8 -0.1
comp=Z,63nm,1.0s,mb5.5
SUW **Suwalki** 74.17 328⇑ eP P 03 22 30.5 -0.4
SUW e 03 25 19.1
SUW eS S 03 31 54.2 -8.2
SUW pmax pmax
comp=Z,600nm,6.6s
SUW MLR MLR
comp=Z,2µm,18.8s,MS5.5
PKM **Peak Mountain** 74.19 58 ⇓P P 03 22 31.5 +0.1
baz=74
SFJD **Kangerlussuaq** 74.19 5 eP P 03 22 29.4 -1.4
SFJD pmax pmax
comp=Z,11nm,0.9s,mb4.8
SFJD **Kangerlussuaq** 74.19 5 i P P 03 22 29.4 -1.4
comp=Z,11nm,1.0s,mb4.8
IMW **Indian Meadow** 74.21 46 eP P 03 22 32.1 +0.7
comp=Z,15nm,1.0s,mb4.9
J16A **Bone** 74.22 47 ⇑P P 03 22 31.9 +0.5
baz=74
FLWY **Flagg Ranch** 74.23 46 eP P 03 22 33.8 +2.3
comp=Z,33nm,1.4s,mb5.1
RRI2 **Red Ridge** 74.34 47 eP P 03 22 32.9 +0.7
comp=Z,49nm,1.6s,mb5.2
D21A **La Casta Ranch** 74.35 42 ⇑P P 03 22 32.0 -0.1
baz=74
RLMT **Red Lodge** 74.38 44 ⇑P P 03 22 32.9 +0.6
baz=74
RLMT **Red Lodge** 74.38 44 eP P 03 22 33.3 +1.0
comp=Z,19nm,1.4s,mb4.8
KOPT **Kop Dagi** 74.39 309 i P P 03 22 33.3 +0.9
FOO **Floro** 74.42 341 AMS AMS 03 59 35.2
comp=Z,970nm,17.9s,MS5.1
H18A **Shoshone NF, C** 74.44 45 ⇓P P 03 22 33.4 +0.8
baz=74
TPAW **Teton Pass** 74.46 47 eP P 03 22 34.2 +1.3
comp=Z,39nm,1.5s,mb5.1
B23A **Brockton** 74.46 40 ⇓P P 03 22 32.4 -0.4
baz=74
K16A **Soda Springs** 74.51 47 ⇑P P 03 22 33.5 +0.4
baz=74
GRAC **Grapevine Rang** 74.54 55 ⇓P P 03 22 33.2 -0.2
baz=74
L15A **Malad City** 74.56 48 ⇑P P 03 22 33.7 +0.3
baz=74
SNOW **Snow King Moun** 74.59 46 eP P 03 22 34.5 +0.9
comp=Z,7.2nm,1.2s,mb4.5
REDW **Red Top Meadow** 74.60 47 eP P 03 22 34.4 +0.8
comp=Z,12nm,1.1s,mb4.8
ISA **Isabella** 74.62 57 ⇓P P 03 22 33.5 -0.3
baz=74
E21A **Keefer Ranch,** 74.64 42 ⇑P P 03 22 34.3 +0.5
baz=74
J17A **Brown Place, J** 74.68 47 ⇓P P 03 22 34.2 +0.1
baz=74
ARVC **Arvin** 74.70 57 ⇓P P 03 22 34.3 -0.1
baz=75
D22A **Cohagen** 74.72 41 ⇑P P 03 22 34.2 0.0
baz=74
KONO **Kongsberg** 74.76 337 eS S 03 32 09.9 +1.1
KONO AMS AMS 03 58 47.9
comp=Z,2µm,15.8s,MS5.4
KONO **Kongsberg** 74.76 337 eP P 03 22 34.4 +0.1
comp=Z,20nm,1.0s,mb5.0
KONO LR LR
comp=Z,2µm,22.0s,MS5.3
KONO **Kongsberg** 74.76 337 eP P 03 22 34.4 +0.2
KONO pmax pmax
comp=Z,20nm,1.0s,mb5.0
KONO MLR MLR
comp=Z,2µm,22.0s,MS5.3
C23A **Lambert** 74.80 40 ⇑P P 03 22 34.8 +0.1
baz=75
H19A **Powell** 74.82 45 ⇑P P 03 22 35.0 +0.1
baz=75
AHID **Auburn Hatcher** 74.83 47 PFAKE 03 22 50.0 +15
AHID LR LR
comp=Z,233nm,21.0s,MS4.5
R11A **Troy Canyon, C** 74.85 53 ⇓P P 03 22 35.3 +0.2
baz=75,SNR=7.5
DGMT **Dagmar** 74.86 39 eP P 03 22 35.5 +0.5
comp=Z,19nm,1.0s,mb5.0
DGMT LR LR
comp=Z,529nm,19.0s,MS4.9
M15A **Larsen Ranch,** 74.86 49 ⇑P P 03 22 35.5 +0.4
baz=75
G20A **Bridger** 74.89 44 ⇓P P 03 22 35.3 0.0
baz=75
LAO **LASA Array** 75.00 42 ⇓P P 03 22 36.0 +0.1
baz=75
LAO **LASA Array** 75.00 42 PFAKE 03 22 50.0 +14
LAO LR LR
comp=Z,486nm,20.0s,MS4.8
SIM **Simferopol'** 75.00 316 ceP P 03 22 35.9 0.0
SIM eS S 03 32 10.0 -2.1
SIM pmax pmax
comp=Z,41nm,0.9s,mb5.4
MPMC **Manual Prospec** 75.02 56 ⇑P P 03 22 36.4 +0.2
baz=75,SNR=6.6
L16A **Fish Haven** 75.11 48 ⇓P P 03 22 37.3 +0.8
baz=75
J18A **Kendall Valley** 75.16 46 ⇓P P 03 22 37.4 +0.5
baz=75
N15A **Stansbury Isla** 75.17 49 ⇑P P 03 22 37.5 +0.5
baz=75
FURC **Furnace Creek,** 75.18 55 ⇑P P 03 22 37.0 -0.1
baz=75,SNR=5.5
D23A **Lindsay** 75.20 41 ⇓P P 03 22 36.7 -0.4
baz=75
I19A **Meeteetse** 75.22 45 ⇓P P 03 22 36.9 -0.2
baz=75
LRMC **Laurel Mountai** 75.24 56 ⇓P P 03 22 37.0 -0.4
baz=75
HWUT **Hardware Ranch** 75.28 48 eP P 03 22 38.2 +0.6
comp=Z,50nm,1.6s,mb5.2
HWUT LR LR
comp=Z,333nm,19.0s,MS4.7
E22A **Miles City** 75.30 42 ⇓P P 03 22 37.5 -0.1
baz=75
EDW2 **Edwards Air Fo** 75.40 57 ⇑P P 03 22 38.3 -0.1
baz=75,SNR=6.2
DUG **Dugway** 75.42 50 ⇓P P 03 22 38.5 0.0
baz=75,SNR=6.0
DUG **Dugway** 75.42 50 eP P 03 22 38.9 +0.4
comp=Z,14nm,1.1s,mb4.8
DUG LR LR
comp=Z,418nm,19.0s,MS4.8
DUG **Dugway** 75.42 50 eP P 03 22 38.9 +0.5
DUG pmax pmax
comp=Z,14nm,1.1s,mb4.8
DUG MLR MLR
comp=Z,418nm,19.0s,MS4.8
M16A **Huntsville** 75.43 49 ⇑P P 03 22 38.6 +0.1
baz=75
H20A **Greybull** 75.47 44 ⇑P P 03 22 38.4 -0.2
baz=75
K18A **Toltan Ranch,** 75.52 47 ⇓P P 03 22 38.7 -0.2
baz=75
F22A **Rosebud** 75.57 42 ⇓P P 03 22 39.1 -0.1
baz=75
E23A **Ismay** 75.60 41 ⇑P P 03 22 39.1 -0.2
baz=75
J19A **Crowheart** 75.67 46 ⇓P P 03 22 40.0 +0.1
baz=76,SNR=9.2
D24A **Glendive** 75.69 41 ⇑P P 03 22 40.1 +0.2
baz=76
BW06 **Boulder Array** 75.71 46 ⇓P P 03 22 39.8 -0.2
baz=76,SNR=5.9
BW06 **Boulder Array** 75.71 46 PFAKE 03 22 50.0 +10
BW06 LR LR
comp=Z,452nm,22.0s,MS4.7
PDAR **Pinedale Array** 75.71 46 P P 03 22 39.0 -1.0
comp=Z,3.0nm,0.7s,mb4.3,baz=270,slow=1.8,SNR=28
PDAR LR LR 03 51 37.1
comp=Z,231nm,21.7s,MS4.5,baz=101,slow=32
PDAR **Pinedale Array** 75.71 46 P P 03 22 39.0 -1.0
I20A **Worland** 75.75 45 ⇑P P 03 22 40.2 0.0
baz=76
N16A **Rees Ranch, Co** 75.81 49 ⇓P P 03 22 41.3 +0.6
baz=76
MARD **Mardin** 75.86 306 i P P 03 22 40.1 -0.9
M17A **Scullys Gap (B** 75.89 48 ⇑P P 03 22 41.5 +0.4
baz=76
H21A **Big Horn, Sher** 75.91 44 ⇑P P 03 22 41.2 +0.1
baz=76

UMR Umm Al-Rimmam 75.91 297 *e*P **P** **03 22 40.4 -1.0**
UMR AMb AMB 03 22 41.2
comp=Z,41nm,0.9s,mb5.4
G22A Birney 75.92 43 ⇓P **P** **03 22 41.3 +0.1**
baz=76
GSC Goldstone 75.92 56 ⇓P **P** **03 22 41.4 0.0**
baz=76
R13A O'Grain Ranch, 75.96 52 ⇓P **P** **03 22 41.8 +0.3**
baz=76
L18A Fontenelle, Gr 75.97 47 ⇑P **P** **03 22 41.5 0.0**
baz=76,SNR=5.1
BHD Baghdad 75.98 301 *i* x **P** **03 22 37.0 -4.7**
BHD *i* x x 03 32 19.5
JLU Jordanelle 75.98 49 *e*P **P** **03 22 43.1 +1.5**
comp=Z,25nm,1.5s,mb4.9
BFSC Mount Baldy Ra 76.01 57 ⇓P **P** **03 22 41.9 +0.1**
baz=76
MIB Mutribah 76.02 297 *e*P **P** **03 22 40.6 -1.5**
MIB AMb AMB 03 22 41.9
comp=Z,65nm,0.9s,mb5.6
F23A Volborg 76.06 42 ⇑P **P** **03 22 41.5 -0.5**
baz=76
KEMA Kemaliye 76.07 309 *i* P **P** **03 22 42.7 +0.5**
K19A Absolon Red Bu 76.07 46 ⇓P **P** **03 22 42.2 +0.1**
baz=76
N17A Moffit Pass 76.13 49 ⇓P **P** **03 22 42.3 -0.1**
baz=76,SNR=6.3
P15A Leamington 76.13 50 ⇓P **P** **03 22 42.3 -0.2**
baz=76
J20A Shoshoni 76.16 45 ⇑P **P** **03 22 42.7 +0.1**
baz=76
O16A Springville 76.20 49 ⇓P **P** **03 22 43.0 +0.1**
baz=76,SNR=7.2
DAU Daniels Canyon 76.22 49 *e*P **P** **03 22 44.0 +1.0**
comp=Z,24nm,1.3s,mb5.0
DAU Daniels Canyon 76.22 49 *e*P **P** **03 22 44.0 +1.0**
DAU pmax pmax
comp=Z,24nm,1.3s,mb5.0
ERBA Erbaa 76.22 311 *i* P **P** **03 22 42.0 -1.0**
MPU Maple Canyon 76.24 50 *e*P **P** **03 22 43.6 +0.5**
comp=Z,18nm,1.1s,mb4.9
QRN Al-Qurain 76.24 296 *e*P **P** **03 22 42.3 -1.0**
QRN AMb AMB 03 22 55.4
comp=Z,162nm,1.4s,mb5.8
L19A Farson 76.25 47 ⇑P **P** **03 22 42.7 -0.4**
baz=76
I21A Big Trails, Te 76.30 45 ⇑P **P** **03 22 42.9 -0.5**
baz=76,SNR=6.7
RDF Al-Radifah 76.40 296 *e*P **P** **03 22 43.0 -1.2**
RDF AMb AMB 03 22 56.7
comp=Z,183nm,1.4s,mb5.8
G23A Biddle 76.41 43 ⇑P **P** **03 22 43.7 -0.3**
baz=76
TUQ Turquoise Moun 76.41 56 ⇑P **P** **03 22 43.8 -0.3**
baz=76,SNR=6.4
NAY Al-Naaiem 76.42 297 *e*P **P** **03 22 43.0 -1.3**
NAY AMb AMB 03 22 44.1
comp=Z,35nm,1.1s,mb5.2
KIS Kishinev 76.43 320 *e*P **P** **03 22 43.0 -1.1**
KIS LRM 03 59 00.0
comp=Z,4μm,16.0s
KIS Kishinev 76.43 320 *e*P **P** **03 22 43.0 -1.1**
KIS *e* 03 27 28.0
KIS MLR MLR
comp=N,2μm,16.0s
KIS MLR MLR
comp=Z,3μm,16.0s,MS5.7
K20A Yellowstone Ra 76.47 46 ⇓P **P** **03 22 43.8 -0.5**
baz=76
F24A Ekalaka 76.48 42 ⇑P **P** **03 22 44.1 -0.3**
baz=76
HEC Hector,Ludlow 76.52 56 ⇓P **P** **03 22 44.7 -0.1**
baz=76
SCER sogukcermik 76.52 310 *i* P **P** **03 22 45.5 +0.8**
J21A Lysite 76.52 45 ⇑P **P** **03 22 44.9 +0.2**
baz=76
BSD Bornholm Skovb 76.58 332 *i* P **P** **03 22 44.4 -0.4**
BSD pmax pmax
comp=Z,50nm,1.0s,mb5.4
BSD MLR MLR
comp=Z,2μm,17.0s,MS5.5
BSD Bornholm Skovb 76.58 332 *i* P **P** **03 22 44.4 -0.4**
comp=Z,50nm,1.0s,mb5.4
BSD
comp=Z,2μm,17.0s
O17A Robinson Place 76.66 49 ⇓P **P** **03 22 45.5 0.0**
baz=76
I22A 9 Mile Ranch, 76.69 44 ⇓P **P** **03 22 45.2 -0.4**
baz=76
MALT Malatya 76.71 308 PFAKE 03 23 00.0 +14
MALT LR LR
comp=Z,880nm,22.0s,MS5.0
CCUT Cedar City 76.73 52 *e*P **P** **03 22 46.4 +0.4**
comp=Z,22nm,1.5s,mb4.9
BEL Belsk 76.74 327 *e*P **P** **03 22 46.4 +0.7**
comp=Z,800nm,6.4s
BEL *e*S S 03 32 24.9 -6.1
BEL LMZ 03 58 32.2
comp=Z,2μm,21.6s
BEL Belsk 76.74 327⇑*e*P **P** **03 22 46.4 +0.7**
BEL *e*S S 03 32 25.0 -6.0
BEL pmax pmax
comp=Z,800nm,6.4s
BEL MLR MLR
comp=Z,2μm,21.6s,MS5.4
LVV L'vov 76.77 324 *e*P **P** **03 22 45.2 -0.7**
LVV *e* 03 23 02.2
LVV *e* 03 25 44.4
LVV MLR MLR
comp=N,3μm,15.0s,MS5.9
LVV MLR MLR
comp=E,3μm,15.0s,MS5.9
LVV MLR MLR
comp=Z,4μm,15.0s,MS5.9
N18A Larsen Ranch, 76.79 48 ⇑P **P** **03 22 45.7 -0.5**
baz=77
RAO Raoul Island 76.81 145 PFAKE 03 23 00.0 +14
RAO LR LR
comp=Z,1μm,19.0s,MS5.3
BOYT Boyabat 76.83 313 *i* P **P** **03 22 44.9 -1.5**
MVU Marysvale 76.84 51 PFAKE 03 23 00.0 +13
MVU LR LR
comp=Z,379nm,22.0s,MS4.7
MSU Marysvale 76.86 51 *e*P **P** **03 22 48.0 +1.3**
comp=Z,33nm,1.6s,mb5.0
MSU Marysvale 76.86 51 *e*P **P** **03 22 48.0 +1.4**
MSU pmax pmax
comp=Z,33nm,1.6s,mb5.0
L20A Wamsutter 76.89 46 ⇑P **P** **03 22 47.0 +0.2**
baz=77
IAS Iasi 76.93 321 P **P** **03 22 47.1 +0.3**
IAS Iasi 76.93 321⇓*i*P **P** **03 22 47.7 +0.9**
GMRC Granite Mounta 76.98 56 ⇑P **P** **03 22 47.4 0.0**
baz=77
R15A Junction 76.99 51 ⇑P **P** **03 22 48.0 +0.6**
baz=77
J22A Midwest 77.01 44 ⇓P **P** **03 22 46.8 -0.6**
baz=77,SNR=9.7
COP Copenhagen 77.02 334⇑*e*P **P** **03 22 47.3 +0.1**
COP *i* S S 03 32 37.5 +3.6
COP pmax pmax
comp=Z,34nm,0.9s,mb5.3
COP MLR MLR
comp=Z,1μm,17.0s,MS5.3
COP Copenhagen 77.02 334⇑*i*P **P** **03 22 47.3 +0.1**
comp=Z,34nm,0.9s,mb5.3
COP *i* S S 03 32 37.5 +3.6
COP
comp=Z,1μm,17.0s
AKCD Akcadag 77.03 309 *i* P **P** **03 22 48.3 +0.7**
O18A Roosevelt 77.05 49 ⇑P **P** **03 22 48.2 +0.5**
baz=77
LEOM Leova 77.08 320 ⇑P **P** **03 22 47.8 +0.1**
LEOM Leova 77.08 320⇑*i*P **P** **03 22 47.8 +0.1**
K21A Alcova 77.09 45 ⇑P **P** **03 22 48.5 +0.6**
baz=77
P17A Butcher Ranch, 77.12 50 ⇓P **P** **03 22 48.6 +0.5**
baz=77
GKP Gorka Klasztor 77.12 330 *e*P **P** **03 22 47.9 +0.1**
GKP *e*pP pP 03 22 52.3 -3.4
GKP *e*S S 03 32 34.7 -0.4
GKP LMZ 03 59 43.7
comp=Z,3μm,17.5s
GKP Gorka Klasztor 77.12 330⇑*e*P **P** **03 22 47.9 +0.1**
GKP *e**PP pP 03 22 52.3 -3.4
GKP *e*S S 03 32 34.7 -0.4
GKP MLR MLR
comp=Z,3μm,17.5s,MS5.7
N19A John Jarvie Ra 77.13 48 ⇓P **P** **03 22 48.6 +0.5**
baz=77
LDFC Landfair 77.16 55 *e*P **P** **03 22 48.7 +0.3**
comp=Z,34nm,1.3s,mb5.1
H24A Dirks Ranch, A 77.16 42 ⇓P **P** **03 22 48.3 +0.1**
baz=77
PFO Pinyon Flat Ob 77.18 57 ⇓P **P** **03 22 48.9 +0.4**
baz=77
PFO Pinyon Flat Ob 77.18 57 PFAKE 03 23 00.0 +11
PFO LR LR
comp=Z,375nm,19.0s,MS4.7
BELC Belle Mtn. Jos 77.24 57 ⇓P **P** **03 22 48.9 0.0**
baz=77
P18A Preston Nutter 77.31 49 ⇑P **P** **03 22 49.7 +0.5**
baz=77
CTKT Corum 77.41 312 *i* P **P** **03 22 48.6 -1.1**
R16A Teasdale 77.42 51 ⇑P **P** **03 22 50.0 +0.1**
baz=77,SNR=8.3
L21A Rawlins 77.46 46 ⇑P **P** **03 22 49.5 -0.5**
baz=77
SRU San Rafael 77.48 50 *e*P **P** **03 22 49.5 -0.5**
comp=Z,16nm,0.9s,mb5.0
SRU San Rafael 77.48 50 *e*P **P** **03 22 49.6 -0.5**
SRU pmax pmax
comp=Z,16nm,0.9s,mb5.0
K22A Casper 77.48 45 ⇓P **P** **03 22 50.4 +0.4**
baz=77
MUD Monsted U'grnd 77.49 336⇑*i*P **P** **03 22 49.9 +0.1**
MUD pmax pmax
comp=Z,26nm,0.9s,mb5.2
MUD MLR MLR
comp=Z,2μm,16.0s,MS5.5
MUD Monsted U'grnd 77.49 336⇑*i*P **P** **03 22 49.9 +0.1**
comp=Z,26nm,0.9s,mb5.2
MUD
comp=Z,2μm,16.0s
KWP Kalwaria Pacla 77.51 325 *e*P **P** **03 22 50.7 +0.6**
comp=Z,700nm,3.3s
KWP *e*pP pP 03 22 54.6 -3.3
KWP *e*PP PP 03 25 43.0 -1.2
KWP LMZ 03 57 15.6
comp=Z,700nm,21.1s
KWP Kalwaria Pacla 77.51 325 *e*P **P** **03 22 50.5 +0.4**
comp=Z,83nm,1.0s,mb5.6
KWP LR LR
comp=Z,2μm,19.0s,MS5.4
KWP Kalwaria Pacla 77.51 325⇑*e*P **P** **03 22 50.7 +0.6**
KWP *e**PP pP 03 22 54.6 -3.3
KWP *e* 03 25 43.0
KWP pmax pmax
comp=Z,700nm,3.3s
KWP MLR MLR
comp=Z,700nm,21.1s,MS5.0
KWP Kalwaria Pacla 77.51 325⇑*i*P **P** **03 22 50.7 +0.6**
ULM Lac du Bonnet 77.52 34 P **P** **03 22 49.2 -0.9**
comp=Z,4.2nm,0.9s,mb4.4,baz=287,slow=4.3,SNR=4.8
ULM LR LR 03 56 37.9
comp=Z,357nm,18.4s,MS4.7,baz=336,slow=35
ULM Lac du Bonnet 77.52 34 P **P** **03 22 49.2 -0.9**
ULM Lac du Bonnet 77.52 34 P **P** **03 22 49.2 -0.9**
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM MLR MLR
comp=Z,357nm,18.4s
MDND Maddock 77.52 38 ⇑P **P** **03 22 50.2 0.0**
baz=77
O19A Miners Draw (B 77.54 48 ⇓P **P** **03 22 50.9 +0.5**
baz=77
BALT Daday 77.62 314 *i* P **P** **03 22 50.9 +0.1**
MONP Monument Peak 77.65 58 ⇑P **P** **03 22 51.1 -0.1**
baz=78
TLCR 77.66 319 ⇑P **P** **03 22 50.8 -0.2**
TLCR 77.66 319⇑*i*P **P** **03 22 50.8 -0.2**
N20A Spence Gulch, 77.69 47 ⇓P **P** **03 22 51.0 -0.2**
baz=78
IRM Iron Mountain 77.70 56 ⇓P **P** **03 22 51.4 -0.1**
baz=78
M21A Separation Pea 77.70 46 ⇓P **P** **03 22 51.4 +0.1**
baz=78
S16A Weppner Ranch, 77.71 51 ⇓P **P** **03 22 51.2 -0.2**
baz=78,SNR=6.5
Q18A Rafter H Ranch 77.72 50 ⇓P **P** **03 22 51.4 0.0**
baz=78
RWWY Rawlins 77.73 46 *e*P **P** **03 22 51.2 -0.3**
comp=Z,6.2nm,1.0s,mb4.5
ILGA Ilgaz 77.75 313 *i* P **P** **03 22 52.1 +0.6**
BUR08 Bucovina Ar. S 77.76 322 *e*P **P** **03 22 51.7 +0.2**
BUR08 *e*PP PP 03 25 44.6 -1.9
BURAR Bucovina Array 77.78 322 ⇑P **P** **03 22 51.9 +0.3**
BURAR Bucovina Array 77.78 322⇑*i*P **P** **03 22 51.9 +0.3**
GHRR 77.78 320⇑*i*P **P** **03 22 52.5 +0.8**
R17A Hanksville Air 77.81 50 ⇓P **P** **03 22 51.7 -0.2**
baz=78,SNR=6.4
BC3 Big Chuckawall 77.81 57 ⇓P **P** **03 22 52.4 +0.3**
baz=78
TESR 77.85 321⇑*i*P **P** **03 22 52.1 +0.1**
RSSD Black Hills 77.85 43 *e*P **P** **03 22 51.4 -0.7**
comp=Z,12nm,1.0s,mb4.8
RSSD Black Hills 77.85 43 *e*P **P** **03 22 51.4 -0.7**
RSSD pmax pmax
comp=Z,12nm,1.0s,mb4.8
K23A Bowen Ranch, D 77.91 45 ⇓P **P** **03 22 52.8 +0.4**
baz=78
L22A Ellis Ranch, M 77.94 45 ⇑P **P** **03 22 52.9 +0.2**
baz=78
J24A Dixon Ranch, L 78.05 44 ⇑P **P** **03 22 52.8 -0.4**
baz=78
P19A Cripple Cowboy 78.06 49 ⇑P **P** **03 22 52.7 -0.6**
baz=78,SNR=8.0
U15A North Rim 78.10 53 ⇓P **P** **03 22 53.6 0.0**
baz=78
PETR 78.11 320⇑*i*P **P** **03 22 54.8 +1.3**
O20A White River Ci 78.16 48 ⇑P **P** **03 22 53.5 -0.4**
baz=78
N21A Black Mountain 78.17 47 ⇓P **P** **03 22 54.4 +0.5**
baz=78
KOLS Kolonicke sedl 78.21 325 *e*P **P** **03 22 54.2 +0.2**
KOLS pmax pmax
comp=Z,16nm,1.0s,mb4.9
KOLS Kolonicke sedl 78.21 325 *e*P **P** **03 22 54.2 +0.2**
KOLS *e*PP PP 03 25 50.5 +0.4
S17A Black Ridge (B 78.25 51 ⇑P **P** **03 22 54.0 -0.5**
baz=78,SNR=6.9
VRI Vrincioaia 78.26 320 ⇑P **P** **03 22 54.9 +0.6**
VRI Vrincioaia 78.26 320⇑*i*P **P** **03 22 54.9 +0.6**
M22A Cedar Creek Ra 78.27 46 ⇓P **P** **03 22 55.2 +0.7**
baz=78
L23A Garrett 78.30 45 ⇑P **P** **03 22 54.1 -0.5**
baz=78
PLOR Plostina 78.31 320 ⇓P **P** **03 22 55.4 +0.8**
PLOR Plostina 78.31 320⇓*i*P **P** **03 22 55.4 +0.8**
STHS Stebnicka Huta 78.32 325 *e*P **P** **03 22 56.0 +1.4**
STHS pmax pmax
comp=Z,24nm,1.3s,mb5.0
STHS Stebnicka Huta 78.32 325 *e*P **P** **03 22 56.0 +1.4**
R18A Canyonlands Na 78.32 50 ⇑P **P** **03 22 54.6 -0.2**
baz=78
Q19A Hogan Spring (78.33 49 ⇑P **P** **03 22 54.6 -0.2**
baz=78,SNR=7.3
OJC Ojcow 78.36 327 *e*P **P** **03 22 55.0 +0.2**
OJC *e*pP pP 03 23 02.9 +0.2
OJC *e*PcP PcP 03 23 06.7 +2.7
OJC *e*S S 03 32 51.7 +3.1
OJC L 04 00 20.3
comp=Z,2.3nm,18.3s
OJC Ojcow 78.36 327 *e*P **P** **03 22 55.0 +0.2**
OJC *e**PP pP 03 23 02.9 +0.2
OJC *e* 03 23 06.7
OJC *e*S S 03 32 51.7 +3.1
Y12C Blythe 78.36 56 ⇑P **P** **03 22 55.8 +0.7**
baz=78
TIRR Tirgusor 78.37 318 ⇓P **P** **03 22 55.3 +0.3**
TIRR Tirgusor 78.37 318⇓*i*P **P** **03 22 55.3 +0.3**
UZH Uzhgorod 78.42 324 *i* P **P** **03 22 54.7 -0.4**
UZH *e* 03 23 04.7
UZH *e* 03 25 55.3
UZH *e*S S 03 32 48.3 -1.0
UZH *e*PS 03 33 35.5
UZH *e*SS SS 03 37 55.3 +4.0
UZH MLR MLR
comp=N,1μm,15.0s,MS5.8
UZH MLR MLR
comp=E,3μm,15.0s,MS5.8
UZH MLR MLR
comp=Z,2μm,15.0s,MS5.5
ANDN Andirin 78.44 309 *i* P **P** **03 22 56.3 +0.8**
KUZU Kuzuini 78.51 308 *i* P **P** **03 22 55.4 -0.5**
BMR Baia Mare 78.55 323 P **P** **03 22 56.7 +0.8**
AVNT Avonos 78.56 311 *i* P **P** **03 22 55.7 -0.4**
CRVS Cervenica-Dubn 78.60 325 *e*P **P** **03 22 56.6 +0.5**
CRVS pmax pmax
comp=Z,340nm,3.4s
CRVS Cervenica-Dubn 78.60 325 *e*P **P** **03 22 56.6 +0.5**
T17A Navajo Res., N 78.66 52 ⇓P **P** **03 22 56.8 +0.1**
baz=78
BR131 Keskin Array S 78.66 312 *e*P **P** **03 22 56.7 +0.1**
comp=Z,4.2nm,0.6s,mb4.5
BR131 LR LR
comp=Z,940nm,19.0s,MS5.1
BRTR Keskin Array B 78.66 312 P **P** **03 22 56.8 +0.1**
comp=Z,5.7nm,0.6s,mb4.7,baz=58,slow=4.7,SNR=38
BRTR PP PP 03 25 52.0 -2.2
comp=Z,5.3nm,1.1s,baz=84,slow=5.9,SNR=4.6
BRTR LR LR 04 02 16.9
comp=Z,891nm,19.6s,MS5.1,baz=211,slow=39
BRTR Keskin Array B 78.66 312 P **P** **03 22 56.8 +0.1**
BRTR PP PP 03 25 52.0 -2.2
BRTR Keskin Array B 78.66 312 P **P** **03 22 56.8 +0.1**
BRTR 03 25 52.1
BRTR pmax pmax
comp=Z,6.0nm,0.6s
BRTR pmax pmax
comp=Z,5.0nm,1.1s
BRTR MLR MLR
comp=Z,891nm,19.6s
TRPA Tarpa 78.67 324⇑*i*P **P** **03 22 57.0 +0.5**
S18A Hurst Farm, Bl 78.71 51 ⇑P **P** **03 22 56.2 -0.7**
baz=79,SNR=6.2
M23A Laramie 78.72 46 ⇓P **P** **03 22 56.9 0.0**
baz=78
NIE Niedzica 78.73 326 *e*P **P** **03 22 57.5 +0.7**
NIE Niedzica 78.73 326 *e*P **P** **03 22 57.5 +0.7**
N22A Wattenberg Ran 78.75 46 ⇓P **P** **03 22 57.5 +0.4**
baz=79
R19A Curley Farm, L 78.76 50 ⇓P **P** **03 22 57.2 0.0**
baz=79
ISR Istrita 78.87 320 ⇓P **P** **03 22 58.9 +1.2**
ISR Istrita 78.87 320⇓*i*P **P** **03 22 58.9 +1.2**
Q20A Ridgley Place, 78.90 49 ⇓P **P** **03 22 57.4 -0.6**
baz=79
PV04 Paradox Valley 78.91 50 *e*P **P** **03 22 59.0 +1.0**
MLR Muntele Rosu 78.91 320 ⇑P **P** **03 22 58.2 +0.3**
MLR Muntele Rosu 78.91 320⇑*i*P **P** **03 22 58.2 +0.3**
AGMN Agassiz Nation 78.95 36 PFAKE 03 23 10.0 +12
AGMN LR LR
comp=Z,526nm,21.0s,MS4.8
N23A Red Feather La 78.97 46 ⇓P **P** **03 22 58.5 +0.1**
baz=79
U16A Tuba City 79.01 52 ⇑P **P** **03 22 58.9 +0.3**
baz=79,SNR=7.6
SGKT Sivrigoynuk 79.01 314 *i* P **P** **03 22 57.7 -0.9**
P21A Newcastle 79.02 48 ⇑P **P** **03 22 58.8 +0.1**
baz=79
PSN Preselentsi 79.02 318 *i* P **P** **03 22 53.9 -4.7**
RUE Ruedersdorf 79.06 331 *e*P **P** **03 22 58.7 +0.1**
comp=Z,75nm,1.3s,mb5.5
RUE Ruedersdorf 79.06 331 *e*P **P** **03 22 58.5 -0.2**
comp=Z,18nm,0.6s,mb5.2
BBAL Bala 79.08 312 *i* P **P** **03 22 58.9 0.0**
O22A Kremmling 79.12 47 ⇓P **P** **03 22 59.3 +0.1**
baz=79
T18A Mexican Hat 79.14 51 ⇑P **P** **03 22 58.8 -0.5**
baz=79,SNR=5.3
BSEG Bad Segeberg 79.16 334 *e*P **P** **03 22 59.4 +0.3**
comp=Z,87nm,1.1s,mb5.6
BSEG Bad Segeberg 79.16 334 *e*P **P** **03 22 59.4 +0.3**
BSEG pmax pmax
comp=Z,87nm,1.1s,mb5.6
S19A Harvey Farm, M 79.19 50 ⇓P **P** **03 22 59.7 +0.1**
baz=79
M24A Cheyenne 79.22 45 ⇑P **P** **03 22 59.9 +0.2**
baz=79
Y14A Wickenburg 79.22 55 ⇑P **P** **03 22 59.9 0.0**
baz=79,SNR=6.4
WUAZ Wupatki 79.25 53 ⇓P **P** **03 22 59.8 -0.2**
baz=79
WUAZ Wupatki 79.25 53 *e*P **P** **03 23 00.6 +0.6**
comp=Z,24nm,1.4s,mb4.9
WUAZ LR LR
comp=Z,394nm,19.0s,MS4.8
Z13A Yuma Proving G 79.27 56 ⇑P **P** **03 23 00.1 0.0**
baz=79,SNR=8.3
PV01 Paradox Valley 79.28 50 *e*P **P** **03 23 01.0 +0.9**
comp=Z,1μm,1.2s,mb6.7
K26A Motz Farm, Whi 79.28 43 ⇑P **P** **03 22 59.8 -0.2**
baz=79
SULR 79.33 320⇑*i*P **P** **03 22 59.1 -1.1**
KECS Kecovo 79.34 325 *e*P **P** **03 23 00.2 0.0**
KECS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
KECS Kecovo 79.34 325 *e*P **P** **03 23 00.2 0.0**
KECS *e*PP PP 03 25 59.3 -0.3
OKC Ostrava-Krasne 79.35 327⇑*i*P **P** **03 23 00.5 +0.3**
OKC *e* 03 23 11.5
OKC MLR MLR
comp=Z,2μm,16.6s,MS5.6
OKC Ostrava-Krasne 79.35 327⇑*i*P **P** **03 23 00.5 +0.3**
OKC *e*x x 03 23 11.5
OKC AMS AMS 04 00 50.0
comp=Z,2μm,16.6s
KSP Ksiaz 79.35 329 *e*P **P** **03 23 00.7 +0.5**
comp=Z,400nm,3.9s
KSP *e*PcP PcP 03 23 04.1 -4.2
KSP *e*S S 03 32 54.3 -4.9
KSP LMZ 04 00 55.3
comp=Z,2μm,19.2s
KSP Ksiaz 79.35 329 *i* P **P** **03 23 00.5 +0.3**
KSP *e*S S 03 33 00.5 +1.3
KSP LM 04 00 59.0
comp=Z,5.0nm,19.2s
KSP Ksiaz 79.35 329⇑*i*P **P** **03 23 00.5 +0.3**
KSP *e*S S 03 33 00.5 +1.3
KSP MLR MLR
comp=Z,5μm,19.2s,MS5.9
R20A Redvale 79.35 49 ⇑P **P** **03 23 01.0 +0.5**
baz=79
P22A Eagle 79.38 47 ⇑P **P** **03 23 00.6 0.0**
baz=79
VOIR 79.40 321 ⇑P **P** **03 23 00.9 +0.3**
VOIR 79.40 321⇑*i*P **P** **03 23 00.9 +0.3**
O23A Lake Granby, G 79.45 47 ⇓P **P** **03 23 01.2 +0.2**
baz=79,SNR=5.7
113A Mohawk Valley, 79.47 56 ⇑P **P** **03 23 01.1 -0.1**
baz=79
LIKS Likavka 79.53 326 *e*P **P** **03 23 02.4 +1.2**
LIKS pmax pmax
comp=Z,34nm,1.0s,mb5.2
LIKS Likavka 79.53 326 *e*P **P** **03 23 02.4 +1.2**
V17A Tonalea, Kykot 79.55 53 ⇓P **P** **03 23 02.2 +0.6**
baz=79,SNR=12
DRGR 79.56 323 P **P** **03 23 01.3 -0.1**
DRGR 79.56 323⇑*i*P **P** **03 23 01.7 +0.3**
S20A Disappointment 79.60 50 ⇓P **P** **03 23 01.9 +0.1**
baz=79
U18A Rough Rock, Ch 79.61 52 ⇑P **P** **03 23 02.1 +0.3**
baz=80
MORC Moravsky Berou 79.65 327 *e*P **P** **03 23 02.1 +0.3**
comp=Z,43nm,1.0s,mb5.3
MORC Moravsky Berou 79.65 327 *e*P **P** **03 23 02.1 +0.2**
MORC pmax pmax
comp=Z,43nm,1.0s,mb5.3
MORC Moravsky Berou 79.65 327⇑*i*P **P** **03 23 02.3 +0.4**
DPC Dobruska-Polom 79.72 328⇑*i*P **P** **03 23 02.9 +0.7**
DPC *e* 03 23 13.9
DPC MLR MLR
comp=Z,2μm,17.7s,MS5.5
DPC Dobruska-Polom 79.72 328⇑*i*P **P** **03 23 02.9 +0.7**
DPC *e*x x 03 23 13.9
DPC AMS AMS 04 01 00.0
comp=Z,2μm,17.7s
UPC Upice 79.72 329⇑*i*P **P** **03 23 02.6 +0.4**
UPC *e* 03 23 14.2
UPC Upice 79.72 329⇑*i*P **P** **03 23 02.6 +0.4**
UPC *e*x x 03 23 14.2
R21A Cimarron 79.73 49 ⇓P **P** **03 23 03.1 +0.6**
baz=80
KRLC Kraliky 79.74 328⇑*i*P **P** **03 23 03.0 +0.7**
PRD Provadia 79.77 318 *i* P **P** **03 23 02.4 -0.2**
Q22A Crested Butte, 79.77 48 ⇓P **P** **03 23 03.2 +0.5**

baz=80
T19A Beclabito 79.85 51 ⇑P **P 03 23 03.5 +0.2**
baz=80
ISCO Idaho Springs 79.90 47 ⇑P **P 03 23 03.9 +0.5**
baz=80
ISCO Idaho Springs 79.90 47 PFAKE 03 23 20.0 +17
ISCO LR LR
comp=Z,430nm,20.0s,MS4.8
X16A Lo Mia Camp, P 79.92 54 ⇑P **P 03 23 04.0 +0.4**
baz=80,SNR=8.2
MVCO Mesa Verde 79.92 50 ⇑P **P 03 23 04.3 +0.7**
baz=80
MVCO Mesa Verde 79.92 50 *e*P **P 03 23 04.5 +0.9**
comp=Z,32nm,1.5s,mb5.0
MVCO LR LR
comp=Z,478nm,21.0s,MS4.8
O24A Longmont 79.98 46 ⇓P **P 03 23 04.8 +1.0**
baz=80
PSZ Piszkesteto 80.03 325 *e*P **P 03 23 04.5 +0.5**
comp=Z,35nm,1.0s,mb5.2
PSZ LR LR
comp=Z,736nm,20.0s,MS5.0
PSZ Piszkesteto 80.03 325 *e*P **P 03 23 04.5 +0.5**
PSZ pmax pmax
comp=Z,35nm,1.0s,mb5.2
PSZ MLR MLR
comp=Z,736nm,20.0s,MS5.0
PSZ Piszkesteto 80.03 325⇑*e*P **P 03 23 04.6 +0.6**
PSZ Piszkesteto 80.03 325⇑*i*P **P 03 23 04.6 +0.6**
S21A Coal Bank Pass 80.05 50 ⇓P **P 03 23 05.0 +0.7**
baz=80,SNR=6.9
114A Black Gap (USA 80.06 56 ⇓P **P 03 23 04.5 +0.2**
baz=80
N25A Grover 80.07 45 ⇑P **P 03 23 04.7 +0.3**
baz=80
U19A Dine' College, 80.09 51 ⇓P **P 03 23 05.3 +0.7**
baz=80,SNR=5.8
L27A T5 Ranch, Ells 80.17 43 ⇑P **P 03 23 05.0 +0.2**
baz=80
KOLL Kolacno 80.19 326 *e*P **P 03 23 05.6 +0.8**
KOLL Kolacno 80.19 326 *e*P **P 03 23 05.6 +0.8**
BRG Berggiesshubel 80.26 330 *i* P **P 03 23 05.0 -0.1**
comp=Z,32nm,1.0s,mb5.2
BRG PP PP 03 25 57.0 -10
BRG S S 03 33 12.0 +3.2
BRG SS SS 03 38 24.0 +5.2
BRG
comp=N,2μm,16.5s
BRG
comp=E,902nm,14.0s
BRG
comp=Z,3μm,16.3s
BRG Berggiesshubel 80.26 330 *i* P **P 03 23 05.0 -0.2**
BRG S S 03 33 12.0 +3.2
BRG SS SS 03 38 24.0 +5.2
BRG pmax pmax
comp=Z,32nm,1.0s,mb5.2
BRG MLR MLR
comp=N,2μm,16.5s,MS5.7
BRG MLR MLR
comp=E,902nm,14.0s,MS5.7
BRG MLR MLR
comp=Z,3μm,16.3s,MS5.8
CLL Collm 80.28 331 *e*P **P 03 23 05.0 -0.3**
comp=Z,54nm,1.0s,mb5.4
CLL Collm 80.28 331⇑*i*P **P 03 23 04.9 -0.4**
CLL *e* 03 23 16.0
CLL *e*S S 03 33 12.0 +3.0
CLL pmax pmax
comp=Z,54nm,1.0s,mb5.4
CLL MLR MLR
comp=Z,2μm,17.0s,MS5.6
CLL Collm 80.28 331⇑*i*P **P 03 23 04.9 -0.4**
comp=Z,54nm,1.0s,mb5.4
CLL *e*PcP 03 23 16.0
CLL *e*PP PP 03 26 12.0 +4.7
CLL *e*PPP 03 28 00.0
CLL *e*S S 03 33 12.0 +3.0
CLL *e*PS 03 34 00.0
CLL *e*SS SS 03 38 12.0 -7.0
CLL *e* 03 39 12.0
CLL *e*SSS 03 41 36.0
CLL *e*(SSSS) 03 44 30.0
PVCC Panska Ves 80.29 329⇑*i*P **P 03 23 05.8 +0.5**
PVCC *e* 03 23 17.5
PVCC MLR MLR
comp=Z,3μm,15.3s,MS5.7
PVCC Panska Ves 80.29 329⇑*i*P **P 03 23 05.8 +0.5**
PVCC *ex* x 03 23 17.5
PVCC AMS AMS 04 03 20.0
comp=Z,3μm,15.3s
KDHN Kadinhani 80.35 312 *i* P **P 03 23 04.3 -1.5**
X17A Forest Lakes 80.37 54 ⇓P **P 03 23 06.3 +0.3**
baz=80
BORA Eskisehir 80.39 314 *i* P **P 03 23 05.0 -1.1**
ESKT Eskisehir 80.40 313 *i* P **P 03 23 03.8 -2.4**
VRAC Vranov 80.41 328 ⇑P **P 03 23 06.6 +0.6**
VRAC Vranov 80.41 328⇑*i*P **P 03 23 06.6 +0.6**
FBE Freiberg 80.45 330 *e*P **P 03 23 06.5 +0.3**
comp=Z,50nm,1.0s,mb5.4
O25A Wiggins 80.53 46 ⇓P **P 03 23 06.6 -0.2**
baz=80
GZR Gura Zlata 80.54 322 ⇑P **P 03 23 07.0 +0.2**
GZR Gura Zlata 80.54 322⇑*i*P **P 03 23 07.0 +0.2**
S22A 4UR Ranch, Cre 80.56 49 ⇓P **P 03 23 07.0 0.0**
baz=80,SNR=5.4
214A Organ Pipe Nat 80.61 57 ⇑P **P 03 23 08.2 +0.8**
baz=80
T21A Navajo Lake 80.65 50 ⇓P **P 03 23 08.5 +1.0**
baz=80
SMOL Smolenice 80.66 327 *e*P **P 03 23 08.2 +0.9**
SMOL Smolenice 80.66 327 *e*P **P 03 23 08.2 +0.9**
PRA Prague 80.70 329 ⇑P **P 03 23 08.0 +0.5**
PRA AMS AMS 04 02 00.0
BUD Budapest 80.74 325⇑*e*P **P 03 23 08.4 +0.6**
Y17A Roosevelt 80.76 54 ⇑P **P 03 23 08.3 +0.1**
baz=81
X18A Snowflake 80.78 53 ⇑P **P 03 23 08.9 +0.6**
baz=81
NEUB Neuenburg 80.83 331 *e*P **P 03 23 08.1 -0.1**
comp=Z,60nm,1.0s,mb5.5
CLZ Clausthal 80.84 332 *e*P **P 03 23 08.6 +0.4**
comp=Z,53nm,1.0s,mb5.4
CLZ Clausthal 80.84 332 *e*P **P 03 23 08.6 +0.4**
CLZ pmax pmax
comp=Z,53nm,1.0s,mb5.4
R23A Moffat 80.85 48 ⇓P **P 03 23 09.3 +0.7**
baz=81
V20A Brimhall 80.87 51 ⇑P **P 03 23 09.3 +0.6**
baz=81
TREC Trest 80.88 328⇑*i*P **P 03 23 08.8 +0.3**
TREC *e*S S 03 33 17.5 +2.2
TREC MLR MLR
comp=Z,2μm,14.9s,MS5.7
TREC Trest 80.88 328⇑*i*P **P 03 23 08.8 +0.3**
TREC *e*S S 03 33 17.5 +2.2
TREC AMS AMS 04 03 30.0
comp=Z,2μm,14.9s
O26A Horse Wrangler 80.89 45 ⇓P **P 03 23 09.1 +0.3**
baz=81
P25A Willow Gulch B 80.91 46 ⇓P **P 03 23 09.3 +0.5**
baz=81
BZS Buzias 80.94 323 ⇓P **P 03 23 08.9 0.0**
BZS Buzias 80.94 323⇓*i*P **P 03 23 08.9 0.0**
116A Eloy 80.94 56 ⇑P **P 03 23 09.8 +0.6**
baz=81
U21A Nageezi 80.94 50 ⇓P **P 03 23 09.6 +0.5**
baz=81
T22A Edith 81.01 50 ⇑P **P 03 23 09.9 +0.5**
baz=81,SNR=5.3
ZST Bratislava 81.05 327 *e*P **P 03 23 10.2 +0.8**
ZST pmax pmax
comp=Z,30nm,1.2s,mb5.1
ZST Bratislava 81.05 327 *e*P **P 03 23 10.2 +0.8**
ZST Bratislava 81.05 327 *e*S S 03 33 25.8 +8.7
EYMN Ely 81.16 34 PFAKE 03 23 20.0 +10
EYMN LR LR
comp=Z,471nm,20.0s,MS4.8
TANN Tannenbergstha 81.20 330 *e*P **P 03 23 10.2 0.0**
comp=Z,16nm,1.1s,mb4.9
Y18A Canyon Day Jun 81.22 54 ⇑P **P 03 23 11.1 +0.5**
baz=81,SNR=5.8
WERD Werda 81.24 331 *e*P **P 03 23 10.4 0.0**
comp=Z,33nm,1.2s,mb5.1
R24A Sanders Place, 81.24 48 ⇓P **P 03 23 10.6 0.0**
baz=81
X19A St. Johns 81.26 53 ⇓P **P 03 23 10.8 0.0**
baz=81,SNR=11
PLN Plauen 81.26 331 *e*P **P 03 23 10.4 -0.1**
comp=Z,241nm,1.6s,mb5.9
TAU Tasmania Unive 81.27 177 PFAKE 03 23 20.0 +10
TAU LR LR
comp=Z,537nm,21.0s,MS4.9
Q25A Bedland, Calha 81.27 47 ⇑P **P 03 23 10.8 0.0**
baz=81
W20A Ramah 81.29 52 ⇓P **P 03 23 11.2 +0.2**
baz=81
GUNZ Gunzen 81.29 331 *e*P **P 03 23 10.9 +0.2**
comp=Z,33nm,1.1s,mb5.2
WERN Wernitzgruen 81.34 330 *e*P **P 03 23 11.1 +0.2**
comp=Z,31nm,1.0s,mb5.2
MOX Moxa 81.34 331 *e*P **P 03 23 10.9 0.0**
comp=Z,38nm,1.1s,mb5.2
MOX Moxa 81.34 331 *e*P **P 03 23 10.9 0.0**
MOX pmax pmax
comp=Z,38nm,1.1s,mb5.2
SDCO Great Sand Dun 81.34 48 ⇑P **P 03 23 11.5 +0.3**
baz=81
SDCO Great Sand Dun 81.34 48 *e*P **P 03 23 11.8 +0.6**
comp=Z,10nm,1.3s,mb4.6
SDCO LR LR
comp=Z,414nm,19.0s,MS4.8
NKC Novy Kostel 81.35 330⇑*i*P **P 03 23 11.1 +0.1**
NKC MLR MLR
comp=Z,2μm,17.3s,MS5.5
NKC Novy Kostel 81.35 330⇑*i*P **P 03 23 11.1 +0.1**
NKC AMS AMS 04 02 40.0
comp=Z,2μm,17.3s
IBBN Ibbenburen 81.38 334 *e*P **P 03 23 11.0 -0.1**
comp=Z,47nm,0.9s,mb5.4
216A Three Points, 81.46 56 ⇓P **P 03 23 11.9 0.0**
baz=81
U22A Llaves 81.46 50 ⇓P **P 03 23 12.6 +0.7**
baz=81
GDZ Gediz 81.47 314 *i* P **P 03 23 10.7 -1.2**
T23A Casias Ranch, 81.51 49 ⇑P **P 03 23 12.9 +0.8**
baz=81
S24A Houchin Ranch, 81.58 48 ⇑P **P 03 23 12.9 +0.5**
baz=81
Y19A Nutrioso 81.59 53 ⇑P **P 03 23 13.2 +0.6**
baz=81
SOP Sopron 81.67 327⇑*e*P **P 03 23 13.4 +0.7**
X20A Quemado 81.68 52 ⇓P **P 03 23 13.4 +0.4**
baz=82,SNR=5.8
R25A Fountain Ranch 81.78 47 ⇓P **P 03 23 13.2 -0.3**
baz=82
CONA Conrad Observa 81.78 327 *i* P **P 03 23 13.9 +0.6**
comp=Z,36nm,1.0s,mb5.2,SNR=24
CONA Conrad Observa 81.78 327 *i* P **P 03 23 13.9 +0.6**
comp=Z,36nm,1.0s,mb5.2
KHC Kasperske Hory 81.78 329 *e*P **P 03 23 13.3 +0.1**
comp=Z,34nm,1.0s,mb5.2
KHC *e*PP PP 03 26 14.0 -5.8
KHC Kasperske Hory 81.78 329⇑*i*P **P 03 23 13.4 +0.1**
KHC *e* 03 23 24.5
KHC *e*S S 03 33 33.9 +9.2
KHC MLR MLR
comp=Z,2μm,14.8s,MS5.7
KHC Kasperske Hory 81.78 329⇑*i*P **P 03 23 13.4 +0.1**
KHC *ex* x 03 23 24.5
KHC *e*S S 03 33 33.9 +9.2
KHC AMS AMS 04 03 40.0
comp=Z,2μm,14.8s
UBBA Unterbreizbach 81.80 332 *e*P **P 03 23 12.9 -0.5**
comp=Z,31nm,1.7s,mb5.0
ROTZ Rotzenmuhle 81.82 330 *e*P **P 03 23 14.0 +0.5**
comp=Z,41nm,1.3s,mb5.2
PKSM Moragy 81.88 325 ⇑P **P 03 23 13.3 -0.5**
PKSM Moragy 81.88 325⇑*i*P **P 03 23 13.3 -0.5**
U23A El Rito 81.89 50 ⇑P **P 03 23 14.1 0.0**
baz=82,SNR=11
KDZ Kurdzhali 81.90 318 *i* P **P 03 23 05.4 -8.7**
ECSD EROS Data Cent 81.93 39 *e*P **P 03 23 13.2 -1.0**
comp=Z,12nm,1.0s,mb4.8
ECSD LR LR
comp=Z,433nm,20.0s,MS4.8
PLD Plovdiv 81.95 319 *i* P **P 03 23 04.1 -10**
GEC2 GERESS Array S 81.96 329 *e*P **P 03 23 14.2 0.0**
comp=Z,25nm,1.1s,mb5.1
GEC2 GERESS Array S 81.96 329 *e*P **P 03 23 14.2 0.0**
GEC2 pmax pmax
comp=Z,25nm,1.1s,mb5.1
GERES GERESS Array B 81.96 329 P **P 03 23 14.1 -0.1**
comp=Z,9.3nm,0.9s,mb4.7,baz=35,slow=4.9,SNR=58
GERES PP PP 03 26 07.1 -14
comp=Z,1.9nm,1.0s,baz=72,slow=6.5,SNR=3.5
GERES LR LR 04 02 50.2
comp=Z,2μm,19.1s,MS5.5,baz=14,slow=38
GERES GERESS Array B 81.96 329 P **P 03 23 14.1 -0.1**
GERES PP PP 03 26 07.1 -14
GERES GERESS Array B 81.96 329 P **P 03 23 14.1 -0.1**
GERES pmax pmax
comp=Z,9.0nm,0.9s
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES MLR MLR
comp=Z,2μm,19.1s
CSS Prodhromos 81.99 309 *e*P **P 03 23 14.9 +0.2**
comp=Z,37nm,0.9s,mb5.3
CSS LR LR
comp=Z,788nm,20.0s,MS5.1
118A Homack Ranch, 82.00 55 ⇓P **P 03 23 15.0 +0.3**
baz=82
217A Green Valley 82.02 56 ⇑P **P 03 23 14.8 -0.1**
baz=82
S25A Robets Cordova 82.02 48 ⇑P **P 03 23 15.0 +0.2**
baz=82
WET Wettzell 82.05 329 *e*P **P 03 23 15.0 +0.3**
comp=Z,34nm,1.2s,mb5.2
WET Wettzell 82.05 329 *e*P **P 03 23 15.0 +0.3**
WET pmax pmax
comp=Z,34nm,1.2s,mb5.2
T24A Torres, Weston 82.06 48 ⇑P **P 03 23 15.3 +0.3**
baz=82
BALY Balya 82.06 315 *i* P **P 03 23 12.0 -2.9**
R26A Arlington 82.15 47 ⇑P **P 03 23 14.6 -0.8**
baz=82,SNR=7.5
Y20A Horse Springs, 82.17 53 ⇑P **P 03 23 16.0 +0.4**
baz=82,SNR=7.8
X21A Alamocita Cree 82.18 52 ⇓P **P 03 23 15.7 0.0**
baz=82,SNR=7.5
GRF Grafenberg Arr 82.26 331 *e*P **P 03 23 16.4 +0.6**
comp=Z,65nm,1.0s,mb5.5
GRF *e*L 04 00 11.9
comp=Z,918nm,20.5s
GRF Grafenberg Arr 82.26 331 *e*P **P 03 23 16.4 +0.6**
GRF pmax pmax
comp=Z,65nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,900nm,20.5s,MS5.1
GRFO Grafenberg 82.26 331 *e*P **P 03 23 15.2 -0.6**
comp=Z,51nm,0.9s,mb5.5
GRFO Grafenberg 82.26 331 *e*P **P 03 23 15.2 -0.6**
GRFO pmax pmax
comp=Z,51nm,0.9s,mb5.5
BUG Bochum--Univer 82.27 334 *e*P **P 03 23 15.4 -0.4**
comp=Z,28nm,1.0s,mb5.2
V23A Ortiz Mt. (NFS 82.29 50 ⇑P **P 03 23 17.3 +1.1**
baz=82
119A Ashpeak Ranch, 82.34 54 ⇓P **P 03 23 17.7 +1.1**
baz=82
VTS Vitosha 82.37 320 ⇑P **P 03 23 17.1 +0.6**
VTS Vitosha 82.37 320 *i* P **P 03 23 15.4 -1.1**
VTS Vitosha 82.37 320⇑*i*P **P 03 23 17.1 +0.6**
218A Dragoon 82.39 55 ⇓P **P 03 23 17.1 +0.3**
baz=82,SNR=5.1
T25A Trinidad 82.39 48 ⇑P **P 03 23 16.7 0.0**
baz=82
MANT Manisa 82.41 314 *i* P **P 03 23 15.5 -1.3**
ARSA Arzberg 82.45 327⇑*i*P **P 03 23 16.5 -0.3**
comp=Z,22nm,1.1s,mb5.0,SNR=9.9
ARSA Arzberg 82.45 327⇑*i*P **P 03 23 16.5 -0.3**
comp=Z,22nm,1.1s,mb5.0
MOA Molln 82.51 328⇑*i*P **P 03 23 17.2 0.0**
comp=Z,20nm,1.2s,mb5.0
MOA Molln 82.51 328⇑*i*P **P 03 23 17.2 0.0**
comp=Z,20nm,1.2s,mb5.0
Y21A Point of Rocks 82.54 52 ⇓P **P 03 23 18.4 +0.9**
baz=82
Z20A Nine Sixteen R 82.56 53 ⇑P **P 03 23 18.6 +0.9**
baz=82
LAZ Ladron 82.61 52 *e*P **P 03 23 19.5 +1.6**
comp=Z,8.5nm,1.4s,mb4.6
X22A Bernardo 82.62 51 ⇓P **P 03 23 18.9 +1.0**
baz=82
ANMO Albuquerque 82.66 51 *e*P **P 03 23 18.9 +0.8**
comp=Z,16nm,1.3s,mb4.9
ANMO LR LR
comp=Z,433nm,19.0s,MS4.8
ANMO Albuquerque 82.66 51 *e*P **P 03 23 18.9 +0.8**
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO MLR MLR
comp=Z,433nm,19.0s
W23A Werner Place, 82.70 50 ⇓P **P 03 23 19.2 +0.8**
baz=82
URZ Urewera 82.74 154 P **P 03 23 21.4 +3.2**
comp=Z,7.0nm,1.0s,mb4.7,baz=321,slow=13,SNR=2.9
URZ Urewera 82.74 154 P **P 03 23 21.4 +3.2**
318A Bisbee 82.77 55 ⇓P **P 03 23 18.7 -0.1**
baz=83,SNR=7.6
MMB Musomiste 82.83 319 *i* P **P 03 23 13.9 -5.0**
BGNE Belgrade 82.84 42 ⇓P **P 03 23 18.8 -0.2**
baz=83
V24A Rampart Ranch, 82.85 50 ⇓P **P 03 23 20.5 +1.3**
baz=83
TNS Taunus Mts 82.86 332 *e*P **P 03 23 18.7 -0.2**
comp=Z,21nm,1.0s,mb5.1
TNS Taunus Mts 82.86 332 *e*P **P 03 23 18.7 -0.2**
TNS pmax pmax
comp=Z,21nm,1.0s,mb5.1
219A White Tail Can 82.88 55 ⇓P **P 03 23 19.2 -0.1**
baz=83,SNR=9.1
U25A Circle Dot Ran 82.90 49 ⇓P **P 03 23 19.8 +0.5**
baz=83
120A U Bar Ranch, L 82.91 54 ⇓P **P 03 23 20.1 +0.6**
baz=83
KKB Krupnik 82.96 319 *i* P **P 03 23 16.5 -3.1**
Z21A St. Cloud Mine 83.01 53 ⇓P **P 03 23 20.1 +0.1**
baz=83,SNR=6.4
Y22A Socorro 83.03 52 ⇓P **P 03 23 20.7 +0.6**
baz=83
BNM Barren Site 83.09 52 *e*P **P 03 23 21.0 +0.6**
comp=Z,12nm,1.4s,mb4.7
PERS Pernice 83.11 327 *i* P **P 03 23 20.2 -0.1**
SOKA Soboth 83.11 327⇑*i*P **P 03 23 20.2 -0.1**
comp=Z,51nm,0.9s,mb5.5
SOKA Soboth 83.11 327⇑*i*P **P 03 23 20.2 0.0**
comp=Z,51nm,0.9s,mb5.6
W24A Lazy 6 Ranch, 83.12 50 ⇑P **P 03 23 20.5 0.0**
baz=83,SNR=7.8
V25A Rancho No Teng 83.16 49 ⇑P **P 03 23 21.3 +0.6**
baz=83
RJOB Jochberg 83.21 329 *e*P **P 03 23 21.2 +0.4**
comp=Z,52nm,1.0s,mb5.5
TOD Tromm 83.24 332 *e*P **P 03 23 19.9 -1.0**
TOD Tromm 83.24 332 *e*P **P 03 23 19.9 -1.0**
319A Douglas 83.27 55 ⇓P **P 03 23 22.0 +0.6**
baz=83
U26A Atchley Ranch, 83.29 48 ⇑P **P 03 23 22.0 +0.6**
baz=83
BEBN Eben Emael 83.35 334 P **P 03 23 21.5 0.0**
comp=Z,11nm,1.1s,mb4.8
MEM Membach 83.40 334 P **P 03 23 21.1 -0.6**
comp=Z,15nm,1.1s,mb4.9
220A Playas Peak, P 83.40 54 ⇓P **P 03 23 21.9 -0.1**
baz=83,SNR=5.7
OBKA Obir 83.45 327⇑*i*P **P 03 23 21.8 -0.2**
comp=Z,16nm,0.8s,mb5.1,SNR=11
OBKA Obir 83.45 327⇑*i*P **P 03 23 21.8 -0.2**
comp=Z,16nm,0.8s,mb5.1
121A Cookes Peak, D 83.46 53 ⇑P **P 03 23 23.2 +0.9**
baz=83
ABH Alteburg 83.47 333 *e*P **P 03 23 20.9 -1.1**
SCHQ Schefferville 83.47 17 P **P 03 23 21.7 -0.3**
comp=Z,5.4nm,0.9s,mb4.5,baz=320,slow=7.3,SNR=3.2
SCHQ LR LR 04 04 13.7
comp=Z,396nm,19.0s,MS4.8,baz=351,slow=38
SCHQ Schefferville 83.47 17 P **P 03 23 21.7 -0.3**
FUR Furstenfeldbru 83.47 330 *e*P **P 03 23 22.3 +0.2**
comp=Z,62nm,1.1s,mb5.5
FUR Furstenfeldbru 83.47 330 *e*P **P 03 23 22.3 +0.2**
FUR pmax pmax
comp=Z,62nm,1.1s,mb5.5
Z22A Elephant Butte 83.48 52 ⇓P **P 03 23 22.9 +0.5**
baz=83
KBA Koelnbreinsper 83.51 328⇑*i*P **P 03 23 22.2 -0.1**
comp=Z,35nm,1.0s,mb5.5,SNR=9.9
KBA Koelnbreinsper 83.51 328⇑*i*P **P 03 23 22.2 -0.1**
comp=Z,35nm,1.0s,mb5.5
KBA Koelnbreinsper 83.51 328⇑*i*P **P 03 23 22.2 -0.1**
KBA pmax pmax
comp=Z,35nm,1.0s,mb5.4
X24A Lazy VL Ranch, 83.54 51 ⇑P **P 03 23 23.0 +0.3**
baz=83
Y23A Lovelace Mesa, 83.59 51 ⇓P **P 03 23 23.7 +0.7**
baz=83
W25A X Bar L Ranch, 83.68 49 ⇓P **P 03 23 23.5 +0.1**
baz=84,SNR=14
V26A Tequesquite Ra 83.68 49 ⇑P **P 03 23 23.6 +0.2**
baz=84
MYKA Terra Mystica 83.74 328⇑*i*P **P 03 23 22.8 -0.7**
comp=Z,15nm,0.7s,mb5.2
MYKA Terra Mystica 83.74 328⇑*i*P **P 03 23 22.8 -0.7**
comp=Z,15nm,0.7s,mb5.2
320A Kipp Ranch, An 83.78 55 ⇓P **P 03 23 24.4 +0.4**
baz=84
STU Stuttgart 83.78 331 *e*P **P 03 23 23.6 -0.1**
comp=Z,47nm,1.1s,mb5.5
STU Stuttgart 83.78 331 *e*P **P 03 23 23.5 -0.2**
comp=Z,20nm,0.8s,mb5.3
STU Stuttgart 83.78 331 *e*P **P 03 23 23.5 -0.2**
STU pmax pmax
comp=Z,20nm,0.8s,mb5.3
RUP Ruppelstein 83.79 333 *e*P **P 03 23 22.4 -1.3**
RUP Ruppelstein 83.79 333 *e*P **P 03 23 22.4 -1.3**
BCLA Clavier 83.80 334 P **P 03 23 23.1 -0.6**
comp=Z,16nm,1.4s,mb4.9
CBKS Cedar Bluff 83.86 44 ⇑P **P 03 23 24.1 -0.2**
baz=84
CBKS Cedar Bluff 83.86 44 PFAKE 03 23 40.0 +16
CBKS LR LR
comp=Z,429nm,20.0s,MS4.8
VISS Visnje 83.88 326 *i* P **P 03 23 23.4 -0.8**
Z23A Rita Site, Whi 83.93 52 ⇓P **P 03 23 25.2 +0.5**
baz=84
BOJS Bojanci 83.93 326 *i* P **P 03 23 23.8 -0.7**
Y24A Capitan 83.97 51 ⇓P **P 03 23 25.0 +0.1**
baz=84
WATA Walderalm 84.02 329⇑*i*P **P 03 23 24.9 0.0**
comp=Z,6.3nm,0.6s,mb4.9
WATA Walderalm 84.02 329⇑*i*P **P 03 23 24.9 0.0**
comp=Z,6.3nm,0.6s,mb4.9
WATA Walderalm 84.02 329⇑*i*P **P 03 23 24.9 0.0**
WATA pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
X25A Clemmons Ranch 84.03 50 ⇑P **P 03 23 25.6 +0.3**
baz=84
WTTA Wattenberg 84.06 329⇑*i*P **P 03 23 24.7 -0.4**
comp=Z,22nm,1.1s,mb5.2,SNR=6.3
WTTA Wattenberg 84.06 329⇑*i*P **P 03 23 24.7 -0.4**
comp=Z,22nm,1.1s,mb5.2
WTTA Wattenberg 84.06 329⇑*i*P **P 03 23 24.7 -0.4**
WTTA pmax pmax
comp=Z,22nm,1.1s,mb5.2
SNF Seneffe 84.07 335 P **P 03 23 25.1 0.0**
comp=Z,15nm,1.7s,mb4.8
ABTA Abfaltersbach 84.12 328⇑*i*P **P 03 23 24.2 -1.2**
comp=Z,27nm,1.1s,mb5.3,SNR=14
ABTA Abfaltersbach 84.12 328⇑*i*P **P 03 23 24.2 -1.2**
comp=Z,27nm,1.1s,mb5.3
LANF Langenberg 84.12 332 *e*P **P 03 23 25.3 -0.1**
LANF Langenberg 84.12 332 *e*P **P 03 23 25.3 -0.1**
LANF Langenberg 84.12 332 *e*P **P 03 23 25.3 -0.1**
JAVS Javornik 84.14 327 *i* P **P 03 23 24.4 -1.2**
WLF Walferdange 84.14 333 P **P 03 23 26.0 +0.5**
comp=Z,21nm,1.6s,mb5.0
WLF Walferdange 84.14 333 PFAKE 03 23 40.0 +14
WLF LR LR
comp=Z,2μm,20.0s,MS5.4
222A Williams Famil 84.17 53 ⇓P **P 03 23 26.0 0.0**
baz=84
W26A Owens Ranch, T 84.18 49 ⇓P **P 03 23 26.3 +0.3**
baz=84
MOTA Moosalm 84.21 329⇑*i*P **P 03 23 25.7 -0.2**
comp=Z,42nm,1.0s,mb5.5,SNR=19
MOTA Moosalm 84.21 329⇑*i*P **P 03 23 25.7 -0.2**
comp=Z,42nm,1.0s,mb5.5
MOTA Moosalm 84.21 329⇑*i*P **P 03 23 25.7 -0.2**
MOTA pmax pmax

comp=Z,42nm,1.0s,mb5.5
RETA Reutte 84.23 330 *i* P **P 03 23 26.0 0.0**
comp=Z,66nm,1.1s,mb5.7,SNR=36
RETA Reutte 84.23 330 *i* P **P 03 23 26.0 0.0**
comp=Z,66nm,1.1s,mb5.7
GIVF Givet 84.23 334⇑*iP* **P 03 23 25.4 -0.5**
GIVF Givet 84.23 334⇑*iP* **P 03 23 25.4 -0.5**
GIVF Givet 84.23 334⇑*iP* **P 03 23 25.4 -0.5**
DOU Dourbes 84.31 334 P **P 03 23 25.1 -1.2**
comp=Z,18nm,1.6s,mb4.9
PPT Papeete 84.32 118 *e*S S 03 33 42.6 -8.5
comp=Z,153nm,24.2s
PPT *e*LR LR 03 49 49.6
comp=Z,1μm,22.2s,baz=314
TRI Trieste 84.42 327 PFAKE 03 23 40.0 +13
TRI LR LR
comp=Z,2μm,19.0s,MS5.5
Y25A Mesa, Roswell 84.42 51⇑P **P 03 23 27.3 +0.1**
baz=84
BFO Black Forest 84.47 331 *e*P **P 03 23 27.0 -0.2**
comp=Z,64nm,1.2s,mb5.6
BFO Black Forest 84.47 331 P **P 03 23 26.2 -1.0**
comp=Z,248nm,1.1s,mb6.2,SNR=15
BFO Black Forest 84.47 331 *e*P **P 03 23 26.6 -0.6**
comp=Z,63nm,1.2s,mb5.6
BFO LR LR
comp=Z,861nm,19.0s,MS5.2
BFO Black Forest 84.47 331 *e*P **P 03 23 26.6 -0.6**
BFO pmax pmax
comp=Z,63nm,1.2s,mb5.6
BFO MLR MLR
comp=Z,861nm,19.0s,MS5.2
BAIF Baives 84.48 335⇑*iP* **P 03 23 26.7 -0.5**
comp=Z,38nm,1.2s,mb5.1
BAIF Baives 84.48 335⇑*iP* **P 03 23 26.7 -0.5**
comp=Z,38nm,1.2s,mb5.4
BAIF Baives 84.48 335⇑*iP* **P 03 23 26.7 -0.5**
BAIF pmax pmax
comp=Z,38nm,1.2s,mb5.4
SPAK Spaichingen-Ko 84.49 331 *e*P **P 03 23 26.3 -1.0**
X26A CR and CF Fran 84.52 50⇑P **P 03 23 27.9 +0.2**
baz=84
W27A Bowe Ranch, En 84.61 49⇑P **P 03 23 28.1 -0.1**
baz=84,SNR=8.4
FETA Feichten 84.62 329⇑*iP* **P 03 23 27.8 -0.1**
comp=Z,34nm,1.0s,mb5.4,SNR=12
FETA Feichten 84.62 329⇑*iP* **P 03 23 27.8 -0.1**
comp=Z,34nm,1.0s,mb5.4
SNZO South Karori 84.69 156 PFAKE 03 23 40.0 +12
SNZO LR LR
comp=Z,868nm,20.0s,MS5.1
DAVA Damuels 84.74 330⇑*iP* **P 03 23 28.4 -0.1**
comp=Z,72nm,1.0s,mb5.8,SNR=18
DAVA Damuels 84.74 330⇑*iP* **P 03 23 28.4 -0.1**
comp=Z,72nm,1.0s,mb5.8
124A Stringfield Ra 84.79 52⇓P **P 03 23 28.8 -0.3**
baz=85
CDF Champ du Feu 84.79 332⇑*iP* **P 03 23 28.6 -0.2**
comp=Z,94nm,1.1s,mb5.5
CDF Champ du Feu 84.79 332⇑*iP* **P 03 23 28.6 -0.2**
comp=Z,94nm,1.1s,mb5.8
CDF Champ du Feu 84.79 332⇑*iP* **P 03 23 28.6 -0.2**
CDF pmax pmax
comp=Z,94nm,1.1s,mb5.8
Z25A Roswell 84.85 51⇑P **P 03 23 29.2 -0.2**
baz=85,SNR=6.6
X27A F and S Farms, 84.88 49⇓P **P 03 23 29.6 +0.1**
baz=85
LIBD Limburg 84.89 332 *e*P **P 03 23 29.1 -0.2**
LIBD Limburg 84.89 332 *e*P **P 03 23 29.1 -0.2**
SCIA State Center 84.96 38 PFAKE 03 23 40.0 +10
SCIA LR LR
comp=Z,468nm,22.0s,MS4.8
TIR Tirane 84.96 321 PFAKE 03 23 40.0 +10
TIR LR LR
comp=Z,3μm,20.0s,MS5.6
FELD Feldberg im Sc 84.97 331 *e*P **P 03 23 29.4 -0.3**
ECH Echery 85.00 332 *e*P **P 03 23 29.5 -0.4**
comp=Z,38nm,1.1s,mb5.4
ECH LR LR
comp=Z,824nm,19.0s,MS5.1
ECH Echery 85.00 332 *e*P **P 03 23 29.5 -0.4**
ECH pmax pmax
comp=Z,37nm,1.1s,mb5.4
ECH MLR MLR
comp=Z,824nm,19.0s,MS5.1
ECH Echery 85.00 332 *e*P **P 03 23 29.5 -0.4**
224A Cornudas Mount 85.18 52⇑P **P 03 23 30.9 -0.2**
baz=85
PAGF Fort de Pagny 85.23 333⇑*iP* **P 03 23 31.1 +0.1**
comp=Z,59nm,1.2s,mb5.3
Z26A Caprock 85.30 51⇑P **P 03 23 31.4 -0.3**
baz=85,SNR=6.6
125A Gardner Draw, 85.31 51⇓P **P 03 23 31.3 -0.4**
baz=85,SNR=5.5
MOF Molkenrain 85.31 332 *e*P **P 03 23 30.7 -0.7**
MOF Molkenrain 85.31 332 *e*P **P 03 23 30.7 -0.7**
MOF Molkenrain 85.31 332 *e*P **P 03 23 30.7 -0.7**
Y27A Causey 85.37 50⇑P **P 03 23 32.1 +0.1**
baz=85
THEF They Montfort 85.42 333 *e*P **P 03 23 31.7 -0.2**
THEF They Montfort 85.42 333 *e*P **P 03 23 31.7 -0.2**
THEF They Montfort 85.42 333 *e*P **P 03 23 31.7 -0.2**
TAOE Nuku Hiva Isla 85.43 105 *e*S S 03 33 55.5 -7.0
comp=Z,226nm,26.7s
TAOE *e*LR LR 03 50 31.7
comp=Z,1μm,21.9s
HINF Hinteralfeld 85.45 332⇑*iP* **P 03 23 31.4 -0.7**
comp=Z,36nm,1.1s,mb5.1
HINF Hinteralfeld 85.45 332⇑*iP* **P 03 23 31.4 -0.7**
comp=Z,36nm,1.1s,mb5.4
HINF Hinteralfeld 85.45 332⇑*iP* **P 03 23 31.4 -0.7**
HINF pmax pmax
comp=Z,36nm,1.1s,mb5.4
HAU Haudompre 85.47 332⇑*iP* **P 03 23 31.7 -0.5**
comp=Z,55nm,1.1s,mb5.3
HAU *e*R
comp=Z,1μm,21.5s
HAU Haudompre 85.47 332⇑*iP* **P 03 23 31.7 -0.5**
comp=Z,55nm,1.1s,mb5.6
HAU Haudompre 85.47 332⇑*iP* **P 03 23 31.7 -0.5**
HAU pmax pmax
comp=Z,55nm,1.1s,mb5.6
BBS Basel-Blauen 85.50 331 *e*P **P 03 23 31.1 -1.3**
BBS Basel-Blauen 85.50 331 *e*P **P 03 23 31.1 -1.3**
MEZF Maizieres J'vi 85.52 333⇑*iP* **P 03 23 32.4 0.0**
comp=Z,79nm,1.0s,mb5.6
MEZF Maizieres J'vi 85.52 333⇑*iP* **P 03 23 32.4 0.0**
comp=Z,79nm,1.0s,mb5.9
MNTX Cornudas Mount 85.52 53⇑P **P 03 23 32.0 -0.8**
baz=85
MNTX Cornudas Mount 85.52 53 PFAKE 03 23 40.0 +7.2
MNTX LR LR
comp=Z,239nm,19.0s,MS4.6
AMTX Amarillo 85.55 48⇑P **P 03 23 32.7 -0.2**
baz=85
AMTX Amarillo 85.55 48 *e*P **P 03 23 33.1 +0.2**
comp=Z,18nm,1.0s,mb5.3
AMTX LR LR
comp=Z,317nm,21.0s,MS4.7
225A Deer Hill, Car 85.58 52⇑P **P 03 23 34.1 +1.0**
baz=85
JFWS Jewell Farm 85.60 36 PFAKE 03 23 40.0 +7.1
JFWS LR LR
comp=Z,658nm,20.0s,MS5.0
TUE Stuetta 85.61 330 *e*P **P 03 23 32.8 -0.2**
comp=Z,36nm,1.0s,mb5.6
TUE LR LR
comp=Z,1μm,20.0s,MS5.3
324A Moseley Ranch, 85.63 53⇓P **P 03 23 33.6 +0.2**
baz=86
126A Clayton Basin, 85.71 51⇓P **P 03 23 33.5 -0.2**
baz=86
Z27A Tatum 85.73 50⇑P **P 03 23 34.0 +0.2**
baz=86
SFTF Sexfontaines 85.77 333⇑*iP* **P 03 23 33.5 -0.2**
comp=Z,121nm,1.1s,mb5.8
SFTF Sexfontaines 85.77 333⇑*iP* **P 03 23 33.5 -0.2**
comp=Z,121nm,1.1s,mb6.0
RPZ Rata Peaks 85.85 160 LR LR 03 58 50.5
comp=Z,390nm,18.6s,MS4.8,baz=190,slow=34
LOMF Lomont 85.85 332 *e*P **P 03 23 33.9 -0.2**
LOMF Lomont 85.85 332 *e*P **P 03 23 33.9 -0.2**
LOMF Lomont 85.85 332 *e*P **P 03 23 33.9 -0.2**
325A Bean Ranch, Si 86.00 53⇑P **P 03 23 35.1 0.0**
baz=86
226A Malaga, Loving 86.06 52⇓P **P 03 23 35.3 -0.2**
baz=86
425A Indio Mountain 86.39 53⇓P **P 03 23 37.4 +0.3**
baz=86
GLMI Grayling 86.53 32 PFAKE 03 23 50.0 +12
GLMI LR LR
comp=Z,364nm,19.0s,MS4.8
CABF La Chapelle 86.74 332⇑*iP* **P 03 23 38.3 -0.2**
CABF La Chapelle 86.74 332⇑*iP* **P 03 23 38.3 -0.2**
CABF La Chapelle 86.74 332⇑*iP* **P 03 23 38.3 -0.2**
LOR Lormes 86.99 333⇑*iP* **P 03 23 39.3 -0.4**
comp=Z,106nm,1.1s,mb5.7
LOR *e*R
comp=Z,1μm,17.0s
LOR Lormes 86.99 333⇑*iP* **P 03 23 39.3 -0.4**
comp=Z,106nm,1.1s,mb6.0
LOR Lormes 86.99 333⇑*iP* **P 03 23 39.3 -0.4**
LOR pmax pmax
comp=Z,106nm,1.1s,mb6.0
VLC Villacollemand 87.09 328 PFAKE 03 23 50.0 +10
VLC LR LR
comp=Z,2μm,19.0s,MS5.5
FLN La Foliniere 87.12 337⇑*iP* **P 03 23 39.8 -0.5**
comp=Z,50nm,1.0s,mb5.4
FLN *e*R
comp=Z,2μm,19.5s
FLN La Foliniere 87.12 337⇑*iP* **P 03 23 39.8 -0.5**
comp=Z,50nm,1.0s,mb5.7
FLN La Foliniere 87.12 337⇑*iP* **P 03 23 39.8 -0.5**
FLN pmax pmax
comp=Z,50nm,1.0s,mb5.7
LDF La Druitiere 87.15 336 *e*P **P 03 23 39.6 -0.9**
comp=Z,12nm,0.7s,mb4.9
LDF La Druitiere 87.15 336 *e*P **P 03 23 39.6 -0.9**
comp=Z,12nm,0.7s,mb5.2
LDF La Druitiere 87.15 336 *e*P **P 03 23 39.6 -0.9**
LDF pmax pmax
comp=Z,12nm,0.7s,mb5.2
AQU L'Aquila 87.24 325 PFAKE 03 23 50.0 +9.0
AQU LR LR
comp=Z,2μm,19.0s,MS5.5
SSF Saint Saulge 87.29 334⇑*iP* **P 03 23 40.8 -0.4**
comp=Z,52nm,1.1s,mb5.4
SSF Saint Saulge 87.29 334⇑*iP* **P 03 23 40.8 -0.4**
comp=Z,52nm,1.1s,mb5.7
SSF Saint Saulge 87.29 334⇑*iP* **P 03 23 40.8 -0.4**
SSF pmax pmax
comp=Z,52nm,1.1s,mb5.7
WMOK Wichita Mounta 87.32 47 PFAKE 03 23 50.0 +8.4
WMOK LR LR
comp=Z,335nm,21.0s,MS4.7
328A Wristen Ranch, 87.33 51⇓P **P 03 23 41.5 -0.2**
baz=87
427A Hayter Ranch, 87.33 52⇓P **P 03 23 42.0 +0.3**
baz=87
HYF Humbligny 87.41 334⇑*iP* **P 03 23 41.8 0.0**
HYF Humbligny 87.41 334⇑*iP* **P 03 23 41.8 0.0**
LPL La Plagne 87.42 331 *e*P **P 03 23 41.9 0.0**
comp=Z,42nm,1.0s,mb5.3
LPL La Plagne 87.42 331 *e*P **P 03 23 41.9 0.0**
comp=Z,42nm,1.0s,mb5.6
LPL La Plagne 87.42 331 *e*P **P 03 23 41.9 0.0**
LPL pmax pmax
comp=Z,43nm,1.0s,mb5.6
LPG La Plagne 87.43 331⇑*iP* **P 03 23 42.0 +0.1**
comp=Z,54nm,1.0s,mb5.4
LPG La Plagne 87.43 331⇑*iP* **P 03 23 42.0 +0.1**
comp=Z,54nm,1.0s,mb5.7
LPG La Plagne 87.43 331⇑*iP* **P 03 23 42.0 +0.1**
LPG pmax pmax
comp=Z,54nm,1.0s,mb5.7
526A Mary Lane Ranc 87.45 53⇑P **P 03 23 42.6 +0.3**
baz=87
SMF Signal de Mont 87.53 333 *e*P **P 03 23 42.1 -0.2**
comp=Z,117nm,1.3s,mb5.7
SMF Signal de Mont 87.53 333 *e*P **P 03 23 42.1 -0.2**
comp=Z,117nm,1.3s,mb6.0
SMF Signal de Mont 87.53 333 *e*P **P 03 23 42.1 -0.2**
SMF pmax pmax
comp=Z,117nm,1.3s,mb6.0
GRR Gorron 87.56 337⇑*iP* **P 03 23 42.2 -0.3**
comp=Z,120nm,1.3s,mb5.7
GRR Gorron 87.56 337⇑*iP* **P 03 23 42.2 -0.3**
comp=Z,120nm,1.3s,mb6.0
GRR Gorron 87.56 337⇑*iP* **P 03 23 42.2 -0.3**
GRR pmax pmax
comp=Z,120nm,1.3s,mb6.0
AVF Avril sur Loir 87.57 333⇑*iP* **P 03 23 42.3 -0.3**
comp=Z,104nm,1.1s,mb5.7
AVF Avril sur Loir 87.57 333⇑*iP* **P 03 23 42.3 -0.3**
comp=Z,104nm,1.1s,mb6.0
AVF Avril sur Loir 87.57 333⇑*iP* **P 03 23 42.3 -0.3**
AVF pmax pmax
comp=Z,104nm,1.1s,mb6.0
BNI Bardonecchia 87.83 331 PFAKE 03 24 00.0 +16
BNI LR LR
comp=Z,1μm,21.0s,MS5.4
428A Kincaid Ranch, 87.86 52⇓P **P 03 23 45.0 +0.8**
baz=88
HDIL Hopedale 87.88 37 PFAKE 03 24 00.0 +16
HDIL LR LR
comp=Z,401nm,19.0s,MS4.8
BGF Bois d'Agland 87.95 334⇑*iP* **P 03 23 44.0 -0.4**
BGF Bois d'Agland 87.95 334⇑*iP* **P 03 23 44.0 -0.4**
BGF Bois d'Agland 87.95 334⇑*iP* **P 03 23 44.0 -0.4**
CUC Castrocucco 87.98 322 PFAKE 03 24 00.0 +15
CUC LR LR
comp=Z,749nm,19.0s,MS5.1
MBDF Montbardon 88.07 330⇑*iP* **P 03 23 44.3 -0.7**
comp=Z,11nm,0.8s,mb4.9
MBDF Montbardon 88.07 330⇑*iP* **P 03 23 44.3 -0.7**
comp=Z,11nm,0.8s,mb5.1
MBDF Montbardon 88.07 330⇑*iP* **P 03 23 44.3 -0.7**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb5.1
PLDF La Plantade 88.19 333 *e*P **P 03 23 45.6 +0.1**
PLDF La Plantade 88.19 333 *e*P **P 03 23 45.6 +0.1**
PLDF La Plantade 88.19 333 *e*P **P 03 23 45.6 +0.1**
TXAR Lajitas Array 88.22 53 P **P 03 23 45.1 -0.9**
comp=Z,1.0nm,0.6s,mb4.2,baz=295,slow=2.7,SNR=10
TXAR LR LR 04 05 18.4
comp=Z,291nm,18.4s,MS4.7,baz=40,slow=37
TXAR Lajitas Array 88.22 53 P **P 03 23 45.1 -0.9**
TXAR Lajitas Array 88.22 53 P **P 03 23 45.1 -0.9**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR MLR MLR
comp=Z,291nm,18.4s
ORIF Oris-en-Rattie 88.25 331⇑*iP* **P 03 23 46.0 +0.2**
comp=Z,11nm,0.8s,mb4.8
ORIF *e*R
comp=Z,2μm,21.5s
ORIF Oris-en-Rattie 88.25 331⇑*iP* **P 03 23 46.0 +0.2**
comp=Z,11nm,0.8s,mb5.1
ORIF Oris-en-Rattie 88.25 331⇑*iP* **P 03 23 46.0 +0.2**
ORIF pmax pmax
comp=Z,11nm,0.8s,mb5.1
ROSF Rostrenen 88.33 338 *e*P **P 03 23 46.3 +0.2**
ROSF Rostrenen 88.33 338 *e*P **P 03 23 46.3 +0.2**
ROSF Rostrenen 88.33 338 *e*P **P 03 23 46.3 +0.2**
TBI Tubuai 88.35 122 *e*S S 03 34 28.3 -2.0
comp=Z,219nm,26.2s
TBI *e*LR LR 03 51 45.0
comp=Z,985nm,22.0s,baz=316
TCF Toulx Ste Croi 88.41 334⇑*iP* **P 03 23 46.5 0.0**
comp=Z,35nm,1.1s,mb5.2
TCF Toulx Ste Croi 88.41 334⇑*iP* **P 03 23 46.5 0.0**
comp=Z,35nm,1.1s,mb5.5
TCF Toulx Ste Croi 88.41 334⇑*iP* **P 03 23 46.5 0.0**
TCF pmax pmax
comp=Z,35nm,1.1s,mb5.5
SSB Saint Sauveur 88.44 332 PFAKE 03 24 00.0 +13
SSB LR LR
comp=Z,997nm,19.0s,MS5.2
PYM Petit Puy Mans 88.59 333 *e*P **P 03 23 46.7 -0.7**
PYM Petit Puy Mans 88.59 333 *e*P **P 03 23 46.7 -0.7**
PYM Petit Puy Mans 88.59 333 *e*P **P 03 23 46.7 -0.7**
QUIF Quistinic 88.68 338⇑*iP* **P 03 23 48.3 +0.5**
comp=Z,87nm,1.2s,mb5.7
QUIF Quistinic 88.68 338⇑*iP* **P 03 23 48.3 +0.5**
comp=Z,87nm,1.2s,mb6.0
QUIF Quistinic 88.68 338⇑*iP* **P 03 23 48.3 +0.5**
QUIF pmax pmax
comp=Z,87nm,1.2s,mb6.0
VIVF Saint-Julien-l 88.76 332⇑*iP* **P 03 23 47.9 -0.3**
comp=Z,31nm,1.1s,mb5.2
VIVF Saint-Julien-l 88.76 332⇑*iP* **P 03 23 47.9 -0.3**
comp=Z,31nm,1.1s,mb5.5
VIVF Saint-Julien-l 88.76 332⇑*iP* **P 03 23 47.9 -0.3**
VIVF pmax pmax
comp=Z,31nm,1.1s,mb5.5
CCM Cathedral Cave 88.88 40 *e*P **P 03 23 47.5 -1.4**
comp=Z,18nm,1.1s,mb5.3
CCM Cathedral Cave 88.88 40 *e*P **P 03 23 47.6 -1.3**
CCM pmax pmax
comp=Z,18nm,1.1s,mb5.3
MFF Saint Martin d 88.92 336 *e*P **P 03 23 48.8 -0.1**
comp=Z,150nm,1.4s,mb5.8
MFF Saint Martin d 88.92 336 *e*P **P 03 23 48.8 -0.1**
comp=Z,150nm,1.4s,mb6.1
MFF Saint Martin d 88.92 336 *e*P **P 03 23 48.8 -0.1**
MFF pmax pmax
comp=Z,150nm,1.4s,mb6.1
AAM Ann Arbor 89.00 33 PFAKE 03 24 00.0 +11
AAM LR LR
comp=Z,428nm,19.0s,MS4.9
CEL Celeste 89.29 321 PFAKE 03 24 00.0 +9.1
CEL LR LR
comp=Z,2μm,20.0s,MS5.6
LMR La Mourre 89.34 330 *e*P **P 03 23 50.0 -1.0**
LMR La Mourre 89.34 330 *e*P **P 03 23 50.0 -1.0**
RJF Les Rejaudoux 89.50 334⇑*iP* **P 03 23 51.7 0.0**
comp=Z,49nm,1.1s,mb5.4
RJF *e*R
comp=Z,2μm,22.2s
RJF Les Rejaudoux 89.50 334⇑*iP* **P 03 23 51.7 0.0**
comp=Z,49nm,1.1s,mb5.8
RJF Les Rejaudoux 89.50 334⇑*iP* **P 03 23 51.7 0.0**
RJF pmax pmax
comp=Z,49nm,1.1s,mb5.8
CAF Calviac 89.64 333⇑*iP* **P 03 23 52.6 +0.3**
comp=Z,54nm,1.1s,mb5.5
CAF Calviac 89.64 333⇑*iP* **P 03 23 52.6 +0.3**
comp=Z,54nm,1.1s,mb5.8
CAF Calviac 89.64 333⇑*iP* **P 03 23 52.6 +0.3**
CAF pmax pmax
comp=Z,54nm,1.1s,mb5.8
JCT Junction City 89.78 50⇓P **P 03 23 53.2 -0.1**
baz=90
JCT Junction City 89.78 50 PFAKE 03 24 00.0 +6.7
JCT LR LR
comp=Z,375nm,19.0s,MS4.8
LFF La Frestale 90.09 334⇑*iP* **P 03 23 54.7 +0.3**
comp=Z,42nm,0.9s,mb5.5
LFF La Frestale 90.09 334⇑*iP* **P 03 23 54.7 +0.3**
comp=Z,42nm,0.9s,mb5.8
LFF La Frestale 90.09 334⇑*iP* **P 03 23 54.7 +0.3**
LFF pmax pmax
comp=Z,42nm,0.9s,mb5.8
SIUC Southern Illin 90.15 39 *e*P **P 03 23 55.1 +0.3**
MIAR Mount Ida 90.35 43 *e*P **P 03 23 56.4 +0.6**
comp=Z,31nm,1.5s,mb5.4
MIAR LR LR
comp=Z,437nm,19.0s,MS4.9
MIAR Mount Ida 90.35 43 *e*P **P 03 23 56.4 +0.5**
MIAR pmax pmax
comp=Z,31nm,1.5s,mb5.4
MIAR MLR MLR
comp=Z,437nm,19.0s,MS4.9
LONY Lake Ozonia 90.49 26 PFAKE 03 24 10.0 +14
LONY LR LR
comp=Z,675nm,21.0s,MS5.1
ERPA Erie 90.66 30 PFAKE 03 24 10.0 +13
ERPA LR LR
comp=Z,448nm,19.0s,MS4.9
MSEY Mahe Island 90.87 265 PFAKE 03 24 10.0 +11
MSEY LR LR
comp=Z,369nm,19.0s,MS4.8
MTLF Montolieu 90.96 332 *e*P **P 03 23 58.4 -0.1**
comp=Z,21nm,1.1s,mb5.1
MTLF Montolieu 90.96 332 *e*P **P 03 23 58.4 -0.1**
comp=Z,21nm,1.1s,mb5.4
MTLF Montolieu 90.96 332 *e*P **P 03 23 58.4 -0.1**
MTLF pmax pmax
comp=Z,21nm,1.1s,mb5.4
ACSO Alum Creek Sta 90.99 33 PFAKE 03 24 10.0 +11
ACSO LR LR
comp=Z,542nm,21.0s,MS5.0
VSL Villasalto 91.34 326 PFAKE 03 24 10.0 +10
VSL LR LR
comp=Z,642nm,19.0s,MS5.1
PKME Peaks-Kenny Pk 91.59 22 PFAKE 03 24 10.0 +8.6
PKME LR LR
comp=Z,481nm,20.0s,MS4.9
LBNH Lisbon 91.71 24 PFAKE 03 24 10.0 +8.0
LBNH LR LR
comp=Z,439nm,20.0s,MS4.9
NATX Nacogdoches 91.84 46 PFAKE 03 24 10.0 +7.1
NATX LR LR
comp=Z,566nm,21.0s,MS5.0
EPF Esparros 91.90 334⇑*iP* **P 03 24 02.4 -0.5**
comp=Z,26nm,1.2s,mb5.2
EPF Esparros 91.90 334⇑*iP* **P 03 24 02.4 -0.5**
comp=Z,26nm,1.2s,mb5.4
EPF Esparros 91.90 334⇑*iP* **P 03 24 02.4 -0.5**
EPF pmax pmax
comp=Z,26nm,1.2s,mb5.4
BINY Binghamton 92.11 28 PFAKE 03 24 20.0 +16
BINY LR LR
comp=Z,677nm,19.0s,MS5.1
OXF Oxford 92.56 41 PFAKE 03 24 20.0 +14
OXF LR LR
comp=Z,872nm,19.0s,MS5.2
PLAL Pickwick Lake 92.87 40 PFAKE 03 24 20.0 +12
PLAL LR LR
comp=Z,417nm,20.0s,MS4.9
KEST Kesra 94.44 324 LR LR 04 11 04.3
comp=Z,487nm,18.4s,MS5.0,baz=176,slow=38
BLA Blacksburg 94.61 33 PFAKE 03 24 30.0 +14
BLA LR LR
comp=Z,590nm,21.0s,MS5.0
CBN Corbin 95.04 31 PFAKE 03 24 30.0 +13
CBN LR LR
comp=Z,703nm,20.0s,MS5.1
ESDC Sonseca Array 96.36 335 P **P 03 24 22.1 -1.3**
comp=Z,1.4nm,0.7s,mb4.5,baz=24,slow=4.2,SNR=7.3
ESDC LR LR 04 12 42.9
comp=Z,1μm,19.1s,MS5.4,baz=40,slow=38
ESDC Sonseca Array 96.36 335 P **P 03 24 22.1 -1.3**
ESLA Sonseca Array 96.36 335 PFAKE 03 24 30.0 +6.6
ESLA LR LR
comp=Z,10μm,20.0s,MS6.3
GOGA Godfrey 96.39 38 PFAKE 03 24 30.0 +6.3
GOGA LR LR
comp=Z,552nm,20.0s,MS5.0
BRAL Brewton 96.54 41 PFAKE 03 24 40.0 +16
BRAL LR LR
comp=Z,329nm,21.0s,MS4.8
PAB San Pablo 96.60 335 PFAKE 03 24 40.0 +15
PAB LR LR
comp=Z,2μm,19.0s,MS5.6
MTE Manteigas 96.82 338 PFAKE 03 24 40.0 +14
MTE LR LR
comp=Z,1μm,19.0s,MS5.4
CNNC Cliffs of the 97.36 33 PFAKE 03 24 40.0 +12
CNNC LR LR
comp=Z,514nm,19.0s,MS5.0
NHSC New Hope 98.17 35 PFAKE 03 24 40.0 +8.3
NHSC LR LR
comp=Z,583nm,20.0s,MS5.1
RKT Rikitea 98.28 113 *e*SKSac SKSac 03 35 04.1 -4.5
comp=Z,256nm,27.0s
RKT Rikitea 98.28 113 *e*PS PS 03 37 24.1 -1.9
comp=Z,356nm,29.2s
RKT *e*LR LR 03 56 21.9
comp=Z,976nm,23.5s,baz=307
KMBO Kilima Mbogo 102.90 279 PFAKE 03 25 00.0 +7.3
KMBO LR LR
comp=Z,531nm,19.0s,MS5.1
TEIG Tepich 104.32 49 PFAKE 03 25 10.0 +11
TEIG LR LR
comp=Z,292nm,21.0s,MS4.8
TAM Tamanrasset 107.00 319 PFAKE 03 29 30.0 +9.2
TAM LR LR
comp=Z,408nm,19.0s,MS5.0
MBAR Mbarara 107.57 284 PFAKE 03 29 30.0 +8.0
MBAR LR LR
comp=Z,997nm,20.0s,MS5.4
TGUH Tegucigalpa,Un 109.68 52 PFAKE 03 29 40.0 +14
TGUH LR LR
comp=Z,353nm,21.0s,MS4.9
GTBY Guantanamo Bay 111.71 39 PFAKE 03 29 40.0 +10
GTBY LR LR

comp=Z,505nm,22.0s,MS5.1
JTS JuntasAbangare 114.01 53 PFAKE 03 29 50.0 +16
JTS LR LR
comp=Z,354nm,22.0s,MS4.9
SDDR Presa de Saban 114.33 36 PFAKE 03 29 50.0 +15
SDDR LR LR
comp=Z,417nm,19.0s,MS5.1
VNDA Vanda 116.47 175 PFAKE 03 29 50.0 +13
VNDA LR LR
comp=Z,232nm,21.0s,MS4.8
TORD Torodi Ar. Bea 117.00 317 PKP PKPdf 03 29 38.1 -1.8
comp=Z,0.4nm,0.6s,baz=56,slow=3.5,SNR=5.3
TORD PP PP 03 30 41.5 -7.0
comp=Z,3.1nm,1.0s,baz=30,slow=5.9,SNR=3.7
TORD Torodi Ar. Bea 117.00 317 PKP PKPdf 03 29 38.1 -1.8
TORD PP PP 03 30 41.5 -7.0
SBA Scott Base 117.13 174 PFAKE 03 29 50.0 +12
SBA LR LR
comp=Z,227nm,21.0s,MS4.8
SJG San Juan 117.32 31 PFAKE 03 29 50.0 +10
SJG LR LR
comp=Z,291nm,20.0s,MS4.9
PAYG Puerto Ayora 118.46 66 PFAKE 03 29 50.0 +7.2
PAYG LR LR
comp=Z,312nm,19.0s,MS5.0
LSZ Lusaka 118.61 273 PFAKE 03 29 50.0 +7.1
LSZ LR LR
comp=Z,349nm,20.0s,MS5.0
ANWB Willy Bob 119.40 27 PFAKE 03 30 00.0 +16
ANWB LR LR
comp=Z,454nm,19.0s,MS5.1
FDF Fort de France 122.33 28 PFAKE 03 30 00.0 +10
FDF LR LR
comp=Z,487nm,20.0s,MS5.2
SDV Santo Domingo 123.34 41 PFAKE 03 30 00.0 +7.8
SDV LR LR
comp=Z,150nm,22.0s,MS4.6
GRGR Grenville 124.53 30 PFAKE 03 30 10.0 +16
GRGR LR LR
comp=Z,309nm,22.0s,MS4.9
OTAV Otavalo 125.83 55 PFAKE 03 30 10.0 +13
OTAV LR LR
comp=Z,197nm,19.0s,MS4.8
DBIC Dimbokro 125.89 319 PFAKE 03 30 10.0 +13
DBIC LR LR
comp=Z,636nm,20.0s,MS5.3
LBTB Lobatse 125.97 265 PFAKE 03 30 10.0 +13
LBTB LR LR
comp=Z,540nm,19.0s,MS5.2
BOSA Boshof 128.00 261 PFAKE 03 30 10.0 +9.4
BOSA LR LR
comp=Z,274nm,19.0s,MS5.0
SUR Sutherland 133.11 259 PFAKE 03 30 20.0 +10
SUR LR LR
comp=Z,277nm,20.0s,MS5.0
SNAA Sanae 142.62 197 *e* PKPpre 03 30 14.5
SNAA Sanae 142.62 197 *e*PKPdf PKPpre 03 30 16.1
SNAA Sanae 142.62 197 *e*PKHKP PKPpre 03 30 16.1
VNA2 Neumayer--Watz 144.18 196 *e* PKPdf 03 30 26.5 -2.7
baz=137,slow=3.8
VNA3 Neumayer Olymp 144.41 195 *e* PKPdf 03 30 26.9 -2.7
VNA1 Neumayer--Stat 144.58 196 *e* PKPdf 03 30 27.9 -2.0
LPAZ La Paz 144.87 59 *e*PKPdf PKPdf 03 30 31.8 -0.2
LPAZ La Paz 144.87 59 *e*PKIKP PKPdf 03 30 31.8 -0.2
RCBR Riachuelo 147.32 358 *e*PKPbc PKPbc 03 30 38.0 -0.7
LCO Las Campanas 150.62 81 *e*PKPbc PKPbc 03 30 47.0 +0.4
PLCA Paso Flores 154.26 105 PKPab PKPab 03 31 05.5 -2.9
comp=Z,2.9nm,0.8s,baz=9.5,slow=6.1,SNR=5.2
PLCA Paso Flores 154.26 105 PKPab PKPab 03 31 05.5 -2.9
PLCA Paso Flores 154.26 105 PKP2 PKPab 03 31 05.6 -2.9
PLCA pmax pmax
comp=Z,3.0nm,0.8s

IDC 04 03:13:14.9±1.2, 12°.74N×142°.62E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=47.8km s-min=21.1km az=87.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.34**	**69**	Sn	Sn	03 14 41.1	+17
	6.4nm,0.3s,baz=17,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**33.49**	**194**	P	P	03 19 55.7	-0.4
	0.5nm,0.6s,baz=14,slow=9.5,SNR=7.2						
ASAR	**Alice Springs**	**37.18**	**193**	P	P	03 20 28.1	+0.3
	0.2nm,0.5s,baz=22,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**60.59**	**317**	P	P	03 23 28.0	+0.6
	0.6nm,0.5s,baz=92,slow=7.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**61.05**	**325**	P	P	03 23 30.1	-0.2
	0.9nm,0.4s,baz=112,slow=6.6,SNR=3.3						
KURK	**Kurchatov**	**63.83**	**320**	P	P	03 23 49.2	+0.2
	2.5nm,0.5s,baz=106,slow=6.7,SNR=5.0						
BVAR	**Borovoye Array**	**69.24**	**322**	P	P	03 24 23.5	-0.1
	1.8nm,0.4s,baz=108,slow=7.7,SNR=6.5						
ILAR	**Eielson Array**	**70.26**	**25**	P	P	03 24 29.6	0.0
	0.5nm,0.6s,baz=243,slow=6.3,SNR=6.2						

*CSEM **04** 03:36:48.8±0.3, 43°.60N×13°.37E, h15km, ML2.7/4, Error ellipse: s-maj=6.9km s-min=4.3km az=4.0*
*ROM **04** 03:36:48.4±0.3, 43°.67N×13°.33E, h2km, Md2.0/8, Ml1.7/4, Error ellipse: s-maj=3.7km s-min=1.4km az=21.0*
*ISCJB **04** 03:36:49.4±0.6, 43°.59N±0°.05×13°.39E±0°.04, h21km±11km, Error ellipse: s-maj=8.0km s-min=4.7km az=179.0*
ISC 04 03:36:48.8±0.7, 43°.63N±0°.04×13°.39E±0°.04, h19km±8km, n18, σ1º04/34, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.17**	**118**	Pg	**Pg**	**03 36 53.8**	**+0.4**
AOI				Sg	**Sg**	**03 36 57.8**	**+1.3**
AOI	**Ancona**	**0.17**	**118**	Pg	**Pg**	**03 36 53.8**	**+0.4**
AOI				Sg	**Sg**	**03 36 57.8**	**+1.3**
CING	**Cingoli**	**0.29**	**209**	Pg	**Pg**	**03 36 54.8**	**-0.4**
CING	**Cingoli**	**0.29**	**209**	Pg	**Pg**	**03 36 54.8**	**-0.4**
FSSB	**Fossombrone**	**0.45**	**278**	Pg	**Pg**	**03 36 56.9**	**-1.1**
FSSB				Sg	**Sg**	**03 37 04.0**	**-0.1**
FSSB	**Fossombrone**	**0.45**	**278**	Pg	**Pg**	**03 36 56.9**	**-1.1**
FSSB				Sg	**Sg**	**03 37 04.0**	**-0.1**
GUMA	**Gualdo di Mace**	**0.69**	**145**	Pg	**Pg**	**03 37 00.8**	**-1.6**
GUMA				Sg	**Sg**	**03 37 10.7**	**-1.0**
	361nm,2.1s						
GUMA	**Gualdo di Mace**	**0.69**	**145**	Pg	**Pg**	**03 37 00.8**	**-1.6**
GUMA				Sg	**Sg**	**03 37 10.7**	**-1.0**
	361nm,2.1s						
MURB	**Monte Urbino**	**0.73**	**240**	Pg	**Pg**	**03 37 02.6**	**-0.5**
MURB				Sg	**Sg**	**03 37 13.9**	**+1.0**
	40nm,0.3s						
MURB	**Monte Urbino**	**0.73**	**240**	Pg	**Pg**	**03 37 02.6**	**-0.5**
MURB				Sg	**Sg**	**03 37 13.9**	**+1.0**
	40nm,0.3s						
NRCA	**Norcia**	**0.82**	**194**	Pg	**Pg**	**03 37 04.5**	**-0.4**
NRCA				Sg	**Sg**	**03 37 18.7**	**+2.9**
NRCA	**Norcia**	**0.82**	**194**	Pg	**Pg**	**03 37 04.5**	**-0.4**
NRCA				Sg	**Sg**	**03 37 18.7**	**+2.9**
PARC	**Parchiule**	**0.84**	**272**	Pg	**Pg**	**03 37 04.3**	**-0.8**
PARC				Sg	**Sg**	**03 37 16.8**	**+0.6**
	203nm,3.2s						
PARC	**Parchiule**	**0.84**	**272**	Pg	**Pg**	**03 37 04.3**	**-0.8**
PARC				Sg	**Sg**	**03 37 16.8**	**+0.6**
	203nm,3.2s						
BADI	**Badiali**	**0.84**	**262**	Pg	**Pg**	**03 37 04.2**	**-1.0**
BADI				Sg	**Sg**	**03 37 17.2**	**+0.8**
	50nm,1.1s						
BADI	**Badiali**	**0.84**	**262**	Pg	**Pg**	**03 37 04.2**	**-1.0**
BADI				Sg	**Sg**	**03 37 17.2**	**+0.8**
	50nm,1.1s						
NVLJ	**Novalja**	**1.42**	**48**	*e*Pn	**Pn**	**03 37 15.3**	**+1.8**
NVLJ				Sg	**Sg**	**03 37 34.3**	**-0.2**
NVLJ	**Novalja**	**1.42**	**48**	*e*Pn	**Pn**	**03 37 15.2**	**+1.7**
NVLJ				Sg	**Sg**	**03 37 34.3**	**-0.2**

IDC 04 03:40:22.0±11.0, 25°.56S×180°.00W, h421km±118km, mb3.3/3, mb1 3.4/4, mb1mx3.2/15, mbtmp3.3/4, Error ellipse: s-maj=84.4km s-min=41.9km az=28.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.90**	**190**	P	P	03 43 11.4	+0.6
	0.5nm,0.3s,baz=78,slow=14,SNR=3.0						
URZ				S	S	03 45 28.5	-1.8
	0.4nm,0.3s,baz=227,slow=19,SNR=5.2						
STKA	**Stephens Creek**	**34.14**	**250**	P	P	03 46 29.8	0.0
	4.0nm,1.1s,baz=76,slow=9.5,SNR=4.8						
ASAR	**Alice Springs**	**41.79**	**262**	P	P	03 47 33.0	0.0
	1.3nm,0.5s,baz=92,slow=7.7,SNR=20						
WRA	**Warramunga Arr**	**42.32**	**268**	P	P	03 47 37.1	-0.1
	1.6nm,0.5s,baz=104,slow=7.9,SNR=26						
NOA	**NORSAR Array B**	**143.72**	**351**	PKP	PKPdf	03 59 06.7	-0.5
	0.4nm,0.5s,baz=18,slow=2.7,SNR=3.0						

*ISCJB **04** 03:45:34.8±0.4, 43°.65N±0°.02×13°.40E±0°.03, h9km±5km, Error ellipse: s-maj=4.1km s-min=3.9km az=6.9*
*CSEM **04** 03:45:35.7±0.2, 43°.61N×13°.37E, h10km, ML2.9/11, Error ellipse: s-maj=4.0km s-min=3.5km az=144.0*
*ROM **04** 03:45:35.1±0.2, 43°.65N×13°.33E, h4km±2km, Md2.5/11, Ml2.3/9, Error ellipse: s-maj=3.1km s-min=1.7km az=31.0*
*VIE **04** 03:45:39.1±0.7, 43°.81N×13°.26E, h10km, mb2.3/1, ML2.5/3, Error ellipse: s-maj=7.0km s-min=4.9km az=115.0 65 km E of San Marino*
ISC 04 03:45:36.0±0.4, 43°.63N±0°.03×13°.38E±0°.03, h11km±5km, n34, σ1º03/64, 1C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.18**	**116**	Pg	**Pg**	**03 45 40.5**	**+0.5**
AOI				Sg	**Sg**	**03 45 44.6**	**+1.9**
	697nm,0.3s						
AOI	**Ancona**	**0.18**	**116**	Pg	**Pg**	**03 45 40.5**	**+0.5**
AOI				Sg	**Sg**	**03 45 44.6**	**+1.9**
	697nm,0.3s						
CING	**Cingoli**	**0.28**	**207**	Pg	**Pg**	**03 45 41.5**	**-0.3**
CING				Sg	**Sg**	**03 45 46.7**	**+1.0**
CING	**Cingoli**	**0.28**	**207**	Pg	**Pg**	**03 45 41.5**	**-0.3**
CING				Sg	**Sg**	**03 45 46.7**	**+1.0**
FSSB	**Fossombrone**	**0.44**	**279**	Pg	**Pg**	**03 45 43.7**	**-1.0**
FSSB				Sg	**Sg**	**03 45 50.8**	**+0.3**
	376nm,0.4s						
FSSB	**Fossombrone**	**0.44**	**279**	Pg	**Pg**	**03 45 43.7**	**-1.0**
FSSB				Sg	**Sg**	**03 45 50.8**	**+0.3**
	376nm,0.4s						
SNTG	**Esanatoglia**	**0.49**	**220**	Pg	**Pg**	**03 45 45.0**	**-0.6**
SNTG				Sg	**Sg**	**03 45 52.9**	**+0.8**
	81nm,0.2s						
SNTG	**Esanatoglia**	**0.49**	**220**	Pg	**Pg**	**03 45 45.0**	**-0.6**
SNTG				Sg	**Sg**	**03 45 52.9**	**+0.8**
	81nm,0.2s						
GUMA	**Gualdo di Mace**	**0.70**	**144**	Pg	**Pg**	**03 45 47.0**	**-2.5**
GUMA				Sg	**Sg**	**03 45 57.4**	**-1.3**
	226nm,0.3s						
GUMA	**Gualdo di Mace**	**0.70**	**144**	Pg	**Pg**	**03 45 47.0**	**-2.5**
GUMA				Sg	**Sg**	**03 45 57.4**	**-1.3**
	226nm,0.3s						
CESI	**CESI - Serrava**	**0.71**	**209**	Pg	**Pg**	**03 45 49.0**	**-0.8**
CESI				Sg	**Sg**	**03 46 00.3**	**+1.2**
	45nm,0.4s						
CESI	**CESI - Serrava**	**0.71**	**209**	Pg	**Pg**	**03 45 49.0**	**-0.8**
CESI				Sg	**Sg**	**03 46 00.3**	**+1.2**
	45nm,0.4s						
MURB	**Monte Urbino**	**0.72**	**240**	Pg	**Pg**	**03 45 49.0**	**-1.0**
MURB				Sg	**Sg**	**03 46 00.7**	**+1.3**
	207nm,0.3s						
MURB	**Monte Urbino**	**0.72**	**240**	Pg	**Pg**	**03 45 49.0**	**-1.0**
MURB				Sg	**Sg**	**03 46 00.7**	**+1.3**
	207nm,0.3s						
NRCA	**Norcia**	**0.82**	**194**	Pg	**Pg**	**03 45 51.0**	**-0.8**
NRCA				Sg	**Sg**	**03 46 04.0**	**+1.5**
	20nm,0.3s						
NRCA	**Norcia**	**0.82**	**194**	Pg	**Pg**	**03 45 51.0**	**-0.8**
NRCA				Sg	**Sg**	**03 46 04.0**	**+1.5**
	20nm,0.3s						
PARC	**Parchiule**	**0.83**	**272**	Pg	**Pg**	**03 45 50.7**	**-1.3**
PARC				Sg	**Sg**	**03 46 03.3**	**+0.5**
	36nm,0.2s						
PARC	**Parchiule**	**0.83**	**272**	Pg	**Pg**	**03 45 50.7**	**-1.3**
PARC				Sg	**Sg**	**03 46 03.3**	**+0.5**
	36nm,0.2s						
BADI	**Badiali**	**0.83**	**262**	Pg	**Pg**	**03 45 50.8**	**-1.3**
BADI				Sg	**Sg**	**03 46 03.5**	**+0.6**
	84nm,0.4s						
BADI	**Badiali**	**0.83**	**262**	Pg	**Pg**	**03 45 50.8**	**-1.3**
BADI				Sg	**Sg**	**03 46 03.5**	**+0.6**
	84nm,0.4s						
LNSS	**Leonessa**	**1.05**	**194**	Pg	**Pg**	**03 45 55.2**	**-1.1**
	133nm,0.5s						
LNSS	**Leonessa**	**1.05**	**194**	Pg	**Pg**	**03 45 55.2**	**-1.1**
	133nm,0.5s						
CAMP	**Campotosto**	**1.09**	**179**	Pg	**Pg**	**03 45 56.1**	**-0.9**
CAMP				Sg	**Sg**	**03 46 12.2**	**+1.0**
	12nm,0.5s						
CAMP	**Campotosto**	**1.09**	**179**	Pg	**Pg**	**03 45 56.1**	**-0.9**
CAMP				Sg	**Sg**	**03 46 12.2**	**+1.0**
	12nm,0.5s						
MGAB	**Montegabbione**	**1.17**	**233**	Pg	**Pg**	**03 45 57.3**	**-1.2**
MGAB	**Montegabbione**	**1.17**	**233**	Pg	**Pg**	**03 45 57.3**	**-1.2**
NVLJ	**Novalja**	**1.43**	**49**	*e*Pn	**Pn**	**03 46 02.1**	**+0.3**
NVLJ				Sg	**Sg**	**03 46 21.1**	**-0.8**
NVLJ	**Novalja**	**1.43**	**49**	*e*Pn	**Pn**	**03 46 02.1**	**+0.3**
NVLJ				Sg	**Sg**	**03 46 21.1**	**-0.8**
OBKA	**Obir**	**3.00**	**16**	⇑*i*Pn	**Pn**	**03 46 24.6**	**+1.1**
OBKA				⇓*i*Sg	**Sg**	**03 47 13.5**	**+1.2**
	13nm,0.7s						
OBKA	**Obir**	**3.00**	**16**	Pn	**Pn**	**03 46 24.6**	**+1.2**
OBKA				Sg	**Sg**	**03 47 13.5**	**+1.2**
	13nm,0.7s						
ABTA	**Abfaltersbach**	**3.18**	**349**	⇓*i*Pn	**Pn**	**03 46 26.9**	**+1.0**
ABTA				⇓*i*Sn	**Sn**	**03 47 03.4**	**-0.4**
ABTA	**Abfaltersbach**	**3.18**	**349**	Pn	**Pn**	**03 46 26.9**	**+1.0**
ABTA				Sn	**Sn**	**03 47 03.4**	**-0.3**
STON	**Ston**	**3.25**	**102**	*e*Pn	**Pn**	**03 46 26.7**	**-0.2**
STON				Sn	**Sn**	**03 47 06.2**	**+0.7**
STON	**Ston**	**3.25**	**102**	*e*Pn	**Pn**	**03 46 26.7**	**-0.2**
STON				Sn	**Sn**	**03 47 06.1**	**+0.6**

*ISK **04** 03:55:55.7, 39°.62N×38°.50E, h5km, MD3.0*
*DDA **04** 03:55:55.1, 39°.64N×38°.55E, h6km±5km, Md2.9*
*CSEM **04** 03:55:56.5±0.2, 39°.65N×38°.48E, h2km, MD2.9, Error ellipse: s-maj=5.2km s-min=4.2km az=66.0*
*ISCJB **04** 03:55:57.1±0.4, 39°.65N±0°.02×38°.49E±0°.03, h10km, Error ellipse: s-maj=3.8km s-min=3.0km az=156.4*
ISC 04 03:55:57.3±0.4, 39°.64N±0°.02×38°.48E±0°.04, h10km, n40, σ1º13/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.37**	**179**	*i* P	**Pg**	**03 56 03.5**	**-1.2**
KEMA				*i* S	**Sg**	**03 56 08.9**	**-0.7**
KEMA	**Kemaliye**	**0.37**	**179**	*i* P	**Pg**	**03 56 03.5**	**-1.2**
KEMA				*i* S	**Sg**	**03 56 08.9**	**-0.7**
SUSE	**Susehri**	**0.60**	**339**	*i* P	**Pg**	**03 56 07.8**	**-1.2**
SUSE				*i* S	**Sg**	**03 56 17.5**	**+0.5**
SUSE	**Susehri**	**0.60**	**339**	*i* P	**Pg**	**03 56 07.8**	**-1.2**
SUSE				*i* S	**Sg**	**03 56 17.5**	**+0.6**
EZC	**Erzincan**	**0.68**	**81**	*e*PG	**Pg**	**03 56 10.1**	**-0.3**
EZC				*e*SG	**Sg**	**03 56 20.6**	**+1.2**
EZC	**Erzincan**	**0.68**	**81**	*e*Pg	**Pg**	**03 56 10.1**	**-0.4**
EZC				*e*Sg	**Sg**	**03 56 20.6**	**+1.2**
PTK	**Pertek**	**1.03**	**136**	*e*PG	**Pg**	**03 56 15.3**	**-1.8**
PTK				*e*SG	**Sg**	**03 56 30.8**	**+0.3**
PTK	**Pertek**	**1.03**	**136**	*e*Pg	**Pg**	**03 56 15.3**	**-1.8**
PTK				*e*Sg	**Sg**	**03 56 30.8**	**+0.3**
SCER	**sogukcermik**	**1.06**	**282**	*i* P	**Pg**	**03 56 16.9**	**-0.8**
SCER				*i* S	**Sg**	**03 56 32.3**	**+0.7**
SCER	**sogukcermik**	**1.06**	**282**	*i* P	**Pg**	**03 56 16.9**	**-0.9**
SCER				*i* S	**Sg**	**03 56 32.3**	**+0.7**
GUMT	**Gumushane**	**1.12**	**43**	*e*PN	**Pg**	**03 56 17.9**	**-0.9**
GUMT	**Gumushane**	**1.12**	**43**	*e*Pn	**Pg**	**03 56 18.0**	**-0.8**
RSDY	**Resadiye-TOKAT**	**1.16**	**311**	*e*PN	**Pn**	**03 56 19.1**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.16**	**311**	*e*Pn	**Pn**	**03 56 19.2**	**-0.4**
ELZG	**Elazig**	**1.21**	**161**	*i* P	**Pn**	**03 56 18.4**	**-1.8**
ELZG				*i* S	**Sb**	**03 56 35.2**	**-0.7**
ELZG	**Elazig**	**1.21**	**161**	*i* P	**Pn**	**03 56 18.4**	**-1.8**
ELZG				*i* S	**Sb**	**03 56 35.2**	**-0.7**
ESPY	**Espiye-Giresun**	**1.29**	**8**	*e*PN	**Pn**	**03 56 21.6**	**+0.3**
ESPY	**Espiye-Giresun**	**1.29**	**8**	*e*Pn	**Pn**	**03 56 21.6**	**+0.3**
GRSN	**GIRESUNGRSN**	**1.29**	**353**	*i* P	**Pn**	**03 56 20.2**	**-1.1**
GRSN				*i* S	**Sb**	**03 56 37.4**	**-0.9**
GRSN	**GIRESUNGRSN**	**1.29**	**353**	*i* P	**Pn**	**03 56 20.2**	**-1.2**
GRSN				*i* S	**Sb**	**03 56 37.3**	**-1.0**
MYA	**Malataya**	**1.32**	**182**	*e*PN	**Pn**	**03 56 21.4**	**-0.3**
MYA	**Malataya**	**1.32**	**182**	*e*Pn	**Pn**	**03 56 21.5**	**-0.2**
AKCD	**Akcadag**	**1.42**	**198**	*i* P	**Pn**	**03 56 23.0**	**0.0**
AKCD				*i* S	**Sn**	**03 56 42.3**	**+0.6**
AKCD	**Akcadag**	**1.42**	**198**	*i* P	**Pn**	**03 56 23.0**	**-0.1**
AKCD				*i* S	**Sn**	**03 56 42.3**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.42**	**153**	*e*PN	**Pn**	**03 56 22.9**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.42**	**153**	*e*Pn	**Pn**	**03 56 22.9**	**-0.2**
BAYT	**Ayd¨¨ntepe-Bay**	**1.48**	**59**	*e*PN	**Pn**	**03 56 23.9**	**-0.1**
BAYT	**Ayd¨¨ntepe-Bay**	**1.48**	**59**	*e*Pn	**Pn**	**03 56 23.9**	**0.0**
KOPT	**Kop Dagi**	**1.60**	**76**	*i* P	**Pn**	**03 56 27.8**	**+2.3**
KOPT				*i* S	**Sg**	**03 56 54.4**	**+5.8**
KOPT	**Kop Dagi**	**1.60**	**76**	*i* P	**Pn**	**03 56 27.8**	**+2.2**
KOPT				*i* S	**Sg**	**03 56 54.4**	**+5.8**
ERBA	**Erbaa**	**1.68**	**309**	*i* P	**Pn**	**03 56 26.5**	**-0.3**
ERBA				*i* S	**Sn**	**03 56 52.7**	**+4.4**
ERBA	**Erbaa**	**1.68**	**309**	*i* P	**Pn**	**03 56 26.5**	**-0.2**
ERBA				*i* S	**Sn**	**03 56 52.7**	**+4.4**
SARI	**SarD1z-Kayseri**	**1.69**	**236**	*e*PN	**Pg**	**03 56 33.1**	**+3.4**
SARI	**SarD1z-Kayseri**	**1.69**	**236**	*e*Pn	**Pg**	**03 56 33.1**	**+3.4**
BINT	**Bingol**	**1.74**	**116**	*e*Pn	**Pn**	**03 56 30.1**	**+2.6**
BNGB	**Bing¨¶l**	**1.82**	**110**	*e*PN	**Pn**	**03 56 30.1**	**+1.4**
PINB	**Pinarbasi**	**1.88**	**240**	*i* P	**Pn**	**03 56 30.5**	**+1.0**
PINB				*i* S	**Sn**	**03 56 57.0**	**+3.7**
PINB	**Pinarbasi**	**1.88**	**240**	*i* P	**Pn**	**03 56 30.5**	**+1.0**
PINB				*i* S	**Sn**	**03 56 57.0**	**+3.7**
BNN	**Bunyan**	**2.19**	**250**	*e*PN	**Pn**	**03 56 35.6**	**+1.8**
BNN	**Bunyan**	**2.19**	**250**	*e*Pn	**Pn**	**03 56 35.6**	**+1.8**

*IDC **04** 04:07:03.9±3.0, 31°.81S×179°.35E, h483km±31km, mb3.8/5, mb1 3.9/7, mb1mx3.7/15, mbtmp3.8/7, Error ellipse: s-maj=34.8km s-min=22.5km az=27.0*
*ISCJB **04** 04:07:05.9±1.2, 32°.2S±0°.1×179°.4E±0°.2, h537km±14km, mb4.4/10, Error ellipse: s-maj=21.8km s-min=16.4km az=170.5*
*NEIC **04** 04:07:06.5±1.6, 32°.00S×179°.29E, h517km±17km, mb4.4/5, Error ellipse: s-maj=28.7km s-min=17.3km az=207.0*
ISC 04 04:07:08.2±1.2, 32°.3S±0°.1×179°.3E±0°.2, h548km±13km, n60, σ0º88/48, mb4.4/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**5.57**	**237**	*e*P	**P**	**04 08 42.6**	**-0.1**
	80nm,0.8s						
URZ	**Urewera**	**6.18**	**196**	P	**P**	**04 08 47.3**	**-0.9**
	9.0nm,0.3s,baz=353,slow=3.2,SNR=56						
URZ				S	**S**	**04 10 08.1**	**-2.1**
	3.7nm,0.3s,baz=134,slow=23,SNR=13						
URZ	**Urewera**	**6.18**	**196**	*e*P	**P**	**04 08 47.0**	**-1.1**
	12nm,0.8s						
URZ				S	**S**	**04 10 08.1**	**-2.1**
URZ	**Urewera**	**6.18**	**196**	PN	**P**	**04 08 47.3**	**-0.9**
URZ				SN	**S**	**04 10 08.2**	**-1.9**
URZ				SN	**S**	**04 10 08.2**	**-1.9**
BHHZ	**Black Hill Sta**	**7.61**	**199**	PN	**P**	**04 09 01.7**	**-0.1**
KAHZ	**Kahuranaki**	**7.70**	**194**	PN	**P**	**04 09 03.8**	**+1.1**
TSZ	**Takapari Road**	**8.17**	**199**	PN	**P**	**04 09 07.8**	**+0.4**
TSZ				*e*SN	**S**	**04 10 44.1**	**-1.1**
BFZ	**Birch Farm**	**8.69**	**196**	PN	**P**	**04 09 13.3**	**+0.8**
MRZ	**Mangatainoka R**	**8.84**	**199**	PN	**P**	**04 09 13.7**	**-0.3**
MRZ				*e*SN	**S**	**04 10 56.2**	**-1.2**
HOWZ	**Holdsworth Sta**	**9.08**	**199**	PN	**P**	**04 09 16.8**	**+0.4**
OGWZ	**Otaki Gorge**	**9.10**	**200**	PN	**P**	**04 09 16.6**	**-0.1**
KIW	**Kapiti Island**	**9.22**	**201**	PN	**P**	**04 09 18.1**	**+0.2**
CAW	**Cannon Point**	**9.40**	**200**	PN	**P**	**04 09 20.3**	**+0.6**
SNZO	**South Karori**	**9.69**	**201**	*e*P	**P**	**04 09 22.7**	**0.0**
TCW	**Tory Channel**	**9.74**	**203**	PN	**P**	**04 09 23.8**	**+0.6**
TUWZ	**Tuamarina**	**10.05**	**204**	PN	**P**	**04 09 27.3**	**+1.0**
THZ	**Tophouse**	**10.71**	**207**	PN	**P**	**04 09 34.2**	**+1.0**
THZ				*e*SN	**S**	**04 11 31.9**	**-0.6**
RPZ	**Rata Peaks**	**13.09**	**207**	P	**P**	**04 09 59.8**	**+2.1**
	2.2nm,0.3s,baz=57,slow=7.2,SNR=4.0						
RPZ	**Rata Peaks**	**13.09**	**207**	P	**P**	**04 09 59.8**	**+2.1**
CMSA	**Cobar Meteorol**	**28.50**	**263**	*e*P	**P**	**04 12 21.4**	**+1.8**
	30nm,0.5s,mb5.2						
QLP	**Quilpie**	**31.00**	**271**	*e*P	**P**	**04 12 41.4**	**+0.1**
STKA	**Stephens Creek**	**31.86**	**261**	P	**P**	**04 12 50.5**	**+1.9**
	9.4nm,0.7s,mb4.5,baz=99,slow=9.8,SNR=19						
STKA	**Stephens Creek**	**31.86**	**261**	*e*P	**P**	**04 12 50.3**	**+1.7**
	3.2nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**31.86**	**261**	*e*P	**P**	**04 12 50.2**	**+1.5**
	1.0nm,0.4s,mb3.7						
CTA	**Charters Tower**	**31.95**	**284**	*e*P	**P**	**04 12 48.8**	**-0.7**
	3.9nm,0.3s,mb4.4						
CTAO	**Charters Tower**	**31.95**	**284**	*e*P	**P**	**04 12 48.7**	**-0.8**
	5.5nm,0.3s,mb4.6						
ASAR	**Alice Springs**	**40.78**	**270**	P	**P**	**04 14 02.0**	**-0.2**
	8.1nm,0.6s,mb4.4,baz=106,slow=7.3,SNR=103						
ASAR				PcP	PcP	04 15 52.0	+2.0
	0.5nm,0.4s,baz=117,slow=3.9,SNR=5.9						
ASAR	**Alice Springs**	**40.78**	**270**	P	**P**	**04 14 02.0**	**-0.2**
ASAR				PcP	PcP	04 15 52.0	+2.0
WB2	**Warramunga Arr**	**41.94**	**276**	*e*P	**P**	**04 14 10.6**	**-0.8**
WRAB	**Tennant Creek**	**41.95**	**276**	*e*P	**P**	**04 14 10.8**	**-0.7**
	13nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**41.95**	**276**	P	**P**	**04 14 10.8**	**-0.7**
	12nm,0.5s,mb4.7,baz=112,slow=7.9,SNR=206						
WRA				PcP	PcP	04 15 55.0	+1.1
	0.2nm,0.5s,baz=109,slow=2.9,SNR=4.7						
WRA	**Warramunga Arr**	**41.95**	**276**	P	**P**	**04 14 10.8**	**-0.7**
WRA	

SHUT					*e*Sg	**Sg**	**04 12 41.3**	**+0.3**
KIZT	**Kizilcal**	**0.69**	**70**		*e*PG	**Pg**	**04 12 40.9**	**-0.2**
KIZT					*e*SG	**Sg**	**04 12 50.5**	**+0.5**
KIZT	**Kizilcal**	**0.69**	**70**		*e*Pg	**Pg**	**04 12 40.9**	**-0.2**
KIZT					*e*Sg	**Sg**	**04 12 50.5**	**+0.5**
KDHN	**Kadinhani**	**0.84**	**98**		*i* P	**Pg**	**04 12 43.3**	**-0.8**
KDHN					*i* S	**Sg**	**04 12 55.3**	**+0.2**
KDHN	**Kadinhani**	**0.84**	**98**		*i* P	**Pg**	**04 12 43.3**	**-0.8**
KDHN					*i* S	**Sg**	**04 12 55.3**	**+0.3**
SVRH	**Sivrihisar-ESK**	**0.88**	**25**		*e*PG	**Pg**	**04 12 44.6**	**0.0**
SVRH					*e*SG	**Sg**	**04 12 56.5**	**+0.4**
SVRH	**Sivrihisar-ESK**	**0.88**	**25**		*e*Pg	**Pg**	**04 12 44.7**	**0.0**
SVRH					*e*Sg	**Sg**	**04 12 56.5**	**+0.4**
ESKT	**Eskisehir**	**0.88**	**350**		*e*P	**Pg**	**04 12 43.4**	**-1.4**
ESKT					*e*S	**Sg**	**04 12 55.2**	**-1.1**
SEYT	**Eskypehyr**	**0.88**	**350**		*e*P	**Pg**	**04 12 43.4**	**-1.4**
SEYT					*e*S	**Sg**	**04 12 55.2**	**-1.1**
KONT	**Konya--Tatoy**	**1.25**	**124**		*e*PN	**Pn**	**04 12 51.9**	**+0.4**
KONT	**Konya--Tatoy**	**1.25**	**124**		*e*Pn	**Pn**	**04 12 51.9**	**+0.4**
GDZ	**Gediz**	**1.30**	**290**		*e*P	**Pn**	**04 12 52.0**	**-0.2**
GDZ					*e*S	**Sb**	**04 13 09.1**	**-0.2**
BORA	**Eskisehir**	**1.31**	**339**		*e*P	**Pn**	**04 12 52.4**	**0.0**
BORA					*e*S	**Sb**	**04 13 10.8**	**+1.2**

*JMA **04** 04:33:53.1±0.1, 24°.56N×122°.40E, h64km±1km, M2.2*
TAP 04 04:33:53.7, 24°.30N×122°.33E, h52km, ML3.2, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.54**	**306**	P	Pn	04 34 05.6	+0.1
TWC	baz=305			S	Sn	04 34 14.0	0.0
ENA	**Nanau**	**0.55**	**284**	P	Pn	04 34 05.7	0.0
ENA	baz=289			*e*S	Sn	04 34 14.9	+0.7
YOJ	**Yonaguni jima**	**0.64**	**75**	P	Pn	04 34 06.1	-0.7
YOJ				*e*S	Sn	04 34 15.7	-0.6
TWD	**Chiawan**	**0.70**	**252**	*e*P	Pn	04 34 07.4	-0.1
TWD	baz=243			*e*S	Sn	04 34 17.6	0.0
TWE	**Neicheng**	**0.74**	**305**	*e*P	Pn	04 34 08.7	+0.7
TWE	baz=312			*e*S	Sn	04 34 19.4	+1.0
ENTT	**Nioudou**	**0.77**	**296**	P	Pn	04 34 09.3	+0.8
ENTT	baz=289			S	Sn	04 34 20.5	+1.3
TWB1	**Santiao Chiao**	**0.77**	**337**	*e*P	Pn	04 34 08.2	-0.2
TWB1	baz=325			*e*S	Sn	04 34 18.8	-0.4
NNS	**Nan Shan**	**0.88**	**280**	P	Pn	04 34 10.4	+0.5
NNS	baz=270			S	Sn	04 34 22.6	+0.9
NWF	**Wu-fen Shan**	**0.92**	**327**	*e*P	Pn	04 34 10.6	+0.2
NWF	baz=326			*e*S	Sn	04 34 23.2	+0.6
ESL	**Shilin**	**0.95**	**240**	*e*P	Pn	04 34 10.6	-0.2
ESL	baz=231			*e*S	Sn	04 34 22.7	-0.6
NSK	**Sanguang**	**0.96**	**293**	P	Pn	04 34 11.7	+0.7
NSK	baz=283			S	Sn	04 34 24.6	+0.9
WHF	**Hehuan Shan**	**0.98**	**261**	*i* P	Pn	04 34 11.7	+0.4
WHF	baz=251			S	Sn	04 34 25.2	+1.1
TWT	**Tachien**	**1.05**	**268**	P	Pn	04 34 13.4	+1.2
TWT	baz=267			S	Sn	04 34 27.2	+1.4
TWS1	**Kuangyinshan**	**1.15**	**314**	*e*P	Pn	04 34 14.8	+1.2
TWS1	baz=324			*e*S	Sn	04 34 29.1	+0.9
EHY	**Hungye**	**1.21**	**230**	*e*P	Pn	04 34 14.0	-0.3
NSTT	baz=240			*e*S	Sn	04 34 32.8	+2.1
NSTT	**Nanjuang**	**1.25**	**286**	*e*P	Pn	04 34 15.6	+0.7
NSTT	baz=285			*e*S	Sn	04 34 32.8	+2.1
IRIF	**Iriomote-Funau**	**1.28**	**88**	P	Pn	04 34 14.3	-0.9
IRIF				*e*S	Sn	04 34 30.3	-1.0
TWF1	**Yuli**	**1.33**	**225**	P	Pn	04 34 15.8	-0.1
TWF1	baz=237			*e*S	Sn	04 34 31.6	-1.0
SMLT	**Sun Moon Lake**	**1.37**	**253**	P	Pn	04 34 17.2	+0.8
SMLT	baz=245			S	Sn	04 34 34.0	+0.5
HATJ	**Hateruma jima**	**1.37**	**100**	P	Pn	04 34 16.7	+0.2
HATJ				*e*S	Sn	04 34 34.0	+0.5
TYC	**Yuchr**	**1.40**	**254**	P	Pn	04 34 17.7	+0.8
TYC	baz=246			*e*S	Sn	04 34 34.5	+0.3
TWQ1	**Liyutan**	**1.42**	**272**	*e*P	Pn	04 34 18.3	+1.1
TWQ1	baz=271			*e*S	Sn	04 34 35.9	+1.2
CHKT	**Chengkung**	**1.48**	**217**	*e*S	Sn	04 34 33.7	-2.5
YUS	**Yu-Shan**	**1.49**	**238**	P	Pn	04 34 19.2	+1.1
YUS	baz=238			S	Sn	04 34 36.9	+0.4
JKRS	**Kuro-shima**	**1.54**	**92**	P	Pn	04 34 18.6	-0.1
JKRS				*e*S	Sn	04 34 37.0	-0.5
ALS	**Alishan**	**1.60**	**241**	P	Pn	04 34 21.1	+1.5
ALS	baz=233			*e*S	Sn	04 34 40.6	+1.5
ELDTW	**Lidau**	**1.63**	**228**	*e*S	Sn	04 34 38.9	-0.9
JIJ	**Ishigaki jima**	**1.66**	**87**	P	Pn	04 34 19.4	-1.0
JIJ				*e*S	Sn	04 34 39.3	-1.2
STYT	**Tauyuan**	**1.83**	**232**	*e*P	Pn	04 34 24.4	+1.7
CHN4	**Tsaushan**	**1.85**	**240**	*e*P	Pn	04 34 25.3	+2.3
CHN4	baz=232			*e*S	Sn	04 34 48.1	+3.0
TWG	**Pinlang**	**1.87**	**218**	*e*P	Pn	04 34 22.9	-0.3
TWG	baz=218			*e*S	Sn	04 34 43.4	-2.3
CHN1	**Nanshi**	**1.99**	**237**	*e*P	Pn	04 34 26.2	+1.3
CHN1	baz=237			*e*S	Sn	04 34 51.5	+3.0
ECL	**Taimali**	**2.11**	**217**	*e*S	Sn	04 34 49.5	-2.2
JTJ	**Tarama**	**2.19**	**80**	P	Pn	04 34 26.9	-0.8
JTJ				*e*S	Sn	04 34 52.5	-1.1
SSD	**Sandimen**	**2.19**	**226**	*e*P	Pn	04 34 29.9	+2.2
LAY	**Lan-yu**	**2.36**	**198**	*e*S	Sn	04 34 54.0	-3.8

*IDC **04** 04:56:54.5±1.4, 11°.27S×164°.75E, h0km, mb4.2/7, mb1 4.4/9, mb1mx4.2/18, mbtmp4.3/9, ML4.3/2, MS3.5/8, Ms1 3.5/8, ms1mx3.3/24, Error ellipse: s-maj=49.9km s-min=21.6km az=144.0*
*ISCJB **04** 04:57:02.0±4.0, 11°.1S±0°.1×164°.4E±0°.2, h58km±31km, mb4.2/10, MS3.5/7, Error ellipse: s-maj=30.8km s-min=20.6km az=29.0*
*NEIC **04** 04:57:03.5±3.1, 11°.05S×164°.47E, h59km±24km, mb4.4/4, Error ellipse: s-maj=28.6km s-min=13.9km az=122.0*
ISC 04 04:57:03.0±3.6, 11°.1S±0°.1×164°.5E±0°.2, h54km±29km, n31, σ0.67/24, mb4.2/10, MS3.5/7, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**		**4.76 290**	Pn	**Pn**	**04 58 12.5**	**+0.3**
	14nm,0.3s,baz=214,slow=4.8,SNR=3.9						
HNR				Sn	**Sn**	**04 59 06.6**	**+0.5**
	30nm,0.3s,baz=36,slow=21,SNR=6.8						
HNR	**Honiara**		**4.76 290**	Pn	**Pn**	**04 58 12.1**	**-0.2**
HNR				*e*S	**Sn**	**04 59 11.0**	**+4.8**
CTA	**Charters Tower**		**19.65 241**	P	**Pn**	**05 01 28.7**	**-0.6**
	0.4nm,0.3s,baz=65,slow=12,SNR=10						
CTA				LR	LR	05 07 29.2	
	comp=Z,62nm,19.5s,baz=221,slow=32						
CTA	**Charters Tower**		**19.65 241**	P	**Pn**	**05 01 28.7**	**-0.6**
CTAO	**Charters Tower**		**19.65 241**	*e*P	**Pn**	**05 01 29.1**	**-0.2**
	9.2nm,0.9s						
AFI	**Afiamalu**		**23.35 99**	LR	LR	05 09 10.8	
	comp=Z,123nm,18.1s,MS3.4,baz=111,slow=32						
URZ	**Urewera**		**29.28 159**	LR	LR	05 13 24.1	
	comp=Z,136nm,18.8s,MS3.6,baz=0.1,slow=34						
STKA	**Stephens Creek**		**29.52 222**	LR	LR	05 13 59.7	
	comp=Z,65nm,19.2s,MS3.3,baz=205,slow=35						
WRAB	**Tennant Creek**		**30.26 250**	*e*P	**P**	**05 03 08.9**	**-0.2**
	9.8nm,1.1s,mb4.5						
WRA	**Warramunga Arr**		**30.27 249**	P	**P**	**05 03 08.9**	**-0.2**
	6.9nm,1.0s,mb4.3,baz=77,slow=9.2,SNR=34						
WRA	**Warramunga Arr**		**30.27 249**	P	**P**	**05 03 08.9**	**-0.2**
GUMO	**Guam**		**31.33 321**	LR	LR	05 14 03.9	
	comp=Z,197nm,20.2s,MS3.8,baz=113,slow=33						
ASAR	**Alice Springs**		**31.63 243**	P	**P**	**05 03 20.9**	**-0.2**
	3.9nm,0.9s,mb4.2,baz=71,slow=9.7,SNR=30						
ASAR	**Alice Springs**		**31.63 243**	P	**P**	**05 03 20.9**	**-0.2**
FITZ	**Fitzroy Crossi**		**38.14 255**	LR	LR	05 18 23.2	
	comp=Z,68nm,18.7s,MS3.5,baz=252,slow=34						
FITZ	**Fitzroy Crossi**		**38.14 255**	*e*P	**P**	**05 04 17.1**	**-0.2**
	4.7nm,0.8s,mb4.3						
KSRS	**Korea Array**		**59.25 327**	LR	LR	05 30 50.2	
	comp=Z,24nm,18.6s,MS3.4,baz=320,slow=34						
PETK	**Petropavlovsk-**		**64.25 355**	LR	LR	05 30 27.2	
	comp=Z,58nm,21.9s,MS3.7,baz=290,slow=31						
SONM	**Songino Array**		**78.00 324**	P	**P**	**05 08 57.1**	**+1.5**
	2.5nm,1.1s,mb4.1,baz=138,slow=5.6,SNR=9.3						
SONM	**Songino Array**		**78.00 324**	P	**P**	**05 08 57.1**	**+1.5**
QSPA	**South Pole Qui**		**78.87 180**	*e*P	**P**	**05 09 01.3**	**+1.5**
	5.9nm,1.1s,mb4.4						
ILAR	**Eielson Array**		**84.00 19**	P	**P**	**05 09 26.8**	**-0.4**
	1.5nm,0.8s,mb4.2,baz=242,slow=5.4,SNR=14						
ILAR	**Eielson Array**		**84.00 19**	P	**P**	**05 09 26.8**	**-0.4**
NVAR	**Mina Array Bea**		**87.04 50**	P	**P**	**05 09 42.2**	**-0.7**
	0.6nm,0.8s,mb3.9,baz=243,slow=4.0,SNR=2.6						
NVAR	**Mina Array Bea**		**87.04 50**	P	**P**	**05 09 42.2**	**-0.7**
MKAR	**Makanchi Array**		**92.73 317**	P	**P**	**05 10 08.8**	**-0.5**
	1.5nm,0.8s,mb4.5,baz=104,slow=5.1,SNR=4.6						
MKAR	**Makanchi Array**		**92.73 317**	P	**P**	**05 10 08.8**	**-0.5**
ZALV	**Zalesovo Beam**		**92.90 324**	P	**P**	**05 10 09.6**	**-0.3**
	0.4nm,0.3s,mb4.3,baz=117,slow=5.5,SNR=4.7						
ZALV	**Zalesovo Beam**		**92.90 324**	P	**P**	**05 10 09.7**	**-0.3**
TORD	**Torodi Ar. Bea**		**163.04 279**	PKP	PKPdf	05 16 59.6	-0.7
	0.9nm,1.0s,baz=173,slow=2.5,SNR=4.0						
TORD	**Torodi Ar. Bea**		**163.04 279**	PKP	PKPdf	05 16 59.6	-0.7

TRN 04 05:12:24.4, 13°.85N×60°.43W, h15km, MD3.5, M3.4(FDF), 2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.51**	**254**	*e*P	Pg	05 12 37.7	+3.1
MCLT				*e*S	Sg	05 12 46.5	+5.0
MCLT				*e*T		06 42 27.5	
MCLT				T		06 42 55.7	
SLW	**Petit Monier**	**0.52**	**289**	⇓*e*P	Pg	05 12 37.7	+3.0
SLW				⇓*e*S	Sg	05 12 45.6	+3.9
SLB	**Belfond**	**0.59**	**268**	*e*P	Pg	05 12 40.0	+3.9
SLB				*e*S	Sg	05 12 46.5	+2.5
SLB				*e*T		06 42 28.3	
SLB				T		06 42 57.5	
MVM	**Montagne Vaucl**	**0.83**	**327**	*e*P	Pg	05 12 42.0	+1.3
MVM				*e*S	Sg	05 12 53.6	+2.0
BHS	**Barnard House**	**0.87**	**231**	*e*P	Pb	05 12 44.5	+3.2
BHS				*e*S	Sg	05 12 57.1	+4.4
BHS				*e*T		06 42 35.6	
BHS				T		06 43 03.8	
BIM	**Bigot**	**0.91**	**317**	*e*P	Pb	05 12 42.4	+0.5
BIM				*e*S	Sb	05 12 56.5	+2.6
SVV	**Soufriere Volc**	**0.93**	**235**	*e*P	Pb	05 12 45.4	+3.1
SVV				*e*S	Sb	05 12 57.8	+3.4
SVV				*e*T		06 42 36.9	
SVV				T		06 43 09.3	
SVB	**Belmont**	**0.98**	**234**	*e*P	Pb	05 12 44.8	+1.6
SVB				*e*S	Sb	05 12 59.2	+3.3
SVB				T		06 43 08.8	
FCV	**Fort Charlotte**	**1.05**	**229**	*e*P	Pb	05 12 46.6	+2.4
FCV				*e*S	Sb	05 13 01.5	+3.7
FDF	**Fort de France**	**1.12**	**322**	*e*P	Pb	05 12 46.7	+1.1
FDF				*e*S	Sb	05 13 01.6	+1.5

IDC 04 05:24:16.6±2.3, 10°.06S×66°.77E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, MS3.7/2, Ms1 3.6/2, ms1mx3.0/28, Error ellipse: s-maj=83.0km s-min=27.6km az=58.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**57.53**	**182**	LR	LR	05 51 36.4	
	comp=Z,71nm,20.1s,baz=275,slow=28						
MKAR	**Makanchi Array**	**58.27**	**12**	P	P	05 34 12.8	-0.1
	0.5nm,0.7s,baz=212,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**65.16**	**111**	P	P	05 34 59.6	-0.3
	0.9nm,0.7s,baz=277,slow=5.7,SNR=9.6						
ZALV	**Zalesovo Beam**	**65.57**	**12**	P	P	05 35 01.1	-0.7
	0.5nm,0.4s,baz=212,slow=5.3,SNR=4.3						
WRA	**Warramunga Arr**	**65.65**	**107**	P	P	05 35 03.5	+0.3
	1.6nm,0.7s,baz=277,slow=5.4,SNR=23						
WRA				LR	LR	05 58 27.3	
	comp=Z,46nm,18.3s,baz=200,slow=31						
SONM	**Songino Array**	**67.49**	**28**	P	P	05 35 15.3	+1.0
	0.4nm,0.6s,baz=202,slow=7.7,SNR=4.9						
PDAR	**Pinedale Array**	**147.26**	**355**	PKPbc	PKPbc	05 44 01.9	-0.3
	0.6nm,0.8s,baz=64,slow=3.4,SNR=4.7						
NVAR	**Mina Array Bea**	**151.39**	**8**	PKPbc	PKPbc	05 44 13.0	+0.3
	1.5nm,0.7s,baz=258,slow=1.8,SNR=13						

SKHL 04 05:28:23.0±0.7, 52°.20N×142°.40E, h10km, mb4.4/5, msh4.7/1, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.35**	**173**	*e*Pg	Pg	05 28 40.4	-8.5
TYV				*e*Sg	Sg	05 28 57.6	-8.7
OKH	**Okha**	**1.39**	**13**	*e*Pg	Pg	05 28 50.0	+0.3
OKH				AMB	AMB	05 28 50.1	
	600nm,0.2s						
OKH				*e*Sg	Sg	05 29 08.8	+1.1
OKH				A		05 29 09.0	
	700nm,0.5s						
OKH				A		05 29 09.0	
	2μm,0.5s						
NKL	**Nikolayevsk**	**1.42**	**313**	*e*Pb	Pb	05 28 46.5	-3.0
NKL				AMB	AMB	05 28 47.7	
	44nm,0.4s						
NKL				AMB	AMB	05 28 47.7	
	53nm,0.4s						
NKL				*e*Pg	Pg	05 28 52.0	+1.9
NKL				AMB	AMB	05 28 53.5	
	108nm,0.3s						
NKL				*e*Sg	Sg	05 29 12.0	+3.5
NKL				A		05 29 13.8	
	400nm,0.4s						
NKL				A		05 29 13.8	
	53nm,0.4s						
UGL	**Uglegorsk**	**3.13**	**184**	*e*Pg	Pg	05 29 25.5	+2.5
UGL				AMB	AMB	05 29 27.5	
	87nm,0.6s						
UGL				*e*S	Sn	05 29 52.5	+2.7
UGL				A		05 29 53.5	
	58nm,0.5s						
UGL				A		05 29 53.5	
	77nm,0.5s						
UGL				*e*Sg	Sg	05 30 10.0	+6.4
UGL				A		05 30 10.0	
	1μm,2.5s						
UGL				A		05 30 10.0	
	500nm,2.5s						
UGL				A		05 30 10.5	
	71nm,0.6s						
UGL				A		05 30 10.5	
	140nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.26**	**177**	*e*P	Pn	05 29 44.5	+3.0
YSS				AMB	AMB	05 29 45.0	
	28nm,0.4s						
EKMR	**Ekimchan**	**5.82**	**282**	*e*P	Pn	05 29 52.0	+2.7
EKMR				*e*Pg	Pg	05 30 17.9	+3.5
EKMR				AMB	AMB	05 30 21.5	
	3.0nm,0.4s						
EKMR				*e*S	Sn	05 30 58.0	+2.0
EKMR				*e*Sg	Sg	05 31 38.0	+8.3
EKMR				A		05 31 42.2	
	28nm,0.6s						
EKMR				A		05 31 42.2	
	15nm,0.6s						
EKMR				A		05 31 42.2	
	16nm,0.6s						

GUC 04 05:33:58.6±1.0, 22°.77S×70°.47W, h36km±3km, ML3.7, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MECH	**Mejillones**	**0.33**	**177**	⇑*i*P	Pn	05 34 06.2	-0.8
MECH				*i* S	Sn	05 34 12.3	-0.4
MECH				AML	AML	05 34 13.1	
	comp=E,12μm,0.4s						
MACH	**Maria Elena**	**0.87**	**49**	⇓*i*P	Pn	05 34 14.9	+0.5
MACH				*i* S	Sn	05 34 26.5	+0.7
ANCH	**Antofagasta**	**0.91**	**177**	*e*P	Pn	05 34 14.2	-0.7
ANCH				*i* S	Sn	05 34 26.6	-0.1
PB04	**Plate Boundary**	**1.04**	**61**	⇓*i*P	Pn	05 34 09.9	-6.8
PB04				*i* S	Sn	05 34 17.8	-12
PB04				AML	AML	05 34 19.3	
	comp=E,9μm,0.3s						
PB07	**Plate Boundary**	**1.17**	**27**	⇓*i*P	Pn	05 34 19.8	+1.3
PB07				*i* S	Sn	05 34 35.2	+2.0
PB07				AML	AML	05 34 41.3	
	comp=E,2μm,0.4s						
PB09	**Plate Boundary**	**1.49**	**50**	⇓*i*P	Pn	05 34 24.9	+1.9
PB09				*i* S	Sn	05 34 44.7	+3.5
PB09				AML	AML	05 34 47.4	
	comp=E,4μm,0.5s						
PB01	**Plate Boundary**	**1.94**	**28**	⇑*i*P	Pn	05 34 31.1	+2.0
PB01				*i* S	Sn	05 34 55.8	+3.5
PB01				AML	AML	05 35 02.2	
	comp=E,721nm,0.4s						
SPCH	**San Pedro de A**	**2.10**	**94**	*e*P	Pn	05 34 36.2	+5.0
SPCH				*i* S	Sn	05 35 03.5	+7.4
SPCH				AML	AML	05 35 12.3	
	comp=N,1μm,0.4s						
MNMC	**Miæe Miæ**	**3.71**	**13**	*e*P	Pn	05 34 55.1	+1.7

*NEIC **04** 05:38:13.1, 16°.36N×95°.10W, h65km, MD4.2(MEX), After MEX.*
MEX 04 05:38:12.9±1.0, 16°.35N×95°.09W, h65km±17km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.76**	**15**	*i* P	Pn	05 38 26.7	-1.5
CMIG				*i* S	Sn	05 38 37.6	-1.8
CMIG	**Matias Romero**	**0.76**	**15**	*i* P	Pn	05 38 26.7	-1.5
CMIG				*i* S	Sn	05 38 37.6	-1.8
HUIG	**Huatulco**	**1.14**	**240**	*i* P	Pn	05 38 30.8	-2.1
HUIG				*i* S	Sn	05 38 46.5	-1.3
HUIG	**Huatulco**	**1.14**	**240**	*i* P	Pn	05 38 30.8	-2.1
HUIG				*i* S	Sn	05 38 46.5	-1.3
OXX	**Oaxaca**	**1.73**	**295**	*i* P	Pn	05 38 38.5	-2.2
OXX				*e*S	Sn	05 39 00.4	-1.4
OXX	**Oaxaca**	**1.73**	**295**	*i* P	Pn	05 38 38.5	-2.2
OXX				*e*S	Sn	05 39 00.4	-1.4
VHO	**Vista Hermosa**	**1.73**	**295**	*i* P	Pn	05 38 40.6	-0.2
VHO				*i* S	Sn	05 39 01.4	-0.5
VHO	**Vista Hermosa**	**1.73**	**295**	*i* P	Pn	05 38 40.6	-0.2
VHO				*i* S	Sn	05 39 01.4	-0.5
PCIG		**1.91**	**109**	*i* P	Pn	05 38 43.2	-0.1
PCIG				*i* S	Sn	05 39 04.7	-1.6
PCIG		**1.91**	**109**	*i* P	Pn	05 38 43.2	-0.1
PCIG				*i* S	Sn	05 39 04.7	-1.6
TGIG		**1.94**	**77**	*e*P	Pn	05 38 42.9	-0.7
TGIG				*i* S	Sn	05 39 05.0	-1.9
TGIG		**1.94**	**77**	*e*P	Pn	05 38 42.9	-0.7
TGIG				*i* S	Sn	05 39 05.0	-1.9
CCIG	**Comitan**	**2.84**	**91**	*i* P	Pn	05 38 55.2	-0.6
CCIG				*i* S	Sn	05 39 27.3	-1.6
CCIG	**Comitan**	**2.84**	**91**	*i* P	Pn	05 38 55.2	-0.6
CCIG				*i* S	Sn	05 39 27.3	-1.6
PNIG	**Pinotepa**	**2.92**	**271**	*i* P	Pn	05 38 54.5	-2.4
PNIG				*i* S	Sn	05 39 28.6	-2.1
PNIG	**Pinotepa**	**2.92**	**271**	*i* P	Pn	05 38 54.5	-2.4
PNIG				*i* S	Sn	05 39 28.6	-2.1
THIG		**3.08**	**117**	*i* P	Pn	05 38 56.8	-2.4
THIG				*i* S	Sn	05 39 34.8	0.0
THIG		**3.08**	**117**	*i* P	Pn	05 38 56.8	-2.4
THIG				*i* S	Sn	05 39 34.8	0.0
TEIG	**Tepich**	**7.53**	**58**	*e*Pn	Pn	05 39 56.6	-3.5
	64nm,0.4s						
TEIG				*e*Sn	Sn	05 41 15.9	-8.2

*ISCJB **04** 05:43:17.1±0.6, 51°.45N±0°.03×16°.12E±0°.03, h0km, Error ellipse: s-maj=4.8km s-min=2.7km az=15.8*
*CSEM **04** 05:43:18.2±0.3, 51°.51N×16°.17E, h2km, ML3.4/5, Error ellipse: s-maj=5.2km s-min=3.6km az=55.0*
*WAR **04** 05:43:19.8, 51°.48N×16°.11E, ML2.5, Mining Induced*
*PRU **04** 05:43:20.3, 51°.43N×16°.07E, h0km*
*VIE **04** 05:43:20.6±0.4, 51°.33N×16°.12E, h0km, mb2.2/2, ML2.8/4, Error ellipse: s-maj=2.5km s-min=2.4km az=170.0 67 km WNW of Wroclaw Suspected Mining induced.*
ISC 04 05:43:18.5±0.7, 51°.49N±0°.03×16°.10E±0°.03, h0km, n38, σ0.96/64, 3C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg	**Pg**	**05 43 31.6**	**+0.6**
KSP				*e*Sg	**Sg**	**05 43 40.1**	**+0.6**
KSP	**Ksiaz**	**0.66**	**169**	*i* Pg	**Pg**	**05 43 31.7**	**+0.6**
KSP				*e*Sg	**Sg**	**05 43 40.2**	**+0.6**
KSP	**Ksiaz**	**0.66**	**169**	⇓*i*Pg	**Pg**	**05 43 31.7**	**+0.6**
KSP				*e*Sg	**Sg**	**05 43 40.2**	**+0.6**
UPC	**Upice**	**0.98**	**183**	*e*PG	**Pg**	**05 43 37.7**	**+0.4**
UPC	**Upice**	**0.98**	**183**	Pg	**Pg**	**05 43 37.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**05 43 40.5**	**0.0**
DPC				*e*SG	**Sg**	**05 43 55.1**	**-0.2**
	24nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**173**	Pg	**Pg**	**05 43 40.5**	**0.0**
DPC				Sg	**Sg**	**05 43 55.1**	**-0.2**
	24nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	**Pg**	**05 43 45.3**	**+0.7**
PVCC				*e*SG	**Sg**	**05 44 03.2**	**+1.0**
	135nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**226**	Pg	**Pg**	**05 43 45.3**	**+0.7**
PVCC				Sg	**Sg**	**05 44 03.2**	**+1.0**
	135nm,0.2s						
KRLC	**Kraliky**	**1.48**	**163**	*e*PG	**Pg**	**05 43 46.9**	**+0.1**
KRLC				*e*SG	**Sg**	**05 44 05.2**	**-0.8**
KRLC	**Kraliky**	**1.48**	**163**	Pg	**Pg**	**05 43 46.9**	**+0.1**
KRLC				Sg	**Sg**	**05 44 05.2**	**-0.8**
BRG	**Berggiesshubel**	**1.49**	**246**	PG	**Pg**	**05 43 47.0**	**0.0**
BRG				SG	**Sg**	**05 44 07.0**	**+0.7**
	36nm,0.4s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**05 43 52.4**	**-0.3**
MORC				*e*Sg	**Sg**	**05 44 19.8**	**-1.1**
CLL	**Collm**	**1.95**	**266**	*e*P

OJC	**Ojcow**	**2.67 117**	*e*Pg	**Pg**	**05 44 09.1**	**-0.5**
OJC			*e*Sg	**Sg**	**05 44 44.6**	**+0.5**
KHC	**Kasperske Hory**	**2.86 215**	*e*PN	**Pn**	**05 44 05.4**	**+0.1**
KHC			*e*PG	**Pg**	**05 44 10.9**	**-2.4**
KHC			*e*SN	**Sn**	**05 44 38.3**	**-2.1**
KHC			*e*SG	**Sg**	**05 44 48.2**	**-2.1**
	comp=Z,11nm,0.7s					
KHC	**Kasperske Hory**	**2.86 215**	Pn	**Pn**	**05 44 05.4**	**+0.1**
ZST	**Bratislava**	**3.36 168**	*e*SG	**Sg**	**05 45 06.5**	**+0.2**
ZST	**Bratislava**	**3.36 168**	*e*Sg	**Sg**	**05 45 06.5**	**+0.2**
NIE	**Niedzica**	**3.40 126**	*e*P	**Pg**	**05 44 24.2**	**+0.6**
NIE			*e*S	**Sg**	**05 45 07.7**	**+0.1**
CONA	**Conrad Observa**	**3.57 183**	⇑*i*Pn	**Pn**	**05 44 15.5**	**+0.5**
CONA			⇓*i*Sg	**Sg**	**05 45 13.2**	**+0.2**
	comp=Z,9.4nm,0.4s					
CONA	**Conrad Observa**	**3.57 183**	Pn	**Pn**	**05 44 15.5**	**+0.5**
CONA			Sg	**Sg**	**05 45 13.2**	**+0.2**
	comp=Z,9.4nm,0.4s					
BSD	**Bornholm Skovb**	**3.70 349**	*i* P	**Pn**	**05 44 15.5**	**-1.4**
BSD			*i* S	**Sn**	**05 44 56.8**	**-4.4**
BSD	**Bornholm Skovb**	**3.70 349**	*i* P	**Pn**	**05 44 15.5**	**-1.4**
BSD			*i* S	**Sn**	**05 44 56.8**	**-4.4**
MOA	**Molln**	**3.83 199**	⇑*i*Pn	**Pn**	**05 44 19.3**	**+0.6**
MOA			⇑*i*Sg	**Sg**	**05 45 22.5**	**+1.0**
	comp=Z,6.9nm,0.3s					
MOA	**Molln**	**3.83 199**	Pn	**Pn**	**05 44 19.3**	**+0.6**
MOA			Sg	**Sg**	**05 45 22.5**	**+1.0**
	comp=Z,6.9nm,0.3s					
STHS	**Stebnicka Huta**	**3.89 120**	*e*	**Sg**	**05 45 27.3**	**+4.0**
KECS	**Kecovo**	**4.13 135**	*e*	**Sg**	**05 45 26.4**	**-4.7**
CRVS	**Cervenica-Dubn**	**4.31 125**	*e*SG	**Sg**	**05 45 39.0**	**+2.1**
CRVS	**Cervenica-Dubn**	**4.31 125**	*e*Sg	**Sg**	**05 45 39.0**	**+2.1**

ISCJB ***04*** *05:56:56.5±0.4,24°.31N±0°.03×122°.20E±0°.02,h51km±8km, Error ellipse: s-maj=4.6km s-min=2.9km az=161.1*
JMA ***04*** *05:56:56.2±0.2,24°.57N×122°.23E,h69km±2km,M2.4*
TAP ***04*** *05:56:56.1,24°.32N×122°.21E,h47km±1km,ML3.4,D*
ISC 04 05:56:57.0±0.4,24°.32N±0°.03×122°.20E±0°.02,h47km±10km, n39,σ0°.73/71,5C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.43 285**		⇑*i*P	**Pn**	**05 57 07.1**	**-0.2**
ENA	baz=284			*e*S	**Sn**	**05 57 14.9**	**+0.2**
TWC	**Suao**	**0.43 313**		⇑*i*P	**Pn**	**05 57 07.1**	**-0.2**
TWC	baz=312			S	**Sn**	**05 57 14.3**	**-0.3**
TWD	**Chiawan**	**0.60 247**		P	**Pn**	**05 57 08.7**	**-0.6**
TWD	baz=247			S	**Sn**	**05 57 18.0**	**-0.1**
ILA	**Ilan**	**0.61 318**		*e*P	**Pn**	**05 57 09.9**	**+0.4**
ILA	baz=317			*e*S	**Sn**	**05 57 19.7**	**+1.3**
TWE	**Neicheng**	**0.63 310**		P	**Pn**	**05 57 09.7**	**0.0**
TWE	baz=310			S	**Sn**	**05 57 19.1**	**+0.2**
HWA	**Hwalien**	**0.64 238**		*e*P	**Pn**	**05 57 09.4**	**-0.5**
HWA	baz=238			*e*S	**Sn**	**05 57 20.2**	**+1.1**
ENTT	**Nioudou**	**0.66 299**		⇑*i*P	**Pn**	**05 57 10.0**	**-0.1**
ENTT	baz=299			S	**Sn**	**05 57 19.9**	**+0.3**
TWB1	**Santiao Chiao**	**0.72 344**		*i* P	**Pn**	**05 57 10.1**	**-0.8**
TWB1	baz=344			S	**Sn**	**05 57 19.8**	**-1.1**
YOJ	**Yonaguni jima**	**0.75 79**		P	**Pn**	**05 57 11.3**	**0.0**
YOJ				S	**Sn**	**05 57 22.6**	**+0.9**
NNS	**Nan Shan**	**0.77 280**		P	**Pn**	**05 57 11.0**	**-0.5**
NNS	baz=279			S	**Sn**	**05 57 21.7**	**-0.3**
NWF	**Wu-fen Shan**	**0.84 333**		*e*P	**Pn**	**05 57 12.0**	**-0.6**
NWF	baz=332			*e*S	**Sn**	**05 57 22.7**	**-1.3**
NSK	**Sanguang**	**0.85 295**		⇑*i*P	**Pn**	**05 57 12.3**	**-0.3**
NSK	baz=295			*e*S	**Sn**	**05 57 24.2**	**+0.2**
ESL	**Shilin**	**0.86 235**		P	**Pn**	**05 57 11.9**	**-0.9**
ESL	baz=234			*e*S	**Sn**	**05 57 23.9**	**-0.4**
WHF	**Hehuan Shan**	**0.87 259**		⇑*i*P	**Pn**	**05 57 12.9**	**0.0**
WHF	baz=258			S	**Sn**	**05 57 24.4**	**-0.1**
TWT	**Tachien**	**0.94 266**		*i* P	**Pn**	**05 57 14.2**	**+0.4**
TWT	baz=266			S	**Sn**	**05 57 26.5**	**+0.3**
TWS1	**Kuangyinshan**	**1.06 318**		P	**Pn**	**05 57 15.2**	**-0.3**
TWS1	baz=317			S	**Sn**	**05 57 29.0**	**-0.1**
TWY	**Chenhua**	**1.10 330**		*e*P	**Pn**	**05 57 15.1**	**-0.9**
TWY	baz=330			*e*S	**Sn**	**05 57 29.4**	**-0.7**
NSTT	**Nanjuang**	**1.14 286**		*e*P	**Pn**	**05 57 16.6**	**+0.1**
NSTT	baz=286			*e*S	**Sn**	**05 57 31.6**	**+0.6**
EHY	**Hungye**	**1.14 225**		P	**Pn**	**05 57 15.3**	**-1.2**
EHY	baz=224			*e*S	**Sn**	**05 57 29.6**	**-1.5**
SMLT	**Sun Moon Lake**	**1.26 250**		P	**Pn**	**05 57 18.8**	**+0.5**
SMLT	baz=250			*e*S	**Sn**	**05 57 34.2**	**+0.1**
TWF1	**Yuli**	**1.27 221**		P	**Pn**	**05 57 16.9**	**-1.4**
TWF1	baz=220			*e*S	**Sn**	**05 57 32.7**	**-1.4**
TYC	**Yuchr**	**1.29 252**		P	**Pn**	**05 57 18.8**	**+0.1**
TYC	baz=251			*e*S	**Sn**	**05 57 34.9**	**0.0**
TWQ1	**Liyutan**	**1.30 272**		*e*P	**Pn**	**05 57 19.2**	**+0.4**
TWQ1	baz=271			*e*S	**Sn**	**05 57 36.7**	**+1.6**
NSY	**Sanyi**	**1.32 275**		*e*P	**Pn**	**05 57 19.9**	**+0.9**
IRIF	baz=274			S	**Sn**	**05 57 37.5**	**+0.2**
IRIF	**Iriomote-Funau**	**1.40 89**		P	**Pn**	**05 57 19.7**	**-0.3**
TCU	**Taichung**	**1.40 263**		*e*P	**Pn**	**05 57 20.8**	**+0.7**
TCU	baz=263			*e*S	**Sn**	**05 57 39.3**	**+1.8**
YUS	**Yu-Shan**	**1.41 235**		P	**Pn**	**05 57 20.8**	**+0.6**
YUS	baz=234			*e*S	**Sn**	**05 57 37.8**	**+0.2**
HATJ	**Hateruma jima**	**1.49 100**		P	**Pn**	**05 57 22.1**	**+0.8**
HATJ				*e*S	**Sn**	**05 57 40.8**	**+1.2**
ALS	**Alishan**	**1.51 238**		*e*P	**Pn**	**05 57 22.4**	**+0.8**
ALS	baz=237			*e*S	**Sn**	**05 57 40.8**	**+0.8**
ELDTW	**Lidau**	**1.56 224**		P	**Pn**	**05 57 21.7**	**-0.6**
ELDTW	baz=223			*e*S	**Sn**	**05 57 40.6**	**-0.7**
JKRS	**Kuro-shima**	**1.65 92**		P	**Pn**	**05 57 23.8**	**+0.2**
JKRS				S	**Sn**	**05 57 44.2**	**+0.6**
STYT	**Tauyuan**	**1.75 229**		*e*P	**Pn**	**05 57 25.6**	**+0.7**
JIJ	baz=228			S	**Sn**	**05 57 46.2**	**-0.4**
JIJ	**Ishigaki jima**	**1.77 88**		P	**Pn**	**05 57 25.1**	**-0.1**
TWG	**Pinlang**	**1.81 215**		*e*P	**Pn**	**05 57 24.4**	**-1.3**
CHN1	**Nanshi**	**1.90 234**		*e*P	**Pn**	**05 57 27.9**	**+0.9**
SSD	**Sandimen**	**2.12 223**		*e*P	**Pn**	**05 57 31.0**	**+1.0**

	baz=222					
EAST	**Anshuo**	**2.29 213**	*e*P	**Pn**	**05 57 32.6**	**+0.2**
	baz=212					
JTJ	**Tarama**	**2.30 81**	P	**Pn**	**05 57 32.7**	**+0.2**
JTJ			S	**Sn**	**05 57 59.4**	**-0.2**
LAY	**Lan-yu**	**2.34 195**	*e*P	**Pn**	**05 57 31.6**	**-1.5**
	baz=194					

IDC ***04*** *06:08:38.9±2.2,23°.99S×179°.95W,h495km±23km,mb3.5/9, mb1 3.7/10,mb1mx3.5/19,mbtmp3.5/10,Error ellipse: s-maj=22.9km s-min=17.4km az=13.0*
NEIC ***04*** *06:08:41.4±2.7,24°.00S×179°.96E,h526km±33km,mb4.2/3, Error ellipse: s-maj=25.6km s-min=13.9km az=198.0*
ISCJB ***04*** *06:08:42.7±3.3,24°.1S±0°.1×179°.9E±0°.2,h554km±40km, mb4.0/11,Error ellipse: s-maj=25.7km s-min=14.8km az=144.7*
ISC 04 06:08:42.8±3.0,24°.2S±0°.1×179°.9E±0°.2,h542km±35km, n26,σ0°.82/28,mb4.0/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.23 189**		P	**P**	**06 11 44.9**	**+0.8**
URZ	1.0nm,0.3s,baz=271,slow=4.5,SNR=7.6			S	**S**	**06 14 12.4**	**-1.2**
URZ	0.7nm,0.3s,baz=70,slow=23,SNR=10 **Urewera**	**14.23 189**		P	**P**	**06 11 44.9**	**+0.8**
URZ				S	**S**	**06 14 12.4**	**-1.2**
EIDS	**Eidsvold**	**26.20 261**		*e*P	**P**	**06 13 35.4**	**+0.8**
CTA	3.8nm,0.6s,mb4.2 **Charters Tower**	**31.42 271**		P	**P**	**06 14 20.8**	**+0.8**
CTA	16nm,0.5s,mb4.8,baz=92,slow=11,SNR=22 **Charters Tower**	**31.42 271**		*e*P	**P**	**06 14 20.7**	**+0.7**
CTA	11nm,0.4s,mb4.8 **Charters Tower**	**31.42 271**		P	**P**	**06 14 20.8**	**+0.8**
PMG	**Port Moresby**	**34.53 290**		P	**P**	**06 14 45.1**	**-1.3**
PMG	4.9nm,0.6s,mb4.2,baz=118,slow=7.6,SNR=3.7 **Port Moresby**	**34.53 290**		P	**P**	**06 14 45.1**	**-1.3**
STKA	**Stephens Creek**	**34.56 248**		P	**P**	**06 14 46.3**	**0.0**
ASAR	1.5nm,0.6s,mb3.7,baz=80,slow=6.1,SNR=3.6 **Alice Springs**	**41.93 261**		P	**P**	**06 15 46.6**	**+0.3**
ASAR	2.4nm,0.5s,mb4.0,baz=97,slow=7.2,SNR=29			ScP	ScP	06 20 32.9	+4.8
ASAR	**Alice Springs**	**41.93 261**		P	**P**	**06 15 46.6**	**+0.3**
ASAR	1.3nm,0.9s,baz=120,slow=5.4,SNR=7.2			ScP	ScP	06 20 32.9	+4.8
WRAB	**Tennant Creek**	**42.32 266**		*e*P	**P**	**06 15 48.8**	**-0.7**
WRA	13nm,1.1s,mb4.4 **Warramunga Arr**	**42.33 266**		P	**P**	**06 15 49.1**	**-0.4**
WRA	4.3nm,0.3s,mb4.4,baz=97,slow=8.4,SNR=111			ScP	ScP	06 20 35.4	+5.6
WRA	1.1nm,1.0s,baz=96,slow=3.7,SNR=5.4 **Warramunga Arr**	**42.33 266**		P	**P**	**06 15 49.1**	**-0.4**
WRA				ScP	ScP	06 20 35.4	+5.6
FITZ	**Fitzroy Crossi**	**50.75 266**		P	**P**	**06 16 53.7**	**+0.5**
FITZ	3.2nm,0.6s,mb3.9,baz=112,slow=6.8,SNR=8.5 **Fitzroy Crossi**	**50.75 266**		*e*P	**P**	**06 16 53.7**	**+0.5**
FITZ	5.4nm,0.6s,mb4.0 **Fitzroy Crossi**	**50.75 266**		P	**P**	**06 16 53.7**	**+0.5**
QSPA	**South Pole Qui**	**65.89 180**		P	**P**	**06 18 36.0**	**+1.6**
QSPA	3.1nm,0.7s,mb3.9,baz=248,slow=2.8,SNR=13 **South Pole Qui**	**65.89 180**		P	**P**	**06 18 36.0**	**+1.6**
VNA3	3.4nm,1.2s,mb3.8 **Neumayer Olymp**	**84.59 177**		*e*	**P**	**06 20 17.5**	**-1.1**
VNA2	**Neumayer--Watz**	**85.00 178**		*e*	**P**	**06 20 21.3**	**+0.7**
NVAR	baz=196,slow=2.9 **Mina Array Bea**	**85.00 44**		P	**P**	**06 20 20.6**	**-0.6**
NVAR	0.3nm,0.6s,mb3.0,baz=218,slow=9.9,SNR=3.2 **Mina Array Bea**	**85.00 44**		P	**P**	**06 20 20.6**	**-0.6**
TXAR	**Lajitas Array**	**90.64 58**		P	**P**	**06 20 47.8**	**0.0**
TXAR	0.7nm,0.7s,mb3.7,baz=205,slow=6.7,SNR=7.4 **Lajitas Array**	**90.64 58**		P	**P**	**06 20 47.8**	**0.0**

IDC ***04*** *06:14:20.7±1.7,21°.0S×178°.61W,h526km±17km, mb3.8/11,mb1 4.0/13,mb1mx3.8/20,mbtmp3.8/13,Error ellipse: s-maj=18.9km s-min=11.9km az=148.0*
NEIC ***04*** *06:14:21.5±0.7,21°.05S×178°.60W,h538km±8km,mb4.5/9, Error ellipse: s-maj=13.9km s-min=8.5km az=141.0*
ISCJB ***04*** *06:14:22.4±1.1,21°.07S±0°.09×178°.74W±0°.10, h552km±13km,mb4.4/21,Error ellipse: s-maj=16.3km s-min=11.4km az=137.5*
ISC 04 06:14:22.7±1.0,21°.08S±0°.09×178°.69W±0°.10, h544km±12km,n111,σ0°.86/52,mb4.4/21,5C-6D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.53 317**		*e*Pn	**P**	**06 15 48.5**	**+0.1**
AFI	**Afiamalu**	**9.70 44**		P	**P**	**06 16 32.9**	**-4.7**
AFI	5.2nm,0.3s,baz=232,slow=18,SNR=5.9			S	**S**	**06 18 17.8**	**-11**
AFI	15nm,0.3s,baz=60,slow=20,SNR=11 **Afiamalu**	**9.70 44**		P	**P**	**06 16 32.9**	**-4.7**
AFI				S	**S**	**06 18 17.8**	**-11**
DZM	**Mont Dzumac**	**13.87 263**		*e*Pn	**P**	**06 17 21.1**	**+0.5**
OUZ	7.4nm,0.6s **Omahuta**	**15.64 204**		*e*P	**P**	**06 17 39.5**	**+0.8**
URZ	13nm,0.5s **Urewera**	**17.51 191**		P	**P**	**06 17 54.1**	**-2.1**
URZ	2.5nm,0.3s,baz=294,slow=1.0,SNR=16			S	**S**	**06 20 43.0**	**-7.1**
URZ	0.2nm,0.3s,baz=106,slow=23,SNR=3.0 **Urewera**	**17.51 191**		P	**P**	**06 17 54.1**	**-2.1**
URZ	3.9nm,0.5s			S	**S**	**06 20 43.0**	**-7.1**
KHZ	**Kahutara**	**22.26 195**		*e*P	**P**	**06 18 38.2**	**-1.0**
CNB	25nm,1.1s,mb4.8 **Canberra Magne**	**31.38 236**		*e*P	**P**	**06 20 00.6**	**+1.4**
CTA	58nm,0.6s,mb5.3 **Charters Tower**	**32.80 265**		P	**P**	**06 20 12.1**	**+0.5**
CTA	16nm,0.4s,mb4.9,baz=90,slow=10,SNR=35 **Charters Tower**	**32.80 265**		*e*P	**P**	**06 20 12.0**	**+0.5**
CTA	13nm,0.4s,mb4.8 **Charters Tower**	**32.80 265**		P	**P**	**06 20 12.1**	**+0.5**
TOO	**Toolangi**	**35.04 234**		*e*P	**P**	**06 20 31.3**	**+1.2**
STKA	32nm,0.6s,mb5.0 **Stephens Creek**	**36.96 245**		P	**P**	**06 20 46.7**	**+0.6**
STKA	7.6nm,0.7s,mb4.3,baz=90,slow=9.5,SNR=9.6 **Stephens Creek**	**36.96 245**		*e*P	**P**	**06 20 46.6**	**+0.5**
STKA	4.5nm,0.6s,mb4.2 **Stephens Creek**	**36.96 245**		P	**P**	**06 20 46.7**	**+0.6**
COEN	60nm,0.8s,mb5.2 **Coen**	**36.98 275**		*e*P	**P**	**06 20 46.2**	**-0.2**
COEN				*e*pP		06 22 17.2	
AS31	**Alice Springs**	**43.77 257**		*e*P	**P**	**06 21 40.5**	**0.0**
ASAR	**Alice Springs**	**43.77 257**		P	**P**	**06 21 40.5**	**0.0**
ASAR	11nm,0.5s,mb4.7,baz=95,slow=8.0,SNR=127			PcP	PcP	06 23 15.1	-0.1
ASAR	2.2nm,0.6s,baz=102,slow=4.2,SNR=11 **Alice Springs**	**43.77 257**		P	**P**	**06 21 40.5**	**0.0**
ASAR				PcP	PcP	06 23 15.1	-0.1
WB2	**Warramunga Arr**	**43.88 263**		*e*P	**P**	**06 21 40.5**	**-0.9**
WRAB	**Tennant Creek**	**43.88 263**		*e*P	**P**	**06 21 40.3**	**-1.2**
WRAB	13nm,1.0s,mb4.4			*e*ScP	ScP	06 26 14.5	-1.3
WRA	**Warramunga Arr**	**43.89 263**		P	**P**	**06 21 39.9**	**-1.6**
WRA	9.4nm,0.9s,mb4.3,baz=94,slow=6.7,SNR=6.6			PcP	PcP	06 23 15.9	+0.2
WRA	1.3nm,0.7s,baz=85,slow=3.9,SNR=5.9 **Warramunga Arr**	**43.89 263**		P	**P**	**06 21 39.9**	**-1.6**
WRA				PcP	PcP	06 23 15.9	+0.2
FORT	**Forrest**	**48.48 247**		*e*P	**P**	**06 22 15.8**	**-0.4**
FITZ	16nm,0.5s,mb4.8 **Fitzroy Crossi**	**52.32 263**		P	**P**	**06 22 44.5**	**+0.1**
FITZ	2.8nm,0.4s,mb4.0,baz=101,slow=6.9,SNR=30 **Fitzroy Crossi**	**52.32 263**		*e*P	**P**	**06 22 44.3**	**-0.1**
FITZ	4.6nm,0.3s,mb4.3 **Fitzroy Crossi**	**52.32 263**		P	**P**	**06 22 44.5**	**+0.1**
KLBR	**Kellerberrin**	**57.23 245**		*e*P	**P**	**06 23 18.7**	**+0.1**
QSPA	19nm,1.1s,mb4.2 **South Pole Qui**	**69.00 180**		P	**P**	**06 24 34.3**	**+1.2**
QSPA	3.5nm,0.7s,mb4.0,baz=47,slow=1.7,SNR=12 **South Pole Qui**	**69.00 180**		P	**P**	**06 24 34.3**	**+1.1**
NVAR	**Mina Array Bea**	**81.88 44**		P	**P**	**06 25 46.0**	**+0.7**
NVAR	2.9nm,0.7s,mb3.8,baz=223,slow=8.9,SNR=24 **Mina Array Bea**	**81.88 44**		P	**P**	**06 25 46.0**	**+0.7**
LDFC	**Landfair**	**82.16 48**		*e*P	**P**	**06 25 47.9**	**+1.0**
MSU	3.0nm,0.4s,mb4.1 **Marysvale**	**85.96 46**		*e*P	**P**	**06 26 05.1**	**-0.5**
SNAA	2.2nm,1.0s,mb3.7 **Sanae**	**87.45 179**		*e*	**P**	**06 26 06.8**	**-5.2**
VNA3	**Neumayer Olymp**	**87.61 176**		*e*	**P**	**06 26 12.3**	**-0.5**
TXAR	**Lajitas Array**	**87.90 58**		P	**P**	**06 26 15.8**	**+0.9**
TXAR	3.0nm,0.9s,mb4.0,baz=224,slow=5.2,SNR=21 **Lajitas Array**	**87.90 58**		P	**P**	**06 26 15.8**	**+0.9**
VNA2	**Neumayer--Watz**	**88.05 177**		*e*	**P**	**06 26 15.0**	**+0.2**
ILAR	baz=193,slow=3.9 **Eielson Array**	**89.02 13**		P	**P**	**06 26 17.8**	**-1.4**
ILAR	1.8nm,0.7s,mb4.0,baz=218,slow=5.4,SNR=25 **Eielson Array**	**89.02 13**		P	**P**	**06 26 17.8**	**-1.4**
IMW	**Indian Meadow**	**89.50 42**		*e*P	**P**	**06 26 22.4**	**+0.5**
CMAR	8.3nm,1.1s,mb4.5 **Chiang Mai Arr**	**89.70 290**		P	**P**	**06 26 24.4**	**+0.9**
CMAR	1.5nm,0.5s,mb4.1,baz=129,slow=2.4,SNR=9.4 **Chiang Mai Arr**	**89.70 290**		P	**P**	**06 26 24.4**	**+0.9**
PD01	**Pinedale Array**	**89.81 43**		*e*P	**P**	**06 26 22.7**	**-0.7**
PDAR	**Pinedale Array**	**89.82 43**		P	**P**	**06 26 23.4**	**-0.1**
PDAR	3.3nm,0.7s,mb4.3,baz=213,slow=3.0,SNR=30 **Pinedale Array**	**89.82 43**		P	**P**	**06 26 23.4**	**-0.1**
ZALV	**Zalesovo Beam**	**110.54 321**		PKiKP	PKiKP	06 31 51.3	-1.8
ZALV	0.5nm,0.4s,baz=174,slow=2.3,SNR=4.8 **Zalesovo Beam**	**110.54 321**		PKiKP	PKiKP	06 31 51.3	-1.8
MKAR	**Makanchi Array**	**111.12 313**		PKiKP	PKiKP	06 31 53.9	-0.6
MKAR	0.5nm,0.4s,baz=28,slow=1.0,SNR=9.2 **Makanchi Array**	**111.12 313**		PKiKP	PKiKP	06 31 53.9	-0.6
KURK	**Kurchatov**	**113.98 317**		PKP	PKiKP	06 31 58.4	-1.4
KURK	0.7nm,0.3s,baz=103,slow=1.6,SNR=6.3 **Kurchatov**	**113.98 317**		PKP	PKiKP	06 31 58.4	-1.4
BVAR	**Borovoye Array**	**119.10 320**		PKP	PKPdf	06 32 08.5	-1.1
BVAR	2.3nm,0.3s,baz=113,slow=2.7,SNR=13 **Borovoye Array**	**119.10 320**		PKP	PKPdf	06 32 08.5	-1.1
SPITS	**Spitsbergen Ar**	**122.40 356**		PKP	PKPdf	06 32 14.3	-1.1
SPITS	7.5nm,0.8s,baz=188,slow=12,SNR=3.5 **Spitsbergen Ar**	**122.40 356**		PKP	PKPdf	06 32 14.3	-1.1
BOSA	**Boshof**	**125.46 206**		PKP	PKPdf	06 32 22.5	-0.2
BOSA	1.6nm,0.7s,baz=104,slow=11,SNR=3.2 **Boshof**	**125.46 206**		PKP	PKPdf	06 32 22.5	-0.2
ABKAR	**Akbulak array**	**126.06 316**		*e*PKPdf	PKPdf	06 32 22.3	-0.8
AKTO	**Aktyubinsk**	**127.06 318**		PKP	PKPdf	06 32 24.9	-0.1
AKTO	0.4nm,0.3s,baz=93,slow=4.0,SNR=8.2 **Aktyubinsk**	**127.06 318**		PKP	PKPdf	06 32 24.9	-0.1
ARCES	**ARCESS Array B**	**129.37 349**		PKP	PKPdf	06 32 28.0	-0.8
ARCES	2.6nm,0.8s,baz=29,slow=2.8,SNR=3.9 **ARCESS Array B**	**129.37 349**		PKP	PKPdf	06 32 28.0	-0.8
FINES	**FINESS Array B**	**136.14 343**		PKP	PKPdf	06 32 42.3	+0.6
FINES	0.8nm,0.3s,baz=146,slow=3.7,SNR=4.9			SKPbc	SKPbc	06 35 23.3	+0.5
FINES	2.8nm,0.6s,baz=222,slow=2.6,SNR=4.5 **FINESS Array B**	**136.14 343**		PKP	PKPdf	06 32 42.3	+0.6
FINES				SKPbc	SKPbc	06 35 23.3	+0.5
NOA	**NORSAR Array B**	**139.47 353**		PKhKP	PKPpre	06 32 41.5	
NOA	0.8nm,0.7s,baz=16,slow=4.6,SNR=4.0			PKP	PKPdf	06 32 47.6	-0.3
NOA	1.0nm,0.7s,baz=13,slow=4.1,SNR=3.8 **NORSAR Array B**	**139.47 353**		PKPpre	PKPpre	06 32 41.5	
NOA				PKP	PKPdf	06 32 47.5	-0.3
HFS	**Hagfors**	**140.00 350**		PKhKP	PKPpre	06 32 41.3	
HFS	2.4nm,0.3s,baz=50,slow=2.4,SNR=28 **Hagfors**	**140.00 350**		PKPpre	PKPpre	06 32 41.3	
AKASG	**Malin Array Be**	**143.20 330**		PKP	PKPdf	06 32 51.8	-3.0
AKASG	6.1nm,0.3s,baz=42,slow=4.2,SNR=34 **Malin Array Be**	**143.20 330**		PKP	PKPdf	06 32 51.8	-3.0
AKBB	**Malin Array Si**	**143.20 330**		*e*PKPdf	PKPdf	06 32 51.0	-3.8
BR131	**Keskin Array S**	**146.74 311**		*e*PKPbc	PKPbc	06 33 03.2	-0.7
BRTR	**Keskin Array B**	**146.74 311**		PKPbc	PKPbc	06 33 03.2	-0.7
BRTR	2.6nm,0.4s,baz=137,slow=4.4,SNR=15 **Keskin Array B**	**146.74 311**		PKPbc	PKPbc	06 33 03.2	-0.7
BUR08	**Bucovina Ar. S**	**147.22 330**		*e*PKPbc	PKPbc	06 33 05.5	+0.6
BURAR	**Bucovina Array**	**147.24 330**		⇑*i*P	PKPbc	06 33 05.5	+0.5
KOLS	**Kolonicke sedl**	**147.55 334**		*e*PKP	PKPbc	06 33 06.0	+0.2
VRI	**Vrincioaia**	**147.69 326**		⇓*i*P	PKPbc	06 33 06.3	+0.1
CRVS	**Cervenica-Dubn**	**147.91 335**		*e*PKP	PKPbc	06 33 06.8	+0.1
TRPA	**Tarpa**	**148.06 333**		⇓*i*P	PKPbc	06 33 06.9	-0.2
MLR	**Muntele Rosu**	**148.35 326**		PKPbc	PKPbc	06 33 06.5	-1.4
MLR	1.3nm,0.6s,baz=340,slow=6.2,SNR=6.7 **Muntele Rosu**	**148.35 326**		PKPbc	PKPbc	06 33 06.5	-1.4
MLR	**Muntele Rosu**	**148.35 326**		⇑*i*P	PKPbc	06 33 07.4	-0.5
UPC	**Upice**	**148.42 342**		*e*PKPbc	PKPbc	06 33 07.9	0.0
CLL	**Collm**	**148.47 346**		*i* PKPbc	PKPbc	06 33 07.6	-0.4
CLL	comp=Z,18nm,0.9s			*i* PKPab	PKPab	06 33 13.2	-0.3
DPC	**Dobruska-Polom**	**148.47 342**		*e*PKPbc	PKPbc	06 33 08.3	+0.2
KRLC	**Kraliky**	**148.58 341**		*e*PKPbc	PKPbc	06 33 08.3	0.0
KECS	**Kecovo**	**148.63 335**		*e*PKP	PKPbc	06 33 07.9	-0.6
BRG	**Berggiesshubel**	**148.65 345**		*e*PKP	PKPbc	06 33 08.2	-0.2
DRGR	comp=Z,12nm,1.1s	**149.00 331**		⇓*i*P	PKPbc	06 33 09.5	0.0
KOLL	**Kolacno**	**149.33 338**		*e*PKP	PKPbc	06 33 10.3	+0.1
NKC	**Novy Kostel**	**149.60 346**		*e*PKPbc	PKPbc	06 33 10.4	-0.4
GZR	**Gura Zlata**	**150.01 329**		⇓*i*P	PKPbc	06 33 11.4	-0.5
KHC	**Kasperske Hory**	**150.34 344**		*e*PKPbc	PKPbc	06 33 12.5	-0.1
KHC				*e*PKPab	PKPab	06 33 21.7	+0.4
KHC	**Kasperske Hory**	**150.34 344**		*e*PKPbc	PKPbc	06 33 12.3	-0.3
BZS	**Buzias**	**150.39 330**		⇓*i*P	PKPbc	06 33 12.3	-0.5
GERES	**GERESS Array B**	**150.57 343**		PKPbc	PKPbc	06 33 12.6	-0.5
GERES	comp=Z,5.3nm,0.8s,baz=40,slow=2.3,SNR=25 **GERESS Array B**	**150.57 343**		PKPbc	PKPbc	06 33 12.6	-0.5
CONA	**Conrad Observa**	**150.75 340**		⇑*i*PKiKP	PKiKP	06 33 13.2	-0.7
VTS	comp=Z,14nm,1.3s **Vitosha**	**151.76 324**		⇑*i*P	PKPbc	06 33 15.8	-0.2
ABTA	**Abfaltersbach**	**152.82 343**		⇑*i*PKPbc	PKPbc	06 33 17.2	-1.0
FETA	comp=Z,8.4nm,0.9s **Feichten**	**153.01 346**		⇓*i*PKPbc	PKPbc	06 33 17.8	-0.7
DAVOX	comp=Z,4.2nm,0.9s **Davos/Dischmat**	**153.43 347**		PKPbc	PKPbc	06 33 18.9	-0.5
DAVOX	comp=Z,3.9nm,0.7s,baz=0.6,slow=4.2,SNR=5.4 **Davos/Dischmat**	**153.43 347**		PKPbc	PKPbc	06 33 18.9	-0.5
ESDC	**Sonseca Array**	**160.92 13**		PKPab	PKPab	06 34 06.5	-0.6
ESDC	comp

31nm,0.8s
BMKR Bomnak 6.30 343 *e*rx rx 06 32 31.4
BMKR *e*Sg Sn 06 34 10.4 +34
BMKR A 06 34 17.4
16nm,0.5s

ISCJB ***04*** *06:54:28.9±0.3, 49°.87N×0°.02×18°.29E±0°.02, h0km, Error ellipse: s-maj=2.8km s-min=1.8km az=11.7*
CSEM ***04*** *06:54:29.3±0.2, 49°.92N×18°.50E, h1km, ML3.9/12, Ms3.9, Error ellipse: s-maj=4.4km s-min=3.2km az=18.0*
BGR ***04*** *06:54:30.5±0.4, 49°.86N×18°.48E, h1km, ML3.6/18, Error ellipse: s-maj=10.0km s-min=4.4km az=170.0*
IPEC ***04*** *06:54:30.2±0.2, 49°.82N×18°.59E, h2km±4km, ML3.2/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0, Mining induced.*
IDC ***04*** *06:54:31.6±0.9, 49°.75N×18°.55E, h0km, mb1 3.5/6, mb1mx3.3/25, mbtmp3.3/6, ML3.1/5, Error ellipse: s-maj=15.9km s-min=7.3km az=149.0*
LDG ***04*** *06:54:31.1±0.1, 49°.83N×18°.46E, h5km, Ml3.6/10, Error ellipse: s-maj=5.0km s-min=2.1km az=12.0*
PRU ***04*** *06:54:31.8, 49°.85N×18°.44E, h0km, Rockburst In Region Felt Mining induced.*
VIE ***04*** *06:54:32.4±0.3, 49°.66N×18°.34E, h0km±2km, mb2.6/6, ML3.1/9, Ms3.9/1, Error ellipse: s-maj=1.7km s-min=1.6km az=68.0 20 km SSE of Ostrava Suspected Mining induced.*
NEIC ***04*** *06:54:32.3, 49°.85N×18°.46E, h0km, ML3.2(PRU), Suspected Mining induced. After PRU.*
NEIC Rockburst.
ISC 04 06:54:30.5±0.2, 49°.86N±0°.02×18°.41E±0°.02, h0km, n167, σ1°50/267, 17C-17D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne** SNR=88	**0.17**	**262**	*e*Pg	**Pg**	**06 54 36.6**	**+2.8**
OKC				*e*Sg	**Sg**	06 54 40.5	+4.5
OKC	**Ostrava-Krasne** 2μm,0.8s	**0.17**	**262**	⇑*i*PG	**Pg**	06 54 36.5	+2.7
OKC				*e*SG	**Sg**	06 54 39.2	+3.2
OKC	**Ostrava-Krasne** 2μm,0.8s	**0.17**	**262**	Pg	**Pg**	06 54 36.5	+2.7
OKC				Sg	**Sg**	06 54 39.2	+3.2
RAC	**Raciborz**	**0.26**	**328**	*e*Pg	**Pg**	06 54 38.1	+2.6
RAC				*e*Sg	**Sg**	06 54 43.7	+4.8
RAC	**Raciborz**	**0.26**	**328**	*e*Pg	**Pg**	06 54 38.1	+2.6
RAC				*e*Sg	**Sg**	06 54 43.7	+4.8
MORC	**Moravsky Berou**	**0.57**	**262**	*e*Pg	**Pg**	06 54 42.9	+1.5
MORC				*e*Sg	**Sg**	06 54 52.3	+3.6
MORC	**Moravsky Berou** SNR=79	**0.57**	**262**	*e*Pg	**Pg**	06 54 43.2	+1.9
MORC				*e*Sg	**Sg**	06 54 52.6	+3.8
MORC	**Moravsky Berou**	**0.57**	**262**	⇓*i*P	**Pg**	06 54 44.8	+3.4
MORC				S	**Sg**	06 54 52.3	+3.6
MORC	**Moravsky Berou** SNR=79	**0.57**	**262**	Pg	**Pg**	06 54 43.2	+1.8
MORC	**Moravsky Berou**	**0.57**	**262**	⇓*i*P	**Pg**	06 54 44.8	+3.4
MORC	777nm,0.4s,baz=86			*e*Sg	**Sg**	06 54 51.8	+3.1
MORC				S	**Sg**	06 54 52.3	+3.6
LIKS	**Likavka**	**0.93**	**150**	*e*PN	**Pn**	06 54 48.7	-2.1
LIKS				*e*SN	**Sn**	06 55 01.7	-3.1
LIKS	**Likavka**	**0.93**	**150**	*e*Pn	**Pn**	06 54 48.7	-2.1
LIKS				*e*Sn	**Sn**	06 55 01.7	-3.1
OJC	**Ojcow**	**0.96**	**68**	*e*Pg	**Pg**	06 54 47.5	-1.5
OJC				*e*Sg	**Sg**	06 55 00.2	-1.3
OJC	**Ojcow** SNR=21	**0.96**	**68**	*e*Pg	**Pg**	06 54 47.6	-1.5
OJC				*e*Sg	**Sg**	06 55 00.7	-0.8
OJC	**Ojcow** SNR=21	**0.96**	**68**	Pg	**Pg**	06 54 47.6	-1.4
OJC				Sg	**Sg**	06 55 00.7	-0.8
KRLC	**Kraliky**	**1.07**	**282**	*e*PG	**Pg**	06 54 51.9	+0.8
KRLC				*e*SG	**Sg**	06 55 08.2	+3.3
KRLC	**Kraliky**	**1.07**	**282**	Pg	**Pg**	06 54 51.9	+0.8
KRLC				Sg	**Sg**	06 55 08.2	+3.3
KOLL	**Kolacno**	**1.28**	**180**	*e*PN	**Pn**	06 54 55.2	-0.5
KOLL				*e*SN	**Sn**	06 55 12.7	-0.8
KOLL	**Kolacno**	**1.28**	**180**	*e*Pn	**Pn**	06 54 55.2	-0.5
KOLL				*e*Sn	**Sn**	06 55 12.7	-0.8
VRAC	**Vranov** 26nm,0.3s,baz=70,slow=15,SNR=38	**1.30**	**246**	Pn	**Pn**	06 54 56.5	+0.5
VRAC				Pg	**Pg**	06 54 58.0	+2.5
VRAC	27nm,0.3s,baz=69,slow=15,SNR=37			Lg		06 55 14.8	
VRAC	**Vranov** 105nm,0.3s,baz=164,slow=16,SNR=34	**1.30**	**246**	Pn	**Pn**	06 54 56.5	+0.5
VRAC				Pg	**Pg**	06 54 58.0	+2.5
VRAC				Lg		06 55 14.8	
VRAC	**Vranov**	**1.30**	**246**	⇓*i*P	**Pg**	06 54 56.5	+1.0
VRAC	**Vranov**	**1.30**	**246**	⇓*i*P	**Pg**	06 54 56.5	+1.0
VRAC	**Vranov**	**1.30**	**246**	Pg	**Pg**	06 54 58.0	+2.5
VRAC				S	**Sg**	06 55 08.6	-3.8
VRAC				*e*Sg	**Sg**	06 55 14.1	+1.7
NIE	**Niedzica** 228nm,0.3s,baz=68	**1.31**	**109**	*e*Pg	**Pg**	06 54 54.4	-1.3
NIE				*e*Sg	**Sg**	06 55 12.4	-0.3
DPC	**Dobruska-Polom** SNR=41	**1.43**	**291**	*e*Pg	**Pg**	06 54 58.5	+0.6
DPC				*e*Sg	**Sg**	06 55 19.6	+3.1
DPC	**Dobruska-Polom**	**1.43**	**291**	*e*PG	**Pg**	06 54 58.6	+0.7
DPC				*e*SG	**Sg**	06 55 18.7	+2.3
DPC	**Dobruska-Polom**	**1.43**	**291**	Pg	**Pg**	06 54 58.6	+0.7
DPC				Sg	**Sg**	06 55 18.7	+2.3
SMOL	**Smolenice**	**1.49**	**206**	*e*PN	**Pn**	06 54 58.9	+0.3
SMOL				*e*SN	**Sn**	06 55 19.5	+0.8
SMOL	**Smolenice**	**1.49**	**206**	*e*Pn	**Pn**	06 54 58.9	+0.3
SMOL				*e*Sn	**Sn**	06 55 19.5	+0.8
KRUC	**Moravsky** baz=61	**1.54**	**239**	*e*Pg	**Pg**	06 54 59.4	-0.6
KRUC				*e*Sg	**Sg**	06 55 21.1	+1.2
UPC	**Upice** 174nm,0.1s,baz=61	**1.67**	**294**	⇑*e*SG	**Sg**	06 55 26.7	+2.5
UPC	**Upice**	**1.67**	**294**	Sg	**Sg**	06 55 26.7	+2.5
KSP	**Ksiaz**	**1.67**	**307**	*e*Pn	**Pn**	06 55 01.6	+0.5
KSP				*e*Pg	**Pg**	06 55 05.0	+2.5
KSP				*e*Sn	**Sn**	06 55 26.2	+3.0
KSP				*e*Sg	**Sg**	06 55 28.4	+4.2
KSP	**Ksiaz** SNR=1.1	**1.67**	**307**	*e*Pn	**Pn**	06 54 59.2	-1.8
KSP				*e*Pg	**Pg**	06 55 01.7	-0.9
KSP	SNR=21			*e*Sg	**Sg**	06 55 26.2	+2.0
KSP	**Ksiaz**	**1.67**	**307**	*e*Pn	**Pn**	06 55 01.6	+0.6
KSP				*e*Pg	**Pg**	06 55 04.5	+1.9
KSP				*e*Sg	**Sg**	06 55 26.2	+1.9
KSP	**Ksiaz** SNR=1.1	**1.67**	**307**	Pn	**Pn**	06 54 59.2	-1.8
KSP	**Ksiaz**	**1.67**	**307**	*e*Pb	**Pb**	06 55 02.8	+0.6
KSP				*e*Sg	**Sg**	06 55 26.2	+1.9
ZST	**Bratislava**	**1.88**	**208**	*e*PN	**Pn**	06 55 04.2	+0.4
ZST				*e*SN	**Sn**	06 55 27.5	-0.6
ZST	**Bratislava**	**1.88**	**208**	*e*Pn	**Pn**	06 55 04.2	+0.4
ZST				*e*Sn	**Sn**	06 55 27.5	-0.6
STHS	**Stebnicka Huta**	**1.90**	**103**	*e*PN	**Pn**	06 55 05.2	+1.1
STHS				*e*SN	**Sn**	06 55 30.6	+1.9
STHS	**Stebnicka Huta**	**1.90**	**103**	*e*Pn	**Pn**	06 55 05.2	+1.1
STHS				*e*Sn	**Sn**	06 55 30.6	+1.9
KECS	**Kecovo**	**1.94**	**135**	*e*PN	**Pn**	06 55 04.4	-0.3
KECS				*e*SN	**Sn**	06 55 28.0	-1.7
KECS	**Kecovo**	**1.94**	**135**	*e*Pn	**Pn**	06 55 04.4	-0.3
KECS				*e*Sn	**Sn**	06 55 28.1	-1.6
PSZ	**Piszkesteto**	**2.18**	**153**	Pn	**Pn**	06 55 07.5	-0.5
PSZ				*e*Sg	**Sg**	06 55 41.6	+1.1
PSZ	**Piszkesteto**	**2.18**	**153**	⇓*e*Pn	**Pn**	06 55 07.8	-0.2
PSZ				*e*Sn	**Sn**	06 55 37.7	+2.1
PSZ	**Piszkesteto**	**2.18**	**153**	⇑*i*P	**Pn**	06 55 08.0	0.0
PSZ	**Piszkesteto**	**2.18**	**153**	Pn	**Pn**	06 55 07.5	-0.5
PSZ	**Piszkesteto**	**2.18**	**153**	⇑*i*P	**Pn**	06 55 08.0	0.0
PSZ				*e*Sn	**Sn**	06 55 37.7	+2.1
PSZ				*e*Sg	**Sg**	06 55 41.6	+1.2
CRVS	**Cervenica-Dubn**	**2.21**	**115**	*e*PN	**Pn**	06 55 10.4	+1.9
CRVS				*e*SN	**Sn**	06 55 38.4	+1.9
CRVS	**Cervenica-Dubn**	**2.21**	**115**	*e*Pn	**Pn**	06 55 10.4	+1.9
CRVS				*e*Sn	**Sn**	06 55 38.4	+1.9
BUD	**Budapest**	**2.42**	**170**	*e*PB	**Pb**	06 55 15.0	+0.2
BUD				*e*Sn	**Sn**	06 55 42.4	+1.0
BUD	**Budapest**	**2.42**	**170**	*e*Pn	**Pb**	06 55 15.0	+0.2
BUD				*e*Sn	**Sn**	06 55 42.4	+1.0
PKSG		**2.47**	**180**	*e*Pn	**Pn**	06 55 15.9	+3.9
PKSG				*e*Sn	**Sn**	06 55 42.1	-0.7
BEL	**Belsk**	**2.49**	**36**	*e*Pn	**Pn**	06 55 13.9	+1.7
BEL				*e*Pg	**Pg**	06 55 20.2	+2.0
BEL				*e*Sn	**Sn**	06 55 53.6	+10
BEL				*e*Sg	**Sg**	06 55 59.4	+8.9
BEL	**Belsk**	**2.49**	**36**	*e*Pn	**Pn**	06 55 13.9	+1.7
SOP	**Sopron**	**2.50**	**210**	*e*Sn	**Sn**	06 55 43.1	-0.4
SOP	**Sopron**	**2.50**	**210**	*e*Sn	**Sn**	06 55 43.1	-0.4
PVCC	**Panska Ves**	**2.56**	**287**	⇑*e*PN	**Pn**	06 55 13.3	+0.1
PVCC				*e*PG	**Pg**	06 55 18.3	-1.2
PVCC	183nm,0.5s			*e*SG	**Sg**	06 55 53.6	+1.0
PVCC	**Panska Ves**	**2.56**	**287**	Pn	**Pn**	06 55 13.3	+0.1
CONA	**Conrad Observa**	**2.56**	**222**	⇓*i*Pn	**Pn**	06 55 13.2	-0.1
CONA				⇓*i*Sn	**Sn**	06 55 43.2	-1.9
CONA	**Conrad Observa**	**2.56**	**222**	⇓*i*Pn	**Pn**	06 55 13.2	-0.1
CONA				*i* Sn	**Sn**	06 55 43.2	-1.9
CONA	**Conrad Observa**	**2.56**	**222**	Pn	**Pn**	06 55 13.2	-0.1
CONA				Sn	**Sn**	06 55 43.2	-1.9
KOLS	**Kolonicke sedl**	**2.69**	**109**	*e*PN	**Pn**	06 55 17.8	+2.8
KOLS	**Kolonicke sedl**	**2.69**	**109**	*e*Pn	**Pn**	06 55 17.8	+2.8
KWP	**Kalwaria Pacla**	**2.80**	**93**	⇓*i*P	**Pn**	06 55 22.1	+5.6
BRG	**Berggiesshubel**	**3.03**	**291**	PG	**Pg**	06 55 27.4	-1.2
BRG				SG	**Sg**	06 56 08.4	+0.5
BRG	**Berggiesshubel** 80nm,0.7s SNR=7.6	**3.03**	**291**	*e*Pg	**Pg**	06 55 27.5	-1.1
BRG				*e*Sg	**Sg**	06 56 08.8	+0.8
BRG	**Berggiesshubel** SNR=7.6	**3.03**	**291**	Pg	**Pg**	06 55 27.5	-1.1
BRG				Sg	**Sg**	06 56 08.8	+0.9
TRPA	**Tarpa**	**3.23**	**121**	⇓*i*P	**Pn**	06 55 23.8	+1.5
TRPA	**Tarpa**	**3.23**	**121**	⇓*i*P	**Pn**	06 55 23.8	+1.5
TRPA	**Tarpa**	**3.23**	**121**	*e*Pn	**Pn**	06 55 24.5	+2.2
KHC	**Kasperske Hory**	**3.23**	**259**	*e*Pn	**Pn**	06 55 23.5	+1.1
KHC				*e*Sg	**Sg**	06 56 16.2	+1.9
KHC	**Kasperske Hory** SNR=1.8	**3.23**	**259**	*e*Pn	**Pn**	06 55 24.0	+1.6
KHC				*e*Sg	**Sg**	06 56 12.3	-2.0
KHC	**Kasperske Hory**	**3.23**	**259**	*e*PN	**Pn**	06 55 23.3	+0.8
KHC				*e*PG	**Pg**	06 55 30.6	-1.9
KHC	76nm,0.4s			*e*SG	**Sg**	06 56 14.8	+0.5
KHC	**Kasperske Hory**	**3.23**	**259**	Pn	**Pn**	06 55 23.3	+0.8
KHC				*e*Sg	**Sg**	06 56 16.2	+1.9
ARSA	**Arzberg**	**3.24**	**217**	⇑*i*Pn	**Pn**	06 55 21.8	-0.7
ARSA				⇑*i*Sg	**Sg**	06 56 13.8	-0.7
ARSA	**Arzberg** 26nm,0.8s	**3.24**	**217**	⇑*i*Pn	**Pn**	06 55 21.8	-0.7
ARSA				*i* Sg	**Sg**	06 56 13.8	-0.8
ARSA	**Arzberg**	**3.24**	**217**	Pn	**Pn**	06 55 21.8	-0.8
ARSA				Sg	**Sg**	06 56 13.8	-0.8
GEC2	**GERESS Array S** SNR=5.1	**3.24**	**253**	*e*Pg	**Pg**	06 55 31.9	-0.7
GEC2				*e*Sg	**Sg**	06 56 13.2	-1.4
GEC2	**GERESS Array S** SNR=5.1	**3.24**	**253**	Pg	**Pg**	06 55 31.9	-0.7
GEC2				Sg	**Sg**	06 56 13.2	-1.4
GERES	**GERESS Array B** 0.7nm,0.3s,baz=69,slow=15,SNR=8.9	**3.24**	**253**	Pn	**Pn**	06 55 25.5	+2.9
GERES				Pg	**Pg**	06 55 31.9	-0.7
GERES	4.9nm,0.3s,baz=68,slow=18,SNR=44			Lg		06 56 16.1	
GERES	**GERESS Array B** 22nm,0.3s,baz=70,slow=28,SNR=22	**3.24**	**253**	Pn	**Pn**	06 55 25.5	+2.9
GERES				Pg	**Pg**	06 55 31.9	-0.7
GERES				Lg		06 56 16.1	
GERES	**GERESS Array B**	**3.24**	**253**	Pn	**Pn**	06 55 25.5	+2.9
GERES	**GERESS Array B**	**3.24**	**253**	Pg	**Pg**	06 55 31.9	-0.7
MOA	**Molln** 39nm,0.6s	**3.40**	**235**	⇑*i*Pn	**Pn**	06 55 24.8	+0.1
MOA				⇓*i*Sg	**Sg**	06 56 19.9	+0.3
MOA	**Molln** 39nm,0.6s	**3.40**	**235**	⇑*i*Pn	**Pn**	06 55 24.8	+0.1
MOA				*i* Sg	**Sg**	06 56 19.9	+0.3
MOA	**Molln**	**3.40**	**235**	Pn	**Pn**	06 55 24.8	+0.1
MOA				Sg	**Sg**	06 56 19.9	+0.3
FBE	**Freiberg** SNR=2.2	**3.40**	**290**	*e*Pg	**Pg**	06 55 34.2	-1.5
FBE				*e*Sg	**Sg**	06 56 20.4	+0.6
FBE	**Freiberg** SNR=2.2	**3.40**	**290**	Pg	**Pg**	06 55 34.2	-1.5
FBE				Sg	**Sg**	06 56 20.5	+0.7
WET	**Wettzell**	**3.68**	**261**	*e*Sg	**Sg**	06 56 27.2	-1.3
WET	**Wettzell**	**3.68**	**261**	Sg	**Sg**	06 56 27.2	-1.3
CLL	**Collm** SNR=2.3	**3.74**	**295**	*e*Pg	**Pg**	06 55 40.3	-1.8
CLL				*e*Sg	**Sg**	06 56 29.6	-0.9
CLL	**Collm** SNR=2.3	**3.74**	**295**	*e*Pn	**Pn**	06 55 30.0	+0.6
CLL				*e*Pg	**Pg**	06 55 41.0	-1.1
CLL				*e*Sg	**Sg**	06 56 31.0	+0.5
CLL	**Collm** SNR=2.3	**3.74**	**295**	Pg	**Pg**	06 55 40.3	-1.8
CLL				Sg	**Sg**	06 56 29.6	-0.9
NKC	**Novy Kostel**	**3.86**	**278**	*e*PN	**Pn**	06 55 32.2	+1.1
NKC				*e*SG	**Sg**	06 56 31.8	-2.7
NKC	**Novy Kostel**	**3.86**	**278**	Pn	**Pn**	06 55 32.2	+1.1
NKC				Sg	**Sg**	06 56 33.5	-1.0
TANN	**Tannenbergstha**	**3.87**	**281**	*e*Sg	**Sg**	06 56 34.0	-0.7
TANN	**Tannenbergstha**	**3.87**	**281**	Sg	**Sg**	06 56 34.0	-0.6
WERN	**Wernitzgruen**	**3.91**	**279**	*e*Sg	**Sg**	06 56 34.4	-1.6
WERN	**Wernitzgruen**	**3.91**	**279**	Sg	**Sg**	06 56 34.4	-1.6
GUNZ	**Gunzen** SNR=4.1	**3.94**	**280**	*e*Pg	**Pg**	06 55 45.4	-0.7
GUNZ	**Gunzen** SNR=4.1	**3.94**	**280**	Pg	**Pg**	06 55 45.4	-0.7
WERD	**Werda** SNR=2.9	**3.97**	**281**	*e*Pg	**Pg**	06 55 44.8	-1.8
WERD	**Werda** SNR=2.9	**3.97**	**281**	Pg	**Pg**	06 55 44.8	-1.7
DRGR		**4.20**	**135**	⇓*i*P	**Pn**	06 55 35.8	0.0
DRGR		**4.20**	**135**	⇓*i*P	**Pn**	06 55 35.8	0.0
KBA	**Koelnbreinsper** comp=Z,22nm,0.5s	**4.37**	**232**	⇑*i*Sg	**Sg**	06 56 52.0	+1.1
KBA	**Koelnbreinsper** comp=Z,22nm,0.5s	**4.37**	**232**	Sg	**Sg**	06 56 52.0	+1.1
GRA1	**Grafenberg Arr**	**4.66**	**271**	Sg	**Sg**	06 56 58.7	-1.5
GRF	**Grafenberg Arr**	**4.66**	**271**	*e*Sg	**Sg**	06 56 58.7	-1.5
BZS	**Buzias**	**4.77**	**152**	⇑*i*P	**Pn**	06 55 42.9	-0.6
BZS	**Buzias**	**4.77**	**152**	⇑*i*P	**Pn**	06 55 42.9	-0.6
BUR08	**Bucovina Ar. S**	**5.01**	**114**	*e*Pn	**Pn**	06 55 46.4	-0.5
BUR08	**Bucovina Ar. S**	**5.01**	**114**	*e*Pn	**Pn**	06 55 46.4	-0.5
BURAR	**Bucovina Array**	**5.03**	**114**	⇑*i*P	**Pn**	06 55 49.5	+2.3
BURAR	**Bucovina Array**	**5.03**	**114**	⇑*i*P	**Pn**	06 55 49.5	+2.3
WATA	**Walderalm** comp=Z,32nm,0.6s	**5.19**	**243**	⇓*i*Sg	**Sg**	06 57 20.0	+2.8
WATA	**Walderalm** comp=Z,32nm,0.6s	**5.19**	**243**	Sg	**Sg**	06 57 20.0	+2.9
WTTA	**Wattenberg** comp=Z,17nm,0.4s	**5.19**	**243**	⇓*i*Sg	**Sg**	06 57 19.8	+2.5
WTTA	**Wattenberg** comp=Z,17nm,0.4s	**5.19**	**243**	Sg	**Sg**	06 57 19.8	+2.5
MOTA	**Moosalm** comp=Z,35nm,0.6s	**5.46**	**245**	⇑*i*Sg	**Sg**	06 57 28.4	+2.6
MOTA	**Moosalm** comp=Z,35nm,0.6s	**5.46**	**245**	Sg	**Sg**	06 57 28.4	+2.6
CLZ	**Clausthal**	**5.46**	**294**	*e*Sg	**Sg**	06 57 25.4	-0.5
CLZ	**Clausthal**	**5.46**	**294**	Sg	**Sg**	06 57 25.4	-0.5
BSD	**Bornholm Skovb**	**5.68**	**339**	*i* P	**Pn**	06 55 55.4	-0.6
BSD	**Bornholm Skovb**	**5.68**	**339**	*e*P	**Pn**	06 55 55.4	-0.6
FETA	**Feichten** comp=Z,14nm,0.6s	**5.85**	**244**	⇓*i*Sg	**Sg**	06 57 40.8	+2.6
FETA	**Feichten** comp=Z,14nm,0.6s	**5.85**	**244**	Sg	**Sg**	06 57 40.8	+2.6
DAVA	**Damuels** comp=Z,25nm,0.5s	**6.22**	**249**	⇑*i*Sg	**Sg**	06 57 53.2	+3.1
DAVA	**Damuels** comp=Z,25nm,0.5s	**6.22**	**249**	Sg	**Sg**	06 57 53.2	+3.1
DAVOX	**Davos/Dischmat** comp=Z,1.6nm,0.3s,baz=241,slow=22,SNR=4.2	**6.47**	**245**	Lg		06 57 59.9	
AKASG	**Malin Array Be** comp=Z,0.8nm,0.3s,baz=261,slow=13,SNR=3.3	**6.98**	**79**	Pn	**Pn**	06 56 11.0	-2.9
AKASG				Lg		06 58 13.6	
AKASG	**Malin Array Be** comp=Z,0.7nm,0.3s,baz=263,slow=29,SNR=4.6	**6.98**	**79**	Pn	**Pn**	06 56 11.0	-2.9
AKASG				Lg		06 58 13.6	
AKASG	**Malin Array Be**	**6.98**	**79**	Pn	**Pn**	06 56 11.0	-3.0
CDF	**Champ du Feu** comp=Z,48nm,1.0s	**7.45**	**263**	*e*Pn	**Pn**	06 56 18.5	-1.8
CDF				*e*Sg	**Sg**	06 58 24.8	-4.7
CDF	**Champ du Feu**	**7.45**	**263**	*e*Pn	**Pn**	06 56 18.5	-1.8
HINF	**Hinteralfeld** comp=Z,18nm,0.8s	**7.89**	**259**	*e*Pn	**Pn**	06 56 24.6	-1.9
HINF				*e*Sg	**Sg**	06 58 38.3	-5.6
HINF	**Hinteralfeld**	**7.89**	**259**	*e*Pn	**Pn**	06 56 24.6	-1.9
HINF				*e*Sg	**Sg**	06 58 38.3	-5.6
HINF	**Hinteralfeld**	**7.89**	**259**	*e*Pn	**Pn**	06 56 24.6	-1.9
HAU	**Haudompre** comp=Z,8.8nm,0.5s	**8.16**	**261**	*e*Pn	**Pn**	06 56 28.1	-2.0
HAU				*e*Sg	**Sg**	06 58 46.7	-5.6
HAU	**Haudompre**	**8.16**	**261**	*e*Pn	**Pn**	06 56 28.1	-2.0
HAU				*e*Sg	**Sg**	06 58 46.7	-5.6
HAU	**Haudompre**	**8.16**	**261**	*e*Pn	**Pn**	06 56 28.1	-2.0
SFTF	**Sexfontaines** comp=Z,10.0nm,0.4s	**8.94**	**264**	*e*Pn	**Pn**	06 56 38.8	-2.0
SFTF				*e*Sg	**Sg**	06 59 11.2	-6.2
SFTF	**Sexfontaines**	**8.94**	**264**	*e*Pn	**Pn**	06 56 38.8	-2.0
SFTF				*e*Sg	**Sg**	06 59 11.2	-6.2
SFTF	**Sexfontaines**	**8.94**	**264**	*e*Pn	**Pn**	06 56 38.8	-2.0
LPG	**La Plagne** comp=Z,0.7nm,0.4s	**8.99**	**245**	*e*Pn	**Pn**	06 56 39.5	-2.0
LPG				*e*Sn	**Sn**	06 58 15.6	-7.8
LPG	**La Plagne**	**8.99**	**245**	*e*Pn	**Pn**	06 56 39.5	-2.0
LPG				*e*Sn	**Sn**	06 58 15.6	-7.8
LPG	**La Plagne**	**8.99**	**245**	*e*Pn	**Pn**	06 56 39.5	-2.0
LPL	**La Plagne** comp=Z,0.8nm,0.3s	**8.99**	**246**	*e*Pn	**Pn**	06 56 39.6	-1.9
LPL				*e*Sn	**Sn**	06 58 15.7	-7.7
LPL	**La Plagne**	**8.99**	**246**	*e*Pn	**Pn**	06 56 39.6	-1.9
LPL				*e*Sn	**Sn**	06 58 15.7	-7.7
LPL	**La Plagne**	**8.99**	**246**	*e*Pn	**Pn**	06 56 39.6	-1.9
MBDF	**Montbardon** comp=Z,0.6nm,0.3s	**9.43**	**241**	*e*Pn	**Pn**	06 56 45.5	-2.0
MBDF				*e*Sn	**Sn**	06 58 25.8	-8.2
MBDF	**Montbardon**	**9.43**	**241**	*e*Pn	**Pn**	06 56 45.5	-2.0
MBDF				*e*Sn	**Sn**	06 58 25.8	-8.2
MBDF	**Montbardon**	**9.43**	**241**	*e*Pn	**Pn**	06 56 45.5	-2.0
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=4.7	**10.64**	**347**	Pn	**Pn**	06 57 02.2	-1.8
HFS	**Hagfors**	**10.64**	**347**	Pn	**Pn**	06 57 02.2	-1.8
HFS	**Hagfors**	**10.64**	**347**	Pn	**Pn**	06 57 02.2	-1.8
NOA	**NORSAR Array B** comp=Z,0.2nm,0.3s,baz=157,slow=12,SNR=4.4	**11.91**	**343**	Pn	**Pn**	06 57 19.2	-2.2
NOA	**NORSAR Array B**	**11.91**	**343**	Pn	**Pn**	06 57 19.2	-2.2
NOA	**NORSAR Array B**	**11.91**	**343**	Pn	**Pn**	06 57 19.2	-2.2
FINES	**FINESS Array B** comp=Z,0.4nm,0.3s,baz=182,slow=13,SNR=7.5	**12.38**	**17**	Pn	**Pn**	06 57 23.7	-4.0
FINES	**FINESS Array B**	**12.38**	**17**	Pn	**Pn**	06 57 23.7	-4.0
ARCES	**ARCESS Array B** comp=Z,1.1nm,0.6s,baz=187,slow=13,SNR=6.1	**20.03**	**7**	Pn	**P**	06 59 03.3	-1.2
ARCES	**ARCESS Array B**	**20.03**	**7**	Pn	**P**	06 59 03.3	-1.2
ARCES	**ARCESS Array B**	**20.03**	**7**	Pn	**P**	06 59 03.3	-1.3

ISK ***04*** *06:58:23.8, 36°.08N×36°.03E, h12km, MD2.8*
DDA ***04*** *06:58:23.5, 36°.18N×36°.02E, h7km±1km, Md2.9*
ISCJB ***04*** *06:58:24.5±0.9, 36°.12N±0°.08×36°.05E±0°.06, h13km±6km, Error ellipse: s-maj=13.6km s-min=6.8km az=19.2*
CSEM ***04*** *06:58:24.1±0.3, 36°.08N×36°.08E, h13km±1km, MD2.8, Error ellipse: s-maj=8.4km s-min=4.3km az=8.0*
ISC 04 06:58:24.6±0.9, 36°.12N±0°.07×36°.08E±0°.06, h14km±5km, n16, σ0°45/24, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTY	**Hatay**	**0.05**	**82**	*e*PG	**Pg**	**06 58 26.8**	**-0.4**
HTY				*e*SG	**Sg**	06 58 29.3	+0.2
HTY	**Hatay**	**0.05**	**82**	*e*Pg	**Pg**	06 58 26.8	-0.4
HTY				*e*Sg	**Sg**	06 58 29.3	+0.2
YAYL	**Yayladag**	**0.08**	**164**	*i* P	**Pg**	06 58 27.1	-0.4
YAYL				*i* S	**Sg**	06 58 30.2	+0.6
YAYL	**Yayladag**	**0.08**	**164**	*i* P	**Pg**	06 58 27.1	-0.4
YAYL				*i* S	**Sg**	06 58 30.2	+0.6
KRTS	**Karatas**	**0.73**	**309**	*e*P

	baz=252						
TWT				*e*S	**Sg**	**07 24 27.4**	**+0.1**
	baz=252						
ESL	**Shilin**	**0.76 214**		*e*P	**Pb**	**07 24 18.5**	**-0.9**
	baz=223						
TWS1	**Kuangyinshan**	**0.79 326**		P	**Pb**	**07 24 19.1**	**-0.6**
	baz=338						
TWS1				S	**Sb**	**07 24 30.7**	**+0.5**
	baz=338						
NCU	**National Centr**	**0.83 309**		*e*P	**Pb**	**07 24 20.3**	**-0.2**
	baz=297						
NCU				S	**Sb**	**07 24 32.4**	**+0.9**
	baz=297						
NSTT	**Nanjuang**	**0.84 283**		P	**Pb**	**07 24 19.8**	**-0.9**
	baz=282						
NSTT				S	**Sb**	**07 24 31.2**	**-0.5**
	baz=282						
TWY	**Chenhua**	**0.87 342**		P	**Pb**	**07 24 20.6**	**-0.6**
	baz=344						
TWY				S	**Sb**	**07 24 32.2**	**-0.4**
	baz=344						
HSN	**Hsinchu**	**0.92 293**		*e*P	**Pb**	**07 24 20.5**	**-1.5**
	baz=295						
HSN				*e*S	**Sb**	**07 24 34.2**	**+0.2**
	baz=295						
YOJ	**Yonaguni jima**	**1.01 89**		P	**Pb**	**07 24 23.1**	**-0.4**
	baz=81						
YOJ				*e*S	**Sb**	**07 24 36.9**	**+0.4**
	baz=81						
YOJ	**Yonaguni jima**	**1.01 89**		P	**Pb**	**07 24 23.2**	**-0.4**
YOJ				S	**Sb**	**07 24 37.7**	**+1.1**
TWQ1	**Liyutan**	**1.03 265**		P	**Pb**	**07 24 24.1**	**+0.1**
	baz=263						
TWQ1				*e*S	**Sb**	**07 24 38.2**	**+0.9**
	baz=263						
NSY	**Sanyi**	**1.04 268**		*e*P	**Pb**	**07 24 24.4**	**+0.3**
	baz=267						
NSY				*e*S	**Sb**	**07 24 39.0**	**+1.5**
	baz=267						
SMLT	**Sun Moon Lake**	**1.07 239**		*e*P	**Pb**	**07 24 24.5**	**-0.2**
	baz=228						
EHY	**Hungye**	**1.08 210**		*e*P	**Pb**	**07 24 23.0**	**-1.7**
	baz=217						
SSLB	**Suanglung**	**1.09 233**		*e*Pg	**Pg**	**07 24 24.0**	**-1.6**
TYC	**Yuchr**	**1.10 241**		*e*P	**Pb**	**07 24 24.1**	**-1.0**
	baz=232						
TCU	**Taichung**	**1.16 255**		*e*P	**Pn**	**07 24 24.6**	**-1.4**
	baz=254						
TCU				*e*S	**Sb**	**07 24 42.1**	**+1.2**
	baz=254						
YULB	**Yu-li**	**1.19 208**		*e*Pg	**Pg**	**07 24 26.7**	**-0.8**
YULB				*e*Sg	**Sg**	**07 24 42.5**	**-0.6**
TWF1	**Yuli**	**1.22 207**		*e*P	**Pn**	**07 24 24.6**	**-2.2**
	baz=215						
WNT	**Mingjian**	**1.25 243**		*e*P	**Pn**	**07 24 27.9**	**+0.6**
	baz=242						
YUS	**Yu-Shan**	**1.29 223**		*e*P	**Pn**	**07 24 27.1**	**-0.7**
	baz=210						
ALS	**Alishan**	**1.37 227**		*e*P	**Pn**	**07 24 29.4**	**+0.5**
	baz=215						
ELDTW	**Lidau**	**1.49 213**		*e*P	**Pn**	**07 24 30.6**	**0.0**
	baz=200						
CHN4	**Tsaushan**	**1.62 228**		*e*P	**Pn**	**07 24 33.4**	**+1.0**
	baz=226						
TPUB	**Ta-pu**	**1.63 226**		*e*Pn	**Pn**	**07 24 33.0**	**+0.5**
TPUB				*e*Sn	**Sn**	**07 24 53.7**	**+0.6**
CHY	**Chiayi**	**1.65 235**		*e*P	**Pn**	**07 24 33.5**	**+0.8**
	baz=223						
STYT	**Tauyuan**	**1.66 220**		*e*P	**Pn**	**07 24 32.8**	**0.0**
	baz=218						
IRIF	**Iriomote-Funau**	**1.67 93**		P	**Pn**	**07 24 32.5**	**-0.5**
IRIF				*e*S	**Sn**	**07 24 54.9**	**+0.9**
CHN1	**Nanshi**	**1.78 225**		*e*P	**Pn**	**07 24 34.8**	**+0.3**
	baz=223						
CHN1				*e*S	**Sn**	**07 24 58.3**	**+1.6**
	baz=223						
HATJ	**Hateruma jima**	**1.78 102**		*e*S	**Sn**	**07 25 00.3**	**+3.6**
TWG	**Pinlang**	**1.79 205**		*e*P	**Pn**	**07 24 34.2**	**-0.5**
	baz=191						
TWG	**Pinlang**	**1.79 205**		*e*Pn	**Pn**	**07 24 35.7**	**+1.1**
JKRS	**Kuro-shima**	**1.93 96**		P	**Pn**	**07 24 37.0**	**+0.4**
JKRS				*e*S	**Sn**	**07 25 01.1**	**+0.6**
JIJ	**Ishigaki jima**	**2.04 92**		P	**Pn**	**07 24 38.0**	**-0.1**
JIJ				*e*S	**Sn**	**07 25 02.3**	**-1.0**
SSD	**Sandimen**	**2.06 215**		*e*P	**Pn**	**07 24 39.4**	**+1.1**
	baz=213						
EAST	**Anshuo**	**2.27 205**		*e*P	**Pn**	**07 24 40.7**	**-0.6**
	baz=195						

IDC 04 07:27:17.1±1.7, 3°.85N×125°.89E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/20, mbtmp3.8/5, Error ellipse: s-maj=105.6km s-min=22.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.81**	**181**	P	P	07 32 11.3	+0.3
	2.4nm,0.4s,baz=356,slow=9.1,SNR=19						
WRA	**Warramunga Arr**	**25.06**	**161**	P	P	07 32 43.4	+0.1
	1.0nm,0.4s,baz=340,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**28.44**	**164**	P	P	07 33 13.4	-0.4
	0.3nm,0.4s,baz=342,slow=7.9,SNR=8.4						
STKA	**Stephens Creek**	**38.54**	**158**	P	P	07 34 41.6	+0.1
	1.1nm,0.4s,baz=329,slow=7.8,SNR=4.3						
MKAR	**Makanchi Array**	**56.98**	**326**	P	P	07 37 04.5	0.0
	0.5nm,0.8s,baz=109,slow=8.4,SNR=3.0						

IDC 04 07:53:34.9±50.0, 18°.77S×179°.45W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=902.6km s-min=151.6km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.35**	**242**	P	P	08 00 49.6	+0.4
	1.7nm,0.8s,baz=90,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**43.51**	**261**	P	P	08 01 40.5	+0.1
	0.8nm,0.3s,baz=98,slow=7.8,SNR=40						
ASAR	**Alice Springs**	**43.61**	**255**	P	P	08 01 40.8	-0.5
	1.0nm,0.4s,baz=86,slow=8.2,SNR=36						

KRSC 04 07:54:40.7±0.1, 54°.42N×161°.71E, h34km±15km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.14**	**5**	P	Pb	07 54 46.7	-0.1
MKZ				S	Sb	07 54 51.1	+0.1
TUMR	**Tumrok**	**1.25**	**314**	P	Pn	07 55 01.9	+0.2
SPN	**Mys Shipunski**	**1.66**	**218**	P	Pn	07 55 06.6	-0.7
SPN				*e*S	Sn	07 55 25.0	-2.4
NLC	**Nalytchevo**	**1.88**	**229**	P	Pn	07 55 10.4	0.0
NLC				*e*S	Sn	07 55 32.0	-0.8
KBTR	**Krutoberegovo**	**1.90**	**19**	*e*P	Pn	07 55 11.7	+1.0
KBTR				*e*S	Sn	07 55 34.1	+0.7
SDLR	**Sedlovina**	**2.03**	**237**	*e*P	Pn	07 55 13.9	+1.5
SDLR				*e*S	Sn	07 55 37.3	+0.8
AVH	**Avacha**	**2.11**	**238**	*e*P	Pn	07 55 15.4	+1.9
AVH				*e*S	Sn	07 55 40.0	+1.5
KOK	**Koryaka**	**2.14**	**239**	*e*P	Pn	07 55 15.6	+1.6
KOK				S	Sn	07 55 40.5	+1.2
ESO	**Esso**	**2.29**	**312**	P	Pn	07 55 16.7	+0.7
PET	**Petropavlovsk**	**2.29**	**234**	S	Sn	07 55 43.6	+0.6
GNL	**Ganaly**	**2.34**	**253**	*e*P	Pn	07 55 18.4	+1.8
BKI	**Bering**	**2.59**	**71**	*e*P	Pn	07 55 19.9	-0.2
BKI				*e*S	Sn	07 55 48.9	-1.4

MAN 04 08:14:11, 11°.44N×125°.40E, h32km, mb4.1, ML2.9, MS2.6, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.17**	**13**	*e*P	Pb	08 14 19.2	+2.1
BESP				*e*S	Sb	08 14 23.8	+2.4
PLP	**Palo**	**0.49**	**237**	∥ *i*P	Pb	08 14 21.9	+0.5
PLP				*i* S	Sb	08 14 29.8	+1.2
OCLP	**Ormoc**	**0.86**	**244**	*e*P	Pn	08 14 28.9	+2.0
MSLP	**Maasin**	**1.40**	**202**	*e*P	Pn	08 14 35.4	+1.1
PVCP	**Virac**	**2.47**	**331**	*e*P	Pn	08 14 50.4	+1.3

NIED ***04*** *08:29:00, 37°.50N×141°.50E, h50km, Mw4.3 Best double couple: M₀2.75000×10¹⁵ NP1:φs32.00000°, δ69.00000°, λ93.00000°. NP2:φs204.00000°, δ21.00000°, λ83.00000°.*

BJI ***04*** *08:29:29.8, 37°.44N×141°.55E, h5km, mB5.0/16, mb4.7/24, Ms4.7/10, Ms7 4.7/6*

ISCJB ***04*** *08:29:36.9±0.3, 37°.54N±0°.03×141°.52E±0°.04, h52km, mb4.6/57, MS3.7/6, Error ellipse: s-maj=5.1km s-min=3.5km az=43.1*

MOS ***04*** *08:29:36.7±1.1, 37°.61N×141°.50E, h52km, mb4.7/31, Error ellipse: s-maj=8.8km s-min=6.5km az=114.9*

JMA ***04*** *08:29:38.6±0.1, 37°.51N×141°.44E, h49km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs39.00000°, δ66.00000°, λ95.00000°. NP2:φs206.00000°, δ24.00000°, λ78.00000°. Principal axes: T Plg68.0000°, Azm319.0000°; N Plg5.0000°, Azm217.0000°; P Plg21.0000°, Azm125.0000°;*

JMA Felt III J1.

NEIC ***04*** *08:29:38.8±0.8, 37°.55N×141°.37E, h48km±6km, mb4.7/22, MW4.2(NIED) Error ellipse: s-maj=7.4km s-min=4.9km az=139.0*

NEIC Recorded [3 JMA] in Fukushima, [2 JMA] in Miyagi and [1 JMA] in Ibaraki, Iwate and Tochigi.

IDC ***04*** *08:29:39.2±0.5, 37°.60N×141°.49E, h52km±3km, mb4.0/18, mb1 4.2/21, mb1mx4.1/25, mbtmp4.0/21, MS3.5/6, Ms1 3.5/6, ms1mx3.1/38, Error ellipse: s-maj=12.6km s-min=8.7km az=140.0*

ISC 04 08:29:39.2±0.3, 37°.57N±0°.03×141°.42E±0°.04, h54km, h54km±2.6km: pP-P, n180, σ1°02/199, mb4.6/57, MS3.7/6, 1C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**245**	∥P	**Pn**	**08 29 49.4**	**-1.1**
JFK				S	**Sn**	**08 29 56.8**	**-1.9**
JMM	**Marumori**	**0.58**	**301**	∥P	**Pn**	**08 29 51.3**	**-0.3**
JMM				S	**Sn**	**08 30 00.3**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.68**	**227**	∥P	**Pn**	**08 29 51.6**	**-1.3**
ONAJ				S	**Sn**	**08 30 00.7**	**-2.2**
JFT	**Otama**	**0.86**	**267**	∥P	**Pn**	**08 29 55.2**	**0.0**
JFT				S	**Sn**	**08 30 06.9**	**-0.1**
JIO	**Ouri**	**0.88**	**356**	∥P	**Pn**	**08 29 55.5**	**0.0**
JIO				S	**Sn**	**08 30 07.2**	**-0.3**
JOU	**Okura**	**0.99**	**323**	∥P	**Pn**	**08 29 56.9**	**0.0**
JOU				S	**Sn**	**08 30 10.5**	**+0.5**
JYS	**Shirataka**	**1.25**	**302**	∥P	**Pn**	**08 30 00.6**	**+0.2**
JFY	**Yanaizu**	**1.37**	**264**	∥P	**Pn**	**08 30 01.8**	**-0.3**
JFY				*e*S	**Sn**	**08 30 19.0**	**-0.2**
JMK	**Ichinoseki**	**1.39**	**354**	∥P	**Pn**	**08 30 02.4**	**+0.2**
JMK				S	**Sn**	**08 30 20.2**	**+0.7**
JYK	**Kaneyama**	**1.58**	**328**	∥P	**Pn**	**08 30 05.4**	**+0.5**
MJAR	**Matsushiro Arr**	**2.77**	**249**	P	**Pn**	**08 30 21.0**	**-0.1**
	8.8nm,0.3s,baz=44,slow=15,SNR=80						
MJAR				S	**Sn**	**08 30 57.0**	**+3.8**
	15nm,0.3s,baz=292,slow=28,SNR=6.0						
MJAR				LR	LR	08 31 41.7	
	comp=Z,787nm,19.2s,baz=55,slow=44						
MJAR	**Matsushiro Arr**	**2.77**	**249**	P	**Pn**	**08 30 21.0**	**-0.1**
MJAR				S	**Sn**	**08 30 57.0**	**+3.8**
MJAR	**Matsushiro Arr**	**2.77**	**249**	P	**Pn**	**08 30 21.0**	**-0.1**
MJAR				S	**Sn**	**08 30 57.1**	**+3.9**
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MJAR				smax			
	comp=N,15nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,787nm,19.2s						
MAJO	**Matsushiro**	**2.77**	**249**	*e*Pn	**Pn**	**08 30 21.8**	**+0.7**
MAJO	**Matsushiro**	**2.77**	**249**	*e*P	**Pn**	**08 30 21.8**	**+0.7**
MAT	**Matsushiro**	**2.77**	**249**	P	**Pn**	**08 30 21.7**	**+0.6**
MAT				S	**Sn**	**08 30 56.6**	**+3.3**
ERM	**Erimo**	**4.63**	**16**	*e*Pn	**Pn**	**08 30 45.3**	**-1.4**
ERM				*e*Sn	**Sn**	**08 31 38.1**	**-1.0**
ERM	**Erimo**	**4.63**	**16**	*e*P	**Pn**	**08 30 45.3**	**-1.3**
ERM				*e*		08 31 38.1	
ASAJ	**Asahikawa**	**6.60**	**7**	P	**Pn**	**08 31 12.9**	**-0.6**
	comp=Z,3.7nm,0.3s,baz=211,slow=9.4,SNR=26						
ASAJ				S	**Sn**	**08 32 25.4**	**-1.9**
	comp=Z,2.0nm,0.3s,baz=140,slow=23,SNR=1.2						
ASAJ	**Asahikawa**	**6.60**	**7**	*e*Pn	**Pn**	**08 31 12.9**	**-0.6**
	comp=Z,5.1nm,0.4s						
ASAJ				S	**Sn**	**08 32 25.4**	**-1.9**
ASAJ	**Asahikawa**	**6.60**	**7**	P	**Pn**	**08 31 13.0**	**-0.5**
ASAJ				S	**Sn**	**08 32 25.5**	**-1.8**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.28**	**26**	*i* P	**Pn**	**08 31 20.5**	**-2.4**
YUK				*i* S	**Sn**	**08 32 38.5**	**-5.6**
YUK				pmax	pmax		
	comp=N,117nm,0.5s						
YUK				pmax	pmax		
	comp=E,136nm,0.6s						
YUK				pmax	pmax		
	comp=Z,210nm,0.5s						
YUK				smax			
	comp=N,477nm,0.6s						
YUK				smax			
	comp=E,273nm,0.7s						
YUK				smax			
	comp=E,689nm,1.5s						
YUK				smax			
	comp=N,858nm,1.5s						
CBIJ	**Chichi jima**	**10.47**	**176**	P	**Pn**	**08 32 01.3**	**-5.3**
	comp=N,5.7nm,0.3s,baz=300,slow=20,SNR=4.6						
CBIJ				S	**Sn**	**08 33 53.0**	**-9.3**
	comp=N,7.7nm,0.3s,baz=101,slow=23,SNR=1.8						
CBIJ	**Chichi jima**	**10.47**	**176**	P	**Pn**	**08 32 01.3**	**-5.3**
CBIJ				S	**Sn**	**08 33 53.0**	**-9.3**
KSRS	**Korea Array**	**10.72**	**273**	P	**Pn**	**08 32 13.1**	**+3.1**
	comp=N,0.4nm,0.3s,baz=91,slow=13,SNR=14						
KSRS				LR	LR	08 36 01.4	
	comp=N,109nm,20.2s,baz=352,slow=35						
KSRS	**Korea Array**	**10.72**	**273**	P	**Pn**	**08 32 13.1**	**+3.1**
KSRS				MLR	MLR		
	comp=Z,109nm,20.2s						
KSAR	**Wonju Array Be**	**10.76**	**273**	P	**Pn**	**08 32 13.1**	**+2.6**
KSAR	**Wonju Array Be**	**10.76**	**273**	P	**Pn**	**08 32 13.1**	**+2.6**
MDJ	**Mudanjiang**	**11.36**	**312**	P	**Pn**	**08 32 23.1**	**+4.5**
MDJ				pmax	pmax		
	comp=Z,220nm,3.6s						
MDJ	**Mudanjiang**	**11.36**	**312**	*e*Pn	**Pn**	**08 32 24.5**	**+5.8**
HABR	**Khabarovsk**	**11.84**	**339**	P	**Pn**	**08 32 23.8**	**-1.4**
HABR				pmax	pmax		
	comp=N,25nm,1.7s						
HABR				pmax	pmax		
	comp=Z,44nm,1.8s						
HABR				pmax	pmax		
	comp=E,74nm,2.1s						
HABR				MLR	MLR		
	comp=Z,133nm,18.0s						
CN2	**Changchun**	**13.62**	**302**	*e*P	**Pn**	**08 32 48.5**	**-0.9**
CN2				*es*P		08 32 54.0	
CN2				*e*S	**Sn**	**08 35 20.5**	**+1.5**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,3μm,15.0s						
CN2				LR	LR		
	comp=E,3μm,15.0s						
CN2				LR	LR		
	comp=Z,4μm,16.0s						
HIA	**Hailar**	**19.53**	**314**	*e*P	**Pn**	**08 34 02.4**	**-1.3**
	comp=Z,2.2nm,0.4s						
HIA	**Hailar**	**19.53**	**314**	*e*P	**Pn**	**08 34 02.4**	**-1.4**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BJI	**Beijing**	**19.81**	**285**	P	**Pn**	**08 34 04.2**	**-2.9**
BJI				S	**S**	**08 37 47.2**	**+1.9**
BJI				pmax	pmax		
	comp=Z,13nm,0.6s						
BJI				pmax	pmax		
	comp=Z,230nm,3.6s						
YHNB	**Yeheng**	**21.39**	**239**	*e*P	**P**	**08 34 20.5**	**-1.8**
	comp=Z,8.2nm,0.6s,mb4.2						
HHC	**Hu-ho-hao-te**	**23.31**	**287**	*e*P	**P**	**08 34 41.2**	**-1.2**
HHC				pP		08 34 45.4	
HHC				sP	sP	08 34 48.2	-14
HHC				PP		08 35 12.8	
HHC				PcP	PcP	08 38 29.7	+1.8
HHC				S	**S**	**08 38 51.0**	**+0.3**
HHC				sS	sS	08 38 56.5	-17
HHC				SS		08 39 37.1	
HHC				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4						
HHC				pmax	pmax		
	comp=Z,110nm,6.3s						
HHC				LR	LR		
	comp=N,320nm,12.9s,MS4.4						
HHC				LR	LR		
	comp=E,670nm,11.2s,MS4.4						
YAK	**Yakutsk**	**25.55**	**347**	*e*P	**P**	**08 35 02.8**	**+0.2**
	comp=E,44nm,0.8s,mb5.0						
YAK	**Yakutsk**	**25.55**	**347**	*e*P	**P**	**08 35 01.1**	**-1.5**
YAK				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
SEY	**Seymchan**	**26.26**	**11**	*e*P	**P**	**08 35 11.4**	**+2.4**
ULN	**Ulaanbaatar**	**27.06**	**303**	*e*P	**P**	**08 35 16.2**	**-0.2**
	comp=N,3.8nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**27.06**	**303**	*e*P	**P**	**08 35 16.2**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
BOD	**Bodaibo**	**27.08**	**327**	*e*P	**P**	**08 35 16.0**	**-0.4**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.9s,mb4.0						
ENH	**Enshi**	**27.39**	**264**	*e*P	**P**	**08 35 19.2**	**-0.3**
	comp=Z,21nm,0.8s,mb4.7						
SONM	**Songino Array**	**27.49**	**303**	P	**P**	**08 35 20.0**	**-0.2**
	comp=Z,4.9nm,0.6s,mb4.2,baz=100,slow=8.6,SNR=33						
SONM				pP	pP	08 35 34.8	+0.9
	comp=Z,1.0nm,0.6s,baz=98,slow=8.4,SNR=3.0						
SONM				sP	sP	08 35 39.9	-0.4
	comp=Z,1.6nm,0.7s,baz=103,slow=9.3,SNR=3.2						
SONM				PcP	PcP	08 38 37.4	+0.1
	comp=Z,0.2nm,0.5s,baz=112,slow=3.2,SNR=4.1						
SONM				LR	LR	08 46 58.9	
	comp=Z,41nm,18.2s,MS3.0,baz=229,slow=38						
SONM	**Songino Array**	**27.49**	**303**	P	**P**	**08 35 20.0**	**-0.2**
SONM				pP	pP	08 35 34.8	+0.9
SONM				sP	sP	08 35 39.9	-0.4
SONM				PcP	PcP	08 38 37.4	+0.1
SONM	**Songino Array**	**27.49**	**303**	P	**P**	**08 35 20.0**	**-0.2**
SONM				*PP	pP	08 35 34.8	+0.9
SONM				*SP	sP	08 35 39.9	-0.4
SONM						08 38 37.4	
SONM				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,41nm,18.2s						
LZH	**Lanzhou**	**29.99**	**279**	*e*P	**P**	**08 35 40.8**	**-1.7**
LZH				pP	pP	08 35 45.2	-11
LZH				sP	sP	08 35 48.7	-14
LZH				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**29.99**	**279**	*e*P	**P**	**08 35 40.8**	**-1.7**
	comp=Z,19nm,1.2s,mb4.7						
LZH				pP	pP	08 35 45.2	-11
LZH				sP	sP	08 35 48.7	-14
LZH	**Lanzhou**	**29.99**	**279**	*e*P	**P**	**08 35 40.8**	**-1.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
CD2	**Chengdu**	**31.68**	**269**	*e*P	**P**	**08 35 57.7**	**+0.2**
CD2				pP	pP	08 36 01.8	-9.5
CD2				sP	sP	08 36 04.8	-13
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				pmax	pmax		
	comp=Z,30nm,4.5s						
GTA	**Gaotai**	**32.41**	**286**	*e*P	**P**	**08 36 04.0**	**+0.1**
GTA				pP	pP	08 36 08.0	-10
GTA				sP	sP	08 36 10.7	-13
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
KMI	**Kunming**	**35.05**	**261**	P	**P**	**08 36 26.9**	**0.0**
KMI				S	**S**	**08 41 56.6**	**+1.1**
KMI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
KMI	**Kunming**	**35.05**	**261**	P	**P**	**08 36 26.9**	**0.0**
	comp=Z,13nm,1.0s,mb4.8						
KMI				S	**S**	**08 41 56.6**	**+1.1**
KMI				LR	LR		
	comp=Z,80nm,22.9s,MS3.4						
KMI	**Kunming**	**35.05**	**261**	P	**P**	**08 36 26.9**	**0.0**
KMI				S	**S**	**08 41 56.6**	**+1.1**
KMI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
KMI				MLR	MLR		
	comp=Z,80nm,22.9s,MS3.4						
HVS	**Khovu-Aksy**	**36.07**	**308**	*e*P	**P**	**08 36 33.2**	**-2.1**
WMQ	**Urumqi**	**40.60**	**296**	P	**P**	**08 37 14.5**	**+1.0**
WMQ				pP	pP	08 37 19.0	-8.6
WMQ				sP	sP	08 37 21.5	-12
WMQ				PP	PP	08 38 51.8	+4.1
WMQ				S	**S**	**08 43 23.4**	**+4.2**
WMQ				sS	sS	08 43 30.8	-12
WMQ				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,290nm,4.6s						
ZAA0	**Zalesovo Array**	**41.56**	**312**	*e*P	**P**	**08 37 21.5**	**+0.2**
ZALV	**Zalesovo Beam**	**41.56**	**312**	P	**P**	**08 37 21.2**	**0.0**
	comp=Z,2.8nm,0.4s,mb4.3,baz=88,slow=7.7,SNR=21						
ZALV				sP	sP	08 37 40.1	-1.6
	comp=Z,1.5nm,0.4s,baz=104,slow=6.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**41.56**	**312**	P	**P**	**08 37 21.2**	**0.0**
ZALV				sP	sP	08 37 40.1	-1.6
ZALV	**Zalesovo Beam**	**41.56**	**312**	P	**P**	**08 37 21.2**	**0.0**
ZALV				*SP	sP	08 37 40.1	-1.6
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
CMAR	**Chiang Mai Arr**	**41.64**	**255**	P	**P**	**08 37 23.7**	**+1.4**
	comp=Z,0.9nm,0.3s,mb3.9,baz=45,slow=9.0,SNR=3.3						
CMAR	**Chiang Mai Arr**	**41.64**	**255**	P	**P**	**08 37 23.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**41.64**	**255**	P	**P**	**08 37 23.7**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVS	**Novosibirsk**	**42.47**	**313**	*e*P	**P**	**08 37 26.0**	**-2.7**
MK31	**Makanchi Array**	**43.84**	**302**	*i* P	**P**	**08 37 39.8**	**0.0**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
MKAR	**Makanchi Array**	**43.84**	**302**	P	**P**	**08 37 39.9**	**0.0**
	comp=Z,5.7nm,0.7s,mb4.4,baz=86,slow=9.4,SNR=28						
MKAR	**Makanchi Array**	**43.84**	**302**	P	**P**	**08 37 39.9**	**0.0**
MKAR	**Makanchi Array**	**43.84**	**302**	P	**P**	**08 37 39.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**45.61**	**308**	*e*P	**P**	**08 37 53.6**	**-0.2**
	comp=Z,12nm,0.7s,mb4.9						
KURK	**Kurchatov**	**45.61**	**308**	P	**P**	**08 37 53.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
TAPN	**Taplejung**	**45.91**	**273**	*e*P	**P**	**08 37 57.0**	**+0.

comp=Z,52nm,0.7s,mb5.7
COLA College 48.62 32 *e*P **P 08 38 19.4 +2.3**
comp=Z,0.8nm,0.5s,mb4.0
COLA College 48.62 32 *e*P **P 08 38 19.4 +2.3**
COLA pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
KOLN Koldanda 48.98 276 *e*P **P 08 38 20.7 +0.4**
comp=Z,9.3nm,0.6s,mb5.0
KOLN Koldanda 48.98 276 *e*P **P 08 38 20.7 +0.4**
comp=Z,9.3nm,0.6s,mb5.0
ILAR Eielson Array 49.04 33 P **P 08 38 21.2 +0.9**
comp=Z,2.1nm,0.8s,mb4.2,baz=267,slow=5.7,SNR=29
ILAR pP pP 08 38 35.9 +1.3
comp=Z,1.9nm,0.8s,baz=266,slow=6.7,SNR=6.8
ILAR Eielson Array 49.04 33 P **P 08 38 21.2 +0.9**
ILAR pP pP 08 38 35.9 +1.3
ILAR Eielson Array 49.04 33 P **P 08 38 21.2 +0.9**
ILAR *PP pP 08 38 35.9 +1.2
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,2.0nm,0.8s
PYUN Piuthan 49.31 277 *e*P **P 08 38 23.1 +0.2**
comp=Z,48nm,0.9s,mb5.5
PYUN Piuthan 49.31 277 *e*P **P 08 38 23.1 +0.2**
comp=Z,48nm,0.9s,mb5.5
TKM2 Tokmak 2 49.38 298 *e*P **P 08 38 24.2 +0.9**
comp=Z,9.1nm,0.6s,mb5.0
TKM2 Tokmak 2 49.38 298 *e*P **P 08 38 24.2 +1.0**
TKM2 pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
HNR Honiara 49.87 156 LR LR 08 59 15.0
comp=Z,273nm,18.6s,MS4.3,baz=324,slow=36
KSH Kashi 50.19 294 P **P 08 38 34.1 +4.7**
KSH pP pP 08 38 37.2 -6.7
KSH sP sP 08 38 40.3 -10
KSH PcP PcP 08 39 51.9 +3.9
KSH PP PP 08 40 30.6 +5.7
KSH ScP ScP 08 43 45.2 +6.0
KSH PcS PcS 08 43 47.3 +2.2
KSH S **S 08 45 45.7 +8.2**
KSH ScS ScS 08 48 20.9 +5.2
KSH SS SS 08 49 15.1 +4.1
KSH pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
KSH pmax pmax
comp=Z,77nm,4.8s
KSH LR LR
comp=N,100nm,4.2s
KSH LR LR
comp=E,180nm,4.6s
KSH LR LR
comp=Z,170nm,5.1s
BVA0 Borovoye Array 50.22 312 P **P 08 38 29.4 0.0**
BVAR Borovoye Array 50.22 312 LR LR 09 00 42.3
comp=Z,28nm,18.9s,MS3.3,baz=353,slow=37
AAK Ala-Archa 50.24 298 *e*P **P 08 38 30.0 +0.3**
comp=Z,4.5nm,0.8s,mb4.5
AAK Ala-Archa 50.24 298 *e*P **P 08 38 30.0 +0.2**
AAK pmax pmax
comp=Z,20nm,0.8s,mb5.2
BRVK Borovoye 50.27 312 *e*P **P 08 38 29.8 0.0**
comp=Z,4.1nm,0.8s,mb4.5
BRVK Borovoye 50.27 312 *c i*P **P 08 38 29.9 +0.1**
BRVK pmax pmax
comp=Z,12nm,2.5s,mb4.5
EKS2 Erkin-Say 50.73 298 *e*P **P 08 38 34.0 +0.5**
comp=Z,4.5nm,0.7s,mb4.5
EKS2 Erkin-Say 50.73 298 *e*P **P 08 38 34.0 +0.5**
EKS2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KK31 Karatay Array 52.86 300 *i*P **P 08 38 48.9 -0.4**
INK Inuvik 53.91 27 *e*P **P 08 38 57.6 +1.0**
comp=Z,3.9nm,0.9s,mb4.3
INK Inuvik 53.91 27 *e*P **P 08 38 57.6 +1.0**
INK pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 55.96 318 *e*P **P 08 39 11.8 +0.2**
comp=Z,11nm,0.8s,mb4.9
ARU Arti 55.96 318 *d i*P **P 08 39 11.2 -0.4**
ARU S **S 08 46 52.3 -3.1**
ARU pmax pmax
comp=Z,17nm,1.2s,mb5.0
KBL Kabul 57.23 291 *e*P **P 08 39 21.1 +0.1**
comp=Z,3.2nm,0.6s,mb4.5
KBL Kabul 57.23 291 *e*P **P 08 39 21.1 +0.1**
KBL pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
WRAB Tennant Creek 57.58 188 *e*P **P 08 39 22.4 -1.1**
comp=Z,2.6nm,0.7s,mb4.4
WRAB Tennant Creek 57.58 188 *e*P **P 08 39 22.4 -1.0**
WRAB pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
WRA Warramunga Arr 57.59 188 P **P 08 39 22.7 -0.8**
comp=Z,1.8nm,0.6s,mb4.3,baz=5.2,slow=7.2,SNR=43
WRA pP pP 08 39 37.7 -0.6
comp=Z,0.9nm,0.4s,baz=5.5,slow=7.4,SNR=5.7
WRA Warramunga Arr 57.59 188 P **P 08 39 22.7 -0.8**
WRA pP pP 08 39 37.6 -0.6
WRA Warramunga Arr 57.59 188 P **P 08 39 22.7 -0.8**
WRA *PP pP 08 39 37.7 -0.5
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.4s
AB31 Akbulak array 57.60 310 P **P 08 39 23.0 -0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
ABKAR Akbulak array 57.60 310 *e*P **P 08 39 23.0 -0.4**
comp=Z,4.9nm,0.4s,mb4.9
AKTO Aktyubinsk 58.32 312 LR LR 09 06 54.8
comp=Z,40nm,18.1s,MS3.6,baz=252,slow=38
ASAR Alice Springs 61.32 188 P **P 08 39 48.7 -0.4**
comp=Z,0.8nm,0.7s,mb4.0,baz=9.0,slow=5.6,SNR=13
ASAR pP pP 08 40 03.5 -0.5
comp=Z,1.0nm,0.7s,baz=4.3,slow=6.1,SNR=5.5
ASAR Alice Springs 61.32 188 P **P 08 39 48.7 -0.4**
ASAR pP pP 08 40 03.5 -0.5
ASAR Alice Springs 61.32 188 P **P 08 39 48.7 -0.4**
ASAR *PP pP 08 40 03.5 -0.5
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
RES Resolute Bay 62.08 14 *e*P **P 08 39 54.3 +0.6**
comp=Z,2.2nm,0.7s,mb4.4
RES Resolute Bay 62.08 14 *e*P **P 08 39 54.3 +0.6**
RES pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
YKA Yellowknife Ar 63.34 30 P **P 08 40 01.8 -0.4**
comp=Z,1.0nm,0.7s,mb4.1,baz=303,slow=6.6,SNR=7.4
YKA Yellowknife Ar 63.34 30 P **P 08 40 01.8 -0.4**
YKA Yellowknife Ar 63.34 30 P **P 08 40 01.8 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 63.50 339 P **P 08 40 03.2 +0.1**
comp=Z,4.7nm,0.9s,mb4.6,baz=67,slow=7.1,SNR=7.3
ARCES ARCESS Array B 63.50 339 P **P 08 40 03.2 +0.1**
ARCES ARCESS Array B 63.50 339 P **P 08 40 03.2 0.0**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
JOF Joensuu 65.49 332 *e*P **P 08 40 15.3 -1.0**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
JOF Joensuu 65.49 332 *ep* **P 08 40 15.3 -1.0**
comp=Z,1.7nm,0.4s,mb4.4
KAF Kangasniemi 67.83 333 *e*P **P 08 40 30.4 -0.8**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
KAF Kangasniemi 67.83 333 *ep* **P 08 40 30.4 -0.8**
comp=Z,5.5nm,0.5s,mb4.8
FINES FINESS Array B 68.34 332 P **P 08 40 34.6 +0.2**
comp=Z,4.6nm,0.6s,mb4.7,baz=26,slow=12,SNR=12
FINES pP pP 08 40 48.2 -1.3
comp=Z,3.0nm,0.8s,baz=79,slow=8.6,SNR=1.9
FINES FINESS Array B 68.34 332 P **P 08 40 34.6 +0.2**
FINES pP pP 08 40 48.2 -1.3
FINES FINESS Array B 68.34 332 P **P 08 40 34.6 +0.2**
FINES *PP pP 08 40 48.2 -1.3
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 70.56 311 *e*P **P 08 40 49.8 +1.4**
comp=Z,10.0nm,0.8s,mb4.8
KIV Kislovodsk 70.56 311 *e*P **P 08 40 49.6 +1.2**
KIV pmax pmax
comp=Z,11nm,0.8s,mb4.8
ANN Anapa 73.16 314 *e*P **P 08 41 03.3 -0.7**
ANN *e*S S 08 50 24.7 -2.9
ANN pmax pmax
comp=Z,37nm,1.3s,mb5.2
NB2 NORSAR Subarra 73.69 337 P **P 08 41 07.0 +0.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=39,slow=6.2
NOA NORSAR Array B 73.69 337 P **P 08 41 07.0 +0.2**
comp=Z,4.0nm,0.8s,mb4.4,baz=39,slow=5.9,SNR=10.0
NOA NORSAR Array B 73.69 337 P **P 08 41 07.0 +0.2**
NOA NORSAR Array B 73.69 337 P **P 08 41 07.0 +0.2**
NOA pmax pmax
comp=Z,4.0nm,0.8s
LRM Limekiln Ridge 73.76 44 *e*P **P 08 41 09.2 +1.7**
comp=Z,24nm,0.9s,mb5.1
AKASG Malin Array Be 73.88 322 P **P 08 41 08.0 -0.1**
comp=Z,2.7nm,0.4s,mb4.6,baz=46,slow=6.1,SNR=7.6
AKASG Malin Array Be 73.88 322 P **P 08 41 08.0 -0.1**
AKASG Malin Array Be 73.88 322 P **P 08 41 08.0 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
NVAR Mina Array Bea 74.66 53 P **P 08 41 14.7 +1.8**
comp=Z,1.1nm,0.7s,mb3.9,baz=294,slow=6.0,SNR=7.5
NVAR Mina Array Bea 74.66 53 P **P 08 41 14.7 +1.8**
FLWY Flagg Ranch 75.81 45 *e*P **P 08 41 20.5 +1.1**
comp=Z,5.8nm,0.5s,mb4.8
PDAR Pinedale Array 77.29 46 P **P 08 41 29.1 +1.3**
comp=Z,1.2nm,0.8s,mb3.9,baz=289,slow=2.5,SNR=9.7
PDAR pP pP 08 41 43.4 +0.4
comp=Z,0.5nm,0.6s,baz=348,slow=0.9,SNR=3.6
PDAR Pinedale Array 77.29 46 P **P 08 41 29.1 +1.3**
PDAR pP pP 08 41 43.4 +0.4
BRTR Keskin Array B 78.50 311 P **P 08 41 35.9 +1.4**
comp=Z,1.2nm,0.7s,mb4.0,baz=64,slow=5.6,SNR=5.5
BRTR pP pP 08 41 49.2 -0.7
comp=Z,0.6nm,0.6s,baz=67,slow=4.9,SNR=1.9
BRTR Keskin Array B 78.50 311 P **P 08 41 35.9 +1.4**
BRTR pP pP 08 41 49.2 -0.7
BRTR Keskin Array B 78.50 311 P **P 08 41 35.9 +1.4**
BRTR *PP pP 08 41 49.2 -0.7
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,0.6s
CLL Collm 80.63 330 *e*P **P 08 41 46.0 +0.1**
CLL Collm 80.63 330 *e*P **P 08 41 46.0 +0.1**
GERES GERESS Array B 82.26 328 P **P 08 41 54.7 +0.1**
comp=Z,0.8nm,0.5s,mb3.9,baz=352,slow=4.6,SNR=5.6
GERES pP pP 08 42 10.3 +0.4
comp=Z,0.3nm,0.3s,baz=25,slow=3.2,SNR=1.6
GERES GERESS Array B 82.26 328 P **P 08 41 54.7 +0.1**
GERES pP pP 08 42 10.3 +0.4
GERES GERESS Array B 82.26 328 P **P 08 41 54.7 +0.2**
GERES *PP pP 08 42 10.3 +0.3
GERES pmax pmax
comp=Z,1.0nm,0.5s
SCHQ Schefferville 84.82 16 P **P 08 42 08.1 +0.5**
comp=Z,2.2nm,0.8s,mb4.3,baz=15,slow=13,SNR=1.6
SCHQ Schefferville 84.82 16 P **P 08 42 08.1 +0.5**
TXAR Lajitas Array 89.79 52 P **P 08 42 33.1 +1.0**
comp=Z,1.4nm,0.7s,mb4.4,baz=303,slow=3.3,SNR=11
TXAR pP pP 08 42 48.2 +0.5
comp=Z,0.3nm,0.6s,baz=242,slow=1.9,SNR=3.2
TXAR Lajitas Array 89.79 52 P **P 08 42 33.0 +1.0**
TXAR pP pP 08 42 48.2 +0.5
TXAR Lajitas Array 89.79 52 P **P 08 42 33.1 +1.0**
TXAR *PP pP 08 42 48.2 +0.5
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 116.95 315 PKP PKPdf 08 48 17.5 -0.9
comp=Z,0.1nm,0.4s,baz=16,slow=1.1,SNR=3.3
TORD Torodi Ar. Bea 116.95 315 PKP PKPdf 08 48 17.5 -0.9
SNAA Sanae 141.26 197 *e* PKPdf 08 49 09.9 +7.4
VNA2 Neumayer--Watz 142.84 196 *e* PKPdf 08 49 02.5 -2.8
baz=162,slow=2.9
LPAZ La Paz 146.41 59 *e*PKPdf PKPdf 08 49 15.5 +2.3
LPAZ La Paz 146.41 59 *e*PKP2 PKPab 08 49 15.5 0.0

IDC ***04*** *08:38:57.2±0.5, 18°.07N×147°.11E, h0km, mb4.5/22, mb1 4.6/25, mb1mx4.5/30, mbtmp4.5/25, ML4.1/2, MS3.9/15, Ms1 3.9/15, ms1mx3.7/29, Error ellipse: s-maj=19.6km s-min=11.3km az=95.0*
MOS ***04*** *08:39:01.4±1.0, 18°.06N×147°.12E, h44km, mb4.8/38, MS4.0/7, Error ellipse: s-maj=12.7km s-min=7.4km az=112.7*
ISCJB ***04*** *08:39:06.7±0.3, 17°.98N±0°.04×146°.86E±0°.05, h82km, mb4.6/70, Error ellipse: s-maj=7.5km s-min=5.8km az=166.1*
BJI ***04*** *08:39:07.0, 17°.90N×146°.70E, h84km, mB5.1/21, mb4.6/26, Ms4.6/10, MS7 4.3/8*
NEIC ***04*** *08:39:08.9±0.3, 17°.95N×146°.94E, mb4.7/21, Error ellipse: s-maj=9.4km s-min=7.4km az=95.0*
ISC 04 08:39:08.6±0.3, 18°.00N±0°.04×146°.90E±0°.05, h84km, h84km±3.1km:pP-P, n190, σ1§23/186, mb4.6/70, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.80**	**204**	Pn	**Pn**	**08 40 14.8**	**-3.8**
	29nm,0.3s,baz=132,slow=4.9,SNR=15						
GUMO	**Guam**	**4.80**	**204**	Pn	**Pn**	**08 40 14.8**	**-3.8**
GUMO	**Guam**	**4.80**	**204**	P	**Pn**	**08 40 14.8**	**-3.7**
GUMO				pmax	pmax		
	comp=Z,29nm,0.3s						
CBIJ	**Chichi jima**	**10.04**	**335**	Pn	**Pn**	**08 41 24.1**	**-5.8**
	comp=Z,3.0nm,0.3s,baz=199,slow=18,SNR=2.8						
CBIJ	**Chichi jima**	**10.04**	**335**	Pn	**Pn**	**08 41 24.1**	**-5.8**
JOW	**Kunigami**	**19.31**	**300**	P	**Pn**	**08 43 28.8**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=176,slow=8.5,SNR=6.7						
JOW	**Kunigami**	**19.31**	**300**	*e*P	**Pn**	**08 43 28.9**	**-0.1**
	comp=Z,5.3nm,0.6s						
MJAR	**Matsushiro Arr**	**20.00**	**339**	P	**P**	**08 43 32.9**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=181,slow=12,SNR=16						
MJAR	**Matsushiro Arr**	**20.00**	**339**	P	**P**	**08 43 32.9**	**-1.4**
MJAR	**Matsushiro Arr**	**20.00**	**339**	P	**P**	**08 43 32.9**	**-1.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**20.00**	**339**	*e*P	**P**	**08 43 35.0**	**+0.6**
	comp=Z,24nm,0.7s						
MAJO	**Matsushiro**	**20.00**	**339**	*e*P	**P**	**08 43 35.0**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,24nm,0.7s						
MAT	**Matsushiro**	**20.00**	**339**	P	**P**	**08 43 33.0**	**-1.4**
MAT				*e*S	**S**	**08 47 20.0**	**+5.3**
JNU	**Nakatsue**	**20.83**	**319**	*e*P	**P**	**08 43 43.9**	**+0.5**
	comp=Z,1.9nm,0.6s						
ERM	**Erimo**	**24.15**	**353**	*e*P	pP	08 44 29.7	-6.0
ERM				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
SSLB	**Suanglung**	**24.89**	**288**	*e*P	**P**	**08 44 21.3**	**-2.4**
	comp=Z,216nm,2.3s,mb5.2						
KSRS	**Korea Array**	**25.55**	**323**	P	**P**	**08 44 29.0**	**-0.5**
	comp=Z,11nm,0.7s,mb4.4,baz=151,slow=8.8,SNR=30						
KSRS				LR	LR	08 54 35.1	
	comp=Z,372nm,19.6s,baz=130,slow=37						
KSRS	**Korea Array**	**25.55**	**323**	P	**P**	**08 44 29.0**	**-0.5**
KSRS				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
KSRS				MLR	MLR		
	comp=Z,372nm,19.6s						
KSAR	**Wonju Array Be**	**25.57**	**323**	P	**P**	**08 44 29.0**	**-0.6**
KSAR	**Wonju Array Be**	**25.57**	**323**	P	**P**	**08 44 29.0**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**25.97**	**358**	*e*P	pP	08 44 48.4	-4.0
ASAJ	**Asahikawa**	**26.29**	**353**	P	**P**	**08 44 37.5**	**+1.5**
	comp=Z,5.1nm,0.8s,mb4.0,baz=221,slow=11,SNR=4.3						
ASAJ				LR	LR	08 55 29.8	
	comp=Z,159nm,18.1s,baz=169,slow=38						
ASAJ	**Asahikawa**	**26.29**	**353**	P	**P**	**08 44 37.5**	**+1.5**
ASAJ	**Asahikawa**	**26.29**	**353**	P	**P**	**08 44 37.6**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,159nm,18.1s						
PMG	**Port Moresby**	**27.23**	**179**	*e*P	**P**	**08 44 38.8**	**-6.0**
PMG				pmax	pmax		
	comp=Z,57nm,0.7s						
MDJ	**Mudanjiang**	**30.24**	**335**	P	**P**	**08 45 12.6**	**+1.3**
MDJ				pP	pP	08 45 29.3	-1.4
MDJ				sP	sP	08 45 38.2	-2.4
MDJ				S	**S**	**08 50 08.0**	**+3.2**
MDJ				pmax	pmax		
	comp=Z,140nm,5.5s						
MDJ				LR	LR		
	comp=N,180nm,26.2s						
MDJ				LR	LR		
	comp=E,230nm,27.4s						
CN2	**Changchun**	**31.44**	**329**	*e*P	**P**	**08 45 26.4**	**+4.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
KLR	**Kul'dur**	**33.47**	**342**	*e*P	**P**	**08 45 36.4**	**-3.1**
BJI	**Beijing**	**34.42**	**316**	P	**P**	**08 45 48.2**	**+0.3**
BJI				S	**S**	**08 51 10.7**	**+0.8**
BJI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
BJI				pmax	pmax		
	comp=Z,150nm,4.5s						
BJI				LR	LR		
	comp=N,350nm,18.5s						
BJI				LR	LR		
	comp=E,320nm,20.5s						
QIZ	**Qiongzhong**	**35.12**	**278**	P	**P**	**08 45 51.8**	**-2.3**
QIZ				pP	pP	08 46 11.5	-2.3
QIZ				sP	sP	08 46 21.3	-2.3
QIZ				S	**S**	**08 51 18.4**	**-2.6**
QIZ				pmax	pmax		
	comp=Z,18nm,2.0s,mb4.5						
QIZ				pmax	pmax		
	comp=Z,91nm,5.6s						
KAPI	**Kappang**	**35.22**	**232**	P	**P**	**08 45 54.6**	**-0.4**
	comp=Z,4.6nm,0.5s,mb4.5,baz=203,slow=14,SNR=4.3						
KAPI	**Kappang**	**35.22**	**232**	P	**P**	**08 45 54.6**	**-0.4**
PETK	**Petropavlovsk-**	**36.03**	**11**	LR	LR	09 00 21.7	
	comp=Z,165nm,18.2s,baz=296,slow=36						
HHC	**Hu-ho-hao-te**	**37.90**	**314**	*e*P	**P**	**08 46 17.4**	**-0.2**
HHC				pP	pP	08 46 40.0	+2.5
HHC				sP	sP	08 46 51.6	+4.4
HHC				PP	PP	08 47 49.8	+4.1
HHC				PcP	PcP	08 48 33.3	+1.2
HHC				S	**S**	**08 52 01.3**	**-1.7**
HHC				sS	sS	08 52 39.8	+2.6
HHC				SS	SS	08 54 41.5	-11
HHC				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
HHC				pmax	pmax		
	comp=Z,200nm,5.9s						
HHC				LR	LR		
	comp=N,470nm,14.5s						
HHC				LR	LR		
	comp=E,1μm,14.9s						
HHC				LR	LR		
	comp=Z,260nm,14.9s						
GYA	**Guiyang**	**38.06**	**290**	*e*P	**P**	**08 46 19.0**	**-0.1**
GYA				pP	pP	08 46 38.9	-0.1
GYA				sP	sP	08 46 50.0	+1.3
GYA				PP	PP	08 47 50.4	+2.8
GYA				S	**S**	**08 52 04.0**	**-1.7**
GYA				ScP	ScP	08 52 12.8	-0.3
GYA				sS	sS	08 52 39.8	-0.1
GYA				SS	SS	08 54 43.7	-12
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,470nm,18.4s						
GYA				LR	LR		
	comp=E,350nm,19.7s						
GYA				LR	LR		
	comp=Z,480nm,18.6s						
WRAB	**Tennant Creek**	**39.66**	**199**	*e*P	**P**	**08 46 32.1**	**-0.3**
	comp=Z,34nm,0.7s,mb5.3						
WRAB	**Tennant Creek**	**39.66**	**199**	*e*P	**P**	**08 46 32.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,33nm,0.7s,mb5.3						
WB2	**Warramunga Arr**	**39.67**	**199**	*e*P	**P**	**08 46 31.9**	**-0.6**
WRA	**Warramunga Arr**	**39.67**	**199**	P	**P**	**08 46 31.8**	**-0.7**
	comp=Z,15nm,0.7s,mb4.9,baz=21,slow=8.8,SNR=65						
WRA				PcP	PcP	08 48 38.5	+0.6
	comp=Z,2.0nm,0.6s,baz=15,slow=3.2,SNR=8.0						
WRA	**Warramunga Arr**	**39.67**	**199**	P	**P**	**08 46 31.8**	**-0.7**
WRA				PcP	PcP	08 48 38.5	+0.6
WRA	**Warramunga Arr**	**39.67**	**199**	P	**P**	**08 46 31.8**	**-0.7**
WRA						08 48 38.5	
WRA				pmax	pmax		
	comp=Z,15nm,0.7s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CD2	**Chengdu**	**41.08**	**297**	*e*P	**P**	**08 46 44.7**	**+0.6**
CD2				pP	pP	08 47 04.9	+0.7
CD2				sP	sP	08 47 15.2	+1.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				pmax	pmax		
	comp=Z,40nm,5.2s						
FITZ	**Fitzroy Crossi**	**41.53**	**211**	P	**P**	**08 46 47.4**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.2,baz=27,slow=8.6,SNR=17						
FITZ				LR	LR	09 02 29.7	
	comp=Z,53nm,20.6s,baz=204,slow=34						
FITZ	**Fitzroy Crossi**	**41.53**	**211**	*e*P	**P**	**08 46 47.2**	**-0.6**
	comp=Z,7.7nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**41.53**	**211**	P	**P**	**08 46 47.4**	**-0.4**
	comp=Z,4.4nm,0.9s,mb4.2						
KMI	**Kunming**	**41.53**	**288**	P	**P**	**08 46 48.8**	**+0.9**
KMI				pP	pP	08 47 08.2	+0.1
KMI				PP	PP	08 48 28.1	+2.7
KMI				S	**S**	**08 52 55.6**	**-2.1**
KMI				SS	SS	08 55 57.1	-8.4
KMI				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
KMI				pmax	pmax		
	comp=Z,32nm,4.2s						
KMI				LR	LR		
	comp=N,120nm,12.4s						
KMI				LR	LR		
	comp=E,240nm,14.7s						
KMI				LR	LR		
	comp=Z,260nm,15.0s						
KMI	**Kunming**	**41.53**	**288**	P	**P**	**08 46 48.8**	**+0.9**
	comp=Z,5.0nm,1.3s,mb4.1						
KMI				pP	pP	08 47 08.2	+0.1
KMI				PP	PP	08 48 28.1	+2.7
KMI				S	**S**	**08 52 55.6**	**-2.1**
KMI				SS	SS	08 55 57.1	-8.4
KMI				LR	LR		
	comp=Z,260nm,15.0s						
KMI	**Kunming**	**41.53**	**288**	P	**P**	**08 46 48.8**	**+0.9**
KMI				*PP	pP	08 47 08.2	+0.1
KMI						08 48 28.1	
KMI				S	**S**	**08 52 55.6**	**-2.1**
KMI				SS	SS	08 55 57.1	-8.4
KMI				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
KMI				MLR	MLR		
	comp=Z,260nm,15.0s						
LZH	**Lanzhou**	**41.98**	**304**	*e*P	**P**	**08 46 53.7**	**+2.3**
LZH				pP	pP	08 47 16.7	+5.1
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.7						
LZH	**Lanzhou**	**41.98**	**304**	*e*P	**P**	**08 46 53.7**	**+2.3**
	comp=Z,21nm,1.2s,mb4.7						
LZH				pP	pP	08 47 16.7	+5.1
LZH				sP	sP	08 47 27.1	+5.8
LZH	**Lanzhou**	**41.98**	**304**	*e*P	**P**	**08 46 53.7**	**+2.3**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.7						
AS31	**Alice Springs**	**43.31**	**197**	*e*P	**P**	**08 47 02.0**	**-0.3**
ASAR	**Alice Springs**	**43.31**	**197**	P	**P**	**08 47 01.6**	**-0.7**
	comp=Z,5.4nm,0.6s,mb4.4,baz=20,slow=7.3,SNR=83						
ASAR				PcP	PcP	08 48 50.9	+1.1
	comp=Z,1.6nm,0.7s,baz=31,slow=3.0,SNR=4.6						
ASAR	**Alice Springs**	**43.31**	**197**	P	**P**	**08 47 01.6**	**-0.7**
ASAR				PcP	PcP	08 48 50.9	+1.1
ASAR	**Alice Springs**	**43.31**	**197**	P	**P**	**08 47 01.6**	**-0.7**
ASAR						08 48 50.9	
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**44.02**	**322**	*e*P	**P**	**08 47 07.2**	**-0.5**
	comp=Z,97nm,2.8s,mb5.0						
ULN	**Ulaanbaatar**	**44.02**	**322**	*e*P	**P**	**08 47 07.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,97nm,2.8s,mb5.0						
DZM	**Mont Dzumac**	**44.18**	**154**	*e*LR	LR	08 59 19.4	
	comp=Z,246nm,21.9s						
SONM	**Songino Array**	**44.40**	**321**	P	**P**	**08 47 10.4**	**-0.3**

comp=Z,3.0nm,0.6s,mb4.2,baz=137,slow=8.9,SNR=28
SONM PcP PcP 08 48 54.1 +1.0
comp=Z,2.4nm,0.7s,baz=143,slow=3.7,SNR=5.4
SONM LR LR 09 06 36.3
comp=Z,224nm,19.6s,baz=130,slow=37
SONM Songino Array 44.40 321 P **P** **08 47 10.4 -0.3**
SONM PcP PcP 08 48 54.1 +1.0
SONM Songino Array 44.40 321 P **P** **08 47 10.4 -0.3**
SONM 08 48 54.1
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,224nm,19.6s
CMAR Chiang Mai Arr 45.45 278 P **P** **08 47 20.4 +0.9**
comp=Z,5.8nm,0.6s,mb4.5,baz=63,slow=7.3,SNR=26
CMAR Chiang Mai Arr 45.45 278 P **P** **08 47 20.4 +0.9**
CMAR Chiang Mai Arr 45.45 278 P **P** **08 47 20.4 +0.9**
CMAR pmax pmax
comp=Z,6.0nm,0.6s
YAK Yakutsk 45.62 349 *eP* **P** **08 47 30.1 +10**
YAK pmax pmax
comp=Z,12nm,0.8s,mb4.7
GTA Gaotai 45.88 308 *eP* **P** **08 47 31.2 +8.6**
GTA pP pP 08 47 51.7 +8.7
GTA sP sP 08 48 02.3 +10
GTA pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
MBWA Marble Bar 47.16 216 *eP* **P** **08 47 32.7 0.0**
ZAK Zakamensk 47.39 323 *eP* **P** **08 47 33.7 -0.5**
ZAK *e* 08 49 03.2
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
STKA Stephens Creek 49.85 186 P **P** **08 47 53.1 -0.1**
comp=Z,5.1nm,0.7s,mb4.6,baz=355,slow=10,SNR=12
STKA Stephens Creek 49.85 186 *eP* **P** **08 47 53.0 -0.2**
comp=Z,4.5nm,0.7s,mb4.5
STKA Stephens Creek 49.85 186 P **P** **08 47 53.1 -0.1**
STKA Stephens Creek 49.85 186 P **P** **08 47 53.1 -0.1**
STKA pmax pmax
comp=Z,5.0nm,0.7s
BBOO Buckleboo 51.58 192 *eP* **P** **08 48 06.3 +0.1**
comp=Z,496nm,0.8s
FORT Forrest 51.78 201 *eP* **P** **08 48 09.3 +1.6**
comp=Z,18nm,0.7s,mb5.2
CNB Canberra Magne 53.07 177 *eP* **P** **08 48 17.4 +0.2**
comp=Z,51nm,0.9s,mb5.6
HVS Khovu-Aksy 53.29 321 *eP* **P** **08 48 17.2 -1.5**
TAPN Taplejung 54.98 291 *eP* **P** **08 48 33.6 +2.2**
comp=Z,8.1nm,0.6s,mb4.9
TAPN Taplejung 54.98 291 *eP* **P** **08 48 33.6 +2.2**
comp=Z,8.1nm,0.6s,mb4.9
TOO Toolangi 55.29 181 *eP* **P** **08 48 31.2 -2.1**
comp=Z,31nm,1.0s,mb5.3
WMQ Urumqi 55.63 311 P **P** **08 48 36.5 +0.7**
WMQ pP pP 08 48 55.6 -1.2
WMQ sP sP 08 49 04.4 -1.9
WMQ PP PP 08 50 42.8 +2.1
WMQ S **S** **08 56 14.1 -1.3**
WMQ sS sS 08 56 47.1 -4.2
WMQ pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WMQ pmax pmax
comp=Z,250nm,4.8s
RAMN Ramite 55.99 291 *eP* **P** **08 48 40.4 +1.7**
comp=Z,9.7nm,0.7s,mb4.9
RAMN Ramite 55.99 291 *eP* **P** **08 48 40.4 +1.7**
comp=Z,9.7nm,0.7s,mb4.9
JIRN Jiri 56.30 292 *eP* **P** **08 48 43.3 +2.4**
comp=Z,7.9nm,0.6s,mb4.9
JIRN Jiri 56.30 292 *eP* **P** **08 48 43.3 +2.4**
comp=Z,7.9nm,0.6s,mb4.9
GUN Gumba 56.56 292 *eP* **P** **08 48 45.0 +2.3**
comp=Z,12nm,0.6s,mb5.1
GUN Gumba 56.56 292 *eP* **P** **08 48 45.0 +2.3**
comp=Z,12nm,0.6s,mb5.1
PKI Pulchoki 57.00 292 *eP* **P** **08 48 47.5 +1.7**
comp=Z,11nm,0.6s,mb5.0
PKI Pulchoki 57.00 292 *eP* **P** **08 48 47.5 +1.7**
comp=Z,11nm,0.6s,mb5.1
PKI Pulchoki 57.00 292 *eP* **P** **08 48 47.5 +1.7**
PKI pmax pmax
comp=Z,11nm,0.6s,mb5.1
KKN Kakani 57.10 292 *eP* **P** **08 48 48.3 +1.8**
comp=Z,11nm,0.6s,mb5.1
KKN Kakani 57.10 292 *eP* **P** **08 48 48.3 +1.8**
comp=Z,11nm,0.6s,mb5.1
KKN Kakani 57.10 292 *eP* **P** **08 48 48.3 +1.8**
KKN pmax pmax
comp=Z,11nm,0.6s,mb5.1
DMN Daman 57.27 292 *eP* **P** **08 48 49.5 +1.8**
DMN Daman 57.27 292 *eP* **P** **08 48 49.5 +1.8**
GKN Gorkha 57.65 292 *eP* **P** **08 48 52.1 +1.7**
comp=Z,13nm,0.6s,mb5.1
GKN Gorkha 57.65 292 *eP* **P** **08 48 52.1 +1.7**
comp=Z,13nm,0.6s,mb5.1
NWAO Narrogin (SRO) 58.04 209 P **P** **08 48 53.8 +0.9**
comp=Z,4.6nm,0.6s,mb4.7,baz=40,slow=3.8,SNR=4.4
NWAO Narrogin (SRO) 58.04 209 P **P** **08 48 53.8 +0.9**
NWAO Narrogin (SRO) 58.04 209 P **P** **08 48 53.8 +0.9**
NWAO pmax pmax
comp=Z,5.0nm,0.6s
DANN Dangsing 58.40 293 *eP* **P** **08 48 57.0 +1.4**
comp=Z,88nm,0.6s
DANN Dangsing 58.40 293 *eP* **P** **08 48 57.0 +1.4**
comp=Z,88nm,0.6s
KOLN Koldanda 58.58 292 *eP* **P** **08 48 58.0 +1.1**
comp=Z,17nm,0.7s,mb5.2
KOLN Koldanda 58.58 292 *eP* **P** **08 48 58.0 +1.1**
comp=Z,17nm,0.7s,mb5.2
PYUN Piuthan 59.09 292 *eP* **P** **08 49 01.2 +0.8**
comp=Z,14nm,0.7s,mb5.1
PYUN Piuthan 59.09 292 *eP* **P** **08 49 01.2 +0.8**
comp=Z,14nm,0.7s,mb5.1
ZAA0 Zalesovo Array 59.26 323 *eP* **P** **08 49 00.5 -0.7**
ZALV Zalesovo Beam 59.26 323 P **P** **08 49 00.5 -0.6**
comp=Z,3.5nm,0.6s,mb4.6,baz=108,slow=7.8,SNR=16
ZALV PcP PcP 08 49 49.0 +0.5
comp=Z,4.1nm,0.7s,baz=102,slow=4.6,SNR=4.4
ZALV LR LR 09 14 49.6
comp=Z,85nm,20.3s,baz=163,slow=36
ZALV Zalesovo Beam 59.26 323 P **P** **08 49 00.5 -0.6**
ZALV PcP PcP 08 49 49.0 +0.5
ZALV Zalesovo Beam 59.26 323 P **P** **08 49 00.5 -0.6**
ZALV 08 49 49.0
ZALV pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ZALV pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ZALV MLR MLR
comp=Z,85nm,20.3s
MK31 Makanchi Array 59.77 314 P **P** **08 49 04.2 -0.5**
MKAR Makanchi Array 59.77 314 P **P** **08 49 04.8 0.0**
comp=Z,1.0nm,0.5s,mb4.1,baz=93,slow=7.0,SNR=13
MKAR Makanchi Array 59.77 314 P **P** **08 49 04.8 0.0**
MKAR Makanchi Array 59.77 314 P **P** **08 49 04.8 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 62.55 318 P **P** **08 49 23.5 +0.1**
comp=Z,7.6nm,0.7s,mb4.8,baz=97,slow=7.0,SNR=65
KURK Kurchatov 62.55 318 *eP* **P** **08 49 22.9 -0.6**
comp=Z,65nm,2.3s,mb5.2
KURK Kurchatov 62.55 318 P **P** **08 49 22.7 -0.8**
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ILAR Eielson Array 63.77 26 P **P** **08 49 29.3 -2.0**
comp=Z,2.4nm,1.1s,mb4.0,baz=256,slow=3.6,SNR=7.8
ILAR LR LR 09 14 26.8
comp=Z,139nm,19.8s,baz=287,slow=34
ILAR Eielson Array 63.77 26 P **P** **08 49 29.3 -2.0**
ILAR Eielson Array 63.77 26 P **P** **08 49 29.3 -1.9**
ILAR pmax pmax
comp=Z,2.0nm,1.1s
KSH Kashi 64.20 306 P **P** **08 49 36.2 +1.6**
KSH pP pP 08 49 56.2 +0.1
KSH sP sP 08 50 06.7 +1.2
KSH PcP PcP 08 50 10.7 +1.8
KSH PP PP 08 51 58.5 +1.9
KSH ScP 08 54 05.6
KSH PcS 08 54 13.1
KSH S **S** **08 58 08.1 +2.5**
KSH sS sS 08 58 44.2 +1.9
KSH ScS ScS 08 59 22.7 +1.6
KSH SS SS 09 02 21.1 +5.0
KSH pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
KSH pmax pmax
comp=Z,35nm,4.5s
KSH LR LR
comp=N,71nm,6.2s
KSH LR LR
comp=E,170nm,4.9s
KSH LR LR
comp=Z,290nm,6.3s
TKM2 Tokmak 2 64.37 309 *eP* **P** **08 49 35.4 -0.3**
comp=Z,2.6nm,0.7s,mb4.2
TKM2 Tokmak 2 64.37 309 P **P** **08 49 36.5 +0.8**
TKM2 pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
HYB Hyderabad 64.75 281 *iP* **P** **08 49 38.0 -0.5**
BVAR Borovoye Array 67.74 321 P **P** **08 49 56.8 -0.2**
comp=Z,7.8nm,0.5s,mb4.8,baz=102,slow=7.7,SNR=13
BVAR Borovoye Array 67.74 321 P **P** **08 49 56.8 -0.2**
BVAR Borovoye Array 67.74 321 P **P** **08 49 56.8 -0.2**
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BRVK Borovoye 67.80 321 *eP* **P** **08 49 56.0 -1.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
POO Poona 68.89 283 *ex* x 08 50 01.5
INK Inuvik 69.56 23 P **P** **08 50 06.9 -1.2**
comp=Z,1.7nm,0.8s,mb3.9,baz=270,slow=7.9,SNR=5.2
INK Inuvik 69.56 23 P **P** **08 50 06.9 -1.2**
INK Inuvik 69.56 23 P **P** **08 50 06.9 -1.2**
INK pmax pmax
comp=Z,2.0nm,0.8s
PPT Papeete 71.78 116 *eS* S 08 59 39.3 +2.8
comp=Z,50nm,24.2s
PPT *e*LR LR 09 12 17.6
comp=Z,119nm,21.5s
ARU Arti 74.29 325 *eP* **P** **08 50 36.8 +0.2**
comp=Z,6.8nm,0.6s,mb4.5
ARU Arti 74.29 325 *diP* **P** **08 50 36.4 -0.2**
ARU 08 53 18.3
ARU S S 09 00 02.6 -1.1
ARU SS SS 09 04 48.2 -2.4
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
AB31 Akbulak array 74.62 317 *iP* **P** **08 50 37.9 -0.7**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
AKTO Aktyubinsk 75.64 319 P **P** **08 50 44.0 -0.4**
comp=Z,4.4nm,0.6s,mb4.3,baz=88,slow=7.2,SNR=17
AKTO Aktyubinsk 75.64 319 P **P** **08 50 44.0 -0.4**
AKTO Aktyubinsk 75.64 319 P **P** **08 50 44.0 -0.5**
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
JCW Jim Creek 77.57 43 *eP* **P** **08 50 58.8 +3.4**
YKA Yellowknife Ar 78.06 28 P **P** **08 50 56.7 -1.1**
comp=Z,1.8nm,0.7s,mb3.9,baz=283,slow=5.6,SNR=6.9
YKA LR LR 09 23 19.0
comp=Z,17nm,20.8s,baz=120,slow=34
YKA Yellowknife Ar 78.06 28 P **P** **08 50 56.7 -1.1**
YKA Yellowknife Ar 78.06 28 P **P** **08 50 56.7 -1.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
ETW Entiat 78.75 44 *eP* **P** **08 51 02.5 +0.6**
KBS Kingsbay 80.13 352 *eP* **P** **08 51 17.7 +8.8**
CMB Columbia Colle 81.20 53 *eP* **P** **08 51 17.9 +2.5**
comp=Z,14nm,1.6s,mb4.5
CMB Columbia Colle 81.20 53 *eP* **P** **08 51 17.9 +2.5**
CMB pmax pmax
comp=Z,14nm,1.6s,mb4.5
BMO Blue Mountains 81.51 46 *eP* **P** **08 51 19.7 +2.8**
comp=Z,5.3nm,1.3s,mb4.2
BMO Blue Mountains 81.51 46 *eP* **P** **08 51 19.7 +2.9**
BMO pmax pmax
comp=Z,5.0nm,1.3s,mb4.2
NVAR Mina Array Bea 82.67 52 P **P** **08 51 22.8 -0.2**
comp=Z,2.5nm,0.9s,mb4.0,baz=272,slow=6.0,SNR=11
NVAR Mina Array Bea 82.67 52 P **P** **08 51 22.8 -0.2**
KEV Kevo 82.94 342 *eP* **P** **08 51 22.7 -1.1**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KEV Kevo 82.94 342 *ep* **P** **08 51 22.7 -1.1**
comp=Z,4.3nm,0.6s,mb4.5
ARCES ARCESS Array B 83.50 342 P **P** **08 51 27.2 +0.6**
comp=Z,3.3nm,0.6s,mb4.4,baz=79,slow=7.3,SNR=17
ARCES LR LR 09 33 37.7
comp=Z,94nm,18.2s,baz=170,slow=39
ARCES ARCESS Array B 83.50 342 P **P** **08 51 27.2 +0.6**
ARCES ARCESS Array B 83.50 342 P **P** **08 51 27.3 +0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
HLID Hailey 83.89 46 *eP* **P** **08 51 33.1 +4.0**
comp=Z,11nm,1.8s,mb4.4
JOF Joensuu 85.12 336 *eP* **P** **08 51 33.4 -1.6**
JOF pmax pmax
comp=Z,17nm,0.6s,mb5.2
JOF Joensuu 85.12 336 *ep* **P** **08 51 33.4 -1.6**
comp=Z,16nm,0.6s,mb5.1
LDFC Landfair 86.14 54 *eP* **P** **08 51 44.5 +3.9**
comp=Z,5.4nm,1.0s,mb4.4
OBN Obninsk 86.48 327 P **P** **08 51 47.0 +5.1**
OBN S S 09 02 17.0 +5.8
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
OBN MLR MLR
comp=Z,100nm,20.0s
ARUT Antelope Range 86.51 51 *eP* **P** **08 51 42.3 -0.1**
comp=Z,6.5nm,1.1s,mb4.5
ARUT Antelope Range 86.51 51 *eP* **P** **08 51 42.3 -0.1**
ARUT pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
JLU Jordanelle 86.97 48 *eP* **P** **08 51 44.9 +0.3**
comp=Z,3.0nm,0.3s,mb4.7
ZEI Tsey 87.12 314 *eP* **P** **08 51 44.2 -1.1**
ZEI pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
DAU Daniels Canyon 87.18 48 *eP* **P** **08 51 47.6 +2.0**
comp=Z,9.9nm,1.3s,mb4.6
DAU Daniels Canyon 87.18 48 *eP* **P** **08 51 47.6 +2.0**
DAU pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
PDAR Pinedale Array 87.49 46 P **P** **08 51 46.7 -0.3**
comp=Z,0.2nm,0.6s,baz=126,slow=1.2,SNR=2.9
PDAR LR LR 09 28 05.1
comp=Z,99nm,20.9s,baz=273,slow=34
PDAR Pinedale Array 87.49 46 P **P** **08 51 46.7 -0.3**
KAF Kangasniemi 87.52 336 *eP* **P** **08 51 45.6 -1.2**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
KAF Kangasniemi 87.52 336 *ep* **P** **08 51 45.6 -1.2**
comp=Z,3.2nm,0.7s,mb4.5
FINES FINESS Array B 87.99 336 P **P** **08 51 47.5 -1.5**
comp=Z,5.9nm,0.6s,mb4.8,baz=72,slow=6.2,SNR=11
FINES LR LR 09 32 41.7
comp=Z,94nm,18.1s,baz=34,slow=37
FINES FINESS Array B 87.99 336 P **P** **08 51 47.5 -1.5**
FINES FINESS Array B 87.99 336 P **P** **08 51 47.5 -1.5**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES MLR MLR
comp=Z,94nm,18.2s
SRU San Rafael 88.18 49 *eP* **P** **08 51 50.3 -0.1**
comp=Z,3.8nm,0.7s,mb4.5
SRU San Rafael 88.18 49 *eP* **P** **08 51 50.3 -0.1**
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WUAZ Wupatki 88.86 53 *eP* **P** **08 51 54.1 +0.5**
comp=Z,4.3nm,0.9s,mb4.5
PV01 Paradox Valley 89.96 50 *eP* **P** **08 51 58.5 -0.3**
comp=Z,254nm,0.9s
AKASG Malin Array Be 92.52 326 LR LR 09 36 14.1
comp=Z,112nm,18.5s,baz=75,slow=37
NOA NORSAR Array B 93.62 340 P **P** **08 52 13.9 -1.3**
comp=Z,1.4nm,0.7s,mb4.4,baz=46,slow=4.8,SNR=6.6
NOA LR LR 09 39 29.5
comp=Z,50nm,18.8s,baz=305,slow=39
NOA NORSAR Array B 93.62 340 P **P** **08 52 13.9 -1.3**
NOA NORSAR Array B 93.62 340 P **P** **08 52 13.9 -1.3**
NOA pmax pmax
comp=Z,1.0nm,0.7s
BR131 Keskin Array S 95.41 315 *eP* **P** **08 52 20.8 -3.1**
comp=Z,2.6nm,0.6s,mb4.8
BRTR Keskin Array B 95.41 315 LR LR 09 40 49.8
comp=Z,48nm,18.3s,baz=239,slow=39
TXAR Lajitas Array 97.28 56 LR LR 09 32 29.3
comp=Z,85nm,19.6s,baz=0.0,slow=33
SNAA Sanae 123.47 191 *e* PKPdf 08 57 49.7 -5.6
VNA2 Neumayer--Watz 124.89 190 *e* PKPdf 08 57 59.1 +1.0
baz=282,slow=1.9
VNA3 Neumayer Olymp 124.97 189 *e* PKPdf 08 57 59.0 +0.8
TORD Torodi Ar. Bea 133.78 310 PKP PKPdf 08 58 15.7 -1.0
comp=Z,1.0nm,0.7s,baz=20,slow=2.6,SNR=6.1
TORD SKPbc SKPbc 09 01 43.0 +4.8
comp=Z,1.3nm,0.8s,baz=41,slow=2.3,SNR=5.1
TORD Torodi Ar. Bea 133.78 310 PKP PKPdf 08 58 15.7 -1.0
TORD SKPbc SKPbc 09 01 43.0 +4.8
LPAZ La Paz 146.51 92 *e*PKPdf PKPdf 08 58 40.6 +1.1
LPAZ *e*PKPbc PKPbc 08 58 42.2 +1.2

IDC 04 08:42:53.5±1.8, 5.77S×146.56E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, MS4.4/1, Ms1 4.4/1, ms1mx2.9/22, Error ellipse: s-maj=46.5km s-min=27.2km az=108.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.66**	**171**	Pn	Pn		Pn	08 43 51.2	-0.2
	4.8nm,0.3s,baz=222,slow=19,SNR=9.8								
PMG				Sn	Sn		Sn	08 44 35.2	-0.1
	5.4nm,0.3s,baz=199,slow=22,SNR=2.3								
WRA	**Warramunga Arr**	**18.42**	**219**	P	Pn		Pn	08 47 11.9	+1.4
	0.2nm,0.3s,baz=42,slow=9.9,SNR=4.5								
ASAR	**Alice Springs**	**21.56**	**213**	P	P		P	08 47 44.8	+0.1
	1.3nm,0.8s,baz=28,slow=10,SNR=3.0								
FITZ	**Fitzroy Crossi**	**23.82**	**237**	P	P		P	08 48 07.6	-0.8
	1.3nm,0.4s,baz=62,slow=8.8,SNR=5.6								
DAV	**Davao City (W)**	**24.51**	**301**	LR	LR			08 57 02.3	
	comp=Z,1μm,21.6s,baz=27,slow=35								
ILAR	**Eielson Array**	**85.45**	**23**	P	P		P	08 55 33.0	+0.2
	0.1nm,0.5s,baz=230,slow=4.8,SNR=4.1								

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*IDC **04** 08:55:16.4±0.7, 8.46N×126.89E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/24, mbtmp4.2/15, MS3.5/5, Ms1 3.5/5, ms1mx3.0/34, Error ellipse: s-maj=23.7km s-min=13.4km az=87.0*
*MAN **04** 08:55:18, 8.24N×127.24E, h77km, mb5.1, ML4.1, MS4.3*
*ISCJB **04** 08:55:21.1±1.4, 8.45N±0.05×127.08E±0.09, h54km±12km, mb4.2/20, MS3.4/4, Error ellipse: s-maj=15.0km s-min=7.3km az=170.7*
*NEIC **04** 08:55:24.7±1.8, 8.33N×126.69E, h64km±16km, mb4.3/6, Error ellipse: s-maj=19.4km s-min=7.5km az=70.0*
ISC 04 08:55:23.9±1.2, 8.44N±0.05×126.99E±0.08, h58km±11km, n61, σ1.905/60, mb4.2/20, MS3.4/4, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.95**	**226**	Pn	**Pn**		**Pn**	**08 55 51.7**	**-3.0**
	114nm,0.3s,baz=137,slow=3.2,SNR=16								
DAV				Sn	**Sn**		**Sn**	**08 56 17.4**	**-0.6**
	135nm,0.3s,baz=244,slow=20,SNR=18								
DAV	**Davao City (W)**	**1.95**	**226**	Pn	**Pn**		**Pn**	**08 55 51.7**	**-3.0**
DAV				Sn	**Sn**		**Sn**	**08 56 17.4**	**-0.6**
DAV				*e*Sn	**Sn**		**Sn**	**08 56 20.7**	**+2.7**
BUKP	**Musuan**	**1.98**	**254**	*eP*	**Pn**		**Pn**	**08 55 53.5**	**-1.7**
CGP	**Cagayan de Oro**	**2.27**	**271**	‖*eP*	**Pn**		**Pn**	**08 55 57.8**	**-1.2**
CGP				*eS*	**Sn**		**Sn**	**08 56 28.2**	**+2.4**
KCP	**Kidapawan**	**2.35**	**233**	‖*eP*	**Sn**		**Sn**	**08 56 29.3**	**+1.3**
CTBH	**Cotabato--PC H**	**2.97**	**246**	‖*eP*	**Pn**		**Pn**	**08 56 05.9**	**-2.7**
TBP	**Tagbilaran**	**3.33**	**292**	*eP*	**Pn**		**Pn**	**08 56 13.2**	**-0.3**
PLP	**Palo**	**3.35**	**324**	‖*eP*	**Pn**		**Pn**	**08 56 14.0**	**+0.1**
PLP				*i* S	**Sn**		**Sn**	**08 57 02.0**	**+10**
OCLP	**Ormoc**	**3.50**	**318**	*eP*	Px			08 56 35.9	
LLP	**Lapu-Lapu**	**3.52**	**302**	*eP*	**Pn**		**Pn**	**08 56 16.0**	**-0.1**
LLP				*e*S	**Sn**		**Sn**	**08 56 57.3**	**+0.8**
PAGZ	**Pagadian**	**3.62**	**261**	*eP*	**Pn**		**Pn**	**08 56 17.5**	**0.0**
GUIM	**Jordan**	**4.85**	**297**	*eP*	**Pn**		**Pn**	**08 56 34.8**	**+0.3**
RCP	**Roxas**	**5.20**	**307**	⇑*iP*	**Pn**		**Pn**	**08 56 40.0**	**+0.8**
NLAI	**Namlea**	**11.60**	**179**	P	**Sn**		**Sn**	**09 00 22.5**	**+7.7**
MSAI	**Masohi**	**11.87**	**171**	P	**Sn**		**Sn**	**09 00 33.6**	**+12**
	48nm,0.4s,3μm								
JAY	**Jayapura**	**17.48**	**128**	P	**S**			**09 02 43.8**	**+0.8**
JOW	**Kunigami**	**18.34**	**4**	LR	LR		LR	09 06 07.9	
	comp=Z,138nm,18.0s,baz=153,slow=36								
CBIJ	**Chichi jima**	**23.49**	**36**	LR	LR		LR	09 08 38.2	
	comp=Z,101nm,19.9s,MS3.3,baz=93,slow=34								
RGRI	**Rengat**	**26.07**	**252**	P	**P**		**09 01 01.3**	**+9.0**	
	706nm,0.4s								
FITZ	**Fitzroy Crossi**	**26.40**	**183**	P	**P**		**09 00 53.7**	**-1.4**	
	4.7nm,0.8s,mb4.0,baz=17,slow=7.1,SNR=11								
FITZ	**Fitzroy Crossi**	**26.40**	**183**	P	**P**		**09 00 53.7**	**-1.4**	
	5.1nm,0.8s,mb4.1								
FITZ	**Fitzroy Crossi**	**26.40**	**183**	P	**P**		**09 01 01.2**	**+6.1**	
	10nm,1.1s,mb4.3								
KSAR	**Wonju Array Be**	**28.89**	**1**	P	**P**		**09 01 16.6**	**-0.6**	
KSRS	**Korea Array**	**28.90**	**2**	P	**P**		**09 01 16.6**	**-0.7**	
	3.2nm,0.8s,mb4.1,baz=175,slow=9.7,SNR=7.3								
KSRS				LR	LR			09 12 34.6	
	comp=Z,51nm,18.2s,MS3.2,baz=150,slow=36								
CMAR	**Chiang Mai Arr**	**28.99**	**293**	P	**P**		**09 01 18.4**	**+0.1**	
	2.0nm,0.6s,mb4.0,baz=115,slow=6.6,SNR=13								
CMAR	**Chiang Mai Arr**	**28.99**	**293**	P	**P**		**09 01 18.4**	**+0.1**	
WRAB	**Tennant Creek**	**29.11**	**166**	*eP*	**P**		**09 01 19.6**	**+0.3**	
	4.9nm,1.0s,mb4.2								
WRA	**Warramunga Arr**	**29.11**	**166**	P	**P**		**09 01 19.5**	**+0.1**	
	0.3nm,0.3s,mb3.5,baz=342,slow=8.4,SNR=12								
WRA	**Warramunga Arr**	**29.11**	**166**	P	**P**		**09 01 19.4**	**+0.1**	
WB2	**Warramunga Arr**	**29.12**	**166**	*eP*	**P**		**09 01 19.1**	**-0.3**	
AS31	**Alice Springs**	**32.61**	**168**	*eP*	**P**		**09 01 50.8**	**+0.6**	
ASAR	**Alice Springs**	**32.62**	**168**	P	**P**		**09 01 50.5**	**+0.3**	
	0.5nm,0.3s,mb3.9,baz=342,slow=7.6,SNR=18								
ASAR	**Alice Springs**	**32.62**	**168**	P	**P**		**09 01 50.5**	**+0.3**	
CTA	**Charters Tower**	**34.10**	**146**	LR	LR			09 15 22.2	
	comp=Z,87nm,19.8s,MS3.5,baz=231,slow=35								
MDJ	**Mudanjiang**	**36.11**	**3**	*eP*	**P**		**09 02 23.3**	**+3.1**	
	21nm,1.0s,mb5.0								
HNR	**Honiara**	**37.32**	**118**	LR	LR			09 16 28.1	
	comp=Z,130nm,18.2s,MS3.8,baz=267,slow=34								
SONM	**Songino Array**	**42.97**	**340**	P	**P**		**09 03 17.6**	**+0.4**	
	0.4nm,0.5s,mb3.4,baz=152,slow=7.8,SNR=4.3								
SONM				PcP	PcP			09 05 07.8	+1.0
	1.1nm,0.8s,baz=156,slow=2.8,SNR=6.6								
SONM	**Songino Array**	**42.97**	**340**	P	**P**		**09 03 17.6**	**+0.4**	
SONM				PcP	PcP			09 05 07.8	+1.0
MKAR	**Makanchi Array**	**53.91**	**323**	P	**P**		**09 04 41.3**	**-0.1**	
	1.3nm,0.8s,mb3.9,baz=106,slow=8.9,SNR=5.9								
MKAR	**Makanchi Array**	**53.91**	**323**	P	**P**		**09 04 41.3**	**-0.1**	
ZALV	**Zalesovo Beam**	**56.56**	**332**	P	**P**		**09 04 59.3**	**-1.1**	
	0.5nm,0.3s,mb4.0,baz=109,slow=8.0,SNR=5.7								
ZALV	**Zalesovo Beam**	**56.56**	**332**	P	**P**		**09 04 59.2**	**-1.1**	
KURK	**Kurchatov**	**57.97**	**326**	P	**P**		**09 05 10.1**	**-0.2**	
	3.7nm,0.8s,mb4.5,baz=125,slow=6.2,SNR=28								
KURK	**Kurchatov**	**57.97**	**326**	P	**P**		**09 05 10.1**	**-0.2**	
KKAR	**Karatay Array**	**60.04**	**315**	*eP*	**P**		**09 05 24.0**	**-0.9**	
	3.7nm,0.9s,mb4.4								
BVAR	**Borovoye Array**	**63.57**	**326**	P	**P**		**09 05 47.3**	**-1.0**	
	2.7nm,0.8s,mb4.4,baz=117,slow=8.5,SNR=14								
BVAR	**Borovoye Array**	**63.57**	**326**	P	**P**		**09 05 47.3**	**-1.0**	
BRVK	**Borovoye**	**63.64**	**326**	*eP*	**P**		**09 05 48.2**	**-0.6**	
	4.9nm,0.9s,mb4.5								
ABKAR	**Akbulak array**	**68.72**	**320**	*eP*	**P**		**09 06 21.2**	**-0.3**	
	1.6nm,0.8s,mb4.0								
KDAK	**Kodiak Island**	**77.81**	**33**	P	**P**		**09 07 17.4**	**+2.5**	
	16nm,0.9s,mb5.0,baz=192,slow=23,SNR=5.3								
KDAK	**Kodiak Island**	**77.81**	**33**	P	**P**		**09 07 17.4**	**+2.5**	
ILAR	**Eielson Array**	**80.77**	**26**	P	**P**		**09 07 32.6**	**+1.7**	
	1.5nm,0.8s,mb4.0,baz=240,slow=4.8,SNR=18								
ILAR	**Eielson Array**	**80.77**	**26**	P	**P**		**09 07 32.6**	**+1.7**	
ARCES	**ARCESS Array B**	**86.15**	**340**	P	**P**		**09 07 58.6**	**+0.3**	
	2.2nm,0.7s,mb4.5,baz=20,slow=3.9,SNR=3.7								
ARCES	**ARCESS Array B**	**86.15**	**340**	P	**P**		**09 07 58.6**	**+0.3**	
FINES	**FINESS Array B**	**87.83**	**332**	P	**P**		**09 08 06.7**	**0.0**	
	2.0nm,0.7s,mb4.5,baz=64,slow=4.4,SNR=4.9								
FINES	**FINESS Array B**	**87.83**	**332**	P	**P**		**09 08 06.7**	**0.0**	
NOA	**NORSAR Array B**	**94.70**	**334**	P	**P**		**09 08 37.9**	**-0.7**	
	1.0nm,0.8s,mb4.3,baz=63,slow=5.0,SNR=3.6								
NOA	**NORSAR Array B**	**94.70**	**334**	P	**P**		**09 08 37.9**	**-0.7**	
TORD	**Torodi Ar. Bea**	**121.59**	**291**	PKP	PKPdf		09 14 11.8	-0.2	
	0.7nm,0.8s,baz=79,slow=2.1,SNR=4.7								
TORD	**Torodi Ar. Bea**	**121.59**	**291**	PKP	PKPdf		09 14 11.8	-0.2	

IDC 04 08:59:06.4±2.8, 17.76N×147.97E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=83.6km s-min=26.7km az=91.0, Mariana Islands region

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

GUMO				Sn	Sn	09 01 22.3	-1.7
	2.4nm,0.3s,baz=214,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**39.78 200**		P	P	09 06 41.2	-0.1
	0.4nm,0.5s,baz=31,slow=8.2,SNR=5.9						
ASAR	**Alice Springs**	**43.40 199**		P	P	09 07 10.9	-0.1
	0.3nm,0.6s,baz=30,slow=7.5,SNR=4.9						
SONM	**Songino Array**	**45.23 321**		P	P	09 07 25.3	0.0
	0.2nm,0.4s,baz=126,slow=7.6,SNR=2.9						

*ISCJB **04** 09:15:48.6±1.7, 17°.99N±0°.04×146°.92E±0°.09, h60km±15km, mb4.6/40, MS3.6/12, Error ellipse: s-maj=14.4km s-min=7.3km az=175.0*
*IDC **04** 09:15:48.8±3.0, 18°.04N×147°.12E, h50km±26km, mb4.0/22, mb1 4.2/24, mb1mx4.2/28, mbtmp4.1/24, ML4.1/2, MS3.6/13, Ms1 3.7/13, ms1mx3.4/28, Error ellipse: s-maj=20.3km s-min=10.7km az=89.0*
*NEIC **04** 09:15:50.4±1.2, 18°.00N×147°.00E, h62km±11km, mb4.7/10, Error ellipse: s-maj=11.4km s-min=5.8km az=89.0*

ISC 04 09:15:50.6±1.4, 17°.99N±0°.04×147°.00E±0°.09, h64km±13km, n86, σ0s89/81, mb4.6/40, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.83**	**205**	P	**Pn**	**09 17 01.1**	**+0.3**
	16nm,0.3s,baz=209,slow=23,SNR=9.8						
GUMO				LR	LR	09 18 57.3	
	comp=Z,876nm,18.3s,baz=287,slow=38						
GUMO	**Guam**	**4.83**	**205**	P	**Pn**	**09 17 01.1**	**+0.3**
CBIJ	**Chichi jima**	**10.09**	**335**	P	**Pn**	**09 18 11.4**	**-1.4**
	4.0nm,0.3s,baz=277,slow=17,SNR=3.1						
CBIJ	**Chichi jima**	**10.09**	**335**	P	**Pn**	**09 18 11.4**	**-1.4**
MJAR	**Matsushiro Arr**	**20.05**	**339**	P	**P**	**09 20 18.7**	**+0.3**
	5.8nm,0.6s,baz=162,slow=9.4,SNR=12						
MJAR	**Matsushiro Arr**	**20.05**	**339**	P	**P**	**09 20 18.7**	**+0.2**
MAJO	**Matsushiro**	**20.05**	**339**	*eP*	**P**	**09 20 20.2**	**+1.7**
	13nm,0.7s						
MAT	**Matsushiro**	**20.05**	**339**	P	**P**	**09 20 20.0**	**+1.5**
DAV	**Davao City (W)**	**23.53**	**245**	LR	LR	09 28 42.7	
	comp=Z,295nm,19.2s,baz=93,slow=33						
KSRS	**Korea Array**	**25.62**	**323**	P	**P**	**09 21 14.1**	**0.0**
	5.7nm,0.7s,mb4.2,baz=152,slow=8.6,SNR=16						
KSAR	**Wonju Array Be**	**25.64**	**323**	P	**P**	**09 21 14.1**	**-0.2**
PMG	**Port Moresby**	**27.22**	**180**	P	**P**	**09 21 28.2**	**-0.5**
	6.3nm,0.6s,mb4.4,baz=134,slow=22,SNR=3.5						
PMG	**Port Moresby**	**27.22**	**180**	P	**P**	**09 21 28.2**	**-0.5**
COEN	**Coen**	**31.97**	**187**	*eP*	**P**	**09 22 10.4**	**-0.3**
	36nm,0.6s,mb5.4						
MTSU	**Mount Surprise**	**35.99**	**184**	*eP*	**P**	**09 22 45.8**	**+0.2**
	12nm,0.6s,mb5.0						
PETK	**Petropavlovsk-**	**36.03**	**11**	LR	LR	09 36 24.9	
	comp=Z,93nm,19.7s,baz=192,slow=34						
CTA	**Charters Tower**	**37.85**	**181**	P	**P**	**09 23 02.1**	**+0.8**
	2.9nm,0.3s,mb4.5,baz=341,slow=5.0,SNR=3.6						
CTA	**Charters Tower**	**37.85**	**181**	P	**P**	**09 23 02.1**	**+0.8**
WRAB	**Tennant Creek**	**39.68**	**199**	*eP*	**P**	**09 23 16.4**	**-0.3**
	12nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**39.69**	**199**	*eP*	**P**	**09 23 16.4**	**-0.3**
WRA	**Warramunga Arr**	**39.69**	**199**	P	**P**	**09 23 16.2**	**-0.5**
	8.8nm,0.7s,mb4.6,baz=22,slow=8.7,SNR=51						
WRA				PcP	PcP	09 25 22.8	+0.3
	1.5nm,0.6s,baz=18,slow=3.4,SNR=8.2						
WRA	**Warramunga Arr**	**39.69**	**199**	P	**P**	**09 23 16.2**	**-0.5**
WRA				PcP	PcP	09 25 22.8	+0.3
FITZ	**Fitzroy Crossi**	**41.56**	**211**	P	**P**	**09 23 31.5**	**-0.8**
	1.9nm,0.5s,mb4.0,baz=58,slow=5.6,SNR=13						
FITZ				LR	LR	09 40 43.7	
	comp=Z,40nm,19.7s,baz=32,slow=36						
FITZ	**Fitzroy Crossi**	**41.56**	**211**	*eP*	**P**	**09 23 31.6**	**-0.6**
	4.8nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**41.56**	**211**	P	**P**	**09 23 31.5**	**-0.8**
AS31	**Alice Springs**	**43.33**	**198**	*eP*	**P**	**09 23 46.5**	**+0.1**
ASAR	**Alice Springs**	**43.33**	**198**	P	**P**	**09 23 46.5**	**0.0**
	2.8nm,0.6s,mb4.2,baz=21,slow=8.3,SNR=56						
ASAR				PcP	PcP	09 25 35.2	+0.9
	1.2nm,0.6s,baz=32,slow=2.7,SNR=5.1						
ASAR	**Alice Springs**	**43.33**	**198**	P	**P**	**09 23 46.5**	**0.0**
ASAR				PcP	PcP	09 25 35.2	+0.9
SONM	**Songino Array**	**44.47**	**321**	P	**P**	**09 23 55.2**	**-0.2**
	1.8nm,0.7s,mb3.9,baz=138,slow=9.8,SNR=13						
SONM				LR	LR	09 42 38.1	
	comp=Z,106nm,19.7s,baz=118,slow=36						
SONM	**Songino Array**	**44.47**	**321**	P	**P**	**09 23 55.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**45.54**	**278**	P	**P**	**09 24 05.1**	**+0.7**
	2.7nm,0.6s,mb4.4,baz=67,slow=7.8,SNR=10						
CMAR				LR	LR	09 41 57.3	
	comp=Z,47nm,18.6s,baz=221,slow=34						
CMAR	**Chiang Mai Arr**	**45.54**	**278**	P	**P**	**09 24 05.1**	**+0.7**
STKA	**Stephens Creek**	**49.85**	**186**	P	**P**	**09 24 37.5**	**+0.1**
	2.1nm,0.6s,mb4.4,baz=29,slow=8.6,SNR=6.2						
STKA				LR	LR	09 46 37.6	
	comp=Z,60nm,19.7s,baz=25,slow=37						
STKA	**Stephens Creek**	**49.85**	**186**	*eP*	**P**	**09 24 37.8**	**+0.4**
	2.1nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**49.85**	**186**	P	**P**	**09 24 37.5**	**+0.1**
BBOO	**Buckleboo**	**51.58**	**192**	*eP*	**P**	**09 24 50.9**	**+0.5**
	65nm,0.4s,mb5.9						
BBOO	**Buckleboo**	**51.58**	**192**	*eP*	**P**	**09 24 51.4**	**+1.0**
	286nm,0.8s						
TAPN	**Taplejung**	**55.07**	**291**	*eP*	**P**	**09 25 17.4**	**+1.1**
	13nm,1.0s,mb4.9						
TAPN	**Taplejung**	**55.07**	**291**	*eP*	**P**	**09 25 17.4**	**+1.1**
	13nm,1.0s,mb4.9						
MORW	**Morawa**	**55.52**	**213**	*eP*	**P**	**09 25 18.8**	**-0.5**
	23nm,0.5s,mb5.5						
RAMN	**Ramite**	**56.08**	**291**	*eP*	**P**	**09 25 21.8**	**-1.7**
JIRN	**Jiri**	**56.40**	**292**	*eP*	**P**	**09 25 27.1**	**+1.3**
	4.4nm,0.6s,mb4.7						
DANN	**Dangsing**	**58.49**	**293**	*eP*	**P**	**09 25 41.7**	**+1.2**
	48nm,0.6s						
KOLN	**Koldanda**	**58.68**	**292**	*eP*	**P**	**09 25 41.5**	**-0.3**
	10nm,0.6s,mb5.0						
PYUN	**Piuthan**	**59.19**	**292**	*eP*	**P**	**09 25 45.6**	**+0.3**
	12nm,0.8s,mb5.0						
ZAA0	**Zalesovo Array**	**59.33**	**323**	*eP*	**P**	**09 25 44.9**	**-0.9**
ZALV	**Zalesovo Beam**	**59.33**	**323**	P	**P**	**09 25 44.9**	**-0.9**
	1.7nm,0.4s,mb4.4,baz=104,slow=8.3,SNR=8.0						
ZALV				PcP	PcP	09 26 33.6	+0.3
	2.5nm,0.8s,baz=95,slow=4.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**59.33**	**323**	P	**P**	**09 25 44.9**	**-0.9**
ZALV				PcP	PcP	09 26 33.6	+0.3
MKAR	**Makanchi Array**	**59.84**	**314**	P	**P**	**09 25 49.5**	**0.0**
	1.0nm,0.6s,mb4.0,baz=90,slow=6.8,SNR=10						
MKAR				PcP	PcP	09 26 36.9	+1.4
	0.8nm,0.6s,baz=87,slow=6.8,SNR=2.4						
MKAR				LR	LR	09 53 48.9	
	comp=Z,37nm,19.2s,baz=168,slow=38						
MKAR	**Makanchi Array**	**59.84**	**314**	P	**P**	**09 25 49.5**	**0.0**
MKAR				PcP	PcP	09 26 36.9	+1.4
KURK	**Kurchatov**	**62.62**	**318**	P	**P**	**09 26 08.0**	**-0.3**
	3.0nm,0.5s,mb4.7,baz=96,slow=7.1,SNR=29						
KURK	**Kurchatov**	**62.62**	**318**	P	**P**	**09 26 08.0**	**-0.3**
ILAR	**Eielson Array**	**63.74**	**26**	P	**P**	**09 26 13.2**	**-2.2**
	1.0nm,0.8s,mb3.9,baz=251,slow=4.9,SNR=13						
ILAR				LR	LR	09 52 55.9	
	comp=Z,100nm,19.8s,baz=269,slow=35						
ILAR	**Eielson Array**	**63.74**	**26**	P	**P**	**09 26 13.2**	**-2.2**
BRVK	**Borovoye**	**67.87**	**321**	*eP*	**P**	**09 26 43.4**	**+1.2**
	6.1nm,0.8s,mb4.7						
KKAR	**Karatay Array**	**68.17**	**310**	*eP*	**P**	**09 26 44.2**	**0.0**
	1.8nm,0.6s,mb4.3						
INK	**Inuvik**	**69.54**	**23**	P	**P**	**09 26 51.9**	**-0.3**
	1.7nm,0.8s,mb4.1,baz=222,slow=5.4,SNR=3.3						
INK	**Inuvik**	**69.54**	**23**	P	**P**	**09 26 51.9**	**-0.3**
JCW	**Jim Creek**	**77.51**	**43**	*eP*	**P**	**09 27 41.9**	**+2.5**
	13nm,0.9s,mb4.9						
YKA	**Yellowknife Ar**	**78.03**	**28**	P	**P**	**09 27 40.9**	**-1.2**
	2.4nm,0.8s,mb4.2,baz=288,slow=5.5,SNR=9.6						
YKA				LR	LR	10 02 58.0	
	comp=Z,8.6nm,19.5s,baz=310,slow=36						
YKA	**Yellowknife Ar**	**78.03**	**28**	P	**P**	**09 27 40.9**	**-1.2**
ETW	**Entiat**	**78.70**	**44**	*eP*	**P**	**09 27 46.8**	**+0.7**
	6.0nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**82.60**	**52**	P	**P**	**09 28 07.1**	**0.0**
	1.5nm,0.7s,mb4.2,baz=271,slow=5.6,SNR=12						
NVAR	**Mina Array Bea**	**82.60**	**52**	P	**P**	**09 28 07.1**	**0.0**
MFID	**Camas Ranch**	**82.90**	**47**	*eP*	**P**	**09 28 08.2**	**-0.4**
	3.5nm,0.9s,mb4.4						
KEV	**Kevo**	**82.98**	**342**	*ep*	**P**	**09 28 07.7**	**-0.8**
	3.0nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**83.54**	**342**	P	**P**	**09 28 12.1**	**+0.8**
	2.1nm,0.6s,mb4.4,baz=78,slow=8.1,SNR=14						
ARCES				LR	LR	10 12 52.4	
	comp=Z,49nm,18.6s,baz=25,slow=41						
ARCES	**ARCESS Array B**	**83.54**	**342**	P	**P**	**09 28 12.1**	**+0.8**
JOF	**Joensuu**	**85.18**	**336**	*ep*	**P**	**09 28 18.3**	**-1.4**
	7.6nm,0.6s,mb5.0						
IMW	**Indian Meadow**	**86.08**	**45**	*eP*	**P**	**09 28 24.2**	**-0.4**
PDAR	**Pinedale Array**	**87.44**	**46**	P	**P**	**09 28 31.1**	**-0.2**
	0.5nm,0.7s,mb3.9,baz=248,slow=2.9,SNR=4.2						
PDAR				LR	LR	10 02 15.0	
	comp=Z,64nm,19.1s,baz=164,slow=32						
PDAR	**Pinedale Array**	**87.44**	**46**	P	**P**	**09 28 31.1**	**-0.2**
KAF	**Kangasniemi**	**87.56**	**336**	*ep*	**P**	**09 28 31.0**	**-0.4**
	2.6nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**88.04**	**336**	P	**P**	**09 28 32.2**	**-1.5**
	4.3nm,0.7s,mb4.8,baz=64,slow=4.4,SNR=10						
FINES	**FINESS Array B**	**88.04**	**336**	P	**P**	**09 28 32.2**	**-1.5**
LAO	**LASA Array**	**88.08**	**41**	*eP*	**P**	**09 28 37.9**	**+3.7**
	9.3nm,1.2s,mb4.9						
WUAZ	**Wupatki**	**88.79**	**53**	*eP*	**P**	**09 28 39.2**	**+1.4**
	4.7nm,0.9s,mb4.8						
PV01	**Paradox Valley**	**89.90**	**50**	*eP*	**P**	**09 28 43.5**	**+0.5**
NB2	**NORSAR Subarra**	**93.66**	**340**	P	**P**	**09 29 00.2**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.4,baz=46,slow=4.4						
NOA	**NORSAR Array B**	**93.66**	**340**	P	**P**	**09 29 00.6**	**+0.7**
	comp=Z,1.1nm,0.8s,mb4.3,baz=43,slow=4.7,SNR=4.5						
NOA				LR	LR	10 16 26.0	
	comp=Z,27nm,19.3s,baz=135,slow=39						
NOA	**NORSAR Array B**	**93.66**	**340**	P	**P**	**09 29 00.6**	**+0.7**
BRTR	**Keskin Array B**	**95.49**	**315**	P	**P**	**09 29 08.1**	**-0.6**
	comp=Z,0.9nm,0.7s,mb4.3,baz=129,slow=4.3,SNR=4.4						
BRTR	**Keskin Array B**	**95.49**	**315**	P	**P**	**09 29 08.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**133.86**	**310**	PKP	PKPdf	09 35 01.1	-0.2
	comp=Z,0.4nm,0.5s,baz=74,slow=1.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**133.86**	**310**	PKP	PKPdf	09 35 01.1	-0.2
LPAZ	**La Paz**	**146.42**	**93**	*e*PKPbc	PKPbc	09 35 26.6	+1.3

KRSC 04 10:01:49.0±1.6, 50°.33N×156°.82E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.95**	**359**	P	Pn	10 02 25.6	+2.9
RUS	**Russkaya**	**2.36**	**26**	P	Pn	10 02 28.1	-0.2
RUS				*e*S	Sn	10 02 56.6	-1.0
PET	**Petropavlovsk**	**2.93**	**22**	P	Pn	10 02 39.0	+2.8
AVH	**Avacha**	**3.17**	**21**	P	Pn	10 02 42.7	+3.2
SDLR	**Sedlovina**	**3.22**	**23**	P	Pn	10 02 43.4	+3.3
NLC	**Nalytchevo**	**3.25**	**28**	S	Sn	10 03 16.7	-2.9
SPN	**Mys Shipunski**	**3.41**	**34**	S	Sn	10 03 22.6	-1.0
GNL	**Ganaly**	**3.44**	**11**	P	Pn	10 02 45.9	+2.7

MAN 04 10:06:16, 15°.39N×120°.44E, h26km, mb4.5, ML3.4, MS3.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.64**	**307**	*e*P	Pb	10 06 29.3	+0.7
SCZP				*e*S	Sb	10 06 40.5	+3.2
BCPH	**Baguio City Da**	**1.00**	**8**	⇑*i*P	Pn	10 06 34.9	+0.6
BCPH				*i* S	Sb	10 06 49.1	+1.7
BOLP	**Bolinao**	**1.11**	**333**	*e*P	Pn	10 06 37.7	+1.8
BALP	**Baler**	**1.15**	**72**	*e*P	Pn	10 06 37.0	+0.7
TGY	**Tagaytay City**	**1.36**	**159**	*e*P	Pn	10 06 39.7	+0.3
POLP	**Polillo Island**	**1.59**	**114**	*e*P	Pn	10 06 43.1	+0.7
LUBP	**Lubang**	**1.65**	**187**	*e*P	Pn	10 06 44.2	+0.9
CAUP	**Cauayan**	**2.04**	**40**	*e*P	Pn	10 06 52.8	+4.2

*IDC **04** 10:08:44.5±3.3, 30°.28S×177°.70W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/15, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=72.3km s-min=37.4km az=108.0*
*ISCJB **04** 10:08:47.4±3.3, 30°.37S±0°.09×177°.7W±0°.5, h33km, mb3.7/3, Error ellipse: s-maj=66.0km s-min=7.4km az=9.1*
*NEIC **04** 10:08:48.8±1.7, 30°.30S×177°.55W, h35km, mb3.8/1, Error ellipse: s-maj=36.9km s-min=12.2km az=99.0*

ISC 04 10:08:49.3±3.6, 30°.28S±0°.08×177°.7W±0°.5, h35km, n11, σ0s49/12, mb3.7/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**348**	*e*Pn	**Pn**	**10 09 07.4**	**-0.2**
RAO				*e*Sn	**Sn**	**10 09 20.4**	**-0.6**
URZ	**Urewera**	**9.05**	**207**	Pn	**Pn**	**10 10 57.3**	**-0.1**
	0.2nm,0.3s,baz=120,slow=14,SNR=3.3						
URZ				Sn	**Sn**	**10 12 37.5**	**-0.6**
	1.5nm,0.3s,baz=210,slow=22,SNR=17						
URZ	**Urewera**	**9.05**	**207**	Pn	**Pn**	**10 10 57.3**	**-0.1**
URZ				Sn	**Sn**	**10 12 37.5**	**-0.6**
ASAR	**Alice Springs**	**43.40**	**267**	P	**P**	**10 16 48.8**	**+0.1**
	0.4nm,0.4s,mb3.5,baz=106,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**43.40**	**267**	P	**P**	**10 16 48.8**	**+0.1**
WB2	**Warramunga Arr**	**44.37**	**272**	*eP*	**P**	**10 16 57.2**	**+0.6**
WRAB	**Tennant Creek**	**44.38**	**272**	*eP*	**P**	**10 16 57.4**	**+0.8**
	0.8nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**10 16 56.6**	**0.0**
	0.8nm,0.2s,mb4.0,baz=110,slow=8.2,SNR=17						
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**10 16 56.6**	**0.0**
FINES	**FINESS Array B**	**145.13**	**340**	PKPbc	PKPbc	10 28 21.6	-0.2
	1.8nm,0.5s,baz=66,slow=3.4,SNR=3.8						
FINES	**FINESS Array B**	**145.13**	**340**	PKPbc	PKPbc	10 28 21.6	-0.2

*NIED **04** 10:13:00, 38°.50N×142°.20E, h26km, Mw3.5 Best double couple: M0:1.77000×10^14 NP1:φs264.00000°, δ89.00000°, λ-142.00000°. NP2:φs173.00000°, δ52.00000°, λ-1.00000°.*
*IDC **04** 10:13:41.8±1.2, 38°.30N×142°.47E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/24, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=41.5km s-min=19.9km az=113.0*
*ISCJB **04** 10:13:44.0±1.3, 38°.40N±0°.04×142°.20E±0°.08, h28km±8km, mb3.6/4, Error ellipse: s-maj=10.5km s-min=6.1km az=24.3*
*JMA **04** 10:13:45.4±0.1, 38°.46N×142°.16E, h32km±2km, M3.7*
JMA Felt I J1.
*NEIC **04** 10:13:45.4, 38°.46N×142°.16E, h32km, mb3.8/1, After JMA.*

ISC 04 10:13:45.7±1.5, 38°.41N±0°.04×142°.09E±0°.08, h25km±10km, n19, σ0s83/30, mb3.6/4, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.58**	**275**	⇓P	**Pb**	**10 13 57.8**	**+0.5**
JIO				S	**Sb**	**10 14 06.1**	**+0.9**
OFUJ	**Ofunato**	**0.74**	**334**	⇓P	**Pb**	**10 13 59.1**	**-0.9**
OFUJ				S	**Sb**	**10 14 08.7**	**-1.1**
JMK	**Ichinoseki**	**0.87**	**309**	⇓P	**Pb**	**10 14 01.6**	**-0.5**
JMK				*e*S	**Sb**	**10 14 13.1**	**-0.2**
JOU	**Okura**	**1.12**	**268**	⇑P	**Pn**	**10 14 06.3**	**+0.6**
JOU				S	**Sb**	**10 14 21.3**	**+0.8**
JMM	**Marumori**	**1.16**	**242**	⇑P	**Pn**	**10 14 05.8**	**-0.4**
JMM				S	**Sn**	**10 14 21.1**	**-0.1**
JOM	**Ohasama**	**1.23**	**330**	⇓P	**Pn**	**10 14 06.7**	**-0.5**
JOM				S	**Sn**	**10 14 22.1**	**-0.9**
JFK	**Kawauchi**	**1.42**	**223**	⇑P	**Pn**	**10 14 09.2**	**-0.6**
JFK				S	**Sn**	**10 14 26.2**	**-1.4**
JYK	**Kaneyama**	**1.45**	**291**	⇓P	**Pn**	**10 14 10.5**	**+0.3**
MJAR	**Matsushiro Arr**	**3.61**	**240**	Pn	**Pn**	**10 14 41.5**	**+1.6**
	0.5nm,0.3s,baz=58,slow=13,SNR=4.9						
MJAR				Sn	**Sn**	**10 15 30.1**	**+8.4**
	0.7nm,0.3s,baz=53,slow=32,SNR=1.6						
MJAR	**Matsushiro Arr**	**3.61**	**240**	Pn	**Pn**	**10 14 41.5**	**+1.6**
MJAR				Sn	**Sn**	**10 15 30.1**	**+8.4**
ASAJ	**Asahikawa**	**5.71**	**4**	Pn	**Pn**	**10 15 09.2**	**+0.4**
	0.8nm,0.3s,baz=137,slow=32,SNR=7.8						
ASAJ				Sn	**Sn**	**10 16 15.4**	**+1.8**
	0.4nm,0.3s,baz=346,slow=26,SNR=2.0						
ASAJ	**Asahikawa**	**5.71**	**4**	Pn	**Pn**	**10 15 09.2**	**+0.4**
ASAJ				Sn	**Sn**	**10 16 15.4**	**+1.8**
ILAR	**Eielson Array**	**48.05**	**33**	P	**P**	**10 22 22.4**	**0.0**
	0.4nm,1.0s,mb3.4,baz=253,slow=5.6,SNR=4.0						
ILAR	**Eielson Array**	**48.05**	**33**	P	**P**	**10 22 22.4**	**0.0**
WRAB	**Tennant Creek**	**58.49**	**189**	*eP*	**P**	**10 23 40.5**	**+1.0**
	0.8nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**58.50**	**189**	P	**P**	**10 23 38.9**	**-0.7**
	0.3nm,0.4s,mb3.7,baz=6.9,slow=7.2,SNR=8.5						
WRA	**Warramunga Arr**	**58.50**	**189**	P	**P**	**10 23 38.9**	**-0.7**
ASAR	**Alice Springs**	**62.22**	**188**	P	**P**	**10 24 04.8**	**-0.2**
	0.3nm,0.6s,mb3.6,baz=9.6,slow=4.6,SNR=5.8						
ASAR	**Alice Springs**	**62.22**	**188**	P	**P**	**10 24 04.8**	**-0.2**

*ISCJB **04** 10:21:55.9±0.4, 24°.45N±0°.02×121°.92E±0°.03, h17km±3km, Error ellipse: s-maj=3.9km s-min=2.6km az=14.1*
*TAP **04** 10:21:55.4, 24°.46N×121°.86E, h27km, ML4.0, B*
*NEIC **04** 10:21:57.0±2.0, 24°.44N×121°.75E, h10km, Error ellipse: s-maj=26.9km s-min=7.1km az=85.0*

ISC 04 10:21:55.9±0.4, 24°.46N±0°.01×121°.91E±0°.02, h15km±2km, n60, σ0s96/103, 11C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.15**	**260**	⇑*i*P	**Pg**	**10 22 00.7**	**+0.8**
	baz=250						
ENA				S	**Sg**	**10 22 04.3**	**+1.8**
	baz=250						
TWC	**Suao**	**0.16**	**341**	⇑*i*P	**Pg**	**10 22 00.9**	**+0.9**
	baz=1.0						
TWC				S	**Sg**	**10 22 04.4**	**+1.6**
	baz=1.0						
EHP	**Heping Village**	**0.21**	**226**	P	**Pg**	**10 22 01.2**	**+0.5**
	baz=213						
EHP				S	**Sg**	**10 22 05.5**	**+1.6**
	baz=213						
ILA	**Ilan**	**0.34**	**335**	⇑*i*P	**Pg**	**10 22 03.4**	**+0.4**
	baz=339						
ILA				S	**Sg**	**10 22 08.8**	**+1.1**
	baz=339						
TWE	**Neicheng**	**0.34**	**321**	⇑*i*P	**Pg**	**10 22 03.1**	**+0.1**
	baz=328						
TWE				*i* S	**Sg**	**10 22 08.2**	**+0.4**
	baz=328						
ENTT	**Nioudou**	**0.36**	**301**	⇑*i*P	**Pg**	**10 22 03.2**	**-0.1**
	baz=304						
ENTT				*i* S	**Sg**	**10 22 08.5**	**+0.2**
	baz=304						
NACB	**Ninganchiao**	**0.40**	**226**	*e*Pg	**Pg**	**10 22 03.5**	**-0.5**
NACB				*e*Sg	**Sg**	**10 22 09.5**	**+0.1**
TWD	**Chiawan**	**0.47**	**217**	⇓*i*P	**Pg**	**10 22 05.1**	**-0.2**
	baz=211						
TWD				*e*S	**Sg**	**10 22 11.9**	**+0.4**
	baz=211						
NNS	**Nan Shan**	**0.49**	**268**	⇑*i*P	**Pg**	**10 22 05.0**	**-0.6**
	baz=267						
NNS				S	**Sg**	**10 22 11.5**	**-0.6**
	baz=267						
YHNB	**Yeheng**	**0.53**	**294**	*e*Pg	**Pg**	**10 22 05.5**	**-0.9**
YHNB				*e*Sg	**Sg**	**10 22 12.6**	**-0.9**
NSK	**Sanguang**	**0.55**	**294**	⇑*i*P	**Pg**	**10 22 06.0**	**-0.7**
	baz=296						
NSK				*i* S	**Sg**	**10 22 13.1**	**-0.9**
	baz=296						
HWA	**Hwalien**	**0.55**	**210**	*e*P	**Pg**	**10 22 07.3**	**+0.6**
	baz=213						
TWB1	**Santiao Chiao**	**0.56**	**8**	*i* P	**Pg**	**10 22 06.8**	**0.0**
	baz=10.0						
TWB1				*i* S	**Sg**	**10 22 14.8**	**+0.4**
	baz=10.0						
TWA	**Mucha**	**0.60**	**331**	⇑*i*P	**Pg**	**10 22 07.4**	**-0.3**
	baz=330						
TWA				S	**Sg**	**10 22 15.3**	**-0.5**
	baz=330						
NWF	**Wu-fen Shan**	**0.62**	**349**	⇑*i*P	**Pg**	**10 22 08.3**	**+0.1**
	baz=346						
NWF				S	**Sg**	**10 22 16.7**	**+0.2**
	baz=346						
TATO	**Taipei**	**0.64**	**324**	*e*Pg	**Pg**	**10 22 07.9**	**-0.6**
TATO				*e*Sg	**Sg**	**10 22 18.8**	**+1.8**
WHF	**Hehuan Shan**	**0.66**	**242**	⇑*i*P	**Pg**	**10 22 08.2**	**-0.7**
	baz=246						
WHF				*e*S	**Sg**	**10 22 17.4**	**-0.2**
	baz=246						
TAP1	**Taipei**	**0.68**	**329**	P	**Pg**	**10 22 08.9**	**-0.3**
	baz=331						
TAP1				S	**Sg**	**10 22 17.9**	**-0.3**
	baz=331						
ESF	**Shoufeng Towns**	**0.69**	**212**	*e*P	**Pg**	**10 22 09.2**	**-0.1**
	baz=222						
TWT	**Tachien**	**0.70**	**253**	*e*P	**Pg**	**10 22 08.9**	**-0.6**
	baz=252						
TWT				S	**Sg**	**10 22 18.7**	**0.0**
	baz=252						
ESL	**Shilin**	**0.77**	**214**	*e*P	**Pg**	**10 22 09.6**	**-1.3**
	baz=223						
TWS1	**Kuangyinshan**	**0.78**	**325**	⇓*i*P

baz=218
CHN1 Nanshi 1.79 225 *e*P **Pn 10 22 26.5 +0.4**
baz=224
CHN1 *e*S **Sn 10 22 49.2 +0.6**
baz=224
TWG Pinlang 1.80 205 *e*P **Pn 10 22 25.3 -1.0**
baz=191
TWG Pinlang 1.80 205 *e*Pn **Pn 10 22 27.5 +1.1**
CHN8 Yiju 1.90 235 *e*P **Pn 10 22 28.8 +1.0**
baz=219
CHN8 *e*S **Sn 10 22 53.1 +1.6**
baz=219
SCLT Jiali 2.02 231 *e*P **Pn 10 22 28.8 -0.7**
baz=215
SCLT *e*S **Sn 10 22 55.8 +1.4**
baz=215
ECL Taimali 2.04 206 *e*P **Pn 10 22 30.4 +0.6**
baz=193
SSD Sandimen 2.06 215 *e*P **Pn 10 22 30.0 0.0**
baz=227
SSD *e*S **Sn 10 22 57.1 +1.6**
baz=227
EAST Anshuo 2.28 205 *e*P **Pn 10 22 32.5 -0.5**
baz=194
PNG Penghu 2.33 248 *e*P **Pn 10 22 33.0 -0.6**
baz=247
PNG *e*S **Sn 10 22 59.8 -2.1**
baz=247
SCZT Fangliau 2.39 210 *e*P **Pn 10 22 35.9 +1.5**
baz=196
LAY Lan-yu 2.43 188 *e*P **Pn 10 22 31.9 -3.1**
baz=187
QZH Quanzhou 3.05 280 Pn **Pn 10 22 36.8 -6.8**
QZH Sn **Sn 10 23 14.0 -5.9**
QZH smax
comp=N,280nm,0.6s
QZH smax
comp=E,180nm,0.8s

*ISCJB **04** 10:25:36.5±0.8, 38°.8S×0°.2×46°.8E±0°.1, h10km, mb4.2/10, MS3.6/10, Error ellipse: s-maj=36.0km s-min=13.7km az=14.3*
*IDC **04** 10:25:36.2±0.8, 38°.75S×46°.80E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/19, mbtmp4.2/9, MS3.7/10, Ms1 3.7/10, ms1mx3.4/24, Error ellipse: s-maj=44.9km s-min=19.4km az=17.0*
*NEIC **04** 10:25:37.7±0.4, 38°.78S×46°.76E, h10km, mb4.5/3, Error ellipse: s-maj=21.6km s-min=9.7km az=192.0*
ISC 04 10:25:38.3±0.8, 38°.7S±0°.2×46°.8E±0°.1, h10km, n42, σ0°52/20, mb4.2/10, MS3.6/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.52**	**293**	P	**P**	**10 30 16.7**	**+0.1**
	7.7nm,0.9s,baz=122,slow=12,SNR=2.9						
BOSA				LR	LR	10 36 43.1	
	comp=Z,131nm,19.4s,MS3.3,baz=312,slow=32						
BOSA	**Boshof**	**20.52**	**293**	P	**P**	**10 30 16.7**	**+0.1**
SUR	**Sutherland**	**22.02**	**279**	P	**P**	**10 30 32.8**	**0.0**
	16nm,1.1s,mb4.4,baz=128,slow=8.1,SNR=3.3						
SUR				LR	LR	10 37 09.2	
	comp=Z,88nm,18.7s,MS3.2,baz=138,slow=31						
SUR	**Sutherland**	**22.02**	**279**	P	**P**	**10 30 32.8**	**0.0**
LBTB	**Lobatse**	**22.53**	**301**	P	**P**	**10 30 38.0**	**-0.2**
	12nm,1.1s,mb4.2,baz=146,slow=9.2,SNR=7.3						
LBTB				LR	LR	10 38 32.8	
	comp=Z,141nm,19.5s,MS3.4,baz=139,slow=34						
LBTB	**Lobatse**	**22.53**	**301**	*e*P	**P**	**10 30 38.0**	**-0.2**
	19nm,1.2s,mb4.4						
MAW	**Mawson**	**30.29**	**168**	LR	LR	10 41 02.5	
	comp=Z,135nm,19.3s,MS3.6,baz=344,slow=31						
NWAO	**Narrogin (SRO)**	**56.14**	**107**	LR	LR	10 54 33.8	
	comp=Z,73nm,18.2s,MS3.8,baz=249,slow=31						
TORD	**Torodi Ar. Bea**	**66.60**	**311**	PP	PP	10 38 48.0	-7.8
	0.9nm,1.1s,baz=145,slow=10,SNR=3.9						
TORD				LR	LR	11 06 06.2	
	comp=Z,45nm,18.4s,MS3.7,baz=100,slow=36						
TORD	**Torodi Ar. Bea**	**66.60**	**311**	PP	PP	10 38 48.0	-7.8
ASAR	**Alice Springs**	**73.46**	**107**	P	**P**	**10 37 10.6**	**-0.5**
	1.2nm,0.8s,mb3.9,baz=233,slow=5.4,SNR=11						
ASAR	**Alice Springs**	**73.46**	**107**	P	**P**	**10 37 10.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**74.96**	**51**	P	**P**	**10 37 19.7**	**0.0**
	0.7nm,0.5s,mb3.8,baz=224,slow=7.1,SNR=7.0						
CMAR				LR	LR	11 05 27.1	
	comp=Z,31nm,18.5s,MS3.6,baz=182,slow=32						
CMAR	**Chiang Mai Arr**	**74.96**	**51**	P	**P**	**10 37 19.7**	**0.0**
WRA	**Warramunga Arr**	**75.96**	**104**	P	**P**	**10 37 25.4**	**-0.2**
	2.6nm,0.9s,mb4.1,baz=229,slow=4.8,SNR=15						
WRA	**Warramunga Arr**	**75.96**	**104**	P	**P**	**10 37 25.4**	**-0.2**
WRAB	**Tennant Creek**	**75.97**	**104**	P	**P**	**10 37 26.5**	**+0.8**
	1.7nm,0.7s,mb4.1						
BRTR	**Keskin Array B**	**79.00**	**350**	P	**P**	**10 37 42.3**	**+0.4**
	0.9nm,0.8s,mb3.7,baz=294,slow=1.2,SNR=3.5						
BRTR	**Keskin Array B**	**79.00**	**350**	P	**P**	**10 37 42.3**	**+0.4**
KEST	**Kesra**	**81.77**	**330**	LR	LR	11 15 35.8	
	comp=Z,26nm,18.3s,MS3.6,baz=202,slow=37						
PLCA	**Paso Flores**	**82.41**	**223**	LR	LR	11 08 20.5	
	comp=Z,83nm,18.3s,MS4.1,baz=138,slow=31						
CPUP	**Villa Florida**	**84.05**	**241**	LR	LR	11 10 01.7	
	comp=Z,59nm,18.8s,MS4.0,baz=328,slow=32						
KKAR	**Karatay Array**	**84.25**	**17**	*e*P	**P**	**10 38 10.2**	**+0.6**
	9.5nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**90.87**	**24**	P	**P**	**10 38 41.8**	**+0.3**
	0.9nm,1.0s,mb4.1,baz=197,slow=4.5,SNR=2.9						
MKAR	**Makanchi Array**	**90.87**	**24**	P	**P**	**10 38 41.8**	**+0.3**
ZALV	**Zalesovo Beam**	**97.95**	**22**	P	**P**	**10 39 12.5**	**-1.2**
	0.9nm,0.7s,mb4.4,baz=250,slow=4.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**97.95**	**22**	P	**P**	**10 39 12.5**	**-1.2**
FVM	**French Village**	**146.66**	**282**	*e*PKPbc	PKPbc	10 45 18.6	-1.4
CCM	**Cathedral Cave**	**147.30**	**282**	*e*PKPbc	PKPbc	10 45 21.4	-0.4
INK	**Inuvik**	**150.36**	**0**	PKPbc	PKPbc	10 45 27.9	-0.8
	4.5nm,1.1s,baz=17,slow=4.9,SNR=7.0						
INK	**Inuvik**	**150.36**	**0**	PKPbc	PKPbc	10 45 27.9	-0.8
ULM	**Lac du Bonnet**	**151.27**	**306**	PKPbc	PKPbc	10 45 30.4	-1.0
	2.5nm,0.7s,baz=181,slow=2.2,SNR=3.8						
ULM	**Lac du Bonnet**	**151.27**	**306**	PKPbc	PKPbc	10 45 30.4	-1.0
JCT	**Junction City**	**151.41**	**263**	*e*PKPbc	PKPbc	10 45 32.0	-0.3
ILAR	**Eielson Array**	**152.70**	**13**	PKPbc	PKPbc	10 45 32.7	-1.4
	0.5nm,0.8s,baz=300,slow=3.0,SNR=5.2						
ILAR	**Eielson Array**	**152.70**	**13**	PKPbc	PKPbc	10 45 32.7	-1.4
YKA	**Yellowknife Ar**	**153.64**	**341**	PKPbc	PKPbc	10 45 35.8	-0.4
	0.8nm,0.9s,baz=31,slow=2.9,SNR=4.1						
YKA	**Yellowknife Ar**	**153.64**	**341**	PKPbc	PKPbc	10 45 35.8	-0.4
TXAR	**Lajitas Array**	**153.87**	**258**	PKPbc	PKPbc	10 45 38.2	+0.4
	2.3nm,0.9s,baz=142,slow=3.6,SNR=12						
TXAR	**Lajitas Array**	**153.87**	**258**	PKPbc	PKPbc	10 45 38.2	+0.4
PDAR	**Pinedale Array**	**161.64**	**290**	PKP	PKPdf	10 45 37.6	-1.4
	0.1nm,0.4s,baz=111,slow=5.0,SNR=3.7						
PDAR	**Pinedale Array**	**161.64**	**290**	PKP	PKPdf	10 45 37.6	-1.4

*NEIC **04** 10:44:59.3±1.8, 7°.40S×128°.66E, h148km±19km, mb4.2/5, Error ellipse: s-maj=23.6km s-min=10.4km az=61.0*
*IDC **04** 10:45:00.6±2.4, 7°.35S×128°.57E, h156km±22km, mb3.8/9, mb1 3.8/12, mb1mx3.7/17, mbtmp3.8/12, Error ellipse: s-maj=29.7km s-min=14.2km az=75.0*
ISC 04 10:45:00.7±1.4, 7°.59S±0°.07×128°.7E±0°.1, h173km±16km, n37, σ0°91/39, mb4.0/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.21**	**286**	P	**Pn**	**10 47 08.7**	**-1.3**
	0.6nm,0.3s,baz=125,slow=12,SNR=5.0						
KAPI	**Kappang**	**9.21**	**286**	*e*Pn	**Pn**	**10 47 09.3**	**-0.7**
	13nm,1.1s						
FITZ	**Fitzroy Crossi**	**10.85**	**195**	P	**Pn**	**10 47 32.7**	**+1.3**
	0.8nm,0.3s,baz=1.8,slow=8.7,SNR=25						
FITZ				S	**Sn**	**10 49 26.2**	**-5.8**
	0.9nm,0.3s,baz=95,slow=21,SNR=3.5						
FITZ	**Fitzroy Crossi**	**10.85**	**195**	*e*Pn	**Pn**	**10 47 32.5**	**+1.0**
	2.4nm,0.4s						
FITZ				S	**Sn**	**10 49 26.2**	**-5.8**
WRAB	**Tennant Creek**	**13.46**	**156**	*e*Pn	**Pn**	**10 48 05.8**	**+1.0**
	5.9nm,0.6s						
WRA	**Warramunga Arr**	**13.46**	**156**	P	**Pn**	**10 48 05.0**	**+0.1**
	0.6nm,0.3s,baz=343,slow=13,SNR=27						
WRA				S	**Sn**	**10 50 27.7**	**-6.8**
	1.7nm,0.3s,baz=335,slow=23,SNR=10						
WRA	**Warramunga Arr**	**13.46**	**156**	P	**Pn**	**10 48 05.0**	**+0.1**
WRA				S	**Sn**	**10 50 27.7**	**-6.8**
WB2	**Warramunga Arr**	**13.46**	**156**	*e*Pn	**Pn**	**10 48 05.9**	**+0.9**
WB2				*e*Sn	**Sn**	**10 50 29.9**	**-4.8**
AS31	**Alice Springs**	**16.76**	**163**	*e*Pn	**Pn**	**10 48 49.6**	**+4.1**
AS31				*e*Sn	**Sn**	**10 51 51.5**	**-1.9**
ASAR	**Alice Springs**	**16.76**	**163**	P	**Pn**	**10 48 49.5**	**+4.0**
	0.8nm,0.3s,baz=343,slow=10,SNR=50						
ASAR				S	**S**	**10 51 50.5**	**-0.5**
	0.4nm,0.3s,baz=329,slow=19,SNR=6.5						
ASAR				ScP	ScP	10 56 44.6	+2.6
	0.2nm,0.3s,baz=358,slow=1.8,SNR=6.1						
ASAR	**Alice Springs**	**16.76**	**163**	P	**Pn**	**10 48 49.5**	**+4.0**
ASAR				S	**S**	**10 51 50.5**	**-0.5**
ASAR				ScP	ScP	10 56 44.6	+2.6
STKA	**Stephens Creek**	**27.01**	**155**	P	**P**	**10 50 30.5**	**+3.9**
	2.8nm,0.5s,mb4.2,baz=314,slow=8.7,SNR=13						
STKA	**Stephens Creek**	**27.01**	**155**	*e*P	**P**	**10 50 30.5**	**+3.9**
KSAR	**Wonju Array Be**	**44.80**	**359**	P	**P**	**10 52 57.1**	**-0.2**
MJAR	**Matsushiro Arr**	**44.81**	**11**	P	**P**	**10 52 55.7**	**-1.7**
	1.1nm,0.6s,mb3.7,baz=196,slow=12,SNR=4.2						
MJAR	**Matsushiro Arr**	**44.81**	**11**	P	**P**	**10 52 55.7**	**-1.7**
KSRS	**Korea Array**	**44.82**	**359**	P	**P**	**10 52 57.1**	**-0.3**
	0.7nm,0.7s,mb3.4,baz=178,slow=9.0,SNR=4.4						
ASAJ	**Asahikawa**	**52.99**	**13**	P	**P**	**10 53 59.4**	**-0.1**
	2.9nm,0.4s,mb4.3,baz=308,slow=32,SNR=7.1						
ASAJ	**Asahikawa**	**52.99**	**13**	P	**P**	**10 53 59.4**	**-0.1**
SONM	**Songino Array**	**58.59**	**343**	P	**P**	**10 54 40.2**	**+1.0**
	1.6nm,0.7s,mb4.0,baz=167,slow=7.1,SNR=11						
SONM	**Songino Array**	**58.59**	**343**	P	**P**	**10 54 40.2**	**+1.0**
PETK	**Petropavlovsk-**	**65.31**	**19**	P	**P**	**10 55 24.8**	**+0.9**
	4.1nm,0.6s,mb4.4,baz=190,slow=5.9,SNR=3.7						
PETK	**Petropavlovsk-**	**65.31**	**19**	P	**P**	**10 55 24.8**	**+0.9**
MKAR	**Makanchi Array**	**67.99**	**328**	P	**P**	**10 55 41.6**	**+0.5**
	1.3nm,0.4s,mb4.1,baz=115,slow=7.9,SNR=20						
MKAR	**Makanchi Array**	**67.99**	**328**	P	**P**	**10 55 41.6**	**+0.5**
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**10 56 01.9**	**-0.6**
	3.8nm,0.7s,mb4.2,baz=129,slow=5.7,SNR=12						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**10 56 01.9**	**-0.6**
KURK	**Kurchatov**	**72.33**	**329**	*e*P	**P**	**10 56 07.7**	**+0.3**
	2.4nm,0.6s,mb4.1						
MAW	**Mawson**	**73.91**	**201**	*e*P	**P**	**10 56 16.5**	**+0.1**
	4.3nm,0.4s,mb4.5						
ILAR	**Eielson Array**	**94.45**	**25**	P	**P**	**10 58 00.5**	**-0.3**
	0.3nm,0.8s,mb3.5,baz=229,slow=5.3,SNR=4.3						
ILAR	**Eielson Array**	**94.45**	**25**	P	**P**	**10 58 00.5**	**-0.3**
TXAR	**Lajitas Array**	**126.38**	**59**	PKP	PKPdf	11 03 46.1	+2.5
	0.2nm,0.4s,baz=45,slow=0.2,SNR=4.8						
TXAR	**Lajitas Array**	**126.38**	**59**	PKP	PKPdf	11 03 46.1	+2.5
TORD	**Torodi Ar. Bea**	**127.61**	**281**	PKP	PKPdf	11 03 47.7	+1.4
	0.7nm,0.8s,baz=90,slow=2.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**127.61**	**281**	PKP	PKPdf	11 03 47.7	+1.4
SCHQ	**Schefferville**	**131.29**	**12**	PKP	PKPdf	11 03 54.7	+2.6
	4.5nm,1.0s,baz=315,slow=1.4,SNR=2.8						
SCHQ	**Schefferville**	**131.29**	**12**	PKP	PKPdf	11 03 54.7	+2.5

GUC 04 10:59:16.8±0.7, 32°.58S×71°.72W, h12km±5km, MD3.7, ML2.8, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.72**	**123**	↓↓*i*P	Pg	10 59 30.6	-0.1
ROCH				*i* S	Sg	10 59 41.0	+0.8
ROCH				AML	AML	10 59 41.5	
	comp=N,702nm,0.1s						
CHNG	**Los Chungos**	**0.72**	**15**	↑↑*i*P	Pg	10 59 30.2	-0.6
CHNG				*i* S	Sg	10 59 40.7	+0.6
JACH	**Jahuel**	**0.96**	**97**	↑↑*i*P	Pg	10 59 34.4	-1.0
JACH				*i* S	Sg	10 59 47.7	-0.1
PEL	**Peldehue**	**1.04**	**123**	↑↑*i*P	Pb	10 59 35.8	-0.9
PEL				*i* S	Sb	10 59 49.6	-0.6
PEL				AML	AML	10 59 52.8	
	comp=N,764nm,0.3s						
TACH	**Talagante**	**1.26**	**149**	↑↑*i*P	Pn	10 59 38.8	-1.3
CLCH	**Cerro Calan**	**1.29**	**130**	↑↑*i*P	Pn	10 59 39.5	-1.1
CLCH				*i* S	Sb	10 59 56.8	-0.6
CLCH				AML	AML	10 59 59.0	
	comp=N,239nm,0.5s						
ANTU	**Antumapu**	**1.35**	**138**	*i* S	Sb	10 59 58.2	-0.9
ANTU				AML	AML	11 00 03.1	
	comp=N,191nm,0.3s						
FCH	**Farellones**	**1.42**	**122**	↓↓*i*P	Pn	10 59 40.6	-1.8
FCH				*i* S	Sn	11 00 00.2	-0.7
FCH				AML	AML	11 00 01.8	
	comp=N,204nm,0.3s						
PCH	**Pirque**	**1.45**	**136**	↓↓*i*P	Pn	10 59 42.1	-0.7
PCH				*e*S	Sn	11 00 01.3	-0.4
CMCH	**Combarbala**	**1.53**	**24**	↑↑*i*P	Pn	10 59 42.8	-1.0
CMCH				*i* S	Sn	11 00 03.2	-0.4
CMCH				AML	AML	11 00 09.0	
	comp=N,349nm,0.7s						
CHCH	**Chadas Angostu**	**1.62**	**147**	*e*P	Pn	10 59 45.0	-0.2
CHCH				*i* S	Sn	11 00 05.8	-0.2
LMEL	**Las Melosas**	**1.80**	**135**	*e*P	Pn	10 59 47.8	+0.2
LMEL				*i* S	Sn	11 00 11.6	+1.3
LMEL				AML	AML	11 00 14.9	
	comp=E,201nm,0.3s						
CACH	**El Canelo**	**1.80**	**149**	↑↑*i*P	Pn	10 59 48.7	+1.1
CACH				*i* S	Sn	11 00 12.0	+1.7

MAN 04 11:05:44, 10°.31N×123°.80E, h6km, mb3.9, ML2.6, MS2.2, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.16**	**87**	↓↓*i*P	Pg	11 05 49.0	+1.6
LLP				*i* S	Sg	11 05 52.0	+2.5
TBP	**Tagbilaran**	**0.62**	**174**	*e*P	Pg	11 05 57.0	+1.2
MSLP	**Maasin**	**1.06**	**99**	*e*P	Pg	11 06 05.1	+0.8
MSLP				*e*S	Sg	11 06 21.3	+3.3
GUIM	**Jordan**	**1.23**	**285**	*e*P	Pg	11 06 07.5	-0.2
GUIM				*e*S	Sg	11 06 20.6	-3.0

IDC 04 11:10:17.6±5.2, 4°.15S×151°.72E, h119km±47km, mb3.2/4, mb1 3.5/5, mb1mx3.2/16, mbtmp3.2/5, MS3.4/1, Ms1 3.6/1, ms1mx2.9/10, Error ellipse: s-maj=56.7km s-min=29.7km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.91**	**221**	P	Pn	11 11 57.4	+1.0
	0.7nm,0.3s,baz=60,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**23.10**	**226**	P	P	11 15 12.7	-0.4
	1.5nm,0.9s,baz=49,slow=9.8,SNR=9.5						
ASAR	**Alice Springs**	**25.93**	**220**	P	P	11 15 39.0	+0.2
	0.3nm,0.5s,baz=58,slow=8.3,SNR=4.9						
CMAR	**Chiang Mai Arr**	**56.63**	**295**	P	P	11 19 48.8	+0.2
	0.4nm,0.3s,baz=93,slow=5.5,SNR=4.4						
CMAR				LR	LR	11 42 30.3	
	comp=Z,38nm,20.6s,baz=45,slow=34						
ILAR	**Eielson Array**	**81.97**	**22**	P	P	11 22 23.6	-0.2
	0.4nm,0.8s,baz=251,slow=5.6,SNR=3.7						

IDC 04 11:12:28.3±5.2, 4°.22S×152°.23E, h131km±47km, mb3.2/5, mb1 3.4/6, mb1mx3.3/16, mbtmp3.2/6, MS3.4/5, Ms1 3.4/5, ms1mx3.2/9, Error ellipse: s-maj=50.1km s-min=27.6km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.21**	**224**	P	Pn	11 14 11.1	0.0
	0.6nm,0.3s,baz=57,slow=6.8,SNR=3.3						
CTA	**Charters Tower**	**16.82**	**200**	LR	LR	11 21 42.8	
	comp=Z,114nm,19.8s,baz=37,slow=33						
WRA	**Warramunga Arr**	**23.42**	**227**	P	P	11 17 25.7	0.0
	2.3nm,0.9s,baz=52,slow=9.7,SNR=7.1						
ASAR	**Alice Springs**	**26.21**	**221**	P	P	11 17 51.3	+0.3
	0.7nm,1.0s,baz=59,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**29.27**	**199**	LR	LR	11 29 37.1	
	comp=Z,72nm,20.7s,baz=25,slow=35						
FITZ	**Fitzroy Crossi**	**29.45**	**240**	LR	LR	11 31 39.6	
	comp=Z,39nm,20.0s,baz=50,slow=39						
MJAR	**Matsushiro Arr**	**42.61**	**343**	LR	LR	11 34 15.8	
	comp=Z,138nm,20.1s,baz=90,slow=31						
KSRS	**Korea Array**	**47.23**	**333**	LR	LR	11 38 54.4	
	comp=Z,34nm,18.7s,baz=140,slow=34						
CMAR	**Chiang Mai Arr**	**57.12**	**295**	P	P	11 22 01.8	+0.2
	0.7nm,0.5s,baz=107,slow=4.5,SNR=4.9						
SONM	**Songino Array**	**65.53**	**328**	P	P	11 22 57.4	-0.2
	0.4nm,0.7s,baz=122,slow=7.4,SNR=3.1						
ILAR	**Eielson Array**	**81.83**	**22**	P	P	11 24 32.7	+0.3
	0.4nm,0.8s,baz=236,slow=6.4,SNR=3.2						

*NEIC **04** 11:24:49.1, 19°.09N×66°.52W, h108km, MD3.5(RSPR), After RSPR.*
RSPR 04 11:24:49.1, 19°.09N×66°.52W, h108km±9km, 6C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.77**	**197**	↑↑*e*P	Pn	11 25 07.8	-0.2
AOPR	**Arecibo Observ**	**0.77**	**197**	↑↑*e*P	Pn	11 25 07.8	-0.2
AOPR				*e*S	Sn	11 25 21.9	-0.3
CBYP	**Canovanas**	**1.03**	**142**	↑↑*e*P	Pn	11 25 10.3	-0.2
CBYP	**Canovanas**	**1.03**	**142**	↑↑*e*P	Pn	11 25 10.3	-0.2
CBYP				*e*S	Sn	11 25 26.4	-0.3
HUMP	**Col San Antoni**	**1.14**	**146**	*e*Pn	Pn	11 25 11.2	-0.6
CPD	**Cerro la Pandu**	**1.20**	**151**	*e*Pn	Pn	11 25 12.8	+0.4
MTP	**Monte Pirata**	**1.35**	**137**	↑↑*e*P	Pn	11 25 13.3	-0.8
MTP	**Monte Pirata**	**1.35**	**137**	↑↑*e*P	Pn	11 25 13.3	-0.8
MTP				*e*S	Sn	11 25 33.1	+0.1

*ISCJB **04** 11:55:05.5±1.1, 30°.41S±0°.05×71°.2W±0°.1, h92km±11km, mb3.7/4, Error ellipse: s-maj=17.8km s-min=7.9km az=170.1*
*IDC **04** 11:55:05.8±3.1, 30°.35S×71°.26W, h81km±32km, mb3.6/4, mb1 3.7/7, mb1mx3.6/16, mbtmp3.5/7, MS3.0/1, Ms1 3.0/1, ms1mx2.4/19, Error ellipse: s-maj=29.8km s-min=25.2km az=2.0*
*NEIC **04** 11:55:07.5±1.0, 30°.43S×71°.08W, h97km±10km, Error ellipse: s-maj=18.5km s-min=11.1km az=81.0*
ISC 04 11:55:07.1±0.9, 30°.38S±0°.05×71°.2W±0°.1, h88km±10km, n18, σ1°00/21, mb3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.43**	**17**	*e*Pn	**Pn**	**11 55 33.9**	**+1.9**
LCO				*e*Sn	**Sn**	**11 55 49.6**	**-1.0**
CFAA	**Coronel Fontan**	**2.81**	**116**	P	**Pn**	**11 55 48.4**	**-1.6**
	10.0nm,0.3s,baz=300,slow=12,SNR=434						
CFAA				S	**Sn**	**11 56 24.1**	**+1.1**
	7.9nm,0.3s,baz=104,slow=16,SNR=4.2						
CFAA	**Coronel Fontan**	**2.81**	**116**	P	**Pn**	**11 55 48.4**	**-1.6**
CFAA				S	**Sn**	**11 56 24.1**	**+1.1**
PLCA	**Paso Flores**	**10.34**	**177**	P	**Pn**	**11 57 32.6**	**+0.3**
	0.1nm,0.3s,baz=318,slow=15,SNR=2.5						
PLCA				S	**Sn**	**11 59 26.2**	**-0.2**
	0.2nm,0.3s,baz=214,slow=20,SNR=2.8						
PLCA	**Paso Flores**	**10.34**	**177**	P	**Pn**	**11 57 32.6**	**+0.3**
PLCA				S	**Sn**	**11 59 26.2**	**-0.2**
CPUP	**Villa Florida**	**12.85**	**75**	P	**Pn**	**11 58 05.3**	**-1.2**
	0.4nm,0.3s,baz=226,slow=11,SNR=2.5						
CPUP				LR	LR	12 03 29.5	
	comp=Z,61nm,18.8s,baz=178,slow=39						
CPUP	**Villa Florida**	**12.85**	**75**	P	**Pn**	**11 58 05.3**	**-1.1**
LPAZ	**La Paz**	**14.31**	**12**	*e*Pn	**Pn**	**11 58 26.2**	**+0.7**
TEIG	**Tepich**	**52.93**	**340**	P	**P**	**12 04 14.5**	**+0.2**
	4.3nm,0.8s,mb4.5,baz=274,slow=17,SNR=5.2						
TEIG	**Tepich**	**52.93**	**340**	P	**P**	**12 04 14.6**	**+0.2**
TXAR	**Lajitas Array**	**66.97**	**329**	P	**P**	**12 05 49.9**	**-0.4**
	0.3nm,0.6s,mb3.3,baz=165,slow=8.5,SNR=4.3						
TXAR	**Lajitas Array**	**66.97**	**329**	P	**P**	**12 05 49.9**	**-0.4**
PDAR	**Pinedale Array**	**80.88**	**332**	P	**P**	**12 07 10.4**	**-0.8**
	0.3nm,0.6s,mb3.3,baz=134,slow=6.4,SNR=3.6						
PDAR	**Pinedale Array**	**80.88**	**332**	P	**P**	**12 07 10.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**82.30**	**70**	P	**P**	**12 07 20.4**	**+1.1**
	0.6nm,0.6s,mb3.6,baz=262,slow=5.0,SNR=3.4						
TORD				pP	pP	12 07 36.7	-5.9
	0.6nm,0.4s,baz=291,slow=7.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**82.30**	**70**	P	**P**	**12 07 20.4**	**+1.1**
TORD				pP	pP	12 07 36.7	-5.9
ZALV	**Zalesovo Beam**	**150.76**	**29**	PKPbc	PKPbc	12 14 47.5	-1.1
	0.4nm,0.3s,baz=338,slow=6.2,SNR=3.0						
ZALV				PKPab	PKPab	12 14 53.2	-2.7
	0.7nm,0.5s,baz=322,slow=6.4,SNR=4.0						
ZALV				pPKPbc	pPKPbc	12 15 05.9	-7.2
	1.2nm,0.6s,baz=296,slow=2.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**150.76**	**29**	PKPbc	PKPbc	12 14 47.5	-1.1
ZALV				PKPab	PKPab	12 14 53.2	-2.7
ZALV				pPKPbc	pPKPbc	12 15 06.0	-7.2

*ISCJB **04** 11:57:05.9±0.5, 6°.79N±0°.07×72°.94W±0°.07, h173km±6km, mb3.6/7, Error ellipse: s-maj=15.1km s-min=6.8km az=137.3*
*FUNV **04** 11:57:06.6, 6°.78N×73°.11W, h177km, MW4.0*
*IDC **04** 11:57:06.5±1.3, 6°.74N×72°.93W, h165km±7km, mb3.4/8, mb1 3.7/9, mb1mx3.5/21, mbtmp3.5/9, MS3.7/1, Ms1 3.7/1, ms1mx2.8/22, Error ellipse: s-maj=31.4km s-min=11.0km az=105.0*
*NEIC **04** 11:57:07.0±0.8, 6°.73N×72°.93W, h171km±8km, Error ellipse: s-maj=18.1km s-min=12.4km az=116.0*
ISC 04 11:57:06.9±0.5, 6°.77N±0°.08×72°.91W±0°.07, h168km±7km, h169km±2.1km: pP-P, n39, σ0°76/40, mb3.6/7, 6C, Northern Colombia

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

WRA		PKPbc	PKPbc	12 16 39.1	-0.5

*JMA **04** 11:57:39.5±0.3,25°.04N×121°.90E,h45km*
*TAP **04** 11:57:40.8,24°.47N×121°.85E,h25km,ML3.2,D*
*ISCJB **04** 11:57:41.0±0.3,24°.46N±0°.02×121°.88E±0°.02,h27km±3km,*
Error ellipse: s-maj=3.9km s-min=2.8km az=137.5

ISC 04 11:57:41.2±0.3,24°.46N±0°.02×121°.88E±0°.02,h25km±3km,
n37,σ0°61/69,6C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.13**	**254**	⇑*i*P	**Pb**	**11 57 45.7**	**-0.4**
	baz=244						
ENA				S	**Sb**	**11 57 49.2**	**-0.2**
	baz=244						
TWC	**Suao**	**0.15**	**351**	*i* P	**Pb**	**11 57 46.1**	**-0.2**
	baz=5.0						
TWC				*i* S	**Sb**	**11 57 49.9**	**+0.2**
	baz=5.0						
TWE	**Neicheng**	**0.32**	**324**	⇑*i*P	**Pb**	**11 57 48.2**	**-0.4**
	baz=329						
TWE				S	**Sb**	**11 57 53.6**	**0.0**
	baz=329						
ILA	**Ilan**	**0.32**	**339**	P	**Pb**	**11 57 48.2**	**-0.4**
	baz=344						
ILA				S	**Sb**	**11 57 54.4**	**+0.8**
	baz=344						
ENTT	**Nioudou**	**0.33**	**302**	⇑*i*P	**Pb**	**11 57 48.2**	**-0.5**
	baz=304						
ENTT				S	**Sb**	**11 57 53.7**	**-0.2**
	baz=304						
NNS	**Nan Shan**	**0.46**	**267**	⇑*i*P	**Pb**	**11 57 50.0**	**-0.7**
	baz=265						
NNS				S	**Sb**	**11 57 57.1**	**-0.1**
	baz=265						
TWD	**Chiawan**	**0.46**	**214**	P	**Pb**	**11 57 50.1**	**-0.6**
	baz=209						
TWD				S	**Sb**	**11 57 57.8**	**+0.5**
	baz=209						
NSK	**Sanguang**	**0.52**	**294**	⇑*i*P	**Pb**	**11 57 51.0**	**-0.7**
	baz=295						
NSK				S	**Sb**	**11 57 58.6**	**-0.3**
	baz=295						
TWB1	**Santiao Chiao**	**0.55**	**11**	P	**Pb**	**11 57 52.4**	**+0.1**
	baz=14						
TWB1				S	**Sb**	**11 57 60.0**	**+0.1**
	baz=14						
NWF	**Wu-fen Shan**	**0.61**	**352**	P	**Pb**	**11 57 53.4**	**+0.1**
	baz=354						
NWF				S	**Sb**	**11 58 02.3**	**+0.7**
	baz=354						
WHF	**Hehuan Shan**	**0.64**	**240**	⇑*i*P	**Pb**	**11 57 53.2**	**-0.6**
	baz=238						
WHF				S	**Sb**	**11 58 02.3**	**0.0**
	baz=238						
TAP1	**Taipei**	**0.66**	**331**	*e*P	**Pb**	**11 57 53.9**	**-0.1**
	baz=332						
TAP1				*e*S	**Sb**	**11 58 03.3**	**+0.5**
	baz=332						
TWT	**Tachien**	**0.67**	**252**	*e*P	**Pb**	**11 57 54.3**	**0.0**
	baz=250						
TWT				*e*S	**Sb**	**11 58 03.7**	**+0.5**
	baz=250						
TWS1	**Kuangyinshan**	**0.76**	**327**	*e*P	**Pb**	**11 57 55.5**	**-0.3**
	baz=328						
TWS1				*e*S	**Sb**	**11 58 05.6**	**-0.1**
	baz=328						
ESL	**Shilin**	**0.76**	**212**	*e*P	**Pb**	**11 57 55.3**	**-0.6**
	baz=209						
ESL				*e*S	**Sb**	**11 58 06.4**	**+0.6**
	baz=209						
NCU	**National Centr**	**0.80**	**309**	*e*P	**Pb**	**11 57 56.3**	**-0.3**
	baz=310						
NCU				*e*S	**Sb**	**11 58 08.7**	**+1.7**
	baz=310						
NSTT	**Nanjuang**	**0.81**	**282**	*e*P	**Pb**	**11 57 56.4**	**-0.3**
	baz=281						
NSTT				S	**Sb**	**11 58 07.6**	**+0.3**
	baz=281						
TWY	**Chenhua**	**0.85**	**343**	*e*P	**Pb**	**11 57 56.5**	**-0.8**
	baz=344						
TWY				*e*S	**Sb**	**11 58 07.9**	**-0.3**
	baz=344						
HSN	**Hsinchu**	**0.89**	**292**	*e*P	**Pb**	**11 57 57.0**	**-1.0**
	baz=295						
HSN				*e*S	**Sb**	**11 58 08.3**	**-1.2**
	baz=295						
TWQ1	**Liyutan**	**1.01**	**264**	P	**Pn**	**11 58 00.6**	**+0.8**
	baz=262						
NSY	**Sanyi**	**1.02**	**268**	*e*S	**Sb**	**11 58 15.3**	**+2.2**
	baz=266						
YOJ	**Yonaguni jima**	**1.03**	**90**	P	**Pn**	**11 57 59.7**	**-0.4**
YOJ				*e*S	**Sb**	**11 58 14.7**	**+1.1**
SMLT	**Sun Moon Lake**	**1.06**	**237**	*e*P	**Pn**	**11 58 01.6**	**+1.2**
	baz=235						
EHY	**Hungye**	**1.08**	**208**	*e*P	**Pn**	**11 58 00.7**	**0.0**
	baz=206						
EHY				*e*S	**Sb**	**11 58 14.7**	**-0.2**
	baz=206						
TYC	**Yuchr**	**1.08**	**239**	*e*P	**Pn**	**11 58 01.0**	**+0.2**
	baz=237						
TYC				*e*S	**Sb**	**11 58 16.3**	**+1.3**
	baz=237						
TCU	**Taichung**	**1.14**	**254**	*e*P	**Pn**	**11 58 01.7**	**+0.2**
	baz=253						
TCU				*e*S	**Sn**	**11 58 16.4**	**+0.1**
	baz=253						
TWF1	**Yuli**	**1.23**	**206**	*e*P	**Pn**	**11 58 02.6**	**-0.2**
	baz=203						
TWF1				*e*S	**Sn**	**11 58 18.9**	**+0.4**
	baz=203						
WNT	**Mingjian**	**1.23**	**242**	*e*P	**Pn**	**11 58 02.7**	**-0.1**
	baz=240						
WNT				*e*S	**Sn**	**11 58 17.8**	**-0.9**
	baz=240						
YUS	**Yu-Shan**	**1.29**	**221**	*e*P	**Pn**	**11 58 03.9**	**+0.3**
	baz=219						
YUS				*e*S	**Sn**	**11 58 20.1**	**+0.1**
	baz=219						
ALS	**Alishan**	**1.36**	**226**	*e*P	**Pn**	**11 58 05.9**	**+1.2**
	baz=224						
ELDTW	**Lidau**	**1.49**	**212**	*e*P	**Pn**	**11 58 06.5**	**+0.1**
	baz=210						
ELDTW				*e*S	**Sn**	**11 58 24.7**	**-0.4**
	baz=210						
STYT	**Tauyuan**	**1.65**	**219**	*e*P	**Pn**	**11 58 08.2**	**-0.4**
	baz=217						
STYT				*e*S	**Sn**	**11 58 28.9**	**-0.1**
	baz=217						
IRIF	**Iriomote-Funau**	**1.70**	**94**	P	**Pn**	**11 58 09.1**	**-0.1**
IRIF				*e*S	**Sn**	**11 58 30.1**	**0.0**
CHN1	**Nanshi**	**1.77**	**224**	*e*P	**Pn**	**11 58 09.6**	**-0.7**
	baz=223						
CHN1				*e*S	**Sn**	**11 58 31.2**	**-0.8**
	baz=223						
JKRS	**Kuro-shima**	**1.96**	**96**	*e*S	**Sn**	**11 58 37.4**	**+0.8**
SSD	**Sandimen**	**2.06**	**214**	*e*P	**Pn**	**11 58 13.9**	**-0.2**
	baz=212						
SSD				*e*S	**Sn**	**11 58 39.2**	**+0.2**
	baz=212						
JIJ	**Ishigaki jima**	**2.07**	**92**	P	**Pn**	**11 58 14.2**	**-0.2**
JIJ				*e*S	**Sn**	**11 58 38.8**	**-0.5**

MAN 04 12:04:46,6°.04N×125°.00E,h27km,mb4.0,ML2.8,MS2.5,
2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.07**	**312**	⇑*e*P	Pb	12 04 54.7	+3.9
GSPH				*i* S	Sb	12 05 01.4	+7.5
CTBH	**Cotabato--PC H**	**1.40**	**327**	⇑*i*P	Pn	12 05 09.6	-0.1
BUKP	**Musuan**	**1.83**	**2**	*e*P	Pn	12 05 18.2	+2.5
BUKP				*e*S	Sn	12 05 31.3	-6.7
PAGZ	**Pagadian**	**2.41**	**318**	*e*P	Pn	12 05 25.6	+1.9
PAGZ				*e*S	Sn	12 05 40.0	-12

*NEIC **04** 12:10:49.4,15°.11N×93°.64W,h35km,MD4.0(MEX),After MEX.*

MEX 04 12:10:49.1±0.7,15°.09N×93°.63W,h33km±9km,MD4.0,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.73**	**33**	*e*P	Pn	12 11 00.8	-2.2
PCIG				*i* S	Sn	12 11 10.7	-2.3
PCIG		**0.73**	**33**	*e*P	Pn	12 11 00.8	-2.2
PCIG				*i* S	Sn	12 11 10.7	-2.3
THIG		**1.33**	**98**	*i* P	Pn	12 11 08.9	-2.4
THIG				*i* S	Sn	12 11 25.7	-2.2
THIG		**1.33**	**98**	*i* P	Pn	12 11 08.9	-2.4
THIG				*i* S	Sn	12 11 25.7	-2.2
TGIG		**1.75**	**16**	*e*P	Pn	12 11 15.4	-1.7
TGIG				*i* S	Sn	12 11 35.2	-3.0
TGIG		**1.75**	**16**	*e*P	Pn	12 11 15.4	-1.7
TGIG				*i* S	Sn	12 11 35.2	-3.0
CCIG	**Comitan**	**1.86**	**50**	*e*P	Pn	12 11 18.5	-0.2
CCIG				*i* S	Sn	12 11 38.1	-3.0
CCIG	**Comitan**	**1.86**	**50**	*e*P	Pn	12 11 18.1	-0.6
CCIG				*i* S	Sn	12 11 39.1	-1.9
CMIG	**Matias Romero**	**2.33**	**329**	*e*P	Pn	12 11 23.3	-1.8
CMIG				*i* S	Sn	12 11 50.2	-2.3
CMIG	**Matias Romero**	**2.33**	**329**	*e*P	Pn	12 11 23.3	-1.8
CMIG				*i* S	Sn	12 11 50.2	-2.3
HUIG	**Huatulco**	**2.48**	**286**	*e*P	Pn	12 11 26.5	-0.7
HUIG				*i* S	Sn	12 11 53.8	-2.6
HUIG	**Huatulco**	**2.48**	**286**	*e*P	Pn	12 11 26.5	-0.7
HUIG				*i* S	Sn	12 11 53.8	-2.6
VHO	**Vista Hermosa**	**3.58**	**304**	*i* P	Pn	12 11 42.3	+0.1
VHO				*i* S	Sn	12 12 21.6	-1.8
VHO	**Vista Hermosa**	**3.58**	**304**	*i* P	Pn	12 11 42.3	+0.1
VHO				*i* S	Sn	12 12 21.6	-1.8
PNIG	**Pinotepa**	**4.52**	**287**	*i* P	Pn	12 11 54.1	-1.1
PNIG				*i* S	Sn	12 12 44.3	-2.4
PNIG	**Pinotepa**	**4.52**	**287**	*i* P	Pn	12 11 54.1	-1.1
PNIG				*i* S	Sn	12 12 44.3	-2.4
UTMO	**Huajuapan**	**4.84**	**305**	*i* P	Pn	12 11 58.8	-0.9
UTMO				*i* S	Sn	12 12 52.0	-2.7
UTMO	**Huajuapan**	**4.84**	**305**	*i* P	Pn	12 11 58.8	-0.9
UTMO				*i* S	Sn	12 12 52.0	-2.7
TPIG	**Tehuac#an**	**4.87**	**313**	*i* S	Sn	12 12 53.2	-2.2

*NIED **04** 12:19:00,32°.60N×141°.00E,h59km,Mw3.7 Best double couple: M₀3.69000×10¹⁴ NP1:φs=173.00000°,δ75.00000°, λ72.00000°. NP2:φs=45.00000°,δ23.00000°,λ140.00000°.*
*IDC **04** 12:19:42.5±2.2,32°.01N×139°.85E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.5/24,mbtmp3.6/6,ML3.4/2,Error ellipse: s-maj=89.0km s-min=19.7km az=67.0*
*ISCJB **04** 12:19:44.5±0.9,32°.55N±0°.05×140°.99E±0°.08, h67km±10km,mb3.4/4,Error ellipse: s-maj=12.0km s-min=8.3km az=169.0*
*JMA **04** 12:19:45.4±0.2,32°.61N×140°.99E,h54km,M3.5*
*NEIC **04** 12:19:45.4,32°.61N×140°.99E,h54km,MG3.5(JMA),After JMA.*

ISC 04 12:19:45.6±0.8,32°.54N±0°.05×141°.01E±0°.08,h54km±11km,
n29,σ1°13/42,mb3.4/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.16**	**300**	P	**Pn**	**12 20 05.1**	**-0.4**
JHJ2				*e*S	**Sn**	**12 20 19.2**	**-1.1**
JMY	**Miyakejima3**	**1.98**	**321**	P	**Pn**	**12 20 16.2**	**-0.5**
BSO1	**Boso 1**	**2.11**	**359**	P	**Pn**	**12 20 17.1**	**-1.4**
BSO1				*e*S	**Sn**	**12 20 43.9**	**+0.3**
BSO3	**Boso 3**	**2.30**	**350**	P	**Pn**	**12 20 21.0**	**0.0**
BSO3				*e*S	**Sn**	**12 20 48.0**	**-0.1**
JIM2	**Oshima 3**	**2.54**	**329**	P	**Pn**	**12 20 24.2**	**-0.2**
JIM2				*e*S	**Sn**	**12 20 53.8**	**-0.4**
JIZS	**Izushimoda**	**2.81**	**321**	P	**Pn**	**12 20 28.6**	**+0.6**
JIZS				S	**Sn**	**12 20 59.6**	**-1.1**
JOD2	**Odawara 2**	**3.15**	**330**	P	**Pn**	**12 20 32.8**	**0.0**
JOD2				*e*S	**Sn**	**12 21 07.1**	**-2.1**
TK04	**Tokai 4**	**3.21**	**306**	P	**Pn**	**12 20 34.7**	**+1.3**
HMMJ	**Hamamatsu 2**	**3.59**	**311**	P	**Pn**	**12 20 39.6**	**+0.9**
HMMJ				*e*S	**Sn**	**12 21 19.1**	**-0.7**
JYN	**Shimob**	**3.59**	**326**	P	**Pn**	**12 20 40.4**	**+1.6**
JHU	**Hanno**	**3.60**	**337**	P	**Pn**	**12 20 39.8**	**+0.9**
JHU				*e*S	**Sn**	**12 21 17.1**	**-3.1**
JNY	**Yasuok**	**3.84**	**318**	P	**Pn**	**12 20 44.2**	**+2.0**
JRY	**Ryogami san**	**3.89**	**334**	P	**Pn**	**12 20 43.8**	**+1.0**
MJAR	**Matsushiro Arr**	**4.62**	**331**	Pn	**Pn**	**12 20 54.6**	**+1.9**
	1.8nm,0.3s,baz=162,slow=12,SNR=22						
MJAR				Sn	**Sn**	**12 21 44.3**	**-0.8**
	0.3nm,0.3s,baz=11,slow=35,SNR=1.5						
MJAR	**Matsushiro Arr**	**4.62**	**331**	Pn	**Pn**	**12 20 54.6**	**+1.8**
MJAR				Sn	**Sn**	**12 21 44.3**	**-0.8**
MAJO	**Matsushiro**	**4.62**	**331**	*e*Pn	**Pn**	**12 20 55.0**	**+2.2**
MAT	**Matsushiro**	**4.62**	**331**	P	**Pn**	**12 20 55.0**	**+2.2**
MAT				*e*S	**Sn**	**12 21 44.9**	**-0.2**
CBIJ	**Chichi jima**	**5.52**	**169**	Pn	**Pn**	**12 21 03.3**	**-1.9**
	2.7nm,0.3s,baz=266,slow=19,SNR=1.9						
CBIJ				Sn	**Sn**	**12 22 00.7**	**-6.6**
	5.0nm,0.3s,baz=223,slow=20,SNR=1.3						
CBIJ	**Chichi jima**	**5.52**	**169**	Pn	**Pn**	**12 21 03.3**	**-1.9**
CBIJ				Sn	**Sn**	**12 22 00.7**	**-6.6**
ERM	**Erimo**	**9.61**	**10**	Pn	**Pn**	**12 22 00.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**14.46**	**5**	*e*Pn	**Pn**	**12 23 06.4**	**-0.7**
SONM	**Songino Array**	**30.24**	**311**	P	**P**	**12 25 51.8**	**+0.7**
	0.2nm,0.5s,mb3.1,baz=110,slow=8.2,SNR=2.9						
SONM	**Songino Array**	**30.24**	**311**	P	**P**	**12 25 51.8**	**+0.7**
MKAR	**Makanchi Array**	**46.35**	**306**	P	**P**	**12 28 06.2**	**0.0**
	0.5nm,0.4s,mb3.8,baz=86,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**46.35**	**306**	P	**P**	**12 28 06.2**	**0.0**
WRA	**Warramunga Arr**	**52.57**	**188**	P	**P**	**12 28 52.8**	**-0.9**
	0.4nm,0.6s,mb3.6,baz=5.7,slow=7.8,SNR=6.8						
WRA	**Warramunga Arr**	**52.57**	**188**	P	**P**	**12 28 52.8**	**-0.9**
ASAR	**Alice Springs**	**56.30**	**188**	P	**P**	**12 29 20.4**	**-0.3**
	0.2nm,0.6s,mb3.3,baz=1.4,slow=7.5,SNR=4.9						
ASAR	**Alice Springs**	**56.30**	**188**	P	**P**	**12 29 20.4**	**-0.3**

DJA 04 12:24:28,2°.04N×126°.69E,h120km,MLv3.6/5,Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.43**	**152**	P	Pn	12 24 54.0	-0.7
MNI	**Manado**	**1.94**	**252**	P	Pn	12 25 01.4	+0.7
MNI				S	Sn	12 25 26.5	+0.7
SGSI	**Sangihe**	**2.00**	**325**	P	Pn	12 25 03.0	+1.5
SGSI				S	Sn	12 25 27.3	+0.1
LBMI	**Labuha**	**2.78**	**163**	P	Pn	12 25 12.9	+1.4
GTOI	**Gorontalo**	**3.93**	**249**	P	Pn	12 25 28.8	+2.1
WSI	**Waingapu**	**13.26**	**209**	P	Pn	12 27 28.5	-3.2

*DDA **04** 12:30:41.8,40°.70N×32°.82E,h11km±4km,Md3.4,Ml3.6*
*ISCJB **04** 12:30:42.2±0.5,40°.67N±0°.03×32°.81E±0°.03,h4km±4km,*
Error ellipse: s-maj=4.5km s-min=3.3km az=159.5
*CSEM **04** 12:30:42.3±0.1,40°.67N×32°.79E,h5km,ML3.6,Error ellipse: s-maj=3.6km s-min=2.7km az=152.0*
*ISK **04** 12:30:42.0,40°.65N×32°.80E,h5km,MD3.1*

ISC 04 12:30:42.8±0.4,40°.67N±0°.02×32°.79E±0°.03,h8km±4km,
n57,σ0°92/79,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.52**	**111**	*i* P	**Pg**	**12 30 52.2**	**-0.6**
ELDT				*i* S	**Sg**	**12 30 59.0**	**-0.5**
ELDT	**Eldivan**	**0.52**	**111**	*i* P	**Pg**	**12 30 52.2**	**-0.5**
ELDT				*i* S	**Sg**	**12 30 59.0**	**-0.5**
SGKT	**Sivrigoynuk**	**0.57**	**260**	*i* P	**Pg**	**12 30 53.3**	**-0.5**
SGKT				*i* S	**Sg**	**12 31 00.7**	**-0.5**
SGKT	**Sivrigoynuk**	**0.57**	**260**	*i* P	**Pg**	**12 30 53.3**	**-0.5**
SGKT				*i* S	**Sg**	**12 31 00.7**	**-0.5**
SAFT	**Safranbolu**	**0.57**	**352**	*e*PG	**Pg**	**12 30 54.1**	**+0.2**
SAFT				*e*SG	**Sg**	**12 31 02.5**	**+1.2**
SAFT	**Safranbolu**	**0.57**	**352**	*e*Pg	**Pg**	**12 30 54.1**	**+0.3**
SAFT				*e*Sg	**Sg**	**12 31 02.5**	**+1.2**
CANT	**Cankiri**	**0.63**	**96**	*e*PG	**Pg**	**12 30 55.0**	**+0.1**
CANT				*e*SG	**Sg**	**12 31 03.7**	**+0.6**
LOD	**Lodumlu**	**0.78**	**182**	*e*PG	**Pg**	**12 30 56.4**	**-1.4**
LOD	**Lodumlu**	**0.78**	**182**	*e*Pg	**Pg**	**12 30 56.4**	**-1.4**
ILGA	**Ilgaz**	**0.80**	**61**	*i* P	**Pg**	**12 30 57.4**	**-0.7**
ILGA				*i* S	**Sg**	**12 31 09.0**	**+0.6**
ILGA	**Ilgaz**	**0.80**	**61**	*i* P	**Pg**	**12 30 57.4**	**-0.7**
ILGA				*i* S	**Sg**	**12 31 09.0**	**+0.6**
BALT	**Daday**	**0.97**	**27**	*i* P	**Pg**	**12 31 00.1**	**-1.4**
BALT				*i* S	**Sg**	**12 31 13.0**	**-1.0**
BALT	**Daday**	**0.97**	**27**	*i* P	**Pg**	**12 31 00.1**	**-1.3**
BALT				*i* S	**Sg**	**12 31 13.0**	**-1.0**
TOS	**Tosya**	**1.00**	**68**	*e*PG	**Pg**	**12 31 00.9**	**-1.1**
TOS				*e*SG	**Sg**	**12 31 16.1**	**+1.1**
TOS	**Tosya**	**1.00**	**68**	*e*Pg	**Pg**	**12 31 00.9**	**-1.1**
TOS				*e*Sg	**Sg**	**12 31 16.1**	**+1.1**
BBAL	**Bala**	**1.16**	**167**	*i* P	**Pg**	**12 31 05.5**	**+0.5**
BBAL				*i* S	**Sg**	**12 31 21.6**	**+1.6**
BBAL	**Bala**	**1.16**	**167**	*i* P	**Pg**	**12 31 05.5**	**+0.5**
BBAL				*i* S	**Sg**	**12 31 21.6**	**+1.6**
KDZE	**Karadeniz Ereo**	**1.21**	**302**	*e*PN	**Pn**	**12 31 05.9**	**0.0**
KDZE	**Karadeniz Ereo**	**1.21**	**302**	*e*Pn	**Pn**	**12 31 05.9**	**0.0**
MDUB	**Mudurnu**	**1.23**	**261**	*e*PN	**Pn**	**12 31 05.9**	**-0.3**
MDUB	**Mudurnu**	**1.23**	**261**	*e*Pn	**Pn**	**12 31 05.9**	**-0.4**
AFSR	**Af´ar-Bala (A**	**1.24**	**170**	*e*PN	**Pn**	**12 31 05.8**	**-0.6**
AFSR	**Af´ar-Bala (A**	**1.24**	**170**	*e*Pn	**Pn**	**12 31 05.8**	**-0.6**
HENT	**Hendek**	**1.45**	**277**	*i* P	**Pn**	**12 31 08.5**	**-0.7**
HENT	**Hendek**	**1.45**	**277**	*i* P	**Pn**	**12 31 08.5**	**-0.7**
CORM	**Corum**	**1.49**	**109**	*e*PN	**Pn**	**12 31 09.7**	**0.0**
CORM	**Corum**	**1.49**	**109**	*e*Pn	**Pn**	**12 31 09.7**	**0.0**
CTKT	**Corum**	**1.52**	**91**	*i* P	**Pn**	**12 31 09.6**	**-0.6**
CTKT				*i* S	**Sn**	**12 31 28.4**	**-1.7**
CTKT	**Corum**	**1.52**	**91**	*i* P	**Pn**	**12 31 09.6**	**-0.6**
CTKT				*i* S	**Sn**	**12 31 28.4**	**-1.7**
SVRH	**Sivrihisar-ESK**	**1.57**	**219**	*e*PN	**Pn**	**12 31 10.7**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.57**	**219**	*e*Pn	**Pn**	**12 31 10.7**	**-0.1**
CDAG	**Cicekdag**	**1.60**	**130**	*i* P	**Pn**	**12 31 19.6**	**+8.3**
CDAG				*i* S	**Sn**	**12 31 39.9**	**+7.8**
BYBT	**Boyabat**	**1.69**	**61**	*e*PN	**Pn**	**12 31 12.8**	**+0.3**
BYBT	**Boyabat**	**1.69**	**61**	*e*Pn	**Pn**	**12 31 12.8**	**+0.2**
GULT	**Gulveren**	**1.75**	**263**	*e*PN	**Pn**	**12 31 14.4**	**+1.0**
GULT	**Gulveren**	**1.75**	**263**	*e*Pn	**Pn**	**12 31 14.4**	**+1.0**
BOYT	**Boyabat**	**1.76**	**64**	*i* P	**Pn**	**12 31 15.2**	**+1.7**
BOYT				*i* S	**Sn**	**12 31 35.8**	**-0.4**
BOYT	**Boyabat**	**1.76**	**64**	*i* P	**Pn**	**12 31 15.2**	**+1.7**
BOYT				*i* S	**Sn**	**12 31 35.8**	**-0.3**
ESKT	**Eskisehir**	**1.88**	**233**	*i* P	**Pn**	**12 31 14.4**	**-0.8**
SEYT	**Eskypehyr**	**1.88**	**233**	*i* P	**Pn**	**12 31 14.4**	**-0.8**
KIZT	**Kizilcal**	**1.92**	**202**	*e*PN	**Pn**	**12 31 15.8**	**+0.1**
KIZT	**Kizilcal**	**1.92**	**202**	*e*Pn	**Pn**	**12 31 15.8**	**0.0**
BORA	**Eskisehir**	**1.96**	**247**	*i* P	**Pn**	**12 31 19.4**	**+3.2**
BORA				*i* S	**Sn**	**12 31 44.9**	**+3.9**
DIKM	**Dikmen**	**2.10**	**62**	*e*PN	**Pn**	**12 31 18.7**	**+0.5**
DIKM	**Dikmen**	**2.10**	**62**	*e*Pn	**Pn**	**12 31 18.7**	**+0.5**
YOZ	**Yozgat**	**2.19**	**117**	*e*PN	**Pn**	**12 31 19.7**	**+0.3**
YOZ	**Yozgat**	**2.19**	**117**	*e*Pn	**Pn**	**12 31 19.7**	**+0.2**
KDHN	**Kadinhani**	**2.21**	**194**	*i* P	**Pn**	**12 31 20.5**	**+0.8**
KDHN				*i* S	**Sn**	**12 31 45.0**	**-2.2**
KDHN	**Kadinhani**	**2.21**	**194**	*i* P	**Pn**	**12 31 20.5**	**+0.8**
BOLV	**Bolvadin**	**2.42**	**217**	*i* P	**Pn**	**12 31 23.4**	**+0.9**
BOLV	**Bolvadin**	**2.42**	**217**	*i* P	**Pn**	**12 31 23.4**	**+0.9**
KVT	**Kavak**	**2.50**	**80**	*e*PN	**Pn**	**12 31 24.5**	**+0.8**
KVT	**Kavak**	**2.50**	**80**	*e*Pn	**Pn**	**12 31 24.5**	**+0.8**
SULT	**Sultanhani-AKS**	**2.53**	**167**	*e*PN	**Pn**	**12 31 24.5**	**+0.4**
SULT	**Sultanhani-AKS**	**2.53**	**167**	*e*Pn	**Pn**	**12 31 24.5**	**+0.4**
KONT	**Konya--Tatoy**	**2.74**	**187**	*e*PN	**Pn**	**12 31 27.9**	**+0.8**
KONT	**Konya--Tatoy**	**2.74**	**187**	*e*Pn	**Pn**	**12 31 27.9**	**+0.8**

*BYKL **04** 12:46:57.8±0.3,55°.28N×113°.52E,h14km±5km*

MOS 04 12:46:58.3±1.8,55°.28N×113°.53E,h7km,mb4.2/1,5C-2D,
Error ellipse: s-maj=25.5km s-min=16.0km az=96.8,
East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.22**	**15**	⇑*i*Pg	Pg	12 47 01.8	-0.8
	435nm,0.4s						
UKT				⇑*i*Pg	Pg	12 47 01.8	-0.8
	178nm,0.4s						
UKT				⇑*i*Pg	Pg	12 47 01.8	-0.8
	99nm,0.4s						
UKT				*i* Sg	Sg	12 47 04.8	-0.7
SVKR	**Severomuysk**	**0.84**	**1**	*e*PG	Pg	12 47 14.2	-0.2
SVKR				*e*		12 47 26.1	
SVKR				pmax	pmax		
	comp=Z,175nm,0.3s						
SVKR				smax			
	comp=E,1μm,0.6s						
SVKR	**Severomuysk**	**0.84**	**1**	⇑*i*Pg	Pg	12 47 14.2	-0.2
SVKR				*i* Sg	Sg	12 47 26.3	+1.0
SVKR				Pmax			
	comp=E,140nm,0.3s						
SVKR				Smax			
	comp=E,1μm,0.5s						
YOA	**Uoyan**	**1.33**	**311**	⇓*i*PG	Pg	12 47 22.4	-1.4
YOA				*e*		12 47 40.5	
YOA				pmax	pmax		
	comp=Z,366nm,0.2s						
YOA				smax			
	comp=N,968nm,0.3s						
YOA	**Uoyan**	**1.33**	**311**	*e*Pg	Pg	12 47 22.1	-1.7
YOA				*e*Sg	Sg	12 47 39.8	-1.3
YOA				Pmax			
	comp=N,365nm,0.2s						
YOA				Smax			
	comp=N,969nm,0.4s						
YLYR	**Ulyunkhan**	**1.42**	**254**	*e*PG	Pg	12 47 23.6	-1.9
YLYR				*e*		12 47 41.9	
YLYR				pmax	pmax		
	comp=Z,14nm,0.1s						
YLYR				smax			
	comp=E,471nm,0.4s						
YLYR	**Ulyunkhan**	**1.42**	**254**	*e*Pg	Pg	12 47 23.3	-2.2
YLYR				*e*Sg	Sg	12 47 42.5	-1.4
YLYR				Pmax			
	comp=E,56nm,0.3s						
YLYR				Smax			
	comp=E,467nm,0.

CRS				pmax	pmax		
	comp=Z,41nm,1.2s						
CRS				smax			
	comp=E,62nm,1.2s						
CRS	**Chara**	**3.11**	**57**	*e*Pn	Pn	12 47 46.8	-0.9
CRS				*e*Pg	Pg	12 47 53.6	-4.3
CRS				*e*Sg	Sg	12 48 35.3	-2.9
CRS				Pmax			
	comp=E,43nm,1.4s						
CRS				Smax			
	comp=E,94nm,2.7s						
CIT	**Chita**	**3.27**	**180**	*e*Sg	Sg	12 48 39.4	-3.7
CIT				Smax			
	comp=E,197nm,0.2s						
TUP	**Tupik**	**3.81**	**100**	*e*Pn	Pn	12 47 55.9	-1.4
TUP				*e*Pg	Pg	12 48 05.4	-5.8
TUP				*e*Sn	Sn	12 48 41.3	-1.0
TUP				*e*Sg	Sg	12 48 56.3	-4.3
TUP				Pmax			
	comp=E,15nm,0.4s						
TUP				Smax			
	comp=E,117nm,1.0s						
OGRR	**Ongureny**	**3.83**	**247**	*e*Pn	Pn	12 47 55.1	-2.5
OGRR				*e*Pg	Pg	12 48 05.0	-6.7
OGRR				*e*Sg	Sg	12 48 54.9	-6.4
OGRR				Smax			
	comp=E,115nm,2.4s						
UUDB	**Ulan-Yde**	**4.89**	**228**	*e*Sg	Sg	12 49 30.5	-4.7
UUDB				Smax			
	comp=E,48nm,1.8s						
TRG	**Tyrgan**	**4.93**	**242**	*e*Sg	Sg	12 49 29.1	-7.4
TRG				Smax			
	comp=E,73nm,2.4s						
FFNB	**Fofonovo**	**5.16**	**234**	*e*Sg	Sg	12 49 38.7	-5.3
FFNB				Smax			
	comp=E,28nm,0.8s						
HRMR	**Khuramsha**	**5.37**	**230**	*e*Sg	Sg	12 49 45.9	-4.6
HRMR				Smax			
	comp=E,139nm,1.1s						
KPC	**Khapcheranga**	**5.63**	**188**	*e*Sg	Sg	12 49 52.2	-6.7
KPC				Smax			
	comp=E,21nm,0.6s						
ARS	**Arshan**	**7.42**	**248**	*e*Sg	Sg	12 50 46.6	-10
ARS				Smax			
	comp=E,33nm,0.7s						
ORL	**Orlik**	**8.55**	**257**	*e*Sg	Sn	12 51 20.1	+41
ORL				Smax			
	comp=E,32nm,2.5s						

DJA 04 12:57:28, 4.39N×126.06E, h140km, mb4.2/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.88**	**217**	P	Pn	12 57 51.5	+0.7
SGSI				S	Sn	12 58 09.9	+1.8
SGSI	**Sangihe**	**0.88**	**217**	P	Pn	12 57 51.5	+0.7
	1μm,0.6s						
GSPH	**General Santos**	**2.02**	**327**	↑*i*P	Pn	12 58 00.0	-2.7
GSPH				*i*S	Sn	12 58 25.1	-4.3
MNI	**Manado**	**3.17**	**203**	S	Sn	12 58 58.4	+3.2
TNTI	**Ternate**	**3.82**	**160**	P	Pn	12 58 34.5	+8.8
TNTI				S	Sn	12 59 13.2	+2.7
KMSI	**Cibinong**	**4.32**	**209**	P	Pn	12 58 40.9	+8.6
GTOI	**Gorontalo**	**4.81**	**219**	P	Pn	12 58 38.7	-0.1
GTOI				S	Sn	12 59 34.5	+0.5
GTOI	**Gorontalo**	**4.81**	**219**	P	Pn	12 58 39.0	+0.2
	27nm,1.3s						
LBMI	**Labuha**	**5.20**	**164**	P	Pn	12 58 43.8	-0.1
	0.2nm1μm14nm,0.5s						
LBMI				S	Sn	12 59 44.6	+1.5
	0.2nm1μm14nm,0.5s						
LBMI	**Labuha**	**5.20**	**164**	P	Pn	12 58 44.9	+1.0
	1μm14nm,0.5s						
MRSI	**Marisa**	**5.66**	**227**	P	Pn	12 58 50.1	0.0
	0.1nm27nm,0.7s						
LUWI	**Luwuk**	**6.32**	**211**	P	Pn	12 59 01.8	+2.9
	39nm,0.9s						
LUWI	**Luwuk**	**6.32**	**211**	P	Pn	12 59 00.7	+1.8
	39nm,0.9s						
NLAI	**Namlea**	**7.65**	**172**	P	Pn	12 59 16.0	-0.8
	2μm28nm,0.6s						
NLAI	**Namlea**	**7.65**	**172**	P	Pn	12 59 16.0	-0.8
KDI	**Kendari**	**8.98**	**203**	P	Pn	12 59 32.9	-1.7

IDC 04 13:29:19.7±1.8, 8.66S×124.49E, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=240.2km s-min=29.8km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.72**	**141**	Pn	Pn	13 32 49.3	0.0
	0.2nm,0.3s,baz=317,slow=14,SNR=14						
WRA				Sn	Sn	13 35 23.6	-10
	0.8nm,0.3s,baz=47,slow=20,SNR=11						
ASAR	**Alice Springs**	**17.44**	**150**	P	Pn	13 33 24.8	+0.2
	0.2nm,0.3s,baz=324,slow=12,SNR=33						
ASAR				S	Sn	13 36 23.9	-15
	0.2nm,0.3s,baz=320,slow=23,SNR=12						
MKAR	**Makanchi Array**	**66.76**	**330**	P	P	13 40 13.4	+0.6
	0.5nm,0.5s,baz=128,slow=7.6,SNR=7.7						
ZALV	**Zalesovo Beam**	**70.77**	**336**	P	P	13 40 37.1	-0.6
	0.5nm,0.5s,baz=128,slow=9.6,SNR=3.5						

*BJI **04** 13:57:40.8, 31.29N×103.58E, h9km, mB5.0/6, mb4.5/13, ML4.2/19, Ms4.5/14, Ms7 4.2/10*
*IDC **04** 13:57:40.1±0.7, 31.23N×103.52E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/26, mbtmp4.0/14, ML3.3/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/27, Error ellipse: s-maj=26.2km s-min=14.3km az=58.0*
*MOS **04** 13:57:41.2±1.0, 31.19N×103.48E, h21km, mb4.5/21, Error ellipse: s-maj=10.3km s-min=7.5km az=105.7*
*NEIC **04** 13:57:41.5±0.4, 31.19N×103.35E, h10km, mb4.8/15, Error ellipse: s-maj=7.5km s-min=5.9km az=169.0*
ISC 04 13:57:40.3±1.1, 31.21N±0.03×103.42E±0.03, h1km±7km, n112, σ1§27/122, mb4.3/25, MS3.7/9, 1C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.42**	**136**	↑*i*Pg	**Pg**	**13 57 50.9**	**+2.6**
CD2				Sg	**Sg**	**13 57 58.6**	**+4.9**
CD2				smax			
	comp=N,48μm,0.8s						
CD2				smax			
	comp=E,49μm,1.3s						
LZH	**Lanzhou**	**4.87**	**4**	Pg	**Pg**	**13 59 11.8**	**-1.9**
LZH				Sg	**Sg**	**14 00 13.1**	**-3.8**
LZH				smax			
	comp=N,2μm,1.5s						
LZH				smax			
	comp=E,2μm,1.5s						
LZH				LR	LR		
	comp=N,3μm,5.4s						
LZH				LR	LR		
	comp=E,3μm,4.8s						
LZH				LR	LR		
	comp=Z,3μm,5.8s						
ENH	**Enshi**	**5.30**	**99**	*e*Pn	**Pn**	**13 59 01.1**	**+0.5**
	comp=Z,134nm,0.7s						
XAN	**Xi'an**	**5.43**	**57**	Pn	**Pn**	**13 59 02.6**	**+0.2**
XAN				Pg	**Pg**	**13 59 19.1**	**-5.2**
XAN				Sg	**Sg**	**14 00 27.2**	**-7.5**
XAN				smax			
	comp=N,260nm,1.0s						
XAN				smax			
	comp=E,120nm,0.9s						
XAN				LR	LR		
	comp=N,2μm,11.7s						
XAN				LR	LR		
	comp=E,320nm,11.2s						
XAN				LR	LR		
	comp=Z,320nm,10.8s						
GYA	**Guiyang**	**5.53**	**148**	Pn	**Pn**	**13 59 05.6**	**+1.9**
GYA				Pg	**Pg**	**13 59 23.6**	**-2.6**
GYA				Sn	**Sn**	**14 00 07.2**	**-0.7**
GYA				smax			
	comp=N,490nm,1.0s						
GYA				smax			
	comp=E,550nm,0.9s						
GYA				LR	LR		
	comp=N,1μm,5.2s						
GYA				LR	LR		
	comp=E,2μm,5.7s						
GYA				LR	LR		
	comp=Z,2μm,3.4s						
KMI	**Kunming**	**6.10**	**186**	Pn	**Pn**	**13 59 13.5**	**+1.9**
KMI				Sn	**Sn**	**14 00 23.9**	**+1.9**
KMI				smax			
	comp=N,160nm,1.6s						
KMI				smax			
	comp=E,95nm,1.3s						
KMI				LR	LR		
	comp=N,1μm,7.4s						
KMI				LR	LR		
	comp=E,4μm,9.1s						
KMI	**Kunming**	**6.10**	**186**	Pn	**Pn**	**13 59 13.5**	**+1.9**
KMI				Sn	**Sn**	**14 00 23.9**	**+1.9**
KMI	**Kunming**	**6.10**	**186**	P	**Pn**	**13 59 13.5**	**+1.9**
KMI						14 00 23.9	
GTA	**Gaotai**	**8.69**	**341**	*e*P	**Pn**	**13 59 49.8**	**+2.6**
GTA				pP		13 59 54.1	
GTA				sP		13 59 55.9	
GTA				S	**Sn**	**14 01 32.5**	**+6.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=N,610nm,12.2s						
GTA				LR	LR		
	comp=E,740nm,6.5s						
GTA				LR	LR		
	comp=Z,900nm,10.7s						
WHN	**Wuhan**	**9.42**	**91**	P	**Pn**	**13 59 57.1**	**0.0**
WHN				S	**Sn**	**14 01 42.2**	**-1.4**
WHN				LR	LR		
	comp=N,2μm,6.8s						
WHN				LR	LR		
	comp=E,2μm,5.3s						
WHN				LR	LR		
	comp=Z,2μm,6.0s						
LSA	**Lhasa**	**10.70**	**265**	*e*Pn	**Pn**	**14 00 17.7**	**+3.0**
LSA	**Lhasa**	**10.70**	**265**	*e*P	**Pn**	**14 00 17.7**	**+3.0**
SHL	**Shillong**	**11.61**	**244**	*e*PKP	**Pn**	**14 00 29.0**	**+1.8**
CHTO	**Chiang Mai**	**12.99**	**199**	*e*Pn	**Pn**	**14 00 52.6**	**+6.5**
CHTO	**Chiang Mai**	**12.99**	**199**	*e*P	**Pn**	**14 00 52.6**	**+6.5**
CMAR	**Chiang Mai Arr**	**13.33**	**199**	Pn	**Pn**	**14 00 52.9**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=11,slow=11,SNR=7.3						
CMAR				LR	LR	14 06 23.2	
	comp=Z,220nm,19.4s,baz=230,slow=39						
CMAR	**Chiang Mai Arr**	**13.33**	**199**	Pn	**Pn**	**14 00 52.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**13.33**	**199**	P	**Pn**	**14 00 52.9**	**+2.1**
CMAR				MLR	MLR		
	comp=Z,220nm,19.4s						
QIZ	**Qiongzhong**	**13.45**	**153**	P	**Pn**	**14 00 50.6**	**-1.7**
QIZ				S	**Sn**	**14 03 19.1**	**-3.4**
QIZ				pmax	pmax		
	comp=Z,11nm,2.0s						
QIZ				LR	LR		
	comp=N,480nm,4.0s						
QIZ				LR	LR		
	comp=E,190nm,4.2s						
QIZ				LR	LR		
	comp=Z,590nm,12.4s						
TAPN	**Taplejung**	**14.24**	**258**	*e*P	**Pn**	**14 01 03.4**	**+0.3**
	comp=Z,32nm,0.9s						
TAPN	**Taplejung**	**14.24**	**258**	*e*P	**Pn**	**14 01 03.4**	**+0.3**
	comp=Z,32nm,0.9s						
ODAN	**Odare**	**14.68**	**257**	*e*P	**Pn**	**14 01 08.9**	**-0.2**
	comp=Z,24nm,0.7s						
ODAN	**Odare**	**14.68**	**257**	*e*P	**Pn**	**14 01 08.9**	**-0.2**
	comp=Z,24nm,0.7s						
RAMN	**Ramite**	**15.31**	**258**	*e*P	**Pn**	**14 01 16.7**	**-0.9**
RAMN	**Ramite**	**15.31**	**258**	*e*P	**Pn**	**14 01 16.7**	**-0.9**
JIRN	**Jiri**	**15.43**	**261**	*e*P	**Pn**	**14 01 18.5**	**-0.6**
	comp=Z,15nm,1.0s						
JIRN	**Jiri**	**15.43**	**261**	*e*P	**Pn**	**14 01 18.5**	**-0.6**
	comp=Z,15nm,1.0s						
GUN	**Gumba**	**15.62**	**262**	*e*P	**Pn**	**14 01 20.6**	**-1.0**
	comp=Z,164nm,1.2s						
GUN	**Gumba**	**15.62**	**262**	*e*P	**Pn**	**14 01 20.6**	**-1.0**
	comp=Z,164nm,1.2s						
PKI	**Pulchoki**	**16.11**	**262**	*e*P	**Pn**	**14 01 26.9**	**-1.2**
	comp=Z,66nm,0.8s						
PKI	**Pulchoki**	**16.11**	**262**	*e*P	**Pn**	**14 01 26.9**	**-1.2**
	comp=Z,66nm,0.8s						
PKI	**Pulchoki**	**16.11**	**262**	*e*P	**Pn**	**14 01 26.9**	**-1.2**
PKI				pmax	pmax		
	comp=Z,66nm,0.8s						
KKN	**Kakani**	**16.16**	**262**	*e*P	**Pn**	**14 01 27.1**	**-1.6**
	comp=Z,145nm,0.9s						
KKN	**Kakani**	**16.16**	**262**	*e*P	**Pn**	**14 01 27.1**	**-1.6**
	comp=Z,145nm,0.9s						
KKN	**Kakani**	**16.16**	**262**	*e*P	**Pn**	**14 01 27.1**	**-1.6**
KKN				pmax	pmax		
	comp=Z,145nm,0.9s						
DMN	**Daman**	**16.36**	**262**	*e*P	**Pn**	**14 01 29.8**	**-1.5**
	comp=Z,142nm,0.9s						
DMN	**Daman**	**16.36**	**262**	*e*P	**Pn**	**14 01 29.8**	**-1.5**
	comp=Z,142nm,0.9s						
GKN	**Gorkha**	**16.65**	**264**	*e*P	**Pn**	**14 01 33.4**	**-1.5**
	comp=Z,263nm,0.9s						
GKN	**Gorkha**	**16.65**	**264**	*e*P	**Pn**	**14 01 33.4**	**-1.5**
	comp=Z,263nm,0.9s						
SONM	**Songino Array**	**16.75**	**7**	Pn	**Pn**	**14 01 36.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=183,slow=9.9,SNR=15						
SONM				LR	LR	14 08 42.2	
	comp=Z,328nm,18.5s,baz=0.2,slow=40						
SONM	**Songino Array**	**16.75**	**7**	Pn	**Pn**	**14 01 36.1**	**-0.1**
SONM	**Songino Array**	**16.75**	**7**	P	**Pn**	**14 01 36.1**	**0.0**
SONM				MLR	MLR		
	comp=Z,328nm,18.5s						
DANN	**Dangsing**	**17.31**	**266**	*e*P	**Pn**	**14 01 41.5**	**-1.7**
	comp=Z,121nm,1.4s						
DANN	**Dangsing**	**17.31**	**266**	*e*P	**Pn**	**14 01 41.5**	**-1.7**
	comp=Z,121nm,1.4s						
KOLN	**Koldanda**	**17.59**	**264**	*e*P	**Pn**	**14 01 44.5**	**-2.3**
	comp=Z,65nm,1.0s						
KOLN	**Koldanda**	**17.59**	**264**	*e*P	**Pn**	**14 01 44.5**	**-2.3**
	comp=Z,65nm,1.0s						
PYUN	**Piuthan**	**18.03**	**265**	*e*P	**Pn**	**14 01 50.0**	**-2.2**
	comp=Z,101nm,1.1s						
PYUN	**Piuthan**	**18.03**	**265**	*e*P	**Pn**	**14 01 50.0**	**-2.2**
	comp=Z,101nm,1.1s						
ZAK	**Zakamensk**	**19.15**	**360**	*e*P	**Pn**	**14 02 06.1**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
IRK	**Irkutsk**	**21.02**	**1**	*e*P	**P**	**14 02 32.8**	**+7.6**
IRK				pmax	pmax		
	comp=Z,43nm,1.8s,mb4.5						
KSAR	**Wonju Array Be**	**21.11**	**66**	P	**P**	**14 02 26.3**	**0.0**
KSAR	**Wonju Array Be**	**21.11**	**66**	P	**P**	**14 02 26.3**	**0.0**
KSRS	**Korea Array**	**21.14**	**66**	P	**P**	**14 02 26.3**	**-0.4**
	comp=Z,10.0nm,0.7s,mb4.3,baz=258,slow=10.0,SNR=34						
KSRS				LR	LR	14 10 59.8	
	comp=Z,84nm,20.6s,MS3.1,baz=172,slow=38						
KSRS	**Korea Array**	**21.14**	**66**	P	**P**	**14 02 26.3**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
KSRS				MLR	MLR		
	comp=Z,84nm,20.6s,MS3.1						
HVS	**Khovu-Aksy**	**21.17**	**343**	*e*P	**P**	**14 02 26.8**	**0.0**
HVS				pmax	pmax		
	comp=Z,42nm,0.9s,mb4.8						
HIA	**Hailar**	**21.83**	**30**	*e*P	**P**	**14 02 34.1**	**+0.1**
	comp=Z,8.4nm,0.8s,mb4.2						
HIA	**Hailar**	**21.83**	**30**	*e*P	**P**	**14 02 34.1**	**+0.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MK31	**Makanchi Array**	**22.52**	**320**	*e*P	**P**	**14 02 43.2**	**+1.8**
MK31	**Makanchi Array**	**22.52**	**320**	*e*P	**P**	**14 02 43.2**	**+1.9**
MKAR	**Makanchi Array**	**22.52**	**320**	P	**P**	**14 02 42.5**	**+1.1**
	comp=Z,2.8nm,0.9s,mb3.8,baz=121,slow=12,SNR=9.8						
MKAR				LR	LR	14 12 19.4	
	comp=Z,205nm,18.8s,MS3.6,baz=351,slow=39						
MKAR	**Makanchi Array**	**22.52**	**320**	P	**P**	**14 02 42.5**	**+1.1**
MKAR	**Makanchi Array**	**22.52**	**320**	P	**P**	**14 02 42.5**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,205nm,18.8s						
TKM2	**Tokmak 2**	**24.97**	**306**	*e*P	**P**	**14 03 06.8**	**+1.5**
	comp=Z,6.2nm,1.1s,mb4.2						
TKM2	**Tokmak 2**	**24.97**	**306**	*e*P	**P**	**14 03 06.8**	**+1.5**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
FRU	**Bishkek**	**25.63**	**305**	*e*P	**P**	**14 03 16.0**	**+4.7**
AAK	**Ala-Archa**	**25.66**	**304**	*e*P	**P**	**14 03 12.8**	**+1.2**
	comp=Z,49nm,1.0s,mb5.1						
AAK	**Ala-Archa**	**25.66**	**304**	*e*P	**P**	**14 03 12.8**	**+1.2**
AAK				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.1						
ZALV	**Zalesovo Beam**	**26.37**	**335**	P	**P**	**14 03 17.6**	**-0.3**
	comp=Z,3.9nm,0.9s,mb4.0,baz=134,slow=8.5,SNR=17						
ZALV				LR	LR	14 14 09.5	
	comp=Z,148nm,18.6s,MS3.6,baz=244,slow=38						
ZALV	**Zalesovo Beam**	**26.37**	**335**	P	**P**	**14 03 17.6**	**-0.3**
ZALV	**Zalesovo Beam**	**26.37**	**335**	P	**P**	**14 03 17.6**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ZALV				MLR	MLR		
	comp=Z,148nm,18.6s,MS3.6						
KURK	**Kurchatov**	**26.81**	**324**	P	**P**	**14 03 22.1**	**+0.2**
	comp=Z,7.2nm,1.0s,mb4.4,baz=129,slow=9.4,SNR=18						
KURK				LR	LR	14 14 32.4	
	comp=Z,162nm,20.1s,MS3.6,baz=130,slow=38						
KURK	**Kurchatov**	**26.81**	**324**	P	**P**	**14 03 22.1**	**+0.2**
KURK				*e*P		14 03 22.3	
KURK	**Kurchatov**	**26.81**	**324**	P	**P**	**14 03 22.1**	**+0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
KURK				MLR	MLR		
	comp=Z,162nm,20.1s,MS3.6						
BRVK	**Borovoye**	**32.42**	**322**	*e*P	**P**	**14 04 13.5**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
YAK	**Yakutsk**	**35.21**	**21**	*e*P	**P**	**14 04 36.1**	**+0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
SVE	**Sverdlovsk**	**39.06**	**324**	*e*P	**P**	**14 05 14.3**	**+5.7**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
ARU	**Arti**	**39.99**	**322**	*e*P	**P**	**14 05 16.9**	**+0.6**
	comp=Z,11nm,1.1s,mb4.4						
ARU	**Arti**	**39.99**	**322**	*d*i P	**P**	**14 05 16.2**	**-0.1**
ARU				*e*		14 06 46.2	
ARU				S	**S**	**14 11 21.5**	**-0.9**
ARU				SS	SS	14 14 13.8	-5.1
ARU				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.2						
GNI	**Garni**	**47.73**	**298**	*e*P	**P**	**14 06 20.9**	**+2.1**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KIV	**Kislovodsk**	**48.76**	**303**	*e*P	**P**	**14 06 27.2**	**+0.5**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=Z,60nm,16.0s,MS3.7						
VSR	**Storozhevoye**	**50.58**	**313**	*e*P	**P**	**14 06 39.4**	**-1.0**
VSR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
VSR				pmax	pmax		
	comp=N,5.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,9.0nm,0.9s						
BRTR	**Keskin Array B**	**56.18**	**299**	P	**P**	**14 07 22.1**	**+0.3**
	comp=E,0.7nm,0.7s,mb3.8,baz=106,slow=7.7,SNR=3.3						
BRTR	**Keskin Array B**	**56.18**	**299**	P	**P**	**14 07 22.1**	**+0.4**
BRTR	**Keskin Array B**	**56.18**	**299**	P	**P**	**14 07 22.1**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**56.92**	**336**	P	**P**	**14 07 27.9**	**+1.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=87,slow=7.7,SNR=4.8						
ARCES				LR	LR	14 33 54.2	
	comp=Z,102nm,19.2s,MS3.9,baz=4.7,slow=38						
ARCES	**ARCESS Array B**	**56.92**	**336**	P	**P**	**14 07 27.9**	**+1.3**
ARCES	**ARCESS Array B**	**56.92**	**336**	P	**P**	**14 07 27.9**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,102nm,19.2s						
FINES	**FINESS Array B**	**57.15**	**326**	LR	LR	14 33 11.0	
	comp=Z,61nm,18.1s,MS3.7,baz=71,slow=37						
WRAB	**Tennant Creek**	**58.89**	**146**	*e*P	**P**	**14 07 40.2**	**-0.8**
	comp=Z,6.9nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**58.89**	**146**	*e*P	**P**	**14 07 40.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**58.89**	**146**	P	**P**	**14 07 40.8**	**-0.2**
	comp=Z,5.1nm,0.9s,mb4.6,baz=338,slow=7.6,SNR=29						
WRA	**Warramunga Arr**	**58.89**	**146**	P	**P**	**14 07 40.8**	**-0.2**
WRA	**Warramunga Arr**	**58.89**	**146**	P	**P**	**14 07 40.8**	**-0.2**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WB2	**Warramunga Arr**	**58.90**	**146**	*e*P	**P**	**14 07 40.5**	**-0.6**
ASAR	**Alice Springs**	**61.89**	**148**	P	**P**	**14 08 01.4**	**-0.1**
	comp=Z,1.0nm,0.7s,mb4.2,baz=346,slow=6.6,SNR=17						
ASAR	**Alice Springs**	**61.89**	**148**	P	**P**	**14 08 01.4**	**-0.1**
ASAR	**Alice Springs**	**61.89**	**148**	P	**P**	**14 08 01.4**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**64.25**	**327**	LR	LR	14 38 35.0	
	comp=Z,39nm,18.1s,MS3.6,baz=235,slow=38						
GERES	**GERESS Array B**	**67.05**	**314**	P	**P**	**14 08 35.1**	**0.0**
	comp=Z,0.8nm,0.7s,mb4.0,baz=76,slow=5.6,SNR=4.8						
GERES				LR	LR	14 39 23.2	
	comp=Z,121nm,19.8s,MS4.1,baz=273,slow=37						
GERES	**GERESS Array B**	**67.05**	**314**	P	**P**	**14 08 35.1**	**0.0**
GERES	**GERESS Array B**	**67.05**	**314**	P	**P**	**14 08 35.1**	**+0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,121nm,19.8s						
COLA	**College**	**69.58**	**26**	*e*P	**P**	**14 08 50.0**	**-0.6**
	comp=Z,4.9nm,0.8s,mb4.7						
COLA	**College**	**69.58**	**26**	*e*P	**P**	**14 08 50.0**	**-0.6**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**69.99**	**25**	P	**P**	**14 08 52.4**	**-0.7**
	comp=Z,1.7nm,1.0s,mb4.1,baz=282,slow=6.8,SNR=11						
ILAR	**Eielson Array**	**69.99**	**25**	P	**P**	**14 08 52.4**	**-0.7**
ILAR	**Eielson Array**	**69.99**	**25**	P	**P**	**14 08 52.4**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**72.42**	**147**	P	**P**	**14 09 07.5**	**-0.7**
	comp=Z,2.8nm,0.9s,mb4.4,baz=297,slow=10,SNR=5.2						
STKA	**Stephens Creek**	**72.42**	**147**	P	**P**	**14 09 07.5**	**-0.7**
STKA	**Stephens Creek**	**72.42**	**147**	P	**P**	**14 09 07.5**	**-0.7**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**81.76**	**17**	P	**P**	**14 10 00.3**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.8,baz=325,slow=5.2,SNR=3.8						
YKA	**Yellowknife Ar**	**81.76**	**17**	P	**P**	**14 10 00.3**	**-0.1**
YKA	**Yellowknife Ar**	**81.76**	**17**	P	**P**	**14 10 00.3**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **04** 15:07:39.8, 17.12N×101.06W, h11km, MD3.9(MEX), After MEX.*
MEX 04 15:07:39.3±0.6, 17.16N×101.03W, h6km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.61**	**317**	*i* P	Pg	15 07 50.4	-0.6
ZIIG				*i* S	Sg	15 07 58.9	-0.1
ZIIG	**Zih

UTMO				*i* S	Sn	15 09 04.0	-3.4
UTMO	**Huajuapan**	**3.15**	**77**	*i* P	Pn	15 08 27.2	-2.3
UTMO				*i* S	Sn	15 09 06.7	-0.7

KRSC 04 15:16:21.0±0.4, 50°.35N×159°.27E, h10km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.14**	**347**	*e*P	Pn	15 16 57.4	+0.7
RUS				*e*S	Sn	15 17 24.9	+1.6
GRL	**Gorelyy**	**2.33**	**342**	*e*P	Pn	15 17 00.5	+1.2
MIPR	**Malaya Ipel'ka**	**2.49**	**322**	P	Pn	15 17 01.3	-0.2
PET	**Petropavlovsk**	**2.71**	**352**	*e*P	Pn	15 17 06.2	+1.7
PET				*e*S	Sn	15 17 39.7	+2.5
SPN	**Mys Shipunski**	**2.79**	**9**	S	Sn	15 17 40.6	+1.2
NLC	**Nalytchevo**	**2.83**	**1**	P	Pn	15 17 07.0	+0.9
NLC				*e*S	Sn	15 17 41.2	+1.0
AVH	**Avacha**	**2.94**	**354**	*e*P	Pn	15 17 09.9	+2.2
AVH				S	Sn	15 17 44.3	+1.3
SDLR	**Sedlovina**	**2.94**	**355**	*e*P	Pn	15 17 09.2	+1.5
SDLR				S	Sn	15 17 43.9	+0.8
GNL	**Ganaly**	**3.45**	**347**	*e*P	Pn	15 17 17.4	+2.7
KBTR	**Krutoberegovo**	**6.24**	**19**	P	Pn	15 17 56.6	+3.6

IDC 04 15:17:33.4±1.3, 17°.95N×146°.20E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.4/20, mbtmp3.2/4, Error ellipse: s-maj=58.1km s-min=24.3km az=97.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.42**	**198**	P	P	15 25 05.4	+0.2
	0.2nm,0.4s,baz=20,slow=8.4,SNR=5.8						
ASAR	**Alice Springs**	**43.07**	**197**	P	P	15 25 35.0	-0.3
	0.1nm,0.4s,baz=19,slow=6.6,SNR=6.0						
SONM	**Songino Array**	**44.02**	**322**	P	P	15 25 42.8	+0.1
	0.2nm,0.6s,baz=103,slow=6.4,SNR=2.1						
ILAR	**Eielson Array**	**64.10**	**26**	P	P	15 28 09.2	+0.1
	0.2nm,0.6s,baz=246,slow=5.7,SNR=5.1						

*ISCJB **04** 15:27:44.9±0.7, 16°.2S±0°.2×176°.4W±0°.1, h397km±10km, mb3.5/9, Error ellipse: s-maj=31.9km s-min=11.2km az=149.5*
*IDC **04** 15:27:44.4±1.4, 16°.10S×176°.55W, h374km±17km, mb3.3/8, mb1 3.5/9, mb1mx3.3/18, mbtmp3.3/9, Error ellipse: s-maj=29.4km s-min=12.5km az=138.0*
*NEIC **04** 15:27:45.5±0.7, 16°.21S×176°.43W, h394km±7km, mb4.1/2, Error ellipse: s-maj=20.9km s-min=9.0km az=146.0*
ISC 04 15:27:45.6±0.7, 16°.2S±0°.2×176°.4W±0°.1, h388km±9km, n29, σ1§06/25, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.01**	**64**	P	**Pn**	**15 29 07.3**	**+0.1**
	8.5nm,0.3s,baz=30,slow=1.7,SNR=26						
AFI				S	**S**	**15 30 12.7**	**-0.6**
	1.6nm,0.3s,baz=15,slow=23,SNR=2.8						
AFI	**Afiamalu**	**5.01**	**64**	P	**Pn**	**15 29 07.3**	**+0.1**
AFI				S	**S**	**15 30 12.7**	**-0.6**
MSVF	**Nonsavu**	**5.52**	**253**	*e*Pn	**Pn**	**15 29 13.3**	**+0.8**
	23nm,0.9s						
URZ	**Urewera**	**22.72**	**193**	P	**P**	**15 32 15.2**	**-0.2**
	3.4nm,0.4s,mb4.2,baz=344,slow=7.4,SNR=9.3						
URZ	**Urewera**	**22.72**	**193**	*e*P	**P**	**15 32 14.7**	**-0.7**
EIDS	**Eidsvold**	**31.67**	**248**	P	**P**	**15 33 36.7**	**+1.9**
CTAO	**Charters Tower**	**35.65**	**258**	P	**P**	**15 34 10.4**	**+1.7**
	8.9nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**41.14**	**240**	P	**P**	**15 34 53.3**	**-0.5**
	1.9nm,0.9s,mb3.4,baz=82,slow=15,SNR=3.8						
STKA	**Stephens Creek**	**41.14**	**240**	P	**P**	**15 34 53.1**	**-0.7**
	0.1nm,0.4s,mb2.5						
WRAB	**Tennant Creek**	**46.84**	**258**	*e*P	**P**	**15 35 37.3**	**-1.4**
WRA	**Warramunga Arr**	**46.85**	**258**	P	**P**	**15 35 37.7**	**-1.0**
	0.2nm,0.3s,mb2.9,baz=96,slow=5.9,SNR=25						
WRA	**Warramunga Arr**	**46.85**	**258**	P	**P**	**15 35 37.7**	**-1.0**
AS31	**Alice Springs**	**47.12**	**253**	*e*P	**P**	**15 35 39.9**	**-0.8**
ASAR	**Alice Springs**	**47.12**	**253**	P	**P**	**15 35 40.1**	**-0.6**
	2.0nm,0.5s,mb3.7,baz=88,slow=7.6,SNR=117						
ASAR	**Alice Springs**	**47.12**	**253**	P	**P**	**15 35 40.1**	**-0.6**
PETK	**Petropavlovsk-**	**72.53**	**344**	P	**P**	**15 38 30.4**	**-0.7**
	2.6nm,0.8s,mb3.8,baz=137,slow=9.5,SNR=6.2						
PETK	**Petropavlovsk-**	**72.53**	**344**	P	**P**	**15 38 30.4**	**-0.7**
NVAR	**Mina Array Bea**	**76.86**	**43**	P	**P**	**15 38 56.6**	**+0.7**
	0.2nm,0.3s,mb3.2,baz=226,slow=8.7,SNR=2.8						
NVAR	**Mina Array Bea**	**76.86**	**43**	P	**P**	**15 38 56.6**	**+0.7**
TXAR	**Lajitas Array**	**83.46**	**57**	P	**P**	**15 39 33.2**	**+2.2**
	0.6nm,0.9s,mb3.3,baz=211,slow=4.4,SNR=3.9						
TXAR	**Lajitas Array**	**83.46**	**57**	P	**P**	**15 39 33.2**	**+2.2**
ILAR	**Eielson Array**	**83.79**	**12**	P	**P**	**15 39 31.4**	**-0.5**
	1.0nm,0.6s,mb3.8,baz=219,slow=5.1,SNR=16						
ILAR	**Eielson Array**	**83.79**	**12**	P	**P**	**15 39 31.4**	**-0.5**
BVAR	**Borovoye Array**	**116.71**	**322**	PKP	PKPdf	15 45 44.1	0.0
	0.3nm,0.4s,baz=22,slow=1.6,SNR=3.3						
BVAR	**Borovoye Array**	**116.71**	**322**	PKP	PKPdf	15 45 44.1	0.0
BRTR	**Keskin Array B**	**144.86**	**318**	PKP	PKPdf	15 46 37.4	+0.2
	1.1nm,0.7s,baz=69,slow=4.1,SNR=6.0						
BRTR	**Keskin Array B**	**144.86**	**318**	PKP	PKPdf	15 46 37.4	+0.2
GERES	**GERESS Array B**	**146.39**	**348**	PKPbc	PKPbc	15 46 40.8	-0.7
	0.4nm,0.5s,baz=15,slow=2.1,SNR=3.6						
GERES	**GERESS Array B**	**146.39**	**348**	PKPbc	PKPbc	15 46 40.8	-0.7

*ISCJB **04** 16:08:16.9±0.9, 32°.53N±0°.04×105°.27E±0°.06, h5km±8km, mb3.8/2, Error ellipse: s-maj=10.0km s-min=6.0km az=34.5*
*IDC **04** 16:08:16.8±2.9, 32°.64N×104°.83E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/26, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=96.6km s-min=42.5km az=92.0*
*BJI **04** 16:08:22.9, 32°.36N×105°.16E, h7km, ML3.3/10*
ISC 04 16:08:19.8±0.9, 32°.47N±0°.05×105°.26E±0°.06, h4km±9km, n7, σ1§14/12, mb3.8/2, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.02**	**220**	Pn	**Pn**	**16 08 55.9**	**+1.4**
CD2				Pg	**Pg**	**16 08 59.2**	**+0.8**
CD2				Sn	**Sn**	**16 09 20.2**	**0.0**
CD2				Sg	**Sg**	**16 09 23.6**	**-1.0**
CD2				smax			
	comp=N,2μm,0.6s						
CD2				smax			
	comp=E,2μm,0.8s						
XAN	**Xi'an**	**3.44**	**62**	Pg	**Pg**	**16 09 27.7**	**+1.9**
XAN				Sg	**Sg**	**16 10 08.9**	**-1.5**
XAN				smax			
	comp=N,84nm,0.8s						
XAN				smax			
	comp=E,41nm,0.7s						
LZH	**Lanzhou**	**3.79**	**342**	Pg	**Pg**	**16 09 32.8**	**+0.4**
LZH				Sg	**Sg**	**16 10 21.0**	**-0.5**
LZH				smax			
	comp=N,130nm,0.5s						
LZH				smax			
	comp=E,100nm,0.5s						
CMAR	**Chiang Mai Arr**	**15.07**	**204**	Pn	**Pn**	**16 11 50.6**	**-2.9**
	comp=E,0.1nm,0.3s,baz=12,slow=10,SNR=3.3						
SONM	**Songino Array**	**15.37**	**3**	Pn	**Pn**	**16 11 52.8**	**-4.5**
	comp=E,0.1nm,0.3s,baz=181,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**59.08**	**148**	P	**P**	**16 18 21.4**	**+0.1**
	comp=E,0.6nm,0.5s,mb3.9,baz=340,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**62.17**	**150**	P	**P**	**16 18 42.3**	**0.0**
	comp=E,0.4nm,0.8s,mb3.6,baz=336,slow=7.3,SNR=7.0						

*KISR **04** 16:17:54.9±0.6, 26°.76N×53°.84E, h34km±999km, ML3.2*
*TEH **04** 16:17:56.3, 26°.92N×54°.42E, h14km*
*IDC **04** 16:18:02.0±4.8, 27°.45N×52°.77E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.5/25, mbtmp4.0/5, Error ellipse: s-maj=107.1km s-min=31.4km az=116.0*
ISC 04 16:17:54.7±2.7, 26°.69N±0°.10×54°.29E±0°.06, h6km±16km, n16, σ1§19/22, mb3.9/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**2.15**	**69**	*e*Pn	**Pn**	**16 18 31.7**	**+0.7**
IBND				*e*Sg	**Sg**	**16 19 01.6**	**-2.1**
IBND				*e*		16 19 16.1	
	comp=Z,3μm,0.2s						
ISRV	**Sarvestan**	**2.88**	**339**	*e*Pn	**Pn**	**16 18 42.9**	**+1.9**
ISRV				*e*		16 19 57.9	
	comp=Z,1μm,0.3s						
IPAR	**Pars**	**3.33**	**341**	*e*Pn	**Pn**	**16 18 48.6**	**+1.4**
IPAR				*e*Sg	**Sg**	**16 19 40.3**	**-1.3**
IPAR				*e*		16 19 43.5	
	comp=Z,374nm,0.1s						
IMEH	**Mehriz**	**4.69**	**3**	*e*	**Pn**	**16 19 08.5**	**+2.5**
	comp=Z,315nm,0.1s						
IMEH				*e*Pn	**Pn**	**16 19 07.6**	**+1.6**
IBAF	**Bafgh**	**5.01**	**13**	*e*Pn	**Pn**	**16 19 10.7**	**+0.3**
ICHK	**Chekchek**	**5.54**	**1**	*e*Pn	**Pn**	**16 19 18.4**	**+0.8**
ICHK				*e*		16 19 18.7	
	comp=Z,176nm,0.2s						
RDF	**Al-Radifah**	**6.37**	**292**	*e*P	**Pn**	**16 19 30.1**	**+1.1**
RDF				*e*S	**Sn**	**16 20 41.0**	**-1.1**
RDF				AML	AML	16 20 44.6	
	comp=Z,14nm,0.4s						
NAY	**Al-Naaiem**	**6.73**	**294**	*e*P	**Pn**	**16 19 34.7**	**+0.7**
NAY				*e*S	**Sn**	**16 20 50.1**	**-0.9**
NAY				AML	AML	16 20 51.1	
	comp=Z,2.5nm,0.3s						
MIB	**Mutribah**	**6.87**	**298**	*e*P	**Pn**	**16 19 37.1**	**+1.2**
MIB				*e*S	**Sn**	**16 20 53.7**	**-0.6**
MIB				AML	AML	16 20 54.0	
	comp=Z,8.1nm,0.6s						
IKLH	**Kolahrood**	**7.01**	**341**	*e*Pn	**Pn**	**16 19 38.6**	**+0.7**
IKLH				*e*		16 21 00.5	
	comp=Z,73nm,0.2s						
BRTR	**Keskin Array B**	**21.56**	**312**	P	**P**	**16 22 36.3**	**-8.5**
	comp=Z,0.3nm,0.4s,mb3.0,baz=132,slow=9.4,SNR=3.0						
FINES	**FINESS Array B**	**39.59**	**339**	P	**P**	**16 25 25.5**	**-1.0**
	comp=Z,1.0nm,0.4s,mb3.9,baz=141,slow=9.4,SNR=11						
NOA	**NORSAR Array B**	**44.90**	**332**	P	**P**	**16 26 07.5**	**-2.3**
	comp=Z,2.7nm,1.2s,mb4.0,baz=123,slow=7.8,SNR=2.4						
ARCES	**ARCESS Array B**	**46.05**	**346**	P	**P**	**16 26 18.2**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=150,slow=9.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**50.92**	**265**	P	**P**	**16 26 56.7**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=67,slow=9.2,SNR=6.0						
DBIC	**Dimbokro**	**59.51**	**262**	P	**P**	**16 27 58.2**	**-1.0**
	comp=Z,10nm,1.3s,mb4.7,baz=16,slow=7.4,SNR=4.0						

IDC 04 16:18:07.1±1.6, 7°.97S×159°.83E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.3/3, Error ellipse: s-maj=42.1km s-min=27.9km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.46**	**175**	Pn	Pn	16 18 34.8	+0.1
	39nm,0.3s,baz=172,slow=1.5,SNR=47						
HNR				Sn	Sn	16 18 51.0	-3.4
	277nm,0.3s,baz=107,slow=20,SNR=42						
WRA	**Warramunga Arr**	**27.40**	**242**	P	P	16 23 54.8	+0.2
	0.1nm,0.3s,baz=63,slow=7.9,SNR=8.1						
ASAR	**Alice Springs**	**29.34**	**235**	P	P	16 24 11.6	-0.2
	0.1nm,0.4s,baz=62,slow=10,SNR=7.7						
ILAR	**Eielson Array**	**82.57**	**20**	P	P	16 30 31.7	+0.1
	0.4nm,1.1s,baz=233,slow=6.7,SNR=5.3						

JMA 04 16:23:56.6±0.7, 45°.43N×149°.95E, h30km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.65**	**237**	P	Pn	16 24 49.9	-1.1
NEM2				*e*S	Sn	16 25 29.8	-3.3
JRA	**Rausu**	**3.75**	**248**	P	Pn	16 24 54.1	+1.7
JNK	**Nakash**	**4.17**	**246**	P	Pn	16 24 59.2	+1.1
JNK				*e*S	Sn	16 25 46.9	+1.1
JAK	**Akkeshi**	**4.49**	**239**	P	Pn	16 25 01.6	-0.9
JAK				*e*S	Sn	16 25 50.1	-3.6
JTKR	**Abashiri--Toko**	**4.55**	**253**	P	Pn	16 25 05.6	+2.3
JAR	**Ashorobuto**	**4.92**	**246**	P	Pn	16 25 09.8	+1.4
JOB	**Onbets**	**5.07**	**242**	P	Pn	16 25 10.5	0.0
JKK2	**Kamakawa 2**	**5.37**	**256**	P	Pn	16 25 17.1	+2.5
JCH	**Churui**	**5.52**	**242**	P	Pn	16 25 16.6	-0.1
JEM	**Erimo**	**5.99**	**238**	P	Pn	16 25 23.7	+0.6
JNBK	**Urakawa-nobuka**	**6.08**	**241**	P	Pn	16 25 23.6	-0.8
JKB	**Kayabe**	**7.37**	**244**	P	Pn	16 25 41.4	-0.7

*ISCJB **04** 16:35:12.9±1.7, 32°.77S±0°.09×138°.47E±0°.07, h11km±14km, Error ellipse: s-maj=14.8km s-min=9.9km az=165.2*
*NEIC **04** 16:35:12.0, 33°.41S×138°.39E, h10km, ML3.1(AUST), After AUST.*
*AUST **04** 16:35:12.1, 33°.41S×138°.39E, h10km, ML3.1*
*IDC **04** 16:35:14.9±6.5, 32°.83S×138°.35E, h0km, mb1 3.3/3, mb1mx3.2/13, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=79.8km s-min=20.8km az=12.0*
ISC 04 16:35:13.7±1.9, 32°.89S±0°.09×138°.41E±0°.06, h4km±14km, n14, σ1§37/25, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**1.98**	**272**	*e*P	**Pn**	**16 35 47.6**	**-0.3**
BBOO				*e*S	**Sn**	**16 36 13.0**	**-0.2**
	153nm,0.2s						
BBOO	**Buckleboo**	**1.98**	**272**	*e*Pn	**Pn**	**16 35 47.6**	**-0.4**
BBOO				*e*Sn	**Sn**	**16 36 13.0**	**-0.2**
STKA	**Stephens Creek**	**2.88**	**70**	Pn	**Pn**	**16 36 02.6**	**+2.3**
	0.2nm,0.3s,baz=203,slow=3.2,SNR=3.1						
STKA				Pg	**Pg**	**16 36 07.9**	**-0.9**
	2.0nm,0.3s,baz=245,slow=14,SNR=24						
STKA				Sn	**Sn**	**16 36 37.9**	**+2.4**
	3.7nm,0.3s,baz=206,slow=9.8,SNR=5.7						
STKA				Lg		16 36 47.8	
	5.7nm,0.3s,baz=312,slow=16,SNR=6.6						
STKA	**Stephens Creek**	**2.88**	**70**	*e*P	**Pn**	**16 36 02.4**	**+2.0**
STKA				*e*S	**Sn**	**16 36 39.7**	**+4.2**
	17nm,0.7s						
STKA	**Stephens Creek**	**2.88**	**70**	*e*Pn	**Pn**	**16 36 02.1**	**+1.8**
STKA				Pg	**Pg**	**16 36 07.9**	**-0.9**
STKA				*e*Sn	**Sn**	**16 36 34.3**	**-1.2**
STKA				Lg		16 36 47.8	
CMSA	**Cobar Meteorol**	**6.32**	**80**	*e*P	**Pn**	**16 36 46.2**	**-1.4**
CMSA				*e*S	**Sn**	**16 37 55.6**	**-4.7**
	11nm,0.4s						
AS31	**Alice Springs**	**10.01**	**336**	*e*Pn	**Pn**	**16 37 40.2**	**+2.0**
AS31				*e*Sn	**Sn**	**16 39 29.6**	**-1.5**
ASAR	**Alice Springs**	**10.01**	**336**	Pn	**Pn**	**16 37 40.2**	**+2.0**
	0.2nm,0.3s,baz=171,slow=8.3,SNR=32						
ASAR				Sn	**Sn**	**16 39 31.2**	**+0.1**
	0.1nm,0.3s,baz=162,slow=22,SNR=5.5						
ASAR	**Alice Springs**	**10.01**	**336**	Pn	**Pn**	**16 37 40.2**	**+2.0**
ASAR				Sn	**Sn**	**16 39 31.1**	**+0.1**
WB2	**Warramunga Arr**	**13.39**	**343**	*e*Pn	**Pn**	**16 38 23.2**	**-1.5**
WRA	**Warramunga Arr**	**13.40**	**343**	Pn	**Pn**	**16 38 24.5**	**-0.1**
	0.1nm,0.3s,baz=161,slow=12,SNR=16						
WRA	**Warramunga Arr**	**13.40**	**343**	Pn	**Pn**	**16 38 24.5**	**-0.1**
WRAB	**Tennant Creek**	**13.40**	**343**	*e*P	**Pn**	**16 38 24.4**	**-0.3**
CTAO	**Charters Tower**	**14.55**	**31**	*e*P	**Pn**	**16 38 43.4**	**+3.0**
	6.9nm,1.0s						

IDC 04 16:40:44.6±6.9, 22°.48S×172°.58W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.5/16, mbtmp3.3/2, Error ellipse: s-maj=429.2km s-min=53.2km az=153.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.01**	**258**	P	P	16 49 33.6	+0.2
	0.5nm,0.7s,baz=99,slow=7.2,SNR=8.2						
WRA	**Warramunga Arr**	**49.34**	**263**	P	P	16 49 35.8	-0.2
	0.4nm,0.9s,baz=103,slow=8.0,SNR=3.9						
GERES	**GERESS Array B**	**153.22**	**351**	PKPbc	PKPbc	17 00 44.5	+0.1
	0.8nm,0.7s,baz=336,slow=2.2,SNR=5.4						

*ISCJB **04** 16:41:11.1±0.9, 48°.2N±0°.1×146°.3E±0°.2, h479km±12km, mb3.3/12, Error ellipse: s-maj=20.7km s-min=13.6km az=140.2*
*IDC **04** 16:41:11.5±1.9, 48°.15N×146°.37E, h469km±26km, mb2.8/9, mb1 3.0/12, mb1mx2.8/25, mbtmp2.8/12, Error ellipse: s-maj=20.8km s-min=17.0km az=161.0*
*NEIC **04** 16:41:12.1±0.6, 48°.14N×146°.18E, h482km±9km, mb3.8/3, Error ellipse: s-maj=15.3km s-min=11.0km az=140.0*
*MOS **04** 16:41:12.8±1.9, 48°.07N×145°.99E, h502km, mb3.8/6, Error ellipse: s-maj=24.1km s-min=12.1km az=66.7*
ISC 04 16:41:12.1±0.9, 48°.1N±0°.1×146°.2E±0°.2, h479km±12km, n45, σ0§78/45, mb3.3/12, 2C, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.64**	**245**	⇑*i*P	**P**	**16 42 20.1**	**+1.3**
YSS	**Yuzh-Sakhalins**	**2.64**	**245**	⇑*i*P	**P**	**16 42 19.8**	**+1.0**
ASAJ	**Asahikawa**	**4.75**	**214**	P	**P**	**16 42 34.9**	**-0.6**
	0.3nm,0.3s,baz=284,slow=18,SNR=2.8						
ASAJ	**Asahikawa**	**4.75**	**214**	P	**P**	**16 42 34.9**	**-0.6**
ASAJ	**Asahikawa**	**4.75**	**214**	P	**P**	**16 42 34.9**	**-0.7**
MDJ	**Mudanjiang**	**12.03**	**259**	P	**P**	**16 43 50.5**	**-0.4**
MJAR	**Matsushiro Arr**	**13.01**	**210**	P	**P**	**16 44 01.1**	**-0.4**
	0.5nm,0.3s,baz=5.6,slow=12,SNR=7.2						
MJAR	**Matsushiro Arr**	**13.01**	**210**	P	**P**	**16 44 01.1**	**-0.4**
MJAR	**Matsushiro Arr**	**13.01**	**210**	P	**P**	**16 44 01.1**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**17.12**	**238**	P	**P**	**16 44 44.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=52,slow=8.7,SNR=2.8						
KSRS	**Korea Array**	**17.12**	**238**	P	**P**	**16 44 44.7**	**-0.1**
KSAR	**Wonju Array Be**	**17.15**	**238**	P	**P**	**16 44 44.7**	**-0.4**
KSAR	**Wonju Array Be**	**17.15**	**238**	P	**P**	**16 44 44.7**	**-0.4**
ULN	**Ulaanbaatar**	**26.04**	**284**	P	**P**	**16 46 04.1**	**-1.6**
	comp=Z,6.8nm,1.4s,mb3.9						
ULN	**Ulaanbaatar**	**26.04**	**284**	P	**P**	**16 46 04.1**	**-1.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb3.9						
SONM	**Songino Array**	**26.47**	**284**	P	**P**	**16 46 12.0**	**+2.5**
	comp=Z,0.2nm,0.3s,mb3.0,baz=80,slow=8.6,SNR=2.6						
SONM	**Songino Array**	**26.47**	**284**	P	**P**	**16 46 12.0**	**+2.5**
SONM	**Songino Array**	**26.47**	**284**	P	**P**	**16 46 12.0**	**+2.5**
ILAR	**Eielson Array**	**38.41**	**39**	P	**P**	**16 47 50.8**	**-0.1**
	comp=Z,0.2nm,0.5s,mb2.8,baz=253,slow=6.4,SNR=8.9						
ILAR	**Eielson Array**	**38.41**	**39**	P	**P**	**16 47 50.8**	**-0.1**
ILAR	**Eielson Array**	**38.41**	**39**	P	**P**	**16 47 50.8**	**-0.1**
MKAR	**Makanchi Array**	**42.13**	**293**	P	**P**	**16 48 21.6**	**+0.5**
	comp=Z,0.3nm,0.8s,mb2.8,baz=60,slow=7.0,SNR=2.5						
MKAR	**Makanchi Array**	**42.13**	**293**	P	**P**	**16 48 21.6**	**+0.5**
MKAR	**Makanchi Array**	**42.13**	**293**	P	**P**	**16 48 21.6**	**+0.5**
INK	**Inuvik**	**42.99**	**33**	*e*P	**P**	**16 48 26.9**	**-0.6**
	comp=Z,1.1nm,0.3s,mb3.8						
INK	**Inuvik**	**42.99**	**33**	*e*P	**P**	**16 48 26.9**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RES	**Resolute Bay**	**50.96**	**17**	*e*P	**P**	**16 49 27.4**	**-0.4**
	comp=Z,1.6nm,0.5s,mb3.6						
RES	**Resolute Bay**	**50.96**	**17**	*e*P	**P**	**16 49 27.4**	**-0.3**
RES				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
ARCES	**ARCESS Array B**	**54.93**	**338**	P	**P**	**16 49 56.5**	**+0.3**
	comp=Z,3.0nm,0.9s,mb3.6,baz=352,slow=5.7,SNR=2.5						
ARCES	**ARCESS Array B**	**54.93**	**338**	P	**P**	**16 49 56.5**	**+0.3**
ARCES	**ARCESS Array B**	**54.93**	**338**	P	**P**	**16 49 56.5**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**60.70**	**332**	P	**P**	**16 50 35.2**	**-0.4**
	comp=Z,3.5nm,1.0s,mb3.7,baz=44,slow=6.3,SNR=7.6						
FINES	**FINESS Array B**	**60.70**	**332**	P	**P**	**16 50 35.2**	**-0.4**
FINES	**FINESS Array B**	**60.70**	**332**	P	**P**	**16 50 35.2**	**-0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA	**NORSAR Array B**	**65.30**	**338**	P	**P**	**16 51 05.2**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=30,slow=6.6,SNR=3.5						
NOA	**NORSAR Array B**	**65.30**	**338**	P	**P**	**16 51 05.2**	**-0.1**
NOA	**NORSAR Array B**	**65.30**	**338**	P	**P**	**16 51 05.2**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**67.59**	**51**	P	**P**	**16 51 19.9**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.3,baz=332,slow=1.4,SNR=5.2						
PDAR	**Pinedale Array**	**67.59**	**51**	P	**P**	**16 51 19.9**	**0.0**
ASAR	**Alice Springs**	**72.32**	**192**	P	**P**	**16 51 49.0**	**+0.7**
	comp=Z,0.1nm,0.5s,mb2.6,baz=357,slow=4.8,SNR=4.3						
ASAR	**Alice Springs**	**72.32**	**192**	P	**P**	**16 51 49.0**	**+0.7**
ASAR	**Alice Springs**	**72.32**	**192**	P	**P**	**16 51 49.0**	**+0.8**
TXAR	**Lajitas Array**	**80.74**	**56**	P	**P**	**16 52 35.4**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.1,baz=313,slow=4.4,SNR=3.4						
TXAR	**Lajitas Array**	**80.74**	**56**	P	**P**	**16 52 35.4**	**+0.6**
TXAR	**Lajitas Array**	**80.74**	**56**	P	**P**	**16 52 35.4**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*ISK **04** 16:43:41.7, 38°.44N×39°.12E, h24km, MD2.5*
*CSEM **04** 16:43:42.6±0.2, 38°.45N×39°.09E, h15km, MD2.5, Error ellipse: s-maj=4.1km s-min=2.9km az=159.0*
*ISCJB **04** 16:43:43.0±0.7, 38°.45N±0°.05×39°.07E±0°.05, h10km±5km, Error ellipse: s-maj=7.8km s-min=6.2km az=167.6*
*DDA **04** 16:43:43.3, 38°.46N×39°.02E, h11km, Md3.0*
ISC 04 16:43:43.0±1.0, 38°.45N±0°.05×39°.07E±0°.04, h12km±9km, n13, σ0§41/22, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.08**	**305**	⇑*i*Pg	**Pg**	**16

PB09 AML AML 16 47 46.1
comp=E,197µm,0.6s
PB01 Plate Boundary 1.19 285⇑ *i*P **Pn 16 47 30.4 -4.0**
PB01 *i* S **Sn 16 47 46.5 -5.9**
PB01 AML AML 16 47 48.6
comp=E,61µm,0.3s
PB04 Plate Boundary 1.47 231⇑ *i*P **Pn 16 47 38.0 +0.6**
PB04 *i* S **Sn 16 48 01.0 +3.1**
PB04 AML AML 16 48 03.2
comp=E,26µm,0.7s
SPCH San Pedro de A 1.55 178 *e*P **Pn 16 47 36.7 -1.7**
SPCH *i* S **Sn 16 47 57.7 -2.0**
SPCH AML AML 16 48 15.2
comp=E,15µm,0.7s
PB07 Plate Boundary 1.57 256⇑ *i*P **Pn 16 47 33.3 -5.3**
PB07 *i* S **Sn 16 47 52.3 -7.6**
PB07 AML AML 16 47 53.8
comp=E,75µm,0.4s
MACH Maria Elena 1.63 239 *e*P **Pn 16 47 34.2 -5.2**
MACH *i* S **Sn 16 47 53.6 -7.8**
HMBC Humberston 1.87 305⇑ *i*P **Pn 16 47 39.0 -3.2**
HMBC *i* S **Sn 16 48 02.3 -4.1**
HMBC AML AML 16 48 05.2
comp=E,86µm,1.3s
PSGC Pisagua 2.48 315⇑ *i*P **Pn 16 47 46.6 -3.4**
PSGC *i* S **Sn 16 48 16.6 -3.6**
PSGC AML AML 16 48 20.1
comp=E,42µm,0.4s
MNMC Miæe Miæ 2.54 330⇑ *i*P **Pn 16 47 49.8 -1.1**
MNMC *e*S **Sn 16 48 22.3 +0.5**
MECH Mejillones 2.68 229 *e*P **Pn 16 47 46.9 -5.7**
MECH *e*S **Sn 16 48 15.9 -9.0**
MECH AML AML 16 48 30.0
comp=N,18µm,1.1s
ARCH Arica 3.44 326 *e*P **Pn 16 47 59.1 -3.4**
ARCH *i* S **Sn 16 48 39.5 -3.3**
LPAZ La Paz 5.04 1⇑ *i*Pn **Pn 16 48 26.1 +2.0**
comp=N,1.4nm,0.4s
LPAZ La Paz 5.04 1⇑ *i*P **Pn 16 48 26.1 +2.0**
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LCO Las Campanas 7.94 196 *e*Pn **Pn 16 48 54.1 -9.2**
comp=Z,1µm,1.1s
LCO *e*Sn **Sn 16 50 14.5 -17**
CFAA Coronel Fontan 10.21 180 P **Pn 16 49 25.9 -8.0**
comp=Z,2.6nm,0.3s,baz=354,slow=13,SNR=86
CFAA S **Sn 16 51 12.5 -14**
comp=Z,1.1nm,0.3s,baz=253,slow=20,SNR=3.9
CFAA Coronel Fontan 10.21 180 P **Pn 16 49 25.9 -8.0**
CFAA S **Sn 16 51 12.5 -14**
CPUP Villa Florida 11.16 118 P **Pn 16 49 44.0 -2.6**
comp=Z,8.6nm,0.3s,baz=282,slow=12,SNR=226
CPUP LR LR 16 55 05.3
comp=Z,64nm,21.6s,baz=275,slow=43
CPUP Villa Florida 11.16 118⇑ *i*Pn **Pn 16 49 43.6 -3.0**
CPUP P 16 49 44.0
CPUP Villa Florida 11.16 118⇑ *i*P **Pn 16 49 43.6 -3.0**
NNA Nana 12.42 317 P **Pn 16 49 58.2 -5.2**
comp=Z,3.6nm,0.3s,baz=170,slow=12,SNR=17
NNA S **Sn 16 52 12.6 -7.7**
comp=Z,10nm,0.3s,baz=188,slow=23,SNR=4.3
NNA LR LR 16 55 16.5
comp=Z,1µm,20.9s,baz=156,slow=39
NNA Nana 12.42 317⇑ *e*Pn **Pn 16 49 57.3 -6.1**
comp=Z,145nm,0.8s
NNA P 16 49 58.2
NNA *e*Sn **Sn 16 52 11.6 -8.7**
NNA S **Sn 16 52 12.6 -7.7**
NNA Nana 12.42 317 P **Pn 16 49 58.2 -5.2**
NNA S **Sn 16 52 12.6 -7.7**
NNA pmax pmax
comp=Z,4.0nm,0.3s
NNA smax
comp=N,10.0nm,0.3s
NNA MLR MLR
comp=Z,1µm,20.9s
LPA La Plata 16.27 148 *ce*P **Pn 16 50 48.0 -4.2**
LPA pP pP 16 51 09.0 -5.2
ATAH Atahualpa 17.20 324 P **Pn 16 51 03.5 -0.3**
comp=Z,1.3nm,0.3s,baz=144,slow=9.5,SNR=36
ATAH Atahualpa 17.20 324 P **Pn 16 51 03.5 -0.3**
TRQA Tornquist 17.51 163 *e*P **Pn 16 51 02.7 -4.6**
comp=Z,182nm,0.6s
TRQA *e*S **S 16 54 16.3 -6.0**
PLCA Paso Flores 19.42 185 P **P 16 51 24.3 -3.3**
comp=Z,4.4nm,0.3s,baz=0.4,slow=12,SNR=17
PLCA PcP PcP 16 55 44.5 +0.3
comp=Z,0.5nm,0.3s,baz=88,slow=5.0,SNR=4.9
PLCA Paso Flores 19.42 185 *e*P **P 16 51 23.3 -4.3**
comp=Z,141nm,1.1s
PLCA P 16 51 24.3
PLCA *e*S **S 16 54 57.8 -3.0**
PLCA PcP PcP 16 55 44.5 +0.3
PLCA Paso Flores 19.42 185 *e*P **P 16 51 23.3 -4.2**
PLCA *e*S **S 16 54 57.8 -3.0**
PLCA pmax pmax
comp=Z,141nm,1.1s
OTAV Otavalo 23.66 334 *e*P **P 16 52 11.4 0.0**
comp=Z,164nm,1.0s,mb5.3
OTAV *e*PcP PcP 16 55 53.3 +0.4
ROSC El Rosal 26.72 346 P **P 16 52 40.5 +1.4**
comp=Z,13nm,0.4s,mb4.9,baz=88,slow=11,SNR=6.9
ROSC LR LR 17 03 31.2
comp=Z,1µm,20.8s,baz=192,slow=37
ROSC El Rosal 26.72 346 *e*P **P 16 52 36.8 -2.4**
ROSC P 16 52 40.5
PAYG Puerto Ayora 29.74 311 *e*P **P 16 53 03.7 -2.3**
comp=Z,48nm,0.8s,mb5.2
SDV Santo Domingo 30.14 355 *e*P **P 16 53 07.8 -1.7**
comp=Z,57nm,0.9s,mb5.2
EFI East Falkland 31.29 168 *e*P **P 16 53 16.4 -2.9**
comp=Z,41nm,0.7s,mb5.3
EFI East Falkland 31.29 168 *e*P **P 16 53 16.4 -2.9**
EFI pmax pmax
comp=Z,41nm,0.7s,mb5.3
BCIP Isla Barro Col 32.39 338 *e*P **P 16 53 29.0 -0.3**
comp=Z,73nm,0.8s,mb5.5
BCIP *e*pP pP 16 53 55.2 +0.1
BCIP *e*sP sP 16 54 06.9 -1.7
USHA Ushuaia 33.43 180 P **P 16 53 35.4 -2.5**
comp=Z,18nm,0.6s,mb5.1,baz=6.4,slow=6.9,SNR=9.9
USHA Ushuaia 33.43 180 P **P 16 53 35.4 -2.5**
RCBR Riachuelo 34.91 68 *e*P **P 16 53 51.5 +0.3**
comp=Z,45nm,0.6s,mb5.5
RCBR *e*pP pP 16 54 17.9 +0.6
JTS JuntasAbangare 35.47 331 LR LR 17 10 30.0
comp=Z,732nm,18.5s,baz=152,slow=39
JTS JuntasAbangare 35.47 331 *e*P **P 16 53 55.8 -0.1**
comp=Z,18nm,0.8s,mb5.0
JTS *e*pP pP 16 54 20.5 -1.5
JTS JuntasAbangare 35.47 331 *e*P **P 16 53 55.8 -0.1**
JTS *e**PP pP 16 54 20.5 -1.5
JTS pmax pmax
comp=Z,18nm,0.8s
BIM Bigot 36.33 12 *e*P **P 16 54 02.2 -1.1**
FDF Fort de France 36.53 12 *e*P **P 16 54 03.6 -1.3**
RPN Rapa Nui 37.78 253 P **P 16 54 14.0 -1.5**
comp=Z,81nm,0.9s,mb5.5,baz=116,slow=4.2,SNR=5.3
RPN Rapa Nui 37.78 253 P **P 16 54 14.0 -1.5**
RPN Rapa Nui 37.78 253 P **P 16 54 14.0 -1.5**
RPN pmax pmax
comp=Z,81nm,0.9s,mb5.5
ICM Isla Caja Muer 39.04 3 *e*P **P 16 54 23.6 -2.4**
CRPR Cabo Rojo, PR 39.13 2 *e*P **P 16 54 24.8 -1.9**
comp=Z,16nm,0.5s,mb5.1
CRPR *e*pP pP 16 54 53.2 0.0
OBIP Obispado Ponce 39.18 2 *e*P **P 16 54 25.2 -2.0**
comp=Z,74nm,0.5s,mb5.8
OBIP *e*pP pP 16 54 54.0 +0.3
CELP Cerrillos 39.22 3 *e*P **P 16 54 25.5 -2.0**
CELP *e*pP pP 16 54 52.6 -1.3
CELP *e*S **S 17 00 16.6 -2.6**
SJG San Juan 39.27 3 *e*P **P 16 54 25.5 -2.4**
comp=Z,58nm,0.6s,mb5.6
SJG *e*pP pP 16 54 53.3 -1.1
SJG San Juan 39.27 3 *e*P **P 16 54 25.5 -2.4**
SJG *e**PP pP 16 54 53.3 -1.1
SJG pmax pmax
comp=Z,58nm,0.6s
MTP Monte Pirata 39.29 4 *e*P **P 16 54 25.4 -2.7**
comp=Z,32nm,0.7s,mb5.3
MTP *e*pP pP 16 54 52.0 -2.5
MTP *e*PP PP 16 56 00.0 -0.7
LSP Las Mesas 39.30 2 *e*P **P 16 54 25.7 -2.5**
LSP *e*pP pP 16 54 52.7 -1.9
LRS Lares 39.42 2 *e*P **P 16 54 27.6 -1.6**
LRS *e*pP pP 16 54 53.1 -2.6
LRS *e*PcP PcP 16 56 34.3 -0.8
CBYP Canovanas 39.45 4 *e*P **P 16 54 27.8 -1.6**
comp=Z,128nm,1.0s,mb5.7
CBYP *e*pP pP 16 54 51.2 -4.6
AGPR Aguadilla, PR 39.59 2 *e*P **P 16 54 27.1 -3.5**
comp=Z,46nm,0.7s,mb5.4
TGUH Tegucigalpa,Un 39.84 330 *e*P **P 16 54 31.1 -1.5**
TGUH *e*pP pP 16 54 55.0 -4.2
MTDJ Mount Denham 40.37 346 *e*P **P 16 54 37.3 +0.2**
comp=Z,115nm,1.0s,mb5.7
MTDJ *e*pP pP 16 55 03.7 +0.2
TEIG Tepich 45.73 333 *e*P **P 16 55 19.0 -1.1**
comp=Z,33nm,0.7s,mb5.2
TEIG *e*pP pP 16 55 46.3 -0.9
DWPF Disney 50.79 345 *e*P **P 16 55 58.7 -0.3**
comp=Z,131nm,0.7s,mb6.1
DWPF *e*pP pP 16 56 26.7 +0.2
NHSC New Hope 55.34 348 *e*P **P 16 56 32.4 +0.2**
comp=Z,376nm,0.8s,mb6.5
NHSC *e*pP pP 16 56 59.1 -1.0
GOGA Godfrey 56.36 345 *e*P **P 16 56 37.3 -2.1**
comp=Z,21nm,0.7s,mb5.3
GOGA *e*pP pP 16 57 01.9 -5.6
GOGA *e*PcP PcP 16 57 34.4 -0.9
GOGA Godfrey 56.36 345 *e*P **P 16 56 37.3 -2.1**
GOGA *e**PP pP 16 57 01.9 -5.6
GOGA *e* 16 57 34.4
GOGA pmax pmax
comp=Z,21nm,0.7s,mb5.3
VBMS Vicksburg 57.37 338 *e*P **P 16 56 45.3 -1.4**
HKT Hockley 57.50 332 *e*P **P 16 56 46.7 -0.8**
comp=Z,24nm,1.0s,mb5.2
HKT *e*pP pP 16 57 15.0 -0.8
HKT Hockley 57.50 332 *e*P **P 16 56 46.7 -0.9**
HKT *e**PP pP 16 57 15.0 -0.7
HKT pmax pmax
comp=Z,24nm,1.0s,mb5.2
KMSC Kings Mountain 57.54 347 ⇓P **P 16 56 47.3 -0.4**
baz=58,SNR=20
NATX Nacogdoches 58.56 334 *e*P **P 16 56 55.0 +0.1**
comp=Z,161nm,0.8s,mb6.1
TKL Tuckaleechee C 58.57 345 LR LR 17 27 04.4
comp=Z,328nm,18.2s,baz=169,slow=41
TKL Tuckaleechee C 58.57 345 *e*P **P 16 56 53.5 -1.4**
TKL *e*pP pP 16 57 21.3 -1.9
TKL Tuckaleechee C 58.57 345 *e*P **P 16 56 53.6 -1.3**
TKL *e**PP pP 16 57 21.3 -1.9
SWET Sewanee 58.70 343 *e*P **P 16 56 54.3 -1.5**
comp=Z,146nm,0.8s,mb6.1
SWET *e*pP pP 16 57 22.0 -2.1
OXF Oxford 59.09 340 *e*P **P 16 56 56.8 -1.7**
comp=Z,171nm,0.8s,mb6.1
OXF *e*pP pP 16 57 24.7 -2.1
OXF Oxford 59.09 340 *e*P **P 16 56 56.8 -1.7**
OXF *e**PP pP 16 57 24.7 -2.1
OXF pmax pmax
comp=Z,171nm,0.8s,mb6.1
PLAL Pickwick Lake 59.10 341 *e*P **P 16 56 56.4 -2.2**
comp=Z,80nm,0.9s,mb5.8
PLAL *e*pP pP 16 57 24.0 -2.9
SHEL Horse Pasture 59.14 96 *e*P **P 16 56 59.4 0.0**
comp=Z,147nm,0.7s,mb6.1
SHEL Horse Pasture 59.14 96 *e*P **P 16 56 59.4 0.0**
SHEL pmax pmax
comp=Z,147nm,0.7s,mb6.1
BLA Blacksburg 59.37 349 *e*P **P 16 57 00.5 +0.1**
comp=Z,64nm,0.6s,mb5.8
BLA Blacksburg 59.37 349 *e*P **P 16 57 00.5 +0.1**
BLA pmax pmax
comp=Z,64nm,0.6s,mb5.8
TZTN Tazewell 59.37 346 *e*P **P 16 56 59.2 -1.2**
comp=Z,48nm,0.8s,mb5.6
ELN Prospectdale 59.44 348 *e*P **P 16 57 00.8 -0.1**
ELN *e*pP pP 16 57 29.1 -0.1
JCT Junction City 59.79 328 ⇑P **P 16 57 02.3 -1.1**
baz=60,SNR=41
JCT Junction City 59.79 328 *e*P **P 16 57 02.5 -1.0**
comp=Z,98nm,0.8s,mb5.9
JCT Junction City 59.79 328 *e*P **P 16 57 02.5 -1.0**
JCT pmax pmax
comp=Z,98nm,0.8s,mb5.9
VNA3 Neumayer Olymp 60.02 161 *e* **P 16 57 03.8 -0.7**
WVT Waverly 60.09 342 *e*P **P 16 57 03.5 -1.9**
comp=Z,147nm,0.8s,mb6.1
WVT *e*pP pP 16 57 32.2 -1.6
WVT Waverly 60.09 342 *e*P **P 16 57 03.5 -1.9**
WVT *e**PP pP 16 57 32.2 -1.6
WVT pmax pmax
comp=Z,147nm,0.8s,mb6.1
VNA1 Neumayer--Stat 60.22 161 *e* **P 16 57 05.8 -0.1**
UALR University of 60.33 337 *e*P **P 16 57 05.2 -1.8**
comp=Z,90nm,0.8s,mb5.8
628A Black Gap, Mar 60.56 325 ⇓P **P 16 57 08.5 -0.3**
baz=61,SNR=92
MIAR Mount Ida 60.58 336 *e*P **P 16 57 07.4 -1.3**
comp=Z,116nm,0.7s,mb6.0
MIAR *e*pP pP 16 57 35.2 -2.0
MIAR *e*sP sP 16 57 49.8 -0.2
MIAR Mount Ida 60.58 336 *e*P **P 16 57 07.4 -1.3**
MIAR *e**PP pP 16 57 35.2 -2.0
MIAR *e**SP sP 16 57 49.8 -0.2
MIAR pmax pmax
comp=Z,116nm,0.7s,mb6.0
VNA2 Neumayer--Watz 60.59 161 *e* **P 16 57 07.8 -0.6**
UTMT University of 60.60 341 *e*P **P 16 57 07.6 -1.2**
comp=Z,192nm,0.3s,mb6.6
GLAT Glass 60.66 341 *e*P **P 16 57 08.2 -1.0**
627A Terlingua Ranc 60.80 325 ⇓P **P 16 57 09.7 -0.7**
baz=61,SNR=56
TXAR Lajitas Array 60.86 325 P **P 16 57 09.9 -0.9**
comp=Z,17nm,0.7s,mb5.2,baz=150,slow=8.8,SNR=180
TXAR PcP PcP 16 57 51.3 -2.0
comp=Z,4.4nm,0.8s,baz=240,slow=4.2,SNR=3.8
TXAR PKP2bc 17 26 36.1
comp=Z,0.5nm,0.9s,baz=289,slow=3.8,SNR=4.1
TXAR Lajitas Array 60.86 325 P **P 16 57 09.9 -0.9**
TXAR PcP PcP 16 57 51.3 -2.0
TXAR ⇑*e* 17 26 36.1
TXAR Lajitas Array 60.86 325 P **P 16 57 09.9 -0.9**
TXAR 16 57 51.3
TXAR pmax pmax
comp=Z,17nm,0.7s
TXAR pmax pmax
comp=Z,4.0nm,0.8s
528A Cox Ranch, San 61.05 326 ⇓P **P 16 57 11.1 -0.9**
baz=61,SNR=28
PARMO Parma 61.17 340 *e*P **P 16 57 11.9 -0.7**
PARMO *e*pP pP 16 57 40.4 -0.8
RKT Rikitea 61.28 255 *e*P **P 16 57 13.7 -0.2**
comp=Z,48nm,0.8s,mb5.5
RKT *e*S **S 17 05 26.4 +1.2**
comp=Z,774nm,28.2s
RKT *e*LR LR 17 15 43.4
comp=Z,1µm,37.5s
626A Big Bend Ranch 61.28 324 ⇓P **P 16 57 13.4 -0.2**
baz=62,SNR=137
428A Kincaid Ranch, 61.44 326 ⇓P **P 16 57 14.1 -0.5**
baz=62,SNR=27
527A Woodward Ranch 61.47 325 ⇓P **P 16 57 14.1 -0.7**
baz=62,SNR=82
WCI Wyandotte Cave 61.64 344 *e*P **P 16 57 13.8 -2.0**
comp=Z,112nm,0.7s,mb6.0
WCI *e*pP pP 16 57 40.6 -3.7
WCI *e* 16 57 55.5
WCI Wyandotte Cave 61.64 344 *e*P **P 16 57 13.8 -2.0**
WCI *e**PP pP 16 57 40.7 -3.6
WCI *e* 16 57 55.5
WCI pmax pmax
comp=Z,112nm,0.7s,mb6.0
526A Mary Lane Ranc 61.66 325 ⇑P **P 16 57 15.6 -0.5**
baz=62,SNR=114
USIN University of 61.76 343 *e*P **P 16 57 14.8 -1.8**
comp=Z,119nm,0.8s,mb6.0
427A Hayter Ranch, 61.91 326 ⇑P **P 16 57 17.0 -0.8**
baz=62,SNR=52
SIUC Southern Illin 61.98 341 *e*P **P 16 57 16.4 -1.7**
comp=Z,160nm,0.8s,mb6.1
328A Wristen Ranch, 62.03 327 ⇓P **P 16 57 17.7 -0.9**
baz=62,SNR=53
426A McDonald Obser 62.10 325 ⇓P **P 16 57 18.5 -0.5**
baz=62,SNR=68
SNAA Sanae 62.22 161 *e* **P 16 57 12.4 -6.9**
SNAA Sanae 62.22 161 *e*P **P 16 57 12.3 -7.0**
SNAA AMB AMB 16 57 13.7
comp=Z,78nm,1.0s,mb5.7
SNAA Sanae 62.22 161 *e*P **P 16 57 12.1 -7.3**
comp=Z,111nm,1.1s,mb5.8
SNAA *e*pP pP 16 57 42.4 -5.5
SNAA Sanae 62.22 161 *e*P **P 16 57 12.1 -7.2**
SNAA *e**PP pP 16 57 42.4 -5.5
SNAA pmax pmax
comp=Z,111nm,1.1s
SSPA Standing Stone 62.31 352 *e*P **P 16 57 19.8 -0.5**
comp=Z,20nm,0.8s,mb5.2
327A Balmorhea Ranc 62.37 326 ⇓P **P 16 57 20.7 -0.2**
baz=63
326A Caldwell Ranch 62.58 326 ⇑P **P 16 57 21.8 -0.4**
baz=63,SNR=40
BLO Bloomington 62.59 344 *e*P **P 16 57 20.8 -1.3**
comp=Z,119nm,0.7s,mb5.9
BLO *e*pP pP 16 57 47.5 -3.3
BLO *e*PcP PcP 16 57 60.0 -0.1
BLO Bloomington 62.59 344 *e*P **P 16 57 20.8 -1.3**
BLO *e**PP pP 16 57 47.5 -3.2
BLO *e* 16 58 00.0
BLO pmax pmax
comp=Z,119nm,0.7s,mb5.9
FVM French Village 62.59 340 *e*P **P 16 57 20.7 -1.5**
comp=Z,247nm,0.8s,mb6.2
FVM *e*pP pP 16 57 49.8 -1.0
FVM French Village 62.59 340 *e*P **P 16 57 20.7 -1.5**
FVM *e**PP pP 16 57 49.8 -1.0
FVM pmax pmax
comp=Z,247nm,0.8s,mb6.2
OLIL Olney 62.60 343 *e*P **P 16 57 20.3 -1.9**
comp=Z,74nm,0.8s,mb5.7
OLIL *e*PcP PcP 16 57 59.5 -0.6
TUL1 Tulsa 62.63 335 ⇓P **P 16 57 21.5 -1.0**
baz=63,SNR=13
425A Indio Mountain 62.70 325 ⇓P **P 16 57 22.5 -0.6**
baz=63,SNR=148
227A Bennet, Jal 62.78 327 ⇑P **P 16 57 23.1 -0.4**
baz=63,SNR=22
ACSO Alum Creek Sta 62.78 347 *e*P **P 16 57 21.9 -1.5**
comp=Z,140nm,0.8s,mb5.9
ACSO *e*pP pP 16 57 51.8 -0.2
WMOK Wichita Mounta 62.87 332 *e*P **P 16 57 21.9 -2.2**
comp=Z,14nm,0.6s,mb5.1
WMOK *e*pP pP 16 57 49.7 -3.1
WMOK Wichita Mounta 62.87 332 *e*P **P 16 57 21.9 -2.2**
WMOK *e**PP pP 16 57 49.7 -3.0
WMOK pmax pmax
comp=Z,15nm,0.6s,mb5.1
CCM Cathedral Cave 62.92 340 *e*P **P 16 57 22.8 -1.6**
comp=Z,126nm,0.8s,mb5.9
CCM *e*pP pP 16 57 51.9 -1.1
CCM *e*PcP PcP 16 58 00.6 -0.8
CCM Cathedral Cave 62.92 340 *e*P **P 16 57 22.8 -1.6**
CCM *e**PP pP 16 57 51.9 -1.1
CCM *e* 16 58 00.6
CCM pmax pmax
comp=Z,126nm,0.8s,mb5.9
BRYW Bryant College 63.02 357 *e*P **P 16 57 24.8 -0.2**
comp=Z,26nm,0.6s,mb5.3
BRYW *e*pP pP 16 57 54.6 +1.1
SLM Saint Louis 63.13 341 *e*P **P 16 57 24.3 -1.5**
comp=Z,38nm,0.7s,mb5.4
SLM Saint Louis 63.13 341 *e*P **P 16 57 24.3 -1.5**
SLM pmax pmax
comp=Z,38nm,0.7s,mb5.4
325A Bean Ranch, Si 63.15 325 ⇑P **P 16 57 25.4 -0.6**
baz=63,SNR=241
226A Malaga, Loving 63.23 326 ⇓P **P 16 57 26.5 -0.1**
baz=63,SNR=34
127A Arkansas Junct 63.34 327 ⇑P **P 16 57 26.3 -1.0**
baz=64,SNR=12
324A Moseley Ranch, 63.48 325 ⇓P **P 16 57 27.0 -1.2**
baz=64,SNR=132
MNTX Cornudas Mount 63.62 325 ⇓P **P 16 57 27.8 -1.3**
baz=64,SNR=80
MNTX Cornudas Mount 63.62 325 *e*P **P 16 57 27.4 -1.8**
comp=Z,46nm,0.8s,mb5.4
MNTX *e*pP pP 16 57 54.4 -3.5
BINY Binghamton 63.63 354 *e*P **P 16 57 28.3 -0.6**
comp=Z,58nm,0.9s,mb5.4
BINY *e*pP pP 16 57 57.3 -0.3
ALLY Alegheny Colle 63.64 350 *e*P **P 16 57 28.1 -0.9**
comp=Z,161nm,0.8s,mb5.9
ALLY *e*pP pP 16 57 58.0 +0.3
225A Deer Hill, Car 63.65 326 ⇓P **P 16 57 28.6 -0.8**
baz=64,SNR=69
126A Clayton Basin, 63.65 327 ⇓P **P 16 57 28.6 -0.7**
baz=64,SNR=20
Z27A Tatum 63.78 328 ⇑P **P 16 57 28.7 -1.4**
baz=64,SNR=75
SFIN Scholer Farm 63.87 344 ⇑P **P 16 57 28.4 -2.2**
baz=64,SNR=15
TRY Troy 63.95 356 *e*P **P 16 57 28.7 -2.4**
comp=Z,27nm,0.8s,mb5.1
TRY *e*pP pP 16 57 59.7 -0.1
125A Gardner Draw, 63.99 326 ⇓P **P 16 57 30.4 -1.1**
baz=64,SNR=36
224A Cornudas Mount 63.99 325 ⇑P **P 16 57 30.5 -1.1**
baz=64,SNR=81
ERPA Erie 64.07 350 *e*P **P 16 57 31.6 -0.2**
comp=Z,245nm,0.8s,mb6.1
ERPA *e*pP pP 16 58 00.0 -0.6
MSTX Muleshoe 64.09 328 ⇑P **P 16 57 31.1 -1.1**
baz=64,SNR=78
Z26A Caprock 64.13 327 ⇓P **P 16 57 31.6 -0.9**
baz=64,SNR=35
Y27A Causey 64.21 328 ⇑P **P 16 57 31.7 -1.2**
baz=64,SNR=51
AMTX Amarillo 64.31 330 ⇑P **P 16 57 32.2 -1.4**
baz=64,SNR=22
AMTX Amarillo 64.31 330 *e*P **P 16 57 31.4 -2.1**
comp=Z,46nm,0.9s,mb5.3
AMTX *e*pP pP 16 57 59.3 -3.0
223A Chaparral, Ant 64.43 324 ⇓P **P 16 57 33.5 -0.9**
baz=65
124A Stringfield Ra 64.44 326 ⇑P **P 16 57 34.0 -0.5**
baz=65,SNR=67
Z25A Roswell 64.51 327 ⇓P **P 16 57 33.8 -1.1**
baz=65,SNR=46
Y26A Elida 64.57 328 ⇓P **P 16 57 34.0 -1.2**
baz=65,SNR=9.0
HDIL Hopedale 64.63 342 *e*P **P 16 57 32.7 -2.8**
comp=Z,78nm,0.6s,mb5.7
HDIL *e*pP pP 16 58 02.5 -1.8
X27A F and S Farms, 64.79 329 ⇑P **P 16 57 35.4 -1.3**
baz=65,SNR=11
123A Bell Site, Whi 64.82 325 ⇑P **P 16 57 36.4 -0.5**
baz=65
222A Williams Famil 64.87 324 ⇑P **P 16 57 37.3 0.0**
baz=65,SNR=14
AAM Ann Arbor 64.91 347 *e*P **P 16 57 36.4 -0.9**
AAM Ann Arbor 64.91 347 *e*P **P 16 57 36.4 -0.9**
Y25A Mesa, Roswell 65.01 327 ⇓P **P 16 57 37.0 -1.1**
baz=65,SNR=43
X26A CR and CF Fran 65.06 328 ⇓P **P 16 57 37.7 -0.8**
baz=65,SNR=68
320A Kipp Ranch, An 65.09 322 ⇓P **P 16 57 38.8 +0.1**
baz=65
W27A Bowe Ranch, En 65.11 329 ⇓P **P 16 57 37.6 -1.1**
baz=65,SNR=34
221A Mesquite Ranch 65.17 323 ⇑P **P 16 57 39.5 +0.2**
baz=65,SNR=20
122A Conniff Cattle 65.27 324 ⇑P **P 16 57 40.3 +0.4**
baz=65,SNR=21
Z23A Rita Site, Whi 65.29 325 ⇓P **P 16 57 39.9 0.0**
baz=66,SNR=54
Y24A Capitan 65.39 326 ⇓P **P 16 57 39.6 -0.9**
baz=66,SNR=16
X25A Clemmons Ranch 65.47 327 ⇑P **P 16 57 40.1 -1.0**
baz=66,SNR=34
W26A Owens Ranch, T 65.47 328 ⇑P **P 16 57 40.7 -0.4**
baz=66,SNR=25
220A Playas Peak, P 65.51 323 ⇓P **P 16 57 41.5 +0.1**
baz=66,SNR=64
319A Douglas 65.55 322 ⇑P **P 16 57 41.9 +0.2**
baz=66,SNR=14
121A Cookes Peak, D 65.57 324 ⇓P **P 16 57 42.2 +0.4**
baz=66,SNR=49
Z22A Elephant Butte 65.67 325 ⇑P **P 16 57 42.7 +0.3**
baz=66,SNR=198
Y23A Lovelace Mesa, 65.71 326 ⇑P **P 16 57 42.5 -0.2**
baz=66,SNR=32
LONY Lake Ozonia 65.90 355 *e*P **P 16 57 43.5 -0.1**
comp=Z,21nm,0.9s,mb5.0

LONY epP pP 16 58 12.3 -0.2
W25A X Bar L Ranch, 65.92 328 ⇑P P 16 57 43.4 -0.5
baz=66,SNR=58
219A White Tail Can 65.99 322 ⇑P P 16 57 44.4 -0.1
baz=66,SNR=74
318A Bisbee 66.00 321 ⇓P P 16 57 44.9 +0.3
baz=66,SNR=80
120A U Bar Ranch, L 66.05 323 ⇓P P 16 57 45.1 +0.2
baz=66,SNR=24
Z21A St. Cloud Mine 66.09 324 ⇓P P 16 57 45.6 +0.4
baz=66,SNR=42
Y22A Socorro 66.20 325 ⇓P P 16 57 46.1 +0.4
baz=66,SNR=19
Y22D IRIS PASSCAL I 66.28 325 ⇓P P 16 57 46.6 +0.3
baz=66
X23A Hourglass Bar 66.29 326 ⇑P P 16 57 46.4 +0.1
baz=66,SNR=9.5
W24A Lazy 6 Ranch, 66.38 327 ⇑P P 16 57 46.4 -0.5
baz=67,SNR=28
218A Dragoon 66.43 322 ⇑P P 16 57 47.6 +0.3
baz=67,SNR=105
Z20A Nine Sixteen R 66.45 324 ⇓P P 16 57 47.8 +0.4
baz=67,SNR=116
V25A Rancho No Teng 66.49 328 ⇑P P 16 57 47.3 -0.3
baz=67,SNR=82
U26A Atchley Ranch, 66.51 329 ⇑P P 16 57 47.5 -0.2
baz=67,SNR=94
SADO Sadowa 66.55 352 LR LR 17 30 47.0
comp=Z,559nm,18.1s,baz=188,slow=39
Y21A Point of Rocks 66.63 325 ⇓P P 16 57 49.4 +0.9
baz=67,SNR=122
ANMO Albuquerque 66.72 326⇓*i*P P 16 57 48.8 -0.2
comp=Z,46nm,0.8s,mb5.4
ANMO epP pP 16 58 17.6 -0.3
ANMO Albuquerque 66.72 326⇓*i*P P 16 57 48.8 -0.3
ANMO e*PP pP 16 58 17.6 -0.4
ANMO pmax pmax
comp=Z,46nm,0.8s
W23A Werner Place, 66.72 327 ⇑P P 16 57 49.1 0.0
baz=67,SNR=11
MAIT Maitri 66.72 159 *e*P **P 16 57 48.4 -0.3**
V24A Rampart Ranch, 66.72 328 ⇑P P 16 57 48.8 -0.3
baz=67,SNR=42
CBKS Cedar Bluff 66.73 334 ⇓P P 16 57 48.7 -0.3
baz=67,SNR=29
CBKS Cedar Bluff 66.73 334⇓*i*P P 16 57 48.3 -0.7
comp=Z,226nm,0.8s,mb6.0
CBKS epP pP 16 58 15.9 -2.1
CBKS Cedar Bluff 66.73 334⇓*i*P P 16 57 48.3 -0.7
CBKS e*PP pP 16 58 15.9 -2.0
CBKS pmax pmax
comp=Z,226nm,0.8s,mb6.0
217A Green Valley 66.73 321 ⇑P P 16 57 49.6 +0.4
baz=67,SNR=61
NVL N'lazarevskaya 66.75 159 *e*P **P 16 57 49.7 +0.9**
NVL pmax pmax
comp=Z,126nm,1.5s,mb5.5
U25A Circle Dot Ran 66.83 329 ⇑P P 16 57 49.4 -0.3
baz=67,SNR=93
Y20A Horse Springs, 66.93 324 ⇓P P 16 57 51.0 +0.6
baz=67,SNR=81
Z19A T-Link Ranch, 66.96 323 ⇓P P 16 57 51.3 +0.6
baz=67,SNR=28
W22A Albuquerque 67.02 326 ⇑P P 16 57 51.7 +0.7
baz=67,SNR=20
X21A Alamocita Cree 67.02 325 ⇑P P 16 57 51.8 +0.8
baz=67,SNR=129
SCIA State Center 67.05 340 *e*P **P 16 57 49.8 -1.2**
comp=Z,105nm,0.9s,mb5.7
JFWS Jewell Farm 67.08 343 *e*P **P 16 57 49.9 -1.3**
comp=Z,104nm,0.8s,mb5.7
JFWS epP pP 16 58 18.4 -1.7
JFWS Jewell Farm 67.08 343 *e*P **P 16 57 49.9 -1.3**
JFWS e*PP pP 16 58 18.4 -1.7
JFWS pmax pmax
comp=Z,105nm,0.8s,mb5.7
TUC Tucson 67.10 322 *e*P **P 16 57 51.3 -0.2**
comp=Z,47nm,1.0s,mb5.3
TUC epP pP 16 58 18.0 -2.5
TUC Tucson 67.10 322 *e*P **P 16 57 51.3 -0.2**
TUC e*PP pP 16 58 18.0 -2.5
TUC pmax pmax
comp=Z,47nm,1.0s,mb5.3
V23A Ortiz Mt. (NFS 67.19 327 ⇓P P 16 57 52.6 +0.5
baz=67,SNR=32
Z18A Geronimo 67.24 323 ⇓P P 16 57 52.6 +0.2
baz=67
U24A Moreno Valley 67.27 328 ⇑P P 16 57 53.3 +0.8
baz=68,SNR=5.7
216A Three Points, 67.27 321 ⇑P P 16 57 52.9 +0.3
baz=67,SNR=108
T25A Trinidad 67.43 329 ⇓P P 16 57 53.4 -0.1
baz=68,SNR=27
Y19A Nutrioso 67.45 324 ⇑P P 16 57 54.7 +1.0
baz=68,SNR=70
W21A San Fidel 67.46 326 ⇑P P 16 57 54.4 +0.6
baz=68,SNR=47
X20A Quemado 67.48 325 ⇑P P 16 57 54.4 +0.5
baz=68,SNR=67
Z17A San Carlos Hig 67.64 323 ⇑P P 16 57 54.8 -0.1
baz=68,SNR=7.0
U23A El Rito 67.66 328 ⇓P P 16 57 55.2 +0.3
baz=68
T24A Torres, Weston 67.68 329 ⇑P P 16 57 55.8 +0.7
baz=68,SNR=36
V22A San Miguel Ran 67.69 327 ⇓P P 16 57 56.1 +0.9
baz=68,SNR=68
Y18A Canyon Day Jun 67.75 323 ⇓P P 16 57 55.9 +0.3
baz=68,SNR=20
116A Eloy 67.82 321 ⇓P P 16 57 56.4 +0.3
baz=68,SNR=11
X19A St. Johns 67.82 324 ⇑P P 16 57 56.4 +0.3
baz=68,SNR=26
S25A Robets Cordova 67.86 330 ⇑P P 16 57 56.4 +0.2
baz=68,SNR=56
R26A Arlington 67.92 331 ⇑P P 16 57 56.4 -0.1
baz=68,SNR=30
W20A Ramah 67.92 325 ⇓P P 16 57 57.3 +0.7
baz=68,SNR=56
V21A Milan 67.98 326 ⇑P P 16 57 57.8 +0.7
baz=68,SNR=14
U22A Llaves 68.03 327 ⇓P P 16 57 57.9 +0.6
baz=68,SNR=34
214A Organ Pipe Nat 68.04 320 ⇓P P 16 57 57.8 +0.3
baz=68,SNR=56
DBIC Dimbokro 68.10 73 *e*P **P 16 57 58.1 -0.1**
DBIC Dimbokro 68.10 73 P **P 16 57 58.2 -0.1**
comp=Z,97nm,0.7s,mb5.7,baz=220,slow=6.9,SNR=110
DBIC LR LR 17 27 06.5
comp=Z,309nm,20.7s,baz=223,slow=35
DBIC Dimbokro 68.10 73 *e*P **P 16 57 58.0 -0.3**
comp=Z,92nm,0.7s,mb5.7
DBIC P 16 57 58.2
DBIC epP pP 16 58 26.7 -0.6
DBIC Dimbokro 68.10 73 *e*P **P 16 57 58.0 -0.3**
DBIC e*PP pP 16 58 26.7 -0.6
DBIC pmax pmax
comp=Z,92nm,0.7s
T23A Casias Ranch, 68.13 328 ⇑P P 16 57 58.2 +0.3
baz=68,SNR=6.1
R25A Fountain Ranch 68.18 330 ⇓P P 16 57 58.0 -0.2
baz=68,SNR=31
S24A Houchin Ranch, 68.21 329 ⇑P P 16 57 59.1 +0.7
baz=68,SNR=64
X18A Snowflake 68.26 324 ⇓P P 16 57 59.4 +0.6
baz=68,SNR=22
BGNE Belgrade 68.32 336 ⇑P P 16 57 58.4 -0.6
baz=68,SNR=18
W19A Sanders 68.39 325 ⇑P P 16 58 00.2 +0.6
baz=69,SNR=25
V20A Brimhall 68.41 326 ⇓P P 16 58 00.0 +0.3
baz=69,SNR=43
SDCO Great Sand Dun 68.43 329 ⇑P P 16 58 00.3 +0.5
baz=69,SNR=134
SDCO Great Sand Dun 68.43 329 *e*P **P 16 57 60.0 +0.2**
comp=Z,75nm,0.8s,mb5.6
SDCO epP pP 16 58 28.3 -0.5
U21A Nageezi 68.47 327 ⇓P P 16 58 00.6 +0.5
baz=69,SNR=44
T22A Edith 68.55 328 ⇓P P 16 58 01.2 +0.7
baz=69,SNR=25
W18A Petrified Fore 68.58 324 ⇑P P 16 58 01.0 +0.3
baz=69,SNR=20
X17A Forest Lakes 68.59 323 ⇑P P 16 58 02.0 +1.1
baz=69,SNR=38
R24A Sanders Place, 68.63 330 ⇑P P 16 58 01.6 +0.6
baz=69,SNR=64
S23A Nye Farm, Mont 68.64 329 ⇑P P 16 58 01.8 +0.7
baz=69
114A Black Gap (USA 68.64 321 ⇓P P 16 58 01.6 +0.4
baz=69,SNR=56
V19A Window Rock 68.66 325 ⇓P P 16 58 01.7 +0.5
baz=69,SNR=127
Q25A Bedland, Calha 68.78 331 ⇓P P 16 58 01.5 -0.4
baz=69
QSPA South Pole Qui 68.84 180 *e*P **P 16 58 01.0 -0.8**
comp=Z,166nm,1.3s,mb5.7
T21A Navajo Lake 68.85 327 ⇓P P 16 58 02.7 +0.4
baz=69,SNR=28
U20A Newcomb 68.88 326 ⇓P P 16 58 02.8 +0.2
baz=69,SNR=51
R23A Moffat 68.94 329 ⇓P P 16 58 03.3 +0.4
baz=69,SNR=62
S22A 4UR Ranch, Cre 69.08 328 ⇓P P 16 58 04.2 +0.4
baz=69,SNR=29
W17A Winslow 69.09 324 ⇓P P 16 58 04.4 +0.5
baz=69,SNR=10
Z14A Wintersburg 69.12 321 ⇑P P 16 58 04.5 +0.3
baz=69,SNR=13
V18A Ganado 69.13 325 ⇑P P 16 58 04.4 +0.2
baz=69,SNR=30
U19A Dine' College, 69.18 325 ⇓P P 16 58 04.2 -0.2
baz=69,SNR=26
113A Mohawk Valley, 69.18 320 ⇑P P 16 58 04.6 0.0
baz=69,SNR=21
P25A Willow Gulch B 69.23 331 ⇓P P 16 58 05.2 +0.5
baz=69,SNR=79
Q24A Divide 69.24 330 ⇓P P 16 58 05.1 +0.3
baz=69,SNR=106
Z13A Yuma Proving G 69.42 320 ⇓P P 16 58 06.4 +0.4
baz=70,SNR=28
R22A Saguache, Gunn 69.42 328 ⇓P P 16 58 06.6 +0.7
baz=70,SNR=34
O26A Horse Wrangler 69.44 332 ⇓P P 16 58 06.0 +0.1
baz=70,SNR=19
T19A Beclabito 69.49 326 ⇑P P 16 58 06.5 +0.2
baz=70,SNR=43
S21A Coal Bank Pass 69.49 327 ⇑P P 16 58 07.0 +0.7
baz=70,SNR=45
MVCO Mesa Verde 69.51 327 ⇓P P 16 58 06.7 +0.3
baz=70,SNR=84
MVCO Mesa Verde 69.51 327 *e*P **P 16 58 06.5 +0.1**
comp=Z,96nm,0.8s,mb5.7
Q23A Hartsel 69.51 329 ⇑P P 16 58 06.4 0.0
baz=70,SNR=22
V17A Tonalea, Kykot 69.53 324 ⇓P P 16 58 07.3 +0.7
baz=70,SNR=173
Y14A Wickenburg 69.56 321 ⇓P P 16 58 07.1 +0.3
baz=70,SNR=27
P24A Kohler Place, 69.57 330 ⇓P P 16 58 07.4 +0.7
baz=70,SNR=9.9
U18A Rough Rock, Ch 69.62 325 ⇑P P 16 58 07.8 +0.6
baz=70,SNR=56
O25A Wiggins 69.69 331 ⇓P P 16 58 07.9 +0.4
baz=70,SNR=5.9
COWI Conover 69.75 345 *e*P **P 16 58 06.7 -1.0**
comp=Z,15nm,0.7s,mb4.9
WUAZ Wupatki 69.77 324 ⇓P P 16 58 08.9 +0.7
baz=70,SNR=97
WUAZ Wupatki 69.77 324 *e*P **P 16 58 09.0 +0.9**
comp=Z,159nm,0.9s,mb5.8
ECSD EROS Data Cent 69.80 338⇓*e*P P 16 58 06.5 -1.6
comp=Z,17nm,0.6s,mb5.0
P23A Jefferson 69.89 330 ⇑P P 16 58 09.5 +0.8
baz=70,SNR=33
S20A Disappointment 69.91 327 ⇑P P 16 58 09.7 +0.8
baz=70,SNR=79
R21A Cimarron 69.92 328 ⇑P P 16 58 09.4 +0.5
baz=70,SNR=45
SPMN St. Paul 69.93 342 ⇑P P 16 58 07.7 -1.2
baz=70,SNR=10
Q22A Crested Butte, 69.99 329 ⇑P P 16 58 09.9 +0.6
baz=70,SNR=16
GLA Glamis 70.02 320 ⇑P P 16 58 10.1 +0.4
baz=70,SNR=13
GLA Glamis 70.02 320 *e*P **P 16 58 09.8 +0.1**
comp=Z,32nm,0.7s,mb5.3
GLA Glamis 70.02 320 *e*P **P 16 58 09.8 +0.1**
GLA pmax pmax
comp=Z,32nm,0.7s,mb5.3
U16A Tuba City 70.10 324 ⇑P P 16 58 10.9 +0.8
baz=70,SNR=46
ISCO Idaho Springs 70.12 330 ⇑P P 16 58 10.6 +0.4
baz=70,SNR=59
ISCO Idaho Springs 70.12 330 *e*P **P 16 58 10.1 0.0**
comp=Z,33nm,0.7s,mb5.3
ISCO epP pP 16 58 39.2 -0.1
ISCO Idaho Springs 70.12 330 *e*P **P 16 58 10.1 0.0**
ISCO e*PP pP 16 58 39.2 -0.1
ISCO pmax pmax
comp=Z,33nm,0.7s,mb5.3
O24A Longmont 70.13 331 ⇓P P 16 58 10.6 +0.4
baz=70
T18A Mexican Hat 70.17 326 ⇑P P 16 58 10.7 +0.2
baz=70,SNR=131
U17A Shonto 70.18 325 ⇑P P 16 58 11.4 +0.8
baz=70,SNR=62
R20A Redvale 70.20 327 ⇓P P 16 58 11.5 +0.8
baz=70,SNR=52
S19A Harvey Farm, M 70.24 327 ⇓P P 16 58 11.4 +0.4
baz=70,SNR=119
N25A Grover 70.25 332 ⇓P P 16 58 11.3 +0.4
baz=70
PV01 Paradox Valley 70.25 327 *e*P **P 16 58 11.4 +0.5**
comp=Z,5μm,0.8s
PV01 epP pP 16 58 37.8 -2.4
SMCO Snowmass 70.27 329 *e*P **P 16 58 11.5 +0.4**
comp=Z,48nm,0.7s,mb5.4
SMCO epP pP 16 58 40.7 +0.4
Q21A Lamborn Mesa, 70.30 328 ⇓P P 16 58 11.5 +0.3
baz=70,SNR=14
Y12C Blythe 70.32 320 ⇓P P 16 58 11.8 +0.3
baz=70,SNR=32
P22A Eagle 70.50 329 ⇑P P 16 58 12.7 +0.3
baz=71,SNR=8.3
DVTC Desert V Tower 70.53 318 ⇑P P 16 58 13.4 +0.6
baz=71,SNR=11
SWSC Sam W. Stewart 70.53 319 ⇓P P 16 58 13.1 +0.3
baz=71,SNR=9.9
L27A T5 Ranch, Ells 70.54 334 ⇑P P 16 58 12.7 +0.1
baz=71
T17A Navajo Res., N 70.56 325 ⇑P P 16 58 14.0 +1.2
baz=71,SNR=127
O23A Lake Granby, G 70.59 330 ⇑P P 16 58 13.6 +0.6
baz=71,SNR=61
N24A Carr 70.61 331 ⇑P P 16 58 13.8 +0.7
baz=71,SNR=16
PV04 Paradox Valley 70.62 327 *e*P **P 16 58 13.2 0.0**
S18A Hurst Farm, Bl 70.64 326 ⇓P P 16 58 14.2 +0.8
baz=71,SNR=192
R19A Curley Farm, L 70.72 327 ⇓P P 16 58 14.1 +0.3
baz=71,SNR=45
M25A Palm-Egli Farm 70.74 332 ⇓P P 16 58 14.2 +0.3
baz=71,SNR=5.1
Q20A Ridgley Place, 70.74 328 ⇓P P 16 58 14.2 +0.3
baz=71
P21A Newcastle 70.77 329 ⇓P P 16 58 15.0 +0.9
baz=71,SNR=113
BC3 Big Chuckawall 70.81 320 ⇓P P 16 58 14.9 +0.4
baz=71,SNR=94
L26A Underwood Farm 70.82 333 ⇑P P 16 58 14.7 +0.4
baz=71,SNR=6.1
O22A Kremmling 70.84 330 ⇓P P 16 58 14.8 +0.3
baz=71,SNR=87
MONP Monument Peak 70.88 318 ⇓P P 16 58 15.6 +0.7
baz=71,SNR=36
W13A Hualapai Mount 70.89 322 ⇓P P 16 58 16.0 +1.0
baz=71,SNR=80
BAR Barrett 70.90 318⇓*i*P P 16 58 15.1 +0.1
comp=Z,83nm,1.0s,mb5.5
BAR *e*PcP PcP 16 58 33.6 -1.3
BAR epP pP 16 58 43.7 -0.6
U15A North Rim 70.95 324 ⇓P P 16 58 16.5 +1.2
baz=71,SNR=117
IRM Iron Mountain 70.98 320 ⇑P P 16 58 16.0 +0.5
baz=71,SNR=68
K27A Fluecking Fa 71.02 334 ⇑P P 16 58 15.8 +0.3
baz=71
S17A Black Ridge (B 71.03 325 ⇑P P 16 58 16.4 +0.7
baz=71,SNR=64
NEE2 Needles Airpor 71.09 321 ⇑P P 16 58 16.6 +0.4
baz=71
R18A Canyonlands Na 71.12 327 ⇑P P 16 58 16.2 -0.1
baz=71,SNR=81
N23A Red Feather La 71.15 331 ⇑P P 16 58 16.7 +0.4
baz=71,SNR=44
P20A De Beque 71.21 328 ⇑P P 16 58 17.0 +0.2
baz=71,SNR=11
Q19A Hogan Spring (71.23 327 ⇑P P 16 58 17.1 +0.2
baz=71,SNR=38
BRSD Miller 71.24 337 ⇑P P 16 58 16.1 -0.7
baz=71
PHWY Pilot Hill 71.25 331 *e*P **P 16 58 17.0 0.0**
comp=Z,15nm,0.6s,mb5.0
PHWY epP pP 16 58 45.4 -0.8
L25A Engebretsen Ra 71.29 333 ⇑P P 16 58 17.7 +0.5
baz=72,SNR=5.5
N22A Wattenberg Ran 71.31 330 ⇑P P 16 58 17.8 +0.5
baz=72,SNR=52
109C Camp Elliot, M 71.31 318 ⇑P P 16 58 17.9 +0.3
baz=72
O21A Pagoda 71.32 329 ⇑P P 16 58 18.5 +1.0
baz=72
BELC Belle Mtn. Jos 71.38 320 ⇑P P 16 58 18.4 +0.5
baz=72,SNR=37
PFO Pinyon Flat Ob 71.39 319 ⇑P P 16 58 18.5 +0.5
baz=72,SNR=26
PFO Pinyon Flat Ob 71.39 319 *e*P **P 16 58 18.3 +0.3**
comp=Z,49nm,0.9s,mb5.3
PFO Pinyon Flat Ob 71.39 319 *e*P **P 16 58 18.3 +0.3**
PFO pmax pmax
comp=Z,49nm,0.9s,mb5.3
K26A Motz Farm, Whi 71.41 334 ⇓P P 16 58 18.1 +0.3
baz=72,SNR=6.0
M23A Laramie 71.50 331 ⇓P P 16 58 18.6 +0.1
baz=72,SNR=18
S16A Weppner Ranch, 71.52 325 ⇓P P 16 58 19.0 +0.4
baz=72,SNR=39
R17A Hanksville Air 71.56 326 ⇑P P 16 58 19.4 +0.5
baz=72,SNR=90
LDFC Landfair 71.59 321 *e*P **P 16 58 20.1 +0.9**
comp=Z,116nm,0.9s,mb5.7
P19A Cripple Cowboy 71.61 328 ⇓P P 16 58 19.9 +0.8
baz=72,SNR=312
L24A Wheatland 71.62 332 ⇑P P 16 58 19.1 -0.1
baz=72,SNR=5.3
O20A White River Ci 71.63 329 ⇑P P 16 58 19.7 +0.4
baz=72,SNR=32
GMRC Granite Mounta 71.71 320 ⇓P P 16 58 20.6 +0.8
baz=72,SNR=104
N21A Black Mountain 71.77 330 ⇓P P 16 58 20.8 +0.7
baz=72,SNR=14
Q18A Rafter H Ranch 71.78 327 ⇑P P 16 58 20.6 +0.4
baz=72,SNR=34
MURC Murrieta 71.84 319 ⇑P P 16 58 21.1 +0.3
baz=72,SNR=7.3
M22A Cedar Creek Ra 71.85 331 ⇑P P 16 58 20.9 +0.4
baz=72,SNR=38
R16A Teasdale 71.87 325 ⇓P P 16 58 21.1 +0.4
baz=72,SNR=28
L23A Garrett 72.01 332 ⇓P P 16 58 21.6 +0.1
baz=72,SNR=21
EYMN Ely 72.07 344⇓*e*P P 16 58 20.1 -1.6
comp=Z,62nm,0.8s,mb5.5
EYMN epP pP 16 58 49.2 -1.8
K24A Anderson Ranch 72.12 333 ⇓P P 16 58 22.3 +0.2
baz=72,SNR=19
BBRC Big Bear Solar 72.12 319 ⇓P P 16 58 23.3 +0.9
baz=72,SNR=5.8
HEC Hector,Ludlow 72.15 320 ⇓P P 16 58 23.3 +0.8
baz=72,SNR=20
Q16A Castle Valley 72.18 326 ⇑P P 16 58 23.0 +0.4
baz=72,SNR=35
O19A Miners Draw (B 72.19 328 ⇑P P 16 58 23.0 +0.4
baz=72,SNR=82
P18A Preston Nutter 72.23 327 ⇑P P 16 58 23.5 +0.6
baz=72,SNR=174
R15A Junction 72.24 325 ⇓P P 16 58 23.7 +0.8
baz=72,SNR=17
L22A Ellis Ranch, M 72.27 331 ⇓P P 16 58 23.6 +0.5
baz=72,SNR=9.6
SCI San Clemente I 72.28 317 ⇓P P 16 58 23.4 +0.1
baz=72
TUQ Turquoise Moun 72.32 321 ⇓P P 16 58 23.9 +0.3
baz=72,SNR=52
CCUT Cedar City 72.35 324⇓*i*P P 16 58 24.9 +1.3
comp=Z,180nm,0.8s,mb6.0
CCUT epP pP 16 58 54.0 +1.0
RWWY Rawlins 72.36 330 *e*P **P 16 58 23.8 +0.2**
comp=Z,56nm,0.8s,mb5.5
RWWY epP pP 16 58 52.0 -0.8
M21A Separation Pea 72.36 330 ⇓P P 16 58 23.9 +0.3
baz=73,SNR=32
P17A Butcher Ranch, 72.37 327 ⇓P P 16 58 24.1 +0.4
baz=73,SNR=56
MSU Marysvale 72.41 325 *e*P **P 16 58 24.4 +0.5**
comp=Z,122nm,0.8s,mb5.8
MSU Marysvale 72.41 325 *e*P **P 16 58 24.4 +0.5**
MSU pmax pmax
comp=Z,122nm,0.8s,mb5.8
CIS Catalina Islan 72.47 318 ⇑P P 16 58 24.7 +0.3
baz=73,SNR=7.3
TMUT Trail Mountain 72.48 326 *e*P **P 16 58 24.6 +0.2**
comp=Z,40nm,0.6s,mb5.4
K23A Bowen Ranch, D 72.49 332 ⇑P P 16 58 24.5 +0.2
baz=73,SNR=16
J24A Dixon Ranch, L 72.55 333 ⇑P P 16 58 25.3 +0.6
baz=73,SNR=17
BFSC Mount Baldy Ra 72.56 319 ⇑P P 16 58 25.1 +0.2
baz=73,SNR=28
ARUT Antelope Range 72.56 324 *e*P **P 16 58 25.9 +1.0**
comp=Z,179nm,0.9s,mb5.9
ARUT epP pP 16 58 55.0 +0.8
ARUT Antelope Range 72.56 324 *e*P **P 16 58 25.9 +1.0**
ARUT e*PP pP 16 58 55.0 +0.8
ARUT pmax pmax
comp=Z,179nm,0.9s,mb5.9
RRX Edison Barstow 72.58 320 ⇓P P 16 58 25.5 +0.4
baz=73
O18A Roosevelt 72.60 328 ⇑P P 16 58 25.6 +0.5
baz=73,SNR=8.6
FMP Fort Macarthur 72.60 318 ⇑P P 16 58 25.5 +0.3
baz=73
L21A Rawlins 72.65 330 ⇑P P 16 58 25.3 0.0
baz=73,SNR=74
M20A Sweetwater, Wa 72.66 330 ⇑P P 16 58 25.7 +0.3
baz=73,SNR=40
N19A John Jarvie Ra 72.67 329 ⇓P P 16 58 25.5 +0.1
baz=73,SNR=24
GSC Goldstone 72.75 320 ⇓P P 16 58 26.8 +0.7
baz=73,SNR=23
GSC Goldstone 72.75 320⇑*e*P P 16 58 26.4 +0.3
comp=Z,63nm,1.0s,mb5.4
GSC epP pP 16 58 53.9 -1.5
GSC Goldstone 72.75 320⇑*e*P P 16 58 26.4 +0.3
GSC e*PP pP 16 58 53.9 -1.5
GSC pmax pmax
comp=Z,63nm,1.0s,mb5.4
MWC Mount Wilson 72.79 319 *e*P **P 16 58 26.9 +0.6**
comp=Z,26nm,0.6s,mb5.2
MWC epP pP 16 58 55.7 0.0
MWC Mount Wilson 72.79 319 *e*P **P 16 58 26.9 +0.6**
MWC e*PP pP 16 58 55.7 0.0
MWC pmax pmax
comp=Z,26nm,0.6s,mb5.2
K22A Casper 72.81 331 ⇓P P 16 58 26.4 +0.1
baz=73,SNR=18
SHOC Shoshone 72.85 321 ⇑P P 16 58 26.9 +0.3
baz=73
O17A Robinson Place 72.91 327 ⇓P P 16 58 27.7 +0.8
baz=73,SNR=71
RSSD Black Hills 72.93 334⇓*i*P P 16 58 26.6 -0.3
comp=Z,38nm,0.8s,mb5.3
RSSD epP pP 16 58 55.9 -0.4
RSSD Black Hills 72.93 334⇓*i*P P 16 58 26.6 -0.3
RSSD e*PP pP 16 58 55.9 -0.4
RSSD pmax pmax
comp=Z,38nm,0.8s,mb5.3
P16A Fountain Green 72.94 326 ⇓P P 16 58 27.8 +0.7
baz=73
I24A Kuemmerle Ranc 72.96 333 ⇑P P 16 58 27.3 +0.2
baz=73,SNR=13
N18A Larsen Ranch, 72.97 328 ⇑P P 16 58 27.5 +0.2
baz=73,SNR=29
DECC Green Verdugo 72.98 318 ⇓P P 16 58 28.0 +0.6
baz=73,SNR=5.6
J23A Dilts Ranch, B 72.98 332 ⇑P P 16 58 27.6 +0.3
baz=73
K21A Alcova 73.12 331 ⇓P P 16 58 28.5 +0.4
baz=73,SNR=156
M19A Rock Springs 73.13 329 ⇓P P 16 58 28.0 -0.1
baz=73,SNR=9.3

L20A Wamsutter 73.13 330 ⇑P P 16 58 28.4 +0.3
baz=73,SNR=50
R13A O'Grain Ranch, 73.13 324 ⇑P P 16 58 29.4 +1.1
baz=73,SNR=56
EDW2 Edwards Air Fo 73.19 319 ⇑P P 16 58 28.6 0.0
baz=73,SNR=39
MPU Maple Canyon 73.23 327 *eP* **P 16 58 29.6 +0.9**
comp=Z,92nm,0.9s,mb5.6
MPU *epP* pP 16 58 58.0 -0.2
P15A Leamington 73.24 326 ⇓P P 16 58 29.4 +0.6
baz=73,SNR=10.0
O16A Springville 73.31 327 ⇑P P 16 58 29.8 +0.6
baz=74,SNR=17
DAU Daniels Canyon 73.33 327 *eP* **P 16 58 30.0 +0.6**
DAU *epP* pP 16 58 59.4 +0.6
DAU Daniels Canyon 73.33 327 *eP* **P 16 58 30.0 +0.6**
DAU *e*PP pP 16 58 59.4 +0.6
BLG Laguna Peak 73.34 318 ⇓P P 16 58 29.7 +0.1
baz=74,SNR=8.9
J22A Midwest 73.39 332 ⇑P P 16 58 29.5 -0.2
baz=74,SNR=52
I23A Meade Ranch, G 73.40 333 ⇑P P 16 58 29.3 -0.4
baz=74
LRMC Laurel Mountai 73.40 320 ⇓P P 16 58 30.2 +0.3
baz=74,SNR=37
OSI Osito Adit 73.46 318 ⇑P P 16 58 30.4 +0.1
baz=74,SNR=6.9
OSI Osito Adit 73.46 318 *eP* **P 16 58 30.3 +0.1**
comp=Z,75nm,1.0s,mb5.5
M18A Lyman 73.51 328 ⇓P P 16 58 30.3 -0.1
baz=74,SNR=45
N17A Moffit Pass 73.52 328 ⇑P P 16 58 31.4 +1.0
baz=74,SNR=161
JLU Jordanelle 73.57 327 *eP* **P 16 58 31.4 +0.7**
comp=Z,98nm,1.4s,mb5.3
JLU *epP* pP 16 59 00.4 +0.2
FURC Furnace Creek, 73.58 321 ⇑P P 16 58 31.5 +0.6
baz=74,SNR=21
AGMN Agassiz Nation 73.61 341 *eP* **P 16 58 29.3 -1.5**
comp=Z,43nm,0.9s,mb5.2
BSC Santa Cruz Isl 73.62 317 ⇑P P 16 58 31.3 +0.1
baz=74,SNR=7.3
K20A Yellowstone Ra 73.64 330 ⇑P P 16 58 30.9 -0.2
baz=74,SNR=74
H24A Dirks Ranch, A 73.66 334 ⇑P P 16 58 30.7 -0.4
baz=74,SNR=32
MPMC Manual Prospec 73.68 320 ⇑P P 16 58 31.6 +0.1
baz=74,SNR=44
L19A Farson 73.68 329 ⇓P P 16 58 31.7 +0.3
baz=74,SNR=42
J21A Lysite 73.77 331 ⇓P P 16 58 32.1 +0.3
baz=74,SNR=46
I22A 9 Mile Ranch, 73.78 332 ⇑P P 16 58 31.7 -0.2
baz=74,SNR=64
N16A Rees Ranch, Co 73.78 327 ⇑P P 16 58 32.7 +0.8
baz=74,SNR=26
M17A Scullys Gap (B 73.84 328 ⇑P P 16 58 32.2 -0.1
baz=74,SNR=40
H23A Clabaugh Cattl 73.86 333 ⇓P P 16 58 32.2 -0.1
baz=74,SNR=5.6
O15A The Old Anders 73.86 326 ⇓P P 16 58 33.3 +0.9
baz=74,SNR=12
ARVC Arvin 73.86 319 ⇓P P 16 58 32.7 +0.1
baz=74
L18A Fontenelle, Gr 73.87 329 ⇓P P 16 58 32.7 +0.2
baz=74,SNR=110
NOQ North Oquirrh 73.95 327 *eP* **P 16 58 33.1 +0.1**
comp=Z,31nm,0.6s,mb5.2
DUG Dugway 73.97 326 ⇑P P 16 58 33.8 +0.6
baz=74,SNR=58
DUG Dugway 73.97 326 *eP* **P 16 58 33.5 +0.4**
comp=Z,70nm,1.0s,mb5.3
DUG *epP* pP 16 59 02.5 -0.1
DUG Dugway 73.97 326 *eP* **P 16 58 33.5 +0.4**
DUG *e*PP pP 16 59 02.5 0.0
DUG pmax pmax
comp=Z,70nm,1.0s,mb5.3
K19A Absolon Red Bu 74.00 330 ⇓P P 16 58 32.9 -0.3
baz=74,SNR=47
ISA Isabella 74.00 319 ⇓P P 16 58 34.0 +0.6
baz=74,SNR=79
ISA Isabella 74.00 319 *eP* **P 16 58 33.8 +0.4**
comp=Z,73nm,0.8s,mb5.5
ISA *epP* pP 16 59 02.8 0.0
ISA Isabella 74.00 319 *eP* **P 16 58 33.8 +0.4**
ISA *e*PP pP 16 59 02.8 0.0
ISA pmax pmax
comp=Z,73nm,0.8s,mb5.5
J20A Shoshoni 74.06 331 ⇑P P 16 58 33.9 +0.4
baz=74,SNR=21
I21A Big Trails, Te 74.07 332 ⇑P P 16 58 33.5 -0.1
baz=74,SNR=102
G24A Alzada 74.08 334 ⇑P P 16 58 33.5 -0.1
baz=74,SNR=9.2
TBI Tubuai 74.12 251 *eS* S 17 08 00.7 +2.3
TBI
comp=Z,518nm,31.2s
TBI *eLR* LR 17 21 39.5
comp=Z,293nm,42.2s
GRAC Grapevine Rang 74.24 321 ⇓P P 16 58 35.7 +1.0
baz=74
CWC Cottonwood Cre 74.28 320 ⇑P P 16 58 35.5 +0.5
baz=74,SNR=64
H22A Clearmont 74.28 333 ⇓P P 16 58 34.4 -0.4
baz=74,SNR=14
BW06 Boulder Array 74.29 330 ⇓P P 16 58 34.9 0.0
baz=74,SNR=34
PDAR Pinedale Array 74.29 330 P P 16 58 35.3 +0.4
comp=Z,14nm,0.7s,mb4.8,baz=82,slow=6.6,SNR=73
PDAR Pinedale Array 74.29 330 P P 16 58 35.3 +0.4
PD01 Pinedale Array 74.31 330 *eP* **P 16 58 34.4 -0.6**
PKM Peak Mountain 74.33 318 ⇑P P 16 58 35.8 +0.5
baz=74,SNR=38
N15A Stansbury Isla 74.33 327 ⇑P P 16 58 35.3 +0.1
baz=74,SNR=6.8
G23A Biddle 74.37 334 ⇓P P 16 58 35.2 -0.1
baz=75,SNR=42
HWUT Hardware Ranch 74.38 328 *eP* **P 16 58 35.0 -0.4**
comp=Z,95nm,0.7s,mb5.6
HWUT *epP* pP 16 59 04.0 -1.0
L17A Cokeville 74.41 328 ⇑P P 16 58 35.6 0.0
baz=75,SNR=13
MDND Maddock 74.41 339 ⇑P P 16 58 35.4 0.0
baz=75,SNR=28
K18A Toltan Ranch, 74.42 329 ⇑P P 16 58 36.0 +0.4
baz=75,SNR=55
J19A Crowheart 74.44 330 ⇑P P 16 58 35.9 +0.2
baz=75,SNR=74
VES Vestal, Richgr 74.49 319 ⇓P P 16 58 36.5 +0.3
baz=75,SNR=12
F24A Ekalaka 74.51 335 ⇑P P 16 58 35.8 -0.3
baz=75,SNR=18
I20A Worland 74.55 331 ⇑P P 16 58 36.5 +0.1
baz=75,SNR=42
H21A Big Horn, Sher 74.61 332 ⇓P P 16 58 36.2 -0.5
baz=75,SNR=42
L16A Fish Haven 74.62 328 ⇓P P 16 58 36.9 +0.1
baz=75,SNR=29
SMMC Simmler 74.71 318 ⇓P P 16 58 38.3 +0.8
baz=75,SNR=26
M15A Larsen Ranch, 74.72 327 ⇓P P 16 58 37.4 0.0
baz=75,SNR=37
G22A Birney 74.76 333 ⇓P P 16 58 37.1 -0.5
baz=75,SNR=14
TIN Tinemaha 74.79 321 ⇓P P 16 58 38.7 +0.8
baz=75,SNR=13
J18A Kendall Valley 74.85 330 ⇓P P 16 58 38.2 +0.1
baz=75,SNR=177
RCTC Rector, Farmer 74.90 319 ⇓P P 16 58 38.1 -0.5
baz=75
H20A Greybull 74.92 332 ⇑P P 16 58 38.0 -0.4
baz=75,SNR=36
K17A Gardner Place, 74.92 329 ⇓P P 16 58 38.6 0.0
baz=75,SNR=63
I19A Meeteetse 75.01 331 ⇑P P 16 58 39.3 +0.3
baz=75,SNR=77
AHID Auburn Hatcher 75.02 329 *eP* **P 16 58 39.4 +0.3**
comp=Z,126nm,0.8s,mb5.7
E24A Baker 75.05 335 ⇑P P 16 58 39.3 +0.1
baz=75,SNR=32
L15A Malad City 75.09 328 ⇓P P 16 58 39.6 0.0
baz=75,SNR=121
I18A Diamond G Ranc 75.13 330 ⇑P P 16 58 40.0 +0.3
baz=75,SNR=123
G21A Lodge Grass 75.15 333 ⇑P P 16 58 39.5 -0.3
baz=75,SNR=24
F22A Rosebud 75.20 334 ⇓P P 16 58 39.7 -0.3
baz=75,SNR=36
PMOR Pomariorio Ree 75.22 259 *eP* **P 16 58 41.3 +0.4**
comp=Z,123nm,1.0s,mb5.6
J17A Brown Place, J 75.29 329 ⇑P P 16 58 41.0 +0.4
baz=76,SNR=57
K16A Soda Springs 75.31 329 ⇑P P 16 58 41.3 +0.5
baz=76,SNR=114
REDW Red Top Meadow 75.36 329 *eP* **P 16 58 41.2 +0.2**
comp=Z,51nm,0.8s,mb5.3
ULM Lac du Bonnet 75.36 342 P P 16 58 39.7 -1.2
comp=Z,29nm,0.5s,mb5.3,baz=154,slow=6.1,SNR=61
ULM LR LR 17 35 41.8
comp=Z,368nm,18.1s,baz=122,slow=39
ULM Lac du Bonnet 75.36 342 *eP* **P 16 58 39.4 -1.5**
comp=Z,27nm,0.5s,mb5.2
ULM P 16 58 39.7
ULM *epP* pP 16 59 08.0 -2.4
ULM Lac du Bonnet 75.36 342 *eP* **P 16 58 39.4 -1.5**
ULM *e*PP pP 16 59 08.0 -2.4
ULM pmax pmax
comp=Z,27nm,0.5s
SNOW Snow King Moun 75.39 329 *eP* **P 16 58 42.0 +0.8**
comp=Z,77nm,0.8s,mb5.5
E23A Ismay 75.39 335 ⇓P P 16 58 40.7 -0.4
baz=76,SNR=10
LOHW Long Hollow 75.43 330 *eP* **P 16 58 41.8 +0.3**
comp=Z,56nm,0.8s,mb5.3
H19A Powell 75.50 331 ⇓P P 16 58 41.8 +0.1
baz=76,SNR=27
TPAW Teton Pass 75.50 329 *eP* **P 16 58 41.6 -0.2**
comp=Z,69nm,0.8s,mb5.4
D24A Glendive 75.51 335 ⇓P P 16 58 41.9 +0.1
baz=76,SNR=9.7
MLAC Mammoth Lakes 75.53 321 ⇑P P 16 58 42.9 +0.7
baz=76,SNR=8.0
L14A Malta 75.54 327 ⇓P P 16 58 42.1 0.0
baz=76
RRI2 Red Ridge 75.57 329⇓*iP* **P 16 58 42.7 +0.4**
comp=Z,129nm,0.9s,mb5.7
RRI2 *epP* pP 16 59 10.1 -1.6
G20A Bridger 75.59 332 ⇑P P 16 58 42.0 -0.3
baz=76,SNR=53
F21A Absaloka Mine, 75.59 333 ⇑P P 16 58 42.3 0.0
baz=76,SNR=9.9
MOOW Moose Ponds 75.60 330⇓*iP* **P 16 58 42.4 0.0**
comp=Z,34nm,0.9s,mb5.1
MOOW *epP* pP 16 59 10.7 -1.2
E22A Miles City 75.60 334 ⇑P P 16 58 41.9 -0.4
baz=76,SNR=7.8
I17A Pilgrim Ck. 75.65 330 ⇓P P 16 58 43.6 +0.9
baz=76,SNR=53
K15A Arbon 75.66 328 ⇓P P 16 58 42.8 0.0
baz=76,SNR=65
DCID1 Drake Creek 75.69 329 *eP* **P 16 58 43.4 +0.4**
comp=Z,91nm,0.9s,mb5.5
NVAR Mina Array Bea 75.75 322 P P 16 58 44.0 +0.5
comp=Z,35nm,0.8s,mb5.1,baz=150,slow=6.0,SNR=179
NVAR Mina Array Bea 75.75 322 P P 16 58 44.0 +0.5
IMW Indian Meadow 75.80 330 *eP* **P 16 58 44.1 +0.5**
comp=Z,74nm,0.8s,mb5.5
IMW *epP* pP 16 59 13.2 +0.1
H18A Shoshone NF, C 75.81 331 ⇓P P 16 58 43.5 -0.1
baz=76,SNR=94
FLWY Flagg Ranch 75.83 330 *eP* **P 16 58 44.3 +0.6**
comp=Z,156nm,0.8s,mb5.8
FLWY *epP* pP 16 59 14.0 +0.8
SCHQ Schefferville 75.88 1 P P 16 58 43.3 -0.4
comp=Z,32nm,0.7s,mb5.2,baz=189,slow=4.7,SNR=40
SCHQ Schefferville 75.88 1 *eP* **P 16 58 42.5 -1.2**
comp=Z,33nm,0.7s,mb5.2
SCHQ P 16 58 43.3
SCHQ *epP* pP 16 59 13.2 0.0
K14A Jones Ranch, D 75.88 327 ⇓P P 16 58 43.8 -0.2
baz=76,SNR=14
C24A Savage 75.89 336 ⇑P P 16 58 43.8 -0.2
baz=76,SNR=8.7
LAO LASA Array 75.92 334 ⇑P P 16 58 43.9 -0.2
baz=76,SNR=15
LAO LASA Array 75.92 334 *eP* **P 16 58 44.0 -0.1**
comp=Z,94nm,1.2s,mb5.4
LAO *epP* pP 16 59 13.7 0.0
PAE Paea 75.93 256 *eP* **P 16 58 44.2 -0.7**
comp=Z,54nm,1.3s,mb5.1
PPT2 Papeete2 75.95 256 *eP* **P 16 58 45.6 +0.5**
comp=Z,116nm,1.3s,mb5.4
PPT Papeete 75.95 256 *eS* S 17 08 19.3 +0.4
comp=Z,714nm,25.0s
PPT *eLR* LR 17 22 25.6
comp=Z,942nm,39.5s
RLMT Red Lodge 75.97 331 ⇑P P 16 58 44.9 +0.4
baz=76,SNR=57
RLMT Red Lodge 75.97 331⇓*iP* **P 16 58 44.8 +0.3**
comp=Z,76nm,0.9s,mb5.4
RLMT *epP* pP 16 59 14.7 +0.6
H17A Grant Village 76.01 330 ⇑P P 16 58 45.8 +1.1
baz=76,SNR=9.9
F20A Billings 76.02 332 ⇓P P 16 58 44.5 -0.2
baz=76,SNR=18
I16A Nendale 76.05 329 ⇓P P 16 58 45.6 +0.7
baz=76,SNR=40
LKWY Lake 76.06 330⇓*iP* **P 16 58 46.3 +1.3**
comp=Z,72nm,0.9s,mb5.4
LKWY Lake 76.06 330⇓*iP* **P 16 58 46.3 +1.3**
LKWY pmax pmax
comp=Z,72nm,0.9s,mb5.4
SBA Scott Base 76.08 190 *eP* **P 16 58 44.9 +0.1**
comp=Z,79nm,1.4s,mb5.2
SBA Scott Base 76.08 190 *eP* **P 16 58 44.9 +0.1**
SBA pmax pmax
comp=Z,79nm,1.4s,mb5.2
E21A Keefer Ranch, 76.15 334 ⇑P P 16 58 45.6 +0.2
baz=76,SNR=7.0
YFT Old Faithful 76.17 330⇓*iP* **P 16 58 47.3 +1.7**
comp=Z,67nm,0.9s,mb5.4
G18A Lazy EL Ranch, 76.26 331 ⇓P P 16 58 46.3 +0.2
baz=76,SNR=77
D22A Cohagen 76.27 334 ⇓P P 16 58 46.5 +0.3
baz=76,SNR=8.9
YNR Norris Junctio 76.30 330⇓*eP* **P 16 58 47.4 +1.0**
comp=Z,35nm,0.8s,mb5.1
YMR Madison River 76.40 330 *eP* **P 16 58 47.8 +0.8**
comp=Z,170nm,1.2s,mb5.7
YMR *epP* pP 16 59 17.4 +0.9
F19A Roth Farm, Mol 76.40 332 ⇑P P 16 58 47.0 +0.1
baz=77,SNR=74
C23A Lambert 76.41 335 ⇓P P 16 58 47.1 +0.2
baz=77,SNR=11
SYO Syowa Base 76.42 159⇑*eP* **P 16 58 44.6 -2.2**
SYO Syowa Base 76.42 159⇓*iPcP* PcP 16 58 54.6 -3.5
BMN Battle Mountai 76.51 324 *eP* **P 16 58 47.2 -0.5**
comp=Z,9.8nm,0.7s,mb4.7
BMN Battle Mountai 76.51 324 *eP* **P 16 58 47.2 -0.4**
BMN pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
D21A La Casta Ranch 76.53 334 ⇑P P 16 58 47.8 +0.2
baz=77,SNR=43
SAO San Andreas Ge 76.54 319 *eP* **P 16 58 47.9 0.0**
comp=Z,13nm,0.7s,mb4.8
SAO San Andreas Ge 76.54 319 *eP* **P 16 58 47.9 0.0**
SAO pmax pmax
comp=Z,13nm,0.7s,mb4.8
H16A Russell Place, 76.56 330 ⇓P P 16 58 48.8 +1.0
baz=77,SNR=54
E20A Meyer Farm, Mu 76.56 333 ⇓P P 16 58 48.2 +0.4
baz=77,SNR=68
DGMT Dagmar 76.58 336 ⇑P P 16 58 48.2 +0.4
baz=77,SNR=20
DGMT Dagmar 76.58 336 *eP* **P 16 58 47.8 0.0**
comp=Z,69nm,0.7s,mb5.5
DGMT *epP* pP 16 59 16.0 -1.5
I15A Monteview 76.62 329 ⇓P P 16 58 49.1 +0.9
baz=77,SNR=28
J14A Carey 76.62 328 ⇓P P 16 58 49.0 +0.8
baz=77,SNR=83
C22A Vida 76.64 335 ⇓P P 16 58 48.1 0.0
baz=77,SNR=8.5
CMB Columbia Colle 76.72 320 *eP* **P 16 58 48.9 0.0**
comp=Z,21nm,1.1s,mb4.8
CMB Columbia Colle 76.72 320 *eP* **P 16 58 48.9 0.0**
CMB pmax pmax
comp=Z,21nm,1.1s,mb4.8
TORD Torodi Ar. Bea 76.73 70 P P 16 58 49.1 -0.4
comp=Z,74nm,0.6s,mb5.6,baz=250,slow=5.4,SNR=284
TORD S S 17 08 26.0 -1.3
comp=Z,3.8nm,1.0s,baz=250,slow=9.7,SNR=9.2
TORD LR LR 17 34 09.3
comp=Z,254nm,18.7s,baz=225,slow=37
TORD Torodi Ar. Bea 76.73 70 P P 16 58 49.1 -0.4
TORD S S 17 08 26.0 -1.3
F18A Big Timber 76.78 332 ⇑P P 16 58 49.2 +0.2
baz=77,SNR=123
G17A Pierce Place, 76.79 331 ⇑P P 16 58 49.5 +0.3
baz=77,SNR=17
E19A Rath Farm, Rou 76.81 333 ⇑P P 16 58 49.2 0.0
baz=77,SNR=92
B23A Brockton 76.88 336 ⇓P P 16 58 49.9 +0.4
baz=77
A24A Westby 76.88 337 ⇑P P 16 58 49.8 +0.2
baz=77
J13A Cove Ranch, Pi 77.00 327 ⇑P P 16 58 51.1 +0.7
baz=77,SNR=59
D20A Manuel Ranch, 77.03 333 ⇑P P 16 58 50.2 -0.2
baz=77,SNR=32
I14A Mackay 77.03 328 ⇓P P 16 58 51.5 +1.0
baz=77,SNR=87
VNDA Vanda 77.10 190 *eP* **P 16 58 50.2 -0.4**
comp=Z,11nm,0.9s,mb4.6
VNDA Vanda 77.10 190 *eP* **P 16 58 50.2 -0.3**
VNDA pmax pmax
comp=Z,11nm,0.9s
B22A Reddig Ranch S 77.13 335 ⇓P P 16 58 51.0 +0.1
baz=77
H15A Lima 77.15 329 ⇑P P 16 58 52.2 +1.1
baz=77,SNR=23
WCN Washoe City 77.18 321 ⇓P P 16 58 52.3 +0.8
baz=77
C21A Desert Coulee 77.18 334 ⇓P P 16 58 51.1 -0.1
baz=77,SNR=8.0
F17A Fitzpatrick Pl 77.20 331 ⇑P P 16 58 52.2 +0.8
baz=77,SNR=58
G16A Moss Hill, Enn 77.21 330 ⇓P P 16 58 52.0 +0.5
baz=77,SNR=34
A23A Redstone 77.24 336 ⇓P P 16 58 51.3 -0.3
baz=77
HLID Hailey 77.24 327 ⇓P P 16 58 52.7 +1.0
baz=77,SNR=254
HLID Hailey 77.24 327⇓*iP* **P 16 58 52.5 +0.8**
comp=Z,128nm,0.8s,mb5.7
HLID *epP* pP 16 59 21.5 +0.2
I13A Wildhorse Cree 77.35 328 ⇑P P 16 58 53.1 +0.8
baz=78,SNR=116
E18A Harlowton 77.38 332 ⇓P P 16 58 52.5 +0.1
baz=78,SNR=38
D19A Cripps Ranch, 77.40 333 ⇑P P 16 58 52.4 -0.1
baz=78,SNR=31
BOZ Bozeman (W) 77.45 330 ⇓P P 16 58 52.6 -0.1
baz=78,SNR=32
BOZ Bozeman (W) 77.45 330⇓*iP* **P 16 58 52.6 -0.1**
comp=Z,26nm,1.0s,mb4.9
BOZ *epP* pP 16 59 22.5 0.0
BOZ Bozeman (W) 77.45 330⇓*iP* **P 16 58 52.6 -0.2**
BOZ *e*PP pP 16 59 22.5 +0.1
BOZ pmax pmax
comp=Z,26nm,1.0s,mb4.9
G15A Dillon 77.49 330 ⇑P P 16 58 53.5 +0.5
baz=78,SNR=23
CVNA Calvinia 77.54 119 *eP* **P 16 58 55.3 +1.5**
CVNA AMB AMB 16 58 56.1
comp=Z,64nm,1.1s,mb5.3
F16A Kennard Place, 77.55 331 ⇑P P 16 58 53.4 +0.1
baz=78,SNR=6.0
B21A Ellsworth Farm 77.63 335 ⇓P P 16 58 53.8 0.0
baz=78
A22A Carney Farms, 77.66 336 ⇓P P 16 58 54.1 +0.2
baz=78,SNR=26
DLMT Dillon 77.68 330 *eP* **P 16 58 54.5 +0.4**
comp=Z,53nm,1.0s,mb5.2
E17A Martinsdale 77.72 331 ⇑P P 16 58 54.4 +0.2
baz=78,SNR=66
I12A Atlanta 77.77 327 ⇑P P 16 58 55.4 +0.7
baz=78,SNR=84
D18A Linhart Farms, 77.82 332 ⇑P P 16 58 54.8 0.0
baz=78,SNR=22
MFID Camas Ranch 77.86 327 ⇓P P 16 58 55.7 +0.6
baz=78,SNR=46
H13A Challis 77.89 328 ⇑P P 16 58 56.2 +0.9
baz=78,SNR=210
C19A Slack Wire Ran 77.92 333 ⇓P P 16 58 55.2 -0.2
baz=78,SNR=27
F15A Butte 77.99 330 ⇓P P 16 58 56.3 +0.6
baz=78,SNR=48
G14A Jackson 78.00 329 ⇑P P 16 58 56.3 +0.5
baz=78,SNR=34
B20A Solberg Farm, 78.05 334 ⇑P P 16 58 56.0 -0.1
baz=78,SNR=25
A21A Bergtoll Ranch 78.05 335 ⇑P P 16 58 55.7 -0.4
baz=78,SNR=16
SUR Sutherland 78.12 120 *eP* **P 16 58 58.0 +1.0**
SUR AMB AMB 16 59 08.8
comp=Z,41nm,2.9s,mb4.7
SUR Sutherland 78.12 120 *eP* **P 16 58 57.9 +0.9**
comp=Z,88nm,1.3s,mb5.3
SUR Sutherland 78.12 120 P P 16 58 58.9 +1.9
comp=Z,232nm,0.9s,mb5.9,SNR=12
E16A East Helena 78.14 331 ⇓P P 16 58 56.8 +0.3
baz=78,SNR=16
D17A Six Diamond Ra 78.17 332 ⇑P P 16 58 56.9 +0.1
baz=78,SNR=45
H12A Diamond D Ranc 78.18 328 ⇓P P 16 58 57.3 +0.4
baz=78,SNR=80
G13A Cobalt 78.27 329 ⇑P P 16 58 58.1 +0.8
baz=78,SNR=390
A20A Cobblestone Ra 78.36 335 ⇓P P 16 58 57.7 -0.1
baz=78,SNR=49
F14A Wisdom 78.38 330 ⇓P P 16 58 58.7 +0.8
baz=79,SNR=73
B19A Brinkman Farms 78.44 334 ⇑P P 16 58 57.9 -0.2
baz=79,SNR=28
EGMT Eagleton 78.44 333 ⇑P P 16 58 57.7 -0.5
baz=79,SNR=20
EGMT Eagleton 78.44 333 *eP* **P 16 58 57.7 -0.5**
EGMT *epP* pP 16 59 27.5 -0.5
D16A Dana Ranch, Ca 78.46 331 ⇑P P 16 58 58.7 +0.4
baz=79,SNR=76
E15A Deer Lodge 78.50 330 ⇓P P 16 58 58.9 +0.3
baz=79,SNR=38
C17A Wharram Farm, 78.57 332 ⇑P P 16 58 58.7 -0.3
baz=79,SNR=30
WVOR Wild Horse Val 78.66 324 *eP* **P 16 58 59.1 -0.5**
comp=Z,14nm,0.7s,mb4.9
WVOR Wild Horse Val 78.66 324 *eP* **P 16 58 59.1 -0.4**
WVOR pmax pmax
comp=Z,14nm,0.7s,mb4.9
B18A Beardsley Farm 78.74 333 ⇓P P 16 58 59.8 0.0
baz=79,SNR=51
F13A Darby 78.82 329 ⇓P P 16 59 00.9 +0.5
baz=79,SNR=220
G12A Big Creek, Yel 78.83 328 ⇓P P 16 59 00.7 +0.3
baz=79
E14A Clinton 78.89 330 ⇓P P 16 59 01.6 +0.9
baz=79,SNR=34
D15A Lincoln 78.90 331 ⇓P P 16 59 01.6 +0.8
baz=79,SNR=32
B17A L&G Farms, Che 79.09 333 ⇑P P 16 59 01.3 -0.4
baz=79,SNR=13
C16A Fuhringer Ranc 79.13 332 ⇑P P 16 59 01.9 -0.1
baz=79,SNR=41
A18A Metzger Ranch, 79.17 334 ⇓P P 16 59 01.8 -0.4
baz=79,SNR=14
J08A Circle Bar Ran 79.20 325 ⇓P P 16 59 02.8 +0.3
baz=79,SNR=22
MOD Modoc 79.22 323 *eP* **P 16 59 02.7 +0.1**
comp=Z,70nm,0.8s,mb5.5
E13A Victor 79.23 330 ⇑P P 16 59 03.0 +0.5
baz=79,SNR=52
D14A Greenough 79.38 330 ⇑P P 16 59 03.8 +0.4
baz=80,SNR=14
MSO Missoula 79.40 330 ⇑P P 16 59 03.8 +0.3
baz=80,SNR=16
MSO Missoula 79.40 330⇓*eP* **P 16 59 03.7 +0.2**
comp=Z,19nm,1.0s,mb4.9
MSO *epP* pP 16 59 33.6 +0.3
C15A Salmond Ranch, 79.49 331 ⇑P P 16 59 04.3 +0.3
baz=80,SNR=95
TSUM Tsumeb 79.50 107⇑*iP* **P 16 59 05.5 +0.8**
TSUM Tsumeb 79.50 107 *eP* **P 16 59 05.0 +0.3**
comp=Z,61nm,0.8s,mb5.5
TSUM *ePcP* PcP 16 59 11.4 -0.9
TSUM *epP* pP 16 59 34.5 0.0
A17A Triple J Farms 79.55 333 ⇑P P 16 59 03.9 -0.3
baz=80,SNR=40
B16A M & M Farms, S 79.58 332 ⇓P P 16 59 03.6 -0.8
baz=80,SNR=5.9
BMO Blue Mountains 79.62 327⇓*iP* **P 16 59 04.6 -0.1**
comp=Z,73nm,0.8s,mb5.6
BMO *epP* pP 16 59 34.1 -0.4
WDC Whiskeytown Da 79.64 321⇓*iP* **P 16 59 03.2 -1.7**

comp=Z,73nm,0.6s,mb5.7
WDC Whiskeytown Da 79.64 321⇓*i*P P 16 59 03.2 -1.7
WDC pmax pmax
comp=Z,73nm,0.6s,mb5.7
KCPM Cahto Peak 79.69 320 *e*P P 16 59 06.1 +0.9
comp=Z,25nm,0.7s,mb5.2
KIPM Iron Peak 79.71 320 *e*P P 16 59 06.0 +0.7
comp=Z,50nm,0.7s,mb5.5
D13A Huson 79.83 330 ⇓P P 16 59 05.9 +0.1
baz=80,SNR=55
E12A Beaver Dam Sad 79.87 329 ⇓P P 16 59 06.0 0.0
baz=80,SNR=50
B15A Bradely Ranch, 79.88 332 ⇑P P 16 59 05.2 -0.8
baz=80,SNR=60
A16A West Butte Ran 79.94 333 ⇑P P 16 59 06.0 -0.3
baz=80,SNR=126
C14A Swan Lake 80.00 331 ⇓P P 16 59 06.8 +0.1
baz=80,SNR=35
K05A Summer Lake 80.09 324 ⇑P P 16 59 07.9 +0.6
baz=80,SNR=90
YBMT Yellow Bay 80.19 331 *e*P P 16 59 07.8 +0.1
comp=Z,23nm,0.7s,mb5.1
YBMT *e*pP pP 16 59 36.9 -0.6
D12A Red Ives Fores 80.22 329 ⇑P P 16 59 07.9 0.0
baz=80,SNR=70
B14A Marquette Ranc 80.23 331 ⇑P P 16 59 07.6 -0.3
baz=80,SNR=17
I07A Izee 80.24 325 ⇓P P 16 59 08.5 +0.4
baz=80,SNR=71
C13A Hot Springs 80.31 330 ⇑P P 16 59 08.7 +0.3
baz=80,SNR=31
F10A Beach Ranch, E 80.37 328 ⇑P P 16 59 09.1 +0.4
baz=80,SNR=11
A15A Johnson Ranch, 80.45 332 ⇓P P 16 59 08.0 -1.0
baz=81,SNR=26
BLMT Blacktail Moun 80.46 331 *e*P P 16 59 09.7 +0.6
comp=Z,29nm,0.9s,mb5.3
YBH Yreka Blue Hor 80.47 322 *e*P P 16 59 08.3 -1.1
comp=Z,28nm,0.7s,mb5.2
YBH Yreka Blue Hor 80.47 322 *e*P P 16 59 08.3 -1.1
YBH pmax pmax
comp=Z,28nm,0.7s
BSMT Bassoo Peak 80.54 330 *e*P P 16 59 09.8 +0.2
comp=Z,42nm,0.9s,mb5.3
BSMT *e*pP pP 16 59 39.5 0.0
PKA Prieska 80.56 118⇑*i*P P 16 59 10.3 0.0
PKA AMB AMB 16 59 15.2
comp=Z,15nm,2.0s,mb4.5
A14A Double T Ranch 80.75 332 ⇓P P 16 59 10.2 -0.5
baz=81,SNR=24
C12B Naegeli Ranch, 80.76 330 ⇓P P 16 59 10.9 +0.2
baz=81,SNR=24
B13A Whitefish 80.77 331 ⇓P P 16 59 10.8 0.0
baz=81,SNR=35
LNOR Lincton Mounta 80.83 327 *e*P P 16 59 10.5 -0.7
comp=Z,18nm,0.7s,mb5.0
LNOR Lincton Mounta 80.83 327 *e*P P 16 59 10.5 -0.7
LNOR pmax pmax
comp=Z,18nm,0.7s,mb5.0
MORF Marmelete 80.93 44 *e*S S 17 09 14.8 +3.7
WALA Waterton Lakes 81.03 332⇓*e*P P 16 59 11.8 -0.4
comp=Z,1.6nm,0.7s
WALA *e*pP pP 16 59 41.4 -0.7
FFC Flin Flon 81.09 341⇓*e*P P 16 59 11.2 -1.2
comp=Z,30nm,1.0s,mb5.1
FFC *e*pP pP 16 59 41.8 -0.5
FFC Flin Flon 81.09 341 P P 16 59 11.3 -1.0
comp=Z,182nm,1.0s,mb5.9,SNR=9.5
FFC Flin Flon 81.09 341⇓*e*P P 16 59 11.2 -1.1
FFC *e**PP pP 16 59 41.8 -0.4
FFC pmax pmax
comp=Z,30nm,1.0s,mb5.1
HUMO Hull Mountain 81.17 322 *e*P P 16 59 12.0 -1.1
comp=Z,14nm,0.6s,mb5.0
E09A Wood Farm, Sta 81.20 328 ⇓P P 16 59 12.6 -0.5
baz=81,SNR=26
C11A Tepee Creek (N 81.22 330 ⇑P P 16 59 13.0 -0.2
baz=81,SNR=107
B12A Libby 81.36 330 ⇓P P 16 59 14.0 +0.1
baz=82,SNR=21
PBDV Barranco-do-Ve 81.36 45 *e*P P 16 59 16.2 +2.0
comp=Z,60nm,1.6s,mb5.2
PNCL Nicolau / Gran 81.47 44 *e*S S 17 09 25.0 +8.3
PMAFR Mafra 81.49 42 *e*S S 17 09 19.7 +2.9
PCVE Castro Verde 81.51 44 *e*P P 16 59 16.2 +1.2
PVAQ Vaqueiros 81.59 44 *e*P P 16 59 17.3 +1.9
PVAQ *e*S S 17 09 27.2 +9.3
G06A Carlson Farm, 81.61 326 ⇑P P 16 59 15.8 +0.5
baz=82,SNR=22
A12A Yaak River Ran 81.72 331 ⇓P P 16 59 15.8 0.0
baz=82,SNR=34
SOE Somerset East 81.81 122 *e*P P 16 59 17.9 +1.0
SOE AMB AMB 16 59 18.6
comp=Z,56nm,1.1s,mb5.3
HAWA Hanford 81.82 327⇓*i*P P 16 59 16.4 +0.1
comp=Z,73nm,0.7s,mb5.6
HAWA *e*pP pP 16 59 46.4 +0.1
RSW Rattlesnake Hi 81.85 327 *e*P P 16 59 16.9 +0.3
comp=Z,81nm,0.7s,mb5.7
RSW *e*pP pP 16 59 47.1 +0.6
PBEJ Beja 81.85 44 *e*P P 16 59 17.9 +1.1
NEW Newport 81.93 329 ⇓P P 16 59 16.1 -0.8
baz=82,SNR=13
NEW Newport 81.93 329 *e*P P 16 59 15.6 -1.3
comp=Z,15nm,0.7s,mb4.9
NEW Newport 81.93 329 *e*P P 16 59 15.6 -1.3
NEW pmax pmax
comp=Z,15nm,0.7s
EVOP Sao Brissos 81.97 43 *e*P P 16 59 17.9 +0.5
EVOP Sao Brissos 81.97 43 *e*P P 16 59 17.9 +0.5
EVO Evora 82.05 43 *e*P P 16 59 17.9 +0.1
EVO *e*R
comp=Z,230nm,21.5s
OD2 Odessa Site #2 82.09 328 *e*P P 16 59 17.7 -0.1
comp=Z,202nm,0.8s,mb6.0
OD2 *e*pP pP 16 59 47.1 -0.6
OD2 *e*sP sP 17 00 00.9 +0.7
C09A Chrisman Ranch 82.16 329 ⇑P P 16 59 18.0 -0.1
baz=82,SNR=123
HOOD Mount Hood Mea 82.21 325 *e*P P 16 59 18.8 +0.4
comp=Z,64nm,1.0s,mb5.4
HOOD *e*pP pP 16 59 49.1 +0.7
PMTG Montargil 82.22 43 *e*P P 16 59 19.1 +0.4
comp=Z,55nm,1.6s,mb5.1
PMTG *e*pP pP 16 59 51.6 +3.0
PBAR Barrancos 82.47 44 *e*P P 16 59 20.6 +0.6
comp=Z,44nm,1.6s,mb5.0
PBAR *e*pP pP 16 59 51.5 +1.5
HVD Gariep Dam 82.48 120 *e*P P 16 59 20.3 -0.1
HVD AMB AMB 16 59 22.2
comp=Z,70nm,1.0s,mb5.4
PESTR Estremoz 82.51 43 *e*S S 17 09 38.4 +11
BOSA Boshof 82.97 118 *e*P P 16 59 22.8 -0.2
BOSA AMB AMB 16 59 24.1
comp=Z,55nm,1.0s,mb5.3
BOSA Boshof 82.97 118 P P 16 59 22.6 -0.4
comp=Z,38nm,0.8s,mb5.3,baz=258,slow=4.1,SNR=49
BOSA LR LR 17 33 53.5
comp=Z,396nm,19.2s,baz=166,slow=34
BOSA Boshof 82.97 118 *e*P P 16 59 22.6 -0.4
comp=Z,48nm,0.9s,mb5.3
BOSA *e*pP pP 16 59 53.7 +0.7
BOSA Boshof 82.97 118 P P 16 59 22.6 -0.4
BOSA pmax pmax
comp=Z,38nm,0.8s,mb5.3
BOSA MLR MLR
comp=Z,396nm,19.2s
LON Longmire 83.23 326 *e*P P 16 59 22.8 -0.9
comp=Z,12nm,0.7s,mb4.8
LON Longmire 83.23 326 *e*P P 16 59 22.8 -0.9
LON pmax pmax
comp=Z,12nm,0.7s,mb4.8
POLO Lamas de Olo 83.82 41 *e*P P 16 59 27.6 +0.7
RAR Rarotonga 83.85 250 LR LR 17 27 14.8
comp=Z,291nm,21.9s,baz=264,slow=29
MVO Moncorvo 84.17 42 *e*P P 16 59 29.0 +0.3
comp=Z,46nm,1.4s,mb5.1
MVO *e*pP pP 16 59 59.3 +0.6
MVO *e*S S 17 09 48.5 +4.5
JCW Jim Creek 84.23 327 *e*P P 16 59 27.7 -1.1
comp=Z,102nm,0.7s,mb5.8
JCW *e*pP pP 16 59 57.5 -1.4
MAW Mawson 84.30 163 P P 16 59 28.9 -0.1
comp=Z,25nm,0.6s,mb5.2,baz=209,slow=5.4,SNR=44
MAW PKKPbc PKKPbc 17 17 38.5 -4.0
comp=Z,4.6nm,0.7s,baz=314,slow=1.5,SNR=6.9
MAW LR LR 17 35 47.0
comp=Z,212nm,19.3s,baz=206,slow=35
MAW Mawson 84.30 163 *e*P P 16 59 27.9 -1.0
comp=Z,6.9nm,0.8s,mb4.5
MAW P 16 59 28.9
MAW PKKPbc PKKPbc 17 17 38.5 -4.0
MAW Mawson 84.30 163 P P 16 59 28.9 0.0
MAW pmax pmax
comp=Z,25nm,0.6s
MAW pmax pmax
comp=Z,5.0nm,0.7s
MAW MLR MLR
comp=Z,212nm,19.3s
LBTB Lobatse 84.52 115⇑*i*P P 16 59 31.0 0.0
LBTB AMB AMB 16 59 32.4
comp=Z,64nm,0.8s,mb5.6
LBTB Lobatse 84.52 115 *e*P P 16 59 31.0 0.0
comp=Z,57nm,0.8s,mb5.5
LBTB *e*pP pP 17 00 01.8 +0.8
LBTB Lobatse 84.52 115 *e*P P 16 59 31.0 +0.1
LBTB *e**PP pP 17 00 01.8 +0.8
LBTB pmax pmax
comp=Z,57nm,0.8s,mb5.5
NLWA Neilton Lookou 84.72 326 *e*P P 16 59 31.2 0.0
comp=Z,71nm,1.2s,mb5.5
PBRG Braganca 84.72 41 *e*P P 16 59 31.5 +0.1
comp=Z,69nm,1.8s,mb5.3
A05A Maple Falls 84.84 328 ⇑P P 16 59 30.8 -1.0
baz=85,SNR=30
PAB San Pablo 84.98 44 *e*P P 16 59 33.2 +0.5
comp=Z,33nm,1.0s,mb5.2
PAB *e*pP pP 17 00 01.2 -1.7
PAB San Pablo 84.98 44 *e*P P 16 59 33.2 +0.5
PAB *e**PP pP 17 00 01.2 -1.7
PAB pmax pmax
comp=Z,33nm,1.0s,mb5.2
SEK Senekal 85.03 118 *e*P P 16 59 34.0 +0.6
SEK AMB AMB 16 59 37.3
comp=Z,38nm,1.1s,mb5.2
ESDC Sonseca Array 85.30 44 P P 16 59 35.4 +1.1
comp=Z,5.2nm,0.7s,mb4.6,baz=249,slow=4.4,SNR=19
ESDC Sonseca Array 85.30 44 P P 16 59 35.4 +1.1
ESLA Sonseca Array 85.30 44 *e*P P 16 59 34.9 +0.5
comp=Z,27nm,1.5s,mb5.0
ESLA *e*pP pP 17 00 04.4 -0.1
PGC Sidney 85.30 327 *e*P P 16 59 33.1 -1.0
comp=Z,2.5nm,0.7s,mb4.2
PGC *e*pP pP 17 00 04.1 -0.1
PRYS Parys 85.32 117 *e*P P 16 59 35.1 +0.2
PRYS AMB AMB 16 59 38.9
comp=Z,29nm,2.8s,mb4.7
SLR Silverton 86.52 116 *e*P P 16 59 41.5 +0.6
SLR AMB AMB 16 59 44.8
comp=Z,30nm,3.0s
ETSF Etsaut 89.17 43 *e*P P 16 59 54.3 +1.4
ETSF Etsaut 89.17 43 *e*P P 16 59 54.3 +1.4
ETSF Etsaut 89.17 43 *e*P P 16 59 54.3 +1.4
MSNA Messina 89.28 114 *e*P P 16 59 55.3 +1.3
MSNA AMB AMB 16 59 56.2
comp=Z,26nm,1.3s,mb5.1
EPF Esparros 89.81 43 *e*P P 16 59 56.6 +0.7
comp=Z,20nm,0.9s,mb4.9
EPF Esparros 89.81 43 *e*P P 16 59 56.6 +0.7
comp=Z,20nm,0.9s,mb5.2
EPF Esparros 89.81 43 *e*P P 16 59 56.6 +0.7
EPF pmax pmax
comp=Z,20nm,0.9s,mb5.2
LSZ Lusaka 90.35 106⇑*i*P P 17 00 00.8 +1.7
LSZ Lusaka 90.35 106 *e*P P 17 00 00.7 +1.6
comp=Z,53nm,1.4s,mb5.5
LSZ *e*pP pP 17 00 32.7 +3.2
LSZ Lusaka 90.35 106 *e*P P 17 00 00.7 +1.6
LSZ *e**PP pP 17 00 32.7 +3.2
LSZ pmax pmax
comp=Z,53nm,1.4s,mb5.5
LFF La Frestale 91.00 42 *e*P P 17 00 01.7 +0.3
comp=Z,63nm,0.7s,mb5.6
LFF La Frestale 91.00 42 *e*P P 17 00 01.7 +0.3
comp=Z,63nm,0.7s,mb5.9
LFF La Frestale 91.00 42 *e*P P 17 00 01.7 +0.3
LFF pmax pmax
comp=Z,63nm,0.7s,mb5.8
MTLF Montolieu 91.16 43 *e*P P 17 00 02.2 +0.1
MTLF Montolieu 91.16 43 *e*P P 17 00 02.2 +0.1
MTLF Montolieu 91.16 43 *e*P P 17 00 02.2 +0.1
YKA Yellowknife Ar 91.25 340 P P 17 00 01.5 -0.6
comp=Z,103nm,0.7s,mb6.1,baz=134,slow=4.5,SNR=378
YKA LR LR 17 45 39.9
comp=Z,25nm,19.9s,baz=75,slow=38
YKA Yellowknife Ar 91.25 340 P P 17 00 01.5 -0.6
YKA Yellowknife Ar 91.25 340 P P 17 00 01.5 -0.6
YKA pmax pmax
comp=Z,103nm,0.7s
YKA MLR MLR
comp=Z,25nm,19.9s
MFF Saint Martin d 91.29 40 *e*P P 17 00 02.8 +0.1
comp=Z,27nm,0.7s,mb5.2
MFF Saint Martin d 91.29 40 *e*P P 17 00 02.8 +0.1
comp=Z,27nm,0.7s,mb5.5
MFF Saint Martin d 91.29 40 *e*P P 17 00 02.8 +0.1
MFF pmax pmax
comp=Z,27nm,0.7s,mb5.5
CAF Calviac 91.82 42 *e*P P 17 00 05.4 +0.2
comp=Z,12nm,0.7s,mb5.0
CAF Calviac 91.82 42 *e*P P 17 00 05.4 +0.2
comp=Z,12nm,0.7s,mb5.2
CAF Calviac 91.82 42 *e*P P 17 00 05.4 +0.2
CAF pmax pmax
comp=Z,12nm,0.7s,mb5.2
TCF Toulx Ste Croi 92.56 41 *e*P P 17 00 08.5 0.0
comp=Z,15nm,0.8s,mb5.0
TCF Toulx Ste Croi 92.56 41 *e*P P 17 00 08.5 0.0
comp=Z,15nm,0.8s,mb5.4
TCF Toulx Ste Croi 92.56 41 *e*P P 17 00 08.5 0.0
TCF pmax pmax
comp=Z,15nm,0.8s,mb5.4
KEST Kesra 92.72 53 P P 17 00 10.5 +0.9
comp=Z,1.9nm,0.7s,mb4.6,baz=75,slow=22,SNR=4.4
KEST Kesra 92.72 53 P P 17 00 10.5 +0.9
BGF Bois d'Agland 93.07 41 *e*P P 17 00 11.0 +0.1
comp=Z,52nm,1.1s,mb5.5
BGF Bois d'Agland 93.07 41 *e*P P 17 00 11.0 +0.1
comp=Z,52nm,1.1s,mb5.8
BGF Bois d'Agland 93.07 41 *e*P P 17 00 11.0 +0.1
BGF pmax pmax
comp=Z,52nm,1.1s,mb5.8
BORG Borgarnes 93.09 18 LR LR 17 35 13.3
comp=Z,407nm,20.4s,baz=256,slow=31
AVF Avril sur Loir 93.49 41 *e*P P 17 00 12.7 -0.1
AVF Avril sur Loir 93.49 41 *e*P P 17 00 12.7 -0.1
AVF Avril sur Loir 93.49 41 *e*P P 17 00 12.7 -0.1
SSF Saint Saulge 93.71 41 *e*P P 17 00 13.4 -0.4
SSF Saint Saulge 93.71 41 *e*P P 17 00 13.4 -0.4
SSF Saint Saulge 93.71 41 *e*P P 17 00 13.4 -0.4
SMF Signal de Mont 93.72 41 *e*P P 17 00 14.1 +0.2
SMF Signal de Mont 93.72 41 *e*P P 17 00 14.1 +0.2
SMF Signal de Mont 93.72 41 *e*P P 17 00 14.1 +0.2
LMR La Mourre 93.94 45 *e*P P 17 00 15.5 +0.5
LMR La Mourre 93.94 45 *e*P P 17 00 15.5 +0.5
LMR La Mourre 93.94 45 *e*P P 17 00 15.5 +0.5
LOR Lormes 94.02 41 *e*P P 17 00 14.7 -0.5
comp=Z,9.6nm,0.8s,mb4.9
LOR *e*R
comp=Z,226nm,20.8s
LOR Lormes 94.02 41 *e*P P 17 00 14.7 -0.5
comp=Z,9.6nm,0.8s,mb5.2
LOR Lormes 94.02 41 *e*P P 17 00 14.7 -0.5
LOR pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
ORIF Oris-en-Rattie 94.22 43 *e*P P 17 00 17.3 +1.1
comp=Z,14nm,0.8s,mb5.0
ORIF *e*R
comp=Z,261nm,19.2s
ORIF Oris-en-Rattie 94.22 43 *e*P P 17 00 17.3 +1.1
comp=Z,14nm,0.8s,mb5.3
ORIF Oris-en-Rattie 94.22 43 *e*P P 17 00 17.3 +1.1
ORIF pmax pmax
comp=Z,14nm,0.8s,mb5.3
DLBC Dease Lake 94.36 332 *e*P P 17 00 16.0 -0.5
DLBC *e*pP pP 17 00 47.1 +0.2
URZ Urewera 94.75 226 LR LR 17 32 37.5
comp=Z,134nm,18.6s,baz=128,slow=29
SBF Sospel 94.77 45 *e*P P 17 00 18.6 -0.2
SBF Sospel 94.77 45 *e*P P 17 00 18.6 -0.2
SBF Sospel 94.77 45 *e*P P 17 00 18.6 -0.2
LPL La Plagne 95.02 43 *e*P P 17 00 21.1 +1.2
LPL La Plagne 95.02 43 *e*P P 17 00 21.1 +1.2
LPL La Plagne 95.02 43 *e*P P 17 00 21.1 +1.2
LPG La Plagne 95.03 43 *e*P P 17 00 21.2 +1.3
comp=Z,7.1nm,0.7s,mb4.9
LPG La Plagne 95.03 43 *e*P P 17 00 21.2 +1.3
comp=Z,7.1nm,0.7s,mb5.2
LPG La Plagne 95.03 43 *e*P P 17 00 21.2 +1.3
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
MEZF Maizieres J'vi 95.29 40 *e*P P 17 00 20.9 -0.1
MEZF Maizieres J'vi 95.29 40 *e*P P 17 00 20.9 -0.1
RPZ Rata Peaks 95.50 219 LR LR 17 33 40.0
comp=Z,200nm,20.5s,baz=125,slow=29
PAGF Fort de Pagny 95.71 40 *e*P P 17 00 23.2 +0.2
SUMG Summit 95.82 9 *e*P P 17 00 23.0 0.0
SUMG Summit 95.82 9 *i*P P 17 00 22.3 -0.6
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 95.82 9 *i*P P 17 00 22.3 -0.6
comp=Z,5.5nm,0.8s,mb5.0
GIVF Givet 95.86 38 *e*P P 17 00 23.6 0.0
GIVF Givet 95.86 38 *e*P P 17 00 23.6 0.0
GIVF Givet 95.86 38 *e*P P 17 00 23.6 0.0
HINF Hinteralfeld 96.08 41 *e*P P 17 00 24.3 -0.3
HINF Hinteralfeld 96.08 41 *e*P P 17 00 24.3 -0.3
HINF Hinteralfeld 96.08 41 *e*P P 17 00 24.3 -0.3
CDF Champ du Feu 96.59 40 *e*P P 17 00 26.8 -0.1
CDF Champ du Feu 96.59 40 *e*P P 17 00 26.8 -0.1
CDF Champ du Feu 96.59 40 *e*P P 17 00 26.8 -0.1
DAVOX Davos/Dischmat 97.54 43 PKKPbc PKKPbc 17 17 07.2 -2.1
comp=Z,3.6nm,0.6s,baz=117,slow=5.3,SNR=6.7
DAVOX Davos/Dischmat 97.54 43 PKKPbc PKKPbc 17 17 07.2 -2.1
WTTA Wattenberg 98.83 43⇑*i*Pdiff P 17 00 37.5 +0.4
comp=Z,12nm,0.8s,mb5.5
WTTA Wattenberg 98.83 43⇑*i*P P 17 00 37.5 +0.4
comp=Z,12nm,0.8s,mb5.5
WTTA Wattenberg 98.83 43⇑*i*P P 17 00 37.5 +0.4
WTTA pmax pmax
comp=Z,13nm,0.8s,mb5.5
GERES GERESS Array B 100.69 42 PP PP 17 05 01.9 +7.5
comp=Z,0.3nm,0.6s,baz=236,slow=1.1,SNR=2.1
GERES PKiKP PKiKP 17 05 10.8 0.0
comp=Z,0.5nm,0.6s,baz=202,slow=1.4,SNR=4.4
GERES PKKPbc PKKPbc 17 16 55.9 -4.5
comp=Z,0.9nm,0.7s,baz=54,slow=2.3,SNR=8.7
GERES GERESS Array B 100.69 42 PP PP 17 05 01.9 +7.5
GERES PKiKP PKiKP 17 05 10.8 -0.1
GERES PKKPbc PKKPbc 17 16 55.9 -4.5
KHC Kasperske Hory 100.71 41 *e*SKS 17 11 17.1
KHC *e*SP SP 17 13 48.6 +5.2
KHC *e*x x 17 29 38.5
INK Inuvik 101.01 340 *e*P Pdif 17 00 45.5 -1.3
comp=Z,9.8nm,0.9s
INK Inuvik 101.01 340 *e*P Pdif 17 00 45.5 -1.4
INK pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 101.12 39 *e*SKKSac SKKSac 17 11 49.0 -2.5
CLL *es*SKKSac 17 12 43.0
CLL *e* 17 13 23.0
CLL *e*SP SP 17 13 53.0 +5.5
CLL *e*SS SS 17 19 24.0 +5.6
CLL *es*SS 17 20 10.0
CLL *es*SSS 17 24 00.0
CLL *e* 17 26 54.0
DAG Danmarks Havn 102.30 10 *i*P Pdif 17 00 57.6 +5.0
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 102.30 10 *i*P Pdif 17 00 57.6 +5.0
comp=Z,2.3nm,0.9s
DPC Dobruska-Polom 102.79 41 *e*SP SP 17 14 09.3 +3.9
DPC *ex* x 17 29 56.8
NOA NORSAR Array B 103.49 29 PP PP 17 05 03.5 -12
comp=Z,1.1nm,1.0s,baz=59,slow=7.7,SNR=3.3
NOA PKKPab 17 17 08.8
comp=Z,1.6nm,0.8s,baz=72,slow=4.6,SNR=4.6
NOA NORSAR Array B 103.49 29 PP PP 17 05 03.5 -12
NOA PKKPab 17 17 08.8
OKC Ostrava-Krasne 103.76 42 *e*SKS SKSac 17 11 39.1 +11
OKC *e*SP SP 17 13 38.4 -37
OKC *ex* x 17 20 07.8
OKC *ex* x 17 30 21.1
HFS Hagfors 104.36 31 PKKPab PKKPab 17 17 04.4 -0.8
comp=Z,5.5nm,0.8s,baz=81,slow=4.7,SNR=5.6
HFS Hagfors 104.36 31 PKKPab PKKPab 17 17 04.4 -0.8
ILAR Eielson Array 104.38 334 Pdiff Pdif 17 00 59.5 -2.4
comp=Z,0.8nm,0.7s,baz=150,slow=2.6,SNR=21
ILAR PP PP 17 05 05.7 -16
comp=Z,0.8nm,0.9s,baz=92,slow=4.9,SNR=6.0
ILAR PKKPbc PKKPbc 17 16 46.9 -3.3
comp=Z,0.3nm,0.8s,baz=296,slow=3.1,SNR=4.3
ILAR Eielson Array 104.38 334 Pdif Pdif 17 00 59.5 -2.4
ILAR PP PP 17 05 05.7 -16
ILAR PKKPbc PKKPbc 17 16 46.9 -3.3
ILAR Eielson Array 104.38 334 P Pdif 17 00 59.5 -2.3
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
SPITS Spitsbergen Ar 109.64 13 PKKPbc PKKPbc 17 16 30.2 -3.7
comp=Z,4.1nm,0.8s,baz=61,slow=3.9,SNR=5.6
SPITS Spitsbergen Ar 109.64 13 PKKPbc PKKPbc 17 16 30.2 -3.7
FINES FINESS Array B 110.56 31 PKiKP PKiKP 17 05 27.3 -1.3
comp=Z,5.1nm,1.0s,baz=160,slow=4.4,SNR=2.8
FINES PKKPbc PKKPbc 17 16 28.1 -2.4
comp=Z,2.5nm,0.6s,baz=132,slow=5.4,SNR=6.4
FINES FINESS Array B 110.56 31 PKiKP PKiKP 17 05 27.3 -1.3
FINES PKKPbc PKKPbc 17 16 28.1 -2.4
FINES FINESS Array B 110.56 31 *i*PKIKP PKiKP 17 05 27.3 -1.4
FINES 17 16 28.1
FINES pmax pmax
comp=Z,5.0nm,1.0s
FINES pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 110.88 42 PKiKP PKiKP 17 05 28.7 -0.9
comp=Z,2.4nm,0.5s,baz=270,slow=2.7,SNR=12
AKASG PKKPbc PKKPbc 17 16 26.8 -2.3
comp=Z,3.0nm,0.6s,baz=70,slow=3.7,SNR=8.9
AKASG Malin Array Be 110.88 42 PKiKP PKiKP 17 05 28.7 -0.9
AKASG PKKPbc PKKPbc 17 16 26.8 -2.3
AKASG Malin Array Be 110.88 42 *i*PKIKP PKiKP 17 05 28.7 -0.9
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=Z,3.0nm,0.6s
DZM Mont Dzumac 111.38 234 *e*PP PP 17 06 13.5 +0.5
comp=Z,101nm,26.9s
DZM Mont Dzumac 111.38 234 *e*PS PS 17 15 45.0 -1.6
comp=Z,173nm,27.4s
DZM *e*SS SS 17 21 39.1 +1.3
comp=Z,122nm,22.9s
DZM *e*LR LR 17 38 56.6
comp=Z,291nm,36.1s
BR131 Keskin Array S 112.24 55 *e*PKPdf PKiKP 17 05 31.9 -0.6
BRTR Keskin Array B 112.24 55 PKiKP PKiKP 17 05 32.4 -0.2
comp=Z,2.2nm,0.8s,baz=152,slow=1.3,SNR=13
BRTR PP PP 17 06 21.1 +1.5
comp=Z,0.3nm,0.3s,baz=156,slow=10,SNR=4.5
BRTR PKKPbc PKKPbc 17 16 31.0 +6.8
comp=Z,1.7nm,0.8s,baz=80,slow=4.3,SNR=9.8
BRTR Keskin Array B 112.24 55 PKiKP PKiKP 17 05 32.4 -0.2
BRTR PP PP 17 06 21.1 +1.5
BRTR PKKPbc PKKPbc 17 16 31.0 +6.8
BRTR Keskin Array B 112.24 55 *i*PKIKP PKiKP 17 05 32.4 -0.2
BRTR 17 06 21.1
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 115.67 38 *i*PKIKP PKPdf 17 05 38.5 -0.1
OBN *e* 17 06 12.0
OBN 17 06 43.0
OBN *e* 17 09 12.7
OBN *e*PS PS 17 16 28.3 +3.0
OBN *e*SS SS 17 22 33.9 -0.2
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 119.40 51 *i*PKIKP PKPdf 17 05 46.1 -0.1
KIV pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 119.85 209 PKP PKPdf 17 05 46.8 -0.7
comp=Z,6.6nm,0.6s,baz=56,slow=1.0,SNR=23

STKA	**Stephens Creek**	**119.85**	**209**	*e*PKP	PKPdf	17 05 46.6	-0.9
	comp=Z,6.4nm,0.6s						
STKA	**Stephens Creek**	**119.85**	**209**	*e*PKPdf	PKPdf	17 05 46.4	-1.2
STKA				PKP	PKPdf	17 05 46.8	-0.7
STKA	**Stephens Creek**	**119.85**	**209**	*e*PKIKP	PKPdf	17 05 46.4	-1.1
ZEI	**Tsey**	**120.25**	**52**	*i* PKIKP	PKPdf	17 05 47.3	-0.5
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RMQ	**Roma**	**120.44**	**219**	*e*PKP	PKPdf	17 05 48.6	-0.2
	comp=Z,11nm,0.7s						
GNI	**Garni**	**120.77**	**55**	*e*PKPdf	PKPdf	17 05 49.1	+0.2
GNI	**Garni**	**120.77**	**55**	*e*PKIKP	PKPdf	17 05 49.1	+0.2
BILL	**Bilibino**	**122.61**	**339**	*e*PKPdf	PKPdf	17 05 50.9	-0.7
BILL				*e*PP	PP	17 07 24.3	-6.1
BILL	**Bilibino**	**122.61**	**339**	*e*PKIKP	PKPdf	17 05 50.9	-0.7
NWAO	**Narrogin (SRO)**	**125.78**	**186**	PKP	PKPdf	17 05 57.8	-1.1
	comp=Z,4.5nm,0.6s,baz=201,slow=5.7,SNR=5.8						
NWAO	**Narrogin (SRO)**	**125.78**	**186**	PKP	PKPdf	17 05 57.8	-1.1
NWAO	**Narrogin (SRO)**	**125.78**	**186**	PKIKP	PKPdf	17 05 57.8	-1.1
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FORT	**Forrest**	**125.85**	**197**	*e*PKP	PKPdf	17 05 57.7	-1.4
	comp=Z,42nm,0.6s						
FORT	**Forrest**	**125.85**	**197**	*e*PKPdf	PKPdf	17 05 57.6	-1.5
CTA	**Charters Tower**	**126.76**	**222**	PKP	PKPdf	17 06 00.2	-0.8
	comp=Z,13nm,0.7s,baz=152,slow=2.5,SNR=19						
CTA	**Charters Tower**	**126.76**	**222**	*e*PKP	PKPdf	17 06 00.0	-1.1
	comp=Z,12nm,0.7s						
CTA	**Charters Tower**	**126.76**	**222**	PKP	PKPdf	17 06 00.2	-0.8
CTA	**Charters Tower**	**126.76**	**222**	PKIKP	PKPdf	17 06 00.3	-0.8
CTA				pmax	pmax		
	comp=Z,13nm,0.7s						
CTAO	**Charters Tower**	**126.76**	**222**	PKP	PKPdf	17 06 00.7	-0.4
KLBR	**Kellerberrin**	**127.05**	**186**	*e*PKP	PKPdf	17 06 00.0	-1.4
	comp=Z,22nm,0.7s						
ARU	**Arti**	**127.68**	**34**	*e*PKPdf	PKPdf	17 06 01.0	-0.7
ARU	**Arti**	**127.68**	**34**	*i* PKIKP	PKPdf	17 06 01.6	0.0
ARU						17 08 04.2	
ARU						17 12 58.1	
SVE	**Sverdlovsk**	**128.62**	**33**	*e*PKIKP	PKPdf	17 06 03.8	+0.4
SVE				pmax	pmax		
	comp=Z,21nm,1.6s						
AKTO	**Aktyubinsk**	**129.12**	**42**	PKP	PKPdf	17 06 05.0	+0.5
	comp=Z,6.9nm,0.7s,baz=323,slow=1.6,SNR=36						
AKTO	**Aktyubinsk**	**129.12**	**42**	PKP	PKPdf	17 06 05.0	+0.5
AKTO	**Aktyubinsk**	**129.12**	**42**	PKIKP	PKPdf	17 06 05.0	+0.4
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAR	**Alice Springs**	**130.33**	**207**	PKP	PKPdf	17 06 06.5	-1.3
	comp=Z,21nm,0.7s,baz=140,slow=2.2,SNR=106						
ASAR				PKKP		17 16 08.3	
	comp=Z,0.4nm,0.6s,baz=356,slow=1.4,SNR=13						
ASAR	**Alice Springs**	**130.33**	**207**	PKP	PKPdf	17 06 06.5	-1.3
ASAR				PKKP		17 16 08.3	
ASAR	**Alice Springs**	**130.33**	**207**	PKIKP	PKPdf	17 06 06.5	-1.3
ASAR				pmax	pmax		
	comp=Z,21nm,0.7s						
AS31	**Alice Springs**	**130.33**	**207**	*e*PKPpre	PKPpre	17 05 56.0	
AS31				*e*PKPdf	PKPdf	17 06 06.4	-1.4
PEA0B	**Petropavlovsk-**	**132.81**	**324**	*e*PKPdf	PKPdf	17 06 11.1	-0.4
PETK	**Petropavlovsk-**	**132.81**	**324**	PKhKP	PKPpre	17 05 58.9	
	comp=Z,4.3nm,0.7s,baz=264,slow=1.5,SNR=8.1						
PETK				PKP	PKPdf	17 06 11.3	-0.2
	comp=Z,11nm,0.6s,baz=120,slow=3.4,SNR=23						
PETK	**Petropavlovsk-**	**132.81**	**324**	PKPpre	PKPpre	17 05 58.9	
PETK				PKP	PKPdf	17 06 11.3	-0.2
PETK	**Petropavlovsk-**	**132.81**	**324**	PKHKP	PKPpre	17 05 58.9	
PETK						17 06 11.3	
WB2	**Warramunga Arr**	**133.38**	**210**	*e*PKPpre	PKPpre	17 05 58.1	
WB2				*e*PKPdf	PKPdf	17 06 12.7	-0.9
WB2				*e*SKP		17 09 29.8	
WRA	**Warramunga Arr**	**133.39**	**210**	PKhKP	PKPpre	17 05 57.4	
	comp=Z,1.6nm,0.6s,baz=146,slow=3.4,SNR=29						
WRA				PKP	PKPdf	17 06 12.3	-1.3
	comp=Z,40nm,0.6s,baz=156,slow=1.7,SNR=159						
WRA				SKPbc	SKPbc	17 09 31.0	-0.4
	comp=Z,10nm,1.0s,baz=143,slow=3.3,SNR=12						
WRA	**Warramunga Arr**	**133.39**	**210**	PKPpre	PKPpre	17 05 57.4	
WRA				PKP	PKPdf	17 06 12.3	-1.3
WRA				SKPbc	SKPbc	17 09 31.0	-0.4
WRA	**Warramunga Arr**	**133.39**	**210**	PKHKP	PKPpre	17 05 57.4	
WRA						17 06 12.3	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,40nm,0.6s						
WRA				pmax	pmax		
	comp=N,10.0nm,1.0s						
WRAB	**Tennant Creek**	**133.39**	**210**	*e*PKPpre	PKPpre	17 05 58.1	
WRAB				*e*PKPdf	PKPdf	17 06 12.7	-1.0
WRAB				*e*SKP		17 09 30.9	
WRAB	**Tennant Creek**	**133.39**	**210**	*e*PKHKP	PKPpre	17 05 58.1	
WRAB				*e*		17 06 12.7	
PMG	**Port Moresby**	**133.70**	**232**	PKP	PKPdf	17 06 14.5	+0.1
	comp=N,11nm,0.7s,baz=12,slow=16,SNR=4.0						
PMG	**Port Moresby**	**133.70**	**232**	PKP	PKPdf	17 06 14.5	+0.1
PMG	**Port Moresby**	**133.70**	**232**	PKIKP	PKPdf	17 06 14.5	+0.1
PMG				pmax	pmax		
	comp=Z,11nm,0.7s						
ZRNK	**Zerenda**	**134.62**	**35**	PKIKP	PKPdf	17 06 14.8	-0.1
ZRNK				pmax	pmax		
	comp=Z,34nm,0.9s						
BRVK	**Borovoye**	**135.25**	**35**	*e*PKPdf	PKPdf	17 06 16.7	+0.6
BRVK	**Borovoye**	**135.25**	**35**	PKIKP	PKPdf	17 06 16.9	+0.8
BRVK				pmax	pmax		
	comp=Z,35nm,1.4s						
BVA0	**Borovoye Array**	**135.32**	**35**	PKIKP	PKPdf	17 06 16.4	+0.2
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BVAR	**Borovoye Array**	**135.32**	**35**	PKP	PKPdf	17 06 15.3	-0.9
	comp=Z,9.8nm,0.8s,baz=250,slow=1.9,SNR=49						
BVAR	**Borovoye Array**	**135.32**	**35**	PKP	PKPdf	17 06 15.3	-0.9
BVAR	**Borovoye Array**	**135.32**	**35**	PKIKP	PKPdf	17 06 15.3	-0.9
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VOSK	**Vostochnaya**	**135.78**	**35**	PKIKP	PKPdf	17 06 17.4	+0.3
VOSK				pmax	pmax		
	comp=Z,16nm,1.0s						
YAK	**Yakutsk**	**137.51**	**348**	*e*PKHKP	PKPpre	17 06 09.2	
YAK				*e*		17 06 18.9	
YAK				pmax	pmax		
	comp=Z,24nm,0.8s						
FITZ	**Fitzroy Crossi**	**138.50**	**200**	PKhKP	PKPpre	17 06 11.8	
	comp=Z,2.5nm,0.5s,baz=184,slow=9.8,SNR=11						
FITZ				PKP	PKPdf	17 06 22.5	-0.7
	comp=Z,25nm,0.7s,baz=196,slow=4.5,SNR=35						
FITZ	**Fitzroy Crossi**	**138.50**	**200**	*e*PKP	PKPpre	17 06 11.8	
	comp=Z,7.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**138.50**	**200**	*e*PKPpre	PKPpre	17 06 11.6	
FITZ				PKPpre	PKPpre	17 06 11.8	
FITZ				PKP	PKPdf	17 06 22.5	-0.7
FITZ				*e*PKPdf	PKPdf	17 06 22.7	-0.5
KK31	**Karatay Array**	**139.45**	**48**	PKIKP	PKPdf	17 06 24.7	+0.6
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVS	**Novosibirsk**	**140.27**	**26**	*e*PKHKP	PKPpre	17 06 19.0	
NVS				*e*		17 09 28.7	
NVS				pmax	pmax		
	comp=Z,67nm,1.6s						
NVS				pmax	pmax		
	comp=E,19nm,1.5s						
KURK	**Kurchatov**	**140.87**	**33**	PKhKP	PKPpre	17 06 21.3	
	comp=E,2.9nm,0.7s,baz=306,slow=3.2,SNR=2.2						
KURK				PKP	PKPdf	17 06 27.5	+1.0
	comp=E,6.7nm,0.6s,baz=307,slow=2.6,SNR=6.2						
KURK				SKPbc	SKPbc	17 09 53.0	+0.5
	comp=E,0.9nm,0.7s,baz=317,slow=5.3,SNR=6.1						
KURK	**Kurchatov**	**140.87**	**33**	PKPpre	PKPpre	17 06 21.3	
KURK				*e*PKPdf	PKPdf	17 06 24.6	-1.9
KURK				PKP	PKPdf	17 06 27.5	+1.0
KURK				SKPbc	SKPbc	17 09 53.0	+0.5
KURK	**Kurchatov**	**140.87**	**33**	PKHKP	PKPpre	17 06 21.3	
KURK						17 06 27.5	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURK				pmax	pmax		
	comp=N,1.0nm,0.7s						
ZAA0	**Zalesovo Array**	**141.56**	**26**	*e*PKPpre	PKPpre	17 06 22.7	
ZAA0				*ep*PKPdf	pPKPdf	17 06 58.1	-1.3
ZAA0				*e*SKP		17 09 49.8	
ZALV	**Zalesovo Beam**	**141.56**	**26**	PKhKP	PKPpre	17 06 21.5	
	comp=N,9.7nm,0.7s,baz=312,slow=4.2,SNR=32						
ZALV				PKP	PKPdf	17 06 27.2	-0.3
	comp=N,41nm,0.7s,baz=302,slow=2.6,SNR=44						
ZALV				SKPbc	SKPbc	17 09 54.3	+0.3
	comp=N,2.5nm,0.7s,baz=269,slow=3.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**141.56**	**26**	PKPpre	PKPpre	17 06 21.5	
ZALV				PKP	PKPdf	17 06 27.2	-0.3
ZALV				SKPbc	SKPbc	17 09 54.3	+0.3
ZALV	**Zalesovo Beam**	**141.56**	**26**	PKHKP	PKPpre	17 06 21.5	
ZALV						17 06 27.3	
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,41nm,0.7s						
ZALV				pmax	pmax		
	comp=N,3.0nm,0.7s						
EKS2	**Erkin-Say**	**141.86**	**47**	P	PKPdf	17 06 29.7	+1.2
SNR=11							
AML	**Almayashu**	**141.99**	**48**	P	PKPdf	17 06 27.9	-0.8
SNR=10							
USP	**Ospenovka**	**142.11**	**46**	P	PKPdf	17 06 32.8	+3.9
SNR=8.1							
AAK	**Ala-Archa**	**142.36**	**47**	P	PKPdf	17 06 26.3	-3.1
SNR=8.8							
AAK	**Ala-Archa**	**142.36**	**47**	*e*PKPpre	PKPpre	17 06 25.1	
AAK				*e*PKPdf	PKPdf	17 06 27.6	-1.8
AAK				*e*SKP		17 09 58.9	
AAK	**Ala-Archa**	**142.36**	**47**	*e*PKHKP	PKPpre	17 06 25.1	
AAK				*e*		17 06 27.6	
AAK	**Ala-Archa**	**142.36**	**47**	PKP	PKPdf	17 06 27.3	-2.1
FRU	**Bishkek**	**142.36**	**47**	*e*PKIKP	PKPdf	17 06 30.0	+0.6
KBK	**Karagaybulak**	**142.66**	**47**	P	PKPdf	17 06 28.2	-1.8
SNR=8.9							
TKM2	**Tokmak 2**	**142.99**	**46**	P	PKPdf	17 06 27.3	-3.2
SNR=12							
TKM2	**Tokmak 2**	**142.99**	**46**	PKIKP	PKPdf	17 06 28.5	-2.0
TKM2				pmax	pmax		
	comp=Z,14nm,1.3s						
KZA	**Kyzart**	**143.09**	**48**	P	PKPdf	17 06 29.6	-1.1
SNR=9.9							
CLNS	**Chul'man**	**143.25**	**348**	*e*PKIKP	PKPdf	17 06 27.0	-3.5
CLNS				pmax	pmax		
	comp=Z,24nm,0.9s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.1s						
BOD	**Bodaibo**	**143.54**	**358**	*e*PKIKP	PKPdf	17 06 27.0	-4.0
BOD				pmax	pmax		
	comp=Z,39nm,1.2s						
ULHL	**Ulahol**	**143.70**	**47**	P	PKPdf	17 06 32.0	+0.3
SNR=7.5							
YUK	**Yuzh-Kuril'sk**	**143.84**	**317**	*c i*PKIKP	PKPdf	17 06 41.0	+9.0
YUK				PPP		17 12 57.0	
YUK				*i* SS	SS	17 28 21.0	+0.9
YUK				MLR	MLR		
	comp=E,515nm,21.0s						
YUK				MLR	MLR		
	comp=Z,655nm,21.0s						
TRD	**Trivandrum**	**144.14**	**106**	*ex*	x	17 06 41.7	
YSS	**Yuzh-Sakhalins**	**144.20**	**323**	*e*PKPdf	PKPdf	17 06 30.0	-2.5
YSS	**Yuzh-Sakhalins**	**144.20**	**323**	*e*PKIKP	PKPdf	17 06 30.0	-2.5
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
POO	**Poona**	**144.32**	**88**	*e*PKP	PKPdf	17 06 29.0	-4.5
KAD	**Karad**	**144.38**	**90**	*e*PKP	PKPdf	17 06 31.8	-1.9
KSH	**Kashi**	**144.53**	**51**	PKP	PKPdf	17 06 32.5	-0.8
KSH				pPKP	pPKPdf	17 06 59.5	-5.6
KSH				sPKP		17 07 10.1	
KSH				PKS		17 10 06.9	
KSH				SKS	SKSdf	17 13 30.8	-1.1
KSH				SKKS	SKKSac	17 16 23.3	-8.6
KSH				AMB	AMB		
	comp=Z,94nm,3.6s						
KSH				LR	LR		
	comp=N,140nm,7.4s						
KSH				LR	LR		
	comp=E,130nm,5.1s						
KSH				LR	LR		
	comp=Z,210nm,5.4s						
SMPI	**Sarmi**	**144.88**	**232**	PKP	PKPdf	17 06 33.0	-1.7
MK31	**Makanchi Array**	**145.15**	**36**	*e*PKPdf	PKPdf	17 06 34.1	0.0
MK31				*ep*PKPdf	pPKPdf	17 07 06.1	+0.2
MK31	**Makanchi Array**	**145.15**	**36**	*e*PKIKP	PKPdf	17 06 34.1	0.0
MK31				*e*		17 07 06.1	
MKAR	**Makanchi Array**	**145.15**	**36**	PKPbc	PKPbc	17 06 34.3	+0.3
	comp=Z,50nm,0.8s,baz=333,slow=2.8,SNR=258						
MKAR	**Makanchi Array**	**145.15**	**36**	PKPbc	PKPbc	17 06 34.3	+0.3
MKAR	**Makanchi Array**	**145.15**	**36**	PKIKP	PKPdf	17 06 34.3	+0.2
MKAR				pmax	pmax		
	comp=Z,50nm,0.8s						
ERM	**Erimo**	**146.54**	**315**	*e*PKPdf	PKPdf	17 06 37.5	+0.8
ERM	**Erimo**	**146.54**	**315**	*i* PKP2	PKPab	17 06 37.6	-1.9
ERM				pmax	pmax		
	comp=Z,194nm,0.8s						
KHET	**Khetri**	**146.76**	**71**	*e*PKP	PKPdf	17 06 37.1	-0.4
HABR	**Khabarovsk**	**147.13**	**331**	*e*PKIKP	PKPdf	17 06 37.8	+0.4
HABR				*i*		17 06 41.2	
HABR				*e*		17 07 06.0	
HABR				*e*		17 10 03.5	
HABR				*e*PPP		17 13 20.2	
HABR				*e*		17 13 35.5	
HABR				*e*		17 22 38.5	
HABR				*e*SS	SS	17 28 57.1	+0.5
HABR				*e*SSS		17 34 29.5	
HABR				pmax	pmax		
	comp=N,21nm,1.4s						
HABR				pmax	pmax		
	comp=Z,114nm,1.4s						
HABR				pmax	pmax		
	comp=E,45nm,1.4s						
HABR				MLR	MLR		
	comp=Z,194nm,22.0s						
BAKI	**Biak**	**147.31**	**230**	P	PKPdf	17 06 41.0	+2.1
	comp=Z,3μmcomp=Z,331nm,1.1s						
KKR	**Kurukshetra**	**147.47**	**68**	*e*PKP	PKPdf	17 06 36.5	-2.1
GUMO	**Guam**	**147.53**	**262**	PKPbc	PKPbc	17 06 40.3	-1.6
	comp=Z,313nm,0.8s,baz=170,slow=15,SNR=16						
GUMO	**Guam**	**147.53**	**262**	*e*PKPbc	PKPbc	17 06 40.4	-1.5
GUMO	**Guam**	**147.53**	**262**	*e*PKIKP	PKPdf	17 06 40.4	+1.3
GUMO	**Guam**	**147.53**	**262**	P	PKPdf	17 06 40.6	+1.5
	comp=Z,566nm,1.1s						
GUMO	**Guam**	**147.53**	**262**	PKP	PKPdf	17 06 40.6	+1.5
BHGR	**Bahadurgarh**	**147.71**	**70**	*e*PKP	PKPdf	17 06 38.4	-0.6
SONA	**Sohna**	**147.87**	**71**	*e*PKP	PKPdf	17 06 39.0	-0.3
AYAN	**Aya Nagar**	**147.89**	**70**	*e*PKP	PKPdf	17 06 38.7	-0.7
KLR	**Kul'dur**	**147.95**	**335**	*e*PKHKP	PKPpre	17 06 33.5	
KLR				pmax	pmax		
	comp=Z,100nm,1.4s						
NDI	**New Delhi**	**147.95**	**70**	*e*PKP	PKPdf	17 06 38.5	-0.9
WSI	**Waingapu**	**148.05**	**196**	PKP	PKPdf	17 06 45.4	+5.3
ASOR	**Ausora**	**148.43**	**70**	*e*PKP	PKPdf	17 06 41.0	+0.7
MMRI	**Maumere**	**148.47**	**200**	PKP	PKPdf	17 06 43.1	+2.4
HYB	**Hyderabad**	**148.48**	**91**	*i* PKP	PKPdf	17 06 40.0	-0.6
DDI	**Dehra Dun**	**148.48**	**67**	*ex*	x	17 06 39.5	
MOY	**Mondy**	**148.60**	**13**	*e*PKP2	PKPdf	17 06 44.6	+4.8
MOY				pmax	pmax		
	comp=Z,146nm,1.7s						
TLY	**Talaya**	**149.07**	**10**	*e*PKPdf	PKPdf	17 06 40.3	-0.3
TLY				*e*PKPbc	PKPbc	17 06 45.4	+0.6
TLY	**Talaya**	**149.07**	**10**	*e*PKIKP	PKPdf	17 06 41.0	+0.5
TLY				*i*		17 06 44.9	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,85nm,17.0s						
CIT	**Chita**	**149.35**	**358**	*e*PKHKP	PKPdf	17 06 42.2	+1.2
CIT				pmax	pmax		
	comp=Z,258nm,1.6s						
IGBI	**Denpasar**	**149.84**	**187**	P	PKPdf	17 06 48.2	+5.3
	comp=Z,7μmcomp=Z,163nm,1.4s						
WMQ	**Urumqi**	**149.99**	**36**	PKPbc	PKPdf	17 06 42.6	+0.4
WMQ				PP	PP	17 10 24.7	+2.6
WMQ				SKS	SKSdf	17 13 39.0	-0.4
WMQ				LR	LR		
	comp=N,120nm,26.0s						
WMQ				LR	LR		
	comp=E,150nm,28.0s						
WMQ				LR	LR		
	comp=Z,110nm,25.6s						
KHKI	**Kahang-Kahang**	**150.23**	**188**	P	PKPdf	17 06 48.7	+5.1
	comp=Z,872nmcomp=Z,59nm,1.1s						
MSAI	**Masohi**	**150.24**	**216**	P	PKPdf	17 06 46.9	+3.3
ZAK	**Zakamensk**	**150.27**	**11**	*e*PKIKP	PKPdf	17 06 42.0	-0.5
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,20nm,1.1s						
AAI	**Ambon**	**150.35**	**215**	P	PKPdf	17 06 42.5	-1.3
GMJI	**Gumukmas**	**150.51**	**183**	P	PKPdf	17 06 49.2	+5.2
	comp=Z,106nm,1.4s						
KRKI	**Karangkates**	**150.67**	**181**	P	PKPdf	17 06 51.5	+7.3
	comp=Z,145nm,1.5s						
KRKI	**Karangkates**	**150.67**	**181**	PKP	PKPbc	17 06 51.5	+1.7
PWJI	**Pagerwojo**	**150.81**	**180**	P	PKPdf	17 06 49.2	+4.7
	comp=Z,114nm,1.1s						
UGM	**Wanagama**	**150.90**	**178**	P	PKPdf	17 06 51.0	+6.4
	comp=Z,201nm,1.6s						
BLJI	**Banyuglugur**	**151.03**	**184**	P	PKPdf	17 06 50.6	+5.8
BLJI	**Banyuglugur**	**151.03**	**184**	PKP	PKPbc	17 06 50.6	-0.1
BBSI	**Bau Bau**	**151.29**	**203**	P	PKPdf	17 06 51.8	+6.6
NLAI	**Namlea**	**151.31**	**213**	P	PKPdf	17 06 49.9	+4.7
BJII	**Banjamegara**	**151.43**	**176**	P	PKPab	17 06 57.3	-2.7
HIA	**Hailar**	**151.43**	**349**	*e*PKPdf	PKPdf	17 06 43.3	-0.9
HIA				*e*PKPbc	PKPbc	17 06 50.1	-0.4
HIA				*e*PKPab	PKPab	17 06 59.4	+0.3
HIA	**Hailar**	**151.43**	**349**	*e*PKIKP	PKPdf	17 06 43.3	-1.0
LEM	**Lembang**	**151.71**	**171**	P	PKPdf	17 06 52.6	+6.8
	comp=Z,1μmcomp=Z,150nm,0.9s						
SMRI	**Semarang**	**151.75**	**177**	P	PKPdf	17 06 52.5	+6.6
DBJI	**Dramaga**	**151.84**	**169**	P	PKPdf	17 06 52.2	+6.2
	comp=Z,107nm,0.8s						
MJAR	**Matsushiro Arr**	**152.46**	**309**	PKP	PKPdf	17 06 45.4	-0.8
	comp=Z,2.3nm,0.7s,baz=110,slow=0.9,SNR=7.6						
MJAR				PKPbc	PKPbc	17 06 52.2	-1.0
	comp=Z,37nm,0.9s,baz=198,slow=1.0,SNR=62						
MJAR	**Matsushiro Arr**	**152.46**	**309**	PKP	PKPdf	17 06 45.4	-0.8
MJAR				PKPbc	PKPbc	17 06 52.2	-1.0
MJAR	**Matsushiro Arr**	**152.46**	**309**	PKIKP	PKPdf	17 06 45.4	-0.8
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR				pmax	pmax		
	comp=Z,37nm,0.9s						
MAJO	**Matsushiro**	**152.46**	**309**	*e*PKPdf	PKPdf	17 06 45.7	-0.6
MAJO				*e*PKPbc	PKPbc	17 06 52.6	-0.7
MAJO	**Matsushiro**	**152.46**	**309**	*e*PKIKP	PKPdf	17 06 45.7	-0.5
MDJ	**Mudanjiang**	**152.51**	**332**	PKPbc	PKPdf	17 06 45.8	-0.3
MDJ				pPKP	pPKPdf	17 07 17.1	-0.8
MDJ				PP	PP	17 10 35.6	-0.6
MDJ				SS	SS	17 29 57.5	+1.1
MDJ				AMB	AMB		
	comp=Z,500nm,4.4s						
MDJ	**Mudanjiang**	**152.51**	**332**	*e*PKPdf	PKPdf	17 06 45.2	-0.9
KAPI	**Kappang**	**152.65**	**198**	*e*PKPdf	PKPdf	17 06 45.9	-1.3
KAPI				*e*PKPbc	PKPbc	17 06 53.0	-1.3
KDI	**Kendari**	**152.69**	**204**	P	PKPdf	17 06 47.2	-0.1
PYUN	**Piuthan**	**153.07**	**70**	*e*P	PKPdf	17 06 46.7	-0.7
	comp=Z,16nm,0.6s						
PYUN	**Piuthan**	**153.07**	**70**	*e*P	PKPdf	17 06 46.7	-0.7
SONM	**Songino Array**	**153.23**	**8**	PKP	PKPdf	17 06 47.8	+0.8
	comp=Z,10.0nm,0.8s,baz=305,slow=0.9,SNR=62						
SONM				PKPbc	PKPbc	17 06 55.0	+0.5
	comp=Z,13nm,0.6s,baz=310,slow=1.3,SNR=42						
SONM	**Songino Array**	**153.23**	**8**	PKP	PKPdf	17 06 47.8	+0.8
SONM				PKPbc	PKPbc	17 06 55.0	+0.5
SONM	**Songino Array**	**153.23**	**8**	PKIKP	PKPdf	17 06 47.8	+0.8
SONM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,13nm,0.6s						
LBMI	**Labuha**	**153.27**	**217**	P	PKPbc	17 06 52.6	-3.1
LBMI	**Labuha**	**153.27**	**217**	PKP	PKPbc	17 06 52.6	-3.1
MDSI	**Maura Dua**	**153.27**	**163**	P	PKPdf	17 06 47.1	-1.1
	comp=Z,885nmcomp=Z,20nm,1.2s						
ULN	**Ulaanbaatar**	**153.28**	**7**	*e*PKPdf	PKPdf	17 06 47.3	+0.3
ULN				*e*PKPbc	PKPbc	17 06 54.5	-0.1
ULN	**Ulaanbaatar**	**153.28**	**7**	*e*PKIKP	PKPdf	17 06 47.3	+0.2
ULN	**Ulaanbaatar**	**153.28**	**7**	PKP	PKPdf	17 06 47.7	+0.6
KOLN	**Koldanda**	**153.65**	**70**	*e*P	PKPdf	17 06 47.9	-0.3
	comp=Z,7.4nm,0.7s						
KOLN	**Koldanda**	**153.65**	**70**	*e*P	PKPdf	17 06 47.9	-0.3
DANN	**Dangsing**	**153.70**	**69**	*e*P	PKPdf	17 06 48.6	+0.3
	comp=Z,63nm,0.9s						
DANN	**Dangsing**	**153.70**	**69**	*e*P	PKPdf	17 06 48.6	+0.3
TNTI	**Ternate**	**154.49**	**219**	P	PKPbc	17 06 59.8	+1.4
	comp=Z,101nm,1.0s,comp=Z,1μmcomp=Z,0.3nm						
TNTI	**Ternate**	**154.49**	**219**	PKP	PKPbc	17 06 59.8	+1.4
GKN	**Gorkha**	**154.52**	**70**	*e*P	PKPdf	17 06 48.9	-0.6
GKN	**Gorkha**	**154.52**	**70**	*e*P	PKPdf

LZH				sPKP		17 07 44.8	
LZH				AMB	AMB		
	comp=Z,240nm,3.8s						
LZH	**Lanzhou**	**163.78**	**23**	*e*PKP	PKPdf	17 07 00.5	+0.5
LZH				pPKP	pPKPdf	17 07 33.4	+1.5
LZH				sPKP		17 07 44.8	
LZH				PP	PP	17 11 33.0	-4.6
LZH				SKKS	SKKSac	17 18 23.0	+7.7
LZH	**Lanzhou**	**163.78**	**23**	*e*PKIKP	PKPdf	17 07 00.5	+0.5
LZH						17 07 33.4	
LZH						17 07 44.8	
LZH						17 11 33.0	
XAN	**Xi'an**	**167.12**	**11**	PKP	PKPdf	17 07 02.5	-0.3
XAN				pPKP	pPKPdf	17 07 35.2	+0.4
NJ2	**Nanjing**	**167.60**	**331**	*e*PKP	PKPdf	17 07 03.2	0.0
CMAR	**Chiang Mai Arr**	**167.62**	**101**	PKP	PKPdf	17 07 03.0	-0.5
	comp=Z,4.1nm,0.9s,baz=262,slow=1.8,SNR=36						
CMAR				PKPab	PKPab	17 08 10.4	+0.1
	comp=Z,2.6nm,0.7s,baz=255,slow=5.8,SNR=11						
CMAR				PP	PP	17 12 00.6	+1.2
	comp=Z,1.1nm,0.9s,baz=237,slow=4.2,SNR=6.8						
CMAR	**Chiang Mai Arr**	**167.62**	**101**	PKP	PKPdf	17 07 03.0	-0.5
CMAR				PKPab	PKPab	17 08 10.4	+0.1
CMAR				PP	PP	17 12 00.6	+1.2
CMAR	**Chiang Mai Arr**	**167.62**	**101**	PKIKP	PKPdf	17 07 03.1	-0.5
CMAR						17 08 10.4	
CMAR						17 12 00.6	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CHTO	**Chiang Mai**	**167.71**	**100**	*e*PKPdf	PKPdf	17 07 02.7	-0.9
CHTO				*e*PKPab	PKPab	17 08 10.9	+0.2
CHTO				*e*PP	PP	17 12 01.3	+1.4
CHTO	**Chiang Mai**	**167.71**	**100**	*e*PKIKP	PKPdf	17 07 02.7	-0.9
CHTO				*e*		17 08 10.9	
CHTO				*e*		17 12 01.3	
CD2	**Chengdu**	**168.08**	**35**	*e*PKP	PKPdf	17 07 01.7	-1.9
CD2				pPKP	pPKPdf	17 07 34.2	-1.3
CD2				sPKP		17 07 47.8	
CD2				PKPab	PKPab	17 08 11.0	-0.9
CD2				PP	PP	17 12 01.1	+0.8
CD2				SKKS	SKKSac	17 18 34.6	-2.5
CD2				AMB	AMB		
	comp=Z,120nm,10.2s						
WHN	**Wuhan**	**170.55**	**346**	PKP	PKPdf	17 07 05.2	+0.1
WHN				PKPab	PKPab	17 08 21.4	-1.3
ENH	**Enshi**	**170.89**	**12**	*e*PKPdf	PKPdf	17 07 04.6	-0.7
KMI	**Kunming**	**170.91**	**64**	PKP	PKPdf	17 07 05.9	+0.5
KMI				sPKP		17 07 49.5	
KMI	**Kunming**	**170.91**	**64**	PKP	PKPdf	17 07 05.9	+0.5
KMI				sPKP		17 07 49.5	
KMI	**Kunming**	**170.91**	**64**	PKIKP	PKPdf	17 07 05.9	+0.5
KMI						17 07 49.5	
GYA	**Guiyang**	**173.11**	**41**	PKP	PKPdf	17 07 05.0	-1.4
GYA				pPKP	pPKPdf	17 07 38.4	0.0
GYA				sPKP		17 07 50.6	
GYA				PKPab	PKPab	17 08 35.7	+1.4
GYA				PKS		17 10 36.0	
GYA				AMB	AMB		
	comp=Z,180nm,8.7s						
QIZ	**Qiongzhong**	**177.08**	**142**	PKP	PKPdf	17 07 07.8	+0.1
QIZ				PP	PP	17 12 48.8	+4.3
QIZ				SS	SS	17 34 11.2	+3.3
QIZ				AMB	AMB		
	comp=Z,140nm,3.6s						

IDC 04 16:51:18.5±6.7, 19°.05S×172°.49W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=281.7km s-min=34.5km az=143.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.82**	**261**	P	P	16 58 46.1	+0.6
	4.2nm,0.4s,baz=96,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**49.91**	**255**	P	P	17 00 12.8	-1.5
	0.3nm,0.7s,baz=90,slow=7.6,SNR=8.3						
WRA	**Warramunga Arr**	**49.96**	**260**	P	P	17 00 15.2	+0.6
	0.3nm,0.3s,baz=95,slow=8.3,SNR=37						
ILAR	**Eielson Array**	**85.84**	**11**	P	P	17 03 59.6	+0.1
	0.6nm,1.0s,baz=201,slow=4.8,SNR=2.7						

IDC 04 17:25:02.0±4.0, 16°.46S×177°.41W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/16, mbtmp4.4/3, MS3.8/1, Ms1 3.7/1, ms1mx3.0/24, Error ellipse: s-maj=166.7km s-min=46.4km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.17**	**240**	P	P	17 32 40.4	+0.3
	2.2nm,0.5s,baz=85,slow=8.4,SNR=15						
STKA				LR	LR	17 46 44.4	
	comp=Z,116nm,19.8s,baz=203,slow=32						
WRA	**Warramunga Arr**	**45.85**	**258**	P	P	17 33 26.1	-0.2
	1.3nm,0.5s,baz=94,slow=6.9,SNR=78						
ASAR	**Alice Springs**	**46.11**	**253**	P	P	17 33 27.9	-0.4
	8.8nm,0.4s,baz=90,slow=7.7,SNR=563						
GERES	**GERESS Array B**	**146.45**	**347**	PKPbc	PKPbc	17 44 44.5	-0.5
	0.5nm,0.6s,baz=15,slow=4.1,SNR=5.3						

*SZGRF **04** 17:30:55.1, 21°.50S×178°.01W, h33km, Fiji Islands region*
*DJA **04** 17:31:38, 19°.67S×176°.73W, h415km, mb4.7/14*
*BJI **04** 17:32:00.3, 19°.31S×177°.42W, h604km, mB5.2/2, mb4.7/6*
*IDC **04** 17:32:02.3±1.1, 19°.87S×178°.20W, h601km±11km, mb4.0/18, mb1 4.2/20, mb1mx4.1/22, mbtmp4.0/20, Error ellipse: s-maj=16.3km s-min=10.3km az=138.0*
*MOS **04** 17:32:03.1±1.9, 18°.89S×178°.98W, h552km, mb4.8/19, Error ellipse: s-maj=14.8km s-min=12.5km az=8.7*
*NEIC **04** 17:32:03.2±0.7, 19°.77S×178°.26W, h610km±7km, mb4.5/23, Error ellipse: s-maj=13.4km s-min=6.9km az=147.0*
*ISCJB **04** 17:32:03.8±0.9, 19°.86S±0°.07×178°.35W±0°.07, h632km±10km, mb4.6/55, Error ellipse: s-maj=12.2km s-min=8.1km az=146.7*

ISC 04 17:32:04.3±0.9, 19°.85S±0°.07×178°.27W±0°.07, h621km±10km, n283, σ0°86/132, mb4.6/55, 23C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.07**	**301**	*e*P	**P**	**17 33 31.2**	**-0.6**
AFI	**Afiamalu**	**8.57**	**47**	P	**P**	**17 34 05.6**	**-4.3**
	42nm,0.3s,baz=45,slow=1.4,SNR=82						
AFI				S	**S**	**17 35 44.6**	**-8.1**
	5.6nm,0.3s,baz=24,slow=19,SNR=5.5						
AFI	**Afiamalu**	**8.57**	**47**	P	**P**	**17 34 05.6**	**-4.3**
AFI				S	**S**	**17 35 44.6**	**-8.1**
AFI	**Afiamalu**	**8.57**	**47**	P	**P**	**17 34 05.6**	**-4.3**
AFI				S	**S**	**17 35 44.6**	**-8.1**
AFI				pmax	pmax		
	comp=Z,42nm,0.3s						
AFI				smax			
	comp=N,6.0nm,0.3s						
PLUM	**Mont Dore**	**14.29**	**258**	*e*P	**P**	**17 35 07.9**	**+2.8**
PLUM				AMP		17 35 48.2	
	comp=Z,47nm,0.2s						
LASL	**Noumea**	**14.38**	**258**	*e*P	**P**	**17 35 09.4**	**+3.4**
NORM	**Noumea**	**14.43**	**258**	*e*P	**P**	**17 35 10.0**	**+3.5**
DZM	**Mont Dzumac**	**14.45**	**259**	*e*P	**P**	**17 35 06.4**	**-0.2**
	comp=Z,32nm,0.4s						
NOUC	**Port Laguerre**	**14.58**	**258**	*e*P	**P**	**17 35 10.3**	**+2.5**
NOUC				AMP		17 35 56.2	
	comp=Z,14nm,4.2s						
OUZ	**Omahuta**	**16.91**	**203**	*e*P	**P**	**17 35 30.7**	**+1.7**
	comp=Z,46nm,0.5s						
URZ	**Urewera**	**18.78**	**191**	P	**P**	**17 35 43.0**	**-2.9**
	comp=Z,3.9nm,0.3s,baz=314,slow=3.8,SNR=26						
URZ	**Urewera**	**18.78**	**191**	*e*P	**P**	**17 35 41.9**	**-4.0**
RPZ	**Rata Peaks**	**25.42**	**198**	P	**P**	**17 36 44.8**	**-0.2**
	comp=Z,14nm,0.4s,mb5.0,baz=2.7,slow=8.7,SNR=11						
RPZ	**Rata Peaks**	**25.42**	**198**	*e*P	**P**	**17 36 44.8**	**-0.2**
ARMA	**Armidale**	**29.13**	**243**	*e*P	**P**	**17 37 17.8**	**+0.3**
CNB	**Canberra Magne**	**32.38**	**235**	*e*P	**P**	**17 37 45.7**	**+0.6**
	comp=Z,65nm,0.5s,mb5.5						
CTA	**Charters Tower**	**33.30**	**263**	P	**P**	**17 37 52.9**	**-0.2**
	comp=Z,28nm,0.5s,mb5.1,baz=96,slow=12,SNR=54						
CTA	**Charters Tower**	**33.30**	**263**	*e*P	**P**	**17 37 52.9**	**-0.2**
	comp=Z,20nm,0.5s,mb5.0						
CTA	**Charters Tower**	**33.30**	**263**	P	**P**	**17 37 52.9**	**-0.2**
CTA	**Charters Tower**	**33.30**	**263**	P	**P**	**17 37 52.9**	**-0.2**
CTA				pmax	pmax		
	comp=Z,28nm,0.5s						
CTAO	**Charters Tower**	**33.30**	**263**	*e*P	**P**	**17 37 52.6**	**-0.5**
	comp=Z,25nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**33.30**	**263**	*e*P	**P**	**17 37 52.6**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**33.30**	**263**	P	**P**	**17 37 53.0**	**-0.1**
	comp=Z,37nm,0.6s,mb5.2						
PMG	**Port Moresby**	**34.95**	**282**	P	**P**	**17 38 06.3**	**-0.5**
	comp=Z,29nm,1.0s,mb4.9,baz=131,slow=9.3,SNR=6.6						
PMG	**Port Moresby**	**34.95**	**282**	P	**P**	**17 38 06.3**	**-0.5**
PMG	**Port Moresby**	**34.95**	**282**	P↑	**P**	**17 38 07.0**	**+0.2**
PMG				pmax	pmax		
	comp=Z,39nm,1.2s						
QLP	**Quilpie**	**35.01**	**252**	*e*P	**P**	**17 38 07.0**	**-0.2**
TOO	**Toolangi**	**36.08**	**233**	*e*P	**P**	**17 38 16.3**	**+0.5**
	comp=Z,108nm,0.5s,mb5.6						
COEN	**Coen**	**37.29**	**273**	P	**P**	**17 38 26.0**	**0.0**
	comp=Z,29nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**37.84**	**243**	P	**P**	**17 38 30.6**	**+0.4**
	comp=Z,9.8nm,0.5s,mb4.6,baz=92,slow=9.1,SNR=57						
STKA	**Stephens Creek**	**37.84**	**243**	*e*P	**P**	**17 38 30.7**	**+0.5**
	comp=Z,11nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**37.84**	**243**	P	**P**	**17 38 30.6**	**+0.4**
STKA	**Stephens Creek**	**37.84**	**243**	P	**P**	**17 38 30.6**	**+0.4**
STKA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BBOO	**Buckleboo**	**42.61**	**243**	*e*P	**P**	**17 39 07.9**	**-0.1**
	comp=Z,281nm,0.6s						
BBOO	**Buckleboo**	**42.61**	**243**	*e*P	**P**	**17 39 07.7**	**-0.3**
	comp=Z,608nm,0.6s						
JAY	**Jayapura**	**43.59**	**288**	P	**P**	**17 39 16.4**	**+0.5**
	comp=Z,3μmcomp=Z,77nm,0.6s,mb5.4						
ASAR	**Alice Springs**	**44.42**	**256**	P	**P**	**17 39 21.8**	**-0.3**
	comp=Z,17nm,0.5s,mb4.8,baz=89,slow=7.8,SNR=657						
ASAR				PcP	PcP	17 40 50.7	-1.1
	comp=Z,1.7nm,0.7s,baz=94,slow=4.7,SNR=4.5						
ASAR				ScP	ScP	17 43 47.8	+2.1
	comp=Z,0.7nm,0.6s,baz=101,slow=5.0,SNR=5.0						
ASAR				S	**S**	**17 45 11.5**	**-1.9**
	comp=Z,6.6nm,1.0s,baz=91,slow=16,SNR=30						
ASAR	**Alice Springs**	**44.42**	**256**	P	**P**	**17 39 21.8**	**-0.3**
ASAR				PcP	PcP	17 40 50.7	-1.1
ASAR				ScP	ScP	17 43 47.8	+2.1
ASAR				S	**S**	**17 45 11.5**	**-1.9**
ASAR	**Alice Springs**	**44.42**	**256**	P	**P**	**17 39 21.8**	**-0.3**
ASAR						17 40 50.7	
ASAR				S	**S**	**17 45 11.5**	**-1.9**
ASAR				pmax	pmax		
	comp=Z,17nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
ASAR				smax			
	comp=N,7.0nm,1.0s						
WRAB	**Tennant Creek**	**44.43**	**261**	*e*P	**P**	**17 39 20.9**	**-1.3**
	comp=N,10nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**44.43**	**261**	*e*P	**P**	**17 39 21.0**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**44.43**	**261**	P	**P**	**17 39 21.1**	**-1.1**
	comp=Z,35nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**44.44**	**261**	P	**P**	**17 39 21.3**	**-1.0**
	comp=Z,11nm,0.5s,mb4.7,baz=97,slow=8.2,SNR=387						
WRA				ScP	ScP	17 43 47.7	+1.9
	comp=Z,0.3nm,0.5s,baz=92,slow=3.9,SNR=3.8						
WRA				S	**S**	**17 45 10.9**	**-2.9**
	comp=Z,1.3nm,0.9s,baz=94,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**44.44**	**261**	P	**P**	**17 39 21.3**	**-1.0**
WRA				ScP	ScP	17 43 47.7	+1.9
WRA				S	**S**	**17 45 10.9**	**-2.9**
WRA	**Warramunga Arr**	**44.44**	**261**	P	**P**	**17 39 21.3**	**-1.0**
WRA				S	**S**	**17 45 10.9**	**-2.9**
WRA				pmax	pmax		
	comp=Z,11nm,0.5s						
WRA				smax			
	comp=N,1.0nm,0.9s						
SMPI	**Sarmi**	**45.61**	**287**	P	**P**	**17 39 31.1**	**-0.2**
	comp=N,25nm,1.3s,mb4.6						
FORT	**Forrest**	**49.32**	**246**	*e*P	**P**	**17 39 57.8**	**-0.8**
	comp=N,27nm,0.6s,mb4.8						
TLE	**Tual**	**49.63**	**280**	P	**P**	**17 40 01.0**	**-0.2**
	comp=N,38nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.86**	**262**	*e*P	**P**	**17 40 23.9**	**-0.4**
	comp=N,17nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.86**	**262**	*e*P	**P**	**17 40 23.9**	**-0.5**
	comp=N,7.4nm,0.5s,mb4.3						
AAI	**Ambon**	**54.55**	**280**	P	**P**	**17 40 35.6**	**-0.7**
	comp=N,16nm,0.9s,mb4.3						
LBMI	**Labuha**	**56.36**	**283**	P	**P**	**17 40 48.3**	**-0.4**
	comp=N,23nm,1.1s,mb4.3						
TNTI	**Ternate**	**57.05**	**284**	P	**P**	**17 40 54.0**	**+0.6**
	comp=N,55nm,1.0s,mb4.8						
MEEK	**Meekatharra**	**57.89**	**250**	*e*P	**P**	**17 40 57.8**	**-1.1**
	comp=N,48nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**58.10**	**245**	*e*P	**P**	**17 40 59.5**	**-0.8**
	comp=N,17nm,0.6s,mb4.3						
GTOI	**Gorontalo**	**60.98**	**282**	P	**P**	**17 41 20.0**	**+0.4**
	comp=N,26nm,1.1s,mb4.3						
MRSI	**Marisa**	**61.91**	**282**	P	**P**	**17 41 26.4**	**+0.8**
	comp=N,11nm,0.6s,mb4.2						
MJAR	**Matsushiro Arr**	**69.53**	**324**	P	**P**	**17 42 11.7**	**-0.6**
	comp=N,14nm,0.5s,mb4.7,baz=153,slow=6.1,SNR=59						
MJAR	**Matsushiro Arr**	**69.53**	**324**	P	**P**	**17 42 11.7**	**-0.6**
MJAR	**Matsushiro Arr**	**69.53**	**324**	P	**P**	**17 42 11.7**	**-0.7**
MJAR				pmax	pmax		
	comp=Z,15nm,0.5s						
MAT	**Matsushiro**	**69.53**	**324**	P	**P**	**17 42 11.8**	**-0.6**
QSPA	**South Pole Qui**	**70.22**	**180**	*e*P	**P**	**17 42 15.8**	**0.0**
	comp=Z,16nm,0.8s,mb4.5						
LEM	**Lembang**	**72.80**	**269**	P	**P**	**17 42 32.6**	**+0.7**
ASAJ	**Asahikawa**	**73.03**	**332**	P	**P**	**17 42 33.5**	**+1.0**
	comp=Z,33nm,0.8s,mb4.9,baz=209,slow=10,SNR=16						
ASAJ	**Asahikawa**	**73.03**	**332**	P	**P**	**17 42 33.5**	**+1.0**
ASAJ	**Asahikawa**	**73.03**	**332**	P	**P**	**17 42 33.5**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,33nm,0.8s						
YSS	**Yuzh-Sakhalins**	**75.20**	**334**	*e*P	**P**	**17 42 45.0**	**+0.4**
PETK	**Petropavlovsk-**	**75.58**	**345**	P	**P**	**17 42 46.2**	**-0.4**
	comp=Z,18nm,0.7s,mb4.6,baz=163,slow=5.1,SNR=27						
PETK	**Petropavlovsk-**	**75.58**	**345**	P	**P**	**17 42 46.2**	**-0.4**
PETK	**Petropavlovsk-**	**75.58**	**345**	P	**P**	**17 42 46.2**	**-0.4**
PETK				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.6						
KSRS	**Korea Array**	**76.23**	**319**	P	**P**	**17 42 51.0**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.0,baz=129,slow=6.4,SNR=14						
KSRS	**Korea Array**	**76.23**	**319**	P	**P**	**17 42 51.1**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
KSAR	**Wonju Array Be**	**76.25**	**319**	P	**P**	**17 42 51.0**	**+0.4**
KSAR	**Wonju Array Be**	**76.25**	**319**	P	**P**	**17 42 51.1**	**+0.5**
HABR	**Khabarovsk**	**79.75**	**331**	*e*P	**P**	**17 43 09.1**	**0.0**
HABR				*e*		17 43 13.5	
HABR				*e**SP	sP	17 46 15.8	-5.3
HABR				*e*PPP		17 48 18.0	
HABR				*e*S	S	17 52 27.6	+5.6
HABR				*e*		17 52 40.8	
HABR				pmax	pmax		
	comp=E,33nm,1.2s						
HABR				pmax	pmax		
	comp=N,23nm,1.8s						
HABR				pmax	pmax		
	comp=Z,38nm,1.2s,mb4.6						
HABR				MLR	MLR		
	comp=Z,88nm,17.0s						
KDAK	**Kodiak Island**	**80.25**	**14**	P	**P**	**17 43 11.2**	**-0.2**
	comp=Z,20nm,0.9s,mb4.4,baz=264,slow=9.2,SNR=6.0						
KDAK	**Kodiak Island**	**80.25**	**14**	P	**P**	**17 43 11.2**	**-0.2**
KDAK	**Kodiak Island**	**80.25**	**14**	P	**P**	**17 43 11.3**	**-0.1**
KDAK				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**80.73**	**44**	P	**P**	**17 43 15.2**	**+0.8**
	comp=Z,4.0nm,0.7s,mb4.0,baz=225,slow=8.9,SNR=21						
NVAR	**Mina Array Bea**	**80.73**	**44**	P	**P**	**17 43 15.2**	**+0.8**
LDFC	**Landfair**	**81.06**	**48**	*e*P	**P**	**17 43 16.4**	**+0.2**
	comp=Z,16nm,1.0s,mb4.4						
MOD	**Modoc**	**81.80**	**40**	*e*P	**P**	**17 43 17.8**	**-0.3**
	comp=Z,11nm,0.7s,mb4.4						
WVOR	**Wild Horse Val**	**82.80**	**40**	*e*P	**P**	**17 43 23.1**	**-1.7**
	comp=Z,7.4nm,1.0s,mb4.2						
WVOR	**Wild Horse Val**	**82.80**	**40**	*e*P	**P**	**17 43 23.1**	**-1.7**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
ETW	**Entiat**	**84.86**	**35**	*e*P	**P**	**17 43 34.9**	**+0.1**
	comp=Z,16nm,1.0s,mb4.6						
ENH	**Enshi**	**85.46**	**304**	*e*P	**P**	**17 43 38.1**	**0.0**
	comp=Z,44nm,1.2s,mb5.0						
HLID	**Hailey**	**86.00**	**41**	*e*P	**P**	**17 43 40.0**	**-0.3**
	comp=Z,6.6nm,0.9s,mb4.3						
MNTX	**Cornudas Mount**	**86.58**	**55**	*e*P	**P**	**17 43 43.9**	**+0.6**
	comp=Z,4.9nm,1.5s,mb4.0						
TXAR	**Lajitas Array**	**86.92**	**57**	P	**P**	**17 43 46.2**	**+1.2**
	comp=Z,2.3nm,0.8s,mb4.0,baz=219,slow=7.0,SNR=23						
TXAR	**Lajitas Array**	**86.92**	**57**	P	**P**	**17 43 46.2**	**+1.1**
TXAR	**Lajitas Array**	**86.92**	**57**	P	**P**	**17 43 46.2**	**+1.2**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SYO	**Syowa Base**	**87.30**	**193**	*e*P	**P**	**17 43 44.9**	**-1.2**
MCMT	**McKenzie Canyo**	**87.62**	**40**	*e*P	**P**	**17 43 48.7**	**+0.8**
	comp=Z,6.3nm,1.1s,mb4.3						
COLA	**College**	**87.63**	**12**	*e*P	**P**	**17 43 46.0**	**-1.4**
	comp=Z,28nm,0.8s,mb5.0						
COLA	**College**	**87.63**	**12**	*e*P	**P**	**17 43 46.0**	**-1.4**
COLA				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**87.74**	**13**	P	**P**	**17 43 46.6**	**-1.4**
	comp=Z,6.1nm,0.6s,mb4.5,baz=220,slow=5.8,SNR=95						
ILAR	**Eielson Array**	**87.74**	**13**	P	**P**	**17 43 46.6**	**-1.4**
ILAR	**Eielson Array**	**87.74**	**13**	P	**P**	**17 43 46.6**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
RRI2	**Red Ridge**	**87.82**	**42**	*e*P	**P**	**17 43 49.5**	**+0.6**
	comp=Z,10nm,1.0s,mb4.5						
DLMT	**Dillon**	**88.05**	**40**	*e*P	**P**	**17 43 50.2**	**+0.3**
	comp=Z,7.6nm,1.1s,mb4.3						
IMW	**Indian Meadow**	**88.34**	**42**	*e*P	**P**	**17 43 52.0**	**+0.8**
	comp=Z,9.3nm,1.1s,mb4.4						
LOHW	**Long Hollow**	**88.41**	**42**	*e*P	**P**	**17 43 51.4**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.0						
FLWY	**Flagg Ranch**	**88.58**	**42**	*e*P	**P**	**17 43 53.5**	**+1.1**
	comp=Z,7.6nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**88.67**	**43**	P	**P**	**17 43 53.0**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.3,baz=212,slow=3.2,SNR=28						
PDAR	**Pinedale Array**	**88.67**	**43**	P	**P**	**17 43 53.0**	**+0.1**
SNAA	**Sanae**	**88.67**	**179**	*e*	**P**	**17 43 45.6**	**-6.8**
YMR	**Madison River**	**88.70**	**41**	*e*P	**P**	**17 43 53.5**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.2						
VNA3	**Neumayer Olymp**	**88.81**	**176**	*e*	**P**	**17 43 52.5**	**-0.5**
EGAK	**Eagle**	**89.04**	**15**	*e*P	**P**	**17 43 53.5**	**-0.6**
	comp=Z,20nm,1.0s,mb4.9						
VNA2	**Neumayer--Watz**	**89.25**	**177**	*e*	**P**	**17 43 55.0**	**-0.1**
	baz=199,slow=3.4						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**17 43 59.1**	**+1.2**
	comp=Z,5.1nm,0.9s,mb4.3,baz=122,slow=2.6,SNR=34						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**17 43 59.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**17 43 59.2**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**89.78**	**290**	*e*P	**P**	**17 43 59.1**	**+0.5**
	comp=Z,6.6nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**89.78**	**290**	*e*P	**P**	**17 43 59.1**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
YAK	**Yakutsk**	**91.41**	**338**	*e*P	**P**	**17 44 04.0**	**-1.0**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
SONM	**Songino Array**	**95.09**	**319**	P	**P**	**17 44 22.4**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.9,baz=126,slow=4.3,SNR=6.7						
SONM	**Songino Array**	**95.09**	**319**	P	**P**	**17 44 22.4**	**+0.3**
SONM	**Songino Array**	**95.09**	**319**	P	**P**	**17 44 22.5**	**+0.3**
YKA	**Yellowknife Ar**	**96.03**	**25**	P	**P**	**17 44 25.2**	**-0.8**
	comp=Z,0.8nm,0.5s,mb4.2,baz=238,slow=4.5,SNR=5.8						
YKA	**Yellowknife Ar**	**96.03**	**25**	P	**P**	**17 44 25.2**	**-0.8**
YKA	**Yellowknife Ar**	**96.03**	**25**	P	**P**	**17 44 25.2**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GTA	**Gaotai**	**96.36**	**309**	*e*P	**P**	**17 44 29.1**	**+1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.4						
ZALV	**Zalesovo Beam**	**109.83**	**321**	PKiKP	PKiKP	17 49 24.3	-1.5
	comp=Z,0.8nm,0.5s,baz=128,slow=2.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**109.83**	**321**	PKiKP	PKiKP	17 49 24.3	-1.5
MKAR	**Makanchi Array**	**110.56**	**314**	PKiKP	PKiKP	17 49 26.0	-1.4
	comp=Z,0.3nm,0.5s,baz=80,slow=2.5,SNR=6.8						
MKAR	**Makanchi Array**	**110.56**	**314**	PKiKP	PKiKP	17 49 26.0	-1.4
KURK	**Kurchatov**	**113.34**	**318**	PKiKP	PKiKP	17 49 30.9	-1.7
	comp=Z,1.2nm,0.7s,baz=95,slow=1.8,SNR=13						
KURK

TESR		146.48 328	⇓i P	PKPbc	17 50 36.9	-0.3
KOLS	Kolonicke sedl	146.61 335	e PKIKP	PKPbc	17 50 38.1	+0.7
KOLS			e		17 50 40.8	
KOLS	Kolonicke sedl	146.61 335	e PKP	PKPbc	17 50 38.1	+0.7
KOLS			e		17 50 40.8	
STHS	Stebnicka Huta	146.62 337	e PKIKP	PKPbc	17 50 37.9	+0.5
STHS			e		17 50 41.8	
STHS	Stebnicka Huta	146.62 337	e PKP	PKPbc	17 50 37.9	+0.5
STHS			e		17 50 41.8	
UZH	Uzhgorod	146.85 335	⇑i PKIKP	PKPbc	17 50 38.1	0.0
UZH			e		17 50 44.1	
VRI	Vrincioaia	146.88 327	⇑⇑PKHKP	PKPbc	17 50 36.8	-1.5
VRI	Vrincioaia	146.88 327	⇑i P	PKPbc	17 50 36.8	-1.5
CRVS	Cervenica-Dubn	146.96 336	e PKIKP	PKPbc	17 50 38.6	+0.3
CRVS			e		17 50 42.4	
CRVS	Cervenica-Dubn	146.96 336	e PKP	PKPbc	17 50 38.6	+0.3
CRVS			e		17 50 42.4	
KSP	Ksiaz	147.00 343	e PKP	PKPbc	17 50 38.2	-0.2
KSP	Ksiaz	147.00 343	e PKIKP	PKPbc	17 50 38.2	-0.2
TRPA	Tarpa	147.15 334	⇓i P	PKPbc	17 50 38.8	-0.1
OKC	Ostrava-Krasne	147.34 340	e PKIKP	PKPbc	17 50 39.4	+0.1
OKC			e		17 50 44.1	
OKC	Ostrava-Krasne	147.34 340	⇑e PKP	PKPbc	17 50 39.4	+0.1
OKC			e PKPAB	PKPab	17 50 44.1	+0.7
CLZ	Clausthal	147.36 350	e PKPbc	PKPbc	17 50 39.4	+0.1
CLZ	Clausthal	147.36 350	e PKIKP	PKPbc	17 50 39.4	+0.1
CLL	Collm	147.37 347	e PKPbc	PKPbc	17 50 39.5	+0.2
CLL			e PKPab	PKPab	17 50 43.6	+0.1
CLL	Collm	147.37 347	i PKIKP	PKPbc	17 50 39.0	-0.3
CLL			i		17 50 42.9	
CLL			pmax	pmax		
	comp=Z,30nm,1.0s					
CLL			pmax	pmax		
	comp=Z,16nm,0.8s					
CLL	Collm	147.37 347	i PKPbc	PKPbc	17 50 39.0	-0.3
	comp=Z,30nm,1.0s					
CLL			i PKPab	PKPab	17 50 42.9	-0.6
	comp=Z,16nm,0.8s					
UPC	Upice	147.38 343	e PKIKP	PKPbc	17 50 39.4	0.0
UPC			e		17 50 43.6	
UPC	Upice	147.38 343	⇑e PKP	PKPbc	17 50 39.4	0.0
UPC			e PKPAB	PKPab	17 50 43.6	+0.1
DPC	Dobruska-Polom	147.43 343	e PKIKP	PKPbc	17 50 39.7	+0.2
DPC			e		17 50 44.2	
DPC	Dobruska-Polom	147.43 343	⇑e PKP	PKPbc	17 50 39.7	+0.2
DPC			e PKPAB	PKPab	17 50 44.2	+0.5
MLR	Muntele Rosu	147.54 327	⇑PKIKP	PKPbc	17 50 39.5	-0.5
MLR	Muntele Rosu	147.54 327	⇑i P	PKPbc	17 50 39.5	-0.5
BRG	Berggiesshubel	147.57 346	i PKP	PKPdf	17 50 39.8	+3.6
	comp=Z,20nm,1.2s					
BRG			e		17 50 43.8	
	comp=Z,12nm,0.9s					
BRG			e PKP	pPKPdf	17 52 56.1	-3.3
	comp=Z,7.9nm,1.6s					
BRG	Berggiesshubel	147.57 346	e PKPbc	PKPbc	17 50 40.1	+0.2
BRG			e PKPab	PKPab	17 50 44.7	+0.4
BRG	Berggiesshubel	147.57 346	i PKIKP	PKPbc	17 50 39.8	-0.1
BRG			e		17 50 43.8	
BRG			pmax	pmax		
	comp=Z,20nm,1.2s					
BRG			pmax	pmax		
	comp=Z,12nm,0.9s					
BRG			pmax	pmax		
	comp=Z,8.0nm,1.6s					
MORC	Moravsky Berou	147.58 341	e PKPdf	PKPbc	17 50 38.0	-1.9
MORC	Moravsky Berou	147.58 341	e PKHKP	PKPbc	17 50 38.0	-1.9
MORC	Moravsky Berou	147.58 341	⇓i P	PKPbc	17 50 40.1	+0.2
FBE	Freiberg	147.66 346	e PKPbc	PKPbc	17 50 40.5	+0.4
FBE			e PKPab	PKPab	17 50 45.4	+0.7
KECS	Kecovo	147.67 336	e PKIKP	PKPbc	17 50 40.6	+0.4
KECS			e		17 50 45.3	
KECS	Kecovo	147.67 336	e PKP	PKPbc	17 50 40.6	+0.4
KECS			e		17 50 45.2	
NEUB	Neuenburg	147.72 348	e PKPbc	PKPbc	17 50 40.4	+0.2
PVCC	Panska Ves	147.74 345	e PKIKP	PKPbc	17 50 40.7	+0.4
PVCC			e		17 50 45.4	
PVCC	Panska Ves	147.74 345	⇑e PKP	PKPbc	17 50 40.7	+0.4
PVCC			e PKPAB	PKPab	17 50 45.4	+0.4
DRGR		148.12 332	⇑PKIKP	PKPbc	17 50 41.0	-0.4
DRGR		148.12 332	⇑i P	PKPbc	17 50 41.0	-0.4
BUG	Bochum--Univer	148.17 353	e PKPab	PKPab	17 50 46.8	+0.1
VRAC	Vranov	148.28 341	⇑PKIKP	PKPbc	17 50 41.7	0.0
VRAC	Vranov	148.28 341	⇑i P	PKPbc	17 50 41.7	0.0
MOX	Moxa	148.28 348	e PKPbc	PKPbc	17 50 41.8	+0.1
MOX	Moxa	148.28 348	e PKIKP	PKPbc	17 50 41.8	+0.1
PLN	Plauen	148.33 347	e PKPbc	PKPbc	17 50 42.0	+0.2
WERD	Werda	148.33 347	e PKPbc	PKPbc	17 50 42.1	+0.3
WERD			e PKPab	PKPab	17 50 47.9	+0.5
KOLL	Kolacno	148.34 339	e PKIKP	PKPbc	17 50 42.4	+0.5
KOLL	Kolacno	148.34 339	e PKP	PKPbc	17 50 42.3	+0.4
PSZ	Piszkesteto	148.36 336	⇓PKIKP	PKPbc	17 50 42.8	+0.9
PSZ	Piszkesteto	148.36 336	⇓i P	PKPbc	17 50 42.8	+0.9
GUNZ	Gunzen	148.41 347	e PKPbc	PKPbc	17 50 42.4	+0.4
GUNZ			e PKPab	PKPab	17 50 48.3	+0.6
WERN	Wernitzgruen	148.47 347	e PKPbc	PKPbc	17 50 42.7	+0.6
NKC	Novy Kostel	148.50 347	e PKIKP	PKPbc	17 50 42.4	+0.2
NKC			e		17 50 48.1	
NKC	Novy Kostel	148.50 347	⇑e PKP	PKPbc	17 50 42.4	+0.2
NKC			e PKPAB	PKPab	17 50 48.1	-0.1
TREC	Trest	148.62 343	e PKIKP	PKPbc	17 50 42.5	0.0
TREC	Trest	148.62 343	⇑e PKP	PKPbc	17 50 42.5	0.0
SMOL	Smolenice	148.72 340	e PKIKP	PKPbc	17 50 44.1	+1.3
SMOL	Smolenice	148.72 340	e PKP	PKPbc	17 50 44.0	+1.2
ROTZ	Rotzenmuhle	149.00 347	e PKPbc	PKPbc	17 50 43.8	+0.4
ZST	Bratislava	149.10 340	e PKHKP	PKPbc	17 50 45.0	+1.3
ZST	Bratislava	149.10 340	e PKP	PKPbc	17 50 45.0	+1.3
GZR	Gura Zlata	149.15 330	⇓PKIKP	PKPbc	17 50 43.6	-0.3
GZR	Gura Zlata	149.15 330	⇓i P	PKPbc	17 50 43.6	-0.3
TNS	Taunus Mts	149.22 352	e PKPbc	PKPbc	17 50 44.2	+0.2
TNS	Taunus Mts	149.22 352	e PKHKP	PKPbc	17 50 44.2	+0.2
KHC	Kasperske Hory	149.27 345	e PKPbc	PKPbc	17 50 43.7	-0.4
KHC			e PKPab	PKPab	17 50 51.7	+0.3
KHC	Kasperske Hory	149.27 345	e PKHKP	PKPbc	17 50 43.7	-0.4
KHC			e		17 50 51.7	
KHC	Kasperske Hory	149.27 345	⇑e PKP	PKPbc	17 50 44.1	0.0
KHC			e PKPAB	PKPab	17 50 51.4	0.0
WET	Wettzell	149.43 346	e PKPbc	PKPbc	17 50 44.7	+0.2
WET	Wettzell	149.43 346	e PKHKP	PKPbc	17 50 44.7	+0.2
BZS	Buzias	149.50 332	⇓PKHKP	PKPbc	17 50 44.4	-0.4
BZS	Buzias	149.50 332	⇓i P	PKPbc	17 50 44.4	-0.4
GEC2	GERESS Array S	149.51 344	e PKPbc	PKPbc	17 50 44.9	+0.2
GEC2	GERESS Array S	149.51 344	e PKHKP	PKPbc	17 50 44.9	+0.2
GERES	GERESS Array B	149.51 344	PKPbc	PKPbc	17 50 44.7	0.0
	comp=Z,7.3nm,0.7s,baz=33,slow=2.3,SNR=53					
GERES			PKPab	PKPab	17 50 52.0	-0.4
	comp=Z,1.9nm,0.6s,baz=35,slow=3.6,SNR=7.3					
GERES	GERESS Array B	149.51 344	PKPbc	PKPbc	17 50 44.7	0.0
GERES			PKPab	PKPab	17 50 52.0	-0.4
GERES	GERESS Array B	149.51 344	PKHKP	PKPbc	17 50 44.7	0.0
GERES					17 50 52.0	
GERES			pmax	pmax		
	comp=Z,7.0nm,0.7s					
GERES			pmax	pmax		
	comp=Z,2.0nm,0.6s					
GIVF	Givet	149.71 356	e PKP1	PKPbc	17 50 45.1	0.0
	comp=Z,37nm,0.7s					
GIVF	Givet	149.71 356	e P	PKPbc	17 50 45.1	0.0
GIVF	Givet	149.71 356	e PKHKP	PKPbc	17 50 45.1	0.0
CONA	Conrad Observa	149.73 341	⇑i PKPbc	PKPbc	17 50 44.9	-0.4
	comp=Z,9.4nm,0.8s					
BAIF	Baives	149.79 357	e PKP1	PKPbc	17 50 45.4	+0.1
	comp=Z,51nm,1.1s					
BAIF	Baives	149.79 357	e P	PKPbc	17 50 45.4	+0.1
BAIF	Baives	149.79 357	e PKHKP	PKPbc	17 50 45.4	+0.1
PKSM	Moragy	150.26 336	⇑PKHKP	PKPbc	17 50 45.1	-1.4
PKSM	Moragy	150.26 336	⇑i P	PKPbc	17 50 45.1	-1.4
STU	Stuttgart	150.52 350	e PKPbc	PKPbc	17 50 47.2	+0.2
FUR	Furstenfeldbru	150.71 347	e PKPab	PKPab	17 50 58.2	+0.8
RJOB	Jochberg	150.76 345	e PKPab	PKPab	17 50 58.8	+1.1
VTS	Vitosha	150.98 326	⇓PKHKP	PKPbc	17 50 48.2	-0.1
VTS	Vitosha	150.98 326	⇓i P	PKPbc	17 50 48.2	-0.1
BFO	Black Forest	151.09 351	e PKPbc	PKPbc	17 50 49.0	+0.7
BFO			e PKPab	PKPab	17 50 59.1	+0.1
BFO	Black Forest	151.09 351	e PKIKP	PKPbc	17 50 49.0	+0.7
FLN	La Foliniere	151.10 3	e PKP1	PKPbc	17 50 47.8	-0.6
PERS	Pernice	151.12 341	i PKPbc	PKPbc	17 50 47.6	-0.9
CDF	Champ du Feu	151.15 352	e PKP1	PKPbc	17 50 48.3	-0.2
	comp=Z,15nm,0.8s					
CDF	Champ du Feu	151.15 352	e P	PKPbc	17 50 48.3	-0.2
CDF	Champ du Feu	151.15 352	e PKIKP	PKPbc	17 50 48.3	-0.2
PAGF	Fort de Pagny	151.18 354	e PKP1	PKPbc	17 50 48.7	+0.2
	comp=Z,5.2nm,0.6s					
LDF	La Druitiere	151.28 3	e PKP1	PKPbc	17 50 48.1	-0.7
	comp=Z,13nm,0.6s					
MEZF	Maizieres J'vi	151.29 355	e PKP1	PKPbc	17 50 48.9	+0.1
MEZF	Maizieres J'vi	151.29 355	e P	PKPbc	17 50 48.9	+0.1
SGMF	Saint Gilles	151.45 6	e PKP1	PKPbc	17 50 48.5	-0.7
	comp=Z,9.9nm,0.6s					
GRR	Gorron	151.45 4	e PKP1	PKPbc	17 50 48.8	-0.4
	comp=Z,17nm,0.6s					
WTTA	Wattenberg	151.48 346	⇑i PKPbc	PKPbc	17 50 48.8	-0.4
	comp=Z,5.7nm,0.6s					
SFTF	Sexfontaines	151.59 355	e PKP1	PKPbc	17 50 49.5	0.0
	comp=Z,21nm,0.7s					
SFTF	Sexfontaines	151.59 355	e P	PKPbc	17 50 49.5	0.0
HAU	Haudompre	151.66 353	e PKP1	PKPbc	17 50 49.3	-0.3
HAU	Haudompre	151.66 353	e P	PKPbc	17 50 49.3	-0.3
HAU	Haudompre	151.66 353	e PKIKP	PKPbc	17 50 49.3	-0.3
ABTA	Abfaltersbach	151.75 344	⇑i PKPbc	PKPbc	17 50 49.0	-0.9
	comp=Z,9.7nm,0.6s					
HINF	Hinterlafeld	151.79 353	e PKP1	PKPbc	17 50 49.4	-0.5
HINF	Hinterlafeld	151.79 353	e P	PKPbc	17 50 49.4	-0.5
HINF	Hinterlafeld	151.79 353	e PKIKP	PKPbc	17 50 49.4	-0.5
VISS	Visnje	151.94 340	i PKPbc	PKPbc	17 50 50.0	-0.3
BOJS	Bojanci	152.08 339	i PKPbc	PKPbc	17 50 50.6	0.0
JAVS	Javornik	152.10 341	i PKPbc	PKPbc	17 50 50.1	-0.5
ESDC	Sonseca Array	159.64 13	PKPab	PKPab	17 51 36.0	-0.1
	comp=Z,1.3nm,0.6s,baz=349,slow=2.6,SNR=7.1					
ESDC	Sonseca Array	159.64 13	PKPab	PKPab	17 51 36.0	-0.1

KRSC 04 17:36:43.9±0.3, 54°.96N×165°.65E, h31km±21km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.31	37	i P	Pb	17 36 51.5	0.0
BKI				i S	Sb	17 36 56.5	-0.2
KBTR	Krutoberegovo	2.04	309	e P	Pn	17 37 16.3	+0.3
KBTR				e S	Sn	17 37 40.0	-0.3
SPN	Mys Shipunski	3.81	243	P	Pn	17 37 41.3	+1.0
SPN				S	Sn	17 38 22.3	-1.6
ESO	Esso	4.08	287	P	Pn	17 37 47.1	+3.1
NLC	Nalytchevo	4.12	247	P	Pn	17 37 46.0	+1.3
NLC				e S	Sn	17 38 30.9	-0.9
AVH	Avacha	4.41	250	e P	Pn	17 37 51.4	+2.8
KOK	Koryaka	4.45	251	P	Pn	17 37 52.1	+2.9
PET	Petropavlovsk	4.56	248	S	Sn	17 38 42.4	-0.2
GNL	Ganaly	4.69	257	e P	Pn	17 37 56.0	+3.6

IDC 04 17:40:04.2±3.0, 16°.05S×175°.51W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/16, mbtmp3.9/2, Error ellipse: s-maj=164.3km s-min=53.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.72	257	P	P	17 48 43.0	-0.2
	1.1nm,1.1s,baz=94,slow=9.9,SNR=3.4						
ASAR	Alice Springs	47.98	252	P	P	17 48 45.2	+0.1
	1.4nm,0.5s,baz=82,slow=8.2,SNR=41						
BRTR	Keskin Array B	145.34	319	PKPbc	PKPbc	17 59 43.6	-0.5
	0.8nm,0.8s,baz=203,slow=1.1,SNR=4.7						
TORD	Torodi Ar. Bea	176.04	136	PKP	PKPdf	18 00 16.5	-0.8
	0.5nm,0.9s,baz=225,slow=0.6,SNR=2.8						

NNC ***04*** *18:06:26.9±2.0, 37°.50N×71°.16E, h162km±38km, mb3.0, mpv3.8, Error ellipse: s-maj=21.1km s-min=10.4km az=11.0*

ISC 04 18:06:26.8±3.0, 37°.5N±0°.2×71°.1E±0°.2, h162km±58km, n11, σ0°43/13, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.07	22	P	Pn	18 07 41.1	0.0
	SNR=29						
EKS2	Erkin-Say	5.58	21	P	Pn	18 07 48.3	+0.5
	SNR=10						
KZA	Kyzart	5.60	33	P	Pn	18 07 47.2	-0.9
	SNR=6.2						
KK31	Karatay Array	5.65	355	P	Pn	18 07 48.8	-0.1
	6.7nm,0.3s,baz=176,slow=12,SNR=87						
KK31				⇑S	Sn	18 08 53.1	-0.1
	1.5nm,0.3s						
AAK	Ala-Archa	5.78	26	P	Pn	18 07 50.7	+0.3
	SNR=20						
KBK	Karagaybulak	5.96	28	P	Pn	18 07 53.9	+1.0
	SNR=5.7						
CHMS	Chumysh	6.19	26	P	Pn	18 07 56.0	0.0
	SNR=12						
USP	Ospenovka	6.34	23	P	Pn	18 07 57.7	-0.3
	SNR=8.7						
TKM2	Tokmak 2	6.44	31	P	Pn	18 07 59.0	-0.2
	SNR=6.6						
TKM2	Tokmak 2	6.44	31	⇓P	Pn	18 07 58.8	-0.5
	2.2nm,0.5s						
TKM2				⇓S	Sn	18 09 11.9	0.0
	2.0nm,0.7s						
AB31	Akbulak array	14.30	329	⇑P	Pn	18 09 41.7	0.0
	0.7nm,0.4s,baz=138,slow=14,SNR=36						

IDC ***04*** *18:13:32.3±0.9, 15°.59N×146°.94E, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.9/24, mbtmp3.8/15, ML3.6/1, Error ellipse: s-maj=26.2km s-min=16.2km az=107.0*

NEIC ***04*** *18:13:38.5±2.6, 15°.58N×146°.86E, h43km±23km, mb4.0/2, Error ellipse: s-maj=24.5km s-min=14.5km az=89.0*

ISC 04 18:13:34.1±6.0, 15°.61N±0°.09×147°.0E±0°.1, h13km±37km, n31, σ0°94/33, mb3.9/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.90	226	Pn	Pn	18 14 20.6	+0.6
	8.6nm,0.3s,baz=138,slow=12,SNR=4.9						
GUMO				Sn	Sn	18 14 55.2	+0.4
	15nm,0.3s,baz=30,slow=20,SNR=4.6						
GUMO	Guam	2.90	226	Pn	Pn	18 14 20.6	+0.6
GUMO				Sn	Sn	18 14 55.2	+0.4
MJAR	Matsushiro Arr	22.27	341	P	P	18 18 30.9	-0.1
	0.5nm,0.4s,mb3.3,baz=168,slow=9.7,SNR=3.9						
MJAR	Matsushiro Arr	22.27	341	P	P	18 18 30.9	-0.1
WRA	Warramunga Arr	37.47	200	P	P	18 20 46.2	-1.3
	0.2nm,0.6s,mb3.1,baz=23,slow=9.4,SNR=3.2						
WRA	Warramunga Arr	37.47	200	P	P	18 20 46.2	-1.3
ASAR	Alice Springs	41.09	198	P	P	18 21 17.3	-0.5
	0.1nm,0.6s,baz=24,slow=6.8,SNR=3.9						
ASAR	Alice Springs	41.09	198	P	P	18 21 17.3	-0.5
CMAR	Chiang Mai Arr	45.96	281	P	P	18 21 57.9	+0.6
	0.9nm,0.6s,mb3.9,baz=80,slow=6.5,SNR=12						
CMAR	Chiang Mai Arr	45.96	281	P	P	18 21 57.9	+0.6
SONM	Songino Array	46.34	323	P	P	18 22 00.4	+0.5
	0.5nm,0.7s,mb3.6,baz=123,slow=5.2,SNR=4.9						
SONM	Songino Array	46.34	323	P	P	18 22 00.4	+0.5
ZALV	Zalesovo Beam	61.23	323	P	P	18 23 47.4	-1.4
	0.5nm,0.4s,mb4.0,baz=115,slow=7.8,SNR=4.5						
ZALV	Zalesovo Beam	61.23	323	P	P	18 23 47.4	-1.4
MKAR	Makanchi Array	61.52	315	P	P	18 23 51.2	+0.3
	1.0nm,0.5s,mb4.2,baz=92,slow=8.0,SNR=19						
MKAR	Makanchi Array	61.52	315	P	P	18 23 51.2	+0.3
KURK	Kurchatov	64.41	319	P	P	18 24 10.1	+0.1
	2.7nm,0.6s,mb4.4,baz=92,slow=7.5,SNR=6.4						
KURK	Kurchatov	64.41	319	e P	P	18 24 09.1	-1.0
	1.3nm,0.6s,mb4.1						
ILAR	Eielson Array	65.86	25	P	P	18 24 18.7	-0.4
	0.5nm,0.9s,mb3.5,baz=256,slow=6.2,SNR=5.0						
ILAR	Eielson Array	65.86	25	P	P	18 24 18.7	-0.4
BVAR	Borovoye Array	69.66	321	P	P	18 24 43.5	+0.1
	0.7nm,0.7s,mb3.7,baz=108,slow=7.6,SNR=7.7						
BVAR	Borovoye Array	69.66	321	P	P	18 24 43.5	+0.1
BRVK	Borovoye	69.72	321	e P	P	18 24 43.6	-0.1
	0.7nm,0.5s,mb3.9						
YKA	Yellowknife Ar	80.11	28	P	P	18 25 45.5	+1.9
	0.8nm,0.8s,mb3.7,baz=283,slow=5.1,SNR=3.0						
YKA	Yellowknife Ar	80.11	28	P	P	18 25 45.5	+1.9
ARCES	ARCESS Array B	85.80	343	P	P	18 26 12.8	-0.2
	3.0nm,0.9s,mb4.5,baz=69,slow=4.9,SNR=3.5						
ARCES	ARCESS Array B	85.80	343	P	P	18 26 12.8	-0.2
PDAR	Pinedale Array	89.07	46	P	P	18 26 32.1	+2.8
	0.2nm,0.3s,mb3.9,baz=348,slow=4.0,SNR=4.1						
PDAR	Pinedale Array	89.07	46	P	P	18 26 32.1	+2.8
FINES	FINESS Array B	90.20	336	P	P	18 26 33.0	-1.2
	1.6nm,0.7s,mb4.4,baz=72,slow=4.8,SNR=6.2						
FINES	FINESS Array B	90.20	336	P	P	18 26 33.0	-1.2

IDC 04 18:34:16.0±6.0, 6°.02S×151°.55E, h73km±49km, mb3.5/4, mb1 3.8/5, mb1mx3.4/16, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=95.7km s-min=32.2km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.50	232	P	Pn	18 35 36.4	+1.0
	2.5nm,0.3s,baz=42,slow=6.2,SNR=8.5						
PMG				S	Sn	18 36 36.5	-0.8
	2.0nm,0.3s,baz=319,slow=20,SNR=3.0						
WRA	Warramunga Arr	21.71	229	P	P	18 39 02.8	+1.6
	1.3nm,0.6s,baz=55,slow=10,SNR=18						
ASAR	Alice Springs	24.41	222	P	P	18 39 27.5	-0.3
	1.2nm,0.6s,baz=59,slow=9.2,SNR=34						
FITZ	Fitzroy Crossi	27.99	242	P	P	18 40 00.2	0.0
	2.8nm,0.6s,baz=69,slow=8.0,SNR=23						
ILAR	Eielson Array	83.75	22	P	P	18 46 36.4	-0.4
	0.4nm,0.9s,baz=257,slow=5.4,SNR=5.4						

NIED ***04*** *18:42:00, 38°.60N×143°.10E, h26km, Mw4.1 Best double couple: M0 1.68000×10^15 NP1:φ0=22.00000°, δ66.00000°, λ91.00000°. NP2:φ0=200.00000°, δ24.00000°, λ88.00000°.*

JMA ***04*** *18:42:01.9±0.1, 38°.56N×143°.08E, h15km±2km, M4.4*

NEIC ***04*** *18:42:02.3±0.6, 38°.56N×143°.09E, h10km, mb4.6/2, MW4.1(NIED), Error ellipse: s-maj=12.7km s-min=8.8km az=134.0*

ISCJB ***04*** *18:42:03.6±1.6, 38°.54N±0°.04×143°.11E±0°.05, h33km±11km, mb4.2/23, MS3.3/6, Error ellipse: s-maj=7.7km s-min=5.8km az=150.0*

MOS ***04*** *18:42:05.5±0.8, 38°.56N×142°.97E, h49km, mb4.3/10, Error ellipse: s-maj=12.3km s-min=12.0km az=76.6*

IDC ***04*** *18:42:05.5±0.7, 38°.54N×143°.06E, h31km±4km, mb3.7/14, mb1 3.8/17, mb1mx3.8/26, mbtmp3.7/17, ML3.7/3, MS3.3/8, Ms1 3.3/8, ms1mx3.1/37, Error ellipse: s-maj=19.0km s-min=12.8km az=76.0*

ISC 04 18:42:04.6±1.7, 38°.57N±0°.04×143°.05E±0°.05, h24km±12km, h32km±1.5km: pP-P, n96, σ0°93/102, mb4.2/23, MS3.3/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.19	296	P	Pn	18 42 24.3	-1.4
JIO	Ouri	1.34	265	P	Pn	18 42 26.3	-1.5
JIO				S	Sn	18 42 43.9	-0.9
JMK	Ichinoseki	1.48	285	P	Pn	18 42 28.7	-1.0
JMK				e S	Sn	18 42 48.0	-0.3
JOM	Ohasama	1.64	304	P	Pn	18 42 31.3	-0.6
JOM				e S	Sn	18 42 52.4	+0.2
JOU	Okura	1.89	264	P	Pn	18 42 34.9	-0.4
JOU				e S	Sn	18 42 58.9	+0.6
JMM	Marumori	1.91	249	P	Pn	18 42 34.6	-1.0
JMM				e S	Sn	18 42 58.9	-0.1
JFK	Kawauchi	2.10	236	P	Pn	18 42 37.1	-1.1
JYK	Kaneyama	2.13	280	P	Pn	18 42 38.5	-0.2
JANG	Nango	2.16	327	P	Pn	18 42 37.7	-1.3
JYS	Shiratake	2.37	262	P	Pn	18 42 41.9	0.0
JYS				e S	Sn	18 43 11.4	+1.1
JFT	Otama	2.39	245	P	Pn	18 42 42.3	+0.1
JFT				e S	Sn	18 43 12.0	+1.3
JAH	Hinai	2.47	312	P	Pn	18 42 43.2	-0.1
JAH				e S	Sn	18 43 13.9	+1.2
MJAR	Matsushiro Arr	4.35	244	Pn	Pn	18 43 09.9	+0.8
	6.5nm,0.3s,baz=60,slow=10,SNR=66						
MJAR	Matsushiro Arr	4.35	244	Pn	Pn	18 43 09.9	+0.8
MJAR	Matsushiro Arr	4.35	244	P	Pn	18 43 09.9	+0.8
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MAJO	Matsushiro	4.35	244	e P	Pn	18 43 10.2	+1.0
MAJO	Matsushiro	4.35	244	e P	Pn	18 43 10.2	+1.1
MAT	Matsushiro	4.35	244	P	Pn	18 43 10.5	+1.4
MAT				e S	Sn	18 43 58.1	-1.0
ASAJ	Asahikawa	5.55	357	Pn	Pn	18 43 27.4	+1.8
	comp=Z,1.9nm,0.3s,baz=216,slow=10,SNR=8.9						
ASAJ				LR	LR	18 46 30.6	
	comp=Z,265nm,18.7s,baz=333,slow=48						
ASAJ	Asahikawa	5.55	357	Pn	Pn	18 43 27.4	+1.8
ASAJ	Asahikawa	5.55	357	P	Pn	18 43 27.4	+1.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,265nm,18.7s						
KSRS	Korea Array	11.99	269	Pn	Pn	18 44 56.2	+2.3
	comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=6.5						
KSRS				LR	LR	18 49 13.7	
	comp=Z,144nm,18.3s,baz=133,slow=36						
KSRS	Korea Array	11.99	269	P	Pn

KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TAPN Taplejung 47.14 273 *eP* **P 18 50 36.9 +2.0**
TAPN Taplejung 47.14 273 *eP* **P 18 50 36.9 +2.0**
ILAR Eielson Array 47.50 33 P **P 18 50 37.7 +0.5**
comp=Z,0.6nm,1.1s,mb3.5,baz=277,slow=7.2,SNR=4.4
ILAR Eielson Array 47.50 33 P **P 18 50 37.7 +0.5**
ILAR Eielson Array 47.50 33 P **P 18 50 37.7 +0.5**
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ODAN Odare 47.62 273 *eP* **P 18 50 38.6 -0.1**
comp=Z,16nm,1.1s,mb5.0
ODAN Odare 47.62 273 *eP* **P 18 50 38.6 -0.1**
comp=Z,16nm,1.1s,mb5.0
JIRN Jiri 48.18 275 *eP* **P 18 50 43.6 +0.6**
comp=Z,2.5nm,0.7s,mb4.4
JIRN Jiri 48.18 275 *eP* **P 18 50 43.6 +0.6**
comp=Z,2.5nm,0.7s,mb4.3
RAMN Ramite 48.20 274 *eP* **P 18 50 43.1 -0.1**
RAMN Ramite 48.20 274 *eP* **P 18 50 43.1 -0.1**
GUN Gumba 48.30 275 *eP* **P 18 50 44.7 +0.7**
comp=Z,22nm,0.9s,mb5.2
GUN Gumba 48.30 275 *eP* **P 18 50 44.7 +0.7**
comp=Z,22nm,0.9s,mb5.2
KKN Kakani 48.83 275 *eP* **P 18 50 48.2 +0.2**
comp=Z,10nm,0.7s,mb5.0
KKN Kakani 48.83 275 *eP* **P 18 50 48.2 +0.2**
comp=Z,10nm,0.7s,mb5.0
KKN Kakani 48.83 275 *eP* **P 18 50 48.2 +0.2**
KKN pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
DMN Daman 49.05 275 *eP* **P 18 50 48.7 -1.0**
DMN Daman 49.05 275 *eP* **P 18 50 48.7 -1.0**
GKN Gorkha 49.23 276 *eP* **P 18 50 51.0 -0.1**
GKN Gorkha 49.23 276 *eP* **P 18 50 51.0 -0.1**
DANN Dangsing 49.75 277 *eP* **P 18 50 55.6 +0.5**
comp=Z,32nm,0.7s,mb5.5
DANN Dangsing 49.75 277 *eP* **P 18 50 55.6 +0.5**
comp=Z,32nm,0.7s,mb5.5
KOLN Koldanda 50.15 276 *eP* **P 18 50 55.3 -2.8**
KOLN Koldanda 50.15 276 *eP* **P 18 50 55.3 -2.8**
PYUN Piuthan 50.47 277 *eP* **P 18 50 59.3 -1.2**
comp=Z,39nm,1.1s,mb5.3
PYUN Piuthan 50.47 277 *eP* **P 18 50 59.3 -1.2**
comp=Z,39nm,1.1s,mb5.3
BVAR Borovoye Array 50.51 312 LR LR 19 13 14.7
comp=Z,37nm,20.9s,MS3.4,baz=270,slow=37
FITZ Fitzroy Crossi 58.69 199 P **P 18 52 00.6 +0.4**
comp=Z,0.9nm,1.0s,mb3.8,baz=18,slow=9.6,SNR=3.1
FITZ pP pP 18 52 09.2 +1.5
comp=Z,2.7nm,1.0s,baz=18,slow=9.6,SNR=3.3
FITZ Fitzroy Crossi 58.69 199 P **P 18 52 00.6 +0.4**
FITZ pP pP 18 52 09.2 +1.5
WRA Warramunga Arr 58.78 190 P **P 18 51 60.0 -0.7**
comp=Z,1.4nm,0.8s,mb4.0,baz=8.9,slow=7.3,SNR=12
WRA pP pP 18 52 09.1 +0.9
comp=Z,2.9nm,0.6s,baz=7.5,slow=7.0,SNR=14
WRA Warramunga Arr 58.78 190 P **P 18 51 60.0 -0.7**
WRA pP pP 18 52 09.1 +0.9
WRA Warramunga Arr 58.78 190 P **P 18 52 00.0 -0.7**
WRA *PP pP 18 52 09.1 +0.9
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 62.50 189 P **P 18 52 26.2 +0.2**
comp=Z,0.7nm,0.8s,mb3.9,baz=14,slow=6.4,SNR=5.9
ASAR pP pP 18 52 35.3 +1.8
comp=Z,1.3nm,0.8s,baz=8.9,slow=6.4,SNR=9.1
ASAR Alice Springs 62.50 189 P **P 18 52 26.2 +0.2**
ASAR pP pP 18 52 35.3 +1.8
ASAR Alice Springs 62.50 189 P **P 18 52 26.2 +0.2**
ASAR *PP pP 18 52 35.3 +1.7
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 63.01 340 LR LR 19 26 58.8
comp=Z,43nm,19.1s,MS3.6,baz=31,slow=43
FINES FINESS Array B 68.06 333 P **P 18 53 00.8 -0.8**
comp=Z,3.8nm,1.0s,mb4.4,baz=76,slow=5.9,SNR=7.3
FINES FINESS Array B 68.06 333 P **P 18 53 00.8 -0.8**
FINES FINESS Array B 68.06 333 P **P 18 53 00.8 -0.8**
FINES pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 73.26 338 P **P 18 53 33.0 -0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=39,slow=5.9,SNR=4.2
NOA NORSAR Array B 73.26 338 P **P 18 53 33.0 -0.3**
NOA NORSAR Array B 73.26 338 P **P 18 53 33.0 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 73.87 323 P **P 18 53 36.3 -0.8**
comp=Z,1.2nm,0.4s,mb4.2,baz=44,slow=5.9,SNR=6.1
AKASG Malin Array Be 73.87 323 P **P 18 53 36.3 -0.8**
AKASG Malin Array Be 73.87 323 *i* P **P 18 53 36.7 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 75.67 46 P **P 18 53 48.5 +0.9**
comp=Z,0.5nm,0.6s,mb3.6,baz=299,slow=3.7,SNR=3.9
PDAR Pinedale Array 75.67 46 P **P 18 53 48.5 +0.9**
BRTR Keskin Array B 78.80 312 P **P 18 54 05.2 -0.1**
comp=Z,0.4nm,0.5s,mb3.6,baz=67,slow=4.9,SNR=3.3
BRTR Keskin Array B 78.80 312 P **P 18 54 05.2 -0.1**
BRTR Keskin Array B 78.80 312 P **P 18 54 05.2 -0.1**
TXAR Lajitas Array 88.16 53 P **P 18 54 54.3 +0.7**
comp=Z,0.2nm,0.7s,mb3.5,baz=289,slow=5.6,SNR=3.3
TXAR Lajitas Array 88.16 53 P **P 18 54 54.3 +0.7**
TXAR Lajitas Array 88.16 53 P **P 18 54 54.3 +0.7**
KEST Kesra 94.57 324 LR LR 19 43 28.7
comp=Z,21nm,20.1s,MS3.6,baz=220,slow=39

*IDC **04** 18:50:26.7±1.0, 27°.47S×71°.51W, h0km, mb4.2/2, mb1 3.9/4, mb1mx3.7/16, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=40.8km s-min=26.9km az=73.0*
*ISCJB **04** 18:50:31.3±1.5, 27°.48S±0°.05×71°.2W±0°.2, h41km±10km, mb4.2/2, Error ellipse: s-maj=27.4km s-min=6.9km az=11.4*
*GUC **04** 18:50:31.9±0.3, 27°.52S×70°.71W, h42km±2km, ML4.3*
*NEIC **04** 18:50:31.9±0.8, 27°.51S×71°.42W, h35km, Error ellipse: s-maj=19.1km s-min=12.9km az=69.0*
ISC 04 18:50:31.4±2.0, 27°.50S±0°.06×71°.2W±0°.2, h24km±14km, n27, σ0°91/24, mb4.2/2, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.57**	**41**	⇓*iP*	**Pb**	**18 50 42.2**	**-0.6**
CDCH				*i* S	**Sb**	**18 50 50.1**	**-0.3**
VACH	**Vallenar**	**1.15**	**159**	*eP*	**Pn**	**18 50 50.9**	**-1.1**
VACH				*i* S	**Sn**	**18 51 05.4**	**-1.6**
VACH				AML	AML	18 51 09.9	
	comp=N,17μm,0.5s						
LCO	**Las Campanas**	**1.58**	**163**	*eP*	**Pn**	**18 50 57.3**	**-0.6**
LCO	**Las Campanas**	**1.58**	**163**	⇑*iP*	**Pn**	**18 50 57.5**	**-0.4**
LCO				*i* S	**Sn**	**18 51 17.2**	**-0.3**
LCO				AML	AML	18 51 19.5	
	comp=E,5μm,0.3s						
LSCH	**La Serena**	**2.40**	**180**	*eP*	**Pn**	**18 51 09.7**	**+0.5**
TLL	**Tololo Astrono**	**2.69**	**172**	⇑*iP*	**Pn**	**18 51 13.6**	**+0.5**
TLL				*i* S	**Sn**	**18 51 45.2**	**+0.3**
TLL				AML	AML	18 52 01.5	
	comp=E,1μm,0.5s						
CFAA	**Coronel Fontan**	**4.85**	**148**	Pn	**Pn**	**18 51 45.1**	**+2.2**
	comp=E,1.4nm,0.3s,baz=335,slow=10,SNR=51						
CFAA				Sn	**Sn**	**18 52 44.9**	**+6.6**
	comp=E,1.9nm,0.3s,baz=239,slow=19,SNR=6.5						
CFAA	**Coronel Fontan**	**4.85**	**148**	Pn	**Pn**	**18 51 45.1**	**+2.2**
CFAA				Sn	**Sn**	**18 52 44.9**	**+6.6**
CPUP	**Villa Florida**	**12.46**	**88**	Pn	**Pn**	**18 53 29.1**	**+1.8**
	comp=E,0.3nm,0.3s,baz=148,slow=11,SNR=2.8						
CPUP	**Villa Florida**	**12.46**	**88**	Pn	**Pn**	**18 53 29.1**	**+1.8**
TRQA	**Tornquist**	**13.09**	**146**	*eP*	**Pn**	**18 53 36.1**	**+0.4**
VNA3	**Neumayer Olymp**	**55.15**	**160**	*e*	**P**	**19 00 01.6**	**+0.2**
VNA2	**Neumayer–Watz**	**55.77**	**159**	*e*	**P**	**19 00 05.9**	**0.0**
	baz=290,slow=8.6						
SNAA	**Sanae**	**57.37**	**160**	*e*	**P**	**19 00 10.8**	**-6.4**
SNAA	**Sanae**	**57.37**	**160**	P	**P**	**19 00 16.7**	**-0.6**
	comp=E,1.3nm,0.5s,mb4.2,baz=271,slow=9.9,SNR=27						
SNAA	**Sanae**	**57.37**	**160**	P	**P**	**19 00 16.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**81.36**	**70**	P	**P**	**19 02 45.6**	**-0.8**
	comp=E,1.7nm,0.6s,mb4.2,baz=258,slow=4.9,SNR=16						
TORD	**Torodi Ar. Bea**	**81.36**	**70**	P	**P**	**19 02 45.6**	**-0.8**
ASAR	**Alice Springs**	**123.64**	**208**	PKP	PKPdf	19 09 25.8	-1.7
	comp=E,0.4nm,0.8s,baz=106,slow=2.0,SNR=3.8						
ASAR	**Alice Springs**	**123.64**	**208**	PKP	PKPdf	19 09 25.8	-1.7
WRA	**Warramunga Arr**	**126.73**	**210**	PKP	PKPdf	19 09 32.5	-1.0
	comp=E,0.3nm,0.6s,baz=146,slow=1.5,SNR=7.9						
WRA	**Warramunga Arr**	**126.73**	**210**	PKP	PKPdf	19 09 32.5	-1.0
KURK	**Kurchatov**	**147.44**	**36**	PKPbc	PKPbc	19 10 12.7	-0.2
	comp=E,0.9nm,0.6s,baz=304,slow=3.2,SNR=18						
KURK	**Kurchatov**	**147.44**	**36**	PKPbc	PKPbc	19 10 12.7	-0.2
ZALV	**Zalesovo Beam**	**148.25**	**27**	PKPbc	PKPbc	19 10 15.2	+0.2
	comp=E,2.3nm,0.6s,baz=323,slow=4.0,SNR=12						
MKAR	**Makanchi Array**	**151.65**	**40**	PKPbc	PKPbc	19 10 23.1	-0.3
	comp=E,0.8nm,0.5s,baz=306,slow=2.0,SNR=11						
MKAR	**Makanchi Array**	**151.65**	**40**	PKPbc	PKPbc	19 10 23.1	-0.3

*SZGRF **04** 19:13:30.4, 16°.72S×176°.17W, h33km, Fiji Islands region*
*ISCJB **04** 19:14:07.3±0.8, 15°.68S±0°.09×176°.01W±0°.08, h338km±8km, mb4.4/42, Error ellipse: s-maj=18.0km s-min=7.1km az=142.2*
*NEIC **04** 19:14:09.0±0.7, 15°.76S×175°.89W, h344km±6km, mb4.6/22, Error ellipse: s-maj=11.8km s-min=5.7km az=141.0*
*IDC **04** 19:14:08.1±1.1, 15°.83S×175°.95W, h338km±12km, mb3.9/15, mb1 4.1/16, mb1mx4.0/19, mbtmp3.9/16, Error ellipse: s-maj=18.5km s-min=8.9km az=138.0*
*MOS **04** 19:14:09.3±1.6, 15°.48S×176°.09W, h345km, mb4.4/14, Error ellipse: s-maj=11.6km s-min=9.9km az=78.8*
ISC 04 19:14:08.1±0.8, 15°.68S±0°.09×175°.95W±0°.08, h333km±8km, n257, σ0°67/97, mb4.4/42, 28C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.41**	**67**	P	**Pn**	**19 15 20.8**	**+0.3**
	20nm,0.3s,baz=270,slow=12,SNR=51						
AFI				S	**S**	**19 16 18.2**	**-0.6**
	4.6nm,0.3s,baz=221,slow=20,SNR=2.5						
AFI	**Afiamalu**	**4.41**	**67**	P	**Pn**	**19 15 20.8**	**+0.3**
AFI				S	**S**	**19 16 18.2**	**-0.6**
AFI	**Afiamalu**	**4.41**	**67**	P	**Pn**	**19 15 20.8**	**+0.3**
AFI				S	**S**	**19 16 18.2**	**-0.6**
AFI				pmax	pmax		
	comp=Z,20nm,0.3s						
AFI				smax			
	comp=N,5.0nm,0.3s						
MSVF	**Nonsavu**	**6.10**	**250**	*eP*	**Pn**	**19 15 43.0**	**+3.5**
	comp=N,55nm,0.9s						
MSVF	**Nonsavu**	**6.10**	**250**	*eP*	**Pn**	**19 15 43.0**	**+3.5**
MSVF				pmax	pmax		
	comp=Z,55nm,0.9s						
DZM	**Mont Dzumac**	**17.82**	**246**	*eP*	**P**	**19 17 54.4**	**+0.2**
	comp=Z,9.8nm,0.6s						
OUZ	**Omahuta**	**21.59**	**204**	*eP*	**P**	**19 18 32.6**	**+0.7**
	comp=Z,58nm,0.9s,mb4.8						
URZ	**Urewera**	**23.31**	**194**	P	**P**	**19 18 43.7**	**-3.7**
	comp=Z,9.5nm,0.3s,mb4.5,baz=13,slow=9.4,SNR=13						
URZ	**Urewera**	**23.31**	**194**	*eP*	**P**	**19 18 44.8**	**-2.5**
RPZ	**Rata Peaks**	**30.05**	**199**	P	**P**	**19 19 46.8**	**-0.5**
	comp=Z,9.3nm,0.7s,mb4.1,baz=297,slow=2.3,SNR=4.5						
RPZ	**Rata Peaks**	**30.05**	**199**	P	**P**	**19 19 46.8**	**-0.5**
CTA	**Charters Tower**	**36.18**	**257**	P	**P**	**19 20 40.1**	**-0.1**
	comp=Z,3.4nm,0.6s,mb3.7,baz=92,slow=7.3						
CTA	**Charters Tower**	**36.18**	**257**	*eP*	**P**	**19 20 40.5**	**+0.3**
	comp=Z,2.8nm,0.6s,mb3.7						
CTA	**Charters Tower**	**36.18**	**257**	P	**P**	**19 20 40.1**	**-0.1**
CTA	**Charters Tower**	**36.18**	**257**	P	**P**	**19 20 40.1**	**-0.1**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PMG	**Port Moresby**	**36.51**	**275**	*i* P	**P**	**19 20 43.6**	**+0.6**
PMG				pmax	pmax		
	comp=Z,18nm,1.0s						
CNB	**Canberra Magne**	**36.64**	**231**	*eP*	**P**	**19 20 44.0**	**+0.1**
	comp=Z,49nm,1.4s,mb4.5						
TOO	**Toolangi**	**40.39**	**230**	*eP*	**P**	**19 21 14.8**	**0.0**
	comp=Z,98nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**41.77**	**240**	P	**P**	**19 21 25.7**	**-0.3**
	comp=Z,3.1nm,0.5s,mb3.7,baz=76,slow=8.7,SNR=21						
STKA	**Stephens Creek**	**41.77**	**240**	*eP*	**P**	**19 21 25.8**	**-0.2**
	comp=Z,2.6nm,0.6s,mb3.5						
STKA	**Stephens Creek**	**41.77**	**240**	P	**P**	**19 21 25.7**	**-0.3**
STKA	**Stephens Creek**	**41.77**	**240**	P	**P**	**19 21 25.7**	**-0.3**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRAB	**Tennant Creek**	**47.37**	**257**	*eP*	**P**	**19 22 09.7**	**-0.4**
	comp=Z,21nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**47.37**	**257**	*eP*	**P**	**19 22 09.7**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**47.38**	**257**	P	**P**	**19 22 10.1**	**-0.1**
	comp=Z,11nm,0.7s,mb4.2,baz=96,slow=6.4,SNR=176						
WRA				S	**S**	**19 28 34.2**	**-4.4**
	comp=Z,0.7nm,0.8s,baz=89,slow=14,SNR=5.0						
WRA	**Warramunga Arr**	**47.38**	**257**	P	**P**	**19 22 10.1**	**-0.1**
WRA				S	**S**	**19 28 34.2**	**-4.3**
WRA	**Warramunga Arr**	**47.38**	**257**	P	**P**	**19 22 10.1**	**-0.1**
WRA				S	**S**	**19 28 34.2**	**-4.4**
WRA				pmax	pmax		
	comp=Z,11nm,0.7s						
WRA				smax			
	comp=N,1.0nm,0.8s						
ASAR	**Alice Springs**	**47.68**	**252**	P	**P**	**19 22 12.7**	**+0.3**
	comp=N,110nm,0.7s,mb5.2,baz=87,slow=8.1,SNR=1175						
ASAR				S	**S**	**19 28 38.5**	**-4.1**
	comp=N,1.7nm,1.0s,baz=86,slow=15,SNR=11						
ASAR	**Alice Springs**	**47.68**	**252**	P	**P**	**19 22 12.7**	**+0.3**
ASAR				S	**S**	**19 28 38.5**	**-4.1**
ASAR	**Alice Springs**	**47.68**	**252**	P	**P**	**19 22 12.7**	**+0.3**
ASAR				S	**S**	**19 28 38.6**	**-4.1**
ASAR				pmax	pmax		
	comp=Z,110nm,0.7s						
ASAR				smax			
	comp=N,2.0nm,1.0s						
FORT	**Forrest**	**53.09**	**243**	*eP*	**P**	**19 22 51.8**	**-0.7**
	comp=N,54nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**55.74**	**259**	*eP*	**P**	**19 23 12.8**	**+1.2**
	comp=N,4.5nm,0.7s,mb3.9						
KLBR	**Kellerberrin**	**61.93**	**242**	*eP*	**P**	**19 23 53.0**	**-0.6**
	comp=N,8.3nm,0.8s,mb4.3						
MJAR	**Matsushiro Arr**	**67.59**	**321**	P	**P**	**19 24 28.9**	**-0.7**
	comp=N,3.9nm,0.9s,mb4.2,baz=163,slow=6.9,SNR=8.4						
MJAR	**Matsushiro Arr**	**67.59**	**321**	P	**P**	**19 24 28.9**	**-0.7**
MJAR	**Matsushiro Arr**	**67.59**	**321**	P	**P**	**19 24 28.9**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PETK	**Petropavlovsk-**	**72.18**	**344**	P	**P**	**19 24 57.2**	**+0.2**
	comp=Z,15nm,0.8s,mb4.8,baz=156,slow=9.4,SNR=16						
PETK	**Petropavlovsk-**	**72.18**	**344**	P	**P**	**19 24 57.2**	**+0.2**
PETK	**Petropavlovsk-**	**72.18**	**344**	P	**P**	**19 24 57.2**	**+0.2**
PETK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**74.36**	**180**	*eP*	**P**	**19 25 09.7**	**+0.3**
	comp=Z,13nm,1.0s,mb4.6						
CMB	**Columbia Colle**	**74.62**	**42**	*eP*	**P**	**19 25 11.5**	**0.0**
	comp=Z,5.1nm,0.9s,mb4.2						
CMB	**Columbia Colle**	**74.62**	**42**	*eP*	**P**	**19 25 11.5**	**0.0**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
KDAK	**Kodiak Island**	**75.71**	**13**	*ceP*	**P**	**19 25 17.3**	**+0.1**
NVAR	**Mina Array Bea**	**76.20**	**43**	P	**P**	**19 25 20.7**	**+0.3**
	comp=Z,5.0nm,0.9s,mb4.2,baz=230,slow=9.3,SNR=17						
NVAR	**Mina Array Bea**	**76.20**	**43**	P	**P**	**19 25 20.7**	**+0.3**
ETW	**Entiat**	**80.19**	**35**	*eP*	**P**	**19 25 41.5**	**-0.4**
	comp=Z,23nm,1.4s,mb4.7						
SEY	**Seymchan**	**82.17**	**346**	*ceP*	**P**	**19 25 51.1**	**-0.8**
BNM	**Barren Site**	**82.42**	**52**	*eP*	**P**	**19 25 54.5**	**+0.6**
	comp=Z,8.5nm,1.6s,mb4.3						
PV01	**Paradox Valley**	**82.71**	**47**	*eP*	**P**	**19 25 55.3**	**0.0**
	comp=Z,1μm,1.5s						
TXAR	**Lajitas Array**	**82.82**	**57**	P	**P**	**19 25 56.7**	**+0.6**
	comp=Z,4.7nm,1.1s,mb4.2,baz=218,slow=5.7,SNR=20						
TXAR	**Lajitas Array**	**82.82**	**57**	P	**P**	**19 25 56.7**	**+0.6**
TXAR	**Lajitas Array**	**82.82**	**57**	P	**P**	**19 25 56.7**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ANMO	**Albuquerque**	**82.88**	**51**	*eP*	**P**	**19 25 56.5**	**+0.3**
	comp=Z,11nm,1.3s,mb4.5						
ANMO	**Albuquerque**	**82.88**	**51**	*eP*	**P**	**19 25 56.5**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,11nm,1.3s						
COLA	**College**	**83.11**	**12**	*eP*	**P**	**19 25 56.0**	**-0.7**
	comp=Z,30nm,0.8s,mb5.2						
COLA	**College**	**83.11**	**12**	*eP*	**P**	**19 25 56.0**	**-0.7**
COLA				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.2						
ILAR	**Eielson Array**	**83.22**	**12**	P	**P**	**19 25 56.5**	**-0.7**
	comp=Z,7.8nm,0.8s,mb4.6,baz=211,slow=5.8,SNR=58						
ILAR	**Eielson Array**	**83.22**	**12**	P	**P**	**19 25 56.5**	**-0.7**
ILAR	**Eielson Array**	**83.22**	**12**	P	**P**	**19 25 56.5**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RRI2	**Red Ridge**	**83.26**	**42**	*eP*	**P**	**19 25 58.3**	**+0.3**
	comp=Z,11nm,1.0s,mb4.6						
DLMT	**Dillon**	**83.45**	**39**	*eP*	**P**	**19 25 59.0**	**+0.1**
	comp=Z,11nm,1.2s,mb4.6						
TPAW	**Teton Pass**	**83.57**	**42**	*eP*	**P**	**19 25 60.0**	**+0.5**
	comp=Z,9.2nm,1.1s,mb4.5						
IMW	**Indian Meadow**	**83.77**	**41**	*eP*	**P**	**19 26 00.9**	**+0.4**
	comp=Z,24nm,1.5s,mb4.8						
LRM	**Limekiln Ridge**	**83.77**	**39**	*eP*	**P**	**19 26 00.4**	**-0.1**
	comp=Z,40nm,1.1s,mb5.2						
CHMT	**Chamberlain Mo**	**83.84**	**38**	*eP*	**P**	**19 26 00.2**	**-0.6**
	comp=Z,2.3nm,1.2s,mb3.9						
QLMT	**Earthquake Lak**	**83.91**	**40**	*eP*	**P**	**19 26 02.3**	**+1.1**
	comp=Z,0.5nm,0.4s,mb3.7						
PDAR	**Pinedale Array**	**84.13**	**43**	P	**P**	**19 26 02.2**	**-0.1**
	comp=Z,3.0nm,0.9s,mb4.1,baz=212,slow=3.2,SNR=20						
PDAR	**Pinedale Array**	**84.13**	**43**	P	**P**	**19 26 02.2**	**-0.1**
DAWY	**Dawson**	**84.32**	**15**	*eP*	**P**	**19 26 02.8**	**0.0**
EGAK	**Eagle**	**84.48**	**14**	*eP*	**P**	**19 26 03.3**	**-0.2**
	comp=Z,13nm,1.0s,mb4.7						
BILL	**Bilibino**	**84.48**	**353**	*eP*	**P**	**19 26 02.9**	**-0.6**
	comp=Z,23nm,1.0s,mb5.0						
BILL	**Bilibino**	**84.48**	**353**	*eP*	**P**	**19 26 02.9**	**-0.6**
BILL				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.0						
HRY	**Holter Researc**	**84.58**	**38**	*eP*	**P**	**19 26 03.8**	**-0.7**
	comp=Z,13nm,1.2s,mb4.6						
RLMT	**Red Lodge**	**85.40**	**41**	*eP*	**P**	**19 26 09.2**	**+0.6**
	comp=Z,1.4nm,0.9s,mb3.8						
MAW	**Mawson**	**86.73**	**199**	P	**P**	**19 26 14.2**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.3,baz=129,slow=7.6,SNR=4.1						
MAW	**Mawson**	**86.73**	**199**	P	**P**	**19 26 14.2**	**-0.5**
MAW	**Mawson**	**86.73**	**199**	P	**P**	**19 26 14.2**	**-0.5**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YAK	**Yakutsk**	**88.41**	**337**	*eP*	**P**	**19 26 20.7**	**-1.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
DGMT	**Dagmar**	**89.99**	**39**	*eP*	**P**	**19 26 30.6**	**+0.4**
	comp=Z,5.7nm,0.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**90.37**	**289**	P	**P**	**19 26 33.7**	**+1.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=103,slow=2.1,SNR=13						
CMAR	**Chiang Mai Arr**	**90.37**	**289**	P	**P**	**19 26 33.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**90.37**	**289**	P	**P**	**19 26 33.7**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**91.34**	**24**	P	**P**	**19 26 37.1**	**+1.0**
	comp=Z,1.7nm,0.9s,mb4.0,baz=238,slow=4.8,SNR=4.4						
YKA	**Yellowknife Ar**	**91.34**	**24**	P	**P**	**19 26 37.1**	**+1.0**
YKA	**Yellowknife Ar**	**91.34**	**24**	P	**P**	**19 26 37.2**	**+1.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**93.42**	**319**	P	**P**	**19 26 46.5**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=127,slow=4.4,SNR=4.6						
SONM	**Songino Array**	**93.42**	**319**	P	**P**	**19 26 46.5**	**+0.4**
SONM	**Songino Array**	**93.42**	**319**	P	**P**	**19 26 46.5**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**116.64**	**322**	*c i* PKIKP	PKPdf	19 32 12.5	-0.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ARCES	**ARCESS Array B**	**124.53**	**351**	PKP	PKPdf	19 32 26.6	-0.9
	comp=Z,2.2nm,0.7s,baz=22,slow=1.0,SNR=11						
ARCES	**ARCESS Array B**	**124.53**	**351**	PKP	PKPdf	19 32 26.6	-0.9
ARCES	**ARCESS Array B**	**124.53**	**351**	PKIKP	PKPdf	19 32 26.6	-0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**131.66**	**346**	PKP	PKPdf	19 32 41.6	+0.4
	comp=Z,2.5nm,0.9s,baz=48,slow=2.1,SNR=3.7						
FINES	**FINESS Array B**	**131.66**	**346**	PKP	PKPdf	19 32 41.6	+0.4
FINES	**FINESS Array B**	**131.66**	**346**	PKIKP	PKPdf	19 32 41.6	+0.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KWP	**Kalwaria Pacla**	**142.89**	**340**	⇑PKIKP	PKPdf	19 33 00.3	-1.9
KWP	**Kalwaria Pacla**	**142.89**	**340**	⇑*iP*	PKPdf	19 33 00.3	-1.9
OJC	**Ojcow**	**143.26**	**343**	*e*PKPdf	PKPdf	19 32 59.3	-3.6
STHS	**Stebnicka Huta**	**143.55**	**341**	*e*PKIKP	PKPdf	19 33 02.0	-1.4
STHS	**Stebnicka Huta**	**143.55**	**341**	*e*PKP	PKPdf	19 33 02.0	-1.4
KSP	**Ksiaz**	**143.57**	**347**	*e*PKP	PKPdf	19 33 01.6	-1.8
KSP	**Ksiaz**	**143.57**	**347**	*e*PKIKP	PKPdf	19 33 01.6	-1.8
KOLS	**Kolonicke sedl**	**143.64**	**340**	*e*PKIKP	PKPdf	19 33 01.6	-2.0
KOLS	**Kolonicke sedl**	**143.64**	**340**	*e*PKP	PKPdf	19 33 01.5	-2.1
BURAR	**Bucovina Array**	**143.66**	**336**	⇑PKIKP	PKPdf	19 33 02.6	-1.1
BURAR	**Bucovina Array**	**143.66**	**336**	⇑*iP*	PKPdf	19 33 02.5	-1.2
CLL	**Collm**	**143.74**	**350**	*e*PKIKP	PKPdf	19 33 01.0	-2.7
CLL	**Collm**	**143.74**

GRB2	Grafenberg Arr	145.93	351	*e*PKPbc	PKPbc	19 33 09.2	+0.4
GERES	GERESS Array B	145.99	349	PKP	PKPdf	19 33 08.2	+0.6
	comp=Z,2.1nm,0.7s,baz=23,slow=3.2,SNR=20						
GERES	GERESS Array B	145.99	349	PKP	PKPdf	19 33 08.2	+0.6
GERES	GERESS Array B	145.99	349	PKIKP	PKPdf	19 33 08.2	+0.6
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WLF	Walferdange	146.06	358	*e*PKPbc	PKPbc	19 33 10.0	+0.8
WLF	Walferdange	146.06	358	*e*PKPbc	PKPbc	19 33 09.3	+0.1
WLF	Walferdange	146.06	358	*e*PKP2	PKPbc	19 33 09.3	+0.1
GRB5	Grafenberg Arr	146.08	351	*e*PKPbc	PKPbc	19 33 09.6	+0.3
GRC4	Grafenberg Arr	146.13	351	*e*PKPbc	PKPbc	19 33 09.7	+0.3
CONA	Conrad Observa	146.40	346	⇓*i*PKPab	PKPbc	19 33 10.5	+0.3
	comp=Z,20nm,1.2s						
GZR	Gura Zlata	146.45	336	⇑PKIKP	PKPbc	19 33 10.6	+0.1
GZR	Gura Zlata	146.45	336	⇑*i*P	PKPbc	19 33 10.6	+0.1
BZS	Buzias	146.71	337	⇑PKP2	PKPbc	19 33 10.9	-0.3
BZS	Buzias	146.71	337	⇑*i*P	PKPbc	19 33 10.9	-0.3
FLN	La Foliniere	146.80	5	*e*PKP1	PKPbc	19 33 10.6	-0.7
	comp=Z,46nm,0.8s						
FLN	La Foliniere	146.80	5	*e*P	PKPbc	19 33 10.6	-0.7
FLN	La Foliniere	146.80	5	*e*PKIKP	PKPbc	19 33 10.6	-0.7
LDF	La Druitiere	147.00	5	*e*PKP1	PKPbc	19 33 11.0	-0.9
	comp=Z,9.0nm,0.5s						
LDF	La Druitiere	147.00	5	*e*P	PKPbc	19 33 11.0	-0.9
LDF	La Druitiere	147.00	5	*e*PKIKP	PKPbc	19 33 11.0	-0.9
FUR	Furstenfeldbru	147.06	351	*e*PKPbc	PKPbc	19 33 12.4	+0.3
FUR	Furstenfeldbru	147.06	351	*e*PKP2	PKPbc	19 33 12.4	+0.3
SGMF	Saint Gilles	147.07	8	*e*PKP1	PKPbc	19 33 11.5	-0.6
	comp=Z,53nm,0.9s						
SGMF	Saint Gilles	147.07	8	*e*P	PKPbc	19 33 11.5	-0.6
SGMF	Saint Gilles	147.07	8	*e*PKP2	PKPbc	19 33 11.5	-0.6
GRR	Gorron	147.14	6	*e*PKP1	PKPbc	19 33 11.7	-0.6
	comp=Z,12nm,0.4s						
GRR	Gorron	147.14	6	*e*P	PKPbc	19 33 11.7	-0.6
GRR	Gorron	147.14	6	*e*PKP2	PKPbc	19 33 11.7	-0.6
PAGF	Fort de Pagny	147.19	358	*e*PKP1	PKPbc	19 33 12.7	+0.3
PKSM	Moragy	147.21	341	⇑PKP2	PKPbc	19 33 12.6	+0.1
PKSM	Moragy	147.21	341	⇑*i*P	PKPbc	19 33 12.6	+0.1
RJOB	Jochberg	147.23	349	*e*PKPbc	PKPbc	19 33 12.9	+0.4
BFO	Black Forest	147.25	355	*e*PKPdf	PKPbc	19 33 08.2	-4.4
BFO				*e*PKPbc	PKPbc	19 33 12.2	-0.3
BFO	Black Forest	147.25	355	*e*PKP2	PKPbc	19 33 12.8	+0.2
CDF	Champ du Feu	147.25	356	*e*PKP1	PKPbc	19 33 12.4	-0.2
	comp=Z,37nm,1.2s						
CDF	Champ du Feu	147.25	356	*e*P	PKPbc	19 33 12.4	-0.2
CDF	Champ du Feu	147.25	356	*e*PKP2	PKPbc	19 33 12.4	-0.2
MEZF	Maizieres J'vi	147.26	359	*e*PKP1	PKPbc	19 33 12.9	+0.3
MEZF	Maizieres J'vi	147.26	359	*e*P	PKPbc	19 33 12.9	+0.3
SFTF	Sexfontaines	147.56	359	*e*PKP1	PKPbc	19 33 13.3	-0.1
	comp=Z,26nm,0.8s						
SFTF	Sexfontaines	147.56	359	*e*P	PKPbc	19 33 13.3	-0.1
HAU	Haudompre	147.71	357	*e*PKP1	PKPbc	19 33 12.8	-1.0
	comp=Z,11nm,0.9s						
HAU	Haudompre	147.71	357	*e*P	PKPbc	19 33 12.8	-1.0
HAU	Haudompre	147.71	357	*e*PKIKP	PKPbc	19 33 12.8	-1.0
HINF	Hinteralfeld	147.87	356	*e*PKP1	PKPbc	19 33 13.0	-1.2
HINF	Hinteralfeld	147.87	356	*e*P	PKPbc	19 33 13.0	-1.2
HINF	Hinteralfeld	147.87	356	*e*PKIKP	PKPbc	19 33 13.0	-1.2
MOTA	Moosalm	147.89	351	⇑*i*PKiKP	PKPbc	19 33 14.6	+0.3
	comp=Z,8.5nm,0.8s						
ABTA	Abfaltersbach	148.23	349	⇓*i*PKPbc	PKPbc	19 33 13.8	-1.4
	comp=Z,11nm,1.0s						
LOR	Lormes	148.51	0	*e*PKP1	PKPbc	19 33 15.7	-0.2
LOR	Lormes	148.51	0	*e*P	PKPbc	19 33 15.7	-0.2
LOR	Lormes	148.51	0	*e*PKP2	PKPbc	19 33 15.7	-0.2
VTS	Vitosha	148.54	332	⇓PKP2	PKPbc	19 33 16.1	0.0
VTS	Vitosha	148.54	332	⇓*i*P	PKPbc	19 33 16.1	0.0
SSF	Saint Saulge	148.71	1	*e*PKP1	PKPbc	19 33 16.3	-0.1
	comp=Z,43nm,1.2s						
SSF	Saint Saulge	148.71	1	*e*P	PKPbc	19 33 16.3	-0.1
SSF	Saint Saulge	148.71	1	*e*PKP2	PKPbc	19 33 16.3	-0.1
AVF	Avril sur Loir	148.98	1	*e*PKP1	PKPbc	19 33 16.5	-0.6
AVF	Avril sur Loir	148.98	1	*e*P	PKPbc	19 33 16.5	-0.6
AVF	Avril sur Loir	148.98	1	*e*PKHKP	PKPbc	19 33 16.5	-0.6
BGF	Bois d'Agland	149.20	2	*e*PKP1	PKPbc	19 33 17.3	-0.3
	comp=Z,12nm,0.7s						
BGF	Bois d'Agland	149.20	2	*e*P	PKPbc	19 33 17.3	-0.3
BGF	Bois d'Agland	149.20	2	*e*PKHKP	PKPbc	19 33 17.3	-0.3
LPL	La Plagne	150.17	356	*e*PKP1	PKPbc	19 33 20.7	+0.7
	comp=Z,9.8nm,0.8s						
LPL	La Plagne	150.17	356	*e*P	PKPbc	19 33 20.7	+0.7
LPL	La Plagne	150.17	356	*e*PKHKP	PKPbc	19 33 20.7	+0.7
LPG	La Plagne	150.19	356	*e*PKP1	PKPbc	19 33 20.9	+0.9
	comp=Z,23nm,1.1s						
LPG	La Plagne	150.19	356	*e*P	PKPbc	19 33 20.9	+0.9
LPG	La Plagne	150.19	356	*e*PKHKP	PKPbc	19 33 20.9	+0.9
CAF	Calviac	150.80	3	*e*PKP1	PKPbc	19 33 21.1	-0.4
CAF	Calviac	150.80	3	*e*P	PKPbc	19 33 21.1	-0.4
CAF	Calviac	150.80	3	*e*PKIKP	PKPbc	19 33 21.1	-0.4
ORIF	Oris-en-Rattie	150.82	357	*e*PKP1	PKPbc	19 33 21.7	+0.2
	comp=Z,6.9nm,0.8s						
ORIF	Oris-en-Rattie	150.82	357	*e*P	PKPbc	19 33 21.7	+0.2
ORIF	Oris-en-Rattie	150.82	357	*e*PKIKP	PKPbc	19 33 21.7	+0.2
MBDF	Montbardon	150.96	356	*e*PKP1	PKPbc	19 33 21.9	+0.1
	comp=Z,14nm,0.7s						
MBDF	Montbardon	150.96	356	*e*P	PKPbc	19 33 21.9	+0.1
MBDF	Montbardon	150.96	356	*e*PKIKP	PKPbc	19 33 21.9	+0.1
ETSF	Etsaut	152.59	7	*e*PKP1	PKPbc	19 33 25.0	-0.6
ETSF	Etsaut	152.59	7	*e*P	PKPbc	19 33 25.0	-0.6
ETSF	Etsaut	152.59	7	*e*PKIKP	PKPbc	19 33 25.0	-0.6
ESDC	Sonseca Array	155.09	15	PKPab	PKPab	19 33 48.3	+0.1
	comp=Z,0.9nm,0.7s,baz=326,slow=3.3,SNR=5.2						
ESDC	Sonseca Array	155.09	15	PKPab	PKPab	19 33 48.3	+0.2
TORD	Torodi Ar. Bea	176.60	138	PKP	PKPdf	19 33 38.0	-1.6
	comp=Z,0.6nm,0.8s,baz=333,slow=2.3,SNR=3.3						
TORD	Torodi Ar. Bea	176.60	138	PKP	PKPdf	19 33 38.0	-1.6

IDC 04 19:29:59.9±1.6, 10°.56N×148°.58E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=54.2km s-min=30.5km az=104.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	32.60	329	LR	LR	19 48 10.3	
	comp=Z,23nm,19.2s,baz=110,slow=33						
WRA	Warramunga Arr	33.40	205	P	P	19 36 40.1	-0.1
	0.6nm,0.9s,baz=27,slow=9.4,SNR=5.7						
SONM	Songino Array	51.28	325	P	P	19 39 05.6	0.0
	0.4nm,0.7s,baz=133,slow=8.1,SNR=3.5						
MKAR	Makanchi Array	66.17	317	P	P	19 40 49.9	+0.6
	0.7nm,0.8s,baz=97,slow=8.0,SNR=5.8						
ILAR	Eielson Array	69.77	24	P	P	19 41 11.6	-0.1
	0.7nm,0.7s,baz=255,slow=5.5,SNR=8.8						

*NEIC **04** 19:41:56.4, 38°.05S×175°.86E, h186km, MG3.5(WEL), After WEL.*

WEL 04 19:41:56.7±0.4, 38°.07S×175°.88E, h186km±3km, ML3.5/11, Error ellipse: s-maj=3.5km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.99	101	PN	Pn	19 42 24.7	-0.1
URZ				SN	Sn	19 42 46.7	+0.2
URZ	Urewera	0.99	101	Pn	Pn	19 42 24.7	-0.1
URZ				Sn	Sn	19 42 46.7	+0.2
BKZ	Black Stump Fm	1.20	156	PN	Pn	19 42 26.6	+0.3
BKZ				SN	Sn	19 42 48.7	-0.7
BKZ	Black Stump Fm	1.20	156	Pn	Pn	19 42 26.6	+0.3
WNVZ	Wahianoa	1.27	190	PN	Pn	19 42 27.6	+0.5
WNVZ	Wahianoa	1.27	190	Pn	Pn	19 42 27.6	+0.5
MWZ	Matawai	1.32	102	PN	Pn	19 42 27.6	+0.1
MWZ				SN	Sn	19 42 51.3	0.0
MWZ	Matawai	1.32	102	Pn	Pn	19 42 27.6	+0.2
MWZ				Sn	Sn	19 42 51.3	0.0
MOVZ	Moawhango	1.34	184	PN	Pn	19 42 27.5	-0.1
MOVZ	Moawhango	1.34	184	Pn	Pn	19 42 27.5	-0.1
BHHZ	Black Hill Sta	1.42	174	PN	Pn	19 42 28.2	-0.1
BHHZ	Black Hill Sta	1.42	174	Pn	Pn	19 42 28.2	-0.1
MCHZ	McNeill Hill	1.51	155	PN	Pn	19 42 29.9	+0.8
MCHZ	McNeill Hill	1.51	155	Pn	Pn	19 42 29.9	+0.8
KNZ	Kokohu	1.70	125	PN	Pn	19 42 31.0	+0.1
KNZ	Kokohu	1.70	125	Pn	Pn	19 42 31.0	+0.1
CKHZ	Cape Kidnapper	1.84	150	PN	Pn	19 42 32.5	+0.2
CKHZ	Cape Kidnapper	1.84	150	Pn	Pn	19 42 32.5	+0.2
PNHZ	Pukenui	1.86	172	PN	Pn	19 42 32.0	-0.5
PNHZ	Pukenui	1.86	172	Pn	Pn	19 42 32.0	-0.5
CNGZ	Carnagh Statio	1.88	103	PN	Pn	19 42 33.3	+0.5
CNGZ	Carnagh Statio	1.88	103	Pn	Pn	19 42 33.3	+0.5
KAHZ	Kahuranaki	1.89	156	PN	Pn	19 42 33.0	+0.1
KAHZ	Kahuranaki	1.89	156	Pn	Pn	19 42 33.0	+0.1
MHGZ	Mahia Peninsul	1.92	125	PN	Pn	19 42 33.4	+0.2
MHGZ	Mahia Peninsul	1.92	125	Pn	Pn	19 42 33.4	+0.2
TSZ	Takapari Road	1.99	178	PN	Pn	19 42 33.2	-0.7
TSZ	Takapari Road	1.99	178	Pn	Pn	19 42 33.2	-0.7
MXZ	Matakaoa Point	1.99	76	PN	Pn	19 42 33.6	-0.4
MXZ	Matakaoa Point	1.99	76	Pn	Pn	19 42 33.6	-0.4
WPHZ	Waipukurau	2.04	168	PN	Pn	19 42 33.9	-0.6
WPHZ	Waipukurau	2.04	168	Pn	Pn	19 42 33.9	-0.6
PXZ	Pawanui	2.10	159	PN	Pn	19 42 34.6	-0.5
PXZ	Pawanui	2.10	159	Pn	Pn	19 42 34.6	-0.5
DVHZ	Dannevirke	2.24	174	PN	Pn	19 42 35.3	-1.3
DVHZ	Dannevirke	2.24	174	Pn	Pn	19 42 35.3	-1.3
PRHZ	Porangahau	2.27	165	PN	Pn	19 42 36.2	-0.8
PRHZ	Porangahau	2.27	165	Pn	Pn	19 42 36.2	-0.8
MRZ	Mangatainoka R	2.60	185	PN	Pn	19 42 38.8	-2.0
MRZ	Mangatainoka R	2.60	185	Pn	Pn	19 42 38.8	-2.0
BFZ	Birch Farm	2.62	174	PN	Pn	19 42 39.2	-1.7
BFZ	Birch Farm	2.62	174	Pn	Pn	19 42 39.2	-1.7
OGWZ	Otaki Gorge	2.80	191	PN	Pn	19 42 41.2	-1.9
OGWZ	Otaki Gorge	2.80	191	Pn	Pn	19 42 41.2	-1.9
HOWZ	Holdsworth Sta	2.84	186	PN	Pn	19 42 41.3	-2.3
HOWZ	Holdsworth Sta	2.84	186	Pn	Pn	19 42 41.3	-2.3
KIW	Kapiti Island	2.89	195	PN	Pn	19 42 41.7	-2.4
KIW	Kapiti Island	2.89	195	Pn	Pn	19 42 41.7	-2.4
TMWZ	Te Maipa	3.03	180	PN	Pn	19 42 43.5	-2.4
TMWZ	Te Maipa	3.03	180	Pn	Pn	19 42 43.5	-2.4
CAW	Cannon Point	3.10	191	PN	Pn	19 42 44.2	-2.4
CAW	Cannon Point	3.10	191	Pn	Pn	19 42 44.2	-2.4
MTW	Mount Morrison	3.10	185	PN	Pn	19 42 43.8	-2.9
MTW	Mount Morrison	3.10	185	Pn	Pn	19 42 43.8	-2.9
SNZO	South Karori	3.36	195	PN	Pn	19 42 46.9	-2.9
SNZO	South Karori	3.36	195	Pn	Pn	19 42 46.9	-2.9
TCW	Tory Channel	3.37	201	PN	Pn	19 42 47.2	-2.8
TCW	Tory Channel	3.37	201	Pn	Pn	19 42 47.2	-2.8
PLWZ	Palliser	3.53	188	PN	Pn	19 42 48.5	-3.4
PLWZ	Palliser	3.53	188	Pn	Pn	19 42 48.5	-3.4
TUWZ	Tuamarina	3.67	203	PN	Pn	19 42 50.9	-2.8
TUWZ	Tuamarina	3.67	203	Pn	Pn	19 42 50.9	-2.8
QRZ	Quartz Range	3.78	222	PN	Pn	19 42 51.7	-3.4
QRZ	Quartz Range	3.78	222	Pn	Pn	19 42 51.7	-3.4
THZ	Tophouse	4.34	211	PN	Pn	19 42 59.5	-2.7
THZ	Tophouse	4.34	211	Pn	Pn	19 42 59.5	-2.7
KHZ	Kahutara	4.70	202	PN	Pn	19 43 03.2	-3.5
KHZ	Kahutara	4.70	202	Pn	Pn	19 43 03.2	-3.5
LTZ	Lake Taylor	5.45	209	PN	Pn	19 43 12.3	-4.2
LTZ	Lake Taylor	5.45	209	Pn	Pn	19 43 12.3	-4.2

IDC 04 19:42:23.4±22.0, 51°.03N×170°.80E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=734.3km s-min=46.6km az=70.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	54.92	303	P	P	19 51 55.5	0.0
	0.1nm,0.3s,baz=49,slow=6.5,SNR=5.0						
WRA	Warramunga Arr	77.59	215	P	P	19 54 20.5	-0.5
	0.2nm,0.4s,baz=28,slow=5.7,SNR=5.9						
ASAR	Alice Springs	81.16	214	P	P	19 54 41.5	+1.0
	0.4nm,1.0s,baz=17,slow=6.1,SNR=4.7						

IDC 04 19:52:47.7±4.1, 8°.93N×92°.24E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.5/3, Error ellipse: s-maj=148.9km s-min=29.4km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	38.67	349	P	P	20 00 13.0	-0.7
	0.6nm,0.5s,baz=162,slow=8.2,SNR=9.9						
SONM	Songino Array	40.58	15	P	P	20 00 29.2	+0.2
	0.4nm,0.5s,baz=197,slow=9.3,SNR=5.2						
WRA	Warramunga Arr	50.40	125	P	P	20 01 47.2	-0.1
	0.2nm,0.7s,baz=306,slow=8.3,SNR=2.9						

*DJA **04** 20:01:05, 7°.60S×109°.81E, h14km, MLv3.1/9*
*ISCJB **04** 20:01:06.1±0.8, 7°.61S±0°.07×109°.79E±0°.05, h33km, mb3.4/3, Error ellipse: s-maj=10.2km s-min=7.4km az=16.1*
*IDC **04** 20:01:13.6±40.0, 8°.70S×110°.38E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/17, mbtmp3.5/3, Error ellipse: s-maj=664.5km s-min=136.2km az=126.0*

ISC 04 20:01:07.7±0.8, 7°.61S±0°.08×109°.84E±0°.05, h35km, n13, σ1§71/17, mb3.4/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	0.30	336	P	Pn	20 01 10.9	-4.8
BJII				S	Sn	20 01 15.6	-5.6
UGM	Wanagama	0.74	114	P	Pn	20 01 18.7	-3.0
UGM				S	Sn	20 01 30.3	-1.5
CLJI	Cilicap	0.82	263	P	Pn	20 01 20.2	-2.6
SMRI	Semarang	0.82	47	P	Pn	20 01 20.4	-2.4
SMRI				S	Sn	20 01 33.8	+0.1
PCJI	Pacitan	1.45	114	P	Pn	20 01 29.7	-1.8
PCJI				S	Sn	20 01 48.7	-0.6
NGJI	Ngawi	1.63	82	P	Pn	20 01 37.7	+3.7
SJI	Sawahan	1.92	94	P	Pn	20 01 38.5	+0.6
PWJI	Pagerwojo	1.99	102	P	Pn	20 01 40.6	+1.7
CISI	Cisompet, Garu	2.00	272	P	Pn	20 01 40.8	+1.7
GRJI	Gresik	2.71	75	P	Pn	20 01 51.2	+2.3
WRA	Warramunga Arr	26.72	120	P	P	20 06 46.2	+2.2
	0.3nm,0.7s,mb3.0,baz=291,slow=11,SNR=5.3						
ASAR	Alice Springs	28.07	127	P	P	20 06 57.6	+1.5
	0.4nm,0.7s,mb3.2,baz=304,slow=8.2,SNR=9.5						
STKA	Stephens Creek	38.16	134	P	P	20 08 24.9	+1.0
	2.0nm,0.7s,mb4.0,baz=321,slow=8.2,SNR=4.3						

IDC 04 20:13:49.1±1.9, 4°.18S×152°.71E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, Error ellipse: s-maj=109.3km s-min=25.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.80	227	P	P	20 19 04.5	+0.6
	3.6nm,0.6s,baz=54,slow=10.0,SNR=42						
ASAR	Alice Springs	26.55	221	P	P	20 19 29.1	+0.1
	0.5nm,0.5s,baz=58,slow=8.8,SNR=11						
FITZ	Fitzroy Crossi	29.89	240	P	P	20 19 59.4	+0.6
	0.5nm,0.5s,baz=56,slow=8.4,SNR=7.0						
ILAR	Eielson Array	81.62	22	P	P	20 26 07.8	-1.0
	0.5nm,0.9s,baz=240,slow=5.2,SNR=4.7						
TORD	Torodi Ar. Bea	150.03	289	PKPbc	PKPbc	20 33 42.4	-0.4
	0.3nm,0.4s,baz=89,slow=2.0,SNR=5.6						

*NIED **04** 20:25:00, 27°.40N×143°.10E, h8km, Mw5.0 Best double couple: M0=4.03000×10^16 NP1:φ=330.00000°, δ=78.00000°, λ=82.00000°. NP2:φ=185.00000°, δ=14.00000°, λ=124.00000°.*
*IDC **04** 20:25:50.6±0.5, 27°.39N×142°.86E, h0km, mb4.4/22, mb1 4.6/25, mb1mx4.5/28, mbtmp4.4/25, ML4.0/3, MS4.2/18, Ms1 4.2/18, ms1mx4.0/31, Error ellipse: s-maj=15.2km s-min=10.5km az=103.0*
*JMA **04** 20:25:51.6±0.2, 27°.45N×143°.08E, h81km, M4.2*
*MOS **04** 20:25:52.4±1.3, 27°.47N×142°.82E, h22km, mb4.9/44, MS4.3/15, Error ellipse: s-maj=11.2km s-min=5.6km az=120.2*
*ISCJB **04** 20:25:54.3±0.9, 27°.65N±0°.02×142°.62E±0°.05, h21km±6km, mb4.7/89, MS4.3/25, Error ellipse: s-maj=6.8km s-min=4.2km az=179.5*
*NEIC **04** 20:25:54.5±4.0, 27°.46N×142°.74E, h18km±24km, mb4.9/47, MW5.0(NIED), Error ellipse: s-maj=9.2km s-min=6.7km az=135.0*
*GCMT **04** 20:25:56.2±0.5, 27°.27N×143°.03E, h20km±1km, MW4.9, Moment Tensor Solution. s16,c18; s62,c80; Moment tensor: Scale 10^16Nm; Mrr2.36±.21; Mθθ-0.01±.11; Mφφ-2.35±.14; Mrθ0.37±.24; Mrφ0.54±.08; Mθφ1.23±.22; Best double couple: M0=2.70000×10^16 NP1:φ=155.00000°, δ=34.00000°, λ=68.00000°. NP2:φ=59.00000°, δ=59.00000°, λ=104.00000°. Principal axes: T 2.7500, Plg72.0000°, Azm305.0000°; N -0.0300, Plg12.0000°, Azm173.0000°; P -2.7200, Plg13.0000°, Azm81.0000°; Data Used: II IU G IC CN.*
*BJI **04** 20:26:02.4, 27°.97N×141°.49E, h20km, mB5.2/12, mb4.7/21, Ms4.7/9, Ms7 4.5/10*

ISC 04 20:25:55.9±0.9, 27°.53N±0°.02×142°.71E±0°.05, h25km±6km, h22km±2.3km: pP-P, n224, σ1§16/242, mb4.7/89, MS4.3/25, 2C-3D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.64	227	Pn	Pn	20 26 09.0	-0.3
	365nm,0.3s,baz=273,slow=22,SNR=177						
CBIJ				LR	LR	20 26 16.5	
	comp=Z,7μm,19.2s,baz=334,slow=39						
CBIJ				Sn	Sn	20 26 24.4	+5.8
	2μm,0.3s,baz=282,slow=20,SNR=18						
CBIJ	Chichi jima	0.64	227	Pn	Pn	20 26 09.0	-0.3
CBIJ				Sn	Sn	20 26 24.4	+5.8
CBIJ	Chichi jima	0.64	227	P	Pb	20 26 09.4	+1.0
CBIJ				S	Sb	20 26 22.0	+5.1
JHHJ	Haha-jima-NKT	1.01	208	P	Pn	20 26 12.7	-1.8
JHHJ				*e*S	Sb	20 26 28.0	+0.2
BSO1	Boso 1	7.25	349	P	Pn	20 27 39.6	-0.6
BSO1				S	Sn	20 28 58.7	-3.0
BSO3	Boso 3	7.49	346	P	Pn	20 27 42.7	-0.8
BSO3				*e*S	Sn	20 29 08.4	+0.9
BSO4	Boso 4	7.71	345	P	Pn	20 27 47.6	+1.1
BSO4				*e*S	Sn	20 29 12.3	-0.6
JOD2	Odawara 2	8.30	339	P	Pn	20 27 55.9	+1.2
JOD2				*e*S	Sn	20 29 29.6	+2.0
JHU	Hanno	8.79	341	P	Pn	20 28 00.3	-1.0
JHU				*e*S	Sn	20 29 39.0	-0.6
JRY	Ryogami san	9.05	340	P	Pn	20 28 04.9	-0.1
JRY				*e*S	Sn	20 29 45.5	-0.6
JHO	Hitachi	9.23	349	P	Pn	20 28 05.8	-1.6
JHO				*e*S	Sn	20 29 45.9	-4.5
JAG	Ashikaga	9.29	344	P	Pn	20 28 07.1	-1.0
JAG				*e*S	Sn	20 29 48.0	-3.7
MJAR	Matsushiro Arr	9.76	338	Pn	Pn	20 28 13.4	-1.2
	1.7nm,0.3s,baz=163,slow=11,SNR=16						
MJAR				Sn	Sn	20 30 05.5	+2.2
	0.9nm,0.3s,baz=9.0,slow=21,SNR=5.0						
MJAR	Matsushiro Arr	9.76	338	Pn	Pn	20 28 13.4	-1.2
MJAR				Sn	Sn	20 30 05.5	+2.2
MJAR	Matsushiro Arr	9.76	338	P	Pn	20 28 13.4	-1.2
MJAR						20 30 05.5	
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MAJO	Matsushiro	9.76	338	*e*P	Pn	20 28 14.0	-0.6
	comp=N,12nm,0.6s						
MAJO	Matsushiro	9.76	338	*e*P	Pn	20 28 14.0	-0.6
MAJO				pmax	pmax		
	comp=Z,12nm,0.6s						
MAT	Matsushiro	9.76	338	P	Pn	20 28 14.4	-0.2
MAT				*e*S	Sn	20 30 03.1	-0.3
MAT	Matsushiro	9.76	338	P	Pn	20 28 13.9	-0.7
MAT				*e*S	Sn	20 30 04.8	+1.4
JFK	Kawauchi	9.93	352	*e*S	Sn	20 29 59.2	-8.3
JOW	Kunigami	12.87	270	LR	LR	20 33 56.0	
	comp=Z,929nm,18.9s,baz=242,slow=37						
GUMO	Guam	14.02	171	LR	LR	20 33 59.4	
	comp=Z,1μm,19.4s,baz=211,slow=35						
KSRS	Korea Array	15.90	312	Pn	Pn	20 29 40.4	+2.4
	comp=Z,0.5nm,0.3s,baz=119,slow=11,SNR=9.6						
KSRS				LR	LR	20 35 51.6	
	comp=Z,919nm,18.4s,baz=122,slow=37						
KSRS	Korea Array	15.90	312	P	Pn	20 29 40.4	+2.5
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,919nm,18.4s						
KSAR	Wonju Array Be	15.92	312	Pn	Pn	20 29 40.4	+2.2
KSAR	Wonju Array Be	15.92	312	P	Pn	20 29 40.4	+2.2
ASAJ	Asahikawa	16.55	360	Pn	Pn	20 29 45.0	-1.1
	comp=Z,0.8nm,0.3s,baz=240,slow=8.1,SNR=5.8

SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,351nm,18.1s						
YAK	**Yakutsk**	**35.57**	**349**	*e*P	**P**	**20 32 49.9**	**-0.9**
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,16nm,1.8s						
YAK				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
KMI	**Kunming**	**35.80**	**275**	P	**P**	**20 32 54.7**	**+1.4**
KMI				pP	pP	20 33 01.3	+0.4
KMI				S	**S**	**20 38 19.7**	**-10**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				pmax	pmax		
	comp=Z,140nm,5.7s						
KMI				LR	LR		
	comp=N,500nm,14.4s,MS4.5						
KMI				LR	LR		
	comp=E,300nm,15.8s,MS4.5						
KMI				LR	LR		
	comp=Z,290nm,19.2s,MS4.1						
KMI	**Kunming**	**35.80**	**275**	P	**P**	**20 32 54.7**	**+1.4**
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				pP	pP	20 33 01.3	+0.4
KMI				S	**S**	**20 38 19.7**	**-10**
KMI				LR	LR		
	comp=Z,290nm,19.2s,MS4.1						
KMI	**Kunming**	**35.80**	**275**	P	**P**	**20 32 54.7**	**+1.4**
KMI				*PP	pP	20 33 01.3	+0.4
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				MLR	MLR		
	comp=Z,290nm,19.2s,MS4.1						
BOD	**Bodaibo**	**36.36**	**334**	*e*P	**P**	**20 32 57.6**	**-0.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
GTA	**Gaotai**	**37.37**	**300**	*e*P	**P**	**20 33 07.0**	**+0.5**
GTA				pP	pP	20 33 11.3	-2.8
GTA				sP	sP	20 33 13.7	-3.5
GTA				PP	PP	20 34 33.2	+1.3
GTA				S	**S**	**20 38 51.1**	**-1.8**
GTA				sS	sS	20 39 00.1	-5.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA				LR	LR		
	comp=N,550nm,16.6s,MS4.6						
GTA				LR	LR		
	comp=E,570nm,16.1s,MS4.6						
GTA				LR	LR		
	comp=Z,530nm,13.8s,MS4.5						
ZAK	**Zakamensk**	**37.59**	**318**	*e*P	**P**	**20 33 09.5**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
TLY	**Talaya**	**37.90**	**320**	*e*P	**P**	**20 33 12.0**	**+1.2**
	comp=Z,26nm,1.1s,mb4.9						
TLY	**Talaya**	**37.90**	**320**	*e*P	**P**	**20 33 12.2**	**+1.4**
TLY				*e*S	**S**	**20 38 54.9**	**-5.8**
TLY				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
TLY				MLR	MLR		
	comp=Z,722nm,17.0s,MS4.5						
CHTO	**Chiang Mai**	**40.98**	**267**	*e*P	**P**	**20 33 35.5**	**-1.4**
	comp=Z,4.4nm,1.0s,mb4.0						
CHTO	**Chiang Mai**	**40.98**	**267**	*e*P	**P**	**20 33 35.5**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
CMAR	**Chiang Mai Arr**	**41.11**	**267**	P	**P**	**20 33 37.9**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.7,baz=69,slow=5.6,SNR=15						
CMAR				PcP	PcP	20 35 39.0	+1.7
	comp=Z,1.0nm,0.9s,baz=93,slow=1.8,SNR=3.5						
CMAR				LR	LR	20 53 44.7	
	comp=Z,122nm,18.1s,MS3.8,baz=96,slow=41						
CMAR	**Chiang Mai Arr**	**41.11**	**267**	P	**P**	**20 33 37.9**	**-0.1**
CMAR				PcP	PcP	20 35 39.0	+1.7
CMAR	**Chiang Mai Arr**	**41.11**	**267**	P	**P**	**20 33 37.9**	**-0.1**
CMAR						20 35 39.0	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,122nm,18.1s						
HVS	**Khovu-Aksy**	**43.61**	**316***d*	*i*P	**P**	**20 33 58.9**	**+1.0**
LSA	**Lhasa**	**45.01**	**286**	*e*P	**P**	**20 34 11.2**	**+1.8**
	comp=Z,2.4nm,0.6s,mb4.2						
LSA	**Lhasa**	**45.01**	**286**	*e*P	**P**	**20 34 11.3**	**+1.9**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
SHL	**Shillong**	**45.25**	**280**	*e*PKP	**P**	**20 34 13.0**	**+1.6**
WRAB	**Tennant Creek**	**47.87**	**191**	*e*P	**P**	**20 34 29.1**	**-2.8**
	comp=Z,18nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**47.87**	**191**	*e*P	**P**	**20 34 29.1**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**47.88**	**191**	P	**P**	**20 34 29.7**	**-2.2**
	comp=Z,14nm,0.7s,mb5.1,baz=12,slow=8.5,SNR=100						
WRA				S	**S**	**20 41 23.8**	**-4.0**
	comp=Z,0.8nm,0.9s,baz=7.7,slow=14,SNR=4.6						
WRA	**Warramunga Arr**	**47.88**	**191**	P	**P**	**20 34 29.7**	**-2.2**
WRA				S	**S**	**20 41 23.8**	**-4.0**
WRA	**Warramunga Arr**	**47.88**	**191**	P	**P**	**20 34 29.7**	**-2.2**
WRA				S	**S**	**20 41 23.8**	**-4.0**
WRA				pmax	pmax		
	comp=Z,14nm,0.7s						
WRA				smax			
	comp=N,1.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**48.28**	**202**	P	**P**	**20 34 34.0**	**-1.1**
	comp=N,8.5nm,0.7s,mb4.9,baz=16,slow=7.2,SNR=24						
FITZ	**Fitzroy Crossi**	**48.28**	**202**	*e*P	**P**	**20 34 34.3**	**-0.8**
	comp=N,15nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**48.28**	**202**	P	**P**	**20 34 34.0**	**-1.1**
TAPN	**Taplejung**	**48.45**	**283**	*e*P	**P**	**20 34 37.3**	**+0.8**
	comp=N,4.8nm,0.5s,mb4.8						
TAPN	**Taplejung**	**48.45**	**283**	*e*P	**P**	**20 34 37.3**	**+0.8**
	comp=N,4.8nm,0.5s,mb4.8						
ODAN	**Odare**	**48.85**	**283**	*e*P	**P**	**20 34 39.9**	**+0.4**
	comp=N,8.6nm,0.4s,mb5.1						
ZALV	**Zalesovo Beam**	**49.47**	**319**	P	**P**	**20 34 43.6**	**-0.2**
	comp=N,5.9nm,0.7s,mb4.7,baz=101,slow=7.1,SNR=30						
ZALV				LR	LR	20 56 39.8	
	comp=N,427nm,18.1s,MS4.5,baz=71,slow=37						
ZALV	**Zalesovo Beam**	**49.47**	**319**	P	**P**	**20 34 43.6**	**-0.2**
ZALV	**Zalesovo Beam**	**49.47**	**319**	P	**P**	**20 34 43.6**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ZALV				MLR	MLR		
	comp=Z,427nm,18.1s,MS4.5						
RAMN	**Ramite**	**49.51**	**283**	*e*P	**P**	**20 34 44.9**	**+0.3**
	comp=Z,21nm,0.7s,mb5.2						
RAMN	**Ramite**	**49.51**	**283**	*e*P	**P**	**20 34 44.9**	**+0.3**
	comp=Z,21nm,0.7s,mb5.3						
JIRN	**Jiri**	**49.69**	**284**	*e*P	**P**	**20 34 47.0**	**+1.1**
	comp=Z,8.7nm,0.7s,mb4.9						
JIRN	**Jiri**	**49.69**	**284**	*e*P	**P**	**20 34 47.0**	**+1.1**
	comp=Z,8.7nm,0.7s,mb4.9						
GUN	**Gumba**	**49.90**	**284**	*e*P	**P**	**20 34 48.6**	**+1.1**
	comp=Z,25nm,0.5s,mb5.5						
GUN	**Gumba**	**49.90**	**284**	*e*P	**P**	**20 34 48.6**	**+1.1**
	comp=Z,25nm,0.5s,mb5.5						
PKI	**Pulchoki**	**50.39**	**284**	*e*P	**P**	**20 34 51.9**	**+0.7**
	comp=Z,18nm,0.8s,mb5.2						
PKI	**Pulchoki**	**50.39**	**284**	*e*P	**P**	**20 34 51.9**	**+0.7**
	comp=Z,18nm,0.8s,mb5.2						
PKI	**Pulchoki**	**50.39**	**284**	*e*P	**P**	**20 34 51.9**	**+0.7**
PKI				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
KKN	**Kakani**	**50.45**	**284**	*e*P	**P**	**20 34 51.9**	**+0.2**
	comp=Z,22nm,0.9s,mb5.2						
KKN	**Kakani**	**50.45**	**284**	*e*P	**P**	**20 34 51.9**	**+0.2**
	comp=Z,22nm,0.9s,mb5.2						
KKN	**Kakani**	**50.45**	**284**	*e*P	**P**	**20 34 51.9**	**+0.2**
KKN				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
NVS	**Novosibirsk**	**50.51**	**320**	*e*P	**P**	**20 34 49.7**	**-2.0**
NVS				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.1						
NVS				pmax	pmax		
	comp=E,29nm,1.3s						
MK31	**Makanchi Array**	**50.56**	**309**	P	**P**	**20 34 51.8**	**-0.4**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
MKAR	**Makanchi Array**	**50.56**	**309**	P	**P**	**20 34 51.4**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.1,baz=85,slow=10,SNR=19						
MKAR				LR	LR	20 57 23.1	
	comp=Z,324nm,18.0s,MS4.4,baz=286,slow=37						
MKAR	**Makanchi Array**	**50.56**	**309**	P	**P**	**20 34 51.4**	**-0.8**
MKAR	**Makanchi Array**	**50.56**	**309**	P	**P**	**20 34 51.4**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,324nm,18.0s						
DMN	**Daman**	**50.64**	**284**	*e*P	**P**	**20 34 53.3**	**+0.2**
	comp=Z,8.5nm,0.4s,mb5.0						
GKN	**Gorkha**	**50.95**	**285**	*e*P	**P**	**20 34 55.7**	**+0.3**
	comp=Z,39nm,1.1s,mb5.3						
GKN	**Gorkha**	**50.95**	**285**	*e*P	**P**	**20 34 55.7**	**+0.3**
	comp=Z,39nm,1.1s,mb5.2						
ASAR	**Alice Springs**	**51.60**	**190**	P	**P**	**20 34 57.7**	**-2.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=8.2,slow=7.8,SNR=22						
ASAR	**Alice Springs**	**51.60**	**190**	P	**P**	**20 34 57.7**	**-2.5**
ASAR	**Alice Springs**	**51.60**	**190**	P	**P**	**20 34 57.7**	**-2.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DANN	**Dangsing**	**51.61**	**286**	*e*P	**P**	**20 35 01.3**	**+0.9**
	comp=Z,58nm,0.9s,mb5.5						
DANN	**Dangsing**	**51.61**	**286**	*e*P	**P**	**20 35 01.3**	**+0.9**
	comp=Z,58nm,0.9s,mb5.5						
KOLN	**Koldanda**	**51.89**	**285**	*e*P	**P**	**20 35 02.7**	**+0.2**
	comp=Z,16nm,0.8s,mb5.0						
KOLN	**Koldanda**	**51.89**	**285**	*e*P	**P**	**20 35 02.7**	**+0.2**
	comp=Z,16nm,0.8s,mb5.0						
PYUN	**Piuthan**	**52.33**	**285**	*e*P	**P**	**20 35 06.1**	**+0.3**
	comp=Z,43nm,0.8s,mb5.4						
PYUN	**Piuthan**	**52.33**	**285**	*e*P	**P**	**20 35 06.1**	**+0.3**
	comp=Z,43nm,0.8s,mb5.4						
KURK	**Kurchatov**	**53.01**	**314**	P	**P**	**20 35 10.4**	**-0.1**
	comp=Z,4.4nm,0.4s,mb4.7,baz=90,slow=8.0,SNR=30						
KURK	**Kurchatov**	**53.01**	**314**	P	**P**	**20 35 10.4**	**-0.1**
KURK	**Kurchatov**	**53.01**	**314**	P	**P**	**20 35 10.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
DZM	**Mont Dzumac**	**54.39**	**153**	*e*LR	LR	20 50 53.2	
	comp=Z,320nm,22.1s						
TKM2	**Tokmak 2**	**55.55**	**305**	*e*P	**P**	**20 35 29.4**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.4						
TKM2	**Tokmak 2**	**55.55**	**305**	P	**P**	**20 35 29.9**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
PMR	**Palmer**	**55.82**	**32**	*e*P	**P**	**20 35 30.2**	**-0.5**
PMR	**Palmer**	**55.82**	**32**	*e*P	**P**	**20 35 30.2**	**-0.5**
AAK	**Ala-Archa**	**56.39**	**305**	*e*P	**P**	**20 35 35.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
ILAR	**Eielson Array**	**57.11**	**29**	P	**P**	**20 35 38.9**	**-0.9**
	comp=Z,3.5nm,1.0s,mb4.4,baz=260,slow=6.1,SNR=15						
ILAR	**Eielson Array**	**57.11**	**29**	P	**P**	**20 35 38.9**	**-0.9**
ILAR	**Eielson Array**	**57.11**	**29**	P	**P**	**20 35 38.9**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVA0	**Borovoye Array**	**58.04**	**317**	*i* P	**P**	**20 35 46.9**	**+0.4**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BVAR	**Borovoye Array**	**58.04**	**317**	P	**P**	**20 35 46.5**	**0.0**
	comp=Z,15nm,0.7s,mb5.1,baz=92,slow=7.5,SNR=95						
BVAR	**Borovoye Array**	**58.04**	**317**	P	**P**	**20 35 46.5**	**0.0**
BVAR	**Borovoye Array**	**58.04**	**317**	P	**P**	**20 35 46.5**	**0.0**
BVAR				pmax	pmax		
	comp=Z,15nm,0.7s						
BRVK	**Borovoye**	**58.10**	**317**	*e*P	**P**	**20 35 47.4**	**+0.4**
	comp=Z,35nm,1.1s,mb5.3						
BRVK	**Borovoye**	**58.10**	**317***c*	*i*P	**P**	**20 35 47.4**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
STKA	**Stephens Creek**	**59.09**	**181**	P	**P**	**20 35 50.9**	**-3.1**
	comp=Z,5.8nm,0.9s,mb4.6,baz=354,slow=9.1,SNR=10						
STKA	**Stephens Creek**	**59.09**	**181**	*e*P	**P**	**20 35 52.5**	**-1.5**
	comp=Z,3.3nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**59.09**	**181**	P	**P**	**20 35 50.9**	**-3.1**
STKA	**Stephens Creek**	**59.09**	**181**	P	**P**	**20 35 50.9**	**-3.1**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KK31	**Karatay Array**	**59.21**	**306**	*i* P	**P**	**20 35 54.4**	**-0.5**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
KKAR	**Karatay Array**	**59.21**	**306**	*e*P	**P**	**20 35 55.4**	**+0.6**
	comp=Z,6.4nm,0.8s,mb4.7						
KKAR	**Karatay Array**	**59.21**	**306**	*e*P	**P**	**20 35 55.4**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
HYB	**Hyderabad**	**59.58**	**275**	*i* P	**P**	**20 35 57.0**	**-0.8**
SVE	**Sverdlovsk**	**63.16**	**322**⇓	*i*P	**P**	**20 36 22.7**	**+1.3**
SVE				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
POO	**Poona**	**63.31**	**278**	*e*PKP	**P**	**20 36 20.0**	**-3.0**
ARU	**Arti**	**64.36**	**322**	*e*P	**P**	**20 36 29.1**	**-0.2**
	comp=Z,9.1nm,0.5s,mb5.1						
ARU	**Arti**	**64.36**	**322***d*	*i*P	**P**	**20 36 28.8**	**-0.5**
ARU				S	**S**	**20 45 05.3**	**-0.6**
ARU				SS	SS	20 49 14.9	-0.5
ARU				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
AB31	**Akbulak array**	**65.12**	**314**	*i* P	**P**	**20 36 34.5**	**+0.1**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
ABKAR	**Akbulak array**	**65.12**	**314**	*e*P	**P**	**20 36 34.3**	**-0.2**
	comp=Z,13nm,0.8s,mb5.0						
AKTO	**Aktyubinsk**	**66.04**	**316**	P	**P**	**20 36 40.4**	**0.0**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**71.54**	**29**	P	**P**	**20 37 12.8**	**-1.6**
	comp=Z,3.3nm,0.8s,mb4.3,baz=295,slow=6.3,SNR=5.6						
YKA				LR	LR	21 11 06.8	
	comp=Z,8.2nm,18.1s,MS3.0,baz=310,slow=38						
YKA	**Yellowknife Ar**	**71.54**	**29**	P	**P**	**20 37 12.8**	**-1.6**
YKA	**Yellowknife Ar**	**71.54**	**29**	P	**P**	**20 37 12.8**	**-1.5**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,8.0nm,18.1s						
ARCES	**ARCESS Array B**	**73.28**	**341**	P	**P**	**20 37 24.2**	**-0.5**
	comp=Z,5.5nm,1.0s,mb4.4,baz=45,slow=7.8,SNR=4.1						
ARCES				LR	LR	21 14 45.9	
	comp=Z,261nm,18.3s,MS4.5,baz=269,slow=40						
ARCES	**ARCESS Array B**	**73.28**	**341**	P	**P**	**20 37 24.2**	**-0.5**
ARCES	**ARCESS Array B**	**73.28**	**341**	P	**P**	**20 37 24.2**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,261nm,18.3s						
JOF	**Joensuu**	**74.90**	**334**	*e*P	**P**	**20 37 32.8**	**-1.4**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
JOF	**Joensuu**	**74.90**	**334**	*e*p	**P**	**20 37 32.8**	**-1.4**
	comp=Z,5.5nm,0.7s,mb4.6						
MAK	**Makhachkala**	**75.34**	**311**	*e*P	**P**	**20 37 34.9**	**-2.2**
MAK				*e*PPP		20 42 12.2	
MAK				*e*S	S	20 47 18.9	+3.7
MAK				*e*SS	SS	20 52 09.2	+4.4
MAK				MLR	MLR		
	comp=Z,644nm,14.0s,MS5.1						
OBN	**Obninsk**	**76.44**	**325**	P	**P**	**20 37 44.0**	**+0.9**
OBN				*e*	pP	20 37 52.0	+0.7
OBN				S	S	20 47 30.0	+3.2
OBN				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
OBN				MLR	MLR		
	comp=Z,600nm,16.0s,MS5.0						
VSR	**Storozhevoye**	**76.90**	**321**	*e*P	**P**	**20 37 41.8**	**-4.0**
VSR				pmax	pmax		
	comp=N,7.0nm,1.3s						
VSR				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
VSR				pmax	pmax		
	comp=E,2.0nm,0.7s						
KAF	**Kangasniemi**	**77.28**	**334**	*e*P	**P**	**20 37 46.9**	**-0.9**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
KAF	**Kangasniemi**	**77.28**	**334**	*e*p	**P**	**20 37 46.9**	**-0.9**
	comp=Z,4.3nm,0.5s,mb4.6						
BMO	**Blue Mountains**	**77.66**	**46**	*e*P	**P**	**20 37 49.8**	**-0.5**
	comp=Z,7.0nm,1.1s,mb4.5						
FINES	**FINESS Array B**	**77.76**	**334**	P	**P**	**20 37 49.7**	**-0.8**
	comp=Z,3.0nm,0.4s,mb4.6,baz=66,slow=4.9,SNR=43						
FINES	**FINESS Array B**	**77.76**	**334**	P	**P**	**20 37 49.7**	**-0.8**
FINES	**FINESS Array B**	**77.76**	**334**	P	**P**	**20 37 49.7**	**-0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZEI	**Tsey**	**77.82**	**312**	*e*P	**P**	**20 37 50.3**	**-0.9**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BSMT	**Bassoo Peak**	**77.86**	**42**	*e*P	**P**	**20 37 52.7**	**+1.5**
	comp=Z,12nm,1.6s,mb4.6						
KIV	**Kislovodsk**	**78.09**	**313**	*e*P	**P**	**20 37 50.5**	**-2.1**
	comp=Z,9.8nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**78.09**	**313**	*e*P	**P**	**20 37 53.1**	**+0.5**
KIV				*e*S	S	20 47 47.5	+2.3
KIV				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KIV				MLR	MLR		
	comp=Z,281nm,19.0s,MS4.6						
JTMT	**Jette**	**78.21**	**42**	*e*P	**P**	**20 37 53.6**	**+0.4**
	comp=Z,13nm,1.3s,mb4.7						
GNI	**Garni**	**78.41**	**309**	*e*P	**P**	**20 37 56.4**	**+1.9**
	comp=Z,5.8nm,0.9s,mb4.5						
GNI	**Garni**	**78.41**	**309**⇑	*i*P	**P**	**20 37 55.4**	**+1.0**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SWMT	**Swartz Lake**	**78.49**	**42**	*e*P	**P**	**20 37 55.7**	**+1.0**
	comp=Z,4.0nm,0.9s,mb4.3						
CMB	**Columbia Colle**	**78.59**	**53**	*e*P	**P**	**20 37 54.6**	**-1.0**
	comp=Z,9.6nm,1.1s,mb4.6						
CMB	**Columbia Colle**	**78.59**	**53**	*e*P	**P**	**20 37 54.6**	**-0.9**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
SLMT	**Seeley Lake**	**78.92**	**42**	*e*P	**P**	**20 38 00.2**	**+3.1**
	comp=Z,8.5nm,1.1s,mb4.6						
PPT	**Papeete**	**79.44**	**116**	*e*LR	LR	21 02 30.9	
	comp=Z,167nm,22.2s						
NVAR	**Mina Array Bea**	**79.89**	**52**	P	**P**	**20 38 03.0**	**+0.4**
	comp=Z,2.9nm,0.9s,mb4.2,baz=302,slow=5.2,SNR=14						
NVAR				LR	LR	21 14 18.5	
	comp=Z,86nm,18.2s,MS4.1,baz=169,slow=36						
NVAR	**Mina Array Bea**	**79.89**	**52**	P	**P**	**20 38 03.0**	**+0.4**
LRM	**Limekiln Ridge**	**80.23**	**43**	*e*P	**P**	**20 38 04.4**	**+0.1**
	comp=Z,74nm,0.9s,mb5.6						
BOZ	**Bozeman (W)**	**80.82**	**43**	*e*P	**P**	**20 38 08.2**	**+0.7**
	comp=Z,3.8nm,1.0s,mb4.3						
BOZ	**Bozeman (W)**	**80.82**	**43**	*e*P	**P**	**20 38 08.2**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
QLMT	**Earthquake Lak**	**81.35**	**44**	*e*P	**P**	**20 38 11.3**	**+1.0**
	comp=Z,0.7nm,0.9s						
YMR	**Madison River**	**81.72**	**44**	*e*P	**P**	**20 38 14.1**	**+1.9**
	comp=Z,9.1nm,0.9s,mb4.7						
IMW	**Indian Meadow**	**82.13**	**44**	*e*P	**P**	**20 38 17.1**	**+2.6**
	comp=Z,7.6nm,1.0s,mb4.6						
RRI2	**Red Ridge**	**82.17**	**45**	*e*P	**P**	**20 38 16.5**	**+1.8**
	comp=Z,4.0nm,0.8s,mb4.4						
FLWY	**Flagg Ranch**	**82.18**	**44**	*e*P	**P**	**20 38 16.9**	**+2.2**
	comp=Z,28nm,1.6s,mb4.9						
TPAW	**Teton Pass**	**82.33**	**45**	*e*P	**P**	**20 38 16.5**	**+1.0**
	comp=Z,6.2nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**82.54**	**324**	P	**P**	**20 38 15.5**	**-0.9**
	comp=Z,1.4nm,0.6s,mb4.2,baz=50,slow=5.2,SNR=5.2						
AKASG				LR	LR	21 17 31.4	
	comp=Z,470nm,18.5s,MS4.9,baz=55,slow=38						
AKASG	**Malin Array Be**	**82.54**	**324**	P	**P**	**20 38 15.5**	**-0.9**
AKASG	**Malin Array Be**	**82.54**	**324**	P	**P**	**20 38 15.5**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,470nm,18.5s						
TBI	**Tubuai**	**82.72**	**121**	*e*LR	LR	21 03 57.9	
	comp=Z,219nm,28.5s						
DUG	**Dugway**	**82.79**	**48**	*e*P	**P**	**20 38 18.1**	**+0.1**
	comp=Z,7.7nm,1.0s,mb4.7						
DUG	**Dugway**	**82.79**	**48**	*e*P	**P**	**20 38 18.1**	**+0.1**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
HFS	**Hagfors**	**83.21**	**337**	P	**P**	**20 38 18.6**	**-1.1**
	comp=Z,1.5nm,0.5s,mb4.3,baz=32,slow=6.8,SNR=13						
HFS	**Hagfors**	**83.21**	**337**	P	**P**	**20 38 18.6**	**-1.1**
HFS	**Hagfors**	**83.21**	**337**	P	**P**	**20 38 18.6**	**-1.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**83.38**	**338**	P	**P**	**20 38 18.8**	**-1.8**
	comp=Z,2.4nm,0.9s,mb4.2,baz=43,slow=4.5,SNR=6.2						
NOA				LR	LR	21 21 37.4	
	comp=Z,130nm,18.6s,MS4.3,baz=85,slow=40						
NOA	**NORSAR Array B**	**83.38**	**338**	P	**P**	**20 38 18.8**	**-1.8**
NOA	**NORSAR Array B**	**83.38**	**338**	P	**P**	**20 38 18.8**	**-1.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,130nm,18.6s						
PDAR	**Pinedale Array**	**83.58**	**45**	P	**P**	**20 38 22.6**	**+0.6**
	comp=Z,2.3nm,0.9s,mb4.3,baz=284,slow=3.6,SNR=15						
PDAR				LR	LR	21 14 37.0	
	comp=Z,186nm,18.2s,MS4.5,baz=117,slow=35						
PDAR	**Pinedale Array**	**83.58**	**45**	P	**P**	**20 38 22.6**	**+0.6**
MSU	**Marysvale**	**84.06**	**50**	*e*P	**P**	**20 38 26.2**	**+1.7**
	comp=Z,11nm,1.6s,mb4.8						
MSU	**Marysvale**	**84.06**	**50**	*e*P	**P**	**20 38 26.2**	**+1.7**
MSU				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.7						
SRU	**San Rafael**	**84.86**	**48**	*e*P	**P**	**20 38 28.7**	**+0.1**
	comp=Z,5.1nm,0.9s,mb4.7						
SRU	**San Rafael**	**84.86**	**48**	*e*P	**P**	**20 38 28.7**	**+0.1**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**86.05**	**313**	P	**P**	**20 38 33.7**	**-0.8**
	comp=Z,2.5nm,0.9s,mb4.5,baz=86,slow=4.5,SNR=8.9						
BRTR				LR	LR	21 18 46.9	
	comp=Z,83nm,19.6s,MS4.1,baz=202,slow=37						
BRTR	**Keskin Array B**	**86.05**	**313**	P	**P**	**20 38 33.7**	**-0.8**
BRTR	**Keskin Array B**	**86.05**	**313**	P	**P**	**20 38 33.7**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,83nm,19.7s						
WUAZ	**Wupatki**	**86.15**	**52**	*e*P	**P**	**20 38 35.7**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.6						
PV01	**Paradox Valley**	**86.68**	**48**	*e*P	**P**	**20 38 39.7**	**+2.1**
ULM	**Lac du Bonnet**	**86.83**	**33**	LR	LR	21 23 18.1	
	comp=Z,64nm,18.5s,MS4.1,baz=0.3,slow=40						
OJC	**Ojcow**	**87.57**	**327**	*e*P	**P**	**20 38 40.6**	**-1.1**
OJC	**Ojcow**	**87.57**	**327**	*e*P	**P**	**20 38 40.6**	**-1.1**
AGMN	**Agassiz Nation**	**88.11**	**35**	*e*P	**P**	**20 38 42.3**	**-2.0**
	comp=Z,6.2nm,0.9s,mb4.8						
CLL	**Collm**	**89.89**	**331**	*e*P	**P**	**20 38 52.0**	**-0.6**
CLL	**Collm**	**89.89**	**331**	*e*P	**P**	**20 38 52.0**	**-0.6**
KHC	**Kasperske Hory**	**91.22**	**329**	*e*P	**P**	**20 39 00.0**	**+1.1**
KHC	**Kasperske Hory**	**91.22**	**329**	*e*P	**P**	**20 39 00.0**	**+1.1**
GERES	**GERESS Array B**	**91.38**	**329**	P	**P**	**20 38 58.5**	**-1.0**
	comp=Z,1.1nm,0.8s,mb4.2,baz=45,slow=4.4,SNR=6.4						
GERES				LR	LR	21 24 19.4	
	comp=Z,261nm,19.6s,MS4.7,baz=45,slow=38						
GERES	**GERESS Array B**	**91.38**	**329**	P	**P**	**20 38 58.5**	**-1.0**
GERES	**GERESS Array B**	**91.38**	**329**	P	**P**	**20 38 58.5**	**-1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES				MLR	MLR		
	comp=Z,261nm,19.6s						
TXAR	**Lajitas Array**	**94.97**	**53**	P	**P**	**20 39 17.3**	**+0.7**
	comp=Z,2.2nm,0.9s,mb4.6,baz=316,slow=2.5,SNR=17						
TXAR				LR	LR	21 18 49.3	
	comp=Z,103nm,18.5s,MS4.3,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**94.97**	**53**	P	**P**	**20 39 17.3**	**+0.7**
TXAR	**Lajitas Array**	**94.97**	**53**	P	**P**	**20 39 17.3**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR				MLR	MLR		
	comp=Z,103nm,18.5s						

IDC ***04*** *20:35:07.7±5.3, 35°39N×21°98E, h78^{km}±33^{km}, mb3.7/7, mb1 3.7/11, mb1mx3.5/29, mbtmp3.7/11, Error ellipse: s-maj=74.4km s-min=24.4km az=40.0*

NEIC ***04*** *20:35:09.6±3.1, 35°39N×22°06E, h99^{km}±20^{km}, Error ellipse: s-maj=41.7km s-min=16.2km az=54.0*

ISCJB ***04*** *20:35:11.0±0.4, 35°81N±0°03×22°36E±0°05, h104^{km}±4^{km}, mb3.8/7, Error ellipse: s-maj=7.5km s-min=3.3km az=146.3*

CSEM ***04*** *20:35:11.9±0.2, 35°80N×22°35E, h96^{km}±2^{km}, ML3.7, Error ellipse: s-maj=7.3km s-min=3.0km az=57.0*

ATH ***04*** *20:35:12.4, 35°97N×22°39E, h103^{km}±1^{km}, ML3.7*

THE ***04*** *20:35:13.5, 35°91N×22°41E, h98^{km}±3^{km}, ML3.7/7, Error ellipse: s-maj=3.4km s-min=0.9km az=49.0*

ISC 04 20:35:12.2±0.4, **35°81N**±0°03×**22°38E**±0°05, **h94**^{km}±5^{km}, **n163**, σ1^{s}**12**/214, **mb3.8**/7, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.71**	**48**	*e*P	**Pn**	**20 35 27.5**	**-1.6**

KYTH	Kithira	0.71	48	eP	Pn	20 35 29.8	+0.7
KYTH	Kithira	0.71	48	P	Pn	20 35 29.9	+0.8
KYTH	Kithira	0.71	48	eP	Pn	20 35 29.8	+0.7
VLI	Veliai	1.01	26	eP	Pn	20 35 31.4	-0.9
VLI	Veliai	1.01	26	eP	Pn	20 35 32.4	+0.1
VLI				eS	Sn	20 35 47.2	-0.1
VLI	Veliai	1.01	26	P	Pn	20 35 33.4	+1.1
VLI				S	Sn	20 35 47.4	+0.1
VLI	Veliai	1.01	26	eP	Pn	20 35 32.4	+0.1
VLI				S	Sn	20 35 47.4	+0.1
PYL	PYLOS	1.20	335	eP	Pn	20 35 34.5	+0.1
PYL	PYLOS	1.20	335	eP	Pn	20 35 34.2	-0.2
PYL	PYLOS	1.20	335	P	Pn	20 35 34.3	-0.1
PYL				S	Sn	20 35 51.1	-0.1
PYL	PYLOS	1.20	335	P	Pn	20 35 34.3	-0.1
PYL				S	Sn	20 35 51.1	-0.1
KARN	Karanos	1.31	107	eP	Pn	20 35 37.4	+1.6
KARN	Karanos	1.31	107	P	Pn	20 35 37.5	+1.7
KARN				S	Sn	20 35 56.1	+2.5
KARN	Karanos	1.31	107	P	Pn	20 35 37.5	+1.7
KARN				S	Sn	20 35 56.1	+2.5
ITM	Ithomi	1.42	345	eP	Pn	20 35 37.4	+0.3
ITM	Ithomi	1.42	345	P	Pn	20 35 37.6	+0.5
ITM				S	Sn	20 35 56.5	+0.6
ITM	Ithomi	1.42	345	P	Pn	20 35 37.6	+0.5
ITM				S	Sn	20 35 56.5	+0.6
VAM	Vamos	1.54	105	eP	Pn	20 35 40.5	+2.0
VAM	Vamos	1.54	105	eP	Pn	20 35 40.8	+2.3
VAM	Vamos	1.54	105	P	Pn	20 35 40.3	+1.8
VAM	Vamos	1.54	105	P	Pn	20 35 40.3	+1.8
VLX	Vlachokerasia	1.56	360	eP	Pn	20 35 39.0	+0.2
VLX	Vlachokerasia	1.56	360	eP	Pn	20 35 38.4	-0.4
VLX				eS	Sn	20 35 57.6	-1.4
VLX	Vlachokerasia	1.56	360	P	Pn	20 35 40.1	+1.3
VLX				S	Sn	20 35 59.5	+0.5
VLX	Vlachokerasia	1.56	360	eP	Pn	20 35 38.4	-0.4
VLX				S	Sn	20 35 59.5	+0.5
GVD	Gavdhos	1.70	124	eP	Pn	20 35 42.8	+2.2
GVD	Gavdhos	1.70	124	P	Pn	20 35 42.2	+1.6
GVD	Gavdhos	1.70	124	P	Pn	20 35 42.2	+1.6
DIDY	Didyma	1.79	22	P	Pn	20 35 42.0	+0.2
DIDY	Didyma	1.79	22	P	Pn	20 35 42.0	+0.2
DID	Didima	1.83	22	eP	Pn	20 35 42.1	-0.2
DID	Didima	1.83	22	eP	Pn	20 35 41.9	-0.4
DID				eS	Sn	20 36 03.7	-1.5
DID	Didima	1.83	22	P	Pn	20 35 42.1	-0.2
DID				S	Sn	20 36 06.0	+0.8
DID	Didima	1.83	22	P	Pn	20 35 42.1	-0.2
DID				S	Sn	20 36 06.0	+0.8
IDI	Anoyia	2.11	103	P	Pn	20 35 48.1	+2.2
IDI	Anoyia	2.11	103	eP	Pn	20 35 48.0	+2.1
IDI				eS	Sn	20 36 11.7	0.0
IDI	Anoyia	2.11	103	eP	Pn	20 35 48.0	+2.1
IDI				eS	Sn	20 36 11.7	0.0
GUR	Goura	2.12	359	eP	Pn	20 35 46.6	+0.5
GUR	Goura	2.12	359	eP	Pn	20 35 46.0	-0.1
GUR				eS	Sn	20 36 10.3	-1.7
GUR	Goura	2.12	359	P	Pn	20 35 47.5	+1.4
GUR	Goura	2.12	359	eP	Pn	20 35 46.0	-0.1
GUR				eS	Sn	20 36 10.3	-1.7
SIVA	Sivas	2.13	111	P	Pn	20 35 48.7	+2.5
SIVA	Sivas	2.13	111	P	Pn	20 35 48.7	+2.5
NAIG	Nisos Aigina	2.14	24	eP	Pn	20 35 46.1	-0.2
NAIG	Nisos Aigina	2.14	24	eP	Pn	20 35 46.1	-0.2
NAIG	Nisos Aigina	2.14	24	eP	Pn	20 35 46.1	-0.2
LTK	Loutraki	2.26	12	eP	Pn	20 35 48.2	+0.3
LTK	Loutraki	2.26	12	eP	Pn	20 35 47.8	-0.1
LTK				eS	Sn	20 36 12.8	-2.4
LTK	Loutraki	2.26	12	P	Pn	20 35 48.3	+0.4
LTK				S	Sn	20 36 15.0	-0.2
LTK	Loutraki	2.26	12	eP	Pn	20 35 47.8	-0.1
LTK				S	Sn	20 36 15.0	-0.2
VLY	Voula,Athens	2.33	29	eP	Pn	20 35 48.5	-0.4
VLY	Voula,Athens	2.33	29	eP	Pn	20 35 48.4	-0.5
VLY				eS	Sn	20 36 14.8	-2.2
VLY	Voula,Athens	2.33	29	P	Pn	20 35 48.6	-0.3
VLY	Voula,Athens	2.33	29	P	Pn	20 35 48.6	-0.3
VLY				eS	Sn	20 36 14.8	-2.2
RLS	Riolos of Patr	2.36	342	eP	Pn	20 35 49.3	+0.1
RLS	Riolos of Patr	2.36	342	P	Pn	20 35 50.7	+1.5
RLS				S	Sn	20 36 18.1	+0.5
RLS	Riolos of Patr	2.36	342	eP	Pn	20 35 49.4	+0.2
RLS				S	Sn	20 36 18.1	+0.5
ATH	Athens Observa	2.41	26	eP	Pn	20 35 50.0	+0.1
ATH	Athens Observa	2.41	26	eP	Pn	20 35 49.5	-0.4
ATH				eS	Sn	20 36 16.6	-2.2
ATH	Athens Observa	2.41	26	eP	Pn	20 35 49.5	-0.4
ATH				eS	Sn	20 36 16.6	-2.2
LAKA	Lakka	2.45	353	P	Pn	20 35 52.4	+2.0
LAKA				S	Sn	20 36 19.9	+0.2
LAKA	Lakka	2.45	353	P	Pn	20 35 52.4	+2.0
LAKA				S	Sn	20 36 19.9	+0.2
VIL1	Vilia, Western	2.47	18	eP	Pn	20 35 50.8	+0.1
VIL1	Vilia, Western	2.47	18	eP	Pn	20 35 50.8	+0.1
VIL1				eS	Sn	20 36 17.8	-2.4
THR3	Thira Island,	2.52	75	P	Pn	20 35 51.9	+0.6
THR3	Thira Island,	2.52	75	P	Pn	20 35 51.9	+0.6
PTL	Penteli	2.53	28	eP	Pn	20 35 51.3	-0.2
PTL	Penteli	2.53	28	eP	Pn	20 35 51.3	-0.2
PTL				eS	Sn	20 36 18.8	-2.9
PTL	Penteli	2.53	28	P	Pn	20 35 51.4	-0.1
PTL	Penteli	2.53	28	P	Pn	20 35 51.4	-0.1
THR1	Thera Island	2.56	76	P	Pn	20 35 52.6	+0.8
THR1	Thera Island	2.56	76	P	Pn	20 35 52.6	+0.8
TRIZ	Trizonia	2.56	355	P	Pn	20 35 52.9	+1.0
TRIZ				S	Sn	20 36 22.2	-0.2
TRIZ	Trizonia	2.56	355	P	Pn	20 35 52.9	+1.0
TRIZ				S	Sn	20 36 22.2	-0.2
KALE	Kalithea	2.59	356	P	Pn	20 35 53.0	+0.8
KALE				S	Sn	20 36 22.8	-0.1
KALE	Kalithea	2.59	356	P	Pn	20 35 53.0	+0.8
KALE				S	Sn	20 36 22.8	-0.1
DSF	Desfina	2.60	3	P	Pn	20 35 52.5	+0.1
DSF	Desfina	2.60	3	P	Pn	20 35 52.5	+0.1
VLS	Valsamata	2.77	329	eP	Pn	20 35 56.7	+2.1
VLS	Valsamata	2.77	329	eP	Pn	20 35 54.6	0.0
VLS				eS	Sn	20 36 25.6	-1.6
VLS	Valsamata	2.77	329	P	Pn	20 35 54.7	+0.1
VLS				S	Sn	20 36 27.2	0.0
VLS	Valsamata	2.77	329	eP	Pn	20 35 54.6	0.0
VLS				S	Sn	20 36 27.2	0.0
APE	Apeiranthos	2.83	63	eP	Pn	20 35 56.0	+0.5
APE	Apeiranthos	2.83	63	P	Pn	20 35 55.7	+0.2
APE	Apeiranthos	2.83	63	P	Pn	20 35 55.7	+0.2
LKR	Lokris	2.88	10	eP	Pn	20 35 56.3	+0.2
LKR	Lokris	2.88	10	P	Pn	20 35 56.8	+0.7
LKR	Lokris	2.88	10	P	Pn	20 35 56.8	+0.7
ATAL	Atalanti	2.92	10	P	Pn	20 35 56.8	+0.1
ATAL				S	Sn	20 36 31.8	+0.8
ATAL	Atalanti	2.92	10	P	Pn	20 35 56.8	+0.1
ATAL				S	Sn	20 36 31.8	+0.8
AXAR	Agios Charalam	2.96	4	P	Pn	20 35 57.6	+0.4
AXAR	Agios Charalam	2.96	4	P	Pn	20 35 57.6	+0.4
EVR	Evrytania	3.14	352	eP	Pn	20 36 00.8	+1.2
AGG	Agios Georgios	3.21	359	P	Pn	20 36 01.3	+0.8
AGG				S	Sn	20 36 38.2	+0.3
AGG	Agios Georgios	3.21	359	P	Pn	20 36 01.3	+0.8
AGG				S	Sn	20 36 38.2	+0.3
DSL	Palaion Diasel	3.47	343	P	Pn	20 36 05.1	+1.0
DSL	Palaion Diasel	3.47	343	P	Pn	20 36 05.1	+1.0
NEO	Neokhori	3.56	11	P	Pn	20 36 05.1	-0.1
NEO	Neokhori	3.56	11	P	Pn	20 36 05.1	-0.1
AOS	Alonnisos	3.56	19	P	Pn	20 36 04.9	-0.4
AOS	Alonnisos	3.56	19	P	Pn	20 36 04.9	-0.4
SLUM		4.91	150	P	Pn	20 36 24.3	+0.7
	baz=152						
SLUM				S	Sn	20 37 16.3	-2.9
	baz=152						
SLUM		4.91	150	P	Pn	20 36 24.3	+0.7
SLUM				S	Sn	20 37 16.3	-2.9
HMAT	Matruh	6.13	139	P	Pn	20 36 40.4	+0.2
	baz=140						
HMAT				AMP		20 37 00.0	
	comp=N,40μm,0.1s,logA/T=5.5,baz=140						
HMAT				S	Sn	20 37 44.2	-4.7
	baz=140						
HMAT	Matruh	6.13	139	P	Pn	20 36 40.4	+0.2
TAR1	Taranto	6.19	321	ePn	Pn	20 36 39.8	-1.1
PE1	Pezze di Greco	6.33	323	ePn	Pn	20 36 42.2	-0.7
SG1	Sgolgore (BA)	6.73	320	ePn	Pn	20 36 47.7	-0.6
BAI	Bari	6.83	322	ePn	Pn	20 36 47.9	-1.7
SWA2		7.04	158	P	Pn	20 36 52.6	0.0
	baz=159						
SWA2		7.04	158	P	Pn	20 36 52.6	0.0
CDT	Castel del Mon	7.12	320	ePn	Pn	20 36 52.9	-0.7
HNAT	Natroun	9.27	129	P	Pn	20 37 22.2	-0.8
	baz=130						
HNAT	Natroun	9.27	129	P	Pn	20 37 22.2	-0.8
AWBH		9.29	142	P	Pn	20 37 22.4	-0.8
	baz=142						
AWBH		9.29	142	P	Pn	20 37 22.4	-0.8
BRTR	Keskin Array B	9.73	63	P	Pn	20 37 32.6	+3.4
	comp=N,0.2nm,0.3s,baz=256,slow=12,SNR=9.7						
BRTR	Keskin Array B	9.73	63	P	Pn	20 37 32.6	+3.4
HFRF	Wahat Farafira	10.00	148	P	Pn	20 37 32.3	-0.7
	baz=149						
HFRF	Wahat Farafira	10.00	148	P	Pn	20 37 32.3	-0.7
GLL	Jalalah	10.01	126	P	Pn	20 37 32.0	-1.1
	baz=126						
GLL	Jalalah	10.01	126	P	Pn	20 37 32.0	-1.1
AMAG	Maghara	10.43	117	P	Pn	20 37 37.3	-1.3
	baz=117						
AMAG	Maghara	10.43	117	P	Pn	20 37 37.3	-1.4
NVLJ	Novalja	10.46	329	ePn	Pn	20 37 37.1	-1.9
NVLJ				Sn	Sn	20 39 24.8	-9.4
NVLJ	Novalja	10.46	329	ePn	Pn	20 37 37.0	-2.0
SUZ		10.61	121	P	Pn	20 37 40.1	-1.1
	baz=121						
SUZ		10.61	121	P	Pn	20 37 40.1	-1.1
MMAI	Mount Meron Ar	11.11	101	P	Pn	20 37 46.0	-2.0
	comp=N,3.0nm,0.3s,baz=269,slow=12,SNR=15						
MMAI				S	Sn	20 39 42.2	-8.0
	comp=N,3.2nm,0.3s,baz=309,slow=25,SNR=5.9						
MMAI	Mount Meron Ar	11.11	101	P	Pn	20 37 46.0	-2.0
MMAI				S	Sn	20 39 42.2	-8.0
MMAI	Mount Meron Ar	11.11	101	P	Pn	20 37 46.0	-2.0
HNKL	Nakhl	11.37	118	P	Pn	20 37 50.0	-1.6
	baz=118						
HNKL	Nakhl	11.37	118	P	Pn	20 37 50.0	-1.6
GRB	Gharib	11.59	128	P	Pn	20 37 53.3	-1.2
	baz=128						
GRB	Gharib	11.59	128	P	Pn	20 37 53.3	-1.2
EIL	Elat	12.22	117	P	Pn	20 38 00.7	-2.2
	comp=N,0.7nm,0.3s,baz=124,slow=12,SNR=20						
EIL				S	Sn	20 40 07.2	-10
	comp=N,1.1nm,0.3s,baz=54,slow=19,SNR=7.9						
EIL	Elat	12.22	117	P	Pn	20 38 00.7	-2.2
EIL				S	Sn	20 40 07.2	-10
EIL	Elat	12.22	117	P	Pn	20 38 00.7	-2.2
AKASG	Malin Array Be	15.69	16	P	Pn	20 38 50.1	+2.5
	comp=N,2.2nm,0.3s,baz=212,slow=11,SNR=6.6						
AKASG	Malin Array Be	15.69	16	P	Pn	20 38 50.1	+2.5
AKASG	Malin Array Be	15.69	16	P	Pn	20 38 50.1	+2.5
HFS	Hagfors	24.98	350	P	P	20 40 27.4	+0.6
	comp=N,1.2nm,0.3s,mb3.8,baz=153,slow=12,SNR=11						
HFS	Hagfors	24.98	350	P	P	20 40 27.4	+0.6
HFS	Hagfors	24.98	350	P	P	20 40 27.4	+0.6
FINES	FINESS Array B	25.76	4	P	P	20 40 34.0	+0.2
	comp=N,11nm,1.1s,mb4.2,baz=189,slow=8.2,SNR=4.1						
FINES	FINESS Array B	25.76	4	P	P	20 40 34.0	+0.2
FINES	FINESS Array B	25.76	4	P	P	20 40 34.0	+0.2
NOA	NORSAR Array B	26.24	348	P	P	20 40 38.1	0.0
	comp=N,1.0nm,0.9s,mb3.3,baz=155,slow=9.4,SNR=3.4						
NOA	NORSAR Array B	26.24	348	P	P	20 40 38.1	0.0
NOA	NORSAR Array B	26.24	348	P	P	20 40 38.1	0.0
ARCES	ARCESS Array B	33.83	2	P	P	20 41 45.5	+0.5
	comp=N,0.9nm,0.6s,mb3.8,baz=190,slow=9.1,SNR=12						
ARCES	ARCESS Array B	33.83	2	P	P	20 41 45.5	+0.5
ARCES	ARCESS Array B	33.83	2	P	P	20 41 45.5	+0.5
MKAR	Makanchi Array	45.31	57	P	P	20 43 21.6	+1.1
	comp=N,2.9nm,0.3s,mb4.5,baz=267,slow=7.7,SNR=96						
MKAR	Makanchi Array	45.31	57	P	P	20 43 21.6	+1.1
MKAR	Makanchi Array	45.31	57	P	P	20 43 21.6	+1.1
ZALV	Zalesovo Beam	46.20	47	P	P	20 43 27.6	+0.2
	comp=N,0.4nm,0.4s,mb3.5,baz=276,slow=8.7,SNR=3.5						
ZALV	Zalesovo Beam	46.20	47	P	P	20 43 27.6	+0.2
ZALV	Zalesovo Beam	46.20	47	P	P	20 43 27.6	+0.2
SONM	Songino Array	60.82	50	P	P	20 45 15.8	+1.5
	comp=N,0.5nm,0.6s,mb3.7,baz=282,slow=6.9,SNR=6.3						
SONM	Songino Array	60.82	50	P	P	20 45 15.8	+1.5
SONM	Songino Array	60.82	50	P	P	20 45 15.8	+1.4

*ISCJB **04** 21:00:26.6±0.7, 10°.93N±0°.05×62°.06W±0°.04, h75km±9km, Error ellipse: s-maj=8.4km s-min=5.6km az=162.5*
*FUNV **04** 21:00:27.6, 10°.99N×61°.97W, h59km, MW2.8*
*TRN **04** 21:00:29.7, 11°.00N×61°.97W, h54km, MD2.6*

ISC 04 21:00:27.5±0.8, 10°.94N±0°.05×62°.05W±0°.04, h69km±10km, n12, σ0°.77/20, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.34	210	eP	Pn	21 00 38.8	-0.1
GUIV				eS	Sn	21 00 46.5	-0.6
TRN	Trinidad (W)	0.70	114	↑eP	Pn	21 00 43.5	+1.2
TRN				eS	Sn	21 00 52.9	-0.4
ITEV	Isla Los Testi	1.14	291	eP	Pn	21 00 47.9	+0.2
ITEV				eS	Sn	21 01 02.8	0.0
GUNV	Guanoco	1.17	229	‖eP	Pn	21 00 48.6	+0.5
GUNV				eS	Sn	21 01 04.3	+0.9
CRUV	Carupano	1.19	257	eP	Pn	21 00 48.2	-0.2
CRUV				eS	Sn	21 01 04.2	+0.2
GRW	Mount Saint Ca	1.27	18	eP	Pn	21 00 50.5	+1.1
GRW				eS	Sn	21 01 05.3	-0.6
TOSP	Speyside	1.53	76	eP	Pn	21 00 53.1	+0.2
TOSP				eS	Sn	21 01 11.5	-0.5
ORIV	Oritupano	2.29	216	eP	Pn	21 01 04.1	+1.0
PCRV	Puerto La Cruz	2.65	254	eP	Pn	21 01 08.7	+0.7
RIOV	Rio Grande	2.86	175	eP	Pn	21 01 11.2	+0.2
CUPV	Cœpira	3.78	257	eP	Pn	21 01 22.6	-0.8
CUPV				eS	Sn	21 02 05.0	-1.6
LUEV	Luepa	5.10	173	eP	Pn	21 01 39.8	-1.6

*IDC **04** 21:01:17.4±0.7, 4°.17N×96°.49E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/23, mbtmp4.1/14, Error ellipse: s-maj=27.3km s-min=15.2km az=50.0*
*ISCJB **04** 21:01:28.2±0.5, 4°.03N±0°.04×96°.51E±0°.05, h105km±4km, mb4.2/23, Error ellipse: s-maj=10.6km s-min=4.7km az=143.5*
*DJA **04** 21:01:29, 4°.03N×96°.53E, h84km, mb4.6/16*
*NEIC **04** 21:01:30.4±1.5, 4°.18N×96°.61E, h106km±13km, mb4.3/6, Error ellipse: s-maj=15.9km s-min=7.0km az=54.0*

ISC 04 21:01:29.3±0.5, 4°.04N±0°.04×96°.52E±0°.05, h98km±4km, n67, σ0°.90/72, mb4.2/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		1.01	139	P	Pn	21 01 50.0	+0.3
TPTI				S	Sn	21 02 04.3	-0.8
LHMI	Lhok Sumawe	1.26	20	P	Pn	21 01 52.6	+0.1
LHMI				S	Sn	21 02 10.5	+0.5
BSI	Banda Aceh	1.89	320	P	Pn	21 02 00.9	+0.5
BSI				S	Sn	21 02 24.4	+0.3
TSI	Tuntungan	2.11	105	P	Pn	21 02 03.7	+0.5
TSI				S	Sn	21 02 29.5	+0.4
PSI	Prapat	2.70	117	P	Pn	21 02 12.2	+1.3
PSI				S	Sn	21 02 44.7	+1.7
KULM	Kulim	4.30	73	ePb	Pn	21 02 31.8	-0.7
KULM				eSn	Sn	21 03 13.5	-8.2
KULM	Kulim	4.30	73	P	Pn	21 02 31.8	-0.7
MNSI	Mandailing Nat	4.44	136	P	Pn	21 02 34.5	+0.1
IPM	Ipoh	4.52	84	ePb	Pn	21 02 35.4	0.0
IPM				eSn	Sn	21 03 19.3	-7.6
IPM	Ipoh	4.52	84	P	Pn	21 02 35.1	-0.3
BKNI	Bangkinang 0.3nm59nm,0.8s	5.83	129	P	Pn	21 02 53.4	+0.1
PPI	Padang Panjang 0.1nm24nm,0.5s	5.91	139	P	Pn	21 02 54.9	+0.5
PDSI	Padang 0.3nm1μm62nm,0.6s	6.30	141	P	Pn	21 03 00.0	+0.3
KSI	Kapahiang 230nm,1.2s	9.76	141	S	Sn	21 05 33.3	-1.2
MNAI	Manna 22nm,0.7s	10.53	142	P	Pn	21 03 55.8	-1.5
MDSI	Maura Dua 29nm,1.0s	11.41	138	P	Pn	21 04 07.7	-1.6
LWLI	Liwa 25nm,1.3s	11.73	140	P	Pn	21 04 12.3	-1.2
KLSI		11.94	136	P	Pn	21 04 14.8	-1.4
CGJI	Cibinong	13.99	139	P	Pn	21 04 37.9	-5.4
KSM	Kuching	14.01	100	P	Pn	21 04 49.5	+6.0
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=198,slow=12,SNR=28	14.53	9	Pn	Pn	21 04 54.4	+4.3
CMAR				ScP	ScP	21 13 25.6	+2.5
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=223,slow=2.8,SNR=3.8	14.53	9	Pn	Pn	21 04 54.4	+4.3
CMAR				ScP	ScP	21 13 25.6	+2.5
CHTO	Chiang Mai 1.8nm,0.8s	14.88	9	eP	Pn	21 04 54.3	-0.3
KKM	Kota Kinabalu 11nm,0.4s	19.72	83	eP	Pn	21 05 51.8	-1.8
KKM	Kota Kinabalu 20nm,1.7s	19.72	83	P	Pn	21 05 52.4	-1.2
BBKI	Banjar Baru 50nm,0.7s	19.77	112	P	Pn	21 05 53.2	-1.0
MYLDM	Lahad Datu 15nm,0.8s,mb4.3	21.94	86	P	P	21 06 15.9	+0.8
KHKI	Kahang-Kahang 16nm,1.2s,mb4.2	22.68	123	P	P	21 06 24.2	+1.4
KAPI	Kappang 4.4nm,0.3s,mb4.3,baz=265,slow=11,SNR=6.6	24.89	111	P	P	21 06 43.1	-0.1
KAPI	Kappang 6.4nm,0.5s,mb4.3	24.89	111	eP	P	21 06 42.8	-0.4
KAPI	Kappang 13nm,1.5s,mb4.1	24.89	111	P	P	21 06 43.4	+0.2
BKSI	Bulukumba 28nm,0.8s,mb4.8	25.34	111	P	P	21 06 48.9	+1.6
MRSI	Marisa 20nm,0.8s,mb4.6	25.64	97	P	P	21 06 50.8	+0.7
LSA	Lhasa 3.0nm,0.5s,mb4.0	26.03	349	eP	P	21 06 53.0	-0.3
GTOI	Gorontalo 25nm,0.9s,mb4.8	26.68	97	P	P	21 06 59.4	0.0
LUWI	Luwuk	26.72	100	P	P	21 07 01.2	+1.4
GTA	Gaotai	35.34	4	eP	P	21 08 14.7	-0.5
GTA				pP	pP	21 08 39.0	+1.5
GTA				sP	sP	21 08 51.6	+2.8
GTA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
KSAR	Wonju Array Be	43.92	37	P	P	21 09 26.2	-0.2
KSRS	Korea Array comp=Z,2.2nm,0.7s,mb4.0,baz=213,slow=8.7,SNR=5.8	43.95	37	P	P	21 09 26.2	-0.4
WRA	Warramunga Arr comp=Z,5.3nm,0.5s,mb4.5,baz=302,slow=9.2,SNR=107	44.14	124	P	P	21 09 28.6	+0.2
WRA	Warramunga Arr	44.14	124	P	P	21 09 28.6	+0.2
WRAB	Tennant Creek comp=Z,6.8nm,0.5s,mb4.6	44.15	124	eP	P	21 09 28.8	+0.3
MKAR	Makanchi Array comp=Z,1.1nm,0.3s,mb4.0,baz=153,slow=9.1,SNR=43	44.34	346	P	P	21 09 28.2	-1.4
MKAR	Makanchi Array	44.34	346	P	P	21 09 28.2	-1.4
SONM	Songino Array comp=Z,1.0nm,0.4s,mb3.9,baz=190,slow=9.4,SNR=17	44.45	9	P	P	21 09 29.9	-0.6
SONM				PcP	PcP	21 11 12.9	+0.4
	comp=Z,0.6nm,0.4s,baz=173,slow=3.3,SNR=15						
SONM	Songino Array	44.45	9	P	P	21 09 29.9	-0.6
SONM				PcP	PcP	21 11 12.9	+0.4
ASAR	Alice Springs comp=Z,0.7nm,0.4s,mb3.8,baz=301,slow=8.0,SNR=16	45.67	129	P	P	21 09 40.9	+0.4
ASAR	Alice Springs	45.67	129	P	P	21 09 40.9	+0.4
ZALV	Zalesovo Beam comp=Z,1.1nm,0.4s,mb4.3,baz=168,slow=7.7,SNR=10	50.67	351	P	P	21 10 16.9	-1.6
ZALV	Zalesovo Beam	50.67	351	P	P	21 10 16.9	-1.6
ABKAR	Akbulak array comp=Z,1.0nm,0.3s,mb4.3	54.71	331	eP	P	21 10 47.8	-0.5
STKA	Stephens Creek comp=Z,2.2nm,0.9s,mb4.2,baz=300,slow=8.1,SNR=2.5	55.77	133	P	P	21 10 56.6	+0.4
STKA	Stephens Creek	55.77	133	P	P	21 10 56.6	+0.4
BRTR	Keskin Array B comp=Z,0.7nm,0.7s,mb3.6,baz=128,slow=5.1,SNR=5.7	66.72	312	P	P	21 12 09.8	-0.3
BRTR	Keskin Array B	66.72	312	P	P	21 12 09.8	-0.3
BOSA	Boshof comp=Z,1.0nm,0.5s,mb3.8,baz=100,slow=3.0,SNR=4.0	75.61	239	P	P	21 13 06.2	+2.3
BOSA	Boshof	75.61	239	P	P	21 13 06.2	+2.3
FINES	FINESS Array B comp=Z,0.9nm,0.7s,mb3.6,baz=96,slow=7.0,SNR=4.6	77.19	332	P	P	21 13 12.0	-0.2
FINES	FINESS Array B	77.19	332	P	P	21 13 12.0	-0.2
ARCES	ARCESS Array B comp=Z,1.2nm,0.5s,mb4.0,baz=94,slow=7.1,SNR=18	79.65	340	P	P	21 13 25.4	-0.1
ARCES	ARCESS Array B	79.65	340	P	P	21 13 25.4	-0.1
GERES	GERESS Array B comp=Z,0.3nm,0.4s,mb3.5,baz=106,slow=4.7,SNR=5.1	82.25	319	P	P	21 13 40.4	+0.6
GERES	GERESS Array B	82.25	319	P	P	21 13 40.4	+0.6
TORD	Torodi Ar. Bea comp=Z,0.3nm,0.7s,mb3.8,baz=89,slow=5.9,SNR=5.3	93.78	283	P	P	21 14 37.4	+1.3
TORD	Torodi Ar. Bea	93.78	283	P	P	21 14 37.4	+1.3
TXAR	Lajitas Array	141.58	29	PKhKP	PKPpre	21 20 44.2	
	comp=Z,0.2nm,0.5s,baz=335,slow=4.0,SNR=4.1						
TXAR	Lajitas Array	141.58	29	PKPpre

KAPI	**Kappang**	**10.08 228**	P	**Pn**	**21 42 37.1**	**-0.1**	
	4.8nm,0.3s,baz=25,slow=10.0,SNR=19						
KAPI	**Kappang**	**10.08 228**	*e*Pn	**Pn**	**21 42 36.9**	**-0.3**	
KAPI	**Kappang**	**10.08 228**	P	**Pn**	**21 42 37.2**	**0.0**	
FITZ	**Fitzroy Crossi**	**19.78 185**	P	**P**	**21 44 34.7**	**-0.9**	
	0.1nm,0.3s,baz=15,slow=9.2,SNR=5.2						
FITZ	**Fitzroy Crossi**	**19.78 185**	P	**P**	**21 44 34.7**	**-0.9**	
WRA	**Warramunga Arr**	**22.62 163**	P	**P**	**21 45 04.3**	**-1.3**	
	3.0nm,0.5s,mb4.0,baz=342,slow=11,SNR=48						
WRA	**Warramunga Arr**	**22.62 163**	P	**P**	**21 45 04.2**	**-1.3**	
ASAR	**Alice Springs**	**26.05 166**	P	**P**	**21 45 36.0**	**-0.8**	
	0.5nm,0.4s,mb3.5,baz=344,slow=7.6,SNR=9.4						
ASAR	**Alice Springs**	**26.05 166**	P	**P**	**21 45 36.0**	**-0.8**	
STKA	**Stephens Creek**	**36.08 159**	P	**P**	**21 47 04.3**	**-0.2**	
	2.4nm,0.3s,mb4.3,baz=336,slow=11,SNR=14						
STKA	**Stephens Creek**	**36.08 159**	P	**P**	**21 47 04.3**	**-0.2**	
MKAR	**Makanchi Array**	**59.51 326**	P	**P**	**21 50 05.7**	**+0.9**	
	0.3nm,0.8s,mb3.2,baz=113,slow=8.5,SNR=3.4						
MKAR	**Makanchi Array**	**59.51 326**	P	**P**	**21 50 05.7**	**+0.9**	

GUC 04 22:18:07.7±0.6, 34°.02S×70°.12W, h7km±1km, ML3.7, 10C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.18**	**337**	⇓*i*P	Pg	22 18 12.1	+0.6
LMEL				*i* S	Sg	22 18 15.3	+1.4
LMEL				AML	AML	22 18 16.3	
	comp=E,74μm,0.2s						
CACH	**El Canelo**	**0.41**	**256**	⇓*i*P	Pg	22 18 16.0	+0.3
SJCH	**San Jose de Ma**	**0.43**	**332**	⇑*i*P	Pg	22 18 16.6	+0.7
SJCH				*i* S	Sg	22 18 23.5	+2.0
SJCH				AML	AML	22 18 25.0	
	comp=N,17μm,0.2s						
CHCH	**Chadas Angostu**	**0.46**	**281**	⇑*i*P	Pg	22 18 17.1	+0.7
PCH	**Pirque**	**0.52**	**320**	⇓*i*P	Pg	22 18 18.3	+0.6
ANTU	**Antumapu**	**0.62**	**316**	⇑*i*P	Pg	22 18 20.2	+0.6
ANTU				*i* S	Sg	22 18 30.0	+2.2
ANTU				AML	AML	22 18 30.4	
	comp=E,6μm,0.4s						
FSR	**Penalolen**	**0.64**	**327**	⇑*i*P	Pg	22 18 20.4	+0.4
FSR				*i* S	Sg	22 18 30.2	+1.9
FCH	**Farellones**	**0.70**	**348**	⇓*i*P	Pg	22 18 15.0	-6.3
FCH				*i* S	Sg	22 18 25.8	-4.6
FCH				AML	AML	22 18 29.2	
	comp=E,4μm,0.2s						
CLCH	**Cerro Calan**	**0.71**	**330**	⇑*i*P	Pg	22 18 21.8	+0.3
CLCH				*i* S	Sg	22 18 32.8	+2.1
CLCH				AML	AML	22 18 33.4	
	comp=E,6μm,0.3s						
SAN	**Santiago**	**0.72**	**321**	⇑*i*P	Pg	22 18 22.0	+0.3
SAN				*i* S	Sg	22 18 32.6	+1.6
TACH	**Talagante**	**0.78**	**298**	⇑*i*P	Pg	22 18 22.9	+0.3
TACH				*i* S	Sg	22 18 34.1	+1.4
RCDM	**Rinconada Maip**	**0.78**	**312**	⇑*i*P	Pg	22 18 23.3	+0.6
RCDM				*i* S	Sg	22 18 34.8	+2.0
RCDM				AML	AML	22 18 35.6	
	comp=N,4μm,0.2s						
PEL	**Peldehue**	**0.99**	**331**	⇓*i*P	Pg	22 18 26.5	-0.3
PEL				*i* S	Sg	22 18 40.5	+0.8
PEL				AML	AML	22 18 42.2	
	comp=E,4μm,0.3s						
LNV	**Longovilo**	**1.08**	**273**	⇑*i*P	Pg	22 18 27.5	-0.9
LNV				*i* S	Sg	22 18 42.4	0.0
ROCH	**El Roble**	**1.28**	**324**	*e*P	Pn	22 18 31.4	-0.7
ROCH				*i* S	Sb	22 18 49.4	+0.6
ROCH				AML	AML	22 18 51.7	
	comp=N,2μm,0.1s						
LCCH	**Las Cruces**	**1.33**	**294**	⇓*i*P	Pn	22 18 32.3	-0.3
LCCH				*i* S	Sb	22 18 50.4	+0.3
NICH	**Los Niches**	**1.35**	**223**	*e*P	Pn	22 18 32.3	-0.6
TALC	**Talca**	**1.86**	**222**	*e*P	Pn	22 18 40.4	+0.4
TALC				*e*S	Sn	22 19 04.5	+0.8
TALC				AML	AML	22 19 10.4	
	comp=E,2μm,0.6s						
LNCH	**Linares**	**2.20**	**213**	⇑*i*P	Pn	22 18 46.3	+1.8
LNCH				*i* S	Sn	22 19 14.9	+2.9
LNCH				AML	AML	22 19 19.8	
	comp=N,1μm,0.5s						
CHNG	**Los Chungos**	**2.43**	**331**	*e*P	Pn	22 18 49.8	+2.1
CHNG				*i* S	Sn	22 19 21.2	+3.5

*TRN **04** 22:18:34.2, 17°.70N×64°.33W, h87km, MD3.1(RSPR)*
RSPR 04 22:18:35.0, 17°.73N×64°.33W, h99km±3km, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.74**	**338**	⇑*e*P	Pn	22 18 52.1	-0.6
TBVI				*e*S	Sn	22 19 05.6	-0.3
TBVI	**Tortola**	**0.74**	**338**	⇑*e*P	Pn	22 18 52.9	+0.2
TBVI				*e*S	Sn	22 19 05.6	-0.3
STVI	**Saint Thomas**	**0.86**	**316**	⇑*e*P	Pn	22 18 53.3	-0.6
STVI	**Saint Thomas**	**0.86**	**316**	⇑*e*P	Pn	22 18 53.3	-0.6
STVI				*e*S	Sn	22 19 07.9	-0.2
ABV	**Anegada**	**1.00**	**360**	*e*S	Sn	22 19 10.6	0.0
ABV	**Anegada**	**1.00**	**360**	*e*S	Sn	22 19 10.6	0.0
MTP	**Monte Pirata**	**1.23**	**288**	⇑*e*P	Pn	22 18 57.7	-0.2
MTP	**Monte Pirata**	**1.23**	**288**	⇑*e*P	Pn	22 18 57.7	-0.2
HUMP	**Col San Antoni**	**1.51**	**286**	*e*S	Sn	22 19 20.9	-0.3
HUMP	**Col San Antoni**	**1.51**	**286**	*e*S	Sn	22 19 20.9	-0.3
CBYP	**Canovanas**	**1.56**	**291**	*e*S	Sn	22 19 22.1	-0.2
CBYP	**Canovanas**	**1.56**	**291**	*e*S	Sn	22 19 22.8	+0.5

*ISCJB **04** 22:44:03.1±1.1, 11°.21N±0°.05×62°.15W±0°.05, h121km±9km, Error ellipse: s-maj=10.0km s-min=7.0km az=138.9*
*FUNV **04** 22:44:04.7, 11°.28N×62°.15W, h113km, MW2.9*
*TRN **04** 22:44:04.2, 11°.33N×61°.97W, h133km, MD2.8*
ISC 04 22:44:03.7±1.2, 11°.22N±0°.05×62°.15W±0°.05, h118km±10km, n12, σ0s88/19, 1C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.57**	**188**	⇑*e*P	**Pn**	**22 44 22.9**	**+0.9**
GUIV				*e*S	**Sn**	**22 44 35.1**	**-0.7**
TRN	**Trinidad (W)**	**0.92**	**128**	⇓*e*P	**Pn**	**22 44 26.8**	**+1.9**
TRN				*e*S	**Sn**	**22 44 42.3**	**+1.4**
ITEV	**Isla Los Testi**	**0.98**	**278**	*e*P	**Pn**	**22 44 25.1**	**-0.3**
GRW	**Mount Saint Ca**	**1.05**	**27**	⇓*e*P	**Pn**	**22 44 26.7**	**+0.6**
GRW				*e*S	**Sn**	**22 44 42.7**	**-0.4**
CRUV	**Carupano**	**1.20**	**243**	*e*P	**Pn**	**22 44 28.0**	**+0.3**
CRUV				*e*S	**Sn**	**22 44 45.5**	**-0.3**
GUNV	**Guanoco**	**1.31**	**217**	*e*P	**Pn**	**22 44 29.7**	**+0.8**
GUNV				*e*S	**Sn**	**22 44 48.0**	**0.0**
TOSP	**Speyside**	**1.58**	**87**	*e*P	**Pn**	**22 44 30.9**	**-1.1**
TOSP				*e*S	**Sn**	**22 44 52.0**	**-1.5**
TOSP				T		06 42 41.5	
ORIV	**Oritupano**	**2.47**	**210**	*e*S	**Sn**	**22 45 12.3**	**-1.1**
RIOV	**Rio Grande**	**3.15**	**174**	*e*P	**Pn**	**22 44 52.5**	**+0.6**
RIOV				*e*S	**Sn**	**22 45 28.3**	**-0.8**
GURV	**El Guri**	**3.56**	**195**	*e*P	**Pn**	**22 44 57.9**	**+0.5**
CUPV	**Cœpira**	**3.76**	**252**	*e*P	**Pn**	**22 44 59.7**	**-0.4**
LUEV	**Luepa**	**5.38**	**173**	*e*S	**Sn**	**22 46 18.6**	**-4.2**

*NEIC **04** 22:44:20.6, 14°.42N×93°.95W, h20km, MD4.2(MEX), After MEX.*
MEX 04 22:44:20.2±0.8, 14°.40N×93°.96W, h20km±37km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.48**	**29**	*i* P	Pn	22 44 42.4	-3.4
PCIG				*i* S	Sn	22 44 59.8	-4.7
PCIG		**1.48**	**29**	*i* P	Pn	22 44 42.4	-3.4
PCIG				*i* S	Sn	22 44 59.8	-4.7
THIG		**1.71**	**73**	*i* P	Pn	22 44 45.6	-3.3
THIG				*i* S	Sn	22 45 05.7	-4.5
THIG		**1.71**	**73**	*i* P	Pn	22 44 45.6	-3.3
THIG				*i* S	Sn	22 45 05.7	-4.5
HUIG	**Huatulco**	**2.49**	**304**	*i* P	Pn	22 44 57.2	-2.4
HUIG				*i* S	Sn	22 45 25.4	-3.9
HUIG	**Huatulco**	**2.49**	**304**	*i* P	Pn	22 44 57.2	-2.4
HUIG				*i* S	Sn	22 45 25.4	-3.9
TGIG		**2.50**	**19**	*e*P	Pn	22 44 58.4	-1.4
TGIG				*i* S	Sn	22 45 26.3	-3.4
TGIG		**2.50**	**19**	*e*P	Pn	22 44 58.4	-1.4
TGIG				*i* S	Sn	22 45 26.3	-3.4
CCIG	**Comitan**	**2.57**	**43**	*e*P	Pn	22 44 59.4	-1.3
CCIG				*i* S	Sn	22 45 28.7	-2.6
CCIG	**Comitan**	**2.57**	**43**	*e*P	Pn	22 44 59.4	-1.3
CCIG				*i* S	Sn	22 45 28.7	-2.6
CMIG	**Matias Romero**	**2.82**	**342**	*e*P	Pn	22 45 01.9	-2.3
CMIG				*i* S	Sn	22 45 34.1	-3.5
CMIG	**Matias Romero**	**2.82**	**342**	*e*P	Pn	22 45 01.9	-2.3
CMIG				*i* S	Sn	22 45 34.1	-3.5
VHO	**Vista Hermosa**	**3.77**	**315**	*i* P	Pn	22 45 14.6	-2.6
VHO				*i* S	Sn	22 45 58.0	-3.1
VHO	**Vista Hermosa**	**3.77**	**315**	*i* P	Pn	22 45 14.6	-2.6
VHO				*i* S	Sn	22 45 58.0	-3.1
PNIG	**Pinotepa**	**4.49**	**297**	*i* P	Pn	22 45 26.0	-1.1
PNIG				*i* S	Sn	22 46 15.4	-3.3
PNIG	**Pinotepa**	**4.49**	**297**	*i* P	Pn	22 45 26.0	-1.1
PNIG				*i* S	Sn	22 46 15.4	-3.3
UTMO	**Huajuapan**	**5.03**	**313**	*i* P	Pn	22 45 38.4	+3.8
UTMO				*i* S	Sn	22 46 29.2	-3.0
UTMO	**Huajuapan**	**5.03**	**313**	*i* P	Pn	22 45 34.7	+0.1
UTMO				*i* S	Sn	22 46 29.2	-3.0
TEIG	**Tepich**	**7.94**	**42**	*e*Pn	Pn	22 46 11.3	-3.2
TEIG				*e*Sn	Sn	22 47 43.7	0.0

*IDC **04** 22:46:47.2±2.5, 5°.67S×149°.82E, h86km±12km, mb3.8/6, mb1 4.0/7, mb1mx3.7/16, mbtmp3.9/7, Error ellipse: s-maj=58.2km s-min=16.3km az=107.0*
*NEIC **04** 22:46:47.5±1.7, 5°.29S×149°.35E, mb4.1/3, Error ellipse: s-maj=43.1km s-min=17.9km az=93.0*
*ISCJB **04** 22:46:49.1±3.5, 5°.7S±0°.1×149°.7E±0°.4, h114km±25km, mb3.9/5, Error ellipse: s-maj=59.7km s-min=19.7km az=11.8*
ISC 04 22:46:50.8±3.2, 5°.7S±0°.1×149°.6E±0°.3, h111km±22km, n20, σ0s78/20, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.40**	**214**	P	**Pn**	**22 47 55.7**	**+0.1**
	10nm,0.3s,baz=18,slow=5.2,SNR=14						
PMG				S	**Sn**	**22 48 46.1**	**+0.2**
	32nm,0.3s,baz=186,slow=22,SNR=8.1						
PMG	**Port Moresby**	**4.40**	**214**	*e*Pn	**Pn**	**22 47 54.5**	**-1.1**
PMG				*e*Sn	**Sn**	**22 48 45.9**	**0.0**
CTA	**Charters Tower**	**14.65**	**193**	P	**Pn**	**22 50 16.9**	**+4.3**
	0.6nm,0.3s,baz=28,slow=12,SNR=8.2						
CTA	**Charters Tower**	**14.65**	**193**	P	**Pn**	**22 50 16.9**	**+4.3**
CTAO	**Charters Tower**	**14.65**	**193**	*e*P	**Pn**	**22 50 16.4**	**+3.8**
	8.6nm,0.8s						
WRAB	**Tennant Creek**	**20.50**	**225**	*e*P	**P**	**22 51 20.0**	**-0.2**
	7.6nm,0.4s						
WRA	**Warramunga Arr**	**20.52**	**225**	P	**P**	**22 51 20.5**	**+0.2**
	5.8nm,0.4s,baz=49,slow=10,SNR=88						
WRA				pP		22 51 37.3	
	2.1nm,0.6s,baz=50,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**20.52**	**225**	P	**P**	**22 51 20.5**	**+0.2**
WRA				pP		22 51 37.3	
ASAR	**Alice Springs**	**23.40**	**219**	P	**P**	**22 51 50.2**	**+0.4**
	2.2nm,0.4s,mb3.9,baz=50,slow=8.3,SNR=44						
ASAR				pP		22 52 08.3	
	1.0nm,0.7s,baz=53,slow=8.9,SNR=2.9						
ASAR	**Alice Springs**	**23.40**	**219**	P	**P**	**22 51 50.2**	**+0.4**
ASAR				pP		22 52 08.3	
FITZ	**Fitzroy Crossi**	**26.46**	**240**	P	**P**	**22 52 17.9**	**+0.1**
	2.3nm,0.5s,mb3.9,baz=50,slow=8.6,SNR=16						
FITZ				pP	pP	22 52 37.0	-4.9
	2.9nm,0.6s,baz=85,slow=7.4,SNR=4.7						
FITZ	**Fitzroy Crossi**	**26.46**	**240**	*e*P	**P**	**22 52 17.5**	**-0.3**
	2.5nm,0.6s,mb3.8						
FITZ				pP	pP	22 52 37.0	-4.9
STKA	**Stephens Creek**	**27.08**	**195**	P	**P**	**22 52 23.0**	**-0.1**
	2.8nm,0.7s,mb3.9,baz=6.9,slow=13,SNR=4.8						
STKA	**Stephens Creek**	**27.08**	**195**	P	**P**	**22 52 23.0**	**-0.1**
KSRS	**Korea Array**	**47.49**	**336**	P	**P**	**22 55 15.5**	**+0.8**
	1.4nm,0.5s,mb4.0,baz=156,slow=8.9,SNR=3.8						
KSAR	**Wonju Array Be**	**47.50**	**336**	P	**P**	**22 55 15.5**	**+0.7**
ZALV	**Zalesovo Beam**	**80.19**	**327**	P	**P**	**22 58 46.8**	**-2.0**
	0.5nm,0.5s,mb3.6,baz=134,slow=6.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**80.19**	**327**	P	**P**	**22 58 46.8**	**-2.0**
TORD	**Torodi Ar. Bea**	**147.56**	**285**	PKPbc	PKPbc	23 06 22.1	-1.1
	0.4nm,0.9s,baz=102,slow=3.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**147.56**	**285**	PKPbc	PKPbc	23 06 22.1	-1.1

*KRSC **04** 22:50:00.1±1.5, 52°.73N×153°.26E, h593km±23km, ML4.9*
*MOS **04** 22:50:03.5±0.8, 53°.11N×152°.74E, h553km, mb4.2/47, Error ellipse: s-maj=9.6km s-min=7.2km az=77.1*
*ISCJB **04** 22:50:03.6±0.2, 53°.13N±0°.04×152°.72E±0°.04, h550km±2km, mb4.2/114, Error ellipse: s-maj=7.0km s-min=3.0km az=166.1*
*BJI **04** 22:50:03.8, 53°.02N×152°.86E, h568km, mB4.9/14, mb4.9/29*
*NEIC **04** 22:50:04.5±0.3, 53°.05N×152°.76E, h554km±4km, mb4.3/56, Error ellipse: s-maj=6.0km s-min=2.9km az=158.0*
*IDC **04** 22:50:06.0±0.6, 53°.08N×152°.77E, h572km±7km, mb3.6/36, mb1 3.8/38, mb1mx3.8/39, mbtmp3.7/38, Error ellipse: s-maj=8.6km s-min=6.1km az=144.0*
ISC 04 22:50:04.6±0.2, 53°.12N±0°.04×152°.70E±0°.03, h546km±2km, h561km±6.4km; pP-P, n616, σ0s61/620, mb4.2/114, 155C-154D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.61**	**107**	*e*P	**P**	**22 51 17.6**	**+0.7**
MIPR				*e*S	**S**	**22 52 14.4**	**-1.5**
ALID	**Alaid**	**2.86**	**141**	P	**P**	**22 51 19.1**	**+0.7**
PETK	**Petropavlovsk-**	**3.01**	**88**	P	**P**	**22 51 19.6**	**+0.4**
	11nm,0.3s,baz=236,slow=3.5,SNR=146						
PETK				S	**S**	**22 52 23.1**	**+2.8**
	baz=291,slow=14,SNR=2.3						
PETK	**Petropavlovsk-**	**3.01**	**88**	P	**P**	**22 51 19.6**	**+0.4**
PETK				S	**S**	**22 52 23.1**	**+2.8**
PETK	**Petropavlovsk-**	**3.01**	**88**	P	**P**	**22 51 19.6**	**+0.4**
PETK				S	**S**	**22 52 23.1**	**+2.9**
PETK				pmax	pmax		
	comp=Z,11nm,0.3s						
GNL	**Ganaly**	**3.19**	**77**	*i* P	**P**	**22 51 21.7**	**+1.4**
GNL				*i* S	**S**	**22 52 21.7**	**-0.6**
SKR	**Severo-Kuril's**	**3.23**	**138**	*e*P	**P**	**22 51 21.4**	**+0.7**
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
KOK	**Koryaka**	**3.57**	**85**	*i* P	**P**	**22 51 23.6**	**+0.7**
PET	**Petropavlovsk**	**3.59**	**89**	*e*P	**P**	**22 51 22.9**	**-0.2**
PET				*i* S	**S**	**22 52 23.7**	**-3.5**
PET	**Petropavlovsk**	**3.59**	**89**	*i* P	**P**	**22 51 23.0**	**0.0**
PET	**Petropavlovsk**	**3.59**	**89**	*e*P	**P**	**22 51 23.0**	**-0.1**
PET				*e*S	**S**	**22 52 20.7**	**-6.5**
PET				pmax	pmax		
	comp=Z,1μm,2.5s						
PET				pmax	pmax		
	comp=Z,1μm,0.6s						
RUS	**Russkaya**	**3.59**	**99**	*e*P	**P**	**22 51 22.0**	**-1.1**
RUS				*i* S	**S**	**22 52 22.1**	**-5.2**
RUS	**Russkaya**	**3.59**	**99**	P	**P**	**22 51 22.0**	**-1.1**
RUS				S	**S**	**22 52 22.1**	**-5.2**
AVH	**Avacha**	**3.63**	**85**	*i* P	**P**	**22 51 24.0**	**+0.7**
SDLR	**Sedlovina**	**3.72**	**85**	*i* P	**P**	**22 51 24.2**	**+0.2**
NLC	**Nalytchevo**	**4.00**	**87**	*e*P	**P**	**22 51 25.6**	**-0.4**
NLC				*i* S	**S**	**22 52 29.3**	**-3.4**
NLC	**Nalytchevo**	**4.00**	**87**	P	**P**	**22 51 25.6**	**-0.4**
NLC				S	**S**	**22 52 29.3**	**-3.4**
SPN	**Mys Shipunski**	**4.41**	**87**	*i* P	**P**	**22 51 27.7**	**-1.5**
SPN				*i* S	**S**	**22 52 31.9**	**-6.5**
SPN	**Mys Shipunski**	**4.41**	**87**	P	**P**	**22 51 27.7**	**-1.5**
SPN				S	**S**	**22 52 31.9**	**-6.5**
ESO	**Esso**	**4.49**	**49**	*i* P	**P**	**22 51 31.5**	**+1.8**
ESO	**Esso**	**4.49**	**49**	P	**P**	**22 51 31.5**	**+1.8**
TUMR	**Tumrok**	**4.88**	**61**	*e*P	**P**	**22 51 33.4**	**+0.5**
TUMR				*e*S	**S**	**22 52 43.1**	**-2.3**
KOZ	**Kozyrevsk**	**5.11**	**52**	P	**P**	**22 51 35.5**	**+0.7**
KOZR	**Kozyr**	**5.12**	**52**	P	**P**	**22 51 35.5**	**+0.5**
SRDR	**Sredinnyy**	**5.18**	**49**	*e*P	**P**	**22 51 36.3**	**+0.9**
BDR	**Baidarnaya**	**6.01**	**51**	P	**P**	**22 51 43.1**	**+0.3**
KBTR	**Krutoberegovo**	**6.64**	**58**	*e*P	**P**	**22 51 46.4**	**-2.3**
KBTR				*i* S	**S**	**22 53 04.7**	**-9.4**
KBTR	**Krutoberegovo**	**6.64**	**58**	P	**P**	**22 51 46.4**	**-2.3**
KBTR				S	**S**	**22 53 04.7**	**-9.4**
YSS	**Yuzh-Sakhalins**	**8.88**	**230**	P	**P**	**22 52 02.3**	**-8.7**
YSS	**Yuzh-Sakhalins**	**8.88**	**230**	P	**P**	**22 52 02.3**	**-8.7**
ASAJ	**Asahikawa**	**11.21**	**221**	P	**P**	**22 52 34.2**	**-0.6**
	comp=Z,4.5nm,0.3s,baz=328,slow=5.9,SNR=17						
ASAJ	**Asahikawa**	**11.21**	**221**	*e*P	**P**	**22 52 33.0**	**-1.8**
ASAJ	**Asahikawa**	**11.21**	**221**	P	**P**	**22 52 34.2**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HABR	**Khabarovsk**	**12.09**	**254**	*e*P	**P**	**22 52 44.1**	**+0.2**
HABR				*e*S	**S**	**22 54 56.4**	**+1.4**
HABR				pmax	pmax		
	comp=Z,203nm,2.6s						
HABR				pmax	pmax		
	comp=E,173nm,2.6s						
HABR				pmax	pmax		
	comp=N,98nm,2.6s						
HABR				MLR	MLR		
	comp=Z,109nm,15.0s						
FX1	**Attu Island--F**	**12.33**	**83**	P	**P**	**22 52 46.1**	**-0.1**
	comp=Z,7.8nm,0.3s,baz=283,slow=6.8,SNR=6.4						
FX1	**Attu Island--F**	**12.33**	**83**	P	**P**	**22 52 46.1**	**-0.1**
FX1	**Attu Island--F**	**12.33**	**83**	P	**P**	**22 52 46.1**	**-0.2**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ERM	**Erimo**	**12.82**	**214**	*e*P	**P**	**22 52 46.7**	**-4.9**
ERM				*e*S	**S**	**22 55 00.6**	**-8.5**
ERM	**Erimo**	**12.82**	**214**	*e*P	**P**	**22 52 46.7**	**-4.9**
ERM				*e*S	**S**	**22 55 00.6**	**-8.5**
YAK	**Yakutsk**	**15.16**	**315**	*e*P	**P**	**22 53 14.4**	**-0.8**
	comp=Z,30nm,0.5s						
YAK				*e*S	**S**	**22 55 53.1**	**+0.8**
YAK	**Yakutsk**	**15.16**	**315**	*e*P	**P**	**22 53 15.4**	**+0.1**
YAK				*e*S	**S**	**22 55 51.8**	**-0.5**
YAK				pmax	pmax		
	comp=Z,38nm,1.4s						
YAK				pmax	pmax		
	comp=N,11nm,1.5s						
YAK				pmax	pmax		
	comp=E,12nm,1.0s						
YAK				smax			
	comp=N,89nm,1.1s						
YAK				smax			
	comp=E,98nm,1.2s						
CLNS	**Chul'man**	**16.34**	**294**	*e*P	**P**	**22 53 28.3**	**+1.2**
CLNS				pmax	pmax		
	comp=Z,42nm,0.8s						
CLNS				pmax	pmax		
	comp=N,16nm,0.8s						
CLNS				pmax	pmax		
	comp=E,36nm,1.1s						
GSTR	**Great Sitkin T**	**18.93**	**81**	P	**P**	**22 53 47.5**	**-3.3**
MAJO	**Matsushiro**	**19.44**	**217**	*e*P	**P**	**22 53 54.6**	**-1.0**
	comp=E,45nm,0.6s						
MAJO	**Matsushiro**	**19.44**	**217**	*e*P	**P**	**22 53 54.6**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,45nm,0.6s						
MAT	**Matsushiro**	**19.44**	**217**	P	**P**	**22 53 55.0**	**-0.7**
MJAR	**Matsushiro Arr**	**19.44**	**217**	P	**P**	**22 53 55.2**	**-0.5**
	comp=Z,6.8nm,0.3s,baz=9.2,SNR=54						
MJAR	**Matsushiro Arr**	**19.44**	**217**	P	**P**	**22 53 55.2**	**-0.5**
MJAR	**Matsushiro Arr**	**19.44**	**217**	P	**P**	**22 53 55.2**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
HIA	**Hailar**	**20.90**	**273**	*e*P	**P**	**22 54 07.0**	**-1.8**
	comp=Z,32nm,0.5s						
HIA	**Hailar**	**20.90**	**273**	*e*P	**P**	**22 54 07.0**	**-1.7**
HIA				pmax	pmax		
	comp=Z,32nm,0.5s						
BOD	**Bodaibo**	**22.21**	**298**	*e*P	**P**	**22 54 20.9**	**+0.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.0						
KSRS	**Korea Array**	**23.26**	**238**	P	**P**	**22 54 31.0**	**+1.0**
	comp=Z,14nm,0.8s,mb4.6,baz=36,slow=9.0,SNR=21						
KSRS	**Korea Array**	**23.26**	**238**	P	**P**	**22 54 31.0**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
KSAR	**Wonju Array Be**	**23.29**	**238**	P	**P**	**22 54 31.0**	**+0.7**
KSAR	**Wonju Array Be**	**23.29**	**238**	P	**P**	**22 54 31.0**	**+0.7**
CBIJ	**Chichi jima**	**27.15**	**201**	PcP	PcP	22 58 05.8	-0.8
	comp=Z,103nm,0.9s,baz=320,slow=7.9,SNR=4.1						
CBIJ	**Chichi jima**	**27.15**	**201**	PcP	PcP	22 58 05.8	-0.8
ULN	**Ulaanbaatar**	**29.12**	**278**	*e*P	**P**	**22 55 21.9**	**+0.6**
	comp=Z,2.2nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**29.12**	**278**	*e*P	**P**	**22 55 21.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
SONM	**Songino Array**	**29.52**	**279**	P	**P**	**22 55 26.0**	**+1.2**
	comp=Z,1.5nm,0.3s,mb4.0,baz=60,slow=8.0,SNR=67						
SONM				PcP	PcP	22 58 10.8	-1.5
	comp=Z,1.2nm,0.6s,baz=91,slow=1.4,SNR=6.9						
SONM				ScP	ScP	23 00 59.3	-3.0
	comp=Z,1.3nm,0.6s,baz=76,slow=2.1,SNR=12						
SONM	**Songino Array**	**29.52**	**279**	P	**P**	**22 55 26.0**	**+1.2**
SONM				PcP	PcP	22 58 10.8	-1.5
SONM				ScP	ScP	23 00 59.3	-3.0
SONM	**Songino Array**	**29.52**	**279**	P	**P**	**22 55 26.0**	**+1.2**
SONM						22 58 10.8	
SONM				pmax	pm

INK pmax pmax
comp=Z,11nm,0.6s
GTA Gaotai 38.16 271 ⇓P **P 22 56 38.7 +1.4**
GTA pmax pmax
comp=Z,24nm,0.9s,mb4.7
ENH Enshi 38.72 251 *e*P **P 22 56 41.0 -0.9**
comp=Z,54nm,0.6s,mb5.2
ENH *e*PcP PcP 22 58 39.7 +0.1
ZALV Zalesovo Beam 38.95 299 P **P 22 56 43.4 -0.1**
comp=Z,5.9nm,0.6s,mb4.3,baz=58,slow=7.1,SNR=31
ZALV PcP PcP 22 58 38.2 -1.6
comp=Z,1.1nm,0.5s,baz=64,slow=3.4,SNR=4.7
ZALV ScP ScP 23 01 32.5 -3.6
comp=Z,0.4nm,0.5s,baz=44,slow=4.5,SNR=4.4
ZALV Zalesovo Beam 38.95 299 P **P 22 56 43.4 -0.1**
ZALV PcP PcP 22 58 38.2 -1.6
ZALV ScP ScP 23 01 32.5 -3.6
ZALV Zalesovo Beam 38.95 299 P **P 22 56 43.4 -0.1**
ZALV 22 58 38.2
ZALV pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
ZALV pmax pmax
comp=Z,1.0nm,0.5s,mb3.6
NVS Novosibirsk 39.36 301 *e*P **P 22 56 45.8 -1.0**
NVS *e* 22 58 40.0
NVS pmax pmax
comp=E,13nm,0.9s
NVS pmax pmax
comp=Z,21nm,0.9s,mb4.7
DLBC Dease Lake 41.54 51 P **P 22 57 05.5 +1.4**
comp=Z,7.3nm,0.8s,mb4.2,baz=301,slow=7.0,SNR=8.0
DLBC Dease Lake 41.54 51 P **P 22 57 05.5 +1.4**
GYA Guiyang 43.22 250 P **P 22 57 17.2 -0.5**
GYA pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
KURK Kurchatov 43.86 298 P **P 22 57 23.5 +1.1**
comp=Z,18nm,0.5s,mb4.9,baz=60,slow=7.3,SNR=196
KURK ScP ScP 23 01 52.8 -3.1
comp=Z,0.7nm,0.7s,baz=62,slow=3.3,SNR=4.6
KURK Kurchatov 43.86 298 *e*P **P 22 57 22.5 +0.2**
comp=Z,26nm,0.6s,mb4.9
KURK ScP ScP 23 01 52.8 -3.1
KURK Kurchatov 43.86 298 P **P 22 57 23.5 +1.1**
KURK pmax pmax
comp=Z,18nm,0.5s,mb4.9
KURK pmax pmax
comp=N,1.0nm,0.7s
MKAR Makanchi Array 44.06 291 P **P 22 57 24.2 +0.2**
comp=N,3.1nm,0.5s,mb4.1,baz=61,slow=7.4,SNR=52
MKAR ScP ScP 23 01 52.6 -4.2
comp=N,0.8nm,0.7s,baz=41,slow=2.9,SNR=4.5
MKAR Makanchi Array 44.06 291 P **P 22 57 24.2 +0.2**
MKAR ScP ScP 23 01 52.6 -4.2
MKAR Makanchi Array 44.06 291 P **P 22 57 24.2 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR pmax pmax
comp=N,1.0nm,0.7s
RES Resolute Bay 44.91 20 P **P 22 57 29.5 -0.6**
comp=N,5.8nm,0.8s,mb4.2,baz=328,slow=8.0,SNR=8.1
RES PcP PcP 22 58 58.0 -1.6
comp=N,1.4nm,0.5s,baz=315,slow=5.7,SNR=4.4
RES Resolute Bay 44.91 20 P **P 22 57 29.5 -0.6**
RES PcP PcP 22 58 58.0 -1.6
RES Resolute Bay 44.91 20 P **P 22 57 29.5 -0.6**
RES 22 58 58.0
RES pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
RES pmax pmax
comp=Z,1.0nm,0.5s,mb3.6
YKA Yellowknife Ar 46.09 40 P **P 22 57 38.9 -0.3**
comp=Z,7.7nm,0.6s,mb4.4,baz=305,slow=7.1,SNR=28
YKA PcP PcP 22 59 03.0 -1.0
comp=Z,0.8nm,0.4s,baz=311,slow=3.5,SNR=11
YKA Yellowknife Ar 46.09 40 P **P 22 57 38.9 -0.3**
YKA PcP PcP 22 59 03.0 -1.0
YKA Yellowknife Ar 46.09 40 P **P 22 57 38.9 -0.3**
YKA 22 59 03.0
YKA pmax pmax
comp=Z,8.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.4s
SPITS Spitsbergen Ar 46.30 349 P **P 22 57 40.2 -0.4**
comp=Z,2.7nm,0.5s,mb4.0,baz=53,slow=8.5,SNR=18
SPITS Spitsbergen Ar 46.30 349 P **P 22 57 40.2 -0.4**
SPITS Spitsbergen Ar 46.30 349 P **P 22 57 40.2 -0.5**
SPITS pmax pmax
comp=Z,3.0nm,0.5s
KMI Kunming 46.50 253 P **P 22 57 43.0 +0.1**
KMI pmax pmax
comp=Z,15nm,0.9s,mb4.5
KMI Kunming 46.50 253 P **P 22 57 43.0 +0.1**
comp=Z,15nm,0.9s,mb4.5
KMI Kunming 46.50 253 P **P 22 57 43.0 +0.1**
KMI pmax pmax
comp=Z,15nm,0.9s,mb4.5
BVAR Borovoye Array 46.80 305 P **P 22 57 44.9 +0.2**
comp=Z,11nm,0.5s,mb4.6,baz=60,slow=7.8,SNR=94
BVAR PcP PcP 22 59 05.2 -1.5
comp=Z,1.2nm,0.4s,baz=81,slow=2.2,SNR=6.3
BVAR ScP ScP 23 02 04.4 -3.7
comp=Z,0.6nm,0.6s,baz=94,slow=1.5,SNR=4.6
BVAR Borovoye Array 46.80 305 P **P 22 57 44.9 +0.2**
BVAR PcP PcP 22 59 05.2 -1.5
BVAR ScP ScP 23 02 04.4 -3.7
BVAR Borovoye Array 46.80 305 P **P 22 57 44.9 +0.2**
BVAR 22 59 05.2
BVAR pmax pmax
comp=Z,11nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=N,1.0nm,0.6s
BRVK Borovoye 46.83 305 *e*P **P 22 57 45.2 +0.2**
comp=N,13nm,0.6s,mb4.7
BRVK Borovoye 46.83 305 *e*P **P 22 57 45.2 +0.2**
BRVK pmax pmax
comp=Z,13nm,0.6s,mb4.6
SVE Sverdlovsk 49.11 313 *e*P **P 22 58 01.9 0.0**
SVE pmax pmax
comp=Z,11nm,0.8s,mb4.4
LSA Lhasa 49.97 267 *e*P **P 22 58 09.2 +0.5**
comp=Z,12nm,0.6s,mb4.5
LSA Lhasa 49.97 267 *e*P **P 22 58 09.2 +0.5**
LSA pmax pmax
comp=Z,12nm,0.6s,mb4.5
TKM2 Tokmak 2 50.19 291 P **P 22 58 10.8 +0.7**
SNR=9.8
TKM2 Tokmak 2 50.19 291 *e*P **P 22 58 10.3 +0.2**
comp=Z,4.9nm,0.8s,mb4.0
TKM2 Tokmak 2 50.19 291 *e*P **P 22 58 10.3 +0.2**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
ARU Arti 50.26 314 *d i*P **P 22 58 10.1 -0.3**
ARU *e* 22 59 17.6
ARU *e* 23 00 11.1
ARU S **S 23 04 45.1 +3.2**
ARU SS SS 23 08 33.7 +10
ARU pmax pmax
comp=Z,16nm,1.2s,mb4.3
USP Ospenovka 50.59 292 P **P 22 58 13.6 +0.7**
SNR=5.8
CHMS Chumysh 50.62 292 P **P 22 58 13.7 +0.6**
SNR=5.0
KBK Karagaybulak 50.73 291 P **P 22 58 14.9 +1.0**
SNR=7.0
AAK Ala-Archa 51.00 292 P **P 22 58 16.7 +0.8**
SNR=9.5
AAK Ala-Archa 51.00 292 *e*P **P 22 58 16.2 +0.3**
comp=Z,35nm,0.6s,mb4.9
AAK Ala-Archa 51.00 292 ⇑*i*P **P 22 58 16.2 +0.3**
AAK pmax pmax
comp=Z,17nm,0.7s,mb4.5
KEV Kevo 51.28 339 *e*P **P 22 58 15.5 -2.0**
KEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
KEV Kevo 51.28 339 *e*p **P 22 58 15.5 -2.0**
comp=Z,6.5nm,0.8s,mb4.0
EKS2 Erkin-Say 51.38 292 P **P 22 58 19.6 +0.9**
SNR=14
EKS2 Erkin-Say 51.38 292 *e*P **P 22 58 19.3 +0.6**
comp=Z,8.0nm,0.7s,mb4.2
EKS2 Erkin-Say 51.38 292 *e*P **P 22 58 19.3 +0.6**
EKS2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
E03A Lebam 51.48 61 ⇓P **P 22 58 19.0 -0.4**
baz=51
AML Almayashu 51.77 292 P **P 22 58 22.9 +1.4**
SNR=6.0
ARCES ARCESS Array B 51.78 339 P **P 22 58 20.8 -0.3**
comp=Z,2.0nm,0.6s,mb3.6,baz=32,slow=8.2,SNR=18
ARCES ARCESS Array B 51.78 339 P **P 22 58 20.8 -0.3**
ARCES ARCESS Array B 51.78 339 P **P 22 58 20.8 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ETW Entiat 52.48 58 *e*P **P 22 58 26.1 -0.4**
comp=Z,9.2nm,0.7s,mb4.2
SHL Shillong 52.56 263 ⇓*i*P **P 22 58 28.0 +0.6**
KKAR Karatay Array 52.90 295 *e*P **P 22 58 29.2 -0.3**
comp=Z,4.1nm,0.6s,mb3.9
KKAR Karatay Array 52.90 295 *e*P **P 22 58 29.2 -0.4**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
HOOD Mount Hood Mea 53.29 61 *e*P **P 22 58 32.6 +0.3**
comp=Z,15nm,0.7s,mb4.4
C09A Chrisman Ranch 53.40 57 ⇓P **P 22 58 32.6 -0.4**
baz=53
CHTO Chiang Mai 53.61 252 *e*P **P 22 58 34.9 0.0**
comp=Z,15nm,0.6s,mb4.5
CHTO Chiang Mai 53.61 252 *e*P **P 22 58 34.9 0.0**
CHTO pmax pmax
comp=Z,15nm,0.6s,mb4.5
NEW Newport 53.67 56 ⇓P **P 22 58 34.6 -0.4**
baz=54
TAPN Taplejung 53.75 268 *e*P **P 22 58 36.4 +0.5**
comp=Z,63nm,0.7s,mb5.1
TAPN Taplejung 53.75 268 *e*P **P 22 58 36.4 +0.5**
comp=Z,63nm,0.7s,mb5.0
CMAR Chiang Mai Arr 53.89 251 P **P 22 58 37.4 +0.5**
comp=Z,10nm,0.7s,mb4.3,baz=24,slow=6.6,SNR=47
CMAR PcP PcP 22 59 33.0 -0.7
comp=Z,1.4nm,0.7s,baz=15,slow=3.3,SNR=5.8
CMAR Chiang Mai Arr 53.89 251 P **P 22 58 37.4 +0.5**
CMAR PcP PcP 22 59 33.0 -0.7
CMAR Chiang Mai Arr 53.89 251 P **P 22 58 37.4 +0.5**
CMAR 22 59 33.0
CMAR pmax pmax
comp=Z,10.0nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
A12A Yaak River Ran 53.96 55 ⇑P **P 22 58 37.1 +0.1**
baz=54
ABKAR Akbulak array 54.28 306 *e*P **P 22 58 39.0 -0.3**
comp=Z,7.7nm,0.6s,mb4.2
ODAN Odare 54.30 268 *e*P **P 22 58 40.4 +0.6**
comp=Z,29nm,0.6s,mb4.8
ODAN Odare 54.30 268 *e*P **P 22 58 40.4 +0.6**
comp=Z,29nm,0.6s,mb4.8
E09A Wood Farm, Sta 54.32 58 ⇑P **P 22 58 38.9 -0.7**
baz=54,SNR=7.6
SUMG Summit 54.36 4 *i*P **P 22 58 39.4 -0.1**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 54.36 4 *i*P **P 22 58 39.4 -0.1**
comp=Z,8.6nm,0.8s,mb4.1
C11A Tepee Creek (N 54.39 56 ⇓P **P 22 58 39.8 -0.2**
baz=54
AKTO Aktyubinsk 54.41 308 P **P 22 58 40.1 0.0**
comp=Z,2.0nm,0.6s,mb3.6,baz=86,slow=16,SNR=8.6
AKTO Aktyubinsk 54.41 308 P **P 22 58 40.1 0.0**
AKTO Aktyubinsk 54.41 308 P **P 22 58 40.1 -0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
JIRN Jiri 54.44 270 *e*P **P 22 58 41.2 +0.5**
comp=Z,7.5nm,0.6s,mb4.2
JIRN Jiri 54.44 270 *e*P **P 22 58 41.2 +0.5**
comp=Z,7.5nm,0.6s,mb4.2
GUN Gumba 54.45 270 *e*P **P 22 58 41.0 +0.3**
comp=Z,22nm,0.5s,mb4.8
GUN Gumba 54.45 270 *e*P **P 22 58 41.0 +0.3**
comp=Z,22nm,0.5s,mb4.7
A13A Flathead Natio 54.56 54 ⇓P **P 22 58 41.0 -0.2**
baz=54
RAMN Ramite 54.71 269 *e*P **P 22 58 43.1 +0.5**
comp=Z,111nm,0.6s,mb5.3
RAMN Ramite 54.71 269 *e*P **P 22 58 43.1 +0.5**
comp=Z,111nm,0.6s,mb5.3
C12B Naegeli Ranch, 54.87 56 ⇑P **P 22 58 43.4 0.0**
baz=55
KKN Kakani 54.90 271 *e*P **P 22 58 44.4 +0.5**
comp=Z,51nm,0.4s,mb5.1
B13A Whitefish 54.91 54 ⇓P **P 22 58 43.4 -0.2**
baz=55
PKI Pulchoki 54.98 270 *e*P **P 22 58 44.8 +0.3**
PKI Pulchoki 54.98 270 *e*P **P 22 58 44.8 +0.3**
PKI Pulchoki 54.98 270 *e*P **P 22 58 44.8 +0.3**
A14A Double T Ranch 55.02 53 ⇓P **P 22 58 44.2 -0.2**
baz=55
BSMT Bassoo Peak 55.11 55 *e*P **P 22 58 45.3 +0.3**
comp=Z,10nm,0.6s,mb4.2
GKN Gorkha 55.13 271 *e*P **P 22 58 45.7 +0.2**
GKN Gorkha 55.13 271 *e*P **P 22 58 45.7 +0.2**
DMN Daman 55.13 271 *e*P **P 22 58 46.2 +0.7**
DMN Daman 55.13 271 *e*P **P 22 58 46.2 +0.7**
F10A Beach Ranch, E 55.16 58 ⇑P **P 22 58 45.6 +0.2**
baz=55
BLMT Blacktail Moun 55.21 55 *e*P **P 22 58 46.0 +0.2**
comp=Z,8.5nm,0.7s,mb4.1
I07A Izee 55.26 61 ⇑P **P 22 58 46.6 +0.4**
baz=55,SNR=5.7
C13A Hot Springs 55.33 55 ⇑P **P 22 58 46.8 +0.2**
baz=55
A15A Johnson Ranch, 55.35 53 ⇑P **P 22 58 46.0 -0.7**
baz=55
DANN Dangsing 55.40 272 *e*P **P 22 58 48.0 +0.6**
DANN Dangsing 55.40 272 *e*P **P 22 58 48.0 +0.6**
K05A Summer Lake 55.44 63 ⇓P **P 22 58 48.4 +0.9**
baz=55,SNR=8.1
YBMT Yellow Bay 55.49 55 *e*P **P 22 58 47.6 -0.1**
comp=Z,2.3nm,0.5s,mb3.7
JOF Joensuu 55.55 332 *e*P **P 22 58 46.4 -1.5**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb3.5
JOF Joensuu 55.55 332 *e*p **P 22 58 46.4 -1.5**
comp=Z,1.5nm,0.6s,mb3.4
C14A Swan Lake 55.68 55 ⇓P **P 22 58 48.9 -0.1**
baz=56
E12A Beaver Dam Sad 55.70 57 ⇓P **P 22 58 49.2 0.0**
baz=56
SWMT Swartz Lake 55.73 55 *e*P **P 22 58 49.4 0.0**
comp=Z,3.5nm,0.5s,mb3.9
D13A Huson 55.79 56 ⇑P **P 22 58 49.4 -0.4**
baz=56
B15A Bradely Ranch, 55.88 53 ⇑P **P 22 58 50.2 -0.2**
baz=56
A16A West Butte Ran 55.91 52 ⇑P **P 22 58 49.9 -0.7**
baz=56
FFC Flin Flon 56.12 42 *i*P **P 22 58 52.1 +0.2**
B16A M & M Farms, S 56.23 53 ⇓P **P 22 58 52.3 -0.5**
baz=56
MSO Missoula 56.23 56 ⇓P **P 22 58 52.4 -0.4**
baz=56,SNR=5.6
MSO Missoula 56.23 56 *e*P **P 22 58 52.6 -0.3**
comp=Z,3.2nm,0.8s,mb3.6
C15A Salmond Ranch, 56.23 54 ⇑P **P 22 58 52.9 0.0**
baz=56,SNR=5.4
D14A Greenough 56.27 55 ⇓P **P 22 58 52.9 -0.2**
baz=56,SNR=8.1
J08A Circle Bar Ran 56.30 61 ⇓P **P 22 58 53.7 +0.3**
baz=56,SNR=10
F12A Elk City 56.31 57 ⇓P **P 22 58 53.5 +0.1**
baz=56,SNR=9.0
A17A Triple J Farms 56.34 52 ⇓P **P 22 58 52.8 -0.8**
baz=56,SNR=6.8
E13A Victor 56.38 56 ⇓P **P 22 58 54.1 +0.2**
baz=56
C16A Fuhringer Ranc 56.63 53 ⇑P **P 22 58 55.2 -0.4**
baz=56
G12A Big Creek, Yel 56.71 58 ⇑P **P 22 58 55.9 -0.2**
baz=56
E14A Clinton 56.74 56 ⇓P **P 22 58 56.0 -0.4**
baz=57,SNR=5.5
B17A L&G Farms, Che 56.75 53 ⇑P **P 22 58 56.0 -0.3**
baz=57
F13A Darby 56.76 57 ⇑P **P 22 58 55.9 -0.5**
baz=57
A18A Metzger Ranch, 56.76 51 ⇓P **P 22 58 56.1 -0.4**
baz=57
D15A Lincoln 56.79 55 ⇑P **P 22 58 56.3 -0.3**
baz=57
E15A Deer Lodge 57.16 55 ⇑P **P 22 58 59.3 +0.1**
baz=57
B18A Beardsley Farm 57.16 52 ⇓P **P 22 58 58.8 -0.4**
baz=57,SNR=6.9
C17A Wharram Farm, 57.23 53 ⇓P **P 22 58 59.0 -0.6**
baz=57,SNR=5.5
D16A Dana Ranch, Ca 57.27 54 ⇑P **P 22 59 00.4 +0.4**
baz=57
A19A Klindworth Far 57.27 51 ⇑P **P 22 58 59.8 -0.2**
baz=57
G13A Cobalt 57.29 57 ⇑P **P 22 58 59.6 -0.6**
baz=57,SNR=5.4
H12A Diamond D Ranc 57.35 58 ⇑P **P 22 59 00.6 0.0**
baz=57,SNR=10
HRY Holter Researc 57.35 54 *e*P **P 22 59 00.6 0.0**
comp=Z,48nm,0.7s,mb4.8
EGMT Eagleton 57.44 52 ⇓P **P 22 59 01.1 0.0**
baz=57
B19A Brinkman Farms 57.51 51 ⇓P **P 22 59 01.5 -0.1**
baz=57,SNR=6.0
E16A East Helena 57.56 55 ⇑P **P 22 59 02.0 +0.1**
baz=57
G14A Jackson 57.58 57 ⇑P **P 22 59 01.9 -0.2**
baz=57
KAF Kangasniemi 57.59 333 *e*P **P 22 58 58.0 -3.9**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb3.5
KAF Kangasniemi 57.59 333 *e*p **P 22 58 58.0 -3.9**
comp=Z,1.7nm,0.6s,mb3.5
D17A Six Diamond Ra 57.60 53 ⇓P **P 22 59 01.9 -0.4**
baz=57,SNR=5.1
F15A Butte 57.64 56 ⇑P **P 22 59 02.4 -0.1**
baz=58,SNR=5.1
MFID Camas Ranch 57.65 60 ⇑P **P 22 59 02.8 +0.3**
baz=58,SNR=8.1
H13A Challis 57.65 58 ⇑P **P 22 59 02.3 -0.3**
baz=58,SNR=6.4
A20A Cobblestone Ra 57.69 50 ⇑P **P 22 59 03.2 +0.4**
baz=58
I12A Atlanta 57.74 59 ⇑P **P 22 59 03.2 0.0**
baz=58,SNR=9.1
DLMT Dillon 57.92 56 *e*P **P 22 59 04.7 +0.3**
comp=Z,18nm,1.1s,mb4.2
C19A Slack Wire Ran 57.98 52 ⇓P **P 22 59 04.9 +0.2**
baz=58,SNR=5.7
E17A Martinsdale 58.01 54 ⇑P **P 22 59 05.5 +0.5**
baz=58,SNR=6.4
H14A Leadore 58.06 57 ⇓P **P 22 59 04.8 -0.6**
baz=58
A21A Bergtoll Ranch 58.07 50 ⇑P **P 22 59 05.6 +0.2**
baz=58,SNR=11
F16A Kennard Place, 58.11 55 ⇓P **P 22 59 05.6 -0.1**
baz=58
G15A Dillon 58.12 56 ⇑P **P 22 59 05.6 -0.1**
baz=58,SNR=13
I13A Wildhorse Cree 58.18 58 ⇓P **P 22 59 06.6 +0.4**
baz=58,SNR=48
FINES FINESS Array B 58.20 333 P **P 22 59 05.3 -0.7**
comp=Z,3.0nm,0.5s,mb3.8,baz=34,slow=7.8,SNR=26
FINES PcP PcP 22 59 48.5 -1.5
comp=Z,4.0nm,0.9s,baz=68,slow=3.1,SNR=4.8
FINES FINESS Array B 58.20 333 P **P 22 59 05.3 -0.7**
FINES PcP PcP 22 59 48.5 -1.5
FINES FINESS Array B 58.20 333 P **P 22 59 05.3 -0.7**
FINES 22 59 48.5
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 58.20 55 ⇓P **P 22 59 06.7 +0.4**
baz=58,SNR=13
BOZ Bozeman (W) 58.20 55 *e*P **P 22 59 06.7 +0.3**
comp=Z,5.5nm,0.7s,mb3.9
BOZ Bozeman (W) 58.20 55 *e*P **P 22 59 06.7 +0.4**
BOZ pmax pmax
comp=Z,6.0nm,0.7s,mb3.9
HLID Hailey 58.27 59 ⇑P **P 22 59 07.0 +0.2**
baz=58
E18A Harlowton 58.39 53 ⇓P **P 22 59 07.8 +0.2**
baz=58
G16A Moss Hill, Enn 58.41 56 ⇓P **P 22 59 08.2 +0.4**
baz=58,SNR=15
H15A Lima 58.43 57 ⇓P **P 22 59 07.6 -0.2**
baz=58
WCN Washoe City 58.44 65 ⇓P **P 22 59 08.8 +0.7**
baz=58
D19A Cripps Ranch, 58.46 52 ⇑P **P 22 59 08.3 +0.3**
baz=58,SNR=5.3
F17A Fitzpatrick Pl 58.50 54 ⇓P **P 22 59 08.7 +0.4**
baz=58
I14A Mackay 58.51 58 ⇓P **P 22 59 09.2 +0.8**
baz=58,SNR=5.6
J13A Cove Ranch, Pi 58.51 59 ⇓P **P 22 59 09.0 +0.5**
baz=58,SNR=5.3
A22A Carney Farms, 58.53 49 ⇓P **P 22 59 08.3 -0.2**
baz=58,SNR=9.8
C21A Desert Coulee 58.83 51 ⇑P **P 22 59 10.6 +0.1**
baz=59
D20A Manuel Ranch, 58.87 52 ⇑P **P 22 59 11.0 +0.3**
baz=59,SNR=9.2
G17A Pierce Place, 58.88 55 ⇓P **P 22 59 11.6 +0.7**
baz=59,SNR=8.2
QLMT Earthquake Lak 58.88 56 *e*P **P 22 59 11.2 +0.2**
comp=Z,0.9nm,0.8s,mb3.0
J14A Carey 58.90 58 ⇓P **P 22 59 11.8 +0.7**
baz=59,SNR=15
F18A Big Timber 58.96 54 ⇑P **P 22 59 11.8 +0.4**
baz=59,SNR=9.8
B22A Reddig Ranch S 59.00 50 ⇑P **P 22 59 11.9 +0.3**
baz=59
E19A Rath Farm, Rou 59.01 53 ⇓P **P 22 59 11.9 +0.2**
baz=59
GCMT Greycliff 59.07 54 *e*P **P 22 59 12.8 +0.7**
comp=Z,3.3nm,0.6s,mb3.7
H16A Russell Place, 59.07 56 ⇑P **P 22 59 12.5 +0.3**
baz=59,SNR=12
YMR Madison River 59.23 56 *e*P **P 22 59 13.7 +0.4**
comp=Z,4.7nm,0.7s,mb3.8
E20A Meyer Farm, Mu 59.30 52 ⇑P **P 22 59 13.5 -0.1**
baz=59,SNR=5.3
B23A Brockton 59.34 49 ⇓P **P 22 59 13.8 -0.1**
baz=59
F19A Roth Farm, Mol 59.37 53 ⇓P **P 22 59 14.2 +0.1**
baz=59,SNR=6.3
D21A La Casta Ranch 59.43 51 ⇑P **P 22 59 14.6 +0.1**
baz=59,SNR=5.0
A24A Westby 59.45 48 ⇓P **P 22 59 14.3 -0.3**
baz=59
C22A Vida 59.45 50 ⇑P **P 22 59 14.5 -0.2**
baz=59
G18A Lazy EL Ranch, 59.46 54 ⇑P **P 22 59 14.7 0.0**
baz=59
I16A Newdale 59.54 57 ⇑P **P 22 59 15.9 +0.6**
baz=59,SNR=6.9
LKWY Lake 59.59 55 *e*P **P 22 59 16.7 +1.1**
comp=Z,3.1nm,0.6s,mb3.8
LKWY Lake 59.59 55 *e*P **P 22 59 16.7 +1.1**
LKWY pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
H17A Grant Village 59.62 56 ⇑P **P 22 59 17.0 +1.2**
baz=59,SNR=7.3
K14A Jones Ranch, D 59.63 59 ⇑P **P 22 59 16.7 +0.8**
baz=59,SNR=5.4
DGMT Dagmar 59.70 49 ⇑P **P 22 59 16.5 +0.2**
baz=60
C23A Lambert 59.73 50 ⇑P **P 22 59 16.6 +0.1**
baz=60
RLMT Red Lodge 59.74 54 ⇑P **P 22 59 17.0 +0.4**
baz=60,SNR=6.6
RLMT Red Lodge 59.74 54 *e*P **P 22 59 17.0 +0.3**
E21A Keefer Ranch, 59.77 52 ⇓P **P 22 59 17.3 +0.5**
baz=60
F20A Billings 59.80 53 ⇓P **P 22 59 17.3 +0.4**
baz=60
NVAR Mina Array Bea 59.85 65 P **P 22 59 17.8 +0.3**
comp=Z,5.1nm,0.7s,mb4.0,baz=302,slow=6.5,SNR=27
NVAR pP pP 23 01 07.0 +2.1
comp=Z,1.6nm,0.9s,baz=300,slow=7.2,SNR=3.8
NVAR Mina Array Bea 59.85 65 P **P 22 59 17.8 +0.3**
NVAR pP pP 23 01 07.0 +2.1
K15A Arbon 59.87 58 ⇑P **P 22 59 17.8 +0.3**
baz=60
H18A Shoshone NF, C 59.87 55 ⇑P **P 22 59 17.8 +0.4**
baz=60
J16A Bone 59.91 57 ⇓P **P 22 59 18.4 +0.6**
baz=60
I17A Pilgrim Ck. 59.97 56 ⇓P **P 22 59 18.5 +0.4**
baz=60
L14A Malta 59.97 59 ⇓P **P 22 59 18.8 +0.6**
baz=60
RRI2 Red Ridge 60.00 57 *e*P **P 22 59 19.0 +0.6**

comp=Z,9.3nm,0.7s,mb4.2
LAO LASA Array 60.06 51 ⇑P P 22 59 19.1 +0.3
baz=60
LOHW Long Hollow 60.17 56 eP P 22 59 20.1 +0.6
comp=Z,7.8nm,1.1s,mb4.0
D23A Lindsay 60.18 50 ⇑P P 22 59 19.8 +0.2
baz=60
G20A Bridger 60.19 54 ⇓P P 22 59 19.7 +0.2
baz=60
K16A Soda Springs 60.24 57 ⇓P P 22 59 21.1 +1.2
baz=60,SNR=7.5
J17A Brown Place, J 60.30 57 ⇑P P 22 59 20.8 +0.4
baz=60
E22A Miles City 60.38 51 ⇑P P 22 59 20.9 +0.1
baz=60
L15A Malad City 60.43 59 ⇓P P 22 59 21.8 +0.6
baz=60,SNR=5.4
I18A Diamond G Ranc 60.50 56 ⇑P P 22 59 22.2 +0.5
baz=60
D24A Glendive 60.63 50 ⇓P P 22 59 22.9 +0.4
baz=60
E23A Ismay 60.63 51 ⇓P P 22 59 22.5 0.0
baz=60,SNR=5.2
I19A Meeteetse 60.67 55 ⇑P P 22 59 23.2 +0.4
baz=60
G21A Lodge Grass 60.67 53 ⇑P P 22 59 22.7 -0.1
baz=60
F22A Rosebud 60.72 52 ⇓P P 22 59 22.8 -0.3
baz=60
M15A Larsen Ranch, 60.79 59 ⇓P P 22 59 24.1 +0.5
baz=61
E24A Baker 61.05 50 ⇓P P 22 59 25.3 +0.1
baz=61
L17A Cokeville 61.14 58 ⇓P P 22 59 25.7 -0.2
baz=61
HWUT Hardware Ranch 61.14 58 eP P 22 59 26.1 +0.2
comp=Z,8.7nm,0.8s,mb4.1
I20A Worland 61.16 54 ⇑P P 22 59 26.3 +0.3
baz=61
F23A Volborg 61.16 51 ⇓P P 22 59 25.9 0.0
baz=61
K18A Toltan Ranch, 61.16 57 ⇑P P 22 59 26.3 +0.3
baz=61,SNR=5.7
N15A Stansbury Isla 61.17 60 ⇑P P 22 59 26.5 +0.4
baz=61
H21A Big Horn, Sher 61.19 53 ⇑P P 22 59 26.1 -0.1
baz=61,SNR=6.4
J19A Crowheart 61.20 56 ⇑P P 22 59 26.5 +0.2
baz=61
BW06 Boulder Array 61.31 56 ⇑P P 22 59 26.9 -0.1
baz=61,SNR=12
PDAR Pinedale Array 61.31 56 P P 22 59 26.9 -0.1
comp=Z,7.4nm,0.8s,mb4.1,baz=335,slow=1.6,SNR=36
PDAR Pinedale Array 61.31 56 P P 22 59 26.9 -0.1
R11A Troy Canyon, C 61.39 64 ⇓P P 22 59 27.6 0.0
baz=61
GRAC Grapevine Rang 61.40 66 ⇑P P 22 59 28.1 +0.4
baz=61,SNR=6.7
CWC Cottonwood Cre 61.41 67 ⇑P P 22 59 28.0 +0.2
baz=61
F24A Ekalaka 61.52 51 ⇑P P 22 59 28.7 +0.3
baz=61
DUG Dugway 61.52 60 ⇓P P 22 59 28.6 +0.1
baz=61,SNR=7.3
DUG Dugway 61.52 60 eP P 22 59 28.8 +0.4
comp=Z,8.4nm,0.8s,mb4.2
DUG Dugway 61.52 60 eP P 22 59 28.8 +0.4
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
PKM Peak Mountain 61.56 69 ⇓P P 22 59 29.4 +0.6
baz=61
J20A Shoshoni 61.62 55 ⇑P P 22 59 29.1 +0.1
baz=61
K19A Absolon Red Bu 61.63 56 ⇓P P 22 59 28.7 -0.3
baz=61
O15A The Old Anders 61.64 60 ⇑P P 22 59 29.5 +0.3
baz=62
I21A Big Trails, Te 61.67 54 ⇑P P 22 59 29.3 0.0
baz=62,SNR=13
L18A Fontenelle, Gr 61.69 57 ⇑P P 22 59 29.5 +0.1
baz=62
M17A Scullys Gap (B 61.70 58 ⇓P P 22 59 29.4 -0.1
baz=62
N16A Rees Ranch, Co 61.73 59 ⇑P P 22 59 29.5 -0.3
baz=62
ISA Isabella 61.76 68 ⇑P P 22 59 29.6 -0.4
baz=62
L19A Farson 61.90 57 ⇓P P 22 59 30.4 -0.5
baz=62
G24A Alzada 61.92 51 ⇓P P 22 59 30.5 -0.4
baz=62
J21A Lysite 61.94 55 ⇓P P 22 59 31.7 +0.7
baz=62,SNR=6.6
ULM Lac du Bonnet 61.94 43 P P 22 59 29.6 -1.3
comp=Z,2.2nm,0.3s,mb4.1,baz=331,slow=10,SNR=5.3
ULM Lac du Bonnet 61.94 43 P P 22 59 29.6 -1.3
ULM Lac du Bonnet 61.94 43 P P 22 59 29.6 -1.4
ULM pmax pmax
comp=Z,2.0nm,0.3s
K20A Yellowstone Ra 62.00 56 ⇓P P 22 59 30.9 -0.6
baz=62
MPMC Manual Prospec 62.02 67 ⇑P P 22 59 31.6 -0.1
baz=62,SNR=7.0
VSR Storozhevoye 62.04 319 eP P 22 59 30.8 -0.8
VSR pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,7.0nm,1.0s
FURC Furnace Creek, 62.06 66 ⇓P P 22 59 32.3 +0.3
baz=62,SNR=6.1
NB2 NORSAR Subarra 62.13 340 P P 22 59 31.4 -0.6
comp=Z,1.2nm,0.5s,mb3.6,baz=24,slow=6.5
NOA NORSAR Array B 62.13 340 P P 22 59 31.4 -0.6
comp=Z,1.8nm,0.6s,mb3.7,baz=25,slow=6.6,SNR=8.3
NOA NORSAR Array B 62.13 340 P P 22 59 31.4 -0.6
NOA NORSAR Array B 62.13 340 P P 22 59 31.5 -0.5
NOA pmax pmax
comp=Z,2.0nm,0.6s
DAU Daniels Canyon 62.17 59 eP P 22 59 33.5 +0.9
DAU Daniels Canyon 62.17 59 eP P 22 59 33.5 +0.8
O16A Springville 62.20 59 ⇑P P 22 59 32.7 -0.2
baz=62,SNR=5.0
MDND Maddock 62.20 47 ⇓P P 22 59 32.7 0.0
baz=62
P15A Leamington 62.26 60 ⇓P P 22 59 33.6 +0.4
baz=62
LRMC Laurel Mountai 62.33 67 ⇑P P 22 59 33.6 -0.2
baz=62
R13A O'Grain Ranch, 62.38 63 ⇑P P 22 59 34.2 +0.1
baz=62
L20A Wamsutter 62.48 56 ⇑P P 22 59 34.4 -0.2
baz=62
K21A Alcova 62.56 55 ⇓P P 22 59 34.8 -0.3
baz=62,SNR=7.3
EDW2 Edwards Air Fo 62.60 68 ⇑P P 22 59 35.7 +0.2
baz=62,SNR=8.6
M20A Sweetwater, Wa 62.94 56 ⇑P P 22 59 37.8 +0.2
baz=63
GSC Goldstone 62.95 67 ⇓P P 22 59 37.9 +0.1
baz=63
RSSD Black Hills 63.00 52 eP P 22 59 38.0 0.0
RSSD Black Hills 63.00 52 eP P 22 59 38.0 +0.1
TMUT Trail Mountain 63.02 60 eP P 22 59 38.6 +0.5
comp=Z,10.0nm,0.8s,mb4.3
MSU Marysvale 63.09 61 eP P 22 59 39.6 +1.0
comp=Z,2.3nm,0.6s,mb3.8
MSU Marysvale 63.09 61 eP P 22 59 39.7 +1.1
MSU pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
P17A Butcher Ranch, 63.13 60 ⇓P P 22 59 39.1 +0.3
baz=63
BFSC Mount Baldy Ra 63.26 68 ⇑P P 22 59 40.0 +0.2
baz=63
M21A Separation Pea 63.27 56 ⇑P P 22 59 39.4 -0.3
baz=63
P18A Preston Nutter 63.27 59 ⇑P P 22 59 40.1 +0.3
baz=63
TUQ Turquoise Moun 63.34 66 ⇓P P 22 59 40.4 +0.2
baz=63,SNR=5.6
O19A Miners Draw (B 63.35 58 ⇓P P 22 59 40.1 -0.2
baz=63
N20A Spence Gulch, 63.39 57 ⇓P P 22 59 40.5 0.0
baz=63,SNR=6.2
L22A Ellis Ranch, M 63.41 55 ⇓P P 22 59 40.6 0.0
baz=63,SNR=7.1
HEC Hector,Ludlow 63.56 67 ⇑P P 22 59 42.2 +0.5
baz=63
R16A Teasdale 63.63 61 ⇓P P 22 59 42.6 +0.5
baz=63
Q18A Rafter H Ranch 63.72 59 ⇓P P 22 59 43.1 +0.4
baz=64
M22A Cedar Creek Ra 63.80 55 ⇑P P 22 59 43.8 +0.7
baz=64
P19A Cripple Cowboy 63.92 58 ⇑P P 22 59 43.8 -0.1
baz=64,SNR=5.8
O20A White River Ci 63.92 57 ⇑P P 22 59 43.6 -0.3
baz=64
R17A Hanksville Air 63.93 60 ⇓P P 22 59 44.0 0.0
baz=64
GMRC Granite Mounta 63.97 66 ⇓P P 22 59 44.3 +0.1
baz=64,SNR=7.1
MURC Murrieta 63.98 68 ⇓P P 22 59 44.3 -0.1
baz=64
S16A Weppner Ranch, 63.98 61 ⇑P P 22 59 44.9 +0.5
baz=64,SNR=12
LDFC Landfair 64.05 66 eP P 22 59 44.7 -0.1
comp=Z,12nm,0.4s,mb4.7
KAPI Kappang 64.24 217 P P 22 59 44.9 -1.3
comp=Z,8.3nm,0.9s,mb4.2,baz=339,slow=10,SNR=3.7
KAPI Kappang 64.24 217 P P 22 59 44.9 -1.3
O21A Pagoda 64.26 57 ⇓P P 22 59 46.1 +0.1
baz=64
Q19A Hogan Spring (64.28 59 ⇑P P 22 59 45.8 -0.4
baz=64,SNR=9.0
N22A Wattenberg Ran 64.32 56 ⇑P P 22 59 46.7 +0.2
baz=64
P20A De Beque 64.33 58 ⇑P P 22 59 46.2 -0.2
baz=64
BELC Belle Mtn. Jos 64.36 67 ⇑P P 22 59 46.4 -0.4
baz=64
R18A Canyonlands Na 64.38 60 ⇑P P 22 59 46.3 -0.5
baz=64,SNR=9.0
PFO Pinyon Flat Ob 64.39 68 ⇓P P 22 59 46.9 -0.1
baz=64
S17A Black Ridge (B 64.47 61 ⇓P P 22 59 47.2 -0.2
baz=64,SNR=12
N23A Red Feather La 64.51 55 ⇓P P 22 59 47.6 0.0
baz=64
U15A North Rim 64.58 63 ⇑P P 22 59 48.4 +0.3
baz=64,SNR=6.7
W13A Hualapai Mount 64.70 65 ⇑P P 22 59 49.0 0.0
baz=64
IRM Iron Mountain 64.71 66 ⇑P P 22 59 49.1 +0.1
baz=64,SNR=7.2
O22A Kremmling 64.76 56 ⇑P P 22 59 49.1 -0.1
baz=65
R19A Curley Farm, L 64.78 59 ⇓P P 22 59 49.0 -0.4
baz=65
S18A Hurst Farm, Bl 64.85 60 ⇓P P 22 59 49.4 -0.4
baz=65,SNR=5.7
BC3 Big Chuckawall 64.92 67 ⇑P P 22 59 50.6 +0.3
baz=65
T17A Navajo Res., N 64.94 61 ⇓P P 22 59 50.3 -0.1
baz=65
MONP Monument Peak 64.95 68 ⇑P P 22 59 49.8 -0.7
baz=65
O23A Lake Granby, G 65.04 56 ⇓P P 22 59 51.5 +0.6
baz=65
S19A Harvey Farm, M 65.26 60 ⇓P P 22 59 51.9 -0.4
baz=65
SMCO Snowmass 65.29 57 eP P 22 59 52.7 +0.2
comp=Z,6.3nm,0.7s,mb4.2
DVTC Desert V Tower 65.30 68 ⇓P P 22 59 52.7 -0.1
baz=65
R20A Redvale 65.32 59 ⇑P P 22 59 53.3 +0.6
baz=65
U17A Shonto 65.32 62 ⇓P P 22 59 53.2 +0.4
baz=65,SNR=7.0
T18A Mexican Hat 65.33 61 ⇑P P 22 59 52.3 -0.5
baz=65,SNR=11
Y12C Blythe 65.36 66 ⇓P P 22 59 53.4 +0.4
baz=65
U16A Tuba City 65.41 62 ⇓P P 22 59 53.8 +0.5
baz=65
ISCO Idaho Springs 65.50 56 ⇑P P 22 59 54.3 +0.5
baz=65
EYMN Ely 65.53 42 eP P 22 59 52.1 -1.8
Q22A Crested Butte, 65.56 58 ⇑P P 22 59 54.8 +0.6
baz=65
S20A Disappointment 65.60 59 ⇓P P 22 59 54.7 +0.2
baz=65
R21A Cimarron 65.61 58 ⇑P P 22 59 54.6 +0.1
baz=65,SNR=8.0
GLA Glamis 65.71 67 ⇓P P 22 59 55.6 +0.3
baz=66
WUAZ Wupatki 65.75 63 ⇑P P 22 59 56.1 +0.6
baz=66
U18A Rough Rock, Ch 65.87 61 ⇑P P 22 59 56.7 +0.5
baz=66
V17A Tonalea, Kykot 65.98 62 ⇓P P 22 59 57.2 +0.3
baz=66
MVCO Mesa Verde 65.99 60 ⇑P P 22 59 57.2 +0.2
baz=66
MVCO Mesa Verde 65.99 60 eP P 22 59 56.6 -0.3
comp=Z,4.0nm,0.8s,mb4.0
T19A Beclabito 66.01 60 ⇑P P 22 59 57.4 +0.3
baz=66
S21A Coal Bank Pass 66.02 59 ⇓P P 22 59 57.3 +0.2
baz=66,SNR=11
Y14A Wickenburg 66.05 65 ⇓P P 22 59 57.6 +0.2
baz=66,SNR=6.1
R22A Saguache, Gunn 66.12 58 ⇑P P 22 59 58.5 +0.8
baz=66
AKASG Malin Array Be 66.15 325 P P 22 59 56.7 -1.0
comp=Z,1.6nm,0.5s,mb3.9,baz=32,slow=6.1,SNR=4.4
AKASG Malin Array Be 66.15 325 P P 22 59 56.7 -1.0
AKASG Malin Array Be 66.15 325 P P 22 59 56.7 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.5s
Z13A Yuma Proving G 66.25 66 ⇓P P 22 59 58.9 +0.3
baz=66,SNR=9.1
U19A Dine' College, 66.32 61 ⇑P P 22 59 59.2 +0.2
baz=66
Q24A Divide 66.37 56 ⇓P P 22 59 59.5 +0.2
baz=66
V18A Ganado 66.37 62 ⇓P P 22 59 59.6 +0.2
baz=66
OGNE Ogallala 66.38 53 ⇑P P 22 59 59.1 -0.2
baz=66
P25A Willow Gulch B 66.44 55 ⇓P P 22 59 60.0 +0.3
baz=66,SNR=5.2
S22A 4UR Ranch, Cre 66.45 58 ⇑P P 23 00 00.2 +0.5
baz=66
X16A Lo Mia Camp, P 66.54 64 ⇓P P 23 00 01.0 +0.6
baz=66
U20A Newcomb 66.61 60 ⇓P P 23 00 01.3 +0.5
baz=66
R23A Moffat 66.62 57 ⇓P P 23 00 01.1 +0.2
baz=66
T21A Navajo Lake 66.66 59 ⇓P P 23 00 01.5 +0.4
baz=66
ECSD EROS Data Cent 66.72 48 eP P 23 00 00.1 -1.2
comp=Z,18nm,0.8s,mb4.7
R24A Sanders Place, 66.95 57 ⇓P P 23 00 03.5 +0.6
baz=67
T22A Edith 66.97 59 ⇑P P 23 00 03.0 0.0
baz=67,SNR=5.4
114A Black Gap (USA 67.02 66 ⇓P P 23 00 04.0 +0.6
baz=67
U21A Nageezi 67.03 60 ⇑P P 23 00 03.6 +0.3
baz=67
V20A Brimhall 67.08 61 ⇓P P 23 00 03.8 +0.1
baz=67
W19A Sanders 67.12 62 ⇑P P 23 00 04.5 +0.6
baz=67,SNR=7.5
SDCO Great Sand Dun 67.13 57 ⇑P P 23 00 04.0 0.0
baz=67,SNR=7.9
SDCO Great Sand Dun 67.13 57 eP P 23 00 03.7 -0.2
comp=Z,3.0nm,0.8s,mb3.9
X18A Snowflake 67.26 63 ⇓P P 23 00 05.2 +0.4
baz=67
S24A Houchin Ranch, 67.35 57 ⇓P P 23 00 05.6 +0.3
baz=67
Y17A Roosevelt 67.41 64 ⇓P P 23 00 06.2 +0.4
baz=67
R25A Fountain Ranch 67.43 56 ⇓P P 23 00 05.4 -0.4
baz=67
V21A Milan 67.51 60 ⇓P P 23 00 06.8 +0.4
baz=67
SCHQ Schefferville 67.55 23 P P 23 00 04.4 -1.9
comp=Z,3.7nm,0.5s,mb4.2,baz=345,slow=8.5,SNR=13
SCHQ Schefferville 67.55 23 P P 23 00 04.4 -1.9
W20A Ramah 67.58 61 ⇑P P 23 00 06.7 0.0
baz=67
214A Organ Pipe Nat 67.66 66 ⇑P P 23 00 07.6 +0.3
baz=68
X19A St. Johns 67.69 62 ⇓P P 23 00 08.2 +0.8
baz=68,SNR=5.3
R26A Arlington 67.73 56 ⇓P P 23 00 07.0 -0.6
baz=68
S25A Robets Cordova 67.73 57 ⇑P P 23 00 07.8 +0.2
baz=68
T24A Torres, Weston 67.87 58 ⇑P P 23 00 08.7 +0.2
baz=68,SNR=6.0
X20A Quemado 68.02 62 ⇑P P 23 00 10.2 +0.7
baz=68,SNR=7.9
Y19A Nutrioso 68.07 63 ⇓P P 23 00 10.7 +0.9
baz=68
GNI Garni 68.29 308 eP P 23 00 12.2 +1.2
comp=Z,3.5nm,0.8s,mb3.9
GNI Garni 68.29 308 eP P 23 00 12.2 +1.2
GNI pmax pmax
comp=Z,3.0nm,0.8s
216A Three Points, 68.37 65 ⇓P P 23 00 11.6 0.0
baz=68
X21A Alamocita Cree 68.47 61 ⇓P P 23 00 12.6 +0.4
baz=68,SNR=7.4
Y20A Horse Springs, 68.57 62 ⇑P P 23 00 13.2 +0.4
baz=68,SNR=5.3
118A Homack Ranch, 68.69 64 ⇓P P 23 00 13.8 +0.2
baz=68
U25A Circle Dot Ran 68.72 58 ⇓P P 23 00 13.8 +0.2
baz=68
ANMO Albuquerque 68.78 60 P P 23 00 14.2 +0.1
comp=Z,1.2nm,0.6s,mb3.6,baz=322,slow=7.6,SNR=4.8
ANMO Albuquerque 68.78 60 P P 23 00 14.2 +0.1
ANMO Albuquerque 68.78 60 P P 23 00 14.2 +0.1
ANMO pmax pmax
comp=Z,1.0nm,0.6s
V24A Rampart Ranch, 68.80 59 ⇓P P 23 00 14.5 +0.3
baz=69
X22A Bernardo 68.84 61 ⇑P P 23 00 15.0 +0.6
baz=69
Y21A Point of Rocks 68.87 61 ⇑P P 23 00 15.2 +0.6
baz=69
217A Green Valley 68.89 65 ⇓P P 23 00 15.2 +0.5
baz=69
V25A Rancho No Teng 69.05 58 ⇑P P 23 00 15.7 0.0
baz=69
U26A Atchley Ranch, 69.06 57 ⇑P P 23 00 14.7 -1.0
baz=69
Z20A Nine Sixteen R 69.07 63 ⇑P P 23 00 16.4 +0.6
baz=69
W24A Lazy 6 Ranch, 69.13 59 ⇓P P 23 00 16.3 +0.2
baz=69
CBKS Cedar Bluff 69.15 53 ⇓P P 23 00 14.8 -1.4
baz=69
218A Dragoon 69.16 64 ⇑P P 23 00 16.6 +0.2
baz=69
X23A Hourglass Bar 69.21 60 ⇑P P 23 00 17.1 +0.4
baz=69
Y22A Socorro 69.30 61 ⇓P P 23 00 17.6 +0.4
baz=69
Z21A St. Cloud Mine 69.41 62 ⇓P P 23 00 18.5 +0.7
baz=69
120A U Bar Ranch, L 69.48 63 ⇓P P 23 00 18.6 +0.3
baz=69,SNR=6.2
219A White Tail Can 69.57 64 ⇑P P 23 00 19.2 +0.4
baz=69
318A Bisbee 69.60 65 ⇓P P 23 00 19.3 +0.3
baz=69
W25A X Bar L Ranch, 69.61 58 ⇑P P 23 00 18.4 -0.6
baz=69,SNR=6.2
Y23A Lovelace Mesa, 69.78 60 ⇑P P 23 00 20.3 +0.2
baz=70,SNR=5.5
Z22A Elephant Butte 69.83 61 ⇓P P 23 00 20.6 +0.3
baz=70,SNR=8.6
220A Playas Peak, P 70.03 63 ⇑P P 23 00 22.4 +0.8
baz=70
X25A Clemmons Ranch 70.04 59 ⇑P P 23 00 21.8 +0.2
baz=70
Y24A Capitan 70.11 60 ⇑P P 23 00 21.8 -0.2
baz=70,SNR=5.1
Z23A Rita Site, Whi 70.21 61 ⇓P P 23 00 22.9 +0.3
baz=70
122A Conniff Cattle 70.24 62 ⇑P P 23 00 23.6 +0.8
baz=70
X26A CR and CF Fran 70.46 58 ⇑P P 23 00 23.9 -0.2
baz=70
Y25A Mesa, Roswell 70.50 59 ⇓P P 23 00 23.9 -0.4
baz=70,SNR=6.7
222A Williams Famil 70.64 62 ⇑P P 23 00 25.5 +0.3
baz=70
X27A F and S Farms, 70.75 58 ⇑P P 23 00 26.0 +0.2
baz=71
Y26A Elida 70.95 59 ⇑P P 23 00 27.0 0.0
baz=71
Z25A Roswell 70.99 60 ⇓P P 23 00 27.2 0.0
baz=71
124A Stringfield Ra 71.05 61 ⇓P P 23 00 27.6 0.0
baz=71
AMTX Amarillo 71.29 57 ⇓P P 23 00 28.4 -0.6
baz=71
AMTX Amarillo 71.29 57 eP P 23 00 28.1 -0.9
comp=Z,5.1nm,0.9s,mb4.0
Y27A Causey 71.32 58 ⇑P P 23 00 28.7 -0.4
baz=71
Z26A Caprock 71.38 59 ⇑P P 23 00 29.3 -0.2
baz=71,SNR=10.0
MSTX Muleshoe 71.45 58 ⇓P P 23 00 29.3 -0.6
baz=71
125A Gardner Draw, 71.50 60 ⇓P P 23 00 30.1 -0.1
baz=71,SNR=5.8
224A Cornudas Mount 71.50 61 ⇑P P 23 00 30.2 -0.1
baz=71
Z27A Tatum 71.74 59 ⇑P P 23 00 31.2 -0.4
baz=72,SNR=8.5
126A Clayton Basin, 71.85 60 ⇓P P 23 00 32.0 -0.3
baz=72
225A Deer Hill, Car 71.85 61 ⇑P P 23 00 32.0 -0.2
baz=72,SNR=5.1
MNTX Cornudas Mount 71.87 61 ⇓P P 23 00 32.4 0.0
baz=72,SNR=11
MNTX Cornudas Mount 71.87 61 eP P 23 00 32.1 -0.3
comp=Z,4.0nm,0.8s,mb3.9
324A Moseley Ranch, 72.02 62 ⇑P P 23 00 33.2 0.0
baz=72
226A Malaga, Loving 72.26 60 ⇓P P 23 00 34.5 -0.2
baz=72
325A Bean Ranch, Si 72.35 61 ⇑P P 23 00 34.8 -0.4
baz=72,SNR=5.3
KHC Kasperske Hory 72.41 333 eP P 23 00 35.0 -0.2
KHC Kasperske Hory 72.41 333 eP P 23 00 35.0 -0.2
GERES GERESS Array B 72.64 333 P P 23 00 36.1 -0.3
comp=Z,1.3nm,0.5s,mb3.6,baz=35,slow=5.5,SNR=17
GERES GERESS Array B 72.64 333 P P 23 00 36.1 -0.3
GERES GERESS Array B 72.64 333 P P 23 00 36.2 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.5s
425A Indio Mountain 72.80 62 ⇑P P 23 00 37.6 -0.1
baz=73,SNR=7.0
WMOK Wichita Mounta 72.85 55 eP P 23 00 36.8 -1.1
comp=Z,3.4nm,0.4s,mb4.1
WMOK Wichita Mounta 72.85 55 eP P 23 00 36.8 -1.2
WMOK pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
326A Caldwell Ranch 72.91 61 ⇓P P 23 00 37.9 -0.5
baz=73,SNR=8.2
CTA Charters Tower 73.11 186 P P 23 00 38.2 -1.3
comp=Z,3.9nm,0.7s,mb4.0,baz=268,slow=4.6,SNR=4.5
CTA Charters Tower 73.11 186 P P 23 00 38.2 -1.3
CTA Charters Tower 73.11 186 P P 23 00 38.2 -1.3
CTA pmax pmax
comp=Z,4.0nm,0.7s
TUL1 Tulsa 73.35 52 ⇑P P 23 00 40.4 -0.4
baz=73
426A McDonald Obser 73.40 61 ⇓P P 23 00 40.9 -0.3
baz=73
328A Wristen Ranch, 73.47 60 ⇑P P 23 00 41.1 -0.5
baz=73
SFIN Scholer Farm 73.55 44 ⇓P P 23 00 40.3 -1.6
baz=73
427A Hayter Ranch, 73.58 60 ⇓P P 23 00 41.9 -0.3
baz=73,SNR=6.4
BRTR Keskin Array B 73.62 315 P P 23 00 42.2 -0.1
comp=Z,1.9nm,0.6s,mb3.7,baz=42,slow=2.5,SNR=11
BRTR Keskin Array B 73.62 315 P P 23 00 42.2 -0.1
BRTR Keskin Array B 73.62 315 P P 23 00 42.2 -0.1
BRTR pmax pmax
comp=Z,2.0nm,0.6s
526A Mary Lane Ranc 73.84 61 ⇑P P 23 00 43.8 0.0
baz=74,SNR=7.6

527A	**Woodward Ranch**	**74.03**	**61**	⇓P	**P**	**23 00 44.6**	**-0.2**
	baz=74						
428A	**Kincaid Ranch,**	**74.06**	**60**	⇑P	**P**	**23 00 45.0**	**+0.1**
	baz=74,SNR=9.5						
626A	**Big Bend Ranch**	**74.22**	**62**	⇑P	**P**	**23 00 45.7**	**-0.1**
	baz=74,SNR=6.7						
528A	**Cox Ranch, San**	**74.45**	**60**	⇓P	**P**	**23 00 47.1**	**0.0**
	baz=74,SNR=7.6						
WRAB	**Tennant Creek**	**74.46**	**198**	*e*P	**P**	**23 00 45.5**	**-1.7**
	comp=Z,8.3nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**74.46**	**198**	*e*P	**P**	**23 00 45.5**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**74.47**	**198**	P	**P**	**23 00 45.9**	**-1.3**
	comp=Z,8.6nm,0.6s,mb4.3,baz=14,slow=5.9,SNR=108						
WRA	**Warramunga Arr**	**74.47**	**198**	P	**P**	**23 00 45.9**	**-1.3**
WRA	**Warramunga Arr**	**74.47**	**198**	P	**P**	**23 00 45.9**	**-1.3**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TXAR	**Lajitas Array**	**74.64**	**62**	P	**P**	**23 00 48.1**	**-0.2**
	comp=Z,3.8nm,0.6s,mb4.0,baz=296,slow=4.3,SNR=60						
TXAR				pP	pP	23 02 46.3	+4.0
	comp=Z,0.7nm,0.8s,baz=307,slow=4.4,SNR=6.4						
TXAR	**Lajitas Array**	**74.64**	**62**	P	**P**	**23 00 48.1**	**-0.2**
TXAR				pP	pP	23 02 46.3	+4.0
TXAR	**Lajitas Array**	**74.64**	**62**	P	**P**	**23 00 48.1**	**-0.1**
TXAR				*PP	pP	23 02 46.3	+4.0
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CDF	**Champ du Feu**	**74.67**	**337**	*e*P	**P**	**23 00 47.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**74.68**	**207**	P	**P**	**23 00 47.2**	**-1.2**
	comp=Z,3.7nm,0.6s,mb4.0,baz=29,slow=3.1,SNR=19						
FITZ	**Fitzroy Crossi**	**74.68**	**207**	P	**P**	**23 00 47.2**	**-1.2**
627A	**Terlingua Ranc**	**74.70**	**61**	⇓P	**P**	**23 00 48.3**	**-0.2**
	baz=74						
PAGF	**Fort de Pagny**	**74.90**	**338**	*e*P	**P**	**23 00 49.1**	**-0.2**
	comp=Z,2.5nm,0.6s,mb3.5						
628A	**Black Gap, Mar**	**74.93**	**61**	⇑P	**P**	**23 00 49.5**	**-0.3**
	baz=75						
MIB	**Mutribah**	**75.18**	**300**	*e*P	**P**	**23 00 50.2**	**-1.0**
MIB				AMb	AMB	23 00 51.2	
	comp=Z,44nm,0.6s,mb5.0						
HAU	**Haudompre**	**75.27**	**337**	*e*P	**P**	**23 00 50.7**	**-0.7**
	comp=Z,4.8nm,0.7s,mb3.8						
HINF	**Hinteralfeld**	**75.33**	**337**	*e*P	**P**	**23 00 50.8**	**-1.0**
SFTF	**Sexfontaines**	**75.38**	**338**	*e*P	**P**	**23 00 51.0**	**-1.0**
	comp=Z,12nm,0.5s,mb4.3						
KBD	**Kabd**	**75.50**	**299**	*e*P	**P**	**23 00 52.3**	**-0.7**
KBD				AMb	AMB	23 00 53.5	
	comp=Z,19nm,0.8s,mb4.6						
NAY	**Al-Naaiem**	**75.67**	**300**	*e*P	**P**	**23 00 52.7**	**-1.3**
NAY				AMb	AMB	23 00 55.0	
	comp=Z,18nm,1.4s,mb4.3						
JCT	**Junction City**	**75.75**	**58**	⇓P	**P**	**23 00 53.8**	**-0.6**
	baz=76						
LDF	**La Druitiere**	**76.08**	**342**	*e*P	**P**	**23 00 54.8**	**-1.1**
	comp=Z,3.9nm,0.5s,mb3.8						
GRR	**Gorron**	**76.41**	**342**	*e*P	**P**	**23 00 57.1**	**-0.6**
	comp=Z,16nm,0.7s,mb4.2						
LOR	**Lormes**	**76.53**	**339**	*e*P	**P**	**23 00 57.6**	**-0.8**
LPL	**La Plagne**	**77.52**	**336**	*e*P	**P**	**23 01 04.2**	**+0.4**
	comp=Z,8.4nm,0.6s,mb3.9						
LPG	**La Plagne**	**77.53**	**336**	*e*P	**P**	**23 01 04.4**	**+0.5**
	comp=Z,9.8nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**78.19**	**198**	P	**P**	**23 01 06.8**	**-0.7**
	comp=Z,10nm,0.7s,mb4.2,baz=6.1,slow=5.2,SNR=116						
ASAR				pP	pP	23 03 07.1	+3.9
	comp=Z,0.2nm,0.5s,baz=312,slow=38,SNR=2.1						
ASAR	**Alice Springs**	**78.19**	**198**	P	**P**	**23 01 06.8**	**-0.7**
ASAR				pP	pP	23 03 07.1	+3.9
ASAR	**Alice Springs**	**78.19**	**198**	P	**P**	**23 01 06.8**	**-0.7**
ASAR				*PP	pP	23 03 07.1	+3.9
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ORIF	**Oris-en-Rattie**	**78.29**	**337**	*e*P	**P**	**23 01 06.5**	**-1.4**
	comp=Z,40nm,1.2s,mb4.3						
TKL	**Tuckaleechee C**	**78.93**	**44**	P	**P**	**23 01 10.1**	**-1.5**
	comp=Z,4.6nm,0.9s,mb3.8,baz=190,slow=12,SNR=5.6						
TKL	**Tuckaleechee C**	**78.93**	**44**	P	**P**	**23 01 10.1**	**-1.5**
TKL	**Tuckaleechee C**	**78.93**	**44**	P	**P**	**23 01 10.1**	**-1.5**
TKL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
KMSC	**Kings Mountain**	**80.38**	**42**	⇑P	**P**	**23 01 18.0**	**-1.2**
	baz=80						
STKA	**Stephens Creek**	**85.19**	**189**	P	**P**	**23 01 41.7**	**-1.3**
	comp=Z,2.9nm,0.8s,mb3.9,baz=236,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**85.19**	**189**	P	**P**	**23 01 41.7**	**-1.3**
STKA	**Stephens Creek**	**85.19**	**189**	P	**P**	**23 01 41.7**	**-1.3**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ESDC	**Sonseca Array**	**85.40**	**342**	P	**P**	**23 01 43.1**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.1,baz=5.5,slow=3.8,SNR=4.7						
ESDC	**Sonseca Array**	**85.40**	**342**	P	**P**	**23 01 43.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**109.47**	**330**	PKiKP	PKiKP	23 07 31.1	-2.2
	comp=Z,0.3nm,0.5s,baz=14,slow=2.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**109.47**	**330**	PKiKP	PKiKP	23 07 31.1	-2.2
DBIC	**Dimbokro**	**117.48**	**335**	PKP	PKPdf	23 07 46.4	-2.2
	comp=Z,2.7nm,0.7s,baz=2.0,slow=5.3,SNR=5.6						
DBIC	**Dimbokro**	**117.48**	**335**	PKP	PKPdf	23 07 46.4	-2.2
DBIC	**Dimbokro**	**117.48**	**335**	PKiKP	PKPdf	23 07 46.4	-2.2
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LBTB	**Lobatse**	**131.72**	**284**	SKPbc	SKPbc	23 10 47.2	-2.9
	comp=Z,3.4nm,0.7s,baz=77,slow=1.5,SNR=8.2						
LBTB	**Lobatse**	**131.72**	**284**	SKPbc	SKPbc	23 10 47.2	-2.9
QSPA	**South Pole Qui**	**142.86**	**180**	*e*PKPdf	PKPdf	23 08 29.8	-4.4
CFAA	**Coronel Fontan**	**143.57**	**70**	PKP	PKPdf	23 08 33.9	-3.0
	comp=Z,1.1nm,0.4s,baz=287,slow=3.0,SNR=15						
CFAA	**Coronel Fontan**	**143.57**	**70**	PKP	PKPdf	23 08 33.9	-3.0
CPUP	**Villa Florida**	**145.12**	**52**	PKPbc	PKPbc	23 08 38.9	-1.8
	comp=Z,2.0nm,0.6s,baz=353,slow=6.6,SNR=5.0						
CPUP	**Villa Florida**	**145.12**	**52**	PKPbc	PKPbc	23 08 38.9	-1.8
CPUP	**Villa Florida**	**145.12**	**52**	PKIKP	PKPdf	23 08 38.9	-0.8
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SYO	**Syowa Base**	**146.05**	**216**	‖*e*PKPdf	PKPdf	23 08 38.8	-1.1
PLCA	**Paso Flores**	**148.46**	**85**	PKPbc	PKPbc	23 08 48.2	-0.9
	comp=Z,4.7nm,0.6s,baz=287,slow=2.6,SNR=20						
PLCA	**Paso Flores**	**148.46**	**85**	PKPbc	PKPbc	23 08 48.2	-0.9

*ISK **04** 23:01:16.6, 40°.83N×30°.77E, h5km, MD2.9*
*CSEM **04** 23:01:17.9±0.1, 40°.79N×30°.74E, h10km, MD3.1, Error ellipse: s-maj=3.8km s-min=2.5km az=14.0*
*ISCJB **04** 23:01:18.1±0.5, 40°.76N±0°.03×30°.71E±0°.03, h7km±4km, Error ellipse: s-maj=5.8km s-min=3.8km az=0.1*
*DDA **04** 23:01:18.2, 40°.73N×30°.75E, h7km±1km, Md3.1*
ISC 04 23:01:18.4±0.5,**40°.77N**±0°.03×**30°.72E**±0°.03,**h10**km±4km, **n52**,σ0**°77**/66,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.14**	**66**	*i* P	**Pg**	**23 01 21.9**	**+0.2**
HENT				*i* S	**Sg**	**23 01 24.3**	**+0.4**
HENT	**Hendek**	**0.14**	**66**	*i* P	**Pg**	**23 01 21.9**	**+0.3**
HENT				*i* S	**Sg**	**23 01 24.3**	**+0.4**
SPNC	**Sapanca-Adapaz**	**0.33**	**256**	*e*PG	**Pg**	**23 01 24.4**	**-0.5**
SPNC				*e*SG	**Sg**	**23 01 30.7**	**+1.5**
SPNC	**Sapanca-Adapaz**	**0.33**	**256**	*e*Pg	**Pg**	**23 01 24.4**	**-0.4**
SPNC				*e*Sg	**Sg**	**23 01 30.7**	**+1.5**
GULT	**Gulveren**	**0.37**	**206**	*e*PG	**Pg**	**23 01 25.5**	**-0.1**
GULT	**Gulveren**	**0.37**	**206**	*e*Pg	**Pg**	**23 01 25.5**	**-0.1**
MDUB	**Mudurnu**	**0.47**	**129**	*e*PG	**Pg**	**23 01 26.6**	**-0.8**
MDUB				*e*SG	**Sg**	**23 01 33.5**	**-0.1**
MDUB	**Mudurnu**	**0.47**	**129**	*e*Pg	**Pg**	**23 01 26.6**	**-0.8**
MDUB				*e*Sg	**Sg**	**23 01 33.5**	**-0.1**
GPA	**Golpazari**	**0.57**	**214**	*e*PG	**Pg**	**23 01 29.6**	**+0.2**
GPA	**Golpazari**	**0.57**	**214**	*e*Pg	**Pg**	**23 01 29.6**	**+0.2**
ADVT	**Abdulvahap**	**0.82**	**246**	*e*PG	**Pg**	**23 01 33.9**	**-0.2**
ADVT	**Abdulvahap**	**0.82**	**246**	*e*Pg	**Pg**	**23 01 33.9**	**-0.3**
CAVI	**Cavuskoy**	**0.88**	**230**	*e*PG	**Pg**	**23 01 35.3**	**0.0**
CAVI	**Cavuskoy**	**0.88**	**230**	*e*Pg	**Pg**	**23 01 35.3**	**+0.1**
SILT	**Sile**	**0.91**	**296**	*e*PG	**Pg**	**23 01 34.4**	**-1.4**
SILT	**Sile**	**0.91**	**296**	*e*Pg	**Pg**	**23 01 34.4**	**-1.4**
BORA	**Eskisehir**	**0.91**	**193**	*e*P	**Pg**	**23 01 35.2**	**-0.6**
BORA				*e*S	**Sg**	**23 01 48.4**	**+0.7**
BORA	**Eskisehir**	**0.91**	**193**	*e*P	**Pg**	**23 01 35.2**	**-0.6**
BORA				*e*S	**Sg**	**23 01 48.4**	**+0.8**
SGKT	**Sivrigoynuk**	**1.03**	**100**	*e*P	**Pg**	**23 01 37.5**	**-0.7**
SGKT				*e*S	**Sg**	**23 01 51.9**	**+0.3**
SGKT	**Sivrigoynuk**	**1.03**	**100**	*e*P	**Pg**	**23 01 37.5**	**-0.7**
SGKT				*e*S	**Sg**	**23 01 51.9**	**+0.3**
YLV	**Yalova**	**1.05**	**260**	*e*PN	**Pn**	**23 01 38.1**	**-1.0**
YLV	**Yalova**	**1.05**	**260**	*e*Pn	**Pn**	**23 01 38.1**	**-1.0**
ESKT	**Eskisehir**	**1.25**	**176**	*e*PN	**Pn**	**23 01 42.1**	**+0.3**
ESKT	**Eskisehir**	**1.25**	**176**	*e*P	**Pn**	**23 01 41.1**	**-0.7**
ESKT				*e*S	**Sb**	**23 01 56.9**	**-1.2**
ESKT	**Eskisehir**	**1.25**	**176**	*e*Pn	**Pn**	**23 01 42.2**	**+0.3**
SEYT	**Eskypehyr**	**1.25**	**176**	*e*P	**Pn**	**23 01 41.1**	**-0.8**
SEYT				*e*S	**Sb**	**23 01 56.9**	**-1.2**
ISK	**Istanbul-Kandi**	**1.30**	**284**	*e*PN	**Pn**	**23 01 42.0**	**-0.6**
ISK	**Istanbul-Kandi**	**1.30**	**284**	*e*Pn	**Pn**	**23 01 42.0**	**-0.5**
KLYT	**Kilyos**	**1.36**	**291**	*e*PN	**Pn**	**23 01 43.1**	**-0.3**
KLYT	**Kilyos**	**1.36**	**291**	*e*Pn	**Pn**	**23 01 43.1**	**-0.3**
ARMT	**Armutlu**	**1.43**	**263**	*e*PN	**Pn**	**23 01 44.6**	**+0.2**
ARMT	**Armutlu**	**1.43**	**263**	*e*Pn	**Pn**	**23 01 44.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.45**	**155**	*e*PN	**Pn**	**23 01 45.3**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.45**	**155**	*e*Pn	**Pn**	**23 01 45.3**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.46**	**255**	*e*PN	**Pn**	**23 01 45.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.46**	**255**	*e*Pn	**Pn**	**23 01 45.1**	**+0.4**
BGKT	**Bogazkoy**	**1.54**	**286**	*e*PN	**Pn**	**23 01 45.6**	**-0.2**
BGKT	**Bogazkoy**	**1.54**	**286**	*e*Pn	**Pn**	**23 01 45.6**	**-0.2**
SAFT	**Safranbolu**	**1.56**	**72**	*e*PN	**Pn**	**23 01 45.2**	**-0.9**
SAFT	**Safranbolu**	**1.56**	**72**	*e*Pn	**Pn**	**23 01 45.2**	**-0.9**
CTKS	**Kestanelik-??a**	**1.74**	**286**	*e*PN	**Pn**	**23 01 48.6**	**-0.1**
CTKS	**Kestanelik-??a**	**1.74**	**286**	*e*Pn	**Pn**	**23 01 48.6**	**-0.1**
ALT	**Altintas**	**1.77**	**196**	*e*PN	**Pn**	**23 01 49.7**	**+0.6**
ALT	**Altintas**	**1.77**	**196**	*e*Pn	**Pn**	**23 01 49.7**	**+0.6**
LOD	**Lodumlu**	**1.79**	**119**	*e*PN	**Pn**	**23 01 49.3**	**0.0**
LOD	**Lodumlu**	**1.79**	**119**	*e*Pn	**Pn**	**23 01 49.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.87**	**255**	*e*PN	**Pn**	**23 01 51.2**	**+0.7**
KCTX	**Karacabey (Bur**	**1.87**	**255**	*e*Pn	**Pn**	**23 01 51.2**	**+0.7**
DST	**Dursunbey**	**1.99**	**235**	*e*PN	**Pn**	**23 01 52.9**	**+0.9**
DST	**Dursunbey**	**1.99**	**235**	*e*Pn	**Pn**	**23 01 52.9**	**+0.9**
ELDT	**Eldivan**	**2.08**	**97**	*e*P	**Pn**	**23 01 57.3**	**+4.1**
ELDT				*e*S	**Sn**	**23 02 27.9**	**+8.8**
BALT	**Daday**	**2.15**	**68**	*e*P	**Pn**	**23 01 56.9**	**+2.6**
BALT				*e*S	**Sn**	**23 02 27.1**	**+6.1**

*BJI **04** 23:13:26.8, 2°.98N×122°.77E, h590km, mB4.9/26, mb4.9/41*
*MOS **04** 23:13:32.5±0.9, 3°.58N×122°.55E, h608km, mb4.7/23, Error ellipse: s-maj=13.5km s-min=6.2km az=119.7*
*ISCJB **04** 23:13:32.2±0.2, 3°.56N±0°.02×122°.54E±0°.03, h602km±2km, mb4.9/13, Error ellipse: s-maj=3.9km s-min=3.4km az=166.5*
*NEIC **04** 23:13:33.1±0.3, 3°.53N×122°.51E, h599km±4km, mb5.0/47, Error ellipse: s-maj=5.7km s-min=3.3km az=55.0*
*IDC **04** 23:13:33.3±0.7, 3°.60N×122°.58E, h600km±7km, mb4.1/36, mb1 4.1/37, mb1mx4.1/41, mbtmp4.1/37, Error ellipse: s-maj=10.1km s-min=5.8km az=69.0*
*DJA **04** 23:13:33.2±0.2, 4°N±3°×12°2E±°, h588km±2km, M4.8, mB5.3/50, mb5.0/70, MLv5.5/15, Mw(mB)4.7/50*
ISC 04 23:13:32.9±0.2,**3°.52N**±0°.02×**122°.52E**±0°.03,**h592**km±2km, **h602**km±4.5km:**pP-P**,**n388**,σ0**°98**/396,**mb4.9**/112,**13C-9D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**2.91**	**170**	P	**P**	**23 14 49.6**	**-1.3**
GTOI				S	**S**	**23 15 51.3**	**-3.0**
SGSI	**Sangihe**	**3.01**	**87**	P	**P**	**23 14 50.2**	**-1.2**
SGSI				S	**S**	**23 15 56.1**	**+0.7**
MRSI	**Marisa**	**3.08**	**191**	P	**P**	**23 14 51.4**	**-0.5**
MNI	**Manado**	**3.11**	**132**	P	**P**	**23 14 51.4**	**-0.6**
MNI				S	**S**	**23 15 56.9**	**+0.5**
KMSI	**Cibinong**	**3.27**	**153**	P	**P**	**23 14 52.8**	**-0.2**
CTBH	**Cotabato--PC H**	**4.06**	**25**	‖*i*P	**P**	**23 14 58.6**	**+0.4**
MYLDM	**Lahad Datu**	**4.33**	**293**	P	**P**	**23 15 01.3**	**+1.2**
MYLDM	**Lahad Datu**	**4.33**	**293**	P	**P**	**23 14 59.8**	**-0.3**
PAGZ	**Pagadian**	**4.38**	**11**	*e*P	**P**	**23 15 01.1**	**+0.6**
LUWI	**Luwuk**	**4.54**	**177**	P	**P**	**23 14 59.9**	**-1.9**
LUWI				S	**S**	**23 16 11.2**	**-2.9**
DAV	**Davao City (W)**	**4.66**	**41**	P	**P**	**23 15 03.7**	**+1.1**
	296nm,0.3s,baz=207,slow=0.6,SNR=93						
DAV				S	**S**	**23 16 17.4**	**+1.6**
	153nm,0.3s,baz=309,slow=22,SNR=5.9						
DAV	**Davao City (W)**	**4.66**	**41**	*e*P	**P**	**23 15 03.8**	**+1.1**
DAV				S	**S**	**23 16 17.4**	**+1.6**
DAV				*e*S	**S**	**23 16 17.8**	**+1.9**
DAV	**Davao City (W)**	**4.66**	**41**	P	**P**	**23 15 02.7**	**+0.1**
DAV	**Davao City (W)**	**4.66**	**41**	P	**P**	**23 15 02.1**	**-0.5**
	SNR=60						
TSM	**Tawau**	**4.70**	**280**	P	**P**	**23 15 02.7**	**-0.2**
BUKP	**Musuan**	**5.01**	**30**	*e*P	**P**	**23 15 06.1**	**+0.7**
MATI	**Mati**	**5.04**	**47**	*e*P	**P**	**23 15 05.3**	**-0.3**
TNTI	**Ternate**	**5.56**	**119**	P	**P**	**23 15 08.9**	**-1.0**
	10.0nm3μm,0.8s						
TNTI				S	**S**	**23 16 27.5**	**-1.6**
	10.0nm3μm,0.8s						
TBP	**Tagbilaran**	**6.27**	**12**	*e*P	**P**	**23 15 15.9**	**-0.1**
MSSI	**Masamba**	**6.42**	**200**	P	**P**	**23 15 18.3**	**+0.9**
	1.1nm296nm,0.7s						
LBMI	**Labuha**	**6.47**	**130**	P	**P**	**23 15 17.2**	**-0.6**
	8.8nm1μm,0.7s						
LBMI				S	**S**	**23 16 42.3**	**-1.3**
	8.8nm1μm,0.7s						
KDM	**Kudat**	**6.59**	**301**	P	**P**	**23 15 18.7**	**-0.1**
SMKI	**Samarinda**	**6.61**	**233**	P	**P**	**23 15 19.6**	**+0.6**
	2.9nm10μm861nm,0.9s						
SMKI				S	**S**	**23 16 50.2**	**+4.4**
	2.9nm10μm861nm,0.9s						
KKM	**Kota Kinabalu**	**6.76**	**292**	P	**P**	**23 15 20.6**	**+0.2**
KKM	**Kota Kinabalu**	**6.76**	**292**	*e*P	**P**	**23 15 20.1**	**-0.4**
KKM				*e*S	**S**	**23 16 46.6**	**-1.8**
KKM	**Kota Kinabalu**	**6.76**	**292**	P	**P**	**23 15 20.0**	**-0.4**
	3.6nm9μm902nm,1.1s						
LLP	**Lapu-Lapu**	**6.90**	**12**	*e*P	**P**	**23 15 21.1**	**-0.6**
MSLP	**Maasin**	**6.97**	**19**	*e*P	**P**	**23 15 22.4**	**+0.1**
BATP	**Bataraza**	**7.03**	**318**	*e*P	**P**	**23 15 23.4**	**+0.5**
GUIM	**Jordan**	**7.06**	**1**	*e*P	**P**	**23 15 22.1**	**-1.1**
TTSI	**Tana Toraja**	**7.06**	**202**	P	**P**	**23 15 22.9**	**-0.2**
	0.3nm1μm113nm,0.8s						
KDI	**Kendari**	**7.43**	**179**	P	**P**	**23 15 26.2**	**-0.4**
	0.2nm591nm61nm,0.6s						
CUYO	**Cuyo Island**	**7.43**	**349**	*e*P	**P**	**23 15 26.8**	**+0.2**
SPSI	**Sidrap Palu**	**7.93**	**200**	P	**P**	**23 15 30.5**	**-0.8**
	0.3nm798nm102nm,0.8s						
NLAI	**Namlea**	**8.13**	**146**	P	**P**	**23 15 34.6**	**+1.4**
	5μm421nm,0.9s						
KAPI	**Kappang**	**8.92**	**198**	P	**P**	**23 15 40.1**	**-0.8**
	5.0nm,0.3s,baz=132,slow=5.8,SNR=9.7						
KAPI	**Kappang**	**8.92**	**198**	*e*P	**P**	**23 15 40.3**	**-0.6**
KAPI	**Kappang**	**8.92**	**198**	P	**P**	**23 15 40.5**	**-0.4**
	29nm,1.5s						
KAPI	**Kappang**	**8.92**	**198**	P	**P**	**23 15 39.7**	**-1.2**
	SNR=7.0						
BKSI	**Bulukumba**	**9.10**	**195**	P	**P**	**23 15 43.0**	**+0.3**
	21nm,0.8s						
AAI	**Ambon**	**9.14**	**142**	P	**P**	**23 15 44.2**	**+1.2**
	5μm314nm,0.8s						
MSAI	**Masohi**	**9.36**	**137**	P	**P**	**23 15 46.2**	**+1.0**
	3μm238nm,0.7s						
BTM	**Bintulu**	**9.42**	**268**	P	**P**	**23 15 46.9**	**+1.1**
SBUM	**Sibu**	**10.34**	**264**	P	**P**	**23 15 55.9**	**+0.9**
SBUM	**Sibu**	**10.34**	**264**	P	**P**	**23 15 55.4**	**+0.5**
	3μm217nm,0.8s						
BBKI	**Banjar Baru**	**10.34**	**228**	P	**P**	**23 15 54.7**	**-0.3**
	2μm84nm,0.8s						
STKI	**Sintang**	**11.55**	**253**	P	**P**	**23 16 07.3**	**+0.1**
	8μm69nm,0.8s						
MMRI	**Maumere**	**12.08**	**181**	P	**P**	**23 16 14.1**	**+1.6**
	71nm,0.8s						
KSM	**Kuching**	**12.37**	**261**	P	**P**	**23 16 15.4**	**0.0**
KSM	**Kuching**	**12.37**	**261**	*e*P	**P**	**23 16 15.1**	**-0.3**
KSM				*e*S	**S**	**23 18 27.4**	**-1.5**
KSM	**Kuching**	**12.37**	**261**	P	**P**	**23 16 15.1**	**-0.3**
	3μm223nm,0.8s						
PBKI	**Pangkalan Bun**	**12.48**	**240**	P	**P**	**23 16 15.6**	**-0.9**
	2μm154nm,1.2s						
KMMI	**Kalianget**	**13.53**	**219**	P	**P**	**23 16 25.5**	**-1.7**
	91nm,0.8s						
MTNI	**Mataram**	**13.63**	**208**	P	**P**	**23 16 29.3**	**+1.1**
	10μm110nm,0.8s						
SRBI	**Singaraja**	**13.64**	**212**	P	**P**	**23 16 28.5**	**+0.3**
	57nm,1.1s						
KHKI	**Kahang-Kahang**	**13.67**	**210**	P	**P**	**23 16 29.9**	**+1.3**
	58nm,1.2s						
TLE	**Tual**	**13.67**	**132**	P	**P**	**23 16 30.0**	**+1.4**
	6μm484nm,0.8s						
IGBI	**Denpasar**	**14.29**	**211**	P	**P**	**23 16 35.8**	**+1.0**
	3μm88nm,1.1s						
BAKI	**Biak**	**14.37**	**109**	P	**P**	**23 16 36.4**	**+0.8**
	5μm551nm,0.9s						
JAGI	**Jajag, Banyuwa**	**14.54**	**215**	P	**P**	**23 16 37.0**	**-0.3**
	2μm208nm,0.9s						
GMJI	**Gumukmas**	**14.80**	**218**	P	**P**	**23 16 40.1**	**+0.4**
	2μm210nm,1.0s						
KRKI	**Karangkates**	**15.34**	**221**	P	**P**	**23 16 45.3**	**+0.7**
	529nm,0.8s						
NGJI	**Ngawi**	**15.45**	**226**	P	**P**	**23 16 46.8**	**+1.2**
	96nm,1.0s						
SJI	**Sawahan**	**15.49**	**224**	P	**P**	**23 16 46.5**	**+0.5**
	161nm,0.7s						
PWJI	**Pagerwojo**	**15.67**	**223**	P	**P**	**23 16 47.2**	**-0.5**
	71nm,0.9s						
SMRI	**Semarang**	**15.98**	**229**	P	**P**	**23 16 52.0**	**+1.4**
	108nm,1.0s						
TPI	**Tanjungpandan**	**16.11**	**247**	P	**P**	**23 16 51.7**	**0.0**
	3μm319nm,0.9s						
PCJI	**Pacitan**	**16.23**	**224**	P	**P**	**23 16 54.1**	**+1.3**
	1μm141nm,0.7s						
UGM	**Wanagama**	**16.50**	**226**	P	**P**	**23 17 04.3**	**+9.1**
BJII	**Banjamegara**	**16.72**	**230**	P	**P**	**23 16 58.7**	**+1.4**
	4μm389nm,0.8s						
SMPI	**Sarmi**	**17.09**	**108**	P	**P**	**23 17 02.6**	**+1.9**
	6μm154nm,0.6s						
PPBI	**Pangkal Pinang**	**17.32**	**251**	P	**P**	**23 17 02.8**	**0.0**
	5μm126nm,0.7s						
LEM	**Lembang**	**18.08**	**235**	P	**P**	**23 17 11.2**	**+1.5**
	2μm216nm,0.9s						
CISI	**Cisompet, Garu**	**18.34**	**233**	P	**P**	**23 17 11.2**	**-0.9**
	2μm140nm,0.8s						
CBJI	**Citeko**	**18.50**	**238**	P	**P**	**23 17 14.9**	**+1.4**
	747nm,1.0s						
DBJI	**Dramaga**	**18.65**	**238**	P	**P**	**23 17 15.2**	**+0.3**
	208nm,1.1s						
MYKOM	**Kota Tinggi**	**18.73**	**265**	P	**P**	**23 17 15.9**	**+0.3**
	1μm137nm,0.9s						
SBJI	**Serang**	**18.96**	**240**	P	**P**	**23 17 18.5**	**+0.8**
	314nm,0.9s						
SKJI	**Sukabumi**	**19.06**	**237**	P	**P**	**23 17 18.7**	**+0.1**
	146nm,0.7s						
JAY	**Jayapura**	**19.14**	**108**	P	**P**	**23 17 22.1**	**+2.7**
	66nm,0.7s						
KGM	**Kluang**	**19.23**	**266**	P	**P**	**23 17 21.0**	**+0.7**
BLSI	**Bandar Lampung**	**19.38**	**243**	P	**P**	**23 17 22.6**	**+1.1**
	4μm406nm,0.7s						
KLI	**Kotabumi**	**19.51**	**245**	P	**P**	**23 17 22.9**	**+0.2**
	3μm328nm,0.9s						
KLSI		**19.55**	**245**	P	**P**	**23 17 23.2**	**+0.1**
	2μm191nm,1.1s						
CGJI	**Cibinong**	**19.58**	**239**	P	**P**	**23 17 22.7**	**-0.7**
	1μm172nm,0.9s						
MDSI	**Maura Dua**	**19.98**	**247**	P	**P**	**23 17 26.7**	**-0.2**
	918nm60nm,1.0s						
LWLI	**Liwa**	**20.30**	**245**	P	**P**	**23 17 30.1**	**+0.3**
	452nm,0.8s						
NACB	**Ninganchiao**	**20.55**	**358**	*e*P	**P**	**23 17 31.8**

NJ2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
NJ2 pmax pmax
comp=Z,840nm,4.6s
KMI Kunming 28.69 320 P **P** **23 18 45.5 +1.7**
KMI sP sP 23 21 29.0 +1.9
KMI S **S** **23 22 55.2 +2.7**
KMI pmax pmax
comp=Z,16nm,1.3s,mb4.5
KMI pmax pmax
comp=Z,130nm,3.4s
KMI Kunming 28.69 320 P **P** **23 18 45.5 +1.7**
comp=Z,16nm,1.3s,mb4.5
KMI sP sP 23 21 29.0 +1.9
KMI S **S** **23 22 55.2 +2.7**
KMI Kunming 28.69 320 P **P** **23 18 45.5 +1.7**
KMI *SP sP 23 21 29.0 +1.9
KMI S **S** **23 22 55.2 +2.7**
KMI pmax pmax
comp=Z,16nm,1.3s,mb4.5
ASAR Alice Springs 29.21 158 P **P** **23 18 48.5 +0.2**
comp=Z,40nm,0.6s,mb5.2,baz=335,slow=7.2,SNR=632
ASAR PcP PcP 23 21 35.8 -0.3
comp=Z,3.7nm,0.4s,baz=341,slow=2.5,SNR=5.3
ASAR S **S** **23 22 58.5 -2.0**
comp=Z,13nm,0.7s,baz=341,slow=19,SNR=29
ASAR ScP ScP 23 24 21.3 -1.2
comp=Z,23nm,0.7s,baz=342,slow=2.8,SNR=36
ASAR Alice Springs 29.21 158 P **P** **23 18 48.5 +0.2**
ASAR PcP PcP 23 21 35.8 -0.3
ASAR S **S** **23 22 58.5 -2.0**
ASAR ScP ScP 23 24 21.3 -1.2
ASAR Alice Springs 29.21 158 P **P** **23 18 48.6 +0.3**
ASAR 23 21 35.8
ASAR S **S** **23 22 58.6 -2.0**
ENH Enshi 29.32 337 *e*P **P** **23 18 49.6 +0.4**
comp=Z,33nm,0.8s,mb5.0
CBIJ Chichi jima 30.05 37 P **P** **23 18 54.2 -1.3**
comp=Z,69nm,0.3s,mb5.7,baz=119,slow=22,SNR=12
CBIJ S **S** **23 23 09.1 -4.4**
comp=Z,124nm,0.8s,baz=294,slow=19,SNR=8.2
CBIJ Chichi jima 30.05 37 P **P** **23 18 54.2 -1.3**
CBIJ S **S** **23 23 09.1 -4.4**
XAN Xi'an 32.90 339 P **P** **23 19 19.8 +0.2**
XAN pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
CTA Charters Tower 33.08 136 P **P** **23 19 22.4 +1.1**
comp=Z,22nm,0.8s,mb4.8,baz=323,slow=10,SNR=16
CTA Charters Tower 33.08 136 *e*P **P** **23 19 22.2 +0.9**
comp=Z,14nm,0.7s,mb4.7
CTA *e*SCP ScP 23 24 35.4 -0.3
CTA Charters Tower 33.08 136 P **P** **23 19 22.4 +1.1**
CTA Charters Tower 33.08 136 P **P** **23 19 22.4 +1.1**
CTAO Charters Tower 33.08 136 *e*P **P** **23 19 21.1 -0.2**
comp=Z,64nm,1.3s,mb5.1
CTAO Charters Tower 33.08 136 *e*P **P** **23 19 21.1 -0.2**
CTAO pmax pmax
comp=Z,64nm,1.3s,mb5.1
CTAO Charters Tower 33.08 136 P **P** **23 19 22.7 +1.4**
comp=Z,674nmcomp=Z,41nm,1.2s,mb4.9
KSAR Wonju Array Be 34.12 8 P **P** **23 19 30.4 +0.7**
KSAR ScP ScP 23 24 38.7 -0.4
KSAR Wonju Array Be 34.12 8 P **P** **23 19 30.5 +0.8**
KSRS Korea Array 34.13 8 P **P** **23 19 30.4 +0.6**
comp=Z,5.9nm,0.7s,mb4.3,baz=186,slow=10,SNR=12
KSRS ScP ScP 23 24 38.7 -0.4
comp=Z,2.8nm,0.8s,baz=155,slow=1.8,SNR=6.6
FORT Forrest 34.52 172⇑ *i*P **P** **23 19 33.5 +0.3**
comp=Z,174nm,0.5s,mb5.9
FORT *e*PCP PcP 23 21 50.6 -0.2
FORT *e*S **S** **23 24 17.9 -3.2**
FORT Forrest 34.52 172 *e*P **P** **23 19 33.3 +0.2**
FORT *e*PcP PcP 23 21 50.5 -0.3
FORT *e*S **S** **23 24 19.8 -1.3**
KLBR Kellerberrin 35.21 187⇑ *i*P **P** **23 19 38.5 -0.4**
comp=Z,34nm,0.5s,mb5.2
KLBR *e*S **S** **23 24 29.0 -2.5**
KLBR *e*SCP ScP 23 24 42.3 -0.9
MJAR Matsushiro Arr 35.90 22 P **P** **23 19 43.3 -1.2**
comp=Z,9.3nm,0.8s,mb4.4,baz=200,slow=9.8,SNR=15
MJAR ScP ScP 23 24 45.0 -0.7
comp=Z,5.3nm,0.9s,baz=210,slow=6.7,SNR=7.5
MJAR Matsushiro Arr 35.90 22 P **P** **23 19 43.3 -1.2**
MJAR ScP ScP 23 24 45.0 -0.7
MJAR Matsushiro Arr 35.90 22 P **P** **23 19 43.3 -1.2**
MJAR 23 24 45.0
NWAO Narrogin (SRO) 36.59 187 P **P** **23 19 50.5 +0.2**
comp=Z,34nm,0.5s,mb5.2,baz=18,slow=7.5,SNR=42
NWAO Narrogin (SRO) 36.59 187 P **P** **23 19 50.5 +0.2**
NWAO Narrogin (SRO) 36.59 187 P **P** **23 19 50.5 +0.2**
SHL Shillong 36.69 310⇓ *i*P **P** **23 19 52.0 +0.8**
LZH Lanzhou 36.70 334⇓ P **P** **23 19 52.0 +0.8**
LZH pmax pmax
comp=Z,53nm,1.0s,mb5.0
LZH pmax pmax
comp=Z,140nm,4.1s
LZH Lanzhou 36.70 334⇓ P **P** **23 19 52.0 +0.8**
comp=Z,53nm,1.0s,mb5.0
LZH pP 23 21 31.7
LZH sP sP 23 22 44.2 +6.3
LZH Lanzhou 36.70 334⇓ P **P** **23 19 52.0 +0.8**
LZH *SP sP 23 22 44.2 +6.3
LZH pmax pmax
comp=Z,53nm,1.0s,mb5.0
BJI Beijing 36.80 352 P **P** **23 19 53.2 +1.3**
BJI S **S** **23 24 58.5 +3.6**
BJI pmax pmax
comp=Z,16nm,0.5s,mb4.8
BJI pmax pmax
comp=Z,340nm,3.5s
BBOO Buckleboo 38.34 161 *e*P **P** **23 20 04.7 +0.2**
HHC Hu-ho-hao-te 38.45 347 *e*P **P** **23 20 06.2 +0.9**
HHC PP PP 23 21 53.0 +0.3
HHC PcP PcP 23 22 02.9 +0.2
HHC sP sP 23 22 55.7 +2.8
HHC ScP ScP 23 24 54.5 -0.7
HHC S **S** **23 25 22.0 +2.9**
HHC sS sS 23 28 26.0 +2.5
HHC SS SS 23 28 38.1 -2.6
HHC pmax pmax
comp=Z,18nm,1.0s,mb4.6
HHC pmax pmax
comp=Z,140nm,6.7s
HNR Honiara 39.46 109 P **P** **23 20 12.5 -1.3**
comp=Z,66nm,0.3s,mb5.7,baz=324,slow=1.7,SNR=5.7
HNR Honiara 39.46 109 *e*P **P** **23 20 13.0 -0.8**
comp=Z,86nm,0.9s,mb5.3
HNR Honiara 39.46 109 *e*P **P** **23 20 13.0 -0.8**
HNR pmax pmax
comp=Z,86nm,0.9s,mb5.3
LSA Lhasa 39.50 315 *e*P **P** **23 20 15.4 +1.5**
comp=Z,57nm,0.6s,mb5.3
LSA Lhasa 39.50 315 *e*P **P** **23 20 15.4 +1.5**
LSA pmax pmax
comp=Z,57nm,0.6s,mb5.3
STKA Stephens Creek 39.60 154 P **P** **23 20 15.4 +0.7**
comp=Z,33nm,0.4s,mb5.2,baz=330,slow=7.5,SNR=190
STKA ScP ScP 23 24 59.0 -0.9
comp=Z,6.8nm,0.7s,baz=314,slow=4.8,SNR=5.6
STKA S **S** **23 25 35.8 -0.4**
comp=Z,2.7nm,0.7s,baz=229,slow=19,SNR=5.1
STKA Stephens Creek 39.60 154⇑ *i*P **P** **23 20 15.3 +0.6**
comp=Z,48nm,0.8s,mb5.1
STKA *e*SCP ScP 23 24 58.9 -1.0
STKA *e*S **S** **23 25 35.8 -0.4**
STKA Stephens Creek 39.60 154 P **P** **23 20 15.4 +0.7**
STKA ScP ScP 23 24 59.0 -0.9
STKA S **S** **23 25 35.8 -0.4**
STKA Stephens Creek 39.60 154 P **P** **23 20 15.4 +0.7**
STKA S **S** **23 25 35.8 -0.4**
EIDS Eidsvold 39.91 138 *e*P **P** **23 20 16.8 -0.5**
comp=Z,46nm,0.8s,mb5.1
CN2 Changchun 40.19 3 *e*P **P** **23 20 18.6 -0.6**
CN2 *e*pP pP 23 21 58.0 -2.7
CN2 *e*S **S** **23 25 45.5 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
CN2 pmax pmax
comp=Z,200nm,3.0s
TAPN Taplejung 40.81 309 *e*P **P** **23 20 25.0 +0.6**
comp=Z,106nm,0.3s,mb5.8
TAPN Taplejung 40.81 309 *e*P **P** **23 20 25.0 +0.6**
comp=Z,106nm,0.3s,mb5.8
ODAN Odare 40.83 308 *e*P **P** **23 20 25.0 +0.5**
comp=Z,138nm,0.7s,mb5.6
ODAN Odare 40.83 308 *e*P **P** **23 20 25.0 +0.5**
comp=Z,138nm,0.7s,mb5.6
GTA Gaotai 41.24 333⇓ P **P** **23 20 28.6 +1.0**
GTA pP pP 23 22 13.0 +3.2
GTA sP sP 23 23 20.3 +3.7
GTA ScP ScP 23 25 06.2 -0.1
GTA S **S** **23 25 59.8 +0.1**
GTA ScS ScS 23 29 22.6 -2.0
GTA pmax pmax
comp=Z,27nm,0.7s,mb4.9
MDJ Mudanjiang 41.40 8 P **P** **23 20 28.7 0.0**
MDJ pP pP 23 22 11.7 +0.6
MDJ PP PP 23 22 20.7 +1.0
MDJ sP sP 23 23 18.1 +0.3
MDJ S **S** **23 26 05.7 +3.9**
MDJ pmax pmax
comp=Z,40nm,3.7s
RAMN Ramite 41.49 308 *e*P **P** **23 20 30.6 +0.9**
comp=Z,212nm,0.7s,mb5.8
RAMN Ramite 41.49 308 *e*P **P** **23 20 30.6 +0.9**
comp=Z,212nm,0.7s,mb5.8
JIRN Jiri 42.14 308 *e*P **P** **23 20 35.6 +0.7**
comp=Z,41nm,0.4s,mb5.3
JIRN Jiri 42.14 308 *e*P **P** **23 20 35.6 +0.7**
comp=Z,41nm,0.4s,mb5.3
GUN Gumba 42.51 309 *e*P **P** **23 20 38.3 +0.6**
comp=Z,181nm,0.4s,mb6.0
GUN Gumba 42.51 309 *e*P **P** **23 20 38.3 +0.6**
comp=Z,181nm,0.4s,mb6.0
PKI Pulchoki 42.72 308 *e*P **P** **23 20 39.5 +0.2**
comp=Z,76nm,0.3s,mb5.7
PKI Pulchoki 42.72 308 *e*P **P** **23 20 39.5 +0.2**
comp=Z,76nm,0.3s,mb5.7
PKI Pulchoki 42.72 308 *e*P **P** **23 20 39.5 +0.2**
PKI pmax pmax
comp=Z,76nm,0.3s,mb5.7
KKN Kakani 42.92 308 *e*P **P** **23 20 41.0 +0.1**
comp=Z,57nm,0.3s,mb5.5
KKN Kakani 42.92 308 *e*P **P** **23 20 41.0 +0.1**
comp=Z,57nm,0.3s,mb5.6
KKN Kakani 42.92 308 *e*P **P** **23 20 41.0 +0.1**
KKN pmax pmax
comp=Z,57nm,0.3s,mb5.6
DMN Daman 42.97 308 *e*P **P** **23 20 41.6 +0.3**
DMN Daman 42.97 308 *e*P **P** **23 20 41.6 +0.3**
GKN Gorkha 43.52 308 *e*P **P** **23 20 45.6 0.0**
comp=Z,139nm,0.8s,mb5.5
GKN Gorkha 43.52 308 *e*P **P** **23 20 45.6 0.0**
comp=Z,139nm,0.8s,mb5.5
ARMA Armidale 43.73 143⇑ *i*P **P** **23 20 49.3 +2.2**
ARMA *e*SCP ScP 23 25 17.4 +0.8
ARMA Armidale 43.73 143 *e*P **P** **23 20 49.2 +2.1**
comp=Z,88nm,0.8s,mb5.3
KOLN Koldanda 44.24 307 *e*P **P** **23 20 51.7 +0.6**
comp=Z,192nm,0.5s,mb5.9
KOLN Koldanda 44.24 307 *e*P **P** **23 20 51.7 +0.6**
comp=Z,192nm,0.4s,mb6.0
DANN Dangsing 44.37 308 *e*P **P** **23 20 52.5 +0.4**
comp=Z,455nm,0.7s,mb6.1
DANN Dangsing 44.37 308 *e*P **P** **23 20 52.5 +0.4**
comp=Z,455nm,0.7s,mb6.1
PYUN Piuthan 44.87 307 *e*P **P** **23 20 56.6 +0.7**
comp=Z,226nm,0.5s,mb5.9
PYUN Piuthan 44.87 307 *e*P **P** **23 20 56.6 +0.7**
comp=Z,226nm,0.5s,mb6.0
HYB Hyderabad 45.25 291 *i*P **P** **23 20 58.0 -1.0**
CAN Canberra 45.94 150 *e*P **P** **23 21 05.3 +1.4**
CAN Canberra 45.94 150 *e*P **P** **23 21 05.3 +1.4**
RIV Riverview 45.94 146 *e*P **P** **23 21 06.1 +2.1**
HABR Khabarovsk 46.06 12 *e*P **P** **23 21 02.5 -2.1**
HABR *e* 23 22 25.0
HABR *e**PP pP 23 22 50.7 +0.4
HABR *SP sP 23 23 56.5 +0.5
HABR *e*S **S** **23 27 06.9 -0.6**
HABR *e* 23 29 52.9
HABR *e**SS sS 23 30 22.7 +3.4
HABR *e*SS SS 23 30 46.0 +2.8
HABR pmax pmax
comp=Z,223nm,2.5s,mb5.2
HABR pmax pmax
comp=N,201nm,2.8s
HABR pmax pmax
comp=E,342nm,2.4s
HABR MLR MLR
comp=Z,170nm,17.0s
CNB Canberra Magne 46.12 149⇑ *i*P **P** **23 21 06.5 +1.3**
comp=Z,184nm,0.4s,mb6.0
TOO Toolangi 46.12 155⇑ *i*P **P** **23 21 06.6 +1.4**
comp=Z,118nm,1.1s,mb5.3
ULN Ulaanbaatar 46.14 346 *e*P **P** **23 21 05.8 +0.6**
comp=Z,13nm,0.8s,mb4.5
ULN Ulaanbaatar 46.14 346 *e*P **P** **23 21 05.8 +0.6**
ULN pmax pmax
comp=Z,13nm,0.8s,mb4.5
ULN Ulaanbaatar 46.14 346 P **P** **23 21 05.7 +0.5**
SONM Songino Array 46.28 345 P **P** **23 21 06.4 +0.2**
comp=Z,5.9nm,0.4s,mb4.5,baz=161,slow=8.9,SNR=159
SONM PcP PcP 23 22 28.7 -0.5
comp=Z,1.2nm,0.4s,baz=164,slow=3.6,SNR=6.1
SONM ScP ScP 23 25 25.4 -1.4
comp=Z,1.2nm,0.5s,baz=160,slow=5.7,SNR=6.4
SONM Songino Array 46.28 345 P **P** **23 21 06.4 +0.2**
SONM PcP PcP 23 22 28.7 -0.5
SONM ScP ScP 23 25 25.4 -1.4
SONM Songino Array 46.28 345 P **P** **23 21 06.4 +0.1**
SONM 23 22 28.7
KAD Karad 49.31 290 *ex* x 23 21 27.0
ZAK Zakamensk 49.44 344 *e*P **P** **23 21 28.5 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb3.8
NDI New Delhi 49.76 305 *ex* x 23 21 29.5
DZM Mont Dzumac 49.91 123 *e*P **P** **23 21 33.8 +0.2**
comp=Z,17nm,0.9s,mb4.5
WMQ Urumqi 50.56 328 P **P** **23 21 38.6 +0.5**
WMQ pP pP 23 23 29.3 +2.4
WMQ sP sP 23 24 33.7 +2.1
WMQ pmax pmax
comp=Z,32nm,0.6s,mb4.9
WMQ pmax pmax
comp=Z,230nm,3.4s
HVS Khovu-Aksy 53.25 338 *d i*P **P** **23 21 57.2 +0.1**
HVS pmax pmax
comp=Z,122nm,1.2s,mb5.1
BOD Bodaibo 54.56 354 *e*P **P** **23 22 05.6 -0.6**
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.1
KSH Kashi 55.27 317⇓ *i*P **P** **23 22 12.7 +1.2**
KSH PcP PcP 23 23 04.6 +1.4
KSH pP pP 23 24 06.1 +2.7
KSH PP PP 23 24 27.7 +3.4
KSH sP sP 23 25 10.5 +3.3
KSH ScP ScP 23 26 05.3 -0.6
KSH PcS PcS 23 27 03.1 -1.1
KSH S **S** **23 29 11.7 +0.2**
KSH ScS ScS 23 30 57.8 -2.1
KSH sS sS 23 32 32.4 -0.1
KSH SS SS 23 33 10.8 +2.2
KSH pmax pmax
comp=Z,16nm,1.0s,mb4.3
KSH pmax pmax
comp=Z,91nm,5.6s
MKAR Makanchi Array 55.39 327 P **P** **23 22 12.3 +0.1**
comp=Z,21nm,0.3s,mb4.9,baz=127,slow=7.9,SNR=1064
MKAR PcP PcP 23 23 03.2 -0.3
comp=Z,5.1nm,0.5s,baz=138,slow=3.9,SNR=9.3
MKAR ScP ScP 23 26 04.3 -1.9
comp=Z,1.2nm,0.6s,baz=132,slow=5.2,SNR=3.7
MKAR Makanchi Array 55.39 327 P **P** **23 22 12.3 +0.1**
MKAR PcP PcP 23 23 03.2 -0.3
MKAR ScP ScP 23 26 04.3 -1.9
MKAR Makanchi Array 55.39 327 P **P** **23 22 12.4 +0.2**
MKAR 23 23 03.2
ULHL Ulahol 56.42 320 P **P** **23 22 20.1 +0.7**
SNR=6.7
KZA Kyzart 56.98 319 P **P** **23 22 24.6 +1.4**
SNR=20
TKM2 Tokmak 2 57.17 320 P **P** **23 22 25.1 +0.6**
SNR=11
TKM2 Tokmak 2 57.17 320 *e*P **P** **23 22 25.0 +0.5**
comp=Z,9.6nm,0.4s,mb4.4
TKM2 Tokmak 2 57.17 320 *i*P **P** **23 22 25.0 +0.5**
PETK Petropavlovsk- 57.28 24 P **P** **23 22 25.6 +0.6**
comp=Z,6.7nm,0.6s,mb4.1,baz=200,slow=5.1,SNR=7.5
PETK PcP PcP 23 23 10.7 -0.2
comp=Z,2.2nm,0.5s,baz=238,slow=6.1,SNR=3.9
PETK Petropavlovsk- 57.28 24 P **P** **23 22 25.6 +0.6**
PETK PcP PcP 23 23 10.7 -0.2
PETK Petropavlovsk- 57.28 24 P **P** **23 22 25.6 +0.6**
PETK 23 23 10.7
KBK Karagaybulak 57.45 320 P **P** **23 22 27.4 +0.9**
SNR=12
PET Petropavlovsk 57.62 25 *i*P **P** **23 22 29.1 +1.8**
PET pmax pmax
comp=Z,77nm,1.5s,mb4.6
AAK Ala-Archa 57.73 320 P **P** **23 22 29.1 +0.7**
SNR=7.0
AAK Ala-Archa 57.73 320 *e*P **P** **23 22 28.8 +0.5**
comp=Z,67nm,0.9s,mb4.8
AAK Ala-Archa 57.73 320 *e*P **P** **23 22 28.8 +0.5**
AAK pmax pmax
comp=Z,67nm,0.9s,mb4.8
AML Almayashu 58.02 319 P **P** **23 22 31.4 +1.1**
SNR=34
USP Ospenovka 58.04 320 P **P** **23 22 30.6 +0.2**
SNR=20
EKS2 Erkin-Say 58.21 319 P **P** **23 22 32.0 +0.5**
SNR=29
EKS2 Erkin-Say 58.21 319 *e*P **P** **23 22 32.2 +0.7**
comp=Z,14nm,0.8s,mb4.1
EKS2 Erkin-Say 58.21 319 *e*P **P** **23 22 32.2 +0.6**
EKS2 pmax pmax
comp=Z,14nm,0.8s,mb4.1
YAK Yakutsk 58.62 4 *e*P **P** **23 22 33.8 -0.1**
comp=Z,30nm,0.8s,mb4.5
YAK Yakutsk 58.62 4 *e*P **P** **23 22 33.0 -0.9**
YAK pmax pmax
comp=Z,16nm,0.8s,mb4.2
MSVF Nonsavu 58.67 113 *e*P **P** **23 22 36.4 +1.3**
comp=Z,16nm,0.7s,mb4.2
MSVF Nonsavu 58.67 113 *e*P **P** **23 22 36.4 +1.3**
MSVF pmax pmax
comp=Z,16nm,0.7s,mb4.3
ZALV Zalesovo Beam 58.93 335 P **P** **23 22 34.9 -1.2**
comp=Z,7.7nm,0.3s,mb4.3,baz=140,slow=6.9,SNR=72
ZALV PcP PcP 23 23 16.1 -1.3
comp=Z,1.5nm,0.3s,baz=108,slow=4.8,SNR=5.1
ZALV S **S** **23 29 54.5 -3.2**
comp=Z,2.0nm,0.7s,baz=138,slow=12,SNR=10.0
ZALV Zalesovo Beam 58.93 335 P **P** **23 22 34.9 -1.2**
ZALV PcP PcP 23 23 16.1 -1.3
ZALV S **S** **23 29 54.5 -3.2**
ZALV Zalesovo Beam 58.93 335 P **P** **23 22 34.9 -1.2**
ZALV 23 23 16.1
ZALV S **S** **23 29 54.5 -3.2**
KURK Kurchatov 59.71 329 P **P** **23 22 40.9 -0.5**
comp=Z,13nm,0.3s,mb4.7,baz=118,slow=6.5,SNR=208
KURK PcP PcP 23 23 21.0 +0.3
comp=Z,4.6nm,0.4s,baz=131,slow=6.5,SNR=8.9
KURK pP pP 23 24 38.7 +2.7
comp=Z,1.3nm,0.8s,baz=135,slow=6.9,SNR=2.1
KURK S **S** **23 30 06.0 -1.5**
comp=Z,0.4nm,0.4s,baz=135,slow=10,SNR=6.5
KURK Kurchatov 59.71 329 *e*P **P** **23 22 41.0 -0.4**
comp=Z,51nm,0.3s,mb5.2
KURK PcP PcP 23 23 21.0 +0.3
KURK pP pP 23 24 38.7 +2.7
KURK S **S** **23 30 06.0 -1.5**
KURK Kurchatov 59.71 329 P **P** **23 22 41.7 +0.3**
comp=Z,592nm,0.3s,SNR=86
KURK Kurchatov 59.71 329 *e*P **P** **23 22 41.0 -0.4**
KURK 23 23 21.0
KURK *PP pP 23 24 38.7 +2.7
KURK S **S** **23 30 06.0 -1.6**
KURK pmax pmax
comp=Z,51nm,0.3s,mb5.2
KURK Kurchatov 59.71 329 P **P** **23 22 41.4 0.0**
SNR=14
NVS Novosibirsk 60.22 335 *e*P **P** **23 22 42.2 -2.5**
NVS *e* 23 23 19.4
NVS *e*S **S** **23 30 04.0 -10**
NVS *e* 23 31 28.1
NVS pmax pmax
comp=Z,16nm,0.8s,mb4.3
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.6s
NVS smax
comp=N,13nm,1.8s
NVS smax
comp=E,15nm,1.5s
KKAR Karatay Array 60.56 318 *e*P **P** **23 22 46.8 -0.3**
comp=E,9.6nm,0.7s,mb4.1
KKAR Karatay Array 60.56 318 *e*P **P** **23 22 46.8 -0.3**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
RPZ Rata Peaks 64.08 143 P **P** **23 23 10.3 +0.5**
comp=Z,24nm,0.6s,mb4.7,baz=37,slow=1.8,SNR=9.4
RPZ Rata Peaks 64.08 143 *e*P **P** **23 23 10.3 +0.5**
comp=Z,31nm,0.7s,mb4.8
BVAR Borovoye Array 65.24 328 P **P** **23 23 16.4 -0.6**
comp=Z,6.3nm,0.6s,mb4.2,baz=134,slow=8.5,SNR=43
BVAR Borovoye Array 65.24 328 P **P** **23 23 16.4 -0.6**
BVAR Borovoye Array 65.24 328 P **P** **23 23 16.4 -0.6**
BRVK Borovoye 65.31 328 P **P** **23 23 16.4 -1.0**
comp=Z,112nm,0.6s,mb5.5,SNR=12
BRVK Borovoye 65.31 328 *e*P **P** **23 23 16.7 -0.7**
comp=Z,16nm,0.9s,mb4.5
BRVK Borovoye 65.31 328 *d i*P **P** **23 23 16.7 -0.7**
BRVK pmax pmax
comp=Z,29nm,1.2s,mb4.6
BRVK Borovoye 65.31 328 P **P** **23 23 17.2 -0.2**
SNR=8.4
URZ Urewera 65.31 135 P **P** **23 23 17.0 -0.7**
comp=Z,24nm,0.5s,mb4.9,baz=294,slow=3.4,SNR=26
URZ Urewera 65.31 135 *e*P **P** **23 23 17.1 -0.6**
comp=Z,28nm,0.5s,mb4.9
ABKT Ailbek 67.76 310 P **P** **23 23 32.9 +0.1**
comp=Z,145nm,0.8s,mb5.5,SNR=8.2
ABKAR Akbulak array 69.68 322 *e*P **P** **23 23 43.2 -0.9**
comp=Z,5.3nm,0.6s,mb4.2
AKTO Aktyubinsk 71.23 322 P **P** **23 23 52.7 -0.5**
comp=Z,8.5nm,0.3s,mb4.7,baz=105,slow=5.8,SNR=65
AKTO Aktyubinsk 71.23 322 P **P** **23 23 52.7 -0.5**
AKTO Aktyubinsk 71.23 322 P **P** **23 23 52.7 -0.5**
SVE Sverdlovsk 71.97 329⇑ *e*P **P** **23 23 56.6 -0.7**
SVE pmax pmax
comp=Z,28nm,1.1s,mb4.7
ARU Arti 72.89 329 *e*P **P** **23 24 01.1 -1.5**
comp=Z,10nm,0.7s,mb4.5
ARU Arti 72.89 329 *c i*P **P** **23 24 01.7 -0.9**
ARU *PP pP 23 26 05.8 +1.8
ARU 23 26 52.4
ARU S S 23 32 42.6 +0.4
ARU SS SS 23 37 38.5 -0.7
ARU pmax pmax
comp=Z,20nm,1.0s,mb4.6
KBD Kabd 75.04 299 *e*P **P** **23 24 13.8 -1.6**
KBD AMb AMB 23 24 16.7
comp=Z,38nm,1.4s,mb4.7
MIB Mutribah 75.40 300 *e*P **P** **23 24 16.1 -1.3**
MIB AMb AMB 23 24 17.2
comp=Z,65nm,0.8s,mb5.2
NAY Al-Naaiem 75.44 299 *e*P **P** **23 24 16.1 -1.5**
NAY AMb AMB 23 24 17.3
comp=Z,33nm,1.0s,mb4.8
RAYN Ar Rayn 76.70 293 P **P** **23 24 23.5 -1.1**
comp=Z,139nm,0.9s,mb5.4,SNR=14
GNI Garni 78.39 310 P **P** **23 24 33.4 0.0**
comp=Z,1.0nm,0.3s,mb3.7,baz=235,slow=2.9,SNR=5.5
GNI Garni 78.39 310 P **P** **23 24 33.4 0.0**
GNI Garni 78.39 310 P **P** **23 24 33.4 0.0**
ATD Arta Tunnel 79.19 281 P **P** **23 24 38.8 +0.7**
comp=Z,17nm,0.8s,mb4.4,baz=94,slow=4.8,SNR=7.3
ATD Arta Tunnel 79.19 281 P **P** **23 24 38.8 +0.7**
ZEI Tsey 79.26 313 *e*P **P** **23 24 36.3 -1.6**
ZEI pmax pmax
comp=Z,12nm,1.0s,mb4.2
KIV Kislovodsk 80.24 314 *e*P **P** **23 24 42.3 -0.8**
comp=Z,6.3nm,0.8s,mb4.0
KIV Kislovodsk 80.24 314 *e*P **P** **23 24 43.2 +0.2**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.0
MAW Mawson 82.13 200 P **P** **23 24 52.3 +0.1**
comp=Z,2.4nm,0.4s,mb4.0,baz=39,slow=16,SNR=11
MAW Mawson 82.13 200 P **P** **23 24 52.3 +0.1**
MAW Mawson 82.13 200 P **P** **23 24 52.3 +0.1**
VSR Storozhevoye 83.10 321 *e*P **P** **23 24 55.8 -1.6**
VSR pmax pmax
comp=Z,30nm,1.0s,mb4.8
VSR pmax pmax

comp=N,10.0nm,1.5s
VSR pmax pmax
comp=E,20nm,0.9s
KDAK Kodiak Island 84.31 32 P **P 23 25 04.0 +0.8**
comp=E,10nm,0.7s,mb4.5,baz=252,slow=3.2
KDAK Kodiak Island 84.31 32 P **P 23 25 04.0 +0.8**
KDAK Kodiak Island 84.31 32 *i P* **P 23 25 05.0 +1.7**
OBN Obninsk 84.81 325 *eP* **P 23 25 05.2 -0.5**
OBN Obninsk 84.81 325⇑*eP* **P 23 25 04.8 -0.9**
OBN *eS* S 23 34 33.4 -12
OBN pmax pmax
comp=Z,40nm,1.6s,mb4.8
BPAW Bear Paw Mtn. 85.32 26 *eP* **P 23 25 07.7 -0.3**
comp=Z,4.1nm,0.5s,mb4.3
KMBO Kilima Mbogo 85.34 269 *eP* **P 23 25 09.6 +0.4**
comp=Z,22nm,1.2s,mb4.7
KMBO Kilima Mbogo 85.34 269 *eP* **P 23 25 09.6 +0.4**
KMBO pmax pmax
comp=Z,22nm,1.2s
KMBO Kilima Mbogo 85.34 269 P **P 23 25 10.1 +0.9**
SNR=7.9
MMAI Mount Meron Ar 85.68 303 P **P 23 25 10.7 +0.2**
comp=Z,12nm,0.9s,mb4.5,baz=84,slow=10,SNR=12
MMAI Mount Meron Ar 85.68 303 P **P 23 25 10.7 +0.3**
COLD Coldfoot 85.72 23 *eP* **P 23 25 10.1 +0.2**
comp=Z,3.6nm,0.6s,mb4.2
SEW Seward 85.99 30 *eP* **P 23 25 10.2 -1.1**
comp=Z,96nm,1.5s,mb5.2
EIL Elat 86.16 299 P **P 23 25 12.3 -0.4**
comp=Z,9.4nm,1.0s,mb4.4,baz=346,slow=5.1,SNR=8.4
EIL Elat 86.16 299 P **P 23 25 12.3 -0.4**
MCK McKinley 86.22 26 *eP* **P 23 25 12.0 -0.3**
comp=Z,5.3nm,0.5s,mb4.4
MCK McKinley 86.22 26 *eP* **P 23 25 12.0 -0.3**
MCK pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
APA Apatity 86.43 337⇑*eP* **P 23 25 12.8 -0.4**
APA pmax pmax
comp=Z,11nm,0.9s,mb4.5
APA MLR MLR
comp=Z,500nm,26.0s
BRTR Keskin Array B 86.91 309 P **P 23 25 14.8 -1.2**
comp=Z,2.4nm,0.9s,mb3.9,baz=132,slow=6.9,SNR=12
BRTR Keskin Array B 86.91 309 P **P 23 25 14.8 -1.2**
BRTR Keskin Array B 86.91 309*ceP* **P 23 25 15.0 -1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 87.10 25 P **P 23 25 14.7 -1.7**
comp=Z,1.7nm,0.6s,mb4.0,baz=248,slow=5.0,SNR=38
ILAR Eielson Array 87.10 25 P **P 23 25 14.7 -1.7**
ILAR Eielson Array 87.10 25 P **P 23 25 14.7 -1.7**
JOF Joensuu 87.44 333 *eP* **P 23 25 16.7 -1.3**
JOF pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
JOF Joensuu 87.44 333 *ep* **P 23 25 16.7 -1.3**
comp=Z,8.0nm,0.5s,mb4.7
ARCES ARCESS Array B 89.18 340 P **P 23 25 24.3 -1.7**
comp=Z,3.2nm,0.5s,mb4.4,baz=88,slow=4.2,SNR=50
ARCES ARCESS Array B 89.18 340 P **P 23 25 24.3 -1.7**
ARCES ARCESS Array B 89.18 340 P **P 23 25 24.3 -1.7**
AKASG Malin Array Be 89.39 321 P **P 23 25 25.6 -1.7**
comp=Z,0.3nm,0.3s,baz=70,slow=4.6,SNR=5.4
AKASG Malin Array Be 89.39 321 P **P 23 25 25.6 -1.7**
AKASG Malin Array Be 89.39 321*ceP* **P 23 25 27.0 -0.4**
KAF Kangasniemi 89.82 332 *eP* **P 23 25 26.5 -2.6**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
KAF Kangasniemi 89.82 332 *ep* **P 23 25 26.5 -2.6**
comp=Z,5.1nm,0.5s,mb4.6
SPITS Spitsbergen Ar 89.86 349 P **P 23 25 28.0 -1.0**
comp=Z,6.0nm,0.3s,mb4.9,baz=46,slow=8.4,SNR=232
SPITS Spitsbergen Ar 89.86 349 P **P 23 25 28.0 -1.0**
SPITS Spitsbergen Ar 89.86 349 P **P 23 25 28.0 -1.0**
FINES FINESS Array B 90.02 331 P **P 23 25 28.2 -1.8**
comp=Z,4.8nm,0.9s,mb4.3,baz=109,slow=5.7,SNR=15
FINES FINESS Array B 90.02 331 P **P 23 25 28.2 -1.8**
FINES FINESS Array B 90.02 331 P **P 23 25 28.3 -1.7**
INK Inuvik 91.89 21 P **P 23 25 37.9 -0.6**
comp=Z,2.5nm,0.6s,mb4.5,baz=315,slow=3.0,SNR=23
INK Inuvik 91.89 21 P **P 23 25 37.9 -0.6**
INK Inuvik 91.89 21 P **P 23 25 37.9 -0.6**
SUW Suwalki 92.65 324 *eP* **P 23 25 41.3 -1.1**
comp=Z,20nm,0.9s,mb5.2
SUW Suwalki 92.65 324 *eP* **P 23 25 41.3 -1.0**
SUW pmax pmax
comp=Z,20nm,0.9s,mb5.2
QSPA South Pole Qui 93.43 180 P **P 23 25 45.6 +0.2**
comp=Z,1.4nm,0.4s,mb4.4,baz=170,slow=1.6,SNR=8.2
QSPA South Pole Qui 93.43 180 P **P 23 25 45.6 +0.2**
LSZ Lusaka 95.09 255 *eP* **P 23 25 52.7 -1.5**
comp=Z,5.3nm,0.8s,mb4.7
LSZ Lusaka 95.09 255 *eP* **P 23 25 52.7 -1.5**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
LBTB Lobatse 97.75 245 P Pdif 23 26 06.0 +0.6
comp=Z,1.7nm,0.8s,baz=90,slow=1.0,SNR=3.5
LBTB Lobatse 97.75 245 P Pdif 23 26 06.0 +0.6
LBTB Lobatse 97.75 245 P Pdif 23 26 06.0 +0.6
VNA2 Neumayer--Watz 105.56 195 *e* PKiKP 23 30 48.9 -0.1
baz=17,slow=0.7
CMB Columbia Colle 108.76 48 *e*Pdif Pdif 23 26 54.7 +0.4
CMB Columbia Colle 108.76 48 *eP* Pdif 23 26 54.7 +0.4
NVAR Mina Array Bea 110.15 47 PKiKP PKiKP 23 30 59.0 +0.4
comp=Z,0.7nm,0.7s,baz=242,slow=1.9,SNR=3.7
NVAR Mina Array Bea 110.15 47 PKiKP PKiKP 23 30 59.0 +0.4
PDAR Pinedale Array 114.24 40 PKP PKiKP 23 31 05.8 -0.5
comp=Z,0.3nm,0.4s,baz=15,slow=3.8,SNR=3.9
PDAR SKP 23 33 44.2
comp=Z,0.3nm,0.7s,baz=225,slow=2.2,SNR=3.8
PDAR PKKPbc PKKPbc 23 41 47.2 -2.5
comp=Z,0.5nm,0.4s,baz=141,slow=4.6,SNR=5.8
PDAR PKKPab PKKPab 23 41 55.7 -2.2
comp=Z,1.2nm,0.7s,baz=124,slow=5.8,SNR=8.5
PDAR Pinedale Array 114.24 40 PKP PKiKP 23 31 05.8 -0.5
PDAR SKP 23 33 44.2
PDAR PKKPbc PKKPbc 23 41 47.2 -2.5
PDAR PKKPab PKKPab 23 41 55.7 -2.2
ULM Lac du Bonnet 117.09 27 PKP PKPdf 23 31 10.1 -1.5
comp=Z,1.8nm,0.5s,baz=118,slow=2.0,SNR=4.1
ULM Lac du Bonnet 117.09 27 PKP PKPdf 23 31 10.1 -1.5
ULM Lac du Bonnet 117.09 27 PKIKP PKPdf 23 31 10.1 -1.4
TORD Torodi Ar. Bea 118.97 287 PKP PKPdf 23 31 15.0 -1.1
comp=Z,1.9nm,0.3s,baz=84,slow=1.7,SNR=6.1
TORD PP PP 23 32 47.7 +1.5
comp=Z,2.0nm,1.0s,baz=68,slow=5.0,SNR=6.5
TORD SKP 23 33 54.4
comp=Z,2.0nm,0.8s,baz=54,slow=1.8,SNR=8.3
TORD PKKPbc PKKPbc 23 41 31.9 -0.7
comp=Z,0.5nm,0.4s,baz=278,slow=3.4,SNR=15
TORD Torodi Ar. Bea 118.97 287 PKP PKPdf 23 31 15.0 -1.1
TORD PP PP 23 32 47.7 +1.5
TORD SKP 23 33 54.4
TORD PKKPbc PKKPbc 23 41 31.9 -0.7
SCHQ Schefferville 121.34 6 PKP PKPdf 23 31 19.2 -0.3
comp=Z,3.1nm,0.5s,baz=205,slow=18,SNR=12
SCHQ Schefferville 121.34 6 PKP PKPdf 23 31 19.2 -0.3
TXAR Lajitas Array 125.01 50 PKP PKPdf 23 31 27.8 +0.4
comp=Z,0.8nm,0.5s,baz=295,slow=0.7,SNR=14
TXAR pPKP pPKPdf 23 33 46.8 +2.4
comp=Z,1.0nm,0.7s,baz=257,slow=2.6,SNR=9.0
TXAR SKP 23 34 05.6
comp=Z,0.5nm,0.7s,baz=252,slow=2.6,SNR=3.7
TXAR PKKPbc PKKPbc 23 41 09.6 -1.0
comp=Z,0.2nm,0.5s,baz=133,slow=3.8,SNR=5.2
TXAR Lajitas Array 125.01 50 PKP PKPdf 23 31 27.8 +0.4
TXAR pPKP pPKPdf 23 33 46.8 +2.4
TXAR SKP 23 34 05.6
TXAR PKKPbc PKKPbc 23 41 09.6 -1.0
TXAR Lajitas Array 125.01 50 PKIKP PKPdf 23 31 27.8 +0.4
TXAR 23 33 46.8
DBIC Dimbokro 126.50 281 PKP PKPdf 23 31 29.6 -1.0
comp=Z,2.0nm,0.6s,baz=315,slow=21,SNR=4.8
DBIC Dimbokro 126.50 281 PKP PKPdf 23 31 29.6 -1.0
DBIC Dimbokro 126.50 281 PKIKP PKPdf 23 31 29.6 -1.0
JCT Junction City 127.33 47 *e*PKPdf PKPdf 23 31 30.3 -1.5
JCT Junction City 127.33 47 *e*PKIKP PKPdf 23 31 30.3 -1.5
SADO Sadowa 128.17 20 PKP PKPdf 23 31 31.9 -1.0
comp=Z,5.3nm,0.6s,baz=318,slow=1.8,SNR=3.6
SADO Sadowa 128.17 20 PKP PKPdf 23 31 31.9 -1.0
WVT Waverly 131.42 33 *e*PKPdf PKPdf 23 31 38.9 -0.5
WVT Waverly 131.42 33 *e*PKIKP PKPdf 23 31 38.9 -0.5
PLAL Pickwick Lake 132.12 34 *e*PKPdf PKPdf 23 31 40.3 -0.4
PLCA Paso Flores 141.13 164 PKhKP PKPpre 23 31 52.3
comp=Z,1.5nm,0.6s,baz=278,slow=4.7,SNR=4.5
PLCA SKPbc SKPbc 23 34 38.6 -0.3
comp=Z,4.1nm,0.8s,baz=207,slow=2.1,SNR=7.6
PLCA Paso Flores 141.13 164 PKPpre PKPpre 23 31 52.3
PLCA SKPbc SKPbc 23 34 38.6 -0.3
PLCA Paso Flores 141.13 164 PKHKP PKPpre 23 31 52.3
TRQA Tornquist 145.38 174 *e*PKPbc PKPbc 23 32 05.8 -0.1
CFAA Coronel Fontan 150.29 161 PKPbc PKPbc 23 32 18.5 -0.2
comp=Z,2.3nm,0.4s,baz=206,slow=2.6,SNR=32
CFAA PKPab PKPab 23 32 27.8 +0.3
comp=Z,0.7nm,0.5s,baz=184,slow=7.1,SNR=5.0
CFAA Coronel Fontan 150.29 161 PKPbc PKPbc 23 32 18.5 -0.2
CFAA PKPab PKPab 23 32 27.8 +0.3
LCO Las Campanas 151.71 155 *e*PKPbc PKPbc 23 32 22.2 +0.2
CPUP Villa Florida 157.32 180 PKP PKPdf 23 32 21.9 -0.8
comp=Z,0.3nm,0.4s,baz=344,slow=1.0,SNR=2.8
CPUP PKPab PKPab 23 32 57.9 +0.2
comp=Z,2.7nm,0.8s,baz=174,slow=6.9,SNR=4.6
CPUP Villa Florida 157.32 180 PKP PKPdf 23 32 21.9 -0.8
CPUP PKPab PKPab 23 32 57.9 +0.2
CPUP Villa Florida 157.32 180 PKIKP PKPdf 23 32 21.9 -0.9

ISC 04 23:14:03.4±0.8, 36°.51N±0°.08×71°.4E±0°.4, h100km, n6, σ1°.12/8, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.72**	**170**	⇓P	**Pn**	**23 14 46.0**	**+0.7**
CEP				S	**Sn**	**23 15 17.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.25**	**151**	P	**Pn**	**23 14 53.4**	**+1.0**
THW	**Thamme Wali**	**3.72**	**175**	P	**Pn**	**23 14 58.8**	**0.0**
SARP	**Sargodha**	**4.70**	**166**	P	**Pn**	**23 15 10.5**	**-1.6**
KK31	**Karatay Array**	**6.62**	**355**	P	**Pn**	**23 15 39.7**	**+1.7**
	3.6nm,0.3s,baz=180,slow=13,SNR=32						
KK31				⇓S	**Sn**	**23 16 50.1**	**-1.8**
	1.0nm,0.3s,baz=181,slow=23,SNR=6.6						
AB31	**Akbulak array**	**15.21**	**330**	P	**Pn**	**23 17 33.0**	**+0.4**
	0.6nm,0.8s,baz=168,slow=9.1,SNR=5.8						

IDC 04 23:45:40.8±65.0, 16°.27S×177°.60W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=1194.0km s-min=174.6km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.11**	**240**	P	P	23 53 18.6	+0.1
	1.4nm,0.7s,baz=98,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**45.71**	**258**	P	P	23 54 04.1	+0.1
	0.1nm,0.4s,baz=91,slow=8.1,SNR=6.1						
ASAR	**Alice Springs**	**46.00**	**253**	P	P	23 54 06.0	-0.3
	0.7nm,0.4s,baz=90,slow=7.9,SNR=12						

*ISCJB **05** 00:41:12.1±0.3, 8°.11S±0°.04×118°.17E±0°.03, h219km±4km, mb4.0/11, Error ellipse: s-maj=6.1km s-min=5.4km az=5.8*
*IDC **05** 00:41:12.3±1.6, 8°.02S×118°.08E, h208km±13km, mb3.7/10, mb1 3.9/12, mb1mx3.7/23, mbtmp3.8/12, Error ellipse: s-maj=22.9km s-min=7.4km az=56.0*
*NEIC **05** 00:41:12.2±0.8, 8°.09S×118°.03E, h210km±7km, mb4.4/5, Error ellipse: s-maj=15.5km s-min=6.6km az=60.0*
*DJA **05** 00:41:14, 8°.24S×118°.21E, h186km, MLv4.4/16*
ISC 05 00:41:13.0±0.3, 8°.13S±0°.04×118°.18E±0°.03, h207km±4km, n59, σ1°.34/70, mb4.0/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMNI	**Bima**	**0.65**	**129**	P	**Pn**	**00 41 41.0**	**-0.5**
BMNI				S	**Sn**	**00 42 01.1**	**-2.6**
MTNI	**Mataram**	**2.06**	**256**	P	**Pn**	**00 41 52.2**	**-0.4**
MTNI				S	**Sn**	**00 42 24.4**	**+1.0**
KHKI	**Kahang-Kahang**	**2.56**	**265**	P	**Pn**	**00 41 57.5**	**-0.5**
WSI	**Waingapu**	**2.59**	**126**	P	**Pn**	**00 41 57.0**	**-1.3**
SRBI	**Singaraja**	**2.94**	**271**	P	**Pn**	**00 42 02.3**	**-0.1**
IGBI	**Denpasar**	**3.08**	**257**	P	**Pn**	**00 42 04.5**	**+0.5**
IGBI				S	**Sn**	**00 42 43.4**	**-0.5**
BKSI	**Bulukumba**	**3.39**	**35**	P	**Pn**	**00 42 08.6**	**+0.9**
BKSI				S	**Sn**	**00 42 52.6**	**+2.0**
KAPI	**Kappang**	**3.46**	**27**	P	**Pn**	**00 42 08.8**	**+0.2**
	0.6nm,0.3s,baz=226,slow=15,SNR=5.0						
KAPI				S	**Sn**	**00 42 50.6**	**-1.6**
	1.7nm,0.3s,baz=134,slow=21,SNR=6.5						
KAPI	**Kappang**	**3.46**	**27**	*e*Pn	**Pn**	**00 42 08.9**	**+0.3**
KAPI				S	**Sn**	**00 42 50.6**	**-1.6**
KAPI	**Kappang**	**3.46**	**27**	P	**Pn**	**00 42 09.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.00**	**265**	P	**Pn**	**00 42 14.4**	**-0.7**
JAGI				S	**Sn**	**00 43 00.7**	**-3.3**
MMRI	**Maumere**	**4.04**	**97**	P	**Pn**	**00 42 14.7**	**-0.9**
KMMI	**Kalianget**	**4.32**	**284**	P	**Pn**	**00 42 21.7**	**+2.7**
BLJI	**Banyuglugur**	**4.56**	**274**	P	**Pn**	**00 42 23.5**	**+1.4**
GMJI	**Gumukmas**	**4.69**	**268**	P	**Pn**	**00 42 23.5**	**-0.3**
TTSI	**Tana Toraja**	**5.31**	**18**	P	**Pn**	**00 42 23.2**	**-8.4**
BBKI	**Banjar Baru**	**5.71**	**324**	P	**Pn**	**00 42 38.9**	**+2.2**
	0.4nm40nm,0.5s						
PWJI	**Pagerwojo**	**6.32**	**271**	P	**Pn**	**00 42 45.3**	**+0.8**
	0.2nm28nm,0.8s						
PCJI	**Pacitan**	**6.94**	**269**	P	**Pn**	**00 42 53.7**	**+1.2**
	0.3nm67nm,0.8s						
BJII	**Banjamegara**	**8.44**	**275**	P	**Pn**	**00 43 11.1**	**-0.9**
	2um26nm,0.4s						
GTOI	**Gorontalo**	**9.95**	**29**	P	**Pn**	**00 43 34.7**	**+3.1**
	20nm,0.8s						
STKI	**Sintang**	**10.54**	**320**	P	**Pn**	**00 43 41.1**	**+2.0**
	30nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.28**	**145**	P	**Pn**	**00 44 03.2**	**+1.9**
	2.6nm,0.3s,baz=334,slow=7.8,SNR=89						
FITZ				S	**S**	**00 46 17.5**	**-0.9**
	1.6nm,0.3s,baz=174,slow=14,SNR=6.1						
FITZ	**Fitzroy Crossi**	**12.28**	**145**	*e*Pn	**Pn**	**00 44 01.4**	**+0.1**
	14nm,0.5s						
FITZ				*e*S	**S**	**00 46 14.7**	**-3.7**
FITZ	**Fitzroy Crossi**	**12.28**	**145**	P	**Pn**	**00 44 03.5**	**+2.2**
	24nm,0.6s						
KSM	**Kuching**	**12.36**	**320**	*e*Pn	**Pn**	**00 43 58.6**	**-3.7**
	17nm,0.9s						
MBWA	**Marble Bar**	**13.04**	**174**	*e*Pn	**Pn**	**00 44 11.2**	**+0.4**
	4.2nm,0.5s						
MBWA				*e*S	**S**	**00 46 30.1**	**-6.0**
KLSI		**13.80**	**284**	P	**Pn**	**00 44 21.0**	**+0.7**
	35nm,0.8s						
KKM	**Kota Kinabalu**	**14.22**	**352**	P	**Pn**	**00 44 27.9**	**+2.4**
	32nm,0.7s						
TLE	**Tual**	**14.66**	**81**	P	**Pn**	**00 44 30.3**	**-0.6**
WRA	**Warramunga Arr**	**19.56**	**129**	P	**P**	**00 45 25.2**	**-0.1**
	2.2nm,0.3s,baz=300,slow=12,SNR=329						
WRA				S	**S**	**00 48 57.6**	**+2.7**
	0.2nm,0.3s,baz=304,slow=21,SNR=5.7						
WRA				ScP	ScP	00 52 50.6	-2.4
	baz=308,slow=2.0,SNR=5.1						
WRA	**Warramunga Arr**	**19.56**	**129**	P	**P**	**00 45 25.2**	**-0.1**
WRA				S	**S**	**00 48 57.6**	**+2.7**
WRA				ScP	ScP	00 52 50.6	-2.3
WRAB	**Tennant Creek**	**19.56**	**129**	*e*P	**P**	**00 45 25.3**	**0.0**
WRAB				*e*S	**S**	**00 49 01.5**	**+6.5**
ASAR	**Alice Springs**	**21.58**	**138**	P	**P**	**00 45 46.9**	**+0.2**
	9.1nm,0.5s,mb4.6,baz=312,slow=9.1,SNR=90						
ASAR				S	**S**	**00 49 37.8**	**+6.2**
	1.4nm,0.9s,baz=319,slow=22,SNR=4.0						
ASAR				ScP	ScP	00 52 56.3	-1.4
	0.9nm,0.7s,baz=349,slow=2.6,SNR=4.9						
ASAR	**Alice Springs**	**21.58**	**138**	P	**P**	**00 45 46.9**	**+0.2**
ASAR				S	**S**	**00 49 37.8**	**+6.2**
ASAR				ScP	ScP	00 52 56.3	-1.4
NWAO	**Narrogin (SRO)**	**24.69**	**182**	P	**P**	**00 46 16.4**	**+1.4**
	5.8nm,1.0s,mb4.2,baz=315,slow=4.3,SNR=3.2						
NWAO	**Narrogin (SRO)**	**24.69**	**182**	P	**P**	**00 46 15.2**	**+0.1**
	15nm,1.1s,mb4.5						
COEN	**Coen**	**25.19**	**105**	*e*P	**P**	**00 46 20.3**	**+0.5**
STKA	**Stephens Creek**	**32.13**	**141**	P	**P**	**00 47 21.9**	**+0.8**
	4.9nm,0.7s,mb4.1,baz=307,slow=9.5,SNR=9.1						
STKA	**Stephens Creek**	**32.13**	**141**	P	**P**	**00 47 21.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**32.53**	**324**	P	**P**	**00 47 24.4**	**-0.3**
	0.7nm,0.3s,mb3.6,baz=151,slow=6.9,SNR=5.1						
CMAR	**Chiang Mai Arr**	**32.53**	**324**	P	**P**	**00 47 24.4**	**-0.3**
GTA	**Gaotai**	**50.27**	**341**	*e*P	**P**	**00 49 48.9**	**+0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
SONM	**Songino Array**	**56.69**	**351**	P	**P**	**00 50 34.3**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.6,baz=170,slow=7.8,SNR=8.1						
SONM	**Songino Array**	**56.69**	**351**	P	**P**	**00 50 34.3**	**-0.5**
MKAR	**Makanchi Array**	**63.32**	**333**	P	**P**	**00 51 18.4**	**-1.4**
	comp=Z,2.9nm,0.7s,mb4.0,baz=142,slow=7.6,SNR=27						
MKAR	**Makanchi Array**	**63.32**	**333**	P	**P**	**00 51 18.4**	**-1.4**
KURK	**Kurchatov**	**67.87**	**334**	P	**P**	**00 51 46.9**	**-1.9**
	comp=Z,1.8nm,0.7s,mb3.8,baz=145,slow=5.3,SNR=14						
KURK	**Kurchatov**	**67.87**	**334**	*e*P	**P**	**00 51 46.4**	**-2.5**
	comp=Z,3.3nm,0.9s,mb4.0						
ZALV	**Zalesovo Beam**	**67.95**	**339**	P	**P**	**00 51 47.0**	**-2.2**
	comp=Z,3.1nm,0.5s,mb4.2,baz=137,slow=5.1,SNR=20						
ZALV	**Zalesovo Beam**	**67.95**	**339**	P	**P**	**00 51 47.0**	**-2.2**
BVAR	**Borovoye Array**	**73.15**	**332**	P	**P**	**00 52 18.8**	**-2.0**
	comp=Z,1.3nm,0.8s,mb3.6,baz=148,slow=8.7,SNR=7.9						
BVAR	**Borovoye Array**	**73.15**	**332**	P	**P**	**00 52 18.8**	**-2.0**
AKTO	**Aktyubinsk**	**78.06**	**325**	P	**P**	**00 52 45.8**	**-2.9**
	comp=Z,1.4nm,0.7s,mb3.7,baz=87,slow=5.4,SNR=6.1						
AKTO	**Aktyubinsk**	**78.06**	**325**	P	**P**	**00 52 45.8**	**-2.9**
TORD	**Torodi Ar. Bea**	**117.51**	**281**	PKP	PKPdf	00 59 33.4	-1.7
	comp=Z,0.4nm,0.6s,baz=96,slow=2.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**117.51**	**281**	PKP	PKPdf	00 59 33.4	-1.7
TXAR	**Lajitas Array**	**135.43**	**56**	SKPbc	SKPbc	01 03 19.9	-0.7
	comp=Z,0.3nm,0.9s,baz=275,slow=4.4,SNR=3.7						
TXAR	**Lajitas Array**	**135.43**	**56**	SKPbc	SKPbc	01 03 19.9	-0.7

IDC 05 00:49:12.7±45.0, 16°.29S×176°.99W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.1/3, Error ellipse: s-maj=838.9km s-min=149.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.61**	**240**	P	P	00 56 55.2	+0.7
	1.8nm,0.4s,baz=94,slow=9.2,SNR=11						
WRA	**Warramunga Arr**	**46.28**	**258**	P	P	00 57 39.7	-0.7
	0.3nm,0.6s,baz=96,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**46.55**	**253**	P	P	00 57 42.3	-0.2
	3.8nm,0.5s,baz=89,slow=8.1,SNR=52						

MAN 05 01:25:41, 13°.22N×124°.47E, h31km, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.48**	**320**	*eP*	Pb	01 25 52.6	+1.4
PVCP				*eS*	Sb	01 25 57.7	-0.5
CNP	**Catarman**	**0.73**	**165**	*eP*	Pn	01 25 55.9	+0.7
CNP				*eS*	Sb	01 26 04.7	-0.4
RCP	**Roxas**	**2.36**	**226**⇓*eP*	Pn		01 26 18.9	+1.3
RCP				*eS*	Sn	01 26 46.6	+1.1

*ISCJB **05** 01:43:31.3±0.6, 0°.74N±0°.06×126°.26E±0°.04, h59km±7km, mb4.0/14, Error ellipse: s-maj=9.7km s-min=6.9km az=11.9*
*DJA **05** 01:43:31, 0°.74N×126°.31E, h14km, MLv4.0/4*
*IDC **05** 01:43:37.6±4.6, 0°.57N×125°.90E, h97km±45km, mb3.6/8, mb1 3.6/10, mb1mx3.5/20, mbtmp3.6/10, Error ellipse: s-maj=39.0km s-min=16.0km az=65.0*
*NEIC **05** 01:43:37.4±2.8, 0°.58N×126°.00E, h97km±26km, mb4.1/6, Error ellipse: s-maj=27.7km s-min=9.2km az=58.0*
ISC 05 01:43:32.6±0.6, 0°.75N±0°.06×126°.28E±0°.04, h52km±7km, n36, σ0°.88/36, mb4.0/14, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.09**	**89**	P	**Pn**	**01 43 50.1**	**-1.5**
TNTI				S	**Sn**	**01 44 06.4**	**+0.7**
LBMI	**Labuha**	**1.84**	**138**	P	**Pn**	**01 44 00.6**	**-1.2**
KMSI	**Cibinong**	**2.30**	**266**	P	**Pn**	**01 44 05.8**	**-2.3**
KMSI				S	**Sn**	**01 44 35.1**	**-0.1**
SGSI	**Sangihe**	**3.01**	**346**	P	**Pn**	**01 44 18.9**	**+1.1**
GTOI	**Gorontalo**	**3.27**	**268**	P	**Pn**	**01 44 21.3**	**0.0**
SPSI	**Sidrap Palu**	**8.01**	**234**	P	**Pn**	**01 45 28.3**	**+1.9**
	28nm,0.6s						
KAPI	**Kappang**	**8.68**	**229**	P	**Pn**	**01 45 36.0**	**+0.5**
	1.9nm,0.3s,baz=42,slow=11,SNR=5.9						
KAPI	**Kappang**	**8.68**	**229**	P	**Pn**	**01 45 36.0**	**+0.5**
KAPI	**Kappang**	**8.68**	**229**	P	**Pn**	**01 45 36.4**	**+0.9**
	13nm,1.2s						
TLE	**Tual**	**9.05**	**135**	P	**Pn**	**01 45 41.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.74**	**182**	P	**Pn**	**01 47 48.0**	**-0.1**
	0.1nm,0.3s,baz=8.1,slow=15,SNR=5.2						
FITZ	**Fitzroy Crossi**	**18.74**	**182**	P	**Pn**	**01 47 48.0**	**-0.1**
WRAB	**Tennant Creek**	**22.03**	**159**	*e*P	**P**	**01 48 22.6**	**-0.2**
	11nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**22.03**	**159**	P	**P**	**01 48 22.6**	**-0.3**
	2.9nm,0.5s,mb4.0,baz=339,slow=11,SNR=40						
WRA	**Warramunga Arr**	**22.03**	**159**	P	**P**	**01 48 22.6**	**-0.3**
ASAR	**Alice Springs**	**25.38**	**164**	P	**P**	**01 48 56.0**	**+1.0**
	1.1nm,0.3s,mb3.8,baz=346,slow=12,SNR=12						
ASAR	**Alice Springs**	**25.38**	**164**	P	**P**	**01 48 56.0**	**+1.0**
STKA	**Stephens Creek**	**35.55**	**157**	P	**P**	**01 50 24.4**	**-0.3**
	2.1nm,0.8s,mb4.1,baz=326,slow=11,SNR=4.7						
STKA	**Stephens Creek**	**35.55**	**157**	P	**P**	**01 50 24.4**	**-0.3**
SONM	**Songino Array**	**49.97**	**343**	P	**P**	**01 52 22.1**	**+0.8**
	0.4nm,0.6s,mb3.6,baz=166,slow=8.9,SNR=5.4						
SONM	**Songino Array**	**49.97**	**343**	P	**P**	**01 52 22.1**	**+0.8**
PETK	**Petropavlovsk-**	**58.34**	**22**	P	**P**	**01 53 25.7**	**+3.6**
	3.0nm,0.8s,mb4.3,baz=204,slow=10,SNR=2.3						
PETK	**Petropavlovsk-**	**58.34**	**22**	P	**P**	**01 53 25.7**	**+3.6**
MKAR	**Makanchi Array**	**59.75**	**326**	P	**P**	**01 53 31.2**	**-0.8**
	1.3nm,0.5s,mb4.2,baz=119,slow=8.1,SNR=34						
MKAR	**Makanchi Array**	**59.75**	**326**	P	**P**	**01 53 31.2**	**-0.8**
TKM2	**Tokmak 2**	**61.69**	**320**	*eP*	**P**	**01 53 45.6**	**+0.3**
	0.8nm,0.5s,mb4.1						
EKS2	**Erkin-Say**	**62.75**	**319**	*eP*	**P**	**01 53 52.6**	**+0.2**
	2.1nm,0.9s,mb4.3						
ZALV	**Zalesovo Beam**	**

TXAR pP pP 02 09 55.0 +2.3
WMOK Wichita Mounta 55.31 335 *e*P **P 02 09 52.4 -0.9**
1.5nm,0.8s,mb4.1
MNTX Cornudas Mount 55.85 327 *e*P **P 02 09 56.4 -0.8**
1.7nm,0.7s,mb4.2
ANMO Albuquerque 58.97 329 *e*P **P 02 10 19.0 -0.2**
1.0nm,0.7s,mb4.0
TUC Tucson 59.27 324 *e*P **P 02 10 21.0 -0.3**
1.6nm,0.8s,mb4.1
SDCO Great Sand Dun 60.76 332 *e*P **P 02 10 31.4 +0.1**
4.0nm,0.9s,mb4.5
SDCO *e*pP pP 02 10 49.6 +2.3
RSSD Black Hills 65.44 337 *e*P **P 02 11 02.5 +0.2**
1.0nm,0.6s,mb4.0
DUG Dugway 66.22 328 *e*P **P 02 11 07.5 +0.2**
2.4nm,0.8s,mb4.3
DUG *e*pP pP 02 11 26.1 +2.6
BW06 Boulder Array 66.64 332 *e*P **P 02 11 09.4 -0.6**
PDAR Pinedale Array 66.64 332 P **P 02 11 10.8 +0.9**
0.8nm,1.0s,mb3.7,baz=146,slow=5.5,SNR=4.4
PDAR Pinedale Array 66.64 332 P **P 02 11 10.8 +0.9**
HWUT Hardware Ranch 66.67 330 *e*P **P 02 11 10.0 -0.2**
4.0nm,1.0s,mb4.4
HWUT *e*pP pP 02 11 28.2 +1.8
LOHW Long Hollow 67.77 332 *e*P **P 02 11 16.9 -0.2**
1.1nm,0.7s,mb4.0
RRI2 Red Ridge 67.90 331 *e*P **P 02 11 18.0 +0.1**
3.3nm,0.8s,mb4.4
RRI2 *e*pP pP 02 11 36.2 +2.1
NVAR Mina Array Bea 67.92 324 P **P 02 11 18.9 +0.7**
0.6nm,0.8s,mb3.7,baz=133,slow=6.3,SNR=4.5
NVAR pP pP 02 11 36.9 +2.5
0.1nm,0.3s,baz=160,slow=14,SNR=2.6
NVAR Mina Array Bea 67.92 324 P **P 02 11 18.9 +0.7**
NVAR pP pP 02 11 36.9 +2.5
FLWY Flagg Ranch 68.19 332 *e*P **P 02 11 19.9 +0.2**
4.5nm,0.9s,mb4.5
ULM Lac du Bonnet 68.29 345 P **P 02 11 19.7 -0.5**
4.6nm,0.5s,mb4.8,baz=150,slow=6.0,SNR=9.2
ULM Lac du Bonnet 68.29 345 P **P 02 11 19.7 -0.5**
SNAA Sanae 69.42 161 *e* **P 02 11 20.6 -6.5**
SNAA *e* pP 02 11 38.7 -4.6
SNAA Sanae 69.42 161 *e*P **P 02 11 19.9 -7.1**
4.3nm,0.8s,mb4.4
SNAA *e*pP pP 02 11 38.4 -4.9
HLID Hailey 69.53 330 *e*P **P 02 11 28.5 +0.4**
0.8nm,0.5s,mb3.9
DBIC Dimbokro 71.78 77 P **P 02 11 42.1 -0.3**
1.4nm,0.5s,mb4.1,baz=203,slow=4.8,SNR=4.7
DBIC Dimbokro 71.78 77 P **P 02 11 42.1 -0.3**
TORD Torodi Ar. Bea 79.96 73 P **P 02 12 29.2 +0.1**
3.8nm,0.7s,mb4.5,baz=262,slow=5.3,SNR=38
TORD Torodi Ar. Bea 79.96 73 P **P 02 12 29.2 +0.1**
YKA Yellowknife Ar 84.06 342 P **P 02 12 48.8 -0.7**
2.1nm,0.7s,mb4.4,baz=141,slow=5.8,SNR=9.5
YKA Yellowknife Ar 84.06 342 P **P 02 12 48.8 -0.7**
TAM Tamanrasset 86.47 65 *e*P **P 02 13 04.2 +1.8**
0.8nm,0.7s,mb4.1
ASAR Alice Springs 132.54 215 PKP PKPdf 02 19 32.6 -1.7
0.1nm,0.3s,baz=129,slow=1.8,SNR=4.2
ASAR Alice Springs 132.54 215 PKP PKPdf 02 19 32.6 -1.7
WRA Warramunga Arr 135.17 219 PKP PKPdf 02 19 37.7 -1.6
1.3nm,0.9s,baz=136,slow=2.0,SNR=12
WRA pPKP pPKPdf 02 19 57.4 +0.6
0.2nm,0.5s,baz=137,slow=1.8,SNR=2.9
WRA Warramunga Arr 135.17 219 PKP PKPdf 02 19 37.7 -1.6
WRA pPKP pPKPdf 02 19 57.4 +0.6
ZALV Zalesovo Beam 138.18 19 PKP PKPdf 02 19 42.8 -1.0
1.0nm,0.5s,baz=321,slow=1.9,SNR=5.4
ZALV pPKP pPKPdf 02 20 03.0 +1.7
0.6nm,0.5s,baz=270,slow=0.4,SNR=2.2
ZALV Zalesovo Beam 138.18 19 PKP PKPdf 02 19 42.8 -1.0
ZALV pPKP pPKPdf 02 20 03.0 +1.7
MKAR Makanchi Array 143.03 28 PKhKP PKPpre 02 19 49.0
0.6nm,0.6s,baz=296,slow=2.7,SNR=7.1
MKAR Makanchi Array 143.03 28 PKPpre PKPpre 02 19 49.0
SONM Songino Array 147.78 360 PKP PKPdf 02 20 01.0 0.0
1.0nm,0.7s,baz=269,slow=1.0,SNR=8.3
SONM PKPbc PKPbc 02 20 03.7 -0.2
0.2nm,0.4s,baz=332,slow=3.6,SNR=4.0
SONM Songino Array 147.78 360 PKP PKPdf 02 20 01.0 0.0
SONM PKPbc PKPbc 02 20 03.7 -0.2

*ISCJB **05** 02:01:32.5±2.0, 19°.3S±0°.1×169°.1E±0°.1, h152km±16km, mb4.5/12, Error ellipse: s-maj=22.7km s-min=18.7km az=179.6*
*IDC **05** 02:01:32.8±3.5, 19°.13S×169°.10E, h146km±31km, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, Error ellipse: s-maj=30.5km s-min=19.6km az=164.0*
*NEIC **05** 02:01:33.4±2.6, 19°.25S×169°.17E, h153km±23km, mb4.6/6, Error ellipse: s-maj=25.8km s-min=16.3km az=193.0*
ISC 05 02:01:33.0±1.9, 19°.3S±0°.1×169°.1E±0°.1, h143km±16km, n38, σ0°96/36, mb4.5/12, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.54**	**215**	*e*P	**Pn**	**02 02 26.5**	**-0.6**
BAYA				*e*S	**Sn**	02 03 07.4	-0.3
DZM	**Mont Dzumac**	**3.73**	**221**	*e*Pn	**Pn**	**02 02 30.1**	**+0.6**
DZM				*e*Sn	**Sn**	02 03 13.6	+1.1
NOUC	**Port Laguerre**	**3.84**	**222**	*e*P	**Pn**	**02 02 31.5**	**+0.5**
NOUC				*e*S	**Sn**	02 03 16.4	+1.3
ARMA	**Armidale**	**19.32**	**232**	*e*P	**P**	**02 05 52.1**	**+5.0**
URZ	**Urewera**	**20.17**	**161**	P	**P**	**02 05 57.2**	**+1.0**
8.6nm,1.0s,baz=334,slow=11,SNR=3.6							
URZ	**Urewera**	**20.17**	**161**	P	**P**	**02 05 57.2**	**+1.0**
CTA	**Charters Tower**	**21.52**	**264**	P	**P**	**02 06 12.0**	**+1.2**
3.3nm,0.3s,mb4.2,baz=89,slow=10,SNR=9.5							
CTA	**Charters Tower**	**21.52**	**264**	*e*P	**P**	**02 06 12.4**	**+1.6**
4.1nm,0.6s,mb4.0							
CTA	**Charters Tower**	**21.52**	**264**	P	**P**	**02 06 12.0**	**+1.2**
CTAO	**Charters Tower**	**21.52**	**264**	*e*P	**P**	**02 06 12.0**	**+1.2**
4.0nm,0.5s,mb4.1							
PMG	**Port Moresby**	**23.37**	**292**	*e*P	**P**	**02 06 29.3**	**+0.4**
12nm,0.8s,mb4.4							
CNB	**Canberra Magne**	**23.66**	**223**	*e*P	**P**	**02 06 31.7**	**+0.4**
87nm,0.6s,mb5.5							
COEN	**Coen**	**25.37**	**278**	*e*P	**P**	**02 06 50.2**	**+3.1**
STKA	**Stephens Creek**	**27.71**	**238**	P	**P**	**02 07 08.3**	**+0.4**
5.9nm,0.6s,mb4.5,baz=58,slow=8.2,SNR=27							
STKA	**Stephens Creek**	**27.71**	**238**	*e*P	**P**	**02 07 08.1**	**+0.2**
6.0nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**27.71**	**238**	P	**P**	**02 07 08.3**	**+0.4**
WRA	**Warramunga Arr**	**32.71**	**263**	P	**P**	**02 07 50.6**	**-1.6**
2.2nm,0.4s,mb4.2,baz=90,slow=8.5,SNR=16							
WRA	**Warramunga Arr**	**32.71**	**263**	P	**P**	**02 07 50.6**	**-1.6**
ASAR	**Alice Springs**	**32.98**	**256**	P	**P**	**02 07 54.0**	**-0.5**
13nm,0.4s,mb5.0,baz=83,slow=8.9,SNR=201							
ASAR				ScP	ScP	02 14 05.4	-0.8
0.4nm,0.7s,baz=106,slow=3.2,SNR=4.7							
ASAR	**Alice Springs**	**32.98**	**256**	P	**P**	**02 07 54.0**	**-0.5**
ASAR				ScP	ScP	02 14 05.4	-0.8
FORT	**Forrest**	**38.71**	**245**	*e*P	**P**	**02 08 42.5**	**-0.7**
9.8nm,0.6s,mb4.6							
FORT	**Forrest**	**38.71**	**245**	*e*P	**P**	**02 08 42.5**	**-0.7**
14nm,0.8s,mb4.7							
FITZ	**Fitzroy Crossi**	**41.10**	**264**	P	**P**	**02 09 03.3**	**+0.2**
15nm,0.6s,mb4.8,baz=113,slow=7.3,SNR=95							
FITZ	**Fitzroy Crossi**	**41.10**	**264**	||*e*P	**P**	**02 09 03.2**	**+0.1**
25nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**41.10**	**264**	*e*P	**P**	**02 09 03.0**	**-0.1**
13nm,0.8s,mb4.6							
MBWA	**Marble Bar**	**46.21**	**259**	*e*P	**P**	**02 09 43.6**	**-0.3**
12nm,0.4s,mb4.9							
KKM	**Kota Kinabalu**	**57.81**	**290**	*e*P	**P**	**02 11 09.7**	**-0.2**
6.6nm,0.7s,mb4.6							
SONM	**Songino Array**	**87.16**	**323**	P	**P**	**02 14 03.2**	**+0.4**
0.3nm,0.8s,baz=121,slow=5.6,SNR=2.1							
SONM	**Songino Array**	**87.16**	**323**	P	**P**	**02 14 03.1**	**+0.4**
NVAR	**Mina Array Bea**	**88.92**	**49**	P	**P**	**02 14 11.6**	**+0.3**
0.8nm,0.7s,mb3.7,baz=232,slow=7.7,SNR=5.9							
NVAR	**Mina Array Bea**	**88.92**	**49**	P	**P**	**02 14 11.6**	**+0.3**
ILAR	**Eielson Array**	**90.30**	**17**	P	**P**	**02 14 14.8**	**-2.3**
0.4nm,0.7s,mb3.5,baz=240,slow=5.2,SNR=11							
ILAR	**Eielson Array**	**90.30**	**17**	P	**P**	**02 14 14.8**	**-2.3**
ARCES	**ARCESS Array B**	**125.06**	**345**	PKP	PKPdf	02 20 14.3	-1.3
0.6nm,0.3s,baz=61,slow=2.3,SNR=18							
ARCES	**ARCESS Array B**	**125.06**	**345**	PKP	PKPdf	02 20 14.3	-1.3
FINES	**FINESS Array B**	**130.56**	**338**	SKPbc	SKPbc	02 23 34.7	-2.1
0.7nm,0.5s,baz=64,slow=3.2,SNR=7.3							
GERES	**GERESS Array B**	**144.45**	**332**	PKP	PKPdf	02 20 50.2	-2.0
0.9nm,0.7s,baz=49,slow=4.4,SNR=8.8							
GERES	**GERESS Array B**	**144.45**	**332**	PKP	PKPdf	02 20 50.2	-2.0

*NEIC **05** 02:13:18.7, 17°.17N×99°.93W, h30km, MD3.3(MEX), After MEX.*
MEX 05 02:13:18.3±0.8, 17°.15N×99°.95W, h38km±15km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.29**	**163**	*i*P	Pn	02 13 24.6	-1.7
ACX				*i*S	Sn	02 13 30.0	-1.7
ACX	**Acapulco**	**0.29**	**163**	*i*P	Pn	02 13 24.6	-1.7
ACX				*i*S	Sn	02 13 30.0	-1.7
CAIG	**El Cayaco**	**0.32**	**252**	*e*P	Pn	02 13 25.2	-1.5
CAIG				*i*S	Sn	02 13 30.7	-1.7
CAIG	**El Cayaco**	**0.32**	**252**	*e*P	Pn	02 13 25.2	-1.5
CAIG				*i*S	Sn	02 13 30.7	-1.7
MEIG	**Mezcala**	**0.83**	**22**	*i*P	Pn	02 13 32.7	-0.9
MEIG				*i*S	Sn	02 13 41.5	-3.2
MEIG	**Mezcala**	**0.83**	**22**	*i*P	Pn	02 13 32.7	-0.9
MEIG				*i*S	Sn	02 13 41.5	-3.2
PNIG	**Pinotepa**	**1.90**	**113**	*i*P	Pn	02 13 46.0	-2.2
PNIG				*i*S	Sn	02 14 09.1	-1.8
PNIG	**Pinotepa**	**1.90**	**113**	*i*P	Pn	02 13 46.0	-2.2
PNIG				*i*S	Sn	02 14 09.1	-1.8
UTMO	**Huajuapan**	**2.15**	**71**	*i*P	Pn	02 13 51.3	-0.4
UTMO				*i*S	Sn	02 14 15.6	-1.6
UTMO	**Huajuapan**	**2.15**	**71**	*i*P	Pn	02 13 51.3	-0.4
UTMO				*i*S	Sn	02 14 15.6	-1.6
PPM	**Popocatepetl**	**2.28**	**33**	*i*P	Pn	02 13 50.6	-2.9
PPM				*i*S	Sn	02 14 19.9	-0.6
PPM	**Popocatepetl**	**2.28**	**33**	*i*P	Pn	02 13 50.6	-2.9
PPM				*i*S	Sn	02 14 19.9	-0.6

DJA 05 02:14:37, 0°.59N×121°.14E, h66km, MLv4.0/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.81**	**98**	P	Pn	02 14 54.3	+1.4
MRSI				S	Sn	02 15 06.8	+2.1
GTOI	**Gorontalo**	**1.87**	**89**	P	Pn	02 15 06.4	-0.4
GTOI				S	Sn	02 15 30.3	+0.8
LUWI	**Luwuk**	**2.30**	**135**	P	Pn	02 15 13.4	+0.7
LUWI				S	Sn	02 15 41.9	+2.0
TTSI	**Tana Toraja**	**3.84**	**200**	P	Pn	02 15 34.8	+1.1
TTSI				S	Sn	02 16 18.6	+0.9
SPSI	**Sidrap Palu**	**4.73**	**197**	P	Pn	02 15 46.2	+0.4
MYLDM	**Lahad Datu**	**5.27**	**330**	P	Pn	02 15 56.8	+3.6

IDC 05 02:51:42.4±6.4, 53°.42S×159°.62E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.9/12, mbtmp3.8/5, MS3.2/3, Ms1 3.2/3, ms1mx3.0/14, Error ellipse: s-maj=286.4km s-min=24.4km az=69.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.37**	**46**	LR	LR	03 03 59.5	
comp=Z,124nm,18.6s,baz=130,slow=38							
STKA	**Stephens Creek**	**25.15**	**322**	P	P	02 57 10.6	+1.6
2.0nm,0.7s,baz=138,slow=14,SNR=3.6							
STKA				LR	LR	03 06 30.2	
comp=Z,36nm,18.4s,baz=203,slow=35							
CTA	**Charters Tower**	**34.83**	**338**	LR	LR	03 11 22.1	
comp=Z,33nm,18.7s,baz=230,slow=34							
ASAR	**Alice Springs**	**35.50**	**317**	P	P	02 58 41.2	+0.6
1.1nm,0.8s,baz=156,slow=9.3,SNR=11							
QSPA	**South Pole Qui**	**36.69**	**180**	P	P	02 58 50.8	+0.5
1.7nm,0.5s,baz=291,slow=3.1,SNR=7.0							
WRA	**Warramunga Arr**	**38.67**	**320**	P	P	02 59 06.6	-1.0
0.8nm,0.8s,baz=156,slow=7.3,SNR=7.1							
FITZ	**Fitzroy Crossi**	**43.99**	**310**	P	P	02 59 50.3	-1.0
0.7nm,0.7s,baz=151,slow=10,SNR=4.3							

*ISCJB **05** 02:55:42.9±0.7, 41°.7S±0°.2×84°.9E±0°.2, h10km, mb4.2/14, MS3.6/4, Error ellipse: s-maj=21.9km s-min=16.4km az=9.6*
*IDC **05** 02:55:42.7±0.9, 41°.54S×84°.92E, h0km, mb4.0/9, mb1 4.0/9, mb1mx3.9/17, mbtmp4.0/9, MS3.6/4, Ms1 3.5/4, ms1mx3.2/24, Error ellipse: s-maj=33.2km s-min=23.0km az=0.0*
*NEIC **05** 02:55:44.4±0.7, 41°.65S×84°.86E, h10km, mb4.5/5, Error ellipse: s-maj=22.6km s-min=17.0km az=189.0*
ISC 05 02:55:44.5±0.7, 41°.7S±0°.2×84°.9E±0°.2, h10km, n26, σ1°02/23, mb4.2/14, MS3.6/4, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**27.05**	**82**	LR	LR	03 09 48.1	
comp=Z,54nm,19.2s,MS3.1,baz=100,slow=31							
MBWA	**Marble Bar**	**35.74**	**66**	*e*P	**P**	**03 02 45.3**	**+1.8**
4.6nm,0.6s,mb4.6							
ASAR	**Alice Springs**	**44.37**	**82**	P	**P**	**03 03 55.1**	**0.0**
0.4nm,0.7s,mb3.3,baz=217,slow=9.2,SNR=6.1							
ASAR				PcP	PcP	03 05 38.6	-0.4
0.1nm,0.3s,baz=226,slow=2.9,SNR=5.2							
ASAR	**Alice Springs**	**44.37**	**82**	P	**P**	**03 03 55.1**	**0.0**
ASAR				PcP	PcP	03 05 38.6	-0.4
STKA	**Stephens Creek**	**45.75**	**97**	P	**P**	**03 04 06.1**	**+0.1**
1.6nm,0.7s,mb4.1,baz=200,slow=13,SNR=3.7							
STKA	**Stephens Creek**	**45.75**	**97**	P	**P**	**03 04 06.1**	**+0.1**
WRA	**Warramunga Arr**	**46.94**	**78**	P	**P**	**03 04 15.2**	**-0.3**
0.8nm,0.9s,mb3.6,baz=231,slow=7.3,SNR=9.1							
WRA	**Warramunga Arr**	**46.94**	**78**	P	**P**	**03 04 15.2**	**-0.3**
QSPA	**South Pole Qui**	**48.51**	**180**	P	**P**	**03 04 26.2**	**-0.7**
0.9nm,0.2s,mb4.4,baz=256,slow=3.4,SNR=3.8							
QSPA	**South Pole Qui**	**48.51**	**180**	P	**P**	**03 04 26.2**	**-0.7**
BOSA	**Boshof**	**49.56**	**265**	P	**P**	**03 04 37.5**	**+1.9**
2.3nm,0.9s,mb4.2,baz=108,slow=9.6,SNR=3.1							
BOSA				LR	LR	03 20 33.4	
comp=Z,60nm,18.3s,MS3.6,baz=342,slow=30							
BOSA	**Boshof**	**49.56**	**265**	P	**P**	**03 04 37.5**	**+1.9**
AAK	**Ala-Archa**	**84.42**	**352**	*e*P	**P**	**03 08 17.0**	**+0.3**
2.4nm,0.5s,mb4.6							
EKS2	**Erkin-Say**	**84.52**	**352**	*e*P	**P**	**03 08 17.1**	**0.0**
1.8nm,0.8s,mb4.2							
KKAR	**Karatay Array**	**85.35**	**349**	*e*P	**P**	**03 08 21.9**	**+0.5**
4.2nm,1.0s,mb4.5							
KSRS	**Korea Array**	**87.99**	**33**	LR	LR	03 42 22.3	
comp=Z,33nm,20.3s,MS3.7,baz=148,slow=32							
MKAR	**Makanchi Array**	**88.08**	**358**	P	**P**	**03 08 34.0**	**-0.6**
0.8nm,0.9s,mb4.0,baz=134,slow=6.9,SNR=4.7							
MKAR	**Makanchi Array**	**88.08**	**358**	P	**P**	**03 08 34.0**	**-0.6**
SONM	**Songino Array**	**91.11**	**14**	P	**P**	**03 08 48.1**	**-0.7**
0.8nm,1.0s,mb4.0,baz=150,slow=1.5,SNR=4.1							
SONM	**Songino Array**	**91.11**	**14**	P	**P**	**03 08 48.1**	**-0.7**
KURK	**Kurchatov**	**92.14**	**356**	*e*P	**P**	**03 08 54.6**	**+1.1**
1.3nm,0.7s,mb4.4							
BRTR	**Keskin Array B**	**93.41**	**323**	P	**P**	**03 08 58.5**	**-1.2**
1.8nm,1.1s,mb4.4,baz=92,slow=4.3,SNR=4.6							
BRTR	**Keskin Array B**	**93.41**	**323**	P	**P**	**03 08 58.5**	**-1.2**
DBIC	**Dimbokro**	**94.18**	**275**	LR	LR	03 46 28.9	
comp=Z,37nm,19.1s,MS3.9,baz=351,slow=32							
ZALV	**Zalesovo Beam**	**95.22**	**360**	P	**P**	**03 09 05.4**	**-2.2**
0.5nm,0.4s,mb4.3,baz=257,slow=2.5,SNR=3.4							
ZALV	**Zalesovo Beam**	**95.22**	**360**	P	**P**	**03 09 05.4**	**-2.2**

*ISCJB **05** 03:49:08.9±4.3, 24°.88S±0°.08×65°.1W±0°.1, h12km±29km, mb3.9/6, Error ellipse: s-maj=15.8km s-min=13.4km az=170.7*
*NEIC **05** 03:49:12.4±0.4, 24°.88S×65°.11W, mb3.9/3, MD4.3(SJA), Error ellipse: s-maj=10.3km s-min=7.5km az=90.0*
NEIC Felt [IV] in the Cerrillos-La Merced area. Also felt at Salta.
*IDC **05** 03:49:12.5±0.8, 25°.00S×65°.12W, h25km±5km, mb3.9/3, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML3.9/1, MS3.4/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=22.7km s-min=20.7km az=163.0*
ISC 05 03:49:13.5±3.2, 24°.91S±0°.08×65°.1W±0°.1, h31km±25km, h26km±.8km: pP-P, n22, σ0°60/18, mb3.9/6, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**6.46**	**229**	*e*Pn	**Pn**	**03 50 47.4**	**+0.9**
CPUP	**Villa Florida**	**7.16**	**103**	Pn	**Pn**	**03 50 56.8**	**+0.7**
15nm,0.3s,baz=260,slow=11,SNR=88							
CPUP				Lg		03 52 58.3	
52nm,0.3s,baz=3.3,slow=19,SNR=4.7							
CPUP				LR	LR	03 54 06.5	
comp=Z,316nm,19.4s,baz=48,slow=41							
CPUP	**Villa Florida**	**7.16**	**103**	Pn	**Pn**	**03 50 56.8**	**+0.7**
CPUP				Lg		03 52 58.3	
CFAA	**Coronel Fontan**	**7.22**	**202**	Pn	**Pn**	**03 50 56.4**	**-0.6**
0.4nm,0.3s,baz=19,slow=12,SNR=34							
CFAA				Lg		03 52 56.3	
1.1nm,0.3s,baz=124,slow=19,SNR=6.8							
CFAA	**Coronel Fontan**	**7.22**	**202**	Pn	**Pn**	**03 50 56.4**	**-0.5**
CFAA				Lg		03 52 56.3	
LPAZ	**La Paz**	**9.03**	**341**	Pn	**Pn**	**03 51 21.3**	**-0.5**
TRQA	**Tornquist**	**13.38**	**169**	*e*Pn	**Pn**	**03 52 20.4**	**-0.9**
PLCA	**Paso Flores**	**16.43**	**195**	Pn	**Pn**	**03 53 02.0**	**+0.3**
0.1nm,0.3s,baz=25,slow=11,SNR=3.2							
PLCA	**Paso Flores**	**16.43**	**195**	Pn	**Pn**	**03 53 02.0**	**+0.3**
TXAR	**Lajitas Array**	**65.42**	**323**	P	**P**	**03 59 53.5**	**+0.2**
0.2nm,0.6s,mb3.3,baz=144,slow=5.1,SNR=3.0							
TXAR				pP	pP	04 00 01.5	-1.6
0.2nm,0.5s,baz=134,slow=8.8,SNR=2.9							
TXAR	**Lajitas Array**	**65.42**	**323**	P	**P**	**03 59 53.5**	**+0.2**
TXAR				pP	pP	04 00 01.5	-1.5
TORD	**Torodi Ar. Bea**	**75.29**	**68**	P	**P**	**04 00 54.3**	**+0.3**
3.0nm,0.6s,mb4.4,baz=257,slow=6.1,SNR=45							
TORD				pP	pP	04 01 01.9	-1.9
2.9nm,0.6s,baz=257,slow=6.2,SNR=12							
TORD	**Torodi Ar. Bea**	**75.29**	**68**	P	**P**	**04 00 54.3**	**+0.3**
TORD				pP	pP	04 01 01.9	-1.9
RSSD	**Black Hills**	**77.40**	**332**	*e*P	**P**	**04 01 04.7**	**-0.6**
0.7nm,0.6s,mb3.8							
BOSA	**Boshof**	**78.78**	**116**	P	**P**	**04 01 13.0**	**-0.5**
1.8nm,0.8s,mb4.0,baz=233,slow=5.1,SNR=2.9							
BOSA	**Boshof**	**78.78**	**116**	P	**P**	**04 01 13.0**	**-0.5**
HLID	**Hailey**	**81.79**	**326**	*e*P	**P**	**04 01 30.0**	**+0.8**
1.0nm,0.6s,mb3.9							
HLID				*e*pP	pP	04 01 37.5	-1.7
BOZ	**Bozeman (W)**	**81.96**	**329**	*e*P	**P**	**04 01 29.9**	**-0.2**
1.1nm,0.8s,mb3.8							
WRA	**Warramunga Arr**	**131.58**	**205**	PKP	PKPdf	04 08 23.0	-0.8
0.3nm,0.6s,baz=169,slow=1.5,SNR=5.7							
WRA	**Warramunga Arr**	**131.58**	**205**	PKP	PKPdf	04 08 23.0	-0.8
MKAR	**Makanchi Array**	**146.08**	**42**	PKPbc	PKPbc	04 08 49.7	-0.6
0.6nm,0.6s,baz=310,slow=3.4,SNR=5.8							
MKAR				pPKPbc	pPKPbc	04 08 58.6	-1.9
0.8nm,0.7s,baz=296,slow=3.8,SNR=5.0							
MKAR	**Makanchi Array**	**146.08**	**42**	PKPbc	PKPbc	04 08 49.7	-0.6
MKAR				pPKPbc	pPKPbc	04 08 58.6	-1.9

*TEH **05** 04:31:10.1, 32°.22N×48°.91E, h4km*
*ISCJB **05** 04:31:12.7±0.5, 32°.53N±0°.03×49°.05E±0°.05, h10km, Error ellipse: s-maj=6.7km s-min=3.7km az=26.2*
*KISR **05** 04:31:13.6±1.0, 32°.26N×45°.80E, h34km, ML2.8*
*CSEM **05** 04:31:13.8±0.3, 32°.44N×49°.13E, h2km, ML3.2, Error ellipse: s-maj=20.8km s-min=5.5km az=115.0*
ISC 05 04:31:13.2±1.0, 32°.48N±0°.03×49°.07E±0°.04, h3km±8km, n17, σ1°18/25, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.43**	**211**	*e*Pg	**Pg**	**04 31 22.1**	**+0.6**
IKOM	**Komasi**	**2.13**	**323**	*e*Pn	**Pn**	**04 31 48.1**	**-1.7**
IKOM				*e*Sg	**Sg**	**04 32 21.4**	**-0.4**
IKOM				*e*		04 32 25.9	
comp=Z,1μm,0.2s							
ASAO	**Ashtian**	**2.21**	**21**	*e*Pn	**Pn**	**04 31 53.2**	**+2.3**
ASAO				*e*Sg	**Sg**	**04 32 24.6**	**+0.2**
IGAR	**Gharneh**	**2.52**	**91**	*e*Pn	**Pn**	**04 31 53.9**	**-1.2**
IGAR				*e*		04 32 34.1	
comp=Z,1μm,0.1s							
IGAR	**Gharneh**	**2.52**	**91**	*e*Pn	**Pn**	**04 31 53.9**	**-1.2**
IGAR				*e*Sg	**Sg**	**04 32 33.0**	**-1.1**
IGAR				*e*		04 32 34.1	
comp=Z,1μm,0.1s							
GHVR	**GHOM**	**2.73**	**42**	*e*Sg	**Sg**	**04 32 40.1**	**-0.8**
SNGE	**Sanandaj**	**2.97**	**332**	*e*Pn	**Pn**	**04 32 02.6**	**+1.3**
ILIN	**Lien**	**3.00**	**325**	*e*Pn	**Pn**	**04 32 00.1**	**-1.6**
ILIN				*e*		04 32 50.2	
comp=Z,508nm,0.3s							
MIB	**Mutribah**	**3.05**	**209**	*e*P	**Pn**	**04 32 02.7**	**+0.3**
MIB				*e*S	**Sn**	**04 32 40.7**	**+1.3**
MIB				AML	AML	04 32 48.5	
comp=Z,37nm,0.5s							
MIB	**Mutribah**	**3.05**	**209**	*e*P	**Pn**	**04 32 02.7**	**+0.3**
MIB				*e*S	**Sn**	**04 32 40.7**	**+1.2**
IDHR	**Dehrash**	**3.15**	**315**	*e*Pn	**Pn**	**04 32 01.1**	**-2.6**
IDHR				*e*		04 32 57.8	
comp=Z,654nm,0.2s							
ISFB	**Sefidab**	**3.25**	**54**	*e*Pn	**Pn**	**04 32 05.0**	**-0.1**
IVRN	**Varamin**	**3.35**	**41**	*e*Pn	**Pn**	**04 32 06.9**	**+0.4**
IR3	**Iran Long-Peri**	**3.40**	**28**	*e*Pn	**Pn**	**04 32 07.7**	**+0.5**
IR3				*e*Sg	**Sg**	**04 33 05.0**	**+2.4**
NAY	**Al-Naaiem**	**3.58**	**206**	*e*P	**Pn**	**04 32 10.3**	**+0.6**
NAY				*e*S	**Sn**	**04 32 51.7**	**-0.8**
NAY	**Al-Naaiem**	**3.58**	**206**	*e*P	**Pn**	**04 32 10.4**	**+0.7**

2.6nm,0.4s,mb4.1,baz=157,slow=6.2,SNR=10.0
MJAR Matsushiro Arr 70.38 323 P **P 04 43 22.4 -0.1**
MAJO Matsushiro 70.38 323 *eP* **P 04 43 22.3 -0.2**
4.3nm,0.5s,mb4.2
PETK Petropavlovsk- 76.27 345 P **P 04 43 56.0 +0.2**
2.1nm,0.7s,mb3.7,baz=155,slow=11,SNR=3.1
PETK Petropavlovsk- 76.27 345 P **P 04 43 56.0 +0.2**
IPM Ipoh 83.55 277 *eP* **P 04 44 35.4 +0.4**
9.0nm,0.6s,mb4.5
COLA College 88.00 12 *eP* **P 04 44 54.6 -0.5**
2.3nm,0.7s,mb4.0
ILAR Eielson Array 88.10 13 P **P 04 44 55.5 -0.1**
0.5nm,0.7s,mb3.4,baz=217,slow=5.5,SNR=14
ILAR Eielson Array 88.10 13 P **P 04 44 55.5 -0.1**
VNA3 Neumayer Olymp 88.23 176 *e* **P 04 44 57.5 +1.2**
VNA2 Neumayer--Watz 88.68 177 *e* **P 04 44 59.5 +1.1**
baz=188,slow=3.9
CMAR Chiang Mai Arr 90.49 289 P **P 04 45 09.4 +1.7**
1.3nm,0.3s,mb4.2,baz=105,slow=2.6,SNR=9.0
CMAR Chiang Mai Arr 90.49 289 P **P 04 45 09.4 +1.7**
CHTO Chiang Mai 90.62 290 *eP* **P 04 45 08.6 +0.2**
2.9nm,0.6s,mb4.4
MKAR Makanchi Array 111.44 313 PKiKP PKiKP 04 50 35.5 -0.5
0.4nm,0.6s,baz=344,slow=1.2,SNR=3.6
MKAR Makanchi Array 111.44 313 PKiKP PKiKP 04 50 35.5 -0.5
KURK Kurchatov 114.20 317 PKP PKiKP 04 50 40.0 -1.1
0.4nm,0.6s,baz=92,slow=2.3,SNR=5.9
KURK Kurchatov 114.20 317 PKP PKiKP 04 50 40.0 -1.1
EKS2 Erkin-Say 117.10 308 *e*PKPdf PKPdf 04 50 47.1 +0.1
BVAR Borovoye Array 119.27 320 PKP PKPdf 04 50 50.4 -0.4
0.7nm,0.3s,baz=157,slow=1.1,SNR=1.3
BVAR Borovoye Array 119.27 320 PKP PKPdf 04 50 50.4 -0.4
ARCES ARCESS Array B 128.88 350 PKP PKPdf 04 51 09.0 +0.3
1.9nm,0.9s,baz=85,slow=2.6,SNR=3.8
ARCES ARCESS Array B 128.88 350 PKP PKPdf 04 51 09.0 +0.3
FINES FINESS Array B 135.78 344 PKP PKPdf 04 51 23.6 +1.7
3.1nm,0.9s,baz=86,slow=2.5,SNR=4.0
FINES FINESS Array B 135.78 344 PKP PKPdf 04 51 23.6 +1.7
AKASG Malin Array Be 143.12 332 PKhKP PKPpre 04 51 32.9
2.8nm,0.4s,baz=43,slow=4.1,SNR=13
AKASG Malin Array Be 143.12 332 PKPpre PKPpre 04 51 32.9
BRTR Keskin Array B 147.08 313 PKPbc PKPbc 04 51 45.9 +0.2
1.3nm,0.6s,baz=138,slow=5.3,SNR=7.2
BRTR Keskin Array B 147.08 313 PKPbc PKPbc 04 51 45.9 +0.2
GERES GERESS Array B 150.20 345 PKPbc PKPbc 04 51 53.8 +0.7
0.7nm,0.6s,baz=18,slow=1.7,SNR=6.3
GERES GERESS Array B 150.20 345 PKPbc PKPbc 04 51 53.8 +0.7
TORD Torodi Ar. Bea 172.77 174 PKP PKPdf 04 52 11.0 -0.2
0.3nm,0.7s,baz=273,slow=2.7,SNR=3.1
TORD PKPab PKPab 04 53 42.4 +1.8
0.1nm,0.7s,baz=188,slow=1.6,SNR=3.4
TORD Torodi Ar. Bea 172.77 174 PKP PKPdf 04 52 11.0 -0.2
TORD PKPab PKPab 04 53 42.4 +1.8

*IDC **05** 04:34:18.2±1.1,29°.09N×87°.99E,h0km,mb3.5/5,*
mb1 3.7/7,mb1mx3.4/27,mbtmp3.5/7,ML3.7/2,MS2.8/1,
Ms1 2.8/1,ms1mx2.4/31,Error ellipse: s-maj=40.5km
s-min=21.4km az=62.0
*NEIC **05** 04:34:19.8±0.6,29°.10N×87°.96E,h10km,mb3.4/2,Error*
ellipse: s-maj=15.5km s-min=8.1km az=48.0

ISC 05 04:34:19.7±3.1,29°.17N±0°.07×88°.0E±0°.1,h6km±21km,n18,
σ0s89/20,mb3.5/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.76**	**78**	*eP*n	**Pn**	**04 35 06.2**	**+1.8**
LSA				*e*Sg	**Sg**	04 35 47.5	-0.9
SHL	**Shillong**	**4.96**	**136**	*e*PKP	**Pn**	**04 35 38.0**	**+3.3**
SHL				*e*S	**Sg**	**04 36 59.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**14.59**	**135**	Pn	**Pn**	**04 37 46.6**	**-0.1**
	0.4nm,0.3s,baz=318,slow=11,SNR=2.9						
CMAR	**Chiang Mai Arr**	**14.59**	**135**	Pn	**Pn**	**04 37 46.6**	**-0.1**
TKM2	**Tokmak 2**	**16.99**	**327**	*eP*	**Pn**	**04 38 17.6**	**-0.3**
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**18.16**	**347**	P	**Pn**	**04 38 33.6**	**+1.2**
	0.0nm,0.3s,baz=166,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**18.16**	**347**	P	**Pn**	**04 38 33.6**	**+1.2**
KURK	**Kurchatov**	**22.66**	**344**	P	**P**	**04 39 21.3**	**-0.2**
	0.5nm,0.8s,mb3.0,baz=154,slow=9.6,SNR=4.5						
KURK	**Kurchatov**	**22.66**	**344**	P	**P**	**04 39 21.3**	**-0.2**
SONM	**Songino Array**	**23.42**	**32**	P	**P**	**04 39 29.2**	**-0.3**
	0.6nm,0.7s,mb3.1,baz=220,slow=11,SNR=5.0						
SONM	**Songino Array**	**23.42**	**32**	P	**P**	**04 39 29.2**	**-0.3**
ABKAR	**Akbulak array**	**29.33**	**321**	*eP*	**P**	**04 40 23.3**	**+0.2**
	0.8nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**66.17**	**132**	P	**P**	**04 45 07.6**	**-0.7**
	0.7nm,0.6s,mb3.9,baz=324,slow=6.4,SNR=9.4						
WRA	**Warramunga Arr**	**66.17**	**132**	P	**P**	**04 45 07.6**	**-0.7**
ASAR	**Alice Springs**	**68.60**	**135**	P	**P**	**04 45 23.2**	**-0.4**
	0.7nm,0.6s,mb3.8,baz=309,slow=5.7,SNR=8.7						
ASAR	**Alice Springs**	**68.60**	**135**	P	**P**	**04 45 23.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**80.57**	**280**	P	**P**	**04 46 32.5**	**-1.0**
	0.2nm,0.4s,mb3.4,baz=58,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**80.57**	**280**	P	**P**	**04 46 32.5**	**-1.0**

MAN 05 04:34:56,18°.98N×121°.13E,h23km,mb4.3,ML3.2,MS3.0,
2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.81**	**216**	⇑*iP*	Pb	04 35 07.2	-4.3
PIP				*e*S	Sb	04 35 16.9	-5.1
SIPP	**Brgy, Tapao**	**1.23**	**211**	⇑*iP*	Pn	04 35 05.2	-13
SIPP				*e*S	Sn	04 35 14.9	-19
ABRA	**Dolores**	**1.38**	**197**	*eP*	Pn	04 35 16.2	-3.7
CAUP	**Cauayan**	**2.13**	**162**	*eP*	Pn	04 35 31.3	+1.0
PALP	**Palanan**	**2.27**	**147**	*eP*	Pn	04 35 33.0	+0.8
BALP	**Baler**	**3.25**	**172**	*eP*	Pn	04 35 47.6	+1.9

*IDC **05** 04:35:27.6±1.0,5°.02N×127°.48E,h0km,mb3.7/7,*
mb1 3.8/7,mb1mx3.6/22,mbtmp3.7/7,Error ellipse:
s-maj=60.8km s-min=19.0km az=73.0
*ISCJB **05** 04:35:30.9±0.8,5°.0N±0°.1×127°.4E±0°.3,h33km,mb3.6/8,*
Error ellipse: s-maj=49.5km s-min=14.1km az=162.4
*NEIC **05** 04:35:33.0±0.7,4°.97N×127°.42E,h35km,mb3.8/2,Error*
ellipse: s-maj=42.9km s-min=12.4km az=73.0

ISC 05 04:35:33.0±0.8,5°.0N±0°.1×127°.4E±0°.3,h35km,n16,
σ0s73/16,mb3.6/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.99**	**184**	P	**P**	**04 40 34.7**	**-0.1**
	1.4nm,0.7s,mb3.5,baz=359,slow=5.2,SNR=5.9						
FITZ	**Fitzroy Crossi**	**22.99**	**184**	*eP*	**P**	**04 40 34.9**	**+0.1**
	3.0nm,0.8s,mb3.8						
FITZ	**Fitzroy Crossi**	**22.99**	**184**	P	**P**	**04 40 34.7**	**-0.1**
WRA	**Warramunga Arr**	**25.67**	**165**	P	**P**	**04 41 00.7**	**+0.9**
	0.9nm,0.6s,mb3.5,baz=347,slow=9.9,SNR=4.6						
WRA	**Warramunga Arr**	**25.67**	**165**	P	**P**	**04 41 00.7**	**+0.9**
STKA	**Stephens Creek**	**39.05**	**161**	P	**P**	**04 42 55.6**	**-1.0**
	1.2nm,0.6s,mb3.8,baz=333,slow=6.8,SNR=4.1						
STKA	**Stephens Creek**	**39.05**	**161**	P	**P**	**04 42 55.6**	**-1.0**
MKAR	**Makanchi Array**	**56.94**	**324**	P	**P**	**04 45 13.8**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=116,slow=7.1,SNR=3.9						
MKAR	**Makanchi Array**	**56.94**	**324**	P	**P**	**04 45 13.8**	**-0.9**
KURK	**Kurchatov**	**61.08**	**327**	P	**P**	**04 45 42.9**	**-0.4**
	0.5nm,0.6s,mb3.8,baz=125,slow=6.0,SNR=7.9						
KURK	**Kurchatov**	**61.08**	**327**	*eP*	**P**	**04 45 43.5**	**+0.2**
	1.1nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**66.67**	**327**	P	**P**	**04 46 21.3**	**+1.2**
	0.5nm,0.5s,mb3.8,baz=152,slow=6.5,SNR=3.2						
BVAR	**Borovoye Array**	**66.67**	**327**	P	**P**	**04 46 21.3**	**+1.2**
ABKAR	**Akbulak array**	**71.63**	**320**	*eP*	**P**	**04 46 50.8**	**-0.2**
	0.2nm,0.5s,mb3.3						
ILAR	**Eielson Array**	**83.70**	**25**	P	**P**	**04 47 58.0**	**0.0**
	0.3nm,0.7s,mb3.5,baz=237,slow=5.0,SNR=5.6						
ILAR	**Eielson Array**	**83.70**	**25**	P	**P**	**04 47 58.0**	**0.0**

*ISCJB **05** 04:54:44.5±1.5,18°.6S±0°.1×169°.0E±0°.1,h221km±13km,*
mb4.2/16,Error ellipse: s-maj=21.3km s-min=18.1km
az=150.2
*NEIC **05** 04:54:44.9±1.7,18°.65S×169°.14E,h218km±16km,mb4.3/7,*
Error ellipse: s-maj=20.5km s-min=14.5km az=151.0
*IDC **05** 04:54:49.0±10.0,18°.63S×169°.02E,h252km±96km,*
mb3.9/10,mb1 4.1/10,mb1mx3.9/17,mbtmp3.9/10,Error
ellipse: s-maj=39.7km s-min=23.8km az=96.0

ISC 05 04:54:44.8±1.5,18°.6S±0°.1×169°.1E±0°.1,h212km±13km,
n45,σ0s68/33,mb4.2/16,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.10**	**210**	*eP*	**Pn**	**04 55 48.0**	**-0.2**
DZM	**Mont Dzumac**	**4.26**	**216**	*e*Pn	**Pn**	**04 55 50.0**	**-0.1**
NOUC	**Port Laguerre**	**4.36**	**217**	*eP*	**Pn**	**04 55 51.8**	**+0.3**
EIDS	**Eidsvold**	**18.01**	**245**	*eP*	**P**	**04 58 40.6**	**+0.6**
	6.9nm,0.6s						
PMG	**Port Moresby**	**23.15**	**290**	P	**P**	**04 59 33.6**	**+0.9**
	16nm,0.7s,mb4.7,baz=88,slow=9.6,SNR=5.3						
PMG	**Port Moresby**	**23.15**	**290**	*eP*	**P**	**04 59 33.5**	**+0.9**
	15nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**28.08**	**237**	P	**P**	**05 00 17.1**	**+0.3**
	1.8nm,0.5s,mb3.9,baz=91,slow=13,SNR=6.5						
STKA	**Stephens Creek**	**28.08**	**237**	P	**P**	**05 00 17.1**	**+0.3**
WRAB	**Tennant Creek**	**32.81**	**262**	*eP*	**P**	**05 00 57.2**	**-1.2**
	4.3nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**32.81**	**262**	P	**P**	**05 00 57.6**	**-0.9**
	4.6nm,0.4s,mb4.4,baz=88,slow=8.5,SNR=154						
WRA	**Warramunga Arr**	**32.81**	**262**	P	**P**	**05 00 57.6**	**-0.9**
ASAR	**Alice Springs**	**33.17**	**255**	P	**P**	**05 01 01.3**	**-0.2**
	23nm,0.4s,mb5.0,baz=82,slow=8.7,SNR=445						
ASAR	**Alice Springs**	**33.17**	**255**	P	**P**	**05 01 01.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.19**	**264**	*eP*	**P**	**05 02 09.4**	**+0.4**
	14nm,0.4s,mb4.8						
MBWA	**Marble Bar**	**46.36**	**258**	*eP*	**P**	**05 02 49.7**	**-0.4**
	6.8nm,0.3s,mb4.5						
QSPA	**South Pole Qui**	**71.45**	**180**	P	**P**	**05 05 42.1**	**+0.6**
	0.5nm,0.3s,mb3.7,baz=54,slow=4.1,SNR=4.3						
QSPA	**South Pole Qui**	**71.45**	**180**	P	**P**	**05 05 42.1**	**+0.6**
PETK	**Petropavlovsk-**	**72.09**	**353**	P	**P**	**05 05 46.0**	**+0.3**
	3.4nm,0.6s,mb4.2,baz=165,slow=7.7,SNR=4.0						
PETK	**Petropavlovsk-**	**72.09**	**353**	P	**P**	**05 05 46.0**	**+0.3**
ULN	**Ulaanbaatar**	**86.28**	**323**	*eP*	**P**	**05 07 02.6**	**+0.2**
	1.5nm,0.6s,mb3.9						
BILL	**Bilibino**	**86.42**	**359**	*eP*	**P**	**05 07 02.2**	**-0.5**
	3.6nm,0.7s,mb4.2						
SONM	**Songino Array**	**86.64**	**323**	P	**P**	**05 07 05.6**	**+1.4**
	1.0nm,0.7s,mb3.6,baz=154,slow=4.5,SNR=6.1						
SONM	**Songino Array**	**86.64**	**323**	P	**P**	**05 07 05.6**	**+1.4**
NVAR	**Mina Array Bea**	**88.47**	**49**	P	**P**	**05 07 14.2**	**+1.0**
	1.4nm,0.8s,mb3.9,baz=229,slow=8.3,SNR=8.8						
NVAR	**Mina Array Bea**	**88.47**	**49**	P	**P**	**05 07 14.2**	**+1.0**
ILAR	**Eielson Array**	**89.66**	**17**	P	**P**	**05 07 16.8**	**-1.3**
	1.1nm,0.5s,mb3.9,baz=238,slow=4.8,SNR=40						
ILAR	**Eielson Array**	**89.66**	**17**	P	**P**	**05 07 16.8**	**-1.3**
SNAA	**Sanae**	**89.79**	**183**	*e*	**P**	**05 07 12.2**	**-6.6**
SNAA	**Sanae**	**89.79**	**183**	*eP*	**P**	**05 07 12.0**	**-6.8**
	1.7nm,0.6s,mb4.0						
VNA3	**Neumayer Olymp**	**90.38**	**180**	*e*	**P**	**05 07 21.4**	**-0.2**
VNA2	**Neumayer--Watz**	**90.67**	**181**	*e*	**P**	**05 07 22.8**	**-0.1**
	baz=185,slow=3.9						
INK	**Inuvik**	**95.98**	**18**	P	**P**	**05 07 46.3**	**-0.8**
	0.6nm,0.5s,mb4.1,baz=201,slow=3.0,SNR=3.7						
INK	**Inuvik**	**95.98**	**18**	*eP*	**P**	**05 07 46.5**	**-0.7**
	1.5nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**100.16**	**27**	P	Pdif	05 08 06.5	+0.1
	0.6nm,0.6s,baz=256,slow=4.4,SNR=3.4						
YKA	**Yellowknife Ar**	**100.16**	**27**	P	Pdif	05 08 06.5	+0.1
ARCES	**ARCESS Array B 124.43 345**			PKP	PKPdf	05 13 17.2	-0.6
	1.1nm,0.5s,baz=84,slow=1.9,SNR=18						
ARCES	**ARCESS Array B 124.43 345**			PKP	PKPdf	05 13 17.2	-0.6
GERES	**GERESS Array B 143.88 332**			PKP	PKPdf	05 13 52.6	-2.0
	1.3nm,0.8s,baz=25,slow=4.4,SNR=6.7						
GERES	**GERESS Array B 143.88 332**			PKP	PKPdf	05 13 52.6	-2.0
MOA	**Molln**	**144.35**	**331**	P	PKPdf	05 13 55.0	-0.5
	6.3nm,0.7s						
SOKA	**Soboth**	**144.81**	**329**	P	PKPdf	05 13 56.1	-0.3
	4.4nm,0.5s						
MOTA	**Moosalm**	**146.15**	**333**	P	PKPdf	05 14 00.0	+1.4
	3.5nm,0.7s						
FETA	**Feichten**	**146.56**	**333**	P	PKPdf	05 14 01.4	+2.1
	3.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**166.74**	**248**	PKP	PKPdf	05 14 24.8	-1.0
	0.6nm,0.8s,baz=38,slow=1.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**166.74**	**248**	PKP	PKPdf	05 14 24.8	-1.0

*IDC **05** 04:56:53.6±1.7,55°.49N×166°.37E,h0km,mb3.6/3,*
mb1 3.9/4,mb1mx3.5/25,mbtmp3.6/4,ML3.7/1,Error
ellipse: s-maj=83.5km s-min=21.7km az=162.0
*ISCJB **05** 04:56:55.8±1.0,55°.47N±0°.10×166°.0E±0°.1,h28km±9km,*
mb3.6/3,Error ellipse: s-maj=18.4km s-min=8.2km
az=150.6
*KRSC **05** 04:56:55.0±0.9,55°.45N×166°.04E,h23km±23km,ML3.8*

ISC 05 04:56:57.4±1.0,55°.3N±0°.2×166°.2E±0°.2,h27km±6km,n14,
σ0s96/22,mb3.6/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.18**	**227**	*iP*	**Pb**	**04 57 01.9**	**-1.1**
BKI				*i*S	**Sb**	**04 57 07.0**	**+0.2**
KBTR	**Krutoberegovo**	**2.10**	**296**	*iP*	**Pn**	**04 57 26.3**	**-4.5**
KBTR				*i*S	**Sn**	**04 57 48.8**	**-7.2**
MKZ	**Mys Kozlova**	**2.69**	**255**	*eP*	**Pn**	**04 57 37.9**	**-0.9**
MKZ				*e*S	**Sn**	**04 58 09.4**	**-1.0**
TUMR	**Tumrok**	**3.46**	**272**	P	**Pn**	**04 57 48.8**	**-0.6**
SPN	**Mys Shipunski**	**4.25**	**241**	P	**Pn**	**04 58 00.0**	**-0.3**
SPN				*i*S	**Sn**	**04 58 47.5**	**-1.5**
NLC	**Nalytchevo**	**4.56**	**245**	P	**Pn**	**04 58 05.0**	**+0.5**
NLC				*i*S	**Sn**	**04 58 56.2**	**-0.3**
SDLR	**Sedlovina**	**4.75**	**247**	*eP*	**Pn**	**04 58 08.3**	**+1.2**
SDLR				*e*S	**Sn**	**04 59 00.9**	**-0.3**
AVH	**Avacha**	**4.83**	**248**	*eP*	**Pn**	**04 58 09.5**	**+1.3**
AVH				*e*S	**Sn**	**04 59 03.1**	**-0.1**
KOK	**Koryaka**	**4.87**	**248**	*eP*	**Pn**	**04 58 10.0**	**+1.2**
GNL	**Ganaly**	**5.08**	**255**	*eP*	**Pn**	**04 58 12.8**	**+1.2**
PETK	**Petropavlovsk-**	**5.46**	**249**	Pn	**Pn**	**04 58 18.4**	**+1.6**
	2.1nm,0.3s,baz=78,slow=16,SNR=13						
PETK				Sn	**Sn**	**04 59 24.2**	**+5.5**
	0.6nm,0.3s,baz=68,slow=38,SNR=2.8						
ILAR	**Eielson Array**	**24.67**	**49**	P	**P**	**05 02 13.8**	**-1.6**
	1.5nm,1.0s,mb3.5,baz=256,slow=8.8,SNR=12						
SONM	**Songino Array**	**36.86**	**284**	P	**P**	**05 04 03.7**	**+0.6**
	0.6nm,0.7s,mb3.5,baz=61,slow=9.4,SNR=2.6						
TXAR	**Lajitas Array**	**66.50**	**72**	P	**P**	**05 07 44.5**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=290,slow=4.7,SNR=6.6						

IDC 05 05:09:57.7±3.7,7°.08S×153°.99E,h0km,mb3.3/3,
mb1 3.5/3,mb1mx3.4/16,mbtmp3.3/3,Error ellipse:
s-maj=177.4km s-min=47.2km az=131.0,New Britain
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.95**	**234**	P	P	05 15 04.7	+0.8
	0.5nm,0.5s,baz=61,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**25.38**	**227**	P	P	05 15 26.8	-0.1
	0.2nm,0.4s,baz=62,slow=8.5,SNR=3.7						
FITZ	**Fitzroy Crossi**	**29.71**	**246**	P	P	05 16 05.2	-0.6
	1.0nm,0.7s,baz=59,slow=8.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**152.09**	**285**	PKPbc	PKPbc	05 29 56.2	0.0
	0.2nm,0.6s,baz=46,slow=4.2,SNR=3.7						

*DDA **05** 05:22:01.5,39°.18N×29°.47E,h8km±1km,Md3.0*
*ISK **05** 05:22:01.6,39°.15N×29°.43E,h5km,MD2.9*
*ISCJB **05** 05:22:02.5±0.3,39°.14N±0°.02×29°.46E±0°.03,h10km,Error*
ellipse: s-maj=3.6km s-min=3.3km az=140.4
*CSEM **05** 05:22:02.0±0.1,39°.16N×29°.46E,h2km,MD3.0,Error*
ellipse: s-maj=3.5km s-min=3.2km az=170.0

ISC 05 05:22:02.3±0.5,39°.17N±0°.03×29°.46E±0°.03,h2km±5km,
n64,σ0s83/82,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.09**	**170**	*iP*	**Pg**	**05 22 03.6**	**-0.4**
GDZ				*i*S	**Sg**	**05 22 06.0**	**+0.9**
GDZ	**Gediz**	**0.09**	**170**	*iP*	**Pg**	**05 22 03.6**	**-0.4**
GDZ				*i*S	**Sg**	**05 22 05.9**	**+0.8**
ALT	**Altintas**	**0.52**	**103**	*e*PG	**Pg**	**05 22 12.0**	**-0.2**
ALT				*e*SG	**Sg**	**05 22 19.8**	**+0.8**
ALT	**Altintas**	**0.52**	**103**	*e*Pg	**Pg**	**05 22 12.0**	**-0.2**
ALT				*e*Sg	**Sg**	**05 22 19.8**	**+0.8**
DST	**Dursunbey**	**0.78**	**304**	*e*PG	**Pg**	**05 22 16.2**	**-1.1**
DST	**Dursunbey**	**0.78**	**304**	*e*Pg	**Pg**	**05 22 16.2**	**-1.1**
KHAL	**Karahalli**	**0.80**	**178**	*iP*	**Pg**	**05 22 17.4**	**-0.2**
KHAL				*i*S	**Sg**	**05 22 29.2**	**+1.2**
KHAL	**Karahalli**	**0.80**	**178**	*iP*	**Pg**	**05 22 17.4**	**-0.3**
KHAL				*i*S	**Sg**	**05 22 29.2**	**+1.2**
DURS	**Dursunbey**	**0.88**	**300**	*iP*	**Pg**	**05 22 18.6**	**-0.5**
DURS				*i*S	**Sg**	**05 22 31.8**	**+1.3**
DURS	**Dursunbey**	**0.88**	**300**	*iP*	**Pg**	**05 22 18.6**	**-0.5**
DURS				*i*S	**Sg**	**05 22 31.8**	**+1.3**
KULA	**Kula-Manisa**	**0.91**	**224**	*e*PG	**Pg**	**05 22 18.7**	**-1.0**
KULA				*e*SG	**Sg**	**05 22 30.9**	**-0.6**
KULA	**Kula-Manisa**	**0.91**	**224**	*e*Pg	**Pg**	**05 22 18.7**	**-1.0**
KULA				*e*Sg	**Sg**	**05 22 30.9**	**-0.6**
BORA	**Eskisehir**	**1.04**	**47**	*iP*	**Pg**	**05 22 21.5**	**-0.8**
BORA				*i*S	**Sg**	**05 22 36.2**	**+0.4**
BORA	**Eskisehir**	**1.04**	**47**	*iP*	**Pg**	**05 22 21.5**	**-0.8**
BORA				*i*S	**Sg**	**05 22 36.2**	**+0.4**
SHUT	**Suhut-Afyon**	**1.05**	**126**	*e*PN	**Pn**	**05 22 22.8**	**-1.2**
SHUT	**Suhut-Afyon**	**1.05**	**126**	*e*Pn	**Pn**	**05 22 22.8**	**-1.2**
CAVI	**Cavuskoy**	**1.07**	**16**	*e*PN	**Pn**	**05 22 22.7**	**-1.6**
CAVI				*e*SN	**Sn**	**05 22 38.4**	**-1.3**
CAVI	**Cavuskoy**	**1.07**	**16**	*e*Pn	**Pn**	**05 22 22.7**	**-1.6**
CAVI				*e*Sn	**Sn**	**05 22 38.4**	**-1.3**
ESKT	**Eskisehir**	**1.13**	**72**	*e*PN	**Pn**	**05 22 24.1**	**-1.0**
ESKT	**Eskisehir**	**1.13**	**72**	*e*Pn	**Pn**	**05 22 24.1**	**-1.0**
MDNY	**Mudanya-Bursa**	**1.27**	**340**	*e*PN	**Pn**	**05 22 26.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**340**	*e*Pn	**Pn**	**05 22 26.6**	**-0.5**
ADVT	**Abdulvahap**	**1.28**	**10**	*e*PN	**Pn**	**05 22 26.6**	**-0.6**
ADVT	**Abdulvahap**	**1.28**	**10**	*e*Pn	**Pn**	**05 22 26.6**	**-0.5**
GPA	**Golpazari**	**1.29**	**30**	*e*PN	**Pn**	**05 22 26.5**	**-0.9**
GPA	**Golpazari**	**1.29**	**30**	*e*Pn	**Pn**	**05 22 26.5**	**-0.8**
BALB	**Balikesir**	**1.31**	**291**	*e*PN	**Pn**	**05 22 27.3**	**-0.3**
BALB	**Balikesir**	**1.31**	**291**	*e*Pn	**Pn**	**05 22 27.3**	**-0.3**
AKHS	**Akhisar**	**1.32**	**258**	*iP*	**Pg**	**05 22 26.5**	**-1.0**
AKHS				*i*S	**Sg**	**05 22 46.0**	**+1.3**
AKHS	**Akhisar**	**1.32**	**258**	*iP*	**Pg**	**05 22 26.5**	**-1.1**
AKHS				*i*S	**Sg**	**05 22 46.0**	**+1.4**
AKS	**Akhisar**	**1.32**	**258**	*e*PN	**Pn**	**05 22 27.4**	**-0.3**
AKS	**Akhisar**	**1.32**	**258**	*e*Pn	**Pn**	**05 22 27.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.39**	**322**	*e*PN	**Pn**	**05 22 28.0**	**-0.6**
KCTX	**Karacabey (Bur**	**1.39**	**322**	*e*Pn	**Pn**	**05 22 28.0**	**-0.6**
YLV	**Yalova**	**1.39**	**357**	*e*PN	**Pn**	**05 22 29.0**	**+0.3**
YLV	**Yalova**	**1.39**	**357**	*e*Pn	**Pn**	**05 22 29.0**	**+0.3**
ARMT	**Armutlu**	**1.47**	**342**	*e*PN	**Pn**	**05 22 29.4**	**-0.3**
ARMT	**Armutlu**	**1.47**	**342**	*e*Pn	**Pn**	**05 22 29.5**	**-0.2**
GULT	**Gulveren**	**1.50**	**32**	*e*PN	**Pn**	**05 22 30.4**	**+0.2**
GULT	**Gulveren**	**1.50**	**32**	*e*Pn	**Pn**	**05 22 30.4**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.62**	**80**	*e*PN	**Pn**	**05 22 32.3**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.62**	**80**	*e*Pn	**Pn**	**05 22 32.3**	**+0.4**
GONE	**Gonen-Balikesi**	**1.63**	**303**	*e*PN	**Pn**	**05 22 31.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.63**	**303**	*e*Pn	**Pn**	**05 22 31.9**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.65**	**23**	*e*PN	**Pn**	**05 22 33.2**	**+1.0**
SPNC	**Sapanca-Adapaz**	**1.65**	**23**	*e*Pn	**Pn**	**05 22 33.2**	**+1.0**
BNT	**Bandirma**	**1.68**	**315**	*e*PN	**Pn**	**05 22 32.9**	**+0.3**
BNT	**Bandirma**	**1.68**	**315**	*e*Pn	**Pn**	**05 22 32.9**	**+0.3**
BUY	**Buyukada**	**1.70**	**351**	*iP*	**Pn**	**05 22 34.5**	**+1.6**
BUY				*i*S	**Sn**	**05 22 57.1**	**+1.9**
BUY	**Buyukada**	**1.70**	**351**	*iP*	**Pn**	**05 22 34.5**	**+1.6**
BUY				*i*S	**Sn**	**05 22 57.1**	**+1.9**
MDUB	**Mudurnu**	**1.86**	**45**	*e*PN	**Pn**	**05 22 35.8**	**+0.6**
MDUB	**Mudurnu**	**1.86**	**45**	*e*Pn	**Pn**	**05 22 35.8**	**+0.6**
KIZT	**Kizilcal**	**1.91**	**98**	*e*PN	**Pn**	**05 22 36.5**	**+0.7**
KIZT	**

MKAZ Moumakai 8.10 36 PN **Pn 05 53 43.2 +0.1**
URZ Urewera 8.14 49 Pn **Pn 05 53 44.8 +1.2**
1.8nm,0.3s,baz=238,slow=10,SNR=8.1
URZ Sn **Sn 05 55 10.2 -5.8**
3.6nm,0.3s,baz=314,slow=23,SNR=7.5
URZ Urewera 8.14 49 *e*Pn **Pn 05 53 42.0 -1.6**
22nm,0.6s
URZ *e*Sn **Sn 05 55 07.9 -8.2**
WCZ Waipu Caves 8.81 28 PN **Pn 05 53 52.4 -0.5**
OUZ Omahuta 9.25 23 *e*Pn **Pn 05 53 58.3 -0.5**
27nm,0.6s
EIDS Eidsvold 23.66 315 *e*P **P 05 56 57.4 +0.1**
6.9nm,0.9s,mb4.1
STKA Stephens Creek 24.79 290 P **P 05 57 08.6 +1.1**
12nm,1.0s,mb4.3,baz=144,slow=9.5,SNR=4.5
STKA LR LR 06 06 25.7
comp=Z,110nm,18.1s,MS3.4,baz=142,slow=36
STKA Stephens Creek 24.79 290 *e*P **P 05 57 10.7 +3.2**
7.3nm,1.0s,mb4.2
STKA Stephens Creek 24.79 290 P **P 05 57 08.6 +1.1**
CTA Charters Tower 30.51 314 P **P 05 57 59.7 +0.8**
6.0nm,0.9s,mb4.4,baz=149,slow=6.3,SNR=5.5
CTA Charters Tower 30.51 314 *e*P **P 05 58 00.2 +1.3**
4.2nm,0.8s,mb4.3
CTA Charters Tower 30.51 314 P **P 05 57 59.7 +0.8**
AFI Afiamalu 33.98 34 LR LR 06 10 23.4
comp=Z,79nm,19.3s,MS3.5,baz=254,slow=33
ASAR Alice Springs 35.27 293 P **P 05 58 40.5 0.0**
3.2nm,0.8s,mb4.3,baz=130,slow=8.0,SNR=14
ASAR PcP PcP 06 01 11.5 +0.4
0.4nm,0.5s,baz=135,slow=3.8,SNR=3.8
ASAR Alice Springs 35.27 293 P **P 05 58 40.5 0.0**
ASAR PcP PcP 06 01 11.5 +0.4
WRA Warramunga Arr 37.62 298 P **P 05 59 00.3 -0.3**
5.4nm,0.7s,mb4.4,baz=135,slow=8.0,SNR=84
WRA PcP PcP 06 01 17.7 -0.5
0.4nm,0.6s,baz=135,slow=2.9,SNR=4.8
WRA LR LR 06 14 10.4
comp=Z,88nm,19.7s,MS3.6,baz=145,slow=36
WRA Warramunga Arr 37.62 298 P **P 05 59 00.3 -0.3**
WRA PcP PcP 06 01 17.7 -0.5
WRAB Tennant Creek 37.62 298 *e*P **P 05 59 00.1 -0.5**
6.2nm,0.7s,mb4.5
FITZ Fitzroy Crossi 44.67 291 P **P 05 59 57.9 -0.7**
2.5nm,0.8s,mb4.1,baz=157,slow=9.7,SNR=7.1
FITZ Fitzroy Crossi 44.67 291 *e*P **P 05 59 58.0 -0.6**
4.1nm,0.9s,mb4.3
FITZ Fitzroy Crossi 44.67 291 *e*P **P 05 59 58.0 -0.6**
3.0nm,0.9s,mb4.1
QSPA South Pole Qui 46.27 180 P **P 06 00 12.1 +1.5**
5.0nm,0.7s,mb4.5,baz=12,slow=3.3,SNR=18
QSPA South Pole Qui 46.27 180 *e*P **P 06 00 12.6 +2.0**
6.0nm,1.0s,mb4.5
SNAA Sanae 64.64 183 *e* **P 06 02 17.8 -5.0**
VNA3 Neumayer Olymp 65.21 180 *e* **P 06 02 31.3 +4.8**
VNA2 Neumayer--Watz 65.50 181 *e* **P 06 02 29.5 +1.1**
baz=158,slow=4.2
CMAR Chiang Mai Arr 89.20 297 P **P 06 04 43.6 +1.8**
0.4nm,0.3s,mb4.2,baz=112,slow=4.0,SNR=4.0
CMAR Chiang Mai Arr 89.20 297 P **P 06 04 43.6 +1.9**
BRTR Keskin Array B 146.96 278 PKPbc PKPbc 06 11 27.9 -0.1
1.2nm,0.6s,baz=143,slow=5.0,SNR=4.6
BRTR Keskin Array B 146.96 278 PKPbc PKPbc 06 11 27.9 -0.1
TORD Torodi Ar. Bea 147.59 203 PKPbc PKPbc 06 11 29.4 -1.0
3.4nm,0.7s,baz=150,slow=2.3,SNR=17
TORD Torodi Ar. Bea 147.59 203 PKPbc PKPbc 06 11 29.4 -1.0
KEV Kevo 147.82 336 *e*pkp PKPbc 06 11 32.5 +3.0
ARCES ARCESS Array B 148.38 337 PKPbc PKPbc 06 11 31.3 +0.4
5.9nm,1.0s,baz=71,slow=1.1,SNR=9.9
ARCES ARCESS Array B 148.38 337 PKPbc PKPbc 06 11 31.3 +0.4
JOF Joensuu 149.29 323 *e*pkp PKPbc 06 11 39.4 +6.0
KAF Kangasniemi 151.75 323 *e*pkp PKPbc 06 11 39.7 +0.4
FINES FINESS Array B 152.11 322 PKPbc PKPbc 06 11 39.2 -0.9
2.4nm,0.7s,baz=44,slow=6.6,SNR=5.4
FINES FINESS Array B 152.11 322 PKPbc PKPbc 06 11 39.2 -0.9
AKASG Malin Array Be 152.31 298 PKPbc PKPbc 06 11 41.2 +0.2
0.6nm,0.4s,baz=78,slow=2.4,SNR=4.8
AKASG Malin Array Be 152.31 298 PKPbc PKPbc 06 11 41.2 +0.2

*IDC **05** 06:08:23.0±2.4, 20°.13N×176°.51W, h209km±22km, mb4.1/10, mb1 4.3/12, mb1mx4.1/20, mbtmp4.1/12, Error ellipse: s-maj=20.8km s-min=12.0km az=139.0*
*ISCJB **05** 06:08:25.6±2.7, 20°.33S±0°.08×176°.67W±0°.10, h239km±25km, mb4.5/19, Error ellipse: s-maj=15.3km s-min=11.8km az=26.6*
*NEIC **05** 06:08:29.9±1.4, 20°.35S×176°.61W, h274km±12km, mb4.6/15, Error ellipse: s-maj=12.7km s-min=9.8km az=113.0*

ISC 05 06:08:30.8±1.3, 20°.43S±0°.07×176°.66W±0°.08, h276km±12km, n78, σ0°96/54, mb4.4/19, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.68**	**297**	*e*Pn	**Pn**	**06 09 54.9**	**-0.8**
	30nm,0.9s						
AFI	**Afiamalu**	**7.99**	**36**	P	**Pn**	**06 10 10.3**	**-14**
	2.5nm,0.3s,baz=233,slow=5.1,SNR=4.5						
AFI				S	Sx	06 11 31.3	
	6.0nm,0.3s,baz=139,slow=20,SNR=3.5						
AFI	**Afiamalu**	**7.99**	**36**	P	**Pn**	**06 10 10.3**	**-14**
AFI				S	Sx	06 11 31.3	
DZM	**Mont Dzumac**	**15.84**	**261**	*e*P	**Pn**	**06 12 01.8**	**+1.8**
	17nm,0.6s						
OUZ	**Omahuta**	**17.05**	**208**	*e*P	**P**	**06 12 09.7**	**-1.8**
	10nm,0.8s						
URZ	**Urewera**	**18.57**	**196**	P	**P**	**06 12 27.2**	**-0.6**
	9.1nm,0.3s,baz=351,slow=2.3,SNR=36						
URZ				S	**S**	**06 15 42.8**	**-1.8**
	1.1nm,0.3s,baz=22,slow=19,SNR=8.4						
URZ	**Urewera**	**18.57**	**196**	*e*P	**P**	**06 12 27.4**	**-0.5**
	26nm,0.4s						
URZ				S	**S**	**06 15 42.8**	**-1.8**
KHZ	**Kahutara**	**23.43**	**198**	*e*P	**P**	**06 13 15.4**	**-0.1**
	12nm,0.3s,mb4.7						
RPZ	**Rata Peaks**	**25.39**	**201**	P	**P**	**06 13 34.2**	**+1.1**
	22nm,0.6s,mb4.8,baz=359,slow=3.6,SNR=9.2						
RPZ	**Rata Peaks**	**25.39**	**201**	*e*P	**P**	**06 13 34.8**	**+1.6**
	20nm,0.6s,mb4.7						
EIDS	**Eidsvold**	**30.08**	**254**	*e*P	**P**	**06 14 15.6**	**+0.6**
	36nm,0.4s,mb5.3						
EIDS	**Eidsvold**	**30.08**	**254**	*e*P	**P**	**06 14 14.9**	**-0.1**
	9.9nm,0.7s,mb4.5						
CTA	**Charters Tower**	**34.75**	**264**	P	**P**	**06 14 56.4**	**+0.8**
	39nm,0.6s,mb5.1,baz=93,slow=10,SNR=43						
CTA	**Charters Tower**	**34.75**	**264**	*e*P	**P**	**06 14 56.2**	**+0.7**
	24nm,0.4s,mb5.1						
CTA	**Charters Tower**	**34.75**	**264**	P	**P**	**06 14 56.4**	**+0.8**
CTAO	**Charters Tower**	**34.75**	**264**	*e*P	**P**	**06 14 56.1**	**+0.6**
	29nm,0.6s,mb5.0						
QLP	**Quilpie**	**36.28**	**253**	⇑*i*P	**P**	**06 15 08.9**	**+0.5**
COEN	**Coen**	**38.84**	**273**	*e*P	**P**	**06 15 29.8**	**-0.1**
	54nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**38.95**	**244**	P	**P**	**06 15 31.1**	**+0.5**
	4.4nm,0.6s,mb4.1,baz=89,slow=11,SNR=11						
STKA	**Stephens Creek**	**38.95**	**244**	*e*P	**P**	**06 15 31.2**	**+0.6**
	4.5nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**38.95**	**244**	P	**P**	**06 15 31.1**	**+0.5**
ASAR	**Alice Springs**	**45.76**	**256**	P	**P**	**06 16 25.8**	**+0.4**
	22nm,0.6s,mb4.7,baz=96,slow=8.2,SNR=251						
ASAR				S	**S**	**06 22 48.0**	**+0.4**
	1.3nm,0.8s,baz=95,slow=16,SNR=14						
ASAR	**Alice Springs**	**45.76**	**256**	P	**P**	**06 16 25.8**	**+0.4**
ASAR				S	**S**	**06 22 48.0**	**+0.4**
WRAB	**Tennant Creek**	**45.85**	**262**	*e*P	**P**	**06 16 25.4**	**-0.7**
	22nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**45.86**	**262**	P	**P**	**06 16 25.5**	**-0.6**
	19nm,0.3s,mb4.9,baz=96,slow=7.5,SNR=712						
WRA				S	**S**	**06 22 47.6**	**-1.4**
	0.6nm,0.7s,baz=96,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**45.86**	**262**	P	**P**	**06 16 25.5**	**-0.6**
WRA				S	**S**	**06 22 47.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**54.29**	**262**	*e*P	**P**	**06 17 29.1**	**-0.1**
	6.0nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**54.29**	**262**	*e*P	**P**	**06 17 29.2**	**0.0**
	3.5nm,0.6s,mb3.9						
MBWA	**Marble Bar**	**59.10**	**257**	*e*P	**P**	**06 18 02.0**	**-0.9**
MBWA	**Marble Bar**	**59.10**	**257**	*e*P	**P**	**06 18 01.9**	**-1.0**
	4.1nm,0.4s,mb4.2						
QSPA	**South Pole Qui**	**69.64**	**180**	*e*P	**P**	**06 19 11.6**	**+1.7**
	13nm,1.2s,mb4.5						
ISA	**Isabella**	**78.39**	**45**	*e*P	**P**	**06 20 01.0**	**0.0**
	4.6nm,1.4s,mb4.0						
NVAR	**Mina Array Bea**	**80.11**	**43**	P	**P**	**06 20 10.0**	**-0.2**
	1.4nm,0.7s,mb3.8,baz=223,slow=8.9,SNR=14						
NVAR	**Mina Array Bea**	**80.11**	**43**	P	**P**	**06 20 10.0**	**-0.3**
MAW	**Mawson**	**82.05**	**199**	P	**P**	**06 20 21.0**	**+1.0**
	3.4nm,0.8s,mb4.1,baz=118,slow=8.8,SNR=3.6						
MAW	**Mawson**	**82.05**	**199**	P	**P**	**06 20 21.0**	**+1.0**
TXAR	**Lajitas Array**	**85.96**	**57**	P	**P**	**06 20 40.4**	**+0.2**
	1.4nm,0.8s,mb3.8,baz=216,slow=8.1,SNR=13						
TXAR	**Lajitas Array**	**85.96**	**57**	P	**P**	**06 20 40.4**	**+0.2**
PV10	**Paradox Valley**	**86.21**	**47**	*e*P	**P**	**06 20 40.6**	**-0.7**
	41nm,0.9s,mb5.3						
SYO	**Syowa Base**	**87.07**	**192**	‖*e*P	**P**	**06 20 44.8**	**-0.1**
ILAR	**Eielson Array**	**87.97**	**12**	P	**P**	**06 20 46.7**	**-2.3**
	0.4nm,0.5s,mb3.5,baz=215,slow=5.0,SNR=23						
ILAR	**Eielson Array**	**87.97**	**12**	P	**P**	**06 20 46.8**	**-2.3**
SNAA	**Sanae**	**88.04**	**178**	*e*	**P**	**06 20 43.4**	**-6.1**
VNA3	**Neumayer Olymp**	**88.12**	**176**	*e*	**P**	**06 20 51.0**	**+1.1**
VNA2	**Neumayer--Watz**	**88.58**	**176**	*e*	**P**	**06 20 52.8**	**+0.8**
	baz=200,slow=3.8						
VNA1	**Neumayer--Stat**	**88.80**	**176**	*e*	**P**	**06 20 48.6**	**-4.5**
CMAR	**Chiang Mai Arr**	**91.28**	**289**	P	**P**	**06 21 06.0**	**+0.5**
	1.3nm,0.7s,mb3.8,baz=117,slow=2.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**91.28**	**289**	P	**P**	**06 21 06.0**	**+0.5**
ZALV	**Zalesovo Beam**	**111.23**	**321**	PKiKP	PKiKP	06 26 29.7	-1.6
	0.5nm,0.5s,baz=186,slow=1.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**111.23**	**321**	PKiKP	PKiKP	06 26 29.7	-1.6
MKAR	**Makanchi Array**	**112.07**	**313**	PKiKP	PKiKP	06 26 31.5	-1.7
	0.5nm,0.5s,baz=108,slow=1.3,SNR=6.3						
MKAR	**Makanchi Array**	**112.07**	**313**	PKiKP	PKiKP	06 26 31.5	-1.7
KURK	**Kurchatov**	**114.80**	**317**	PKP	PKiKP	06 26 36.4	-1.9
	1.0nm,0.6s,baz=98,slow=1.8,SNR=12						
KURK	**Kurchatov**	**114.80**	**317**	PKP	PKiKP	06 26 36.4	-1.9
BVAR	**Borovoye Array**	**119.83**	**320**	PKP	PKPdf	06 26 46.7	-1.1
	1.3nm,0.4s,baz=148,slow=2.5,SNR=5.5						
BVAR	**Borovoye Array**	**119.83**	**320**	PKP	PKPdf	06 26 46.7	-1.2
ARCES	**ARCESS Array B**	**129.07**	**350**	PKP	PKPdf	06 27 04.4	-0.7
	1.3nm,0.4s,baz=45,slow=1.1,SNR=27						
ARCES	**ARCESS Array B**	**129.07**	**350**	PKP	PKPdf	06 27 04.4	-0.7
FINES	**FINESS Array B**	**136.05**	**344**	PKP	PKPdf	06 27 18.7	+0.2
	1.0nm,0.5s,baz=75,slow=2.2,SNR=3.8						
FINES	**FINESS Array B**	**136.05**	**344**	PKP	PKPdf	06 27 18.7	+0.2
AKASG	**Malin Array Be**	**143.55**	**332**	PKhKP	PKPpre	06 27 27.9	
	1.1nm,0.4s,baz=41,slow=4.3,SNR=5.7						
AKASG	**Malin Array Be**	**143.55**	**332**	PKPpre	PKPpre	06 27 27.9	
BRTR	**Keskin Array B**	**147.72**	**313**	PKPbc	PKPbc	06 27 42.0	-1.0
	2.3nm,0.5s,baz=133,slow=4.8,SNR=12						
BRTR	**Keskin Array B**	**147.72**	**313**	PKPbc	PKPbc	06 27 42.0	-1.0
KOLS	**Kolonicke sedl**	**147.77**	**336**	*e*PKP	PKPdf	06 27 40.1	+0.5
KSP	**Ksiaz**	**147.98**	**344**	*e*PKP	PKPbc	06 27 43.0	-0.4
CRVS	**Cervenica-Dubn**	**148.09**	**337**	*e*PKP	PKPdf	06 27 41.4	+1.2
CLL	**Collm**	**148.26**	**348**	⇑*i*PKPbc	PKPbc	06 27 43.4	-0.7
	comp=Z,11nm,0.9s						
CLL				*i* PKPab	PKPab	06 27 46.6	-1.4
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**148.49**	**347**	*e*P	PKPbc	06 27 44.1	-0.6
	comp=Z,10nm,1.0s						
KECS	**Kecovo**	**148.80**	**338**	*e*PKP	PKPdf	06 27 42.9	+1.6
KOLL	**Kolacno**	**149.42**	**340**	*e*PKP	PKPbc	06 27 46.9	-0.1
KHC	**Kasperske Hory**	**150.21**	**346**	*e*PKPbc	PKPbc	06 27 48.1	-0.8
KHC	**Kasperske Hory**	**150.21**	**346**	‖*e*PKP	PKPbc	06 27 48.0	-0.9
GERES	**GERESS Array B**	**150.46**	**346**	PKPbc	PKPbc	06 27 48.8	-0.7
	comp=Z,3.7nm,0.6s,baz=20,slow=2.2,SNR=31						
GERES	**GERESS Array B**	**150.46**	**346**	PKPbc	PKPbc	06 27 48.8	-0.7
CONA	**Conrad Observa**	**150.76**	**343**	⇑*i*PKiKP	PKiKP	06 27 50.0	-0.8
	comp=Z,5.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**172.59**	**167**	PKP	PKPdf	06 28 06.4	-1.1
	comp=Z,0.4nm,0.8s,baz=33,slow=3.4,SNR=2.7						
TORD				PKPab	PKPab	06 29 35.0	+0.8
	comp=Z,1.1nm,0.8s,baz=178,slow=4.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**172.59**	**167**	PKP	PKPdf	06 28 06.4	-1.1
TORD				PKPab	PKPab	06 29 35.0	+0.8

IDC 05 06:08:48.8±2.2, 32°.24N×84°.98E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/26, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=73.6km s-min=21.7km az=73.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.62**	**134**	P	Pn	06 13 07.9	-0.1
	0.2nm,0.3s,baz=325,slow=13,SNR=8.4						
KURK	**Kurchatov**	**19.05**	**348**	P	Pn	06 13 12.4	-0.7
	0.0nm,0.3s,baz=166,slow=11,SNR=4.9						
ZALV	**Zalesovo Beam**	**21.70**	**360**	P	P	06 13 41.3	+0.2
	1.8nm,0.6s,baz=163,slow=12,SNR=10						
SONM	**Songino Array**	**22.50**	**40**	P	P	06 13 50.3	+0.5
	1.1nm,1.0s,baz=218,slow=9.3,SNR=4.8						
WRA	**Warramunga Arr**	**70.17**	**131**	P	P	06 20 03.3	-0.1
	0.5nm,0.6s,baz=323,slow=6.4,SNR=3.9						
ASAR	**Alice Springs**	**72.62**	**134**	P	P	06 20 18.8	+0.6
	0.3nm,0.7s,baz=314,slow=6.0,SNR=4.5						
ILAR	**Eielson Array**	**75.20**	**20**	P	P	06 20 32.2	-0.5
	0.4nm,0.8s,baz=315,slow=4.5,SNR=7.1						

*ISCJB **05** 06:20:11.7±0.3, 35°.96N±0°.03×28°.03E±0°.03, h88km±6km, Error ellipse: s-maj=5.1km s-min=3.4km az=149.6*
*ATH **05** 06:20:12.2, 35°.99N×28°.00E, h81km*
*CSEM **05** 06:20:12.9±0.1, 35°.96N×28°.03E, h80km, MD3.3, Error ellipse: s-maj=3.5km s-min=2.9km az=136.0*
*DDA **05** 06:20:13.0, 36°.20N×28°.06E, h26km±3km, Md3.0*
*ISK **05** 06:20:14.0, 36°.19N×28°.00E, h84km, MD3.3*
*HLW **05** 06:20:15.7, 35°.75N×27°.99E, h22km±11km, Md3.4, Ml3.1*

ISC 05 06:20:13.0±0.4, 35°.98N±0°.03×28°.02E±0°.03, h79km±7km, n82, σ0°83/119, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.25**	**20**	*e*P	**Pn**	**06 20 25.2**	**+0.3**
ARG				*e*S	**Sn**	**06 20 34.2**	**+0.6**
ARG	**Arkhangelos**	**0.25**	**20**	*e*P	**Pn**	**06 20 25.2**	**+0.3**
ARG				*e*S	**Sn**	**06 20 34.2**	**+0.6**
KARP	**Karpathos**	**0.82**	**239**	*e*P	**Pn**	**06 20 30.3**	**+0.4**
KARP				*e*S	**Sn**	**06 20 42.5**	**+0.1**
KARP	**Karpathos**	**0.82**	**239**	*e*P	**Pn**	**06 20 30.3**	**+0.4**
KARP				*e*S	**Sn**	**06 20 42.5**	**+0.1**
DAT	**Datca**	**0.83**	**335**	*e*PG	**Pn**	**06 20 30.2**	**+0.2**
DAT				*e*SG	**Sn**	**06 20 41.7**	**-0.9**
DAT	**Datca**	**0.83**	**335**	*e*Pg	**Pn**	**06 20 30.2**	**+0.2**
DAT				*e*Sg	**Sn**	**06 20 41.7**	**-0.9**
TURN	**Turunc**	**1.01**	**28**	*i* P	**Pn**	**06 20 30.5**	**-1.6**
TURN				*i* S	**Sn**	**06 20 40.4**	**-5.8**
TURN	**Turunc**	**1.01**	**28**	*i* P	**Pn**	**06 20 30.5**	**-1.6**
YER	**Yerkesik**	**1.17**	**10**	*e*PG	**Pn**	**06 20 34.4**	**+0.4**
YER				*e*SG	**Sn**	**06 20 48.2**	**-1.7**
YER	**Yerkesik**	**1.17**	**10**	*e*Pg	**Pn**	**06 20 34.4**	**+0.3**
BODT	**Bodrum**	**1.22**	**332**	*e*PG	**Pn**	**06 20 34.2**	**-0.5**
BODT	**Bodrum**	**1.22**	**332**	*e*Pg	**Pn**	**06 20 34.3**	**-0.4**
KSL	**Kastellorizon**	**1.28**	**82**	*e*P	**Pn**	**06 20 35.8**	**+0.4**
KSL	**Kastellorizon**	**1.28**	**82**	*e*P	**Pn**	**06 20 35.8**	**+0.4**
MLSB	**Milas**	**1.33**	**352**	*e*PN	**Pn**	**06 20 34.9**	**-1.2**
MLSB	**Milas**	**1.33**	**352**	*e*Pn	**Pn**	**06 20 34.9**	**-1.1**
GLHS	**Glhisar (BURDU**	**1.67**	**45**	*e*PN	**Pn**	**06 20 40.8**	**+0.3**
GLHS	**Glhisar (BURDU**	**1.67**	**45**	*e*Pn	**Pn**	**06 20 40.8**	**+0.3**
AYDN	**Tasoluk**	**1.68**	**356**	*i* P	**Pn**	**06 20 41.0**	**+0.3**
AYDN				*i* S	**Sn**	**06 21 00.3**	**-1.3**
AYDN	**Tasoluk**	**1.68**	**356**	*i* P	**Pn**	**06 20 41.0**	**+0.4**
AYDN				*i* S	**Sn**	**06 21 00.3**	**-1.3**
ELL	**Elmali**	**1.71**	**63**	*e*PN	**Pn**	**06 20 42.4**	**+1.4**
ELL	**Elmali**	**1.71**	**63**	*e*Pn	**Pn**	**06 20 42.4**	**+1.5**
GOLH	**Golhisar**	**1.76**	**44**	*i* P	**Pn**	**06 20 41.8**	**+0.1**
GOLH				*i* S	**Sn**	**06 21 03.4**	**0.0**
GOLH	**Golhisar**	**1.76**	**44**	*i* P	**Pn**	**06 20 41.8**	**+0.1**
GOLH				*i* S	**Sn**	**06 21 03.4**	**-0.1**
GCAM	**G?zelcaml?**	**1.83**	**340**	*i* P	**Pn**	**06 20 42.9**	**+0.3**
GCAM	**G?zelcaml?**	**1.83**	**340**	*i* P	**Pn**	**06 20 42.9**	**+0.3**
DNZL	**Cakiroluk**	**1.90**	**25**	*i* P	**Pn**	**06 20 44.0**	**+0.5**
DNZL				*i* S	**Sn**	**06 21 06.6**	**+0.1**
DNZL	**Cakiroluk**	**1.90**	**25**	*i* P	**Pn**	**06 20 44.0**	**+0.6**
DNZL				*i* S	**Sn**	**06 21 06.6**	**0.0**
DENT	**Denizli**	**1.95**	**24**	*e*PN	**Pn**	**06 20 44.1**	**0.0**
DENT	**Denizli**	**1.95**	**24**	*e*Pn	**Pn**	**06 20 44.1**	**0.0**
SMG	**Samos**	**1.97**	**332**	*e*P	**Pn**	**06 20 44.4**	**0.0**
SMG				*e*S	**Sn**	**06 21 08.3**	**-0.1**
SMG	**Samos**	**1.97**	**332**	*e*P	**Pn**	**06 20 44.4**	**0.0**
SMG				*e*S	**Sn**	**06 21 08.3**	**-0.1**
NPS	**Neapolis**	**2.09**	**251**	*e*P	**Pn**	**06 20 46.6**	**+0.6**
NPS				*e*S	**Sn**	**06 21 10.7**	**-0.5**
NPS	**Neapolis**	**2.09**	**251**	*e*P	**Pn**	**06 20 46.8**	**+0.8**
NPS				*e*S	**Sn**	**06 21 10.7**	**-0.5**
KORT	**Korkueli**	**2.13**	**61**	*i* P	**Pn**	**06 20 48.5**	**+1.9**
KORT				*i* S	**Sn**	**06 21 14.0**	**+1.7**
KORT	**Korkueli**	**2.13**	**61**	*i* P	**Pn**	**06 20 48.5**	**+1.9**
KORT				*i* S	**Sn**	**06 21 14.0**	**+1.7**
APE	**Apeiranthos**	**2.28**	**299**	*e*PN	**Pn**	**06 20 49.5**	**+0.9**
APE	**Apeiranthos**	**2.28**	**299**	*e*P	**Pn**	**06 20 49.1**	**+0.5**
APE				*e*S	**Sn**	**06 21 16.1**	**+0.2**
APE	**Apeiranthos**	**2.28**	**299**	*e*P	**Pn**	**06 20 49.1**	**+0.5**
APE	**Apeiranthos**	**2.28**	**299**	*e*Pn	**Pn**	**06 20 49.5**	**+0.9**
APE				*e*S	**Sn**	**06 21 16.1**	**+0.2**
BLCB	**Balcova**	**2.53**	**342**	*e*PN	**Pn**	**06 20 51.7**	**-0.2**
BLCB	**Balcova**	**2.53**	**342**	*e*Pn	**Pn**	**06 20 51.7**	**-0.2**
BCK	**Bucak**	**2.54**	**54**	*e*PN	**Pn**	**06 20 53.4**	**+1.3**
BCK	**Bucak**	**2.54**	**54**	*e*Pn	**Pn**	**06 20 53.4**	**+1.4**
KULA	**Kula-Manisa**	**2.58**	**11**	*e*PN	**Pn**	**06 20 52.5**	**-0.1**
KULA	**Kula-Manisa**	**2.58**	**11**	*e*Pn	**Pn**	**06 20 52.5**	**-0.1**
IDI	**Anoyia**	**2.64**	**256**	*e*P	**Pn**	**06 20 53.7**	**+0.2**
IDI	**Anoyia**	**2.64**	**256**	*e*P	**Pn**	**06 20 53.7**	**+0.2**
KHAL	**Karahalli**	**2.66**	**26**	*i* P	**Pn**	**06 20 53.5**	**-0.2**
KHAL				*i* S	**Sn**	**06 21 22.1**	**-2.8**
KHAL	**Karahalli**	**2.66**	**26**	*i* P	**Pn**	**06 20 53.5**	**-0.2**
KHAL				*i* S	**Sn**	**06 21 22.1**	**-2.8**
SIVA	**Sivas**	**2.79**	**251**	*e*P	**Pn**	**06 20 56.4**	**+0.9**
SIVA				*e*S	**Sn**	**06 21 27.9**	**-0.2**
SIVA	**Sivas**	**2.79**	**251**	*e*P	**Pn**	**06 20 56.4**	**+0.9**
SIVA				*e*S	**Sn**	**06 21 27.9**	**-0.2**
AKS	**Akhisar**	**2.90**	**357**	*e*PN	**Pn**	**06 20 56.8**	**-0.2**
AKS	**Akhisar**	**2.90**	**357**	*e*Pn	**Pn**	**06 20 56.8**	**-0.1**
VAM	**Vamos**	**3.16**	**261**	*e*P	**Pn**	**06 21 01.2**	**+0.7**
VAM				*e*S	**Sn**	**06 21 37.9**	**+0.7**
VAM	**Vamos**	**3.16**	**261**	*e*P	**Pn**	**06 21 01.2**	**+0.7**
VAM				*e*S	**Sn**	**06 21 37.9**	**+0.7**
SHUT	**Suhut-Afyon**	**3.27**	**37**	*e*PN	**Pn**	**06 21 02.6**	**+0.8**
SHUT	**Suhut-Afyon**	**3.27**	**37**	*e*Pn	**Pn**	**06 21 02.7**	**+0.8**
KARN	**Karanos**	**3.39**	**261**	*e*P	**Pn**	**06 21 04.8**	**+1.2**
KARN				*e*S	**Sn**	**06 21 42.4**	**-0.3**
KARN	**Karanos**	**3.39**	**261**	*e*P	**Pn**	**06 21 04.8**	**+1.2**
KARN				*e*S	**Sn**	**06 21 42.4**	**-0.3**
BOLV	**Bolvadin**	**3.59**	**40**	*i* P	**Pn**	**06 21 07.1**	**+0.7**
BOLV				*i* S	**Sn**	**06 21 46.6**	**-1.0**
BOLV	**Bolvadin**	**3.59**	**40**	*i* P	**Pn**	**06 21 07.1**	**+0.8**
BOLV				*i* S	**Sn**	**06 21 46.6**	**-1.0**
KYTH	**Kithira**	**4.05**	**276**	*e*P	**Pn**	**06 21 13.4**	**+0.9**
KYTH	**Kithira**	**4.05**	**276**	*e*P	**Pn**	**06 21 13.4**	**+0.9**
VLI	**Veliai**	**4.17**	**282**	*e*P	**Pn**	**06 21 14.6**	**+0.4**
VLI				*e*S	**Sn**	**06 22 01.2**	**-0.5**
VLI	**Veliai**	**4.17**	**282**	*e*P	**Pn**	**06 21 14.6**	**+0.4**
VLI				*e*S	**Sn**	**06 22 01.2**	**-0.5**
HMAT	**Matruh**	**4.93**	**189**	P	**Pn**	**06 21 23.9**	**-0.7**
	baz=190						
HMAT				AMP		06 22 00.0	
	comp=E,40μm,1.6s,logA/T=4.4,baz=190						
HMAT				S	**Sn**	**06 22 15.2**	**-5.2**
	baz=190						
HMAT	**Matruh**	**4.93**	**189**	P	**Pn**	**06 21 23.9**	**-0.7**
HMAT				S	**Sn**	**06 22 15.2**	**-5.2**
SLUM		**5.05**	**208**	P	**Pn**	**06 21 25.3**	**-0.9**
	baz=210						
SLUM		**5.05**	**208**	P	**Pn**	**06 21 25.3**	**-0.9**

JMA 05 07:06:04.7±0.5, 32°.55N×142°.18E, h0km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.33**	**335**	P	Pn	07 06 45.1	+0.9
BSO1				*e*S	Sn	07 07 15.7	+2.2
BSO2	**Boso 2**	**2.50**	**332**	*e*S	Sn	07 07 21.0	+3.3
BSO3	**Boso 3**	**2.64**	**329**	P	Pn	07 06 49.8	+1.2
BSO3				*e*S	Sn	07 07 22.3	+1.0
BSO4	**Boso 4**	**2.88**	**328**	P	Pn	07 06 53.6	+1.8
BSO4				*e*S	Sn	07 07 26.6	-0.5
JHU	**Hanno**	**4.08**	**325**	P	Pn	07 07 09.9	+1.6
JYN	**Shimob**	**4.21**	**315**	P	Pn	07 07 12.4	+2.2
JRY	**Ryogami san**	**4.40**	**323**	P	Pn	07 07 14.9	+2.2
JAG	**Ashikaga**	**4.47**	**331**	P	Pn	07 07 15.7	+2.0
JAG				*e*S	Sn	07 08 08.1	+1.6
JMM	**Marumori**	**5.42**	**348**	P	Pn	07 07 27.3	+0.5
JMM				*e*S	Sn	07 08 26.1	-3.8

*ISK **05** 07:50:12.8, 38°.64N×39°.34E, h32km, MD2.6*
*ISCJB **05** 07:50:14.8±0.7, 38°.67N±0°.04×39°.14E±0°.07, h9km±10km, Error ellipse: s-maj=10.9km s-min=5.5km az=31.1*
*DDA **05** 07:50:14.6, 38°.67N×39°.12E, h7km±1km, Md2.5*
*CSEM **05** 07:50:14.4±0.2, 38°.67N×39°.15E, h10km, MD2.5, Error ellipse: s-maj=4.5km s-min=3.9km az=122.0*

ISC 05 07:50:14.8±0.9, 38°.67N±0°.04×39°.15E±0°.06, h14km±9km, n14, σ0°.59/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.21**	**217**	*i* P	Pg	07 50 19.2	-0.4
ELZG				*i* S	Sg	07 50 23.0	+0.2
ELZG	**Elazig**	**0.21**	**217**	*i* P	Pg	07 50 19.2	-0.3
ELZG				*i* S	Sg	07 50 23.0	+0.2
PTK	**Pertek**	**0.29**	**40**	*e*PG	Pg	07 50 20.3	-0.6
PTK				*e*SG	Sg	07 50 26.0	+0.9
PTK	**Pertek**	**0.29**	**40**	*e*Pg	Pg	07 50 20.3	-0.6
PTK				*e*Sg	Sg	07 50 26.0	+0.9
SVRC	**Sivrice-ELAZID**	**0.31**	**157**	*e*PG	Pg	07 50 20.9	-0.4
SVRC				*e*SG	Sg	07 50 26.1	+0.4
SVRC	**Sivrice-ELAZID**	**0.31**	**157**	*e*Pg	Pg	07 50 20.9	-0.4
SVRC				*e*Sg	Sg	07 50 26.1	+0.5
MYA	**Malataya**	**0.66**	**239**	*e*PG	Pg	07 50 27.1	-0.6
MYA	**Malataya**	**0.66**	**239**	*e*Pg	Pg	07 50 27.1	-0.6
MALT	**Malatya**	**0.67**	**238**	*e*PG	Pg	07 50 28.1	+0.3
MALT	**Malatya**	**0.67**	**238**	*e*Pg	Pg	07 50 28.1	+0.3
KEMA	**Kemaliye**	**0.79**	**320**	*i* P	Pg	07 50 29.3	-0.8
KEMA				*i* S	Sg	07 50 40.9	+0.4
KEMA	**Kemaliye**	**0.79**	**320**	*i* P	Pg	07 50 29.3	-0.8
KEMA				*i* S	Sg	07 50 40.9	+0.4
AKCD	**Akcadag**	**1.03**	**249**	*i* P	Pb	07 50 34.0	-0.4
AKCD				*i* S	Sb	07 50 48.8	+1.0
AKCD	**Akcadag**	**1.03**	**249**	*i* P	Pb	07 50 34.0	-0.4
AKCD				*i* S	Sb	07 50 48.8	+1.0

*ISCJB **05** 08:09:52.3±0.4, 34°.60N±0°.04×57°.24E±0°.05, h10km, Error ellipse: s-maj=6.0km s-min=5.3km az=5.9*
*THR **05** 08:09:53.1±0.5, 34°.59N×57°.17E, h33km±6km, ML3.5*
*TEH **05** 08:09:53.5, 34°.62N×57°.30E, h7km*

ISC 05 08:09:53.4±0.4, 34°.59N±0°.04×57°.31E±0°.04, h10km, n24, σ0°.88/26, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABS	**Tabas**	**0.95**	**190**	*e*Pg	Pg	08 10 10.8	-0.9
ITEG	**Tejag**	**2.07**	**144**	*e*Pn	Pn	08 10 28.8	+0.6
ITEG				*e*		08 11 09.5	
	comp=Z,4μm,0.2s						
IMOG	**Moghan**	**2.25**	**47**	*e*Pn	Pn	08 10 31.6	+1.0
IMOG				*e*Sg	Sg	08 11 04.0	-1.5
IMOG				*e*		08 11 12.2	
	comp=Z,1μm,0.3s						
IPAY	**Payeh**	**2.31**	**36**	*e*Pn	Pn	08 10 31.6	+0.2
IPAY				*e*		08 11 08.3	
	comp=Z,2μm,0.2s						
IKRD	**Kardeh**	**2.39**	**24**	*e*Pn	Pg	08 10 38.7	-0.5
IKRD				*e*		08 11 27.9	
	comp=Z,1μm,0.2s						
IMON	**Monand**	**2.41**	**125**	*e*Pn	Pn	08 10 33.6	+0.8
IMON				*e*Sg	Sg	08 11 09.5	-1.2
IMON				*e*		08 11 19.1	
	comp=Z,2μm,0.2s						
ISRO	**Mashad**	**2.46**	**45**	*e*Pn	Pn	08 10 33.6	+0.1
IKOO	**Kooshah**	**2.58**	**146**	*e*Pn	Pn	08 10 35.6	+0.4
IKOO				*e*		08 11 31.8	
	comp=Z,1μm,0.2s						
SHRT	**Shahrakht**	**2.65**	**110**	*e*Pn	Pn	08 10 37.0	+0.9
SHRT				AML	AML	08 11 26.1	
	comp=N,134nm,0.4s						
SHRT				AML	AML	08 11 29.1	
	comp=E,168nm,0.5s						
IDAH	**Dahanechah**	**2.82**	**130**	*e*Pn	Pn	08 10 39.3	+0.8
IDAH				*e*		08 10 50.8	
	comp=Z,758nm,0.2s						
IMYA	**Miami**	**2.87**	**52**	*e*Pn	Pn	08 10 39.5	+0.3
IMYA				*e*		08 10 59.4	
	comp=Z,625nm,0.3s						
IANJ	**Anjilo**	**2.92**	**288**	*e*Pn	Pn	08 10 40.6	+0.8
IANJ				*e*		08 10 48.2	
	comp=Z,2μm,0.2s						
IEMG	**Emamgholi**	**3.02**	**21**	*e*Pn	Pn	08 10 41.4	+0.2
IEMG				*e*		08 10 54.8	
	comp=Z,442nm,0.2s						
MRVT	**Maraveh tapeh**	**3.22**	**342**	*e*P	Pn	08 10 43.1	-0.8
ISHM	**Shahmirzad**	**3.50**	**291**	*e*Pn	Pn	08 10 50.6	+2.7
ISHM				*e*		08 11 50.1	
	comp=Z,2μm,0.2s						
ILAS	**Lasjerd**	**3.66**	**284**	*e*Pn	Pg	08 10 56.6	-6.8
ILAS				*e*		08 12 00.3	
	comp=Z,2μm,0.2s						
IFIR	**Firoozkooh**	**3.88**	**287**	*e*Pn	Pn	08 10 53.0	0.0
IFIR				*e*		08 11 55.6	
	comp=Z,636nm,0.1s						
NASN	**Na'in**	**4.16**	**246**	*e*P	Pn	08 10 55.0	-1.8
ISFB	**Sefidab**	**4.19**	**268**	*e*Pn	Pn	08 10 57.2	-0.1
IPRN	**Peran**	**4.38**	**293**	*e*Pn	Pn	08 11 00.4	+0.5
IPRN				*e*		08 12 32.6	
	comp=Z,530nm,0.3s						
IDMV	**Damavand**	**4.44**	**284**	*e*Pn	Pn	08 11 00.8	+0.1
IDMV				*e*		08 12 23.4	
	comp=Z,502nm,0.3s						
IVRN	**Varamin**	**4.61**	**277**	*e*Pn	Pn	08 11 02.6	-0.5
KRBR	**Kerman**	**4.62**	**186**	*e*P	Pn	08 11 03.2	0.0
KRBR				AML	AML	08 12 23.1	
	comp=N,54nm,0.1s						
KRBR				AML	AML	08 12 34.6	
	comp=E,55nm,1.0s						
GHVR	**GHOM**	**4.96**	**270**	*e*Pn	Pn	08 11 06.7	-1.2

*IDC **05** 08:11:07.8±0.8, 29°.87S×177°.58W, h0km, mb4.5/8, mb1 4.7/9, mb1mx4.4/17, mbtmp4.5/9, ML3.9/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/21, Error ellipse: s-maj=29.0km s-min=21.8km az=159.0*
*ISCJB **05** 08:11:12.0±1.7, 30°.10S±0°.07×177°.6W±0°.2, h39km±14km, mb4.7/11, MS3.4/3, Error ellipse: s-maj=22.0km s-min=11.1km az=7.5*
*NEIC **05** 08:11:13.0±1.7, 30°.03S×177°.52W, h36km±14km, mb4.9/5, Error ellipse: s-maj=16.2km s-min=12.4km az=100.0*

ISC 05 08:11:09.9±2.3, 30°.09S±0°.08×177°.5W±0°.1, h15km±13km, n60, σ1°.19/37, mb4.7/11, MS3.4/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.93**	**334**	*e*Pg	Pg	08 11 28.3	+0.4
RAO				*e*Sg	Sg	08 11 39.9	-0.2
OUZ	**Omahuta**	**9.12**	**234**	*e*Pn	Pn	08 13 27.4	+6.5
	11nm,0.5s						
URZ	**Urewera**	**9.31**	**207**	Pn	Pn	08 13 22.1	-1.5
	0.5nm,0.3s,baz=47,slow=19,SNR=5.7						
URZ				Sn	Sn	08 15 03.7	-4.3
	2.5nm,0.3s,baz=143,slow=21,SNR=11						
URZ	**Urewera**	**9.31**	**207**	*e*Pn	Pn	08 13 22.0	-1.5
URZ				*e*Sn	Sn	08 15 09.6	+1.6
RPZ	**Rata Peaks**	**16.39**	**211**	Pn	Pn	08 15 00.1	+0.7
	0.5nm,0.3s,baz=47,slow=19,SNR=2.8						
RPZ	**Rata Peaks**	**16.39**	**211**	Pn	Pn	08 15 00.1	+0.7
DZM	**Mont Dzumac**	**16.51**	**295**	*e*LR	LR	08 18 33.7	
	181nm,25.4s						
AFI	**Afiamalu**	**16.93**	**19**	Sn	Sn	08 17 54.9	-19
	0.7nm,0.3s,baz=288,slow=20,SNR=2.1						
TBI	**Tubuai**	**25.85**	**82**	*e*LR	LR	08 23 17.5	
	120nm,30.0s						
TBI				*e*T		08 43 48.6	
	16nm,0.4s						
PAE	**Paea**	**28.25**	**70**	*e*T		08 46 33.9	
	3.4nm,0.3s						
PPT2	**Papeete2**	**28.29**	**70**	*e*T		08 46 37.4	
	3.3nm,0.3s						
PPT	**Papeete**	**28.30**	**70**	*e*LR	LR	08 24 20.0	
	84nm,30.0s						
CMSA	**Cobar Meteorol**	**31.60**	**258**	*e*P	P	08 17 33.2	+1.1
	20nm,0.9s,mb4.9						
CTA	**Charters Tower**	**34.22**	**278**	P	P	08 17 56.0	+0.9
	19nm,0.8s,mb5.1,baz=98,slow=9.7,SNR=18						
CTA				LR	LR	08 29 24.1	
	comp=Z,70nm,19.7s,MS3.4,baz=51,slow=32						
CTA	**Charters Tower**	**34.22**	**278**	*e*P	P	08 17 56.3	+1.2
	7.6nm,0.4s,mb5.0						
CTA	**Charters Tower**	**34.22**	**278**	P	P	08 17 56.0	+0.9
CTAO	**Charters Tower**	**34.22**	**278**	*e*P	P	08 17 55.8	+0.7
	18nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**35.01**	**256**	P	P	08 18 02.8	+0.9
	6.4nm,0.6s,mb4.7,baz=98,slow=9.3,SNR=22						
STKA				LR	LR	08 30 43.7	
	comp=Z,66nm,18.4s,MS3.4,baz=203,slow=34						
STKA	**Stephens Creek**	**35.01**	**256**	*e*P	P	08 18 03.1	+1.2
	3.9nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**35.01**	**256**	P	P	08 18 02.8	+0.9
ASAR	**Alice Springs**	**43.60**	**266**	P	P	08 19 12.4	-1.2
	3.8nm,0.6s,mb4.3,baz=103,slow=7.5,SNR=77						
ASAR	**Alice Springs**	**43.60**	**266**	P	P	08 19 12.4	-1.2
WRAB	**Tennant Creek**	**44.56**	**272**	*e*P	P	08 19 20.8	-0.6
	10.0nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**44.56**	**272**	P	P	08 19 20.1	-1.3
	6.5nm,0.4s,mb4.9,baz=110,slow=8.2,SNR=154						
WRA				LR	LR	08 35 14.7	
	comp=Z,43nm,21.0s,MS3.4,baz=70,slow=33						
WRA	**Warramunga Arr**	**44.56**	**272**	P	P	08 19 20.1	-1.3
WAKE	**Wake Island**	**51.42**	**341**	*e*P	P	08 20 08.2	-6.1
	300nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.84**	**269**	P	P	08 20 24.0	-1.1
	4.5nm,0.8s,mb4.5,baz=177,slow=6.2,SNR=9.4						
FITZ	**Fitzroy Crossi**	**52.84**	**269**	*e*P	P	08 20 24.7	-0.4
	6.4nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.84**	**269**	*e*P	P	08 20 24.4	-0.6
	3.0nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**60.02**	**180**	P	P	08 21 18.3	+2.9
	3.2nm,0.8s,mb4.4,baz=30,slow=2.1,SNR=6.2						
QSPA	**South Pole Qui**	**60.02**	**180**	*e*P	P	08 21 18.4	+3.0
	9.5nm,0.9s,mb4.8						
PMSA	**Palmer Station**	**72.35**	**156**	*e*P	P	08 22 33.3	-1.4
	25nm,0.6s,mb5.3						
SNAA	**Sanae**	**78.45**	**178**	*e*	P	08 23 05.4	-4.3
SNAA				*e*		08 23 12.0	
VNA3	**Neumayer Olymp**	**78.58**	**176**	*e*	P	08 23 19.1	+8.7
VNA2	**Neumayer--Watz**	**79.02**	**177**	*e*	P	08 23 20.8	+8.0
	baz=196,slow=5.7						
PETK	**Petropavlovsk-**	**85.63**	**345**	P	P	08 23 46.9	-0.4
	2.1nm,0.7s,mb4.5,baz=131,slow=4.0,SNR=2.7						
PETK	**Petropavlovsk-**	**85.63**	**345**	P	P	08 23 46.9	-0.4
NVAR	**Mina Array Bea**	**87.69**	**42**	P	P	08 23 59.6	+1.8
	0.9nm,0.8s,mb4.1,baz=226,slow=7.8,SNR=7.4						
NVAR	**Mina Array Bea**	**87.69**	**42**	P	P	08 23 59.6	+1.8
MKAR	**Makanchi Array**	**117.94**	**310**	PKP	PKPdf	08 29 54.6	-1.0
	0.4nm,0.5s,baz=208,slow=1.8,SNR=5.5						
MKAR	**Makanchi Array**	**117.94**	**310**	PKP	PKPdf	08 29 54.6	-1.0
KURK	**Kurchatov**	**121.18**	**314**	PKP	PKPdf	08 30 00.6	-1.1
	1.3nm,0.6s,baz=107,slow=2.0,SNR=12						
KURK	**Kurchatov**	**121.18**	**314**	PKP	PKPdf	08 30 00.6	-1.1
BVAR	**Borovoye Array**	**126.51**	**316**	PKP	PKPdf	08 30 11.6	-0.2
	1.2nm,0.5s,baz=125,slow=1.0,SNR=7.2						
BVAR	**Borovoye Array**	**126.51**	**316**	PKP	PKPdf	08 30 11.6	-0.2
KEV	**Kevo**	**137.92**	**348**	*e*pkp	PKPdf	08 30 41.1	+8.2
ARCES	**ARCESS Array B**	**138.38**	**348**	PKhKP	PKPpre	08 30 25.3	
	1.3nm,0.9s,baz=62,slow=3.8,SNR=5.4						
ARCES	**ARCESS Array B**	**138.38**	**348**	PKPpre	PKPpre	08 30 25.3	
JOF	**Joensuu**	**142.30**	**339**	*e*pkp	PKPdf	08 30 35.9	-5.1
KAF	**Kangasniemi**	**144.41**	**341**	*e*pkp	PKPdf	08 30 41.8	-2.9
FINES	**FINESS Array B**	**145.01**	**340**	PKP	PKPdf	08 30 44.6	-1.2
	8.1nm,0.3s,baz=48,slow=4.1,SNR=63						
FINES	**FINESS Array B**	**145.01**	**340**	PKP	PKPdf	08 30 44.6	-1.2
NOA	**NORSAR Array B**	**148.51**	**352**	PKPbc	PKPbc	08 30 55.2	-0.1
	1.7nm,0.6s,baz=17,slow=4.5,SNR=7.1						
NOA	**NORSAR Array B**	**148.51**	**352**	PKPbc	PKPbc	08 30 55.2	-0.1
AKASG	**Malin Array Be**	**151.34**	**323**	PKPbc	PKPbc	08 31 01.9	-0.6
	2.6nm,0.5s,baz=46,slow=2.9,SNR=10						
AKASG				PKPab	PKPab	08 31 09.3	-1.3
	0.6nm,0.4s,baz=49,slow=3.5,SNR=4.1						
AKASG	**Malin Array Be**	**151.34**	**323**	PKPbc	PKPbc	08 31 01.9	-0.6
AKASG				PKPab	PKPab	08 31 09.3	-1.3
BRTR	**Keskin Array B**	**152.87**	**299**	PKPbc	PKPbc	08 31 06.0	-0.3
	0.9nm,0.5s,baz=160,slow=6.2,SNR=4.5						
BRTR	**Keskin Array B**	**152.87**	**299**	PKPbc	PKPbc	08 31 06.0	-0.3
TORD	**Torodi Ar. Bea**	**163.12**	**177**	PKPab	PKPab	08 32 02.9	+0.8
	0.6nm,0.8s,baz=162,slow=2.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**163.12**	**177**	PKPab	PKPab	08 32 02.9	+0.8

*ISCJB **05** 08:34:08.2±0.4, 37°.37N±0°.02×27°.03E±0°.02, h10km±3km, mb3.7/5, Error ellipse: s-maj=3.0km s-min=2.8km az=0.5*
*IDC **05** 08:34:08.6±1.3, 37°.07N×27°.18E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.6/27, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=37.6km s-min=21.4km az=137.0*
*ATH **05** 08:34:08.5, 37°.40N×27°.05E, h26km±1km, MD3.5/9*
*ISK **05** 08:34:08.1, 37°.39N×27°.03E, h9km, ML3.7*
*NEIC **05** 08:34:08.0, 37°.38N×27°.03E, h10km, ML3.6(ISK), After ISK.*
*THE **05** 08:34:09.6, 37°.38N×27°.04E, h3km±3km, ML3.7/3, Error ellipse: s-maj=3.7km s-min=0.6km az=101.0*
*DDA **05** 08:34:09.7, 37°.47N×27°.15E, h33km, Md3.5*
*CSEM **05** 08:34:09.0±0.1, 37°.36N×27°.04E, h10km, MD3.5, Error ellipse: s-maj=2.7km s-min=2.2km az=79.0*
*HLW **05** 08:34:26.1, 36°.48N×27°.65E, h27km±11km, Md3.8*

ISC 05 08:34:09.1±0.3, 37°.37N±0°.01×27°.04E±0°.02, h10km±2km, n194, σ0°.95/239, mb3.7/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.36**	**25**	*i* P	Pg	08 34 16.4	0.0
GCAM				*i* S	Sg	08 34 21.3	+0.1
GCAM	**G?zelcaml?**	**0.36**	**25**	*i* P	Pg	08 34 16.4	+0.1
GCAM				*i* S	Sg	08 34 21.3	+0.1
BODT	**Bodrum**	**0.38**	**145**	PG	Pg	08 34 16.1	-0.4
BODT				*e*SG	Sg	08 34 22.0	+0.5
BODT	**Bodrum**	**0.38**	**145**	*i* Pg	Pg	08 34 16.1	-0.4
BODT				*e*Sg	Sg	08 34 22.0	+0.5
SMG	**Samos**	**0.38**	**335**	*e*PB	Pg	08 34 16.8	+0.3
SMG				*e*SB	Sg	08 34 22.1	+0.5
SMG	**Samos**	**0.38**	**335**	*e*Pb	Pg	08 34 17.0	+0.5
SMG				*e*Sb	Sg	08 34 22.1	+0.5
MLSB	**Milas**	**0.59**	**97**	*e*PG	Pg	08 34 20.2	-0.4
MLSB				*e*SG	Sg	08 34 28.5	+0.1
MLSB	**Milas**	**0.59**	**97**	*e*Pg	Pg	08 34 20.2	-0.4
MLSB				*e*Sg	Sg	08 34 28.5	+0.1
AYDN	**Tasoluk**	**0.73**	**66**	*i* P	Pg	08 34 22.5	-0.7
AYDN				*i* S	Sg	08 34 32.5	-0.2
AYDN	**Tasoluk**	**0.73**	**66**	*i* P	Pg	08 34 22.5	-0.7
AYDN				*i* S	Sg	08 34 32.5	-0.2
DAT	**Datca**	**0.77**	**146**	*e*PG	Pg	08 34 24.0	0.0
DAT				*e*SG	Sg	08 34 35.4	+1.4
DAT	**Datca**	**0.77**	**146**	*e*Pg	Pg	08 34 24.0	0.0
DAT				*e*Sg	Sg	08 34 35.4	+1.4
NIS1	**Nisyros Isl.**	**0.77**	**172**	P	Pg	08 34 25.0	+1.0
NIS1				S	Sg	08 34 36.3	+2.2
NIS1	**Nisyros Isl.**	**0.77**	**172**	P	Pg	08 34 25.0	+1.0
NIS1				S	Sg	08 34 36.3	+2.2
BLCB	**Balcova**	**1.01**	**0**	*e*PG	Pg	08 34 28.3	-0.4
BLCB	**Balcova**	**1.01**	**0**	*e*Pg	Pg	08 34 28.3	-0.4
YER	**Yerkesik**	**1.02**	**103**	*e*PG	Pg	08 34 28.7	-0.1
YER	**Yerkesik**	**1.02**	**103**	*e*Pg	Pg	08 34 28.7	0.0
IZM	**Izmir**	**1.04**	**10**	*e*PG	Pg	08 34 28.4	-0.7
IZM	**Izmir**	**1.04**	**10**	*e*Pg	Pg	08 34 28.4	-0.8
URLA	**Izmir**	**1.05**	**341**	*i* P	Pg	08 34 27.9	-1.4
URLA				*i* S	Sg	08 34 42.3	-0.7
URLA	**Izmir**	**1.05**	**341**	*i* P	Pg	08 34 27.9	-1.4
URLA				*i* S	Sg	08 34 42.3	-0.7
APE	**Apeiranthos**	**1.24**	**256**	*e*PN	Pn	08 34 32.0	-0.5
APE				*e*SN	Sn	08 34 50.2	+0.9
APE	**Apeiranthos**	**1.24**	**256**	P	Pn	08 34 32.2	-0.3
APE				S	Sn	08 34 50.2	+0.9
APE	**Apeiranthos**	**1.24**	**256**	*e*Pn	Pn	08 34 31.9	-0.6
APE	**Apeiranthos**	**1.24**	**256**	P	Pn	08 34 32.2	-0.3
APE				*e*Sn	Sn	08 34 50.3	+1.0
CHOS	**Chios island**	**1.28**	**323**	*e*PN	Pn	08 34 32.4	-0.7
CHOS				*e*SN	Sn	08 34 50.0	-0.3
CHOS	**Chios island**	**1.28**	**323**	P	Pn	08 34 32.8	-0.3
CHOS				S	Sb	08 34 51.2	+1.4
CHOS	**Chios island**	**1.28**	**323**	*e*Pn	Pn	08 34 32.4	-0.7
CHOS	**Chios island**	**1.28**	**323**	P	Pn	08 34 32.8	-0.3
CHOS				*e*Sn	Sn	08 34 50.1	-0.2
CHOS				S	Sb	08 34 51.2	+1.4
TURN	**Turunc**	**1.34**	**111**	*i* P	Pn	08 34 30.4	-3.6
TURN				*i* S	Sb	08 34 45.8	-5.8
ARG	**Arkhangelos**	**1.44**	**143**	*e*PN	Pn	08 34 35.5	+0.2
ARG	**Arkhangelos**	**1.44**	**143**	P	Pn	08 34 35.6	+0.3
ARG	**Arkhangelos**	**1.44**	**143**	*e*Pn	Pn	08 34 35.5	+0.2
AKHS	**Akhisar**	**1.63**	**22**	*i* P	Pn	08 34 36.1	-1.7
AKHS				*i* S	Sn	08 34 58.2	-0.6
AKHS	**Akhisar**	**1.63**	**22**	*i* P	Pn	08 34 36.1	-1.7
AKHS				*i* S	Sn	08 34 58.2	-0.6
AKS	**Akhisar**	**1.63**	**22**	*e*PN	Pn	08 34 36.6	-1.2
AKS	**Akhisar**	**1.63**	**22**	*e*Pn	Pn	08 34 36.6	-1.2
THR3	**Thira Island,**	**1.63**	**234**	P	Pn	08 34 37.7	-0.1
THR3	**Thira Island,**	**1.63**	**234**	P	Pn	08 34 37.7	-0.1
DNZL	**Cakiroluk**	**1.63**	**78**	*i* P	Pn	08 34 37.8	0.0
DNZL				*i* S	Sn	08 35 00.4	+1.5
DNZL	**Cakiroluk**	**1.63**	**78**	*i* P	Pn	08 34 37.8	0.0
DNZL				*i* S	Sn	08 35 00.4	+1.6
DENT	**Denizli**	**1.63**	**76**	*e*PN	Pn	08 34 38.0	+0.1
DENT	**Denizli**	**1.63**	**76**	*e*Pn	Pn	08 34 38.0	+0.1
MANT	**Manisa**	**1.64**	**47**	*i* P	Pn	08 34 37.0	-1.0
MANT				*i* S	Sn	08 34 57.7	-2.0
MANT	**Manisa**	**1.64**	**47**	*i* P	Pn	08 34 37.0	-1.0
MANT				*i* S	Sn	08 34 57.3	-1.9
THR6	**Thira Island,**	**1.66**	**233**	P	Pn	08 34 38.7	+0.4
THR6	**Thira Island,**	**1.66**	**233**	P	Pn	08 34 38.7	+0.4
KULA	**Kula-Manisa**	**1.72**	**48**	*e*PN	Pn	08 34 38.7	-0.4
KULA	**Kula-Manisa**	**1.72**	**48**	*e*Pn	Pn	08 34 38.7	-0.4
KARP	**Karpathos**	**1.82**	**177**	*e*PB	Pb	08 34 40.4	-2.1
KARP	**Karpathos**	**1.82**	**177**	*e*Pb	Pb	08 34 40.4	-2.1
AYVA	**Ayvalik**	**1.96**	**352**	*e*P	Pn	08 34 41.6	-0.7
AYVA				*i* S	Sn	08 35 12.3	+5.4
AYVA	**Ayvalik**	**1.96**	**352**	*e*P	Pn	08 34 41.6	-0.8
PRK	**Paraskevi**	**1.97**	**342**	*e*PB	Pn	08 34 41.8	-0.7
PRK	**Paraskevi**	**1.97**	**342**	P	Pn	08 34 41.8	-0.7
PRK	**Paraskevi**	**1.97**	**342**	*e*Pb	Pn	08 34 41.8	-0.7
GLHS	**Glhisar (BURDU**	**1.97**	**95**	*e*PN	Pn	08 34 43.0	+0.4
GLHS	**Glhisar (BURDU**	**1.97**	**95**	*e*Pn	Pn	08 34 43.0	+0.4
DEMI	**Demirci**	**2.13**	**38**	*i* P	Pn	08 34 44.7	0.0
DEMI				*i* S	Sn	08 35 13.6	+2.4
DEMI	**Demirci**	**2.13**	**38**	*i* P	Pn	08 34 44.7	-0.1
DEMI				*i* S	Sn	08 35 13.6	+2.3
KHAL	**Karahalli**	**2.18**	**62**	*i* P	Pn	08 34 45.0	-0.5
KHAL				*i* S	Sn	08 35 11.2	-1.3
KHAL	**Karahalli**	**2.18**	**62**	*i* P	Pn	08 34 45.0	-0.5
KHAL				*i* S	Sn	08 35 11.2	-1.4
BALB	**Balikesir**	**2.36**	**16**	*e*PN	Pn	08 34 48.2	+0.2
BALB	**Balikesir**	**2.36**	**16**	*e*Pn	Pn	08 34 48.2	+0.3
ELL	**Elmali**	**2.38**	**104**	*e*PN	Pn	08 34 48.6	+0.5
ELL	**Elmali**	**2.38**	**104**	*e*Pn	Pn	08 34 48.6	+0.5
NPS	**Neapolis**	**2.40**	**209**	*e*PN	Pn	08 34 48.7	+0.3
NPS	**Neapolis**	**2.40**	**209**	*e*Pn	Pn	08 34 48.7	+0.3
BALY	**Balya**	**2.41**	**11**	*i* P	Pn	08 34 47.4	-1.3
BALY				*i* S	Sn	08 35 23.8	+5.6
BALY	**Balya**	**2.41**	**11**	*i* P	Pn	08 34 47.3	-1.3
EZN	**Ezine**	**2.52**	**347**	*e*PN	Pn	08 34 50.4	+0.3
EZN	**Ezine**	**2.52**	**347**	*e*Pn	Pn	08 34 50.4	+0.3
DST	**Dursunbey**	**2.55**	**29**	*e*P

VTS	Vitosha	5.99 332	*i* P	Pn	08 35 37.0	-0.8
VTS	Vitosha	5.99 332	*i* P	Pn	08 35 37.0	-0.8
SWA2		8.21 190	P	Pn	08 36 10.5	+2.2
	baz=195					
SWA2		8.21 190	P	Pn	08 36 10.5	+2.2
AMAG	Maghara	8.44 141	P	Pn	08 36 10.6	-0.8
	baz=139					
AMAG			S	Sn	08 37 29.8	-17
	baz=139					
AMAG	Maghara	8.44 141	P	Pn	08 36 10.6	-0.8
GLL	Jalalah	8.69 152	P	Pn	08 36 13.5	-1.5
	baz=152					
GLL	Jalalah	8.69 152	P	Pn	08 36 13.5	-1.4
SUZ		8.93 146	P	Pn	08 36 17.1	-1.0
	baz=145					
SUZ		8.93 146	P	Pn	08 36 17.1	-1.0
EIL	Elat	10.12 137	Pn	Pn	08 36 32.2	-2.3
	0.4nm,0.3s,baz=270,slow=4.0,SNR=4.6					
EIL			Sn	Sn	08 38 22.4	-5.7
	0.7nm,0.3s,baz=110,slow=17,SNR=2.7					
EIL	Elat	10.12 137	Pn	Pn	08 36 32.2	-2.3
EIL			Sn	Sn	08 38 22.4	-5.7
EIL	Elat	10.12 137	Pn	Pn	08 36 32.2	-2.3
HFRF	Wahat Farafira	10.25 174	P	Pn	08 36 35.5	-0.8
	baz=176					
HFRF			S	Sn	08 38 14.2	-17
	baz=176					
HFRF	Wahat Farafira	10.25 174	P	Pn	08 36 35.4	-0.8
GRB	Gharib	10.28 150	P	Pn	08 36 35.0	-1.7
	baz=150					
GRB	Gharib	10.28 150	P	Pn	08 36 35.0	-1.6
TR2		10.57 146	P	Pn	08 36 39.0	-1.7
	baz=145					
TR2		10.57 146	P	Pn	08 36 39.0	-1.7
HKAT	Jabal Katrina	10.57 145	P	Pn	08 36 39.2	-1.5
	baz=144					
HKAT	Jabal Katrina	10.57 145	P	Pn	08 36 39.2	-1.5
TR1		11.00 146	P	Pn	08 36 44.8	-1.8
	baz=146					
TR1		11.00 146	P	Pn	08 36 44.8	-1.7
AKTO	Aktyubinsk	25.65 49	P	P	08 39 40.7	+1.9
	0.6nm,0.3s,mb3.6,baz=247,slow=13,SNR=3.4					
AKTO	Aktyubinsk	25.65 49	P	P	08 39 40.7	+1.9
AKTO	Aktyubinsk	25.65 49	P	P	08 39 40.7	+1.9
TORD	Torodi Ar. Bea	33.07 230	P	P	08 40 45.1	0.0
	1.5nm,0.6s,mb4.1,baz=36,slow=8.9,SNR=12					
TORD	Torodi Ar. Bea	33.07 230	P	P	08 40 45.1	0.0
TORD	Torodi Ar. Bea	33.07 230	P	P	08 40 45.1	0.0
KURK	Kurchatov	38.62 53	P	P	08 41 32.9	+0.5
	0.6nm,0.3s,mb3.9,baz=282,slow=8.9,SNR=5.3					
KURK	Kurchatov	38.62 53	P	P	08 41 32.9	+0.6
KURK	Kurchatov	38.62 53	P	P	08 41 32.9	+0.6
MKAR	Makanchi Array	41.31 59	P	P	08 41 56.1	+1.4
	0.3nm,0.3s,mb3.3,baz=273,slow=8.1,SNR=3.6					
MKAR	Makanchi Array	41.31 59	P	P	08 41 56.1	+1.4
MKAR	Makanchi Array	41.31 59	P	P	08 41 56.1	+1.4
ZALV	Zalesovo Beam	42.39 48	P	P	08 42 06.5	+3.0
	0.4nm,0.4s,mb3.4,baz=268,slow=8.6,SNR=3.3					
ZALV	Zalesovo Beam	42.39 48	P	P	08 42 06.5	+3.0

*ISCJB **05** 09:14:25.6±0.5, 32°.05S±0°.03×69°.95W±0°.06, h121km±6km, mb3.5/2, Error ellipse: s-maj=9.2km s-min=4.0km az=169.6*
*NEIC **05** 09:14:25.0, 32°.06S×70°.04W, h130km, MD3.7(GUC), After GUC.*
*GUC **05** 09:14:25.6±0.6, 32°.06S×70°.04W, h130km±4km, MD3.7, ML3.9*
*IDC **05** 09:14:29.1±22.0, 31°.46S×69°.61W, h117km±148km, mb3.4/2, mb1 3.5/3, mb1mx3.3/13, mbtmp3.3/3, ML4.1/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/17, Error ellipse: s-maj=281.4km s-min=55.5km az=20.0*

ISC 05 09:14:26.4±0.5, 32°.05S±0°.03×69°.94W±0°.06, h118km±6km, n36, σ0§65/50, mb3.5/2, 7C-4D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.84	221	⇑*iP*	Pn	09 14 46.8	+0.1
JACH				*i* S	Sn	09 15 02.5	+0.5
PTCH	Petorca	0.86	255	⇑*iP*	Pn	09 14 46.6	-0.3
PTCH				*i* S	Sn	09 15 02.5	+0.1
PTCH				AML	AML	09 15 05.2	
	comp=N,3μm,0.2s						
MDZ	Mendoza	1.24	132	*i* P	Pn	09 14 50.7	-0.1
MDZ				*e*S	Sn	09 15 08.4	-0.9
CMCH	Combarbala	1.25	314	⇓*iP*	Pn	09 14 50.8	-0.1
CMCH				*i* S	Sn	09 15 10.0	+0.6
CMCH				AML	AML	09 15 11.3	
	comp=N,23μm,0.5s						
PEL	Peldehue	1.26	210	⇑*iP*	Pn	09 14 50.6	-0.3
PEL				*i* S	Sn	09 15 09.7	+0.2
PEL				AML	AML	09 15 11.5	
	comp=E,3μm,0.5s						
ROCH	El Roble	1.29	224	⇑*iP*	Pn	09 14 51.1	-0.1
ROCH				⇓*iP*		09 14 51.3	
ROCH				*i* S	Sn	09 15 10.7	+0.5
ROCH				*i* S	Sn	09 15 10.7	+0.6
ROCH				AML	AML	09 15 12.1	
	comp=N,2μm,0.5s						
FCH	Farellones	1.31	193	⇓*iP*	Pn	09 14 52.2	+0.7
FCH				*i* S	Sn	09 15 07.9	-2.6
FCH				AML	AML	09 15 08.7	
	comp=E,1μm,0.2s						
CHNG	Los Chungos	1.33	277	⇑*iP*	Pn	09 14 51.1	-0.7
CHNG				*i* S	Sn	09 15 10.7	-0.3
CLCH	Cerro Calan	1.43	200	⇓*iP*	Pn	09 14 53.1	+0.2
CLCH				*i* S	Sn	09 15 13.6	+0.5
CLCH				AML	AML	09 15 15.8	
	comp=E,2μm,0.5s						
SAN	Santiago	1.52	203	*i* S	Sn	09 15 15.3	+0.3
ANTU	Antumapu	1.62	201	*e*P	Pn	09 14 54.9	-0.2
ANTU				*i* S	Sn	09 15 17.5	+0.4
ANTU				AML	AML	09 15 18.3	
	comp=N,1μm,0.4s						
SJCH	San Jose de Ma	1.62	192	*i* S	Sn	09 15 17.8	+0.8
PCH	Pirque	1.64	197	*e*P	Pn	09 14 55.6	+0.3
PCH				*i* S	Sn	09 15 18.1	+0.7
IHA	Instituto Hidr	1.73	235	*e*P	Pn	09 14 55.8	-0.7
IHA				*i* S	Sn	09 15 18.2	-1.1
OVCH	Ovalle	1.79	323	*e*P	Pn	09 14 57.1	-0.1
OVCH				*e*S	Sn	09 15 20.8	+0.1
OVCH				AML	AML	09 15 25.5	
	comp=N,945nm,0.4s						
LMEL	Las Melosas	1.81	187	*e*P	Pn	09 14 57.7	+0.4
LMEL				*i* S	Sn	09 15 21.9	+0.9
LMEL				AML	AML	09 15 29.5	
	comp=N,339nm,0.3s						
CHCH	Chadas Angostu	1.97	197	*e*P	Pn	09 14 58.9	-0.5
CHCH				*i* S	Sn	09 15 24.9	+0.3
LCCH	Las Cruces	1.98	223	*e*P	Pn	09 14 58.5	-1.0
LCCH				*i* S	Sn	09 15 23.9	-0.8
TLL	Tololo Astrono	2.02	338	⇑*iP*	Pn	09 15 00.4	+0.4
TLL				*i* S	Sn	09 15 26.6	+1.0
TLL				AML	AML	09 15 29.0	
	comp=E,605nm,0.4s						
CACH	El Canelo	2.13	195	*e*P	Pn	09 15 01.8	+0.4
LSCH	La Serena	2.41	332	*e*P	Pn	09 15 04.4	-0.5
LSCH				*i* S	Sn	09 15 34.0	-0.5
LCO	Las Campanas	3.10	348	*e*Pn	Pn	09 15 14.0	+0.1
LCO				*e*Sn	Sn	09 15 51.2	+0.6
LCO	Las Campanas	3.10	348	⇑*iP*	Pn	09 15 13.8	-0.2
LCO				*i* S	Sn	09 15 50.7	+0.1
LCO				AML	AML	09 15 53.0	
	comp=E,545nm,0.8s						
CPUP	Villa Florida	12.40	66	P	Pn	09 17 15.3	-3.6
	comp=E,0.3nm,0.3s,baz=243,slow=14,SNR=2.3						
CPUP	Villa Florida	12.40	66	P	Pn	09 17 15.3	-3.6
RPN	Rapa Nui	34.47	268	LR	LR	09 32 12.3	
	comp=E,194nm,20.1s,baz=148,slow=31						
TORD	Torodi Ar. Bea	81.88	69	P	P	09 26 33.0	-0.1
	comp=E,1.1nm,0.7s,mb3.8,baz=251,slow=4.8,SNR=6.3						
TORD	Torodi Ar. Bea	81.88	69	P	P	09 26 33.0	-0.1
PDAR	Pinedale Array	82.85	332	P	P	09 26 38.3	+0.9
	comp=E,0.2nm,0.5s,mb3.2,baz=141,slow=5.8,SNR=2.5						
PDAR	Pinedale Array	82.85	332	P	P	09 26 38.3	+0.9
KURK	Kurchatov	150.26	42	PKPbc	PKPbc	09 34 04.3	+1.1
	comp=E,1.2nm,0.6s,baz=306,slow=3.2,SNR=8.9						
KURK	Kurchatov	150.26	42	PKPbc	PKPbc	09 34 04.3	+1.1
ZALV	Zalesovo Beam	151.64	32	PKPbc	PKPbc	09 34 07.5	+1.2
	comp=E,3.3nm,0.6s,baz=310,slow=3.3,SNR=13						
ZALV	Zalesovo Beam	151.64	32	PKPbc	PKPbc	09 34 07.5	+1.2
MKAR	Makanchi Array	154.16	47	PKPbc	PKPbc	09 34 13.3	+1.2
	comp=E,0.2nm,0.7s,baz=329,slow=1.7,SNR=2.2						
MKAR				PKPab	PKPab	09 34 26.5	+0.1
	comp=E,0.5nm,0.8s,baz=288,slow=5.9,SNR=3.8						
MKAR	Makanchi Array	154.16	47	PKPbc	PKPbc	09 34 13.3	+1.2
MKAR				PKPab	PKPab	09 34 26.5	+0.1

*IDC **05** 09:37:04.1±1.9, 12°.71N×126°.08E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/21, mbtmp3.4/5, Error ellipse: s-maj=177.4km s-min=19.7km az=69.0*
*ISCJB **05** 09:37:07.2±0.8, 12°.50N±0°.06×125°.6E±0°.1, h33km, mb3.7/7, Error ellipse: s-maj=19.5km s-min=8.8km az=177.4*
*NEIC **05** 09:37:09.7±1.2, 12°.46N×125°.44E, h35km, mb4.1/1, Error ellipse: s-maj=107.0km s-min=12.1km az=67.0*

ISC 05 09:37:09.7±0.8, 12°.46N±0°.06×125°.5E±0°.2, h35km, n14, σ0§91/15, mb3.7/7, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	1.37	200	⇓*eP*	Pn	09 37 30.0	-2.3
PLP				*i* S	Sn	09 37 50.2	+1.0
PVCP	Virac	1.69	312	⇓*eP*	Pn	09 37 36.7	-0.1
WRAB	Tennant Creek	33.36	165	*eP*	P	09 43 44.6	-0.1
	3.3nm,1.1s,mb4.2						
WRA	Warramunga Arr	33.37	165	P	P	09 43 44.4	-0.4
	0.3nm,0.8s,mb3.3,baz=348,slow=9.1,SNR=2.8						
WRA	Warramunga Arr	33.37	165	P	P	09 43 44.4	-0.4
ASAR	Alice Springs	36.84	167	P	P	09 44 15.6	+0.9
	0.1nm,0.5s,mb3.0,baz=347,slow=6.8,SNR=3.4						
ASAR	Alice Springs	36.84	167	P	P	09 44 15.6	+0.9
SONM	Songino Array	38.70	339	P	P	09 44 30.0	-0.1
	0.2nm,0.4s,mb3.2,baz=152,slow=7.5,SNR=3.7						
SONM	Songino Array	38.70	339	P	P	09 44 30.0	-0.1
MKAR	Makanchi Array	49.81	322	P	P	09 46 00.0	+0.9
	0.5nm,0.7s,mb3.7,baz=109,slow=8.1,SNR=4.1						
MKAR	Makanchi Array	49.81	322	P	P	09 46 00.0	+0.9
KURK	Kurchatov	53.82	325	P	P	09 46 29.5	+0.6
	2.5nm,1.1s,mb4.1,baz=122,slow=8.4,SNR=4.9						
KURK	Kurchatov	53.82	325	P	P	09 46 29.5	+0.6
KKAR	Karatay Array	56.16	314	*eP*	P	09 46 45.0	-0.9
	1.5nm,0.4s,mb4.4						

IDC 05 09:44:01.4±2.1, 2°.54N×127°.19E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=164.0km s-min=26.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.42	163	P	P	09 49 10.8	-1.7
	0.6nm,0.3s,baz=341,slow=11,SNR=13						
ASAR	Alice Springs	26.85	166	P	P	09 49 45.8	+1.8
	0.3nm,0.5s,baz=344,slow=13,SNR=8.1						
STKA	Stephens Creek	36.86	159	P	P	09 51 11.4	-0.3
	1.6nm,0.7s,baz=354,slow=10,SNR=3.8						
MKAR	Makanchi Array	58.79	325	P	P	09 54 01.4	-0.2
	0.1nm,0.3s,baz=119,slow=7.5,SNR=2.8						

*THE **05** 09:57:34.8, 38°.23N×20°.53E, h17km±1km, Error ellipse: s-maj=3.3km s-min=0.6km az=222.0*
*CSEM **05** 09:57:35.5±0.8, 38°.30N×20°.59E, h2km, MD3.2, Error ellipse: s-maj=18.3km s-min=12.0km az=77.0*
*ISCJB **05** 09:57:36.2±1.1, 38°.28N±0°.05×20°.59E±0°.08, h10km, Error ellipse: s-maj=9.4km s-min=7.4km az=178.6*
*ATH **05** 09:57:36.4, 38°.25N×20°.58E, h7km±2km, MD3.2/4*

ISC 05 09:57:36.5±1.2, 38°.28N±0°.05×20°.57E±0°.09, h10km, n20, σ1§41/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.10	172	*e*PG	Pg	09 57 38.3	-0.8
VLS				*e*SG	Sg	09 57 40.7	-0.3
VLS	Valsamata	0.10	172	P	Pg	09 57 38.1	-1.0
VLS				S	Sg	09 57 40.6	-0.4
VLS	Valsamata	0.10	172	P	Pg	09 57 38.1	-1.0
VLS				S	Sg	09 57 40.6	-0.4
KFL	Anninata	0.24	135	P	Pg	09 57 39.8	-1.6
KFL				S	Sg	09 57 44.0	-0.7
KFL	Anninata	0.24	135	P	Pg	09 57 39.8	-1.6
KFL				S	Sg	09 57 44.0	-0.7
RLS	Riolos of Patr	0.74	107	*e*PB	Pg	09 57 50.2	-0.6
RLS				*e*SB	Sg	09 58 00.2	-0.2
RLS	Riolos of Patr	0.74	107	P	Pg	09 57 48.8	-2.0
RLS				S	Sg	09 58 00.2	-0.2
RLS	Riolos of Patr	0.74	107	P	Pg	09 57 48.8	-2.0
RLS	Riolos of Patr	0.74	107	*e*Pb	Pg	09 57 49.2	-1.6
RLS				S	Sg	09 58 00.2	-0.2
DSL	Palaion Diasel	0.95	26	P	Pg	09 57 53.1	-1.6
DSL	Palaion Diasel	0.95	26	P	Pg	09 57 53.1	-1.6
ITM	Ithomi	1.54	135	*e*PB	Pn	09 58 05.1	+1.2
ITM				*e*SB	Sn	09 58 26.0	+2.1
ITM	Ithomi	1.54	135	P	Pn	09 58 04.3	+0.4
ITM	Ithomi	1.54	135	P	Pn	09 58 04.3	+0.4
ITM	Ithomi	1.54	135	*e*Pb	Pn	09 58 05.1	+1.2
ITM				*e*Sb	Sn	09 58 26.0	+2.1
PYL	PYLOS	1.67	146	*e*PG	Pn	09 58 06.7	+1.0
PYL	PYLOS	1.67	146	*e*Pg	Pn	09 58 06.1	+0.4
THL	Klokotos Trika	1.71	41	*e*PN	Pn	09 58 08.9	+2.6
DID	Didima	2.25	109	*e*PN	Pn	09 58 15.9	+2.2
DID	Didima	2.25	109	*e*Pn	Pn	09 58 15.9	+2.2

*ISK **05** 10:03:03.8, 37°.24N×28°.16E, h8km, MD2.5*
*DDA **05** 10:03:03.8, 37°.22N×28°.17E, h7km±2km, Md2.6*
*ISCJB **05** 10:03:04.1±0.6, 37°.21N±0°.05×28°.16E±0°.04, h9km±7km, Error ellipse: s-maj=8.4km s-min=5.0km az=28.3*
*CSEM **05** 10:03:04.2±0.2, 37°.20N×28°.18E, h8km, MD2.5, Error ellipse: s-maj=4.4km s-min=3.2km az=18.0*

ISC 05 10:03:04.4±0.6, 37°.21N±0°.04×28°.18E±0°.04, h9km±7km, n18, σ0§61/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.11	131	*e*PG	Pg	10 03 06.9	-0.2
YER				*e*SG	Sg	10 03 10.2	+1.2
YER	Yerkesik	0.11	131	*e*Pg	Pg	10 03 06.9	-0.2
YER				*e*Sg	Sg	10 03 10.2	+1.2
MLSB	Milas	0.33	285	*e*PG	Pg	10 03 10.9	0.0
MLSB	Milas	0.33	285	*e*Pg	Pg	10 03 10.9	-0.1
TURN	Turunc	0.48	134	*i* P	Pg	10 03 12.4	-1.3
TURN				*i* S	Sg	10 03 19.7	-0.4
TURN	Turunc	0.48	134	*i* P	Pg	10 03 12.4	-1.3
TURN				*i* S	Sg	10 03 19.7	-0.3
AYDN	Tasoluk	0.51	332	*i* P	Pg	10 03 14.1	-0.2
AYDN				*i* S	Sg	10 03 20.9	-0.1
AYDN	Tasoluk	0.51	332	*i* P	Pg	10 03 14.1	-0.2
AYDN				*i* S	Sg	10 03 20.9	-0.1
DAT	Datca	0.68	225	*e*PG	Pg	10 03 17.4	-0.1
DAT	Datca	0.68	225	*e*Pg	Pg	10 03 17.5	0.0
BODT	Bodrum	0.71	258	*e*PG	Pg	10 03 17.5	-0.6
BODT				*e*SG	Sg	10 03 27.9	+0.6
BODT	Bodrum	0.71	258	*e*Pg	Pg	10 03 17.5	-0.6
BODT				*e*Sg	Sg	10 03 28.0	+0.7
DNZL	Cakiroluk	0.84	55	*i* P	Pg	10 03 20.5	-0.1
DNZL	Cakiroluk	0.84	55	*i* P	Pg	10 03 20.5	-0.1
ELL	Elmali	1.46	108	*e*PN	Pn	10 03 31.6	+0.6
ELL	Elmali	1.46	108	*e*Pn	Pn	10 03 31.6	+0.7
KHAL	Karahalli	1.56	42	*i* P	Pn	10 03 32.8	+0.5
KHAL	Karahalli	1.56	42	*i* P	Pn	10 03 32.8	+0.5

*ISCJB **05** 10:08:14.8±0.3, 62°.94N±0°.02×151°.35W±0°.07, h137km±3km, mb3.7/5, Error ellipse: s-maj=5.1km s-min=3.5km az=18.8*
*IDC **05** 10:08:15.1±2.1, 62°.83N×151°.31W, h134km±36km, mb3.5/5, mb1 3.6/7, mb1mx3.3/25, mbtmp3.5/7, Error ellipse: s-maj=70.8km s-min=16.3km az=111.0*
*NEIC **05** 10:08:16.3, 62°.94N×151°.37W, h129km, MG3.4(AEIC), After AEIC.*

ISC 05 10:08:16.0±0.3, 62°.94N±0°.02×151°.34W±0°.07, h132km±3km, n79, σ0§68/91, mb3.7/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	Purkeypile	0.39	264	P	Pn	10 08 34.7	+0.1
PPLA				S	Sn	10 08 48.3	-0.4
TRF	Thorofare Moun	0.70	42	P	Pn	10 08 36.5	+0.1
TRF				S	Sn	10 08 52.3	+0.3
TRAP	Trapper Creek	0.79	140	P	Pn	10 08 37.3	+0.1
SKT	Skwentna	0.96	185	P	Pn	10 08 38.6	-0.1
SKT				S	Sn	10 08 55.5	-0.4
CHUM	Lake Minchumin	1.05	336	P	Pn	10 08 39.4	0.0
CHUM				S	Sn	10 08 56.2	-1.0
BPAW	Bear Paw Mtn.	1.18	8	*e*Pn	Pn	10 08 40.6	-0.1
BPAW				*e*Sn	Sn	10 08 58.8	-0.7
RND	Reindeer	1.22	66	P	Pn	10 08 41.4	+0.3
MCK	McKinley	1.35	53	P	Pn	10 08 42.9	+0.5
STLK	Strandline Lak	1.46	189	P	Pn	10 08 43.6	-0.1
SUA	Susitna One	1.50	169	P	Pn	10 08 44.8	+0.6
SUA				S	Sn	10 09 06.4	+0.7
GHO	Glory Hole Cre	1.62	135	P	Pn	10 08 46.0	+0.5
PMR	Palmer	1.70	142	P	Pn	10 08 46.3	-0.1
SPNW	Spurr Northwes	1.70	201	P	Pn	10 08 46.5	+0.1
SML	Sawmill	1.80	128	P	Pn	10 08 47.5	-0.1
CKL	Chakachamna La	1.81	195	P	Pn	10 08 47.8	+0.2
FIB	Fire Island	1.86	162	P	Pn	10 08 49.4	+1.1
BKG	Blockade Glaci	1.92	193	P	Pn	10 08 49.0	-0.1
NEA	Nenana	1.93	30	P	Pn	10 08 49.0	-0.1
WRH	Wood River Hil	2.11	42	P	Pn	10 08 51.5	+0.2
MLY	Manley	2.12	7	P	Pn	10 08 51.3	0.0
TT01	Tatalina	2.14	271	P	Pn	10 08 51.1	-0.6
SCM	Sheep Creek Mo	2.17	119	P	Pn	10 08 52.0	-0.1
CCB	Clear Creek Bu	2.33	41	P	Pn	10 08 54.0	+0.1
HDA	Harding Lake	2.45	51	P	Pn	10 08 55.6	+0.1
MDM	Murphy Dome	2.45	33	P	Pn	10 08 55.5	0.0
COLA	College	2.48	37	P	Pn	10 08 55.9	0.0
SLKM	Skilak Lake	2.50	167	P	Pn	10 08 56.2	0.0
RSO	Redoubt South	2.57	196	P	Pn	10 08 57.5	+0.4
DDM	Donnelly Dome	2.61	68	P	Pn	10 08 58.8	+1.2
PAX	Paxson	2.68	87	P	Pn	10 08 59.0	+0.6
GLM	Gilmore Dome	2.70	39	P	Pn	10 08 58.8	+0.2
IL1	Eielson Array	2.70	45	P	Pn	10 08 58.5	-0.1
ILAR	Eielson Array	2.70	45	P	Pn	10 08 58.6	0.0
	14nm,0.3s,baz=228,slow=12,SNR=1010						
ILAR				S	Sn	10 09 28.3	-3.2
	3.5nm,0.3s,baz=229,slow=17,SNR=11						
ILAR	Eielson Array	2.70	45	P	Pn	10 08 58.6	0.0
ILAR				S	Sn	10 09 28.3	-3.2
KLU	Klutina	2.92	117	P	Pn	10 09 01.0	-0.5
JPK	Jack Peak	2.93	128	P	Pn	10 09 01.2	-0.5
VLZ	Valdez	2.98	125	P	Pn	10 09 01.4	-0.8
SEW	Seward	2.98	161	*e*Pn	Pn	10 09 02.3	-0.1
SEW				*e*Sn	Sn	10 09 36.5	-1.7
ILW	Iliamna West	3.01	197	P	Pn	10 09 03.5	+0.8
FID	Port Fidalgo	3.18	131	P	Pn	10 09 04.5	-0.4
DIV	Divide	3.19	122	*e*Pn	Pn	10 09 04.5	-0.5
DIV				*e*Sn	Sn	10 09 42.2	-0.7
BRLK	Bradley Lake	3.19	176	P	Pn	10 09 05.3	+0.3
IM3	Indian Mountai	3.23	342	P	Pn	10 09 05.2	-0.3
DOT	Dot Lake	3.36	75	*e*Pn	Pn	10 09 07.2	-0.1
DOT				*e*Sn	Sn	10 09 48.1	+1.2
OPT	Oil Point	3.42	196	P	Pn	10 09 08.9	+0.9
MENT	Mentasta	3.48	87	*e*P	Pn	10 09 09.4	+0.6
EYAK	Cordova Ski Ar	3.58	130	P	Pn	10 09 10.0	-0.1
PRP	Porcupine Dome	3.63	42	P	Pn	10 09 11.0	+0.3
AUE	Augustine Isla	3.72	196	P	Pn	10 09 13.7	+1.7
AUW	Augustine West	3.73	197	P	Pn	10 09 12.2	+0.1
BMRM	Bremner River	3.75	119	P	Pn	10 09 11.6	-0.6
COLD	Coldfoot	4.33	6	P	Pn	10 09 20.2	+0.2
BCA3	Beaver Creek A	4.36	84	P	Pn	10 09 20.1	-0.2
KAPH	Katmai Pasha	4.60	200	P	Pn	10 09 23.9	+0.3
BALM	Baldy	4.65	110	P	Pn	10 09 24.0	-0.3
KAHC	Katmai Hardscr	4.66	204	P	Pn	10 09 24.3	-0.1
EGAK	Eagle	4.87	63	*e*Pn	Pn	10 09 27.0	-0.1
KAKN	Katmai Knife C	5.00	203	P	Pn	10 09 29.9	+0.9
KELA	Mount Kelaz	5.00	208	P	Pn	10 09 30.4	+1.4
KABU	Katmai Buttres	5.07	204	P	Pn	10 09 30.9	+1.0
KCE	Katmai Mt Cerb	5.08	204	P	Pn	10 09 30.8	+0.8
KABR	Katmai Barrier	5.14	202	P	Pn	10 09 31.0	+0.1
KDAK	Kodiak Island	5.21	187	P	Pn	10 09 30.0	-1.8
	9.9nm,0.3s,baz=34,slow=4.9,SNR=217						
KDAK				S	Sn	10 10 27.9	-2.9
	3.8nm,0.3s,baz=269,slow=22,SNR=9.3						
KDAK	Kodiak Island	5.21	187	*e*Pn	Pn	10 09 30.2	-1.6
	29nm,0.3s						
KDAK				P		10 09 30.6	
BM3	Burnt Mountain	5.32	29	P	Pn	10 09 33.3	+0.2
DAWY	Dawson	5.47	73	P	Pn	10 09 35.4	+0.2
OHAK	Old Harbor	5.82	191	P	Pn	10 09 38.0	-2.0
CHGN	Chignik	7.56	211	*e*P	Pn	10 10 02.5	-0.8
SKAG	Skagway	8.47	107	*e*P	Pn	10 10 15.9	+0.3
ARCES	ARCESS Array B	47.79	1	P	P	10 16 39.2	0.0
	1.9nm,0.8s,mb3.8,baz=359,slow=8.1,SNR=3.3						
ARCES	ARCESS Array B	47.79	1	P	P	10 16 39.2	+0.1
KURK	Kurchatov	60.04	326	P	P	10 18 09.0	+0.7
	0.1nm,0.4s,mb3.0,baz=26,slow=5.6,SNR=2.8						
KURK	Kurchatov	60.04	326	P	P	10 18 09.0	+0.7
MKAR	Makanchi Array	62.63	321	P	P	10 18 25.1	-0.6
	0.2nm,0.4s,mb3.3,baz=25,slow=7.2,SNR=5.4						
MKAR	Makanchi Array	62.63	321	P	P	10 18 25.1	-0.6
AKTO	Aktyubinsk	64.61	340	P	P	10 18 38.1	-0.6
	1.0nm,0.3s,mb4.1,baz=18,slow=5.3,SNR=4.4						
AKTO	Aktyubinsk

TKM2				P			10 19 48.4	
	SNR=13							
TKM2	**Tokmak 2**	**5.31**	**32**	⇑Pn		**Pn**	**10 19 43.6**	**-2.6**
	3.1nm,0.4s							
TKM2				⇓Lg			10 21 05.1	
	13nm,0.6s							
TKM2	**Tokmak 2**	**5.31**	**32**	*e*Pn		**Pn**	**10 19 45.1**	**-1.2**
	11nm,0.6s							
MK31	**Makanchi Array**	**11.35**	**39**	⇑P		**Pn**	**10 21 10.4**	**+1.3**
	1.8nm,0.8s,baz=222,slow=10,SNR=11							
MKAR	**Makanchi Array**	**11.35**	**39**	Pn		**Pn**	**10 21 07.3**	**-1.7**
	0.1nm,0.3s,baz=230,slow=14,SNR=7.1							
MKAR				Lg			10 24 19.7	
	0.1nm,0.3s,baz=227,slow=29,SNR=3.1							
MKAR	**Makanchi Array**	**11.35**	**39**	Pn		**Pn**	**10 21 07.3**	**-1.7**
MKAR				Lg			10 24 19.7	
KURK	**Kurchatov**	**13.18**	**19**	Pn		**Pn**	**10 21 31.1**	**-2.9**
	0.0nm,0.3s,baz=185,slow=12,SNR=3.3							
KURK				Lg			10 25 17.3	
	0.0nm,0.3s,baz=214,slow=33,SNR=4.4							
KURK	**Kurchatov**	**13.18**	**19**	Pn		**Pn**	**10 21 31.1**	**-2.9**
KURK				Lg			10 25 17.3	
ABKAR	**Akbulak array**	**13.76**	**326**	*e*Pn		**Pn**	**10 21 39.1**	**-2.7**
	2.8nm,0.5s							
VOSK	**Vostochnaya**	**14.28**	**358**	⇑P		**Pn**	**10 21 54.8**	**+5.8**
	1.6nm,0.9s							
BVAR	**Borovoye Array**	**14.61**	**357**	Pn		**Pn**	**10 21 50.5**	**-2.9**
	0.2nm,0.3s,baz=172,slow=12,SNR=2.6							
BVAR	**Borovoye Array**	**14.61**	**357**	Pn		**Pn**	**10 21 50.5**	**-2.9**
ZRNK	**Zerenda**	**14.63**	**353**	⇑P		**Pn**	**10 21 57.7**	**+4.0**
	1.6nm,0.5s							
AKTO	**Aktyubinsk**	**15.47**	**325**	⇓P		**Pn**	**10 22 09.7**	**+4.7**
	1.7nm,0.8s							
AKTO	**Aktyubinsk**	**15.47**	**325**	Pn		**Pn**	**10 22 02.0**	**-3.0**
	0.2nm,0.3s,baz=125,slow=16,SNR=5.0							
AKTO				Sn		**Sn**	**10 24 56.0**	**-0.4**
	0.2nm,0.3s,baz=323,slow=18,SNR=5.1							
AKTO	**Aktyubinsk**	**15.47**	**325**	Pn		**Pn**	**10 22 02.0**	**-3.0**
AKTO				Sn		**Sn**	**10 24 56.0**	**-0.4**
ZALV	**Zalesovo Beam**	**17.88**	**26**	P		**Pn**	**10 22 33.2**	**-2.3**
	0.3nm,0.3s,baz=220,slow=9.3,SNR=8.6							
ZALV	**Zalesovo Beam**	**17.88**	**26**	P		**Pn**	**10 22 33.2**	**-2.3**
FINES	**FINESS Array B**	**36.24**	**324**	P		**P**	**10 25 29.2**	**-0.5**
	1.9nm,0.7s,mb4.1,baz=105,slow=12,SNR=4.2							
FINES	**FINESS Array B**	**36.24**	**324**	P		**P**	**10 25 29.2**	**-0.5**
ARCES	**ARCESS Array B**	**39.60**	**336**	P		**P**	**10 25 57.4**	**-0.6**
	0.7nm,0.5s,mb3.7,baz=110,slow=8.0,SNR=7.1							
ARCES	**ARCESS Array B**	**39.60**	**336**	P		**P**	**10 25 57.4**	**-0.6**
NOA	**NORSAR Array B**	**43.23**	**322**	P		**P**	**10 26 27.6**	**-0.3**
	0.3nm,0.4s,mb3.3,baz=96,slow=7.7,SNR=2.9							
NOA	**NORSAR Array B**	**43.23**	**322**	P		**P**	**10 26 27.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**66.41**	**268**	P		**P**	**10 29 16.1**	**-0.4**
	0.7nm,0.5s,mb3.9,baz=50,slow=5.5,SNR=6.8							
TORD	**Torodi Ar. Bea**	**66.41**	**268**	P		**P**	**10 29 16.1**	**-0.4**

*IDC **05** 10:24:13.5±0.9,2°.86S×128°.80E,h0km,mb4.0/9, mb1 4.2/12,mb1mx4.1/22,mbtmp4.1/12,ML4.1/3,MS3.1/2, Ms1 3.1/2,ms1mx2.5/24,Error ellipse: s-maj=39.0km s-min=18.8km az=72.0*

*NEIC **05** 10:24:18.8±0.4,2°.92S×128°.73E,h35km,mb3.9/3,Error ellipse: s-maj=13.5km s-min=6.6km az=73.0*

*ISCJB **05** 10:24:20.0±0.4,3°.02S±0°.04×128°.42E±0°.05,h61km±4km, mb4.1/12,Error ellipse: s-maj=9.1km s-min=4.8km az=150.1*

*DJA **05** 10:24:19,2°.92S×128°.39E,h12km,MLv4.4/8*

ISC 05 10:24:21.1±0.5,**3°.04S**±0°.04×**128°.45E**±0°.05,**h56**km±5km, **n41**,σ0°**97**/47,**mb4.1**/12,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.56**	**123**	P	**Pn**	**10 24 32.4**	**-1.1**
MSAI				S	**Sn**	**10 24 43.4**	**+1.0**
AAI	**Ambon**	**0.69**	**202**	P	**Pn**	**10 24 33.1**	**-2.0**
AAI				S	**Sn**	**10 24 45.9**	**+0.7**
NLAI	**Namlea**	**1.37**	**262**	P	**Pn**	**10 24 43.6**	**-0.3**
LBMI	**Labuha**	**2.57**	**338**	P	**Pn**	**10 25 00.6**	**+0.2**
LBMI				S	**Sn**	**10 25 29.3**	**-1.1**
TNTI	**Ternate**	**3.94**	**344**	S	**Sn**	**10 26 03.6**	**-0.5**
TLE	**Tual**	**4.99**	**121**	P	**Pn**	**10 25 36.6**	**+3.1**
	0.3nm59nm,0.7s						
KDI	**Kendari**	**5.89**	**261**	P	**Pn**	**10 25 45.9**	**0.0**
	0.3nm648nm61nm,0.6s						
GTOI	**Gorontalo**	**6.55**	**304**	P	**Pn**	**10 25 55.5**	**+0.5**
GTOI				S	**Sn**	**10 27 08.3**	**-0.1**
KAPI	**Kappang**	**8.90**	**257**	Pn	**Pn**	**10 26 29.1**	**+2.0**
	4.9nm,0.3s,baz=100,slow=7.6,SNR=24						
KAPI				LR	LR	10 30 18.5	
	comp=Z,106nm,19.4s,baz=96,slow=39						
KAPI	**Kappang**	**8.90**	**257**	*e*Pn	**Pn**	**10 26 29.1**	**+2.0**
	40nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.22**	**190**	Pn	**Pn**	**10 27 51.2**	**-1.5**
	0.2nm,0.3s,baz=15,slow=11,SNR=9.9						
FITZ				LR	LR	10 34 21.5	
	comp=Z,64nm,19.3s,baz=16,slow=39						
FITZ	**Fitzroy Crossi**	**15.22**	**190**	*e*P	**Pn**	**10 27 51.8**	**-0.9**
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.22**	**190**	*e*Pn	**Pn**	**10 27 53.2**	**+0.6**
	5.6nm,0.7s						
WRAB	**Tennant Creek**	**17.75**	**162**	*e*P	**Pn**	**10 28 24.1**	**-0.3**
	8.4nm,0.8s						
WRA	**Warramunga Arr**	**17.75**	**162**	P	**Pn**	**10 28 23.6**	**-0.8**
	0.9nm,0.3s,baz=342,slow=12,SNR=40						
WRA				S	**S**	**10 31 38.3**	**-7.7**
	0.0nm,0.3s,baz=337,slow=22,SNR=2.6						
WRA	**Warramunga Arr**	**17.75**	**162**	P	**Pn**	**10 28 23.6**	**-0.8**
WRA				S	**S**	**10 31 38.3**	**-7.7**
COEN	**Coen**	**18.14**	**128**	*e*P	**Pn**	**10 28 29.6**	**+0.4**
	30nm,0.6s						
QIS	**Mount Isa**	**20.52**	**149**	*e*P	**P**	**10 28 55.0**	**+0.1**
ASAR	**Alice Springs**	**21.17**	**166**	P	**P**	**10 29 01.8**	**-0.1**
	5.5nm,0.4s,mb4.3,baz=349,slow=12,SNR=156						
ASAR				S	**S**	**10 32 51.9**	**-2.3**
	2.6nm,0.8s,baz=350,slow=22,SNR=7.0						
ASAR				PcP	PcP	10 33 06.5	+0.5
	0.6nm,0.6s,baz=3.5,slow=1.4,SNR=5.2						
ASAR	**Alice Springs**	**21.17**	**166**	P	**P**	**10 29 01.8**	**-0.1**
ASAR				S	**S**	**10 32 52.0**	**-2.3**
ASAR				PcP	PcP	10 33 06.5	+0.5
MTSU	**Mount Surprise**	**21.60**	**135**	*e*P	**P**	**10 29 10.1**	**+3.6**
	12nm,0.6s,mb4.5						
MEEK	**Meekatharra**	**25.29**	**201**	*e*P	**P**	**10 29 41.9**	**-0.5**
	25nm,0.6s,mb4.9						
CMAR	**Chiang Mai Arr**	**36.07**	**307**	P	**P**	**10 31 19.6**	**+1.9**
	0.6nm,0.7s,mb3.6,baz=142,slow=9.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**36.07**	**307**	P	**P**	**10 31 19.6**	**+1.9**
SONM	**Songino Array**	**54.22**	**342**	P	**P**	**10 33 40.1**	**-0.9**
	1.4nm,1.0s,mb3.8,baz=160,slow=4.7,SNR=5.6						
SONM	**Songino Array**	**54.22**	**342**	P	**P**	**10 33 40.1**	**-0.9**
MKAR	**Makanchi Array**	**64.09**	**327**	P	**P**	**10 34 50.1**	**+0.7**
	2.0nm,0.7s,mb4.3,baz=123,slow=8.2,SNR=19						
MKAR	**Makanchi Array**	**64.09**	**327**	P	**P**	**10 34 50.1**	**+0.7**
ZALV	**Zalesovo Beam**	**67.37**	**334**	P	**P**	**10 35 09.8**	**-0.6**
	0.9nm,0.5s,mb4.0,baz=101,slow=7.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**67.37**	**334**	P	**P**	**10 35 09.8**	**-0.6**
KURK	**Kurchatov**	**68.36**	**328**	P	**P**	**10 35 17.1**	**+0.5**
	3.3nm,0.7s,mb4.5,baz=129,slow=5.8,SNR=29						
KURK	**Kurchatov**	**68.36**	**328**	P	**P**	**10 35 17.1**	**+0.5**
BVAR	**Borovoye Array**	**73.92**	**328**	P	**P**	**10 35 50.1**	**-0.1**
	0.9nm,0.8s,mb3.7,baz=90,slow=3.0,SNR=4.6						
BVAR	**Borovoye Array**	**73.92**	**328**	P	**P**	**10 35 50.1**	**0.0**
ABKAR	**Akbulak array**	**78.47**	**322**	*e*P	**P**	**10 36 16.8**	**+0.6**
	1.0nm,0.6s,mb3.9						
AKTO	**Aktyubinsk**	**80.02**	**322**	P	**P**	**10 36 24.5**	**0.0**
	1.7nm,0.5s,mb4.2,baz=96,slow=7.4,SNR=5.3						
AKTO	**Aktyubinsk**	**80.02**	**322**	P	**P**	**10 36 24.5**	**-0.1**
ILAR	**Eielson Array**	**90.45**	**25**	P	**P**	**10 37 16.3**	**0.0**
	0.3nm,0.8s,mb3.7,baz=245,slow=5.1,SNR=4.4						
ILAR	**Eielson Array**	**90.45**	**25**	P	**P**	**10 37 16.3**	**0.0**
TORD	**Torodi Ar. Bea**	**126.45**	**284**	PKP	PKPdf	10 43 19.9	+1.1
	0.6nm,0.6s,baz=147,slow=2.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**126.45**	**284**	PKP	PKPdf	10 43 19.9	+1.1

*ISCJB **05** 11:01:46.8±3.8,22°.4S±0°.5×177°.8W±0°.3,h553km±32km, mb3.6/8,Error ellipse: s-maj=88.5km s-min=20.7km az=148.7*

*NEIC **05** 11:01:46.1±3.2,22°.52S×177°.68W,h538km±25km,mb3.6/2, Error ellipse: s-maj=66.9km s-min=16.0km az=146.0*

*IDC **05** 11:01:49.2±4.2,21°.53S×178°.11W,h542km±35km,mb3.2/6, mb1 3.5/6,mb1mx3.2/16,mbtmp3.2/6,Error ellipse: s-maj=89.7km s-min=22.9km az=152.0*

ISC 05 11:01:46.7±3.7,**22°.5S**±0°.5×**177.7W**±0°.3,**h542**km±29km,

n26,σ0°**88**/22,**mb3.6**/8,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.16**	**319**	*e*P	**P**	**11 03 26.5**	**0.0**
	31nm,0.6s						
DZM	**Mont Dzumac**	**14.66**	**269**	*e*P	**P**	**11 04 53.2**	**+0.3**
CTA	**Charters Tower**	**33.60**	**267**	P	**P**	**11 07 41.6**	**-0.8**
	1.3nm,0.5s,mb3.8,baz=83,slow=9.7,SNR=5.3						
CTA	**Charters Tower**	**33.60**	**267**	P	**P**	**11 07 41.6**	**-0.8**
STKA	**Stephens Creek**	**37.20**	**247**	*e*P	**P**	**11 08 10.3**	**-1.9**
	0.5nm,0.9s,mb3.0						
ASAR	**Alice Springs**	**44.35**	**259**	P	**P**	**11 09 10.8**	**+1.6**
	4.2nm,0.8s,mb4.0,baz=93,slow=7.9,SNR=88						
ASAR				PcP	PcP	11 10 44.2	+2.7
	0.8nm,0.6s,baz=99,slow=3.7,SNR=10.0						
ASAR				ScP	ScP	11 13 41.9	-0.1
	0.2nm,0.7s,baz=80,slow=5.1,SNR=3.8						
ASAR				S	**S**	**11 14 56.5**	**-7.9**
	0.5nm,0.8s,baz=88,slow=16,SNR=5.2						
ASAR	**Alice Springs**	**44.35**	**259**	P	**P**	**11 09 10.8**	**+1.6**
ASAR				PcP	PcP	11 10 44.2	+2.7
ASAR				ScP	ScP	11 13 41.9	-0.1
ASAR				S	**S**	**11 14 56.5**	**-7.9**
WB2	**Warramunga Arr**	**44.60**	**264**	*e*P	**P**	**11 09 11.0**	**-0.2**
WRAB	**Tennant Creek**	**44.61**	**264**	*e*P	**P**	**11 09 11.2**	**0.0**
	1.5nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**44.62**	**264**	P	**P**	**11 09 11.2**	**0.0**
	1.8nm,0.3s,mb4.1,baz=97,slow=7.5,SNR=170						
WRA				PcP	PcP	11 10 44.5	+2.0
	0.4nm,0.7s,baz=104,slow=2.7,SNR=3.3						
WRA				S	**S**	**11 14 58.0**	**-10**
	0.6nm,0.8s,baz=97,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**44.62**	**264**	P	**P**	**11 09 11.2**	**0.0**
WRA				PcP	PcP	11 10 44.5	+2.0
WRA				S	**S**	**11 14 58.0**	**-10**
FITZ	**Fitzroy Crossi**	**53.05**	**264**	*e*P	**P**	**11 10 14.5**	**+0.8**
TXAR	**Lajitas Array**	**87.90**	**57**	P	**P**	**11 13 39.8**	**+0.8**
	0.3nm,0.6s,mb3.2,baz=224,slow=3.8,SNR=3.4						
TXAR	**Lajitas Array**	**87.90**	**57**	P	**P**	**11 13 39.8**	**+0.8**
ILAR	**Eielson Array**	**90.16**	**13**	P	**P**	**11 13 47.5**	**-1.2**
	0.3nm,0.5s,mb3.4,baz=218,slow=5.0,SNR=9.0						
ILAR	**Eielson Array**	**90.16**	**13**	P	**P**	**11 13 47.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**91.01**	**289**	P	**P**	**11 13 54.2**	**+0.5**
	0.7nm,0.7s,mb3.7,baz=83,slow=3.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**91.01**	**289**	P	**P**	**11 13 54.2**	**+0.5**
ARCES	**ARCESS Array B**	**130.89**	**349**	PKP	PKPdf	11 19 56.6	+0.7
	1.3nm,0.7s,baz=50,slow=1.4,SNR=4.1						
ARCES	**ARCESS Array B**	**130.89**	**349**	PKP	PKPdf	11 19 56.5	+0.7
AKASG	**Malin Array Be**	**144.84**	**330**	PKP	PKPdf	11 20 20.4	-1.4
	3.1nm,0.4s,baz=43,slow=4.1,SNR=16						
AKASG	**Malin Array Be**	**144.84**	**330**	PKP	PKPdf	11 20 20.4	-1.4
BRTR	**Keskin Array B**	**148.32**	**310**	PKPbc	PKPbc	11 20 32.1	-0.1
	1.0nm,0.5s,baz=148,slow=5.4,SNR=5.4						
BRTR	**Keskin Array B**	**148.32**	**310**	PKPbc	PKPbc	11 20 32.1	-0.1
GERES	**GERESS Array B**	**152.15**	**344**	PKPbc	PKPbc	11 20 41.7	+0.8
	0.7nm,0.6s,baz=28,slow=4.4,SNR=6.5						
GERES	**GERESS Array B**	**152.15**	**344**	PKPbc	PKPbc	11 20 41.7	+0.8

*ISCJB **05** 11:05:44.5±0.8,24°.76N±0°.04×98°.84E±0°.06,h10km, mb3.4/3,Error ellipse: s-maj=8.2km s-min=6.4km az=7.7*

*IDC **05** 11:05:46.0±1.4,25°.12N×99°.29E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/26,mbtmp3.4/4,ML3.7/1,Error ellipse: s-maj=73.5km s-min=22.2km az=74.0*

*NEIC **05** 11:05:51.4±0.9,24°.92N×98°.68E,h35km,Error ellipse: s-maj=22.2km s-min=13.8km az=64.0*

ISC 05 11:05:47.2±0.8,**24°.85N**±0°.05×**98°.79E**±0°.06,**h10**km,**n12**, σ0°**94**/17,**mb3.4**/3,**1C**,**Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.59**	**85**	Pn	**Pn**	**11 06 46.9**	**+4.0**
KMI				Pg	**Pg**	**11 06 57.3**	**+1.3**
KMI				Sg	**Sg**	**11 07 41.9**	**-0.7**
CHRT	**Chiangrai**	**5.04**	**169**	PG	**Pg**	**11 07 22.0**	**-1.7**
CHRT				SG	**Sg**	**11 07 59.0**	**+0.5**
CHG	**Chiang Mai**	**6.01**	**179**	⇑P	**Pg**	**11 07 43.3**	**+1.0**
	16nm,0.7s						
CMAR	**Chiang Mai Arr**	**6.36**	**179**	Pn	**Pn**	**11 07 24.7**	**+3.7**
	0.4nm,0.3s,baz=352,slow=13,SNR=4.1						
CMAR				Pg	**Pg**	**11 07 48.6**	**-0.5**
	0.9nm,0.3s,baz=351,slow=17,SNR=4.7						
CMAR				Lg		11 09 10.3	
	1.0nm,0.3s,baz=354,slow=30,SNR=8.4						
CMAR	**Chiang Mai Arr**	**6.36**	**179**	Pn	**Pn**	**11 07 24.7**	**+3.7**
CMAR				Pg	**Pg**	**11 07 48.6**	**-0.5**
CMAR				Lg		11 09 10.3	
MK31	**Makanchi Array**	**25.56**	**333**	*e*P	**P**	**11 11 16.2**	**+0.1**
MKAR	**Makanchi Array**	**25.56**	**333**	P	**P**	**11 11 15.8**	**-0.3**
	0.7nm,0.6s,mb3.4,baz=148,slow=9.5,SNR=7.8						
MKAR	**Makanchi Array**	**25.56**	**333**	P	**P**	**11 11 15.8**	**-0.3**
ZALV	**Zalesovo Beam**	**30.89**	**344**	P	**P**	**11 12 03.8**	**+0.2**
	0.3nm,0.5s,mb3.4,baz=169,slow=8.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**30.89**	**344**	P	**P**	**11 12 03.8**	**+0.2**
WRA	**Warramunga Arr**	**56.38**	**139**	P	**P**	**11 15 28.2**	**-0.6**
	0.3nm,0.7s,mb3.4,baz=326,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**56.38**	**139**	P	**P**	**11 15 28.2**	**-0.6**

*ISCJB **05** 11:26:31.8±0.6,41°.54N±0°.03×33°.89E±0°.05,h10km,Error ellipse: s-maj=5.2km s-min=4.3km az=17.6*

*CSEM **05** 11:26:31.8±0.3,41°.53N×33°.92E,h2km,MD2.4,Error ellipse: s-maj=5.5km s-min=5.1km az=138.0*

*ISK **05** 11:26:31.6,41°.52N×33°.96E,h9km,MD2.8*

*DDA **05** 11:26:31.6,41°.51N×33°.89E,h2km±1km,Md2.4*

ISC 05 11:26:32.2±0.6,**41°.53N**±0°.03×**33°.90E**±0°.04,**h4**km±9km, **n26**,σ0°**95**/37,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAST	**KASTAMONU**	**0.05**	**154**	*i* P	**Pg**	**11 26 32.5**	**-0.9**
KAST	**KASTAMONU**	**0.05**	**154**	*i* P	**Pg**	**11 26 32.5**	**-0.9**
BALT	**Daday**	**0.39**	**270**	*i* P	**Pg**	**11 26 39.1**	**-0.5**
BALT	**Daday**	**0.39**	**270**	*i* P	**Pg**	**11 26 39.1**	**-0.6**
BZK	**Bozkurt**	**0.43**	**10**	*e*PG	**Pg**	**11 26 40.8**	**+0.2**
BZK				*e*SG	**Sg**	**11 26 47.7**	**+1.5**
BZK	**Bozkurt**	**0.43**	**10**	*e*Pg	**Pg**	**11 26 40.8**	**+0.2**
BZK				*e*Sg	**Sg**	**11 26 47.7**	**+1.5**
ILGA	**Ilgaz**	**0.50**	**196**	*i* P	**Pg**	**11 26 41.8**	**-0.1**
ILGA				*i* S	**Sg**	**11 26 48.5**	**+0.1**
ILGA	**Ilgaz**	**0.50**	**196**	*i* P	**Pg**	**11 26 41.8**	**0.0**
ILGA				*i* S	**Sg**	**11 26 48.5**	**+0.2**
TOS	**Tosya**	**0.51**	**169**	*e*PG	**Pg**	**11 26 41.8**	**-0.1**
TOS				*e*SG	**Sg**	**11 26 49.4**	**+1.0**
TOS	**Tosya**	**0.51**	**169**	*e*Pg	**Pg**	**11 26 41.8**	**-0.1**
TOS				*e*Sg	**Sg**	**11 26 49.4**	**+0.9**
BYBT	**Boyabat**	**0.65**	**95**	*e*PG	**Pg**	**11 26 42.9**	**-1.9**
BYBT				*e*SG	**Sg**	**11 26 52.7**	**-0.5**
BYBT	**Boyabat**	**0.65**	**95**	*e*Pg	**Pg**	**11 26 42.9**	**-1.9**
BYBT				*e*Sg	**Sg**	**11 26 52.7**	**-0.5**
SAFT	**Safranbolu**	**0.96**	**253**	*e*PG	**Pg**	**11 26 50.6**	**0.0**
SAFT	**Safranbolu**	**0.96**	**253**	*e*Pg	**Pg**	**11 26 50.6**	**0.0**
DIKM	**Dikmen**	**1.02**	**83**	*e*PG	**Pg**	**11 26 50.8**	**-1.1**
DIKM	**Dikmen**	**1.02**	**83**	*e*Pg	**Pg**	**11 26 50.8**	**-1.1**
ELDT	**Eldivan**	**1.10**	**199**	*i* P	**Pg**	**11 26 53.9**	**+0.6**
ELDT	**Eldivan**	**1.10**	**199**	*i* P	**Pg**	**11 26 53.9**	**+0.6**
CTKT	**Corum**	**1.13**	**143**	*i* P	**Pg**	**11 26 52.5**	**-1.4**
CTKT				*i* S	**Sg**	**11 27 10.2**	**+1.7**
CTKT	**Corum**	**1.13**	**143**	*i* P	**Pg**	**11 26 52.5**	**-1.4**
CTKT				*i* S	**Sg**	**11 27 10.2**	**+1.7**
HAVZ	**Havza**	**1.44**	**108**	*i* P	**Pn**	**11 27 00.2**	**+1.2**
HAVZ				*i* S	**Sg**	**11 27 19.8**	**+1.1**
HAVZ	**Havza**	**1.44**	**108**	*i* P	**Pn**	**11 27 00.2**	**+1.1**
CORM	**Corum**	**1.46**	**158**	*e*PN	**Pn**	**11 26 59.0**	**-0.4**
CORM	**Corum**	**1.46**	**158**	*e*Pn	**Pn**	**11 26 59.0**	**-0.3**
YOZ	**Yozgat**	**2.18**	**150**	*e*PN	**Pn**	**11 27 08.4**	**-0.8**
YOZ	**Yozgat**	**2.18**	**150**	*e*Pn	**Pn**	**11 27 08.4**	**-0.8**

*ISCJB **05** 12:35:58.7±0.6,37°.39N±0°.03×27°.08E±0°.05,h9km±6km, Error ellipse: s-maj=6.4km s-min=4.9km az=161.2*

*ISK **05** 12:35:58.2,37°.40N×27°.08E,h7km,MD2.8*

*CSEM **05** 12:35:59.2±0.2,37°.39N×27°.13E,h19km,MD2.8,Error ellipse: s-maj=5.4km s-min=3.7km az=49.0*

*DDA **05** 12:35:60.0,37°.46N×27°.13E,h7km±3km,Md2.8*

*ATH **05** 12:36:00.4,37°.43N×26°.97E,h19km±2km,MD3.1/3*

ISC 05 12:35:59.1±0.6,**37°.39N**±0°.03×**27°.08E**±0°.05,**h11**km±6km, **n27**,σ0°**47**/43,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.34**	**21**	*i* P	**Pg**	**12 36 06.1**	**+0.2**
GCAM				*i* S	**Sg**	**12 36 11.3**	**+0.9**
GCAM	**G?zelcaml?**	**0.34**	**21**	*i* P	**Pg**	**12 36 06.1**	**+0.2**
GCAM				*i* S	**Sg**	**12 36 11.3**	**+0.9**
BODT	**Bodrum**	**0.37**	**150**	*e*PG	**Pg**	**12 36 06.0**	**-0.6**
BODT				*e*SG	**Sg**	**12 36 12.0**	**+0.4**
BODT	**Bodrum**	**0.37**	**150**	*e*Pg	**Pg**	**12 36 06.0**	**-0.6**
BODT				*e*Sg	**Sg**	**12 36 12.0**	**+0.4**
SMG	**Samos**	**0.37**	**329**	*e*PB	**Pg**	**12 36 06.9**	**+0.3**
SMG				*e*SB	**Sg**	**12 36 11.8**	**+0.2**
SMG	**Samos**	**0.37**	**329**	*e*Pb	**Pg**	**12 36 06.9**	**+0.3**
SMG				*e*Sb	**Sg**	**12 36 11.8**	**+0.2**
MLSB	**Milas**	**0.56**	**99**	*e*PG	**Pg**	**12 36 09.6**	**-0.5**
MLSB				*e*SG	**Sg**	**12 36 18.1**	**+0.6**
MLSB	**Milas**	**0.56**	**99**	*e*Pg	**Pg**	**12 36 09.6**	**-0.5**
MLSB				*e*Sg	**Sg**	**12 36 18.1**	**+0.5**
AYDN	**Tasoluk**	**0.69**	**67**	*i* P	**Pg**	**12 36 12.1**	**-0.5**
AYDN				*i* S	**Sg**	**12 36 21.9**	**+0.3**
AYDN	**Tasoluk**	**0.69**	**67**	*i* P	**Pg**	**12 36 12.1**	**-0.5**
AYDN				*i* S	**Sg**	**12 36 21.9**	**+0.3**
DAT	**Datca**	**0.77**	**149**	*e*PG	**Pg**	**12 36 13.9**	**-0.1**
DAT	**Datca**	**0.77**	**149**	*e*Pg	**Pg**	**12 36 13.9**	**-0.1**
YER	**Yerkesik**	**0.99**	**104**	*e*PG	**Pg**	**12 36 17.9**	**-0.4**
YER	**Yerkesik**	**0.99**	**104**	*e*Pg	**Pg**	**12 36 17.9**	**-0.4**
BLCB	**Balcova**	**1.00**	**358**	*e*PG	**Pg**	**12 36 17.7**	**-0.7**
BLCB	**Balcova**	**1.00**	**358**	*e*Pg	**Pg**	**12 36 17.7**	**-0.6**
IZM	**Izmir**	**1.02**	**8**	*e*PG	**Pg**	**12 36 17.9**	**-0.9**
IZM	**Izmir**	**1.02**	**8**	*e*Pg	**Pg**	**12 36 17.9**	**-0.9**
URLA	**Izmir**	**1.04**	**339**	*i* P	**Pb**	**12 36 19.0**	**-0.2**
URLA				*i* S	**Sb**	**12 36 32.6**	**-0.3**
URLA	**Izmir**	**1.04**	**339**	*i* P	**Pb**	**12 36 19.0**	**-0.2**
URLA				*i* S	**Sb**	**12 36 32.6**	**-0.2**
APE	**Apeiranthos**	**1.28**	**256**	*e*PN	**Pn**	**12 36 23.1**	**+0.2**
APE	**Apeiranthos**	**1.28**	**256**	*e*PN	**Pn**	**12 36 23.4**	**+0.6**
APE				*e*SN	**Sn**	**12 36 40.2**	**+0.3**
APE	**Apeiranthos**	**1.28**	**256**	*e*Pn	**Pn**	**12 36 23.1**	**+0.3**
APE				*e*Sn	**Sn**	**12 36 40.2**	**+0.3**
CHOS	**Chios island**	**1.28**	**321**	*e*PN	**Pn**	**12 36 23.5**	**+0.5**
CHOS				*e*SN	**Sn**	**12 36 39.7**	**-0.4**
CHOS	**Chios island**	**1.28**	**321**	*e*Pn	**Pn**	**12 36 23.7**	**+0.7**
CHOS				*e*Sn	**Sn**	**12 36 39.7**	**-0.4**
KULA	**Kula-Manisa**	**1.68**	**48**	*e*PN	**Pn**	**12 36 28.7**	**+0.3**
KULA	**Kula-Manisa**	**1.68**	**48**	*e*Pn	**Pn**	**12 36 28.7**	**+0.3**

*ISCJB **05** 12:59:53.2±0.9,23°.28N±0°.07×93°.96E±0°.08,h87km±10km, mb3.5/9,Error ellipse: s-maj=13.9km s-min=10.2km az=137.3*

*NEIC **05** 12:59:53.1±2.1,23°.14N×93°.65E,h74km±18km,mb4.2/1, Error ellipse: s-maj=32.4km s-min=10.4km az=63.0*

*IDC **05** 12:59:53.9±4.0,23°.16N×93°.68E,h79km±37km,mb3.3/8, mb1 3

*ISK **05** 13:04:54.0, 37.15N×32.67E, h6km, MD2.9*
*CSEM **05** 13:04:54.2±0.1, 37.15N×32.67E, h2km, MD2.9, Error ellipse: s-maj=3.1km s-min=1.9km az=91.0*
ISC 05 13:04:54.4±0.9, 37.15N±0.03×32.67E±0.09, h3km±11km, n16, σ0.33/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	**Hadim**	**0.23**	**218**	PG	**Pg**	**13 04 59.0**	**+0.1**
HDMB				*e*SG	**Sg**	13 05 02.3	+0.3
HDMB	**Hadim**	**0.23**	**218**	*i* Pg	**Pg**	13 04 59.0	+0.1
HDMB				*e*Sg	**Sg**	13 05 02.3	+0.3
KONT	**Konya--Tatoy**	**0.83**	**343**	*e*PG	**Pg**	13 05 10.1	-0.3
KONT				*e*SG	**Sg**	13 05 21.7	+0.5
KONT	**Konya--Tatoy**	**0.83**	**343**	*e*Pg	**Pg**	13 05 10.1	-0.3
KONT				*e*Sg	**Sg**	13 05 21.7	+0.5
GAZI	**Gazipasa**	**0.95**	**197**	*i* P	**Pg**	13 05 12.8	0.0
GAZI				*i* S	**Sg**	13 05 24.7	-0.5
GAZI	**Gazipasa**	**0.95**	**197**	*i* P	**Pg**	13 05 12.8	+0.1
GAZI				*i* S	**Sg**	13 05 24.7	-0.4
LADK	**Ladik-KONYA**	**1.08**	**347**	*e*PG	**Pg**	13 05 14.8	-0.3
LADK				*e*SG	**Sg**	13 05 29.0	0.0
LADK	**Ladik-KONYA**	**1.08**	**347**	*e*Pg	**Pg**	13 05 14.8	-0.3
LADK				*e*Sg	**Sg**	13 05 29.0	0.0
KDHN	**Kadinhani**	**1.44**	**343**	*i* P	**Pn**	13 05 21.6	+0.2
KDHN				*i* S	**Sb**	13 05 40.1	-0.5
KDHN	**Kadinhani**	**1.44**	**343**	*i* P	**Pn**	13 05 21.6	+0.2
KDHN				*i* S	**Sb**	13 05 40.1	-0.5
MERS	**Mersin**	**1.51**	**100**	*e*PN	**Pn**	13 05 22.9	+0.5
MERS	**Mersin**	**1.51**	**100**	*e*Pn	**Pn**	13 05 22.9	+0.5
GULE	**Gulek**	**1.69**	**85**	*i* P	**Pn**	13 05 24.4	-0.5
GULE				*i* S	**Sn**	13 05 47.1	+0.1
GULE	**Gulek**	**1.69**	**85**	*i* P	**Pn**	13 05 24.4	-0.5
GULE				*i* S	**Sn**	13 05 47.1	+0.1
KIZT	**Kizilcal**	**1.84**	**340**	*e*PN	**Pn**	13 05 27.1	+0.2
KIZT	**Kizilcal**	**1.84**	**340**	*e*Pn	**Pn**	13 05 27.1	+0.2

IDC 05 13:07:03.9±27.0, 8.66S×154.59E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/14, Error ellipse: s-maj=439.0km s-min=91.6km az=30.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**238**	P	P	13 12 06.0	0.0
	0.8nm,0.7s,baz=65,slow=10,SNR=8.5						
WRA				LR	LR	13 19 47.3	
	comp=Z,39nm,20.9s,baz=95,slow=34						
ASAR	**Alice Springs**	**24.79**	**231**	P	P	13 12 27.8	+0.1
	1.2nm,1.0s,baz=62,slow=8.5,SNR=6.9						
STKA	**Stephens Creek**	**26.07**	**206**	P	P	13 12 39.3	+0.1
	1.6nm,0.7s,baz=43,slow=12,SNR=2.3						
STKA				LR	LR	13 22 49.7	
	comp=Z,60nm,18.1s,baz=24,slow=36						

*DDA **05** 13:22:33.9, 34.70N×32.67E, h26km, Md3.2*
*ISCJB **05** 13:22:47.6±0.8, 35.20N±0.05×32.66E±0.05, h74km±6km, Error ellipse: s-maj=9.9km s-min=6.1km az=29.7*
*ISK **05** 13:22:47.5, 35.18N×32.67E, h70km, MD3.2*
*CSEM **05** 13:22:48.4±0.3, 35.19N×32.68E, h69km±3km, Mw3.3, Error ellipse: s-maj=7.7km s-min=4.7km az=29.0*
*NIC **05** 13:22:49.1±0.1, 35.24N×32.73E, h61km, ML3.0, MW3.3*
ISC 05 13:22:48.5±0.8, 35.20N±0.06×32.66E±0.05, h69km±7km, n35, σ0.62/54, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.06**	**231**	P	**Pn**	**13 22 58.5**	**0.0**
	58nm,0.2s						
ALFC				S	**Sn**	13 23 05.9	+0.1
ALFC	**Alevga**	**0.06**	**231**	P	**Pn**	**13 22 58.5**	**0.0**
	58nm,0.2s						
ALFC				S	**Sn**	13 23 05.9	+0.1
LEF	**Lefka**	**0.21**	**112**	*e*PG	**Pn**	13 22 58.6	-0.3
LEF				*e*SG	**Sn**	13 23 06.4	-0.2
LEF	**Lefka**	**0.21**	**112**	*e*Pg	**Pn**	13 22 58.6	-0.3
LEF				*e*Sg	**Sn**	13 23 06.4	-0.2
PPCY	**Paphos**	**0.40**	**220**	P	**Pn**	13 23 01.0	+0.7
PPCY	**Paphos**	**0.40**	**220**	P	**Pn**	13 23 01.0	+0.7
MAMC	**Mammari**	**0.46**	**93**	P	**Pn**	13 23 00.3	-0.5
MAMC	**Mammari**	**0.46**	**93**	P	**Pn**	13 23 00.3	-0.5
SZAC	**Souni-Zanaja**	**0.48**	**157**	P	**Pn**	13 23 01.3	+0.3
SZAC	**Souni-Zanaja**	**0.48**	**157**	P	**Pn**	13 23 01.3	+0.3
CSS	**Prodhromos**	**0.60**	**113**	P	**Pn**	**13 23 01.7**	**-0.5**
	8.8nm,0.3s						
CSS				S	**Sn**	13 23 11.9	-0.3
CSS	**Prodhromos**	**0.60**	**113**	*e*PG	**Pn**	13 23 01.6	-0.6
CSS				*e*SG	**Sn**	13 23 12.0	-0.3
CSS	**Prodhromos**	**0.60**	**113**	P	**Pn**	**13 23 01.7**	**-0.5**
	8.8nm,0.3s						
CSS				S	**Sn**	13 23 11.9	-0.3
LFK	**Lefkose**	**0.72**	**83**	*e*PG	**Pn**	13 23 03.5	0.0
LFK				*e*SG	**Sn**	13 23 14.8	+0.2
LFK	**Lefkose**	**0.72**	**83**	*e*Pg	**Pn**	13 23 03.5	0.0
LFK				*e*Sg	**Sn**	13 23 14.8	+0.2
GAZI	**Gazipasa**	**1.07**	**345**	*i* P	**Pn**	13 23 09.0	+1.2
GAZI				*i* S	**Sn**	13 23 21.5	-0.7
GAZI	**Gazipasa**	**1.07**	**345**	*i* P	**Pn**	13 23 09.0	+1.2
GAZI				*i* S	**Sn**	13 23 21.5	-0.7
PHNC	**Paralimni**	**1.14**	**99**	P	**Pn**	13 23 10.0	+1.3
	2.8nm,0.5s						
PHNC				S	**Sn**	13 23 23.8	0.0
PHNC	**Paralimni**	**1.14**	**99**	P	**Pn**	13 23 10.0	+1.3
	2.8nm,0.5s						
PHNC				S	**Sn**	13 23 23.8	0.0
EREN	**Erenkoy**	**1.28**	**74**	*e*PN	**Pn**	13 23 11.2	+0.7
EREN	**Erenkoy**	**1.28**	**74**	*e*Pn	**Pn**	13 23 11.2	+0.7
HDMB	**Hadim**	**1.77**	**356**	*e*PN	**Pn**	13 23 17.1	+0.1
HDMB	**Hadim**	**1.77**	**356**	*e*Pn	**Pn**	13 23 17.1	+0.1
MERS	**Mersin**	**2.25**	**42**	*e*PN	**Pn**	13 23 23.8	+0.3
MERS	**Mersin**	**2.25**	**42**	*e*Pn	**Pn**	13 23 23.8	+0.4
GULE	**Gulek**	**2.70**	**39**	*i* P	**Pn**	13 23 30.3	+0.8
GULE				*i* S	**Sn**	13 24 00.9	-0.1
GULE	**Gulek**	**2.70**	**39**	*i* P	**Pn**	13 23 30.3	+0.8
GULE				*i* S	**Sn**	13 24 00.9	-0.1
HWQ	**Hawqa**	**2.86**	**108**	*e*P	**Pn**	13 23 31.1	-0.6
HWQ	**Hawqa**	**2.86**	**108**	*e*P	**Pn**	13 23 31.1	-0.6
YAYL	**Yayladag**	**2.93**	**72**	*i* P	**Pn**	13 23 31.6	-1.1
YAYL				*i* S	**Sn**	13 24 02.2	-4.5
YAYL	**Yayladag**	**2.93**	**72**	*i* P	**Pn**	13 23 31.6	-1.1
YAYL				*i* S	**Sn**	13 24 02.2	-4.6
RCY	**Rachaya**	**3.13**	**122**	*e*P	**Pn**	13 23 34.5	-0.8
RCY	**Rachaya**	**3.13**	**122**	*e*P	**Pn**	13 23 34.5	-0.9
GOLH	**Golhisar**	**3.23**	**310**	*i* P	**Pn**	13 23 37.0	+0.3
GOLH				*i* S	**Sn**	13 24 13.0	-1.0
GOLH	**Golhisar**	**3.23**	**310**	*i* P	**Pn**	13 23 37.0	+0.3
GOLH				*i* S	**Sn**	13 24 13.0	-1.0

*NEIC **05** 13:34:44.5±0.8, 32.73S×179.72E, h296km±9km, mb4.5/8, Error ellipse: s-maj=18.0km s-min=9.8km az=118.0*
*IDC **05** 13:34:46.4±2.2, 32.56S×179.56E, h308km±21km, mb3.9/6, mb1 4.1/7, mb1mx3.7/15, mbtmp3.9/7, Error ellipse: s-maj=18.6km s-min=15.6km az=124.0*
ISC 05 13:34:46.5±0.8, 32.78S±0.06×179.6E±0.1, h307km±8km, n102, σ1.21/112, mb4.3/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.12**	**32**	P	**Pn**	**13 35 49.7**	**-4.7**
RAO				*e*S	**S**	13 36 44.0	-4.8
MXZ	**Matakaoa Point**	**4.89**	**192**	PN	**Pn**	13 36 03.9	+1.0
MXZ				SN	**S**	13 37 04.3	+0.1
PUZ	**Puketiti**	**5.39**	**191**	PN	**Pn**	13 36 08.4	-0.3
PUZ				SN	**S**	13 37 14.5	-0.4
OUZ	**Omahuta**	**5.54**	**242**	P	**Pn**	13 36 10.7	+0.2
	17nm,0.8s						
OPRZ	**Ohinepanea**	**5.63**	**205**	PN	**Pn**	13 36 14.3	+2.8
OPRZ				SN	**S**	13 37 23.5	+3.5
MKAZ	**Moumakai**	**5.65**	**219**	PN	**Pn**	13 36 16.7	+5.0
MWZ	**Matawai**	**5.79**	**196**	PN	**Pn**	13 36 13.3	-0.1
MWZ				SN	**S**	13 37 23.3	-0.1
CNGZ	**Carnagh Statio**	**5.80**	**191**	PN	**Pn**	13 36 14.3	+0.8
URZ	**Urewera**	**5.83**	**200**	P	**Pn**	13 36 14.3	+0.5
	21nm,0.3s,baz=344,slow=2.1,SNR=85						
URZ	**Urewera**	**5.83**	**200**	*e*Pn	**Pn**	13 36 13.7	-0.1
	56nm,0.5s						
URZ				*e*S	**S**	13 37 16.1	-8.2
URZ	**Urewera**	**5.83**	**200**	PN	**Pn**	13 36 14.2	+0.4
URZ				SN	**S**	13 37 24.6	+0.3
TARZ	**Mount Tarawera**	**6.00**	**204**	PN	**Pn**	13 36 20.1	+4.3
RRRZ	**Republican Roa**	**6.09**	**203**	PN	**Pn**	13 36 19.6	+2.8
PRGZ	**Paritu Road**	**6.29**	**192**	PN	**Pn**	13 36 19.5	+0.3
KNZ	**Kokohu**	**6.42**	**193**	PN	**Pn**	13 36 20.6	-0.2
KNZ				*e*SN	**S**	13 37 35.4	-1.6
RAHZ	**Arahi**	**6.45**	**198**	PN	**Pn**	13 36 21.4	+0.2
MHGZ	**Mahia Peninsul**	**6.51**	**192**	PN	**Pn**	13 36 22.0	+0.2
NMHZ	**Naumai**	**6.70**	**199**	PN	**Pn**	13 36 24.1	0.0
BKZ	**Black Stump Fm**	**6.85**	**201**	PN	**Pn**	13 36 25.8	-0.2
BKZ				*e*SN	**S**	13 37 43.1	-3.4
HIZ	**Hauiti**	**6.90**	**213**	PN	**Pn**	13 36 31.6	+5.0
MCHZ	**McNeill Hill**	**7.05**	**199**	PN	**Pn**	13 36 30.3	+1.9
WTVZ	**West Tongariro**	**7.11**	**206**	PN	**Pn**	13 36 31.3	+2.2
OTVZ	**Oturere**	**7.12**	**205**	PN	**Pn**	13 36 31.0	+1.7
NGZ	**Ngauruhoe**	**7.16**	**206**	PN	**Pn**	13 36 32.0	+2.3
CKHZ	**Cape Kidnapper**	**7.16**	**196**	*e*PN	**Pn**	13 36 29.2	-0.5
WPVZ	**Whakapapa**	**7.20**	**206**	PN	**Pn**	13 36 32.3	+2.1
TUVZ	**Tukino**	**7.22**	**205**	PN	**Pn**	13 36 32.6	+2.2
FWVZ	**Far West T-bar**	**7.24**	**206**	PN	**Pn**	13 36 33.0	+2.2
BHHZ	**Black Hill Sta**	**7.28**	**202**	PN	**Pn**	13 36 31.9	+0.7
WNVZ	**Wahianoa**	**7.29**	**205**	PN	**Pn**	13 36 33.2	+1.8
MOVZ	**Moawhango**	**7.31**	**204**	PN	**Pn**	13 36 32.9	+1.4
KAHZ	**Kahuranaki**	**7.34**	**197**	PN	**Pn**	13 36 31.5	-0.4
PKVZ	**Pokaka**	**7.35**	**207**	PN	**Pn**	13 36 33.8	+1.8
PXZ	**Pawanui**	**7.56**	**196**	PN	**Pn**	13 36 33.4	-1.3
PXZ				*e*SN	**S**	13 37 56.7	-5.7
PNHZ	**Pukenui**	**7.63**	**200**	PN	**Pn**	13 36 35.8	+0.4
WPHZ	**Waipukurau**	**7.70**	**198**	PN	**Pn**	13 36 37.4	+1.1
TSZ	**Takapari Road**	**7.83**	**201**	PN	**Pn**	13 36 36.1	-1.8
TSZ				*e*SN	**S**	13 38 02.1	-6.2
PRHZ	**Porangahau**	**7.84**	**197**	PN	**Pn**	13 36 37.2	-0.8
WAZ	**Wanganui**	**7.89**	**207**	PN	**Pn**	13 36 40.2	+1.5
DVHZ	**Dannevirke**	**8.00**	**199**	PN	**Pn**	13 36 40.2	+0.3
POWZ	**Post Office Ro**	**8.20**	**201**	PN	**Pn**	13 36 41.6	-0.7
BFZ	**Birch Farm**	**8.33**	**198**	*e*PN	**Pn**	13 36 43.1	-0.8
MRZ	**Mangatainoka R**	**8.50**	**201**	PN	**Pn**	13 36 43.7	-2.4
MRZ				*e*SN	**S**	13 38 18.0	-5.3
TIWZ	**Tintock**	**8.52**	**199**	PN	**Pn**	13 36 45.8	-0.4
HOWZ	**Holdsworth Sta**	**8.74**	**201**	PN	**Pn**	13 36 47.9	-1.0
OGWZ	**Otaki Gorge**	**8.77**	**203**	PN	**Pn**	13 36 48.6	-0.8
TMWZ	**Te Maipa**	**8.82**	**199**	PN	**Pn**	13 36 50.5	+0.5
KIW	**Kapiti Island**	**8.90**	**204**	PN	**Pn**	13 36 50.2	-0.7
MTW	**Mount Morrison**	**8.98**	**200**	PN	**Pn**	13 36 51.0	-0.9
CAW	**Cannon Point**	**9.07**	**202**	PN	**Pn**	13 36 51.1	-1.9
TRWZ	**Traveller**	**9.15**	**199**	PN	**Pn**	13 36 52.9	-1.1
DUWZ	**D'Urville Isla**	**9.21**	**208**	PN	**Pn**	13 36 54.4	-0.3
PAWZ	**Paruwai Farm**	**9.21**	**200**	PN	**Pn**	13 36 54.3	-0.4
MSWZ	**Moikau Station**	**9.29**	**201**	PN	**Pn**	13 36 54.9	-0.8
NNZ	**Nelson**	**9.78**	**209**	*e*PN	**Pn**	13 37 00.4	-1.2
NNZ				*e*SN	**S**	13 38 47.0	-5.0
QRZ	**Quartz Range**	**9.82**	**213**	*e*PN	**Pn**	13 37 02.6	+0.3
THZ	**Tophouse**	**10.43**	**209**	*e*PN	**Pn**	13 37 08.8	-0.8
THZ				*e*SN	**S**	13 39 00.1	-6.6
KHZ	**Kahutara**	**10.75**	**205**	*e*P	**Pn**	13 37 11.5	-2.0
	25nm,0.4s						
KHZ				*e*S	**S**	13 39 07.9	-6.1
KHZ	**Kahutara**	**10.75**	**205**	*e*SN	**S**	13 39 07.7	-6.3
DSZ	**Denniston Nort**	**10.89**	**212**	*e*SN	**S**	13 39 09.7	-7.4
CTZ	**Chatham Island**	**11.34**	**166**	*e*SN	**S**	13 39 35.0	+7.9
LTZ	**Lake Taylor**	**11.54**	**208**	*e*PN	**Pn**	13 37 21.9	-1.2
MQZ	**McQueen's Vall**	**12.19**	**205**	*e*PN	**Pn**	13 37 29.5	-1.5
MQZ				*e*SN	**S**	13 39 37.4	-9.0
WVZ	**Waitaha Valley**	**12.42**	**212**	*e*PN	**Pn**	13 37 32.3	-1.5
WVZ				*e*SN	**S**	13 39 42.2	-9.3
RPZ	**Rata Peaks**	**12.81**	**209**	P	**Pn**	13 37 36.5	-1.9
	2.6nm,0.3s,baz=6.1,slow=4.0,SNR=12						
RPZ	**Rata Peaks**	**12.81**	**209**	*e*P	**Pn**	13 37 36.2	-2.2
	22nm,0.7s						
RPZ				*e*S	**S**	13 39 51.6	-8.6
ODZ	**Otahua Downs**	**14.08**	**207**	*e*PN	**Pn**	13 37 53.0	-0.6
JCZ	**Jackson Bay**	**14.10**	**214**	*e*PN	**Pn**	13 37 52.5	-1.4
JCZ				*e*SN	**S**	13 40 18.3	-10
MSVF	**Nonsavu**	**15.05**	**354**	*e*P	**P**	13 38 02.5	-1.3
	13nm,0.7s						
AFI	**Afiamalu**	**20.37**	**25**	P	**P**	13 38 59.3	-1.6
	22nm,0.8s,baz=26,slow=9.1,SNR=7.2						
AFI	**Afiamalu**	**20.37**	**25**	P	**P**	13 38 59.3	-1.6
EIDS	**Eidsvold**	**25.94**	**279**	*e*P	**P**	13 39 52.3	+0.8
	44nm,0.6s,mb5.1						
CMSA	**Cobar Meteorol**	**28.66**	**263**	*e*P	**P**	13 40 16.7	+1.1
	49nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**32.01**	**261**	P	**P**	13 40 45.8	+0.9
	3.2nm,0.7s,mb4.0,baz=87,slow=9.7,SNR=8.2						
STKA	**Stephens Creek**	**32.01**	**261**	*e*P	**P**	13 40 45.9	+1.0
	3.4nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**32.01**	**261**	P	**P**	13 40 45.8	+0.9
CTA	**Charters Tower**	**32.28**	**285**	*e*P	**P**	13 40 48.1	+0.8
	11nm,0.5s,mb4.7						
CTAO	**Charters Tower**	**32.28**	**285**	*e*P	**P**	13 40 47.7	+0.4
	9.0nm,0.6s,mb4.5						
MTSU	**Mount Surprise**	**34.85**	**286**	*e*P	**P**	13 41 09.7	+0.3
	16nm,0.7s,mb4.7						
ASAR	**Alice Springs**	**41.01**	**271**	P	**P**	13 42 00.2	-0.3
	9.1nm,0.8s,mb4.1,baz=105,slow=7.5,SNR=145						
ASAR	**Alice Springs**	**41.01**	**271**	P	**P**	13 42 00.2	-0.3
WRAB	**Tennant Creek**	**42.21**	**276**	*e*P	**P**	13 42 09.4	-0.8
	23nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**42.22**	**276**	P	**P**	13 42 09.6	-0.7
	15nm,0.7s,mb4.3,baz=115,slow=7.7,SNR=231						
WRA	**Warramunga Arr**	**42.22**	**276**	P	**P**	13 42 09.6	-0.7
FITZ	**Fitzroy Crossi**	**50.37**	**273**	*e*P	**P**	13 43 12.4	-0.8
	4.0nm,0.6s,mb3.9						
QSPA	**South Pole Qui**	**57.34**	**180**	P	**P**	13 44 04.9	+2.5
	5.8nm,0.7s,mb4.1,baz=30,slow=1.3,SNR=18						
QSPA	**South Pole Qui**	**57.34**	**180**	*e*P	**P**	13 44 04.3	+1.9
	2.3nm,0.5s,mb3.9						
SNAA	**Sanae**	**75.83**	**179**	*e*	**P**	13 45 53.1	-5.6
VNA3	**Neumayer Olymp**	**76.06**	**177**	*e*	**P**	13 46 00.8	+0.8
VNA2	**Neumayer--Watz**	**76.47**	**178**	*e*	**P**	13 46 03.4	+1.1
VNA1	**Neumayer--Stat**	**76.71**	**177**	*e*	**P**	13 46 05.2	+1.6
NVAR	**Mina Array Bea**	**91.37**	**44**	P	**P**	13 47 17.9	+0.2
	1.0nm,0.8s,mb3.7,baz=225,slow=8.2,SNR=8.8						
NVAR	**Mina Array Bea**	**91.37**	**44**	P	**P**	13 47 17.9	+0.2
KAF	**Kangasniemi**	**146.03**	**338**	*ep*	PKPdf	13 53 46.9	-1.3
FINES	**FINESS Array B**	**146.60**	**337**	PKPbc	PKPbc	13 53 49.4	-1.9
	4.3nm,0.7s,baz=58,slow=3.9,SNR=23						
FINES	**FINESS Array B**	**146.60**	**337**	PKPbc	PKPbc	13 53 49.4	-1.9
NOA	**NORSAR Array B**	**150.73**	**348**	PKPbc	PKPbc	13 54 00.3	-1.4
	1.0nm,0.8s,baz=18,slow=4.4,SNR=3.3						
NOA	**NORSAR Array B**	**150.73**	**348**	PKPbc	PKPbc	13 54 00.3	-1.4
BRTR	**Keskin Array B**	**151.80**	**294**	PKPbc	PKPbc	13 54 02.9	-1.9
	0.5nm,0.4s,baz=116,slow=4.1,SNR=2.9						
BRTR	**Keskin Array B**	**151.80**	**294**	PKPbc	PKPbc	13 54 02.9	-1.9
TORD	**Torodi Ar. Bea**	**160.36**	**186**	PKPab	PKPab	13 54 51.9	-0.5
	1.1nm,0.6s,baz=169,slow=3.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**160.36**	**186**	PKPab	PKPab	13 54 51.9	-0.5

*IDC **05** 13:51:44.9±1.4, 2.69N×95.72E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.0/24, mbtmp4.2/10, ML4.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/26, Error ellipse: s-maj=52.1km s-min=16.6km az=58.0*
*MOS **05** 13:51:48.0±0.9, 2.69N×95.73E, h33km, mb4.6/22, Error ellipse: s-maj=18.1km s-min=7.7km az=101.7*
*DJA **05** 13:51:48, 2.71N×95.77E, h10km, MLv4.1/3*
*ISCJB **05** 13:51:50.9±1.9, 2.70N±0.10×95.8E±0.1, h59km±14km, mb4.5/37, MS3.6/2, Error ellipse: s-maj=23.9km s-min=8.7km az=143.0*
*NEIC **05** 13:51:50.1±0.5, 2.63N×95.72E, h35km, mb4.6/21, Error ellipse: s-maj=10.8km s-min=6.1km az=223.0*
ISC 05 13:51:52.5±1.9, 2.71N±0.10×95.8E±0.1, h54km±15km, n92, σ0.79/92, mb4.5/37, MS3.6/2, 3C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.45**	**68**	P	**Pn**	**13 52 14.9**	**-1.6**
LHMI	**Lhok Sumawe**	**2.74**	**24**	P	**Pn**	13 52 33.7	-0.3
TSI	**Tuntungan**	**2.84**	**74**	P	**Pn**	13 52 36.3	+0.9
PSI	**Prapat**	**3.09**	**88**	P	**Pn**	13 52 39.2	+0.4
MNSI	**Mandailing Nat**	**4.20**	**117**	P	**Pn**	13 52 54.0	-0.1
KULM	**Kulim**	**5.45**	**62**	*e*Pn	**Pn**	13 53 11.2	0.0
KULM	**Kulim**	**5.45**	**62**	P	**Pn**	13 53 11.1	-0.1
	769nm94nm,0.9s						
IPM	**Ipoh**	**5.47**	**71**	*e*Pn	**Pn**	13 53 11.7	+0.1
IPM	**Ipoh**	**5.47**	**71**	P	**Pn**	13 53 12.1	+0.6
CM31	**Chiang Mai Arr**	**15.95**	**11**	*e*P	**Pn**	13 55 35.0	+1.6
	7.8nm,0.8s						
CM31				*e*		13 55 40.7	
CMAR	**Chiang Mai Arr**	**15.95**	**11**	Pn	**Pn**	**13 55 31.6**	**-1.9**
	0.5nm,0.3s,baz=200,slow=11,SNR=58						
CMAR	**Chiang Mai Arr**	**15.95**	**11**	Pn	**Pn**	13 55 31.6	-1.9
CMAR	**Chiang Mai Arr**	**15.95**	**11**	P	**Pn**	13 55 31.6	-1.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHTO	**Chiang Mai**	**16.29**	**11**	*e*P	**Pn**	**13 55 37.8**	**0.0**
	comp=Z,3.2nm,0.8s						
CHTO	**Chiang Mai**	**16.29**	**11**	*e*P	**Pn**	**13 55 37.8**	**0.0**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ODAN	**Odare**	**25.34**	**342**	*e*P	**P**	**13 57 15.0**	**+0.6**
	comp=Z,28nm,0.6s,mb5.0						
ODAN	**Odare**	**25.34**	**342**	*e*P	**P**	**13 57 15.0**	**+0.6**
	comp=Z,28nm,0.6s,mb5.0						
RAMN	**Ramite**	**25.68**	**341**	*e*P	**P**	**13 57 18.2**	**+0.7**
	comp=Z,38nm,0.6s,mb5.1						
RAMN	**Ramite**	**25.68**	**341**	*e*P	**P**	**13 57 18.2**	**+0.7**
	comp=Z,38nm,0.6s,mb5.1						
TAPN	**Taplejung**	**25.70**	**343**	*e*P	**P**	**13 57 18.6**	**+0.9**
	comp=Z,29nm,0.7s,mb4.9						
TAPN	**Taplejung**	**25.70**	**343**	*e*P	**P**	**13 57 18.6**	**+0.9**
	comp=Z,29nm,0.7s,mb4.9						
JIRN	**Jiri**	**26.47**	**341**	*e*P	**P**	**13 57 25.4**	**+0.8**
	comp=Z,8.9nm,0.6s,mb4.5						
JIRN	**Jiri**	**26.47**	**341**	*e*P	**P**	**13 57 25.4**	**+0.8**
	comp=Z,8.9nm,0.6s,mb4.5						
PKI	**Pulchoki**	**26.66**	**339**	*e*P	**P**	**13 57 27.0**	**+0.7**
	comp=Z,12nm,0.7s,mb4.6						
PKI	**Pulchoki**	**26.66**	**339**	*e*P	**P**	**13 57 27.0**	**+0.7**
	comp=Z,12nm,0.7s,mb4.5						
PKI	**Pulchoki**	**26.66**	**339**	*e*P	**P**	**13 57 27.0**	**+0.7**
PKI				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
DMN	**Daman**	**26.80**	**339**	*e*P	**P**	**13 57 28.2**	**+0.6**
	comp=Z,9.0nm,0.6s,mb4.5						
DMN	**Daman**	**26.80**	**339**	*e*P	**P**	**13 57 28.2**	**+0.6**
	comp=Z,9.0nm,0.6s,mb4.5						
GUN	**Gumba**	**26.80**	**340**	*e*P	**P**	**13 57 28.3**	**+0.6**
	comp=Z,35nm,0.6s,mb5.1						
GUN	**Gumba**	**26.80**	**340**	*e*P	**P**	**13 57 28.3**	**+0.6**
	comp=Z,35nm,0.6s,mb5.1						
KKN	**Kakani**	**26.90**	**339**	*e*P	**P**	**13 57 29.2**	**+0.7**
	comp=Z,11nm,0.8s,mb4.5						
KKN	**Kakani**	**26.90**	**339**	*e*P	**P**	**13 57 29.2**	**+0.7**
	comp=Z,11nm,0.8s,mb4.5						
KKN	**Kakani**	**26.90**	**339**	*e*P	**P**	**13 57 29.2**	**+0.7**
KKN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
LSA	**Lhasa**	**27.21**	**351**	*e*P	**P**	**13 57 30.9**	**-0.4**
	comp=Z,8.5nm,0.7s,mb4.4						
LSA	**Lhasa**	**27.21**	**351**	*e*P	**P**	**13 57 30.9**	**-0.4**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4						
GKN	**Gorkha**	**27.33**	**338**	*e*P	**P**	**13 57 32.

YSS				pmax	pmax			
	comp=Z,124nm,2.3s,mb5.5							
KIV	**Kislovodsk**	**62.28**	**319**	P	**P**	**14 02 07.4**	**-1.6**
KIV				*e*		14 02 50.0	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5							
YAK	**Yakutsk**	**64.37**	**17**	*i* P	**P**	**14 02 22.3**	**-0.2**
YAK				pmax	pmax			
	comp=Z,14nm,0.9s,mb5.0							
OBN	**Obninsk**	**70.62**	**328**	*e*P	**P**	**14 03 03.1**	**+1.0**
OBN				*e*		14 05 41.2	
OBN				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
FINES	**FINESS Array B**	**78.04**	**333**	P	**P**	**14 03 44.2**	**-0.9**
	comp=Z,3.0nm,1.0s,mb4.2,baz=141,slow=6.4,SNR=4.2							
FINES	**FINESS Array B**	**78.04**	**333**	P	**P**	**14 03 44.2**	**-0.9**
FINES	**FINESS Array B**	**78.04**	**333**	P	**P**	**14 03 44.2**	**-0.9**
FINES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**80.66**	**340**	P	**P**	**14 03 59.0**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=96,slow=6.5,SNR=12							
ARCES	**ARCESS Array B**	**80.66**	**340**	P	**P**	**14 03 59.0**	**-0.3**
ARCES	**ARCESS Array B**	**80.66**	**340**	P	**P**	**14 03 59.0**	**-0.3**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.5s							

ISC 05 14:11:39.0±0.6, 40°.79N±0°.04×39°.49E±0°.05, h10km, n8, σ0°59/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.26**	**54**	*i* P	**Pg**	**14 11 44.1**	**-0.2**
MACK				*i* S	**Sg**	**14 11 48.0**	**+0.2**
KTUT	**Trabzon**	**0.29**	**46**	PG	**Pg**	**14 11 44.8**	**0.0**
KTUT				*e*SG	**Sg**	**14 11 49.2**	**+0.5**
GUMT	**Gumushane**	**0.33**	**181**	*e*PG	**Pg**	**14 11 45.9**	**+0.5**
GUMT				*e*SG	**Sg**	**14 11 50.6**	**+0.8**
ESPY	**Espiye-Giresun**	**0.59**	**283**	*e*PG	**Pg**	**14 11 51.2**	**+0.7**
BAYT	**Ayd¨–ntepe-Bay**	**0.63**	**128**	*e*PG	**Pg**	**14 11 49.8**	**-1.4**
BAYT				*e*SG	**Sg**	**14 11 59.8**	**+0.3**
GRSN	**GIRESUNGRSN**	**0.94**	**279**	*i* P	**Pg**	**14 11 56.6**	**-0.4**
EZC	**Erzincan**	**1.04**	**186**	*e*PG	**Pg**	**14 11 58.5**	**-0.4**
SUSE	**Susehri**	**1.14**	**240**	*i* P	**Pb**	**14 12 00.3**	**-0.4**

*IDC **05** 14:22:17.2±3.9, 20°.28S×67°.78W, h0km, mb4.3/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=132.7km s-min=41.1km az=35.0*
*ISCJB **05** 14:22:27.6±1.4, 21°.67S±0°.09×68°.1W±0°.2, h134km±16km, mb4.0/3, Error ellipse: s-maj=26.9km s-min=15.0km az=175.4*
*NEIC **05** 14:22:28.3±0.9, 21°.64S×68°.09W, h127km±11km, mb4.1/2, Error ellipse: s-maj=18.2km s-min=10.3km az=86.0*

ISC 05 14:22:28.6±1.3, 21°.67S±0°.09×68°.1W±0°.2, h128km±15km, n11, σ0°43/12, mb4.0/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.35**	**360**	*e*Pn	**Pn**	**14 23 46.3**	**-0.1**
LCO	**Las Campanas**	**7.68**	**197**	Pn	**Pn**	**14 24 18.3**	**+0.5**
LCO				*e*Sn	**Sn**	**14 25 38.0**	**-5.3**
CPUP	**Villa Florida**	**10.87**	**117**	Pn	**Pn**	**14 25 00.5**	**-0.1**
	0.2nm,0.3s,baz=265,slow=15,SNR=3.6						
CPUP	**Villa Florida**	**10.87**	**117**	Pn	**Pn**	**14 25 00.5**	**0.0**
TRQA	**Tornquist**	**17.16**	**163**	*e*P	**Pn**	**14 26 19.9**	**-0.6**
	2.4nm,0.4s						
DBIC	**Dimbokro**	**68.05**	**73**	P	**P**	**14 33 15.7**	**+0.9**
	3.6nm,0.7s,mb4.2,baz=224,slow=8.9,SNR=3.9						
DBIC	**Dimbokro**	**68.05**	**73**	*e*P	**P**	**14 33 15.0**	**+0.3**
	4.4nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**76.69**	**70**	P	**P**	**14 34 06.0**	**0.0**
	1.2nm,0.7s,mb3.6,baz=258,slow=5.7,SNR=8.8						
TORD	**Torodi Ar. Bea**	**76.69**	**70**	P	**P**	**14 34 06.0**	**0.0**
YKA	**Yellowknife Ar**	**91.60**	**340**	P	**P**	**14 35 20.1**	**-0.3**
	0.7nm,0.5s,mb4.0,baz=136,slow=4.6,SNR=5.3						
YKA	**Yellowknife Ar**	**91.60**	**340**	P	**P**	**14 35 20.1**	**-0.3**

*DJA **05** 15:08:44, 1°.23S×135°.50E, h426km, mb3.9/4*
*NEIC **05** 15:09:13.7±6.1, 2°.35S×132°.88E, h10km, mb3.4/1, Error ellipse: s-maj=80.1km s-min=44.9km az=170.0*
*IDC **05** 15:09:17.4±4.8, 2°.86S×133°.17E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=94.3km s-min=56.5km az=95.0*
*ISCJB **05** 15:09:19.2±1.6, 2°.7S±0°.1×133°.0E±0°.1, h33km, Error ellipse: s-maj=19.3km s-min=13.9km az=141.0*

ISC 05 15:09:23.1±1.6, 2°.9S±0°.1×132°.9E±0°.1, h35km, n15, σ1°05/19, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.72**	**184**	P	**Pn**	**15 10 09.9**	**+5.5**
	0.1nm25nm,0.9s						
AAI	**Ambon**	**4.80**	**261**	P	**Pn**	**15 10 35.7**	**+2.8**
	1µm20nm,0.7s						
NLAI	**Namlea**	**5.84**	**267**	P	**Pn**	**15 10 46.8**	**-0.4**
LBMI	**Labuha**	**5.88**	**292**	P	**Pn**	**15 10 40.5**	**-7.2**
	16nm,0.9s						
FITZ	**Fitzroy Crossi**	**16.71**	**205**	Pn	**Pn**	**15 13 13.8**	**-0.8**
	0.3nm,0.3s,baz=53,slow=11,SNR=11						
FITZ				Sn	**Sn**	**15 16 19.1**	**-0.2**
	0.1nm,0.3s,baz=72,slow=19,SNR=3.6						
FITZ	**Fitzroy Crossi**	**16.71**	**205**	Pn	**Pn**	**15 13 13.8**	**-0.8**
FITZ				Sn	**Sn**	**15 16 19.1**	**-0.2**
WRAB	**Tennant Creek**	**16.98**	**175**	*e*P	**Pn**	**15 13 18.1**	**+0.1**
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**16.99**	**175**	P	**Pn**	**15 13 18.4**	**+0.3**
	0.4nm,0.3s,baz=354,slow=12,SNR=16						
WRA				S	**S**	**15 16 27.1**	**-8.1**
	0.1nm,0.3s,baz=355,slow=24,SNR=4.6						
WRA	**Warramunga Arr**	**16.99**	**175**	P	**Pn**	**15 13 18.4**	**+0.3**
WRA				S	**S**	**15 16 27.1**	**-8.1**
WB2	**Warramunga Arr**	**16.99**	**175**	*e*P	**Pn**	**15 13 18.1**	**0.0**
AS31	**Alice Springs**	**20.66**	**177**	*e*P	**P**	**15 14 00.6**	**+0.6**
ASAR	**Alice Springs**	**20.66**	**177**	P	**P**	**15 14 01.4**	**+1.4**
	1.0nm,0.7s,baz=0.7,slow=12,SNR=30						
ASAR	**Alice Springs**	**20.66**	**177**	P	**P**	**15 14 01.4**	**+1.4**
STKA	**Stephens Creek**	**29.95**	**165**	P	**P**	**15 15 26.2**	**-1.8**
	2.1nm,1.0s,baz=344,slow=7.4,SNR=3.0						
STKA	**Stephens Creek**	**29.95**	**165**	P	**P**	**15 15 26.2**	**-1.8**

*ISCJB **05** 15:30:00.3±0.6, 22°.39S±0°.05×127°.58E±0°.05, h10km, Error ellipse: s-maj=7.4km s-min=5.9km az=19.1*
*IDC **05** 15:30:02.7±3.7, 22°.28S×127°.80E, h0km, mb1 3.3/4, mb1mx3.2/14, mbtmp3.1/4, ML3.0/4, Error ellipse: s-maj=55.9km s-min=23.7km az=33.0*
*AUST **05** 15:30:05.5, 22°.20S×127°.55E, h3km, ML3.0*
*NEIC **05** 15:30:05.0, 22°.20S×127°.55E, h3km, ML3.0(AUST), After AUST.*

ISC 05 15:30:02.4±0.6, 22°.36S±0°.05×127°.58E±0°.04, h10km, n16, σ1°55/32, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**4.61**	**336**	Pn	**Pn**	**15 31 13.5**	**+1.4**
	0.2nm,0.3s,baz=152,slow=12,SNR=9.5						
FITZ				Sn	**Sn**	**15 32 04.7**	**-1.0**
	0.7nm,0.3s,baz=28,slow=13,SNR=12						
FITZ	**Fitzroy Crossi**	**4.61**	**336**	*e*P	**Pn**	**15 31 13.4**	**+1.3**
FITZ				*e*S	**Sn**	**15 31 59.8**	**-5.9**
	2.9nm,0.2s						
FITZ	**Fitzroy Crossi**	**4.61**	**336**	Pn	**Pn**	**15 31 13.5**	**+1.4**
FITZ				Sn	**Sn**	**15 32 04.7**	**-1.0**
ASAR	**Alice Springs**	**5.97**	**104**	Pn	**Pn**	**15 31 32.0**	**+1.1**
	0.5nm,0.3s,baz=284,slow=13,SNR=84						
ASAR				Sn	**Sn**	**15 32 40.5**	**+1.1**
	0.7nm,0.3s,baz=275,slow=24,SNR=6.9						
ASAR				Lg		15 33 04.6	
	1.3nm,0.3s,baz=290,slow=28,SNR=10						
ASAR	**Alice Springs**	**5.97**	**104**	Pn	**Pn**	**15 31 32.0**	**+1.1**
ASAR				Sn	**Sn**	**15 32 40.5**	**+1.1**
ASAR				Lg		15 33 04.6	
AS31	**Alice Springs**	**5.97**	**104**	*e*Pn	**Pn**	**15 31 32.8**	**+1.9**
AS31				*e*Sn	**Sn**	**15 32 39.1**	**-0.3**
WRA	**Warramunga Arr**	**6.75**	**70**	Pn	**Pn**	**15 31 40.2**	**-1.4**
	0.2nm,0.3s,baz=247,slow=14,SNR=2.7						
WRA				Sn	**Sn**	**15 32 55.9**	**-2.7**
	0.9nm,0.3s,baz=258,slow=25,SNR=4.4						
WRA				Lg		15 33 27.2	
	1.2nm,0.3s,baz=252,slow=28,SNR=8.7						
WRA	**Warramunga Arr**	**6.75**	**70**	Pn	**Pn**	**15 31 40.2**	**-1.4**
WRA				Sn	**Sn**	**15 32 55.9**	**-2.7**
WRA				Lg		15 33 27.2	
MBWA	**Marble Bar**	**7.39**	**278**	*e*P	**Pn**	**15 31 51.4**	**+1.0**
MBWA				*e*S	**Sn**	**15 33 09.6**	**-4.8**
MBWA	**Marble Bar**	**7.39**	**278**	*e*Pn	**Pn**	**15 31 51.6**	**+1.2**
MBWA				*e*Sn	**Sn**	**15 33 11.0**	**-3.4**
FORT	**Forrest**	**8.40**	**177**	*e*P	**Pn**	**15 32 07.3**	**+3.1**
FORT				*e*S	**Sn**	**15 33 37.8**	**-1.4**
	16nm,0.6s						
FORT	**Forrest**	**8.40**	**177**	Pn	**Pn**	**15 32 06.5**	**+2.3**
FORT				*e*Sn	**Sn**	**15 33 39.5**	**+0.3**
MEEK	**Meekatharra**	**9.21**	**241**	*e*P	**Pn**	**15 32 16.0**	**+0.6**
MEEK				*e*S	**Sn**	**15 33 54.8**	**-4.3**
	11nm,0.2s						
KMBL	**Kambalda**	**10.31**	**208**	*e*P	**Pn**	**15 32 31.9**	**+1.4**
KMBL				*e*S	**Sn**	**15 34 23.5**	**-2.7**
	40nm,1.2s						
STKA	**Stephens Creek**	**15.66**	**130**	Pn	**Pn**	**15 33 41.2**	**-2.0**
	0.1nm,0.3s,baz=309,slow=13,SNR=9.3						
STKA				Sn	**Sn**	**15 36 30.4**	**-6.4**
	0.2nm,0.3s,baz=345,slow=16,SNR=4.5						
STKA	**Stephens Creek**	**15.66**	**130**	Pn	**Pn**	**15 33 41.2**	**-2.0**
STKA				Sn	**Sn**	**15 36 30.4**	**-6.4**

*IDC **05** 15:51:29.9±1.5, 38°.81N×70°.79E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.5/31, mbtmp3.7/10, ML3.4/5, MS3.5/1, Ms1 3.5/1, ms1mx2.5/31, Error ellipse: s-maj=23.4km s-min=18.2km az=24.0*
*ISCJB **05** 15:51:33.8±0.9, 38°.93N±0°.07×70°.33E±0°.06, h33km, mb3.9/5, Error ellipse: s-maj=10.7km s-min=7.2km az=1.0*
*NNC **05** 15:51:33.2±2.2, 38°.96N×70°.52E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=17.0km s-min=13.5km az=4.0*
*NEIC **05** 15:51:35.8±1.5, 38°.98N×70°.55E, h35km, Error ellipse: s-maj=21.7km s-min=13.9km az=175.0*

ISC 05 15:51:35.9±1.0, 38°.93N±0°.08×70°.32E±0°.06, h35km, n41, σ1°23/47, mb3.9/5, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.11**	**38**	P	**Pn**	**15 52 35.5**	**-0.6**
	SNR=48						
AML				P		15 52 35.5	
	SNR=48						
KK31	**Karatay Array**	**4.17**	**2**	⇑Pn	**Pn**	**15 52 38.1**	**+1.1**
	2.1nm,0.3s,baz=180,slow=14,SNR=66						
KK31				⇑Pg	**Pn**	**15 52 49.3**	**+12**
	5.2nm,0.3s,baz=170,slow=17,SNR=6.9						
KK31				⇑Sn	**Sn**	**15 53 28.6**	**+4.0**
	9.0nm,0.5s,baz=177,slow=24,SNR=5.7						
KK31				⇑Lg		15 53 41.6	
	15nm,0.5s,baz=178,slow=29,SNR=4.8						
KKAR	**Karatay Array**	**4.17**	**2**	*e*Pn	**Pn**	**15 52 38.1**	**+1.0**
KKAR				*e*Sn	**Sn**	**15 53 25.3**	**+0.7**
EKS2	**Erkin-Say**	**4.56**	**34**	P	**Pn**	**15 52 42.4**	**0.0**
	SNR=28						
EKS2				P		15 52 42.4	
	SNR=28						
EKS2	**Erkin-Say**	**4.56**	**34**	*e*Pn	**Pn**	**15 52 41.8**	**-0.6**
UCH	**Uchtor**	**4.59**	**43**	P	**Pn**	**15 52 44.1**	**+1.3**
	SNR=6.0						
UCH				P		15 52 44.1	
	SNR=6.0						
AAK	**Ala-Archa**	**4.87**	**39**	P	**Pn**	**15 52 46.6**	**0.0**
	SNR=35						
AAK				P		15 52 46.6	
	SNR=35						
AAK	**Ala-Archa**	**4.87**	**39**	*e*Pn	**Pn**	**15 52 46.0**	**-0.7**
KZA	**Kyzart**	**4.90**	**48**	P	**Pn**	**15 52 48.0**	**+0.9**
	SNR=13						
KZA				P		15 52 48.0	
	SNR=13						
KBK	**Karagaybulak**	**5.12**	**42**	P	**Pn**	**15 52 50.6**	**+0.5**
	SNR=37						
KBK				P		15 52 50.6	
	SNR=37						
CHMS	**Chumysh**	**5.27**	**38**	P	**Pn**	**15 52 51.6**	**-0.5**
	SNR=24						
CHMS				P		15 52 51.6	
	SNR=24						
USP	**Ospenovka**	**5.36**	**35**	P	**Pn**	**15 52 52.4**	**-1.0**
	SNR=48						
USP				P		15 52 52.4	
	SNR=48						
TKM2	**Tokmak 2**	**5.65**	**43**	P	**Pn**	**15 52 57.9**	**+0.7**
	SNR=20						
TKM2				P		15 52 57.9	
	SNR=20						
TKM2	**Tokmak 2**	**5.65**	**43**	⇓Pn	**Pn**	**15 52 57.0**	**-0.3**
	12nm,0.5s						
TKM2				⇓Sn	**Sn**	**15 54 02.3**	**+1.5**
	7.3nm,0.6s						
TKM2				⇑Lg		15 54 24.5	
	15nm,1.0s						
TKM2	**Tokmak 2**	**5.65**	**43**	*e*Pn	**Pn**	**15 52 56.1**	**-1.1**
MKAR	**Makanchi Array**	**11.78**	**44**	Pn	**Pn**	**15 54 18.5**	**-2.8**
	0.1nm,0.3s,baz=231,slow=13,SNR=4.9						
MKAR	**Makanchi Array**	**11.78**	**44**	Pn	**Pn**	**15 54 18.5**	**-2.8**
AB31	**Akbulak array**	**12.72**	**328**	⇑P	**Pn**	**15 54 34.1**	**-0.1**
	2.3nm,0.6s,baz=140,slow=12,SNR=45						
ABKAR	**Akbulak array**	**12.72**	**328**	*e*Pn	**Pn**	**15 54 34.0**	**-0.2**
	3.4nm,0.6s						
ABKAR				*e*Sn	**Sn**	**15 56 52.5**	**-2.0**
KURK	**Kurchatov**	**13.16**	**24**	Pn	**Pn**	**15 54 32.5**	**-7.7**
	0.1nm,0.3s,baz=215,slow=13,SNR=4.8						
KURK	**Kurchatov**	**13.16**	**24**	*e*Pn	**Pn**	**15 54 38.0**	**-2.2**
BVA0	**Borovoye Array**	**14.10**	**0**	⇑P	**Pn**	**15 54 52.1**	**-0.9**
	0.1nm,0.7s,baz=167,slow=8.7,SNR=4.2						
BVAR	**Borovoye Array**	**14.10**	**0**	Pn	**Pn**	**15 54 49.4**	**-3.6**
	0.2nm,0.3s,baz=153,slow=10.0,SNR=4.5						
BVAR	**Borovoye Array**	**14.10**	**0**	Pn	**Pn**	**15 54 49.4**	**-3.6**
AKTO	**Aktyubinsk**	**14.43**	**327**	⇑P	**Pn**	**15 54 59.1**	**+1.6**
	0.6nm,0.8s						
AKTO	**Aktyubinsk**	**14.43**	**327**	Pn	**Pn**	**15 54 57.2**	**-0.2**
	0.3nm,0.3s,baz=138,slow=15,SNR=7.9						
AKTO				Sn	**Sn**	**15 57 35.5**	**-0.6**
	0.2nm,0.3s,baz=1.6,slow=15,SNR=4.7						
AKTO	**Aktyubinsk**	**14.43**	**327**	Pn	**Pn**	**15 54 57.2**	**-0.2**
AKTO				Sn	**Sn**	**15 57 35.5**	**-0.6**
ZALV	**Zalesovo Beam**	**17.99**	**29**	P	**Pn**	**15 55 39.5**	**-3.4**
	0.2nm,0.3s,baz=233,slow=11,SNR=7.2						
ZALV	**Zalesovo Beam**	**17.99**	**29**	P	**Pn**	**15 55 39.5**	**-3.4**
FINES	**FINESS Array B**	**35.19**	**324**	P	**P**	**15 58 27.5**	**+1.3**
	1.9nm,0.9s,mb4.0,baz=85,slow=8.0,SNR=4.1						
FINES	**FINESS Array B**	**35.19**	**324**	P	**P**	**15 58 27.5**	**+1.3**
ARCES	**ARCESS Array B**	**38.70**	**337**	P	**P**	**15 58 56.8**	**+0.8**
ARCES	**ARCESS Array B**	**38.70**	**337**	P	**P**	**15 58 56.8**	**+0.8**
	4.0nm,1.1s,mb4.1,baz=109,slow=11,SNR=4.5						
HFS	**Hagfors**	**40.84**	**320**	P	**P**	**15 59 15.2**	**+1.3**
	1.7nm,0.6s,mb3.9,baz=98,slow=10						
HFS	**Hagfors**	**40.84**	**320**	P	**P**	**15 59 15.2**	**+1.3**
NB2	**NORSAR Subarra**	**42.13**	**321**	P	**P**	**15 59 25.9**	**+1.5**
	comp=Z,2.9nm,0.9s,mb3.9,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**42.13**	**321**	P	**P**	**15 59 26.6**	**+2.2**
	comp=Z,1.2nm,0.8s,mb3.6,baz=93,slow=8.2,SNR=4.2						
NOA	**NORSAR Array B**	**42.13**	**321**	P	**P**	**15 59 26.6**	**+2.1**
KSRS	**Korea Array**	**44.64**	**73**	LR	LR	16 18 27.4	
	comp=Z,54nm,18.4s,baz=58,slow=36						
WRA	**Warramunga Arr**	**83.73**	**122**	P	**P**	**16 03 59.2**	**-2.1**
	comp=Z,0.2nm,0.4s,mb3.6,baz=328,slow=4.9,SNR=4.0						
WRA	**Warramunga Arr**	**83.73**	**122**	P	**P**	**16 03 59.2**	**-2.1**

*IDC **05** 15:53:03.8±1.8, 23°.51S×179°.90W, h503km±18km, mb3.5/11, mb1 3.7/13, mb1mx3.6/19, mbtmp3.5/13, Error ellipse: s-maj=21.9km s-min=13.8km az=153.0*
*ISCJB **05** 15:53:04.4±0.8, 23°.51S±0°.07×180°.0W±0°.1, h519km±11km, mb4.0/13, Error ellipse: s-maj=15.5km s-min=11.1km az=8.6*
*NEIC **05** 15:53:04.9±0.7, 23°.49S×179°.90W, h519km±8km, mb4.4/3, Error ellipse: s-maj=13.7km s-min=11.3km az=124.0*

ISC 05 15:53:05.5±0.9, 23°.63S±0°.08×180°.0W±0°.1, h519km±11km, n50, σ1°03/32, mb4.0/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.91**	**162**	*e*P	**P**	**15 54 43.0**	**+1.3**
MSVF	**Nonsavu**	**6.14**	**342**	*e*P	**P**	**15 54 44.0**	**-0.2**
AFI	**Afiamalu**	**12.40**	**40**	P	**P**	**15 55 44.1**	**-4.3**
	0.9nm,0.3s,baz=108,slow=13,SNR=3.5						
AFI	**Afiamalu**	**12.40**	**40**	P	**P**	**15 55 44.1**	**-4.3**
URZ	**Urewera**	**14.80**	**189**	P	**P**	**15 56 12.0**	**-1.1**
	7.5nm,0.3s,baz=343,slow=1.7,SNR=54						
URZ				S	**S**	**15 58 46.6**	**-1.1**
	0.7nm,0.3s,baz=294,slow=20,SNR=8.4						
URZ	**Urewera**	**14.80**	**189**	*e*P	**P**	**15 56 12.3**	**-0.8**
	26nm,0.5s						
URZ				*e*S	**S**	**15 58 45.6**	**-2.1**
CTA	**Charters Tower**	**31.48**	**270**	P	**P**	**15 58 45.5**	**+0.9**
	14nm,0.4s,mb4.8,baz=94,slow=13						
CTA	**Charters Tower**	**31.48**	**270**	P	**P**	**15 58 45.5**	**+0.9**
PMG	**Port Moresby**	**34.41**	**289**	P	**P**	**15 59 09.3**	**-0.2**
	14nm,1.0s,mb4.4,baz=0.0,slow=0.0						
PMG	**Port Moresby**	**34.41**	**289**	P	**P**	**15 59 09.3**	**-0.2**
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**	**15 59 13.6**	**+0.8**
	4.5nm,1.2s,mb3.9,baz=68,slow=9.1,SNR=9.9						
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**	**15 59 13.6**	**+0.8**
ASAR	**Alice Springs**	**42.08**	**260**	P	**P**	**16 00 12.1**	**+0.2**
	1.9nm,0.4s,mb4.0,baz=98,slow=7.2,SNR=101						
ASAR				ScP	ScP	16 04 57.0	+1.4
	0.6nm,0.6s,baz=111,slow=4.4,SNR=6.6						
ASAR	**Alice Springs**	**42.08**	**260**	P	**P**	**16 00 12.1**	**+0.2**
ASAR				ScP	ScP	16 04 57.0	+1.4
WRAB	**Tennant Creek**	**42.42**	**266**	*e*P	**P**	**16 00 13.7**	**-0.9**
	3.7nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**16 00 13.9**	**-0.7**
	3.7nm,0.3s,mb4.3,baz=90,slow=8.5,SNR=288						
WRA				ScP	ScP	16 04 57.7	+0.6
	0.8nm,1.1s,baz=98,slow=3.5,SNR=4.3						
WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**16 00 13.9**	**-0.7**
WRA				ScP	ScP	16 04 57.7	+0.6
QSPA	**South Pole Qui**	**66.46**	**180**	*e*P	**P**	**16 03 04.3**	**+1.8**
	12nm,1.2s,mb4.3						
MAW	**Mawson**	**78.01**	**200**	P	**P**	**16 04 10.2**	**+0.5**
	2.2nm,0.6s,mb3.7,baz=130,slow=7.9,SNR=2.6						
MAW	**Mawson**	**78.01**	**200**	P	**P**	**16 04 10.2**	**+0.5**
NVAR	**Mina Array Bea**	**84.55**	**44**	P	**P**	**16 04 43.4**	**-0.4**
	3.0nm,1.1s,mb3.7,baz=216,slow=7.3,SNR=12						
NVAR	**Mina Array Bea**	**84.55**	**44**	P	**P**	**16 04 43.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**89.43**	**290**	P	**P**	**16 05 08.3**	**+1.1**
	0.2nm,0.3s,mb3.4,baz=165,slow=4.5,SNR=6.2						
CMAR	**Chiang Mai Arr**	**89.43**	**290**	P	**P**	**16 05 08.3**	**+1.1**
TXAR	**Lajitas Array**	**90.28**	**58**	P	**P**	**16 05 11.8**	**+0.8**
	1.4nm,0.8s,mb3.8,baz=211,slow=4.4,SNR=14						
TXAR	**Lajitas Array**	**90.28**	**58**	P	**P**	**16 05 11.8**	**+0.8**
ILAR	**Eielson Array**	**91.76**	**14**	P	**P**	**16 05 14.5**	**-2.5**
	0.3nm,0.8s,mb3.4,baz=237,slow=5.0,SNR=3.5						
ILAR	**Eielson Array**	**91.76**	**14**	P	**P**	**16 05 14.5**	**-2.5**
PDAR	**Pinedale Array**	**92.49**	**44**	P	**P**	**16 05 20.5**	**-0.3**
	1.0nm,0.9s,mb3.9,baz=222,slow=2.0,SNR=6.1						
PDAR	**Pinedale Array**	**92.49**	**44**	P	**P**	**16 05 20.5**	**-0.3**
ARCES	**ARCESS Array B**	**131.62**	**348**	PKP	PKPdf	16 11 16.9	-1.4
	1.7nm,0.8s,baz=64,slow=2.8,SNR=6.3						
ARCES	**ARCESS Array B**	**131.62**	**348**	PKP	PKPdf	16 11 16.9	-1.4
NB2	**NORSAR Subarra**	**141.81**	**351**	PKP	PKPpre	16 11 31.3	
	comp=Z,0.8nm,0.8s,baz=18,slow=3.7						
NOA	**NORSAR Array B**	**141.81**	**351**	PKhKP	PKPpre	16 11 31.2	
	comp=Z,0.9nm,0.8s,baz=16,slow=4.6,SNR=3.7						
NOA	**NORSAR Array B**	**141.81**	**351**	PKPpre	PKPpre	16 11 31.2	
AKASG	**Malin Array Be**	**144.74**	**327**	PKP	PKPdf	16 11 41.5	-1.3
	comp=Z,3.3nm,0.7s,baz=44,slow=4.3,SNR=12						
AKASG	**Malin Array Be**	**144.74**	**327**	PKP	PKPdf	16 11 41.5	-1.3
ASF	**Jabal al Asfar**	**146.43**	**293**	PKPbc	PKPbc	16 11 47.5	-1.1
	comp=Z,3.0nm,0.9s,baz=183,slow=2.3,SNR=5.4						
ASF	**Jabal al Asfar**	**146.43**	**293**	PKPbc	PKPbc	16 11 47.5	-1.1
BRTR	**Keskin Array B**	**147.41**	**308**	PKPbc	PKPbc	16 11 50.4	-0.6
	comp=Z,1.3nm,0.8s,baz=133,slow=5.4,SNR=5.2						
BRTR	**Keskin Array B**	**147.41**	**308**	PKPbc	PKPbc	16 11 50.4	-0.6
MMAI	**Mount Meron Ar**	**147.59**	**295**	PKPbc	PKPbc	16 11 51.9	+0.3
	comp=Z,4.9nm,0.6s,baz=82,slow=6.0,SNR=7.8						
MMAI	**Mount Meron Ar**	**147.59**	**295**	PKPbc	PKPbc	16 11 51.9	+0.3
KSP	**Ksiaz**	**150.03**	**339**	*e*P	PKPbc	16 11 56.5	-0.5
CLL	**Collm**	**150.59**	**343**	*i* PKPbc	PKPbc	16 11 57.6	-0.7
	comp=Z,9.0nm,1.1s						
BRG	**Bergqiesshubel**	**150.73**	**342**	*e*P	PKPbc	16 11 58.4	-0.2
	comp=Z,6.2nm,0.9s						
GERES	**GERESS Array B**	**152.60**	**340**	PKPbc	PKPbc	16 12 01.7	-1.2
	comp=Z,0.7nm,0.6s,baz=70

KK31				⇑Sn	Sn	16 12 59.1	-4.3
	4.9nm,0.3s,baz=168,slow=24,SNR=3.7						
KKAR	**Karatay Array**	**5.83**	**347**	*e*Pn	**Pn**	16 11 55.8	-0.5
KKAR				*e*Sn	**Sn**	16 12 58.5	-4.8
TKM2	**Tokmak 2**	**6.06**	**24**	P	**Pn**	16 11 59.6	+0.4
	SNR=6.9						
TKM2				P		16 11 59.6	
	SNR=6.9						
TKM2	**Tokmak 2**	**6.06**	**24**	⇓Pn	**Pn**	16 11 59.6	+0.4
	3.5nm,0.8s						
TKM2				⇑Sn	**Sn**	16 13 04.0	-4.7
	1.8nm,0.4s						
TKM2	**Tokmak 2**	**6.06**	**24**	*e*Pn	**Pn**	16 11 59.4	+0.1
	2.9nm,0.6s						
PYUN	**Piuthan**	**12.95**	**133**	*e*P	**Pn**	16 13 25.4	-3.1
	4.7nm,0.4s						
PYUN	**Piuthan**	**12.95**	**133**	*e*P	**Pn**	16 13 25.4	-3.1
	4.7nm,0.4s						
DANN	**Dangsing**	**13.23**	**130**	*e*P	**Pn**	16 13 32.5	+0.5
	4.3nm,0.4s						
DANN	**Dangsing**	**13.23**	**130**	*e*P	**Pn**	16 13 32.5	+0.5
	4.3nm,0.4s						
KOLN	**Koldanda**	**13.56**	**132**	*e*P	**Pn**	16 13 31.7	-4.4
	5.8nm,0.4s						
KOLN	**Koldanda**	**13.56**	**132**	*e*P	**Pn**	16 13 31.7	-4.4
	5.8nm,0.4s						
GKN	**Gorkha**	**14.02**	**128**	*e*P	**Pn**	16 13 41.5	-0.3
	20nm,0.4s						
GKN	**Gorkha**	**14.02**	**128**	*e*P	**Pn**	16 13 41.5	-0.3
	20nm,0.4s						
ABKAR	**Akbulak array**	**14.81**	**327**	*e*Pn	**Pn**	16 13 51.8	+0.5
	0.4nm,0.4s						
ABKAR				*e*S	**Sn**	16 16 24.0	-13
JIRN	**Jiri**	**15.24**	**126**	*e*P	**Pn**	16 13 56.0	-0.9
	1.9nm,0.3s						
JIRN	**Jiri**	**15.24**	**126**	*e*P	**Pn**	16 13 56.0	-0.9
	1.9nm,0.3s						
ZALV	**Zalesovo Beam**	**18.66**	**24**	P	**P**	16 14 35.0	+0.5
	0.5nm,0.3s,baz=219,slow=10,SNR=28						
ZALV	**Zalesovo Beam**	**18.66**	**24**	P	**P**	16 14 35.0	+0.5
SONM	**Songino Array**	**26.99**	**56**	P	**P**	16 15 56.4	+1.4
	0.2nm,0.4s,mb3.1,baz=261,slow=8.0,SNR=3.0						
SONM	**Songino Array**	**26.99**	**56**	P	**P**	16 15 56.4	+1.4
TORD	**Torodi Ar. Bea**	**66.74**	**269**	P	**P**	16 21 00.8	-1.2
	0.5nm,0.4s,mb3.5,baz=44,slow=5.0,SNR=9.0						
TORD	**Torodi Ar. Bea**	**66.74**	**269**	P	**P**	16 21 00.8	-1.2

*NOU **05** 16:13:01.7±1.0, 18°.60S×169°.08E, h30km, MD3.1, MS1.8*
*IDC **05** 16:13:04.6±6.4, 19°.02S×169°.18E, h160km±57km, mb3.8/9, mb1 4.0/9, mb1mx3.8/17, mbtmp3.8/9, Error ellipse: s-maj=33.7km s-min=20.6km az=11.0*
*ISCJB **05** 16:13:05.2±1.1, 19°.2S±0°.1×169°.12E±0°.08, h175km±9km, mb4.2/13, Error ellipse: s-maj=19.1km s-min=10.5km az=160.1*
*NEIC **05** 16:13:06.3±1.4, 19°.17S×169°.14E, h176km±14km, mb4.4/7, Error ellipse: s-maj=21.2km s-min=10.6km az=166.0*
ISC 05 16:13:05.9±1.1, 19°.2S±0°.1×169°.13E±0°.07, h169km±9km, n45, σ0s93/43, mb4.2/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.60**	**215**	*e*P	**Pn**	**16 14 01.1**	**-0.5**
BAYA				*e*S	**Sn**	16 14 44.8	-0.3
DZM	**Mont Dzumac**	**3.80**	**221**	AMP		16 14 08.3	
	comp=Z,868nm,8.9s						
DZM	**Mont Dzumac**	**3.80**	**221**	*e*Pn	**Pn**	16 14 03.4	-0.7
DZM				*e*Sn	**Sn**	16 14 49.9	+0.4
LASL	**Noumea**	**3.86**	**219**	*e*P	**Pn**	16 14 04.7	-0.1
NORM	**Noumea**	**3.89**	**219**	*e*P	**Pn**	16 14 05.0	-0.3
NOUC	**Port Laguerre**	**3.91**	**222**	*e*P	**Pn**	16 14 04.3	-1.2
NOUC				*e*S	**Sn**	16 14 52.3	+0.4
NOUC				AMP		16 15 03.8	
	comp=Z,37nm,13.0s						
MSVF	**Nonsavu**	**8.59**	**82**	*e*P	**Pn**	16 15 08.2	+1.1
	comp=Z,11nm,0.8s						
EIDS	**Eidsvold**	**17.78**	**247**	*e*P	**Pn**	16 17 03.8	+0.7
	comp=Z,61nm,0.5s						
EIDS	**Eidsvold**	**17.78**	**247**	*e*P	**Pn**	16 17 03.6	+0.5
	comp=Z,15nm,0.9s						
ARMA	**Armidale**	**19.38**	**232**	*e*P	**P**	16 17 24.0	+5.2
RMQ	**Roma**	**20.11**	**245**	*e*P	**P**	16 17 28.5	+1.8
	comp=Z,4.3nm,0.6s						
URZ	**Urewera**	**20.21**	**162**	P	**P**	16 17 28.7	+1.1
	comp=Z,11nm,0.7s,baz=350,slow=8.6,SNR=12						
URZ	**Urewera**	**20.21**	**162**	*e*P	**P**	16 17 28.5	+0.9
	comp=Z,12nm,0.7s						
CTA	**Charters Tower**	**21.56**	**264**	P	**P**	16 17 43.6	+1.4
	comp=Z,5.5nm,0.4s,mb4.3,baz=91,slow=11,SNR=14						
CTA	**Charters Tower**	**21.56**	**264**	P	**P**	16 17 43.6	+1.4
CTAO	**Charters Tower**	**21.56**	**264**	*e*P	**P**	16 17 43.6	+1.4
	comp=Z,6.5nm,0.5s,mb4.3						
MTSU	**Mount Surprise**	**23.53**	**269**	*e*P	**P**	16 18 02.0	+1.1
	comp=Z,24nm,0.7s,mb4.8						
CMSA	**Cobar Meteorol**	**24.42**	**235**	*e*P	**P**	16 18 09.2	+0.4
	comp=Z,5.4nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**27.77**	**238**	P	**P**	16 18 40.4	+1.4
	comp=Z,1.8nm,0.6s,mb4.0,baz=71,slow=11,SNR=8.6						
STKA				PcP	PcP	16 21 51.6	+0.4
	comp=Z,0.7nm,0.4s,baz=68,slow=3.1,SNR=4.9						
STKA	**Stephens Creek**	**27.77**	**238**	P	**P**	16 18 40.4	+1.4
STKA				PcP	PcP	16 21 51.6	+0.4
WB2	**Warramunga Arr**	**32.74**	**263**	*e*P	**P**	16 19 21.6	-1.3
WRAB	**Tennant Creek**	**32.75**	**263**	*e*P	**P**	16 19 21.6	-1.3
	comp=Z,1.5nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**32.76**	**263**	P	**P**	16 19 22.0	-1.0
	comp=Z,2.1nm,0.4s,mb4.2,baz=93,slow=8.2,SNR=93						
WRA				PcP	PcP	16 22 04.3	-0.1
	comp=Z,0.3nm,0.6s,baz=93,slow=3.6,SNR=4.6						
WRA	**Warramunga Arr**	**32.76**	**263**	P	**P**	16 19 22.0	-1.0
WRA				PcP	PcP	16 22 04.3	-0.1
ASAR	**Alice Springs**	**33.03**	**256**	P	**P**	16 19 25.1	-0.2
	comp=Z,14nm,0.5s,mb4.9,baz=82,slow=8.7,SNR=504						
ASAR				PcP	PcP	16 22 04.8	-0.3
	comp=Z,0.3nm,0.6s,baz=83,slow=2.9,SNR=5.0						
ASAR	**Alice Springs**	**33.03**	**256**	P	**P**	16 19 25.1	-0.2
ASAR				PcP	PcP	16 22 04.8	-0.3
FITZ	**Fitzroy Crossi**	**41.14**	**264**	P	**P**	16 20 34.5	+0.7
	comp=Z,4.5nm,0.6s,mb4.3,baz=128,slow=7.8,SNR=27						
FITZ	**Fitzroy Crossi**	**41.14**	**264**	*e*P	**P**	16 20 34.0	+0.2
	comp=Z,9.1nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**41.14**	**264**	P	**P**	16 20 34.5	+0.7
MBWA	**Marble Bar**	**46.26**	**259**	*e*P	**P**	16 21 14.5	-0.1
	comp=Z,2.4nm,0.3s,mb4.3						
QSPA	**South Pole Qui**	**70.84**	**180**	*e*P	**P**	16 24 03.5	-0.2
	comp=Z,6.8nm,0.9s,mb4.4						
SONM	**Songino Array**	**87.14**	**323**	P	**P**	16 25 32.9	+0.4
	comp=Z,0.4nm,0.6s,mb3.5,baz=156,slow=3.8,SNR=4.3						
SONM	**Songino Array**	**87.14**	**323**	P	**P**	16 25 32.9	+0.4
NVAR	**Mina Array Bea**	**88.86**	**49**	P	**P**	16 25 41.5	+0.6
	comp=Z,0.5nm,0.6s,mb3.6,baz=220,slow=8.1,SNR=4.6						
NVAR	**Mina Array Bea**	**88.86**	**49**	P	**P**	16 25 41.5	+0.6
VNA3	**Neumayer Olymp**	**89.78**	**180**	*e*	**P**	16 25 43.6	-1.1
VNA3	**Neumayer Olymp**	**89.78**	**180**	*e*	**P**	16 25 43.6	-1.1
VNA2	**Neumayer--Watz**	**90.07**	**181**	*e*	**P**	16 25 45.2	-0.9
VNA2	**Neumayer--Watz**	**90.07**	**181**	*e*	**P**	16 25 45.2	-0.9
ILAR	**Eielson Array**	**90.24**	**17**	P	**P**	16 25 44.7	-2.0
	comp=Z,0.3nm,0.4s,mb3.6,baz=238,slow=5.2,SNR=13						
ILAR	**Eielson Array**	**90.24**	**17**	P	**P**	16 25 44.7	-2.0
ARCES	**ARCESS Array B**	**125.02**	**345**	PKP	PKPdf	16 31 44.1	-1.1
	comp=Z,0.7nm,0.3s,baz=61,slow=2.2,SNR=26						
ARCES	**ARCESS Array B**	**125.02**	**345**	PKP	PKPdf	16 31 44.1	-1.1
GERES	**GERESS Array B**	**144.42**	**332**	PKP	PKPdf	16 32 20.6	-1.2
	comp=Z,1.7nm,0.6s,baz=32,slow=3.4,SNR=13						
GERES	**GERESS Array B**	**144.42**	**332**	PKP	PKPdf	16 32 20.6	-1.2

*NNC **05** 16:20:12.4±26.0, 39°.94N×76°.85E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=212.0km s-min=114.5km az=133.0*
ISC 05 16:20:15.3±2.3, 40°.0N±0°.1×75°.5E±0°.1, h10km, n12, σ1s20/14, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.11**	**355**	P	**Pn**	**16 20 47.9**	**-2.7**
	SNR=76						
KZA				P		16 20 47.9	
	SNR=76						
ULHL	**Ulahol**	**2.34**	**14**	P	**Pn**	**16 20 49.3**	**-4.5**
	SNR=9.4						
ULHL				P		16 20 49.3	
	SNR=9.4						
UCH	**Uchtor**	**2.37**	**342**	P	**Pn**	**16 20 54.0**	**-0.1**
	SNR=6.5						
UCH				P		16 20 54.0	
	SNR=6.5						
AML	**Almayashu**	**2.55**	**328**	P	**Pn**	**16 20 57.6**	**+1.0**
	SNR=28						
AML				P		16 20 57.6	
	SNR=28						
KBK	**Karagaybulak**	**2.71**	**351**	P	**Pn**	**16 20 59.9**	**+1.0**
	SNR=57						
KBK				P		16 20 59.9	
	SNR=57						
AAK	**Ala-Archa**	**2.76**	**345**	P	**Pn**	**16 20 59.6**	**+0.1**
	SNR=10						
AAK				P		16 20 59.6	
	SNR=10						
TKM2	**Tokmak 2**	**2.94**	**2**	P	**Pn**	**16 20 59.4**	**-2.7**
	SNR=42						
TKM2				P		16 20 59.4	
	SNR=42						
TKM2	**Tokmak 2**	**2.94**	**2**	⇑Pn	**Pn**	**16 20 60.0**	**-2.1**
	22nm,0.7s						
TKM2				⇑Sn	**Sn**	16 21 38.0	+0.5
	21nm,0.4s						
EKS2	**Erkin-Say**	**2.98**	**335**	P	**Pn**	**16 21 03.8**	**+1.3**
	SNR=8.1						
EKS2				P		16 21 03.8	
	SNR=8.1						
USP	**Ospenovka**	**3.37**	**348**	P	**Pn**	**16 21 12.0**	**+4.1**
	SNR=6.9						
USP				P		16 21 12.0	
	SNR=6.9						
KNDC	**Almaty**	**3.42**	**18**	⇓Sn	**Sn**	**16 21 49.5**	**+0.2**
	55nm,0.7s						
KK31	**Karatay Array**	**4.87**	**312**	⇓Pn	**Pg**	**16 21 43.4**	**-5.2**
	2.1nm,0.5s,baz=129,slow=16,SNR=21						
KK31				⇓Sn	**Sg**	16 22 51.1	-0.6
	3.8nm,0.6s,baz=126,slow=28,SNR=4.8						

*ISCJB **05** 16:34:11.2±1.3, 48°.50N±0°.10×154°.8E±0°.1, h66km±10km, mb4.0/23, Error ellipse: s-maj=20.8km s-min=8.4km az=137.9*
*MOS **05** 16:34:11.6±1.2, 48°.62N×154°.69E, h68km, mb4.1/15, Error ellipse: s-maj=16.9km s-min=9.6km az=70.2*
*IDC **05** 16:34:12.9±2.9, 48°.45N×154°.83E, h66km±26km, mb3.5/13, mb1 3.7/15, mb1mx3.6/26, mbtmp3.5/15, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/33, Error ellipse: s-maj=20.7km s-min=14.7km az=123.0*
*NEIC **05** 16:34:12.6±1.1, 48°.54N×154°.83E, h64km±9km, mb4.4/9, Error ellipse: s-maj=15.8km s-min=6.9km az=142.0*
ISC 05 16:34:12.8±1.2, 48°.51N±0°.10×154°.8E±0°.1, h63km±9km, n78, σ0s88/79, mb4.1/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.34**	**21**	*e*PN	**Pn**	**16 34 48.7**	**-0.1**
SKR				*i* S	**Sn**	**16 35 17.7**	**+1.3**
SKR				smax			
	comp=E,160nm,0.4s						
SKR				smax			
	comp=N,390nm,0.5s						
SKR				smax			
	comp=Z,160nm,0.4s						
PETK	**Petropavlovsk-**	**4.96**	**21**	P	**Pn**	**16 35 24.6**	**+0.1**
	comp=Z,2.6nm,0.3s,baz=166,slow=13,SNR=68						
PETK				S	**Sn**	**16 36 26.7**	**+6.2**
	baz=165,slow=18,SNR=1.7						
PETK	**Petropavlovsk-**	**4.96**	**21**	P	**Pn**	16 35 24.6	+0.1
PETK				S	**Sn**	16 36 26.7	+6.2
PETK	**Petropavlovsk-**	**4.96**	**21**	PN	**Pn**	16 35 24.7	+0.1
PETK				S	**Sn**	16 36 26.7	+6.2
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PET	**Petropavlovsk**	**5.14**	**27**	*e*Pn	**Pn**	16 35 25.3	-1.7
PET	**Petropavlovsk**	**5.14**	**27**	*e*PN	**Pn**	16 35 25.3	-1.7
YSS	**Yuzh-Sakhalins**	**8.28**	**264**	*e*P	**Pn**	16 36 09.5	-0.5
YSS	**Yuzh-Sakhalins**	**8.28**	**264**	*e*PN	**Pn**	16 36 09.5	-0.5
ASAJ	**Asahikawa**	**9.52**	**247**	P	**Pn**	16 36 28.6	+1.5
	comp=Z,1.3nm,0.3s,baz=89,slow=16,SNR=12						
ASAJ	**Asahikawa**	**9.52**	**247**	P	**Pn**	16 36 28.6	+1.5
ASAJ	**Asahikawa**	**9.52**	**247**	PN	**Pn**	16 36 28.6	+1.5
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**20.42**	**12**	*e*P	**P**	16 38 42.0	-2.4
	comp=Z,1.8nm,0.3s						
BILL	**Bilibino**	**20.42**	**12**	*e*P	**P**	16 38 42.0	-2.4
BILL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	**Korea Array**	**22.45**	**251**	P	**P**	16 39 06.1	-0.2
	comp=Z,2.2nm,0.6s,mb3.8,baz=42,slow=9.7,SNR=8.8						
KSRS	**Korea Array**	**22.45**	**251**	P	**P**	16 39 06.1	-0.2
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
KSAR	**Wonju Array Be**	**22.48**	**251**	P	**P**	16 39 06.1	-0.5
KSAR	**Wonju Array Be**	**22.48**	**251**	P	**P**	16 39 06.1	-0.5
SONM	**Songino Array**	**31.87**	**287**	LR	LR	16 54 44.3	
	comp=Z,82nm,18.1s,baz=4.7,slow=39						
COLA	**College**	**34.05**	**40**	*e*P	**P**	16 40 51.2	+0.8
	comp=Z,2.1nm,0.5s,mb4.3						
COLA	**College**	**34.05**	**40**	*e*P	**P**	16 40 51.2	+0.8
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**34.46**	**40**	P	**P**	16 40 54.0	+0.1
	comp=Z,0.3nm,0.6s,mb3.4,baz=270,slow=6.6,SNR=6.8						
ILAR	**Eielson Array**	**34.46**	**40**	P	**P**	16 40 54.0	+0.1
ILAR	**Eielson Array**	**34.46**	**40**	P	**P**	16 40 54.1	+0.1
ZALV	**Zalesovo Beam**	**42.53**	**305**	P	**P**	16 42 01.0	-0.8
	comp=Z,0.6nm,0.5s,mb3.6,baz=75,slow=7.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**42.53**	**305**	P	**P**	16 42 01.0	-0.8
ZALV	**Zalesovo Beam**	**42.53**	**305**	P	**P**	16 42 01.0	-0.7
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**47.17**	**297**	P	**P**	16 42 37.3	-1.3
	comp=Z,0.3nm,0.5s,mb3.5,baz=56,slow=4.5,SNR=6.0						
MKAR	**Makanchi Array**	**47.17**	**297**	P	**P**	16 42 37.3	-1.3
MKAR	**Makanchi Array**	**47.17**	**297**	P	**P**	16 42 37.3	-1.3
KURK	**Kurchatov**	**47.36**	**303**	P	**P**	16 42 37.7	-2.4
	comp=Z,1.1nm,0.6s,mb4.0						
KURK	**Kurchatov**	**47.36**	**303**	P	**P**	16 42 37.7	-2.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**50.64**	**309**	P	**P**	16 43 04.7	-0.4
	comp=Z,0.5nm,0.4s,mb3.8,baz=56,slow=8.1,SNR=6.5						
BVAR	**Borovoye Array**	**50.64**	**309**	P	**P**	16 43 04.7	-0.4
BVAR	**Borovoye Array**	**50.64**	**309**	P	**P**	16 43 04.7	-0.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHTO	**Chiang Mai**	**53.64**	**257**	*e*P	**P**	16 43 27.8	0.0
	comp=Z,1.4nm,0.7s,mb4.0						
CHTO	**Chiang Mai**	**53.64**	**257**	*e*P	**P**	16 43 27.8	0.0
CHTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
CMAR	**Chiang Mai Arr**	**53.90**	**257**	P	**P**	16 43 30.8	+1.1
	comp=Z,1.1nm,0.8s,mb3.9,baz=30,slow=7.1,SNR=7.5						
CMAR	**Chiang Mai Arr**	**53.90**	**257**	P	**P**	16 43 30.8	+1.1
CMAR	**Chiang Mai Arr**	**53.90**	**257**	P	**P**	16 43 30.8	+1.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JIRN	**Jiri**	**55.95**	**275**	*e*P	**P**	16 43 44.6	+0.2
	comp=Z,0.8nm,0.3s,mb4.3						
JIRN	**Jiri**	**55.95**	**275**	*e*P	**P**	16 43 44.6	+0.2
	comp=Z,0.8nm,0.3s,mb4.2						
GUN	**Gumba**	**55.99**	**275**	*e*P	**P**	16 43 45.1	+0.4
	comp=Z,3.6nm,0.4s,mb4.8						
GUN	**Gumba**	**55.99**	**275**	*e*P	**P**	16 43 45.1	+0.4
	comp=Z,3.6nm,0.4s,mb4.8						
RAMN	**Ramite**	**56.15**	**274**	*e*P	**P**	16 43 46.1	+0.2
	comp=Z,5.9nm,0.5s,mb4.9						
RAMN	**Ramite**	**56.15**	**274**	*e*P	**P**	16 43 46.1	+0.2
	comp=Z,5.9nm,0.5s,mb4.9						
ARCES	**ARCESS Array B**	**56.57**	**341**	P	**P**	16 43 48.7	+0.5
	comp=Z,1.3nm,0.7s,mb4.0,baz=40,slow=8.5,SNR=3.3						
ARCES	**ARCESS Array B**	**56.57**	**341**	P	**P**	16 43 48.7	+0.4
ARCES	**ARCESS Array B**	**56.57**	**341**	P	**P**	16 43 48.7	+0.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DMN	**Daman**	**56.70**	**275**	*e*P	**P**	16 43 50.4	+0.6
	comp=Z,6.0nm,0.4s,mb5.0						
DMN	**Daman**	**56.70**	**275**	*e*P	**P**	16 43 50.4	+0.6
	comp=Z,6.0nm,0.4s,mb5.0						
GKN	**Gorkha**	**56.75**	**276**	*e*P	**P**	16 43 50.3	+0.2
	comp=Z,5.6nm,0.5s,mb4.9						
GKN	**Gorkha**	**56.75**	**276**	*e*P	**P**	16 43 50.3	+0.2
	comp=Z,5.6nm,0.5s,mb4.8						
DANN	**Dangsing**	**57.10**	**277**	*e*P	**P**	16 43 53.0	+0.4
	comp=Z,7.0nm,0.5s,mb5.0						
DANN	**Dangsing**	**57.10**	**277**	*e*P	**P**	16 43 53.0	+0.4
	comp=Z,7.0nm,0.5s,mb5.0						
KOLN	**Koldanda**	**57.59**	**276**	*e*P	**P**	16 43 56.1	0.0
	comp=Z,3.2nm,0.4s,mb4.8						
KOLN	**Koldanda**	**57.59**	**276**	*e*P	**P**	16 43 56.1	0.0
	comp=Z,3.2nm,0.4s,mb4.7						
PYUN	**Piuthan**	**57.78**	**277**	*e*P	**P**	16 43 57.9	+0.5
PYUN	**Piuthan**	**57.78**	**277**	*e*P	**P**	16 43 57.9	+0.5
FINES	**FINESS Array B**	**62.94**	**335**	P	**P**	16 44 32.4	+0.3
	comp=Z,1.7nm,0.8s,mb4.2,baz=38,slow=6.3,SNR=9.0						
FINES	**FINESS Array B**	**62.94**	**335**	P	**P**	16 44 32.4	+0.3
FINES	**FINESS Array B**	**62.94**	**335**	P	**P**	16 44 32.4	+0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**66.93**	**342**	P	**P**	16 44 58.7	+0.7
	comp=Z,0.7nm,0.8s,mb3.8,baz=311,slow=17,SNR=4.2						
NOA	**NORSAR Array B**	**66.93**	**342**	P	**P**	16 44 58.7	+0.7
NOA	**NORSAR Array B**	**66.93**	**342**	P	**P**	16 44 58.7	+0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**70.56**	**200**	P	**P**	16 45 19.7	-1.2
	comp=Z,1.0nm,0.8s,mb3.8,baz=14,slow=6.3,SNR=13						
WRA	**Warramunga Arr**	**70.56**	**200**	P	**P**	16 45 19.7	-1.2
WRA	**Warramunga Arr**	**70.56**	**200**	P	**P**	16 45 19.7	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**74.25**	**200**	P	**P**	16 45 42.5	-0.3
	comp=Z,0.5nm,0.7s,mb3.6,baz=12,slow=5.3,SNR=14						
ASAR	**Alice Springs**	**74.25**	**200**	P	**P**	16 45 42.5	-0.3
ASAR	**Alice Springs**	**74.25**	**200**	*e*P	**P**	16 45 42.5	-0.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	16 45 51.5	+0.4
	comp=Z,0.5nm,0.6s,mb3.6,baz=294,slow=4.4,SNR=7.3						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	16 45 51.5	+0.5
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	16 45 51.5	+0.5
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**77.37**	**335**	P	**P**	16 46 01.3	+0.9
	comp=Z,0.5nm,0.5s,mb3.7,baz=38,slow=6.3,SNR=8.3						
GERES	**GERESS Array B**	**77.37**	**335**	P	**P**	16 46 01.3	+0.9
GERES	**GERESS Array B**	**77.37**	**335**	P	**P**	16 46 01.3	+0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP	**Villa Florida**	**146.59**	**60**	PKPbc	PKPbc	16 53 45.0	-2.0
	comp=Z,0.4nm,0.4s,baz=351,slow=7.5,SNR=3.1						
CPUP	**Villa Florida**	**146.59**	**60**	PKPbc	PKPbc	16 53 45.0	-2.0

*IDC **05** 16:56:10.2±1.8, 0°.04N×127°.42E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.3/18, mbtmp3.3/4, ML3.6/2, Error ellipse: s-maj=51.7km s-min=25.4km az=68.0*
*ISCJB **05** 16:56:12.1±1.1, 0°.1N±0°.1×127°.3E±0°.2, h33km, mb3.4/5, Error ellipse: s-maj=25.1km s-min=15.3km az=155.9*
*NEIC **05** 16:56:14.5±1.1, 0°.01N×127°.23E, h35km, mb3.6/2, Error ellipse: s-maj=24.8km s-min=14.6km az=65.0*
ISC 05 16:56:14.5±1.1, 0°.0N±0°.1×127°.3E±0°.2, h35km, n12, σ0s99/12, mb3.4/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.06**	**236**	Pn	**Pn**	**16 58 24.0**	**+1.1**
	2.6nm,0.3s,baz=41,slow=11,SNR=12						
KAPI	**Kappang**	**9.06**	**236**	*e*Pn	**Pn**	16 58 21.9	-1.0
FITZ	**Fitzroy Crossi**	**18.10**	**185**	P	**Pn**	**17 00 23.3**	**0.0**
	0.1nm,0.3s,baz=17,slow=14,SNR=3.6						
FITZ	**Fitzroy Crossi**	**18.10**	**185**	P	**Pn**	**17 00 23.3**	**0.0**
WRAB	**Tennant Creek**	**21.01**	**161**	*e*P	**P**	**17 00 54.8**	**-0.4**
	1.3nm,0.8s,mb3.3						
WRA	**Warramunga Arr**	**21.02**	**161**	P	**P**	**17 00 55.0**	**-0.3**
	0.2nm,0.4s,mb2.8,baz=340,slow=11,SNR=10						
WRA	**Warramunga Arr**	**21.02**	**161**	P	**P**	**17 00 55.0**	**-0.3**
ASAR	**Alice Springs**	**24.42**	**165**	P	**P**	**17 01 30.6**	**+0.8**
	0.5nm,0.3s,mb3.4,baz=344,slow=12,SNR=43						
ASAR	**Alice Springs**	**24.42**	**165**	P	**P**	**17 01 30.6**	**+0.8**
MKAR	**Makanchi Array**	**60.91**	**326**	P	**P**	**17 06 25.3**	**+1.5**
	0.2nm,0.5s,mb3.5,baz=

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**3.96**	**344**	Pn	**Pn**	**17 20 04.8**	**+1.2**
LZH				Pg	**Pg**	**17 20 14.9**	**-3.8**
LZH				Sn	**Sn**	**17 20 50.9**	**+0.8**
LZH				Sg	**Sg**	**17 21 04.0**	**-6.1**
CMAR	**Chiang Mai Arr**	**14.87**	**204**	Pn	**Pn**	**17 22 35.6**	**+2.6**
0.4nm,0.3s,baz=32,slow=17,SNR=5.6							
CMAR	**Chiang Mai Arr**	**14.87**	**204**	Pn	**Pn**	**17 22 35.6**	**+2.6**
SONM	**Songino Array**	**15.57**	**3**	Pn	**Pn**	**17 22 42.9**	**+0.7**
0.0nm,0.3s,baz=185,slow=13,SNR=2.8							
SONM	**Songino Array**	**15.57**	**3**	Pn	**Pn**	**17 22 42.9**	**+0.7**
ULN	**Ulaanbaatar**	**15.64**	**5**	P	**Pn**	**17 22 44.6**	**+1.5**
4.6nm,1.2s							
MKAR	**Makanchi Array**	**22.74**	**316**	P	**P**	**17 24 04.5**	**-0.4**
2.2nm,0.9s,mb3.6,baz=108,slow=12,SNR=12							
MKAR	**Makanchi Array**	**22.74**	**316**	P	**P**	**17 24 04.5**	**-0.4**
TKM2	**Tokmak 2**	**25.62**	**303**	*e*P	**P**	**17 24 32.1**	**-0.3**
2.5nm,1.0s,mb3.7							
ZALV	**Zalesovo Beam**	**26.10**	**332**	P	**P**	**17 24 36.7**	**+0.2**
1.1nm,0.5s,mb3.6,baz=141,slow=12,SNR=7.0							
ZALV	**Zalesovo Beam**	**26.10**	**332**	P	**P**	**17 24 36.7**	**+0.2**
KURK	**Kurchatov**	**26.89**	**321**	P	**P**	**17 24 42.9**	**-0.8**
1.2nm,0.8s,mb3.5,baz=120,slow=12,SNR=8.8							
KURK	**Kurchatov**	**26.89**	**321**	P	**P**	**17 24 42.9**	**-0.8**
BVAR	**Borovoye Array**	**32.47**	**320**	P	**P**	**17 25 32.6**	**-0.5**
0.5nm,0.7s,mb3.5,baz=114,slow=10,SNR=4.7							
BVAR	**Borovoye Array**	**32.47**	**320**	P	**P**	**17 25 32.6**	**-0.5**
ABKAR	**Akbulak array**	**37.61**	**310**	P	**P**	**17 26 16.8**	**-0.7**
1.5nm,0.9s,mb3.7							
ARCES	**ARCESS Array B**	**56.58**	**336**	P	**P**	**17 28 44.1**	**-1.1**
1.3nm,0.8s,mb4.0,baz=69,slow=6.6,SNR=3.7							
ARCES	**ARCESS Array B**	**56.58**	**336**	P	**P**	**17 28 44.1**	**-1.1**
FINES	**FINESS Array B**	**57.12**	**326**	P	**P**	**17 28 48.4**	**-0.7**
2.5nm,1.0s,mb4.2,baz=89,slow=8.6,SNR=5.2							
FINES	**FINESS Array B**	**57.12**	**326**	P	**P**	**17 28 48.4**	**-0.7**
WRAB	**Tennant Creek**	**58.94**	**148**	*e*P	**P**	**17 29 02.1**	**-0.2**
2.1nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**58.94**	**148**	P	**P**	**17 29 02.2**	**-0.1**
0.7nm,0.5s,mb4.0,baz=340,slow=7.8,SNR=17							
WRA	**Warramunga Arr**	**58.94**	**148**	P	**P**	**17 29 02.2**	**-0.1**
ASAR	**Alice Springs**	**62.02**	**150**	P	**P**	**17 29 23.2**	**-0.1**
0.3nm,0.7s,mb3.6,baz=333,slow=6.6,SNR=11							
ASAR	**Alice Springs**	**62.02**	**150**	P	**P**	**17 29 23.2**	**-0.1**
NOA	**NORSAR Array B**	**64.18**	**327**	P	**P**	**17 29 37.5**	**+0.2**
0.5nm,0.7s,mb3.7,baz=90,slow=7.2,SNR=3.3							
NOA	**NORSAR Array B**	**64.18**	**327**	P	**P**	**17 29 37.5**	**+0.2**
ILAR	**Eielson Array**	**68.38**	**26**	P	**P**	**17 30 03.1**	**-1.0**
0.1nm,0.6s,mb3.0,baz=286,slow=4.3,SNR=3.1							
ILAR	**Eielson Array**	**68.38**	**26**	P	**P**	**17 30 03.1**	**-1.0**
YKA	**Yellowknife Ar**	**80.30**	**18**	P	**P**	**17 31 13.5**	**-0.1**
0.5nm,0.5s,mb3.7,baz=328,slow=5.1,SNR=2.8							
YKA	**Yellowknife Ar**	**80.30**	**18**	P	**P**	**17 31 13.5**	**-0.1**

IDC 05 17:36:12.0±17.0, 19°.34S×176°.77W, h481km±151km, mb2.8/3, mb1 3.1/3, mb1mx2.9/16, mbtmp2.8/3, Error ellipse: s-maj=212.0km s-min=41.6km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.91**	**261**	P	P	17 43 50.5	-0.4
0.4nm,0.3s,baz=97,slow=7.3,SNR=16							
WRA				PcP	PcP	17 45 17.9	-0.4
0.5nm,1.1s,baz=97,slow=3.5,SNR=3.6							
ASAR	**Alice Springs**	**45.92**	**255**	P	P	17 43 51.2	+0.3
0.8nm,0.6s,baz=96,slow=7.2,SNR=34							
ASAR				PcP	PcP	17 45 17.9	-0.3
0.4nm,0.7s,baz=111,slow=3.5,SNR=5.9							
ILAR	**Eielson Array**	**86.94**	**12**	P	P	17 48 04.6	-0.1
0.4nm,1.1s,baz=224,slow=5.1,SNR=3.7							
BRTR	**Keskin Array B**	**146.89**	**314**	PKPbc	PKPbc	17 54 59.8	-0.3
0.3nm,0.6s,baz=85,slow=3.3,SNR=3.6							

*IDC **05** 17:56:12.4±1.0, 4°.73S×139°.46E, h0km, mb3.9/5, mb1 4.2/8, mb1mx4.0/14, mbtmp4.0/8, ML4.4/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/21, Error ellipse: s-maj=31.1km s-min=21.4km az=81.0*

*NEIC **05** 17:56:13.5±0.6, 4°.76S×139°.31E, h10km, mb4.3/7, Error ellipse: s-maj=16.4km s-min=11.0km az=82.0*

*ISCJB **05** 17:56:14.9±0.5, 4°.87S±0°.05×139°.41E±0°.08, h33km, mb4.0/9, Error ellipse: s-maj=11.3km s-min=7.8km az=175.9*

ISC 05 17:56:17.0±0.5, 4°.92S±0°.05×139°.24E±0°.08, h35km, n41, σ1§34/48, mb4.0/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.03**	**120**	Pn	**Pn**	**17 58 24.9**	**-0.1**
0.6nm,0.3s,baz=8.1,slow=6.5,SNR=3.4							
PMG				Sn	**Sn**	**18 00 00.6**	**-5.0**
0.4nm,0.3s,baz=333,slow=22,SNR=2.3							
PMG	**Port Moresby**	**9.03**	**120**	Pn	**Pn**	**17 58 24.9**	**-0.1**
PMG				Sn	**Sn**	**18 00 00.6**	**-5.0**
COEN	**Coen**	**9.79**	**157**	*e*P	**Pn**	**17 58 36.1**	**+0.7**
44nm,0.6s							
COEN				*e*S	**Sn**	**18 00 31.2**	**+7.1**
MTSU	**Mount Surprise**	**14.04**	**160**	*e*P	**Pn**	**17 59 34.1**	**+0.5**
34nm,1.1s							
MTSU				*e*S	**Sn**	**18 02 03.5**	**-4.8**
QIS	**Mount Isa**	**15.55**	**179**	*e*P	**Pn**	**17 59 52.9**	**-0.9**
WRAB	**Tennant Creek**	**15.67**	**197**	*e*Pn	**Pn**	**17 59 54.7**	**-0.6**
55nm,0.6s							
WRAB				*e*Sn	**Sn**	**18 02 43.4**	**-4.5**
WRA	**Warramunga Arr**	**15.68**	**197**	Pn	**Pn**	**17 59 54.5**	**-0.9**
1.6nm,0.3s,baz=20,slow=13,SNR=85							
WRA				Sn	**Sn**	**18 02 44.9**	**-3.2**
0.7nm,0.3s,baz=19,slow=22,SNR=3.7							
WRA				Lg		18 04 49.6	
0.4nm,0.3s,baz=28,slow=30,SNR=5.9							
WRA	**Warramunga Arr**	**15.68**	**197**	Pn	**Pn**	**17 59 54.5**	**-0.9**
WRA				Sn	**Sn**	**18 02 44.9**	**-3.2**
WRA				Lg		18 04 49.5	
CTA	**Charters Tower**	**16.55**	**156**	Pn	**Pn**	**18 00 10.5**	**+3.9**
0.3nm,0.3s,baz=322,slow=10,SNR=3.4							
CTA				Lg		18 05 03.8	
0.3nm,0.3s,baz=251,slow=18,SNR=5.2							
CTA	**Charters Tower**	**16.55**	**156**	Pn	**Pn**	**18 00 10.5**	**+3.9**
CTA				Lg		18 05 03.8	
CTAO	**Charters Tower**	**16.55**	**156**	*e*Pn	**Pn**	**18 00 09.6**	**+3.0**
28nm,1.4s							
FITZ	**Fitzroy Crossi**	**18.67**	**224**	P	**Pn**	**18 00 34.3**	**+1.5**
0.7nm,0.3s,baz=67,slow=9.9,SNR=27							
FITZ				S	**S**	**18 04 00.4**	**-2.8**
0.5nm,0.3s,baz=192,slow=14,SNR=4.3							
FITZ				Lg		18 06 23.0	
0.3nm,0.3s,baz=331,slow=7.2,SNR=3.8							
FITZ				LR	LR	18 09 01.9	
comp=Z,46nm,20.0s,baz=41,slow=41							
FITZ	**Fitzroy Crossi**	**18.67**	**224**	*e*P	**Pn**	**18 00 36.3**	**+3.5**
16nm,0.6s							
FITZ				*e*S	**S**	**18 03 56.4**	**-6.8**
FITZ	**Fitzroy Crossi**	**18.67**	**224**	*e*P	**Pn**	**18 00 34.2**	**+1.4**
7.1nm,0.6s							
FITZ				*e*Sn	**Sn**	**18 03 53.5**	**-7.2**
FITZ				S	**S**	**18 04 00.4**	**-2.8**
FITZ				Lg		18 06 23.0	
GUMO	**Guam**	**19.21**	**17**	LR	LR	18 05 52.5	
comp=Z,74nm,21.0s,baz=338,slow=31							
ASAR	**Alice Springs**	**19.34**	**195**	P	**Pn**	**18 00 42.4**	**+1.6**
2.1nm,0.3s,baz=21,slow=8.6,SNR=233							
ASAR				S	**S**	**18 04 17.6**	**+1.0**
0.2nm,0.3s,baz=19,slow=22,SNR=12							
ASAR				Lg		18 06 34.1	
baz=13,slow=30,SNR=4.2							
ASAR	**Alice Springs**	**19.34**	**195**	P	**Pn**	**18 00 42.4**	**+1.6**
ASAR				S	**S**	**18 04 17.6**	**+1.0**
ASAR				Lg		18 06 34.1	
MBWA	**Marble Bar**	**24.89**	**228**	*e*P	**P**	**18 01 40.6**	**+3.9**
MBWA	**Marble Bar**	**24.89**	**228**	*e*P	**P**	**18 01 39.5**	**+2.8**
6.9nm,0.5s,mb4.4							
JOW	**Kunigami**	**33.30**	**342**	LR	LR	18 16 16.2	
comp=Z,156nm,18.8s,baz=42,slow=36							
CMAR	**Chiang Mai Arr**	**46.01**	**301**	P	**P**	**18 04 39.0**	**+1.5**
1.4nm,0.7s,mb4.0,baz=121,slow=6.3,SNR=12							
CMAR	**Chiang Mai Arr**	**46.01**	**301**	P	**P**	**18 04 39.0**	**+1.5**
CHTO	**Chiang Mai**	**46.17**	**302**	P	**P**	**18 04 37.5**	**-1.2**
2.0nm,0.8s,mb4.1							
SONM	**Songino Array**	**59.93**	**335**	P	**P**	**18 06 20.9**	**+1.3**
0.4nm,0.8s,mb3.5,baz=142,slow=7.2,SNR=3.6							
SONM	**Songino Array**	**59.93**	**335**	P	**P**	**18 06 20.9**	**+1.3**
MKAR	**Makanchi Array**	**71.85**	**323**	P	**P**	**18 07 37.6**	**+1.3**
1.0nm,0.6s,mb3.9,baz=108,slow=7.9,SNR=7.1							
MKAR	**Makanchi Array**	**71.85**	**323**	P	**P**	**18 07 37.6**	**+1.3**
VNDA	**Vanda**	**73.55**	**175**	P	**P**	**18 07 50.5**	**+4.6**
4.5nm,1.3s,mb4.2							
KURK	**Kurchatov**	**75.81**	**325**	P	**P**	**18 08 00.3**	**+0.8**
0.3nm,0.3s,mb3.7,baz=115,slow=4.9,SNR=4.9							
KURK	**Kurchatov**	**75.81**	**325**	P	**P**	**18 08 00.3**	**+0.8**
BRVK	**Borovoye**	**81.48**	**325**	P	**P**	**18 08 30.2**	**-0.4**
3.5nm,0.7s,mb4.4							
QSPA	**South Pole Qui**	**85.05**	**180**	*e*P	**P**	**18 08 50.0**	**+1.4**
PMR	**Palmer**	**85.67**	**27**	P	**P**	**18 08 50.7**	**-1.3**
MCK	**McKinley**	**86.44**	**25**	P	**P**	**18 08 54.0**	**-1.7**
ABKAR	**Akbulak array**	**86.74**	**320**	P	**P**	**18 08 56.7**	**-0.8**
ILAR	**Eielson Array**	**87.61**	**24**	P	**P**	**18 08 59.4**	**-2.0**
0.7nm,0.7s,mb4.0,baz=262,slow=4.1,SNR=10							
ILAR	**Eielson Array**	**87.61**	**24**	P	**P**	**18 08 59.4**	**-2.0**
DBIC	**Dimbokro**	**144.24**	**275**	PKP	PKPdf	18 15 49.6	-0.8
2.1nm,0.5s,baz=148,slow=7.6,SNR=4.1							
DBIC	**Dimbokro**	**144.24**	**275**	PKP	PKPdf	18 15 49.6	-0.8
CPUP	**Villa Florida**	**145.03**	**153**	PKPbc	PKPbc	18 15 51.8	+1.0
0.5nm,0.5s,baz=112,slow=8.9,SNR=3.1							
CPUP	**Villa Florida**	**145.03**	**153**	PKPbc	PKPbc	18 15 51.8	+1.0

*IDC **05** 18:08:13.0±1.8, 34°.36N×136°.47E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/25, mbtmp3.1/3, ML2.5/1, Error ellipse: s-maj=55.4km s-min=23.4km az=113.0*

*ISCJB **05** 18:08:13.9±0.7, 34°.58N±0°.07×140°.59E±0°.06, h51km±7km, mb3.2/2, Error ellipse: s-maj=13.3km s-min=6.6km az=24.1*

*JMA **05** 18:08:13.8±0.1, 34°.67N×140°.64E, h55km±1km, M2.4*

ISC 05 18:08:15.0±0.7, 34°.58N±0°.08×140°.58E±0°.06, h42km±8km, n14, σ0§68/24, mb3.2/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BSO2	**Boso 2**	**0.23**	**40**	*e*S	**Sn**	**18 08 28.9**	**+0.8**
BSO3	**Boso 3**	**0.23**	**347**	P	**Pn**	**18 08 22.4**	**-0.3**
BSO3				S	**Sn**	**18 08 28.7**	**+0.6**
BSO1	**Boso 1**	**0.34**	**77**	P	**Pn**	**18 08 23.2**	**-0.6**
BSO1				S	**Sn**	**18 08 29.9**	**-0.1**
BSO4	**Boso 4**	**0.46**	**335**	P	**Pn**	**18 08 25.0**	**-0.2**
BSO4				S	**Sn**	**18 08 32.7**	**+0.2**
KTR	**Katsuura**	**0.61**	**340**	P	**Pn**	**18 08 26.4**	**-0.8**
KTR				S	**Sn**	**18 08 34.7**	**-1.3**
TATJ	**Tateyama 2**	**0.72**	**309**	P	**Pn**	**18 08 28.9**	**+0.1**
TATJ				S	**Sn**	**18 08 39.8**	**+1.1**
JIM2	**Oshima 3**	**0.95**	**279**	*e*S	**Sn**	**18 08 44.7**	**+0.4**
KTJJ	**Kamata 2**	**1.29**	**286**	P	**Pn**	**18 08 36.1**	**-0.4**
KTJJ				*e*S	**Sn**	**18 08 52.2**	**-0.4**
JOD2	**Odawara 2**	**1.40**	**300**	P	**Pn**	**18 08 37.3**	**-0.7**
JOD2				*e*S	**Sn**	**18 08 53.7**	**-1.6**
JIZS	**Izushimoda**	**1.41**	**276**	P	**Pn**	**18 08 38.1**	**0.0**
JIZS				*e*S	**Sn**	**18 08 55.3**	**-0.1**
MJAR	**Matsushiro Arr**	**2.75**	**316**	Pn	**Pn**	**18 08 56.5**	**-0.1**
0.9nm,0.3s,baz=214,slow=28,SNR=12							
MJAR				Sn	**Sn**	**18 09 29.4**	**+0.8**
1.8nm,0.3s,baz=239,slow=9.1,SNR=10							
MAT	**Matsushiro**	**2.75**	**316**	P	**Pn**	**18 08 57.6**	**+1.0**
MAT				S	**Sn**	**18 09 29.4**	**+0.8**
WRA	**Warramunga Arr**	**54.54**	**187**	P	**P**	**18 17 39.2**	**+0.4**
0.3nm,0.6s,mb3.5,baz=1.3,slow=7.6,SNR=8.7							
ASAR	**Alice Springs**	**58.27**	**187**	P	**P**	**18 18 05.7**	**+0.4**
0.1nm,0.8s,mb2.9,baz=6.7,slow=10,SNR=3.6							

GUC 05 18:09:02.9±0.8, 27°.65S×71°.06W, h43km±5km, ML3.6, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.62**	**20**	⇓*i*P	Pn	18 09 15.4	+0.1
CDCH				*i* S	Sn	18 09 24.6	+0.4
CPCH	**Copiapo**	**0.69**	**65**	⇓*i*P	Pn	18 09 15.7	-0.6
CPCH				*i* S	Sn	18 09 26.3	+0.4
CPCH				AML	AML	18 09 27.3	
comp=E,26μm,0.1s							
VACH	**Vallenar**	**0.96**	**164**	*e*P	Pn	18 09 21.0	+1.1
VACH				*i* S	Sn	18 09 33.8	+1.4
LCO	**Las Campanas**	**1.39**	**167**	⇑*i*P	Pn	18 09 27.7	+1.8
LCO				*i* S	Sn	18 09 45.5	+2.6
LCO				AML	AML	18 09 47.5	
comp=E,384nm,0.8s							

*IDC **05** 18:10:38.9±0.8, 53°.23N×108°.03E, h0km, mb3.9/9, mb1 4.1/13, mb1mx3.8/32, mbtmp3.9/13, ML3.8/4, MS3.4/6, Ms1 3.4/6, ms1mx3.0/36, Error ellipse: s-maj=19.8km s-min=14.5km az=69.0*

*ISCJB **05** 18:10:39.1±0.2, 53°.23N±0°.02×107°.93E±0°.03, h10km, mb4.0/15, MS3.6/5, Error ellipse: s-maj=3.4km s-min=2.1km az=44.0*

*MOS **05** 18:10:39.8±0.9, 53°.27N×107°.93E, h14km, mb4.3/6, Error ellipse: s-maj=9.6km s-min=6.2km az=65.6*

MOS Felt (II) at Onguryeny.

*BYKL **05** 18:10:40.8±0.2, 53°.28N×107°.84E, h14km±4km, FELT I=II MSK at Ongureny*

*NEIC **05** 18:10:43.3±3.4, 53°.25N×107°.90E, h29km±24km, mb4.4/5, Error ellipse: s-maj=13.2km s-min=8.1km az=49.0*

ISC 05 18:10:40.3±0.2, 53°.26N±0°.02×107°.94E±0°.03, h10km, n110, σ1§41/177, mb4.0/15, MS3.6/5, 12C-7D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.44**	**332**	⇑*i*PG	**Pg**	**18 10 49.1**	**+0.3**
OGRR				*e*		18 10 54.9	
OGRR				pmax	pmax		
comp=Z,1μm,0.3s							
OGRR				smax			
comp=N,11μm,0.4s							
OGRR	**Ongureny**	**0.44**	**332**	⇑*i*Pg	**Pg**	**18 10 49.1**	**+0.3**
comp=N,4μm,0.5s							
OGRR				⇓*i*Pg	**Pg**	**18 10 49.1**	**+0.3**
comp=N,1μm,0.5s							
OGRR				⇑*i*Pg	**Pg**	**18 10 49.1**	**+0.3**
comp=N,4μm,0.5s							
OGRR				Pmax		18 10 49.3	
comp=N,2μm,0.2s							
OGRR				*i* Sg	**Sg**	**18 10 54.8**	**+0.2**
OGRR				Smax		18 10 57.1	
comp=N,12μm,0.4s							
TRG	**Tyrgan**	**1.08**	**243**	⇑*i*PG	**Pg**	**18 10 59.6**	**-1.5**
TRG				*e*		18 11 13.1	
TRG				pmax	pmax		
comp=Z,681nm,0.3s							
TRG				smax			
comp=N,4μm,0.2s							
TRG	**Tyrgan**	**1.08**	**243**	⇓*i*Pg	**Pg**	**18 10 59.5**	**-1.6**
comp=N,213nm,0.4s							
TRG				⇓*i*Pg	**Pg**	**18 10 59.5**	**-1.6**
comp=N,222nm,0.4s							
TRG				⇑*i*Pg	**Pg**	**18 10 59.5**	**-1.6**
comp=N,320nm,0.4s							
TRG				Pmax		18 11 02.2	
comp=N,680nm,0.3s							
TRG				*i* Sg	**Sg**	**18 11 13.0**	**-2.1**
TRG				Smax		18 11 18.1	
comp=N,8μm,0.7s							
SYVR	**Suvo**	**1.30**	**71**	*e*PG	**Pg**	**18 11 05.2**	**+0.1**
SYVR				*e*		18 11 23.2	
SYVR				pmax	pmax		
comp=Z,21nm,0.1s							
SYVR				smax			
comp=N,3μm,0.5s							
SYVR	**Suvo**	**1.30**	**71**	⇑*i*Pg	**Pg**	**18 11 05.1**	**-0.1**
SYVR				Pmax		18 11 10.8	
comp=N,378nm,0.5s							
SYVR				*i* Sg	**Sg**	**18 11 23.2**	**+1.2**
SYVR				Smax		18 11 23.9	
comp=N,3μm,0.5s							
UUDB	**Ulan-Yde**	**1.41**	**187**	Pg	**Pg**	**18 11 06.5**	**-0.7**
UUDB				Pmax		18 11 08.5	
comp=N,1μm,0.4s							
UUDB				*e*Sg	**Sg**	**18 11 25.7**	**+0.3**
UUDB				Smax		18 11 27.8	
comp=N,5μm,0.4s							
FFNB	**Fofonovo**	**1.41**	**211**	*e*Pg	**Pg**	**18 11 06.3**	**-1.0**
FFNB				*e*Pb	**Pb**	**18 11 06.8**	**+0.2**
FFNB				max		18 11 06.9	
comp=N,470nm,0.2s							
FFNB				*e*Sg	**Sg**	**18 11 25.2**	**-0.4**
FFNB				*e*Sb	**Sb**	**18 11 26.2**	**+1.6**
FFNB				max		18 11 27.3	
comp=N,4μm,0.0s							
KAB	**Kabansk**	**1.44**	**213**	*e*PG	**Pg**	**18 11 06.9**	**-1.0**
KAB				*e*		18 11 26.1	
KAB				pmax	pmax		
comp=Z,2μm,1.3s							
KAB				smax			
comp=N,8μm,0.5s							
KAB	**Kabansk**	**1.44**	**213**	*e*Pg	**Pg**	**18 11 07.3**	**-0.6**
KAB				Pmax		18 11 12.7	
comp=N,595nm,0.4s							
KAB				*e*Sg	**Sg**	**18 11 25.9**	**-0.7**
KAB				Smax		18 11 33.2	
comp=N,8μm,0.6s							
HRMR	**Khuramsha**	**1.74**	**201**	⇓*i*Pn	**Pn**	**18 11 11.2**	**+0.7**
HRMR				⇓*i*Pg	**Pg**	**18 11 12.3**	**-1.4**
comp=N,732nm,0.5s							
HRMR				⇓*i*Pg	**Pg**	**18 11 12.3**	**-1.4**
comp=N,76nm,0.5s							
HRMR				⇑*i*Pg	**Pg**	**18 11 12.3**	**-1.4**
comp=N,858nm,0.5s							
HRMR				Pmax		18 11 22.0	
comp=N,2μm,0.4s							
HRMR				*e*Sg	**Sg**	**18 11 34.9**	**-1.3**
HRMR				Smax		18 11 37.3	
comp=N,22μm,0.4s							
LSTR	**Listvyanka**	**2.35**	**235**	⇑*i*Pn	**Pn**	**18 11 19.3**	**+0.4**
LSTR				*e*Pg	**Pg**	**18 11 22.7**	**-2.6**
LSTR				Pmax		18 11 30.6	
comp=N,173nm,0.6s							
LSTR				*e*Sn	**Sn**	**18 11 48.3**	**+0.5**
LSTR				*e*Sg	**Sg**	**18 11 52.3**	**-3.5**
LSTR				Smax		18 11 57.2	
comp=N,1μm,0.4s							
IRK	**Irkutsk**	**2.45**	**247**	*e*PN	**Pn**	**18 11 20.7**	**+0.4**
IRK				*e*		18 11 23.7	
IRK				*e*S	**Sn**	**18 11 48.0**	**-2.2**
IRK				*e*		18 11 54.2	
IRK				pmax	pmax		
comp=Z,373nm,0.4s							
IRK				smax			
comp=N,7μm,0.4s							
IRK	**Irkutsk**	**2.45**	**247**	*e*Pn	**Pn**	**18 11 20.7**	**+0.4**
IRK				*e*Pg	**Pg**	**18 11 23.9**	**-3.3**
IRK				Pmax		18 11 32.1	
comp=N,371nm,0.4s							
IRK				*e*Sn	**Sn**	**18 11 48.0**	**-2.2**
IRK				*e*Sg	**Sg**	**18 11 54.3**	**-4.6**
IRK				Smax		18 11 59.4	
comp=N,7μm,0.5s							
YLYR	**Ulyunkhan**	**2.50**	**48**	*e*PN	**Pn**	**18 11 22.2**	**+1.3**
YLYR				*e*		18 11 25.9	
YLYR				*e*S	**Sn**	**18 11 52.5**	**+1.1**
YLYR				*e*		18 11 58.1	
YLYR				pmax	pmax		
comp=Z,28nm,0.1s							
YLYR				smax			
comp=E,1μm,0.8s							
YLYR	**Ulyunkhan**	**2.50**	**48**	⇓*i*Pn	**Pn**	**18 11 22.1**	**+1.2**
YLYR				*e*Pg	**Pg**	**18 11 25.8**	**-2.3**
YLYR				Pmax		18 11 33.0	
comp=E,100nm,0.4s							
YLYR				*e*Sn	**Sn**	**18 11 51.7**	**+0.3**
YLYR				*i* Sg	**Sg**	**18 11 59.2**	**-1.2**
YLYR				Smax		18 12 00.5	
comp=E,1μm,0.9s							
NIZ	**Nizh Angarsk**	**2.69**	**20**	*e*PN	**Pn**	**18 11 24.8**	**+1.3**
NIZ				*e*		18 11 27.7	
NIZ	**Nizh Angarsk**	**2.69**	**20**	*e*Pn	**Pn**	**18 11 25.1**	**+1.6**
NIZ				*e*Pg	**Pg**	**18 11 29.8**	**-2.0**
NIZ				Pmax		18 11 37.7	
comp=E,112nm,0.3s							
NIZ				*i* Sn	**Sn**	**18 11 58.1**	**+2.0**
NIZ				*e*Sg	**Sg**	**18 12 04.9**	**-1.7**
NIZ				Smax		18 12 07.4	
comp=E,951nm,0.5s							
TLY	**Talaya**	**3.06**	**241**	*e*Pn	**Pn**	**18 11 28.9**	**+0.2**
TLY				*e*Sn	**Sn**	**18 12 11.0**	**+5.6**
TLY	**Talaya**	**3.06**	**241**	*e*PN	**Pn**	**18 11 29.1**	**+0.4**
TLY				*e*		18 11 35.0	
TLY				*e*		18 12 12.7	
TLY				pmax	pmax		
comp=Z,109nm,0.3s							
TLY				smax			
comp=E,1μm,1.1s							
TLY	**Talaya**	**3.06**	**241**	*e*Pn	**Pn**	**18 11 29.1**	**+0.4**
TLY				*e*Pg	**Pg**	**18 11 34.6**	**-4.4**
TLY				Pmax		18 11 38.7	
comp=E,105nm,0.4s							
TLY				*e*Sg	**Sg**	**18 12 12.9**	**-5.8**
TLY				Smax		18 12 16.7	
comp=E,1μm,0.7s							
KMO	**Kumora**	**3.25**	**34**	*e*PN	**Pn**	**18 11 31.5**	**+0.3**
KMO				*e*		18 11 38.4	
KMO				*e*S	**Sn**	**18 12 10.1**	**+0.2**
KMO				*e*		18 12 20.3	
KMO				pmax	pmax		
comp=Z,75nm,0.4s							
KMO				smax			
comp=N,1μm,1.1s							
KMO	**Kumora**	**3.25**	**34**	*e*Pn	**Pn**	**18 11 32.3**	**+1.1**
KMO				*e*Pg	**Pg**	**18 11 38.4**	**-4.0**
KMO				Pmax		18 11 44.5	
comp=N,142nm,0.5s							
KMO				*e*Sn	**Sn**	**18 12 09.6**	**-0.3**
KMO				*e*Sg	**Sg**	**18 12 21.0**	**-3.5**
KMO				Smax		18 12 31.9	
comp=N,1μm,1.1s							
ARS	**Arshan**	**3.62**	**250**	*e*PN	**Pg**	**18 11 43.6**	**-6.0**
ARS				*e*		18 12 29.0	
ARS			

ZAK	**Zakamensk**	**4.08**	**227**	*e*Pn	**Pn**	**18 11 43.9**	**+1.2**
ZAK				*e*Pg	**Pg**	**18 11 53.9**	**-4.5**
ZAK				Pmax		18 12 16.5	
	comp=E,51nm,0.7s						
ZAK				*e*Sg	**Sg**	**18 12 47.3**	**-3.9**
ZAK				Smax		18 13 07.9	
	comp=E,202nm,0.9s						
SVKR	**Severomuysk**	**4.34**	**46**	*e*Pn	**Pn**	**18 11 48.3**	**+2.1**
SVKR				*e*Pg	**Pg**	**18 12 00.2**	**-3.2**
SVKR				Pmax		18 12 08.3	
	comp=E,116nm,0.4s						
SVKR				*e*Sg	**Sg**	**18 12 57.4**	**-2.1**
SVKR				Smax		18 13 03.4	
	comp=E,2μm,1.2s						
KPC	**Khapcheranga**	**4.51**	**140**	*e*PN	**Pn**	**18 11 48.7**	**+0.1**
KPC				*e*		18 12 02.3	
KPC				*e*S	**Sn**	**18 12 39.8**	**-1.3**
KPC				*e*		18 13 01.0	
KPC				pmax	pmax		
	comp=Z,95nm,0.3s						
KPC				smax			
	comp=E,1μm,1.0s						
KPC	**Khapcheranga**	**4.51**	**140**	*e*Pn	**Pn**	**18 11 48.6**	**0.0**
KPC				*e*Pg	**Pg**	**18 12 02.4**	**-4.3**
KPC				Pmax		18 12 17.1	
	comp=E,153nm,0.5s						
KPC				*e*Sn	**Sn**	**18 12 39.5**	**-1.6**
KPC				*e*Sg	**Sg**	**18 13 01.0**	**-4.1**
KPC				Smax		18 13 06.8	
	comp=E,1μm,1.0s						
MOY	**Mondy**	**4.54**	**252**	*e*Pn	**Pn**	**18 11 51.3**	**+2.4**
MOY				*e*Pg	**Pg**	**18 12 00.1**	**-7.0**
MOY				Pmax		18 12 11.5	
	comp=E,126nm,0.7s						
MOY				*e*		18 12 44.6	
MOY				*e*Sg	**Sg**	**18 12 56.8**	**-9.0**
MOY				Smax		18 13 02.7	
	comp=E,886nm,0.7s						
ORL	**Orlik**	**4.97**	**265**	*e*Pn	**Pn**	**18 11 57.1**	**+2.2**
ORL				*e*Sn	**Sn**	**18 12 50.9**	**-1.5**
ORL				*e*Sg	**Sg**	**18 13 12.7**	**-7.1**
ORL				Smax		18 13 22.6	
	comp=E,1μm,1.6s						
ULN	**Ulaanbaatar**	**5.43**	**186**	*e*Pn	**Pn**	**18 12 02.4**	**+1.1**
	comp=E,82nm,0.8s						
ULN				*e*Pb	**Pb**	**18 12 17.2**	**+2.0**
ULN				*e*Sg	**Sg**	**18 13 29.1**	**-5.4**
ULN	**Ulaanbaatar**	**5.43**	**186**	*e*PN	**Pn**	**18 12 02.4**	**+1.2**
ULN				*e*		18 12 17.2	
ULN				*e*		18 13 29.1	
ULN				pmax	pmax		
	comp=Z,82nm,0.8s						
SONM	**Songino Array**	**5.52**	**191**	Pn	**Pn**	**18 12 03.6**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=7.6,slow=15,SNR=109						
SONM				Pg	**Pg**	**18 12 19.2**	**-6.7**
	comp=Z,7.1nm,0.3s,baz=1.6,slow=16,SNR=23						
SONM				Sn	**Sn**	**18 13 08.8**	**+2.9**
	comp=Z,15nm,0.3s,baz=11,slow=15,SNR=5.8						
SONM				Lg		18 13 33.3	
	comp=Z,50nm,0.3s,baz=4.5,slow=28,SNR=13						
SONM				LR	LR	18 14 31.7	
	comp=Z,150nm,20.3s,baz=167,slow=42						
SONM	**Songino Array**	**5.52**	**191**	Pn	**Pn**	**18 12 03.6**	**+1.2**
SONM				Pg	**Pg**	**18 12 19.2**	**-6.7**
SONM				Sn	**Sn**	**18 13 08.8**	**+2.9**
SONM				Lg		18 13 33.3	
SONM	**Songino Array**	**5.52**	**191**	PN	**Pn**	**18 12 03.6**	**+1.2**
SONM						18 12 19.2	
SONM						18 13 08.8	
NLYR	**Nelyaty**	**5.53**	**51**	*e*PN	**Pn**	**18 12 03.4**	**+0.8**
NLYR				*e*		18 12 22.0	
NLYR				*e*		18 13 34.4	
NLYR				pmax	pmax		
	comp=Z,126nm,0.6s						
NLYR				smax			
	comp=N,597nm,0.8s						
NLYR	**Nelyaty**	**5.53**	**51**	*e*Pn	**Pn**	**18 12 04.1**	**+1.6**
NLYR				*e*Pg	**Pg**	**18 12 22.4**	**-3.7**
NLYR				Pmax		18 12 55.3	
	comp=N,46nm,0.7s						
NLYR				*e*Sg	**Sg**	**18 13 35.4**	**-2.2**
NLYR				Smax		18 13 48.7	
	comp=N,600nm,0.8s						
BOD	**Bodaibo**	**5.72**	**35**	*e*PN	**Pn**	**18 12 05.3**	**+0.1**
BOD				*e*		18 12 24.3	
BOD	**Bodaibo**	**5.72**	**35**	*e*Pn	**Pn**	**18 12 06.0**	**+0.8**
BOD				*e*Sg	**Sg**	**18 13 35.8**	**-8.0**
BOD				Smax		18 13 48.3	
	comp=N,290nm,1.1s						
CRS	**Chara**	**6.96**	**54**	*e*PN	**Pn**	**18 12 23.8**	**+1.6**
CRS				*e*		18 12 46.3	
CRS				*e*		18 14 19.2	
CRS				pmax	pmax		
	comp=Z,54nm,1.3s						
CRS				smax			
	comp=E,1μm,1.7s						
CRS	**Chara**	**6.96**	**54**	*e*Pn	**Pn**	**18 12 23.6**	**+1.4**
CRS				*e*Pg	**Pg**	**18 12 45.9**	**-7.6**
CRS				*e*Sg	**Sg**	**18 14 15.7**	**-7.8**
CRS				Smax		18 14 36.1	
	comp=E,1μm,1.7s						
TUP	**Tupik**	**7.21**	**76**	*e*PN	**Pn**	**18 12 27.9**	**+2.3**
TUP				*e*		18 12 49.5	
TUP				*e*		18 14 24.8	
TUP				pmax	pmax		
	comp=Z,36nm,0.6s						
TUP				smax			
	comp=N,818nm,1.0s						
TUP	**Tupik**	**7.21**	**76**	*i*Pn	**Pn**	**18 12 26.1**	**+0.5**
TUP				*e*Sg	**Sg**	**18 14 25.0**	**-6.4**
TUP				Smax		18 14 32.7	
	comp=N,810nm,1.5s						
ZALV	**Zalesovo Beam**	**13.73**	**282**	Pn	**Pn**	**18 13 55.8**	**+1.0**
	comp=N,0.2nm,0.3s,baz=78,slow=11,SNR=9.3						
ZALV				Lg		18 17 47.2	
	comp=N,0.3nm,0.3s,baz=78,slow=24,SNR=8.9						
ZALV				LR	LR	18 19 46.5	
	comp=N,30nm,21.0s,baz=52,slow=40						
ZALV	**Zalesovo Beam**	**13.73**	**282**	Pn	**Pn**	**18 13 55.8**	**+1.0**
ZALV				Lg		18 17 47.2	
ZALV	**Zalesovo Beam**	**13.73**	**282**	P	**Pn**	**18 13 55.8**	**+1.0**
NVS	**Novosibirsk**	**14.58**	**286**	*e*P	**Pn**	**18 14 02.6**	**-3.7**
NVS				pmax	pmax		
	comp=Z,59nm,3.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.7s						
MK31	**Makanchi Array**	**17.64**	**259**	*e*Pn	**Pn**	**18 14 46.5**	**+0.5**
MK31	**Makanchi Array**	**17.64**	**259**	*e*P	**Pn**	**18 14 46.5**	**+0.5**
MKAR	**Makanchi Array**	**17.64**	**259**	P	**Pn**	**18 14 47.2**	**+1.3**
	comp=E,0.2nm,0.3s,baz=64,slow=9.7,SNR=17						
MKAR				Lg		18 19 53.8	
	comp=E,0.0nm,0.3s,baz=74,slow=33,SNR=3.5						
MKAR	**Makanchi Array**	**17.64**	**259**	P	**Pn**	**18 14 47.2**	**+1.3**
MKAR				Lg		18 19 53.8	
MKAR	**Makanchi Array**	**17.64**	**259**	P	**Pn**	**18 14 47.2**	**+1.2**
HABR	**Khabarovsk**	**17.72**	**95**	P	**Pn**	**18 14 48.2**	**+1.3**
HABR				*e*S	**Sn**	**18 18 06.6**	**+2.5**
HABR				MLR	MLR		
	comp=Z,200nm,17.0s						
KURK	**Kurchatov**	**18.18**	**274**	P	**Pn**	**18 14 52.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=68,slow=12,SNR=15						
KURK				Lg		18 20 12.1	
	baz=75,slow=33,SNR=4.0						
KURK	**Kurchatov**	**18.18**	**274**	P	**Pn**	**18 14 52.3**	**-0.2**
KURK				Lg		18 20 12.1	
KURK	**Kurchatov**	**18.18**	**274**	⇑*e*P	**Pn**	**18 14 55.3**	**+2.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KURK				MLR	MLR		
	comp=Z,103nm,20.0s						
BVAR	**Borovoye Array**	**22.36**	**285**	P	**P**	**18 15 38.1**	**0.0**
	comp=Z,4.1nm,0.4s,mb4.2,baz=77,slow=10,SNR=28						
BVAR				LR	LR	18 24 43.8	
	comp=Z,103nm,21.1s,MS3.2,baz=296,slow=38						
BVAR	**Borovoye Array**	**22.36**	**285**	P	**P**	**18 15 38.1**	**0.0**
BVAR	**Borovoye Array**	**22.36**	**285**	P	**P**	**18 15 38.1**	**0.0**
BRVK	**Borovoye**	**22.41**	**285**	*e*P	**P**	**18 15 36.7**	**-2.0**
	comp=Z,9.4nm,0.6s,mb4.4						
BRVK	**Borovoye**	**22.41**	**285**	⇑*e*P	**P**	**18 15 39.4**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
BRVK				MLR	MLR		
	comp=Z,143nm,15.0s,MS3.5						
TKM2	**Tokmak 2**	**23.75**	**257**	*e*P	**P**	**18 15 53.2**	**+0.6**
	comp=Z,2.1nm,0.7s,mb3.7						
TKM2	**Tokmak 2**	**23.75**	**257**	*e*P	**P**	**18 15 53.2**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
AAK	**Ala-Archa**	**24.57**	**258**	*e*P	**P**	**18 15 54.9**	**-5.2**
	comp=Z,12nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**24.57**	**258**	*e*P	**P**	**18 15 54.9**	**-5.2**
AAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
EKS2	**Erkin-Say**	**24.98**	**259**	*e*P	**P**	**18 16 04.2**	**+0.4**
EKS2	**Erkin-Say**	**24.98**	**259**	*e*P	**P**	**18 16 04.2**	**+0.4**
ARU	**Arti**	**28.11**	**297**	*c i*P	**P**	**18 16 37.4**	**+5.5**
ARU				*e*		18 17 22.9	
ARU				S	**S**	**18 21 22.9**	**+6.3**
ARU				SS		18 22 38.4	
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
AKTO	**Aktyubinsk**	**30.46**	**285**	P	**P**	**18 16 54.2**	**+1.4**
	comp=Z,0.4nm,0.4s,mb3.5,baz=55,slow=12,SNR=2.9						
AKTO	**Aktyubinsk**	**30.46**	**285**	P	**P**	**18 16 54.2**	**+1.4**
AKTO	**Aktyubinsk**	**30.46**	**285**	P	**P**	**18 16 54.3**	**+1.5**
ARCES	**ARCESS Array B**	**39.09**	**326**	P	**P**	**18 18 06.9**	**0.0**
	comp=Z,2.0nm,0.9s,mb3.8,baz=94,slow=10.0,SNR=3.5						
ARCES	**ARCESS Array B**	**39.09**	**326**	P	**P**	**18 18 06.9**	**0.0**
ARCES	**ARCESS Array B**	**39.09**	**326**	P	**P**	**18 18 06.9**	**-0.1**
FINES	**FINESS Array B**	**42.10**	**315**	P	**P**	**18 18 31.4**	**-0.5**
	comp=Z,3.0nm,1.0s,mb3.9,baz=98,slow=3.9,SNR=4.2						
FINES	**FINESS Array B**	**42.10**	**315**	P	**P**	**18 18 31.4**	**-0.5**
FINES	**FINESS Array B**	**42.10**	**315**	P	**P**	**18 18 31.5**	**-0.5**
GNI	**Garni**	**43.86**	**279**	P	**P**	**18 18 46.3**	**-0.1**
	comp=Z,4.4nm,0.9s,mb4.2						
GNI	**Garni**	**43.86**	**279**	P	**P**	**18 18 46.3**	**-0.1**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA	**NORSAR Array B**	**48.39**	**320**	LR	LR	18 40 55.7	
	comp=Z,40nm,21.3s,MS3.4,baz=70,slow=38						
COLA	**College**	**48.71**	**33**	P	**P**	**18 19 24.6**	**+0.4**
	comp=Z,2.7nm,0.6s,mb4.5						
COLA	**College**	**48.71**	**33**	P	**P**	**18 19 24.6**	**+0.4**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**49.09**	**33**	P	**P**	**18 19 28.1**	**+0.9**
	comp=Z,2.4nm,0.7s,mb4.3,baz=302,slow=6.4,SNR=33						
ILAR				LR	LR	18 42 54.2	
	comp=Z,81nm,18.3s,MS3.8,baz=135,slow=39						
ILAR	**Eielson Array**	**49.09**	**33**	P	**P**	**18 19 28.1**	**+0.9**
ILAR	**Eielson Array**	**49.09**	**33**	P	**P**	**18 19 28.1**	**+0.9**
BRTR	**Keskin Array B**	**50.63**	**286**	P	**P**	**18 19 41.6**	**+2.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=86,slow=7.5,SNR=2.4						
BRTR	**Keskin Array B**	**50.63**	**286**	P	**P**	**18 19 41.6**	**+2.3**
BRTR	**Keskin Array B**	**50.63**	**286**	P	**P**	**18 19 41.6**	**+2.3**
GERES	**GERESS Array B**	**55.19**	**307**	LR	LR	18 46 44.7	
	comp=Z,143nm,19.3s,MS4.1,baz=302,slow=39						
FITZ	**Fitzroy Crossi**	**72.69**	**162**	P	**P**	**18 22 07.9**	**-0.2**
	comp=Z,1.2nm,0.9s,mb3.8,baz=19,slow=6.0,SNR=3.7						
FITZ	**Fitzroy Crossi**	**72.69**	**162**	P	**P**	**18 22 07.9**	**-0.2**
WRA	**Warramunga Arr**	**76.40**	**155**	P	**P**	**18 22 28.9**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=347,slow=6.2,SNR=8.9						
WRA	**Warramunga Arr**	**76.40**	**155**	P	**P**	**18 22 28.9**	**-0.7**
WRA	**Warramunga Arr**	**76.40**	**155**	P	**P**	**18 22 28.9**	**-0.7**
KMBO	**Kilima Mbogo**	**79.45**	**254**	*i* P	**P**	**18 22 50.0**	**+3.1**
ASAR	**Alice Springs**	**79.85**	**156**	P	**P**	**18 22 48.8**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.7,baz=350,slow=4.9,SNR=7.1						
ASAR	**Alice Springs**	**79.85**	**156**	P	**P**	**18 22 48.8**	**+0.1**
ASAR	**Alice Springs**	**79.85**	**156**	P	**P**	**18 22 48.8**	**+0.1**
SNAA	**Sanae**	**145.67**	**212**	PKPbc	PKPbc	18 30 17.2	-0.3
	comp=Z,0.5nm,0.8s,baz=103,slow=6.0,SNR=5.4						
SNAA	**Sanae**	**145.67**	**212**	PKPbc	PKPbc	18 30 17.2	-0.3
CPUP	**Villa Florida**	**150.94**	**332**	PKPbc	PKPbc	18 30 32.5	-0.3
	comp=Z,0.3nm,0.3s,baz=90,slow=5.1,SNR=3.0						
CPUP	**Villa Florida**	**150.94**	**332**	PKPbc	PKPbc	18 30 32.5	-0.3

IDC ***05*** *18:14:24.3±1.2, 6°.72N×127°.09E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, MS2.8/1, Ms1 3.0/1, ms1mx2.1/36, Error ellipse: s-maj=37.0km s-min=17.0km az=51.0*
ISCJB ***05*** *18:14:30.0±1.4, 6°.59N±0°.07×127°.0E±0°.1, h57km±13km, mb3.8/9, Error ellipse: s-maj=20.0km s-min=10.2km az=156.1*
MAN ***05*** *18:14:32, 6°.37N×126°.46E, h13km, mb4.6, ML3.5, MS3.5*
NEIC ***05*** *18:14:32.2±2.5, 6°.54N×126°.79E, h61km±22km, mb4.1/3, Error ellipse: s-maj=41.7km s-min=9.0km az=74.0*

ISC 05 18:14:31.4±1.4, 6°.57N±0°.07×126°.9E±0°.1, h52km±14km, n28, σ1§11/33, mb3.8/9, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.77**	**299**	*e*P	**Pn**	**18 14 44.4**	**-1.7**
DAV	**Davao City (W)**	**1.43**	**290**	Pn	**Pn**	**18 14 54.5**	**-0.5**
	213nm,0.3s,baz=252,slow=1.1,SNR=8.2						
DAV				Sn	**Sn**	**18 15 12.9**	**+0.2**
	139nm,0.3s,baz=270,slow=24,SNR=27						
DAV	**Davao City (W)**	**1.43**	**290**	*e*Pn	**Pn**	**18 14 54.3**	**-0.7**
DAV				*e*Sn	**Sn**	**18 15 10.6**	**-2.2**
DAV				Sn	**Sn**	**18 15 12.9**	**+0.2**
KCP	**Kidapawan**	**1.88**	**283**	⇑*i*P	**Pn**	**18 15 05.0**	**+3.9**
KCP				*i* S	**Sn**	**18 15 25.2**	**+1.5**
BUKP	**Musuan**	**2.27**	**305**	*e*P	**Pn**	**18 15 06.4**	**0.0**
BUKP				*e*S	**Sn**	**18 15 32.3**	**-0.8**
BUTP	**Butuan**	**2.71**	**331**	*e*P	**Pn**	**18 15 16.7**	**+4.2**
CTBH	**Cotabato--PC H**	**2.74**	**284**	⇑*i*P	**Pn**	**18 15 10.9**	**-2.0**
CGP	**Cagayan de Oro**	**2.90**	**310**	⇑*e*P	**Pn**	**18 15 17.3**	**+2.2**
CGP				*e*S	**Sn**	**18 15 50.2**	**+1.4**
PAGZ	**Pagadian**	**3.74**	**290**	*e*P	**Pn**	**18 15 26.1**	**-0.6**
MSLP	**Maasin**	**4.09**	**330**	*e*P	**Pn**	**18 15 32.3**	**+0.9**
YHNB	**Yeheng**	**18.77**	**344**	*e*P	**Pn**	**18 18 47.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**24.55**	**183**	P	**P**	**18 19 46.6**	**+0.3**
	0.6nm,0.3s,mb3.5,baz=359,slow=9.7,SNR=5.3						
FITZ	**Fitzroy Crossi**	**24.55**	**183**	P	**P**	**18 19 46.6**	**+0.3**
WRAB	**Tennant Creek**	**27.33**	**165**	*e*P	**P**	**18 20 11.3**	**-0.2**
	2.9nm,1.1s,mb3.7						
WRA	**Warramunga Arr**	**27.34**	**165**	P	**P**	**18 20 11.7**	**+0.2**
	0.5nm,0.5s,mb3.3,baz=344,slow=10,SNR=15						
WRA	**Warramunga Arr**	**27.34**	**165**	P	**P**	**18 20 11.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**29.71**	**296**	LR	LR	18 31 10.7	
	comp=Z,20nm,19.9s,baz=175,slow=34						
ASAR	**Alice Springs**	**30.82**	**167**	P	**P**	**18 20 45.1**	**+2.7**
	0.3nm,0.5s,mb3.3,baz=345,slow=7.2,SNR=11						
ASAR				PcP	PcP	18 23 38.9	+0.2
	0.1nm,0.4s,baz=352,slow=2.1,SNR=4.2						
ASAR	**Alice Springs**	**30.82**	**167**	P	**P**	**18 20 45.1**	**+2.7**
ASAR				PcP	PcP	18 23 38.9	+0.2
NWAO	**Narrogin (SRO)**	**40.35**	**193**	P	**P**	**18 22 03.6**	**-0.4**
	2.3nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**40.71**	**161**	P	**P**	**18 22 07.0**	**-0.1**
	0.6nm,0.4s,mb3.6,baz=333,slow=6.6,SNR=3.5						
STKA	**Stephens Creek**	**40.71**	**161**	P	**P**	**18 22 07.0**	**-0.1**
TLY	**Talaya**	**48.92**	**341**	P	**P**	**18 23 10.4**	**-1.6**
MKAR	**Makanchi Array**	**55.37**	**324**	P	**P**	**18 23 59.7**	**-0.4**
	0.3nm,0.5s,mb3.6,baz=116,slow=6.9,SNR=7.4						
MKAR	**Makanchi Array**	**55.37**	**324**	P	**P**	**18 23 59.7**	**-0.4**
ARU	**Arti**	**72.66**	**327**	*e*P	**P**	**18 25 53.1**	**-0.3**
	1.5nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**87.87**	**340**	P	**P**	**18 27 15.1**	**+0.2**
	1.4nm,0.7s,mb4.3,baz=85,slow=5.5,SNR=3.8						
ARCES	**ARCESS Array B**	**87.87**	**340**	P	**P**	**18 27 15.1**	**+0.2**

IDC ***05*** *18:54:55.1±7.2, 35°.99N×70°.18E, h116km±66km, mb3.5/7, mb1 3.5/11, mb1mx3.2/30, mbtmp3.4/11, Error ellipse: s-maj=36.7km s-min=19.8km az=13.0*
ISCJB ***05*** *18:54:57.8±0.4, 36°.26N±0°.03×70°.19E±0°.06, h152km±6km, mb3.5/6, Error ellipse: s-maj=8.0km s-min=4.7km az=168.0*
NEIC ***05*** *18:54:57.9±0.7, 36°.22N×70°.19E, h140km±8km, mb4.2/15, Error ellipse: s-maj=10.0km s-min=5.5km az=64.0*
NNC ***05*** *18:55:06.7±8.3, 36°.88N×70°.39E, h152km±87km, mb2.9, mpv4.0, Error ellipse: s-maj=69.7km s-min=47.4km az=13.0*

ISC 05 18:54:58.9±0.4, 36°.26N±0°.03×70°.20E±0°.06, h148km±6km, n70, σ1§08/78, mb3.5/6, 4C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.95**	**209**	*e*Pn	**Pn**	**18 55 33.0**	**-0.4**
KBL				*e*Sn	**Sn**	**18 55 58.7**	**-1.1**
CEP	**Cherat**	**2.80**	**149**	⇓P	**Pn**	**18 55 44.9**	**+1.2**
CEP				S	**Sn**	**18 56 20.0**	**+1.8**
CHCP	**Chirah Chowk**	**3.61**	**135**	P	**Pn**	**18 55 55.8**	**+1.8**
THW	**Thamme Wali**	**3.68**	**159**	⇓P	**Pn**	**18 55 55.2**	**+0.3**
AML	**Almayashu**	**6.46**	**24**	P	**Pn**	**18 56 31.8**	**+0.1**
	SNR=111						
AML				P		18 56 31.8	
	SNR=111						
KK31	**Karatay Array**	**6.84**	**2**	⇓P	**Pn**	**18 56 36.1**	**-0.5**
	8.2nm,0.4s,baz=199,slow=15,SNR=120						
KK31				⇑S	**Sn**	**18 57 48.6**	**-4.8**
	2.0nm,0.2s,baz=187,slow=18,SNR=6.2						
KKAR	**Karatay Array**	**6.84**	**2**	*e*Pn	**Pn**	**18 56 36.0**	**-0.7**
	16nm,0.4s						
KKAR				*e*Sn	**Sn**	**18 57 48.1**	**-5.3**
EKS2	**Erkin-Say**	**6.97**	**22**	P	**Pn**	**18 56 38.6**	**+0.2**
	SNR=50						
EKS2				P		18 56 38.6	
	SNR=50						
EKS2	**Erkin-Say**	**6.97**	**22**	*e*Pn	**Pn**	**18 56 38.2**	**-0.1**
	12nm,0.3s						
EKS2				*e*Sn	**Sn**	**18 57 53.5**	**-2.9**
KZA	**Kyzart**	**7.01**	**32**	P	**Pn**	**18 56 39.3**	**+0.4**
	SNR=10						
KZA				P		18 56 39.3	
	SNR=10						
AAK	**Ala-Archa**	**7.18**	**26**	P	**Pn**	**18 56 41.5**	**+0.2**
	SNR=16						
AAK				P		18 56 41.5	
	SNR=16						
AAK	**Ala-Archa**	**7.18**	**26**	*e*Pn	**Pn**	**18 56 41.0**	**-0.3**
	39nm,0.3s						
AAK				*e*Sn	**Sn**	**18 58 02.3**	**+0.8**
KBK	**Karagaybulak**	**7.37**	**28**	P	**Pn**	**18 56 44.9**	**+1.1**
	SNR=7.4						
KBK				P		18 56 44.9	
	SNR=7.4						
CHMS	**Chumysh**	**7.59**	**26**	P	**Pn**	**18 56 47.0**	**+0.2**
	SNR=16						
CHMS				P		18 56 47.0	
	SNR=16						
USP	**Ospenovka**	**7.75**	**24**	P	**Pn**	**18 56 48.3**	**-0.4**
	SNR=20						
USP				P		18 56 48.3	
	SNR=20						
TKM2	**Tokmak 2**	**7.85**	**30**	P	**Pn**	**18 56 50.3**	**+0.2**
	SNR=12						
TKM2				P		18 56 50.3	
	SNR=12						
TKM2	**Tokmak 2**	**7.85**	**30**	⇑P	**Pn**	**18 56 49.9**	**-0.3**
	3.6nm,0.6s						
TKM2				⇑S	**Sn**	**18 58 08.5**	**-9.1**
	2.4nm,0.6s						
TKM2	**Tokmak 2**	**7.85**	**30**	*e*Pn	**Pn**	**18 56 50.0**	**-0.2**
	4.3nm,0.5s						
PYUN	**Piuthan**	**13.53**	**123**	*e*P	**Pn**	**18 58 03.1**	**-1.8**
	4.0nm,0.3s						
PYUN	**Piuthan**	**13.53**	**123**	*e*P	**Pn**	**18 58 03.1**	**-1.8**
	4.0nm,0.3s						
MK31	**Makanchi Array**	**13.87**	**37**	⇓P	**Pn**	**18 58 13.9**	**+4.9**
	3.3nm,0.7s,baz=205,slow=7.4,SNR=9.4						
MK31	**Makanchi Array**	**13.87**	**37**	*e*Pn	**Pn**	**18 58 09.3**	**+0.3**
MK31				*e*P		18 58 13.5	
MKAR	**Makanchi Array**	**13.87**	**37**	P	**Pn**	**18 58 09.0**	**0.0**
	0.3nm,0.3s,baz=217,slow=9.3,SNR=16						
MKAR	**Makanchi Array**	**13.87**	**37**	P	**Pn**	**18 58 09.0**	**0.0**
DANN	**Dangsing**	**13.90**	**121**	*e*P	**Pn**	**18 58 08.3**	**-1.3**
	4.7nm,0.2s						
DANN	**Dangsing**	**13.90**	**121**	*e*P	**Pn**	**18 58 08.3**	**-1.3**
	4.7nm,0.2s						
KOLN	**Koldanda**	**14.16**	**123**	*e*P	**Pn**	**18 58 11.1**	**-1.7**
	5.6nm,0.4s						
KOLN	**Koldanda**	**14.16**	**123**	*e*P	**Pn**	**18 58 11.1**	**-1.7**
	5.6nm,0.4s						
GKN	**Gorkha**	**14.73**	**120**	*e*P	**Pn**	**18 58 18.6**	**-1.3**
	7.4nm,0.3s						
GKN	**Gorkha**	**14.73**	**120**	*e*P	**Pn**	**18 58 18.6**	**-1.3**
	7.4nm,0.3s						
AB31	**Akbulak array**	**15.00**	**333**	⇓P	**Pn**	**18 58 22.4**	**-0.7**
	0.5nm,0.3s,baz=150,slow=13,SNR=10						
ABKAR	**Akbulak array**	**15.00**	**333**	*e*Pn	**Pn**	**18 58 21.7**	**-1.4**
	2.3nm,0.5s						
ABKAR				*e*Sn	**Sn**	**19 00 57.2**	**-12**
DMN	**Daman**	**15.30**	**120**	*e*P	**Pn**	**18 58 26.3**	**-0.7**
	2.0nm,0.2s						
DMN	**Daman**	**15.30**	**120**	*e*P	**Pn**	**18 58 26.3**	**-0.7**
	2.0nm,0.2s						
GUN	**Gumba**	**15.66**	**118**	*e*P	**Pn**	**18 58 31.2**	**-0.3**
	3.2nm,0.2s						
GUN	**Gumba**	**15.66**	**118**	*e*P	**Pn**	**18 58 31.2**	**-0.3**
	3.2nm,0.2s						
KURK	**Kurchatov**	**15.68**	**20**	P	**Pn**	**18 58 31.1**	**-0.4**
	0.1nm,0.3s,baz=209,slow=11,SNR=14						
KURK	**Kurchatov**	**15.68**	**20**	P	**Pn**	**18 58 31.1**	**-0.4**
JIRN	**Jiri**	**16.03**	**118**	*e*P	**Pn**	**18 58 35.8**	**-0.3**
	1.7nm,0.3s						
JIRN	**Jiri**	**16.03**	**118**	*e*P	**Pn**	**18 58 35.8**	**-0.3**
	1.7nm,0.3s						
VOSK	**Vostochnaya**	**16.48**	**2

s-min=18.6km az=54.0
ISCJB ***05*** *19:09:11.0±1.0, 1°.9S±0°.1×99°.8E±0°.2, h33km, mb3.9/8, Error ellipse: s-maj=32.6km s-min=11.0km az=144.4*
NEIC ***05*** *19:09:13.0±0.9, 1°.99S×99°.72E, h35km, mb4.0/3, Error ellipse: s-maj=28.3km s-min=9.8km az=54.0*

ISC 05 19:09:13.2±1.0, 2°.0S±0°.1×99.7E±0°.2, h35km, n23, σ0°94/21, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.29**	**7**	*e*Pn	**Pn**	**19 10 56.7**	**-0.5**
KAPI	**Kappang**	**20.20**	**99**	P	**P**	**19 13 46.6**	**+1.5**
4.6nm,0.3s,baz=309,slow=13,SNR=7.3							
KAPI	**Kappang**	**20.20**	**99**	P	**P**	**19 13 46.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**20.33**	**358**	P	**P**	**19 13 45.4**	**-1.1**
0.5nm,0.6s,baz=182,slow=8.8,SNR=5.3							
CMAR	**Chiang Mai Arr**	**20.33**	**358**	P	**P**	**19 13 45.4**	**-1.1**
WRA	**Warramunga Arr**	**38.23**	**120**	P	**P**	**19 16 29.4**	**-0.7**
0.9nm,0.5s,mb3.8,baz=303,slow=8.9,SNR=23							
WRA	**Warramunga Arr**	**38.23**	**120**	P	**P**	**19 16 29.4**	**-0.7**
WRAB	**Tennant Creek**	**38.23**	**120**	*e*P	**P**	**19 16 29.6**	**-0.5**
1.3nm,0.5s,mb3.9							
ASAR	**Alice Springs**	**39.47**	**126**	P	**P**	**19 16 40.0**	**-0.5**
0.6nm,0.7s,mb3.4,baz=300,slow=7.4,SNR=12							
ASAR	**Alice Springs**	**39.47**	**126**	P	**P**	**19 16 40.0**	**-0.5**
TKM2	**Tokmak 2**	**49.72**	**337**	*e*P	**P**	**19 18 03.7**	**+1.9**
1.0nm,0.6s,mb4.0							
SONM	**Songino Array**	**49.96**	**6**	P	**P**	**19 18 03.9**	**+0.3**
0.2nm,0.4s,mb3.5,baz=182,slow=8.7,SNR=3.7							
SONM	**Songino Array**	**49.96**	**6**	P	**P**	**19 18 03.9**	**+0.3**
MK31	**Makanchi Array**	**50.95**	**345**	*e*P	**P**	**19 18 11.2**	**+0.1**
MKAR	**Makanchi Array**	**50.95**	**345**	P	**P**	**19 18 12.0**	**+0.9**
1.1nm,0.6s,mb3.3,baz=158,slow=8.6,SNR=9.7							
MKAR	**Makanchi Array**	**50.95**	**345**	P	**P**	**19 18 12.0**	**+0.9**
ZAA0	**Zalesovo Array**	**57.11**	**350**	P	**P**	**19 18 56.1**	**+0.1**
ZALV	**Zalesovo Beam**	**57.11**	**350**	P	**P**	**19 18 56.5**	**+0.6**
0.6nm,0.3s,mb4.1,baz=184,slow=5.9,SNR=7.6							
ZALV	**Zalesovo Beam**	**57.11**	**350**	P	**P**	**19 18 56.5**	**+0.6**
BRVK	**Borovoye**	**60.14**	**340**	P	**P**	**19 19 15.2**	**-1.9**
ABKAR	**Akbulak array**	**61.50**	**332**	P	**P**	**19 19 26.1**	**-0.3**
2.2nm,1.2s,mb4.2							
TXAR	**Lajitas Array**	**144.85**	**37**	PKPbc	PKPdf	19 28 47.2	0.0
0.8nm,0.5s,baz=202,slow=1.8,SNR=12							
TXAR	**Lajitas Array**	**144.85**	**37**	PKPbc	PKPdf	19 28 47.2	0.0

IDC ***05*** *19:09:58.5±2.6, 19°.51N×65°.98W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/27, Error ellipse: s-maj=72.9km s-min=13.8km az=85.0*
ISCJB ***05*** *19:10:01.7±1.1, 19°.40N±0°.04×66°.35W±0°.04, h21km±8km, mb3.8/7, Error ellipse: s-maj=7.7km s-min=5.4km az=28.3*
RSPR ***05*** *19:10:04.0, 19°.39N×66°.36W, h10km±31km, MD3.8/14*
NEIC ***05*** *19:10:04.0, 19°.39N×66°.36W, h10km, mb4.1/3, MD3.7(RSPR), After RSPR.*

ISC 05 19:10:01.6±1.3, 19°.35N±0°.03×66°.34W±0°.04, h11km±8km, n52, σ0°65/70, mb3.8/7, 25C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.07**	**202**	⇓*e*P	**Pb**	**19 10 22.1**	**0.0**
AOPR	**Arecibo Observ**	**1.07**	**202**	⇓*e*P	**Pb**	**19 10 22.1**	**0.0**
AOPR				*e*S	**Sb**	**19 10 36.5**	**+0.4**
AGPR	**Aguadilla, PR**	**1.14**	**220**	⇑*e*P	**Pb**	**19 10 23.2**	**-0.1**
AGPR	**Aguadilla, PR**	**1.14**	**220**	⇑*e*P	**Pb**	**19 10 23.2**	**-0.1**
LRS	**Lares**	**1.15**	**205**	⇑*e*P	**Pb**	**19 10 23.0**	**-0.6**
LRS				*e*S	**Sb**	**19 10 37.5**	**-1.1**
LRS	**Lares**	**1.15**	**205**	⇑*e*P	**Pb**	**19 10 23.0**	**-0.6**
LRS				*e*S	**Sb**	**19 10 37.5**	**-1.1**
CBYP	**Canovanas**	**1.16**	**157**	⇑*e*P	**Pb**	**19 10 23.8**	**+0.1**
CBYP	**Canovanas**	**1.16**	**157**	⇑*e*P	**Pb**	**19 10 23.8**	**+0.1**
SJG	**San Juan**	**1.24**	**172**	⇑*e*P	**Pn**	**19 10 24.7**	**-0.1**
SJG	**San Juan**	**1.24**	**172**	⇑*e*P	**Pn**	**19 10 24.8**	**-0.1**
SJG				*e*S	**Sb**	**19 10 40.7**	**-0.4**
SJG	**San Juan**	**1.24**	**172**	Pg	**Pg**	**19 10 24.7**	**-0.7**
77nm,0.3s,baz=12,slow=11,SNR=54							
SJG				Lg		19 10 43.0	
181nm,0.3s,baz=303,slow=22,SNR=20							
SJG	**San Juan**	**1.24**	**172**	⇑*e*P	**Pn**	**19 10 24.7**	**-0.1**
SJG				*e*S	**Sb**	**19 10 41.9**	**+0.8**
HUMP	**Col San Antoni**	**1.28**	**159**	⇓*e*P	**Pn**	**19 10 25.0**	**-0.4**
HUMP	**Col San Antoni**	**1.28**	**159**	⇓*e*P	**Pn**	**19 10 25.0**	**-0.4**
HUMP				*e*S	**Sb**	**19 10 42.6**	**+0.3**
CELP	**Cerrillos**	**1.28**	**190**	⇓*i*P	**Pn**	**19 10 25.3**	**-0.2**
CELP				*e*S	**Sb**	**19 10 41.9**	**-0.4**
CELP	**Cerrillos**	**1.28**	**190**	⇓*i*P	**Pn**	**19 10 25.3**	**-0.2**
CELP				*e*S	**Sb**	**19 10 41.9**	**-0.4**
OBIP	**Obispado Ponce**	**1.32**	**191**	⇓*e*P	**Pn**	**19 10 26.1**	**+0.1**
OBIP				*e*S	**Sb**	**19 10 43.6**	**+0.3**
OBIP	**Obispado Ponce**	**1.32**	**191**	⇓*e*P	**Pn**	**19 10 26.1**	**+0.1**
OBIP				*e*S	**Sb**	**19 10 43.6**	**+0.3**
CPD	**Cerro la Pandu**	**1.36**	**163**	⇓*e*P	**Pn**	**19 10 26.2**	**-0.3**
CPD	**Cerro la Pandu**	**1.36**	**163**	⇓*e*P	**Pn**	**19 10 26.2**	**-0.3**
CPD				*e*S	**Sb**	**19 10 44.8**	**+0.3**
LSP	**Las Mesas**	**1.36**	**211**	⇑*e*P	**Pn**	**19 10 26.5**	**0.0**
LSP				*e*S	**Sb**	**19 10 45.2**	**+0.6**
LSP	**Las Mesas**	**1.36**	**211**	⇑*e*P	**Pn**	**19 10 26.5**	**0.0**
LSP				*e*S	**Sb**	**19 10 45.2**	**+0.6**
MTP	**Monte Pirata**	**1.45**	**149**	⇓*e*P	**Pn**	**19 10 27.1**	**-0.7**
MTP	**Monte Pirata**	**1.45**	**149**	⇓*e*P	**Pn**	**19 10 27.1**	**-0.7**
MTP				*e*S	**Sn**	**19 10 45.8**	**-0.9**
ICM	**Isla Caja Muer**	**1.46**	**187**	⇑*e*P	**Pn**	**19 10 28.2**	**+0.4**
ICM	**Isla Caja Muer**	**1.46**	**187**	⇑*e*P	**Pn**	**19 10 28.2**	**+0.4**
ICM				*e*S	**Sn**	**19 10 46.5**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.46**	**201**	⇑*e*P	**Pn**	**19 10 28.6**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.46**	**201**	⇑*e*P	**Pn**	**19 10 28.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.52**	**209**	⇑*e*P	**Pn**	**19 10 29.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.52**	**209**	⇑*e*P	**Pn**	**19 10 29.3**	**+0.6**
CRPR				*e*S	**Sn**	**19 10 47.8**	**-0.7**
STVI	**Saint Thomas**	**1.64**	**127**	⇑*e*P	**Pn**	**19 10 30.2**	**-0.2**
STVI	**Saint Thomas**	**1.64**	**127**	⇑*e*P	**Pn**	**19 10 30.2**	**-0.2**
STVI				*e*S	**Sn**	**19 10 52.1**	**+0.6**
TBVI	**Tortola**	**1.87**	**119**	⇑*e*P	**Pn**	**19 10 34.2**	**+0.6**
TBVI	**Tortola**	**1.87**	**119**	⇑*e*P	**Pn**	**19 10 34.2**	**+0.6**
IMO	**Isla Mona**	**1.93**	**231**	⇑*e*P	**Pn**	**19 10 36.0**	**+1.7**
IMO	**Isla Mona**	**1.93**	**231**	⇑*e*P	**Pn**	**19 10 36.0**	**+1.7**
DR12	**Loma Pena Alta**	**2.93**	**260**	⇑*e*P	**Pn**	**19 10 47.8**	**-0.4**
DR12				*e*S	**Sn**	**19 11 22.7**	**-0.7**
DR12	**Loma Pena Alta**	**2.93**	**260**	⇑*e*P	**Pn**	**19 10 47.8**	**-0.4**
DR12				*e*S	**Sn**	**19 11 22.7**	**-0.7**
SDDR	**Presa de Saban**	**4.69**	**266**	*e*Pn	**Pn**	**19 11 12.5**	**+0.1**
BBSR	**BB Station**	**13.05**	**6**	*e*Pn	**Pn**	**19 13 03.4**	**-3.7**
OTAV	**Otavalo**	**22.40**	**213**	*e*P	**P**	**19 15 01.7**	**+1.5**
8.3nm,1.1s,mb4.1							
TXAR	**Lajitas Array**	**35.30**	**294**	P	**P**	**19 16 57.4**	**+0.5**
0.6nm,0.6s,mb3.7,baz=107,slow=10.0,SNR=7.9							
TXAR	**Lajitas Array**	**35.30**	**294**	P	**P**	**19 16 57.4**	**+0.5**
PDAR	**Pinedale Array**	**43.16**	**312**	P	**P**	**19 18 02.8**	**+0.5**
0.6nm,1.0s,mb3.3,baz=115,slow=12,SNR=3.6							
PDAR	**Pinedale Array**	**43.16**	**312**	P	**P**	**19 18 02.8**	**+0.5**
RLMT	**Red Lodge**	**43.78**	**316**	P	**P**	**19 18 06.8**	**-0.5**
1.0nm,0.6s,mb3.7							
HLID	**Hailey**	**46.79**	**312**	*e*P	**P**	**19 18 31.3**	**+0.2**
2.1nm,0.9s,mb4.1							
NVAR	**Mina Array Bea**	**48.64**	**304**	P	**P**	**19 18 46.1**	**+0.4**
0.6nm,0.7s,mb3.8,baz=106,slow=6.2,SNR=6.1							
NVAR	**Mina Array Bea**	**48.64**	**304**	P	**P**	**19 18 46.1**	**+0.4**
RES	**Resolute Bay**	**57.46**	**351**	LR	LR	19 42 36.2	
comp=Z,59nm,18.2s,baz=160,slow=34							
ILAR	**Eielson Array**	**68.66**	**333**	P	**P**	**19 21 03.2**	**-1.4**
0.9nm,0.3s,mb3.7,baz=100,slow=4.7,SNR=9.9							
ILAR	**Eielson Array**	**68.66**	**333**	P	**P**	**19 21 03.2**	**-1.4**

IDC ***05*** *19:14:31.6±1.3, 3°.17S×142°.19E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.7/16, mbtmp3.7/7, ML3.6/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/17, Error ellipse: s-maj=49.5km s-min=11.3km az=106.0*
ISCJB ***05*** *19:14:34.8±0.6, 3°.21S±0°.07×142°.3E±0°.1, h33km, mb3.7/8, MS3.1/2, Error ellipse: s-maj=14.6km s-min=9.7km az=8.8*
NEIC ***05*** *19:14:37.0±0.6, 3°.24S×142°.22E, h35km, mb4.1/5, Error ellipse: s-maj=14.0km s-min=10.1km az=92.0*

ISC 05 19:14:36.9±5.8, 3°.24S±0°.09×142°.2E±0°.1, h34km±44km, n23, σ0°84/25, mb3.7/8, MS3.1/2, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.84**	**142**	P	**Pn**	**19 16 27.6**	**-1.0**
CTA	**Charters Tower**	**17.20**	**167**	LR	LR	19 25 28.4	
comp=Z,52nm,21.3s,baz=234,slow=38							
WRAB	**Tennant Creek**	**18.29**	**204**	*e*Pn	**Pn**	**19 18 48.3**	**+0.2**
4.9nm,0.8s							
WB2	**Warramunga Arr**	**18.30**	**204**	*e*Pn	**Pn**	**19 18 48.8**	**+0.5**
WRA	**Warramunga Arr**	**18.30**	**204**	P	**Pn**	**19 18 48.1**	**-0.2**
0.2nm,0.3s,baz=21,slow=12,SNR=13							
WRA				S	**Sn**	**19 22 12.0**	**+0.2**
0.0nm,0.3s,baz=27,slow=19,SNR=3.0							
WRA				Lg		19 24 14.8	
baz=16,slow=26,SNR=2.9							
WRA	**Warramunga Arr**	**18.30**	**204**	P	**Pn**	**19 18 48.1**	**-0.2**
WRA				S	**Sn**	**19 22 12.0**	**+0.2**
WRA				Lg		19 24 14.8	
HNR	**Honiara**	**18.64**	**110**	P	**Pn**	**19 18 53.9**	**+1.5**
26nm,0.7s							
AS31	**Alice Springs**	**21.85**	**201**	*e*P	**P**	**19 19 24.8**	**-1.9**
ASAR	**Alice Springs**	**21.85**	**201**	P	**P**	**19 19 26.7**	**0.0**
0.7nm,0.8s,mb3.1,baz=27,slow=9.2,SNR=7.1							
ASAR				S	**S**	**19 23 32.8**	**+6.4**
0.3nm,0.8s,baz=24,slow=19,SNR=4.8							
ASAR	**Alice Springs**	**21.85**	**201**	P	**P**	**19 19 26.7**	**0.0**
ASAR				S	**S**	**19 23 32.8**	**+6.4**
FITZ	**Fitzroy Crossi**	**21.97**	**227**	P	**P**	**19 19 28.4**	**+0.3**
2.2nm,0.7s,mb3.7,baz=32,slow=11,SNR=14							
FITZ				LR	LR	19 27 19.3	
comp=Z,25nm,20.4s,MS2.6,baz=278,slow=35							
FITZ	**Fitzroy Crossi**	**21.97**	**227**	P	**P**	**19 19 28.4**	**+0.3**
STKA	**Stephens Creek**	**28.49**	**181**	P	**P**	**19 20 30.0**	**+0.9**
1.7nm,0.9s,mb3.7,baz=0.0,slow=11,SNR=2.9							
STKA	**Stephens Creek**	**28.49**	**181**	P	**P**	**19 20 29.6**	**+0.5**
0.6nm,0.9s,mb3.2							
MJAR	**Matsushiro Arr**	**39.75**	**355**	LR	LR	19 36 46.0	
comp=Z,85nm,18.7s,MS3.6,baz=175,slow=34							
TLY	**Talaya**	**63.77**	**334**	P	**P**	**19 25 05.6**	**+0.2**
4.4nm,0.8s,mb4.5							
MKAR	**Makanchi Array**	**72.38**	**321**	P	**P**	**19 25 59.4**	**-0.1**
0.7nm,0.9s,mb3.6,baz=103,slow=7.7,SNR=3.3							
MKAR	**Makanchi Array**	**72.38**	**321**	P	**P**	**19 25 59.4**	**-0.1**
TKM2	**Tokmak 2**	**75.36**	**316**	P	**P**	**19 26 18.2**	**+1.0**
1.3nm,0.7s,mb4.0							
BVAR	**Borovoye Array**	**81.77**	**325**	P	**P**	**19 26 52.1**	**-0.1**
0.5nm,0.6s,mb3.6,baz=115,slow=6.7,SNR=5.3							
BVAR	**Borovoye Array**	**81.77**	**325**	P	**P**	**19 26 52.1**	**-0.1**
ILAR	**Eielson Array**	**84.87**	**24**	P	**P**	**19 27 06.3**	**-1.6**
0.7nm,0.9s,mb3.8,baz=260,slow=4.5,SNR=8.6							
ILAR	**Eielson Array**	**84.87**	**24**	P	**P**	**19 27 06.3**	**-1.6**

JMA 05 20:02:36.9±0.1, 37°.94N×142°.53E, h19km±2km, M2.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.06**	**299**	P	Pb	20 02 56.3	-0.4
JIO				S	Sb	20 03 10.7	+0.5
OFUJ	**Ofunato**	**1.32**	**330**	P	Pn	20 03 00.4	+0.1
OFUJ				S	Sn	20 03 17.6	+0.1
JMM	**Marumori**	**1.38**	**267**	P	Pn	20 03 00.8	-0.3
JMM				S	Sn	20 03 18.8	+0.1
JMK	**Ichinoseki**	**1.44**	**315**	P	Pn	20 03 02.5	+0.5
JFT	**Otama**	**1.79**	**257**	P	Pn	20 03 08.4	+1.7
JOM	**Ohasama**	**1.81**	**328**	P	Pn	20 03 08.1	+1.0

NIED ***05*** *20:03:00, 38°.50N×143°.40E, h26km, Mw5.5 Best double couple: M0=2.11000×10^17 NP1:φ=21.00000°, δ=61.00000°, λ=89.00000°. NP2:φ=203.00000°, δ=29.00000°, λ=91.00000°.*
JMA ***05*** *20:03:04.6±0.1, 38°.48N×143°.44E, h23km±3km, M5.5*
JMA Felt II J1.
IDC ***05*** *20:03:05.3±0.5, 38°.50N×143°.12E, h0km, mb4.6/22, mb1 4.8/25, mb1mx4.8/26, mbtmp4.6/25, ML4.4/3, MS5.1/37, Ms1 5.1/37, ms1mx5.0/46, Error ellipse: s-maj=15.4km s-min=13.4km az=102.0*
DJA ***05*** *20:03:08, 38°.46N×143°.11E, h10km, mb5.4/7*
ISCJB ***05*** *20:03:08.9±0.1, 38°.49N±0°.02×143°.09E±0°.02, h30km, mb5.1/222, MS5.3/240, Error ellipse: s-maj=3.2km s-min=2.2km az=151.6*
MOS ***05*** *20:03:09.0±1.0, 38°.70N×143°.00E, h25km, mb5.4/80, MS5.4/53, Error ellipse: s-maj=6.3km s-min=4.0km az=103.4*
BJI ***05*** *20:03:09.9, 38°.55N×142°.79E, h32km, mB5.7/47, mb5.2/65, Ms5.7/72, Ms7 5.6/64*
NEIC ***05*** *20:03:11.1±0.1, 38°.53N×143°.00E, mb5.2/135, MS5.2/163, MW5.5, MW5.5, MW5.5(NIED), Error ellipse: s-maj=4.9km s-min=3.2km az=143.0, Moment Tensor Solution. s76 Moment tensor: Scale 10^17Nm; Mrr=1.03; Mθθ=-0.15; Mφφ=-0.88; Mrθ=0.83; Mrφ=1.77; Mθφ=0.13; Best double couple: M0=2.20000×10^17 NP1:φ=20.00000°, δ=78.00000°, λ=100.00000°. NP2:φ=161.00000°, δ=16.00000°, λ=52.00000°. Principal axes: T 2.3300, Plg=56.0000°, Azm=302.0000°; N -0.3400, Plg=9.0000°, Azm=198.0000°; P -2.0000, Plg=32.0000°, Azm=102.0000°;*
NEIC Recorded [2 JMA] in Iwate and Miyagi; [1 JMA] in Akita, Aomori and Fukushima.
SZGRF ***05*** *20:03:12.9, 38°.94N×143°.85E, h33km, mb5.1, MS5.4, Off east coast of Honshu, Japan*
GCMT ***05*** *20:03:13.7±0.1, 38°.53N×143°.27E, h21km, MW5.5, Moment Tensor Solution. s71,c128; s99,c209; Moment tensor: Scale 10^17Nm; Mrr=1.36±.03; Mθθ=-0.03±.02; Mφφ=-1.33±.03; Mrθ=0.80±.05; Mrφ=-0.41±.02; Mθφ=1.94±.07; Best double couple: M0=2.50000×10^17 NP1:φ=190.00000°, δ=17.00000°, λ=79.00000°. NP2:φ=21.00000°, δ=73.00000°, λ=93.00000°. Principal axes: T 2.4900, Plg=62.0000°, Azm=296.0000°; N 0.0800, Plg=3.0000°, Azm=200.0000°; P -2.5600, Plg=28.0000°, Azm=109.0000°; Data Used: II IU IC G CN. Surface waves from 104 sta.*

ISC 05 20:03:11.1±0.1, 38°.54N±0°.02×143°.04E±0°.02, h32km, h32km±1.0km: pP-P, n826, σ1°08/726, mb5.1/222, MS5.3/240, 80C-22D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.20**	**297**	⇑P	**Pn**	**20 03 30.9**	**-0.7**
OFUJ				*e*S	**Sn**	**20 03 49.8**	**+3.0**
JIO	**Ouri**	**1.33**	**267**	⇓P	**Pn**	**20 03 32.6**	**-0.8**
JIO				*e*S	**Sn**	**20 03 53.2**	**+3.2**
MIYJ	**Miyakonagasawa**	**1.41**	**318**	⇑P	**Pn**	**20 03 33.2**	**-1.3**
MIYJ				*e*S	**Sn**	**20 03 54.3**	**+2.4**
JMK	**Ichinoseki**	**1.48**	**287**	⇑P	**Pn**	**20 03 35.2**	**-0.3**
JMK				*e*S	**Sn**	**20 03 57.0**	**+3.3**
JOM	**Ohasama**	**1.65**	**305**	⇑P	**Pn**	**20 03 37.4**	**-0.4**
JOM				*e*S	**Sn**	**20 04 01.7**	**+3.8**
JTH	**Tanohata**	**1.67**	**327**	⇑P	**Pn**	**20 03 36.7**	**-1.4**
JOU	**Okura**	**1.87**	**265**	⇑P	**Pn**	**20 03 40.9**	**0.0**
JOU				*e*S	**Sn**	**20 04 07.0**	**+3.6**
JMM	**Marumori**	**1.89**	**250**	⇑P	**Pn**	**20 03 40.4**	**-0.7**
JMM				*e*S	**Sn**	**20 04 06.8**	**+2.9**
JKZ	**Kuzumaki**	**1.96**	**318**	⇑P	**Pn**	**20 03 41.6**	**-0.5**
JRG	**Rokugo**	**2.06**	**295**	⇑P	**Pn**	**20 03 43.7**	**+0.2**
JFK	**Kawauchi**	**2.07**	**236**	⇑P	**Pn**	**20 03 42.5**	**-1.1**
JYK	**Kaneyama**	**2.13**	**281**	⇑P	**Pn**	**20 03 44.6**	**+0.2**
JYK				*e*S	**Sn**	**20 04 14.1**	**+4.3**
JANG	**Nango**	**2.18**	**328**	⇑P	**Pn**	**20 03 43.5**	**-1.6**
JANG				*e*S	**Sn**	**20 04 12.1**	**+1.1**
ONAJ	**Iwakimizuishiy**	**2.28**	**232**	⇑P	**Pn**	**20 03 45.2**	**-1.3**
JFT	**Otama**	**2.37**	**245**	⇑P	**Pn**	**20 03 47.9**	**+0.3**
JYW	**Yuwa**	**2.42**	**295**	⇑P	**Pn**	**20 03 48.9**	**+0.5**
JHO	**Hitachi**	**2.75**	**226**	⇑P	**Pn**	**20 03 50.8**	**-2.1**
JFY	**Yanaizu**	**2.87**	**248**	⇑P	**Pn**	**20 03 55.0**	**+0.5**
JSB	**Shiboa**	**2.93**	**239**	⇑P	**Pn**	**20 03 55.5**	**+0.1**
JAW	**Awa shima**	**2.98**	**270**	P	**Pn**	**20 03 57.2**	**+1.2**
JNS	**Sasagawa**	**3.02**	**257**	P	**Pn**	**20 03 57.1**	**+0.5**
JOT	**Ohata**	**3.23**	**332**	P	**Pn**	**20 03 59.1**	**-0.4**
JOT				*e*S	**Sn**	**20 04 40.9**	**+4.1**
JHK	**Hiroka**	**3.43**	**249**	P	**Pn**	**20 04 02.9**	**+0.6**
ERM	**Erimo**	**3.48**	**1**	Pn	**Pn**	**20 04 00.5**	**-2.4**
1μm,0.5s,SNR=18							
ERM	**Erimo**	**3.48**	**1**	*e*Pn	**Pn**	**20 03 59.1**	**-3.8**
ERM	**Erimo**	**3.48**	**1**	⇑*e*P	**Pn**	**20 04 00.3**	**-2.6**
JKT	**Katashina**	**3.49**	**241**	P	**Pn**	**20 04 04.1**	**+1.0**
JAG	**Ashikaga**	**3.55**	**235**	P	**Pn**	**20 04 03.4**	**-0.5**
JGK	**Kuni**	**4.01**	**242**	P	**Pn**	**20 04 11.4**	**+1.1**
JRY	**Ryogami san**	**4.15**	**234**	P	**Pn**	**20 04 12.4**	**+0.2**
MJAR	**Matsushiro Arr**	**4.33**	**244**	Pn	**Pn**	**20 04 15.6**	**+1.0**
33nm,0.3s,baz=304,slow=3.6,SNR=189							
MJAR				Sn	**Sn**	**20 05 10.2**	**+6.3**
18nm,0.3s,baz=66,slow=15,SNR=5.3							
MJAR				LR	LR	20 06 08.5	
comp=Z,36μm,18.1s,baz=55,slow=42							
MJAR	**Matsushiro Arr**	**4.33**	**244**	Pn	**Pn**	**20 04 15.6**	**+1.0**
MJAR				Sn	**Sn**	**20 05 10.2**	**+6.3**
MJAR	**Matsushiro Arr**	**4.33**	**244**	P	**Pn**	**20 04 15.6**	**+1.0**
MJAR						20 05 10.2	
MAJO	**Matsushiro**	**4.33**	**244**	⇑*e*Pn	**Pn**	**20 04 15.7**	**+1.1**
MAJO	**Matsushiro**	**4.33**	**244**	⇑*e*P	**Pn**	**20 04 15.7**	**+1.1**
MAT	**Matsushiro**	**4.33**	**244**	P	**Pn**	**20 04 15.8**	**+1.2**
MAT				S	**Sn**	**20 05 09.3**	**+5.4**
JNG	**Nsakai**	**4.47**	**243**	⇑P	**Pn**	**20 04 18.5**	**+2.0**
JNT	**Takato**	**4.73**	**237**	⇑P	**Pn**	**20 04 21.3**	**+1.2**
JGN	**Niukaw**	**5.11**	**245**	P	**Pn**	**20 04 27.4**	**+2.0**
JNY	**Yasuok**	**5.22**	**234**	P	**Pn**	**20 04 27.9**	**+1.0**
JGF	**Kuroka**	**5.41**	**239**	P	**Pn**	**20 04 30.5**	**+1.1**
ASAJ	**Asahikawa**	**5.58**	**357**	Pn	**Pn**	**20 04 31.4**	**-0.4**
11nm,0.3s,baz=202,slow=12,SNR=18							
ASAJ				Sn	**Sn**	**20 05 34.1**	**-0.7**
23nm,0.3s,baz=227,slow=19,SNR=3.4							
ASAJ				LR	LR	20 07 30.0	
comp=Z,32μm,19.4s,baz=188,slow=47							
ASAJ	**Asahikawa**	**5.58**	**357**	*e*Pn	**Pn**	**20 04 30.4**	**-1.4**
ASAJ				Sn	**Sn**	**20 05 34.1**	**-0.7**
ASAJ	**Asahikawa**	**5.58**	**357**	P	**Pn**	**20 04 31.4**	**-0.4**
ASAJ						20 05 34.1	
ASAJ				pmax	pmax		
comp=Z,11nm,0.3s							
ASAJ				smax			
comp=N,23nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,32μm,19.4s							
JGM	**Miyama**	**5.79**	**243**	P	**Pn**	**20 04 36.3**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**5.89**	**20**	*d i*P	**Pn**	**20 04 33.5**	**-2.5**
YUK				*i* S	**Sn**	**20 05 37.3**	**-5.1**
YUK				pmax	pmax		
comp=N,129nm,0.3s							
YUK				pmax	pmax		
comp=E,243nm,0.3s							
YUK				pmax	pmax		
comp=Z,1μm,0.3s							
YUK				pmax	pmax		
comp=Z,380nm,0.3s							
YUK				smax			
comp=E,6μm,0.9s							
YUK				smax			
comp=E,4μm,0.4s							
YUK				smax			
comp=N,2μm,0.4s							
YUK				smax			
comp=N,939nm,0.3s							
YUK				MLR	MLR		
comp=N,9μm,15.0s							
YUK				MLR	MLR		
comp=E,8μm,15.0s							
YUK				MLR	MLR		
comp=Z,9μm,15.0s							
KUR	**Kuril'sk**	**7.60**	**27**	P	**Pn**	**20 04 56.1**	**-3.4**
KUR				S	**Sn**	**20 06 16.5**	**-7.9**
KUR				pmax	pmax		
comp=Z,570nm,0.9s							
KUR				pmax	pmax		
comp=N,280nm,0.5s							
KUR				pmax	pmax		
comp=E,280nm,0.8s							
KUR				smax			
comp=N,1μm,0.5s							
KUR				smax			
comp=E,380nm,0.5s							
KUR				smax			
comp=E,10μm,4.0s							
KUR				smax			
comp=N,8μm,3.0s							
YSS	**Yuzh-Sakhalins**	**8.41**	**359**	*e*Pn	**Pn**	**20 05 09.9**	**-0.8**
YSS	**Yuzh-Sakhalins**	**8.41**	**359**	⇑*e*P	**Pn**	**20 05 11.0**	**+0.3**
YSS				*e*S	**Sn**	**20 06 43.0**	**-1.5**
YSS				MLR	MLR		
comp=Z,10μm,15.0s							
YSS				MLR	MLR		

comp=Z,22μm,17.7s
SKR Severo-Kuril's 15.27 33 *e*P **Pn 20 06 51.0 +6.9**
SKR S **Sn 20 09 30.0 -2.1**
SKR smax
comp=E,4μm,10.0s
SKR MLR MLR
comp=N,6μm,16.0s
SKR MLR MLR
comp=E,12μm,16.0s
SKR MLR MLR
comp=Z,6μm,16.0s
PETK Petropavlovsk- 17.74 30 P **Pn 20 07 12.4 -2.9**
comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=3.5
PETK LR LR 20 14 48.1
comp=Z,3μm,19.4s,baz=218,slow=40
PETK Petropavlovsk- 17.74 30 P **Pn 20 07 12.4 -2.9**
PETK Petropavlovsk- 17.74 30 P **Pn 20 07 12.5 -2.9**
PET Petropavlovsk 18.06 32 P **Pn 20 07 18.4 -0.9**
PET Petropavlovsk 18.06 32 P **Pn 20 07 18.4 -0.9**
SSE Sheshan 19.39 254 P **Pn 20 07 33.3 -2.3**
SSE pP pP 20 07 41.6 -1.2
SSE S **Sn 20 11 07.8 -4.4**
SSE pmax pmax
comp=Z,63nm,1.1s
SSE pmax pmax
comp=Z,2μm,12.0s
SSE LR LR
comp=N,10μm,14.7s
SSE LR LR
comp=E,6μm,14.7s
SSE LR LR
comp=Z,12μm,15.5s
SSE Sheshan 19.39 254 P **Pn 20 07 33.3 -2.3**
comp=Z,63nm,1.1s
SSE pP pP 20 07 41.6 -1.2
SSE S **Sn 20 11 07.8 -4.4**
SSE sS sS 20 11 23.5 -1.9
TIA Tai'an 20.71 272 ⇑P **P 20 07 45.7 -2.9**
TIA LR LR
comp=N,8μm,12.5s,MS5.5
TIA LR LR
comp=E,13μm,16.2s,MS5.5
TIA LR LR
comp=Z,13μm,13.7s,MS5.5
NJ2 Nanjing 20.74 259 *e*P **P 20 07 48.6 -0.4**
NJ2 pP 20 07 56.2
NJ2 sP sP 20 08 02.5 +0.9
NJ2 PP 20 08 08.3
NJ2 S **S 20 11 35.0 -3.9**
NJ2 sS sS 20 11 47.0 -5.5
NJ2 pmax pmax
comp=Z,30nm,0.7s
NJ2 pmax pmax
comp=Z,2μm,10.8s
NJ2 LR LR
comp=N,8μm,16.5s,MS5.3
NJ2 LR LR
comp=E,8μm,16.4s,MS5.3
BJI Beijing 20.82 283 P **P 20 07 47.9 -1.9**
BJI S **S 20 11 36.4 -4.0**
BJI pmax pmax
comp=Z,39nm,0.9s
BJI pmax pmax
comp=Z,740nm,4.2s
BJI LR LR
comp=N,6μm,12.6s,MS5.6
BJI LR LR
comp=E,18μm,14.8s,MS5.6
BJI LR LR
comp=Z,8μm,15.5s,MS5.2
CLNS Chul'man 21.89 333 *e*P **P 20 08 01.0 0.0**
CLNS *e* 20 08 26.1
CLNS *e*PPP 20 08 35.7
CLNS pmax pmax
comp=N,91nm,1.4s
CLNS pmax pmax
comp=Z,143nm,1.1s,mb5.3
CLNS pmax pmax
comp=E,65nm,1.4s
CLNS pmax pmax
comp=N,120nm,1.5s
CLNS pmax pmax
comp=Z,67nm,1.4s,mb4.9
CLNS pmax pmax
comp=E,59nm,1.3s
CLNS MLR MLR
comp=N,7μm,17.0s,MS5.3
CLNS MLR MLR
comp=Z,6μm,15.0s,MS5.2
CLNS MLR MLR
comp=E,8μm,16.0s,MS5.3
TATO Taipei 22.70 240 *e*P **P 20 08 07.9 -2.2**
comp=E,335nm,1.5s,mb5.5
TATO LR LR
comp=Z,8μm,19.0s,MS5.2
YHNB Yeheng 22.98 239 *e*P **P 20 08 10.8 -2.1**
comp=Z,66nm,1.0s,mb5.0
YHNB LR LR
comp=Z,6μm,19.0s,MS5.0
NACB Ninganchiao 23.17 238 *e*P **P 20 08 14.7 -0.3**
comp=Z,50nm,0.9s,mb5.0
SSLB Suanglung 23.86 238 *e*P **P 20 08 19.2 -2.4**
comp=Z,53nm,0.7s,mb5.1
YULB Yu-li 23.90 237 *e*P **P 20 08 20.8 -1.2**
comp=Z,36nm,0.6s,mb5.0
HHC Hu-ho-hao-te 24.27 285 *e*P **P 20 08 22.5 -2.7**
HHC sP sP 20 08 37.2 -1.1
HHC PP 20 08 56.7
HHC PcP PcP 20 12 06.3 +1.7
HHC S **S 20 12 33.8 -8.0**
HHC sS sS 20 12 48.4 -8.6
HHC ScP ScP 20 15 40.7 0.0
HHC PcS PcS 20 15 44.3 0.0
HHC pmax pmax
comp=Z,33nm,0.7s,mb4.9
HHC pmax pmax
comp=Z,2μm,6.5s
HHC LR LR
comp=N,6μm,13.8s,MS5.7
HHC LR LR
comp=E,20μm,15.5s,MS5.7
HHC LR LR
comp=Z,23μm,15.4s,MS5.8
TPUB Ta-pu 24.41 238 *e*P **P 20 08 25.0 -1.6**
comp=Z,151nm,1.0s,mb5.4
TWG Pinlang 24.45 236 *e*P **P 20 08 24.7 -2.3**
comp=Z,90nm,0.7s,mb5.3
CIT Chita 24.54 313 *e*P **P 20 08 27.6 0.0**
CIT *e* 20 08 38.3
CIT *e* 20 09 00.2
CIT pmax pmax
comp=Z,398nm,3.1s
WHN Wuhan 24.87 260 P **P 20 08 30.0 -0.8**
WHN S **S 20 12 45.6 -6.1**
WHN LR LR
comp=N,9μm,12.8s,MS5.7
WHN LR LR
comp=E,15μm,12.9s,MS5.7
WHN LR LR
comp=Z,21μm,19.4s
GUMO Guam 24.90 176 LR LR 20 16 29.2
comp=Z,3μm,20.3s,MS4.8,baz=217,slow=32
YAK Yakutsk 24.92 345 *e*P **P 20 08 30.4 -0.5**
comp=Z,249nm,1.2s,mb5.6
YAK LR LR
comp=Z,5μm,21.0s,MS5.0
YAK Yakutsk 24.92 345 *e*P **P 20 08 29.8 -1.1**
YAK *e**PP 20 08 39.2
YAK *e*S **S 20 12 54.1 +2.2**
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=Z,94nm,1.0s,mb5.3
YAK pmax pmax
comp=N,28nm,0.9s
YAK pmax pmax
comp=Z,291nm,1.2s,mb5.7
YAK pmax pmax
comp=N,297nm,1.2s
YAK pmax pmax
comp=E,146nm,1.5s
YAK smax
comp=N,3μm,5.1s
YAK smax
comp=E,499nm,3.2s
YAK MLR MLR
comp=Z,8μm,17.0s,MS5.3
YAK MLR MLR
comp=N,8μm,19.0s
YAK MLR MLR
comp=E,3μm,13.0s
SEY Seymchan 25.08 10*ce*P **P 20 08 33.1 +0.8**
FX1 Attu Island--F 25.23 46 P **P 20 08 33.3 -0.5**
comp=E,2.8nm,0.4s,mb4.2,baz=207,slow=6.8,SNR=1.8
FX1 LR LR 20 15 57.7
comp=E,2μm,20.4s,MS4.6,baz=256,slow=31
FX1 Attu Island--F 25.23 46 P **P 20 08 33.3 -0.4**
FX1 Attu Island--F 25.23 46 P **P 20 08 33.3 -0.5**
BOD Bodaibo 26.99 325 *e*P **P 20 08 48.3 -1.4**
BOD pmax pmax
comp=Z,45nm,1.4s,mb4.8
ULN Ulaanbaatar 27.62 301 *e*P **P 20 08 55.7 +0.3**
comp=Z,65nm,1.1s,mb5.2
ULN LR LR
comp=Z,8μm,20.0s,MS5.3
ULN Ulaanbaatar 27.62 301 *e*P **P 20 08 55.7 +0.2**
ULN pmax pmax
comp=Z,65nm,1.1s,mb5.2
ULN MLR MLR
comp=Z,8μm,20.0s,MS5.3
ULN Ulaanbaatar 27.62 301 P **P 20 08 56.0 +0.5**
comp=Z,2μmcomp=Z,127nm,1.0s,mb5.5
XAN Xi'an 27.77 271 P **P 20 08 56.5 -0.4**
XAN pP pP 20 09 06.9 +0.8
XAN PP 20 09 49.6
XAN pmax pmax
comp=Z,19nm,1.3s,mb4.6
XAN LR LR
comp=N,4μm,17.4s,MS5.1
XAN LR LR
comp=E,2μm,20.9s,MS5.1
XAN LR LR
comp=Z,2μm,16.8s,MS4.8
SONM Songino Array 28.06 301 P **P 20 08 60.0 +0.6**
comp=Z,56nm,1.1s,mb5.1,baz=104,slow=7.4,SNR=62
SONM PcP PcP 20 12 13.6 +0.3
comp=Z,1.7nm,0.6s,baz=114,slow=3.4,SNR=5.9
SONM LR LR 20 20 45.2
comp=Z,10μm,18.0s,MS5.5,baz=107,slow=38
SONM Songino Array 28.06 301 P **P 20 08 60.0 +0.6**
SONM PcP PcP 20 12 13.6 +0.3
SONM Songino Array 28.06 301 P **P 20 09 00.0 +0.6**
SONM 20 12 13.6
HKC Hong Kong Obse 29.52 245 P **P 20 09 12.0 -0.6**
GZH Guangzhou 29.63 247 P **P 20 09 04.7 -8.8**
GZH S **S 20 13 48.0 -19**
GZH LR LR
comp=N,10μm,15.8s,MS5.7
GZH LR LR
comp=E,11μm,17.4s,MS5.7
GZH LR LR
comp=Z,18μm,14.6s,MS5.8
IRK Irkutsk 30.09 310 *e*P **P 20 09 16.9 -0.4**
IRK *e* 20 10 29.4
IRK pmax pmax
comp=Z,101nm,2.9s,mb5.0
TLY Talaya 30.36 309 *e*P **P 20 09 19.6 -0.1**
comp=Z,50nm,1.3s,mb5.1
TLY LR LR
comp=Z,11μm,21.0s,MS5.5
TLY Talaya 30.36 309 *e*P **P 20 09 19.9 +0.2**
TLY *e*PPP 20 10 36.6
TLY *e*S **S 20 14 24.4 +6.5**
TLY pmax pmax
comp=Z,33nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,11μm,15.0s,MS5.6
TLY Talaya 30.36 309 P **P 20 09 20.5 +0.8**
comp=Z,151nm,1.1s,mb5.6,SNR=8.3
ZAK Zakamensk 30.39 306 *e*P **P 20 09 19.3 -0.7**
ZAK pmax pmax
comp=Z,41nm,1.2s,mb5.0
LZH Lanzhou 31.11 278 ⇑P **P 20 09 26.3 -0.2**
LZH pP pP 20 09 36.4 +0.6
LZH sP sP 20 09 39.3 -0.4
LZH PP PP 20 10 29.1 -7.9
LZH S **S 20 14 30.0 0.0**
LZH sS sS 20 14 42.3 -3.0
LZH *e*SS SS 20 16 12.4 -31
LZH pmax pmax
comp=Z,51nm,1.1s,mb5.3
LZH pmax pmax
comp=Z,420nm,5.3s
LZH LR LR
comp=N,11μm,14.2s,MS5.8
LZH LR LR
comp=E,12μm,15.1s,MS5.8
LZH LR LR
comp=Z,15μm,15.9s,MS5.8
LZH Lanzhou 31.11 278 ⇑P **P 20 09 26.3 -0.2**
comp=Z,51nm,1.1s,mb5.3
LZH pP pP 20 09 36.4 +0.6
LZH sP sP 20 09 39.3 -0.4
LZH PP PP 20 10 29.1 -7.9
LZH S **S 20 14 30.0 0.0**
LZH sS sS 20 14 42.3 -3.0
LZH *e*SS SS 20 16 12.4 -31
LZH LR LR
comp=Z,15μm,15.9s,MS5.8
LZH Lanzhou 31.11 278 ⇑P **P 20 09 26.3 -0.2**
LZH *PP pP 20 09 36.4 +0.6
LZH 20 10 29.1
LZH S **S 20 14 30.0 0.0**
LZH *SS sS 20 14 42.3 -3.0
LZH *e*SS SS 20 16 12.4 -31
LZH pmax pmax
comp=Z,51nm,1.1s,mb5.3
LZH MLR MLR
comp=Z,15μm,15.9s,MS5.8
BILL Bilibino 32.23 16 *e*P **P 20 09 34.4 -1.5**
comp=Z,22nm,0.9s,mb5.0
BILL LR LR
comp=Z,2μm,20.0s,MS4.8
BILL Bilibino 32.23 16 *e*P **P 20 09 34.4 -1.5**
BILL pmax pmax
comp=Z,22nm,0.9s,mb5.0
BILL MLR MLR
comp=Z,2μm,20.0s,MS4.8
GYA Guiyang 32.76 259 ⇑*i*P **P 20 09 39.9 -1.1**
GYA pP pP 20 09 49.5 -0.9
GYA sP sP 20 09 54.8 +0.6
GYA PP PP 20 10 49.1 -6.2
GYA S **S 20 14 52.5 -3.3**
GYA sS sS 20 15 08.2 -2.9
GYA SS SS 20 16 50.1 -27
GYA pmax pmax
comp=Z,50nm,1.0s,mb5.4
GYA pmax pmax
comp=Z,320nm,5.5s
GYA LR LR
comp=N,3μm,16.8s,MS5.3
GYA LR LR
comp=E,5μm,19.3s,MS5.3
GYA LR LR
comp=Z,6μm,17.7s,MS5.4
CD2 Chengdu 32.98 269 P **P 20 09 42.3 -0.7**
CD2 pP pP 20 09 51.9 -0.4
CD2 sP sP 20 09 55.8 -0.4
CD2 PP PP 20 10 52.4 -5.3
CD2 PcP PcP 20 12 27.0 +0.5
CD2 S **S 20 14 54.6 -4.6**
CD2 sS sS 20 15 10.6 -3.9
CD2 SS SS 20 16 52.5 -29
CD2 pmax pmax
comp=Z,70nm,1.2s,mb5.5
CD2 pmax pmax
comp=Z,980nm,10.2s
CD2 LR LR
comp=N,9μm,16.7s,MS5.7
CD2 LR LR
comp=E,9μm,16.6s,MS5.7
CD2 LR LR
comp=Z,13μm,15.5s,MS5.8
GTA Gaotai 33.38 285 ⇑P **P 20 09 46.8 +0.4**
GTA pP pP 20 09 56.7 +1.0
GTA sP sP 20 10 00.7 +1.1
GTA PP PP 20 10 59.7 -2.4
GTA PcP PcP 20 12 29.2 +1.8
GTA S **S 20 15 02.9 -2.4**
GTA sS sS 20 15 19.5 -1.1
GTA SS SS 20 17 06.2 -24
GTA pmax pmax
comp=Z,36nm,1.1s,mb5.2
GTA pmax pmax
comp=Z,1μm,8.5s
GTA LR LR
comp=N,5μm,17.1s,MS5.9
GTA LR LR
comp=E,17μm,15.7s,MS5.9
GTA LR LR
comp=Z,20μm,17.1s,MS5.9
MIDW Midway 34.40 95 PFAKE 20 10 10.0 +15
MIDW LR LR
comp=Z,5μm,20.0s,MS5.2
QIZ Qiongzhong 34.72 245 P **P 20 09 58.3 +0.1**
QIZ pP pP 20 10 06.6 -1.0
QIZ sP sP 20 10 10.9 -0.5
QIZ S **S 20 15 25.3 -1.0**
QIZ pmax pmax
comp=Z,45nm,2.1s,mb5.0
QIZ LR LR
comp=N,5μm,19.1s,MS5.4
QIZ LR LR
comp=E,3μm,18.2s,MS5.4
QIZ LR LR
comp=Z,6μm,17.8s,MS5.4
DAV Davao City (W) 35.08 211 LR LR 20 22 41.4
comp=Z,2μm,20.2s,MS4.9,baz=317,slow=34
KMI Kunming 36.47 261 P **P 20 10 12.7 -0.5**
KMI pP pP 20 10 21.6 -1.0
KMI sP sP 20 10 25.5 -0.9
KMI PP PP 20 11 35.8 -0.6
KMI S **S 20 15 52.0 -1.1**
KMI sS sS 20 16 07.2 -1.3
KMI SS SS 20 18 18.0 -15
KMI pmax pmax
comp=Z,24nm,1.2s,mb5.0
KMI pmax pmax
comp=Z,500nm,8.6s
KMI LR LR
comp=N,7μm,15.7s,MS5.7
KMI LR LR
comp=E,6μm,14.8s,MS5.7
KMI LR LR
comp=Z,7μm,16.5s,MS5.5
KMI Kunming 36.47 261 P **P 20 10 12.7 -0.5**
comp=Z,24nm,1.2s,mb5.0
KMI pP pP 20 10 21.6 -1.0
KMI sP sP 20 10 25.5 -0.9
KMI PP PP 20 11 35.8 -0.6
KMI PPP 20 11 50.9
KMI S **S 20 15 52.0 -1.1**
KMI sS sS 20 16 07.2 -1.3
KMI SS SS 20 18 18.0 -15
KMI LR LR
comp=Z,7μm,16.5s,MS5.5
KMI Kunming 36.47 261 P **P 20 10 12.7 -0.5**
KMI *PP pP 20 10 21.6 -1.0
KMI *SP sP 20 10 25.5 -0.9
KMI 20 11 35.8
KMI PPP 20 11 50.9
KMI S **S 20 15 52.0 -1.1**
KMI *SS sS 20 16 07.2 -1.3
KMI SS SS 20 18 18.0 -15
KMI pmax pmax
comp=Z,24nm,1.2s,mb5.0
KMI MLR MLR
comp=Z,7μm,16.5s,MS5.5
UNV Unalaska Valle 37.28 49 *e*P **P 20 10 18.9 -0.9**
KKM Kota Kinabalu 40.46 224 *e*P **P 20 10 46.4 -0.3**
comp=Z,23nm,1.1s,mb4.8
KKM LR LR
comp=Z,2μm,22.0s,MS4.9
MNI Manado 40.51 209 P sP 20 11 00.9 +0.5
comp=Z,52nm,1.1s
WMQ Urumqi 41.33 296 P **P 20 10 53.9 +0.2**
WMQ pP pP 20 11 03.7 +0.6
WMQ sP sP 20 11 07.7 +0.7
WMQ PP PP 20 12 32.2 +2.9
WMQ S **S 20 17 03.7 -2.2**
WMQ sS sS 20 17 19.9 -1.6
WMQ pmax pmax
comp=Z,72nm,1.2s,mb5.2
WMQ pmax pmax
comp=Z,1μm,5.8s
WMQ LR LR
comp=N,6μm,14.4s,MS5.7
WMQ LR LR
comp=E,5μm,14.4s,MS5.7
WMQ LR LR
comp=Z,4μm,18.2s,MS5.3
KMSI Cibinong 41.63 209 P sP 20 11 10.4 +0.7
comp=Z,194nm,1.0s
ZAA0 Zalesovo Array 41.88 311 *e*P **P 20 10 57.2 -0.7**
ZAA0 *e*PcP PcP 20 12 53.0 -0.2
ZALV Zalesovo Beam 41.88 311 P **P 20 10 57.5 -0.5**
comp=Z,7.3nm,0.6s,mb4.5,baz=90,slow=7.5,SNR=43
ZALV PcP PcP 20 12 53.2 0.0
comp=Z,7.8nm,0.5s,baz=80,slow=2.6,SNR=5.1
ZALV LR LR 20 29 08.1
comp=Z,7μm,18.4s,MS5.6,baz=82,slow=37
ZALV Zalesovo Beam 41.88 311 P **P 20 10 57.5 -0.5**
ZALV PcP PcP 20 12 53.2 0.0
ZALV Zalesovo Beam 41.88 311 P **P 20 10 57.5 -0.5**
ZALV 20 12 53.2
NVS Novosibirsk 42.76 313 ⇑*i*P **P 20 11 04.6 -0.5**
NVS pmax pmax
comp=Z,60nm,1.7s,mb5.0
NVS pmax pmax
comp=E,29nm,1.9s
CHG Chiang Mai 42.91 255 ⇓P **P 20 11 08.9 +2.1**
comp=E,20nm,0.7s,mb5.0
CHTO Chiang Mai 42.91 255 *e*P **P 20 11 06.5 -0.3**
comp=E,15nm,0.7s,mb4.8
CHTO LR LR
comp=Z,1μm,20.0s,MS4.9
CHTO Chiang Mai 42.91 255 *e*P **P 20 11 06.5 -0.3**
CHTO pmax pmax
comp=Z,15nm,0.7s,mb4.8
CHTO MLR MLR
comp=Z,1μm,20.0s,MS4.9
CHTO Chiang Mai 42.91 255 P **P 20 11 07.0 +0.2**
comp=Z,670nmcomp=Z,20nm,0.8s,mb4.9
CM31 Chiang Mai Arr 43.13 255 *e*P **P 20 11 08.4 -0.1**
comp=Z,6.7nm,0.6s,mb4.5
CM31 LR LR
comp=Z,1μm,21.0s,MS4.7
CMAR Chiang Mai Arr 43.13 255 P **P 20 11 08.7 +0.1**
comp=Z,3.0nm,0.6s,mb4.2,baz=45,slow=7.6,SNR=27
CMAR LR LR 20 30 42.3
comp=Z,1μm,18.0s,MS4.8,baz=62,slow=38
CMAR Chiang Mai Arr 43.13 255 P **P 20 11 08.7 +0.1**
CMAR Chiang Mai Arr 43.13 255 P **P 20 11 08.7 +0.1**
LSA Lhasa 43.37 274 P **P 20 11 12.1 +1.7**
LSA sP sP 20 11 29.2 +5.4
LSA PP PP 20 12 58.0 +6.6
LSA S **S 20 17 35.8 -0.4**
LSA pmax pmax
comp=Z,280nm,1.0s,mb6.0
LSA pmax pmax
comp=Z,340nm,7.0s
LSA LR LR
comp=N,4μm,16.0s,MS5.7
LSA LR LR
comp=E,7μm,15.0s,MS5.7
LSA LR LR
comp=Z,1μm,16.0s,MS4.8
BDT Bhumibol Dam 43.82 254 P **P 20 11 14.0 -0.1**
NST Nakhon Sawan 43.95 251 P **P 20 11 15.0 -0.2**
MK31 Makanchi Array 44.43 301 *e*P **P 20 11 18.4 -0.4**
MK31 Makanchi Array 44.43 301 *e*P **P 20 11 18.4 -0.3**
MKAR Makanchi Array 44.43 301 P **P 20 11 18.7 0.0**
comp=Z,5.9nm,0.5s,mb4.6,baz=84,slow=8.7,SNR=49
MKAR LR LR 20 30 44.0
comp=Z,4μm,18.9s,MS5.4,baz=78,slow=37
MKAR Makanchi Array 44.43 301 P **P 20 11 18.7 0.0**
MKAR Makanchi Array 44.43 301 P **P 20 11 18.7 0.0**
PCI Palu 44.69 214 P pP 20 11 31.7 +1.1
comp=Z,481nm,0.8s
SHL Shillong 44.72 269 *ex* x 20 11 12.0
SHL *ex* x 20 18 12.4
RSO Redoubt South 44.93 39 *e*P **P 20 11 23.1 +0.7**
KDAK Kodiak Island 45.12 43 P **P 20 11 25.6 +1.6**
comp=Z,14nm,0.7s,mb4.9,baz=27,slow=14,SNR=7.2
KDAK LR LR 20 30 08.7
comp=Z,3μm,20.8s,MS5.2,baz=250,slow=36

KDAK **Kodiak Island 45.12 43** P **P 20 11 25.6 +1.6**
KDAK **Kodiak Island 45.12 43** P **P 20 11 25.7 +1.6**
PPLA **Purkeypile 45.20 36** *e*P **P 20 11 25.0 +0.4**
comp=Z,44nm,1.2s,mb5.2
SPU **Mount Spurr 45.26 38** *e*pP pP 20 11 33.9 -0.8
BPAW **Bear Paw Mtn. 45.76 34** *e*P **P 20 11 29.7 +0.7**
comp=Z,20nm,1.4s,mb4.8
TARA **Tarawa 46.02 136** PFAKE 20 11 40.0 +8.3
TARA LR LR
comp=Z,2μm,22.0s,MS5.0
KURK **Kurchatov 46.04 307** *e*P **P 20 11 30.5 -0.9**
comp=Z,56nm,0.8s,mb5.5
KURK LR LR
comp=Z,6μm,19.0s,MS5.5
KURK **Kurchatov 46.04 307** P **P 20 11 31.5 +0.1**
comp=Z,373nm,0.6s,mb6.5,SNR=37
KURK **Kurchatov 46.04 307***c i*P **P 20 11 30.9 -0.5**
KURK pmax pmax
comp=Z,86nm,1.2s,mb5.6
KURK MLR MLR
comp=Z,8μm,15.0s,MS5.8
TRF **Thorofare Moun 46.07 35** *e*P **P 20 11 31.5 0.0**
comp=Z,148nm,2.4s,mb5.5
COLD **Coldfoot 46.21 30** *e*P **P 20 11 34.1 +1.6**
comp=Z,30nm,1.6s,mb5.0
PMR **Palmer 46.65 38** *e*P **P 20 11 35.0 -1.0**
comp=Z,10nm,0.7s,mb4.9
PMR **Palmer 46.65 38** *e*P **P 20 11 35.1 -1.0**
PMR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MCK **McKinley 46.67 35** *e*P **P 20 11 35.0 -1.2**
MCK **McKinley 46.67 35** *e*P **P 20 11 35.0 -1.2**
SML **Sawmill 47.02 37** *e*P **P 20 11 38.8 -0.1**
comp=Z,9.4nm,1.1s,mb4.6
SML **Sawmill 47.02 37** *e*P **P 20 11 38.8 -0.1**
SML pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
COLA **College 47.12 33** *e*P **P 20 11 39.1 -0.6**
comp=Z,9.8nm,0.8s,mb4.8
COLA LR LR
comp=Z,1μm,19.0s,MS4.9
COLA **College 47.12 33** *e*P **P 20 11 39.1 -0.6**
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
COLA MLR MLR
comp=Z,1μm,19.0s,MS4.9
TAPN **Taplejung 47.13 273** *e*P **P 20 11 40.7 +0.4**
comp=Z,30nm,0.6s,mb5.4
TAPN **Taplejung 47.13 273** *e*P **P 20 11 40.7 +0.4**
comp=Z,30nm,0.6s,mb5.4
KSM **Kuching 47.52 227** *e*P **P 20 11 44.0 +0.6**
comp=Z,30nm,1.1s,mb5.2
KSM LR LR
comp=Z,744nm,20.0s,MS4.7
KSM **Kuching 47.52 227** P **P 20 11 45.0 +1.6**
comp=Z,595nmcomp=Z,26nm,0.7s,mb5.4
ILAR **Eielson Array 47.54 33** P **P 20 11 42.1 -0.8**
comp=Z,5.9nm,0.9s,mb4.6,baz=268,slow=6.0,SNR=31
ILAR LR LR 20 30 52.5
comp=Z,1μm,18.4s,MS4.9,baz=33,slow=35
ILAR **Eielson Array 47.54 33** P **P 20 11 42.1 -0.8**
ILAR **Eielson Array 47.54 33** P **P 20 11 42.2 -0.7**
ODAN **Odare 47.61 273** *e*P **P 20 11 44.3 +0.2**
comp=Z,52nm,0.8s,mb5.6
ODAN **Odare 47.61 273** *e*P **P 20 11 44.3 +0.2**
comp=Z,52nm,0.8s,mb5.6
PMG **Port Moresby 47.85 175** *e*P **P 20 11 46.8 +0.9**
comp=Z,20nm,0.8s,mb5.2
PMG LR LR
comp=Z,1μm,19.0s,MS4.8
PMG **Port Moresby 47.85 175** *e*P **P 20 11 46.8 +1.0**
PMG pmax pmax
comp=Z,20nm,0.8s
PMG MLR MLR
comp=Z,1μm,19.0s
JIRN **Jiri 48.17 275** *e*P **P 20 11 49.1 +0.7**
comp=Z,12nm,0.5s,mb5.2
JIRN **Jiri 48.17 275** *e*P **P 20 11 49.1 +0.7**
comp=Z,12nm,0.5s,mb5.2
RAMN **Ramite 48.19 274** *e*P **P 20 11 48.9 +0.4**
comp=Z,69nm,0.7s,mb5.8
RAMN **Ramite 48.19 274** *e*P **P 20 11 48.9 +0.4**
comp=Z,69nm,0.7s,mb5.8
PAX **Paxson 48.27 35** *e*P **P 20 11 48.9 +0.3**
comp=Z,19nm,1.4s,mb4.9
PAX **Paxson 48.27 35** *e*P **P 20 11 48.9 +0.3**
PAX pmax pmax
comp=Z,19nm,1.4s,mb4.9
GUN **Gumba 48.30 275** *e*P **P 20 11 50.1 +0.8**
comp=Z,211nm,1.0s,mb6.1
GUN **Gumba 48.30 275** *e*P **P 20 11 50.1 +0.8**
comp=Z,211nm,1.0s,mb6.1
DIV **Divide 48.30 38** *e*P **P 20 11 49.0 +0.1**
comp=Z,44nm,1.2s,mb5.4
KAPI **Kappang 48.41 212** LR LR 20 33 40.4
comp=Z,547nm,18.8s,MS4.6,baz=127,slow=38
KAPI **Kappang 48.41 212** *e*P **P 20 11 48.7 -1.6**
comp=Z,56nm,1.2s,mb5.5
KKN **Kakani 48.82 275** *e*P **P 20 11 53.8 +0.4**
comp=Z,66nm,0.7s,mb5.8
KKN **Kakani 48.82 275** *e*P **P 20 11 53.8 +0.4**
comp=Z,66nm,0.7s,mb5.8
KKN **Kakani 48.82 275** *e*P **P 20 11 53.8 +0.4**
KKN pmax pmax
comp=Z,66nm,0.7s,mb5.8
PKI **Pulchoki 48.82 275** *e*P **P 20 11 53.6 +0.2**
comp=Z,67nm,1.0s,mb5.6
PKI **Pulchoki 48.82 275** *e*P **P 20 11 53.6 +0.2**
comp=Z,67nm,1.0s,mb5.6
PKI **Pulchoki 48.82 275** *e*P **P 20 11 53.6 +0.2**
PKI pmax pmax
comp=Z,67nm,1.0s,mb5.6
DOT **Dot Lake 48.84 35** *e*P **P 20 11 56.6 +3.6**
comp=Z,3.0nm,0.8s,mb4.4
DMN **Daman 49.04 275** *e*P **P 20 11 55.4 +0.3**
comp=Z,64nm,0.9s,mb5.7
DMN **Daman 49.04 275** *e*P **P 20 11 55.4 +0.3**
comp=Z,64nm,0.9s,mb5.7
CAL **Calcutta 49.05 268** *e*PKP **P 20 11 56.0 +0.8**
CAL *e*S **S 20 18 58.8 +0.9**
CAL AMP 20 35 13.2
comp=Z,2μm,18.4s
MENT **Mentasta 49.07 35** *e*P **P 20 11 55.4 +0.6**
GKN **Gorkha 49.22 276** *e*P **P 20 11 56.7 +0.2**
comp=Z,150nm,1.0s,mb6.0
GKN **Gorkha 49.22 276** *e*P **P 20 11 56.7 +0.2**
comp=Z,150nm,1.0s,mb6.0
DANN **Dangsing 49.74 277** *e*P **P 20 12 01.1 +0.7**
comp=Z,204nm,0.7s,mb6.3
DANN **Dangsing 49.74 277** *e*P **P 20 12 01.1 +0.7**
comp=Z,204nm,0.7s,mb6.3
EGAK **Eagle 49.98 33** *e*P **P 20 12 03.6 +1.9**
comp=Z,17nm,1.0s,mb5.0
EGAK LR LR
comp=Z,1μm,19.0s,MS5.0
TKM2 **Tokmak 2 50.06 298** P **P 20 12 03.6 +1.0**
SNR=79
TKM2 P 20 12 03.6
SNR=79
TKM2 **Tokmak 2 50.06 298**⇑ *i*P **P 20 12 03.3 +0.7**
comp=Z,90nm,1.2s,mb5.7
TKM2 LR LR
comp=Z,2μm,20.0s,MS5.1
TKM2 **Tokmak 2 50.06 298**⇑ *i*P **P 20 12 03.3 +0.7**
TKM2 pmax pmax
comp=Z,90nm,1.2s,mb5.7
TKM2 MLR MLR
comp=Z,2μm,20.0s,MS5.1
KOLN **Koldanda 50.14 276** *e*P **P 20 12 03.9 +0.5**
comp=Z,85nm,0.9s,mb5.8
KOLN **Koldanda 50.14 276** *e*P **P 20 12 03.9 +0.5**
comp=Z,85nm,0.9s,mb5.8
HNR **Honiara 50.26 158** PFAKE 20 12 20.0 +16
HNR LR LR
comp=Z,2μm,21.0s,MS5.1
PYUN **Piuthan 50.46 277** *e*P **P 20 12 06.4 +0.5**
comp=Z,265nm,1.1s,mb6.2
PYUN **Piuthan 50.46 277** *e*P **P 20 12 06.4 +0.5**
comp=Z,265nm,1.1s,mb6.2
BRVK **Borovoye 50.58 312** P **P 20 12 06.9 +0.5**
comp=Z,97nm,1.2s,mb5.6,SNR=13
BRVK **Borovoye 50.58 312**⇑ *i*P **P 20 12 06.2 -0.2**
comp=Z,18nm,0.7s,mb5.1
BRVK *e*PP PP 20 14 03.3 +1.2
BRVK LR LR
comp=Z,4μm,22.0s,MS5.4
BRVK **Borovoye 50.58 312**⇑ *i*P **P 20 12 06.2 -0.2**
BRVK *e* 20 14 03.3
BRVK pmax pmax
comp=Z,18nm,0.7s,mb5.1
BRVK MLR MLR
comp=Z,4μm,22.0s,MS5.4
KZA **Kyzart 50.59 297** P **P 20 12 08.2 +1.6**
SNR=13
KZA P 20 12 08.2
SNR=13
KBK **Karagaybulak 50.60 298** P **P 20 12 07.3 +0.6**
SNR=44
KBK P 20 12 07.3
SNR=44
CHMS **Chumysh 50.62 298** P **P 20 12 07.1 +0.2**
SNR=9.3
CHMS P 20 12 07.1
SNR=9.3
KULM **Kulim 50.68 240** P **P 20 12 08.0 +0.3**
comp=Z,62nm,1.6s,mb5.3
KULM LR LR
comp=Z,2μm,21.0s,MS5.1
USP **Ospenovka 50.70 299** P **P 20 12 07.8 +0.3**
SNR=20
USP P 20 12 07.8
SNR=20
FRU **Bishkek 50.77 298** *e*P **P 20 12 08.0 0.0**
FRU *e* 20 12 22.0
AAK **Ala-Archa 50.92 298** P **P 20 12 09.5 +0.4**
SNR=12
AAK P 20 12 09.5
SNR=12
AAK **Ala-Archa 50.92 298** P **P 20 12 09.0 -0.1**
comp=Z,71nm,0.8s,mb5.7,SNR=16
AAK **Ala-Archa 50.92 298** *e*P **P 20 12 08.7 -0.4**
comp=Z,65nm,0.8s,mb5.6
AAK *e*PP PP 20 14 09.7 +4.2
AAK LR LR
comp=Z,2μm,22.0s,MS5.1
AAK **Ala-Archa 50.92 298** *e*P **P 20 12 08.7 -0.4**
AAK *e* 20 14 09.7
AAK pmax pmax
comp=Z,65nm,0.8s,mb5.6
AAK MLR MLR
comp=Z,2μm,22.0s,MS5.1
KSH **Kashi 50.98 294** P **P 20 12 13.8 +4.2**
KSH pP pP 20 12 23.2 +3.9
KSH sP sP 20 12 27.5 +4.4
KSH PcP PcP 20 13 29.4 +3.9
KSH PP PP 20 14 11.2 +5.2
KSH ScP ScP 20 17 21.8 +2.5
KSH PcS PcS 20 17 25.9 +2.9
KSH S **S 20 19 27.4 +3.0**
KSH sS sS 20 19 43.6 +3.3
KSH ScS ScS 20 21 58.7 +0.9
KSH SS SS 20 22 59.8 +0.6
KSH pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KSH pmax pmax
comp=Z,540nm,5.0s
KSH LR LR
comp=N,5μm,13.0s,MS5.8
KSH LR LR
comp=E,3μm,13.3s,MS5.8
KSH LR LR
comp=Z,5μm,16.6s,MS5.6
IPM **Ipoh 51.02 239** *e*P **P 20 12 09.9 -0.3**
comp=Z,81nm,1.6s,mb5.4
EKS2 **Erkin-Say 51.41 298** P **P 20 12 13.2 +0.4**
SNR=26
EKS2 P 20 12 13.2
SNR=26
EKS2 **Erkin-Say 51.41 298** *e*P **P 20 12 12.6 -0.2**
comp=Z,18nm,0.8s,mb5.1
EKS2 LR LR
comp=Z,4μm,19.0s,MS5.4
EKS2 **Erkin-Say 51.41 298** *e*P **P 20 12 12.6 -0.2**
EKS2 pmax pmax
comp=Z,18nm,0.8s,mb5.0
EKS2 MLR MLR
comp=Z,4μm,19.0s,MS5.4
AML **Almayashu 51.65 297** P **P 20 12 15.8 +1.2**
SNR=54
AML P 20 12 15.8
SNR=54
COEN **Coen 52.22 180** *e*P **P 20 12 19.2 +0.2**
comp=Z,263nm,1.0s,mb6.1
INK **Inuvik 52.46 28** LR LR 20 37 32.6
comp=Z,1μm,20.5s,MS5.0,baz=183,slow=39
INK **Inuvik 52.46 28** *e*P **P 20 12 19.2 -1.0**
comp=Z,14nm,0.9s,mb4.9
INK **Inuvik 52.46 28** *e*P **P 20 12 19.2 -1.0**
INK pmax pmax
comp=Z,14nm,0.9s
MTNI **Mataram 53.19 214** P sP 20 12 45.9 +6.2
comp=Z,36nm,0.8s,comp=Z,5μm
DDI **Dehra Dun 53.24 282** *ex* **P 20 12 27.0 +0.4**
KKAR **Karatay Array 53.49 300** *e*P **P 20 12 27.6 -0.7**
KKAR **Karatay Array 53.49 300** *e*P **P 20 12 27.6 -0.6**
PSI **Prapat 53.67 240** P pP 20 12 42.6 +3.1
comp=Z,17nm,0.9s
PSI **Prapat 53.67 240** P sP 20 12 42.6 -0.7
BKNI **Bangkinang 54.10 236** P sP 20 12 49.3 +2.8
comp=Z,72nm,1.0s
SIT **Sitka 54.41 42** *e*P **P 20 12 33.1 -1.6**
SIT **Sitka 54.41 42** *e*P **P 20 12 33.1 -1.6**
KLSI **55.74 228** P sP 20 13 01.3 +2.9
comp=Z,79nm,0.9s
SOKR **Solikamsk 55.93 322***c i*P **P 20 12 46.6 +1.0**
SOKR 20 14 52.8
SOKR S **S 20 20 38.5 +7.5**
SOKR SS SS 20 24 22.5 +6.0
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.2
SOKR MLR MLR
comp=Z,4μm,15.0s,MS5.6
ARU **Arti 56.09 318** *e*P **P 20 12 46.5 -0.4**
comp=Z,56nm,1.0s,mb5.5
ARU LR LR
comp=Z,9μm,19.0s,MS5.9
ARU **Arti 56.09 318***c i*P **P 20 12 46.6 -0.2**
ARU *e* 20 13 42.8
ARU *e* 20 14 50.9
ARU S **S 20 20 34.6 +1.3**
ARU 20 22 26.4
ARU SSS 20 26 25.0
ARU pmax pmax
comp=Z,63nm,1.2s,mb5.5
ARU MLR MLR
comp=Z,11μm,16.0s,MS6.1
ARU **Arti 56.09 318** P **P 20 12 46.7 -0.1**
comp=Z,281nm,1.4s,mb6.1,SNR=19
DLBC **Dease Lake 56.65 39** LR LR 20 35 16.4
comp=Z,1μm,20.1s,MS4.9,baz=41,slow=34
NGP **Nagpur 57.07 272** *e*PKP **P 20 12 54.2 -0.1**
NGP *ex* x 20 21 00.0
BHPL **Bhopal 57.23 275** *ex* **P 20 12 53.1 -2.4**
FUNA **Funafuti 57.66 136** PFAKE 20 13 10.0 +12
FUNA LR LR
comp=Z,6μm,22.0s,MS5.6
ABKAR **Akbulak array 57.96 310**⇑ *i*P **P 20 12 59.5 -0.6**
KBL **Kabul 58.09 291**⇑ *i*P **P 20 13 00.7 -0.5**
comp=Z,34nm,1.0s,mb5.3
KBL **Kabul 58.09 291**⇑ *i*P **P 20 13 00.7 -0.6**
KBL pmax pmax
comp=Z,34nm,1.0s,mb5.3
CTA **Charters Tower 58.39 176** LR LR 20 36 23.3
comp=Z,807nm,18.9s,MS4.9,baz=93,slow=34
CTA **Charters Tower 58.39 176** *e*P **P 20 13 03.1 -0.3**
comp=Z,3.9nm,1.1s,mb4.3
CTAO **Charters Tower 58.39 176** *e*P **P 20 13 05.6 +2.2**
CTAO LR LR
comp=Z,825nm,19.0s,MS4.9
CTAO **Charters Tower 58.39 176** *e*P **P 20 13 05.6 +2.2**
CTAO MLR MLR
comp=Z,825nm,19.0s,MS4.9
ALE **Alert 58.53 4** P **P 20 13 03.9 +0.2**
comp=Z,86nm,0.9s,mb5.8,SNR=7.6
FITZ **Fitzroy Crossi 58.66 199** *e*P **P 20 13 04.8 -0.5**
comp=Z,13nm,0.6s,mb5.1
FITZ **Fitzroy Crossi 58.66 199** *e*P **P 20 13 04.7 -0.5**
comp=Z,19nm,1.0s,mb5.1
WRAB **Tennant Creek 58.73 190** *e*P **P 20 13 04.1 -1.7**
comp=Z,75nm,0.7s,mb5.8
WRAB LR LR
comp=Z,550nm,20.0s,MS4.7
WRAB **Tennant Creek 58.73 190** P **P 20 13 04.1 -1.5**
comp=Z,290nm,0.7s,mb6.4,SNR=15
WRAB **Tennant Creek 58.73 190** *e*P **P 20 13 04.1 -1.6**
WRAB pmax pmax
comp=Z,75nm,0.7s,mb5.8
WRAB MLR MLR
comp=Z,550nm,20.0s,MS4.7
WB2 **Warramunga Arr 58.74 190** *e*P **P 20 13 04.2 -1.6**
WRA **Warramunga Arr 58.74 190** P **P 20 13 04.3 -1.5**
comp=Z,13nm,0.7s,mb5.1,baz=7.7,slow=7.0,SNR=92
WRA LR LR 20 33 56.2
comp=Z,703nm,21.5s,MS4.8,baz=30,slow=32
WRA **Warramunga Arr 58.74 190** P **P 20 13 04.3 -1.5**
WRA **Warramunga Arr 58.74 190** P **P 20 13 04.3 -1.5**
AKL **Akola 58.91 273** *i* P **P 20 13 07.5 +0.3**
AKL *i* x x 20 21 15.3
KBS **Kingsbay 59.40 350** *e*P **P 20 13 10.8 +1.1**
KBS *e*S **S 20 21 17.1 +1.1**
KBS *e*SS SS 20 25 14.3 +4.0
KBS AMS AMS 20 41 48.0
comp=Z,1μm,15.5s,MS5.2
KBS **Kingsbay 59.40 350** PFAKE 20 13 20.0 +10
KBS LR LR
comp=Z,2μm,20.0s,MS5.2
HYB **Hyderabad 59.53 269** *i* P **P 20 13 10.0 -1.5**
HYB *e*S **S 20 21 20.0 +0.7**
RES **Resolute Bay 60.82 15** *e*P **P 20 13 18.6 -0.9**
comp=Z,12nm,0.8s,mb5.1
RES **Resolute Bay 60.82 15** *e*P **P 20 13 18.6 -0.9**
RES pmax pmax
comp=Z,12nm,0.8s,mb5.1
LVZ **Lovozero 61.27 336** PFAKE 20 13 30.0 +7.3
LVZ LR LR
comp=Z,2μm,19.0s,MS5.3
BJO **Bjornoya 61.30 345** *e*S **S 20 21 42.9 +2.5**
BJO AMS AMS 20 43 40.6
comp=Z,3μm,18.5s,MS5.4
APA **Apatity 61.85 336**⇓ *i*P **P 20 13 28.8 +2.2**
APA *i* S **S 20 21 48.0 +0.5**
APA PS 20 22 00.0
APA *i* SS SS 20 25 52.0 +3.0
APA pmax pmax
comp=Z,25nm,0.8s,mb5.4
APA MLR MLR
comp=Z,3μm,16.0s,MS5.5
YKA **Yellowknife Ar 61.86 31** P **P 20 13 25.5 -1.2**
comp=Z,1.9nm,0.6s,mb4.4,baz=298,slow=6.9,SNR=4.9
YKA LR LR 20 45 20.2
comp=Z,89nm,18.0s,baz=215,slow=41
YKA **Yellowknife Ar 61.86 31** P **P 20 13 25.6 -1.2**
YKA **Yellowknife Ar 61.86 31** P **P 20 13 25.5 -1.2**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA MLR MLR
comp=Z,89nm,18.0s
AS31 **Alice Springs 62.46 189** *e*P **P 20 13 29.6 -1.5**
ASAR **Alice Springs 62.47 189** P **P 20 13 30.1 -1.0**
comp=Z,4.8nm,0.7s,mb4.7,baz=9.5,slow=6.5,SNR=39
ASAR PKP2ab 20 42 48.9
comp=Z,0.6nm,1.0s,baz=194,slow=2.5,SNR=4.2
ASAR **Alice Springs 62.47 189** P **P 20 13 30.1 -1.0**
ASAR P'P'ab 20 42 48.9
ASAR **Alice Springs 62.47 189** P **P 20 13 30.1 -1.0**
KEV **Kevo 62.49 339** *e*P **P 20 13 29.8 -1.1**
comp=Z,14nm,0.8s,mb5.1
KEV LR LR
comp=Z,2μm,19.0s,MS5.2
KEV **Kevo 62.49 339** *e*P **P 20 13 29.8 -1.1**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
KEV **Kevo 62.49 339** *e*p **P 20 13 29.8 -1.1**
comp=Z,5.4nm,0.6s,mb4.8
POO **Poona 62.59 272** *e*PKP **P 20 13 30.6 -1.7**
KAD **Karad 63.02 271** *e*PKP **P 20 13 35.0 -0.2**
ARCES **ARCESS Array B 63.04 340** P **P 20 13 34.2 -0.3**
comp=Z,6.8nm,0.8s,mb4.8,baz=50,slow=8.1,SNR=32
ARCES LR LR 20 45 14.4
comp=Z,2μm,18.3s,MS5.4,baz=40,slow=40
ARCES **ARCESS Array B 63.04 340** P **P 20 13 34.2 -0.3**
ARCES **ARCESS Array B 63.04 340** P **P 20 13 34.2 -0.3**
ARE0 **ARCESS Array S 63.05 340** *e*P **P 20 13 34.0 -0.5**
ARE0 *e*S **S 20 22 02.2 -0.3**
ARE0 **ARCESS Array S 63.05 340** *e*P **P 20 13 33.7 -0.8**
MBWA **Marble Bar 63.28 204** *e*P **P 20 13 35.1 -1.5**
comp=Z,8.9nm,0.6s,mb5.1
MBWA LR LR
comp=Z,511nm,21.0s,MS4.7
KTK1 **Kautokeino 64.00 340** *e*P **P 20 13 40.4 -0.4**
KTK1 *e*S **S 20 22 14.1 -0.3**
KTK1 AMS AMS 20 45 26.0
comp=Z,5μm,19.4s,MS5.7
DZM **Mont Dzumac 64.16 156** *e*S **S 20 22 16.8 -0.6**
comp=Z,2μm,28.8s
DZM *e*LQ 20 29 40.6
comp=Z,3μm,31.4s
DZM *e*LR LR 20 32 53.3
comp=Z,3μm,22.3s
DZM **Mont Dzumac 64.16 156** *e*P **P 20 13 40.7 -1.7**
comp=Z,39nm,1.3s,mb5.3
ABKT **Ailbek 64.23 299** P **P 20 13 43.4 +0.5**
comp=Z,107nm,1.5s,mb5.7,SNR=7.2
GOA **Goa 64.34 270**⇓ *i*P **P 20 13 42.6 -1.2**
IKRD **Kardeh 64.54 298** *e*P **P 20 13 39.9 -5.0**
NLWA **Neilton Lookou 64.75 49** *e*P **P 20 13 47.3 +1.2**
comp=Z,22nm,1.0s,mb5.1
NLWA LR LR
comp=Z,734nm,20.0s,MS4.9
MSVF **Nonsavu 64.89 143** *e*P **P 20 13 49.0 +1.7**
comp=Z,14nm,0.9s,mb5.0
MSVF LR LR
comp=Z,2μm,20.0s,MS5.3
MSVF **Nonsavu 64.89 143** *e*P **P 20 13 49.0 +1.8**
MSVF pmax pmax
comp=Z,14nm,0.9s,mb5.0
MSVF MLR MLR
comp=Z,2μm,20.0s,MS5.3
XMAS **Kiritimati 65.19 108** PFAKE 20 14 00.0 +11
XMAS LR LR
comp=Z,4μm,21.0s,MS5.6
JOF **Joensuu 65.24 332** *e*P **P 20 13 47.1 -1.9**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
JOF **Joensuu 65.24 332** *e*p **P 20 13 47.1 -1.9**
comp=Z,8.9nm,0.5s,mb5.0
JCW **Jim Creek 65.47 47** *e*P **P 20 13 52.5 +1.8**
BMW **Boistfort Moun 65.60 49** *e*pP pP 20 14 01.1 -0.4
LON **Longmire 66.29 48** *e*pP pP 20 14 05.1 -0.9
ITEG **Tejag 66.36 294** *e*P **P 20 13 56.6 -0.1**
COCO **West Island 66.39 230** PFAKE 20 14 10.0 +13
COCO LR LR
comp=Z,602nm,20.0s,MS4.8
ETW **Entiat 66.70 47** *e*P **P 20 13 58.9 +0.3**
MOS **Moscow 66.81 324** *e*P **P 20 13 57.2 -2.0**
MOS *e* 20 14 28.0
MOS *e*S S 20 22 49.4 +0.2
MOS pmax pmax
comp=Z,54nm,1.1s,mb5.5
MOS MLR MLR
comp=N,6μm,15.0s,MS6.1
MOS MLR MLR
comp=E,6μm,15.0s,MS6.1
MOS MLR MLR
comp=Z,9μm,15.0s,MS6.1
HOOD **Mount Hood Mea 67.14 50** *e*P **P 20 13 59.4 -2.0**
comp=Z,20nm,0.8s,mb5.2
PUL **Pulkovo 67.55 330** *i* P **P 20 14 03.6 -0.3**
PUL pmax pmax
comp=Z,84nm,1.0s,mb5.7
PUL MLR MLR
comp=Z,4μm,18.0s,MS5.7
KAF **Kangasniemi 67.56 333** *e*P **P 20 14 02.4 -1.5**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
KAF **Kangasniemi 67.56 333** *e*p **P 20 14 02.4 -1.5**
comp=Z,10nm,0.5s,mb5.1
OBN **Obninsk 67.66 323** *e*P **P 20 14 02.6 -2.0**
comp=Z,124nm,1.5s,mb5.7
OBN LR LR
comp=Z,2μm,19.0s,MS5.4
OBN **Obninsk 67.66 323***c i*P **P 20 14 04.1 -0.5**
OBN *e* 20 14 29.4
OBN *e* 20 16 33.9
OBN *e*S S 20 22 59.7 +0.3
OBN *e*SS SS 20 27 20.8 +1.0
OBN pmax pmax
comp=Z,68nm,1.3s,mb5.5

OBN MLR MLR
comp=Z,6µm,14.0s,MS6.0
OD2 Odessa Site #2 67.74 47 *e*P **P 20 14 05.4 +0.1**
HAWA Hanford 67.81 48 PFAKE 20 14 20.0 +14
HAWA LR LR
comp=Z,639nm,19.0s,MS4.9
IGLO Ghaloghah 67.90 300 *e*P **P 20 14 09.8 +3.3**
FINES FINESS Array B 68.08 333 P **P 20 14 06.7 -0.5**
comp=Z,13nm,0.5s,mb5.2,baz=57,slow=7.2,SNR=70
FINES LR LR 20 46 25.3
comp=Z,5µm,18.1s,MS5.8,baz=45,slow=38
FINES FINESS Array B 68.08 333 P **P 20 14 06.7 -0.5**
FINES FINESS Array B 68.08 333 P **P 20 14 06.7 -0.5**
NEW Newport 68.16 45 PFAKE 20 14 20.0 +12
NEW LR LR
comp=Z,812nm,19.0s,MS5.0
KHMM Horse Mountain 68.22 55 *e*P **P 20 14 10.4 +2.0**
comp=Z,12nm,0.8s,mb5.0
MOR8 Moi Rana 68.40 340 *e*P **P 20 14 07.3 -1.7**
YBH Yreka Blue Hor 68.41 53 *e*P **P 20 14 12.5 +3.0**
comp=Z,7.8nm,1.0s,mb4.7
YBH Yreka Blue Hor 68.41 53 *e*P **P 20 14 12.5 +2.9**
YBH pmax pmax
comp=Z,8.0nm,1.0s
MAK Makhachkala 68.55 308 *e*P **P 20 14 09.3 -1.1**
MAK *e* 20 14 33.5
MAK *e* 20 16 40.8
MAK *e*PPP 20 18 28.8
MAK *e*S S 20 23 02.8 -7.6
MAK *e* 20 24 07.4
MAK *e*SS SS 20 27 38.0 +4.0
MAK *e*SSS 20 30 42.9
MAK pmax pmax
comp=Z,154nm,1.0s,mb5.9
VSR Storozhevoye 68.65 319 *e*P **P 20 14 09.9 -1.0**
VSR *e**PP pP 20 14 17.1 -3.7
VSR *e**SP sP 20 14 20.7 -3.9
VSR pmax pmax
comp=Z,20nm,0.8s,mb5.1
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,30nm,1.0s
VSR MLR MLR
comp=Z,5µm,17.0s,MS5.8
VSR MLR MLR
comp=N,2µm,15.0s,MS5.7
VSR MLR MLR
comp=E,3µm,17.0s,MS5.7
ARMA Armidale 69.07 172 *e*P **P 20 14 17.4 +3.9**
ILAS Lasjerd 69.10 299 *e*P **P 20 14 13.6 -0.4**
SUMG Summit 69.18 0 *e*P **P 20 14 13.4 -0.4**
comp=E,43nm,1.2s,mb5.2
SUMG Summit 69.18 0 *i* P **P 20 14 13.9 +0.1**
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG MLR MLR
comp=Z,2µm,20.0s
SUMG Summit 69.18 0 *i* P **P 20 14 13.9 +0.1**
comp=Z,17nm,0.9s,mb5.0
SUMG
comp=Z,2µm,20.0s
IBAF Bafgh 69.33 294 *e*P **P 20 14 14.4 -1.1**
WALA Waterton Lakes 69.46 43 *e*P **P 20 14 15.7 -0.2**
comp=Z,0.4nm,0.8s
BSMT Bassoo Peak 69.68 45 *e*P **P 20 14 19.4 +2.0**
VSU Vasula 69.81 330⇑ *e*P **P 20 14 17.7 -0.2**
VSU pmax pmax
comp=Z,43nm,1.1s,mb5.3
VSU MLR MLR
comp=Z,5µm,19.0s,MS5.8
MOD Modoc 69.82 52 *e*P **P 20 14 18.6 +0.3**
comp=Z,8.3nm,0.8s,mb4.7
BMO Blue Mountains 69.97 48 *e*P **P 20 14 19.6 +0.4**
comp=Z,14nm,1.4s,mb4.7
BMO LR LR
comp=Z,620nm,19.0s,MS4.9
JTMT Jette 70.02 44 *e*P **P 20 14 19.8 +0.3**
STKA Stephens Creek 70.07 181 P **P 20 14 19.0 -0.7**
comp=Z,3.1nm,1.0s,mb4.2,baz=7.1,slow=8.1,SNR=5.1
STKA LR LR 20 46 34.5
comp=Z,729nm,18.5s,MS5.0,baz=7.0,slow=37
STKA Stephens Creek 70.07 181 *e*P **P 20 14 19.1 -0.6**
comp=Z,7.2nm,0.8s,mb4.7
STKA Stephens Creek 70.07 181 *e*P **P 20 14 18.9 -0.8**
comp=Z,1.6nm,0.8s
STKA Stephens Creek 70.07 181 P **P 20 14 19.0 -0.7**
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA MLR MLR
comp=Z,729nm,18.5s
YBMT Yellow Bay 70.10 44 *e*P **P 20 14 21.4 +1.5**
IMEH Mehriz 70.12 295 *e*P **P 20 14 19.1 -1.3**
SWMT Swartz Lake 70.31 45 *e*P **P 20 14 20.8 -0.4**
NSS Namsos 70.33 340 *e*S S 20 23 32.4 +1.8
NSS AMS AMS 20 49 17.3
comp=Z,3µm,21.1s,MS5.5
FORT Forrest 70.36 194 *e*P **P 20 14 20.7 -0.8**
comp=Z,28nm,0.8s,mb5.2
FORT Forrest 70.36 194 *e*P **P 20 14 20.4 -1.1**
comp=Z,32nm,0.8s,mb5.3
IR3 Iran Long-Peri 70.37 300 *e*P **P 20 14 18.9 -2.9**
OHCM Honcut 70.51 55 *e*P **P 20 14 26.0 +3.4**
WVOR Wild Horse Val 70.55 51 *e*P **P 20 14 23.1 +0.4**
comp=Z,28nm,1.4s,mb5.0
WVOR LR LR
comp=Z,1µm,20.0s,MS5.1
WVOR Wild Horse Val 70.55 51 *e*P **P 20 14 23.1 +0.4**
WVOR pmax pmax
comp=Z,28nm,1.4s,mb5.0
WVOR MLR MLR
comp=Z,1µm,20.0s,MS5.1
MSO Missoula 70.75 45 *e*P **P 20 14 24.6 +0.8**
comp=Z,20nm,1.8s,mb4.8
MSO LR LR
comp=Z,467nm,20.0s,MS4.7
SCO Scoresbysund 70.75 355 *i* P **P 20 14 23.7 +0.2**
SCO *i* S S 20 23 40.2 +4.8
SCO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
SCO MLR MLR
comp=Z,800nm,17.0s,MS5.0
SCO Scoresbysund 70.75 355 *i* P **P 20 14 23.7 +0.2**
comp=Z,5.1nm,1.0s,mb4.4
SCO *i* S S 20 23 40.2 +4.8
SCO
comp=Z,790nm,17.0s
SLMT Seeley Lake 70.75 45 *e*P **P 20 14 25.8 +1.9**
ZEI Tsey 70.85 310 *e*P **P 20 14 23.3 -1.3**
ZEI pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KIV Kislovodsk 70.89 311 *e*P **P 20 14 25.1 +0.2**
comp=Z,88nm,1.2s,mb5.6
KIV LR LR
comp=Z,3µm,20.0s,MS5.5
KIV Kislovodsk 70.89 311 *c i*P **P 20 14 25.5 +0.7**
KIV *e* 20 14 39.3
KIV pmax pmax
comp=Z,65nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,3µm,17.0s,MS5.6
KIV Kislovodsk 70.89 311 P **P 20 14 25.4 +0.6**
comp=Z,303nm,1.2s,mb6.1,SNR=12
IZEF Zefreh 70.90 297 *e*P **P 20 14 24.1 -1.0**
MTA Mtatsminda 70.92 308 P **P 20 14 24.5 -0.6**
TBLG Delisi 70.93 308 *e*P **P 20 14 24.5 -0.6**
TBLG Delisi 70.93 308 P **P 20 14 24.5 -0.6**
GOR Gori 71.17 309 P **P 20 14 26.9 +0.4**
IKLH Kolahrood 71.19 298 *e*P **P 20 14 26.7 -0.1**
ONI Oni 71.22 310 P **P 20 14 16.2 -11**
ISRB Sarab 71.29 304 *e*P **P 20 14 26.5 -0.9**
IHRS Heris 71.42 304 *e*P **P 20 14 27.5 -0.6**
WCN Washoe City 71.63 54 P **P 20 14 30.3 +0.9**
WCN Washoe City 71.63 54 P **P 20 14 30.3 +0.9**
MFID Camas Ranch 71.67 49 *e*P **P 20 14 31.8 +2.2**
comp=Z,7.1nm,0.8s,mb4.7
FFC Flin Flon 71.75 34 *e*P **P 20 14 28.8 -1.0**
comp=Z,16nm,1.0s,mb4.9
FFC LR LR
comp=Z,848nm,21.0s,MS5.0
FFC Flin Flon 71.75 34 *e*P **P 20 14 28.8 -1.0**
FFC pmax pmax
comp=Z,16nm,1.0s,mb4.9
FFC MLR MLR
comp=Z,848nm,21.0s,MS5.0
IZAR Zarasai 71.83 328 *e*P **P 20 14 30.3 +0.1**
IZAR AMB AMB 20 14 32.0
comp=Z,13nm,1.3s,mb4.7
GNI Garni 71.84 307 P **P 20 14 30.8 +0.2**
comp=Z,48nm,1.3s,mb5.3
GNI LR LR
comp=Z,3µm,19.0s,MS5.6
GNI Garni 71.84 307 *i* P **P 20 14 31.6 +1.0**
GNI pmax pmax
comp=Z,25nm,3.5s
GNI MLR MLR
comp=Z,3µm,17.0s
AKH Akhalkalaki 71.88 309 P **P 20 14 31.1 +0.2**
CMB Columbia Colle 71.95 56 *e*P **P 20 14 30.6 -0.7**
comp=Z,12nm,0.9s,mb4.8
CMB Columbia Colle 71.95 56 *e*P **P 20 14 30.6 -0.7**
CMB pmax pmax
comp=Z,12nm,0.9s,mb4.8
MICGM Minsk 71.97 326 *e*P **P 20 14 29.0 -2.1**
HRY Holter Researc 71.98 44 *e*P **P 20 14 29.3 -2.1**
MNK Minsk 71.99 326 *e*P **P 20 14 29.0 -2.3**
MNK *e* 20 17 14.0
MNK MLR MLR
comp=Z,19µm,15.0s,MS6.5
MNK MLR MLR
comp=E,10µm,15.0s,MS6.4
MNK MLR MLR
comp=N,11µm,16.0s,MS6.4
ISAL Salakas 72.00 328 *e*P **P 20 14 31.3 0.0**
ISAL AMB AMB 20 14 33.2
comp=Z,24nm,1.2s,mb5.0
IMRD Marand 72.06 305 *e*P **P 20 14 31.8 -0.1**
IIGN Ignalina 72.11 328 *e*P **P 20 14 32.0 0.0**
IIGN AMB AMB 20 14 33.9
comp=Z,13nm,1.1s,mb4.8
LRM Limekiln Ridge 72.17 45 *e*P **P 20 14 32.6 +0.1**
LRM *e* 20 14 47.5
NACGM Naroch 72.18 327 *e*P **P 20 14 30.0 -2.4**
EGMT Eagleton 72.29 42 *e*P **P 20 14 32.6 -0.6**
comp=Z,18nm,0.8s,mb5.0
EGMT LR LR
comp=Z,680nm,21.0s,MS4.9
ISHB Shabestar 72.36 305 *e*P **P 20 14 33.5 -0.3**
DLMT Dillon 72.37 46 *e*P **P 20 14 33.9 +0.2**
comp=Z,26nm,1.3s,mb5.0
HLID Hailey 72.41 48 *e*P **P 20 14 35.9 +1.9**
comp=Z,6.8nm,1.0s,mb4.5
HLID LR LR
comp=Z,607nm,20.0s,MS4.9
BMN Battle Mountai 72.57 52 P **P 20 14 34.1 -0.9**
comp=Z,8.8nm,0.8s,mb4.7
BMN LR LR
comp=Z,846nm,19.0s,MS5.0
BMN Battle Mountai 72.57 52 P **P 20 14 34.1 -0.9**
BMN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BMN MLR MLR
comp=Z,846nm,19.0s,MS5.0
BOZ Bozeman (W) 72.74 45 PFAKE 20 14 50.0 +14
BOZ LR LR
comp=Z,731nm,20.0s,MS5.0
SOC Sochi 72.85 312 *c i*P **P 20 14 36.5 -0.1**
SOC *e**SP sP 20 14 48.8 -1.5
SOC *e* 20 17 13.6
SOC *e*PPP 20 18 57.5
SOC *e*S S 20 24 02.2 +1.8
SOC *e*SS SS 20 28 46.2 +6.2
SOC *e*SSS 20 31 57.8
SOC pmax pmax
comp=Z,19nm,0.6s,mb5.2
NVAR Mina Array Bea 73.06 54 P **P 20 14 38.6 +0.6**
comp=Z,2.5nm,0.8s,mb4.2,baz=287,slow=5.9,SNR=15
NVAR LR LR 20 46 25.6
comp=Z,621nm,19.3s,MS4.9,baz=225,slow=36
NVAR Mina Array Bea 73.06 54 P **P 20 14 38.6 +0.6**
NB2 NORSAR Subarra 73.29 338 P **P 20 14 38.3 -0.6**
comp=Z,75nm,1.4s,mb5.4,baz=38,slow=6.2
NOA NORSAR Array B 73.29 338 P **P 20 14 38.5 -0.3**
comp=Z,15nm,0.8s,mb5.0,baz=38,slow=5.9,SNR=50
NOA LR LR 20 52 03.6
comp=Z,2µm,18.6s,MS5.5,baz=30,slow=40
NOA NORSAR Array B 73.29 338 P **P 20 14 38.5 -0.3**
NOA NORSAR Array B 73.29 338 P **P 20 14 38.6 -0.3**
NC602 NORSAR Array S 73.44 337 *e*P **P 20 14 40.1 +0.3**
NC602 *e*S S 20 24 05.4 -1.1
NAO01 NORSAR Array S 73.55 338 *e*P **P 20 14 39.6 -0.7**
comp=Z,7.2nm,0.8s,mb4.7
NAO01 LR LR
comp=Z,3µm,19.0s,MS5.7
CAN Canberra 73.69 175 PFAKE 20 14 50.0 +8.6
CAN LR LR
comp=Z,712nm,20.0s,MS5.0
AKASG Malin Array Be 73.89 323 P **P 20 14 41.1 -1.5**
comp=Z,9.0nm,0.5s,mb5.0,baz=44,slow=6.1,SNR=43
AKASG LR LR 20 49 38.1
comp=Z,2µm,20.4s,MS5.4,baz=25,slow=38
AKASG Malin Array Be 73.89 323 P **P 20 14 41.1 -1.5**
AKASG Malin Array Be 73.89 323 P **P 20 14 41.1 -1.5**
AKBB Malin Array Si 73.89 323 *e*P **P 20 14 41.8 -0.8**
AKBB Malin Array Si 73.89 323 *e*P **P 20 14 41.8 -0.8**
KIEV Kiev 73.90 323 *e*P **P 20 14 41.9 -0.7**
comp=Z,79nm,1.4s,mb5.5
KIEV LR LR
comp=Z,2µm,21.0s,MS5.4
KIEV Kiev 73.90 323 *e*P **P 20 14 41.9 -0.8**
KIEV pmax pmax
comp=Z,79nm,1.4s,mb5.5
KIEV MLR MLR
comp=Z,2µm,21.0s,MS5.4
TPH Tonopah 73.96 54 PFAKE 20 15 00.0 +17
TPH LR LR
comp=Z,698nm,20.0s,MS5.0
LKWY Lake 74.09 45 PFAKE 20 15 00.0 +16
LKWY LR LR
comp=Z,2µm,20.0s,MS5.3
IMW Indian Meadow 74.20 46 *e*P **P 20 14 47.9 +3.3**
comp=Z,13nm,0.9s,mb4.8
FLWY Flagg Ranch 74.22 46 *e*P **P 20 14 46.1 +1.4**
comp=Z,37nm,1.6s,mb5.1
SFJD Kangerlussuaq 74.28 6 PFAKE 20 15 00.0 +15
SFJD LR LR
comp=Z,1µm,19.0s,MS5.3
SUW Suwalki 74.31 328 *e*P **P 20 14 44.6 -0.4**
SUW *e*S S 20 24 21.3 +4.7
SUW LMZ 20 49 06.9
comp=Z,4µm,21.3s
SUW Suwalki 74.31 328 *e*P **P 20 14 44.3 -0.7**
comp=Z,44nm,1.0s,mb5.3
SUW Suwalki 74.31 328 *e*P **P 20 14 44.6 -0.4**
SUW *e*S S 20 24 21.3 +4.7
SUW MLR MLR
comp=Z,4µm,21.3s,MS5.7
RRI2 Red Ridge 74.33 47 *e*P **P 20 14 47.2 +2.0**
comp=Z,12nm,0.9s,mb4.8
RLMT Red Lodge 74.37 44 PFAKE 20 15 00.0 +15
RLMT LR LR
comp=Z,883nm,20.0s,MS5.0
TPAW Teton Pass 74.45 47 *e*P **P 20 14 46.1 +0.1**
comp=Z,11nm,0.9s,mb4.8
ISA Isabella 74.58 57 *e*P **P 20 14 48.8 +1.9**
comp=Z,7.1nm,0.9s,mb4.6
ISA Isabella 74.58 57 *e*P **P 20 14 48.8 +1.9**
ISA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AHID Auburn Hatcher 74.82 47 PFAKE 20 15 00.0 +12
AHID LR LR
comp=Z,621nm,20.0s,MS4.9
DGMT Dagmar 74.86 39 PFAKE 20 15 00.0 +12
DGMT LR LR
comp=Z,982nm,20.0s,MS5.1
KONO Kongsberg 74.89 338 *e*P **P 20 14 48.5 +0.3**
KONO *e*S S 20 24 23.3 +0.4
KONO AMS AMS 20 52 53.5
comp=Z,2µm,16.2s,MS5.6
KONO Kongsberg 74.89 338 PFAKE 20 15 00.0 +12
KONO LR LR
comp=Z,3µm,22.0s,MS5.5
LAO LASA Array 75.00 42 PFAKE 20 15 00.0 +11
LAO LR LR
comp=Z,853nm,19.0s,MS5.1
NWAO Narrogin (SRO) 75.04 202 PFAKE 20 15 00.0 +11
NWAO LR LR
comp=Z,520nm,21.0s,MS4.8
SIM Simferopol' 75.15 316 *e*P **P 20 14 47.3 -2.7**
SIM *e* 20 17 40.0
SIM *e*S S 20 24 24.0 -2.3
SIM pmax pmax
comp=Z,30nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,3µm,17.0s,MS5.7
HWUT Hardware Ranch 75.27 48 *e*P **P 20 14 53.4 +2.7**
comp=Z,106nm,2.3s,mb5.4
HWUT LR LR
comp=Z,518nm,20.0s,MS4.8
DUG Dugway 75.40 50 *e*P **P 20 14 54.0 +2.4**
comp=Z,9.4nm,0.9s,mb4.7
DUG LR LR
comp=Z,723nm,21.0s,MS5.0
DUG Dugway 75.40 50 *e*P **P 20 14 54.0 +2.5**
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
DUG MLR MLR
comp=Z,723nm,21.0s,MS5.0
BW06 Boulder Array 75.70 46 *e*P **P 20 14 53.1 -0.1**
comp=Z,8.4nm,1.0s,mb4.6
BW06 LR LR
comp=Z,654nm,20.0s,MS4.9
PDAR Pinedale Array 75.70 46 P **P 20 14 52.9 -0.3**
comp=Z,2.5nm,0.6s,mb4.3,baz=312,slow=1.4,SNR=12
PDAR LR LR 20 44 00.2
comp=Z,430nm,19.9s,MS4.8,baz=341,slow=32
PDAR Pinedale Array 75.70 46 P **P 20 14 52.9 -0.3**
GSC Goldstone 75.89 56 *e*P **P 20 14 56.0 +1.6**
comp=Z,17nm,1.4s,mb4.8
GSC Goldstone 75.89 56 *e*P **P 20 14 56.0 +1.6**
GSC pmax pmax
comp=Z,17nm,1.4s,mb4.8
JLU Jordanelle 75.96 49 *e*P **P 20 14 59.6 +4.9**
comp=Z,10nm,1.1s,mb4.7
MIB Mutribah 76.17 297 *e*P **P 20 14 54.7 -1.4**
MIB AMb AMB 20 14 58.0
comp=Z,41nm,1.1s,mb5.3
DAU Daniels Canyon 76.20 49 *e*P **P 20 14 59.0 +2.9**
DAU Daniels Canyon 76.20 49 *e*P **P 20 14 59.0 +2.9**
MPU Maple Canyon 76.22 50 P **P 20 14 56.8 +0.6**
comp=Z,14nm,1.1s,mb4.8
QRN Al-Qurain 76.39 296 *e*P **P 20 14 56.7 -0.7**
QRN AMb AMB 20 15 01.0
comp=Z,58nm,1.0s,mb5.5
ARUT Antelope Range 76.51 52 *e*P **P 20 14 58.1 +0.2**
comp=Z,108nm,1.7s,mb5.5
ARUT Antelope Range 76.51 52 *e*P **P 20 14 58.1 +0.2**
ARUT pmax pmax
comp=Z,108nm,1.7s,mb5.5
RDF Al-Radifah 76.54 296 *e*P **P 20 14 57.4 -0.8**
RDF AMb AMB 20 15 00.8
comp=Z,94nm,1.2s,mb5.6
NAY Al-Naaiem 76.56 297 *e*P **P 20 14 56.9 -1.5**
NAY AMb AMB 20 14 58.8
comp=Z,26nm,1.0s,mb5.1
KIS Kishinev 76.58 320 *e*P **P 20 14 58.0 -0.1**
KIS Kishinev 76.58 320 *e*PP PP 20 17 55.0 +5.1
KIS Kishinev 76.58 320 *e*PPP 20 19 32.0
KIS *e*S S 20 24 40.0 -1.9
KIS Kishinev 76.58 320 *e*P **P 20 14 58.0 -0.1**
KIS *e* 20 15 04.0
KIS *e* 20 17 55.0
KIS *e*PPP 20 19 32.0
KIS *e*S S 20 24 40.0 -1.9
KIS *e*PS 20 25 03.0
KIS MLR MLR
comp=N,4µm,16.0s
KIS MLR MLR
comp=Z,6µm,16.0s,MS6.0
RAO Raoul Island 76.66 146 PFAKE 20 15 10.0 +11
RAO LR LR
comp=Z,2µm,19.0s,MS5.4
SNART Snartemo 76.68 338 *e*P **P 20 14 59.9 +1.4**
CCUT Cedar City 76.70 53 *e*P **P 20 14 58.7 -0.3**
comp=Z,11nm,1.1s,mb4.7
BSD Bornholm Skovb 76.72 332 *i* P **P 20 14 57.6 -1.2**
BSD pmax pmax
comp=Z,26nm,0.9s,mb5.2
BSD MLR MLR
comp=Z,4µm,18.0s,MS5.7
BSD Bornholm Skovb 76.72 332 *i* P **P 20 14 57.6 -1.2**
comp=Z,26nm,0.9s,mb5.2
BSD
comp=Z,4µm,18.0s
MVU Marysvale 76.82 51 PFAKE 20 15 10.0 +10
MVU LR LR
comp=Z,769nm,21.0s,MS5.0
MSU Marysvale 76.83 51 *e*P **P 20 15 01.0 +1.3**
MSU Marysvale 76.83 51 *e*P **P 20 15 01.0 +1.3**
MALT Malatya 76.86 309 P PP 20 17 59.8 +7.3
BEL Belsk 76.88 327 *e*P **P 20 14 59.8 +0.1**
BEL *e*S S 20 24 49.1 +4.0
BEL LMZ 20 50 37.4
comp=Z,4µm,22.1s
BEL Belsk 76.88 327 *e*P **P 20 14 59.8 +0.1**
BEL *e*S S 20 24 49.1 +4.0
BEL MLR MLR
comp=Z,4µm,22.1s,MS5.6
LVV L'vov 76.92 324 *e*P **P 20 15 00.1 +0.1**
LVV *e* 20 17 51.7
LVV *e*S S 20 24 43.1 -2.4
LVV MLR MLR
comp=N,4µm,15.0s,MS6.1
LVV MLR MLR
comp=E,5µm,15.0s,MS6.1
LVV MLR MLR
comp=Z,7µm,15.0s,MS6.1
TMUT Trail Mountain 76.93 50 *e*P **P 20 15 03.4 +3.1**
PFO Pinyon Flat Ob 77.14 57 PFAKE 20 15 10.0 +8.4
PFO LR LR
comp=Z,840nm,20.0s,MS5.1
LEOM Leova 77.22 320 ⇑P **P 20 15 01.2 -0.6**
LEOM Leova 77.22 320 ⇑*i*P **P 20 15 01.2 -0.6**
GKP Gorka Klasztor 77.26 330 *e*P **P 20 15 01.5 -0.3**
GKP LMZ 20 52 01.3
comp=Z,4µm,16.8s
GKP Gorka Klasztor 77.26 330 *e*P **P 20 15 01.5 -0.3**
GKP MLR MLR
comp=Z,4µm,16.8s,MS5.8
SRU San Rafael 77.46 50 *e*P **P 20 15 03.1 -0.1**
comp=Z,51nm,1.6s,mb5.2
SRU San Rafael 77.46 50 *e*P **P 20 15 03.1 -0.1**
SRU pmax pmax
comp=Z,51nm,1.6s,mb5.2
ULM Lac du Bonnet 77.54 34 P **P 20 15 02.2 -1.3**
comp=Z,2.5nm,0.7s,mb4.2,baz=282,slow=9.9,SNR=2.5
ULM Lac du Bonnet 77.54 34 P **P 20 15 02.2 -1.3**
ULM LR LR
comp=Z,921nm,22.0s,MS5.1
ULM Lac du Bonnet 77.54 34 P **P 20 15 02.2 -1.3**
ULM MLR MLR
comp=Z,921nm,22.0s
BAR Barrett 77.57 58 *e*pP pP 20 15 13.5 -0.6
MUD Monsted U'grnd 77.62 336 *i* P **P 20 15 01.8 -2.0**
MUD MLR MLR
comp=Z,3µm,19.0s,MS5.7
MUD Monsted U'grnd 77.62 336 *i* P **P 20 15 01.8 -2.0**
MUD
comp=Z,3µm,19.0s
KWP Kalwaria Pacla 77.65 325 *e*P **P 20 15 04.8 +0.7**
KWP *e*PcP PcP 20 15 14.2 +0.1
KWP LMZ 20 52 34.2
comp=Z,12µm,16.2s
KWP Kalwaria Pacla 77.65 325 *e*P **P 20 15 04.2 +0.1**
comp=Z,52nm,0.9s,mb5.5
KWP LR LR
comp=Z,1µm,19.0s,MS5.3
KWP Kalwaria Pacla 77.65 325 *e*P **P 20 15 04.2 +0.1**
KWP pmax pmax
comp=Z,52nm,0.9s,mb5.5
KWP MLR MLR
comp=Z,1µm,19.0s,MS5.3
KWP Kalwaria Pacla 77.65 325 ⇓*i*P **P 20 15 04.9 +0.8**
TLCR 77.81 319 ⇑P **P 20 15 04.5 -0.6**
TLCR 77.81 319 ⇑*i*P **P 20 15 04.5 -0.6**
BUR08 Bucovina Ar. S 77.91 322 *e*P **P 20 15 05.6 0.0**
BURAR Bucovina Array 77.92 322 ⇓P **P 20 15 05.9 +0.3**
BURAR Bucovina Array 77.92 322 ⇓*i*P **P 20 15 05.8 +0.2**
GHRR 77.93 320 ⇑*i*P **P 20 15 06.8 +1.1**
PETR 78.25 320 ⇑*i*P **P 20 15 08.2 +0.7**
KOLS Kolonicke sedl 78.35 325 *e*P **P 20 15 08.1 +0.1**
KOLS pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
KOLS Kolonicke sedl 78.35 325 *e*P **P 20 15 08.1 +0.1**
VRI Vrincioaia 78.41 320 ⇑P **P 20 15 08.0 -0.4**

VRI Vrincioaia 78.41 320⇑*i*P P 20 15 08.0 -0.4
PLOR Plostina 78.46 320⇓P P 20 15 09.2 +0.6
PLOR Plostina 78.46 320⇓*i*P P 20 15 09.2 +0.6
OJC Ojcow 78.50 327 *e*P P 20 15 09.0 +0.2
OJC Ojcow 78.50 327 *e*P P 20 15 08.9 +0.1
comp=Z,21nm,0.9s,mb5.1
OJC Ojcow 78.50 327 *e*P P 20 15 08.9 +0.1
OJC pmax pmax
comp=Z,21nm,0.9s,mb5.1
TIRR Tirgusor 78.52 318⇑P P 20 15 09.1 +0.1
TIRR Tirgusor 78.52 318⇑*i*P P 20 15 09.1 +0.1
UZH Uzhgorod 78.56 324 *e*P P 20 15 11.0 +1.8
UZH *e* pP 20 15 21.0 +1.7
UZH *e* 20 18 06.6
UZH *e*PPP 20 19 55.6
UZH *e*S S 20 25 01.0 -2.4
UZH *e* 20 25 17.0
UZH *e*PS 20 25 44.0
UZH *e*SS SS 20 30 01.6 -4.6
UZH MLR MLR
comp=N,2μm,15.0s,MS5.9
UZH MLR MLR
comp=E,4μm,15.0s,MS5.9
UZH MLR MLR
comp=Z,2μm,15.0s,MS5.6
GRER 78.62 320⇓*i*P P 20 15 09.9 +0.3
CRVS Cervenica-Dubn 78.74 325 *e*P P 20 15 10.5 +0.4
CRVS pmax pmax
comp=Z,11nm,1.3s,mb4.6
CRVS Cervenica-Dubn 78.74 325 *e*P P 20 15 10.5 +0.4
BR131 Keskin Array S 78.81 312 *e*P P 20 15 10.5 -0.2
comp=Z,2.6nm,0.5s,mb4.4
BR131 LR LR
comp=Z,1μm,19.0s,MS5.3
BRTR Keskin Array B 78.81 312 P P 20 15 10.9 +0.2
comp=Z,4.0nm,0.6s,mb4.6,baz=80,slow=3.5,SNR=24
BRTR LR LR 20 57 36.8
comp=Z,1μm,18.7s,MS5.3,baz=210,slow=42
BRTR Keskin Array B 78.81 312 P P 20 15 10.9 +0.2
BRTR Keskin Array B 78.81 312 P P 20 15 11.0 +0.3
TRPA Tarpa 78.81 324⇑*i*P P 20 15 11.1 +0.5
NIE Niedzica 78.87 326 *e*P P 20 15 11.4 +0.6
NIE Niedzica 78.87 326 *e*P P 20 15 11.4 +0.6
PV04 Paradox Valley 78.89 50 *e*P P 20 15 10.6 -0.6
AGMN Agassiz Nation 78.97 36 P P 20 15 10.2 -1.2
AGMN LR LR
comp=Z,687nm,19.0s,MS5.0
DOPR Dopca 79.00 321⇑*i*P P 20 15 12.2 +0.6
ISR Istrita 79.02 320⇑P P 20 15 11.5 -0.3
ISR Istrita 79.02 320⇑*i*P P 20 15 11.5 -0.3
MLR Muntele Rosu 79.06 320⇑P P 20 15 12.8 +0.8
MLR Muntele Rosu 79.06 320⇑*i*P P 20 15 12.8 +0.8
WUAZ Wupatki 79.23 53 *e*P P 20 15 13.9 +0.8
comp=Z,8.8nm,0.8s,mb4.7
WUAZ LR LR
comp=Z,880nm,19.0s,MS5.1
PV01 Paradox Valley 79.26 50 *e*P P 20 15 15.5 +2.4
comp=Z,800nm,0.9s
BSEG Bad Segeberg 79.30 334 *e*P P 20 15 13.4 +0.3
comp=Z,66nm,1.4s,mb5.4
BSEG Bad Segeberg 79.30 334 *e*P P 20 15 13.4 +0.3
BSEG pmax pmax
comp=Z,66nm,1.4s,mb5.4
KECS Kecovo 79.49 325 *e*P P 20 15 14.6 +0.4
KECS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
KECS Kecovo 79.49 325 *e*P P 20 15 14.6 +0.4
KSP Ksiaz 79.49 329 *e*P P 20 15 14.3 +0.1
KSP *e*PcP PcP 20 15 23.5 +1.4
KSP *e*S S 20 25 14.3 +1.1
KSP LMZ 20 53 12.2
comp=Z,4μm,19.5s
KSP Ksiaz 79.49 329 *e*P P 20 15 14.2 0.0
KSP *e*pP pP 20 15 23.5 -0.8
KSP *e*S S 20 25 14.0 +0.8
KSP LM 20 53 26.0
comp=Z,8.0nm,18.7s
KSP Ksiaz 79.49 329 *e*P P 20 15 14.2 0.0
KSP *e**PP pP 20 15 23.5 -0.8
KSP *e*S S 20 25 14.0 +0.8
KSP MLR MLR
comp=Z,8μm,18.7s,MS6.1
OKC Ostrava-Krasne 79.49 327 *i*P P 20 15 14.4 +0.2
OKC *e* pP 20 15 23.5 -0.9
OKC *e*S S 20 25 20.8 +7.6
OKC MLR MLR
comp=Z,4μm,17.6s,MS5.8
OKC Ostrava-Krasne 79.49 327 *i*P P 20 15 14.4 +0.2
OKC *e*pP pP 20 15 23.5 -0.9
OKC *e*S S 20 25 20.8 +7.6
OKC AMS AMS 20 53 00.0
comp=Z,4μm,17.6s
SMCO Snowmass 79.51 48 *e*P P 20 15 17.1 +2.5
comp=Z,24nm,1.7s,mb4.8
VOIR 79.55 321⇓P P 20 15 15.7 +1.1
VOIR 79.55 321⇓*i*P P 20 15 15.6 +1.0
LIKS Likavka 79.68 326 *e*P P 20 15 16.4 +1.2
LIKS pmax pmax
comp=Z,29nm,1.2s,mb5.1
LIKS Likavka 79.68 326 *e*P P 20 15 16.4 +1.2
DGAR Diego Garcia 79.69 252 PFAKE 20 15 30.0 +14
DGAR LR LR
comp=Z,1μm,20.0s,MS5.3
DRGR 79.71 323⇓P P 20 15 15.6 +0.1
DRGR 79.71 323⇓*i*P P 20 15 15.6 +0.1
MORC Moravsky Berou 79.80 328 *e*P P 20 15 16.0 +0.1
comp=Z,12nm,0.8s,mb4.9
MORC Moravsky Berou 79.80 328 *e*P P 20 15 16.0 +0.1
MORC pmax pmax
comp=Z,12nm,0.8s,mb4.9
MORC Moravsky Berou 79.80 328⇑*i*P P 20 15 16.3 +0.4
DPC Dobruska-Polom 79.86 329 *e*P P 20 15 16.9 +0.7
comp=Z,99nm,1.9s,mb5.4
DPC Dobruska-Polom 79.86 329 *i*P P 20 15 16.8 +0.6
DPC *e* pP 20 15 25.9 -0.4
DPC *e*S S 20 25 18.3 +1.2
DPC MLR MLR
comp=Z,4μm,18.8s,MS5.7
DPC Dobruska-Polom 79.86 329 *i*P P 20 15 16.8 +0.6
DPC *e*pP pP 20 15 25.9 -0.4
DPC *e*S S 20 25 18.3 +1.2
DPC AMS AMS 20 53 00.0
comp=Z,4μm,18.8s
UPC Upice 79.87 329 *e*P P 20 15 16.6 +0.4
UPC *e* pP 20 15 24.9 -1.5
UPC Upice 79.87 329 *e*P P 20 15 16.6 +0.4
UPC *e*pP pP 20 15 24.9 -1.5
ISCO Idaho Springs 79.88 47 PFAKE 20 15 30.0 +13
ISCO LR LR
comp=Z,865nm,20.0s,MS5.1
KRLC Kraliky 79.88 328 *i*P P 20 15 16.7 +0.4
MVCO Mesa Verde 79.90 50 *e*P P 20 15 19.9 +3.2
comp=Z,24nm,1.4s,mb4.9
MVCO *e*pP pP 20 15 32.0 +5.1
MVCO LR LR
comp=Z,786nm,21.0s,MS5.0
PSZ Piszkesteto 80.17 325 *e*P P 20 15 18.6 +0.6
comp=Z,24nm,1.1s,mb5.0
PSZ LR LR
comp=Z,3μm,19.0s,MS5.6
PSZ Piszkesteto 80.17 325 *e*P P 20 15 18.6 +0.6
PSZ pmax pmax
comp=Z,23nm,1.1s,mb5.0
PSZ MLR MLR
comp=Z,3μm,19.0s,MS5.6
PSZ Piszkesteto 80.17 325⇑*e*P P 20 15 18.6 +0.6
PSZ Piszkesteto 80.17 325⇑*i*P P 20 15 18.7 +0.7
HUMR Humele 80.23 320⇑*i*P P 20 15 18.9 +0.6
KOLL Kolacno 80.34 326 *e*P P 20 15 20.0 +1.2
KOLL Kolacno 80.34 326 *e*P P 20 15 20.0 +1.2
BRG Berggiesshubel 80.41 330 *e*P P 20 15 19.0 -0.2
comp=Z,18nm,1.1s,mb4.9
BRG S S 20 25 32.0 +9.2
BRG SS SS 20 30 44.0 +10
BRG
comp=N,3μm,16.2s
BRG
comp=E,3μm,15.4s
BRG
comp=Z,5μm,17.1s
BRG Berggiesshubel 80.41 330 *e*P P 20 15 19.3 +0.2
comp=Z,17nm,1.1s,mb4.9
BRG Berggiesshubel 80.41 330 *e*P P 20 15 19.0 -0.1
BRG S S 20 25 32.0 +9.2
BRG pmax pmax
comp=Z,18nm,1.1s,mb4.9
BRG MLR MLR
comp=N,3μm,16.2s,MS5.9
BRG MLR MLR
comp=E,3μm,15.4s,MS5.9
BRG MLR MLR
comp=Z,5μm,17.1s,MS6.0
BRG smax
comp=N,4.0nm,0.6s
CLL Collm 80.43 331 *e*P P 20 15 19.0 -0.2
comp=Z,41nm,1.3s,mb5.2
CLL Collm 80.43 331⇑*i*P P 20 15 18.9 -0.3
CLL *i* pP 20 15 28.1 -1.3
CLL *e*S S 20 25 16.0 -7.0
CLL pmax pmax
comp=Z,41nm,1.3s,mb5.2
CLL MLR MLR
comp=Z,3μm,17.7s,MS5.8
CLL Collm 80.43 331⇑*i*P P 20 15 18.9 -0.3
comp=Z,41nm,1.3s,mb5.2
CLL *i* pP pP 20 15 28.1 -1.3
CLL *e* pP 20 15 30.0 +0.6
CLL *e*PP PP 20 18 20.0 -1.8
CLL *e*S S 20 25 22.0 -1.0
CLL *e*PS 20 26 12.0
CLL *e*SS SS 20 30 30.0 -3.8
CLL Lmax 20 54 00.0
PVCC Panska Ves 80.43 330 *i*P P 20 15 19.8 +0.5
PVCC *e* pP 20 15 27.6 -1.8
PVCC *e*S S 20 25 28.0 +4.9
PVCC MLR MLR
comp=Z,5μm,14.9s,MS6.0
PVCC Panska Ves 80.43 330 *i*P P 20 15 19.8 +0.5
PVCC *e*pP pP 20 15 27.6 -1.8
PVCC *e*S S 20 25 28.0 +4.9
PVCC AMS AMS 20 55 50.0
comp=Z,5μm,14.9s
VRAC Vranov 80.55 328⇓P P 20 15 20.5 +0.5
VRAC Vranov 80.55 328⇓*i*P P 20 15 20.5 +0.5
FBE Freiberg 80.60 330 *e*P P 20 15 20.5 +0.3
comp=Z,20nm,0.9s,mb5.0
GZR Gura Zlata 80.69 322⇑P P 20 15 21.0 +0.2
GZR Gura Zlata 80.69 322⇑*i*P P 20 15 21.0 +0.2
PRA Prague 80.84 329 P P 20 15 22.0 +0.5
PRA AMS AMS 20 55 00.0
CLZ Clausthal 80.98 332 *e*P P 20 15 22.6 +0.4
comp=Z,22nm,1.1s,mb5.0
CLZ Clausthal 80.98 332 *e*P P 20 15 22.6 +0.4
CLZ pmax pmax
comp=Z,22nm,1.1s,mb5.0
TREC Trest 81.02 328 *i*P P 20 15 22.7 +0.2
TREC *e* pP 20 15 31.7 -0.9
TREC MLR MLR
comp=Z,5μm,14.6s,MS6.0
TREC Trest 81.02 328 *i*P P 20 15 22.7 +0.2
TREC *e*pP pP 20 15 31.7 -0.9
TREC AMS AMS 20 56 00.0
comp=Z,5μm,14.6s
BZS Buzias 81.08 323⇑P P 20 15 22.9 0.0
BZS Buzias 81.08 323⇑*i*P P 20 15 22.9 0.0
TAU Tasmania Unive 81.16 177 PFAKE 20 15 30.0 +7.0
TAU LR LR
comp=Z,1μm,20.0s,MS5.2
EYMN Ely 81.18 34 PFAKE 20 15 30.0 +6.7
EYMN LR LR
comp=Z,721nm,19.0s,MS5.0
ZST Bratislava 81.19 327 *e*P P 20 15 25.6 +2.2
ZST pmax pmax
comp=Z,11nm,1.2s,mb4.7
ZST Bratislava 81.19 327 *e*P P 20 15 25.6 +2.2
RAYN Ar Rayn 81.27 293 P P 20 15 24.5 +0.3
comp=Z,79nm,0.8s,mb5.7,SNR=10
SDCO Great Sand Dun 81.33 48 *e*P P 20 15 26.7 +2.3
comp=Z,6.0nm,1.0s,mb4.5
SDCO LR LR
comp=Z,834nm,19.0s,MS5.1
WERD Werda 81.38 331 *e*P P 20 15 24.5 +0.2
comp=Z,12nm,1.3s,mb4.7
GUNZ Gunzen 81.44 331 *e*P P 20 15 24.9 +0.2
comp=Z,16nm,1.1s,mb4.9
WERN Wernitzgruen 81.48 331 *e*P P 20 15 25.2 +0.3
comp=Z,13nm,1.1s,mb4.8
MOX Moxa 81.48 331 *e*P P 20 15 24.9 0.0
comp=Z,14nm,1.2s,mb4.8
MOX Moxa 81.48 331 *e*P P 20 15 24.9 0.0
MOX pmax pmax
comp=Z,14nm,1.2s,mb4.8
NKC Novy Kostel 81.50 330 *e*P P 20 15 25.3 +0.3
NKC *e* pP 20 15 34.5 -0.6
NKC *e*S S 20 25 40.5 +6.3
NKC MLR MLR
comp=Z,3μm,13.9s,MS5.8
NKC Novy Kostel 81.50 330 *e*P P 20 15 25.3 +0.3
NKC *e*pP pP 20 15 34.5 -0.6
NKC *e*S S 20 25 40.5 +6.3
NKC AMS AMS 20 54 50.0
comp=Z,3μm,13.9s
IBBN Ibbenburen 81.52 334 *e*P P 20 15 25.0 0.0
comp=Z,20nm,1.0s,mb5.0
TUC Tucson 81.66 55 PFAKE 20 15 40.0 +14
TUC LR LR
comp=Z,510nm,20.0s,MS4.9
ASF Jabal al Asfar 81.73 305 LR LR 20 55 26.7
comp=Z,1μm,19.7s,MS5.2,baz=274,slow=38
SOP Sopron 81.82 327⇓*e*P P 20 15 28.0 +1.3
CONA Conrad Observa 81.93 327⇑*i*P P 20 15 28.2 +0.9
comp=Z,18nm,1.1s,mb4.9
KHC Kasperske Hory 81.93 329 *e*Pn P 20 15 27.4 +0.1
comp=Z,16nm,1.1s,mb4.9
KHC Kasperske Hory 81.93 329 *i*P P 20 15 26.8 -0.5
KHC *e* pP 20 15 36.4 -1.0
KHC *e*S S 20 25 39.4 +0.7
KHC MLR MLR
comp=Z,5μm,15.8s,MS6.0
KHC Kasperske Hory 81.93 329 *i*P P 20 15 26.8 -0.5
KHC *e*pP pP 20 15 36.4 -1.0
KHC *e*S S 20 25 39.4 +0.7
KHC AMS AMS 20 56 10.0
comp=Z,5μm,15.8s
ECSD EROS Data Cent 81.94 39 *e*P P 20 15 27.0 -0.5
comp=Z,9.3nm,0.8s,mb4.8
ECSD LR LR
comp=Z,977nm,20.0s,MS5.2
ROTZ Rotzenmuhle 81.96 330 *e*P P 20 15 28.1 +0.7
comp=Z,12nm,1.0s,mb4.8
PKSM Moragy 82.02 325⇑P P 20 15 27.5 -0.3
PKSM Moragy 82.02 325⇑*i*P P 20 15 27.5 -0.3
GERES GERESS Array B 82.10 329 P P 20 15 27.1 -1.1
comp=Z,3.0nm,0.7s,mb4.3,baz=42,slow=4.2,SNR=16
GERES LR LR 20 55 07.8
comp=Z,3μm,19.3s,MS5.7,baz=13,slow=38
GERES GERESS Array B 82.10 329 P P 20 15 27.1 -1.1
GERES GERESS Array B 82.10 329 P P 20 15 27.1 -1.1
CSS Prodhromos 82.14 309 PFAKE 20 15 40.0 +11
CSS LR LR
comp=Z,2μm,19.0s,MS5.4
ESK Eskdalemuir 82.16 341 PFAKE 20 15 40.0 +12
ESK LR LR
comp=Z,1μm,19.0s,MS5.4
WET Wettzell 82.20 330 *e*P P 20 15 29.1 +0.4
comp=Z,14nm,1.2s,mb4.8
WET Wettzell 82.20 330 *e*P P 20 15 29.1 +0.4
WET pmax pmax
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 82.40 331 *e*P P 20 15 30.3 +0.6
comp=Z,61nm,1.4s,mb5.3
GRF *e*S S 20 25 50.0 +6.5
GRF *e*L 20 52 48.9
comp=Z,2μm,21.5s
GRF Grafenberg Arr 82.40 331 *e*P P 20 15 30.3 +0.6
GRF *e*S S 20 25 50.0 +6.5
GRF pmax pmax
comp=Z,61nm,1.4s,mb5.3
GRF MLR MLR
comp=Z,2μm,21.5s,MS5.4
GRFO Grafenberg 82.40 331 *e*P P 20 15 30.3 +0.5
comp=Z,40nm,1.2s,mb5.2
GRFO Grafenberg 82.40 331 *e*P P 20 15 30.3 +0.5
GRFO pmax pmax
comp=Z,40nm,1.2s,mb5.2
VTS Vitosha 82.52 320⇓P P 20 15 31.1 +0.6
VTS Vitosha 82.52 320⇓*i*P P 20 15 31.0 +0.5
LAZ Ladron 82.58 52 P P 20 15 31.6 +0.6
ARSA Arzberg 82.60 327⇑*i*P P 20 15 30.6 -0.2
comp=Z,11nm,1.1s,mb4.8
URZ Urewera 82.60 154 *e*P P 20 15 28.7 -1.9
ANMO Albuquerque 82.63 51 LR LR 20 47 21.9
comp=Z,485nm,19.7s,MS4.9,baz=339,slow=32
ANMO Albuquerque 82.63 51 *e*P P 20 15 32.2 +1.0
comp=Z,9.1nm,1.2s,mb4.7
ANMO Albuquerque 82.63 51 *e*P P 20 15 32.2 +1.0
ANMO pmax pmax
comp=Z,9.0nm,1.2s
BNM Barren Site 83.07 52 P P 20 15 35.5 +2.0
comp=Z,2.8nm,0.7s,mb4.4
SOKA Soboth 83.25 327⇑*i*P P 20 15 34.2 0.0
comp=Z,18nm,0.8s,mb5.1
RJOB Jochberg 83.35 329 *e*P P 20 15 35.1 +0.4
comp=Z,30nm,1.2s,mb5.2
SCHQ Schefferville 83.53 17 P P 20 15 34.9 -0.6
comp=Z,5.4nm,1.0s,mb4.6,baz=299,slow=10,SNR=2.4
SCHQ LR LR 20 59 11.9
comp=Z,693nm,18.8s,MS5.1,baz=336,slow=40
SCHQ Schefferville 83.53 17 P P 20 15 34.9 -0.6
MEM Membach 83.54 334 P P 20 15 35.0 -0.7
comp=Z,11nm,1.3s,mb4.8
COWI Conover 83.63 34 PFAKE 20 15 50.0 +14
COWI LR LR
comp=Z,966nm,19.0s,MS5.2
VAY Valandovo 83.77 319 *e*P P 20 15 36.6 -0.4
CBKS Cedar Bluff 83.86 44 PFAKE 20 15 50.0 +13
CBKS LR LR
comp=Z,786nm,20.0s,MS5.1
SKO Skopje 83.86 320 *e*P P 20 15 35.9 -1.5
STU Stuttgart 83.92 331 P P 20 15 37.8 +0.1
STU Stuttgart 83.92 331 P P 20 15 37.8 +0.2
BCLA Clavier 83.94 334 P P 20 15 37.2 -0.5
PPT Papeete 84.17 118 *e*S S 20 26 00.2 -1.9
comp=Z,932nm,33.0s
PPT *e*LR LR 20 41 58.4
comp=Z,2μm,22.5s,baz=318
WLF Walferdange 84.28 333 PFAKE 20 15 50.0 +11
WLF LR LR
comp=Z,3μm,19.0s,MS5.7
MOTA Moosalm 84.35 329⇑*i*P P 20 15 39.7 -0.1
comp=Z,13nm,0.9s,mb5.0
GIVF Givet 84.37 334 *e*P P 20 15 40.4 +0.5
GIVF Givet 84.37 334 *e*P P 20 15 40.4 +0.5
GIVF Givet 84.37 334 *e*P P 20 15 40.4 +0.5
KRUS Krusevo 84.40 320 *e*P P 20 15 37.8 -2.5
SNZO South Karori 84.56 157 PFAKE 20 15 50.0 +9.4
SNZO LR LR
comp=Z,1μm,20.0s,MS5.3
BFO Black Forest 84.61 332 *e*P P 20 15 41.0 -0.1
comp=Z,36nm,1.3s,mb5.3
BFO Black Forest 84.61 332 P P 20 15 41.8 +0.7
comp=Z,112nm,1.1s,mb5.9,SNR=6.7
BFO Black Forest 84.61 332 *e*P P 20 15 40.8 -0.3
comp=Z,32nm,1.2s,mb5.3
BFO LR LR
comp=Z,1μm,21.0s,MS5.3
BFO Black Forest 84.61 332 *e*P P 20 15 40.8 -0.3
BFO pmax pmax
comp=Z,32nm,1.2s,mb5.3
BFO MLR MLR
comp=Z,1μm,21.0s,MS5.3
BIA Bitola 84.62 320 *e*P P 20 15 40.1 -1.3
EIL Elat 84.63 304 LR LR 20 57 48.1
comp=Z,2μm,18.7s,MS5.5,baz=50,slow=39
FETA Feichten 84.76 329⇑*i*PcP P 20 15 41.8 -0.1
comp=Z,14nm,1.0s,mb5.0
DAVA Damuels 84.88 330⇑*i*PcP P 20 15 42.4 -0.1
comp=Z,25nm,1.0s,mb5.3
CDF Champ du Feu 84.93 332 *e*P P 20 15 42.8 +0.1
comp=Z,38nm,1.1s,mb5.1
CDF Champ du Feu 84.93 332 *e*P P 20 15 42.8 +0.1
comp=Z,38nm,1.1s,mb5.4
CDF Champ du Feu 84.93 332 *e*P P 20 15 42.8 +0.1
CDF pmax pmax
comp=Z,38nm,1.1s,mb5.4
SCIA State Center 84.97 39 PFAKE 20 15 50.0 +6.9
SCIA LR LR
comp=Z,723nm,20.0s,MS5.1
TIR Tirane 85.11 321 PFAKE 20 15 50.0 +6.2
TIR LR LR
comp=Z,3μm,20.0s,MS5.7
ECH Echery 85.14 332 *e*P P 20 15 43.0 -0.8
comp=Z,15nm,1.0s,mb5.1
ECH LR LR
comp=Z,2μm,19.0s,MS5.5
ECH Echery 85.14 332 *e*P P 20 15 43.0 -0.8
ECH pmax pmax
comp=Z,15nm,1.0s,mb5.1
ECH MLR MLR
comp=Z,2μm,19.0s,MS5.5
ECH Echery 85.14 332 *e*P P 20 15 43.4 -0.4
TAOE Nuku Hiva Isla 85.30 105 *e*S S 20 26 07.1 -6.5
comp=Z,410nm,26.1s
TAOE *e*LR LR 20 42 40.6
comp=Z,2μm,22.1s
PAGF Fort de Pagny 85.37 333 *e*P P 20 15 45.2 +0.3
comp=Z,24nm,1.1s,mb4.9
MNTX Cornudas Mount 85.49 53 *e*P P 20 15 47.9 +2.0
comp=Z,4.0nm,1.0s,mb4.5
MNTX LR LR
comp=Z,520nm,19.0s,MS4.9
AMTX Amarillo 85.53 48 *e*P P 20 15 46.7 +0.7
comp=Z,15nm,0.8s,mb5.3
AMTX LR LR
comp=Z,825nm,20.0s,MS5.1
HINF Hinteralfeld 85.59 332 *e*P P 20 15 45.6 -0.4
comp=Z,21nm,1.1s,mb5.0
HINF Hinteralfeld 85.59 332 *e*P P 20 15 45.6 -0.4
comp=Z,21nm,1.1s,mb5.3
HINF Hinteralfeld 85.59 332 *e*P P 20 15 45.6 -0.4
HINF pmax pmax
comp=Z,21nm,1.1s,mb5.3
JFWS Jewell Farm 85.61 36 PFAKE 20 16 00.0 +14
JFWS LR LR
comp=Z,1μm,22.0s,MS5.2
HAU Haudompre 85.61 332 *e*P P 20 15 46.9 +0.8
comp=Z,23nm,1.0s,mb5.0
HAU *e*R
comp=Z,3μm,21.5s
HAU Haudompre 85.61 332 *e*P P 20 15 46.9 +0.8
comp=Z,23nm,1.0s,mb5.4
HAU Haudompre 85.61 332 *e*P P 20 15 46.9 +0.8
HAU pmax pmax
comp=Z,23nm,1.0s,mb5.4
MEZF Maizieres J'vi 85.66 333 *e*P P 20 15 46.6 +0.3
comp=Z,58nm,1.1s,mb5.4
MEZF Maizieres J'vi 85.66 333 *e*P P 20 15 46.6 +0.3
comp=Z,58nm,1.1s,mb5.7
TUE Stuetta 85.76 330 *e*P P 20 15 46.3 -0.5
comp=Z,17nm,1.0s,mb5.2
TUE LR LR
comp=Z,2μm,21.0s,MS5.6
SFTF Sexfontaines 85.91 333 *e*P P 20 15 47.6 0.0
comp=Z,71nm,1.1s,mb5.5
SFTF Sexfontaines 85.91 333 *e*P P 20 15 47.6 0.0
comp=Z,71nm,1.1s,mb5.8
GLMI Grayling 86.56 32 PFAKE 20 16 00.0 +9.1
GLMI LR LR
comp=Z,929nm,20.0s,MS5.2
CABF La Chapelle 86.89 332 *e*P P 20 15 53.3 +0.9
comp=Z,24nm,0.9s,mb5.1
CABF La Chapelle 86.89 332 *e*P P 20 15 53.3 +0.9
comp=Z,24nm,0.9s,mb5.4
CABF La Chapelle 86.89 332 *e*P P 20 15 53.3 +0.9
CABF pmax pmax
comp=Z,24nm,0.9s,mb5.4
IDI Anoyia 86.90 314 *e*P P 20 15 51.9 -0.8
comp=Z,34nm,1.3s,mb5.4
LOR Lormes 87.13 334 *e*P P 20 15 53.4 -0.2
comp=Z,56nm,1.2s,mb5.4
LOR *e*R
comp=Z,3μm,17.5s
LOR Lormes 87.13 334 *e*P P 20 15 53.4 -0.2
comp=Z,56nm,1.2s,mb5.7
LOR Lormes 87.13 334 *e*P P 20 15 53.4 -0.2
LOR pmax pmax
comp=Z,56nm,1.2s,mb5.7
FLN La Foliniere 87.25 337 *e*P P 20 15 54.0 -0.2
comp=Z,111nm,1.4s,mb5.6
FLN *e*R
comp=Z,3μm,19.2s
FLN La Foliniere 87.25 337 *e*P P 20 15 54.0 -0.2
comp=Z,111nm,1.4s,mb5.9
FLN La Foliniere 87.25 337 *e*P P 20 15 54.0 -0.2
FLN pmax pmax
comp=Z,111nm,1.4s,mb5.9

LDF La Druitiere 87.29 337 *eP* **P 20 15 54.8 +0.4**
LDF La Druitiere 87.29 337 *eP* **P 20 15 54.8 +0.4**
LDF La Druitiere 87.29 337 *eP* **P 20 15 54.8 +0.4**
WMOK Wichita Mounta 87.31 47 *eP* **P 20 15 58.3 +3.6**
comp=Z,6.1nm,1.1s,mb4.7
WMOK LR LR
comp=Z,658nm,20.0s,MS5.0
WMOK Wichita Mounta 87.31 47 *eP* **P 20 15 58.3 +3.6**
WMOK pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
WMOK MLR MLR
comp=Z,658nm,20.0s,MS5.0
AQU L'Aquila 87.39 325 PFAKE 20 16 10.0 +15
AQU LR LR
comp=Z,3μm,19.0s,MS5.7
SSF Saint Saulge 87.43 334 *eP* **P 20 15 55.8 +0.7**
comp=Z,51nm,1.3s,mb5.3
SSF Saint Saulge 87.43 334 *eP* **P 20 15 55.8 +0.7**
comp=Z,51nm,1.3s,mb5.6
SSF Saint Saulge 87.43 334 *eP* **P 20 15 55.8 +0.7**
SSF pmax pmax
comp=Z,51nm,1.3s,mb5.6
LPL La Plagne 87.56 331 *eP* **P 20 15 56.1 +0.4**
LPL La Plagne 87.56 331 *eP* **P 20 15 56.1 +0.4**
LPL La Plagne 87.56 331 *eP* **P 20 15 56.1 +0.4**
LPG La Plagne 87.57 331 *eP* **P 20 15 56.2 +0.4**
comp=Z,21nm,0.8s,mb5.1
LPG La Plagne 87.57 331 *eP* **P 20 15 56.2 +0.4**
comp=Z,21nm,0.8s,mb5.4
LPG La Plagne 87.57 331 *eP* **P 20 15 56.2 +0.4**
LPG pmax pmax
comp=Z,21nm,0.8s,mb5.4
SMF Signal de Mont 87.67 333 *eP* **P 20 15 56.3 +0.1**
comp=Z,46nm,1.4s,mb5.2
SMF Signal de Mont 87.67 333 *eP* **P 20 15 56.3 +0.1**
comp=Z,46nm,1.4s,mb5.5
SMF Signal de Mont 87.67 333 *eP* **P 20 15 56.3 +0.1**
SMF pmax pmax
comp=Z,46nm,1.4s,mb5.5
GRR Gorron 87.70 337 *eP* **P 20 15 57.5 +1.2**
comp=Z,163nm,1.4s,mb5.8
GRR Gorron 87.70 337 *eP* **P 20 15 57.5 +1.2**
comp=Z,163nm,1.4s,mb6.1
GRR Gorron 87.70 337 *eP* **P 20 15 57.5 +1.2**
GRR pmax pmax
comp=Z,163nm,1.4s,mb6.1
AVF Avril sur Loir 87.71 334 *eP* **P 20 15 56.4 0.0**
comp=Z,60nm,1.2s,mb5.4
AVF Avril sur Loir 87.71 334 *eP* **P 20 15 56.4 0.0**
comp=Z,60nm,1.2s,mb5.7
AVF Avril sur Loir 87.71 334 *eP* **P 20 15 56.4 0.0**
AVF pmax pmax
comp=Z,60nm,1.2s,mb5.7
HDIL Hopedale 87.90 37 PFAKE 20 16 10.0 +13
HDIL LR LR
comp=Z,692nm,19.0s,MS5.1
BNI Bardonecchia 87.97 331 PFAKE 20 16 10.0 +12
BNI LR LR
comp=Z,3μm,20.0s,MS5.7
CUC Castrocucco 88.13 322 PFAKE 20 16 10.0 +11
CUC LR LR
comp=Z,1μm,20.0s,MS5.2
TXAR Lajitas Array 88.19 53 P **P 20 15 58.7 -0.4**
comp=Z,2.6nm,0.6s,mb4.6,baz=299,slow=2.9,SNR=19
TXAR LR LR 20 57 21.1
comp=Z,723nm,18.7s,MS5.1,baz=240,slow=37
TXAR Lajitas Array 88.19 53 P **P 20 15 58.7 -0.4**
TXAR Lajitas Array 88.19 53 P **P 20 15 58.7 -0.3**
TBI Tubuai 88.20 122 *eS* S 20 26 37.5 -3.8
comp=Z,408nm,26.0s
TBI *e*LR LR 20 43 55.0
comp=Z,2μm,22.5s,baz=310
TIP Timpagrande 88.30 321 PFAKE 20 16 10.0 +11
TIP LR LR
comp=Z,3μm,19.0s,MS5.7
TCF Toulx Ste Croi 88.55 334 *eP* **P 20 16 01.5 +1.1**
comp=Z,52nm,1.4s,mb5.4
TCF Toulx Ste Croi 88.55 334 *eP* **P 20 16 01.5 +1.1**
comp=Z,52nm,1.4s,mb5.7
TCF Toulx Ste Croi 88.55 334 *eP* **P 20 16 01.5 +1.1**
TCF pmax pmax
comp=Z,52nm,1.4s,mb5.7
SSB Saint Sauveur 88.58 332 PFAKE 20 16 10.0 +9.4
SSB LR LR
comp=Z,2μm,20.0s,MS5.6
SADO Sadowa 88.77 29 LR LR 21 01 38.4
comp=Z,615nm,18.4s,MS5.1,baz=268,slow=40
CCM Cathedral Cave 88.89 40 *eP* **P 20 16 01.2 -0.9**
comp=Z,11nm,0.8s,mb5.2
CCM Cathedral Cave 88.89 40 *eP* **P 20 16 01.2 -1.0**
CCM pmax pmax
comp=Z,11nm,0.8s,mb5.2
AAM Ann Arbor 89.03 33 PFAKE 20 16 10.0 +7.3
AAM LR LR
comp=Z,659nm,21.0s,MS5.0
MFF Saint Martin d 89.06 336 *eP* **P 20 16 03.8 +1.0**
MFF Saint Martin d 89.06 336 *eP* **P 20 16 03.8 +1.0**
MFF Saint Martin d 89.06 336 *eP* **P 20 16 03.8 +1.0**
CEL Celeste 89.44 321 PFAKE 20 16 20.0 +15
CEL LR LR
comp=Z,3μm,20.0s,MS5.7
JCT Junction City 89.77 50 P **P 20 16 08.2 +1.7**
JCT LR LR
comp=Z,755nm,19.0s,MS5.1
JCT Junction City 89.77 50 P **P 20 16 08.2 +1.8**
JCT MLR MLR
comp=Z,755nm,19.0s,MS5.1
MIAR Mount Ida 90.34 44 *eP* **P 20 16 09.6 +0.5**
comp=Z,7.7nm,0.8s,mb5.1
MIAR LR LR
comp=Z,729nm,20.0s,MS5.1
MIAR Mount Ida 90.34 44 *eP* **P 20 16 09.6 +0.5**
MIAR pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
MIAR MLR MLR
comp=Z,729nm,20.0s,MS5.1
LONY Lake Ozonia 90.53 26 PFAKE 20 16 20.0 +10
LONY LR LR
comp=Z,1μm,19.0s,MS5.3
ERPA Erie 90.69 31 PFAKE 20 16 20.0 +10
ERPA LR LR
comp=Z,367nm,19.0s,MS4.8
ATD Arta Tunnel 90.73 285 LR LR 20 58 28.8
comp=Z,850nm,18.7s,MS5.2,baz=208,slow=37
MSEY Mahe Island 90.97 265 PFAKE 20 16 20.0 +7.8
MSEY LR LR
comp=Z,608nm,20.0s,MS5.0
ACSO Alum Creek Sta 91.02 33 PFAKE 20 16 20.0 +7.9
ACSO LR LR
comp=Z,663nm,20.0s,MS5.1
NCB Newcomb 91.22 26 PFAKE 20 16 20.0 +7.0
NCB LR LR
comp=Z,1μm,21.0s,MS5.3
VSL Villasalto 91.48 326 PFAKE 20 16 30.0 +16
VSL LR LR
comp=Z,1μm,20.0s,MS5.4
PKME Peaks-Kenny Pk 91.65 22 PFAKE 20 16 30.0 +15
PKME LR LR
comp=Z,803nm,19.0s,MS5.2
LBNH Lisbon 91.75 24 PFAKE 20 16 30.0 +15
LBNH LR LR
comp=Z,982nm,19.0s,MS5.3
NATX Nacogdoches 91.83 46 PFAKE 20 16 30.0 +14
NATX LR LR
comp=Z,948nm,21.0s,MS5.2
WDD Wield Dalam 91.99 321 PFAKE 20 16 30.0 +13
WDD LR LR
comp=Z,1μm,20.0s,MS5.4
BINY Binghamton 92.15 28 PFAKE 20 16 30.0 +13
BINY LR LR
comp=Z,1μm,20.0s,MS5.3
OXF Oxford 92.57 41 PFAKE 20 16 30.0 +11
OXF LR LR
comp=Z,797nm,20.0s,MS5.2
PLAL Pickwick Lake 92.87 40 PFAKE 20 16 30.0 +9.2
PLAL LR LR
comp=Z,663nm,19.0s,MS5.1
VBMS Vicksburg 93.77 43 PFAKE 20 16 40.0 +15
VBMS LR LR
comp=Z,682nm,20.0s,MS5.1
KEST Kesra 94.59 324 LR LR 21 03 20.7
comp=Z,924nm,18.1s,MS5.3,baz=171,slow=38
BLA Blacksburg 94.64 33 PFAKE 20 16 40.0 +11
BLA LR LR
comp=Z,966nm,20.0s,MS5.3
CBN Corbin 95.06 31 PFAKE 20 16 40.0 +9.2
CBN LR LR
comp=Z,821nm,20.0s,MS5.2
GOGA Godfrey 96.40 38 PFAKE 20 16 50.0 +13
GOGA LR LR
comp=Z,793nm,19.0s,MS5.2
ESDC Sonseca Array 96.50 335 P **P 20 16 35.9 -1.4**
comp=Z,0.4nm,0.5s,baz=23,slow=4.2,SNR=3.8
ESDC LR LR 21 04 59.3
comp=Z,2μm,18.4s,baz=35,slow=38
ESDC Sonseca Array 96.50 335 P **P 20 16 35.9 -1.4**
ESLA Sonseca Array 96.50 335 PFAKE 20 16 50.0 +13
ESLA LR LR
comp=Z,17μm,20.0s,MS6.5
BRAL Brewton 96.54 42 PFAKE 20 16 50.0 +12
BRAL LR LR
comp=Z,803nm,19.0s,MS5.2
PAB San Pablo 96.74 335 PFAKE 20 16 50.0 +12
PAB LR LR
comp=Z,4μm,19.0s,MS5.9
MTE Manteigas 96.96 338 PFAKE 20 16 50.0 +11
MTE LR LR
comp=Z,3μm,19.0s,MS5.8
CNNC Cliffs of the 97.39 33 PFAKE 20 16 50.0 +8.6
CNNC LR LR
comp=Z,951nm,20.0s,MS5.3
RKT Rikitea 98.14 113 *e*LR LR 20 48 32.1
comp=Z,2μm,24.0s,baz=306
NHSC New Hope 98.19 35 PFAKE 20 17 00.0 +15
NHSC LR LR
comp=Z,1μm,21.0s,MS5.3
SFS San Fernando 100.14 335 PFAKE 20 17 00.0 +6.4
SFS LR LR
comp=Z,7μm,20.0s,MS6.2
KMBO Kilima Mbogo 103.03 279 PFAKE 20 17 20.0 +14
KMBO LR LR
comp=Z,860nm,19.0s,MS5.3
TEIG Tepich 104.30 49 PFAKE 20 17 20.0 +7.9
TEIG LR LR
comp=Z,433nm,21.0s,MS5.0
BBSR BB Station 104.88 24 PFAKE 20 17 30.0 +15
BBSR LR LR
comp=Z,758nm,21.0s,MS5.2
ABPO Ambohimpanom 106.03 258 PFAKE 20 21 40.0 +7.9
ABPO LR LR
comp=Z,315nm,20.0s,MS4.9
TAM Tamanrasset 107.14 319 PFAKE 20 21 50.0 +16
TAM LR LR
comp=Z,647nm,19.0s,MS5.2
TGUH Tegucigalpa,Un 109.65 52 PFAKE 20 21 50.0 +11
TGUH LR LR
comp=Z,424nm,20.0s,MS5.0
GTBY Guantanamo Bay 111.72 39 PFAKE 20 21 50.0 +7.1
GTBY LR LR
comp=Z,661nm,19.0s,MS5.2
MTDJ Mount Denham 111.92 42 PFAKE 20 21 50.0 +6.7
MTDJ LR LR
comp=Z,699nm,20.0s,MS5.2
JTS JuntasAbangare 113.98 53 PFAKE 20 22 00.0 +13
JTS LR LR
comp=Z,361nm,20.0s,MS5.0
SDDR Presa de Saban 114.35 36 PFAKE 20 22 00.0 +12
SDDR LR LR
comp=Z,755nm,19.0s,MS5.3
VNDA Vanda 116.37 176 PFAKE 20 22 00.0 +10
VNDA LR LR
comp=Z,411nm,20.0s,MS5.0
SBA Scott Base 117.02 175 PFAKE 20 22 00.0 +8.8
SBA LR LR
comp=Z,267nm,19.0s,MS4.9
TORD Torodi Ar. Bea 117.15 317 PKP PKPdf 20 21 52.0 -1.3
comp=Z,0.8nm,0.5s,baz=19,slow=1.3,SNR=13
TORD PP PP 20 22 55.3 -7.5
comp=Z,3.5nm,1.0s,baz=19,slow=6.6,SNR=5.8
TORD Torodi Ar. Bea 117.15 317 PKP PKPdf 20 21 52.0 -1.3
TORD PP PP 20 22 55.3 -7.5
SJG San Juan 117.35 31 PFAKE 20 22 00.0 +6.3
SJG LR LR
comp=Z,658nm,22.0s,MS5.2
BCIP Isla Barro Col 117.99 50 PFAKE 20 22 10.0 +15
BCIP LR LR
comp=Z,395nm,19.0s,MS5.1
PAYG Puerto Ayora 118.40 66 PFAKE 20 22 10.0 +14
PAYG LR LR
comp=Z,892nm,19.0s,MS5.4
LSZ Lusaka 118.72 273 PFAKE 20 22 10.0 +14
LSZ LR LR
comp=Z,599nm,19.0s,MS5.2
ANWB Willy Bob 119.44 27 PFAKE 20 22 10.0 +12
ANWB LR LR
comp=Z,735nm,21.0s,MS5.3
FDF Fort de France 122.37 28 PFAKE 20 22 10.0 +6.6
FDF LR LR
comp=Z,681nm,20.0s,MS5.3
SDV Santo Domingo 123.35 41 PFAKE 20 22 20.0 +15
SDV LR LR
comp=Z,180nm,20.0s,MS4.7
BBGH Gun Hill 124.41 27 PFAKE 20 22 20.0 +13
BBGH LR LR
comp=Z,1μm,19.0s,MS5.6
GRGR Grenville 124.56 30 PFAKE 20 22 20.0 +12
GRGR LR LR
comp=Z,640nm,21.0s,MS5.3
SACV Santiago Islan 125.33 344 PFAKE 20 22 20.0 +11
SACV LR LR
comp=Z,430nm,19.0s,MS5.1
OTAV Otavalo 125.80 55 PFAKE 20 22 20.0 +10
OTAV LR LR
comp=Z,422nm,19.0s,MS5.1
DBIC Dimbokro 126.04 319 PKP PKPdf 20 22 08.7 -1.8
comp=Z,1.6nm,0.6s,baz=245,slow=3.0,SNR=4.3
DBIC PP PP 20 24 01.2 -2.1
comp=Z,7.1nm,1.0s,baz=54,slow=12,SNR=3.4
DBIC Dimbokro 126.04 319 PKP PKPdf 20 22 08.7 -1.8
DBIC PP PP 20 24 01.2 -2.1
DBIC LR LR
comp=Z,1μm,20.0s,MS5.7
DBIC Dimbokro 126.04 319 PKIKP PKPdf 20 22 08.7 -1.8
DBIC 20 24 01.2
DBIC MLR MLR
comp=Z,1μm,20.0s
LBTB Lobatse 126.07 265 PFAKE 20 22 20.0 +10
LBTB LR LR
comp=Z,812nm,21.0s,MS5.4
BOSA Boshof 128.10 261 PFAKE 20 22 30.0 +16
BOSA LR LR
comp=Z,446nm,21.0s,MS5.1
QSPA South Pole Qui 128.28 180 PKPdf PKPdf 20 22 11.7 -1.0
QSPA LR LR
comp=Z,519nm,20.0s,MS5.2
TSUM Tsumeb 129.25 276 PFAKE 20 22 30.0 +14
TSUM LR LR
comp=Z,571nm,20.0s,MS5.3
SUR Sutherland 133.20 259 PFAKE 20 22 40.0 +17
SUR LR LR
comp=Z,859nm,19.0s,MS5.5
NNA Nana 135.80 64 PFAKE 20 22 40.0 +11
NNA LR LR
comp=Z,622nm,19.0s,MS5.4
SNAA Sanae 142.56 197 *e*PKPpre PKPpre 20 22 28.3
SNAA Sanae 142.56 197 *e*PKHKP PKPpre 20 22 28.3
VNA2 Neumayer--Watz 144.12 196 *e* PKPdf 20 22 39.6 -2.6
baz=135,slow=2.6
VNA2 *e* 20 22 47.6
VNA3 Neumayer Olymp 144.35 195 *e* PKPdf 20 22 40.2 -2.4
VNA3 *e* 20 22 47.4
VNA1 Neumayer--Stat 144.51 196 *e* PKPdf 20 22 40.1 -2.8
LPAZ La Paz 144.82 60 PKP PKPdf 20 22 45.0 -0.1
comp=Z,1.9nm,0.7s,baz=1.3,slow=4.2
LPAZ La Paz 144.82 60 *e*PKPdf PKPdf 20 22 42.3 -2.7
LPAZ PKP PKPdf 20 22 45.0 -0.1
LPAZ LR LR
comp=Z,496nm,19.0s,MS5.3
LPAZ La Paz 144.82 60 *e*PKIKP PKPdf 20 22 42.3 -2.8
LPAZ 20 22 45.0
LPAZ MLR MLR
comp=Z,496nm,19.0s
RCBR Riachuelo 147.43 358 PFAKE 20 23 00.0 +10
RCBR LR LR
comp=Z,575nm,19.0s,MS5.4
PMSA Palmer Station 149.29 158 PFAKE 20 23 00.0 +8.9
PMSA LR LR
comp=Z,681nm,19.0s,MS5.5
LCO Las Campanas 150.53 81 *e*PKPdf PKPdf 20 22 55.4 +1.2
LCO LR LR
comp=Z,978nm,21.0s,MS5.6
PLCA Paso Flores 154.12 106 PKPbc PKPbc 20 23 07.0 -0.3
comp=Z,0.8nm,0.6s,baz=53,slow=5.1,SNR=2.6
PLCA PKPab PKPab 20 23 18.4 -2.8
comp=Z,2.0nm,1.0s,baz=68,slow=6.5,SNR=5.4
PLCA Paso Flores 154.12 106 PKPbc PKPbc 20 23 07.0 -0.2
PLCA PKPab PKPab 20 23 18.4 -2.8
PLCA LR LR
comp=Z,578nm,20.0s,MS5.4
PLCA Paso Flores 154.12 106 PKIKP PKPbc 20 23 07.0 -0.3
PLCA 20 23 18.4
PLCA MLR MLR
comp=Z,578nm,20.0s
EFI East Falkland 160.23 138 PFAKE 20 23 20.0 +14
EFI LR LR
comp=Z,1μm,20.0s
TRQA Tornquist 160.37 96 PFAKE 20 23 20.0 +13
TRQA LR LR
comp=Z,688nm,20.0s
SPB Sao Paulo 162.63 34 PFAKE 20 23 20.0 +10
SPB LR LR
comp=Z,1μm,20.0s

CASC 05 20:14:35.1±0.9, 11°.78N×88°.15W, h0km±6km, MD3.9, ML3.7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.39**	**63**	*eP*	Pg	20 15 00.7	-1.0
LEON				*eS*	Sg	20 15 21.2	+1.4
CRIN	**San Cristobal**	**1.42**	**49**	*eP*	Pn	20 15 01.3	-0.8
CRIN				*eS*	Sg	20 15 22.2	+1.5
CRIN				AML	AML	20 15 25.8	
comp=N,1μm,0.3s							
TEL3	**Telica 3**	**1.50**	**58**	*eP*	Pn	20 15 02.3	-1.0
CNCH	**Conchagua**	**1.52**	**12**	*eP*	Pn	20 15 03.0	-0.6
MIRN	**Miramar**	**1.56**	**65**	*eP*	Pn	20 15 03.4	-0.6
COPN	**Copaltepe**	**1.58**	**75**	*eP*	Pn	20 15 04.2	-0.2
CNGN	**Cerro Negro**	**1.59**	**63**	*eP*	Pn	20 15 04.0	-0.5
VSM	**San Miguel**	**1.65**	**356**	*eP*	Pn	20 15 05.4	+0.1
BLLM	**Bellamira**	**1.66**	**357**	*eP*	Pn	20 15 05.1	-0.4
CSAN		**1.74**	**76**	*eP*	Pn	20 15 06.6	0.0
APYN	**Apoyeque**	**1.82**	**75**	*eP*	Pn	20 15 07.4	-0.3
TICN	**Ticuantepe**	**1.90**	**82**	*eP*	Pn	20 15 09.0	+0.3
SNVI	**San Vicente**	**1.94**	**340**	*eP*	Pn	20 15 09.3	-0.1
CAHU	**Cacacuatique**	**1.98**	**358**	*eP*	Pn	20 15 10.6	+0.7
LFRS	**El Faro**	**2.04**	**334**	*eP*	Pn	20 15 11.2	+0.5
LBRS	**Las Brisas**	**2.13**	**336**	*eP*	Pn	20 15 12.5	+0.5
TGUH	**Tegucigalpa,Un**	**2.42**	**21**	*eP*	Pn	20 15 15.5	-0.5

NIED ***05*** *20:20:00, 38°.50N×143°.40E, h26km, Mw4.2 Best double couple: M0 2.30000×10^15 NP1:φ0=39.00000°, δ62.00000°, λ100.00000°. NP2:φ0=199.00000°, δ30.00000°, λ72.00000°.*
JMA ***05*** *20:20:25.7±0.1, 38°.48N×143°.41E, h23km±4km, M4.6*
JMA Felt I J1.
IDC ***05*** *20:20:25.9±0.8, 38°.49N×143°.21E, h0km, mb4.0/14, mb1 4.1/16, mb1mx4.0/24, mbtmp4.0/16, ML3.6/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/42, Error ellipse: s-maj=22.0km s-min=17.7km az=102.0*
ISCJB ***05*** *20:20:26.3±1.3, 38°.51N±0°.03×143°.36E±0°.05, h18km±8km, mb4.4/40, MS4.8/2, Error ellipse: s-maj=6.7km s-min=5.2km az=37.2*
MOS ***05*** *20:20:29.2±0.8, 38°.46N×143°.19E, h38km, mb4.6/16, Error ellipse: s-maj=10.6km s-min=7.4km az=116.8*
NEIC ***05*** *20:20:30.5±1.7, 38°.54N×143°.21E, h31km±11km, mb4.8/20, MW4.2(NIED), Error ellipse: s-maj=8.3km s-min=5.0km az=121.0*
NEIC Recorded [1 JMA] in Miyagi.

ISC 05 20:20:26.5±1.7, 38°.54N±0°.04×143°.27E±0°.04, h4km±10km, n132, σ0§77/146, mb4.4/40, MS4.8/2, 3C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.36**	**294**	P	**Pn**	**20 20 51.6**	**-0.6**
OFUJ				*e*S	**Sb**	**20 21 10.2**	**0.0**
JIO	**Ouri**	**1.51**	**267**	P	**Pn**	**20 20 53.2**	**-1.0**
JIO				S	**Sn**	**20 21 14.2**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.53**	**313**	P	**Pn**	**20 20 53.9**	**-0.6**
MIYJ				*e*S	**Sn**	**20 21 14.9**	**0.0**
JMK	**Ichinoseki**	**1.65**	**285**	P	**Pn**	**20 20 55.9**	**-0.3**
JMK				*e*S	**Sn**	**20 21 18.0**	**+0.1**
JOM	**Ohasama**	**1.80**	**302**	P	**Pn**	**20 20 58.1**	**-0.1**
JOM				*e*S	**Sn**	**20 21 21.8**	**+0.3**
JOU	**Okura**	**2.05**	**266**	P	**Pn**	**20 21 01.6**	**-0.1**
JOU				*e*S	**Sn**	**20 21 27.6**	**-0.1**
JMM	**Marumori**	**2.06**	**252**	P	**Pn**	**20 21 00.9**	**-0.9**
JFK	**Kawauchi**	**2.22**	**239**	P	**Pn**	**20 21 02.9**	**-1.2**
JFK				*e*S	**Sn**	**20 21 30.5**	**-1.4**
JANG	**Nango**	**2.28**	**324**	P	**Pn**	**20 21 04.2**	**-0.6**
JANG				*e*S	**Sn**	**20 21 32.9**	**-0.4**
JYK	**Kaneyama**	**2.31**	**280**	P	**Pn**	**20 21 05.4**	**+0.2**
ERM	**Erimo**	**3.47**	**359**	*i* P	**Pn**	**20 21 21.9**	**+0.7**
MJAR	**Matsushiro Arr**	**4.49**	**245**	Pn	**Pn**	**20 21 36.1**	**+1.0**
5.8nm,0.3s,baz=70,slow=13,SNR=47							
MJAR				Sn	**Sn**	**20 22 29.9**	**+2.2**
2.1nm,0.3s,baz=54,slow=21,SNR=4.5							
MJAR				LR	LR	20 23 25.2	
comp=Z,1μm,18.6s,baz=55,slow=41							
MJAR	**Matsushiro Arr**	**4.49**	**245**	Pn	**Pn**	**20 21 36.1**	**+1.0**
MJAR				Sn	**Sn**	**20 22 29.9**	**+2.2**
MJAR	**Matsushiro Arr**	**4.49**	**245**	P	**Pn**	**20 21 36.1**	**+0.9**
MJAR						20 22 29.9	
MAJO	**Matsushiro**	**4.49**	**245**	*e*Pn	**Pn**	**20 21 36.0**	**+0.9**
MAJO	**Matsushiro**	**4.49**	**245**	*e*P	**Pn**	**20 21 36.0**	**+0.8**
MAT	**Matsushiro**	**4.49**	**245**	P	**Pn**	**20 21 36.5**	**+1.3**
MAT				S	**Sn**	**20 22 31.5**	**+3.7**
ASAJ	**Asahikawa**	**5.60**	**355**	Pn	**Pn**	**20 21 53.8**	**+3.4**
0.9nm,0.3s,baz=190,slow=11,SNR=3.0							
ASAJ				Sn	**Sn**	**20 22 55.6**	**+0.5**
baz=198,slow=20,SNR=2.4							
ASAJ	**Asahikawa**	**5.60**	**355**	*e*Pn	**Pn**	**20 21 52.3**	**+1.9**
ASAJ				Sn	**Sn**	**20 22 55.6**	**+0.5**
ASAJ	**Asahikawa**	**5.60**	**355**	P	**Pn**	**20 21 53.8**	**+3.4**
ASAJ						20 22 55.6	
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**8.42**	**358**	*e*Pn	**Pn**	**20 22 28.7**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.42**	**358**	*e*P	**Pn**	**20 22 28.7**	**-0.4**
HABR	**Khabarovsk**	**11.58**	**332**	*e*P	**Pn**	**20 23 17.1**	**+4.8**
HABR				*e*		20 25 15.8	
HABR				pmax	pmax		
comp=Z,60nm,1.4s							
HABR				pmax	pmax		
comp=N,89nm,1.9s							
HABR				pmax	pmax		
comp=E,56nm,1.9s							
HABR				MLR	MLR		
comp=Z,763nm,14.0s							
KSRS	**Korea Array**	**12.16**	**270**	Pn	**Pn**	**20 23 21.2**	**+0.8**
comp=Z,0.2nm,0.3s,baz=79,slow=13,SNR=4.4							
KSRS	**Korea Array**	**12.16**	**270**	P	**Pn**	**20 23 21.2**	**+0.8**
KSAR	**Wonju Array Be**	**12.19**	**270**	Pn	**Pn**	**20 23 21.2**	**+0.4**
KSAR	**Wonju Array Be**	**12.19**	**270**	P	**Pn**	**20 23 21.2**	**+0.4**
YAK	**Yakutsk**	**24.96**	**345**	P	**P**	**20 25 47.2**	**-3.4**
YAK	**Yakutsk**	**24.96**	**345**	*i* P	**P**	**20 25 50.4**	**-0.2**
ULN	**Ulaanbaatar**	**27.78**	**301**	*e*P	**P**	**20 26 16.4**	**+0.2**
comp=Z,8.0nm,1.2s,mb4.2							
ULN	**Ulaanbaatar**	**27.78**	**301**	*e*P	**P**	**20 26 16.4**	**+0.2**
ULN				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.2							
SONM	**Songino Array**	**28.21**	**301**	P	**P**	**20 26 20.8**	**+0.7**
comp=Z,1.5nm,0.5s,mb3.9,baz=98,slow=9.1,SNR=16							
SONM	**Songino Array**	**28.21**	**301**	P	**P**	**20 26 20.8**	**+0.7**
SONM	**Songino Array**	**28.21**	**301**	P	**P**	**20 26 20.8**	**+0.7**
ZAK	**Zakamensk**	**30.53**	**306**	*e*P	**P**	**20 26 40.4**	**-0.2**
ZAK				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.1							
ZAA0	**Zalesovo Array**	**42.01**	**311**	*e*P	**P**	**20 28 17.8**	**-0.7**
ZALV	**Zalesovo Beam**	**42.01**	**311**	P	**P**	**20 28 18.6**	**+0.1**
comp=Z,1.2nm,0.3s,mb3.9,baz=94,slow=9.6,SNR=7.4							
ZALV				PcP	PcP	20 30 13.6	+0.1
comp=Z,0.7nm,0.5s,baz=83,slow=5.1,SNR=3.1							
ZALV	**Zalesovo Beam**	**42.01**	**311**	P	**P**	**20 28 18.6**	**+0.1**
ZALV				PcP	PcP	20 30 13.6	+0.1
ZALV	**Zalesovo Beam**	**42.01**	**311**	P	**P**	**20 28 18.6**	**+0.1**
ZALV						20 30 13.6	
NVS	**Novosibirsk**	**42.88**	**313**	*e*P	**P**	**20 28 28.5**	**+2.8**
CMAR	**Chiang Mai Arr**	**43.30**	**255**	P	**P**	**20 28 28.4**	**-1.0**
comp=Z,0.4nm,0.7s,mb3.3,baz=36,slow=6.6,SNR=3.5							

CMAR	Chiang Mai Arr	43.30	255	P	P	20 28 28.4	-1.0
CMAR	Chiang Mai Arr	43.30	255	P	P	20 28 28.5	-0.9
MK31	Makanchi Array	44.58	301	eP	P	20 28 39.0	-0.5
MK31	Makanchi Array	44.58	301	eP	P	20 28 39.0	-0.4
MKAR	Makanchi Array	44.58	301	P	P	20 28 39.4	-0.1
	comp=Z,1.0nm,0.5s,mb3.9,baz=85,slow=9.7,SNR=16						
MKAR	Makanchi Array	44.58	301	P	P	20 28 39.4	-0.1
MKAR	Makanchi Array	44.58	301	P	P	20 28 39.4	0.0
KURK	Kurchatov	46.18	307	eP	P	20 28 51.4	-0.6
	comp=Z,6.5nm,0.6s,mb4.7						
KURK	Kurchatov	46.18	307⇓	eP	P	20 28 52.1	+0.1
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
TAPN	Taplejung	47.31	274	eP	P	20 29 02.0	+0.8
	comp=Z,12nm,0.9s,mb4.8						
TAPN	Taplejung	47.31	274	eP	P	20 29 02.0	+0.8
	comp=Z,12nm,0.9s,mb4.8						
ILAR	Eielson Array	47.44	33	P	P	20 29 02.9	+1.2
	comp=Z,1.0nm,0.9s,mb3.8,baz=259,slow=6.1,SNR=10						
ILAR	Eielson Array	47.44	33	P	P	20 29 02.9	+1.2
ILAR	Eielson Array	47.44	33	P	P	20 29 02.9	+1.2
KSM	Kuching	47.65	227	P	P	20 29 03.8	-0.1
ODAN	Odare	47.79	273	eP	P	20 29 05.3	+0.3
	comp=Z,6.6nm,0.6s,mb4.8						
ODAN	Odare	47.79	273	eP	P	20 29 05.3	+0.3
	comp=Z,6.6nm,0.6s,mb4.8						
RAMN	Ramite	48.37	274	eP	P	20 29 09.6	+0.2
	comp=Z,18nm,1.0s,mb5.0						
RAMN	Ramite	48.37	274	eP	P	20 29 09.6	+0.2
	comp=Z,18nm,1.0s,mb5.1						
GUN	Gumba	48.47	275	eP	P	20 29 10.9	+0.7
	comp=Z,13nm,0.6s,mb5.1						
GUN	Gumba	48.47	275	eP	P	20 29 10.9	+0.7
	comp=Z,13nm,0.6s,mb5.1						
KKN	Kakani	49.00	275	eP	P	20 29 14.6	+0.3
	comp=Z,13nm,0.6s,mb5.1						
KKN	Kakani	49.00	275	eP	P	20 29 14.6	+0.3
	comp=Z,13nm,0.6s,mb5.1						
KKN	Kakani	49.00	275	eP	P	20 29 14.6	+0.3
KKN				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
DMN	Daman	49.22	275	eP	P	20 29 16.3	+0.3
	comp=Z,6.2nm,0.7s,mb4.7						
DMN	Daman	49.22	275	eP	P	20 29 16.3	+0.3
	comp=Z,6.2nm,0.7s,mb4.8						
GKN	Gorkha	49.40	276	eP	P	20 29 17.5	+0.2
	comp=Z,26nm,1.2s,mb5.2						
GKN	Gorkha	49.40	276	eP	P	20 29 17.5	+0.2
	comp=Z,26nm,1.2s,mb5.1						
DANN	Dangsing	49.92	277	eP	P	20 29 21.4	+0.1
	comp=Z,15nm,0.6s,mb5.2						
DANN	Dangsing	49.92	277	eP	P	20 29 21.4	+0.1
	comp=Z,15nm,0.6s,mb5.2						
TKM2	Tokmak 2	50.22	298	eP	P	20 29 23.8	+0.4
	comp=Z,6.9nm,0.9s,mb4.7						
TKM2	Tokmak 2	50.22	298	eP	P	20 29 23.8	+0.4
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KOLN	Koldanda	50.32	276	eP	P	20 29 24.8	+0.5
	comp=Z,12nm,1.0s,mb4.9						
KOLN	Koldanda	50.32	276	eP	P	20 29 24.8	+0.5
	comp=Z,12nm,1.0s,mb4.9						
PYUN	Piuthan	50.64	277	eP	P	20 29 27.2	+0.5
	comp=Z,33nm,1.1s,mb5.2						
PYUN	Piuthan	50.64	277	eP	P	20 29 27.2	+0.5
	comp=Z,33nm,1.1s,mb5.2						
BRVK	Borovoye	50.71	312	P	P	20 29 23.1	-3.9
BRVK	Borovoye	50.71	312⇑	eP	P	20 29 26.7	-0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK	Ala-Archa	51.08	298	eP	P	20 29 29.0	-0.8
	comp=Z,9.6nm,0.9s,mb4.7						
AAK	Ala-Archa	51.08	298	eP	P	20 29 29.0	-0.9
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
EKS2	Erkin-Say	51.56	298	eP	P	20 29 32.5	-1.0
	comp=Z,1.0nm,0.6s,mb3.9						
EKS2	Erkin-Say	51.56	298	eP	P	20 29 32.5	-1.0
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
INK	Inuvik	52.38	28	eP	P	20 29 39.0	-0.1
INK	Inuvik	52.38	28	eP	P	20 29 39.1	-0.1
ARU	Arti	56.21	318	eP	P	20 30 02.3	-5.0
	comp=Z,4.1nm,0.9s,mb4.5						
ARU	Arti	56.21	318	d iP	P	20 30 07.0	-0.3
ARU				e		20 32 09.6	
ARU				S	S	20 37 53.1	-4.0
ARU				SS	SS	20 41 36.9	-6.1
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ABKAR	Akbulak array	58.10	310	eP	P	20 30 19.7	-1.1
	comp=Z,1.9nm,0.5s,mb4.4						
KBL	Kabul	58.25	291	eP	P	20 30 21.1	-1.0
	comp=Z,4.1nm,1.1s,mb4.4						
KBL	Kabul	58.25	291	eP	P	20 30 21.1	-0.9
KBL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
WRAB	Tennant Creek	58.76	190	eP	P	20 30 25.0	-0.5
WRAB	Tennant Creek	58.76	190	eP	P	20 30 25.0	-0.5
WRA	Warramunga Arr	58.77	190	P	P	20 30 25.0	-0.6
	comp=Z,2.1nm,0.7s,mb4.3,baz=8.2,slow=7.1,SNR=25						
WRA	Warramunga Arr	58.77	190	P	P	20 30 25.0	-0.6
WRA	Warramunga Arr	58.77	190	P	P	20 30 25.0	-0.6
ASAR	Alice Springs	62.49	190	P	P	20 30 50.9	-0.1
	comp=Z,0.9nm,0.8s,mb4.0,baz=8.2,slow=6.1,SNR=6.6						
ASAR	Alice Springs	62.49	190	P	P	20 30 50.9	-0.1
ASAR	Alice Springs	62.49	190	P	P	20 30 50.9	-0.1
ARCES	ARCESS Array B	63.11	340	P	P	20 30 54.9	+0.3
	comp=Z,3.4nm,1.0s,mb4.4,baz=63,slow=8.6,SNR=8.2						
ARCES	ARCESS Array B	63.11	340	P	P	20 30 54.9	+0.3
ARCES	ARCESS Array B	63.11	340	P	P	20 30 54.9	+0.3
JOF	Joensuu	65.33	332	eP	P	20 31 08.0	-1.2
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
JOF	Joensuu	65.33	332	ep	P	20 31 08.0	-1.2
	comp=Z,1.6nm,0.5s,mb4.3						
KAF	Kangasniemi	67.64	333	eP	P	20 31 22.9	-1.2
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KAF	Kangasniemi	67.64	333	ep	P	20 31 22.9	-1.2
	comp=Z,1.9nm,0.6s,mb4.3						
OBN	Obninsk	67.77	324	eP	P	20 31 24.7	-0.3
OBN				e*PP	pP	20 31 33.7	+7.3
OBN				e		20 31 52.1	
OBN				e		20 33 53.3	
OBN				eSS	S	20 40 18.4	-4.8
OBN				eSS	SS	20 44 38.6	-4.8
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
OBN				MLR	MLR		
	comp=Z,300nm,13.0s,MS4.7						
FINES	FINESS Array B	68.16	333	P	P	20 31 27.2	-0.2
	comp=Z,4.8nm,0.9s,mb4.5,baz=44,slow=8.5,SNR=13						
FINES	FINESS Array B	68.16	333	P	P	20 31 27.2	-0.2
FINES	FINESS Array B	68.16	333	P	P	20 31 27.2	-0.2
KIV	Kislovodsk	71.03	311	i P	P	20 31 46.7	+1.4
KIV				e		20 32 05.0	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
KIV				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.8						
NB2	NORSAR Subarra	73.36	338	P	P	20 31 58.8	-0.2
	comp=Z,1.2nm,0.7s,mb3.9,baz=38,slow=5.9						
NOA	NORSAR Array B	73.36	338	P	P	20 31 59.1	+0.1
	comp=Z,2.3nm,0.8s,mb4.2,baz=39,slow=5.8,SNR=8.2						
NOA	NORSAR Array B	73.36	338	P	P	20 31 59.1	+0.1
NOA	NORSAR Array B	73.36	338	P	P	20 31 59.1	+0.1
AKASG	Malin Array Be	74.00	323	P	P	20 32 02.8	-0.1
	comp=Z,2.1nm,0.5s,mb4.3,baz=45,slow=5.8,SNR=8.7						
AKASG	Malin Array Be	74.00	323	P	P	20 32 02.8	-0.1
AKASG	Malin Array Be	74.00	323	eP	P	20 32 02.7	-0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIEV	Kiev	74.01	323	eP	P	20 32 02.7	-0.3
	comp=Z,5.2nm,0.8s,mb4.5						
KIEV	Kiev	74.01	323	eP	P	20 32 02.7	-0.3
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
PDAR	Pinedale Array	75.57	47	P	P	20 32 13.6	+1.4
	comp=Z,0.4nm,0.6s,mb3.5,baz=36,slow=2.8,SNR=4.2						
PDAR	Pinedale Array	75.57	47	P	P	20 32 13.6	+1.4
BUR08	Bucovina Ar. S	78.02	322	eP	P	20 32 24.9	-1.0
BRTR	Keskin Array B	78.94	312	P	P	20 32 31.1	0.0
	comp=Z,0.5nm,0.5s,mb3.7,baz=107,slow=2.2,SNR=4.5						
BRTR	Keskin Array B	78.94	312	P	P	20 32 31.1	0.0
BRTR	Keskin Array B	78.94	312	ceP	P	20 32 31.7	+0.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MORC	Moravsky Berou	79.89	328	P	P	20 32 36.1	0.0
	comp=Z,3.3nm,1.0s,mb4.2						
MORC	Moravsky Berou	79.89	328	P	P	20 32 36.1	0.0
MORC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
CLL	Collm	80.51	331	eP	P	20 32 40.0	+0.5
CLL	Collm	80.51	331	eP	P	20 32 40.0	+0.5
GERES	GERESS Array B	82.19	329	P	P	20 32 48.6	+0.1
	comp=Z,0.4nm,0.7s,mb3.4,baz=64,slow=6.7,SNR=2.8						
GERES	GERESS Array B	82.19	329	P	P	20 32 48.6	+0.1
GERES	GERESS Array B	82.19	329	P	P	20 32 48.6	+0.2

*NEIC **05** 20:29:24.1, 42.°70S×171.°27E, h7km, ML3.6(WEL), After WEL.*

WEL 05 20:29:23.8±0.1, 42.°70S×171.°28E, h5km, ML3.6/19, Error ellipse: s-maj=1.3km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	Waitaha Valley	0.55	226	PG	Pg	20 29 35.0	+0.5
WVZ				SG	Sg	20 29 42.3	+0.7
WVZ	Waitaha Valley	0.55	226	P*	Pg	20 29 35.0	+0.5
WVZ				Sg	Sg	20 29 42.4	+0.7
LTZ	Lake Taylor	0.73	97	P*	Pb	20 29 37.7	-1.4
LTZ				S*	Sb	20 29 47.6	-1.9
LTZ	Lake Taylor	0.73	97	P*	Pb	20 29 37.7	-1.4
DSZ	Denniston Nort	1.02	23	P*	Pb	20 29 43.2	-0.9
DSZ				S*	Sb	20 29 57.2	-0.5
DSZ	Denniston Nort	1.02	23	P*	Pb	20 29 43.5	-0.6
RPZ	Rata Peaks	1.03	189	P*	Pb	20 29 44.1	-0.1
RPZ				S*	Sb	20 29 57.6	-0.5
RPZ	Rata Peaks	1.03	189	P*	Pb	20 29 44.1	-0.1
CRLZ	Canterbury Las	1.32	132	P*	Pb	20 29 48.2	-0.9
CRLZ	Canterbury Las	1.32	132	Pn	Pn	20 29 48.2	-0.8
MQZ	McQueen's Vall	1.43	136	PN	Pn	20 29 48.7	-1.6
MQZ	McQueen's Vall	1.43	136	Pn	Pn	20 29 48.7	-1.6
FOZ	Fox Glacier	1.45	233	PN	Pn	20 29 47.8	-2.9
FOZ	Fox Glacier	1.45	233	Pn	Pn	20 29 47.8	-2.9
THZ	Tophouse	1.52	53	PN	Pn	20 29 51.2	-0.5
THZ	Tophouse	1.52	53	Pn	Pn	20 29 51.2	-0.5
KHZ	Kahutara	1.69	81	PN	Pn	20 29 53.8	-0.3
KHZ				SN	Sn	20 30 16.0	0.0
KHZ	Kahutara	1.69	81	Pn	Pn	20 29 53.8	-0.3
KHZ				Sn	Sn	20 30 17.1	+1.0
LBZ	Lake Benmore	1.87	205	PN	Pn	20 29 56.1	-0.3
LBZ	Lake Benmore	1.87	205	Pn	Pn	20 29 56.1	-0.3
QRZ	Quartz Range	2.09	27	PN	Pn	20 29 58.7	-0.7
QRZ	Quartz Range	2.09	27	Pn	Pn	20 29 58.7	-0.7
NNZ	Nelson	2.15	47	PN	Pn	20 30 00.2	-0.1
NNZ	Nelson	2.15	47	Pn	Pn	20 30 01.1	+0.8
JCZ	Jackson Bay	2.30	232	PN	Pn	20 30 00.5	-1.8
JCZ	Jackson Bay	2.30	232	Pn	Pn	20 30 00.5	-1.8
TUWZ	Tuamarina	2.35	58	PN	Pn	20 30 04.2	+1.1
TUWZ	Tuamarina	2.35	58	Pn	Pn	20 30 04.2	+1.1
ODZ	Otahua Downs	2.39	191	PN	Pn	20 30 02.4	-1.3
ODZ	Otahua Downs	2.39	191	Pn	Pn	20 30 02.4	-1.3
TCW	Tory Channel	2.68	58	PN	Pn	20 30 09.6	+2.0
TCW	Tory Channel	2.68	58	Pn	Pn	20 30 09.6	+2.0
WKZ	Wanaka	2.69	217	PN	Pn	20 30 06.9	-0.9
WKZ	Wanaka	2.69	217	Pn	Pn	20 30 06.9	-0.9
DUWZ	D'Urville Isla	2.73	47	PN	Pn	20 30 11.2	+2.9
DUWZ	D'Urville Isla	2.73	47	Pn	Pn	20 30 09.6	+1.3
OGWZ	Otaki Gorge	3.46	59	PN	Pn	20 30 17.4	-1.0
TUZ	Tuapeka	3.47	199	PN	Pn	20 30 17.3	-1.2
TUZ	Tuapeka	3.47	199	Pn	Pn	20 30 17.2	-1.2
MLZ	Mavora Lakes	3.47	219	PN	Pn	20 30 18.0	-0.5
MLZ	Mavora Lakes	3.47	219	Pn	Pn	20 30 18.0	-0.5
PKE	Pukeiti	4.05	31	PN	Pn	20 30 27.2	+0.8
PKE	Pukeiti	4.05	31	Pn	Pn	20 30 27.2	+0.8
RRRZ	Republican Roa	5.90	44	Pn	Pn	20 31 01.1	+9.2

IDC 05 20:34:43.3±5.5, 0.°12S×25.°52W, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.3/22, mbtmp3.6/2, Error ellipse: s-maj=297.8km s-min=38.2km az=142.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	21.69	71	P	P	20 39 35.9	-0.2
	3.2nm,0.9s,baz=225,slow=14,SNR=2.8						
TORD	Torodi Ar. Bea	30.02	63	P	P	20 40 54.5	+0.3
	0.4nm,0.8s,baz=242,slow=10,SNR=2.6						
STKA	Stephens Creek	145.92	160	PKPbc	PKPbc	20 54 25.3	-0.2
	1.7nm,0.9s,baz=188,slow=7.1,SNR=3.3						
ASAR	Alice Springs	149.05	141	PKPbc	PKPbc	20 54 34.0	-0.4
	0.8nm,0.6s,baz=208,slow=2.3,SNR=14						
WRA	Warramunga Arr	151.95	136	PKPbc	PKPbc	20 54 40.7	-0.7
	0.6nm,0.9s,baz=224,slow=2.2,SNR=4.9						

MAN 05 20:59:43, 9.°89N×122.°13E, h32km, mb4.5, ML3.4, MS3.3, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.86	32	eP	Pn	20 59 59.2	+0.4
GUIM				eS	Sn	21 00 12.0	+1.7
TBP	Tagbilaran	1.72	96	eP	Pn	21 00 11.5	+0.8
DCPH	Dipolog City	1.77	137⇑	eP	Pn	21 00 12.0	+0.5
DCPH				eS	Sn	21 00 31.7	-1.2
MSLP	Maasin	2.70	85	eP	Pn	21 00 26.9	+2.7
ENPP	El Nido	2.96	296	eP	Pn	21 00 31.1	+3.2

*ATH **05** 21:09:58.3, 37.°09N×28.°22E, h28km±2km, MD3.4/5*
*CSEM **05** 21:09:59.9±0.1, 37.°01N×28.°05E, h10km, MD3.1, Error ellipse: s-maj=3.4km s-min=2.8km az=155.0*
*ISK **05** 21:09:59.6, 37.°04N×28.°05E, h12km, MD3.1*
*ISCJB **05** 21:09:59.9±0.5, 37.°01N±0.°02×28.°04E±0.°03, h8km±4km, Error ellipse: s-maj=4.3km s-min=3.4km az=145.6*
*NEIC **05** 21:09:59.6, 37.°04N×28.°04E, h13km, MD3.1(ISK), After ISK.*
*DDA **05** 21:09:59.2, 37.°02N×27.°99E, h7km±6km, Md3.0*

ISC 05 21:10:00.3±0.5, 37.°01N±0.°03×28.°04E±0.°03, h11km±3km, n63, σ0°87/93, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.23	57	PG	Pg	21 10 04.5	-0.7
YER				eSG	Sg	21 10 08.6	+0.3
YER	Yerkesik	0.23	57	Pg	Pg	21 10 05.1	0.0
YER				Sg	Sg	21 10 08.1	-0.2
YER	Yerkesik	0.23	57	i Pg	Pg	21 10 04.5	-0.6
YER				Sg	Sg	21 10 08.1	-0.3
MLSB	Milas	0.35	324	ePG	Pg	21 10 06.8	-0.6
MLSB				eSG	Sg	21 10 12.4	+0.3
MLSB	Milas	0.35	324	Pg	Pg	21 10 06.8	-0.6
MLSB				Sg	Sg	21 10 12.8	+0.6
MLSB	Milas	0.35	324	ePg	Pg	21 10 06.8	-0.6
MLSB				eSg	Sg	21 10 12.5	+0.4
DAT	Datca	0.47	233	ePG	Pg	21 10 09.7	+0.3
DAT				eSG	Sg	21 10 17.0	+1.4
DAT	Datca	0.47	233	ePg	Pg	21 10 09.7	+0.3
DAT				eSg	Sg	21 10 17.0	+1.4
TURN	Turunc	0.47	107	i P	Pg	21 10 05.8	-3.8
TURN				i S	Sg	21 10 09.8	-6.1
TURN	Turunc	0.47	107	i P	Pg	21 10 05.8	-3.8
BODT	Bodrum	0.59	275	ePG	Pg	21 10 10.7	-1.0
BODT				eSG	Sg	21 10 20.1	+0.7
BODT	Bodrum	0.59	275	Pg	Pg	21 10 10.7	-1.0
BODT				Sg	Sg	21 10 20.7	+1.3
BODT	Bodrum	0.59	275	ePg	Pg	21 10 10.7	-1.0
BODT				eSg	Sg	21 10 20.1	+0.7
AYDN	Tasoluk	0.66	349	i P	Pg	21 10 13.2	+0.1
AYDN				i S	Sg	21 10 21.6	-0.3
AYDN	Tasoluk	0.66	349	i P	Pg	21 10 13.2	0.0
AYDN				i S	Sg	21 10 21.6	-0.3
ARG	Arkhangelos	0.80	175	ePN	Pn	21 10 15.2	-2.3
ARG				eSN	Sn	21 10 28.1	-1.3
ARG	Arkhangelos	0.80	175	ePn	Pn	21 10 15.1	-2.4
ARG				eSn	Sn	21 10 28.1	-1.3
GCAM	G?zelcaml?	0.94	317	i P	Pg	21 10 19.0	+0.5
GCAM				i S	Sg	21 10 30.8	0.0
GCAM	G?zelcaml?	0.94	317	i P	Pg	21 10 19.0	+0.5
GCAM				i S	Sg	21 10 30.8	0.0
DNZL	Cakiroluk	1.05	49	i P	Pg	21 10 19.8	-0.8
DNZL				i S	Sg	21 10 36.0	+1.7
DNZL	Cakiroluk	1.05	49	i P	Pg	21 10 19.8	-0.8
DNZL				i S	Sg	21 10 36.0	+1.8
DENT	Denizli	1.08	47	ePG	Pg	21 10 20.3	-0.9
DENT	Denizli	1.08	47	Pg	Pg	21 10 20.3	-0.9
DENT	Denizli	1.08	47	ePg	Pg	21 10 20.3	-0.9
GLHS	Gihisar (BURDU	1.18	82	ePN	Pn	21 10 22.3	-0.4
GLHS	Gihisar (BURDU	1.18	82	Pn	Pn	21 10 22.3	-0.4
GLHS	Gihisar (BURDU	1.18	82	ePn	Pn	21 10 22.3	-0.4
SMG	Samos	1.19	306	ePN	Pn	21 10 22.3	-0.6
SMG				eSN	Sn	21 10 39.0	0.0
SMG	Samos	1.19	306	ePn	Pn	21 10 22.6	-0.3
SMG				eSn	Sn	21 10 39.0	0.0
GOLH	Golhisar	1.24	79	i P	Pn	21 10 25.0	+1.4
GOLH				i S	Sb	21 10 41.4	+1.7
GOLH	Golhisar	1.24	79	i P	Pn	21 10 25.0	+1.4
GOLH				i S	Sb	21 10 41.3	+1.6
IZM	Izmir	1.52	336	ePN	Pn	21 10 26.7	-0.7
IZM	Izmir	1.52	336	Pn	Pn	21 10 26.7	-0.7
IZM	Izmir	1.52	336	ePn	Pn	21 10 26.7	-0.7
ELL	Elmali	1.52	99	ePN	Pn	21 10 27.3	-0.2
ELL	Elmali	1.52	99	Pn	Pn	21 10 27.3	-0.2
ELL	Elmali	1.52	99	ePn	Pn	21 10 27.3	-0.2
MANT	Manisa	1.53	15	i P	Pn	21 10 27.6	-0.1
MANT				i S	Sn	21 10 48.5	+0.9
MANT	Manisa	1.53	15	i P	Pn	21 10 27.6	-0.1
MANT				i S	Sn	21 10 48.5	+0.9
KULA	Kula-Manisa	1.58	18	ePN	Pn	21 10 27.6	-0.7
KULA	Kula-Manisa	1.58	18	ePn	Pn	21 10 27.6	-0.7
BLCB	Balcova	1.58	330	ePN	Pn	21 10 27.9	-0.5
BLCB	Balcova	1.58	330	Pn	Pn	21 10 27.9	-0.5
BLCB	Balcova	1.58	330	ePn	Pn	21 10 27.9	-0.5
KARP	Karpathos	1.62	206	ePN	Pn	21 10 29.0	+0.1
KARP				eSN	Sn	21 10 51.4	+1.6
KARP	Karpathos	1.62	206	ePn	Pn	21 10 29.0	+0.1
KARP				eSn	Sn	21 10 51.4	+1.6
KHAL	Karahalli	1.78	40	i P	Pn	21 10 31.4	+0.4
KHAL				i S	Sn	21 10 54.2	+0.5
KHAL	Karahalli	1.78	40	i P	Pn	21 10 31.4	+0.3
KHAL				i S	Sn	21 10 54.2	+0.5
KORT	Korkueli	1.85	90	i P	Pn	21 10 35.6	+3.6
KORT	Korkueli	1.85	90	i P	Pn	21 10 35.6	+3.6
AKHS	Akhisar	1.87	355	i P	Pn	21 10 31.7	-0.7
AKHS	Akhisar	1.87	355	i P	Pn	21 10 31.7	-0.7
AKS	Akhisar	1.87	355	ePN	Pn	21 10 31.8	-0.5
AKS	Akhisar	1.87	355	ePn	Pn	21 10 31.8	-0.6
APE	Apeiranthos	2.01	272	ePN	Pn	21 10 35.2	+1.0
APE	Apeiranthos	2.01	272	ePn	Pn	21 10 34.2	0.0
APE	Apeiranthos	2.01	272	ePn	Pn	21 10 34.0	-0.2
BCK	Bucak	2.08	77	ePN	Pn	21 10 35.2	0.0
BCK	Bucak	2.08	77	ePn	Pn	21 10 35.2	0.0
ALT	Altintas	2.62	38	ePN	Pn	21 10 42.2	-0.3
ALT	Altintas	2.62	38	ePn	Pn	21 10 42.2	-0.3
NPS	Neapolis	2.63	229	ePN	Pn	21 10 42.9	+0.2
NPS	Neapolis	2.63	229	ePn	Pn	21 10 42.9	+0.2

*ISCJB **05** 21:14:00.8±0.4, 42.°30N±0.°03×141.°28E±0.°05, h131km±3km, mb3.3/6, Error ellipse: s-maj=6.5km s-min=4.6km az=135.3*
*JMA **05** 21:14:01.6±0.1, 42.°32N×141.°25E, h128km±1km, M2.7*
*NEIC **05** 21:14:02.1±0.9, 42.°31N×141.°51E, h135km±13km, Error ellipse: s-maj=25.6km s-min=12.5km az=121.0*
*IDC **05** 21:14:03.3±4.0, 42.°20N×141.°46E, h145km±42km, mb3.1/6, mb1 3.2/7, mb1mx3.0/24, mbtmp3.0/7, Error ellipse: s-maj=27.6km s-min=26.4km az=119.0*

ISC 05 21:14:01.9±0.4, 42.°30N±0.°03×141.°29E±0.°05, h126km±3km, n35, σ0°62/51, mb3.4/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	Noboribetsu	0.25	312	P	Pn	21 14 19.0	-0.3
JNB				eS	Sn	21 14 32.1	-0.3
JKB	Kayabe	0.46	204	P	Pn	21 14 20.2	0.0
JKB				eS	Sn	21 14 34.0	0.0
JEW	Eniwo	0.55	13	P	Pn	21 14 20.6	-0.1
JEW				eS	Sn	21 14 35.1	+0.1
JYM2	Yakumo 2	0.70	255	P	Pn	21 14 21.8	0.0
JYM2				eS	Sn	21 14 36.6	-0.3
JBT2	Biratori 2	0.93	59	P	Pn	21 14 23.8	+0.1
JBT2				eS	Sn	21 14 40.4	+0.2
JOT	Ohata	0.94	191	P	Pn	21 14 24.0	+0.2
JSH	Shimam	0.98	291	P	Pn	21 14 23.9	-0.2
JSR	Shiriuchi	1.01	220	P	Pn	21 14 24.6	+0.2
JSR				eS	Sn	21 14 41.6	+0.1
JNBK	Urakawa-nobuka	1.09	91	P	Pn	21 14 25.5	+0.3
JNBK				eS	Sn	21 14 43.7	+0.8
JSK	Shakotan	1.21	331	P	Pn	21 14 26.1	-0.3
JSK				e

SMG			*e*SN	**Sn**	**21 23 46.6**	**+0.5**
SMG	**Samos**	**1.12 174**	*e*Pb	**Pb**	**21 23 30.5**	**-0.1**
SMG			*e*Sn	**Sn**	**21 23 46.7**	**+0.6**
BALY	**Balya**	**1.16 38**	*i* P	**Pb**	**21 23 30.7**	**-0.6**
BALY			*i* S	**Sb**	**21 23 47.1**	**+0.8**
BALY	**Balya**	**1.16 38**	*i* P	**Pb**	**21 23 30.7**	**-0.6**
BALY			*i* S	**Sb**	**21 23 47.1**	**+0.8**
AYDN	**Tasoluk**	**1.49 141**	*i* P	**Pn**	**21 23 34.8**	**-1.0**
AYDN			*i* S	**Sn**	**21 23 55.6**	**+0.4**
AYDN	**Tasoluk**	**1.49 141**	*i* P	**Pn**	**21 23 34.8**	**-1.0**
AYDN			*i* S	**Sn**	**21 23 55.6**	**+0.4**
DURS	**Dursunbey**	**1.58 60**	*i* P	**Pn**	**21 23 38.5**	**+1.4**
DURS			*i* S	**Sn**	**21 23 57.0**	**-0.5**
DURS	**Dursunbey**	**1.58 60**	*i* P	**Pn**	**21 23 38.5**	**+1.3**
DURS			*i* S	**Sn**	**21 23 57.0**	**-0.6**
APE	**Apeiranthos**	**1.98 208**	*e*PN	**Pn**	**21 23 42.9**	**+0.3**
APE	**Apeiranthos**	**1.98 208**	*e*Pn	**Pn**	**21 23 42.9**	**+0.3**

NEIC ***05*** *21:31:22.7, 37°.14S×177°.53E, h130km, MG3.8(WEL), After WEL.*

WEL 05 21:31:23.1±0.2, 37°.17S×177°.52E, h127km±1km, ML3.8/8, 1C, Error ellipse: s-maj=1.7km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.73**	**122**	PN	Pn	21 31 43.5	0.0
MXZ				SN	Sn	21 31 59.3	+0.4
MXZ	**Matakaoa Point**	**0.73**	**122**	Pn	Pn	21 31 43.5	0.0
MXZ				Sn	Sn	21 31 59.3	+0.4
OPRZ	**Ohinepanea**	**1.02**	**229**	PN	Pn	21 31 46.0	0.0
OPRZ	**Ohinepanea**	**1.02**	**229**	Pn	Pn	21 31 46.0	0.0
PUZ	**Puketiti**	**1.07**	**147**	PN	Pn	21 31 46.4	-0.1
PUZ				SN	Sn	21 32 03.3	-0.9
PUZ	**Puketiti**	**1.07**	**147**	Pn	Pn	21 31 46.2	-0.2
PUZ				Sn	Sn	21 32 04.3	+0.1
EDRZ	**Edgecumbe**	**1.12**	**214**	PN	Pn	21 31 47.4	+0.4
EDRZ	**Edgecumbe**	**1.12**	**214**	Pn	Pn	21 31 47.4	+0.4
URZ	**Urewera**	**1.13**	**197**	PN	Pn	21 31 47.0	0.0
URZ				SN	Sn	21 32 05.4	+0.1
URZ	**Urewera**	**1.13**	**197**	*e*Pn	Pn	21 31 47.1	0.0
URZ				*e*Sn	Sn	21 32 05.4	+0.1
MWZ	**Matawai**	**1.16**	**180**	⇑PN	Pn	21 31 47.4	0.0
MWZ				SN	Sn	21 32 06.1	+0.3
MWZ	**Matawai**	**1.16**	**180**	Pn	Pn	21 31 47.4	0.0
TARZ	**Mount Tarawera**	**1.33**	**217**	PN	Pn	21 31 49.9	+0.8
TARZ	**Mount Tarawera**	**1.33**	**217**	Pn	Pn	21 31 49.9	+0.8
RRRZ	**Republican Roa**	**1.41**	**214**	PN	Pn	21 31 50.4	+0.3
RRRZ	**Republican Roa**	**1.41**	**214**	Pn	Pn	21 31 50.4	+0.3
CNGZ	**Carnagh Statio**	**1.42**	**158**	PN	Pn	21 31 50.4	+0.3
CNGZ	**Carnagh Statio**	**1.42**	**158**	Pn	Pn	21 31 50.4	+0.3
PRRZ	**Plateau Road**	**1.60**	**214**	PN	Pn	21 31 52.4	+0.3
PRRZ	**Plateau Road**	**1.60**	**214**	Pn	Pn	21 31 52.4	+0.3
ALRZ	**Allen Road**	**1.67**	**214**	PN	Pn	21 31 53.2	+0.2
ALRZ	**Allen Road**	**1.67**	**214**	Pn	Pn	21 31 53.3	+0.3
PRGZ	**Paritu Road**	**1.77**	**171**	PN	Pn	21 31 53.8	-0.3
PRGZ	**Paritu Road**	**1.77**	**171**	Pn	Pn	21 31 53.8	-0.3
RAHZ	**Arahi**	**1.77**	**191**	PN	Pn	21 31 54.1	-0.1
RAHZ	**Arahi**	**1.77**	**191**	Pn	Pn	21 31 54.1	-0.1
KNZ	**Kokohu**	**1.85**	**176**	PN	Pn	21 31 54.5	-0.6
KNZ	**Kokohu**	**1.85**	**176**	Pn	Pn	21 31 54.5	-0.6
MHGZ	**Mahia Peninsul**	**2.00**	**171**	PN	Pn	21 31 56.6	-0.3
MHGZ	**Mahia Peninsul**	**2.00**	**171**	Pn	Pn	21 31 56.6	-0.3
MHGZ				Sn	Sn	21 32 24.4	+1.5
NMHZ	**Naumai**	**2.00**	**196**	PN	Pn	21 31 57.0	+0.1
NMHZ	**Naumai**	**2.00**	**196**	Pn	Pn	21 31 57.0	0.0
BKZ	**Black Stump Fm**	**2.15**	**202**	PN	Pn	21 31 58.2	-0.6
BKZ	**Black Stump Fm**	**2.15**	**202**	Pn	Pn	21 31 58.1	-0.6
MCHZ	**McNeill Hill**	**2.36**	**196**	PN	Pn	21 32 00.8	-0.6
MCHZ	**McNeill Hill**	**2.36**	**196**	Pn	Pn	21 32 00.8	-0.6
KRVZ	**Karewarewa**	**2.43**	**217**	PN	Pn	21 32 02.4	+0.2
KRVZ	**Karewarewa**	**2.43**	**217**	Pn	Pn	21 32 02.5	+0.2
OTVZ	**Oturere**	**2.47**	**216**	PN	Pn	21 32 02.5	-0.2
OTVZ	**Oturere**	**2.47**	**216**	Pn	Pn	21 32 02.5	-0.2
CKHZ	**Cape Kidnapper**	**2.51**	**188**	PN	Pn	21 32 02.0	-1.3
CKHZ	**Cape Kidnapper**	**2.51**	**188**	Pn	Pn	21 32 02.0	-1.3
NGZ	**Ngauruhoe**	**2.51**	**217**	PN	Pn	21 32 03.3	+0.1
NGZ	**Ngauruhoe**	**2.51**	**217**	Pn	Pn	21 32 03.3	+0.1
TUVZ	**Tukino**	**2.56**	**215**	PN	Pn	21 32 03.8	-0.1
TUVZ	**Tukino**	**2.56**	**215**	Pn	Pn	21 32 03.8	-0.1
BHHZ	**Black Hill Sta**	**2.58**	**206**	PN	Pn	21 32 03.0	-1.2
BHHZ	**Black Hill Sta**	**2.58**	**206**	Pn	Pn	21 32 03.0	-1.2
FWVZ	**Far West T-bar**	**2.59**	**216**	PN	Pn	21 32 04.1	-0.3
FWVZ	**Far West T-bar**	**2.59**	**216**	Pn	Pn	21 32 04.1	-0.3
MOVZ	**Moawhango**	**2.63**	**211**	PN	Pn	21 32 03.5	-1.3
MOVZ	**Moawhango**	**2.63**	**211**	Pn	Pn	21 32 03.5	-1.3
WNVZ	**Wahianoa**	**2.63**	**215**	PN	Pn	21 32 04.2	-0.6
WNVZ	**Wahianoa**	**2.63**	**215**	Pn	Pn	21 32 04.2	-0.6
KAHZ	**Kahuranaki**	**2.67**	**191**	PN	Pn	21 32 04.0	-1.3
KAHZ	**Kahuranaki**	**2.67**	**191**	Pn	Pn	21 32 04.0	-1.3
PXZ	**Pawanui**	**2.90**	**190**	PN	Pn	21 32 06.3	-2.0
PXZ	**Pawanui**	**2.90**	**190**	Pn	Pn	21 32 06.3	-2.0
PNHZ	**Pukenui**	**2.93**	**200**	PN	Pn	21 32 06.4	-2.2
PNHZ	**Pukenui**	**2.93**	**200**	Pn	Pn	21 32 06.4	-2.2
WPHZ	**Waipukurau**	**3.01**	**196**	PN	Pn	21 32 07.8	-2.0
WPHZ	**Waipukurau**	**3.01**	**196**	Pn	Pn	21 32 07.8	-2.0
TSZ	**Takapari Road**	**3.13**	**203**	PN	Pn	21 32 08.8	-2.5
TSZ	**Takapari Road**	**3.13**	**203**	Pn	Pn	21 32 08.8	-2.5
PRHZ	**Porangahau**	**3.17**	**192**	PN	Pn	21 32 09.4	-2.3
PRHZ	**Porangahau**	**3.17**	**192**	Pn	Pn	21 32 09.4	-2.3
DVHZ	**Dannevirke**	**3.30**	**198**	PN	Pn	21 32 10.7	-2.8
DVHZ	**Dannevirke**	**3.30**	**198**	Pn	Pn	21 32 10.7	-2.8
POWZ	**Post Office Ro**	**3.50**	**203**	PN	Pn	21 32 13.7	-2.4
POWZ	**Post Office Ro**	**3.50**	**203**	Pn	Pn	21 32 13.7	-2.4
BFZ	**Birch Farm**	**3.64**	**195**	Pn	Pn	21 32 14.3	-3.7
MRZ	**Mangatainoka R**	**3.80**	**203**	PN	Pn	21 32 16.9	-3.2
MRZ	**Mangatainoka R**	**3.80**	**203**	Pn	Pn	21 32 16.9	-3.2
TIWZ	**Tintock**	**3.82**	**199**	PN	Pn	21 32 17.5	-2.8
TIWZ	**Tintock**	**3.82**	**199**	Pn	Pn	21 32 17.6	-2.8
HOWZ	**Holdsworth Sta**	**4.04**	**202**	PN	Pn	21 32 19.4	-3.9
HOWZ	**Holdsworth Sta**	**4.04**	**202**	Pn	Pn	21 32 19.4	-3.9
OGWZ	**Otaki Gorge**	**4.08**	**206**	PN	Pn	21 32 20.4	-3.3
OGWZ	**Otaki Gorge**	**4.08**	**206**	Pn	Pn	21 32 20.4	-3.3
TMWZ	**Te Maipa**	**4.13**	**197**	PN	Pn	21 32 21.0	-3.5
TMWZ	**Te Maipa**	**4.13**	**197**	Pn	Pn	21 32 21.0	-3.5
KIW	**Kapiti Island**	**4.21**	**208**	PN	Pn	21 32 22.1	-3.5
KIW	**Kapiti Island**	**4.21**	**208**	Pn	Pn	21 32 22.1	-3.5
MTW	**Mount Morrison**	**4.28**	**201**	PN	Pn	21 32 22.3	-4.2
MTW	**Mount Morrison**	**4.28**	**201**	Pn	Pn	21 32 22.3	-4.2
CAW	**Cannon Point**	**4.37**	**205**	PN	Pn	21 32 23.4	-4.3
CAW	**Cannon Point**	**4.37**	**205**	Pn	Pn	21 32 23.4	-4.3
TRWZ	**Traveller**	**4.45**	**198**	PN	Pn	21 32 25.0	-3.8
TRWZ	**Traveller**	**4.45**	**198**	Pn	Pn	21 32 25.0	-3.8
MSWZ	**Moikau Station**	**4.59**	**202**	PN	Pn	21 32 26.1	-4.5
MSWZ	**Moikau Station**	**4.59**	**202**	Pn	Pn	21 32 26.1	-4.5
PLWZ	**Palliser**	**4.73**	**201**	PN	Pn	21 32 27.9	-4.6
PLWZ	**Palliser**	**4.73**	**201**	Pn	Pn	21 32 27.9	-4.6
THZ	**Tophouse**	**5.81**	**217**	PN	Pn	21 32 43.3	-3.7
THZ	**Tophouse**	**5.81**	**217**	Pn	Pn	21 32 43.3	-3.7
KHZ	**Kahutara**	**6.07**	**209**	*e*Pn	Pn	21 32 46.4	-4.1
KHZ				*e*Sn	Sn	21 33 51.7	-7.0
CTZ	**Chatham Island**	**7.93**	**148**	PN	Pn	21 33 18.0	+2.5
CTZ	**Chatham Island**	**7.93**	**148**	Pn	Pn	21 33 18.0	+2.5

IDC ***05*** *21:57:01.9±0.7, 51°.45N×179°.55W, h0km, mb3.4/9, mb1 3.8/11, mb1mx3.7/28, mbtmp3.6/11, ML3.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/38, Error ellipse: s-maj=23.3km s-min=11.1km az=2.0*

ISCJB ***05*** *21:57:02.9±1.2, 51°.6N±0°.1×179°.74W±0°.06, h17km±8km, mb3.4/9, Error ellipse: s-maj=22.2km s-min=6.5km az=179.1*

NEIC ***05*** *21:57:02.7, 51°.72N×179°.76W, h11km, ML3.5(AEIC), After AEIC.*

ISC 05 21:57:02.4±1.3, 51°.6N±0°.1×179°.68W±0°.06, h4km±7km, n34, σ0°53/34, mb3.4/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.60**	**70**	P	**Pg**	**21 57 14.7**	**+0.8**
TASE	**Tanaga Southea**	**1.06**	**75**	P	**Pg**	**21 57 22.9**	**+0.2**
TAFP	**Tanaga Falls P**	**1.11**	**72**	P	**Pg**	**21 57 23.0**	**-0.6**
TAFP				S	**Sg**	**21 57 38.0**	**0.0**
TAPA	**Tanaga Point A**	**1.19**	**77**	P	**Pg**	**21 57 24.6**	**-0.6**
KIMD	**Kanaga Island**	**1.54**	**82**	P	**Pn**	**21 57 30.2**	**-0.4**
KIKV	**Kanaga Island**	**1.59**	**78**	P	**Pn**	**21 57 30.9**	**-0.5**
KIKV				S	**Sn**	**21 57 52.4**	**+0.1**
GSTD	**Great Sitkin T**	**2.25**	**76**	P	**Pn**	**21 57 40.9**	**+0.5**
GSTD				S	**Sn**	**21 58 08.8**	**+0.2**
FX1	**Attu Island--F**	**4.59**	**289**	Pn	**Pn**	**21 58 13.8**	**+1.2**

2.3nm,0.3s,baz=100,slow=6.1,SNR=4.9

FX1				Sn	**Sn**	**21 59 05.7**	**-0.6**

3.2nm,0.3s,baz=274,slow=19,SNR=3.2

FX1	**Attu Island--F**	**4.59**	**289**	Pn	**Pn**	**21 58 13.8**	**+1.2**
FX1				Sn	**Sn**	**21 59 05.7**	**-0.6**
KDAK	**Kodiak Island**	**16.79**	**58**	Pn	**Pn**	**22 00 57.9**	**-0.2**

0.1nm,0.3s,baz=291,slow=8.6,SNR=2.3

KDAK	**Kodiak Island**	**16.79**	**58**	Pn	**Pn**	**22 00 57.9**	**-0.2**
ILAR	**Eielson Array**	**21.45**	**39**	P	**P**	**22 01 50.8**	**-0.4**

1.0nm,1.1s,mb3.1,baz=238,slow=8.5,SNR=9.6

ILAR	**Eielson Array**	**21.45**	**39**	P	**P**	**22 01 50.8**	**-0.4**
YKA	**Yellowknife Ar**	**35.50**	**46**	P	**P**	**22 04 00.4**	**+0.7**

0.6nm,0.6s,mb3.7,baz=282,slow=8.1,SNR=3.3

YKA	**Yellowknife Ar**	**35.50**	**46**	P	**P**	**22 04 00.4**	**+0.7**
KSRS	**Korea Array**	**39.09**	**270**	LR	LR	22 20 00.8	

comp=Z,32nm,18.0s,baz=110,slow=35

NVAR	**Mina Array Bea**	**44.08**	**82**	P	**P**	**22 05 11.9**	**+0.7**

0.4nm,0.7s,mb3.2,baz=291,slow=5.4,SNR=2.9

NVAR	**Mina Array Bea**	**44.08**	**82**	P	**P**	**22 05 11.9**	**+0.7**
SONM	**Songino Array**	**46.07**	**296**	P	**P**	**22 05 26.6**	**-0.4**

0.3nm,0.8s,mb3.3,baz=64,slow=6.7,SNR=6.3

SONM	**Songino Array**	**46.07**	**296**	P	**P**	**22 05 26.6**	**-0.4**
PDAR	**Pinedale Array**	**46.78**	**72**	P	**P**	**22 05 32.6**	**0.0**

0.2nm,0.5s,mb3.3,baz=282,slow=4.4,SNR=3.3

PDAR	**Pinedale Array**	**46.78**	**72**	P	**P**	**22 05 32.6**	**0.0**
TXAR	**Lajitas Array**	**59.17**	**81**	P	**P**	**22 07 03.9**	**-0.4**

0.2nm,0.6s,mb3.3,baz=327,slow=6.5,SNR=3.3

TXAR				PcP	PcP	22 07 52.1	-0.7

0.4nm,0.8s,baz=298,slow=1.9,SNR=3.4

TXAR	**Lajitas Array**	**59.17**	**81**	P	**P**	**22 07 03.9**	**-0.4**
TXAR				PcP	PcP	22 07 52.1	-0.7
WRA	**Warramunga Arr**	**81.77**	**223**	P	**P**	**22 09 21.4**	**-0.8**

0.4nm,1.0s,mb3.3,baz=33,slow=5.9,SNR=3.2

WRA	**Warramunga Arr**	**81.77**	**223**	P	**P**	**22 09 21.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**84.15**	**231**	P	**P**	**22 09 34.8**	**+0.2**

1.0nm,0.9s,mb3.9,baz=16,slow=7.4,SNR=4.5

FITZ	**Fitzroy Crossi**	**84.15**	**231**	P	**P**	**22 09 34.8**	**+0.2**
ASAR	**Alice Springs**	**85.25**	**222**	P	**P**	**22 09 40.5**	**+0.4**

0.3nm,0.7s,mb3.6,baz=22,slow=6.0,SNR=3.1

ASAR	**Alice Springs**	**85.25**	**222**	P	**P**	**22 09 40.5**	**+0.4**
MAW	**Mawson**	**146.29**	**218**	PKPbc	PKPbc	22 16 43.6	+0.8

2.2nm,0.9s,baz=90,slow=10,SNR=3.5

MAW	**Mawson**	**146.29**	**218**	PKPbc	PKPbc	22 16 43.6	+0.8
BOSA	**Boshof**	**150.44**	**311**	PKPbc	PKPbc	22 16 53.9	-1.0

1.6nm,0.8s,baz=342,slow=3.2,SNR=3.4

BOSA	**Boshof**	**150.44**	**311**	PKPbc	PKPbc	22 16 53.9	-1.0

ISCJB ***05*** *22:21:47.8±0.9, 38°.84N±0°.04×26°.64E±0°.06, h22km±9km, Error ellipse: s-maj=7.3km s-min=6.6km az=178.7*

ATH ***05*** *22:21:47.8, 38°.82N×26°.69E, h26km±6km, MD3.0/3*

DDA ***05*** *22:21:47.6, 38°.84N×26°.75E, h6km±6km, Md2.7*

CSEM ***05*** *22:21:48.6±0.4, 38°.89N×26°.57E, h40km, MD2.7, Error ellipse: s-maj=13.4km s-min=9.8km az=126.0*

ISC 05 22:21:47.9±0.7, 38°.81N±0°.04×26°.73E±0°.05, h13km±6km, n13, σ0°82/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.50**	**356**	*i* P	**Pg**	**22 21 56.8**	**-0.9**
AYVA				*i* S	**Sg**	**22 22 04.6**	**+0.3**
AYVA	**Ayvalik**	**0.50**	**356**	*i* P	**Pg**	**22 21 56.8**	**-0.9**
AYVA				*i* S	**Sg**	**22 22 04.6**	**+0.2**
PRK	**Paraskevi**	**0.56**	**320**	*e*PN	**Pg**	**22 21 58.7**	**-0.3**
PRK				*e*SN	**Sg**	**22 22 07.2**	**+0.8**
PRK	**Paraskevi**	**0.56**	**320**	*e*Pn	**Pg**	**22 21 58.4**	**-0.6**
PRK				*e*Sn	**Sg**	**22 22 07.2**	**+0.8**
CHOS	**Chios island**	**0.68**	**232**	*e*PN	**Pn**	**22 22 01.2**	**-2.1**
CHOS				*e*SN	**Sg**	**22 22 10.6**	**+0.5**
CHOS	**Chios island**	**0.68**	**232**	*e*Pn	**Pn**	**22 22 01.2**	**-2.1**
CHOS				*e*Sn	**Sg**	**22 22 10.6**	**+0.5**
AKHS	**Akhisar**	**0.85**	**85**	*i* P	**Pg**	**22 22 04.4**	**+0.1**
AKHS				*i* S	**Sg**	**22 22 15.1**	**-0.2**
AKHS	**Akhisar**	**0.85**	**85**	*i* P	**Pg**	**22 22 04.4**	**+0.1**
SMG	**Samos**	**1.10**	**176**	*e*PN	**Pn**	**22 22 09.2**	**+0.1**
SMG				*e*SN	**Sn**	**22 22 25.0**	**+0.8**
BALY	**Balya**	**1.15**	**36**	*i* P	**Pb**	**22 22 09.3**	**-0.5**
BALY				*i* S	**Sb**	**22 22 25.6**	**+1.0**
BALY	**Balya**	**1.15**	**36**	*i* P	**Pb**	**22 22 09.3**	**-0.5**
BALY				*i* S	**Sb**	**22 22 25.6**	**+1.0**
DURS	**Dursunbey**	**1.56**	**59**	*i* P	**Pn**	**22 22 16.6**	**+1.1**
DURS				*i* S	**Sn**	**22 22 34.8**	**-0.8**
DURS	**Dursunbey**	**1.56**	**59**	*i* P	**Pn**	**22 22 16.5**	**+1.1**
DURS				*i* S	**Sn**	**22 22 34.8**	**-0.8**

ISCJB ***05*** *22:23:24.5±1.0, 30°.4S±0°.1×65°.4W±0°.1, h193km±14km, mb3.6/4, Error ellipse: s-maj=17.4km s-min=13.6km az=30.1*

NEIC ***05*** *22:23:25.6±1.0, 30°.42S×65°.38W, h186km±12km, mb4.1/3, Error ellipse: s-maj=17.3km s-min=13.9km az=63.0*

IDC ***05*** *22:23:30.7±6.2, 30°.49S×64°.70W, h209km±43km, mb3.5/4, mb1 3.4/5, mb1mx3.3/15, mbtmp3.4/5, Error ellipse: s-maj=68.6km s-min=24.2km az=100.0*

ISC 05 22:23:25.4±0.9, 30°.4S±0°.1×65°.4W±0°.1, h185km±14km, n17, σ0°79/15, mb3.7/4, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**4.86**	**285**	*e*P	**Pn**	**22 24 38.7**	**+1.1**
LCO				*e*S	**Sn**	**22 25 33.8**	**-0.4**
TRQA	**Tornquist**	**8.13**	**161**	*e*Pn	**Pn**	**22 25 19.4**	**-0.8**
CPUP	**Villa Florida**	**8.15**	**62**	P	**Pn**	**22 25 19.9**	**-0.6**

0.3nm,0.3s,baz=224,slow=12,SNR=5.2

CPUP	**Villa Florida**	**8.15**	**62**	*e*P	**Pn**	**22 25 22.4**	**+1.8**
LPAZ	**La Paz**	**14.28**	**349**	*e*P	**Pn**	**22 26 38.7**	**-0.7**

7.5nm,0.7s

LPAZ				*e*S	**Sn**	**22 29 25.8**	**+7.1**
SNAA	**Sanae**	**52.86**	**159**	P	**P**	**22 32 22.3**	**+0.7**

0.2nm,0.4s,mb3.2,baz=312,slow=14,SNR=4.7

SNAA	**Sanae**	**52.86**	**159**	P	**P**	**22 32 22.3**	**+0.7**
DBIC	**Dimbokro**	**68.62**	**68**	P	**P**	**22 34 09.2**	**+0.4**

7.2nm,1.1s,mb4.3,baz=193,slow=6.5,SNR=8.8

DBIC	**Dimbokro**	**68.62**	**68**	*e*P	**P**	**22 34 09.3**	**+0.5**

1.6nm,0.4s,mb4.1

BOSA	**Boshof**	**76.59**	**115**	P	**P**	**22 34 55.7**	**0.0**

1.2nm,0.3s,mb3.9,baz=238,slow=6.7,SNR=7.8

BOSA	**Boshof**	**76.59**	**115**	*e*P	**P**	**22 34 55.7**	**0.0**

0.9nm,0.4s,mb3.8

TORD	**Torodi Ar. Bea**	**77.62**	**67**	P	**P**	**22 35 00.7**	**-0.8**

0.6nm,0.3s,mb3.7,baz=264,slow=5.4,SNR=14

TORD	**Torodi Ar. Bea**	**77.62**	**67**	P	**P**	**22 35 00.7**	**-0.8**
KURK	**Kurchatov**	**146.39**	**43**	PKPbc	PKPbc	22 42 45.3	+1.2

0.5nm,0.5s,baz=307,slow=3.7,SNR=5.8

KURK	**Kurchatov**	**146.39**	**43**	PKPbc	PKPbc	22 42 45.3	+1.2
MKAR	**Makanchi Array**	**150.14**	**48**	PKPbc	PKPbc	22 42 54.9	+0.9

0.2nm,0.6s,baz=329,slow=2.3,SNR=4.1

MKAR				PKPab	PKPab	22 43 01.2	+0.6
MKAR	**Makanchi Array**	**150.14**	**48**	PKPbc	PKPbc	22 42 54.9	+0.9
MKAR				PKPab	PKPab	22 43 01.2	+0.6

DDA ***05*** *22:26:07.8, 35°.90N×26°.53E, h6km±1km, Md3.3*

ISCJB ***05*** *22:26:08.9±0.2, 35°.58N±0°.02×26°.61E±0°.02, h62km±5km, mb3.4/7, Error ellipse: s-maj=2.8km s-min=2.5km az=9.7*

ISK ***05*** *22:26:09.2, 35°.84N×26°.58E, h10km, ML3.6*

ATH ***05*** *22:26:09.6, 35°.71N×26°.59E, h43km±1km, ML3.4*

NEIC ***05*** *22:26:09.6, 35°.71N×26°.59E, h44km, MG3.4(ATH), After ATH.*

NEIC Felt on Karpathos.

IDC ***05*** *22:26:10.9±2.5, 35°.52N×26°.68E, h52km±26km, mb3.3/7, mb1 3.5/12, mb1mx3.3/28, mbtmp3.4/12, ML3.6/5, Error ellipse: s-maj=21.1km s-min=13.6km az=150.0*

CSEM ***05*** *22:26:10.4±0.1, 35°.58N×26°.61E, h49km±2km, ML3.4, Error ellipse: s-maj=2.6km s-min=2.1km az=42.0*

THE ***05*** *22:26:11.8, 35°.68N×26°.58E, h30km±12km, ML3.9/4, Error ellipse: s-maj=12.2km s-min=1.1km az=128.0*

HLW ***05*** *22:26:15.1, 35°.46N×26°.86E, h34km±17km, Md3.4, Ml3.4*

ISC 05 22:26:10.6±0.2, 35°.60N±0°.02×26°.60E±0°.02, h47km±6km, n263, σ1°11/338, mb3.4/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.46**	**97**	*e*P	**Pn**	**22 26 21.4**	**+0.2**
KARP				*e*S	**Sn**	**22 26 28.9**	**+0.1**
KARP	**Karpathos**	**0.46**	**97**	P	**Pn**	**22 26 21.6**	**+0.4**
KARP				S	**Sn**	**22 26 28.8**	**0.0**
KARP	**Karpathos**	**0.46**	**97**	*e*P	**Pn**	**22 26 21.4**	**+0.2**
KARP				*e*S	**Sn**	**22 26 28.9**	**+0.1**
NPS	**Neapolis**	**0.87**	**247**	*e*P	**Pn**	**22 26 27.1**	**+0.6**
NPS				*e*S	**Sn**	**22 26 38.9**	**+0.8**
NPS	**Neapolis**	**0.87**	**247**	P	**Pn**	**22 26 27.1**	**+0.6**
NPS				S	**Sn**	**22 26 38.4**	**+0.3**
NPS	**Neapolis**	**0.87**	**247**	*e*P	**Pn**	**22 26 27.1**	**+0.6**
NPS				*e*S	**Sn**	**22 26 38.9**	**+0.8**
NIS1	**Nisyros Isl.**	**1.10**	**25**	P	**Pn**	**22 26 28.9**	**-0.7**
NIS1	**Nisyros Isl.**	**1.10**	**25**	P	**Pn**	**22 26 28.9**	**-0.7**
THR1	**Thera Island**	**1.20**	**310**	P	**Pn**	**22 26 30.4**	**-0.5**
THR1	**Thera Island**	**1.20**	**310**	P	**Pn**	**22 26 30.4**	**-0.5**
THR3	**Thira Island,**	**1.26**	**310**	P	**Pn**	**22 26 31.4**	**-0.3**
THR3	**Thira Island,**	**1.26**	**310**	P	**Pn**	**22 26 31.4**	**-0.3**
THR2	**Thira island,**	**1.26**	**312**	P	**Pn**	**22 26 31.3**	**-0.5**
THR2	**Thira island,**	**1.26**	**312**	P	**Pn**	**22 26 31.3**	**-0.5**
DAT	**Datca**	**1.38**	**35**	*e*PN	**Pn**	**22 26 32.7**	**-0.7**
DAT	**Datca**	**1.38**	**35**	*e*Pn	**Pn**	**22 26 32.7**	**-0.6**
ARG	**Arkhangelos**	**1.39**	**63**	*e*P	**Pn**	**22 26 33.5**	**+0.1**
ARG				*e*S	**Sn**	**22 26 50.5**	**-0.1**
ARG	**Arkhangelos**	**1.39**	**63**	P	**Pn**	**22 26 33.8**	**+0.4**
ARG				S	**Sn**	**22 26 50.3**	**-0.3**
ARG	**Arkhangelos**	**1.39**	**63**	*e*P	**Pn**	**22 26 33.8**	**+0.4**
ARG				*e*S	**Sn**	**22 26 50.5**	**-0.1**
IDI	**Anoyia**	**1.43**	**258**	*e*P	**Pn**	**22 26 34.2**	**+0.2**
IDI				*e*S	**Sn**	**22 26 52.6**	**+1.0**
IDI	**Anoyia**	**1.43**	**258**	P	**Pn**	**22 26 34.5**	**+0.5**
IDI				S	**Sn**	**22 26 50.7**	**-0.9**
IDI	**Anoyia**	**1.43**	**258**	*e*P	**Pn**	**22 26 33.3**	**-0.7**
IDI				*e*S	**Sn**	**22 26 51.1**	**-0.5**
IDI	**Anoyia**	**1.43**	**258**	P	**Pn**	**22 26 34.5**	**+0.5**
IDI				*e*S	**Sn**

VIL1	Vilia, Western	3.66	315	eP	Pn	22 27 04.7 0.0
BCK	Bucak	3.71	59	ePN	Pn	22 27 06.5 +1.2
BCK	Bucak	3.71	59	ePn	Pn	22 27 06.6 +1.3
LTK	Loutraki	3.79	311	eP	Pn	22 27 06.7 +0.4
LTK	Loutraki	3.79	311	eP	Pn	22 27 07.0 +0.7
VLX	Vlachokerasia	3.83	299	eP	Pn	22 27 07.2 +0.3
VLX				eS	Sn	22 27 50.0 -0.7
VLX	Vlachokerasia	3.83	299	P	Pn	22 27 08.5 +1.6
VLX	Vlachokerasia	3.83	299	eP	Pn	22 27 07.2 +0.3
VLX				eS	Sn	22 27 50.2 -0.5
ITM	Ithomi	4.08	294	eP	Pn	22 27 11.1 +0.7
ITM	Ithomi	4.08	294	eP	Pn	22 27 12.1 +1.7
PYL	PYLOS	4.13	290	eP	Pn	22 27 12.2 +1.1
PYL	PYLOS	4.13	290	eP	Pn	22 27 12.6 +1.5
GUR	Goura	4.13	306	eP	Pn	22 27 11.7 +0.6
GUR	Goura	4.13	306	P	Pn	22 27 12.5 +1.4
GUR	Goura	4.13	306	eP	Pn	22 27 11.7 +0.6
LKR	Lokris	4.19	318	eP	Pn	22 27 12.6 +0.8
LKR	Lokris	4.19	318	eP	Pn	22 27 12.6 +0.8
SLUM		4.26	196	P	Pn	22 27 15.6 +2.8
	baz=200					
SLUM		4.26	196	P	Pn	22 27 15.6 +2.7
DST	Dursunbey	4.31	21	ePN	Pn	22 27 13.8 +0.3
DST	Dursunbey	4.31	21	ePn	Pn	22 27 13.8 +0.3
SHUT	Suhut-Afyon	4.32	46	ePN	Pn	22 27 14.4 +0.7
SHUT	Suhut-Afyon	4.32	46	ePn	Pn	22 27 14.4 +0.7
LIA	Limnos Island	4.43	346	eP	Pn	22 27 14.8 -0.4
LIA				eS	Sn	22 28 03.2 -2.3
LIA	Limnos Island	4.43	346	eP	Pn	22 27 14.8 -0.4
ALT	Altintas	4.44	38	ePN	Pn	22 27 15.9 +0.5
ALT	Altintas	4.44	38	ePn	Pn	22 27 15.9 +0.6
HMAT	Matruh	4.51	175	P	Pn	22 27 17.8 +1.4
	baz=177					
HMAT				S	Sn	22 28 05.1 -2.5
	baz=177					
HMAT	Matruh	4.51	175	P	Pn	22 27 14.7 -1.7
HMAT				S	Sn	22 28 05.1 -2.5
GONE	Gonen-Balikesi	4.52	11	ePN	Pn	22 27 16.5 +0.1
GONE	Gonen-Balikesi	4.52	11	ePn	Pn	22 27 16.5 +0.1
NEO	Neokhori	4.57	325	eP	Pn	22 27 17.7 +0.6
NEO	Neokhori	4.57	325	eP	Pn	22 27 18.0 +0.9
GAZI	Gazipasa	4.69	81	i P	Pn	22 27 19.5 +0.8
GAZI				i S	Sn	22 28 08.0 -3.7
GAZI	Gazipasa	4.69	81	i P	Pn	22 27 19.5 +0.8
GAZI				i S	Sn	22 28 08.0 -3.7
EFP	Efpalio	4.70	308	eP	Pn	22 27 19.7 +0.9
EFP	Efpalio	4.70	308	eP	Pn	22 27 19.7 +0.9
LPK	Lapseki	4.76	2	ePN	Pn	22 27 20.1 +0.3
LPK	Lapseki	4.76	2	ePn	Pn	22 27 20.1 +0.3
GELI	Tayfur-Gelibol	4.79	359	ePN	Pn	22 27 20.1 0.0
GELI	Tayfur-Gelibol	4.79	359	ePn	Pn	22 27 20.1 0.0
RLS	Riolos of Patr	4.79	302	eP	Pn	22 27 20.7 +0.6
RLS	Riolos of Patr	4.79	302	eP	Pn	22 27 20.7 +0.6
KRBG	Karabiga-Canak	4.82	6	ePN	Pn	22 27 20.8 +0.3
KRBG	Karabiga-Canak	4.82	6	ePn	Pn	22 27 20.8 +0.3
AGG	Agios Georgios	4.82	316	eP	Pn	22 27 21.1 +0.6
AGG	Agios Georgios	4.82	316	eP	Pn	22 27 21.1 +0.6
HDMB	Hadim	4.95	72	ePN	Pn	22 27 24.7 +2.4
HDMB	Hadim	4.95	72	ePn	Pn	22 27 24.7 +2.4
EVR	Evrytania	5.05	312	eP	Pn	22 27 24.6 +0.9
EVR	Evrytania	5.05	312	eP	Pn	22 27 24.6 +0.9
ERIK	Erikli-Kesan	5.06	359	ePN	Pn	22 27 24.3 +0.4
ERIK	Erikli-Kesan	5.06	359	ePn	Pn	22 27 24.3 +0.5
LEF	Lefka	5.17	94	ePN	Pn	22 27 29.2 +3.9
LEF	Lefka	5.17	94	ePn	Pn	22 27 29.2 +3.9
KONT	Konya--Tatoy	5.18	61	ePN	Pn	22 27 27.6 +2.0
KONT	Konya--Tatoy	5.18	61	ePn	Pn	22 27 27.6 +2.1
ALN	Alexandroupoli	5.30	355	eP	Pn	22 27 27.0 -0.2
ALN	Alexandroupoli	5.30	355	eP	Pn	22 27 27.0 -0.2
KIZT	Kizilcal	5.34	51	ePN	Pn	22 27 29.4 +1.8
KIZT	Kizilcal	5.34	51	ePn	Pn	22 27 29.4 +1.8
PLG	Polygyros	5.38	333	eP	Pn	22 27 28.4 +0.3
PLG	Polygyros	5.38	333	eP	Pn	22 27 28.4 +0.3
THL	Klokotos Trika	5.38	319	eP	Pn	22 27 28.9 +0.8
THL	Klokotos Trika	5.38	319	eP	Pn	22 27 28.9 +0.8
VLS	Valsamata	5.46	300	eP	Pn	22 27 29.8 +0.5
VLS	Valsamata	5.46	300	eP	Pn	22 27 29.8 +0.5
LIT	Litokhoron	5.54	325	eP	Pn	22 27 30.9 +0.4
LIT	Litokhoron	5.54	325	eP	Pn	22 27 30.9 +0.4
CSS	Prodhromos	5.54	95	ePN	Pn	22 27 34.9 +4.4
LFK	Lefkose	5.67	91	ePN	Pn	22 27 36.2 +4.0
HBRG	Burj al 'Arab	5.70	151	P	Pn	22 27 33.1 +0.4
	baz=152					
GULT	Gulveren	5.73	32	ePN	Pn	22 27 34.3 +1.3
GULT	Gulveren	5.73	32	ePn	Pn	22 27 34.3 +1.3
EDRB	Edirne	6.24	1	ePN	Pn	22 27 41.1 +1.1
EDRB	Edirne	6.24	1	ePn	Pn	22 27 41.1 +1.1
SWA2		6.41	189	P	Pn	22 27 43.7 +1.3
	baz=192					
SWA2				S	Sn	22 28 51.6 -2.7
	baz=192					
SWA2		6.41	189	P	Pn	22 27 43.7 +1.3
SWA2				S	Sn	22 28 51.6 -2.7
AFSR	Af`ar-Bala (A	6.42	51	ePN	Pn	22 27 45.2 +2.7
HMYD	Mayadein	6.79	147	P	Pn	22 27 47.4 -0.2
	baz=148					
HMYD	Mayadein	6.79	147	P	Pn	22 27 47.4 -0.2
HNAT	Natroun	6.85	149	P	Pn	22 27 47.9 -0.5
	baz=150					
HNAT	Natroun	6.85	149	P	Pn	22 27 47.9 -0.5
SQR		6.89	145	P	Pn	22 27 48.5 -0.5
	baz=145					
SQR		6.89	145	P	Pn	22 27 48.5 -0.5
BR131	Keskin Array S	6.94	52	eP	Pn	22 27 48.9 -0.7
	1.6nm,0.4s					
BR131	Keskin Array S	6.94	52	eP	Pn	22 27 48.9 -0.7
	1.6nm,0.4s					
BRTR	Keskin Array B	6.94	52	P	Pn	22 27 50.9 +1.3
	0.8nm,0.3s,baz=213,slow=14,SNR=20					
BRTR				S	Sn	22 29 07.4 +0.3
	0.2nm,0.3s,baz=224,slow=24,SNR=4.5					
BRTR	Keskin Array B	6.94	52	P	Pn	22 27 50.9 +1.3
BRTR				S	Sn	22 29 07.4 +0.3
BRTR	Keskin Array B	6.94	52	P	Pn	22 27 50.8 +1.2
BRTR				S	Sn	22 29 07.4 +0.3
AYT	Al 'Ayyat	7.02	146	P	Pn	22 27 50.6 -0.2
	baz=146					
AYT	Al 'Ayyat	7.02	146	P	Pn	22 27 50.6 -0.2
KOT	Kottamia	7.17	141	P	Pn	22 27 52.0 -0.8
	baz=141					
KOT	Kottamia	7.17	141	P	Pn	22 27 52.0 -0.8
HSAF	As Saff	7.28	144	P	Pn	22 27 53.5 -0.9
	baz=144					
HSAF	As Saff	7.28	144	P	Pn	22 27 53.5 -0.9
HHAG	Hagoal	7.29	139	P	Pn	22 27 53.6 -0.9
	baz=139					
HHAG				S	Sn	22 29 09.4 -6.5
	baz=139					
HHAG	Hagoal	7.29	139	P	Pn	22 27 53.6 -0.9
GLL	Jalalah	7.39	143	P	Pn	22 27 55.2 -0.6
	baz=143					
GLL	Jalalah	7.39	143	P	Pn	22 27 55.2 -0.7
AMAG	Maghara	7.43	130	P	Pn	22 27 55.4 -1.0
	baz=130					
AMAG	Maghara	7.43	130	P	Pn	22 27 55.4 -1.0
AWBH		7.52	164	P	Pn	22 27 58.0 +0.4
	baz=165					
AWBH		7.52	164	P	Pn	22 27 58.0 +0.4
MMAI	Mount Meron Ar	7.73	107	P	Pn	22 27 58.9 -1.6
	2.2nm,0.3s,baz=305,slow=12,SNR=30					
MMAI				S	Sn	22 29 23.7 -2.9
	5.4nm,0.3s,baz=309,slow=22,SNR=15					
MMAI	Mount Meron Ar	7.73	107	P	Pn	22 27 58.9 -1.6
MMAI				S	Sn	22 29 23.7 -2.9
MMAI	Mount Meron Ar	7.73	107	P	Pn	22 27 58.8 -1.7
MMAI				S	Sn	22 29 23.7 -2.9
SUZ		7.78	136	P	Pn	22 28 00.5 -0.7
	baz=136					
SUZ		7.78	136	P	Pn	22 28 00.5 -0.7
ZAF		8.06	140	P	Pn	22 28 03.8 -1.2
	baz=140					
ZAF		8.06	140	P	Pn	22 28 03.8 -1.2
ZNM		8.16	138	P	Pn	22 28 05.5 -0.9
	baz=138					
ZNM		8.16	138	P	Pn	22 28 05.5 -0.9
HNKL	Nakhl	8.40	130	P	Pn	22 28 08.6 -1.1
	baz=130					
HNKL	Nakhl	8.40	130	P	Pn	22 28 08.6 -1.1
HFRF	Wahat Farafira	8.55	170	P	Pn	22 28 12.0 +0.3
	baz=171					
HFRF				AMP		22 29 00.0
	comp=E,20μm,0.7s,logA/T=4.4,baz=171					
HFRF				S	Sn	22 29 40.0 -6.9
	baz=171					
HFRF	Wahat Farafira	8.55	170	P	Pn	22 28 12.0 +0.2
GRB	Gharib	9.00	143	P	Pn	22 28 17.3 -0.6
	baz=143					
GRB	Gharib	9.00	143	P	Pn	22 28 17.3 -0.6
EIL	Elat	9.20	128	P	Pn	22 28 19.3 -1.3
	comp=E,1.0nm,0.3s,baz=343,slow=16,SNR=33					
EIL				S	Sn	22 29 55.7 -6.9
	comp=E,1.5nm,0.3s,baz=345,slow=12,SNR=7.2					
EIL	Elat	9.20	128	P	Pn	22 28 19.3 -1.3
EIL				S	Sn	22 29 55.7 -6.9
EIL	Elat	9.20	128	P	Pn	22 28 19.3 -1.3
ASF	Jabal al Asfar	9.22	109	P	Pn	22 28 21.8 +0.9
	comp=E,0.2nm,0.3s,baz=270,slow=19,SNR=5.5					
ASF				S	Sn	22 30 04.0 +0.8
	comp=E,0.2nm,0.3s,baz=329,slow=12,SNR=2.2					
ASF	Jabal al Asfar	9.22	109	P	Pn	22 28 21.8 +0.9
ASF				S	Sn	22 30 04.0 +0.8
HBST	Basata	9.37	131	P	Pn	22 28 21.9 -1.0
	baz=131					
HBST	Basata	9.37	131	P	Pn	22 28 21.9 -1.0
HKAT	Jabal Katrina	9.44	136	P	Pn	22 28 22.9 -1.1
	baz=136					
HKAT	Jabal Katrina	9.44	136	P	Pn	22 28 22.9 -1.0
TR1		9.82	138	P	Pn	22 28 27.9 -1.3
	baz=139					
TR1		9.82	138	P	Pn	22 28 27.9 -1.2
GERES	GERESS Array B	16.29	328	P	Pn	22 29 58.3 +2.5
	comp=E,0.1nm,0.3s,baz=141,slow=11,SNR=4.9					
GERES	GERESS Array B	16.29	328	P	Pn	22 29 58.3 +2.5
GERES	GERESS Array B	16.29	328	P	Pn	22 29 58.3 +2.5
ESDC	Sonseca Array	24.48	289	P	P	22 31 25.6 +0.5
	comp=E,0.1nm,0.3s,mb2.7,baz=82,slow=9.3,SNR=3.3					
ESDC	Sonseca Array	24.48	289	P	P	22 31 25.6 +0.5
ESDC	Sonseca Array	24.48	289	P	P	22 31 25.6 +0.5
TORD	Torodi Ar. Bea	31.68	231	P	P	22 32 30.6 +1.1
	comp=E,1.0nm,0.4s,mb4.0,baz=32,slow=8.9,SNR=27					
TORD	Torodi Ar. Bea	31.68	231	P	P	22 32 30.6 +1.1
TORD	Torodi Ar. Bea	31.68	231	P	P	22 32 30.6 +1.0
KURK	Kurchatov	39.99	51	P	P	22 33 40.1 -0.3
	comp=E,0.3nm,0.5s,mb3.3,baz=278,slow=8.8,SNR=2.4					
KURK	Kurchatov	39.99	51	P	P	22 33 40.1 -0.3
KURK	Kurchatov	39.99	51	P	P	22 33 40.1 -0.3
DBIC	Dimbokro	40.76	233	P	P	22 33 45.7 -1.5
	comp=E,2.7nm,0.8s,mb3.9,baz=27,slow=8.0,SNR=3.9					
DBIC	Dimbokro	40.76	233	P	P	22 33 45.7 -1.5
DBIC	Dimbokro	40.76	233	P	P	22 33 45.7 -1.4
MKAR	Makanchi Array	42.55	57	P	P	22 34 02.2 +0.8
	comp=E,0.2nm,0.4s,mb3.2,baz=273,slow=8.7,SNR=8.0					
MKAR	Makanchi Array	42.55	57	P	P	22 34 02.2 +0.8
MKAR	Makanchi Array	42.55	57	P	P	22 34 02.2 +0.8
ZALV	Zalesovo Beam	43.85	46	P	P	22 34 10.0 -1.9
	comp=E,0.3nm,0.4s,mb3.4,baz=274,slow=6.9,SNR=2.3					
ZALV	Zalesovo Beam	43.85	46	P	P	22 34 10.0 -1.9
ZALV	Zalesovo Beam	43.85	46	P	P	22 34 10.0 -1.8
SONM	Songino Array	58.30	51	P	P	22 36 01.0 +0.7
	comp=E,0.1nm,0.4s,mb3.2,baz=289,slow=8.2,SNR=2.4					
SONM	Songino Array	58.30	51	P	P	22 36 01.0 +0.7
SONM	Songino Array	58.30	51	P	P	22 36 01.0 +0.7

ISK ***05*** *22:34:21.0, 37.34N×35.77E, h30km, MD2.8*
ISCJB ***05*** *22:34:22.4±0.5, 37.40N±0.03×35.87E±0.04, h26km±4km, Error ellipse: s-maj=5.7km s-min=5.1km az=34.5*
DDA ***05*** *22:34:22.3, 37.40N×35.92E, h7km±5km, Md3.1*
CSEM ***05*** *22:34:22.1±0.4, 37.37N×35.84E, h26km±3km, MD2.8, Error ellipse: s-maj=9.6km s-min=8.1km az=125.0*
ISC 05 22:34:22.5±0.5, 37.38N±0.03×35.86E±0.04, h24km±4km, n27, σ1939/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.10	344	ePG	Pb	22 34 27.9	+0.9
KOZT				eSG	Sb	22 34 31.4	+1.3
CEYT	Ceyhan	0.38	194	ePG	Pb	22 34 28.8	-2.0
CEYT	Ceyhan	0.38	194	ePg	Pb	22 34 28.8	-2.0
ANDN	Andirin	0.43	63	i P	Pb	22 34 30.2	-1.3
ANDN				i S	Sb	22 34 35.9	-1.8
ANDN	Andirin	0.43	63	i P	Pb	22 34 30.2	-1.4
ANDN				i S	Sb	22 34 35.8	-1.9
GULE	Gulek	0.87	264	i P	Pb	22 34 39.2	+0.3
GULE				i S	Sb	22 34 51.4	+1.2
GULE	Gulek	0.87	264	i P	Pb	22 34 39.2	+0.3
GULE				i S	Sb	22 34 51.4	+1.2
KRTS	Karatas	0.90	206	ePG	Pb	22 34 36.9	-2.5
COBT	Iskenderun	0.92	160	i P	Pb	22 34 39.7	0.0
COBT				i S	Sb	22 34 53.5	+1.9
COBT	Iskenderun	0.92	160	i P	Pb	22 34 39.7	-0.1
COBT				i S	Sb	22 34 53.5	+2.0
GAZ	Gaziantep	1.10	101	ePN	Pn	22 34 41.8	-0.6
GAZ				eSN	Sn	22 34 56.7	0.0
GAZ	Gaziantep	1.10	101	ePn	Pn	22 34 41.8	-0.6
GAZ				eSn	Sn	22 34 56.7	-0.1
KUZU	Kuzuini	1.15	122	i P	Pn	22 34 43.5	+0.4
KUZU				i S	Sn	22 34 58.4	+0.4
KUZU	Kuzuini	1.15	122	i P	Pn	22 34 43.5	+0.5
KUZU				i S	Sn	22 34 58.4	+0.4
MERS	Mersin	1.19	245	ePN	Pn	22 34 41.2	-2.4
MERS	Mersin	1.19	245	ePn	Pn	22 34 41.3	-2.3
HTY	Hatay	1.28	170	ePN	Pn	22 34 42.7	-2.2
HTY	Hatay	1.28	170	ePn	Pn	22 34 42.7	-2.2
PINB	Pinarbasi	1.36	18	i P	Pn	22 34 47.0	+1.0
PINB				i S	Sn	22 35 03.9	+0.6
PINB	Pinarbasi	1.36	18	i P	Pn	22 34 47.0	+1.0
PINB				i S	Sn	22 35 03.9	+0.6
YAYL	Yayladag	1.36	172	i P	Pn	22 34 47.1	+1.1
YAYL				i S	Sn	22 35 06.0	+2.7
YAYL	Yayladag	1.36	172	i P	Pn	22 34 47.1	+1.1
YAYL				i S	Sn	22 35 06.0	+2.7
SARI	SarD1z-Kayseri	1.45	27	ePN	Pn	22 34 41.3	-5.9
BNN	Bunyan	1.47	360	ePN	Pn	22 34 45.7	-1.7
BNN	Bunyan	1.47	360	ePn	Pn	22 34 45.7	-1.8
AKCD	Akcadag	1.87	60	i P	Pn	22 34 54.5	+1.5
AKCD				i S	Sn	22 35 16.4	+0.5
AKCD	Akcadag	1.87	60	i P	Pn	22 34 54.5	+1.5
AKCD				i S	Sn	22 35 16.4	+0.6

NEIC ***05*** *22:37:42.0, 27.03N×53.33E, h36km, mb3.8/6, After TEH.*
TEH ***05*** *22:37:42.1, 27.03N×53.33E, h36km*
KISR ***05*** *22:37:43.4±0.5, 27.78N×53.22E, h34km, ML3.3*
ISCJB ***05*** *22:37:45.4±0.5, 27.27N±0.04×53.40E±0.03, h40km±6km, mb3.6/16, Error ellipse: s-maj=6.8km s-min=4.4km az=29.4*
CSEM ***05*** *22:37:47.3±0.2, 27.26N×53.43E, h43km±3km, ML4.0, Error ellipse: s-maj=7.2km s-min=4.8km az=31.0*
OMAN ***05*** *22:37:48.1±99.0, 27.00N×53.77E, h195km±141km, Error ellipse: s-maj=69.4km s-min=18.4km az=15.0*
IDC ***05*** *22:37:49.3±7.0, 27.35N×53.45E, h54km±60km, mb3.4/15, mb1 3.5/17, mb1mx3.4/32, mbtmp3.4/17, ML3.6/2, Error ellipse: s-maj=46.9km s-min=19.5km az=167.0*
ISC 05 22:37:47.4±0.5, 27.25N±0.04×53.42E±0.03, h43km±6km, n109, σ0976/123, mb3.6/16, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	2.78	85	ePn	Pn	22 38 27.7	-1.7
IBND				e		22 39 21.6	
	comp=Z,4μm,0.2s						
IBND	Bandar-abas	2.78	85	ePn	Pn	22 38 27.7	-1.7
NAZ	Nazwa, Dubai	3.02	138	P	Pn	22 38 32.8	+0.1
	SNR=19						
NAZ				⇑S	Sn	22 39 08.7	+1.1
NAZ	Nazwa, Dubai	3.02	138	P	Pn	22 38 32.8	+0.1
	SNR=19						
NAZ				S	Sn	22 39 08.7	+1.1
ASUD	Al Ashush, Dub	3.12	146	P	Pn	22 38 34.5	+0.4
	SNR=34						
ASUD	Al Ashush, Dub	3.12	146	P	Pn	22 38 34.5	+0.4
	SNR=34						
HATD	Hatta, Dubai	3.43	134	P	Pn	22 38 38.1	-0.2
	SNR=10						
HATD				⇑S	Sn	22 39 17.1	-0.6
HATD	Hatta, Dubai	3.43	134	P	Pn	22 38 38.1	-0.2
	SNR=10						
HATD				S	Sn	22 39 17.1	-0.6
IMEH	Mehriz	4.26	14	Pn	Pn	22 38 50.6	+0.9
IMEH				Sn	Sn	22 39 39.6	+1.4
IMEH	Mehriz	4.26	14	⇓ePn	Pn	22 38 50.6	+0.9
IMEH				e		22 38 52.2	
	comp=Z,2μm,0.1s						
IMEH				eSn	Sn	22 39 39.7	+1.5
ISAD	Sadrabad	4.66	3	Pn	Pn	22 38 55.9	+0.7
ISAD	Sadrabad	4.66	3	ePn	Pn	22 38 55.9	+0.7
ISAD				e		22 39 04.7	
	comp=Z,657nm,0.1s						
ISAD	Sadrabad	4.66	3	ePn	Pn	22 38 55.9	+0.7
IBAF	Bafgh	4.72	23	Pn	Pn	22 38 55.9	-0.1
IBAF	Bafgh	4.72	23	ePn	Pn	22 38 55.9	-0.1
IBAF				e		22 38 57.7	
	comp=Z,406nm,0.1s						
ICHK	Chekchek	5.05	9	Pn	Pn	22 39 00.8	+0.1
ICHK	Chekchek	5.05	9	ePn	Pn	22 39 00.9	+0.2
ICHK				e		22 39 02.3	
	comp=Z,1μm,0.2s						
ICHK	Chekchek	5.05	9	ePn	Pn	22 39 00.9	+0.2
IGAR	Gharneh	5.28	347	e	Pn	22 39 12.4	+8.6
	comp=Z,245nm,0.1s						
IGAR				ePn	Pn	22 39 03.5	-0.3
KBD	Kabd	5.41	292	eP	Pn	22 39 05.3	-0.2
KBD				eS	Sn	22 40 07.0	+0.4
KBD				AML	AML	22 40 09.3	
	comp=Z,22nm,0.3s						
KBD	Kabd	5.41	292	eP	Pn	22 39 05.3	-0.3
KBD				eS	Sn	22 40 07.0	+0.4
	comp=Z,22nm,0.3s						
RDF	Al-Radifah	5.45	289	eP	Pn	22 39 06.3	+0.1
RDF				eS	Sn	22 40 08.4	+0.8
RDF				AML	AML	22 40 11.2	
	comp=Z,33nm,0.6s						
RDF	Al-Radifah	5.45	289	eP	Pn	22 39 06.3	+0.2
RDF				eS	Sn	22 40 08.4	+0.8
	comp=Z,33nm,0.6s						
NAY	Al-Naaiem	5.81	292	eP	Pn	22 39 10.9	-0.1
NAY				eS	Sn	22 40 16.4	+0.1
NAY				AML	AML	22 40 18.9	
	comp=Z,8.5nm,0.4s						
NAY	Al-Naaiem	5.81	292	eP	Pn	22 39 10.9	-0.1
NAY				eS	Sn	22 40 16.4	+0.1
IKLH	Kolahrood	6.26	346	ePn	Pn	22 39 17.4	+0.2
IKLH				e		22 39 26.1	
	comp=Z,166nm,0.2s						
IKLH	Kolahrood	6.26	346	ePn	Pn	22 39 17.4	+0.2
IKOO	Kooshah	7.08	42	ePn	Pn	22 39 28.2	-0.3
IKOO				e		22 40 11.5	
	comp=Z,58nm,0.3s						
IKOO	Kooshah	7.08	42	ePn	Pn	22 39 28.2	-0.3
ISFB	Sefidab	7.16	352	ePn	Pn	22 39 28.8	-0.7
ISFB				e		22 39 46.8	
	comp=Z,88nm,0.1s						
ISFB	Sefidab	7.16	352	ePn	Pn	22 39 28.8	-0.7
IANJ	Anjilo	8.21	3	Pn	Pn	22 39 43.6	-0.3
IANJ	Anjilo	8.21	3	ePn	Pn	22 39 43.7	-0.2
IANJ	Anjilo	8.21	3	ePn	Pn	22 39 43.7	-0.2
IKOM	Komasi	8.58	325	ePn	Pn	22 39 47.3	-1.7
IKOM	Komasi	8.58	325	ePn	Pn	22 39 47.3	-1.7
IDHR	Dehrash	9.57	323	ePn	Pn	22 40 01.6	-1.0
IDHR				e		22 41 52.9	
	comp=Z,351nm,0.2s						
IDHR	Dehrash	9.57	323	ePn	Pn	22 40 01.6	-1.0
GNI	Garni	14.75	333	P	Pn	22 41 20.9	+7.8
	comp=Z,1.2nm,0.3s,baz=133,slow=2.7,SNR=7.9						
GNI	Garni	14.75	333	eP	Pn	22 41 18.0	+4.9
	comp=Z,5.8nm,0.5s						
GNI	Garni	14.75	333	eP	Pn	22 41 18.0	+4.9
	comp=Z,5.8nm,0.5s						
ASF	Jabal al Asfar	15.17	293	P	Pn	22 41 19.1	+0.3
	comp=Z,0.2nm,0.3s,baz=83,slow=17,SNR=7.4						
ASF				S	S	22 44 00.2	-21
	comp=Z,0.1nm,0.3s,baz=140,slow=6.8,SNR=4.2						
ASF	Jabal al Asfar	15.17	293	P	Pn	22 41 19.1	+0.3
ASF				S	S	22 44 00.2	-21
KBL	Kabul	15.24	58	eP	Pn	22 41 20.9	+1.2
	comp=Z,3.4nm,0.9s						
KBL				eS	S	22 44 03.8	-19
MMAI	Mount Meron Ar	16.61	295	P	Pn	22 41 36.9	-0.2
	comp=Z,0.3nm,0.3s,baz=93,slow=13,SNR=2.8						
MMAI	Mount Meron Ar	16.61	295	P	Pn	22 41 36.9	-0.2
MMAI	Mount Meron Ar	16.61	295	P	Pn	22 41 36.9	-0.3
NIL	Nilore	18.24	65	eP	Pn	22 41 57.2	-0.1
	comp=Z,8.2nm,0.9s						
NIL	Nilore	18.24	65	eP	Pn	22 41 57.2	-0.1
	comp=Z,8.2nm,0.9s						
KIV	Kislovodsk	18.79	335	eP	Pn	22 42 03.6	-0.3
	comp=Z,7.1nm,0.9s						
KIV	Kislovodsk	18.79	335	eP	Pn	22 42 03.6	-0.3
	comp=Z,7.1nm,0.9s						
CSS	Prodhromos	18.83	299	eP	Pn	22 42 02.8	-1.6
	comp=Z,32nm,1.6s						
CSS	Prodhromos	18.83	299	eP	Pn	22 42 02.8	-1.6
	comp=Z,32nm,1.6s						
BR131	Keskin Array S	20.62	312	eP	P	22 42 23.9	+0.9
	comp=Z,0.7nm,0.5s						
BR131	Keskin Array S	20.62	312	eP	P	22 42 23.9	+0.9
	comp=Z,0.7nm,0.5s						
BRTR	Keskin Array B	20.62	312	P	P	22 42 24.4	+1.4
	comp=Z,1.3nm,0.6s,baz=131,slow=12,SNR=12						
BRTR	Keskin Array B	20.62	312

TORD	**Torodi Ar. Bea**	**50.20**	**265**	P		**P**	**22 46 40.4**	**+1.1**
ILAR	**Eielson Array**	**86.93**	**9**	P		**P**	**22 50 26.8**	**-0.6**
	comp=Z,0.2nm,0.8ms,mb3.4,baz=326,slow=4.4,SNR=3.5							
ILAR	**Eielson Array**	**86.93**	**9**	P		**P**	**22 50 26.8**	**-0.6**
ILAR	**Eielson Array**	**86.93**	**9**	P		**P**	**22 50 26.8**	**-0.6**

*IDC **05** 22:44:07.7±1.4,26°.86N×55°.88E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.5/27,mbtmp3.8/6,Error ellipse: s-maj=33.2km s-min=31.0km az=167.0*
*NEIC **05** 22:44:12.0,26°.93N×56°.03E,h7km,MN3.1(TEH),After TEH.*
*TEH **05** 22:44:12.1,26°.93N×56°.03E,h7km*
ISC 05 22:44:09.0±3.7,26°.8N±0°.1×56°.1E±0°.1,h10km±21km,n21, σ0°.88/23,mb3.7/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.79**	**34**	*e*Pg	**Pg**	**22 44 24.7**	**+0.4**
IBND				*e*Sg	**Sg**	**22 44 33.8**	**-0.8**
IBND				*e*		22 44 45.9	
	comp=Z,18μm,0.3s						
IMEH	**Mehriz**	**4.75**	**345**	Pn	**Pn**	**22 45 22.2**	**+1.4**
IMEH	**Mehriz**	**4.75**	**345**	*e*Pn	**Pn**	**22 45 22.3**	**+1.5**
IMEH				*e*		22 46 21.7	
	comp=Z,174nm,0.2s						
IBAF	**Bafgh**	**4.80**	**355**	Pn	**Pn**	**22 45 22.1**	**+0.6**
IBAF	**Bafgh**	**4.80**	**355**	*e*Pn	**Pn**	**22 45 22.1**	**+0.6**
IBAF				*e*		22 45 32.2	
	comp=Z,135nm,0.2s						
IKLH	**Kolahrood**	**7.57**	**330**	Pn	**Pn**	**22 45 59.7**	**+0.2**
IKLH	**Kolahrood**	**7.57**	**330**	*e*Pn	**Pn**	**22 45 59.7**	**+0.2**
IKLH				*e*		22 46 07.8	
	comp=Z,50nm,0.1s						
ISFB	**Sefidab**	**8.22**	**337**	Pn	**Pn**	**22 46 09.1**	**+0.7**
ISFB	**Sefidab**	**8.22**	**337**	*e*	**Pn**	**22 46 13.6**	**+5.2**
	comp=Z,47nm,0.2s						
ISFB				*e*Pn	**Pn**	**22 46 09.1**	**+0.7**
ZALV	**Zalesovo Beam**	**34.44**	**30**	P	**P**	**22 50 56.7**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=235,slow=6.8,SNR=2.2						
ZALV	**Zalesovo Beam**	**34.44**	**30**	P	**P**	**22 50 56.7**	**+0.1**
FINES	**FINESS Array B**	**40.07**	**338**	P	**P**	**22 51 43.1**	**-1.2**
	comp=Z,2.0nm,0.9s,mb3.9,baz=140,slow=11,SNR=5.5						
FINES	**FINESS Array B**	**40.07**	**338**	P	**P**	**22 51 43.1**	**-1.2**
HFS	**Hagfors**	**44.05**	**331**	P	**P**	**22 52 15.4**	**-1.4**
	comp=Z,1.8nm,0.7s,mb3.9,baz=133,slow=10,SNR=5.1						
HFS	**Hagfors**	**44.05**	**331**	P	**P**	**22 52 15.4**	**-1.4**
ARCES	**ARCESS Array B**	**46.34**	**346**	P	**P**	**22 52 34.8**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.8,baz=138,slow=8.3,SNR=2.9						
ARCES	**ARCESS Array B**	**46.34**	**346**	P	**P**	**22 52 34.8**	**0.0**
TORD	**Torodi Ar. Bea**	**52.50**	**266**	P	**P**	**22 53 21.9**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=63,slow=7.7,SNR=15						
TORD	**Torodi Ar. Bea**	**52.50**	**266**	P	**P**	**22 53 21.9**	**-0.8**
WRA	**Warramunga Arr**	**88.93**	**113**	P	**P**	**22 57 05.3**	**+1.1**
	comp=Z,0.1nm,0.6s,mb3.3,baz=305,slow=4.5,SNR=5.1						
WRA	**Warramunga Arr**	**88.93**	**113**	P	**P**	**22 57 05.3**	**+1.1**

*DDA **05** 22:46:51.9,38°.50N×43°.69E,h7km±6km,Md2.9*
*ISK **05** 22:46:51.9,38°.47N×43°.71E,h5km,MD2.9*
*ISCJB **05** 22:46:52.9±0.8,38°.47N±0°.03×43°.69E±0°.06,h9km±6km, Error ellipse: s-maj=7.6km s-min=5.2km az=6.7*
*CSEM **05** 22:46:52.5±0.3,38°.48N×43°.71E,h5km,MD2.9,Error ellipse: s-maj=7.8km s-min=5.1km az=84.0*
ISC 05 22:46:53.2±0.7,38°.47N±0°.03×43°.68E±0°.06,h12km±6km, n20,σ0°.97/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.22**	**284**	*i* P	**Pg**	**22 46 56.0**	**-1.9**
TVAN				*i* S	**Sg**	**22 46 59.7**	**-1.4**
TVAN	**Van**	**0.22**	**284**	*i* P	**Pg**	**22 46 56.0**	**-1.9**
TVAN				*i* S	**Sg**	**22 46 59.7**	**-1.4**
VANB	**Van**	**0.26**	**298**	*e*PG	**Pg**	**22 46 58.0**	**-0.6**
VANB	**Van**	**0.26**	**298**	*e*Pg	**Pg**	**22 46 58.0**	**-0.5**
VANT	**Van**	**0.33**	**261**	*e*PG	**Pg**	**22 47 00.2**	**+0.4**
VANT				*e*SG	**Sg**	**22 47 06.6**	**+2.4**
VANT	**Van**	**0.33**	**261**	*e*Pg	**Pg**	**22 47 00.2**	**+0.4**
VANT				*e*Sg	**Sg**	**22 47 06.6**	**+2.4**
GEVA	**Gevas**	**0.51**	**252**	*i* P	**Pg**	**22 47 03.5**	**+0.3**
GEVA				*i* S	**Sg**	**22 47 11.1**	**+1.1**
GEVA	**Gevas**	**0.51**	**252**	*i* P	**Pg**	**22 47 03.5**	**+0.3**
GEVA				*i* S	**Sg**	**22 47 11.1**	**+1.1**
CLDR	**Caldiran**	**0.69**	**16**	*e*PG	**Pg**	**22 47 06.6**	**0.0**
CLDR				*e*SG	**Sg**	**22 47 17.5**	**+1.7**
CLDR	**Caldiran**	**0.69**	**16**	*e*Pg	**Pg**	**22 47 06.6**	**-0.1**
CLDR				*e*Sg	**Sg**	**22 47 17.5**	**+1.7**
HKR	**Hakkari**	**0.90**	**177**	*e*PG	**Pg**	**22 47 10.2**	**-0.3**
HKR	**Hakkari**	**0.90**	**177**	*e*Pg	**Pg**	**22 47 10.2**	**-0.3**
HAKT	**HAKKARI**	**0.92**	**179**	*i* P	**Pg**	**22 47 10.4**	**-0.4**
HAKT				*i* S	**Sg**	**22 47 22.6**	**-0.1**
HAKT	**HAKKARI**	**0.92**	**179**	*i* P	**Pg**	**22 47 10.4**	**-0.4**
HAKT				*i* S	**Sg**	**22 47 22.6**	**-0.2**
TUTA	**Tutak**	**1.15**	**324**	*i* P	**Pb**	**22 47 14.2**	**-0.7**
TUTA				*i* S	**Sb**	**22 47 29.2**	**-0.5**
TUTA	**Tutak**	**1.15**	**324**	*i* P	**Pb**	**22 47 14.2**	**-0.7**
TUTA				*i* S	**Sb**	**22 47 29.2**	**-0.5**
AGRB	**Hanur-Agry**	**1.22**	**334**	*e*PN	**Pn**	**22 47 16.3**	**+0.3**
AGRB	**Hanur-Agry**	**1.22**	**334**	*e*Pn	**Pn**	**22 47 16.3**	**+0.2**
CUKT	**Cukurca**	**1.23**	**183**	*e*PN	**Pn**	**22 47 16.3**	**+0.2**
CUKT	**Cukurca**	**1.23**	**183**	*e*Pn	**Pn**	**22 47 16.3**	**+0.2**

*IDC **05** 23:09:34.9±0.6, 18°.76N×120°.18E,h0km,mb4.1/15, mb1 4.3/15,mb1mx4.1/23,mbtmp4.1/15,MS3.1/1, Ms1 3.3/1,ms1mx2.6/35,Error ellipse: s-maj=33.1km s-min=13.1km az=69.0*
*ISCJB **05** 23:09:37.8±0.4, 18°.78N±0°.03×120°.26E±0°.07,h33km, mb4.2/21, Error ellipse: s-maj=9.8km s-min=4.5km az=11.0*
*NEIC **05** 23:09:39.9±0.3, 18°.80N×120°.28E,h35km,mb4.5/12,Error ellipse: s-maj=8.7km s-min=5.0km az=86.0*
ISC 05 23:09:40.0±0.4,18°.75N±0°.03×120°.21E±0°.07,h35km,n47, σ0°.86/52,mb4.2/21,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YULB	**Yu-li**	**4.73**	**12**	*e*Pn	**Pn**	**23 10 48.5**	**-0.4**
YULB				*e*Sn	**Sn**	**23 11 42.7**	**+0.2**
NACB	**Ninganchiao**	**5.55**	**13**	*e*Pn	**Pn**	**23 10 59.0**	**-1.0**
NACB				*e*Sn	**Sn**	**23 12 03.8**	**+1.1**
YHNB	**Yeheng**	**5.99**	**10**	*e*Pn	**Pn**	**23 11 03.9**	**-2.2**
YHNB				*e*Sn	**Sn**	**23 12 14.5**	**+1.0**
TATO	**Taipei**	**6.31**	**11**	*e*Pn	**Pn**	**23 11 08.9**	**-1.6**
TATO				*e*Sn	**Sn**	**23 12 20.9**	**-0.5**
JOW	**Kunigami**	**10.95**	**41**	*e*Pn	**Pn**	**23 12 11.6**	**-2.6**
JOW				*e*Sn	**Sn**	**23 14 15.9**	**+0.4**
KSM	**Kuching**	**19.72**	**211**	*e*P	**Pn**	**23 14 06.4**	**-1.9**
	18nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.16**	**273**	P	**P**	**23 14 10.7**	**-0.8**
	2.4nm,1.0s,baz=89,slow=7.8,SNR=10.0						
CMAR				LR	LR	23 22 21.3	
	comp=Z,47nm,18.6s,baz=105,slow=38						
CMAR	**Chiang Mai Arr**	**20.16**	**273**	P	**P**	**23 14 10.7**	**-0.8**
LZH	**Lanzhou**	**22.51**	**323**	*e*P	**P**	**23 14 37.3**	**+0.8**
	19nm,1.2s,mb4.4						
LZH				pP		23 14 47.7	
LZH				sP	sP	23 14 52.0	+1.7
KAPI	**Kappang**	**23.62**	**181**	P	**P**	**23 14 48.2**	**+0.2**
	3.6nm,0.5s,mb4.0,baz=54,slow=14,SNR=4.4						
KAPI	**Kappang**	**23.62**	**181**	*e*P	**P**	**23 14 47.9**	**-0.1**
	21nm,1.3s,mb4.4						
SONM	**Songino Array**	**31.12**	**342**	P	**P**	**23 15 55.6**	**+0.5**
	1.0nm,1.1s,mb3.6,baz=157,slow=10,SNR=3.9						
SONM	**Songino Array**	**31.12**	**342**	P	**P**	**23 15 55.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**37.01**	**171**	P	**P**	**23 16 46.2**	**-0.1**
	2.0nm,0.7s,mb4.0,baz=358,slow=9.6,SNR=5.3						
FITZ	**Fitzroy Crossi**	**37.01**	**171**	*e*P	**P**	**23 16 46.5**	**+0.1**
	2.4nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**40.87**	**159**	*e*P	**P**	**23 17 18.6**	**-0.1**
	4.5nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**40.87**	**159**	P	**P**	**23 17 18.7**	**0.0**
	1.2nm,0.4s,mb3.9,baz=340,slow=9.1,SNR=14						
WRA	**Warramunga Arr**	**40.87**	**159**	P	**P**	**23 17 18.7**	**0.0**
WB2	**Warramunga Arr**	**40.88**	**159**	*e*P	**P**	**23 17 18.7**	**0.0**
MK31	**Makanchi Array**	**41.78**	**321**	*e*P	**P**	**23 17 26.3**	**+0.3**
MK31				*e*PcP	PcP	23 19 21.8	0.0
MKAR	**Makanchi Array**	**41.78**	**321**	P	**P**	**23 17 26.6**	**+0.7**
	5.6nm,0.9s,mb4.2,baz=113,slow=9.3,SNR=37						
MKAR				PcP	PcP	23 19 22.1	+0.4
	1.5nm,0.9s,baz=116,slow=4.2,SNR=5.3						
MKAR	**Makanchi Array**	**41.78**	**321**	P	**P**	**23 17 26.6**	**+0.6**
MKAR				PcP	PcP	23 19 22.1	+0.4
AS31	**Alice Springs**	**44.22**	**162**	*e*P	**P**	**23 17 46.6**	**+0.8**
ASAR	**Alice Springs**	**44.22**	**162**	P	**P**	**23 17 46.8**	**+0.8**
	1.6nm,0.5s,mb4.0,baz=339,slow=6.7,SNR=31						
ASAR	**Alice Springs**	**44.22**	**162**	P	**P**	**23 17 46.8**	**+0.8**
ZALV	**Zalesovo Beam**	**44.41**	**331**	P	**P**	**23 17 47.0**	**-0.1**
	2.1nm,0.7s,mb4.0,baz=115,slow=7.8,SNR=9.5						
ZALV				PcP	PcP	23 19 29.4	-1.1
	0.6nm,0.6s,baz=123,slow=5.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**44.41**	**331**	P	**P**	**23 17 47.0**	**-0.1**
ZALV				PcP	PcP	23 19 29.4	-1.1
KURK	**Kurchatov**	**45.80**	**324**	P	**P**	**23 17 58.5**	**+0.3**
	2.7nm,0.3s,mb4.6,baz=122,slow=8.2,SNR=26						
KURK	**Kurchatov**	**45.80**	**324**	*e*P	**P**	**23 17 58.5**	**+0.3**
	10nm,0.9s,mb4.8						
KBL	**Kabul**	**47.87**	**300**	*e*P	**P**	**23 18 14.9**	**+0.3**
	17nm,1.4s,mb4.9						
KKAR	**Karatay Array**	**48.21**	**311**	*e*P	**P**	**23 18 17.2**	**+0.1**
	2.8nm,0.6s,mb4.5						
KKAR				*e*PcP	PcP	23 19 44.2	+0.2
STKA	**Stephens Creek**	**54.35**	**158**	P	**P**	**23 19 03.6**	**+0.4**
	3.0nm,0.8s,mb4.2,baz=310,slow=7.8,SNR=3.7						
STKA	**Stephens Creek**	**54.35**	**158**	*e*P	**P**	**23 19 03.7**	**+0.5**
	1.1nm,1.0s,mb3.7						
STKA				*e*PP	PP	23 21 04.8	-0.8
ABKAR	**Akbulak array**	**56.68**	**317**	*e*P	**P**	**23 19 20.2**	**+0.3**
	4.4nm,0.7s,mb4.6						
ARU	**Arti**	**58.96**	**325**	*e*P	**P**	**23 19 35.4**	**-0.3**
	9.7nm,0.6s,mb5.0						
TRF	**Thorofare Moun**	**73.20**	**28**	*e*P	**P**	**23 21 07.1**	**+0.1**
	32nm,1.9s,mb4.9						
ILAR	**Eielson Array**	**74.45**	**26**	P	**P**	**23 21 14.7**	**+0.4**
	0.7nm,0.8s,mb3.6,baz=258,slow=5.1,SNR=7.2						
ILAR	**Eielson Array**	**74.45**	**26**	P	**P**	**23 21 14.7**	**+0.4**
FINES	**FINESS Array B**	**75.68**	**330**	P	**P**	**23 21 21.2**	**-0.2**
	2.5nm,0.8s,mb4.2,baz=84,slow=5.7,SNR=3.3						
FINES	**FINESS Array B**	**75.68**	**330**	P	**P**	**23 21 21.2**	**-0.2**
NB2	**NORSAR Subarra**	**82.59**	**332**	P	**P**	**23 21 58.7**	**-0.5**
	comp=Z,3.3nm,0.9s,mb4.2,baz=63,slow=4.6						
NOA	**NORSAR Array B**	**82.59**	**332**	P	**P**	**23 21 58.1**	**-1.1**
	comp=Z,2.0nm,0.9s,mb4.2,baz=69,slow=5.0,SNR=6.4						
NOA	**NORSAR Array B**	**82.59**	**332**	P	**P**	**23 21 58.1**	**-1.1**
GERES	**GERESS Array B**	**86.45**	**321**	P	**P**	**23 22 19.9**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.8,baz=69,slow=7.3,SNR=3.9						
GERES	**GERESS Array B**	**86.45**	**321**	P	**P**	**23 22 19.9**	**+0.9**
YKA	**Yellowknife Ar**	**88.31**	**22**	P	**P**	**23 22 29.4**	**+1.7**
	comp=Z,1.2nm,0.8s,mb4.2,baz=324,slow=4.1,SNR=4.7						
YKA	**Yellowknife Ar**	**88.31**	**22**	P	**P**	**23 22 29.4**	**+1.7**

*IDC **05** 23:09:59.9±0.8,30°.01S×176°.89W,h0km,mb4.2/8, mb1 4.3/10,mb1mx4.2/18,mbtmp4.2/10,ML3.6/1,Error ellipse: s-maj=28.2km s-min=21.1km az=149.0*
*ISCJB **05** 23:10:00.8±2.1,30°.05S±0°.05×176°.97W±0°.10, h20km±13km,mb4.2/9,Error ellipse: s-maj=14.5km s-min=8.1km az=16.0*
*NEIC **05** 23:10:05.0±0.6,30°.00S×177°.00W,h35km,mb4.3/7,Error ellipse: s-maj=14.5km s-min=10.6km az=98.0*
ISC 05 23:09:59.7±2.5,30°.00S±0°.06×176°.90W±0°.10,h1km±14km, n42,σ0°.79/34,mb4.3/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**310**	*e*Pg	**Pg**	**23 10 22.5**	**+0.6**
RAO				*e*Sg	**Sg**	**23 10 36.5**	**-0.4**
OUZ	**Omahuta**	**9.55**	**235**	*e*Pn	**Pn**	**23 12 18.1**	**-0.3**
OUZ				*e*Sn	**Sn**	**23 14 06.6**	**+0.1**
URZ	**Urewera**	**9.61**	**209**	Pn	**Pn**	**23 12 19.9**	**+0.6**
	0.6nm,0.3s,baz=288,slow=19,SNR=5.4						
URZ				Sn	**Sn**	**23 14 07.8**	**-0.2**
	3.1nm,0.3s,baz=13,slow=19,SNR=8.1						
URZ	**Urewera**	**9.61**	**209**	Pn	**Pn**	**23 12 19.9**	**+0.6**
URZ				Sn	**Sn**	**23 14 07.8**	**-0.2**
MSVF	**Nonsavu**	**13.05**	**338**	*e*P	**Pn**	**23 13 06.2**	**-0.2**
	6.3nm,0.9s						
RPZ	**Rata Peaks**	**16.71**	**212**	Pn	**Pn**	**23 13 53.6**	**-1.5**
	0.7nm,0.3s,baz=40,slow=5.5,SNR=3.1						
RPZ	**Rata Peaks**	**16.71**	**212**	*e*P	**Pn**	**23 13 53.7**	**-1.5**
	34nm,1.2s						
DZM	**Mont Dzumac**	**16.91**	**294**	*e*P	**Pn**	**23 14 01.0**	**+3.2**
	20nm,1.1s						
FUNA	**Funafuti**	**21.68**	**350**	*e*P	**P**	**23 14 51.0**	**-1.0**
HNR	**Honiara**	**29.78**	**309**	*e*P	**P**	**23 16 08.2**	**+0.1**
	12nm,0.4s,mb5.1						
CTA	**Charters Tower**	**34.68**	**278**	P	**P**	**23 16 51.5**	**+0.4**
	5.2nm,0.6s,mb4.6,baz=90,slow=9.4,SNR=7.7						
CTA	**Charters Tower**	**34.68**	**278**	P	**P**	**23 16 51.5**	**+0.4**
CTAO	**Charters Tower**	**34.68**	**278**	*e*P	**P**	**23 16 51.8**	**+0.6**
	6.8nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**35.49**	**256**	P	**P**	**23 16 58.9**	**+0.8**
	1.9nm,0.7s,mb4.2,baz=122,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**35.49**	**256**	*e*P	**P**	**23 16 57.7**	**-0.4**
	0.6nm,0.8s,mb3.6						
ASAR	**Alice Springs**	**44.08**	**266**	P	**P**	**23 18 09.7**	**0.0**
	1.5nm,0.7s,mb3.8,baz=106,slow=8.3,SNR=13						
ASAR	**Alice Springs**	**44.08**	**266**	P	**P**	**23 18 09.7**	**+0.1**
WRA	**Warramunga Arr**	**45.04**	**271**	P	**P**	**23 18 17.7**	**+0.4**
	3.5nm,0.6s,mb4.4,baz=110,slow=7.8,SNR=16						
WRA				S	**S**	**23 24 51.9**	**-5.3**
	0.4nm,0.8s,baz=108,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**45.04**	**271**	P	**P**	**23 18 17.7**	**+0.4**
WRA				S	**S**	**23 24 52.0**	**-5.3**
FITZ	**Fitzroy Crossi**	**53.31**	**269**	P	**P**	**23 19 21.1**	**+0.3**
	1.5nm,0.8s,mb4.0,baz=128,slow=12,SNR=3.1						
FITZ	**Fitzroy Crossi**	**53.31**	**269**	*e*P	**P**	**23 19 20.6**	**-0.1**
	3.5nm,1.0s,mb4.2						
SSLB	**Suanglung**	**80.11**	**305**	*e*P	**P**	**23 22 08.4**	**-3.3**
PLCA	**Paso Flores**	**82.08**	**133**	P	**P**	**23 22 22.2**	**+0.2**
	1.7nm,1.0s,mb4.1,baz=249,slow=8.6,SNR=3.4						
PLCA	**Paso Flores**	**82.08**	**133**	*e*P	**P**	**23 22 22.9**	**+0.9**
	3.3nm,1.1s,mb4.4						
PETK	**Petropavlovsk-**	**85.67**	**345**	P	**P**	**23 22 39.9**	**+0.1**
	6.8nm,0.9s,mb4.8,baz=148,slow=8.4,SNR=2.7						
PETK	**Petropavlovsk-**	**85.67**	**345**	P	**P**	**23 22 39.9**	**+0.1**
NVAR	**Mina Array Bea**	**87.30**	**42**	P	**P**	**23 22 48.6**	**+0.4**
	0.1nm,0.3s,mb3.5,baz=224,slow=8.5,SNR=3.0						
NVAR	**Mina Array Bea**	**87.30**	**42**	P	**P**	**23 22 48.6**	**+0.4**
ARCES	**ARCESS Array B**	**138.40**	**348**	PKP	PKPdf	23 29 27.4	+1.3
	1.7nm,0.9s,baz=23,slow=4.9,SNR=3.8						
ARCES	**ARCESS Array B**	**138.40**	**348**	PKP	PKPdf	23 29 27.4	+1.3
KAF	**Kangasniemi**	**144.48**	**341**	*e*pkp	PKPdf	23 29 35.7	-1.5
FINES	**FINESS Array B**	**145.09**	**341**	PKPbc	PKPbc	23 29 37.5	-0.3
	6.7nm,0.6s,baz=62,slow=3.1,SNR=41						
FINES	**FINESS Array B**	**145.09**	**341**	PKPbc	PKPbc	23 29 37.5	-0.3
NB2	**NORSAR Subarra**	**148.49**	**352**	PKP	PKPdf	23 29 47.3	+3.3
	comp=Z,1.0nm,0.7s,baz=6.6,slow=2.8						
NOA	**NORSAR Array B**	**148.49**	**352**	PKPbc	PKPbc	23 29 46.8	-0.8
	comp=Z,1.3nm,0.7s,baz=14,slow=4.4,SNR=5.6						
NOA	**NORSAR Array B**	**148.49**	**352**	PKPbc	PKPbc	23 29 46.8	-0.8
AKASG	**Malin Array Be**	**151.55**	**324**	PKPbc	PKPbc	23 29 55.5	+0.2
	comp=Z,3.7nm,0.6s,baz=46,slow=2.5,SNR=11						
AKASG				PKPab	PKPab	23 30 03.4	-0.5
	comp=Z,2.8nm,0.6s,baz=47,slow=3.5,SNR=6.8						
AKASG	**Malin Array Be**	**151.55**	**324**	PKPbc	PKPbc	23 29 55.5	+0.2
AKASG				PKPab	PKPab	23 30 03.4	-0.5
BRTR	**Keskin Array B**	**153.24**	**300**	PKPbc	PKPbc	23 30 00.3	+0.8
	comp=Z,0.1nm,0.3s,baz=180,slow=2.6,SNR=2.8						
BRTR				PKPab	PKPab	23 30 11.2	-0.1
	comp=Z,0.6nm,0.7s,baz=87,slow=3.2,SNR=4.8						
BRTR	**Keskin Array B**	**153.24**	**300**	PKPbc	PKPbc	23 30 00.2	+0.7
BRTR				PKPab	PKPab	23 30 11.2	-0.1
TORD	**Torodi Ar. Bea**	**163.18**	**175**	PKPab	PKPab	23 30 55.2	+0.6
	comp=Z,0.7nm,0.9s,baz=186,slow=3.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**163.18**	**175**	PKPab	PKPab	23 30 55.2	+0.5

*ISCJB **05** 23:19:17.6±0.6,37°.11N±0°.02×36°.93E±0°.03,h0km±6km, Error ellipse: s-maj=4.7km s-min=3.9km az=11.4*
*ISK **05** 23:19:17.3,37°.13N×36°.97E,h3km,MD3.2*
*DDA **05** 23:19:17.5,37°.10N×36°.91E,h7km±6km,Md3.3*
*CSEM **05** 23:19:18.1±0.1,37°.11N×36°.96E,h5km,MD3.2,Error ellipse: s-maj=3.5km s-min=2.7km az=148.0*
ISC 05 23:19:18.2±0.5,37°.11N±0°.02×36°.93E±0°.03,h4km±5km, n38,σ0°.90/54,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.23**	**73**	*e*PG	**Pg**	**23 19 22.2**	**-0.5**
GAZ	**Gaziantep**	**0.23**	**73**	*e*Pg	**Pg**	**23 19 22.2**	**-0.5**
KUZU	**Kuzuini**	**0.35**	**161**	*e*P	**Pg**	**23 19 25.5**	**+0.5**
KUZU				*i* S	**Sg**	**23 19 30.6**	**+1.1**
KUZU	**Kuzuini**	**0.35**	**161**	*e*P	**Pg**	**23 19 25.5**	**+0.6**
KMRS	**Kahramanmaras**	**0.40**	**356**	*e*PG	**Pg**	**23 19 25.3**	**-0.6**
KMRS				*e*SG	**Sg**	**23 19 31.6**	**+0.4**
KMRS	**Kahramanmaras**	**0.40**	**356**	*e*Pg	**Pg**	**23 19 25.3**	**-0.6**
KMRS				*e*Sg	**Sg**	**23 19 31.6**	**+0.5**
ANDN	**Andirin**	**0.67**	**315**	*e*P	**Pg**	**23 19 30.3**	**-0.7**
ANDN				*i* S	**Sg**	**23 19 38.6**	**-1.0**
ANDN	**Andirin**	**0.67**	**315**	*e*P	**Pg**	**23 19 30.3**	**-0.7**
ANDN				*i* S	**Sg**	**23 19 38.7**	**-1.0**
COBT	**Iskenderun**	**0.80**	**223**	*i* P	**Pg**	**23 19 31.0**	**-2.5**
COBT				*i* S	**Sg**	**23 19 42.6**	**-1.3**
COBT	**Iskenderun**	**0.80**	**223**	*i* P	**Pg**	**23 19 31.0**	**-2.5**
COBT				*i* S	**Sg**	**23 19 42.6**	**-1.3**
CEYT	**Ceyhan**	**0.95**	**265**	*e*PG	**Pg**	**23 19 36.8**	**+0.4**
CEYT	**Ceyhan**	**0.95**	**265**	*e*Pg	**Pg**	**23 19 36.8**	**+0.3**
KOZT	**Kozan**	**0.96**	**293**	*e*PG	**Pg**	**23 19 37.5**	**+0.9**
KOZT				*e*SG	**Sg**	**23 19 51.0**	**+2.0**
ATAB	**Bozova**	**1.15**	**71**	*e*P	**Pg**	**23 19 39.6**	**-0.6**
ATAB				*i* S	**Sg**	**23 19 55.2**	**+0.2**
ATAB	**Bozova**	**1.15**	**71**	*e*P	**Pg**	**23 19 39.6**	**-0.6**
ATAB				*i* S	**Sg**	**23 19 55.2**	**+0.2**
HTY	**Hatay**	**1.17**	**213**	*e*PN	**Pn**	**23 19 41.1**	**-0.2**
HTY	**Hatay**	**1.17**	**213**	*e*Pn	**Pn**	**23 19 41.1**	**-0.2**
YAYL	**Yayladag**	**1.26**	**212**	*e*P	**Pg**	**23 19 42.1**	**-0.2**
YAYL				*i* S	**Sg**	**23 19 59.5**	**+0.9**
YAYL	**Yayladag**	**1.26**	**212**	*e*P	**Pg**	**23 19 42.2**	**-0.1**
YAYL				*i* S	**Sg**	**23 19 59.5**	**+0.9**
KRTS	**Karatas**	**1.36**	**247**	*e*PN	**Pn**	**23 19 44.3**	**+0.4**
KRTS	**Karatas**	**1.36**	**247**	*e*Pn	**Pn**	**23 19 44.3**	**+0.4**
AKCD	**Akcadag**	**1.42**	**33**	*e*P	**Pn**	**23 19 44.5**	**-0.3**
AKCD				*i* S	**Sb**	**23 20 05.1**	**+1.4**
AKCD	**Akcadag**	**1.42**	**33**	*e*P	**Pn**	**23 19 44.5**	**-0.3**
AKCD				*i* S	**Sb**	**23 20 05.1**	**+1.3**
URFA	**Urfa**	**1.54**	**77**	*e*PN	**Pn**	**23 19 46.0**	**-0.4**
URFA	**Urfa**	**1.54**	**77**	*e*Pn	**Pn**	**23 19 46.0**	**-0.4**
SARI	**SarD1z-Kayseri**	**1.58**	**353**	*e*PN	**Pn**	**23 19 43.8**	**-3.2**
PINB	**Pinarbasi**	**1.62**	**345**	*e*P	**Pn**	**23 19 48.5**	**+1.0**
PINB				*i* S	**Sn**	**23 20 08.4**	**-0.5**
PINB	**Pinarbasi**	**1.62**	**345**	*e*P	**Pn**	**23 19 48.5**	**+1.0**
PINB				*i* S	**Sn**	**23 20 08.4**	**-0.5**
MALT	**Malatya**	**1.69**	**44**	*e*PN	**Pn**	**23 19 48.6**	**+0.1**
MALT	**Malatya**	**1.69**	**44**	*e*Pn	**Pn**	**23 19 48.6**	**+0.1**
MYA	**Malataya**	**1.70**	**44**	*e*PN	**Pn**	**23 19 48.4**	**-0.2**
MYA	**Malataya**	**1.70**	**44**	*e*Pn	**Pn**	**23 19 48.4**	**-0.2**
BNN	**Bunyan**	**1.94**	**334**	*e*PN	**Pn**	**23 19 52.3**	**+0.3**
**

KMI PP 23 29 10.7
KMI S **Sn** **23 32 21.4 +9.1**
KMI pmax pmax
comp=Z,66nm,1.3s
KMI pmax pmax
comp=Z,790nm,5.2s
KMI LR LR
comp=N,2μm,10.1s
KMI LR LR
comp=E,2μm,11.3s
KMI LR LR
comp=Z,2μm,11.9s
KMI Kunming 18.26 26 P **Pn** **23 28 52.4 +3.3**
comp=Z,66nm,1.3s
KMI pP pP 23 28 59.7 +2.7
KMI sP sP 23 29 04.3 +3.4
KMI PP 23 29 10.7
KMI PPP 23 29 19.1
KMI S **Sn** **23 32 21.4 +9.1**
KMI sS sS 23 32 32.9 +3.6
KMI SS 23 32 47.7
KMI SSS 23 33 01.1
KMI Kunming 18.26 26 P **Pn** **23 28 52.4 +3.3**
KMI pmax pmax
comp=Z,66nm,1.3s
QIZ Qiongzhong 18.42 55 P **Pn** **23 28 50.7 -0.4**
QIZ S **Sn** **23 32 14.8 -1.4**
QIZ LR LR
comp=E,820nm,13.8s
QIZ LR LR
comp=Z,4μm,10.6s
NGP Nagpur 18.96 312 *e*PKP **Pn** **23 28 56.5 -1.2**
NGP *ex* x 23 32 20.5
SBUM Sibu 19.16 108 P **Pn** **23 29 00.9 +0.7**
SBUM Sibu 19.16 108 P **Pn** **23 29 00.7 +0.5**
comp=Z,769nmcomp=Z,40nm,1.1s
STKI Sintang 19.42 116 P **Pn** **23 29 04.0 +0.8**
comp=Z,75nm,1.5s
JBP Jabalpur 19.64 318 *ex* **Pn** **23 29 09.0 +3.2**
JBP *e*S **Sn** **23 32 45.0 -0.6**
BTM Bintulu 19.75 105 P **Pn** **23 29 13.5 +6.4**
DBJI Dramaga 19.82 140 P **Pn** **23 29 05.7 -2.2**
comp=Z,2μmcomp=Z,65nm,1.4s
JIRN Jiri 20.19 340 *e*P **P** **23 29 10.6 +0.4**
comp=Z,104nm,1.1s
JIRN Jiri 20.19 340 *e*P **P** **23 29 10.6 +0.4**
comp=Z,104nm,1.1s
AKL Akola 20.25 308 *e*PKP **P** **23 29 17.4 +6.6**
AKL *i* S **S** **23 33 03.8 +7.2**
PKI Pulchoki 20.39 338 *e*P **P** **23 29 12.9 +0.5**
comp=Z,616nm,1.4s
PKI Pulchoki 20.39 338 *e*P **P** **23 29 12.9 +0.5**
comp=Z,616nm,1.4s
PKI Pulchoki 20.39 338 *e*P **P** **23 29 12.9 +0.5**
PKI pmax pmax
comp=Z,616nm,1.4s
GUN Gumba 20.53 339 *e*P **P** **23 29 14.2 +0.3**
comp=Z,322nm,1.0s
GUN Gumba 20.53 339 *e*P **P** **23 29 14.2 +0.3**
comp=Z,322nm,1.0s
DMN Daman 20.54 337 *e*P **P** **23 29 14.4 +0.4**
comp=Z,160nm,0.9s
DMN Daman 20.54 337 *e*P **P** **23 29 14.4 +0.4**
comp=Z,160nm,0.9s
LEM Lembang 20.59 138 P **P** **23 29 16.2 +1.6**
comp=Z,1μmcomp=Z,51nm,1.2s
KKN Kakani 20.64 338 *e*P **P** **23 29 15.1 +0.1**
comp=Z,174nm,0.9s
KKN Kakani 20.64 338 *e*P **P** **23 29 15.1 +0.1**
comp=Z,174nm,0.9s
KKN Kakani 20.64 338 *e*P **P** **23 29 15.1 +0.1**
KKN pmax pmax
comp=Z,174nm,0.9s
HMDM Hanimaadhoo 20.74 266 P **P** **23 29 25.6 +9.3**
GOA Goa 20.83 291 ⇑*ix* **P** **23 29 22.3 +5.1**
GOA *ex* x 23 33 04.4
LSA Lhasa 21.00 353 P **P** **23 29 19.6 +0.7**
LSA S **S** **23 33 09.8 -1.5**
LSA pmax pmax
comp=Z,80nm,1.0s
LSA pmax pmax
comp=Z,330nm,5.0s
LSA LR LR
comp=N,350nm,24.0s,MS3.9
LSA LR LR
comp=E,470nm,20.0s,MS3.9
LSA LR LR
comp=Z,880nm,22.0s,MS4.1
GKN Gorkha 21.08 336 *e*P **P** **23 29 19.9 +0.1**
comp=Z,579nm,1.1s,mb5.8
GKN Gorkha 21.08 336 *e*P **P** **23 29 19.9 +0.1**
comp=Z,579nm,1.1s,mb5.8
GYA Guiyang 21.29 33 ⇓*iP* **P** **23 29 23.4 +1.3**
GYA pP 23 29 31.0
GYA sP sP 23 29 35.4 +1.4
GYA PP 23 29 48.6
GYA S **S** **23 33 22.9 +5.7**
GYA sS sS 23 33 27.6 -2.5
GYA pmax pmax
comp=Z,40nm,1.1s,mb4.7
GYA pmax pmax
comp=Z,110nm,3.7s
GYA LR LR
comp=N,2μm,14.8s,MS4.7
GYA LR LR
comp=E,1μm,14.0s,MS4.7
GYA LR LR
comp=Z,2μm,13.7s,MS4.7
KOLN Koldanda 21.30 334 *e*P **P** **23 29 22.6 +0.4**
comp=Z,212nm,0.9s,mb5.5
KOLN Koldanda 21.30 334 *e*P **P** **23 29 22.6 +0.4**
comp=Z,212nm,0.9s,mb5.5
BHPL Bhopal 21.44 314 *e*PKP **P** **23 29 24.8 +1.0**
BHPL AMb AMB 23 29 50.2
comp=Z,93nm,1.6s,mb4.8
DANN Dangsing 21.74 335 *e*P **P** **23 29 27.0 +0.1**
comp=Z,356nm,1.0s,mb5.7
DANN Dangsing 21.74 335 *e*P **P** **23 29 27.0 +0.1**
comp=Z,356nm,1.0s,mb5.8
POO Poona 21.84 298 *e*PKP **P** **23 29 28.7 +0.6**
PYUN Piuthan 21.86 333 *e*P **P** **23 29 28.4 +0.2**
comp=Z,515nm,1.3s,mb5.8
PYUN Piuthan 21.86 333 *e*P **P** **23 29 28.4 +0.2**
comp=Z,515nm,1.3s,mb5.8
KKM Kota Kinabalu 22.18 95 *e*P **P** **23 29 28.3 -3.5**
comp=Z,205nm,1.5s,mb5.3
BJII Banjamegara 22.37 135 P **P** **23 29 41.5 +7.7**
comp=Z,2μmcomp=Z,74nm,1.6s,mb4.9
SMRI Semarang 22.69 133 P **P** **23 29 38.5 +1.3**
comp=Z,3μmcomp=Z,174nm,1.4s,mb5.3
SDKM Sandakan 23.20 96 P **P** **23 29 44.1 +1.5**
NGJI Ngawi 23.65 132 P **P** **23 29 48.1 +1.2**
comp=Z,120nm,1.1s,mb5.2
CD2 Chengdu 23.83 21 ⇓*iP* **P** **23 29 48.7 +0.3**
CD2 pP 23 29 58.0
CD2 sP sP 23 30 02.4 +1.7
CD2 PP 23 30 23.2
CD2 PcP PcP 23 33 31.7 +0.4
CD2 S **S** **23 34 02.6 +0.2**
CD2 sS sS 23 34 15.8 -0.8
CD2 SS 23 34 52.6
CD2 PcS PcS 23 37 10.2 -0.7
CD2 pmax pmax
comp=Z,300nm,1.3s,mb5.6
CD2 pmax pmax
comp=Z,1μm,6.0s
CD2 LR LR
comp=N,2μm,9.5s
CD2 LR LR
comp=E,2μm,10.7s
CD2 LR LR
comp=Z,1μm,11.9s,MS4.7
BBKI Banjar Baru 24.06 119 P **P** **23 29 52.2 +1.5**
comp=Z,4μmcomp=Z,274nm,1.3s,mb5.5
SJI Sawahan 24.12 132 P **P** **23 29 52.4 +1.2**
comp=Z,2μmcomp=Z,70nm,2.0s,mb4.8
PTH Pithoragarh 24.39 330 *e*PKP **P** **23 29 55.0 +1.4**
MYLDM Lahad Datu 24.56 97 P **P** **23 29 57.6 +2.3**
comp=Z,1μmcomp=Z,95nm,1.5s,mb5.1
BISR Bishrakh 25.13 324 *e*PKP **P** **23 29 59.5 -0.9**
AYAN Aya Nagar 25.25 323 *e*PKP **P** **23 30 00.7 -0.7**
AYAN AMb AMB 23 30 13.6
comp=Z,76nm,1.0s,mb5.2
NDI New Delhi 25.34 324 *e*PKP **P** **23 30 01.5 -0.8**
NDI *e*PKP 23 30 03.8
NDI AMb AMB 23 30 12.4
comp=Z,98nm,1.3s,mb5.2
KUDL Kundal 25.39 322 *e*PKP **P** **23 30 01.9 -0.8**
KUDL AMb AMB 23 30 16.6
comp=Z,58nm,1.1s,mb5.0
BLJI Banyuglugur 25.49 130 P **P** **23 30 03.7 -0.1**
comp=Z,3μmcomp=Z,105nm,1.4s,mb5.2
DDI Dehra Dun 26.12 327 ⇑*iP* **P** **23 30 09.0 -0.3**
DDI *ex* x 23 34 34.5
KKR Kurukshetra 26.53 325 *e*PKP **P** **23 30 11.9 -1.1**
SRBI Singaraja 26.95 128 P **P** **23 30 16.3 -0.7**
comp=Z,39nm,1.1s,mb4.8
KHKI Kahang-Kahang 27.43 128 P **P** **23 30 20.7 -0.6**
comp=Z,27nm,1.6s,mb4.5
MJSI Majene 27.74 115 P **P** **23 30 27.5 +3.5**
comp=Z,3μmcomp=Z,106nm,1.3s,mb5.3
TTSI Tana Toraja 28.27 113 P **P** **23 30 32.2 +3.3**
comp=Z,38nm,1.4s,mb4.8
SPSI Sidrap Palu 28.62 115 P **P** **23 30 34.6 +2.6**
comp=Z,625nmcomp=Z,19nm,2.0s,mb4.5
LZH Lanzhou 28.63 17 P **P** **23 30 32.5 +0.8**
LZH pP pP 23 30 41.4 +1.0
LZH sP sP 23 30 44.7 +0.7
LZH PP PP 23 31 23.0 -14
LZH S **S** **23 35 19.0 +0.5**
LZH pmax pmax
comp=Z,100nm,1.5s,mb5.3
LZH pmax pmax
comp=Z,500nm,5.3s
LZH LR LR
comp=N,1μm,12.3s,MS4.8
LZH LR LR
comp=E,1μm,13.6s,MS4.8
LZH LR LR
comp=Z,2μm,15.5s,MS4.8
LZH Lanzhou 28.63 17 P **P** **23 30 32.5 +0.8**
comp=Z,103nm,1.5s,mb5.3
LZH pP pP 23 30 41.4 +1.0
LZH sP sP 23 30 44.7 +0.7
LZH PP PP 23 31 23.0 -14
LZH S **S** **23 35 19.0 +0.5**
LZH sS sS 23 35 29.4 -3.4
LZH *e*SS SS 23 36 29.0 -51
LZH LR LR
comp=Z,2μm,15.5s,MS4.8
LZH Lanzhou 28.63 17 P **P** **23 30 32.5 +0.8**
LZH *SP sP 23 30 44.7 +0.7
LZH 23 31 23.0
LZH S **S** **23 35 19.0 +0.5**
LZH pmax pmax
comp=Z,103nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,2μm,15.5s,MS4.8
XAN Xi'an 28.65 26 P **P** **23 30 31.9 0.0**
XAN pP pP 23 30 40.5 -0.1
XAN pmax pmax
comp=Z,16nm,1.3s,mb4.6
WHN Wuhan 28.81 38 P **P** **23 30 33.0 -0.4**
WHN S **S** **23 35 27.5 +6.0**
WHN LR LR
comp=N,6μm,15.4s,MS5.4
WHN LR LR
comp=E,3μm,13.4s,MS5.4
WHN LR LR
comp=Z,3μm,15.3s,MS5.1
KAPI Kappang 29.08 117 P **P** **23 30 36.4 +0.4**
comp=Z,12nm,1.2s,mb4.5,baz=309,slow=15,SNR=5.6
KAPI LR LR 23 42 33.6
comp=Z,856nm,20.2s,MS4.4,baz=285,slow=37
KAPI Kappang 29.08 117 *e*P **P** **23 30 35.8 -0.2**
comp=Z,86nm,1.4s,mb5.3
KAPI Kappang 29.08 117 P **P** **23 30 35.5 -0.5**
comp=Z,647nmcomp=Z,46nm,1.5s,mb5.0
BKSI Bulukumba 29.55 117 P **P** **23 30 41.1 +0.9**
comp=Z,1μmcomp=Z,109nm,1.2s,mb5.5
GTOI Gorontalo 29.98 104 P **P** **23 30 44.1 +0.1**
comp=Z,1μmcomp=Z,130nm,1.3s,mb5.5
LUWI Luwuk 30.27 107 P **P** **23 30 48.8 +2.3**
comp=Z,2μmcomp=Z,154nm,1.2s,mb5.6
GTA Gaotai 30.95 9 *e*P **P** **23 30 53.3 +1.1**
GTA pP pP 23 31 01.8 +0.9
GTA sP sP 23 31 05.6 +1.0
GTA PP PP 23 31 56.3 -6.1
GTA S **S** **23 35 57.9 +3.1**
GTA sS sS 23 36 10.7 +1.5
GTA pmax pmax
comp=Z,12nm,1.2s,mb4.6
GTA pmax pmax
comp=Z,240nm,6.2s
GTA LR LR
comp=N,550nm,17.6s
GTA LR LR
comp=E,760nm,9.5s
GTA LR LR
comp=Z,810nm,20.4s,MS4.4
KDI Kendari 31.20 113 P **P** **23 30 55.8 +1.1**
comp=Z,525nmcomp=Z,19nm,1.1s,mb4.8
MNI Manado 31.53 102 P **P** **23 31 00.1 +2.4**
comp=Z,100nm,0.5s,mb5.9
NJ2 Nanjing 32.68 41 *e*P **P** **23 31 07.4 -0.1**
NJ2 pP pP 23 31 17.2 +0.9
NJ2 sP sP 23 31 19.4 -0.5
NJ2 S **S** **23 36 20.0 -2.0**
NJ2 sS sS 23 36 39.5 +3.1
NJ2 pmax pmax
comp=Z,50nm,1.1s,mb5.4
NJ2 pmax pmax
comp=Z,440nm,5.9s
NJ2 LR LR
comp=N,690nm,8.8s
NJ2 LR LR
comp=E,980nm,11.2s
MMRI Maumere 33.01 121 P **P** **23 31 15.2 +4.6**
comp=E,56nm,1.6s,mb5.2
SSE Sheshan 33.67 45 P **P** **23 31 15.6 -0.7**
SSE S **S** **23 36 38.7 +1.2**
SSE sS sS 23 36 53.7 +1.8
SSE pmax pmax
comp=Z,22nm,1.0s,mb5.0
SSE pmax pmax
comp=Z,280nm,4.6s
SSE LR LR
comp=N,740nm,15.5s,MS4.7
SSE LR LR
comp=E,870nm,15.4s,MS4.7
SSE LR LR
comp=Z,1μm,13.3s,MS4.8
SSE Sheshan 33.67 45 P **P** **23 31 15.6 -0.7**
comp=Z,22nm,1.0s,mb5.0
SSE S **S** **23 36 38.7 +1.2**
SSE sS sS 23 36 53.7 +1.8
SSE LR LR
comp=Z,1μm,13.3s,MS4.8
KBL Kabul 34.39 322 *e*P **P** **23 31 22.7 +0.2**
comp=Z,16nm,0.8s,mb5.0
KBL Kabul 34.39 322 *e*P **P** **23 31 22.7 +0.2**
KBL pmax pmax
comp=Z,16nm,0.8s,mb5.0
KSH Kashi 34.61 335 P **P** **23 31 22.4 -1.9**
KSH pP pP 23 31 29.6 -3.4
KSH sP sP 23 31 34.0 -2.7
KSH PP PP 23 32 37.9 -5.2
KSH PcP PcP 23 33 59.1 +0.7
KSH S **S** **23 36 46.3 -5.5**
KSH ScP ScP 23 37 41.7 0.0
KSH PcS PcS 23 37 45.0 +0.2
KSH ScS ScS 23 41 44.0 -0.7
KSH pmax pmax
comp=Z,12nm,0.4s,mb5.2
KSH pmax pmax
comp=Z,110nm,3.1s
KSH LR LR
comp=N,220nm,7.2s
KSH LR LR
comp=E,250nm,8.5s
KSH LR LR
comp=Z,890nm,19.3s,MS4.5
BTO Baotou 34.75 22 *e*P **P** **23 31 25.2 -0.3**
WMQ Urumqi 35.35 352 P **P** **23 31 31.1 +0.5**
WMQ pP pP 23 31 40.8 +1.5
WMQ sP sP 23 31 44.7 +1.8
WMQ PP PP 23 32 51.2 +0.1
WMQ S **S** **23 37 02.8 -0.2**
WMQ sS sS 23 37 18.8 +1.3
WMQ pmax pmax
comp=Z,26nm,0.6s,mb5.3
WMQ pmax pmax
comp=Z,280nm,4.6s
WMQ LR LR
comp=N,430nm,20.0s,MS4.5
WMQ LR LR
comp=E,760nm,22.0s,MS4.5
WMQ LR LR
comp=Z,300nm,19.0s,MS4.1
HHC Hu-ho-hao-te 35.55 23 *e*P **P** **23 31 33.0 +0.7**
HHC sP sP 23 31 44.6 -0.1
HHC PP PP 23 32 53.7 +0.3
HHC PcP PcP 23 34 01.4 +0.3
HHC S **S** **23 37 11.0 +4.9**
HHC sS sS 23 37 19.1 -1.5
HHC ScP ScP 23 37 44.3 -0.8
HHC PcS PcS 23 37 47.1 -1.0
HHC SS SS 23 39 27.0 -15
HHC ScS ScS 23 41 48.2 -1.4
HHC pmax pmax
comp=Z,41nm,1.2s,mb5.2
HHC pmax pmax
comp=Z,220nm,6.0s
HHC LR LR
comp=N,810nm,13.0s,MS4.8
HHC LR LR
comp=E,910nm,13.2s,MS4.8
HHC LR LR
comp=Z,970nm,14.9s,MS4.7
ULHL Ulahol 36.83 338 P **P** **23 31 43.4 +0.1**
SNR=5.5
ULHL P 23 31 43.4
SNR=5.5
BJI Beijing 36.88 29 P **P** **23 31 44.5 +0.8**
BJI S **S** **23 37 29.1 +2.5**
BJI pmax pmax
comp=Z,71nm,1.1s,mb5.4
BJI pmax pmax
comp=Z,460nm,3.8s
BJI LR LR
comp=N,650nm,12.3s
BJI LR LR
comp=E,810nm,19.7s
BJI LR LR
comp=Z,330nm,18.7s
JOW Kunigami 37.06 57 LR LR 23 48 58.0
comp=Z,1μm,18.0s,MS4.7,baz=3.6,slow=40
KZA Kyzart 37.07 337 P **P** **23 31 46.0 +0.7**
SNR=8.9
KZA P 23 31 46.0
SNR=8.9
TKM2 Tokmak 2 37.66 338 P **P** **23 31 50.2 -0.1**
SNR=18
TKM2 P 23 31 50.2
SNR=18
TKM2 Tokmak 2 37.66 338 *e*P **P** **23 31 50.4 +0.1**
comp=Z,33nm,1.6s,mb4.8
TKM2 Tokmak 2 37.66 338 *e*P **P** **23 31 50.4 +0.1**
TKM2 pmax pmax
comp=Z,33nm,1.6s,mb4.8
KBK Karagaybulak 37.68 337 P **P** **23 31 51.0 +0.6**
SNR=32
KBK P 23 31 51.0
SNR=32
AML Almayashu 37.74 335 P **P** **23 31 52.2 +1.2**
SNR=18
AML P 23 31 52.2
SNR=18
AAK Ala-Archa 37.84 336 P **P** **23 31 52.3 +0.5**
SNR=15
AAK P 23 31 52.3
SNR=15
AAK Ala-Archa 37.84 336 P **P** **23 31 52.5 +0.7**
comp=Z,108nm,0.9s,mb5.6,SNR=14
AAK Ala-Archa 37.84 336 *e*P **P** **23 31 51.8 -0.1**
comp=Z,182nm,1.3s,mb5.7
AAK Ala-Archa 37.84 336 *e*P **P** **23 31 51.8 0.0**
AAK pmax pmax
comp=Z,182nm,1.3s,mb5.7
FRU Bishkek 37.96 337 *e*P **P** **23 31 52.0 -0.8**
FRU *e* pP 23 32 02.0 +0.4
FRU pmax pmax
comp=Z,50nm,2.0s,mb4.9
CHMS Chumysh 38.05 337 P **P** **23 31 53.2 -0.3**
SNR=12
CHMS P 23 31 53.2
SNR=12
EKS2 Erkin-Say 38.15 336 P **P** **23 31 55.3 +0.8**
SNR=13
EKS2 P 23 31 55.3
SNR=13
EKS2 Erkin-Say 38.15 336 *e*P **P** **23 31 55.2 +0.8**
comp=Z,19nm,1.0s,mb4.8
EKS2 Erkin-Say 38.15 336 *e*P **P** **23 31 55.2 +0.8**
EKS2 pmax pmax
comp=Z,19nm,1.0s,mb4.8
USP Ospenovka 38.37 337 P **P** **23 31 56.1 -0.1**
SNR=14
USP P 23 31 56.1
SNR=14
MK31 Makanchi Array 39.19 347 *e*P **P** **23 32 01.7 -1.4**
MK31 Makanchi Array 39.19 347 *e*P **P** **23 32 01.7 -1.4**
MKAR Makanchi Array 39.19 347 P **P** **23 32 02.5 -0.6**
comp=Z,3.3nm,0.4s,mb4.4,baz=167,slow=8.1,SNR=75
MKAR LR LR 23 50 52.0
comp=Z,307nm,21.9s,MS4.1,baz=164,slow=40
MKAR Makanchi Array 39.19 347 *e*P **P** **23 32 02.6 -0.5**
MKAR Makanchi Array 39.19 347 *e*P **P** **23 32 02.6 -0.5**
KKAR Karatay Array 39.91 333 *e*P **P** **23 32 09.4 +0.2**
KKAR Karatay Array 39.91 333 *e*P **P** **23 32 09.4 +0.2**
SONM Songino Array 40.32 13 P **P** **23 32 12.1 -0.3**
comp=Z,6.6nm,1.1s,mb4.3,baz=196,slow=8.5,SNR=22
SONM PcP PcP 23 34 15.7 +0.1
comp=Z,0.9nm,0.5s,baz=208,slow=3.3,SNR=8.3
SONM LR LR 23 50 24.3
comp=Z,826nm,18.1s,MS4.6,baz=25,slow=38
SONM Songino Array 40.32 13 P **P** **23 32 12.1 -0.3**
SONM PcP PcP 23 34 15.7 +0.1
SONM Songino Array 40.32 13 P **P** **23 32 12.1 -0.4**
SONM 23 34 15.7
ITEG Tejag 40.46 312 *e*P **P** **23 32 15.3 +1.4**
ULN Ulaanbaatar 40.50 14 *e*P **P** **23 32 13.6 -0.3**
comp=Z,154nm,3.0s
ULN Ulaanbaatar 40.50 14 *e*P **P** **23 32 13.6 -0.4**
ULN pmax pmax
comp=Z,154nm,3.0s
ULN Ulaanbaatar 40.50 14 P **P** **23 32 15.0 +1.0**
comp=Z,15nm,4.6s
FITZ Fitzroy Crossi 41.08 131 P **P** **23 32 17.1 -2.1**
comp=Z,1.7nm,0.8s,mb3.7,baz=330,slow=11,SNR=4.5
FITZ PcP PcP 23 34 17.5 -1.1
comp=Z,1.2nm,0.6s,baz=281,slow=4.8,SNR=6.2
FITZ ScP ScP 23 38 05.6 -0.9
comp=Z,0.9nm,0.7s,baz=349,slow=5.2,SNR=5.8
FITZ Fitzroy Crossi 41.08 131 *e*P **P** **23 32 17.3 -1.9**
comp=Z,4.6nm,0.9s,mb4.1
FITZ Fitzroy Crossi 41.08 131 P **P** **23 32 17.1 -2.1**
FITZ PcP PcP 23 34 17.5 -1.1
FITZ ScP ScP 23 38 05.6 -0.9
TLE Tual 41.17 109 P **P** **23 32 17.6 -2.4**
comp=Z,46nm,1.4s,mb4.9
IMYA Miami 41.27 317 *e*P **P** **23 32 21.1 +0.6**
KSAR Wonju Array Be 41.84 42 P **P** **23 32 23.4 -1.9**
KSAR Wonju Array Be 41.84 42 P **P** **23 32 23.4 -1.8**
KSRS Korea Array 41.88 42 P **P** **23 32 23.4 -2.1**
comp=Z,14nm,1.2s,mb4.5,baz=229,slow=7.4,SNR=12
KSRS LR LR 23 52 09.4
comp=Z,380nm,19.4s,MS4.3,baz=54,slow=40
SNY Shenyang 41.99 33 ⇓*iP* **P** **23 32 27.3 +1.0**
SNY S **S** **23 38 49.1 +5.8**
SNY pmax pmax
comp=Z,68nm,1.3s,mb5.1
SNY pmax pmax
comp=Z,560nm,4.1s
SNY LR LR
comp=E,920nm,16.1s
SNY LR LR
comp=Z,840nm,16.3s,MS4.7
ZAK Zakamensk 42.19 9 *e*P **P** **23 32 26.4 -1.4**
ZAK *e* 23 34 13.1
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb3.8
IBAF Bafgh 42.30 308 *e*P **P** **23 32 29.8 +0.7**
IMEH Mehriz 42.97 307 *e*P **P** **23 32 34.4 -0.1**
ABKT Ailbek 43.46 318 P **P** **23 32 39.4 +1.1**
comp=Z,213nm,0.5s,mb6.1,SNR=10.0

KURK Kurchatov 43.72 346 LR LR 23 53 14.5
comp=Z,589nm,21.8s,MS4.5,baz=160,slow=39
KURK Kurchatov 43.72 346 *e*P **P** **23 32 39.7 -0.4**
comp=Z,41nm,1.4s,mb5.0
KURK Kurchatov 43.72 346 P **P** **23 32 39.6 -0.6**
comp=Z,108nm,1.3s,mb5.4,SNR=13
KURK Kurchatov 43.72 346 *e*P **P** **23 32 39.7 -0.5**
KURK pmax pmax
comp=Z,41nm,1.4s,mb5.0
ISAD Sadrabad 43.90 307 *e*P **P** **23 32 42.5 +0.5**
CN2 Changchun 44.34 33 *e*P **P** **23 32 46.4 +1.1**
CN2 *e*pP pP 23 32 56.2 +2.0
CN2 *e*S **S** **23 39 18.4 +0.7**
CN2 pmax pmax
comp=Z,40nm,1.2s,mb5.0
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,14.0s,MS5.0
CN2 LR LR
comp=E,1μm,14.0s,MS5.0
CN2 LR LR
comp=Z,900nm,15.0s,MS4.8
IANJ Anjilo 45.20 312 *e*P **P** **23 32 53.5 +1.2**
ZAA0 Zalesovo Array 45.66 352 *e*P **P** **23 32 54.9 -0.7**
ZAA0 *e*pP pP 23 33 04.8 +0.3
ZALV Zalesovo Beam 45.66 352 P **P** **23 32 55.2 -0.3**
comp=Z,16nm,0.4s,mb5.2,baz=180,slow=7.2,SNR=98
ZALV LR LR 23 56 30.4
comp=Z,138nm,18.1s,MS3.9,baz=168,slow=42
ZALV Zalesovo Beam 45.66 352 P **P** **23 32 55.2 -0.3**
ZALV Zalesovo Beam 45.66 352 P **P** **23 32 55.3 -0.3**
IGLO Ghaloghah 45.72 313 *e*P **P** **23 33 05.1 +8.7**
ISHM Shahmirzad 45.80 312 *e*P **P** **23 32 58.3 +1.2**
ISFB Sefidab 45.98 310 *e*P **P** **23 32 59.5 +1.0**
IKLH Kolahrood 46.08 308 *e*P **P** **23 33 01.4 +2.1**
KLBR Kellerberrin 46.12 152 *e*P **P** **23 32 58.9 -0.6**
comp=Z,52nm,1.1s,mb5.4
IPRN Peran 46.69 312 *e*P **P** **23 33 04.7 +0.7**
NVS Novosibirsk 46.74 351 ⇓*i*P **P** **23 33 03.2 -0.9**
NVS *e* pP 23 33 12.5 -0.6
NVS pmax pmax
comp=Z,87nm,1.8s,mb5.4
NVS pmax pmax
comp=N,39nm,1.4s
NVS pmax pmax
comp=E,21nm,1.3s
NWAO Narrogin (SRO) 46.99 153 P **P** **23 33 06.0 -0.4**
comp=E,24nm,1.0s,mb5.1,baz=304,slow=12,SNR=6.0
NWAO LR LR 23 51 24.2
comp=E,520nm,20.8s,MS4.5,baz=145,slow=34
NWAO Narrogin (SRO) 46.99 153 *e*P **P** **23 33 06.0 -0.4**
comp=E,116nm,1.2s,mb5.7
NWAO Narrogin (SRO) 46.99 153 *e*P **P** **23 33 06.0 -0.4**
NWAO pmax pmax
comp=Z,116nm,1.2s
MDJ Mudanjiang 47.14 35 P **P** **23 33 07.9 +0.5**
MDJ pP pP 23 33 13.9 -2.5
MDJ sP sP 23 33 16.8 -3.2
MDJ PcP PcP 23 34 38.8 0.0
MDJ PP PP 23 34 58.3 -0.2
MDJ PcS PcS 23 38 33.5 -0.3
MDJ S **S** **23 39 59.5 +1.5**
MDJ ScS ScS 23 43 00.2 +0.6
MDJ pmax pmax
comp=Z,40nm,1.5s,mb5.1
MDJ pmax pmax
comp=Z,250nm,4.6s
MDJ LR LR
comp=N,550nm,14.4s,MS4.9
MDJ LR LR
comp=E,690nm,11.0s,MS4.9
MDJ LR LR
comp=Z,750nm,17.1s
VLA Vladivostok 47.59 38 *i*P **P** **23 33 12.3 +1.4**
VLA pmax pmax
comp=Z,91nm,1.2s,mb5.7
KBD Kabd 47.90 302 *e*P **P** **23 33 13.7 +0.1**
KBD AMb AMB 23 33 20.6
comp=Z,51nm,1.5s,mb5.3
RDF Al-Radifah 47.95 301 *e*P **P** **23 33 14.0 0.0**
RDF AMb AMB 23 33 15.1
comp=Z,74nm,0.4s,mb6.1
UMR Umm Al-Rimmam 47.98 302 *e*P **P** **23 33 14.0 -0.2**
UMR AMb AMB 23 33 14.9
comp=Z,41nm,0.4s,mb5.8
BRVK Borovoye 48.17 341 P **P** **23 33 14.2 -1.0**
comp=Z,71nm,0.5s,mb6.0,SNR=7.7
BRVK Borovoye 48.17 341 *e*P **P** **23 33 14.0 -1.3**
comp=Z,12nm,1.1s,mb4.8
BRVK *e*pP pP 23 33 22.7 -1.5
BRVK Borovoye 48.17 341 *e*P **P** **23 33 14.0 -1.2**
BRVK *e**PP pP 23 33 22.7 -1.5
BRVK pmax pmax
comp=Z,12nm,1.1s,mb4.8
NAY Al-Naaiem 48.30 301 *e*P **P** **23 33 16.1 -0.5**
NAY AMb AMB 23 33 17.3
comp=Z,46nm,0.4s,mb5.8
MIB Mutribah 48.37 302 *e*P **P** **23 33 16.6 -0.5**
MIB AMb AMB 23 33 21.4
comp=Z,47nm,0.8s,mb5.6
RAYN Ar Rayn 48.61 294 P **P** **23 33 20.2 +1.0**
comp=Z,152nm,0.5s,mb6.3,SNR=20
MJAR Matsushiro Arr 48.66 48 LR LR 23 56 57.1
comp=Z,273nm,18.3s,MS4.3,baz=200,slow=40
WRA Warramunga Arr 48.88 126 P **P** **23 33 20.1 -1.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=305,slow=8.9,SNR=16
WRA ScP ScP 23 38 37.3 -1.3
comp=Z,0.3nm,0.7s,baz=314,slow=3.7,SNR=3.8
WRA LR LR 23 59 33.0
comp=Z,362nm,18.3s,MS4.4,baz=295,slow=43
WRA Warramunga Arr 48.88 126 P **P** **23 33 20.1 -1.1**
WRA ScP ScP 23 38 37.3 -1.3
WRA Warramunga Arr 48.88 126 P **P** **23 33 20.1 -1.1**
WRAB Tennant Creek 48.88 126 *e*P **P** **23 33 20.3 -1.0**
comp=Z,16nm,1.0s,mb5.0
WRAB *e*pP pP 23 33 28.4 -1.9
WRAB Tennant Creek 48.88 126 *e*P **P** **23 33 20.3 -1.0**
WRAB *e**PP pP 23 33 28.4 -1.9
WRAB pmax pmax
comp=Z,16nm,1.0s,mb5.0
WRAB Tennant Creek 48.88 126 P **P** **23 33 20.3 -1.0**
comp=Z,20nm,0.9s,mb5.2
WB2 Warramunga Arr 48.89 126 *e*P **P** **23 33 19.8 -1.5**
ABKAR Abkulak array 49.39 331 *e*P **P** **23 33 24.4 -0.3**
comp=Z,11nm,0.5s,mb5.1
GUMO Guam 50.05 80 LR LR 23 54 21.8
comp=Z,251nm,20.0s,MS4.2,baz=274,slow=36
ATD Arta Tunnel 50.39 278 LR LR 23 51 45.2
comp=Z,468nm,21.0s,MS4.5,baz=266,slow=32
AS31 Alice Springs 50.58 130 *e*P **P** **23 33 33.2 -1.0**
AS31 *e*pP pP 23 33 41.3 -1.9
ASAR Alice Springs 50.58 130 P **P** **23 33 32.7 -1.4**
comp=Z,1.8nm,0.8s,mb4.0,baz=305,slow=6.9,SNR=18
ASAR PcP PcP 23 34 52.5 +0.8
comp=Z,1.3nm,1.0s,baz=323,slow=2.9,SNR=4.0
ASAR ScP ScP 23 38 44.1 -1.7
comp=Z,0.1nm,0.3s,baz=305,slow=4.7,SNR=3.4
ASAR Alice Springs 50.58 130 P **P** **23 33 32.7 -1.4**
ASAR PcP PcP 23 34 52.5 +0.8
ASAR ScP ScP 23 38 44.1 -1.7
ASAR Alice Springs 50.58 130 P **P** **23 33 32.7 -1.4**
ASAR 23 34 52.5
IDHR Dehrash 50.60 308 *e*P **P** **23 33 32.9 -1.3**
FORT Forrest 51.11 142 *e*P **P** **23 33 36.7 -1.3**
comp=Z,45nm,1.1s,mb5.3
BOD Bodaibo 51.31 14 *e*P **P** **23 33 37.3 -1.8**
BOD pmax pmax
comp=Z,15nm,2.0s,mb4.6
ISHB Shabestar 52.42 312 *e*P **P** **23 33 48.1 +0.4**
HABR Khabarovsk 52.47 33 *e*P **P** **23 33 46.5 -1.3**
HABR *PP pP 23 33 55.7 -1.2
HABR 23 34 53.0
HABR *e* 23 35 46.0
HABR S **S** **23 41 11.6 -0.7**
HABR *e**SS sS 23 41 28.5 +1.3
HABR *e* 23 43 33.4
HABR pmax pmax
comp=E,178nm,3.2s
HABR pmax pmax
comp=Z,239nm,2.1s,mb5.8
HABR pmax pmax
comp=N,107nm,2.1s
HABR MLR MLR
comp=Z,510nm,17.0s,MS4.6

IMRD Marand 52.51 313 *e*P **P** **23 33 48.8 +0.4**
CLNS Chul'man 53.64 21 *e*P pP 23 34 06.6 +1.1
CLNS pmax pmax
comp=E,16nm,1.3s
CLNS pmax pmax
comp=Z,19nm,1.3s,mb4.9
CLNS pmax pmax
comp=N,12nm,1.4s
GNI Garni 53.73 314 LR LR 00 01 52.6
comp=N,211nm,18.8s,MS4.2,baz=289,slow=42
GNI Garni 53.73 314 *e*P **P** **23 33 57.4 +0.1**
comp=N,4.7nm,0.6s,mb4.6
GNI Garni 53.73 314 *e*P **P** **23 33 57.4 +0.1**
GNI pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 55.02 337 *e*P **P** **23 34 05.3 -1.1**
comp=Z,35nm,1.5s,mb5.2
ARU *e*pP pP 23 34 15.0 -0.6
ARU Arti 55.02 337 *d i*P **P** **23 34 05.1 -1.3**
ARU 23 35 02.4
ARU *e* 23 36 07.3
ARU S **S** **23 41 47.1 +0.5**
ARU pmax pmax
comp=Z,25nm,1.7s,mb5.0
ARU MLR MLR
comp=Z,897nm,21.0s,MS4.8
ZEI Tsey 55.31 317 *e*P **P** **23 34 09.7 +1.0**
ZEI pmax pmax
comp=Z,18nm,2.2s,mb4.7
PMG Port Moresby 55.91 108 *e*P **P** **23 34 10.4 -3.1**
comp=Z,25nm,1.0s,mb5.2
PMG Port Moresby 55.91 108 *e*P **P** **23 34 10.5 -3.0**
PMG pmax pmax
comp=Z,25nm,1.0s
YSS Yuzh-Sakhalins 56.16 38 *e*P **P** **23 34 16.6 +1.8**
YSS pmax pmax
comp=Z,202nm,2.5s,mb5.7
KIV Kislovodsk 56.58 317 *e*P **P** **23 34 18.4 +0.6**
comp=Z,22nm,1.0s,mb5.1
KIV *e*pP pP 23 34 26.2 -0.7
KIV Kislovodsk 56.58 317⇑*e*P **P** **23 34 18.3 +0.5**
KIV *PP pP 23 34 26.9 0.0
KIV *e*SS SS 23 46 00.1 +4.6
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.8
KIV MLR MLR
comp=Z,200nm,21.0s,MS4.2
KMBO Kilima Mbogo 57.41 263 *e*P **P** **23 34 26.1 +1.9**
comp=Z,4.9nm,1.0s,mb4.5
KMBO *e*pP pP 23 34 34.1 +0.7
KMBO Kilima Mbogo 57.41 263 *e*P **P** **23 34 26.1 +1.9**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
SOKR Solikamsk 57.92 339 *c i*P **P** **23 34 27.3 +0.3**
SOKR pmax pmax
comp=Z,20nm,1.2s,mb5.0
SOKR MLR MLR
comp=Z,820nm,21.0s,MS4.8
CTA Charters Tower 58.85 120 *e*P **P** **23 34 34.8 +0.6**
comp=Z,18nm,1.1s,mb5.0
CTAO Charters Tower 58.85 120 *e*P **P** **23 34 31.1 -3.1**
comp=Z,59nm,1.3s,mb5.5
CTAO Charters Tower 58.85 120 *e*P **P** **23 34 31.1 -3.1**
CTAO pmax pmax
comp=Z,59nm,1.3s,mb5.5
CTAO Charters Tower 58.85 120 P **P** **23 34 36.5 +2.3**
comp=Z,496nmcomp=Z,38nm,1.5s,mb5.2
YAK Yakutsk 59.19 19 *e*P **P** **23 34 35.4 -0.4**
YAK pmax pmax
comp=Z,84nm,2.5s,mb5.3
STKA Stephens Creek 60.81 134 LR LR 00 02 01.1
comp=Z,458nm,21.7s,MS4.6,baz=106,slow=37
STKA Stephens Creek 60.81 134 *e*P **P** **23 34 54.2 +6.8**
comp=Z,6.9nm,1.1s,mb4.7
VSR Storozhevoye 61.60 324 *e*P **P** **23 34 51.0 -1.4**
VSR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=E,5.0nm,0.8s
BR131 Keskin Array S 61.76 310 *e*P **P** **23 34 51.7 -2.1**
comp=E,6.0nm,0.9s,mb4.7
BR131 *e*pP pP 23 35 01.0 -2.0
BRTR Keskin Array B 61.76 310 P **P** **23 34 51.9 -1.9**
comp=E,2.0nm,0.9s,mb4.2,baz=121,slow=9.2,SNR=9.1
BRTR LR LR 00 03 54.7
comp=E,159nm,21.5s,MS4.1,baz=98,slow=38
BRTR Keskin Array B 61.76 310 P **P** **23 34 51.9 -1.9**
BRTR Keskin Array B 61.76 310 P **P** **23 34 51.9 -1.9**
MOS Moscow 64.26 328 *e*P **P** **23 35 06.9 -3.1**
MOS *e* 23 35 21.7
MOS MLR MLR
comp=Z,700nm,19.0s,MS4.9
OBN Obninsk 64.56 328 *c i*P **P** **23 35 11.2 -0.9**
OBN *e* 23 35 44.8
OBN *e* 23 37 31.4
OBN *e*SS SS 23 48 04.1 +3.9
OBN pmax pmax
comp=Z,44nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.6
PETK Petropavlovsk- 67.35 36 LR LR 00 07 49.2
comp=Z,186nm,18.3s,MS4.3,baz=62,slow=38
AKASG Malin Array Be 67.38 321 P **P** **23 35 27.9 -2.4**
comp=Z,0.8nm,0.4s,mb4.1,baz=87,slow=6.2,SNR=5.2
AKASG LR LR 00 09 21.1
comp=Z,208nm,21.9s,MS4.3,baz=145,slow=40
AKASG Malin Array Be 67.38 321 P **P** **23 35 27.9 -2.4**
AKASG Malin Array Be 67.38 321 P **P** **23 35 27.9 -2.4**
KIEV Kiev 67.39 321 *e*P **P** **23 35 29.2 -1.2**
comp=Z,7.2nm,1.0s,mb4.7
KIEV Kiev 67.39 321 *e*P **P** **23 35 29.2 -1.1**
KIEV pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ARMA Armidale 67.60 128 *e*P **P** **23 35 33.0 +1.0**
VRI Vrincioaia 67.97 316⇑P **P** **23 35 34.0 -0.1**
VRI Vrincioaia 67.97 316⇑*i*P **P** **23 35 34.0 -0.1**
PLOR Plostina 68.03 316 ⇓P **P** **23 35 34.5 0.0**
PLOR Plostina 68.03 316 ⇓*i*P **P** **23 35 34.5 0.0**
HNR Honiara 68.09 104 LR LR 00 08 20.0
comp=Z,113nm,18.5s,MS4.1,baz=143,slow=38
HNR Honiara 68.09 104 *e*P **P** **23 35 34.5 -0.9**
comp=Z,56nm,0.7s,mb5.7
HNR Honiara 68.09 104 *e*P **P** **23 35 34.5 -0.9**
HNR pmax pmax
comp=Z,56nm,0.7s,mb5.7
MLR Muntele Rosu 68.45 315 LR LR 00 13 16.3
comp=Z,52nm,18.7s,MS3.8,baz=332,slow=43
MLR Muntele Rosu 68.45 315 ⇓P **P** **23 35 37.4 +0.3**
MLR Muntele Rosu 68.45 315 ⇓*i*P **P** **23 35 37.4 +0.3**
GVD Gavdhos 68.58 304 *e*P **P** **23 35 38.5 +0.3**
comp=Z,209nm,1.1s,mb6.0
BURAR Bucovina Array 69.31 318⇑P **P** **23 35 42.1 -0.3**
BURAR Bucovina Array 69.31 318⇑*i*P **P** **23 35 42.1 -0.3**
BUR08 Bucovina Ar. S 69.32 318 *e*P **P** **23 35 41.9 -0.6**
BUR08 *e*pP pP 23 35 51.4 -0.4
LSZ Lusaka 69.45 250 *e*P **P** **23 35 45.2 +1.3**
comp=Z,9.3nm,1.0s,mb4.7
LSZ *e*pP pP 23 35 53.4 +0.2
LSZ Lusaka 69.45 250 *e*P **P** **23 35 45.2 +1.3**
LSZ pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
JOF Joensuu 69.99 334 *e*P **P** **23 35 45.5 -0.8**
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
JOF Joensuu 69.99 334 *e*p **P** **23 35 45.5 -0.8**
comp=Z,5.7nm,0.5s,mb4.8
VTS Vitosha 70.00 312⇑P **P** **23 35 46.6 -0.2**
VTS Vitosha 70.00 312⇑*i*P **P** **23 35 46.6 -0.2**
DRGR 70.87 316 ⇓P **P** **23 35 51.4 -0.6**
DRGR 70.87 316 ⇓*i*P **P** **23 35 51.4 -0.6**
APA Apatity 70.97 339⇑*i*P **P** **23 35 52.0 -0.2**
APA pmax pmax
comp=Z,20nm,1.0s,mb5.0
APA MLR MLR
comp=Z,800nm,17.0s,MS5.0
KWP Kalwaria Pacla 71.27 319 *e*P **P** **23 35 54.3 -0.1**
KWP Kalwaria Pacla 71.27 319 *e*P **P** **23 35 53.8 -0.6**
comp=Z,16nm,0.9s,mb5.0
KWP Kalwaria Pacla 71.27 319 *e*P **P** **23 35 53.8 -0.6**
KWP pmax pmax
comp=Z,16nm,0.9s,mb5.0
KWP Kalwaria Pacla 71.27 319⇑*i*P **P** **23 35 54.1 -0.3**
KOLS Kolonicke sedl 71.45 319 *e*P **P** **23 35 55.1 -0.4**

KOLS pmax pmax
comp=Z,15nm,1.6s,mb4.7
KOLS Kolonicke sedl 71.45 319 *e*P **P** **23 35 55.1 -0.4**
SUW Suwalki 71.71 324 *e*P **P** **23 35 55.3 -1.6**
comp=Z,34nm,1.0s,mb5.2
SUW *e*pP pP 23 36 03.7 -2.6
SUW Suwalki 71.71 324 *e*P **P** **23 35 55.3 -1.7**
SUW *e**PP pP 23 36 03.7 -2.6
SUW pmax pmax
comp=Z,34nm,1.0s,mb5.2
FINES FINESS Array B 71.87 332 P **P** **23 35 56.9 -0.8**
comp=Z,3.2nm,0.5s,mb4.5,baz=89,slow=5.4,SNR=39
FINES LR LR 00 13 43.2
comp=Z,387nm,19.5s,MS4.7,baz=328,slow=41
FINES FINESS Array B 71.87 332 P **P** **23 35 56.9 -0.8**
FINES FINESS Array B 71.87 332 P **P** **23 35 56.9 -0.8**
KAF Kangasniemi 71.94 333 *e*P **P** **23 35 57.2 -1.0**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
KAF Kangasniemi 71.94 333 *e*p **P** **23 35 57.2 -1.0**
comp=Z,3.1nm,0.4s,mb4.6
CRVS Cervenica-Dubn 71.98 319 *e*P **P** **23 35 58.8 +0.1**
CRVS pmax pmax
comp=Z,15nm,1.3s,mb4.8
CRVS Cervenica-Dubn 71.98 319 *e*P **P** **23 35 58.8 +0.1**
KECS Kecovo 72.57 318 *e*P **P** **23 36 02.1 -0.1**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 72.57 318 *e*P **P** **23 36 02.1 -0.1**
NIE Niedzica 72.79 319 *e*P **P** **23 36 03.2 -0.3**
NIE Niedzica 72.79 319 *e*P **P** **23 36 03.2 -0.3**
OJC Ojcow 73.22 320 *e*P **P** **23 36 04.9 -1.1**
comp=Z,12nm,0.9s,mb4.8
OJC Ojcow 73.22 320 *e*P **P** **23 36 04.9 -1.1**
OJC pmax pmax
comp=Z,12nm,0.9s,mb4.8
PKSM Moragy 73.60 316⇑P **P** **23 36 14.3 +5.9**
PKSM Moragy 73.60 316⇑*i*P **P** **23 36 14.3 +5.9**
KEV Kevo 73.96 341 *e*P **P** **23 36 08.0 -2.0**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KEV Kevo 73.96 341 *e*p **P** **23 36 08.0 -2.0**
comp=Z,3.7nm,0.6s,mb4.5
OKC Ostrava-Krasne 74.24 319 *e*P **P** **23 36 11.6 -0.4**
OKC *e* pP 23 36 19.8 -1.6
OKC Ostrava-Krasne 74.24 319 *e*P **P** **23 36 11.6 -0.4**
OKC *e*pP pP 23 36 19.8 -1.6
ARCES ARCESS Array B 74.39 340 P **P** **23 36 12.3 -0.2**
comp=Z,15nm,1.1s,mb4.8,baz=100,slow=6.4,SNR=36
ARCES LR LR 00 11 44.0
comp=Z,628nm,21.4s,MS4.9,baz=118,slow=38
ARCES ARCESS Array B 74.39 340 P **P** **23 36 12.3 -0.2**
ARCES ARCESS Array B 74.39 340 P **P** **23 36 12.3 -0.2**
LBTB Lobatse 74.56 241 *e*P **P** **23 36 15.4 +1.0**
comp=Z,16nm,1.1s,mb4.9
LBTB *e*pP pP 23 36 23.6 -0.1
LBTB Lobatse 74.56 241 *e*P **P** **23 36 15.4 +1.0**
LBTB *e**PP pP 23 36 23.6 -0.2
LBTB pmax pmax
comp=Z,16nm,1.1s,mb4.9
MORC Moravsky Berou 74.62 319 *e*P **P** **23 36 14.1 -0.2**
MORC *e*pP pP 23 36 22.3 -1.4
MORC Moravsky Berou 74.62 319 *e*P **P** **23 36 14.1 -0.1**
MORC *e**PP pP 23 36 22.3 -1.3
MORC Moravsky Berou 74.62 319⇑*i*P **P** **23 36 13.3 -0.9**
ZST Bratislava 74.79 318 *e*P **P** **23 36 15.9 +0.6**
ZST pmax pmax
comp=Z,16nm,1.1s,mb4.9
ZST Bratislava 74.79 318 *e*P **P** **23 36 15.9 +0.6**
VRAC Vranov 75.20 319 LR LR 00 15 27.2
comp=Z,161nm,20.1s,MS4.3,baz=99,slow=41
VRAC Vranov 75.20 319 ⇓P **P** **23 36 16.1 -1.5**
VRAC Vranov 75.20 319 ⇓*i*P **P** **23 36 16.1 -1.5**
DPC Dobruska-Polom 75.45 320 *e*P **P** **23 36 19.3 +0.3**
DPC Dobruska-Polom 75.45 320 *e*P **P** **23 36 18.9 -0.1**
DPC *e* pP 23 36 26.7 -1.7
DPC Dobruska-Polom 75.45 320 *e*P **P** **23 36 18.9 -0.1**
DPC *e*pP pP 23 36 26.7 -1.7
KSP Ksiaz 75.50 320 *e*P **P** **23 36 19.0 -0.3**
KSP Ksiaz 75.50 320 *e*P **P** **23 36 18.8 -0.5**
KSP *e*pP pP 23 36 27.0 -1.7
KSP Ksiaz 75.50 320 *e*P **P** **23 36 18.8 -0.5**
KSP *e**PP pP 23 36 27.0 -1.7
UPC Upice 75.66 320 *e*P **P** **23 36 22.7 +2.5**
UPC Upice 75.66 320 *e*P **P** **23 36 22.7 +2.5**
BOSA Boshof 75.96 238 P **P** **23 36 23.0 +0.7**
comp=Z,4.1nm,0.8s,mb4.4,baz=88,slow=11,SNR=16
BOSA LR LR 00 04 41.1
comp=Z,227nm,20.3s,MS4.5,baz=73,slow=32
BOSA Boshof 75.96 238 *e*P **P** **23 36 23.5 +1.2**
comp=Z,17nm,1.1s,mb4.9
BOSA *e*pP pP 23 36 31.5 -0.2
BOSA Boshof 75.96 238 *e*P **P** **23 36 23.5 +1.2**
BOSA *e**PP pP 23 36 31.5 -0.2
BOSA pmax pmax
comp=Z,17nm,1.1s,mb4.9
BSD Bornholm Skovb 76.62 325 *i*P **P** **23 36 24.6 -1.0**
BSD pmax pmax
comp=Z,12nm,1.0s,mb4.8
BSD Bornholm Skovb 76.62 325 *i*P **P** **23 36 24.6 -1.0**
comp=Z,12nm,1.0s,mb4.8
BRG Berggiesshubel 76.99 320 *e*P **P** **23 36 27.8 0.0**
comp=Z,12nm,1.4s,mb4.6
BRG *e* pP 23 36 36.3 -0.8
comp=Z,18nm,1.4s
BRG Berggiesshubel 76.99 320 *e*P **P** **23 36 27.8 +0.1**
BRG *e* pP 23 36 36.3 -0.9
BRG pmax pmax
comp=Z,13nm,1.4s,mb4.7
BRG pmax pmax
comp=Z,18nm,1.5s,mb4.8
GERES GERESS Array B 77.08 318 P **P** **23 36 28.4 0.0**
comp=Z,2.2nm,0.5s,mb4.3,baz=92,slow=5.8,SNR=25
GERES LR LR 00 17 10.7
comp=Z,99nm,19.7s,MS4.1,baz=275,slow=41
GERES GERESS Array B 77.08 318 P **P** **23 36 28.4 0.0**
GERES GERESS Array B 77.08 318 P **P** **23 36 28.4 +0.1**
KHC Kasperske Hory 77.17 318 *e*P **P** **23 36 28.6 -0.2**
KHC *e* pP 23 36 35.9 -2.3
KHC Kasperske Hory 77.17 318 *e*P **P** **23 36 28.6 -0.2**
KHC *e*pP pP 23 36 35.9 -2.3
DZM Mont Dzumac 77.28 115 *e*P **P** **23 36 35.9 +6.0**
comp=Z,68nm,1.6s,mb5.3
DZM *e*LR LR 00 00 47.9
comp=Z,356nm,25.0s
CLL Collm 77.59 321 *e*P **P** **23 36 30.0 -1.1**
CLL *e* 23 36 44.0
CLL Collm 77.59 321 *e*P **P** **23 36 30.0 -1.1**
CLL *e*pP pP 23 36 39.0 -1.6
CLL *e*(sP) sP 23 36 44.0 -0.1
NKC Novy Kostel 77.92 319 *e*P **P** **23 36 33.8 +0.8**
NKC Novy Kostel 77.92 319 *e*P **P** **23 36 33.8 +0.8**
GRF Grafenberg Arr 78.72 319 *e*P **P** **23 36 37.7 +0.3**
comp=Z,65nm,1.9s,mb5.2
GRF Grafenberg Arr 78.72 319 *e*P **P** **23 36 37.7 +0.3**
GRF pmax pmax
comp=Z,65nm,1.9s,mb5.2
NB2 NORSAR Subarra 78.89 331 P **P** **23 36 36.9 -1.2**
comp=Z,3.6nm,0.5s,mb4.6,baz=97,slow=5.1
NOA NORSAR Array B 78.89 331 P **P** **23 36 37.1 -1.0**
comp=Z,2.3nm,0.5s,mb4.4,baz=92,slow=5.7,SNR=22
NOA LR LR 00 13 39.9
comp=Z,191nm,21.9s,MS4.4,baz=295,slow=37
NOA NORSAR Array B 78.89 331 P **P** **23 36 37.1 -1.0**
NOA NORSAR Array B 78.89 331 P **P** **23 36 37.1 -1.0**
NAO01 NORSAR Array S 79.05 330 *e*P **P** **23 36 38.1 -0.8**
comp=Z,13nm,0.9s,mb4.8
NAO01 *e*pP pP 23 36 47.6 -0.8
MAW Mawson 79.38 192 P **P** **23 36 42.0 +1.5**
comp=Z,5.6nm,0.9s,mb4.5,baz=52,slow=5.5,SNR=4.4
MAW LR LR 00 07 28.5
comp=Z,209nm,18.1s,MS4.5,baz=15,slow=32
MAW Mawson 79.38 192 P **P** **23 36 42.0 +1.5**
MAW Mawson 79.38 192 P **P** **23 36 42.0 +1.5**
MUD Monsted U'grnd 79.90 326 *i*P **P** **23 36 44.4 +0.7**
MUD Monsted U'grnd 79.90 326 *i*P **P** **23 36 44.4 +0.7**
TSUM Tsumeb 80.23 249 *e*P **P** **23 36 46.5 +0.3**
comp=Z,10nm,1.1s,mb4.7
KEST Kesra 80.63 305 P **P** **23 36 48.3 +0.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=23,slow=2.7,SNR=5.2
KEST LR LR 00 17 32.1
comp=Z,59nm,19.6s,MS4.0,baz=265,slow=39
KEST Kesra 80.63 305 P **P** **23 36 48.3 +0.2**
LPG La Plagne 81.90 315 *e*P **P** **23 36 54.5 -0.1**

comp=Z,37nm,1.0s,mb5.0
LPG La Plagne 81.90 315 *eP* **P 23 36 54.5 -0.1**
comp=Z,37nm,1.0s,mb5.3
LPG La Plagne 81.90 315 *eP* **P 23 36 54.5 -0.1**
LPG pmax pmax
comp=Z,37nm,1.0s,mb5.3
LPL La Plagne 81.92 315 *eP* **P 23 36 54.6 -0.1**
comp=Z,69nm,1.2s,mb5.2
LPL La Plagne 81.92 315 *eP* **P 23 36 54.6 -0.1**
comp=Z,69nm,1.2s,mb5.5
LPL La Plagne 81.92 315 *eP* **P 23 36 54.6 -0.1**
LPL pmax pmax
comp=Z,69nm,1.2s,mb5.5
MBDF Montbardon 81.95 314 *eP* **P 23 36 53.8 -1.1**
MBDF Montbardon 81.95 314 *eP* **P 23 36 53.8 -1.1**
MBDF Montbardon 81.95 314 *eP* **P 23 36 53.8 -1.1**
BNI Bardonecchia 81.99 314 *eP* **P 23 36 56.6 +1.5**
comp=Z,20nm,1.1s,mb5.0
BNI Bardonecchia 81.99 314 *eP* **P 23 36 56.6 +1.5**
BNI pmax pmax
comp=Z,20nm,1.1s,mb5.0
HAU Haudompre 82.00 317 *eP* **P 23 36 54.2 -0.9**
comp=Z,22nm,0.9s,mb4.8
HAU *eR*
comp=Z,201nm,22.5s
HAU Haudompre 82.00 317 *eP* **P 23 36 54.2 -0.9**
comp=Z,22nm,0.9s,mb5.1
HAU Haudompre 82.00 317 *eP* **P 23 36 54.2 -0.9**
HAU pmax pmax
comp=Z,22nm,0.9s,mb5.1
CABF La Chapelle 82.28 316 *eP* **P 23 36 56.2 -0.4**
CABF La Chapelle 82.28 316 *eP* **P 23 36 56.2 -0.4**
CABF La Chapelle 82.28 316 *eP* **P 23 36 56.2 -0.4**
MEZF Maizieres J'vi 82.82 318 *eP* **P 23 36 58.9 -0.5**
comp=Z,6.1nm,0.5s,mb4.6
MEZF Maizieres J'vi 82.82 318 *eP* **P 23 36 58.9 -0.5**
comp=Z,6.1nm,0.5s,mb4.9
SFTF Sexfontaines 82.86 318 *eP* **P 23 36 59.0 -0.5**
SFTF Sexfontaines 82.86 318 *eP* **P 23 36 59.0 -0.5**
BAIF Baives 83.23 320 *eP* **P 23 37 01.2 -0.2**
comp=Z,29nm,1.1s,mb4.9
BAIF Baives 83.23 320 *eP* **P 23 37 01.2 -0.2**
comp=Z,29nm,1.1s,mb5.2
BAIF Baives 83.23 320 *eP* **P 23 37 01.2 -0.2**
BAIF pmax pmax
comp=Z,29nm,1.1s,mb5.2
VIVF Saint-Julien-l 83.42 314 *eP* **P 23 37 01.9 -0.7**
VIVF Saint-Julien-l 83.42 314 *eP* **P 23 37 01.9 -0.7**
VIVF Saint-Julien-l 83.42 314 *eP* **P 23 37 01.9 -0.7**
LOR Lormes 83.74 317 *eP* **P 23 37 03.4 -0.7**
comp=Z,44nm,1.2s,mb5.2
LOR *eR*
comp=Z,194nm,17.5s
LOR Lormes 83.74 317 *eP* **P 23 37 03.4 -0.7**
comp=Z,44nm,1.2s,mb5.5
LOR Lormes 83.74 317 *eP* **P 23 37 03.4 -0.7**
LOR pmax pmax
comp=Z,44nm,1.2s,mb5.5
SMF Signal de Mont 83.82 316 *eP* **P 23 37 03.8 -0.7**
SMF Signal de Mont 83.82 316 *eP* **P 23 37 03.8 -0.7**
SMF Signal de Mont 83.82 316 *eP* **P 23 37 03.8 -0.7**
SSF Saint Saulge 84.00 317 *eP* **P 23 37 04.6 -0.9**
SSF Saint Saulge 84.00 317 *eP* **P 23 37 04.6 -0.9**
SSF Saint Saulge 84.00 317 *eP* **P 23 37 04.6 -0.9**
BGF Bois d'Agland 84.51 316 *eP* **P 23 37 07.9 -0.2**
BGF Bois d'Agland 84.51 316 *eP* **P 23 37 07.9 -0.2**
BGF Bois d'Agland 84.51 316 *eP* **P 23 37 07.9 -0.2**
TCF Toulx Ste Croi 84.98 316 *eP* **P 23 37 09.9 -0.5**
TCF Toulx Ste Croi 84.98 316 *eP* **P 23 37 09.9 -0.5**
TCF Toulx Ste Croi 84.98 316 *eP* **P 23 37 09.9 -0.5**
TAM Tamanrasset 85.28 292 *eP* **P 23 37 13.7 +1.3**
comp=Z,8.2nm,1.3s,mb4.7
TAM Tamanrasset 85.28 292 *eP* **P 23 37 13.7 +1.3**
TAM pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
SYO Syowa Base 86.22 197⇑ *e*PcP PcP 23 37 18.6 0.0
SYO Syowa Base 86.22 197⇓ *e*pP pP 23 37 24.0 -1.6
LDF La Druitiere 86.22 318 *eP* **P 23 37 15.8 -0.8**
comp=Z,3.5nm,0.5s,mb4.6
LDF La Druitiere 86.22 318 *eP* **P 23 37 15.8 -0.8**
comp=Z,3.5nm,0.4s,mb4.9
LDF La Druitiere 86.22 318 *eP* **P 23 37 15.8 -0.8**
LDF pmax pmax
comp=Z,4.0nm,0.4s,mb5.0
FLN La Foliniere 86.43 319 *eP* **P 23 37 16.9 -0.7**
FLN *eR*
comp=Z,257nm,19.5s
FLN La Foliniere 86.43 319 *eP* **P 23 37 16.9 -0.7**
FLN La Foliniere 86.43 319 *eP* **P 23 37 16.9 -0.7**
RPZ Rata Peaks 86.76 135 LR LR 00 16 37.8
comp=Z,344nm,20.2s,MS4.8,baz=210,slow=36
ROSF Rostrenen 88.33 319 *eP* **P 23 37 26.2 -0.6**
ROSF Rostrenen 88.33 319 *eP* **P 23 37 26.2 -0.6**
ROSF Rostrenen 88.33 319 *eP* **P 23 37 26.2 -0.6**
TORD Torodi Ar. Bea 90.27 283 P **P 23 37 36.3 -0.3**
comp=Z,1.2nm,0.7s,mb4.3,baz=84,slow=4.8,SNR=7.7
TORD LR LR 00 16 34.0
comp=Z,208nm,20.9s,MS4.5,baz=40,slow=34
TORD Torodi Ar. Bea 90.27 283 P **P 23 37 36.3 -0.3**
ESDC Sonseca Array 90.55 310 P **P 23 37 37.8 +0.4**
comp=Z,0.5nm,0.3s,mb4.2,baz=61,slow=4.3,SNR=9.2
ESDC LR LR 00 22 08.2
comp=Z,114nm,21.9s,MS4.3,baz=40,slow=38
ESDC Sonseca Array 90.55 310 P **P 23 37 37.8 +0.4**
BPAW Bear Paw Mtn. 92.72 23 *eP* **P 23 37 47.0 +0.2**
comp=Z,41nm,1.4s,mb5.7
MCK McKinley 93.69 23 *eP* **P 23 37 50.5 -0.9**
comp=Z,12nm,1.2s,mb5.2
MCK McKinley 93.69 23 *eP* **P 23 37 50.5 -0.9**
MCK pmax pmax
comp=Z,12nm,1.2s,mb5.2
ILAR Eielson Array 93.97 22 P **P 23 37 51.4 -1.2**
comp=Z,1.0nm,0.8s,mb4.3,baz=300,slow=4.6,SNR=13
ILAR LR LR 00 21 32.7
comp=Z,182nm,18.1s,MS4.6,baz=305,slow=36
ILAR Eielson Array 93.97 22 P **P 23 37 51.4 -1.2**
ILAR Eielson Array 93.97 22 P **P 23 37 51.4 -1.2**
INK Inuvik 96.17 16 *eP* **P 23 38 02.2 -0.4**
comp=Z,8.5nm,1.2s,mb5.0
INK Inuvik 96.17 16 *eP* **P 23 38 02.3 -0.3**
INK pmax pmax
comp=Z,8.0nm,1.2s
RES Resolute Bay 96.52 2 *eP* **P 23 38 04.0 0.0**
comp=Z,5.5nm,1.0s,mb4.9
RES Resolute Bay 96.52 2 *eP* **P 23 38 04.1 0.0**
RES pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
DBIC Dimbokro 97.70 278 LR LR 00 19 57.8
comp=Z,202nm,21.5s,MS4.6,baz=65,slow=34
PPT Papeete 117.70 105 *e*LR LR 00 19 40.4
comp=Z,170nm,23.0s
TBI Tubuai 117.73 112 *e*LR LR 00 19 38.7
comp=Z,227nm,33.5s
TPAW Teton Pass 123.25 22 *e*PKPdf PKPdf 23 43 32.5 +0.5
REDW Red Top Meadow 123.40 22 *e*PKPdf PKPdf 23 43 33.0 +0.6
REDW *ep*PKPdf pPKPdf 23 43 42.9 +0.7
NVAR Mina Array Bea 124.22 31 PKP PKPdf 23 43 35.6 +1.5
comp=Z,0.7nm,0.4s,baz=285,slow=3.5,SNR=15
NVAR Mina Array Bea 124.22 31 PKP PKPdf 23 43 35.6 +1.5
BW06 Boulder Array 124.38 21 *e*PKPdf PKPdf 23 43 34.0 -0.3
PDAR Pinedale Array 124.38 21 PKP PKPdf 23 43 33.0 -1.3
comp=Z,0.7nm,0.7s,baz=293,slow=0.9,SNR=6.4
PDAR Pinedale Array 124.38 21 PKP PKPdf 23 43 33.0 -1.3
HWUT Hardware Ranch 124.64 23 *e*PKPdf PKPdf 23 43 34.1 -0.7
DUG Dugway 125.33 25 *e*PKPdf PKPdf 23 43 35.2 -0.9
DUG Dugway 125.33 25 *e*PKIKP PKPdf 23 43 35.2 -1.0
ANMO Albuquerque 132.40 23 *e*PKPdf PKPdf 23 43 49.7 -0.1
ANMO Albuquerque 132.40 23 *e*PKIKP PKPdf 23 43 49.7 -0.1
MNTX Cornudas Mount 135.69 24 *e*PKPdf PKPdf 23 43 56.1 0.0
TXAR Lajitas Array 138.46 24 PKP PKPdf 23 44 02.7 +1.4
comp=Z,0.4nm,0.4s,baz=282,slow=0.3,SNR=11
TXAR Lajitas Array 138.46 24 PKP PKPdf 23 44 02.7 +1.4
TXAR Lajitas Array 138.46 24 PKIKP PKPdf 23 44 02.7 +1.4
JCT Junction City 138.78 18 *e*PKPdf PKPdf 23 44 02.5 +0.7
JCT *ep*PKPdf pPKPdf 23 44 11.8 +0.2
JCT Junction City 138.78 18 *e*PKIKP PKPdf 23 44 02.5 +0.7
JCT *e* 23 44 11.8
TRQA Tornquist 143.69 213 *e*PKPdf PKPdf 23 44 10.5 +0.2
PLCA Paso Flores 145.34 201 PKPbc PKPbc 23 44 13.8 +0.9
comp=Z,12nm,0.8s,baz=178,slow=2.6,SNR=7.2
PLCA Paso Flores 145.34 201 *e*PKPbc PKPbc 23 44 13.4 +0.5
PLCA *ep*PKPdf pPKPdf 23 44 21.7 -1.3
PLCA Paso Flores 145.34 201 *e*PKIKP PKPdf 23 44 13.4 +0.3
PLCA *e* 23 44 21.7

CPUP Villa Florida 147.70 234 PKPbc PKPbc 23 44 20.2 -0.2
comp=Z,5.5nm,0.8s,baz=84,slow=3.1,SNR=15
CPUP Villa Florida 147.70 234 *e*PKPbc PKPbc 23 44 20.0 -0.3
CPUP Villa Florida 147.70 234 *e*PKP2 PKPab 23 44 20.0 -2.6
LPAZ La Paz 161.05 245 *e*PKPdf PKPdf 23 44 37.1 +0.8
LPAZ *e*PKPab PKPab 23 45 19.9 +0.5
LPAZ La Paz 161.05 245 *e*PKIKP PKPdf 23 44 37.1 +0.8
LPAZ *e* 23 45 19.9
OTAV Otavalo 168.32 320 *e*PKPab PKPab 23 45 52.5 +1.2

*IDC **05** 23:33:39.3±1.4, 8.°63N×93.°70E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/25, mbtmp3.6/9, ML3.9/1, Error ellipse: s-maj=49.2km s-min=22.0km az=59.0*
*ISCJB **05** 23:33:41.4±5.8, 8.°7N±0.°1×94.°0E±0.°2, h22km±42km, mb4.1/11, Error ellipse: s-maj=38.5km s-min=11.8km az=144.0*
*NEIC **05** 23:33:45.7±1.8, 8.°71N×93.°97E, h42km±16km, mb4.6/7, Error ellipse: s-maj=25.3km s-min=7.5km az=54.0*
ISC 05 23:33:45.6±2.4,**8.°7N**±0.°1×**94.°0E**±0.°2,**h40**km±21km,**n34,**
σ0°74/34,mb4.1/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**8.14**	**121**	*eP*	**Pn**	**23 35 40.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**10.83**	**26**	Pn	**Pn**	**23 36 17.9**	**-0.3**
0.3nm,0.3s,baz=212,slow=15,SNR=7.9							
CMAR	**Chiang Mai Arr**	**10.83**	**26**	Pn	**Pn**	**23 36 17.9**	**-0.3**
JIRN	**Jiri**	**20.25**	**340**	*eP*	**P**	**23 38 18.3**	**+0.7**
5.9nm,0.7s							
JIRN	**Jiri**	**20.25**	**340**	*eP*	**P**	**23 38 18.3**	**+0.7**
5.9nm,0.7s							
PKI	**Pulchoki**	**20.45**	**338**	*eP*	**P**	**23 38 20.7**	**+0.9**
26nm,1.0s							
PKI	**Pulchoki**	**20.45**	**338**	*eP*	**P**	**23 38 20.7**	**+0.9**
26nm,1.0s							
GUN	**Gumba**	**20.59**	**339**	*eP*	**P**	**23 38 21.1**	**-0.2**
18nm,0.7s							
GUN	**Gumba**	**20.59**	**339**	*eP*	**P**	**23 38 21.1**	**-0.2**
18nm,0.7s							
GKN	**Gorkha**	**21.14**	**336**	*eP*	**P**	**23 38 27.3**	**+0.1**
39nm,0.9s,mb4.8							
GKN	**Gorkha**	**21.14**	**336**	*eP*	**P**	**23 38 27.3**	**+0.1**
39nm,0.9s,mb4.7							
KOLN	**Koldanda**	**21.36**	**334**	*eP*	**P**	**23 38 30.5**	**+0.9**
17nm,0.7s,mb4.5							
KOLN	**Koldanda**	**21.36**	**334**	*eP*	**P**	**23 38 30.5**	**+0.9**
17nm,0.7s,mb4.5							
DANN	**Dangsing**	**21.80**	**335**	*eP*	**P**	**23 38 34.5**	**+0.2**
19nm,0.8s,mb4.6							
DANN	**Dangsing**	**21.80**	**335**	*eP*	**P**	**23 38 34.5**	**+0.2**
19nm,0.8s,mb4.6							
PYUN	**Piuthan**	**21.92**	**333**	*eP*	**P**	**23 38 36.2**	**+0.7**
41nm,1.3s,mb4.7							
PYUN	**Piuthan**	**21.92**	**333**	*eP*	**P**	**23 38 36.2**	**+0.7**
41nm,1.3s,mb4.7							
MKAR	**Makanchi Array**	**39.26**	**347**	P	**P**	**23 41 09.5**	**-0.7**
0.8nm,0.9s,mb3.4,baz=155,slow=7.9,SNR=3.7							
MKAR	**Makanchi Array**	**39.26**	**347**	P	**P**	**23 41 09.5**	**-0.7**
SONM	**Songino Array**	**40.40**	**13**	P	**P**	**23 41 20.1**	**+0.5**
0.5nm,0.9s,baz=197,slow=4.5,SNR=2.8							
SONM	**Songino Array**	**40.40**	**13**	P	**P**	**23 41 20.1**	**+0.4**
KURK	**Kurchatov**	**43.78**	**346**	P	**P**	**23 41 46.4**	**-0.8**
0.8nm,0.2s,mb4.0,baz=159,slow=7.4,SNR=4.0							
KURK	**Kurchatov**	**43.78**	**346**	P	**P**	**23 41 46.4**	**-0.8**
ZAA0	**Zalesovo Array**	**45.73**	**352**	*eP*	**P**	**23 42 02.2**	**-0.5**
ZALV	**Zalesovo Beam**	**45.73**	**352**	P	**P**	**23 42 02.5**	**-0.2**
1.4nm,0.7s,mb4.0,baz=171,slow=7.6,SNR=7.8							
ZALV	**Zalesovo Beam**	**45.73**	**352**	P	**P**	**23 42 02.5**	**-0.1**
WRA	**Warramunga Arr**	**48.85**	**126**	P	**P**	**23 42 28.8**	**+1.2**
0.5nm,0.8s,mb3.6,baz=306,slow=8.5,SNR=4.4							
WRA	**Warramunga Arr**	**48.85**	**126**	P	**P**	**23 42 28.8**	**+1.2**
ASAR	**Alice Springs**	**50.55**	**130**	P	**P**	**23 42 41.1**	**+0.7**
0.1nm,0.3s,mb3.3,baz=301,slow=7.3,SNR=2.9							
ASAR	**Alice Springs**	**50.55**	**130**	P	**P**	**23 42 41.1**	**+0.7**
BRTR	**Keskin Array B**	**61.79**	**310**	P	**P**	**23 43 59.0**	**-1.4**
0.3nm,0.4s,mb3.8,baz=99,slow=9.5,SNR=3.0							
BRTR	**Keskin Array B**	**61.79**	**310**	P	**P**	**23 43 59.0**	**-1.4**
ARCES	**ARCESS Array B**	**74.45**	**340**	P	**P**	**23 45 18.3**	**-1.0**
2.7nm,1.0s,mb4.1,baz=104,slow=5.9,SNR=2.8							
ARCES	**ARCESS Array B**	**74.45**	**340**	P	**P**	**23 45 18.3**	**-1.0**

*IDC **05** 23:34:26.6±1.3, 13.°16N×120.°58E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/21, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx3.2/20, Error ellipse: s-maj=32.4km s-min=11.3km az=103.0*
*NEIC **05** 23:34:30.8±0.8, 13.°29N×120.°69E, h35km, Error ellipse: s-maj=22.9km s-min=12.6km az=86.0*
ISC 05 23:34:26.7±4.7,**13.°2N**±0.°2×**120.°6E**±0.°2,**h1**km±34km,**n10,**
σ0°19/9,mb3.4/3,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.97**	**20**	Pg	**Pg**	**23 34 45.3**	**0.0**
124nm,0.3s,baz=158,slow=4.9,SNR=5.4							
TGY				Lg		23 34 59.9	
218nm,0.3s,baz=163,slow=21,SNR=13							
TGY	**Tagaytay City**	**0.97**	**20**	Pg	**Pg**	**23 34 45.3**	**0.0**
TGY				Lg		23 34 59.9	
SSLB	**Suanglung**	**10.55**	**2**	*e*Pn	**Pn**	**23 36 59.1**	**0.0**
CMAR	**Chiang Mai Arr**	**21.48**	**287**	P	**P**	**23 39 16.8**	**0.0**
0.3nm,0.4s,mb3.0,baz=100,slow=9.2,SNR=4.0							
CMAR	**Chiang Mai Arr**	**21.48**	**287**	P	**P**	**23 39 16.8**	**0.0**
WRA	**Warramunga Arr**	**35.59**	**157**	P	**P**	**23 41 25.5**	**-0.3**
0.6nm,0.7s,mb3.6,baz=336,slow=9.5,SNR=4.2							
WRA	**Warramunga Arr**	**35.59**	**157**	P	**P**	**23 41 25.5**	**-0.3**
ASAR	**Alice Springs**	**38.87**	**160**	P	**P**	**23 41 54.0**	**+0.3**
0.4nm,0.5s,mb3.4,baz=339,slow=7.2,SNR=8.0							
ASAR	**Alice Springs**	**38.87**	**160**	P	**P**	**23 41 54.0**	**+0.3**
FX1	**Attu Island--F**	**57.38**	**35**	LR	LR	00 05 53.7	
comp=Z,87nm,20.6s,baz=262,slow=33							

*ISCJB **05** 23:41:55.0±0.5, 42.°14N±0.°05×139.°59E±0.°07, h202km±4km, mb3.3/7, Error ellipse: s-maj=9.6km s-min=7.5km az=142.6*
*IDC **05** 23:41:55.0±6.9, 42.°11N×139.°46E, h185km±25km, mb3.2/7, mb1 3.2/8, mb1mx3.0/27, mbtmp3.2/8, Error ellipse: s-maj=123.5km s-min=18.7km az=168.0*
*NEIC **05** 23:41:54.8±1.1, 42.°08N×139.°47E, h186km±11km, Error ellipse: s-maj=21.9km s-min=13.7km az=170.0*
*JMA **05** 23:41:56.5±0.2, 42.°15N×139.°52E, h192km±2km, M2.9*
ISC 05 23:41:55.9±0.5,**42.°14N**±0.°05×**139.°60E**±0.°07,**h198**km±4km,
n31,σ0°66/43,mb3.3/7,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.11**	**236**	P	**Pn**	**23 42 21.5**	**-0.3**
JOSM				*e*S	**Sn**	**23 42 40.7**	**-1.1**
JYM2	**Yakumo 2**	**0.58**	**92**	P	**Pn**	**23 42 23.6**	**+0.6**
JYM2				*e*S	**Sn**	**23 42 44.7**	**+0.8**
JSH	**Shimam**	**0.60**	**33**	P	**Pn**	**23 42 23.4**	**+0.3**
JSH				*e*S	**Sn**	**23 42 44.4**	**+0.1**
JSR	**Shiriuchi**	**0.87**	**135**	P	**Pn**	**23 42 25.0**	**+0.4**
JSR				*e*S	**Sn**	**23 42 46.7**	**0.0**
JKB	**Kayabe**	**1.10**	**103**	P	**Pn**	**23 42 26.6**	**+0.5**
JNB	**Noboribetsu**	**1.12**	**73**	P	**Pn**	**23 42 26.6**	**+0.4**
JOT	**Ohata**	**1.33**	**124**	P	**Pn**	**23 42 28.3**	**+0.4**
JIW	**Iwasaki**	**1.58**	**169**	P	**Pn**	**23 42 30.8**	**+0.6**
JANG	**Nango**	**2.28**	**140**	P	**Pn**	**23 42 37.0**	**-0.3**
JANG				*e*S	**Sn**	**23 43 08.8**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.35**	**86**	P	**Pn**	**23 42 38.6**	**+0.7**
JNBK				*e*S	**Sn**	**23 43 10.6**	**0.0**
JFR	**Furan**	**2.44**	**64**	P	**Pn**	**23 42 39.7**	**+0.8**
JFR				*e*S	**Sn**	**23 43 13.1**	**+0.7**
ERM	**Erimo**	**2.66**	**92**	*e*Pn	**Pn**	**23 42 40.7**	**-0.7**
ERM				*e*Sn	**Sn**	**23 43 14.8**	**-2.0**
JCH	**Churui**	**2.83**	**79**	P	**Pn**	**23 42 44.2**	**+0.8**
JCH				*e*S	**Sn**	**23 43 19.4**	**-1.0**
ASAJ	**Asahikawa**	**2.95**	**47**	P	**Pn**	**23 42 45.0**	**+0.2**
1.9nm,0.3s,baz=231,slow=13,SNR=4.6							
ASAJ				S	**Sn**	**23 43 23.1**	**+0.1**
1.0nm,0.3s,baz=61,slow=19,SNR=3.5							
ASAJ	**Asahikawa**	**2.95**	**47**	*e*Pn	**Pn**	**23 42 44.3**	**-0.5**
ASAJ				S	**Sn**	**23 43 23.1**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.31**	**24**	*e*Pn	**Pn**	**23 43 14.1**	**-0.1**
YSS				*e*Sn	**Sn**	**23 44 15.3**	**-0.7**
SONM	**Songino Array**	**24.04**	**295**	P	**P**	**23 46 51.6**	**-1.1**
0.3nm,0.6s,mb3.1,baz=95,slow=9.1,SNR=2.8							
SONM	**Songino Array**	**24.04**	**295**	P	**P**	**23 46 51.6**	**-1.1**
ZALV	**Zalesovo Beam**	**37.56**	**308**	P	**P**	**23 48 50.5**	**-0.3**
0.6nm,0.3s,mb3.5,baz=86,slow=8.4,SNR=5.8							
ZALV	**Zalesovo Beam**	**37.56**	**308**	P	**P**	**23 48 50.5**	**-0.3**
MK31	**Makanchi Array**	**40.38**	**297**	*eP*	**P**	**23 49 13.7**	**-0.7**
MKAR	**Makanchi Array**	**40.38**	**297**	P	**P**	**23 49 14.0**	**-0.3**
1.0nm,0.5s,mb3.5,baz=85,slow=9.7,SNR=17							
MKAR	**Makanchi Array**	**40.38**	**297**	P	**P**	**23 49 14.0**	**-0.3**
KURK	**Kurchatov**	**41.81**	**303**	P	**P**	**23 49 26.1**	**+0.2**
0.5nm,0.2s,mb3.5,baz=81,slow=8.7,SNR=5.9							
KURK	**Kurchatov**	**41.81**	**303**	P	**P**	**23 49 26.1**	**+0.2**
ILAR	**Eielson Array**	**46.02**	**35**	P	**P**	**23 50 00.1**	**+1.0**
0.6nm,0.8s,mb3.0,baz=260,slow=5.5,SNR=9.2							
ILAR	**Eielson Array**	**46.02**	**35**	P	**P**	**23 50 00.1**	**+1.0**
BVAR	**Borovoye Array**	**46.19**	**309**	P	**P**	**23 50 00.8**	**+0.2**
0.8nm,0.4s,mb3.4,baz=68,slow=8.0,SNR=7.7							
BVAR	**Borovoye Array**	**46.19**	**309**	P	**P**	**23 50 00.8**	**+0.2**
INK	**Inuvik**	**50.54**	**29**	P	**P**	**23 50 34.1**	**+0.6**
0.7nm,0.7s,mb3.2,baz=289,slow=5.0,SNR=4.0							
INK	**Inuvik**	**50.54**	**29**	P	**P**	**23 50 34.1**	**+0.6**

*IDC **05** 23:49:29.3±15.0, 22.°68S×177.°06W, h81km±125km, mb3.3/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.3/3, Error ellipse: s-maj=142.9km s-min=42.0km az=152.0*
*NEIC **05** 23:49:35.6±0.7, 23.°36S×176.°88W, h150km, mb3.9/2, Error ellipse: s-maj=20.5km s-min=15.2km az=163.0*
*ISCJB **05** 23:49:37.7±5.4, 23.°2S±0.°3×177.°0W±0.°2, h180km±45km, mb3.5/5, Error ellipse: s-maj=47.0km s-min=28.3km az=151.8*
ISC 05 23:49:39.0±6.3,**23.°1S**±0.°3×**177.°0W**±0.°3,**h177**km±53km,
n18,σ0°36/11,mb3.5/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.10**	**318**	*e*Pn	**Pn**	**23 51 20.4**	**0.0**
MSVF				*e*Sn	**Sn**	**23 52 40.5**	**0.0**
CTAO	**Charters Tower**	**34.23**	**268**	P	**P**	**23 56 08.8**	**+0.7**
2.5nm,0.4s,mb4.3							
ASAR	**Alice Springs**	**44.87**	**259**	P	**P**	**23 57 36.2**	**+0.3**
0.4nm,0.6s,mb3.2,baz=97,slow=8.7,SNR=6.7							
ASAR				PcP	PcP	23 59 15.8	+1.2
0.3nm,0.5s,baz=114,slow=3.6,SNR=4.7							
ASAR	**Alice Springs**	**44.87**	**259**	P	**P**	**23 57 36.2**	**+0.3**
ASAR				PcP	PcP	23 59 15.8	+1.2
WB2	**Warramunga Arr**	**45.19**	**264**	*eP*	**P**	**23 57 38.1**	**-0.4**
WRAB	**Tennant Creek**	**45.19**	**264**	*eP*	**P**	**23 57 38.0**	**-0.5**
0.7nm,0.5s,mb3.5							
WRA	**Warramunga Arr**	**45.20**	**264**	P	**P**	**23 57 38.5**	**-0.1**
0.5nm,0.4s,mb3.5,baz=96,slow=8.4,SNR=7.8							
WRA				PcP	PcP	23 59 16.7	+0.9
1.2nm,1.2s,baz=100,slow=3.0,SNR=3.0							
WRA	**Warramunga Arr**	**45.20**	**264**	P	**P**	**23 57 38.5**	**-0.1**
WRA				PcP	PcP	23 59 16.7	+0.9
NVAR	**Mina Array Bea**	**82.32**	**43**	P	**P**	**00 01 40.9**	**0.0**
0.2nm,0.7s,mb2.9,baz=224,slow=7.6,SNR=2.0							
NVAR	**Mina Array Bea**	**82.32**	**43**	P	**P**	**00 01 40.9**	**0.0**
BVAR	**Borovoye Array**	**121.67**	**319**	PKP	PKPdf	00 08 12.0	+0.6
0.4nm,0.4s,baz=102,slow=1.3,SNR=4.4							
BVAR	**Borovoye Array**	**121.67**	**319**	PKP	PKPdf	00 08 12.0	+0.6
AKASG	**Malin Array Be**	**145.75**	**330**	PKPbc	PKPbc	00 08 57.0	+0.1
1.3nm,0.4s,baz=37,slow=4.0,SNR=5.6							
AKASG	**Malin Array Be**	**145.75**	**330**	PKPbc	PKPbc	00 08 57.0	+0.1
BRTR	**Keskin Array B**	**149.26**	**310**	PKPbc	PKPbc	00 09 07.5	+0.8
0.5nm,0.8s,baz=136,slow=5.4,SNR=4.0							
BRTR	**Keskin Array B**	**149.26**	**310**	PKPbc	PKPbc	00 09 07.5	+0.8
MMAI	**Mount Meron Ar**	**149.86**	**296**	PKPbc	PKPbc	00 09 09.7	+1.3
3.2nm,0.9s,baz=62,slow=7.2,SNR=4.2							
MMAI				PKPab	PKPab	00 09 15.9	+1.3
0.6nm,0.4s,baz=73,slow=9.0,SNR=5.7							
MMAI	**Mount Meron Ar**	**149.86**	**296**	PKPbc	PKPbc	00 09 09.7	+1.3
MMAI				PKPab	PKPab	00 09 15.9	+1.3

*CSEM **05** 23:59:12.3±0.6, 34.°69N×24.°95E, h19km±2km, MD3.6, Error ellipse: s-maj=11.1km s-min=5.2km az=166.0*
*ATH **05** 23:59:13.2, 34.°77N×24.°95E, h45km, MD3.6/5*
*THE **05** 23:59:13.1, 34.°72N×24.°94E, h10km±3km, Error ellipse: s-maj=3.3km s-min=1.4km az=27.0*
ISC 05 23:59:11.6±1.9,**34.°65N**±0.°09×**24.°97E**±0.°06,**h15**km±7km,
n21,σ0°68/34,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.39**	**341**	P	**Pg**	**23 59 20.0**	**+0.5**
SIVA				S	**Sg**	**23 59 25.1**	**+0.2**
SIVA	**Sivas**	**0.39**	**341**	P	**Pg**	**23 59 20.0**	**+0.5**
SIVA				S	**Sg**	**23 59 25.1**	**+0.2**
IDI	**Anoyia**	**0.64**	**354**	P	**Pg**	**23 59 23.9**	**-0.3**
IDI				S	**Sg**	**23 59 32.0**	**-0.7**
IDI	**Anoyia**	**0.64**	**354**	P	**Pg**	**23 59 23.9**	**-0.3**
IDI				S	**Sg**	**23 59 32.0**	**-0.7**
GVD	**Gavdhos**	**0.75**	**285**	P	**Pb**	**23 59 26.9**	**+0.6**
GVD				S	**Sb**	**23 59 40.4**	**+4.1**
GVD	**Gavdhos**	**0.75**	**285**	P	**Pb**	**23 59 26.9**	**+0.6**
NPS	**Neapolis**	**0.81**	**41**	*eP*	**Pb**	**23 59 28.0**	**+0.6**
NPS				*e*S	**Sb**	**23 59 38.1**	**0.0**
NPS	**Neapolis**	**0.81**	**41**	P	**Pb**	**23 59 28.0**	**+0.6**
NPS				S	**Sb**	**23 59 39.7**	**+1.6**
NPS	**Neapolis**	**0.81**	**41**	P	**Pb**	**23 59 28.0**	**+0.6**
NPS				*e*S	**Sb**	**23 59 38.1**	**0.0**
VAM	**Vamos**	**0.98**	**320**	*eP*	**Pb**	**23 59 30.0**	**-0.4**
VAM				*e*S	**Sb**	**23 59 43.0**	**-0.1**
VAM	**Vamos**	**0.98**	**320**	P

*ISCJB **06** 00:13:35.4±0.6, 5°.18N±0°.03×127°.14E±0°.06, h95km±5km, mb4.6/57, Error ellipse: s-maj=9.4km s-min=4.5km az=168.3*
*NEIC **06** 00:13:37.5±1.1, 5°.22N×127°.13E, h100km±9km, mb4.8/28, Error ellipse: s-maj=10.1km s-min=5.4km az=70.0*
*DJA **06** 00:13:37, 5°.07N×127°.17E, h56km, mb4.9/14*
*IDC **06** 00:13:39.3±1.7, 5°.23N×127°.12E, h113km±14km, mb4.0/17, mb1 4.0/18, mb1mx3.9/24, mbtmp4.0/18, Error ellipse: s-maj=25.8km s-min=9.7km az=74.0*
*BJI **06** 00:13:43.7, 6°.12N×126°.73E, h93km, mB5.0/16, mb4.6/21*
ISC 06 00:13:36.8±0.6, 5°.17N±0°.03×127°.17E±0°.06, h93km±4km, h97km±.6km:pP-P,n164,σ1.9§16/171,mb4.6/57,4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.98**	**333**	*e*P	**Pn**	**00 14 06.3**	**-2.6**
MATI				*e*S	**Sn**	**00 14 24.5**	**-8.9**
SGSI	**Sangihe**	**2.20**	**228**	P	**Pn**	**00 14 10.3**	**-1.4**
GSPH	**General Santos**	**2.39**	**293**	*e*P	**Pn**	**00 14 10.4**	**-3.9**
GSPH				*e*S	**Sn**	**00 14 39.1**	**-3.8**
DAV	**Davao City (W)**	**2.46**	**320**	P	**Pn**	**00 14 16.1**	**+0.8**
	131nm,0.3s,baz=150,slow=6.0,SNR=7.0						
DAV				S	**Sn**	**00 14 47.6**	**+2.9**
	140nm,0.3s,baz=271,slow=23,SNR=5.4						
DAV	**Davao City (W)**	**2.46**	**320**	*e*Pn	**Pn**	**00 14 15.7**	**+0.5**
DAV				S	**Sn**	**00 14 47.6**	**+2.9**
DAV	**Davao City (W)**	**2.46**	**320**	P	**Pn**	**00 14 15.5**	**+0.3**
BUKP	**Musuan**	**3.41**	**322**	*e*P	**Pn**	**00 14 28.2**	**+0.2**
CTBH	**Cotabato--PC H**	**3.55**	**305**	||*i*P	**Pn**	**00 14 28.9**	**-0.9**
BUTP	**Butuan**	**4.08**	**338**	*e*P	**Pn**	**00 14 39.0**	**+2.1**
CGP	**Cagayan de Oro**	**4.09**	**323**	⇑*e*P	**Pn**	**00 14 39.5**	**+2.4**
CGP				*e*S	**Sn**	**00 15 27.3**	**+3.5**
MNI	**Manado**	**4.37**	**212**	P	**Pn**	**00 14 40.4**	**-0.5**
TNTI	**Ternate**	**4.37**	**177**	P	**Pn**	**00 14 41.7**	**+0.7**
PAGZ	**Pagadian**	**4.61**	**306**	*e*P	**Pn**	**00 14 43.5**	**-0.7**
MSLP	**Maasin**	**5.44**	**335**	*e*P	**Pn**	**00 14 57.7**	**+2.2**
KMSI	**Cibinong**	**5.56**	**215**	P	**Pn**	**00 14 56.8**	**-0.3**
	2.6nm8μm820nm,0.7s						
TBP	**Tagbilaran**	**5.56**	**324**	*e*P	**Pn**	**00 14 56.7**	**-0.4**
LBMI	**Labuha**	**5.78**	**177**	P	**Pn**	**00 15 00.8**	**+0.7**
	1.3nm4μm113nm,0.5s						
GTOI	**Gorontalo**	**6.12**	**223**	P	**Pn**	**00 15 03.7**	**-1.1**
	1.2nm4μm364nm,0.7s						
MRSI	**Marisa**	**6.99**	**228**	P	**Pn**	**00 15 16.8**	**+0.1**
	1.0nm3μm284nm,0.7s						
LUWI	**Luwuk**	**7.57**	**216**	P	**Pn**	**00 15 25.7**	**+1.2**
	2μm230nm,0.7s						
NLAI	**Namlea**	**8.35**	**180**	P	**Pn**	**00 15 33.7**	**-1.4**
	1μm47nm,0.4s						
MYLDM	**Lahad Datu**	**8.63**	**270**	P	**Pn**	**00 15 41.6**	**+2.6**
	45nm,1.1s						
KDI	**Kendari**	**10.14**	**207**	P	**Pn**	**00 15 57.3**	**-2.2**
	795nm31nm,0.6s						
TTSI	**Tana Toraja**	**10.97**	**222**	P	**Pn**	**00 16 11.0**	**+0.1**
	30nm,1.0s						
SPSI	**Sidrap Palu**	**11.70**	**219**	P	**Pn**	**00 16 19.7**	**-1.0**
	21nm,0.8s						
KAPI	**Kappang**	**12.53**	**216**	P	**Pn**	**00 16 30.2**	**-1.7**
	0.4nm,0.3s,baz=30,slow=7.1,SNR=7.3						
KAPI	**Kappang**	**12.53**	**216**	*e*Pn	**Pn**	**00 16 30.1**	**-1.7**
KAPI	**Kappang**	**12.53**	**216**	P	**Pn**	**00 16 30.1**	**-1.8**
	23nm,1.0s						
BBKI	**Banjar Baru**	**15.00**	**235**	P	**Pn**	**00 17 05.2**	**+1.2**
	5μm73nm,1.0s						
SBUM	**Sibu**	**15.15**	**260**	P	**Pn**	**00 17 08.1**	**+2.1**
	18nm,1.2s						
BMNI	**Bima**	**16.02**	**212**	P	**Pn**	**00 17 15.4**	**-1.5**
KSM	**Kuching**	**17.22**	**258**	*e*Pn	**Pn**	**00 17 32.6**	**+0.9**
	27nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.17**	**184**	P	**P**	**00 18 36.0**	**+0.6**
	1.4nm,0.5s,mb3.5,baz=6.2,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**23.17**	**184**	*e*P	**P**	**00 18 36.5**	**+1.1**
	3.2nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.17**	**184**	*e*P	**P**	**00 18 35.4**	**-0.1**
	5.1nm,0.8s,mb3.9						
WRAB	**Tennant Creek**	**25.92**	**164**	*e*P	**P**	**00 19 01.7**	**+1.2**
	15nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**25.92**	**164**	*e*P	**P**	**00 19 01.7**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,15nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**25.93**	**164**	P	**P**	**00 19 03.0**	**+2.4**
	comp=Z,6.5nm,0.4s,mb4.4,baz=343,slow=10,SNR=52						
WRA	**Warramunga Arr**	**25.93**	**164**	P	**P**	**00 19 03.0**	**+2.4**
WRA	**Warramunga Arr**	**25.93**	**164**	P	**P**	**00 19 03.0**	**+2.5**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
WB2	**Warramunga Arr**	**25.93**	**164**	*e*P	**P**	**00 19 02.1**	**+1.5**
KULM	**Kulim**	**26.40**	**271**	*e*P	**P**	**00 19 04.7**	**-0.3**
	comp=Z,22nm,1.3s,mb4.4						
MBWA	**Marble Bar**	**27.16**	**195**	*e*P	**P**	**00 19 12.5**	**+0.9**
	comp=Z,10nm,1.0s,mb4.3						
NJ2	**Nanjing**	**27.86**	**345**	*e*P	**P**	**00 19 14.7**	**-3.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.6						
GYA	**Guiyang**	**28.84**	**319**	P	**P**	**00 19 29.0**	**+2.4**
GYA				pP	pP	00 19 49.8	+2.2
GYA				sP	sP	00 20 01.4	+3.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
ASAR	**Alice Springs**	**29.40**	**167**	P	**P**	**00 19 33.5**	**+2.0**
	comp=Z,1.0nm,0.5s,mb3.7,baz=341,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**29.40**	**167**	P	**P**	**00 19 33.5**	**+2.0**
ASAR	**Alice Springs**	**29.40**	**167**	P	**P**	**00 19 33.5**	**+2.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.55**	**298**	P	**P**	**00 19 41.3**	**-0.5**
	comp=Z,1.1nm,0.5s,mb3.8,baz=112,slow=7.6,SNR=6.2						
CMAR	**Chiang Mai Arr**	**30.55**	**298**	P	**P**	**00 19 41.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.55**	**298**	P	**P**	**00 19 41.3**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMI	**Kunming**	**30.70**	**313**	P	**P**	**00 19 43.0**	**-0.1**
KMI				pP	pP	00 20 04.3	+0.2
KMI				sP	sP	00 20 14.4	-0.5
KMI				S	**S**	**00 24 41.2**	**+1.9**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
KMI				pmax	pmax		
	comp=Z,170nm,5.1s						
KMI				LR	LR		
	comp=N,220nm,9.0s						
KMI				LR	LR		
	comp=E,140nm,11.5s						
KMI				LR	LR		
	comp=Z,210nm,6.4s						
KMI	**Kunming**	**30.70**	**313**	P	**P**	**00 19 43.0**	**-0.1**
	comp=Z,7.0nm,1.1s,mb4.3						
KMI				pP	pP	00 20 04.3	+0.2
KMI				sP	sP	00 20 14.4	-0.5
KMI				S	**S**	**00 24 41.2**	**+1.9**
KMI				sS	sS	00 25 18.8	+3.0
KMI	**Kunming**	**30.70**	**313**	P	**P**	**00 19 43.0**	**-0.1**
KMI				*PP	pP	00 20 04.3	+0.2
KMI				S	**S**	**00 24 41.2**	**+1.9**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
KSAR	**Wonju Array Be**	**32.13**	**1**	P	**P**	**00 19 54.7**	**-0.8**
KSAR	**Wonju Array Be**	**32.13**	**1**	P	**P**	**00 19 54.7**	**-0.7**
KSRS	**Korea Array**	**32.14**	**1**	P	**P**	**00 19 54.7**	**-0.9**
	comp=Z,0.6nm,0.4s,mb3.7,baz=176,slow=11,SNR=4.1						
KSRS	**Korea Array**	**32.14**	**1**	P	**P**	**00 19 54.7**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
CD2	**Chengdu**	**33.77**	**322**	*e*P	**P**	**00 20 10.5**	**+0.7**
CD2				pP	pP	00 20 32.7	+1.7
CD2				sP	sP	00 20 44.3	+2.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				pmax	pmax		
	comp=Z,30nm,5.2s						
BJI	**Beijing**	**36.10**	**346**	P	**P**	**00 20 31.1**	**+1.3**
BJI				pmax	pmax		
	comp=Z,37nm,0.6s,mb5.5						
BJI				pmax	pmax		
	comp=Z,110nm,4.6s						
BJI				LR	LR		
	comp=N,500nm,14.8s						
BJI				LR	LR		
	comp=E,470nm,15.4s						
BJI				LR	LR		
	comp=Z,32nm,17.5s						
LZH	**Lanzhou**	**37.51**	**328**	*e*P	**P**	**00 20 41.3**	**-0.4**
LZH				pP	pP	00 21 03.6	+0.4
LZH				sP	sP	00 21 15.0	+1.1
LZH				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.9						
LZH				pmax	pmax		
	comp=Z,67nm,5.6s						
LZH				LR	LR		
	comp=N,410nm,13.5s						
LZH				LR	LR		
	comp=Z,510nm,17.6s						
LZH	**Lanzhou**	**37.51**	**328**	*e*P	**P**	**00 20 41.3**	**-0.4**
	comp=Z,23nm,1.1s,mb4.9						
LZH				pP	pP	00 21 03.6	+0.4
LZH				sP	sP	00 21 15.0	+1.1
LZH				PP	PP	00 22 12.5	+3.4
LZH				LR	LR		
	comp=Z,510nm,17.6s						
LZH	**Lanzhou**	**37.51**	**328**	*e*P	**P**	**00 20 41.3**	**-0.4**
LZH				*PP	pP	00 21 03.6	+0.4
LZH						00 22 12.5	
LZH				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.9						
LZH				MLR	MLR		
	comp=Z,510nm,17.6s						
KLBR	**Kellerberrin**	**37.64**	**193**	*e*P	**P**	**00 20 50.9**	**+8.0**
	comp=Z,24nm,1.4s,mb4.8						
HHC	**Hu-ho-hao-te**	**38.19**	**341**	*e*P	**P**	**00 20 48.6**	**+1.2**
HHC				pP	pP	00 21 10.7	+1.8
HHC				sP	sP	00 21 23.0	+3.4
HHC				PP	PP	00 22 19.8	+3.3
HHC				S	**S**	**00 26 34.5**	**+0.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
HHC				pmax	pmax		
	comp=Z,210nm,5.2s						
HHC				LR	LR		
	comp=N,310nm,15.5s						
HHC				LR	LR		
	comp=E,310nm,14.3s						
HHC				LR	LR		
	comp=Z,120nm,11.9s						
CN2	**Changchun**	**38.51**	**358**	*e*P	**P**	**00 20 52.1**	**+2.1**
NWAO	**Narrogin (SRO)**	**39.04**	**193**	P	**P**	**00 20 54.5**	**0.0**
	comp=Z,3.6nm,0.7s,mb4.3,baz=345,slow=6.5,SNR=6.9						
NWAO	**Narrogin (SRO)**	**39.04**	**193**	P	**P**	**00 20 54.5**	**0.0**
NWAO	**Narrogin (SRO)**	**39.04**	**193**	P	**P**	**00 20 54.6**	**0.0**
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
STKA	**Stephens Creek**	**39.32**	**160**	P	**P**	**00 20 57.5**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.3,baz=345,slow=6.5,SNR=6.9						
STKA	**Stephens Creek**	**39.32**	**160**	*e*P	**P**	**00 20 57.9**	**+0.9**
	comp=Z,1.4nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**39.32**	**160**	P	**P**	**00 20 57.5**	**+0.5**
STKA	**Stephens Creek**	**39.32**	**160**	P	**P**	**00 20 57.5**	**+0.5**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GTA	**Gaotai**	**42.11**	**328**	*e*P	**P**	**00 21 20.4**	**+0.6**
GTA				pP	pP	00 21 43.3	+1.7
GTA				sP	sP	00 21 54.6	+2.4
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
ARMA	**Armidale**	**42.43**	**148**	*e*P	**P**	**00 21 22.8**	**+0.2**
HABR	**Khabarovsk**	**43.67**	**8**	*e*P	**P**	**00 21 29.2**	**-3.1**
HABR				*PP	pP	00 21 51.9	-2.4
HABR				*e*PPP		00 23 50.3	
HABR				*e*S	**S**	**00 27 52.7**	**-2.5**
HABR				*e*		00 31 20.6	
HABR				*e*SSS		00 31 57.9	
HABR				pmax	pmax		
	comp=N,155nm,3.2s						
HABR				pmax	pmax		
	comp=E,80nm,1.6s						
HABR				pmax	pmax		
	comp=Z,71nm,1.6s,mb5.2						
HABR				MLR	MLR		
	comp=Z,433nm,23.0s						
JIRN	**Jiri**	**44.90**	**305**	*e*P	**P**	**00 21 42.3**	**-0.2**
	comp=Z,14nm,0.5s,mb4.9						
JIRN	**Jiri**	**44.90**	**305**	*e*P	**P**	**00 21 42.3**	**-0.2**
	comp=Z,14nm,0.5s,mb5.0						
GUN	**Gumba**	**45.25**	**305**	*e*P	**P**	**00 21 44.7**	**-0.6**
	comp=Z,76nm,0.7s,mb5.5						
GUN	**Gumba**	**45.25**	**305**	*e*P	**P**	**00 21 44.7**	**-0.6**
	comp=Z,76nm,0.7s,mb5.5						
PKI	**Pulchoki**	**45.51**	**304**	*e*P	**P**	**00 21 46.3**	**-1.0**
	comp=Z,9.4nm,0.5s,mb4.8						
PKI	**Pulchoki**	**45.51**	**304**	*e*P	**P**	**00 21 46.3**	**-1.0**
	comp=Z,9.4nm,0.5s,mb4.8						
PKI	**Pulchoki**	**45.51**	**304**	*e*P	**P**	**00 21 46.3**	**-1.0**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
KKN	**Kakani**	**45.70**	**304**	*e*P	**P**	**00 21 47.8**	**-1.0**
	comp=Z,13nm,0.5s,mb4.9						
KKN	**Kakani**	**45.70**	**304**	*e*P	**P**	**00 21 47.8**	**-1.0**
	comp=Z,13nm,0.5s,mb4.9						
KKN	**Kakani**	**45.70**	**304**	*e*P	**P**	**00 21 47.8**	**-1.0**
KKN				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.9						
DMN	**Daman**	**45.78**	**304**	*e*P	**P**	**00 21 48.7**	**-0.7**
	comp=Z,9.6nm,0.4s,mb4.9						
TARA	**Tarawa**	**45.83**	**93**	*e*P	**P**	**00 21 48.2**	**-1.8**
	comp=Z,120nm,0.9s,mb5.6						
ULN	**Ulaanbaatar**	**45.90**	**341**	*e*P	**P**	**00 21 50.0**	**0.0**
	comp=Z,5.0nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**45.90**	**341**	*e*P	**P**	**00 21 50.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
SONM	**Songino Array**	**46.09**	**341**	P	**P**	**00 21 51.8**	**+0.3**
	comp=Z,1.9nm,0.6s,mb4.0,baz=156,slow=8.2,SNR=17						
SONM	**Songino Array**	**46.09**	**341**	P	**P**	**00 21 51.8**	**+0.3**
SONM	**Songino Array**	**46.09**	**341**	P	**P**	**00 21 51.8**	**+0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GKN	**Gorkha**	**46.31**	**304**	*e*P	**P**	**00 21 52.4**	**-1.2**
	comp=Z,21nm,0.8s,mb4.9						
GKN	**Gorkha**	**46.31**	**304**	*e*P	**P**	**00 21 52.4**	**-1.2**
	comp=Z,21nm,0.8s,mb4.9						
KOLN	**Koldanda**	**47.08**	**303**	*e*P	**P**	**00 21 58.9**	**-0.7**
KOLN	**Koldanda**	**47.08**	**303**	*e*P	**P**	**00 21 58.9**	**-0.7**
DANN	**Dangsing**	**47.15**	**304**	*e*P	**P**	**00 21 59.6**	**-0.6**
	comp=Z,64nm,0.6s,mb5.5						
DANN	**Dangsing**	**47.15**	**304**	*e*P	**P**	**00 21 59.6**	**-0.6**
	comp=Z,64nm,0.6s,mb5.5						
PYUN	**Piuthan**	**47.70**	**304**	*e*P	**P**	**00 22 03.9**	**-0.5**
	comp=Z,41nm,0.8s,mb5.3						
PYUN	**Piuthan**	**47.70**	**304**	*e*P	**P**	**00 22 03.9**	**-0.5**
	comp=Z,41nm,0.8s,mb5.3						
WMQ	**Urumqi**	**51.81**	**324**	*e*P	**P**	**00 22 36.6**	**+1.3**
PETK	**Petropavlovsk-**	**53.95**	**22**	P	**P**	**00 22 51.5**	**+0.7**
	comp=Z,7.9nm,0.8s,mb4.8,baz=205,slow=9.5,SNR=3.6						
PETK	**Petropavlovsk-**	**53.95**	**22**	P	**P**	**00 22 51.5**	**+0.7**
PETK	**Petropavlovsk-**	**53.95**	**22**	P	**P**	**00 22 51.5**	**+0.7**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
MK31	**Makanchi Array**	**56.64**	**325**	*e*P	**P**	**00 23 10.6**	**+0.3**
MK31	**Makanchi Array**	**56.64**	**325**	*e*P	**P**	**00 23 10.3**	**0.0**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
MKAR	**Makanchi Array**	**56.64**	**325**	P	**P**	**00 23 10.5**	**+0.2**
	comp=Z,6.2nm,0.4s,mb5.0,baz=115,slow=7.8,SNR=175						
MKAR	**Makanchi Array**	**56.64**	**325**	P	**P**	**00 23 10.5**	**+0.2**
MKAR	**Makanchi Array**	**56.64**	**325**	P	**P**	**00 23 10.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
YAK	**Yakutsk**	**56.77**	**1**	*e*P	**P**	**00 23 10.2**	**-0.8**
	comp=Z,19nm,0.8s,mb5.2						
YAK	**Yakutsk**	**56.77**	**1**	*e*P	**P**	**00 23 09.9**	**-1.0**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
KSH	**Kashi**	**57.35**	**314**	P	**P**	**00 23 18.0**	**+2.5**
KSH				pP	pP	00 23 41.5	+3.1
KSH				sP	sP	00 23 52.8	+4.1
KSH				PcP	PcP	00 24 10.4	+1.8
KSH				PP	PP	00 25 28.3	+4.6
KSH				ScP	ScP	00 27 59.5	-0.7
KSH				PcS	PcS	00 28 10.1	+0.4
KSH				S	**S**	**00 31 05.3**	**+0.3**
KSH				sS	sS	00 31 46.4	+2.2
KSH				ScS	ScS	00 32 54.9	-1.4
KSH				pmax	pmax		
	comp=Z,99nm,4.0s						
KSH				LR	LR		
	comp=N,150nm,5.0s						
KSH				LR	LR		
	comp=E,160nm,5.4s						
KSH				LR	LR		
	comp=Z,140nm,5.3s						
TKM2	**Tokmak 2**	**58.97**	**318**	*e*P	**P**	**00 23 27.3**	**+0.6**
	comp=Z,2.8nm,0.6s,mb4.5						
TKM2	**Tokmak 2**	**58.97**	**318**	*e*P	**P**	**00 23 27.3**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ZAA0	**Zalesovo Array**	**59.52**	**332**	*e*P	**P**	**00 23 29.2**	**-1.1**
ZALV	**Zalesovo Beam**	**59.52**	**332**	P	**P**	**00 23 29.6**	**-0.6**
	comp=Z,1.8nm,0.3s,mb4.5,baz=125,slow=5.8,SNR=17						
ZALV	**Zalesovo Beam**	**59.52**	**332**	P	**P**	**00 23 29.6**	**-0.6**
ZALV	**Zalesovo Beam**	**59.52**	**332**	P	**P**	**00 23 29.7**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
AAK	**Ala-Archa**	**59.60**	**317**	*e*P	**P**	**00 23 31.3**	**+0.3**
	comp=Z,8.1nm,0.5s,mb5.0						
AAK	**Ala-Archa**	**59.60**	**317**	*i*P	**P**	**00 23 31.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
EKS2	**Erkin-Say**	**60.10**	**317**	*e*P	**P**	**00 23 34.6**	**+0.2**
	comp=Z,3.6nm,0.9s,mb4.4						
EKS2	**Erkin-Say**	**60.10**	**317**	*e*P	**P**	**00 23 34.6**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**60.78**	**327**	P	**P**	**00 23 39.1**	**+0.2**
	comp=Z,17nm,0.7s,mb5.2,baz=127,slow=6.2,SNR=127						
KURK	**Kurchatov**	**60.78**	**327**	*e*P	**P**	**00 23 38.8**	**-0.1**
	comp=Z,23nm,0.6s,mb5.4						
KURK	**Kurchatov**	**60.78**	**327**	*c i*P	**P**	**00 23 38.5**	**-0.4**
KURK				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.3						
NVS	**Novosibirsk**	**60.80**	**333**	*e*P	**P**	**00 23 37.4**	**-1.6**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
KBL	**Kabul**	**61.01**	**307**	*e*P	**P**	**00 23 40.3**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.5						
KBL	**Kabul**	**61.01**	**307**	*e*P	**P**	**00 23 40.3**	**-0.5**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BVA0	**Borovoye Array**	**66.36**	**327**	*i*P	**P**	**00 24 15.6**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
BRVK	**Borovoye**	**66.44**	**327**	*e*P	**P**	**00 24 16.3**	**+0.2**
	comp=Z,16nm,0.8s,mb4.9						
BRVK	**Borovoye**	**66.44**	**327**	*c i*P	**P**	**00 24 16.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.0						
AB31	**Akbulak array**	**71.32**	**320**	*i*P	**P**	**00 24 46.5**	**0.0**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
ABKAR	**Akbulak array**	**71.32**	**320**	*e*P	**P**	**00 24 46.5**	**-0.1**
CASY	**Casey**	**72.28**	**187**	*e*P	**P**	**00 24 52.7**	**+0.9**
	comp=Z,52nm,1.4s,mb5.2						
SVE	**Sverdlovsk**	**72.97**	**328**	⇑*i*P	**P**	**00 24 56.3**	**+0.1**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
ARU	**Arti**	**73.96**	**327**	*e*P	**P**	**00 25 01.6**	**-0.4**
	comp=Z,7.6nm,0.6s,mb4.6						
ARU	**Arti**	**73.96**	**327**	*d i*P	**P**	**00 25 01.5**	**-0.5**
ARU				*e*		00 27 46.3	
ARU				S	S	00 34 26.7	0.0
ARU				SS	SS	00 39 08.3	-4.6
ARU				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.6						
ZEI	**Tsey**	**81.58**	**312**	*e*P	**P**	**00 25 42.2**	**-2.4**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
KIV	**Kislovodsk**	**82.47**	**314**	*e*P	**P**	**00 25 50.1**	**+0.9**
	comp=Z,5.9nm,0.7s,mb4.5						
KIV	**Kislovodsk**	**82.47**	**314**	*e*P	**P**	**00 25 50.1**	**+0.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
MCK	**McKinley**	**82.69**	**26**	*e*P	**P**	**00 25 49.2**	**-0.8**
	comp=Z,5.3nm,1.0s,mb4.3						
MCK	**McKinley**	**82.69**	**26**	*e*P	**P**	**00 25 49.2**	**-0.7**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**83.63**	**25**	P	**P**	**00 25 53.9**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.8,baz=252,slow=5.7,SNR=20						
ILAR	**Eielson Array**	**83.63**	**25**	P	**P**	**00 25 53.9**	**-0.9**
ILAR	**Eielson Array**	**83.63**	**25**	P	**P**	**00 25 53.9**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VSR	**Storozhevoye**	**84.75**	**321**	*e*P	**P**	**00 25 59.8**	**-0.9**
VSR				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
VSR				pmax	pmax		
	comp=N,10.0nm,1.4s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.3s						
MMAI	**Mount Meron Ar**	**88.69**	**303**	P	**P**	**00 26 21.3**	**+1.0**
	comp=E,0.8nm,0.6s,mb3.9,baz=115,slow=6.8,SNR=3.0						
MMAI	**Mount Meron Ar**	**88.69**	**303**	P	**P**	**00 26 21.3**	**+1.0**
ARCES	**ARCESS Array B**	**89.26**	**340**	P	**P**	**00 26 21.4**	**-0.8**
	comp=E,0.8nm,0.4s,mb4.1,baz=90,slow=6.8,SNR=5.4						
ARCES	**ARCESS Array B**	**89.26**	**340**	P	**P**	**00 26 21.4**	**-0.8**
ARCES	**ARCESS Array B**	**89.26**	**340**	P	**P**	**00 26 21.4**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BR131	**Keskin Array S**	**89.44**	**310**	*e*P	**P**	**00 26 23.1**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**89.44**	**310**	P	**P**	**00 26 23.2**	**-

TSI	**Tuntungan**	**6.92**	**138**	P	**Pn**	**00 44 53.5 +5.8**
KULM	**Kulim**	**7.46**	**117**	P	**Pn**	**00 44 51.8 -3.3**
KULM	**Kulim**	**7.46**	**117**	*e*Pn	**Pn**	**00 44 52.9 -2.2**
KULM	**Kulim**	**7.46**	**117**	P	**Pn**	**00 44 52.8 -2.3**
	1μm156nm,1.0s					
PSI	**Prapat**	**7.69**	**140**	P	**Pn**	**00 45 03.0 +4.8**
	3μm282nm,1.0s					
IPM	**Ipoh**	**8.19**	**121**	P	**Pn**	**00 45 01.4 -3.6**
IPM	**Ipoh**	**8.19**	**121**	*e*Pn	**Pn**	**00 45 01.8 -3.3**
IPM	**Ipoh**	**8.19**	**121**	P	**Pn**	**00 45 02.0 -3.0**
	1μm107nm,1.0s					
NST	**Nakhon Sawan**	**9.15**	**41**	P	**Pn**	**00 45 15.5 -2.7**
	86nm,0.4s					
MNSI	**Mandailing Nat**	**9.67**	**144**	P	**Pn**	**00 45 26.3 +0.9**
	2μm88nm,0.8s					
BDT	**Bhumibol Dam**	**9.77**	**30**	P	**Pn**	**00 45 28.0 +1.3**
	31nm,0.9s					
CMAR	**Chiang Mai Arr**	**10.80**	**26**	Pn	**Pn**	**00 45 42.4 +1.6**
	2.5nm,0.3s,baz=214,slow=14,SNR=51					
CMAR				LR	LR	00 50 00.3
	comp=Z,4μm,18.5s,baz=220,slow=39					
CMAR	**Chiang Mai Arr**	**10.80**	**26**	Pn	**Pn**	**00 45 42.4 +1.6**
CMAR	**Chiang Mai Arr**	**10.80**	**26**	P	**Pn**	**00 45 42.4 +1.6**
BKNI	**Bangkinang**	**10.93**	**140**	P	**Pn**	**00 45 44.2 +1.6**
	4μm463nm,1.1s					
CHG	**Chiang Mai**	**11.11**	**25**	⇓P	**Pn**	**00 45 46.9 +1.8**
	90nm,1.5s					
CHG				S	**Sn**	**00 47 47.7 -0.7**
CHTO	**Chiang Mai**	**11.11**	**25**	*e*Pn	**Pn**	**00 45 46.7 +1.6**
CHTO	**Chiang Mai**	**11.11**	**25**	*e*P	**Pn**	**00 45 46.7 +1.6**
CHTO	**Chiang Mai**	**11.11**	**25**	P	**Pn**	**00 45 47.5 +2.4**
	SNR=27					
PPI	**Padang Panjang**	**11.16**	**145**	P	**Pn**	**00 45 46.2 +0.4**
	2μm184nm,1.1s					
PDSI	**Padang**	**11.57**	**146**	P	**Pn**	**00 45 50.9 -0.5**
	200nm,1.2s					
MYKOM	**Kota Tinggi**	**12.01**	**125**	P	**Pn**	**00 45 51.7 -5.8**
MYKOM	**Kota Tinggi**	**12.01**	**125**	P	**Pn**	**00 45 56.3 -1.2**
	58nm,1.4s					
CAL	**Calcutta**	**14.75**	**339**	*e*PKP	**Pn**	**00 46 35.2 +0.4**
CAL			⇑	*ex*	x	00 48 32.3
KSI	**Kapahiang**	**15.02**	**145**	P	**Pn**	**00 46 36.7 -1.7**
	311nm,1.6s					
AGT	**Agartala**	**15.28**	**351**	*e*PKP	**Pn**	**00 46 43.0 +1.2**
AGT				*ex*	x	00 47 02.0
PPBI	**Pangkal Pinang**	**16.26**	**131**	P	**Pn**	**00 46 55.7 +1.2**
	4μm283nm,1.4s					
MDSI	**Maura Dua**	**16.62**	**142**	P	**Pn**	**00 46 56.9 -2.2**
	996nm89nm,1.3s					
TRD	**Trivandrum**	**16.82**	**270**	*ex*	x	00 46 48.3
TRD				*ex*	x	00 50 13.7
SHL	**Shillong**	**16.85**	**353**	*e*PKP	**Pn**	**00 47 03.0 +1.1**
SHL				*ex*	x	00 50 17.0
KLSI		**17.12**	**141**	P	**Pn**	**00 47 03.6 -1.8**
	3μm214nm,1.2s					
HYB	**Hyderabad**	**17.31**	**301**	*i* P	**Pn**	**00 47 08.0 +0.3**
HYB				*e*PP		00 47 18.0
HYB				*e*S	Sn	00 50 44.0 +25
TPI	**Tanjungpandan**	**17.79**	**129**	P	**Pn**	**00 47 14.8 +1.1**
	3μm144nm,1.5s					
KSM	**Kuching**	**17.79**	**113**	*e*P	**Pn**	**00 47 14.8 +1.0**
	83nm,1.2s					
KSM	**Kuching**	**17.79**	**113**	P	**Pn**	**00 47 14.7 +1.0**
	2μm64nm,2.2s					
KMI	**Kunming**	**18.31**	**26**	P	**Pn**	**00 47 22.7 +2.7**
KMI				pP	pP	00 47 29.3 +0.9
KMI				sP	sP	00 47 33.7 +1.2
KMI				PP		00 47 40.6
KMI				S	**Sn**	**00 50 53.6 +10**
KMI				pmax	pmax	
	comp=Z,82nm,1.4s					
KMI				pmax	pmax	
	comp=Z,1μm,4.8s					
KMI				LR	LR	
	comp=N,3μm,9.6s					
KMI				LR	LR	
	comp=E,3μm,11.7s					
KMI				LR	LR	
	comp=Z,2μm,14.2s					
KMI	**Kunming**	**18.31**	**26**	P	**Pn**	**00 47 22.7 +2.7**
	comp=Z,82nm,1.4s					
KMI				pP	pP	00 47 29.3 +0.9
KMI				sP	sP	00 47 33.7 +1.2
KMI				PP		00 47 40.6
KMI				S	**Sn**	**00 50 53.6 +10**
KMI				sS	sS	00 51 08.6 +7.4
KMI				SS		00 51 18.0
KMI	**Kunming**	**18.31**	**26**	P	**Pn**	**00 47 22.7 +2.7**
KMI				pmax	pmax	
	comp=Z,82nm,1.4s					
QIZ	**Qiongzhong**	**18.48**	**55**	P	**Pn**	**00 47 20.9 -1.2**
QIZ				S	**Sn**	**00 50 45.9 -1.8**
QIZ				LR	LR	
	comp=N,14μm,13.7s					
QIZ				LR	LR	
	comp=Z,5μm,10.7s					
NGP	**Nagpur**	**18.95**	**312**	*e*PKP	**Pn**	**00 47 26.9 -0.9**
NGP				*ex*	x	00 50 45.2
ODAN	**Odare**	**19.07**	**342**	*e*P	**Pn**	**00 47 28.7 -0.5**
	comp=Z,116nm,0.7s					
ODAN	**Odare**	**19.07**	**342**	*e*P	**Pn**	**00 47 28.7 -0.5**
	comp=Z,116nm,0.7s					
SBUM	**Sibu**	**19.20**	**108**	P	**Pn**	**00 47 30.8 -0.1**
MNGI	**Mangalore**	**19.26**	**284**	*i* x	x	00 48 05.4
MNGI				*ex*	x	00 48 08.9
	comp=Z,139nm,1.1s					
MNGI				*i* x	x	00 52 22.0
RAMN	**Ramite**	**19.41**	**340**	*e*P	**Pn**	**00 47 33.2 0.0**
	comp=Z,413nm,0.6s					
RAMN	**Ramite**	**19.41**	**340**	*e*P	**Pn**	**00 47 33.2 0.0**
	comp=Z,413nm,0.6s					
TAPN	**Taplejung**	**19.43**	**343**	*e*P	**Pn**	**00 47 32.8 -0.7**
	comp=Z,787nm,1.1s					
TAPN	**Taplejung**	**19.43**	**343**	*e*P	**Pn**	**00 47 32.8 -0.7**
	comp=Z,787nm,1.1s					
STKI	**Sintang**	**19.45**	**115**	P	**Pn**	**00 47 34.1 +0.2**
	comp=Z,113nm,1.4s					
JBP	**Jabalpur**	**19.64**	**319**	*e*PKP	**Pn**	**00 47 37.0 +1.0**
JBP				*ex*	x	00 51 12.0
BTM	**Bintulu**	**19.78**	**105**	P	**Pn**	**00 47 39.1 +1.3**
DBJI	**Dramaga**	**19.83**	**140**	P	**Pn**	**00 47 35.2 -3.1**
	comp=Z,94nm,1.0s					
JIRN	**Jiri**	**20.20**	**340**	*e*P	**P**	**00 47 41.5 +0.9**
	comp=Z,150nm,1.1s					
JIRN	**Jiri**	**20.20**	**340**	*e*P	**P**	**00 47 41.5 +0.9**
	comp=Z,150nm,1.1s					
AKL	**Akola**	**20.23**	**308**	*e*PKP	**P**	**00 47 40.6 -0.3**
AKL				*i* x	x	00 51 39.6
PKI	**Pulchoki**	**20.40**	**338**	*e*P	**P**	**00 47 43.5 +0.8**
	comp=Z,678nm,1.3s					
PKI	**Pulchoki**	**20.40**	**338**	*e*P	**P**	**00 47 43.5 +0.8**
	comp=Z,678nm,1.3s					
PKI	**Pulchoki**	**20.40**	**338**	*e*P	**P**	**00 47 43.5 +0.8**
PKI				pmax	pmax	
	comp=Z,679nm,1.3s					
GUN	**Gumba**	**20.54**	**339**	*e*P	**P**	**00 47 44.9 +0.7**
	comp=Z,727nm,1.2s					
GUN	**Gumba**	**20.54**	**339**	*e*P	**P**	**00 47 44.9 +0.7**
	comp=Z,727nm,1.2s					
DMN	**Daman**	**20.55**	**337**	*e*P	**P**	**00 47 45.0 +0.6**
	comp=Z,318nm,1.0s					
DMN	**Daman**	**20.55**	**337**	*e*P	**P**	**00 47 45.0 +0.6**
	comp=Z,318nm,1.0s					
KKN	**Kakani**	**20.65**	**338**	*e*P	**P**	**00 47 45.9 +0.5**
	comp=Z,463nm,1.2s					
KKN	**Kakani**	**20.65**	**338**	*e*P	**P**	**00 47 45.9 +0.5**
	comp=Z,463nm,1.2s					
KKN	**Kakani**	**20.65**	**338**	*e*P	**P**	**00 47 45.9 +0.5**
KKN				pmax	pmax	
	comp=Z,463nm,1.2s					
GOA	**Goa**	**20.80**	**291**	⇑*i*P	**P**	**00 47 47.2 0.0**
GOA				*i* x	x	00 51 27.4
LSA	**Lhasa**	**21.02**	**353**	P	**P**	**00 47 49.7 +0.3**
LSA				S	**S**	**00 51 39.6 -2.2**
LSA				LR	LR	
	comp=N,760nm,21.2s,MS4.2					
LSA				LR	LR	
	comp=E,740nm,18.2s,MS4.2					
LSA				LR	LR	
	comp=Z,2μm,23.2s,MS4.4					
KAD	**Karad**	**21.06**	**296**	*e*PKP	**P**	**00 47 51.8 +1.8**
KAD				*e*PKP		00 47 52.0
KAD				AMb	AMB	00 48 00.1
	comp=Z,182nm,1.5s,mb5.2					
KAD				*ex*	x	00 51 35.0
GKN	**Gorkha**	**21.09**	**337**	*e*P	**P**	**00 47 50.7 +0.5**
	comp=Z,784nm,1.1s,mb6.0					
GKN	**Gorkha**	**21.09**	**337**	*e*P	**P**	**00 47 50.7 +0.5**
	comp=Z,784nm,1.1s,mb6.0					
KOLN	**Koldanda**	**21.31**	**334**	*e*P	**P**	**00 47 53.3 +0.7**
	comp=Z,127nm,0.7s,mb5.4					
KOLN	**Koldanda**	**21.31**	**334**	*e*P	**P**	**00 47 53.3 +0.7**
	comp=Z,127nm,0.7s,mb5.4					
GYA	**Guiyang**	**21.34**	**33**	⇓*i*P	**P**	**00 47 54.0 +1.1**
GYA				pP		00 48 01.7
GYA				PP		00 48 18.9
GYA				S	**S**	**00 51 45.5 -2.8**
GYA				PcP	PcP	00 51 54.9 -1.6
GYA				SS		00 52 27.5
GYA				ScP	ScP	00 55 32.0 +0.7
GYA				pmax	pmax	
	comp=Z,30nm,1.0s,mb4.6					
GYA				pmax	pmax	
	comp=Z,230nm,7.6s					
GYA				LR	LR	
	comp=N,3μm,14.0s,MS4.9					
GYA				LR	LR	
	comp=E,2μm,14.3s,MS4.9					
GYA				LR	LR	
	comp=Z,3μm,16.7s,MS4.8					
BHPL	**Bhopal**	**21.43**	**314**	*e*PKP	**P**	**00 47 54.7 +0.8**
BHPL				AMb	AMB	00 48 08.1
	comp=Z,117nm,1.3s,mb5.1					
BHPL				*ex*	x	00 51 49.9
DANN	**Dangsing**	**21.75**	**335**	*e*P	**P**	**00 47 57.7 +0.4**
	comp=Z,242nm,0.7s,mb5.7					
DANN	**Dangsing**	**21.75**	**335**	*e*P	**P**	**00 47 57.7 +0.4**
	comp=Z,242nm,0.7s,mb5.7					
POO	**Poona**	**21.82**	**299**	*e*PKP	**P**	**00 47 59.0 +0.9**
POO				*ex*	x	00 51 55.4
PYUN	**Piuthan**	**21.86**	**333**	*e*P	**P**	**00 47 59.0 +0.5**
	comp=Z,515nm,1.2s,mb5.8					
PYUN	**Piuthan**	**21.86**	**333**	*e*P	**P**	**00 47 59.0 +0.5**
	comp=Z,515nm,1.2s,mb5.8					
KKM	**Kota Kinabalu**	**22.22**	**95**	P	**P**	**00 48 05.6 +3.2**
KKM	**Kota Kinabalu**	**22.22**	**95**	*e*P	**P**	**00 48 04.0 +1.6**
	comp=Z,422nm,1.9s,mb5.5					
KKM	**Kota Kinabalu**	**22.22**	**95**	P	**P**	**00 47 57.3 -5.1**
	comp=Z,89nm,1.7s,mb4.9					
XMIS	**Christmas Isla**	**22.36**	**148**	*e*P	**P**	**00 48 04.3 +0.5**
	comp=Z,2μm,1.6s,mb6.3					
XMIS	**Christmas Isla**	**22.36**	**148**	P	**P**	**00 48 04.3 +0.5**
	comp=Z,349nm,1.2s,mb5.7					
BJII	**Banjamegara**	**22.38**	**135**	P	**P**	**00 48 06.1 +1.9**
	comp=Z,2μmcomp=Z,100nm,1.9s,mb4.9					
SMRI	**Semarang**	**22.70**	**133**	P	**P**	**00 48 09.0 +1.4**
	comp=Z,4μmcomp=Z,214nm,1.4s,mb5.4					
UGM	**Wanagama**	**23.36**	**135**	P	**P**	**00 48 16.3 +1.8**
	comp=Z,3μmcomp=Z,193nm,1.6s,mb5.3					
GZH	**Guangzhou**	**23.42**	**50**	P	**P**	**00 48 21.0 +6.0**
GZH				S	**S**	**00 52 39.8 +14**
GZH				LR	LR	
	comp=N,3μm,11.1s,MS5.1					
GZH				LR	LR	
	comp=E,3μm,15.0s,MS5.1					
GZH				LR	LR	
	comp=Z,3μm,19.3s,MS4.8					
NGJI	**Ngawi**	**23.66**	**132**	P	**P**	**00 48 19.2 +1.9**
	comp=Z,195nm,1.4s,mb5.4					
CD2	**Chengdu**	**23.87**	**21**	⇓*i*P	**P**	**00 48 19.1 0.0**
CD2				pP		00 48 28.3
CD2				sP	sP	00 48 32.4 +0.1
CD2				PP		00 48 52.6
CD2				PcP	PcP	00 52 02.1 +0.5
CD2				S	**S**	**00 52 35.6 +2.5**
CD2				sS	sS	00 52 47.0 -1.4
CD2				SS		00 53 22.5
CD2				PcS	PcS	00 55 40.9 -0.3
CD2				pmax	pmax	
	comp=Z,370nm,1.4s,mb5.6					
CD2				pmax	pmax	
	comp=Z,1μm,4.2s					
CD2				LR	LR	
	comp=N,2μm,11.3s,MS5.1					
CD2				LR	LR	
	comp=E,3μm,10.1s,MS5.1					
CD2				LR	LR	
	comp=Z,2μm,11.0s,MS4.9					
BBKI	**Banjar Baru**	**24.08**	**119**	P	**P**	**00 48 22.2 +1.0**
	comp=Z,428nm,1.4s,mb5.7					
SJI	**Sawahan**	**24.13**	**132**	P	**P**	**00 48 23.3 +1.7**
	comp=Z,106nm,2.0s,mb4.9					
PTH	**Pithoragarh**	**24.39**	**330**	*e*PKP	**P**	**00 48 25.0 +1.2**
MYLDM	**Lahad Datu**	**24.60**	**97**	P	**P**	**00 48 28.2 +2.3**
BISR	**Bishrakh**	**25.13**	**324**	*e*PKP	**P**	**00 48 30.6 0.0**
AYAN	**Aya Nagar**	**25.24**	**323**	*e*PKP	**P**	**00 48 32.0 +0.4**
NDI	**New Delhi**	**25.34**	**324**	*e*PKP	**P**	**00 48 31.8 -0.7**
NDI				*e*S	**S**	**00 52 56.5 -0.3**
KUDL	**Kundal**	**25.38**	**322**	*e*PKP	**P**	**00 48 32.4 -0.4**
AJM	**Ajmer**	**25.44**	**316**	*e*PKP	**P**	**00 48 34.0 +0.6**
DDI	**Dehra Dun**	**26.12**	**327**	⇑*i*P	**P**	**00 48 39.0 -0.6**
DDI				*ex*	x	00 53 06.0
KKR	**Kurukshetra**	**26.52**	**325**	*e*PKP	**P**	**00 48 44.0 +0.8**
LZH	**Lanzhou**	**28.67**	**17**	⇓P	**P**	**00 49 02.6 +0.3**
LZH				pP	pP	00 49 09.8 -1.9
LZH				sP	sP	00 49 13.2 -2.4
LZH				PP		00 49 55.7 -12
LZH				*e*S	**S**	**00 54 00.2 +11**
LZH				sS	sS	00 54 01.7 -2.9
LZH				*e*SS	SS	00 55 17.9 -33
LZH				LR	LR	
	comp=Z,3μm,14.8s,MS5.0					
LZH	**Lanzhou**	**28.67**	**17**	⇓P	**P**	**00 49 02.6 +0.3**
LZH				*SP	sP	00 49 13.2 -2.4
LZH						00 49 55.7
LZH				*e*SS	SS	00 55 17.9 -33
LZH				pmax	pmax	
	comp=Z,53nm,1.5s,mb5.0					
LZH				MLR	MLR	
	comp=Z,3μm,14.8s,MS5.0					
XAN	**Xi'an**	**28.69**	**26**	P	**P**	**00 49 02.0 -0.6**
XAN				S	**S**	**00 53 51.5 +1.9**
XAN				SS	SS	00 55 17.0 -35
XAN				pmax	pmax	
	comp=Z,19nm,1.2s,mb4.7					
XAN				pmax	pmax	
	comp=Z,56nm,3.6s					
XAN				LR	LR	
	comp=N,1μm,15.2s,MS4.7					
XAN				LR	LR	
	comp=E,390nm,15.6s,MS4.7					
XAN				LR	LR	
	comp=Z,810nm,19.1s,MS4.3					
WHN	**Wuhan**	**28.86**	**38**	P	**P**	**00 49 04.7 +0.6**
WHN				S	**S**	**00 53 57.2 +4.9**
WHN				LR	LR	
	comp=N,6μm,13.8s,MS5.5					
WHN				LR	LR	
	comp=E,5μm,14.2s,MS5.5					
WHN				LR	LR	
	comp=Z,5μm,15.6s,MS5.2					
KAPI	**Kappang**	**29.11**	**117**	P	**P**	**00 49 06.1 -0.4**
	comp=Z,22nm,1.0s,mb4.8,baz=280,slow=8.2,SNR=13					
KAPI	**Kappang**	**29.11**	**117**	*e*P	**P**	**00 49 06.5 0.0**
	comp=Z,144nm,1.5s,mb5.5					
KAPI	**Kappang**	**29.11**	**117**	P	**P**	**00 49 06.6 +0.1**
	SNR=18					
GTA	**Gaotai**	**30.98**	**9**	⇓P	**P**	**00 49 23.3 +0.5**
GTA				pP	pP	00 49 30.5 -1.6
GTA				sP	sP	00 49 33.9 -2.2
GTA				PcP	PcP	00 52 18.5 0.0
GTA				S	**S**	**00 54 25.5 +0.1**
GTA				SS	SS	00 56 09.6 -29
GTA				pmax	pmax	
	comp=Z,22nm,1.5s,mb4.8					
GTA				pmax	pmax	
	comp=Z,360nm,4.0s					
GTA				LR	LR	
	comp=N,980nm,19.0s,MS4.7					
GTA				LR	LR	
	comp=E,1μm,18.3s,MS4.7					
GTA				LR	LR	
	comp=Z,1μm,21.6s,MS4.5					
DAV	**Davao City (W)**	**31.35**	**91**	LR	LR	01 02 29.4
	comp=Z,1μm,20.0s,MS4.5,baz=299,slow=37					
NJ2	**Nanjing**	**32.73**	**41**	*e*P	**P**	**00 49 38.4 +0.2**
NJ2				pP	pP	00 49 50.2 +2.6
NJ2				sP	sP	00 49 53.7 +2.2
NJ2				S	**S**	**00 54 55.0 +2.2**
NJ2				sS	sS	00 55 11.0 +2.7
NJ2				pmax	pmax	
	comp=Z,30nm,0.9s,mb5.2					
NJ2				pmax	pmax	
	comp=Z,200nm,5.3s					
NJ2				LR	LR	
	comp=N,240nm,13.1s,MS4.5					
NJ2				LR	LR	
	comp=E,550nm,13.2s,MS4.5					
NJ2				LR	LR	
	comp=Z,610nm,14.8s,MS4.4					
SSE	**Sheshan**	**33.72**	**45**	P	**P**	**00 49 46.1 -0.8**
SSE				pP	pP	00 49 55.1 -1.2
SSE				S	**S**	**00 55 08.3 0.0**
SSE				sS	sS	00 55 24.0 +0.1
SSE				pmax	pmax	
	comp=Z,30nm,0.7s,mb5.3					
SSE				pmax	pmax	
	comp=Z,290nm,6.2s					
SSE				LR	LR	
	comp=N,1μm,11.5s,MS5.0					
SSE				LR	LR	
	comp=E,1μm,11.5s,MS5.0					
SSE				LR	LR	
	comp=Z,2μm,12.1s,MS5.0					
SSE	**Sheshan**	**33.72**	**45**	P	**P**	**00 49 46.1 -0.8**
	comp=Z,30nm,0.7s,mb5.3					
SSE				pP	pP	00 49 55.1 -1.2
SSE				S	**S**	**00 55 08.3 0.0**
SSE				sS	sS	00 55 24.0 +0.1
SSE				LR	LR	
	comp=Z,2μm,12.1s,MS5.0					
KBL	**Kabul**	**34.39**	**322**	*e*P	**P**	**00 49 53.0 +0.3**
KBL	**Kabul**	**34.39**	**322**	*e*P	**P**	**00 49 53.0 +0.3**
KSH	**Kashi**	**34.62**	**335**	P	**P**	**00 49 52.8 -1.8**
KSH				pP	pP	00 50 00.9 -3.1
KSH				sP	sP	00 50 03.4 -4.5
KSH				PP	PP	00 51 08.1 -5.3
KSH				PcP	PcP	00 52 29.5 +0.9
KSH				S	**S**	**00 55 16.4 -5.6**
KSH				ScP	ScP	00 56 11.3 -0.4
KSH				PcS	PcS	00 56 14.7 -0.3
KSH				ScS	ScS	01 00 12.5 -2.1
KSH				pmax	pmax	
	comp=Z,62nm,1.3s,mb5.4					
KSH				pmax	pmax	
	comp=Z,140nm,4.6s					
KSH				LR	LR	
	comp=N,180nm,5.9s					
KSH				LR	LR	
	comp=E,460nm,12.8s					
KSH				LR	LR	
	comp=Z,2μm,22.8s					
WMQ	**Urumqi**	**35.37**	**352**	P	**P**	**00 50 01.5 +0.5**
WMQ				pP	pP	00 50 11.2 +0.8
WMQ				sP	sP	00 50 15.1 +0.8
WMQ				PP	PP	00 51 21.6 -0.1
WMQ				S	**S**	**00 55 33.5 +0.1**
WMQ				sS	sS	00 55 49.2 +0.3
WMQ				pmax	pmax	
	comp=Z,49nm,1.3s,mb5.3					
WMQ				LR	LR	
	comp=N,450nm,20.6s,MS4.7					
WMQ				LR	LR	
	comp=E,1μm,21.2s,MS4.7					
WMQ				LR	LR	
	comp=Z,490nm,25.6s,MS4.2					
HHC	**Hu-ho-hao-te**	**35.59**	**23**	*e*P	**P**	**00 50 03.9 +1.0**
HHC				pP	pP	00 50 13.3 +0.9
HHC				sP	sP	00 50 17.6 +1.3
HHC				PP	PP	00 51 24.5 +0.4
HHC				S	**S**	**00 55 37.3 +0.5**
HHC				sS	sS	00 55 52.9 +0.5
HHC				SS	SS	00 57 57.4 -15
HHC				pmax	pmax	
	comp=Z,34nm,0.9s,mb5.3					
HHC				pmax	pmax	
	comp=Z,310nm,4.4s					
HHC				LR	LR	
	comp=N,1μm,11.5s,MS5.0					
HHC				LR	LR	
	comp=E,890nm,10.8s,MS5.0					
HHC				LR	LR	
	comp=Z,1μm,12.3s,MS4.9					
ULHL	**Ulahol**	**36.84**	**338**	P	**P**	**00 50 13.7 +0.1**
	SNR=17					
ULHL				P		00 50 13.7
	SNR=17					
BJI	**Beijing**	**36.93**	**29**	P	**P**	**00 50 14.9 +0.5**
BJI				S	**S**	**00 55 59.6 +2.3**
BJI				pmax	pmax	
	comp=Z,76nm,1.1s,mb5.4					
BJI				pmax	pmax	
	comp=Z,400nm,3.5s					
BJI				LR	LR	
	comp=N,930nm,12.3s					
BJI				LR	LR	
	comp=E,940nm,19.1s					
BJI				LR	LR	
	comp=Z,630nm,25.1s					
KZA	**Kyzart**	**37.08**	**337**	P	**P**	**00 50 16.3 +0.7**
	SNR=21					
KZA				P		00 50 16.3
	SNR=21					
JOW	**Kunigami**	**37.11**	**57**	LR	LR	01 07 11.9
	comp=Z,1μm,18.8s,MS4.8,baz=274,slow=39					
TKM2	**Tokmak 2**	**37.67**	**338**	P	**P**	**00 50 20.7 +0.1**
	SNR=27					
TKM2				P		00 50 20.7
	SNR=27					
TKM2	**Tokmak 2**	**37.67**	**338**	*e*P	**P**	**00 50 20.4 -0.2**
	comp=Z,9.3nm,0.6s,mb4.7					
TKM2	**Tokmak 2**	**37.67**	**338**	*e*P	**P**	**00 50 20.4 -0.2**
TKM2				pmax	pmax	
	comp=Z,9.0nm,0.6s,mb4.7					
KBK	**Karagaybulak**	**37.69**	**337**	P	**P**	**00 50 21.7 +0.9**
	SNR=56					
KBK				P		00 50 21.7
	SNR=56					
AML	**Almayashu**	**37.75**	**335**	P	**P**	**00 50 22.5 +1.2**
	SNR=11					
AML				P		00 50 22.5
	SNR=11					
AAK	**Ala-Archa**	**37.85**	**336**	P	**P**	**00 50 22.9 +0.8**
	SNR=34					
AAK				P		00 50 22.9
	SNR=34					
AAK	**Ala-Archa**	**37.85**	**336**	P	**P**	**00 50 22.0 -0.1**
	comp=Z,262nm,0.9s,mb6.0,SNR=34					
AAK	**Ala-Archa**	**37.85**	**336**	*e*P	**P**	**00 50 22.5 +0.4**
	comp=Z,273nm,1.1s,mb5.9					
AAK	**Ala-Archa**	**37.85**	**336**	*d i*P	**P**	**00 50 22.6 +0.5**
AAK				MLR	MLR	
	comp=Z,2μm,19.0s,MS4.9					
AAK	**Ala-Archa**	**37.85**	**336**	P	**P**	**00 50 23.1 +1.0**
	SNR=26					
FRU	**Bishkek**	**37.97**	**337**	*e*P	**P**	**00 50 22.0 -1.1**
FRU				*e*	pP	00 50 30.0 -2.6
FRU				pmax	pmax	
	comp=Z,100nm,2.0s,mb5.2					
CHMS	**Chumysh**	**38.05**	**337**	P	**P**	**00 50 23.8 0.0**
	SNR=14					
CHMS				P		00 50 23.8
	SNR=14					
EKS2	**Erkin-Say**	**38.16**	**336**	P	**P**	**00 50 25.5 +0.8**
	SNR=29					
EKS2				P		00 50 25.5
	SNR=29					
EKS2	**Erkin-Say**	**38.16**	**336**	*e*P	**P**	**00 50 25.5 +0.7**
	comp=Z,25nm,0.9s,mb4.9					
EKS2	**Erkin-Say**	**38.16**	**336**	*e*P	**P**	**00 50 25.5 +0.8**

EKS2 pmax pmax
comp=Z,25nm,0.9s,mb4.9
USP Ospenovka 38.38 337 P **P 00 50 26.8 +0.2**
SNR=36
USP P 00 50 26.8
SNR=36
MBWA Marble Bar 39.03 140 *e*P **P 00 50 30.0 -2.3**
comp=Z,12nm,1.0s,mb4.6
MK31 Makanchi Array 39.21 347 *e*P **P 00 50 32.7 -0.8**
MK31 Makanchi Array 39.21 347 *i* P **P 00 50 32.6 -0.9**
MK31 pmax pmax
comp=Z,43nm,1.2s,mb5.0
MKAR Makanchi Array 39.21 347 P **P 00 50 33.1 -0.3**
comp=Z,22nm,0.9s,mb4.9,baz=164,slow=6.5,SNR=98
MKAR LR LR 01 10 50.7
comp=Z,305nm,21.1s,MS4.1,baz=163,slow=42
MKAR Makanchi Array 39.21 347 P **P 00 50 33.1 -0.3**
MKAR Makanchi Array 39.21 347 P **P 00 50 33.2 -0.3**
KK31 Karatay Array 39.92 333 *i* P **P 00 50 39.5 0.0**
KK31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
KKAR Karatay Array 39.92 333 *e*P **P 00 50 39.1 -0.3**
comp=Z,21nm,0.9s,mb4.9
KKAR Karatay Array 39.92 333 *e*P **P 00 50 39.1 -0.4**
KKAR pmax pmax
comp=Z,21nm,0.9s,mb4.9
IBND Bandar-abas 39.93 303 *e*P **P 00 50 42.8 +3.0**
IKOO Kooshah 40.03 311 *e*P **P 00 50 43.3 +2.7**
SONM Songino Array 40.36 13 P **P 00 50 43.1 +0.1**
comp=Z,10nm,1.0s,mb4.5,baz=196,slow=7.1,SNR=35
SONM PcP PcP 00 52 46.5 +0.5
comp=Z,1.6nm,0.6s,baz=205,slow=3.9,SNR=5.3
SONM LR LR 01 08 55.1
comp=Z,1μm,18.4s,MS4.8,baz=179,slow=38
SONM Songino Array 40.36 13 P **P 00 50 43.1 +0.1**
SONM PcP PcP 00 52 46.5 +0.5
SONM Songino Array 40.36 13 P **P 00 50 43.1 +0.1**
SONM 00 52 46.5
ITEG Tejag 40.45 312 *e*P **P 00 50 46.3 +2.3**
ULN Ulaanbaatar 40.54 14 *e*P **P 00 50 44.5 0.0**
comp=Z,12nm,1.2s,mb4.4
ULN Ulaanbaatar 40.54 14 *e*P **P 00 50 44.5 0.0**
ULN pmax pmax
comp=Z,11nm,1.2s,mb4.4
FITZ Fitzroy Crossi 41.10 131 P **P 00 50 47.8 -1.7**
comp=Z,4.7nm,0.9s,mb4.1,baz=342,slow=6.3,SNR=10
FITZ PcP PcP 00 52 48.9 0.0
comp=Z,2.4nm,0.7s,baz=288,slow=1.3,SNR=6.7
FITZ Fitzroy Crossi 41.10 131 *e*P **P 00 50 47.7 -1.8**
comp=Z,8.0nm,0.9s,mb4.3
FITZ Fitzroy Crossi 41.10 131 *e*P **P 00 50 47.5 -2.0**
comp=Z,3.2nm,0.8s,mb4.0
FITZ PcP PcP 00 52 48.9 0.0
IMYA Miami 41.26 317 *e*P **P 00 50 51.3 +0.7**
KSAR Wonju Array Be 41.90 42 P **P 00 50 56.0 +0.1**
KSAR Wonju Array Be 41.90 42 P **P 00 50 56.0 +0.1**
KSRS Korea Array 41.93 42 P **P 00 50 56.0 -0.2**
comp=Z,15nm,1.1s,mb4.5,baz=229,slow=10,SNR=15
KSRS LR LR 01 10 47.7
comp=Z,639nm,18.4s,MS4.5,baz=238,slow=40
SNY Shenyang 42.04 33 ⇓P **P 00 50 57.8 +0.8**
SNY S **S 00 57 06.9 -7.1**
SNY pmax pmax
comp=Z,76nm,1.4s,mb5.1
SNY pmax pmax
comp=Z,510nm,4.1s
SNY LR LR
comp=N,580nm,17.3s
SNY LR LR
comp=Z,730nm,24.1s
ZAK Zakamensk 42.22 9 *e*P **P 00 50 58.2 -0.1**
ZAK *e* 00 52 33.7
ZAK pmax pmax
comp=Z,6.0nm,1.8s
IKRD Kardeh 42.56 316 *e*P **P 00 50 57.4 -3.9**
IMEH Mehriz 42.95 307 *e*P **P 00 51 04.7 +0.1**
ABKT Ailbek 43.45 318 P **P 00 51 09.1 +0.6**
comp=Z,358nm,0.7s,mb6.2,SNR=16
ICHK Chekchek 43.45 308 *e*P **P 00 51 09.6 +1.0**
TLY Talaya 43.54 9 *e*P **P 00 51 09.1 +0.1**
TLY *e*S **S 00 57 26.4 -9.4**
TLY *e*SSS 01 01 01.6
TLY pmax pmax
comp=Z,10.0nm,1.6s,mb4.3
TLY MLR MLR
comp=Z,374nm,17.0s,MS4.4
KURK Kurchatov 43.73 346 *e*P **P 00 51 10.2 -0.4**
comp=Z,75nm,1.2s,mb5.3
KURK Kurchatov 43.73 346 P **P 00 51 10.6 +0.1**
comp=Z,282nm,1.1s,mb5.9,SNR=41
KURK Kurchatov 43.73 346 *e*P **P 00 51 10.2 -0.3**
KURK pmax pmax
comp=Z,75nm,1.2s,mb5.3
KURK Kurchatov 43.73 346 P **P 00 51 10.7 +0.2**
SNR=19
ISAD Sadrabad 43.88 308 *e*P **P 00 51 12.9 +0.8**
CN2 Changchun 44.39 33 *e*P **P 00 51 17.1 +1.2**
CN2 *e*pP pP 00 51 24.6 -0.9
CN2 *e*S **S 00 57 49.8 +1.4**
CN2 pmax pmax
comp=Z,50nm,1.6s,mb5.0
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,18.0s,MS4.9
CN2 LR LR
comp=E,700nm,18.0s,MS4.9
CN2 LR LR
comp=Z,700nm,16.0s,MS4.7
ZAA0 Zalesovo Array 45.68 352 *e*P **P 00 51 25.9 -0.1**
ZAA0 *e*pP pP 00 51 34.8 -0.8
ZALV Zalesovo Beam 45.68 352 P **P 00 51 25.9 -0.1**
comp=Z,34nm,0.7s,mb5.4,baz=168,slow=7.6,SNR=215
ZALV LR LR 01 15 50.5
comp=Z,209nm,18.1s,MS4.1,baz=356,slow=43
ZALV Zalesovo Beam 45.68 352 P **P 00 51 25.9 -0.1**
ZALV Zalesovo Beam 45.68 352 P **P 00 51 25.9 -0.1**
IGLO Ghaloghah 45.71 313 *e*P **P 00 51 29.6 +3.1**
ISFB Sefidab 45.96 310 *e*P **P 00 51 29.2 +0.6**
IKLH Kolahrood 46.06 308 *e*P **P 00 51 29.7 +0.3**
KLBR Kellerberrin 46.11 151 *e*P **P 00 51 29.1 -0.6**
comp=Z,49nm,1.0s,mb5.4
IPRN Peran 46.67 312 *e*P **P 00 51 35.8 +1.7**
NVS Novosibirsk 46.77 351 *e*P **P 00 51 33.7 -0.8**
NVS *e*S **S 00 58 21.9 -0.4**
NVS pmax pmax
comp=Z,137nm,1.6s,mb5.6
NVS pmax pmax
comp=N,65nm,1.3s
NVS pmax pmax
comp=E,40nm,1.2s
NVS smax
comp=N,65nm,3.7s
NWAO Narrogin (SRO) 46.99 153 P **P 00 51 36.9 +0.3**
comp=N,42nm,1.0s,mb5.3,baz=320,slow=8.6,SNR=11
NWAO Narrogin (SRO) 46.99 153 *e*P **P 00 51 35.9 -0.6**
comp=N,64nm,1.1s,mb5.5
NWAO Narrogin (SRO) 46.99 153 *e*P **P 00 51 35.9 -0.7**
NWAO pmax pmax
comp=Z,64nm,1.1s
MDJ Mudanjiang 47.19 35 P **P 00 51 38.3 +0.3**
MDJ pP pP 00 51 44.5 -3.2
MDJ sP sP 00 51 47.5 -4.0
MDJ PcP PcP 00 53 06.6 -2.6
MDJ PP PP 00 53 29.8 +0.6
MDJ ScP ScP 00 56 59.5 -1.4
MDJ PcS PcS 00 57 02.9 -1.3
MDJ S **S 00 58 31.5 +2.8**
MDJ ScS ScS 01 01 29.8 0.0
MDJ pmax pmax
comp=Z,39nm,1.3s,mb5.2
MDJ pmax pmax
comp=Z,180nm,6.2s
MDJ LR LR
comp=N,320nm,14.7s,MS4.6
MDJ LR LR
comp=E,430nm,17.7s,MS4.6
MDJ LR LR
comp=Z,560nm,17.1s,MS4.6
IR3 Iran Long-Peri 47.33 311 *e*P **P 00 51 39.7 +0.4**
VLA Vladivostok 47.64 38⇓*e*P **P 00 51 41.4 -0.1**
VLA 00 53 30.2
VLA pmax pmax
comp=Z,87nm,1.2s,mb5.7
KBD Kabd 47.88 302 *e*P **P 00 51 43.8 +0.2**

KBD AMb AMB 00 51 45.4
comp=Z,46nm,0.6s,mb5.7
RDF Al-Radifah 47.93 301 *e*P **P 00 51 44.4 +0.3**
RDF AMb AMB 00 51 45.9
comp=Z,152nm,1.1s,mb5.9
UMR Umm Al-Rimmam 47.96 302 *e*P **P 00 51 44.2 0.0**
UMR AMb AMB 00 51 45.3
comp=Z,36nm,0.4s,mb5.8
BVA0 Borovoye Array 48.12 341 *i* P **P 00 51 43.9 -1.2**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
BRVK Borovoye 48.18 341 P **P 00 51 44.2 -1.4**
comp=Z,90nm,0.5s,mb6.1,SNR=7.9
BRVK Borovoye 48.18 341 *e*P **P 00 51 44.1 -1.4**
comp=Z,7.9nm,0.6s,mb4.9
BRVK Borovoye 48.18 341 *d i*P **P 00 51 44.6 -1.0**
BRVK pmax pmax
comp=Z,20nm,1.2s,mb5.0
BRVK MLR MLR
comp=Z,371nm,19.0s,MS4.4
BRVK Borovoye 48.18 341 P **P 00 51 45.1 -0.4**
SNR=6.3
NAY Al-Naaiem 48.28 302 *e*P **P 00 51 46.5 -0.2**
NAY AMb AMB 00 51 48.1
comp=Z,57nm,0.8s,mb5.7
MIB Mutribah 48.34 302 *e*P **P 00 51 47.0 -0.2**
MIB AMb AMB 00 51 48.8
comp=Z,101nm,0.7s,mb5.9
RAYN Ar Rayn 48.58 294 P **P 00 51 50.2 +1.0**
comp=Z,263nm,0.6s,mb6.4,SNR=20
MJAR Matsushiro Arr 48.71 48 P **P 00 51 48.8 -1.2**
comp=Z,1.2nm,0.3s,mb4.3,baz=254,slow=8.4,SNR=3.6
MJAR PcP PcP 00 53 15.2 +0.4
comp=Z,3.1nm,0.7s,baz=253,slow=4.7,SNR=3.1
MJAR LR LR 01 15 10.5
comp=Z,597nm,18.3s,MS4.6,baz=210,slow=40
MJAR Matsushiro Arr 48.71 48 P **P 00 51 48.8 -1.2**
MJAR PcP PcP 00 53 15.2 +0.4
MJAR Matsushiro Arr 48.71 48 P **P 00 51 48.8 -1.1**
MJAR 00 53 15.2
WRA Warramunga Arr 48.90 126 P **P 00 51 50.5 -1.1**
comp=Z,10nm,1.1s,mb4.8,baz=305,slow=9.1,SNR=43
WRA LR LR 01 18 04.0
comp=Z,564nm,18.5s,MS4.6,baz=295,slow=43
WRA Warramunga Arr 48.90 126 P **P 00 51 50.5 -1.1**
WRA Warramunga Arr 48.90 126 P **P 00 51 50.5 -1.1**
WRAB Tennant Creek 48.90 126 *e*P **P 00 51 50.5 -1.2**
comp=Z,18nm,1.1s,mb5.0
WRAB Tennant Creek 48.90 126 P **P 00 51 50.2 -1.4**
comp=Z,55nm,0.9s,mb5.6,SNR=6.0
WRAB Tennant Creek 48.90 126 *e*P **P 00 51 50.5 -1.1**
WRAB pmax pmax
comp=Z,18nm,1.1s,mb5.0
WB2 Warramunga Arr 48.91 126 *e*P **P 00 51 50.5 -1.2**
AB31 Akbulak array 49.40 331 *e*P **P 00 51 54.6 -0.3**
AB31 pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
ABKAR Akbulak array 49.40 331 *e*P **P 00 51 54.6 -0.3**
comp=Z,12nm,0.6s,mb5.1
GUMO Guam 50.10 80 LR LR 01 12 50.6
comp=Z,385nm,18.3s,MS4.5,baz=241,slow=36
IGHG Ghaleghazi 50.32 308 *e*P **P 00 52 01.7 -0.6**
IDHR Dehrash 50.59 308 *e*P **P 00 52 03.5 -0.8**
AS31 Alice Springs 50.60 130 *e*P **P 00 52 03.1 -1.4**
ASAR Alice Springs 50.60 130 P **P 00 52 03.0 -1.5**
comp=Z,4.0nm,0.8s,mb4.4,baz=307,slow=7.4,SNR=51
ASAR PcP PcP 00 53 22.6 +0.6
comp=Z,1.2nm,0.6s,baz=307,slow=4.2,SNR=4.5
ASAR Alice Springs 50.60 130 P **P 00 52 03.0 -1.5**
ASAR PcP PcP 00 53 22.6 +0.6
ASAR Alice Springs 50.60 130 P **P 00 52 03.0 -1.5**
ASAR 00 53 22.6
AKTO Aktyubinsk 51.11 331 P **P 00 52 07.0 -0.9**
AKTO pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KLR Kul'dur 51.23 31 *e*P **P 00 52 05.8 -3.0**
KLR pmax pmax
comp=Z,160nm,2.4s,mb5.5
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,3μm,14.0s,MS5.5
BOD Bodaibo 51.35 14 *e*P **P 00 52 09.5 -0.1**
BOD pmax pmax
comp=Z,83nm,1.1s,mb5.6
IHRS Heris 51.37 313 *e*P **P 00 52 09.1 -1.0**
ISHB Shabestar 52.40 312 *e*P **P 00 52 18.0 +0.2**
IMRD Marand 52.49 313 *e*P **P 00 52 18.8 +0.3**
HABR Khabarovsk 52.51 33 *e*P **P 00 52 16.4 -2.0**
HABR *e**PP pP 00 52 26.5 -1.7
HABR *e*S **S 00 59 41.5 -1.4**
HABR *e**SS sS 00 59 58.8 -0.2
HABR *e* 01 02 03.1
HABR *e*SS SS 01 03 21.3 0.0
HABR *e*SSS 01 05 08.0
HABR pmax pmax
comp=E,50nm,1.0s
HABR pmax pmax
comp=N,31nm,0.8s
HABR pmax pmax
comp=Z,202nm,2.4s,mb5.6
HABR MLR MLR
comp=Z,1μm,17.0s,MS5.0
MAK Makhachkala 52.96 318 *e*P **P 00 52 21.2 -0.6**
MAK *e* 00 54 21.2
MAK *e*PPP 00 55 25.8
MAK *e*S **S 00 59 47.5 -1.7**
MAK *e*SS SS 01 03 31.6 +3.0
MAK pmax pmax
comp=Z,427nm,1.4s,mb6.2
MAK MLR MLR
comp=Z,489nm,17.0s,MS4.6
GNI Garni 53.72 314 *e*P **P 00 52 28.2 +0.7**
comp=Z,32nm,1.1s,mb5.2
GNI Garni 53.72 314 *d i*P **P 00 52 27.6 +0.1**
GNI pmax pmax
comp=Z,26nm,1.2s
GNI MLR MLR
comp=Z,301nm,18.0s
DGRG David-gareji 53.77 316 P **P 00 52 28.2 +0.4**
COEN Coen 53.78 114 *e*P **P 00 52 27.5 -0.7**
MTA Mtatsminda 54.27 316 P **P 00 52 31.3 -0.2**
TBLG Delisi 54.32 316 P **P 00 52 31.7 -0.1**
TBLG Delisi 54.32 316 P **P 00 52 31.7 -0.1**
SVE Sverdlovsk 54.54 338 *c i*P **P 00 52 33.0 -0.1**
SVE pmax pmax
comp=Z,64nm,1.5s,mb5.4
SVE MLR MLR
comp=Z,1μm,24.0s,MS4.9
GOR Gori 54.85 316 P **P 00 52 35.7 +0.1**
ARU Arti 55.03 337 *e*P **P 00 52 35.7 -1.0**
comp=Z,135nm,1.9s,mb5.7
ARU Arti 55.03 337 *d i*P **P 00 52 36.0 -0.7**
ARU 00 53 32.2
ARU *e* 00 54 38.1
ARU S **S 01 00 17.5 +0.8**
ARU 01 02 26.2
ARU SS SS 01 03 55.6 -5.1
ARU pmax pmax
comp=Z,43nm,1.7s,mb5.2
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.0
ARU Arti 55.03 337 P **P 00 52 36.7 0.0**
comp=Z,100nm,1.7s,mb5.6,SNR=6.0
AKH Akhalkalaki 55.06 315 P **P 00 52 37.5 +0.3**
ZEI Tsey 55.30 317 *e*P **P 00 52 38.8 -0.1**
ZEI pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ONI Oni 55.53 316 P **P 00 52 39.4 -1.2**
PMG Port Moresby 55.95 108 P **P 00 52 45.1 +1.1**
comp=Z,18nm,0.8s,mb5.1,baz=285,slow=12,SNR=3.8
PMG Port Moresby 55.95 108 *e*P **P 00 52 44.8 +0.8**
comp=Z,55nm,1.2s,mb5.5
PMG Port Moresby 55.95 108⇑*e*P **P 00 52 45.0 +1.0**
PMG pmax pmax
comp=Z,38nm,1.2s
PMG MLR MLR
comp=Z,425nm,26.0s
YSS Yuzh-Sakhalins 56.21 38 *e*P **P 00 52 45.7 +0.3**
comp=Z,37nm,0.7s,mb5.5
YSS Yuzh-Sakhalins 56.21 38 *e*P **P 00 52 46.8 +1.5**
YSS pmax pmax
comp=Z,53nm,1.3s,mb5.4
KIV Kislovodsk 56.57 318 *e*P **P 00 52 47.9 0.0**
comp=Z,19nm,0.9s,mb5.1

KIV Kislovodsk 56.57 318⇓*i*P **P 00 52 47.8 -0.2**
KIV *i* pP 00 52 59.0 +1.2
KIV *e* 00 53 44.1
KIV *e* 00 54 52.6
KIV *e*S **S 01 00 43.5 +5.9**
KIV *e*SS SS 01 04 28.5 +3.1
KIV pmax pmax
comp=Z,24nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,300nm,24.0s,MS4.3
KIV Kislovodsk 56.57 318 P **P 00 52 48.8 +0.8**
SNR=5.7
KIV Kislovodsk 56.57 318 P **P 00 52 48.4 +0.4**
comp=Z,131nm,1.1s,mb5.9,SNR=5.5
KMBO Kilima Mbogo 57.36 263 *e*P **P 00 52 56.9 +2.8**
comp=Z,8.3nm,1.0s,mb4.7
KMBO Kilima Mbogo 57.36 263 *e*P **P 00 52 56.9 +2.8**
KMBO pmax pmax
comp=Z,8.0nm,1.0s
SOKR Solikamsk 57.94 339 *c i*P **P 00 52 57.9 +0.6**
SOKR pmax pmax
comp=Z,50nm,1.4s,mb5.3
SOKR MLR MLR
comp=Z,1μm,23.0s,MS5.0
CTA Charters Tower 58.88 120 P **P 00 53 05.7 +1.1**
comp=Z,6.4nm,1.1s,mb4.6,baz=310,slow=9.9,SNR=3.6
CTA Charters Tower 58.88 120 *e*P **P 00 53 04.2 -0.4**
comp=Z,20nm,1.5s,mb4.9
CTA Charters Tower 58.88 120 P **P 00 53 05.7 +1.1**
CTA Charters Tower 58.88 120 P **P 00 53 05.7 +1.1**
CTAO Charters Tower 58.88 120 *e*P **P 00 53 04.0 -0.6**
comp=Z,94nm,1.6s,mb5.6
CTAO Charters Tower 58.88 120 *e*P **P 00 53 04.0 -0.6**
CTAO pmax pmax
comp=Z,94nm,1.6s,mb5.6
YAK Yakutsk 59.23 19 *e*P **P 00 53 05.4 -0.9**
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.1
YAK pmax pmax
comp=E,11nm,1.1s
STKA Stephens Creek 60.82 134 P **P 00 53 17.1 -0.6**
comp=E,5.4nm,0.9s,mb4.7,baz=297,slow=7.9,SNR=7.1
STKA LR LR 01 20 32.0
comp=E,651nm,21.3s,MS4.8,baz=107,slow=37
STKA Stephens Creek 60.82 134 *e*P **P 00 53 17.0 -0.7**
comp=E,4.9nm,0.9s,mb4.6
STKA Stephens Creek 60.82 134 P **P 00 53 17.1 -0.6**
STKA Stephens Creek 60.82 134 P **P 00 53 17.1 -0.6**
CSS Prodhromos 61.04 305 *e*P **P 00 53 19.5 +0.2**
comp=E,14nm,1.1s,mb5.0
VSR Storozhevoye 61.59 324 *e*P **P 00 53 20.9 -1.7**
VSR *e**SP sP 00 53 33.8 -2.6
VSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.3s
BR131 Keskin Array S 61.74 310 *e*P **P 00 53 22.5 -1.4**
comp=E,6.0nm,0.8s,mb4.8
BRTR Keskin Array B 61.74 310 P **P 00 53 22.4 -1.4**
comp=E,5.8nm,1.0s,mb4.7,baz=116,slow=6.6,SNR=26
BRTR LR LR 01 24 33.1
comp=E,128nm,22.0s,MS4.0,baz=97,slow=40
BRTR Keskin Array B 61.74 310 P **P 00 53 22.4 -1.4**
BRTR Keskin Array B 61.74 310 P **P 00 53 22.5 -1.4**
SIM Simferopol' 62.69 316 *de*P **P 00 53 29.2 -0.9**
SIM pmax pmax
comp=Z,15nm,1.1s,mb5.0
MOS Moscow 64.26 328 *e*P **P 00 53 36.1 -4.2**
MOS pmax pmax
comp=Z,70nm,1.6s,mb5.4
MOS MLR MLR
comp=Z,800nm,19.0s,MS4.9
OBN Obninsk 64.56 328⇓*i*P **P 00 53 41.3 -1.0**
OBN *i* pP 00 53 50.9 -1.4
OBN *i* 00 54 16.6
OBN *i* 00 56 02.8
OBN *e*S **S 01 02 18.8 -0.7**
OBN pmax pmax
comp=Z,49nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,500nm,22.0s,MS4.7
EIDS Eidsvold 65.08 123 *e*P **P 00 53 45.5 -0.7**
comp=Z,24nm,1.4s,mb5.0
TOO Toolangi 66.60 137 *e*P **P 00 53 56.2 +0.5**
comp=Z,46nm,0.9s,mb5.5
AKASG Malin Array Be 67.38 321 P **P 00 53 58.9 -1.6**
comp=Z,3.9nm,0.7s,mb4.6,baz=90,slow=4.9,SNR=15
AKASG PP PP 00 56 26.6 -2.5
comp=Z,1.4nm,0.7s,baz=95,slow=7.6,SNR=5.1
AKASG LR LR 01 27 51.5
comp=Z,321nm,21.9s,MS4.5,baz=120,slow=40
AKASG Malin Array Be 67.38 321 P **P 00 53 58.9 -1.6**
AKASG PP PP 00 56 26.6 -2.6
AKASG Malin Array Be 67.38 321 P **P 00 53 58.9 -1.6**
AKASG 00 56 26.6
AKBB Malin Array Si 67.38 321 *e*P **P 00 53 58.5 -2.0**
AKBB Malin Array Si 67.38 321 *e*P **P 00 53 58.5 -2.0**
KIEV Kiev 67.38 321 *e*P **P 00 53 58.5 -2.0**
comp=Z,5.9nm,0.8s,mb4.7
KIEV Kiev 67.38 321 *e*P **P 00 53 58.5 -2.0**
KIEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
PETK Petropavlovsk- 67.40 36 LR LR 01 25 49.1
comp=Z,263nm,18.6s,MS4.5,baz=236,slow=38
ARMA Armidale 67.62 128 *e*P **P 00 54 03.4 +1.1**
ARMA Armidale 67.62 128 *e*P **P 00 54 03.1 +0.7**
comp=Z,79nm,1.8s,mb5.4
IDI Anoyia 67.94 304 *e*P **P 00 54 03.9 -0.5**
comp=Z,13nm,0.7s,mb5.1
VRI Vrincioaia 67.96 316 ⇓P **P 00 54 04.1 -0.2**
VRI Vrincioaia 67.96 316 ⇓*i*P **P 00 54 04.1 -0.2**
PLOR Plostina 68.02 316 ⇑P **P 00 54 04.5 -0.1**
PLOR Plostina 68.02 316 ⇑*i*P **P 00 54 04.5 -0.1**
MLR Muntele Rosu 68.44 315 ⇑P **P 00 54 07.5 +0.2**
MLR Muntele Rosu 68.44 315 ⇑*i*P **P 00 54 07.5 +0.2**
BURAR Bucovina Array 69.30 318 ⇑P **P 00 54 12.3 -0.3**
BURAR Bucovina Array 69.30 318 ⇑*i*P **P 00 54 12.3 -0.3**
BUR08 Bucovina Ar. S 69.31 318 *e*P **P 00 54 12.5 -0.2**
LSZ Lusaka 69.40 250 *e*P **P 00 54 15.2 +1.4**
comp=Z,14nm,1.1s,mb4.8
LSZ Lusaka 69.40 250 *e*P **P 00 54 15.2 +1.4**
LSZ pmax pmax
comp=Z,13nm,1.1s,mb4.8
NACGM Naroch 69.84 325 *e* P **P 00 54 13.0 -2.8**
JOF Joensuu 70.00 334 *e*P **P 00 54 15.0 -1.6**
JOF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
JOF Joensuu 70.00 334 *e*p **P 00 54 15.0 -1.6**
comp=Z,9.1nm,0.6s,mb4.9
VSU Vasula 70.76 329 *i* P **P 00 54 21.2 -0.1**
VSU pmax pmax
comp=Z,56nm,1.5s,mb5.3
DRGR 70.86 316 ⇓P **P 00 54 22.1 -0.1**
DRGR 70.86 316 ⇓*i*P **P 00 54 22.1 -0.1**
APA Apatity 70.98 339 ⇓*i*P **P 00 54 23.0 +0.5**
APA *e*S S 01 03 39.0 +3.0
APA pmax pmax
comp=Z,40nm,1.0s,mb5.3
APA MLR MLR
comp=Z,1μm,20.0s,MS5.2
TRPA Tarpa 71.16 318 ⇓*i*P **P 00 54 23.6 -0.3**
KWP Kalwaria Pacla 71.27 319 *e*P **P 00 54 23.6 -1.0**
KWP Kalwaria Pacla 71.27 319 *e*P **P 00 54 23.7 -0.9**
comp=Z,35nm,1.2s,mb5.2
KWP Kalwaria Pacla 71.27 319 *e*P **P 00 54 23.7 -0.9**
KWP pmax pmax
comp=Z,35nm,1.2s,mb5.2
KWP Kalwaria Pacla 71.27 319 ⇓*i*P **P 00 54 24.2 -0.4**
KOLS Kolonicke sedl 71.45 319 *e*P **P 00 54 25.9 +0.2**
KOLS pmax pmax
comp=Z,22nm,1.7s,mb4.8
KOLS Kolonicke sedl 71.45 319 *e*P **P 00 54 25.9 +0.2**
SUW Suwalki 71.71 324 *e*P **P 00 54 25.8 -1.3**
SUW *e*pP pP 00 54 34.8 -2.4
SUW *e*S S 01 03 45.7 +0.9
SUW LMZ 01 28 53.6
comp=Z,300nm,22.9s
SUW Suwalki 71.71 324 *e*P **P 00 54 25.8 -1.3**
comp=Z,61nm,0.9s,mb5.5
SUW Suwalki 71.71 324 *e*P **P 00 54 25.8 -1.3**
SUW *e**PP pP 00 54 34.8 -2.4
SUW *e*S S 01 03 45.7 +0.9
SUW MLR MLR

comp=Z,300nm,22.9s,MS4.5
FINES FINESS Array B 71.87 332 P **P 00 54 27.2 -0.7**
comp=Z,8.4nm,0.7s,mb4.8,baz=87,slow=5.3,SNR=40
FINES LR LR 01 32 03.6
comp=Z,470nm,18.8s,MS4.8,baz=326,slow=41
FINES FINESS Array B 71.87 332 P **P 00 54 27.2 -0.7**
FINES FINESS Array B 71.87 332 P **P 00 54 27.3 -0.7**
KAF Kangasniemi 71.95 333 *e*P **P 00 54 27.2 -1.2**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KAF Kangasniemi 71.95 333 *e*p **P 00 54 27.2 -1.2**
comp=Z,5.7nm,0.5s,mb4.8
CRVS Cervenica-Dubn 71.97 319 *e*P **P 00 54 29.1 +0.3**
CRVS pmax pmax
comp=Z,23nm,1.3s,mb5.0
CRVS Cervenica-Dubn 71.97 319 *e*P **P 00 54 29.1 +0.3**
STHS Stebnicka Huta 72.18 319 *e*P **P 00 54 29.7 -0.4**
STHS Stebnicka Huta 72.18 319 *e*P **P 00 54 29.7 -0.4**
KECS Kecovo 72.56 318 *e*P **P 00 54 32.1 -0.3**
KECS pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
KECS Kecovo 72.56 318 *e*P **P 00 54 32.1 -0.3**
NIE Niedzica 72.78 319 *e*P **P 00 54 33.8 +0.1**
NIE Niedzica 72.78 319 *e*P **P 00 54 33.8 +0.1**
BEL Belsk 72.79 322 *e*P **P 00 54 32.4 -1.2**
BEL LMZ 01 29 23.8
comp=Z,300nm,23.1s
BEL Belsk 72.79 322 *e*P **P 00 54 32.4 -1.2**
BEL MLR MLR
comp=Z,300nm,23.1s,MS4.5
PSZ Piszkesteto 72.89 317 *e*P **P 00 54 33.7 -0.6**
comp=Z,21nm,1.3s,mb4.9
PSZ Piszkesteto 72.89 317 *e*P **P 00 54 33.7 -0.7**
PSZ pmax pmax
comp=Z,21nm,1.3s,mb4.9
PSZ Piszkesteto 72.89 317⇓*e*P **P 00 54 33.6 -0.8**
BUD Budapest 73.44 317⇑*e*P **P 00 54 37.6 0.0**
KOLL Kolacno 73.95 318 *e*P **P 00 54 41.4 +0.8**
KOLL Kolacno 73.95 318 *e*P **P 00 54 41.4 +0.8**
KEV Kevo 73.97 341 *e*P **P 00 54 38.7 -1.6**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KEV Kevo 73.97 341 *e*p **P 00 54 38.7 -1.6**
comp=Z,6.8nm,0.7s,mb4.7
OKC Ostrava-Krasne 74.23 319 *e*P **P 00 54 42.0 -0.2**
OKC *e* 00 54 56.9
OKC Ostrava-Krasne 74.23 319 *e*P **P 00 54 42.0 -0.2**
OKC *e*pP pP 00 54 56.9 +4.6
ARCES ARCESS Array B 74.40 340 P **P 00 54 42.8 0.0**
comp=Z,15nm,0.9s,mb4.9,baz=97,slow=5.8,SNR=33
ARCES LR LR 01 30 03.6
comp=Z,883nm,21.6s,MS5.0,baz=116,slow=38
ARCES ARCESS Array B 74.40 340 P **P 00 54 42.8 0.0**
ARCES ARCESS Array B 74.40 340 P **P 00 54 42.8 0.0**
ARE0 ARCESS Array S 74.40 340 *e*P **P 00 54 42.8 0.0**
LBTB Lobatse 74.51 241 *e*P **P 00 54 46.0 +1.7**
comp=Z,19nm,1.0s,mb5.0
LBTB Lobatse 74.51 241 *e*P **P 00 54 46.0 +1.7**
LBTB pmax pmax
comp=Z,19nm,1.0s,mb5.0
MORC Moravsky Berou 74.61 319 *e*P **P 00 54 43.9 -0.5**
comp=Z,33nm,1.3s,mb5.1
MORC Moravsky Berou 74.61 319 *e*P **P 00 54 43.9 -0.5**
MORC pmax pmax
comp=Z,33nm,1.3s,mb5.1
MORC Moravsky Berou 74.61 319⇓*i*P **P 00 54 44.4 0.0**
ZST Bratislava 74.78 318 *e*P **P 00 54 45.4 0.0**
ZST pmax pmax
comp=Z,14nm,0.9s,mb4.9
ZST Bratislava 74.78 318 *e*P **P 00 54 45.4 0.0**
GKP Gorka Klasztor 75.11 323 *e*P **P 00 54 46.4 -0.8**
GKP LMZ 01 29 34.9
comp=Z,400nm,28.2s
GKP Gorka Klasztor 75.11 323 *e*P **P 00 54 46.4 -0.8**
GKP MLR MLR
comp=Z,400nm,28.2s,MS4.6
SOP Sopron 75.12 317⇓*e*P **P 00 54 47.2 -0.2**
KRLC Kraliky 75.13 319 *e*P **P 00 54 47.5 +0.1**
DPC Dobruska-Polom 75.44 320 *e*P **P 00 54 49.5 +0.3**
DPC *e* 00 55 02.2
DPC Dobruska-Polom 75.44 320 *e*P **P 00 54 49.5 +0.3**
DPC *e*pP pP 00 55 02.2 +2.9
KSP Ksiaz 75.49 320 *e*P **P 00 54 49.7 +0.2**
KSP *e*pP pP 00 54 57.9 -1.7
KSP LMZ 01 32 26.4
comp=Z,300nm,22.9s
KSP Ksiaz 75.49 320 *e*P **P 00 54 49.6 +0.2**
KSP *e*pP pP 00 54 57.3 -2.3
KSP Ksiaz 75.49 320⇓*e*P **P 00 54 49.6 +0.2**
KSP *e**PP pP 00 54 57.3 -2.3
CONA Conrad Observa 75.60 317⇓*i*P **P 00 54 49.8 -0.3**
comp=Z,10nm,1.5s,mb4.5
UPC Upice 75.65 320 *e*P **P 00 54 50.8 +0.5**
UPC Upice 75.65 320 *e*P **P 00 54 50.8 +0.5**
BOSA Boshof 75.90 238 P **P 00 54 53.9 +1.7**
comp=Z,5.7nm,0.6s,mb4.7,baz=98,slow=5.5,SNR=23
BOSA LR LR 01 23 21.7
comp=Z,335nm,20.8s,MS4.6,baz=76,slow=32
BOSA Boshof 75.90 238 *e*P **P 00 54 53.7 +1.5**
comp=Z,30nm,1.2s,mb5.1
BOSA Boshof 75.90 238 *e*P **P 00 54 53.7 +1.5**
BOSA pmax pmax
comp=Z,30nm,1.2s,mb5.1
BOJS Bojanci 75.92 315 *i*P **P 00 54 52.0 0.0**
TREC Trest 75.92 319 *e*P **P 00 54 51.5 -0.4**
TREC Trest 75.92 319 *e*P **P 00 54 51.5 -0.4**
PERS Pernice 76.05 316 *i*P **P 00 54 52.7 0.0**
SOKA Soboth 76.11 316⇑*i*P **P 00 54 53.3 +0.2**
comp=Z,22nm,1.3s,mb4.9
VISS Visnje 76.22 315 *i*P **P 00 54 53.3 -0.4**
PVCC Panska Ves 76.57 320 *e*P **P 00 54 55.6 0.0**
PVCC Panska Ves 76.57 320 *e*P **P 00 54 55.6 0.0**
BRG Berggiesshubel 76.98 320 *e*P **P 00 54 57.9 0.0**
comp=Z,34nm,1.5s,mb5.0
BRG Berggiesshubel 76.98 320 *e*P **P 00 54 58.0 +0.1**
comp=Z,34nm,1.5s,mb5.1
BRG Berggiesshubel 76.98 320 *e*P **P 00 54 57.9 0.0**
BRG pmax pmax
comp=Z,34nm,1.5s,mb5.1
GEC2 GERESS Array S 77.07 318 *e*P **P 00 54 58.6 +0.1**
comp=Z,22nm,1.1s,mb5.0
GEC2 GERESS Array S 77.07 318 *e*P **P 00 54 58.6 +0.1**
GEC2 pmax pmax
comp=Z,22nm,1.1s,mb5.0
GERES GERESS Array B 77.07 318 P **P 00 54 58.5 0.0**
comp=Z,5.9nm,0.7s,mb4.6,baz=85,slow=5.8,SNR=49
GERES LR LR 01 33 38.9
comp=Z,164nm,20.0s,MS4.3,baz=285,slow=39
GERES GERESS Array B 77.07 318 P **P 00 54 58.5 0.0**
GERES GERESS Array B 77.07 318 P **P 00 54 58.5 0.0**
RUE Ruedersdorf 77.15 322 *e*P **P 00 54 58.9 +0.1**
comp=Z,62nm,1.1s,mb5.5
KHC Kasperske Hory 77.16 318 *e*P **P 00 54 58.6 -0.3**
comp=Z,18nm,1.4s,mb4.8
KHC Kasperske Hory 77.16 318 *e*P **P 00 54 58.7 -0.3**
KHC pmax pmax
comp=Z,18nm,1.4s,mb4.8
KHC Kasperske Hory 77.16 318 *e*P **P 00 54 58.6 -0.4**
KHC *e*pP pP 00 55 13.2 +4.1
DZM Mont Dzumac 77.31 115 *e*P **P 00 55 08.9 +8.6**
comp=Z,71nm,1.4s,mb5.4
DZM *e*LR LR 01 19 03.0
comp=Z,462nm,24.9s
FBE Freiberg 77.36 320 *e*P **P 00 55 00.4 +0.4**
comp=Z,47nm,1.5s,mb5.2
CLL Collm 77.59 321 *e*P **P 00 55 01.0 -0.3**
comp=Z,20nm,1.4s,mb4.8
CLL Collm 77.59 321⇓*i*P **P 00 55 00.7 -0.6**
CLL *i* 00 55 18.0
CLL *e*S S 01 04 50.0 -0.6
CLL pmax pmax
comp=Z,20nm,1.4s,mb4.8
CLL MLR MLR
comp=Z,200nm,18.0s,MS4.5
CLL Collm 77.59 321⇓*i*P **P 00 55 00.7 -0.6**
comp=Z,20nm,1.4s,mb4.8
CLL *e*PcP PcP 00 55 10.0 -1.5
CLL *i*sP sP 00 55 18.0 +2.8
CLL *e*S S 01 04 50.0 -0.6
CLL *e*PS 01 05 29.0
CLL *e*SSS 01 13 36.0
CLL LmH 01 35 00.0
comp=N,200nm,20.3s
CLL LmH 01 35 00.0
comp=E,300nm,19.6s
CLL LmV 01 42 00.0
comp=Z,200nm,18.0s
WET Wettzell 77.62 318 *e*P **P 00 55 01.6 +0.1**
comp=Z,21nm,1.3s,mb4.9
WET Wettzell 77.62 318 *e*P **P 00 55 01.6 +0.1**
WET pmax pmax
comp=Z,21nm,1.3s,mb4.9
NKC Novy Kostel 77.92 319 *e*P **P 00 55 03.7 +0.5**
NKC Novy Kostel 77.92 319 *e*P **P 00 55 03.7 +0.5**
GUNZ Gunzen 78.00 320 *e*P **P 00 55 03.7 +0.1**
comp=Z,31nm,1.5s,mb5.0
WERD Werda 78.01 320 *e*P **P 00 55 03.6 -0.1**
comp=Z,14nm,1.3s,mb4.7
ROTZ Rotzenmuhle 78.07 319 *e*P **P 00 55 04.5 +0.5**
comp=Z,23nm,1.3s,mb5.0
GRF Grafenberg Arr 78.71 319 *e*P **P 00 55 07.8 +0.3**
comp=Z,60nm,1.5s,mb5.3
GRF Grafenberg Arr 78.71 319 *e*P **P 00 55 07.8 +0.3**
GRF pmax pmax
comp=Z,60nm,1.5s,mb5.3
MOTA Moosalm 78.80 317⇑*i*P **P 00 55 07.5 -0.7**
comp=Z,12nm,1.0s,mb4.8
NB2 NORSAR Subarra 78.90 331 P **P 00 55 07.2 -1.1**
comp=Z,11nm,0.7s,mb4.9,baz=96,slow=5.1
NOA NORSAR Array B 78.90 331 P **P 00 55 07.5 -0.9**
comp=Z,6.0nm,0.6s,mb4.7,baz=92,slow=5.7,SNR=29
NOA LR LR 01 37 15.1
comp=Z,167nm,18.2s,MS4.4,baz=90,slow=41
NOA NORSAR Array B 78.90 331 P **P 00 55 07.5 -0.9**
NOA NORSAR Array B 78.90 331 P **P 00 55 07.5 -0.8**
NAO01 NORSAR Array S 79.05 330 *e*P **P 00 55 08.4 -0.8**
comp=Z,3.8nm,0.8s,mb4.4
CLZ Clausthal 79.23 321 *e*P **P 00 55 10.5 +0.1**
comp=Z,36nm,1.3s,mb5.1
CLZ Clausthal 79.23 321 *e*P **P 00 55 10.5 +0.1**
CLZ pmax pmax
comp=Z,36nm,1.3s,mb5.1
BSEG Bad Segeberg 79.26 323 *e*P **P 00 55 10.8 +0.3**
comp=Z,96nm,1.2s,mb5.6
BSEG Bad Segeberg 79.26 323 *e*P **P 00 55 10.8 +0.3**
BSEG pmax pmax
comp=Z,96nm,1.2s,mb5.6
MAW Mawson 79.34 192 P **P 00 55 12.3 +1.8**
comp=Z,5.8nm,0.8s,mb4.5,baz=45,slow=5.7,SNR=3.8
MAW LR LR 01 25 58.5
comp=Z,305nm,18.3s,MS4.7,baz=30,slow=32
MAW Mawson 79.34 192 P **P 00 55 12.3 +1.8**
MAW Mawson 79.34 192 P **P 00 55 12.3 +1.8**
NRDL Niedersach Rie 79.39 322 *e*P **P 00 55 11.6 +0.4**
comp=Z,74nm,1.6s,mb5.4
DAVA Damuels 79.64 316⇑*i*P **P 00 55 12.8 +0.2**
comp=Z,27nm,1.1s,mb5.1
MUD Monsted U'grnd 79.90 326 *i*P **P 00 55 14.4 +0.5**
MUD pmax pmax
comp=Z,14nm,0.9s,mb4.9
MUD Monsted U'grnd 79.90 326 *i*P **P 00 55 14.4 +0.5**
comp=Z,14nm,0.9s,mb4.9
STU Stuttgart 80.05 318 *e*P **P 00 55 14.8 -0.1**
comp=Z,48nm,1.6s,mb5.2
TSUM Tsumeb 80.18 249 *e*P **P 00 55 13.9 -2.3**
comp=Z,3.8nm,0.8s,mb4.4
TNS Taunus Mts 80.49 320 *e*P **P 00 55 17.1 -0.1**
comp=Z,32nm,1.5s,mb5.0
TNS Taunus Mts 80.49 320 *e*P **P 00 55 17.1 -0.1**
TNS pmax pmax
comp=Z,32nm,1.5s,mb5.0
KEST Kesra 80.61 305 P **P 00 55 18.4 +0.2**
comp=Z,1.4nm,0.6s,mb4.0,baz=47,slow=8.1,SNR=5.9
KEST LR LR 01 35 45.5
comp=Z,91nm,20.2s,MS4.1,baz=23,slow=39
KEST Kesra 80.61 305 P **P 00 55 18.4 +0.2**
BFO Black Forest 80.64 318 *e*P **P 00 55 17.5 -0.6**
comp=Z,20nm,1.3s,mb4.9
BFO Black Forest 80.64 318 *e*P **P 00 55 17.2 -0.8**
comp=Z,4.2nm,0.9s,mb4.4
BFO Black Forest 80.64 318 *e*P **P 00 55 17.5 -0.6**
BFO pmax pmax
comp=Z,20nm,1.3s,mb4.9
SUR Sutherland 80.69 235 *e*P **P 00 55 20.5 +1.9**
comp=Z,34nm,1.1s,mb5.2
IBBN Ibbenburen 80.84 322 *e*P **P 00 55 19.2 +0.2**
comp=Z,56nm,1.1s,mb5.4
BUG Bochum--Univer 81.18 321 *e*P **P 00 55 20.9 0.0**
comp=Z,53nm,1.4s,mb5.3
CDF Champ du Feu 81.34 318 *e*P **P 00 55 21.2 -0.6**
CDF Champ du Feu 81.34 318 *e*P **P 00 55 21.2 -0.6**
CDF Champ du Feu 81.34 318 *e*P **P 00 55 21.2 -0.6**
SBF Sospel 81.52 313 *e*P **P 00 55 23.3 +0.4**
comp=Z,67nm,1.0s,mb5.2
SBF Sospel 81.52 313 *e*P **P 00 55 23.3 +0.4**
comp=Z,67nm,1.0s,mb5.5
SBF Sospel 81.52 313 *e*P **P 00 55 23.3 +0.4**
SBF pmax pmax
comp=Z,67nm,1.0s,mb5.5
LPG La Plagne 81.89 315 *e*P **P 00 55 24.7 -0.1**
comp=Z,40nm,1.0s,mb5.0
LPG La Plagne 81.89 315 *e*P **P 00 55 24.7 -0.1**
comp=Z,40nm,1.0s,mb5.3
LPG La Plagne 81.89 315 *e*P **P 00 55 24.7 -0.1**
LPG pmax pmax
comp=Z,40nm,1.0s,mb5.3
LPL La Plagne 81.90 315 *e*P **P 00 55 24.7 -0.1**
comp=Z,38nm,0.9s,mb5.0
LPL La Plagne 81.90 315 *e*P **P 00 55 24.7 -0.1**
comp=Z,38nm,0.9s,mb5.3
LPL La Plagne 81.90 315 *e*P **P 00 55 24.7 -0.1**
LPL pmax pmax
comp=Z,38nm,0.9s,mb5.3
MBDF Montbardon 81.93 314 *e*P **P 00 55 24.1 -0.9**
MBDF Montbardon 81.93 314 *e*P **P 00 55 24.1 -0.9**
MBDF Montbardon 81.93 314 *e*P **P 00 55 24.1 -0.9**
BNI Bardonecchia 81.98 314 *e*P **P 00 55 25.8 +0.6**
comp=Z,29nm,1.1s,mb5.1
BNI Bardonecchia 81.98 314 *e*P **P 00 55 25.8 +0.6**
BNI pmax pmax
comp=Z,29nm,1.1s,mb5.1
HAU Haudompre 81.99 317 *e*P **P 00 55 24.4 -0.8**
comp=Z,64nm,1.2s,mb5.1
HAU *e*R
comp=Z,228nm,22.8s
HAU Haudompre 81.99 317 *e*P **P 00 55 24.4 -0.8**
comp=Z,64nm,1.2s,mb5.4
HAU Haudompre 81.99 317 *e*P **P 00 55 24.4 -0.8**
HAU pmax pmax
comp=Z,65nm,1.2s,mb5.4
WLF Walferdange 82.00 319 P **P 00 55 25.9 +0.6**
WLF Walferdange 82.00 319 *e*P **P 00 55 25.5 +0.3**
comp=Z,55nm,1.6s,mb5.2
MEM Membach 82.03 320 P **P 00 55 26.1 +0.8**
FRF La Foret Royal 82.11 313 *e*P **P 00 55 25.6 -0.4**
comp=Z,76nm,1.2s,mb5.2
FRF La Foret Royal 82.11 313 *e*P **P 00 55 25.6 -0.4**
comp=Z,76nm,1.2s,mb5.5
FRF La Foret Royal 82.11 313 *e*P **P 00 55 25.6 -0.4**
FRF pmax pmax
comp=Z,76nm,1.2s,mb5.5
LMR La Mourre 82.23 313 *e*P **P 00 55 25.9 -0.7**
comp=Z,128nm,1.5s,mb5.3
LMR La Mourre 82.23 313 *e*P **P 00 55 25.9 -0.7**
comp=Z,128nm,1.5s,mb5.6
LMR La Mourre 82.23 313 *e*P **P 00 55 25.9 -0.7**
LMR pmax pmax
comp=Z,128nm,1.5s,mb5.6
CABF La Chapelle 82.27 316 *e*P **P 00 55 26.5 -0.2**
comp=Z,68nm,1.3s,mb5.1
CABF La Chapelle 82.27 316 *e*P **P 00 55 26.5 -0.2**
comp=Z,68nm,1.3s,mb5.4
CABF La Chapelle 82.27 316 *e*P **P 00 55 26.5 -0.2**
CABF pmax pmax
comp=Z,68nm,1.3s,mb5.4
PAGF Fort de Pagny 82.36 318 *e*P **P 00 55 26.7 -0.5**
BCLA Clavier 82.49 320 P **P 00 55 27.9 +0.1**
comp=Z,23nm,1.9s,mb4.8
ORIF Oris-en-Rattie 82.55 314 *e*P **P 00 55 27.8 -0.4**
comp=Z,52nm,1.2s,mb5.1
ORIF *e*R
comp=Z,320nm,21.5s
ORIF Oris-en-Rattie 82.55 314 *e*P **P 00 55 27.8 -0.4**
comp=Z,52nm,1.2s,mb5.4
ORIF Oris-en-Rattie 82.55 314 *e*P **P 00 55 27.8 -0.4**
ORIF pmax pmax
comp=Z,52nm,1.2s,mb5.4
SFTF Sexfontaines 82.85 318 *e*P **P 00 55 29.0 -0.7**
comp=Z,95nm,1.4s,mb5.3
SFTF Sexfontaines 82.85 318 *e*P **P 00 55 29.0 -0.7**
comp=Z,95nm,1.4s,mb5.6
DOU Dourbes 82.97 320 P **P 00 55 30.5 +0.2**
comp=Z,22nm,3.0s
BAIF Baives 83.22 320 *e*P **P 00 55 31.4 -0.2**
comp=Z,57nm,1.3s,mb5.1
BAIF Baives 83.22 320 *e*P **P 00 55 31.4 -0.2**
comp=Z,57nm,1.3s,mb5.4
BAIF Baives 83.22 320 *e*P **P 00 55 31.4 -0.2**
BAIF pmax pmax
comp=Z,57nm,1.3s,mb5.4
VIVF Saint-Julien-l 83.41 314 *e*P **P 00 55 32.2 -0.5**
comp=Z,46nm,1.2s,mb5.1
VIVF Saint-Julien-l 83.41 314 *e*P **P 00 55 32.2 -0.5**
comp=Z,46nm,1.2s,mb5.4
VIVF Saint-Julien-l 83.41 314 *e*P **P 00 55 32.2 -0.5**
VIVF pmax pmax
comp=Z,46nm,1.2s,mb5.4
LOR Lormes 83.73 317 *e*P **P 00 55 33.6 -0.7**
comp=Z,61nm,1.2s,mb5.3
LOR *e*R
comp=Z,228nm,18.2s
LOR Lormes 83.73 317 *e*P **P 00 55 33.6 -0.7**
comp=Z,61nm,1.2s,mb5.6
LOR Lormes 83.73 317 *e*P **P 00 55 33.6 -0.7**
LOR pmax pmax
comp=Z,61nm,1.2s,mb5.6
SMF Signal de Mont 83.81 316 *e*P **P 00 55 33.9 -0.8**
comp=Z,38nm,1.1s,mb5.2
SMF Signal de Mont 83.81 316 *e*P **P 00 55 33.9 -0.8**
comp=Z,38nm,1.1s,mb5.4
SMF Signal de Mont 83.81 316 *e*P **P 00 55 33.9 -0.8**
SMF pmax pmax
comp=Z,38nm,1.1s,mb5.4
SSF Saint Saulge 83.99 317 *e*P **P 00 55 34.8 -0.8**
comp=Z,86nm,1.7s,mb5.3
SSF Saint Saulge 83.99 317 *e*P **P 00 55 34.8 -0.8**
comp=Z,86nm,1.7s,mb5.6
SSF Saint Saulge 83.99 317 *e*P **P 00 55 34.8 -0.8**
SSF pmax pmax
comp=Z,86nm,1.7s,mb5.6
LASF Ste Croix 84.08 314 *e*P **P 00 55 35.5 -0.6**
LASF Ste Croix 84.08 314 *e*P **P 00 55 35.5 -0.6**
AVF Avril sur Loir 84.12 316 *e*P **P 00 55 35.5 -0.8**
comp=Z,26nm,1.1s,mb5.0
AVF Avril sur Loir 84.12 316 *e*P **P 00 55 35.5 -0.8**
comp=Z,26nm,1.1s,mb5.3
AVF Avril sur Loir 84.12 316 *e*P **P 00 55 35.5 -0.8**
AVF pmax pmax
comp=Z,26nm,1.1s,mb5.3
BGF Bois d'Agland 84.50 316 *e*P **P 00 55 37.8 -0.4**
comp=Z,33nm,1.1s,mb5.1
BGF Bois d'Agland 84.50 316 *e*P **P 00 55 37.8 -0.4**
comp=Z,33nm,1.1s,mb5.4
BGF Bois d'Agland 84.50 316 *e*P **P 00 55 37.8 -0.4**
BGF pmax pmax
comp=Z,33nm,1.1s,mb5.4
TCF Toulx Ste Croi 84.97 316 *e*P **P 00 55 40.3 -0.3**
comp=Z,51nm,1.3s,mb5.2
TCF Toulx Ste Croi 84.97 316 *e*P **P 00 55 40.3 -0.3**
comp=Z,51nm,1.3s,mb5.5
TCF Toulx Ste Croi 84.97 316 *e*P **P 00 55 40.3 -0.3**
TCF pmax pmax
comp=Z,51nm,1.3s,mb5.5
TAM Tamanrasset 85.25 292 *e*P **P 00 55 43.5 +1.1**
comp=Z,14nm,1.4s,mb4.9
TAM Tamanrasset 85.25 292 *e*P **P 00 55 43.5 +1.0**
TAM pmax pmax
comp=Z,14nm,1.4s,mb4.9
MTLF Montolieu 85.34 313 *e*P **P 00 55 41.9 -0.6**
MTLF Montolieu 85.34 313 *e*P **P 00 55 41.9 -0.6**
MTLF Montolieu 85.34 313 *e*P **P 00 55 41.9 -0.6**
JMIC Jan Mayen 85.83 341 LR LR 01 36 06.5
comp=Z,308nm,20.8s,MS4.7,baz=80,slow=37
SYO Syowa Base 86.18 197⇑*e*P **P 00 55 45.6 -0.4**
SYO Syowa Base 86.18 197⇓*e*sP sP 00 55 57.0 -3.0
LDF La Druitiere 86.21 318 *e*P **P 00 55 46.1 -0.6**
comp=Z,16nm,1.0s,mb4.9
LDF La Druitiere 86.21 318 *e*P **P 00 55 46.1 -0.6**
comp=Z,16nm,1.0s,mb5.2
LDF La Druitiere 86.21 318 *e*P **P 00 55 46.1 -0.6**
LDF pmax pmax
comp=Z,17nm,1.0s,mb5.2
FLN La Foliniere 86.42 319 *e*P **P 00 55 47.3 -0.4**
comp=Z,127nm,1.4s,mb5.6
FLN *e*R
comp=Z,312nm,22.2s
FLN La Foliniere 86.42 319 *e*P **P 00 55 47.3 -0.4**
comp=Z,127nm,1.4s,mb6.0
FLN La Foliniere 86.42 319 *e*P **P 00 55 47.3 -0.4**
FLN pmax pmax
comp=Z,127nm,1.4s,mb6.0
MFF Saint Martin d 86.54 316 *e*P **P 00 55 47.6 -0.8**
MFF Saint Martin d 86.54 316 *e*P **P 00 55 47.6 -0.8**
MFF Saint Martin d 86.54 316 *e*P **P 00 55 47.6 -0.8**
EPF Esparros 86.75 313 *e*P **P 00 55 48.2 -1.3**
EPF Esparros 86.75 313 *e*P **P 00 55 48.2 -1.3**
EPF Esparros 86.75 313 *e*P **P 00 55 48.2 -1.3**
ESK Eskdalemuir 86.95 325 *e*P **P 00 55 50.3 +0.1**
comp=Z,47nm,1.2s,mb5.6
ESK Eskdalemuir 86.95 325 *e*P **P 00 55 50.3 +0.1**
ESK pmax pmax
comp=Z,47nm,1.2s,mb5.6
SGMF Saint Gilles 87.87 318 *e*P **P 00 55 54.3 -0.5**
SGMF Saint Gilles 87.87 318 *e*P **P 00 55 54.3 -0.5**
SGMF Saint Gilles 87.87 318 *e*P **P 00 55 54.3 -0.5**
ROSF Rostrenen 88.32 319 *e*P **P 00 55 56.7 -0.2**
ROSF Rostrenen 88.32 319 *e*P **P 00 55 56.7 -0.2**
ROSF Rostrenen 88.32 319 *e*P **P 00 55 56.7 -0.2**
QUIF Quistinic 88.33 318 *e*P **P 00 55 56.3 -0.7**
QUIF Quistinic 88.33 318 *e*P **P 00 55 56.3 -0.7**
QUIF Quistinic 88.33 318 *e*P **P 00 55 56.3 -0.7**
TORD Torodi Ar. Bea 90.24 283 P **P 00 56 07.5 +0.9**
comp=Z,4.9nm,1.0s,mb4.8,baz=87,slow=4.5,SNR=9.8
TORD PP PP 00 59 41.4 +0.7
comp=Z,1.3nm,1.1s,baz=83,slow=4.6,SNR=2.9
TORD LR LR 01 35 35.9
comp=Z,274nm,19.7s,MS4.7,baz=100,slow=35
TORD Torodi Ar. Bea 90.24 283 P **P 00 56 07.5 +0.9**
TORD PP PP 00 59 41.4 +0.7
ESDC Sonseca Array 90.53 310 P **P 00 56 08.0 +0.5**
comp=Z,1.9nm,0.6s,mb4.6,baz=62,slow=4.4,SNR=15
ESDC LR LR 01 37 49.1
comp=Z,174nm,21.7s,MS4.5,baz=330,slow=36
ESDC Sonseca Array 90.53 310 P **P 00 56 08.0 +0.5**
BPAW Bear Paw Mtn. 92.76 23 *e*P **P 00 56 18.1 +0.8**
comp=Z,37nm,1.3s,mb5.7
SUMG Summit 93.27 347 *e*P **P 00 56 20.1 +0.6**
comp=Z,11nm,1.0s,mb5.5
SUMG Summit 93.27 347 *e*P **P 00 56 20.1 +0.7**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 93.27 347 *i*P **P 00 56 20.7 +1.3**
comp=Z,7.8nm,1.0s,mb5.1
MCK McKinley 93.73 23 *e*P **P 00 56 21.6 -0.2**
comp=Z,25nm,1.3s,mb5.5
MCK McKinley 93.73 23 *e*P **P 00 56 21.6 -0.2**
MCK pmax pmax
comp=Z,25nm,1.3s,mb5.5
VNDA Vanda 93.81 168 *e*P **P 00 56 22.1 +0.4**
comp=Z,5.3nm,1.1s,mb4.9
VNDA Vanda 93.81 168 *e*P **P 00 56 22.1 +0.3**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
ILAR Eielson Array 94.01 22 P **P 00 56 22.1 -0.9**
comp=Z,1.8nm,0.9s,mb4.5,baz=301,slow=4.4,SNR=19
ILAR Eielson Array 94.01 22 P **P 00 56 22.1 -0.9**
ILAR Eielson Array 94.01 22 P **P 00 56 22.1 -0.9**
INK Inuvik 96.21 16 P **P 00 56 32.7 -0.3**
comp=Z,9.9nm,1.0s,mb5.2,baz=303,slow=5.9,SNR=22
INK Inuvik 96.21 16 *e*P **P 00 56 32.7 -0.3**
comp=Z,19nm,1.2s,mb5.4
INK Inuvik 96.21 16 *e*P **P 00 56 32.7 -0.3**
INK pmax pmax
comp=Z,19nm,1.2s
RES Resolute Bay 96.55 2 LR LR 01 43 58.8
comp=Z,239nm,21.8s,MS4.6,baz=323,slow=38
RES Resolute Bay 96.55 2 *e*P **P 00 56 34.5 0.0**
comp=Z,7.2nm,1.0s,mb5.1
RES Resolute Bay 96.55 2 *e*P **P 00 56 34.5 +0.1**
RES pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
DAWY Dawson 97.11 21 *e*P **P 00 56 37.1 0.0**
DBIC Dimbokro 97.66 278 P **P 00 56 41.4 +0.7**
comp=Z,3.2nm,0.8s,mb4.9,baz=71,slow=5.9,SNR=3.6
DBIC LR LR 01 38 48.6
comp=Z,299nm,19.9s,MS4.8,baz=64,slow=34
DBIC Dimbokro 97.66 278 P **P 00 56 41.4 +0.7**

DBIC	Dimbokro	97.66	278	P	P	00 56 41.4	+0.7
PPT	Papeete	117.73	105	eLR	LR	01 37 50.7	
	comp=Z,222nm,23.8s						
TBI	Tubuai	117.77	112	eLR	LR	01 37 49.8	
	comp=Z,325nm,36.0s						
HLID	Hailey	121.91	24	ePKPdf	PKPdf	01 02 00.3	+0.6
LOHW	Long Hollow	123.31	21	ePKPdf	PKPdf	01 02 03.2	+0.8
REDW	Red Top Meadow	123.44	22	ePKPdf	PKPdf	01 02 01.4	-1.3
NVAR	Mina Array Bea	124.26	30	PKP	PKPdf	01 02 05.6	+1.3
	comp=Z,0.3nm,0.4s,baz=327,slow=2.1,SNR=5.1						
NVAR	Mina Array Bea	124.26	30	PKP	PKPdf	01 02 05.6	+1.3
BW06	Boulder Array	124.42	21	ePKPdf	PKPdf	01 02 04.2	-0.4
PDAR	Pinedale Array	124.42	21	PKP	PKPdf	01 02 04.3	-0.2
	comp=Z,0.8nm,0.8s,baz=207,slow=0.3,SNR=6.8						
PDAR	Pinedale Array	124.42	21	PKP	PKPdf	01 02 04.3	-0.2
HWUT	Hardware Ranch	124.68	23	ePKPdf	PKPdf	01 02 05.4	+0.3
GSC	Goldstone	127.43	32	ePKPdf	PKPdf	01 02 10.6	+0.1
GSC	Goldstone	127.43	32	ePKIKP	PKPdf	01 02 10.6	+0.1
TXAR	Lajitas Array	138.50	24	PKP	PKPdf	01 02 33.0	+1.5
	comp=Z,0.4nm,0.4s,baz=215,slow=0.4,SNR=12						
TXAR				PP	PP	01 05 20.6	+0.2
	comp=Z,0.5nm,1.0s,baz=2.5,slow=1.5,SNR=3.6						
TXAR				SKPbc	SKPbc	01 06 03.4	-0.5
	comp=Z,1.3nm,1.0s,baz=302,slow=2.0,SNR=4.5						
TXAR	Lajitas Array	138.50	24	PKP	PKPdf	01 02 33.0	+1.5
TXAR				PP	PP	01 05 20.6	+0.2
TXAR				SKPbc	SKPbc	01 06 03.4	-0.5
TXAR	Lajitas Array	138.50	24	PKIKP	PKPdf	01 02 33.0	+1.5
TXAR						01 05 20.6	
JCT	Junction City	138.82	18	ePKPdf	PKPdf	01 02 32.4	+0.3
JCT	Junction City	138.82	18	ePKIKP	PKPdf	01 02 32.4	+0.3
PLCA	Paso Flores	145.30	201	PKPbc	PKPbc	01 02 43.0	+0.1
	comp=Z,13nm,0.8s,baz=156,slow=3.0,SNR=36						
PLCA	Paso Flores	145.30	201	PKPbc	PKPbc	01 02 43.0	+0.1
PLCA				ePKPdf	PKPdf	01 02 43.6	+0.4
PLCA	Paso Flores	145.30	201	PKIKP	PKPdf	01 02 43.1	-0.1
CELP	Cerrillos	147.16	324	ePKPbc	PKPbc	01 02 49.1	-0.1
OBIP	Obispado Ponce	147.20	324	ePKPbc	PKPbc	01 02 47.7	-1.6
CPUP	Villa Florida	147.65	234	PKPbc	PKPbc	01 02 50.8	+0.4
	comp=Z,11nm,0.9s,baz=74,slow=3.6,SNR=11						
CPUP	Villa Florida	147.65	234	PKPbc	PKPbc	01 02 50.8	+0.4
CPUP	Villa Florida	147.65	234	PKP2	PKPab	01 02 50.8	-1.8
SDDR	Presa de Saban	148.85	332	ePKPbc	PKPbc	01 02 54.2	+0.5
SDV	Santo Domingo	156.72	318	ePKPab	PKPab	01 03 30.3	-0.4
LPAZ	La Paz	161.00	245	ePKPdf	PKPdf	01 03 07.8	+1.4
LPAZ				ePKPab	PKPab	01 03 49.4	+0.1
LPAZ	La Paz	161.00	245	ePKIKP	PKPdf	01 03 07.8	+1.4
LPAZ				e		01 03 49.4	
OTAV	Otavalo	168.31	319	ePKPdf	PKPdf	01 03 13.8	+0.8
OTAV				ePKPab	PKPab	01 04 22.5	+1.0

BJI ***06*** *00:46:13.1, 12°.74N×146°.91E, h42km, mB5.1/21, mb4.9/31, Ms5.0/18, Ms7 4.6/18*
ISCJB ***06*** *00:46:19.0±1.3, 12°.99N±0°.08×146°.34E±0°.06, h60km±10km, mb4.8/62, Error ellipse: s-maj=12.8km s-min=9.4km az=10.6*
MOS ***06*** *00:46:19.2±1.1, 13°.11N×146°.32E, h61km, mb5.0/36, Error ellipse: s-maj=12.3km s-min=7.9km az=119.4*
NEIC ***06*** *00:46:19.1±1.4, 12°.96N×146°.39E, h49km±12km, mb4.8/31, Error ellipse: s-maj=8.2km s-min=7.3km az=152.0*
IDC ***06*** *00:46:20.6±0.8, 13°.10N×146°.38E, h56km±6km, mb4.3/13, mb1 4.5/13, mb1mx4.3/22, mbtmp4.3/13, MS3.9/3, Ms1 3.9/3, ms1mx3.3/32, Error ellipse: s-maj=17.7km s-min=8.2km az=17.0*
ISC 06 00:46:19.5±1.2, 12°.98N±0°.07×146°.39E±0°.06, h50km±10km, h48km±2.4km; pP-P, n143, σ1.9 01/136, mb4.8/62, MS4.4/7, 3D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.60	292	P	Pn	00 46 45.0	-0.2
	1μm,0.3s,baz=90,slow=9.1,SNR=453						
GUMO				S	Sn	00 47 04.9	+0.1
	715nm,0.3s,baz=17,slow=21,SNR=16						
GUMO	Guam	1.60	292	ePn	Pn	00 46 44.8	-0.5
GUMO				S	Sn	00 47 04.9	+0.1
GUMO	Guam	1.60	292	P	Pn	00 46 45.0	-0.3
GUMO				S	Sn	00 47 04.9	+0.1
GUMO				smax			
	comp=N,715nm,0.3s						
CBIJ	Chichi jima	14.58	345	LR	LR	00 54 26.5	
	comp=N,387nm,22.0s,baz=143,slow=34						
HNR	Honiara	26.02	148	LR	LR	01 00 58.0	
	comp=N,235nm,18.3s,MS3.8,baz=312,slow=34						
KSRS	Korea Array	29.43	329	P	P	00 52 18.1	-0.3
	comp=N,2.9nm,0.8s,mb4.1,baz=146,slow=9.2,SNR=5.8						
KSRS	Korea Array	29.43	329	P	P	00 52 18.1	-0.2
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
KSAR	Wonju Array Be	29.44	329	P	P	00 52 18.1	-0.4
KSAR	Wonju Array Be	29.44	329	P	P	00 52 18.1	-0.3
NJ2	Nanjing	31.58	311	eP	P	00 52 37.7	+0.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
WRAB	Tennant Creek	34.79	200	eP	P	00 53 05.1	-0.3
	comp=Z,16nm,0.8s,mb5.0						
WRAB				epP	pP	00 53 16.9	-1.6
WRAB				esP	sP	00 53 22.9	-1.5
WRAB	Tennant Creek	34.79	200	eP	P	00 53 05.1	-0.3
WRAB				e*SP	sP	00 53 22.9	-1.5
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
WRA	Warramunga Arr	34.80	200	P	P	00 53 05.0	-0.5
	comp=Z,4.1nm,0.6s,mb4.5,baz=25,slow=9.7,SNR=24						
WRA				pP	pP	00 53 22.8	+4.2
	comp=Z,11nm,0.8s,baz=21,slow=9.6,SNR=16						
WRA	Warramunga Arr	34.80	200	P	P	00 53 05.0	-0.5
WRA				pP	pP	00 53 22.8	+4.2
WRA	Warramunga Arr	34.80	200	P	P	00 53 05.0	-0.5
WRA				*PP	pP	00 53 22.8	+4.2
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,11nm,0.8s						
CN2	Changchun	35.60	334	eP	P	00 53 16.0	+3.8
CN2				epP	pP	00 53 28.1	+2.9
CN2				eS	S	00 58 49.5	+4.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				LR	LR		
	comp=N,1μm,20.0s,MS4.7						
CN2				LR	LR		
	comp=E,700nm,20.0s,MS4.7						
CN2				LR	LR		
	comp=Z,800nm,19.0s,MS4.5						
HABR	Khabarovsk	36.62	347	P	P	00 53 18.1	-2.7
HABR				e*PP	pP	00 53 31.2	-2.7
HABR				e*SP	sP	00 53 37.1	-2.7
HABR				e		00 55 40.2	
HABR				eS	S	00 58 58.1	-2.1
HABR				e		00 59 28.2	
HABR				e		01 03 29.1	
HABR				pmax	pmax		
	comp=Z,122nm,2.2s,mb5.3						
HABR				pmax	pmax		
	comp=N,72nm,2.2s						
HABR				MLR	MLR		
	comp=Z,239nm,17.0s,MS4.0						
BJI	Beijing	37.84	321	P	P	00 53 32.2	+0.9
BJI				S	S	00 59 21.6	+2.6
BJI				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
BJI				pmax	pmax		
	comp=Z,300nm,4.8s						
BJI				LR	LR		
	comp=N,1μm,10.3s,MS5.1						
BJI				LR	LR		
	comp=E,1μm,11.5s,MS5.1						
BJI				LR	LR		
	comp=Z,630nm,25.7s						
GYA	Guiyang	39.55	296	P	P	00 53 45.8	-0.1
GYA				pP	pP	00 54 00.4	+1.3
GYA				sP	sP	00 54 06.7	+1.7
GYA				PP	PP	00 55 21.6	+4.2
GYA				ScP	ScP	00 59 37.0	-0.4
GYA				PcS	PcS	00 59 43.2	+0.4
GYA				S	S	00 59 44.3	-0.9
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
HHC	Hu-ho-hao-te	41.20	319	eP	P	00 53 59.7	+0.5
HHC				pP	pP	00 54 11.9	-0.6
HHC				sP	sP	00 54 17.1	-1.3
HHC				PP	PP	00 55 38.8	+3.7
HHC				S	S	01 00 11.2	+1.9
HHC				sS	sS	01 00 29.2	-2.4
HHC				SS	SS	01 03 09.9	-3.9
HHC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
HHC				pmax	pmax		
	comp=Z,190nm,4.4s						
HHC				LR	LR		
	comp=N,620nm,11.9s,MS4.7						
HHC				LR	LR		
	comp=E,370nm,15.5s,MS4.7						
HHC				LR	LR		
	comp=Z,340nm,13.1s,MS4.4						
KMI	Kunming	42.81	293	P	P	00 54 14.0	+1.4
KMI				pP	pP	00 54 25.4	-0.6
KMI				sP	sP	00 54 30.1	-1.7
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
KMI	Kunming	42.81	293	P	P	00 54 14.0	+1.4
	comp=Z,7.0nm,0.9s,mb4.4						
KMI				pP	pP	00 54 25.4	-0.6
KMI				sP	sP	00 54 30.1	-1.7
KMI	Kunming	42.81	293	P	P	00 54 14.0	+1.4
KMI				*SP	sP	00 54 30.1	-1.7
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
MBWA	Marble Bar	42.86	218	eP	P	00 54 12.5	-0.5
	comp=Z,8.0nm,1.0s,mb4.4						
CD2	Chengdu	43.07	302	eP	P	00 54 16.4	+1.7
CD2				pP	pP	00 54 28.7	+0.7
CD2				sP	sP	00 54 34.2	+0.3
CD2				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
CD2				pmax	pmax		
	comp=Z,50nm,5.8s						
LZH	Lanzhou	44.55	309	eP	P	00 54 27.0	+0.5
LZH				pP	pP	00 54 39.5	-0.4
LZH				sP	sP	00 54 44.8	-0.9
LZH				PP	PP	00 56 13.2	+2.0
LZH				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
LZH				pmax	pmax		
	comp=Z,67nm,5.6s						
LZH				LR	LR		
	comp=N,510nm,13.5s,MS4.8						
LZH				LR	LR		
	comp=E,500nm,14.0s,MS4.8						
LZH				LR	LR		
	comp=Z,750nm,17.8s,MS4.7						
LZH	Lanzhou	44.55	309	eP	P	00 54 27.0	+0.5
	comp=Z,24nm,1.3s,mb4.9						
LZH				pP	pP	00 54 39.5	-0.4
LZH				sP	sP	00 54 44.8	-0.9
LZH				PP	PP	00 56 13.2	+2.0
LZH				LR	LR		
	comp=Z,750nm,17.8s,MS4.7						
LZH	Lanzhou	44.55	309	eP	P	00 54 27.0	+0.5
LZH				*SP	sP	00 54 44.8	-0.9
LZH						00 56 13.2	
LZH				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
LZH				MLR	MLR		
	comp=Z,750nm,17.8s,MS4.7						
CMAR	Chiang Mai Arr	45.89	283	P	P	00 54 38.5	+1.1
	comp=Z,5.8nm,0.7s,mb4.6,baz=88,slow=6.0,SNR=25						
CMAR				sP	sP	00 54 59.0	+2.3
	comp=Z,3.8nm,0.7s,baz=85,slow=6.1,SNR=4.0						
CMAR				PcP	PcP	00 56 14.8	+0.8
	comp=Z,1.0nm,0.3s,baz=75,slow=1.8,SNR=5.2						
CMAR	Chiang Mai Arr	45.89	283	P	P	00 54 38.5	+1.1
CMAR				sP	sP	00 54 59.0	+2.3
CMAR				PcP	PcP	00 56 14.8	+0.8
CMAR	Chiang Mai Arr	45.89	283	P	P	00 54 38.5	+1.1
CMAR				*SP	sP	00 54 59.0	+2.3
CMAR						00 56 14.8	
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ULN	Ulaanbaatar	47.72	325	eP	P	00 54 51.7	+0.4
	comp=Z,70nm,2.1s,mb5.3						
ULN	Ulaanbaatar	47.72	325	eP	P	00 54 51.7	+0.4
ULN				pmax	pmax		
	comp=Z,70nm,2.1s,mb5.3						
SONM	Songino Array	48.08	324	P	P	00 54 54.6	+0.6
	comp=Z,3.6nm,0.6s,mb4.6,baz=131,slow=6.2,SNR=14						
SONM				PcP	PcP	00 56 21.5	+0.4
	comp=Z,2.7nm,0.8s,baz=138,slow=2.8,SNR=5.7						
SONM	Songino Array	48.08	324	P	P	00 54 54.6	+0.6
SONM				PcP	PcP	00 56 21.5	+0.4
SONM	Songino Array	48.08	324	P	P	00 54 54.6	+0.6
SONM						00 56 21.5	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA	Gaotai	48.68	311	eP	P	00 54 59.8	+1.0
GTA				pP	pP	00 55 12.3	0.0
GTA				sP	sP	00 55 17.6	-0.5
GTA				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.5						
YAK	Yakutsk	50.43	350	eP	P	00 55 10.0	-1.7
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
TLY	Talaya	51.66	327	eP	P	00 55 21.7	+0.6
TLY	Talaya	51.66	327	eP	P	00 55 21.4	+0.3
TLY				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
WMQ	Urumqi	58.62	314	P	P	00 56 12.5	+1.0
WMQ				pP	pP	00 56 25.2	-0.2
WMQ				sP	sP	00 56 30.5	-0.6
WMQ				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.4						
RPZ	Rata Peaks	60.75	160	LR	LR	01 17 40.0	
	comp=Z,124nm,18.1s,MS4.1,baz=228,slow=31						
MK31	Makanchi Array	62.95	316	eP	P	00 56 41.5	+0.6
MK31	Makanchi Array	62.95	316	eP	P	00 56 41.5	+0.6
MKAR	Makanchi Array	62.95	316	P	P	00 56 41.6	+0.8
	comp=Z,7.2nm,0.8s,mb5.0,baz=88,slow=8.2,SNR=50						
MKAR	Makanchi Array	62.95	316	P	P	00 56 41.6	+0.8
MKAR	Makanchi Array	62.95	316	P	P	00 56 41.7	+0.8
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZALV	Zalesovo Beam	62.98	324	P	P	00 56 40.4	-0.5
	comp=Z,3.7nm,0.6s,mb4.7,baz=101,slow=7.4,SNR=12						
ZALV				sP	sP	00 57 01.9	+1.4
	comp=Z,1.6nm,0.7s,baz=93,slow=8.8,SNR=2.7						
ZALV				PcP	PcP	00 57 17.8	-0.7
	comp=Z,2.5nm,0.7s,baz=107,slow=5.0,SNR=4.4						
ZALV	Zalesovo Beam	62.98	324	P	P	00 56 40.4	-0.5
ZALV				sP	sP	00 57 01.9	+1.4
ZALV				PcP	PcP	00 57 17.8	-0.7
ZALV	Zalesovo Beam	62.98	324	P	P	00 56 40.4	-0.5
ZALV				*SP	sP	00 57 01.9	+1.3
ZALV						00 57 17.8	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
NVS	Novosibirsk	64.11	325	eP	P	00 56 47.5	-0.8
NVS				pmax	pmax		
	comp=E,23nm,1.2s						
NVS				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.2						
HYB	Hyderabad	65.32	283	i P	P	00 56 56.0	-0.9
KURK	Kurchatov	66.00	320	eP	P	00 57 00.5	-0.2
	comp=Z,22nm,0.8s,mb5.2						
KURK	Kurchatov	66.00	320	eP	P	00 57 00.5	-0.2
KURK				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
PMR	Palmer	66.62	28	eP	P	00 57 03.3	-1.1
	comp=Z,8.9nm,0.8s,mb4.8						
PMR	Palmer	66.62	28	eP	P	00 57 03.3	-1.2
PMR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TRF	Thorofare Moun	66.67	26	eP	P	00 57 05.3	+0.5
KSH	Kashi	66.78	308	P	P	00 57 09.3	+3.4
KSH				pP	pP	00 57 21.8	+1.8
KSH				sP	sP	00 57 27.4	+1.7
KSH				PcP	PcP	00 57 37.5	+3.0
KSH				PP	PP	00 59 38.8	+5.4
KSH				ScP		01 01 35.6	
KSH				PcS		01 01 40.4	
KSH				S	S	01 05 57.7	+3.0
KSH				sS	sS	01 06 19.1	+0.8
KSH				ScS	ScS	01 06 58.5	-0.7
KSH				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
KSH				pmax	pmax		
	comp=Z,200nm,6.2s						
KSH				LR	LR		
	comp=N,130nm,5.4s						
KSH				LR	LR		
	comp=E,190nm,5.3s						
KSH				LR	LR		
	comp=Z,190nm,7.2s						
SML	Sawmill	67.05	28	eP	P	00 57 07.1	0.0
SML	Sawmill	67.05	28	eP	P	00 57 07.1	-0.1
TKM2	Tokmak 2	67.23	311	eP	P	00 57 08.9	+0.2
TKM2	Tokmak 2	67.23	311	eP	P	00 57 08.9	+0.2
COLD	Coldfoot	67.95	22	eP	P	00 57 13.9	+1.2
AAK	Ala-Archa	68.03	311	eP	P	00 57 13.9	+0.2
	comp=Z,57nm,1.6s,mb5.3						
AAK	Ala-Archa	68.03	311	‖eP	P	00 57 14.3	+0.6
AAK				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.9						
COLA	College	68.12	25	eP	P	00 57 12.7	-1.2
	comp=Z,5.4nm,0.8s,mb4.6						
COLA	College	68.12	25	eP	P	00 57 12.7	-1.2
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ILAR	Eielson Array	68.49	25	P	P	00 57 14.9	-1.3
	comp=Z,9.2nm,1.0s,mb4.8,baz=254,slow=4.5,SNR=20						
ILAR	Eielson Array	68.49	25	P	P	00 57 14.9	-1.3
ILAR	Eielson Array	68.49	25	P	P	00 57 14.9	-1.3
ILAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
EKS2	Erkin-Say	68.56	311	eP	P	00 57 17.4	+0.3
	comp=Z,5.7nm,1.0s,mb4.5						
EKS2	Erkin-Say	68.56	311	eP	P	00 57 17.4	+0.4
EKS2				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
PAX	Paxson	68.63	27	eP	P	00 57 17.4	+0.2
	comp=Z,18nm,1.0s,mb5.0						
PAX	Paxson	68.63	27	eP	P	00 57 17.4	+0.3
PAX				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
DOT	Dot Lake	69.41	27	eP	P	00 57 21.5	-0.4
	comp=Z,8.5nm,1.0s,mb4.6						
EGAK	Eagle	70.88	26	eP	P	00 57 31.4	+0.5
	comp=Z,19nm,1.0s,mb5.0						
KKAR	Karatay Array	70.96	311	eP	P	00 57 31.1	-0.7
	comp=Z,6.9nm,1.1s,mb4.5						
KKAR	Karatay Array	70.96	311	eP	P	00 57 31.1	-0.7
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BRVK	Borovoye	71.38	322	eP	P	00 57 34.4	+0.2
BRVK	Borovoye	71.38	322	‖eP	P	00 57 34.3	+0.1
BRVK				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
DAWY	Dawson	71.52	26	eP	P	00 57 35.5	+0.7
KBL	Kabul	72.41	302	eP	P	00 57 41.1	+0.4
KBL	Kabul	72.41	302	eP	P	00 57 41.1	+0.4
INK	Inuvik	74.36	22	P	P	00 57 51.7	+0.2
	comp=Z,11nm,0.8s,mb4.8,baz=264,slow=5.9,SNR=15						
INK	Inuvik	74.36	22	eP	P	00 57 50.5	-1.0
	comp=Z,9.1nm,0.8s,mb4.8						
INK	Inuvik	74.36	22	P	P	00 57 51.7	+0.2
INK				pmax	pmax		
	comp=Z,11nm,0.9s						
ABKAR	Akbulak array	77.98	318	eP	P	00 58 11.7	-0.8
	comp=Z,1.7nm,0.7s,mb4.1						
ARU	Arti	78.10	325	eP	P	00 58 12.4	-0.6
	comp=Z,12nm,1.3s,mb4.7						
ARU	Arti	78.10	325	d iP	P	00 58 11.4	-1.6
ARU				S	S	01 08 02.9	-0.4
ARU				SS	SS	01 13 04.4	-0.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
YKA	Yellowknife Ar	82.72	28	P	P	00 58 37.4	-0.2
	comp=Z,5.1nm,0.7s,mb4.7,baz=287,slow=5.2,SNR=15						
YKA	Yellowknife Ar	82.72	28	P	P	00 58 37.4	-0.2
YKA	Yellowknife Ar	82.72	28	P	P	00 58 37.4	-0.2
YKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NEW	Newport	84.70	42	eP	P	00 58 48.3	+0.2
	comp=Z,14nm,1.2s,mb5.0						
NEW	Newport	84.70	42	eP	P	00 58 48.3	+0.2
NEW				pmax	pmax		
	comp=Z,14nm,1.2s						
RES	Resolute Bay	84.80	14	eP	P	00 58 48.0	-0.1
	comp=Z,9.1nm,1.4s,mb4.7						
RES	Resolute Bay	84.80	14	eP	P	00 58 48.0	-0.1
RES				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.7						
WVOR	Wild Horse Val	84.98	48	eP	P	00 58 50.0	+0.4
	comp=Z,3.9nm,1.2s,mb4.4						
WVOR	Wild Horse Val	84.98	48	eP	P	00 58 50.0	+0.3
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.4						
NVAR	Mina Array Bea	86.14	52	P	P	00 58 56.7	+1.2
	comp=Z,2.1nm,0.8s,mb4.4,baz=272,slow=5.5,SNR=21						
NVAR	Mina Array Bea	86.14	52	P	P	00 58 56.7	+1.2
BSMT	Bassoo Peak	86.32	42	eP	P	00 58 56.9	+0.8
	comp=Z,22nm,1.3s,mb5.2						
MFID	Camas Ranch	86.75	46	eP	P	00 58 59.3	+0.9
	comp=Z,33nm,1.5s,mb5.3						
KEV	Kevo	87.55	342	eP	P	00 58 59.2	-2.5
KEV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
KEV	Kevo	87.55	342	ep	P	00 58 59.2	-2.5
	comp=Z,4.8nm,0.7s,mb4.8						
HLID	Hailey	87.71	46	eP	P	00 59 03.3	+0.3
	comp=Z,4.4nm,1.0s,mb4.6						
ARCES	ARCESS Array B	88.11	342	P	P	00 59 03.4	-1.0
	comp=Z,7.3nm,0.8s,mb5.0,baz=46,slow=8.7,SNR=11						
ARCES	ARCESS Array B	88.11	342	P	P	00 59 03.4	-1.0
ARCES	ARCESS Array B	88.11	342	P	P	00 59 03.4	-1.0
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JOF	Joensuu	89.46	336	eP	P	00 59 08.3	-2.6
JOF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
JOF	Joensuu	89.46	336	ep	P	00 59 08.3	-2.6
	comp=Z,4.7nm,0.8s,mb4.9						
DUG	Dugway	89.80	49	eP	P	00 59 13.5	+0.5
	comp=Z,11nm,1.3s,mb5.0						
DUG	Dugway	89.80	49	eP	P	00 59 13.5	+0.6
DUG				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.0						
ARUT	Antelope Range	90.01	51	eP	P	00 59 15.4	+1.4
	comp=Z,4.2nm,0.9s,mb4.8						
ARUT	Antelope Range	90.01	51	eP	P	00 59 15.4	+1.4
ARUT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
MOOW	Mo

KAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
KAF Kangasniemi 91.88 336 *ep* **P 00 59 19.6 -2.5**
comp=Z,3.1nm,0.9s,mb4.6
WUAZ Wupatki 92.27 53 *eP* **P 00 59 25.7 +1.2**
comp=Z,7.9nm,1.0s,mb5.0
FINES FINESS Array B 92.33 335 P **P 00 59 22.4 -1.8**
comp=Z,1.6nm,0.6s,mb4.5,baz=72,slow=5.0,SNR=12
FINES FINESS Array B 92.33 335 P **P 00 59 22.4 -1.8**
FINES FINESS Array B 92.33 335 P **P 00 59 22.4 -1.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
SMCO Snowmass 94.39 48 *eP* **P 00 59 34.9 +0.7**
comp=Z,1.9nm,0.3s,mb5.0
TXAR Lajitas Array 100.46 57 P Pdif 01 00 02.7 +1.5
comp=Z,0.1nm,0.5s,baz=289,slow=5.6,SNR=3.4
TXAR Lajitas Array 100.46 57 P Pdif 01 00 02.7 +1.5
TXAR Lajitas Array 100.46 57 P Pdif 01 00 02.7 +1.5
LSZ Lusaka 120.20 260 *e*PKPdf PKPdf 01 05 06.2 +0.3
LSZ Lusaka 120.20 260 *e*PKIKP PKPdf 01 05 06.2 +0.4
TORD Torodi Ar. Bea 136.42 305 PKhKP PKPpre 01 05 23.3
comp=Z,0.2nm,0.7s,baz=62,slow=3.6,SNR=2.4
TORD PKP PKPdf 01 05 37.7 +1.0
comp=Z,0.7nm,0.8s,baz=21,slow=2.5,SNR=3.5
TORD Torodi Ar. Bea 136.42 305 PKPpre PKPpre 01 05 23.3
TORD PKP PKPdf 01 05 37.7 +1.0
TRQA Tornquist 144.50 140 *e*PKPdf PKPdf 01 05 48.7 -1.9
DBIC Dimbokro 145.40 303 PKPbc PKPbc 01 05 52.8 -0.1
comp=Z,15nm,0.8s,baz=32,slow=4.5,SNR=17
DBIC Dimbokro 145.40 303 *e*PKPbc PKPbc 01 05 52.7 -0.2
DBIC Dimbokro 145.40 303 PKIKP PKPdf 01 05 52.8 -0.1
DBIC pmax pmax
comp=Z,15nm,0.8s
LPAZ La Paz 146.47 100 *e*PKPbc PKPbc 01 05 56.2 +0.2

IDC 06 00:48:23.1±18.0, 18°.12S×177°.91W, h525km±159km, mb2.7/3, mb1 3.1/3, mb1mx2.9/16, mbtmp2.7/3, Error ellipse: s-maj=297.8km s-min=59.4km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.06**	**260**	P	P	00 55 52.0	-0.4
0.3nm,0.5s,baz=96,slow=7.5,SNR=5.2							
ASAR	**Alice Springs**	**45.19**	**254**	P	P	00 55 53.5	+0.2
0.7nm,0.5s,baz=90,slow=8.4,SNR=6.7							
ILAR	**Eielson Array**	**85.98**	**13**	P	P	01 00 07.0	-0.1
0.5nm,0.9s,baz=224,slow=4.3,SNR=7.3							
BRTR	**Keskin Array B**	**145.26**	**315**	PKPbc	PKPbc	01 07 01.4	-0.8
0.2nm,0.4s,baz=42,slow=2.3,SNR=4.1							
GERES	**GERESS Array B**	**147.93**	**345**	PKPbc	PKPbc	01 07 09.0	-0.2
0.3nm,0.4s,baz=26,slow=3.4,SNR=4.3							

IDC 06 01:00:32.1±3.5, 7°.49S×148°.41E, h65km±39km, mb3.5/3, mb1 3.8/5, mb1mx3.4/16, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=96.0km s-min=17.8km az=135.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.27**	**213**	P	Pn	01 01 06.4	-0.9
23nm,0.3s,baz=42,slow=6.2,SNR=42							
PMG				S	Sn	01 01 35.9	+1.7
16nm,0.3s,baz=162,slow=23,SNR=7.4							
WRA	**Warramunga Arr**	**18.42**	**226**	P	Pn	01 04 41.9	-1.1
0.4nm,0.3s,baz=54,slow=10,SNR=9.0							
WRA				S	S	01 08 07.8	-1.3
0.1nm,0.3s,baz=56,slow=24,SNR=8.3							
ASAR	**Alice Springs**	**21.27**	**219**	P	P	01 05 12.8	-0.4
0.7nm,0.6s,baz=53,slow=9.3,SNR=8.8							
FITZ	**Fitzroy Crossi**	**24.55**	**242**	P	P	01 05 45.9	-0.1
5.0nm,0.3s,baz=57,slow=8.6,SNR=59							
ILAR	**Eielson Array**	**86.30**	**23**	P	P	01 13 06.0	-0.5
0.4nm,0.7s,baz=242,slow=5.3,SNR=5.1							
TORD	**Torodi Ar. Bea**	**146.80**	**283**	PKPbc	PKPbc	01 20 08.4	+0.5
0.5nm,0.7s,baz=72,slow=3.7,SNR=3.7							

*IDC **06** 01:26:52.4±2.5, 19°.46N×65°.94W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=69.5km s-min=19.5km az=83.0*
*ISCJB **06** 01:26:53.6±1.7, 19°.52N±0°.04×66°.30W±0°.05, h10km±12km, mb3.4/3, Error ellipse: s-maj=9.1km s-min=6.3km az=155.9*
*RSPR **06** 01:26:55.2, 19°.67N×66°.34W, h40km±17km, MD3.5/10*
*NEIC **06** 01:26:55.2, 19°.67N×66°.34W, h40km, MD3.5(RSPR), After RSPR.*
ISC 06 01:26:54.2±1.6, 19°.46N±0°.04×66°.28W±0°.06, h5km±9km, n35, σ0°.73/45, mb3.4/3, 28C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.19**	**202**	⇑*eP*	**Pb**	**01 27 16.5**	**-0.8**
AOPR	**Arecibo Observ**	**1.19**	**202**	⇑*eP*	**Pb**	**01 27 16.5**	**-0.8**
AOPR				*eS*	**Sg**	**01 27 33.3**	**+0.7**
CBYP	**Canovanas**	**1.25**	**161**	⇑*eP*	**Pn**	**01 27 18.1**	**-0.2**
CBYP	**Canovanas**	**1.25**	**161**	⇑*eP*	**Pn**	**01 27 18.1**	**-0.2**
CBYP				*eS*	**Sb**	**01 27 36.1**	**+1.5**
LRS	**Lares**	**1.28**	**205**	⇑*eP*	**Pn**	**01 27 18.3**	**-0.4**
LRS	**Lares**	**1.28**	**205**	⇑*eP*	**Pn**	**01 27 18.3**	**-0.4**
SJG	**San Juan**	**1.35**	**175**	⇑*eP*	**Pn**	**01 27 19.1**	**-0.6**
SJG	**San Juan**	**1.35**	**175**	⇑*eP*	**Pn**	**01 27 19.5**	**-0.2**
SJG	**San Juan**	**1.35**	**175**	Pn	**Pn**	**01 27 19.2**	**-0.5**
13nm,0.3s,baz=6.9,slow=12,SNR=20							
SJG				Sn	**Sn**	**01 27 36.9**	**-1.0**
36nm,0.3s,baz=284,slow=14,SNR=14							
SJG	**San Juan**	**1.35**	**175**	⇑*eP*	**Pn**	**01 27 19.1**	**-0.6**
SJG				⇑*eP*		01 27 19.5	
SJG				*eS*	**Sb**	**01 27 38.4**	**+0.9**
HUMP	**Col San Antoni**	**1.37**	**163**	⇑*eP*	**Pn**	**01 27 19.4**	**-0.6**
HUMP	**Col San Antoni**	**1.37**	**163**	⇑*eP*	**Pn**	**01 27 19.4**	**-0.6**
HUMP				*eS*	**Sb**	**01 27 39.2**	**+0.9**
CELP	**Cerrillos**	**1.41**	**192**	⇑*eP*	**Pn**	**01 27 19.8**	**-0.7**
CELP	**Cerrillos**	**1.41**	**192**	⇑*eP*	**Pn**	**01 27 19.8**	**-0.7**
OBIP	**Obispado Ponce**	**1.44**	**192**	⇑*eP*	**Pn**	**01 27 20.7**	**-0.2**
OBIP	**Obispado Ponce**	**1.44**	**192**	⇑*eP*	**Pn**	**01 27 20.7**	**-0.2**
OBIP				*eS*	**Sn**	**01 27 40.4**	**+0.1**
CPD	**Cerro la Pandu**	**1.46**	**166**	⇑*eP*	**Pn**	**01 27 20.6**	**-0.6**
CPD	**Cerro la Pandu**	**1.46**	**166**	⇑*eP*	**Pn**	**01 27 20.6**	**-0.6**
CPD				*eS*	**Sn**	**01 27 41.0**	**+0.3**
LSP	**Las Mesas**	**1.49**	**211**	⇑*eP*	**Pn**	**01 27 20.9**	**-0.7**
LSP	**Las Mesas**	**1.49**	**211**	⇑*eP*	**Pn**	**01 27 20.9**	**-0.7**
MTP	**Monte Pirata**	**1.52**	**153**	⇑*eP*	**Pn**	**01 27 21.7**	**-0.4**
MTP	**Monte Pirata**	**1.52**	**153**	⇑*eP*	**Pn**	**01 27 21.7**	**-0.4**
ICM	**Isla Caja Muer**	**1.57**	**188**	⇑*eP*	**Pn**	**01 27 22.6**	**-0.2**
ICM	**Isla Caja Muer**	**1.57**	**188**	⇑*eP*	**Pn**	**01 27 22.6**	**-0.2**
ICM				*eS*	**Sn**	**01 27 44.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.64**	**209**	⇑*eP*	**Pn**	**01 27 23.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.64**	**209**	⇑*eP*	**Pn**	**01 27 23.2**	**-0.6**
CRPR				*eS*	**Sn**	**01 27 44.6**	**-0.7**
STVI	**Saint Thomas**	**1.67**	**131**	⇑*eP*	**Pn**	**01 27 23.9**	**-0.2**
STVI	**Saint Thomas**	**1.67**	**131**	⇑*eP*	**Pn**	**01 27 23.9**	**-0.2**
STVI				*eS*	**Sn**	**01 27 45.9**	**0.0**
SDDR	**Presa de Saban**	**4.75**	**265**	*e*Pn	**Pn**	**01 28 07.2**	**+0.6**
TXAR	**Lajitas Array**	**35.31**	**293**	P	**P**	**01 33 52.2**	**+1.8**
0.3nm,0.5s,mb3.4,baz=104,slow=9.9,SNR=8.0							
TXAR	**Lajitas Array**	**35.31**	**293**	P	**P**	**01 33 52.2**	**+1.8**
NVAR	**Mina Array Bea**	**48.62**	**304**	P	**P**	**01 35 40.3**	**+1.2**
0.2nm,0.4s,mb3.5,baz=82,slow=6.5,SNR=2.4							
NVAR	**Mina Array Bea**	**48.62**	**304**	P	**P**	**01 35 40.3**	**+1.2**
ILAR	**Eielson Array**	**68.58**	**333**	P	**P**	**01 37 57.5**	**-0.2**
0.3nm,0.6s,mb3.4,baz=90,slow=4.8,SNR=7.1							
ILAR	**Eielson Array**	**68.58**	**333**	P	**P**	**01 37 57.5**	**-0.2**

*IDC **06** 01:34:59.1±0.7, 8°.67N×93°.90E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.8/24, mbtmp3.7/13, ML4.2/1, Error ellipse: s-maj=30.4km s-min=17.4km az=59.0*
*ISCJB **06** 01:35:00.2±6.8, 8°.6N±0°.2×94°.0E±0°.1, h19km±46km, mb4.0/24, Error ellipse: s-maj=33.5km s-min=14.6km az=41.9*
*NEIC **06** 01:35:03.0±0.3, 8°.61N×93°.92E, mb4.1/8, Error ellipse: s-maj=9.5km s-min=6.5km az=71.0*
ISC 06 01:35:04.8±3.1, 8°.6N±0°.2×94°.0E±0°.2, h39km±25km, h25km±1.7km: pP-P, n59, σ0°.58/55, mb4.0/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.89**	**26**	Pn	**Pn**	**01 37 37.8**	**-0.4**
0.5nm,0.3s,baz=215,slow=15,SNR=9.7							
CMAR	**Chiang Mai Arr**	**10.89**	**26**	Pn	**Pn**	**01 37 37.8**	**-0.4**
CHTO	**Chiang Mai**	**11.21**	**25**	*e*Pn	**Pn**	**01 37 42.9**	**+0.4**
RAMN	**Ramite**	**19.50**	**340**	*eP*	**Pn**	**01 39 29.7**	**-0.4**
31nm,0.8s							
RAMN	**Ramite**	**19.50**	**340**	*eP*	**Pn**	**01 39 29.7**	**-0.4**
31nm,0.8s							
TAPN	**Taplejung**	**19.52**	**343**	*eP*	**Pn**	**01 39 28.9**	**-1.5**
30nm,0.8s							
TAPN	**Taplejung**	**19.52**	**343**	*eP*	**Pn**	**01 39 28.9**	**-1.5**
30nm,0.8s							
JIRN	**Jiri**	**20.29**	**340**	*eP*	**P**	**01 39 37.8**	**+0.5**
4.4nm,0.6s							
JIRN	**Jiri**	**20.29**	**340**	*eP*	**P**	**01 39 37.8**	**+0.5**
4.4nm,0.6s							
GUN	**Gumba**	**20.63**	**339**	*eP*	**P**	**01 39 41.1**	**+0.2**
21nm,0.6s							
GUN	**Gumba**	**20.63**	**339**	*eP*	**P**	**01 39 41.1**	**+0.2**
21nm,0.6s							
GKN	**Gorkha**	**21.17**	**337**	*eP*	**P**	**01 39 47.0**	**+0.2**
34nm,0.8s,mb4.8							
GKN	**Gorkha**	**21.17**	**337**	*eP*	**P**	**01 39 47.0**	**+0.2**
34nm,0.8s,mb4.7							
KOLN	**Koldanda**	**21.39**	**334**	*eP*	**P**	**01 39 50.1**	**+0.9**
17nm,0.7s,mb4.5							
KOLN	**Koldanda**	**21.39**	**334**	*eP*	**P**	**01 39 50.1**	**+0.9**
17nm,0.7s,mb4.5							
DANN	**Dangsing**	**21.83**	**335**	*eP*	**P**	**01 39 54.0**	**+0.1**
19nm,0.6s,mb4.7							
DANN	**Dangsing**	**21.83**	**335**	*eP*	**P**	**01 39 54.0**	**+0.1**
19nm,0.6s,mb4.7							
PYUN	**Piuthan**	**21.95**	**333**	*eP*	**P**	**01 39 55.9**	**+0.8**
26nm,1.2s,mb4.6							
PYUN	**Piuthan**	**21.95**	**333**	*eP*	**P**	**01 39 55.9**	**+0.8**
26nm,1.2s,mb4.5							
TKM2	**Tokmak 2**	**37.75**	**338**	*eP*	**P**	**01 42 16.9**	**-0.1**
1.1nm,0.6s,mb3.8							
AAK	**Ala-Archa**	**37.93**	**336**	*eP*	**P**	**01 42 19.1**	**+0.7**
9.1nm,0.8s,mb4.6							
EKS2	**Erkin-Say**	**38.24**	**336**	*eP*	**P**	**01 42 21.6**	**+0.5**
2.3nm,0.8s,mb4.0							
MK31	**Makanchi Array**	**39.30**	**347**	*eP*	**P**	**01 42 29.7**	**-0.2**
MKAR	**Makanchi Array**	**39.30**	**347**	P	**P**	**01 42 29.6**	**-0.2**
0.7nm,0.6s,mb3.6,baz=169,slow=7.6,SNR=6.3							
MKAR	**Makanchi Array**	**39.30**	**347**	P	**P**	**01 42 29.6**	**-0.2**
SONM	**Songino Array**	**40.46**	**13**	P	**P**	**01 42 40.0**	**+0.5**
0.3nm,0.5s,mb3.3,baz=185,slow=11,SNR=4.0							
SONM	**Songino Array**	**40.46**	**13**	P	**P**	**01 42 40.0**	**+0.5**
KURK	**Kurchatov**	**43.82**	**346**	*eP*	**P**	**01 43 06.9**	**0.0**
2.3nm,1.0s,mb3.9							
ZAA0	**Zalesovo Array**	**45.77**	**352**	*eP*	**P**	**01 43 22.1**	**-0.2**
ZAA0				*ep*P	pP	01 43 29.6	-3.9
ZALV	**Zalesovo Beam**	**45.77**	**352**	P	**P**	**01 43 22.3**	**0.0**
3.0nm,0.5s,mb4.5,baz=183,slow=8.5,SNR=22							
ZALV	**Zalesovo Beam**	**45.77**	**352**	P	**P**	**01 43 22.3**	**0.0**
BRVK	**Borovoye**	**48.27**	**341**	*eP*	**P**	**01 43 41.7**	**-0.2**
1.4nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**48.85**	**126**	P	**P**	**01 43 46.4**	**-0.4**
0.5nm,0.7s,mb3.6,baz=306,slow=8.7,SNR=11							
WRA				PcP	PcP	01 45 11.3	+0.2
0.2nm,0.6s,baz=314,slow=2.2,SNR=5.9							
WRA	**Warramunga Arr**	**48.85**	**126**	P	**P**	**01 43 46.4**	**-0.4**
WRA				PcP	PcP	01 45 11.3	+0.2
ABKAR	**Akbulak array**	**49.47**	**331**	*eP*	**P**	**01 43 50.8**	**-0.4**
0.9nm,0.4s,mb4.2							
ABKAR				*ep*P	pP	01 43 58.5	-4.0
ASAR	**Alice Springs**	**50.55**	**130**	P	**P**	**01 44 00.1**	**+0.4**
0.2nm,0.3s,mb3.6,baz=304,slow=6.6,SNR=3.9							
ASAR	**Alice Springs**	**50.55**	**130**	P	**P**	**01 44 00.1**	**+0.4**
BRTR	**Keskin Array B**	**61.79**	**311**	P	**P**	**01 45 18.4**	**-1.3**
0.6nm,0.8s,mb3.8,baz=123,slow=6.1,SNR=4.5							
BRTR	**Keskin Array B**	**61.79**	**311**	P	**P**	**01 45 18.4**	**-1.3**
BUR08	**Bucovina Ar. S**	**69.38**	**318**	*eP*	**P**	**01 46 08.6**	**0.0**
FINES	**FINESS Array B**	**71.95**	**332**	P	**P**	**01 46 23.1**	**-0.9**
1.3nm,0.7s,mb4.0,baz=103,slow=9.0,SNR=3.8							
FINES	**FINESS Array B**	**71.95**	**332**	P	**P**	**01 46 23.1**	**-0.9**
PSZ	**Piszkesteto**	**72.96**	**317**	*eP*	**P**	**01 46 29.8**	**-0.5**
2.3nm,0.7s,mb4.2							
ARCES	**ARCESS Array B**	**74.48**	**340**	P	**P**	**01 46 39.2**	**+0.4**
2.2nm,0.9s,mb4.1,baz=108,slow=7.8,SNR=4.5							
ARCES	**ARCESS Array B**	**74.48**	**340**	P	**P**	**01 46 39.2**	**+0.4**
MORC	**Moravsky Berou**	**74.68**	**319**	*eP*	**P**	**01 46 41.2**	**+0.9**
1.7nm,0.7s,mb4.1							
MORC				*ep*P	pP	01 46 49.3	-2.9
GERES	**GERESS Array B**	**77.14**	**318**	P	**P**	**01 46 54.4**	**0.0**
0.5nm,0.5s,mb3.7,baz=80,slow=5.4,SNR=2.2							
GERES	**GERESS Array B**	**77.14**	**318**	P	**P**	**01 46 54.4**	**+0.1**
NB2	**NORSAR Subarra**	**78.98**	**331**	P	**P**	**01 47 02.8**	**-1.5**
comp=Z,1.2nm,0.9s,mb3.8,baz=91,slow=5.9							
NOA	**NORSAR Array B**	**78.98**	**331**	P	**P**	**01 47 04.2**	**-0.1**
comp=Z,0.5nm,0.6s,mb3.6,baz=91,slow=5.7,SNR=3.9							
NOA	**NORSAR Array B**	**78.98**	**331**	P	**P**	**01 47 04.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**90.25**	**283**	P	**P**	**01 48 02.8**	**+0.7**
comp=Z,0.4nm,0.7s,mb3.9,baz=74,slow=4.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**90.25**	**283**	P	**P**	**01 48 02.8**	**+0.7**
ILAR	**Eielson Array**	**94.10**	**22**	P	**P**	**01 48 18.9**	**0.0**
comp=Z,0.2nm,0.8s,mb3.6,baz=309,slow=6.1,SNR=4.0							
ILAR	**Eielson Array**	**94.10**	**22**	P	**P**	**01 48 18.9**	**0.0**
PLCA	**Paso Flores**	**145.20**	**201**	PKPbc	PKPbc	01 54 39.8	+1.6
comp=Z,1.9nm,0.8s,baz=210,slow=3.9,SNR=6.8							
PLCA	**Paso Flores**	**145.20**	**201**	PKPbc	PKPbc	01 54 39.8	+1.6
CPUP	**Villa Florida**	**147.58**	**234**	PKPbc	PKPbc	01 54 46.0	+0.3
comp=Z,0.4nm,0.5s,baz=229,slow=4.6,SNR=4.0							
CPUP	**Villa Florida**	**147.58**	**234**	PKPbc	PKPbc	01 54 46.0	+0.3

*IDC **06** 02:12:42.5±1.0, 39°.17N×73°.55E, h0km, mb3.6/8, mb1 3.6/12, mb1mx3.5/29, mbtmp3.5/12, ML3.0/4, Error ellipse: s-maj=21.5km s-min=18.4km az=35.0*
*NNC **06** 02:12:43.9±4.8, 39°.20N×72°.82E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=38.5km s-min=23.9km az=1.0*
*ISCJB **06** 02:12:47.0±1.1, 39°.27N±0°.06×73°.43E±0°.08, h48km±10km, mb3.5/8, Error ellipse: s-maj=11.1km s-min=10.2km az=141.0*
*NEIC **06** 02:12:48.2±1.1, 39°.29N×73°.48E, h40km±10km, mb3.6/1, Error ellipse: s-maj=11.5km s-min=9.3km az=139.0*
ISC 06 02:12:48.5±1.0, 39°.27N±0°.07×73°.43E±0°.09, h43km±10km, n46, σ1°.14/51, mb3.5/8, 7C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.87**	**4**	P	**Pn**	**02 13 31.3**	**-0.4**
SNR=89							
AML				P		02 13 31.3	
SNR=89							
KZA	**Kyzart**	**3.13**	**26**	P	**Pn**	**02 13 34.4**	**-0.8**
SNR=13							
KZA				P		02 13 34.4	
SNR=13							
EKS2	**Erkin-Say**	**3.40**	**4**	P	**Pn**	**02 13 40.5**	**+1.5**
SNR=15							
EKS2				P		02 13 40.5	
SNR=15							
EKS2	**Erkin-Say**	**3.40**	**4**	*e*Pn	**Pn**	**02 13 38.9**	**-0.1**
EKS2				*e*Sn	**Sn**	**02 14 18.2**	**+0.2**
AAK	**Ala-Archa**	**3.46**	**13**	P	**Pn**	**02 13 40.7**	**+0.9**
SNR=17							
AAK				P		02 13 40.7	
SNR=17							
AAK	**Ala-Archa**	**3.46**	**13**	*e*Pn	**Pn**	**02 13 39.8**	**+0.1**
KBK	**Karagaybulak**	**3.57**	**18**	P	**Pn**	**02 13 42.2**	**+0.9**
SNR=23							
KBK				P		02 13 42.2	
SNR=23							
ULHL	**Ulahol**	**3.66**	**35**	P	**Pn**	**02 13 43.9**	**+1.4**
SNR=5.9							
ULHL				P		02 13 43.9	
SNR=5.9							
CHMS	**Chumysh**	**3.86**	**15**	P	**Pn**	**02 13 45.2**	**-0.1**
SNR=9.2							
CHMS				P		02 13 45.2	
SNR=9.2							
TKM2	**Tokmak 2**	**4.00**	**23**	P	**Pn**	**02 13 46.8**	**-0.4**
SNR=12							
TKM2				P		02 13 46.8	
SNR=12							
TKM2	**Tokmak 2**	**4.00**	**23**	⇓Pn	**Pn**	**02 13 46.6**	**-0.6**
9.7nm,0.7s							
TKM2				⇑Sn	**Sn**	**02 14 43.6**	**+11**
16nm,0.6s							
TKM2	**Tokmak 2**	**4.00**	**23**	*e*Pn	**Pn**	**02 13 46.4**	**-0.8**
USP	**Ospenovka**	**4.07**	**11**	P	**Pn**	**02 13 49.3**	**+1.1**
SNR=6.4							
USP				P		02 13 49.3	
SNR=6.4							
KK31	**Karatay Array**	**4.42**	**331**	⇑Pn	**Pn**	**02 13 53.9**	**+0.9**
1.0nm,0.3s,baz=131,slow=12,SNR=62							
KK31				⇑Pg	**Pn**	**02 14 02.5**	**+10**
6.4nm,0.6s,baz=148,slow=16,SNR=6.1							
KK31				⇓Sn	**Sn**	**02 14 46.5**	**+3.4**
9.0nm,0.6s,baz=142,slow=24,SNR=4.0							
KK31				⇑Lg		02 14 59.5	
18nm,0.8s,baz=154,slow=25,SNR=4.8							
KKAR	**Karatay Array**	**4.42**	**331**	*e*Pn	**Pn**	**02 13 53.6**	**+0.7**
KBL	**Kabul**	**5.88**	**218**	*e*Pn	**Pn**	**02 14 12.9**	**-0.2**
6.0nm,0.5s							
MKAR	**Makanchi Array**	**9.92**	**38**	Pn	**Pn**	**02 15 09.3**	**+0.8**
0.0nm,0.3s,baz=219,slow=13,SNR=2.6							
MKAR	**Makanchi Array**	**9.92**	**38**	Pn	**Pn**	**02 15 09.2**	**+0.8**
AB31	**Akbulak array**	**13.88**	**320**	⇑Pn	**Pn**	**02 15 59.8**	**-2.6**
0.7nm,0.7s,baz=124,slow=14,SNR=5.1							
AB31				⇑Sn	**Sn**	**02 18 29.4**	**-5.4**
1.3nm,0.8s							
ABKAR	**Akbulak array**	**13.88**	**320**	*e*Pn	**Pn**	**02 16 01.6**	**-0.8**
BVAR	**Borovoye Array**	**13.92**	**352**	Pn	**Pn**	**02 15 59.3**	**-3.6**
0.1nm,0.3s,baz=162,slow=15,SNR=6.2							
BVAR	**Borovoye Array**	**13.92**	**352**	Pn	**Pn**	**02 15 59.3**	**-3.6**
BRVK	**Borovoye**	**13.96**	**352**	*e*Pn	**Pn**	**02 16 02.3**	**-1.2**
AKTO	**Aktyubinsk**	**15.59**	**321**	⇑Pn	**Pn**	**02 16 23.0**	**-2.1**
0.6nm,1.2s							
AKTO	**Aktyubinsk**	**15.59**	**321**	Pn	**Pn**	**02 16 24.4**	**-0.6**
0.1nm,0.3s,baz=105,slow=12,SNR=3.6							
AKTO	**Aktyubinsk**	**15.59**	**321**	Pn	**Pn**	**02 16 24.4**	**-0.6**
ZAA0	**Zalesovo Array**	**16.60**	**24**	*e*P	**Pn**	**02 16 37.2**	**-0.7**
ZALV	**Zalesovo Beam**	**16.60**	**24**	Pn	**Pn**	**02 16 35.6**	**-2.3**
0.2nm,0.3s,baz=230,slow=12,SNR=5.8							
ZALV	**Zalesovo Beam**	**16.60**	**24**	Pn	**Pn**	**02 16 35.6**	**-2.3**
ARU	**Arti**	**19.78**	**335**	*e*P	**Pn**	**02 17 13.1**	**-3.5**
2.9nm,0.9s							
SONM	**Songino Array**	**25.22**	**59**	P	**P**	**02 18 10.7**	**+0.6**
0.3nm,0.7s,mb2.9,baz=244,slow=9.7,SNR=3.1							
SONM	**Songino Array**	**25.22**	**59**	P	**P**	**02 18 10.7**	**+0.6**
BRTR	**Keskin Array B**	**30.54**	**284**	P	**P**	**02 19 00.3**	**+2.6**
0.3nm,0.6s,mb3.3,baz=84,slow=7.4,SNR=3.1							
BRTR	**Keskin Array B**	**30.54**	**284**	P	**P**	**02 19 00.3**	**+2.6**
FINES	**FINESS Array B**	**36.34**	**323**	P	**P**	**02 19 48.6**	**+0.8**
1.6nm,0.8s,mb4.0,baz=106,slow=8.8,SNR=5.5							
FINES	**FINESS Array B**	**36.34**	**323**	P	**P**	**02 19 48.6**	**+0.8**
ARCES	**ARCESS Array B**	**39.37**	**336**	P	**P**	**02 20 12.4**	**-1.0**
0.9nm,0.8s,mb3.6,baz=110,slow=7.8,SNR=4.2							
ARCES	**ARCESS Array B**	**39.37**	**336**	P	**P**	**02 20 12.3**	**-1.0**
NOA	**NORSAR Array B**	**43.38**	**321**	P	**P**	**02 20 46.7**	**+0.4**
0.3nm,0.5s,mb3.3,baz=108,slow=7.5,SNR=3.1							
NOA	**NORSAR Array B**	**43.38**	**321**	P	**P**	**02 20 46.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**67.70**	**269**	P	**P**	**02 23 42.7**	**+1.1**
0.3nm,0.6s,mb3.5,baz=52,slow=5.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**67.70**	**269**	P	**P**	**02 23 42.7**	**+1.1**
WRA	**Warramunga Arr**	**81.87**	**124**	P	**P**	**02 25 03.0**	**-0.3**
0.5nm,0.6s,mb3.6,baz=328,slow=5.0,SNR=8.9							
WRA	**Warramunga Arr**	**81.87**	**124**	P	**P**	**02 25 03.0**	**-0.3**
ASAR	**Alice Springs**	**84.31**	**127**	P	**P**	**02 25 15.1**	**-0.8**
0.1nm,0.3s,mb3.5,baz=322,slow=5.9,SNR=3.5							
ASAR	**Alice Springs**	**84.31**	**127**	P	**P**	**02 25 15.1**	**-0.8**

*JMA **06** 02:30:41.4±0.1, 25°.47N×126°.37E, h0km, M3.8*
*IDC **06** 02:30:42.1±0.9, 26°.18N×125°.86E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=27.1km s-min=19.3km az=49.0*
*NEIC **06** 02:30:42.8±4.6, 26°.15N×125°.87E, h4km±30km, mb3.9/2, Error ellipse: s-maj=14.3km s-min=11.0km az=165.0*
ISC 06 02:30:41.6±2.3, 25°.82N±0°.06×125°.99E±0°.06, h6km±16km, n33, σ1°.28/41, mb3.7/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.88**	**55**

PPM *i* S Sn 02 46 59.9 -2.0
PNIG Pinotepa 2.72 110 *e*P Pn 02 46 27.2 -3.0
PNIG *e*S Sn 02 47 00.9 -1.6
PNIG Pinotepa 2.72 110 *e*P Pn 02 46 27.2 -3.0
PNIG *e*S Sn 02 47 00.9 -1.6
UTMO Huajuapan 2.90 80 *e*P Pn 02 46 30.3 -2.3
UTMO *e*S Sn 02 47 04.8 -2.1
UTMO Huajuapan 2.90 80 *e*P Pn 02 46 30.3 -2.3
UTMO *e*S Sn 02 47 04.8 -2.1
CMIG Matias Romero 5.65 91 *e*P Pn 02 47 08.5 -2.1
CMIG *e*S Sn 02 48 12.9 -2.1
CMIG Matias Romero 5.65 91 *e*P Pn 02 47 08.5 -2.1
CMIG *e*S Sn 02 48 12.9 -2.1

*ISCJB **06** 02:46:01.7±2.2, 20°.7S±0°.2×169°.9E±0°.1, h137km±15km, mb4.0/7, Error ellipse: s-maj=27.3km s-min=18.6km az=15.6*
*NEIC **06** 02:46:02.6±2.4, 20°.55S×169°.88E, h135km±19km, mb4.3/4, Error ellipse: s-maj=24.0km s-min=14.9km az=212.0*
*IDC **06** 02:46:06.4±7.1, 20°.66S×169°.73E, h166km±63km, mb3.6/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, MS3.9/1, Ms1 3.9/1, ms1mx2.7/20, Error ellipse: s-maj=41.3km s-min=23.1km az=16.0*

ISC 06 02:46:02.4±2.1, 20°.6S±0°.2×169°.9E±0°.1, h131km±15km, n31, σ0°.88/26, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.17**	**240**	*e*P	**Pn**	**02 46 50.8**	**-0.6**
BAYA				*e*S	**Sn**	**02 47 28.6**	**-0.5**
DZM	**Mont Dzumac**	**3.50**	**244**	*e*Pn	**Pn**	**02 46 55.6**	**0.0**
DZM	comp=Z,406nm,20.6s,baz=128,slow=33			*e*Sn	**Sn**	**02 47 36.9**	**+0.1**
NOUC	**Port Laguerre**	**3.63**	**245**	*e*P	**Pn**	**02 46 57.4**	**+0.1**
NOUC				*e*S	**Sn**	**02 47 40.0**	**+0.1**
URZ	**Urewera**	**18.70**	**162**	P	**P**	**02 50 11.5**	**+0.9**
	1.4nm,0.3s,baz=0.6,slow=8.1,SNR=8.3						
URZ	**Urewera**	**18.70**	**162**	P	**P**	**02 50 11.5**	**+0.9**
AFI	**Afiamalu**	**18.75**	**72**	LR	LR	02 56 25.7	
	comp=Z,406nm,20.6s,baz=128,slow=33						
ARMA	**Armidale**	**19.11**	**236**	*e*P	**P**	**02 50 17.9**	**+2.7**
ARMA	**Armidale**	**19.11**	**236**	*e*P	**P**	**02 50 17.5**	**+2.3**
	29nm,1.3s						
CTA	**Charters Tower**	**22.13**	**267**	P	**P**	**02 50 48.7**	**+1.1**
	2.3nm,0.6s,mb3.8,baz=98,slow=12,SNR=5.1						
CTA	**Charters Tower**	**22.13**	**267**	*e*P	**P**	**02 50 49.4**	**+1.8**
	1.7nm,0.6s,mb3.6						
CTA	**Charters Tower**	**22.13**	**267**	P	**P**	**02 50 48.7**	**+1.1**
CTAO	**Charters Tower**	**22.13**	**267**	*e*P	**P**	**02 50 48.9**	**+1.4**
	10nm,1.2s,mb4.1						
CNB	**Canberra Magne**	**23.23**	**227**	*e*P	**P**	**02 50 59.1**	**+1.2**
	37nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**33.28**	**265**	P	**P**	**02 52 26.4**	**-1.2**
	0.5nm,0.4s,mb3.6,baz=96,slow=8.3,SNR=23						
WRA				PcP	PcP	02 55 06.4	-0.6
	0.4nm,0.7s,baz=94,slow=3.4,SNR=5.5						
WRA	**Warramunga Arr**	**33.28**	**265**	P	**P**	**02 52 26.4**	**-1.2**
WRA				PcP	PcP	02 55 06.4	-0.6
AS31	**Alice Springs**	**33.38**	**258**	*e*P	**P**	**02 52 27.8**	**-0.7**
ASAR	**Alice Springs**	**33.38**	**258**	P	**P**	**02 52 28.2**	**-0.3**
	2.1nm,0.5s,mb4.1,baz=93,slow=8.9,SNR=40						
ASAR				pP	pP	02 52 58.5	+1.5
	2.3nm,1.1s,baz=85,slow=9.0,SNR=3.4						
ASAR				PcP	PcP	02 55 06.0	-1.2
	0.2nm,0.5s,baz=106,slow=3.7,SNR=4.3						
ASAR	**Alice Springs**	**33.38**	**258**	P	**P**	**02 52 28.2**	**-0.3**
ASAR				pP	pP	02 52 58.5	+1.5
ASAR				PcP	PcP	02 55 06.0	-1.2
VNDA	**Vanda**	**57.11**	**182**	*e*P	**P**	**02 55 34.1**	**-0.5**
	0.8nm,0.5s,mb3.8						
QSPA	**South Pole Qui**	**69.47**	**180**	*e*P	**P**	**02 56 55.8**	**-0.2**
	5.6nm,0.9s,mb4.3						
VNA3	**Neumayer Olymp**	**88.41**	**180**	*e*	**P**	**02 58 38.0**	**-1.2**
VNA2	**Neumayer--Watz**	**88.71**	**181**	*e*	**P**	**02 58 39.9**	**-0.8**
	baz=183,slow=4.8						
NVAR	**Mina Array Bea**	**89.26**	**48**	P	**P**	**02 58 44.5**	**+0.8**
	1.0nm,0.7s,mb3.9,baz=229,slow=6.9,SNR=12						
NVAR	**Mina Array Bea**	**89.26**	**48**	P	**P**	**02 58 44.5**	**+0.8**
ARCES	**ARCESS Array B**	**126.51**	**345**	PKP	PKPdf	03 04 48.4	-0.8
	2.0nm,0.9s,baz=56,slow=2.3,SNR=3.5						
ARCES	**ARCESS Array B**	**126.51**	**345**	PKP	PKPdf	03 04 48.4	-0.8
CLL	**Collm**	**144.38**	**335**	*e*PKPdf	PKPdf	03 05 21.0	-1.8
GERES	**GERESS Array B**	**145.94**	**332**	PKPbc	PKPbc	03 05 26.1	-0.5
	1.1nm,0.6s,baz=57,slow=3.6,SNR=3.9						
GERES	**GERESS Array B**	**145.94**	**332**	PKPbc	PKPbc	03 05 26.1	-0.5
DBIC	**Dimbokro**	**165.24**	**201**	PKPab	PKPab	03 06 49.4	-0.5
	3.5nm,0.7s,baz=100,slow=12,SNR=5.4						
DBIC	**Dimbokro**	**165.24**	**201**	PKPab	PKPab	03 06 49.4	-0.5

*IDC **06** 02:54:44.0±6.2, 35°.82N×71°.11E, h47km±54km, mb3.4/6, mb1 3.4/10, mb1mx3.2/30, mbtmp3.4/10, ML3.6/3, Error ellipse: s-maj=61.0km s-min=33.9km az=146.0*
*ISCJB **06** 02:54:51.1±0.5, 36°.34N±0°.04×71°.11E±0°.08, h107km±9km, mb3.6/5, Error ellipse: s-maj=11.0km s-min=5.4km az=21.5*
*NEIC **06** 02:54:52.1±1.0, 36°.28N×71°.11E, h105km±10km, mb3.6/2, Error ellipse: s-maj=19.8km s-min=8.4km az=131.0*
*NNC **06** 02:54:57.2±5.0, 37°.16N×70°.55E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=42.5km s-min=31.9km az=173.0*

ISC 06 02:54:52.3±0.5, 36°.33N±0°.03×71°.07E±0°.08, h101km±8km, n39, σ1°.07/49, mb3.6/4, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.44**	**223**	*e*Pn	**Pn**	**02 55 31.1**	**+0.5**
KBL				*e*Sn	**Sn**	**02 56 01.3**	**+1.3**
CEP	**Cherat**	**2.60**	**164**	⇓P	**Pn**	**02 55 31.7**	**-1.0**
CEP				S	**Sn**	**02 56 03.0**	**-0.8**
CHCP	**Chirah Chowk**	**3.22**	**145**	P	**Pn**	**02 55 39.9**	**-1.1**
AML	**Almayashu**	**6.14**	**19**	P	**Pn**	**02 56 21.3**	**+1.0**
	SNR=24						
AML				P		02 56 21.3	
	SNR=24						
KZA	**Kyzart**	**6.59**	**28**	P	**Pn**	**02 56 26.9**	**+0.4**
	SNR=5.4						
KZA				P		02 56 26.9	
	SNR=5.4						
EKS2	**Erkin-Say**	**6.66**	**17**	P	**Pn**	**02 56 28.4**	**+1.0**
	SNR=20						
EKS2				P		02 56 28.4	
	SNR=20						
EKS2	**Erkin-Say**	**6.66**	**17**	*e*Pn	**Pn**	**02 56 27.9**	**+0.5**
	4.7nm,0.5s						
EKS2				*e*Sn	**Sn**	**02 57 40.9**	**-0.9**
KK31	**Karatay Array**	**6.77**	**357**	⇑Pn	**Pn**	**02 56 29.4**	**+0.4**
	1.8nm,0.2s,baz=176,slow=12,SNR=129						
KK31				⇑Sn	**Sn**	**02 57 42.3**	**-2.3**
	7.5nm,0.2s,baz=184,slow=22						
KKAR	**Karatay Array**	**6.77**	**357**	*e*Pn	**Pn**	**02 56 29.2**	**+0.2**
	7.2nm,0.3s						
KKAR				*e*Sn	**Sn**	**02 57 42.3**	**-2.3**
AAK	**Ala-Archa**	**6.82**	**22**	P	**Pn**	**02 56 30.8**	**+1.1**
	SNR=7.1						
AAK				P		02 56 30.8	
	SNR=7.1						
AAK	**Ala-Archa**	**6.82**	**22**	*e*Pn	**Pn**	**02 56 30.5**	**+0.8**
	25nm,0.3s						
AAK				*e*Sn	**Sn**	**02 57 47.6**	**+1.7**
USP	**Ospenovka**	**7.41**	**20**	P	**Pn**	**02 56 38.3**	**+0.6**
	SNR=6.6						
USP				P		02 56 38.3	
	SNR=6.6						
TKM2	**Tokmak 2**	**7.45**	**27**	P	**Pn**	**02 56 38.8**	**+0.7**
	SNR=6.8						
TKM2				P		02 56 38.8	
	SNR=6.8						
TKM2	**Tokmak 2**	**7.45**	**27**	⇑Pn	**Pn**	**02 56 38.6**	**+0.5**
	2.3nm,0.5s						
TKM2				⇓Sn	**Sn**	**02 58 00.1**	**-0.9**
	5.0nm,0.9s						
TKM2	**Tokmak 2**	**7.45**	**27**	*e*Pn	**Pn**	**02 56 38.5**	**+0.3**
	3.4nm,0.4s						
TKM2				*e*Sn	**Sn**	**02 58 01.2**	**+0.3**
MKAR	**Makanchi Array**	**13.39**	**35**	P	**Pn**	**02 57 57.7**	**-0.4**
	baz=222,slow=15,SNR=2.1						
MKAR	**Makanchi Array**	**13.39**	**35**	P	**Pn**	**02 57 57.7**	**-0.4**
AB31	**Akbulak array**	**15.26**	**331**	⇓Pn	**Pn**	**02 58 21.4**	**-0.6**
	0.3nm,0.3s						
AB31				Sn	**Sn**	**03 00 58.1**	**-12**
	0.8nm,0.5s,baz=153,slow=22,SNR=7.2						
ABKAR	**Akbulak array**	**15.26**	**331**	*e*Pn	**Pn**	**02 58 21.3**	**-0.7**
	0.8nm,0.3s						
KURK	**Kurchatov**	**15.37**	**18**	P	**Pn**	**02 58 24.1**	**+0.7**
	0.1nm,0.3s,baz=208,slow=10,SNR=10						
KURK	**Kurchatov**	**15.37**	**18**	P	**Pn**	**02 58 24.1**	**+0.7**
BVAR	**Borovoye Array**	**16.70**	**359**	P	**Pn**	**02 58 40.4**	**+0.5**
	0.2nm,0.3s,baz=167,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**16.70**	**359**	P	**Pn**	**02 58 40.4**	**+0.5**
AKTO	**Aktyubinsk**	**16.95**	**330**	⇑Pn	**Pn**	**02 58 45.7**	**+2.7**
	0.6nm,1.1s						
AKTO				⇓Sn	**Sn**	**03 01 43.1**	**-8.1**
	0.5nm,0.7s						
AKTO	**Aktyubinsk**	**16.95**	**330**	P	**Pn**	**02 58 43.4**	**+0.4**
	0.2nm,0.3s,baz=136,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**16.95**	**330**	P	**Pn**	**02 58 43.4**	**+0.4**
ZALV	**Zalesovo Beam**	**20.04**	**24**	P	**P**	**02 59 16.4**	**-0.7**
	0.7nm,0.3s,baz=218,slow=8.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**20.04**	**24**	P	**P**	**02 59 16.4**	**-0.7**
GNI	**Garni**	**21.00**	**288**	P	**P**	**02 59 25.2**	**-2.3**
	0.7nm,0.4s,baz=76,slow=17,SNR=2.3						
GNI	**Garni**	**21.00**	**288**	*e*P	**P**	**02 59 27.3**	**-0.2**
	4.0nm,0.8s						
FINES	**FINESS Array B**	**37.65**	**326**	P	**P**	**03 01 58.0**	**+0.8**
	2.3nm,0.9s,mb4.0,baz=116,slow=9.4,SNR=3.5						
FINES	**FINESS Array B**	**37.65**	**326**	P	**P**	**03 01 58.0**	**+0.8**
ARCES	**ARCESS Array B**	**41.32**	**338**	P	**P**	**03 02 28.8**	**+1.3**
	0.3nm,0.4s,mb3.5,baz=114,slow=8.0,SNR=5.9						
ARCES	**ARCESS Array B**	**41.32**	**338**	P	**P**	**03 02 28.8**	**+1.3**
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**03 02 54.3**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**03 02 54.6**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.4,baz=97,slow=7.7,SNR=4.0						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**03 02 54.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**03 05 24.8**	**-2.0**
	comp=Z,0.5nm,0.6s,mb3.5,baz=54,slow=6.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**03 05 24.8**	**-2.0**

*IDC **06** 02:55:04.5±0.9, 15°.86S×172°.67W, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/20, mbtmp4.1/8, ML3.5/2, Error ellipse: s-maj=31.8km s-min=15.9km az=121.0*
*ISCJB **06** 02:55:06.8±0.7, 15°.86S±0°.08×172°.50W±0°.10, h33km, mb3.9/6, Error ellipse: s-maj=15.3km s-min=8.3km az=36.0*
*NEIC **06** 02:55:06.9±4.9, 15°.93S×172°.51W, h18km±33km, mb4.3/1, Error ellipse: s-maj=18.2km s-min=11.7km az=156.0*

ISC 06 02:55:09.1±0.6, 15°.80S±0°.07×172°.50W±0°.09, h35km, n21, σ1°.18/24, mb3.9/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**20**	P	**Pn**	**02 55 40.9**	**+0.5**
	162nm,0.3s,baz=37,slow=2.1,SNR=126						
AFI				Sn	**Sn**	**02 56 03.4**	**-0.9**
	198nm,0.3s,baz=0.0,slow=17,SNR=5.9						
AFI	**Afiamalu**	**2.00**	**20**	Pn	**Pn**	**02 55 40.9**	**+0.5**
AFI				Sn	**Sn**	**02 56 03.4**	**-0.9**
MSVF	**Nonsavu**	**9.26**	**257**	*e*Pn	**Pn**	**02 57 20.3**	**+0.1**
	9.9nm,1.1s						
RAR	**Rarotonga**	**13.21**	**116**	Pn	**Pn**	**02 58 13.0**	**-1.2**
	1.7nm,0.3s,baz=316,slow=12,SNR=8.8						
RAR				Sn	**Sn**	**03 00 25.9**	**-14**
	1.0nm,0.3s,baz=102,slow=19,SNR=3.7						
RAR	**Rarotonga**	**13.21**	**116**	Pn	**Pn**	**02 58 13.1**	**-1.2**
RAR				Sn	**Sn**	**03 00 25.9**	**-14**
DZM	**Mont Dzumac**	**20.86**	**249**	*e*LR	LR	03 04 42.4	
	309nm,26.6s						
PPT	**Papeete**	**22.02**	**98**	*e*LR	LR	03 05 05.3	
	195nm,28.0s						
TBI	**Tubuai**	**22.95**	**113**	*e*LR	LR	03 05 38.2	
	152nm,28.2s						
URZ	**Urewera**	**24.18**	**200**	P	**P**	**03 00 22.3**	**+0.2**
	7.2nm,0.5s,mb4.4,baz=96,slow=3.0,SNR=15						
URZ				S	**S**	**03 04 41.1**	**+3.1**
	1.4nm,0.4s,baz=354,slow=19,SNR=3.3						
URZ	**Urewera**	**24.18**	**200**	*e*P	**P**	**03 00 23.9**	**+1.8**
	3.5nm,0.4s,mb4.1						
URZ				S	**S**	**03 04 41.1**	**+3.1**
STKA	**Stephens Creek**	**44.60**	**240**	P	**P**	**03 03 17.1**	**-1.0**
	2.9nm,0.7s,mb4.2,baz=69,slow=9.5,SNR=5.1						
STKA	**Stephens Creek**	**44.60**	**240**	P	**P**	**03 03 17.1**	**-1.0**
WRA	**Warramunga Arr**	**50.60**	**257**	P	**P**	**03 04 03.9**	**-0.9**
	0.7nm,0.7s,mb3.7,baz=95,slow=6.8,SNR=9.9						
WRA	**Warramunga Arr**	**50.60**	**257**	P	**P**	**03 04 03.9**	**-0.9**
AS31	**Alice Springs**	**50.82**	**252**	*e*P	**P**	**03 04 06.7**	**+0.2**
ASAR	**Alice Springs**	**50.82**	**252**	P	**P**	**03 04 05.4**	**-1.0**
	3.2nm,0.9s,mb4.3,baz=88,slow=8.3,SNR=26						
ASAR	**Alice Springs**	**50.82**	**252**	P	**P**	**03 04 05.4**	**-1.0**
PDAR	**Pinedale Array**	**81.98**	**41**	P	**P**	**03 07 28.1**	**+2.7**
	0.4nm,0.9s,mb3.4,baz=263,slow=7.2,SNR=2.6						
PDAR	**Pinedale Array**	**81.98**	**41**	P	**P**	**03 07 28.1**	**+2.7**
ILAR	**Eielson Array**	**82.67**	**11**	P	**P**	**03 07 29.9**	**+1.5**
	0.4nm,0.7s,mb3.5,baz=222,slow=6.4,SNR=6.0						
ILAR	**Eielson Array**	**82.67**	**11**	P	**P**	**03 07 29.9**	**+1.5**

IDC 06 02:57:48.5±7.1, 6°.41S×146°.92E, h95km±74km, mb3.1/3, mb1 3.2/5, mb1mx3.0/16, mbtmp3.0/5, ML2.6/2, Error ellipse: s-maj=74.8km s-min=31.9km az=141.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**175**	P	Pn	02 58 35.3	+1.3
	3.9nm,0.3s,baz=46,slow=5.2,SNR=9.7						
PMG				S	Sn	02 59 09.1	+0.1
	1.5nm,0.3s,baz=150,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**18.17**	**221**	P	Pn	03 01 54.9	+0.2
	0.0nm,0.3s,baz=43,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**21.24**	**215**	P	P	03 02 27.1	+0.2
	0.2nm,0.6s,baz=50,slow=8.6,SNR=3.0						
FITZ	**Fitzroy Crossi**	**23.79**	**239**	P	P	03 02 52.2	-0.4
	1.6nm,0.9s,baz=80,slow=12,SNR=4.1						
ILAR	**Eielson Array**	**85.89**	**23**	P	P	03 10 17.2	-0.1
	0.4nm,0.7s,baz=250,slow=5.7,SNR=5.0						

*ISCJB **06** 02:59:01.1±1.7, 48°.10N±0°.05×86°.17E±0°.10, h2km±10km, mb3.6/6, Error ellipse: s-maj=11.5km s-min=8.1km az=29.1*
*IDC **06** 02:59:02.1±1.0, 48°.04N×86°.16E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.5/29, mbtmp3.5/10, ML3.2/4, Error ellipse: s-maj=15.4km s-min=11.4km az=33.0*
*NNC **06** 02:59:02.6±8.8, 48°.07N×86°.03E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=65.1km s-min=38.9km az=83.0*
*NEIC **06** 02:59:03.5±0.7, 48°.04N×86°.26E, h10km, mb2.9/1, Error ellipse: s-maj=10.7km s-min=9.2km az=113.0*
*BJI **06** 02:59:05.8, 47°.85N×86°.07E, h13km, ML3.2/7*

ISC 06 02:59:02.9±1.5, 48°.04N±0°.05×86°.24E±0°.08, h4km±10km, n30, σ0°.84/41, mb3.6/6, 5C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.96**	**246**	Pn	**Pn**	**02 59 51.7**	**+1.2**
	2.8nm,0.3s,baz=69,slow=19,SNR=676						
MK31				⇓Pg	**Pg**	**02 59 59.1**	**-0.4**
	16nm,0.3s,baz=70,slow=17,SNR=77						
MK31				⇑Sn	**Sn**	**03 00 29.0**	**+2.6**
	21nm,0.3s,baz=23,slow=137,SNR=7.2						
MK31				⇑Lg		03 00 34.8	
	28nm,0.3s,baz=75,slow=30,SNR=7.3						
MK31	**Makanchi Array**	**2.96**	**246**	*e*Pn	**Pn**	**02 59 51.3**	**+0.8**
MK31				*e*Pg	**Pg**	**02 59 59.0**	**-0.5**
MK31				*e*Sn	**Sn**	**03 00 25.4**	**-0.9**
MKAR	**Makanchi Array**	**2.96**	**246**	Pn	**Pn**	**02 59 51.5**	**+1.0**
	2.0nm,0.3s,baz=84,slow=13,SNR=61						
MKAR				Sn	**Sn**	**03 00 26.8**	**+0.4**
	14nm,0.3s,baz=79,slow=18,SNR=8.8						
MKAR	**Makanchi Array**	**2.96**	**246**	Pn	**Pn**	**02 59 51.5**	**+1.0**
MKAR				Sn	**Sn**	**03 00 26.8**	**+0.4**
WMQ	**Urumqi**	**4.34**	**166**	Pn	**Pn**	**03 00 13.6**	**+4.1**
WMQ				Sg	**Sg**	**03 01 22.0**	**-0.3**
WMQ				smax			
	comp=N,24nm,0.7s						
WMQ				smax			
	comp=E,40nm,0.7s						
KURK	**Kurchatov**	**5.65**	**301**	⇑Sn	**Sn**	**03 01 29.2**	**-3.5**
	comp=E,7.7nm,0.6s						
KURK				⇑Lg		03 02 02.6	
	comp=E,49nm,0.9s						
KURK	**Kurchatov**	**5.65**	**301**	Pn	**Pn**	**03 00 28.2**	**+0.7**
	comp=E,0.3nm,0.3s,baz=110,slow=16,SNR=26						
KURK				Sn	**Sn**	**03 01 30.6**	**-2.0**
	comp=E,0.7nm,0.3s,baz=113,slow=28,SNR=7.2						
KURK				Lg		03 01 58.5	
	comp=E,0.8nm,0.3s,baz=116,slow=33,SNR=6.9						
KURK	**Kurchatov**	**5.65**	**301**	Pn	**Pn**	**03 00 28.2**	**+0.7**
KURK				Sn	**Sn**	**03 01 30.6**	**-2.0**
KURK				Lg		03 01 58.5	
KURBB	**Kurchatov Arra**	**5.66**	**300**	⇑Lg		03 02 01.4	
	comp=E,14nm,0.6s						
ZALV	**Zalesovo Beam**	**5.98**	**352**	Pn	**Pn**	**03 00 32.6**	**+0.5**
	comp=E,0.3nm,0.3s,baz=163,slow=11,SNR=2.5						
ZALV				Sn	**Sn**	**03 01 41.8**	**+0.9**
	comp=E,3.7nm,0.3s,baz=172,slow=23,SNR=10						
ZALV				Lg		03 02 18.4	
	comp=E,2.9nm,0.3s,baz=166,slow=31,SNR=5.6						
ZALV	**Zalesovo Beam**	**5.98**	**352**	Pn	**Pn**	**03 00 32.6**	**+0.5**
ZALV				Sn	**Sn**	**03 01 41.8**	**+0.9**
ZALV				Lg		03 02 18.4	
TKM2	**Tokmak 2**	**9.05**	**239**	*e*Pn	**Pn**	**03 01 14.0**	**-0.3**
AAK	**Ala-Archa**	**9.87**	**241**	*e*Pn	**Pn**	**03 01 25.8**	**+0.3**
BVAR	**Borovoye Array**	**11.24**	**302**	Pn	**Pn**	**03 01 43.8**	**-0.3**
	comp=E,0.1nm,0.3s,baz=104,slow=12,SNR=6.0						
BVAR				Sn	**Sn**	**03 03 43.2**	**-7.0**
	comp=E,0.4nm,0.3s,baz=109,slow=22,SNR=5.4						
BVAR				Lg		03 04 54.2	
	comp=E,0.4nm,0.3s,baz=102,slow=25,SNR=3.7						
BVAR	**Borovoye Array**	**11.24**	**302**	Pn	**Pn**	**03 01 43.8**	**-0.3**
BVAR				Sn	**Sn**	**03 03 43.2**	**-7.0**
BVAR				Lg		03 04 54.2	
SONM	**Songino Array**	**13.52**	**83**	Lg		03 06 24.6	
	comp=E,0.1nm,0.3s,baz=277,slow=26,SNR=7.0						
ABKAR	**Akbulak array**	**17.39**	**284**	*e*P	**Pn**	**03 03 06.0**	**-0.2**
	comp=E,0.6nm,0.5s						
FINES	**FINESS Array B**	**35.84**	**315**	P	**P**	**03 06 02.9**	**-0.2**
	comp=E,1.5nm,0.9s,mb3.9,baz=79,slow=8.8,SNR=2.7						
FINES	**FINESS Array B**	**35.84**	**315**	P	**P**	**03 06 02.9**	**-0.2**
BRTR	**Keskin Array B**	**38.16**	**277**	P	**P**	**03 06 23.2**	**+0.2**
	comp=E,0.3nm,0.3s,mb3.5,baz=142,slow=26,SNR=4.6						
BRTR	**Keskin Array B**	**38.16**	**277**	P	**P**	**03 06 23.2**	**+0.2**
NB2	**NORSAR Subarra**	**42.94**	**316**	P	**P**	**03 07 01.7**	**-0.6**
	comp=Z,1.8nm,0.8s,mb3.9,baz=72,slow=8.6						
NOA	**NORSAR Array B**	**42.94**	**316**	P	**P**	**03 07 01.8**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.6,baz=72,slow=8.5,SNR=4.3						
NOA	**NORSAR Array B**	**42.94**	**316**	P	**P**	**03 07 01.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.72**	**275**	P	**P**	**03 10 53.6**	**-1.7**
	comp=Z,0.2nm,0.6s,mb3.2,baz=44,slow=5.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.72**	**275**	P	**P**	**03 10 53.6**	**-1.7**
WRA	**Warramunga Arr**	**80.20**	**135**	P	**P**	**03 11 14.2**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=339,slow=5.5,SNR=8.1						
WRA	**Warramunga Arr**	**80.20**	**135**	P	**P**	**03 11 14.2**	**-0.1**
ASAR	**Alice Springs**	**83.20**	**137**	P	**P**	**03 11 30.0**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.7,baz=333,slow=4.7,SNR=4.6						
ASAR	**Alice Springs**	**83.20**	**137**	P	**P**	**03 11 30.0**	**0.0**

JMA 06 03:00:14.6±0.2, 38°.25N×144°.68E, h54km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.50**	**290**	P	Pn	03 00 54.0	+1.2
OFUJ				*e*S	Sn	03 01 23.1	+1.1
MIYJ	**Miyakonagasawa**	**2.59**	**302**	P	Pn	03 00 55.1	+1.0
MIYJ				*e*S	Sn	03 01 25.3	+0.9
JIO	**Ouri**	**2.63**	**275**	P	Pn	03 00 55.7	+1.2
JIO				S	Sn	03 01 26.4	+1.2
JMK	**Ichinoseki**	**2.80**	**286**	P	Pn	03 00 58.4	+1.5
JMK				*e*S	Sn	03 01 31.1	+1.7
JOT	**Ohata**	**4.20**	**319**	S	Sn	03 02 02.9	-0.8
JCH	**Churui**	**4.47**	**347**	P	Pn	03 01 18.9	-0.9
JCH				S	Sn	03 02 08.8	-1.7
JKB	**Kayabe**	**4.59**	**324**	*e*S	Sn	03 02 15.3	+2.0
JRY	**Ryogami san**	**5.13**	**246**	P	Pn	03 01 29.8	+1.0
JRY				*e*S	Sn	03 02 25.6	-1.0
NEM2	**Nemuro 2**	**5.17**	**9**	P	Pn	03 01 26.7	-2.7
NEM2				*e*S	Sn	03 02 22.2	-5.5
MAT	**Matsushiro**	**5.43**	**254**	P	Pn	03 01 35.7	+2.8
MAT				S	Sn	03 02 39.3	+5.3
JTKR	**Abashiri--Toko**	**5.75**	**354**	P	Pn	03 01 36.2	-1.0
JTKR				*e*S	Sn	03 02 38.2	-3.5

GUC 06 03:04:17.0±0.7, 23°.43S×68°.72W, h105km±5km, ML3.5, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.70**	**43**	⇑*i*P	Pn

MJAR	**Matsushiro Arr**	**4.45 248**	Pn	**Pn**	**03 29 36.9**	**+0.7**
MAJO	**Matsushiro**	**4.45 248**	*e*Pn	**Pn**	**03 29 37.5**	**+1.4**
SONM	**Songino Array**	**28.37 302**	P	**P**	**03 34 23.8**	**+1.4**
0.3nm,0.5s,mb3.2,baz=85,slow=6.7,SNR=2.7						
SONM	**Songino Array**	**28.37 302**	P	**P**	**03 34 23.8**	**+1.4**
MK31	**Makanchi Array**	**44.74 301**	*e*P	**P**	**03 36 42.8**	**+1.3**
MKAR	**Makanchi Array**	**44.74 301**	P	**P**	**03 36 43.1**	**+1.6**
0.2nm,0.5s,mb3.2,baz=87,slow=9.6,SNR=4.1						
MKAR	**Makanchi Array**	**44.74 301**	P	**P**	**03 36 43.1**	**+1.6**
KURK	**Kurchatov**	**46.35 307**	P	**P**	**03 36 54.2**	**0.0**
0.6nm,0.4s,mb3.9,baz=83,slow=8.5,SNR=6.0						
KURK	**Kurchatov**	**46.35 307**	P	**P**	**03 36 54.2**	**0.0**
BVAR	**Borovoye Array**	**50.84 312**	P	**P**	**03 37 27.5**	**-1.2**
0.3nm,0.5s,mb3.5,baz=79,slow=7.8,SNR=4.3						
BVAR	**Borovoye Array**	**50.84 312**	P	**P**	**03 37 27.5**	**-1.2**
ABKAR	**Akbulak array**	**58.28 310**	*e*P	**P**	**03 38 22.6**	**-0.1**
0.3nm,0.4s,mb3.7						
WRA	**Warramunga Arr**	**58.57 190**	P	**P**	**03 38 23.5**	**-1.5**
0.8nm,0.8s,mb3.8,baz=6.9,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**58.57 190**	P	**P**	**03 38 23.5**	**-1.5**
ASAR	**Alice Springs**	**62.29 190**	P	**P**	**03 38 49.5**	**-0.8**
0.2nm,0.7s,mb3.4,baz=7.8,slow=7.5,SNR=3.7						
ASAR	**Alice Springs**	**62.29 190**	P	**P**	**03 38 49.5**	**-0.8**
NVAR	**Mina Array Bea**	**73.00 54**	P	**P**	**03 39 58.6**	**+0.6**
0.2nm,0.6s,mb3.2,baz=292,slow=4.8,SNR=2.2						
NVAR	**Mina Array Bea**	**73.00 54**	P	**P**	**03 39 58.6**	**+0.6**

NIED ***06*** *03:31:00.41˚.30N×142˚.40E, h29km, Mw3.7 Best double couple: M0=4.02000×10^14 NP1:φs=295.00000°, δ84.00000°, λ100.00000°. NP2:φs=57.00000°, δ12.00000°, λ32.00000°.*
JMA ***06*** *03:31:13.9±0.1, 41˚.26N×142˚.39E, h29km±4km, M3.8*
JMA Felt I J1.
ISCJB ***06*** *03:31:14.3±0.5, 41˚.24N±0˚.03×142˚.40E±0˚.05, h47km±5km, mb3.8/12, Error ellipse: s-maj=7.0km s-min=4.0km az=37.5*
NEIC ***06*** *03:31:16.4±0.8, 41˚.25N×142˚.55E, h54km±8km, mb4.0/4, Error ellipse: s-maj=13.1km s-min=7.9km az=119.0*
IDC ***06*** *03:31:17.0±2.0, 41˚.22N×142˚.42E, h60km±19km, mb3.4/8, mb1 3.7/11, mb1mx3.5/25, mbtmp3.5/11, Error ellipse: s-maj=20.6km s-min=12.5km az=108.0*

ISC 06 03:31:15.0±0.5, 41˚.25N±0˚.03×142˚.39E±0˚.05, h37km±6km, n42, σ1§04/54, mb3.8/12, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.96**	**37**	*e*Pn	**Pn**	**03 31 31.2**	**-0.7**
ERM				*e*Sn	**Sn**	**03 31 42.8**	**-1.6**
JEM	**Erimo**	**0.96**	**37**	P	**Pn**	**03 31 31.0**	**-1.0**
JEM				S	**Sn**	**03 31 43.7**	**-0.7**
JOT	**Ohata**	**1.02**	**278**	P	**Pn**	**03 31 31.9**	**-0.8**
JOT				*e*S	**Sn**	**03 31 44.9**	**-0.9**
JNBK	**Urakawa-nobuka**	**1.07**	**15**	P	**Pn**	**03 31 33.0**	**-0.4**
JANG	**Nango**	**1.09**	**217**	⇓P	**Pn**	**03 31 32.9**	**-0.9**
JANG				S	**Sn**	**03 31 47.1**	**-0.6**
JTM	**Tenmabayashi**	**1.10**	**246**	⇓P	**Pn**	**03 31 33.8**	**0.0**
JTM				S	**Sn**	**03 31 48.1**	**+0.3**
JKB	**Kayabe**	**1.20**	**303**	P	**Pn**	**03 31 34.1**	**-1.2**
JKB				S	**Sn**	**03 31 48.9**	**-1.4**
JSR	**Shiriuchi**	**1.51**	**281**	P	**Pn**	**03 31 39.6**	**+0.1**
JSR				S	**Sn**	**03 31 58.6**	**+0.7**
JCH	**Churui**	**1.55**	**28**	P	**Pn**	**03 31 40.4**	**+0.4**
JCH				S	**Sn**	**03 32 00.7**	**+1.8**
JEW	**Eniwo**	**1.74**	**337**	P	**Pn**	**03 31 42.9**	**+0.2**
JEW				S	**Sn**	**03 32 03.5**	**-0.1**
JFR	**Furan**	**1.92**	**5**	P	**Pn**	**03 31 45.7**	**+0.5**
JOM	**Ohasama**	**1.96**	**206**	P	**Pn**	**03 31 45.9**	**+0.2**
JOM				S	**Sn**	**03 32 09.3**	**+0.3**
ASAJ	**Asahikawa**	**2.87**	**3**	P	**Pn**	**03 32 00.2**	**+2.0**
9.3nm,0.3s,baz=202,slow=14,SNR=21							
ASAJ				S	**Sn**	**03 32 34.6**	**+3.1**
2.2nm,0.3s,baz=21,slow=19,SNR=5.3							
ASAJ	**Asahikawa**	**2.87**	**3**	P	**Pn**	**03 32 00.2**	**+2.0**
ASAJ				S	**Sn**	**03 32 34.6**	**+3.1**
MAJO	**Matsushiro**	**5.72**	**216**	*e*Pn	**Pn**	**03 32 39.7**	**+2.4**
14nm,0.6s							
MJAR	**Matsushiro Arr**	**5.72**	**216**	P	**Pn**	**03 32 40.3**	**+3.0**
1.3nm,0.3s,baz=33,slow=12,SNR=8.5							
MJAR	**Matsushiro Arr**	**5.72**	**216**	P	**Pn**	**03 32 40.3**	**+3.0**
KSRS	**Korea Array**	**11.82**	**256**	P	**Pn**	**03 34 05.2**	**+4.2**
0.3nm,0.3s,baz=66,slow=14,SNR=3.2							
KSAR	**Wonju Array Be**	**11.85**	**256**	P	**Pn**	**03 34 05.2**	**+3.7**
SONM	**Songino Array**	**26.31**	**297**	P	**P**	**03 36 48.7**	**+1.7**
0.2nm,0.3s,mb3.1,baz=93,slow=10,SNR=2.9							
SONM	**Songino Array**	**26.31**	**297**	P	**P**	**03 36 48.7**	**+1.7**
ZALV	**Zalesovo Beam**	**39.75**	**309**	P	**P**	**03 38 42.7**	**-1.1**
0.5nm,0.5s,mb3.5,baz=96,slow=8.9,SNR=4.1							
ZALV	**Zalesovo Beam**	**39.75**	**309**	P	**P**	**03 38 42.7**	**-1.1**
MK31	**Makanchi Array**	**42.65**	**298**	*e*P	**P**	**03 39 08.6**	**+0.8**
MKAR	**Makanchi Array**	**42.65**	**298**	P	**P**	**03 39 07.0**	**-0.7**
0.6nm,0.6s,mb3.5,baz=81,slow=9.1,SNR=5.3							
MKAR	**Makanchi Array**	**42.65**	**298**	P	**P**	**03 39 07.0**	**-0.7**
KURK	**Kurchatov**	**44.04**	**305**	P	**P**	**03 39 18.6**	**-0.3**
baz=79,slow=9.0							
KURK	**Kurchatov**	**44.04**	**305**	*e*P	**P**	**03 39 19.7**	**+0.9**
1.3nm,0.5s,mb3.9							
ILAR	**Eielson Array**	**45.57**	**35**	P	**P**	**03 39 30.7**	**-0.1**
1.0nm,0.8s,mb3.8,baz=278,slow=8.2,SNR=15							
ILAR	**Eielson Array**	**45.57**	**35**	P	**P**	**03 39 30.7**	**-0.1**
TKM2	**Tokmak 2**	**48.40**	**295**	*e*P	**P**	**03 39 53.6**	**+0.4**
1.4nm,0.6s,mb4.2							
INK	**Inuvik**	**50.31**	**29**	*e*P	**P**	**03 40 07.4**	**-0.1**
1.0nm,0.5s,mb4.1							
ABKAR	**Akbulak array**	**55.87**	**308**	*e*P	**P**	**03 40 47.8**	**-0.8**
0.4nm,0.6s,mb3.6							
WRA	**Warramunga Arr**	**61.33**	**189**	P	**P**	**03 41 25.4**	**-1.5**
1.0nm,0.4s,mb4.3,baz=5.7,slow=7.0,SNR=37							
WRA	**Warramunga Arr**	**61.33**	**189**	P	**P**	**03 41 25.4**	**-1.5**
AS31	**Alice Springs**	**65.06**	**189**	*e*P	**P**	**03 41 51.3**	**-0.2**
ASAR	**Alice Springs**	**65.06**	**189**	P	**P**	**03 41 50.7**	**-0.8**
0.6nm,0.5s,mb3.9,baz=12,slow=7.2,SNR=12							
ASAR	**Alice Springs**	**65.06**	**189**	P	**P**	**03 41 50.7**	**-0.8**
FINES	**FINESS Array B**	**65.46**	**332**	P	**P**	**03 41 54.7**	**+0.9**
3.1nm,0.9s,mb4.3,baz=63,slow=6.4,SNR=4.0							
FINES	**FINESS Array B**	**65.46**	**332**	P	**P**	**03 41 54.7**	**+0.9**
NVAR	**Mina Array Bea**	**71.90**	**55**	P	**P**	**03 42 34.6**	**+0.4**
0.3nm,0.6s,mb3.4,baz=294,slow=6.8,SNR=3.4							
NVAR	**Mina Array Bea**	**71.90**	**55**	P	**P**	**03 42 34.6**	**+0.4**

ISCJB ***06*** *03:35:03.8±0.6, 39˚.82N±0˚.03×39˚.03E±0˚.04, h2km±8km, Error ellipse: s-maj=5.8km s-min=4.6km az=22.4*
ISK ***06*** *03:35:03.9, 39˚.83N×39˚.09E, h13km, MD2.8*
DDA ***06*** *03:35:03.1, 39˚.82N×39˚.08E, h8km±3km, Md2.8*
CSEM ***06*** *03:35:03.9±0.1, 39˚.82N×39˚.05E, h10km, MD2.8, Error ellipse: s-maj=2.1km s-min=1.7km az=108.0*

ISC 06 03:35:04.3±0.5, 39˚.82N±0˚.03×39˚.05E±0˚.04, h8km±7km, n18, σ0§65/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.24**	**105**	*e*PG	**Pg**	**03 35 09.1**	**-0.1**
EZC				*e*SG	**Sg**	**03 35 12.8**	**+0.3**
EZC	**Erzincan**	**0.24**	**105**	*e*Pg	**Pg**	**03 35 09.1**	**-0.1**
EZC				*e*Sg	**Sg**	**03 35 12.8**	**+0.3**
KEMA	**Kemaliye**	**0.69**	**218**	*i* P	**Pg**	**03 35 17.6**	**-0.1**
KEMA				*i* S	**Sg**	**03 35 26.7**	**0.0**
KEMA	**Kemaliye**	**0.69**	**218**	*i* P	**Pg**	**03 35 17.6**	**-0.1**
KEMA				*i* S	**Sg**	**03 35 26.7**	**0.0**
GUMT	**Gumushane**	**0.72**	**27**	*e*PG	**Pg**	**03 35 18.0**	**-0.3**
GUMT				*e*SG	**Sg**	**03 35 28.1**	**+0.4**
GUMT	**Gumushane**	**0.72**	**27**	*e*Pg	**Pg**	**03 35 18.0**	**-0.3**
GUMT				*e*Sg	**Sg**	**03 35 28.1**	**+0.4**
SUSE	**Susehri**	**0.76**	**301**	*i* P	**Pg**	**03 35 18.3**	**-0.6**
SUSE				*i* S	**Sg**	**03 35 29.4**	**+0.6**
SUSE	**Susehri**	**0.76**	**301**	*i* P	**Pg**	**03 35 18.3**	**-0.6**
SUSE				*i* S	**Sg**	**03 35 29.4**	**+0.7**
PTK	**Pertek**	**0.96**	**164**	*e*PG	**Pg**	**03 35 22.8**	**0.0**
PTK	**Pertek**	**0.96**	**164**	*e*Pg	**Pg**	**03 35 22.8**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.02**	**55**	*e*PG	**Pg**	**03 35 23.3**	**-0.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.02**	**55**	*e*Pg	**Pg**	**03 35 23.3**	**-0.6**
ESPY	**Espiye-Giresun**	**1.13**	**348**	*e*PN	**Pn**	**03 35 25.8**	**-0.5**
ESPY	**Espiye-Giresun**	**1.13**	**348**	*e*Pn	**Pn**	**03 35 25.8**	**-0.6**
MACK	**Trabzon**	**1.25**	**26**	*e*P	**Pn**	**03 35 31.0**	**+2.9**
MACK				*i* S	**Sb**	**03 35 44.1**	**-0.4**
MACK	**Trabzon**	**1.25**	**26**	*e*P	**Pn**	**03 35 31.0**	**+2.9**
MACK				*i* S	**Sb**	**03 35 44.1**	**-0.4**
ELZG	**Elazig**	**1.32**	**182**	*i* P	**Pn**	**03 35 28.6**	**-0.4**
ELZG				*i* S	**Sb**	**03 35 46.5**	**+0.2**
ELZG	**Elazig**	**1.32**	**182**	*i* P	**Pn**	**03 35 28.6**	**-0.4**
ELZG				*i* S	**Sb**	**03 35 46.5**	**+0.2**

IDC ***06*** *03:41:23.5±1.8, 19˚.87S×177˚.48W, h528km±26km, mb3.2/6, mb1 3.5/8, mb1mx3.3/20, mbtmp3.3/8, Error ellipse: s-maj=33.2km s-min=15.9km az=146.0*
ISCJB ***06*** *03:41:24.2±0.9, 19˚.9S±0˚.2×177˚.2W±0˚.1, h580km±13km, mb4.2/8, Error ellipse: s-maj=28.1km s-min=13.5km az=144.4*
NEIC ***06*** *03:41:25.0±0.8, 19˚.89S×177˚.25W, h572km±9km, mb4.5/5, Error ellipse: s-maj=20.7km s-min=11.9km az=148.0*

ISC 06 03:41:24.7±1.0, 19˚.9S±0˚.2×177˚.2W±0˚.1, h572km±13km, n27, σ0§73/28, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.99**	**294**	*e*Pn	**P**	**03 42 56.5**	**+0.7**
AFI	**Afiamalu**	**7.87**	**42**	P	**P**	**03 43 22.1**	**+0.1**
2.7nm,0.3s,baz=215,slow=12,SNR=2.7							
AFI				S	**S**	**03 44 57.2**	**-0.8**
4.9nm,0.3s,baz=240,slow=20,SNR=5.7							
AFI	**Afiamalu**	**7.87**	**42**	P	**P**	**03 43 22.1**	**+0.1**
AFI				S	**S**	**03 44 57.2**	**-0.8**
DZM	**Mont Dzumac**	**15.44**	**259**	*e*P	**P**	**03 44 39.2**	**+1.1**
7.2nm,0.6s							
URZ	**Urewera**	**18.98**	**194**	P	**P**	**03 45 10.2**	**0.0**
2.2nm,0.3s,baz=10,slow=6.2,SNR=13							
URZ	**Urewera**	**18.98**	**194**	*e*P	**P**	**03 45 10.4**	**+0.2**
11nm,0.6s							
CTA	**Charters Tower**	**34.31**	**263**	P	**P**	**03 47 24.5**	**-0.1**
9.7nm,0.5s,mb4.7,baz=91,slow=11,SNR=13							
CTA	**Charters Tower**	**34.31**	**263**	*e*P	**P**	**03 47 24.2**	**-0.4**
6.4nm,0.4s,mb4.6							
CTA	**Charters Tower**	**34.31**	**263**	P	**P**	**03 47 24.5**	**-0.1**
CTAO	**Charters Tower**	**34.31**	**263**	*e*P	**P**	**03 47 24.2**	**-0.4**
9.6nm,0.6s,mb4.6							
PMG	**Port Moresby**	**35.95**	**282**	*e*P	**P**	**03 47 38.2**	**-0.1**
12nm,0.8s,mb4.5							
COEN	**Coen**	**38.31**	**273**	*e*P	**P**	**03 47 57.2**	**-0.4**
48nm,0.7s,mb5.1							
AS31	**Alice Springs**	**45.41**	**256**	*e*P	**P**	**03 48 53.0**	**-0.2**
ASAR	**Alice Springs**	**45.41**	**256**	P	**P**	**03 48 53.1**	**0.0**
4.8nm,0.5s,mb4.3,baz=89,slow=8.3,SNR=114							
ASAR	**Alice Springs**	**45.41**	**256**	P	**P**	**03 48 53.1**	**-0.1**
WB2	**Warramunga Arr**	**45.43**	**261**	*e*P	**P**	**03 48 52.5**	**-1.0**
WRA	**Warramunga Arr**	**45.45**	**261**	P	**P**	**03 48 53.0**	**-0.6**
3.1nm,0.5s,mb4.1,baz=97,slow=8.2,SNR=135							
WRA	**Warramunga Arr**	**45.45**	**261**	P	**P**	**03 48 53.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.87**	**262**	P	**P**	**03 49 55.1**	**-0.2**
1.3nm,0.6s,mb3.5,baz=146,slow=6.8,SNR=14							
FITZ	**Fitzroy Crossi**	**53.87**	**262**	*e*P	**P**	**03 49 55.4**	**+0.1**
2.5nm,0.5s,mb3.8							
FITZ	**Fitzroy Crossi**	**53.87**	**262**	P	**P**	**03 49 55.1**	**-0.2**
TXAR	**Lajitas Array**	**86.08**	**57**	P	**P**	**03 53 11.3**	**+5.6**
0.3nm,0.7s,mb3.0,baz=224,slow=3.5,SNR=3.7							
TXAR	**Lajitas Array**	**86.08**	**57**	P	**P**	**03 53 11.3**	**+5.6**
ILAR	**Eielson Array**	**87.54**	**12**	P	**P**	**03 53 13.9**	**+2.2**
0.2nm,0.9s,baz=215,slow=6.2,SNR=4.0							
ILAR	**Eielson Array**	**87.54**	**12**	P	**P**	**03 53 13.9**	**+2.2**
ULN	**Ulaanbaatar**	**95.39**	**319**	*e*P	**P**	**03 53 47.9**	**-0.4**
0.8nm,0.4s,mb4.2							
BRVK	**Borovoye**	**119.15**	**320**	*e*PKPdf	PKPdf	03 59 09.4	+0.5

ISCJB ***06*** *03:48:15.4±0.5, 38˚.23N±0˚.03×22˚.12E±0˚.03, h16km±4km, Error ellipse: s-maj=5.3km s-min=3.9km az=143.0*
CSEM ***06*** *03:48:15.4±0.2, 38˚.23N×22˚.16E, h11km±1km, ML1.9/4, Error ellipse: s-maj=4.7km s-min=3.4km az=138.0*
ATH ***06*** *03:48:15.5, 38˚.22N×22˚.15E, h25km±1km, MD3.1/7*
THE ***06*** *03:48:16.1, 38˚.25N×22˚.14E, h9km±2km, ML1.9/4, Error ellipse: s-maj=2.8km s-min=0.9km az=281.0*

ISC 06 03:48:15.6±0.5, 38˚.24N±0˚.03×22˚.15E±0˚.03, h16km±3km, n36, σ0§70/63, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.13**	**270**	P	**Pg**	**03 48 19.4**	**+0.1**
LAKA				S	**Sg**	**03 48 21.0**	**-0.8**
LAKA	**Lakka**	**0.13**	**270**	P	**Pg**	**03 48 19.4**	**+0.1**
LAKA				S	**Sg**	**03 48 21.0**	**-0.8**
TRIZ	**Trizonia**	**0.14**	**335**	P	**Pg**	**03 48 18.4**	**-1.0**
TRIZ				S	**Sg**	**03 48 21.0**	**-1.0**
TRIZ	**Trizonia**	**0.14**	**335**	P	**Pg**	**03 48 18.4**	**-1.0**
TRIZ				S	**Sg**	**03 48 21.0**	**-1.0**
KALE	**Kalithea**	**0.15**	**358**	P	**Pg**	**03 48 19.6**	**0.0**
KALE				S	**Sg**	**03 48 22.0**	**-0.3**
KALE	**Kalithea**	**0.15**	**358**	P	**Pg**	**03 48 19.6**	**0.0**
KALE				S	**Sg**	**03 48 22.0**	**-0.3**
DESF	**Desfina**	**0.35**	**60**	P	**Pg**	**03 48 22.5**	**-0.3**
DESF				S	**Sg**	**03 48 28.0**	**+0.3**
DESF	**Desfina**	**0.35**	**60**	P	**Pg**	**03 48 22.5**	**-0.3**
DESF				S	**Sg**	**03 48 28.0**	**+0.3**
RLS	**Riolos of Patr**	**0.57**	**251**	*e*PN	**Pg**	**03 48 27.4**	**+0.6**
RLS				*e*SN	**Sg**	**03 48 35.5**	**+1.2**
RLS	**Riolos of Patr**	**0.57**	**251**	P	**Pg**	**03 48 27.4**	**+0.6**
RLS				S	**Sg**	**03 48 35.6**	**+1.3**
RLS	**Riolos of Patr**	**0.57**	**251**	P	**Pg**	**03 48 27.4**	**+0.6**
RLS				S	**Sg**	**03 48 35.6**	**+1.3**
AXAR	**Agios Charalam**	**0.66**	**37**	P	**Pg**	**03 48 28.6**	**0.0**
AXAR				S	**Sg**	**03 48 38.5**	**+1.1**
AXAR	**Agios Charalam**	**0.66**	**37**	P	**Pg**	**03 48 28.6**	**0.0**
AXAR				S	**Sg**	**03 48 38.5**	**+1.1**
LTK	**Loutraki**	**0.68**	**108**	P	**Pg**	**03 48 29.0**	**0.0**
LTK	**Loutraki**	**0.68**	**108**	P	**Pg**	**03 48 29.0**	**0.0**
EVR	**Evrytania**	**0.73**	**339**	*e*PN	**Pg**	**03 48 30.2**	**+0.4**
EVR				*e*SN	**Sn**	**03 48 41.2**	**-0.9**
EVR	**Evrytania**	**0.73**	**339**	P	**Pg**	**03 48 30.2**	**+0.4**
EVR				S	**Sg**	**03 48 39.6**	**+0.2**
EVR	**Evrytania**	**0.73**	**339**	P	**Pg**	**03 48 30.2**	**+0.4**
EVR				S	**Sg**	**03 48 39.6**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.77**	**359**	P	**Pg**	**03 48 30.5**	**-0.2**
MAKR				S	**Sg**	**03 48 42.2**	**+1.3**
MAKR	**Makrakomi, Fth**	**0.77**	**359**	P	**Pg**	**03 48 30.5**	**-0.2**
MAKR				S	**Sg**	**03 48 42.2**	**+1.3**
LKR	**Lokris**	**0.79**	**58**	*e*PB	**Pb**	**03 48 30.5**	**-0.4**
LKR	**Lokris**	**0.79**	**58**	P	**Pb**	**03 48 30.6**	**-0.3**
LKR	**Lokris**	**0.79**	**58**	P	**Pb**	**03 48 30.6**	**-0.3**
AGG	**Agios Georgios**	**0.79**	**10**	*e*PN	**Pn**	**03 48 31.2**	**-1.0**
AGG				*e*SN	**Sn**	**03 48 42.7**	**-1.0**
AGG	**Agios Georgios**	**0.79**	**10**	P	**Pb**	**03 48 30.6**	**-0.5**
AGG				S	**Sb**	**03 48 42.2**	**+0.6**
AGG	**Agios Georgios**	**0.79**	**10**	P	**Pb**	**03 48 30.6**	**-0.5**
AGG	**Agios Georgios**	**0.79**	**10**	*e*Pn	**Pn**	**03 48 31.2**	**-1.0**
AGG				S	**Sb**	**03 48 42.2**	**+0.6**
AGG				*e*Sn	**Sn**	**03 48 42.6**	**-1.1**
ATAL	**Atalanti**	**0.82**	**56**	P	**Pb**	**03 48 31.1**	**-0.5**
ATAL				S	**Sb**	**03 48 43.4**	**+1.0**
ATAL	**Atalanti**	**0.82**	**56**	P	**Pb**	**03 48 31.1**	**-0.5**
ATAL				S	**Sb**	**03 48 43.4**	**+1.0**
VIL1	**Vilia, Western**	**0.93**	**94**	*e*PN	**Pn**	**03 48 33.8**	**-0.3**
VIL1				*e*SN	**Sn**	**03 48 46.8**	**-0.3**
ITM	**Ithomi**	**1.07**	**189**	*e*PN	**Pn**	**03 48 35.7**	**-0.3**
ITM				*e*SN	**Sn**	**03 48 50.5**	**-0.1**
ITM	**Ithomi**	**1.07**	**189**	*e*Pn	**Pn**	**03 48 35.7**	**-0.3**
ITM				*e*Sn	**Sn**	**03 48 50.5**	**-0.1**
VLS	**Valsamata**	**1.23**	**268**	*e*PN	**Pn**	**03 48 39.2**	**+1.0**
VLS	**Valsamata**	**1.23**	**268**	*e*Pn	**Pn**	**03 48 39.2**	**+1.0**
NEO	**Neokhori**	**1.36**	**38**	*e*PN	**Pn**	**03 48 41.0**	**+1.1**
NEO	**Neokhori**	**1.36**	**38**	*e*Pn	**Pn**	**03 48 41.0**	**+1.1**

NNC ***06*** *04:14:58.7±2.7, 37˚.18N×69˚.04E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=24.9km s-min=20.8km az=106.0*

ISC 06 04:14:55.2±2.2, 36˚.8N±0˚.1×69˚.0E±0˚.1, h10km, n9, σ1§14/12, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.44**	**10**	⇑Pn	**Pn**	**04 16 32.0**	**+2.0**
0.7nm,0.2s,baz=200,slow=15,SNR=41							
KK31				⇑Sn	**Sn**	**04 17 45.1**	**+1.6**
1.1nm,0.4s,baz=190,slow=23,SNR=6.5							
AML	**Almayashu**	**6.48**	**33**	P	**Pn**	**04 16 30.9**	**+0.4**
SNR=14							
AML				P		04 16 30.9	
SNR=14							
EKS2	**Erkin-Say**	**6.95**	**31**	P	**Pn**	**04 16 37.5**	**+0.5**
SNR=10							
EKS2				P		04 16 37.5	
SNR=10							
AAK	**Ala-Archa**	**7.24**	**34**	P	**Pn**	**04 16 41.2**	**+0.3**
SNR=5.3							
AAK				P		04 16 41.2	
SNR=5.3							

CHMS	**Chumysh**	**7.64**	**34**	P	**Pn**	**04 16 46.3**	**-0.2**
SNR=5.1							
CHMS				P		04 16 46.3	
SNR=5.1							
USP	**Ospenovka**	**7.75**	**31**	P	**Pn**	**04 16 47.2**	**-0.8**
SNR=8.3							
USP				P		04 16 47.2	
SNR=8.3							
TKM2	**Tokmak 2**	**7.98**	**38**	P	**Pn**	**04 16 50.2**	**-0.9**
SNR=10							
TKM2				P		04 16 50.2	
SNR=10							
TKM2	**Tokmak 2**	**7.98**	**38**	⇓Pn	**Pn**	**04 16 49.8**	**-1.3**
3.4nm,0.5s							
TKM2				⇓Sn	**Sn**	**04 18 20.2**	**-1.1**
2.7nm,1.1s							
AB31	**Akbulak array**	**14.11**	**335**	Pn	**Pn**	**04 18 15.1**	**+0.1**
0.5nm,0.4s,baz=243,slow=32,SNR=20							
AB31				⇑Sn	**Sn**	**04 20 49.1**	**-2.5**
1.4nm,0.9s,baz=162,slow=22,SNR=3.5							

BJI ***06*** *04:18:37.9, 33˚.82N×117˚.05W, h10km, mB5.5/15, mb5.0/14, Ms5.2/10, Ms7 4.8/10*
ISCJB ***06*** *04:18:41.8±0.1, 34˚.766N±0˚.009×116˚.38W±0˚.01, h10km, mb4.8/96, MS4.6/33, Error ellipse: s-maj=1.4km s-min=1.2km az=32.6*
IDC ***06*** *04:18:42.9±0.6, 34˚.92N×116˚.24W, h0km, mb4.5/27, mb1 4.6/32, mb1mx4.6/34, mbtmp4.5/32, ML4.2/4, MS4.5/30, Ms1 4.5/30, ms1mx4.5/33, Error ellipse: s-maj=14.8km s-min=8.2km az=53.0*
NEIC ***06*** *04:18:42.9, 34˚.81N×116˚.42W, h7km, mb5.0/72, MW5.1(PAS), MW5.0(SLM), After PAS.*
NEIC Felt [IV] at Newberry Springs and [III] at Acton, Adelanto, Angelus Oaks, Apple Valley, Beverly Hills, Big Bear Lake, Blue Jay, Buena Park, Culver City, Fontana, Fort Irwin, Hesperia, Huntington Beach, Irvine, Joshua Tree, Lake Arrowhead, Landers, Littlerock, Los Angeles, Lucerne Valley, Morongo Valley, Phelan, San Diego, Thousand Palms, Twentynine Palms, Valley Village, Victorville and Whittier. Also felt [III] at Lake Havasu City, Arizona and at Las Vegas, Nevada. Felt from Camarillo, California to Kingman, Arizona and from Pahrump, Nevada and Ridgecrest, California as far south as El Centro and San Diego. Preliminary studies indicate that this earthquake is associated with the Lavic Lake Fault and it is considered to be an aftershock of the Hector Mine earthquake of 16 October 1999.
MOS ***06*** *04:18:42.2±1.1, 34˚.79N×116˚.40W, h11km, mb5.0/44, Error ellipse: s-maj=5.1km s-min=4.0km az=89.6*
GCMT ***06*** *04:18:45.5±0.2, 34˚.83N×116˚.39W, h12km, MW5.1, Moment Tensor Solution. s51,c79; s98,c172; Moment tensor: Scale 10^16Nm; Mrr-0.32±.12; Mθθ-3.31±.12; Mφφ3.63±.12; Mrθ-0.50±.31; Mrφ5.02±.10; Mθφ-1.00±.33; Best double couple: M0=6.20000×10^16 NP1:φs=253.00000°, δ83.00000°, λ6.00000°. NP2:φs=162.00000°, δ84.00000°, λ173.00000°. Principal axes: T 6.4500, Plg9.0000°, Azm118.0000°; N -0.5100, Plg81.0000°, Azm299.0000°; P -5.9400, Plg0.0000°, Azm208.0000°; Data Used: II IU IC G CN.*

ISC 06 04:18:43.4±0.1, 34˚.716N±0˚.009×116˚.45W±0˚.01, h10km, n887, σ1§14/930, mb4.8/96, MS4.6/33, 221C-208D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.15**	**42**	⇓P	**Pg**	**04 18 44.4**	**-2.4**
baz=0.1,SNR=1000							
RRX	**Edison Barstow**	**0.48**	**290**	P	**Pg**	**04 18 51.9**	**-0.9**
baz=0.5,SNR=1000							
RRX				⇓S	**Sg**	**04 18 58.2**	**-0.8**
baz=0.5							
BBRC	**Big Bear Solar**	**0.59**	**221**	⇑P	**P

OSI			*e*Sn	Sn	04 19 38.8	-0.3
OSI			*e*Sg	Sg	04 19 42.4	-1.2
109C	**Camp Elliot, M**	**1.90 197**	⇑P	Pn	04 19 16.0	+0.1
	baz=2.0,SNR=284					
ISA	**Isabella**	**1.91 300**	P	Pn	04 19 13.9	-2.0
	baz=1.9,SNR=451					
ISA	**Isabella**	**1.91 300**	*e*Pn	Pn	04 19 14.0	-1.9
ISA			*e*Sg	Sg	04 19 40.5	-4.2
ISA	**Isabella**	**1.91 300**	*e*P	Pn	04 19 14.0	-1.9
ISA			*e*		04 19 40.5	
ARVC	**Arvin**	**1.99 283**	⇑P	Pn	04 19 15.4	-1.7
	baz=2.0					
BAR	**Barrett**	**2.04 185**	*e*Pn	Pn	04 19 17.8	+0.1
BAR			*e*Pg	Pg	04 19 21.3	-1.2
BAR			*e*Sg	Sg	04 19 49.4	+0.5
DVTC	**Desert V Tower**	**2.07 172**	⇓P	Pn	04 19 17.5	-0.7
	baz=2.2,SNR=84					
DVTC			⇓Sb	Sb	04 19 50.8	+3.9
	baz=2.2					
CIS	**Catalina Islan**	**2.08 232**	⇓P	Pn	04 19 18.0	-0.3
	baz=2.2,SNR=117					
CIS			⇓Sb	Sb	04 19 50.0	+3.0
	baz=2.2					
GLA	**Glamis**	**2.14 140**	P	Pn	04 19 17.4	-1.8
	baz=2.2,SNR=358					
GLA	**Glamis**	**2.14 140**	*e*Pn	Pn	04 19 17.4	-1.8
GLA			*e*Pg	Pg	04 19 23.1	-1.4
GLA			*e*Sn	Sn	04 19 45.9	+0.2
GLA			*e*Sg	Sg	04 19 52.3	+0.1
GLA	**Glamis**	**2.14 140**	*e*P	Pn	04 19 17.4	-1.8
GLA			*e*		04 19 45.9	
W13A	**Hualapai Mount**	**2.15 79**	P	Pn	04 19 16.9	-2.3
	baz=2.1,SNR=1000					
W13A			⇓Sb	Sb	04 19 48.4	-0.6
	baz=2.1					
CWC	**Cottonwood Cre**	**2.17 323**	⇑P	Pn	04 19 17.7	-1.9
	baz=2.1,SNR=64					
CWC			⇑Sb	Sb	04 19 49.0	-0.7
	baz=2.1					
BLG	**Laguna Peak**	**2.24 255**	⇑P	Pn	04 19 19.7	-0.9
	baz=2.3,SNR=183					
BLG			⇓Sb	Sb	04 19 54.2	+2.4
	baz=2.3					
GRAC	**Grapevine Rang**	**2.40 342**	P	Pn	04 19 20.8	-1.9
	baz=2.3,SNR=405					
GRAC			⇑Sb	Sb	04 19 54.9	-1.3
	baz=2.3					
VES	**Vestal, Richgr**	**2.43 298**	P	Pn	04 19 21.6	-1.5
	baz=2.4,SNR=525					
SCI	**San Clemente I**	**2.46 226**	⇓P	Pn	04 19 23.4	-0.1
	baz=2.5,SNR=54					
SBC	**Santa Barbara**	**2.71 265**	⇓P	Pn	04 19 26.2	-0.7
	baz=2.7					
BSC	**Santa Cruz Isl**	**2.73 256**	⇓P	Pn	04 19 26.1	-1.1
	baz=2.8,SNR=25					
TIN	**Tinemaha**	**2.74 329**	⇓P	Pn	04 19 25.9	-1.5
	baz=2.7,SNR=24					
Z13A	**Yuma Proving G**	**2.77 122**	⇓P	Pn	04 19 25.8	-2.0
	baz=2.8,SNR=1000					
RCTC	**Rector, Farmer**	**2.77 306**	⇓P	Pn	04 19 26.5	-1.3
	baz=2.7,SNR=14					
PKM	**Peak Mountain**	**2.77 275**	⇑P	Pn	04 19 27.0	-0.9
	baz=2.8,SNR=67					
Y14A	**Wickenburg**	**2.96 104**	⇑P	Pn	04 19 28.3	-2.1
	baz=3.0,SNR=344					
113A	**Mohawk Valley,**	**2.96 130**	P	Pn	04 19 28.0	-2.5
	baz=3.0,SNR=205					
SMMC	**Simmler**	**2.97 283**	⇑P	Pn	04 19 28.8	-1.8
	baz=3.0,SNR=79					
MTUM	**Tungsten Hills**	**3.14 328**	*e*Pn	Pn	04 19 31.5	-1.4
Z14A	**Wintersburg**	**3.21 114**	P	Pn	04 19 32.1	-1.8
	baz=3.2,SNR=699					
PTRM	**Twissleman Ran**	**3.22 288**	*e*Pn	Pn	04 19 32.0	-2.0
MLAC	**Mammoth Lakes**	**3.49 327**	⇑P	Pn	04 19 36.9	-0.8
	baz=3.4,SNR=35					
114A	**Black Gap (USA**	**3.56 122**	P	Pn	04 19 36.7	-2.0
	baz=3.6,SNR=221					
R11A	**Troy Canyon, C**	**3.69 11**	⇑P	Pn	04 19 37.9	-2.6
	baz=3.6,SNR=37					
SPIG	**San Pedro Mart**	**3.75 167**	P	Pn	04 19 44.8	+3.4
SPIG			S	Sg	04 20 36.6	-7.4
CCUT	**Cedar City**	**3.78 41**	*e*Pn	Pn	04 19 40.2	-1.4
CCUT			*e*Pg	Pg	04 19 50.7	-5.0
CCUT			*e*Sg	Sg	04 20 36.9	-7.7
U15A	**North Rim**	**3.80 62**	P	Pn	04 19 40.6	-1.3
	baz=3.7,SNR=947					
ARUT	**Antelope Range**	**3.92 38**	*e*Pn	Pn	04 19 41.7	-1.8
ARUT			*e*Pg	Pg	04 19 53.2	-5.2
ARUT	**Antelope Range**	**3.92 38**	*e*P	Pn	04 19 41.7	-1.8
NVAR	**Mina Array Bea**	**3.99 339**	Pn	Pn	04 19 43.4	-1.2
	21nm,0.3s,baz=164,slow=15,SNR=335					
NVAR			Pg	Pg	04 19 55.2	-4.7
	124nm,0.3s,baz=156,slow=18,SNR=66					
NVAR			Lg		04 20 45.1	
	52nm,0.3s,baz=137,slow=24,SNR=2.5					
NVAR			LR	LR	04 21 09.4	
	comp=Z,2μm,21.5s,baz=213,slow=38					
NVAR	**Mina Array Bea**	**3.99 339**	Pn	Pn	04 19 43.4	-1.2
NVAR			Pg	Pg	04 19 55.2	-4.7
NVAR			Lg		04 20 45.1	
R13A	**O'Grain Ranch,**	**4.00 29**	P	Pn	04 19 43.3	-1.3
	baz=3.9,SNR=238					
214A	**Organ Pipe Nat**	**4.11 131**	⇓P	Pn	04 19 44.0	-2.2
	baz=4.2,SNR=145					
X16A	**Lo Mia Camp, P**	**4.15 93**	P	Pn	04 19 45.4	-1.3
	baz=4.1,SNR=383					
WUAZ	**Wupatki**	**4.24 78**	⇓P	Pn	04 19 46.9	-1.1
	baz=4.2					
WUAZ	**Wupatki**	**4.24 78**	*e*Pn	Pn	04 19 46.6	-1.4
WUAZ			*e*Pg	Pg	04 19 59.8	-4.8
WUAZ			*e*Sg	Sg	04 20 50.5	-9.0
GVA	**Apache Junctio**	**4.25 106**	Pn	Pn	04 19 47.9	-0.3
SAO	**San Andreas Ge**	**4.55 298**	*e*Pn	Pn	04 19 51.0	-1.2
SAO			*e*Sg	Sg	04 21 01.8	-7.5
SAO	**San Andreas Ge**	**4.55 298**	*e*P	Pn	04 19 51.0	-1.2
U16A	**Tuba City**	**4.57 70**	⇑P	Pn	04 19 51.8	-0.8
	baz=4.5					
CMB	**Columbia Colle**	**4.59 317**	*e*Pn	Pn	04 19 52.5	-0.2
CMB			*e*Pg	Pg	04 20 04.8	-6.4
CMB			*e*Sg	Sg	04 20 59.9	-11
CMB	**Columbia Colle**	**4.59 317**	*e*P	Pn	04 19 52.5	-0.3
X17A	**Forest Lakes**	**4.68 93**	⇓P	Pn	04 19 53.3	-0.7
	baz=4.6					
V17A	**Tonalea, Kykot**	**4.72 77**	⇓P	Pn	04 19 54.2	-0.4
	baz=4.7					
W17A	**Winslow**	**4.73 84**	⇓P	Pn	04 19 53.6	-1.2
	baz=4.7					
Y17A	**Roosevelt**	**4.76 101**	⇑P	Pn	04 19 53.7	-1.5
	baz=4.7,SNR=246					
R15A	**Junction**	**4.85 43**	⇑P	Pn	04 19 55.6	-0.8
	baz=4.8					
S16A	**Weppner Ranch,**	**4.94 51**	⇓P	Pn	04 19 56.9	-0.8
	baz=4.9					
216A	**Three Points,**	**4.98 122**	⇓P	Pn	04 19 56.3	-1.9
	baz=5.0,SNR=24					
U17A	**Shonto**	**5.08 67**	⇓P	Pn	04 19 58.9	-0.6
	baz=5.0					
MSU	**Marysvale**	**5.12 41**	*e*Pn	Pn	04 19 59.3	-0.7
MSU	**Marysvale**	**5.12 41**	*e*P	Pn	04 19 59.3	-0.8
T17A	**Navajo Res., N**	**5.12 62**	⇓P	Pn	04 19 59.5	-0.6
	baz=5.0					
Z17A	**San Carlos Hig**	**5.17 104**	P	Pn	04 19 59.5	-1.2
	baz=5.2,SNR=238					
WCN	**Washoe City**	**5.28 331**	⇓P	Pn	04 20 02.0	-0.4
	baz=5.2,SNR=28					
WCN	**Washoe City**	**5.28 331**	*e*Pn	Pn	04 20 02.2	-0.2
WCN			*e*Pg	Pg	04 20 19.8	-4.8
WCN			*e*Sg	Sg	04 21 18.2	-15
WCN	**Washoe City**	**5.28 331**	*e*P	Pn	04 20 02.2	-0.2
TUC	**Tucson**	**5.31 115**	*e*Pn	Pn	04 20 00.3	-2.4
TUC			*e*Sg	Sg	04 21 27.0	-6.9
TUC	**Tucson**	**5.31 115**	*e*P	Pn	04 20 00.3	-2.4
R16A	**Teasdale**	**5.36 47**	⇑P	Pn	04 20 02.8	-0.6
	baz=5.3					
X18A	**Snowflake**	**5.37 90**	⇓P	Pn	04 20 03.0	-0.5
	baz=5.3					
Y18A	**Canyon Day Jun**	**5.40 98**	⇓P	Pn	04 20 03.1	-0.9
	baz=5.4,SNR=84					
S17A	**Black Ridge (B**	**5.42 56**	⇓P	Pn	04 20 03.7	-0.5
	baz=5.3					
V18A	**Ganado**	**5.43 78**	⇑P	Pn	04 20 04.4	+0.1
	baz=5.4					
W18A	**Petrified Fore**	**5.53 84**	⇑P	Pn	04 20 05.2	-0.6
	baz=5.5					
217A	**Green Valley**	**5.56 120**	⇓P	Pn	04 20 04.4	-1.8
	baz=5.6,SNR=53					
Z18A	**Geronimo**	**5.58 105**	⇓P	Pn	04 20 05.4	-1.0
	baz=5.6,SNR=28					
SAC	**San Andreas**	**5.61 302**	*e*Pn	Pn	04 20 04.8	-2.0
SAC			*e*Sg	Sg	04 21 35.0	-8.4
SAC	**San Andreas**	**5.61 302**	*e*P	Pn	04 20 04.8	-2.0
U18A	**Rough Rock, Ch**	**5.63 71**	⇓P	Pn	04 20 07.0	-0.1
	baz=5.6					
BMN	**Battle Mountai**	**5.74 354**	*e*Pn	Pn	04 20 07.7	-0.8
BMN			*e*Pg	Pg	04 20 28.1	-5.2
BMN			*e*Sg	Sg	04 21 41.1	-6.4
BMN	**Battle Mountai**	**5.74 354**	*e*P	Pn	04 20 07.7	-0.9
118A	**Homack Ranch,**	**5.79 109**	⇑P	Pn	04 20 08.3	-1.0
	baz=5.8					
W19A	**Sanders**	**5.82 84**	⇓P	Pn	04 20 11.0	+1.3
	baz=5.8					
T18A	**Mexican Hat**	**5.86 64**	⇑P	Pn	04 20 09.9	-0.3
	baz=5.8					
P15A	**Leamington**	**5.88 33**	⇑P	Pn	04 20 09.1	-1.4
	baz=5.8					
R17A	**Hanksville Air**	**5.92 50**	⇑P	Pn	04 20 10.5	-0.6
	baz=5.8					
X19A	**St. Johns**	**5.92 91**	⇑P	Pn	04 20 10.7	-0.4
	baz=5.9					
Q16A	**Castle Valley**	**5.96 44**	⇑P	Pn	04 20 11.2	-0.4
	baz=5.9					
Y19A	**Nutrioso**	**6.00 95**	⇓P	Pn	04 20 12.2	-0.1
	baz=6.0,SNR=38					
S18A	**Hurst Farm, Bl**	**6.01 59**	⇓P	Pn	04 20 11.0	-1.3
	baz=5.9					
BEKR	**Beckworth**	**6.01 330**	⇑P	Pn	04 20 12.0	-0.3
	baz=5.9					
218A	**Dragoon**	**6.02 115**	⇑P	Pn	04 20 11.2	-1.2
	baz=6.0					
U19A	**Dine' College,**	**6.12 73**	⇑P	Pn	04 20 13.3	-0.5
	baz=6.1					
OHCM	**Honcut**	**6.12 320**	*e*Pn	Pn	04 20 14.9	+1.0
Z19A	**T-Link Ranch,**	**6.14 101**	⇓P	Pn	04 20 13.4	-0.7
	baz=6.1,SNR=39					
V19A	**Window Rock**	**6.15 79**	⇓P	Pn	04 20 14.4	+0.2
	baz=6.1					
DUG	**Dugway**	**6.19 27**	⇓P	Pn	04 20 13.2	-1.6
	baz=6.1					
DUG	**Dugway**	**6.19 27**	*e*Pn	Pn	04 20 13.3	-1.4
DUG			*e*Pg	Pg	04 20 35.1	-6.8
DUG			*e*Sg	Sg	04 21 52.5	-9.5
DUG	**Dugway**	**6.19 27**	*e*P	Pn	04 20 13.3	-1.5
P16A	**Fountain Green**	**6.20 37**	⇑P	Pn	04 20 14.8	-0.2
	baz=6.1					
TMUT	**Trail Mountain**	**6.21 41**	*e*Pn	Pn	04 20 15.2	+0.2
MCCM	**Marconi Confer**	**6.21 305**	*e*Pn	Pn	04 20 13.2	-1.9
119A	**Ashpeak Ranch,**	**6.27 106**	⇓P	Pn	04 20 15.0	-0.9
	baz=6.3,SNR=100					
318A	**Bisbee**	**6.33 119**	⇑P	Pn	04 20 15.5	-1.3
	baz=6.4,SNR=199					
O15A	**The Old Anders**	**6.39 29**	⇓P	Pn	04 20 16.3	-1.2
	baz=6.3					
T19A	**Beclabito**	**6.40 69**	⇑P	Pn	04 20 16.9	-0.7
	baz=6.3					
R18A	**Canyonlands Na**	**6.42 53**	⇑P	Pn	04 20 16.8	-1.2
	baz=6.3					
SRU	**San Rafael**	**6.46 46**	*e*Pn	Pn	04 20 20.3	+1.7
SRU	**San Rafael**	**6.46 46**	*e*P	Pn	04 20 20.3	+1.7
MPU	**Maple Canyon**	**6.53 35**	*e*Pn	Pn	04 20 19.4	-0.1
MPU			*e*Pg	Pg	04 20 42.0	-6.5
MPU			*e*Sg	Sg	04 22 07.9	-5.2
W20A	**Ramah**	**6.55 84**	⇓P	Pn	04 20 19.8	0.0
	baz=6.5					
X20A	**Quemado**	**6.56 89**	⇓P	Pn	04 20 19.9	-0.1
	baz=6.5					
P17A	**Butcher Ranch,**	**6.59 42**	⇓P	Pn	04 20 19.9	-0.3
	baz=6.5					
219A	**White Tail Can**	**6.60 112**	⇑P	Pn	04 20 19.2	-1.3
	baz=6.6,SNR=169					
V20A	**Brimhall**	**6.62 78**	⇓P	Pn	04 20 21.7	+1.0
	baz=6.6					
S19A	**Harvey Farm, M**	**6.64 61**	⇑P	Pn	04 20 20.3	-0.7
	baz=6.6					
U20A	**Newcomb**	**6.68 73**	⇑P	Pn	04 20 20.6	-0.9
	baz=6.6					
Q18A	**Rafter H Ranch**	**6.69 47**	⇑P	Pn	04 20 21.3	-0.4
	baz=6.6					
Z20A	**Nine Sixteen R**	**6.73 102**	⇑P	Pn	04 20 21.5	-0.7
	baz=6.7,SNR=58					
Y20A	**Horse Springs,**	**6.73 95**	⇑P	Pn	04 20 22.2	0.0
	baz=6.7,SNR=36					
O16A	**Springville**	**6.75 34**	⇓P	Pn	04 20 22.0	-0.5
	baz=6.7					
R19A	**Curley Farm, L**	**6.80 56**	⇓P	Pn	04 20 22.4	-0.8
	baz=6.7					
HOPS	**Hopland**	**6.81 311**	*e*Pn	Pn	04 20 22.8	-0.5
NOQ	**North Oquirrh**	**6.85 29**	*e*Pn	Pn	04 20 25.0	+1.1
NOQ			*e*Pg	Pg	04 20 49.4	-5.1
NOQ			*e*Sg	Sg	04 22 15.1	-8.1
120A	**U Bar Ranch, L**	**6.87 106**	⇑P	Pn	04 20 23.3	-0.9
	baz=6.9,SNR=118					
319A	**Douglas**	**6.88 117**	⇓P	Pn	04 20 23.4	-0.9
	baz=6.9					
N15A	**Stansbury Isla**	**6.90 26**	⇓P	Pn	04 20 23.9	-0.7
	baz=6.8					
MVCO	**Mesa Verde**	**6.91 67**	⇑P	Pn	04 20 24.3	-0.5
	baz=6.8					
MVCO	**Mesa Verde**	**6.91 67**	*e*Pn	Pn	04 20 24.4	-0.4
MVCO			*e*Pg	Pg	04 20 49.2	-6.6
MVCO			*e*Sg	Sg	04 22 17.9	-7.3
P18A	**Preston Nutter**	**6.97 43**	⇑P	Pn	04 20 26.7	+1.2
	baz=6.9					
DAU	**Daniels Canyon**	**7.03 34**	*e*Pn	Pn	04 20 27.8	+1.5
DAU			*e*Pg	Pg	04 20 51.2	-6.7
DAU	**Daniels Canyon**	**7.03 34**	*e*P	Pn	04 20 27.8	+1.5
CTU	**Camp Tracy**	**7.03 31**	*e*Pn	Pn	04 20 28.1	+1.7
CTU			*e*Pg	Pg	04 20 52.0	-6.1
JLU	**Jordanelle**	**7.09 33**	*e*Pn	Pn	04 20 28.4	+1.2
JLU			*e*Pg	Pg	04 20 53.0	-6.1
PV04	**Paradox Valley**	**7.10 57**	*e*Pn	Pn	04 20 26.9	-0.3
PV04			*e*Pg	Pg	04 20 51.9	-7.4
PV04			*e*Sg	Sg	04 22 21.6	-10
O17A	**Robinson Place**	**7.11 38**	⇓P	Pn	04 20 28.2	+0.8
	baz=7.0					
Q19A	**Hogan Spring (**	**7.15 52**	⇓P	Pn	04 20 26.9	-1.1
	baz=7.1					
X21A	**Alamocita Cree**	**7.16 90**	⇑P	Pn	04 20 28.3	+0.3
	baz=7.1					
220A	**Playas Peak, P**	**7.20 111**	⇑P	Pn	04 20 27.7	-1.0
	baz=7.2					
PV01	**Paradox Valley**	**7.21 59**	*e*Pn	Pn	04 20 28.0	-0.8
	165nm,0.8s					
S20A	**Disappointment**	**7.24 62**	⇑P	Pn	04 20 28.7	-0.5
	baz=7.2					
W21A	**San Fidel**	**7.25 84**	⇓P	Pn	04 20 29.5	+0.2
	baz=7.2					
V21A	**Milan**	**7.29 79**	⇓P	Pn	04 20 28.5	-1.5
	baz=7.2					
Y21A	**Point of Rocks**	**7.29 93**	⇓P	Pn	04 20 30.2	+0.2
	baz=7.3,SNR=16					
N16A	**Rees Ranch, Co**	**7.33 31**	⇓P	Pn	04 20 31.9	+1.5
	baz=7.2					
U21A	**Nageezi**	**7.37 74**	⇑P	Pn	04 20 31.4	+0.4
	baz=7.3					
R20A	**Redvale**	**7.37 60**	⇑P	Pn	04 20 30.8	-0.2
	baz=7.3					
Z21A	**St. Cloud Mine**	**7.43 98**	⇑P	Pn	04 20 31.5	-0.3
	baz=7.4,SNR=91					
M15A	**Larsen Ranch,**	**7.44 24**	⇑P	Pn	04 20 31.3	-0.6
	baz=7.3					
320A	**Kipp Ranch, An**	**7.46 115**	⇓P	Pn	04 20 31.8	-0.4
	baz=7.5					
O18A	**Roosevelt**	**7.54 41**	⇓P	Pn	04 20 35.4	+2.0
	baz=7.5					
KCPM	**Cahto Peak**	**7.55 313**	*e*Pn	Pn	04 20 33.7	+0.3
121A	**Cookes Peak, D**	**7.55 104**	⇓P	Pn	04 20 33.1	-0.4
	baz=7.5,SNR=85					
KIPM	**Iron Peak**	**7.56 314**	*e*Pn	Pn	04 20 34.1	+0.4
	189nm,1.2s					
WDC	**Whiskeytown Da**	**7.59 322**	*e*Pn	Pn	04 20 37.5	+3.5
WDC			*e*Pg	Pg	04 21 02.5	-6.1
WDC			*e*Sg	Sg	04 22 39.1	-7.7
WDC	**Whiskeytown Da**	**7.59 322**	*e*P	Pn	04 20 37.5	+3.5
T21A	**Navajo Lake**	**7.59 70**	⇓P	Pn	04 20 34.0	0.0
	baz=7.5					
S21A	**Coal Bank Pass**	**7.59 65**	⇓P	Pn	04 20 34.1	0.0
	baz=7.5					
M16A	**Huntsville**	**7.61 29**	⇑P	Pn	04 20 34.5	+0.3
	baz=7.5					
HVU	**Hansel Valley**	**7.62 21**	*e*Pn	Pn	04 20 33.8	-0.6
HVU			*e*Pg	Pg	04 21 02.3	-7.0
HVU			*e*Sg	Sg	04 22 39.0	-8.9
HVU	**Hansel Valley**	**7.62 21**	*e*P	Pn	04 20 33.8	-0.6
N17A	**Moffit Pass**	**7.64 34**	⇓P	Pn	04 20 36.1	+1.4
	baz=7.5					
LAZ	**Ladron**	**7.69 90**	*e*Pn	Pn	04 20 36.0	+0.5
	79nm,0.9s					
LAZ			*e*Pg	Pg	04 21 05.2	-5.5
LAZ			*e*Sg	Sg	04 22 41.0	-9.2
P19A	**Cripple Cowboy**	**7.72 48**	⇑P	Pn	04 20 35.6	-0.2
	baz=7.6					
L14A	**Malta**	**7.73 18**	⇑P	Pn	04 20 35.1	-0.8
	baz=7.6					
221A	**Mesquite Ranch**	**7.74 108**	⇑P	Pn	04 20 35.7	-0.5
	baz=7.7,SNR=18					
MOD	**Modoc**	**7.79 338**	*e*Pn	Pn	04 20 39.9	+3.2
MOD			*e*Pg	Pn	04 21 07.4	+31
Q20A	**Ridgley Place,**	**7.79 55**	⇑P	Pn	04 20 35.9	-0.9
	baz=7.7					
X22A	**Bernardo**	**7.79 89**	⇓P	Pn	04 20 36.8	0.0
	baz=7.7					
LENM	**Lemitar**	**7.85 91**	*e*Pn	Pn	04 20 39.6	+2.0
LENM			*e*Pg	Pn	04 21 09.6	+32
LENM			*e*Sg	Sn	04 22 50.6	+44
HWUT	**Hardware Ranch**	**7.88 28**	*e*Pn	Pn	04 20 38.6	+0.6
	346nm,0.9s					
HWUT			*e*Pg	Pn	04 21 04.7	+27
HWUT			*e*Sg	Sn	04 22 44.9	+38
W22A	**Albuquerque**	**7.88 85**	⇑P	Pn	04 20 38.2	+0.1
	baz=7.8					
Y22A	**Socorro**	**7.89 93**	⇑P	Pn	04 20 38.1	0.0
	baz=7.9					
V22A	**San Miguel Ran**	**7.89 79**	⇑P	Pn	04 20 38.3	+0.2
	baz=7.8					
WVOR	**Wild Horse Val**	**7.89 348**	*e*Pn	Pn	04 20 38.4	+0.3
	180nm,1.0s					
WVOR			*e*Pg	Pn	04 21 07.5	+29
WVOR			*e*Sg	Sn	04 22 49.2	+42
WVOR	**Wild Horse Val**	**7.89 348**	*e*P	Pn	04 20 38.4	+0.2
WVOR			pmax	pmax		
	comp=Z,180nm,1.0s					
Y22D	**IRIS PASSCAL I**	**7.91 92**	⇓P	Pn	04 20 38.6	+0.2
	baz=7.9					
L15A	**Malad City**	**7.95 22**	⇑P	Pn	04 20 38.1	-0.8
	baz=7.9					
U22A	**Llaves**	**8.00 75**	⇓P	Pn	04 20 39.9	+0.3
	baz=7.9					
P20A	**De Beque**	**8.02 51**	⇑P	Pn	04 20 39.5	-0.3
	baz=7.9					
Z22A	**Elephant Butte**	**8.02 98**	P	Pn	04 20 39.6	-0.2
	baz=8.0,SNR=37					
R21A	**Cimarron**	**8.04 60**	⇓P	Pn	04 20 39.6	-0.6
	baz=8.0					
O19A	**Miners Draw (B**	**8.06 44**	⇑P	Pn	04 20 41.0	+0.6
	baz=8.0					
T22A	**Edith**	**8.09 71**	⇑P	Pn	04 20 40.2	-0.6
	baz=8.0					
LPM	**Los Pinos Moun**	**8.12 90**	*e*Pn	Pn	04 20 42.1	+0.9
LPM			*e*Pg	Pn	04 21 13.3	+32
LPM			*e*Sg	Sn	04 22 56.7	+44
122A	**Conniff Cattle**	**8.13 102**	⇑P	Pn	04 20 41.4	0.0
	baz=8.1					
BNM	**Barren Site**	**8.14 91**	*e*Pn	Pn	04 20 41.3	-0.2
	comp=Z,120nm,0.9s					
BNM			*e*Pg	Pn	04 21 13.1	+31
BNM			*e*Sg	Sn	04 22 57.0	+43
M17A	**Scullys Gap (B**	**8.14 32**	⇓P	Pn	04 20 41.9	+0.3
	baz=8.0					
SRIG	**Santa Rosalia**	**8.21 153**	P	Pn	04 20 48.8	+6.2
SRIG			S	Sn	04 22 51.1	+36
ANMO	**Albuquerque**	**8.22 86**	Pn	Pn	04 20 42.8	+0.1
	comp=Z,1.3nm,0.3s,baz=277,slow=14,SNR=51					
ANMO			Pg	Pn	04 21 14.6	+32
	comp=Z,9.6nm,0.3s,baz=273,slow=12,SNR=43					
ANMO			Lg		04 22 59.7	
	comp=Z,6.9nm,0.3s,baz=168,slow=20,SNR=7.7					
ANMO	**Albuquerque**	**8.22 86**	*e*Pn	Pn	04 20 43.0	+0.3
ANMO			*e*Pg	Pn	04 21 14.8	+32
ANMO			Lg		04 22 59.7	
ANMO			*e*Sg	Sn	04 23 01.4	+46
ANMO	**Albuquerque**	**8.22 86**	*e*P	Pn	04 20 43.0	+0.3
Q21A	**Lamborn Mesa,**	**8.22 57**	⇑P	Pn	04 20 42.1	-0.6
	baz=8.1					
K14A	**Jones Ranch, D**	**8.23 17**	⇑P	Pn	04 20 41.8	-0.9
	baz=8.1					
N18A	**Larsen Ranch,**	**8.23 39**	⇑P	Pn	04 20 44.1	+1.3
	baz=8.1					
222A	**Williams Famil**	**8.24 106**	P	Pn	04 20 43.0	0.0
	baz=8.2,SNR=18					
L16A	**Fish Haven**	**8.28 27**	⇑P	Pn	04 20 44.2	+0.7
	baz=8.2					
S22A	**4UR Ranch, Cre**	**8.34 66**	⇑P	Pn	04 20 44.3	-0.1
	baz=8.3					
CGIG		**8.37 119**	P	Pn	04 20 38.9	-5.8
CGIG			S	Sn	04 22 35.4	+16
M18A	**Lyman**	**8.38 35**	⇓P	Pn	04 20 45.8	+0.9
	baz=8.3					
KHMM	**Horse Mountain**	**8.42 319**	*e*Pn	Pn	04 20 47.8	+2.3
N19A	**John Jarvie Ra**	**8.44 41**	⇑P	Pn	04 20 46.4	+0.8
	baz=8.3					
X23A	**Hourglass Bar**	**8.46 88**	⇑P	Pn	04 20 47.2	+1.2
	baz=8.4					
V23A	**Ortiz Mt. (NFS**	**8.47 80**	⇑P	Pn	04 20 47.0	+0.9
	baz=8.4					
**W

X24A	Lazy VL Ranch,	9.08	88	⇑P		Pn	04 20 54.9 +0.4
	baz=9.0						
K17A	Gardner Place,	9.11	27	⇑P		Pn	04 20 55.9 +1.1
	baz=9.0						
I12A	Atlanta	9.12	6	⇓P		Pn	04 20 55.6 +0.6
	baz=9.0						
P22A	Eagle	9.14	55	⇑P		Pn	04 20 54.5 -0.8
	baz=9.1						
Y24A	Capitan	9.15	92	⇓P		Pn	04 20 55.8 +0.4
	baz=9.1						
V24A	Rampart Ranch,	9.21	81	⇑P		Pn	04 20 56.4 +0.2
	baz=9.1						
J15A	Blackfoot	9.22	19	⇓P		Pn	04 20 56.9 +0.7
	baz=9.1						
L19A	Farson	9.24	35	⇑P		Pn	04 20 57.1 +0.5
	baz=9.1						
R23A	Moffat	9.24	65	⇓P		Pn	04 20 56.2 -0.4
	baz=9.2						
U24A	Moreno Valley	9.26	76	⇑P		Pn	04 20 57.5 +0.6
	baz=9.2						
N21A	Black Mountain	9.29	47	⇑P		Pn	04 20 58.0 +0.6
	baz=9.2						
J16A	Bone	9.34	22	⇑P		Pn	04 20 58.9 +0.9
	baz=9.2						
SDCO	Great Sand Dun	9.35	68	⇓P		Pn	04 20 58.5 +0.3
	baz=9.3						
SDCO	Great Sand Dun	9.35	68	*e*Pn		Pn	04 20 58.0 -0.1
	comp=Z,146nm,0.9s						
SDCO				*e*Lg			04 23 23.3
K18A	Toltan Ranch,	9.36	30	⇓P		Pn	04 20 59.1 +0.8
	baz=9.3						
I13A	Wildhorse Cree	9.36	10	⇑P		Pn	04 21 00.4 +2.1
	baz=9.3						
HUMO	Hull Mountain	9.37	329	*e*Pn		Pn	04 21 02.6 +4.2
	comp=Z,120nm,1.3s						
124A	Stringfield Ra	9.38	99	P		Pn	04 20 58.5 -0.1
	baz=9.4,SNR=34						
M20A	Sweetwater, Wa	9.39	41	⇓P		Pn	04 20 59.8 +1.1
	baz=9.3						
Q23A	Hartsel	9.48	61	⇓P		Pn	04 20 59.7 -0.3
	baz=9.4						
I14A	Mackay	9.49	13	⇑P		Pn	04 21 00.4 +0.4
	baz=9.4						
RRI2	Red Ridge	9.50	23	*e*Pn		Pn	04 21 01.6 +1.5
	comp=Z,100nm,0.9s						
RRI2				*e*Lg			04 23 53.4
224A	Cornudas Mount	9.51	103	⇑P		Pn	04 21 00.2 -0.1
	baz=9.5,SNR=21						
S24A	Houchin Ranch,	9.54	69	⇓P		Pn	04 21 00.3 -0.5
	baz=9.5						
T24A	Torres, Weston	9.54	72	⇓P		Pn	04 21 00.6 -0.2
	baz=9.5						
O22A	Kremmling	9.57	52	⇓P		Pn	04 21 00.7 -0.4
	baz=9.5						
I07A	Izee	9.64	347	⇑P		Pn	04 21 03.7 +1.5
	baz=9.6						
KBO	Bosley Butte	9.65	323	*e*Pn		Pn	04 21 03.7 +1.5
	comp=Z,109nm,1.0s						
KBO				*e*Lg			04 23 56.8
REDW	Red Top Meadow	9.67	25	*e*Pn		Pn	04 21 04.0 +1.6
	comp=Z,9.2nm,0.8s						
L20A	Wamsutter	9.67	39	⇑P		Pn	04 21 03.3 +0.8
	baz=9.6						
BW06	Boulder Array	9.67	32	⇑P		Pn	04 21 03.0 +0.5
	baz=9.6						
BW06	Boulder Array	9.67	32	*e*Pn		Pn	04 21 03.2 +0.6
PDAR	Pinedale Array	9.67	32	Pn		Pn	04 21 03.2 +0.7
	comp=Z,0.6nm,0.3s,baz=222,slow=12,SNR=118						
PDAR				Lg			04 23 49.2
	comp=Z,0.7nm,0.3s,baz=218,slow=27,SNR=3.6						
PDAR				LR		LR	04 24 58.5
	comp=Z,3μm,18.9s,baz=159,slow=40						
PDAR	Pinedale Array	9.67	32	Pn		Pn	04 21 03.2 +0.7
PDAR				Lg			04 23 49.2
P23A	Jefferson	9.67	58	⇑P		Pn	04 21 02.8 +0.2
	baz=9.6						
J17A	Brown Place, J	9.72	26	⇓P		Pn	04 21 04.5 +1.3
	baz=9.6						
V25A	Rancho No Teng	9.74	80	⇑P		Pn	04 21 04.5 +0.9
	baz=9.7						
TPAW	Teton Pass	9.75	24	*e*Pn		Pn	04 21 05.1 +1.5
	comp=Z,112nm,1.0s						
MNTX	Cornudas Mount	9.75	105	⇓P		Pn	04 21 03.3 -0.4
	baz=9.7						
MNTX	Cornudas Mount	9.75	105	*e*Pn		Pn	04 21 03.2 -0.5
	comp=Z,261nm,0.9s						
MNTX				*e*Lg			04 23 51.0
DCID1	Drake Creek	9.76	23	*e*Pn		Pn	04 21 05.7 +1.9
	comp=Z,214nm,1.0s						
DCID1				*e*Lg			04 23 35.6
Y25A	Mesa, Roswell	9.76	91	⇓P		Pn	04 21 04.9 +1.0
	baz=9.7						
I15A	Monteview	9.77	17	⇓P		Pn	04 21 05.5 +1.7
	baz=9.7						
324A	Moseley Ranch,	9.77	106	P		Pn	04 21 03.6 -0.3
	baz=9.8,SNR=73						
R24A	Sanders Place,	9.79	66	⇓P		Pn	04 21 04.2 0.0
	baz=9.7						
SNOW	Snow King Moun	9.79	25	*e*Pn		Pn	04 21 05.8 +1.6
	comp=Z,314nm,1.5s						
J18A	Kendall Valley	9.85	29	⇓P		Pn	04 21 04.4 -0.5
	baz=9.8						
Z25A	Roswell	9.85	95	⇑P		Pn	04 21 06.2 +1.1
	baz=9.8						
W25A	X Bar L Ranch,	9.86	84	⇓P		Pn	04 21 07.6 +2.5
	baz=9.8						
H12A	Diamond D Ranc	9.90	7	⇓P		Pn	04 21 07.8 +2.2
	baz=9.8						
I16A	Newdale	9.92	21	⇑P		Pn	04 21 06.2 +0.3
	baz=9.8						
M21A	Separation Pea	9.92	43	⇑P		Pn	04 21 05.8 -0.2
	baz=9.8						
U25A	Circle Dot Ran	9.96	77	⇑P		Pn	04 21 07.3 +0.8
	baz=9.9						
LOHW	Long Hollow	9.97	25	*e*Pn		Pn	04 21 07.8 +1.1
	comp=Z,76nm,0.9s						
N22A	Wattenberg Ran	9.97	50	⇑P		Pn	04 21 06.4 -0.4
	baz=9.9						
H13A	Challis	9.98	9	⇓P		Pn	04 21 09.5 +2.7
	baz=9.9						
Q24A	Divide	10.00	62	⇑P		Pn	04 21 07.0 -0.1
	baz=9.9						
O23A	Lake Granby, G	10.01	54	⇓P		Pn	04 21 07.0 -0.2
	baz=9.9						
ISCO	Idaho Springs	10.02	56	⇓P		Pn	04 21 06.8 -0.5
	baz=9.9						
ISCO	Idaho Springs	10.02	56	*e*Pn		Pn	04 21 07.4 +0.1
ISCO	Idaho Springs	10.02	56	*e*P		Pn	04 21 07.4 +0.1
K19A	Absolon Red Bu	10.04	34	⇑P		Pn	04 21 07.5 0.0
	baz=9.9						
125A	Gardner Draw,	10.04	98	⇑P		Pn	04 21 08.3 +0.7
	baz=10.0						
MOOW	Moose Ponds	10.04	24	*e*Pn		Pn	04 21 09.0 +1.4
	comp=Z,34nm,0.8s						
T25A	Trinidad	10.06	73	⇓P		Pn	04 21 08.2 +0.3
	baz=10.0						
225A	Deer Hill, Car	10.06	102	⇓P		Pn	04 21 08.4 +0.5
	baz=10.0						
RWWY	Rawlins	10.06	44	*e*Pn		Pn	04 21 09.2 +1.3
	comp=Z,32nm,0.8s						
RWWY				*e*Lg			04 24 03.1
IMW	Indian Meadow	10.11	23	*e*Pn		Pn	04 21 10.2 +1.6
	comp=Z,43nm,0.7s						
BMO	Blue Mountains	10.14	357	*e*Pn		Pn	04 21 10.6 +1.6
	comp=Z,27nm,0.8s						
K20A	Yellowstone Ra	10.15	36	⇑P		Pn	04 21 08.7 -0.3
	baz=10						
S25A	Robets Cordova	10.15	70	⇓P		Pn	04 21 08.7 -0.4
	baz=10						
L21A	Rawlins	10.16	42	⇓P		Pn	04 21 08.5 -0.7
	baz=10						
325A	Bean Ranch, Si	10.20	106	⇑P		Pn	04 21 09.6 -0.2
	baz=10,SNR=44						
KEBM	Edson Butte	10.20	325	*e*Pn		Pn	04 21 09.9 +0.1
	comp=Z,104nm,1.1s						
M22A	Cedar Creek Ra	10.24	46	⇓P		Pn	04 21 09.9 -0.4
	baz=10						
I17A	Pilgrim Ck.	10.25	25	⇑P		Pn	04 21 12.8 +2.3
	baz=10						
J19A	Crowheart	10.29	32	⇑P		Pn	04 21 11.1 +0.1
	baz=10						
H15A	Lima	10.31	15	⇓P		Pn	04 21 11.9 +0.6
	baz=10						
I18A	Diamond G Ranc	10.34	28	⇑P		Pn	04 21 12.1 +0.4
	baz=10						
N23A	Red Feather La	10.35	50	⇓P		Pn	04 21 12.9 +1.1
	baz=10						
FLWY	Flagg Ranch	10.36	24	*e*Pn		Pn	04 21 14.0 +2.1
	comp=Z,143nm,1.0s						
R25A	Fountain Ranch	10.38	67	⇑P		Pn	04 21 12.5 +0.2
	baz=10						
P24A	Kohler Place,	10.39	59	⇑P		Pn	04 21 12.8 +0.4
	baz=10						
V26A	Tequesquite Ra	10.42	80	⇓P		Pn	04 21 14.0 +1.3
	baz=10						
425A	Indio Mountain	10.42	109	⇓P		Pn	04 21 12.9 +0.1
	baz=10,SNR=31						
X26A	CR and CF Fran	10.42	87	⇑P		Pn	04 21 14.5 +1.6
	baz=10						
W26A	Owens Ranch, T	10.43	84	⇓P		Pn	04 21 12.1 -0.9
	baz=10						
G12A	Big Creek, Yel	10.44	4	⇓P		Pn	04 21 14.3 +1.3
	baz=10						
Z26A	Caprock	10.46	94	⇑P		Pn	04 21 14.5 +1.2
	baz=10						
Y26A	Elida	10.48	91	⇑P		Pn	04 21 14.7 +1.1
	baz=10						
U26A	Atchley Ranch,	10.49	77	⇓P		Pn	04 21 14.1 +0.3
	baz=10						
G13A	Cobalt	10.50	9	⇑P		Pn	04 21 15.2 +1.3
	baz=10						
O24A	Longmont	10.53	56	⇑P		Pn	04 21 14.2 -0.2
	baz=10						
126A	Clayton Basin,	10.56	98	⇓P		Pn	04 21 15.9 +1.0
	baz=10						
CPRX	Cap Rock	10.60	96	*e*Pn		Pn	04 21 17.2 +1.9
	comp=Z,111nm,0.9s						
YFT	Old Faithful	10.64	22	*e*Pn		Pn	04 21 20.3 +4.5
	comp=Z,85nm,1.1s						
Q25A	Bedland, Calha	10.64	63	⇓P		Pn	04 21 15.7 -0.2
	baz=11						
226A	Malaga, Loving	10.66	101	⇑P		Pn	04 21 17.7 +1.5
	baz=11						
H17A	Grant Village	10.67	23	⇑P		Pn	04 21 16.2 0.0
	baz=11						
K21A	Alcova	10.68	40	⇑P		Pn	04 21 15.9 -0.4
	baz=11						
L22A	Ellis Ranch, M	10.73	44	⇑P		Pn	04 21 17.3 +0.3
	baz=11						
H16A	Russell Place,	10.75	20	⇓P		Pn	04 21 18.5 +1.2
	baz=11						
G14A	Jackson	10.76	11	⇑P		Pn	04 21 19.1 +1.7
	baz=11						
CLNB	Carlsbad	10.78	100	*e*Pn		Pn	04 21 22.0 +4.2
	comp=Z,24nm,0.9s						
J20A	Shoshoni	10.80	35	⇓P		Pn	04 21 18.4 +0.4
	baz=11						
YMR	Madison River	10.80	21	*e*Pn		Pn	04 21 20.1 +2.2
	comp=Z,60nm,0.9s						
M23A	Laramie	10.81	48	⇓P		Pn	04 21 18.0 -0.1
	baz=11						
QLMT	Earthquake Lak	10.81	19	*e*Pn		Pn	04 21 20.8 +2.7
	comp=Z,14nm,1.3s						
G15A	Dillon	10.87	15	⇑P		Pn	04 21 19.6 +0.7
	baz=11						
PHWY	Pilot Hill	10.88	50	*e*Pn		Pn	04 21 18.8 -0.3
	comp=Z,26nm,1.0s						
PHWY				*e*Lg			04 24 18.6
P25A	Willow Gulch B	10.91	60	⇓P		Pn	04 21 19.4 -0.2
	baz=11						
YNR	Norris Junctio	10.93	22	*e*Pn		Pn	04 21 22.1 +2.4
	comp=Z,140nm,1.5s						
I19A	Meeteetse	10.95	30	⇑P		Pn	04 21 19.6 -0.4
	baz=11						
G06A	Carlson Farm,	10.98	344	⇑P		Pn	04 21 22.3 +1.9
	baz=11						
N24A	Carr	11.00	53	⇓P		Pn	04 21 20.8 0.0
	baz=11						
X27A	F and S Farms,	11.00	87	⇓P		Pn	04 21 22.9 +2.1
	baz=11						
W27A	Bowie Ranch, En	11.01	84	⇓P		Pn	04 21 23.4 +2.5
	baz=11						
326A	Caldwell Ranch	11.01	104	⇓P		Pn	04 21 22.2 +1.3
	baz=11						
Y27A	Causey	11.03	91	⇓P		Pn	04 21 24.4 +3.3
	baz=11						
DLMT	Dillon	11.04	14	*e*Pn		Pn	04 21 24.5 +3.3
	comp=Z,125nm,1.2s						
R26A	Arlington	11.06	67	⇑P		Pn	04 21 22.4 +0.8
	baz=11						
F12A	Elk City	11.06	4	⇑P		Pn	04 21 23.1 +1.5
	baz=11						
Z27A	Tatum	11.08	94	⇑P		Pn	04 21 24.2 +2.3
	baz=11						
K22A	Casper	11.08	41	⇓P		Pn	04 21 21.1 -0.8
	baz=11						
G16A	Moss Hill, Enn	11.09	17	⇓P		Pn	04 21 22.1 +0.2
	baz=11						
127A	Arkansas Junct	11.10	97	⇓P		Pn	04 21 23.1 +0.9
	baz=11						
J21A	Lysite	11.10	36	⇓P		Pn	04 21 22.4 +0.3
	baz=11						
COR	Corvallis	11.18	334	*e*Pn		Pn	04 21 26.0 +2.9
	comp=Z,248nm,1.6s						
COR	Corvallis	11.18	334	*e*P		Pn	04 21 26.0 +2.9
COR				pmax		pmax	
	comp=Z,249nm,1.6s						
F13A	Darby	11.18	8	⇑P		Pn	04 21 24.5 +1.4
	baz=11						
L23A	Garrett	11.21	46	⇑P		Pn	04 21 22.8 -0.8
	baz=11						
426A	McDonald Obser	11.22	108	⇑P		Pn	04 21 24.3 +0.6
	baz=11						
LNOR	Lincton Mounta	11.23	353	*e*Pn		Pn	04 21 27.6 +3.8
	comp=Z,22nm,0.8s						
LNOR	Lincton Mounta	11.23	353	*e*P		Pn	04 21 27.6 +3.7
LNOR				pmax		pmax	
	comp=Z,22nm,0.8s						
H18A	Shoshone NF, C	11.23	26	⇑P		Pn	04 21 25.3 +1.4
	baz=11						
I20A	Worland	11.24	32	⇓P		Pn	04 21 24.9 +0.8
	baz=11						
F10A	Beach Ranch, E	11.26	357	⇓P		Pn	04 21 25.6 +1.3
	baz=11						
HOOD	Mount Hood Mea	11.31	341	*e*Pn		Pn	04 21 30.1 +5.1
	comp=Z,68nm,0.9s						
F14A	Wisdom	11.33	11	⇑P		Pn	04 21 25.9 +0.6
	baz=11						
227A	Bennet, Jal	11.33	100	⇓P		Pn	04 21 28.4 +3.0
	baz=11						
MSTX	Muleshoe	11.34	90	⇑P		Pn	04 21 28.0 +2.6
	baz=11						
M24A	Cheyenne	11.37	50	⇓P		Pn	04 21 25.5 -0.3
	baz=11						
327A	Balmorhea Ranc	11.38	103	⇑P		Pn	04 21 29.2 +3.3
	baz=11						
526A	Mary Lane Ranc	11.43	111	P		Pn	04 21 27.8 +1.1
	baz=11,SNR=70						
G17A	Pierce Place,	11.46	21	⇑P		Pn	04 21 29.3 +2.3
	baz=11						
H19A	Powell	11.48	28	⇓P		Pn	04 21 28.7 +1.4
	baz=11						
LRM	Limekiln Ridge	11.50	14	*e*Pn		Pn	04 21 30.7 +3.1
	comp=Z,360nm,1.0s						
F15A	Butte	11.51	14	⇓P		Pn	04 21 29.4 +1.6
	baz=11						
BOZ	Bozeman (W)	11.52	17	⇓P		Pn	04 21 29.3 +1.4
	baz=11						
BOZ	Bozeman (W)	11.52	17	*e*Pn		Pn	04 21 30.9 +3.1
	comp=Z,87nm,1.8s						
BOZ	Bozeman (W)	11.52	17	*e*P		Pn	04 21 30.9 +3.1
BOZ				pmax		pmax	
	comp=Z,87nm,1.8s						
I21A	Big Trails, Te	11.52	35	⇓P		Pn	04 21 28.0 +0.2
	baz=11						
L24A	Wheatland	11.62	48	⇑P		Pn	04 21 28.3 -0.9
	baz=12						
J22A	Midwest	11.63	39	⇓P		Pn	04 21 29.5 +0.1
	baz=12						
626A	Big Bend Ranch	11.64	113	⇑P		Pn	04 21 30.1 +0.5
	baz=12,SNR=54						
427A	Hayter Ranch,	11.64	106	⇓P		Pn	04 21 30.5 +1.0
	baz=12						
K23A	Bowen Ranch, D	11.65	43	⇑P		Pn	04 21 28.9 -0.8
	baz=12						
F16A	Kennard Place,	11.65	17	⇓P		Pn	04 21 32.1 +2.5
	baz=12						
E12A	Beaver Dam Sad	11.71	3	⇑P		Pn	04 21 31.3 +1.0
	baz=12						
H20A	Greybull	11.73	31	⇑P		Pn	04 21 31.0 +0.3
	baz=12						
RLMT	Red Lodge	11.76	26	⇓P		Pn	04 21 31.4 +0.2
	baz=12						
RLMT	Red Lodge	11.76	26	*e*Pn		Pn	04 21 32.9 +1.8
	comp=Z,269nm,1.2s						
527A	Woodward Ranch	11.77	109	⇑P		Pn	04 21 32.3 +1.0
	baz=12,SNR=76						
O26A	Horse Wrangler	11.80	58	⇓P		Pn	04 21 31.7 0.0
	baz=12						
G18A	Lazy EL Ranch,	11.83	24	⇑P		Pn	04 21 34.0 +1.9
	baz=12						
E13A	Victor	11.84	8	⇑P		Pn	04 21 33.2 +1.0
	baz=12						
M25A	Palm-Egli Farm	11.84	52	⇓P		Pn	04 21 32.6 +0.3
	baz=12						
E09A	Wood Farm, Sta	11.86	354	⇓P		Pn	04 21 33.3 +0.9
	baz=12						
HEBO	Mount Hebo	11.88	334	*e*Pn		Pn	04 21 33.9 +1.2
	comp=Z,117nm,1.3s						
HAWA	Hanford	11.89	350	*e*Pn		Pn	04 21 36.3 +3.4
	comp=Z,100nm,1.4s						
E14A	Clinton	11.90	10	⇓P		Pn	04 21 34.3 +1.3
	baz=12						
RSW	Rattlesnake Hi	11.91	349	*e*Pn		Pn	04 21 35.7 +2.6
	comp=Z,82nm,1.2s						
328A	Wristen Ranch,	11.92	102	⇑P		Pn	04 21 35.3 +1.9
	baz=12						
I22A	9 Mile Ranch,	11.97	37	⇑P		Pn	04 21 34.7 +0.7
	baz=12						
F17A	Fitzpatrick Pl	12.02	20	⇓P		Pn	04 21 35.6 +1.0
	baz=12						
E15A	Deer Lodge	12.05	13	⇓P		Pn	04 21 35.1 +0.1
	baz=12						
K24A	Anderson Ranch	12.10	45	⇓P		Pn	04 21 34.3 -1.4
	baz=12						
TXAR	Lajitas Array	12.10	113	Pn		Pn	04 21 36.4 +0.6
	comp=Z,9.9nm,0.3s,baz=292,slow=13,SNR=733						
TXAR				Lg			04 25 06.5
	comp=Z,0.7nm,0.3s,baz=284,slow=29,SNR=7.5						
TXAR				LR		LR	04 26 17.1
	comp=Z,2μm,20.2s,baz=15,slow=38						
TXAR	Lajitas Array	12.10	113	Pn		Pn	04 21 36.4 +0.6
TXAR				Lg			04 25 06.5
TXAR	Lajitas Array	12.10	113	P		Pn	04 21 36.4 +0.5
J23A	Dilts Ranch, B	12.12	41	⇓P		Pn	04 21 35.4 -0.6
	baz=12						
AMTX	Amarillo	12.15	85	⇓P		Pn	04 21 38.1 +1.6
	baz=12						
AMTX	Amarillo	12.15	85	*e*Pn		Pn	04 21 39.4 +2.9
	comp=Z,267nm,1.1s						
AMTX				*e*			04 22 27.2
AMTX				*e*Lg			04 24 58.8
GCMT	Greycliff	12.21	23	*e*Pn		Pn	04 21 38.9 +1.7
	comp=Z,32nm,1.2s						
G20A	Bridger	12.24	29	⇑P		Pn	04 21 38.7 +1.0
	baz=12						
MSO	Missoula	12.25	8	⇑P		Pn	04 21 38.6 +0.8
	baz=12						
MSO	Missoula	12.25	8	*e*Pn		Pn	04 21 39.1 +1.3
	comp=Z,49nm,1.2s						
627A	Terlingua Ranc	12.26	112	⇓P		Pn	04 21 38.4 +0.4
	baz=12,SNR=33						
428A	Kincaid Ranch,	12.26	105	⇑P		Pn	04 21 39.1 +1.1
	baz=12						
H21A	Big Horn, Sher	12.26	33	⇓P		Pn	04 21 37.9 0.0
	baz=12						
L25A	Engebretsen Ra	12.28	49	⇓P		Pn	04 21 37.5 -0.8
	baz=12						
F18A	Big Timber	12.29	23	⇓P		Pn	04 21 38.1 -0.3
	baz=12						
E16A	East Helena	12.35	16	⇑P		Pn	04 21 39.5 +0.4
	baz=12						
D12A	Red Ives Fores	12.35	4	⇑P		Pn	04 21 39.5 +0.3
	baz=12						
528A	Cox Ranch, San	12.40	108	⇓P		Pn	04 21 41.1 +1.2
	baz=12						
CHMT	Chamberlain Mo	12.42	10	*e*Pn		Pn	04 21 41.3 +1.1
	comp=Z,36nm,1.3s						
CHMT				*e*			04 25 16.4
D13A	Huson	12.46	6	⇓P		Pn	04 21 40.7 0.0
	baz=12						
E17A	Martinsdale	12.47	18	⇑P		Pn	04 21 42.3 +1.4
	baz=12						
HRY	Holter Researc	12.48	15	*e*Pn		Pn	04 21 43.4 +2.5
	comp=Z,31nm,1.0s						
F19A	Roth Farm, Mol	12.51	25	⇓P		Pn	04 21 41.2 -0.1
	baz=12						
D14A	Greenough	12.55	9	⇑P		Pn	04 21 41.7 -0.3
	baz=12						
H22A	Clearmont	12.55	35	⇑P		Pn	04 21 41.5 -0.5
	baz=12						
J24A	Dixon Ranch, L	12.56	43	⇓P		Pn	04 21 40.8 -1.3
	baz=12						
628A	Black Gap, Mar	12.62	111	⇓P		Pn	04 21 43.5 +0.5
	baz=13,SNR=46						
G21A	Lodge Grass	12.66	31	⇑P		Pn	04 21 42.6 -0.8
	baz=13						
D15A	Lincoln	12.66	12	⇑P		Pn	04 21 43.6 +0.1
	baz=13						
LON	Longmire	12.68	343	*e*Pn		Pn	04 21 47.1 +3.3
	comp=Z,24nm,1.0s						
LON	Longmire	12.68	343	*e*P		Pn	04 21 47.1 +3.4
LON				pmax		pmax	
	comp=Z,24nm,1.0s						
SLMT	Seeley Lake	12.71	9	*e*Pn		Pn	04 21 46.0 +1.9
	comp=Z,149nm,1.1s						
F20A	Billings	12.75	27	⇓P		Pn	04 21 44.1 -0.5
	baz=13						
OD2	Odessa Site #2	12.78	353	*e*Pn		Pn	04 21 46.6 +1.6
	comp=Z,57nm,0.9s						
L26A	Underwood Farm	12.78	51	⇓P		Pn	04 21 45.0 0.0
	baz=13						
E18A	Harlowton	12.83	21	⇑P		Pn	04 21 48.2 +2.5
	baz=13						
D16A	Dana Ranch, Ca	12.85	15	⇑P		Pn	04 21 47.9 +1.9
	baz=13						
SWMT	Swartz Lake	12.91	7	*e*Pn		Pn	04 21 48.1 +1.2
	comp=Z,34nm,1.2s						
SWMT				*e*			04 25 30.5
I24A	Kuemmerle Ranc	12.92	42	⇓P		Pn	04 21 47.1 +0.1
	baz=13						
E03A	Lebam	12.98	338	⇑P		Pn	04 21 48.4 +0.5
	baz=13						
H23A	Clabaugh Cattl	13.00	38	⇑P		Pn	04 21 47.5 -0.5
	baz=13						
C12B	Naegeli Ranch,	13.00	3	⇓P		Pn	04 21 48.8 +0.8
	baz=13						
C13A	Hot Springs	13.03	6	⇑P		Pn	04 21 48.8 +0.4
	baz=13						
G22A	Birney	13.05	34	⇓P		Pn	04 21 48.0 -0.8
	baz=13						
K26A	Motz Farm, Whi	13.07	48	⇑P		Pn	04 21 48.0 -1.0
	baz=13						
E19A	Rath Farm, Rou	13.09	24	⇓P		Pn	04 21 49.8 +0.5
	baz=13						
C11A	Tepee Creek (N	13.11	1	⇓P		Pn	04 21 50.5 +0.9
	baz=13						
JTMT	Jette	13.12	6	*e*Pn		Pn	04 21 50.6 +0.9
	comp=Z,47nm,1.1s						
C09A	Chrisman Ranch	13.14	355

baz=13
C16A Fuhringer Ranc 13.54 14 ⇓P Pn 04 21 55.9 +0.5
baz=13
NEW Newport 13.55 358 ⇑P Pn 04 21 56.0 +0.5
baz=14
NEW Newport 13.55 358 *e*Pn Pn 04 21 57.0 +1.6
comp=Z,42nm,1.0s
NEW *e* 04 25 46.2
NEW Newport 13.55 358 *e*P Pn 04 21 57.1 +1.6
NEW pmax pmax
comp=Z,42nm,1.0s
H24A Dirks Ranch, A 13.56 39 ⇓P Pn 04 21 53.8 -1.8
baz=14
C17A Wharram Farm, 13.59 17 ⇓P Pn 04 21 56.8 +0.7
baz=14
K27A Flueckinger Fa 13.66 50 ⇑P Pn 04 21 55.9 -1.2
baz=14
D19A Cripps Ranch, 13.68 22 ⇑P Pn 04 21 57.4 0.0
baz=14
GNW Green Mountain 13.70 341 *e*Pn Pn 04 22 01.7 +4.1
comp=Z,12nm,1.1s
B13A Whitefish 13.73 6 ⇑P Pn 04 21 56.8 -1.2
baz=14
B12A Libby 13.76 2 ⇓P Pn 04 21 58.1 -0.3
baz=14
E21A Keefer Ranch, 13.78 28 ⇑P Pn 04 21 57.6 -1.1
baz=14
NLWA Neilton Lookou 13.83 338 *e*Pn Pn 04 22 01.4 +1.9
comp=Z,38nm,1.2s
B14A Marquette Ranc 13.84 9 ⇓P Pn 04 21 59.7 +0.2
baz=14
F23A Volborg 13.84 34 ⇑P Pn 04 21 58.3 -1.3
baz=14
D20A Manuel Ranch, 13.86 24 ⇑P Pn 04 21 58.9 -0.8
baz=14
B15A Bradely Ranch, 13.89 11 ⇓P Pn 04 22 00.3 +0.1
baz=14
CBKS Cedar Bluff 14.01 68 ⇓P Pn 04 22 00.3 -1.6
baz=14
CBKS Cedar Bluff 14.01 68 *e*Pn Pn 04 22 01.3 -0.6
comp=Z,42nm,1.0s
CBKS *e* 04 23 02.5
CBKS *e* 04 26 00.8
CBKS Cedar Bluff 14.01 68 *e*P Pn 04 22 01.3 -0.6
CBKS pmax pmax
comp=Z,42nm,1.0s
G24A Alzada 14.03 37 ⇑P Pn 04 21 59.7 -2.4
baz=14
JCW Jim Creek 14.07 345 *e*Pn Pn 04 22 05.5 +2.8
comp=Z,49nm,1.2s
B16A M & M Farms, S 14.13 13 ⇑P Pn 04 22 03.5 0.0
baz=14
C19A Slack Wire Ran 14.14 21 ⇓P Pn 04 22 04.4 +0.9
baz=14
E22A Miles City 14.15 31 ⇑P Pn 04 22 02.2 -1.6
baz=14
B17A L&G Farms, Che 14.20 16 ⇑P Pn 04 22 04.4 -0.1
baz=14
EGMT Eagleton 14.21 19 ⇓P Pn 04 22 04.2 -0.3
baz=14
EGMT Eagleton 14.21 19 *e*Pn Pn 04 22 06.9 +2.4
comp=Z,304nm,1.4s
A12A Yaak River Ran 14.22 2 ⇑P Pn 04 22 04.7 0.0
baz=14
RPW Rockport 14.23 346 *e*Pn Pn 04 22 07.5 +2.7
comp=Z,56nm,1.4s
LAO LASA Array 14.24 30 ⇑P Pn 04 22 03.8 -1.2
baz=14
LAO LASA Array 14.24 30 *e*Pn Pn 04 22 04.0 -1.0
comp=Z,51nm,0.9s
D21A La Casta Ranch 14.25 27 ⇑P Pn 04 22 04.1 -0.9
baz=14
A13A Flathead Natio 14.29 5 ⇓P Pn 04 22 05.3 -0.3
baz=14
F24A Ekalaka 14.39 36 ⇓P Pn 04 22 06.3 -0.7
baz=14
A14A Double T Ranch 14.42 8 ⇑P Pn 04 22 07.1 -0.3
baz=14
WALA Waterton Lakes 14.45 7 *e*Pn Pn 04 22 09.1 +1.2
comp=Z,3.5nm,1.1s
WALA *e* 04 26 26.7
E23A Ismay 14.48 32 ⇓P Pn 04 22 06.5 -1.8
baz=14
A15A Johnson Ranch, 14.52 10 ⇓P Pn 04 22 09.0 +0.3
baz=14
WMOK Wichita Mounta 14.54 85 *e*Pn Pn 04 22 11.2 +2.1
comp=Z,2µm,2.2s
WMOK *e* 04 26 15.3
WMOK Wichita Mounta 14.54 85 *e*P Pn 04 22 11.2 +2.1
WMOK pmax pmax
comp=Z,2µm,2.2s
B18A Beardsley Farm 14.54 18 ⇑P Pn 04 22 09.7 +0.6
baz=14
D22A Cohagen 14.63 29 ⇑P Pn 04 22 10.2 -0.1
baz=14
JCT Junction City 14.66 102 ⇑P Pn 04 22 11.6 +0.9
baz=15
JCT Junction City 14.66 102 *e*Pn Pn 04 22 12.2 +1.5
comp=Z,50nm,1.0s
JCT *e* 04 26 25.2
JCT Junction City 14.66 102 *e*P Pn 04 22 12.3 +1.5
JCT pmax pmax
comp=Z,50nm,1.0s
A16A West Butte Ran 14.67 13 ⇓P Pn 04 22 10.7 -0.1
baz=15
B19A Brinkman Farms 14.82 20 ⇑P Pn 04 22 14.1 +1.2
baz=15
A17A Triple J Farms 14.84 15 ⇑P Pn 04 22 13.3 +0.1
baz=15
C21A Desert Coulee 14.85 25 ⇓P Pn 04 22 12.8 -0.5
baz=15
PGC Sidney 14.86 342 *e*Pn Pn 04 22 14.8 +1.3
comp=Z,1.3nm,0.9s
A05A Maple Falls 14.87 345 ⇓P Pn 04 22 13.8 +0.3
baz=15
E24A Baker 14.98 34 ⇑P Pn 04 22 13.6 -1.5
baz=15
A18A Metzger Ranch, 15.01 17 ⇓P Pn 04 22 14.9 -0.6
baz=15
D23A Lindsay 15.05 31 ⇓P Pn 04 22 15.1 -0.8
baz=15
B20A Solberg Farm, 15.08 22 ⇓P Pn 04 22 15.2 -1.2
baz=15
C22A Vida 15.23 28 ⇑P Pn 04 22 17.4 -1.0
baz=15
A19A Klindworth Far 15.31 20 ⇑P Pn 04 22 18.8 -0.6
baz=15
D24A Glendive 15.38 33 ⇑P Pn 04 22 18.8 -1.6
baz=15
B21A Ellsworth Farm 15.39 24 ⇓P Pn 04 22 19.5 -1.0
baz=15
A20A Cobblestone Ra 15.50 21 ⇑P Pn 04 22 22.2 +0.3
baz=15
C23A Lambert 15.56 29 ⇓P Pn 04 22 21.0 -1.6
baz=16
B22A Reddig Ranch S 15.65 27 ⇑P Pn 04 22 22.3 -1.5
baz=16
C24A Savage 15.66 32 ⇓P Pn 04 22 22.9 -1.1
baz=16
BGNE Belgrade 15.88 60 ⇑P Pn 04 22 25.5 -1.4
baz=16
A21A Bergtoll Ranch 15.91 23 ⇑P Pn 04 22 26.6 -0.6
baz=16
B23A Brockton 16.17 28 ⇑P Pn 04 22 28.9 -1.6
baz=16
A22A Carney Farms, 16.26 25 ⇑P Pn 04 22 30.3 -1.4
baz=16
DGMT Dagmar 16.49 30 ⇓P Pn 04 22 33.7 -0.9
baz=16
DGMT Dagmar 16.49 30 *e*Pn Pn 04 22 34.5 -0.1
comp=Z,223nm,1.2s
RFTA Plano 16.51 90 *e*Pn Pn 04 22 37.5 +2.5
BRSD Miller 16.59 49 ⇓P Pn 04 22 34.6 -1.4
baz=16
A23A Redstone 16.61 28 ⇓P Pn 04 22 35.4 -0.8
baz=16
TUL1 Tulsa 16.91 80 ⇑P Pn 04 22 39.0 -1.1
baz=17
A24A Westby 16.93 29 ⇑P Pn 04 22 39.5 -0.7
baz=17
ANIG Ahuacatlan 17.20 139 P Pn 04 22 45.8 +2.0
KVTX Kingsville 17.41 109 *e*Pn Pn 04 22 49.9 +3.5
comp=Z,258nm,1.4s
LNIG Linares 17.67 119 P Pn 04 22 51.8 +2.1
ECSD EROS Data Cent 17.78 54 *e*Pn Pn 04 22 49.5 -1.4
comp=Z,43nm,1.1s
ECSD *e* 04 27 53.8
HKT Hockley 18.05 100 *e*Pn Pn 04 22 55.2 +0.8
comp=Z,135nm,1.5s
HKT *e* 04 28 10.8
HKT Hockley 18.05 100 *e*P Pn 04 22 55.2 +0.8
HKT pmax pmax
comp=Z,135nm,1.5s
MDND Maddock 18.18 39 ⇓P Pn 04 22 54.0 -1.8
baz=18
NATX Nacogdoches 18.46 93 *e*Pn Pn 04 23 01.3 +1.9
comp=Z,42nm,0.8s
SFJM Santa Fe 18.47 137 P Pn 04 23 04.3 +4.8
MIAR Mount Ida 18.83 84 *e*Pn Pn 04 23 04.2 +0.5
comp=Z,169nm,1.1s
MIAR *e* 04 28 33.7
MIAR Mount Ida 18.83 84 *e*P Pn 04 23 04.3 +0.5
MIAR pmax pmax
comp=Z,169nm,1.1s
BBB Bella Bella 19.36 338 P Pn 04 23 08.5 -1.6
comp=Z,0.3nm,0.3s,baz=166,slow=8.3,SNR=3.2
BBB LR LR 04 30 36.5
comp=Z,3µm,19.2s,baz=159,slow=37
BBB Bella Bella 19.36 338 P Pn 04 23 08.5 -1.6
SCIA State Center 19.56 62 *e*P Pn 04 23 11.5 -1.1
comp=Z,121nm,1.1s
SCIA *e* 04 28 50.0
UALR University of 19.81 83 *e*P Pn 04 23 13.6 -2.0
comp=Z,70nm,1.2s
AGMN Agassiz Nation 20.46 42 *e*P P 04 23 20.1 -0.9
comp=Z,98nm,1.0s
CCM Cathedral Cave 20.55 73 *e*P P 04 23 22.1 0.0
comp=Z,56nm,1.4s
CCM *e* 04 29 22.0
CCM Cathedral Cave 20.55 73 *e*P P 04 23 22.1 +0.1
CCM pmax pmax
comp=Z,56nm,1.4s
SPMN St. Paul 20.87 53 ⇑P P 04 23 24.7 -0.8
baz=21
DEIG Demacu 21.05 129 P P 04 23 31.0 +3.5
HBAR Harrisburg 21.10 80 *e*P P 04 23 27.0 -1.0
FVM French Village 21.19 74 *e*P P 04 23 29.1 +0.1
comp=Z,105nm,1.4s,mb5.0
FVM *e* 04 29 41.0
FVM French Village 21.19 74 *e*P P 04 23 29.1 +0.1
FVM pmax pmax
comp=Z,105nm,1.4s,mb5.0
SLM Saint Louis 21.36 72 *e*P P 04 23 31.6 +0.8
comp=Z,82nm,1.1s,mb5.0
SLM *e* 04 29 46.7
SLM Saint Louis 21.36 72 *e*P P 04 23 31.6 +0.8
SLM pmax pmax
comp=Z,82nm,1.1s,mb5.0
PTVM Pico Tres Padr 21.51 130 P P 04 23 36.3 +3.7
SZVM Salazar 21.55 131 P P 04 23 40.9 +8.0
ULM Lac du Bonnet 21.60 38 P P 04 23 31.9 -1.4
comp=Z,82nm,0.8s,mb5.2,baz=244,slow=12,SNR=83
ULM LR LR 04 31 49.4
comp=Z,2µm,18.4s,MS4.4,baz=226,slow=37
ULM Lac du Bonnet 21.60 38 *e*P P 04 23 31.8 -1.5
comp=Z,84nm,0.9s,mb5.2
ULM Lac du Bonnet 21.60 38 *e*P P 04 23 31.8 -1.5
ULM pmax pmax
comp=Z,84nm,0.9s
PARMO Parma 21.75 77 *e*P P 04 23 35.4 +0.4
IIO Organos 21.76 129 P P 04 23 39.5 +4.3
VBMS Vicksburg 21.76 89 *e*P P 04 23 37.0 +1.8
comp=Z,260nm,1.5s,mb5.4
JFWS Jewell Farm 21.93 60 *e*P P 04 23 36.5 -0.5
comp=Z,42nm,0.9s,mb4.9
JFWS Jewell Farm 21.93 60 *e*P P 04 23 36.5 -0.4
JFWS pmax pmax
comp=Z,42nm,0.9s,mb4.9
HALT Halls 22.14 79 *e*P P 04 23 39.4 +0.2
SIUC Southern Illin 22.15 74 *e*P P 04 23 39.8 +0.6
comp=Z,58nm,1.0s,mb5.0
GLAT Glass 22.15 78 *e*P P 04 23 36.9 -2.4
PPM Popocatepetl 22.21 130 P P 04 23 40.8 +0.8
PPM Popocatepetl 22.21 130 P P 04 23 40.8 +0.8
HDIL Hopedale 22.24 67 *e*P P 04 23 39.7 -0.5
comp=Z,145nm,1.3s,mb5.2
HDIL *e* 04 30 13.3
OXF Oxford 22.24 83 *e*P P 04 23 41.0 +0.8
comp=Z,167nm,1.2s,mb5.3
OXF Oxford 22.24 83 *e*P P 04 23 41.0 +0.7
OXF pmax pmax
comp=Z,167nm,1.2s,mb5.3
FFC Flin Flon 22.41 22 *e*P P 04 23 40.5 -1.3
comp=Z,36nm,0.9s,mb4.8
FFC Flin Flon 22.41 22 *e*P P 04 23 40.5 -1.4
FFC pmax pmax
comp=Z,36nm,0.9s,mb4.8
OLIL Olney 23.04 72 *e*P P 04 23 48.0 -0.7
comp=Z,63nm,1.1s,mb5.0
PLAL Pickwick Lake 23.26 81 *e*P P 04 23 50.8 -0.3
comp=Z,39nm,1.2s,mb4.7
PLAL *e* 04 30 53.8
WVT Waverly 23.34 78 *e*P P 04 23 52.6 +0.8
comp=Z,17nm,0.9s,mb4.5
WVT *e* 04 30 51.0
WVT Waverly 23.34 78 *e*P P 04 23 52.6 +0.7
WVT pmax pmax
comp=Z,17nm,0.9s,mb4.5
USIN University of 23.38 74 *e*P P 04 23 50.2 -2.0
TPIG Tehuac#an 23.49 129 P P 04 23 54.5 +1.0
UTMO Huajuapan 23.65 131 P P 04 23 55.8 +0.7
SFIN Scholer Farm 23.89 68 ⇓P P 04 23 55.8 -1.4
baz=24
WRAK Wrangell Islan 24.27 338 *e*P P 04 24 01.2 +0.7
comp=Z,43nm,0.9s,mb4.9
BLO Bloomington 24.27 71 *e*P P 04 24 01.1 +0.4
BLO Bloomington 24.27 71 *e*P P 04 24 01.1 +0.4
WCI Wyandotte Cave 24.45 73 *e*P P 04 24 01.5 -0.8
comp=Z,30nm,1.1s,mb4.6
WCI Wyandotte Cave 24.45 73 *e*P P 04 24 01.5 -0.8
WCI pmax pmax
comp=Z,30nm,1.1s,mb4.6
PNIG Pinotepa 24.55 133 P P 04 24 08.2 +4.9
VHO Vista Hermosa 24.89 130 P P 04 24 03.5 -2.9
SWET Sewanee 24.97 80 *e*P P 04 24 06.0 -1.0
comp=Z,16nm,0.8s,mb4.6
DLBC Dease Lake 25.40 343 P P 04 24 11.9 +1.2
comp=Z,13nm,0.9s,mb4.5,baz=173,slow=8.3,SNR=16
DLBC LR LR 04 34 18.0
comp=Z,3µm,19.5s,MS4.9,baz=153,slow=37
DLBC Dease Lake 25.40 343 *e*P P 04 24 11.0 +0.3
CMIG Matias Romero 26.07 127 P P 04 24 18.9 +1.8
comp=Z,12nm,0.9s,mb4.4,baz=300,slow=8.0,SNR=8.6
CMIG LR LR 04 35 54.8
comp=Z,3µm,18.4s,MS4.8,baz=174,slow=40
CMIG Matias Romero 26.07 127 P P 04 24 18.9 +1.8
CPCT Cooper Cave 26.09 79 *e*P P 04 24 15.6 -1.6
GLMI Grayling 26.32 58 *e*P P 04 24 15.5 -3.7
comp=Z,81nm,0.8s,mb5.2
TKL Tuckaleechee C 26.66 78 P P 04 24 22.1 -0.2
comp=Z,9.6nm,0.9s,mb4.3,baz=283,slow=11,SNR=8.2
TKL LR LR 04 35 32.6
comp=Z,2µm,18.7s,MS4.6,baz=102,slow=38
TKL Tuckaleechee C 26.66 78 *e*P P 04 24 22.2 -0.2
TKL Tuckaleechee C 26.66 78 *e*P P 04 24 22.2 -0.2
ACSO Alum Creek Sta 27.03 68 *e*P P 04 24 24.6 -1.1
comp=Z,15nm,0.9s,mb4.5
GOGA Godfrey 27.29 83 *e*P P 04 24 26.7 -1.4
comp=Z,12nm,1.2s,mb4.3
GOGA Godfrey 27.29 83 *e*P P 04 24 26.7 -1.4
GOGA pmax pmax
comp=Z,13nm,1.2s,mb4.3
SKAG Skagway 27.69 339 *e*P P 04 24 29.4 -1.9
comp=Z,22nm,1.4s,mb4.6
YKA Yellowknife Ar 27.82 2 P P 04 24 31.7 -0.8
comp=Z,2.9nm,0.8s,mb4.0,baz=182,slow=8.9,SNR=12
YKA S S 04 29 13.9 -1.4
comp=Z,0.3nm,0.4s,baz=208,slow=14,SNR=4.1
YKA Yellowknife Ar 27.82 2 P P 04 24 31.7 -0.8
YKA S S 04 29 13.9 -1.4
YKA Yellowknife Ar 27.82 2 P P 04 24 31.7 -0.8
YKA S S 04 29 13.9 -1.4
TEIG Tepich 28.75 113 LR LR 04 38 56.7
comp=Z,777nm,20.0s,MS4.3,baz=260,slow=42
ELN Prospectdale 28.90 75 *e*P P 04 24 42.2 -0.2
JSC Jenkinsville 28.92 81 *e*P P 04 24 43.1 +0.5
JSC Jenkinsville 28.92 81 *e*P P 04 24 43.1 +0.5
SADO Sadowa 30.16 59 LR LR 04 38 04.0
comp=Z,596nm,21.1s,MS4.2,baz=93,slow=39
BINY Binghamton 32.32 64 *e*P P 04 25 12.3 -0.2
comp=Z,30nm,1.1s,mb5.0
DAWY Dawson 32.57 341 *e*P P 04 25 14.4 0.0
MENT Mentasta 32.96 337 *e*P P 04 25 19.9 +2.0
KDAK Kodiak Island 33.37 325 P P 04 25 21.5 0.0
comp=Z,19nm,1.1s,mb4.9,baz=90,slow=17,SNR=2.8
KDAK LR LR 04 36 14.7
comp=Z,1µm,21.5s,MS4.5,baz=131,slow=32
KDAK Kodiak Island 33.37 325 P P 04 25 21.5 -0.1
KDAK Kodiak Island 33.37 325 P P 04 25 21.5 0.0
TGUH Tegucigalpa,Un 33.41 121 *e*P P 04 25 22.7 +0.4
comp=Z,25nm,0.8s,mb5.2
OHAK Old Harbor 33.45 324 *e*P P 04 25 21.9 -0.4
comp=Z,74nm,1.2s,mb5.5
EGAK Eagle 33.60 341 *e*P P 04 25 22.4 -1.1
comp=Z,16nm,1.3s,mb4.8
SLKM Skilak Lake 33.75 330 *e*P P 04 25 22.5 -2.2
SLKM Skilak Lake 33.75 330 *e*P P 04 25 22.5 -2.3
SML Sawmill 33.79 333 *e*P P 04 25 24.1 -1.0
comp=Z,13nm,1.5s,mb4.7
SML Sawmill 33.79 333 *e*P P 04 25 24.1 -1.0
SML pmax pmax
comp=Z,13nm,1.5s,mb4.6
PMR Palmer 33.95 332 *e*P P 04 25 25.0 -1.5
comp=Z,40nm,1.2s,mb5.2
PMR Palmer 33.95 332 *e*P P 04 25 25.0 -1.6
PMR pmax pmax
comp=Z,40nm,1.2s,mb5.2
RSO Redoubt South 34.77 329 *e*P P 04 25 36.1 +2.4
comp=Z,52nm,0.8s,mb5.5
INK Inuvik 35.01 349 P P 04 25 35.9 +0.3
comp=Z,1.5nm,0.6s,mb4.1,baz=160,slow=7.3,SNR=10
INK Inuvik 35.01 349 *e*P P 04 25 35.6 -0.1
comp=Z,11nm,1.2s,mb4.7
INK Inuvik 35.01 349 *e*P P 04 25 35.6 0.0
INK pmax pmax
comp=Z,11nm,1.2s
MCK McKinley 35.22 336 *e*P P 04 25 37.8 +0.3
comp=Z,14nm,0.9s,mb4.9
MCK McKinley 35.22 336 *e*P P 04 25 37.8 +0.3
MCK pmax pmax
comp=Z,14nm,0.9s,mb4.9
ILAR Eielson Array 35.25 338 P P 04 25 38.8 +1.0
comp=Z,6.5nm,0.8s,mb4.6,baz=147,slow=7.1,SNR=27
ILAR LR LR 04 40 57.4
comp=Z,912nm,18.8s,MS4.5,baz=311,slow=38
ILAR Eielson Array 35.25 338 P P 04 25 38.8 +1.0
ILAR Eielson Array 35.25 338 P P 04 25 38.8 +1.1
COLA College 35.62 338 *e*P P 04 25 43.0 +2.1
comp=Z,11nm,1.0s,mb4.7
COLA College 35.62 338 *e*P P 04 25 43.0 +2.1
COLA pmax pmax
comp=Z,11nm,1.0s,mb4.7
PPLA Purkeypile 35.88 333 *e*P P 04 25 41.4 -1.8
comp=Z,48nm,1.3s,mb5.3
BPAW Bear Paw Mtn. 36.16 335 *e*P P 04 25 45.6 0.0
comp=Z,20nm,1.0s,mb5.0
JTS JuntasAbangare 37.64 123 P P 04 25 59.9 +1.2
comp=Z,1.9nm,0.4s,mb4.2,baz=329,slow=12,SNR=4.1
JTS JuntasAbangare 37.64 123 *e*P P 04 25 59.4 +0.7
comp=Z,6.6nm,0.8s,mb4.4
JTS JuntasAbangare 37.64 123 *e*P P 04 25 59.4 +0.7
JTS pmax pmax
comp=Z,7.0nm,0.8s
COLD Coldfoot 37.92 339 *e*P P 04 25 57.3 -3.2
comp=Z,15nm,1.5s,mb4.5
SCHQ Schefferville 39.54 44 P P 04 26 13.0 -1.2
comp=Z,13nm,1.1s,mb4.6,baz=251,slow=8.9,SNR=4.3
SCHQ LR LR 04 42 57.6
comp=Z,1µm,18.9s,MS4.8,baz=90,slow=37
SCHQ Schefferville 39.54 44 *e*P P 04 26 12.4 -1.8
RES Resolute Bay 41.40 8 P P 04 26 28.4 -0.9
comp=Z,6.8nm,1.0s,mb4.2,baz=207,slow=12,SNR=8.3
RES Resolute Bay 41.40 8 *e*P P 04 26 28.4 -0.9
comp=Z,11nm,1.1s,mb4.4
RES Resolute Bay 41.40 8 *e*P P 04 26 28.5 -0.8
RES pmax pmax
comp=Z,11nm,1.1s,mb4.4
TAOE Nuku Hiva Isla 48.79 212 *e*S S 04 34 37.7 +5.7
comp=Z,282nm,25.0s
TAOE *e*LR LR 04 41 19.3
comp=Z,829nm,28.7s
ROSC El Rosal 48.97 118 P P 04 27 33.6 +3.4
comp=Z,6.2nm,1.0s,mb4.6,baz=336,slow=6.4,SNR=7.7
ROSC LR LR 04 51 41.1
comp=Z,271nm,19.2s,MS4.2,baz=354,slow=40
ROSC El Rosal 48.97 118 *e*P P 04 27 30.7 +0.5
SDV Santo Domingo 49.13 110 *e*P P 04 27 32.9 +1.4
comp=Z,13nm,0.9s,mb5.0
SFJD Kangerlussuaq 49.17 28 *i*P P 04 27 31.2 +0.1
SFJD pmax pmax
comp=Z,20nm,0.9s,mb5.2
SFJD Kangerlussuaq 49.17 28 *i*P P 04 27 31.2 +0.1
comp=Z,20nm,1.0s,mb5.1
OTAV Otavalo 49.35 126 *e*P P 04 27 35.3 +2.2
comp=Z,33nm,1.4s,mb5.2
SUMG Summit 53.69 21 *e*P P 04 28 05.1 +0.3
comp=Z,9.2nm,0.8s,mb4.8
SUMG Summit 53.69 21 *i*P P 04 28 05.1 +0.3
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 53.69 21 *i*P P 04 28 05.1 +0.3
comp=Z,9.7nm,0.9s,mb4.7
ATAH Atahualpa 54.99 132 P P 04 28 17.7 +2.6
comp=Z,4.2nm,0.7s,mb4.6,baz=310,slow=11,SNR=4.8
ATAH Atahualpa 54.99 132 P P 04 28 17.7 +2.6
DAG Danmarks Havn 58.27 16 ⇓*i*P P 04 28 36.5 -1.1
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
DAG Danmarks Havn 58.27 16 ⇓*i*P P 04 28 36.5 -1.1
comp=Z,5.0nm,0.8s,mb4.6
SCO Scoresbysund 59.19 23 *i*P P 04 28 43.8 -0.3
SCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
SCO Scoresbysund 59.19 23 *i*P P 04 28 43.8 -0.3
comp=Z,6.4nm,1.1s,mb4.6
NNA Nana 59.74 134 *e*P P 04 28 48.9 +0.3
comp=Z,27nm,1.2s,mb5.2
NNA Nana 59.74 134 *e*P P 04 28 48.9 +0.4
NNA pmax pmax
comp=Z,27nm,1.2s
RKT Rikitea 60.15 200 *e*LR LR 04 46 41.6
comp=Z,868nm,29.8s,baz=10
PETK Petropavlovsk- 60.77 316 P P 04 28 56.3 +1.1
comp=Z,14nm,0.8s,mb5.2,baz=82,slow=10,SNR=7.2
PETK LR LR 04 51 48.7
comp=Z,161nm,19.2s,MS4.2,baz=256,slow=33
PETK Petropavlovsk- 60.77 316 P P 04 28 56.2 +1.1
PETK Petropavlovsk- 60.77 316 P P 04 28 56.3 +1.1
PPT Papeete 60.79 217 *e*S S 04 37 18.9 +5.9
comp=Z,190nm,27.0s
PPT *e*LR LR 04 47 04.2
comp=Z,699nm,25.0s,baz=25
BORG Borgarnes 61.28 29 LR LR 04 54 02.2
comp=Z,677nm,18.6s,MS4.8,baz=226,slow=35
JMIC Jan Mayen 63.10 20 LR LR 04 56 08.9
comp=Z,366nm,19.7s,MS4.6,baz=266,slow=36
TBI Tubuai 65.70 213 *e*LR LR 04 49 14.9
comp=Z,571nm,29.5s
LPAZ La Paz 68.41 130 *e*P P 04 29 46.3 +0.9
comp=Z,4.6nm,0.8s,mb4.6
LPAZ La Paz 68.41 130 *e*P P 04 29 46.3 +0.8
LPAZ pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 72.39 13 P P 04 30 09.7 +0.5
comp=Z,2.9nm,0.9s,mb4.2,baz=328,slow=6.4,SNR=4.2
ARCES LR LR 05 03 47.2
comp=Z,396nm,18.3s,MS4.7,baz=343,slow=38
ARCES ARCESS Array B 72.39 13 P P 04 30 09.7 +0.5
ARCES ARCESS Array B 72.39 13 P P 04 30 09.7 +0.5
ASAJ Asahikawa 73.71 313 LR LR 04 57 30.7
comp=Z,102nm,22.0s,MS4.1,baz=149,slow=32
NB2 NORSAR Subarra 75.51 23 P P 04 30 27.0 -0.5
comp=Z,0.9nm,0.8s,mb3.8,baz=315,slow=5.9
NOA NORSAR Array B 75.51 23 P P 04 30 26.8 -0.7
comp=Z,1.7nm,0.9s,mb4.0,baz=318,slow=5.8,SNR=6.1
NOA LR LR 05 02 58.4
comp=Z,300nm,20.1s,MS4.6,baz=310,slow=35
NOA NORSAR Array B 75.51 23 P P 04 30 26.8 -0.8
NOA NORSAR Array B 75.51 23 P P 04 30 26.8 -0.7
LCO Las Campanas 76.71 140 *e*P P 04 30 36.6 +1.9
comp=Z,8.6nm,0.8s,mb4.7
HFS Hagfors 77.00 23 P P 04 30 34.8 -1.2
comp=Z,3.6nm,0.9s,mb4.3,baz=338,slow=1.6,SNR=4.9
HFS Hagfors 77.00 23 P P 04 30 34.8 -1.2
HFS Hagfors 77.00 23 P P 04 30 34.8 -1.2
ROSF Rostrenen 78.12 39 *e*P P 04 30 41.8 -0.7
ROSF Rostrenen 78.12 39 *e*P P 04 30 41.8 -0.7
ROSF Rostrenen 78.12 39 *e*P P 04 30 41.8 -0.7
BOD Bodaibo 78.57 335 *e*P P 04 30 43.2 -1.6

BOD pmax pmax
comp=Z,14nm,2.3s,mb4.5
FINES FINESS Array B 79.45 17 P P 04 30 48.2 -1.4
comp=Z,1.7nm,0.9s,mb4.0,baz=92,slow=14,SNR=4.0
FINES LR LR 05 06 11.8
comp=Z,442nm,19.0s,MS4.8,baz=328,slow=36
FINES FINESS Array B 79.45 17 P P 04 30 48.2 -1.4
FINES FINESS Array B 79.45 17 P P 04 30 48.2 -1.4
LDF La Druitiere 79.55 37 *eP* **P 04 30 48.8 -1.6**
comp=Z,8.7nm,0.8s,mb4.4
LDF La Druitiere 79.55 37 *eP* **P 04 30 48.8 -1.6**
comp=Z,8.7nm,0.8s,mb4.7
LDF La Druitiere 79.55 37 *eP* **P 04 30 48.8 -1.6**
LDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BAIF Baives 80.64 34 *eP* **P 04 30 55.9 -0.3**
BAIF Baives 80.64 34 *eP* **P 04 30 55.9 -0.3**
BAIF Baives 80.64 34 *eP* **P 04 30 55.9 -0.3**
MJAR Matsuhiro Arr 80.76 308 P **P 04 30 58.3 +1.2**
comp=Z,2.8nm,0.9s,mb4.2,baz=59,slow=4.9,SNR=5.0
MJAR LR LR 05 00 47.3
comp=Z,105nm,21.9s,MS4.2,baz=80,slow=31
MJAR Matsuhiro Arr 80.76 308 P **P 04 30 58.3 +1.2**
MJAR Matsuhiro Arr 80.76 308 P **P 04 30 58.3 +1.2**
MAJO Matsuhiro 80.76 308 *eP* **P 04 30 59.2 +2.1**
comp=Z,10nm,0.8s,mb4.8
MAJO Matsuhiro 80.76 308 *eP* **P 04 30 59.2 +2.1**
MAJO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GIVF Givet 80.89 34 *eP* **P 04 30 57.3 -0.3**
comp=Z,27nm,1.0s,mb4.8
GIVF Givet 80.89 34 *eP* **P 04 30 57.3 -0.3**
comp=Z,27nm,1.0s,mb5.1
GIVF Givet 80.89 34 *eP* **P 04 30 57.3 -0.3**
GIVF pmax pmax
comp=Z,27nm,1.0s,mb5.1
MDJ Mudanjiang 80.91 319 P **P 04 30 56.5 -1.3**
MDJ pmax pmax
comp=Z,200nm,3.9s
EVOP Sao Brissos 81.46 49 *eP* **P 04 31 00.4 -0.4**
comp=Z,17nm,1.0s,mb4.9
EVOP Sao Brissos 81.46 49 *eP* **P 04 31 00.4 -0.4**
EVOP pmax pmax
comp=Z,17nm,1.0s,mb4.9
EVO Evora 81.53 49 *eP* **P 04 31 00.4 -0.8**
comp=Z,17nm,1.0s,mb4.6
EVO *eR*
comp=Z,630nm,21.2s
TCF Toulx Ste Croi 82.27 38 *eP* **P 04 31 05.0 +0.1**
comp=Z,46nm,1.2s,mb5.0
TCF Toulx Ste Croi 82.27 38 *eP* **P 04 31 05.0 +0.1**
comp=Z,46nm,1.2s,mb5.3
TCF Toulx Ste Croi 82.27 38 *eP* **P 04 31 05.0 +0.1**
TCF pmax pmax
comp=Z,46nm,1.2s,mb5.3
SFTF Sexfontaines 82.33 35 *eP* **P 04 31 05.3 +0.1**
SFTF Sexfontaines 82.33 35 *eP* **P 04 31 05.3 +0.1**
SSF Saint Saulge 82.39 37 *eP* **P 04 31 04.8 -0.7**
comp=Z,15nm,1.0s,mb4.6
SSF Saint Saulge 82.39 37 *eP* **P 04 31 04.8 -0.7**
comp=Z,15nm,1.0s,mb4.9
SSF Saint Saulge 82.39 37 *eP* **P 04 31 04.8 -0.7**
SSF pmax pmax
comp=Z,15nm,1.0s,mb4.9
BGF Bois d'Agland 82.41 37 *eP* **P 04 31 05.0 -0.6**
comp=Z,27nm,0.9s,mb4.9
BGF Bois d'Agland 82.41 37 *eP* **P 04 31 05.0 -0.6**
comp=Z,27nm,0.9s,mb5.2
BGF Bois d'Agland 82.41 37 *eP* **P 04 31 05.0 -0.6**
BGF pmax pmax
comp=Z,27nm,0.9s,mb5.2
LOR Lormes 82.42 36 *eP* **P 04 31 05.2 -0.5**
comp=Z,27nm,1.0s,mb4.8
LOR *eR*
comp=Z,539nm,20.2s
LOR Lormes 82.42 36 *eP* **P 04 31 05.2 -0.5**
comp=Z,27nm,1.0s,mb5.1
LOR Lormes 82.42 36 *eP* **P 04 31 05.2 -0.5**
LOR pmax pmax
comp=Z,27nm,1.0s,mb5.1
AVF Avril sur Loir 82.50 37 *eP* **P 04 31 05.3 -0.8**
comp=Z,8.2nm,0.8s,mb4.4
AVF Avril sur Loir 82.50 37 *eP* **P 04 31 05.3 -0.8**
comp=Z,8.2nm,0.8s,mb4.7
AVF Avril sur Loir 82.50 37 *eP* **P 04 31 05.3 -0.8**
AVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CPUP Villa Florida 82.57 129 P **P 04 31 07.3 +0.7**
comp=Z,1.9nm,0.7s,mb4.2,baz=276,slow=8.8,SNR=6.9
CPUP LR LR 05 09 06.9
comp=Z,125nm,18.1s,MS4.3,baz=312,slow=37
CPUP Villa Florida 82.57 129 *eP* **P 04 31 07.3 +0.6**
comp=Z,23nm,1.2s,mb5.1
CPUP Villa Florida 82.57 129 *eP* **P 04 31 07.3 +0.7**
CPUP pmax pmax
comp=Z,23nm,1.2s
SMF Signal de Mont 82.84 37 *eP* **P 04 31 07.0 -0.9**
SMF Signal de Mont 82.84 37 *eP* **P 04 31 07.0 -0.9**
SMF Signal de Mont 82.84 37 *eP* **P 04 31 07.0 -0.9**
HAU Haudompre 83.09 35 *eP* **P 04 31 08.8 -0.3**
HAU *eR*
comp=Z,716nm,20.0s
HAU Haudompre 83.09 35 *eP* **P 04 31 08.8 -0.3**
HAU Haudompre 83.09 35 *eP* **P 04 31 08.8 -0.3**
CAF Calviac 83.13 39 *eP* **P 04 31 08.8 -0.6**
CAF Calviac 83.13 39 *eP* **P 04 31 08.8 -0.6**
CAF Calviac 83.13 39 *eP* **P 04 31 08.8 -0.6**
CDF Champ du Feu 83.22 34 *eP* **P 04 31 09.5 -0.3**
CDF Champ du Feu 83.22 34 *eP* **P 04 31 09.5 -0.3**
CDF Champ du Feu 83.22 34 *eP* **P 04 31 09.5 -0.3**
ESDC Sonseca Array 83.27 46 P **P 04 31 09.8 -0.4**
comp=Z,1.5nm,0.7s,mb4.1,baz=307,slow=5.0,SNR=24
ESDC Sonseca Array 83.27 46 P **P 04 31 09.8 -0.4**
HINF Hinteralfeld 83.46 35 *eP* **P 04 31 10.5 -0.6**
comp=Z,11nm,0.9s,mb4.6
HINF Hinteralfeld 83.46 35 *eP* **P 04 31 10.5 -0.6**
comp=Z,11nm,0.9s,mb4.9
HINF Hinteralfeld 83.46 35 *eP* **P 04 31 10.5 -0.6**
HINF pmax pmax
comp=Z,11nm,0.9s,mb4.9
CLL Collm 83.53 29 *i* P **P 04 31 11.6 +0.2**
CLL *eS* S 04 41 39.0 +6.0
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CLL MLR MLR
comp=Z,300nm,20.7s,MS4.7
CLL Collm 83.53 29 *i* P **P 04 31 11.6 +0.2**
comp=Z,6.0nm,0.9s,mb4.7
CLL *i* 04 31 29.9
CLL *eS* S 04 41 39.0 +6.0
CLL *ePPS* 04 42 45.0
CLL *eSS* SS 04 47 30.0 +32
CLL *eSSS* 04 50 42.0
CLL LmH 05 09 00.0
comp=N,400nm,18.0s
CLL LmH 05 09 00.0
comp=E,200nm,19.2s
CLL LmV 05 10 00.0
comp=Z,300nm,20.7s
CN2 Changchun 83.68 320 *eP* **P 04 31 12.4 +0.1**
CN2 *eS* S 04 41 33.4 -1.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
CABF La Chapelle 83.96 36 *eP* **P 04 31 13.6 -0.1**
comp=Z,18nm,0.9s,mb4.9
CABF La Chapelle 83.96 36 *eP* **P 04 31 13.6 -0.1**
comp=Z,18nm,0.9s,mb5.2
CABF La Chapelle 83.96 36 *eP* **P 04 31 13.6 -0.1**
CABF pmax pmax
comp=Z,18nm,0.9s,mb5.2
BRG Berggiesshubel 84.24 29 *eP* **P 04 31 15.3 +0.3**
comp=Z,10nm,1.2s,mb4.8
BRG Berggiesshubel 84.24 29 *eP* **P 04 31 15.4 +0.4**
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
LASF Ste Croix 84.64 39 *eP* **P 04 31 17.1 -0.1**
comp=Z,98nm,1.6s,mb5.4
LASF Ste Croix 84.64 39 *eP* **P 04 31 17.1 -0.1**
comp=Z,98nm,1.5s,mb5.7
ORIF Oris-en-Rattie 85.07 37 *eP* **P 04 31 19.1 -0.2**
comp=Z,68nm,1.4s,mb5.3
ORIF *eR*
comp=Z,512nm,18.2s
ORIF Oris-en-Rattie 85.07 37 *eP* **P 04 31 19.1 -0.2**
comp=Z,68nm,1.4s,mb5.6
ORIF Oris-en-Rattie 85.07 37 *eP* **P 04 31 19.1 -0.2**
ORIF pmax pmax
comp=Z,68nm,1.4s,mb5.6
BNI Bardonecchia 85.37 37 *eP* **P 04 31 21.8 +1.0**
comp=Z,13nm,1.0s,mb5.0
BNI Bardonecchia 85.37 37 *eP* **P 04 31 21.8 +1.0**
BNI pmax pmax
comp=Z,13nm,1.0s,mb5.0
SMRF Simiane la Rot 85.59 38 *eP* **P 04 31 20.9 -1.0**
comp=Z,89nm,1.5s,mb5.5
SMRF Simiane la Rot 85.59 38 *eP* **P 04 31 20.9 -1.0**
comp=Z,89nm,1.5s,mb5.8
GERES GERESS Array B 85.72 30 P **P 04 31 20.5 -1.9**
comp=Z,0.4nm,0.5s,mb4.0,baz=170,slow=24,SNR=2.7
GERES LR LR 05 11 25.9
comp=Z,670nm,18.1s,MS5.1,baz=91,slow=37
GERES GERESS Array B 85.72 30 P **P 04 31 20.5 -1.9**
GERES GERESS Array B 85.72 30 P **P 04 31 20.5 -2.0**
PLCA Paso Flores 86.15 147 P **P 04 31 29.2 +4.8**
comp=Z,2.7nm,0.8s,mb4.5,baz=313,slow=6.7,SNR=6.6
PLCA LR LR 05 03 22.1
comp=Z,409nm,18.4s,MS4.9,baz=170,slow=31
PLCA Paso Flores 86.15 147 *eP* **P 04 31 25.5 +1.1**
comp=Z,3.5nm,0.9s,mb4.6
PLCA Paso Flores 86.15 147 *eP* **P 04 31 25.5 +1.1**
PLCA pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 86.52 28 *eP* **P 04 31 26.3 -0.1**
comp=Z,3.4nm,1.1s,mb4.5
MORC Moravsky Berou 86.52 28 *eP* **P 04 31 26.3 -0.1**
MORC pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
KSRS Korea Array 86.57 314 LR LR 05 08 23.5
comp=Z,92nm,21.2s,MS4.2,baz=50,slow=34
TLY Talaya 87.06 336 *eP* **P 04 31 33.0 +4.0**
TLY *eS* S 04 41 52.6 -15
TLY pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,246nm,18.0s,MS4.7
ZAK Zakamensk 88.28 336 *eP* **P 04 31 36.3 +1.4**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
ARU Arti 89.11 3 *eP* **P 04 31 38.3 -0.4**
comp=Z,11nm,1.1s,mb5.1
ARU Arti 89.11 3 *d i P* **P 04 31 38.5 -0.2**
ARU 04 35 08.9
ARU S S 04 42 08.0 -19
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
NVS Novosibirsk 89.21 349 *eP* **P 04 31 38.0 -1.2**
NVS pmax pmax
comp=Z,17nm,1.2s,mb5.2
SONM Songino Array 89.31 333 P **P 04 31 42.4 +2.6**
comp=Z,1.2nm,0.9s,mb4.2,baz=44,slow=4.4,SNR=6.4
SONM LR LR 05 12 47.0
comp=Z,382nm,20.9s,MS4.8,baz=18,slow=36
SONM Songino Array 89.31 333 P **P 04 31 42.4 +2.6**
SONM Songino Array 89.31 333 P **P 04 31 42.4 +2.6**
AKASG Malin Array Be 89.72 21 P **P 04 31 40.1 -1.5**
comp=Z,0.4nm,0.4s,mb4.1,baz=345,slow=4.1,SNR=5.8
AKASG LR LR 05 13 42.9
comp=Z,256nm,18.5s,MS4.7,baz=310,slow=37
AKASG Malin Array Be 89.72 21 P **P 04 31 40.1 -1.5**
AKASG Malin Array Be 89.72 21 *i* P **P 04 31 41.5 -0.1**
AKBB Malin Array Si 89.72 21 *eP* **P 04 31 40.7 -1.0**
AKBB Malin Array Si 89.72 21 *eP* **P 04 31 40.7 -0.9**
ZALV Zalesovo Beam 89.80 348 P **P 04 31 41.5 -0.4**
comp=Z,1.9nm,0.6s,mb4.6,baz=15,slow=3.7,SNR=7.3
ZALV LR LR 05 15 12.9
comp=Z,180nm,18.9s,MS4.5,baz=1.8,slow=38
ZALV Zalesovo Beam 89.80 348 P **P 04 31 41.5 -0.4**
ZALV Zalesovo Beam 89.80 348 P **P 04 31 41.6 -0.3**
BJI Beijing 91.18 322 P **P 04 31 47.2 -1.5**
BJI *eS* S 04 42 44.9 -2.1
BJI SS SS 04 48 48.6 -1.3
BJI pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
BJI pmax pmax
comp=Z,140nm,4.3s
BJI LR LR
comp=N,400nm,24.8s,MS4.9
BJI LR LR
comp=E,400nm,25.2s,MS4.9
BJI LR LR
comp=Z,160nm,26.8s,MS4.3
DZM Mont Dzumac 92.36 245 *eLR* LR 05 01 38.4
comp=Z,188nm,23.0s
BRVK Borovoye 92.39 356 *eP* **P 04 31 53.6 -0.4**
comp=Z,7.4nm,1.0s,mb5.0
BRVK Borovoye 92.39 356 *eP* **P 04 31 53.6 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
BVAR Borovoye Array 92.42 356 P **P 04 31 54.4 +0.2**
comp=Z,3.1nm,0.8s,mb4.7,baz=5.0,slow=3.3,SNR=14
BVAR Borovoye Array 92.42 356 P **P 04 31 54.4 +0.2**
BVAR Borovoye Array 92.42 356 P **P 04 31 54.4 +0.3**
HHC Hu-ho-hao-te 92.79 326 *eP* **P 04 31 50.2 -5.9**
HHC SKS 04 42 21.4
HHC S S 04 42 50.7 -11
HHC pmax pmax
comp=Z,18nm,0.9s,mb5.5
HHC pmax pmax
comp=Z,160nm,5.2s
HHC LR LR
comp=N,190nm,11.9s,MS5.0
HHC LR LR
comp=E,340nm,15.3s,MS5.0
HHC LR LR
comp=Z,390nm,16.4s,MS4.9
KURK Kurchatov 93.90 350 P **P 04 32 01.1 +0.1**
comp=Z,2.9nm,0.8s,mb4.8,baz=15,slow=3.8,SNR=15
KURK Kurchatov 93.90 350 *eP* **P 04 32 00.3 -0.7**
comp=Z,5.8nm,1.1s,mb4.9
KURK Kurchatov 93.90 350 *eP* **P 04 32 00.3 -0.7**
KURK pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
MK31 Makanchi Array 97.13 347 *eP* **P 04 32 15.2 -0.6**
MK31 Makanchi Array 97.13 347 *eP* **P 04 32 15.2 -0.6**
MKAR Makanchi Array 97.13 347 P **P 04 32 15.9 +0.1**
comp=Z,0.8nm,0.9s,mb4.1,baz=28,slow=3.7,SNR=3.3
MKAR LR LR 05 20 23.1
comp=Z,214nm,20.0s,MS4.6,baz=17,slow=38
MKAR Makanchi Array 97.13 347 P **P 04 32 15.9 +0.1**
MKAR Makanchi Array 97.13 347 P **P 04 32 15.9 +0.1**
WMQ Urumqi 98.80 343 *eP* **P 04 32 24.5 +1.1**
WMQ LR LR
comp=N,530nm,24.6s,MS5.0
WMQ LR LR
comp=E,250nm,26.4s,MS5.0
WMQ LR LR
comp=Z,350nm,28.0s,MS4.7
LZH Lanzhou 100.16 328 *eP* Pdif 04 32 27.5 -2.0
LZH pP 04 32 30.6
LZH *ePP* PP 04 36 34.7 +0.4
LZH pmax pmax
comp=Z,20nm,1.5s
LZH pmax pmax
comp=Z,75nm,8.4s
LZH LR LR
comp=N,220nm,16.5s,MS4.9
LZH LR LR
comp=E,240nm,17.0s,MS4.9
LZH LR LR
comp=Z,380nm,19.7s,MS4.9
LZH Lanzhou 100.16 328 *eP* Pdif 04 32 27.5 -2.0
comp=Z,20nm,1.5s
LZH pP 04 32 30.6
LZH sP 04 32 32.1
LZH *ePP* PP 04 36 34.7 +0.4
LZH LR LR
comp=Z,380nm,19.7s,MS4.9
LZH Lanzhou 100.16 328 *eP* Pdif 04 32 27.5 -2.0
LZH *e* 04 36 34.7
LZH pmax pmax
comp=Z,20nm,1.5s
LZH MLR MLR
comp=Z,380nm,19.7s,MS4.9
KMI Kunming 109.84 322 PKP PKiKP 04 37 12.8 -2.4
KMI sPKP 04 37 16.7
KMI PP PP 04 37 48.9 +2.6
KMI SS SS 04 53 07.4 -2.6
KMI AMB AMB
comp=Z,180nm,6.4s
KMI LR LR
comp=N,270nm,21.9s,MS4.9
KMI LR LR
comp=E,230nm,20.0s,MS4.9
KMI LR LR
comp=Z,290nm,24.4s,MS4.8
KMI Kunming 109.84 322 PKP PKiKP 04 37 12.8 -2.4
KMI sPKP 04 37 16.7
KMI PP PP 04 37 48.9 +2.6
KMI SS SS 04 53 07.4 -2.6
KMI SSS 04 57 14.4
KMI LR LR
comp=Z,290nm,24.4s,MS4.8
WRA Warramunga Arr 116.56 263 PKP PKPdf 04 37 29.5 +1.5
comp=Z,0.7nm,0.7s,baz=58,slow=1.9,SNR=9.4
WRA Warramunga Arr 116.56 263 PKP PKPdf 04 37 29.5 +1.5
WRA Warramunga Arr 116.56 263 PKIKP PKPdf 04 37 29.5 +1.5
ASAR Alice Springs 118.70 260 PKP PKPdf 04 37 33.7 +1.7
comp=Z,0.8nm,0.8s,baz=76,slow=2.3,SNR=8.1
ASAR Alice Springs 118.70 260 PKP PKPdf 04 37 33.7 +1.7
ASAR Alice Springs 118.70 260 PKIKP PKPdf 04 37 33.7 +1.7
QSPA South Pole Qui 124.55 180 *ePKPdf* PKPdf 04 37 43.0 +1.4
LSZ Lusaka 142.83 68 *ePKPdf* PKPdf 04 38 15.6 -2.0
LSZ Lusaka 142.83 68 *ePKIKP* PKPdf 04 38 15.6 -2.0
SUR Sutherland 144.50 99 *ePKPdf* PKPdf 04 38 19.8 -0.3
LBTB Lobatse 145.87 84 *ePKPbc* PKPbc 04 38 23.4 +0.1
LBTB Lobatse 145.87 84 *ePKP2* PKPab 04 38 23.4 -0.3
BOSA Boshof 146.99 90 PKPbc PKPbc 04 38 27.4 +0.9
comp=Z,4.0nm,0.8s,baz=314,slow=2.9,SNR=5.6
BOSA Boshof 146.99 90 *ePKPbc* PKPbc 04 38 26.1 -0.4
BOSA Boshof 146.99 90 *ePKP2* PKPab 04 38 26.1 -1.8
MAW Mawson 147.07 180 PKPbc PKPbc 04 38 26.9 +1.4
comp=Z,4.4nm,0.6s,baz=220,slow=2.9,SNR=2.9
MAW Mawson 147.07 180 PKPbc PKPbc 04 38 26.9 +1.4

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*IDC **06** 04:22:24.6±1.5, 8°.74S×110°.75E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML3.3/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/22, Error ellipse: s-maj=85.8km s-min=19.2km az=45.0*
*ISCJB **06** 04:22:28.2±0.7, 9°.46S±0°.05×110°.37E±0°.03, h33km, mb3.9/5, Error ellipse: s-maj=6.6km s-min=4.2km az=13.4*
*DJA **06** 04:22:28, 9°.23S×110°.43E, h9km, MLv4.2/14*
ISC 06 04:22:29.9±0.6, 9°.43S±0°.05×110°.36E±0°.03, h35km, n24, σ1§44/36, mb3.9/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.47**	**33**	P	**Pn**	**04 22 50.1**	**-3.8**
PCJI				S	**Sn**	**04 23 09.2**	**-2.7**
UGM	**Wanagama**	**1.52**	**6**	P	**Pn**	**04 22 51.7**	**-2.8**
UGM				S	**Sn**	**04 23 06.2**	**-6.8**
PWJI	**Pagerwojo**	**2.00**	**46**	P	**Pn**	**04 22 59.5**	**-1.6**
PWJI				S	**Sn**	**04 23 24.0**	**-0.9**
CLJI	**Cilicap**	**2.16**	**322**	S	**Sn**	**04 23 30.7**	**+1.8**
BJII	**Banjamegara**	**2.18**	**343**	P	**Pn**	**04 23 03.0**	**-0.7**
SJI	**Sawahan**	**2.18**	**40**	P	**Pn**	**04 23 01.8**	**-1.9**
SJI				S	**Sn**	**04 23 28.3**	**-1.2**
NGJI	**Ngawi**	**2.32**	**28**	P	**Pn**	**04 23 07.0**	**+1.4**
NGJI				S	**Sn**	**04 23 33.5**	**+0.6**
SMRI	**Semarang**	**2.37**	**2**	P	**Pn**	**04 23 06.8**	**+0.6**
SMRI				S	**Sn**	**04 23 34.2**	**+0.2**
KRKI	**Karangkates**	**2.42**	**59**	P	**Pn**	**04 23 06.5**	**-0.5**
KRKI				S	**Sn**	**04 23 35.5**	**+0.1**
CISI	**Cisompet, Garu**	**3.13**	**306**	P	**Pn**	**04 23 16.4**	**-0.3**
CISI				S	**Sn**	**04 23 54.9**	**+2.0**
GMJI	**Gumukmas**	**3.26**	**70**	P	**Pn**	**04 23 16.1**	**-2.4**
GMJI				S	**Sn**	**04 23 57.9**	**+1.9**
BLJI	**Banyuglugur**	**3.61**	**63**	P	**Pn**	**04 23 24.7**	**+1.4**
JAGI	**Jajag, Banyuwa**	**3.87**	**76**	P	**Pn**	**04 23 26.6**	**-0.2**
JAGI				S	**Sn**	**04 24 13.0**	**+1.9**
BYJI	**Banyuwangi**	**4.13**	**73**	P	**Pn**	**04 23 32.1**	**+1.6**
BYJI				S	**Sn**	**04 24 19.2**	**+1.6**
NBBI	**Negara**	**4.34**	**76**	P	**Pn**	**04 23 33.7**	**+0.4**
NBBI				S	**Sn**	**04 24 24.9**	**+2.2**
KLI	**Kotabumi**	**7.10**	**309**	P	**Pn**	**04 24 13.3**	**+2.0**
	0.9nm6μm179nm,0.5s						
BMNI	**Bima**	**8.28**	**85**	P	**Pn**	**04 24 26.7**	**-0.8**
KAPI	**Kappang**	**10.30**	**65**	LR	LR	04 28 46.0	
	comp=Z,57nm,19.7s,baz=176,slow=40						
FITZ	**Fitzroy Crossi**	**17.15**	**122**	Pn	**Pn**	**04 26 25.6**	**-1.3**
	0.1nm,0.3s,baz=302,slow=9.5,SNR=3.5						
FITZ				Sn	**Sn**	**04 29 24.2**	**-12**
	0.3nm,0.3s,baz=176,slow=15,SNR=6.4						
WRA	**Warramunga Arr**	**25.40**	**117**	P	**P**	**04 27 54.1**	**-0.2**
	2.2nm,0.7s,mb3.8,baz=292,slow=11,SNR=28						
ASAR	**Alice Springs**	**26.58**	**125**	P	**P**	**04 28 05.5**	**+0.6**
	0.9nm,0.7s,mb3.4,baz=301,slow=9.1,SNR=19						
MKAR	**Makanchi Array**	**61.32**	**338**	P	**P**	**04 32 38.9**	**-3.0**
	0.8nm,0.5s,mb4.1,baz=151,slow=7.3,SNR=14						
ZALV	**Zalesovo Beam**	**66.74**	**344**	P	**P**	**04 33 13.8**	**-3.5**
	1.0nm,0.4s,mb4.2,baz=154,slow=4.4,SNR=5.0						
BRTR	**Keskin Array B**	**85.92**	**311**	P	**P**	**04 35 05.9**	**-0.6**
	0.3nm,0.6s,mb3.7,baz=97,slow=4.5,SNR=3.1						
BRTR				LR	LR	05 20 14.8	
	comp=Z,219nm,19.2s,baz=321,slow=40						

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*IDC **06** 04:34:56.1±2.3, 8°.84S×110°.71E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=108.2km s-min=20.6km az=51.0*
*DJA **06** 04:35:01, 9°.22S×110°.43E, h15km, MLv3.9/11*
ISC 06 04:34:59.2±2.2, 9°.35S±0°.07×110°.38E±0°.04, h15km±15km, n18, σ1§50/27, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.40**	**35**	P	**Pn**	**04 35 21.7**	**-2.5**
UGM	**Wanagama**	**1.44**	**6**	P	**Pn**	**04 35 23.2**	**-1.5**
PWJI	**Pagerwojo**	**1.93**	**47**	P	**Pn**	**04 35 30.4**	**-1.2**
PWJI				S	**Sn**	**04 35 54.8**	**-0.8**
BJII	**Banjamegara**	**2.11**	**342**	P	**Pn**	**04 35 34.4**	**+0.4**
BJII				S	**Sn**	**04 35 59.0**	**-1.0**
SJI	**Sawahan**	**2.12**	**41**	P	**Pn**	**04 35 33.1**	**-1.0**
SJI				S	**Sn**	**04 35 58.0**	**-2.1**
NGJI	**Ngawi**	**2.25**	**29**	P	**Pn**	**04 35 38.2**	**+2.4**
NGJI				S	**Sn**	**04 36 11.2**	**+7.9**
SMRI	**Semarang**	**2.29**	**2**	P	**Pn**	**04 35 37.4**	**+0.9**
SMRI				S	**Sn**	**04 36 06.3**	**+1.9**
KRKI	**Karangkates**	**2.37**	**60**	P	**Pn**	**04 35 38.0**	**+0.4**
KRKI				S	**Sn**	**04 36 05.9**	**-0.5**
CISI	**Cisompet, Garu**	**3.10**	**305**	P	**Pn**	**04 35 49.8**	**+2.2**
CISI				S	**Sn**	**04 36 24.8**	**+0.4**
GMJI	**Gumukmas**	**3.22**	**71**	P	**Pn**	**04 35 50.8**	**+1.6**
GMJI				S	**Sn**	**04 36 28.2**	**+0.9**
LEM	**Lembang**	**3.71**	**312**	S	**Sn**	**04 36 43.2**	**+3.8**
JAGI	**Jajag, Banyuwa**	**3.83**	**77**	P	**Pn**	**04 35 57.8**	**+0.1**
JAGI				S	**Sn**	**04 36 45.3**	**+2.8**
BYJI	**Banyuwangi**	**4.09**	**74**	S	**Sn**	**04 36 50.5**	**+1.6**
WRA	**Warramunga Arr**	**25.43**	**117**	P	**P**	**04 40 25.2**	**-1.3**
	1.4nm,0.7s,mb3.6,baz=293,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.61**	**125**	P	**P**	**04 40 36.8**	**-0.4**
	0.5nm,0.7s,mb3.2,baz=300,slow=9.1,SNR=11						
SONM	**Songino Array**	**57.04**	**357**	P	**P**	**04 44 41.9**	**-2.6**
	0.3nm,0.6s,mb3.5,baz=177,slow=8.2,SNR=4.9						
MKAR	**Makanchi Array**	**61.26**	**338**	P	**P**	**04 45 10.2**	**-3.4**
	0.6nm,0.5s,mb4.0,baz=153,slow=7.5,SNR=11						
ZALV	**Zalesovo Beam**	**66.67**	**344**	P	**P**	**04 45 45.4**	**-3.7**
	0.8nm,0.5s,mb4.0,baz=141,slow=5.5,SNR=4.7						

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*NEIC **06** 05:04:23.7, 39°.40S×174°.64E, h174km, MG4.2(WEL), After WEL.*
WEL 06 05:04:23.8±0.4, 39°.40S×174°.65E, h173km±3km, ML4.2/20, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.22**	**299**	PN	Pn	05 04 46.8	-0.1
RAEZ	**Rainy Point**	**0.22**	**299**	Pn	Pn	05 04 46.8	-0.1
VRZ	**Vera Road**	**0.28**	**18**	PN	Pn	05 04 46.3	-0.7
VRZ				SN	Sn	05 05 03.3	-1.5
VRZ	**Vera Road**	**0.28**	**18**	Pn	Pn	05 04 46.3	-0.7
VRZ				Sn	Sn	05 05 03.3	-1.5
DREZ	**Durham Road**	**0.40**	**301**	PN	Pn	05 04 47.3	-0.1
DREZ				SN	Sn	05 05 04.4	-1.0
DREZ	**Durham Road**	**0.40**	**301**	Pn	Pn	05 04 47.3	-0.1
DREZ				Sn	Sn	05 05 04.4	-1.0
MHEZ	**Mangahewa**	**0.41**	**322**	PN	Pn	05 04 47.2	-0.1
MHEZ				SN	Sn	05 05 04.8	-0.6
MHEZ	**Mangahewa**	**0.41**	**322**	Pn	Pn	05 04 47.2	-0.1
DFE	**Dawson Falls**	**0.43**	**279**	PN	Pn	05 04 47.5	0.0
DFE	**Dawson Falls**	**0.43**	**279**	Pn	Pn	05 04 47.5	0.0
NEZ	**North Egmont**	**0.44**	**286**	PN	Pn	05 04 47.9	+0.4

NEZ	North Egmont	0.44 286	Pn	Pn	05 04 47.9 +0.4
WAZ	Wanganui	0.45 144	PN	Pn	05 04 47.8 +0.3
WAZ	Wanganui	0.45 144	Pn	Pn	05 04 47.8 +0.3
PKE	Pukeiti	0.55 291	ePN	Pn	05 04 47.8 -0.1
PKE	Pukeiti	0.55 291	Pn	Pn	05 04 48.0 +0.1
PKVZ	Pokaka	0.55 79	PN	Pn	05 04 47.7 -0.3
PKVZ	Pokaka	0.55 79	Pn	Pn	05 04 47.7 -0.3
NRZ	Ngariki Road	0.56 276	PN	Pn	05 04 48.0 +0.1
NRZ	Ngariki Road	0.56 276	Pn	Pn	05 04 48.0 +0.1
NWEZ	Newall Road	0.62 281	PN	Pn	05 04 48.3 +0.1
MTVZ	Mangateitei	0.64 89	Pn	Pn	05 04 48.3 -0.1
MTVZ	Mangateitei	0.64 89	Pn	Pn	05 04 48.3 -0.1
TWVZ	Taurewa	0.69 62	PN	Pn	05 04 48.3 -0.4
TWVZ	Taurewa	0.69 62	Pn	Pn	05 04 48.3 -0.4
TRVZ	Turoa	0.71 82	PN	Pn	05 04 48.8 0.0
TRVZ	Turoa	0.71 82	Pn	Pn	05 04 48.8 0.0
FWVZ	Far West T-bar	0.72 79	PN	Pn	05 04 48.8 0.0
FWVZ	Far West T-bar	0.72 79	Pn	Pn	05 04 48.6 -0.3
WPVZ	Whakapapa	0.72 75	PN	Pn	05 04 48.7 -0.2
WPVZ	Whakapapa	0.72 75	Pn	Pn	05 04 48.7 -0.1
WNVZ	Wahianoa	0.74 85	PN	Pn	05 04 49.1 +0.1
WNVZ	Wahianoa	0.74 85	Pn	Pn	05 04 49.1 +0.1
NGZ	Ngauruhoe	0.77 74	PN	Pn	05 04 49.1 -0.1
NGZ	Ngauruhoe	0.77 74	Pn	Pn	05 04 49.1 -0.1
WTVZ	West Tongariro	0.78 69	PN	Pn	05 04 49.2 -0.1
WTVZ	West Tongariro	0.78 69	Pn	Pn	05 04 49.2 -0.1
TUVZ	Tukino	0.79 81	PN	Pn	05 04 49.4 +0.1
TUVZ	Tukino	0.79 81	Pn	Pn	05 04 49.4 +0.1
OTVZ	Oturere	0.82 74	PN	Pn	05 04 49.5 0.0
OTVZ	Oturere	0.82 74	Pn	Pn	05 04 49.5 0.0
KRVZ	Karewarewa	0.83 69	PN	Pn	05 04 49.3 -0.2
KRVZ	Karewarewa	0.83 69	Pn	Pn	05 04 49.4 -0.2
MOVZ	Moawhango	0.86 91	PN	Pn	05 04 49.4 -0.3
MOVZ	Moawhango	0.86 91	Pn	Pn	05 04 49.5 -0.3
HIZ	Hauiti	0.90 11	PN	Pn	05 04 49.2 -0.9
HIZ	Hauiti	0.90 11	Pn	Pn	05 04 49.2 -0.9
KATZ	Kakaramea	0.92 63	PN	Pn	05 04 50.1 -0.1
KATZ	Kakaramea	0.92 63	Pn	Pn	05 04 50.1 -0.1
RATZ	Rangitukua	1.02 59	PN	Pn	05 04 50.7 -0.2
RATZ	Rangitukua	1.02 59	Pn	Pn	05 04 50.7 -0.2
BHHZ	Black Hill Sta	1.10 95	PN	Pn	05 04 51.1 -0.4
BHHZ	Black Hill Sta	1.10 95	Pn	Pn	05 04 51.1 -0.4
TSZ	Takapari Road	1.21 124	PN	Pn	05 04 52.5 +0.1
TSZ	Takapari Road	1.21 124	Pn	Pn	05 04 52.5 +0.1
PNHZ	Pukenui	1.31 114	PN	Pn	05 04 53.3 0.0
PNHZ	Pukenui	1.31 114	Pn	Pn	05 04 53.3 0.0
POWZ	Post Office Ro	1.32 139	PN	Pn	05 04 53.3 0.0
POWZ	Post Office Ro	1.32 139	Pn	Pn	05 04 53.3 0.0
BKZ	Black Stump Fm	1.45 82	PN	Pn	05 04 53.9 -0.8
BKZ	Black Stump Fm	1.45 82	Pn	Pn	05 04 53.9 -0.8
MRZ	Mangatainoka R	1.45 151	PN	Pn	05 04 54.5 -0.2
MRZ	Mangatainoka R	1.45 151	Pn	Pn	05 04 54.5 -0.2
OGWZ	Otaki Gorge	1.48 164	PN	Pn	05 04 55.0 +0.1
OGWZ	Otaki Gorge	1.48 164	Pn	Pn	05 04 55.0 +0.1
DVHZ	Dannevirke	1.48 128	PN	Pn	05 04 54.8 0.0
DVHZ	Dannevirke	1.48 128	Pn	Pn	05 04 54.8 0.0
KIW	Kapiti Island	1.48 172	PN	Pn	05 04 54.7 -0.2
KIW	Kapiti Island	1.48 172	Pn	Pn	05 04 54.7 -0.2
DUWZ	D'Urville Isla	1.51 201	PN	Pn	05 04 54.9 -0.3
DUWZ	D'Urville Isla	1.51 201	Pn	Pn	05 04 54.9 -0.3
WPHZ	Waipukurau	1.54 116	PN	Pn	05 04 55.6 +0.1
WPHZ	Waipukurau	1.54 116	Pn	Pn	05 04 55.6 +0.1
MCHZ	McNeill Hill	1.59 92	PN	Pn	05 04 56.6 +0.6
MCHZ	McNeill Hill	1.59 92	Pn	Pn	05 04 56.6 +0.6
HOWZ	Holdsworth Sta	1.64 156	PN	Pn	05 04 56.3 -0.2
HOWZ	Holdsworth Sta	1.64 156	Pn	Pn	05 04 56.3 -0.2
TIWZ	Tintock	1.68 146	PN	Pn	05 04 56.8 0.0
TIWZ	Tintock	1.68 146	Pn	Pn	05 04 56.8 0.0
NMHZ	Naumai	1.70 81	PN	Pn	05 04 57.8 +0.7
NMHZ	Naumai	1.70 81	Pn	Pn	05 04 57.8 +0.7
CAW	Cannon Point	1.74 169	PN	Pn	05 04 57.4 -0.1
CAW	Cannon Point	1.74 169	Pn	Pn	05 04 57.4 -0.1
PRHZ	Porangahau	1.76 120	PN	Pn	05 04 57.9 +0.2
PRHZ	Porangahau	1.76 120	Pn	Pn	05 04 58.0 +0.2
KAHZ	Kahuranaki	1.77 104	PN	Pn	05 04 58.1 +0.3
KAHZ	Kahuranaki	1.77 104	Pn	Pn	05 04 58.1 +0.3
BFZ	Birch Farm	1.78 137	PN	Pn	05 04 57.8 -0.1
BFZ	Birch Farm	1.78 137	Pn	Pn	05 04 57.8 -0.1
PXZ	Pawanui	1.82 111	PN	Pn	05 04 58.5 +0.1
PXZ	Pawanui	1.82 111	Pn	Pn	05 04 58.5 +0.1
TCW	Tory Channel	1.84 189	PN	Pn	05 04 58.4 -0.2
TCW	Tory Channel	1.84 189	Pn	Pn	05 04 58.4 -0.2
MTW	Mount Morrison	1.88 160	PN	Pn	05 04 58.6 -0.4
MTW	Mount Morrison	1.88 160	Pn	Pn	05 04 58.6 -0.4
WEL	Wellington	1.89 177	PN	Pn	05 04 58.7 -0.4
WEL	Wellington	1.89 177	Pn	Pn	05 04 58.7 -0.4
CKHZ	Cape Kidnapper	1.90 99	PN	Pn	05 04 59.4 +0.2
CKHZ	Cape Kidnapper	1.90 99	Pn	Pn	05 04 59.5 +0.2
SNZO	South Karori	1.91 179	PN	Pn	05 04 58.9 -0.5
SNZO	South Karori	1.91 179	Pn	Pn	05 04 58.9 -0.5
RAHZ	Arahi	1.96 77	PN	Pn	05 04 59.8 -0.1
RAHZ	Arahi	1.96 77	Pn	Pn	05 04 59.8 -0.1
TMWZ	Te Maipa	1.96 151	PN	Pn	05 04 59.6 -0.3
TMWZ	Te Maipa	1.96 151	Pn	Pn	05 04 59.6 -0.3
BHW	Baring Head	2.02 175	PN	Pn	05 04 60.0 -0.5
BHW	Baring Head	2.02 175	Pn	Pn	05 04 60.0 -0.5
NNZ	Nelson	2.06 208	PN	Pn	05 05 00.2 -0.8
NNZ	Nelson	2.06 208	Pn	Pn	05 05 00.2 -0.8
MSWZ	Moikau Station	2.07 167	PN	Pn	05 05 00.5 -0.5
MSWZ	Moikau Station	2.07 167	Pn	Pn	05 05 00.5 -0.5
PAWZ	Paruwai Farm	2.07 164	PN	Pn	05 05 00.6 -0.5
PAWZ	Paruwai Farm	2.07 164	Pn	Pn	05 05 00.6 -0.5
TUWZ	Tuamarina	2.10 195	PN	Pn	05 05 00.9 -0.6
TUWZ	Tuamarina	2.10 195	Pn	Pn	05 05 00.9 -0.6
TRWZ	Traveller	2.15 159	PN	Pn	05 05 01.5 -0.5
TRWZ	Traveller	2.15 159	Pn	Pn	05 05 01.5 -0.5
QRZ	Quartz Range	2.16 228	PN	Pn	05 05 00.9 -1.2
QRZ	Quartz Range	2.16 228	Pn	Pn	05 05 00.9 -1.2
PLWZ	Palliser	2.22 168	PN	Pn	05 05 02.0 -0.8
PLWZ	Palliser	2.22 168	Pn	Pn	05 05 02.0 -0.8
URZ	Urewera	2.23 60	PN	Pn	05 05 01.8 -1.2
URZ	Urewera	2.23 60	Pn	Pn	05 05 01.8 -1.2
CMWZ	Cape Campbell	2.37 188	PN	Pn	05 05 03.5 -1.0
CMWZ			SN	Sn	05 05 04.8 -31
CMWZ	Cape Campbell	2.37 188	Pn	Pn	05 05 03.5 -1.0
CMWZ			Sn	Sn	05 05 04.8 -31
KNZ	Kokohu	2.38 82	PN	Pn	05 05 04.0 -0.7
KNZ	Kokohu	2.38 82	Pn	Pn	05 05 04.0 -0.7
BSWZ	Blackbirch Sta	2.39 194	PN	Pn	05 05 04.4 -0.3
BSWZ	Blackbirch Sta	2.39 194	Pn	Pn	05 05 04.4 -0.3
MWZ	Matawai	2.49 66	PN	Pn	05 05 04.9 -1.0
MWZ	Matawai	2.49 66	Pn	Pn	05 05 04.9 -1.0
MHGZ	Mahia Peninsul	2.54 86	PN	Pn	05 05 06.3 -0.2
MHGZ	Mahia Peninsul	2.54 86	Pn	Pn	05 05 06.3 -0.2
THZ	Tophouse	2.71 209	PN	Pn	05 05 07.5 -1.1
THZ	Tophouse	2.71 209	Pn	Pn	05 05 07.5 -1.1
CNGZ	Carnagh Statio	2.92 73	PN	Pn	05 05 10.7 -0.4
CNGZ	Carnagh Statio	2.92 73	Pn	Pn	05 05 10.7 -0.4
PUZ	Puketiti	3.12 66	PN	Pn	05 05 12.1 -1.4
PUZ	Puketiti	3.12 66	Pn	Pn	05 05 12.1 -1.4
KHZ	Kahutara	3.13 195	PN	Pn	05 05 12.6 -1.0
KHZ	Kahutara	3.13 195	Pn	Pn	05 05 12.7 -1.0
DSZ	Denniston Nort	3.19 222	PN	Pn	05 05 12.9 -1.6
DSZ	Denniston Nort	3.19 222	Pn	Pn	05 05 12.9 -1.5
MXZ	Matakaoa Point	3.41 59	PN	Pn	05 05 15.8 -1.3
MXZ	Matakaoa Point	3.41 59	Pn	Pn	05 05 15.8 -1.3
LTZ	Lake Taylor	3.83 207	PN	Pn	05 05 20.5 -1.9
LTZ	Lake Taylor	3.83 207	Pn	Pn	05 05 20.5 -1.9
MQZ	McQueen's Val	4.56 199	PN	Pn	05 05 28.8 -2.9
MQZ	McQueen's Val	4.56 199	Pn	Pn	05 05 28.8 -2.9
WVZ	Waitaha Valley	4.71 217	PN	Pn	05 05 32.4 -1.4
WVZ	Waitaha Valley	4.71 217	Pn	Pn	05 05 32.4 -1.4
RPZ	Rata Peaks	5.09 211	PN	Pn	05 05 37.0 -1.6
RPZ	Rata Peaks	5.09 211	Pn	Pn	05 05 37.0 -1.6
FOZ	Fox Glacier	5.58 220	PN	Pn	05 05 42.3 -2.8
FOZ	Fox Glacier	5.58 220	Pn	Pn	05 05 42.3 -2.8
LBZ	Lake Benmore	6.00 212	PN	Pn	05 05 48.4 -2.1
LBZ	Lake Benmore	6.00 212	Pn	Pn	05 05 48.4 -2.1
ODZ	Otahua Downs	6.38 206	PN	Pn	05 05 53.2 -2.3
ODZ	Otahua Downs	6.38 206	Pn	Pn	05 05 53.2 -2.3
JCZ	Jackson Bay	6.42 221	ePN	Pn	05 05 52.1 -4.0
JCZ	Jackson Bay	6.42 221	Pn	Pn	05 05 52.3 -3.8
CTZ	Chatham Island	7.85 126	ePN	Pn	05 06 18.4 +3.4
CTZ	Chatham Island	7.85 126	Pn	Pn	05 06 20.4 +5.4

JMA 06 05:31:49.3±0.4, 26°.54N×125°.53E, h147km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.15**	**100**	P	Pn	05 32 15.4	+0.3
JKE				S	Sn	05 32 34.4	-0.3
JAGN	**Aguni-jima**	**1.53**	**88**	P	Pn	05 32 19.2	+0.2
JAGN				S	Sn	05 32 41.6	0.0
JJT2	**Tamagusuku 2**	**2.03**	**101**	P	Pn	05 32 25.0	+0.4
JTJ	**Tarama**	**2.03**	**202**	P	Pn	05 32 24.9	+0.2
JIH	**Iheya**	**2.23**	**77**	P	Pn	05 32 27.1	+0.1
JIH				S	Sn	05 32 55.0	-1.0
JOW	**Kunigami**	**2.47**	**83**	P	Pn	05 32 29.6	-0.3
JOW				S	Sn	05 32 58.3	-2.9
JIJ	**Ishigaki jima**	**2.50**	**210**	P	Pn	05 32 29.8	-0.5
JIJ				S	Sn	05 32 59.2	-2.7
JKRS	**Kuro-shima**	**2.67**	**211**	P	Pn	05 32 32.2	-0.2
JKRS				eS	Sn	05 33 04.4	-1.3
IRIF	**Iriomote-Funau**	**2.73**	**217**	P	Pn	05 32 33.0	-0.2
IRIF				S	Sn	05 33 06.6	-0.4
HATJ	**Hateruma jima**	**2.92**	**213**	S	Sn	05 33 10.7	-0.6
JTK	**Tokunoshima**	**3.29**	**67**	P	Pn	05 32 39.6	-0.6
JTK				S	Sn	05 33 16.8	-2.9

*THE **06** 05:42:44.1, 39°.47N×20°.63E, h38km±2km, ML2.5/2, Error ellipse: s-maj=2.5km s-min=0.5km az=265.0*
*ISCJB **06** 05:42:46.9±0.5, 39°.46N±0°.03×20°.66E±0°.03, h10km, Error ellipse: s-maj=4.7km s-min=3.3km az=177.9*
*CSEM **06** 05:42:46.5±0.2, 39°.44N×20°.66E, h2km, ML2.5/2, Error ellipse: s-maj=5.3km s-min=4.2km az=1.0*
*ATH **06** 05:42:47.0, 39°.46N×20°.68E, h14km±1km, MD3.3/9*
ISC 06 05:42:47.0±0.5, 39°.45N±0°.03×20°.67E±0°.03, h1km±7km, n25, σ0.91/45, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.25**	**35**	ePG	**Pg**	**05 42 51.4**	**-0.4**
JAN				eSG	**Sg**	**05 42 56.1**	**+1.0**
JAN	**Janina**	**0.25**	**35**	P	**Pg**	**05 42 51.4**	**-0.4**
JAN				S	**Sg**	**05 42 57.1**	**+2.0**
JAN	**Janina**	**0.25**	**35**	P	**Pg**	**05 42 51.4**	**-0.4**
JAN				eSg	**Sg**	**05 42 56.1**	**+1.0**
JAN				S	**Sg**	**05 42 57.1**	**+2.0**
IGT	**Igoumenitsa**	**0.27**	**288**	P	**Pg**	**05 42 51.3**	**-0.9**
IGT				S	**Sg**	**05 42 56.7**	**+1.0**
IGT	**Igoumenitsa**	**0.27**	**288**	P	**Pg**	**05 42 51.3**	**-0.9**
IGT				S	**Sg**	**05 42 56.7**	**+1.0**
RGA	**Parga**	**0.27**	**242**	P	**Pg**	**05 42 51.4**	**-0.8**
RGA				S	**Sg**	**05 42 57.2**	**+1.4**
RGA	**Parga**	**0.27**	**242**	P	**Pg**	**05 42 51.4**	**-0.8**
RGA				S	**Sg**	**05 42 57.2**	**+1.4**
DSL	**Palaion Diasel**	**0.46**	**133**	P	**Pg**	**05 42 54.2**	**-1.6**
DSL				S	**Sg**	**05 43 02.3**	**+0.5**
DSL	**Palaion Diasel**	**0.46**	**133**	P	**Pg**	**05 42 54.2**	**-1.6**
DSL				S	**Sg**	**05 43 02.3**	**+0.5**
KEK	**Kerkira**	**0.72**	**292**	ePB	**Pb**	**05 43 01.0**	**-1.3**
KEK	**Kerkira**	**0.72**	**292**	ePb	**Pb**	**05 43 01.0**	**-1.3**
EVR	**Evrytania**	**1.04**	**121**	ePG	**Pg**	**05 43 06.1**	**-0.8**
EVR				eSB	**Sg**	**05 43 21.1**	**+0.8**
EVR	**Evrytania**	**1.04**	**121**	ePg	**Pg**	**05 43 06.1**	**-0.8**
EVR				eSb	**Sg**	**05 43 21.7**	**+1.4**
THL	**Klokotos Trika**	**1.05**	**83**	ePN	**Pg**	**05 43 07.4**	**+0.3**
THL				eSB	**Sg**	**05 43 21.2**	**+0.5**
THL	**Klokotos Trika**	**1.05**	**83**	ePn	**Pg**	**05 43 07.5**	**+0.4**
THL				eSb	**Sg**	**05 43 21.2**	**+0.5**
VLS	**Valsamata**	**1.27**	**183**	ePB	**Pb**	**05 43 11.5**	**-0.3**
VLS				eSB	**Sb**	**05 43 29.5**	**+0.9**
VLS	**Valsamata**	**1.27**	**183**	ePb	**Pb**	**05 43 11.5**	**-0.3**
VLS				eSb	**Sb**	**05 43 29.5**	**+0.9**
AGG	**Agios Georgios**	**1.36**	**108**	ePB	**Pb**	**05 43 12.5**	**-0.8**
AGG				eSB	**Sb**	**05 43 30.9**	**-0.3**
AGG	**Agios Georgios**	**1.36**	**108**	ePb	**Pb**	**05 43 12.5**	**-0.8**
AGG				eSb	**Sb**	**05 43 30.6**	**-0.6**
LIT	**Litokhoron**	**1.55**	**65**	ePG	**Pg**	**05 43 15.6**	**-1.1**
LIT				eSB	**Sb**	**05 43 36.5**	**-0.1**
LIT	**Litokhoron**	**1.55**	**65**	ePg	**Pg**	**05 43 15.6**	**-1.1**
LIT				eSb	**Sb**	**05 43 36.5**	**-0.1**
PLG	**Polygyros**	**2.33**	**66**	ePN	**Pn**	**05 43 27.0**	**+0.6**
PLG	**Polygyros**	**2.33**	**66**	ePn	**Pn**	**05 43 27.1**	**+0.7**
SOH	**Sokhos**	**2.48**	**56**	ePN	**Pn**	**05 43 29.2**	**+0.8**
SOH	**Sokhos**	**2.48**	**56**	ePn	**Pn**	**05 43 29.2**	**+0.8**

*IDC **06** 06:21:43.2±0.5, 27°.40S×176°.74W, h0km, mb4.5/14, mb1 4.7/14, mb1mx4.7/15, mbtmp4.5/14, MS5.2/16, Ms1 5.2/16, ms1mx5.0/22, Error ellipse: s-maj=22.7km s-min=18.0km az=160.0*
*BJI **06** 06:21:47.4, 27°.84S×175°.95W, h50km, mB5.6/24, mb5.3/26, Ms5.4/21, Ms7 5.1/21*
*ISCJB **06** 06:21:47.3±0.3, 27°.59S±0°.05×176°.74W±0°.06, h33km, mb5.0/54, MS5.2/178, Error ellipse: s-maj=9.3km s-min=6.3km az=40.5*
*MOS **06** 06:21:47.5±1.6, 27°.49S×176°.72W, h33km, mb5.0/15, MS5.1/15, Error ellipse: s-maj=12.9km s-min=11.7km az=87.8*
*NEIC **06** 06:21:48.2±0.3, 27°.83S×176°.63W, h35km, mb5.0/33, MS5.2/151, MW5.7, Error ellipse: s-maj=12.7km s-min=8.1km az=138.0*
*GCMT **06** 06:21:51.2±0.1, 27°.40S×176°.25W, h22km, MW5.6, Moment Tensor Solution. s88,c154; s43,c47; Moment tensor: Scale 10^17^Nm; Mrr2.30±.04; Mθθ0.40±.03; Mφφ-2.70±.03; Mrθ0.56±.07; Mrφ-0.37±.02; Mθφ1.70±.06; Best double couple: M0 3.10000×10^17^ NP1:φs178.00000°, δ28.00000°, λ75.00000°. NP2:φs14.00000°, δ63.00000°, λ98.00000°. Principal axes: T 2.9000, Plg71.0000°, Azm302.0000°; N 0.4000, Plg7.0000°, Azm191.0000°; P -3.3000, Plg17.0000°, Azm98.0000°; Data Used: II IU IC G CN. Surface waves: sta=102, comp=196, per= 50.*
ISC 06 06:21:49.2±0.3, 27°.59S±0°.05×176°.68W±0°.06, h35km, h35km±1.5km: pP-P, n379, σ1.9 35/138, mb5.0/54, MS5.2/178, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.99**	**213**	ePn	**Pn**	**06 22 21.9**	**+1.6**
RAO				eSn	**Sn**	**06 22 50.3**	**+6.4**
RAO	**Raoul Island**	**1.99**	**213**	eP	**Pn**	**06 22 21.9**	**+1.6**
RAO				e		06 22 50.3	
MSVF	**Nonsavu**	**10.95**	**333**	ePn	**Pn**	**06 24 24.5**	**+1.1**
MSVF	**Nonsavu**	**10.95**	**333**	eP	**Pn**	**06 24 24.5**	**+1.1**
OUZ	**Omahuta**	**11.26**	**225**	ePn	**Pn**	**06 24 29.7**	**+2.1**
URZ	**Urewera**	**11.85**	**205**	Pn	**Pn**	**06 24 31.5**	**-4.2**
URZ	2.0nm,0.3s,baz=345,slow=5.6,SNR=7.0			Sn	**Sn**	**06 26 42.6**	**-4.0**
URZ	**Urewera**	**11.85**	**205**	ePn	**Pn**	**06 24 29.4**	**-6.3**
URZ	4.7nm,0.3s,baz=42,slow=23,SNR=8.7			eSn	**Sn**	**06 26 46.1**	**-0.5**
AFI	**Afiamalu**	**14.36**	**20**	Pn	**Pn**	**06 25 00.2**	**-10**
AFI	5.9nm,0.3s,baz=191,slow=5.2,SNR=7.6			Sn	Sn	06 27 27.4	-21
AFI	**Afiamalu**	**14.36**	**20**	Pn	**Pn**	**06 25 00.2**	**-10**
AFI	7.7nm,0.3s,baz=32,slow=17,SNR=4.5			Sn	Sn	06 27 27.4	-21
AFI	**Afiamalu**	**14.36**	**20**	P	**Pn**	**06 25 00.2**	**-10**
SNZO	**South Karori**	**15.41**	**205**	eP	**Pn**	**06 25 24.0**	**0.0**
DZM	**Mont Dzumac**	**16.27**	**286**	eP	**Pn**	**06 25 43.3**	**+8.2**
DZM	26μm,23.9s			eLR	LR	06 29 36.3	
DZM	**Mont Dzumac**	**16.27**	**286**	eP	**Pn**	**06 25 42.2**	**+7.1**
RAR	**Rarotonga**	**16.65**	**71**	Pn	**Pn**	**06 25 28.9**	**-11**
RAR	**Rarotonga**	**16.65**	**71**	eP	**Pn**	**06 25 29.4**	**-11**
RAR	485nm,1.7s			eSn	Sn	06 28 14.8	-29
RAR	**Rarotonga**	**16.65**	**71**	eP	**Pn**	**06 25 29.4**	**-10**
RAR	comp=Z,485nm,1.7s			pmax	pmax		
KHZ	**Kahutara**	**16.81**	**206**	eP	**Pn**	**06 25 36.2**	**-5.6**
KHZ				eS	**Sn**	**06 28 33.5**	**-14**
RPZ	**Rata Peaks**	**18.90**	**208**	eP	**Pn**	**06 26 03.2**	**-4.2**
	comp=Z,17nm,0.6s						
ODZ	**Otahua Downs**	**20.15**	**207**	eP	**P**	**06 26 18.5**	**-1.9**
	comp=Z,67nm,0.8s						
TBI	**Tubuai**	**24.91**	**86**	eLQ		06 31 49.4	
	comp=Z,4μm,29.0s						
TBI				eLR	LR	06 33 09.2	
	comp=Z,10μm,29.2s,baz=258						

PPT	**Papeete**	**26.88**	**74**	eLQ	06 32 36.2
	comp=Z,8μm,25.0s				
PPT				eLR	LR 06 33 58.2
	comp=Z,10μm,27.5s,baz=242				
ARMA	**Armidale**	**27.82**	**257**	eP	**P** **06 27 37.6** **+2.4**
ARMA	**Armidale**	**27.82**	**257**	eP	**P** **06 27 37.0** **+1.7**
	comp=Z,138nm,2.8s,mb5.1				
HNR	**Honiara**	**28.50**	**305**	LR	LR 06 37 41.9
	comp=Z,5μm,18.4s,MS5.2,baz=136,slow=34				
EIDS	**Eidsvold**	**28.90**	**267**	eP	**P** **06 27 46.0** **+1.0**
	comp=Z,167nm,2.8s,mb5.3				
CNB	**Canberra Magne**	**29.87**	**247**	eP	**P** **06 27 55.2** **+1.8**
	comp=Z,26nm,0.8s,mb5.0				
CAN	**Canberra**	**30.17**	**247**	PFAKE	06 28 10.0 +14
CAN				LR	LR
	comp=Z,5μm,21.0s,MS5.2				
TARA	**Tarawa**	**30.46**	**339**	PFAKE	06 28 10.0 +11
TARA				LR	LR
	comp=Z,2μm,22.0s,MS4.7				
TAU	**Tasmania Unive**	**32.85**	**233**	PFAKE	06 28 30.0 +10
TAU				LR	LR
	comp=Z,7μm,19.0s,MS5.4				
TOO	**Toolangi**	**33.21**	**243**	eP	**P** **06 28 23.3** **+0.6**
	comp=Z,26nm,0.8s,mb5.2				
CTA	**Charters Tower**	**34.62**	**274**	LR	LR 06 41 34.5
	comp=Z,8μm,18.1s,MS5.5,baz=107,slow=34				
CTA	**Charters Tower**	**34.62**	**274**	eP	**P** **06 28 35.8** **+0.6**
	comp=Z,11nm,1.0s,mb4.8				
CTAO	**Charters Tower**	**34.62**	**274**	eP	**P** **06 28 36.0** **+0.8**
	comp=Z,17nm,1.0s,mb4.9				
CTAO				LR	LR
	comp=Z,7μm,20.0s,MS5.4				
CTAO	**Charters Tower**	**34.62**	**274**	eP	**P** **06 28 36.0** **+0.8**
CTAO				pmax	pmax
	comp=Z,17nm,1.0s,mb4.9				
CTAO				MLR	MLR
	comp=Z,7μm,20.0s,MS5.4				
XMAS	**Kiritimati**	**34.80**	**35**	PFAKE	06 28 50.0 +13
XMAS				LR	LR
	comp=Z,2μm,20.0s,MS4.8				
STKA	**Stephens Creek**	**36.33**	**253**	P	**P** **06 28 50.3** **+0.5**
	comp=Z,2.5nm,0.5s,mb4.4,baz=103,slow=13,SNR=9.5				
STKA				LR	LR 06 42 22.6
	comp=Z,6μm,19.6s,MS5.3,baz=87,slow=34				
STKA	**Stephens Creek**	**36.33**	**253**	eP	**P** **06 28 50.0** **+0.2**
	comp=Z,4.9nm,0.5s,mb4.7				
STKA	**Stephens Creek**	**36.33**	**253**	eP	**P** **06 28 50.0** **+0.3**
	comp=Z,2.2nm,0.9s,mb4.1				
STKA	**Stephens Creek**	**36.33**	**253**	eP	**P** **06 28 50.0** **+0.2**
STKA				pmax	pmax
	comp=Z,2.0nm,0.9s				
RKT	**Rikitea**	**37.82**	**93**	eS	**S** **06 34 46.0** **-5.4**
	comp=Z,612nm,28.2s				
RKT				eLR	LR 06 39 08.0
	comp=Z,6μm,29.2s,baz=253				
PMG	**Port Moresby**	**38.57**	**291**	PFAKE	06 29 20.0 +11
PMG				LR	LR
	comp=Z,5μm,20.0s,MS5.3				
TAOE	**Nuku Hiva Isla**	**39.17**	**69**	eS	**S** **06 35 07.9** **-4.0**
	comp=Z,905nm,25.7s				
TAOE				eLR	LR 06 39 38.7
	comp=Z,4μm,27.3s,baz=241				
COEN	**Coen**	**39.73**	**282**	eP	**P** **06 29 21.0** **+2.4**
	comp=Z,520nm,2.1s,mb5.9				
BBOO	**Buckleboo**	**40.92**	**251**	eP	**P** **06 29 26.4** **-1.8**
	comp=Z,190nm,0.9s,mb5.7				
PTCN	**Pitcairn Islan**	**41.64**	**98**	PFAKE	06 29 40.0 +5.7
PTCN				LR	LR
	comp=Z,3μm,19.0s,MS5.1				
AS31	**Alice Springs**	**44.50**	**263**	eP	**P** **06 29 56.3** **-1.1**
ASAR	**Alice Springs**	**44.50**	**263**	P	**P** **06 29 56.5** **-1.0**
	comp=Z,2.3nm,0.4s,mb4.2,baz=97,slow=6.5,SNR=37				
ASAR				PcP	PcP 06 31 39.6 -0.9
	comp=Z,1.0nm,0.5s,baz=110,slow=4.2,SNR=4.2				
ASAR	**Alice Springs**	**44.50**	**263**	P	**P** **06 29 56.5** **-1.0**
ASAR				PcP	PcP 06 31 39.6 -0.9
ASAR	**Alice Springs**	**44.50**	**263**	P	**P** **06 29 56.5** **-1.0**
ASAR					06 31 39.6
WB2	**Warramunga Arr**	**45.23**	**269**	eP	**P** **06 30 01.3** **-2.0**
WRAB	**Tennant Creek**	**45.23**	**269**	eP	**P** **06 30 01.4** **-2.0**
	comp=Z,20nm,0.9s,mb4.9				
WRAB				LR	LR
	comp=Z,3μm,19.0s,MS5.2				
WRAB	**Tennant Creek**	**45.23**	**269**	eP	**P** **06 30 01.4** **-1.9**
WRAB				pmax	pmax
	comp=Z,20nm,0.9s,mb5.0				
WRAB				MLR	MLR
	comp=Z,3μm,19.

MAJO pmax pmax
comp=Z,13nm,0.6s,mb5.0
MAJO MLR MLR
comp=Z,1μm,22.0s,MS5.2
ERM Erimo 78.56 331 PFAKE 06 34 00.0 +13
ERM LR LR
comp=Z,3μm,21.0s,MS5.6
TATO Taipei 79.23 305 PFAKE 06 34 00.0 +9.0
TATO LR LR
comp=Z,2μm,20.0s,MS5.4
SYO Syowa Base 80.11 192 *e*P **P** **06 33 54.6 -0.5**
SYO Syowa Base 80.11 192 *e*pP pP 06 34 03.0 -3.0
SYO Syowa Base 80.11 192 *e*sP sP 06 34 06.8 -3.2
SNAA Sanae 80.92 178 *e*P **P** **06 33 51.0 -8.4**
comp=Z,19nm,1.1s,mb4.9
SNAA Sanae 80.92 178 *e*P **P** **06 33 51.0 -8.4**
SNAA pmax pmax
comp=Z,19nm,1.1s
VNA3 Neumayer Olymp 81.02 176 *e* **P** **06 33 59.9 -0.1**
VNA3 *e* 06 34 04.8
COCO West Island 81.39 261 PFAKE 06 34 10.0 +7.1
COCO LR LR
comp=Z,2μm,20.0s,MS5.5
VNA2 Neumayer--Watz 81.47 176 *e* **P** **06 34 02.7 +0.3**
baz=197,slow=4.4
VNA2 *e* 06 34 07.6
VNA1 Neumayer--Stat 81.69 176 *e* **P** **06 34 03.3 -0.2**
NVL N'lazarevskaya 81.74 183 *e*P **P** **06 34 16.2 +12**
NVL *e**PP pP 06 34 24.7 +10
NVL *e**SP sP 06 34 30.1 +11
NVL pmax pmax
comp=Z,2.0nm,0.2s,mb4.7
YSS Yuzh-Sakhalins 82.74 333 *e*P **P** **06 34 11.9 +2.7**
KSRS Korea Array 82.98 319 P **P** **06 34 08.1 -2.6**
comp=Z,4.7nm,0.8s,mb4.6,baz=16,slow=9.2,SNR=16
KSRS LR LR 07 09 41.2
comp=Z,661nm,18.6s,MS5.0,baz=127,slow=35
KSAR Wonju Array Be 83.00 319 P **P** **06 34 08.1 -2.7**
KSAR Wonju Array Be 83.00 319 P **P** **06 34 08.1 -2.7**
PAF Port-aux-Franc 83.07 217 PFAKE 06 34 20.0 +8.9
PAF LR LR
comp=Z,2μm,20.0s,MS5.4
PET Petropavlovsk 83.10 345 *e*P **P** **06 34 17.5 +6.6**
PET *e*SSS 06 53 16.4
PET pmax pmax
comp=Z,400nm,15.3s
PET MLR MLR
comp=Z,500nm,17.0s,MS5.0
SSE Sheshan 83.16 310 P **P** **06 34 12.6 +0.9**
SSE S S 06 44 29.1 -0.3
SSE pmax pmax
comp=Z,26nm,0.7s,mb5.4
SSE pmax pmax
comp=Z,390nm,6.0s
SSE LR LR
comp=N,510nm,32.8s,MS4.7
SSE LR LR
comp=E,300nm,32.9s,MS4.7
SSE LR LR
comp=Z,690nm,32.6s,MS4.8
SSE Sheshan 83.16 310 P **P** **06 34 12.6 +0.9**
comp=Z,26nm,0.7s,mb5.4
SSE pP pP 06 34 22.1 -0.6
SSE S S 06 44 29.1 -0.3
SSE sS sS 06 44 45.3 -2.1
SSE SS SS 06 49 50.6 -4.2
SSE LR LR
comp=Z,690nm,32.6s,MS4.8
PETK Petropavlovsk- 83.40 345 P **P** **06 34 13.0 +0.6**
comp=Z,11nm,0.8s,mb5.0,baz=141,slow=9.6,SNR=5.5
PETK LR LR 07 11 09.8
comp=Z,803nm,18.8s,MS5.1,baz=167,slow=36
PETK Petropavlovsk- 83.40 345 P **P** **06 34 13.0 +0.6**
PETK Petropavlovsk- 83.40 345 P **P** **06 34 13.0 +0.6**
PFO Pinyon Flat Ob 83.45 47 PFAKE 06 34 20.0 +6.8
PFO LR LR
comp=Z,2μm,19.0s,MS5.4
ISA Isabella 83.48 44 *e*P **P** **06 34 13.0 -0.3**
comp=Z,5.1nm,1.0s,mb4.5
ISA Isabella 83.48 44 *e*P **P** **06 34 13.0 -0.3**
ISA pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
PLCA Paso Flores 83.56 133 P **P** **06 34 14.4 +0.5**
comp=Z,2.3nm,0.7s,mb4.4,baz=210,slow=6.5,SNR=7.1
PLCA LR LR 07 02 49.7
comp=Z,989nm,21.4s,MS5.2,baz=241,slow=30
PLCA Paso Flores 83.56 133 *e*P **P** **06 34 12.2 -1.7**
comp=Z,75nm,2.2s,mb5.4
PLCA Paso Flores 83.56 133 *e*P **P** **06 34 12.2 -1.7**
PLCA pmax pmax
comp=Z,75nm,2.2s
INCN Inchon 83.76 318 PFAKE 06 34 30.0 +15
INCN LR LR
comp=Z,758nm,20.0s,MS5.1
CMB Columbia Colle 83.89 41 *e*P **P** **06 34 14.8 -0.6**
comp=Z,12nm,1.4s,mb4.8
CMB Columbia Colle 83.89 41 *e*P **P** **06 34 14.8 -0.6**
CMB pmax pmax
comp=Z,12nm,1.4s,mb4.8
GSC Goldstone 84.30 45 *e*P **P** **06 34 17.5 +0.1**
comp=Z,8.3nm,1.2s,mb4.7
GSC Goldstone 84.30 45 *e*P **P** **06 34 17.5 0.0**
GSC pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
EFI East Falkland 84.50 147 PFAKE 06 34 30.0 +12
EFI LR LR
comp=Z,2μm,22.0s,MS5.5
QIZ Qiongzhong 84.87 294 P **P** **06 34 18.7 -2.0**
QIZ pP pP 06 34 31.2 -0.5
QIZ S S 06 44 49.6 +2.6
QIZ pmax pmax
comp=Z,32nm,2.0s,mb5.1
QIZ pmax pmax
comp=Z,340nm,8.3s
YBH Yreka Blue Hor 85.11 37 *e*P **P** **06 34 23.2 +1.9**
comp=Z,5.5nm,1.0s,mb4.6
YBH Yreka Blue Hor 85.11 37 *e*P **P** **06 34 23.2 +1.8**
YBH pmax pmax
comp=Z,5.0nm,1.0s
WCN Washoe City 85.11 41 *e*P **P** **06 34 22.0 +0.5**
comp=Z,6.3nm,1.1s,mb4.7
WCN Washoe City 85.11 41 *e*P **P** **06 34 22.0 +0.5**
WCN pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
NVAR Mina Array Bea 85.39 42 P **P** **06 34 23.2 +0.4**
comp=Z,4.2nm,0.9s,mb4.5,baz=225,slow=7.9,SNR=13
NVAR LR LR 07 04 54.9
comp=Z,2μm,20.0s,MS5.4,baz=123,slow=30
NVAR Mina Array Bea 85.39 42 P **P** **06 34 23.2 +0.4**
TPH Tonopah 85.81 43 PFAKE 06 34 40.0 +15
TPH LR LR
comp=Z,870nm,20.0s,MS5.2
KULM Kulim 85.96 278 PFAKE 06 34 40.0 +14
KULM LR LR
comp=Z,894nm,19.0s,MS5.2
TUC Tucson 86.45 51 *e*P **P** **06 34 28.8 +0.6**
comp=Z,6.0nm,0.9s,mb4.8
TUC LR LR
comp=Z,977nm,22.0s,MS5.2
TUC Tucson 86.45 51 *e*P **P** **06 34 28.8 +0.5**
TUC pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
TUC MLR MLR
comp=Z,977nm,22.0s,MS5.2
PAYG Puerto Ayora 86.49 89 PFAKE 06 34 40.0 +11
PAYG LR LR
comp=Z,1μm,19.0s,MS5.3
MDJ Mudanjiang 86.99 325 P **P** **06 34 32.6 +2.0**
MDJ pP pP 06 34 42.0 +0.4
MDJ sP sP 06 34 46.2 +0.7
MDJ PP PP 06 37 54.4 -0.1
MDJ S S 06 45 10.9 +4.2
MDJ SS SS 06 50 56.5 +5.8
MDJ pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
MDJ pmax pmax
comp=Z,400nm,4.7s
MDJ LR LR
comp=N,430nm,20.8s,MS4.9
MDJ LR LR
comp=E,260nm,23.9s,MS4.9
MDJ LR LR
comp=Z,780nm,22.4s,MS5.1
HABR Khabarovsk 87.17 330 P **P** **06 34 29.3 -2.1**
HABR *e**SP sP 06 34 43.8 -2.5
HABR *e*S S 06 44 53.1 -15
HABR *e* 06 45 13.4
HABR pmax pmax
comp=Z,87nm,1.8s,mb5.7
HABR MLR MLR
comp=Z,647nm,21.0s,MS5.0
BMN Battle Mountai 87.32 41 PFAKE 06 34 40.0 +7.7
BMN LR LR
comp=Z,1μm,21.0s,MS5.3
KDAK Kodiak Island 87.42 13 PFAKE 06 34 40.0 +7.7
KDAK LR LR
comp=Z,785nm,20.0s,MS5.1
WHN Wuhan 87.60 306 P **P** **06 34 35.5 +1.6**
WVOR Wild Horse Val 87.81 39 PFAKE 06 34 50.0 +15
WVOR LR LR
comp=Z,1μm,22.0s,MS5.3
WUAZ Wupatki 87.93 48 *e*P **P** **06 34 35.7 +0.3**
comp=Z,6.4nm,1.1s,mb4.8
WUAZ LR LR
comp=Z,1μm,22.0s,MS5.3
NLWA Neilton Lookou 88.48 33 PFAKE 06 34 50.0 +12
NLWA LR LR
comp=Z,1μm,19.0s,MS5.3
CN2 Changchun 88.62 322 *e*P **P** **06 34 37.0 -1.4**
CN2 *e*S S 06 45 21.7 -0.6
CN2 pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,22.0s,MS5.2
CN2 LR LR
comp=E,600nm,22.0s,MS5.2
CN2 LR LR
comp=Z,700nm,24.0s,MS5.0
MSU Marysvale 89.19 45 *e*P **P** **06 34 40.9 -0.4**
comp=Z,4.8nm,1.2s,mb4.7
MSU Marysvale 89.19 45 *e*P **P** **06 34 40.9 -0.3**
MSU pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
KLR Kul'dur 89.21 329 *e*P **P** **06 34 39.0 -2.1**
KLR pmax pmax
comp=Z,110nm,2.0s,mb5.8
LCO Las Campanas 89.53 123 PFAKE 06 34 50.0 +6.7
LCO LR LR
comp=Z,1μm,19.0s,MS5.3
DUG Dugway 89.81 43 PFAKE 06 35 00.0 +16
DUG LR LR
comp=Z,1μm,22.0s,MS5.3
TXAR Lajitas Array 89.89 57 P **P** **06 34 44.0 -0.7**
comp=Z,1.9nm,0.9s,mb4.4,baz=216,slow=6.2,SNR=9.8
TXAR LR LR 07 10 50.2
comp=Z,560nm,18.3s,MS5.0,baz=240,slow=33
TXAR Lajitas Array 89.89 57 P **P** **06 34 44.0 -0.7**
TXAR Lajitas Array 89.89 57 P **P** **06 34 44.0 -0.7**
MNTX Cornudas Mount 89.90 54 PFAKE 06 35 00.0 +15
MNTX LR LR
comp=Z,428nm,19.0s,MS4.9
HAWA Hanford 89.95 36 PFAKE 06 35 00.0 +15
HAWA LR LR
comp=Z,956nm,20.0s,MS5.2
BMO Blue Mountains 90.12 38 PFAKE 06 35 00.0 +15
BMO LR LR
comp=Z,562nm,20.0s,MS5.0
ETW Entiat 90.36 34 *e*P **P** **06 34 46.0 -0.4**
comp=Z,4.2nm,0.8s,mb4.8
TRQA Tornquist 90.57 134 PFAKE 06 35 00.0 +12
TRQA LR LR
comp=Z,1μm,21.0s,MS5.3
MVCO Mesa Verde 90.80 48 PFAKE 06 35 00.0 +11
MVCO LR LR
comp=Z,1μm,19.0s,MS5.3
ANMO Albuquerque 90.91 51 *e*P **P** **06 34 49.4 0.0**
comp=Z,5.4nm,1.0s,mb4.8
ANMO LR LR
comp=Z,1μm,22.0s,MS5.3
ANMO Albuquerque 90.91 51 *e*P **P** **06 34 49.4 0.0**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO MLR MLR
comp=Z,1μm,22.0s
HLID Hailey 90.92 40 PFAKE 06 35 00.0 +11
HLID LR LR
comp=Z,703nm,20.0s,MS5.1
OD2 Odessa Site #2 91.04 35 *e*P **P** **06 34 49.4 -0.2**
comp=Z,30nm,1.4s,mb5.4
PV10 Paradox Valley 91.11 47 *e*P **P** **06 34 50.9 +0.7**
comp=Z,57nm,0.9s,mb5.9
GYA Guiyang 91.18 299 P **P** **06 34 52.0 +1.2**
GYA pP pP 06 35 03.8 +2.0
GYA sP sP 06 35 08.9 +3.1
GYA PP PP 06 38 31.4 +3.1
GYA SKS 06 45 20.0
GYA S S 06 45 46.2 -0.6
GYA SS SS 06 51 56.8 +4.5
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.4
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=N,820nm,19.0s,MS5.3
GYA LR LR
comp=E,710nm,20.3s,MS5.3
GYA LR LR
comp=Z,940nm,19.7s,MS5.2
PV01 Paradox Valley 91.28 47 *e*P **P** **06 34 51.1 +0.2**
comp=Z,308nm,1.0s
HWUT Hardware Ranch 91.41 43 PFAKE 06 35 00.0 +8.5
HWUT LR LR
comp=Z,1μm,20.0s,MS5.4
BJI Beijing 91.75 315 P **P** **06 34 54.3 +1.2**
BJI S S 06 45 55.5 +4.1
BJI SS SS 06 52 06.0 +5.9
BJI pmax pmax
comp=Z,20nm,0.5s,mb5.7
BJI pmax pmax
comp=Z,260nm,5.3s
BJI LR LR
comp=N,460nm,11.6s,MS5.4
BJI LR LR
comp=E,600nm,10.1s,MS5.4
BJI LR LR
comp=Z,300nm,20.3s
AHID Auburn Hatcher 92.37 42 PFAKE 06 35 10.0 +14
AHID LR LR
comp=Z,1μm,20.0s,MS5.3
NEW Newport 92.42 35 PFAKE 06 35 10.0 +14
NEW LR LR
comp=Z,1μm,21.0s,MS5.3
NNA Nana 93.05 105 PFAKE 06 35 10.0 +10
NNA LR LR
comp=Z,542nm,22.0s,MS5.0
SDCO Great Sand Dun 93.08 49 PFAKE 06 35 10.0 +11
SDCO LR LR
comp=Z,948nm,21.0s,MS5.2
MSO Missoula 93.19 38 PFAKE 06 35 10.0 +10
MSO LR LR
comp=Z,540nm,19.0s,MS5.0
BW06 Boulder Array 93.30 43 PFAKE 06 35 10.0 +10
BW06 LR LR
comp=Z,1μm,20.0s,MS5.3
PDAR Pinedale Array 93.30 43 P **P** **06 35 00.6 +0.4**
comp=Z,0.9nm,0.8s,mb4.2,baz=226,slow=3.2,SNR=8.6
PDAR LR LR 07 09 59.3
comp=Z,915nm,19.7s,MS5.2,baz=246,slow=31
PDAR Pinedale Array 93.30 43 P **P** **06 35 00.6 +0.4**
JCT Junction City 93.35 57 PFAKE 06 35 10.0 +9.2
JCT LR LR
comp=Z,810nm,20.0s,MS5.2
KVTX Kingsville 93.36 61 PFAKE 06 35 10.0 +9.1
KVTX LR LR
comp=Z,584nm,21.0s,MS5.0
CM31 Chiang Mai Arr 93.58 289 PFAKE 06 35 10.0 +7.9
CM31 LR LR
comp=Z,564nm,19.0s,MS5.0
CMAR Chiang Mai Arr 93.58 289 P **P** **06 35 02.6 +0.6**
comp=Z,1.4nm,0.3s,mb4.8,baz=142,slow=2.5,SNR=7.1
CMAR Chiang Mai Arr 93.58 289 P **P** **06 35 02.6 +0.6**
CMAR Chiang Mai Arr 93.58 289 P **P** **06 35 02.7 +0.6**
KMI Kunming 93.60 296 P **P** **06 35 02.0 -0.1**
KMI pP pP 06 35 13.6 +0.5
KMI sP sP 06 35 18.3 +1.3
KMI PP PP 06 38 52.4 +4.9
KMI SKS 06 45 31.9
KMI S S 06 46 06.6 -2.0
KMI SS SS 06 52 25.1 -2.1
KMI pmax pmax
comp=Z,9.0nm,1.7s,mb4.9
KMI pmax pmax
comp=Z,270nm,9.5s
KMI LR LR
comp=N,310nm,22.0s,MS5.1
KMI LR LR
comp=E,550nm,18.4s,MS5.1
KMI LR LR
comp=Z,600nm,19.1s,MS5.1
KMI Kunming 93.60 296 P **P** **06 35 02.0 -0.1**
comp=Z,9.0nm,1.7s,mb4.9
KMI pP pP 06 35 13.6 +0.5
KMI sP sP 06 35 18.3 +1.3
KMI PP PP 06 38 52.4 +4.9
KMI SKS 06 45 31.9
KMI S S 06 46 06.6 -2.0
KMI SS SS 06 52 25.1 -2.1
KMI SSS 06 56 15.1
KMI LR LR
comp=Z,600nm,19.1s,MS5.1
KMI Kunming 93.60 296 P **P** **06 35 02.0 -0.1**
KMI *PP pP 06 35 13.6 +0.5
KMI *SP sP 06 35 18.3 +1.3
KMI 06 38 52.4
KMI 06 45 31.9
KMI S S 06 46 06.6 -2.0
KMI SS SS 06 52 25.1 -2.1
KMI pmax pmax
comp=Z,9.0nm,1.7s,mb4.9
KMI MLR MLR
comp=Z,600nm,19.1s,MS5.1
CHTO Chiang Mai 93.75 289 PFAKE 06 35 10.0 +7.2
CHTO LR LR
comp=Z,645nm,20.0s,MS5.1
BOZ Bozeman (W) 93.76 40 PFAKE 06 35 10.0 +7.7
BOZ LR LR
comp=Z,691nm,20.0s,MS5.1
LKWY Lake 93.83 41 PFAKE 06 35 10.0 +7.4
LKWY LR LR
comp=Z,1μm,19.0s,MS5.4
ISCO Idaho Springs 94.12 47 PFAKE 06 35 20.0 +16
ISCO LR LR
comp=Z,956nm,20.0s,MS5.3
AMTX Amarillo 94.21 53 PFAKE 06 35 20.0 +15
AMTX LR LR
comp=Z,702nm,19.0s,MS5.1
RLMT Red Lodge 94.81 41 PFAKE 06 35 20.0 +13
RLMT LR LR
comp=Z,909nm,19.0s,MS5.3
COLA College 94.85 12 PFAKE 06 35 20.0 +13
COLA LR LR
comp=Z,857nm,19.0s,MS5.2
ILAR Eielson Array 94.94 12 P **P** **06 35 05.4 -1.8**
comp=Z,0.9nm,0.6s,mb4.3,baz=220,slow=5.6,SNR=20
ILAR Eielson Array 94.94 12 P **P** **06 35 05.4 -1.8**
ILAR Eielson Array 94.94 12 P **P** **06 35 05.4 -1.8**
HHC Hu-ho-hao-te 95.13 314 *e*P **P** **06 35 11.2 +2.5**
HHC pP pP 06 35 21.6 +1.9
HHC sP sP 06 35 26.0 +2.4
HHC PP PP 06 39 04.0 +4.9
HHC SKS 06 45 43.5
HHC S S 06 46 22.9 +1.7
HHC SS SS 06 52 56.1 +7.7
HHC pmax pmax
comp=Z,11nm,0.8s,mb5.3
HHC pmax pmax
comp=Z,170nm,6.5s
HHC LR LR
comp=N,260nm,14.3s,MS5.1
HHC LR LR
comp=E,400nm,14.3s,MS5.1
HHC LR LR
comp=Z,570nm,15.5s,MS5.2
CD2 Chengdu 95.58 302 *e*P **P** **06 35 12.6 +1.6**
CD2 pP pP 06 35 22.6 +0.6
CD2 sP sP 06 35 27.2 +1.2
CD2 PP PP 06 39 07.7 +4.9
CD2 SKS 06 45 45.1
CD2 S S 06 46 25.5 -0.1
CD2 SS SS 06 53 00.7 +5.4
CD2 pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
CD2 pmax pmax
comp=Z,40nm,8.2s
CD2 LR LR
comp=E,670nm,17.8s
CD2 LR LR
comp=Z,520nm,16.7s,MS5.1
TGUH Tegucigalpa,Un 95.87 77 PFAKE 06 35 20.0 +7.4
TGUH LR LR
comp=Z,594nm,22.0s,MS5.0
EGAK Eagle 96.12 14 PFAKE 06 35 20.0 +7.4
EGAK LR LR
comp=Z,836nm,19.0s,MS5.2
BILL Bilibino 96.18 354 PFAKE 06 35 20.0 +7.2
BILL LR LR
comp=Z,2μm,22.0s,MS5.4
EGMT Eagleton 96.19 38 PFAKE 06 35 20.0 +6.7
EGMT LR LR
comp=Z,1μm,20.0s,MS5.3
WMOK Wichita Mounta 96.20 54 PFAKE 06 35 20.0 +6.3
WMOK LR LR
comp=Z,457nm,19.0s,MS5.0
JTS JuntasAbangare 96.20 82 PFAKE 06 35 20.0 +5.8
JTS LR LR
comp=Z,716nm,21.0s,MS5.1
OTAV Otavalo 97.41 94 PFAKE 06 35 30.0 +10
OTAV LR LR
comp=Z,434nm,22.0s,MS4.9
LAO LASA Array 97.45 41 PFAKE 06 35 30.0 +11
LAO LR LR
comp=Z,650nm,20.0s,MS5.1
CBKS Cedar Bluff 97.52 50 PFAKE 06 35 30.0 +10
CBKS LR LR
comp=Z,1μm,20.0s,MS5.3
TEIG Tepich 97.76 71 PFAKE 06 35 30.0 +8.9
TEIG LR LR
comp=Z,410nm,19.0s,MS4.9
NATX Nacogdoches 97.83 58 PFAKE 06 35 30.0 +8.8
NATX LR LR
comp=Z,896nm,22.0s,MS5.2
LZH Lanzhou 97.98 306 *e*P **P** **06 35 24.6 +2.8**
LZH pP pP 06 35 35.1 +2.3
LZH sP sP 06 35 39.2 +2.5
LZH *e*PP PP 06 39 27.5 +6.3
LZH pmax pmax
comp=Z,17nm,1.5s,mb5.3
LZH pmax pmax
comp=Z,63nm,8.6s
LZH LR LR
comp=N,200nm,16.7s,MS4.8
LZH LR LR
comp=E,220nm,17.2s,MS4.8
LZH LR LR
comp=Z,300nm,20.0s,MS4.8
LZH Lanzhou 97.98 306 *e*P **P** **06 35 24.6 +2.8**
comp=Z,17nm,1.5s,mb5.3
LZH pP pP 06 35 35.1 +2.3
LZH sP sP 06 35 39.2 +2.5
LZH *e*PP PP 06 39 27.5 +6.3
LZH LR LR
comp=Z,300nm,20.0s,MS4.8
LZH Lanzhou 97.98 306 *e*P **P** **06 35 24.6 +2.8**
LZH *PP pP 06 35 35.1 +2.3
LZH *SP sP 06 35 39.2 +2.5
LZH *e* 06 39 27.5
LZH pmax pmax
comp=Z,17nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,300nm,20.0s,MS4.8
LPAZ La Paz 98.21 113 PFAKE 06 35 30.0 +6.7
LPAZ LR LR
comp=Z,617nm,20.0s,MS5.1
YAK Yakutsk 99.10 337 PFAKE 06 35 40.0 +14
YAK LR LR
comp=Z,1μm,21.0s,MS5.4
DGMT Dagmar 99.56 40 PFAKE 06 35 40.0 +12
DGMT LR LR
comp=Z,908nm,21.0s,MS5.2
MIAR Mount Ida 99.91 56 PFAKE 06 35 40.0 +10
MIAR LR LR
comp=Z,723nm,21.0s,MS5.2
BCIP Isla Barro Col 100.21 85 PFAKE 06 35 40.0 +8.4
BCIP LR LR

comp=Z,558nm,20.0s,MS5.1
CPUP Villa Florida 100.79 127 PFAKE 06 35 40.0 +5.8
CPUP LR LR
comp=Z,201nm,19.0s,MS4.7
VBMS Vicksburg 101.19 60 PFAKE 06 35 50.0 +14
VBMS LR LR
comp=Z,465nm,19.0s,MS5.0
ULN Ulaanbaatar 101.46 318 PFAKE 06 35 50.0 +13
ULN LR LR
comp=Z,759nm,20.0s,MS5.2
SONM Songino Array 101.84 318 P Pdif 06 35 38.4 -0.5
comp=Z,0.3nm,0.8s,baz=57,slow=5.3,SNR=2.1
SONM Songino Array 101.84 318 P Pdif 06 35 38.4 -0.5
SONM Songino Array 101.84 318 P Pdif 06 35 38.4 -0.5
ECSD EROS Data Cent 101.91 47 PFAKE 06 35 50.0 +11
ECSD LR LR
comp=Z,969nm,21.0s,MS5.3
YKA Yellowknife Ar 102.41 25 P Pdif 06 35 39.3 -2.1
comp=Z,0.5nm,0.7s,baz=234,slow=4.9,SNR=3.4
YKA Yellowknife Ar 102.41 25 P Pdif 06 35 39.3 -2.1
YKA Yellowknife Ar 102.41 25 P Pdif 06 35 39.3 -2.1
OXF Oxford 102.99 58 PFAKE 06 36 00.0 +16
OXF LR LR
comp=Z,893nm,20.0s,MS5.3
SCIA State Center 103.36 50 PFAKE 06 36 00.0 +14
SCIA LR LR
comp=Z,597nm,20.0s,MS5.1
BRAL Brewton 103.36 62 PFAKE 06 36 00.0 +14
BRAL LR LR
comp=Z,349nm,20.0s,MS4.9
FFC Flin Flon 103.85 35 PFAKE 06 36 00.0 +12
FFC LR LR
comp=Z,717nm,20.0s,MS5.2
PLAL Pickwick Lake 104.19 58 PFAKE 06 36 00.0 +11
PLAL LR LR
comp=Z,808nm,19.0s,MS5.3
AGMN Agassiz Nation 104.38 43 PFAKE 06 36 00.0 +10
AGMN LR LR
comp=Z,622nm,20.0s,MS5.1
DGAR Diego Garcia 104.75 253 PFAKE 06 36 00.0 +8.2
DGAR LR LR
comp=Z,1μm,19.0s,MS5.4
TLY Talaya 105.16 321 PFAKE 06 40 20.0 +12
TLY LR LR
comp=Z,631nm,20.0s,MS5.2
ULM Lac du Bonnet 105.19 41 PFAKE 06 40 20.0 +12
ULM LR LR
comp=Z,1μm,19.0s,MS5.5
HDIL Hopedale 105.51 52 PFAKE 06 40 20.0 +11
HDIL LR LR
comp=Z,701nm,19.0s,MS5.2
JFWS Jewell Farm 105.78 50 PFAKE 06 40 20.0 +11
JFWS LR LR
comp=Z,818nm,22.0s,MS5.2
MTDJ Mount Denham 106.09 78 PFAKE 06 40 20.0 +10
MTDJ LR LR
comp=Z,608nm,22.0s,MS5.1
EYMN Ely 106.91 44 PFAKE 06 40 20.0 +9.1
EYMN LR LR
comp=Z,708nm,20.0s,MS5.2
GOGA Godfrey 107.10 61 PFAKE 06 40 20.0 +8.3
GOGA LR LR
comp=Z,667nm,21.0s,MS5.2
SDV Santo Domingo 108.25 89 PFAKE 06 40 30.0 +16
SDV LR LR
comp=Z,177nm,19.0s,MS4.7
GTBY Guantanamo Bay 108.87 77 PFAKE 06 40 30.0 +15
GTBY LR LR
comp=Z,288nm,21.0s,MS4.8
SPB Sao Paulo 109.38 131 PFAKE 06 40 30.0 +14
SPB LR LR
comp=Z,581nm,20.0s,MS5.2
NHSC New Hope 109.56 62 PFAKE 06 40 30.0 +14
NHSC LR LR
comp=Z,450nm,19.0s,MS5.1
RER Riviere de l'E 109.87 232 PFAKE 06 40 30.0 +13
RER LR LR
comp=Z,1μm,19.0s,MS5.4
ACSO Alum Creek Sta 109.89 54 PFAKE 06 40 30.0 +13
ACSO LR LR
comp=Z,643nm,20.0s,MS5.2
AAM Ann Arbor 110.09 52 PFAKE 06 40 30.0 +13
AAM LR LR
comp=Z,781nm,21.0s,MS5.3
GLMI Grayling 110.26 49 PFAKE 06 40 30.0 +13
GLMI LR LR
comp=Z,912nm,21.0s,MS5.3
BLA Blacksburg 110.77 58 PFAKE 06 40 30.0 +12
BLA LR LR
comp=Z,312nm,19.0s,MS4.9
SDDR Presa de Saban 111.83 79 PFAKE 06 40 30.0 +9.0
SDDR LR LR
comp=Z,639nm,22.0s,MS5.2
CNNC Cliffs of the 112.06 61 PFAKE 06 40 30.0 +9.0
CNNC LR LR
comp=Z,553nm,19.0s,MS5.2
WMQ Urumqi 112.39 309 *e*Pdif Pdif 06 36 27.0 +1.2
WMQ PP PP 06 41 11.0 +3.2
WMQ SS SS 06 56 48.7 +3.0
WMQ LR LR
comp=N,550nm,26.4s,MS5.2
WMQ LR LR
comp=E,750nm,27.4s,MS5.2
WMQ LR LR
comp=Z,250nm,25.6s,MS4.7
ERPA Erie 112.62 53 PFAKE 06 40 30.0 +8.2
ERPA LR LR
comp=Z,644nm,20.0s,MS5.2
CBN Corbin 113.38 58 PFAKE 06 40 30.0 +6.6
CBN LR LR
comp=Z,407nm,19.0s,MS5.0
BINY Binghamton 115.51 54 PFAKE 06 40 40.0 +13
BINY LR LR
comp=Z,760nm,22.0s,MS5.3
SJG San Juan 116.00 82 PFAKE 06 40 40.0 +11
SJG LR LR
comp=Z,537nm,22.0s,MS5.1
ZALV Zalesovo Beam 116.69 319 PKP PKPdf 06 40 26.6 -2.6
comp=Z,0.7nm,0.6s,baz=183,slow=1.6,SNR=5.0
ZALV Zalesovo Beam 116.69 319 PKP PKPdf 06 40 26.6 -2.6
ZALV Zalesovo Beam 116.69 319 PKIKP PKPdf 06 40 26.6 -2.6
MKAR Makanchi Array 116.83 311 PKP PKPdf 06 40 28.0 -1.8
comp=Z,0.7nm,0.6s,baz=64,slow=0.5,SNR=5.0
MKAR Makanchi Array 116.83 311 PKP PKPdf 06 40 28.0 -1.8
MKAR Makanchi Array 116.83 311 PKIKP PKPdf 06 40 28.0 -1.8
LONY Lake Ozonia 117.08 52 PFAKE 06 40 40.0 +10
LONY LR LR
comp=Z,659nm,21.0s,MS5.2
NCB Newcomb 117.19 52 PFAKE 06 40 40.0 +9.5
NCB LR LR
comp=Z,620nm,19.0s,MS5.2
SUR Sutherland 118.09 197 PFAKE 06 40 40.0 +7.2
SUR LR LR
comp=Z,1μm,20.0s,MS5.5
LBNH Lisbon 118.86 53 PFAKE 06 40 40.0 +6.3
LBNH LR LR
comp=Z,599nm,19.0s,MS5.2
ANWB Willy Bob 119.68 85 PFAKE 06 40 50.0 +14
ANWB LR LR
comp=Z,433nm,19.0s,MS5.1
KURK Kurchatov 119.92 315 PKP PKPdf 06 40 33.8 -1.8
comp=Z,1.4nm,0.7s,baz=99,slow=1.7,SNR=13
KURK Kurchatov 119.92 315 *e*PKPdf PKPdf 06 40 33.5 -2.1
KURK PKP PKPdf 06 40 33.8 -1.8
KURK LR LR
comp=Z,441nm,21.0s,MS5.1
KURK Kurchatov 119.92 315 *i* PKIKP PKPdf 06 40 33.9 -1.7
KURK MLR MLR
comp=Z,406nm,20.0s,MS5.1
BOSA Boshof 120.30 202 PFAKE 06 40 50.0 +13
BOSA LR LR
comp=Z,740nm,20.0s,MS5.3
MSEY Mahe Island 120.36 246 PFAKE 06 40 50.0 +12
MSEY LR LR
comp=Z,955nm,20.0s,MS5.4
NIL Nilore 120.54 295 PFAKE 06 40 50.0 +13
NIL LR LR
comp=Z,76nm,20.0s,MS4.3
TKM2 Tokmak 2 120.74 306 PFAKE 06 40 50.0 +13
TKM2 LR LR
comp=Z,515nm,22.0s,MS5.1
PKME Peaks-Kenny Pk 120.89 52 PFAKE 06 40 50.0 +12
PKME LR LR
comp=Z,967nm,21.0s,MS5.4
AAK Ala-Archa 121.48 305 PFAKE 06 40 50.0 +11
AAK LR LR
comp=Z,712nm,21.0s,MS5.3
BBSR BB Station 121.77 67 PFAKE 06 40 50.0 +10
BBSR LR LR
comp=Z,314nm,20.0s,MS5.0
EKS2 Erkin-Say 122.01 305 PFAKE 06 40 50.0 +10
EKS2 LR LR
comp=Z,601nm,19.0s,MS5.3
SCHQ Schefferville 123.37 41 PFAKE 06 40 50.0 +7.9
SCHQ LR LR
comp=Z,914nm,21.0s,MS5.4
LBTB Lobatse 123.47 204 PFAKE 06 40 50.0 +6.7
LBTB LR LR
comp=Z,676nm,20.0s,MS5.3
BVAR Borovoye Array 125.17 317 PKP PKPdf 06 40 44.4 -1.2
comp=Z,1.1nm,0.6s,baz=104,slow=1.8,SNR=7.3
BVAR Borovoye Array 125.17 317 PKP PKPdf 06 40 44.4 -1.2
BVAR Borovoye Array 125.17 317 PKIKP PKPdf 06 40 44.4 -1.2
BRVK Borovoye 125.24 317 PFAKE 06 41 00.0 +14
BRVK LR LR
comp=Z,490nm,19.0s,MS5.2
BRVK Borovoye 125.24 317 *i* PKIKP PKPdf 06 40 44.8 -0.9
KBS Kingsbay 128.43 358 PFAKE 06 41 00.0 +8.8
KBS LR LR
comp=Z,367nm,22.0s,MS5.0
RCBR Riachuelo 129.62 125 PFAKE 06 41 10.0 +15
RCBR LR LR
comp=Z,800nm,21.0s,MS5.4
LSZ Lusaka 131.04 213 PFAKE 06 41 10.0 +12
LSZ LR LR
comp=Z,771nm,20.0s,MS5.4
TSUM Tsumeb 131.48 198 PFAKE 06 41 10.0 +11
TSUM LR LR
comp=Z,1μm,19.0s,MS5.6
ARU Arti 131.62 322 PFAKE 06 41 10.0 +12
ARU LR LR
comp=Z,1μm,21.0s,MS5.6
LVZ Lovozero 135.50 344 PFAKE 06 41 20.0 +15
LVZ LR LR
comp=Z,437nm,20.0s,MS5.2
KEV Kevo 135.62 348 PFAKE 06 41 20.0 +15
KEV LR LR
comp=Z,483nm,20.0s,MS5.2
KEV Kevo 135.62 348 *e*PKIKP PKPdf 06 41 10.0 +5.1
KEV Kevo 135.62 348 *e*pkp PKPdf 06 41 10.0 +5.1
ARCES ARCESS Array B 136.08 349 PKhKP PKPpre 06 41 01.2
comp=Z,2.1nm,0.8s,baz=8.2,slow=1.3,SNR=7.9
ARCES ARCESS Array B 136.08 349 PKPpre PKPpre 06 41 01.2
ARCES ARCESS Array B 136.08 349 PKIKP PKPdf 06 41 01.2 -4.6
KMBO Kilima Mbogo 136.66 234 PFAKE 06 41 20.0 +11
KMBO LR LR
comp=Z,690nm,20.0s,MS5.4
JOF Joensuu 140.20 340 *e*PKIKP PKPdf 06 41 12.2 -1.3
JOF Joensuu 140.20 340 *e*pkp PKPdf 06 41 12.2 -1.3
MAK Makhachkala 141.27 305 *i* PKIKP PKPdf 06 41 21.0 +4.9
MBAR Mbarara 141.54 228 PFAKE 06 41 30.0 +12
MBAR LR LR
comp=Z,621nm,19.0s,MS5.4
KAF Kangasniemi 142.26 343 *e*PKIKP PKPdf 06 41 12.7 -4.5
KAF Kangasniemi 142.26 343 *e*pkp PKPdf 06 41 12.7 -4.5
FINES FINESS Array B 142.87 342 PKhKP PKPpre 06 41 13.1
comp=Z,2.1nm,0.6s,baz=35,slow=5.5,SNR=9.9
FINES FINESS Array B 142.87 342 PKPpre PKPpre 06 41 13.1
FINES FINESS Array B 142.87 342 PKHKP PKPpre 06 41 13.1
DGRG David-gareji 143.06 303 P PKPdf 06 41 14.5 -4.8
OBN Obninsk 143.47 328 PFAKE 06 41 30.0 +10
OBN LR LR
comp=Z,518nm,22.0s,MS5.2
GNI Garni 143.71 301 PFAKE 06 41 30.0 +9.5
GNI LR LR
comp=Z,281nm,21.0s,MS5.0
GNI Garni 143.71 301 *i* PKIKP PKPdf 06 41 17.7 -2.8
GNI MLR MLR
comp=Z,424nm,24.0s
VSR Storozhevoye 144.16 321 *e*PKIKP PKPdf 06 41 17.9 -3.0
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=Z,2.0nm,0.4s
VSR pmax pmax
comp=E,4.0nm,0.5s
ONI Oni 144.27 305 P PKPdf 06 41 19.7 -1.7
BHD Baghdad 144.31 289 *i* x x 06 41 17.0
AKH Akhalkalaki 144.46 303 P PKPdf 06 41 19.6 -2.2
KIV Kislovodsk 144.51 308 PFAKE 06 41 30.0 +8.2
KIV LR LR
comp=Z,472nm,20.0s,MS5.3
KIV Kislovodsk 144.51 308 ⇑ *i* PKIKP PKPdf 06 41 20.6 -1.2
KIV pmax pmax
comp=Z,12nm,1.1s
TUTA Tutak 145.28 300 *i* P PKPbc 06 41 23.6 +0.5
ARTV Artvin 145.66 303 *i* P PKPdf 06 41 23.2 -0.7
DAGI Agillar 145.69 303 *i* P PKPdf 06 41 23.4 -0.5
DBAD Bademkaya 145.87 303 *i* P PKPdf 06 41 24.4 +0.2
NOA NORSAR Array B 146.13 353 PKPbc PKPbc 06 41 23.7 -1.3
comp=Z,3.2nm,0.6s,baz=4.8,slow=3.8,SNR=25
NOA NORSAR Array B 146.13 353 PKPbc PKPbc 06 41 23.7 -1.3
NOA NORSAR Array B 146.13 353 PKIKP PKPbc 06 41 23.7 -1.3
NAO01 NORSAR Array S 146.36 353 *e*PKPdf PKPdf 06 41 25.2 +0.8
SOC Sochi 146.68 308 *e*PKIKP PKPdf 06 41 23.1 -2.4
SOC *i* 06 41 27.6
SOC pmax pmax
comp=Z,12nm,0.5s
SOC pmax pmax
comp=Z,6.0nm,0.4s
SOC MLR MLR
comp=Z,364nm,19.0s,MS5.2
IZAR Zarasai 147.37 336 *e*P PKPdf 06 41 27.3 +1.0
ISAL Salakas 147.55 336 *e*P PKPdf 06 41 27.6 +1.1
KONO Kongsberg 147.66 354 PFAKE 06 41 40.0 +13
KONO LR LR
comp=Z,589nm,20.0s,MS5.4
MICGM Minsk 147.68 333 *e*P PKPdf 06 41 26.0 -0.8
IIGN Ignalina 147.68 335 *e*P PKPbc 06 41 28.0 -1.6
MNK Minsk 147.70 333 *e*PKIKP PKPdf 06 41 26.0 -0.8
MNK *e* 06 41 28.0
ANN Anapa 147.85 311 *i* PKP2 PKPbc 06 41 28.8 -1.6
ANN pmax pmax
comp=Z,33nm,0.9s
ANN pmax pmax
comp=Z,466nm,8.9s
AKASG Malin Array Be 149.68 327 PKPbc PKPbc 06 41 33.5 -1.3
comp=Z,4.6nm,0.6s,baz=46,slow=2.6,SNR=16
AKASG Malin Array Be 149.68 327 PKPbc PKPbc 06 41 33.5 -1.3
AKASG Malin Array Be 149.68 327 PKP2 PKPbc 06 41 33.6 -1.3
AKBB Malin Array Si 149.68 327 *e*PKPdf PKPdf 06 41 31.2 +1.0
AKBB Malin Array Si 149.68 327 *e*PKHKP PKPbc 06 41 31.2 -3.7
KIEV Kiev 149.69 327 *e*PKPbc PKPbc 06 41 33.0 -1.9
KIEV LR LR
comp=Z,566nm,22.0s,MS5.3
KIEV Kiev 149.69 327 *e*PKHKP PKPbc 06 41 33.0 -1.9
KIEV MLR MLR
comp=Z,566nm,22.0s,MS5.3
BOYT Boyabat 150.72 306 *i* P PKPab 06 41 42.0 -2.8
COBT Iskenderun 150.81 296 *i* P PKPbc 06 41 37.2 -0.9
CTKT Corum 151.05 305 *i* P PKPab 06 41 45.3 -0.8
BALT Daday 151.76 307 *i* P PKPbc 06 41 35.7 -4.4
GULE Gulek 151.86 298 *i* P PKPbc 06 41 39.9 -0.5
ESK Eskdalemuir 151.89 8 PFAKE 06 41 40.0 +6.6
ESK LR LR
comp=Z,807nm,19.0s,MS5.5
SACV Santiago Islan 152.01 111 PFAKE 06 41 40.0 +5.2
SACV LR LR
comp=Z,622nm,19.0s,MS5.4
BR131 Keskin Array S 152.15 304 *e*PKPbc PKPbc 06 41 40.9 -0.2
BR131 LR LR
comp=Z,709nm,20.0s,MS5.5
BRTR Keskin Array B 152.15 304 PKPbc PKPbc 06 41 40.0 -1.0
comp=Z,1.4nm,0.7s,baz=136,slow=4.4,SNR=7.2
BRTR Keskin Array B 152.15 304 PKPbc PKPbc 06 41 40.0 -1.0
BRTR Keskin Array B 152.15 304 PKIKP PKPbc 06 41 40.1 -0.9
KIS Kishinev 152.15 321 *e*PKP PKPdf 06 41 28.0 -6.1
KIS Kishinev 152.15 321 *e*PP PP 06 45 22.0 -0.5
KIS *e*L 07 39 34.0
KIS LRM 07 52 32.0
comp=Z,700nm,20.0s
KIS Kishinev 152.15 321 *e*PKIKP PKPdf 06 41 28.0 -6.1
KIS *e* 06 45 22.0
LVV L'vov 152.71 330 *e*PKIKP PKPbc 06 41 43.9 +2.0
CSS Prodhromos 153.39 294 PFAKE 06 41 50.0 +14
CSS LR LR
comp=Z,1μm,19.0s,MS5.7
KWP Kalwaria Pacla 153.43 331 *e*PKPdf PKPdf 06 41 36.3 +0.4
KWP *e*PKPab PKPab 06 41 55.0 -0.8
KWP LR LR
comp=Z,821nm,22.0s,MS5.5
KWP Kalwaria Pacla 153.43 331 *e*PKIKP PKPdf 06 41 36.3 +0.4
KWP *e* 06 41 55.0
KWP MLR MLR
comp=Z,821nm,22.0s,MS5.5
BUR08 Bucovina Ar. S 153.68 325 *e*PKPbc PKPbc 06 41 44.1 0.0
UZH Uzhgorod 154.36 330 *e*PKIKP PKPdf 06 41 37.6 +0.3
UZH *e* 06 41 51.0
UZH *e* 06 41 59.2
CLL Collm 155.20 345 *e*PKIKP PKPdf 06 41 39.0 +0.7
CLL *e* 06 42 02.0
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL MLR MLR
comp=Z,600nm,19.4s,MS5.4
CLL Collm 155.20 345 *e*PKPdf PKPdf 06 41 39.0 +0.7
CLL *e*PKPab PKPab 06 42 02.0 -1.2
comp=Z,4.0nm,1.0s
CLL *e*(pPKPab) 06 42 09.0
CLL *e*PP PP 06 45 42.0 +3.0
CLL *e*PPP 06 49 12.0
CLL *e*PKKSdf 06 53 47.0
CLL *e*PSKS 06 56 03.0
CLL *e*PPS 06 58 49.0
CLL *e* 07 00 30.0
CLL *e*SS SS 07 05 35.0 +15
CLL *e*SSS 07 11 24.0
CLL *e*SSSS 07 15 36.0
CLL LmV 07 58 00.0
comp=N,500nm,18.0s
CLL LmV 07 58 00.0
comp=E,300nm,20.6s
CLL LmV 07 58 00.0
comp=Z,600nm,19.4s
BRG Berggiesshubel 155.38 344 *e*PKP PKPab 06 42 02.3 -1.8
comp=Z,4.9nm,1.0s
BRG Berggiesshubel 155.38 344 *e*PKP2 PKPab 06 42 02.3 -1.7
BRG pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 155.94 332 PFAKE 06 41 50.0 +11
PSZ LR LR
comp=Z,800nm,20.0s,MS5.5
KHC Kasperske Hory 157.08 343 *e*PKP2 PKPab 06 42 08.5 -2.8
KHC Kasperske Hory 157.08 343 *e*PKPAB PKPab 06 42 08.5 -2.8
KHC *ex* x 06 42 30.0
DBIC Dimbokro 157.79 158 PFAKE 06 41 50.0 +7.1
DBIC LR LR
comp=Z,628nm,21.0s,MS5.4
WLF Walferdange 157.85 355 PFAKE 06 41 50.0 +8.2
WLF LR LR
comp=Z,805nm,19.0s,MS5.6
BFO Black Forest 158.93 351 PFAKE 06 41 50.0 +6.8
BFO LR LR
comp=Z,581nm,19.0s,MS5.4
ECH Echery 159.19 353 PFAKE 06 41 50.0 +6.5
ECH LR LR
comp=Z,687nm,22.0s,MS5.5
TUE Stuetta 160.56 347 PFAKE 06 42 00.0 +15
TUE LR LR
comp=Z,928nm,19.0s
TIR Tirane 160.70 320 PFAKE 06 42 00.0 +15
TIR LR LR
comp=Z,1μm,20.0s
SSB Saint Sauveur 162.32 357 PFAKE 06 42 00.0 +13
SSB LR LR
comp=Z,960nm,20.0s
BNI Bardonecchia 162.37 352 PFAKE 06 42 00.0 +13
BNI LR LR
comp=Z,853nm,19.0s
AQU L'Aquila 163.13 333 PFAKE 06 42 00.0 +12
AQU LR LR
comp=Z,802nm,20.0s
CUC Castrocucco 163.87 323 PFAKE 06 42 00.0 +11
CUC LR LR
comp=Z,441nm,20.0s
TIP Timpagrande 163.91 319 PFAKE 06 42 00.0 +11
TIP LR LR
comp=Z,857nm,19.0s
MTE Manteigas 164.38 32 PFAKE 06 42 00.0 +11
MTE LR LR
comp=Z,805nm,19.0s
CEL Celeste 165.03 318 PFAKE 06 42 00.0 +10
CEL LR LR
comp=Z,841nm,20.0s
TORD Torodi Ar. Bea 165.55 174 PKP PKPdf 06 41 50.1 -0.7
comp=Z,0.9nm,0.7s,baz=17,slow=1.0,SNR=5.3
TORD PKPab PKPab 06 42 48.8 -0.3
comp=Z,9.7nm,1.1s,baz=190,slow=3.8,SNR=23
TORD Torodi Ar. Bea 165.55 174 PKP PKPdf 06 41 50.1 -0.7
TORD PKPab PKPab 06 42 48.8 -0.3
VSL Villasalto 167.10 339 PFAKE 06 42 00.0 +8.7
VSL LR LR
comp=Z,538nm,21.0s
WDD Wield Dalam 167.40 314 PFAKE 06 42 00.0 +8.3
WDD LR LR
comp=Z,737nm,20.0s
SFS San Fernando 168.02 40 PFAKE 06 42 00.0 +7.9
SFS LR LR
comp=Z,2μm,20.0s
TAM Tamanrasset 174.83 203 PFAKE 06 42 10.0 +14
TAM LR LR
comp=Z,773nm,20.0s

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*CSEM **06** 06:24:33.9±0.1, 44°.72N×6°.66E, h10km, ML2.4/19, Error ellipse: s-maj=1.6km s-min=1.0km az=50.0*
*ROM **06** 06:24:33.7±0.4, 44°.71N×6°.67E, h10km, Md1.9/4, Ml1.9/2, Error ellipse: s-maj=5.9km s-min=1.9km az=64.0*
*ISCJB **06** 06:24:33.4±0.2, 44°.71N±0°.01×6°.62E±0°.02, h12km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=147.0*
*LDG **06** 06:24:34.6±0.0, 44°.72N×6°.70E, h2km, Md2.5/3, Ml2.4/15, Error ellipse: s-maj=0.9km s-min=0.5km az=59.0*
*STR **06** 06:24:34.8±0.1, 44°.66N×6°.61E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **06** 06:24:34.4, 44°.72N×6°.69E, h0km, ML1.7*

ISC 06 06:24:34.0±0.2, 44°.72N±0°.01×6°.65E±0°.02, h12km±2km, n68, σ0s60/128, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.09**	**83**	*e*Pg	**Pg**	**06 24 36.2**	**-0.6**
MBDF				*e*Sg	**Sg**	**06 24 37.2**	**-1.6**
487nm,0.2s							
MBDF	**Montbardon**	**0.09**	**83**	*e*Pg	**Pg**	**06 24 36.2**	**-0.6**
MBDF				*e*Sg	**Sg**	**06 24 37.2**	**-1.6**
244nm,0.2s							
SURF	**Saint Ours**	**0.26**	**153**	Pg	**Pg**	**06 24 39.3**	**-0.2**
SURF				Sg	**Sg**	**06 24 43.2**	**0.0**
SURF	**Saint Ours**	**0.26**	**153**	Pg	**Pg**	**06 24 39.3**	**-0.2**
SURF				Sg	**Sg**	**06 24 43.2**	**0.0**
BNI	**Bardonecchia**	**0.34**	**4**	Pg	**Pg**	**06 24 41.4**	**+0.6**
BNI				Sg	**Sg**	**06 24 46.1**	**+0.7**
BNI	**Bardonecchia**	**0.34**	**4**	Pg	**Pg**	**06 24 41.4**	**+0.6**
BNI				Sg	**Sg**	**06 24 46.1**	**+0.7**
PZZ	**Stroppo**	**0.40**	**122**	Pg	**Pg**	**06 24 41.9**	**0.0**
PZZ				Sg	**Sg**	**06 24 47.0**	**-0.2**
137nm,0.4s							
PZZ	**Stroppo**	**0.40**	**122**	P	**Pg**	**06 24 41.9**	**0.0**
PZZ				S	**Sg**	**06 24 47.1**	**-0.1**
DOI	**San Damiano**	**0.48**	**116**	Pg	**Pg**	**06 24 43.3**	**-0.1**
DOI				Sg	**Sg**	**06 24 50.0**	**+0.2**
DOI	**San Damiano**	**0.48**	**116**	Pg	**Pg**	**06 24 43.3**	**-0.1**
DOI				Sg	**Sg**	**06 24 50.0**	**+0.2**
ORIF	**Oris-en-Rattie**	**0.58**	**291**	*e*Pg	**Pg**	**06 24 45.2**	**-0.2**
ORIF				*e*Sg	**Sg**	**06 24 52.2**	**-0.8**
38nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.58**	**291**	*e*Pg	**Pg**	**06 24 45.2**	**-0.2**
ORIF				*e*Sg	**Sg**	**06 24 52.2**	**-0.8**
19nm,0.2s							
GDM	**Grand'Maison**	**0.61**	**323**	Pg	**Pg**	**06 24 47.4**	**+1.4**
GDM	**Grand'Maison**	**0.61**	**323**	Pg	**Pg**	**06 24 47.4**	**+1.4**
RSP	**Reno Superiore**	**0.62**	**45**	Pg	**Pg**	**06 24 46.3**	**+0.2**
RSP				Sg	**Sg**	**06 24 54.7**	**+0.5**
36nm,0.5s							
RSP	**Reno Superiore**	**0.62**	**45**	P	**Pg**	**06 24 46.3**	**+0.2**
RSP				S	**Sg**	**06 24 53.9**	**-0.3**
RSP				Sg	**Sg**	**06 24 54.7**	**+0.5**
36nm,0.5s							
STV	**Sant Anna di V**	**0.68**	**134**	P	**Pg**	**06 24 47.1**	**-0.1**
STV				S	**Sg**	**06 24 56.1**	**0.0**
LPG	**La Plagne**	**0.79**	**5**	*e*Pg	**Pg**	**06 24 49.5**	**+0.3**
LPG				*e*Sg	**Sg**	**06 24 59.9**	**+0.4**

19nm,0.3s
LPG La Plagne 0.79 5 *e*Pg **Pg 06 24 49.5 +0.3**
LPG *e*Sg **Sg 06 24 59.9 +0.4**
9.4nm,0.3s
LPL La Plagne 0.80 4 *e*Pg **Pg 06 24 49.8 +0.2**
LPL *e*Sg **Sg 06 25 00.5 +0.4**
29nm,0.3s
LPL La Plagne 0.80 4 *e*Pg **Pg 06 24 49.8 +0.2**
LPL *e*Sg **Sg 06 25 00.5 +0.4**
15nm,0.3s
LSD Lago del Serru 0.82 25 P **Pg 06 24 49.7 -0.2**
TOUF Mont Tournerai 0.82 148 Pg **Pg 06 24 49.8 -0.2**
TOUF Mont Tournerai 0.82 148 Pg **Pg 06 24 49.8 -0.2**
GRN Grenoble 0.83 310 Pg **Pg 06 24 51.4 +1.4**
GRN Sg **Sg 06 25 02.1 +1.2**
GRN Grenoble 0.83 310 Pg **Pg 06 24 51.4 +1.4**
GRN Sg **Sg 06 25 02.1 +1.2**
AUTN L'Aution 0.91 142 Pg **Pg 06 24 51.9 +0.2**
AUTN Sg **Sg 06 25 03.7 +0.1**
AUTN L'Aution 0.91 142 Pg **Pg 06 24 51.9 +0.2**
AUTN Sg **Sg 06 25 03.7 +0.1**
LUCF Luceram 0.96 148 Pg **Pg 06 24 52.4 -0.2**
LUCF Sg **Sg 06 25 05.5 +0.3**
LUCF Luceram 0.96 148 Pg **Pg 06 24 52.4 -0.2**
LUCF Sg **Sg 06 25 05.5 +0.3**
SAOF Saorge 0.98 138 Pg **Pg 06 24 52.7 -0.2**
SAOF Sg **Sg 06 25 06.0 +0.3**
SAOF Saorge 0.98 138 Pg **Pg 06 24 52.7 -0.2**
SAOF Sg **Sg 06 25 06.0 +0.3**
MONE Monesi 1.02 128 P **Pb 06 24 53.4 -0.2**
SBF Sospel 1.02 146 *e*Pg **Pg 06 24 53.3 -0.5**
SBF *e*Sg **Sg 06 25 06.7 -0.4**
48nm,0.3s
SBF Sospel 1.02 146 *e*Pg **Pg 06 24 53.3 -0.5**
SBF *e*Sg **Sg 06 25 06.7 -0.4**
24nm,0.3s
SMRF Simiane la Rot 1.07 226 *e*Pg **Pg 06 24 55.3 +0.7**
SMRF *e*Sg **Sg 06 25 09.4 +1.0**
11nm,0.3s
SMRF Simiane la Rot 1.07 226 *e*Pg **Pg 06 24 55.3 +0.7**
SMRF *e*Sg **Sg 06 25 09.4 +1.0**
5.3nm,0.3s
RONM Roccetta Nervi 1.08 140 P **Pb 06 24 54.3 -0.4**
TRAV Traversella 1.11 44 P **Pb 06 24 54.9 -0.3**
NEGI Seborga 1.15 138 P **Pb 06 24 55.8 -0.1**
FRF La Foret Royal 1.16 180 *e*Pg **Pg 06 24 56.1 -0.2**
FRF *e*Sg **Sg 06 25 11.2 -0.1**
39nm,0.2s
FRF La Foret Royal 1.16 180 *e*Pg **Pg 06 24 56.1 -0.2**
FRF *e*Sg **Sg 06 25 11.2 -0.1**
20nm,0.2s
RORO Rocca Rossa 1.18 120 P **Pn 06 24 56.2 -0.2**
IMI Imperia 1.21 132 P **Pn 06 24 56.6 -0.1**
ROTM Rocchetta Tana 1.22 83 P **Pn 06 24 57.7 +0.8**
PCP Piancastagn 1.37 97 P **Pn 06 24 59.1 +0.2**
LMR La Mourre 1.39 184 *e*Pg **Pg 06 25 00.2 -0.4**
LMR *e*Sg **Sg 06 25 18.4 -0.2**
34nm,0.2s
LMR La Mourre 1.39 184 *e*Pg **Pg 06 25 00.2 -0.4**
LMR *e*Sg **Sg 06 25 18.4 -0.2**
17nm,0.2s
VIVF Saint-Julien-l 1.41 276 *e*Pn **Pn 06 25 00.2 +0.7**
VIVF *e*Sg **Sg 06 25 20.4 +0.9**
11nm,0.3s
VIVF Saint-Julien-l 1.41 276 *e*Pn **Pn 06 25 00.2 +0.7**
VIVF *e*Sg **Sg 06 25 20.4 +0.9**
5.7nm,0.3s
CABF La Chapelle 1.94 349 *e*Pn **Pn 06 25 07.0 +0.3**
CABF *e*Sn **Sn 06 25 30.7 -0.2**
7.2nm,0.5s
CABF La Chapelle 1.94 349 *e*Pn **Pn 06 25 07.0 +0.3**
CABF *e*Sn **Sn 06 25 30.7 -0.2**
3.6nm,0.5s
LASF Ste Croix 2.10 253 *e*Pn **Pn 06 25 09.5 +0.6**
LASF *e*Sn **Sn 06 25 35.0 +0.1**
2.2nm,0.3s
LASF Ste Croix 2.10 253 *e*Pn **Pn 06 25 09.5 +0.6**
LASF *e*Sn **Sn 06 25 35.0 +0.1**
1.1nm,0.3s
SMF Signal de Mont 2.75 315 *e*Pn **Pn 06 25 18.5 +0.5**
SMF *e*Sg **Sg 06 26 02.0 -0.5**
3.9nm,0.4s
SMF Signal de Mont 2.75 315 *e*Pn **Pn 06 25 18.5 +0.5**
SMF *e*Sg **Sg 06 26 02.0 -0.5**
2.0nm,0.4s
AVF Avril sur Loir 3.10 313 *e*Pn **Pn 06 25 23.0 +0.3**
AVF *e*Sg **Sg 06 26 12.3 -1.3**
2.6nm,0.4s
AVF Avril sur Loir 3.10 313 *e*Pn **Pn 06 25 23.0 +0.3**
AVF *e*Sg **Sg 06 26 12.3 -1.3**
1.3nm,0.4s
LOR Lormes 3.21 324 *e*Pn **Pn 06 25 24.5 +0.3**
LOR *e*Sn **Sn 06 26 01.2 -1.1**
LOR *e*Sg **Sg 06 26 15.9 -1.1**
2.6nm,0.4s
LOR Lormes 3.21 324 *e*Pn **Pn 06 25 24.5 +0.3**
LOR *e*Sn **Sn 06 26 01.2 -1.1**
LOR *e*Sg **Sg 06 26 15.9 -1.1**
1.3nm,0.4s
SSF Saint Saulge 3.21 318 *e*Pn **Pn 06 25 24.3 +0.1**
SSF *e*Sn **Sn 06 26 01.5 -0.9**
SSF *e*Sg **Sg 06 26 16.2 -0.9**
3.9nm,0.4s
SSF Saint Saulge 3.21 318 *e*Pn **Pn 06 25 24.3 +0.1**
SSF *e*Sn **Sn 06 26 01.5 -0.9**
SSF *e*Sg **Sg 06 26 16.2 -0.9**
2.0nm,0.4s
BGF Bois d'Agland 3.24 306 *e*Pn **Pn 06 25 25.1 +0.5**
BGF *e*Sg **Sg 06 26 17.2 -0.8**
5.8nm,0.3s
BGF Bois d'Agland 3.24 306 *e*Pn **Pn 06 25 25.1 +0.5**
BGF *e*Sg **Sg 06 26 17.2 -0.8**
2.9nm,0.3s
CAF Calviac 3.27 275 *e*Pn **Pn 06 25 25.6 +0.6**
CAF *e*Sn **Sn 06 26 03.0 -0.7**
0.4nm,0.3s
CAF Calviac 3.27 275 *e*Pn **Pn 06 25 25.6 +0.6**
CAF *e*Sn **Sn 06 26 03.0 -0.7**
0.2nm,0.3s
MTLF Montolieu 3.48 248 *e*Pn **Pn 06 25 28.4 +0.5**
MTLF *e*Sn **Sn 06 26 07.9 -1.0**
0.8nm,0.3s
MTLF Montolieu 3.48 248 *e*Pn **Pn 06 25 28.4 +0.5**
MTLF *e*Sn **Sn 06 26 07.9 -1.0**
0.4nm,0.3s

DJA 06 06:57:45,8°08S×107°93E,h25km,MLv4.1/13,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.53**	**348**	P	Pb	06 57 57.5	+1.7
CISI				S	Sb	06 58 05.6	+2.5
CLJI	**Cilicap**	**1.13**	**72**	P	Pn	06 58 10.7	+5.4
CLJI				S	Sn	06 58 20.5	+0.5
LEM	**Lembang**	**1.28**	**346**	P	Pn	06 58 08.4	+1.0
SKJI	**Sukabumi**	**1.73**	**308**	P	Pn	06 58 14.7	+1.2
SKJI				S	Sn	06 58 35.8	+1.0
BJII	**Banjamegara**	**1.91**	**67**	P	Pn	06 58 16.4	+0.4
BJII				S	Sn	06 58 41.5	+2.2
DBJI	**Dramaga**	**1.92**	**322**	P	Pn	06 58 17.6	+1.5
DBJI				S	Sn	06 58 41.6	+2.2
UGM	**Wanagama**	**2.57**	**86**	P	Sb	06 59 05.5	+3.8
263nm,0.6s,1.2nm							
UGM	**Wanagama**	**2.57**	**86**	P	Pn	06 58 24.9	-0.2
CGJI	**Cibinong**	**2.65**	**303**	P	Pn	06 58 26.2	0.0
SMRI	**Semarang**	**2.69**	**68**	P	Sn	06 58 58.7	+0.2
281nm,0.9s,0.9nm							
SMRI	**Semarang**	**2.69**	**68**	P	Pn	06 58 28.3	+1.6
RBSI	**Rajabasa**	**3.11**	**316**	P	Pn	06 58 34.6	+2.2
PCJI	**Pacitan**	**3.22**	**92**	P	Sn	06 59 10.3	-1.2
PCJI	**Pacitan**	**3.22**	**92**	P	Pn	06 58 34.6	+0.6
NGJI	**Ngawi**	**3.57**	**79**	P	Pb	06 58 53.6	+6.1
NGJI	**Ngawi**	**3.57**	**79**	P	Pn	06 58 47.3	+8.5
SJI	**Sawahan**	**3.82**	**85**	P	Pn	06 58 51.3	+9.1
SJI	**Sawahan**	**3.82**	**85**	P	Pn	06 58 44.1	+1.9
PWJI	**Pagerwojo**	**3.84**	**89**	P	Pn	06 58 48.1	+5.6
PWJI	**Pagerwojo**	**3.84**	**89**	P	Pn	06 58 44.1	+1.6
KLSI		**4.63**	**316**	P	Pn	06 58 57.7	+4.3
MDSI	**Maura Dua**	**5.16**	**314**	P	Pn	06 58 54.5	-6.2
GMJI	**Gumukmas**	**5.46**	**92**	P	Pn	06 59 08.4	+3.5

*ISCJB **06** 07:27:36.8±0.5, 38°36N±0°02×23°25E±0°04, h6km±4km, Error ellipse: s-maj=5.3km s-min=3.2km az=166.3*
*CSEM **06** 07:27:36.9±0.2, 38°37N×23°24E, h20km, ML1.8/3, Error ellipse: s-maj=4.4km s-min=3.1km az=80.0*
*ATH **06** 07:27:37.1, 38°34N×23°23E, h5km±1km, MD3.0/12*
*THE **06** 07:27:37.0, 38°36N×23°23E, h15km±3km, ML1.8/3, Error ellipse: s-maj=3.2km s-min=0.5km az=302.0*

ISC 06 07:27:36.9±0.5, 38°36N±0°02×23°26E±0°04, h10km±4km, n35, σ0°51/60, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIL1	**Vilia, Western**	**0.20**	**164**	*e*PG	**Pg**	**07 27 40.8**	**-0.3**
VIL1				*e*SG	**Sg**	**07 27 44.2**	**+0.3**
LKR	**Lokris**	**0.36**	**326**	*e*PG	**Pg**	**07 27 44.0**	**0.0**
LKR				*e*SB	**Sg**	**07 27 50.0**	**+1.2**
LKR	**Lokris**	**0.36**	**326**	P	**Pg**	**07 27 43.7**	**-0.3**
LKR				S	**Sg**	**07 27 49.2**	**+0.4**
LKR	**Lokris**	**0.36**	**326**	P	**Pg**	**07 27 43.7**	**-0.3**
LKR				S	**Sg**	**07 27 49.2**	**+0.4**
LKR				*e*Sb	**Sg**	**07 27 50.0**	**+1.2**
ATAL	**Atalanti**	**0.39**	**331**	P	**Pg**	**07 27 44.1**	**-0.4**
ATAL				S	**Sg**	**07 27 49.9**	**+0.2**
ATAL	**Atalanti**	**0.39**	**331**	P	**Pg**	**07 27 44.1**	**-0.4**
ATAL				S	**Sg**	**07 27 49.9**	**+0.2**
LTK	**Loutraki**	**0.40**	**215**	*e*PB	**Pg**	**07 27 44.7**	**-0.1**
LTK				*e*SB	**Sg**	**07 27 50.7**	**+0.5**
LTK	**Loutraki**	**0.40**	**215**	P	**Pg**	**07 27 44.8**	**0.0**
LTK				S	**Sg**	**07 27 51.1**	**+0.9**
LTK	**Loutraki**	**0.40**	**215**	P	**Pg**	**07 27 44.8**	**0.0**
LTK				*e*Sb	**Sg**	**07 27 50.7**	**+0.5**
LTK				S	**Sg**	**07 27 51.1**	**+0.9**
MRKA	**Markates**	**0.44**	**36**	P	**Pg**	**07 27 45.6**	**+0.1**
MRKA	**Markates**	**0.44**	**36**	P	**Pg**	**07 27 45.6**	**+0.1**
DESF	**Desfina**	**0.57**	**276**	P	**Pg**	**07 27 47.7**	**-0.4**
DESF				S	**Sg**	**07 27 55.7**	**+0.1**
DESF	**Desfina**	**0.57**	**276**	P	**Pg**	**07 27 47.7**	**-0.4**
DESF				S	**Sg**	**07 27 55.7**	**+0.1**
DSF	**Desfina**	**0.58**	**276**	P	**Pg**	**07 27 47.4**	**-0.7**
DSF				S	**Sg**	**07 27 55.9**	**+0.2**
DSF	**Desfina**	**0.58**	**276**	P	**Pg**	**07 27 47.4**	**-0.7**
DSF				S	**Sg**	**07 27 55.9**	**+0.2**
NAIG	**Nisos Aigina**	**0.62**	**163**	*e*PG	**Pg**	**07 27 48.8**	**-0.2**
NAIG	**Nisos Aigina**	**0.62**	**163**	*e*Pg	**Pg**	**07 27 48.8**	**-0.2**
AXAR	**Agios Charalam**	**0.62**	**311**	P	**Pg**	**07 27 48.8**	**-0.2**
AXAR				S	**Sg**	**07 27 57.9**	**+0.7**
AXAR	**Agios Charalam**	**0.62**	**311**	P	**Pg**	**07 27 48.8**	**-0.2**
AXAR				S	**Sg**	**07 27 57.9**	**+0.7**
VLY	**Voula,Athens**	**0.66**	**140**	*e*PB	**Pb**	**07 27 50.3**	**-0.1**
VLY	**Voula,Athens**	**0.66**	**140**	*e*Pb	**Pb**	**07 27 50.3**	**-0.1**
GUR	**Goura**	**0.83**	**240**	*e*PB	**Pb**	**07 27 52.6**	**-0.9**
GUR				*e*SB	**Sb**	**07 28 04.1**	**-0.6**
GUR	**Goura**	**0.83**	**240**	*e*Pb	**Pb**	**07 27 52.6**	**-0.9**
GUR				*e*Sb	**Sb**	**07 28 04.1**	**-0.6**
DID	**Didima**	**0.85**	**181**	*e*PB	**Pb**	**07 27 53.7**	**0.0**
DID				*e*SB	**Sb**	**07 28 05.4**	**+0.3**
DID	**Didima**	**0.85**	**181**	*e*Pb	**Pb**	**07 27 53.8**	**+0.1**
DID				*e*Sb	**Sb**	**07 28 05.4**	**+0.3**
NEO	**Neokhori**	**0.95**	**358**	*e*PN	**Pn**	**07 27 56.0**	**-0.3**
NEO				*e*SB	**Sb**	**07 28 09.0**	**+0.9**
NEO	**Neokhori**	**0.95**	**358**	*e*Pn	**Pn**	**07 27 56.0**	**-0.3**
NEO				*e*Sb	**Sb**	**07 28 09.0**	**+0.9**
AGG	**Agios Georgios**	**0.98**	**313**	*e*PG	**Pg**	**07 27 55.5**	**-0.4**
AGG	**Agios Georgios**	**0.98**	**313**	*e*Pg	**Pg**	**07 27 55.3**	**-0.6**
EFP	**Efpalio**	**1.06**	**274**	*e*PB	**Pb**	**07 27 56.9**	**-0.5**
EFP	**Efpalio**	**1.06**	**274**	*e*Pb	**Pb**	**07 27 56.9**	**-0.5**
UPR	**University Cam**	**1.16**	**267**	*e*PB	**Pb**	**07 27 59.0**	**0.0**
UPR	**University Cam**	**1.16**	**267**	*e*Pb	**Pb**	**07 27 59.0**	**0.0**
VLX	**Vlachokerasia**	**1.20**	**216**	*e*PB	**Pb**	**07 28 00.0**	**+0.2**
VLX				*e*SB	**Sb**	**07 28 16.5**	**+1.1**
VLX	**Vlachokerasia**	**1.20**	**216**	*e*Pb	**Pb**	**07 28 00.0**	**+0.2**
VLX				*e*Sb	**Sb**	**07 28 16.7**	**+1.3**

*IDC **06** 07:48:04.1±1.0, 30°27S×177°72W, h0km, mb4.4/6, mb1 4.5/7, mb1mx4.2/17, mbtmp4.3/7, ML3.7/1, MS3.6/3, Ms1 3.7/3, ms1mx3.3/27, Error ellipse: s-maj=40.5km s-min=23.9km az=160.0*
*ISCJB **06** 07:48:07.5±1.0, 30°25S±0°1×177°9W±0°2, h33km, mb4.3/7, MS4.0/2, Error ellipse: s-maj=21.8km s-min=13.1km az=20.7*
*NEIC **06** 07:48:09.0±0.7, 30°11S×177°74W, h35km, mb4.5/4, Error ellipse: s-maj=18.5km s-min=12.7km az=112.0*

ISC 06 07:48:10.1±1.1, 30°25S±0°1×177°9W±0°2, h35km, n36, σ1°04/24, mb4.3/7, MS4.0/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**357**	*e*Pn	**Pn**	**07 48 22.4**	**-4.6**
OUZ	**Omahuta**	**8.76**	**233**	*e*Pn	**Pn**	**07 50 16.0**	**+1.8**
8.1nm,0.8s							
URZ	**Urewera**	**9.04**	**206**	Pn	**Pn**	**07 50 16.3**	**-1.8**
0.8nm,0.3s,baz=340,slow=3.9,SNR=6.7							
URZ				Sn	**Sn**	**07 51 52.6**	**-6.0**
2.6nm,0.3s,baz=186,slow=21,SNR=13							
URZ				LR	LR	07 53 15.4	
comp=Z,114nm,19.6s,baz=38,slow=34							
URZ	**Urewera**	**9.04**	**206**	*e*Pn	**Pn**	**07 50 16.8**	**-1.3**
URZ				*e*Sn	**Sn**	**07 51 51.9**	**-6.7**
CTA	**Charters Tower**	**33.88**	**279**	P	**P**	**07 54 51.4**	**+1.7**
5.6nm,0.5s,mb4.8,baz=104,slow=9.8,SNR=9.8							
CTA				LR	LR	08 07 39.8	
comp=Z,81nm,18.6s,MS3.5,baz=229,slow=35							
CTA	**Charters Tower**	**33.88**	**279**	*e*P	**P**	**07 54 51.3**	**+1.7**
4.6nm,0.5s,mb4.7							
CTA	**Charters Tower**	**33.88**	**279**	P	**P**	**07 54 51.4**	**+1.8**
CTAO	**Charters Tower**	**33.88**	**279**	*e*P	**P**	**07 54 51.0**	**+1.4**
5.2nm,0.5s,mb4.7							
STKA	**Stephens Creek**	**34.63**	**257**	P	**P**	**07 54 56.6**	**+0.6**
13nm,0.9s,mb4.8,baz=100,slow=9.2,SNR=21							
STKA	**Stephens Creek**	**34.63**	**257**	*e*P	**P**	**07 54 57.0**	**+1.0**
9.0nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**34.63**	**257**	*e*P	**P**	**07 54 56.5**	**+0.5**
2.1nm,0.8s,mb4.1							
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**07 56 07.5**	**-0.7**
1.4nm,0.5s,mb4.0,baz=106,slow=7.6,SNR=8.6							
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**07 56 07.5**	**-0.7**
WB2	**Warramunga Arr**	**44.19**	**272**	*e*P	**P**	**07 56 14.8**	**-1.1**
WRAB	**Tennant Creek**	**44.20**	**272**	*e*P	**P**	**07 56 15.0**	**-0.9**
WRA	**Warramunga Arr**	**44.20**	**272**	P	**P**	**07 56 15.7**	**-0.3**
3.2nm,0.4s,mb4.4,baz=110,slow=7.9,SNR=14							
WRA	**Warramunga Arr**	**44.20**	**272**	P	**P**	**07 56 15.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.47**	**270**	P	**P**	**07 57 19.2**	**-0.5**
2.7nm,0.8s,mb4.2,baz=166,slow=7.2,SNR=5.3							
FITZ	**Fitzroy Crossi**	**52.47**	**270**	*e*P	**P**	**07 57 19.3**	**-0.4**
3.1nm,0.8s,mb4.3							
QSPA	**South Pole Qui**	**59.90**	**180**	*e*P	**P**	**07 58 12.3**	**+0.5**
6.4nm,0.8s,mb4.7							
NVAR	**Mina Array Bea**	**88.02**	**43**	P	**P**	**08 00 57.1**	**+0.6**
0.5nm,0.7s,mb3.9,baz=209,slow=8.0,SNR=5.6							
NVAR	**Mina Array Bea**	**88.02**	**43**	P	**P**	**08 00 57.1**	**+0.6**
LPAZ	**La Paz**	**98.12**	**114**	LR	LR	08 36 18.7	
comp=Z,133nm,20.5s,MS4.4,baz=266,slow=30							
MKAR	**Makanchi Array**	**117.74**	**310**	PKP	PKPdf	08 06 50.8	-1.5
0.2nm,0.4s,baz=101,slow=1.5,SNR=4.5							
MKAR	**Makanchi Array**	**117.74**	**310**	PKP	PKPdf	08 06 50.8	-1.5
FINES	**FINESS Array B**	**145.00**	**340**	PKP	PKPdf	08 07 41.4	-1.5
7.4nm,0.7s,baz=53,slow=3.8,SNR=28							
FINES	**FINESS Array B**	**145.00**	**340**	PKP	PKPdf	08 07 41.4	-1.5
NB2	**NORSAR Subarra**	**148.58**	**352**	PKP	PKPdf	08 07 51.7	+2.8
comp=Z,0.8nm,0.6s,baz=12,slow=2.6							
NOA	**NORSAR Array B**	**148.58**	**352**	PKPbc	PKPbc	08 07 51.5	-1.0
comp=Z,1.7nm,0.8s,baz=15,slow=4.2,SNR=6.1							
NOA	**NORSAR Array B**	**148.58**	**352**	PKPbc	PKPbc	08 07 51.5	-1.0
AKASG	**Malin Array Be**	**151.22**	**323**	PKPbc	PKPbc	08 07 58.3	-1.0
comp=Z,2.8nm,0.7s,baz=53,slow=3.6,SNR=6.1							
AKASG	**Malin Array Be**	**151.22**	**323**	PKPbc	PKPbc	08 07 58.3	-1.0
BRTR	**Keskin Array B**	**152.61**	**299**	PKPbc	PKPbc	08 08 05.3	+2.5
comp=Z,0.5nm,0.4s,baz=153,slow=8.3,SNR=4.2							
BRTR	**Keskin Array B**	**152.61**	**299**	PKPbc	PKPbc	08 08 05.3	+2.5
TORD	**Torodi Ar. Bea**	**163.02**	**179**	PKPab	PKPab	08 08 57.7	-1.1
comp=Z,1.0nm,0.7s,baz=181,slow=4.1,SNR=5.8							
TORD	**Torodi Ar. Bea**	**163.02**	**179**	PKPab	PKPab	08 08 57.7	-1.1

IDC 06 07:49:17.3±1.8, 2°84S×139°26E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=105.0km s-min=28.5km az=113.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.67**	**195**	P	Pn	07 53 23.7	-1.3
0.3nm,0.3s,baz=16,slow=13,SNR=19							
FITZ	**Fitzroy Crossi**	**20.21**	**220**	P	P	07 53 54.2	+0.2
3.0nm,0.7s,baz=41,slow=8.3,SNR=13							
FITZ	**Fitzroy Crossi**	**20.21**	**220**	*e*P	P	07 53 54.1	+0.2
6.0nm,0.8s							
ASAR	**Alice Springs**	**21.34**	**194**	P	P	07 54 07.0	+0.7
1.1nm,0.4s,baz=23,slow=11,SNR=28							
ILAR	**Eielson Array**	**85.72**	**24**	P	P	08 01 57.9	-0.1
0.4nm,0.9s,baz=253,slow=3.6,SNR=4.4							

*ISCJB **06** 07:51:25.7±0.3, 40°43N±0°02×28°95E±0°02, h7km±2km, Error ellipse: s-maj=3.3km s-min=2.7km az=178.4*
*CSEM **06** 07:51:25.8±0.1, 40°41N×28°95E, h5km, MD3.2, Error ellipse: s-maj=2.2km s-min=1.9km az=176.0*
*DDA **06** 07:51:25.5, 40°40N×28°95E, h11km±2km, Md3.3, Ml3.6*
*ISK **06** 07:51:25.5, 40°41N×28°95E, h8km, MD3.2, ML3.1*

ISC 06 07:51:26.1±0.3, 40°42N±0°02×28°95E±0°02, h7km±2km, n115, σ0°69/144, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDNY	**Mudanya-Bursa**	**0.07**	**225**	PG	**Pg**	**07 51 28.0**	**+0.2**
MDNY				*e*SG	**Sg**	**07 51 29.6**	**+0.5**
MDNY	**Mudanya-Bursa**	**0.07**	**225**	*i* Pg	**Pg**	**07 51 28.0**	**+0.1**
MDNY				*e*Sg	**Sg**	**07 51 29.7**	**+0.6**
ARMT	**Armutlu**	**0.16**	**337**	PG	**Pg**	**07 51 30.1**	**+0.7**
ARMT	**Armutlu**	**0.16**	**337**	*i* Pg	**Pg**	**07 51 30.1**	**+0.6**
GEMT	**Gemlik**	**0.19**	**84**	PG	**Pg**	**07 51 29.9**	**0.0**
GEMT				*e*SG	**Sg**	**07 51 32.8**	**+0.4**
GEMT	**Gemlik**	**0.19**	**84**	*i* Pg	**Pg**	**07 51 29.9**	**0.0**
GEMT				*e*Sg	**Sg**	**07 51 32.8**	**+0.4**
YLV	**Yalova**	**0.36**	**65**	PG	**Pg**	**07 51 33.1**	**0.0**
YLV	**Yalova**	**0.36**	**65**	*i* Pg	**Pg**	**07 51 33.1**	**0.0**
BUY	**Buyukada**	**0.46**	**17**	*i* P	**Pg**	**07 51 35.3**	**+0.4**
BUY				*i* S	**Sg**	**07 51 41.7**	**+0.8**
BUY	**Buyukada**	**0.46**	**17**	*i* P	**Pg**	**07 51 35.3**	**+0.4**
BUY				*i* S	**Sg**	**07 51 41.7**	**+0.8**
KCTX	**Karacabey (Bur**	**0.47**	**252**	PG	**Pg**	**07 51 35.4**	**+0.1**
KCTX	**Karacabey (Bur**	**0.47**	**252**	*i* Pg	**Pg**	**07 51 35.4**	**+0.1**
ADVT	**Abdulvahap**	**0.60**	**88**	*e*PG	**Pg**	**07 51 37.6**	**-0.2**
ADVT	**Abdulvahap**	**0.60**	**88**	*e*Pg	**Pg**	**07 51 37.6**	**-0.1**
ISK	**Istanbul-Kandi**	**0.66**	**8**	*e*PG	**Pg**	**07 51 38.0**	**-0.7**
ISK	**Istanbul-Kandi**	**0.66**	**8**	*e*Pg	**Pg**	**07 51 38.0**	**-0.7**
CAVI	**Cavuskoy**	**0.72**	**107**	*e*PG	**Pg**	**07 51 39.4**	**-0.5**
CAVI	**Cavuskoy**	**0.72**	**107**	*e*Pg	**Pg**	**07 51 39.4**	**-0.5**
BGKT	**Bogazkoy**	**0.78**	**350**	*e*PG	**Pg**	**07 51 41.2**	**+0.2**
BGKT	**Bogazkoy**	**0.78**	**350**	*e*Pg	**Pg**	**07 51 41.2**	**+0.2**
BNT	**Bandirma**	**0.79**	**266**	*e*PG	**Pg**	**07 51 41.5**	**+0.3**
BNT	**Bandirma**	**0.79**	**266**	*e*Pg	**Pg**	**07 51 41.5**	**+0.3**
ELBA	**Catalca**	**0.83**	**332**	*i* P	**Pg**	**07 51 41.2**	**-0.8**
ELBA				*i* S	**Sg**	**07 51 52.4**	**-0.4**
ELBA	**Catalca**	**0.83**	**332**	*i* P	**Pg**	**07 51 41.2**	**-0.8**
ELBA				*i* S	**Sg**	**07 51 52.4**	**-0.4**
EDC	**Edincik**	**0.83**	**266**	*e*PG	**Pg**	**07 51 41.9**	**-0.1**
EDC	**Edincik**	**0.83**	**266**	*e*Pg	**Pg**	**07 51 41.9**	**-0.1**
KLYT	**Kilyos**	**0.84**	**5**	*e*PG	**Pg**	**07 51 41.7**	**-0.5**
KLYT	**Kilyos**	**0.84**	**5**	*e*Pg	**Pg**	**07 51 41.7**	**-0.5**
DST	**Dursunbey**	**0.85**	**197**	*e*PG	**Pg**	**07 51 42.1**	**-0.3**
DST	**Dursunbey**	**0.85**	**197**	*e*Pg	**Pg**	**07 51 42.1**	**-0.3**
CTKS	**Kestanelik-??a**	**0.89**	**338**	*e*PG	**Pg**	**07 51 43.1**	**0.0**
CTKS	**Kestanelik-??a**	**0.89**	**338**	*e*Pg	**Pg**	**07 51 43.1**	**0.0**
DURS	**Dursunbey**	**0.89**	**204**	*i* P	**Pg**	**07 51 42.4**	**-0.8**
DURS				*i* S	**Sg**	**07 51 54.3**	**-0.4**
DURS	**Dursunbey**	**0.89**	**204**	*i* P	**Pg**	**07 51 42.4**	**-0.8**
DURS				*i* S	**Sg**	**07 51 54.3**	**-0.4**
SILT	**Sile**	**0.91**	**35**	*e*PG	**Pg**	**07 51 43.3**	**-0.2**
SILT	**Sile**	**0.91**	**35**	*e*Pg	**Pg**	**07 51 43.3**	**-0.2**
SLVT	**Silivri**	**0.99**	**326**	*e*PG	**Pg**	**07 51 45.3**	**+0.3**
SLVT	**Silivri**	**0.99**	**326**	*e*Pg	**Pg**	**07 51 45.3**	**+0.3**
GONE	**Gonen-Balikesi**	**1.03**	**249**	*e*PG	**Pg**	**07 51 46.0**	**+0.1**
GONE	**Gonen-Balikesi**	**1.03**	**249**	*e*Pg	**Pg**	**07 51 46.0**	**+0.1**
SPNC	**Sapanca-Adapaz**	**1.07**	**75**	*e*PG	**Pg**	**07 51 46.4**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.07**	**75**	*e*Pg	**Pg**	**07 51 46.4**	**-0.2**
BALB	**Balikesir**	**1.13**	**227**	*e*PN	**Pn**	**07 51 47.8**	**-0.4**
BALB	**Balikesir**	**1.13**	**227**	*e*Pn	**Pn**	**07 51 47.8**	**-0.4**
CTYL	**Yal??k??y-??at**	**1.17**	**335**	*e*PN	**Pn**	**07 51 48.3**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.17**	**335**	*e*Pn	**Pn**	**07 51 48.3**	**-0.5**
GULT	**Gulveren**	**1.20**	**89**	*e*PN	**Pn**	**07 51 48.7**	**-0.5**
GULT	**Gulveren**	**1.20**	**89**	*e*Pn	**Pn**	**07 51 48.7**	**-0.5**
TKR	**Tekirdag**	**1.22**	**299**	*e*PN	**Pn**	**07 51 49.2**	**-0.2**
TKR	**Tekirdag**	**1.22**	**299**	*e*Pn	**Pn**	**07 51 49.2**	**-0.2**
BALY	**Balya**	**1.22**	**237**	*i* P	**Pb**	**07 51 48.

KIZT	Kizilcal	2.73	123	*e*PN	Pn	07 52 10.2	-0.2
KIZT	Kizilcal	2.73	123	*e*Pn	Pn	07 52 10.2	-0.1
LOD	Lodumlu	2.97	99	*e*PN	Pn	07 52 14.5	+0.9
LOD	Lodumlu	2.97	99	*e*Pn	Pn	07 52 14.5	+0.9
LADK	Ladik-KONYA	3.45	129	*e*PN	Pn	07 52 21.6	+1.4
LADK	Ladik-KONYA	3.45	129	*e*Pn	Pn	07 52 21.6	+1.4
KONT	Konya--Tatoy	3.62	132	*e*PN	Pn	07 52 23.8	+1.3
KONT	Konya--Tatoy	3.62	132	*e*Pn	Pn	07 52 23.8	+1.3

*IDC **06** 07:53:51.0±1.1, 20°.52S×174°.12W, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.1/19, mbtmp4.0/10, ML3.3/2, Error ellipse: s-maj=50.7km s-min=17.8km az=140.0*
*ISCJB **06** 07:53:54.2±0.6, 20°.7S±0°.1×174°.1W±0°.1, h33km, mb4.1/13, Error ellipse: s-maj=23.7km s-min=12.1km az=136.0*
*NEIC **06** 07:53:56.1±0.4, 20°.62S×174°.12W, h35km, mb4.3/6, Error ellipse: s-maj=16.6km s-min=8.4km az=138.0*

ISC 06 07:53:56.2±0.6, 20°.7S±0°.1×174°.1W±0°.1, h35km, n32, σ0=45/30, mb4.1/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.10**	**19**	Pn	**Pn**	**07 55 32.5**	**-5.2**
	7.7nm,0.3s,baz=104,slow=13,SNR=9.6						
AFI				Sn	**Sn**	**07 56 47.0**	**-10**
	6.9nm,0.3s,baz=112,slow=21,SNR=3.2						
AFI	**Afiamalu**	**7.10**	**19**	Pn	**Pn**	**07 55 32.5**	**-5.2**
AFI				Sn	**Sn**	**07 56 47.0**	**-10**
MSVF	**Nonsavu**	**7.96**	**290**	*e*Pn	**Pn**	**07 55 57.1**	**+7.6**
	52nm,1.4s						
URZ	**Urewera**	**19.09**	**202**	Pn	**Pn**	**07 58 15.9**	**-0.9**
	0.4nm,0.3s,baz=21,slow=8.6,SNR=3.3						
URZ				Sn	**Sn**	**08 01 40.7**	**-8.9**
	0.2nm,0.3s,baz=39,slow=17,SNR=3.5						
URZ	**Urewera**	**19.09**	**202**	*e*P	**Pn**	**07 58 16.7**	**-0.1**
	4.3nm,0.7s						
URZ				Sn	**Sn**	**08 01 40.7**	**-8.9**
STKA	**Stephens Creek**	**40.99**	**245**	P	**P**	**08 01 36.9**	**+0.9**
	2.6nm,0.8s,mb3.9,baz=45,slow=6.9,SNR=5.2						
STKA	**Stephens Creek**	**40.99**	**245**	P	**P**	**08 01 36.9**	**+0.9**
ASAR	**Alice Springs**	**48.01**	**256**	P	**P**	**08 02 32.0**	**-0.2**
	2.0nm,0.8s,mb4.2,baz=89,slow=7.8,SNR=14						
ASAR				PcP	PcP	08 04 00.7	+0.8
	0.9nm,0.9s,baz=82,slow=3.3,SNR=4.0						
ASAR	**Alice Springs**	**48.01**	**256**	P	**P**	**08 02 32.0**	**-0.2**
ASAR				PcP	PcP	08 04 00.7	+0.8
WRAB	**Tennant Creek**	**48.17**	**261**	*e*P	**P**	**08 02 33.3**	**-0.1**
	2.6nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**48.17**	**261**	P	**P**	**08 02 32.9**	**-0.5**
	0.4nm,0.3s,mb3.9,baz=96,slow=7.5,SNR=9.2						
WRA				PcP	PcP	08 04 01.6	+1.1
	0.5nm,0.6s,baz=98,slow=3.0,SNR=3.8						
WRA	**Warramunga Arr**	**48.17**	**261**	P	**P**	**08 02 33.0**	**-0.5**
WRA				PcP	PcP	08 04 01.6	+1.1
FITZ	**Fitzroy Crossi**	**56.60**	**262**	P	**P**	**08 03 36.3**	**+0.3**
	0.6nm,0.5s,mb3.9,baz=124,slow=3.6,SNR=4.6						
FITZ	**Fitzroy Crossi**	**56.60**	**262**	P	**P**	**08 03 36.3**	**+0.3**
QSPA	**South Pole Qui**	**69.39**	**180**	*e*P	**P**	**08 05 00.2**	**+0.3**
	7.3nm,1.1s,mb4.5						
ISA	**Isabella**	**76.91**	**44**	*e*P	**P**	**08 05 45.1**	**+0.1**
	4.4nm,1.2s,mb4.3						
CMB	**Columbia Colle**	**77.18**	**41**	*e*P	**P**	**08 05 46.3**	**-0.2**
	9.8nm,1.8s,mb4.4						
PETK	**Petropavlovsk-**	**77.44**	**343**	P	**P**	**08 05 47.3**	**-0.2**
	2.2nm,0.6s,mb4.3,baz=116,slow=9.5,SNR=3.9						
PETK	**Petropavlovsk-**	**77.44**	**343**	P	**P**	**08 05 47.3**	**-0.2**
NVAR	**Mina Array Bea**	**78.70**	**41**	P	**P**	**08 05 55.6**	**+0.7**
	1.7nm,0.7s,mb4.1,baz=224,slow=8.8,SNR=16						
NVAR	**Mina Array Bea**	**78.70**	**41**	P	**P**	**08 05 55.6**	**+0.7**
ANMO	**Albuquerque**	**84.71**	**50**	*e*P	**P**	**08 06 26.9**	**+0.2**
	1.8nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**86.64**	**42**	P	**P**	**08 06 35.4**	**-0.7**
	0.9nm,0.9s,mb4.0,baz=222,slow=4.0,SNR=6.2						
PDAR	**Pinedale Array**	**86.64**	**42**	P	**P**	**08 06 35.4**	**-0.7**
ILAR	**Eielson Array**	**87.73**	**11**	P	**P**	**08 06 40.7**	**-0.1**
	0.2nm,0.5s,mb3.6,baz=220,slow=6.0,SNR=5.8						
ILAR	**Eielson Array**	**87.73**	**11**	P	**P**	**08 06 40.7**	**-0.1**
AKASG	**Malin Array Be**	**144.85**	**334**	PKP	PKPdf	08 13 28.6	-0.7
	2.2nm,0.6s,baz=37,slow=4.1,SNR=6.8						
AKASG	**Malin Array Be**	**144.85**	**334**	PKP	PKPdf	08 13 28.6	-0.7
CLL	**Collm**	**148.93**	**351**	*e*PKPbc	PKPbc	08 13 41.0	+0.9
BRG	**Berggiesshubel**	**149.21**	**350**	*e*P	PKPbc	08 13 42.0	+1.1
	22nm,1.9s						
GERES	**GERESS Array B**	**151.21**	**349**	PKPbc	PKPbc	08 13 45.0	-0.7
	1.4nm,0.9s,baz=357,slow=6.4,SNR=4.5						
GERES	**GERESS Array B**	**151.21**	**349**	PKPbc	PKPbc	08 13 45.0	-0.7

*ISK **06** 08:09:53.9, 40°.40N×28°.95E, h13km, MD2.1*
*ISCJB **06** 08:09:54.9±0.5, 40°.40N±0°.03×28°.94E±0°.04, h1km±8km, Error ellipse: s-maj=6.0km s-min=4.5km az=140.8*
*CSEM **06** 08:09:54.8±0.1, 40°.41N×28°.94E, h8km, MD2.1, Error ellipse: s-maj=2.4km s-min=1.9km az=134.0*
*DDA **06** 08:09:54.3, 40°.40N×28°.94E, h7km±2km, Md2.5*

ISC 06 08:09:55.1±0.5, 40°.41N±0°.03×28°.94E±0°.05, h6km±7km, n20, σ0=42/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDNY	**Mudanya-Bursa**	**0.05**	**228**	*e*PG	**Pg**	**08 09 56.6**	**0.0**
MDNY	**Mudanya-Bursa**	**0.05**	**228**	*e*Pg	**Pg**	**08 09 56.7**	**+0.1**
ARMT	**Armutlu**	**0.17**	**340**	*e*PG	**Pg**	**08 09 58.4**	**-0.1**
ARMT				*e*SG	**Sg**	**08 10 01.7**	**+0.8**
ARMT	**Armutlu**	**0.17**	**340**	*e*Pg	**Pg**	**08 09 58.4**	**-0.2**
ARMT				*e*Sg	**Sg**	**08 10 01.7**	**+0.8**
GEMT	**Gemlik**	**0.20**	**81**	*e*PG	**Pg**	**08 09 58.5**	**-0.5**
GEMT				*e*SG	**Sg**	**08 10 01.7**	**+0.1**
GEMT	**Gemlik**	**0.20**	**81**	*e*Pg	**Pg**	**08 09 58.5**	**-0.5**
GEMT				*e*Sg	**Sg**	**08 10 01.7**	**+0.1**
YLV	**Yalova**	**0.37**	**64**	*e*PG	**Pg**	**08 10 01.7**	**-0.6**
YLV	**Yalova**	**0.37**	**64**	*e*Pg	**Pg**	**08 10 01.7**	**-0.6**
KCTX	**Karacabey (Bur**	**0.47**	**253**	*e*PG	**Pg**	**08 10 03.8**	**-0.3**
KCTX	**Karacabey (Bur**	**0.47**	**253**	*e*Pg	**Pg**	**08 10 03.8**	**-0.3**
BUY	**Buyukada**	**0.47**	**17**	*i* P	**Pg**	**08 10 04.0**	**-0.1**
BUY				*i* S	**Sg**	**08 10 10.6**	**+0.3**
BUY	**Buyukada**	**0.47**	**17**	*i* P	**Pg**	**08 10 04.0**	**-0.2**
BUY				*i* S	**Sg**	**08 10 10.6**	**+0.3**
DURS	**Dursunbey**	**0.88**	**204**	*i* P	**Pg**	**08 10 12.4**	**+0.4**
DURS				*i* S	**Sg**	**08 10 23.6**	**+0.2**
DURS	**Dursunbey**	**0.88**	**204**	*i* P	**Pg**	**08 10 12.4**	**+0.4**
DURS				*i* S	**Sg**	**08 10 23.6**	**+0.2**
BALY	**Balya**	**1.21**	**237**	*i* P	**Pg**	**08 10 18.0**	**-0.3**
BALY				*i* S	**Sg**	**08 10 33.8**	**-0.1**
BALY	**Balya**	**1.21**	**237**	*i* P	**Pg**	**08 10 18.0**	**-0.3**
BALY				*i* S	**Sg**	**08 10 33.8**	**-0.2**
BORA	**Eskisehir**	**1.27**	**114**	*i* P	**Pn**	**08 10 18.8**	**-0.6**
BORA				*i* S	**Sb**	**08 10 36.8**	**+0.7**
BORA	**Eskisehir**	**1.27**	**114**	*i* P	**Pn**	**08 10 18.8**	**-0.6**
BORA				*i* S	**Sb**	**08 10 36.8**	**+0.7**
GDZ	**Gediz**	**1.38**	**162**	*i* P	**Pn**	**08 10 20.5**	**-0.4**
GDZ				*i* S	**Sb**	**08 10 39.6**	**+0.5**
GDZ	**Gediz**	**1.38**	**162**	*i* P	**Pn**	**08 10 20.5**	**-0.3**
GDZ				*i* S	**Sb**	**08 10 39.6**	**+0.5**

CASC 06 08:10:47.4±2.4, 9°.27N×85°.77W, h27km±10km, MD3.6, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCR	**Jicaral**	**0.86**	**48**	⇑*i*P	Pb	08 11 03.5	-0.4
JCR				*e*S	Sb	08 11 16.5	+1.5
JTS	**JuntasAbangare**	**1.29**	**38**	*e*P	Pn	08 11 09.6	-0.1
JTS				*e*S	Sn	08 11 27.1	+0.9
NY14	**Universidad de**	**1.39**	**10**	⇑*i*P	Pn	08 11 10.0	-1.0
CGA2	**Cerro Gallo 2**	**1.48**	**60**	⇓*e*P	Pn	08 11 12.8	+0.5
CGA2				*e*S	Sn	08 11 32.1	+1.2
CUI	**Cuipilapa**	**1.50**	**23**	*i* P	Pn	08 11 11.6	-1.0
CUI				*i* S	Sn	08 11 31.6	+0.3
LAPC	**Finca la Perla**	**1.52**	**13**	*i* P	Pn	08 11 11.6	-1.3
GPS3	**Bodega del ICE**	**1.52**	**15**	*i* P	Pn	08 11 11.9	-1.1
GPS1	**Guardaparques**	**1.55**	**15**	*i* P	Pn	08 11 12.2	-1.0
GB1A	**Borinquen Arri**	**1.58**	**13**	*i* P	Pn	08 11 12.6	-1.1
GBS2	**Las Lilas**	**1.58**	**11**	*i* P	Pn	08 11 12.5	-1.3
QCR	**Quepos**	**1.59**	**84**	*e*P	Pn	08 11 13.8	0.0
QCR				*e*S	Sn	08 11 33.9	+0.4
SJS	**Escuela Geolog**	**1.82**	**68**	*e*P	Pn	08 11 18.8	+1.9
BUS	**Buena Vista**	**2.00**	**82**	*e*P	Pn	08 11 20.5	+1.0
BUS				*e*S	Sn	08 11 46.4	+2.7
ACR	**Cerro Adams**	**2.64**	**103**	*e*P	Pn	08 11 29.2	+0.9
ACR				*e*S	Sn	08 11 59.9	+0.4
TICN	**Ticuantepe**	**2.78**	**351**	*e*P	Pn	08 11 31.5	+1.3
TICN				*e*S	Sn	08 12 05.3	+2.4
HUEN		**3.07**	**353**	*e*P	Pn	08 11 35.3	+1.1
HUEN				*e*S	Sn	08 12 12.3	+2.2
LEON	**Leon**	**3.31**	**341**	*e*P	Pn	08 11 38.5	+1.0
TEL3	**Telica 3**	**3.44**	**342**	*e*P	Pn	08 11 40.5	+1.1

*IDC **06** 08:44:32.5±1.3, 8°.43S×129°.29E, h0km, mb4.2/3, mb1 4.4/6, mb1mx4.0/17, mbtmp4.2/6, ML4.3/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/30, Error ellipse: s-maj=77.7km s-min=20.2km az=70.0*
*ISCJB **06** 08:44:37.3±2.2, 8°.73S±0°.07×129°.34E±0°.09, h60km±24km, mb4.1/4, MS3.6/2, Error ellipse: s-maj=14.8km s-min=10.4km az=153.8*
*NEIC **06** 08:44:37.1±0.7, 8°.59S×129°.34E, h35km, mb3.6/2, Error ellipse: s-maj=13.0km s-min=9.4km az=62.0*

ISC 06 08:44:38.8±2.0, 8°.69S±0°.09×129°.37E±0°.09, h54km±24km, n24, σ0=84/28, mb4.1/4, MS3.6/2, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.04**	**201**	Pn	**Pn**	**08 47 01.3**	**+1.0**
	2.4nm,0.3s,baz=31,slow=14,SNR=88						
FITZ				Sn	**Sn**	**08 48 51.8**	**+0.3**
	1.2nm,0.3s,baz=41,slow=19,SNR=4.7						
FITZ				LR	LR	08 51 21.1	
	comp=Z,76nm,19.2s,baz=360,slow=40						
FITZ	**Fitzroy Crossi**	**10.04**	**201**	*e*P	**Pn**	**08 47 00.8**	**+0.5**
	32nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.04**	**201**	*e*Pn	**Pn**	**08 47 00.8**	**+0.5**
	16nm,0.6s						
FITZ				*e*Sn	**Sn**	**08 48 51.3**	**-0.2**
KAPI	**Kappang**	**10.22**	**290**	LR	LR	08 51 22.5	
	comp=Z,100nm,18.3s,baz=111,slow=41						
WRAB	**Tennant Creek**	**12.18**	**157**	*e*Pn	**Pn**	**08 47 29.4**	**-0.2**
	11nm,0.6s						
WRAB				*e*Sn	**Sn**	**08 49 46.1**	**+2.3**
WRA	**Warramunga Arr**	**12.18**	**157**	Pn	**Pn**	**08 47 29.7**	**+0.1**
	2.5nm,0.3s,baz=346,slow=13,SNR=140						
WRA				Sn	**Sn**	**08 49 44.1**	**+0.2**
	2.2nm,0.3s,baz=331,slow=22,SNR=10						
WRA	**Warramunga Arr**	**12.18**	**157**	Pn	**Pn**	**08 47 29.7**	**+0.1**
WRA				Sn	**Sn**	**08 49 44.1**	**+0.2**
WB2	**Warramunga Arr**	**12.19**	**157**	*e*Pn	**Pn**	**08 47 29.1**	**-0.6**
WB2				*e*Sn	**Sn**	**08 49 42.6**	**-1.4**
COEN	**Coen**	**14.51**	**112**	*e*Pn	**Pn**	**08 48 01.2**	**+0.1**
MBWA	**Marble Bar**	**15.50**	**216**	*e*P	**Pn**	**08 48 13.7**	**-0.3**
	4.3nm,0.6s						
AS31	**Alice Springs**	**15.52**	**164**	*e*P	**Pn**	**08 48 14.2**	**+0.1**
ASAR	**Alice Springs**	**15.52**	**164**	Pn	**Pn**	**08 48 14.4**	**+0.2**
	0.5nm,0.3s,baz=342,slow=11,SNR=33						
ASAR				Sn	**Sn**	**08 51 03.9**	**-1.2**
	0.5nm,0.3s,baz=343,slow=25,SNR=6.9						
ASAR	**Alice Springs**	**15.52**	**164**	Pn	**Pn**	**08 48 14.4**	**+0.2**
ASAR				Sn	**Sn**	**08 51 03.9**	**-1.2**
CTA	**Charters Tower**	**19.88**	**127**	LR	LR	08 57 51.8	
	comp=Z,87nm,18.8s,baz=51,slow=40						
FORT	**Forrest**	**22.02**	**183**	*e*P	**P**	**08 49 33.7**	**+5.1**
	12nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**25.72**	**155**	P	**P**	**08 50 07.7**	**+3.6**
	2.9nm,0.7s,mb3.9,baz=320,slow=9.4,SNR=7.8						
STKA	**Stephens Creek**	**25.72**	**155**	*e*P	**P**	**08 50 09.5**	**+5.4**
	2.6nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**25.72**	**155**	*e*P	**P**	**08 50 06.6**	**+2.5**
	0.5nm,0.7s,mb3.1						
NWAO	**Narrogin (SRO)**	**26.61**	**203**	LR	LR	09 02 51.9	
	comp=Z,88nm,18.0s,MS3.4,baz=254,slow=41						
MKAR	**Makanchi Array**	**69.29**	**327**	P	**P**	**08 55 40.1**	**-0.2**
	1.5nm,0.6s,mb4.1,baz=130,slow=7.2,SNR=16						
MKAR	**Makanchi Array**	**69.29**	**327**	P	**P**	**08 55 40.1**	**-0.2**
KURK	**Kurchatov**	**73.63**	**329**	P	**P**	**08 56 06.0**	**-0.3**
	0.7nm,0.3s,mb4.0,baz=133,slow=5.0,SNR=10						
KURK	**Kurchatov**	**73.63**	**329**	P	**P**	**08 56 06.0**	**-0.3**
EIL	**Elat**	**98.06**	**299**	LR	LR	09 43 36.0	
	comp=Z,38nm,18.2s,MS3.9,baz=260,slow=36						

*ISCJB **06** 09:00:34.8±0.4, 41°.67N±0°.01×23°.87E±0°.02, h3km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=15.7*
*SOF **06** 09:00:34.7, 41°.67N×23°.94E, h12km, MD3.3*
*ATH **06** 09:00:35.1, 41°.67N×23°.84E, h20km±1km, MD3.4/10*
*THE **06** 09:00:35.5, 41°.64N×23°.90E, h2km±1km, ML3.3/12, Error ellipse: s-maj=1.3km s-min=0.6km az=306.0*
*SKO **06** 09:00:35.5, 41°.57N×24°.00E, h16km, M3.0, ML3.1*
*CSEM **06** 09:00:35.2±0.1, 41°.66N×23°.89E, h2km, MD3.3, Error ellipse: s-maj=2.9km s-min=2.4km az=105.0*
*BEO **06** 09:00:36.9±1.4, 41°.56N×23°.61E, h5km±6km, ML3.3/6*

ISC 06 09:00:35.8±0.3, 41°.66N±0°.01×23°.86E±0°.02, h5km±3km, n125, σ1=08/182, 9C-6D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.12**	**235**	*i* Pg	**Pg**	**09 00 39.3**	**+1.1**
MMB	**Musomiste**	**0.12**	**235**	*i* Pg	**Pg**	**09 00 39.3**	**+1.1**
SRS	**Serrai**	**0.58**	**200**	P	**Pg**	**09 00 47.1**	**+0.2**
SRS				S	**Sg**	**09 00 55.0**	**+0.6**
SRS	**Serrai**	**0.58**	**200**	P	**Pg**	**09 00 47.1**	**+0.2**
SRS				S	**Sg**	**09 00 55.0**	**+0.6**
KKB	**Krupnik**	**0.62**	**290**	*i* Pg	**Pg**	**09 00 47.4**	**-0.2**
KKB	**Krupnik**	**0.62**	**290**	*i* Pg	**Pg**	**09 00 47.4**	**-0.2**
RZN	**Rozhen**	**0.64**	**87**	*i* Pg	**Pg**	**09 00 47.1**	**-1.1**
RZN	**Rozhen**	**0.64**	**87**	*i* Pg	**Pg**	**09 00 47.1**	**-1.1**
PLD	**Plovdiv**	**0.77**	**54**	P	**Pg**	**09 00 49.9**	**-0.8**
PLD				S	**Sg**	**09 01 00.3**	**-0.4**
PLD	**Plovdiv**	**0.77**	**54**	P	**Pg**	**09 00 50.2**	**-0.5**
PLD	**Plovdiv**	**0.77**	**54**	P	**Pg**	**09 00 49.9**	**-0.8**
PLD				S	**Sg**	**09 01 00.3**	**-0.4**
KAVA	**Kavala**	**0.82**	**143**	P	**Pg**	**09 00 50.0**	**-1.6**
KAVA				S	**Sg**	**09 01 01.6**	**-0.7**
KAVA	**Kavala**	**0.82**	**143**	P	**Pg**	**09 00 50.0**	**-1.6**
KAVA				S	**Sg**	**09 01 01.6**	**-0.7**
KNT	**Kendrikon**	**0.88**	**236**	P	**Pg**	**09 00 52.5**	**-0.1**
KNT				S	**Sg**	**09 01 04.6**	**+0.6**
KNT	**Kendrikon**	**0.88**	**236**	P	**Pg**	**09 00 52.5**	**-0.1**
KNT				S	**Sg**	**09 01 04.6**	**+0.6**
SOH	**Sokhos**	**0.92**	**205**	*e*PN	**Pg**	**09 00 53.2**	**-0.2**
SOH				*e*SN	**Sg**	**09 01 05.6**	**+0.3**
SOH	**Sokhos**	**0.92**	**205**	P	**Pg**	**09 00 53.3**	**-0.1**
SOH				S	**Sg**	**09 01 05.3**	**0.0**
SOH	**Sokhos**	**0.92**	**205**	P	**Pg**	**09 00 53.3**	**-0.1**
SOH				S	**Sg**	**09 01 05.3**	**0.0**
SOH				*e*Sn	**Sg**	**09 01 05.6**	**+0.3**
PGB	**Panagyurishte**	**0.92**	**14**	*i* Pg	**Pg**	**09 00 52.1**	**-1.4**
PGB	**Panagyurishte**	**0.92**	**14**	*i* Pg	**Pg**	**09 00 52.1**	**-1.4**
VAY	**Valandovo**	**1.02**	**251**	*e*Pg	**Pg**	**09 00 56.5**	**+1.1**
VAY				*e*Sg	**Sg**	**09 01 10.2**	**+1.4**
VAY				*e*Lg		09 01 13.1	
	comp=N,294nm,0.2s						
VAY				*e*Lg		09 01 13.6	
	comp=E,283nm,0.3s						
VAY	**Valandovo**	**1.02**	**251**	*e*Pg	**Pg**	**09 00 56.5**	**+1.0**
VAY				*e*Sg	**Sg**	**09 01 10.1**	**+1.4**
VAY				*e*Lg		09 01 13.1	
	comp=E,294nm,0.2s						
VTS	**Vitosha**	**1.05**	**333**	P	**Pg**	**09 00 55.3**	**-0.7**
VTS				S	**Sg**	**09 01 11.6**	**+2.0**
VTS	**Vitosha**	**1.05**	**333**	Pg	**Pg**	**09 00 55.4**	**-0.6**
VTS	**Vitosha**	**1.05**	**333**	⇑*i*P	**Pg**	**09 00 55.7**	**-0.3**
VTS				S	**Sg**	**09 01 12.1**	**+2.5**
VTS	**Vitosha**	**1.05**	**333**	P	**Pg**	**09 00 55.3**	**-0.7**
VTS				S	**Sg**	**09 01 11.6**	**+2.0**
KDZ	**Kurdzhali**	**1.17**	**90**	*i* Pg	**Pn**	**09 00 55.3**	**-3.5**
KDZ	**Kurdzhali**	**1.17**	**90**	*i* Pg	**Pn**	**09 00 55.3**	**-3.5**
HORT	**Hortiatis**	**1.20**	**209**	P	**Pg**	**09 00 58.6**	**-0.3**
HORT				S	**Sg**	**09 01 15.4**	**+0.9**
HORT	**Hortiatis**	**1.20**	**209**	P	**Pg**	**09 00 58.6**	**-0.3**
HORT				S	**Sg**	**09 01 15.4**	**+0.9**
THE	**Thessaloniki**	**1.23**	**214**	P	**Pg**	**09 00 58.9**	**-0.4**
THE				S	**Sg**	**09 01 15.8**	**+0.6**
THE	**Thessaloniki**	**1.23**	**214**	P	**Pg**	**09 00 58.9**	**-0.4**
THE				S	**Sg**	**09 01 15.8**	**+0.6**
GRG	**Griva**	**1.30**	**238**	P	**Pn**	**09 01 00.1**	**-0.6**
GRG				S	**Sg**	**09 01 18.4**	**+0.8**
GRG	**Griva**	**1.30**	**238**	P	**Pn**	**09 01 00.1**	**-0.6**
GRG				S	**Sg**	**09 01 18.4**	**+0.8**
DIM	**Dimitrovgrad**	**1.31**	**72**	Pg	**Pn**	**09 00 59.8**	**-1.0**
DIM	**Dimitrovgrad**	**1.31**	**72**	Pg	**Pn**	**09 00 59.8**	**-1.0**
PLG	**Polygyros**	**1.32**	**194**	*e*PN	**Pn**	**09 01 00.3**	**-0.6**
PLG				*e*SN	**Sn**	**09 01 17.6**	**-1.3**
PLG	**Polygyros**	**1.32**	**194**	P	**Pn**	**09 01 00.4**	**-0.5**
PLG				S	**Sg**	**09 01 19.3**	**+1.1**
PLG	**Polygyros**	**1.32**	**194**	P	**Pn**	**09 01 00.4**	**-0.5**
PLG				*e*Sn	**Sn**	**09 01 17.4**	**-1.5**
PLG				S	**Sg**	**09 01 19.3**	**+1.1**
OUR	**Ouranopolis**	**1.33**	**176**	P	**Pn**	**09 00 59.9**	**-1.1**
OUR				S	**Sg**	**09 01 18.2**	**-0.2**
OUR	**Ouranopolis**	**1.33**	**176**	P	**Pn**	**09 00 59.9**	**-1.1**
OUR				S	**Sg**	**09 01 18.2**	**-0.2**
MPEP	**Malo Peshtene**	**1.70**	**357**	P	**Pn**	**09 01 06.4**	**+0.3**
PAIG	**Paliouri**	**1.73**	**185**	P	**Pn**	**09 01 05.5**	**-1.1**
PAIG				S	**Sn**	**09 01 29.7**	**+0.6**
PAIG	**Paliouri**	**1.73**	**185**	P	**Pn**	**09 01 05.5**	**-1.1**
PAIG				S	**Sn**	**09 01 29.7**	**+0.6**
ALN	**Alexandroupoli**	**1.82**	**114**	*e*PN	**Pn**	**09 01 08.0**	**+0.3**
ALN				*e*SN	**Sn**	**09 01 31.2**	**+0.1**
ALN	**Alexandroupoli**	**1.82**	**114**	P	**Pn**	**09 01 06.8**	**-0.9**
ALN				S	**Sn**	**09 01 31.3**	**+0.2**
ALN	**Alexandroupoli**	**1.82**	**114**	P	**Pn**	**09 01 06.8**	**-0.9**
ALN	**Alexandroupoli**	**1.82**	**114**	*e*Pn	**Pn**	**09 01 08.0**	**+0.3**
ALN				*e*Sn	**Sn**	**09 01 31.2**	**+0.1**
SKO	**Skopje**	**1.83**	**281**	*e*Pn	**Pn**	**09 01 09.9**	**+1.9**
SKO	**Skopje**	**1.83**	**281**	*e*Pn	**Pn**	**09 01 09.8**	**+1.8**
ZAPS	**Zavoj**	**1.85**	**331**	*e*Pn	**Pn**	**09 01 09.3**	**+1.1**
ZAPS				*e*Sg	**Sg**	**09 01 35.8**	**+0.5**
LIT	**Litokhoron**	**1.87**	**214**	*e*PB	**Pn**	**09 01 07.8**	**-0.7**
LIT	**Litokhoron**	**1.87**	**214**	*e*Pb	**Pn**	**09 01 07.6**	**-0.9**
PVL	**Pavlikeni**	**1.90**	**35**	P	**Pn**	**09 01 08.3**	**-0.6**
PVL	**Pavlikeni**	**1.90**	**35**	P	**Pn**	**09 01 08.3**	**-0.6**
BARS	**Barje**	**1.91**	**308**	*e*Pg	**Pn**	**09 01 09.7**	**+0.7**
BARS				*e*Sg	**Sg**	**09 01 34.7**	**-2.4**
BARS	**Barje**	**1.91**	**308**	*e*Pg	**Pn**	**09 01 09.7**	**+0.7**
BARS				*e*Sg	**Sg**	**09 01 34.7**	**-2.4**
ENEZ	**Enez**	**1.96**	**117**	*e*PN	**Pn**	**09 01 10.2**	**+0.4**
KRUS	**Krusevo**	**1.98**	**262**	*e*Pn	**Pn**	**09 01 09.9**	**-0.1**
KRUS	**Krusevo**	**1.98**	**262**	*e*Pn	**Pn**	**09 01 09.9**	**-0.1**
BIA	**Bitola**	**2.01**	**252**	*e*Pn	**Pn**	**09 01 09.0**	**-1.4**
BIA				*e*Sn	**Sn**	**09 01 34.9**	**-1.0**
BIA	**Bitola**	**2.01**	**252**	*e*Pn	**Pn**	**09 01 09.0**	**-1.4**
BIA				*e*Sn	**Sn**	**09 01 34.9**	**-1.0**
LIA	**Limnos Island**	**2.03**	**150**	*e*PN	**Pn**	**09 01 11.0**	**+0.4**
LIA				*e*SN	**Sn**	**09 01 36.9**	**+0.6**
LIA	**Limnos Island**	**2.03**	**150**	P	**Pn**	**09 01 09.5**	**-1.1**
LIA				S	**Sn**	**09 01 36.1**	**-0.2**
LIA	**Limnos Island**	**2.03**	**150**	P	**Pn**	**09 01 09.5**	**-1.1**
LIA	**Limnos Island**	**2.03**	**150**	*e*Pn	**Pn**	**09 01 11.0**	**+0.4**
LIA				S	**Sn**	**09 01 36.1**	**-0.2**
LIA				*e*Sn	**Sn**	**09 01 36.9**	**+0.6**
KZN	**Kozani**	**2.08**	**230**	*e*PB	**Pn**	**09 01 10.6**	**-0.7**
KZN				*e*SN	**Sn**	**09 01 38.1**	**+0.5**
KZN	**Kozani**	**2.08**	**230**	*e*Pb	**Pn**	**09 01 10.6**	**-0.7**
KZN				*e*Sn	**Sn**	**09 01 38.3**	**+

BNB				⇓Sn	Sn	09 10 53.5	-5.1
CBB	**Campbell River**	**2.75**	**93**	⇑Pn	Pn	09 10 25.8	-1.1
CBB				Sn	Sn	09 10 59.6	-0.5
CBB	**Campbell River**	**2.75**	**93**	⇑Pn	Pn	09 10 25.8	-1.1
CBB				⇓Sn	Sn	09 10 59.6	-0.5
BTB	**Buttle Lake**	**2.76**	**105**	⇑Pn	Pn	09 10 24.8	-2.3
OZB	**Mount Ozzard**	**2.98**	**114**	Pn	Pn	09 10 28.7	-1.3
OZB	**Mount Ozzard**	**2.98**	**114**	⇑Pn	Pn	09 10 28.7	-1.3
MOBC	**Moresby Island**	**3.25**	**334**	⇓Pn	Pn	09 10 30.2	-3.6
ALB	**Alberni**	**3.25**	**106**	Pn	Pn	09 10 32.2	-1.7
ALB	**Alberni**	**3.25**	**106**	⇓Pn	Pn	09 10 32.2	-1.7
DIB	**Dawson Inlet,**	**3.45**	**330**	⇓Pn	Pn	09 10 33.8	-2.8
PGC	**Sidney**	**4.33**	**109**	*e*Pn	Pn	09 10 48.2	-0.4
NLWA	**Neilton Lookou**	**4.75**	**125**	*e*Pn	Pn	09 10 54.4	-0.1
GNW	**Green Mountain**	**5.22**	**118**	*e*Pn	Pn	09 10 59.6	-1.3
JCW	**Jim Creek**	**5.44**	**109**	*e*Pn	Pn	09 11 04.2	+0.3
JCW				*e*Sn	Sn	09 12 08.8	+2.3
RPW	**Rockport**	**5.59**	**106**	*e*Pn	Pn	09 11 05.7	-0.3
BMW	**Boistfort Moun**	**5.69**	**129**	*e*Pn	Pn	09 11 07.5	+0.1
LON	**Longmire**	**6.26**	**121**	*e*Pn	Pn	09 11 14.8	-0.3
ETW	**Entiat**	**6.67**	**110**	*e*Pn	Pn	09 11 20.3	-0.5
HOOD	**Mount Hood Mea**	**7.29**	**130**	*e*Pn	Pn	09 11 29.3	+0.1
OD2	**Odessa Site #2**	**7.75**	**107**	*e*Pn	Pn	09 11 35.1	-0.4
HAWA	**Hanford**	**7.75**	**116**	*e*Pn	Pn	09 11 35.0	-0.5
	5.8nm,1.0s						
DLBC	**Dease Lake**	**8.21**	**358**	Pn	Pn	09 11 42.9	+1.0
	0.3nm,0.3s,baz=186,slow=13,SNR=11						
DLBC				LR	LR	09 14 54.8	
	comp=Z,143nm,18.6s,baz=43,slow=38						
DLBC	**Dease Lake**	**8.21**	**358**	Pn	Pn	09 11 42.9	+1.0
BMO	**Blue Mountains**	**9.92**	**118**	*e*Pn	Pn	09 12 05.2	-0.1
JTMT	**Jette**	**10.39**	**98**	Pn	Pn	09 12 12.0	+0.3
IMW	**Indian Meadow**	**14.21**	**109**	*e*Pn	Pn	09 13 06.0	+2.0
	8.1nm,1.1s						
NVAR	**Mina Array Bea**	**14.30**	**141**	Pn	Pn	09 13 08.4	+3.2
	baz=308,slow=15,SNR=3.1						
NVAR	**Mina Array Bea**	**14.30**	**141**	Pn	Pn	09 13 08.4	+3.2
MOOW	**Moose Ponds**	**14.41**	**110**	Pn	Pn	09 13 07.2	+0.6
	5.9nm,0.9s						
TPAW	**Teton Pass**	**14.43**	**111**	*e*P	Pn	09 13 15.7	+8.8
	9.5nm,0.9s						
REDW	**Red Top Meadow**	**14.56**	**111**	Pn	Pn	09 13 09.7	+1.0
	7.0nm,1.1s						
SNOW	**Snow King Moun**	**14.56**	**111**	*e*P	Pn	09 13 15.4	+6.6
	6.6nm,0.9s						
LOHW	**Long Hollow**	**14.57**	**110**	*e*P	Pn	09 13 13.1	+4.2
	9.9nm,1.4s						
YKA	**Yellowknife Ar**	**14.77**	**28**	Pn	Pn	09 13 12.1	+0.6
	0.0nm,0.3s,baz=220,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**14.77**	**28**	Pn	Pn	09 13 12.1	+0.7
PDAR	**Pinedale Array**	**15.68**	**111**	Pn	Pn	09 13 23.8	+0.2
	0.0nm,0.3s,baz=312,slow=8.4,SNR=8.8						
PDAR	**Pinedale Array**	**15.68**	**111**	Pn	Pn	09 13 23.8	+0.2
MSU	**Marysvale**	**17.07**	**127**	*e*P	Pn	09 13 45.0	+3.6
	3.7nm,1.3s						
ILAR	**Eielson Array**	**17.16**	**334**	P	Pn	09 13 44.4	+1.9
	0.0nm,0.3s,baz=147,slow=12,SNR=9.4						
ILAR	**Eielson Array**	**17.16**	**334**	P	Pn	09 13 44.4	+1.9
FFC	**Flin Flon**	**17.36**	**64**	*e*P	Pn	09 13 45.6	+0.7
	15nm,1.3s						
SRU	**San Rafael**	**17.51**	**122**	*e*Pn	Pn	09 13 48.4	+1.5
	2.8nm,0.8s						
INK	**Inuvik**	**18.22**	**355**	P	Pn	09 13 57.1	+1.7
	0.0nm,0.3s,baz=172,slow=9.0,SNR=4.8						
INK	**Inuvik**	**18.22**	**355**	P	Pn	09 13 57.1	+1.7
PV01	**Paradox Valley**	**19.27**	**121**	*e*P	Pn	09 14 09.5	+1.1
	477nm,1.2s						
ULM	**Lac du Bonnet**	**21.48**	**77**	P	P	09 14 32.3	+1.0
	6.3nm,0.6s,mb4.1,baz=280,slow=11,SNR=9.4						
ULM				LR	LR	09 21 54.5	
	comp=Z,54nm,19.8s,MS3.0,baz=47,slow=34						
ULM	**Lac du Bonnet**	**21.48**	**77**	P	P	09 14 32.3	+1.0
ANMO	**Albuquerque**	**22.76**	**123**	P	P	09 14 45.1	0.0
	0.8nm,0.7s,mb3.3,baz=311,slow=8.3,SNR=5.2						
ANMO	**Albuquerque**	**22.76**	**123**	P	P	09 14 45.1	0.0
ECSD	**EROS Data Cent**	**23.30**	**93**	*e*P	P	09 14 52.0	+1.3
	5.0nm,0.8s,mb4.0						
AMTX	**Amarillo**	**25.47**	**116**	*e*P	P	09 15 10.8	-0.1
	5.5nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	**28.63**	**127**	P	P	09 15 39.3	0.0
	0.3nm,0.8s,mb3.0,baz=330,slow=7.2,SNR=4.0						
TXAR	**Lajitas Array**	**28.63**	**127**	P	P	09 15 39.3	0.0

*ISCJB **06** 09:23:10.8±0.4, 41°.68N±0°.01×23°.85E±0°.02, h2km±3km,*
Error ellipse: s-maj=2.7km s-min=2.3km az=11.4
*SOF **06** 09:23:10.6, 41°.67N×23°.93E, h13km, MD3.1*
*THE **06** 09:23:11.6, 41°.64N×23°.90E, h1km±1km, ML3.2/10, Error*
ellipse: s-maj=1.4km s-min=0.5km az=319.0
*ATH **06** 09:23:11.9, 41°.63N×23°.83E, h24km±1km, MD3.4/9*
*CSEM **06** 09:23:11.2±0.1, 41°.66N×23°.88E, h2km, MD3.1, Error*
ellipse: s-maj=2.5km s-min=2.3km az=111.0
*SKO **06** 09:23:12.3, 41°.65N×23°.89E, h3km, M2.7, ML3.0*
*BEO **06** 09:23:14.2±1.2, 41°.59N×23°.52E, h4km±4km, ML3.2/6*

ISC 06 09:23:11.6±0.3, 41°.66N±0°.01×23°.86E±0°.02, h2km±2km,
n124, σ1§18/183, 2C-11D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.12**	**234**	*i* Pg	**Pg**	**09 23 15.2**	**+1.2**
MMB	**Musomiste**	**0.12**	**234**	*i* Pg	**Pg**	**09 23 15.2**	**+1.2**
SRS	**Serrai**	**0.58**	**201**	P	**Pg**	**09 23 23.0**	**+0.3**
SRS				S	**Sg**	**09 23 31.2**	**+1.0**
SRS	**Serrai**	**0.58**	**201**	P	**Pg**	**09 23 23.0**	**+0.3**
SRS				S	**Sg**	**09 23 31.2**	**+1.0**
KKB	**Krupnik**	**0.62**	**290**	*i* Pg	**Pg**	**09 23 23.4**	**0.0**
KKB	**Krupnik**	**0.62**	**290**	*i* Pg	**Pg**	**09 23 23.4**	**0.0**
RZN	**Rozhen**	**0.64**	**87**	*i* Pg	**Pg**	**09 23 23.0**	**-0.8**
RZN	**Rozhen**	**0.64**	**87**	*i* Pg	**Pg**	**09 23 23.0**	**-0.8**
PLD	**Plovdiv**	**0.77**	**55**	P	**Pg**	**09 23 26.1**	**-0.2**
PLD				S	**Sg**	**09 23 36.5**	**+0.2**
PLD	**Plovdiv**	**0.77**	**55**	*i* Pg	**Pg**	**09 23 26.0**	**-0.3**
PLD	**Plovdiv**	**0.77**	**55**	*i* Pg	**Pg**	**09 23 26.0**	**-0.3**
PLD				S	**Sg**	**09 23 36.5**	**+0.2**
KAVA	**Kavala**	**0.83**	**143**	P	**Pg**	**09 23 26.3**	**-1.1**
KAVA				S	**Sg**	**09 23 37.5**	**-0.6**
KAVA	**Kavala**	**0.83**	**143**	P	**Pg**	**09 23 26.3**	**-1.1**
KAVA				S	**Sg**	**09 23 37.5**	**-0.6**
KNT	**Kendrikon**	**0.88**	**236**	P	**Pg**	**09 23 28.5**	**+0.1**
KNT				S	**Sg**	**09 23 40.9**	**+1.1**
KNT	**Kendrikon**	**0.88**	**236**	P	**Pg**	**09 23 28.5**	**+0.1**
KNT				S	**Sg**	**09 23 40.9**	**+1.1**
PGB	**Panagyurishte**	**0.92**	**14**	*i* Pg	**Pg**	**09 23 28.0**	**-1.1**
PGB	**Panagyurishte**	**0.92**	**14**	*i* Pg	**Pg**	**09 23 28.0**	**-1.1**
SOH	**Sokhos**	**0.92**	**205**	*e*PN	**Pg**	**09 23 29.2**	**-0.1**
SOH				*e*SN	**Sn**	**09 23 41.1**	**-4.2**
SOH	**Sokhos**	**0.92**	**205**	P	**Pg**	**09 23 29.2**	**-0.1**
SOH				S	**Sg**	**09 23 41.7**	**+0.5**
SOH	**Sokhos**	**0.92**	**205**	P	**Pg**	**09 23 29.2**	**-0.1**
SOH				*e*Sn	**Sn**	**09 23 41.1**	**-4.2**
SOH				S	**Sg**	**09 23 41.7**	**+0.5**
VAY	**Valandovo**	**1.03**	**251**	*e*Pg	**Pg**	**09 23 31.4**	**+0.2**
VAY				*e*Sg	**Sg**	**09 23 45.7**	**+1.0**
VAY				*e*Lg		09 23 49.1	
	comp=N,213nm,0.3s						
VAY				*e*Lg		09 23 49.2	
	comp=E,416nm,0.9s						
VAY	**Valandovo**	**1.03**	**251**	*e*Pg	**Pg**	**09 23 31.4**	**+0.1**
VAY				*e*Sg	**Sg**	**09 23 45.6**	**+1.0**
VAY				*e*Lg		09 23 49.1	
	comp=E,213nm,0.3s						
VTS	**Vitosha**	**1.05**	**333**	P	**Pg**	**09 23 31.1**	**-0.6**
VTS				S	**Sg**	**09 23 47.7**	**+2.4**
VTS	**Vitosha**	**1.05**	**333**	Pg	**Pg**	**09 23 31.0**	**-0.7**
VTS	**Vitosha**	**1.05**	**333**	⇓*i* P	**Pg**	**09 23 31.2**	**-0.5**
VTS				S	**Sg**	**09 23 48.1**	**+2.8**
VTS	**Vitosha**	**1.05**	**333**	P	**Pg**	**09 23 31.1**	**-0.6**
VTS				S	**Sg**	**09 23 47.7**	**+2.4**
KDZ	**Kurdzhali**	**1.17**	**90**	*i* Pg	**Pg**	**09 23 31.2**	**-2.7**
KDZ	**Kurdzhali**	**1.17**	**90**	*i* Pg	**Pg**	**09 23 31.2**	**-2.7**
HORT	**Hortiatis**	**1.21**	**209**	P	**Pg**	**09 23 34.5**	**-0.2**
HORT				S	**Sg**	**09 23 51.7**	**+1.3**
HORT	**Hortiatis**	**1.21**	**209**	P	**Pg**	**09 23 34.5**	**-0.2**
HORT				S	**Sg**	**09 23 51.7**	**+1.3**
THE	**Thessaloniki**	**1.23**	**214**	P	**Pg**	**09 23 34.9**	**-0.3**
THE				S	**Sg**	**09 23 51.5**	**+0.4**
THE	**Thessaloniki**	**1.23**	**214**	P	**Pg**	**09 23 34.9**	**-0.3**
THE				S	**Sg**	**09 23 51.5**	**+0.4**
DIM	**Dimitrovgrad**	**1.31**	**72**	P	**Pg**	**09 23 35.8**	**-0.8**
DIM	**Dimitrovgrad**	**1.31**	**72**	P	**Pg**	**09 23 35.8**	**-0.8**
GRG	**Griva**	**1.31**	**238**	P	**Pg**	**09 23 36.1**	**-0.5**
GRG				S	**Sg**	**09 23 54.9**	**+1.4**
GRG	**Griva**	**1.31**	**238**	P	**Pg**	**09 23 36.1**	**-0.5**
GRG				S	**Sg**	**09 23 54.9**	**+1.4**
PLG	**Polygyros**	**1.32**	**194**	*e*PN	**Pn**	**09 23 36.1**	**-1.0**
PLG				*e*SN	**Sn**	**09 23 53.5**	**-1.8**
PLG	**Polygyros**	**1.32**	**194**	P	**Pg**	**09 23 36.3**	**-0.7**
PLG				S	**Sg**	**09 23 55.0**	**+0.9**
PLG	**Polygyros**	**1.32**	**194**	P	**Pg**	**09 23 36.3**	**-0.7**
PLG				*e*Sn	**Sn**	**09 23 53.5**	**-1.8**
PLG				S	**Sg**	**09 23 55.0**	**+0.9**
OUR	**Ouranopolis**	**1.33**	**176**	P	**Pg**	**09 23 35.8**	**-1.2**
OUR				S	**Sg**	**09 23 54.1**	**-0.2**
OUR	**Ouranopolis**	**1.33**	**176**	P	**Pg**	**09 23 35.8**	**-1.2**
OUR				S	**Sg**	**09 23 54.1**	**-0.2**
MPEP	**Malo Peshtene**	**1.69**	**357**	P	**Pn**	**09 23 42.1**	**-0.1**
PAIG	**Paliouri**	**1.74**	**185**	P	**Pn**	**09 23 41.6**	**-1.2**
PAIG				S	**Sn**	**09 24 05.2**	**-0.3**
PAIG	**Paliouri**	**1.74**	**185**	P	**Pn**	**09 23 41.6**	**-1.2**
PAIG				S	**Sn**	**09 24 05.2**	**-0.3**
ALN	**Alexandroupoli**	**1.81**	**114**	*e*PN	**Pn**	**09 23 44.2**	**+0.4**
ALN				*e*SN	**Sn**	**09 24 07.2**	**-0.2**
ALN	**Alexandroupoli**	**1.81**	**114**	P	**Pn**	**09 23 42.8**	**-1.0**
ALN				S	**Sn**	**09 24 07.6**	**+0.2**
ALN	**Alexandroupoli**	**1.81**	**114**	P	**Pn**	**09 23 42.8**	**-1.0**
ALN	**Alexandroupoli**	**1.81**	**114**	*e*Pn	**Pn**	**09 23 44.2**	**+0.4**
ALN				*e*Sn	**Sn**	**09 24 07.2**	**-0.2**
ALN				S	**Sn**	**09 24 07.6**	**+0.2**
ZAPS	**Zavoj**	**1.85**	**331**	*e*Pn	**Pn**	**09 23 46.0**	**+1.7**
ZAPS				*e*Sg	**Sg**	**09 24 12.2**	**+1.2**
LIT	**Litokhoron**	**1.88**	**214**	*e*PB	**Pb**	**09 23 43.7**	**-2.8**
LIT	**Litokhoron**	**1.88**	**214**	P	**Pn**	**09 23 44.0**	**-0.6**
LIT				S	**Sn**	**09 24 09.6**	**+0.8**
LIT	**Litokhoron**	**1.88**	**214**	*e*Pn	**Pn**	**09 23 43.6**	**-1.0**
LIT	**Litokhoron**	**1.88**	**214**	P	**Pn**	**09 23 44.0**	**-0.6**
LIT				S	**Sn**	**09 24 09.6**	**+0.8**
PVL	**Pavlikeni**	**1.90**	**35**	P	**Pn**	**09 23 44.3**	**-0.7**
PVL	**Pavlikeni**	**1.90**	**35**	P	**Pn**	**09 23 44.3**	**-0.7**
BARS	**Barje**	**1.91**	**308**	*e*Pg	**Pg**	**09 23 46.0**	**-2.1**
BARS				*e*Sg	**Sg**	**09 24 09.8**	**-3.1**
BARS	**Barje**	**1.91**	**308**	*e*Pg	**Pg**	**09 23 46.0**	**-2.1**
BARS				*e*Sg	**Sg**	**09 24 09.8**	**-3.1**
ENEZ	**Enez**	**1.96**	**117**	*e*PN	**Pn**	**09 23 47.6**	**+1.8**
ENEZ	**Enez**	**1.96**	**117**	*e*Pn	**Pn**	**09 23 47.6**	**+1.8**
KRUS	**Krusevo**	**1.98**	**262**	*e*Pn	**Pn**	**09 23 46.0**	**-0.1**
KRUS	**Krusevo**	**1.98**	**262**	*e*Pn	**Pn**	**09 23 46.0**	**-0.1**
LIA	**Limnos Island**	**2.03**	**150**	*e*PN	**Pn**	**09 23 46.5**	**-0.2**
LIA	**Limnos Island**	**2.03**	**150**	P	**Pn**	**09 23 45.7**	**-1.0**
LIA	**Limnos Island**	**2.03**	**150**	P	**Pn**	**09 23 45.7**	**-1.0**
LIA	**Limnos Island**	**2.03**	**150**	*e*Pn	**Pn**	**09 23 46.5**	**-0.2**
LIA				*e*Sn	**Sn**	**09 24 13.9**	**+1.3**
KZN	**Kozani**	**2.08**	**230**	*e*PB	**Pn**	**09 23 46.9**	**-0.6**
KZN				*e*SN	**Sn**	**09 24 13.2**	**-0.8**
KZN	**Kozani**	**2.08**	**230**	*e*Pn	**Pn**	**09 23 46.9**	**-0.6**
KZN				*e*Sn	**Sn**	**09 24 14.2**	**+0.2**
GADA	**Gvkgeada**	**2.13**	**133**	*e*PN	**Pn**	**09 23 49.2**	**+1.0**
GADA				*e*SN	**Sn**	**09 24 12.8**	**-2.3**
GADA	**Gvkgeada**	**2.13**	**133**	*e*Pn	**Pn**	**09 23 49.2**	**+1.0**
GADA				*e*Sn	**Sn**	**09 24 12.8**	**-2.4**
JMB	**Yambol**	**2.18**	**67**	P	**Pn**	**09 23 47.8**	**-1.0**
JMB				S	**Sn**	**09 24 17.2**	**+0.8**
JMB	**Yambol**	**2.18**	**67**	P	**Pn**	**09 23 47.8**	**-1.0**
JMB				S	**Sn**	**09 24 17.2**	**+0.8**
ERIK	**Erikli-Kesan**	**2.23**	**115**	*e*PN	**Pn**	**09 23 51.2**	**+1.7**
ERIK				*e*SN	**Sn**	**09 24 16.9**	**-0.8**
ERIK	**Erikli-Kesan**	**2.23**	**115**	*e*Pn	**Pn**	**09 23 51.3**	**+1.7**
ERIK				*e*Sn	**Sn**	**09 24 16.9**	**-0.8**
GELI	**Tayfur-Gelibol**	**2.34**	**122**	*e*Pn	**Pn**	**09 23 52.0**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.34**	**122**	*e*Pn	**Pn**	**09 23 52.0**	**+0.9**
NEO	**Neokhori**	**2.40**	**192**	*e*PN	**Pn**	**09 23 51.1**	**-0.8**
NEO	**Neokhori**	**2.40**	**192**	*e*Pn	**Pn**	**09 23 51.0**	**-0.9**
AOS	**Alonnisos**	**2.49**	**180**	P	**Pn**	**09 23 52.1**	**-1.0**
AOS	**Alonnisos**	**2.49**	**180**	P	**Pn**	**09 23 52.1**	**-1.0**
LPK	**Lapseki**	**2.54**	**119**	*e*PN	**Pn**	**09 23 55.7**	**+1.9**
LPK	**Lapseki**	**2.54**	**119**	*e*Pn	**Pn**	**09 23 55.7**	**+1.9**
SELS	**Selova**	**2.56**	**308**	*e*Pn	**Pn**	**09 23 54.0**	**0.0**
SELS				*e*Sg	**Sg**	**09 24 31.6**	**-2.2**
BOLS	**Boljevac**	**2.58**	**328**	*e*Pn	**Pn**	**09 23 56.3**	**+1.9**
BOLS				*e*Sg	**Sg**	**09 24 33.8**	**-0.7**
BOLS	**Boljevac**	**2.58**	**328**	*e*Pn	**Pn**	**09 23 56.3**	**+1.9**
RKY	**Sarkoy-Tekirda**	**2.69**	**110**	*e*PN	**Pn**	**09 23 58.6**	**+2.8**
RKY	**Sarkoy-Tekirda**	**2.69**	**110**	*e*Pn	**Pn**	**09 23 58.6**	**+2.8**
SART	**Tekirdag**	**2.69**	**110**	*i* P	**Pn**	**09 23 59.4**	**+3.6**
SART	**Tekirdag**	**2.69**	**110**	*i* P	**Pn**	**09 23 59.4**	**+3.6**
MFT	**Murefte**	**2.72**	**108**	*e*PN	**Pn**	**09 23 59.8**	**+3.5**
MFT	**Murefte**	**2.72**	**108**	*e*Pn	**Pn**	**09 23 59.8**	**+3.5**
AGG	**Agios Georgios**	**2.88**	**204**	*e*PN	**Pn**	**09 23 58.3**	**-0.2**
AGG	**Agios Georgios**	**2.88**	**204**	*e*Pn	**Pn**	**09 23 58.3**	**-0.2**
AGG				*e*Sn	**Sn**	**09 24 33.9**	**+0.1**
GRUS	**Gruza**	**3.21**	**315**	*e*Pn	**Pn**	**09 24 03.3**	**+0.3**
GRUS				*e*Sn	**Sn**	**09 24 40.6**	**-1.2**
GRUS	**Gruza**	**3.21**	**315**	*e*Pn	**Pn**	**09 24 03.3**	**+0.3**
GRUS				*e*Sn	**Sn**	**09 24 40.6**	**-1.2**
EDC	**Edincik**	**3.30**	**112**	*e*PN	**Pn**	**09 24 07.1**	**+2.9**
EDC	**Edincik**	**3.30**	**112**	*e*Pn	**Pn**	**09 24 07.1**	**+2.9**
CTYL	**Yal??k??y-??at**	**3.33**	**92**	*e*PN	**Pn**	**09 24 09.4**	**+4.8**
BNT	**Bandirma**	**3.34**	**112**	*e*PN	**Pn**	**09 24 07.4**	**+2.7**
BNT	**Bandirma**	**3.34**	**112**	*e*Pn	**Pn**	**09 24 07.4**	**+2.7**
IVAS	**Ivanjica**	**3.34**	**306**	*e*Sn	**Sn**	**09 24 43.4**	**-1.6**
IVAS	**Ivanjica**	**3.34**	**306**	*e*Sn	**Sn**	**09 24 43.4**	**-1.6**
BALY	**Balya**	**3.44**	**123**	*i* P	**Pn**	**09 24 05.4**	**-0.8**
BALY	**Balya**	**3.44**	**123**	*i* P	**Pn**	**09 24 05.4**	**-0.8**
BALY				*i* S	**Sn**	**09 24 46.1**	**-1.4**
CTKS	**Kestanelik-??a**	**3.52**	**95**	*e*PN	**Pn**	**09 24 12.5**	**+5.3**
CHOS	**Chios island**	**3.68**	**152**	*e*PN	**Pn**	**09 24 09.4**	**0.0**
CHOS	**Chios island**	**3.68**	**152**	*e*Pn	**Pn**	**09 24 09.4**	**0.0**
DIVS	**Divibare**	**3.74**	**312**	*e*Pn	**Pn**	**09 24 11.6**	**+1.3**
DIVS				*e*Sn	**Sn**	**09 24 53.3**	**-1.7**
DIVS	**Divibare**	**3.74**	**312**	*e*Pn	**Pn**	**09 24 11.6**	**+1.3**
DIVS				*e*Sn	**Sn**	**09 24 53.3**	**-1.7**
GZR	**Gura Zlata**	**3.81**	**348**	⇓*i* P	**Pn**	**09 24 10.7**	**-0.6**
GZR	**Gura Zlata**	**3.81**	**348**	⇓*i* P	**Pn**	**09 24 10.7**	**-0.6**
GZR				S	**Sn**	**09 24 58.2**	**+1.6**
KLYT	**Kilyos**	**3.91**	**94**	*e*PN	**Pn**	**09 24 18.3**	**+5.6**
DURS	**Dursunbey**	**4.07**	**119**	*i* P	**Pn**	**09 24 14.7**	**-0.1**
DURS	**Dursunbey**	**4.07**	**119**	*i* P	**Pn**	**09 24 14.6**	**-0.2**
DURS				*i* S	**Sn**	**09 24 58.9**	**-4.1**
MLR	**Muntele Rosu**	**4.12**	**21**	⇓*i* P	**Pn**	**09 24 17.0**	**+1.6**
MLR	**Muntele Rosu**	**4.12**	**21**	⇓*i* P	**Pn**	**09 24 17.0**	**+1.6**
BZS	**Buzias**	**4.28**	**338**	⇓*i* P	**Pn**	**09 24 16.9**	**-0.7**
BZS	**Buzias**	**4.28**	**338**	⇓*i* P	**Pn**	**09 24 16.9**	**-0.7**
YLV	**Yalova**	**4.30**	**103**	*e*P	**Pn**	**09 24 22.5**	**+4.4**
PLOR	**Plostina**	**4.65**	**25**	⇑*i* P	**Pn**	**09 24 23.8**	**+1.0**
PLOR	**Plostina**	**4.65**	**25**	⇑*i* P	**Pn**	**09 24 23.8**	**+1.0**
VRI	**Vrincioaia**	**4.69**	**25**	⇓*i* P	**Pn**	**09 24 24.2**	**+0.9**
VRI	**Vrincioaia**	**4.69**	**25**	⇓*i* P	**Pn**	**09 24 24.2**	**+0.9**
BURAR	**Bucovina Array**	**6.03**	**9**	⇓*i* P	**Pn**	**09 24 42.7**	**+1.0**
BURAR	**Bucovina Array**	**6.03**	**9**	⇓*i* P	**Pn**	**09 24 42.7**	**+1.0**

*IDC **06** 09:24:54.6±2.6, 44°.06N×86°.16E, h33km±19km, mb4.3/25,*
mb1 4.5/29, mb1mx4.4/33, mbtmp4.3/29, ML5.3/4, MS3.4/10,
Ms1 3.5/10, ms1mx3.2/30, Error ellipse: s-maj=16.3km
s-min=9.8km az=25.0
*MOS **06** 09:24:54.4±1.0, 44°.09N×86°.09E, h45km, mb5.1/39, Error*
ellipse: s-maj=7.1km s-min=4.5km az=128.3
*ISCJB **06** 09:24:56.7±0.1, 43°.98N±0°.02×86°.02E±0°.03, h69km,*
mb4.8/108, Error ellipse: s-maj=3.3km s-min=2.5km
az=28.9
*BJI **06** 09:24:56.0, 44°.07N×86°.14E, h50km, mB5.0/25, mb4.8/34,*
ML4.6/9, Ms4.4/23, Ms7 4.0/20
*LDG **06** 09:24:57.1, 44°.10N×86°.02E, h71km*
*SZGRF **06** 09:24:57.4, 44°.14N×86°.06E, h33km, mb5.1, Northern*
Xinjiang, China
*NEIC **06** 09:24:58.5±0.1, 43°.96N×86°.02E, mb5.0/61, Error ellipse:*
s-maj=4.3km s-min=3.0km az=49.0
*NNC **06** 09:25:00.1±3.3, 44°.45N×85°.36E, h0km, mb4.7, mpv4.7,*
Error ellipse: s-maj=38.0km s-min=16.0km az=82.0
*DJA **06** 09:25:01, 44°.06N×86°.06E, h95km, mb5.1/17*

ISC 06 09:24:58.6±0.1, 43°.95N±0°.02×86°.05E±0°.03, h71km,
h71km±1.3km: pP-P, n415, σ1§02/441, mb4.8/108, 24C-11D,
Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.20**	**96**	⇑*i* P	**Pn**	**09 25 19.8**	**+0.1**
WMQ				S	**Sn**	**09 25 33.0**	**-2.4**
MK31	**Makanchi Array**	**3.88**	**318**	⇑Pn	**Pn**	**09 25 54.6**	**-1.2**
	81nm,0.3s,baz=137,slow=15,SNR=5173						
MK31				⇓Sn	**Sn**	**09 26 37.1**	**-3.1**
	279nm,0.4s						
MK31				⇑Lg		09 26 55.9	
	1μm,0.7s,baz=128,slow=31,SNR=10						
MK31	**Makanchi Array**	**3.88**	**318**	*e*Pn	**Pn**	**09 25 54.8**	**-1.1**
MK31				*e*Sn	**Sn**	**09 26 36.8**	**-3.3**
MK31	**Makanchi Array**	**3.88**	**318**	*e*PN	**Pn**	**09 25 54.8**	**-1.0**
MK31				*e*		09 26 36.8	
MKAR	**Makanchi Array**	**3.88**	**318**	Pn	**Pn**	**09 25 54.6**	**-1.2**
	68nm,0.3s,baz=136,slow=14,SNR=3927						
MKAR				Pg	**Pn**	**09 26 05.5**	**+10**
	96nm,0.3s,baz=130,slow=18,SNR=28						
MKAR				Sn	**Sn**	**09 26 28.9**	**-11**
	197nm,0.3s,baz=134,slow=16,SNR=10						
MKAR				Lg		09 26 56.0	
	313nm,0.3s,baz=129,slow=32,SNR=18						
MKAR	**Makanchi Array**	**3.88**	**318**	Pn	**Pn**	**09 25 54.6**	**-1.2**
MKAR				Pg	**Pn**	**09 26 05.5**	**+10**
MKAR				Sn	**Sn**	**09 26 28.9**	**-11**
MKAR				Lg		09 26 56.0	
MKAR	**Makanchi Array**	**3.88**	**318**	PN	**Pn**	**09 25 54.6**	**-1.2**
KNDC	**Almaty**	**6.64**	**267**	⇑Pn	**Pn**	**09 26 37.2**	**+3.7**
	45nm,0.3s						
ULHL	**Ulahol**	**7.38**	**260**	P	**Pn**	**09 26 43.0**	**-0.6**
	SNR=30						
ULHL				P		09 26 43.0	
	SNR=30						
TKM2	**Tokmak 2**	**7.68**	**266**	P	**Pn**	**09 26 48.1**	**+0.5**
	SNR=35						
TKM2				P		09 26 48.1	
	SNR=35						
TKM2	**Tokmak 2**	**7.68**	**266**	⇑Pn	**Pn**	**09 26 48.0**	**+0.3**
	7.7nm,0.4s						
TKM2				⇑Lg		09 29 01.6	
	81nm,0.7s						
TKM2	**Tokmak 2**	**7.68**	**266**	*e*Pn	**Pn**	**09 26 48.3**	**+0.6**
TKM2	**Tokmak 2**	**7.68**	**266**	*e*P	**Pn**	**09 26 48.3**	**+0.6**
KZA	**Kyzart**	**8.13**	**260**	P	**Pn**	**09 26 54.2**	**+0.3**
	SNR=37						
KZA				P		09 26 54.2	
	SNR=37						
KBK	**Karagaybulak**

comp=Z,136nm,20.4s,baz=304,slow=41
SONM Songino Array 14.68 68 Pn **Pn 09 28 18.7 -3.6**
SONM Songino Array 14.68 68 P **Pn 09 28 18.7 -3.6**
LSA Lhasa 14.79 162 P **Pn 09 28 29.3 +5.4**
CEP Cherat 14.93 232 P **Pn 09 28 23.0 -2.6**
CEP S **Sn 09 31 01.0 -8.9**
DDI Dehra Dun 15.01 208 *ex* x 09 27 48.0
ULN Ulaanbaatar 15.13 68 *e*Pn **Pn 09 28 27.3 -0.7**
comp=Z,17nm,1.1s
ULN Ulaanbaatar 15.13 68 *e*P **Pn 09 28 27.3 -0.7**
ULN pmax pmax
comp=Z,17nm,1.1s
ULN Ulaanbaatar 15.13 68 P **Pn 09 28 28.3 +0.3**
comp=Z,16nm,0.9s
DANN Dangsing 15.68 187 *e*P **Pn 09 28 34.6 -0.6**
comp=Z,47nm,0.6s
DANN Dangsing 15.68 187 *e*P **Pn 09 28 34.6 -0.6**
comp=Z,47nm,0.6s
LZH Lanzhou 15.71 114 *e*P **Pn 09 28 35.4 -0.2**
LZH pP pP 09 28 45.5 -7.1
LZH PP 09 28 50.1
LZH sP sP 09 28 54.6 -7.0
LZH *e*S **S 09 31 27.2 -13**
LZH sS sS 09 31 44.5 -19
LZH pmax pmax
comp=Z,85nm,1.0s
LZH pmax pmax
comp=Z,260nm,4.2s
LZH Lanzhou 15.71 114 *e*P **Pn 09 28 35.4 -0.2**
comp=Z,85nm,1.0s
LZH pP pP 09 28 45.5 -7.1
LZH PP 09 28 50.1
LZH sP sP 09 28 54.6 -7.0
LZH *e*S **S 09 31 27.2 -13**
LZH sS sS 09 31 44.5 -19
LZH Lanzhou 15.71 114 *e*P **Pn 09 28 35.4 -0.2**
LZH *e*S **S 09 31 27.2 -13**
LZH pmax pmax
comp=Z,85nm,1.0s
GKN Gorkha 15.96 185 *e*P **Pn 09 28 38.0 -0.7**
comp=Z,31nm,0.4s
GUN Gumba 16.01 181 *e*P **Pn 09 28 39.6 +0.2**
comp=Z,117nm,0.5s
GUN Gumba 16.01 181 *e*P **Pn 09 28 39.6 +0.2**
comp=Z,117nm,0.5s
PYUN Piuthan 16.01 190 *e*P **Pn 09 28 36.8 -2.6**
comp=Z,63nm,0.7s
PYUN Piuthan 16.01 190 *e*P **Pn 09 28 36.8 -2.6**
comp=Z,63nm,0.7s
KKN Kakani 16.14 182 *e*P **Pn 09 28 40.6 -0.4**
comp=Z,52nm,0.5s
KKN Kakani 16.14 182 *e*P **Pn 09 28 40.6 -0.4**
comp=Z,52nm,0.5s
KKN Kakani 16.14 182 *e*P **Pn 09 28 40.6 -0.4**
KKN pmax pmax
comp=Z,52nm,0.5s
KBL Kabul 16.16 240 *e*Pn **Pn 09 28 39.6 -1.6**
comp=Z,16nm,0.6s
KBL *e*Sn **Sn 09 31 37.8 -1.8**
KBL Kabul 16.16 240 *e*P **Pn 09 28 39.6 -1.6**
KBL *e* 09 31 37.8
KBL pmax pmax
comp=Z,16nm,0.6s
JIRN Jiri 16.26 180 *e*P **Pn 09 28 42.8 +0.3**
comp=Z,22nm,0.5s
JIRN Jiri 16.26 180 *e*P **Pn 09 28 42.8 +0.3**
comp=Z,22nm,0.5s
KOLN Koldanda 16.27 188 *e*P **Pn 09 28 40.1 -2.5**
comp=Z,14nm,0.3s
DMN Daman 16.33 183 *e*P **Pn 09 28 42.5 -0.8**
comp=Z,29nm,0.8s
DMN Daman 16.33 183 *e*P **Pn 09 28 42.5 -0.8**
comp=Z,29nm,0.8s
PKI Pulchoki 16.36 182 *e*P **Pn 09 28 43.0 -0.7**
comp=Z,53nm,0.6s
PKI Pulchoki 16.36 182 *e*P **Pn 09 28 43.0 -0.7**
comp=Z,53nm,0.6s
PKI Pulchoki 16.36 182 *e*P **Pn 09 28 43.0 -0.7**
PKI pmax pmax
comp=Z,53nm,0.6s
TAPN Taplejung 16.62 175 *e*P **Pn 09 28 46.9 -0.1**
comp=Z,19nm,0.4s
RAMN Ramite 16.97 178 *e*P **Pn 09 28 50.2 -1.1**
comp=Z,44nm,0.6s
RAMN Ramite 16.97 178 *e*P **Pn 09 28 50.2 -1.1**
comp=Z,44nm,0.6s
AYAN Aya Nagar 17.02 208 *e*PKP **Pn 09 28 50.5 -1.4**
ODAN Odare 17.09 176 *e*P **Pn 09 28 52.1 -0.7**
comp=Z,64nm,0.6s
ODAN Odare 17.09 176 *e*P **Pn 09 28 52.1 -0.7**
comp=Z,64nm,0.6s
SONA Sohna 17.24 208 *e*PKP **Pn 09 28 52.9 -1.8**
SONA *ex* x 09 31 53.8
KUDL Kundal 17.55 209 *e*PKP **Pn 09 28 57.1 -1.3**
KUDL *ex* x 09 32 00.1
KHET Khetri 17.86 211 *e*PKP **Pn 09 29 01.4 -0.7**
AGRA Agra 17.92 204 *e*PKP **Pn 09 29 03.6 +0.6**
AB31 Akbulak array 18.66 296 P **Pn 09 29 09.9 -1.8**
comp=Z,5.4nm,0.5s,baz=96,slow=11,SNR=102
AB31 Akbulak array 18.66 296 *ce*P **Pn 09 29 09.8 -1.9**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 18.66 296 *e*P **Pn 09 29 10.2 -1.5**
SHL Shillong 18.95 164 *ex* **Pn 09 29 18.5 +3.2**
HHC Hu-ho-hao-te 19.07 91 *e*P **Pn 09 29 15.5 -1.2**
HHC pP pP 09 29 26.5 -3.3
HHC sP sP 09 29 35.8 -2.9
HHC S **S 09 32 41.4 -6.3**
HHC sS sS 09 32 59.8 -12
HHC SS 09 33 09.2
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,130nm,3.7s
HHC LR LR
comp=N,240nm,9.9s
HHC LR LR
comp=E,260nm,10.9s
HHC LR LR
comp=Z,94nm,10.9s
CD2 Chengdu 19.11 127 *e*P **Pn 09 29 18.0 +0.7**
CD2 pP pP 09 29 30.0 -0.3
CD2 SS 09 33 14.3
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,80nm,5.2s
CD2 LR LR
comp=N,360nm,12.0s
CD2 LR LR
comp=Z,310nm,12.0s
AKTO Aktyubinsk 20.05 299 ⇑P **P 09 29 25.8 +0.1**
comp=Z,1.7nm,0.6s
AKTO Aktyubinsk 20.05 299 P **P 09 29 25.5 -0.2**
comp=Z,4.9nm,0.5s,baz=94,slow=14,SNR=14
AKTO LR LR 09 38 07.3
comp=Z,106nm,21.0s,baz=100,slow=40
AKTO Aktyubinsk 20.05 299 P **P 09 29 25.5 -0.2**
AKTO Aktyubinsk 20.05 299 P **P 09 29 25.5 -0.2**
SVE Sverdlovsk 20.55 318 *e*P **P 09 29 39.1 +8.0**
SVE *e*S **S 09 33 20.4 +3.7**
SVE pmax pmax
comp=Z,42nm,0.8s
ARU Arti 21.40 315 *c i*P **P 09 29 40.3 0.0**
ARU *e* 09 29 58.2
ARU S **S 09 33 35.2 +1.7**
ARU SS 09 33 58.7
ARU pmax pmax
comp=Z,6.0nm,0.6s,mb4.1
BOD Bodaibo 22.23 42 *e*P **P 09 29 47.6 -1.4**
BOD *e* 09 30 04.4
BOD pmax pmax
comp=Z,20nm,0.9s,mb4.5
BOD pmax pmax
comp=Z,24nm,0.9s,mb4.5
BJI Beijing 22.66 89 P **P 09 29 54.0 +0.2**
BJI S **S 09 33 58.8 +2.1**
BJI pmax pmax
comp=Z,28nm,0.8s,mb4.6
BJI pmax pmax
comp=Z,150nm,5.3s
BJI LR LR
comp=N,230nm,24.6s
BJI LR LR
comp=E,430nm,24.7s

KMI Kunming 23.20 139 P **P 09 30 00.2 +0.9**
KMI pP 09 30 14.9
KMI sP sP 09 30 23.2 -0.2
KMI PP 09 30 33.8
KMI S **S 09 34 06.7 +1.2**
KMI sS sS 09 34 29.3 -4.3
KMI SS 09 34 54.7
KMI pmax pmax
comp=Z,17nm,0.9s,mb4.4
KMI pmax pmax
comp=Z,180nm,4.0s
KMI LR LR
comp=N,260nm,11.8s
KMI LR LR
comp=E,180nm,12.8s
KMI LR LR
comp=Z,230nm,19.8s
KMI Kunming 23.20 139 P **P 09 30 00.2 +0.9**
comp=Z,17nm,0.9s,mb4.4
KMI pP 09 30 14.9
KMI sP sP 09 30 23.2 -0.2
KMI PP 09 30 33.8
KMI S **S 09 34 06.7 +1.2**
KMI *SS sS 09 34 29.3 -4.3
KMI SS 09 34 54.7
KMI pmax pmax
comp=Z,17nm,0.9s,mb4.4
KMI MLR MLR
comp=Z,230nm,19.8s
SOKR Solikamsk 23.64 322 *d i*P **P 09 30 10.4 +7.3**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb4.5
GYA Guiyang 24.15 130 ⇑ *i*P **P 09 30 08.9 +0.9**
GYA pP 09 30 23.3
GYA sP sP 09 30 30.7 -2.3
GYA S **S 09 34 29.0 +8.1**
GYA ScP ScP 09 37 22.9 +3.6
GYA PcS PcS 09 37 29.4 +2.3
GYA pmax pmax
comp=Z,20nm,1.0s,mb4.4
GYA pmax pmax
comp=Z,160nm,5.7s
GYA LR LR
comp=N,590nm,17.6s
GYA LR LR
comp=E,490nm,18.3s
GYA LR LR
comp=Z,560nm,17.0s
WHN Wuhan 26.06 111 P **P 09 30 25.8 +0.5**
WHN pmax pmax
comp=Z,120nm,0.6s,mb5.5
HYB Hyderabad 27.20 196 *i* P **P 09 30 36.0 +0.4**
CHTO Chiang Mai 27.30 153 *e*P **P 09 30 37.6 +1.1**
comp=Z,15nm,0.8s,mb4.6
CHTO Chiang Mai 27.30 153 *e*P **P 09 30 37.6 +1.1**
CHTO pmax pmax
comp=Z,15nm,0.8s,mb4.6
CHTO Chiang Mai 27.30 153 P **P 09 30 37.8 +1.2**
comp=Z,24nm,0.8s,mb4.8
POO Poona 27.34 206 *ex* **P 09 30 45.0 +8.1**
CM31 Chiang Mai Arr 27.64 153 *e*P **P 09 30 39.5 0.0**
comp=Z,17nm,0.6s,mb4.8
CMAR Chiang Mai Arr 27.64 153 P **P 09 30 41.2 +1.7**
comp=Z,14nm,0.7s,mb4.6,baz=331,slow=8.9,SNR=65
CMAR PcP PcP 09 33 55.2 0.0
comp=Z,0.8nm,0.3s,baz=315,slow=3.8,SNR=4.8
CMAR LR LR 09 43 27.8
comp=Z,29nm,20.8s,baz=320,slow=40
CMAR Chiang Mai Arr 27.64 153 P **P 09 30 41.2 +1.7**
CMAR PcP PcP 09 33 55.2 0.0
CMAR Chiang Mai Arr 27.64 153 P **P 09 30 41.2 +1.7**
CMAR 09 33 55.3
CN2 Changchun 28.22 76 *e*P **P 09 30 47.1 +2.6**
CN2 *ep*P pP 09 31 01.7 +0.3
CN2 *e*S **S 09 35 26.9 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
CN2 LR LR
comp=N,600nm,19.0s
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=Z,300nm,15.0s
GNI Garni 30.68 277 LR LR 09 45 37.1
comp=Z,39nm,18.1s,baz=220,slow=40
GNI Garni 30.68 277 *de*P **P 09 31 09.0 +2.7**
GNI pmax pmax
comp=Z,16nm,1.2s
MDJ Mudanjiang 30.91 73 P **P 09 31 08.7 +0.4**
MDJ pP pP 09 31 21.6 -3.6
MDJ sP sP 09 31 27.7 -5.9
MDJ PcP PcP 09 34 04.3 +1.1
MDJ S **S 09 36 08.0 +0.8**
MDJ ScP ScP 09 37 43.3 +3.8
MDJ PcS PcS 09 37 48.3 +1.2
MDJ ScS ScS 09 41 39.9 +3.6
MDJ pmax pmax
comp=Z,160nm,5.6s
MDJ LR LR
comp=N,61nm,21.6s
MDJ LR LR
comp=E,52nm,30.6s
MDJ LR LR
comp=Z,80nm,19.2s
YAK Yakutsk 31.09 39 *e*P **P 09 31 08.6 -1.1**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
QIZ Qiongzhong 31.86 134 P **P 09 31 18.0 +1.1**
QIZ S **S 09 36 26.4 +3.9**
QIZ pmax pmax
comp=Z,49nm,1.9s,mb4.9
QIZ pmax pmax
comp=Z,520nm,5.1s
VSR Storozhevoye 31.98 300 *e*P **P 09 31 17.3 -0.4**
VSR pmax pmax
comp=Z,3.0nm,0.2s,mb4.7
VSR pmax pmax
comp=E,2.0nm,0.4s
KSAR Wonju Array Be 32.11 87 P **P 09 31 18.6 -0.4**
KSAR Wonju Array Be 32.11 87 P **P 09 31 18.6 -0.4**
KSRS Korea Array 32.13 87 P **P 09 31 18.6 -0.6**
comp=E,3.4nm,0.6s,mb4.2,baz=288,slow=8.9,SNR=12
KSRS Korea Array 32.13 87 P **P 09 31 18.6 -0.6**
KSRS pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
SOC Sochi 33.12 286 *e*P **P 09 31 27.2 -0.5**
SOC *e* pP 09 31 44.9 +0.2
SOC pmax pmax
comp=Z,13nm,0.6s,mb4.9
SOC pmax pmax
comp=Z,17nm,0.6s,mb5.0
OBN Obninsk 33.31 307 *e*P **P 09 31 28.0 -1.2**
OBN pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MIB Mutribah 33.71 258 *e*P **P 09 31 34.0 +1.1**
MIB AMb AMB 09 31 34.7
comp=Z,109nm,0.6s,mb5.9
HABR Khabarovsk 33.74 65 P **P 09 31 30.0 -3.1**
HABR *e*SP sP 09 31 46.9 -11
HABR 09 32 43.7
HABR *e*S **S 09 36 50.8 -0.4**
HABR *e*SS sS 09 37 10.2 -10
HABR *e*SS SS 09 38 56.1 -23
HABR pmax pmax
comp=N,151nm,3.3s
HABR pmax pmax
comp=Z,180nm,3.3s
HABR pmax pmax
comp=E,306nm,3.3s
HABR MLR MLR
comp=Z,147nm,15.0s
QRN Al-Qurain 33.92 256 *e*P **P 09 31 35.9 +1.1**
QRN AMb AMB 09 31 36.6
comp=Z,64nm,0.5s,mb5.8
RDF Al-Radifah 34.07 257 *e*P **P 09 31 37.5 +1.3**
RDF AMb AMB 09 31 38.3
comp=Z,57nm,0.6s,mb5.5

NAY Al-Naaiem 34.10 258 *e*P **P 09 31 37.4 +1.0**
NAY AMb AMB 09 31 38.1
comp=Z,62nm,0.6s,mb5.7
JOF Joensuu 36.31 321 *e*P **P 09 31 54.1 -0.9**
JOF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
JOF Joensuu 36.31 321 *ep* **P 09 31 54.1 -0.9**
comp=Z,8.4nm,0.5s,mb4.9
BALT Daday 38.21 285 *i* P **P 09 32 11.7 +0.4**
BALT *i* S pP 09 32 27.7 -0.9
AKASG Malin Array Be 38.27 301 P **P 09 32 10.6 -1.1**
comp=Z,3.7nm,0.5s,mb4.5,baz=64,slow=8.7,SNR=11
AKASG Malin Array Be 38.27 301 P **P 09 32 10.6 -1.1**
AKASG Malin Array Be 38.27 301 P **P 09 32 10.6 -1.1**
KAF Kangasniemi 38.60 319 *e*P **P 09 32 13.5 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KAF Kangasniemi 38.60 319 *ep* **P 09 32 13.5 -0.8**
comp=Z,5.1nm,0.7s,mb4.5
FINES FINESS Array B 38.72 318 P **P 09 32 15.0 -0.3**
comp=Z,1.7nm,0.4s,mb4.2,baz=80,slow=9.0,SNR=22
FINES FINESS Array B 38.72 318 P **P 09 32 15.0 -0.3**
FINES FINESS Array B 38.72 318 P **P 09 32 15.0 -0.3**
BR131 Keskin Array S 38.73 282 *e*P **P 09 32 16.7 +1.0**
comp=Z,8.5nm,0.7s,mb4.7
BRTR Keskin Array B 38.73 282 P **P 09 32 16.9 +1.2**
comp=Z,6.4nm,0.6s,mb4.6,baz=91,slow=7.9,SNR=33
BRTR Keskin Array B 38.73 282 P **P 09 32 16.9 +1.2**
BRTR Keskin Array B 38.73 282 P **P 09 32 16.9 +1.2**
KEV Kevo 38.95 332 *e*P **P 09 32 16.2 -0.9**
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
KEV Kevo 38.95 332 *ep* **P 09 32 16.2 -0.9**
comp=Z,4.0nm,0.4s,mb4.6
ARCES ARCESS Array B 39.43 331 P **P 09 32 20.9 -0.2**
comp=Z,1.6nm,0.4s,mb4.2,baz=89,slow=7.6,SNR=30
ARCES LR LR 09 50 12.9
comp=Z,114nm,18.1s,baz=3.7,slow=39
ARCES ARCESS Array B 39.43 331 P **P 09 32 20.9 -0.3**
ARCES ARCESS Array B 39.43 331 P **P 09 32 20.9 -0.3**
ARE0 ARCESS Array S 39.43 331 *e* **P 09 32 19.6 -1.6**
ARE0 ARCESS Array S 39.43 331 *e*P **P 09 32 20.8 -0.4**
MJAR Matsushiro Arr 39.93 82 P **P 09 32 24.4 -1.3**
comp=Z,3.5nm,0.8s,mb4.2,baz=283,slow=10,SNR=5.0
MJAR Matsushiro Arr 39.93 82 P **P 09 32 24.4 -1.3**
MJAR Matsushiro Arr 39.93 82 P **P 09 32 24.5 -1.2**
ASAJ Asahikawa 39.96 69 P **P 09 32 25.8 0.0**
comp=Z,6.7nm,0.7s,mb4.6,baz=121,slow=30,SNR=4.6
ASAJ Asahikawa 39.96 69 P **P 09 32 25.8 0.0**
ASAJ Asahikawa 39.96 69 P **P 09 32 25.8 0.0**
ASAJ pmax pmax
comp=Z,7.0nm,0.7s
MMAI Mount Meron Ar 40.55 272 P **P 09 32 31.6 +0.8**
comp=Z,2.8nm,0.4s,mb4.5,baz=48,slow=9.0,SNR=7.4
MMAI PcP PcP 09 34 32.5 +0.6
comp=Z,3.4nm,0.6s,baz=54,slow=4.2,SNR=3.5
MMAI Mount Meron Ar 40.55 272 P **P 09 32 31.6 +0.8**
MMAI PcP PcP 09 34 32.5 +0.6
KULM Kulim 40.59 157 *e*P **P 09 32 31.6 +0.3**
comp=Z,44nm,0.5s,mb5.5
KULM Kulim 40.59 157 P **P 09 32 31.6 +0.2**
comp=Z,55nm,0.9s,mb5.4
IPM Ipoh 41.47 157 *e*P **P 09 32 38.9 +0.3**
comp=Z,62nm,0.5s,mb5.7
IPM Ipoh 41.47 157 P **P 09 32 38.9 +0.3**
comp=Z,93nm,0.7s,mb5.8
BUR08 Bucovina Ar. S 41.63 297 *e*P **P 09 32 39.9 +0.4**
TPTI 41.70 163 P **P 09 32 41.1 +0.6**
comp=Z,20nm,0.6s,mb5.0
PSI Prapat 42.54 161 P **P 09 32 47.6 +0.4**
comp=Z,17nm,0.7s,mb4.9
KWP Kalwaria Pacla 42.59 301 *e*P **P 09 32 48.4 +1.0**
KWP Kalwaria Pacla 42.59 301 *e*P **P 09 32 48.5 +1.1**
comp=Z,20nm,0.8s,mb4.9
KWP Kalwaria Pacla 42.59 301 *e*P **P 09 32 48.5 +1.1**
KWP pmax pmax
comp=Z,20nm,0.8s,mb4.9
EIL Elat 42.66 268 P **P 09 32 50.2 +2.1**
comp=Z,7.9nm,0.7s,mb4.6,baz=71,slow=3.7,SNR=8.7
EIL Elat 42.66 268 P **P 09 32 50.2 +2.1**
KOLS Kolonicke sedl 43.08 300 *e*P **P 09 32 49.4 -1.9**
KOLS Kolonicke sedl 43.08 300 *e*P **P 09 32 49.4 -1.9**
STEI Steigen 43.11 329 *ep*P pP 09 33 09.2 +0.4
MOR8 Moi Rana 43.57 326 *e*P **P 09 32 53.7 -1.3**
CRVS Cervenica-Dubn 43.60 300 *e*P **P 09 32 55.5 0.0**
CRVS Cervenica-Dubn 43.60 300 *e*P **P 09 32 55.5 0.0**
NIE Niedzica 44.14 301 *e*P **P 09 33 01.2 +1.4**
NIE Niedzica 44.14 301 *e*P **P 09 33 01.2 +1.4**
OJC Ojcow 44.20 302 *e*P **P 09 33 00.7 +0.4**
OJC Ojcow 44.20 302 *e*P **P 09 33 00.5 +0.3**
comp=Z,11nm,0.6s,mb4.8
OJC Ojcow 44.20 302 *e*P **P 09 33 00.5 +0.2**
OJC pmax pmax
comp=Z,11nm,0.6s,mb4.8
KECS Kecovo 44.35 300 *e*P **P 09 33 02.2 +0.7**
KECS Kecovo 44.35 300 *e*P **P 09 33 02.2 +0.7**
MNSI Mandailing Nat 44.63 161 P **P 09 33 04.2 +0.2**
comp=Z,84nm,0.7s,mb5.6
NSS Namsos 44.82 324 *e*P **P 09 33 05.8 +0.8**
MYKOM Kota Tinggi 44.86 154 P **P 09 33 06.7 +0.8**
comp=Z,23nm,2.2s,mb4.5
BKNI Bangkinang 45.45 159 P **P 09 33 10.7 +0.2**
comp=Z,75nm,0.8s,mb5.5
MORC Moravsky Berou 45.72 303 *e*P **P 09 33 12.8 +0.4**
comp=Z,6.8nm,0.9s,mb4.4
MORC Moravsky Berou 45.72 303 *e*P **P 09 33 12.8 +0.5**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
NC602 NORSAR Array S 45.80 319 *e*P **P 09 33 12.3 -0.5**
NC602 *ep*P pP 09 33 30.3 -0.2
NB2 NORSAR Subarra 45.88 319 P **P 09 33 13.0 -0.4**
comp=Z,1.3nm,0.5s,mb3.9,baz=76,slow=7.9
NOA NORSAR Array B 45.88 319 P **P 09 33 13.0 -0.4**
comp=Z,3.2nm,0.7s,mb4.2,baz=75,slow=7.8,SNR=17
NOA LR LR 09 53 14.1
comp=Z,57nm,18.3s,baz=90,slow=37
NOA NORSAR Array B 45.88 319 P **P 09 33 13.0 -0.4**
NOA NORSAR Array B 45.88 319 P **P 09 33 13.0 -0.4**
KSP Ksiaz 46.11 304 *e*P **P 09 33 16.1 +0.7**
KSP Ksiaz 46.11 304 *e*P **P 09 33 15.9 +0.5**
KSP Ksiaz 46.11 304 *e*P **P 09 33 15.9 +0.5**
DPC Dobruska-Polom 46.26 304 *e*P **P 09 33 17.8 +1.2**
comp=Z,14nm,0.7s,mb4.8
DPC Dobruska-Polom 46.26 304 *e*P **P 09 33 17.8 +1.2**
DPC pmax pmax
comp=Z,14nm,0.7s,mb4.8
DPC Dobruska-Polom 46.26 304 *e*P **P 09 33 17.9 +1.3**
UPC Upice 46.39 304 *e*P **P 09 33 18.4 +0.8**
UPC Upice 46.39 304 *e*P **P 09 33 18.4 +0.8**
PETK Petropavlovsk- 46.46 52 LR LR 09 53 13.7
comp=Z,128nm,19.2s,baz=143,slow=37
PDSI Padang 46.49 160 P **P 09 33 17.9 -0.8**
comp=Z,56nm,0.9s,mb5.3
IDI Anoyia 46.94 281 *e*P **P 09 33 21.9 -0.2**
comp=Z,177nm,2.3s,mb5.4
PVCC Panska Ves 47.24 304 *e*P **P 09 33 25.4 +1.1**
PVCC Panska Ves 47.24 304 *e*P **P 09 33 25.4 +1.1**
SBUM Sibu 47.39 143 P **P 09 33 26.4 +0.6**
comp=Z,27nm,0.8s,mb5.1
CONA Conrad Observa 47.43 301 ⇑ *i*P **P 09 33 27.0 +1.3**
comp=Z,7.7nm,0.7s,mb4.5
KSM Kuching 47.47 146 P **P 09 33 27.3 +0.9**
BRG Berggiesshubel 47.49 305 *e*P **P 09 33 26.7 +0.5**
comp=Z,4.3nm,0.7s,mb4.3
BRG Berggiesshubel 47.49 305 *e*P **P 09 33 26.7 +0.5**
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
CLL Collm 47.89 306 ⇑ *i*P **P 09 33 29.6 +0.4**
CLL *i* pP 09 33 47.8 +0.8
CLL pmax pmax
comp=Z,15nm,0.6s,mb5.0
CLL Collm 47.89 306 ⇑ *i*P **P 09 33 29.6 +0.4**
comp=Z,15nm,0.6s,mb5.0
CLL *i* pP pP 09 33 47.8 +0.8
KHC Kasperske Hory 48.36 303 *e*P **P 09 33 33.8 +0.9**
KHC *e* pP 09 33 51.5 +0.7
KHC Kasperske Hory 48.36 303 *e*P **P 09 33 33.8 +0.9**
KHC *ep*P pP 09 33 51.5 +0.7
GERES GERESS Array B 48.40 303 P **P 09 33 33.6 +0.4**
comp=Z,1.8nm,0.5s,mb4.1,baz=67,slow=7.8,SNR=14
GERES LR LR 09 55 01.9
comp=Z,43nm,21.0s,baz=286,slow=37
GERES GERESS Array B 48.40 303 P **P 09 33 33.6 +0.4**
GERES GERESS Array B 48.40 303 P **P 09 33 33.7 +0.5**
PERS Pernice 48.41 299 *i* P **P 09 33 33.8 +0.5**

SOKA	Soboth	48.45	300⇑	*i*P	P	09 33 34.2	+0.6
	comp=Z,7.8nm,0.5s,mb4.8						
BOJS	Bojanci	48.79	298	*i* P	P	09 33 37.0	+0.7
OBKA	Obir	48.82	300⇓	*i*P	P	09 33 37.6	+1.2
	comp=Z,7.4nm,0.5s,mb4.9						
VISS	Visnje	48.93	299	*i* P	P	09 33 37.8	+0.5
KBA	Koelnbreinsper	49.33	301⇑	*i*P	P	09 33 41.3	+0.9
	comp=Z,6.3nm,0.4s,mb4.9						
JAVS	Javornik	49.38	299	*i* P	P	09 33 40.5	-0.3
GRF	Grafenberg Arr	49.56	305	*e*P	P	09 33 43.3	+1.3
	comp=Z,12nm,0.7s,mb4.9						
GRF	Grafenberg Arr	49.56	305	*e*P	P	09 33 43.3	+1.3
GRF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
WTTA	Wattenberg	50.31	302⇑	*i*P	P	09 33 48.7	+0.9
	comp=Z,23nm,0.5s,mb5.4						
MOTA	Moosalm	50.60	302⇓	*i*P	P	09 33 50.6	+0.6
	comp=Z,7.1nm,0.6s,mb4.9						
FETA	Feichten	50.98	302⇑	*i*P	P	09 33 53.5	+0.7
	comp=Z,10nm,0.7s,mb5.0						
TUE	Stuetta	52.07	301	*e*P	P	09 34 01.2	+0.3
	comp=Z,13nm,0.7s,mb5.1						
CDF	Champ du Feu	52.45	304	*e*P	P	09 34 03.5	-0.3
CDF				*e*pP	pP	09 34 23.1	+1.3
CDF	Champ du Feu	52.45	304	*e*P	P	09 34 03.5	-0.3
CDF				*e*pP	pP	09 34 23.1	+1.3
CDF	Champ du Feu	52.45	304	*e*P	P	09 34 03.5	-0.3
CDF				*e**PP	pP	09 34 23.1	+1.3
WLF	Walferdange	52.55	306	P	P	09 34 04.4	-0.1
BCLA	Clavier	52.71	307	P	P	09 34 04.3	-1.3
	comp=Z,19nm,2.8s,mb4.6						
GIVF	Givet	53.12	307	*e*P	P	09 34 08.7	0.0
GIVF	Givet	53.12	307	*e*P	P	09 34 08.7	0.0
GIVF	Givet	53.12	307	*e*P	P	09 34 08.7	0.0
DOU	Dourbes	53.26	307	P	P	09 34 09.7	0.0
BAIF	Baives	53.50	307	*e*P	P	09 34 11.6	+0.2
	comp=Z,16nm,0.9s,mb4.8						
BAIF	Baives	53.50	307	*e*P	P	09 34 11.6	+0.2
	comp=Z,16nm,0.9s,mb5.1						
BAIF	Baives	53.50	307	*e*P	P	09 34 11.6	+0.2
BAIF				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
MEZF	Maizieres J'vi	53.73	305	*e*P	P	09 34 13.6	+0.5
	comp=Z,15nm,0.6s,mb4.9						
MEZF				*e*pP	pP	09 34 30.2	-1.0
MEZF	Maizieres J'vi	53.73	305	*e*P	P	09 34 13.6	+0.5
	comp=Z,15nm,0.6s,mb5.2						
MEZF				*e*pP	pP	09 34 30.2	-1.0
SFTF	Sexfontaines	53.87	305	*e*P	P	09 34 14.2	0.0
	comp=Z,13nm,0.7s,mb4.8						
SFTF				*e*pP	pP	09 34 32.3	0.0
SFTF	Sexfontaines	53.87	305	*e*P	P	09 34 14.2	0.0
	comp=Z,13nm,0.7s,mb5.1						
SFTF				*e*pP	pP	09 34 32.3	0.0
LPG	La Plagne	54.13	301	*e*P	P	09 34 17.0	+0.9
	comp=Z,52nm,0.6s,mb5.4						
LPG				*e*pP	pP	09 34 35.0	+0.8
LPG	La Plagne	54.13	301	*e*P	P	09 34 17.0	+0.9
	comp=Z,52nm,0.6s,mb5.7						
LPG				*e*pP	pP	09 34 35.0	+0.8
LPG	La Plagne	54.13	301	*e*P	P	09 34 17.0	+0.9
LPG				*e**PP	pP	09 34 35.0	+0.8
LPG				pmax	pmax		
	comp=Z,52nm,0.6s,mb5.7						
LPL	La Plagne	54.13	302	*e*P	P	09 34 16.9	+0.8
	comp=Z,56nm,0.5s,mb5.5						
LPL	La Plagne	54.13	302	*e*P	P	09 34 16.9	+0.8
	comp=Z,56nm,0.5s,mb5.8						
LPL	La Plagne	54.13	302	*e*P	P	09 34 16.9	+0.8
LPL				pmax	pmax		
	comp=Z,56nm,0.5s,mb5.8						
MBDF	Montbardon	54.49	301	*e*P	P	09 34 18.4	-0.3
	comp=Z,20nm,0.6s,mb5.0						
MBDF	Montbardon	54.49	301	*e*P	P	09 34 18.4	-0.3
	comp=Z,20nm,0.6s,mb5.3						
MBDF	Montbardon	54.49	301	*e*P	P	09 34 18.4	-0.3
MBDF				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
SBF	Sospel	54.50	299	*e*P	P	09 34 18.9	+0.1
	comp=Z,60nm,0.8s,mb5.4						
SBF				*e*pP	pP	09 34 36.4	-0.6
SBF	Sospel	54.50	299	*e*P	P	09 34 18.9	+0.1
	comp=Z,60nm,0.8s,mb5.7						
SBF				*e*pP	pP	09 34 36.4	-0.6
SBF	Sospel	54.50	299	*e*P	P	09 34 18.9	+0.1
SBF				*e**PP	pP	09 34 36.4	-0.6
SBF				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.7						
ORIF	Oris-en-Rattie	54.95	301	*e*P	P	09 34 22.0	0.0
	comp=Z,15nm,0.5s,mb5.0						
ORIF				*e*pP	pP	09 34 39.9	-0.3
ORIF	Oris-en-Rattie	54.95	301	*e*P	P	09 34 22.0	0.0
	comp=Z,15nm,0.4s,mb5.4						
ORIF				*e*pP	pP	09 34 39.9	-0.3
ORIF	Oris-en-Rattie	54.95	301	*e*P	P	09 34 22.0	0.0
ORIF				*e**PP	pP	09 34 39.9	-0.3
ORIF				pmax	pmax		
	comp=Z,15nm,0.4s,mb5.4						
LOR	Lormes	55.02	305	*e*P	P	09 34 21.6	-0.9
	comp=Z,11nm,0.8s,mb4.6						
LOR				*e*pP	pP	09 34 39.7	-1.0
LOR	Lormes	55.02	305	*e*P	P	09 34 21.6	-0.9
	comp=Z,11nm,0.8s,mb5.0						
LOR				*e*pP	pP	09 34 39.7	-1.0
LOR	Lormes	55.02	305	*e*P	P	09 34 21.6	-0.9
LOR				*e**PP	pP	09 34 39.7	-1.0
LOR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
FRF	La Foret Royal	55.15	299	*e*P	P	09 34 23.2	-0.3
	comp=Z,14nm,0.7s,mb4.8						
FRF	La Foret Royal	55.15	299	*e*P	P	09 34 23.2	-0.3
	comp=Z,14nm,0.7s,mb5.1						
FRF	La Foret Royal	55.15	299	*e*P	P	09 34 23.2	-0.3
FRF				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
SSF	Saint Saulge	55.33	304	*e*P	P	09 34 23.9	-0.9
	comp=Z,5.3nm,0.6s,mb4.5						
SSF	Saint Saulge	55.33	304	*e*P	P	09 34 23.9	-0.9
	comp=Z,5.3nm,0.6s,mb4.8						
SSF	Saint Saulge	55.33	304	*e*P	P	09 34 23.9	-0.9
SSF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
SMF	Signal de Mont	55.34	304	*e*P	P	09 34 24.2	-0.6
	comp=Z,56nm,1.3s,mb5.1						
SMF				*e*pP	pP	09 34 42.4	-0.6
SMF	Signal de Mont	55.34	304	*e*P	P	09 34 24.2	-0.6
	comp=Z,56nm,1.3s,mb5.4						
SMF				*e*pP	pP	09 34 42.4	-0.6
SMF	Signal de Mont	55.34	304	*e*P	P	09 34 24.2	-0.6
SMF				*e**PP	pP	09 34 42.4	-0.6
SMF				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.4						
LMR	La Mourre	55.35	299	*e*P	P	09 34 24.7	-0.2
LMR				*e*pP	pP	09 34 43.7	+0.6
LMR	La Mourre	55.35	299	*e*P	P	09 34 24.7	-0.2
LMR				*e*pP	pP	09 34 43.7	+0.6
LMR	La Mourre	55.35	299	*e*P	P	09 34 24.7	-0.2
LMR				*e**PP	pP	09 34 43.7	+0.6
AVF	Avril sur Loir	55.56	304	*e*P	P	09 34 25.7	-0.7
	comp=Z,14nm,0.8s,mb4.8						
AVF				*e*pP	pP	09 34 44.0	-0.6
AVF	Avril sur Loir	55.56	304	*e*P	P	09 34 25.7	-0.7
	comp=Z,14nm,0.8s,mb5.1						
AVF				*e*pP	pP	09 34 44.0	-0.6
AVF	Avril sur Loir	55.56	304	*e*P	P	09 34 25.7	-0.7
AVF				*e**PP	pP	09 34 44.0	-0.6
AVF				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
SMRF	Simiane la Rot	55.61	300	*e*P	P	09 34 27.5	+0.7
SMRF	Simiane la Rot	55.61	300	*e*P	P	09 34 27.5	+0.7
VIVF	Saint-Julien-l	55.72	302	*e*P	P	09 34 27.3	-0.3
	comp=Z,20nm,0.9s,mb4.8						
VIVF				*e*pP	pP	09 34 45.4	-0.4
VIVF	Saint-Julien-l	55.72	302	*e*P	P	09 34 27.3	-0.3
	comp=Z,20nm,0.9s,mb5.1						
VIVF				*e*pP	pP	09 34 45.4	-0.4
VIVF	Saint-Julien-l	55.72	302	*e*P	P	09 34 27.3	-0.3
VIVF				*e**PP	pP	09 34 45.4	-0.4
VIVF				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
BGF	Bois d'Agland	55.98	304	*e*P	P	09 34 29.4	0.0
BGF	Bois d'Agland	55.98	304	*e*P	P	09 34 29.4	0.0
BGF	Bois d'Agland	55.98	304	*e*P	P	09 34 29.4	0.0
TCF	Toulx Ste Croi	56.49	304	*e*P	P	09 34 32.7	-0.4
	comp=Z,18nm,0.9s,mb4.8						
TCF				*e*pP	pP	09 34 51.0	-0.3
TCF	Toulx Ste Croi	56.49	304	*e*P	P	09 34 32.7	-0.4
	comp=Z,18nm,0.9s,mb5.1						
TCF				*e*pP	pP	09 34 51.0	-0.3
TCF	Toulx Ste Croi	56.49	304	*e*P	P	09 34 32.7	-0.4
TCF				*e**PP	pP	09 34 51.0	-0.3
TCF				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
LASF	Ste Croix	56.62	301	*e*P	P	09 34 34.2	+0.2
LASF	Ste Croix	56.62	301	*e*P	P	09 34 34.2	+0.2
LDF	La Druitiere	56.69	308	*e*P	P	09 34 33.7	-0.7
	comp=Z,6.3nm,0.4s,mb4.7						
LDF	La Druitiere	56.69	308	*e*P	P	09 34 33.7	-0.7
	comp=Z,6.3nm,0.4s,mb5.0						
LDF	La Druitiere	56.69	308	*e*P	P	09 34 33.7	-0.7
LDF				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.0						
FLN	La Foliniere	56.80	308	*e*P	P	09 34 34.6	-0.7
FLN				*e*pP	pP	09 34 52.7	-0.8
FLN	La Foliniere	56.80	308	*e*P	P	09 34 34.6	-0.7
FLN				*e*pP	pP	09 34 52.7	-0.8
FLN	La Foliniere	56.80	308	*e*P	P	09 34 34.6	-0.7
FLN				*e**PP	pP	09 34 52.7	-0.8
GRR	Gorron	57.21	308	*e*P	P	09 34 37.1	-1.0
GRR				*e*pP	pP	09 34 55.8	-0.6
GRR	Gorron	57.21	308	*e*P	P	09 34 37.1	-1.0
GRR				*e*pP	pP	09 34 55.8	-0.6
GRR	Gorron	57.21	308	*e*P	P	09 34 37.1	-1.0
GRR				*e**PP	pP	09 34 55.8	-0.6
KEST	Kesra	57.50	290	P	P	09 34 40.6	+0.3
	comp=Z,0.8nm,0.5s,mb4.0,baz=355,slow=5.3,SNR=5.4						
KEST	Kesra	57.50	290	P	P	09 34 40.6	+0.3
MTLF	Montolieu	58.02	301	*e*P	P	09 34 43.8	-0.1
MTLF	Montolieu	58.02	301	*e*P	P	09 34 43.8	-0.1
MTLF	Montolieu	58.02	301	*e*P	P	09 34 43.8	-0.1
LFF	La Frestale	58.07	303	*e*P	P	09 34 44.4	+0.2
	comp=Z,27nm,0.8s,mb5.0						
LFF	La Frestale	58.07	303	*e*P	P	09 34 44.4	+0.2
	comp=Z,27nm,0.8s,mb5.3						
LFF	La Frestale	58.07	303	*e*P	P	09 34 44.4	+0.2
LFF				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
ROSF	Rostrenen	58.61	309	*e*P	P	09 34 47.5	-0.4
ROSF	Rostrenen	58.61	309	*e*P	P	09 34 47.5	-0.4
ROSF	Rostrenen	58.61	309	*e*P	P	09 34 47.5	-0.4
QUIF	Quistinic	58.77	308	*e*P	P	09 34 48.6	-0.5
QUIF	Quistinic	58.77	308	*e*P	P	09 34 48.6	-0.5
QUIF	Quistinic	58.77	308	*e*P	P	09 34 48.6	-0.5
EPF	Esparros	59.34	302	*e*P	P	09 34 52.2	-0.9
	comp=Z,3.8nm,0.4s,mb4.5						
EPF				*e*pP	pP	09 35 10.5	-1.0
EPF	Esparros	59.34	302	*e*P	P	09 34 52.2	-0.9
	comp=Z,3.8nm,0.4s,mb4.8						
EPF				*e*pP	pP	09 35 10.5	-1.0
EPF	Esparros	59.34	302	*e*P	P	09 34 52.2	-0.9
EPF				*e**PP	pP	09 35 10.5	-1.0
EPF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
ETSF	Etsaut	59.97	302	*e*P	P	09 34 57.5	+0.1
ETSF	Etsaut	59.97	302	*e*P	P	09 34 57.5	+0.1
ETSF	Etsaut	59.97	302	*e*P	P	09 34 57.5	+0.1
COLD	Coldfoot	61.26	22	*e*P	P	09 35 06.5	+0.8
	comp=Z,18nm,0.8s,mb5.2						
KMBO	Kilima Mbogo	62.47	238	*e*P	P	09 35 16.3	+1.7
	comp=Z,4.2nm,1.1s,mb4.4						
KMBO	Kilima Mbogo	62.47	238	*e*P	P	09 35 16.3	+1.7
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BPAW	Bear Paw Mtn.	63.34	24	*e*P	P	09 35 20.6	+0.9
	comp=Z,14nm,0.9s,mb4.9						
COLA	College	63.66	23	*e*P	P	09 35 21.7	-0.1
	comp=Z,8.8nm,0.8s,mb4.6						
COLA	College	63.66	23	*e*P	P	09 35 21.7	-0.1
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
PPLA	Purkeypile	63.85	26	*e*P	P	09 35 23.9	+0.8
	comp=Z,14nm,0.8s,mb4.9						
ESDC	Sonseca Array	63.92	301	P	P	09 35 23.9	0.0
	comp=Z,1.7nm,0.5s,mb4.2,baz=54,slow=6.5,SNR=21						
ESDC	Sonseca Array	63.92	301	P	P	09 35 23.9	0.0
ILAR	Eielson Array	64.00	22	P	P	09 35 23.4	-0.6
	comp=Z,0.9nm,0.7s,mb3.7,baz=313,slow=5.9,SNR=16						
ILAR	Eielson Array	64.00	22	P	P	09 35 23.4	-0.6
ILAR	Eielson Array	64.00	22	P	P	09 35 23.5	-0.5
INK	Inuvik	64.21	15	*e*P	P	09 35 25.4	0.0
	comp=Z,14nm,1.4s,mb4.6						
INK				*e*pP	pP	09 35 42.6	-1.4
INK	Inuvik	64.21	15	*e*P	P	09 35 25.4	0.0
INK				*e**PP	pP	09 35 42.6	-1.4
INK				pmax	pmax		
	comp=Z,14nm,1.4s						
PAX	Paxson	65.80	23	*e*P	P	09 35 37.4	+1.7
	comp=Z,5.6nm,0.9s,mb4.4						
PAX	Paxson	65.80	23	*e*P	P	09 35 37.4	+1.7
PAX				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
KDAK	Kodiak Island	67.50	30	*c*eP	P	09 35 46.7	0.0
FITZ	Fitzroy Crossi	71.59	140⇑	*i*P	P	09 36 12.7	+0.4
	comp=Z,23nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	71.59	140	*e*P	P	09 36 12.6	+0.4
	comp=Z,13nm,0.6s,mb4.9						
MBWA	Marble Bar	71.77	147	*e*P	P	09 36 13.3	0.0
	comp=Z,8.5nm,0.8s,mb4.6						
YKA	Yellowknife Ar	72.62	10	P	P	09 36 15.7	-2.2
	comp=Z,0.4nm,0.5s,baz=340,slow=5.8,SNR=5.2						
YKA	Yellowknife Ar	72.62	10	P	P	09 36 15.7	-2.2
YKA	Yellowknife Ar	72.62	10	P	P	09 36 15.7	-2.2
TORD	Torodi Ar. Bea	76.97	276	P	P	09 36 43.3	-0.4
	comp=Z,3.0nm,0.6s,mb4.2,baz=43,slow=5.1,SNR=25						
TORD	Torodi Ar. Bea	76.97	276	P	P	09 36 43.3	-0.4
WRAB	Tennant Creek	77.43	134	*e*P	P	09 36 46.3	+0.2
	comp=Z,36nm,0.7s,mb5.2						
WRAB	Tennant Creek	77.43	134	*e*P	P	09 36 46.3	+0.2
WRAB				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.2						
WRA	Warramunga Arr	77.43	134	P	P	09 36 46.3	+0.2
	comp=Z,15nm,0.6s,mb4.9,baz=334,slow=5.0,SNR=171						
WRA	Warramunga Arr	77.43	134	P	P	09 36 46.3	+0.2
WRA	Warramunga Arr	77.43	134	P	P	09 36 46.3	+0.2
WB2	Warramunga Arr	77.44	134	*e*P	P	09 36 46.4	+0.3
WB2				*e*pP	pP	09 37 05.2	-0.1
COEN	Coen	77.59	123	*e*P	P	09 36 47.6	+0.5
	comp=Z,83nm,0.9s,mb5.5						
LSZ	Lusaka	79.06	236	*e*P	P	09 36 56.2	+1.0
	comp=Z,4.7nm,0.9s,mb4.3						
LSZ	Lusaka	79.06	236	*e*P	P	09 36 56.2	+1.0
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
AS31	Alice Springs	80.31	136	*e*P	P	09 37 02.0	+0.2
ASAR	Alice Springs	80.31	136	P	P	09 37 02.1	+0.4
	comp=Z,6.9nm,0.7s,mb4.6,baz=329,slow=5.2,SNR=90						
ASAR	Alice Springs	80.31	136	P	P	09 37 02.1	+0.4
ASAR	Alice Springs	80.31	136	P	P	09 37 02.2	+0.4
KLBR	Kellerberrin	80.57	153	*e*P	P	09 37 02.5	-0.5
	comp=Z,63nm,2.0s,mb5.1						
FORT	Forrest	83.70	145	*e*P	P	09 37 19.7	+0.3
	comp=Z,30nm,0.6s,mb5.3						
FORT	Forrest	83.70	145	*e*P	P	09 37 19.8	+0.4
	comp=Z,40nm,0.7s,mb5.4						
JCW	Jim Creek	85.00	18	*e*P	P	09 37 26.8	+0.8
NEW	Newport	85.94	15	*e*P	P	09 37 31.0	+0.4
	comp=Z,76nm,3.0s						
NEW	Newport	85.94	15	*e*P	P	09 37 31.0	+0.4
NEW				pmax	pmax		
	comp=Z,77nm,3.0s						
DBIC	Dimbokro	86.07	275	P	P	09 37 31.5	-0.3
	comp=Z,9.1nm,0.6s,mb4.9,baz=18,slow=5.9,SNR=16						
DBIC	Dimbokro	86.07	275	P	P	09 37 31.5	-0.3
DBIC	Dimbokro	86.07	275	P	P	09 37 31.5	-0.3
BSMT	Bassoo Peak	86.76	14	*e*P	P	09 37 35.3	+0.6
JTMT	Jette	86.94	14	*e*P	P	09 37 36.2	+0.6
LBTB	Lobatse	88.15	232	*e*P	P	09 37 43.2	+1.7
	comp=Z,15nm,0.9s,mb5.0						
LBTB	Lobatse	88.15	232	*e*P	P	09 37 43.2	+1.7
LBTB				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
HUMO	Hull Mountain	89.99	21	*e*P	P	09 37 51.9	+1.9
	comp=Z,3.5nm,0.8s,mb4.5						
STKA	Stephens Creek	90.91	135	P	P	09 37 54.1	-0.1
	comp=Z,11nm,0.6s,mb5.2,baz=332,slow=4.8,SNR=31						
STKA	Stephens Creek	90.91	135	*e*P	P	09 37 53.8	-0.4
	comp=Z,9.6nm,0.6s,mb5.1						
STKA	Stephens Creek	90.91	135	*e*P	P	09 37 54.2	0.0
STKA	Stephens Creek	90.91	135	P	P	09 37 54.1	-0.1
STKA				pmax	pmax		
	comp=Z,11nm,0.6s						
BOSA	Boshof	91.12	230	P	P	09 37 55.8	+0.5
	comp=Z,1.7nm,0.7s,mb4.3,baz=342,slow=19,SNR=4.3						
BOSA	Boshof	91.12	230	P	P	09 37 55.8	+0.5
BOSA	Boshof	91.12	230	P	P	09 37 55.8	+0.5
WVOR	Wild Horse Val	91.20	18	*e*P	P	09 37 56.5	+0.8
	comp=Z,1.5nm,0.7s,mb4.2						
WVOR	Wild Horse Val	91.20	18	*e*P	P	09 37 56.5	+0.8
WVOR				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
IMW	Indian Meadow	91.23	12	*e*P	P	09 37 57.3	+1.5
	comp=Z,3.6nm,1.1s,mb4.4						
PDAR	Pinedale Array	92.54	11	P	P	09 38 01.1	-0.8
	comp=Z,0.6nm,0.8s,mb4.0,baz=44,slow=3.4,SNR=5.9						
PDAR	Pinedale Array	92.54	11	P	P	09 38 01.1	-0.8
DUG	Dugway	94.53	14	*e*P	P	09 38 12.6	+1.6
	comp=Z,12nm,1.1s,mb5.2						
DUG	Dugway	94.53	14	*e*P	P	09 38 12.6	+1.6
DUG				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.2						
NVAR	Mina Array Bea	95.09	19	P	P	09 38 14.9	+1.2
	comp=Z,1.5nm,0.8s,mb4.5,baz=345,slow=3.0,SNR=12						
NVAR	Mina Array Bea	95.09	19	P	P	09 38 14.9	+1.2
PV01	Paradox Valley	97.23	12	*e*P	P	09 38 20.7	-2.7
	comp=Z,501nm,0.6s						
VNA2	Neumayer--Watz	131.87	206	*e*	PKPdf	09 44 04.2	+2.0
	baz=32,slow=2.6						
VNA2	Neumayer--Watz	131.87	206	*e*	PKPdf	09 44 04.2	+2.0
VNA3	Neumayer Olymp	132.66	206	*e*	PKPdf	09 44 05.5	+1.8
VNA3	Neumayer Olymp	132.66	206	*e*	PKPdf	09 44 05.5	+1.8
NNA	Nana	144.90	330	PKP	PKPdf	09 44 26.1	-1.7
	comp=Z,3.2nm,0.3s,baz=128,slow=21,SNR=4.0						
NNA	Nana	144.90	330	PKP	PKPdf	09 44 26.1	-1.7
NNA	Nana	144.90	330	PKIKP	PKPdf	09 44 26.1	-1.7
CPUP	Villa Florida	145.62	289	PKPbc	PKPbc	09 44 29.0	-0.1
	comp=Z,7.5nm,0.8s,baz=24,slow=0.8,SNR=20						
CPUP	Villa Florida	145.62	289	PKPbc	PKPbc	09 44 29.0	-0.1

MOS ***06*** *09:31:30.2±1.1, 10°.44N×84°.73W, h33km, mb4.9/34, Error ellipse: s-maj=13.2km s-min=5.8km az=117.2*

ISCJB ***06*** *09:31:31.6±0.3, 10°.13N±0°.03×85°.18W±0°.03, h50km±1km, mb4.7/107, MS4.0/13, Error ellipse: s-maj=6.1km s-min=3.5km az=42.1*

IDC ***06*** *09:31:31.6±1.1, 10°.49N×84°.74W, h32km±8km, mb4.1/14, mb1 4.2/17, mb1mx4.2/21, mbtmp4.1/17, ML4.1/2, MS3.9/14, Ms1 3.9/14, ms1mx3.8/22, Error ellipse: s-maj=19.1km s-min=11.3km az=67.0*

CASC ***06*** *09:31:32.2±1.6, 10°.11N×85°.17W, h21km±3km, MD4.0, ML4.1, mb4.8(NEIC)*

BJI ***06*** *09:31:33.8, 10°.20N×85°.10W, h52km, mB5.4/4, Ms5.1/3, Ms7 4.7/3*

NEIC ***06*** *09:31:33.9±0.5, 10°.27N×84°.98W, h56km±5km, mb4.8/90, MD4.9(UCR), Error ellipse: s-maj=7.6km s-min=4.5km az=48.0*

NEIC Felt at Escazu, Grecia, Jicaral, Paquera and Puntarenas.

ISC 06 09:31:32.6±0.3, 10°.16N±0°.03×85°.15W±0°.03, h42km±2km, n283, σ1§08/265, mb4.7/107, MS4.0/13, 4C-23D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	0.23	55	Pg	Pn	09 31 39.3	-1.1
	2μm,0.3s,baz=229,slow=11,SNR=7162						
JTS	JuntasAbangare	0.23	55	*i*Pg	Pn	09 31 39.8	-0.6
JTS				*e*Sg	Sn	09 31 47.0	+1.2
JTS	JuntasAbangare	0.23	55	*i*P	Pn	09 31 39.8	-0.6
JTS				*e*		09 31 47.0	
JTS	JuntasAbangare	0.23	55	*e*P	Pn	09 31 39.9	-0.5
A494	Palo Verde	0.28	313	*i*P	Pn	09 31 39.0	-1.8
A494				*i* S	Sn	09 31 45.1	-1.5
JCR	Jicaral	0.31	174⇑	*i*P	Pn	09 31 39.0	-2.2
A490	San Lazaro	0.33	290	*i*P	Pn	09 31 40.2	-1.2
A490				*i* S	Sn	09 31 46.2	-1.2
A495	El Viejo	0.38	307	*i*P	Pn	09 31 40.3	-1.7
A495				*i* S	Sn	09 31 47.2	-1.4
A492	Arado	0.45	277⇑	*i*P	Pn	09 31 41.4	-1.4
A492				*i* S	Sn	09 31 48.7	-1.2
AMAS	Alto Masis	0.47	18	*i*P	Pn	09 31 43.7	+0.6
CASO	Castillo	0.49	56	*i*P	Pn	09 31 42.9	-0.4
CUI	Cuipilapa	0.50	358	*i*P	Pn	09 31 42.9	-0.5
CUI				*i* S	Sn	09 31 51.6	+0.5
COLC	Colonia	0.51	353	*i*P	Pn	09 31 42.9	-0.6
L

VBMS Vicksburg 22.51 348 *eP* **P 09 36 29.0 +0.5**
comp=Z,32nm,0.7s,mb4.9
GOGA Godfrey 23.19 4 *eP* **P 09 36 36.2 +0.4**
comp=Z,28nm,0.6s,mb4.9
GOGA Godfrey 23.19 4 *eP* **P 09 36 36.2 +0.4**
GOGA pmax pmax
comp=Z,28nm,0.6s,mb4.9
NATX Nacogdoches 23.23 339 *eP* **P 09 36 36.4 +0.2**
comp=Z,37nm,0.8s,mb4.9
NHSC New Hope 23.29 11 *eP* **P 09 36 37.1 +0.3**
comp=Z,44nm,0.8s,mb4.9
COW Cow Castle Cre 23.47 9 *eP* **P 09 36 39.2 +0.7**
NNA Nana 23.50 159 P **P 09 36 39.3 +0.4**
comp=Z,2.8nm,0.3s,mb4.2,baz=160,slow=19,SNR=4.2
NNA Nana 23.50 159 P **P 09 36 39.3 +0.4**
NNA Nana 23.50 159 P **P 09 36 39.3 +0.4**
NNA pmax pmax
comp=Z,3.0nm,0.3s
JSC Jenkinsville 24.27 8 *eP* **P 09 36 46.4 +0.5**
JSC Jenkinsville 24.27 8 *eP* **P 09 36 46.4 +0.6**
JCT Junction City 24.39 328 *eP* **P 09 36 46.4 -0.6**
comp=Z,25nm,0.8s,mb4.7
JCT Junction City 24.39 328 *eP* **P 09 36 46.4 -0.6**
JCT pmax pmax
comp=Z,25nm,0.8s,mb4.7
OXF Oxford 24.55 352 *eP* **P 09 36 46.9 -1.5**
comp=Z,20nm,0.5s,mb4.9
OXF Oxford 24.55 352 *eP* **P 09 36 46.9 -1.5**
OXF pmax pmax
comp=Z,20nm,0.5s,mb4.9
PLAL Pickwick Lake 24.85 354 *eP* **P 09 36 49.2 -1.9**
comp=Z,17nm,0.8s,mb4.6
SWET Sewanee 24.95 358 *eP* **P 09 36 52.1 +0.1**
CPCT Cooper Cave 25.18 1 *eP* **P 09 36 53.3 -0.8**
UALR University of 25.37 346 *eP* **P 09 36 54.4 -1.4**
comp=Z,16nm,0.6s,mb4.7
TKL Tuckaleechee C 25.41 3 P **P 09 36 55.9 -0.3**
comp=Z,28nm,0.8s,mb4.9,baz=180,slow=11,SNR=26
TKL LR LR 09 46 50.2
comp=Z,206nm,21.1s,MS3.6,baz=230,slow=37
TKL Tuckaleechee C 25.41 3 P **P 09 36 55.9 -0.3**
TKL Tuckaleechee C 25.41 3 P **P 09 36 55.9 -0.3**
TKL pmax pmax
comp=Z,28nm,0.8s,mb4.8
TKL MLR MLR
comp=Z,206nm,21.1s,MS3.6
MIAR Mount Ida 25.47 344 *eP* **P 09 36 56.6 -0.2**
comp=Z,22nm,0.6s,mb4.9
MIAR Mount Ida 25.47 344 *eP* **P 09 36 56.6 -0.1**
MIAR pmax pmax
comp=Z,22nm,0.6s,mb4.9
TXAR Lajitas Array 25.77 320 P **P 09 36 59.7 +0.2**
comp=Z,9.3nm,0.4s,mb4.7,baz=140,slow=8.8,SNR=109
TXAR PcP PcP 09 40 30.2 +1.5
comp=Z,2.9nm,0.8s,baz=142,slow=4.7,SNR=9.9
TXAR ScP ScP 09 44 08.8 +3.8
comp=Z,1.5nm,1.0s,baz=142,slow=6.2,SNR=8.2
TXAR LR LR 09 48 32.1
comp=Z,78nm,20.6s,MS3.2,baz=145,slow=40
TXAR Lajitas Array 25.77 320 P **P 09 36 59.7 +0.2**
TXAR PcP PcP 09 40 30.2 +1.5
TXAR ScP ScP 09 44 08.8 +3.8
TXAR Lajitas Array 25.77 320 P **P 09 36 59.7 +0.2**
TXAR 09 40 30.2
TXAR pmax pmax
comp=Z,9.0nm,0.4s
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR pmax pmax
comp=N,2.0nm,1.0s
TXAR MLR MLR
comp=Z,78nm,20.6s
CNNC Cliffs of the 25.83 14 *eP* **P 09 37 03.6 +3.6**
comp=Z,19nm,0.6s,mb4.8
WVT Waverly 25.97 355 *eP* **P 09 37 00.1 -1.1**
comp=Z,8.1nm,0.7s,mb4.4
WVT Waverly 25.97 355 *eP* **P 09 37 00.2 -1.0**
WVT pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
TZTN Tazewell 26.31 3 *eP* **P 09 37 04.1 -0.1**
comp=Z,20nm,0.8s,mb4.7
ELN Prospectdale 27.24 8 *eP* **P 09 37 13.4 +0.7**
WMOK Wichita Mounta 27.46 335 *eP* **P 09 37 13.7 -1.0**
comp=Z,26nm,0.8s,mb4.8
WMOK Wichita Mounta 27.46 335 *eP* **P 09 37 13.7 -1.0**
WMOK pmax pmax
comp=Z,26nm,0.8s,mb4.8
SIUC Southern Illin 27.68 353 *eP* **P 09 37 15.0 -1.6**
comp=Z,16nm,0.8s,mb4.7
WCI Wyandotte Cave 27.97 358 *eP* **P 09 37 17.8 -1.4**
comp=Z,20nm,0.7s,mb4.9
WCI Wyandotte Cave 27.97 358 *eP* **P 09 37 17.8 -1.4**
WCI pmax pmax
comp=Z,20nm,0.7s,mb4.9
CLNB Carlsbad 27.99 325 *eP* **P 09 37 19.3 -0.2**
comp=Z,32nm,0.7s,mb5.1
CCM Cathedral Cave 28.31 350 *eP* **P 09 37 20.8 -1.5**
comp=Z,10nm,0.7s,mb4.6
CCM Cathedral Cave 28.31 350 *eP* **P 09 37 20.8 -1.4**
CCM pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
MNTX Cornudas Mount 28.47 322 *eP* **P 09 37 23.3 -0.5**
comp=Z,6.7nm,0.8s,mb4.3
CPRX Cap Rock 28.55 326 *eP* **P 09 37 24.4 0.0**
comp=Z,19nm,0.6s,mb5.0
OLIL Olney 28.58 355 *eP* **P 09 37 23.9 -0.7**
comp=Z,15nm,0.7s,mb4.8
AMTX Amarillo 28.87 331 *eP* **P 09 37 26.4 -0.9**
comp=Z,15nm,0.6s,mb4.9
ACSO Alum Creek Sta 30.01 3 *eP* **P 09 37 37.1 -0.2**
comp=Z,30nm,0.6s,mb5.2
LPM Los Pinos Moun 31.06 324 *eP* **P 09 37 47.3 +0.6**
LAZ Ladron 31.42 324 *eP* **P 09 37 50.9 +1.1**
comp=Z,6.5nm,1.0s,mb4.4
ANMO Albuquerque 31.42 325 *eP* **P 09 37 50.4 +0.5**
comp=Z,9.4nm,0.7s,mb4.7
ANMO *e*PcP PcP 09 40 43.6 +1.0
ANMO Albuquerque 31.42 325 *eP* **P 09 37 50.4 +0.6**
ANMO *e* 09 40 43.6
ANMO pmax pmax
comp=Z,9.0nm,0.7s
TUC Tucson 32.35 317 *eP* **P 09 37 59.2 +1.2**
comp=Z,8.2nm,1.2s,mb4.4
TUC *e*PcP PcP 09 40 46.6 +1.4
TUC Tucson 32.35 317 *eP* **P 09 37 59.2 +1.2**
TUC *e* 09 40 46.6
TUC pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
SDCO Great Sand Dun 33.01 330 *eP* **P 09 38 04.3 +0.5**
comp=Z,11nm,0.8s,mb4.8
MVCO Mesa Verde 34.19 326 *eP* **P 09 38 14.7 +0.6**
comp=Z,13nm,0.6s,mb5.0
MVCO *e*PcP PcP 09 40 51.9 +1.7
ISCO Idaho Springs 34.68 332 *eP* **P 09 38 18.5 +0.3**
comp=Z,4.5nm,0.8s,mb4.5
ISCO *e*PcP PcP 09 40 53.3 +1.7
WUAZ Wupatki 34.73 321 *eP* **P 09 38 20.4 +1.7**
comp=Z,23nm,0.9s,mb5.1
WUAZ *e*ScP ScP 09 44 37.1 +3.1
ECSD EROS Data Cent 34.90 345 *eP* **P 09 38 17.9 -2.2**
comp=Z,6.9nm,0.5s,mb4.8
PV04 Paradox Valley 35.27 327 *eP* **P 09 38 24.1 +0.8**
LONY Lake Ozonia 35.53 13 *eP* **P 09 38 23.9 -1.5**
comp=Z,4.3nm,0.7s,mb4.5
GLA Glamis 35.56 314 *eP* **P 09 38 27.7 +1.8**
comp=Z,22nm,0.9s,mb5.1
GLA Glamis 35.56 314 *eP* **P 09 38 27.7 +1.8**
GLA pmax pmax
comp=Z,22nm,0.9s,mb5.1
SRU San Rafael 36.67 326 *eP* **P 09 38 35.2 -0.1**
comp=Z,24nm,0.6s,mb5.2
SRU San Rafael 36.67 326 *eP* **P 09 38 35.2 -0.1**
SRU pmax pmax
comp=Z,24nm,0.6s,mb5.2
TMUT Trail Mountain 37.17 326 *eP* **P 09 38 39.8 +0.3**
comp=Z,18nm,1.3s,mb4.7
TMUT *e*PcP PcP 09 40 55.3 -3.7
MSU Marysvale 37.19 324 *eP* **P 09 38 40.8 +1.1**
MSU *e*PcP PcP 09 41 01.2 +2.2
MSU Marysvale 37.19 324 *eP* **P 09 38 40.8 +1.1**
MSU *e* 09 41 01.3
CCUT Cedar City 37.27 322 *eP* **P 09 38 42.3 +2.0**
comp=Z,11nm,0.8s,mb4.7
CCUT *e*PcP PcP 09 41 01.6 +2.2
CCUT *e*ScP ScP 09 44 47.1 +3.8
ARUT Antelope Range 37.46 322 *eP* **P 09 38 43.5 +1.4**
comp=Z,29nm,0.7s,mb5.2
ARUT Antelope Range 37.46 322 *eP* **P 09 38 43.5 +1.4**
ARUT pmax pmax
comp=Z,29nm,0.7s,mb5.2
MPU Maple Canyon 37.91 326 *eP* **P 09 38 46.3 +0.5**
comp=Z,11nm,0.6s,mb4.8
MPU *e*PcP PcP 09 41 03.1 +1.8
DAU Daniels Canyon 37.98 327 *eP* **P 09 38 47.4 +1.0**
DAU Daniels Canyon 37.98 327 *eP* **P 09 38 47.4 +1.0**
GSC Goldstone 38.16 316 *eP* **P 09 38 49.1 +1.1**
comp=Z,11nm,0.8s,mb4.6
GSC *e*PcP PcP 09 41 03.8 +1.6
GSC Goldstone 38.16 316 *eP* **P 09 38 49.1 +1.1**
GSC *e* 09 41 03.8
GSC pmax pmax
comp=Z,11nm,0.8s,mb4.6
JLU Jordanelle 38.22 327 *eP* **P 09 38 48.8 +0.4**
comp=Z,7.8nm,0.6s,mb4.6
MWC Mount Wilson 38.47 314 *eP* **P 09 38 52.8 +2.2**
comp=Z,8.9nm,0.9s,mb4.5
MWC Mount Wilson 38.47 314 *eP* **P 09 38 52.8 +2.2**
MWC pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
PASC Pasadena Art C 38.53 313 *eP* **P 09 38 52.6 +1.5**
comp=Z,159nm,1.6s,mb5.5
DUG Dugway 38.69 325 *eP* **P 09 38 52.8 +0.4**
comp=Z,12nm,1.1s,mb4.5
DUG *e*PcP PcP 09 41 05.2 +1.6
DUG Dugway 38.69 325 *eP* **P 09 38 52.8 +0.5**
DUG *e* 09 41 05.3
DUG pmax pmax
comp=Z,12nm,1.1s,mb4.5
BW06 Boulder Array 38.85 331 *eP* **P 09 38 53.0 -0.7**
comp=Z,4.9nm,0.9s,mb4.2
PDAR Pinedale Array 38.85 331 P **P 09 38 53.2 -0.5**
comp=Z,4.3nm,0.7s,mb4.3,baz=134,slow=10,SNR=29
PDAR PcP PcP 09 41 04.7 +0.6
comp=Z,2.8nm,0.6s,baz=142,slow=5.6,SNR=11
PDAR ScP ScP 09 44 52.3 +3.1
comp=Z,1.4nm,1.1s,baz=116,slow=4.1,SNR=6.9
PDAR Pinedale Array 38.85 331 P **P 09 38 53.2 -0.5**
PDAR PcP PcP 09 41 04.7 +0.6
PDAR ScP ScP 09 44 52.3 +3.1
PD01 Pinedale Array 38.87 331 *eP* **P 09 38 53.3 -0.6**
HWUT Hardware Ranch 39.00 328 *eP* **P 09 38 54.6 -0.3**
comp=Z,17nm,0.6s,mb5.0
HWUT *e*PcP PcP 09 41 05.7 +1.1
HWUT *e*ScP ScP 09 44 51.8 +2.0
AGMN Agassiz Nation 39.07 349 *eP* **P 09 38 53.7 -1.7**
comp=Z,8.1nm,0.5s,mb4.7
ISA Isabella 39.51 315 *eP* **P 09 39 01.1 +1.8**
comp=Z,20nm,1.3s,mb4.7
ISA *e*PcP PcP 09 41 08.3 +1.9
ISA Isabella 39.51 315 *eP* **P 09 39 01.1 +1.9**
ISA *e* 09 41 08.3
ISA pmax pmax
comp=Z,20nm,1.3s,mb4.7
AHID Auburn Hatcher 39.61 330 *eP* **P 09 38 59.7 -0.3**
comp=Z,7.1nm,0.6s,mb4.6
AHID *e*PcP PcP 09 41 08.0 +1.5
HVU Hansel Valley 39.76 327 *eP* **P 09 39 01.2 -0.1**
comp=Z,5.7nm,0.8s,mb4.3
HVU Hansel Valley 39.76 327 *eP* **P 09 39 01.2 -0.1**
HVU pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
REDW Red Top Meadow 39.93 330 *eP* **P 09 39 02.6 0.0**
comp=Z,14nm,0.6s,mb4.9
SNOW Snow King Moun 39.95 331 *eP* **P 09 39 03.1 +0.3**
comp=Z,28nm,1.3s,mb4.8
LOHW Long Hollow 39.99 331 *eP* **P 09 39 02.6 -0.6**
comp=Z,4.4nm,0.9s,mb4.2
TPAW Teton Pass 40.07 331 *eP* **P 09 39 04.0 +0.2**
comp=Z,7.7nm,0.8s,mb4.5
RRI2 Red Ridge 40.14 330 *eP* **P 09 39 04.3 -0.1**
comp=Z,7.8nm,0.8s,mb4.5
MOOW Moose Ponds 40.16 331 *eP* **P 09 39 04.1 -0.5**
comp=Z,4.3nm,0.8s,mb4.2
IMW Indian Meadow 40.37 331 *eP* **P 09 39 06.2 0.0**
comp=Z,4.4nm,0.6s,mb4.4
IMW *e*PcP PcP 09 41 10.4 +1.4
FLWY Flagg Ranch 40.40 331 *eP* **P 09 39 06.2 -0.3**
comp=Z,8.1nm,0.6s,mb4.6
MTUM Tungsten Hills 40.47 317 *eP* **P 09 39 09.2 +1.9**
RLMT Red Lodge 40.54 334 *eP* **P 09 39 06.7 -1.0**
comp=Z,12nm,1.4s,mb4.3
RLMT *e*PcP PcP 09 41 10.5 +1.1
YFT Old Faithful 40.74 332 *eP* **P 09 39 10.0 +0.7**
comp=Z,7.9nm,0.9s,mb4.3
NVAR Mina Array Bea 40.90 319 P **P 09 39 12.8 +2.0**
comp=Z,41nm,0.7s,mb5.2,baz=130,slow=7.1,SNR=226
NVAR PcP PcP 09 41 12.4 +1.6
comp=Z,5.6nm,0.7s,baz=134,slow=4.3,SNR=9.7
NVAR Mina Array Bea 40.90 319 P **P 09 39 12.8 +2.0**
NVAR PcP PcP 09 41 12.4 +1.6
ULM Lac du Bonnet 40.94 349 P **P 09 39 08.2 -2.7**
comp=Z,5.2nm,0.7s,mb4.2,baz=159,slow=7.9,SNR=5.8
ULM LR LR 09 58 13.4
comp=Z,117nm,21.3s,MS3.7,baz=43,slow=39
ULM Lac du Bonnet 40.94 349 P **P 09 39 08.2 -2.7**
ULM Lac du Bonnet 40.94 349 P **P 09 39 08.2 -2.7**
ULM pmax pmax
comp=Z,5.0nm,0.7s
ULM MLR MLR
comp=Z,117nm,21.3s
DGMT Dagmar 41.40 341 *eP* **P 09 39 14.0 -0.7**
comp=Z,12nm,0.6s,mb4.7
BMN Battle Mountai 41.41 322 *eP* **P 09 39 16.2 +1.3**
comp=Z,24nm,0.8s,mb4.9
BMN Battle Mountai 41.41 322 *eP* **P 09 39 16.2 +1.3**
BMN pmax pmax
comp=Z,24nm,0.8s,mb4.9
HLID Hailey 41.87 328 *eP* **P 09 39 19.0 +0.4**
comp=Z,10nm,0.6s,mb4.6
HLID *e*PcP PcP 09 41 16.1 +2.3
MCMT McKenzie Canyo 41.98 330 *eP* **P 09 39 19.7 +0.3**
comp=Z,2.9nm,0.6s,mb4.1
BOZ Bozeman (W) 42.01 332 *eP* **P 09 39 19.6 -0.2**
comp=Z,4.1nm,0.8s,mb4.1
BOZ Bozeman (W) 42.01 332 *eP* **P 09 39 19.6 -0.1**
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
CMB Columbia Colle 42.06 317 *eP* **P 09 39 21.2 +0.9**
comp=Z,5.5nm,0.9s,mb4.2
CMB Columbia Colle 42.06 317 *eP* **P 09 39 21.2 +0.9**
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
SAO San Andreas Ge 42.13 315 *eP* **P 09 39 21.3 +0.4**
comp=Z,6.4nm,0.8s,mb4.3
SAO San Andreas Ge 42.13 315 *eP* **P 09 39 21.3 +0.4**
SAO pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
DLMT Dillon 42.25 331 *eP* **P 09 39 21.7 0.0**
comp=Z,7.4nm,1.0s,mb4.3
WCN Washoe City 42.33 319 *eP* **P 09 39 23.8 +1.4**
comp=Z,4.9nm,0.9s,mb4.1
WCN Washoe City 42.33 319 *eP* **P 09 39 23.8 +1.3**
WCN pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
LRM Limekiln Ridge 42.52 332 *eP* **P 09 39 23.7 -0.2**
MFID Camas Ranch 42.52 327 *eP* **P 09 39 23.9 0.0**
comp=Z,6.3nm,0.6s,mb4.5
MFID *e*PcP PcP 09 41 18.0 +2.0
OHCM Honcut 43.48 318 *eP* **P 09 39 32.9 +1.1**
OHCM *e*PcP PcP 09 41 21.2 +1.9
WVOR Wild Horse Val 43.48 324 *eP* **P 09 39 31.6 -0.1**
comp=Z,32nm,0.7s,mb5.2
WVOR Wild Horse Val 43.48 324 *eP* **P 09 39 31.6 -0.1**
WVOR pmax pmax
comp=Z,32nm,0.7s,mb5.2
MSO Missoula 43.96 332 *eP* **P 09 39 35.0 -0.5**
comp=Z,4.8nm,1.3s,mb4.1
MSO *e*PcP PcP 09 41 22.5 +1.7
MOD Modoc 44.15 322 *eP* **P 09 39 36.6 -0.6**
comp=Z,7.1nm,0.6s,mb4.6
BMO Blue Mountains 44.27 327 *eP* **P 09 39 36.6 -1.4**
comp=Z,5.9nm,0.8s,mb4.4
SWMT Swartz Lake 44.49 332 *e*PcP PcP 09 41 23.9 +1.3
CFAA Coronel Fontan 44.57 159 P **P 09 39 41.8 +1.3**
comp=Z,0.3nm,0.7s,baz=331,slow=6.7,SNR=8.3
CFAA Coronel Fontan 44.57 159 P **P 09 39 41.8 +1.3**
JTMT Jette 44.79 332 *eP* **P 09 39 41.3 -0.9**
JTMT *e*PcP PcP 09 41 24.7 +1.1
KIPM Iron Peak 45.04 318 *eP* **P 09 39 45.5 +1.3**
comp=Z,20nm,1.0s,mb4.9
KCPM Cahto Peak 45.05 317 *eP* **P 09 39 46.1 +1.8**
comp=Z,9.3nm,0.6s,mb4.8
CPUP Villa Florida 45.24 144 P **P 09 39 46.0 0.0**
comp=Z,0.4nm,0.3s,mb3.7,baz=255,slow=9.0,SNR=3.2
CPUP LR LR 10 01 14.6
comp=Z,59nm,19.8s,MS3.5,baz=294,slow=39
CPUP Villa Florida 45.24 144 P **P 09 39 46.0 0.0**
CPUP Villa Florida 45.24 144 P **P 09 39 46.0 +0.1**
CPUP MLR MLR
comp=Z,59nm,19.8s
YBH Yreka Blue Hor 45.55 320 *eP* **P 09 39 47.1 -1.2**
comp=Z,7.7nm,0.6s,mb4.8
YBH Yreka Blue Hor 45.55 320 *eP* **P 09 39 47.1 -1.1**
YBH pmax pmax
comp=Z,8.0nm,0.6s
KHMM Horse Mountain 45.75 319 *eP* **P 09 39 50.0 +0.2**
comp=Z,23nm,0.8s,mb5.2
HUMO Hull Mountain 46.18 321 *eP* **P 09 39 51.9 -1.3**
comp=Z,5.3nm,1.0s,mb4.4
KRMB Red Mountain 46.20 319 *eP* **P 09 39 53.5 +0.1**
comp=Z,12nm,0.7s,mb4.9
KRMB *e*pP pP 09 40 05.8 +0.5
HAWA Hanford 46.46 327 *eP* **P 09 39 54.4 -1.0**
comp=Z,9.5nm,0.8s,mb4.8
OD2 Odessa Site #2 46.69 329 *eP* **P 09 39 56.0 -1.1**
KBO Bosley Butte 46.76 320 *eP* **P 09 39 58.2 +0.4**
comp=Z,62nm,1.2s,mb5.4
SCHQ Schefferville 46.87 14 P **P 09 39 56.5 -1.9**
comp=Z,9.2nm,0.5s,mb5.0,baz=237,slow=7.8,SNR=19
SCHQ LR LR 10 00 40.8
comp=Z,219nm,19.4s,MS4.1,baz=246,slow=38
SCHQ Schefferville 46.87 14 P **P 09 39 56.5 -1.9**
HOOD Mount Hood Mea 46.96 325 *eP* **P 09 39 59.8 +0.5**
comp=Z,43nm,1.0s,mb5.3
KEBM Edson Butte 47.17 321 *eP* **P 09 40 01.9 +0.9**
comp=Z,39nm,0.9s,mb5.3
ETW Entiat 47.66 328 *eP* **P 09 40 04.3 -0.4**
ETW *e*PcP PcP 09 41 34.8 +1.1
LON Longmire 47.91 326 *eP* **P 09 40 06.0 -0.7**
comp=Z,3.9nm,0.7s,mb4.5
LON *e*PcP PcP 09 41 35.2 +0.6
LON Longmire 47.91 326 *eP* **P 09 40 06.0 -0.6**
LON *e* 09 41 35.3
LON pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
JCW Jim Creek 48.87 328 *eP* **P 09 40 12.4 -1.6**
GNW Green Mountain 48.96 327 *eP* **P 09 40 13.5 -1.1**
comp=Z,4.0nm,0.6s,mb4.6
NLWA Neilton Lookou 49.42 326 *eP* **P 09 40 18.1 -0.1**
comp=Z,16nm,1.3s,mb4.9
PLCA Paso Flores 52.40 166 P **P 09 40 41.5 +0.8**
comp=Z,11nm,0.8s,mb4.8,baz=339,slow=8.6,SNR=34
PLCA Paso Flores 52.40 166 *eP* **P 09 40 41.3 +0.6**
comp=Z,12nm,0.9s,mb4.8
PLCA Paso Flores 52.40 166 P **P 09 40 41.5 +0.9**
PLCA pmax pmax
comp=Z,11nm,0.8s
YKA Yellowknife Ar 56.41 344 P **P 09 41 07.2 -2.3**
comp=Z,1.2nm,0.5s,mb4.2,baz=135,slow=7.8,SNR=14
YKA Yellowknife Ar 56.41 344 P **P 09 41 07.2 -2.3**
YKA Yellowknife Ar 56.41 344 P **P 09 41 07.2 -2.3**
YKA pmax pmax
comp=Z,1.0nm,0.5s
SUMG Summit 68.25 14 *eP* **P 09 42 27.2 -1.3**
comp=Z,215nm,2.9s,mb5.7
SUMG Summit 68.25 14 *eP* **P 09 42 27.2 -1.4**
SUMG pmax pmax
comp=Z,215nm,2.9s
SUMG Summit 68.25 14 *i* P **P 09 42 27.2 -1.4**
comp=Z,7.3nm,1.0s,mb4.7
ILAR Eielson Array 69.02 336 P **P 09 42 31.4 -2.0**
comp=Z,1.2nm,0.7s,mb3.9,baz=129,slow=4.3,SNR=23
ILAR LR LR 10 12 05.3
comp=Z,122nm,21.7s,MS4.1,baz=112,slow=35
ILAR Eielson Array 69.02 336 P **P 09 42 31.4 -2.0**
ILAR Eielson Array 69.02 336 P **P 09 42 31.5 -2.0**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
PMSA Palmer Station 76.39 171 P **P 09 43 20.3 +3.2**
comp=Z,27nm,0.7s,mb5.3,baz=348,slow=23,SNR=9.5
PMSA Palmer Station 76.39 171 P **P 09 43 20.3 +3.2**
ESDC Sonseca Array 76.83 52 P **P 09 43 18.7 -1.5**
comp=Z,1.0nm,0.6s,mb4.0,baz=270,slow=4.4,SNR=7.6
ESDC LR LR 10 13 01.3
comp=Z,151nm,20.3s,MS4.3,baz=0.0,slow=33
ESDC Sonseca Array 76.83 52 P **P 09 43 18.7 -1.5**
DBIC Dimbokro 79.33 85 P **P 09 43 33.4 -1.2**
comp=Z,1.7nm,0.7s,mb4.1,baz=247,slow=7.7,SNR=2.6
DBIC Dimbokro 79.33 85 P **P 09 43 33.4 -1.2**
DBIC Dimbokro 79.33 85 P **P 09 43 33.4 -1.2**
DBIC pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 84.26 29 P **P 09 43 59.0 -0.7**
comp=Z,0.5nm,0.7s,mb3.8,baz=280,slow=8.1,SNR=3.0
NOA LR LR 10 15 34.3
comp=Z,80nm,20.8s,MS4.1,baz=255,slow=32
NOA NORSAR Array B 84.26 29 P **P 09 43 59.0 -0.7**
NOA NORSAR Array B 84.26 29 P **P 09 43 59.0 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 84.69 78 P **P 09 44 00.4 -2.3**
comp=Z,0.6nm,0.6s,mb3.9,baz=297,slow=5.7,SNR=4.3
TORD LR LR 10 20 15.7
comp=Z,38nm,19.9s,MS3.8,baz=15,slow=35
TORD Torodi Ar. Bea 84.69 78 P **P 09 44 00.4 -2.3**
ARCES ARCESS Array B 87.60 19 P **P 09 44 12.7 -3.3**
comp=Z,0.8nm,0.6s,mb4.2,baz=306,slow=2.7,SNR=5.9
ARCES ARCESS Array B 87.60 19 P **P 09 44 12.7 -3.3**
ARCES ARCESS Array B 87.60 19 P **P 09 44 12.7 -3.3**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 88.19 41 LR LR 10 20 06.9
comp=Z,70nm,19.7s,MS4.1,baz=295,slow=33
FINES FINESS Array B 91.01 27 P **P 09 44 30.1 -2.0**
comp=Z,2.9nm,0.9s,mb4.6,baz=266,slow=4.0,SNR=3.2
FINES FINESS Array B 91.01 27 P **P 09 44 30.1 -2.0**
FINES FINESS Array B 91.01 27 P **P 09 44 30.1 -2.0**
FINES pmax pmax
comp=Z,3.0nm,0.9s
VNA2 Neumayer--Watz 95.56 161 *e* **P 09 45 02.5 +10**
baz=32,slow=2.6
VNA2 Neumayer--Watz 95.56 161 *e* **P 09 45 02.5 +10**
AKASG Malin Array Be 97.07 36 LR LR 10 28 23.6
comp=Z,76nm,18.2s,MS4.2,baz=0.0,slow=35
OBN Obninsk 98.86 30 *eP* **P 09 45 06.8 -1.3**
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb5.4
SONM Songino Array 121.36 351 PKP PKPdf 09 50 19.2 -2.2
comp=Z,0.1nm,0.3s,baz=60,slow=8.5,SNR=3.1
SONM Songino Array 121.36 351 PKP PKPdf 09 50 19.2 -2.2
SONM Songino Array 121.36 351 PKIKP PKPdf 09 50 19.2 -2.2
MK31 Makanchi Array 122.20 10 *e*PKPdf PKPdf 09 50 23.1 +0.1
MK31 Makanchi Array 122.20 10 *e*PKIKP PKPdf 09 50 23.1 +0.1
KSRS Korea Array 123.40 329 PKP PKPdf 09 50 26.1 +0.5
comp=Z,3.3nm,0.7s,baz=8.5,slow=2.1,SNR=8.6
KSRS Korea Array 123.40 329 PKIKP PKPdf 09 50 26.1 +0.5
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSAR Wonju Array Be 123.43 329 PKP PKPdf 09 50 26.1 +0.4
KSAR Wonju Array Be 123.43 329 PKIKP PKPdf 09 50 26.1 +0.5
WMQ Urumqi 125.89 6 *e*PKP PKPdf 09 50 29.0 -1.2
HHC Hu-ho-hao-te 126.95 344 *e*PKP PKPdf 09 50 28.9 -3.4
HHC PP PP 09 52 30.7 +1.5
HHC PKS 09 54 04.3
HHC SKS SKSdf 09 57 35.3 -5.6
HHC SKKS SKKSac 09 59 17.7 -7.1
HHC SS SS 10 09 32.4 -0.3
HHC AMB AMB
comp=Z,170nm,5.9s
HHC LR LR
comp=N,180nm,15.5s,MS5.1
HHC LR LR
comp=E,310nm,16.6s,MS5.1
HHC LR LR
comp=Z,140nm,20.2s,MS4.6
LZH Lanzhou 133.23 350 *e*PKP PKPdf 09 50 44.0 -0.4
LZH sPKP 09 51 05.8
LZH LR LR
comp=E,180nm,18.2s
LZH LR LR
comp=Z,230nm,20.1s,MS4.9
LZH Lanzhou 133.23 350 *e*PKP PKPdf 09 50 44.0 -0.4
LZH pPKP pPKPdf 09 50 59.6 +1.9
LZH sPKP 09 51 05.8
LZH LR LR
comp=Z,230nm,20.1s,MS4.9
LZH Lanzhou 133.23 350 *e*PKIKP PKPdf 09 50 44.0 -0.4

LZH						09 50 59.6	
LZH				MLR	MLR		
comp=Z,230nm,20.1s,MS4.9							
CD2	**Chengdu**	**138.28**	**348**	*e*PKP	PKPdf	09 50 54.2	+0.3
ASAR	**Alice Springs**	**140.44**	**245**	PKP	PKPdf	09 50 57.6	-0.3
comp=Z,1.1nm,0.8s,baz=100,slow=2.6,SNR=8.7							
ASAR	**Alice Springs**	**140.44**	**245**	PKP	PKPdf	09 50 57.6	-0.3
ASAR	**Alice Springs**	**140.44**	**245**	PKIKP	PKPdf	09 50 57.7	-0.3
ASAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**140.74**	**251**	PKhKP	PKPpre	09 50 52.6	
comp=Z,0.9nm,0.7s,baz=101,slow=3.0,SNR=6.1							
WRA				PKP	PKPdf	09 50 57.4	-1.2
comp=Z,1.9nm,0.8s,baz=92,slow=2.0,SNR=9.1							
WRA	**Warramunga Arr**	**140.74**	**251**	PKPpre	PKPpre	09 50 52.6	
WRA				PKP	PKPdf	09 50 57.4	-1.2
WRA	**Warramunga Arr**	**140.74**	**251**	PKHKP	PKPpre	09 50 52.6	
WRA						09 50 57.4	
WRA				pmax	pmax		
comp=Z,1.0nm,0.7s							
WRA				pmax	pmax		
comp=Z,2.0nm,0.8s							
GYA	**Guiyang**	**141.84**	**343**	PKP	PKPdf	09 50 58.9	-1.6
GYA				sPKP		09 51 20.8	
GYA				PP	PP	09 54 06.7	+3.1
GYA				AMB	AMB		
comp=Z,90nm,7.9s							
KMI	**Kunming**	**144.10**	**348**	PKP	PKPdf	09 51 02.8	-1.7
KMI				pPKP	pPKPdf	09 51 13.7	-4.1
FITZ	**Fitzroy Crossi**	**149.16**	**252**	PKPbc	PKPbc	09 51 17.9	+0.5
comp=Z,2.6nm,0.9s,baz=192,slow=2.4,SNR=5.6							
FITZ	**Fitzroy Crossi**	**149.16**	**252**	PKPbc	PKPbc	09 51 17.9	+0.5
NWAO	**Narrogin (SRO)**	**149.37**	**219**	PKPbc	PKPbc	09 51 17.6	+0.2
comp=Z,5.0nm,0.8s,baz=177,slow=4.0,SNR=3.9							
NWAO	**Narrogin (SRO)**	**149.37**	**219**	PKPbc	PKPbc	09 51 17.6	+0.2
CMAR	**Chiang Mai Arr**	**151.28**	**352**	PKPbc	PKPbc	09 51 19.9	-2.6
comp=Z,1.0nm,0.3s,baz=325,slow=2.4,SNR=4.6							
CMAR	**Chiang Mai Arr**	**151.28**	**352**	PKPbc	PKPbc	09 51 19.9	-2.6

MAN 06 09:43:10, 9.52N×122.74E, h20km, mb4.3, ML3.1, MS2.9, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.52**	**109**	⇓*i*P	Pb	09 43 21.4	+1.0
SNPH				*i* S	Sb	09 43 28.8	+1.3
DCPH	**Dipolog City**	**1.10**	**147**	⇑*e*P	Pn	09 43 30.1	-0.2
DCPH				*i* S	Sb	09 43 44.6	+0.2
GUIM	**Jordan**	**1.11**	**352**	*e*P	Pn	09 43 29.8	-0.7
GUIM				*e*S	Sb	09 43 45.9	+1.2
TBP	**Tagbilaran**	**1.12**	**81**	*e*P	Pn	09 43 30.9	+0.4
LLP	**Lapu-Lapu**	**1.44**	**56**	*e*P	Pn	09 43 35.3	+0.3
LLP				*i* S	Sn	09 43 53.8	+0.4
IPIL	**Ipil**	**1.73**	**186**	*e*P	Pn	09 43 40.2	+1.3
PAGZ	**Pagadian**	**1.77**	**159**	*e*P	Pn	09 43 41.2	+1.6
RCP	**Roxas**	**2.03**	**0**	⇑*e*P	Pn	09 43 44.1	+1.0
RCP				*i* S	Sn	09 44 08.1	+0.2
CUYO	**Cuyo Island**	**2.15**	**308**	*e*P	Pn	09 43 46.3	+1.5
MSLP	**Maasin**	**2.17**	**73**	*e*P	Pn	09 43 47.5	+2.4

*ISCJB **06** 09:46:29.6±0.4, 39.°36N×0.°03×20.°82E±0.°03, h23km±4km, Error ellipse: s-maj=5.9km s-min=3.5km az=20.2*
*CSEM **06** 09:46:29.4±0.2, 39.°36N×20.°82E, h20km, ML2.3/3, Error ellipse: s-maj=5.2km s-min=2.9km az=23.0*
*THE **06** 09:46:29.7, 39.°35N×20.°82E, h12km±1km, ML2.3/3, Error ellipse: s-maj=1.1km s-min=0.4km az=267.0*
*ATH **06** 09:46:29.5, 39.°30N×20.°83E, h3km, MD3.2/6*
ISC 06 09:46:29.5±0.4, 39.°35N±0.°03×20.°83E±0.°03, h18km±3km, n39, σ0.°81/65, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSL	**Palaion Diasel**	**0.30**	**137**	P	**Pg**	**09 46 35.5**	**-0.5**
DSL				S	**Sg**	**09 46 40.5**	**+0.1**
DSL	**Palaion Diasel**	**0.30**	**137**	P	**Pg**	**09 46 35.5**	**-0.5**
DSL				S	**Sg**	**09 46 40.5**	**+0.1**
JAN	**Janina**	**0.30**	**3**	*e*PG	**Pg**	**09 46 35.9**	**-0.1**
JAN				*e*SG	**Sg**	**09 46 41.2**	**+0.7**
JAN	**Janina**	**0.30**	**3**	*e*PB	**Pg**	**09 46 35.7**	**-0.3**
JAN				*e*SB	**Sg**	**09 46 41.1**	**+0.6**
JAN	**Janina**	**0.30**	**3**	P	**Pg**	**09 46 35.7**	**-0.3**
JAN				S	**Sg**	**09 46 40.6**	**+0.1**
JAN	**Janina**	**0.30**	**3**	S	**Sg**	**09 46 40.6**	**+0.1**
JAN				*e*Sb	**Sg**	**09 46 41.1**	**+0.6**
RGA	**Parga**	**0.37**	**265**	P	**Pg**	**09 46 37.0**	**-0.2**
RGA				S	**Sg**	**09 46 42.8**	**+0.5**
RGA	**Parga**	**0.37**	**265**	P	**Pg**	**09 46 37.0**	**-0.2**
RGA				S	**Sg**	**09 46 42.8**	**+0.5**
IGT	**Igoumenitsa**	**0.42**	**295**	P	**Pg**	**09 46 37.4**	**-0.7**
IGT				S	**Sg**	**09 46 43.9**	**-0.1**
IGT	**Igoumenitsa**	**0.42**	**295**	P	**Pg**	**09 46 37.4**	**-0.7**
IGT				S	**Sg**	**09 46 43.9**	**-0.1**
MEV	**Metsovon**	**0.53**	**35**	P	**Pg**	**09 46 40.2**	**+0.1**
MEV	**Metsovon**	**0.53**	**35**	P	**Pg**	**09 46 40.2**	**+0.1**
KEK	**Kerkira**	**0.87**	**295**	*e*PG	**Pn**	**09 46 46.8**	**-0.1**
KEK	**Kerkira**	**0.87**	**295**	*e*PN	**Pn**	**09 46 46.8**	**-0.1**
KEK				*e*SN	**Sn**	**09 46 59.4**	**+0.2**
KEK	**Kerkira**	**0.87**	**295**	P	**Pb**	**09 46 46.2**	**+0.1**
KEK				S	**Sb**	**09 46 58.4**	**+0.9**
KEK	**Kerkira**	**0.87**	**295**	P	**Pb**	**09 46 46.2**	**+0.1**
KEK	**Kerkira**	**0.87**	**295**	*e*Pn	**Pn**	**09 46 47.1**	**+0.2**
KEK				S	**Sb**	**09 46 58.4**	**+0.9**
KEK				*e*Sn	**Sn**	**09 46 59.4**	**+0.2**
EVR	**Evrytania**	**0.88**	**120**	*e*PB	**Pb**	**09 46 46.2**	**0.0**
EVR	**Evrytania**	**0.88**	**120**	*e*PN	**Pn**	**09 46 45.5**	**-1.4**
EVR				*e*SN	**Sn**	**09 46 57.0**	**-2.2**
EVR	**Evrytania**	**0.88**	**120**	P	**Pb**	**09 46 46.6**	**+0.4**
EVR				S	**Sb**	**09 46 59.2**	**+1.6**
EVR	**Evrytania**	**0.88**	**120**	*e*Pn	**Pn**	**09 46 45.7**	**-1.2**
EVR	**Evrytania**	**0.88**	**120**	P	**Pb**	**09 46 46.6**	**+0.4**
EVR				*e*Sn	**Sn**	**09 46 57.0**	**-2.2**
EVR				S	**Sb**	**09 46 59.2**	**+1.6**
THL	**Klokotos Trika**	**0.94**	**77**	*e*PG	**Pg**	**09 46 48.0**	**+0.3**
THL	**Klokotos Trika**	**0.94**	**77**	*e*PN	**Pn**	**09 46 46.6**	**-1.2**
THL	**Klokotos Trika**	**0.94**	**77**	*e*Pn	**Pn**	**09 46 47.1**	**-0.7**
THL				*e*Sn	**Sn**	**09 47 00.0**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.07**	**108**	P	**Pb**	**09 46 49.8**	**+0.4**
MAKR				S	**Sb**	**09 47 04.9**	**+1.9**
MAKR	**Makrakomi, Fth**	**1.07**	**108**	P	**Pb**	**09 46 49.8**	**+0.4**
MAKR				S	**Sb**	**09 47 04.9**	**+1.9**
VLS	**Valsamata**	**1.19**	**189**	*e*PB	**Pb**	**09 46 51.1**	**-0.4**
VLS	**Valsamata**	**1.19**	**189**	*e*PN	**Pn**	**09 46 51.0**	**-0.2**
VLS	**Valsamata**	**1.19**	**189**	*e*Pn	**Pn**	**09 46 51.0**	**-0.2**
VLS				*e*Sn	**Sn**	**09 47 07.4**	**+0.5**
AGG	**Agios Georgios**	**1.21**	**105**	*e*PG	**Pg**	**09 46 51.9**	**-1.0**
AGG	**Agios Georgios**	**1.21**	**105**	*e*PN	**Pn**	**09 46 51.2**	**-0.3**
AGG				*e*SN	**Sn**	**09 47 07.0**	**-0.5**
AGG	**Agios Georgios**	**1.21**	**105**	P	**Pn**	**09 46 52.0**	**+0.5**
AGG				S	**Sb**	**09 47 08.8**	**+1.6**
AGG	**Agios Georgios**	**1.21**	**105**	*e*Pn	**Pn**	**09 46 51.7**	**+0.2**
AGG	**Agios Georgios**	**1.21**	**105**	P	**Pn**	**09 46 52.0**	**+0.5**
AGG				*e*Sn	**Sn**	**09 47 07.0**	**-0.5**
AGG				S	**Sb**	**09 47 08.8**	**+1.6**
EFP	**Efpalio**	**1.25**	**137**	*e*PN	**Pn**	**09 46 51.9**	**-0.1**
EFP	**Efpalio**	**1.25**	**137**	*e*Pn	**Pn**	**09 46 52.5**	**+0.5**
RLS	**Riolos of Patr**	**1.39**	**159**	*e*PN	**Pn**	**09 46 53.6**	**-0.3**
RLS	**Riolos of Patr**	**1.39**	**159**	*e*Pn	**Pn**	**09 46 53.6**	**-0.3**

*DDA **06** 10:02:00.4, 39.°62N×28.°77E, h7km±4km, Md2.8*
*ISCJB **06** 10:02:01.1±0.6, 39.°62N±0.°03×28.°75E±0.°05, h4km±6km, Error ellipse: s-maj=6.0km s-min=4.5km az=0.7*
*ISK **06** 10:02:01.6, 39.°65N×28.°69E, h7km, MD2.7*
*CSEM **06** 10:02:01.4±0.1, 39.°61N×28.°73E, h5km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.1km az=101.0*
ISC 06 10:02:01.5±0.6, 39.°61N±0.°03×28.°75E±0.°05, h7km±8km, n28, σ0.°49/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.10**	**265**	*e*PG	**Pg**	**10 02 03.7**	**-0.1**
DST	**Dursunbey**	**0.10**	**265**	*e*Pg	**Pg**	**10 02 03.7**	**-0.1**
DURS	**Dursunbey**	**0.21**	**267**	*i* P	**Pg**	**10 02 05.6**	**-0.2**
DURS				*i* S	**Sg**	**10 02 09.1**	**+0.5**
DURS	**Dursunbey**	**0.21**	**267**	*i* P	**Pg**	**10 02 05.6**	**-0.2**
DURS				*i* S	**Sg**	**10 02 09.1**	**+0.5**
DEMI	**Demirci**	**0.57**	**183**	*i* P	**Pg**	**10 02 12.8**	**+0.3**
DEMI				*i* S	**Sg**	**10 02 19.8**	**-0.1**
DEMI	**Demirci**	**0.57**	**183**	*i* P	**Pg**	**10 02 12.8**	**+0.3**
DEMI				*i* S	**Sg**	**10 02 19.8**	**-0.1**
KCTX	**Karacabey (Bur**	**0.72**	**335**	*e*PG	**Pg**	**10 02 14.8**	**-0.6**
KCTX				*e*SG	**Sg**	**10 02 24.7**	**-0.1**
KCTX	**Karacabey (Bur**	**0.72**	**335**	*e*Pg	**Pg**	**10 02 14.8**	**-0.6**
KCTX				*e*Sg	**Sg**	**10 02 24.7**	**0.0**
BALY	**Balya**	**0.88**	**279**	*i* P	**Pg**	**10 02 18.4**	**-0.1**
BALY				*i* S	**Sg**	**10 02 30.6**	**+0.7**
BALY	**Balya**	**0.88**	**279**	*i* P	**Pg**	**10 02 18.4**	**-0.1**
BALY				*i* S	**Sg**	**10 02 30.6**	**+0.7**
GEMT	**Gemlik**	**0.89**	**22**	*e*PG	**Pg**	**10 02 19.3**	**+0.6**
GEMT	**Gemlik**	**0.89**	**22**	*e*Pg	**Pg**	**10 02 19.3**	**+0.7**
GONE	**Gonen-Balikesi**	**0.93**	**298**	*e*PG	**Pg**	**10 02 18.6**	**-0.7**
GONE				*e*SG	**Sg**	**10 02 31.4**	**+0.1**
GONE	**Gonen-Balikesi**	**0.93**	**298**	*e*Pg	**Pg**	**10 02 18.6**	**-0.7**
GONE				*e*Sg	**Sg**	**10 02 31.4**	**0.0**
ARMT	**Armutlu**	**0.96**	**5**	*e*PG	**Pg**	**10 02 19.9**	**0.0**
ARMT	**Armutlu**	**0.96**	**5**	*e*Pg	**Pg**	**10 02 19.9**	**0.0**
AKHS	**Akhisar**	**1.03**	**225**	*i* P	**Pg**	**10 02 20.8**	**-0.6**
AKHS				*i* S	**Sg**	**10 02 35.6**	**+0.9**
AKHS	**Akhisar**	**1.03**	**225**	*i* P	**Pg**	**10 02 20.8**	**-0.5**
AKHS				*i* S	**Sg**	**10 02 35.6**	**+0.9**
YLV	**Yalova**	**1.07**	**26**	*e*PG	**Pg**	**10 02 21.9**	**-0.1**
YLV	**Yalova**	**1.07**	**26**	*e*Pg	**Pg**	**10 02 21.9**	**-0.1**
MANT	**Manisa**	**1.13**	**188**	*i* P	**Pg**	**10 02 23.0**	**-0.2**
MANT				*i* S	**Sg**	**10 02 37.4**	**-0.5**
MANT	**Manisa**	**1.13**	**188**	*i* P	**Pg**	**10 02 23.0**	**-0.2**
MANT				*i* S	**Sg**	**10 02 37.3**	**-0.6**
GULT	**Gulveren**	**1.58**	**58**	*e*PN	**Pn**	**10 02 31.1**	**+1.0**
GULT	**Gulveren**	**1.58**	**58**	*e*Pn	**Pn**	**10 02 31.1**	**+1.1**
RKY	**Sarkoy-Tekirda**	**1.61**	**312**	*e*PN	**Pn**	**10 02 29.9**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.61**	**312**	*e*Pn	**Pn**	**10 02 29.9**	**-0.5**
MFT	**Murefte**	**1.62**	**317**	*e*PN	**Pn**	**10 02 30.3**	**-0.3**
MFT	**Murefte**	**1.62**	**317**	*e*Pn	**Pn**	**10 02 30.3**	**-0.3**

*ISK **06** 10:04:11.8, 37.°28N×28.°20E, h5km, MD2.5*
*ISCJB **06** 10:04:12.5±0.6, 37.°25N±0.°04×28.°20E±0.°04, h7km±8km, Error ellipse: s-maj=7.6km s-min=5.0km az=28.4*
*DDA **06** 10:04:12.3, 37.°24N×28.°19E, h7km±3km, Md2.5*
*CSEM **06** 10:04:12.5±0.1, 37.°23N×28.°21E, h10km, MD2.5, Error ellipse: s-maj=3.4km s-min=2.6km az=18.0*
ISC 06 10:04:12.7±0.6, 37.°25N±0.°04×28.°21E±0.°04, h11km±8km, n20, σ0.°58/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**152**	*e*PG	**Pg**	**10 04 15.6**	**-0.1**
YER				*e*SG	**Sg**	**10 04 18.3**	**+0.5**
YER	**Yerkesik**	**0.12**	**152**	*e*Pg	**Pg**	**10 04 15.6**	**-0.1**
YER				*e*Sg	**Sg**	**10 04 18.3**	**+0.4**
MLSB	**Milas**	**0.35**	**278**	*e*PG	**Pg**	**10 04 19.2**	**-0.4**
MLSB				*e*SG	**Sg**	**10 04 24.0**	**-0.3**
MLSB	**Milas**	**0.35**	**278**	*e*Pg	**Pg**	**10 04 19.2**	**-0.5**
MLSB				*e*Sg	**Sg**	**10 04 24.0**	**-0.4**
TURN	**Turunc**	**0.49**	**140**	*i* P	**Pg**	**10 04 21.4**	**-0.8**
TURN	**Turunc**	**0.49**	**140**	*i* P	**Pg**	**10 04 21.4**	**-0.8**
AYDN	**Tasoluk**	**0.49**	**328**	*i* P	**Pg**	**10 04 22.4**	**+0.1**
AYDN				*i* S	**Sg**	**10 04 28.8**	**-0.1**
AYDN	**Tasoluk**	**0.49**	**328**	*i* P	**Pg**	**10 04 22.4**	**+0.1**
AYDN				*i* S	**Sg**	**10 04 28.8**	**0.0**
DAT	**Datca**	**0.72**	**225**	*e*PG	**Pg**	**10 04 26.3**	**-0.4**
DAT				*e*SG	**Sg**	**10 04 37.5**	**+1.4**
DAT	**Datca**	**0.72**	**225**	*e*Pg	**Pg**	**10 04 26.3**	**-0.4**
DAT				*e*Sg	**Sg**	**10 04 37.5**	**+1.4**
BODT	**Bodrum**	**0.74**	**256**	*e*PG	**Pg**	**10 04 26.3**	**-0.7**
BODT	**Bodrum**	**0.74**	**256**	*e*Pg	**Pg**	**10 04 26.3**	**-0.7**
DNZL	**Cakiroluk**	**0.80**	**56**	*i* P	**Pg**	**10 04 28.8**	**+0.6**
DNZL	**Cakiroluk**	**0.80**	**56**	*i* P	**Pg**	**10 04 28.8**	**+0.6**
GCAM	**G?zelcaml?**	**0.90**	**301**	*i* P	**Pg**	**10 04 30.0**	**-0.1**
GCAM				*i* S	**Sg**	**10 04 42.0**	**+0.3**
GCAM	**G?zelcaml?**	**0.90**	**301**	*i* P	**Pg**	**10 04 30.0**	**-0.1**
GCAM				*i* S	**Sg**	**10 04 42.0**	**+0.2**
GOLH	**Golhisar**	**1.08**	**90**	*i* P	**Pb**	**10 04 32.8**	**-0.5**
GOLH	**Golhisar**	**1.08**	**90**	*i* P	**Pb**	**10 04 32.8**	**-0.6**
KULA	**Kula-Manisa**	**1.32**	**16**	*e*PN	**Pn**	**10 04 37.8**	**+0.8**
KULA	**Kula-Manisa**	**1.32**	**16**	*e*Pn	**Pn**	**10 04 37.8**	**+0.8**

*ATH **06** 10:10:00.8, 39.°35N×20.°75E, h27km±1km, MD3.1/7*
*ISCJB **06** 10:10:01.6±0.5, 39.°35N±0.°04×20.°78E±0.°04, h20km±7km, Error ellipse: s-maj=7.6km s-min=4.8km az=22.6*
*CSEM **06** 10:10:01.3±0.2, 39.°35N×20.°76E, h20km, ML2.5/3, Error ellipse: s-maj=7.2km s-min=5.0km az=22.0*
*THE **06** 10:10:01.9, 39.°34N×20.°82E, h10km±1km, ML2.5/3, Error ellipse: s-maj=1.2km s-min=0.4km az=283.0*
ISC 06 10:10:01.6±0.5, 39.°34N±0.°04×20.°79E±0.°04, h17km±4km, n26, σ0.°77/40, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSL	**Palaion Diasel**	**0.32**	**132**	P	**Pg**	**10 10 07.7**	**-0.7**
DSL				S	**Sg**	**10 10 12.5**	**-0.4**
DSL	**Palaion Diasel**	**0.32**	**132**	P	**Pg**	**10 10 07.7**	**-0.7**
DSL				S	**Sg**	**10 10 12.5**	**-0.4**
JAN	**Janina**	**0.32**	**8**	*e*PB	**Pg**	**10 10 08.0**	**-0.4**
JAN				*e*SB	**Sg**	**10 10 13.6**	**+0.6**
JAN	**Janina**	**0.32**	**8**	P	**Pg**	**10 10 08.0**	**-0.4**
JAN				S	**Sg**	**10 10 13.0**	**0.0**
JAN	**Janina**	**0.32**	**8**	P	**Pg**	**10 10 08.0**	**-0.4**
JAN				S	**Sg**	**10 10 13.0**	**0.0**
JAN				*e*Sb	**Sg**	**10 10 13.6**	**+0.6**
RGA	**Parga**	**0.34**	**266**	P	**Pg**	**10 10 09.2**	**+0.4**
RGA				S	**Sg**	**10 10 14.6**	**+0.9**
RGA	**Parga**	**0.34**	**266**	P	**Pg**	**10 10 09.2**	**+0.4**
RGA				S	**Sg**	**10 10 14.6**	**+0.9**
IGT	**Igoumenitsa**	**0.40**	**298**	P	**Pg**	**10 10 09.5**	**-0.4**
IGT				S	**Sg**	**10 10 16.1**	**+0.6**
IGT	**Igoumenitsa**	**0.40**	**298**	P	**Pg**	**10 10 09.5**	**-0.4**
IGT				S	**Sg**	**10 10 16.1**	**+0.6**
MEV	**Metsovon**	**0.56**	**37**	P	**Pg**	**10 10 12.4**	**-0.3**
MEV	**Metsovon**	**0.56**	**37**	P	**Pg**	**10 10 12.4**	**-0.3**
KEK	**Kerkira**	**0.85**	**296**	*e*PN	**Pn**	**10 10 16.9**	**-1.9**
KEK	**Kerkira**	**0.85**	**296**	*e*Pn	**Pn**	**10 10 16.9**	**-1.9**
EVR	**Evrytania**	**0.90**	**118**	*e*PN	**Pn**	**10 10 18.5**	**-0.9**
EVR				*e*SN	**Sn**	**10 10 32.2**	**+0.3**
EVR	**Evrytania**	**0.90**	**118**	*e*Pb	**Pb**	**10 10 18.2**	**-0.5**
EVR				*e*Sn	**Sn**	**10 10 32.7**	**+0.8**
THL	**Klokotos Trika**	**0.97**	**76**	*e*PN	**Pn**	**10 10 19.9**	**-0.5**
THL	**Klokotos Trika**	**0.97**	**76**	*e*Pn	**Pn**	**10 10 19.9**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.09**	**107**	P	**Pb**	**10 10 22.1**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.09**	**107**	P	**Pb**	**10 10 22.1**	**+0.1**
VLS	**Valsamata**	**1.18**	**188**	*e*PN	**Pn**	**10 10 23.5**	**+0.3**
VLS	**Valsamata**	**1.18**	**188**	*e*Pn	**Pn**	**10 10 23.5**	**+0.3**
AGG	**Agios Georgios**	**1.24**	**105**	*e*PN	**Pn**	**10 10 24.4**	**+0.3**
AGG	**Agios Georgios**	**1.24**	**105**	P	**Pn**	**10 10 24.3**	**+0.2**
AGG				S	**Sb**	**10 10 41.6**	**+1.5**
AGG	**Agios Georgios**	**1.24**	**105**	P	**Pn**	**10 10 24.3**	**+0.2**
AGG				S	**Sb**	**10 10 41.6**	**+1.5**
LIT	**Litokhoron**	**1.51**	**59**	*e*PN	**Pn**	**10 10 28.5**	**+0.6**
LIT	**Litokhoron**	**1.51**	**59**	*e*Pn	**Pn**	**10 10 29.5**	**+1.6**

*ISCJB **06** 10:24:35.0±0.2, 37.°61N±0.°03×95.°66E±0.°03, h10km, mb4.6/62, MS4.3/6, Error ellipse: s-maj=3.8km s-min=2.9km az=8.8*
*IDC **06** 10:24:34.5±0.5, 37.°68N×95.°87E, h0km, mb4.3/22, mb1 4.4/26, mb1mx4.3/36, mbtmp4.4/26, ML4.4/4, MS3.8/5, Ms1 3.8/5, ms1mx3.4/45, Error ellipse: s-maj=18.6km s-min=9.3km az=46.0*
*BJI **06** 10:24:34.2, 37.°64N×95.°62E, h9km, mB5.1/21, mb4.6/32, ML4.8/6, Ms4.6/36, Ms7 4.4/33*
*MOS **06** 10:24:35.1±0.9, 37.°57N×95.°77E, h17km, mb5.0/31, Error ellipse: s-maj=7.9km s-min=4.6km az=123.9*
*NEIC **06** 10:24:36.4±0.2, 37.°60N×95.°76E, h10km, mb4.9/37, Error ellipse: s-maj=4.2km s-min=3.7km az=104.0*
ISC 06 10:24:37.0±0.2, 37.°63N±0.°03×95.°66E±0.°02, h10km, n317, σ1.°10/341, mb4.6/62, MS4.3/6, 32C-14D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.71**	**60**	⇓Pn	**Pn**	**10 25 34.3**	**0.0**
GTA				Pg	**Pg**	**10 25 41.6**	**-6.4**
GTA				Sn	**Sn**	**10 26 17.7**	**-0.3**
GTA				Sg	**Sg**	**10 26 28.8**	**-7.3**
GTA				smax			
comp=N,2μm,1.3s							
GTA				smax			
comp=E,710nm,1.3s							
GTA				LR	LR		
comp=N,7μm,7.8s							
GTA				LR	LR		
comp=E,5μm,9.7s							
GTA				LR	LR		
comp=Z,5μm,10.2s							
LZH	**Lanzhou**	**6.74**	**101**	*e*Pn	**Pn**	**10 26 14.8**	**-1.1**
LZH				Pg	**Pg**	**10 26 35.5**	**-10**
LZH				*e*Sn	**Sn**	**10 27 32.6**	**-0.1**
LZH				smax			
comp=N,780nm,1.0s							
LZH				smax			
comp=E,670nm,1.1s							
LZH				LR	LR		
comp=N,4μm,6.3s							
LZH				LR	LR		
comp=E,3μm,7.2s							
LZH				LR	LR		
comp=Z,4μm,13.0s							
LZH	**Lanzhou**	**6.74**	**101**	*e*P	**Pn**	**10 26 14.8**	**-1.1**
comp=Z,45nm,1.0s							
LZH				pP		10 26 16.7	
LZH				sP		10 26 18.9	
LZH				*e*		10 26 35.5	
LZH				*e*S	**Sn**	**10 27 32.6**	**-0.1**
LZH				sS		10 27 37.9	
LZH	**Lanzhou**	**6.74**	**101**	*e*P	**Pn**	**10 26 14.8**	**-1.1**
LZH				*e*S	**Sn**	**10 27 32.6**	**-0.1**
LZH				pmax	pmax		
comp=Z,45nm,1.0s							
WMQ	**Urumqi**	**8.65**	**318**	P	**Pn**	**10 26 43.7**	**+1.6**
WMQ				pP		10 26 46.9	
WMQ				sP		10 26 49.7	
WMQ				S	**Sn**	**10 28 21.7**	**+2.0**
WMQ				sS		10 28 26.7	
WMQ				pmax	pmax		
comp=Z,140nm,0.7s							
WMQ				LR	LR		
comp=Z,530nm,15.0s							
CD2	**Chengdu**	**9.47**	**133**	*e*P	**Pn**	**10 26 57.6**	**+4.1**
CD2				pP		10 27 00.8	
CD2				sP		10 27 03.8	
CD2				S	**Sn**	**10 28 51.6**	**+12**
CD2				pmax	pmax		
comp=Z,30nm,1.1s							
CD2				pmax	pmax		
comp=Z,120nm,4.2s							
CD2				LR	LR		
comp=N,2μm,9.5s							
CD2				LR	LR		
comp=E,3μm,13.2s							
CD2				LR	LR		
comp=Z,4μm,11.4s							
BTO	**Baotou**	**11.54**	**71**	*e*P	**Pn**	**10 27 17.3**	**-4.5**
TAPN	**Taplejung**	**12.25**	**215**	*e*P	**Pn**	**10 27 34.3**	**+2.8**
comp=Z,22nm,0.8s							
TAPN	**Taplejung**	**12.25**	**215**	*e*P	**Pn**	**10 27 34.3**	**+2.8**
comp=Z,22nm,0.8s							
SHL	**Shillong**	**12.45**	**196**	*e*PKP	**Pn**	**10 27 37.0**	**+2.8**
GUN	**Gumba**	**12.71**	**223**	*e*P	**Pn**	**10 27 37.2**	**-0.6**
comp=Z,55nm,1.0s							
GUN	**Gumba**	**12.71**	**223**	*e*P	**Pn**	**10 27 37.2**	**-0.6**
comp=Z,55nm,1.0s							
HHC	**Hu-ho-hao-te**	**12.74**	**70**	*e*P	**Pn**	**10 27 39.8**	**+1.7**
HHC				pP		10 27 43.0	
HHC				sP		10 27 46.0	
HHC				PP		10 27 50.2	
HHC				S	**Sn**	**10 30 02.8**	**+2.8**
HHC				sS		10 30 08.4	
HHC				SS		10 30 13.2	
HHC				pmax	pmax		
comp=Z,12nm,0.8s							
HHC				pmax	pmax		
comp=Z,260nm,3.7s							
HHC				LR	LR		
comp=N,1μm,6.6s							
HHC				LR	LR		
comp=E,1μm,5.6s							
HHC				LR	LR		
comp=Z,290nm,5.1s							
JIRN	**Jiri**	**12.74**	**221**	*e*P	**Pn**	**10 27 38.3**	**+0.1**
comp=Z,11nm,0.8s							
JIRN	**Jiri**	**12.74**	**221**	*e*P	**Pn**	**10 27 38.3**	**+0.1**
comp=Z,11nm,0.8s							
SONM	**Songino Array**	**12.88**	**34**	Pn	**Pn**	**10 27 40.3**	**+0.3**
comp=Z,1.9nm,0.3s,baz=217,slow=15,SNR=76							
SONM				Lg		10 31 24.8	
comp=Z,0.2nm,0.3s,baz=237,slow=29,SNR=4.1							
SONM				LR	LR	10 33

KMI S **Sn** **10 30 33.2 +6.0**
KMI pmax pmax
comp=Z,14nm,1.1s
ZAK Zakamensk 13.87 21 ⇓*i*P **Pn** **10 28 03.0 +10**
ZAK pmax pmax
comp=Z,23nm,1.1s
KOLN Koldanda 14.12 229 *e*P **Pn** **10 27 57.5 +0.4**
comp=Z,8.6nm,0.5s
KOLN Koldanda 14.12 229 *e*P **Pn** **10 27 57.5 +0.4**
comp=Z,8.6nm,0.5s
PYUN Piuthan 14.26 232 *e*P **Pn** **10 28 00.2 +1.2**
comp=Z,29nm,0.6s
PYUN Piuthan 14.26 232 *e*P **Pn** **10 28 00.2 +1.2**
comp=Z,29nm,0.6s
GYA Guiyang 14.51 137 *e*P **Pn** **10 28 06.0 +3.6**
GYA PP 10 28 09.8
GYA S **Sn** **10 30 49.7 +6.3**
GYA SS 10 31 05.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,490nm,13.6s
GYA LR LR
comp=E,390nm,14.3s
GYA LR LR
comp=Z,460nm,12.0s
MOY Mondy 14.53 13 *e*P **Pn** **10 28 11.6 +9.1**
MOY pmax pmax
comp=Z,49nm,2.1s
TLY Talaya 15.14 19 *e*P **Pn** **10 28 09.8 -0.9**
TLY pmax pmax
comp=Z,5.0nm,1.3s
KSH Kashi 15.52 283 P **Pn** **10 28 18.1 +2.3**
KSH pP pP 10 28 21.6 -1.4
KSH sP sP 10 28 24.3 0.0
KSH PP 10 28 30.3
KSH S **Sn** **10 31 09.9 +2.2**
KSH SS 10 31 27.9
KSH PcP PcP 10 33 21.5 +3.3
KSH pmax pmax
comp=Z,45nm,1.2s
KSH LR LR
comp=N,420nm,6.9s
KSH LR LR
comp=E,340nm,9.8s
KSH LR LR
comp=Z,650nm,12.9s
ULHL Ulahol 15.59 293 P **Pn** **10 28 15.5 -1.2**
ULHL P 10 28 15.5
SNR=29
IRK Irkutsk 15.81 20 *e*P **Pn** **10 28 24.6 +5.1**
IRK pmax pmax
comp=Z,88nm,1.6s
BJI Beijing 16.16 75 P **Pn** **10 28 25.5 +1.4**
BJI S **Sn** **10 31 26.1 +2.7**
BJI pmax pmax
comp=Z,18nm,0.8s
BJI pmax pmax
comp=Z,180nm,3.6s
BJI LR LR
comp=N,1μm,14.0s
BJI LR LR
comp=E,1μm,11.3s
BJI LR LR
comp=Z,500nm,17.4s
TKM2 Tokmak 2 16.19 295 P **Pn** **10 28 24.4 -0.1**
SNR=110
TKM2 P 10 28 24.4
SNR=110
TKM2 Tokmak 2 16.19 295 *e*Pn **Pn** **10 28 24.1 -0.4**
comp=Z,86nm,0.6s
TKM2 Tokmak 2 16.19 295 *i* P **Pn** **10 28 24.3 -0.2**
KZA Kyzart 16.29 292 P **Pn** **10 28 25.7 0.0**
SNR=25
KZA P 10 28 25.7
SNR=25
KBK Karagaybulak 16.61 294 P **Pn** **10 28 29.6 -0.2**
SNR=42
KBK P 10 28 29.6
SNR=42
CHMS Chumysh 16.81 295 P **Pn** **10 28 31.8 -0.6**
SNR=7.3
CHMS P 10 28 31.8
SNR=7.3
FRU Bishkek 16.88 295 *e*P **Pn** **10 28 32.0 -1.2**
FRU pmax pmax
comp=E,220nm,2.0s
AAK Ala-Archa 16.93 294 P **Pn** **10 28 34.5 +0.6**
SNR=27
AAK P 10 28 34.5
SNR=27
AAK Ala-Archa 16.93 294 *e*Pn **Pn** **10 28 33.7 -0.2**
comp=E,129nm,0.9s
AAK Ala-Archa 16.93 294 *e*P **Pn** **10 28 33.7 -0.2**
AAK pmax pmax
comp=Z,129nm,0.9s
WHN Wuhan 17.00 109 P **Pn** **10 28 37.7 +2.8**
WHN S **Sn** **10 31 44.4 +0.5**
WHN LR LR
comp=N,5μm,13.8s
WHN LR LR
comp=E,2μm,11.7s
WHN LR LR
comp=Z,6μm,14.2s
USP Ospenovka 17.05 296 P **Pn** **10 28 35.0 -0.4**
SNR=22
USP P 10 28 35.0
SNR=22
AML Almayashu 17.44 292 P **Pn** **10 28 39.0 -1.2**
SNR=32
AML P 10 28 39.0
SNR=32
EKS2 Erkin-Say 17.46 294 P **Pn** **10 28 42.1 +1.6**
SNR=19
EKS2 P 10 28 42.1
SNR=19
EKS2 Erkin-Say 17.46 294 *e*P **Pn** **10 28 42.0 +1.5**
comp=Z,30nm,1.1s
EKS2 Erkin-Say 17.46 294 *e*P **Pn** **10 28 42.0 +1.5**
EKS2 pmax pmax
comp=Z,30nm,1.1s
KURK Kurchatov 17.85 323 P **Pn** **10 28 43.4 -1.8**
comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=31
KURK S **Sn** **10 32 03.0 -1.1**
comp=Z,0.2nm,0.3s,baz=123,slow=29,SNR=5.1
KURK Lg 10 34 06.0
baz=103,slow=30,SNR=2.5
KURK LR LR 10 35 39.9
comp=Z,554nm,18.9s,baz=130,slow=37
KURK Kurchatov 17.85 323 *e*Pn **Pn** **10 28 43.6 -1.6**
comp=Z,23nm,0.8s
KURK S **Sn** **10 32 03.0 -1.1**
KURK Lg 10 34 06.0
KURK Kurchatov 17.85 323 *e*P **Pn** **10 28 43.6 -1.6**
KURK S **Sn** **10 32 03.0 -1.1**
KURK pmax pmax
comp=Z,23nm,0.8s
ZAA0 Zalesovo Array 17.95 339 *e*Pn **Pn** **10 28 46.4 -0.1**
ZALV Zalesovo Beam 17.95 339 P **Pn** **10 28 45.9 -0.6**
comp=Z,0.8nm,0.3s,baz=154,slow=11,SNR=21
ZALV Lg 10 34 01.3
comp=Z,0.1nm,0.3s,baz=122,slow=33,SNR=2.7
ZALV LR LR 10 35 43.3
comp=Z,119nm,18.1s,baz=192,slow=37
ZALV Zalesovo Beam 17.95 339 P **Pn** **10 28 45.9 -0.6**
ZALV Lg 10 34 01.3
ZALV Zalesovo Beam 17.95 339 P **Pn** **10 28 45.9 -0.6**
CHG Chiang Mai 18.97 170 ⇓P **Pn** **10 29 03.7 +4.6**
comp=Z,12nm,0.9s
CHTO Chiang Mai 18.97 170 *e*P **Pn** **10 28 57.8 -1.3**
comp=Z,13nm,0.9s
CHTO Chiang Mai 18.97 170 *e*P **Pn** **10 28 57.8 -1.3**
CHTO pmax pmax
comp=Z,13nm,0.9s
NVS Novosibirsk 19.19 338 *e*P **Pn** **10 29 00.4 -1.1**
NVS *e* 10 32 36.9
NVS pmax pmax
comp=N,38nm,1.5s
NVS smax
comp=E,58nm,2.5s
CM31 Chiang Mai Arr 19.32 171 *e*P **Pn** **10 29 02.3 -1.0**
comp=E,9.8nm,0.7s
CMAR Chiang Mai Arr 19.32 171 P **Pn** **10 29 01.3 -2.0**
comp=E,0.3nm,0.3s,baz=341,slow=10,SNR=21
CMAR Chiang Mai Arr 19.32 171 P **Pn** **10 29 01.3 -2.0**
CMAR Chiang Mai Arr 19.32 171 P **Pn** **10 29 01.3 -2.0**
KK31 Karatay Array 19.90 294 *i* P **Pn** **10 29 09.9 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KKAR Karatay Array 19.90 294 *e*P **Pn** **10 29 09.7 -0.4**
comp=Z,18nm,0.8s
KKAR Karatay Array 19.90 294 *e*P **Pn** **10 29 09.7 -0.4**
KKAR pmax pmax
comp=Z,18nm,0.8s
KBL Kabul 21.71 270 *e*P **P** **10 29 29.6 +1.4**
comp=Z,98nm,1.3s,mb5.1
KBL Kabul 21.71 270 *e*P **P** **10 29 29.6 +1.4**
KBL pmax pmax
comp=Z,98nm,1.3s,mb5.1
SNY Shenyang 21.83 70 ⇓P **P** **10 29 31.6 +2.2**
SNY pmax pmax
comp=Z,24nm,1.1s,mb4.5
SNY LR LR
comp=N,760nm,14.3s,MS4.6
SNY LR LR
comp=E,2μm,13.4s,MS4.6
SNY LR LR
comp=Z,850nm,15.5s,MS4.3
QIZ Qiongzhong 22.29 142 P **P** **10 29 36.8 +2.3**
QIZ S **S** **10 33 43.1 +3.3**
QIZ LR LR
comp=N,2μm,11.7s,MS4.8
QIZ LR LR
comp=E,870nm,15.5s,MS4.8
QIZ LR LR
comp=Z,2μm,13.1s,MS4.7
CN2 Changchun 23.32 65 *e*P **P** **10 29 47.2 +2.0**
CN2 *es*P sP 10 29 54.2 +4.8
CN2 *e*S **S** **10 33 56.0 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,800nm,15.0s,MS4.5
CN2 LR LR
comp=E,800nm,15.0s,MS4.5
CN2 LR LR
comp=Z,700nm,16.0s,MS4.2
BVA0 Borovoye Array 23.34 319 *i* P **P** **10 29 45.8 +0.5**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb3.9
BVAR Borovoye Array 23.34 319 P **P** **10 29 45.3 +0.1**
comp=Z,13nm,0.6s,mb4.5,baz=118,slow=9.9,SNR=64
BVAR LR LR 10 39 37.8
comp=Z,338nm,20.6s,MS3.8,baz=205,slow=39
BVAR Borovoye Array 23.34 319 P **P** **10 29 45.3 +0.1**
BVAR Borovoye Array 23.34 319 P **P** **10 29 45.3 0.0**
BRVK Borovoye 23.41 319 *e*P **P** **10 29 46.6 +0.6**
comp=Z,17nm,0.7s,mb4.6
BRVK Borovoye 23.41 319 *e*P **P** **10 29 46.7 +0.7**
BRVK pmax pmax
comp=Z,17nm,0.7s,mb4.6
BOD Bodaibo 23.52 25 *e*P **P** **10 29 46.2 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.3s,mb4.1
KSAR Wonju Array Be 25.49 80 P **P** **10 30 02.4 -3.0**
KSAR Wonju Array Be 25.49 80 P **P** **10 30 02.4 -2.9**
KSRS Korea Array 25.52 80 P **P** **10 30 02.4 -3.2**
comp=Z,6.8nm,0.6s,mb4.4,baz=278,slow=9.4,SNR=30
KSRS Korea Array 25.52 80 P **P** **10 30 02.4 -3.2**
KSRS pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
POO Poona 26.95 231 *e*PKP **P** **10 30 11.5 -7.2**
AB31 Akbulak array 28.16 306 *i* P **P** **10 30 29.8 +0.5**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
ABKAR Akbulak array 28.16 306 *e*P **P** **10 30 29.9 +0.6**
AKTO Aktyubinsk 29.61 308 P **P** **10 30 43.1 +1.0**
comp=Z,7.4nm,0.5s,mb4.7,baz=98,slow=9.8,SNR=35
AKTO Aktyubinsk 29.61 308 P **P** **10 30 43.1 +1.0**
AKTO Aktyubinsk 29.61 308 P **P** **10 30 43.1 +1.0**
BOLP Bolinao 30.08 128 *e*P **P** **10 30 47.4 +0.8**
HABR Khabarovsk 30.44 56 *e*P **P** **10 30 49.3 -0.2**
HABR *e**SP sP 10 30 53.9 +0.1
HABR *e* 10 31 47.5
HABR 10 33 48.9
HABR *e*S **S** **10 35 50.8 +0.5**
HABR *e**SS sS 10 35 56.0 +0.7
HABR *e*SS SS 10 37 26.8 -33
HABR *e*SSS 10 37 42.0
HABR *i* 10 41 20.8
HABR pmax pmax
comp=Z,65nm,3.0s
HABR pmax pmax
comp=N,29nm,3.0s
HABR pmax pmax
comp=E,20nm,1.5s
HABR MLR MLR
comp=Z,440nm,17.0s,MS4.2
ARU Arti 30.98 319 *e*P **P** **10 30 54.6 +0.4**
comp=Z,12nm,0.6s,mb4.9
ARU Arti 30.98 319 *c i*P **P** **10 30 54.6 +0.4**
ARU *e* 10 31 51.4
ARU S **S** **10 35 57.2 -1.4**
ARU pmax pmax
comp=Z,17nm,1.0s,mb4.8
BALP Baler 31.61 127 *e*P **P** **10 30 56.0 -4.1**
ASAJ Asahikawa 35.68 64 P **P** **10 31 33.2 -2.1**
comp=Z,14nm,1.1s,mb4.8,baz=280,slow=11,SNR=2.6
ASAJ Asahikawa 35.68 64 P **P** **10 31 33.2 -2.1**
ASAJ Asahikawa 35.68 64 P **P** **10 31 33.3 -2.0**
ASAJ pmax pmax
comp=Z,14nm,1.1s
KKM Kota Kinabalu 36.59 144 *e*P **P** **10 31 47.5 +4.2**
comp=Z,33nm,1.1s,mb5.1
VSR Storozhevoye 41.56 308 *e*P **P** **10 32 24.0 -0.5**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
VSR pmax pmax
comp=E,10.0nm,0.7s
OBN Obninsk 42.95 314 *e*P **P** **10 32 35.2 -0.6**
OBN pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
OBN MLR MLR
comp=Z,300nm,21.0s,MS4.2
JOF Joensuu 45.74 325 *e*P **P** **10 32 57.3 -0.8**
JOF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
JOF Joensuu 45.74 325 *e*p **P** **10 32 57.3 -0.8**
comp=Z,4.5nm,0.5s,mb4.7
BR131 Keskin Array S 47.60 293 *e*P **P** **10 33 13.8 +0.9**
comp=Z,3.5nm,0.6s,mb4.6
BRTR Keskin Array B 47.60 293 P **P** **10 33 13.8 +0.8**
comp=Z,4.8nm,0.6s,mb4.7,baz=101,slow=8.2,SNR=35
BRTR Keskin Array B 47.60 293 P **P** **10 33 13.8 +0.8**
BRTR Keskin Array B 47.60 293 P **P** **10 33 13.8 +0.8**
AKASG Malin Array Be 47.85 308 P **P** **10 33 14.6 -0.2**
comp=Z,3.0nm,0.6s,mb4.5,baz=69,slow=6.6,SNR=5.6
AKASG Malin Array Be 47.85 308 P **P** **10 33 14.6 -0.2**
AKASG Malin Array Be 47.85 308 P **P** **10 33 14.6 -0.1**
KIEV Kiev 47.87 308 *e*P **P** **10 33 14.6 -0.2**
comp=Z,5.2nm,1.0s,mb4.5
KIEV Kiev 47.87 308 *e*P **P** **10 33 14.6 -0.2**
KIEV pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KEV Kevo 47.89 334 *e*P **P** **10 33 13.8 -1.0**
KEV Kevo 47.89 334 *e*p **P** **10 33 13.8 -1.0**
KAF Kangasniemi 48.07 324 *e*P **P** **10 33 15.5 -0.8**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KAF Kangasniemi 48.07 324 *e*p **P** **10 33 15.5 -0.8**
comp=Z,2.4nm,0.5s,mb4.5
FINES FINESS Array B 48.22 323 P **P** **10 33 17.4 0.0**
comp=Z,5.0nm,0.7s,mb4.7,baz=87,slow=8.9,SNR=23
FINES FINESS Array B 48.22 323 P **P** **10 33 17.4 0.0**
FINES FINESS Array B 48.22 323 P **P** **10 33 17.5 +0.1**
ARCES ARCESS Array B 48.40 334 P **P** **10 33 18.7 0.0**
comp=Z,1.3nm,0.6s,mb4.2,baz=89,slow=8.6,SNR=16
ARCES PcP PcP 10 34 43.6 -1.3
comp=Z,0.8nm,0.5s,baz=94,slow=4.8,SNR=3.2
ARCES ARCESS Array B 48.40 334 P **P** **10 33 18.7 0.0**
ARCES PcP PcP 10 34 43.6 -1.3
ARCES ARCESS Array B 48.40 334 P **P** **10 33 18.7 0.0**
ARCES 10 34 43.6
BILL Bilibino 48.51 28 *e*P **P** **10 33 18.9 -0.7**
comp=Z,2.9nm,0.5s,mb4.6
BILL Bilibino 48.51 28 *e*P **P** **10 33 18.9 -0.7**
BILL pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
VRI Vrincioaia 50.63 302 ⇓P **P** **10 33 35.2 -0.9**
VRI Vrincioaia 50.63 302 ⇓*i*P **P** **10 33 35.2 -0.9**
BURAR Bucovina Array 51.14 305 ⇓P **P** **10 33 40.6 +0.8**
BURAR Bucovina Array 51.14 305 ⇓*i*P **P** **10 33 40.6 +0.8**
BUR08 Bucovina Ar. S 51.14 305 *e*P **P** **10 33 40.6 +0.7**
MLR Muntele Rosu 51.27 302 ⇓P **P** **10 33 42.2 +1.4**
MLR Muntele Rosu 51.27 302 ⇓*i*P **P** **10 33 42.2 +1.4**
KWP Kalwaria Pacla 52.18 308 ⇓P **P** **10 33 48.9 +1.3**
KWP Kalwaria Pacla 52.18 308 ⇓*i*P **P** **10 33 48.8 +1.2**
TRPA Tarpa 52.72 306 ⇓*i*P **P** **10 33 52.8 +1.2**
NIE Niedzica 53.73 308 *e*P **P** **10 34 00.4 +1.3**
NIE Niedzica 53.73 308 *e*P **P** **10 34 00.4 +1.3**
OJC Ojcow 53.81 309 *e*P **P** **10 34 00.4 +0.7**
comp=Z,7.1nm,0.6s,mb4.8
OJC Ojcow 53.81 309 *e*P **P** **10 34 00.4 +0.8**
OJC pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MORC Moravsky Berou 55.33 310 *e*P **P** **10 34 11.3 +0.7**
comp=Z,4.7nm,1.0s,mb4.5
MORC Moravsky Berou 55.33 310 *e*P **P** **10 34 11.3 +0.6**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MORC Moravsky Berou 55.33 310 ⇓*i*P **P** **10 34 11.7 +1.0**
NB2 NORSAR Subarra 55.35 324 P **P** **10 34 09.8 -0.9**
comp=Z,3.3nm,0.7s,mb4.5,baz=73,slow=7.4
NOA NORSAR Array B 55.35 324 P **P** **10 34 10.1 -0.5**
comp=Z,2.9nm,0.6s,mb4.5,baz=73,slow=7.3,SNR=20
NOA NORSAR Array B 55.35 324 P **P** **10 34 10.1 -0.5**
NOA NORSAR Array B 55.35 324 P **P** **10 34 10.1 -0.6**
DPC Dobruska-Polom 55.88 310 *e*P **P** **10 34 15.8 +1.2**
comp=Z,7.0nm,0.6s,mb4.9
DPC Dobruska-Polom 55.88 310 *e*P **P** **10 34 15.8 +1.2**
DPC pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
DPC Dobruska-Polom 55.88 310 *e*P **P** **10 34 15.6 +1.0**
DPC *ep*P pP 10 34 20.9 +3.1
UPC Upice 56.02 311 *e*P **P** **10 34 16.6 +1.0**
UPC Upice 56.02 311 *e*P **P** **10 34 16.6 +1.0**
PRU Pruhonice 57.08 311 AMS AMS 10 55 10.0
BRG Berggiesshubel 57.12 312 *e*P **P** **10 34 24.1 +0.6**
comp=Z,3.6nm,0.7s,mb4.5
BRG *e* 10 34 32.8
comp=Z,12nm,1.4s
BRG Berggiesshubel 57.12 312 *e*P **P** **10 34 24.1 +0.6**
BRG *e* 10 34 32.8
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BRG pmax pmax
comp=Z,13nm,1.4s,mb4.8
CLL Collm 57.52 312 *e*P **P** **10 34 26.0 -0.3**
CLL *e* 10 34 33.0
CLL Collm 57.52 312 *e*P **P** **10 34 26.0 -0.3**
CLL *e* 10 34 33.0
CLL LmV 10 59 00.0
comp=Z,100nm,20.5s
KHC Kasperske Hory 57.98 310 *e*P **P** **10 34 30.1 +0.6**
KHC Kasperske Hory 57.98 310 *e*P **P** **10 34 30.1 +0.6**
GERES GERESS Array B 58.01 310 P **P** **10 34 30.0 +0.2**
comp=Z,1.1nm,0.6s,mb4.1,baz=78,slow=7.1,SNR=8.2
GERES GERESS Array B 58.01 310 P **P** **10 34 30.0 +0.2**
GERES GERESS Array B 58.01 310 P **P** **10 34 30.0 +0.3**
TUE Stuetta 61.66 308 *e*P **P** **10 34 55.3 +0.4**
comp=Z,14nm,1.1s,mb5.0
CDF Champ du Feu 62.08 311 ⇑*i*P **P** **10 34 57.6 -0.1**
comp=Z,7.9nm,0.7s,mb4.7
CDF Champ du Feu 62.08 311 ⇑*i*P **P** **10 34 57.6 -0.1**
comp=Z,7.9nm,0.7s,mb5.0
CDF Champ du Feu 62.08 311 ⇑*i*P **P** **10 34 57.6 -0.1**
CDF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
FITZ Fitzroy Crossi 62.20 148 P **P** **10 34 57.5 -1.3**
comp=Z,4.6nm,0.9s,mb4.6,baz=54,slow=3.6,SNR=4.2
FITZ Fitzroy Crossi 62.20 148 *e*P **P** **10 34 57.3 -1.4**
comp=Z,8.3nm,0.9s,mb4.9
FITZ Fitzroy Crossi 62.20 148 P **P** **10 34 57.5 -1.3**
HINF Hinteralfeld 62.60 311 ⇑*i*P **P** **10 35 00.9 -0.3**
HINF Hinteralfeld 62.60 311 ⇑*i*P **P** **10 35 00.9 -0.3**
HINF Hinteralfeld 62.60 311 ⇑*i*P **P** **10 35 00.9 -0.3**
GIVF Givet 62.77 314 ⇑*i*P **P** **10 35 02.4 +0.2**
comp=Z,12nm,0.5s,mb5.0
GIVF Givet 62.77 314 ⇑*i*P **P** **10 35 02.4 +0.2**
comp=Z,12nm,0.5s,mb5.3
GIVF Givet 62.77 314 ⇑*i*P **P** **10 35 02.4 +0.2**
GIVF pmax pmax
comp=Z,13nm,0.5s,mb5.3
PAGF Fort de Pagny 62.94 312 *e*P **P** **10 35 03.9 +0.5**
BAIF Baives 63.14 314 ⇑*i*P **P** **10 35 05.0 +0.3**
BAIF Baives 63.14 314 ⇑*i*P **P** **10 35 05.0 +0.3**
BAIF Baives 63.14 314 ⇑*i*P **P** **10 35 05.0 +0.3**
MEZF Maizieres J'vi 63.36 312 *e*P **P** **10 35 05.7 -0.5**
MEZF Maizieres J'vi 63.36 312 *e*P **P** **10 35 05.7 -0.5**
SFTF Sexfontaines 63.51 312 *e*P **P** **10 35 06.3 -0.9**
SFTF Sexfontaines 63.51 312 *e*P **P** **10 35 06.3 -0.9**
LPG La Plagne 63.72 308 ⇑*i*P **P** **10 35 09.5 +0.9**
comp=Z,17nm,0.8s,mb4.8
LPG La Plagne 63.72 308 ⇑*i*P **P** **10 35 09.5 +0.9**
comp=Z,17nm,0.8s,mb5.1
LPG La Plagne 63.72 308 ⇑*i*P **P** **10 35 09.5 +0.9**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.1
LPL La Plagne 63.72 308 ⇑*i*P **P** **10 35 09.4 +0.7**
comp=Z,17nm,0.7s,mb4.9
LPL La Plagne 63.72 308 ⇑*i*P **P** **10 35 09.4 +0.7**
comp=Z,17nm,0.7s,mb5.2
LPL La Plagne 63.72 308 ⇑*i*P **P** **10 35 09.4 +0.7**
LPL pmax pmax
comp=Z,17nm,0.7s,mb5.2
SBF Sospel 64.05 306 *e*P **P** **10 35 10.9 0.0**
comp=Z,44nm,0.8s,mb5.2
SBF Sospel 64.05 306 *e*P **P** **10 35 10.9 0.0**
comp=Z,44nm,0.8s,mb5.5
SBF Sospel 64.05 306 *e*P **P** **10 35 10.9 0.0**
SBF pmax pmax
comp=Z,45nm,0.8s,mb5.5
MBDF Montbardon 64.07 308 *e*P **P** **10 35 10.9 0.0**
MBDF Montbardon 64.07 308 *e*P **P** **10 35 10.9 0.0**
MBDF Montbardon 64.07 308 *e*P **P** **10 35 10.9 0.0**
COLD Coldfoot 64.30 23 *e*P **P** **10 35 12.7 +0.6**
comp=Z,7.4nm,0.9s,mb4.7
ORIF Oris-en-Rattie 64.53 308 ⇑*i*P **P** **10 35 13.9 -0.1**
comp=Z,25nm,0.9s,mb5.0
ORIF *e*R
comp=Z,183nm,22.0s
ORIF Oris-en-Rattie 64.53 308 ⇑*i*P **P** **10 35 13.9 -0.1**
comp=Z,25nm,0.9s,mb5.2
ORIF Oris-en-Rattie 64.53 308 ⇑*i*P **P** **10 35 13.9 -0.1**
ORIF pmax pmax
comp=Z,25nm,0.9s,mb5.2
LOR Lormes 64.65 311 *e*P **P** **10 35 14.0 -0.7**
LOR *e*R
comp=Z,120nm,17.2s
LOR Lormes 64.65 311 *e*P **P** **10 35 14.0 -0.7**
LOR Lormes 64.65 311 *e*P **P** **10 35 14.0 -0.7**
SMF Signal de Mont 64.96 311 ⇑*i*P **P** **10 35 16.4 -0.3**
comp=Z,17nm,0.7s,mb4.9
SMF Signal de Mont 64.96 311 ⇑*i*P **P** **10 35 16.4 -0.3**
comp=Z,17nm,0.7s,mb5.2
SMF Signal de Mont 64.96 311 ⇑*i*P **P** **10 35 16.4 -0.3**
SMF pmax pmax
comp=Z,17nm,0.7s,mb5.2
AVF Avril sur Loir 65.18 311 ⇑*i*P **P** **10 35 17.8 -0.4**
AVF Avril sur Loir 65.18 311 ⇑*i*P **P** **10 35 17.8 -0.4**
AVF Avril sur Loir 65.18 311 ⇑*i*P **P** **10 35 17.8 -0.4**
VIVF Saint-Julien-l 65.32 308 *e*P **P** **10 35 18.8 -0.3**
VIVF Saint-Julien-l 65.32 308 *e*P **P** **10 35 18.8 -0.3**
VIVF Saint-Julien-l 65.32 308 *e*P **P** **10 35 18.8 -0.3**
BGF Bois d'Agland 65.60 311 *e*P **P** **10 35 20.6 -0.3**
comp=Z,8.8nm,0.6s,mb4.6
BGF Bois d'Agland 65.60 311 *e*P **P** **10 35 20.6 -0.3**
comp=Z,8.8nm,0.6s,mb5.0
BGF Bois d'Agland 65.60 311 *e*P **P** **10 35 20.6 -0.3**
BGF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
TCF Toulx Ste Croi 66.12 311 *e*P **P** **10 35 24.2 0.0**
comp=Z,9.7nm,0.7s,mb4.7
TCF Toulx Ste Croi 66.12 311 *e*P **P** **10 35 24.2 0.0**
comp=Z,9.7nm,0.6s,mb5.0
TCF Toulx Ste Croi 66.12 311 *e*P **P** **10 35 24.2 0.0**
TCF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
LASF Ste Croix 66.21 308 *e*P **P** **10 35 25.1 +0.2**

LASF	Ste Croix	66.21	308	eP	P	10 35 25.1	+0.2
PPLA	Purkeypile	66.21	28	eP	P	10 35 30.8	+6.2
LDF	La Druitiere	66.33	314	eP	P	10 35 25.0	-0.5
	comp=Z,5.4nm,0.5s,mb4.5						
LDF	La Druitiere	66.33	314	eP	P	10 35 25.0	-0.5
	comp=Z,5.4nm,0.5s,mb4.8						
LDF	La Druitiere	66.33	314	eP	P	10 35 25.0	-0.5
LDF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
FLN	La Foliniere	66.45	314	eP	P	10 35 26.6	+0.3
FLN				eR			
	comp=Z,207nm,21.5s						
FLN	La Foliniere	66.45	314	eP	P	10 35 26.6	+0.3
FLN	La Foliniere	66.45	314	eP	P	10 35 26.6	+0.3
COLA	College	66.51	25	eP	P	10 35 27.0	+0.5
	comp=Z,7.0nm,0.9s,mb4.7						
COLA	College	66.51	25	eP	P	10 35 27.0	+0.6
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
GRR	Gorron	66.85	314	⇑iP	P	10 35 28.5	-0.4
	comp=Z,18nm,0.6s,mb5.0						
GRR	Gorron	66.85	314	⇑iP	P	10 35 28.5	-0.4
	comp=Z,18nm,0.6s,mb5.3						
GRR	Gorron	66.85	314	⇑iP	P	10 35 28.5	-0.4
GRR				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3						
ILAR	Eielson Array	66.89	24	P	P	10 35 26.9	-2.0
	comp=Z,1.8nm,0.9s,mb4.1,baz=306,slow=5.5,SNR=18						
ILAR	Eielson Array	66.89	24	P	P	10 35 26.9	-2.0
ILAR	Eielson Array	66.89	24	P	P	10 35 26.9	-2.0
MFF	Saint Martin d	67.36	312	eP	P	10 35 32.0	-0.2
MFF	Saint Martin d	67.36	312	eP	P	10 35 32.0	-0.2
MFF	Saint Martin d	67.36	312	eP	P	10 35 32.0	-0.2
RSO	Redoubt South	67.46	30	eP	P	10 35 41.1	+8.6
MTLF	Montolieu	67.61	308	eP	P	10 35 33.1	-0.7
MTLF	Montolieu	67.61	308	eP	P	10 35 33.1	-0.7
MTLF	Montolieu	67.61	308	eP	P	10 35 33.1	-0.7
LFF	La Frestale	67.69	310	eP	P	10 35 34.7	+0.4
LFF	La Frestale	67.69	310	eP	P	10 35 34.7	+0.4
LFF	La Frestale	67.69	310	eP	P	10 35 34.7	+0.4
WRAB	Tennant Creek	67.85	141	eP	P	10 35 33.3	-2.2
	comp=Z,53nm,1.9s,mb5.2						
WRAB	Tennant Creek	67.85	141	eP	P	10 35 33.3	-2.2
WRAB				pmax	pmax		
	comp=Z,53nm,1.9s,mb5.2						
WRA	Warramunga Arr	67.85	141	P	P	10 35 33.1	-2.4
	comp=Z,3.8nm,0.8s,mb4.5,baz=339,slow=6.1,SNR=14						
WRA	Warramunga Arr	67.85	141	P	P	10 35 33.1	-2.4
WRA	Warramunga Arr	67.85	141	P	P	10 35 33.1	-2.4
WB2	Warramunga Arr	67.86	141	eP	P	10 35 33.3	-2.2
SGMF	Saint Gilles	67.89	314	eP	P	10 35 35.5	0.0
SGMF	Saint Gilles	67.89	314	eP	P	10 35 35.5	0.0
SGMF	Saint Gilles	67.89	314	eP	P	10 35 35.5	0.0
INK	Inuvik	68.19	18	P	P	10 35 35.2	-1.8
	comp=Z,1.5nm,0.6s,mb4.2,baz=319,slow=8.5,SNR=8.2						
INK	Inuvik	68.19	18	eP	P	10 35 37.0	0.0
	comp=Z,5.2nm,0.8s,mb4.6						
INK	Inuvik	68.19	18	P	P	10 35 35.3	-1.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SML	Sawmill	68.30	27	eP	P	10 35 39.0	+1.2
SML	Sawmill	68.30	27	eP	P	10 35 39.0	+1.2
QUIF	Quistinic	68.42	314	eP	P	10 35 38.7	-0.1
QUIF	Quistinic	68.42	314	eP	P	10 35 38.7	-0.1
QUIF	Quistinic	68.42	314	eP	P	10 35 38.7	-0.1
EGAK	Eagle	68.70	23	eP	P	10 35 40.4	+0.1
	comp=Z,11nm,1.0s,mb4.7						
EPF	Esparros	68.94	309	eP	P	10 35 41.5	-0.6
EPF	Esparros	68.94	309	eP	P	10 35 41.5	-0.6
EPF	Esparros	68.94	309	eP	P	10 35 41.5	-0.6
KDAK	Kodiak Island	69.16	32	eP	P	10 35 41.6	-1.6
	comp=Z,3.6nm,0.7s,mb4.4,baz=284,slow=8.3,SNR=5.3						
KDAK	Kodiak Island	69.16	32	P	P	10 35 41.6	-1.6
KDAK	Kodiak Island	69.16	32	ceP	P	10 35 43.9	+0.7
AS31	Alice Springs	70.79	143	eP	P	10 35 52.5	-1.0
ASAR	Alice Springs	70.79	143	P	P	10 35 52.1	-1.5
	comp=Z,2.0nm,0.8s,mb4.1,baz=328,slow=6.1,SNR=28						
ASAR	Alice Springs	70.79	143	P	P	10 35 52.1	-1.5
ASAR	Alice Springs	70.79	143	P	P	10 35 52.1	-1.5
ESDC	Sonseca Array	73.49	307	P	P	10 36 09.6	-0.2
	comp=Z,1.3nm,0.5s,mb4.2,baz=47,slow=5.8,SNR=15						
ESDC	Sonseca Array	73.49	307	P	P	10 36 09.6	-0.2
SKAG	Skagway	74.48	24	eP	P	10 36 23.1	+8.0
FORT	Forrest	74.49	151	eP	P	10 36 19.6	+4.1
	comp=Z,9.1nm,0.6s,mb4.9						
CTA	Charters Tower	74.56	131	P	P	10 36 16.2	+0.1
	comp=Z,4.4nm,0.8s,mb4.5,baz=311,slow=11,SNR=2.7						
CTA	Charters Tower	74.56	131	P	P	10 36 16.2	+0.1
CTA	Charters Tower	74.56	131	P	P	10 36 16.3	+0.2
EVO	Evora	76.71	308	eP	P	10 36 27.9	-0.4
	comp=Z,35nm,1.4s,mb4.8						
EVOP	Sao Brissos	76.78	309	eP	P	10 36 27.9	-0.8
	comp=Z,35nm,1.4s,mb5.1						
EVOP	Sao Brissos	76.78	309	eP	P	10 36 27.9	-0.8
EVOP				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.1						
DLBC	Dease Lake	76.98	23	P	P	10 36 29.6	+0.1
	comp=Z,1.4nm,0.9s,mb3.9,baz=333,slow=2.3,SNR=3.5						
DLBC	Dease Lake	76.98	23	P	P	10 36 29.6	+0.1
YKA	Yellowknife Ar	77.29	14	P	P	10 36 29.3	-1.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=337,slow=5.3,SNR=3.8						
YKA	Yellowknife Ar	77.29	14	P	P	10 36 29.3	-1.8
YKA	Yellowknife Ar	77.29	14	P	P	10 36 29.3	-1.8
STKA	Stephens Creek	81.36	142	P	P	10 36 51.2	-2.4
	comp=Z,2.6nm,0.6s,mb4.3,baz=348,slow=12,SNR=4.2						
STKA	Stephens Creek	81.36	142	P	P	10 36 51.2	-2.4
STKA	Stephens Creek	81.36	142	P	P	10 36 51.3	-2.3
TORD	Torodi Ar. Bea	85.19	283	P	P	10 37 13.2	-0.7
	comp=Z,0.7nm,0.4s,mb4.1,baz=50,slow=4.5,SNR=13						
TORD	Torodi Ar. Bea	85.19	283	P	P	10 37 13.2	-0.7
ARMA	Armidale	85.55	134	eP	P	10 37 14.5	-0.8
LON	Longmire	89.53	25	eP	P	10 37 36.1	+1.7
	comp=Z,2.5nm,0.7s,mb4.7						
LON	Longmire	89.53	25	eP	P	10 37 36.1	+1.7
LON				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
BSMT	Bassoo Peak	90.67	20	eP	P	10 37 41.7	+2.0
JTMT	Jette	90.90	20	eP	P	10 37 41.5	+0.8
	comp=Z,3.1nm,0.7s,mb4.8						
VNA2	Neumayer--Watz	129.28	204	e	PKPdf	10 43 43.5	-0.9
	baz=48,slow=2.4						
VNA2				e		10 43 50.8	
VNA3	Neumayer Olymp	130.03	204	e	PKPdf	10 43 45.4	-0.4
VNA3				e		10 43 51.9	

*IDC **06** 10:27:36.3±1.0,27°.84S×71°.00W,h0km,mb4.0/5, mb1 4.0/5,mb1mx3.9/14,mbtmp4.0/5,Error ellipse: s-maj=42.0km s-min=29.0km az=66.0*
*ISCJB **06** 10:27:40.6±0.9,27°.74S±0°.04×71°.2W±0°.1,h46km±8km, mb3.9/5,Error ellipse: s-maj=16.2km s-min=5.6km az=7.4*
*GUC **06** 10:27:41.1±0.8,27°.77S×71°.03W,h46km±4km,ML4.6*
*NEIC **06** 10:27:41.6±0.7,27°.71S×71°.12W,h35km,Error ellipse: s-maj=30.1km s-min=10.9km az=70.0*
ISC 06 10:27:41.8±1.0,27°.74S±0°.04×71°.1W±0°.1,h36km±9km,n30,σ0°75/30,mb3.9/5,3C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.72	21	⇑iP	Pn	10 27 55.4	-0.1
CDCH				eS	Sn	10 28 05.6	+0.4
CPCH	Copiapo	0.77	60	⇑iP	Pn	10 27 55.5	-0.7
CPCH				i S	Sn	10 28 06.3	-0.2
CPCH				AML	AML	10 28 10.3	
	comp=N,26μm,0.1s						
VACH	Vallenar	0.89	160	⇓iP	Pn	10 27 57.4	-0.5
VACH				i S	Sn	10 28 09.0	-0.5
VACH				AML	AML	10 28 10.3	
	comp=E,42μm,0.1s						
LCO	Las Campanas	1.31	164	ePg	Pn	10 28 03.7	0.0
LCO				eSg	Sn	10 28 20.7	+0.7
LCO	Las Campanas	1.31	164	⇑iP	Pn	10 28 03.7	0.0
LCO				i S	Sn	10 28 20.9	+0.9
LCO				AML	AML	10 28 23.2	
	comp=E,13μm,0.6s						
TLL	Tololo Astrono	2.43	174	eP	Pn	10 28 19.5	+0.4
TLL				i S	Sn	10 28 47.8	+0.2
TLL				AML	AML	10 29 01.1	
	comp=E,2μm,0.5s						
OVCH	Ovalle	2.86	182	eP	Pn	10 28 23.9	-1.0
OVCH				AML	AML	10 29 12.6	
	comp=N,2μm,0.4s						
CMCH	Combarbala	3.42	179	⇓iP	Pn	10 28 31.5	-1.2
CMCH				AML	AML	10 29 30.4	
	comp=E,6μm,0.8s						
CFAA	Coronel Fontan	4.59	148	Pn	Pn	10 28 50.7	+2.0
	comp=E,2.0nm,0.3s,baz=327,slow=12,SNR=28						
CFAA				Sn	Sn	10 29 44.9	+4.1
	comp=E,1.5nm,0.3s,baz=169,slow=18,SNR=3.7						
CFAA	Coronel Fontan	4.59	148	Pn	Pn	10 28 50.7	+2.0
CFAA				Sn	Sn	10 29 44.9	+4.1
TRQA	Tornquist	12.82	146	ePn	Pn	10 30 42.2	+0.6
VNA2	Neumayer--Watz	55.51	159	e	P	10 37 12.6	-0.1
	baz=293,slow=8.3						
SNAA	Sanae	57.11	160	P	P	10 37 23.7	-0.4
	comp=E,0.7nm,0.6s,mb3.9,baz=284,slow=8.0,SNR=15						
SNAA	Sanae	57.11	160	P	P	10 37 23.7	-0.4
TXAR	Lajitas Array	64.75	329	P	P	10 38 17.8	+1.3
	comp=E,0.2nm,0.6s,mb3.3,baz=146,slow=9.7,SNR=4.4						
TXAR	Lajitas Array	64.75	329	P	P	10 38 17.8	+1.3
DBIC	Dimbokro	72.47	72	P	P	10 39 05.1	0.0
	comp=E,2.0nm,0.5s,mb4.3,baz=218,slow=5.1,SNR=6.7						
DBIC	Dimbokro	72.47	72	P	P	10 39 05.1	0.0
TORD	Torodi Ar. Bea	81.33	70	P	P	10 39 54.8	-0.2
	comp=E,2.0nm,0.7s,mb4.2,baz=266,slow=5.3,SNR=14						
TORD	Torodi Ar. Bea	81.33	70	P	P	10 39 54.8	-0.2
BOSA	Boshof	82.28	118	P	P	10 39 59.2	-0.7
	comp=E,1.2nm,0.6s,mb4.0,baz=270,slow=7.0,SNR=2.6						
BOSA	Boshof	82.28	118	P	P	10 39 59.2	-0.7
WRA	Warramunga Arr	126.58	210	PKP	PKPdf	10 46 41.2	-0.6
	comp=E,0.5nm,0.7s,baz=160,slow=1.6,SNR=7.5						
WRA	Warramunga Arr	126.58	210	PKP	PKPdf	10 46 41.2	-0.6
KURK	Kurchatov	147.57	37	PKPbc	PKPbc	10 47 21.9	+0.1
	comp=E,0.7nm,0.6s,baz=304,slow=3.2,SNR=8.2						
KURK	Kurchatov	147.57	37	PKPbc	PKPbc	10 47 21.9	+0.1
ZALV	Zalesovo Beam	148.41	27	PKPbc	PKPbc	10 47 24.3	+0.3
	comp=E,3.5nm,0.8s,baz=304,slow=2.9,SNR=12						
ZALV	Zalesovo Beam	148.41	27	PKPbc	PKPbc	10 47 24.3	+0.3
MKAR	Makanchi Array	151.75	41	PKPbc	PKPbc	10 47 31.9	-0.4
	comp=E,2.1nm,0.8s,baz=318,slow=1.9,SNR=14						
MKAR	Makanchi Array	151.75	41	PKPbc	PKPbc	10 47 31.9	-0.4

*ISCJB **06** 10:29:56.2±1.4,18°.88N±0°.03×120°.56E±0°.04,h7km±8km, mb4.6/53,MS4.4/10,Error ellipse: s-maj=6.9km s-min=5.5km az=167.9*
*IDC **06** 10:29:57.0±0.5,18°.88N×120°.60E,h0km,mb4.3/23, mb1 4.4/24,mb1mx4.3/29,mbtmp4.2/24,ML3.6/1,MS4.3/6, Ms1 4.3/6,ms1mx3.8/43,Error ellipse: s-maj=20.8km s-min=11.5km az=75.0*
*NEIC **06** 10:29:58.2±2.2,18°.87N×120°.54E,h9km±14km,mb4.6/14, Error ellipse: s-maj=5.1km s-min=4.7km az=74.0*
*BJI **06** 10:30:00.1,18°.88N×120°.34E,h24km,mB5.0/23,mb4.6/32, Ms4.8/32,Ms7 4.7/30*
*MAN **06** 10:30:07,18°.59N×120°.78E,h5km,mb5.4,ML4.4,MS4.6*
ISC 06 10:30:00.7±1.1,18°.90N±0°.03×120°.61E±0°.04,h25km±8km, h30km±3.8km:pP-P,n132,σ1°00/137,mb4.6/53,MS4.4/10, 3C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.57	179	⇑eP	Pb	10 30 13.5	+1.3
SIPP	Brgy, Tapao	0.98	188	⇑eP	Pn	10 30 11.4	-7.4
ABRA	Dolores	1.25	175	eP	Pn	10 30 25.1	+2.5
CAUP	Cauayan	2.26	149	eP	Pn	10 30 42.0	+5.5
TWG	Pinlang	3.93	6	ePn	Pn	10 30 58.9	-0.5
TWG				eSn	Sn	10 31 44.3	-0.4
TPUB	Ta-pu	4.38	0	ePn	Pn	10 31 04.2	-1.4
TPUB				eSn	Sn	10 31 51.5	-4.3
YULB	Yu-li	4.52	8	ePn	Pn	10 31 06.2	-1.3
TGY	Tagaytay City	4.78	176	Pn	Pn	10 31 17.5	+6.3
	31nm,0.3s,baz=129,slow=5.7,SNR=3.6						
TGY	Tagaytay City	4.78	176	Pn	Pn	10 31 17.5	+6.3
SSLB	Suanglung	4.88	4	ePn	Pn	10 31 12.1	-0.4
NACB	Ninganchiao	5.33	10	ePn	Pn	10 31 18.9	+0.3
YHNB	Yeheng	5.79	7	ePn	Pn	10 31 25.3	+0.3
GZH	Guangzhou	7.96	303	Pn	Pn	10 31 50.6	-4.3
GZH				LR	LR		
	comp=N,3μm,13.1s						
GZH				LR	LR		
	comp=E,3μm,10.4s						
DAV	Davao City (W)	12.71	157	LR	LR	10 38 46.6	
	comp=E,2μm,19.9s,baz=349,slow=42						
GYA	Guiyang	14.90	303	eP	Pn	10 33 30.8	+1.0
GYA				pP	pP	10 33 38.3	-3.8
GYA				PP		10 33 42.6	
GYA				S	Sn	10 36 16.0	+1.9
GYA				SS		10 36 33.1	
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,460nm,12.6s						
GYA				LR	LR		
	comp=E,420nm,13.3s						
GYA				LR	LR		
	comp=Z,440nm,14.0s						
JNU	Nakatsue	16.89	31	eP	Pn	10 33 57.6	+2.2
	comp=Z,25nm,1.1s						
KMI	Kunming	17.68	294	P	Pn	10 34 03.7	-1.6
KMI				pP	pP	10 34 11.8	-1.2
KMI				sP	sP	10 34 16.6	+0.4
KMI				PP		10 34 27.4	
KMI				S	Sn	10 37 21.5	-0.2
KMI				pmax	pmax		
	comp=Z,18nm,1.6s						
KMI				pmax	pmax		
	comp=Z,250nm,3.8s						
KMI				LR	LR		
	comp=N,1μm,11.6s						
KMI				LR	LR		
	comp=E,3μm,13.1s						
KMI				LR	LR		
	comp=Z,3μm,13.6s						
KMI	Kunming	17.68	294	P	Pn	10 34 03.7	-1.6
	comp=Z,18nm,1.6s						
KMI				pP	pP	10 34 11.8	-1.2
KMI				sP	sP	10 34 16.6	+0.4
KMI				PPP		10 34 27.4	
KMI				S	Sn	10 37 21.5	-0.2
KMI				sS	sS	10 37 34.7	-4.7
KMI				SS		10 37 45.1	
XAN	Xi'an	18.33	328	P	Pn	10 34 11.5	-1.7
XAN				S	Sn	10 37 39.1	+1.9
XAN				pmax	pmax		
	comp=Z,130nm,6.6s						
XAN				LR	LR		
	comp=N,1μm,14.1s						
XAN				LR	LR		
	comp=E,340nm,11.5s						
XAN				LR	LR		
	comp=Z,490nm,12.9s						
CD2	Chengdu	19.38	311	⇑iP	Pn	10 34 24.6	-1.3
CD2				pP	pP	10 34 32.8	+1.2
CD2				sP	sP	10 34 37.8	+3.0
CD2				PP		10 34 41.8	
CD2				S	Sn	10 37 56.0	-6.6
CD2				sS	sS	10 38 08.7	-5.0
CD2				SS		10 38 22.8	
CD2				pmax	pmax		
	comp=Z,50nm,1.3s						
CD2				pmax	pmax		
	comp=Z,160nm,4.8s						
CD2				LR	LR		
	comp=N,2μm,12.0s						
CD2				LR	LR		
	comp=E,4μm,10.7s						
CD2				LR	LR		
	comp=Z,4μm,13.2s						
KSAR	Wonju Array Be	19.54	18	P	Pn	10 34 26.5	-1.3
KSRS	Korea Array	19.56	18	P	Pn	10 34 26.5	-1.6
	comp=Z,0.2nm,0.3s,baz=203,slow=9.9,SNR=6.4						
CHTO	Chiang Mai	20.50	273	eP	P	10 34 37.2	+0.1
	comp=Z,4.9nm,1.4s						
CM31	Chiang Mai Arr	20.53	272	eP	P	10 34 37.7	+0.3
	comp=Z,6.7nm,0.8s						
CMAR	Chiang Mai Arr	20.53	272	P	P	10 34 37.6	+0.3
	comp=Z,10nm,1.1s,baz=85,slow=8.7,SNR=33						
CMAR				PcP	PcP	10 38 49.5	+1.0
	comp=Z,0.8nm,0.6s,baz=5.7,slow=0.9,SNR=4.1						
CMAR				LR	LR	10 43 12.4	
	comp=Z,434nm,19.5s,MS3.8,baz=85,slow=39						
CMAR	Chiang Mai Arr	20.53	272	P	P	10 34 37.6	+0.3
CMAR				PcP	PcP	10 38 49.5	+1.0
BJI	Beijing	21.41	351	P	P	10 34 48.0	+1.3
BJI				S	S	10 38 44.9	+1.9
BJI				pmax	pmax		
	comp=Z,41nm,1.0s,mb4.7						
BJI				pmax	pmax		
	comp=Z,810nm,8.3s						
BJI				LR	LR		
	comp=N,950nm,16.4s,MS4.5						
BJI				LR	LR		
	comp=E,1μm,16.4s,MS4.5						
BJI				LR	LR		
	comp=E,610nm,20.3s,MS4.0						
LZH	Lanzhou	22.62	323	eP	P	10 34 59.7	+0.1
LZH				pP		10 35 09.0	
LZH				sP	sP	10 35 13.1	+3.3
LZH				PP		10 35 28.7	
LZH				eS	S	10 39 00.2	-6.3
LZH				sS	sS	10 39 15.6	-2.2
LZH				SS		10 39 43.2	
LZH				pmax	pmax		
	comp=Z,69nm,1.2s,mb5.0						
LZH				pmax	pmax		
	comp=Z,380nm,5.8s						
LZH				LR	LR		
	comp=N,2μm,12.4s,MS4.9						
LZH				LR	LR		
	comp=E,1μm,12.1s,MS4.9						
LZH				LR	LR		
	comp=Z,2μm,12.8s,MS4.8						
LZH	Lanzhou	22.62	323	eP	P	10 34 59.7	+0.1
	comp=Z,69nm,1.2s,mb5.0						
LZH				pP		10 35 09.0	
LZH				sP	sP	10 35 13.1	+3.3
LZH				PP		10 35 28.7	
LZH				eS	S	10 39 00.2	-6.3
LZH				sS	sS	10 39 15.6	-2.2
LZH				SS		10 39 43.2	
LZH				LR	LR		
	comp=Z,2μm,12.8s,MS4.8						
MJAR	Matsushiro Arr	23.42	38	P	P	10 35 10.1	+2.0
	comp=Z,4.9nm,1.1s,mb3.9,baz=212,slow=7.6,SNR=4.2						
MJAR	Matsushiro Arr	23.42	38	P	P	10 35 10.1	+2.0
KAPI	Kappang	23.78	182	P	P	10 35 10.7	-0.9
	comp=Z,4.1nm,0.2s,mb4.4,baz=82,slow=18,SNR=7.2						
KAPI				LR	LR	10 45 50.0	
	comp=Z,771nm,18.1s,MS4.2,baz=11,slow=40						
KAPI	Kappang	23.78	182	P	P	10 35 10.7	-0.9
	comp=Z,2.3nm,1.4s,mb3.4						
GUMO	Guam	23.87	99	LR	LR	10 44 23.4	
	comp=Z,526nm,19.3s,MS4.0,baz=101,slow=36						
CN2	Changchun	25.16	8	eP	P	10 35 26.2	+2.3
CN2				esP	sP	10 35 39.5	+5.1
CN2				eS	S	10 39 46.7	-0.7
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
CN2				LR	LR		
	comp=N,2μm,15.0s,MS4.7						
CN2				LR	LR		
	comp=E,900nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
SONM	Songino Array	31.10	341	P	P	10 36 18.3	+1.4
	comp=Z,5.6nm,1.1s,mb4.3,baz=169,slow=8.5,SNR=3.3						
SONM				LR	LR	10 50 27.6	
	comp=Z,657nm,18.4s,MS4.3,baz=337,slow=40						
SONM	Songino Array	31.10	341	P	P	10 36 18.3	+1.4
ASAJ	Asahikawa	31.17	31	LR	LR	10 51 04.6	
	comp=Z,441nm,18.2s,MS4.2,baz=194,slow=41						
TAPN	Taplejung	31.33	292	eP	P	10 36 18.8	-0.4
	comp=Z,40nm,1.2s,mb5.1						
TAPN	Taplejung	31.33	292	eP	P	10 36 18.8	-0.4
	comp=Z,40nm,1.2s,mb5.1						
ODAN	Odare	31.54	291	eP	P	10 36 20.7	-0.4
	comp=Z,73nm,1.3s,mb5.3						
ODAN	Odare	31.54	291	eP	P	10 36 20.7	-0.4
	comp=Z,73nm,1.3s,mb5.3						
RAMN	Ramite	32.25	291	eP	P	10 36 27.2	-0.2
	comp=Z,89nm,1.3s,mb5.4						
RAMN	Ramite	32.25	291	eP	P	10 36 27.2	-0.2
	comp=Z,89nm,1.3s,mb5.4						
JIRN	Jiri	32.71	292	eP	P	10 36 31.4	0.0
	comp=Z,29nm,1.3s,mb5.0						
JIRN	Jiri	32.71	292	eP	P	10 36 31.4	0.0
	comp=Z,29nm,1.3s,mb5.0						
GUN	Gumba	33.02	292	eP	P	10 36 33.7	-0.4
	comp=Z,128nm,1.3s,mb5.7						
GUN	Gumba	33.02	292	eP	P	10 36 33.7	-0.4
	comp=Z,128nm,1.3s,mb5.7						
PKI	Pulchoki	33.38	292	eP	P	10 36 36.7	-0.6
	comp=Z,61nm,1.3s,mb5.4						
PKI	Pulchoki	33.38	292	eP	P	10 36 36.7	-0.6
	comp=Z,61nm,1.3s,mb5.4						
KKN	Kakani	33.53	292	eP	P	10 36 38.0	-0.5
	comp=Z,57nm,1.2s,mb5.4						
KKN	Kakani	33.53	292	eP	P	10 36 38.0	-0.5
	comp=Z,57nm,1.2s,mb5.4						
DMN	Daman	33.66	292	eP	P	10 36 39.0	-0.6
	comp=Z,85nm,1.3s,mb5.5						
DMN	Daman	33.66	292	eP	P	10 36 39.0	-0.6
	comp=Z,85nm,1.3s,mb5.5						
GKN	Gorkha	34.12	292	eP	P	10 36 42.7	-0.9
	comp=Z,87nm,1.3s,mb5.5						
GKN	Gorkha	34.12	292	eP	P	10 36 42.7	-0.9
	comp=Z,87nm,1.3s,mb5.5						
DANN	Dangsing	34.93	293	eP	P	10 36 49.9	-0.8
	comp=Z,79nm,1.3s,mb5.5						
DANN	Dangsing	34.93	293	eP	P	10 36 49.9	-0.8
	comp=Z,79nm,1.3s,mb5.5						
KOLN	Koldanda	35.00	292	eP	P	10 36 50.6	-0.7
	comp=Z,23nm,0.9s,mb5.1						
KOLN	Koldanda	35.00	292	eP	P	10 36 50.6	-0.7
	comp=Z,23nm,0.9s,mb5.1						
PYUN	Piuthan	35.58	292	eP	P	10 36 55.4	-0.8
	comp=Z,85nm,1.3s,mb5.5						
PYUN	Piuthan	35.58	292	eP	P	10 36 55.4	-0.8
	comp=Z,85nm,1.3s,mb5.5						
FITZ	Fitzroy Crossi	37.10	172	P	P	10 37 09.1	-0.1
	comp=Z,2.1nm,0.5s,mb4.2,baz=5.1,slow=7.3,SNR=5.8						
FITZ	Fitzroy Crossi	37.10	172	P	P	10 37 09.1	-0.1
WMQ	Urumqi	37.11	319	eP	P	10 37 10.1	+0.9
WMQ				p

comp=E,760nm,12.7s,MS4.9
KSH LR LR
comp=Z,1µm,13.3s,MS5.0
AS31 Alice Springs 44.25 162 *e*P **P 10 38 07.7 -0.6**
ASAR Alice Springs 44.25 162 P **P 10 38 08.2 -0.1**
comp=Z,0.9nm,0.3s,mb4.0,baz=340,slow=7.0,SNR=13
ASAR Alice Springs 44.25 162 P **P 10 38 08.2 -0.1**
ZAA0 Zalesovo Array 44.47 330 *e*P **P 10 38 09.3 -0.3**
ZALV Zalesovo Beam 44.47 330 P **P 10 38 09.2 -0.4**
comp=Z,3.5nm,0.9s,mb4.1,baz=116,slow=6.9,SNR=5.8
ZALV Zalesovo Beam 44.47 330 P **P 10 38 09.2 -0.4**
PETK Petropavlovsk- 44.59 31 P **P 10 38 11.1 +0.5**
comp=Z,11nm,0.9s,mb4.7,baz=201,slow=7.8,SNR=4.8
PETK Petropavlovsk- 44.59 31 P **P 10 38 11.1 +0.5**
KURK Kurchatov 45.90 324 P **P 10 38 21.5 +0.4**
comp=Z,3.2nm,0.8s,mb4.3,baz=117,slow=8.3,SNR=5.1
KURK Kurchatov 45.90 324 P **P 10 38 21.5 +0.4**
CTA Charters Tower 46.19 146 P **P 10 38 24.9 +1.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=307,slow=5.7,SNR=2.5
CTA Charters Tower 46.19 146 P **P 10 38 24.9 +1.2**
KBL Kabul 48.12 300 *e*P **P 10 38 39.0 +0.3**
comp=Z,8.8nm,0.9s,mb4.8
KKAR Karatay Array 48.39 311 *e*P **P 10 38 40.9 +0.3**
comp=Z,3.0nm,0.8s,mb4.4
BVAR Borovoye Array 51.50 324 P **P 10 39 07.9 +3.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=154,slow=11,SNR=4.2
BVAR PcP PcP 10 40 18.2 +0.1
comp=Z,1.6nm,0.8s,baz=116,slow=3.4,SNR=2.6
BVAR Borovoye Array 51.50 324 P **P 10 39 07.9 +3.8**
BVAR PcP PcP 10 40 18.2 +0.1
STKA Stephens Creek 54.35 158 P **P 10 39 25.5 +0.2**
comp=Z,4.7nm,0.9s,mb4.4,baz=338,slow=12,SNR=4.3
STKA Stephens Creek 54.35 158 P **P 10 39 25.5 +0.2**
BILL Bilibino 56.83 19 *e*P **P 10 39 42.9 +0.2**
comp=Z,7.1nm,0.8s,mb4.8
ABKAR Akbulak array 56.83 317 *e*P **P 10 39 42.9 -0.1**
AKTO Aktyubinsk 58.25 318 P **P 10 39 53.7 +0.7**
comp=Z,3.9nm,0.9s,mb4.4,baz=111,slow=6.8,SNR=6.9
AKTO Aktyubinsk 58.25 318 P **P 10 39 53.7 +0.7**
ARU Arti 59.05 325 *e*P **P 10 39 56.4 -2.0**
comp=Z,11nm,0.9s,mb4.9
JOF Joensuu 73.05 331 *e*p **P 10 41 26.6 -1.7**
comp=Z,3.2nm,0.8s,mb4.3
ILAR Eielson Array 74.15 26 P **P 10 41 34.9 +0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=283,slow=4.8,SNR=13
ILAR Eielson Array 74.15 26 P **P 10 41 34.9 +0.1**
KAF Kangasniemi 75.48 331 *e*p **P 10 41 42.9 +0.5**
comp=Z,1.4nm,0.8s,mb3.9
FINES FINESS Array B 75.73 330 P **P 10 41 44.5 +0.6**
comp=Z,3.6nm,1.1s,mb4.2,baz=64,slow=6.7,SNR=4.0
FINES FINESS Array B 75.73 330 P **P 10 41 44.5 +0.6**
AKASG Malin Array Be 76.47 319 P **P 10 41 49.0 +0.6**
comp=Z,3.1nm,0.8s,mb4.3,baz=62,slow=6.0,SNR=5.0
AKASG Malin Array Be 76.47 319 P **P 10 41 49.0 +0.6**
KIEV Kiev 76.48 319 *e*P **P 10 41 48.0 -0.4**
comp=Z,6.1nm,1.1s,mb4.4
EGAK Eagle 76.54 26 *e*P **P 10 41 48.2 -0.3**
comp=Z,16nm,1.5s,mb4.7
NACGM Naroch 76.92 324 *e* **P 10 41 49.0 -1.8**
DAWY Dawson 77.47 26 *e*P **P 10 41 53.9 +0.2**
INK Inuvik 78.31 21 P **P 10 41 57.6 -0.7**
comp=Z,1.6nm,0.8s,mb4.0,baz=308,slow=6.6,SNR=5.4
INK Inuvik 78.31 21 P **P 10 41 57.6 -0.7**
BUR08 Bucovina Ar. S 79.81 317 *e*P **P 10 42 07.2 +0.2**
NB2 NORSAR Subarra 82.63 332 P **P 10 42 20.4 -1.2**
comp=Z,4.1nm,1.1s,mb4.4,baz=64,slow=5.6
NOA NORSAR Array B 82.63 332 P **P 10 42 20.9 -0.7**
comp=Z,1.3nm,0.8s,mb4.0,baz=66,slow=5.2,SNR=4.9
NOA NORSAR Array B 82.63 332 P **P 10 42 20.9 -0.7**
DLBC Dease Lake 83.76 30 P **P 10 42 28.9 +1.4**
comp=Z,2.4nm,0.9s,mb4.3,baz=266,slow=13,SNR=3.7
DLBC Dease Lake 83.76 30 P **P 10 42 28.9 +1.4**
RES Resolute Bay 83.94 9 P **P 10 42 27.8 -0.4**
comp=Z,3.6nm,0.9s,mb4.5,baz=356,slow=3.6,SNR=5.1
RES Resolute Bay 83.94 9 P **P 10 42 27.8 -0.4**
KMBO Kilima Mbogo 84.08 267 *e*P **P 10 42 31.8 +1.8**
comp=Z,6.5nm,1.2s,mb4.6
KSP Ksiaz 84.23 322 *e*P **P 10 42 30.1 0.0**
BRG Berggiesshubel 85.58 322 *e*PKP **P 10 42 36.9 +0.1**
comp=Z,4.8nm,1.1s,mb4.7
CLL Collm 85.94 323 *i* P **P 10 42 38.5 -0.1**
comp=Z,9.0nm,1.3s,mb4.8
CLL *i* sPcP pP 10 42 45.0 -1.8
CLL *e* 10 42 54.0
GERES GERESS Array B 86.57 321 P **P 10 42 42.8 +1.0**
comp=Z,1.7nm,0.9s,mb4.3,baz=76,slow=5.6,SNR=7.9
GERES GERESS Array B 86.57 321 P **P 10 42 42.8 +1.0**
YKA Yellowknife Ar 88.03 22 P **P 10 42 48.4 -0.1**
comp=Z,3.6nm,0.9s,mb4.6,baz=316,slow=4.7,SNR=9.3
YKA Yellowknife Ar 88.03 22 P **P 10 42 48.5 -0.1**
TXAR Lajitas Array 115.78 43 PKP PKPdf 10 48 42.4 +0.8
comp=Z,0.4nm,0.7s,baz=242,slow=1.7,SNR=5.9
TXAR Lajitas Array 115.78 43 PKP PKPdf 10 48 42.4 +0.8
VNA2 Neumayer--Watz 119.72 197 *e* PKPdf 10 48 49.0 +1.2
baz=91,slow=1.1
SDV Santo Domingo 150.25 23 *e*PKPbc PKPbc 10 49 50.5 -0.1
SDV *e*PKPab PKPab 10 49 57.6 +1.0
LPAZ La Paz 171.27 74 *e*PKPdf PKPdf 10 50 10.4 +2.6

IDC 06 10:37:16.3±5.8, 13°.60S×167°.71E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.3/3, Error ellipse: s-maj=283.5km s-min=35.4km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.52**	**254**	P	P	10 43 49.1	-0.1
0.2nm,0.7s,baz=86,slow=9.4,SNR=2.9							
ASAR	**Alice Springs**	**33.48**	**248**	P	P	10 43 57.8	+0.2
0.3nm,0.6s,baz=76,slow=8.9,SNR=7.3							
ILAR	**Eielson Array**	**85.33**	**18**	P	P	10 49 54.9	0.0
0.2nm,0.6s,baz=229,slow=4.7,SNR=4.5							

*MOS **06** 10:48:01.2±1.3, 0°.50N×120°.58E, h33km, mb5.1/39, Error ellipse: s-maj=15.5km s-min=6.8km az=113.7*
*DJA **06** 10:48:03.1±1.1, 1°.N±.3°×12°.1E±°, h20km±14km, M4.9/1, mB5.2/8, mb5.1/11, MLv5.1/11, Mw(mB)4.6/8*
*ISCJB **06** 10:48:03.5±0.5, 0°.52N±0°.03×120°.62E±0°.03, h51km±5km, mb4.8/78, MS5.2/8, Error ellipse: s-maj=5.6km s-min=4.7km az=142.2*
*BJI **06** 10:48:03.3, 0°.60N×120°.60E, h35km, mB5.2/23, mb4.7/27, Ms5.4/17, Ms7 5.1/17*
*NEIC **06** 10:48:04.4±1.2, 0°.50N×120°.62E, h45km±11km, mb4.9/25, Error ellipse: s-maj=12.1km s-min=4.8km az=59.0*
*IDC **06** 10:48:06.1±2.5, 0°.49N×120°.58E, h63km±23km, mb4.3/22, mb1 4.4/24, mb1mx4.3/27, mbtmp4.3/24, ML4.3/2, MS3.7/1, Ms1 3.7/1, ms1mx3.3/43, Error ellipse: s-maj=19.9km s-min=9.7km az=72.0*
ISC 06 10:48:05.2±0.5, 0°.52N±0°.03×120°.62E±0°.03, h49km±5km, h35km±2.6km: pP-P, n217, σ1°.28/214, mb4.8/78, MS5.2/8, 4C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.32**	**92**	P	**Pn**	**10 48 24.3**	**-3.0**
GTOI	**Gorontalo**	**2.39**	**87**	P	**Pn**	**10 48 40.1**	**-1.9**
GTOI				S	**Sn**	**10 49 08.6**	**-1.5**
LUWI	**Luwuk**	**2.65**	**126**	P	**Pn**	**10 48 45.6**	**+0.1**
LUWI				S	**Sn**	**10 49 17.1**	**+0.7**
MSSI	**Masamba**	**3.06**	**186**	P	**Pn**	**10 48 52.4**	**+1.2**
KMSI	**Cibinong**	**3.36**	**89**	P	**Pn**	**10 48 56.9**	**+1.7**
SMKI	**Samarinda**	**3.54**	**254**	P	**Pn**	**10 48 56.5**	**-1.3**
TTSI	**Tana Toraja**	**3.63**	**193**	P	**Pn**	**10 49 00.6**	**+1.7**
SPSI	**Sidrap Palu**	**4.53**	**191**	P	**Pn**	**10 49 12.7**	**+1.3**
KDI	**Kendari**	**4.87**	**156**	P	**Pn**	**10 49 15.1**	**-0.9**
BNSI	**Bone**	**4.91**	**186**	P	**Pn**	**10 49 18.4**	**+1.8**
1.2nm3µm267nm,0.8s							
MYLDM	**Lahad Datu**	**5.09**	**335**	P	**Pn**	**10 49 17.5**	**-1.6**
KAPI	**Kappang**	**5.56**	**189**	P	**Pn**	**10 49 24.2**	**-1.3**
8.7nm,0.3s,baz=352,slow=8.7,SNR=16							
KAPI				S	**Sn**	**10 50 29.9**	**+1.7**
3.3nm,0.3s,baz=24,slow=20,SNR=2.6							
KAPI	**Kappang**	**5.56**	**189**	P	**Pn**	**10 49 24.2**	**-1.3**
KAPI				S	**Sn**	**10 50 29.9**	**+1.7**
KAPI	**Kappang**	**5.56**	**189**	P	**Pn**	**10 49 26.5**	**+1.0**
0.4nm1µm94nm,0.6s							
BKSI	**Bulukumba**	**5.82**	**185**	P	**Pn**	**10 49 31.9**	**+2.9**
0.5nm1µm174nm,0.8s							
BBSI	**Bau Bau**	**6.27**	**162**	P	**Pn**	**10 49 43.4**	**+8.1**
TNTI	**Ternate**	**6.75**	**88**	P	**Pn**	**10 49 42.2**	**+0.4**
0.7nm2µm210nm,1.4s							

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBMI	**Labuha**	**6.97**	**99**	P	**Pn**	**10 49 45.3**	**+0.4**
4µm221nm,0.8s							
BBKI	**Banjar Baru**	**7.00**	**236**	P	**Pn**	**10 49 44.4**	**-0.8**
2µm115nm,0.9s							
KKM	**Kota Kinabalu**	**7.04**	**321**	*e*Pn	**Pn**	**10 49 42.7**	**-3.0**
KKM				*e*Sn	**Sn**	**10 51 01.2**	**-3.2**
KKM	**Kota Kinabalu**	**7.04**	**321**	P	**Pn**	**10 49 42.7**	**-3.0**
80nm,1.0s							
NLAI	**Namlea**	**7.47**	**120**	P	**Pn**	**10 49 51.6**	**-0.1**
2µm220nm,0.7s							
DAV	**Davao City (W)**	**8.18**	**37**	LR	LR	10 53 03.1	
comp=Z,467nm,18.8s,baz=257,slow=36							
SBUM	**Sibu**	**8.62**	**283**	P	**Pn**	**10 50 07.1**	**-0.3**
23nm,1.2s							
AAI	**Ambon**	**8.64**	**119**	P	**Pn**	**10 50 15.9**	**+8.1**
PBKI	**Pangkalan Bun**	**9.50**	**250**	P	**Pn**	**10 50 17.7**	**-1.9**
2µm152nm,1.0s							
KHKI	**Kahang-Kahang**	**10.14**	**209**	P	**Pn**	**10 50 33.3**	**+5.1**
BJII	**Banjamegara**	**13.39**	**234**	P	**Pn**	**10 51 17.1**	**+4.4**
FITZ	**Fitzroy Crossi**	**19.15**	**165**	P	**Pn**	**10 52 23.6**	**-2.3**
0.8nm,0.3s,baz=4.0,slow=7.2,SNR=44							
FITZ	**Fitzroy Crossi**	**19.15**	**165**	*e*P	**Pn**	**10 52 24.9**	**-0.9**
22nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.15**	**165**	P	**Pn**	**10 52 23.6**	**-2.3**
QIZ	**Qiongzhong**	**21.22**	**331**	P	**P**	**10 52 47.7**	**+0.7**
QIZ				S	**S**	**10 56 44.9**	**+4.6**
QIZ				pmax	pmax		
comp=Z,61nm,1.9s,mb4.6							
QIZ				pmax	pmax		
comp=Z,310nm,4.5s							
MBWA	**Marble Bar**	**21.56**	**182**	*e*P	**P**	**10 52 51.2**	**+0.5**
comp=Z,35nm,1.3s,mb4.6							
WRAB	**Tennant Creek**	**24.37**	**147**	*e*P	**P**	**10 53 18.1**	**-0.8**
comp=Z,91nm,0.9s,mb5.2							
WRAB	**Tennant Creek**	**24.37**	**147**	*e*P	**P**	**10 53 18.1**	**-0.8**
WRAB				pmax	pmax		
comp=Z,91nm,0.9s,mb5.2							
WRA	**Warramunga Arr**	**24.38**	**147**	P	**P**	**10 53 18.1**	**-0.8**
comp=Z,55nm,0.9s,mb5.0,baz=328,slow=9.9,SNR=215							
WRA	**Warramunga Arr**	**24.38**	**147**	P	**P**	**10 53 18.1**	**-0.8**
WRA	**Warramunga Arr**	**24.38**	**147**	P	**P**	**10 53 18.1**	**-0.8**
WRA				pmax	pmax		
comp=Z,55nm,0.9s							
WB2	**Warramunga Arr**	**24.38**	**147**	*e*P	**P**	**10 53 17.8**	**-1.1**
COEN	**Coen**	**26.57**	**124**	*e*P	**P**	**10 53 39.7**	**+0.8**
comp=Z,65nm,0.9s,mb5.2							
AS31	**Alice Springs**	**27.28**	**153**	*e*P	**P**	**10 53 45.0**	**-0.2**
ASAR	**Alice Springs**	**27.28**	**153**	P	**P**	**10 53 45.2**	**0.0**
comp=Z,9.4nm,0.6s,mb4.5,baz=347,slow=14,SNR=150							
ASAR				PcP	PcP	10 57 02.9	-1.2
comp=Z,0.9nm,0.6s,baz=341,slow=1.9,SNR=5.3							
ASAR	**Alice Springs**	**27.28**	**153**	P	**P**	**10 53 45.2**	**0.0**
ASAR				PcP	PcP	10 57 02.9	-1.2
ASAR	**Alice Springs**	**27.28**	**153**	P	**P**	**10 53 45.2**	**0.0**
ASAR						10 57 02.9	
ASAR				pmax	pmax		
comp=Z,9.0nm,0.6s							
ASAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**27.77**	**311**	P	**P**	**10 53 50.6**	**+1.0**
comp=Z,0.8nm,0.4s,mb3.7,baz=137,slow=6.2,SNR=6.9							
CMAR				PcP	PcP	10 57 03.3	-2.1
comp=Z,0.6nm,0.3s,baz=166,slow=1.9,SNR=5.5							
CMAR	**Chiang Mai Arr**	**27.77**	**311**	P	**P**	**10 53 50.6**	**+1.0**
CMAR				PcP	PcP	10 57 03.3	-2.1
CMAR	**Chiang Mai Arr**	**27.77**	**311**	P	**P**	**10 53 50.6**	**+1.0**
CMAR						10 57 03.3	
CMAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
GYA	**Guiyang**	**29.08**	**334**	P	**P**	**10 54 03.2**	**+2.0**
GYA				pP	pP	10 54 13.7	-0.3
GYA				sP	sP	10 54 18.0	-1.9
GYA				PP	PP	10 54 57.8	-10
GYA				PcP	PcP	10 57 10.5	+2.0
GYA				S	**S**	**10 58 52.0**	**+2.4**
GYA				sS	sS	10 59 10.4	-0.8
GYA				SS	SS	11 00 22.7	-32
GYA				pmax	pmax		
comp=Z,20nm,0.8s,mb4.9							
GYA				pmax	pmax		
comp=Z,120nm,4.8s							
GYA				LR	LR		
comp=N,660nm,17.6s,MS4.4							
GYA				LR	LR		
comp=E,520nm,18.3s,MS4.4							
GYA				LR	LR		
comp=Z,640nm,17.0s,MS4.3							
KMI	**Kunming**	**29.95**	**326**	P	**P**	**10 54 11.5**	**+2.6**
KMI				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.3							
KMI	**Kunming**	**29.95**	**326**	P	**P**	**10 54 11.5**	**+2.6**
comp=Z,5.0nm,0.7s,mb4.3							
KMI				pP	pP	10 54 18.2	-3.5
KMI				sP	sP	10 54 21.7	-5.9
KMI	**Kunming**	**29.95**	**326**	P	**P**	**10 54 11.5**	**+2.6**
KMI				*SP	sP	10 54 21.7	-5.9
KMI				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.3							
WHN	**Wuhan**	**30.45**	**349**	P	**P**	**10 54 05.8**	**-7.5**
FORT	**Forrest**	**31.92**	**168**	*e*P	**P**	**10 54 25.8**	**-0.4**
comp=Z,13nm,0.8s,mb4.8							
CTA	**Charters Tower**	**32.40**	**131**	P	**P**	**10 54 29.9**	**-0.7**
comp=Z,5.4nm,0.7s,mb4.5,baz=318,slow=11,SNR=6.0							
CTA	**Charters Tower**	**32.40**	**131**	*e*P	**P**	**10 54 30.9**	**+0.3**
comp=Z,4.6nm,0.9s,mb4.3							
CTA	**Charters Tower**	**32.40**	**131**	P	**P**	**10 54 29.9**	**-0.7**
CTA	**Charters Tower**	**32.40**	**131**	P	**P**	**10 54 29.9**	**-0.7**
CTA				pmax	pmax		
comp=Z,5.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**33.42**	**185**	P	**P**	**10 54 37.1**	**-2.1**
comp=Z,5.8nm,0.7s,mb4.6,baz=26,slow=7.4,SNR=3.7							
NWAO	**Narrogin (SRO)**	**33.42**	**185**	P	**P**	**10 54 37.1**	**-2.1**
NWAO	**Narrogin (SRO)**	**33.42**	**185**	P	**P**	**10 54 37.2**	**-2.1**
NWAO				pmax	pmax		
comp=Z,6.0nm,0.7s							
CD2	**Chengdu**	**34.20**	**334**	*e*P	**P**	**10 54 48.1**	**+2.0**
CD2				pP	pP	10 54 57.6	-1.4
CD2				sP	sP	10 55 01.7	-3.2
CD2				PP	PP	10 56 03.3	-1.1
CD2				S	**S**	**11 00 12.9**	**+3.5**
CD2				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.8							
CD2				pmax	pmax		
comp=Z,30nm,5.8s							
KSAR	**Wonju Array Be**	**37.35**	**10**	P	**P**	**10 55 14.5**	**+1.5**
KSAR	**Wonju Array Be**	**37.35**	**10**	P	**P**	**10 55 14.5**	**+1.5**
KSRS	**Korea Array**	**37.37**	**10**	P	**P**	**10 55 14.5**	**+1.3**
comp=Z,3.8nm,0.8s,mb4.3,baz=194,slow=7.6,SNR=10							
KSRS	**Korea Array**	**37.37**	**10**	P	**P**	**10 55 14.5**	**+1.3**
KSRS				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**37.85**	**150**	P	**P**	**10 55 17.5**	**+0.2**
comp=Z,29nm,0.8s,mb5.1,baz=323,slow=8.3,SNR=46							
STKA	**Stephens Creek**	**37.85**	**150**	*e*P	**P**	**10 55 17.4**	**+0.1**
comp=Z,23nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**37.85**	**150**	*e*P	**P**	**10 55 17.0**	**-0.3**
comp=Z,6.0nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**37.85**	**150**	P	**P**	**10 55 17.5**	**+0.2**
STKA				pmax	pmax		
comp=Z,29nm,0.8s							
LZH	**Lanzhou**	**38.67**	**338**	*e*P	**P**	**10 55 27.5**	**+3.3**
LZH				pP	pP	10 55 37.4	+0.2
LZH				sP	sP	10 55 41.2	-1.9
LZH				PP	PP	10 57 01.0	+7.5
LZH				*e*S	**S**	**11 01 22.6**	**+5.1**
LZH				sS	sS	11 01 38.9	-0.5
LZH				pmax	pmax		
comp=Z,26nm,1.3s,mb4.8							
LZH				pmax	pmax		
comp=Z,140nm,4.6s							
LZH				LR	LR		
comp=N,1µm,13.5s,MS5.0							
LZH				LR	LR		
comp=E,1µm,17.0s,MS5.0							
LZH				LR	LR		
comp=Z,2µm,18.2s,MS4.9							
LZH	**Lanzhou**	**38.67**	**338**	*e*P	**P**	**10 55 27.5**	**+3.3**
comp=Z,26nm,1.3s,mb4.8							
LZH				pP	pP	10 55 37.4	+0.2
LZH				sP	sP	10 55 41.2	-1.9
LZH				PP	PP	10 57 01.0	+7.5
LZH				*e*S	**S**	**11 01 22.6**	**+5.1**
LZH				sS	sS	11 01 38.9	-0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZH				LR	LR		
comp=Z,2µm,18.2s,MS4.9							
LZH	**Lanzhou**	**38.67**	**338**	*e*P	**P**	**10 55 27.5**	**+3.3**
LZH				*PP	pP	10 55 37.4	+0.2
LZH				*SP	sP	10 55 41.2	-1.9
LZH						10 57 01.0	
LZH				*e*S	**S**	**11 01 22.6**	**+5.1**
LZH				*SS	sS	11 01 38.9	-0.5
LZH				pmax	pmax		
comp=Z,26nm,1.3s,mb4.8							
LZH				MLR	MLR		
comp=Z,2µm,18.2s,MS4.9							
MJAR	**Matsushiro Arr**	**39.38**	**23**	P	**P**	**10 55 28.6**	**-1.5**
comp=Z,3.4nm,0.8s,mb4.2,baz=201,slow=9.6,SNR=6.2							
MJAR	**Matsushiro Arr**	**39.38**	**23**	P	**P**	**10 55 28.6**	**-1.5**
MJAR	**Matsushiro Arr**	**39.38**	**23**	P	**P**	**10 55 28.6**	**-1.5**
MJAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
BJI	**Beijing**	**39.55**	**355**	P	**P**	**10 55 33.3**	**+1.9**
HNR	**Honiara**	**40.38**	**105**	LR	LR	11 12 26.5	
comp=Z,8µm,18.7s,MS5.6,baz=176,slow=36							
HHC	**Hu-ho-hao-te**	**40.98**	**350**	*e*P	**P**	**10 55 45.1**	**+1.8**
HHC				pP	pP	10 55 54.9	-1.5
HHC				sP	sP	10 55 59.0	-3.2
HHC				PP	PP	10 57 22.7	+4.1
HHC				S	**S**	**11 01 56.5**	**+4.6**
HHC				sS	sS	11 02 12.4	-1.6
HHC				SS	SS	11 04 55.3	-0.2
HHC				pmax	pmax		
comp=Z,11nm,0.7s,mb4.6							
HHC				pmax	pmax		
comp=Z,130nm,4.5s							
HHC				LR	LR		
comp=N,420nm,12.3s,MS4.6							
HHC				LR	LR		
comp=E,260nm,10.3s,MS4.6							
HHC				LR	LR		
comp=Z,680nm,17.8s							
ODAN	**Odare**	**41.30**	**312**	*e*P	**P**	**10 55 47.7**	**+1.5**
comp=Z,26nm,1.0s,mb4.8							
ODAN	**Odare**	**41.30**	**312**	*e*P	**P**	**10 55 47.7**	**+1.5**
comp=Z,26nm,1.0s,mb4.8							
TAPN	**Taplejung**	**41.34**	**313**	*e*P	**P**	**10 55 47.3**	**+0.8**
comp=Z,29nm,1.1s,mb4.8							
TAPN	**Taplejung**	**41.34**	**313**	*e*P	**P**	**10 55 47.3**	**+0.8**
comp=Z,29nm,1.1s,mb4.8							
RAMN	**Ramite**	**41.94**	**312**	*e*P	**P**	**10 55 52.6**	**+1.2**
comp=Z,55nm,1.0s,mb5.2							
RAMN	**Ramite**	**41.94**	**312**	*e*P	**P**	**10 55 52.6**	**+1.2**
comp=Z,55nm,1.0s,mb5.1							
ARMA	**Armidale**	**42.62**	**139**	*e*P	**P**	**10 55 58.1**	**+1.2**
ARMA	**Armidale**	**42.62**	**139**	*e*P	**P**	**10 55 58.1**	**+1.2**
comp=Z,20nm,1.2s,mb4.7							
JIRN	**Jiri**	**42.63**	**312**	*e*P	**P**	**10 55 57.9**	**+0.9**
comp=Z,6.9nm,0.7s,mb4.5							
JIRN	**Jiri**	**42.63**	**312**	*e*P	**P**	**10 55 57.9**	**+0.9**
comp=Z,6.9nm,0.7s,mb4.5							
GUN	**Gumba**	**43.00**	**312**	*e*P	**P**	**10 56 00.1**	**+0.1**
comp=Z,14nm,0.2s,mb5.4							
GTA	**Gaotai**	**43.13**	**336**	*e*P	**P**	**10 56 01.5**	**+0.7**
GTA				pP	pP	10 56 11.6	-2.5
GTA				PcP	PcP	10 57 50.7	+0.8
GTA				pmax	pmax		
comp=Z,3.0nm,1.3s,mb3.9							
PKI	**Pulchoki**	**43.17**	**312**	*e*P	**P**	**10 56 01.9**	**+0.6**
comp=Z,28nm,0.9s,mb5.0							
PKI	**Pulchoki**	**43.17**	**312**	*e*P	**P**	**10 56 01.9**	**+0.6**
comp=Z,28nm,0.9s,mb5.0							
PKI	**Pulchoki**	**43.17**	**312**	*e*P	**P**	**10 56 01.9**	**+0.6**
PKI				pmax	pmax		
comp=Z,29nm,0.9s,mb5.0							
CN2	**Changchun**	**43.31**	**5**	*e*P	**P**	**10 56 04.0**	**+1.8**
CN2				*e*S	**S**	**11 02 28.4**	**+2.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.7							
CN2				LR	LR		
comp=N,2µm,19.0s,MS5.3							
CN2				LR	LR		
comp=E,3µm,19.0s,MS5.3							
CN2				LR	LR		
comp=Z,3µm,16.0s,MS5.2							
KKN	**Kakani**	**43.38**	**312**	*e*P	**P**	**10 56 03.6**	**+0.5**
comp=Z,43nm,1.1s,mb5.1							
KKN	**Kakani**	**43.38**	**312**	*e*P	**P**	**10 56 03.6**	**+0.5**
comp=Z,43nm,1.1s,mb5.1							
KKN	**Kakani**	**43.38**	**312**	*e*P	**P**	**10 56 03.6**	**+0.5**
KKN				pmax	pmax		
comp=Z,43nm,1.1s,mb5.1							
DMN	**Daman**	**43.41**	**311**	*e*P	**P**	**10 56 04.2**	**+0.9**
comp=Z,52nm,0.9s,mb5.3							
DMN	**Daman**	**43.41**	**311**	*e*P	**P**	**10 56 04.2**	**+0.9**
comp=Z,52nm,0.9s,mb5.3							
GKN	**Gorkha**	**43.97**	**312**	*e*P	**P**	**10 56 08.0**	**+0.2**
comp=Z,51nm,0.7s,mb5.4							
GKN	**Gorkha**	**43.97**	**312**	*e*P	**P**	**10 56 08.0**	**+0.2**
comp=Z,51nm,0.7s,mb5.4							
TOO	**Toolangi**	**44.32**	**151**	*e*P	**P**	**10 56 11.8**	**+1.3**
comp=Z,36nm,0.8s,mb5.2							
CAN	**Canberra**	**44.41**	**146**	*e*P	**P**	**10 56 12.0**	**+0.8**
comp=Z,28nm,0.8s,mb5.0							
CAN	**Canberra**	**44.41**	**146**	*e*P	**P**	**10 56 12.0**	**+0.8**
CAN				pmax	pmax		
comp=Z,28nm,0.8s,mb5.0							
CNB	**Canberra Magne**	**44.61**	**146**	*e*P	**P**	**10 56 14.7**	**+1.9**
comp=Z,70nm,0.8s,mb5.5							
MDJ	**Mudanjiang**	**44.63**	**9**	P	**P**	**10 56 14.8**	**+2.0**
MDJ				pmax	pmax		
comp=Z,12nm,2.5s,mb4.3							
MDJ				pmax	pmax		
comp=Z,150nm,7.8s							
KOLN	**

comp=Z,390nm,8.0s
WMQ LR LR
comp=N,4μm,21.6s,MS5.5
WMQ LR LR
comp=E,3μm,26.0s,MS5.5
WMQ LR LR
comp=Z,5μm,26.2s,MS5.5
KSH Kashi 56.22 319 eP P **10 57 41.5 +1.0**
KSH pP pP 10 57 51.6 -2.5
KSH PcP PcP 10 58 39.5 +1.8
KSH PP PP 10 59 47.5 +1.3
KSH ScP ScP 11 02 34.4 +1.3
KSH PcS PcS 11 02 38.4 +0.2
KSH SS SS 11 09 11.0 -3.0
KSH pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KSH pmax pmax
comp=Z,200nm,4.9s
KSH LR LR
comp=N,1μm,12.4s,MS5.4
KSH LR LR
comp=E,960nm,10.2s,MS5.4
KSH LR LR
comp=Z,4μm,28.2s
MK31 Makanchi Array 56.94 329 eP P **10 57 45.5 0.0**
MK31 ePcP PcP 10 58 39.9 -0.4
MK31 Makanchi Array 56.94 329 eP P **10 57 45.5 0.0**
MK31 e 10 58 39.9
MKAR Makanchi Array 56.94 329 P P **10 57 45.6 +0.2**
comp=Z,5.2nm,0.7s,mb4.7,baz=128,slow=8.4,SNR=36
MKAR PcP PcP 10 58 39.0 -1.4
comp=Z,6.0nm,0.7s,baz=126,slow=5.1,SNR=12
MKAR Makanchi Array 56.94 329 P P **10 57 45.6 +0.2**
MKAR PcP PcP 10 58 39.0 -1.4
MKAR Makanchi Array 56.94 329 P P **10 57 45.7 +0.2**
MKAR 10 58 39.0
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR pmax pmax
comp=Z,6.0nm,0.7s
BOD Bodaibo 57.37 356 eP P **10 57 48.2 -0.1**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
TKM2 Tokmak 2 58.31 322 eP P **10 57 56.1 +0.9**
comp=Z,9.1nm,1.1s,mb4.7
TKM2 Tokmak 2 58.31 322 eP P **10 57 56.1 +0.9**
TKM2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
KBL Kabul 58.80 311 eP P **10 57 59.0 +0.2**
comp=Z,14nm,0.8s,mb5.0
KBL Kabul 58.80 311 eP P **10 57 59.0 +0.3**
KBL pmax pmax
comp=Z,14nm,0.8s,mb5.0
AAK Ala-Archa 58.84 322 eP P **10 57 59.8 +1.0**
comp=Z,39nm,1.1s,mb5.3
AAK Ala-Archa 58.84 322 eP P **10 57 59.8 +1.0**
AAK pmax pmax
comp=Z,39nm,1.1s,mb5.3
MSVF Nonsavu 59.31 111 eP P **10 57 51.8 -11**
MSVF Nonsavu 59.31 111 eP P **10 57 51.8 -11**
ZAA0 Zalesovo Array 60.88 337 eP P **10 58 11.8 -0.8**
ZALV Zalesovo Beam 60.88 337 P P **10 58 11.9 -0.7**
comp=Z,7.0nm,0.9s,mb4.8,baz=123,slow=5.5,SNR=20
ZALV Zalesovo Beam 60.88 337 P P **10 58 11.9 -0.7**
ZALV Zalesovo Beam 60.88 337 P P **10 58 11.9 -0.7**
ZALV pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
KURK Kurchatov 61.36 331 eP P **10 58 15.5 -0.5**
comp=Z,13nm,0.8s,mb5.1
KURK Kurchatov 61.36 331 eP P **10 58 15.7 -0.2**
KURK pmax pmax
comp=Z,15nm,0.8s,mb5.2
YAK Yakutsk 61.74 5 eP P **10 58 17.2 -1.1**
comp=Z,31nm,0.8s,mb5.5
YAK Yakutsk 61.74 5 eP P **10 58 16.6 -1.7**
YAK pmax pmax
comp=Z,25nm,0.9s,mb5.3
NVS Novosibirsk 62.17 337 eP P **10 58 20.0 -1.3**
NVS pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
RPZ Rata Peaks 62.89 141 P P **10 58 26.8 +0.5**
comp=Z,24nm,0.8s,mb5.4,baz=229,slow=5.9,SNR=10
RPZ Rata Peaks 62.89 141 P P **10 58 26.8 +0.5**
URZ Urewera 64.59 133 P P **10 58 37.0 -0.7**
comp=Z,7.7nm,0.9s,mb4.7,baz=333,slow=6.8,SNR=4.8
URZ Urewera 64.59 133 P P **10 58 37.0 -0.7**
comp=Z,2.4nm,0.8s,mb4.3
BRVK Borovoye 66.90 330 eP P **10 58 51.8 -0.4**
comp=Z,15nm,1.0s,mb5.0
BRVK Borovoye 66.90 330 eP P **10 58 52.3 +0.1**
BRVK pmax pmax
comp=Z,18nm,1.2s,mb5.0
ABKAR Akbulak array 70.88 323 eP P **10 59 16.8 -0.3**
comp=Z,3.5nm,0.8s,mb4.3
SVE Sverdlovsk 73.59 330 ⇓iP P **10 59 33.3 +0.2**
SVE pmax pmax
comp=Z,23nm,1.1s,mb5.0
ARU Arti 74.47 329 eP P **10 59 37.6 -0.6**
comp=Z,11nm,0.9s,mb4.8
ARU Arti 74.47 329 ciP P **10 59 38.1 -0.1**
ARU S S 11 09 11.1 +1.7
ARU SS SS 11 13 56.5 -0.2
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.0
RDF Al-Radifah 74.96 300 eP P **10 59 40.4 -1.3**
RDF AMb AMB 10 59 44.8
comp=Z,50nm,1.1s,mb5.3
MIB Mutribah 75.26 301 eP P **10 59 42.3 -1.0**
MIB AMb AMB 10 59 43.2
comp=Z,57nm,0.7s,mb5.6
NAY Al-Naaiem 75.27 300 eP P **10 59 42.1 -1.3**
NAY AMb AMB 10 59 44.1
comp=Z,10.0nm,0.8s,mb4.8
MAW Mawson 78.69 199 P P **11 00 00.8 -1.0**
comp=Z,4.6nm,0.8s,mb4.4,baz=23,slow=7.7,SNR=2.2
MAW Mawson 78.69 199 P P **11 00 00.8 -1.0**
MAW Mawson 78.69 199 P P **11 00 00.8 -1.0**
MAW pmax pmax
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 83.38 269 eP P **11 00 28.7 +0.7**
comp=Z,10nm,1.1s,mb4.8
KMBO Kilima Mbogo 83.38 269 eP P **11 00 28.7 +0.7**
KMBO pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 84.24 321 eP P **11 00 30.2 -1.3**
VSR pmax pmax
comp=Z,20nm,1.1s,mb5.2
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.8s
ANN Anapa 84.79 315 eP P **11 00 32.8 -1.7**
ANN e*PP pP 11 00 42.2 -6.7
ANN pmax pmax
comp=Z,27nm,1.0s,mb5.3
OBN Obninsk 86.17 325 ⇓eP P **11 00 39.4 -1.7**
OBN pmax pmax
comp=Z,23nm,0.9s,mb5.4
BR131 Keskin Array S 87.35 310 eP P **11 00 46.0 -1.2**
comp=Z,3.6nm,0.8s,mb4.7
BRTR Keskin Array B 87.35 310 P P **11 00 46.3 -0.9**
comp=Z,4.5nm,0.8s,mb4.8,baz=128,slow=6.9,SNR=25
BRTR Keskin Array B 87.35 310 P P **11 00 46.3 -0.9**
BRTR Keskin Array B 87.35 310 ceP P **11 00 46.5 -0.7**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
APA Apatity 88.46 337 ⇑iP P **11 00 45.4 -6.5**
JOF Joensuu 89.23 333 eP P **11 00 53.1 -2.5**
JOF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
JOF Joensuu 89.23 333 ep P **11 00 53.1 -2.5**
comp=Z,3.6nm,0.8s,mb4.8
QSPA South Pole Qui 90.45 180 P P **11 01 00.4 -0.6**
comp=Z,0.8nm,0.6s,mb4.2,baz=286,slow=1.3,SNR=9.0
QSPA South Pole Qui 90.45 180 P P **11 01 00.4 -0.6**
AKASG Malin Array Be 90.49 321 P P **11 00 59.8 -2.0**
comp=Z,3.3nm,0.6s,mb4.8,baz=77,slow=4.4,SNR=13
AKASG Malin Array Be 90.49 321 P P **11 00 59.8 -2.0**
AKASG Malin Array Be 90.49 321 ceP P **11 00 59.7 -2.1**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 90.50 321 eP P **11 00 59.5 -2.3**
comp=Z,3.6nm,0.8s,mb4.8
KIEV epP pP 11 01 13.2 -3.1
KIEV Kiev 90.50 321 eP P **11 00 59.5 -2.3**
KIEV e*PP pP 11 01 13.2 -3.1
KIEV pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
ILAR Eielson Array 90.60 25 P P **11 00 59.6 -2.4**
comp=Z,0.4nm,0.6s,mb3.9,baz=264,slow=4.7,SNR=10
ILAR Eielson Array 90.60 25 P P **11 00 59.6 -2.4**
ILAR Eielson Array 90.60 25 P P **11 00 59.6 -2.4**
KEV Kevo 90.78 340 ep P **11 00 47.3 -15**
comp=Z,2.5nm,0.8s,mb4.6
ARCES ARCESS Array B 91.32 339 P P **11 01 03.6 -1.6**
comp=Z,1.2nm,0.8s,mb4.3,baz=114,slow=9.0,SNR=4.6
ARCES ARCESS Array B 91.32 339 P P **11 01 03.6 -1.6**
ARCES ARCESS Array B 91.32 339 P P **11 01 03.6 -1.6**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
KAF Kangasniemi 91.57 332 eP P **11 01 04.0 -2.5**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
KAF Kangasniemi 91.57 332 ep P **11 01 04.0 -2.5**
comp=Z,2.3nm,0.7s,mb4.6
FINES FINESS Array B 91.73 331 P P **11 01 05.7 -1.5**
comp=Z,1.4nm,0.6s,mb4.5,baz=101,slow=7.2,SNR=5.5
FINES FINESS Array B 91.73 331 P P **11 01 05.7 -1.6**
FINES FINESS Array B 91.73 331 P P **11 01 05.7 -1.6**
FINES pmax pmax
comp=Z,1.0nm,0.6s
LSZ Lusaka 92.48 255 eP P **11 01 10.0 -1.7**
comp=Z,5.1nm,1.0s,mb4.8
LSZ Lusaka 92.48 255 eP P **11 01 10.0 -1.7**
LSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
BUR08 Bucovina Ar. S 93.28 318 eP P **11 01 14.1 -0.6**
NB2 NORSAR Subarra 98.85 332 P P **11 01 37.6 -2.1**
comp=Z,2.5nm,0.9s,mb4.7,baz=75,slow=4.6
NOA NORSAR Array B 98.85 332 P P **11 01 38.0 -1.7**
comp=Z,2.0nm,0.9s,mb4.6,baz=74,slow=4.6,SNR=5.2
NOA NORSAR Array B 98.85 332 P P **11 01 38.0 -1.7**
NOA NORSAR Array B 98.85 332 P P **11 01 38.1 -1.6**
NOA pmax pmax
comp=Z,2.0nm,1.0s
NVAR Mina Array Bea 113.57 47 PKiKP PKiKP 11 06 39.7 +1.2
comp=Z,0.3nm,0.6s,baz=284,slow=3.6,SNR=2.7
NVAR Mina Array Bea 113.57 47 PKiKP PKiKP 11 06 39.7 +1.2
PDAR Pinedale Array 117.74 40 PKP PKPdf 11 06 46.0 -0.4
comp=Z,0.4nm,0.7s,baz=58,slow=3.7,SNR=4.5
PDAR Pinedale Array 117.74 40 PKP PKPdf 11 06 46.0 -0.4
TORD Torodi Ar. Bea 117.98 285 PKP PKPdf 11 06 46.6 -0.9
comp=Z,0.5nm,0.7s,baz=47,slow=1.7,SNR=2.3
TORD Torodi Ar. Bea 117.98 285 PKP PKPdf 11 06 46.6 -0.9
DBIC Dimbokro 125.13 278 PKP PKPdf 11 07 02.0 +0.6
comp=Z,1.7nm,0.7s,baz=153,slow=2.3,SNR=2.8
DBIC Dimbokro 125.13 278 PKP PKPdf 11 07 02.0 +0.6
DBIC Dimbokro 125.13 278 PKIKP PKPdf 11 07 02.0 +0.6
DBIC pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 128.37 51 PKP PKPdf 11 07 08.1 +0.9
comp=Z,0.5nm,0.7s,baz=296,slow=0.2,SNR=6.3
TXAR Lajitas Array 128.37 51 PKP PKPdf 11 07 08.1 +0.9
TXAR Lajitas Array 128.37 51 PKIKP PKPdf 11 07 08.1 +1.0
TXAR pmax pmax
comp=Z,1.0nm,0.7s
JCT Junction City 130.74 48 ePKPdf PKPdf 11 07 11.4 -0.3
JCT Junction City 130.74 48 ePKIKP PKPdf 11 07 11.4 -0.2
CFAA Coronel Fontan 147.96 166 PKPbc PKPbc 11 07 44.7 -1.1
comp=Z,0.7nm,0.7s,baz=212,slow=3.5,SNR=18
CFAA Coronel Fontan 147.96 166 PKPbc PKPbc 11 07 44.7 -1.1

*BJI **06** 10:55:20.7, 7°.88S×125°.19E, h403km, mB5.9/44, mb5.8/72*
*ISCJB **06** 10:55:25.7±0.1, 7°.45S±0°.01×124°.76E±0°.01, h405km, mb6.0/232, Error ellipse: s-maj=2.1km s-min=1.6km az=39.4*
*NEIC **06** 10:55:26.4±0.1, 7°.39S×124°.75E, h398km, mb6.1/113, ME6.0, MW6.4, MW6.4(USGS), Error ellipse: s-maj=3.8km s-min=2.7km az=54.0, Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [II] at Atambua and Dili, Timor-Leste. Also felt on Alor, Indonesia.
*DJA **06** 10:55:27.0±0.1, 8°.S±2°.×12°.5E±°, h415km±2km, M6.5/8, mB6.6/95, mb6.4/98, MLv6.8/17, Mw(mB)6.4/95, Mwp6.8/11*
*BGS **06** 10:55:27.0±1.9, 7°.40S×124°.74E, h405km, mb6.1(NEIC)*
*TEH **06** 10:55:27.0, 7°.38S×124°.74E, h408km*
*MOS **06** 10:55:27.0±1.1, 7°.33S×124°.76E, h408km, mb6.1/71, MS5.5/7, Error ellipse: s-maj=7.9km s-min=4.8km az=115.6*
*IDC **06** 10:55:27.7±0.4, 7°.33S×124°.85E, h410km±3km, mb5.7/26, mb1 5.6/31, mb1mx5.5/32, mbtmp5.7/31, Error ellipse: s-maj=7.2km s-min=4.5km az=64.0*
*GCMT **06** 10:55:31.5±0.1, 7°.44S×124°.84E, h407km, MW6.4, Moment Tensor Solution. s122, c304; s99, c211; Moment tensor: Scale 10^{18}Nm; M_{rr}=4.83±.03; $M_{\theta\theta}$3.50±.04; $M_{\phi\phi}$1.33±.04; $M_{r\theta}$-0.92±.04; $M_{\theta\phi}$0.12±.04; $M_{\phi r}$3.79±.03; Best double couple: $M_0$5.20000×10^{18} NP1:ϕ_s=266.00000°, δ35.00000°, λ=-128.00000°. NP2: ϕ_s=129.00000°, δ63.00000°, λ=-67.00000°. Principal axes: T 3.7200, Plg15.0000°, Azm202.0000°; N 2.9900, Plg20.0000°, Azm298.0000°; P -6.7100, Plg64.0000°, Azm79.0000°; Data Used: II IU CN IC G. Mantle waves from 108 sta.*

ISC 06 10:55:27.3±0.1, 7°.47S±0°.01×124°.70E±0°.01, h406km, h406km±1.3km: pP-P, n1582, σ1s08/873, mb6.0/230, 87C-39D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.70**	**244**	P	**Pn**	**10 56 27.9**	**-0.8**
MMRI				S	**S**	**10 57 17.9**	**-0.4**
BBSI	**Bau Bau**	**2.89**	**313**	P	**Pn**	**10 56 31.5**	**+1.3**
BBSI				S	**S**	**10 57 21.2**	**+0.1**
KDI	**Kendari**	**4.06**	**329**	P	**Pn**	**10 56 41.1**	**+0.7**
KDI				S	**S**	**10 57 39.3**	**-0.4**
NLAI	**Namlea**	**4.84**	**30**	P	**Pn**	**10 56 50.1**	**+2.0**
NLAI				S	**S**	**10 57 55.0**	**+1.3**
WSI	**Waingapu**	**4.87**	**243**	P	**Pn**	**10 56 47.6**	**-0.7**
WSI				S	**S**	**10 57 53.3**	**-0.9**
BKSI	**Bulukumba**	**5.03**	**295**	P	**Pn**	**10 56 50.9**	**+0.9**
BKSI				S	**S**	**10 57 57.6**	**+0.5**
AAI	**Ambon**	**5.12**	**43**	P	**Pn**	**10 56 52.0**	**+1.0**
AAI				S	**S**	**10 58 02.4**	**+3.4**
KAPI	**Kappang**	**5.49**	**296**	P	**Pn**	**10 56 55.0**	**+0.2**
	461nm,0.3s,baz=128,slow=7.8,SNR=1168						
KAPI				S	**S**	**10 58 04.4**	**-1.6**
	baz=36,slow=19						
KAPI	**Kappang**	**5.49**	**296**	P	**Pn**	**10 56 55.0**	**+0.2**
KAPI				eSn	**S**	**10 58 04.1**	**-1.9**
KAPI				S	**S**	**10 58 04.4**	**-1.6**
KAPI	**Kappang**	**5.49**	**296**	P	ScS	11 09 41.8	+5.2
KAPI	**Kappang**	**5.49**	**296**	P	**Pn**	**10 56 55.6**	**+0.8**
	34nm8μm,0.9s						
KAPI	**Kappang**	**5.49**	**296**	P	**Pn**	**10 56 55.3**	**+0.5**
	SNR=651						
BNSI	**Bone**	**5.49**	**304**	P	**Pn**	**10 56 56.1**	**+1.2**
MSAI	**Masohi**	**5.88**	**46**	P	**Pn**	**10 56 58.7**	**-0.3**
	24nm3μm,0.7s						
MSAI				S	**S**	**10 58 15.4**	**+1.8**
	24nm3μm,0.7s						
SPSI	**Sidrap Palu**	**6.02**	**305**	P	**Pn**	**10 57 01.2**	**+0.7**
	17nm3μm,1.0s						
BMNI	**Bima**	**6.04**	**260**	P	**Pn**	**10 56 59.2**	**-1.5**
	137nm7μm,1.3s						
BMNI				S	**S**	**10 58 14.2**	**-2.6**
	137nm7μm,1.3s						
MSSI	**Masamba**	**6.55**	**318**	P	**Pn**	**10 57 07.0**	**+0.8**
	17nm6μm,0.8s						
MSSI				S	**S**	**10 58 29.9**	**+3.0**
	17nm6μm,0.8s						
TTSI	**Tana Toraja**	**6.55**	**312**	P	**Pn**	**10 57 08.4**	**+2.1**
	23nm5μm,1.0s						
LUWI	**Luwuk**	**6.67**	**343**	P	**Pn**	**10 57 08.3**	**+0.7**
MJSI	**Majene**	**6.90**	**304**	P	**Pn**	**10 57 12.1**	**+2.0**
	33nm4μm,1.7s						
MJSI				S	**S**	**10 58 37.1**	**+3.0**
	33nm4μm,1.7s						
LBMI	**Labuha**	**7.34**	**22**	P	**P**	**10 57 15.8**	**+0.5**
LBMI				S	**S**	**10 58 44.1**	**+0.9**
KMSI	**Cibinong**	**8.03**	**355**	P	**P**	**10 57 24.4**	**+1.5**
PCI	**Palu**	**8.13**	**323**	P	ScS	11 09 00.5	-39
	208nm,1.0s,4μm0.7nm						
GTOI	**Gorontalo**	**8.23**	**348**	P	**P**	**10 57 28.4**	**+3.2**
MRSI	**Marisa**	**8.36**	**341**	P	**P**	**10 57 28.0**	**+1.4**
MTNI	**Mataram**	**8.52**	**262**	P	**P**	**10 57 26.5**	**-1.9**
MTNI				S	**S**	**10 59 00.9**	**-6.9**
TNTI	**Ternate**	**8.61**	**18**	P	**P**	**10 57 29.4**	**0.0**
TNTI				S	**S**	**10 59 08.5**	**-1.2**
MNI	**Manado**	**8.86**	**1**	P	ScS	11 09 43.3	+2.3
	270nm,1.3s						
MNI	**Manado**	**8.86**	**1**	P	**P**	**10 57 33.2**	**+1.0**
MNI				S	**S**	**10 59 16.7**	**+2.0**
KHKI	**Kahang-Kahang**	**9.05**	**264**	P	ScS	11 09 48.6	+7.3
	149nm,1.1s						
KHKI	**Kahang-Kahang**	**9.05**	**264**	P	**P**	**10 57 33.1**	**-1.1**
	10μm,0.9s						
KHKI				S	**S**	**10 59 16.0**	**-2.5**
	10μm,0.9s						
SRBI	**Singaraja**	**9.42**	**266**	P	ScS	11 09 47.1	+5.2
	374nm,1.1s						
SRBI	**Singaraja**	**9.42**	**266**	P	**P**	**10 57 37.9**	**-0.4**
SRBI				S	**S**	**10 59 24.1**	**-2.0**
IGBI	**Denpasar**	**9.55**	**261**	P	**P**	**10 57 38.5**	**-1.3**
	5μm,0.8s						
IGBI				S	**S**	**10 59 23.1**	**-5.7**
	5μm,0.8s						
SMKI	**Samarinda**	**10.22**	**313**	P	**P**	**10 57 51.2**	**+3.9**
	8μm,0.9s						
SMKI				S	**S**	**10 59 45.3**	**+2.7**
	8μm,0.9s						
BYJI	**Banyuwangi**	**10.27**	**265**	P	**P**	**10 57 50.1**	**+2.3**
JAGI	**Jajag, Banyuwa**	**10.49**	**264**	P	**P**	**10 57 48.9**	**-1.4**
	6μm,0.9s						
JAGI				S	**S**	**10 59 42.0**	**-6.1**
	6μm,0.9s						
BBKI	**Banjar Baru**	**10.59**	**292**	P	**P**	**10 57 53.5**	**+2.2**
FITZ	**Fitzroy Crossi**	**10.60**	**175**	P	**P**	**10 57 51.6**	**+0.2**
	313nm,0.3s,baz=8.6,slow=9.1,SNR=2244						
FITZ				S	**S**	**10 59 48.5**	**-1.7**
	baz=158,slow=12,SNR=4.6						
FITZ				P3KPbc		11 34 04.9	
	0.0nm,0.3s,baz=308,slow=3.2,SNR=3.9						
FITZ	**Fitzroy Crossi**	**10.60**	**175**	⇑iP	**P**	**10 57 51.5**	**+0.1**
	4μm,0.6s						
FITZ				eS	**S**	**10 59 48.0**	**-2.2**
FITZ	**Fitzroy Crossi**	**10.60**	**175**	ePn	**Pn**	**10 57 51.5**	**-0.8**
FITZ				eSn	**S**	**10 59 47.8**	**-2.4**
FITZ				S	**S**	**10 59 48.5**	**-1.7**
FITZ				e		11 34 04.9	
FITZ	**Fitzroy Crossi**	**10.60**	**175**	P	**P**	**10 57 51.5**	**+0.1**
	4μm,1.1s						
KMMI	**Kalianget**	**10.65**	**272**	P	ScS	11 09 50.4	+6.3
KMMI	**Kalianget**	**10.65**	**272**	P	**P**	**10 57 54.4**	**+2.3**
KMMI				S	**S**	**10 59 53.2**	**+1.8**
BLJI	**Banyuglugur**	**11.01**	**268**	P	**P**	**10 57 56.8**	**+0.8**
BLJI				S	**S**	**10 59 58.5**	**-0.1**
SGSI	**Sangihe**	**11.12**	**4**	P	**P**	**10 57 56.9**	**-0.3**
GMJI	**Gumukmas**	**11.18**	**265**	P	ScS	11 09 47.9	+2.8
	213nm,1.0s						
GMJI	**Gumukmas**	**11.18**	**265**	P	**P**	**10 57 57.2**	**-0.6**
	6μm,1.1s						
GMJI				S	**S**	**10 59 56.9**	**-5.1**
	6μm,1.1s						
KRKI	**Karangkates**	**12.15**	**266**	P	ScS	11 09 53.7	+6.5
	560nm,1.2s						
KRKI	**Karangkates**	**12.15**	**266**	P	**P**	**10 58 09.6**	**+1.0**
KRKI				S	**S**	**11 00 22.0**	**+0.2**
PWJI	**Pagerwojo**	**12.79**	**267**	P	**P**	**10 58 15.1**	**-0.5**
	4μm,0.9s						
PWJI				S	**S**	**11 00 33.3**	**-1.4**
	4μm,0.9s						
SJI	**Sawahan**	**12.82**	**268**	P	**P**	**10 58 16.3**	**+0.4**
	5μm,1.9s						
SJI				S	**S**	**11 00 35.8**	**+0.5**
	5μm,1.9s						
BAKI	**Biak**	**12.97**	**62**	P	**P**	**10 58 18.1**	**+0.5**
	6μm,0.8s						
BAKI				S	**S**	**11 00 39.3**	**+0.9**
	6μm,0.8s						
NGJI	**Ngawi**	**13.13**	**270**	P	**P**	**10 58 20.7**	**+1.4**
	4μm,1.2s						
PCJI	**Pacitan**	**13.41**	**266**	P	**P**	**10 58 22.1**	**-0.3**
	7μm,0.9s						
PCJI				S	**S**	**11 00 41.7**	**-5.6**
	7μm,0.9s						
GSPH	**General Santos**	**13.47**	**1**	eP	**P**	**10 58 23.0**	**0.0**
TSM	**Tawau**	**13.53**	**330**	P	**P**	**10 58 24.5**	**+0.8**
PBKI	**Pangkalan Bun**	**13.81**	**289**	P	**P**	**10 58 29.0**	**+2.2**
MYLDM	**Lahad Datu**	**14.01**	**334**	P	**P**	**10 58 30.7**	**+1.8**
	4μm,1.0s						
UGM	**Wanagama**	**14.06**	**267**	eP	**P**	**10 58 29.5**	**0.0**
UGM	**Wanagama**	**14.06**	**267**	P	**P**	**10 58 29.1**	**-0.3**
	4μm,1.5s						
UGM				S	**S**	**11 01 00.5**	**+0.4**
	4μm,1.5s						
SMRI	**Semarang**	**14.15**	**271**	P	**P**	**10 58 30.0**	**-0.5**
	2μm,1.7s						
WAMI	**Wamena**	**14.39**	**76**	P	**P**	**10 58 35.2**	**+2.1**
	6μm,1.1s						
WAMI				S	**S**	**11 01 10.9**	**+4.1**
	6μm,1.1s						
MATI	**Mati**	**14.41**	**6**	eP	**P**	**10 58 33.2**	**0.0**
MBWA	**Marble Bar**	**14.43**	**199**	eP	**P**	**10 58 33.4**	**+0.1**
MBWA				eS	**S**	**11 01 05.7**	**-1.6**
MBWA	**Marble Bar**	**14.43**	**199**	P	**P**	**10 58 33.2**	**-0.2**
	6μm,1.1s						
MBWA	**Marble Bar**	**14.43**	**199**	P	**P**	**10 58 33.8**	**+0.5**
	SNR=557						
DAV	**Davao City (W)**	**14.47**	**3**	P	**P**	**10 58 32.9**	**-1.0**
	201nm,0.3s,baz=149,slow=0.5,SNR=55						
DAV				S	**S**	**11 01 06.0**	**-2.4**
	33nm,0.3s,baz=112,slow=19,SNR=3.1						
DAV	**Davao City (W)**	**14.47**	**3**	P	**P**	**10 58 33.0**	**-1.0**
DAV				S	**S**	**11 01 06.0**	**-2.4**
DAV				eS	**S**	**11 01 07.8**	**-0.6**
DAV	**Davao City (W)**	**14.47**	**3**	P	**P**	**10 58 33.8**	**-0.2**
	7μm,0.9s						
DAV	**Davao City (W)**	**14.47**	**3**	⇑eP	**P**	**10 58 33.9**	**-0.1**
DAV	**Davao City (W)**	**14.47**	**3**	P	**P**	**10 58 34.3**	**+0.4**
	SNR=116						
ZMPH	**Zamboanga City**	**14.57**	**350**	⇓iP	**P**	**10 58 36.0**	**+1.0**
ZMPH				i S		10 58 49.4	
CTBH	**Cotabato--PC H**	**14.61**	**358**	⇑eP	**P**	**10 58 35.7**	**+0.3**
BJII	**Banjamegara**	**14.87**	**270**	P	**P**	**10 58 37.9**	**-0.3**
	2μm,1.6s						
BJII				S	**S**	**11 01 16.4**	**+0.2**
	2μm,1.6s						
SMPI	**Sarmi**	**14.98**	**69**	P	**P**	**10 58 39.4**	**-0.1**
	7μm,0.9s						
SDKM	**Sandakan**	**15.03**	**330**	P	**P**	**10 58 41.2**	**+1.3**
STKI	**Sintang**	**15.16**	**299**	P	**P**	**10 58 42.6**	**+1.1**
	4μm,0.9s						
BUKP	**Musuan**	**15.26**	**1**	eP	**P**	**10 58 42.2**	**-0.3**
PAGZ	**Pagadian**	**15.28**	**355**	eP	**P**	**10 58 43.7**	**+1.0**
IPIL	**Ipil**	**15.31**	**352**	eP	**P**	**10 58 44.1**	**+1.1**
WRAB	**Tennant Creek**	**15.52**	**144**	eP	**P**	**10 58 45.0**	**-0.3**
	8μm,0.8s						
WRAB				eS	**S**	**11 01 26.1**	**-2.9**
WRAB	**Tennant Creek**	**15.52**	**144**	P	**P**	**10 58 45.7**	**+0.5**
	40μm,0.7s						
WRAB	**Tennant Creek**	**15.52**	**144**	eP	**P**	**10 58 45.0**	**-0.2**
WRAB				eS	**S**	**11 01 26.1**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,8μm,0.8s						
WRAB	**Tennant Creek**	**15.52**	**144**	P	**P**	**10 58 45.2**	**0.0**
WRA	**Warramunga Arr**	**15.52**	**144**	P	**P**	**10 58 44.3**	**-0.9**
	comp=Z,269nm,0.3s,baz=320,slow=11,SNR=795						
WRA				S	**S**	**11 01 26.9**	**-2.2**
	comp=Z,51nm,0.3s,baz=313,slow=21,SNR=14						
WRA				P3KPbc		11 33 42.0	
	baz=142,slow=2.8,SNR=5.6						
WRA	**Warramunga Arr**	**15.52**	**144**	P	**P**	**10 58 44.3**	**-0.9**
WRA				S	**S**	**11 01 26.9**	**-2.2**
WRA				e		11 33 42.0	
WRA	**Warramunga Arr**	**15.52**	**144**	P	**P**	**10 58 44.3**	**-0.9**
WRA				S	**S**	**11 01 26.9**	**-2.1**
WB2	**Warramunga Arr**	**15.53**	**144**	eP	**P**	**10 58 44.9**	**-0.4**
WB2				eS	**S**	**11 01 26.9**	**-2.3**
CLJI	**Cilicap**	**15.55**	**268**	P	**P**	**10 58 45.3**	**-0.3**
	comp=Z,5μm,0.9s						
CLJI				S	**S**	**11 01 26.3**	**-3.4**
	comp=Z,5μm,0.9s						
CGP	**Cagayan de Oro**	**15.82**	**360**	⇑eP	**P**	**10 58 48.3**	**-0.2**
CGP				i S	**S**	**11 01 38.7**	**+3.7**
KKM	**Kota Kinabalu**	**15.87**	**328**	P	**P**	**10 58 49.7**	**+0.6**
KKM	**Kota Kinabalu**	**15.87**	**328**	eP	**P**	**10 58 49.2**	**+0.2**
	comp=Z,10μm,0.8s						
KKM				eS	**S**	**11 01 36.4**	**+0.3**

KKM eScP ScP 11 06 17.6 +0.5
KKM Kota Kinabalu 15.87 328 P P 10 58 49.9 +0.8
SBUM Sibu 15.88 308 P P 10 58 50.4 +1.2
SBUM Sibu 15.88 308 P P 10 58 50.7 +1.5
comp=Z,4μm,0.8s
DCPH Dipolog City 16.01 355⇑eP P 10 58 52.8 +2.3
KDM Kudat 16.31 331 P P 10 58 54.3 +0.6
BUTP Butuan 16.36 3 eP P 10 58 54.2 -0.1
JAY Jayapura 16.68 74 P P 10 58 57.1 -0.7
comp=Z,4μm,0.9s
JAY S **S 11 01 53.8 +1.8**
comp=Z,4μm,0.9s
CISI Cisompet, Garu 16.74 269 P ScS 11 10 03.4 +4.5
comp=Z,387nm,1.1s
CISI Cisompet, Garu 16.74 269 P **P 10 58 57.4 -1.0**
comp=Z,4μm,1.1s
CISI S **S 11 01 52.7 -0.3**
comp=Z,4μm,1.1s
SNPH Sibulan 16.77 355 eP **P 10 59 02.8 +4.2**
KSM Kuching 16.89 301 P **P 10 59 00.4 +0.5**
KSM Kuching 16.89 301 eP **P 10 59 00.2 +0.3**
comp=Z,1μm,1.0s
KSM eS **S 11 01 56.1 +0.2**
KSM eScP ScP 11 06 19.9 +0.7
KSM Kuching 16.89 301 P **P 10 59 00.0 +0.1**
comp=Z,1μm,0.8s
LEM Lembang 16.96 271 P ScS 11 10 05.7 +6.1
LEM Lembang 16.96 271 P **P 10 59 00.8 +0.1**
comp=Z,3μm,1.2s
LEM S **S 11 01 57.6 +0.3**
comp=Z,3μm,1.2s
MSLP Maasin 17.49 1 eP **P 10 59 06.0 -0.3**
BATP Bataraza 17.56 337 eP **P 10 59 07.7 +0.7**
TPI Tanjungpandan 17.61 285 P **P 10 59 09.2 +1.6**
comp=Z,4μm,1.5s
TPI S **S 11 02 13.8 +4.0**
comp=Z,4μm,1.5s
LLP Lapu-Lapu 17.69 358 eP **P 10 59 07.4 -1.0**
LLP eS **S 11 02 13.3 +2.1**
CBJI Citeko 17.75 272 P ScS 11 10 04.2 +2.2
comp=Z,1μm,1.2s
CBJI Citeko 17.75 272 P **P 10 59 07.1 -2.0**
DBJI Dramaga 17.84 272 P ScS 11 10 05.0 +2.8
comp=Z,1μm,1.2s
DBJI Dramaga 17.84 272 P **P 10 59 08.8 -1.2**
comp=Z,4μm,1.3s
TNG Tangerang 17.97 273 P **P 10 59 12.6 +1.2**
comp=Z,5μm,1.5s
TNG P 10 59 11.0
comp=Z,3μm,1.5s
SKJI Sukabumi 18.00 270 P ScS 11 10 03.1 +0.3
comp=Z,2μm,1.2s
SKJI Sukabumi 18.00 270 P **P 10 59 10.7 -1.1**
SKJI S **S 11 02 14.8 -2.6**
GUIM Jordan 18.10 353 eP **P 10 59 11.5 -1.2**
AS31 Alice Springs 18.36 152 eP **P 10 59 15.8 +0.4**
ASAR Alice Springs 18.36 152 P **P 10 59 15.3 -0.1**
comp=Z,249nm,0.3s,baz=324,slow=8.7,SNR=3150
ASAR S **S 11 02 24.6 +0.7**
comp=Z,49nm,0.3s,baz=329,slow=18,SNR=14
ASAR ScP ScP 11 06 22.2 +0.1
baz=342,slow=3.2,SNR=5.2
ASAR P3KPbc 11 33 38.0
comp=Z,0.1nm,0.3s,baz=144,slow=3.7,SNR=11
ASAR Alice Springs 18.36 152 P **P 10 59 15.3 -0.1**
ASAR S **S 11 02 24.6 +0.7**
ASAR ScP ScP 11 06 22.2 +0.1
ASAR e 11 33 38.0
ASAR Alice Springs 18.36 152 P **P 10 59 15.4 0.0**
ASAR S **S 11 02 24.7 +0.8**
OCLP Ormoc 18.40 360 eP **P 10 59 15.4 -0.5**
SBJI Serang 18.49 273 P ScS 11 10 05.4 +1.1
comp=Z,594nm,1.3s
SBJI Serang 18.49 273 P **P 10 59 15.4 -1.4**
comp=Z,2μm,1.7s
PLP Palo 18.52 1⇑iP P 10 59 14.6 -2.5
CUYO Cuyo Island 18.57 349 eP **P 10 59 17.7 +0.1**
CGJI Cibinong 18.88 271 P **P 10 59 18.6 -2.4**
comp=Z,5μm,1.4s
CGJI S **S 11 02 27.6 -5.1**
comp=Z,5μm,1.4s
RBSI Rajabasa 18.90 274 P **P 10 59 19.6 -1.5**
comp=Z,5μmcomp=Z,472nm,1.2s
RBSI S **S 11 02 29.0 -4.0**
comp=Z,5μmcomp=Z,472nm,1.2s
RCP Roxas 19.01 354⇑eP P 10 59 20.7 -1.5
XMIS Christmas Isla 19.05 260 eP **P 10 59 20.4 -2.3**
comp=Z,21μm,1.0s
XMIS Christmas Isla 19.05 260 eP **P 10 59 20.6 -2.0**
comp=Z,18μm,1.0s
XMIS Christmas Isla 19.05 260 P **P 10 59 21.0 -1.7**
comp=Z,362nm,2.4s
PPBI Pangkal Pinang 19.23 285 P **P 10 59 26.0 +1.6**
comp=Z,5μm,1.6s
COEN Coen 19.25 111 eP **P 10 59 23.4 -1.2**
comp=Z,18μm,0.6s
COEN eS **S 11 02 36.2 -2.5**
COEN ePcP PcP 11 03 28.6 +1.2
COEN Coen 19.25 111 P **P 10 59 23.2 -1.4**
comp=Z,5μm,0.8s
ENPP El Nido 19.29 344 eP **P 10 59 24.7 -0.2**
BLSI Bandar Lampung 19.44 275 P **P 10 59 26.2 -0.2**
comp=Z,1μm,1.3s
BUSP Coron 19.86 347 eP **P 10 59 30.5 +0.3**
OTRP Odiongan 19.89 352 eP **P 10 59 30.1 -0.3**
KLI Kotabumi 19.89 276 P ScS 11 10 11.2 +2.2
KLI Kotabumi 19.89 276 P **P 10 59 29.3 -1.3**
comp=Z,918nm,1.6s
KLSI 20.05 277 P **P 10 59 30.7 -1.2**
comp=Z,761nm,2.0s
MDSI Maura Dua 20.62 277 P ScS 11 10 13.6 +2.1
MDSI Maura Dua 20.62 277 P **P 10 59 36.1 -1.1**
comp=Z,2μm,1.4s
LWLI Liwa 20.66 276 P ScS 11 10 11.8 +0.1
comp=Z,547nm,1.3s
LWLI Liwa 20.66 276 P **P 10 59 36.5 -1.1**
comp=Z,2μm,0.9s
AUQP San Andres 20.76 354 eP **P 10 59 39.9 +1.5**
PVCP Virac 20.94 359 eP **P 10 59 38.8 -1.2**
BOAC Boac 20.99 352 eP **P 10 59 40.7 +0.3**
GQP Guinayangan 21.36 354⇓iP P 10 59 43.5 -0.3
LUBP Lubang 21.53 348 eP **P 10 59 45.9 +0.5**
TGY Tagaytay City 21.76 350 P **P 10 59 46.6 -0.9**
comp=Z,2μm,0.7s,mb6.8,baz=199,slow=3.8,SNR=51
TGY Tagaytay City 21.76 350 P **P 10 59 46.6 -0.9**
TGY Tagaytay City 21.76 350 P **P 10 59 46.6 -0.9**
MNAI Manna 21.84 277 P **P 10 59 49.5 +1.2**
comp=Z,3μm,1.1s,mb6.6
POLP Polillo Island 22.23 353 eP **P 10 59 51.1 -0.6**
PMG Port Moresby 22.30 97 P **P 10 59 51.2 -1.2**
comp=Z,1μm,0.7s,mb6.5,baz=288,slow=4.8,SNR=361
PMG S **S 11 03 27.9 0.0**
comp=Z,61nm,0.8s,baz=207,slow=4.5,SNR=1.5
PMG Port Moresby 22.30 97 P **P 10 59 51.2 -1.2**
comp=Z,115nm,0.7s,mb5.4
PMG eS **S 11 03 27.3 -0.6**
PMG S **S 11 03 27.9 0.0**
PMG Port Moresby 22.30 97 P **P 10 59 51.2 -1.3**
PMG eS **S 11 03 27.3 -0.6**
PMG pmax pmax
comp=Z,115nm,0.7s
PMG Port Moresby 22.30 97 P **P 10 59 51.5 -1.0**
comp=Z,2μm,0.9s,mb6.6
KSI Kapahiang 22.32 279 P ScS 11 10 18.5 +0.7
comp=Z,703nm,2.1s
KSI Kapahiang 22.32 279 P **P 10 59 52.2 -0.5**
comp=Z,2μm,1.8s,mb6.2
MYKOM Kota Tinggi 22.75 293 P **P 10 59 57.3 +0.8**
MYKOM Kota Tinggi 22.75 293 P **P 10 59 57.5 +1.0**
comp=Z,1μm,1.2s,mb6.2
BALP Baler 23.27 352 eP **P 11 00 00.7 -0.4**
RGRI Rengat 23.39 287 P **P 11 00 05.3 +2.9**
comp=Z,2μm,1.3s,mb6.3
FORT Forrest 23.40 173 eP **P 11 00 01.9 -0.2**
comp=Z,2μm,0.7s,mb6.5
FORT epP 11 01 02.0
FORT e 11 03 43.3
FORT Forrest 23.40 173 eP **P 11 00 02.2 0.0**
comp=Z,2μm,0.7s,mb6.6
SCZP Santa Cruz 23.58 348 eP **P 11 00 02.1 -1.8**
KRJI Kerinci 23.76 282 P ScS 11 10 29.1 +5.7
KRJI Kerinci 23.76 282 P **P 11 00 08.8 +3.2**
comp=Z,6μm,1.1s,mb6.9
BOLP Bolinao 24.17 349 eP **P 11 00 05.0 -4.2**
CTA Charters Tower 24.36 123 P **P 11 00 11.0 +0.1**
comp=Z,411nm,0.9s,mb5.8,baz=303,slow=10,SNR=220
CTA pP 11 01 17.7
comp=Z,362nm,1.0s,baz=310,slow=12,SNR=3.8
CTA S **S 11 04 00.1 -0.3**
comp=Z,121nm,0.9s,baz=333,slow=14,SNR=2.3
CTA Charters Tower 24.36 123⇓iP P 11 00 10.9 0.0
comp=Z,343nm,0.9s,mb5.8
CTA epP 11 01 15.9
CTA esP sP 11 02 06.5 -3.0
CTA eS **S 11 03 58.1 -2.2**
CTA Charters Tower 24.36 123 P **P 11 00 11.0 +0.1**
CTA pP 11 01 17.7
CTA S **S 11 04 00.1 -0.3**
CTA Charters Tower 24.36 123 P **P 11 00 11.0 +0.1**
CTA S **S 11 04 00.1 -0.2**
CTAO Charters Tower 24.36 123 eP **P 11 00 11.0 0.0**
comp=Z,525nm,1.0s,mb5.9
CTAO e 11 01 15.3
CTAO Charters Tower 24.36 123 eP **P 11 00 11.0 +0.1**
CTAO pmax pmax
comp=Z,525nm,1.0s,mb5.9
CTAO Charters Tower 24.36 123 P **P 11 00 10.8 -0.1**
comp=Z,9μmcomp=Z,748nm,1.2s,mb6.0
CAUP Cauayan 24.43 353 eP **P 11 00 11.3 -0.2**
BKNI Bangkinang 24.83 287 P **P 11 00 17.5 +2.2**
comp=Z,3μm,1.3s,mb6.5
KLBR Kellerberrin 24.86 194 eP **P 11 00 15.0 -0.2**
comp=Z,3μm,1.6s,mb6.5
KLBR epP 11 01 22.4
KLBR eS **S 11 04 07.3 -0.5**
PDSI Padang 25.02 284 P ScS 11 10 29.2 +0.6
comp=Z,991nm,1.6s
PDSI Padang 25.02 284 P **P 11 00 15.9 -1.1**
comp=Z,601nm,1.1s,mb5.9
PPI Padang Panjang 25.21 285 P ScS 11 10 31.5 +2.1
comp=Z,292nm,1.6s
PPI Padang Panjang 25.21 285 P **P 11 00 18.1 -0.5**
comp=Z,10μmcomp=Z,669nm,1.6s,mb5.8
NWAO Narrogin (SRO) 26.26 194 P **P 11 00 28.0 +0.4**
comp=Z,230nm,0.3s,mb6.0,baz=24,slow=8.1,SNR=231
NWAO Narrogin (SRO) 26.26 194 P **P 11 00 28.0 +0.4**
comp=Z,32nm,1.1s,mb4.7
NWAO eScP ScP 11 06 38.9 -3.5
NWAO Narrogin (SRO) 26.26 194 P **P 11 00 28.0 +0.4**
NWAO pmax pmax
comp=Z,32nm,1.1s
NWAO Narrogin (SRO) 26.26 194 P **P 11 00 28.2 +0.6**
SNR=51
MNSI Mandailing Nat 26.37 287 P ScS 11 10 45.1 +11
IPM Ipoh 26.44 296 P **P 11 00 30.3 +0.8**
IPM Ipoh 26.44 296 eP **P 11 00 29.6 0.0**
comp=Z,882nm,0.9s,mb6.2
IPM e 11 01 43.0
IPM ePcP PcP 11 03 44.0 +1.4
IPM eS **S 11 04 31.7 -1.5**
IPM eScP ScP 11 06 45.0 +1.6
IPM Ipoh 26.44 296 P **P 11 00 29.6 +0.1**
comp=Z,1μm,1.2s,mb6.3
KULM Kulim 27.14 297 P **P 11 00 36.5 +0.8**
KULM Kulim 27.14 297 eP **P 11 00 35.4 -0.3**
comp=Z,4μm,1.7s,mb6.6
KULM e 11 01 51.9
KULM eS **S 11 04 45.1 +0.9**
KULM eScP ScP 11 06 47.7 +2.2
KULM Kulim 27.14 297 P **P 11 00 35.6 -0.1**
comp=Z,2μm,0.9s,mb6.4
BBOO Buckleboo 27.33 159 eP **P 11 00 37.1 0.0**
comp=Z,14μm,0.6s
BBOO eS **S 11 04 44.6 -2.1**
BBOO eScP ScP 11 06 40.5 -5.2
PSI Prapat 27.67 291 P ScS 11 10 43.4 +3.1
PSI Prapat 27.67 291 P **P 11 00 40.0 -0.4**
comp=Z,1μm,1.5s,mb6.2
COCO West Island 27.84 258 P **P 11 00 41.4 -0.5**
comp=Z,2μm,1.3s,mb6.3,SNR=7.3
COCO West Island 27.84 258 eP **P 11 00 40.8 -1.1**
comp=Z,529nm,1.1s,mb5.8
COCO e 11 01 56.1
COCO eS **S 11 04 53.6 -1.5**
COCO eScP ScP 11 06 48.5 +0.8
COCO West Island 27.84 258 eP **P 11 00 40.8 -1.1**
COCO e 11 01 56.1
COCO eS **S 11 04 53.6 -1.6**
COCO pmax pmax
comp=Z,529nm,1.1s,mb5.8
COCO West Island 27.84 258 P **P 11 00 44.3 +2.4**
comp=Z,8μmcomp=Z,592nm,1.1s,mb5.8
COCO West Island 27.84 258 P **P 11 00 45.1 +3.2**
SNR=5.3
TSI Tuntungan 28.27 292 P **P 11 00 45.7 0.0**
comp=Z,3μm,1.2s,mb6.5
STKA Stephens Creek 28.94 149 P **P 11 00 51.8 +0.5**
comp=Z,1μm,0.8s,mb6.3,baz=319,slow=8.6,SNR=1248
STKA pP 11 02 05.8
comp=Z,1μm,0.9s,baz=314,slow=11,SNR=7.1
STKA S **S 11 05 12.0 +0.1**
comp=Z,423nm,1.0s,baz=125,slow=17,SNR=5.6
STKA ScP ScP 11 06 50.8 +0.1
comp=Z,232nm,1.0s,baz=0.2,slow=5.9,SNR=3.3
STKA Stephens Creek 28.94 149⇓iP P 11 00 51.8 +0.5
comp=Z,1μm,0.9s,mb6.3
STKA epP 11 02 05.3
STKA eS **S 11 05 12.1 +0.2**
STKA Stephens Creek 28.94 149 P **P 11 00 51.8 +0.5**
STKA pP 11 02 05.8
STKA S **S 11 05 12.0 +0.1**
STKA eScP ScP 11 06 50.4 -0.4
STKA ScP ScP 11 06 50.8 +0.1
STKA Stephens Creek 28.94 149 P **P 11 00 51.8 +0.5**
STKA *PP 11 02 05.8
STKA S **S 11 05 12.0 +0.1**
GUMO Guam 28.97 44 P **P 11 00 50.3 -1.5**
comp=Z,383nm,0.3s,mb6.2,baz=184,slow=6.7,SNR=18
GUMO S **S 11 05 06.9 -5.8**
comp=Z,330nm,1.0s,baz=346,slow=20,SNR=6.9
GUMO Guam 28.97 44 P **P 11 00 50.3 -1.5**
comp=Z,137nm,1.2s,mb5.2
GUMO S **S 11 05 06.9 -5.8**
GUMO Guam 28.97 44 P **P 11 00 50.3 -1.4**
GUMO S **S 11 05 06.9 -5.8**
GUMO pmax pmax
comp=Z,137nm,1.2s,mb5.2
GUMO Guam 28.97 44 P **P 11 00 50.6 -1.1**
comp=Z,3μm,1.1s,mb6.5
TPTI 29.46 290 P ScS 11 10 54.2 +5.6
TPTI 29.46 290 P **P 11 00 54.9 -1.2**
comp=Z,790nm,0.8s,mb6.1
UBT Ubonrachathani 29.83 319 ⇓P **P 11 01 00.0 +0.7**
comp=Z,556nm,0.7s,mb6.0
QIZ Qiongzhong 30.13 331 P **P 11 01 01.7 -0.2**
QIZ pP pP 11 02 21.0 +5.2
QIZ PP PP 11 02 30.8 +10
QIZ sP sP 11 03 07.5 +4.4
QIZ S **S 11 05 26.5 -4.2**
QIZ SS SS 11 08 06.6 +5.2
QIZ pmax pmax
comp=Z,190nm,0.8s,mb5.5
QIZ pmax pmax
comp=Z,2μm,7.9s
TWG Pinlang 30.32 353 eP **P 11 01 00.5 -2.9**
comp=Z,392nm,0.9s,mb5.7
TWG ePcP PcP 11 03 51.5 -0.7
LHMI Lhok Sumawe 30.43 294 P **P 11 01 04.3 -0.3**
comp=Z,2μm,0.8s,mb6.6
EIDS Eidsvold 30.83 128 eP **P 11 01 06.6 -1.3**
comp=Z,172nm,0.8s,mb5.4
EIDS epP pP 11 02 22.1 +0.1
TPUB Ta-pu 30.84 353 eP **P 11 01 06.5 -1.5**
comp=Z,3μm,1.0s,mb6.6
TPUB ePcP PcP 11 03 56.0 +2.4
YULB Yu-li 30.86 354 eP **P 11 01 04.8 -3.3**
comp=Z,379nm,0.8s,mb5.8
YULB eS **S 11 05 37.1 -4.7**
SSLB Suanglung 31.29 353 eP **P 11 01 09.7 -2.2**
comp=Z,798nm,0.9s,mb6.0
HKC Hong Kong Obse 31.34 341⇑iP P 11 01 12.0 -0.3
HKC *i* S **S 11 05 48.0 -1.3**
NACB Ninganchiao 31.60 355 eP **P 11 01 11.7 -2.8**
comp=Z,673nm,1.0s,mb5.9
NNT Nongplab 31.83 309 P **P 11 01 17.2 +0.5**
BSI Banda Aceh 32.04 293 P **P 11 01 16.6 -2.0**
comp=Z,972nm,1.2s,mb6.0
YHNB Yeheng 32.11 354 eP **P 11 01 17.1 -1.9**
comp=Z,594nm,0.9s,mb5.9
GZH Guangzhou 32.34 340 P **P 11 01 23.4 +2.4**
GZH S **S 11 06 04.0 -0.7**
GZH pmax pmax
comp=Z,3μm,4.6s
TATO Taipei 32.40 355 eP **P 11 01 18.4 -3.1**
comp=Z,356nm,0.7s,mb5.8
TATO Taipei 32.40 355 P **P 11 01 19.7 -1.8**
SNR=5.4
QZH Quanzhou 32.77 350⇑iP P 11 01 21.9 -2.7
QZH pmax pmax
comp=Z,530nm,0.8s,mb5.9
QZH pmax pmax
comp=Z,5μm,6.6s
NST Nakhon Sawan 33.48 313 ⇓P **P 11 01 31.4 +0.6**
comp=Z,733nm,0.8s,mb6.1
ARMA Armidale 34.02 136⇓iP P 11 01 36.6 +1.3
ARMA epP pP 11 02 51.4 +1.0
ARMA e 11 06 32.5
ARMA eSCP ScP 11 07 08.8 +0.7
ARMA Armidale 34.02 136 eP **P 11 01 36.9 +1.6**
comp=Z,91nm,0.8s,mb5.2
ARMA epP pP 11 02 51.5 +1.1
ARMA esP sP 11 03 05.2 -32
ARMA eS **S 11 06 32.7 +2.3**
JOW Kunigami 34.28 6 P **P 11 01 36.5 -0.9**
comp=Z,269nm,0.7s,mb5.7,baz=226,slow=4.9,SNR=17
JOW pP pP 11 02 52.0 -0.7
comp=Z,74nm,0.8s,baz=218,slow=5.2,SNR=1.7
JOW S **S 11 06 27.0 -7.2**
comp=Z,23nm,0.7s,baz=118,slow=17,SNR=1.8
JOW Kunigami 34.28 6 P **P 11 01 36.5 -0.9**
JOW pP pP 11 02 52.0 -0.7
JOW S **S 11 06 27.0 -7.2**
HNR Honiara 34.91 96 P **P 11 01 42.0 -1.0**
comp=Z,1μm,0.6s,mb6.5,baz=216,slow=1.7,SNR=63
HNR S **S 11 06 42.4 -2.0**
comp=Z,80nm,0.8s,baz=228,slow=14,SNR=2.6
HNR ScP ScP 11 07 13.8 +2.2
comp=Z,401nm,0.9s,baz=203,slow=5.7,SNR=4.7
HNR Honiara 34.91 96 eP **P 11 01 41.9 -1.1**
comp=Z,6μm,1.4s,mb6.7
HNR S **S 11 06 42.4 -1.9**
HNR eS **S 11 06 42.6 -1.7**
HNR ScP ScP 11 07 13.8 +2.2
HNR Honiara 34.91 96 P **P 11 01 42.0 -1.0**
HNR S **S 11 06 42.4 -1.9**
HNR smax
comp=N,80nm,0.8s
HNR pmax pmax
comp=N,401nm,0.9s
BDT Bhumibol Dam 35.33 314 P **P 11 01 47.0 +0.5**
comp=N,271nm,1.0s,mb5.5
TOO Toolangi 35.41 151⇓iP P 11 01 48.6 +1.7
comp=N,5μm,1.1s,mb6.8
TOO epP pP 11 03 03.9 +1.4
TOO ePCP PcP 11 04 06.8 +0.5
TOO eS **S 11 06 51.9 +0.7**
CAN Canberra 35.57 145 eP **P 11 01 49.5 +1.2**
comp=N,4μm,1.4s,mb6.5
CAN epP pP 11 03 06.0 +2.1
CAN eS **S 11 06 57.8 +4.1**
CAN Canberra 35.57 145 eP **P 11 01 49.5 +1.2**
CAN e*PP pP 11 03 06.0 +2.1
CAN eS **S 11 06 57.8 +4.1**
CAN pmax pmax
comp=Z,4μm,1.4s,mb6.5
CNB Canberra Magne 35.77 144⇓iP P 11 01 51.2 +1.2
comp=Z,5μm,1.2s,mb6.7
CNB epP pP 11 03 09.8 +4.1
CNB eS **S 11 06 57.7 +0.9**
RIV Riverview 35.85 141⇓iP P 11 01 52.4 +1.8
RIV epP pP 11 03 07.9 +1.5
RIV eS **S 11 07 03.9 +6.0**
CM31 Chiang Mai Arr 36.19 316 eP **P 11 01 54.2 +0.5**
comp=Z,734nm,0.6s,mb6.2
CM31 ePcP PcP 11 04 10.4 +1.4
CM31 eS **S 11 07 01.9 -1.6**
CMAR Chiang Mai Arr 36.19 316 P **P 11 01 54.2 +0.6**
comp=Z,1μm,0.7s,mb6.3,baz=144,slow=6.8,SNR=2121
CMAR PcP PcP 11 04 10.6 +1.6
comp=Z,102nm,0.8s,baz=173,slow=2.7,SNR=5.7
CMAR S **S 11 07 02.5 -0.9**
comp=Z,14nm,1.0s,baz=132,slow=12,SNR=4.2
CMAR ScP ScP 11 07 17.2 +1.1
comp=Z,65nm,0.8s,baz=158,slow=3.0,SNR=14
CMAR P3KPbc 11 32 23.9
comp=Z,1.4nm,0.7s,baz=315,slow=6.0,SNR=11
CMAR Chiang Mai Arr 36.19 316 P **P 11 01 54.2 +0.6**
CMAR PcP PcP 11 04 10.6 +1.6
CMAR S **S 11 07 02.5 -0.9**
CMAR ScP ScP 11 07 17.2 +1.1
CMAR e 11 32 23.9
CMAR Chiang Mai Arr 36.19 316 P **P 11 01 54.3 +0.6**
CMAR 11 04 10.6
CMAR S **S 11 07 02.6 -0.8**
CHG Chiang Mai 36.43 316 PG **P 11 01 56.1 +0.4**
CHG SG 11 01 57.1
CHTO Chiang Mai 36.43 316 eP **P 11 01 56.2 +0.5**
comp=Z,1μm,0.7s,mb6.3
CHTO epP pP 11 03 11.5 -0.3
CHTO eS **S 11 07 02.0 -5.1**
CHTO Chiang Mai 36.43 316 eP **P 11 01 56.2 +0.5**
CHTO e*PP pP 11 03 11.5 -0.2
CHTO eS **S 11 07 02.0 -5.1**
CHTO pmax pmax
comp=Z,1μm,0.7s,mb6.3
CHTO Chiang Mai 36.43 316 P **P 11 01 55.7 0.0**
comp=Z,2μm,0.7s,mb6.5
CHTO Chiang Mai 36.43 316 P **P 11 01 56.4 +0.7**
SNR=247
CHRT Chiangrai 36.60 318 ⇑P **P 11 01 56.0 -1.1**
comp=Z,3μm,0.6s,mb6.8
GYA Guiyang 38.00 333⇑iP P 11 02 08.8 +0.2
GYA pP pP 11 03 27.6 +2.3
GYA PP PP 11 03 49.1 +2.7
GYA sP sP 11 04 13.7 +1.8
GYA PcP PcP 11 04 15.1 +0.7
GYA ScP ScP 11 07 22.3 -0.5
GYA S **S 11 07 31.6 +1.3**
GYA sS sS 11 09 50.7 +0.6
GYA SS SS 11 10 32.1 -6.2
GYA ScS ScS 11 11 35.1 +1.5
GYA pmax pmax
comp=Z,990nm,0.7s,mb6.2
GYA pmax pmax
comp=Z,5μm,5.7s
CBIJ Chichi jima 38.31 26 P **P 11 02 09.7 -1.5**
comp=Z,2μm,0.8s,mb6.5,baz=183,slow=3.3,SNR=31
CBIJ S **S 11 07 30.1 -4.9**
comp=Z,466nm,0.7s,baz=297,slow=23,SNR=12
CBIJ Chichi jima 38.31 26 P **P 11 02 09.7 -1.5**
CBIJ S **S 11 07 30.1 -4.9**
SSE Sheshan 38.50 355 P **P 11 02 12.0 -0.6**
SSE pP pP 11 03 31.2 +1.7
SSE sP sP 11 04 15.1 -0.9
SSE S **S 11 07 39.2 +1.6**
SSE sS sS 11 09 59.3 +1.7
SSE pmax pmax
comp=Z,170nm,1.0s,mb5.3
SSE pmax pmax
comp=Z,5μm,7.1s
SSE Sheshan 38.50 355 P **P 11 02 12.0 -0.6**
comp=Z,173nm,1.0s,mb5.3
SSE pP pP 11 03 31.2 +1.7
SSE sP sP 11 04 15.1 -0.9
SSE S **S 11 07 39.2 +1.6**
SSE sS sS 11 09 59.3 +1.7
SSE SS SS 11 10 52.4 +4.6
SSE LR LR
comp=Z,5μm,20.4s
KMI Kunming 38.82 327 P **P 11 02 16.9 +1.6**
KMI pP pP 11 03 31.3 -1.1
KMI PP PP 11 03 53.3 -1.8
KMI sP sP 11 04 18.7 -0.2
KMI S **S 11 07 42.6 +0.1**
KMI SS SS 11 10 54.0 -0.2
KMI pmax pmax
comp=Z,650nm,0.8s,mb6.0
KMI pmax pmax
comp=Z,3μm,3.7s
KMI Kunming 38.82 327 P **P 11 02 16.9 +1.6**
comp=Z,654nm,0.8s,mb6.0
KMI pP pP 11 03 31.3 -1.1
KMI PP PP 11 03 53.3 -1.8
KMI sP sP 11 04 18.7 -0.2

KMI			S	S	11 07 42.6	+0.1
KMI			sS	sS	11 10 00.1	-2.6
KMI			SS	SS	11 10 54.0	-0.2
KMI			LR	LR		
comp=Z,10μm,15.7s						
KMI	**Kunming**	**38.82 327**	P	**P**	**11 02 16.9**	**+1.6**
KMI			*PP	pP	11 03 31.3	-1.1
KMI					11 03 53.3	
KMI			*SP	sP	11 04 18.7	-0.2
KMI			S	**S**	**11 07 42.6**	**+0.1**
KMI			*SS	sS	11 10 00.1	-2.6
KMI			pmax	pmax		
comp=Z,654nm,0.8s,mb6.0						
KMI			MLR	MLR		
comp=Z,10μm,15.7s						
WHN	**Wuhan**	**39.08 346**	P	**P**	**11 02 17.6**	**+0.2**
WHN			pP	pP	11 03 33.7	-0.8
WHN			PP	PP	11 03 54.5	-3.4
WHN			sP	sP	11 04 20.9	-0.1
WHN			sS	sS	11 10 05.0	-1.6
WHN			SS	SS	11 10 58.5	-0.7
NJ2	**Nanjing**	**39.70 352**	*e*P	**P**	**11 02 22.2**	**-0.2**
NJ2			pP	pP	11 03 40.2	+0.4
NJ2			PP	PP	11 04 07.2	+2.8
NJ2			sP	sP	11 04 27.6	+1.4
NJ2			S	**S**	**11 07 54.0**	**-1.3**
NJ2			sS	sS	11 10 11.0	-5.0
NJ2			pmax	pmax		
comp=Z,470nm,0.9s,mb5.8						
NJ2			pmax	pmax		
comp=Z,4μm,6.0s						
MOO	**Moorlands**	**40.09 154**	⇓*i*P	**P**	**11 02 26.9**	**+1.5**
comp=Z,2μm,0.8s,mb6.5						
MOO			*e*S	**S**	**11 08 03.2**	**+2.4**
MOO			*e*SS	sS	11 10 25.9	+4.2
TAU	**Tasmania Unive**	**40.52 154**	*e*P	**P**	**11 02 30.3**	**+1.4**
comp=Z,1μm,1.1s,mb6.1						
TAU			*e*pP	pP	11 03 47.4	+0.7
TAU			*e*S	**S**	**11 08 06.8**	**-0.4**
TAU	**Tasmania Unive**	**40.52 154**	P	**P**	**11 02 30.9**	**+2.0**
comp=Z,5μm,1.1s,mb6.8,SNR=52						
TAU	**Tasmania Unive**	**40.52 154**	*e*P	**P**	**11 02 30.3**	**+1.4**
TAU			*e**PP	pP	11 03 47.4	+0.7
TAU			*e*S	**S**	**11 08 06.8**	**-0.4**
TAU			pmax	pmax		
comp=Z,1μm,1.1s,mb6.1						
JNU	**Nakatsue**	**40.80 8**	*e*P	**P**	**11 02 29.9**	**-1.3**
comp=Z,2μm,2.5s,mb6.1						
NOUC	**Port Laguerre**	**42.61 115**	*e*P	**P**	**11 02 44.2**	**-1.8**
DZM	**Mont Dzumac**	**42.73 114**	*e*P	**P**	**11 02 46.9**	**0.0**
comp=Z,2μm,1.3s,mb6.3						
DZM			*e*S	**S**	**11 08 38.2**	**-1.7**
comp=Z,8μm,29.0s						
DZM	**Mont Dzumac**	**42.73 114**	*e*P	**P**	**11 02 44.9**	**-2.1**
DZM	**Mont Dzumac**	**42.73 114**	*e*P	**P**	**11 02 46.8**	**-0.1**
comp=Z,952nm,1.1s,mb6.0						
DZM			*e*S	**S**	**11 08 35.1**	**-4.8**
MVNO	**Noumea**	**42.77 115**	*e*P	**P**	**11 02 47.0**	**-0.3**
NORM	**Noumea**	**42.80 115**	*e*P	**P**	**11 02 46.9**	**-0.6**
LASL	**Noumea**	**42.85 115**	*e*P	**P**	**11 02 47.4**	**-0.5**
PLUM	**Mont Dore**	**42.95 115**	*e*P	**P**	**11 02 47.4**	**-1.3**
CD2	**Chengdu**	**43.12 333**	⇑*i*P	**P**	**11 02 49.8**	**-0.3**
CD2			pP	pP	11 04 09.8	+1.1
CD2			PP	PP	11 04 39.4	-0.5
CD2			sP	sP	11 04 55.7	+1.0
CD2			PcS	PcS	11 08 22.8	-1.5
CD2			S	**S**	**11 08 45.3**	**+0.1**
CD2			sS	sS	11 11 08.5	+0.7
CD2			SS	SS	11 12 05.2	-5.8
CD2			pmax	pmax		
comp=Z,2μm,0.7s,mb6.4						
CD2			pmax	pmax		
comp=Z,22μm,7.1s						
BAYA	**Yate Dam**	**43.15 114**	*e*P	**P**	**11 02 50.2**	**0.0**
XAN	**Xi'an**	**43.91 341**	P	**P**	**11 02 54.9**	**-1.1**
XAN			sP	sP	11 05 01.9	+0.8
XAN			S	**S**	**11 08 52.8**	**-3.6**
XAN			pmax	pmax		
comp=Z,310nm,0.7s,mb5.8						
XAN			pmax	pmax		
comp=Z,510nm,8.2s						
TIA	**Tai'an**	**44.03 351**	*e*P	**P**	**11 02 55.8**	**-1.1**
TIA			S	**S**	**11 08 51.8**	**-6.3**
TIA			pmax	pmax		
comp=Z,380nm,1.0s,mb5.7						
TIA			pmax	pmax		
comp=Z,3μm,9.3s						
INCN	**Inchon**	**44.76 2**	*e*P	**P**	**11 03 01.9**	**-0.6**
comp=Z,482nm,1.0s,mb5.8						
INCN	**Inchon**	**44.76 2**	P	**P**	**11 03 02.9**	**+0.3**
SNR=11						
KSAR	**Wonju Array Be**	**44.78 4**	P	**P**	**11 03 02.6**	**-0.1**
KSAR			pP	pP	11 04 20.1	-2.2
KSAR			PcP	PcP	11 04 37.7	+1.0
KSAR			ScP	ScP	11 07 49.2	-0.3
KSAR	**Wonju Array Be**	**44.78 4**	P	**P**	**11 03 02.7**	**0.0**
KSAR			*PP	pP	11 04 20.1	-2.2
KSAR					11 04 37.7	
KSRS	**Korea Array**	**44.79 4**	P	**P**	**11 03 02.6**	**-0.2**
comp=Z,244nm,0.8s,mb5.6,baz=179,slow=9.5,SNR=114						
KSRS			pP	pP	11 04 20.1	-2.3
comp=Z,32nm,1.1s,baz=183,slow=9.4,SNR=0.8						
KSRS			PcP	PcP	11 04 37.7	+1.0
comp=Z,103nm,0.8s,baz=184,slow=3.3,SNR=14						
KSRS			ScP	ScP	11 07 49.2	-0.4
comp=Z,30nm,0.9s,baz=167,slow=2.8,SNR=4.9						
KSRS	**Korea Array**	**44.79 4**	P	**P**	**11 03 02.7**	**-0.1**
KSRS			*PP	pP	11 04 20.1	-2.3
KSRS					11 04 37.7	
KSRS			pmax	pmax		
comp=Z,244nm,0.8s,mb5.6						
KSRS			pmax	pmax		
comp=Z,32nm,1.1s,mb4.6						
KSRS			pmax	pmax		
comp=Z,103nm,0.8s,mb5.2						
KSRS			pmax	pmax		
comp=N,30nm,0.9s						
AGT	**Agartala**	**45.14 315**	*e*PKP	**P**	**11 03 04.0**	**-1.8**
AGT			*ex*	x	11 04 25.0	
MJAR	**Matsushiro Arr**	**45.58 15**	P	**P**	**11 03 08.2**	**-0.8**
comp=N,788nm,0.9s,mb6.0,baz=195,slow=9.2,SNR=366						
MJAR			PcP	PcP	11 04 40.7	+1.2
comp=N,53nm,0.8s,baz=183,slow=4.9,SNR=3.7						
MJAR			ScP	ScP	11 07 52.0	-1.0
comp=N,47nm,0.8s,baz=197,slow=5.5,SNR=8.0						
MJAR			S	**S**	**11 09 16.7**	**-3.5**
comp=N,6.2nm,1.0s,baz=20,slow=24,SNR=4.2						
MJAR	**Matsushiro Arr**	**45.58 15**	P	**P**	**11 03 08.2**	**-0.8**
MJAR			PcP	PcP	11 04 40.7	+1.2
MJAR			ScP	ScP	11 07 52.0	-1.0
MJAR			S	**S**	**11 09 16.7**	**-3.5**
MJAR	**Matsushiro Arr**	**45.58 15**	P	**P**	**11 03 08.2**	**-0.7**
MJAR					11 04 40.7	
MJAR			S	**S**	**11 09 16.7**	**-3.4**
MAJO	**Matsushiro**	**45.58 15**	*e*P	**P**	**11 03 08.1**	**-0.9**
comp=N,1μm,1.0s,mb6.1						
MAJO			*e*S	**S**	**11 09 14.8**	**-5.3**
MAJO	**Matsushiro**	**45.58 15**	*e*P	**P**	**11 03 08.1**	**-0.8**
MAJO			*e*S	**S**	**11 09 14.8**	**-5.3**
MAJO			pmax	pmax		
comp=Z,1μm,1.0s,mb6.1						
MAT	**Matsushiro**	**45.58 15**	P	**P**	**11 03 08.1**	**-0.8**
MAT			S	**S**	**11 09 15.0**	**-5.1**
KWAJ	**Kwajalein Atol**	**45.72 70**	*e*P	**P**	**11 03 10.2**	**-0.3**
comp=Z,5μm,1.8s,mb6.6						
KWAJ	**Kwajalein Atol**	**45.72 70**	*e*P	**P**	**11 03 10.2**	**-0.2**
KWAJ			pmax	pmax		
comp=Z,5μm,1.8s,mb6.6						
SHL	**Shillong**	**45.79 317**	*e*PKP	**P**	**11 03 11.0**	**+0.2**
SHL			*i* S	**S**	**11 09 25.0**	**+1.5**
DL2	**Dalian**	**46.23 357**	P	**P**	**11 03 12.7**	**-1.2**
DL2			PP	PP	11 05 07.1	-1.1
DL2			S	**S**	**11 09 24.9**	**-4.3**
DL2			sS	sS	11 11 50.0	-3.7
DL2			pmax	pmax		
comp=Z,480nm,0.9s,mb5.8						
DL2			pmax	pmax		
comp=Z,1μm,7.2s						
TIY	**Taiyuan**	**46.39 347**	*e*P	**P**	**11 03 14.1**	**-1.0**
TIY			pP	pP	11 04 31.3	-4.1
TIY			sP	sP	11 05 17.1	-3.9
TIY			S	**S**	**11 09 24.9**	**-6.6**
TIY			pmax	pmax		
comp=Z,1μm,3.7s						
CAL	**Calcutta**	**46.45 311**	⇑*i*P	**P**	**11 03 17.1**	**+1.2**
CAL			⇑*i*S	**S**	**11 09 32.6**	**-0.2**
BWNR	**Bhubaneshwar**	**47.16 307**	*ex*	x	11 03 11.0	
LZH	**Lanzhou**	**47.56 337**	⇑P	**P**	**11 03 24.8**	**+0.7**
LZH			pP	pP	11 04 46.0	+1.2
LZH			PP	PP	11 05 22.7	+2.4
LZH			sP	sP	11 05 32.1	+1.8
LZH			ScP	ScP	11 08 01.2	-0.1
LZH			S	**S**	**11 09 49.0**	**+1.1**
LZH			sS	sS	11 12 15.0	+1.8
LZH			ScS	ScS	11 12 31.3	-1.9
LZH			SS	SS	11 13 21.0	-1.4
LZH			pmax	pmax		
comp=Z,1μm,1.1s,mb6.1						
LZH			pmax	pmax		
comp=Z,6μm,5.0s						
LZH	**Lanzhou**	**47.56 337**	⇑P	**P**	**11 03 24.8**	**+0.7**
comp=Z,1μm,1.1s,mb6.1						
LZH			pP	pP	11 04 46.0	+1.2
LZH			PP	PP	11 05 22.7	+2.4
LZH			sP	sP	11 05 32.1	+1.8
LZH			ScP	ScP	11 08 01.2	-0.1
LZH			S	**S**	**11 09 49.0**	**+1.1**
LZH			sS	sS	11 12 15.0	+1.8
LZH			ScS	ScS	11 12 31.3	-1.9
LZH			SS	SS	11 13 21.0	-1.4
LZH			pmax	pmax		
comp=Z,1μm,1.1s,mb6.1						
LZH	**Lanzhou**	**47.56 337**	⇑P	**P**	**11 03 24.8**	**+0.7**
LZH			*PP	pP	11 04 46.0	+1.2
LZH					11 05 22.7	
LZH			*SP	sP	11 05 32.1	+1.8
LZH			S	**S**	**11 09 49.0**	**+1.1**
LZH			*SS	sS	11 12 15.0	+1.8
LZH					11 12 31.3	
LZH			SS	SS	11 13 21.0	-1.4
LZH			pmax	pmax		
comp=Z,1μm,1.1s,mb6.1						
VIS	**Vishakhapatnam**	**47.92 302**	*i* x	x	11 03 10.1	
VIS			*i* x	x	11 06 28.1	
BJI	**Beijing**	**47.93 351**	P	**P**	**11 03 28.0**	**+1.2**
BJI			S	**S**	**11 09 55.8**	**+2.9**
BJI			SS	SS	11 13 32.3	+4.2
BJI			pmax	pmax		
comp=Z,220nm,0.8s,mb5.5						
BJI			pmax	pmax		
comp=Z,1μm,3.8s						
LSA	**Lhasa**	**49.05 320**	P	**P**	**11 03 36.2**	**+0.7**
LSA			pmax	pmax		
comp=Z,100nm,0.6s,mb5.3						
GTK	**Gangtok**	**49.16 316**	*ex*	**P**	**11 03 32.0**	**-4.3**
HHC	**Hu-ho-hao-te**	**49.58 347**	*e*P	**P**	**11 03 38.5**	**-0.7**
HHC			pP	pP	11 04 56.2	-4.5
HHC			PP	PP	11 05 39.5	+1.0
HHC			sP	sP	11 05 47.1	+1.1
HHC			S	**S**	**11 10 13.0**	**-2.7**
HHC			sS	sS	11 12 41.8	-0.4
HHC			SS	SS	11 13 51.9	-2.4
HHC			pmax	pmax		
comp=Z,100nm,0.8s,mb5.2						
HHC			pmax	pmax		
comp=Z,3μm,4.8s						
BTO	**Baotou**	**49.72 345**	*e*P	**P**	**11 03 38.5**	**-1.7**
BTO			pmax	pmax		
comp=Z,100nm,1.6s,mb4.9						
ODAN	**Odare**	**49.72 315**	*e*P	**P**	**11 03 40.8**	**+0.3**
ODAN	**Odare**	**49.72 315**	*e*P	**P**	**11 03 40.8**	**+0.3**
TAPN	**Taplejung**	**49.80 316**	*e*P	**P**	**11 03 41.6**	**+0.5**
comp=Z,956nm,0.5s,mb6.4						
TAPN	**Taplejung**	**49.80 316**	*e*P	**P**	**11 03 41.6**	**+0.5**
comp=Z,956nm,0.5s,mb6.4						
TRD	**Trivandrum**	**50.16 288**	*e*PKP	**P**	**11 03 44.0**	**0.0**
RAMN	**Ramite**	**50.33 314**	*e*P	**P**	**11 03 45.7**	**+0.7**
RAMN	**Ramite**	**50.33 314**	*e*P	**P**	**11 03 45.7**	**+0.7**
VLA	**Vladivostok**	**50.78 7**	⇑*i*P	**P**	**11 03 48.0**	**0.0**
VLA			*e*		11 04 58.3	
VLA			*e*S	**S**	**11 10 30.7**	**-1.2**
VLA			pmax	pmax		
comp=Z,392nm,1.0s,mb5.6						
CN2	**Changchun**	**51.04 1**	⇑*i*P	**P**	**11 03 48.6**	**-1.3**
CN2			*e*pP	pP	11 05 12.2	+0.2
CN2			PP	PP	11 05 52.1	+0.5
CN2			*e*sP	sP	11 05 56.9	-0.2
CN2			*e*S	**S**	**11 10 34.1**	**-1.3**
CN2			ScS	ScS	11 12 52.3	-4.3
CN2			pmax	pmax		
comp=Z,80nm,1.0s,mb4.9						
CN2			pmax	pmax		
comp=Z,4μm,7.0s						
JIRN	**Jiri**	**51.05 315**	*e*P	**P**	**11 03 51.2**	**+0.9**
comp=Z,1μm,0.5s,mb6.3						
JIRN	**Jiri**	**51.05 315**	*e*P	**P**	**11 03 51.2**	**+0.9**
comp=Z,1μm,0.5s,mb6.3						
GUN	**Gumba**	**51.42 315**	*e*P	**P**	**11 03 53.5**	**+0.5**
GUN	**Gumba**	**51.42 315**	*e*P	**P**	**11 03 53.5**	**+0.5**
PKI	**Pulchoki**	**51.55 314**	*e*P	**P**	**11 03 54.2**	**+0.2**
PKI	**Pulchoki**	**51.55 314**	*e*P	**P**	**11 03 54.2**	**+0.2**
PKI	**Pulchoki**	**51.55 314**	*e*P	**P**	**11 03 54.2**	**+0.2**
KKN	**Kakani**	**51.77 314**	*e*P	**P**	**11 03 55.9**	**+0.3**
comp=Z,888nm,0.5s,mb6.3						
KKN	**Kakani**	**51.77 314**	*e*P	**P**	**11 03 55.9**	**+0.3**
comp=Z,888nm,0.5s,mb6.2						
KKN	**Kakani**	**51.77 314**	*e*P	**P**	**11 03 55.9**	**+0.3**
KKN			pmax	pmax		
comp=Z,888nm,0.5s,mb6.2						
DGAR	**Diego Garcia**	**51.78 266**	P	**P**	**11 03 56.1**	**+0.2**
comp=Z,5μm,1.1s,mb6.7,SNR=8.6						
DGAR	**Diego Garcia**	**51.78 266**	*e*P	**P**	**11 03 56.1**	**+0.2**
comp=Z,2μm,1.1s,mb6.2						
DGAR	**Diego Garcia**	**51.78 266**	*e*P	**P**	**11 03 56.1**	**+0.2**
DGAR			pmax	pmax		
comp=Z,2μm,1.1s,mb6.2						
DGAR	**Diego Garcia**	**51.78 266**	P	**P**	**11 03 58.9**	**+3.0**
SNR=6.9						
DMN	**Daman**	**51.79 314**	*e*P	**P**	**11 03 56.1**	**+0.4**
comp=Z,1μm,0.7s,mb6.2						
DMN	**Daman**	**51.79 314**	*e*P	**P**	**11 03 56.1**	**+0.4**
comp=Z,1μm,0.7s,mb6.2						
HYB	**Hyderabad**	**51.87 299**	*i* P	**P**	**11 03 55.5**	**-0.9**
comp=Z,100nm,1.0s,mb5.0						
HYB			*e*S	**S**	**11 10 48.0**	**+0.4**
GTA	**Gaotai**	**52.03 336**	⇑P	**P**	**11 03 57.7**	**+0.4**
GTA			PcP	PcP	11 05 06.3	+3.2
GTA			pP	pP	11 05 21.7	+1.9
GTA			sP	sP	11 06 06.0	+1.3
GTA			ScP	ScP	11 08 22.0	+1.6
GTA			S	**S**	**11 10 47.6**	**-1.5**
GTA			sS	sS	11 13 15.3	-1.8
GTA			pmax	pmax		
comp=Z,320nm,1.0s,mb5.5						
GTA			pmax	pmax		
comp=Z,3μm,5.5s						
MDJ	**Mudanjiang**	**52.04 4**	P	**P**	**11 03 57.3**	**+0.1**
MDJ			PcP	PcP	11 05 02.8	-0.1
MDJ			pP	pP	11 05 18.3	-1.4
MDJ			sP	sP	11 06 03.0	-1.6
MDJ			ScP	ScP	11 08 19.8	-0.5
MDJ			S	**S**	**11 10 49.5**	**+0.6**
MDJ			ScS	ScS	11 13 03.2	-0.4
MDJ			sS	sS	11 13 14.7	-2.2
MDJ			SS	SS	11 14 35.3	+2.4
MDJ			pmax	pmax		
comp=Z,1μm,1.1s,mb6.1						
MDJ			pmax	pmax		
comp=Z,4μm,6.9s						
ERM	**Erimo**	**52.06 17**	P	**P**	**11 03 58.0**	**+0.6**
comp=Z,4μm,0.9s,mb6.7,SNR=15						
ERM	**Erimo**	**52.06 17**	*e*P	**P**	**11 03 58.1**	**+0.7**
comp=Z,678nm,0.9s,mb5.9						
ERM	**Erimo**	**52.06 17**	*ce*P	**P**	**11 03 58.9**	**+1.5**
ERM			pmax	pmax		
comp=Z,680nm,0.8s,mb5.9						
GKN	**Gorkha**	**52.36 314**	*e*P	**P**	**11 04 00.1**	**+0.3**
comp=Z,778nm,0.4s,mb6.3						
OUZ	**Omahuta**	**52.56 129**	*e*P	**P**	**11 04 02.7**	**+1.5**
comp=Z,2μm,1.5s,mb6.0						
OUZ	**Omahuta**	**52.56 129**	PN	**P**	**11 04 02.7**	**+1.5**
DCZ	**Deep Cove**	**52.66 143**	*e*PN	**P**	**11 04 02.7**	**+1.0**
DCZ			PcP	PcP	11 05 05.4	0.0
DCZ			pP	pP	11 05 28.2	+3.7
MSZ	**Milford Sound**	**52.70 142**	PN	**P**	**11 04 03.0**	**+1.0**
MSZ			PcP	PcP	11 05 04.7	-0.8
MSZ			pP	pP	11 05 26.6	+1.8
MSZ			ScP	ScP	11 08 23.2	-0.1
PYZ	**Puysegur Point**	**52.76 144**	PN	**P**	**11 04 03.4**	**+0.9**
MSVF	**Nonsavu**	**52.90 107**	*e*P	**P**	**11 04 04.4**	**+0.5**
comp=Z,2μm,1.5s,mb6.1						
MSVF			*e*S	**S**	**11 11 06.2**	**+4.7**
MSVF	**Nonsavu**	**52.90 107**	P	**P**	**11 04 05.0**	**+1.1**
comp=Z,3μm,1.0s,mb6.5						
MSVF	**Nonsavu**	**52.90 107**	*e*P	**P**	**11 04 04.4**	**+0.5**
MSVF			*e*S	**S**	**11 11 06.2**	**+4.7**
MSVF			pmax	pmax		
comp=Z,2μm,1.5s,mb6.1						
JCZ	**Jackson Bay**	**52.90 141**	PN	**P**	**11 04 04.5**	**+1.0**
JCZ			pP	pP	11 05 29.1	+2.8
JCZ			sP	sP	11 06 06.6	-4.7
JCZ			ScP	ScP	11 08 25.9	+1.7
ALBI	**Allahabad**	**52.94 309**	*e*PKP	**P**	**11 04 02.0**	**-2.1**
KOLN	**Koldanda**	**52.97 313**	*e*P	**P**	**11 04 04.6**	**+0.4**
comp=Z,1μm,0.6s,mb6.3						
KOLN	**Koldanda**	**52.97 313**	*e*P	**P**	**11 04 04.6**	**+0.4**
comp=Z,1μm,0.6s,mb6.3						
NGP	**Nagpur**	**53.08 303**	*e*PKP	**P**	**11 04 04.0**	**-1.2**
NGP			*ex*	x	11 11 00.1	
DANN	**Dangsing**	**53.19 314**	*e*P	**P**	**11 04 06.1**	**+0.3**
DANN	**Dangsing**	**53.19 314**	*e*P	**P**	**11 04 06.1**	**+0.3**
MLZ	**Mavora Lakes**	**53.20 143**	*e*PN	**P**	**11 04 05.5**	**-0.1**
MLZ			pP	pP	11 05 30.4	+1.8
FOZ	**Fox Glacier**	**53.24 140**	PN	**P**	**11 04 06.3**	**+0.4**
FOZ			PcP	PcP	11 05 06.3	-1.3
FOZ			pP	pP	11 05 33.6	+4.7
JBP	**Jabalpur**	**53.28 306**	*e*PKP	**P**	**11 04 06.5**	**-0.1**
JBP			*ex*	x	11 11 04.5	
WHZ	**Wether Hill Ro**	**53.35 143**	PN	**P**	**11 04 06.8**	**+0.1**
WHZ			PcP	PcP	11 05 08.0	0.0
WCZ	**Waipu Caves**	**53.38 130**	*e*PN	**P**	**11 04 08.1**	**+1.0**
WCZ			PcP	PcP	11 05 08.8	+0.5
WKZ	**Wanaka**	**53.44 142**	PN	**P**	**11 04 07.7**	**+0.3**
PYUN	**Piuthan**	**53.60 313**	*e*P	**P**	**11 04 09.2**	**+0.4**
PYUN	**Piuthan**	**53.60 313**	*e*P	**P**	**11 04 09.2**	**+0.4**
WVZ	**Waitaha Valley**	**53.68 139**	PN	**P**	**11 04 09.2**	**+0.1**
WVZ			PcP	PcP	11 05 09.0	-0.3
WVZ			pP	pP	11 05 36.3	+4.1
WVZ			ScP	ScP	11 08 28.6	+1.0
DSZ	**Denniston Nort**	**53.79 137**	*e*PN	**P**	**11 04 10.8**	**+0.9**
DSZ			PcP	PcP	11 05 10.3	+0.6
DSZ			pP	pP	11 05 37.3	+4.3
DSZ			sP	sP	11 06 18.3	+0.4
EAZ	**Earnscleugh**	**53.82 142**	PN	**P**	**11 04 09.9**	**-0.2**
EAZ			PcP	PcP	11 05 10.8	+0.9
EAZ			pP	pP	11 05 34.0	+0.7
ASAJ	**Asahikawa**	**53.84 16**	*e*P	**P**	**11 04 10.5**	**+0.4**
comp=Z,457nm,1.0s,mb5.7						
APZ	**The Paps**	**53.88 144**	PN	**P**	**11 04 11.0**	**+0.5**
APZ			PcP	PcP	11 05 10.7	+0.7
QRZ	**Quartz Range**	**53.89 136**	PN	**P**	**11 04 11.9**	**+1.2**
QRZ			PcP	PcP	11 05 12.0	+1.8
QRZ			pP	pP	11 05 35.7	+1.9
QRZ			ScP	ScP	11 08 28.8	+0.2
QRZ			PcS	PcS	11 09 08.3	-1.8
FUNA	**Funafuti**	**53.94 95**	*e*P	**P**	**11 04 11.2**	**-0.3**
comp=Z,4μm,1.6s,mb6.4						
LBZ	**Lake Benmore**	**53.95 141**	PN	**P**	**11 04 10.8**	**-0.3**
LBZ			PcP	PcP	11 05 10.7	+0.4
LBZ			ScP	ScP	11 08 29.3	+0.5
LATR	**Latur**	**54.01 299**	*e*PKP	**P**	**11 04 10.7**	**-1.2**
RPZ	**Rata Peaks**	**54.18 140**	P	**P**	**11 04 12.8**	**+0.2**
comp=Z,2μm,0.8s,mb6.3,baz=276,slow=2.6,SNR=488						
RPZ			pP	pP	11 05 37.0	+1.1
comp=Z,398nm,1.0s,baz=81,slow=1.1,SNR=4.2						
RPZ			S	**S**	**11 11 18.0**	**+0.3**
comp=Z,59nm,1.3s,baz=49,slow=19,SNR=4.8						
RPZ	**Rata Peaks**	**54.18 140**	P	**P**	**11 04 12.8**	**+0.2**
RPZ			pP	pP	11 05 37.0	+1.1
RPZ			S	**S**	**11 11 18.0**	**+0.3**
RPZ	**Rata Peaks**	**54.18 140**	PN	**P**	**11 04 13.1**	**+0.4**
RPZ			PcP	PcP	11 05 12.0	+0.7
RPZ			ScP	ScP	11 08 29.9	+0.1
NWEZ	**Newall Road**	**54.22 134**	*e*PN	**P**	**11 04 15.1**	**+2.1**
PKE	**Pukeiti**	**54.27 133**	*e*PN	**P**	**11 04 15.6**	**+2.1**
MCQ	**Macquarie Isla**	**54.34 156**	*e*P	**P**	**11 04 15.3**	**+1.7**
comp=Z,63μm,0.9s						
MCQ			*e*S	**S**	**11 11 21.6**	**+2.2**
MCQ	**Macquarie Isla**	**54.34 156**	*e*P	**P**	**11 04 14.8**	**+1.2**
MCQ			*e*ScP	ScP	11 08 29.6	-0.7
MCQ	**Macquarie Isla**	**54.34 156**	*e*P	**P**	**11 04 14.8**	**+1.2**
TUZ	**Tuapeka**	**54.39 143**	PN	**P**	**11 04 14.3**	**+0.2**
TUZ			ScP	ScP	11 08 30.2	-0.5
SYZ	**Scrubby Hill**	**54.39 144**	PN	**P**	**11 04 14.4**	**+0.2**
MKAZ	**Moumakai**	**54.39 131**	*e*PN	**P**	**11 04 15.5**	**+1.1**
MKAZ			PcP	PcP	11 05 13.1	+0.9
THZ	**Tophouse**	**54.54 137**	PN	**P**	**11 04 15.5**	**+0.3**
THZ			pP	pP	11 05 42.5	+3.8
THZ			*e*SN	**S**	**11 11 24.6**	**+2.1**
LTZ	**Lake Taylor**	**54.55 138**	*e*PN	**P**	**11 04 15.8**	**+0.4**
ODZ	**Otahua Downs**	**54.55 141**	*e*P	**P**	**11 04 14.9**	**-0.4**
comp=Z,465nm,1.2s,mb5.6						
ODZ			*e*PcP	PcP	11 05 06.6	-6.0
ODZ	**Otahua Downs**	**54.55 141**	PN	**P**	**11 04 14.8**	**-0.5**
AKL	**Akola**	**54.58 302**	⇑*i*P	**P**	**11 04 15.2**	**-0.6**
AKL			*i x*	x	11 11 18.7	
NNZ	**Nelson**	**54.64 136**	PN	**P**	**11 04 15.9**	**-0.1**
KUZ	**Kuaotunu**	**54.69 130**	*e*PN	**P**	**11 04 16.9**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**54.73 19**	*d i*P	**P**	**11 04 12.9**	**-3.6**
YUK			*i*		11 06 20.9	
YUK			*i* S	**S**	**11 11 19.4**	**-5.4**
YUK			pmax	pmax		
comp=Z,3μm,1.4s,mb6.4						
YUK			pmax	pmax		
comp=E,1μm,1.4s						
YUK			pmax	pmax		
comp=N,791nm,1.0s						
YUK			pmax	pmax		
comp=Z,5μm,1.4s,mb6.5						
VRZ	**Vera Road**	**54.80 133**	PN	**P**	**11 04 18.7**	**+1.5**
DUWZ	**D'Urville Isla**	**54.85 135**	*e*PN	**P**	**11 04 17.7**	**+0.2**
TUWZ	**Tuamarina**	**55.11 136**	*e*PN	**P**	**11 04 18.9**	**-0.4**
WAZ	**Wanganui**	**55.20 134**	*e*PN	**P**	**11 04 20.9**	**+0.9**
MQZ	**McQueen's Vall**	**55.21 139**	PN	**P**	**11 04 20.7**	**+0.8**
KHZ	**Kahutara**	**55.24 137**	*e*P	**P**	**11 04 20.3

POO	**Poona**	**56.41 298**	*e*PKP	**P**	**11 04 28.4**	**-0.4**
POO			AMb	AMB	11 04 31.8	
	comp=Z,502nm,0.8s,mb5.9					
POO			*ex*	x	11 05 50.4	
PTH	**Pithoragarh**	**56.42 313**	*e*PKP	**P**	**11 04 28.1**	**-0.6**
PTH			*e*S	**S**	**11 11 48.9**	**+1.4**
RAHZ	**Arahi**	**56.43 132**	*e*PN	**P**	**11 04 28.8**	**+0.2**
BFZ	**Birch Farm**	**56.44 134**	*e*PN	**P**	**11 04 28.5**	**-0.1**
HABR	**Khabarovsk**	**56.45 8**	*i* P	**P**	**11 04 29.3**	**+0.8**
HABR					11 05 18.5	
HABR			*e**PP	pP	11 05 50.7	-1.9
HABR			*e**SP	sP	11 06 35.8	-1.3
HABR			*e*		11 06 37.9	
HABR			*e*S	**S**	**11 11 47.7**	**+0.6**
HABR			*e*		11 13 32.9	
HABR			*e*SS	SS	11 15 41.1	-1.1
HABR			pmax	pmax		
	comp=N,483nm,1.0s					
HABR			pmax	pmax		
	comp=Z,1μm,1.0s,mb6.2					
HABR			pmax	pmax		
	comp=E,1μm,1.9s					
HABR			pmax	pmax		
	comp=Z,3μm,1.7s,mb6.3					
HABR			MLR	MLR		
	comp=Z,2μm,17.0s					
YSS	**Yuzh-Sakhalins**	**56.52 15**	*e*P	**P**	**11 04 29.4**	**+0.4**
	comp=Z,2μm,1.4s,mb6.1					
YSS	**Yuzh-Sakhalins**	**56.52 15**	*be*P	**P**	**11 04 29.0**	**0.0**
YSS			*e*		11 05 21.0	
YSS			*e**PP	pP	11 05 53.6	+0.4
YSS			*e**SP	sP	11 06 34.0	-3.7
YSS			*i* S	**S**	**11 11 46.0**	**-2.1**
YSS			*e*		11 12 06.0	
YSS			*e*		11 13 30.0	
YSS			*e*SS	SS	11 15 43.0	-0.3
YSS			*e*SSS		11 18 21.0	
YSS			pmax	pmax		
	comp=Z,1μm,1.2s,mb6.1					
YSS			pmax	pmax		
	comp=N,460nm,1.1s					
YSS			pmax	pmax		
	comp=E,690nm,1.1s					
YSS			pmax	pmax		
	comp=Z,4μm,7.0s					
YSS			pmax	pmax		
	comp=N,2μm,8.0s					
YSS			smax			
	comp=N,460nm,1.7s					
YSS			smax			
	comp=E,610nm,1.9s					
YSS			smax			
	comp=E,6μm,11.0s					
YSS			MLR	MLR		
	comp=N,2μm,17.0s					
YSS			MLR	MLR		
	comp=Z,2μm,17.0s					
MWZ	**Matawai**	**56.56 131**	*e*PN	**P**	**11 04 29.2**	**-0.4**
MWZ			*e*SN	**S**	**11 11 47.7**	**-1.5**
PRHZ	**Porangahau**	**56.56 134**	*e*PN	**P**	**11 04 29.3**	**-0.2**
PXZ	**Pawanui**	**56.65 133**	*e*PN	**P**	**11 04 30.2**	**+0.1**
KLR	**Kul'dur**	**56.80 6** ⇑	*i*P	**P**	**11 04 27.8**	**-3.1**
KLR			*i* S	**S**	**11 11 47.0**	**-4.7**
KLR			*e*		11 13 30.5	
KLR			pmax	pmax		
	comp=N,130nm,1.8s					
KLR			pmax	pmax		
	comp=Z,1μm,1.8s,mb6.0					
KLR			pmax	pmax		
	comp=N,2μm,9.0s					
KLR			pmax	pmax		
	comp=Z,7μm,9.0s					
KLR			smax			
	comp=N,4μm,15.0s					
KLR			smax			
	comp=E,7μm,15.0s					
KNZ	**Kokohu**	**56.90 132**	*e*PN	**P**	**11 04 31.7**	**-0.1**
AGRA	**Agra**	**56.90 309**	*e*PKP	**P**	**11 04 30.7**	**-1.4**
AGRA			AMb	AMB	11 04 32.2	
	comp=Z,484nm,0.4s,mb6.2					
MXZ	**Matakaoa Point**	**56.91 130**	PN	**P**	**11 04 32.4**	**+0.4**
PUZ	**Puketiti**	**57.03 131**	*e*PN	**P**	**11 04 32.3**	**-0.5**
PUZ			pP	pP	11 05 54.9	-2.3
PUZ			*e*SN	**S**	**11 11 54.9**	**-0.3**
CNGZ	**Carnagh Statio**	**57.12 131**	*e*PN	**P**	**11 04 33.4**	**0.0**
ULN	**Ulaanbaatar**	**57.26 346**	*e*P	**P**	**11 04 34.2**	**+0.1**
	comp=Z,1μm,1.2s,mb6.1					
ULN			*e*pP	pP	11 05 57.9	-0.7
ULN			*e*ScP	ScP	11 08 44.2	+1.0
ULN			*e*S	**S**	**11 11 57.0**	**-0.7**
ULN	**Ulaanbaatar**	**57.26 346**	*e*P	**P**	**11 04 34.2**	**+0.1**
ULN			*e**PP	pP	11 05 57.9	-0.7
ULN			*e*S	**S**	**11 11 57.0**	**-0.7**
ULN			pmax	pmax		
	comp=Z,1μm,1.2s,mb6.1					
ULN	**Ulaanbaatar**	**57.26 346**	P	**P**	**11 04 33.9**	**-0.2**
	SNR=286					
SONM	**Songino Array**	**57.40 345**	P	**P**	**11 04 35.1**	**0.0**
	comp=Z,283nm,0.6s,mb5.8,baz=162,slow=8.5,SNR=908					
SONM			pP	pP	11 05 59.2	-0.4
	comp=Z,84nm,1.2s,baz=131,slow=5.9,SNR=1.8					
SONM			ScP	ScP	11 08 43.5	-0.3
	comp=Z,27nm,0.7s,baz=162,slow=5.5,SNR=3.9					
SONM			S	**S**	**11 11 58.0**	**-1.5**
	comp=Z,8.7nm,1.0s,baz=156,slow=11,SNR=2.6					
SONM			PKPPKP		11 34 13.6	
	comp=Z,14nm,1.1s,baz=322,slow=3.1,SNR=17					
SONM			P4KPbc		11 41 42.9	
	comp=Z,2.9nm,0.8s,baz=158,slow=2.9,SNR=14					
SONM	**Songino Array**	**57.40 345**	P	**P**	**11 04 35.1**	**0.0**
SONM			pP	pP	11 05 59.2	-0.4
SONM			ScP	ScP	11 08 43.5	-0.3
SONM			S	**S**	**11 11 58.0**	**-1.5**
SONM			P'P'		11 34 13.6	
SONM			*e*		11 41 42.9	
SONM	**Songino Array**	**57.40 345**	P	**P**	**11 04 35.1**	**+0.1**
SONM			*PP	pP	11 05 59.2	-0.4
SONM			S	**S**	**11 11 58.0**	**-1.5**
BOM	**Bombay**	**57.46 298**	*ex*	x	11 07 00.6	
BOM			*ex*	x	11 14 06.6	
ASOR	**Ausora**	**57.81 311**	*e*PKP	**P**	**11 04 37.6**	**-0.7**
ASOR			AMb	AMB	11 04 43.7	
	comp=Z,4μm,1.2s,mb6.6					
AYAN	**Aya Nagar**	**58.16 310**	*e*PKP	**P**	**11 04 39.2**	**-1.4**
AYAN			AMb	AMB	11 04 42.9	
	comp=Z,700nm,0.9s,mb6.0					
NDI	**New Delhi**	**58.19 310**	*ex*	**P**	**11 04 37.0**	**-3.9**
NDI			*ex*	x	11 12 01.5	
BHGR	**Bahadurgarh**	**58.40 310**	*e*PKP	**P**	**11 04 41.3**	**-1.0**
BHGR			AMb	AMB	11 04 45.1	
	comp=Z,1μm,0.9s,mb6.2					
DDI	**Dehra Dun**	**58.42 312** ⇓	*i*P	**P**	**11 04 40.0**	**-2.4**
DDI			*ex*	x	11 12 02.5	
KHET	**Khetri**	**58.96 309**	*e*PKP	**P**	**11 04 44.9**	**-1.2**
KHET			AMb	AMB	11 04 49.1	
	comp=Z,496nm,0.8s,mb5.9					
KKR	**Kurukshetra**	**59.14 311**	*e*PKP	**P**	**11 04 47.3**	**0.0**
KKR			AMb	AMB	11 04 51.1	
	comp=Z,3μm,1.0s,mb6.5					
SMLA	**Simla**	**59.49 313**	*i* P	**P**	**11 04 49.0**	**-0.7**
SMLA			*i* x	x	11 12 14.2	
CASY	**Casey**	**59.53 187** ⇓	*i*P	**P**	**11 04 49.4**	**+0.1**
CASY			*e*S	**S**	**11 12 28.0**	**+1.9**
CASY	**Casey**	**59.53 187**	*e*P	**P**	**11 04 49.5**	**+0.2**
	comp=Z,161nm,0.8s,mb5.5					
CASY			*e*PcP	PcP	11 05 34.3	+2.5
CASY			*e*pP	pP	11 06 18.6	+4.1
SDNR	**Sundarnagar**	**59.83 313**	*e*PKP	**P**	**11 04 53.0**	**+1.0**
SDNR			*ex*	x	11 12 27.0	
CIT	**Chita**	**60.03 352**	*e*P	**P**	**11 04 53.7**	**+0.9**
CIT			*e*		11 05 36.8	
CIT			*e*	pP	11 06 20.6	+2.3
CIT			pmax	pmax		
	comp=Z,1μm,1.8s,mb6.1					
DRV	**Dumont d'Urvil**	**60.03 173**	P	**P**	**11 04 52.0**	**-0.7**
DRV			S	**S**	**11 12 26.0**	**-6.5**
DRV			R		11 25 00.0	
BHK	**Bhakra**	**60.19 313**	*e*PKP	**P**	**11 04 54.0**	**-0.4**
ZAK	**Zakamensk**	**60.55 344** ⇑	*i*P	**P**	**11 04 56.2**	**-0.1**
ZAK			*e*		11 05 36.2	
ZAK			*e*		11 07 15.9	
ZAK			*e*		11 12 40.7	
ZAK			pmax	pmax		
	comp=Z,262nm,1.3s,mb5.5					
WMQ	**Urumqi**	**61.05 330**	P	**P**	**11 04 59.7**	**-0.1**
WMQ			pmax	pmax		
	comp=Z,1μm,0.9s,mb6.2					
TLY	**Talaya**	**61.64 345**	*e*P	**P**	**11 05 03.8**	**+0.2**
	comp=Z,499nm,1.3s,mb5.9					
TLY			*e*PcP	PcP	11 05 43.8	+3.2
TLY			*e*pP	pP	11 06 28.8	-0.8
TLY			*e*sP	sP	11 07 11.8	-1.8
TLY	**Talaya**	**61.64 345**	*c i*P	**P**	**11 05 03.7**	**+0.2**
TLY			*e*	pP	11 06 29.2	-0.3
TLY			*e*		11 07 10.9	
TLY			*e*S	**S**	**11 12 51.4**	**-1.6**
TLY			*e*		11 14 11.6	
TLY			pmax	pmax		
	comp=Z,284nm,1.0s,mb5.8					
TLY	**Talaya**	**61.64 345**	P	**P**	**11 05 03.9**	**+0.3**
	SNR=77					
TLY	**Talaya**	**61.64 345**	P	**P**	**11 05 04.2**	**+0.7**
	comp=Z,2μm,1.2s,mb6.4,SNR=53					
IRK	**Irkutsk**	**62.00 346** ⇑	*i*P	**P**	**11 05 04.7**	**-1.2**
IRK			*e*S	**S**	**11 12 58.9**	**+1.5**
IRK			pmax	pmax		
	comp=Z,936nm,1.7s,mb6.0					
MOY	**Mondy**	**62.33 344**	*e*P	**P**	**11 05 08.9**	**+0.8**
MOY			*e*		11 12 59.7	
MOY			pmax	pmax		
	comp=Z,844nm,1.7s,mb6.0					
CTZ	**Chatham Island**	**62.44 136**	*e*PN	**P**	**11 05 09.9**	**+0.8**
AFI	**Afiamalu**	**62.60 102**	P	**P**	**11 05 10.9**	**+0.3**
	comp=Z,242nm,0.9s,mb5.8,baz=108,slow=2.8,SNR=25					
AFI	**Afiamalu**	**62.60 102**	P	**P**	**11 05 10.9**	**+0.3**
AFI	**Afiamalu**	**62.60 102**	P	**P**	**11 05 10.9**	**+0.2**
MIR	**Mirnyy**	**62.86 194** ⇓	*i*P	**P**	**11 05 12.4**	**+1.0**
MIR			*i*	pP	11 06 40.0	+2.3
MIR			*e*S	**S**	**11 13 10.0**	**+2.2**
MIR			*e*PS		11 14 24.0	
MIR			pmax	pmax		
	comp=Z,398nm,1.0s,mb5.9					
MIR			pmax	pmax		
	comp=Z,1μm,2.0s,mb6.1					
MIR			pmax	pmax		
	comp=N,505nm,3.0s					
MIR			pmax	pmax		
	comp=E,404nm,2.0s					
MIR			smax			
	comp=N,7μm,10.0s					
MIR			smax			
	comp=E,2μm,16.0s					
SKR	**Severo-Kuril's**	**63.98 22**	*e*P	**P**	**11 05 20.0**	**+1.2**
SKR			*e*		11 13 47.0	
SKR			pmax	pmax		
	comp=Z,320nm,0.6s,mb6.0					
CLNS	**Chul'man**	**64.08 0**	*e*P	**P**	**11 05 19.5**	**+0.1**
CLNS			*e*		11 05 49.0	
CLNS			*e*		11 07 48.7	
CLNS			*e*S	**S**	**11 13 14.0**	**-8.9**
CLNS			pmax	pmax		
	comp=Z,462nm,1.0s,mb6.0					
CLNS			pmax	pmax		
	comp=E,142nm,1.0s					
CLNS			pmax	pmax		
	comp=N,253nm,0.9s					
CLNS			pmax	pmax		
	comp=N,61nm,1.2s					
CLNS			pmax	pmax		
	comp=Z,30nm,0.9s,mb4.8					
CLNS			pmax	pmax		
	comp=E,35nm,0.9s					
CLNS			smax			
	comp=N,2μm,12.5s					
CLNS			smax			
	comp=E,6μm,12.5s					
KSH	**Kashi**	**64.91 320**	P	**P**	**11 05 25.4**	**+0.4**
KSH			PcP	PcP	11 05 53.6	-0.8
KSH			pP	pP	11 06 54.4	+2.3
KSH			sP	sP	11 07 37.5	+1.7
KSH			PP	PP	11 07 55.5	+1.3
KSH			ScP		11 09 16.2	
KSH			PcS		11 09 57.1	
KSH			S	**S**	**11 13 32.7**	**-0.8**
KSH			ScS	ScS	11 14 35.6	-3.7
KSH			sS	sS	11 16 07.1	-1.5
KSH			pmax	pmax		
	comp=Z,470nm,0.8s,mb6.2					
BOD	**Bodaibo**	**65.65 354** ⇑	*i*P	**P**	**11 05 29.5**	**+0.2**
BOD			*e*		11 13 42.5	
BOD			pmax	pmax		
	comp=Z,1μm,1.2s,mb6.4					
MK31	**Makanchi Array**	**65.85 329**	*e*P	**P**	**11 05 30.8**	**0.0**
MK31	**Makanchi Array**	**65.85 329**	*ce*P	**P**	**11 05 30.5**	**-0.3**
MK31			pmax	pmax		
	comp=Z,1μm,0.7s,mb6.6					
MKAR	**Makanchi Array**	**65.85 329**	P	**P**	**11 05 30.8**	**0.0**
	comp=Z,755nm,0.6s,mb6.5,baz=130,slow=7.5,SNR=4994					
MKAR			S	S	11 13 44.2	-0.3
	comp=Z,64nm,1.2s,baz=140,slow=14,SNR=12					
MKAR			PKPPKP		11 33 56.4	
	comp=Z,3.4nm,0.8s,baz=279,slow=3.6,SNR=9.4					
MKAR			P4KPbc		11 42 20.7	
	comp=Z,5.3nm,0.7s,baz=137,slow=4.8,SNR=24					
MKAR	**Makanchi Array**	**65.85 329**	P	**P**	**11 05 30.8**	**0.0**
MKAR			S	S	11 13 44.2	-0.3
MKAR			P'P'		11 33 56.4	
MKAR			*e*		11 42 20.7	
MKAR	**Makanchi Array**	**65.85 329**	P	**P**	**11 05 30.8**	**0.0**
MKAR			S	S	11 13 44.2	-0.3
MRIV	**Mauritius Mete**	**66.09 251**	*e*P	**P**	**11 05 33.0**	**+0.1**
MRIV			*e*PcP	PcP	11 05 58.1	-1.7
MRIV			*e*pP	pP	11 07 00.4	+0.1
MIDW	**Midway**	**66.18 55**	*e*P	**P**	**11 05 32.5**	**-0.9**
	comp=Z,823nm,1.2s,mb6.2					
ULHL	**Ulahol**	**66.31 323**	P	**P**	**11 05 34.9**	**+1.1**
	SNR=11					
ULHL			P		11 05 34.9	
	SNR=11					
AAA	**Alma-Ata**	**66.50 324**	*e*P	**P**	**11 05 36.0**	**+1.0**
AAA			*i* S	S	11 13 47.6	-4.9
AAA			pmax	pmax		
	comp=Z,3μm,6.7s					
AAA			smax			
	comp=N,19μm,18.8s					
AAA			MLR	MLR		
	comp=Z,5μm,24.0s					
PEA0B	**Petropavlovsk-**	**66.53 21**	*e*P	**P**	**11 05 35.6**	**+0.7**
PETK	**Petropavlovsk-**	**66.53 21**	P	**P**	**11 05 35.3**	**+0.3**
	comp=Z,267nm,0.7s,mb6.0,baz=236,slow=1.9,SNR=136					
PETK			pP	pP	11 07 01.2	-1.3
	comp=Z,14nm,0.7s,baz=180,slow=7.2,SNR=1.0					
PETK	**Petropavlovsk-**	**66.53 21**	P	**P**	**11 05 35.3**	**+0.4**
PETK			pP	pP	11 07 01.2	-1.3
PETK	**Petropavlovsk-**	**66.53 21**	P	**P**	**11 05 35.3**	**+0.4**
PETK			*PP	pP	11 07 01.2	-1.3
PET	**Petropavlovsk**	**66.80 22**	*e*P	**P**	**11 05 36.8**	**+0.1**
	comp=Z,2μm,1.4s,mb6.5					
PET	**Petropavlovsk**	**66.80 22**	*i* P	**P**	**11 05 38.0**	**+1.4**
PET			*e**SP	sP	11 07 45.3	-2.5
PET			*i* S	S	11 13 58.1	+2.5
PET			*e*SS	SS	11 18 23.4	+0.1
PET			pmax	pmax		
	comp=Z,7μm,5.8s					
PET			pmax	pmax		
	comp=Z,5μm,16.9s					
PET			pmax	pmax		
	comp=Z,1μm,1.1s,mb6.4					
KZA	**Kyzart**	**66.82 322**	P	**P**	**11 05 38.1**	**+1.1**
	SNR=177					
KZA			P		11 05 38.1	
	SNR=177					
TKM2	**Tokmak 2**	**67.09 323**	P	**P**	**11 05 39.1**	**+0.4**
	SNR=262					
TKM2			P		11 05 39.1	
	SNR=262					
TKM2	**Tokmak 2**	**67.09 323**	*e*P	**P**	**11 05 38.9**	**+0.2**
	comp=Z,86nm,0.3s,mb5.9					
TKM2			*e*pP	pP	11 07 07.9	+1.5
TKM2			*e*S	S	11 13 51.6	-7.9
TKM2	**Tokmak 2**	**67.09 323**	*e*P	**P**	**11 05 38.9**	**+0.2**
TKM2			*e**PP	pP	11 07 07.9	+1.5
TKM2			*e*S	S	11 13 51.6	-7.9
TKM2			pmax	pmax		
	comp=Z,86nm,0.3s,mb5.9					
KBL	**Kabul**	**67.11 312**	*e*P	**P**	**11 05 38.9**	**-0.1**
	comp=Z,402nm,0.8s,mb6.1					
KBL			*e*pP	pP	11 07 08.5	+1.8
KBL	**Kabul**	**67.11 312**	*e*P	**P**	**11 05 38.9**	**-0.1**
KBL			*e**PP	pP	11 07 08.5	+1.8
KBL			pmax	pmax		
	comp=Z,402nm,0.8s,mb6.1					
KBK	**Karagaybulak**	**67.33 322**	P	**P**	**11 05 40.9**	**+0.7**
	SNR=36					
KBK			P		11 05 40.9	
	SNR=36					
UCH	**Uchtor**	**67.35 322**	P	**P**	**11 05 41.2**	**+0.9**
	SNR=21					
UCH			P		11 05 41.2	
	SNR=21					
AAK	**Ala-Archa**	**67.59 322**	P	**P**	**11 05 42.5**	**+0.7**
	SNR=247					
AAK			P		11 05 42.5	
	SNR=247					
AAK	**Ala-Archa**	**67.59 322**	P	**P**	**11 05 42.0**	**+0.2**
	comp=Z,4μm,0.9s,mb7.0					
AAK	**Ala-Archa**	**67.59 322**	*e*P	**P**	**11 05 42.2**	**+0.4**
	comp=Z,496nm,0.8s,mb6.2					
AAK			*e*PcP	PcP	11 06 08.6	+3.1
AAK			*e*pP	pP	11 07 13.9	+4.2
AAK			*e*S	S	11 13 57.3	-8.1
AAK	**Ala-Archa**	**67.59 322**	*e*P	**P**	**11 05 42.2**	**+0.4**
AAK			*e*		11 06 08.6	
AAK			*e**PP	pP	11 07 13.9	+4.2
AAK			*e*S	S	11 13 57.3	-8.1
AAK			pmax	pmax		
	comp=Z,2μm,0.8s,mb6.8					
AAK	**Ala-Archa**	**67.59 322**	P	**P**	**11 05 42.6**	**+0.8**
	SNR=317					
FRU	**Bishkek**	**67.63 322**	*i* P	**P**	**11 05 42.0**	**0.0**
FRU			*i* *PP	pP	11 07 16.0	+6.1
FRU			*i* S	S	11 14 06.0	+0.1
FRU			*i*		11 15 01.0	
FRU			pmax	pmax		
	comp=Z,760nm,1.9s,mb6.0					
FRU			smax			
	comp=E,820nm,2.4s					
CHMS	**Chumysh**	**67.64 323**	P	**P**	**11 05 42.5**	**+0.4**
	SNR=47					
CHMS			P		11 05 42.5	
	SNR=47					
RER	**Riviere de l'E**	**67.74 250**	*e*P	**P**	**11 05 44.0**	**+0.9**
	comp=E,507nm,0.9s,mb6.2					
RER			*e*pP	pP	11 07 11.5	+0.4
RER			*e*sP	sP	11 07 56.2	+1.6
RER			*e*S	S	11 14 08.2	+0.2
AML	**Almayashu**	**67.80 321**	P	**P**	**11 05 44.4**	**+1.3**
	SNR=31					
AML			P		11 05 44.4	
	SNR=31					
USP	**Ospenovka**	**67.95 323**	P	**P**	**11 05 44.1**	**+0.1**
	SNR=218					
USP			P		11 05 44.1	
	SNR=218					
EKS2	**Erkin-Say**	**68.05 322**	P	**P**	**11 05 45.3**	**+0.7**
	SNR=133					
EKS2			P		11 05 45.3	
	SNR=133					
EKS2	**Erkin-Say**	**68.05 322**	*e*P	**P**	**11 05 45.2**	**+0.7**
	comp=E,592nm,1.1s,mb6.1					
EKS2			*e*pP	pP	11 07 10.9	-1.7
EKS2	**Erkin-Say**	**68.05 322**	*e*P	**P**	**11 05 45.3**	**+0.7**
EKS2			*e**PP	pP	11 07 10.9	-1.7
EKS2			pmax	pmax		
	comp=Z,592nm,1.1s,mb6.1					
MSEY	**Mahe Island**	**68.83 268**	*e*P	**P**	**11 05 51.0**	**+1.0**
	comp=Z,246nm,1.1s,mb5.8					
MSEY	**Mahe Island**	**68.83 268**	P	**P**	**11 05 52.9**	**+2.9**
	comp=Z,1μm,0.9s,mb6.5,SNR=9.4					
MSEY	**Mahe Island**	**68.83 268**	*e*P	**P**	**11 05 51.0**	**+1.0**
MSEY			pmax	pmax		
	comp=Z,246nm,1.1s,mb5.8					
MSEY	**Mahe Island**	**68.83 268**	P	**P**	**11 05 52.4**	**+2.4**
	SNR=6.7					
JOHN	**Johnston Islan**	**69.33 69**	*e*P	**P**	**11 05 52.9**	**-0.1**
	comp=Z,2μm,1.0s,mb6.8					
YAK	**Yakutsk**	**69.40 3**	*e*P	**P**	**11 05 52.5**	**+0.1**
	comp=Z,2μm,0.8s,mb6.9					
YAK			*e*PcP	PcP	11 06 13.4	+0.7
YAK			*e*pP	pP	11 07 18.4	-2.5
YAK	**Yakutsk**	**69.40 3**	*d i*P	**P**	**11 05 52.7**	**+0.3**
YAK			*e*		11 06 09.8	
YAK			*e**PP	pP	11 07 18.3	-2.6
YAK			*e*		11 08 30.9	
YAK			*e*PPP		11 10 16.3	
YAK			*e*S	S	11 14 26.4	+0.7
YAK			*e*		11 15 11.3	
YAK			*e*SS	SS	11 18 58.6	-4.3
YAK			*e*SSS		11 22 11.9	
YAK			pmax	pmax		
	comp=Z,297nm,0.9s,mb5.9					
YAK			pmax	pmax		
	comp=N,200nm,1.5s					
YAK			pmax	pmax		
	comp=E,16nm,0.6s					
YAK			pmax	pmax		
	comp=Z,297nm,1.5s,mb5.7					
YAK			pmax	pmax		
	comp=N,228nm,1.5s					
YAK			pmax	pmax		
	comp=E,190nm,1.8s					
YAK			smax			
	comp=E,2μm,1.4s					
YAK			smax			
	comp=N,953nm,1.5s					
ZAA0	**Zalesovo Array**	**69.78 336**	*e*P	**P**	**11 05 53.3**	**-1.6**
ZAA0			*e*PcP	PcP	11 06 14.9	+0.4
ZAA0			*e*S	S	11 14 21.1	-9.3
ZALV	**Zalesovo Beam**	**69.78 336**	P	**P**	**11 05 53.9**	**-1.0**
	comp=N,290nm,0.7s,mb5.9,baz=131,slow=4.5,SNR=997					
ZALV			pP	pP	11 07 24.0	+0.6
	comp=N,52nm,1.0s,baz=142,slow=7.3,SNR=1.5					
ZALV			S	S	11 14 24.3	-6.1
	comp=N,119nm,1.0s,baz=141,slow=12,SNR=14					
ZALV			PKPPKP		11 33 53.4	
	comp=N,11nm,0.8s,baz=310,slow=4.8,SNR=16					
ZALV			P4KPbc		11 42 36.6	
	comp=N,1.1nm,0.9s,baz=88,slow=3.5,SNR=4.9					
ZALV	**Zalesovo Beam**	**69.78 336**	P	**P**	**11 05 53.9**	**-1.0**
ZALV			pP	pP	11 07 24.0	+0.6
ZALV			S	S	11 14 24.3	-6.1
ZALV			P'P'		11 33 53.4	
ZALV			*e*		11 42 36.6	
ZALV	**Zalesovo Beam**	**69.78 336**	P	**P**	**11 05 53.9**	**-1.0**
ZALV			*PP	pP	11 07 24.0	+0.6
ZALV			S	S	11 14 24.3	-6.1
KURK	**Kurchatov**	**70.27 331**	S	S	11 14 28.2	-8.0
	comp=N,4.7nm,0.4s,baz=135,slow=12,SNR=9.6					
KURK			PKPPKP		11 33 53.9	
	comp=N,13nm,1.1s,baz=310,slow=4.4,SNR=14					
KURK			P4KPbc		11 42 39.2	
	comp=N,2.2nm,0.8s,baz=134,slow=3.6,SNR=7.7					
KURK	**Kurchatov**	**70.27 331**	*e*P	**P**	**11 05 57.6**	**-0.3**
	comp=N,1μm,1.1s,mb6.4					
KURK			*e*pP	pP	11 07 26.0	-0.6
KURK			S	S	11 14 28.2	-8.0
KURK			P'P'		11 33 53.9	
KURK			*e*		11 42 39.2	
KURK	**Kurchatov**	**70.27 331**	P	**P**	**11 05 57.2**	**-0.7**
	comp=N,6μm,1.0s,mb7.0					
KURK	**Kurchatov**	**70.27 331**	*e*P	**P**	**11 05 57.6**	**-0.3**
KURK			*e**PP	pP	11 07 26.0	-0.6
KURK			S	S	11 14 28.2	-8.0
KURK			pmax	pmax		
	comp=Z,1μm,1.1s,mb6.4					
KURK	**Kurchatov**	**70.27 331**	P	**P**	**11 05 58.0**	**+0.1**
	SNR=463					
KK31	**Karatay Array**	**70.31 321**	*ce*P	**P**	**11 05 57.9**	**-0.4**
KK31			pmax	pmax		
	comp=Z,223nm,1.1s,mb5.6					
NVS	**Novosibirsk**	**71.07 336** ⇑	*i*P	**P**	**11 06 01.1**	**-1.4**
NVS			*e**PP	pP	11 07 30.6	-0.9
NVS			*i* S	S	11 14 37.7	-7.4
NVS			pmax	pmax		
	comp=N,489nm,1.4s					
NVS			pmax	pmax		
	comp=E,529nm,1.4s					
NVS			pmax	pmax		
	comp=Z,1μm,1.4s,mb6.2					
NVS			smax			
	comp=N,659nm,2.0s					
NVS			smax			
	comp=E,2μm,2.2s					
MAW	**Mawson**	**72.62 201**	P	**P**	**11 06 12.9**	**+1.5**

comp=E,129nm,0.7s,mb5.6,baz=69,slow=6.7,SNR=89
MAW S S 11 15 04.5 +2.2
comp=E,7.0nm,0.9s,baz=230,slow=18,SNR=3.1
MAW Mawson 72.62 201 ‖ *i* P **P 11 06 12.4 +0.9**
comp=E,134nm,1.0s,mb5.4
MAW *e*pP pP 11 07 42.4 +1.6
MAW *e*S S 11 15 03.8 +1.5
MAW Mawson 72.62 201 *e*P **P 11 06 11.6 +0.1**
comp=E,52nm,1.0s,mb5.0
MAW S S 11 15 04.5 +2.2
MAW Mawson 72.62 201 P **P 11 06 12.9 +1.4**
MAW S S 11 15 04.5 +2.2
MAW pmax pmax
comp=Z,129nm,0.7s
MAW smax
comp=N,7.0nm,0.9s
VNDA Vanda 72.66 172 *e*P **P 11 06 11.5 -0.1**
comp=N,23nm,0.4s,mb5.1
VNDA *e*pP pP 11 07 41.2 +0.3
VNDA *e*S S 11 14 58.0 -4.5
VNDA Vanda 72.66 172 *e*P **P 11 06 11.5 -0.1**
VNDA *e**PP pP 11 07 41.2 +0.3
VNDA *e*S S 11 14 58.0 -4.5
VNDA pmax pmax
comp=Z,23nm,0.4s
SMY Shemya 73.15 29 *e*P **P 11 06 15.8 +1.0**
comp=Z,3μm,2.0s,mb6.5
SMY Shemya 73.15 29 *e*P **P 11 06 15.8 +1.0**
SMY pmax pmax
comp=Z,3μm,2.0s,mb6.5
IDAH Dahanechah 73.39 307 *e*P **P 11 06 17.7 +1.1**
SBA Scott Base 73.61 171 *e*P **P 11 06 17.4 +0.3**
comp=Z,110nm,0.8s,mb5.5
SBA *e*pP pP 11 07 46.4 -0.3
SBA *e*S S 11 15 15.4 +2.4
SBA Scott Base 73.61 171 *e*P **P 11 06 17.4 +0.3**
SBA *e**PP pP 11 07 46.4 -0.3
SBA *e*S S 11 15 15.4 +2.4
SBA pmax pmax
comp=Z,110nm,0.8s,mb5.5
IMON Monand 73.70 308 *e*P **P 11 06 19.3 +0.9**
RAR Rarotonga 73.88 110 P **P 11 06 20.2 +0.5**
comp=Z,286nm,1.2s,mb5.8,baz=248,slow=9.3,SNR=10
RAR Rarotonga 73.88 110 *e*P **P 11 06 19.2 -0.5**
comp=Z,890nm,1.5s,mb6.2
RAR Rarotonga 73.88 110 P **P 11 06 20.2 +0.5**
RAR pmax pmax
comp=Z,286nm,1.2s
HATD Hatta, Dubai 74.02 298 P **P 11 06 21.1 +0.7**
SNR=17
NAZ Nazwa, Dubai 74.47 298 P **P 11 06 25.8 +2.8**
SNR=9.8
ASUD Al Ashush, Dub 74.67 298 P **P 11 06 27.5 +3.4**
SNR=9.0
BVA0 Borovoye Array 75.73 330 *i* P **P 11 06 29.2 -0.2**
BVA0 pmax pmax
comp=Z,115nm,0.9s,mb5.5
BVAR Borovoye Array 75.73 330 S S 11 15 34.4 -2.5
comp=Z,3.3nm,0.8s,baz=162,slow=6.1,SNR=3.5
BVAR PKPPKP 11 33 39.0
comp=Z,1.0nm,0.7s,baz=319,slow=4.3,SNR=4.1
ABPO Ambohimpanom 75.80 252 *e*P **P 11 06 31.1 +0.5**
comp=Z,67nm,1.2s,mb5.2
ABPO *e*pP pP 11 08 01.2 +0.4
ABPO Ambohimpanom 75.80 252 *e*P **P 11 06 31.1 +0.5**
ABPO *e**PP pP 11 08 01.2 +0.4
ABPO pmax pmax
comp=Z,67nm,1.2s,mb5.2
ABPO Ambohimpanom 75.80 252 P **P 11 06 32.0 +1.4**
comp=Z,109nm,0.7s,mb5.6,SNR=5.8
BRVK Borovoye 75.80 330 P **P 11 06 30.1 +0.3**
comp=Z,4μm,1.1s,mb6.9
BRVK Borovoye 75.80 330 *e*P **P 11 06 29.6 -0.3**
comp=Z,1μm,1.2s,mb6.3
BRVK *e*pP pP 11 07 57.5 -2.6
BRVK Borovoye 75.80 330 *e*P **P 11 06 29.6 -0.2**
BRVK *e**PP pP 11 07 57.6 -2.5
BRVK pmax pmax
comp=Z,1μm,1.2s,mb6.3
BRVK Borovoye 75.80 330 P **P 11 06 30.2 +0.3**
SNR=354
ABKT Ailbek 76.55 312 P **P 11 06 35.0 +0.6**
comp=Z,2μm,1.2s,mb6.7,SNR=42
ISHV Shirvan 76.72 311 *e*P **P 11 06 36.7 +1.4**
MUKL Al Mukalla 78.13 286⇑ *e*P **P 11 06 44.9 +1.5**
MUKL AMb AMB 11 06 45.5
comp=Z,901nm,0.9s,mb6.4
XMAS Kiritimati 78.23 86 *e*P **P 11 06 44.8 +0.7**
comp=Z,2μm,1.4s,mb6.5
IANJ Anjilo 78.94 308 *e*P **P 11 06 48.2 +0.7**
ISHM Shahmirzad 79.53 308 *e*P **P 11 06 51.6 +1.0**
AB31 Akbulak array 79.66 323 *c e*P **P 11 06 50.6 -0.4**
AB31 pmax pmax
comp=Z,421nm,0.9s,mb6.1
ABKAR Akbulak array 79.66 323 *e*P **P 11 06 50.7 -0.3**
comp=Z,6.7nm,1.6s
ABKAR *e*pP pP 11 08 22.7 +0.4
ILAS Lasjerd 79.67 308 *e*P **P 11 06 51.8 +0.5**
IFIR Firoozkooh 79.90 308 *e*P **P 11 06 52.7 +0.1**
ISFB Sefidab 79.94 307 *e*P **P 11 06 52.6 -0.2**
IDMV Damavand 80.44 308 *e*P **P 11 06 56.3 +0.8**
IVRN Varamin 80.52 307 *e*P **P 11 06 56.2 +0.3**
IVRN *e*P 11 06 56.2
BILL Bilibino 80.83 15 *e*P **P 11 06 56.2 -0.6**
comp=Z,85nm,0.8s,mb5.5
BILL *e*PP PP 11 10 06.3 -1.6
BILL Bilibino 80.83 15 *e*P **P 11 06 56.2 -0.5**
BILL *e* 11 10 06.3
BILL pmax pmax
comp=Z,85nm,0.8s,mb5.5
HON Honolulu 80.99 67 *e*P **P 11 06 58.4 -0.2**
HON Honolulu 80.99 67 *e*P **P 11 06 58.4 -0.2**
KIP Kipapa 81.00 67 *e*P **P 11 06 59.0 +0.3**
comp=Z,3μm,1.8s,mb6.7
KIP Kipapa 81.00 67 *e*P **P 11 06 59.0 +0.3**
KIP pmax pmax
comp=Z,3μm,1.8s,mb6.7
AKTO Aktyubinsk 81.28 324 S S 11 16 32.8 -2.5
comp=Z,2.9nm,0.7s,baz=330,slow=22,SNR=11
AKTO PKKPbc PKKPbc 11 25 32.5 -1.6
comp=Z,9.4nm,0.7s,baz=315,slow=2.6,SNR=23
AKTO PKPPKP 11 33 30.4
comp=Z,0.7nm,0.3s,baz=342,slow=2.0,SNR=3.9
SYO Syowa Base 81.31 201⇑ *e*P **P 11 06 57.8 -1.5**
SYO Syowa Base 81.31 201 ‖ *i* PcP PcP 11 07 02.5 -1.7
BDHA Al Bayda' 81.34 285⇑ *e*P **P 11 07 02.3 +1.8**
BDHA AMb AMB 11 07 03.5
comp=Z,628nm,0.9s,mb6.3
IMHD Mahdasht 81.54 308 *e*P **P 11 07 01.5 +0.3**
LBOS 81.63 285‖ *e*P **P 11 07 03.9 +1.8**
LBOS AMb AMB 11 07 04.8
comp=Z,623nm,1.1s,mb6.2
QRN Al-Qurain 82.11 300 *e*P **P 11 07 04.1 -0.1**
QRN AMb AMB 11 07 10.6
comp=Z,982nm,1.7s,mb6.3
NIKO Nikolski 82.14 34 *e*P **P 11 07 03.0 -0.8**
comp=Z,878nm,1.1s,mb6.4
KBD Kabd 82.40 301 *e*P **P 11 07 05.5 -0.2**
KBD AMb AMB 11 07 12.2
comp=Z,368nm,1.9s,mb5.8
RDF Al-Radifah 82.46 300 *e*P **P 11 07 06.3 +0.3**
RDF AMb AMB 11 07 09.3
comp=Z,250nm,1.1s,mb5.8
SVE Sverdlovsk 82.50 330 *c i* P **P 11 07 05.6 0.0**
SVE *e*S S 11 16 42.3 -5.1
SVE pmax pmax
comp=Z,823nm,1.8s,mb6.2
SVE pmax pmax
comp=Z,2μm,12.3s
SVE smax
comp=E,1μm,17.2s
SVE smax
comp=N,5μm,15.6s
SVE MLR MLR
comp=Z,3μm,21.0s
QSPA South Pole Qui 82.51 180 P **P 11 07 05.7 +0.4**
comp=Z,244nm,0.6s,mb6.1,baz=325,slow=1.7,SNR=1318
QSPA pP pP 11 08 37.9 +0.7
comp=Z,41nm,0.8s,baz=74,slow=4.7,SNR=1.5
QSPA S S 11 16 41.4 -5.5
comp=Z,32nm,1.0s,baz=297,slow=3.1,SNR=5.9
QSPA PKKPbc PKKPbc 11 25 28.3 -3.6
comp=Z,11nm,0.9s,baz=235,slow=0.8,SNR=12
QSPA PKPPKP 11 33 33.1
comp=Z,4.6nm,0.9s,baz=193,slow=2.6,SNR=5.4
QSPA South Pole Qui 82.51 180 *e*P **P 11 07 05.6 +0.3**
comp=Z,287nm,0.7s,mb6.1
QSPA *e*pP pP 11 08 36.4 -0.8
QSPA pP pP 11 08 37.9 +0.7
QSPA S S 11 16 41.4 -5.5
QSPA PKKPbc PKKPbc 11 25 28.3 -3.6
QSPA P'P' 11 33 33.1
DHBB Dhamar BB 82.57 286‖ *e*P **P 11 07 08.7 +1.8**
TRBA At Turbah 82.61 284‖ *e*P **P 11 07 08.8 +1.7**
KHU Kahuku 82.79 70 *e*P **P 11 07 07.5 -0.4**
KHU Kahuku 82.79 70 *e*P **P 11 07 07.5 -0.4**
NAY Al-Naaiem 82.80 301 *e*P **P 11 07 07.5 -0.3**
NAY AMb AMB 11 07 13.2
comp=Z,414nm,1.4s,mb6.0
MIB Mutribah 82.84 301 *e*P **P 11 07 08.1 +0.2**
MIB AMb AMB 11 07 13.0
comp=Z,251nm,1.1s,mb5.8
UDYN Al 'Udayn 82.87 285‖ *e*P **P 11 07 09.9 +1.5**
RAYN Ar Rayn 83.15 295 P **P 11 07 10.0 +0.4**
comp=Z,2μm,1.1s,mb6.7,SNR=76
PUH Pauahi 83.19 69 *e*P **P 11 07 11.0 +1.1**
STCH Steam Cracks 83.28 69 *e*P **P 11 07 11.4 +1.1**
TBI Tubuai 83.28 113 *e*P **P 11 07 11.2 +0.9**
comp=Z,476nm,0.9s,mb6.2
TBI *e*S S 11 16 53.6 -3.0
comp=Z,3μm,28.8s
ARU Arti 83.37 329 *e*P **P 11 07 09.6 -0.4**
comp=Z,3μm,1.8s,mb6.8
ARU *e*pP pP 11 08 39.4 -2.8
ARU Arti 83.37 329 *d i* P **P 11 07 09.7 -0.3**
ARU *PP pP 11 08 43.0 +0.8
ARU *SP sP 11 09 24.6 0.0
ARU 11 10 27.7
ARU S S 11 16 49.7 -6.4
ARU 11 18 47.6
ARU pmax pmax
comp=Z,923nm,2.5s,mb6.1
ARU Arti 83.37 329 P **P 11 07 09.4 -0.6**
comp=Z,2μm,0.7s,mb7.0,SNR=89
HAJJ Hajjah 83.51 287‖ *e*P **P 11 07 13.2 +1.7**
PAE Paea 83.71 107 *e*P **P 11 07 13.1 +0.5**
comp=Z,179nm,1.5s,mb5.6
PPT2 Papeete2 83.72 107 *e*P **P 11 07 12.9 +0.2**
comp=Z,533nm,1.4s,mb6.1
PPT Papeete 83.73 107 *e*S S 11 16 58.0 -3.2
comp=Z,3μm,25.2s
UNV Unalaska Valle 83.78 34 *e*P **P 11 07 11.2 -0.9**
comp=Z,1μm,1.2s,mb6.5
TIAR Tiarei 83.95 107 *e*P **P 11 07 14.4 +0.6**
comp=Z,744nm,1.4s,mb6.2
AKUT Akutan 84.28 34 *e*P **P 11 07 13.8 -0.8**
comp=Z,7μm,2.1s,mb7.0
MEH Mehetia 85.13 107 *e*P **P 11 07 19.8 +0.2**
comp=Z,2μm,1.6s,mb6.6
GAMB Gambell 85.41 24 *e*P **P 11 07 19.6 -0.3**
comp=Z,207nm,0.9s,mb5.9
SOKR Solikamsk 85.49 332 *c i* P **P 11 07 20.1 -0.3**
SOKR *PP pP 11 08 53.3 +0.1
SOKR 11 10 46.3
SOKR S S 11 17 02.1 -15
SOKR SS SS 11 23 02.4 -0.9
SOKR SSS 11 26 37.7
SOKR pmax pmax
comp=Z,630nm,1.0s,mb6.3
PMOR Pomariorio Ree 85.61 104 *e*P **P 11 07 23.6 +1.6**
comp=Z,1μm,1.6s,mb6.5
MAK Makhachkala 85.78 314 *d i* P **P 11 07 22.8 +0.6**
MAK *e**PP pP 11 09 01.5 +6.5
MAK *e**SP sP 11 09 40.7 +3.4
MAK *e* 11 10 45.1
MAK *i* S SKSac 11 17 09.7 +1.4
MAK pmax pmax
comp=Z,1μm,2.1s,mb6.3
MAK smax
comp=Z,4μm,5.0s
MAK smax
comp=N,23μm,9.5s
MAK smax
comp=E,12μm,8.7s
FALS False Pass 85.82 33 *e*P **P 11 07 20.8 -1.4**
comp=E,1μm,1.2s,mb6.5
BHD Baghdad 86.03 304 *e* x x 11 07 18.8
BHD *i* x x 11 08 49.7
BHD *i* x x 11 09 00.4
BHD *i* x x 11 17 04.3
BHD *i* x x 11 17 20.3
BHD *i* x x 11 20 00.3
DGRG David-gareji 86.97 312 P **P 11 07 28.3 +0.3**
GNI Garni 87.16 311 *e*P **P 11 07 29.0 +0.1**
comp=E,212nm,1.4s,mb5.7
GNI *e*pP pP 11 09 04.3 +2.3
GNI *e*S S 11 17 38.9 +5.5
GNI Garni 87.16 311 *e*P **P 11 07 29.0 +0.1**
GNI *e**PP pP 11 09 04.3 +2.3
GNI *e*S S 11 17 38.9 +5.5
GNI pmax pmax
comp=Z,212nm,1.4s
GNI Garni 87.16 311 P **P 11 07 30.7 +1.9**
SNR=23
FURI Furi 87.24 279 *i* P **P 11 07 32.2 +2.4**
FURI S pP 11 09 01.9 -1.1
KMBO Kilima Mbogo 87.32 269⇑ *i* P **P 11 07 31.9 +1.6**
KMBO Kilima Mbogo 87.32 269 *e*P **P 11 07 31.1 +0.9**
comp=Z,114nm,1.1s,mb5.5
KMBO *e*S SKSac 11 17 13.6 -5.4
KMBO Kilima Mbogo 87.32 269 *e*P **P 11 07 31.1 +0.8**
KMBO *e*S SKSac 11 17 13.6 -5.4
KMBO pmax pmax
comp=Z,114nm,1.1s
KMBO Kilima Mbogo 87.32 269 P **P 11 07 31.6 +1.3**
SNR=72
MTA Mtatsminda 87.45 312 P **P 11 07 30.5 +0.3**
TBLG Delisi 87.50 312 *e*P **P 11 07 31.2 +0.8**
TBLG Delisi 87.50 312 P **P 11 07 31.2 +0.8**
SDPT Sand Point 87.58 33 *e*P **P 11 07 29.6 -0.9**
comp=Z,1μm,0.6s,mb6.7
TNA Tin City 87.64 23 *e*P **P 11 07 29.3 -1.2**
comp=Z,636nm,0.8s,mb6.4
CHGN Chignik 88.96 33 *e*P **P 11 07 36.1 -0.8**
POGA Pongola 89.33 243⇑ *i*P **P 11 07 39.6 +0.2**
POGA AMB AMB 11 07 44.0
comp=Z,114nm,0.9s,mb5.6
KIV Kislovodsk 89.42 314 *e*P **P 11 07 39.1 -0.3**
comp=Z,96nm,1.0s,mb5.5
KIV *e*pP pP 11 09 12.8 -0.2
KIV *e*S S 11 17 54.6 +0.4
KIV Kislovodsk 89.42 314⇑ *i*P **P 11 07 39.1 -0.3**
KIV *i* *PP pP 11 09 13.3 +0.3
KIV *i* 11 11 18.8
KIV *i* 11 17 34.9
KIV *i* S SP 11 19 04.7 +2.6
KIV *i* SS SS 11 23 59.4 -1.5
KIV pmax pmax
comp=Z,89nm,1.0s,mb5.5
KIV Kislovodsk 89.42 314 P **P 11 07 39.7 +0.4**
SNR=24
KIV Kislovodsk 89.42 314 P **P 11 07 40.9 +1.5**
comp=Z,483nm,0.8s,mb6.3,SNR=13
MOPA Mopani 90.06 246⇑ *i*P **P 11 07 43.2 +0.3**
MOPA AMB AMB 11 07 44.7
comp=Z,88nm,1.0s,mb5.5
NVL N'lazarevskaya 90.33 198⇑ *i*P **P 11 07 45.7 +2.6**
NVL pmax pmax
comp=Z,81nm,1.0s,mb5.5
MAIT Maitri 90.36 198 *e*P **P 11 07 44.3 +1.1**
MAIT *e* pP 11 09 17.9 +1.0
MAIT *e*S SKSac 11 17 33.5 -0.9
KSD Kokstad 90.77 239 *e*P **P 11 07 47.3 +1.3**
KSD AMB AMB 11 07 47.5
comp=Z,161nm,1.8s,mb5.5
SOC Sochi 91.47 314 *e*P **P 11 07 47.5 -1.4**
SOC *e**PP pP 11 09 20.1 -2.6
SOC *e**SP sP 11 10 01.3 -3.3
SOC *e* 11 11 28.4
SOC *e*S SKSac 11 17 39.4 -2.3
SOC *e* 11 18 09.9
SOC *e*SS SS 11 24 24.5 -5.9
SOC *e*SSS 11 28 07.5
SOC pmax pmax
comp=Z,39nm,0.6s,mb5.4
MSNA Messina 91.49 247 *e*P **P 11 07 50.0 +0.5**
MSNA AMB AMB 11 07 50.5
comp=Z,40nm,2.0s,mb4.9
OHAK Old Harbor 91.92 33 *e*P **P 11 07 49.8 -0.8**
comp=Z,337nm,0.9s,mb6.3
ASF Jabal al Asfar 92.08 302 PKKP PKKPbc 11 25 03.7 -3.4
comp=Z,2.7nm,0.6s,baz=108,slow=4.5,SNR=2.6
KDAK Kodiak Island 92.39 32 *e*P **P 11 07 51.9 -0.9**
comp=Z,380nm,1.4s,mb6.1
KDAK Kodiak Island 92.39 32 P **P 11 07 52.0 -0.8**
comp=Z,996nm,1.8s,mb6.4,SNR=20
KDAK Kodiak Island 92.39 32 *e*P **P 11 07 51.9 -0.9**
KDAK pmax pmax
comp=Z,381nm,1.4s,mb6.1
ERPM east rand prop 92.47 243 *e*P **P 11 07 54.7 +0.8**
ERPM AMB AMB 11 07 57.2
comp=Z,48nm,1.1s,mb5.3
SLR Silverton 92.53 244 *e*P **P 11 07 54.8 +0.6**
SLR AMB AMB 11 07 55.2
comp=Z,44nm,1.8s,mb5.1
SEK Senekal 92.67 241 *e*P **P 11 07 55.3 +0.4**
SEK AMB AMB 11 07 56.4
comp=Z,53nm,2.7s,mb5.0
GRM Grahamstown 92.73 236 *e*P **P 11 07 55.9 +0.9**
GRM AMB AMB 11 07 56.0
comp=Z,100nm,3.2s
RSO Redoubt South 92.78 29 *e*P **P 11 07 52.7 -1.8**
comp=Z,533nm,1.4s,mb6.3
VSR Storozhevoye 92.97 321 *d i* P **P 11 07 54.4 -1.2**
VSR *e**PP pP 11 09 28.1 -1.4
VSR *e**SP sP 11 10 10.7 -0.7
VSR *e* 11 11 49.0
VSR *e* 11 17 46.3
VSR *e*S S 11 18 19.7 -5.9
VSR *e*SP SP 11 19 38.6 -2.4
VSR *e*PS PS 11 20 26.1 -8.3
VSR *e*SS SS 11 24 53.7 +2.4
VSR pmax pmax
comp=Z,230nm,0.9s,mb6.1
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,150nm,0.9s
VSR pmax pmax
comp=Z,560nm,3.2s
VSR pmax pmax
comp=N,210nm,4.6s
VSR pmax pmax
comp=E,230nm,1.8s
VSR smax
comp=E,730nm,2.6s
VSR smax
comp=Z,40nm,1.6s
VSR smax
comp=N,460nm,2.0s
VOR Voronezh 93.03 322 *e*P **P 11 07 55.0 -0.8**
VOR pmax pmax
comp=Z,760nm,1.8s,mb6.3
HWQ Hawqa 93.13 304 *e*P **P 11 07 57.4 +0.7**
PRYS Parys 93.15 242 *e*P **P 11 07 57.0 0.0**
PRYS AMB AMB 11 07 58.5
comp=Z,64nm,2.3s,mb5.2
ANN Anapa 93.27 315 *d i* P **P 11 07 55.6 -1.5**
ANN *i* *PP pP 11 09 29.9 -1.1
ANN *i* S SKSac 11 17 49.0 -2.6
ANN pmax pmax
comp=N,25nm,1.0s
ANN pmax pmax
comp=E,35nm,1.0s
ANN pmax pmax
comp=Z,155nm,1.0s,mb5.9
ANN smax
comp=N,94nm,1.3s
ANN smax
comp=E,123nm,1.3s
ANN smax
comp=Z,27nm,1.3s
BHL Bhannes 93.32 304 *e*P **P 11 07 58.1 +0.5**
EIL Elat 93.43 299 PKKPbc PKKPbc 11 25 03.1 -0.5
comp=Z,5.6nm,0.6s,baz=332,slow=4.5,SNR=8.3
EIL Elat 93.43 299 PKKPbc PKKPbc 11 25 03.1 -0.5
PPLA Purkeypile 93.46 27 *e*P **P 11 07 57.2 -0.4**
comp=Z,302nm,1.4s,mb6.0
PPLA *e*PP PP 11 11 42.5 -6.0
SOE Somerset East 93.63 237⇑ *i*P **P 11 08 00.8 +1.7**
SOE AMB AMB 11 08 05.0
comp=Z,42nm,1.1s,mb5.4
MBAR Mbarara 93.85 269 *e*P **P 11 08 00.1 -0.5**
MBAR Mbarara 93.85 269 P **P 11 08 01.1 +0.6**
comp=Z,131nm,0.9s,mb6.0,SNR=10
TAOE Nuku Hiva Isla 93.91 99 *e*S S 11 18 32.7 -2.7
comp=Z,5μm,25.4s
SNAA Sanae 93.93 195⇑ *i*P **P 11 07 52.4 -7.3**
SNAA AMB AMB 11 07 54.0
comp=Z,82nm,2.8s,mb5.3
SNAA Sanae 93.93 195 PKKP PKKPbc 11 24 58.1 -5.7
comp=Z,5.1nm,0.7s,baz=298,slow=2.9,SNR=28
SNAA PKPPKP 11 33 01.6
comp=Z,0.8nm,0.8s,baz=270,slow=5.8,SNR=6.4
SNAA Sanae 93.93 195 *e*P **P 11 07 51.9 -7.7**
comp=Z,53nm,0.8s,mb5.6
SNAA *e*pP pP 11 09 26.7 -6.8
SNAA PKKP PKKPbc 11 24 58.1 -5.7
SNAA P'P' 11 33 01.6
SNAA Sanae 93.93 195 *e*P **P 11 07 51.9 -7.7**
SNAA *e**PP pP 11 09 26.7 -6.8
SNAA pmax pmax
comp=Z,53nm,0.8s
BUFB Buffelsbos 94.01 235 *e*P **P 11 07 59.9 -1.0**
SLKM Skilak Lake 94.03 30 *e*P **P 11 07 58.6 -1.6**
SLKM Skilak Lake 94.03 30 *e*P **P 11 07 58.6 -1.6**
HVD Gariep Dam 94.09 239 *e*P **P 11 08 02.0 +0.8**
HVD AMB AMB 11 08 02.3
comp=Z,29nm,1.9s,mb5.0
BPAW Bear Paw Mtn. 94.18 26 *e*P **P 11 07 59.6 -1.2**
comp=Z,91nm,1.2s,mb5.7
BPAW *e*pP pP 11 09 30.1 -4.7
BPAW *e*PP PP 11 11 51.5 -2.5
LSZ Lusaka 94.28 254⇑ *i*P **P 11 08 02.8 +0.4**
LSZ Lusaka 94.28 254 *e*P **P 11 08 01.7 -0.7**
comp=Z,42nm,0.9s,mb5.5
LSZ *e*pP pP 11 09 31.7 -4.7
LSZ *e*PP PP 11 11 55.9 0.0
LSZ Lusaka 94.28 254 *e*P **P 11 08 01.7 -0.7**
LSZ *e**PP pP 11 09 31.7 -4.6
LSZ *e* 11 11 55.9
LSZ pmax pmax
comp=Z,42nm,0.9s,mb5.5
LSZ Lusaka 94.28 254 P **P 11 08 03.2 +0.8**
SNR=19
SEW Seward 94.35 30 *e*P **P 11 08 00.1 -1.6**
comp=Z,204nm,1.0s,mb6.1
TRF Thorofare Moun 94.40 27 *e*P **P 11 08 00.2 -1.6**
comp=Z,78nm,1.0s,mb5.7
TRF *e*PP PP 11 11 52.2 -3.5
MOS Moscow 94.47 325 *e*P **P 11 08 00.3 -2.0**
MOS *e**PP pP 11 09 35.0 -1.3
MOS *e* 11 11 57.8
MOS *e*S SKSac 11 17 56.0 -1.5
MOS *i* 11 18 34.2
MOS *e* 11 19 56.7
MOS *e**SS PS 11 20 53.2 +2.8
MOS *e*SS SS 11 25 10.1 -2.1
MOS pmax pmax
comp=Z,287nm,1.5s,mb6.1
MOS pmax pmax
comp=Z,600nm,2.0s,mb6.3
MOS smax
comp=N,400nm,2.6s
MOS smax
comp=E,1μm,3.2s
BOSA Boshof 94.67 240 ‖ *i*P **P 11 08 04.0 0.0**
BOSA AMB AMB 11 08 04.8
comp=Z,44nm,1.9s,mb5.2
BOSA Boshof 94.67 240 P **P 11 08 04.5 +0.6**
comp=Z,29nm,0.7s,mb5.4,baz=105,slow=3.5,SNR=57
BOSA pP pP 11 09 40.1 +2.3
comp=Z,21nm,0.8s,baz=115,slow=4.7,SNR=8.0
BOSA PKKP PKKPbc 11 24 58.5 -1.7
comp=Z,5.5nm,0.7s,baz=291,slow=1.3,SNR=5.0
BOSA Boshof 94.67 240 P **P 11 08 04.5 +0.6**
comp=Z,19nm,0.8s,mb5.2
BOSA pP pP 11 09 40.1 +2.3
BOSA *e*PP PP 11 12 00.6 +2.1
BOSA PKKP PKKPbc 11 24 58.5 -1.7
BOSA Boshof 94.67 240 P **P 11 08 04.6 +0.6**
BOSA *PP pP 11 09 40.2 +2.3
BOSA *e* 11 12 00.6
BOSA pmax pmax

comp=Z,19nm,0.8s,mb5.2
PMR Palmer 94.69 29 *e*P **P 11 08 01.3 -1.9**
comp=Z,344nm,1.7s,mb6.1
PMR Palmer 94.69 29 *e*P **P 11 08 01.3 -1.9**
PMR pmax pmax
comp=Z,344nm,1.7s,mb6.1
SWZ Schweizer 94.88 242 ⇑ *i*P **P 11 08 05.1 +0.2**
SWZ AMB AMB 11 08 05.7
comp=Z,48nm,2.2s,mb5.1
COLD Coldfoot 94.94 23 *e*P **P 11 08 03.5 -0.8**
comp=Z,158nm,0.6s,mb6.2
COLD *e*PP PP 11 11 58.4 -1.2
OBN Obninsk 95.00 325 *e*P **P 11 08 03.8 -0.9**
comp=Z,360nm,1.3s,mb6.2
OBN *e*PP PP 11 12 00.7 +0.2
OBN Obninsk 95.00 325 ⇑ *i*P **P 11 08 04.2 -0.6**
OBN *i* *PP pP 11 09 40.1 +1.4
OBN *i* 11 12 01.2
OBN *i* 11 17 58.6
OBN *i* S S 11 18 44.1 +1.1
OBN *i* SP SP 11 20 04.5 +1.5
OBN *i* PS PS 11 20 55.4 -0.7
OBN *i* SS SS 11 25 18.0 -1.7
OBN pmax pmax
comp=Z,453nm,1.5s,mb6.3
OBN Obninsk 95.00 325 P **P 11 08 05.4 +0.6**
comp=Z,1μm,1.5s,mb6.7,SNR=14
MCK McKinley 95.03 26 *e*P **P 11 08 02.6 -2.2**
comp=Z,767nm,1.9s,mb6.4
MCK *e*pP pP 11 09 37.2 -1.5
MCK *e*PP PP 11 11 57.2 -3.3
MCK McKinley 95.03 26 *e*P **P 11 08 02.6 -2.1**
MCK *e**PP pP 11 09 37.2 -1.5
MCK *e* 11 11 57.2
MCK pmax pmax
comp=Z,820nm,1.9s,mb6.4
LBTB Lobatse 95.05 244 ⇑ *i*P **P 11 08 06.3 +0.6**
LBTB AMB AMB 11 08 06.6
comp=Z,45nm,2.0s,mb5.2
LBTB Lobatse 95.05 244 S SKSac 11 18 01.5 -0.5
comp=Z,2.6nm,0.9s,baz=269,slow=21,SNR=9.0
LBTB PKKPbc PKKPbc 11 24 59.2 +0.2
comp=Z,3.6nm,0.7s,baz=328,slow=4.1,SNR=5.0
LBTB Lobatse 95.05 244 *e*P **P 11 08 06.0 +0.3**
comp=Z,38nm,0.9s,mb5.4
LBTB S SKSac 11 18 01.5 -0.5
LBTB PKKPbc PKKPbc 11 24 59.2 +0.2
LBTB Lobatse 95.05 244 *e*P **P 11 08 06.0 +0.3**
LBTB S SKSac 11 18 01.5 -0.5
LBTB pmax pmax
comp=Z,38nm,0.9s,mb5.4
SML Sawmill 95.10 28 *e*P **P 11 08 03.5 -1.6**
comp=Z,366nm,1.4s,mb6.2
SML *e*PP PP 11 11 55.8 -5.3
SML Sawmill 95.10 28 *e*P **P 11 08 03.5 -1.5**
SML *e* 11 11 55.8
SML pmax pmax
comp=Z,366nm,1.4s,mb6.2
CSS Prodhromos 95.34 304 *e*P **P 11 08 05.2 -1.6**
comp=Z,76nm,1.2s,mb5.6
CSS *e*pP pP 11 09 40.2 -0.6
BR131 Keskin Array S 95.53 309 *e*P **P 11 08 06.2 -1.3**
comp=Z,11nm,0.7s,mb5.1
BR131 *e*pP pP 11 09 40.8 -0.8
BRTR Keskin Array B 95.53 309 P **P 11 08 06.7 -0.9**
comp=Z,30nm,1.0s,mb5.4,baz=132,slow=6.6,SNR=54
BRTR pP pP 11 09 41.1 -0.4
comp=Z,9.0nm,1.0s,baz=128,slow=7.7,SNR=2.6
BRTR PP PP 11 12 03.6 -1.4
comp=Z,18nm,0.9s,baz=132,slow=6.7,SNR=4.5
BRTR S SKSac 11 18 02.1 -1.7
comp=Z,1.6nm,0.9s,baz=173,slow=1.2,SNR=2.4
BRTR PKKPbc PKKPbc 11 24 57.5 -1.0
comp=Z,1.8nm,0.9s,baz=242,slow=3.9,SNR=3.6
BRTR Keskin Array B 95.53 309 P **P 11 08 06.7 -0.9**
BRTR pP pP 11 09 41.1 -0.4
BRTR PP PP 11 12 03.6 -1.4
BRTR S SKSac 11 18 02.1 -1.7
BRTR PKKPbc PKKPbc 11 24 57.5 -1.0
BRTR Keskin Array B 95.53 309 P **P 11 08 06.7 -0.9**
BRTR *PP pP 11 09 41.2 -0.4
BRTR 11 12 03.7
BRTR S SKSac 11 18 02.1 -1.7
VNA2 Neumayer--Watz 95.54 194 *e* **P 11 08 08.0 +1.0**
baz=116,slow=3.5
VNA2 *e* pP 11 09 41.8 +0.9
VNA2 *e* 11 12 45.5
VNA2 *e* 11 24 55.9
COLA College 95.62 25 *e*P **P 11 08 05.3 -2.1**
comp=Z,50nm,1.0s,mb5.6
COLA *e*PP PP 11 11 57.4 -7.6
COLA College 95.62 25 *e*P **P 11 08 05.3 -2.1**
COLA pmax pmax
comp=Z,50nm,1.0s,mb5.6
SIM Simferopol' 95.63 314 *de*P **P 11 08 07.2 -0.7**
SIM *e**PP pP 11 09 40.6 -1.3
SIM S SKSac 11 18 02.9 -1.2
SIM PS S 11 18 43.8 -5.1
SIM pmax pmax
comp=Z,49nm,0.7s,mb5.8
SIM pmax pmax
comp=Z,260nm,13.0s
VNA3 Neumayer Olymp 95.86 193 *e* **P 11 08 09.4 +1.0**
VNA3 *e* pP 11 09 43.2 +0.8
VNA3 *e* 11 12 45.8
VNA3 *e* 11 24 54.7
VNA1 Neumayer--Stat 95.94 194 *e* **P 11 08 10.4 +1.6**
VNA1 *e* pP 11 09 42.8 0.0
VNA1 *e* 11 24 51.1
ILAR Eielson Array 96.03 26 P **P 11 08 06.3 -2.9**
comp=Z,25nm,0.9s,mb5.3,baz=286,slow=4.1,SNR=150
ILAR pP pP 11 09 41.5 -1.7
comp=Z,4.1nm,0.9s,baz=255,slow=5.5,SNR=1.4
ILAR PP PP 11 12 05.4 -2.7
comp=Z,44nm,1.1s,baz=256,slow=6.9,SNR=9.9
ILAR S SKSac 11 18 00.8 -4.5
comp=Z,1.3nm,0.9s,baz=282,slow=5.5,SNR=4.4
ILAR PKKPbc PKKPbc 11 24 56.2 -2.0
comp=Z,5.6nm,0.7s,baz=74,slow=2.3,SNR=18
ILAR SKKP 11 27 56.0
comp=Z,3.2nm,0.8s,baz=44,slow=1.2,SNR=5.9
ILAR PKPPKP 11 33 00.7
comp=Z,1.0nm,1.0s,baz=204,slow=2.4,SNR=4.1
ILAR Eielson Array 96.03 26 P **P 11 08 06.3 -2.9**
ILAR pP pP 11 09 41.5 -1.7
ILAR PP PP 11 12 05.4 -2.7
ILAR S SKSac 11 18 00.8 -4.5
ILAR PKKPbc PKKPbc 11 24 56.2 -2.0
ILAR SKKP 11 27 56.0
ILAR P'P' 11 33 00.7
ILAR Eielson Array 96.03 26 P **P 11 08 06.3 -2.9**
ILAR *PP pP 11 09 41.5 -1.7
ILAR 11 12 05.4
ILAR S SKSac 11 18 00.9 -4.4
DIV Divide 96.26 29 *e*P **P 11 08 09.9 -0.4**
comp=Z,174nm,0.8s,mb6.2
PAX Paxson 96.52 27 *e*P **P 11 08 10.3 -1.2**
comp=Z,207nm,1.2s,mb6.1
PAX *e*pP pP 11 09 45.2 -0.4
PAX *e*PP PP 11 12 06.6 -5.3
PAX Paxson 96.52 27 *e*P **P 11 08 10.3 -1.2**
PAX *e**PP pP 11 09 45.2 -0.4
PAX *e* 11 12 06.6
PAX pmax pmax
comp=Z,207nm,1.2s,mb6.1
BMRM Bremner River 96.82 29 *e*P **P 11 08 12.2 -0.6**
comp=Z,364nm,1.5s,mb6.3
BMRM *e*PP PP 11 12 09.1 -5.1
LVZ Lovozero 96.89 338 *e*P **P 11 08 11.5 -1.5**
comp=Z,60nm,0.8s,mb5.8
LVZ Lovozero 96.89 338 *e*P **P 11 08 11.5 -1.5**
LVZ pmax pmax
comp=Z,60nm,0.8s,mb5.8
DOT Dot Lake 97.19 27 *e*P **P 11 08 12.9 -1.5**
comp=Z,59nm,0.7s,mb5.8
DOT *e*PP PP 11 12 15.2 -1.7
MENT Mentasta 97.32 27 *e*P **P 11 08 13.9 -1.1**
MENT *e*PP PP 11 12 16.3 -1.6
APA Apatity 97.35 337 ⇑ *i*P **P 11 08 14.0 -1.1**
APA *i* 11 12 16.8
APA *i* 11 18 10.0
APA *i* S S 11 18 54.0 -8.6
APA *i* PS PS 11 21 09.0 -12
APA *i* SS SS 11 25 56.0 +4.0

APA pmax pmax
comp=Z,81nm,1.4s,mb5.7
APA MLR MLR
comp=Z,3μm,18.0s
SUR Sutherland 97.61 236 *e*P **P 11 08 18.5 +1.3**
comp=Z,14nm,0.8s,mb5.2
SUR *e*pP pP 11 09 50.7 -0.6
SUR PKKPbc PKKPbc 11 24 50.2 -2.2
JOF Joensuu 98.15 333 *e*P **P 11 08 16.4 -2.3**
JOF pmax pmax
comp=Z,20nm,0.6s,mb5.5
JOF Joensuu 98.15 333 *e*p **P 11 08 16.4 -2.3**
comp=Z,20nm,0.6s,mb5.5
JOF Joensuu 98.15 333 *e*pkp PKKPdf 11 24 49.0 -5.1
EGAK Eagle 98.48 26 *e*Pdif Pdif 11 08 19.2 -1.3
comp=Z,885nm,0.7s
AKASG Malin Array Be 99.20 320 P Pdif 11 08 22.7 -1.0
comp=Z,33nm,0.7s,baz=78,slow=4.3,SNR=70
AKASG pP pP 11 09 55.6 -2.4
comp=Z,5.9nm,0.7s,baz=77,slow=4.2,SNR=2.3
AKASG PKiKP PKiKP 11 12 51.1 -0.3
comp=Z,3.4nm,0.4s,baz=64,slow=2.9,SNR=8.5
AKASG S SKSac 11 18 20.9 -1.1
comp=Z,1.8nm,0.6s,baz=76,slow=5.8,SNR=4.4
AKASG PKKPbc PKKPbc 11 24 44.6 -4.3
comp=Z,1.0nm,0.4s,baz=272,slow=3.6,SNR=6.8
AKASG PKPPKP 11 32 60.0
comp=Z,0.3nm,0.3s,baz=298,slow=2.3,SNR=6.1
AKASG Malin Array Be 99.20 320 P Pdif 11 08 22.7 -1.0
AKASG pP pP 11 09 55.6 -2.4
AKASG PKiKP PKiKP 11 12 51.1 -0.3
AKASG S SKSac 11 18 20.9 -1.1
AKASG PKKPbc PKKPbc 11 24 44.6 -4.3
AKASG P'P' 11 32 60.0
AKASG Malin Array Be 99.20 320 P Pdif 11 08 22.7 -1.0
AKASG *PP pP 11 09 55.6 -2.4
AKASG S SKSac 11 18 20.9 -1.0
AKBB Malin Array Si 99.20 320 *e*Pdif Pdif 11 08 22.4 -1.3
AKBB Malin Array Si 99.20 320 *e*P Pdif 11 08 22.4 -1.3
KIEV Kiev 99.21 320 *e*Pdif Pdif 11 08 22.7 -1.1
comp=Z,143nm,1.3s
KIEV *e*pP pP 11 09 56.3 -1.8
KIEV Kiev 99.21 320 *e*P Pdif 11 08 22.7 -1.1
KIEV *e**PP pP 11 09 56.3 -1.7
KIEV pmax pmax
comp=Z,143nm,1.3s,mb6.1
DAWY Dawson 99.26 26 *e*Pdif Pdif 11 08 23.1 -0.9
DAWY *e*PP PP 11 12 31.8 -0.8
TLCR 99.39 315 ⇑ *i*P Pdif 11 08 24.6 0.0
TLCR 99.39 315 ⇑ *i*P PKKPbc 11 24 47.2 -0.9
KIS Kishinev 99.42 316 *e*P Pdif 11 08 25.0 +0.3
comp=Z,200nm,2.0s
KIS *e*pP pP 11 10 02.0 +2.9
KIS Kishinev 99.42 316 *e*PS PS 11 21 21.0 -22
KIS *e*sS sS 11 22 10.0 -0.4
KIS *e*SS SS 11 26 09.0 -13
KIS *e*SSS 11 28 38.0
KIS LRM 12 00 00.0
comp=Z,2μm,20.0s
KIS Kishinev 99.42 316 *e*P Pdif 11 08 25.0 +0.3
KIS *e**PP pP 11 10 02.0 +2.9
KIS *i* 11 18 21.0
KIS *i* S Sdif 11 19 15.0 -5.7
KIS pmax pmax
comp=Z,170nm,2.0s,mb6.0
KEV Kevo 99.63 340 *e*Pdif Pdif 11 08 25.2 -0.5
comp=Z,102nm,1.5s
KEV Kevo 99.63 340 *e*P Pdif 11 08 25.2 -0.5
KEV pmax pmax
comp=Z,102nm,1.5s,mb6.0
KEV Kevo 99.63 340 *e*p Pdif 11 08 23.1 -2.6
comp=Z,10nm,0.7s
KEV Kevo 99.63 340 *e*p PP 11 12 28.6 -6.6
comp=Z,10nm,0.7s
KEV Kevo 99.63 340 *e*pkp PKKPbc 11 24 41.6 -6.8
TIRR Tirgusor 99.67 314 ⇑ *i*P Pdif 11 08 27.5 +1.7
LEOM Leova 99.81 316 P Pdif 11 08 28.3 +1.8
MICGM Minsk 100.00 324 ⇑ *i*P Pdif 11 08 26.0 -1.3
MNK Minsk 100.03 324 *d i*P Pdif 11 08 26.0 -1.4
MNK *e**PP pP 11 10 04.0 +2.4
MNK *e* 11 12 43.0
MNK *e* 11 18 22.0
MNK *e*S Sdif 11 19 20.0 -5.7
MNK *e*SS SS 11 26 28.0 -1.7
MNK pmax pmax
comp=Z,290nm,1.5s
MNK pmax pmax
comp=E,230nm,1.5s
MNK smax
comp=N,6μm,8.0s
ARCES ARCESS Array B 100.18 339 P Pdif 11 08 26.7 -1.4
comp=N,34nm,0.9s,baz=77,slow=4.6,SNR=85
ARCES PKiKP PKiKP 11 12 53.0 +0.4
comp=N,5.0nm,0.5s,baz=107,slow=1.0,SNR=14
ARCES PKKPbc PKKPbc 11 24 43.7 -3.2
comp=N,7.1nm,0.4s,baz=232,slow=2.6,SNR=21
ARCES ARCESS Array B 100.18 339 P Pdif 11 08 26.7 -1.4
ARCES PKiKP PKiKP 11 12 53.0 +0.4
ARCES PKKPbc PKKPbc 11 24 43.7 -3.2
ARCES ARCESS Array B 100.18 339 P Pdif 11 08 26.7 -1.4
ARE0 ARCESS Array S 100.18 339 *e*P Pdif 11 08 24.4 -3.7
ARE0 *e*SS SS 11 26 30.9 -0.2
ARE0 ARCESS Array S 100.18 339 *e*Pdif Pdif 11 08 26.6 -1.4
KARP Karpathos 100.42 305 P SKSac 11 18 26.2 -2.4
KAF Kangasniemi 100.49 332 *e*P Pdif 11 08 27.3 -2.2
KAF pmax pmax
comp=Z,19nm,0.6s
KAF Kangasniemi 100.49 332 *e*p Pdif 11 08 27.3 -2.2
comp=Z,19nm,0.6s
KAF Kangasniemi 100.49 332 *e*p PP 11 12 38.6 -3.3
comp=Z,8.7nm,0.7s
KAF Kangasniemi 100.49 332 *e*pkp PKKPbc 11 24 41.2 -4.5
FINES FINESS Array B 100.65 331 P Pdif 11 08 28.5 -1.7
comp=Z,10nm,0.7s,baz=112,slow=4.6,SNR=42
FINES PKiKP PKiKP 11 12 54.2 +0.5
comp=Z,8.6nm,0.7s,baz=100,slow=2.7,SNR=10
FINES PKKPbc PKKPbc 11 24 41.5 -3.7
comp=Z,1.7nm,0.5s,baz=245,slow=1.1,SNR=8.8
FINES FINESS Array B 100.65 331 P Pdif 11 08 28.5 -1.7
FINES PKiKP PKiKP 11 12 54.2 +0.5
FINES PKKPbc PKKPbc 11 24 41.5 -3.7
FINES FINESS Array B 100.65 331 P Pdif 11 08 28.5 -1.7
VRI Vrincioaia 100.87 315 P Pdif 11 08 33.9 +2.8
VRI Vrincioaia 100.87 315 ⇑ *i*P Pdif 11 08 31.3 +0.2
PLOR Plostina 100.92 315 P Pdif 11 08 34.0 +2.6
PLOR Plostina 100.92 315 ⇑ *i*P Pdif 11 08 33.7 +2.3
PLOR Plostina 100.92 315 ⇓ *i*P PKKPbc 11 24 42.5 -1.4
JMB Yambol 100.98 312 P SKSac 11 18 24.1 -6.9
SPA0 Spitsbergen Ar 101.00 348 *e*P Pdif 11 08 28.2 -3.6
SPB4 Spitsbergen Ar 101.00 348 *e*Pdif Pdif 11 08 30.2 -1.5
PRK Paraskevi 101.20 308 P SKSac 11 18 32.7 +0.5
INK Inuvik 101.26 22 *e*Pdif Pdif 11 08 31.2 -1.6
comp=Z,17nm,1.5s
INK Inuvik 101.26 22 *e*P Pdif 11 08 31.2 -1.7
INK pmax pmax
comp=Z,17nm,1.5s
CHOS Chios island 101.36 308 P SKSac 11 18 34.4 +1.4
ALN Alexandroupoli 101.38 310 P SKSac 11 18 38.4 +5.4
MLR Muntele Rosu 101.42 315 PKKPbc PKKPbc 11 24 41.1 -1.3
comp=Z,1.4nm,0.6s,baz=90,slow=1.0,SNR=9.7
MLR Muntele Rosu 101.42 315 ⇑ P Pdif 11 08 35.7 +2.1
MLR Muntele Rosu 101.42 315 ⇑ *i*P Pdif 11 08 35.7 +2.1
MLR Muntele Rosu 101.42 315 ⇓ *i*P PKKPbc 11 24 40.8 -1.6
SKAG Skagway 101.47 31 *e*P Pdif 11 08 33.9 +0.1
comp=Z,81nm,1.8s
SIGR SIGRI 101.53 308 P SKSac 11 18 33.0 -0.7
KBS Kingsbay 101.59 350 *e* Pdif 11 08 34.3 -0.1
KBS *e*PP PP 11 12 46.4 -3.3
KBS AMS AMS 11 57 14.4
comp=Z,2μm,21.1s
NPS Neapolis 101.68 304 P SKSac 11 18 35.5 +0.9
APE Apeiranthos 101.77 306 P SKSac 11 18 31.1 -3.8
BURAR Bucovina Array 101.87 317 ⇑ P Pdif 11 08 36.2 +0.6
BURAR Bucovina Array 101.87 317 ⇑ *i*P Pdif 11 08 36.2 +0.6
BURAR Bucovina Array 101.87 317 ⇑ *i*P PKKPbc 11 24 41.0 -0.2
BUR08 Bucovina Ar. S 101.88 317 *e*Pdif Pdif 11 08 35.9 +0.2
LIA Limnos Island 102.04 309 P SKSac 11 18 35.1 -1.0
IDI Anoyia 102.27 304 P SKSac 11 18 39.1 +1.7
SIVA Sivas 102.33 304 P SKSac 11 18 37.7 0.0
PLD Plovdiv 102.38 311 P SKSac 11 18 35.7 -1.9
KAVA Kavala 102.54 310 P SKSac 11 18 36.3 -2.1
LVV L'vov 102.55 319 *e*P Pdif 11 08 39.0 +0.4

LVV *e* 11 13 04.0
LVV *e* 11 18 30.0
LVV *e*S Sdif 11 19 45.0 -1.8
LVV *e*SS SS 11 27 05.0 +0.3
MRMA Marmari 102.68 307 P SKSac 11 18 37.7 -1.5
SUW Suwalki 102.78 324 *e*P Pdif 11 08 41.1 +1.5
SUW *e*PP PP 11 12 53.7 -5.4
SUW *e*PPP 11 14 20.9
SUW *e*SP SP 11 21 24.5 -1.6
SUW *e*PS PS 11 22 35.7 +18
SUW Suwalki 102.78 324 *e*Pdif Pdif 11 08 40.0 +0.3
comp=Z,128nm,1.2s
SUW Suwalki 102.78 324 *e*P Pdif 11 08 41.1 +1.5
SUW *e*SP SP 11 21 24.5 -1.6
VAM Vamos 102.83 305 P SKSac 11 18 41.0 +1.0
OUR Ouranopolis 102.96 310 P SKSac 11 18 38.2 -2.2
BMR Baia Mare 103.03 317 P Pdif 11 08 41.9 +1.1
BMR Baia Mare 103.03 317 ⇓ *i*P Pdif 11 08 41.9 +1.1
AOS Alonnisos 103.06 308 P SKSac 11 18 41.7 +0.8
KARN Karanos 103.06 305 P SKSac 11 18 41.3 +0.2
PTL Penteli 103.09 307 P SKSac 11 18 38.5 -2.6
VLY Voula,Athens 103.15 307 P SKSac 11 18 38.6 -2.7
ATHU Athens Univers 103.15 307 P SKSac 11 18 40.5 -0.9
PAIG Paliouri 103.20 309 P SKSac 11 18 38.6 -2.9
ATH Athens Observa 103.21 307 P SKSac 11 18 39.9 -1.7
SRS Serrai 103.24 310 P SKSac 11 18 38.2 -3.4
MRKA Markates 103.30 308 P SKSac 11 18 39.9 -2.1
PLG Polygyros 103.37 310 P SKSac 11 18 38.5 -3.8
KWP Kalwaria Pacla 103.42 319 *e*P Pdif 11 08 43.5 +1.0
KWP *e*PP PP 11 13 10.1 +6.1
KWP *e*PS 11 20 43.2
KWP *e*SP SP 11 21 32.6 -0.5
KWP Kalwaria Pacla 103.42 319 *e*Pdif Pdif 11 08 42.5 0.0
comp=Z,47nm,1.1s
KWP Kalwaria Pacla 103.42 319 *e*P Pdif 11 08 43.5 +1.0
KWP *e* 11 13 10.1
KWP *e*SP SP 11 21 32.6 -0.5
KWP Kalwaria Pacla 103.42 319 ⇑ *i*P Pdif 11 08 45.2 +2.7
SOH Sokhos 103.43 310 P SKSac 11 18 39.3 -3.2
VTS Vitosha 103.47 312 P SKSac 11 18 41.7 -0.9
NEO Neokhori 103.57 309 P SKSac 11 18 39.7 -3.5
DID Didima 103.59 307 P SKSac 11 18 37.5 -5.9
DIDY Didyma 103.61 307 P SKSac 11 18 39.9 -3.6
DRGR 103.61 316 ⇓ *i*P Pdif 11 08 46.1 +2.7
HORT Hortiatis 103.63 310 P SKSac 11 18 40.0 -3.4
TRPA Tarpa 103.64 318 ⇓ *i*P Pdif 11 08 43.8 +0.3
TRPA Tarpa 103.64 318 ⇑ *i*P PKKPbc 11 24 35.3 -0.7
GZR Gura Zlata 103.65 315 ⇑ P Pdif 11 08 48.8 +5.3
GZR Gura Zlata 103.65 315 ⇑ *i*P Pdif 11 08 48.8 +5.3
GZR Gura Zlata 103.65 315 ⇓ *i*P PKKPbc 11 24 36.2 +0.3
THE Thessaloniki 103.73 310 P SKSac 11 18 40.2 -3.7
ATAL Atalanti 103.74 308 P SKSac 11 18 41.8 -2.2
LKR Lokris 103.76 308 P SKSac 11 18 41.5 -2.6
KOLS Kolonicke sedl 103.76 318 *e*P Pdif 11 08 44.8 +0.8
KOLS *e* 11 13 11.9
KOLS Kolonicke sedl 103.76 318 PDIF Pdif 11 08 44.8 +0.8
KOLS pPDIF 11 10 20.8
KOLS *e*PP PP 11 13 11.8 +5.3
KOLS *e* 11 24 58.2
UZH Uzhgorod 103.77 318 *e*P Pdif 11 08 45.0 +0.9
UZH *e* 11 13 11.0
UZH *e*S Sdif 11 19 50.0 -6.9
LTRA Loutraki 103.79 307 P SKSac 11 19 01.5 +17
LTK Loutraki 103.80 307 P SKSac 11 18 41.2 -3.1
VLI Veliai 103.85 306 P SKSac 11 18 40.7 -3.9
AXAR Agios Charalam 104.02 308 P SKSac 11 18 44.6 -0.7
LIT Litokhoron 104.11 309 P SKSac 11 18 41.0 -4.6
DESF Desfina 104.13 308 P SKSac 11 18 37.4 -8.4
DSF Desfina 104.14 308 P SKSac 11 18 43.7 -2.1
STEI Steigen 104.15 338 *e*P Pdif 11 08 43.5 -2.3
AGG Agios Georgios 104.27 308 P SKSac 11 18 43.5 -2.9
VLX Vlachokerasia 104.28 307 P SKSac 11 18 44.8 -1.7
CRVS Cervenica-Dubn 104.30 318 *e*P Pdif 11 08 48.8 +2.4
CRVS *e* 11 13 15.3
CRVS *e*S SP 11 21 35.2 -7.0
CRVS Cervenica-Dubn 104.30 318 PDIF Pdif 11 08 48.8 +2.4
CRVS pPDIF 11 10 23.0
CRVS *e*PP PP 11 13 15.3 +4.8
CRVS *e* 11 21 35.2
CRVS *e* 11 24 55.2
STHS Stebnicka Huta 104.39 319 *e*PP PP 11 13 17.0 +5.8
MAKR Makrakomi, Fth 104.42 308 P SKSac 11 18 46.8 -0.3
BEL Belsk 104.43 322 *e*P Pdif 11 08 52.1 +5.1
BEL *e*PP PP 11 13 09.5 -1.9
BEL *e*PPP 11 14 41.1
BEL *e*SP SP 11 21 40.2 -3.2
BEL Belsk 104.43 322 *e*P Pdif 11 08 52.1 +5.1
BEL *e* 11 13 09.5
BEL *e*SP SP 11 21 40.2 -3.2
KALE Kalithea 104.44 308 P SKSac 11 18 44.6 -2.6
BZS Buzias 104.45 315 ⇑ *i*P PKKPbc 11 24 32.5 -1.0
TRIZ Trizonia 104.49 308 P SKSac 11 18 44.9 -2.6
LAKA Lakka 104.57 307 P SKSac 11 18 48.4 +0.6
EFP Efpalio 104.62 308 P SKSac 11 18 47.7 -0.3
ITM Ithomi 104.65 306 P SKSac 11 18 46.9 -1.3
EVR Evrytania 104.68 308 P SKSac 11 18 46.8 -1.5
UPR University Cam 104.72 308 P SKSac 11 18 48.2 -0.3
PYL PYLOS 104.80 306 P SKSac 11 18 47.1 -1.8
MOR8 Moi Rana 104.93 337 *e*P Pdif 11 08 46.6 -2.6
MOR8 AMB AMB 11 08 51.2
comp=Z,40nm,0.8s
KECS Kecovo 104.98 318 *e*P Pdif 11 08 53.1 +3.7
KECS *e* 11 13 17.3
KECS Kecovo 104.98 318 PDIF Pdif 11 08 53.1 +3.7
KECS *e*PP PP 11 13 17.3 +1.8
KECS *e* 11 24 51.0
RLS Riolos of Patr 104.98 307 P SKSac 11 18 39.6 -10
NIE Niedzica 105.00 319 *e*P Pdif 11 08 50.8 +1.3
NIE Niedzica 105.00 319 *e*P Pdif 11 08 50.8 +1.3
NEST Nestorio 105.20 310 P SKSac 11 18 46.7 -3.8
DSL Palaion Diasel 105.22 308 P SKSac 11 18 47.2 -3.5
OJC Ojcow 105.24 320 *e*P Pdif 11 08 52.8 +2.2
OJC Ojcow 105.24 320 *e*P Pdif 11 08 52.8 +2.2
JAN Janina 105.39 309 P SKSac 11 18 45.7 -5.7
PSZ Piszkesteto 105.43 318 *e*Pdif Pdif 11 08 50.2 -1.2
comp=Z,68nm,1.8s
PSZ Piszkesteto 105.43 318 *e*P Pdif 11 08 50.2 -1.2
PSZ pmax pmax
comp=Z,68nm,1.8s
PSZ Piszkesteto 105.43 318 *e*PP PP 11 13 05.0 -14
PSZ Piszkesteto 105.43 318 ⇓ *i*P Pdif 11 08 56.1 +4.7
STOK Stokkvaagen 105.43 337 *e*P Pdif 11 08 48.7 -2.8
DIVS Divibare 105.72 314 P SKSac 11 18 51.0 -1.7
IGT Igoumenitsa 105.80 309 P SKSac 11 18 32.6 -21
BUD Budapest 106.06 317 *e*PP PP 11 13 03.6 -20
OKC Ostrava-Krasne 106.34 320 *i* P Pdif 11 08 58.2 +2.7
OKC *e* 11 13 30.5
OKC *e* 11 18 52.0
OKC smax
comp=N,6.0nm,0.4s
OKC Ostrava-Krasne 106.34 320 *e*PDIFF Pdif 11 08 58.2 +2.7
OKC *e*pP 11 10 33.1
OKC *e*PP PP 11 13 30.5 +5.1
OKC *e*x x 11 14 55.7
OKC *e*SKS SKSac 11 18 52.0 -3.1
OKC *e*x x 11 21 45.2
OKC *e*PKKP PKKPbc 11 24 27.9 -0.1
KOLL Kolacno 106.34 318 *e*PP PP 11 13 31.6 +6.2
GKP Gorka Klasztor 106.38 323 *e*P Pdif 11 08 58.9 +3.2
GKP *e*PP PP 11 13 25.1 -0.4
GKP *e*SP SP 11 22 01.2 -2.1
GKP *e*PS PS 11 23 09.5 +16
GKP Gorka Klasztor 106.38 323 *e*P Pdif 11 08 58.9 +3.2
GKP *e* 11 13 25.1
GKP *e*SP SP 11 22 01.2 -2.1
GKP *e*PS PS 11 23 09.5 +16
NSS Namsos 106.39 335 *e*P Pdif 11 08 52.3 -3.4
MORC Moravsky Berou 106.74 320 *e*Pdif Pdif 11 08 57.0 -0.3
comp=N,34nm,1.7s
MORC Moravsky Berou 106.74 320 *e*P Pdif 11 08 57.0 -0.3
MORC pmax pmax
comp=Z,34nm,1.7s
HFS Hagfors 106.84 331 PKKPbc PKKPbc 11 24 16.5 -10
comp=Z,1.7nm,0.8s,baz=155,slow=11,SNR=4.5
ZST Bratislava 107.25 318 *e*PP PP 11 13 37.6 +5.5
ZST *e* 11 21 55.3
ZST *e* 11 24 42.2
KSP Ksiaz 107.36 321 *e*P Pdif 11 09 01.1 +1.1
KSP *e*PP PP 11 13 40.7 +8.0
KSP *e*PPP 11 15 02.7

KSP			*e*SP	SP	11 22 11.9	-1.5
KSP	**Ksiaz**	**107.36 321**	*e*Pdiff	Pdif	11 08 59.9	-0.1
KSP			e		11 10 37.0	
KSP			*e*PKiKP	PKiKP	11 13 07.3	+1.0
KSP			*e*PP	PP	11 13 33.0	+0.3
KSP			e		11 14 57.0	
KSP			*e*SKS	SKSac	11 18 58.0	-1.5
KSP			*e*Sdiff	Sdif	11 20 25.5	-1.4
KSP			*e*SP	SP	11 22 10.5	-2.9
KSP	**Ksiaz**	**107.36 321**	*e*P	Pdif	11 08 59.9	-0.1
BSD	**Bornholm Skovb**	**107.37 325**	*i* P	PKiKP	11 13 06.6	+0.4
BSD			*i*		11 21 51.4	
BSD			*i*		11 34 49.9	
BSD	**Bornholm Skovb**	**107.37 325**	*i* P	PKKPbc	11 24 21.8	-3.2
	comp=Z,10.0nm,0.9s					
BSD			*i*		11 24 31.0	
VRAC	**Vranov**	**107.42 319**	PKKPbc	PKKPbc	11 24 23.1	-1.5
	comp=Z,3.4nm,0.5s,baz=270,slow=7.1,SNR=3.6					
VRAC			PKKPab	PKKPab	11 24 38.9	0.0
	comp=Z,4.7nm,0.8s,baz=251,slow=5.6,SNR=5.9					
VRAC	**Vranov**	**107.42 319**	PKKPbc	PKKPbc	11 24 23.1	-1.5
VRAC			PKKPab	PKKPab	11 24 38.9	0.0
DPC	**Dobruska-Polom**	**107.43 320**	*i* P	Pdif	11 09 02.7	+2.4
DPC			*e*		11 18 57.9	
DPC			*e*		11 22 15.9	
DPC	**Dobruska-Polom**	**107.43 320**	*e*PDIFF	Pdif	11 09 02.7	+2.4
DPC			*e*pP		11 10 29.7	
DPC			*e*PKP	PKiKP	11 13 06.8	+0.4
DPC			*e*PP	PP	11 13 27.4	-5.8
DPC			*e*SKS	SKSac	11 18 57.9	-1.9
DPC			*e*SDIF	Sdif	11 20 26.3	-1.1
DPC			*e*SP	SP	11 22 15.9	+1.8
DPC			*e*PKKP	PKKPbc	11 24 23.9	-0.7
DPC			*e*x	x	11 24 39.4	
UPC	**Upice**	**107.60 321**	*e*P	Pdif	11 09 05.4	+4.3
UPC	**Upice**	**107.60 321**	*e*PDIFF	Pdif	11 09 05.4	+4.3
UPC			*e*pP		11 10 38.5	
UPC			*e*PKP	PKiKP	11 13 09.7	+3.0
UPC			*e*PP	PP	11 13 29.7	-4.7
UPC			*e*PKKP	PKKPbc	11 24 25.2	+1.1
UPC			*e*x	x	11 24 39.0	
SOP	**Sopron**	**107.69 318**	*e*PP	PP	11 13 33.9	-1.3
NC602	**NORSAR Array S**	**107.71 332**	*e*P	Pdif	11 08 58.0	-3.5
NC602			*e*SKS	SKSac	11 18 58.5	-2.0
NB2	**NORSAR Subarra**	**107.77 332**	P	Pdif	11 09 00.3	-1.5
	comp=Z,12nm,0.8s,baz=73,slow=4.4					
NOA	**NORSAR Array B**	**107.77 332**	Pdiff	Pdif	11 09 00.3	-1.6
	comp=Z,3.0nm,0.6s,baz=108,slow=4.2,SNR=20					
NOA			PKiKP	PKiKP	11 13 05.3	-1.4
	comp=Z,4.9nm,0.7s,baz=38,slow=6.5,SNR=6.8					
NOA			PP	PP	11 13 34.7	-0.6
	comp=Z,6.4nm,0.7s,baz=85,slow=6.5,SNR=5.3					
NOA	**NORSAR Array B**	**107.77 332**	Pdif	Pdif	11 09 00.3	-1.6
NOA			PKiKP	PKiKP	11 13 05.3	-1.4
NOA			PP	PP	11 13 34.7	-0.6
NOA	**NORSAR Array B**	**107.77 332**	P	Pdif	11 09 00.3	-1.5
NOA					11 13 34.7	
NAO01	**NORSAR Array S**	**107.98 332**	*e*PKPdf	PKiKP	11 13 07.0	-0.1
DAG	**Danmarks Havn**	**108.00 352**	*i* P	PKiKP	11 13 08.6	+1.8
DAG			*i*		11 24 52.2	
DAG	**Danmarks Havn**	**108.00 352**	*i* P	PKKPbc	11 24 20.0	-3.7
	comp=Z,7.2nm,0.8s					
DAG			*i*		11 24 35.0	
TREC	**Trest**	**108.14 319**	*e*PP	PP	11 13 35.2	-3.2
TREC			*e*SKS	SKSac	11 19 03.8	+0.9
TREC			*e*SDIF	Sdif	11 20 33.2	-0.1
TREC			*e*x	x	11 22 14.6	
TREC			*e*PKKP	PKKPbc	11 24 21.3	-1.1
TREC			*e*x	x	11 24 36.1	
PVCC	**Panska Ves**	**108.50 321**	*e*PKP	PKiKP	11 13 08.8	+0.4
PVCC			*e*x	x	11 13 26.2	
PVCC			*e*PKKP	PKKPbc	11 24 21.3	0.0
RUE	**Ruedersdorf**	**108.59 323**	*e*PKPdf	PKiKP	11 13 09.0	+0.4
PRU	**Pruhonice**	**108.62 320**	*e*pP		11 10 44.7	
PRU			*e*x	x	11 15 01.3	
PRU			*e*SKS	SKSac	11 19 04.7	-0.2
PRU			*e*SDIF	Sdif	11 20 38.1	+0.7
PRU			*e*SP	SP	11 22 20.8	-5.2
COP	**Copenhagen**	**108.62 326**	*i* P	PKiKP	11 13 10.3	+1.8
COP			*i*		11 22 19.2	
PRA	**Prague**	**108.67 320**	PP	PP	11 13 45.0	+2.8
BRG	**Berggiesshubel**	**108.82 321**	*e*PDIF	Pdif	11 09 07.2	+0.7
	comp=Z,11nm,0.9s					
BRG			*e*pP		11 10 43.3	
	comp=Z,22nm,1.9s					
BRG			PP	PP	11 13 44.0	+0.8
BRG			SKS	SKSac	11 19 06.0	+0.3
BRG			SDIF	Sdif	11 20 39.0	-0.1
BRG			*e*		11 22 13.8	
	comp=Z,36nm,1.9s					
BRG			*e*		11 23 17.3	
	comp=Z,8.6nm,1.1s					
BRG			PS	PS	11 23 29.0	+13
BRG			*e*PKKP	PKKPbc	11 24 21.3	+1.0
	comp=Z,71nm,2.1s					
BRG			*e*		11 24 33.7	
	comp=Z,49nm,1.4s					
BRG			*e*		11 26 12.3	
	comp=Z,16nm,1.4s					
BRG			SS	SS	11 28 26.0	-3.2
BRG			*e*PKPPKP		11 32 42.8	
	comp=Z,4.6nm,1.1s					
BRG	**Berggiesshubel**	**108.82 321**	*e*PKiKP	PKiKP	11 13 09.5	+0.5
BRG	**Berggiesshubel**	**108.82 321**	*e*P	Pdif	11 09 07.2	+0.7
BRG					11 13 44.0	
BRG					11 19 06.0	
BRG			*e*		11 23 17.3	
BRG			PS	PS	11 23 29.0	+13
BRG			*e*		11 24 21.3	
BRG			SS	SS	11 28 26.0	-3.2
BRG			*e*		11 32 42.8	
BRG			pmax	pmax		
	comp=Z,11nm,0.9s					
BRG			pmax	pmax		
	comp=Z,22nm,1.9s					
BRG			pmax	pmax		
	comp=Z,36nm,1.9s					
BRG			pmax	pmax		
	comp=Z,9.0nm,1.1s					
BRG			pmax	pmax		
	comp=Z,71nm,2.1s					
BRG			pmax	pmax		
	comp=Z,49nm,1.4s					
BRG			pmax	pmax		
	comp=Z,16nm,1.4s					
BRG			pmax	pmax		
	comp=Z,5.0nm,1.1s					
PERS	**Pernice**	**108.82 317**	*i* PKPdf	PKiKP	11 13 09.0	-0.2
PERS			*i*		11 16 06.6	
SOKA	**Soboth**	**108.87 317**	P	PKiKP	11 13 09.8	+0.6
	comp=Z,32nm,1.2s					
BOJS	**Bojanci**	**108.91 315**	*i* PKPdf	PKiKP	11 13 09.9	+0.6
BOJS			*i*		11 16 07.1	
KONO	**Kongsberg**	**108.96 331**	*e*SS	SS	11 28 30.9	+0.4
RES	**Resolute Bay**	**109.12 10**	*e*Pdif	Pdif	11 09 07.7	-0.2
RES			*e*PKPdf	PKiKP	11 13 08.2	-0.8
RES	**Resolute Bay**	**109.12 10**	*e*P	Pdif	11 09 07.7	-0.2
VISS	**Visnje**	**109.15 316**	*i* PKPdf	PKiKP	11 13 10.5	+0.7
VISS			*i*		11 16 07.5	
CLL	**Collm**	**109.31 322**	*e*P	Pdif	11 09 09.0	+0.3
CLL			*e*		11 19 11.0	
CLL			*i*		11 24 31.6	
CLL			pmax	pmax		
	comp=Z,43nm,2.0s					
CLL			pmax	pmax		
	comp=Z,14nm,0.8s					
CLL	**Collm**	**109.31 322**	*e*Pdif	Pdif	11 09 09.0	+0.3
	comp=Z,43nm,2.0s					
CLL			*e*pPdif		11 10 39.0	
CLL			*e*PKiKP	PKiKP	11 13 10.0	+0.1
	comp=Z,14nm,0.8s					
CLL			*i*		11 13 14.0	
CLL			*e*		11 13 36.0	
CLL			*e*PP	PP	11 13 46.0	-0.7
CLL			*i* PPmax		11 13 54.6	
CLL			*e*		11 15 16.0	
CLL			*e*PPP		11 16 05.0	
CLL			*e*SKSac	SKSac	11 19 11.0	+3.3
CLL			*e*SKSdf	SKSdf	11 19 40.0	-2.5
CLL			*e*SKKSac	SKKSac	11 20 07.0	+0.2
CLL			*e*Sdif	Sdif	11 20 44.0	+0.9
CLL			*e*SP	SP	11 22 29.0	-3.2
CLL			*e*PS	PS	11 23 29.0	+8.2
CLL			*e*(pSP)		11 24 21.0	
CLL			*i* PKKPdf	PKKPdf	11 24 31.6	-1.6
CLL			*e*		11 25 46.0	
CLL			*e*SS	SS	11 28 42.0	+6.3
CLL			*e*(PPPrev)		11 32 12.0	
CLL			*e*SSS		11 32 36.0	
CLL			*e*		11 39 36.0	
CLL			Lm		12 03 00.0	
	comp=Z,2μm,21.1s					
CEL	**Celeste**	**109.35 308**	*e*PKPdf	PKiKP	11 13 10.8	+0.3
GEC2	**GERESS Array S**	**109.37 319**	*e*PKiKP	PKiKP	11 13 10.4	+0.3
GERES	**GERESS Array B**	**109.37 319**	Pdiff	Pdif	11 09 09.5	+0.5
	comp=Z,1.7nm,0.7s,baz=100,slow=4.1,SNR=10					
GERES			PKiKP	PKiKP	11 13 10.3	+0.2
	comp=Z,8.5nm,0.6s,baz=74,slow=1.7,SNR=33					
GERES			PP	PP	11 13 44.0	-3.2
	comp=Z,10nm,0.9s,baz=74,slow=5.7,SNR=6.4					
GERES			PKKPbc	PKKPbc	11 24 17.6	-0.9
	comp=Z,2.7nm,0.9s,baz=211,slow=1.4,SNR=6.4					
GERES			PKKPab	PKKPab	11 24 30.9	+0.8
	comp=Z,4.9nm,0.7s,baz=242,slow=2.9,SNR=13					
GERES	**GERESS Array B**	**109.37 319**	Pdif	Pdif	11 09 09.5	+0.5
GERES			PKiKP	PKiKP	11 13 10.3	+0.2
GERES			PP	PP	11 13 44.0	-3.2
GERES			PKKPbc	PKKPbc	11 24 17.6	-0.9
GERES			PKKPab	PKKPab	11 24 30.9	+0.8
GERES	**GERESS Array B**	**109.37 319**	P	Pdif	11 09 09.5	+0.5
GERES					11 13 44.1	
GERES					11 24 31.0	
KHC	**Kasperske Hory**	**109.40 319**	*e*PKPdf	PKiKP	11 13 09.7	-0.5
KHC	**Kasperske Hory**	**109.40 319**	*i* P	Pdif	11 09 13.4	+4.3
KHC			*e*		11 19 07.4	
KHC			*e*		11 22 31.3	
KHC			*e*		11 24 31.9	
KHC	**Kasperske Hory**	**109.40 319**	*e*PDIFF	Pdif	11 09 13.4	+4.3
KHC			*e*pP		11 10 41.8	
KHC			*e*sP		11 11 26.0	
KHC			*e*x	x	11 12 33.5	
KHC			*e*PKP	PKiKP	11 13 08.3	-1.9
KHC			*e*x	x	11 13 30.5	
KHC			*e*PP	PP	11 13 41.5	-5.9
KHC			*e*SKS	SKSac	11 19 07.4	-0.8
KHC			*e*SDIF	Sdif	11 20 45.5	+1.6
KHC			*e*SP	SP	11 22 31.3	-1.9
KHC			*e*PKKP	PKKPbc	11 24 13.4	-5.0
KHC			x	x	11 24 31.9	
JAVS	**Javornik**	**109.67 316**	*i* PKPdf	PKiKP	11 13 11.3	+0.5
JAVS			*i*		11 16 07.6	
VOY	**Vojsko**	**109.76 316**	*e*PKPdf	PKiKP	11 13 11.1	+0.2
VOY			*e*		11 13 51.7	
WET	**Wettzell**	**109.85 320**	*e*PKiKP	PKiKP	11 13 11.6	+0.6
NKC	**Novy Kostel**	**109.89 321**	*i* P	Pdif	11 09 15.0	+3.7
NKC			*e*		11 22 31.8	
NKC	**Novy Kostel**	**109.89 321**	*e*PDIFF	Pdif	11 09 15.0	+3.7
NKC			*e*PKP	PKiKP	11 13 10.9	-0.1
NKC			*e*SP	SP	11 22 31.8	-5.8
NKC			*e*PKKP	PKKPbc	11 24 16.6	-0.3
NLWA	**Neilton Lookou**	**109.94 42**	*e*PKPdf	PKiKP	11 13 10.8	-0.4
KBA	**Koelnbreinsper**	**109.94 317⇑**	*i* PKiKP	PKiKP	11 13 10.8	-0.4
	comp=Z,21nm,0.9s					
PGC	**Sidney**	**109.97 41**	*e*PKPdf	PKiKP	11 13 11.3	0.0
JMIC	**Jan Mayen**	**110.16 345**	*e*	Pdif	11 09 16.7	+4.3
JMIC			*e*PP	PP	11 13 50.7	-1.4
MUD	**Monsted U'grnd**	**110.16 328**	*i* P	PKKPab	11 24 26.8	+0.2
	comp=Z,7.4nm,0.9s					
RJOB	**Jochberg**	**110.18 318**	*e*PKiKP	PKiKP	11 13 11.7	0.0
BSEG	**Bad Segeberg**	**110.26 325**	*e*PKiKP	PKiKP	11 13 12.5	+0.9
BSEG	**Bad Segeberg**	**110.26 325**	*i* PKiKP	PKiKP	11 13 12.5	+0.9
MOX	**Moxa**	**110.31 321**	*e*PKiKP	PKiKP	11 13 12.1	+0.3
MOX	**Moxa**	**110.31 321**	*i* PKiKP	PKiKP	11 13 12.1	+0.3
FOO	**Floro**	**110.37 334**	*e*	PKiKP	11 13 11.1	-0.5
YKA	**Yellowknife Ar**	**110.46 25**	Pdiff	Pdif	11 09 12.7	-1.0
	comp=Z,1.4nm,0.6s,baz=296,slow=4.6,SNR=3.1					
YKA			PKiKP	PKiKP	11 13 11.4	-0.4
	comp=Z,10nm,0.5s,baz=296,slow=2.0,SNR=68					
YKA			PP	PP	11 13 51.4	-3.0
	comp=Z,5.9nm,0.8s,baz=292,slow=5.7,SNR=4.6					
YKA			PKKPbc	PKKPbc	11 24 12.6	-2.9
	comp=Z,1.0nm,0.4s,baz=113,slow=3.7,SNR=14					
YKA			SKKPbc		11 27 16.8	
	comp=Z,6.8nm,1.0s,baz=106,slow=2.8,SNR=6.8					
YKA	**Yellowknife Ar**	**110.46 25**	Pdif	Pdif	11 09 12.7	-1.0
YKA			PKiKP	PKiKP	11 13 11.4	-0.4
YKA			PP	PP	11 13 51.5	-3.0
YKA			PKKPbc	PKKPbc	11 24 12.7	-2.9
YKA			SKKPbc		11 27 16.8	
YKA	**Yellowknife Ar**	**110.46 25**	P	Pdif	11 09 12.7	-1.1
YKA					11 13 51.5	
SNART	**Snartemo**	**110.56 330**	*e*	PKiKP	11 13 12.8	+0.8
GNW	**Green Mountain**	**110.60 42**	*e*PKPdf	PKiKP	11 13 13.0	+0.5
BER	**Bergen**	**110.71 332**	*e*	PKiKP	11 13 09.3	-3.0
ASK	**Askoy**	**110.74 333**	*e*	PKiKP	11 13 12.1	-0.2
NRDL	**Niedersach Rie**	**110.77 324**	*e*PKiKP	PKiKP	11 13 13.4	+0.8
CLZ	**Clausthal**	**110.78 323**	*e*PKiKP	PKiKP	11 13 13.5	+0.8
CLZ	**Clausthal**	**110.78 323**	*i* PKiKP	PKiKP	11 13 13.5	+0.8
GRF	**Grafenberg Arr**	**110.78 320**	*e*PKiKP	PKiKP	11 13 13.1	+0.3
GRF	**Grafenberg Arr**	**110.78 320**	*i* PKiKP	PKiKP	11 13 13.1	+0.3
GRFO	**Grafenberg**	**110.78 320**	*e*PKPdf	PKiKP	11 13 13.2	+0.4
GRFO	**Grafenberg**	**110.78 320**	*e*PKiKP	PKiKP	11 13 13.2	+0.4
KRMB	**Red Mountain**	**110.91 48**	*e*PKPdf	PKiKP	11 13 14.2	+0.9
WTTA	**Wattenberg**	**111.05 318⇑**	*i* PKiKP	PKiKP	11 13 13.4	+0.1
	comp=Z,81nm,1.0s,SNR=13					
JCW	**Jim Creek**	**111.05 41**	*e*PKPdf	PKiKP	11 13 13.3	-0.1
KHMM	**Horse Mountain**	**111.14 49**	*e*PKPdf	PKiKP	11 13 14.4	+0.7
RPW	**Rockport**	**111.27 41**	*e*PKPdf	PKiKP	11 13 13.6	-0.1
MOTA	**Moosalm**	**111.39 318⇑**	*i* PKiKP	PKiKP	11 13 14.1	+0.1
	comp=Z,31nm,0.8s,SNR=12					
KCPM	**Cahto Peak**	**111.43 50**	*e*PKPdf	PKiKP	11 13 14.9	+0.6
HUMO	**Hull Mountain**	**111.44 47**	*e*PKPdf	PKiKP	11 13 14.5	+0.2
LON	**Longmire**	**111.45 43**	*e*PKPdf	PKiKP	11 13 13.9	-0.2
LON	**Longmire**	**111.45 43**	*e*PKiKP	PKiKP	11 13 13.9	-0.2
KIPM	**Iron Peak**	**111.49 50**	*e*PKPdf	PKiKP	11 13 15.0	+0.6
KIPM			*e*PP	PP	11 14 00.6	-2.1
FETA	**Feichten**	**111.71 318**	*i* PKiKP	PKiKP	11 13 15.1	+0.5
	comp=Z,52nm,1.4s,SNR=9.9					
HOOD	**Mount Hood Mea**	**111.85 44**	*e*PKPdf	PKiKP	11 13 15.0	+0.1
HOPS	**Hopland**	**111.92 51**	*e*PKPdf	PKiKP	11 13 15.8	+0.5
IBBN	**Ibbenburen**	**112.20 324**	*e*PKiKP	PKiKP	11 13 15.9	+0.5
DAVA	**Damuels**	**112.21 318⇑**	*i* PKiKP	PKiKP	11 13 15.7	+0.1
	comp=Z,85nm,1.1s					
ETW	**Entiat**	**112.24 42**	*e*PKPdf	PKiKP	11 13 15.5	-0.1
STU	**Stuttgart**	**112.29 320**	*e*PKPdf	PKiKP	11 13 15.9	+0.2
STU			*e*PP	PP	11 14 09.8	+1.8
STU	**Stuttgart**	**112.29 320**	*e*PKiKP	PKiKP	11 13 15.9	+0.2
STU			*e*		11 14 09.8	
DAVOX	**Davos/Dischmat**	**112.33 318**	PKKPbc	PKKPbc	11 24 08.3	-0.5
	comp=Z,9.1nm,0.6s,baz=215,slow=4.6,SNR=10					
DAVOX			PKKPab	PKKPab	11 24 19.0	+1.9
	comp=Z,24nm,0.8s,baz=245,slow=3.8,SNR=14					
DAVOX	**Davos/Dischmat**	**112.33 318**	PKKPbc	PKKPbc	11 24 08.3	-0.5
DAVOX			PKKPab	PKKPab	11 24 19.0	+1.9
TNS	**Taunus Mts**	**112.38 321**	*e*PKiKP	PKiKP	11 13 16.4	+0.6
TNS	**Taunus Mts**	**112.38 321**	*i* PKiKP	PKiKP	11 13 16.4	+0.6
BUG	**Bochum--Univer**	**112.75 323**	*e*PKiKP	PKiKP	11 13 16.8	+0.4
TUE	**Stuetta**	**112.76 317**	*e*PKPdf	PKiKP	11 13 17.0	+0.3
BFO	**Black Forest**	**112.96 320**	*e*PKPdf	PKiKP	11 13 16.1	-0.9
BFO	**Black Forest**	**112.96 320**	*e*PKiKP	PKiKP	11 13 16.1	-0.9
RSW	**Rattlesnake Hi**	**113.02 43**	*e*PKPdf	PKiKP	11 13 17.8	+0.7
HAWA	**Hanford**	**113.06 43**	*e*PKPdf	PKiKP	11 13 17.1	-0.1
HAWA			*e*PP	PP	11 14 13.3	-0.2
HAWA			*e*SKPdf	SKPdf	11 16 16.0	+2.6
LANF	**Langenberg**	**113.12 320**	*e*P	PKiKP	11 13 17.8	+0.6
OD2	**Odessa Site #2**	**113.35 41**	*e*PKPdf	PKiKP	11 13 17.6	-0.1
MOD	**Modoc**	**113.50 48**	*e*PKPdf	PKiKP	11 13 18.7	+0.5
SAO	**San Andreas Ge**	**113.52 53**	*e*PKPdf	PKiKP	11 13 17.3	-1.1
SAO	**San Andreas Ge**	**113.52 53**	*e*PKiKP	PKiKP	11 13 17.3	-1.1
SCO	**Scoresbysund**	**113.58 348**	*i* PKiKP	PKiKP	11 13 17.3	-0.2
SCO			*i*		11 23 09.3	
SCO			MLR	MLR		
	comp=Z,1μm,24.0s					
SCO	**Scoresbysund**	**113.58 348**	*i* P	PKiKP	11 13 17.3	-0.2
SCO			*i*		11 23 09.3	
SCO						
	comp=Z,1μm,24.0s					
SCO	**Scoresbysund**	**113.58 348**	*i* P	PKKPbc	11 23 58.0	-7.5
	comp=Z,5.1nm,1.0s					
CDF	**Champ du Feu**	**113.62 320**	*e*PKiKP	PKiKP	11 13 17.5	-0.7
	comp=Z,29nm,0.9s					
CDF	**Champ du Feu**	**113.62 320**	*e*PKPdf	PKiKP	11 13 17.5	-0.7
CDF	**Champ du Feu**	**113.62 320**	*e*PKiKP	PKiKP	11 13 17.5	-0.7
ECH	**Echery**	**113.75 320**	*e*PKPdf	PKiKP	11 13 18.5	0.0
ECH	**Echery**	**113.75 320**	*e*PKiKP	PKiKP	11 13 18.5	0.0
ECH	**Echery**	**113.75 320**	*e*P	PKiKP	11 13 19.8	+1.3
LRW	**Lerwick**	**113.75 334⇑**	*e*P	PKiKP	11 13 17.7	-0.4
LRW			AMB	AMB	11 13 25.5	
	comp=Z,90nm,3.1s					
LRW	**Lerwick**	**113.75 334**	P	PKiKP	11 13 17.7	-0.4
LRW			AMB	AMB	11 13 25.5	
	comp=Z,90nm,3.1s					
MEM	**Membach**	**113.76 322**	PKP	PKiKP	11 13 18.8	+0.4
MOF	**Molkenrain**	**113.86 319**	*e*P	PKiKP	11 13 20.4	+1.7
PGF	**Pioggiola**	**113.88 313**	*e*PKIKP	PKiKP	11 13 18.7	-0.2
	comp=Z,26nm,0.4s					
PGF	**Pioggiola**	**113.88 313**	*e*PKPdf	PKiKP	11 13 18.7	-0.2
PGF	**Pioggiola**	**113.88 313**	*e*PKiKP	PKiKP	11 13 18.7	-0.2
BEBN	**Eben Emael**	**113.90 323**	PKP	PKiKP	11 13 21.0	+2.3
WLF	**Walferdange**	**113.96 321**	PKP	PKiKP	11 13 21.8	+2.9
WLF	**Walferdange**	**113.96 321**	*e*PKPdf	PKiKP	11 13 21.9	+3.1
WLF	**Walferdange**	**113.96 321**	*e*PKIKP	PKiKP	11 13 21.9	+3.1
LNOR	**Lincton Mounta**	**114.03 43**	*e*PKPdf	PKiKP	11 13 18.9	-0.1
LNOR			*e*PP	PP	11 14 19.9	-0.4
LNOR	**Lincton Mounta**	**114.03 43**	*e*PKIKP	PKiKP	11 13 19.0	-0.1
LNOR			*e*		11 14 19.9	
HINF	**Hinteralfeld**	**114.06 319**	*e*PKIKP	PKiKP	11 13 18.5	-0.6
	comp=Z,45nm,0.6s					
HINF	**Hinteralfeld**	**114.06 319**	*e*PKPdf	PKiKP	11 13 18.5	-0.6
HINF	**Hinteralfeld**	**114.06 319**	*e*PKIKP	PKiKP	11 13 18.5	-0.6
NEW	**Newport**	**114.14 40**	*e*PKPdf	PKiKP	11 13 18.9	-0.3
NEW	**Newport**	**114.14 40**	*e*PKIKP	PKiKP	11 13 18.9	-0.3
SUMG	**Summit**	**114.15 355**	*e*PKPdf	PKiKP	11 13 18.8	+0.2
SUMG	**Summit**	**114.15 355**	*i* PKIKP	PKiKP	11 13 18.8	+0.2
SUMG	**Summit**	**114.15 355**	*i* P	PKiKP	11 13 18.8	+0.2
SUMG	**Summit**	**114.15 355**	*i* P	PKKPbc	11 24 01.5	-2.1
	comp=Z,35nm,0.7s					
CMB	**Columbia Colle**	**114.15 52**	*e*PKPdf	PKiKP	11 13 19.3	-0.2
CMB	**Columbia Colle**	**114.15 52**	*e*PKIKP	PKiKP	11 13 19.3	-0.3
BCLA	**Clavier**	**114.25 322**	PKP	PKiKP	11 13 19.9	+0.5
HAU	**Haudompre**	**114.33 320**	*e*PKIKP	PKiKP	11 13 19.3	-0.3
	comp=Z,114nm,1.0s					
HAU			*e*R			
	comp=Z,2μm,23.0s					
HAU	**Haudompre**	**114.33 320**	*e*PKPdf	PKiKP	11 13 19.3	-0.3
HAU	**Haudompre**	**114.33 320**	*e*PKIKP	PKiKP	11 13 19.3	-0.3
WCN	**Washoe City**	**114.41 50**	*e*PKPdf	PKiKP	11 13 20.3	+0.3
WCN	**Washoe City**	**114.41 50**	*e*PKIKP	PKiKP	11 13 20.3	+0.3
THEF	**They Montfort**	**114.50 320**	*e*P	PKiKP	11 13 20.2	+0.3
PAGF	**Fort de Pagny**	**114.56 320**	*e*PKIKP	PKiKP	11 13 19.7	-0.3
	comp=Z,16nm,1.0s					
WVOR	**Wild Horse Val**	**114.60 47**	*e*PKPdf	PKiKP	11 13 20.8	+0.5
WVOR	**Wild Horse Val**	**114.60 47**	*e*PKIKP	PKiKP	11 13 20.8	+0.5
GIVF	**Givet**	**114.64 322**	*e*PKIKP	PKiKP	11 13 20.2	+0.1
	comp=Z,144nm,1.1s					
GIVF	**Givet**	**114.64 322**	*e*PKPdf	PKiKP	11 13 20.2	+0.1
GIVF	**Givet**	**114.64 322**	*e*PKIKP	PKiKP	11 13 20.2	+0.1
SBF	**Sospel**	**114.69 315**	*e*PKIKP	PKiKP	11 13 20.1	-0.3
	comp=Z,83nm,0.8s					
SBF	**Sospel**	**114.69 315**	*e*PKPdf	PKiKP	11 13 20.1	-0.3
SBF	**Sospel**	**114.69 315**	*e*PKIKP	PKiKP	11 13 20.1	-0.3
LPG	**La Plagne**	**114.75 317**	*e*PKIKP	PKPdf	11 13 20.7	+0.2
	comp=Z,90nm,0.8s					
LPG	**La Plagne**	**114.75 317**	*e*PKPdf	PKPdf	11 13 20.7	+0.2
LPG	**La Plagne**	**114.75 317**	*e*PKIKP	PKPdf	11 13 20.7	+0.2
LPL	**La Plagne**	**114.76 317**	*e*PKIKP	PKPdf	11 13 20.6	+0.1
	comp=Z,86nm,0.8s					
LPL	**La Plagne**	**114.76 317**	*e*PKPdf	PKPdf	11 13 20.6	+0.1
LPL	**La Plagne**	**114.76 317**	*e*PKIKP	PKPdf	11 13 20.6	+0.1
DOU	**Dourbes**	**114.78 322**	PKP	PKPdf	11 13 20.5	+0.1
SNF	**Seneffe**	**114.83 323**	PKP	PKPdf	11 13 20.5	+0.1
KEST	**Kesra**	**114.87 306**	PKP	PKPdf	11 13 21.7	+0.7
	comp=Z,9.9nm,0.8s,baz=297,slow=1.5,SNR=16					
KEST			PP	PP	11 14 23.7	-2.9
	comp=Z,21nm,1.0s,baz=292,slow=2.3,SNR=7.3					
KEST			PKKPbc	PKKPbc	11 23 60.0	0.0
	comp=Z,6.2nm,0.7s,baz=298,slow=4.6,SNR=13					
KEST	**K

SWMT Swartz Lake 116.38 40 ePKPdf PKPdf 11 13 23.1 -0.5
SWMT ePP PP 11 14 34.0 -2.5
ESY Stoneypath 116.44 330 eP PKPdf 11 13 22.6 -0.7
SSF Saint Saulge 116.45 319 ePKIKP PKPdf 11 13 23.7 0.0
comp=Z,202nm,0.9s
SSF Saint Saulge 116.45 319 ePKPdf PKPdf 11 13 23.7 0.0
SSF Saint Saulge 116.45 319 ePKIKP PKPdf 11 13 23.7 0.0
ELSH Elham, Standar 116.47 324 eP PKPdf 11 13 23.1 -0.5
ELSH AMB AMB 11 13 28.6
comp=Z,251nm,0.9s
MDO Dochfour 116.53 332⇑ eP PKPdf 11 13 22.8 -0.8
PASC Pasadena Art C 116.55 56 ePKPdf PKPdf 11 13 24.7 +0.4
MSO Missoula 116.63 41 ePKPdf PKPdf 11 13 23.6 -0.4
MSO ePP PP 11 14 32.0 -6.3
AVF Avril sur Loir 116.64 319 ePKIKP PKPdf 11 13 23.6 -0.5
comp=Z,77nm,0.9s
AVF Avril sur Loir 116.64 319 ePKPdf PKPdf 11 13 23.6 -0.5
AVF Avril sur Loir 116.64 319 ePKIKP PKPdf 11 13 23.6 -0.5
MWC Mount Wilson 116.65 56 ePKPdf PKPdf 11 13 24.7 +0.3
MWC ePP PP 11 14 38.9 -0.1
MWC Mount Wilson 116.65 56 ePKIKP PKPdf 11 13 24.7 +0.2
MWC e 11 14 38.9
CAEH 'Ain El Ouahch 116.68 307 P PKPdf 11 13 20.9 -3.6
EBH Black Hill 116.72 331 eP PKPdf 11 13 23.9 0.0
EBL Broad Law 116.72 330 eP PKPdf 11 13 24.1 +0.1
PLDF La Plantade 116.72 318 eP PKPdf 11 13 24.3 0.0
XAL Allendale 116.73 329 eP PKPdf 11 13 23.5 -0.5
SLMT Seeley Lake 116.79 40 ePKPdf PKPdf 11 13 23.8 -0.6
CKFL Kef-Lekhel 116.85 307 P PKPdf 11 13 25.7 +0.9
EAU Auchinoon 116.88 330 eP PKPdf 11 13 24.8 +0.5
KAC Achnashellach 116.93 332 eP PKPdf 11 13 23.3 -1.0
HYF Humbligny 116.94 320 ePKIKP PKPdf 11 13 24.9 +0.3
HYF Humbligny 116.94 320 ePKPdf PKPdf 11 13 24.9 +0.3
USHA Ushuaia 116.96 172 PKP PKPdf 11 13 25.6 +1.1
comp=Z,25nm,0.7s,baz=133,slow=2.1,SNR=16
USHA SKP 11 16 18.4
comp=Z,26nm,0.8s,baz=161,slow=1.7,SNR=5.9
USHA Ushuaia 116.96 172 PKP PKPdf 11 13 25.6 +1.1
USHA SKP 11 16 18.4
AGO Saint Agoulin 117.02 318 eP PKPdf 11 13 24.5 -0.3
ESK Eskdalemuir 117.02 330 eP PKPdf 11 13 23.0 -1.5
ESK AMB AMB 11 13 23.8
comp=Z,82nm,3.3s
ESK Eskdalemuir 117.02 330 P PKPdf 11 13 23.0 -1.5
ESK AMB AMB 11 13 23.8
comp=Z,82nm,3.3s
ESK Eskdalemuir 117.02 330 ePKPdf PKPdf 11 13 24.3 -0.2
ESK Eskdalemuir 117.02 330 ePKIKP PKPdf 11 13 24.3 -0.2
BGF Bois d'Agland 117.04 319 ePKIKP PKPdf 11 13 25.0 +0.1
comp=Z,268nm,0.8s
BGF Bois d'Agland 117.04 319 ePKPdf PKPdf 11 13 25.0 +0.1
BGF Bois d'Agland 117.04 319 ePKIKP PKPdf 11 13 25.0 +0.1
CHMT Chamberlain Mo 117.05 41 ePKPdf PKPdf 11 13 24.6 -0.3
CASM Ain Smara 117.06 307 P PKPdf 11 13 25.7 +0.5
LASF Ste Croix 117.13 316 ePKIKP PKPdf 11 13 25.2 +0.1
comp=Z,88nm,0.9s
LASF Ste Croix 117.13 316 ePKPdf PKPdf 11 13 25.2 +0.1
KSB Sheil Bridge 117.14 332 eP PKPdf 11 13 24.2 -0.5
EAB Aberfoyle 117.15 331 eP PKPdf 11 13 24.8 +0.1
CTEI Djebel Teioual 117.17 307 P PKPdf 11 13 26.4 +1.0
KPL Plockton 117.18 332⇑ eP PKPdf 11 13 24.1 -0.6
KPL AMB AMB 11 13 27.9
comp=Z,86nm,2.2s
KPL Plockton 117.18 332 P PKPdf 11 13 24.1 -0.6
KPL AMB AMB 11 13 27.9
comp=Z,86nm,2.2s
PYM Petit Puy Mans 117.19 318 eP PKPdf 11 13 24.9 -0.3
LBL Lubilhac 117.20 317 eP PKPdf 11 13 24.9 -0.3
HLID Hailey 117.31 45 ePKPdf PKPdf 11 13 25.4 -0.1
HLID ePP PP 11 14 39.8 -3.4
KESW Keswick, Cumbr 117.31 329⇑ eP PKPdf 11 13 25.0 -0.1
KESW AMB AMB 11 13 30.0
comp=Z,111nm,0.8s
KWE Weaver Farm 117.37 327 eP PKPdf 11 13 25.4 +0.1
PGBU Glenifferbraes 117.41 330 eP PKPdf 11 13 25.7 +0.4
PGBU AMB AMB 11 13 39.3
comp=Z,80nm,3.6s
RPN Rapa Nui 117.42 126 PKP PKPdf 11 13 27.0 +0.8
comp=Z,24nm,0.4s,baz=293,slow=5.4,SNR=3.5
RPN Rapa Nui 117.42 126 PKP PKPdf 11 13 27.0 +0.8
RPN Rapa Nui 117.42 126 PKIKP PKPdf 11 13 27.0 +0.8
GSC Goldstone 117.47 54 ePKPdf PKPdf 11 13 26.7 +0.6
GSC ePP PP 11 14 43.0 -1.6
GSC Goldstone 117.47 54 ePKIKP PKPdf 11 13 26.7 +0.7
GSC e 11 14 43.0
VERF Verneugheol 117.54 318 eP PKPdf 11 13 26.1 +0.3
TCF Toulx Ste Croi 117.55 319 ePKIKP PKPdf 11 13 25.8 0.0
comp=Z,175nm,1.1s
TCF Toulx Ste Croi 117.55 319 ePKPdf PKPdf 11 13 25.8 0.0
TCF Toulx Ste Croi 117.55 319 ePKIKP PKPdf 11 13 25.8 0.0
XDE Dent Fell 117.55 329⇑ eP PKPdf 11 13 25.8 +0.2
WOL Wolverton 117.76 325 eP PKPdf 11 13 26.0 -0.1
WOL AMB AMB 11 13 29.0
comp=Z,79nm,1.4s
CKHR Kef el Ahmar 117.88 307 P PKPdf 11 13 27.6 +0.8
SET Setif 117.94 307 P PKPdf 11 13 28.0 +1.1
LRM Limekiln Ridge 117.94 42 ePKPdf PKPdf 11 13 26.8 +0.2
GAL1 Galloway 117.99 330⇑ eP PKPdf 11 13 25.5 -0.9
GAL1 AMB AMB 11 13 29.4
comp=Z,77nm,1.8s
GAL1 Galloway 117.99 330 P PKPdf 11 13 25.5 -0.9
GAL1 AMB AMB 11 13 29.4
comp=Z,77nm,1.8s
DLMT Dillon 117.99 42 ePKPdf PKPdf 11 13 27.1 +0.4
MCMT McKenzie Canyo 118.00 43 ePKPdf PKPdf 11 13 27.3 +0.5
SWN1 Swindon 118.00 325⇑ eP PKPdf 11 13 25.9 -0.6
SWN1 AMB AMB 11 13 29.6
comp=Z,213nm,2.5s
HRY Holter Researc 118.04 41 ePKPdf PKPdf 11 13 26.9 +0.1
HRY ePP PP 11 14 46.2 -1.8
BAR Barrett 118.04 57 ePKPdf PKPdf 11 13 27.6 +0.3
PFO Pinyon Flat Ob 118.06 56 ePKPdf PKPdf 11 13 27.8 +0.5
PFO ePP PP 11 14 47.4 -1.3
PFO Pinyon Flat Ob 118.06 56 ePKIKP PKPdf 11 13 27.8 +0.6
PFO e 11 14 47.4
CAF Calviac 118.09 317 ePKIKP PKPdf 11 13 27.3 +0.4
comp=Z,149nm,0.9s
CAF Calviac 118.09 317 ePKPdf PKPdf 11 13 27.3 +0.4
CAF Calviac 118.09 317 ePKIKP PKPdf 11 13 27.3 +0.4
GIM North Isle of 118.15 329 eP PKPdf 11 13 26.2 -0.6
HLM1 Long Mynd 118.15 327⇑ eP PKPdf 11 13 25.4 -1.4
HLM1 AMB AMB 11 13 28.9
comp=Z,81nm,2.5s
FOEL Foel Wylfa 118.16 327 eP PKPdf 11 13 25.6 -1.2
FOEL AMB AMB 11 13 30.2
comp=Z,74nm,1.1s
LDF La Druitiere 118.20 322 ePKIKP PKPdf 11 13 26.6 -0.4
comp=Z,52nm,0.9s
LDF La Druitiere 118.20 322 ePKPdf PKPdf 11 13 26.6 -0.4
LDF La Druitiere 118.20 322 ePKIKP PKPdf 11 13 26.6 -0.4
RJF Les Rejaudoux 118.33 318 ePKIKP PKPdf 11 13 27.5 +0.1
comp=Z,207nm,1.2s
RJF eR
comp=Z,2μm,23.0s
RJF Les Rejaudoux 118.33 318 ePKPdf PKPdf 11 13 27.5 +0.1
RJF Les Rejaudoux 118.33 318 ePKIKP PKPdf 11 13 27.5 +0.1
FLN La Foliniere 118.36 322 ePKIKP PKPdf 11 13 27.1 -0.2
comp=Z,78nm,0.7s
FLN eR
comp=Z,4μm,22.5s
FLN La Foliniere 118.36 322 ePKPdf PKPdf 11 13 27.1 -0.2
FLN La Foliniere 118.36 322 ePKIKP PKPdf 11 13 27.1 -0.2
LRDF Laroque-de-Fa 118.38 315 eP PKPdf 11 13 27.5 -0.1
MCH1 Michaelchurch 118.45 326⇑ eP PKPdf 11 13 28.3 +0.9
MCH1 AMB AMB 11 13 35.1
comp=Z,89nm,2.4s
FILF Fillols 118.48 315 eP PKPdf 11 13 27.9 +0.1
MTLF Montolieu 118.48 316 ePKIKP PKPdf 11 13 27.5 -0.2
comp=Z,89nm,0.9s
MTLF Montolieu 118.48 316 ePKPdf PKPdf 11 13 27.5 -0.2
MTLF Montolieu 118.48 316 ePKIKP PKPdf 11 13 27.5 -0.2
HGH Gray Hill 118.51 326 eP PKPdf 11 13 27.9 +0.4
BOZ Bozeman (W) 118.54 42 ePKPdf PKPdf 11 13 28.1 +0.4
BOZ ePP PP 11 14 45.9 -5.5
BOZ Bozeman (W) 118.54 42 ePKIKP PKPdf 11 13 28.2 +0.4
GRR Gorron 118.73 322 ePKIKP PKPdf 11 13 27.9 -0.1
comp=Z,84nm,0.9s
GRR Gorron 118.73 322 ePKPdf PKPdf 11 13 27.9 -0.1
GRR Gorron 118.73 322 ePKIKP PKPdf 11 13 27.9 -0.1
EGMT Eagleton 118.87 39 ePKPdf PKPdf 11 13 28.0 -0.4
EGMT eSKPdf SKPdf 11 16 25.7 +1.1
LDFC Landfair 118.88 54 ePKPdf PKPdf 11 13 29.9 +1.1

VALF Valcebollere 118.91 315 eP PKPdf 11 13 29.0 +0.4
GMM Mts of Mourne 118.93 329 eP PKPdf 11 13 27.7 -0.6
QLMT Earthquake Lak 118.95 42 ePKPdf PKPdf 11 13 29.5 +0.9
MFF Saint Martin d 118.96 320 ePKIKP PKPdf 11 13 28.4 -0.2
comp=Z,147nm,0.8s
MFF Saint Martin d 118.96 320 ePKPdf PKPdf 11 13 28.4 -0.2
MFF Saint Martin d 118.96 320 ePKIKP PKPdf 11 13 28.4 -0.2
LFF La Frestale 118.97 318 ePKIKP PKPdf 11 13 28.9 +0.3
comp=Z,260nm,1.0s
LFF La Frestale 118.97 318 ePKPdf PKPdf 11 13 28.9 +0.3
LFF La Frestale 118.97 318 ePKIKP PKPdf 11 13 28.9 +0.3
HVU Hansel Valley 118.98 46 ePKPdf PKPdf 11 13 29.2 +0.4
HVU ePP PP 11 14 51.6 -3.1
HVU Hansel Valley 118.98 46 ePKIKP PKPdf 11 13 29.2 +0.4
HVU e 11 14 51.6
JSA Saint Aubin 119.20 323 eP PKPdf 11 13 28.1 -0.9
JSA AMB AMB 11 13 45.3
comp=Z,63nm,4.4s
YMR Madison River 119.32 43 ePKPdf PKPdf 11 13 30.7 +1.4
SPIG San Pedro Mart 119.32 59 P PKPdf 11 13 30.1 +0.4
SPIG S PP 11 14 55.9 -1.5
DUG Dugway 119.41 48 ePKPdf PKPdf 11 13 29.8 +0.2
DUG Dugway 119.41 48 ePKIKP PKPdf 11 13 29.8 +0.2
YFT Old Faithful 119.48 43 ePKPdf PKPdf 11 13 31.8 +2.2
YNR Norris Junctio 119.49 42 ePKPdf PKPdf 11 13 31.1 +1.5
GLA Glamis 119.51 56 ePKPdf PKPdf 11 13 30.8 +0.8
GLA Glamis 119.51 56 ePKIKP PKPdf 11 13 30.8 +0.8
RRI2 Red Ridge 119.52 44 ePKPdf PKPdf 11 13 30.4 +0.7
DCID1 Drake Creek 119.53 44 ePKPdf PKPdf 11 13 30.0 +0.3
ARUT Antelope Range 119.58 51 ePKPdf PKPdf 11 13 30.3 +0.3
ARUT Antelope Range 119.58 51 ePKIKP PKPdf 11 13 30.3 +0.3
IMW Indian Meadow 119.60 43 ePKPdf PKPdf 11 13 30.7 +0.8
DSB Dublin 119.66 329 ePKPdf PKPdf 11 13 30.1 +0.4
ABA Alger-Bouzarea 119.66 308 P PKPdf 11 13 30.4 +0.2
CCUT Cedar City 119.69 51 ePKPdf PKPdf 11 13 29.3 -0.9
CCUT ePP PP 11 14 58.2 -1.5
FLWY Flagg Ranch 119.70 43 ePKPdf PKPdf 11 13 30.9 +0.9
DLF Lyons Farm 119.71 329 eP PKPdf 11 13 29.8 0.0
TPAW Teton Pass 119.72 44 ePKPdf PKPdf 11 13 30.0 -0.1
TPAW ePP PP 11 14 58.2 -1.4
TAM Tamanrasset 119.73 292 ePKPdf PKPdf 11 13 32.7 +1.9
TAM Tamanrasset 119.73 292 ePKIKP PKPdf 11 13 32.7 +2.0
LKWY Lake 119.73 42 ePKPdf PKPdf 11 13 34.5 +4.5
LKWY Lake 119.73 42 ePKIKP PKPdf 11 13 34.6 +4.5
HTL Hartland 119.74 326⇑ eP PKPdf 11 13 29.4 -0.5
HTL AMB AMB 11 13 34.9
comp=Z,147nm,1.9s
HTL Hartland 119.74 326 P PKPdf 11 13 29.4 -0.5
HTL AMB AMB 11 13 34.9
comp=Z,147nm,1.9s
GCMT Greycliff 119.77 41 ePKPdf PKPdf 11 13 30.7 +0.6
MOOW Moose Ponds 119.78 43 ePKPdf PKPdf 11 13 30.5 +0.3
NOQ North Oquirrh 119.79 47 ePKPdf PKPdf 11 13 30.8 +0.4
SGMF Saint Gilles 119.82 322 ePKIKP PKPdf 11 13 29.7 -0.5
comp=Z,133nm,0.9s
SGMF Saint Gilles 119.82 322 ePKPdf PKPdf 11 13 29.7 -0.5
SGMF Saint Gilles 119.82 322 ePKIKP PKPdf 11 13 29.7 -0.5
REDW Red Top Meadow 119.84 44 ePKPdf PKPdf 11 13 30.8 +0.5
AHID Auburn Hatcher 119.86 45 ePKPdf PKPdf 11 13 31.4 +1.0
EMHD Djebel Mahouad 119.87 308 P PKPdf 11 13 32.2 +1.6
SNOW Snow King Moun 119.87 44 ePKPdf PKPdf 11 13 31.1 +0.7
EPF Esparros 119.88 316 ePKIKP PKPdf 11 13 29.5 -0.9
comp=Z,31nm,0.7s
EPF Esparros 119.88 316 ePKPdf PKPdf 11 13 29.5 -0.9
EPF Esparros 119.88 316 ePKIKP PKPdf 11 13 29.5 -0.9
HWUT Hardware Ranch 119.90 46 ePKPdf PKPdf 11 13 30.8 +0.3
LOHW Long Hollow 119.92 44 ePKPdf PKPdf 11 13 30.9 +0.4
RESF Ens 119.96 315 eP PKPdf 11 13 31.6 +1.0
FFC Flin Flon 120.00 29 ePKPdf PKPdf 11 13 29.6 -0.7
FFC Flin Flon 120.00 29 *c iPKIKP PKPdf 11 13 29.9 -0.4
VIEF Viey 120.15 316 eP PKPdf 11 13 32.4 +1.4
ROSF Rostrenen 120.22 323 ePKIKP PKPdf 11 13 30.6 -0.3
comp=Z,48nm,0.7s
ROSF Rostrenen 120.22 323 ePKPdf PKPdf 11 13 30.6 -0.3
ROSF Rostrenen 120.22 323 ePKIKP PKPdf 11 13 30.6 -0.3
RLMT Red Lodge 120.28 42 ePKPdf PKPdf 11 13 31.6 +0.5
JLU Jordanelle 120.29 47 ePKPdf PKPdf 11 13 30.9 -0.4
MPU Maple Canyon 120.33 48 ePKPdf PKPdf 11 13 32.0 +0.6
QUIF Quistinic 120.33 322 ePKIKP PKPdf 11 13 30.8 -0.3
comp=Z,131nm,0.9s
QUIF Quistinic 120.33 322 ePKPdf PKPdf 11 13 30.8 -0.3
QUIF Quistinic 120.33 322 ePKIKP PKPdf 11 13 30.8 -0.3
MSU Marysvale 120.35 50 ePKPdf PKPdf 11 13 33.0 +1.5
MSU Marysvale 120.35 50 ePKIKP PKPdf 11 13 33.0 +1.5
REYF Montagne du Re 120.38 316 eP PKPdf 11 13 32.4 +1.0
SFJD Kangerlussuaq 120.48 358 ePKPdf PKPdf 11 13 29.9 -1.0
SFJD Kangerlussuaq 120.48 358 ePKIKP PKPdf 11 13 29.9 -1.0
SFJD Kangerlussuaq 120.48 358 *i P PKPdf 11 13 29.7 -1.2
SFJD *i 11 26 49.9
SFJD Kangerlussuaq 120.48 358 *i P PKKPbc 11 23 38.5 -2.7
comp=Z,11nm,0.9s
DAU Daniels Canyon 120.49 47 ePKPdf PKPdf 11 13 32.3 +0.6
DAU Daniels Canyon 120.49 47 ePKIKP PKPdf 11 13 32.3 +0.6
ETSF Etsaut 120.55 316 ePKIKP PKPdf 11 13 32.5 +0.8
comp=Z,88nm,0.8s
ETSF Etsaut 120.55 316 ePKPdf PKPdf 11 13 32.5 +0.8
ETSF Etsaut 120.55 316 ePKIKP PKPdf 11 13 32.5 +0.8
TMUT Trail Mountain 120.85 48 ePKPdf PKPdf 11 13 33.4 +1.0
BW06 Boulder Array 120.93 44 ePKPdf PKPdf 11 13 32.1 -0.4
PDAR Pinedale Array 120.93 44 PKP PKPdf 11 13 32.4 -0.1
comp=Z,26nm,0.8s,baz=127,slow=1.4,SNR=69
PDAR PKKPbc PKKPbc 11 23 37.9 -0.9
comp=Z,8.2nm,0.6s,baz=116,slow=6.2,SNR=23
PDAR SKKPbc 11 26 46.0
comp=Z,5.8nm,0.9s,baz=114,slow=4.4,SNR=6.6
PDAR Pinedale Array 120.93 44 PKP PKPdf 11 13 32.4 -0.1
PDAR PKKPbc PKKPbc 11 23 37.9 -0.9
PDAR SKKPbc 11 26 46.0
SJPF Ste Jean 120.93 316 ePKIKP PKPdf 11 13 33.1 +0.6
comp=Z,200nm,1.2s
SJPF Ste Jean 120.93 316 ePKPdf PKPdf 11 13 33.1 +0.6
SJPF Ste Jean 120.93 316 ePKIKP PKPdf 11 13 33.1 +0.6
EBNR Beni Rached 120.96 308 P PKPdf 11 13 36.0 +3.3
ECHA Ech Chlef 121.12 308 P PKPdf 11 13 34.3 +1.3
ETRT Tiaret 121.36 307 P PKPdf 11 13 34.0 +0.5
EANR 'Ain N'Sour 121.38 308 P PKPdf 11 13 34.6 +1.0
SRU San Rafael 121.42 48 ePKPdf PKPdf 11 13 33.9 +0.4
SRU San Rafael 121.42 48 ePKIKP PKPdf 11 13 33.9 +0.4
LAO LASA Array 121.61 39 ePKPdf PKPdf 11 13 34.0 +0.3
LAO e 11 15 12.8
WUAZ Wupatki 121.75 53 ePKPdf PKPdf 11 13 34.8 +0.5
DGMT Dagmar 122.03 36 ePKPdf PKPdf 11 13 34.3 -0.1
CART Cartagena 122.56 310 ePKPdf PKPdf 11 13 35.6 -0.1
SRIG Santa Rosalia 122.70 62 P PKPdf 11 13 34.5 -1.8
SRIG S PP 11 15 19.0 -1.4
PV04 Paradox Valley 122.84 49 ePKPdf PKPdf 11 13 37.1 +0.8
RWWY Rawlins 122.94 45 ePKPdf PKPdf 11 13 36.5 +0.1
TUC Tucson 122.99 56 ePKPdf PKPdf 11 13 37.3 +0.5
TUC ePP PP 11 15 21.0 -1.1
TUC Tucson 122.99 56 ePKIKP PKPdf 11 13 37.3 +0.5
TUC e 11 15 21.0
PV01 Paradox Valley 123.17 49 ePKPdf PKPdf 11 13 37.4 +0.5
MVCO Mesa Verde 123.51 50 ePKPdf PKPdf 11 13 38.7 +1.1
MVCO ePP PP 11 15 24.7 -0.6
HSIG 123.53 60 P PKPdf 11 13 37.9 0.0
TORD Torodi Ar. Bea 123.73 281 PKhKP PKPpre 11 13 23.9
comp=Z,0.6nm,0.6s,baz=108,slow=2.0,SNR=6.0
TORD PKP PKPdf 11 13 37.9 -0.7
comp=Z,95nm,0.7s,baz=66,slow=1.7,SNR=192
TORD pPKP pPKPdf 11 15 20.0 +2.3
comp=Z,12nm,0.7s,baz=73,slow=3.6,SNR=3.2
TORD PKKPbc PKKPbc 11 23 25.3 -2.1
comp=Z,3.1nm,0.5s,baz=304,slow=4.6,SNR=12
TORD SKKPbc 11 26 24.4
comp=Z,4.0nm,0.8s,baz=246,slow=4.7,SNR=3.8
TORD Torodi Ar. Bea 123.73 281 PKP PKPdf 11 13 37.9 -0.7
TORD pPKP pPKPdf 11 15 20.0 +2.3
TORD PKKPbc PKKPbc 11 23 25.3 -2.1
TORD SKKPbc 11 26 24.4
SMCO Snowmass 124.01 47 ePKPdf PKPdf 11 13 39.7 +1.2
SMCO ePP PP 11 15 29.6 +1.1
ESDC Sonseca Array 124.08 313 PKP PKPdf 11 13 38.6 0.0
comp=Z,25nm,0.8s,baz=20,slow=3.0,SNR=56
ESDC PP PP 11 15 25.3 -3.7
comp=Z,21nm,0.9s,baz=60,slow=6.5,SNR=11
ESDC PKKPbc PKKPbc 11 23 25.6 -1.1
comp=Z,1.1nm,0.6s,baz=263,slow=3.4,SNR=5.0
ESDC Sonseca Array 124.08 313 PKP PKPdf 11 13 38.6 0.0
ESDC PP PP 11 15 25.3 -3.7
ESDC PKKPbc PKKPbc 11 23 25.6 -1.1
ESLA Sonseca Array 124.08 313 ePKPdf PKPdf 11 13 39.3 +0.7
RSSD Black Hills 124.10 41 ePKPdf PKPdf 11 13 38.1 -0.4

RSSD Black Hills 124.10 41 ePKIKP PKPdf 11 13 38.1 -0.4
PHWY Pilot Hill 124.31 44 ePKPdf PKPdf 11 13 38.7 -0.3
PAB San Pablo 124.40 313 ePKPdf PKPdf 11 13 39.8 +0.6
PAB San Pablo 124.40 313 ePKIKP PKPdf 11 13 39.8 +0.6
ISCO Idaho Springs 124.77 46 ePKPdf PKPdf 11 13 40.1 +0.2
ISCO Idaho Springs 124.77 46 ePKIKP PKPdf 11 13 40.2 +0.3
LPIG La Paz 124.90 66 P PKPdf 11 13 41.4 +0.7
COYC Coyhaique 125.09 166 eP PKPdf 11 13 41.0 +0.6
LAZ Ladron 125.40 53 ePKPdf PKPdf 11 13 41.9 +0.6
SDCO Great Sand Dun 125.59 48 ePKPdf PKPdf 11 13 42.1 +0.6
LENM Lemitar 125.60 53 ePKPdf PKPdf 11 13 42.9 +1.2
ULM Lac du Bonnet 125.64 31 PKP PKPdf 11 13 40.2 -1.0
comp=Z,59nm,0.7s,baz=310,slow=2.8,SNR=60
ULM SKKPbc 11 26 36.1
comp=Z,6.7nm,0.8s,baz=197,slow=5.9,SNR=4.8
ULM Lac du Bonnet 125.64 31 ePKPdf PKPdf 11 13 40.3 -1.0
ULM SKKPbc 11 26 36.1
ULM Lac du Bonnet 125.64 31 ePKIKP PKPdf 11 13 40.3 -0.9
ULM 11 26 36.1
MVO Moncorvo 125.67 316 ePKP PKPdf 11 13 43.0 +1.4
MVO eSS SS 11 32 13.7 +7.2
ANMO Albuquerque 125.77 52 ePKPdf PKPdf 11 13 42.9 +0.9
ANMO Albuquerque 125.77 52 ePKIKP PKPdf 11 13 42.9 +0.9
CGIG 125.78 58 P PKPdf 11 13 41.6 -0.6
CGIG S PP 11 15 38.1 -2.6
LPM Los Pinos Moun 125.83 53 ePKPdf PKPdf 11 13 42.8 +0.7
BNM Barren Site 125.88 53 ePKPdf PKPdf 11 13 43.3 +1.0
PVRL Vila Real 126.09 316 ePKP PKPdf 11 13 44.2 +1.8
POLO Lamas de Olo 126.10 317 ePKP PKPdf 11 13 43.0 +0.6
PCAB Cabril 126.11 317 ePKP PKPdf 11 13 44.0 +1.6
PGAV Gavieira, Arco 126.17 317 ePKP PKPdf 11 13 43.6 +1.1
PGAV Gavieira, Arco 126.17 317 ePP PP 11 15 41.4 -1.2
MTE Manteigas 126.34 315 ePKP PKPdf 11 13 44.6 +1.7
MTE Manteigas 126.34 315 ePKPdf PKPdf 11 13 43.0 +0.1
PVIS Viseu 126.45 316 ePKP PKPdf 11 13 44.8 +1.7
PVIS Viseu 126.45 316 ePP PP 11 15 43.2 -1.3
PCBR Castelo Branco 126.52 315 ePKP PKPdf 11 13 44.6 +1.3
PMRV Marv??o 126.62 314 ePKP PKPdf 11 13 45.1 +1.6
PTO Porto 126.75 317 ePKP PKPdf 11 13 44.6 +0.9
AGMN Agassiz Nation 126.82 33 ePKPdf PKPdf 11 13 42.5 -1.1
PBAR Barrancos 126.86 313 ePKP PKPdf 11 13 45.2 +1.2
PBAR Barrancos 126.86 313 ePP PP 11 15 47.5 +0.2
PESTR Estremoz 126.99 314 ePKP PKPdf 11 13 45.3 +1.1
PESTR eSS SS 11 32 22.7 -0.3
PTOM Tomar 127.27 315 ePKP PKPdf 11 13 46.1 +1.4
PTOM Tomar 127.27 315 ePP PP 11 15 46.9 -3.0
PMTG Montargil 127.36 314 ePKP PKPdf 11 13 45.6 +0.7
PMTG Montargil 127.36 314 ePP PP 11 15 48.0 -2.5
EVO Evora 127.42 313 ePKIKP PKPdf 11 13 46.6 +1.6
comp=Z,485nm,1.5s
EVO eR
comp=Z,2μm,22.5s
EVO Evora 127.42 313 ePKP PKPdf 11 13 46.4 +1.4
EVO Evora 127.42 313 ePP PP 11 15 51.5 +0.5
EVOP Sao Brissos 127.50 314 ePKPdf PKPdf 11 13 46.6 +1.4
EVOP Sao Brissos 127.50 314 ePKIKP PKPdf 11 13 46.6 +1.4
PBEJ Beja 127.52 313 ePKP PKPdf 11 13 45.9 +0.7
MNTX Cornudas Mount 127.59 56 ePKPdf PKPdf 11 13 46.5 +0.9
PVAQ Vaqueiros 127.65 312 ePKP PKPdf 11 13 47.5 +2.0
PVAQ Vaqueiros 127.65 312 ePP PP 11 15 51.5 -1.0
PCVE Castro Verde 127.80 312 ePKP PKPdf 11 13 47.5 +1.7
PCVE Castro Verde 127.80 312 ePP PP 11 15 50.9 -2.6
PCVE eSS SS 11 32 28.5 -4.6
PBDV Barranco-do-Ve 127.87 312 ePKP PKPdf 11 13 46.4 +0.5
PNCL Nicolau / Gran 127.96 313 ePKP PKPdf 11 13 48.0 +1.9
PMAFR Mafra 128.16 314 ePKP PKPdf 11 13 47.9 +1.5
LIS Lisbon 128.16 314 eP PKPdf 11 13 46.7 +0.2
LIS ePP PP 11 15 54.3 -1.5
LIS eSS SS 11 32 37.9 +0.5
LIS AMS AMS 11 42 06.1
comp=E,1μm,23.3s
LIS Lisbon 128.16 314 ePKIKP PKPdf 11 13 46.7 +0.3
LIS e 11 15 54.3
LIS eSS SS 11 32 37.9 +0.5
ILCA Isla Las Cabra 128.25 164⇓ *iP PKPdf 11 13 46.1 -0.4
PTEO Sao Teotonio 128.33 313 ePKP PKPdf 11 13 47.7 +0.9
PTEO Sao Teotonio 128.33 313 ePP PP 11 15 53.5 -3.4
MORF Marmelete 128.37 312 ePKP PKPdf 11 13 49.0 +2.1
MORF Marmelete 128.37 312 ePKIKP PKPdf 11 13 46.6 -0.3
MORF e 11 15 55.6
MORF eSS SS 11 32 40.3 +0.2
CPRX Cap Rock 128.42 53 ePKPdf PKPdf 11 13 47.7 +0.6
HPIG 128.53 62 P PKPdf 11 13 47.9 +0.4
HPIG S PP 11 15 59.4 +0.7
MAIG Mazatlaan 128.56 66 P PKPdf 11 13 48.1 +0.4
CLNB Carlsbad 128.64 54 ePKPdf PKPdf 11 13 48.2 +0.6
ECSD EROS Data Cent 128.97 38 ePKPdf PKPdf 11 13 47.9 0.0
EYMN Ely 129.32 31 ePKPdf PKPdf 11 13 49.1 +0.7
CBKS Cedar Bluff 129.33 45 ePKPdf PKPdf 11 13 49.4 +0.7
CBKS Cedar Bluff 129.33 45 ePKIKP PKPdf 11 13 49.4 +0.7
AMTX Amarillo 129.49 50 ePKPdf PKPdf 11 13 49.5 +0.4
TXAR Lajitas Array 129.66 58 PKhKP PKPpre 11 13 31.1
comp=E,0.8nm,0.6s,baz=238,slow=2.0,SNR=8.4
TXAR PKP PKPdf 11 13 49.9 +0.3
comp=E,22nm,0.8s,baz=193,slow=3.5,SNR=46
TXAR PP PP 11 16 04.8 -1.1
comp=E,10.0nm,1.0s,baz=270,slow=2.7,SNR=5.1
TXAR SKPbc SKPbc 11 16 33.7 +0.7
comp=E,140nm,1.0s,baz=266,slow=3.8,SNR=31
TXAR SKKPbc 11 26 18.4
comp=E,4.8nm,0.7s,baz=137,slow=5.3,SNR=13
TXAR Lajitas Array 129.66 58 PKP PKPdf 11 13 49.9 +0.4
TXAR PP PP 11 16 04.8 -1.1
TXAR SKPbc SKPbc 11 16 33.7 +0.7
TXAR SKKPbc 11 26 18.4
TXAR Lajitas Array 129.66 58 PKIKP PKPdf 11 13 49.9 +0.3
TXAR 11 16 04.8
TXAR 11 26 18.4
DBIC Dimbokro 129.95 272 eP PKPdf 11 13 51.1 +0.6
DBIC Dimbokro 129.95 272 PKhKP PKPpre 11 13 40.0
comp=E,5.3nm,0.6s,baz=96,slow=5.2,SNR=7.0
DBIC PKP PKPdf 11 13 51.2 +0.7
comp=E,56nm,0.7s,baz=98,slow=2.7,SNR=25
DBIC SKPab 11 16 35.2
comp=E,161nm,0.9s,baz=87,slow=5.1,SNR=35
DBIC Dimbokro 129.95 272 ePKPdf PKPdf 11 13 51.2 +0.6
DBIC SKPab 11 16 35.2
DBIC Dimbokro 129.95 272 ePKIKP PKPdf 11 13 51.2 +0.6
PLCA Paso Flores 130.02 165 PKhKP PKPpre 11 13 32.9
comp=E,1.0nm,0.5s,baz=138,slow=4.0,SNR=5.3
PLCA PKP PKPdf 11 13 51.1 +1.2
comp=E,23nm,0.7s,baz=210,slow=1.9,SNR=30
PLCA PP PP 11 16 05.5 -1.0
comp=E,12nm,1.1s,baz=212,slow=6.6,SNR=2.0
PLCA SKPbc SKPbc 11 16 33.9 -0.1
comp=E,175nm,1.1s,baz=190,slow=5.2,SNR=24
PLCA PKKP 11 23 51.5
comp=E,1.4nm,0.6s,baz=56,slow=3.6,SNR=4.3
PLCA SKKPbc 11 26 14.3
comp=E,5.2nm,0.9s,baz=308,slow=1.6,SNR=5.4
PLCA SKKP 11 26 46.1
comp=E,5.3nm,0.8s,baz=347,slow=4.8,SNR=4.6
PLCA Paso Flores 130.02 165 ePKPdf PKPdf 11 13 49.9 0.0
PLCA PKP PKPdf 11 13 51.1 +1.2
PLCA PP PP 11 16 05.5 -1.0
PLCA SKPbc SKPbc 11 16 33.9 -0.1
PLCA PKKP 11 23 51.5
PLCA SKKPbc 11 26 14.3
PLCA SKKP 11 26 46.1
PLCA Paso Flores 130.02 165 ePKIKP PKPdf 11 13 49.9 -0.1
PLCA 11 16 05.5
ANIG Ahuacatlan 130.63 69 P PKPdf 11 13 52.6 +1.0
ANIG S PP 11 16 36.1 +24
WMOK Wichita Mounta 131.75 49 ePKPdf PKPdf 11 13 52.8 -0.6
WMOK Wichita Mounta 131.75 49 ePKIKP PKPdf 11 13 52.8 -0.6
SCHQ Schefferville 131.88 9 PKhKP PKPpre 11 13 39.3
comp=E,3.1nm,0.5s,baz=81,slow=

SCIA	**State Center**	**132.06**	**38**	*e*PKPdf	PKPdf	11 13 54.0	+0.3
JCT	**Junction City**	**132.52**	**55**	*e*PKPdf	PKPdf	11 13 55.9	+1.0
JCT	**Junction City**	**132.52**	**55**	*e*PKIKP	PKPdf	11 13 55.9	+0.9
JFWS	**Jewell Farm**	**133.22**	**35**	*e*PKPdf	PKPdf	11 13 55.2	-0.7
JFWS	**Jewell Farm**	**133.22**	**35**	*e*PKIKP	PKPdf	11 13 55.2	-0.7
ZIIG	**Zihuatanejo**	**133.94**	**73**	P	PKPdf	11 13 58.5	+0.6
ZIIG				S	PP	11 16 45.8	+12
RFTA	**Plano**	**134.04**	**51**	*e*PKPdf	PKPdf	11 13 56.8	-1.0
TRQA	**Tornquist**	**134.28**	**173**	*e*PKPdf	PKPdf	11 13 58.6	+0.5
LNIG	**Linares**	**134.43**	**62**	P	PKPdf	11 13 58.8	+0.1
GLMI	**Grayling**	**134.92**	**29**	*e*PKPpre	PKPpre	11 13 55.2	
KVTX	**Kingsville**	**135.04**	**58**	*e*PKPdf	PKPdf	11 13 57.8	-2.0
CAIG	**El Cayaco**	**135.14**	**73**	P	PKPdf	11 14 01.6	+1.4
CAIG				S	PP	11 16 42.1	+0.9
HDIL	**Hopedale**	**135.25**	**37**	*e*PKPdf	PKPdf	11 13 59.4	-0.3
CCM	**Cathedral Cave**	**135.49**	**41**	*e*PKPdf	PKPdf	11 13 59.5	-0.8
CCM	**Cathedral Cave**	**135.49**	**41**	*e*PKIKP	PKPdf	11 13 59.5	-0.8
SZVM	**Salazar**	**135.66**	**70**	P	PKPdf	11 14 02.3	+1.2
MIAR	**Mount Ida**	**135.69**	**47**	*e*PKPdf	PKPdf	11 14 00.4	-0.4
MIAR	**Mount Ida**	**135.69**	**47**	*e*PKIKP	PKPdf	11 14 00.4	-0.4
SLM	**Saint Louis**	**135.81**	**40**	*e*PKPdf	PKPdf	11 13 57.8	-3.0
SLM	**Saint Louis**	**135.81**	**40**	*e*PKIKP	PKPdf	11 13 57.8	-3.1
PTVM	**Pico Tres Padr**	**135.87**	**70**	P	PKPdf	11 13 60.0	-1.5
HKT	**Hockley**	**135.91**	**54**	*e*PKPdf	PKPdf	11 14 01.9	+0.6
HKT	**Hockley**	**135.91**	**54**	*e*PKIKP	PKPdf	11 14 01.9	+0.6
PBVM	**Pinon**	**135.92**	**70**	P	PKPdf	11 14 02.3	+0.7
FVM	**French Village**	**136.06**	**41**	*e*PKPdf	PKPdf	11 14 01.2	-0.1
FVM	**French Village**	**136.06**	**41**	*e*PKIKP	PKPdf	11 14 01.2	-0.2
NATX	**Nacogdoches**	**136.12**	**51**	*e*PKPdf	PKPdf	11 14 01.6	-0.1
PMAR	**Madeira**	**136.44**	**311**	*e*PKP	PKPdf	11 14 05.0	+2.8
UALR	**University of**	**136.46**	**46**	*e*PKPdf	PKPdf	11 14 01.8	-0.4
FCH	**Farellones**	**137.00**	**161**	*e*P	PKPdf	11 13 55.3	-8.0
SIUC	**Southern Illin**	**137.00**	**40**	*e*PKPdf	PKPdf	11 14 02.1	-0.9
OLIL	**Olney**	**137.09**	**38**	*e*PKPdf	PKPdf	11 14 02.7	-0.5
AAM	**Ann Arbor**	**137.23**	**31**	*e*PKPdf	PKPdf	11 14 04.3	+1.0
AAM	**Ann Arbor**	**137.23**	**31**	*e*PKIKP	PKPdf	11 14 04.3	+0.9
PARMO	**Parma**	**137.25**	**42**	*e*PKPdf	PKPdf	11 14 04.1	+0.5
CMCH	**Combarbala**	**138.74**	**159**	*e*P	PKPpre	11 13 56.5	
MSNY	**Massena**	**138.94**	**21**	*e*PKPdf	PKPdf	11 14 03.5	-2.9
ERPA	**Erie**	**139.17**	**28**	*e*PKPpre	PKPpre	11 13 59.1	
CFAA	**Coronel Fontan**	**139.22**	**163**	PKhKP	PKPpre	11 13 58.3	
	comp=E,3.4nm,0.4s,baz=208,slow=3.5,SNR=43						
CFAA				SKPbc	SKPbc	11 17 01.3	-2.4
	comp=E,7.6nm,0.9s,baz=232,slow=2.9,SNR=10						
CFAA				SKKPbc		11 25 40.2	
	comp=E,1.7nm,0.9s,baz=9.0,slow=5.2,SNR=8.0						
LONY	**Lake Ozonia**	**139.37**	**21**	*e*PKPpre	PKPpre	11 13 58.5	
ALLY	**Alegheny Colle**	**139.46**	**29**	*e*PKPpre	PKPpre	11 13 58.9	
FRNY	**Flat Rock**	**139.53**	**20**	*e*PKPpre	PKPpre	11 13 59.9	
TLL	**Tololo Astrono**	**139.72**	**159**	*e*P	PKPpre	11 14 00.7	
NCB	**Newcomb**	**140.06**	**21**	*e*PKPpre	PKPpre	11 14 00.1	
MDV	**Middlebury**	**140.40**	**20**	*e*PKPdf	PKPpre	11 14 01.2	
PKME	**Peaks-Kenny Pk**	**140.45**	**16**	*e*PKPpre	PKPpre	11 14 02.0	
LBNH	**Lisbon**	**140.60**	**19**	*e*PKPdf	PKPpre	11 14 03.7	
LBNH	**Lisbon**	**140.60**	**19**	*e*PKHKP	PKPpre	11 14 03.7	
SWET	**Sewanee**	**140.61**	**41**	*e*PKPdf	PKPpre	11 14 01.8	
ACCN	**Adirondack Com**	**140.77**	**21**	*e*PKPpre	PKPpre	11 14 01.8	
LCO	**Las Campanas**	**140.81**	**158**	*e*PKPdf	PKPpre	11 14 04.6	
LCO	**Las Campanas**	**140.81**	**158**	⇑*i*P	PKPpre	11 14 04.4	
BINY	**Binghamton**	**140.88**	**25**	*e*PKPpre	PKPpre	11 14 03.0	
HNH	**Hanover**	**140.96**	**20**	*e*PKPpre	PKPpre	11 14 02.9	
WVL	**Waterville**	**140.96**	**16**	*e*PKPpre	PKPpre	11 14 02.4	
SSPA	**Standing Stone**	**141.31**	**28**	*e*PKPdf	PKPpre	11 14 04.4	
BBTS	**Babate**	**141.33**	**284**	SKPbc	SKPbc	11 17 11.2	+1.5
	comp=E,252nm,1.0s,baz=68,slow=0.8,SNR=11						
BBTS	**Babate**	**141.33**	**284**	SKPbc	SKPbc	11 17 11.2	+1.5
TRY	**Troy**	**141.33**	**22**	*e*PKPpre	PKPpre	11 14 03.7	
CPCT	**Cooper Cave**	**141.37**	**40**	*e*PKPpre	PKPpre	11 14 02.4	
FFD	**Franklin Falls**	**141.38**	**19**	*e*PKPdf	PKPpre	11 14 05.1	
EMMW	**East Machias**	**141.43**	**14**	*e*PKPdf	PKPpre	11 14 04.1	
TKL	**Tuckaleechee C**	**141.71**	**39**	SKKPbc		11 25 26.1	
	comp=E,3.3nm,0.8s,baz=144,slow=8.7,SNR=2.2						
TKL	**Tuckaleechee C**	**141.71**	**39**	*e*PKPdf	PKPpre	11 14 05.4	
TKL				SKKPbc		11 25 26.1	
TKL	**Tuckaleechee C**	**141.71**	**39**	*e*PKHKP	PKPpre	11 14 05.4	
QUA2	**Belchertown**	**142.20**	**21**	*e*PKPdf	PKPdf	11 14 07.8	-4.6
BRAL	**Brewton**	**142.20**	**48**	*e*PKPdf	PKPdf	11 14 08.9	-3.8
HRV	**Adam Dziewonsk**	**142.27**	**20**	*e*PKPdf	PKPdf	11 14 08.1	-4.5
HRV	**Adam Dziewonsk**	**142.27**	**20**	*e*PKHKP	PKPpre	11 14 08.1	
ELN	**Prospectdale**	**142.42**	**34**	*e*PKPdf	PKPdf	11 14 08.1	-4.9
WES	**Weston**	**142.46**	**20**	*e*PKPdf	PKPdf	11 14 09.3	-3.5
WES	**Weston**	**142.46**	**20**	*e*PKIKP	PKPdf	11 14 09.4	-3.4
BLA	**Blacksburg**	**142.62**	**34**	*e*PKPdf	PKPdf	11 14 09.3	-4.0
BLA	**Blacksburg**	**142.62**	**34**	*e*PKHKP	PKPpre	11 14 09.3	
PAL	**Palisades**	**142.72**	**23**	*e*PKPdf	PKPdf	11 14 09.4	-3.9
PAL	**Palisades**	**142.72**	**23**	*e*PKHKP	PKPpre	11 14 09.4	
BRNJ	**Basking Ridge**	**142.73**	**24**	*e*PKPdf	PKPdf	11 14 09.8	-3.5
SDMD	**Soldier's Deli**	**142.78**	**28**	*e*PKPdf	PKPdf	11 14 09.8	-3.7
BRYW	**Bryant College**	**142.80**	**20**	*e*PKPdf	PKPdf	11 14 10.8	-2.7
YLE	**Yale**	**142.83**	**22**	*e*PKPdf	PKPdf	11 14 09.6	-4.0
CPNY	**Central Park**	**142.88**	**24**	*e*PKPdf	PKPdf	11 14 09.7	-3.9
CCIG	**Comitan**	**142.96**	**73**	P	PKPdf	11 14 12.5	-2.0
THIG		**143.04**	**75**	P	PKPdf	11 14 13.3	-1.3
GOGA	**Godfrey**	**143.32**	**41**	*e*PKPdf	PKPdf	11 14 11.7	-3.0
GOGA	**Godfrey**	**143.32**	**41**	*e*PKIKP	PKPdf	11 14 11.7	-2.9
CBN	**Corbin**	**143.47**	**30**	*e*PKPdf	PKPdf	11 14 11.9	-2.9
JSC	**Jenkinsville**	**144.16**	**38**	*e*PKPdf	PKPdf	11 14 14.9	-1.2
JSC	**Jenkinsville**	**144.16**	**38**	*e*PKIKP	PKPdf	11 14 14.9	-1.2
PAYG	**Puerto Ayora**	**144.18**	**102**	*e*PKPdf	PKPdf	11 14 16.9	+0.2
COW	**Cow Castle Cre**	**145.11**	**39**	*e*PKPbc	PKPbc	11 14 18.5	+0.3
CNNC	**Cliffs of the**	**145.45**	**34**	*e*PKPbc	PKPbc	11 14 19.1	0.0
RBDL	**Robledal**	**145.62**	**76**	*e*P	PKPdf	11 14 19.2	+0.1
NHSC	**New Hope**	**145.62**	**39**	*e*PKPdf	PKPdf	11 14 19.4	+0.8
TEIG	**Tepich**	**145.65**	**65**	SKKPbc		11 25 15.9	
	comp=E,14nm,0.6s,baz=98,slow=4.9,SNR=5.9						
TEIG	**Tepich**	**145.65**	**65**	*e*PKPdf	PKPdf	11 14 19.1	+0.1
TEIG				*e*PKPbc	PKPbc	11 14 20.5	+0.3
TEIG				SKKPbc		11 25 15.9	
ANCH	**Antofagasta**	**145.70**	**155**	*e*P	PKPdf	11 14 21.6	+2.6
SBLS	**San Blas**	**145.71**	**76**	*e*P	PKPdf	11 14 20.4	+1.2
BOQS	**Boqueron**	**146.06**	**77**	*e*P	PKPdf	11 14 20.8	+1.0
SNET	**Serv Nac Est T**	**146.11**	**77**	*e*P	PKPdf	11 14 20.8	+0.9
MECH	**Mejillones**	**146.19**	**154**	*e*P	PKPdf	11 14 22.0	+2.1
LFRS	**El Faro**	**146.28**	**77**	*e*P	PKPdf	11 14 20.9	+0.7
CAHU	**Cacacuatique**	**147.08**	**76**	*e*P	PKPdf	11 14 23.2	+1.7
BLLM	**Bellamira**	**147.10**	**77**	*e*P	PKPdf	11 14 24.2	+2.7
CAM4	**Nova Friburgo**	**147.83**	**203**	⇑*i*P	PKPdf	11 14 23.7	+1.1
CAM4				*i*		11 14 26.3	
CAM4				*i*		11 14 30.8	
CAM4				*i*		11 14 32.6	
CAM4				*i*		11 14 44.4	
CAM4				*i*		11 15 50.6	
CAM4				*i*		11 15 56.9	
CAM4				*i*		11 16 00.0	
CAM4				*i*		11 16 03.4	
CAM4				*i*		11 16 05.9	
CAM4				*i*		11 16 10.8	
CAM4				*i*		11 16 14.1	
CAM4				*i*		11 16 19.7	
CAM4				*i*		11 16 22.6	
CAM4				*i*		11 16 25.1	
CAM4				*i*		11 16 29.4	
CAM4	**Nova Friburgo**	**147.83**	**203**	⇑*i*P	PKPdf	11 14 23.7	+1.1
CAM4				*i*		11 14 26.3	
CAM4				*i*		11 14 31.2	
CAM4				*i*		11 14 36.8	
CAM4				*i*		11 14 44.7	
DWPF	**Disney**	**147.88**	**47**	*e*PKPdf	PKPdf	11 14 21.3	-1.2
DWPF				*e*PKPbc	PKPbc	11 14 25.9	-0.2
TGUH	**Tegucigalpa,Un**	**147.94**	**75**	*e*PKPdf	PKPdf	11 14 23.1	+0.1
TGUH				*e*PKPbc	PKPbc	11 14 27.1	+0.6
TGUH	**Tegucigalpa,Un**	**147.94**	**75**	*e*P	PKPdf	11 14 22.2	-0.7
SACV	**Santiago Islan**	**148.06**	**286**	*e*PKPdf	PKPdf	11 14 23.4	+0.2
SACV				*e*PKPbc	PKPbc	11 14 27.5	+0.6
SPB	**Sao Paulo**	**148.18**	**194**	*e*PKPdf	PKPdf	11 14 23.5	+0.3
JTS	**JuntasAbangare**	**150.58**	**82**	pPKPbc	pPKPbc	11 16 14.2	+2.6
	comp=E,137nm,1.0s,baz=243,slow=6.8,SNR=4.8						
JTS	**JuntasAbangare**	**150.58**	**82**	*e*PKPdf	PKPdf	11 14 25.9	-1.2
JTS				*e*PKPbc	PKPbc	11 14 33.3	+0.2
JTS				pPKPbc	pPKPbc	11 16 14.2	+2.6
JTS	**JuntasAbangare**	**150.58**	**82**	*e*PKIKP	PKPdf	11 14 25.9	-1.3
NNA	**Nana**	**151.15**	**132**	PKP	PKPdf	11 14 29.1	+1.0
	comp=E,24nm,0.8s,baz=270,slow=4.5,SNR=17						
NNA				PKPbc	PKPbc	11 14 34.6	+0.3
	comp=E,235nm,0.9s,baz=251,slow=5.5,SNR=68						
NNA				pPKPbc	pPKPbc	11 16 12.3	-0.6
	comp=E,54nm,1.0s,baz=216,slow=7.2,SNR=2.2						
NNA	**Nana**	**151.15**	**132**	*e*PKPdf	PKPdf	11 14 28.2	+0.2
NNA				PKP	PKPdf	11 14 29.1	+1.0
NNA				PKPbc	PKPbc	11 14 34.6	+0.3
NNA				*e*PKPbc	PKPbc	11 14 36.0	+1.6
NNA				pPKPbc	pPKPbc	11 16 12.3	-0.6
NNA	**Nana**	**151.15**	**132**	PKIKP	PKPdf	11 14 29.1	+1.1
NNA						11 16 12.3	
NNA				pmax	pmax		
	comp=Z,24nm,0.8s						
NNA				pmax	pmax		
	comp=Z,235nm,0.9s						
NNA				pmax	pmax		
	comp=Z,54nm,1.0s						
ATAH	**Atahualpa**	**152.78**	**122**	PKP	PKPdf	11 14 32.3	+1.8
	comp=Z,48nm,0.9s,baz=121,slow=3.8,SNR=24						
ATAH				PKPbc	PKPbc	11 14 40.2	+2.2
	comp=Z,178nm,0.8s,baz=169,slow=5.2,SNR=48						
ATAH	**Atahualpa**	**152.78**	**122**	PKP	PKPdf	11 14 32.3	+1.8
ATAH				PKPbc	PKPbc	11 14 40.2	+2.2
LPAZ	**La Paz**	**153.19**	**152**	*e*PKPdf	PKPdf	11 14 32.3	+1.3
LPAZ				PKPab	PKPab	11 14 53.0	+0.8
LPAZ	**La Paz**	**153.19**	**152**	*e*PKIKP	PKPdf	11 14 32.3	+1.3
LPAZ						11 14 53.0	
BBSR	**BB Station**	**153.73**	**18**	*e*PKPdf	PKPdf	11 14 30.4	-1.0
BBSR				*e*PKPab	PKPab	11 14 54.2	+0.1
BBSR				*e*PP	PP	11 18 30.5	+1.4
BCIP	**Isla Barro Col**	**155.67**	**84**	*e*PKPdf	PKPdf	11 14 32.4	-2.1
BCIP				*e*PKPab	PKPab	11 15 03.6	+0.4
OTAV	**Otavalo**	**155.82**	**106**	*e*PKPdf	PKPdf	11 14 35.2	+0.4
OTAV				*e*PKPab	PKPab	11 15 06.0	+2.1
OTAV				*e*PP	PP	11 18 43.4	+0.6
MCJ	**Malvern**	**155.85**	**62**	⇑*i*P	PKPab	11 15 04.8	+1.1
MTDJ	**Mount Denham**	**155.87**	**62**	*e*PKPdf	PKPdf	11 14 33.1	-1.5
MTDJ				*e*PKPab	PKPab	11 15 04.9	+1.1
BBJ	**Bamboo Saint A**	**156.03**	**61**	*i* P	PKPab	11 15 05.3	+0.8
STH	**Stony Hill**	**156.56**	**61**	⇑*i*P	PKPab	11 15 07.1	+0.3
RCBR	**Riachuelo**	**156.56**	**236**	PKP	PKPdf	11 14 37.1	+1.4
	comp=Z,20nm,0.8s,baz=304,slow=2.5,SNR=7.5						
RCBR				PKPab	PKPab	11 15 07.9	+1.0
	comp=Z,35nm,0.9s,baz=116,slow=6.6,SNR=5.6						
RCBR	**Riachuelo**	**156.56**	**236**	*e*PKPdf	PKPdf	11 14 35.4	-0.3
RCBR				PKP	PKPdf	11 14 37.1	+1.4
RCBR				*e*PKPab	PKPab	11 15 05.8	-1.1
RCBR				PKPab	PKPab	11 15 07.9	+1.0
HOJ	**Hope**	**156.64**	**61**	⇑*i*P	PKPab	11 15 07.1	0.0
YHJ	**Yallahs**	**156.91**	**61**	⇑*i*P	PKPab	11 15 10.9	+2.6
CMJ	**Castle Mountai**	**156.91**	**61**	*i* P	PKPab	11 15 09.0	+0.7
GTBY	**Guantanamo Bay**	**157.15**	**55**	*e*PKPdf	PKPdf	11 14 35.8	-0.4
SDDR	**Presa de Saban**	**160.71**	**52**	*e*PKPdf	PKPdf	11 14 39.9	-0.5
ROSC	**El Rosal**	**160.91**	**97**	PKP	PKPdf	11 14 41.2	+0.4
	comp=Z,59nm,0.9s,baz=104,slow=3.6,SNR=32						
ROSC				PKPab	PKPab	11 15 29.0	+3.0
	comp=Z,52nm,0.7s,baz=160,slow=5.6,SNR=11						
ROSC	**El Rosal**	**160.91**	**97**	*e*PKPdf	PKPdf	11 14 40.0	-0.7
ROSC				PKP	PKPdf	11 14 41.2	+0.4
ROSC				PKPab	PKPab	11 15 29.0	+3.0
LSP	**Las Mesas**	**164.35**	**46**	*e*PKPdf	PKPdf	11 14 43.9	0.0
CRPR	**Cabo Rojo, PR**	**164.45**	**47**	*e*PKPdf	PKPdf	11 14 42.0	-2.0
LRS	**Lares**	**164.45**	**45**	*e*PKPdf	PKPdf	11 14 44.0	-0.1
LRS				*e*PP	PP	11 19 26.6	-1.2
SDV	**Santo Domingo**	**164.76**	**84**	*e*PKPdf	PKPdf	11 14 43.3	-1.2
SDV				*e*PKPab	PKPab	11 15 42.0	-0.9
SDV				*e*PP	PP	11 19 29.7	-1.0
CELP	**Cerrillos**	**164.78**	**45**	*e*PKPdf	PKPdf	11 14 44.5	+0.2
OBIP	**Obispado Ponce**	**164.78**	**45**	*e*PKPdf	PKPdf	11 14 42.7	-1.6
ICM	**Isla Caja Muer**	**164.94**	**45**	*e*PKPdf	PKPdf	11 14 43.2	-1.3
ICM				*e*PP	PP	11 19 28.9	-1.5
SJG	**San Juan**	**165.05**	**44**	*e*PKPdf	PKPdf	11 14 42.8	-1.7
SJG				*e*PP	PP	11 19 29.9	-1.0
SJG	**San Juan**	**165.05**	**44**	*e*PKIKP	PKPdf	11 14 42.8	-1.8
SJG				*e*		11 19 29.9	
MTP	**Monte Pirata**	**165.47**	**42**	*e*PKPdf	PKPdf	11 14 44.2	-0.7
MTP				*e*PP	PP	11 19 31.9	-1.1
STVI	**Saint Thomas**	**165.68**	**40**	*e*PKPdf	PKPdf	11 14 43.0	-2.1
LZG	**Guadaloupe-1**	**169.31**	**36**	*e*P	PKPdf	11 14 46.8	-0.9
SCG	**Saint Claude**	**169.45**	**36**	*e*P	PKPdf	11 14 46.5	-1.2
DOG	**Dongo Capester**	**169.49**	**35**	*e*P	PKPdf	11 14 46.3	-1.5
PHG	**Guadaloupe-2**	**169.49**	**36**	*e*P	PKPdf	11 14 48.2	+0.4
TBG	**Guadaloupe-3**	**169.61**	**36**	*e*P	PKPdf	11 14 47.0	-0.9
FDF	**Fort de France**	**170.78**	**38**	*e*PKPdf	PKPdf	11 14 47.1	-1.5
FDF				*e*PKPab	PKPab	11 16 08.2	-1.0
FDF	**Fort de France**	**170.78**	**38**	*e*PKIKP	PKPdf	11 14 47.1	-1.4
FDF				*e*		11 16 08.3	
FDF	**Fort de France**	**170.78**	**38**	*e*P	PKPdf	11 14 48.2	-0.4

*CSEM **06** 10:56:22.5±0.1, 38.°49N×38.°05E, h2km, MD2.7, Error ellipse: s-maj=3.7km s-min=2.4km az=168.0*
*ISK **06** 10:56:23.6, 38.°45N×38.°17E, h15km, MD2.7*
DDA 06 10:56:23.6, 38.°26N×38.°11E, h7km±1km, Md2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.15**	**284**	*i* P	Pg	10 56 26.9	+0.2
AKCD				*i* S	Sg	10 56 29.8	+1.0
AKCD	**Akcadag**	**0.15**	**284**	*i* P	Pg	10 56 26.9	+0.2
AKCD				*i* S	Sg	10 56 29.8	+1.0
MALT	**Malatya**	**0.26**	**78**	*e*PG	Pg	10 56 29.4	+0.8
MALT				*e*SG	Sg	10 56 33.4	+1.3
MALT	**Malatya**	**0.26**	**78**	*e*Pg	Pg	10 56 29.5	+0.9
MALT				*e*Sg	Sg	10 56 33.4	+1.3
MYA	**Malataya**	**0.26**	**75**	*e*PG	Pg	10 56 29.0	+0.4
MYA				*e*SG	Sg	10 56 33.2	+1.1
MYA	**Malataya**	**0.26**	**75**	*e*Pg	Pg	10 56 29.0	+0.3
MYA				*e*Sg	Sg	10 56 33.2	+1.1
SARI	**SarD1z-Kayseri**	**1.19**	**291**	*e*PN	Pn	10 56 48.9	+2.3
PTK	**Pertek**	**1.19**	**57**	*e*PG	Pg	10 56 44.3	-2.1
PTK	**Pertek**	**1.19**	**57**	*e*Pg	Pg	10 56 44.3	-2.1

*ISCJB **06** 11:09:22.5±2.1, 5.°6S±0.°1×151.°62E±0.°09, h50km±21km, mb4.4/14, Error ellipse: s-maj=19.6km s-min=12.1km az=150.1*
*IDC **06** 11:09:25.8±3.0, 5.°64S×151.°71E, h68km±27km, mb4.1/14, mb1 4.3/16, mb1mx4.3/20, mbtmp4.2/16, ML3.3/1, Error ellipse: s-maj=22.9km s-min=17.3km az=126.0*
*NEIC **06** 11:09:25.9±1.3, 5.°64S×151.°69E, h69km±13km, Error ellipse: s-maj=14.3km s-min=9.2km az=148.0*
ISC 06 11:09:25.4±1.6, 5.°6S±0.°1×151.°63E±0.°09, h62km±17km, n41, σ0°89/36, mb4.4/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.80**	**230**	P	**Pn**	**11 10 49.3**	**+0.4**
	5.0nm,0.3s,baz=42,slow=9.7,SNR=14						
PMG				S	**Sn**	**11 11 52.6**	**-1.5**
	5.3nm,0.3s,baz=294,slow=20,SNR=2.9						
PMG	**Port Moresby**	**5.80**	**230**	P	**Pn**	**11 10 49.3**	**+0.4**
PMG				S	**Sn**	**11 11 52.6**	**-1.5**
HNR	**Honiara**	**9.07**	**115**	P	**Pn**	**11 11 33.8**	**+0.2**
	17nm,0.3s,baz=251,slow=5.3,SNR=5.3						
HNR	**Honiara**	**9.07**	**115**	P	**Pn**	**11 11 33.8**	**+0.2**
WB2	**Warramunga Arr**	**22.01**	**228**	*e*P	**P**	**11 14 14.6**	**-0.1**
WRA	**Warramunga Arr**	**22.02**	**228**	P	**P**	**11 14 16.6**	**+1.8**
	5.3nm,0.5s,mb4.3,baz=54,slow=10,SNR=7.6						
WRA	**Warramunga Arr**	**22.02**	**228**	P	**P**	**11 14 16.6**	**+1.8**
AS31	**Alice Springs**	**24.75**	**222**	*e*P	**P**	**11 14 41.5**	**+0.2**
ASAR	**Alice Springs**	**24.75**	**222**	P	**P**	**11 14 41.8**	**+0.5**
	3.2nm,0.8s,mb3.9,baz=56,slow=9.4,SNR=7.0						
ASAR	**Alice Springs**	**24.75**	**222**	P	**P**	**11 14 41.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**28.24**	**242**	P	**P**	**11 15 11.9**	**-0.9**
	26nm,0.5s,mb5.1,baz=75,slow=8.3,SNR=35						
FITZ	**Fitzroy Crossi**	**28.24**	**242**	*e*P	**P**	**11 15 12.4**	**-0.4**
KSRS	**Korea Array**	**48.23**	**335**	P	**P**	**11 18 00.4**	**+0.3**
	1.3nm,0.8s,mb4.0,baz=160,slow=7.6,SNR=3.6						
KSAR	**Wonju Array Be**	**48.24**	**335**	P	**P**	**11 18 00.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**57.19**	**296**	P	**P**	**11 19 08.6**	**+2.1**
	1.0nm,0.7s,mb4.0,baz=100,slow=4.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**57.19**	**296**	P	**P**	**11 19 08.6**	**+2.1**
PETK	**Petropavlovsk-**	**58.75**	**4**	P	**P**	**11 19 16.9**	**+0.1**
	4.4nm,0.9s,mb4.5,baz=182,slow=9.0,SNR=4.1						
PETK	**Petropavlovsk-**	**58.75**	**4**	P	**P**	**11 19 16.9**	**+0.1**
SONM	**Songino Array**	**66.42**	**329**	P	**P**	**11 20 08.8**	**+0.8**
	1.9nm,0.6s,mb4.3,baz=146,slow=4.9,SNR=15						
SONM	**Songino Array**	**66.42**	**329**	P	**P**	**11 20 08.8**	**+0.8**
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**11 21 28.9**	**-0.2**
	0.9nm,0.6s,mb3.9,baz=101,slow=6.6,SNR=7.4						
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**11 21 28.9**	**-0.2**
ZALV	**Zalesovo Beam**	**81.20**	**327**	P	**P**	**11 21 32.8**	**-1.6**
	2.7nm,0.6s,mb4.3,baz=111,slow=5.5,SNR=9.6						
ZALV	**Zalesovo Beam**	**81.20**	**327**	P	**P**	**11 21 32.8**	**-1.6**
ILAR	**Eielson Array**	**83.37**	**22**	P	**P**	**11 21 44.2**	**-1.2**
	3.4nm,0.6s,mb4.5,baz=250,slow=5.0,SNR=28						
ILAR	**Eielson Array**	**83.37**	**22**	P	**P**	**11 21 44.2**	**-1.2**
KURK	**Kurchatov**	**83.71**	**322**	P	**P**	**11 21 47.6**	**+0.1**
	3.4nm,0.3s,mb5.0,baz=105,slow=3.9,SNR=3.2						
KURK	**Kurchatov**	**83.71**	**322**	P	**P**	**11 21 47.6**	**+0.1**
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**11 21 50.5**	**+0.4**
	2.1nm,0.7s,mb4.4,baz=282,slow=14,SNR=4.5						
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**11 21 50.5**	**+0.4**
BVAR	**Borovoye Array**	**89.21**	**323**	P	**P**	**11 22 13.6**	**-0.8**
	1.9nm,0.8s,mb4.5,baz=96,slow=7.6,SNR=5.1						
BVAR	**Borovoye Array**	**89.21**	**323**	P	**P**	**11 22 13.6**	**-0.8**
NVAR	**Mina Array Bea**	**93.52**	**52**	P	**P**	**11 22 34.0**	**-0.8**
	1.6nm,0.7s,mb4.5,baz=252,slow=1.4,SNR=4.2						
NVAR	**Mina Array Bea**	**93.52**	**52**	P	**P**	**11 22 34.0**	**-0.7**
NB2	**NORSAR Subarra**	**117.30**	**340**	PKPdf	PKPdf	11 28 02.0	-1.5
	comp=Z,5.9nm,1.4s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.30**	**340**	PKP	PKPdf	11 28 03.3	-0.2
	comp=Z,0.9nm,0.6s,baz=46,slow=1.8,SNR=4.5						
NOA	**NORSAR Array B**	**117.30**	**340**	PKP	PKPdf	11 28 03.3	-0.2
GERES	**GERESS Array B**	**124.15**	**328**	PKP	PKPdf	11 28 17.6	+0.6
	comp=Z,1.6nm,0.6s,baz=83,slow=1.6,SNR=9.2						
GERES

SRKR	**Sorokina**	**3.50**	**13**	P	**Pn**	**12 19 22.4**	**-0.2**
BKI	**Bering**	**4.12**	**59**	*e*P	**Pn**	**12 19 29.2**	**-1.9**
BKI				*i* S	**Sn**	**12 20 11.2**	**-6.9**
BKI	**Bering**	**4.12**	**59**	PN	**Pn**	**12 19 29.2**	**-1.9**
BKI				S	**Sn**	**12 20 11.2**	**-6.9**
FX1	**Attu Island--F**	**8.07**	**87**	P	**Pn**	**12 20 23.7**	**-1.2**
	comp=N,7.5nm,0.3s,baz=165,slow=5.8,SNR=7.7						
FX1				S	**Sn**	**12 21 47.0**	**-7.4**
	comp=N,32nm,0.3s,baz=127,slow=17,SNR=11						
FX1	**Attu Island--F**	**8.07**	**87**	P	**Pn**	**12 20 23.7**	**-1.2**
FX1				S	**Sn**	**12 21 47.0**	**-7.4**
FX1	**Attu Island--F**	**8.07**	**87**	PN	**Pn**	**12 20 23.7**	**-1.2**
SEY	**Seymchan**	**10.45**	**341**	*e*PN	**Pn**	**12 20 48.0**	**-9.2**
ASAJ	**Asahikawa**	**14.54**	**238**	P	**Pn**	**12 21 51.2**	**-0.6**
	comp=N,0.3nm,0.3s,baz=17,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**14.54**	**238**	P	**Pn**	**12 21 51.2**	**-0.6**
ASAJ	**Asahikawa**	**14.54**	**238**	P	**Pn**	**12 21 51.3**	**-0.5**
ERM	**Erimo**	**15.83**	**231**	*i* P	**Pn**	**12 21 57.5**	**-11**
YAK	**Yakutsk**	**18.19**	**311**	*e*P	**Pn**	**12 22 35.8**	**-1.1**
	comp=N,8.7nm,0.3s						
YAK	**Yakutsk**	**18.19**	**311**	*e*P	**Pn**	**12 22 35.8**	**-1.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MJA0	**Matsu Arr-Jizo**	**22.48**	**231**	*e*P	**P**	**12 23 23.6**	**+1.0**
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAT	**Matsushiro**	**22.50**	**231**	P	**P**	**12 23 23.8**	**+1.0**
MJAR	**Matsushiro Arr**	**22.50**	**231**	P	**P**	**12 23 23.4**	**+0.6**
	comp=Z,5.3nm,0.7s,mb4.0,baz=9.5,slow=13,SNR=17						
MJAR	**Matsushiro Arr**	**22.50**	**231**	P	**P**	**12 23 23.4**	**+0.6**
MJAR	**Matsushiro Arr**	**22.50**	**231**	P	**P**	**12 23 23.4**	**+0.6**
KDAK	**Kodiak Island**	**26.89**	**61**	P	**P**	**12 24 02.3**	**-0.6**
	comp=Z,2.9nm,0.5s,mb4.0,baz=333,slow=11,SNR=4.1						
KDAK	**Kodiak Island**	**26.89**	**61**	P	**P**	**12 24 02.3**	**-0.6**
KDAK	**Kodiak Island**	**26.89**	**61**	P	**P**	**12 24 02.3**	**-0.6**
ILAR	**Eielson Array**	**28.83**	**45**	P	**P**	**12 24 20.2**	**+0.1**
	comp=Z,0.6nm,0.9s,mb3.2,baz=266,slow=9.3,SNR=6.8						
ILAR	**Eielson Array**	**28.83**	**45**	P	**P**	**12 24 20.2**	**+0.1**
ILAR	**Eielson Array**	**28.83**	**45**	P	**P**	**12 24 20.3**	**+0.1**
SONM	**Songino Array**	**33.68**	**283**	P	**P**	**12 25 02.8**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=69,slow=7.9,SNR=4.5						
SONM	**Songino Array**	**33.68**	**283**	P	**P**	**12 25 02.8**	**-0.2**
SONM	**Songino Array**	**33.68**	**283**	P	**P**	**12 25 02.8**	**-0.1**
INK	**Inuvik**	**33.86**	**38**	P	**P**	**12 25 04.8**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.1,baz=306,slow=6.6,SNR=14						
INK	**Inuvik**	**33.86**	**38**	P	**P**	**12 25 04.8**	**+0.6**
INK	**Inuvik**	**33.86**	**38**	P	**P**	**12 25 04.8**	**+0.6**
ZALV	**Zalesovo Beam**	**42.53**	**302**	P	**P**	**12 26 13.7**	**-3.4**
	comp=Z,0.5nm,0.3s,mb3.7,baz=68,slow=6.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.53**	**302**	P	**P**	**12 26 13.7**	**-3.4**
ZALV	**Zalesovo Beam**	**42.53**	**302**	*e*P	**P**	**12 26 17.7**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
YKA	**Yellowknife Ar**	**43.17**	**43**	P	**P**	**12 26 22.8**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.7,baz=299,slow=7.0,SNR=5.2						
YKA	**Yellowknife Ar**	**43.17**	**43**	P	**P**	**12 26 22.8**	**+0.7**
YKA	**Yellowknife Ar**	**43.17**	**43**	P	**P**	**12 26 22.8**	**+0.7**
KURK	**Kurchatov**	**47.49**	**302**	P	**P**	**12 26 55.8**	**-0.6**
	comp=Z,3.6nm,0.4s,mb4.5,baz=60,slow=7.4,SNR=18						
KURK	**Kurchatov**	**47.49**	**302**	P	**P**	**12 26 55.8**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.8						
KURK				*e*pP	pP	12 27 14.9	-2.4
KURK	**Kurchatov**	**47.49**	**302**	P	**P**	**12 26 55.8**	**-0.6**
KURK				*e**PP	pP	12 27 14.9	-2.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MK31	**Makanchi Array**	**47.91**	**295**	*e*P	**P**	**12 26 58.2**	**-1.5**
MK31	**Makanchi Array**	**47.91**	**295**	*e*P	**P**	**12 26 58.3**	**-1.4**
MKAR	**Makanchi Array**	**47.91**	**295**	P	**P**	**12 26 57.9**	**-1.8**
	comp=Z,0.8nm,0.5s,mb3.8,baz=44,slow=5.9,SNR=15						
MKAR	**Makanchi Array**	**47.91**	**295**	P	**P**	**12 26 57.9**	**-1.8**
MKAR	**Makanchi Array**	**47.91**	**295**	*e*P	**P**	**12 27 00.9**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**50.14**	**308**	P	**P**	**12 27 14.3**	**-2.3**
	comp=Z,0.6nm,0.3s,mb4.0,baz=49,slow=8.6,SNR=5.5						
BVAR	**Borovoye Array**	**50.14**	**308**	P	**P**	**12 27 14.3**	**-2.3**
BVAR	**Borovoye Array**	**50.14**	**308**	P	**P**	**12 27 14.3**	**-2.3**
SWMT	**Swartz Lake**	**52.09**	**59**	*e*P	**P**	**12 27 32.0**	**+0.7**
SLMT	**Seeley Lake**	**52.52**	**59**	*e*P	**P**	**12 27 35.9**	**+1.4**
	comp=Z,5.8nm,1.2s,mb4.5						
ARCES	**ARCESS Array B**	**53.07**	**342**	P	**P**	**12 27 36.4**	**-1.9**
	comp=Z,1.2nm,0.9s,mb3.9,baz=46,slow=6.4,SNR=3.7						
ARCES	**ARCESS Array B**	**53.07**	**342**	P	**P**	**12 27 36.4**	**-1.9**
ARCES	**ARCESS Array B**	**53.07**	**342**	P	**P**	**12 27 36.4**	**-1.8**
NVAR	**Mina Array Bea**	**55.86**	**70**	P	**P**	**12 28 01.2**	**+2.4**
	comp=Z,3.0nm,0.8s,mb4.4,baz=299,slow=7.5,SNR=24						
NVAR	**Mina Array Bea**	**55.86**	**70**	P	**P**	**12 28 01.2**	**+2.4**
JOF	**Joensuu**	**57.34**	**335**	*e*P	**P**	**12 28 06.8**	**-2.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
JOF	**Joensuu**	**57.34**	**335**	*e*p	**P**	**12 28 06.8**	**-2.2**
	comp=Z,0.9nm,0.6s,mb4.0						
PD02	**Pinedale Array**	**57.59**	**61**	*e*P	**P**	**12 28 12.3**	**+1.2**
PDAR	**Pinedale Array**	**57.61**	**61**	P	**P**	**12 28 13.2**	**+2.0**
	comp=Z,3.4nm,0.7s,mb4.5,baz=321,slow=2.7,SNR=33						
PDAR	**Pinedale Array**	**57.61**	**61**	P	**P**	**12 28 13.2**	**+2.0**
TAPN	**Taplejung**	**58.01**	**274**	*e*P	**P**	**12 28 13.0**	**-1.2**
	comp=Z,4.2nm,0.4s,mb4.8						
CMAR	**Chiang Mai Arr**	**58.03**	**258**	P	**P**	**12 28 15.5**	**+1.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=34,slow=6.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**58.03**	**258**	P	**P**	**12 28 15.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**58.03**	**258**	P	**P**	**12 28 15.5**	**+1.1**
GUN	**Gumba**	**58.69**	**276**	*e*P	**P**	**12 28 18.1**	**-0.8**
	comp=Z,5.3nm,0.4s,mb5.0						
RAMN	**Ramite**	**58.97**	**274**	*e*P	**P**	**12 28 20.0**	**-0.9**
	comp=Z,12nm,0.4s,mb5.3						
KKN	**Kakani**	**59.14**	**276**	*e*P	**P**	**12 28 21.4**	**-0.6**
	comp=Z,5.9nm,0.3s,mb5.0						
KAF	**Kangasniemi**	**59.26**	**337**	*e*P	**P**	**12 28 20.3**	**-2.0**
KAF	**Kangasniemi**	**59.26**	**337**	*e*p	**P**	**12 28 20.3**	**-2.0**
	comp=Z,0.4nm,0.4s,mb3.8						
GKN	**Gorkha**	**59.37**	**277**	*e*P	**P**	**12 28 22.9**	**-0.7**
	comp=Z,4.0nm,0.4s,mb4.8						
DANN	**Dangsing**	**59.63**	**278**	*e*P	**P**	**12 28 25.2**	**-0.2**
	comp=Z,4.9nm,0.6s,mb4.7						
DANN	**Dangsing**	**59.63**	**278**	*e*P	**P**	**12 28 25.2**	**-0.2**
	comp=Z,4.9nm,0.6s,mb4.7						
SRU	**San Rafael**	**59.69**	**64**	*e*P	**P**	**12 28 27.5**	**+1.8**
	comp=Z,5.0nm,0.9s,mb4.5						
SRU	**San Rafael**	**59.69**	**64**	*e*P	**P**	**12 28 27.5**	**+1.8**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**59.90**	**336**	P	**P**	**12 28 25.9**	**-0.9**
	comp=Z,0.6nm,0.3s,mb4.0,baz=29,slow=6.7,SNR=12						
FINES	**FINESS Array B**	**59.90**	**336**	P	**P**	**12 28 25.9**	**-0.9**
FINES	**FINESS Array B**	**59.90**	**336**	P	**P**	**12 28 25.9**	**-0.8**
KOLN	**Koldanda**	**60.16**	**277**	*e*P	**P**	**12 28 28.1**	**-0.9**
	comp=Z,3.8nm,0.5s,mb4.7						
KOLN	**Koldanda**	**60.16**	**277**	*e*P	**P**	**12 28 28.1**	**-0.9**
	comp=Z,3.8nm,0.5s,mb4.7						
NB2	**NORSAR Subarra**	**63.33**	**343**	P	**P**	**12 28 49.0**	**-0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=19,slow=6.9						
NOA	**NORSAR Array B**	**63.33**	**343**	P	**P**	**12 28 49.1**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=16,slow=5.4,SNR=6.5						
NOA	**NORSAR Array B**	**63.33**	**343**	P	**P**	**12 28 49.1**	**-0.7**
NOA	**NORSAR Array B**	**63.33**	**343**	P	**P**	**12 28 49.1**	**-0.7**
TXAR	**Lajitas Array**	**70.75**	**67**	P	**P**	**12 29 38.9**	**+1.6**
	comp=Z,2.8nm,0.5s,mb4.4,baz=297,slow=5.0,SNR=121						
TXAR	**Lajitas Array**	**70.75**	**67**	P	**P**	**12 29 38.9**	**+1.6**
TXAR	**Lajitas Array**	**70.75**	**67**	P	**P**	**12 29 38.9**	**+1.6**
BUR08	**Bucovina Ar. S**	**72.32**	**330**	*e*P	**P**	**12 29 46.0**	**-0.4**
WRA	**Warramunga Arr**	**76.15**	**205**	P	**P**	**12 30 09.5**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.6,baz=23,slow=6.5,SNR=5.0						
WRA	**Warramunga Arr**	**76.15**	**205**	P	**P**	**12 30 09.5**	**+0.7**
WRA	**Warramunga Arr**	**76.15**	**205**	P	**P**	**12 30 09.5**	**+0.7**
ASAR	**Alice Springs**	**79.83**	**204**	P	**P**	**12 30 29.1**	**-0.1**
	comp=Z,1.3nm,0.9s,mb3.8,baz=14,slow=5.3,SNR=13						
ASAR	**Alice Springs**	**79.83**	**204**	P	**P**	**12 30 29.1**	**-0.1**
ASAR	**Alice Springs**	**79.83**	**204**	*e*P	**P**	**12 30 30.8**	**+1.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ESDC	**Sonseca Array**	**86.38**	**347**	P	**P**	**12 31 04.0**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=12,slow=5.1,SNR=4.5						
ESDC	**Sonseca Array**	**86.38**	**347**	P	**P**	**12 31 04.0**	**+1.1**
PLCA	**Paso Flores**	**144.20**	**90**	PKP	PKPdf	12 37 55.1	-0.4
	comp=Z,1.8nm,0.6s,baz=282,slow=3.9,SNR=5.5						
PLCA	**Paso Flores**	**144.20**	**90**	PKP	PKPdf	12 37 55.1	-0.4
PLCA	**Paso Flores**	**144.20**	**90**	PKIKP	PKPdf	12 37 55.1	-0.4

*ISCJB **06** 12:25:32.4±0.6, 44°.24N×11°.48E, h30km, ML2.7/5, Error ellipse: s-maj=11.2km s-min=7.4km az=136.1*
*CSEM **06** 12:25:32.5±0.2, 44°.24N×11°.48E, h30km, ML2.7/5, Error ellipse: s-maj=4.2km s-min=3.7km az=128.0*
*ROM **06** 12:25:33.3±0.3, 44°.27N×11°.51E, h10km, Md2.2/8, Ml2.1/1, Error ellipse: s-maj=3.4km s-min=2.6km az=27.0*

ISC 06 12:25:32.8±0.6, 44°.27N±0°.06×11°.48E±0°.08, h29km±8km, n22, σ0°.64/38, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEI	**Scarperia**	**0.24**	**202**	Pg	**Pb**	**12 25 38.4**	**-0.9**
SEI				Sg	**Sb**	**12 25 43.6**	**-0.1**
	698nm,0.2s						
SEI	**Scarperia**	**0.24**	**202**	Pg	**Pb**	**12 25 38.4**	**-0.9**
SEI				Sg	**Sb**	**12 25 43.6**	**-0.1**
	698nm,0.2s						
FNVD	**Fontana Vidola**	**0.28**	**248**	Pg	**Pb**	**12 25 39.1**	**-0.7**
FNVD				Sg	**Sb**	**12 25 44.9**	**+0.3**
FNVD	**Fontana Vidola**	**0.28**	**248**	Pg	**Pb**	**12 25 39.1**	**-0.7**
FNVD				Sg	**Sb**	**12 25 44.9**	**+0.3**
VMG	**Vicchio**	**0.32**	**171**	Pg	**Pb**	**12 25 39.5**	**-0.8**
VMG				Sg	**Sb**	**12 25 45.2**	**-0.2**
	50nm,0.2s						
VMG	**Vicchio**	**0.32**	**171**	Pg	**Pb**	**12 25 39.5**	**-0.8**
VMG				Sg	**Sb**	**12 25 45.2**	**-0.2**
	50nm,0.2s						
CMPO	**Campotto Po**	**0.39**	**37**	Pg	**Pb**	**12 25 41.9**	**+0.5**
CMPO	**Campotto Po**	**0.39**	**37**	Pg	**Pb**	**12 25 41.9**	**+0.5**
SFI	**Santa Sofia**	**0.45**	**144**	Pg	**Pb**	**12 25 41.9**	**-0.5**
SFI				Sg	**Sb**	**12 25 49.8**	**+0.8**
	143nm,0.4s						
SFI	**Santa Sofia**	**0.45**	**144**	Pg	**Pb**	**12 25 41.9**	**-0.5**
SFI				Sg	**Sb**	**12 25 49.8**	**+0.8**
	143nm,0.4s						
ASQU	**Asqua**	**0.53**	**155**	Pg	**Pb**	**12 25 43.1**	**-0.5**
ASQU				Sg	**Sb**	**12 25 51.9**	**+1.0**
ASQU	**Asqua**	**0.53**	**155**	Pg	**Pb**	**12 25 43.1**	**-0.5**
ASQU				Sg	**Sb**	**12 25 51.9**	**+1.0**
GSCL	**Gusciola**	**0.64**	**277**	Pg	**Pb**	**12 25 46.9**	**+1.4**
GSCL	**Gusciola**	**0.64**	**277**	Pg	**Pb**	**12 25 46.9**	**+1.4**
PARC	**Parchiule**	**0.83**	**138**	Pg	**Pn**	**12 25 48.8**	**+0.2**
PARC	**Parchiule**	**0.83**	**138**	Pg	**Pn**	**12 25 48.8**	**+0.2**
SKDS	**Skadanscina**	**2.21**	**54**	*i* Pn	**Pn**	**12 26 06.7**	**-0.8**
SKDS				*i* Sn	**Sn**	**12 26 33.6**	**-0.1**
SKDS							
	comp=Z,11nm,0.3s						
SKDS	**Skadanscina**	**2.21**	**54**	*i* Pn	**Pn**	**12 26 06.7**	**-0.8**
SKDS				*i* Sn	**Sn**	**12 26 33.7**	**-0.1**
	comp=Z,11nm,0.3s						
VOJS	**Vojsko**	**2.45**	**43**	*i* Pn	**Pn**	**12 26 10.5**	**-0.3**
VOJS				*i* Sn	**Sn**	**12 26 39.8**	**+0.1**
VOJS							
	comp=Z,4.0nm,0.2s						
VOJS	**Vojsko**	**2.45**	**43**	*i* Pn	**Pn**	**12 26 10.5**	**-0.3**
VOJS				*i* Sn	**Sn**	**12 26 39.8**	**+0.1**
	comp=Z,4.0nm,0.2s						
NVLJ	**Novalja**	**2.45**	**82**	*e*Pn	**Pn**	**12 26 11.6**	**+0.8**
NVLJ				Sn	**Sn**	**12 26 39.7**	**-0.1**
NVLJ	**Novalja**	**2.45**	**82**	*e*Pn	**Pn**	**12 26 11.5**	**+0.7**
NVLJ				Sn	**Sn**	**12 26 39.6**	**-0.1**

*ISCJB **06** 12:27:55.9±0.7, 24°.27N±0°.06×122°.74E±0°.02, h62km±11km, Error ellipse: s-maj=9.4km s-min=3.4km az=178.5*
*JMA **06** 12:27:55.8±0.1, 24°.49N×122°.77E, h71km±1km, M1.9*
*TAP **06** 12:27:55.8, 24°.30N×122°.75E, h64km±1km, ML3.1, C*

ISC 06 12:27:56.5±0.7, 24°.28N±0°.05×122°.74E±0°.02, h59km±11km, n26, σ0°.72/43, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.31**	**54**	P	**Pn**	**12 28 06.6**	**0.0**
YOJ				S	**Sn**	**12 28 14.5**	**+0.6**
TWC	**Suao**	**0.88**	**292**	P	**Pn**	**12 28 12.5**	**-0.4**
	baz=299						
TWC				S	**Sn**	**12 28 24.5**	**-0.5**
	baz=299						
IRIF	**Iriomote-Funau**	**0.91**	**86**	P	**Pn**	**12 28 13.0**	**-0.3**
IRIF				S	**Sn**	**12 28 25.8**	**+0.1**
ENA	**Nanau**	**0.92**	**279**	*e*P	**Pn**	**12 28 13.6**	**+0.1**
	baz=278						
ENA				*e*S	**Sn**	**12 28 25.9**	**-0.2**
	baz=278						
HATJ	**Hateruma jima**	**1.00**	**103**	*e*S	**Sn**	**12 28 29.1**	**+1.3**
TWD	**Chiawan**	**1.06**	**260**	*e*P	**Pn**	**12 28 14.6**	**-0.7**
	baz=249						
TWD				*e*S	**Sn**	**12 28 28.8**	**-0.5**
	baz=249						
TWE	**Neicheng**	**1.07**	**295**	*e*P	**Pn**	**12 28 15.3**	**-0.1**
	baz=302						
TWE				*e*S	**Sn**	**12 28 29.3**	**-0.2**
	baz=302						
HWA	**Hwalien**	**1.08**	**254**	*e*P	**Pn**	**12 28 15.2**	**-0.3**
	baz=244						
ENTT	**Nioudou**	**1.13**	**289**	*i* P	**Pn**	**12 28 16.4**	**+0.2**
	baz=296						
ENTT				*e*S	**Sn**	**12 28 31.8**	**+0.9**
	baz=296						
JKRS	**Kuro-shima**	**1.16**	**92**	P	**Pn**	**12 28 16.5**	**-0.1**
JKRS				*e*S	**Sn**	**12 28 32.3**	**+0.7**
NNS	**Nan Shan**	**1.26**	**278**	*e*P	**Pn**	**12 28 18.2**	**+0.3**
	baz=268						
NNS				*e*S	**Sn**	**12 28 33.9**	**0.0**
	baz=268						
ESL	**Shilin**	**1.28**	**249**	P	**Pn**	**12 28 17.5**	**-0.7**
	baz=240						
ESL				*e*S	**Sn**	**12 28 34.1**	**-0.4**
	baz=240						
JIJ	**Ishigaki jima**	**1.28**	**86**	P	**Pn**	**12 28 17.6**	**-0.6**
JIJ				S	**Sn**	**12 28 33.1**	**-1.4**
NSK	**Sanguang**	**1.32**	**288**	*e*P	**Pn**	**12 28 18.3**	**-0.4**
	baz=277						
NSK				*e*S	**Sn**	**12 28 35.5**	**+0.1**
	baz=277						
EHY	**Hungye**	**1.51**	**240**	P	**Pn**	**12 28 20.6**	**-0.7**
	baz=234						
EHY				*e*S	**Sn**	**12 28 38.0**	**-1.9**
	baz=234						
TWF1	**Yuli**	**1.61**	**235**	*e*P	**Pn**	**12 28 22.4**	**-0.2**
	baz=234						
TWF1				*e*S	**Sn**	**12 28 41.9**	**-0.5**
	baz=234						
SMLT	**Sun Moon Lake**	**1.73**	**257**	*e*P	**Pn**	**12 28 24.8**	**+0.6**
	baz=256						
TYC	**Yuchr**	**1.76**	**258**	*e*P	**Pn**	**12 28 25.1**	**+0.4**
	baz=250						
YUS	**Yu-Shan**	**1.81**	**245**	*e*P	**Pn**	**12 28 26.3**	**+0.9**
	baz=244						
YUS				*e*S	**Sn**	**12 28 47.6**	**+0.2**
	baz=244						
JTJ	**Tarama**	**1.82**	**78**	*e*S	**Sn**	**12 28 46.9**	**-0.7**
ELDTW	**Lidau**	**1.92**	**236**	*e*P	**Pn**	**12 28 26.3**	**-0.5**
	baz=235						
ELDTW				*e*S	**Sn**	**12 28 49.5**	**-0.3**
	baz=235						
ALS	**Alishan**	**1.93**	**247**	*e*P	**Pn**	**12 28 28.4**	**+1.4**
	baz=246						
CHN5	**Tsauling**	**2.00**	**251**	*e*P	**Pn**	**12 28 29.0**	**+1.0**
	baz=250						
TWG	**Pinlang**	**2.11**	**227**	*e*P	**Pn**	**12 28 28.6**	**-0.8**
	baz=235						
STYT	**Tauyuan**	**2.13**	**239**	*e*P	**Pn**	**12 28 30.2**	**+0.5**
	baz=233						
STYT				*e*S	**Sn**	**12 28 56.2**	**+1.2**
	baz=233						
CHN1	**Nanshi**	**2.30**	**242**	*e*P	**Pn**	**12 28 33.8**	**+1.7**
	baz=242						

*ISCJB **06** 12:30:29.9±0.5, 38°.49N±0°.03×39°.18E±0°.03, h6km±4km, Error ellipse: s-maj=5.2km s-min=3.8km az=14.6*
*ISK **06** 12:30:29.0, 38°.50N×39°.19E, h5km, MD3.0*
*DDA **06** 12:30:29.8, 38°.46N×39°.18E, h7km±4km, Md3.1*
*CSEM **06** 12:30:29.7±0.3, 38°.51N×39°.19E, h2km, MD3.0, Error ellipse: s-maj=6.8km s-min=6.4km az=172.0*

ISC 06 12:30:30.1±0.5, 38°.49N±0°.03×39°.19E±0°.03, h4km±5km, n35, σ1°.05/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.15**	**140**	PG	**Pg**	**12 30 33.0**	**0.0**
SVRC				*e*SG	**Sg**	**12 30 35.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.15**	**140**	*i* Pg	**Pg**	**12 30 33.0**	**0.0**
SVRC				*e*Sg	**Sg**	**12 30 35.2**	**+0.3**
ELZG	**Elazig**	**0.16**	**273**	*i* P	**Pg**	**12 30 33.8**	**+0.6**
ELZG				*i* S	**Sg**	**12 30 36.5**	**+1.2**
ELZG	**Elazig**	**0.16**	**273**	*i* P	**Pg**	**12 30 33.8**	**+0.6**
ELZG				*i* S	**Sg**	**12 30 36.5**	**+1.1**
PTK	**Pertek**	**0.43**	**22**	PG	**Pg**	**12 30 37.7**	**-0.8**
PTK	**Pertek**	**0.43**	**22**	*i* Pg	**Pg**	**12 30 37.7**	**-0.7**
MYA	**Malataya**	**0.62**	**255**	PG	**Pg**	**12 30 41.5**	**-0.5**
MYA	**Malataya**	**0.62**	**255**	*i* Pg	**Pg**	**12 30 41.5**	**-0.5**
MALT	**Malatya**	**0.62**	**254**	PG	**Pg**	**12 30 41.7**	**-0.4**
MALT				*e*SG	**Sg**	**12 30 50.9**	**+0.8**
MALT	**Malatya**	**0.62**	**254**	*i* Pg	**Pg**	**12 30 41.7**	**-0.4**
MALT				*e*Sg	**Sg**	**12 30 50.9**	**+0.8**
DIYA	**Diyarbakir**	**0.93**	**127**	*i* P	**Pg**	**12 30 48.3**	**+0.4**
DIYA				*i* S	**Sg**	**12 31 00.5**	**+0.5**
DIYA	**Diyarbakir**	**0.93**	**127**	*i* P	**Pg**	**12 30 48.3**	**+0.4**
DIYA				*i* S	**Sg**	**12 31 00.5**	**+0.6**
KEMA	**Kemaliye**	**0.95**	**325**	*i* P	**Pg**	**12 30 47.8**	**-0.6**
KEMA				*i* S	**Sg**	**12 31 01.2**	**+0.6**
KEMA	**Kemaliye**	**0.95**	**325**	*i* P	**Pg**	**12 30 47.8**	**-0.5**
KEMA				*i* S	**Sg**	**12 31 01.2**	**+0.6**
AKCD	**Akcadag**	**1.01**	**259**	*i* P	**Pg**	**12 30 48.4**	**-1.1**
AKCD				*i* S	**Sg**	**12 31 03.0**	**+0.3**
AKCD	**Akcadag**	**1.01**	**259**	*i* P	**Pg**	**12 30 48.4**	**-1.1**
AKCD				*i* S	**Sg**	**12 31 03.0**	**+0.3**
URFA	**Urfa**	**1.09**	**196**	*e*PN	**Pn**	**12 30 50.1**	**-2.0**
URFA	**Urfa**	**1.09**	**196**	*e*Pn	**Pn**	**12 30 50.1**	**-2.0**
BINT	**Bingol**	**1.09**	**69**	*e*Pn	**Pn**	**12 30 53.7**	**+1.5**
ERZN	**Erzincan**	**1.17**	**21**	*e*PN	**Pn**	**12 30 51.5**	**-1.8**
ATAB	**Bozova**	**1.24**	**215**	*i* P	**Pg**	**12 30 53.3**	**-0.6**
ATAB				*i* S	**Sg**	**12 31 08.8**	**-1.1**
ATAB	**Bozova**	**1.24**	**215**	*i* P	**Pg**	**12 30 53.3**	**-0.6**
ATAB				*i* S	**Sg**	**12 31 08.9**	**-1.0**
EZC	**Erzincan**	**1.27**	**6**	*e*Pn	**Pn**	**12 30 51.5**	**-3.1**
BNGB	**Bing¶ll**	**1.27**	**66**	*e*PN	**Pn**	**12 30 53.7**	**-0.9**
BNGL	**BINGOL**	**1.60**	**73**	*i* P	**Pn**	**12 31 00.5**	**+1.2**
MARD	**Mardin**	**1.72**	**133**	*i* P	**Pn**	**12 30 59.7**	**-1.1**
MARD				*i* S	**Sn**	**12 31 22.5**	**-0.8**
BEST	**Besiri**	**1.75**	**109**	*i* P	**Pn**	**12 31 06.0**	**+0.4**
BEST				*i* S	**Sn**	**12 31 25.7**	**+1.8**
SARI	**SarD1z-Kayseri**	**1.96**	**276**	*e*PN	**Pn**	**12 31 06.9**	**+2.8**
SARI	**SarD1z-Kayseri**	**1.96**	**276**	*e*Pn	**Pn**	**12 31 06.9**	**+2.8**
GUMT	**Gumushane**	**1.98**	**6**	*e*PN	**Pn**	**12 31 04.3**	**-0.1**
GUMT	**Gumushane**	**1.98**	**6**	*e*Pn	**Pn**	**12 31 04.3**	**-0.1**
GAZ	**Gaziantep**	**2.04**	**231**	*e*PN	**Pn**	**12 31 06.0**	**+0.7**
GAZ	**Gaziantep**	**2.04**	**231**	*e*Pn	**Pn**	**12 31 06.0**	**+0.7**
KMRS	**Kahramanmaras**	**2.06**	**242**	*e*PN	**Pn**	**12 31 06.2**	**+0.7**
KMRS	**Kahramanmaras**	**2.06**	**242**	*e*Pn	**Pn**	**12 31 06.2**	**+0.7**

*BEO **06** 12:40:58.9±0.6, 41°.73N×22°.34E, h0km, ML2.2/4*
*SKO **06** 12:40:58.3, 41°.69N×22°.34E, h15km, M1.9, ML2.2*
*THE **06** 12:40:59.1, 41°.70N×22°.37E, h4km±16km, ML2.2/4, Error ellipse: s-maj=16.6km s-min=0.4km az=139.0*

CSEM 06 12:40:58.2±0.1, 41°.74N×22°.35E, h8km, ML1.9, 2C-2D, Error ellipse: s-maj=2.9km s-min=2.4km az=95.0, Northwestern Balkan Peninsula

| Code | Station Name | Δ° | AZ° |

0.3nm,0.2s,mb3.9,baz=164,slow=7.5,SNR=3.8

*BJI **06** 12:52:19.5,23.′60N×108.″80W,h10km*
*ISCJB **06** 12:52:21.7±0.9,23.′80N±0.′08×108.″86W±0.″06,h10km, mb4.3/20,MS4.2/5,Error ellipse: s-maj=13.1km s-min=5.4km az=25.4*
*NEIC **06** 12:52:23.1±0.9,23.′78N×108.″77W,h10km,mb4.3/47, ML4.2(ECX),Error ellipse: s-maj=13.1km s-min=6.2km az=199.0*
*MEX **06** 12:52:24.2±0.4,24.′18N×108.″92W,h16km±999km,MD4.2*
*IDC **06** 12:52:27.4±1.1,24.′64N×108.″71W,h0km,mb3.8/3, mb1 4.2/5,mb1mx3.9/21,mbtmp3.9/5,ML3.6/2,MS4.1/8, Ms1 4.1/8,ms1mx3.8/36,Error ellipse: s-maj=31.4km s-min=27.3km az=83.0*

ISC 06 12:52:23.0±0.9,23.′75N±0.′08×108.″82W±0.″06,h10km, n105,σ1§03/101,mb4.3/20,MS4.2/5,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.40**	**285**	*i* P	**Pn**	**12 52 43.6**	**-5.0**
	baz=86,slow=5.9						
LPIG				*i* S	**Sn**	**12 52 59.0**	**-8.2**
LPIG				*i* S	**Sn**	**12 52 59.1**	**-8.1**
MAIG	**Mazatlaan**	**2.27**	**104**	P	**Pn**	**12 53 02.2**	**+1.6**
MAIG				S	**Sn**	**12 53 29.5**	**+0.8**
MAIG	**Mazatlaan**	**2.27**	**104**	*e*P	**Pn**	**12 53 02.2**	**+1.6**
MAIG				*i* S	**Sn**	**12 53 29.5**	**+0.8**
TXAR	**Lajitas Array**	**7.23**	**39**	Pn	**Pn**	**12 54 05.6**	**-3.1**
	0.7nm,0.3s,baz=211,slow=14,SNR=44						
TXAR				Sn	**Sn**	**12 55 25.9**	**-4.9**
	1.9nm,0.3s,baz=208,slow=32,SNR=12						
TXAR				LR	LR	12 56 35.7	
	comp=Z,842nm,21.1s,baz=210,slow=38						
TXAR	**Lajitas Array**	**7.23**	**39**	Pn	**Pn**	**12 54 05.6**	**-3.1**
TXAR				Sn	**Sn**	**12 55 25.9**	**-4.9**
MNTX	**Cornudas Mount**	**8.48**	**20**	*e*Pn	**Pn**	**12 54 22.9**	**-3.0**
TUC	**Tucson**	**8.70**	**349**	*e*Pn	**Pn**	**12 54 27.5**	**-1.4**
JCT	**Junction City**	**10.46**	**48**	*e*Pn	**Pn**	**12 54 53.0**	**0.0**
	4.3nm,0.6s						
GLA	**Glamis**	**10.66**	**332**	*e*Pn	**Pn**	**12 54 56.5**	**+0.7**
LAZ	**Ladron**	**10.71**	**8**	*e*Pn	**Pn**	**12 54 56.6**	**+0.1**
	12nm,1.4s						
BAR	**Barrett**	**11.27**	**324**	Pn	**Pn**	**12 55 03.2**	**-0.9**
ANMO	**Albuquerque**	**11.35**	**10**	Pn	**Pn**	**12 55 05.5**	**+0.3**
	0.0nm,0.3s,baz=201,slow=13,SNR=7.0						
ANMO				LR	LR	12 58 48.6	
	comp=Z,896nm,18.8s,baz=274,slow=36						
ANMO	**Albuquerque**	**11.35**	**10**	Pn	**Pn**	**12 55 05.5**	**+0.3**
PFO	**Pinyon Flat Ob**	**11.88**	**327**	*e*Pn	**Pn**	**12 55 12.5**	**-0.1**
LDFC	**Landfair**	**12.54**	**336**	*e*Pn	**Pn**	**12 55 23.8**	**+2.3**
MWC	**Mount Wilson**	**13.19**	**324**	Pn	**Pn**	**12 55 32.2**	**+1.8**
	16nm,1.1s						
MVCO	**Mesa Verde**	**13.42**	**1**	*e*Pn	**Pn**	**12 55 34.8**	**+1.3**
GSC	**Goldstone**	**13.44**	**331**	*e*Pn	**Pn**	**12 55 34.6**	**+0.8**
WMOK	**Wichita Mounta**	**14.01**	**36**	*e*Pn	**Pn**	**12 55 41.2**	**-0.4**
SDCO	**Great Sand Dun**	**14.24**	**11**	*e*Pn	**Pn**	**12 55 48.4**	**+3.8**
CCUT	**Cedar City**	**14.29**	**345**	*e*Pn	**Pn**	**12 55 47.5**	**+2.0**
PV01	**Paradox Valley**	**14.34**	**1**	*e*Pn	**Pn**	**12 55 46.0**	**-0.1**
	390nm,1.2s						
ISA	**Isabella**	**14.52**	**327**	*e*Pn	**Pn**	**12 55 49.4**	**+0.8**
ARUT	**Antelope Range**	**14.54**	**345**	*e*Pn	**Pn**	**12 55 49.5**	**+0.7**
	31nm,1.3s						
PV04	**Paradox Valley**	**14.60**	**360**	*e*Pn	**Pn**	**12 55 50.5**	**+1.0**
MSU	**Marysvale**	**14.99**	**350**	*e*Pn	**Pn**	**12 55 55.7**	**+0.8**
SRU	**San Rafael**	**15.38**	**355**	*e*Pn	**Pn**	**12 55 59.5**	**-0.6**
	11nm,1.1s						
PTRM	**Twissleman Ran**	**15.43**	**323**	*e*Pn	**Pn**	**12 56 01.4**	**+0.6**
SMCO	**Snowmass**	**15.46**	**5**	*e*Pn	**Pn**	**12 56 01.7**	**+0.5**
	36nm,1.4s						
TMUT	**Trail Mountain**	**15.63**	**353**	*e*Pn	**Pn**	**12 56 02.7**	**-0.7**
	28nm,0.6s						
MTUM	**Tungsten Hills**	**15.93**	**331**	*e*Pn	**Pn**	**12 56 08.5**	**+1.3**
ISCO	**Idaho Springs**	**16.23**	**9**	*e*Pn	**Pn**	**12 56 12.3**	**+1.2**
	35nm,1.4s						
MPU	**Maple Canyon**	**16.39**	**352**	*e*Pn	**Pn**	**12 56 13.6**	**+0.4**
	29nm,1.2s						
NVAR	**Mina Array Bea**	**16.72**	**333**	Pn	**Pn**	**12 56 17.9**	**+0.6**
	0.1nm,0.3s,baz=156,slow=11,SNR=49						
NVAR	**Mina Array Bea**	**16.72**	**333**	Pn	**Pn**	**12 56 17.9**	**+0.6**
DUG	**Dugway**	**16.74**	**349**	*e*Pn	**Pn**	**12 56 18.0**	**+0.5**
	34nm,1.4s						
DAU	**Daniels Canyon**	**16.74**	**354**	*e*Pn	**Pn**	**12 56 17.8**	**+0.2**
JLU	**Jordanelle**	**16.95**	**353**	*e*Pn	**Pn**	**12 56 20.1**	**-0.1**
	27nm,1.5s						
MIAR	**Mount Ida**	**17.10**	**48**	*e*Pn	**Pn**	**12 56 22.9**	**+0.7**
	92nm,2.5s						
CMB	**Columbia Colle**	**17.33**	**328**	*e*Pn	**Pn**	**12 56 25.8**	**+0.7**
	15nm,1.4s						
PHWY	**Pilot Hill**	**17.73**	**8**	*e*Pn	**Pn**	**12 56 29.3**	**-0.6**
	14nm,1.4s						
HWUT	**Hardware Ranch**	**17.95**	**353**	*e*Pn	**Pn**	**12 56 31.7**	**-1.0**
	32nm,1.3s						
WCN	**Washoe City**	**18.06**	**332**	*e*Pn	**Pn**	**12 56 34.8**	**+0.7**
	17nm,1.4s						
HVU	**Hansel Valley**	**18.28**	**351**	*e*Pn	**Pn**	**12 56 37.3**	**+0.6**
	24nm,1.1s						
BW06	**Boulder Array**	**18.98**	**358**	*e*P	**Pn**	**12 56 43.6**	**-1.5**
	19nm,1.1s						
PDAR	**Pinedale Array**	**18.98**	**358**	P	**Pn**	**12 56 43.9**	**-1.3**
	0.1nm,0.3s,baz=169,slow=10,0,SNR=40						
PDAR	**Pinedale Array**	**18.98**	**358**	P	**Pn**	**12 56 43.9**	**-1.3**
TEIG	**Tepich**	**19.37**	**96**	LR	LR	13 05 23.6	
	comp=Z,223nm,20.9s,baz=293,slow=40						
REDW	**Red Top Meadow**	**19.63**	**356**	*e*P	**Pn**	**12 56 52.1**	**-0.9**
	30nm,1.4s						
RRI2	**Red Ridge**	**19.65**	**355**	*e*Pn	**Pn**	**12 56 52.2**	**-1.1**
	28nm,1.2s						
SNOW	**Snow King Moun**	**19.73**	**356**	*e*P	**Pn**	**12 56 53.4**	**-0.8**
	17nm,1.0s						
TPAW	**Teton Pass**	**19.77**	**355**	*e*P	**Pn**	**12 56 53.5**	**-1.1**
	23nm,1.4s						
LOHW	**Long Hollow**	**19.86**	**356**	*e*P	**Pn**	**12 56 54.1**	**-1.7**
	9.3nm,0.9s						
DCID1	**Drake Creek**	**19.89**	**355**	*e*Pn	**Pn**	**12 56 55.1**	**-1.0**
	76nm,1.6s						
IMW	**Indian Meadow**	**20.17**	**356**	*e*P	**P**	**12 56 57.6**	**+0.1**
	50nm,1.6s						
KIPM	**Iron Peak**	**20.24**	**326**	*e*P	**P**	**12 56 55.2**	**-3.1**
	28nm,1.2s						
HLID	**Hailey**	**20.29**	**348**	*e*P	**P**	**12 56 58.7**	**-0.2**
	15nm,1.3s						
WVOR	**Wild Horse Val**	**20.34**	**339**	*e*P	**P**	**12 56 58.9**	**-0.4**
	21nm,1.2s						
FLWY	**Flagg Ranch**	**20.34**	**356**	*e*P	**P**	**12 56 59.2**	**-0.2**
	85nm,1.7s						
MFID	**Camas Ranch**	**20.45**	**345**	*e*P	**P**	**12 56 59.7**	**-0.9**
	11nm,1.3s						
MOD	**Modoc**	**20.48**	**335**	*e*P	**P**	**12 57 00.6**	**-0.3**
	11nm,1.2s						
RSSD	**Black Hills**	**20.70**	**10**	*e*P	**P**	**12 57 03.3**	**+0.1**
	24nm,1.8s						
YFT	**Old Faithful**	**20.71**	**356**	*e*P	**P**	**12 57 04.0**	**+0.5**
	24nm,1.3s						
YMR	**Madison River**	**20.94**	**356**	*e*P	**P**	**12 57 06.3**	**+0.5**
	37nm,1.3s						
YNR	**Norris Junctio**	**20.97**	**356**	*e*P	**P**	**12 57 06.8**	**+0.6**
	45nm,1.5s						
QLMT	**Earthquake Lak**	**21.14**	**355**	*e*P	**P**	**12 57 08.6**	**+0.6**
KHMM	**Horse Mountain**	**21.17**	**327**	*e*P	**P**	**12 57 07.8**	**-0.5**
	15nm,0.9s,mb4.3						
PLAL	**Pickwick Lake**	**21.22**	**53**	*e*P	**P**	**12 57 12.1**	**+3.1**
	8.0nm,0.9s,mb4.0						
MCMT	**McKenzie Canyo**	**21.28**	**352**	*e*P	**P**	**12 57 10.6**	**+1.0**
	11nm,1.1s,mb4.1						
RLMT	**Red Lodge**	**21.32**	**359**	*e*P	**P**	**12 57 09.7**	**-0.3**
	29nm,1.4s,mb4.4						
DLMT	**Dillon**	**21.78**	**353**	*e*P	**P**	**12 57 15.3**	**+0.4**
	12nm,1.3s,mb4.2						
BOZ	**Bozeman (W)**	**21.96**	**355**	*e*P	**P**	**12 57 16.6**	**-0.2**
	13nm,1.3s,mb4.2						
GCMT	**Greycliff**	**22.00**	**358**	*e*P	**P**	**12 57 16.8**	**-0.4**
	10nm,0.7s,mb4.4						
BMO	**Blue Mountains**	**22.16**	**344**	*e*P	**P**	**12 57 17.8**	**-1.1**
	5.8nm,1.1s,mb3.9						
LRM	**Limekiln Ridge**	**22.21**	**353**	*e*P	**P**	**12 57 20.1**	**+0.5**
ECSD	**EROS Data Cent**	**22.32**	**24**	*e*P	**P**	**12 57 22.2**	**+1.5**
	37nm,1.6s,mb4.6						
LAO	**LASA Array**	**22.98**	**5**	*e*P	**P**	**12 57 28.9**	**+1.2**
	24nm,1.0s,mb4.6						
HRY	**Holter Researc**	**23.04**	**355**	*e*P	**P**	**12 57 28.9**	**+0.7**
CHMT	**Chamberlain Mo**	**23.38**	**352**	*e*P	**P**	**12 57 32.5**	**+0.6**
MSO	**Missoula**	**23.39**	**351**	*e*P	**P**	**12 57 32.1**	**+0.1**
	13nm,1.4s,mb4.2						
SLMT	**Seeley Lake**	**23.74**	**352**	*e*P	**P**	**12 57 35.0**	**-0.3**
WCI	**Wyandotte Cave**	**24.02**	**48**	*e*P	**P**	**12 57 36.4**	**-1.7**
	60nm,2.0s,mb4.7						
CPCT	**Cooper Cave**	**24.07**	**55**	*e*P	**P**	**12 57 38.6**	**0.0**
SWMT	**Swartz Lake**	**24.07**	**351**	*e*P	**P**	**12 57 36.2**	**-2.2**
HAWA	**Hanford**	**24.18**	**342**	*e*P	**P**	**12 57 36.9**	**-2.6**
EGMT	**Eagleton**	**24.23**	**358**	*e*P	**P**	**12 57 40.3**	**+0.4**
	46nm,1.4s,mb4.7						
TKL	**Tuckaleechee C**	**24.71**	**56**	P	**P**	**12 57 44.6**	**+0.3**
	2.2nm,0.6s,mb3.8,baz=220,slow=9.5,SNR=3.8						
TKL				LR	LR	13 07 54.7	
	comp=Z,630nm,20.5s,MS4.1,baz=229,slow=38						
TKL	**Tuckaleechee C**	**24.71**	**56**	P	**P**	**12 57 44.6**	**+0.3**
DGMT	**Dagmar**	**24.94**	**7**	*e*P	**P**	**12 57 45.1**	**-1.2**
	16nm,1.1s,mb4.5						
LON	**Longmire**	**25.21**	**339**	*e*P	**P**	**12 57 49.2**	**+0.4**
	7.9nm,1.1s,mb4.2						
NEW	**Newport**	**25.34**	**347**	*e*P	**P**	**12 57 50.5**	**+0.6**
	47nm,2.3s,mb4.6						
ROSC	**El Rosal**	**38.17**	**114**	LR	LR	13 17 10.7	
	comp=Z,215nm,19.6s,MS4.0,baz=14,slow=39						
ILAR	**Eielson Array**	**47.85**	**339**	P	**P**	**13 01 00.2**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=148,slow=5.3,SNR=4.0						
ILAR	**Eielson Array**	**47.85**	**339**	P	**P**	**13 01 00.2**	**-0.4**
AFI	**Afiamalu**	**72.00**	**245**	LR	LR	13 27 56.3	
	comp=Z,159nm,18.7s,MS4.3,baz=294,slow=29						
KBS	**Kingsbay**	**72.40**	**10**	*e*P	**P**	**13 03 46.7**	**-2.2**
	32nm,0.9s,mb5.2						
PLCA	**Paso Flores**	**73.36**	**151**	P	**P**	**13 04 06.4**	**+11**
	1.3nm,0.6s,mb4.0,baz=347,slow=7.1,SNR=3.8						
SPITS	**Spitsbergen Ar**	**73.56**	**10**	LR	LR	13 38 13.0	
	comp=Z,183nm,18.0s,MS4.4,baz=40,slow=38						
ESDC	**Sonseca Array**	**85.80**	**48**	LR	LR	13 39 01.0	
	comp=Z,164nm,21.4s,MS4.4,baz=280,slow=33						
CN2	**Changchun**	**96.38**	**324**	*e*P	**P**	**13 05 50.8**	**-1.5**
WRA	**Warramunga Arr**	**121.67**	**260**	PKP	PKPdf	13 11 23.3	+5.5
	0.4nm,0.6s,baz=65,slow=2.1,SNR=4.2						
WRA	**Warramunga Arr**	**121.67**	**260**	PKP	PKPdf	13 11 23.3	+5.5
KMI	**Kunming**	**122.59**	**326**	PKP	PKPdf	13 11 16.6	-2.9
ASAR	**Alice Springs**	**123.01**	**256**	PKP	PKPdf	13 11 26.6	+6.4
	0.4nm,0.8s,baz=69,slow=1.9,SNR=5.0						
ASAR	**Alice Springs**	**123.01**	**256**	PKP	PKPdf	13 11 26.6	+6.4

*ISCJB **06** 12:59:37.1±0.5,37.′13N±0.′03×72.″28E±0.″05,h112km±6km, mb4.1/28,Error ellipse: s-maj=7.4km s-min=3.8km az=163.8*
*MOS **06** 12:59:38.4±0.8,37.′26N×72.″00E,h110km,mb4.3/13,Error ellipse: s-maj=11.5km s-min=5.9km az=93.9*
*NEIC **06** 12:59:38.3±0.3,37.′10N×72.′27E,mb4.7/13,Error ellipse: s-maj=7.8km s-min=4.8km az=49.0*
*NNC **06** 12:59:39.8±6.3,37.′38N×71.′68E,h95km±76km,mb3.7, mpv4.1,Error ellipse: s-maj=49.0km s-min=31.7km az=1.0*
*IDC **06** 12:59:39.5±0.9,37.′18N×71.′98E,h108km±7km,mb3.7/15, mb1 3.9/19,mb1mx3.7/28,mbtmp3.7/19,Error ellipse: s-maj=17.4km s-min=12.3km az=21.0*
*BJI **06** 12:59:44.0,37.′80N×72.′20E,h171km,mB4.7/2,mb4.7/7*

ISC 06 12:59:38.1±0.5,37.′10N±0.′03×72.′26E±0.′06,h106km±6km, n163,σ1§10/176,mb4.1/28,9C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.28**	**185**	P	**Pn**	**13 00 32.2**	**+4.4**
CEP				S	**Sn**	**13 01 13.0**	**+6.9**
CHCP	**Chirah Chowk**	**3.53**	**166**	P	**Pn**	**13 00 36.7**	**+5.6**
KBL	**Kabul**	**3.66**	**227**	*e*Pn	**Pn**	**13 00 33.6**	**+0.9**
KBL				*e*Sn	**Sn**	**13 01 20.2**	**+5.2**
KBL	**Kabul**	**3.66**	**227**	*e*PN	**Pn**	**13 00 33.7**	**+1.0**
KBL				*e*		13 01 20.2	
KSH	**Kashi**	**3.79**	**49**	P	**Pn**	**13 00 32.7**	**-1.8**
KSH				S	**Sn**	**13 01 08.4**	**-10**
KSH				smax			
	comp=N,4μm,0.3s						
KSH				smax			
	comp=E,4μm,0.3s						
THW	**Thamme Wali**	**4.32**	**186**	P	**Pn**	**13 00 45.0**	**+3.3**
AML	**Almayashu**	**5.14**	**12**	P	**Pn**	**13 00 53.1**	**+0.4**
	SNR=99						
AML				P		13 00 53.1	
	SNR=99						
KZA	**Kyzart**	**5.48**	**24**	P	**Pn**	**13 00 59.3**	**+2.0**
	SNR=24						
KZA				P		13 00 59.3	
	SNR=24						
EKS2	**Erkin-Say**	**5.67**	**11**	P	**Pn**	**13 01 00.4**	**+0.4**
	SNR=33						
EKS2				P		13 01 00.4	
	SNR=33						
EKS2	**Erkin-Say**	**5.67**	**11**	*e*Pn	**Pn**	**13 00 59.8**	**-0.1**
	comp=E,14nm,0.5s						
EKS2				*e*Sn	**Sn**	**13 02 02.0**	**-1.8**
EKS2	**Erkin-Say**	**5.67**	**11**	*e*PN	**Pn**	**13 00 59.8**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,14nm,0.5s						
AAK	**Ala-Archa**	**5.79**	**17**	P	**Pn**	**13 01 02.6**	**+1.1**
	SNR=29						
AAK				P		13 01 02.6	
	SNR=29						
AAK	**Ala-Archa**	**5.79**	**17**	*e*Pn	**Pn**	**13 01 02.4**	**+0.9**
	comp=Z,72nm,0.4s						
AAK				*e*Sn	**Sn**	**13 02 04.2**	**-2.2**
AAK	**Ala-Archa**	**5.79**	**17**	*e*PN	**Pn**	**13 01 02.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,72nm,0.4s						
KBK	**Karagaybulak**	**5.92**	**20**	P	**Pn**	**13 01 05.1**	**+1.8**
	SNR=13						
KBK				P		13 01 05.1	
	SNR=13						
ULHL	**Ulahol**	**5.99**	**30**	P	**Pn**	**13 01 06.2**	**+2.1**
	SNR=9.2						
ULHL				P		13 01 06.2	
	SNR=9.2						
KK31	**Karatay Array**	**6.14**	**348**	P	**Pn**	**13 01 04.3**	**-2.0**
	comp=Z,18nm,0.4s,baz=170,slow=12,SNR=315						
KK31				⇑S	**Sn**	**13 02 08.3**	**-6.8**
	comp=Z,6.7nm,0.3s,baz=175,slow=23,SNR=8.9						
KK31	**Karatay Array**	**6.14**	**348**	*i* PN	**Pn**	**13 01 04.3**	**-2.0**
KK31				pmax	pmax		
	comp=Z,15nm,0.1s						
KKAR	**Karatay Array**	**6.14**	**348**	*e*Pn	**Pn**	**13 01 04.2**	**-2.1**
	comp=Z,37nm,0.4s						
KKAR				*e*Sn	**Sn**	**13 02 08.9**	**-6.2**
KKAR	**Karatay Array**	**6.14**	**348**	*e*PN	**Pn**	**13 01 04.2**	**-2.1**
KKAR				pmax	pmax		
	comp=Z,37nm,0.4s						
CHMS	**Chumysh**	**6.19**	**17**	P	**Pn**	**13 01 07.8**	**+0.8**
	SNR=8.2						
CHMS				P		13 01 07.8	
	SNR=8.2						
TKM2	**Tokmak 2**	**6.35**	**23**	P	**Pn**	**13 01 10.9**	**+1.7**
	SNR=19						
TKM2				P		13 01 10.9	
	SNR=19						
TKM2	**Tokmak 2**	**6.35**	**23**	⇓P	**Pn**	**13 01 10.0**	**+0.9**
	comp=Z,4.4nm,0.5s						
TKM2				⇑S	**Sn**	**13 02 21.3**	**+1.1**
	comp=Z,22nm,0.7s						
TKM2	**Tokmak 2**	**6.35**	**23**	*e*Pn	**Pn**	**13 01 10.2**	**+1.1**
	comp=Z,12nm,0.5s						
TKM2	**Tokmak 2**	**6.35**	**23**	*i* PN	**Pn**	**13 01 10.8**	**+1.7**
USP	**Ospenovka**	**6.39**	**15**	P	**Pn**	**13 01 09.7**	**0.0**
	SNR=10						
USP				P		13 01 09.7	
	SNR=10						
SDNR	**Sundarnagar**	**6.81**	**144**	*e*PKP	**Pn**	**13 01 20.0**	**+4.6**
SDNR				*e*S	**Sn**	**13 02 31.0**	**-0.5**
SMLA	**Simla**	**7.21**	**144**	*i* P	**Pn**	**13 01 22.6**	**+1.7**
SMLA				*i* x	x	13 02 39.8	
SMLA				⇓AML	AML	13 02 45.7	
	comp=N,3μm,0.4s						
SMLA				⇓AML	AML	13 02 46.1	
	comp=E,4μm,0.5s						
KKR	**Kurukshetra**	**8.07**	**151**	*ex*	x	13 01 36.4	
NDI	**New Delhi**	**9.37**	**152**	*e*PKP	**Pn**	**13 01 49.0**	**-1.2**
NDI				*ex*	x	13 03 28.0	
KHET	**Khetri**	**9.48**	**161**	*e*PKP	**Pn**	**13 01 51.5**	**-0.3**
KHET				*e*S	**Sn**	**13 03 26.7**	**-10**
AYAN	**Aya Nagar**	**9.52**	**153**	*e*PKP	**Pn**	**13 01 52.6**	**+0.4**
AYAN				*ex*	x	13 03 33.7	
KUDL	**Kundal**	**9.62**	**157**	*e*S	**Sn**	**13 03 32.7**	**-7.0**
AGRA	**Agra**	**10.95**	**152**	*e*PKP	**Pn**	**13 02 11.0**	**-0.7**
AGRA				*e*S	**Sn**	**13 04 05.1**	**-7.1**
AGRA				AML	AML	13 04 11.6	
	comp=E,90nm,0.4s						
AGRA				AML	AML	13 04 12.4	
	comp=N,80nm,0.4s						
MK31	**Makanchi Array**	**12.22**	**34**	⇑P	**Pn**	**13 02 29.9**	**+1.5**
	comp=N,2.1nm,0.5s,baz=210,slow=16,SNR=20						
MK31	**Makanchi Array**	**12.22**	**34**	*ce*P	**Pn**	**13 02 29.8**	**+1.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**12.22**	**34**	P	**Pn**	**13 02 29.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=221,slow=15,SNR=17						
MKAR	**Makanchi Array**	**12.22**	**34**	P	**Pn**	**13 02 29.1**	**+0.8**
MKAR	**Makanchi Array**	**12.22**	**34**	P	**Pn**	**13 02 29.1**	**+0.8**
PYUN	**Piuthan**	**12.73**	**132**	*e*P	**Pn**	**13 02 35.4**	**+0.1**
	comp=Z,85nm,0.5s						
PYUN	**Piuthan**	**12.73**	**132**	*e*P	**Pn**	**13 02 35.4**	**+0.1**
	comp=Z,85nm,0.5s						
DANN	**Dangsing**	**13.02**	**129**	*e*P	**Pn**	**13 02 39.3**	**+0.2**
	comp=Z,29nm,0.3s						
DANN	**Dangsing**	**13.02**	**129**	*e*P	**Pn**	**13 02 39.3**	**+0.2**
	comp=Z,29nm,0.3s						
KOLN	**Koldanda**	**13.34**	**131**	*e*P	**Pn**	**13 02 43.3**	**+0.1**
	comp=Z,28nm,0.4s						
KOLN	**Koldanda**	**13.34**	**131**	*e*P	**Pn**	**13 02 43.3**	**+0.1**
	comp=Z,28nm,0.4s						
GKN	**Gorkha**	**13.82**	**127**	*e*P	**Pn**	**13 02 49.0**	**-0.4**
	comp=Z,92nm,0.8s						
GKN	**Gorkha**	**13.82**	**127**	*e*P	**Pn**	**13 02 49.0**	**-0.4**
	comp=Z,92nm,0.8s						
KURBB	**Kurchatov Arra**	**14.24**	**16**	⇑P	**Pn**	**13 02 51.4**	**-3.3**
	comp=Z,1.9nm,0.7s						
KURK	**Kurchatov**	**14.35**	**17**	⇑P	**Pn**	**13 02 53.1**	**-3.1**
	comp=Z,9.4nm,0.8s						
KURK	**Kurchatov**	**14.35**	**17**	P	**Pn**	**13 02 51.8**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=205,slow=12,SNR=11						
KURK	**Kurchatov**	**14.35**	**17**	Pn	**Pn**	**13 02 59.7**	**+3.6**
	comp=Z,3.1nm,1.0s						
KURK	**Kurchatov**	**14.35**	**17**	P	**Pn**	**13 02 59.7**	**+3.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KKN	**Kakani**	**14.38**	**126**	*e*P	**Pn**	**13 02 55.9**	**-0.7**
	comp=Z,22nm,0.5s						
KKN	**Kakani**	**14.38**	**126**	*e*P	**Pn**	**13 02 55.9**	**-0.7**
	comp=Z,22nm,0.5s						
KKN	**Kakani**	**14.38**	**126**	*e*P	**Pn**	**13 02 55.9**	**-0.7**
KKN				pmax	pmax		
	comp=Z,22nm,0.5s						
DMN	**Daman**	**14.39**	**127**	*e*P	**Pn**	**13 02 56.1**	**-0.7**
	comp=Z,28nm,0.4s						
DMN	**Daman**	**14.39**	**127**	*e*P	**Pn**	**13 02 56.1**	**-0.7**
	comp=Z,28nm,0.4s						
BHPL	**Bhopal**	**14.51**	**161**	*ex*	x	13 03 03.0	
BHPL				*ex*	x	13 05 34.4	
PKI	**Pulchoki**	**14.61**	**127**	*e*P	**Pn**	**13 02 59.2**	**-0.4**
	comp=Z,14nm,0.3s						
PKI	**Pulchoki**	**14.61**	**127**	*e*P	**Pn**	**13 02 59.2**	**-0.4**
	comp=Z,14nm,0.3s						
PKI	**Pulchoki**	**14.61**	**127**	*e*P	**Pn**	**13 02 59.2**	**-0.4**
PKI				pmax	pmax		
	comp=Z,14nm,0.3s						
GUN	**Gumba**	**14.68**	**125**	*e*P	**Pn**	**13 02 59.8**	**-0.7**
	comp=Z,21nm,0.4s						
GUN	**Gumba**	**14.68**	**125**	*e*P	**Pn**	**13 02 59.8**	**-0.7**
	comp=Z,21nm,0.4s						
JIRN	**Jiri**	**15.05**	**125**	*e*P	**Pn**	**13 03 04.8**	**-0.4**
	comp=Z,21nm,0.4s						
AB31	**Akbulak array**	**15.08**	**328**	P	**Pn**	**13 03 00.3**	**-5.1**
	comp=Z,3.2nm,0.5s,baz=136,slow=12,SNR=118						
AB31				S	S	13 05 31.9	-30
	comp=Z,5.3nm,0.5s,baz=147,slow=18,SNR=13						
AB31	**Akbulak array**	**15.08**	**328**	*ce*P	**Pn**	**13 03 00.3**	**-5.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.2s						
ABKAR	**Akbulak array**	**15.08**	**328**	*e*Pn	**Pn**	**13 03 00.2**	**-5.2**
	comp=Z,0.9nm,0.2s						
ABKAR				*e*Sn	Sn	13 05 28.1	-24
VOSK	**Vostochnaya**	**15.65**	**357**	⇓P	**Pn**	**13 03 14.2**	**+1.8**
	comp=Z,2.4nm,0.9s						
RAMN	**Ramite**	**15.80**	**126**	*e*P	**Pn**	**13 03 13.8**	**-0.8**
	comp=Z,39nm,0.4s						
BVA0	**Borovoye Array**	**15.98**	**356**	P	**Pn**	**13 03 16.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=154,slow=10,SNR=11						
BVA0	**Borovoye Array**	**15.98**	**356**	*i* P	**Pn**	**13 03 16.7**	**+0.2**
BVAR	**Borovoye Array**	**15.98**	**356**	P	**Pn**	**13 03 15.3**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=156,sl

FINES	FINESS Array B	37.56	325	P	P	13 06 41.4	-0.2
FINES	FINESS Array B	37.56	325	P	P	13 06 41.4	-0.3
KAF	Kangasniemi	37.68	326	*e*P	P	13 06 41.1	-1.6
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
KAF	Kangasniemi	37.68	326	*e*p	P	13 06 41.1	-1.6
	comp=Z,2.0nm,0.5s,mb4.2						
KEV	Kevo	40.62	338	*e*P	P	13 07 06.6	-0.5
KEV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
KEV	Kevo	40.62	338	*e*p	P	13 07 06.6	-0.5
	comp=Z,1.9nm,0.5s,mb4.2						
ARCES	ARCESS Array B	40.98	337	P	P	13 07 10.2	+0.2
	comp=Z,3.1nm,0.4s,mb4.5,baz=114,slow=8.3,SNR=55						
ARCES	ARCESS Array B	40.98	337	P	P	13 07 10.2	+0.2
ARCES	ARCESS Array B	40.98	337	P	P	13 07 10.2	+0.2
BRG	Berggiesshubel	43.05	308	*e*P	P	13 07 27.4	+0.3
	comp=Z,4.8nm,0.6s,mb4.4						
BRG	Berggiesshubel	43.05	308	*e*P	P	13 07 27.4	+0.3
BRG				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
GERES	GERESS Array B	43.41	305	P	P	13 07 30.1	0.0
	comp=Z,0.2nm,0.4s,mb3.2,baz=81,slow=6.4,SNR=2.6						
GERES	GERESS Array B	43.41	305	P	P	13 07 30.1	+0.1
GERES	GERESS Array B	43.41	305	P	P	13 07 30.1	+0.1
CLL	Collm	43.61	309	*i* P	P	13 07 31.4	-0.1
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
CLL	Collm	43.61	309	*i* P	P	13 07 31.4	-0.1
	comp=Z,3.0nm,0.7s,mb4.1						
NOA	NORSAR Array B	44.51	323	P	P	13 07 38.1	-0.6
	comp=Z,3.3nm,0.7s,mb4.2,baz=94,slow=7.8,SNR=16						
NOA	NORSAR Array B	44.51	323	P	P	13 07 38.1	-0.6
NOA	NORSAR Array B	44.51	323	P	P	13 07 38.1	-0.6
HINF	Hinteralfeld	48.09	305	*e*P	P	13 08 06.5	-0.3
	comp=Z,7.8nm,0.8s,mb4.3						
HINF	Hinteralfeld	48.09	305	*e*P	P	13 08 06.5	-0.3
	comp=Z,7.8nm,0.8s,mb4.6						
HINF	Hinteralfeld	48.09	305	*e*P	P	13 08 06.5	-0.3
HINF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
KMBO	Kilima Mbogo	49.98	228	*i* P	P	13 08 26.6	+5.0
SMF	Signal de Mont	50.36	304	*e*P	P	13 08 23.8	-0.3
SMF	Signal de Mont	50.36	304	*e*P	P	13 08 23.8	-0.3
SMF	Signal de Mont	50.36	304	*e*P	P	13 08 23.8	-0.3
AVF	Avril sur Loir	50.65	304	*e*P	P	13 08 26.0	-0.3
	comp=Z,9.6nm,0.8s,mb4.6						
AVF	Avril sur Loir	50.65	304	*e*P	P	13 08 26.0	-0.3
	comp=Z,9.6nm,0.8s,mb4.9						
AVF	Avril sur Loir	50.65	304	*e*P	P	13 08 26.0	-0.3
AVF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
TCF	Toulx Ste Croi	51.54	304	*e*P	P	13 08 33.0	0.0
	comp=Z,1.0nm,0.8s,mb4.6						
TCF	Toulx Ste Croi	51.54	304	*e*P	P	13 08 33.0	0.0
	comp=Z,10nm,0.8s,mb4.9						
TCF	Toulx Ste Croi	51.54	304	*e*P	P	13 08 33.0	0.0
TCF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
LDF	La Druitiere	52.42	307	*e*P	P	13 08 38.9	-0.6
	comp=Z,5.0nm,0.6s,mb4.5						
LDF	La Druitiere	52.42	307	*e*P	P	13 08 38.9	-0.6
	comp=Z,5.0nm,0.6s,mb4.7						
LDF	La Druitiere	52.42	307	*e*P	P	13 08 38.9	-0.6
LDF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ESDC	Sonseca Array	58.07	298	P	P	13 09 20.2	0.0
	comp=Z,1.8nm,0.5s,mb4.3,baz=58,slow=7.3,SNR=14						
ESDC	Sonseca Array	58.07	298	P	P	13 09 20.2	0.0
TORD	Torodi Ar. Bea	66.74	269	P	P	13 10 16.9	-1.3
	comp=Z,0.7nm,0.5s,mb3.8,baz=50,slow=6.2,SNR=8.8						
TORD				pP	pP	13 10 44.0	-0.7
	comp=Z,0.5nm,0.7s,baz=40,slow=6.1,SNR=2.6						
TORD	Torodi Ar. Bea	66.74	269	P	P	13 10 16.9	-1.3
TORD				pP	pP	13 10 44.0	-0.7
ILAR	Eielson Array	73.92	16	P	P	13 11 01.1	0.0
	comp=Z,0.7nm,0.8s,mb3.5,baz=317,slow=4.6,SNR=8.4						
ILAR				pP	pP	13 11 29.8	+1.7
	comp=Z,0.6nm,0.9s,baz=295,slow=3.4,SNR=3.3						
ILAR	Eielson Array	73.92	16	P	P	13 11 01.1	0.0
ILAR				pP	pP	13 11 29.8	+1.7
ILAR	Eielson Array	73.92	16	P	P	13 11 01.2	0.0
ILAR				*PP	pP	13 11 29.8	+1.8
YKA	Yellowknife Ar	80.60	3	P	P	13 11 39.2	+0.8
	comp=Z,0.6nm,0.4s,mb3.8,baz=352,slow=5.5,SNR=9.3						
YKA	Yellowknife Ar	80.60	3	P	P	13 11 39.2	+0.8
YKA	Yellowknife Ar	80.60	3	P	P	13 11 39.2	+0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	81.46	123	P	P	13 11 46.2	+2.6
	comp=Z,0.6nm,0.5s,mb3.7,baz=331,slow=4.8,SNR=6.8						
WRA	Warramunga Arr	81.46	123	P	P	13 11 46.2	+2.6
WRA	Warramunga Arr	81.46	123	P	P	13 11 46.2	+2.6
SCHQ	Schefferville	81.94	338	P	P	13 11 47.1	+1.4
	comp=Z,2.8nm,0.8s,mb4.2,baz=45,slow=4.3,SNR=3.4						
SCHQ	Schefferville	81.94	338	P	P	13 11 47.1	+1.5
ASAR	Alice Springs	83.77	126	P	P	13 11 57.9	+2.3
	comp=Z,0.3nm,0.7s,mb3.2,baz=314,slow=4.5,SNR=7.3						
ASAR	Alice Springs	83.77	126	P	P	13 11 57.9	+2.3
ASAR	Alice Springs	83.77	126	P	P	13 11 57.9	+2.4

ISC 06 13:10:07.6±2.1, 39°.3N±0°.1×74°.31E±0°.09, h10km, n9, σ1°30/15, 6C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.31**	**80**	Pg	**Pg**	**13 10 32.6**	**-0.2**
KSH				Sg	**Sg**	**13 10 49.2**	**-0.6**
KSH				smax			
	comp=N,89nm,0.4s						
KSH				smax			
	comp=E,55nm,0.3s						
AML	**Almayashu**	**2.87**	**351**	P	**Pn**	**13 10 52.6**	**-0.8**
	SNR=28						
AML				P		13 10 52.6	
	SNR=28						
KZA	**Kyzart**	**2.87**	**14**	P	**Pn**	**13 10 55.4**	**+2.0**
	SNR=6.9						
KZA				P		13 10 55.4	
	SNR=6.9						
UCH	**Uchtor**	**2.93**	**3**	P	**Sn**	**13 11 29.2**	**-0.3**
	SNR=11						
UCH				P	**Sn**	**13 11 29.2**	**-0.3**
	SNR=11						
AAK	**Ala-Archa**	**3.34**	**2**	P	**Pn**	**13 11 01.4**	**+1.6**
	SNR=10.0						
AAK				P		13 11 01.4	
	SNR=10.0						
KBK	**Karagaybulak**	**3.39**	**8**	P	**Pn**	**13 11 03.7**	**+3.2**
	SNR=9.1						
KBK				P		13 11 03.7	
	SNR=9.1						
TKM2	**Tokmak 2**	**3.75**	**15**	⇑Pn	**Pn**	**13 11 06.5**	**+1.0**
	comp=E,1.1nm,0.5s						
TKM2				⇓Pg	**Pg**	**13 11 12.2**	**-7.3**
	comp=E,1.4nm,0.4s						
TKM2				⇑Sn	**Sn**	**13 11 49.0**	**-0.6**
	comp=E,2.9nm,0.6s						
TKM2				⇑Lg		13 11 57.4	
	comp=E,4.8nm,0.5s						
USP	**Ospenovka**	**3.97**	**2**	P	**Pn**	**13 11 13.2**	**+4.7**
	SNR=11						
USP				P		13 11 13.2	
	SNR=11						
KK31	**Karatay Array**	**4.76**	**324**	⇑Pn	**Pn**	**13 11 15.9**	**-3.4**
	comp=E,0.3nm,0.2s,baz=147,slow=15,SNR=4.8						
KK31				⇑Pg	**Pg**	**13 11 26.2**	**-13**
	comp=E,0.8nm,0.3s,baz=140,slow=17,SNR=7.1						
KK31				⇑Sn	**Sn**	**13 12 07.2**	**-7.4**
	comp=E,1.0nm,0.3s,baz=168,slow=28,SNR=5.0						
KK31				⇓Lg		13 12 19.3	
	comp=E,2.3nm,0.4s,baz=137,slow=29						

NEIC ***06*** *13:17:54.8±0.4, 6°.66S×130°.55E, h35km, mb4.8/3, Error ellipse: s-maj=15.4km s-min=6.8km az=73.0*
IDC ***06*** *13:17:55.4±5.1, 6°.63S×130°.58E, h39km±45km, mb3.9/7, mb1 4.3/10, mb1mx4.1/15, mbtmp4.1/10, ML4.8/3, Error ellipse: s-maj=47.4km s-min=19.6km az=67.0*
ISCJB ***06*** *13:17:58.5±0.6, 6°.83S±0°.04×130°.60E±0°.05, h100km±7km, mb4.8/25, Error ellipse: s-maj=8.6km s-min=5.0km az=154.8*
DJA ***06*** *13:18:00, 6°.79S×130°.65E, h73km, mb4.7/10*

ISC 06 13:17:59.2±0.5, 6°.90S±0°.04×130°.63E±0°.05, h91km±6km, n80, σ1°25/89, mb4.8/25, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.45**	**59**	P	**Pn**	**13 18 39.0**	**+1.7**
TLE				S	**Sn**	**13 19 06.2**	**-0.4**
MSAI	**Masohi**	**3.91**	**334**	P	**Pn**	**13 18 56.0**	**-1.1**
AAI	**Ambon**	**4.00**	**323**	P	**Pn**	**13 18 56.1**	**-2.3**
NLAI	**Namlea**	**5.05**	**316**	P	Px	13 19 17.2	
LBMI	**Labuha**	**6.96**	**333**	P	**Pn**	**13 19 38.6**	**+0.1**
	2μm73nm,0.6s						
BAKI	**Biak**	**7.88**	**44**	P	**Pn**	**13 19 50.1**	**-1.0**
	61nm,0.7s						
MMRI	**Maumere**	**8.49**	**258**	P	**Pn**	**13 20 01.6**	**+2.2**
	31nm,0.5s						
KDI	**Kendari**	**8.49**	**290**	P	**Pn**	**13 20 03.3**	**+3.9**
	62nm,1.1s						
GTOI	**Gorontalo**	**10.67**	**314**	P	**Pn**	**13 20 31.4**	**+2.3**
	23nm,0.9s						
SPSI	**Sidrap Palu**	**11.19**	**285**	P	Px	13 20 41.5	
MRSI	**Marisa**	**11.35**	**310**	P	**Pn**	**13 20 38.8**	**+0.4**
	23nm,1.0s						
FITZ	**Fitzroy Crossi**	**12.15**	**203**	Pn	**Pn**	**13 20 48.2**	**-1.0**
	5.5nm,0.3s,baz=39,slow=10,SNR=91						
FITZ				Sn	**Sn**	**13 22 57.5**	**-5.2**
	4.3nm,0.3s,baz=159,slow=14,SNR=7.3						
FITZ	**Fitzroy Crossi**	**12.15**	**203**	*e*P	**Pn**	**13 20 48.4**	**-0.7**
	35nm,0.4s						
FITZ				*e*S	**Sn**	**13 22 58.5**	**-4.2**
FITZ	**Fitzroy Crossi**	**12.15**	**203**	Pn	**Pn**	**13 20 48.2**	**-0.9**
FITZ				Sn	**Sn**	**13 22 57.5**	**-5.2**
FITZ	**Fitzroy Crossi**	**12.15**	**203**	P	**Pn**	**13 20 50.2**	**+1.1**
WRAB	**Tennant Creek**	**13.45**	**165**	*e*Pn	**Pn**	**13 21 06.5**	**+0.2**
	16nm,0.4s						
WRAB				*e*Sn	**Sn**	**13 23 29.7**	**-4.6**
WRAB	**Tennant Creek**	**13.45**	**165**	P	**Pn**	**13 21 06.5**	**+0.2**
	34nm,0.5s						
WRA	**Warramunga Arr**	**13.46**	**165**	Pn	**Pn**	**13 21 06.7**	**+0.2**
	4.6nm,0.3s,baz=349,slow=13,SNR=60						
WRA				Sn	**Sn**	**13 23 31.3**	**-3.1**
	5.4nm,0.3s,baz=348,slow=22,SNR=18						
WRA	**Warramunga Arr**	**13.46**	**165**	Pn	**Pn**	**13 21 06.7**	**+0.2**
WRA				Sn	**Sn**	**13 23 31.3**	**-3.1**
WB2	**Warramunga Arr**	**13.46**	**165**	*e*Pn	**Pn**	**13 21 06.5**	**+0.1**
WB2				*e*Sn	**Sn**	**13 23 29.3**	**-5.2**
COEN	**Coen**	**14.19**	**121**	*e*P	**Pn**	**13 21 18.0**	**+2.0**
	26nm,0.3s						
COEN				*e*S	**Sn**	**13 23 45.1**	**-7.2**
COEN	**Coen**	**14.19**	**121**	*e*Pn	**Pn**	**13 21 15.5**	**-0.5**
	39nm,0.5s						
COEN				*e*Sn	**Sn**	**13 23 47.4**	**-4.9**
COEN	**Coen**	**14.19**	**121**	P	**Pn**	**13 21 19.2**	**+3.2**
	12nm,0.5s						
AS31	**Alice Springs**	**16.96**	**170**	*e*Pn	**Pn**	**13 21 53.0**	**+2.1**
AS31				*e*Sn	**Sn**	**13 24 56.8**	**-2.5**
ASAR	**Alice Springs**	**16.97**	**170**	P	**Pn**	**13 21 53.2**	**+2.3**
	3.2nm,0.3s,baz=346,slow=9.9,SNR=222						
ASAR				S	**Sn**	**13 24 54.6**	**-4.7**
	1.5nm,0.3s,baz=351,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.97**	**170**	P	**Pn**	**13 21 53.2**	**+2.3**
ASAR				S	**S**	**13 24 54.6**	**-9.1**
MTSU	**Mount Surprise**	**17.40**	**131**	*e*P	**Pn**	**13 22 00.3**	**+4.0**
	4.8nm,0.2s						
MTSU				*e*S	**S**	**13 25 06.3**	**-4.4**
MBWA	**Marble Bar**	**17.66**	**216**	*e*P	**Pn**	**13 22 01.3**	**+1.9**
MBWA				*e*S	**Sn**	**13 25 05.8**	**-10**
MBWA	**Marble Bar**	**17.66**	**216**	P	**Pn**	**13 22 06.5**	**+7.1**
KKM	**Kota Kinabalu**	**19.29**	**311**	P	**Pn**	**13 22 17.2**	**-1.7**
CTA	**Charters Tower**	**20.04**	**132**	P	**P**	**13 22 32.7**	**+7.6**
	4.0nm,0.7s,baz=304,slow=15,SNR=2.2						
CTA	**Charters Tower**	**20.04**	**132**	P	**P**	**13 22 32.7**	**+7.6**
MEEK	**Meekatharra**	**22.72**	**209**	*e*P	**P**	**13 22 58.4**	**+4.8**
	65nm,1.5s,mb4.7						
FORT	**Forrest**	**23.88**	**185**	*e*P	**P**	**13 23 16.5**	**+12**
	13nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**26.88**	**159**	P	**P**	**13 23 36.2**	**+4.7**
	1.2nm,0.4s,mb3.7,baz=355,slow=10,SNR=5.6						
STKA	**Stephens Creek**	**26.88**	**159**	*e*P	**P**	**13 23 35.9**	**+4.4**
STKA				P		13 23 36.2	
NWAO	**Narrogin (SRO)**	**28.73**	**204**	P	**P**	**13 23 51.0**	**+2.9**
	10nm,1.1s,mb4.3,baz=14,slow=12,SNR=3.2						
NWAO	**Narrogin (SRO)**	**28.73**	**204**	P	**P**	**13 23 51.0**	**+2.9**
CMAR	**Chiang Mai Arr**	**40.15**	**309**	P	**P**	**13 25 26.0**	**-0.5**
	3.0nm,0.6s,mb4.3,baz=134,slow=7.2,SNR=36						
CMAR	**Chiang Mai Arr**	**40.15**	**309**	P	**P**	**13 25 26.0**	**-0.5**
ODAN	**Odare**	**53.66**	**311**	*e*P	**P**	**13 27 11.3**	**-0.4**
	16nm,0.5s,mb5.3						
ODAN	**Odare**	**53.66**	**311**	*e*P	**P**	**13 27 11.3**	**-0.4**
TAPN	**Taplejung**	**53.69**	**311**	*e*P	**P**	**13 27 11.8**	**-0.1**
	21nm,0.4s,mb5.5						
RAMN	**Ramite**	**54.31**	**310**	*e*P	**P**	**13 27 15.8**	**-0.6**
	46nm,0.5s,mb5.8						
RAMN	**Ramite**	**54.31**	**310**	*e*P	**P**	**13 27 15.8**	**-0.6**
JIRN	**Jiri**	**54.99**	**311**	*e*P	**P**	**13 27 21.2**	**-0.2**
	3.8nm,0.5s,mb4.7						
JIRN	**Jiri**	**54.99**	**311**	*e*P	**P**	**13 27 21.2**	**-0.2**
GUN	**Gumba**	**55.35**	**311**	*e*P	**P**	**13 27 24.0**	**0.0**
	31nm,0.5s,mb5.6						
GUN	**Gumba**	**55.35**	**311**	*e*P	**P**	**13 27 24.0**	**0.0**
PKI	**Pulchoki**	**55.53**	**310**	*e*P	**P**	**13 27 25.0**	**-0.3**
	9.7nm,0.5s,mb5.1						
PKI	**Pulchoki**	**55.53**	**310**	*e*P	**P**	**13 27 25.0**	**-0.3**
KKN	**Kakani**	**55.74**	**310**	*e*P	**P**	**13 27 26.5**	**-0.3**
	14nm,0.6s,mb5.2						
KKN	**Kakani**	**55.74**	**310**	*e*P	**P**	**13 27 26.5**	**-0.3**
DMN	**Daman**	**55.78**	**310**	*e*P	**P**	**13 27 26.8**	**-0.3**
	10nm,0.5s,mb5.1						
DMN	**Daman**	**55.78**	**310**	*e*P	**P**	**13 27 26.8**	**-0.3**
GKN	**Gorkha**	**56.34**	**310**	*e*P	**P**	**13 27 30.9**	**-0.1**
	22nm,0.5s,mb5.5						
GKN	**Gorkha**	**56.34**	**310**	*e*P	**P**	**13 27 30.9**	**-0.1**
KOLN	**Koldanda**	**57.02**	**309**	*e*P	**P**	**13 27 35.5**	**-0.3**
	10.0nm,0.5s,mb5.1						
KOLN	**Koldanda**	**57.02**	**309**	*e*P	**P**	**13 27 35.5**	**-0.3**
DANN	**Dangsing**	**57.18**	**310**	*e*P	**P**	**13 27 36.9**	**-0.1**
	16nm,0.8s,mb5.1						
DANN	**Dangsing**	**57.18**	**310**	*e*P	**P**	**13 27 36.9**	**-0.1**
PYUN	**Piuthan**	**57.65**	**309**	*e*P	**P**	**13 27 40.1**	**-0.2**
	27nm,0.8s,mb5.3						
PYUN	**Piuthan**	**57.65**	**309**	*e*P	**P**	**13 27 40.1**	**-0.2**
SONM	**Songino Array**	**58.55**	**341**	P	**P**	**13 27 46.9**	**+0.8**
	0.6nm,0.4s,mb3.9,baz=162,slow=6.8,SNR=12						
SONM	**Songino Array**	**58.55**	**341**	P	**P**	**13 27 46.9**	**+0.8**
PETK	**Petropavlovsk-**	**64.04**	**18**	P	**P**	**13 28 25.8**	**+2.8**
	13nm,1.1s,mb4.7,baz=160,slow=5.5,SNR=5.0						
PETK	**Petropavlovsk-**	**64.04**	**18**	P	**P**	**13 28 25.8**	**+2.8**
MKAR	**Makanchi Array**	**68.48**	**327**	P	**P**	**13 28 52.4**	**+0.8**
	3.6nm,0.5s,mb4.4,baz=114,slow=8.5,SNR=113						
MKAR	**Makanchi Array**	**68.48**	**327**	P	**P**	**13 28 52.4**	**+0.8**
AAK	**Ala-Archa**	**70.86**	**320**	*e*P	**P**	**13 29 04.0**	**-2.3**
	11nm,0.8s,mb4.7						
EKS2	**Erkin-Say**	**71.34**	**319**	*e*P	**P**	**13 29 09.8**	**+0.5**
	2.2nm,0.8s,mb4.0						
ZALV	**Zalesovo Beam**	**71.77**	**333**	P	**P**	**13 29 11.5**	**-0.1**
	0.9nm,0.5s,mb3.8,baz=104,slow=6.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**71.77**	**333**	P	**P**	**13 29 11.5**	**-0.1**
KKAR	**Karatay Array**	**73.67**	**319**	*e*P	**P**	**13 29 28.3**	**+5.2**
	6.2nm,0.3s,mb4.8						
ILAR	**Eielson Array**	**92.99**	**25**	P	**P**	**13 31 01.9**	**-0.2**
	0.3nm,0.7s,mb3.7,baz=268,slow=4.2,SNR=5.0						
ILAR	**Eielson Array**	**92.99**	**25**	P	**P**	**13 31 01.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**129.40**	**281**	PKP	PKPdf	13 36 59.8	+1.5
	0.3nm,0.5s,baz=93,slow=2.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**129.40**	**281**	PKP	PKPdf	13 36 59.8	+1.5
CPUP	**Villa Florida**	**146.08**	**167**	PKPbc	PKPbc	13 37 31.8	+2.3
	0.4nm,0.4s,baz=180,slow=1.0,SNR=4.6						
CPUP	**Villa Florida**	**146.08**	**167**	PKPbc	PKPbc	13 37 31.8	+2.3

DDA ***06*** *13:25:11.5, 39°.82N×40°.75E, h5km±6km, Md2.9*
ISCJB ***06*** *13:25:12.3±0.8, 39°.81N±0°.05×40°.66E±0°.04, h12km±5km, Error ellipse: s-maj=8.7km s-min=5.4km az=8.4*
ISK ***06*** *13:25:12.6, 39°.85N×40°.65E, h9km, MD2.9*
CSEM ***06*** *13:25:13.0±0.3, 39°.88N×40°.64E, h12km, MD2.9, Error ellipse: s-maj=9.8km s-min=6.2km az=169.0*

ISC 06 13:25:12.8±0.8, 39°.82N±0°.06×40°.67E±0°.04, h14km±4km, n20, σ1°16/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.24**	**327**	*i* P	**Pg**	**13 25 16.6**	**-1.4**
KOPT				*i* S	**Sg**	**13 25 22.4**	**+0.9**
KOPT	**Kop Dagi**	**0.24**	**327**	*i* P	**Pg**	**13 25 16.6**	**-1.4**
KOPT				*i* S	**Sg**	**13 25 22.4**	**+0.9**
EZM	**Erzurum**	**0.54**	**80**	*e*PG	**Pg**	**13 25 22.8**	**-0.6**
EZM				*e*SG	**Sg**	**13 25 32.5**	**+1.9**
ERZM	**Erzurum**	**0.55**	**80**	*i* P	**Pg**	**13 25 21.4**	**-2.1**
ERZM				*i* S	**Sg**	**13 25 32.5**	**+1.8**
BAYT	**Ayd¨–ntepe-Bay**	**0.70**	**325**	*e*PG	**Pg**	**13 25 25.6**	**-0.9**
BAYT				*e*SG	**Sg**	**13 25 35.9**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**0.70**	**325**	*e*Pg	**Pg**	**13 25 25.6**	**-0.9**
BAYT				*e*Sg	**Sg**	**13 25 35.9**	**+0.1**
HOMI	**Horasan**	**0.98**	**76**	*i* P	**Pb**	**13 25 30.6**	**-0.9**
HOMI				*i* S	**Sb**	**13 25 42.3**	**-2.0**
EZC	**Erzincan**	**1.01**	**267**	*e*PG	**Pg**	**13 25 32.7**	**+0.4**
EZC	**Erzincan**	**1.01**	**267**	*e*Pg	**Pg**	**13 25 32.7**	**+0.4**
GUMT	**Gumushane**	**1.11**	**306**	*e*PN	**Pn**	**13 25 33.9**	**0.0**
GUMT	**Gumushane**	**1.11**	**306**	*e*Pn	**Pn**	**13 25 33.9**	**0.0**
PTK	**Pertek**	**1.35**	**227**	*e*PN	**Pn**	**13 25 38.8**	**+1.7**
PTK	**Pertek**	**1.35**	**227**	*e*Pn	**Pn**	**13 25 38.8**	**+1.6**
DBAD	**Bademkaya**	**1.44**	**33**	*i* P	**Pn**	**13 25 37.4**	**-0.9**
DBAD				*i* S	**Sn**	**13 25 58.5**	**+1.5**
DBAD	**Bademkaya**	**1.44**	**33**	*i* P	**Pn**	**13 25 37.4**	**-0.9**
DBAD				*i* S	**Sn**	**13 25 58.5**	**+1.5**
DAGI	**Agillar**	**1.58**	**37**	*i* P	**Pn**	**13 25 40.4**	**0.0**
ARTV	**Artvin**	**1.67**	**35**	*i* P	**Pn**	**13 25 40.7**	**-0.9**
ARTV				*i* S	**Sn**	**13 26 03.4**	**+0.6**
ARTV	**Artvin**	**1.67**	**35**	*i* P	**Pn**	**13 25 40.7**	**-0.9**
ARTV				*i* S	**Sn**	**13 26 03.4**	**+0.6**
BCA	**Borcka**	**1.78**	**24**	*e*PN	**Pn**	**13 25 43.6**	**+0.5**
BCA	**Borcka**	**1.78**	**24**	*e*Pn	**Pn**	**13 25 43.6**	**+0.5**

CSEM ***06*** *14:16:34.6, 63°.96N×21°.40W, h7km, ML3.8, After REY*

REY 06 14:16:34.6, 63°.96N×21°.40W, h7km, ML3.4, ML3.8, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBJA	**Bjarnastaoir**	**0.04**	**108**	P	Pg	14 16 36.1	0.0
IBJA				S	Sg	14 16 37.4	+0.2
ISAN	**Sandskeio**	**0.12**	**322**	P	Pg	14 16 37.4	+0.2
ISAN				S	Sg	14 16 39.5	+0.5
IVOS	**Vogsosar**	**0.17**	**231**	P	Pg	14 16 38.1	0.0
IVOS				S	Sg	14 16 40.9	+0.5
IKRO	**Krokur**	**0.19**	**42**	P	Pg	14 16 38.3	-0.1
IKRO				S	Sg	14 16 41.2	+0.3
ISOL	**Solvholt**	**0.20**	**99**	P	Pg	14 16 38.6	-0.1
ISOL				S	Sg	14 16 41.7	+0.3
IKAS	**Kald??rsel**	**0.21**	**288**	P	Pg	14 16 38.9	+0.1
IKAS				S	Sg	14 16 42.4	+0.8
IHEI	**Heioarbar**	**0.25**	**17**	P	Pg	14 16 39.5	-0.1
IHEI				S	Sg	14 16 43.7	+0.8
IKRI	**Krysuvik**	**0.31**	**255**	P	Pg	14 16 40.3	-0.3
IKRI				S	Sg	14 16 44.9	+0.2
IASM	**Asmuli**	**0.37**	**110**	P	Pg	14 16 41.4	-0.4
IASM				S	Sg	14 16 46.6	0.0
IKUD	**Kuludalsa**	**0.42**	**330**	P	Pg	14 16 42.0	-0.7
IKUD				S	Sg	14 16 48.1	-0.1
ISAU	**Saurbæ**	**0.44**	**86**	P	Pg	14 16 42.4	-0.6
ISAU				S	Sg	14 16 48.6	-0.1
IVOG	**Vogar**	**0.44**	**272**	P	Pg	14 16 42.6	-0.5
IVOG				S	Sg	14 16 49.1	+0.3
IGRV	**Grindav??k**	**0.48**	**258**	P	Pg	14 16 43.2	-0.6
IGRV				S	Sg	14 16 49.5	-0.5
INYL	**Nylenda**	**0.59**	**272**	P	Pg	14 16 44.9	-1.0
INYL				S	Sg	14 16 53.3	-0.3
IGYG	**Gygjarholskot**	**0.61**	**58**	P	Pg	14 16 45.4	-1.0
IGYG				S	Sg	14 16 53.8	-0.5
IHAU	**Haukadalur**	**0.63**	**89**	P	Pg	14 16 45.8	-1.0
IHAU				S	Sg	14 16 54.6	-0.4
IVES	**Vestmannaeyjar**	**0.72**	**136**	P	Pg	14 16 47.4	-1.0
IVES				S	Sg	14 16 57.3	-0.4
IASB	**`sbjarnarst**	**0.79**	**2**	P	Pg	14 16 48.2	-1.6
IASB				S	Sg	14 16 59.2	-0.9
IESK

DURS				*i* S		**Sg**	**14 37 07.5**	**-0.6**
DEMI	**Demirci**	**0.56**	**195**	*i* P		**Pg**	**14 37 08.9**	**+0.8**
DEMI	**Demirci**	**0.56**	**195**	*i* P		**Pg**	**14 37 08.9**	**+0.8**
ULDT	**Uludag**	**0.58**	**18**	*i* P		**Pg**	**14 37 07.4**	**-1.0**
ULDT	**Uludag**	**0.58**	**18**	*i* P		**Pg**	**14 37 07.4**	**-1.1**
GDZ	**Gediz**	**0.67**	**138**	*i* P		**Pg**	**14 37 10.2**	**0.0**
GDZ	**Gediz**	**0.67**	**138**	*i* P		**Pg**	**14 37 10.2**	**0.0**
KCTX	**Karacabey (Bur**	**0.80**	**328**	*e*PG		**Pg**	**14 37 12.3**	**-0.3**
KCTX				*e*SG		**Sg**	**14 37 23.6**	**+0.7**
KCTX	**Karacabey (Bur**	**0.80**	**328**	*e*Pg		**Pg**	**14 37 12.3**	**-0.3**
KCTX				*e*Sg		**Sg**	**14 37 23.6**	**+0.7**
GEMT	**Gemlik**	**0.87**	**14**	*e*PG		**Pg**	**14 37 14.3**	**+0.2**
GEMT	**Gemlik**	**0.87**	**14**	*e*Pg		**Pg**	**14 37 14.3**	**+0.2**
CAVI	**Cavuskoy**	**0.95**	**49**	*e*PG		**Pg**	**14 37 16.6**	**+1.2**
CAVI	**Cavuskoy**	**0.95**	**49**	*e*Pg		**Pg**	**14 37 16.6**	**+1.1**
ARMT	**Armutlu**	**0.98**	**358**	*e*PG		**Pg**	**14 37 15.6**	**-0.5**
ARMT	**Armutlu**	**0.98**	**358**	*e*Pg		**Pg**	**14 37 15.6**	**-0.4**
BALY	**Balya**	**1.00**	**279**	*i* P		**Pg**	**14 37 16.5**	**0.0**
BALY				*i* S		**Sg**	**14 37 30.5**	**+0.9**
BALY	**Balya**	**1.00**	**279**	*i* P		**Pg**	**14 37 16.5**	**0.0**
BALY				*i* S		**Sg**	**14 37 30.5**	**+1.0**
YLV	**Yalova**	**1.04**	**20**	*e*PG		**Pg**	**14 37 17.4**	**+0.1**
YLV	**Yalova**	**1.04**	**20**	*e*Pg		**Pg**	**14 37 17.4**	**+0.1**
GONE	**Gonen-Balikesi**	**1.04**	**296**	*e*PG		**Pg**	**14 37 16.6**	**-0.7**
GONE	**Gonen-Balikesi**	**1.04**	**296**	*e*Pg		**Pg**	**14 37 16.6**	**-0.7**
ALT	**Altintas**	**1.08**	**119**	*e*PN		**Pn**	**14 37 18.2**	**-0.9**
ALT	**Altintas**	**1.08**	**119**	*e*Pn		**Pn**	**14 37 18.2**	**-0.8**
BNT	**Bandirma**	**1.08**	**316**	*e*PG		**Pg**	**14 37 17.8**	**-0.2**
BNT	**Bandirma**	**1.08**	**316**	*e*Pg		**Pg**	**14 37 17.8**	**-0.2**
KULA	**Kula-Manisa**	**1.09**	**190**	*e*PN		**Pn**	**14 37 18.2**	**-1.0**
KULA	**Kula-Manisa**	**1.09**	**190**	*e*Pn		**Pn**	**14 37 18.2**	**-1.0**
KHAL	**Karahalli**	**1.30**	**159**	*i* P		**Pn**	**14 37 23.1**	**+1.0**
KHAL	**Karahalli**	**1.30**	**159**	*i* P		**Pn**	**14 37 23.1**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.72**	**310**	*e*PN		**Pn**	**14 37 28.1**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.72**	**310**	*e*Pn		**Pn**	**14 37 28.1**	**+0.2**
MFT	**Murefte**	**1.73**	**314**	*e*PN		**Pn**	**14 37 28.4**	**+0.5**
MFT	**Murefte**	**1.73**	**314**	*e*Pn		**Pn**	**14 37 28.5**	**+0.5**

JMA 06 14:42:00.9±0.1, 36°.95N×141°.43E, h68km±1km, M3.5, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**287**	‖P	Pn	14 42 13.9	+0.1
ONAJ				S	Sn	14 42 23.3	+0.1
JFK	**Kawauchi**	**0.61**	**313**	‖P	Pn	14 42 14.5	-0.1
JFK				S	Sn	14 42 24.3	-0.4
JHO	**Hitachi**	**0.77**	**244**	‖P	Pn	14 42 16.4	0.0
JHO				S	Sn	14 42 27.5	-0.4
JFT	**Otama**	**1.04**	**303**	‖P	Pn	14 42 20.6	+0.8
JFT				S	Sn	14 42 34.8	+1.0
JMM	**Marumori**	**1.05**	**331**	‖P	Pn	14 42 19.8	0.0
JMM				S	Sn	14 42 33.9	-0.1
JFY	**Yanaizu**	**1.45**	**289**	‖P	Pn	14 42 25.7	+0.6
JFY				*e*S	Sn	14 42 44.0	+0.6
JOU	**Okura**	**1.54**	**337**	P	Pn	14 42 26.4	+0.1
JOU				*e*S	Sn	14 42 46.2	+0.8
JYS	**Shiratake**	**1.67**	**320**	P	Pn	14 42 28.5	+0.5
JYS				*e*S	Sn	14 42 49.9	+1.4
JAG	**Ashikaga**	**1.67**	**252**	P	Pn	14 42 28.8	+0.7
JAG				*e*S	Sn	14 42 48.8	+0.2
JKT	**Katashina**	**1.76**	**265**	P	Pn	14 42 30.6	+1.4
JKT				*e*S	Sn	14 42 51.6	+0.9
MAT	**Matsushiro**	**2.62**	**262**	P	Pn	14 42 42.6	+1.7
MAT				S	Sn	14 43 13.9	+2.3

DJA 06 14:49:04, 9°.70S×116°.72E, h9km, MLv3.6/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**1.72**	**320**	P	Pn	14 49 33.8	-0.4
KHKI				S	Sn	14 49 56.4	+0.1
IGBI	**Denpasar**	**1.78**	**299**	P	Pn	14 49 34.2	-0.8
IGBI				S	Sn	14 49 58.3	+0.5
SRBI	**Singaraja**	**2.19**	**317**	P	Pn	14 49 40.4	-0.2
NBBI	**Negara**	**2.46**	**302**	P	Pn	14 49 43.9	-0.4
BYJI	**Banyuwangi**	**2.76**	**302**	P	Pn	14 49 49.7	+1.2
JAGI	**Jajag, Banyuwa**	**2.81**	**296**	P	Pn	14 49 49.6	+0.4
GMJI	**Gumukmas**	**3.53**	**293**	P	Pn	14 49 59.5	+0.4
KRKI	**Karangkates**	**4.49**	**290**	P	Pn	14 50 11.7	-0.5
PCJI	**Pacitan**	**5.68**	**285**	P	Pn	14 50 28.1	-0.5

*ISCJB **06** 14:51:26.6±1.0, 32°.83N±0°.07×105°.60E±0°.07, h10km, mb3.2/4, Error ellipse: s-maj=10.2km s-min=7.5km az=31.4*
*IDC **06** 14:51:27.9±1.4, 32°.70N×105°.73E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/24, mbtmp3.2/4, Error ellipse: s-maj=195.8km s-min=22.6km az=56.0*
*BJI **06** 14:51:30.6, 32°.71N×105°.39E, h15km, ML3.0/5*
ISC 06 14:51:29.6±1.0, 32°.78N±0°.07×105°.54E±0°.07, h10km, n6, σ1§19/9, mb3.2/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**3.09**	**65**	Pn	**Pn**	**14 52 20.4**	**+1.9**
XAN				Pg	**Pg**	**14 52 24.8**	**-4.1**
XAN				Sg	**Sg**	**14 53 08.6**	**-0.4**
XAN	comp=N,33nm,0.8s			smax			
XAN	comp=E,23nm,1.1s			smax			
LZH	**Lanzhou**	**3.59**	**337**	*e*Pg	**Pg**	**14 52 37.1**	**-1.2**
LZH				Sg	**Sg**	**14 53 24.4**	**-0.4**
LZH	comp=N,53nm,1.0s			smax			
LZH	comp=E,57nm,1.1s			smax			
MKAR	**Makanchi Array**	**22.59**	**315**	P	**P**	**14 56 31.4**	**+1.3**
	comp=E,0.5nm,0.9s,mb3.0,baz=115,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**25.80**	**331**	P	**P**	**14 57 01.9**	**+1.3**
	comp=E,0.3nm,0.3s,mb3.3,baz=128,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**59.21**	**148**	P	**P**	**15 01 30.0**	**-1.0**
	comp=E,0.2nm,0.7s,mb3.3,baz=341,slow=7.9,SNR=4.9						
ASAR	**Alice Springs**	**62.31**	**151**	P	**P**	**15 01 51.1**	**-1.0**
	comp=E,0.2nm,0.6s,mb3.4,baz=329,slow=6.4,SNR=4.5						

IDC 06 14:58:42.1±31.0, 15°.94S×176°.56W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, Error ellipse: s-maj=596.0km s-min=150.6km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.13**	**240**	P	P	15 06 28.4	+0.2
	0.5nm,0.3s,baz=78,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**46.75**	**257**	P	P	15 07 13.1	-0.4
	0.4nm,0.4s,baz=82,slow=6.8,SNR=18						
ASAR	**Alice Springs**	**47.04**	**252**	P	P	15 07 15.3	-0.5
	3.5nm,0.5s,baz=87,slow=8.2,SNR=113						
FITZ	**Fitzroy Crossi**	**55.12**	**259**	P	P	15 08 17.1	+0.5
	1.6nm,1.1s,baz=56,slow=11,SNR=4.1						

*NEIC **06** 15:10:29.3, 18°.23N×103°.44W, h13km, MD4.2(MEX), After MEX.*
MEX 06 15:10:29.3±0.6, 18°.23N×103°.44W, h13km±2km, MD4.2, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.11**	**57**	*i* P	Pg	15 10 31.4	-1.0
MMIG				*i* S	Sg	15 10 33.9	-0.6
ZIIG	**Zihuatanejo**	**1.98**	**108**	*i* P	Pn	15 10 59.2	-3.3
ZIIG				*i* S	Sn	15 11 22.8	-4.4
ZIIG	**Zihuatanejo**	**1.98**	**108**	*i* P	Pn	15 10 59.2	-3.3
ZIIG				*i* S	Sn	15 11 22.8	-4.4
SFJM	**Santa Fe**	**2.28**	**9**	*i* P	Pn	15 11 04.2	-2.5
SFJM				*i* S	Sn	15 11 30.0	-4.6
SFJM	**Santa Fe**	**2.28**	**9**	*i* P	Pn	15 11 04.2	-2.5
SFJM				*i* S	Sn	15 11 30.0	-4.6
MOIG	**Morelia**	**2.57**	**56**	*e*P	Pn	15 11 08.4	-2.3
MOIG				*i* S	Sn	15 11 37.9	-3.9
MOIG	**Morelia**	**2.57**	**56**	*e*P	Pn	15 11 08.4	-2.3
MOIG				*i* S	Sn	15 11 37.9	-3.9
ANIG	**Ahuacatlan**	**2.99**	**340**	*e*P	Pn	15 11 13.5	-3.0
ANIG				*i* S	Sn	15 11 49.5	-2.7
ANIG	**Ahuacatlan**	**2.99**	**340**	*e*P	Pn	15 11 13.5	-3.0
ANIG				*i* S	Sn	15 11 49.5	-2.7
CAIG	**El Cayaco**	**3.25**	**111**	*i* P	Pn	15 11 17.6	-2.4
CAIG				*i* S	Sn	15 11 54.5	-4.1
CAIG	**El Cayaco**	**3.25**	**111**	*i* P	Pn	15 11 17.6	-2.4
CAIG				*i* S	Sn	15 11 54.5	-4.1
MEIG	**Mezcala**	**3.65**	**94**	*e*P	Pn	15 11 23.6	-1.9
MEIG				*i* S	Sn	15 12 05.1	-3.3
MEIG	**Mezcala**	**3.65**	**94**	*e*P	Pn	15 11 23.6	-1.9
MEIG				*i* S	Sn	15 12 05.1	-3.3
SZVM	**Salazar**	**4.00**	**74**	*e*P	Pn	15 11 30.1	-0.2
SZVM				*i* S	Sn	15 12 14.0	-3.1
SZVM	**Salazar**	**4.00**	**74**	*e*P	Pn	15 11 30.1	-0.2
SZVM				*i* S	Sn	15 12 14.0	-3.1
MZVM		**4.10**	**76**	*e*P	Pn	15 11 35.3	+3.6
MZVM				*i* S	Sn	15 12 18.8	-0.9
PPM	**Popocatepetl**	**4.64**	**79**	*e*P	Pn	15 11 37.3	-1.9
PPM				*i* S	Sn	15 12 29.6	-3.4
PPM	**Popocatepetl**	**4.64**	**79**	*e*P	Pn	15 11 37.3	-1.9
PPM				*i* S	Sn	15 12 29.6	-3.4
IIO	**Organos**	**4.67**	**72**	*e*P	Pn	15 11 39.0	-0.5
IIO				*i* S	Sn	15 12 32.5	-1.1
IIO	**Organos**	**4.67**	**72**	*e*P	Pn	15 11 39.0	-0.5
IIO				*i* S	Sn	15 12 32.5	-1.1
UTMO	**Huajuapan**	**5.38**	**93**	*e*P	Pn	15 11 48.0	-1.3
UTMO				*i* S	Sn	15 12 47.0	-4.1
UTMO	**Huajuapan**	**5.38**	**93**	*e*P	Pn	15 11 48.0	-1.3
UTMO				*i* S	Sn	15 12 47.0	-4.1
PNIG	**Pinotepa**	**5.39**	**109**	*e*P	Pn	15 11 50.6	+1.1
PNIG				*i* S	Sn	15 12 50.7	-0.9
PNIG	**Pinotepa**	**5.39**	**109**	*e*P	Pn	15 11 50.6	+1.1
PNIG				*i* S	Sn	15 12 50.7	-0.9

*ISCJB **06** 15:22:12.4±1.2, 7°.80S±0°.04×117°.73E±0°.03, h8km±8km, mb4.5/15, Error ellipse: s-maj=7.2km s-min=4.3km az=174.8*
*IDC **06** 15:22:13.1±0.9, 7°.73S×117°.78E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML3.8/2, Error ellipse: s-maj=32.5km s-min=15.6km az=69.0*
*DJA **06** 15:22:14, 8°.01S×117°.67E, h10km, MLv4.5/17*
*NEIC **06** 15:22:17.9±0.3, 7°.77S×117°.81E, h35km, mb4.8/11, Error ellipse: s-maj=12.7km s-min=4.9km az=52.0*
NEIC Felt [II] at Dompu.
ISC 06 15:22:13.3±1.2, 7°.78S±0°.04×117°.72E±0°.03, h1km±8km, n61, σ1§01/75, mb4.6/15, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.75**	**241**	P	**Pn**	**15 22 42.8**	**-2.1**
MTNI				S	**Sn**	**15 23 06.5**	**-1.4**
KHKI	**Kahang-Kahang**	**2.17**	**254**	P	**Pn**	**15 22 48.8**	**-1.8**
KHKI				S	**Sn**	**15 23 18.8**	**+0.6**
SRBI	**Singaraja**	**2.50**	**263**	P	**Pn**	**15 22 53.7**	**-1.5**
SRBI				S	**Sn**	**15 23 28.8**	**+2.5**
IGBI	**Denpasar**	**2.75**	**248**	P	**Pn**	**15 22 57.4**	**-1.2**
IGBI				S	**Sn**	**15 23 35.1**	**+2.6**
NBBI	**Negara**	**3.12**	**259**	P	**Pn**	**15 23 02.9**	**-0.8**
WSI	**Waingapu**	**3.17**	**127**	P	**Pg**	**15 23 16.4**	**+2.3**
KAPI	**Kappang**	**3.41**	**37**	Pn	**Pn**	**15 23 08.1**	**+0.4**
	35nm,0.3s,baz=211,slow=6.2,SNR=218						
KAPI				Sn	**Sn**	**15 23 47.7**	**-1.1**
	32nm,0.3s,baz=262,slow=22,SNR=9.5						
KAPI	**Kappang**	**3.41**	**37**	Pn	**Pn**	**15 23 08.1**	**+0.4**
KAPI				Sn	**Sn**	**15 23 47.7**	**-1.1**
BKSI	**Bulukumba**	**3.41**	**45**	P	**Pn**	**15 23 09.2**	**+1.4**
BKSI				S	**Sg**	**15 24 02.3**	**-0.8**
JAGI	**Jajag, Banyuwa**	**3.60**	**259**	P	**Pn**	**15 23 09.2**	**-1.1**
JAGI				S	**Sn**	**15 23 54.0**	**+0.6**
KMMI	**Kalianget**	**3.79**	**281**	P	**Pn**	**15 23 13.8**	**+0.9**
BLJI	**Banyuglugur**	**4.08**	**270**	P	**Pn**	**15 23 16.9**	**-0.1**
GMJI	**Gumukmas**	**4.26**	**263**	P	**Pn**	**15 23 19.1**	**-0.3**
MMRI	**Maumere**	**4.56**	**101**	P	**Pn**	**15 23 24.1**	**+0.6**
MMRI				S	**Sn**	**15 24 18.4**	**+1.3**
BBKI	**Banjar Baru**	**5.15**	**326**	P	**Pn**	**15 23 33.1**	**+1.4**
	1.0nm2μm166nm,0.9s						
KRKI	**Karangkates**	**5.23**	**265**	P	**Pn**	**15 23 33.6**	**+0.9**
	2.5nm207nm,0.7s						
PWJI	**Pagerwojo**	**5.86**	**267**	P	**Pn**	**15 23 41.8**	**+0.4**
	0.2nm43nm,0.7s						
SJI	**Sawahan**	**5.90**	**270**	P	**Pn**	**15 23 41.6**	**-0.3**
	0.3nm2μm48nm,0.4s						
PCJI	**Pacitan**	**6.49**	**266**	P	**Pn**	**15 23 50.1**	**0.0**
	0.3nm78nm,1.2s						
UGM	**Wanagama**	**7.13**	**268**	P	**Pn**	**15 24 00.1**	**+1.3**
	0.6nm125nm,2.2s						
CBJI	**Citeko**	**10.87**	**276**	P	**Pn**	**15 24 50.5**	**+0.3**
	139nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.84**	**144**	Pn	**Pn**	**15 25 15.5**	**-1.6**
	0.2nm,0.3s,baz=318,slow=16,SNR=6.2						
FITZ				Sn	**Sn**	**15 27 29.0**	**-12**
	0.4nm,0.3s,baz=193,slow=14,SNR=3.7						
FITZ	**Fitzroy Crossi**	**12.84**	**144**	Pn	**Pn**	**15 25 15.5**	**-1.6**
FITZ				*e*Pn	**Pn**	**15 25 15.9**	**-1.2**
FITZ				Sn	**Sn**	**15 27 29.0**	**-12**
FITZ	**Fitzroy Crossi**	**12.84**	**144**	P	**Pn**	**15 25 18.9**	**+1.8**
WRA	**Warramunga Arr**	**20.14**	**129**	P	**P**	**15 26 47.6**	**-1.5**
	1.0nm,0.5s,baz=304,slow=13,SNR=18						
WRA				S	**S**	**15 30 26.0**	**-10**
	0.6nm,0.7s,baz=309,slow=23,SNR=4.0						
WRA	**Warramunga Arr**	**20.14**	**129**	P	**P**	**15 26 47.6**	**-1.5**
WRA				S	**S**	**15 30 26.0**	**-10**
WRAB	**Tennant Creek**	**20.14**	**129**	*e*P	**P**	**15 26 48.9**	**-0.2**
	8.1nm,0.8s						
WB2	**Warramunga Arr**	**20.15**	**129**	*e*P	**P**	**15 26 49.0**	**-0.2**
AS31	**Alice Springs**	**22.15**	**137**	*e*P	**P**	**15 27 10.0**	**-0.8**
ASAR	**Alice Springs**	**22.15**	**137**	P	**P**	**15 27 10.6**	**-0.2**
	1.1nm,0.4s,baz=312,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**22.15**	**137**	P	**P**	**15 27 10.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**25.03**	**181**	P	**P**	**15 27 40.5**	**+1.5**
	6.8nm,0.8s,mb4.5,baz=354,slow=5.9,SNR=3.5						
NWAO	**Narrogin (SRO)**	**25.03**	**181**	P	**P**	**15 27 40.5**	**+1.5**
STKA	**Stephens Creek**	**32.70**	**140**	P	**P**	**15 28 47.5**	**0.0**
	1.8nm,0.8s,mb4.1,baz=324,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**32.70**	**140**	P	**P**	**15 28 47.5**	**0.0**
STKA				*e*P		15 28 47.9	
ODAN	**Odare**	**45.28**	**321**	*e*P	**P**	**15 30 33.1**	**+0.3**
	16nm,0.9s,mb4.9						
ODAN	**Odare**	**45.28**	**321**	*e*P	**P**	**15 30 33.1**	**+0.3**
	16nm,0.9s,mb5.0						
RAMN	**Ramite**	**45.84**	**320**	*e*P	**P**	**15 30 37.1**	**-0.2**
	4.3nm,0.5s,mb4.8						
RAMN	**Ramite**	**45.84**	**320**	*e*P	**P**	**15 30 37.1**	**-0.2**
	4.3nm,0.5s,mb4.7						
JIRN	**Jiri**	**46.59**	**320**	*e*P	**P**	**15 30 43.8**	**+0.6**
	2.8nm,0.6s,mb4.6						
JIRN	**Jiri**	**46.59**	**320**	*e*P	**P**	**15 30 43.8**	**+0.6**
	2.8nm,0.6s,mb4.6						
GUN	**Gumba**	**46.97**	**320**	*e*P	**P**	**15 30 46.5**	**+0.4**
	11nm,0.7s,mb5.1						
GUN	**Gumba**	**46.97**	**320**	*e*P	**P**	**15 30 46.5**	**+0.4**
	11nm,0.7s,mb5.1						
DMN	**Daman**	**47.25**	**319**	*e*P	**P**	**15 30 48.4**	**0.0**
	14nm,1.0s,mb5.1						
DMN	**Daman**	**47.25**	**319**	*e*P	**P**	**15 30 48.4**	**0.0**
	14nm,1.0s,mb5.1						
GKN	**Gorkha**	**47.82**	**319**	*e*P	**P**	**15 30 52.7**	**-0.1**
	5.6nm,0.6s,mb4.9						
GKN	**Gorkha**	**47.82**	**319**	*e*P	**P**	**15 30 52.7**	**-0.1**
	5.6nm,0.6s,mb4.9						
KOLN	**Koldanda**	**48.34**	**318**	*e*P	**P**	**15 30 56.6**	**-0.2**
	4.6nm,0.5s,mb4.9						
KOLN	**Koldanda**	**48.34**	**318**	*e*P	**P**	**15 30 56.6**	**-0.2**
	4.6nm,0.5s,mb4.9						
DANN	**Dangsing**	**48.63**	**319**	*e*P	**P**	**15 30 59.0**	**0.0**
	11nm,0.6s,mb5.1						
DANN	**Dangsing**	**48.63**	**319**	*e*P	**P**	**15 30 59.0**	**0.0**
	11nm,0.6s,mb5.1						
PYUN	**Piuthan**	**48.97**	**318**	*e*P	**P**	**15 31 01.9**	**+0.3**
	12nm,1.0s,mb4.9						
PYUN	**Piuthan**	**48.97**	**318**	*e*P	**P**	**15 31 01.9**	**+0.3**
	12nm,1.0s,mb4.9						
SONM	**Songino Array**	**56.27**	**351**	P	**P**	**15 31 55.8**	**+0.4**
	1.4nm,0.7s,mb4.1,baz=167,slow=9.1,SNR=11						
SONM	**Songino Array**	**56.27**	**351**	P	**P**	**15 31 55.8**	**+0.4**
MKAR	**Makanchi Array**	**62.80**	**333**	P	**P**	**15 32 40.0**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=143,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**62.80**	**333**	P	**P**	**15 32 40.0**	**-0.5**
ZALV	**Zalesovo Beam**	**67.45**	**340**	P	**P**	**15 33 09.6**	**-1.0**
	0.8nm,0.5s,mb4.2,baz=126,slow=6.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**67.45**	**340**	P	**P**	**15 33 09.6**	**-1.0**
ABKAR	**Akbulak array**	**75.84**	**325**	*e*P	**P**	**15 34 00.2**	**-1.0**
	0.9nm,0.7s,mb4.0						
RSO	**Redoubt South**	**96.47**	**30**	*e*P	**P**	**15 35 44.2**	**0.0**
	34nm,0.5s						

*ATH **06** 15:48:37.7, 38°.84N×26°.15E, h35km±2km, MD2.8/3*
*ISCJB **06** 15:48:38.7±0.5, 38°.80N±0°.02×26°.38E±0°.04, h9km±4km, Error ellipse: s-maj=5.3km s-min=3.3km az=0.6*
*DDA **06** 15:48:38.1, 38°.81N×26°.38E, h24km±1km, Md2.8*
*THE **06** 15:48:39.5, 38°.83N×26°.36E, h6km±13km, ML2.1/3, Error ellipse: s-maj=13.2km s-min=0.3km az=86.0*
*CSEM **06** 15:48:39.3±0.3, 38°.80N×26°.36E, h15km±1km, MD2.8, Error ellipse: s-maj=8.2km s-min=5.4km az=86.0*
ISC 06 15:48:39.0±0.5, 38°.80N±0°.02×26°.39E±0°.04, h8km±5km, n26, σ0§93/50, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.46**	**348**	*e*PB	**Pg**	**15 48 47.8**	**-0.1**
PRK				*e*SB	**Sg**	**15 48 54.3**	**+0.4**
PRK	**Paraskevi**	**0.46**	**348**	P	**Pg**	**15 48 47.9**	**0.0**
PRK				S	**Sg**	**15 48 54.1**	**+0.2**
PRK	**Paraskevi**	**0.46**	**348**	P	**Pg**	**15 48 47.9**	**0.0**
PRK				S	**Sg**	**15 48 54.1**	**+0.2**
URLA	**Izmir**	**0.47**	**160**	*i* P	**Pg**	**15 48 47.0**	**-1.1**
URLA				*i* S	**Sg**	**15 48 54.5**	**+0.3**
URLA	**Izmir**	**0.47**	**160**	*i* P	**Pg**	**15 48 47.0**	**-1.1**
URLA				*i* S	**Sg**	**15 48 54.5**	**+0.3**
CHOS	**Chios island**	**0.49**	**213**	*e*PB	**Pg**	**15 48 48.5**	**0.0**
CHOS				*e*SB	**Sg**	**15 48 55.6**	**+0.6**
CHOS	**Chios island**	**0.49**	**213**	P	**Pg**	**15 48 49.3**	**+0.8**
CHOS				S	**Sg**	**15 48 56.8**	**+1.8**
CHOS	**Chios island**	**0.49**	**213**	*e*Pb	**Pg**	**15 48 49.2**	**+0.7**
CHOS				*e*Sb	**Sg**	**15 48 55.6**	**+0.6**
CHOS				S	**Sg**	**15 48 56.8**	**+1.8**
AYVA	**Ayvalik**	**0.56**	**24**	*i* P	**Pg**	**15 48 49.4**	**-0.4**
AYVA				*i* S	**Sg**	**15 48 57.3**	**+0.2**
AYVA	**Ayvalik**	**0.56**	**24**	*i* P	**Pg**	**15 48 49.4**	**-0.4**
AYVA				*i* S	**Sg**	**15 48 57.3**	**+0.2**
SIGR	**SIGRI**	**0.59**	**315**	P	**Pg**	**15 48 50.0**	**-0.4**
SIGR				S	**Sg**	**15 48 58.4**	**+0.4**
SIGR	**SIGRI**	**0.59**	**315**	P	**Pg**	**15 48 50.0**	**-0.4**
SIGR				S	**Sg**	**15 48 58.4**	**+0.4**
BOZC	**Bozcaada**	**1.07**	**346**	*i* P	**Pg**	**15 48 58.6**	**-1.0**
BOZC				*i* S	**Sg**	**15 49 13.0**	**-0.6**
AKHS	**Akhisar**	**1.11**	**86**	*i* P	**Pg**	**15 49 00.2**	**-0.1**
AKHS				*i* S	**Sg**	**15 49 15.3**	**+0.5**
AKHS	**Akhisar**	**1.11**	**86**	*i* P	**Pg**	**15 49 00.2**	**-0.2**
AKHS				*i* S	**Sg**	**15 49 15.3**	**+0.5**
SMG	**Samos**	**1.15**	**162**	*e*PN	**Pn**	**15 49 00.6**	**-0.7**
SMG	**Samos**	**1.15**	**162**	*e*Pn	**Pn**	**15 49 00.6**	**-0.7**
BALY	**Balya**	**1.34**	**45**	*i* P	**Pn**	**15 49 03.7**	**-0.2**
BALY				*i* S	**Sb**	**15 49 22.0**	**+0.4**
BALY	**Balya**	**1.34**	**45**	*i* P	**Pn**	**15 49 03.7**	**-0.3**
BALY				*i* S	**Sb**	**15 49 22.0**	**+0.4**
AYDN	**Tasoluk**	**1.63**	**134**	*i* P	**Pn**	**15 49 10.4**	**+2.3**
AYDN				*i* S	**Sn**	**15 49 29.2**	**0.0**
AYDN	**Tasoluk**	**1.63**	**134**	*i* P	**Pn**	**15 49 10.4**	**+2.4**
AYDN				*i* S	**Sn**	**15 49 29.2**	**0.0**
DURS	**Dursunbey**	**1.80**	**63**	*i* P	**Pn**	**15 49 09.8**	**-0.6**
DURS				*i* S	**Sn**	**15 49 32.2**	**-1.3**
DURS	**Dursunbey**	**1.80**	**63**	*i* P	**Pn**	**15 49 09.8**	**-0.6**
DURS				*i* S	**Sn**	**15 49 32.2**	**-1.2**
APE	**Apeiranthos**	**1.86**	**202**	*e*PN	**Pn**	**15 49 08.9**	**-2.2**
SART	**Tekirdag**	**1.98**	**18**	*i* P	**Pn**	**15 49 14.4**	**+1.6**
SART				*i* S	**Sn**	**15 49 39.2**	**+1.3**
SART	**Tekirdag**	**1.98**	**18**	*i* P	**Pn**	**15 49 14.4**	**+1.6**
SART				*i* S	**Sn**	**15 49 39.2**	**+1.4**

IDC 06 15:54:17.4±2.0, 4°.37N×127°.03E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=150.6km s-min=24.8km az=66.0, Talaud Islands

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

5.7nm,0.8s,mb4.2
DMN Daman 22.99 337 *e*P **P 16 19 23.1 -0.2**
5.7nm,0.8s,mb4.2
KKN Kakani 23.09 337 *e*P **P 16 19 24.0 -0.1**
6.0nm,0.6s,mb4.3
KKN Kakani 23.09 337 *e*P **P 16 19 24.0 -0.1**
6.0nm,0.6s,mb4.3
KMMI Kalianget 23.14 125 P **P 16 19 27.2 +2.4**
39nm,0.8s,mb5.0
GKN Gorkha 23.53 336 *e*P **P 16 19 27.9 -0.2**
5.0nm,0.4s,mb4.5
GKN Gorkha 23.53 336 *e*P **P 16 19 27.9 -0.2**
5.0nm,0.4s,mb4.5
KOLN Koldanda 23.76 334 *e*P **P 16 19 30.0 -0.2**
7.2nm,0.5s,mb4.6
KOLN Koldanda 23.76 334 *e*P **P 16 19 30.0 -0.2**
7.2nm,0.5s,mb4.6
DANN Dangsing 24.20 335 *e*P **P 16 19 34.3 +0.1**
21nm,0.8s,mb4.8
DANN Dangsing 24.20 335 *e*P **P 16 19 34.3 +0.1**
21nm,0.8s,mb4.8
PYUN Piuthan 24.31 333 *e*P **P 16 19 35.6 +0.3**
12nm,0.4s,mb4.8
PYUN Piuthan 24.31 333 *e*P **P 16 19 35.6 +0.3**
12nm,0.4s,mb4.9
GTOI Gorontalo 28.42 101 P **P 16 20 12.6 +0.4**
MBWA Marble Bar 36.63 139 P **P 16 21 22.7 -0.6**
8.9nm,0.9s,mb4.3
FITZ Fitzroy Crossi 38.82 130 *e*P **P 16 21 40.7 -1.0**
2.6nm,0.4s,mb4.1
AAK Ala-Archa 40.29 336 *e*P **P 16 21 53.9 +0.5**
7.3nm,0.9s,mb4.1
EKS2 Erkin-Say 40.60 336 *e*P **P 16 21 53.8 -2.2**
1.6nm,0.7s,mb3.6
MKAR Makanchi Array 41.57 347 P **P 16 22 03.8 -0.1**
0.8nm,0.5s,mb3.4,baz=156,slow=9.2,SNR=15
MKAR Makanchi Array 41.57 347 P **P 16 22 03.8 -0.1**
SONM Songino Array 42.22 11 P **P 16 22 09.2 +0.1**
1.7nm,0.7s,mb3.6,baz=184,slow=9.1,SNR=13
SONM Songino Array 42.22 11 P **P 16 22 09.2 +0.1**
ULN Ulaanbaatar 42.38 12 *e*P **P 16 22 09.9 -0.5**
1.7nm,0.6s,mb3.6
KLBR Kellerberrin 43.66 152 *e*P **P 16 22 22.3 +1.4**
30nm,1.6s,mb4.4
NWAO Narrogin (SRO) 44.54 153 P **P 16 22 29.3 +1.5**
7.8nm,0.8s,mb4.1,baz=333,slow=8.2,SNR=10
NWAO Narrogin (SRO) 44.54 153 *e*P **P 16 22 26.8 -1.0**
16nm,1.2s,mb4.2
WRA Warramunga Arr 46.70 125 P **P 16 22 44.2 -0.7**
3.4nm,0.6s,mb3.9,baz=306,slow=8.8,SNR=72
WRA pP pP 16 23 31.8 +0.5
1.1nm,0.8s,baz=303,slow=9.1,SNR=2.4
WRA Warramunga Arr 46.70 125 P **P 16 22 44.2 -0.8**
WRA pP pP 16 23 31.8 +0.5
WRAB Tennant Creek 46.70 125 *e*P **P 16 22 44.0 -1.0**
5.4nm,0.6s,mb4.0
WB2 Warramunga Arr 46.71 125 *e*P **P 16 22 44.1 -0.8**
ZALV Zalesovo Beam 47.97 352 P **P 16 22 54.1 -0.1**
1.0nm,0.4s,mb3.5,baz=175,slow=7.3,SNR=6.9
ZALV pP pP 16 23 41.3 +0.5
0.5nm,0.3s,baz=162,slow=6.2,SNR=2.5
ZALV Zalesovo Beam 47.97 352 P **P 16 22 54.1 -0.1**
ZALV pP pP 16 23 41.3 +0.5
AS31 Alice Springs 48.32 130 *e*P **P 16 22 56.8 -0.6**
ASAR Alice Springs 48.32 130 P **P 16 22 56.8 -0.5**
1.6nm,0.4s,mb3.7,baz=302,slow=7.7,SNR=73
ASAR pP pP 16 23 44.4 +0.3
0.6nm,0.7s,baz=303,slow=7.7,SNR=1.9
ASAR Alice Springs 48.32 130 P **P 16 22 56.8 -0.5**
ASAR pP pP 16 23 44.4 +0.3
BRVK Borovoye 50.60 341 *e*P **P 16 23 13.7 -0.3**
1.2nm,0.6s,mb3.5
ABKAR Akbulak array 51.84 331 *e*P **P 16 23 22.6 -0.8**
0.8nm,0.5s,mb3.4
AKTO Aktyubinsk 53.56 331 P **P 16 23 35.7 -0.2**
0.6nm,0.4s,mb3.4,baz=94,slow=7.3,SNR=4.1
AKTO Aktyubinsk 53.56 331 P **P 16 23 35.7 -0.2**
STKA Stephens Creek 58.49 134 P **P 16 24 11.8 +0.7**
2.3nm,0.8s,mb3.9,baz=317,slow=5.4,SNR=3.8
STKA Stephens Creek 58.49 134 P **P 16 24 11.8 +0.7**
BRTR Keskin Array B 64.03 311 P **P 16 24 47.8 -0.4**
1.3nm,0.5s,mb3.8,baz=139,slow=7.5,SNR=16
BRTR Keskin Array B 64.03 311 P **P 16 24 47.8 -0.4**
CASY Casey 73.53 174 *e*P **P 16 25 49.2 +3.1**
3.2nm,0.6s,mb4.1
FINES FINESS Array B 74.32 332 P **P 16 25 50.6 -0.3**
2.9nm,1.1s,mb3.8,baz=108,slow=3.0,SNR=5.3
FINES FINESS Array B 74.32 332 P **P 16 25 50.6 -0.3**
LBTB Lobatse 74.50 242 *e*P **P 16 25 54.5 +1.9**
1.7nm,0.6s,mb3.9
BOSA Boshof 75.75 238 P **P 16 26 01.8 +2.1**
1.9nm,0.5s,mb4.0,baz=49,slow=1.5,SNR=9.0
BOSA Boshof 75.75 238 *e*P **P 16 26 01.2 +1.5**
2.3nm,0.6s,mb4.0
ARCES ARCESS Array B 76.82 340 P **P 16 26 05.3 +0.4**
2.8nm,1.0s,mb3.9,baz=106,slow=6.7,SNR=2.5
ARCES ARCESS Array B 76.82 340 P **P 16 26 05.3 +0.4**
GERES GERESS Array B 79.46 318 P **P 16 26 20.2 +0.4**
0.3nm,0.4s,mb3.2,baz=111,slow=5.6,SNR=5.2
GERES GERESS Array B 79.46 318 P **P 16 26 20.2 +0.4**
VNDA Vanda 91.46 168 P **P 16 27 16.6 -1.9**
4.3nm,1.3s,mb4.2

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*ISCJB **06** 16:23:59.3±0.4, 39°.61N±0°.03×43°.71E±0°.03, h12km±5km, Error ellipse: s-maj=5.0km s-min=3.9km az=155.9*
*ISK **06** 16:23:59.1, 39°.58N×43°.71E, h11km, MDJ3.0*
*DDA **06** 16:23:59.8, 39°.64N×43°.73E, h12km±1km, Md3.0*
*CSEM **06** 16:23:59.4±0.3, 39°.62N×43°.76E, h2km, MDJ3.0, Error ellipse: s-maj=6.4km s-min=5.0km az=90.0*
ISC 06 16:24:00.2±0.4, 39°.62N±0°.03×43°.72E±0°.03, h7km±4km, n31, σ1°29/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.08**	**200**	*i* P	**Pg**	**16 24 02.8**	**+0.7**
DYDN				*i* S	**Sg**	**16 24 05.4**	**+2.1**
DYDN	**Diyadin**	**0.08**	**200**	*i* P	**Pg**	**16 24 02.8**	**+0.8**
DYDN				*i* S	**Sg**	**16 24 05.4**	**+2.0**
CLDR	**Caldiran**	**0.50**	**162**	*e*PG	**Pg**	**16 24 08.8**	**-1.0**
CLDR				*e*SG	**Sg**	**16 24 16.1**	**-0.1**
CLDR	**Caldiran**	**0.50**	**162**	*e*Pg	**Pg**	**16 24 08.8**	**-0.9**
CLDR				*e*Sg	**Sg**	**16 24 16.1**	**-0.1**
AGRB	**Hanur-Agry**	**0.57**	**266**	*e*PG	**Pg**	**16 24 10.5**	**-0.5**
AGRB				*e*SG	**Sg**	**16 24 18.5**	**0.0**
AGRB	**Hanur-Agry**	**0.57**	**266**	*e*Pg	**Pg**	**16 24 10.5**	**-0.6**
AGRB				*e*Sg	**Sg**	**16 24 18.5**	**0.0**
TUTA	**Tutak**	**0.74**	**253**	*i* P	**Pg**	**16 24 14.1**	**-0.2**
TUTA				*i* S	**Sg**	**16 24 24.6**	**+0.7**
TUTA	**Tutak**	**0.74**	**253**	*i* P	**Pg**	**16 24 14.1**	**-0.2**
TUTA				*i* S	**Sg**	**16 24 24.6**	**+0.7**
DIGO	**Kars**	**0.84**	**342**	*i* P	**Pg**	**16 24 15.6**	**-0.7**
DIGO	**Kars**	**0.84**	**342**	*i* P	**Pg**	**16 24 15.6**	**-0.7**
GNI	**Garni**	**0.95**	**56**	*e*PG	**Pg**	**16 24 17.4**	**-0.9**
GNI				*e*SG	**Sg**	**16 24 32.4**	**+1.8**
GNI	**Garni**	**0.95**	**56**	*e*Pg	**Pg**	**16 24 17.4**	**-0.9**
GNI				*e*Sg	**Sg**	**16 24 32.4**	**+1.8**
VANB	**Van**	**1.05**	**194**	*e*PG	**Pg**	**16 24 18.8**	**-1.6**
VANB	**Van**	**1.05**	**194**	*e*Pg	**Pg**	**16 24 18.8**	**-1.6**
TVAN	**Van**	**1.11**	**193**	*i* P	**Pg**	**16 24 20.6**	**-0.9**
TVAN				*i* S	**Sg**	**16 24 37.8**	**+1.8**
TVAN	**Van**	**1.11**	**193**	*i* P	**Pg**	**16 24 20.6**	**-0.9**
TVAN				*i* S	**Sg**	**16 24 37.8**	**+1.8**
KARS	**Kars**	**1.12**	**334**	*e*PN	**Pn**	**16 24 21.5**	**-0.8**
KARS	**Kars**	**1.12**	**334**	*e*Pn	**Pn**	**16 24 21.5**	**-0.8**
HOMI	**Horasan**	**1.46**	**288**	*i* P	**Pg**	**16 24 27.2**	**-1.0**
HOMI				*i* S	**Sg**	**16 24 49.9**	**+2.7**
TATV	**Tatvan**	**1.58**	**226**	*i* P	**Pn**	**16 24 30.1**	**+1.4**
TATV				*i* S	**Sn**	**16 24 51.4**	**+2.0**
TATV	**Tatvan**	**1.58**	**226**	*i* P	**Pn**	**16 24 30.1**	**+1.4**
TATV				*i* S	**Sn**	**16 24 51.4**	**+2.0**
ERZM	**Erzurum**	**1.84**	**280**	*i* P	**Pg**	**16 24 34.4**	**-1.1**
ERZM				*i* S	**Sg**	**16 24 59.5**	**+0.2**
ERZM	**Erzurum**	**1.84**	**280**	*i* P	**Pn**	**16 24 34.3**	**+2.1**
DAGI	**Agillar**	**2.01**	**317**	*i* P	**Pn**	**16 24 36.4**	**+1.9**
BNGL	**BINGOL**	**2.10**	**252**	*i* P	**Pg**	**16 24 37.4**	**-3.1**
BNGL				*i* S	**Sg**	**16 25 07.3**	**-0.5**
DGRG	**David-gareji**	**2.22**	**34**	P	**Pn**	**16 24 36.7**	**-0.7**
DGRG				S	**Sg**	**16 25 11.8**	**+0.2**
BCA	**Borcka**	**2.43**	**319**	*e*PN	**Pn**	**16 24 40.6**	**+0.3**
BCA	**Borcka**	**2.43**	**319**	*e*Pn	**Pn**	**16 24 40.6**	**+0.3**
BNGB	**Bing¶ll**	**2.44**	**256**	*e*PN	**Pn**	**16 24 39.1**	**-1.3**
BEST	**Besiri**	**2.58**	**229**	*i* P	**Pg**	**16 24 46.8**	**-2.8**
BEST				*i* S	**Sg**	**16 25 22.3**	**-0.6**
BINT	**Bingol**	**2.62**	**255**	*e*Pn	**Pn**	**16 24 39.1**	**-3.8**

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*ATH **06** 16:27:52.4, 39°.41N×20°.75E, h32km±1km, MDJ3.0/7*
*CSEM **06** 16:27:52.8±0.2, 39°.38N×20°.78E, h20km, MDJ3.0, Error ellipse: s-maj=7.8km s-min=5.2km az=21.0*
*ISCJB **06** 16:27:53.2±0.5, 39°.37N±0°.04×20°.81E±0°.04, h20km±6km, Error ellipse: s-maj=7.5km s-min=5.5km az=21.5*
*THE **06** 16:27:53.7, 39°.36N×20°.82E, h10km±4km, Error ellipse: s-maj=4.7km s-min=1.2km az=288.0*
ISC 06 16:27:53.2±0.5, 39°.37N±0°.04×20°.81E±0°.05, h18km±4km, n25, σ0°84/39, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.29**	**6**	*e*PB	**Pg**	**16 27 59.3**	**-0.4**
JAN				*e*SB	**Sg**	**16 28 05.0**	**+1.0**
JAN	**Janina**	**0.29**	**6**	P	**Pg**	**16 27 59.3**	**-0.4**
JAN				S	**Sg**	**16 28 04.7**	**+0.7**
JAN	**Janina**	**0.29**	**6**	P	**Pg**	**16 27 59.3**	**-0.4**
JAN				S	**Sg**	**16 28 04.7**	**+0.7**
JAN				*e*Sb	**Sg**	**16 28 05.0**	**+1.0**
DSL	**Palaion Diasel**	**0.32**	**136**	P	**Pg**	**16 27 59.0**	**-1.2**
DSL				S	**Sg**	**16 28 04.4**	**-0.4**
DSL	**Palaion Diasel**	**0.32**	**136**	P	**Pg**	**16 27 59.0**	**-1.2**
DSL				S	**Sg**	**16 28 04.4**	**-0.4**
RGA	**Parga**	**0.36**	**263**	P	**Pg**	**16 28 00.6**	**-0.2**
RGA				S	**Sg**	**16 28 07.5**	**+1.6**
RGA	**Parga**	**0.36**	**263**	P	**Pg**	**16 28 00.6**	**-0.2**
RGA				S	**Sg**	**16 28 07.5**	**+1.6**
IGT	**Igoumenitsa**	**0.41**	**294**	P	**Pg**	**16 28 00.7**	**-0.9**
IGT				S	**Sg**	**16 28 07.5**	**+0.2**
IGT	**Igoumenitsa**	**0.41**	**294**	P	**Pg**	**16 28 00.7**	**-0.9**
IGT				S	**Sg**	**16 28 07.5**	**+0.2**
MEV	**Metsovon**	**0.53**	**38**	P	**Pg**	**16 28 03.8**	**0.0**
MEV	**Metsovon**	**0.53**	**38**	P	**Pg**	**16 28 03.8**	**0.0**
KEK	**Kerkira**	**0.86**	**294**	*e*PN	**Pn**	**16 28 08.1**	**-2.2**
KEK	**Kerkira**	**0.86**	**294**	*e*Pn	**Pn**	**16 28 08.1**	**-2.2**
EVR	**Evrytania**	**0.90**	**120**	*e*PN	**Pn**	**16 28 11.1**	**+0.2**
EVR				*e*SN	**Sn**	**16 28 23.9**	**+0.6**
EVR	**Evrytania**	**0.90**	**120**	*e*Pn	**Pn**	**16 28 11.3**	**+0.4**
EVR				*e*Sn	**Sn**	**16 28 23.6**	**+0.3**
THL	**Klokotos Trika**	**0.95**	**78**	*e*PN	**Pn**	**16 28 11.6**	**0.0**
THL	**Klokotos Trika**	**0.95**	**78**	*e*Pn	**Pn**	**16 28 11.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.08**	**109**	P	**Pb**	**16 28 13.5**	**+0.1**
MAKR				S	**Sb**	**16 28 30.9**	**+3.7**
MAKR	**Makrakomi, Fth**	**1.08**	**109**	P	**Pb**	**16 28 13.5**	**+0.1**
MAKR				S	**Sb**	**16 28 30.9**	**+3.7**
VLS	**Valsamata**	**1.20**	**188**	*e*PN	**Pn**	**16 28 15.7**	**+0.6**
VLS	**Valsamata**	**1.20**	**188**	*e*Pn	**Pn**	**16 28 15.7**	**+0.6**
AGG	**Agios Georgios**	**1.23**	**106**	*e*PN	**Pn**	**16 28 15.7**	**+0.2**
AGG	**Agios Georgios**	**1.23**	**106**	*e*Pn	**Pn**	**16 28 15.7**	**+0.2**
LIT	**Litokhoron**	**1.49**	**60**	*e*PN	**Pn**	**16 28 19.0**	**0.0**
LIT	**Litokhoron**	**1.49**	**60**	*e*Pn	**Pn**	**16 28 19.0**	**0.0**

PRE 06 16:41:35.5±1.1, 19°.75S×23°.63E, h5km, ML4.8, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**6.51**	**115**	*e*P	Pn	16 43 13.1	+1.2
MSNA				*e*S	Sn	16 44 24.5	-2.1
MSNA				AML	AML	16 45 00.2	
	comp=Z,129nm,0.5s						
SLR	**Silverton**	**7.34**	**145**	*e*P	Pn	16 43 25.0	+1.5
SLR				*e*S	Sn	16 44 43.5	-3.8
SLR				AML	AML	16 45 36.3	
	comp=Z,64nm,0.5s						
SWZ	**Schweizer**	**7.56**	**168**	*e*P	Pn	16 43 28.4	+1.9
SWZ				*e*S	Sn	16 44 50.0	-2.7
SWZ				AML	AML	16 45 53.1	
	comp=Z,60nm,0.5s						
PRYS	**Parys**	**7.92**	**155**	*e*P	Pn	16 43 33.4	+2.0
PRYS				*e*S	Sn	16 44 58.7	-2.8
PRYS				AML	AML	16 46 00.7	
	comp=Z,62nm,0.6s						
SEK	**Senekal**	**9.29**	**158**	*e*P	Pn	16 43 51.6	+1.5
SEK				*e*S	Sn	16 45 30.7	-4.3
SEK				AML	AML	16 46 38.1	
	comp=Z,75nm,0.6s						
PKA	**Prieska**	**9.91**	**184**	*e*P	Pn	16 43 59.7	+1.0
PKA				*e*S	Sn	16 45 45.0	-5.3
PKA				AML	AML	16 47 00.0	
	comp=Z,24nm,0.7s						
POGA	**Pongola**	**10.54**	**138**	*e*P	Pn	16 44 08.7	+1.4
POGA				*e*S	Sn	16 46 01.9	-3.9
POGA				AML	AML	16 47 30.1	
	comp=Z,27nm,0.6s						
HVD	**Gariep Dam**	**10.94**	**171**	*e*P	Pn	16 44 14.2	+1.5
HVD				*e*S	Sn	16 46 09.8	-5.8
HVD				AML	AML	16 47 38.5	
	comp=Z,42nm,0.7s						
KSD	**Kokstad**	**11.96**	**155**	*e*P	Pn	16 44 27.9	+1.2
KSD				*e*S	Sn	16 46 33.5	-6.9
KSD				AML	AML	16 48 02.3	
	comp=Z,27nm,0.6s						
SOE	**Somerset East**	**13.03**	**173**	*e*P	Pn	16 44 42.7	+1.4
BUFB	**Buffelsbos**	**14.38**	**176**	*e*P	Pn	16 45 01.3	+1.6

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*CSEM **06** 16:41:56.8±0.2, 39°.34N×20°.81E, h16km±2km, MDJ3.0, Error ellipse: s-maj=5.8km s-min=4.5km az=9.0*
*ISCJB **06** 16:41:57.4±0.5, 39°.34N±0°.04×20°.80E±0°.04, h18km±11km, Error ellipse: s-maj=6.5km s-min=4.6km az=22.5*
*ATH **06** 16:41:57.0, 39°.31N×20°.84E, h13km±8km, MDJ3.0/6*
*THE **06** 16:41:57.2, 39°.34N×20°.81E, h17km±4km, ML2.0/2, Error ellipse: s-maj=4.4km s-min=0.8km az=83.0*
ISC 06 16:41:57.4±0.5, 39°.34N±0°.04×20°.80E±0°.04, h17km±5km, n21, σ0°64/33, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSL	**Palaion Diasel**	**0.31**	**132**	P	**Pg**	**16 42 03.3**	**-0.7**
DSL				S	**Sg**	**16 42 08.8**	**+0.3**
DSL	**Palaion Diasel**	**0.31**	**132**	P	**Pg**	**16 42 03.3**	**-0.7**
DSL				S	**Sg**	**16 42 08.8**	**+0.3**
JAN	**Janina**	**0.32**	**7**	*e*PG	**Pg**	**16 42 03.5**	**-0.6**
JAN				*e*SB	**Sg**	**16 42 09.1**	**+0.4**
JAN	**Janina**	**0.32**	**7**	P	**Pg**	**16 42 03.5**	**-0.6**
JAN				S	**Sg**	**16 42 09.0**	**+0.3**
JAN	**Janina**	**0.32**	**7**	P	**Pg**	**16 42 03.5**	**-0.6**
JAN				S	**Sg**	**16 42 09.0**	**+0.3**
RGA	**Parga**	**0.35**	**267**	P	**Pg**	**16 42 04.8**	**+0.1**
RGA				S	**Sg**	**16 42 09.8**	**+0.2**
RGA	**Parga**	**0.35**	**267**	P	**Pg**	**16 42 04.8**	**+0.1**
RGA				S	**Sg**	**16 42 09.8**	**+0.2**
IGT	**Igoumenitsa**	**0.41**	**298**	P	**Pg**	**16 42 05.0**	**-0.8**
IGT				S	**Sg**	**16 42 12.1**	**+0.7**
IGT	**Igoumenitsa**	**0.41**	**298**	P	**Pg**	**16 42 05.0**	**-0.8**
IGT				S	**Sg**	**16 42 12.1**	**+0.7**
MEV	**Metsovon**	**0.55**	**37**	P	**Pg**	**16 42 08.2**	**-0.1**
MEV				S	**Sg**	**16 42 16.3**	**+0.5**
MEV	**Metsovon**	**0.55**	**37**	P	**Pg**	**16 42 08.2**	**-0.1**
MEV				S	**Sg**	**16 42 16.3**	**+0.5**
KEK	**Kerkira**	**0.86**	**296**	*e*PB	**Pb**	**16 42 12.4**	**+0.4**
KEK	**Kerkira**	**0.86**	**296**	*e*Pn	**Pn**	**16 42 14.4**	**-0.2**
EVR	**Evrytania**	**0.89**	**118**	*e*PB	**Pb**	**16 42 13.6**	**-0.7**
EVR	**Evrytania**	**0.89**	**118**	*e*Pn	**Pb**	**16 42 13.6**	**-0.7**
EVR				*e*Sb	**Sb**	**16 42 27.8**	**+1.9**
THL	**Klokotos Trika**	**0.96**	**76**	*e*PB	**Pb**	**16 42 14.9**	**-0.7**
THL	**Klokotos Trika**	**0.96**	**76**	*e*Pn	**Pb**	**16 42 14.9**	**-0.7**
VLS	**Valsamata**	**1.18**	**188**	*e*PB	**Pn**	**16 42 18.9**	**-0.1**
VLS	**Valsamata**	**1.18**	**188**	*e*Pn	**Pn**	**16 42 18.9**	**-0.1**
AGG	**Agios Georgios**	**1.23**	**105**	*e*PB	**Pb**	**16 42 19.6**	**-0.5**
AGG	**Agios Georgios**	**1.23**	**105**	*e*Pn	**Pn**	**16 42 19.9**	**+0.2**

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*NEIC **06** 16:48:57.2, 16°.31N×97°.63W, h56km, MDJ3.7(MEX), After MEX.*
MEX 06 16:48:57.2±0.5, 16°.31N×97°.63W, h56km±9km, MDJ3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**279**	*i* P	Pn	16 49 07.6	-1.1
PNIG				*i* S	Sn	16 49 15.2	-1.8
PNIG	**Pinotepa**	**0.48**	**279**	*i* P	Pn	16 49 07.6	-1.1
PNIG				*i* S	Sn	16 49 15.2	-1.8
VHO	**Vista Hermosa**	**1.14**	**49**	*e*P	Pn	16 49 15.5	-1.5
VHO				*i* S	Sn	16 49 30.3	-1.5
VHO	**Vista Hermosa**	**1.14**	**49**	*e*P	Pn	16 49 15.5	-1.5
VHO				*i* S	Sn	16 49 30.3	-1.5
UTMO	**Huajuapan**	**1.52**	**354**	*e*P	Pn	16 49 20.5	-1.6
UTMO				*i* S	Sn	16 49 38.9	-1.8
UTMO	**Huajuapan**	**1.52**	**354**	*e*P	Pn	16 49 20.5	-1.6
UTMO				*i* S	Sn	16 49 38.9	-1.8
HUIG	**Huatulco**	**1.56**	**110**	*e*P	Pn	16 49 21.4	-1.2
HUIG				*i* S	Sn	16 49 39.5	-2.3
HUIG	**Huatulco**	**1.56**	**110**	*e*P	Pn	16 49 21.4	-1.2
HUIG				*i* S	Sn	16 49 39.5	-2.3
CAIG	**El Cayaco**	**2.63**	**286**	*e*P	Pn	16 49 36.1	-1.1
CAIG				*i* S	Sn	16 50 06.2	-1.8
CAIG	**El Cayaco**	**2.63**	**286**	*e*P	Pn	16 49 36.1	-1.1
CAIG				*i* S	Sn	16 50 06.2	-1.8
CMIG	**Matias Romero**	**2.74**	**73**	*e*P	Pn	16 49 37.9	-0.9
CMIG				*i* S	Sn	16 50 09.0	-1.7
CMIG	**Matias Romero**	**2.74**	**73**	*e*P	Pn	16 49 37.9	-0.9
CMIG				*i* S	Sn	16 50 09.0	-1.7
ZIIG	**Zihuatanejo**	**3.89**	**290**	*e*P	Pn	16 49 55.4	+1.0
ZIIG				*i* S	Sn	16 50 34.6	-4.2
ZIIG	**Zihuatanejo**	**3.89**	**290**	*e*P	Pn	16 49 55.4	+1.0
ZIIG				*i* S	Sn	16 50 34.6	-4.2

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*IPEC **06** 16:54:11.9±0.2, 51°.58N×16°.20E, h0km, ML2.7/4, Error ellipse: s-maj=1.4km s-min=1.3km az=19.0*
*ISCJB **06** 16:54:11.2±0.3, 51°.47N±0°.02×16°.12E±0°.02, h0km, mb3.5/2, Error ellipse: s-maj=3.0km s-min=1.7km az=14.7*
*CSEM **06** 16:54:12.5±0.2, 51°.53N×16°.11E, h2km, ML3.7/7, Error ellipse: s-maj=3.5km s-min=2.3km az=14.0*
*NEIC **06** 16:54:12.2±0.5, 51°.55N×16°.06E, h5km, ML3.1(SZGRF), Error ellipse: s-maj=8.7km s-min=6.9km az=138.0*
*IDC **06** 16:54:13.7±0.7, 51°.48N×16°.00E, h0km, mb3.5/2, mb1 3.5/10, mb1mx3.3/29, mbtmp3.4/10, ML3.2/8, Error ellipse: s-maj=10.3km s-min=6.7km az=100.0*
*WAR **06** 16:54:14.4, 51°.48N×16°.10E, ML2.9, Mining Induced*
*BGR **06** 16:54:14.2±0.3, 51°.45N×16°.11E, h1km, ML3.1/15, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
*PRU **06** 16:54:14.1, 51°.47N×16°.10E, h0km, Felt In Harrachov*
*LDG **06** 16:54:15.3±0.3, 51°.33N×15°.94E, h1km, Ml3.4/8, Error ellipse: s-maj=6.8km s-min=2.6km az=9.0, Suspected Mining induced.*
*VIE **06** 16:54:15.2±0.4, 51°.29N×16°.13E, h0km, mb2.7/4, ML3.3/4, Error ellipse: s-maj=3.0km s-min=2.0km az=13.0 65 km WNW of Wroclaw Suspected Mining induced.*
ISC 06 16:54:12.5±0.3, 51°.52N±0°.02×16°.11E±0°.02, h0km, n146, σ1°06/246, mb3.5/2, 3C-11D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg	**Pg**	**16 54 26.3**	**+0.6**
KSP				*e*Pg	**Pg**	**16 54 35.0**	**+9.4**
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg	**Pg**	**16 54 26.3**	**+0.6**
KSP				*e*Sg	**Sg**	**16 54 35.0**	**+0.5**
KSP	**Ksiaz**	**0.69**	**170**	*i* Pg	**Pg**	**16 54 26.3**	**+0.7**
KSP				*i* Sg	**Sg**	**16 54 35.0**	**+0.5**
KSP	**Ksiaz**	**0.69**	**170**	Pg	**Pg**	**16 54 26.3**	**+0.7**
KSP				*e*Sg	**Sg**	**16 54 34.9**	**+0.4**
	baz=355						
UPC	**Upice**	**1.01**	**183**	*e*PG	**Pg**	**16 54 32.3**	**+0.4**
UPC	**Upice**	**1.01**	**183**	Pg	**Pg**	**16 54 32.3**	**+0.4**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*Pg	**Pg**	**16 54 35.1**	**+0.1**
DPC				*e*Sg	**Sg**	**16 54 50.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	**Pg**	**16 54 35.1**	**+0.1**
DPC				*e*SG	**Sg**	**16 54 49.7**	**-0.6**
	87nm,0.5s						
DPC	**Dobruska-Polom**	**1.18**	**173**	Pg	**Pg**	**16 54 35.1**	**+0.1**
DPC				Sg	**Sg**	**16 54 50.7**	**+0.4**
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	**Pg**	**16 54 39.3**	**+0.2**
PVCC				*e*SG	**Sg**	**16 54 57.3**	**+0.3**
	468nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**225**	Pg	**Pg**	**16 54 39.3**	**+0.2**
PVCC				*e*Sg	**Sg**	**16 54 58.2**	**+1.2**
	baz=44						
BRG	**Berggiesshubel**	**1.51**	**246**	PN	**Pn**	**16 54 40.2**	**-0.5**
BRG				PG	**Pg**	**16 54 41.8**	**+0.4**
BRG				SG	**Sg**	**16 55 01.8**	**+0.9**
	201nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**246**	*e*Pn	**Pn**	**16 54 40.6**	**-0.2**
BRG				*e*Pg	**Pg**	**16 54 42.1**	**+0.7**
BRG				*e*Sg	**Sg**	**16 55 02.2**	**+1.3**
BRG	**Berggiesshubel**	**1.51**	**246**	Pn	**Pn**	**16 54 40.6**	**-0.1**
RUE	**Ruedersdorf**	**1.73**	**305**	*e*Pn	**Pn**	**16 54 43.5**	**-0.4**
RUE				*e*Sn	**Sn**	**16 55 10.4**	**+3.8**
RUE	**Ruedersdorf**	**1.73**	**305**	*e*Pn	**Pn**	**16 54 43.5**	**-0.4**
RUE				*e*Sn	**Sn**	**16 55 10.4**	**+3.8**
FBE	**Freiberg**	**1.83**	**252**	*e*Pn	**Pn**	**16 54 45.1**	**-0.1**
FBE				*e*Pg	**Pg**	**16 54 47.9**	**+0.3**
FBE				*e*Sg	**Sg**	**16 55 11.9**	**+0.7**
FBE	**Freiberg**	**1.83**	**252**	Pn	**Pn**	**16 54 45.1**	**-0.1**
GKP	**Gorka Klasztor**	**1.89**	**21**	*e*Pn	**Pn**	**16 54 53.4**	**+7.4**
GKP				*e*Pg	**Pg**	**16 54 57.5**	**+8.8**
GKP				*e*Sn	**Sn**	**16 55 16.0**	**+5.6**
RAC	**Raciborz**	**1.95**	**136**	*e*Pg	**Pg**	**16 54 49.4**	**-0.6**
RAC				*e*Sg	**Sg**	**16 55 15.8**	**+0.6**
RAC	**Raciborz**	**1.95**	**136**	*e*Pg	**Pg**	**16 54 49.4**	**-0.6

JAVC	Velka Javorina	2.84	159	eSg		Sg	16 55 44.8 +0.9
	comp=Z,34nm,0.6s						
KHC	Kasperske Hory	2.89	215	ePn		Pn	16 54 59.2 -0.5
KHC				ePb		Pb	16 55 06.0 +1.2
KHC				eSn		Sn	16 55 34.7 -0.4
KHC	Kasperske Hory	2.89	215	ePN		Pn	16 54 59.7 0.0
KHC				ePG		Pg	16 55 06.0 -1.8
KHC				eSN		Sn	16 55 34.5 -0.6
KHC				eSG		Sg	16 55 44.4 -0.8
	comp=Z,30nm,0.4s						
KHC	Kasperske Hory	2.89	215	Pn		Pn	16 54 59.7 0.0
KHC	Kasperske Hory	2.89	215	Pg		Pg	16 55 06.0 -1.8
KHC				Sn		Sn	16 55 34.5 -0.6
KHC				Sg		Sg	16 55 44.4 -0.8
	comp=Z,30nm,0.4s						
MOX	Moxa	2.96	255	ePn		Pn	16 55 01.1 +0.3
MOX				ePg		Pg	16 55 09.0 -0.3
MOX				eSg		Sg	16 55 49.0 +1.3
MOX	Moxa	2.96	255	Pn		Pn	16 55 01.1 +0.3
MOX	Moxa	2.96	255	Pg		Pg	16 55 09.0 -0.3
MOX				Sg		Sg	16 55 49.0 +1.3
ROTZ	Rotzenmuhle	3.04	236	ePn		Pn	16 55 02.4 +0.6
ROTZ				eSg		Sg	16 55 49.3 -0.8
ROTZ	Rotzenmuhle	3.04	236	Pn		Pn	16 55 02.4 +0.6
ROTZ				Sg		Sg	16 55 49.3 -0.8
GEC2	GERESS Array S	3.09	211	ePn		Pn	16 55 03.2 +0.7
GEC2				ePg		Pg	16 55 10.9 -0.8
GEC2				eSg		Sg	16 55 48.6 -3.1
GEC2	GERESS Array S	3.09	211	Pn		Pn	16 55 03.2 +0.7
GERES	GERESS Array B	3.09	211	Pn		Pn	16 55 03.2 +0.7
	comp=Z,2.7nm,0.3s,baz=28,slow=12,SNR=78						
GERES				Sn		Sn	16 55 35.1 -5.0
	comp=Z,4.0nm,0.3s,baz=45,slow=20,SNR=6.2						
GERES				Lg			16 55 49.4
	comp=Z,9.8nm,0.3s,baz=31,slow=27,SNR=11						
GERES	GERESS Array B	3.09	211	Pn		Pn	16 55 03.2 +0.7
GERES				Sn		Sn	16 55 35.1 -5.0
GERES				Lg			16 55 49.4
GERES	GERESS Array B	3.09	211	Pn		Pn	16 55 03.2 +0.7
SMOL	Smolenice	3.12	164	e		Pg	16 55 14.1 +1.7
SMOL	Smolenice	3.12	164	eSG		Sg	16 55 52.8 -0.1
SMOL	Smolenice	3.12	164	eSg		Sg	16 55 52.8 -0.1
WET	Wettzell	3.15	222	ePn		Pn	16 55 03.7 +0.4
WET				eSg		Sg	16 55 51.3 -2.4
WET	Wettzell	3.15	222	Pn		Pn	16 55 03.7 +0.4
KOLL	Kolacno	3.29	152	ePN		Pn	16 55 06.1 +0.8
KOLL				e			16 55 15.7
KOLL	Kolacno	3.29	152	ePn		Pn	16 55 06.1 +0.8
KOLL				eSg		Sg	16 55 57.2 -1.0
ZST	Bratislava	3.39	169	e		Pg	16 55 17.6 +0.2
ZST	Bratislava	3.39	169	eSG		Sg	16 55 59.6 -1.7
ZST	Bratislava	3.39	169	eSg		Sg	16 55 59.6 -1.7
NIE	Niedzica	3.41	126	eP		Pg	16 55 17.4 -0.5
NIE				eS		Sg	16 56 00.5 -1.6
CLZ	Clausthal	3.58	277	ePn		Pn	16 55 10.7 +1.4
CLZ				eSg		Sg	16 56 08.8 +1.2
CLZ	Clausthal	3.58	277	Pn		Pn	16 55 10.7 +1.4
CLZ				Sg		Sg	16 56 08.8 +1.2
CONA	Conrad Observa	3.59	183	⇑iPn		Pn	16 55 10.2 +0.8
	SNR=13						
CONA				⇓iSg		Sg	16 56 06.6 -1.4
	comp=Z,26nm,0.3s						
CONA	Conrad Observa	3.59	183	Pn		Pn	16 55 10.2 +0.7
	SNR=13						
CONA				Sg		Sg	16 56 06.6 -1.4
	comp=Z,26nm,0.3s						
GRA1	Grafenberg Arr	3.61	241	Pn		Pn	16 55 10.6 +1.0
GRA1				Sg		Sg	16 56 08.7 +0.3
GRF	Grafenberg Arr	3.61	241	ePn		Pn	16 55 10.6 +0.9
GRF				eSg		Sg	16 56 08.7 +0.4
GRFO	Grafenberg	3.61	241	ePn		Pn	16 55 09.3 -0.4
GRFO				ePg		Pg	16 55 24.1 +2.4
GRFO				eSg		Sg	16 56 07.3 -1.1
GRFO	Grafenberg	3.61	241	ePn		Pn	16 55 09.3 -0.3
BSD	Bornholm Skovb	3.67	349	iP		Pn	16 55 10.1 -0.4
BSD				iS		Sn	16 55 52.1 -2.4
BSD	Bornholm Skovb	3.67	349	iP		Pn	16 55 10.1 -0.4
BSD				iS		Sn	16 55 52.1 -2.4
MOA	Molln	3.86	199	⇓iPn		Pn	16 55 13.6 +0.5
	SNR=14						
MOA				⇓iSg		Sg	16 56 15.7 -0.8
	comp=Z,44nm,0.6s						
MOA	Molln	3.86	199	Pn		Pn	16 55 13.6 +0.5
	SNR=14						
MOA				Sg		Sg	16 56 15.7 -0.8
	comp=Z,44nm,0.6s						
STHS	Stebnicka Huta	3.90	121	ePN		Pn	16 55 14.9 +1.3
STHS				e			16 55 28.1
STHS	Stebnicka Huta	3.90	121	ePn		Pn	16 55 14.9 +1.3
STHS				eSg		Sg	16 56 18.7 +1.0
KECS	Kecovo	4.15	135	ePN		Pn	16 55 17.4 +0.4
KECS				e			16 55 33.6
KECS	Kecovo	4.15	135	ePn		Pn	16 55 17.4 +0.4
KECS				eSg		Sg	16 56 25.2 -0.5
CRVS	Cervenica-Dubn	4.32	125	ePN		Pn	16 55 20.2 +0.8
CRVS				e			16 55 36.0
CRVS	Cervenica-Dubn	4.32	125	ePn		Pn	16 55 20.2 +0.8
CRVS				eSg		Sg	16 56 31.8 +0.5
KWP	Kalwaria Pacla	4.61	112	ePn		Pn	16 55 24.5 +1.0
KWP				ePg		Pg	16 55 41.3 +0.5
KWP	Kalwaria Pacla	4.61	112	ePn		Pn	16 55 21.6 -1.8
KWP				ePg		Pg	16 55 37.7 -3.2
KWP				eSg		Sg	16 56 41.2 +0.6
KWP	Kalwaria Pacla	4.61	112	⇑iP		Pn	16 55 24.5 +1.1
KWP	Kalwaria Pacla	4.61	112	ePn		Pn	16 55 21.6 -1.8
KWP	Kalwaria Pacla	4.61	112	⇑iP		Pn	16 55 24.5 +1.1
KOLS	Kolonicke sedl	4.73	121	ePN		Pn	16 55 25.4 +0.4
KOLS				e			16 55 44.8
KOLS	Kolonicke sedl	4.73	121	ePn		Pn	16 55 25.4 +0.4
KOLS				eSg		Sg	16 56 47.0 +2.6
PERS	Pernice	4.93	188	iPn		Pn	16 55 29.4 +1.7
PERS	Pernice	4.93	188	iPn		Pn	16 55 29.4 +1.6
GOLS	Golise	5.52	183	iPn		Pn	16 55 36.8 +0.9
GOLS	Golise	5.52	183	iPn		Pn	16 55 36.8 +0.9
VISS	Visnje	5.78	189	iPn		Pn	16 55 40.2 +0.7
VISS	Visnje	5.78	189	iPn		Pn	16 55 40.2 +0.7
BOJS	Bojanci	6.04	186	iPn		Pn	16 55 44.3 +1.2
BOJS	Bojanci	6.04	186	iPn		Pn	16 55 44.3 +1.2
DAVOX	Davos/Dischmat	6.25	223	Pn		Pn	16 55 47.4 +1.4
	comp=Z,0.5nm,0.3s,baz=23,slow=9.7,SNR=3.7						
DAVOX				Lg			16 57 29.7
	comp=Z,0.6nm,0.3s,baz=168,slow=20,SNR=3.5						
DAVOX	Davos/Dischmat	6.25	223	Pn		Pn	16 55 47.4 +1.4
DAVOX				Lg			16 57 29.8
DAVOX	Davos/Dischmat	6.25	223	Pn		Pn	16 55 47.4 +1.4
DRGR		6.41	135	⇓iP		Pn	16 55 48.2 +0.1
DRGR		6.41	135	⇓iP		Pn	16 55 48.2 +0.1
CDF	Champ du Feu	6.49	245	ePn		Pn	16 55 47.3 -1.9
CDF				eSg		Sg	16 57 33.4 -7.4
	comp=Z,26nm,0.9s						
CDF	Champ du Feu	6.49	245	ePn		Pn	16 55 47.3 -1.9
CDF				eSg		Sg	16 57 33.4 -7.4
CDF	Champ du Feu	6.49	245	ePn		Pn	16 55 47.3 -1.9
HINF	Hinteralfeld	7.05	242	ePn		Pn	16 55 55.2 -1.7
HINF				eSg		Sg	16 57 50.7 -8.2
	comp=Z,12nm,0.7s						
HINF	Hinteralfeld	7.05	242	ePn		Pn	16 55 55.2 -1.7
HINF				eSg		Sg	16 57 50.7 -8.2
HINF	Hinteralfeld	7.05	242	ePn		Pn	16 55 55.2 -1.7
BUR08	Bucovina Ar. S	7.07	120	ePn		Pn	16 55 57.0 -0.1
BUR08	Bucovina Ar. S	7.07	120	ePn		Pn	16 55 57.0 -0.1
BURAR	Bucovina Array	7.09	120	⇓iP		Pn	16 55 57.8 +0.3
BURAR	Bucovina Array	7.09	120	⇓iP		Pn	16 55 57.8 +0.3
HAU	Haudompre	7.23	245	ePn		Pn	16 55 57.3 -2.1
HAU				eSg		Sg	16 57 56.5 -8.1
	comp=Z,6.6nm,0.5s						
HAU	Haudompre	7.23	245	ePn		Pn	16 55 57.3 -2.1
HAU				eSg		Sg	16 57 56.5 -8.1
HAU	Haudompre	7.23	245	ePn		Pn	16 55 57.3 -2.1
AKASG	Malin Array Be	8.30	91	Pn		Pn	16 56 12.2 -1.8
	comp=Z,1.5nm,0.3s,baz=280,slow=12,SNR=4.9						
AKASG				Sn		Sn	16 57 44.9 -3.4
	comp=Z,0.7nm,0.3s,baz=278,slow=23,SNR=3.2						
AKASG	Malin Array Be	8.30	91	Pn		Pn	16 56 12.2 -1.8
AKASG				Sn		Sn	16 57 45.0 -3.4
AKASG	Malin Array Be	8.30	91	Pn		Pn	16 56 12.2 -1.8
AKASG				Sn		Sn	16 57 45.0 -3.4
LPL	La Plagne	8.64	230	ePn		Pn	16 56 16.6 -2.1
LPL				eSn		Sn	16 57 46.7 -10
	comp=Z,0.9nm,0.3s						
LPL	La Plagne	8.64	230	ePn		Pn	16 56 16.6 -2.1
LPL				eSn		Sn	16 57 46.7 -10
LPL	La Plagne	8.64	230	ePn		Pn	16 56 16.6 -2.1
LPG	La Plagne	8.65	230	ePn		Pn	16 56 16.8 -2.0
LPG				eSn		Sn	16 57 47.0 -10
	comp=Z,0.2nm,0.2s						
LPG	La Plagne	8.65	230	ePn		Pn	16 56 16.8 -2.0
LPG				eSn		Sn	16 57 47.0 -10
LPG	La Plagne	8.65	230	ePn		Pn	16 56 16.8 -2.0
HFS	Hagfors	8.74	352	Pn		Pn	16 56 19.2 -0.9
	comp=Z,0.2nm,0.3s,baz=167,slow=14,SNR=6.5						
HFS				Sn		Sn	16 57 54.2 -5.0
	comp=Z,0.2nm,0.3s,baz=173,slow=26,SNR=3.1						
HFS	Hagfors	8.74	352	Pn		Pn	16 56 19.2 -0.9
HFS				Sn		Sn	16 57 54.2 -5.0
HFS	Hagfors	8.74	352	Pn		Pn	16 56 19.2 -0.9
NOA	NORSAR Array B	9.92	346	Pn		Pn	16 56 35.5 -0.7
	comp=Z,0.2nm,0.3s,baz=158,slow=14,SNR=4.3						
NOA	NORSAR Array B	9.92	346	Pn		Pn	16 56 35.5 -0.7
NOA	NORSAR Array B	9.92	346	Pn		Pn	16 56 35.5 -0.7
FINES	FINESS Array B	11.36	25	Pn		Pn	16 56 53.8 -2.0
	comp=Z,0.2nm,0.3s,baz=205,slow=11,SNR=9.4						
FINES				Sn		Sn	16 58 55.5 -7.8
	comp=Z,0.3nm,0.3s,baz=212,slow=21,SNR=5.2						
FINES	FINESS Array B	11.36	25	Pn		Pn	16 56 53.8 -2.0
FINES				Sn		Sn	16 58 55.5 -7.8
ARCES	ARCESS Array B	18.62	10	Pn		Pn	16 58 27.6 -3.7
	comp=Z,0.3nm,0.3s,baz=193,slow=12,SNR=14						
ARCES	ARCESS Array B	18.62	10	Pn		Pn	16 58 27.6 -3.7
AKTO	Aktyubinsk	26.16	76	P		P	16 59 49.0 +0.8
	comp=Z,0.7nm,0.6s,mb3.5,baz=294,slow=12,SNR=3.9						
AKTO	Aktyubinsk	26.16	76	P		P	16 59 49.0 +0.8
BVAR	Borovoye Array	32.59	66	P		P	17 00 46.9 +1.6
	comp=Z,0.3nm,0.6s,mb3.4,baz=297,slow=9.5,SNR=3.1						
BVAR	Borovoye Array	32.59	66	P		P	17 00 46.9 +1.6

*NIED **06** 17:03:00, 32°.90N×130°.80E, h8km, Mw3.4 Best double couple: M0=1.64000×10^14 NP1:φ=104.00000°, δ=48.00000°, λ=-68.00000°. NP2:φ=253.00000°, δ=47.00000°, λ=-113.00000°.*

*IDC **06** 17:03:49.4±1.4, 32°.79N×130°.73E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.1/26, mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=38.8km s-min=19.1km az=74.0*

*ISCJB **06** 17:03:51.7±0.6, 32°.90N±0°.03×130°.82E±0°.07, h13km±5km, mb3.2/2, Error ellipse: s-maj=9.8km s-min=5.3km az=171.0*

*JMA **06** 17:03:51.7, 32°.90N×130°.83E, h13km, M3.6*

JMA Felt III J1.

ISC 06 17:03:51.9±0.6, 32°.88N±0°.03×130°.81E±0°.07, h13km±5km, n8, σ1§13/14, mb3.2/2, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	Tamana	0.24	289	⇓P	Pg	17 03 57.2	+0.1
JTA				S	Sg	17 04 01.0	+0.4
JNU	Nakatsue	0.24	14	⇑P	Pg	17 03 56.8	-0.3
JNU				S	Sg	17 04 00.3	-0.3
JIU2	Izumi 2	0.34	179	⇑P	Pg	17 03 58.8	+0.1
JIU2				S	Sg	17 04 04.0	+0.7
JTZ	Takazaki	1.01	166	⇑P	Pb	17 04 11.1	-0.2
JTZ				S	Sb	17 04 24.7	+0.3
KSRS	Korea Array	5.13	333	Pn	Pn	17 05 09.1	+0.5
	0.4nm,0.3s,baz=152,slow=15,SNR=5.0						
KSRS				Pg	Pg	17 05 27.4	-2.9
	0.8nm,0.3s,baz=152,slow=16,SNR=8.3						
KSRS				Sn	Sn	17 06 10.9	+3.2
	0.5nm,0.3s,baz=151,slow=28,SNR=4.4						
KSRS				Lg		17 06 32.8	
	1.0nm,0.3s,baz=147,slow=30,SNR=6.3						
MJAR	Matsushiro Arr	7.10	57	Pn	Pn	17 05 37.8	+2.2
	0.2nm,0.3s,baz=244,slow=14,SNR=5.6						
WRA	Warramunga Arr	52.63	176	P	P	17 13 04.4	-1.4
	0.2nm,0.8s,mb3.1,baz=355,slow=7.9,SNR=2.6						
ASAR	Alice Springs	56.31	177	P	P	17 13 31.0	-1.4
	0.2nm,0.7s,mb3.3,baz=358,slow=5.5,SNR=4.1						

*IDC **06** 17:21:26.9±2.1, 41°.86N×140°.61E, h115km±19km, mb3.2/9, mb1 3.4/10, mb1mx3.2/23, mbtmp3.2/10, Error ellipse: s-maj=18.8km s-min=17.3km az=168.0*

*NEIC **06** 17:21:28.0±1.0, 41°.85N×140°.57E, h126km±9km, mb3.9/4, Error ellipse: s-maj=13.3km s-min=10.5km az=199.0*

*JMA **06** 17:21:29.0±0.1, 41°.93N×140°.68E, h128km±1km, M2.8*

ISC 06 17:21:28.7±0.3, 41°.91N±0°.04×140°.70E±0°.05, h130km±2km, n47, σ0§73/60, mb3.8/18, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	Kayabe	0.25	95	P	Pn	17 21 46.8	+0.2
JKB				eS	Sn	17 22 00.3	+0.1
JYM2	Yakumo 2	0.32	310	P	Pn	17 21 47.0	+0.1
JYM2				eS	Sn	17 22 00.8	+0.1
JSR	Shiriuchi	0.43	209	P	Pn	17 21 47.6	+0.2
JSR				eS	Sn	17 22 01.2	-0.3
JOT	Ohata	0.59	154	P	Pn	17 21 48.6	+0.3
JOT				eS	Sn	17 22 03.6	+0.6
JNB	Noboribetsu	0.61	24	P	Pn	17 21 48.3	-0.1
JNB				eS	Sn	17 22 02.8	-0.6
JSH	Shimam	0.88	327	P	Pn	17 21 50.7	+0.2
JOSM	Okushiri--Mats	0.93	281	P	Pn	17 21 50.6	-0.3
JOSM				eS	Sn	17 22 07.0	-0.8
JEW	Eniwo	1.08	31	P	Pn	17 21 52.8	+0.4
JEW				eS	Sn	17 22 11.2	+0.8
JTM	Tenmabayashi	1.15	166	P	Pn	17 21 53.6	+0.5
JTM				eS	Sn	17 22 12.3	+0.7
JSK	Shakotan	1.45	354	P	Pn	17 21 56.5	+0.3
JNBK	Urakawa-nobuka	1.57	76	P	Pn	17 21 57.7	+0.1
JANG	Nango	1.65	158	P	Pn	17 21 58.3	-0.2
JANG				eS	Sn	17 22 20.3	-0.9
ERM	Erimo	1.83	86	ePn	Pn	17 22 01.0	+0.3
ERM				eSn	Sn	17 22 22.1	-3.0
JHR	Hokuryu	1.98	22	P	Pn	17 22 03.7	+1.3
JCH	Churui	2.10	69	P	Pn	17 22 04.0	+0.2
JCH				eS	Sn	17 22 29.8	-0.9
ASAJ	Asahikawa	2.61	32	P	Pn	17 22 10.7	+0.5
	6.4nm,0.3s,baz=222,slow=11,SNR=87						
ASAJ				S	Sn	17 22 41.2	-1.0
	3.2nm,0.3s,baz=299,slow=32,SNR=8.4						
ASAJ	Asahikawa	2.61	32	P	Pn	17 22 10.7	+0.5
ASAJ				S	Sn	17 22 41.2	-1.0
SONM	Songino Array	24.88	296	P	P	17 26 39.0	-0.1
	0.1nm,0.3s,baz=106,slow=11,SNR=3.5						
SONM	Songino Array	24.88	296	P	P	17 26 39.0	-0.1
ZALV	Zalesovo Beam	38.35	308	P	P	17 28 36.0	-0.6
	1.4nm,0.5s,mb3.9,baz=90,slow=8.8,SNR=8.7						
ZALV	Zalesovo Beam	38.35	308	P	P	17 28 36.0	-0.6
MK31	Makanchi Array	41.22	297	eP	P	17 28 59.9	-0.6
MKAR	Makanchi Array	41.22	297	P	P	17 29 00.1	-0.4
	0.9nm,0.5s,mb3.7,baz=84,slow=10,SNR=23						
MKAR	Makanchi Array	41.22	297	P	P	17 29 00.1	-0.4
KURK	Kurchatov	42.62	304	eP	P	17 29 10.7	-1.1
	2.1nm,0.7s,mb3.9						
TAPN	Taplejung	45.27	269	eP	P	17 29 33.9	+0.7
	8.1nm,0.8s,mb4.4						
ILAR	Eielson Array	45.74	35	P	P	17 29 37.0	+0.6
	1.1nm,0.9s,mb3.5,baz=267,slow=4.9,SNR=9.3						
ILAR	Eielson Array	45.74	35	P	P	17 29 37.0	+0.6
GUN	Gumba	46.34	271	eP	P	17 29 42.0	+0.4
	7.8nm,0.3s,mb4.8						
BRVK	Borovoye	47.03	309	P	P	17 29 47.9	+1.2
	1.7nm,0.8s,mb3.7						
GKN	Gorkha	47.21	272	eP	P	17 29 48.7	+0.3
	4.7nm,0.6s,mb4.3						
DANN	Dangsing	47.68	273	eP	P	17 29 53.0	+0.9
	27nm,0.5s,mb5.1						
AAK	Ala-Archa	47.83	294	P	P	17 29 51.3	-1.7
KOLN	Koldanda	48.11	272	eP	P	17 29 55.8	+0.4
	3.1nm,0.5s,mb4.2						
PYUN	Piuthan	48.39	273	eP	P	17 29 57.9	+0.4
	7.7nm,0.8s,mb4.4						
INK	Inuvik	50.34	29	eP	P	17 30 12.0	+0.3
	1.3nm,0.5s,mb3.8						
ABKAR	Akbulak array	54.46	307	eP	P	17 30 41.7	-0.7
	0.6nm,0.5s,mb3.6						
WRA	Warramunga Arr	61.82	187	P	P	17 31 32.5	-1.3
	0.4nm,0.9s,mb3.2,baz=3.6,slow=7.4,SNR=8.3						
WRA	Warramunga Arr	61.82	187	P	P	17 31 32.5	-1.3
FINES	FINESS Array B	64.27	331	P	P	17 31 48.3	-1.2
	0.9nm,0.8s,mb3.6,baz=45,slow=12,SNR=5.0						
FINES	FINESS Array B	64.27	331	P	P	17 31 48.3	-1.2
ASAR	Alice Springs	65.54	187	P	P	17 31 58.1	-0.1
	0.1nm,0.6s,mb2.8,baz=2.7,slow=6.1,SNR=3.8						
ASAR	Alice Springs	65.54	187	P	P	17 31 58.1	-0.1
NVAR	Mina Array Bea	72.54	54	P	P	17 32 42.4	+1.0
	0.2nm,0.5s,mb3.1,baz=298,slow=5.8,SNR=3.0						
NVAR	Mina Array Bea	72.54	54	P	P	17 32 42.4	+1.0
TXAR	Lajitas Array	87.57	52	P	P	17 34 03.1	+0.9
	0.1nm,0.4s,mb3.0,baz=324,slow=5.9,SNR=2.5						
TXAR	Lajitas Array	87.57	52	P	P	17 34 03.1	+0.9

GUC 06 17:23:30.9±0.7, 32°.28S×70°.29W, h118km±4km, ML3.5, 5C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.48	213	eP	Pn	17 23 48.8	+0.3
JACH				iS	Sn	17 24 02.1	+0.3
PTCH	Petorca	0.55	271	⇓iP	Pn	17 23 49.1	+0.2
PTCH				iS	Sn	17 24 02.7	+0.2
PTCH				AML	AML	17 24 03.8	
	comp=N,1μm,0.1s						
ROCH	El Roble	0.92	221	⇓iP	Pn	17 23 52.6	+0.6
ROCH				iS	Sn	17 24 09.0	+1.0
PEL	Peldehue	0.93	201	⇑iP	Pn	17 23 52.0	-0.1
PEL				iS	Sn	17 24 08.2	+0.1
PEL				AML	AML	17 24 09.5	
	comp=E,2μm,0.3s						
FCH	Farellones	1.05	180	⇓iP	Pn	17 23 54.7	+1.5
FCH				iS	Sn	17 24 12.4	+2.2
FCH				AML	AML	17 24 15.8	
	comp=E,783nm,0.3s						
CHNG	Los Chungos	1.10	291	⇑iP	Pn	17 23 54.3	+0.5
CHNG				iS	Sn	17 24 11.2	+0.1
SAN	Santiago	1.21	195	eP	Pn	17 23 54.9	-0.1
SAN				eS	Sn	17 24 13.5	+0.2
SAN				AML	AML	17 24 15.3	
	comp=N,393nm,0.4s						
CMCH	Combarbala	1.26	331	⇑iP	Pn	17 23 55.6	+0.1
CMCH				iS	Sn	17 24 14.5	+0.3
CMCH				AML	AML	17 24 15.5	
	comp=N,2μm,0.6s						
RCDM	Rinconada Maip	1.28	200	eP	Pn	17 23 56.1	+0.4
RCDM				eS	Sn	17 24 15.4	+0.8
RCDM				AML	AML	17 24 16.4	
	comp=E,1μm,0.3s						
ANTU	Antumapu	1.32	193	eP	Pn	17 23 56.6	+0.4
ANTU				iS	Sn	17 24 15.7	+0.4
ANTU				AML	AML	17 24 16.9	
	comp=E,727nm,0.5s						
PCH	Pirque	1.35	188	eP	Pn	17 23 57.1	+0.6
PCH				iS	Sn	17 24 17.0	+1.0
TACH	Talagante	1.48	202	⇓iP	Pn	17 23 58.2	+0.3
TACH				iS	Sn	17 24 18.5	0.0
LMEL	Las Melosas	1.57	177	⇓iP	Pn	17 23 59.9	+0.9
LMEL				eS	Sn	17 24 21.0	+0.6
LMEL				AML	AML	17 24 28.1	
	comp=N,422nm,0.2s						
CHCH	Chadas Angostu	1.68	190	⇑iP	Pn	17 24 00.8	+0.4
CHCH				iS	Sn	17 24 23.2	+0.5
OVCH	Ovalle	1.84	335	eP	Pn	17 24 02.6	+0.3
OVCH				AMP		17 24 28.7	
	comp=N,863nm,0.1s						
CACH	El Canelo	1.85	188	⇓iP	Pn	17 24 03.5	+1.0
CACH				iS	Sn	17 24 28.4	+1.9
LNV	Longovilo	1.92	209	⇑iP	Pn	17 24 03.2	-0.1
TLL	Tololo Astrono	2.15	348	eP	Pn	17 24 06.8	+0.6
TLL				iS	Sn	17 24 33.6	+0.5
TLL				AML	AML	17 24 38.0	
	comp=N,139nm,0.4s						

*DDA **06** 17:40:23.9, 40°.07N×31°.85E, h7km±3km, Md2.9*

*ISCJB **06** 17:40:25.0±0.6, 40°.15N±0°.04×31°.78E±0°.05, h9km±7km, Error ellipse: s-maj=6.4km s-min=6.0km az=33.7*

*ISK **06** 17:40:24.8, 40°.17N×31°.77E, h14km, MD2.9*

*CSEM **06** 17:40:25.0±0.2, 40°.16N×31°.77E, h12km, MD2.9, Error ellipse: s-maj=4.7km s-min=4.3km az=150.0*

ISC 06 17:40:25.5±0.6, 40°.16N±0°.04×31°.77E±0°.05, h15km±8km, n22, σ0§82/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGKT	Sivrigoynuk	0.47	28	iP	Pg	17 40 34.1	-0.8
SGKT				iS	Sg	17 40 42.1	+0.9
SGKT	Sivrigoynuk	0.47	28	iP	Pg	17 40 34.1	-0.8
SGKT				iS	Sg	17 40 42.1	+0.9
MDUB	Mudurnu	0.54	306	ePG	Pg	17 40 35.2	-0.9
MDUB				eSG	Sg	17 40 43.8	+0.5
MDUB	Mudurnu	0.54	306	ePg	Pg	17 40 35.2	-0.9
MDUB				eSg	Sg	17 40 43.8	+0.5
SVRH	Sivrihisar-ESK	0.73	195	ePG	Pg	17 40 39.9	+0.1
SVRH				eSG	Sg	17 40 50.6	+1.1
SVRH	Sivrihisar-ESK	0.73	195	ePg	Pg	17 40 39.9	+0.1
SVRH				eSg	Sg	17 40 50.6	+1.2
LOD	Lodumlu	0.81	109	ePG	Pg	17 40

*NIED **06** 18:00:00,24.′80N×122.′50E,h14km,Mw3.9 Best double couple: M0 7.65000×10^14 NP1:φ=58.00000°,δ88.00000°, λ-178.00000°. NP2:φ=328.00000°,δ88.00000°, λ-2.00000°.*

*ISCJB **06** 18:00:42.5±0.3,24.′86N±0.′03×122.′48E±0.′02,h10km, mb3.5/6,MS3.2/2,Error ellipse: s-maj=3.7km s-min=2.3km az=10.5*

*IDC **06** 18:00:42.7±1.1,24.′31N×121.′06E,h0km,mb3.4/6, mb1 3.6/7,mb1mx3.5/23,mbtmp3.5/7,ML3.3/1,MS3.4/2, Ms1 3.4/2,ms1mx3.0/16,Error ellipse: s-maj=40.4km s-min=18.6km az=68.0*

*NEIC **06** 18:00:43.2±0.8,24.′85N×122.′26E,h10km,Error ellipse: s-maj=14.9km s-min=10.1km az=85.0*

*JMA **06** 18:00:44.9±0.2,24.′83N×122.′52E,h37km,M3.5*

*TAP **06** 18:00:44.2,24.′79N×122.′32E,h12km,ML4.1,D*

ISC 06 18:00:43.1±0.3,24.′85N±0.′02×122.′46E±0.′02,h10km,n75, σ1=39/114,mb3.5/6,MS3.2/2,5C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.46**	**290**	⇑*i*P	**Pg**	**18 00 52.4**	**+0.3**
	baz=296						
TWB1				S	**Sg**	**18 00 57.9**	**-0.2**
	baz=296						
TWC	**Suao**	**0.61**	**247**	⇑*i*P	**Pg**	**18 00 53.5**	**-1.4**
	baz=255						
TWC				S	**Sg**	**18 00 59.8**	**-3.1**
	baz=255						
YOJ	**Yonaguni jima**	**0.63**	**128**	P	**Pg**	**18 00 56.4**	**+1.1**
YOJ				S	**Sg**	**18 01 04.6**	**+1.0**
ILA	**Ilan**	**0.66**	**263**	*e*P	**Pg**	**18 00 55.5**	**-0.2**
	baz=266						
ILA				*e*S	**Sg**	**18 01 04.5**	**+0.2**
	baz=266						
NWF	**Wu-fen Shan**	**0.66**	**289**	*i* P	**Pg**	**18 00 56.5**	**+0.7**
	baz=290						
NWF				S	**Sg**	**18 01 05.6**	**+1.2**
	baz=290						
TWE	**Neicheng**	**0.73**	**260**	⇑*i*P	**Pg**	**18 00 56.2**	**-1.1**
	baz=263						
TWE				*e*S	**Sg**	**18 01 06.6**	**-0.3**
	baz=263						
ENA	**Nanau**	**0.78**	**237**	⇑*i*P	**Pg**	**18 00 56.5**	**-1.6**
	baz=234						
ENA				S	**Sg**	**18 01 06.0**	**-2.4**
	baz=234						
TWA	**Mucha**	**0.81**	**279**	*i* P	**Pg**	**18 00 58.7**	**0.0**
	baz=275						
TWA				*e*S	**Sg**	**18 01 09.3**	**+0.1**
	baz=275						
ENTT	**Nioudou**	**0.84**	**256**	P	**Pg**	**18 00 57.9**	**-1.5**
	baz=266						
ENTT				*e*S	**Sg**	**18 01 09.2**	**-1.1**
	baz=266						
TAP1	**Taipei**	**0.87**	**282**	P	**Pg**	**18 01 00.1**	**+0.2**
	baz=288						
TAP1				*e*S	**Sg**	**18 01 11.2**	**-0.1**
	baz=288						
TWY	**Chenhua**	**0.89**	**298**	*e*P	**Pg**	**18 01 00.5**	**+0.2**
	baz=307						
TWY				*e*S	**Sg**	**18 01 12.5**	**+0.7**
	baz=307						
TATO	**Taipei**	**0.89**	**278**	*e*Pn	**Pn**	**18 00 59.8**	**-1.9**
TWS1	**Kuangyinshan**	**0.98**	**285**	P	**Pg**	**18 01 01.8**	**-0.2**
	baz=291						
TWS1				*e*S	**Sg**	**18 01 15.5**	**+0.8**
	baz=291						
YHNB	**Yeheng**	**1.00**	**260**	*e*Pn	**Pn**	**18 01 00.7**	**-2.5**
YHNB				*e*Sn	**Sn**	**18 01 14.2**	**-3.3**
NSK	**Sanguang**	**1.02**	**260**	⇑*i*P	**Pg**	**18 01 01.2**	**-1.5**
	baz=262						
NSK				*e*S	**Sg**	**18 01 13.3**	**-2.7**
	baz=262						
NACB	**Ninganchiao**	**1.04**	**230**	*e*Pn	**Pn**	**18 01 00.8**	**-2.9**
NACB				*e*Sn	**Sn**	**18 01 12.8**	**-5.6**
NNS	**Nan Shan**	**1.07**	**248**	P	**Pg**	**18 01 02.6**	**-1.1**
	baz=238						
NNS				S	**Sg**	**18 01 16.0**	**-1.7**
	baz=238						
TWD	**Chiawan**	**1.10**	**226**	P	**Pb**	**18 01 02.6**	**-1.7**
	baz=231						
TWD				*e*S	**Sg**	**18 01 17.1**	**-1.5**
	baz=231						
NCU	**National Centr**	**1.17**	**276**	*e*P	**Pb**	**18 01 05.5**	**+0.2**
	baz=280						
HWA	**Hwalien**	**1.17**	**222**	*e*P	**Pb**	**18 01 06.2**	**+0.7**
	baz=225						
HWA				*e*S	**Sb**	**18 01 22.9**	**+2.3**
	baz=225						
IRIF	**Iriomote-Funau**	**1.26**	**114**	P	**Pn**	**18 01 05.6**	**-1.2**
IRIF				*e*S	**Sb**	**18 01 21.2**	**-2.1**
WHF	**Hehuan Shan**	**1.30**	**237**	*i* P	**Pn**	**18 01 06.3**	**-1.0**
	baz=235						
WHF				*e*S	**Sb**	**18 01 21.5**	**-2.9**
	baz=235						
TWT	**Tachien**	**1.31**	**243**	*e*P	**Pn**	**18 01 07.0**	**-0.5**
	baz=235						
TWT				*e*S	**Sb**	**18 01 23.5**	**-1.3**
	baz=235						
NSTT	**Nanjuang**	**1.35**	**261**	*e*P	**Pn**	**18 01 09.1**	**+1.1**
	baz=262						
NSTT				*e*S	**Sb**	**18 01 25.8**	**+0.1**
	baz=262						
HSN	**Hsinchu**	**1.36**	**268**	*e*P	**Pn**	**18 01 06.8**	**-1.3**
	baz=273						
ESL	**Shilin**	**1.40**	**222**	*e*P	**Pn**	**18 01 07.9**	**-0.8**
	baz=199						
ESL				*e*S	**Sb**	**18 01 25.1**	**-2.0**
	baz=199						
HATJ	**Hateruma jima**	**1.46**	**123**	P	**Pn**	**18 01 08.9**	**-0.6**
JKRS	**Kuro-shima**	**1.54**	**113**	P	**Pn**	**18 01 09.9**	**-0.6**
JKRS				*e*S	**Sn**	**18 01 27.8**	**-2.8**
JIJ	**Ishigaki jima**	**1.60**	**107**	P	**Pn**	**18 01 10.6**	**-0.9**
NSY	**Sanyi**	**1.61**	**255**	*e*P	**Pn**	**18 01 13.8**	**+2.3**
	baz=254						
NSY				*e*S	**Sn**	**18 01 34.2**	**+1.8**
	baz=254						
TWQ1	**Liyutan**	**1.62**	**252**	P	**Pn**	**18 01 13.3**	**+1.6**
	baz=266						
TWQ1				*e*S	**Sn**	**18 01 33.8**	**+1.2**
	baz=266						
EHY	**Hungye**	**1.70**	**218**	*e*P	**Pn**	**18 01 12.2**	**-0.6**
	baz=213						
EHY				*e*S	**Sn**	**18 01 33.8**	**-0.8**
	baz=213						
SMLT	**Sun Moon Lake**	**1.72**	**236**	⇓*i*P	**Pn**	**18 01 13.9**	**+0.8**
	baz=233						
SSLB	**Suanglung**	**1.74**	**233**	*e*Pn	**Pn**	**18 01 12.7**	**-0.6**
SSLB				*e*Sn	**Sn**	**18 01 32.5**	**-3.0**
TYC	**Yuchr**	**1.74**	**238**	P	**Pn**	**18 01 14.0**	**+0.6**
	baz=235						
TYC				*e*S	**Sn**	**18 01 36.7**	**+1.0**
	baz=235						
TCU	**Taichung**	**1.77**	**247**	P	**Pn**	**18 01 16.4**	**+2.6**
	baz=238						
TCU				*e*S	**Sn**	**18 01 37.2**	**+0.8**
	baz=238						
YULB	**Yu-li**	**1.80**	**216**	*e*Pn	**Pn**	**18 01 12.6**	**-1.6**
TWF1	**Yuli**	**1.83**	**216**	P	**Pn**	**18 01 13.4**	**-1.2**
	baz=211						
TWF1				*e*S	**Sn**	**18 01 37.1**	**-0.8**
	baz=211						
WNT	**Mingjian**	**1.89**	**239**	*e*P	**Pn**	**18 01 16.9**	**+1.5**
	baz=259						
WNT				*e*S	**Sn**	**18 01 42.0**	**+2.7**
	baz=259						
YUS	**Yu-Shan**	**1.94**	**226**	P	**Pn**	**18 01 16.5**	**+0.4**
	baz=205						
YUS				*e*S	**Sn**	**18 01 40.9**	**+0.4**
	baz=205						
CHKT	**Chengkung**	**2.01**	**210**	*e*P	**Pn**	**18 01 16.0**	**-1.1**
	baz=189						
ALS	**Alisham**	**2.02**	**229**	P	**Pn**	**18 01 18.5**	**+1.3**
	baz=207						
JTJ	**Tarama**	**2.05**	**95**	P	**Pn**	**18 01 18.1**	**+0.5**
CHN5	**Tsauling**	**2.05**	**233**	P	**Pn**	**18 01 19.3**	**+1.6**
	baz=229						
WGK	**Gukeng**	**2.09**	**237**	*e*P	**Pn**	**18 01 19.6**	**+1.4**
	baz=255						
WGK				*e*S	**Sn**	**18 01 46.8**	**+2.6**
	baz=255						
ELDTW	**Lidau**	**2.12**	**219**	*e*P	**Pn**	**18 01 18.2**	**-0.3**
	baz=200						
CHN2	**Minshiung**	**2.24**	**234**	*e*P	**Pn**	**18 01 22.0**	**+1.7**
	baz=252						
CHN2				*e*S	**Sn**	**18 01 52.2**	**+4.3**
	baz=252						
CHN4	**Tsaushan**	**2.27**	**229**	P	**Pn**	**18 01 22.5**	**+1.9**
	baz=208						
CHN4				*e*S	**Sn**	**18 01 51.6**	**+2.9**
	baz=208						
TPUB	**Ta-pu**	**2.28**	**228**	*e*Pn	**Pn**	**18 01 22.0**	**+1.2**
TPUB				*e*Sn	**Sn**	**18 01 50.0**	**+1.1**
STYT	**Tauyuan**	**2.29**	**223**	*e*P	**Pn**	**18 01 22.1**	**+1.1**
	baz=204						
CHY	**Chiayi**	**2.30**	**234**	*e*P	**Pn**	**18 01 22.8**	**+1.8**
	baz=250						
TWG	**Pinlang**	**2.39**	**212**	*e*P	**Pn**	**18 01 21.6**	**-0.7**
	baz=207						
TWG	**Pinlang**	**2.39**	**212**	*e*Pn	**Pn**	**18 01 21.4**	**-0.9**
CHN1	**Nanshi**	**2.43**	**227**	*e*P	**Pn**	**18 01 24.9**	**+2.1**
	baz=206						
CHN1				*e*S	**Sn**	**18 01 55.1**	**+2.5**
	baz=206						
ECL	**Taimali**	**2.64**	**212**	*e*P	**Pn**	**18 01 25.3**	**-0.4**
	baz=206						
SSD	**Sandimen**	**2.69**	**219**	*e*P	**Pn**	**18 01 28.0**	**+1.7**
	baz=200						
SSD				*e*S	**Sn**	**18 02 00.3**	**+1.4**
	baz=200						
TWM1	**Shoushan**	**2.75**	**223**	*e*P	**Pn**	**18 01 30.2**	**+2.9**
	baz=218						
EAST	**Anshuo**	**2.87**	**211**	*e*P	**Pn**	**18 01 28.7**	**-0.2**
	baz=194						
SCZT	**Fangliau**	**2.99**	**215**	*e*P	**Pn**	**18 01 33.0**	**+2.4**
	baz=195						
SCZT				*e*S	**Sn**	**18 02 08.3**	**+1.8**
	baz=195						
KSRS	**Korea Array**	**13.40**	**19**	Pn	**Pn**	**18 04 07.5**	**+14**
	0.1nm,0.3s,baz=191,slow=14,SNR=4.6						
CMAR	**Chiang Mai Arr**	**22.75**	**258**	P	**P**	**18 05 32.0**	**-14**
	0.1nm,0.4s,mb2.6,baz=68,slow=8.1,SNR=2.7						
ASAJ	**Asahikawa**	**25.27**	**36**	LR	LR	18 16 01.5	
	comp=Z,111nm,18.3s,MS3.4,baz=21,slow=35						
SONM	**Songino Array**	**26.23**	**335**	P	**P**	**18 06 18.7**	**+0.6**
	1.8nm,0.9s,mb3.6,baz=147,slow=8.2,SNR=11						
SONM				LR	LR	18 18 03.1	
	comp=Z,45nm,20.3s,MS3.0,baz=206,slow=40						
SONM	**Songino Array**	**26.23**	**335**	P	**P**	**18 06 18.7**	**+0.6**
MKAR	**Makanchi Array**	**38.68**	**315**	P	**P**	**18 08 04.3**	**-2.6**
	0.2nm,0.5s,mb3.1,baz=108,slow=7.0,SNR=4.7						
MKAR	**Makanchi Array**	**38.68**	**315**	P	**P**	**18 08 04.3**	**-2.6**
ZALV	**Zalesovo Beam**	**40.33**	**326**	P	**P**	**18 08 19.7**	**-0.9**
	0.6nm,0.6s,mb3.5,baz=120,slow=8.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**40.33**	**326**	P	**P**	**18 08 19.7**	**-0.8**
TKM2	**Tokmak 2**	**42.28**	**307**	P	**P**	**18 08 31.6**	**-5.2**
KURK	**Kurchatov**	**42.34**	**319**	P	**P**	**18 08 36.4**	**-0.7**
WRA	**Warramunga Arr**	**46.00**	**164**	P	**P**	**18 09 05.9**	**-0.9**
	3.8nm,0.8s,mb4.4,baz=346,slow=8.7,SNR=8.0						
WRA	**Warramunga Arr**	**46.00**	**164**	P	**P**	**18 09 05.9**	**-0.9**
AS31	**Alice Springs**	**49.49**	**166**	*e*P	**P**	**18 09 36.1**	**+2.3**
ASAR	**Alice Springs**	**49.49**	**166**	P	**P**	**18 09 34.1**	**+0.4**
	1.7nm,0.8s,mb4.2,baz=340,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**49.49**	**166**	P	**P**	**18 09 34.1**	**+0.4**

DJA 06 18:01:13,0.′94N×120.′34E,h85km,MLv3.6/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.67**	**106**	P	Pn	18 01 40.8	+0.1
MRSI				S	Sn	18 02 03.2	+1.6
PCI	**Palu**	**1.90**	**195**	P	Pn	18 01 43.7	-0.1
GTOI	**Gorontalo**	**2.69**	**96**	P	Pn	18 01 54.5	+0.3
GTOI				S	Sn	18 02 26.6	+0.7
LUWI	**Luwuk**	**3.13**	**129**	P	Pn	18 02 01.2	+1.0
MSSI	**Masamba**	**3.47**	**180**	P	Pn	18 02 04.2	-0.7

*ISCJB **06** 18:12:29.6±0.5,39.′56N±0.′03×28.′82E±0.′04,h9km±5km, Error ellipse: s-maj=5.8km s-min=4.6km az=145.4*

*CSEM **06** 18:12:29.9±0.1,39.′54N×28.′80E,h10km,MD2.4,Error ellipse: s-maj=3.5km s-min=2.6km az=67.0*

*ISK **06** 18:12:30.0,39.′56N×28.′72E,h14km,MD2.4*

*DDA **06** 18:12:31.3,39.′55N×28.′84E,h18km,Md3.0*

ISC 06 18:12:30.0±0.5,39.′54N±0.′03×28.′80E±0.′04,h11km±5km, n36,σ0=52/50,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.15**	**293**	*e*PG	**Pg**	**18 12 33.3**	**-0.2**
DST				*e*SG	**Sg**	**18 12 35.6**	**-0.4**
DST	**Dursunbey**	**0.15**	**293**	*e*Pg	**Pg**	**18 12 33.3**	**-0.3**
DST				*e*Sg	**Sg**	**18 12 35.6**	**-0.5**
DURS	**Dursunbey**	**0.26**	**283**	*i* P	**Pg**	**18 12 35.4**	**0.0**
DURS				*i* S	**Sg**	**18 12 38.8**	**-0.2**
DURS	**Dursunbey**	**0.26**	**283**	*i* P	**Pg**	**18 12 35.4**	**0.0**
DURS				*i* S	**Sg**	**18 12 38.8**	**-0.2**
DEMI	**Demirci**	**0.50**	**188**	*i* P	**Pg**	**18 12 40.2**	**+0.4**
DEMI	**Demirci**	**0.50**	**188**	*i* P	**Pg**	**18 12 40.2**	**+0.3**
GDZ	**Gediz**	**0.69**	**131**	*i* P	**Pg**	**18 12 42.5**	**-0.9**
GDZ				*i* S	**Sg**	**18 12 51.6**	**-1.0**
GDZ	**Gediz**	**0.69**	**131**	*i* P	**Pg**	**18 12 42.5**	**-1.0**
GDZ				*i* S	**Sg**	**18 12 51.6**	**-0.9**
KCTX	**Karacabey (Bur**	**0.80**	**335**	*e*PG	**Pg**	**18 12 45.2**	**-0.3**
KCTX				*e*SG	**Sg**	**18 12 56.2**	**+0.2**
KCTX	**Karacabey (Bur**	**0.80**	**335**	*e*Pg	**Pg**	**18 12 45.2**	**-0.3**
KCTX				*e*Sg	**Sg**	**18 12 56.2**	**+0.3**
BALY	**Balya**	**0.94**	**283**	*i* P	**Pg**	**18 12 48.8**	**+0.7**
BALY				*i* S	**Sg**	**18 13 00.7**	**+0.5**
BALY	**Balya**	**0.94**	**283**	*i* P	**Pg**	**18 12 48.8**	**+0.8**
BALY				*i* S	**Sg**	**18 13 00.7**	**+0.5**
GEMT	**Gemlik**	**0.94**	**18**	*e*PG	**Pg**	**18 12 49.0**	**+0.9**
GEMT	**Gemlik**	**0.94**	**18**	*e*Pg	**Pg**	**18 12 49.0**	**+0.9**
GONE	**Gonen-Balikesi**	**1.00**	**301**	*e*PG	**Pg**	**18 12 49.0**	**-0.2**
GONE				*e*SG	**Sg**	**18 13 01.9**	**-0.3**
GONE	**Gonen-Balikesi**	**1.00**	**301**	*e*Pg	**Pg**	**18 12 49.0**	**-0.2**
GONE				*e*Sg	**Sg**	**18 13 01.9**	**-0.3**
ARMT	**Armutlu**	**1.02**	**2**	*e*PG	**Pg**	**18 12 50.1**	**+0.4**
ARMT	**Armutlu**	**1.02**	**2**	*e*Pg	**Pg**	**18 12 50.1**	**+0.4**
KULA	**Kula-Manisa**	**1.03**	**186**	*e*PG	**Pg**	**18 12 50.4**	**+0.5**
KULA	**Kula-Manisa**	**1.03**	**186**	*e*Pg	**Pg**	**18 12 50.4**	**+0.5**
CAVI	**Cavuskoy**	**1.04**	**50**	*e*PG	**Pg**	**18 12 50.8**	**+0.9**
CAVI	**Cavuskoy**	**1.04**	**50**	*e*Pg	**Pg**	**18 12 50.8**	**+0.8**
BNT	**Bandirma**	**1.06**	**320**	*e*PG	**Pg**	**18 12 49.9**	**-0.5**
BNT	**Bandirma**	**1.06**	**320**	*e*Pg	**Pg**	**18 12 49.9**	**-0.5**
MANT	**Manisa**	**1.07**	**190**	*i* P	**Pb**	**18 12 51.1**	**+0.6**
MANT				*i* S	**Sg**	**18 13 04.8**	**+0.4**
MANT	**Manisa**	**1.07**	**190**	*i* P	**Pb**	**18 12 51.1**	**+0.6**
MANT				*i* S	**Sg**	**18 13 04.8**	**+0.4**
YLV	**Yalova**	**1.11**	**23**	*e*PN	**Pn**	**18 12 51.5**	**+0.1**
YLV	**Yalova**	**1.11**	**23**	*e*Pn	**Pn**	**18 12 51.6**	**+0.1**
KRBG	**Karabiga-Canak**	**1.44**	**307**	*e*PN	**Pn**	**18 12 55.4**	**-0.6**
KRBG	**Karabiga-Canak**	**1.44**	**307**	*e*Pn	**Pn**	**18 12 55.4**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.69**	**313**	*e*PN	**Pn**	**18 12 58.8**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.69**	**313**	*e*Pn	**Pn**	**18 12 58.8**	**-0.6**
MFT	**Murefte**	**1.70**	**317**	*e*PN	**Pn**	**18 12 59.6**	**0.0**
MFT	**Murefte**	**1.70**	**317**	*e*Pn	**Pn**	**18 12 59.6**	**0.0**
CTKS	**Kestanelik-??a**	**1.71**	**352**	*e*PN	**Pn**	**18 12 59.4**	**-0.2**
CTKS	**Kestanelik-??a**	**1.71**	**352**	*e*Pn	**Pn**	**18 12 59.4**	**-0.2**

IDC 06 19:01:29.4±1.7,0.′51N×126.′28E,h0km,mb3.2/4, mb1 3.4/4,mb1mx3.2/19,mbtmp3.2/4,Error ellipse: s-maj=179.9km s-min=21.8km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.80**	**159**	P	P	19 06 22.9	-0.4
	0.4nm,0.6s,baz=338,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**25.14**	**163**	P	P	19 06 56.8	+0.4
	0.3nm,0.5s,baz=340,slow=9.8,SNR=6.9						
MKAR	**Makanchi Array**	**59.95**	**327**	P	P	19 11 37.0	-0.5
	0.1nm,0.4s,baz=123,slow=7.9,SNR=3.5						
KURK	**Kurchatov**	**64.22**	**329**	P	P	19 12 06.6	+0.5
	0.4nm,0.7s,baz=120,slow=5.8,SNR=2.5						

*IDC **06** 19:02:33.9±1.6,36.′76N×29.′06E,h0km,mb3.3/2, mb1 3.2/4,mb1mx3.1/24,mbtmp3.1/4,ML2.8/1,Error ellipse: s-maj=37.3km s-min=23.5km az=138.0*

*ISCJB **06** 19:02:34.6±0.6,36.′80N±0.′03×29.′16E±0.′03,h17km±6km, mb3.2/2,Error ellipse: s-maj=4.5km s-min=3.7km az=159.8*

*CSEM **06** 19:02:34.0±0.1,36.′82N×29.′16E,h2km,ML2.9,Error ellipse: s-maj=3.5km s-min=2.8km az=166.0*

*ISK **06** 19:02:34.6,36.′89N×29.′19E,h10km,ML2.9*

*NEIC **06** 19:02:34.7±1.1,36.′63N×29.′18E,h10km,Error ellipse: s-maj=16.5km s-min=9.1km az=60.0*

*DDA **06** 19:02:35.9,36.′85N×29.′20E,h16km,Md3.3*

*ATH **06** 19:02:36.2,36.′72N×29.′04E,h33km±1km,MD3.5/6*

ISC 06 19:02:34.5±0.6,36.′81N±0.′03×29.′16E±0.′03,h9km±4km, n97,σ1=01/131,mb3.2/2,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.44**	**38**	*e*PG	**Pg**	**19 02 41.9**	**-1.3**
GLHS				*e*SG	**Sg**	**19 02 48.5**	**-0.5**
GLHS	**Glhisar (BURDU**	**0.44**	**38**	*e*Pg	**Pg**	**19 02 41.9**	**-1.3**
GLHS				*e*Sg	**Sg**	**19 02 48.5**	**-0.5**
TURN	**Turunc**	**0.45**	**279**	*i* P	**Pg**	**19 02 48.3**	**+5.0**
TURN				*i* S	**Sg**	**19 02 58.2**	**+9.0**
TURN	**Turunc**	**0.45**	**279**	*i* P	**Pg**	**19 02 48.3**	**+5.0**
GOLH	**Golhisar**	**0.54**	**37**	*i* P	**Pg**	**19 02 43.0**	**-1.9**
GOLH				*i* S	**Sg**	**19 02 51.8**	**-0.3**
GOLH	**Golhisar**	**0.54**	**37**	*i* P	**Pg**	**19 02 43.0**	**-2.0**
GOLH				*i* S	**Sg**	**19 02 51.8**	**-0.2**
ELL	**Elmali**	**0.61**	**95**	*e*PG	**Pg**	**19 02 46.3**	**+0.1**
ELL				*e*SG	**Sg**	**19 02 55.2**	**+1.1**
ELL	**Elmali**	**0.61**	**95**	*e*Pg	**Pg**	**19 02 46.3**	**+0.1**
ELL				*e*Sg	**Sg**	**19 02 55.3**	**+1.2**
KSL	**Kastellorizon**	**0.74**	**152**	*e*PN	**Pn**	**19 02 50.6**	**-0.6**
YER	**Yerkesik**	**0.77**	**295**	*e*PG	**Pg**	**19 02 49.7**	**+0.3**
YER				*e*SG	**Sg**	**19 03 00.9**	**+1.4**
YER	**Yerkesik**	**0.77**	**295**	*e*Pg	**Pg**	**19 02 49.7**	**+0.3**
YER				*e*Sg	**Sg**	**19 03 00.9**	**+1.4**
DNZL	**Cakiroluk**	**0.89**	**354**	*i* P	**Pg**	**19 02 50.2**	**-1.4**
DNZL				*i* S	**Sg**	**19 03 02.3**	**-0.9**
DNZL	**Cakiroluk**	**0.89**	**354**	*i* P	**Pg**	**19 02 50.2**	**-1.4**
DNZL				*i* S	**Sg**	**19 03 02.3**	**-0.8**
DENT	**Denizli**	**0.95**	**354**	*e*PG	**Pg**	**19 02 51.7**	**-1.1**
DENT	**Denizli**	**0.95**	**354**	*e*Pg	**Pg**	**19 02 51.7**	**-1.1**
KORT	**Korkueli**	**0.98**	**78**	*i* P	**Pg**	**19 02 53.4**	**+0.1**
KORT				*i* S	**Sg**	**19 03 09.3**	**+3.4**
KORT	**Korkueli**	**0.98**	**78**	*i* P	**Pg**	**19 02 53.4**	**+0.1**
KORT				*i* S	**Sg**	**19 03 09.3**	**+3.3**
ARG	**Arkhangelos**	**1.02**	**235**	*e*PN	**Pn**	**19 02 53.6**	**-1.4**
ARG				*e*SN	**Sn**	**19 03 05.8**	**-3.7**
ARG	**Arkhangelos**	**1.02**	**235**	*e*Pn	**Pn**	**19 02 53.6**	**-1.4**
MLSB	**Milas**	**1.21**	**294**	*e*PN	**Pn**	**19 02 58.6**	**+0.9**
MLSB	**Milas**	**1.21**	**294**	*e*Pn	**Pn**	**19 02 58.6**	**+0.9**
DAT	**Datca**	**1.27**	**267**	*e*PN	**Pn**	**19 02 59.9**	**+1.3**
DAT	**Datca**	**1.27**	**267**	*e*Pn	**Pn**	**19 02 59.9**	**+1.4**
BCK	**Bucak**	**1.32**	**60**	*e*PN	**Pn**	**19 02 59.0**	**-0.2**
BCK	**Bucak**	**1.32**	**60**	*e*Pn	**Pn**	**19 02 59.0**	**-0.2**
AYDN	**Tasoluk**	**1.33**	**310**	*i* P	**Pn**	**19 02 59.6**	**+0.2**
AYDN				*i* S	**Sb**	**19 03 18.2**	**+1.3**
AYDN	**Tasoluk**	**1.33**	**310**	*i* P	**Pn**	**19 02 59.6**	**+0.3**
AYDN				*i* S	**Sb**	**19 03 18.2**	**+1.3**
BODT	**Bodrum**	**1.50**	**280**	*e*PN	**Pn**	**19 03 02.6**	**+0.9**
BODT	**Bodrum**	**1.50**	**280**	*e*Pn	**Pn**	**19 03 02.6**	**+0.9**
KHAL	**Karahalli**	**1.58**	**10**	*i* P	**Pn**	**19 03 02.9**	**+0.1**
KHAL				*i* S	**Sn**	**19 03 22.6**	**-0.9**
KHAL	**Karahalli**	**1.58**	**10**	*i* P	**Pn**	**19 03 02.9**	**+0.1**
KHAL				*i* S	**Sn**	**19 03 22.6**	**-0.9**
MANT	**Manisa**	**1.75**	**344**	*i* P	**Pn**	**19 03 05.1**	**0.0**
MANT				*i* S	**Sn**	**19 03 25.3**	**-2.2**
MANT	**Manisa**	**1.75**	**344**	*i* P	**Pn**	**19 03 05.1**	**0.0**
MANT				*i* S	**Sn**	**19 03 25.3**	**-2.2**
KULA	**Kula-Manisa**	**1.75**	**347**	*e*PN	**Pn**	**19 03 04.9**	**-0.2**
KULA	**Kula-Manisa**	**1.75**	**347**	*e*Pn	**Pn**	**19 03 04.9**	**-0.2**
KARP	**Karpathos**	**2.05**	**233**	*e*PN	**Pn**	**19 03 08.4**	**-0.8**
KARP				*e*SN	**Sn**	**19 03 32.0**	**-2.8**
KARP	**Karpathos**	**2.05**	**233**	*e*Pn	**Pn**	**19 03 08.4**	**-0.8**
KARP				*e*Sn	**Sn**	**19 03 32.0**	**-2.8**
SMG	**Samos**	**2.06**	**297**	*e*PN	**Pn**	**19 03 09.9**	**+0.5**
SMG				*e*SN	**Sn**	**19 03 34.4**	**-0.8**
SMG	**Samos**	**2.06**	**297**	*e*Pn	**Pn**	**19 03 09.9**	**+0.5**
SMG				*e*Sn	**Sn**	**19 03 34.0**	**-1.2**
SHUT	**Suhut-Afyon**	**2.06**	**32**	*e*PN	**Pn**	**19 03 09.8**	**+0.3**
SHUT	**Suhut-Afyon**	**2.06**	**32**	*e*Pn	**Pn**	**19 03 09.8**	**+0.4**
IZM	**Izmir**	**2.19**	**317**	*e*PN	**Pn**	**19 03 11.7**	**+0.5**
IZM	**Izmir**	**2.19**	**317**	*e*Pn	**Pn**	**19 03 11.7**	**+0.6**
DEMI	**Demirci**	**2.26**	**351**	*i* P	**Pn**	**19 03 12.2**	**+0.1**
DEMI				*i* S	**Sn**	**19 03 39.6**	**-0.6**
DEMI	**Demirci**	**2.26**	**351**	*i* P	**Pn**	**19 03 12.2**	**+0.1**
DEMI				*i* S	**Sn**	**19 03 39.6**	**-0.5**
BLCB	**Balcova**	**2.30**	**314**	*e*PN	**Pn**	**19 03 13.1**	**+0.4**
BLCB	**Balcova**	**2.30**	**314**	*e*Pn	**Pn**	**19 03 13.1**	**+0.4**
AKS	**Akhisar**	**2.33**	**333**	*e*PN	**Pn**	**19 03 12.7**	**-

ISC 06 19:09:29.2±0.5, 37°91N±0°03×27°18E±0°04, h11km±5km, n24, σ0°88/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.21**	**169**	*i* P	**Pg**	**19 09 33.9**	**+0.3**
GCAM				*i* S	**Sg**	**19 09 37.4**	**+0.8**
GCAM	**G?zelcaml?**	**0.21**	**169**	*i* P	**Pg**	**19 09 33.9**	**+0.3**
GCAM				*i* S	**Sg**	**19 09 37.4**	**+0.8**
SMG	**Samos**	**0.34**	**234**	*e*PG	**Pg**	**19 09 35.6**	**-0.3**
SMG				*e*SB	**Sg**	**19 09 40.8**	**+0.4**
SMG	**Samos**	**0.34**	**234**	*e*Pg	**Pg**	**19 09 35.4**	**-0.5**
SMG				*e*Sb	**Sg**	**19 09 40.8**	**+0.4**
BLCB	**Balcova**	**0.49**	**347**	*e*PG	**Pg**	**19 09 37.8**	**-1.0**
BLCB				*e*SG	**Sg**	**19 09 44.6**	**-0.7**
BLCB	**Balcova**	**0.49**	**347**	*e*Pg	**Pg**	**19 09 37.8**	**-1.0**
BLCB				*e*Sg	**Sg**	**19 09 44.6**	**-0.7**
IZM	**Izmir**	**0.49**	**7**	*e*PG	**Pg**	**19 09 38.5**	**-0.3**
IZM	**Izmir**	**0.49**	**7**	*e*Pg	**Pg**	**19 09 38.5**	**-0.3**
CHOS	**Chios island**	**1.01**	**299**	*e*PB	**Pb**	**19 09 48.4**	**-0.2**
CHOS				*e*SB	**Sb**	**19 10 02.2**	**+0.3**
CHOS	**Chios island**	**1.01**	**299**	*e*Pn	**Pb**	**19 09 48.4**	**-0.2**
CHOS				*e*Sb	**Sb**	**19 10 02.2**	**+0.3**
AKHS	**Akhisar**	**1.09**	**27**	*i* P	**Pb**	**19 09 50.3**	**+0.3**
AKHS				*i* S	**Sg**	**19 10 05.1**	**+0.7**
AKHS	**Akhisar**	**1.09**	**27**	*i* P	**Pb**	**19 09 50.3**	**+0.3**
AKHS				*i* S	**Sg**	**19 10 05.1**	**+0.8**
AKS	**Akhisar**	**1.09**	**27**	*e*PN	**Pn**	**19 09 50.4**	**+0.1**
AKS				*e*SN	**Sn**	**19 10 06.8**	**+1.4**
AKS	**Akhisar**	**1.09**	**27**	*e*Pn	**Pn**	**19 09 50.4**	**+0.1**
AKS				*e*Sn	**Sn**	**19 10 06.8**	**+1.4**
YER	**Yerkesik**	**1.17**	**131**	*e*PN	**Pn**	**19 09 49.2**	**-2.1**
YER	**Yerkesik**	**1.17**	**131**	*e*Pn	**Pn**	**19 09 49.2**	**-2.1**
DAT	**Datca**	**1.22**	**165**	*e*PN	**Pn**	**19 09 47.9**	**-4.1**
DAT	**Datca**	**1.22**	**165**	*e*Pn	**Pn**	**19 09 47.9**	**-4.2**
MANT	**Manisa**	**1.23**	**61**	*i* P	**Pn**	**19 09 54.1**	**+1.9**
MANT				*i* S	**Sb**	**19 10 07.3**	**-1.0**
MANT	**Manisa**	**1.23**	**61**	*i* P	**Pn**	**19 09 54.1**	**+1.8**
MANT				*i* S	**Sb**	**19 10 07.3**	**-1.0**
KULA	**Kula-Manisa**	**1.31**	**62**	*e*PN	**Pn**	**19 09 52.7**	**-0.7**
KULA	**Kula-Manisa**	**1.31**	**62**	*e*Pn	**Pn**	**19 09 52.7**	**-0.7**
PRK	**Paraskevi**	**1.52**	**332**	*e*PB	**Pg**	**19 09 57.9**	**-0.4**
PRK				*e*SB	**Sg**	**19 10 18.4**	**+0.4**
PRK	**Paraskevi**	**1.52**	**332**	*e*Pb	**Pg**	**19 09 58.0**	**-0.3**
PRK				*e*Sb	**Sg**	**19 10 18.4**	**+0.4**

*ISCJB **06** 19:11:35.2±0.4, 43°78N±0°03×105°24W±0°05, h0km, mb4.1/2, Error ellipse: s-maj=4.8km s-min=4.4km az=162.3*
*NEIC **06** 19:11:36.9±0.4, 43°80N×105°26W, h0km, ML3.3, Error ellipse: s-maj=5.1km s-min=4.8km az=82.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **06** 19:11:38.2±0.9, 44°09N×105°73W, h0km, mb3.9/2, mb1 3.8/7, mb1mx3.5/26, mbtmp3.5/7, ML3.3/5, MS2.6/1, Ms1 2.6/1, ms1mx2.1/38, Error ellipse: s-maj=24.6km s-min=8.3km az=144.0*

ISC 06 19:11:37.1±0.4, 43°78N±0°03×105°23W±0°05, h0km, n71, σ1°07/74, mb4.1/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**68**	*e*Pg	**Pg**	**19 11 55.2**	**+0.3**
PHWY	**Pilot Hill**	**2.48**	**184**	*e*Pn	**Pn**	**19 12 18.9**	**+0.1**
RWWY	**Rawlins**	**2.55**	**216**	*e*Pn	**Pn**	**19 12 19.5**	**-0.2**
LAO	**LASA Array**	**2.99**	**347**	*e*Pn	**Pn**	**19 12 25.6**	**-0.1**
RLMT	**Red Lodge**	**3.19**	**296**	*e*Pn	**Pn**	**19 12 28.4**	**0.0**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**19 12 30.9**	**+0.6**
	3.7nm,0.3s,baz=68,slow=15,SNR=75						
PDAR				Lg		19 13 15.7	
	9.1nm,0.3s,baz=63,slow=32,SNR=4.3						
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**19 12 30.9**	**+0.6**
PDAR				Lg		19 13 15.7	
BW06	**Boulder Array**	**3.32**	**254**	*e*Pn	**Pn**	**19 12 30.3**	**0.0**
OGNE	**Ogallala**	**3.69**	**139**	*e*Pn	**Pn**	**19 12 35.6**	**+0.2**
GCMT	**Greycliff**	**3.75**	**304**	*e*Pn	**Pn**	**19 12 36.5**	**+0.4**
LKWY	**Lake**	**3.80**	**284**	*e*Pn	**Pn**	**19 12 39.5**	**+2.6**
LOHW	**Long Hollow**	**3.90**	**269**	*e*Pn	**Pn**	**19 12 36.2**	**-2.1**
FLWY	**Flagg Ranch**	**3.96**	**276**	*e*Pn	**Pn**	**19 12 39.4**	**+0.2**
ISCO	**Idaho Springs**	**3.99**	**184**	*e*Pn	**Pn**	**19 12 38.9**	**-0.6**
MOOW	**Moose Ponds**	**4.00**	**271**	*e*Pn	**Pn**	**19 12 40.3**	**+0.8**
SNOW	**Snow King Moun**	**4.03**	**267**	*e*Pn	**Pn**	**19 12 37.4**	**-2.6**
YNR	**Norris Junctio**	**4.03**	**285**	Pn	**Pn**	**19 12 36.2**	**-3.7**
YFT	**Old Faithful**	**4.09**	**281**	Pn	**Pn**	**19 12 38.2**	**-2.7**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**19 12 41.7**	**+0.6**
IMW	**Indian Meadow**	**4.13**	**274**	*e*Pn	**Pn**	**19 12 42.6**	**+1.1**
TPAW	**Teton Pass**	**4.16**	**268**	*e*Pn	**Pn**	**19 12 42.1**	**+0.2**
DCID1	**Drake Creek**	**4.32**	**270**	Pn	**Pn**	**19 12 46.0**	**+2.0**
AHID	**Auburn Hatcher**	**4.41**	**259**	*e*Pn	**Pn**	**19 12 42.5**	**-2.7**
RRI2	**Red Ridge**	**4.45**	**267**	*e*Pn	**Pn**	**19 12 45.4**	**-0.4**
QLMT	**Earthquake Lak**	**4.57**	**285**	*e*Pn	**Pn**	**19 12 50.9**	**+3.4**
DGMT	**Dagmar**	**4.75**	**8**	Pn	**Pn**	**19 12 51.4**	**+1.5**
SMCO	**Snowmass**	**4.78**	**196**	Pn	**Pn**	**19 12 48.5**	**-1.9**
BOZ	**Bozeman (W)**	**4.93**	**294**	*e*Pn	**Pn**	**19 12 50.9**	**-1.5**
HWUT	**Hardware Ranch**	**5.15**	**247**	*e*Pn	**Pn**	**19 12 55.1**	**-0.4**
	13nm,0.5s						
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**19 12 57.5**	**+0.2**
	26nm,0.5s						
DLMT	**Dillon**	**5.50**	**289**	*e*Pn	**Pn**	**19 12 56.6**	**-3.6**
	7.7nm,0.4s						
HRY	**Holter Researc**	**5.51**	**304**	*e*Pn	**Pn**	**19 12 59.1**	**-1.3**
	2μm,1.5s						
LRM	**Limekiln Ridge**	**5.53**	**294**	*e*Pn	**Pn**	**19 13 01.4**	**+0.8**
LRM				*e*Pn	**Pn**	**19 13 01.4**	**+0.8**
MCMT	**McKenzie Canyo**	**5.57**	**283**	*e*Pn	**Pn**	**19 13 03.6**	**+2.4**
	3.0nm,0.4s						
DAU	**Daniels Canyon**	**5.61**	**235**	*e*Pn	**Pn**	**19 13 01.6**	**-0.1**
	13nm,0.5s						
JLU	**Jordanelle**	**5.61**	**238**	*e*Pn	**Pn**	**19 13 01.9**	**+0.1**
	12nm,0.5s						
HVU	**Hansel Valley**	**5.90**	**253**	*e*Pn	**Pn**	**19 13 06.0**	**+0.2**
	8.3nm,0.5s						
SDCO	**Great Sand Dun**	**6.03**	**182**	*e*Pn	**Pn**	**19 13 07.8**	**+0.2**
	2.8nm,0.5s						
PV04	**Paradox Valley**	**6.06**	**209**	*e*Pn	**Pn**	**19 13 07.4**	**-0.5**
MPU	**Maple Canyon**	**6.08**	**234**	*e*Pn	**Pn**	**19 13 08.2**	**0.0**
	12nm,0.7s						
SRU	**San Rafael**	**6.13**	**222**	*e*Pn	**Pn**	**19 13 08.0**	**-0.9**
	17nm,0.5s						
PV01	**Paradox Valley**	**6.18**	**205**	*e*Pn	**Pn**	**19 13 10.6**	**+1.0**
	391nm,0.5s						
ECSD	**EROS Data Cent**	**6.24**	**87**	*e*Pn	**Pn**	**19 13 10.3**	**-0.1**
	6.7nm,0.3s						
TMUT	**Trail Mountain**	**6.34**	**227**	*e*Pn	**Pn**	**19 13 11.7**	**0.0**
	12nm,0.4s						
CBKS	**Cedar Bluff**	**6.46**	**138**	*e*Pn	**Pn**	**19 13 13.7**	**+0.3**
	19nm,0.7s						
CHMT	**Chamberlain Mo**	**6.46**	**302**	*e*Pn	**Pn**	**19 13 13.5**	**0.0**
	2.2nm,0.5s						
HLID	**Hailey**	**6.67**	**271**	*e*Pn	**Pn**	**19 13 17.0**	**+0.7**
	8.2nm,0.1s						
DUG	**Dugway**	**6.69**	**240**	*e*Pn	**Pn**	**19 13 15.2**	**-1.3**
	4.5nm,0.4s						
SLMT	**Seeley Lake**	**6.76**	**304**	*e*Pn	**Pn**	**19 13 17.2**	**-0.3**
	4.2nm,0.5s						
MSO	**Missoula**	**6.86**	**299**	*e*Pn	**Pn**	**19 13 17.6**	**-1.3**
	1.8nm,0.5s						
MVCO	**Mesa Verde**	**7.02**	**202**	*e*Pn	**Pn**	**19 13 23.0**	**+1.9**
	6.3nm,0.5s						
SWMT	**Swartz Lake**	**7.19**	**304**	*e*Pn	**Pn**	**19 13 23.5**	**+0.1**
	2.6nm,0.4s						
MSU	**Marysvale**	**7.43**	**227**	*e*Pn	**Pn**	**19 13 26.9**	**+0.2**
	4.6nm,0.5s						
JTMT	**Jette**	**7.47**	**305**	*e*Pn	**Pn**	**19 13 27.9**	**+0.6**
	2.5nm,0.4s						
AGMN	**Agassiz Nation**	**7.93**	**52**	*e*Pn	**Pn**	**19 13 28.9**	**-4.6**
	13nm,0.5s						
ARUT	**Antelope Range**	**8.64**	**229**	*e*Pn	**Pn**	**19 13 44.0**	**+0.7**
	4.6nm,0.4s						
CCUT	**Cedar City**	**8.77**	**228**	*e*Pn	**Pn**	**19 13 46.0**	**+0.9**
	2.1nm,0.5s						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**19 13 49.0**	**-0.5**
	1.4nm,0.3s,baz=228,slow=11,SNR=10						
ULM				Pg	**Pn**	**19 14 23.6**	**+34**
	1.2nm,0.3s,baz=224,slow=16,SNR=3.2						
ULM				Lg		19 16 21.2	
	0.6nm,0.3s,baz=165,slow=16,SNR=2.8						
ULM				LR	LR	19 17 44.5	
	comp=Z,42nm,20.3s,baz=50,slow=40						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**19 13 49.0**	**-0.5**
ULM				Pg	**Pn**	**19 14 23.6**	**+34**
ULM				Lg		19 16 21.2	

WUAZ	**Wupatki**	**9.51**	**212**	*e*Pn	**Pn**	**19 13 54.7**	**-0.7**
	7.5nm,0.5s						
WMOK	**Wichita Mounta**	**10.32**	**149**	*e*Pn	**Pn**	**19 14 01.5**	**-4.8**
	2.9nm,0.6s						
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**19 14 20.0**	**+1.3**
	0.2nm,0.3s,baz=55,slow=13,SNR=6.4						
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**19 14 20.0**	**+1.3**
TXAR	**Lajitas Array**	**14.47**	**175**	Pn	**Pn**	**19 15 10.5**	**+7.4**
	0.1nm,0.3s,baz=358,slow=12,SNR=3.2						
TXAR				Pg	Pn	19 16 10.2	+67
	0.1nm,0.3s,baz=20,slow=15,SNR=4.1						
TXAR	**Lajitas Array**	**14.47**	**175**	Pn	**Pn**	**19 15 10.5**	**+7.4**
TXAR				Pg	Pn	19 16 10.2	+67
YKA	**Yellowknife Ar**	**19.53**	**347**	*e*Pn	**Pn**	**19 16 03.3**	**-3.7**
	0.1nm,0.3s,baz=165,slow=13,SNR=3.1						
YKA	**Yellowknife Ar**	**19.53**	**347**	*e*Pn	**Pn**	**19 16 03.3**	**-3.7**
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**19 21 53.2**	**-1.0**
	3.8nm,1.1s,mb4.5,baz=318,slow=6.6,SNR=5.1						
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**19 21 53.2**	**-1.0**
MKAR	**Makanchi Array**	**89.57**	**355**	P	**P**	**19 24 35.9**	**-0.4**
	0.3nm,0.7s,mb3.7,baz=356,slow=4.3,SNR=2.6						
MKAR	**Makanchi Array**	**89.57**	**355**	P	**P**	**19 24 35.9**	**-0.4**

*ISCJB **06** 19:15:02.5±0.9, 24°53N±0°05×122°84E±0°03, h90km±8km, Error ellipse: s-maj=8.6km s-min=4.0km az=4.7*
*TAP **06** 19:15:02.1, 24°58N×122°78E, h107km, ML3.0, C*
*JMA **06** 19:15:02.1±0.2, 24°67N×122°89E, h96km, M1.8*

ISC 06 19:15:02.9±0.9, 24°52N±0°05×122°84E±0°03, h89km±8km, n25, σ0°67/45, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.17**	**110**	P	**Pn**	**19 15 15.9**	**+0.2**
YOJ				S	**Sn**	**19 15 26.6**	**+1.4**
IRIF	**Iriomote-Funau**	**0.84**	**103**	P	**Pn**	**19 15 20.4**	**-0.3**
IRIF				S	**Sn**	**19 15 34.3**	**+0.2**
TWC	**Suao**	**0.90**	**276**	*e*P	**Pn**	**19 15 20.9**	**-0.5**
	baz=274						
TWC				S	**Sn**	**19 15 34.9**	**-0.4**
	baz=274						
TWB1	**Santiao Chiao**	**0.91**	**302**	*e*P	**Pn**	**19 15 21.2**	**-0.4**
	baz=300						
TWB1				*e*S	**Sn**	**19 15 35.3**	**-0.3**
	baz=300						
HATJ	**Hateruma jima**	**1.00**	**117**	S	**Sn**	**19 15 37.8**	**+0.6**
ENA	**Nanau**	**1.00**	**265**	P	**Pn**	**19 15 22.5**	**0.0**
	baz=255						
ENA				*e*S	**Sn**	**19 15 38.0**	**+0.6**
	baz=255						
TWE	**Neicheng**	**1.08**	**281**	*i* P	**Pn**	**19 15 23.4**	**-0.1**
	baz=274						
TWE				S	**Sn**	**19 15 38.6**	**-0.3**
	baz=274						
NWF	**Wu-fen Shan**	**1.10**	**300**	*e*P	**Pn**	**19 15 23.9**	**+0.1**
	baz=292						
JKRS	**Kuro-shima**	**1.11**	**104**	P	**Pn**	**19 15 23.9**	**+0.1**
JKRS				S	**Sn**	**19 15 39.5**	**0.0**
ENTT	**Nioudou**	**1.16**	**276**	P	**Pn**	**19 15 24.9**	**+0.4**
	baz=269						
ENTT				S	**Sn**	**19 15 40.6**	**-0.1**
	baz=269						
JIJ	**Ishigaki jima**	**1.20**	**97**	P	**Pn**	**19 15 24.5**	**-0.4**
JIJ				S	**Sn**	**19 15 40.3**	**-1.2**
TWD	**Chiawan**	**1.21**	**249**	*e*P	**Pn**	**19 15 24.6**	**-0.5**
	baz=239						
TWD				S	**Sn**	**19 15 41.4**	**-0.3**
	baz=239						
TWA	**Mucha**	**1.23**	**292**	*e*P	**Pn**	**19 15 25.2**	**-0.1**
	baz=282						
TWA				*e*S	**Sn**	**19 15 41.6**	**-0.5**
	baz=282						
NNS	**Nan Shan**	**1.33**	**267**	*e*P	**Pn**	**19 15 26.6**	**+0.1**
	baz=256						
NNS				*e*S	**Sn**	**19 15 43.9**	**-0.6**
	baz=256						
NSK	**Sanguang**	**1.35**	**277**	P	**Pn**	**19 15 26.9**	**+0.1**
	baz=267						
NSK				*e*S	**Sn**	**19 15 44.5**	**-0.3**
	baz=267						
ESL	**Shilin**	**1.46**	**242**	*e*P	**Pn**	**19 15 28.4**	**+0.2**
	baz=236						
ESL				S	**Sn**	**19 15 46.7**	**-0.5**
	baz=236						
WHF	**Hehuan Shan**	**1.48**	**256**	P	**Pn**	**19 15 28.6**	**+0.2**
	baz=256						
WHF				*e*S	**Sn**	**19 15 47.6**	**0.0**
	baz=256						
EHY	**Hungye**	**1.71**	**234**	*e*S	**Sn**	**19 15 51.6**	**-1.4**
	baz=236						
TWF1	**Yuli**	**1.82**	**231**	*e*P	**Pn**	**19 15 32.5**	**-0.3**
	baz=236						
SMLT	**Sun Moon Lake**	**1.88**	**251**	*e*P	**Pn**	**19 15 34.2**	**+0.7**
	baz=242						
SMLT				*e*S	**Sn**	**19 15 58.3**	**+1.6**
	baz=242						
TYC	**Yuchr**	**1.91**	**252**	*e*P	**Pn**	**19 15 34.3**	**+0.4**
	baz=244						
TYC				*e*S	**Sn**	**19 15 58.2**	**+0.7**
	baz=244						
CHKT	**Chengkung**	**1.95**	**224**	*e*S	**Sn**	**19 15 56.9**	**-1.7**
	baz=215						
YUS	**Yu-Shan**	**2.00**	**240**	*e*P	**Pn**	**19 15 36.3**	**+1.1**
	baz=230						
YUS				*e*S	**Sn**	**19 15 60.0**	**+0.2**
	baz=230						
ALS	**Alishan**	**2.11**	**242**	*e*P	**Pn**	**19 15 37.8**	**+1.2**
	baz=232						
ALS				*e*S	**Sn**	**19 16 03.7**	**+1.4**
	baz=232						
ELDTW	**Lidau**	**2.13**	**232**	*e*P	**Pn**	**19 15 36.5**	**-0.3**
	baz=229						
ELDTW				*e*S	**Sn**	**19 16 01.8**	**-0.9**
	baz=229						

*IDC **06** 19:18:30.1±1.3, 30°45N×67°23E, h0km, mb3.5/10, mb1 3.6/10, mb1mx3.4/30, mbtmp3.6/10, MS3.2/1, Ms1 3.3/1, ms1mx2.3/31, Error ellipse: s-maj=30.7km s-min=23.5km az=62.0*
*ISCJB **06** 19:18:31.7±1.6, 30°65N±0°09×67°4E±0°1, h16km±15km, mb3.5/8, Error ellipse: s-maj=21.1km s-min=11.8km az=27.9*
*NEIC **06** 19:18:32.0±0.6, 30°53N×67°36E, h10km, mb3.3/1, Error ellipse: s-maj=15.7km s-min=8.1km az=123.0*

ISC 06 19:18:32.7±1.7, 30°59N±0°09×67°4E±0°1, h13km±13km, n28, σ1°21/28, mb3.4/9, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUE	**Quetta**	**0.57**	**226**	*e*P	**Pg**	**19 18 42.0**	**-1.9**
QUE				*e*S	**Sg**	**19 18 53.0**	**+1.6**
KBL	**Kabul**	**4.17**	**19**	*e*Pn	**Pn**	**19 19 39.1**	**+3.1**
EKS2	**Erkin-Say**	**13.08**	**21**	*e*Pn	**Pn**	**19 21 37.7**	**-0.4**
	55nm,0.9s						
AAK	**Ala-Archa**	**13.29**	**23**	*e*Pn	**Pn**	**19 21 41.6**	**+0.7**
	6.4nm,0.6s						
ABKAR	**Akbulak array**	**19.49**	**345**	*e*P	**Pn**	**19 22 59.9**	**-0.5**
	1.1nm,0.6s						
MK31	**Makanchi Array**	**19.86**	**31**	*e*P	**Pn**	**19 23 02.8**	**-2.1**
MKAR	**Makanchi Array**	**19.86**	**31**	P	**Pn**	**19 23 03.3**	**-1.6**
	0.6nm,0.4s,baz=215,slow=11,SNR=14						
MKAR	**Makanchi Array**	**19.86**	**31**	P	**Pn**	**19 23 03.3**	**-1.6**
AKTO	**Aktyubinsk**	**21.04**	**343**	P	**P**	**19 23 16.5**	**+0.4**
	0.6nm,0.5s,mb3.2,baz=155,slow=13,SNR=3.6						
AKTO	**Aktyubinsk**	**21.04**	**343**	P	**P**	**19 23 16.5**	**+0.4**
KURK	**Kurchatov**	**21.78**	**19**	P	**P**	**19 23 24.8**	**+0.8**
	1.1nm,0.7s,mb3.4,baz=208,slow=10.0,SNR=9.5						
KURK	**Kurchatov**	**21.78**	**19**	P	**P**	**19 23 24.8**	**+0.8**
BVAR	**Borovoye Array**	**22.52**	**5**	P	**P**	**19 23 32.6**	**+0.7**
	0.7nm,0.6s,mb3.3,baz=189,slow=6.9,SNR=5.5						
BVAR	**Borovoye Array**	**22.52**	**5**	P	**P**	**19 23 32.6**	**+0.7**
ZAA0	**Zalesovo Array**	**26.51**	**23**	P	**P**	**19 24 09.7**	**0.0**
ZALV	**Zalesovo Beam**	**26.51**	**23**	P	**P**	**19 24 11.8**	**+2.1**
	1.3nm,0.5s,mb3.7,baz=211,slow=9.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**26.51**	**23**	P	**P**	**19 24 11.8**	**+2.1**
FINES	**FINESS Array B**	**40.96**	**331**	P	**P**	**19 26 14.4**	**-0.4**
	0.5nm,0.8s,mb3.2,baz=122,slow=10,SNR=4.1						
FINES	**FINESS Array B**	**40.96**	**331**	P	**P**	**19 26 14.4**	**-0.3**
ARCES	**ARCESS Array B**	**45.60**	**341**	P	**P**	**19 26 52.2**	**+0.1**
	1.0nm,0.8s,mb3.8,baz=130,slow=8.4,SNR=4.2						
ARCES	**ARCESS Array B**	**45.60**	**341**	P	**P**	**19 26 52.2**	**+0.1**
NOA	**NORSAR Array B**	**47.49**	**327**	LR	LR	19 49 27.6	
	comp=Z,23nm,18.5s,baz=270,slow=39						
KEST	**Kesra**	**48.29**	**292**	P	**P**	**19 27 12.2**	**-1.4**
	1.1nm,1.0s,mb3.9,baz=50,slow=6.1,SNR=5.8						
KEST	**Kesra**	**48.29**	**292**	P	**P**	**19 27 12.2**	**-1.4**
WRA	**Warramunga Arr**	**81.58**	**119**	P	**P**	**19 30 49.7**	**-0.8**
	0.3nm,0.8s,mb3.2,baz=299,slow=6.3,SNR=4.9						
WRA	**Warramunga Arr**	**81.58**	**119**	P	**P**	**19 30 49.7**	**-0.8**
ASAR	**Alice Springs**	**83.49**	**122**	P	**P**	**19 31 01.4**	**+1.0**
	0.2nm,0.7s,mb3.2,baz=314,slow=5.8,SNR=4.1						
ASAR	**Alice Springs**	**83.49**	**122**	P	**P**	**19 31 01.4**	**+1.0**

IDC 06 19:20:22.2±1.4, 53°25N×116°97W, h0km, mb3.0/1, mb1 3.7/5, mb1mx3.4/24, mbtmp3.4/5, ML3.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/12, Error ellipse: s-maj=27.3km s-min=10.9km az=77.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**9.35**	**7**	Pn	Pn	19 22 35.9	-2.1
	1.0nm,0.3s,baz=189,slow=13,SNR=48						
YKA				Pg	Pn	19 23 11.8	+34
	0.5nm,0.3s,baz=189,slow=16,SNR=9.1						
YKA				Sn	Sn	19 24 17.0	-6.7
	0.4nm,0.3s,baz=187,slow=22,SNR=3.4						
YKA				Lg		19 25 11.3	
	0.6nm,0.3s,baz=188,slow=28,SNR=5.9						
PDAR	**Pinedale Array**	**11.60**	**152**	Pn	Pn	19 23 09.8	+0.9
	0.1nm,0.3s,baz=360,slow=11,SNR=4.2						
ULM	**Lac du Bonnet**	**13.40**	**94**	Pn	Pn	19 23 29.2	-4.2
	0.3nm,0.3s,baz=295,slow=11,SNR=6.2						
ULM				Lg		19 27 17.9	
	baz=198,slow=20,SNR=2.4						
ILAR	**Eielson Array**	**19.02**	**319**	P	Pn	19 24 45.6	-0.2
	0.0nm,0.3s,baz=120,slow=11,SNR=8.4						
TXAR	**Lajitas Array**	**25.82**	**153**	P	P	19 25 53.8	-1.1
	0.2nm,0.8s,baz=342,slow=8.6,SNR=2.8						
TXAR				LR	LR	19 35 35.9	
	comp=Z,38nm,20.7s,baz=0.0,slow=35						

*IDC **06** 19:35:04.6±1.2, 39°34N×73°85E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.4/28, mbtmp3.6/7, ML2.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.1/35, Error ellipse: s-maj=38.8km s-min=19.2km az=56.0*
*NNC **06** 19:35:08.9±3.7, 39°82N×73°59E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=37.7km s-min=15.9km az=15.0*
*ISCJB **06** 19:35:11.9±1.0, 39°54N±0°07×73°54E±0°09, h77km±11km, mb3.4/4, Error ellipse: s-maj=11.6km s-min=10.6km az=136.2*
*NEIC **06** 19:35:12.4±1.4, 39°63N×73°57E, h56km±16km, Error ellipse: s-maj=17.6km s-min=14.1km az=117.0*

ISC 06 19:35:13.4±1.0, 39°54N±0°07×73°56E±0°09, h78km±11km, n38, σ1°42/40, mb3.4/4, 5C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.59**	**2**	P	**Pn**	**19 35 51.7**	**-1.4**
	SNR=34						
AML				P		19 35 51.7	
	SNR=34						
UCH	**Uchtor**	**2.78**	**15**	P	**Pn**	**19 35 58.6**	**+2.9**
	SNR=6.2						
UCH				P		19 35 58.6	
	SNR=6.2						
KZA	**Kyzart**	**2.84**	**26**	P	**Pn**	**19 35 56.5**	**0.0**
	SNR=18						
KZA				P		19 35 56.5	
	SNR=18						
EKS2	**Erkin-Say**	**3.12**	**3**	P	**Pn**	**19 36 00.8**	**+0.5**
	SNR=14						
EKS2				P		19 36 00.8	
	SNR=14						
EKS2	**Erkin-Say**	**3.12**	**3**	*e*Pn	**Pn**	**19 35 59.0**	**-1.3**
EKS2				*e*Sn	**Sn**	**19 36 38.9**	**+2.5**
AAK	**Ala-Archa**	**3.17**	**13**	P	**Pn**	**19 36 00.3**	**-0.6**
	SNR=25						
AAK				P		19 36 00.3	
	SNR=25						
AAK	**Ala-Archa**	**3.17**	**13**	*e*Pn	**Pn**	**19 35 59.5**	**-1.4**
AAK				*e*Sn	**Sn**	**19 36 47.2**	**+10**
KBK	**Karagaybulak**	**3.28**	**18**	P	**Pn**	**19 36 02.4**	**-0.1**
	SNR=13						
KBK				P		19 36 02.4	
	SNR=13						
CHMS	**Chumysh**	**3.57**	**14**	P	**Pn**	**19 36 07.4**	**+1.1**
	SNR=8.1						
CHMS				P		19 36 07.4	
	SNR=8.1						
TKM2	**Tokmak 2**	**3.71**	**24**	⇓Pn	**Pn**	**19 36 01.2**	**-7.

	0.2nm,0.3s,baz=56,slow=14,SNR=3.8							
CTA					LR	LR	20 05 01.0	
	comp=Z,87nm,18.1s,baz=48,slow=34							
WRA	**Warramunga Arr**	**28.18**	**249**	P		P	20 00 50.7	-0.5
	0.4nm,0.7s,baz=76,slow=9.1,SNR=3.9							
ASAR	**Alice Springs**	**29.64**	**242**	P		P	20 01 04.5	+0.3
	0.8nm,0.8s,baz=66,slow=9.9,SNR=9.5							
SONM	**Songino Array**	**76.79**	**325**	P		P	20 06 51.4	+1.2
	0.3nm,0.7s,baz=132,slow=4.3,SNR=3.0							
ILAR	**Eielson Array**	**84.80**	**20**	P		P	20 07 32.6	0.0
	0.3nm,1.0s,baz=234,slow=4.3,SNR=2.6							
MKAR	**Makanchi Array**	**91.29**	**317**	P		P	20 08 02.8	-1.3
	0.2nm,0.8s,baz=98,slow=2.6,SNR=2.2							

*TAP **06** 19:55:28.4,23°.18N×120°.59E,h9km,ML3.8,B*
*ISCJB **06** 19:55:30.0±0.2,23°.17N±0°.01×120°.60E±0°.02,h10km,*
Error ellipse: s-maj=2.0km s-min=1.6km az=2.6
*NEIC **06** 19:55:29.6±1.5,23°.22N×120°.66E,h6km±9km,Error*
ellipse: s-maj=19.3km s-min=8.8km az=63.0
ISC 06 19:55:30.2±0.2,23°.18N±0°.01×120°.61E±0°.02,h10km,n66,
σ1§21/115,15C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN1	**Nanshi**	**0.07**	**276**	⇓*i*P	**Pg**	**19 55 30.8**	**-1.6**
	baz=276						
SGST	**Jiashian**	**0.10**	**192**	⇑*e*P	**Pg**	**19 55 31.4**	**-1.3**
	baz=182						
TPUB	**Ta-pu**	**0.12**	**10**	*e*Pg	**Pg**	**19 55 31.6**	**-1.6**
TPUB				*e*Sg	**Sg**	**19 55 34.5**	**-0.7**
STYT	**Tauyuan**	**0.14**	**96**	⇑*i*P	**Pg**	**19 55 32.8**	**-0.6**
	baz=96						
STYT				S	**Sg**	**19 55 36.0**	**+0.4**
	baz=96						
CHN4	**Tsaushan**	**0.17**	**356**	⇓*i*P	**Pg**	**19 55 33.0**	**-1.0**
CHN4				*i*S	**Sg**	**19 55 36.5**	**-0.1**
CHN3	**Shinhua**	**0.24**	**246**	⇑*i*P	**Pg**	**19 55 34.9**	**-0.3**
	baz=256						
CHN3				*i*S	**Sg**	**19 55 40.4**	**+1.9**
	baz=256						
CHY	**Chiayi**	**0.36**	**332**	⇑*i*P	**Pg**	**19 55 36.6**	**-0.7**
	baz=335						
CHY				S	**Sg**	**19 55 43.0**	**+0.8**
	baz=335						
CHN2	**Minshiung**	**0.37**	**341**	⇑*i*P	**Pg**	**19 55 37.1**	**-0.5**
	baz=343						
CHN2				*e*S	**Sg**	**19 55 43.8**	**+1.2**
	baz=343						
TAI1	**Yung-k'ang**	**0.37**	**249**	P	**Pg**	**19 55 37.9**	**+0.3**
	baz=256						
TAI1				*e*S	**Sg**	**19 55 44.5**	**+2.0**
	baz=256						
ALS	**Alishan**	**0.38**	**29**	⇓P	**Pg**	**19 55 37.0**	**-0.6**
	baz=30						
ALS				*e*S	**Sg**	**19 55 43.0**	**+0.3**
	baz=30						
ELDTW	**Lidau**	**0.38**	**88**	⇑*i*P	**Pg**	**19 55 37.2**	**-0.4**
	baz=87						
ELDTW				S	**Sg**	**19 55 43.9**	**+1.2**
	baz=87						
SCLT	**Jiali**	**0.38**	**270**	⇑*i*P	**Pg**	**19 55 37.2**	**-0.5**
	baz=270						
SCLT				*e*S	**Sg**	**19 55 44.0**	**+1.3**
	baz=270						
TWM1	**Shoushan**	**0.39**	**206**	⇓*i*P	**Pg**	**19 55 38.4**	**+0.5**
	baz=203						
CHN8	**Yiju**	**0.40**	**295**	⇑*i*P	**Pg**	**19 55 36.9**	**-1.2**
	baz=297						
CHN8				*e*S	**Sg**	**19 55 44.6**	**+1.2**
	baz=297						
CHN5	**Tsauling**	**0.42**	**9**	⇓*i*P	**Pg**	**19 55 37.6**	**-0.9**
	baz=10.0						
CHN5				*e*S	**Sg**	**19 55 45.3**	**+1.1**
	baz=10.0						
SSD	**Sandimen**	**0.43**	**177**	⇓*i*P	**Pg**	**19 55 38.1**	**-0.6**
	baz=165						
SSD				S	**Sg**	**19 55 45.2**	**+0.9**
	baz=165						
YUS	**Yu-Shan**	**0.45**	**46**	⇑P	**Pg**	**19 55 38.6**	**-0.3**
	baz=46						
YUS				S	**Sg**	**19 55 45.4**	**+0.6**
	baz=46						
SGLT	**Jiouru**	**0.46**	**193**	*e*P	**Pg**	**19 55 40.0**	**+0.7**
	baz=191						
WGK	**Gukeng**	**0.51**	**356**	⇑P	**Pg**	**19 55 39.6**	**-0.5**
	baz=357						
WGK				S	**Sg**	**19 55 48.5**	**+1.7**
	baz=357						
TWG	**Pinlang**	**0.56**	**129**	⇑*i*P	**Pg**	**19 55 40.8**	**-0.3**
	baz=115						
TWG				*i*S	**Sg**	**19 55 49.3**	**+1.0**
	baz=115						
TWG	**Pinlang**	**0.56**	**129**	*e*Pg	**Pg**	**19 55 40.3**	**-0.8**
TWG				*e*Sg	**Sg**	**19 55 49.3**	**+1.0**
WSF	**Szhu**	**0.58**	**323**	⇑P	**Pg**	**19 55 40.3**	**-1.1**
	baz=324						
WSF				S	**Sg**	**19 55 49.7**	**+0.7**
	baz=324						
TTN	**Taitung**	**0.65**	**130**	P	**Pg**	**19 55 42.9**	**0.0**
	baz=129						
TTN				S	**Sg**	**19 55 53.8**	**+2.4**
	baz=129						
TWF1	**Yuli**	**0.66**	**75**	⇑*i*P	**Pg**	**19 55 42.2**	**-0.8**
	baz=74						
TWF1				*i*S	**Sg**	**19 55 51.4**	**-0.2**
	baz=74						
ECL	**Taimali**	**0.66**	**151**	P	**Pg**	**19 55 42.2**	**-0.8**
	baz=134						
ECL				*e*S	**Sg**	**19 55 52.3**	**+0.7**
	baz=134						
KAU	**Kaohsiung**	**0.67**	**204**	*e*P	**Pg**	**19 55 43.4**	**+0.3**
	baz=219						
YULB	**Yu-li**	**0.67**	**71**	*e*Pg	**Pg**	**19 55 41.6**	**-1.6**
YULB				*e*Sg	**Sg**	**19 55 48.5**	**-3.5**
SSLB	**Suanglung**	**0.69**	**28**	*e*Pg	**Pg**	**19 55 41.5**	**-2.0**
SSLB				*e*Sg	**Sg**	**19 55 51.2**	**-1.3**
WNT	**Mingjian**	**0.70**	**6**	P	**Pg**	**19 55 43.2**	**-0.6**
	baz=7.0						
WNT				S	**Sg**	**19 55 54.1**	**+1.1**
	baz=7.0						
CHKT	**Chengkung**	**0.70**	**96**	*i*P	**Pg**	**19 55 43.8**	**0.0**
	baz=95						
CHKT				S	**Sg**	**19 55 55.7**	**+2.7**
	baz=95						
EHY	**Hungye**	**0.74**	**63**	⇑*i*P	**Pg**	**19 55 43.5**	**-0.9**
	baz=73						
EHY				S	**Sg**	**19 55 53.4**	**-0.6**
	baz=73						
WTCT	**Ta-ch'eng**	**0.75**	**337**	*e*P	**Pg**	**19 55 43.3**	**-1.3**
	baz=338						
WTCT				*e*S	**Sg**	**19 55 54.6**	**+0.2**
	baz=338						
SMLT	**Sun Moon Lake**	**0.75**	**21**	⇓*i*P	**Pg**	**19 55 44.0**	**-0.7**
	baz=21						
SMLT				S	**Sg**	**19 55 55.8**	**+1.2**
	baz=21						
TYC	**Yuchr**	**0.76**	**18**	⇓P	**Pg**	**19 55 44.2**	**-0.7**
	baz=18						
TYC				S	**Sg**	**19 55 56.0**	**+1.2**
	baz=18						
SCZT	**Fangliau**	**0.80**	**179**	⇓P	**Pg**	**19 55 44.8**	**-0.8**
	baz=169						
SCZT				*e*S	**Sg**	**19 55 58.2**	**+2.1**
	baz=169						
EAST	**Anshuo**	**0.82**	**164**	⇓*i*P	**Pg**	**19 55 45.3**	**-0.7**
	baz=163						
EAST				S	**Sg**	**19 55 58.3**	**+1.5**
	baz=163						
TWP	**Hsiaoliuchiu**	**0.86**	**195**	*e*P	**Pg**	**19 55 46.5**	**-0.2**
	baz=194						
TAW	**Tawu**	**0.86**	**162**	*i*P	**Pg**	**19 55 46.1**	**-0.6**
	baz=161						
TAW				*e*S	**Sg**	**19 55 58.3**	**+0.3**
	baz=161						
TCU	**Taichung**	**0.97**	**4**	*e*P	**Pg**	**19 55 46.9**	**-1.9**
	baz=351						
TCU				*e*S	**Sg**	**19 56 01.7**	**+0.2**
	baz=351						
ESL	**Shilin**	**0.99**	**50**	*e*P	**Pg**	**19 55 48.1**	**-1.1**
	baz=49						
ESL				*e*S	**Sg**	**19 56 01.9**	**-0.3**
	baz=49						
PNG	**Penghu**	**1.04**	**292**	⇑P	**Pg**	**19 55 47.3**	**-2.9**
	baz=293						
PNG				S	**Sg**	**19 56 01.6**	**-2.2**
	baz=293						
WHF	**Hehuan Shan**	**1.14**	**32**	P	**Pb**	**19 55 50.7**	**-1.3**
	baz=32						
WHF				*e*S	**Sb**	**19 56 08.3**	**+1.5**
	baz=32						
HEN	**Hengchun**	**1.17**	**174**	*e*P	**Pb**	**19 55 51.0**	**-1.5**
	baz=173						
TWQ1	**Liyutan**	**1.18**	**7**	P	**Pb**	**19 55 51.0**	**-1.6**
	baz=8.0						
TWQ1				S	**Sb**	**19 56 08.7**	**+0.8**
	baz=8.0						
TWT	**Tachien**	**1.19**	**26**	*e*P	**Pb**	**19 55 51.3**	**-1.6**
	baz=25						
TWT				*e*S	**Sb**	**19 56 08.4**	**0.0**
	baz=25						
HWA	**Hwalien**	**1.22**	**49**	*e*P	**Pn**	**19 55 53.3**	**+0.1**
	baz=48						
NSY	**Sanyi**	**1.24**	**7**	*e*P	**Pn**	**19 55 52.5**	**-1.1**
	baz=354						
NSY				*e*S	**Sb**	**19 56 10.9**	**+1.1**
	baz=354						
TWK1	**Hengchun**	**1.24**	**171**	*e*P	**Pn**	**19 55 52.5**	**-1.1**
	baz=171						
TWD	**Chiawan**	**1.28**	**45**	P	**Pn**	**19 55 53.2**	**-0.9**
	baz=44						
TWD				S	**Sb**	**19 56 11.7**	**+0.8**
	baz=44						
NACB	**Ninganchiao**	**1.34**	**42**	*e*Pn	**Pn**	**19 55 53.9**	**-1.1**
NACB				*e*Sn	**Sn**	**19 56 10.7**	**-2.3**
LAY	**Lan-yu**	**1.43**	**142**	*e*P	**Pn**	**19 55 54.2**	**-2.0**
	baz=128						
NNS	**Nan Shan**	**1.44**	**29**	*e*P	**Pn**	**19 55 55.8**	**-0.6**
	baz=29						
NSTT	**Nanjuang**	**1.49**	**14**	*e*P	**Pn**	**19 55 56.0**	**-1.1**
	baz=15						
ENA	**Nanau**	**1.62**	**40**	*e*P	**Pn**	**19 55 59.6**	**+0.7**
	baz=53						
NSK	**Sanguang**	**1.64**	**25**	*e*P	**Pn**	**19 55 58.6**	**-0.6**
	baz=14						
NSK				*e*S	**Sn**	**19 56 22.0**	**+1.7**
	baz=14						
YHNB	**Yeheng**	**1.65**	**25**	*e*P	**Pn**	**19 55 58.5**	**-0.7**
YHNB				*e*Sn	**Sn**	**19 56 21.2**	**+0.9**
ENTT	**Nioudou**	**1.70**	**31**	*e*P	**Pn**	**19 55 59.9**	**0.0**
	baz=21						
ENTT				*e*S	**Sn**	**19 56 25.2**	**+3.5**
	baz=21						
TWE	**Neicheng**	**1.82**	**32**	*e*P	**Pn**	**19 56 03.0**	**+1.5**
	baz=32						
TWE				*e*S	**Sn**	**19 56 28.3**	**+3.6**
	baz=32						
TWC	**Suao**	**1.82**	**38**	*e*P	**Pn**	**19 56 02.8**	**+1.2**
	baz=51						
TWC				*e*S	**Sn**	**19 56 28.3**	**+3.5**
	baz=51						
TATO	**Taipei**	**1.96**	**24**	*e*Pn	**Pn**	**19 56 05.3**	**+1.8**
TATO				*e*S	**Sn**	**19 56 32.5**	**+4.2**
TWA	**Mucha**	**2.01**	**26**	*e*P	**Pn**	**19 56 06.0**	**+1.9**
	baz=34						
TWA				*e*S	**Sn**	**19 56 32.2**	**+2.9**
	baz=34						
TWS1	**Kuangyinshan**	**2.05**	**21**	*e*P	**Pn**	**19 56 06.6**	**+1.8**
	baz=4.0						
NWF	**Wu-fen Shan**	**2.17**	**29**	*e*P	**Pn**	**19 56 09.5**	**+3.1**
	baz=29						
TWB1	**Santiao Chiao**	**2.22**	**34**	*e*P	**Pn**	**19 56 08.4**	**+1.3**
	baz=17						
KNM	**Kinmen**	**2.34**	**302**	*e*P	**Pn**	**19 56 07.7**	**-1.1**
	baz=302						
QZH	**Quanzhou**	**2.54**	**314**	Pn	**Pn**	**19 56 14.3**	**+2.8**
QZH				Sn	**Sn**	**19 56 45.6**	**+3.0**
QZH				smax			
	comp=N,160nm,0.7s						
QZH				smax			
	comp=E,200nm,0.5s						

*ISCJB **06** 19:57:00.6±0.6,38°.62N±0°.03×27°.00E±0°.03,h9km±5km,*
Error ellipse: s-maj=5.1km s-min=3.9km az=149.1
*DDA **06** 19:57:00.4,38°.62N×27°.03E,h7km±4km,Md3.0*
*CSEM **06** 19:57:00.8±0.1,38°.60N×27°.00E,h12km,MD3.0,Error*
ellipse: s-maj=2.7km s-min=2.5km az=116.0
*ISK **06** 19:57:00.2,38°.62N×27°.00E,h11km,MD3.0*
*ATH **06** 19:57:01.3,38°.58N×26°.86E,h55km±10km,MD3.0/3*
ISC 06 19:57:01.0±0.4,38°.60N±0°.03×27°.00E±0°.03,h13km±4km,
n44,σ0§53/66,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.22**	**171**	*e*PG	**Pg**	**19 57 05.6**	**-0.2**
BLCB				*e*SG	**Sg**	**19 57 09.3**	**+0.3**
BLCB	**Balcova**	**0.22**	**171**	*e*Pg	**Pg**	**19 57 05.6**	**-0.2**
BLCB				*e*Sg	**Sg**	**19 57 09.4**	**+0.4**
IZM	**Izmir**	**0.29**	**135**	*e*PG	**Pg**	**19 57 06.7**	**-0.3**
IZM	**Izmir**	**0.29**	**135**	*e*Pg	**Pg**	**19 57 06.7**	**-0.3**
AKHS	**Akhisar**	**0.69**	**66**	*i*P	**Pg**	**19 57 14.0**	**-0.5**
AKHS				*i*S	**Sg**	**19 57 23.7**	**+0.1**
AKHS	**Akhisar**	**0.69**	**66**	*i*P	**Pg**	**19 57 14.0**	**-0.5**
AKHS				*i*S	**Sg**	**19 57 23.7**	**+0.1**
AKS	**Akhisar**	**0.69**	**66**	*e*PG	**Pg**	**19 57 14.3**	**-0.2**
AKS				*e*SG	**Sg**	**19 57 23.9**	**+0.3**
AKS	**Akhisar**	**0.69**	**66**	*e*Pg	**Pg**	**19 57 14.3**	**-0.2**
AKS				*e*Sg	**Sg**	**19 57 23.9**	**+0.3**
CHOS	**Chios island**	**0.77**	**254**	*e*P	**Pg**	**19 57 15.7**	**-0.3**
CHOS				*e*S	**Sg**	**19 57 25.9**	**-0.2**
CHOS	**Chios island**	**0.77**	**254**	*e*P	**Pg**	**19 57 15.7**	**-0.3**
CHOS				*e*S	**Sg**	**19 57 25.9**	**-0.2**
PRK	**Paraskevi**	**0.86**	**319**	*e*P	**Pg**	**19 57 17.5**	**-0.1**
PRK				*e*S	**Sg**	**19 57 29.1**	**+0.3**
PRK	**Paraskevi**	**0.86**	**319**	*e*P	**Pg**	**19 57 17.5**	**-0.1**
PRK				*e*S	**Sg**	**19 57 29.1**	**+0.3**
SMG	**Samos**	**0.90**	**188**	*e*P	**Pg**	**19 57 18.0**	**-0.4**
SMG				*e*S	**Sg**	**19 57 30.9**	**+0.7**
SMG	**Samos**	**0.90**	**188**	*e*P	**Pg**	**19 57 17.8**	**-0.6**
SMG				*e*S	**Sg**	**19 57 30.9**	**+0.7**
MANT	**Manisa**	**1.23**	**95**	*i*P	**Pn**	**19 57 23.5**	**-0.2**
MANT				*i*S	**Sb**	**19 57 39.3**	**-0.4**
MANT	**Manisa**	**1.23**	**95**	*i*P	**Pn**	**19 57 23.5**	**-0.3**
MANT				*i*S	**Sb**	**19 57 39.3**	**-0.4**
BALY	**Balya**	**1.23**	**23**	*i*P	**Pn**	**19 57 23.1**	**-0.7**
BALY				*i*S	**Sb**	**19 57 40.3**	**+0.4**
BALY	**Balya**	**1.23**	**23**	*i*P	**Pn**	**19 57 23.1**	**-0.8**
BALY				*i*S	**Sb**	**19 57 40.3**	**+0.4**
BALB	**Balikesir**	**1.24**	**33**	*e*PN	**Pn**	**19 57 23.8**	**-0.1**
BALB				*e*SN	**Sn**	**19 57 40.9**	**+0.4**
BALB	**Balikesir**	**1.24**	**33**	*e*Pn	**Pn**	**19 57 23.8**	**-0.2**
BALB				*e*Sn	**Sn**	**19 57 40.9**	**+0.4**
KULA	**Kula-Manisa**	**1.30**	**93**	*e*PN	**Pn**	**19 57 25.1**	**+0.2**
KULA	**Kula-Manisa**	**1.30**	**93**	*e*Pn	**Pn**	**19 57 25.1**	**+0.3**
EZN	**Ezine**	**1.33**	**337**	*e*PN	**Pn**	**19 57 25.5**	**+0.3**
EZN	**Ezine**	**1.33**	**337**	*e*Pn	**Pn**	**19 57 25.5**	**+0.3**
DEMI	**Demirci**	**1.41**	**71**	*i*P	**Pn**	**19 57 28.0**	**+1.7**
DEMI				*i*S	**Sn**	**19 57 44.8**	**+0.1**
DEMI	**Demirci**	**1.41**	**71**	*i*P	**Pn**	**19 57 28.0**	**+1.7**
DEMI				*i*S	**Sn**	**19 57 44.8**	**+0.1**
DURS	**Dursunbey**	**1.52**	**49**	*i*P	**Pn**	**19 57 27.0**	**-0.8**
DURS				*i*S	**Sn**	**19 57 46.4**	**-1.0**
DURS	**Dursunbey**	**1.52**	**49**	*i*P	**Pn**	**19 57 27.0**	**-0.8**
DURS				*i*S	**Sn**	**19 57 46.3**	**-1.1**
GONE	**Gonen-Balikesi**	**1.54**	**20**	*e*PN	**Pn**	**19 57 28.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.54**	**20**	*e*Pn	**Pn**	**19 57 28.0**	**0.0**
LPK	**Lapseki**	**1.78**	**354**	*e*PN	**Pn**	**19 57 31.6**	**+0.3**
LPK	**Lapseki**	**1.78**	**354**	*e*Pn	**Pn**	**19 57 31.6**	**+0.3**
GADA	**Gvkgeada**	**1.80**	**332**	*e*PN	**Pn**	**19 57 31.3**	**-0.4**
GADA	**Gvkgeada**	**1.80**	**332**	*e*Pn	**Pn**	**19 57 31.3**	**-0.4**
KRBG	**Karabiga-Canak**	**1.80**	**7**	*e*PN	**Pn**	**19 57 31.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.80**	**7**	*e*Pn	**Pn**	**19 57 31.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.84**	**347**	*e*PN	**Pn**	**19 57 31.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.84**	**347**	*e*Pn	**Pn**	**19 57 31.8**	**-0.4**
KCTX	**Karacabey (Bur**	**1.96**	**32**	*e*PN	**Pn**	**19 57 33.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.96**	**32**	*e*Pn	**Pn**	**19 57 33.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.09**	**4**	*e*PN	**Pn**	**19 57 36.3**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.09**	**4**	*e*Pn	**Pn**	**19 57 36.3**	**+0.7**
ARMT	**Armutlu**	**2.43**	**36**	*e*PN	**Pn**	**19 57 41.2**	**+0.9**
ARMT	**Armutlu**	**2.43**	**36**	*e*Pn	**Pn**	**19 57 41.3**	**+1.0**

GUC 06 19:59:36.2±1.1,22°.24S×68°.64W,h118km±7km,ML3.7,5C,
Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.71**	**308**	⇑*i*P	Pn	19 59 57.7	+2.2
PB09				*i*S	Sn	20 00 12.7	+2.8
PB09				AML	AML	20 00 14.1	
	comp=N,4μm,0.7s						
SPCH	**San Pedro de A**	**0.78**	**148**	*e*P	Pn	19 59 56.9	+0.9
SPCH				*e*S	Sn	20 00 12.5	+1.6
SPCH				AML	AML	20 00 13.4	
	comp=E,3μm,0.3s						
PB04	**Plate Boundary**	**0.78**	**268**	⇑*i*P	Pn	20 00 03.5	+7.6
PB04				*i*S	Sn	20 00 23.6	+13
PB04				AML	AML	20 00 25.4	
	comp=N,1μm,0.5s						
PB07	**Plate Boundary**	**1.27**	**294**	⇑*i*P	Pn	20 00 02.6	+1.8
PB07				*i*S	Sn	20 00 21.1	+1.7
PB07				AML	AML	20 00 22.1	
	comp=N,1μm,0.1s						
ANCH	**Antofagasta**	**2.17**	**228**	⇑*i*P	Pn	20 00 12.3	+0.7
ANCH				*i*S	Sn	20 00 38.6	-0.3
ANCH				AML	AML	20 00 39.6	
	comp=E,1μm,0.3s						
HMBC	**Humberston**	**2.27**	**329**	⇑*i*P	Pn	20 00 14.0	+1.0
HMBC				*i*S	Sn	20 00 43.1	+1.8
HMBC				AML	AML	20 00 50.5	
	comp=N,221nm,0.8s						
PSGC	**Pisagua**	**2.98**	**332**	*e*P	Pn	20 00 21.8	-0.3
MNMC	**Miæe Miæ**	**3.22**	**344**	*e*P	Pn	20 00 27.0	+1.6
MNMC				*i*S	Sn	20 01 05.7	+2.4
MNMC				AML	AML	20 01 10.1	
	comp=E,142nm,0.2s						

*NIED **06** 20:09:00,38°.60N×143°.30E,h26km,Mw4.0 Best double*
couple: M0 1.11000×10^15 NP1:φs21.00000°,δ62.00000°,
λ92.00000°. NP2:φs195.00000°,δ28.00000°,λ85.00000°.
*IDC **06** 20:09:02.3±0.8,38°.72N×143°.38E,h0km,mb3.8/13,*
mb1 3.9/16,mb1mx3.8/26,mbtmp3.8/16,ML3.5/3,MS3.2/3,
Ms1 3.3/3,ms1mx2.7/37,Error ellipse: s-maj=21.2km
s-min=17.6km az=105.0
*ISCJB **06** 20:09:03.9±1.7,38°.59N±0°.05×143°.34E±0°.06,*
h24km±12km,mb4.1/20,Error ellipse: s-maj=8.8km
s-min=6.7km az=142.8
*NEIC **06** 20:09:03.6±0.6,38°.76N×143°.33E,h10km,mb4.5/5,*
MW4.0(NIED),Error ellipse: s-maj=13.3km s-min=9.6km
az=119.0
*JMA **06** 20:09:03.4±0.2,38°.57N×143°.28E,h15km,M4.3*
ISC 06 20:09:04.4±1.8,38°.65N±0°.05×143°.27E±0°.05,h13km±11km,
n61,σ0§92/68,mb4.1/20,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.32**	**290**	P	**Pn**	**20 09 27.8**	**-0.8**
MIYJ	**Miyakonagasawa**	**1.46**	**310**	P	**Pn**	**20 09 30.1**	**-0.4**
MIYJ				*e*S	**Sn**	**20 09 50.2**	**+0.7**
JIO	**Ouri**	**1.52**	**263**	P	**Pn**	**20 09 30.3**	**-1.0**
JIO				*e*S	**Sn**	**20 09 49.3**	**-1.6**
JMK	**Ichinoseki**	**1.63**	**281**	P	**Pn**	**20 09 32.6**	**-0.2**
JMK				*e*S	**Sn**	**20 09 54.3**	**+0.6**
JOM	**Ohasama**	**1.75**	**299**	P	**Pn**	**20 09 34.5**	**+0.1**
JOU	**Okura**	**2.06**	**263**	P	**Pn**	**20 09 38.5**	**-0.3**
JOU				*e*S	**Sn**	**20 10 04.2**	**-0.2**
JMM	**Marumori**	**2.10**	**249**	P	**Pn**	**20 09 38.2**	**-1.1**
JMM				*e*S	**Sn**	**20 10 03.0**	**-2.3**
JANG	**Nango**	**2.19**	**322**	P	**Pn**	**20 09 40.3**	**-0.3**
JFK	**Kawauchi**	**2.29**	**237**	P	**Pn**	**20 09 40.5**	**-1.3**
JYK	**Kaneyama**	**2.29**	**278**	P	**Pn**	**20 09 42.7**	**+0.8**
JYS	**Shirataka**	**2.55**	**261**	P	**Pn**	**20 09 45.7**	**+0.2**
JAH	**Hinai**	**2.56**	**308**	P	**Pn**	**20 09 46.6**	**+1.1**
JFT	**Otama**	**2.58**	**245**	P	**Pn**	**20 09 45.8**	**0.0**
JFT				*e*S	**Sn**	**20 10 16.4**	**-0.6**
JTM	**Tenmabayashi**	**2.73**	**322**	P	**Pn**	**20 09 49.0**	**+1.1**
JYA	**Atsumi**	**2.79**	**270**	P	**Pn**	**20 09 49.4**	**+0.7**
MAJO	**Matsushiro**	**4.54**	**244**	*e*Pn	**Pn**	**20 10 13.7**	**+0.9**
MAT	**Matsushiro**	**4.54**	**244**	P	**Pn**	**20 10 14.0**	**+1.2**
MAT				*e*S	**Sn**	**20 11 07.5**	**+2.1**
MJAR	**Matsushiro Arr**	**4.54**	**244**	Pn	**Pn**	**20 10 13.5**	**+0.7**
	4.0nm,0.3s,baz=23,slow=16,SNR=24						
MJAR	**Matsushiro Arr**	**4.54**	**244**	Pn	**Pn**	**20 10 13.5**	**+0.7**
ASAJ	**Asahikawa**	**5.49**	**355**	Pn	**Pn**	**20 10 22.9**	**-3.0**
	2.0nm,0.3s,baz=150,slow=14,SNR=3.4						
ASAJ				LR	LR	20 13 13.8	
	comp=Z,166nm,19.8s,baz=12,slow=46						
ASAJ	**Asahikawa**	**5.49**	**355**	Pn	**Pn**	**20 10 22.9**	**-3.0**
KSRS	**Korea Array**	**12.16**	**269**	Pn	**Pn**	**20 11 57.3**	**0.0**
	0.1nm,0.3s,baz=79,slow=12,SNR=3.1						
KSRS				LR	LR	20 16 19.8	
	comp=Z,99nm,19.9s,baz=95,slow=36						
KSAR	**Wonju Array Be**	**12.19**	**269**	Pn	**Pn**	**20 11 57.3**	**-0.5**
ULN	**Ulaanbaatar**	**27.72**	**301**	*e*P	**P**	**20 14 52.8**	**+0.5**
	4.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**28.16**	**301**	P	**P**	**20 14 56.6**	**+0.4**
	1.3nm,0.8s,mb3.6,baz=99,slow=9.3,SNR=8.0						
SONM	**Songino Array**	**28.16**	**301**	P	**P**	**20 14 56.6**	**+0.4**
ZALV	**Zalesovo Beam**	**41.94**	**311**	P	**P**	**20 16 54.1**	**-0.4**
	1.1nm,0.4s,mb3.9,baz=90,slow=8.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.94**	**311**	P	**P**	**20 16 54.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**43.33**	**255**	P	**P**	**20 17 08.0**	**+1.7**
	0.2nm,0.6s,baz=42,slow=8.1,SNR=2.6						
CMAR				LR	LR	20 36 51.9	
	comp=Z,43nm,18.3s,baz=174,slow=38						
CMAR	**Chiang Mai Arr**	**43.33**	**255**	P	**P**	**20 17 08.0**	**+1.7**
MK31	**Makanchi Array**	**44.53**	**301**	*e*P	**P**	**20 17 13.9**	**-1.7**
MKAR	**Makanchi Array**	**44.53**	**301**	P	**P**	**20 17 16.0**	**+0.4**
	0.5nm,0.4s,mb3.7,baz=85,slow=9.7,SNR=16				

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.30**	**335**	*e*PG	**Pb**	**20 18 52.2**	**-1.2**
PTK				*e*SG	**Sb**	**20 18 57.9**	**-0.2**
PTK	**Pertek**	**0.30**	**335**	*e*Pg	**Pb**	**20 18 52.2**	**-1.2**
PTK				*e*Sg	**Sb**	**20 18 57.9**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.31**	**218**	*e*PG	**Pb**	**20 18 53.2**	**-0.5**
SVRC				*e*SG	**Sb**	**20 18 57.9**	**-0.5**
SVRC	**Sivrice-ELAZID**	**0.31**	**218**	*e*Pg	**Pb**	**20 18 53.2**	**-0.4**
SVRC				*e*Sg	**Sb**	**20 18 57.9**	**-0.5**
ELZG	**Elazig**	**0.46**	**255**	*i* P	**Pb**	**20 18 55.4**	**-0.7**
ELZG				*i* S	**Sb**	**20 19 04.6**	**+2.1**
ELZG	**Elazig**	**0.46**	**255**	*i* P	**Pb**	**20 18 55.4**	**-0.7**
ELZG				*i* S	**Sb**	**20 19 04.6**	**+2.0**
BINT	**Bingol**	**0.77**	**71**	*e*Pg	**Pb**	**20 19 05.0**	**+3.6**
BNGB	**Bing¶ll**	**0.95**	**67**	*e*PG	**Pb**	**20 19 05.0**	**+0.6**
KEMA	**Kemaliye**	**1.05**	**308**	*i* P	**Pn**	**20 19 05.1**	**-0.8**
KEMA				*i* S	**Sb**	**20 19 20.3**	**+0.9**
KEMA	**Kemaliye**	**1.05**	**308**	*i* P	**Pn**	**20 19 05.1**	**-0.8**
KEMA				*i* S	**Sb**	**20 19 20.3**	**+0.9**
EZC	**Erzincan**	**1.14**	**352**	*e*PN	**Pn**	**20 19 06.9**	**-0.2**
EZC	**Erzincan**	**1.14**	**352**	*e*Pn	**Pn**	**20 19 06.9**	**-0.2**

*IDC **06** 20:26:02.9±0.7, 31°.14N×103°.74E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/26, mbtmp4.0/14, ML3.4/2, MS3.5/9, Ms1 3.5/9, ms1mx3.3/30, Error ellipse: s-maj=28.0km s-min=14.4km az=59.0*

*BJI **06** 20:26:03.6, 31°.19N×103°.70E, h10km, mB4.8/5, mb4.2/9, ML4.2/22, Ms4.1/11, Ms7 4.0/9*

*MOS **06** 20:26:05.4±1.0, 31°.10N×103°.57E, h33km, mb4.4/6, Error ellipse: s-maj=12.0km s-min=7.2km az=92.2*

*NEIC **06** 20:26:07.9±0.9, 31°.11N×103°.44E, h38km±9km, mb4.4/19, Error ellipse: s-maj=7.4km s-min=6.2km az=75.0*

ISC 06 20:26:03.6±0.9, 31°.19N±0°.02×103°.55E±0°.03, h6km±6km, n122, σ1§08/133, mb4.2/23, MS3.4/8, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.33**	**147**	*i* Pg	**Pg**	**20 26 10.9**	**+0.9**
CD2				Sg	**Sg**	**20 26 17.0**	**+2.7**
CD2				smax			
	comp=N,30μm,0.8s						
CD2				smax			
	comp=E,32μm,0.5s						
LZH	**Lanzhou**	**4.89**	**3**	Pn	**Pn**	**20 27 21.9**	**+4.2**
LZH				Sg	**Sg**	**20 28 40.8**	**0.0**
LZH				smax			
	comp=N,160nm,1.1s						
LZH				smax			
	comp=E,320nm,1.0s						
LZH				LR	LR		
	comp=N,1μm,9.9s						
LZH				LR	LR		
	comp=E,2μm,8.7s						
LZH				LR	LR		
	comp=Z,2μm,10.5s						
LZH	**Lanzhou**	**4.89**	**3**	Pn	**Pn**	**20 27 21.9**	**+4.2**
LZH				Pg	**Pg**	**20 27 37.3**	**-0.1**
LZH				Sg	**Sg**	**20 28 40.8**	**0.0**
LZH	**Lanzhou**	**4.89**	**3**	P	**Pn**	**20 27 21.9**	**+4.2**
XAN	**Xi'an**	**5.35**	**56**	Pn	**Pn**	**20 27 23.6**	**-0.3**
XAN				Pg	**Pg**	**20 27 39.6**	**-6.5**
XAN				Sn	**Sn**	**20 28 26.8**	**+1.0**
XAN				Sg	**Sg**	**20 28 52.5**	**-2.9**
XAN				smax			
	comp=N,340nm,0.7s						
XAN				smax			
	comp=E,150nm,0.7s						
XAN				LR	LR		
	comp=N,570nm,4.4s						
XAN				LR	LR		
	comp=E,140nm,4.4s						
XAN				LR	LR		
	comp=Z,180nm,8.8s						
GYA	**Guiyang**	**5.44**	**149**	Pn	**Pn**	**20 27 26.9**	**+1.7**
GYA				Pg	**Pg**	**20 27 42.2**	**-5.7**
GYA				Sn	**Sn**	**20 28 27.5**	**-0.7**
GYA				Sg	**Sg**	**20 28 44.9**	**-14**
GYA				smax			
	comp=N,350nm,0.9s						
GYA				smax			
	comp=E,310nm,0.8s						
KMI	**Kunming**	**6.08**	**187**	Pn	**Pn**	**20 27 35.3**	**+1.3**
KMI				smax			
	comp=N,55nm,0.9s						
KMI				smax			
	comp=E,59nm,1.1s						
KMI				LR	LR		
	comp=N,850nm,10.0s						
KMI				LR	LR		
	comp=E,2μm,10.8s						
KMI				LR	LR		
	comp=Z,660nm,14.3s						
KMI	**Kunming**	**6.08**	**187**	Pg	**Pn**	**20 27 35.3**	**+1.3**
KMI				Sg	**Sn**	**20 28 43.2**	**-0.7**
KMI	**Kunming**	**6.08**	**187**	P	**Pn**	**20 27 35.3**	**+1.3**
KMI						20 28 43.2	
GTA	**Gaotai**	**8.75**	**341**	*e*P	**Pn**	**20 28 17.4**	**+6.8**
GTA				pP		20 28 21.5	
GTA				sP		20 28 23.4	
GTA				S	**Sn**	**20 29 48.3**	**-1.3**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,120nm,3.8s						
GTA				LR	LR		
	comp=N,450nm,12.6s						
GTA				LR	LR		
	comp=E,1μm,11.6s						
GTA				LR	LR		
	comp=Z,530nm,10.7s						
WHN	**Wuhan**	**9.30**	**91**	P	**Pn**	**20 28 17.3**	**-0.9**
WHN				S	**Sn**	**20 29 57.1**	**-6.1**
WHN				LR	LR		
	comp=N,3μm,6.1s						
WHN				LR	LR		
	comp=E,1μm,4.6s						
WHN				LR	LR		
	comp=Z,2μm,5.7s						
BTO	**Baotou**	**10.76**	**27**	*e*P	**Pn**	**20 28 36.2**	**-1.9**
LSA	**Lhasa**	**10.81**	**265**	P	**Pn**	**20 28 40.2**	**+1.4**
LSA				LR	LR		
	comp=E,4μm,4.7s						
LSA				LR	LR		
	comp=Z,4μm,5.0s						
CHTO	**Chiang Mai**	**13.01**	**200**	*e*Pn	**Pn**	**20 29 09.0**	**0.0**
	comp=Z,4.5nm,0.8s						
CHTO	**Chiang Mai**	**13.01**	**200**	*e*P	**Pn**	**20 29 09.0**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CM31	**Chiang Mai Arr**	**13.34**	**199**	Pn	**Pn**	**20 29 14.7**	**+1.1**
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.34**	**199**	Pn	**Pn**	**20 29 14.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=11,slow=12,SNR=6.9						
CMAR	**Chiang Mai Arr**	**13.34**	**199**	Pn	**Pn**	**20 29 14.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**13.34**	**199**	P	**Pn**	**20 29 14.3**	**+0.7**
TAPN	**Taplejung**	**14.35**	**259**	*e*P	**Pn**	**20 29 27.2**	**0.0**
	comp=Z,22nm,0.9s						
TAPN	**Taplejung**	**14.35**	**259**	*e*P	**Pn**	**20 29 27.2**	**0.0**
	comp=Z,22nm,0.9s						
ODAN	**Odare**	**14.78**	**257**	*e*P	**Pn**	**20 29 32.6**	**-0.5**
	comp=Z,34nm,1.0s						
ODAN	**Odare**	**14.78**	**257**	*e*P	**Pn**	**20 29 32.6**	**-0.5**
	comp=Z,34nm,1.0s						
RAMN	**Ramite**	**15.41**	**258**	*e*P	**Pn**	**20 29 41.0**	**-0.6**
	comp=Z,12nm,0.8s						
RAMN	**Ramite**	**15.41**	**258**	*e*P	**Pn**	**20 29 41.0**	**-0.6**
	comp=Z,12nm,0.8s						
JIRN	**Jiri**	**15.53**	**261**	*e*P	**Pn**	**20 29 43.1**	**0.0**
JIRN	**Jiri**	**15.53**	**261**	*e*P	**Pn**	**20 29 43.1**	**0.0**
GUN	**Gumba**	**15.72**	**262**	*e*P	**Pn**	**20 29 44.9**	**-0.7**
	comp=Z,42nm,1.0s						
GUN	**Gumba**	**15.72**	**262**	*e*P	**Pn**	**20 29 44.9**	**-0.7**
	comp=Z,42nm,1.0s						
PKI	**Pulchoki**	**16.22**	**262**	*e*P	**Pn**	**20 29 51.1**	**-1.0**
	comp=Z,23nm,0.8s						
PKI	**Pulchoki**	**16.22**	**262**	*e*P	**Pn**	**20 29 51.1**	**-1.0**
	comp=Z,23nm,0.8s						
PKI	**Pulchoki**	**16.22**	**262**	*e*P	**Pn**	**20 29 51.1**	**-1.0**
PKI				pmax	pmax		
	comp=Z,23nm,0.8s						
KKN	**Kakani**	**16.27**	**263**	*e*P	**Pn**	**20 29 51.8**	**-0.9**
	comp=Z,43nm,1.1s						
KKN	**Kakani**	**16.27**	**263**	*e*P	**Pn**	**20 29 51.8**	**-0.9**
KKN				pmax	pmax		
	comp=Z,43nm,1.1s						
DMN	**Daman**	**16.46**	**262**	*e*P	**Pn**	**20 29 54.7**	**-0.5**
	comp=Z,19nm,0.7s						
DMN	**Daman**	**16.46**	**262**	*e*P	**Pn**	**20 29 54.7**	**-0.5**
	comp=Z,19nm,0.7s						
GKN	**Gorkha**	**16.75**	**264**	*e*P	**Pn**	**20 29 57.8**	**-1.1**
	comp=Z,56nm,0.9s						
GKN	**Gorkha**	**16.75**	**264**	*e*P	**Pn**	**20 29 57.8**	**-1.1**
	comp=Z,56nm,0.9s						
SONM	**Songino Array**	**16.77**	**7**	Pn	**Pn**	**20 30 00.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=189,slow=11,SNR=8.8						
SONM				LR	LR	20 37 07.0	
	comp=Z,227nm,20.1s,baz=62,slow=40						
SONM	**Songino Array**	**16.77**	**7**	Pn	**Pn**	**20 30 00.1**	**+1.2**
SONM	**Songino Array**	**16.77**	**7**	P	**Pn**	**20 30 00.1**	**+1.2**
ULN	**Ulaanbaatar**	**16.87**	**8**	*e*Pn	**Pn**	**20 30 00.8**	**+0.6**
	comp=Z,3.7nm,0.8s						
ULN	**Ulaanbaatar**	**16.87**	**8**	*e*P	**Pn**	**20 30 00.8**	**+0.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YHNB	**Yeheng**	**17.03**	**108**	Pn	**Pn**	**20 29 55.4**	**-7.0**
DANN	**Dangsing**	**17.41**	**266**	*e*P	**Pn**	**20 30 06.0**	**-1.2**
	comp=Z,12nm,0.6s						
DANN	**Dangsing**	**17.41**	**266**	*e*P	**Pn**	**20 30 06.0**	**-1.2**
	comp=Z,12nm,0.6s						
KOLN	**Koldanda**	**17.70**	**264**	*e*P	**Pn**	**20 30 09.8**	**-0.9**
	comp=Z,14nm,0.7s						
KOLN	**Koldanda**	**17.70**	**264**	*e*P	**Pn**	**20 30 09.8**	**-0.9**
	comp=Z,14nm,0.7s						
PYUN	**Piuthan**	**18.14**	**265**	*e*P	**Pn**	**20 30 14.0**	**-2.1**
	comp=Z,31nm,0.9s						
PYUN	**Piuthan**	**18.14**	**265**	*e*P	**Pn**	**20 30 14.0**	**-2.1**
	comp=Z,31nm,0.9s						
ZAK	**Zakamensk**	**19.18**	**359**	*e*P	**Pn**	**20 30 29.1**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSAR	**Wonju Array Be**	**21.02**	**66**	P	**P**	**20 30 48.4**	**+0.5**
KSAR	**Wonju Array Be**	**21.02**	**66**	P	**P**	**20 30 48.4**	**+0.5**
KSRS	**Korea Array**	**21.05**	**66**	P	**P**	**20 30 48.4**	**+0.1**
	comp=Z,5.9nm,0.8s,mb4.0,baz=257,slow=10,SNR=15						
KSRS				LR	LR	20 39 51.3	
	comp=Z,53nm,19.6s,MS2.9,baz=260,slow=40						
KSRS	**Korea Array**	**21.05**	**66**	P	**P**	**20 30 48.4**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
KSRS				MLR	MLR		
	comp=Z,53nm,19.6s,MS2.9						
CN2	**Changchun**	**21.38**	**48**	*e*P	**P**	**20 30 52.7**	**+1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.1						
JOW	**Kunigami**	**22.04**	**95**	LR	LR	20 40 12.3	
	comp=Z,137nm,19.6s,MS3.4,baz=226,slow=39						
MK31	**Makanchi Array**	**22.61**	**320**	*e*P	**P**	**20 31 06.3**	**+1.5**
MK31	**Makanchi Array**	**22.61**	**320**	*e*P	**P**	**20 31 06.3**	**+1.5**
MKAR	**Makanchi Array**	**22.61**	**320**	P	**P**	**20 31 07.2**	**+2.4**
	comp=Z,12nm,1.0s,mb4.3,baz=122,slow=10,SNR=43						
MKAR				LR	LR	20 40 39.2	
	comp=Z,125nm,18.4s,MS3.4,baz=271,slow=38						
MKAR	**Makanchi Array**	**22.61**	**320**	P	**P**	**20 31 07.2**	**+2.4**
MKAR	**Makanchi Array**	**22.61**	**320**	P	**P**	**20 31 07.2**	**+2.4**
KZA	**Kyzart**	**25.07**	**304**	P	**P**	**20 31 35.2**	**+6.5**
	SNR=13						
KZA				P	pP	20 31 35.2	+4.6
	SNR=13						
KBK	**Karagaybulak**	**25.45**	**305**	P	**P**	**20 31 36.6**	**+4.4**
	SNR=7.2						
KBK				P	pP	20 31 36.6	+2.5
	SNR=7.2						
AAK	**Ala-Archa**	**25.77**	**304**	P	**P**	**20 31 41.4**	**+6.4**
	SNR=6.3						
AAK				P	pP	20 31 41.4	+4.5
	SNR=6.3						
AAK	**Ala-Archa**	**25.77**	**304**	*e*P	**P**	**20 31 40.7**	**+5.7**
	comp=Z,29nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**25.77**	**304**	*e*P	**P**	**20 31 40.7**	**+5.7**
AAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.8						
USP	**Ospenovka**	**25.95**	**306**	P	**P**	**20 31 42.9**	**+6.2**
	SNR=6.2						
USP				P	pP	20 31 42.9	+4.3
	SNR=6.2						
EKS2	**Erkin-Say**	**26.28**	**304**	P	**P**	**20 31 47.1**	**+7.5**
	SNR=5.1						
EKS2				P	pP	20 31 47.1	+5.6
	SNR=5.1						
EKS2	**Erkin-Say**	**26.28**	**304**	*e*P	**P**	**20 31 44.9**	**+5.2**
	comp=Z,9.5nm,1.3s,mb4.2						
EKS2	**Erkin-Say**	**26.28**	**304**	*e*P	**P**	**20 31 44.9**	**+5.2**
EKS2				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.1						
ZAA0	**Zalesovo Array**	**26.44**	**335**	*e*P	**P**	**20 31 40.7**	**-0.3**
ZALV	**Zalesovo Beam**	**26.44**	**335**	P	**P**	**20 31 42.4**	**+1.4**
	comp=Z,5.5nm,0.9s,mb4.1,baz=133,slow=8.7,SNR=9.8						
ZALV				LR	LR	20 43 20.5	
	comp=Z,29nm,19.4s,MS2.8,baz=6.2,slow=39						
ZALV	**Zalesovo Beam**	**26.44**	**335**	P	**P**	**20 31 42.4**	**+1.4**
ZALV	**Zalesovo Beam**	**26.44**	**335**	P	**P**	**20 31 42.4**	**+1.4**
KURK	**Kurchatov**	**26.90**	**324**	P	**P**	**20 31 46.8**	**+1.7**
	comp=Z,1.5nm,0.3s,mb3.9,baz=130,slow=9.6,SNR=11						
KURK				LR	LR	20 43 35.9	
	comp=Z,79nm,19.7s,MS3.3,baz=65,slow=39						
KURK	**Kurchatov**	**26.90**	**324**	P	**P**	**20 31 46.8**	**+1.7**
KURK	**Kurchatov**	**26.90**	**324**	P	**P**	**20 31 46.8**	**+1.7**
KBL	**Kabul**	**29.09**	**286**	*e*P	**P**	**20 32 07.2**	**+2.2**
	comp=Z,1.8nm,0.8s,mb3.9						
KBL	**Kabul**	**29.09**	**286**	*e*P	**P**	**20 32 07.2**	**+2.2**
KBL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KSM	**Kuching**	**30.24**	**166**	P	**P**	**20 32 14.2**	**-0.9**
BRVK	**Borovoye**	**32.51**	**322**	P	**P**	**20 32 34.2**	**-0.7**
	comp=Z,2.2nm,0.9s,mb4.1						
BRVK	**Borovoye**	**32.51**	**322**	P	**P**	**20 32 34.2**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ABKAR	**Akbulak array**	**37.27**	**312**	*e*P	**P**	**20 33 16.0**	**+0.1**
	comp=Z,5.3nm,1.6s,mb4.1						
ARU	**Arti**	**40.08**	**322**	P	**P**	**20 33 37.2**	**-2.3**
	comp=Z,6.0nm,0.7s,mb4.4						
ARU	**Arti**	**40.08**	**322**	P	**P**	**20 33 37.2**	**-2.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
MBWA	**Marble Bar**	**54.31**	**161**	P	**P**	**20 35 25.0**	**-5.8**
	comp=Z,31nm,1.5s,mb5.0						
FINES	**FINESS Array B**	**57.23**	**326**	P	**P**	**20 35 53.0**	**+1.7**
	comp=Z,1.0nm,0.8s,mb3.9,baz=83,slow=6.5,SNR=4.4						
FINES				LR	LR	21 02 15.6	
	comp=Z,58nm,20.1s,MS3.7,baz=122,slow=38						
FINES	**FINESS Array B**	**57.23**	**326**	P	**P**	**20 35 53.0**	**+1.7**
FINES	**FINESS Array B**	**57.23**	**326**	P	**P**	**20 35 53.0**	**+1.7**
WRAB	**Tennant Creek**	**58.80**	**146**	*e*P	**P**	**20 36 02.3**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**58.80**	**146**	*e*P	**P**	**20 36 02.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**58.81**	**146**	P	**P**	**20 36 02.3**	**-0.5**
	comp=Z,5.3nm,0.8s,mb4.6,baz=338,slow=7.6,SNR=52						
WRA	**Warramunga Arr**	**58.81**	**146**	P	**P**	**20 36 02.3**	**-0.5**
WRA	**Warramunga Arr**	**58.81**	**146**	P	**P**	**20 36 02.3**	**-0.5**
WB2	**Warramunga Arr**	**58.81**	**146**	*e*P	**P**	**20 36 02.2**	**-0.7**
COEN	**Coen**	**58.84**	**134**	*e*P	**P**	**20 36 03.0**	**-0.2**
	comp=Z,58nm,1.1s,mb5.5						
ASAR	**Alice Springs**	**61.81**	**148**	P	**P**	**20 36 23.1**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.1,baz=334,slow=6.7,SNR=15						
ASAR	**Alice Springs**	**61.81**	**148**	P	**P**	**20 36 23.1**	**-0.3**
ASAR	**Alice Springs**	**61.81**	**148**	P	**P**	**20 36 23.1**	**-0.2**
NOA	**NORSAR Array B**	**64.33**	**327**	P	**P**	**20 36 41.0**	**+1.4**
	comp=Z,0.5nm,0.8s,mb3.6,baz=87,slow=7.5,SNR=3.3						
NOA	**NORSAR Array B**	**64.33**	**327**	P	**P**	**20 36 41.0**	**+1.4**
NOA	**NORSAR Array B**	**64.33**	**327**	P	**P**	**20 36 41.1**	**+1.4**
GERES	**GERESS Array B**	**67.15**	**314**	P	**P**	**20 36 59.0**	**+0.9**
	comp=Z,0.4nm,0.8s,mb3.5,baz=64,slow=6.7,SNR=2.4						
GERES				LR	LR	21 07 59.5	
	comp=Z,56nm,18.9s,MS3.8,baz=315,slow=37						
GERES	**GERESS Array B**	**67.15**	**314**	P	**P**	**20 36 59.0**	**+0.9**
GERES	**GERESS Array B**	**67.15**	**314**	P	**P**	**20 36 59.0**	**+0.9**
HNR	**Honiara**	**67.41**	**117**	LR	LR	21 03 57.2	
	comp=Z,135nm,18.5s,MS4.2,baz=152,slow=34						
PPLA	**Purkeypile**	**68.82**	**28**	*e*P	**P**	**20 37 08.6**	**+0.3**
	comp=Z,21nm,1.3s,mb4.9						
COLA	**College**	**69.56**	**26**	*e*P	**P**	**20 37 12.3**	**-0.5**
COLA	**College**	**69.56**	**26**	*e*P	**P**	**20 37 12.4**	**-0.5**
ILAR	**Eielson Array**	**69.97**	**25**	P	**P**	**20 37 14.4**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=301,slow=3.2,SNR=9.7						
ILAR	**Eielson Array**	**69.97**	**25**	P	**P**	**20 37 14.4**	**-1.0**
ILAR	**Eielson Array**	**69.97**	**25**	P	**P**	**20 37 14.4**	**-1.0**
PMR	**Palmer**	**70.70**	**29**	P	**P**	**20 37 19.5**	**-0.4**
PMR	**Palmer**	**70.70**	**29**	P	**P**	**20 37 19.5**	**-0.4**
STKA	**Stephens Creek**	**72.34**	**147**	P	**P**	**20 37 29.6**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=310,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**72.34**	**147**	P	**P**	**20 37 29.6**	**-0.5**
STKA	**Stephens Creek**	**72.34**	**147**	P	**P**	**20 37 29.6**	**-0.5**
YKA	**Yellowknife Ar**	**81.75**	**17**	P	**P**	**20 38 22.9**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=345,slow=9.5,SNR=3.3						
YKA	**Yellowknife Ar**	**81.75**	**17**	P	**P**	**20 38 22.9**	**+0.1**
YKA	**Yellowknife Ar**	**81.75**	**17**	P	**P**	**20 38 22.9**	**+0.1**

IDC 06 20:35:56.0±2.3, 49°.27S×105°.96E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/12, mbtmp3.4/3, Error ellipse: s-maj=58.0km s-min=51.6km az=52.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.68**	**51**	P	P	20 42 38.5	-0.1
	0.3nm,0.6s,baz=205,slow=7.3,SNR=5.6						
WRA	**Warramunga Arr**	**37.03**	**48**	P	P	20 43 07.5	+0.1
	0.3nm,0.8s,baz=210,slow=8.1,SNR=4.5						
CMAR	**Chiang Mai Arr**	**67.71**	**353**	P	P	20 46 54.9	-0.1
	0.6nm,0.9s,baz=197,slow=6.6,SNR=5.5						
NVAR	**Mina Array Bea**	**146.74**	**92**	PKPbc	PKPbc	20 55 38.8	-0.5
	0.5nm,0.7s,baz=218,slow=5.2,SNR=6.3						
PDAR	**Pinedale Array**	**154.67**	**91**	PKPab	PKPab	20 56 13.4	+0.3
	0.1nm,0.5s,baz=217,slow=5.4,SNR=2.9						

*IDC **06** 20:48:27.3±1.2, 15°.51S×171°.70W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.7/5, MS3.9/9, Ms1 3.9/9, ms1mx3.5/27, Error ellipse: s-maj=42.9km s-min=19.0km az=123.0*

*NEIC **06** 20:48:36.0±1.6, 14°.95S×172°.53W, h53km±12km, mb3.7/1, Error ellipse: s-maj=38.4km s-min=11.7km az=138.0*

ISC 06 20:48:36.5±1.6, 15°.05S±0°.2×172°.5W±0°.2, h54km±15km, n58, σ1§45/19, mb3.8/6, MS4.0/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.28**	**31**	Pn	**Pn**	**20 48 58.1**	**0.0**
	104nm,0.3s,baz=160,slow=1.8,SNR=120						
AFI				Sn	**Sn**	**20 49 18.1**	**+3.8**
	854nm,0.3s,baz=266,slow=2.2,SNR=76						
AFI	**Afiamalu**	**1.28**	**31**	Pn	**Pn**	**20 48 58.1**	**0.0**
AFI				Sn	**Sn**	**20 49 18.1**	**+3.8**
MSVF	**Nonsavu**	**9.49**	**252**	Pn	**Pn**	**20 50 48.8**	**-1.8**
	29nm,1.4s						
RAR	**Rarotonga**	**13.55**	**119**	LR	LR	20 54 33.2	
	comp=Z,227nm,19.6s,baz=92,slow=29						
DZM	**Mont Dzumac**	**21.18**	**248**	*e*LR	LR	20 58 47.5	
	391nm,25.0s						
PPT	**Papeete**	**22.12**	**100**	*e*LR	LR	20 58 03.0	
	233nm,24.8s						
TBI	**Tubuai**	**23.23**	**114**	*e*LR	LR	20 58 24.8	
	279nm,26.5s						
TBI				*e*T		21 15 54.1	
	3.0nm,0.3s						
URZ	**Urewera**	**24.92**	**200**	P	**P**	**20 53 54.9**	**+0.4**
	14nm,1.1s,mb4.4,baz=10,slow=4.2,SNR=7.4						
URZ	**Urewera**	**24.92**	**200**	P	**P**	**20 53 54.9**	**+0.4**
RKT	**Rikitea**	**36.26**	**109**	*e*T		21 32 11.1	
	3.6nm,0.3s						
STKA	**Stephens Creek**	**45.01**	**240**	P	**P**	**20 56 48.5**	**+1.7**
	0.6nm,0.3s,mb4.0,baz=117,slow=9.0,SNR=3.1						
STKA	**Stephens Creek**	**45.01**	**240**	P	**P**	**20 56 46.5**	**-0.3**
	1.4nm,1.1s,mb3.7						
WRAB	**Tennant Creek**	**50.80**	**256**	P	**P**	**20 57 32.4**	**+0.6**
WRA	**Warramunga Arr**	**50.81**	**256**	P	**P**	**20 57 33.7**	**+1.8**
	1.2nm,1.0s,mb3.8,baz=90,slow=6.7,SNR=4.9						
WRA	**Warramunga Arr**	**50.81**	**256**	P	**P**	**20 57 33.7**	**+1.8**
AS31	**Alice Springs**	**51.09**	**252**	P	**P**	**20 57 32.4**	**-1.5**
ASAR	**Alice Springs**	**51.09**	**252**	P	**P**	**20 57 36.0**	**+2.1**
	1.1nm,0.7s,mb3.9,baz=86,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**51.09**	**252**	P	**P**	**20 57 36.0**	**+2.1**
MJAR	**Matsushiro Arr**	**69.23**	**319**	LR	LR	21 31 39.6	
	comp=Z,80nm,18.1s,MS4.0,baz=120,slow=37						
PETK	**Petropavlovsk-**	**72.54**	**342**	LR	LR	21 29 34.7	
	comp=Z,108nm,18.5s,MS4.2,baz=358,slow=34						
NVAR	**Mina Array Bea**	**73.44**	**42**	P	**P**	**21 00 01.1**	**-2.1**
	0.3nm,0.6s,mb3.4,baz=237,slow=9.1,SNR=4.3						
NVAR	**Mina Array Bea**	**73.44**	**42**	P	**P**	**21 00 01.1**	**-2.1**
KSRS	**Korea Array**	**76.52**	**315**	LR	LR	21 30 47.3	
	comp=Z,57nm,18.1s,MS3.9,baz=120,slow=33						
BBB	**Bella Bella**	**77.14**	**26**	LR	LR	21 29 13.8	
	comp=Z,120nm,18.7s,MS4.2,baz=206,slow=32						
TXAR	**Lajitas Array**	**79.65**	**56**	LR	LR	21 27 43.5	
	comp=Z,64nm,20.7s,MS4.0,baz=180,slow=30						
ANMO	**Albuquerque**	**79.86**	**50**	LR	LR	21 28 20.5	
	comp=Z,47nm,18.6s,MS3.9,baz=220,slow=30						
PDAR	**Pinedale Array**

JOU	**Okura**	**1.34 289**	P	Pn	20 51 55.2	+1.3
JOU			*e*S	Sn	20 52 12.1	+1.6
JFT	**Otama**	**1.60 255**	P	Pn	20 51 58.9	+1.5
JFT			*e*S	Sn	20 52 18.9	+2.1
JOM	**Ohasama**	**1.71 334**	P	Pn	20 52 00.0	+1.0
JYK	**Kaneyama**	**1.80 303**	P	Pn	20 52 02.0	+1.8
JFY	**Yanaizu**	**2.11 256**	P	Pn	20 52 07.9	+3.4
MAT	**Matsushiro**	**3.54 248**	P	Pn	20 52 27.9	+3.8

ISC 06 21:01:20.6±1.6, 44°.81N±0°.04×15°.3E±0°.1, h10km, n5, σ0§60/10, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.38**	**229**	*e*Pg	**Pg**	**21 01 27.9**	**-0.2**
NVLJ				Sg	**Sg**	**21 01 32.9**	**-0.2**
BOJS	**Bojanci**	**0.69**	**359**	*i* Pg	**Pg**	**21 01 34.4**	**+0.4**
BOJS				*i* Sg	**Sg**	**21 01 43.4**	**+0.3**
BOJS	comp=Z,3.0nm,0.2s						
VISS	**Visnje**	**1.04**	**343**	*i* Pg	**Pg**	**21 01 40.9**	**+0.3**
VISS				*e*Sg	**Sg**	**21 01 52.3**	**-1.8**
VISS	comp=Z,1.0nm,0.1s						
SKDS	**Skadanscina**	**1.15**	**310**	*i* Pg	**Pg**	**21 01 42.8**	**0.0**
SKDS				*e*Sg	**Sg**	**21 01 58.1**	**+0.4**
SKDS	comp=Z,2.0nm,0.1s						
JAVS	**Javornik**	**1.38**	**322**	*i* Pg	**Pg**	**21 01 47.3**	**+0.2**
JAVS				*i* Sg	**Sg**	**21 02 05.3**	**+0.4**

*NIED **06** 21:02:00, 36°.70N×141°.30E, h32km, Mw3.9 Best double couple: M0 8.68000×10^14 NP1:φ0=214.00000°, δ73.00000°, λ-108.00000°. NP2:φ0=82.00000°, δ25.00000°, λ-45.00000°.*
*IDC **06** 21:02:41.1±0.7, 36°.68N×141°.44E, h0km, mb3.8/13, mb1 4.0/16, mb1mx3.9/26, mbtmp3.8/16, ML3.6/3, MS3.2/5, Ms1 3.2/5, ms1mx2.9/33, Error ellipse: s-maj=18.6km s-min=16.8km az=125.0*
*ISCJB **06** 21:02:44.7±0.5, 36°.72N±0°.03×141°.45E±0°.04, h33km, mb4.1/18, MS3.2/3, Error ellipse: s-maj=5.4km s-min=4.1km az=144.9*
*NEIC **06** 21:02:46.6±1.0, 36°.74N×141°.42E, h36km±8km, MG4.2(JMA), Error ellipse: s-maj=12.4km s-min=7.2km az=140.0*
NEIC Recorded [1 JMA] in Fukushima.
*JMA **06** 21:02:46.3±0.1, 36°.74N×141°.29E, h47km±2km, M3.9*
JMA Felt I J1.

ISC 06 21:02:46.9±0.5, 36°.75N±0°.04×141°.35E±0°.04, h35km, n57, σ1§05/66, mb4.1/18, MS3.2/3, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.57**	**309**	P	**Pn**	**21 02 57.5**	**-1.0**
ONAJ				S	**Sn**	**21 03 05.3**	**-1.3**
JHO	**Hitachi**	**0.65**	**258**	⇓P	**Pn**	**21 02 58.3**	**-1.2**
JHO				S	**Sn**	**21 03 07.1**	**-1.4**
JFK	**Kawauchi**	**0.73**	**328**	⇑P	**Pn**	**21 02 59.8**	**-0.9**
JFK				S	**Sn**	**21 03 09.4**	**-1.2**
JYT	**Yasato**	**1.07**	**241**	⇓P	**Pn**	**21 03 04.3**	**-1.1**
JYT				S	**Sn**	**21 03 17.0**	**-2.0**
JFT	**Otama**	**1.12**	**314**	P	**Pn**	**21 03 06.2**	**+0.1**
JFT				S	**Sn**	**21 03 18.9**	**-1.3**
JMM	**Marumori**	**1.20**	**338**	P	**Pn**	**21 03 06.6**	**-0.6**
JMM				S	**Sn**	**21 03 21.5**	**-0.8**
JFY	**Yanaizu**	**1.47**	**297**	P	**Pn**	**21 03 12.0**	**+1.1**
JFY				S	**Sn**	**21 03 29.9**	**+0.9**
JAG	**Ashikaga**	**1.56**	**259**	P	**Pn**	**21 03 11.8**	**-0.4**
JAG				S	**Sn**	**21 03 30.6**	**-0.6**
JKT	**Katashina**	**1.69**	**271**	P	**Pn**	**21 03 14.6**	**+0.7**
JKT				S	**Sn**	**21 03 34.7**	**+0.4**
JOU	**Okura**	**1.71**	**341**	P	**Pn**	**21 03 14.5**	**+0.4**
JOU				S	**Sn**	**21 03 35.8**	**+1.1**
MJAR	**Matsushiro Arr**	**2.54**	**266**	Pn	**Pn**	**21 03 26.2**	**+0.6**
	14nm,0.3s,baz=90,slow=15,SNR=105						
MJAR	**Matsushiro Arr**	**2.54**	**266**	Pn	**Pn**	**21 03 26.2**	**+0.6**
MAJO	**Matsushiro**	**2.54**	**266**	*e*Pn	**Pn**	**21 03 26.8**	**+1.3**
MAT	**Matsushiro**	**2.54**	**266**	P	**Pn**	**21 03 27.0**	**+1.4**
MAT				S	**Sn**	**21 03 57.4**	**+2.1**
ERM	**Erimo**	**5.44**	**14**	*e*Pn	**Pn**	**21 04 04.2**	**-1.3**
ERM				*e*S	**Sn**	**21 05 08.5**	**+1.7**
ASAJ	**Asahikawa**	**7.42**	**7**	Pn	**Pn**	**21 04 32.0**	**-0.6**
	1.9nm,0.3s,baz=233,slow=14,SNR=4.7						
ASAJ	**Asahikawa**	**7.42**	**7**	Pn	**Pn**	**21 04 32.0**	**-0.6**
KSRS	**Korea Array**	**10.75**	**278**	Pn	**Pn**	**21 05 19.8**	**+1.4**
	0.1nm,0.3s,baz=88,slow=14,SNR=3.7						
KSRS				LR	LR	21 09 17.2	
	comp=Z,80nm,20.8s,baz=90,slow=36						
KSAR	**Wonju Array Be**	**10.78**	**278**	Pn	**Pn**	**21 05 19.8**	**+1.0**
JOW	**Kunigami**	**14.86**	**232**	LR	LR	21 11 20.3	
	comp=Z,76nm,20.1s,baz=45,slow=35						
SONM	**Songino Array**	**27.91**	**304**	P	**P**	**21 08 33.6**	**+0.1**
	2.4nm,0.6s,mb4.0,baz=108,slow=8.8,SNR=19						
SONM				LR	LR	21 19 14.7	
	comp=Z,39nm,19.7s,MS3.0,baz=231,slow=36						
SONM	**Songino Array**	**27.91**	**304**	P	**P**	**21 08 33.6**	**+0.1**
ZALV	**Zalesovo Beam**	**42.07**	**313**	P	**P**	**21 10 34.8**	**-0.2**
	1.1nm,0.4s,mb3.8,baz=101,slow=7.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**42.07**	**313**	P	**P**	**21 10 34.8**	**-0.2**
MK31	**Makanchi Array**	**44.23**	**302**	*e*P	**P**	**21 10 52.5**	**0.0**
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**21 10 52.0**	**-0.6**
	0.4nm,0.5s,mb3.4,baz=78,slow=11,SNR=8.8						
MKAR				LR	LR	21 28 13.7	
	comp=Z,22nm,18.6s,MS3.1,baz=172,slow=35						
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**21 10 52.0**	**-0.6**
RAMN	**Ramite**	**46.98**	**274**	*e*P	**P**	**21 11 23.3**	**+8.7**
	15nm,1.0s,mb4.9						
JIRN	**Jiri**	**47.00**	**275**	*e*P	**P**	**21 11 20.0**	**+5.3**
GUN	**Gumba**	**47.14**	**276**	*e*P	**P**	**21 11 19.2**	**+3.4**
	7.6nm,0.5s,mb4.9						
KKN	**Kakani**	**47.67**	**276**	*e*P	**P**	**21 11 23.6**	**+3.7**
GKN	**Gorkha**	**48.09**	**277**	*e*P	**P**	**21 11 25.8**	**+2.6**
	7.5nm,0.6s,mb4.9						
DANN	**Dangsing**	**48.64**	**278**	*e*P	**P**	**21 11 28.2**	**+0.8**
	27nm,0.8s,mb5.3						
PYUN	**Piuthan**	**49.36**	**278**	*e*P	**P**	**21 11 34.1**	**+1.2**
	17nm,1.1s,mb5.0						
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**21 11 35.4**	**-0.1**
	0.4nm,0.8s,mb3.5,baz=268,slow=6.4,SNR=5.9						
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**21 11 35.4**	**-0.1**
INK	**Inuvik**	**54.66**	**27**	P	**P**	**21 12 12.4**	**+0.6**
	0.6nm,0.8s,mb3.7,baz=225,slow=2.9,SNR=2.1						
INK	**Inuvik**	**54.66**	**27**	P	**P**	**21 12 12.4**	**+0.6**
WRA	**Warramunga Arr**	**56.77**	**188**	P	**P**	**21 12 26.2**	**-1.2**
	1.9nm,0.8s,mb4.2,baz=6.3,slow=7.5,SNR=16						
WRA	**Warramunga Arr**	**56.77**	**188**	P	**P**	**21 12 26.2**	**-1.2**
ASAR	**Alice Springs**	**60.50**	**188**	P	**P**	**21 12 52.7**	**-0.6**
	0.9nm,0.7s,mb3.9,baz=15,slow=5.7,SNR=14						
ASAR	**Alice Springs**	**60.50**	**188**	P	**P**	**21 12 52.7**	**-0.6**
YKA	**Yellowknife Ar**	**64.08**	**30**	P	**P**	**21 13 16.8**	**-0.1**
	0.2nm,0.6s,mb3.4,baz=114,slow=31,SNR=3.1						
YKA	**Yellowknife Ar**	**64.08**	**30**	P	**P**	**21 13 16.8**	**-0.1**
ARCES	**ARCESS Array B**	**64.25**	**339**	P	**P**	**21 13 18.8**	**+0.9**
	5.4nm,1.2s,mb4.5,baz=64,slow=9.2,SNR=3.0						
ARCES	**ARCESS Array B**	**64.25**	**339**	P	**P**	**21 13 18.8**	**+0.9**
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**21 13 48.2**	**-0.4**
	1.8nm,1.0s,mb4.0,baz=12,slow=14,SNR=2.8						
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**21 13 48.2**	**-0.4**
NOA	**NORSAR Array B**	**74.43**	**337**	LR	LR	21 52 50.9	
	comp=Z,31nm,16.4s,MS3.6,baz=90,slow=40						
AKASG	**Malin Array Be**	**74.50**	**322**	P	**P**	**21 14 20.2**	**-1.4**
	0.2nm,0.3s,mb3.5,baz=47,slow=6.4,SNR=4.0						
AKASG	**Malin Array Be**	**74.50**	**322**	P	**P**	**21 14 20.2**	**-1.4**
NVAR	**Mina Array Bea**	**75.20**	**53**	P	**P**	**21 14 25.6**	**-0.2**
	0.7nm,0.7s,mb3.7,baz=293,slow=4.9,SNR=6.8						
NVAR	**Mina Array Bea**	**75.20**	**53**	P	**P**	**21 14 25.6**	**-0.2**
PDAR	**Pinedale Array**	**77.90**	**45**	P	**P**	**21 14 41.0**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=270,slow=1.8,SNR=4.9						
PDAR	**Pinedale Array**	**77.90**	**45**	P	**P**	**21 14 41.0**	**-0.1**
TMUT	**Trail Mountain**	**79.11**	**49**	*e*P	**P**	**21 14 47.8**	**0.0**
	54nm,0.5s						
LPAZ	**La Paz**	**146.88**	**60**	*e*PKPdf	PKPdf	21 22 25.1	+1.1

DJA 06 21:02:53.0°.97N×123°.28E, h20km, MLv3.7/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.43**	**219**	P	Pb	21 03 01.9	0.0
KMSI	**Cibinong**	**0.80**	**119**	P	Pb	21 03 09.9	+1.6
MRSI	**Marisa**	**1.43**	**250**	P	Pn	21 03 15.5	-2.3
MNI	**Manado**	**1.63**	**73**	P	Pn	21 03 23.3	+2.7
MNI				S	Sn	21 03 36.4	-4.6
LUWI	**Luwuk**	**2.06**	**194**	P	Pn	21 03 29.6	+3.1
APSI	**Ampana**	**2.48**	**221**	P	Pn	21 03 34.4	+2.1
SGSI	**Sangihe**	**3.51**	**40**	P	Pn	21 03 49.4	+2.9
TNTI	**Ternate**	**4.09**	**93**	P	Pn	21 03 55.2	+0.7
MSSI	**Masamba**	**4.58**	**220**	P	Pn	21 03 59.4	-1.8
KDI	**Kendari**	**4.94**	**188**	P	Pn	21 04 05.1	-1.0
TTSI	**Tana Toraja**	**5.28**	**221**	P	Pn	21 04 11.1	+0.3
	12nm,0.9s						
NLAI	**Namlea**	**5.66**	**138**	P	Pn	21 04 16.6	+0.5

*CSEM **06** 21:03:57.5±0.2, 38°.25N×22°.15E, h20km, ML1.6/6, Error ellipse: s-maj=5.2km s-min=4.2km az=58.0*
*ISCJB **06** 21:03:58.0±0.4, 38°.25N±0°.02×22°.16E±0°.03, h19km±3km, Error ellipse: s-maj=4.3km s-min=3.8km az=143.3*
*ATH **06** 21:03:58.5, 38°.25N×22°.20E, h17km±3km, MD3.0/11*
*THE **06** 21:03:58.5, 38°.22N×22°.18E, h2km±35km, ML1.6/6, Error ellipse: s-maj=35.9km s-min=1.2km az=270.0*

ISC 06 21:03:58.2±0.3, 38°.26N±0°.02×22°.18E±0°.03, h17km±2km, n43, σ0§96/79, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.13**	**322**	P	**Pg**	**21 04 00.6**	**-1.5**
TRIZ				S	**Sg**	**21 04 04.5**	**-0.2**
TRIZ	**Trizonia**	**0.13**	**322**	P	**Pg**	**21 04 00.6**	**-1.5**
TRIZ				S	**Sg**	**21 04 04.5**	**-0.2**
KALE	**Kalithea**	**0.13**	**348**	P	**Pg**	**21 04 01.7**	**-0.4**
KALE				S	**Sg**	**21 04 04.9**	**+0.2**
KALE	**Kalithea**	**0.13**	**348**	P	**Pg**	**21 04 01.7**	**-0.4**
KALE				S	**Sg**	**21 04 04.9**	**+0.2**
LAKA	**Lakka**	**0.16**	**263**	P	**Pg**	**21 04 01.5**	**-0.9**
LAKA				S	**Sg**	**21 04 04.6**	**-0.6**
LAKA	**Lakka**	**0.16**	**263**	P	**Pg**	**21 04 01.5**	**-0.9**
LAKA				S	**Sg**	**21 04 04.6**	**-0.6**
EFP	**Efpalio**	**0.27**	**308**	*e*PB	**Pg**	**21 04 04.5**	**+0.4**
EFP				*e*SB	**Sg**	**21 04 09.6**	**+1.4**
EFP	**Efpalio**	**0.27**	**308**	P	**Pg**	**21 04 04.0**	**-0.1**
EFP				S	**Sg**	**21 04 08.8**	**+0.6**
EFP	**Efpalio**	**0.27**	**308**	P	**Pg**	**21 04 04.0**	**-0.1**
EFP	**Efpalio**	**0.27**	**308**	*e*Pb	**Pg**	**21 04 04.5**	**+0.4**
EFP				S	**Sg**	**21 04 08.8**	**+0.6**
EFP				*e*Sb	**Sg**	**21 04 09.6**	**+1.4**
DSF	**Desfina**	**0.31**	**61**	P	**Pg**	**21 04 04.3**	**-0.6**
DSF				S	**Sg**	**21 04 10.0**	**+0.6**
DSF	**Desfina**	**0.31**	**61**	P	**Pg**	**21 04 04.3**	**-0.6**
DSF				S	**Sg**	**21 04 10.0**	**+0.6**
DESF	**Desfina**	**0.32**	**61**	P	**Pg**	**21 04 04.5**	**-0.5**
DESF				S	**Sg**	**21 04 10.1**	**+0.6**
DESF	**Desfina**	**0.32**	**61**	P	**Pg**	**21 04 04.5**	**-0.5**
DESF				S	**Sg**	**21 04 10.1**	**+0.6**
GUR	**Goura**	**0.35**	**158**	*e*PB	**Pg**	**21 04 05.2**	**-0.3**
GUR				*e*SB	**Sg**	**21 04 10.4**	**0.0**
GUR	**Goura**	**0.35**	**158**	P	**Pg**	**21 04 04.4**	**-1.1**
GUR				S	**Sg**	**21 04 09.5**	**-0.9**
GUR	**Goura**	**0.35**	**158**	P	**Pg**	**21 04 04.4**	**-1.1**
GUR	**Goura**	**0.35**	**158**	*e*Pb	**Pg**	**21 04 04.7**	**-0.8**
GUR				S	**Sg**	**21 04 09.5**	**-0.9**
GUR				*e*Sb	**Sg**	**21 04 10.4**	**0.0**
RLS	**Riolos of Patr**	**0.59**	**250**	*e*PB	**Pb**	**21 04 10.1**	**0.0**
RLS				*e*SN	**Sg**	**21 04 19.4**	**+1.5**
RLS	**Riolos of Patr**	**0.59**	**250**	*e*Pb	**Pb**	**21 04 10.1**	**0.0**
AXAR	**Agios Charalam**	**0.63**	**37**	P	**Pg**	**21 04 11.3**	**+0.7**
AXAR				S	**Sg**	**21 04 20.6**	**+1.5**
AXAR	**Agios Charalam**	**0.63**	**37**	P	**Pg**	**21 04 11.3**	**+0.7**
AXAR				S	**Sg**	**21 04 20.6**	**+1.5**
LTK	**Loutraki**	**0.67**	**111**	*e*PB	**Pb**	**21 04 10.7**	**-0.7**
LTK				*e*SN	**Sg**	**21 04 20.8**	**+0.6**
LTK	**Loutraki**	**0.67**	**111**	P	**Pg**	**21 04 11.2**	**-0.1**
LTK				S	**Sg**	**21 04 19.9**	**-0.3**
LTK	**Loutraki**	**0.67**	**111**	*e*Pb	**Pb**	**21 04 10.7**	**-0.7**
LTK	**Loutraki**	**0.67**	**111**	P	**Pg**	**21 04 11.2**	**-0.1**
LTK				S	**Sg**	**21 04 19.9**	**-0.3**
LTK				*e*Sb	**Sb**	**21 04 21.0**	**+0.6**
EVR	**Evrytania**	**0.71**	**336**	*e*PN	**Pn**	**21 04 12.6**	**-1.0**
EVR				*e*SN	**Sn**	**21 04 23.0**	**-1.2**
EVR	**Evrytania**	**0.71**	**336**	*e*Pn	**Pn**	**21 04 12.6**	**-1.0**
EVR				*e*Sn	**Sn**	**21 04 24.0**	**-0.2**
LKR	**Lokris**	**0.76**	**59**	*e*PN	**Pn**	**21 04 13.1**	**-1.0**
LKR				*e*SN	**Sn**	**21 04 23.3**	**-1.8**
LKR	**Lokris**	**0.76**	**59**	P	**Pb**	**21 04 12.3**	**-0.6**
LKR	**Lokris**	**0.76**	**59**	P	**Pb**	**21 04 12.3**	**-0.6**
LKR	**Lokris**	**0.76**	**59**	*e*Pn	**Pn**	**21 04 13.1**	**-1.0**
LKR				*e*Sn	**Sn**	**21 04 23.3**	**-1.8**
AGG	**Agios Georgios**	**0.77**	**9**	*e*PN	**Pn**	**21 04 13.5**	**-0.8**
AGG				*e*SN	**Sn**	**21 04 24.2**	**-1.3**
AGG	**Agios Georgios**	**0.77**	**9**	P	**Pb**	**21 04 14.3**	**+1.1**
AGG				S	**Sb**	**21 04 25.7**	**+2.4**
AGG	**Agios Georgios**	**0.77**	**9**	*e*Pn	**Pn**	**21 04 13.5**	**-0.8**
AGG	**Agios Georgios**	**0.77**	**9**	P	**Pb**	**21 04 14.3**	**+1.1**
AGG				*e*Sn	**Sn**	**21 04 24.2**	**-1.3**
VLX	**Vlachokerasia**	**0.90**	**170**	*e*PB	**Pb**	**21 04 15.2**	**-0.2**
VLX				*e*SB	**Sb**	**21 04 28.7**	**+1.6**
VLX	**Vlachokerasia**	**0.90**	**170**	*e*Pb	**Pb**	**21 04 14.7**	**-0.7**
VLX				*e*Sb	**Sb**	**21 04 28.7**	**+1.6**
VIL1	**Vilia, Western**	**0.91**	**96**	*e*PN	**Pn**	**21 04 15.8**	**-0.4**
DID	**Didima**	**1.13**	**132**	*e*PN	**Pn**	**21 04 19.9**	**+0.7**
DID				*e*SN	**Sn**	**21 04 35.3**	**+1.0**
DID	**Didima**	**1.13**	**132**	*e*Pn	**Pn**	**21 04 19.9**	**+0.7**
DID				*e*Sn	**Sn**	**21 04 35.3**	**+1.0**
THL	**Klokotos Trika**	**1.31**	**355**	*e*PN	**Pn**	**21 04 23.5**	**+1.8**
THL	**Klokotos Trika**	**1.31**	**355**	*e*Pn	**Pn**	**21 04 23.5**	**+1.8**

*ISCJB **06** 21:07:10.4±0.6, 43°.77N±0°.04×105°.17W±0°.05, h0km, Error ellipse: s-maj=6.5km s-min=5.1km az=32.1*
*NEIC **06** 21:07:11.6±0.5, 43°.74N×105°.18W, h0km, ML3.0, Error ellipse: s-maj=8.0km s-min=6.2km az=165.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **06** 21:07:11.0±1.9, 43°.87N×105°.64W, h0km, mb1 3.6/3, mb1mx3.3/23, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=66.3km s-min=8.5km az=149.0*

ISC 06 21:07:11.8±0.5, 43°.79N±0°.04×105°.20W±0°.05, h0km, n21, σ0§93/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**68**	*e*Pg	**Pg**	**21 07 29.9**	**+0.7**
PHWY	**Pilot Hill**	**2.49**	**184**	*e*Pn	**Pn**	**21 07 51.7**	**-1.9**
PHWY				*e*S	**Sn**	**21 08 24.3**	**-0.3**
RWWY	**Rawlins**	**2.57**	**216**	*e*Pn	**Pn**	**21 07 53.8**	**-0.8**
RWWY				*e*S	**Sn**	**21 08 26.8**	**+0.2**
LAO	**LASA Array**	**2.99**	**346**	*e*Pn	**Pn**	**21 07 59.5**	**-0.9**
LAO				*e*S	**Sn**	**21 08 46.9**	**+10**
BW06	**Boulder Array**	**3.34**	**254**	*e*Pn	**Pn**	**21 08 04.5**	**-0.8**
BW06				*e*S	**Sn**	**21 08 47.0**	**+1.3**
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**21 08 03.9**	**-1.4**
	1.9nm,0.3s,baz=78,slow=16,SNR=38						
PDAR				Pg	**Pg**	**21 08 09.4**	**-6.4**
	7.4nm,0.3s,baz=66,slow=19,SNR=70						
PDAR				Lg		21 08 46.5	
	3.4nm,0.3s,baz=81,slow=27,SNR=11						
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**21 08 03.9**	**-1.4**
PDAR				Pg	**Pg**	**21 08 09.4**	**-6.4**
PDAR				Lg		21 08 46.5	
OGNE	**Ogallala**	**3.68**	**139**	*e*Pn	**Pn**	**21 08 10.1**	**+0.1**
OGNE				*e*S	**Sg**	**21 09 11.3**	**+1.2**
LOHW	**Long Hollow**	**3.92**	**269**	*e*Pn	**Pn**	**21 08 14.5**	**+1.3**
FLWY	**Flagg Ranch**	**3.98**	**276**	*e*Pn	**Pn**	**21 08 15.4**	**+1.3**
FLWY				*e*S	**Sg**	**21 09 19.1**	**-0.7**
ISCO	**Idaho Springs**	**4.00**	**185**	*e*Pn	**Pn**	**21 08 14.0**	**-0.3**
MOOW	**Moose Ponds**	**4.02**	**271**	*e*Pn	**Pn**	**21 08 15.0**	**+0.4**
IMW	**Indian Meadow**	**4.15**	**274**	*e*Pn	**Pn**	**21 08 17.2**	**+0.8**
TPAW	**Teton Pass**	**4.19**	**268**	*e*Pn	**Pn**	**21 08 17.2**	**+0.3**
YMR	**Madison River**	**4.24**	**284**	*e*Pn	**Pn**	**21 08 18.5**	**+0.9**
SMCO	**Snowmass**	**4.79**	**197**	Pn	**Pn**	**21 08 31.7**	**+6.5**
SMCO				*e*S	**Sg**	**21 09 35.7**	**-10**
SRU	**San Rafael**	**6.15**	**222**	*e*Pn	**Pn**	**21 08 39.0**	**-4.9**
SRU				*e*S	**Sg**	**21 10 17.0**	**-12**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**21 09 23.0**	**-0.9**
	1.1nm,0.3s,baz=234,slow=11,SNR=8.1						
ULM				Lg		21 11 55.9	
	0.3nm,0.3s,baz=175,slow=11,SNR=2.7						
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**21 09 23.0**	**-0.9**
ULM				Lg		21 11 55.9	
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**21 09 52.8**	**-0.8**
	0.0nm,0.3s,baz=64,slow=14,SNR=2.5						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**21 09 52.8**	**-0.8**

*ISCJB **06** 21:12:24.9±1.4, 25°.0N±0°.2×122°.92E±0°.04, h153km±12km, Error ellipse: s-maj=29.4km s-min=5.9km az=3.6*
*JMA **06** 21:12:24.7±0.3, 25°.12N×122°.97E, h150km±5km, M2.2*
*TAP **06** 21:12:24.3, 24°.91N×122°.77E, h178km±1km, ML3.3, D*

ISC 06 21:12:24.8±1.4, 25°.0N±0°.2×122°.92E±0°.04, h158km±12km, n14, σ0§51/23, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.49**	**170**	P	**Pn**	**21 12 47.1**	**0.0**
IRIF	**Iriomote-Funau**	**0.96**	**130**	P	**Pn**	**21 12 49.9**	**-0.1**
IRIF				S	**Sn**	**21 13 09.5**	**+0.3**
TWC	**Suao**	**1.03**	**251**	*e*P	**Pn**	**21 12 51.2**	**+0.6**
	baz=246						
ENA	**Nanau**	**1.19**	**244**	*e*P	**Pn**	**21 12 52.3**	**+0.3**
	baz=241						
ENA				*e*S	**Sn**	**21 13 12.8**	**0.0**
	baz=241						
HATJ	**Hateruma jima**	**1.20**	**138**	P	**Pn**	**21 12 52.6**	**+0.5**
HATJ				*e*S	**Sn**	**21 13 13.9**	**+1.0**
JKRS	**Kuro-shima**	**1.22**	**125**	P	**Pn**	**21 12 52.4**	**+0.1**
JKRS				S	**Sn**	**21 13 13.5**	**+0.3**
JIJ	**Ishigaki jima**	**1.26**	**117**	P	**Pn**	**21 12 52.1**	**-0.5**
JIJ				S	**Sn**	**21 13 12.9**	**-0.9**
ENTT	**Nioudou**	**1.27**	**256**	P	**Pn**	**21 12 53.2**	**+0.5**
	baz=257						
ENTT				*e*S	**Sn**	**21 13 13.9**	**-0.1**
	baz=257						
NSK	**Sanguang**	**1.45**	**259**	*e*P	**Pn**	**21 12 55.0**	**+0.6**
	baz=265						
NSK				*e*S	**Sn**	**21 13 16.5**	**-0.6**
	baz=265						
NNS	**Nan Shan**	**1.50**	**251**	*e*P	**Pn**	**21 12 55.4**	**+0.4**
	baz=247						
NNS				*e*S	**Sn**	**21 13 17.8**	**-0.2**
	baz=247						
JTJ	**Tarama**	**1.65**	**100**	P	**Pn**	**21 12 56.6**	**+0.1**
JTJ				S	**Sn**	**21 13 20.2**	**-0.6**
WHF	**Hehuan Shan**	**1.71**	**242**	P	**Pn**	**21 12 57.4**	**+0.2**
	baz=235						
ESL	**Shilin**	**1.77**	**231**	*e*P	**Pn**	**21 12 56.8**	**-1.0**
	baz=225						
TWF1	**Yuli**	**2.17**	**223**	*e*P	**Pn**	**21 13 01.8**	**-0.7**
	baz=227						

IDC 06 21:20:26.8±1.6, 3°.27N×128°.51E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.4/19, mbtmp3.3/4, Error ellipse: s-maj=131.7km s-min=21.5km az=71.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**166**	P	P	21 25 39.5	-1.7
	0.3nm,0.5s,baz=346,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**27.28**	**169**	P	P	21 26 14.2	+1.2
	0.1nm,0.7s,baz=355,slow=9.3,SNR=3.3						
SONM	**Songino Array**	**48.31**	**340**	P	P	21 29 10.2	+0.3
	0.5nm,0.7s,baz=155,slow=6.7,SNR=4.4						
MKAR	**Makanchi Array**	**58.95**	**325**	P	P	21 30 28.1	+0.1
	0.2nm,0.4s,baz=113,slow=8.4,SNR=6.5						

*NEIC **06** 21:24:42.7, 17°.00N×94°.93W, h111km, MD3.7(MEX), After MEX.*

MEX 06 21:24:42.7±0.9, 17°.00N×94°.93W, h111km±8km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.10**	**27**	*i* P	Pn	21 24 57.4	-0.6
CMIG				*i* S	Sn	21 25 07.0	-2.5
CMIG	**Matias Romero**	**0.10**	**27**	*i* P	Pn	21 24 57.4	-0.6
CMIG				*i* S	Sn	21 25 07.0	-2.5
HUIG	**Huatulco**	**1.67**	**223**	*i* P	Pn	21 25 09.6	-2.1
HUIG				*i* S	Sn	21 25 32.9	-0.7
HUIG	**Huatulco**	**1.67**	**

baz=257
SCLT Jiali 0.38 269 *e*P Pg 21 34 54.9 -0.6
baz=271
SCLT *e*S Sg 21 35 03.0 +2.5
baz=271
TWM1 Shoushan 0.40 206 ⇓*i*P Pg 21 34 56.2 +0.4
baz=204
CHN8 Yiju 0.40 294 P Pg 21 34 54.7 -1.1
baz=297
CHN8 *e*S Sg 21 35 02.5 +1.4
baz=297
CHN5 Tsauling 0.42 9 ⇓*i*P Pg 21 34 55.4 -0.8
baz=10.0
CHN5 S Sg 21 35 03.2 +1.6
baz=10.0
SSD Sandimen 0.44 177 ⇓*i*P Pg 21 34 55.8 -0.7
baz=165
SSD S Sg 21 35 02.9 +0.7
baz=165
YUS Yu-Shan 0.44 46 P Pg 21 34 56.5 -0.1
baz=45
YUS *i*S Sg 21 35 03.2 +0.9
baz=45
SGLT Jiouru 0.47 193 P Pg 21 34 57.9 +0.7
baz=192
WGK Gukeng 0.50 355 *e*P Pg 21 34 57.3 -0.5
baz=357
WGK *e*S Sg 21 35 06.3 +2.0
baz=357
TWG Pinlang 0.56 130 ⇑*i*P Pg 21 34 58.5 -0.3
baz=115
TWG S Sg 21 35 07.2 +1.1
baz=115
TWG Pinlang 0.56 130 *e*Pg Pg 21 34 58.4 -0.5
TWG *e*S Sg 21 35 07.5 +1.3
WSF Szhu 0.57 322 *e*P Pg 21 34 58.5 -0.7
baz=324
WSF *i*S Sg 21 35 07.7 +1.0
baz=324
TWF1 Yuli 0.65 75 ⇑*i*P Pg 21 35 00.1 -0.6
baz=73
TWF1 *i*S Sg 21 35 09.2 0.0
baz=73
TTN Taitung 0.66 131 P Pg 21 35 00.8 +0.1
baz=129
TTN S Sg 21 35 11.7 +2.5
baz=129
ECL Taimali 0.67 151 *i*P Pg 21 35 00.1 -0.8
baz=150
YULB Yu-li 0.67 72 *e*Pg Pg 21 34 59.7 -1.2
YULB *e*S Sg 21 35 09.3 -0.3
KAU Kaohsiung 0.67 204 *e*P Pg 21 35 01.2 +0.2
baz=219
SSLB Suanglong 0.68 28 *e*Pg Pg 21 34 59.9 -1.3
SSLB *e*S Sg 21 35 10.2 +0.2
WNT Mingjian 0.69 6 P Pg 21 35 01.1 -0.4
baz=6.0
WNT S Sg 21 35 12.2 +1.7
baz=6.0
CHKT Chengkung 0.70 97 *e*P Pg 21 35 01.3 -0.2
baz=95
CHKT *e*S Sg 21 35 13.2 +2.5
baz=95
EHY Hungye 0.73 64 P Pg 21 35 01.3 -0.9
baz=73
EHY S Sg 21 35 11.4 -0.2
baz=73
WTCT Ta-ch'eng 0.74 336 *e*P Pg 21 35 01.0 -1.3
baz=337
WTCT *e*S Sg 21 35 12.2 +0.2
baz=337
SMLT Sun Moon Lake 0.74 21 ⇓P Pg 21 35 01.9 -0.5
baz=21
SMLT S Sg 21 35 13.5 +1.3
baz=21
TYC Yuchr 0.75 18 ⇓*i*P Pg 21 35 01.9 -0.6
baz=18
TYC *e*S Sg 21 35 13.4 +1.1
baz=18
SCZT Fangliau 0.81 179 ⇓*i*P Pg 21 35 02.6 -1.0
baz=169
SCZT *e*S Sg 21 35 15.8 +1.7
baz=169
EAST Anshuo 0.83 165 ⇑P Pg 21 35 03.2 -0.8
baz=163
EAST S Sg 21 35 16.2 +1.5
baz=163
TAW Tawu 0.86 162 P Pg 21 35 03.8 -0.9
baz=161
TAW S Sg 21 35 16.3 +0.4
baz=161
TWP Hsiaoliuchiu 0.86 195 *e*P Pg 21 35 05.4 +0.7
baz=195
TWP *e*S Sg 21 35 20.8 +4.9
baz=195
TCU Taichung 0.96 4 *e*P Pg 21 35 05.5 -1.1
baz=350
ESL Shilin 0.98 50 *e*P Pg 21 35 05.9 -1.1
baz=48
PNG Penghu 1.04 292 *e*P Pg 21 35 05.0 -3.1
baz=293
PNG *e*S Sg 21 35 19.4 -2.2
baz=293
WHF Hehuan Shan 1.13 32 *e*P Pg 21 35 08.2 -1.6
baz=31
WHF *e*S Sg 21 35 24.8 +0.3
baz=31
TWQ1 Liyutan 1.17 7 ⇓P Pg 21 35 09.1 -1.5
baz=7.0
TWQ1 *e*S Sg 21 35 26.0 +0.2
baz=7.0
HEN Hengchun 1.18 174 *e*P Pg 21 35 09.5 -1.3
baz=174
TWT Tachien 1.18 26 *e*P Pg 21 35 09.0 -1.9
baz=25
NSY Sanyi 1.23 6 *e*P Pg 21 35 10.2 -1.6
baz=353
NSY *e*S Sg 21 35 28.0 +0.1
baz=353
TWK1 Hengchun 1.25 172 *e*P Pg 21 35 09.8 -2.3
baz=172
TWD Chiawan 1.27 45 *e*P Pg 21 35 11.8 -0.7
baz=44
TWD S Sg 21 35 29.1 +0.1
baz=44
NACB Ninganchiao 1.34 42 *e*Pn Pn 21 35 12.4 -1.3
NACB *e*S Sg 21 35 30.4 -0.8
NNS Nan Shan 1.43 29 *e*P Pn 21 35 13.3 -1.7
baz=28
NNS *e*S Sb 21 35 33.3 -0.8
baz=28
NSTT Nanjuang 1.48 14 *e*P Pn 21 35 13.8 -2.0
baz=358
ENA Nanau 1.61 40 *e*P Pn 21 35 18.7 +1.2
baz=52
NSK Sanguang 1.64 25 *e*P Pn 21 35 17.0 -0.8
baz=14
NSK *e*S Sn 21 35 39.3 -0.1
baz=14
YHNB Yeheng 1.64 25 *e*Pn Pn 21 35 17.8 -0.1
YHNB *e*S Sn 21 35 39.8 +0.4
ENTT Nioudou 1.69 31 *e*P Pn 21 35 18.8 +0.2
baz=20
ENTT *e*S Sn 21 35 41.3 +0.5
baz=20
TWE Neicheng 1.81 32 *e*P Pn 21 35 21.2 +1.0
baz=31
TWE *e*S Sn 21 35 45.5 +1.8
baz=31
TWC Suao 1.82 38 *e*P Pn 21 35 20.3 0.0
baz=50
TWC *e*S Sn 21 35 44.9 +1.1
baz=50
TWA Mucha 2.00 26 *e*P Pn 21 35 23.6 +0.8
baz=11
TWS1 Kuangyinshan 2.05 21 *e*P Pn 21 35 23.4 -0.1
baz=4.0
KNM Kinmen 2.34 302 *e*P Pn 21 35 28.2 +0.7
baz=302

*IDC **06** 21:37:59.1±1.1, 38°.09N×141°.14E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/23, mbtmp3.4/6, ML3.4/1, Error ellipse: s-maj=30.3km s-min=23.2km az=89.0*
*ISCJB **06** 21:38:00.8±1.2, 37°.15N±0°.05×141°.66E±0°.08, h33km, mb3.5/3, Error ellipse: s-maj=9.8km s-min=5.4km az=29.8*
*NIED **06** 21:38:00, 37°.20N×141°.50E, h56km, Mw3.8 Best double couple: M0=5.70000×10^14 NP1:φ0=247.00000°, δ70.00000°, λ100.00000°. NP2:φ0=40.00000°, δ22.00000°, λ65.00000°.*
*JMA **06** 21:38:02.6±0.1, 37°.23N×141°.44E, h76km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ0=127.00000°, δ53.00000°, λ-111.00000°. NP2: φ0=340.00000°, δ42.00000°, λ-64.00000°. Principal axes: T Plg6.0000°, Azm232.0000°; N Plg17.0000°, Azm140.0000°; P Plg72.0000°, Azm341.0000°;*
JMA Felt II J1.
*NEIC **06** 21:38:04.3±0.9, 38°.05N×141°.00E, h35km, MG4.1(JMA) Error ellipse: s-maj=21.7km s-min=15.0km az=126.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Tochigi.

ISC 06 21:38:01.4±1.0, 37°.16N±0°.05×141°.68E±0°.07, h35km, n25, σ0 90/32, mb3.5/3, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.67**	**288**	P	**Pn**	**21 38 15.8**	**+1.4**
JFK				S	**Sn**	**21 38 25.0**	**+1.3**
ONAJ	**Iwakimizuishiy**	**0.70**	**266**	⇓P	**Pn**	**21 38 16.2**	**+1.4**
ONAJ				S	**Sn**	**21 38 26.1**	**+1.7**
JMM	**Marumori**	**1.00**	**316**	⇓P	**Pn**	**21 38 19.3**	**+0.5**
JMM				*e*S	**Sn**	**21 38 31.7**	**0.0**
JFT	**Otama**	**1.13**	**289**	⇑P	**Pn**	**21 38 21.1**	**+0.5**
JFT				S	**Sn**	**21 38 34.6**	**-0.3**
JIO	**Ouri**	**1.32**	**349**	⇑P	**Pn**	**21 38 24.1**	**+0.8**
JIO				S	**Sn**	**21 38 39.8**	**+0.1**
JOU	**Okura**	**1.45**	**327**	P	**Pn**	**21 38 25.0**	**0.0**
JOU				*e*S	**Sn**	**21 38 42.1**	**-0.7**
JFY	**Yanaizu**	**1.59**	**280**	P	**Pn**	**21 38 26.7**	**-0.3**
JFY				S	**Sn**	**21 38 44.6**	**-1.7**
JYS	**Shiratake**	**1.66**	**310**	P	**Pn**	**21 38 27.9**	**-0.1**
JYS				S	**Sn**	**21 38 47.6**	**-0.5**
JMK	**Ichinoseki**	**1.83**	**349**	⇑P	**Pn**	**21 38 30.7**	**+0.4**
JMK				S	**Sn**	**21 38 51.9**	**-0.3**
JAG	**Ashikaga**	**1.93**	**248**	⇑P	**Pn**	**21 38 31.8**	**+0.2**
JAG				*e*S	**Sn**	**21 38 53.2**	**-1.4**
JNS	**Sasagawa**	**1.99**	**290**	P	**Pn**	**21 38 31.5**	**-1.0**
MJAR	**Matsushiro Arr**	**2.85**	**259**	Pn	**Pn**	**21 38 44.1**	**-0.1**
5.7nm,0.3s,baz=52,slow=25,SNR=48							
MJAR	**Matsushiro Arr**	**2.85**	**259**	Pn	**Pn**	**21 38 44.1**	**-0.1**
MAJO	**Matsushiro**	**2.85**	**259**	*e*Pn	**Pn**	**21 38 44.6**	**+0.3**
MAT	**Matsushiro**	**2.85**	**259**	P	**Pn**	**21 38 44.7**	**+0.4**
MAT				S	**Sn**	**21 39 16.4**	**-1.0**
SONM	**Songino Array**	**27.89**	**304**	P	**P**	**21 43 43.7**	**-4.0**
0.5nm,0.4s,mb3.5,baz=107,slow=8.9,SNR=7.2							
SONM	**Songino Array**	**27.89**	**304**	P	**P**	**21 43 43.7**	**-4.0**
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**21 46 02.7**	**-4.4**
1.0nm,0.7s,mb3.7,baz=87,slow=9.3,SNR=11							
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**21 46 02.7**	**-4.3**
ILAR	**Eielson Array**	**49.28**	**32**	P	**P**	**21 46 44.6**	**-1.6**
0.3nm,0.6s,mb3.5,baz=262,slow=6.3,SNR=4.8							
ILAR	**Eielson Array**	**49.28**	**32**	P	**P**	**21 46 44.6**	**-1.6**
WRA	**Warramunga Arr**	**57.21**	**188**	P	pP	21 47 54.5	-1.1
0.2nm,0.5s,baz=3.6,slow=7.5,SNR=4.7							
WRA	**Warramunga Arr**	**57.21**	**188**	P	pP	21 47 54.5	-1.1
ASAR	**Alice Springs**	**60.94**	**188**	P	pP	21 48 19.7	-1.8
0.1nm,0.3s,baz=16,slow=10,SNR=2.7							
ASAR	**Alice Springs**	**60.94**	**188**	P	pP	21 48 19.7	-1.8

*IDC **06** 21:50:46.6±2.2, 24°.47N×92°.59E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.2/26, mbtmp3.2/5, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/21, Error ellipse: s-maj=80.0km s-min=22.5km az=70.0*
*ISCJB **06** 21:50:55.7±1.0, 24°.5N±0°.1×93°.2E±0°.1, h75km±9km, mb3.1/4, Error ellipse: s-maj=24.5km s-min=10.4km az=30.6*

ISC 06 21:50:57.1±1.0, 24°.6N±0°.1×93°.22E±0°.10, h65km±11km, n8, σ0 89/9, mb3.1/4, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.69**	**70**	*e*PKP	**Pn**	**21 51 10.0**	**-1.5**
IMP				*e*S	**Sn**	**21 51 23.0**	**+0.9**
SHL	**Shillong**	**1.58**	**310**	⇑*i*P	**Pn**	**21 51 24.0**	**+1.1**
SHL				*e*SG	**Sn**	**21 51 42.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**8.07**	**138**	Pn	**Pn**	**21 52 51.3**	**-0.3**
0.1nm,0.3s,baz=312,slow=14,SNR=2.9							
MKAR	**Makanchi Array**	**23.86**	**341**	P	**P**	**21 56 00.7**	**-3.6**
0.2nm,0.5s,mb2.8,baz=175,slow=10,SNR=4.2							
SONM	**Songino Array**	**25.48**	**21**	P	**P**	**21 56 19.3**	**+0.2**
0.5nm,0.9s,mb3.0,baz=192,slow=13,SNR=3.9							
AKTO	**Aktyubinsk**	**37.48**	**323**	LR	LR	22 16 20.5	
comp=Z,57nm,19.2s,baz=357,slow=41							
WRA	**Warramunga Arr**	**59.65**	**134**	P	**P**	**22 00 55.0**	**+0.2**
0.2nm,0.5s,mb3.4,baz=322,slow=7.5,SNR=3.6							
ASAR	**Alice Springs**	**62.08**	**137**	P	**P**	**22 01 11.6**	**+0.4**
0.2nm,0.8s,mb3.3,baz=321,slow=6.9,SNR=2.7							

*IDC **06** 22:00:06.7±1.4, 8°.31S×129°.60E, h0km, mb3.8/3, mb1 4.2/6, mb1mx3.9/16, mbtmp4.0/6, ML4.3/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/27, Error ellipse: s-maj=49.5km s-min=24.0km az=69.0*
*NEIC **06** 22:00:11.6±0.9, 8°.50S×129°.46E, h35km, Error ellipse: s-maj=26.3km s-min=11.6km az=69.0*
*ISCJB **06** 22:00:13.3±2.2, 8°.76S±0°.07×129°.42E±0°.09, h72km±26km, mb3.6/3, Error ellipse: s-maj=14.7km s-min=11.7km az=153.8*
*DJA **06** 22:00:19, 8°.86S×129°.44E, h132km, mb4.2/4*

ISC 06 22:00:14.7±2.0, 8°.73S±0°.09×129°.45E±0°.09, h73km±25km, n21, σ0 67/26, mb3.6/3, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.02**	**201**	Pn	**Pn**	**22 02 36.3**	**+0.5**
2.2nm,0.3s,baz=28,slow=12,SNR=59							
FITZ				Sn	**Sn**	**22 04 26.5**	**-0.2**
1.6nm,0.3s,baz=320,slow=23,SNR=4.5							
FITZ				LR	LR	22 06 31.3	
comp=Z,82nm,19.0s,baz=21,slow=37							
FITZ	**Fitzroy Crossi**	**10.02**	**201**	Pn	**Pn**	**22 02 36.3**	**+0.5**
FITZ				Sn	**Sn**	**22 04 26.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**10.02**	**201**	P	**Pn**	**22 02 36.0**	**+0.1**
17nm,0.6s							
KAPI	**Kappang**	**10.31**	**290**	LR	LR	22 06 48.1	
comp=Z,82nm,19.0s,baz=261,slow=39							
WRAB	**Tennant Creek**	**12.10**	**157**	*e*Pn	**Pn**	**22 03 04.0**	**-0.2**
9.6nm,0.6s							
WRAB	**Tennant Creek**	**12.10**	**157**	P	**Pn**	**22 03 04.6**	**+0.3**
35nm,0.9s							
WRA	**Warramunga Arr**	**12.11**	**158**	Pn	**Pn**	**22 03 04.6**	**+0.3**
2.3nm,0.3s,baz=345,slow=13,SNR=109							
WRA				Sn	**Sn**	**22 05 17.2**	**-0.4**
1.5nm,0.3s,baz=329,slow=22,SNR=9.2							
WRA	**Warramunga Arr**	**12.11**	**158**	Pn	**Pn**	**22 03 04.7**	**+0.3**
WRA				Sn	**Sn**	**22 05 17.2**	**-0.4**
WB2	**Warramunga Arr**	**12.11**	**157**	*e*Pn	**Pn**	**22 03 03.9**	**-0.5**
WB2				*e*Sn	**Sn**	**22 05 16.4**	**-1.3**
COEN	**Coen**	**14.42**	**112**	P	**Pn**	**22 03 35.0**	**-0.3**
7.9nm,1.4s							
AS31	**Alice Springs**	**15.45**	**164**	*e*Pn	**Pn**	**22 03 49.4**	**+1.0**
ASAR	**Alice Springs**	**15.45**	**164**	Pn	**Pn**	**22 03 49.7**	**+1.3**
0.7nm,0.3s,baz=345,slow=13,SNR=30							
ASAR				Sn	**Sn**	**22 06 39.2**	**+0.5**
0.4nm,0.3s,baz=344,slow=25,SNR=6.6							
ASAR	**Alice Springs**	**15.45**	**164**	Pn	**Pn**	**22 03 49.7**	**+1.3**
ASAR				Sn	**Sn**	**22 06 39.2**	**+0.5**
MBWA	**Marble Bar**	**15.50**	**216**	P	**Pn**	**22 03 48.7**	**-0.4**
STKA	**Stephens Creek**	**25.65**	**156**	P	**P**	**22 05 42.2**	**+4.6**
1.7nm,0.6s,mb3.7,baz=325,slow=9.4,SNR=4.5							
STKA	**Stephens Creek**	**25.65**	**156**	P	**P**	**22 05 42.2**	**+4.6**
NWAO	**Narrogin (SRO)**	**26.59**	**203**	LR	LR	22 16 51.1	
comp=Z,89nm,20.5s,baz=134,slow=37							
CMAR	**Chiang Mai Arr**	**40.45**	**312**	P	**P**	**22 07 45.5**	**-0.8**
0.2nm,0.4s,mb3.3,baz=133,slow=6.6,SNR=4.8							
CMAR	**Chiang Mai Arr**	**40.45**	**312**	P	**P**	**22 07 45.5**	**-0.8**
ILAR	**Eielson Array**	**95.14**	**25**	P	**P**	**22 13 29.6**	**+0.2**
0.4nm,0.9s,mb3.8,baz=258,slow=4.5,SNR=4.0							
ILAR	**Eielson Array**	**95.14**	**25**	P	**P**	**22 13 29.6**	**+0.2**

*MOS **06** 22:05:49.8±1.0, 37°.18N×71°.86E, h121km, mb4.6/34, Error ellipse: s-maj=6.4km s-min=4.4km az=106.0*
*BJI **06** 22:05:50.2, 37°.36N×71°.68E, h118km, mB4.8/28, mb4.8/39*
*ISCJB **06** 22:05:50.3±0.1, 37°.15N±0°.02×71°.85E±0°.02, h128km, mb4.5/80, Error ellipse: s-maj=2.7km s-min=2.6km az=24.0*
*NEIC **06** 22:05:51.3±0.2, 37°.07N×71°.97E, mb4.7/25, Error ellipse: s-maj=5.0km s-min=3.5km az=212.0*
*IDC **06** 22:05:52.2±0.5, 37°.11N×71°.84E, h130km±4km, mb4.0/29, mb1 4.1/31, mb1mx4.1/35, mbtmp4.0/31, MS3.3/5, Ms1 3.3/5, ms1mx2.7/45, Error ellipse: s-maj=12.6km s-min=8.1km az=13.0*
*TEH **06** 22:05:52.0, 37°.34N×71°.70E, h120km*
*DJA **06** 22:05:52, 37°.08N×72°.00E, h113km, mb5.2/12*
*NNC **06** 22:05:56.6±8.6, 37°.74N×71°.40E, h132km±99km, mb4.1, mpv5.0, Error ellipse: s-maj=72.6km s-min=40.1km az=16.0*

ISC 06 22:05:52.0±0.1, 37°.15N±0°.02×71°.86E±0°.02, h130km, h130km±1.9km: pP-P, n386, σ1 9°27/431, mb4.5/80, 20C-19D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.32**	**179**	P	**Pn**	**22 06 44.4**	**+1.7**
CEP				S	**Sn**	**22 07 25.0**	**+3.1**
KBL	**Kabul**	**3.46**	**222**	*e*Pn	**Pn**	**22 06 44.7**	**+0.1**
KBL				*e*S	**Sn**	**22 07 25.5**	**+0.1**
KBL	**Kabul**	**3.46**	**222**	*e*PN	**Pn**	**22 06 44.7**	**0.0**
KBL				*e*S	**Sn**	**22 07 25.5**	**+0.1**
CHCP	**Chirah Chowk**	**3.67**	**161**	P	**Pn**	**22 06 49.5**	**+2.2**
KSH	**Kashi**	**4.01**	**53**	P	**Pn**	**22 06 48.7**	**-3.1**
KSH				S	**Sn**	**22 07 30.6**	**-7.6**
KSH				smax			
comp=N,5μm,0.6s							
KSH				smax			
comp=E,4μm,0.5s							
THW	**Thamme Wali**	**4.34**	**181**	P	**Pn**	**22 06 56.9**	**+0.6**
AML	**Almayashu**	**5.17**	**15**	P	**Pn**	**22 07 06.8**	**-0.5**
SNR=266							
AML				P		22 07 06.8	
SNR=266							
AML	**Almayashu**	**5.17**	**15**	*i*PN	**Pn**	**22 07 06.8**	**-0.6**
UCH	**Uchtor**	**5.47**	**21**	P	**Pn**	**22 07 11.4**	**+0.1**
SNR=16							
UCH				P		22 07 11.4	
SNR=16							
KZA	**Kyzart**	**5.58**	**27**	P	**Pn**	**22 07 12.3**	**-0.4**
SNR=71							
KZA				P		22 07 12.3	
SNR=71							
EKS2	**Erkin-Say**	**5.70**	**14**	P	**Pn**	**22 07 13.9**	**-0.5**
SNR=162							
EKS2				P		22 07 13.9	
SNR=162							
EKS2	**Erkin-Say**	**5.70**	**14**	*e*Pn	**Pn**	**22 07 13.8**	**-0.6**
EKS2				*e*S	**Sn**	**22 08 15.0**	**-3.7**
EKS2	**Erkin-Say**	**5.70**	**14**	*e*PN	**Pn**	**22 07 13.8**	**-0.6**
AAK	**Ala-Archa**	**5.84**	**19**	P	**Pn**	**22 07 16.2**	**-0.1**
SNR=128							
AAK				P		22 07 16.2	
SNR=128							
AAK	**Ala-Archa**	**5.84**	**19**	*e*Pn	**Pn**	**22 07 16.2**	**-0.1**
AAK				*e*S	**Sn**	**22 08 19.1**	**-3.0**
AAK	**Ala-Archa**	**5.84**	**19**	*e*PN	**Pn**	**22 07 16.2**	**-0.1**
AAK	**Ala-Archa**	**5.84**	**19**	P	**Pn**	**22 07 16.1**	**-0.2**
comp=E,7.0nmcomp=E,719nm,0.5s							
KBK	**Karagaybulak**	**5.99**	**22**	P	**Pn**	**22 07 18.3**	**0.0**
SNR=37							
KBK				P		22 07 18.3	
SNR=37							
KK31	**Karatay Array**	**6.04**	**351**	P	**Pn**	**22 07 17.1**	**-1.9**
comp=E,27nm,0.2s,baz=183,slow=14,SNR=1597							
KK31				⇑S	**Sn**	**22 08 19.5**	**-7.3**
comp=E,203nm,0.7s,baz=180,slow=22,SNR=4.0							
KKAR	**Karatay Array**	**6.04**	**351**	*e*Pn	**Pn**	**22 07 16.8**	**-2.1**
KKAR				*e*S	**Sn**	**22 08 19.6**	**-7.2**
KKAR	**Karatay Array**	**6.04**	**351**	*e*PN	**Pn**	**22 07 16.8**	**-2.1**
FRU	**Bishkek**	**6.06**	**20**	⇑*i*PN	**Pn**	**22 07 19.0**	**-0.2**
FRU				pmax	pmax		
comp=Z,90nm,1.8s							
ULHL	**Ulahol**	**6.11**	**32**	P	**Pn**	**22 07 19.6**	**-0.4**
SNR=62							
ULHL				P		22 07 19.6	
SNR=62							
CHMS	**Chumysh**	**6.25**	**20**	P	**Pn**	**22 07 21.3**	**-0.5**
SNR=84							
CHMS				P		22 07 21.3	
SNR=84							
USP	**Ospenovka**	**6.44**	**17**	P	**Pn**	**22 07 23.1**	**-1.2**
SNR=118							
USP				P		22 07 23.1	
SNR=118							
TKM2	**Tokmak 2**	**6.44**	**25**	P	**Pn**	**22 07 24.0**	**-0.3**
SNR=27							
TKM2				P		22 07 24.0	
SNR=27							
TKM2	**Tokmak 2**	**6.44**	**25**	⇓P	**Pn**	**22 07 23.8**	**-0.6**
comp=Z,105nm,0.8s							
TKM2				⇑S	**Sn**	**22 08 29.4**	**-7.1**
comp=Z,144nm,0.9s							
TKM2	**Tokmak 2**	**6.44**	**25**	*e*Pn	**Pn**	**22 07 23.9**	**-0.4**
TKM2				*e*S	**Sn**	**22 08 30.8**	**-5.7**
TKM2	**Tokmak 2**	**6.44**	**25**	*e*PN	**Pn**	**22 07 23.9**	**-0.4**
BHK	**Bhakra**	**6.85**	**145**	*e*PKP	**Pn**	**22 07 31.0**	**+1.1**
BHK				*e*S	**Sn**	**22 08 42.2**	**-4.3**
SDNR	**Sundarnagar**	**7.04**	**142**	*ex*	x	22 07 34.0	
SDNR				*e*S	**Sn**	**22 08 47.0**	**-4.1**
KNDC	**Almaty**	**7.21**	**31**	⇑P	**Pn**	**22 07 35.1**	**+0.3**
comp=Z,109nm,0.7s							
SMLA	**Simla**	**7.44**	**142**	*i*P	**Pn**	**22 07 37.5**	**-0.5**
SMLA				*i*P		22 07 37.5	
SMLA				*i*S	**Sn**	**22 08 54.9**	**-5.9**
SMLA				*i*S	**Sn**	**22 08 54.9**	**-5.9**
SMLA				⇓AML	AML	22 09 01.5	
SMLA	comp=E,645nm,0.3s			⇓AML	AML	22 09 01.6	
comp=N,610nm,0.3s							
QUE	**Quetta**	**8.05**	**212**	*e*P	**Pn**	**22 07 45.0**	**-1.2**
QUE				*e*S	**Sn**	**22 09 14.0**	**-1.7**
QUE	**Quetta**	**8.05**	**212**	*e*PN	**Pn**	**22 07 45.0**	**-1.2**
DDI	**Dehra Dun**	**8.54**	**141**	*e*PKP	**Pn**	**22 07 51.0**	**-1.7**
DDI				*ex*	x	22 09 28.0	
IMYA	**Miami**	**9.47**	**269**	*e*P	**Pn**	**22 07 59.4**	**-5.8**
NDI	**New Delhi**	**9.56**	**150**	*ex*	**Pn**	**22 08 01.5**	**-5.0**
NDI				*e*S	**Sn**	**22 09 43.5**	**-8.7**
KHET	**Khetri**	**9.64**	**159**	*e*PKP	**Pn**	**22 08 05.1**	**-2.4**
KHET				*e*S	**Sn**	**22 09 44.8**	**-9.3**
KUDL	**Kundal**	**9.79**	**155**	*e*PKP	**Pn**	**22 08 07.1**	**-2.4**
KUDL				*e*S	**Sn**	**22 09 49.2**	**-8.4**
SONA	**Sohna**	**9.90**	**152**	*e*PKP	**Pn**	**22 08 09.1**	**-1.9**
SONA				*e*S	**Sn**	**22 09 51.2**	**-9.1**
IMOG	**Moghan**	**10.12**	**268**	*e*P	**Pn**	**22 08 08.5**	**-5.4**
IPAY	**Payeh**	**10.34**	**270**	*e*P	**Pn**	**22 08 11.4**	**-5.4**
IMON	**Monand**	**10.73**	**252**	*e*P	**Pn**	**22 08 21.0**	**-1.0**
AJM	**Ajmer**	**10.89**	**167**	*e*PKP	**Pn**	**22 08 24.0**	**-0.3**
AJM				*ex*	x	22 10 19.0	
ITEG	**Tejag**	**11.55**	**252**	*e*P	**Pn**	**22 08 30.7**	**-2.2**
MK31	**Makanchi Array**	**12.36**	**36**	⇓P	**Pn**	**22 08 42.3**	**-1.1**
comp=N,12nm,0.6s,baz=224,slow=11,SNR=181							
MK31	**Makanchi Array**	**12.36**	**36**	*e*Pn	**Pn**	**22 08 42.0**	**-1.4**
MK31	**Makanchi Array**	**12.36**	**36**	*e*P	**Pn**	**22 08 42.0**	**-1.4**
MKAR	**Makanchi Array**	**12.36**	**36**	P	**Pn**	**22 08 42.6**	**-0.8**
comp=N,0.7nm,0.3s,baz=225,slow=14,SNR=98							
MKAR	**Makanchi Array**	**12.36**	**36**	P	**Pn**	**22 08 42.6**	**-0.8**
MKAR	**Makanchi Array**	**12.36**	**36**	P	**Pn**	**22 08 42.7**	**-0.7**
PYUN	**Piuthan**	**13.00**	**131**	*e*P	**Pn**	**22 08 49.4**	**-2.5**
comp=N,459nm,0.9s							
PYUN	**Piuthan**	**13.00**	**131**	*e*P	**Pn**	**22 08 49.4**	**-2.5**
comp=N,459nm,0.9s							
DANN	**Dangsing**	**13.30**	**128**	*e*P	**Pn**	**22 08 52.6**	**-3.2**
comp=N,138nm,0.4s							
DANN	**Dangsing**	**13.30**	**128**	*e*P	**Pn**	**22 08 52.6**	**-3.2**
comp=N,138nm,0.4s							
KOLN	**Koldanda**	**13.61**	**130**	*e*P	**Pn**	**22 08 57.4**	**-2.4**
comp=N,178nm,0.5s							
KOLN				*e*S	**Sn**	**22 11 22.8**	**-7.3**
KOLN	**Koldanda**	**13.61**	**130**	*e*P	**Pn**	**22 08 57.4**	**-2.4**
comp=N,178nm,0.5s							
KOLN				*e*S	**Sn**	**22 11 22.8**	**-7.3**
WMQ	**Urumqi**	**13.76**	**56**	P	**Pn**	**22 09 01.7**	**+0.2**
WMQ				sP		22 09 35.9	
WMQ				S	**Sn**	**22 11 32.2**	**-1.2**
WMQ				pmax	pmax		
comp=Z,38nm,0.5s							
WMQ				pmax	pmax		
comp=Z,160nm,4.6s							
GKN	**Gorkha**	**14.10**	**127**	*e*P	**Pn**	**22 09 03.5**	**-2.5**
comp=Z,184nm,0.4s							
GKN				*e*S	**Sn**	**22 11 31.8**	**-10**

GKN Gorkha 14.10 127 *e*P **Pn 22 09 03.5 -2.5**
comp=Z,184nm,0.4s
GKN *e*S **Sn 22 11 31.8 -10**
KURK Kurchatov 14.40 18 ⇑P **Pn 22 09 11.2 +1.6**
comp=Z,45nm,0.9s
KURK Kurchatov 14.40 18 P **Pn 22 09 04.6 -5.0**
comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=23
KURK Kurchatov 14.40 18 *e*Pn **Pn 22 09 05.2 -4.4**
KURK Kurchatov 14.40 18 *e*P **Pn 22 09 05.9 -3.7**
KURK pmax pmax
comp=Z,4.0nm,0.7s
IGLO Ghaloghah 14.46 273 *e*P **Pn 22 09 08.2 -2.3**
ALBI Allahabad 14.54 141 *ex* x 22 11 38.5
KKN Kakani 14.66 126 *e*P **Pn 22 09 10.4 -2.7**
comp=Z,200nm,0.8s
KKN Kakani 14.66 126 *e*P **Pn 22 09 10.4 -2.7**
comp=Z,200nm,0.8s
KKN Kakani 14.66 126 *e*P **Pn 22 09 10.4 -2.7**
KKN pmax pmax
comp=Z,200nm,0.8s
DMN Daman 14.67 127 *e*P **Pn 22 09 10.5 -2.7**
comp=Z,162nm,0.6s
DMN Daman 14.67 127 *e*P **Pn 22 09 10.5 -2.7**
comp=Z,162nm,0.6s
AB31 Akbulak array 14.88 328 P **Pn 22 09 11.4 -4.2**
comp=Z,4.8nm,0.3s,baz=140,slow=12,SNR=364
AB31 S **Sn 22 11 43.7 -16**
comp=Z,48nm,0.6s,baz=154,slow=22,SNR=20
ABKAR Akbulak array 14.88 328 *e*Pn **Pn 22 09 10.6 -5.0**
ABKAR *e*S **Sn 22 11 43.1 -17**
PKI Pulchoki 14.89 126 *e*P **Pn 22 09 13.3 -2.7**
comp=Z,115nm,0.5s
PKI Pulchoki 14.89 126 *e*P **Pn 22 09 13.3 -2.7**
comp=Z,115nm,0.5s
PKI Pulchoki 14.89 126 *e*P **Pn 22 09 13.3 -2.7**
PKI pmax pmax
comp=Z,115nm,0.5s
GUN Gumba 14.97 124 *e*P **Pn 22 09 14.1 -2.9**
comp=Z,374nm,0.8s
GUN Gumba 14.97 124 *e*P **Pn 22 09 14.1 -2.9**
comp=Z,374nm,0.8s
JIRN Jiri 15.35 124 *e*P **Pn 22 09 19.4 -2.2**
comp=Z,95nm,0.5s
JIRN Jiri 15.35 124 *e*P **Pn 22 09 19.4 -2.2**
comp=Z,95nm,0.5s
VOSK Vostochnaya 15.59 358 ⇑P **Pn 22 09 20.9 -3.5**
comp=Z,12nm,1.2s
IPRN Peran 15.69 273 *e*P **Pn 22 09 24.3 -1.5**
ISAD Sadrabad 15.86 256 *e*P **Pn 22 09 28.0 +0.1**
BVA0 Borovoye Array 15.91 357 ⇑P **Pn 22 09 27.0 -1.4**
comp=Z,3.1nm,1.4s,baz=162,slow=13,SNR=74
BVA0 S **S 22 12 12.9 -17**
comp=Z,1.1nm,0.9s,baz=178,slow=28,SNR=7.4
BVAR Borovoye Array 15.91 357 P **Pn 22 09 25.3 -3.1**
comp=Z,3.2nm,0.3s,baz=160,slow=10.0,SNR=32
BVAR S **S 22 12 14.2 -15**
comp=Z,0.5nm,0.3s,baz=165,slow=26,SNR=6.7
BVAR LR LR 22 15 30.5
comp=Z,45nm,20.6s,baz=7.4,slow=36
BVAR Borovoye Array 15.91 357 P **Pn 22 09 25.3 -3.0**
BVAR S **S 22 12 14.2 -15**
BVAR Borovoye Array 15.91 357 P **Pn 22 09 25.3 -3.1**
BVAR S **S 22 12 14.2 -16**
ZRNK Zerenda 15.93 354 ⇓P **Pn 22 09 28.2 -0.4**
comp=Z,8.9nm,0.6s
BRVK Borovoye 15.95 357 *e*Pn **Pn 22 09 25.5 -3.4**
comp=Z,19nm,1.0s
BRVK *e*S **S 22 12 24.7 -5.8**
BRVK Borovoye 15.95 357 *e*P **Pn 22 09 25.5 -3.3**
BRVK *e*S **S 22 12 24.7 -5.8**
BRVK pmax pmax
comp=Z,19nm,1.0s
RAMN Ramite 16.09 125 *e*P **Pn 22 09 28.6 -2.2**
comp=Z,147nm,0.7s
RAMN Ramite 16.09 125 *e*P **Pn 22 09 28.6 -2.2**
comp=Z,147nm,0.7s
IZEF Zefreh 16.55 261 *e*P **Pn 22 09 34.8 -1.6**
TAPN Taplejung 16.57 122 *e*P **Pn 22 09 34.4 -2.3**
comp=Z,104nm,0.5s
TAPN Taplejung 16.57 122 *e*P **Pn 22 09 34.4 -2.3**
comp=Z,104nm,0.5s
AKTO Aktyubinsk 16.59 328 ⇑P **Pn 22 09 34.0 -2.7**
comp=Z,8.6nm,0.9s
AKTO ⇑S **S 22 12 26.8 -15**
comp=Z,7.2nm,0.9s
AKTO Aktyubinsk 16.59 328 P **Pn 22 09 33.7 -3.0**
comp=Z,2.7nm,0.3s,baz=144,slow=12,SNR=113
AKTO S **S 22 12 27.9 -13**
comp=Z,1.3nm,0.3s,baz=184,slow=23,SNR=6.2
AKTO Aktyubinsk 16.59 328 P **Pn 22 09 33.7 -3.0**
AKTO S **S 22 12 27.9 -13**
AKTO Aktyubinsk 16.59 328 P **Pn 22 09 33.7 -3.0**
AKTO S **S 22 12 27.9 -13**
ODAN Odare 16.67 124 *e*P **Pn 22 09 36.0 -1.9**
comp=Z,141nm,0.6s
ODAN Odare 16.67 124 *e*P **Pn 22 09 36.0 -1.9**
comp=Z,141nm,0.6s
IKLH Kolahrood 17.00 263 *e*P **Pn 22 09 40.7 -1.2**
IPAR Pars 17.28 251 *e*P **Pn 22 09 44.8 -0.5**
ISRV Sarvestan 17.47 249 *e*P **Pn 22 09 46.2 -1.4**
LSA Lhasa 17.71 109 P **Pn 22 09 51.1 +0.6**
POO Poona 18.63 174 *ex* x 22 10 02.0
POO *ex* x 22 13 21.0
ZAA0 Zalesovo Array 19.04 24 *e*P **P 22 10 03.1 -0.6**
ZALV Zalesovo Beam 19.04 24 P **P 22 10 03.4 -0.4**
comp=Z,7.4nm,0.3s,baz=222,slow=10,SNR=113
ZALV Zalesovo Beam 19.04 24 P **P 22 10 03.4 -0.4**
ZALV Zalesovo Beam 19.04 24 P **P 22 10 03.4 -0.4**
NVS Novosibirsk 19.34 20 ⇑*i*P **P 22 10 06.0 -0.9**
NVS *e*S **S 22 13 34.0 -4.6**
NVS pmax pmax
comp=N,37nm,0.7s
NVS pmax pmax
comp=E,11nm,0.7s
NVS pmax pmax
comp=Z,49nm,0.7s
NVS smax
comp=N,10.0nm,1.2s
NVS smax
comp=E,8.0nm,1.2s
HYB Hyderabad 20.52 161 *i* P **P 22 10 20.5 +0.5**
HYB *e*S **S 22 14 06.5 +4.0**
SHL Shillong 20.59 118 *ex* x 22 10 25.0
SHL *e*S **S 22 14 07.0 +3.3**
IGHG Ghaleghazi 20.71 270 *e*P **P 22 10 21.7 -0.2**
DGRG David-gareji 20.91 290 P **P 22 10 23.9 -0.1**
SVE Sverdlovsk 21.07 343 *e*P **P 22 10 24.7 -0.9**
SVE *e*S **S 22 14 09.6 -2.9**
SVE pmax pmax
comp=Z,17nm,0.9s,mb4.4
ARU Arti 21.26 339 *e*P **P 22 10 26.1 -1.5**
comp=Z,13nm,0.9s,mb4.3
ARU Arti 21.26 339 *d i*P **P 22 10 26.5 -1.1**
ARU *e* 22 10 56.3
ARU S **S 22 14 14.1 -2.1**
ARU pmax pmax
comp=Z,17nm,1.2s,mb4.2
MTA Mtatsminda 21.36 291 P **P 22 10 29.3 +0.5**
GNI Garni 21.36 286 P **P 22 10 30.7 +1.9**
comp=Z,35nm,0.6s,mb4.9,baz=3.3,slow=2.0,SNR=74
GNI Garni 21.36 286 *e*P **P 22 10 30.4 +1.5**
comp=Z,61nm,0.9s,mb4.9
GNI Garni 21.36 286 *e*P **P 22 10 30.6 +1.8**
GNI pmax pmax
comp=Z,66nm,1.0s
TBLG Delisi 21.40 291 P **P 22 10 30.4 +1.1**
TBLG Delisi 21.40 291 P **P 22 10 30.4 +1.2**
UMR Umm Al-Rimmam 21.51 256 *e*P **P 22 10 29.3 -1.2**
UMR AMb AMB 22 10 35.4
comp=Z,74nm,0.5s,mb5.4
MIB Mutribah 21.69 257 *e*P **P 22 10 31.3 -1.1**
MIB AMb AMB 22 10 37.8
comp=Z,117nm,0.9s,mb5.3
GOR Gori 21.89 291 P **P 22 10 35.4 +1.0**
RDF Al-Radifah 21.93 255 *e*P **P 22 10 33.5 -1.4**
RDF AMb AMB 22 10 37.1
comp=Z,70nm,0.9s,mb5.1
NAY Al-Naaiem 22.01 256 *e*P **P 22 10 34.6 -1.2**
NAY AMb AMB 22 10 39.7
comp=Z,38nm,1.4s,mb4.6
GTA Gaotai 22.03 76 P **P 22 10 38.4 +2.5**
GTA pP 22 11 04.1
GTA sP sP 22 11 19.3 +3.3
GTA S **S 22 14 34.2 +4.1**
GTA pmax pmax
comp=Z,110nm,1.2s,mb5.2
GTA pmax pmax
comp=Z,150nm,4.0s
GTA LR LR
comp=N,160nm,13.0s
GTA LR LR
comp=E,230nm,14.2s
GTA LR LR
comp=Z,96nm,13.8s
IMP Imphal 22.52 117 *e*PKP **P 22 10 43.0 +1.8**
KIV Kislovodsk 23.11 296 *e*P **P 22 10 45.4 -0.9**
comp=Z,26nm,0.6s,mb4.8
KIV *e*S **S 22 14 59.8 +12**
KIV Kislovodsk 23.11 296 *e*P **P 22 10 49.2 +2.8**
KIV *e*S **S 22 14 53.4 +5.9**
KIV pmax pmax
comp=Z,19nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,100nm,16.0s
LZH Lanzhou 25.63 83 ⇑P **P 22 11 12.5 +3.1**
LZH pP pP 22 11 38.7 +1.7
LZH sP sP 22 11 53.1 +1.1
LZH PP 22 11 58.6
LZH pmax pmax
comp=Z,25nm,1.0s,mb4.8
LZH pmax pmax
comp=Z,86nm,5.3s
LZH Lanzhou 25.63 83 ⇑P **P 22 11 12.5 +3.1**
comp=Z,25nm,1.0s,mb4.8
LZH pP pP 22 11 38.7 +1.7
LZH sP sP 22 11 53.1 +1.1
LZH PP 22 11 58.6
LZH Lanzhou 25.63 83 ⇑P **P 22 11 12.5 +3.1**
LZH *PP pP 22 11 38.7 +1.7
LZH *SP sP 22 11 53.1 +1.1
LZH pmax pmax
comp=Z,25nm,1.0s,mb4.8
ZAK Zakamensk 26.05 49 *e*P **P 22 11 14.7 +1.8**
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
TLY Talaya 26.70 47 *e*P **P 22 11 20.3 +1.6**
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
CD2 Chengdu 27.08 94 ⇓*i*P **P 22 11 25.4 +3.0**
CD2 pP pP 22 11 52.0 +1.9
CD2 sP sP 22 12 07.2 +2.0
CD2 PP PP 22 12 16.9 -9.0
CD2 S **S 22 15 53.0 +2.2**
CD2 sS sS 22 16 40.0 +0.4
CD2 SS SS 22 17 19.6 -30
CD2 pmax pmax
comp=Z,30nm,1.2s,mb4.8
CD2 pmax pmax
comp=Z,60nm,5.2s
VSR Storozhevoye 27.08 312 *e*P **P 22 11 21.6 -0.6**
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
VSR pmax pmax
comp=E,10.0nm,1.0s
SONM Songino Array 27.40 56 P **P 22 11 26.8 +1.7**
comp=E,5.9nm,0.7s,mb4.3,baz=262,slow=9.7,SNR=47
SONM Songino Array 27.40 56 P **P 22 11 26.8 +1.7**
SONM Songino Array 27.40 56 P **P 22 11 26.8 +1.7**
ULN Ulaanbaatar 27.84 56 *e*P **P 22 11 31.2 +2.2**
comp=E,6.9nm,0.7s,mb4.5
ULN Ulaanbaatar 27.84 56 *e*P **P 22 11 31.2 +2.2**
ULN pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ULN Ulaanbaatar 27.84 56 P **P 22 11 30.6 +1.6**
comp=Z,12nm,0.8s,mb4.7
KMI Kunming 28.89 106 P **P 22 11 43.8 +5.2**
KMI pP pP 22 12 09.8 +3.3
KMI sP sP 22 12 24.8 +3.3
KMI PP PP 22 12 41.5 -4.7
KMI S **S 22 16 23.9 +4.4**
KMI SS SS 22 18 03.4 -24
KMI pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
KMI LR LR
comp=Z,37nm,36.5s
KMI Kunming 28.89 106 P **P 22 11 43.8 +5.2**
comp=Z,7.0nm,1.2s,mb4.3
KMI pP pP 22 12 09.8 +3.3
KMI sP sP 22 12 24.8 +3.3
KMI PP PP 22 12 41.5 -4.7
KMI S **S 22 16 23.9 +4.4**
KMI SS SS 22 18 03.4 -24
KMI LR LR
comp=Z,40nm,36.5s
KMI Kunming 28.89 106 P **P 22 11 43.8 +5.2**
KMI *PP pP 22 12 09.8 +3.3
KMI *SP sP 22 12 24.8 +3.3
KMI 22 12 41.5
KMI S **S 22 16 23.9 +4.4**
KMI SS SS 22 18 03.4 -24
KMI pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
KMI MLR MLR
comp=Z,40nm,36.5s
ASF Jabal al Asfar 29.08 271 P **P 22 11 41.6 +1.5**
comp=Z,1.0nm,0.6s,mb3.7,baz=63,slow=2.3,SNR=3.2
ASF Jabal al Asfar 29.08 271 P **P 22 11 41.6 +1.5**
ASF Jabal al Asfar 29.08 271 P **P 22 11 41.6 +1.4**
BR131 Keskin Array S 29.90 287 *e*P **P 22 11 48.2 +0.9**
comp=Z,2.5nm,0.6s,mb4.1
BRTR Keskin Array B 29.90 287 P **P 22 11 48.1 +0.8**
comp=Z,3.0nm,0.7s,mb4.2,baz=102,slow=7.9,SNR=22
BRTR Keskin Array B 29.90 287 P **P 22 11 48.1 +0.8**
BRTR Keskin Array B 29.90 287 *ce*P **P 22 11 48.4 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
OBN Obninsk 29.91 318 *e*P **P 22 11 47.5 +0.3**
OBN *i* pP 22 12 15.4 +0.2
OBN *e*S **S 22 16 33.7 -1.0**
OBN pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
MMAI Mount Meron Ar 30.00 273 P **P 22 11 49.3 +1.0**
comp=Z,3.0nm,0.8s,mb4.1,baz=80,slow=10,SNR=3.8
MMAI Mount Meron Ar 30.00 273 P **P 22 11 49.3 +1.0**
XAN Xi'an 30.17 85 P **P 22 11 51.9 +2.1**
XAN pmax pmax
comp=Z,11nm,0.8s,mb4.6
XAN pmax pmax
comp=Z,13nm,3.9s
CMAR Chiang Mai Arr 30.18 121 P **P 22 11 51.8 +1.8**
comp=Z,4.2nm,0.8s,mb4.2,baz=312,slow=9.0,SNR=27
CMAR Chiang Mai Arr 30.18 121 P **P 22 11 51.8 +1.8**
CMAR Chiang Mai Arr 30.18 121 P **P 22 11 51.8 +1.8**
HHC Hu-ho-hao-te 30.89 71 *e*P **P 22 11 58.5 +2.4**
HHC pP pP 22 12 25.5 +1.4
HHC sP sP 22 12 40.6 +1.5
HHC S **S 22 16 52.2 +1.7**
HHC sS sS 22 17 40.6 +1.0
HHC SS SS 22 18 46.2 -22
HHC pmax pmax
comp=Z,11nm,1.0s,mb4.5
HHC pmax pmax
comp=Z,85nm,4.3s
GYA Guiyang 31.28 100 ⇑*i*P **P 22 12 02.1 +2.4**
GYA pP pP 22 12 30.0 +2.3
GYA sP sP 22 12 44.2 +1.5
GYA PP PP 22 13 11.8 -0.9
GYA PcP PcP 22 14 53.4 +2.5
GYA S **S 22 17 01.6 +4.7**
GYA sS sS 22 17 48.0 +2.1
GYA ScP ScP 22 18 25.5 +3.8
GYA PcS PcS 22 18 37.0 +1.6
GYA ScS ScS 22 22 21.6 +2.1
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
GYA pmax pmax
comp=Z,80nm,4.1s
EIL Elat 31.55 267 P **P 22 12 03.2 +1.3**
comp=Z,2.4nm,0.8s,mb4.0,baz=85,slow=11,SNR=4.4
EIL Elat 31.55 267 P **P 22 12 03.2 +1.3**
AKASG Malin Array Be 33.09 308 P **P 22 12 14.7 -0.4**
comp=Z,4.7nm,0.9s,mb4.2,baz=83,slow=7.6,SNR=7.8
AKASG Malin Array Be 33.09 308 P **P 22 12 14.7 -0.4**
AKASG Malin Array Be 33.09 308 P **P 22 12 14.7 -0.4**
KIEV Kiev 33.09 308 *c i*P **P 22 12 14.9 -0.3**
BOD Bodaibo 34.41 39 *e*P **P 22 12 27.3 +0.8**
BOD pmax pmax
comp=Z,9.0nm,1.8s,mb4.2
BJI Beijing 34.49 71 P **P 22 12 29.0 +1.6**
BJI pmax pmax
comp=Z,11nm,0.7s,mb4.7
VRI Vrincioaia 34.51 299 ⇓P **P 22 12 29.3 +1.8**
VRI Vrincioaia 34.51 299 ⇓*i*P **P 22 12 29.3 +1.8**
PLOR Plostina 34.57 299 ⇓P **P 22 12 29.4 +1.4**
PLOR Plostina 34.57 299 ⇓*i*P **P 22 12 29.4 +1.4**
MLR Muntele Rosu 35.07 298 P **P 22 12 34.5 +2.1**
comp=Z,3.1nm,0.9s,mb4.0,baz=121,slow=0.8,SNR=24
MLR Muntele Rosu 35.07 298 P **P 22 12 34.5 +2.1**
MLR Muntele Rosu 35.07 298 ⇓P **P 22 12 33.9 +1.5**
MLR Muntele Rosu 35.07 298 ⇓*i*P **P 22 12 33.8 +1.4**
BURAR Bucovina Array 35.52 302 ⇑P **P 22 12 36.6 +0.4**
BURAR Bucovina Array 35.52 302 ⇑*i*P **P 22 12 36.6 +0.4**
BUR08 Bucovina Ar. S 35.53 302 *e*P **P 22 12 36.9 +0.6**
JOF Joensuu 35.66 329 *e*P **P 22 12 37.5 +0.4**
JOF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
JOF Joensuu 35.66 329 *ep* **P 22 12 37.5 +0.4**
comp=Z,4.5nm,0.5s,mb4.3
WHN Wuhan 35.67 88 P **P 22 12 40.3 +2.6**
WHN pmax pmax
comp=Z,58nm,0.6s
LVV L'vov 36.34 306 *e*P **P 22 12 42.9 -0.2**
SUW Suwalki 37.18 313 *e*P **P 22 12 49.6 -0.5**
SUW Suwalki 37.18 313 *e*P **P 22 12 49.6 -0.5**
DRGR 37.25 301 ⇓P **P 22 12 51.9 +1.0**
DRGR 37.25 301 ⇓*i*P **P 22 12 51.8 +0.9**
TRPA Tarpa 37.31 303 ⇑*i*P **P 22 12 53.6 +2.2**
VTS Vitosha 37.32 294 ⇓P **P 22 12 52.7 +1.2**
VTS Vitosha 37.32 294 ⇓*i*P **P 22 12 52.7 +1.2**
FINES FINESS Array B 37.34 325 P **P 22 12 51.7 +0.3**
comp=Z,2.4nm,0.4s,mb4.2,baz=119,slow=9.0,SNR=46
FINES pP pP 22 13 20.7 +0.7
comp=Z,2.2nm,0.6s,baz=120,slow=9.6,SNR=2.2
FINES LR LR 22 28 14.7
comp=Z,51nm,18.2s,baz=312,slow=36
FINES FINESS Array B 37.34 325 P **P 22 12 51.7 +0.3**
FINES pP pP 22 13 20.7 +0.7
FINES FINESS Array B 37.34 325 P **P 22 12 51.7 +0.3**
FINES *PP pP 22 13 20.7 +0.7
KAF Kangasniemi 37.46 327 *e*P **P 22 12 51.4 -1.0**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
KAF Kangasniemi 37.46 327 *ep* **P 22 12 51.4 -1.0**
comp=Z,0.5nm,0.3s,mb3.6
KOLS Kolonicke sedl 37.48 304 *e*P **P 22 12 53.5 +0.8**
KOLS pmax pmax
comp=Z,58nm,3.2s
KOLS Kolonicke sedl 37.48 304 *e*P **P 22 12 53.5 +0.8**
KOLS *e*PP PP 22 14 18.7 -2.0
CRVS Cervenica-Dubn 38.01 304 *e*PP PP 22 14 23.1 -3.5
BZS Buzias 38.10 299 ⇓P **P 22 12 58.9 +0.9**
BZS Buzias 38.10 299 ⇓*i*P **P 22 12 58.8 +0.8**
KECS Kecovo 38.67 304 *e*P **P 22 13 02.8 0.0**
KECS *e* 22 14 31.4
KECS Kecovo 38.67 304 *e*P **P 22 13 02.8 0.0**
KECS *e*PP PP 22 14 31.4 -2.4
NIE Niedzica 38.75 305 *e*P **P 22 13 04.9 +1.5**
NIE Niedzica 38.75 305 *e*P **P 22 13 04.9 +1.5**
OJC Ojcow 39.07 306 *e*P **P 22 13 06.3 +0.3**
OJC Ojcow 39.07 306 *e*P **P 22 13 06.2 +0.1**
comp=Z,6.4nm,0.8s,mb4.3
OJC Ojcow 39.07 306 *e*P **P 22 13 06.2 +0.2**
OJC pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
KEV Kevo 40.46 338 *e*P **P 22 13 15.9 -1.4**
KEV pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
KEV Kevo 40.46 338 *ep* **P 22 13 15.9 -1.4**
comp=Z,2.5nm,0.5s,mb4.1
GKP Gorka Klasztor 40.66 311 *e*P **P 22 13 19.3 +0.2**
GKP Gorka Klasztor 40.66 311 *e*P **P 22 13 19.3 +0.2**
CN2 Changchun 40.70 63 *e*P **P 22 13 22.3 +2.7**
ARCES ARCESS Array B 40.81 337 P **P 22 13 20.6 +0.4**
comp=Z,5.1nm,0.5s,mb4.5,baz=114,slow=8.7,SNR=80
ARCES pP pP 22 13 50.5 +1.3
comp=Z,1.7nm,0.4s,baz=112,slow=8.1,SNR=2.5
ARCES LR LR 22 30 38.6
comp=Z,49nm,19.5s,baz=139,slow=36
ARCES ARCESS Array B 40.81 337 P **P 22 13 20.6 +0.4**
ARCES pP pP 22 13 50.5 +1.3
ARCES ARCESS Array B 40.81 337 P **P 22 13 20.6 +0.4**
ARCES *PP pP 22 13 50.5 +1.3
ARE0 ARCESS Array S 40.81 337 *e*P **P 22 13 19.8 -0.4**
ARE0 ARCESS Array S 40.81 337 *e*P **P 22 13 20.7 +0.5**
VRAC Vranov 41.19 305 P **P 22 13 24.7 +1.2**
comp=Z,6.5nm,0.9s,mb4.3,baz=86,slow=8.6,SNR=9.1
VRAC Vranov 41.19 305 P **P 22 13 24.7 +1.2**
VRAC Vranov 41.19 305 P **P 22 13 24.7 +1.2**
DPC Dobruska-Polom 41.29 307 *e*P **P 22 13 25.2 +0.8**
DPC *e* pP 22 13 53.7 +0.3
DPC *e* 22 14 07.9
DPC Dobruska-Polom 41.29 307 *e*P **P 22 13 25.2 +0.8**
DPC *e*pP pP 22 13 53.7 +0.3
DPC *ex* x 22 14 07.9
UPC Upice 41.48 307 *e*P **P 22 13 26.5 +0.6**
UPC *e* 22 14 11.3
UPC Upice 41.48 307 *e*P **P 22 13 26.5 +0.6**
UPC *e*sP sP 22 14 11.3 +1.6
PSI Prapat 42.28 138 P **P 22 13 33.4 +0.6**
comp=Z,16nm,0.9s,mb4.7
BRG Berggiesshubel 42.77 308 *e*P **P 22 13 36.8 +0.5**
comp=Z,6.0nm,0.7s,mb4.4
BRG *e* 22 14 21.8
comp=Z,7.2nm,0.9s
BRG Berggiesshubel 42.77 308 *e*P **P 22 13 36.8 +0.5**
BRG *e* 22 14 21.8
BRG pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
HFS Hagfors 42.99 321 P **P 22 13 37.8 -0.1**
comp=Z,7.1nm,0.4s,mb4.7,baz=97,slow=11,SNR=73
HFS pP pP 22 14 07.7 +0.5
comp=Z,6.1nm,0.6s,baz=98,slow=11,SNR=3.2
HFS LR LR 22 31 36.6
comp=Z,58nm,18.6s,baz=71,slow=36
HFS Hagfors 42.99 321 P **P 22 13 37.9 -0.1**
HFS pP pP 22 14 07.7 +0.5
HFS Hagfors 42.99 321 P **P 22 13 37.8 -0.2**
HFS *PP pP 22 14 07.7 +0.5
HFS pmax pmax
comp=Z,7.0nm,0.4s
HFS pmax pmax
comp=Z,6.0nm,0.6s
HFS MLR MLR
comp=Z,58nm,18.7s
YAK Yakutsk 43.04 36 *e*P **P 22 13 37.8 -0.5**
YAK pmax pmax
comp=Z,19nm,0.9s,mb4.7
YAK pmax pmax
comp=E,10.0nm,1.4s
GERES GERESS Array B 43.12 305 P **P 22 13 39.1 -0.1**
comp=E,0.5nm,0.6s,baz=94,slow=8.0,SNR=6.3
GERES pP pP 22 14 08.1 -0.4
comp=E,0.8nm,0.7s,baz=91,slow=6.9,SNR=5.7
GERES sP sP 22 14 23.9 +0.8
comp=E,1.0nm,0.8s,baz=91,slow=6.7,SNR=3.8
GERES PP PP 22 15 24.7 +2.9
comp=E,1.1nm,0.9s,baz=77,slow=8.5,SNR=4.8
GERES GERESS Array B 43.12 305 P **P 22 13 39.1 -0.1**
GERES pP pP 22 14 08.1 -0.4
GERES sP sP 22 14 23.9 +0.8
GERES PP PP 22 15 24.7 +2.9
GERES GERESS Array B 43.12 305 P **P 22 13 39.1 -0.1**
GERES *PP pP 22 14 08.1 -0.4
GERES *SP sP 22 14 24.0 +0.8
GERES 22 15 24.7
KHC Kasperske Hory 43.17 305 *e*P **P 22 13 38.9 -0.7**
KHC *e* pP 22 14 04.0 -4.9
KHC *e* 22 14 25.5
KHC Kasperske Hory 43.17 305 *e*P **P 22 13 38.9 -0.7**
KHC *ex* x 22 14 04.0
KHC *e*sP sP 22 14 25.5 +2.0
CLL Collm 43.33 308 *i* P **P 22 13 40.9 +0.1**
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
CLL Collm 43.33 308 *i* P **P 22 13 40.9 +0.1**
comp=Z,5.0nm,0.8s,mb4.2
CLL *e*PP PP 22 15 23.0 -0.9
MOR8 Moi Rana 43.60 330 *e*P **P 22 13 42.2 -0.6**

SSLB Suanglung 43.91 93 *eP* **P 22 13 49.1 +3.2**
comp=Z,69nm,1.3s,mb5.1
KSAR Wonju Array Be 43.99 72 P **P 22 13 48.0 +1.6**
KSAR Wonju Array Be 43.99 72 P **P 22 13 48.0 +1.6**
KSRS Korea Array 44.02 72 P **P 22 13 48.0 +1.4**
comp=Z,4.4nm,0.8s,mb4.1,baz=283,slow=6.3,SNR=12
KSRS Korea Array 44.02 72 P **P 22 13 48.0 +1.4**
KSRS pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
NC602 NORSAR Array S 44.10 322 *eP* **P 22 13 46.6 -0.3**
KLR Kul'dur 44.21 54 *eP* **P 22 13 46.2 -1.7**
NB2 NORSAR Subarra 44.28 323 P **P 22 13 47.9 -0.4**
comp=Z,2.0nm,0.5s,mb4.0,baz=93,slow=7.9
NOA NORSAR Array B 44.28 323 P **P 22 13 48.0 -0.3**
comp=Z,2.2nm,0.5s,mb4.0,baz=95,slow=7.6,SNR=24
NOA LR LR 22 33 57.0
comp=Z,24nm,18.9s,baz=80,slow=38
NOA NORSAR Array B 44.28 323 P **P 22 13 48.0 -0.3**
NOA NORSAR Array B 44.28 323 P **P 22 13 48.0 -0.3**
MNSI Mandailing Nat 44.31 138 P **P 22 13 51.4 +2.3**
comp=Z,40nm,0.9s,mb5.0
MNSI Mandailing Nat 44.31 138 P **P 22 13 50.5 +1.4**
comp=Z,40nm,0.9s,mb5.0
KONO Kongsberg 45.02 321 *eP* **P 22 13 54.4 +0.2**
BKNI Bangkinang 45.49 137 P **P 22 14 01.1 +2.7**
comp=Z,72nm,0.9s,mb5.3
BKNI Bangkinang 45.49 137 P **P 22 13 59.7 +1.3**
comp=Z,72nm,0.9s,mb5.3
PPI Padang Panjang 45.80 138 P **P 22 14 02.6 +1.8**
comp=Z,31nm,0.9s,mb5.0
PPI Padang Panjang 45.80 138 P **P 22 14 01.0 +0.2**
comp=Z,31nm,0.9s,mb5.0
DAVOX Davos/Dischmat 45.99 302 P **P 22 14 01.9 -0.1**
comp=Z,4.7nm,0.7s,mb4.2,baz=101,slow=3.5,SNR=10
DAVOX pP pP 22 14 31.7 +0.1
comp=Z,4.1nm,0.8s,baz=86,slow=9.3,SNR=3.4
DAVOX Davos/Dischmat 45.99 302 P **P 22 14 01.9 -0.1**
DAVOX pP pP 22 14 31.7 +0.1
DAVOX Davos/Dischmat 45.99 302 P **P 22 14 01.9 -0.1**
DAVOX *PP pP 22 14 31.7 +0.1
PDSI Padang 46.22 138 P **P 22 14 06.4 +2.3**
comp=Z,82nm,0.9s,mb5.3
PDSI Padang 46.22 138 P **P 22 14 05.5 +1.4**
comp=Z,82nm,0.9s,mb5.3
ODD1 Odda 46.52 321 *eP* **P 22 13 57.5 -8.5**
HINF Hinteralfeld 47.80 304 *eP* **P 22 14 16.1 +0.1**
HINF Hinteralfeld 47.80 304 *eP* **P 22 14 16.1 +0.1**
HINF Hinteralfeld 47.80 304 *eP* **P 22 14 16.1 +0.1**
HAU Haudompre 48.09 305 *eP* **P 22 14 17.8 -0.5**
HAU Haudompre 48.09 305 *eP* **P 22 14 17.8 -0.5**
HAU Haudompre 48.09 305 *eP* **P 22 14 17.8 -0.5**
PAGF Fort de Pagny 48.38 306 *eP* **P 22 14 21.4 +0.9**
LPG La Plagne 48.40 301 *eP* **P 22 14 21.0 +0.3**
comp=Z,6.1nm,0.8s,mb4.0
LPG La Plagne 48.40 301 *eP* **P 22 14 21.0 +0.3**
comp=Z,6.1nm,0.8s,mb4.3
LPG La Plagne 48.40 301 *eP* **P 22 14 21.0 +0.3**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
LPL La Plagne 48.41 301 *eP* **P 22 14 21.0 +0.3**
LPL La Plagne 48.41 301 *eP* **P 22 14 21.0 +0.3**
LPL La Plagne 48.41 301 *eP* **P 22 14 21.0 +0.3**
MBDF Montbardon 48.58 300 *eP* **P 22 14 22.3 +0.2**
MBDF Montbardon 48.58 300 *eP* **P 22 14 22.3 +0.2**
MBDF Montbardon 48.58 300 *eP* **P 22 14 22.3 +0.2**
CABF La Chapelle 48.58 303 *eP* **P 22 14 22.8 +0.8**
comp=Z,6.3nm,0.6s,mb4.1
CABF La Chapelle 48.58 303 *eP* **P 22 14 22.8 +0.8**
comp=Z,6.3nm,0.6s,mb4.4
CABF La Chapelle 48.58 303 *eP* **P 22 14 22.8 +0.8**
CABF pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
MEZF Maizieres J'vi 48.83 306 *eP* **P 22 14 23.8 -0.1**
MEZF Maizieres J'vi 48.83 306 *eP* **P 22 14 23.8 -0.1**
SFTF Sexfontaines 48.91 305 *eP* **P 22 14 25.4 +0.9**
SFTF Sexfontaines 48.91 305 *eP* **P 22 14 25.4 +0.9**
BAIF Baives 49.04 308 *eP* **P 22 14 26.6 +1.1**
BAIF Baives 49.04 308 *eP* **P 22 14 26.6 +1.1**
BAIF Baives 49.04 308 *eP* **P 22 14 26.6 +1.1**
KEST Kesra 49.49 288 P **P 22 14 30.4 +1.3**
comp=Z,1.4nm,0.8s,mb3.6,baz=304,slow=9.5,SNR=4.8
KEST Kesra 49.49 288 P **P 22 14 30.4 +1.3**
KMBO Kilima Mbogo 49.77 228 *eP* **P 22 14 32.9 +1.4**
comp=Z,3.3nm,0.8s,mb4.0
KMBO Kilima Mbogo 49.77 228 *eP* **P 22 14 32.9 +1.4**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
VIVF Saint-Julien-l 49.98 301 *eP* **P 22 14 31.7 -1.0**
VIVF Saint-Julien-l 49.98 301 *eP* **P 22 14 31.7 -1.0**
VIVF Saint-Julien-l 49.98 301 *eP* **P 22 14 31.7 -1.0**
SMF Signal de Mont 50.07 304 *eP* **P 22 14 32.6 -0.8**
SMF Signal de Mont 50.07 304 *eP* **P 22 14 32.6 -0.8**
SMF Signal de Mont 50.07 304 *eP* **P 22 14 32.6 -0.8**
AVF Avril sur Loir 50.36 304 *eP* **P 22 14 35.0 -0.5**
comp=Z,9.9nm,0.8s,mb4.2
AVF Avril sur Loir 50.36 304 *eP* **P 22 14 35.0 -0.5**
comp=Z,9.9nm,0.8s,mb4.5
AVF Avril sur Loir 50.36 304 *eP* **P 22 14 35.0 -0.5**
AVF pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
BGF Bois d'Agland 50.75 304 *eP* **P 22 14 38.7 +0.2**
BGF Bois d'Agland 50.75 304 *eP* **P 22 14 38.7 +0.2**
BGF Bois d'Agland 50.75 304 *eP* **P 22 14 38.7 +0.2**
LASF Ste Croix 50.77 300 *eP* **P 22 14 38.9 +0.3**
LASF Ste Croix 50.77 300 *eP* **P 22 14 38.9 +0.3**
TCF Toulx Ste Croi 51.25 304 *eP* **P 22 14 43.0 +0.8**
comp=Z,21nm,1.1s,mb4.4
TCF Toulx Ste Croi 51.25 304 *eP* **P 22 14 43.0 +0.8**
comp=Z,21nm,1.1s,mb4.7
TCF Toulx Ste Croi 51.25 304 *eP* **P 22 14 43.0 +0.8**
TCF pmax pmax
comp=Z,21nm,1.1s,mb4.7
CAF Calviac 51.74 302 *eP* **P 22 14 46.6 +0.7**
comp=Z,42nm,1.5s,mb4.6
CAF Calviac 51.74 302 *eP* **P 22 14 46.6 +0.7**
comp=Z,42nm,1.5s,mb4.8
CAF Calviac 51.74 302 *eP* **P 22 14 46.6 +0.7**
CAF pmax pmax
comp=Z,43nm,1.5s,mb4.9
MAT Matsushiro 52.08 69 P **P 22 14 49.1 +0.6**
MJAR Matsushiro Arr 52.08 69 P **P 22 14 49.6 +1.1**
comp=Z,7.1nm,0.9s,mb4.3,baz=285,slow=11,SNR=13
MJAR Matsushiro Arr 52.08 69 P **P 22 14 49.6 +1.1**
MJAR Matsushiro Arr 52.08 69 P **P 22 14 49.6 +1.1**
MTLF Montolieu 52.12 300 *eP* **P 22 14 48.5 -0.2**
comp=Z,15nm,1.1s,mb4.2
MTLF Montolieu 52.12 300 *eP* **P 22 14 48.5 -0.2**
comp=Z,15nm,1.1s,mb4.5
MTLF Montolieu 52.12 300 *eP* **P 22 14 48.5 -0.2**
MTLF pmax pmax
comp=Z,15nm,1.1s,mb4.5
LDF La Druitiere 52.14 307 *eP* **P 22 14 48.9 +0.1**
LDF La Druitiere 52.14 307 *eP* **P 22 14 48.9 +0.1**
LDF La Druitiere 52.14 307 *eP* **P 22 14 48.9 +0.1**
ETSF Etsaut 54.19 300 *eP* **P 22 15 03.8 0.0**
ETSF Etsaut 54.19 300 *eP* **P 22 15 03.8 0.0**
ETSF Etsaut 54.19 300 *eP* **P 22 15 03.8 0.0**
DAG Danmarks Havn 54.31 344 ⇑*iP* **P 22 15 04.5 +0.3**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
BBKI Banjar Baru 56.81 126 P **P 22 15 25.9 +3.0**
comp=Z,44nm,1.0s,mb5.2
BBKI Banjar Baru 56.81 126 P **P 22 15 25.1 +2.2**
comp=Z,44nm,1.0s,mb5.2
ESDC Sonseca Array 57.77 298 P **P 22 15 29.6 +0.2**
comp=Z,1.4nm,0.6s,mb4.0,baz=55,slow=7.2,SNR=12
ESDC pP pP 22 15 59.5 -0.7
comp=Z,1.7nm,1.0s,baz=60,slow=8.1,SNR=3.1
ESDC Sonseca Array 57.77 298 P **P 22 15 29.6 +0.2**
ESDC pP pP 22 15 59.5 -0.7
PCI Palu 58.30 119 P **P 22 15 29.2 -4.2**
comp=Z,353nm,0.6s
PCI Palu 58.30 119 P **P 22 15 28.8 -4.6**
comp=Z,353nm,0.6s
MRSI Marisa 58.82 116 P **P 22 15 39.3 +2.3**
comp=Z,55nm,1.0s,mb5.4
MRSI Marisa 58.82 116 P **P 22 15 38.6 +1.6**
comp=Z,55nm,1.0s,mb5.4
PETK Petropavlovsk- 59.02 45 P **P 22 15 39.0 +1.1**
comp=Z,1.2nm,0.5s,mb4.0,baz=79,slow=12,SNR=5.8
PETK Petropavlovsk- 59.02 45 P **P 22 15 39.0 +1.1**
PETK Petropavlovsk- 59.02 45 P **P 22 15 39.0 +1.1**
SGSI Sangihe 59.28 111 P Px 22 15 51.2
comp=Z,900nm,0.4s
SUMG Summit 60.67 341 *eP* **P 22 15 50.4 +1.6**
comp=Z,9.0nm,0.7s,mb4.7
SUMG Summit 60.67 341 *eP* **P 22 15 50.4 +1.5**
SUMG pmax pmax
comp=Z,9.0nm,0.7s
SUMG Summit 60.67 341 *i P* **P 22 15 50.2 +1.3**
comp=Z,9.2nm,1.0s,mb4.6
TORD Torodi Ar. Bea 66.42 269 P **P 22 16 26.9 -0.6**
comp=Z,0.8nm,0.5s,mb3.8,baz=51,slow=6.0,SNR=18
TORD Torodi Ar. Bea 66.42 269 P **P 22 16 26.9 -0.6**
SWI Sorong 66.56 110 P **P 22 16 29.5 +1.1**
COLD Coldfoot 71.16 16 *eP* **P 22 16 56.7 +0.7**
comp=Z,14nm,1.2s,mb4.6
INK Inuvik 73.16 10 *eP* **P 22 17 08.5 +0.6**
comp=Z,13nm,0.6s,mb4.8
INK Inuvik 73.16 10 *eP* **P 22 17 08.5 +0.7**
INK pmax pmax
comp=Z,13nm,0.6s
ILAR Eielson Array 73.97 16 P **P 22 17 12.3 -0.3**
comp=Z,3.5nm,0.8s,mb4.1,baz=352,slow=3.7,SNR=47
ILAR pP pP 22 17 45.0 +0.2
comp=Z,1.5nm,1.0s,baz=307,slow=5.1,SNR=2.8
ILAR Eielson Array 73.97 16 P **P 22 17 12.3 -0.3**
ILAR pP pP 22 17 45.0 +0.2
ILAR Eielson Array 73.97 16 P **P 22 17 12.3 -0.3**
ILAR *PP pP 22 17 45.0 +0.2
PPLA Purkeypile 74.25 19 *eP* **P 22 17 14.9 +0.6**
comp=Z,12nm,0.5s,mb4.9
MCK McKinley 74.38 18 *eP* **P 22 17 15.4 +0.4**
comp=Z,6.7nm,0.5s,mb4.6
MCK McKinley 74.38 18 *eP* **P 22 17 15.4 +0.4**
MCK pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
PAX Paxson 75.84 17 *eP* **P 22 17 23.6 +0.2**
comp=Z,8.4nm,0.6s,mb4.5
PAX Paxson 75.84 17 *eP* **P 22 17 23.6 +0.2**
PAX pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
DAWY Dawson 76.14 14 *eP* **P 22 17 25.0 -0.1**
PMR Palmer 76.14 19 *eP* **P 22 17 24.9 -0.2**
comp=Z,18nm,1.4s,mb4.5
PMR Palmer 76.14 19 *eP* **P 22 17 24.9 -0.2**
PMR pmax pmax
comp=Z,18nm,1.4s,mb4.5
SML Sawmill 76.16 18 *eP* **P 22 17 25.5 +0.2**
comp=Z,5.0nm,0.6s,mb4.3
SML Sawmill 76.16 18 *eP* **P 22 17 25.5 +0.3**
SML pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
KDAK Kodiak Island 78.34 23 *i P* **P 22 17 38.0 +0.5**
BOSA Boshof 78.69 221 P **P 22 17 39.2 -0.5**
comp=Z,1.0nm,0.6s,mb3.7,baz=338,slow=6.5,SNR=3.4
BOSA pP pP 22 18 11.7 -0.6
comp=Z,8.5nm,1.0s,baz=45,slow=6.2,SNR=6.9
BOSA Boshof 78.69 221 P **P 22 17 39.2 -0.5**
BOSA pP pP 22 18 11.7 -0.6
BOSA Boshof 78.69 221 P **P 22 17 39.2 -0.5**
BOSA *PP pP 22 18 11.7 -0.5
YKA Yellowknife Ar 80.57 3 P **P 22 17 49.7 +0.3**
comp=Z,9.7nm,0.5s,mb4.7,baz=350,slow=5.5,SNR=95
YKA pP pP 22 18 23.8 +1.7
comp=Z,1.3nm,0.6s,baz=345,slow=5.5,SNR=2.6
YKA Yellowknife Ar 80.57 3 P **P 22 17 49.8 +0.3**
YKA pP pP 22 18 23.8 +1.7
YKA Yellowknife Ar 80.57 3 P **P 22 17 49.7 +0.2**
YKA *PP pP 22 18 23.8 +1.7
YKA pmax pmax
comp=Z,10.0nm,0.5s
YKA pmax pmax
comp=Z,1.0nm,0.6s
NWAO Narrogin (SRO) 81.56 143 P **P 22 17 54.0 -1.0**
comp=Z,4.9nm,0.6s,mb4.3,baz=309,slow=8.5,SNR=7.3
NWAO Narrogin (SRO) 81.56 143 P **P 22 17 54.0 -1.0**
NWAO Narrogin (SRO) 81.56 143 P **P 22 17 54.0 -1.0**
WRA Warramunga Arr 81.75 123 P **P 22 17 55.9 -0.4**
comp=Z,1.7nm,0.8s,mb3.8,baz=323,slow=5.2,SNR=15
WRA pP pP 22 18 30.0 +1.0
comp=Z,0.8nm,0.7s,baz=325,slow=4.8,SNR=2.3
WRA Warramunga Arr 81.75 123 P **P 22 17 55.9 -0.4**
WRA pP pP 22 18 30.0 +1.0
WRA Warramunga Arr 81.75 123 P **P 22 17 55.9 -0.4**
WRA *PP pP 22 18 30.0 +0.9
SCHQ Schefferville 81.77 337 P **P 22 17 55.6 -0.4**
comp=Z,7.3nm,0.9s,mb4.3,baz=31,slow=5.9,SNR=3.9
SCHQ Schefferville 81.77 337 P **P 22 17 55.6 -0.4**
ASAR Alice Springs 84.06 125 P **P 22 18 07.8 -0.3**
comp=Z,0.7nm,0.6s,mb3.6,baz=309,slow=4.9,SNR=11
ASAR Alice Springs 84.06 125 P **P 22 18 07.8 -0.3**
ASAR Alice Springs 84.06 125 P **P 22 18 07.9 -0.2**
FFC Flin Flon 88.34 356 *i P* **P 22 18 24.1 -4.6**

IDC 06 22:11:22.9±5.2, 28°58S×177°32W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=182.6km s-min=80.9km az=154.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.50**	**254**	P	P	22 18 20.6	-0.8
	1.0nm,0.7s,baz=84,slow=9.2,SNR=2.7						
ASAR	**Alice Springs**	**43.83**	**265**	P	P	22 19 31.1	+0.2
	0.3nm,0.6s,baz=103,slow=8.7,SNR=6.7						
WRA	**Warramunga Arr**	**44.65**	**270**	P	P	22 19 38.1	+0.5
	0.9nm,0.6s,baz=110,slow=7.8,SNR=7.8						
FINES	**FINESS Array B**	**143.63**	**341**	PKP	PKPdf	22 30 58.5	-0.5
	1.6nm,0.5s,baz=27,slow=0.6,SNR=24						

ISCJB ***06*** *22:29:49.1±1.0, 43°.09N±0°.08×17°.30E±0°.08, h10km, Error ellipse: s-maj=13.1km s-min=5.9km az=29.8*
BEO ***06*** *22:29:49.1±1.9, 44°.84N×17°.41E, h0km, ML2.7/3*
ISC 06 22:29:49.7±1.1, 43°.07N±0°.09×17°.29E±0°.08, h10km, n6, σ1§20/11, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.36**	**123**	*i* Pg	**Pg**	**22 29 54.9**	**-1.8**
STON				Sg	**Sg**	**22 30 01.8**	**+0.4**
SJES	**Sjenica**	**1.97**	**83**	*e*Pn	**Pn**	**22 30 25.4**	**+2.3**
SJES				*e*Sn	**Sn**	**22 30 54.2**	**+6.4**
DIVS	**Divibare**	**2.21**	**61**	*e*Pg	**Pn**	**22 30 25.7**	**-0.7**
DIVS				*e*Sg	**Sn**	**22 30 52.5**	**-1.3**
NVLJ	**Novalja**	**2.31**	**311**	*e*Pn	**Pn**	**22 30 27.0**	**-0.6**
NVLJ				Sn	**Sn**	**22 30 56.7**	**+0.6**
SELS	**Selova**	**2.80**	**86**	*e*Pn	**Pn**	**22 30 34.7**	**+0.2**
SELS				*e*Sn	**Sn**	**22 31 09.6**	**+1.2**
BARS	**Barje**	**3.33**	**93**	*e*Pn	**Pn**	**22 30 45.9**	**+4.2**

NIED ***06*** *22:31:00, 38°.50N×141°.20E, h5km, Mw4.0 Best double couple: M0=1.28000×10^15 NP1:φ=176.00000°, δ=64.00000°, λ=82.00000°. NP2:φ=13.00000°, δ=27.00000°, λ=106.00000°.*
JMA ***06*** *22:31:53.8, 38°.47N×141°.18E, h13km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φ=180.00000°, δ=64.00000°, λ=76.00000°. NP2:φ=29.00000°, δ=29.00000°, λ=116.00000°. Principal axes: T Plg68.0000°, Azm63.0000°; N Plg12.0000°, Azm186.0000°; P Plg18.0000°, Azm280.0000°;*
JMA Felt IV J1.
ISCJB ***06*** *22:31:53.4±0.4, 38°.44N±0°.03×141°.22E±0°.04, h19km±2km, mb4.4/40 Error ellipse: s-maj=6.1km s-min=3.6km az=37.0*
MOS ***06*** *22:31:56.0±0.9, 38°.46N×141°.21E, h43km, mb4.5/11, Error ellipse: s-maj=10.5km s-min=8.4km az=90.1*
NEIC ***06*** *22:31:58.1±0.7, 38°.47N×141°.17E, h40km±5km, mb4.8/16, MW4.0(NIED), Error ellipse: s-maj=7.3km s-min=4.8km az=132.0*
NEIC Recorded [4 JMA] in Miyagi, [2 JMA] in Iwate and [1 JMA] in Akita and Yamagata.
IDC ***06*** *22:31:58.9±1.9, 38°.47N×141°.05E, h47km±18km, mb3.8/20, mb1 4.0/23, mb1mx3.9/28, mbtmp3.8/23, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/36, Error ellipse: s-maj=17.1km s-min=10.8km az=115.0*
ISC 06 22:31:53.9±0.4, 38°.47N±0°.02×141°.19E±0°.03, h8km±2km, n129, σ0§98/143, mb4.4/40, 4C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.13**	**95**	⇓P	**Pg**	**22 31 57.1**	**+0.4**
JIO				S	**Sg**	**22 31 59.2**	**+0.6**
JOU	**Okura**	**0.42**	**257**	⇓P	**Pg**	**22 32 02.3**	**+0.2**
JOU				*e*S	**Sg**	**22 32 08.3**	**+0.6**
JMK	**Ichinoseki**	**0.49**	**3**	⇑P	**Pg**	**22 32 03.1**	**-0.2**
JMK				*e*S	**Sg**	**22 32 09.8**	**+0.1**
JMM	**Marumori**	**0.68**	**208**	⇓P	**Pg**	**22 32 06.2**	**-0.7**
JMM				*e*S	**Sg**	**22 32 15.3**	**-0.4**
OFUJ	**Ofunato**	**0.72**	**31**	P	**Pg**	**22 32 07.4**	**-0.4**
OFUJ				*e*S	**Sg**	**22 32 16.9**	**-0.2**
JYK	**Kaneyama**	**0.79**	**305**	⇓P	**Pg**	**22 32 08.7**	**-0.4**
JYK				S	**Sg**	**22 32 19.0**	**-0.4**
JYS	**Shiratake**	**0.92**	**255**	⇓P	**Pg**	**22 32 11.1**	**-0.4**
JYS				S	**Sg**	**22 32 23.3**	**-0.1**
JOM	**Ohasama**	**1.01**	**5**	⇑P	**Pg**	**22 32 12.3**	**-1.0**
JOM				*e*S	**Sg**	**22 32 26.1**	**-0.3**
MJAR	**Matsushiro Arr**	**3.05**	**232**	P	**Pn**	**22 32 43.6**	**+1.3**
	4.8nm,0.3s,baz=38,slow=12,SNR=48						
MJAR	**Matsushiro Arr**	**3.05**	**232**	P	**Pn**	**22 32 43.6**	**+1.3**
MJAR	**Matsushiro Arr**	**3.05**	**232**	P	**Pn**	**22 32 43.7**	**+1.3**
MAJO	**Matsushiro**	**3.05**	**232**	*e*Pn	**Pn**	**22 32 43.8**	**+1.4**
MAJO	**Matsushiro**	**3.05**	**232**	*e*P	**Pn**	**22 32 43.8**	**+1.4**
MAT	**Matsushiro**	**3.05**	**232**	P	**Pn**	**22 32 43.6**	**+1.2**
MAT				*e*S	**Sn**	**22 33 23.5**	**+4.5**
ERM	**Erimo**	**3.85**	**22**	*e*Pn	**Pn**	**22 32 54.4**	**+1.0**
ERM				*e*S	**Sn**	**22 33 41.3**	**+2.5**
ERM	**Erimo**	**3.85**	**22**	*e*P	**Pn**	**22 32 54.4**	**+1.0**
ERM				*e*S	**Sn**	**22 33 41.3**	**+2.5**
ASAJ	**Asahikawa**	**5.75**	**10**	P	**Pn**	**22 33 20.5**	**+1.1**
	3.7nm,0.3s,baz=214,slow=8.9,SNR=6.7						
ASAJ				S	**Sn**	**22 34 27.4**	**+2.0**
	baz=103,slow=31,SNR=3.1						
ASAJ	**Asahikawa**	**5.75**	**10**	P	**Pn**	**22 33 20.5**	**+1.1**
ASAJ				S	**Sn**	**22 34 27.4**	**+2.0**
ASAJ	**Asahikawa**	**5.75**	**10**	P	**Pn**	**22 33 20.5**	**+1.1**
ASAJ				S	**Sn**	**22 34 27.5**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KSRS	**Korea Array**	**10.53**	**269**	P	**Pn**	**22 34 27.5**	**+2.5**
	comp=Z,1.1nm,0.3s,baz=82,slow=14,SNR=13						
KSRS				LR	LR	22 37 54.3	
	comp=Z,97nm,18.6s,baz=120,slow=34						
KSRS	**Korea Array**	**10.53**	**269**	P	**Pn**	**22 34 27.5**	**+2.5**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,97nm,18.6s						
KSAR	**Wonju Array Be**	**10.56**	**269**	P	**Pn**	**22 34 27.5**	**+2.1**
KSAR	**Wonju Array Be**	**10.56**	**269**	P	**Pn**	**22 34 27.5**	**+2.1**
YAK	**Yakutsk**	**24.64**	**347**	*e*P	**P**	**22 37 12.7**	**-1.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**26.86**	**302**	P	**P**	**22 37 34.3**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=93,slow=7.8,SNR=4.2						
SONM	**Songino Array**	**26.86**	**302**	P	**P**	**22 37 34.3**	**-0.5**
SONM	**Songino Array**	**26.86**	**302**	P	**P**	**22 37 34.3**	**-0.5**
ZALV	**Zalesovo Beam**	**40.83**	**311**	P	**P**	**22 39 35.0**	**-0.7**
	comp=Z,3.8nm,0.6s,mb4.2,baz=82,slow=7.6,SNR=15						
ZALV	**Zalesovo Beam**	**40.83**	**311**	P	**P**	**22 39 35.0**	**-0.7**
ZALV	**Zalesovo Beam**	**40.83**	**311**	P	**P**	**22 39 35.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**41.71**	**254**	P	**P**	**22 39 41.7**	**-1.6**
	comp=Z,1.1nm,0.6s,mb3.7,baz=42,slow=6.7,SNR=9.5						
CMAR				PcP	PcP	22 41 39.7	-0.2
	comp=Z,0.8nm,0.3s,baz=16,slow=1.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**41.71**	**254**	P	**P**	**22 39 41.7**	**-1.6**
CMAR				PcP	PcP	22 41 39.7	-0.2
CMAR	**Chiang Mai Arr**	**41.71**	**254**	P	**P**	**22 39 41.7**	**-1.6**
CMAR						22 41 39.7	
MK31	**Makanchi Array**	**43.22**	**301**	*e*P	**P**	**22 39 55.1**	**-0.2**
MK31	**Makanchi Array**	**43.22**	**301**	*e*P	**P**	**22 39 55.1**	**-0.2**
MKAR	**Makanchi Array**	**43.22**	**301**	P	**P**	**22 39 54.5**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.7,baz=88,slow=8.2,SNR=11						
MKAR	**Makanchi Array**	**43.22**	**301**	P	**P**	**22 39 54.5**	**-0.7**
MKAR	**Makanchi Array**	**43.22**	**301**	*ce*P	**P**	**22 39 58.0**	**+2.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**44.92**	**307**	*e*P	**P**	**22 40 08.1**	**-0.8**
	comp=Z,9.4nm,0.7s,mb4.7						
KURK	**Kurchatov**	**44.92**	**307**	*e*P	**P**	**22 40 08.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
TAPN	**Taplejung**	**45.68**	**272**	*e*P	**P**	**22 40 16.6**	**+1.4**
	comp=Z,8.8nm,0.9s,mb4.7						
TAPN	**Taplejung**	**45.68**	**272**	*e*P	**P**	**22 40 16.6**	**+1.4**
	comp=Z,8.8nm,0.9s,mb4.7						
ODAN	**Odare**	**46.16**	**272**	*e*P	**P**	**22 40 19.7**	**+0.7**
	comp=Z,7.6nm,0.6s,mb4.8						
ODAN	**Odare**	**46.16**	**272**	*e*P	**P**	**22 40 19.7**	**+0.7**
	comp=Z,7.6nm,0.6s,mb4.8						
JIRN	**Jiri**	**46.73**	**274**	*e*P	**P**	**22 40 24.0**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.3						
JIRN	**Jiri**	**46.73**	**274**	*e*P	**P**	**22 40 24.0**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.3						
RAMN	**Ramite**	**46.74**	**273**	*e*P	**P**	**22 40 23.5**	**-0.1**
	comp=Z,44nm,1.1s,mb5.3						
RAMN	**Ramite**	**46.74**	**273**	*e*P	**P**	**22 40 23.5**	**-0.1**
	comp=Z,44nm,1.1s,mb5.3						
GUN	**Gumba**	**46.85**	**274**	*e*P	**P**	**22 40 25.5**	**+1.0**
GUN	**Gumba**	**46.85**	**274**	*e*P	**P**	**22 40 25.5**	**+1.0**
KKN	**Kakani**	**47.38**	**274**	*e*P	**P**	**22 40 29.3**	**+0.7**
	comp=Z,14nm,0.9s,mb4.9						
KKN	**Kakani**	**47.38**	**274**	*e*P	**P**	**22 40 29.3**	**+0.7**
	comp=Z,14nm,0.9s,mb4.9						
KKN	**Kakani**	**47.38**	**274**	*e*P	**P**	**22 40 29.3**	**+0.7**
KKN				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
PKI	**Pulchoki**	**47.38**	**274**	*e*P	**P**	**22 40 29.4**	**+0.8**
PKI	**Pulchoki**	**47.38**	**274**	*e*P	**P**	**22 40 29.4**	**+0.8**
PKI	**Pulchoki**	**47.38**	**274**	*e*P	**P**	**22 40 29.4**	**+0.8**
DMN	**Daman**	**47.60**	**274**	*e*P	**P**	**22 40 30.9**	**+0.6**
	comp=Z,18nm,1.1s,mb5.0						
DMN	**Daman**	**47.60**	**274**	*e*P	**P**	**22 40 30.9**	**+0.6**
	comp=Z,18nm,1.1s,mb5.0						
GKN	**Gorkha**	**47.78**	**275**	*e*P	**P**	**22 40 31.9**	**+0.2**
	comp=Z,37nm,1.0s,mb5.4						
GKN	**Gorkha**	**47.78**	**275**	*e*P	**P**	**22 40 31.9**	**+0.2**
	comp=Z,37nm,1.0s,mb5.4						
DANN	**Dangsing**	**48.31**	**276**	*e*P	**P**	**22 40 36.0**	**+0.3**
	comp=Z,45nm,0.7s,mb5.6						
DANN	**Dangsing**	**48.31**	**276**	*e*P	**P**	**22 40 36.0**	**+0.3**
	comp=Z,45nm,0.7s,mb5.6						
ILAR	**Eielson Array**	**48.39**	**33**	P	**P**	**22 40 36.0**	**+0.2**
	comp=Z,3.3nm,0.6s,mb4.5,baz=266,slow=5.9,SNR=68						
ILAR	**Eielson Array**	**48.39**	**33**	P	**P**	**22 40 36.0**	**+0.2**
ILAR	**Eielson Array**	**48.39**	**33**	P	**P**	**22 40 36.0**	**+0.2**
KOLN	**Koldanda**	**48.70**	**275**	*e*P	**P**	**22 40 38.6**	**-0.2**
	comp=Z,15nm,0.8s,mb5.1						
KOLN	**Koldanda**	**48.70**	**275**	*e*P	**P**	**22 40 38.6**	**-0.2**
	comp=Z,15nm,0.8s,mb5.1						
PYUN	**Piuthan**	**49.03**	**276**	*e*P	**P**	**22 40 41.3**	**0.0**
	comp=Z,78nm,1.0s						
PYUN	**Piuthan**	**49.03**	**276**	*e*P	**P**	**22 40 41.3**	**0.0**
	comp=Z,78nm,1.0s		

FITZ	Fitzroy Crossi	58.13	197	P	P	22 41 48.5	+0.6
	comp=Z,0.9nm,0.7s,mb3.9,baz=14,slow=12,SNR=4.2						
FITZ	Fitzroy Crossi	58.13	197	P	P	22 41 48.5	+0.6
WRAB	Tennant Creek	58.44	188	eP	P	22 41 48.8	-1.3
	comp=Z,3.9nm,1.0s,mb4.4						
WRAB	Tennant Creek	58.44	188	eP	P	22 41 48.8	-1.3
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
WB2	Warramunga Arr	58.45	188	eP	P	22 41 49.1	-1.1
WRA	Warramunga Arr	58.45	188	P	P	22 41 49.0	-1.2
	comp=Z,3.8nm,1.0s,mb4.4,baz=5.6,slow=6.8,SNR=15						
WRA	Warramunga Arr	58.45	188	P	P	22 41 49.0	-1.2
WRA	Warramunga Arr	58.45	188	P	P	22 41 49.0	-1.2
RES	Resolute Bay	61.26	15	P	P	22 42 07.5	-1.4
	comp=Z,3.0nm,0.5s,mb4.7,baz=310,slow=5.4,SNR=14						
RES	Resolute Bay	61.26	15	P	P	22 42 07.5	-1.4
RES	Resolute Bay	61.26	15	P	P	22 42 07.5	-1.4
ASAR	Alice Springs	62.18	188	P	P	22 42 14.7	-1.0
	comp=Z,0.9nm,0.7s,mb4.0,baz=5.7,slow=5.1,SNR=17						
ASAR	Alice Springs	62.18	188	P	P	22 42 14.7	-1.0
ASAR	Alice Springs	62.18	188	P	P	22 42 14.7	-0.9
ARCES	ARCESS Array B	62.60	339	P	P	22 42 17.7	-0.3
	comp=Z,2.0nm,0.9s,mb4.2,baz=64,slow=9.5,SNR=5.0						
ARCES	ARCESS Array B	62.60	339	P	P	22 42 17.7	-0.3
ARCES	ARCESS Array B	62.60	339	P	P	22 42 17.7	-0.3
YKA	Yellowknife Ar	62.66	30	P	P	22 42 18.4	-0.1
	comp=Z,0.8nm,0.6s,mb4.0,baz=300,slow=6.1,SNR=4.4						
YKA	Yellowknife Ar	62.66	30	P	P	22 42 18.4	-0.1
YKA	Yellowknife Ar	62.66	30	P	P	22 42 18.4	-0.1
JOF	Joensuu	64.62	332	eP	P	22 42 30.0	-1.4
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
JOF	Joensuu	64.62	332	ep	P	22 42 30.0	-1.4
	comp=Z,0.6nm,0.4s,mb4.0						
KAF	Kangasniemi	66.96	332	eP	P	22 42 43.5	-3.0
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KAF	Kangasniemi	66.96	332	ep	P	22 42 43.5	-3.0
	comp=Z,1.4nm,0.6s,mb4.2						
FINES	FINESS Array B	67.47	332	P	P	22 42 49.1	-0.6
	comp=Z,2.0nm,0.7s,mb4.2,baz=64,slow=8.7,SNR=7.1						
FINES	FINESS Array B	67.47	332	P	P	22 42 49.1	-0.6
FINES	FINESS Array B	67.47	332	P	P	22 42 49.1	-0.7
NOA	NORSAR Array B	72.80	337	P	P	22 43 21.8	-0.7
	comp=Z,1.1nm,0.7s,mb3.9,baz=39,slow=6.0,SNR=7.7						
NOA	NORSAR Array B	72.80	337	P	P	22 43 21.8	-0.7
NOA	NORSAR Array B	72.80	337	P	P	22 43 21.8	-0.7
AKASG	Malin Array Be	73.06	322	P	P	22 43 23.1	-1.1
	comp=Z,0.8nm,0.5s,mb4.0,baz=44,slow=6.1,SNR=7.3						
AKASG	Malin Array Be	73.06	322	P	P	22 43 23.1	-1.1
AKASG	Malin Array Be	73.06	322	P	P	22 43 23.1	-1.1
NVAR	Mina Array Bea	74.28	53	P	P	22 43 33.0	+1.4
	comp=Z,0.8nm,0.7s,mb3.8,baz=282,slow=5.7,SNR=6.9						
NVAR	Mina Array Bea	74.28	53	P	P	22 43 33.0	+1.4
PDAR	Pinedale Array	76.79	46	P	P	22 43 46.6	+0.7
	comp=Z,0.7nm,0.5s,mb3.8,baz=278,slow=3.3,SNR=5.0						
PDAR	Pinedale Array	76.79	46	P	P	22 43 46.6	+0.7
BRTR	Keskin Array B	77.77	311	P	P	22 43 51.1	-0.4
	comp=Z,0.4nm,0.4s,mb3.7,baz=74,slow=3.9,SNR=7.1						
BRTR				PP	PP	22 46 46.6	+0.3
	comp=Z,0.7nm,1.0s,baz=69,slow=8.0,SNR=3.8						
BRTR	Keskin Array B	77.77	311	P	P	22 43 51.1	-0.4
BRTR				PP	PP	22 46 46.6	+0.3
BRTR	Keskin Array B	77.77	311	ceP	P	22 43 51.0	-0.5
CLL	Collm	79.77	330	eP	P	22 44 02.0	-0.2
GERES	GERESS Array B	81.41	328	P	P	22 44 10.1	-1.0
	comp=Z,0.6nm,0.7s,mb3.6,baz=46,slow=5.8,SNR=5.4						
GERES	GERESS Array B	81.41	328	P	P	22 44 10.1	-1.0
GERES	GERESS Array B	81.41	328	P	P	22 44 10.1	-0.9
TXAR	Lajitas Array	89.39	52	P	P	22 44 51.8	+0.5
	comp=Z,0.7nm,0.6s,mb4.2,baz=286,slow=4.1,SNR=3.8						
TXAR	Lajitas Array	89.39	52	P	P	22 44 51.8	+0.5
TXAR	Lajitas Array	89.39	52	P	P	22 44 51.8	+0.5
LPAZ	La Paz	146.10	57	ePKPbc	PKPbc	22 51 35.5	+0.7

*IDC **06** 22:50:58.7±1.6, 33°.41S×70°.07W, h0km, mb3.8/4, mb1 4.2/4, mb1mx4.0/11, mbtmp3.8/4, Error ellipse: s-maj=76.2km s-min=39.9km az=26.0*

*ISCJB **06** 22:51:12.2±0.5, 33°.12S±0°.03×70°.29W±0°.08, h111km±3km, mb3.5/4, Error ellipse: s-maj=10.8km s-min=5.0km az=169.8*

*GUC **06** 22:51:12.6±0.7, 33°.09S×70°.31W, h110km±3km, MD4.0, ML4.2*

*NEIC **06** 22:51:12.0, 33°.09S×70°.31W, h110km, MG4.2(GUC), After GUC.*

NEIC Felt [II] at Santiago.

ISC 06 22:51:13.1±0.5, 33°.12S±0°.03×70°.28W±0°.08, h107km±4km, n40, σ0°70/52, mb3.5/4, 9C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.21	182	eP	Pn	22 51 27.2	-0.9
FCH				eS	Sn	22 51 39.2	-0.1
FCH				AML	AML	22 51 40.5	
	comp=N,11μm,0.2s						
PEL	Peldehue	0.34	266	⇑iP	Pn	22 51 28.6	+0.1
PEL				iS	Sn	22 51 40.2	0.0
PEL				AML	AML	22 51 41.6	
	comp=N,43μm,0.2s						
LACH	Col Las Americ	0.39	212	⇓eP	Pn	22 51 29.1	+0.2
LACH				eS	Sn	22 51 41.0	+0.2
LACH				AML	AML	22 51 42.4	
	comp=E,8μm,0.3s						
FSR	Penalolen	0.41	210	eP	Pn	22 51 29.1	+0.1
FSR				eS	Sn	22 51 41.5	+0.5
FSR				AML	AML	22 51 42.3	
	comp=E,7μm,0.4s						
SAN	Santiago	0.46	224	eP	Pn	22 51 29.2	-0.1
SAN				iS	Sn	22 51 41.8	+0.3
JACH	Jahuel	0.51	329	⇑iP	Pn	22 51 29.6	-0.1
SJCH	San Jose de Ma	0.52	186	⇑eP	Pn	22 51 29.9	+0.2
SJCH				eS	Sn	22 51 42.8	+0.5
ANTU	Antumapu	0.54	213	eP	Pn	22 51 29.9	0.0
ANTU				iS	Sn	22 51 42.7	+0.3
ANTU				AML	AML	22 51 43.5	
	comp=E,10μm,0.7s						
PCH	Pirque	0.54	201	⇑eP	Pn	22 51 29.8	0.0
RCDM	Rinconada Maip	0.57	230	⇑eP	Pn	22 51 30.2	+0.1
RCDM				eS	Sn	22 51 43.3	+0.4
RCDM				AML	AML	22 51 44.8	
	comp=E,37μm,0.1s						
ROCH	El Roble	0.63	283	⇑iP	Pn	22 51 30.7	+0.2
ROCH				iS	Sn	22 51 44.4	+0.8
LMEL	Las Melosas	0.73	175	eP	Pn	22 51 31.7	+0.4
LMEL				iS	Sn	22 51 46.3	+1.1
LMEL				AML	AML	22 51 51.3	
	comp=N,5μm,0.2s						
TACH	Talagante	0.76	226	⇓iP	Pn	22 51 31.6	0.0
CHCH	Chadas Angostu	0.87	201	eP	Pn	22 51 30.1	-2.5
PTCH	Petorca	1.01	327	eP	Pn	22 51 34.5	+0.3
PTCH				eS	Sn	22 51 50.5	+0.4
PTCH				AML	AML	22 51 52.6	
	comp=E,9μm,0.2s						
CACH	El Canelo	1.03	195	⇑iP	Pn	22 51 34.9	+0.6
IHA	Instituto Hidr	1.14	274	eP	Pn	22 51 34.9	-0.6
IHA				eS	Sn	22 51 52.0	-0.6
LNV	Longovilo	1.26	228	eP	Pn	22 51 36.2	-0.6
CHNG	Los Chungos	1.61	320	⇑eP	Pn	22 51 41.3	+0.4
CHNG				eS	Sn	22 52 02.1	0.0
CMCH	Combarbala	2.03	342	⇑eP	Pn	22 51 45.9	-0.4
CMCH				eS	Sn	22 52 11.2	-0.6
CMCH				AML	AML	22 52 15.3	
	comp=E,2μm,0.8s						
NICH	Los Niches	2.04	202	eP	Pn	22 51 45.8	-0.5
TALC	Talca	2.53	206	eP	Pn	22 51 52.0	-0.8
TALC				eS	Sn	22 52 22.1	-1.2
TLL	Tololo Astrono	2.98	351	eP	Pn	22 51 58.8	+0.1
LCO	Las Campanas	4.11	355	ePn	Pn	22 52 12.9	-1.0
LCO				eS	Sn	22 53 00.5	-0.5
LCO	Las Campanas	4.11	355	eP	Pn	22 52 13.1	-0.8
LCO				eS	Sn	22 52 59.7	-1.3
TRQA	Tornquist	8.37	128	ePn	Pn	22 53 10.6	-0.8
	comp=E,16nm,1.0s						
TRQA				eS	Sn	22 54 38.5	-5.5
TXAR	Lajitas Array	69.71	329	P	P	23 02 12.7	+1.4
	comp=E,0.4nm,0.6s,mb3.5,baz=146,slow=8.3,SNR=6.3						
TXAR	Lajitas Array	69.71	329	P	P	23 02 12.7	+1.4
TORD	Torodi Ar. Bea	82.53	69	P	P	23 03 24.0	-0.3
	comp=E,0.3nm,0.6s,mb3.3,baz=246,slow=5.0,SNR=5.5						
TORD	Torodi Ar. Bea	82.53	69	P	P	23 03 24.0	-0.3
PDAR	Pinedale Array	83.66	332	P	P	23 03 30.0	+0.6
	comp=E,0.3nm,0.3s,mb3.6,baz=133,slow=7.5,SNR=4.3						
PDAR	Pinedale Array	83.66	332	P	P	23 03 30.0	+0.6
NVAR	Mina Array Bea	84.02	324	P	P	23 03 33.6	+2.3
	comp=E,0.8nm,0.6s,mb3.7,baz=152,slow=5.7,SNR=8.8						
NVAR	Mina Array Bea	84.02	324	P	P	23 03 33.6	+2.3
WRA	Warramunga Arr	122.23	208	PKP	PKPdf	23 09 55.6	-0.3
	comp=E,0.3nm,0.6s,baz=172,slow=1.6,SNR=3.9						
WRA	Warramunga Arr	122.23	208	PKP	PKPdf	23 09 55.6	-0.3
ZALV	Zalesovo Beam	152.70	33	PKPbc	PKPbc	23 10 56.7	+0.1
	comp=E,2.7nm,0.4s,baz=319,slow=2.4,SNR=14						
ZALV	Zalesovo Beam	152.70	33	PKPbc	PKPbc	23 10 56.7	+0.1
MKAR	Makanchi Array	155.08	49	PKPab	PKPab	23 11 17.4	-0.8
	comp=E,0.3nm,0.6s,baz=296,slow=2.2,SNR=4.2						
MKAR	Makanchi Array	155.08	49	PKPab	PKPab	23 11 17.4	-0.8

IDC 06 22:53:56.0±4.9, 22°.24S×175°.39W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.6/3, Error ellipse: s-maj=319.0km s-min=34.8km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.52	258	P	P	23 02 25.6	+0.2
	0.7nm,0.7s,baz=94,slow=8.6,SNR=8.0						
WRA	Warramunga Arr	46.79	263	P	P	23 02 27.3	-0.3
	0.4nm,0.7s,baz=102,slow=8.1,SNR=5.7						
NVAR	Mina Array Bea	80.65	42	P	P	23 06 11.1	+0.4
	0.1nm,0.4s,baz=224,slow=8.6,SNR=3.5						
VNA3	Neumayer Olymp	86.24	175	e	P	23 06 35.8	-3.2
VNA2	Neumayer-Watz	86.70	176	e	P	23 06 38.2	-3.2
	baz=123,slow=0.6						

*NEIC **06** 23:04:54.3, 37°.14S×176°.74E, h200km, MG4.1(WEL), After WEL.*

WEL 06 23:04:53.6±0.2, 37°.10S×176°.67E, h201km±2km, ML4.1/14, 3D, Error ellipse: s-maj=3.4km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	Mount Tarawera	1.14	186	ePN	Pn	23 05 24.5	0.0
TARZ	Mount Tarawera	1.14	186	Pn	Pn	23 05 26.1	+1.6
URZ	Urewera	1.21	163	PN	Pn	23 05 25.2	+0.2
URZ				SN	Sn	23 05 49.3	-0.2
URZ	Urewera	1.21	163	Pn	Pn	23 05 24.8	-0.2
URZ				Sn	Sn	23 05 49.3	-0.2
RRRZ	Republican Roa	1.25	186	PN	Pn	23 05 26.1	+0.8
RRRZ	Republican Roa	1.25	186	Pn	Pn	23 05 25.9	+0.6
MXZ	Matakaoa Point	1.39	110	⇓PN	Pn	23 05 26.6	+0.2
MXZ				SN	Sn	23 05 52.0	+0.1
MXZ	Matakaoa Point	1.39	110	Pn	Pn	23 05 26.6	+0.2
MWZ	Matawai	1.41	151	⇓PN	Pn	23 05 26.6	0.0
MWZ	Matawai	1.41	151	Pn	Pn	23 05 26.6	0.0
PRRZ	Plateau Road	1.41	189	PN	Pn	23 05 27.7	+1.1
PRRZ	Plateau Road	1.41	189	Pn	Pn	23 05 27.7	+1.1
PUZ	Puketiti	1.59	128	⇓PN	Pn	23 05 28.2	0.0
PUZ	Puketiti	1.59	128	Pn	Pn	23 05 28.2	0.0
CNGZ	Carnagh Statio	1.84	139	PN	Pn	23 05 31.1	+0.5
CNGZ	Carnagh Statio	1.84	139	Pn	Pn	23 05 31.1	+0.5
RAHZ	Arahi	1.84	170	PN	Pn	23 05 30.9	+0.3
RAHZ	Arahi	1.84	170	Pn	Pn	23 05 30.9	+0.3
NMHZ	Naumai	2.00	177	PN	Pn	23 05 32.7	+0.6
NMHZ	Naumai	2.00	177	Pn	Pn	23 05 32.7	+0.6
PRGZ	Paritu Road	2.06	153	PN	Pn	23 05 32.8	0.0
PRGZ	Paritu Road	2.06	153	Pn	Pn	23 05 32.8	0.0
BKZ	Black Stump Fm	2.07	184	PN	Pn	23 05 32.5	-0.4
BKZ				SN	Sn	23 06 02.5	-1.1
BKZ	Black Stump Fm	2.07	184	Pn	Pn	23 05 32.5	-0.3
KNZ	Kokohu	2.08	158	PN	Pn	23 05 32.4	-0.5
KNZ	Kokohu	2.08	158	Pn	Pn	23 05 32.5	-0.5
TWVZ	Taurewa	2.19	206	PN	Pn	23 05 35.1	+0.9
TWVZ	Taurewa	2.19	206	Pn	Pn	23 05 35.1	+0.9
OTVZ	Oturere	2.21	201	PN	Pn	23 05 35.3	+0.9
OTVZ	Oturere	2.21	201	Pn	Pn	23 05 35.3	+0.9
NGZ	Ngauruhoe	2.24	202	PN	Pn	23 05 35.6	+1.0
NGZ	Ngauruhoe	2.24	202	Pn	Pn	23 05 35.6	+1.0
MHGZ	Mahia Peninsul	2.27	155	PN	Pn	23 05 34.6	-0.4
MHGZ	Mahia Peninsul	2.27	155	Pn	Pn	23 05 34.6	-0.4
WPVZ	Whakapapa	2.28	202	PN	Pn	23 05 35.9	+0.8
WPVZ	Whakapapa	2.28	202	Pn	Pn	23 05 35.9	+0.8
TUVZ	Tukino	2.31	200	PN	Pn	23 05 36.0	+0.6
TUVZ	Tukino	2.31	200	Pn	Pn	23 05 36.0	+0.6
FWVZ	Far West T-bar	2.33	202	PN	Pn	23 05 36.5	+0.9
FWVZ	Far West T-bar	2.33	202	Pn	Pn	23 05 36.5	+0.9
MCHZ	McNeill Hill	2.34	179	PN	Pn	23 05 35.9	+0.1
MCHZ	McNeill Hill	2.34	179	Pn	Pn	23 05 35.9	+0.1
TRVZ	Turoa	2.37	202	PN	Pn	23 05 36.7	+0.7
TRVZ	Turoa	2.37	202	Pn	Pn	23 05 36.7	+0.7
WNVZ	Wahianoa	2.38	200	PN	Pn	23 05 36.5	+0.3
WNVZ	Wahianoa	2.38	200	Pn	Pn	23 05 36.5	+0.3
MOVZ	Moawhango	2.42	197	PN	Pn	23 05 36.2	-0.3
MOVZ	Moawhango	2.42	197	Pn	Pn	23 05 36.2	-0.3
BHHZ	Black Hill Sta	2.43	191	PN	Pn	23 05 36.3	-0.5
BHHZ	Black Hill Sta	2.43	191	Pn	Pn	23 05 36.3	-0.5
MTVZ	Mangateitei	2.47	202	PN	Pn	23 05 37.6	+0.4
MTVZ	Mangateitei	2.47	202	Pn	Pn	23 05 37.6	+0.5
CKHZ	Cape Kidnapper	2.58	173	PN	Pn	23 05 37.8	-0.6
CKHZ	Cape Kidnapper	2.58	173	Pn	Pn	23 05 37.8	-0.6
KAHZ	Kahuranaki	2.70	177	PN	Pn	23 05 39.0	-0.7
KAHZ	Kahuranaki	2.70	177	Pn	Pn	23 05 39.0	-0.7
PNHZ	Pukenui	2.83	187	PN	Pn	23 05 40.2	-1.2
PNHZ	Pukenui	2.83	187	Pn	Pn	23 05 40.2	-1.1
PXZ	Pawanui	2.93	177	PN	Pn	23 05 41.1	-1.4
PXZ	Pawanui	2.93	177	Pn	Pn	23 05 41.1	-1.4
WAZ	Wanganui	2.96	206	PN	Pn	23 05 42.6	-0.2
WAZ	Wanganui	2.96	206	Pn	Pn	23 05 42.6	-0.2
WPHZ	Waipukurau	2.97	183	PN	Pn	23 05 41.5	-1.3
WPHZ	Waipukurau	2.97	183	Pn	Pn	23 05 41.5	-1.3
TSZ	Takapari Road	3.01	190	PN	Pn	23 05 41.9	-1.4
TSZ	Takapari Road	3.01	190	Pn	Pn	23 05 42.0	-1.4
PRHZ	Porangahau	3.16	180	PN	Pn	23 05 43.5	-1.6
PRHZ	Porangahau	3.16	180	Pn	Pn	23 05 43.5	-1.6
DVHZ	Dannevirke	3.22	187	PN	Pn	23 05 44.0	-1.9
DVHZ	Dannevirke	3.22	187	Pn	Pn	23 05 44.0	-1.9
POWZ	Post Office Ro	3.36	192	PN	Pn	23 05 45.9	-1.7
POWZ	Post Office Ro	3.36	192	Pn	Pn	23 05 45.9	-1.7
BFZ	Birch Farm	3.59	185	Pn	Pn	23 05 48.2	-2.1
TIWZ	Tintock	3.72	189	PN	Pn	23 05 49.8	-2.2
TIWZ	Tintock	3.72	189	Pn	Pn	23 05 49.8	-2.1
OGWZ	Otaki Gorge	3.89	197	PN	Pn	23 05 51.7	-2.4
OGWZ	Otaki Gorge	3.89	197	Pn	Pn	23 05 51.7	-2.4
HOWZ	Holdsworth Sta	3.90	193	PN	Pn	23 05 51.3	-2.8
HOWZ	Holdsworth Sta	3.90	193	Pn	Pn	23 05 51.3	-2.8
KIW	Kapiti Island	4.00	199	PN	Pn	23 05 52.8	-2.6
KIW	Kapiti Island	4.00	199	Pn	Pn	23 05 52.8	-2.6
TMWZ	Te Maipa	4.05	188	PN	Pn	23 05 53.5	-2.4
TMWZ	Te Maipa	4.05	188	Pn	Pn	23 05 53.5	-2.4
MTW	Mount Morrison	4.15	192	PN	Pn	23 05 54.1	-3.1
MTW	Mount Morrison	4.15	192	Pn	Pn	23 05 54.1	-3.1
CAW	Cannon Point	4.19	197	PN	Pn	23 05 54.7	-3.0
CAW	Cannon Point	4.19	197	Pn	Pn	23 05 54.7	-3.0
DUWZ	D'Urville Isla	4.27	209	PN	Pn	23 05 56.5	-2.3
DUWZ	D'Urville Isla	4.27	209	Pn	Pn	23 05 56.5	-2.3
TRWZ	Traveller	4.36	190	PN	Pn	23 05 57.0	-2.9
TRWZ	Traveller	4.36	190	Pn	Pn	23 05 57.0	-2.9
PAWZ	Paruwai Farm	4.38	192	PN	Pn	23 05 56.7	-3.4
PAWZ	Paruwai Farm	4.38	192	Pn	Pn	23 05 56.8	-3.4
MSWZ	Moikau Station	4.45	194	PN	Pn	23 05 57.5	-3.4
MSWZ	Moikau Station	4.45	194	Pn	Pn	23 05 57.5	-3.4
SNZO	South Karori	4.47	199	PN	Pn	23 05 58.0	-3.2
SNZO	South Karori	4.47	199	Pn	Pn	23 05 58.0	-3.2
TCW	Tory Channel	4.51	204	PN	Pn	23 05 58.8	-2.9
TCW	Tory Channel	4.51	204	Pn	Pn	23 05 58.8	-2.9
BHW	Baring Head	4.52	197	PN	Pn	23 05 58.5	-3.4
BHW	Baring Head	4.52	197	Pn	Pn	23 05 58.5	-3.4
PLWZ	Palliser	4.60	193	PN	Pn	23 05 59.4	-3.5
PLWZ	Palliser	4.60	193	Pn	Pn	23 05 59.4	-3.5
TUWZ	Tuamarina	4.81	205	PN	Pn	23 06 02.5	-3.1
TUWZ	Tuamarina	4.81	205	Pn	Pn	23 06 02.5	-3.1
NNZ	Nelson	4.84	211	Pn	Pn	23 06 00.1	-5.9
QRZ	Quartz Range	4.92	220	PN	Pn	23 06 04.2	-2.8
QRZ	Quartz Range	4.92	220	Pn	Pn	23 06 04.2	-2.8
BSWZ	Blackbirch Sta	5.09	204	Pn	Pn	23 06 06.6	-2.5
THZ	Tophouse	5.49	211	PN	Pn	23 06 11.2	-3.1
THZ	Tophouse	5.49	211	Pn	Pn	23 06 11.2	-3.1
KHZ	Kahutara	5.83	203	PN	Pn	23 06 15.0	-3.6
KHZ	Kahutara	5.83	203	Pn	Pn	23 06 15.0	-3.6
DSZ	Denniston Nort	5.97	218	PN	Pn	23 06 16.6	-3.9
DSZ	Denniston Nort	5.97	218	Pn	Pn	23 06 16.6	-3.9
LTZ	Lake Taylor	6.60	209	PN	Pn	23 06 24.6	-4.0
LTZ	Lake Taylor	6.60	209	Pn	Pn	23 06 24.6	-4.0
MQZ	McQueen's Vall	7.28	204	PN	Pn	23 06 32.2	-5.1
MQZ	McQueen's Vall	7.28	204	Pn	Pn	23 06 32.2	-5.1
CTZ	Chatham Island	8.37	144	PN	Pn	23 06 59.0	+7.4
CTZ	Chatham Island	8.37	144	Pn	Pn	23 06 59.0	+7.4

*NIED **06** 23:28:00, 36°.70N×141°.40E, h29km, Mw4.1 Best double couple: M0 1.57000×10^15 NP1:φ18.00000°, δ83.00000°, λ81.00000°. NP2:φ251.00000°, δ12.00000°, λ143.00000°.*

*ISCJB **06** 23:28:38.5±1.1, 36°.73N±0°.05×141°.60E±0°.07, h34km±7km, mb4.2/25, MS3.4/6, Error ellipse: s-maj=10.3km s-min=5.7km az=36.9*

*JMA **06** 23:28:40.0±0.2, 36°.70N×141°.35E, h47km±3km, M4.1*

JMA Felt II J1.

*NEIC **06** 23:28:41.4±1.7, 36°.67N×141°.61E, h47km±12km, mb4.9/10, MW4.1(NIED), Error ellipse: s-maj=18.4km s-min=11.8km az=139.0*

NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki, Miyagi and Tochigi.

*IDC **06** 23:28:41.8±2.5, 36°.67N×141°.53E, h53km±20km, mb3.5/16, mb1 3.7/18, mb1mx3.6/28, mbtmp3.6/18, ML3.9/2, MS3.4/9, Ms1 3.4/9, ms1mx3.2/37, Error ellipse: s-maj=18.8km s-min=13.3km az=129.0*

ISC 06 23:28:38.5±1.7, 36°.72N±0°.04×141°.53E±0°.04, h20km±10km, n72, σ1°08/85, mb4.2/25, MS3.4/6, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.70	303	⇓P	Pb	23 28 52.0	0.0
ONAJ				eS	Sb	23 29 01.0	-0.2
JHO	Hitachi	0.78	262	⇓P	Pb	23 28 52.6	-0.8
JHO				S	Sb	23 29 01.5	-2.0
JFK	Kawauchi	0.83	321	⇓P	Pb	23 28 53.9	-0.4
JFK				S	Sb	23 29 04.8	-0.2
JFT	Otama	1.24	310	⇓P	Pn	23 29 01.0	+0.3
JFT				eS	Sb	23 29 16.6	-0.2
JMM	Marumori	1.28	333	⇓P	Pn	23 29 00.6	-0.7
JMM				S	Sn	23 29 17.2	-0.8
JFY	Yanaizu	1.61	296	P	Pn	23 29 06.3	+0.5
JFY				S	Sn	23 29 26.2	+0.2
JAG	Ashikaga	1.69	261	⇑P	Pn	23 29 06.1	-0.9
JAG				S	Sn	23 29 25.8	-2.3
JOU	Okura	1.78	338	P	Pn	23 29 08.6	+0.5
JOU				eS	Sn	23 29 30.7	+0.5
JKT	Katashina	1.83	272	P	Pn	23 29 08.9	+0.1
JKT				S	Sn	23 29 27.2	-4.2
MJAR	Matsushiro Arr	2.67	267	P	Pn	23 29 21.1	+0.6
	29nm,0.3s,baz=88,slow=15,SNR=239						
MJAR				S	Sn	23 29 54.5	+2.2
	23nm,0.3s,baz=94,slow=12,SNR=6.2						
MJAR				LR	LR	23 30 41.6	
	comp=Z,732nm,18.2s,baz=90,slow=45						
MJAR	Matsushiro Arr	2.67	267	P	Pn	23 29 21.1	+0.6
MJAR				S	Sn	23 29 54.5	+2.2
MAJO	Matsushiro	2.68	267	ePn	Pn	23 29 21.7	+1.2
MAT	Matsushiro	2.68	267	P	Pn	23 29 21.6	+1.1
MAT				eS	Sn	23 29 52.6	+0.3
ERM	Erimo	5.44	13	Pn	Pn	23 29 54.1	-4.2
ERM				eS	Sn	23 30 59.5	-0.8
ASAJ	Asahikawa	7.43	6	P	Pn	23 30 28.7	+2.9
	1.8nm,0.3s,baz=209,slow=13,SNR=4.0						
ASAJ				S	Sn	23 31 50.0	+0.5
	1.1nm,0.3s,baz=180,slow=20,SNR=3.5						
ASAJ	Asahikawa	7.43	6	P	Pn	23 30 28.7	+2.9
ASAJ				S

comp=Z,32nm,20.2s,MS3.6,baz=90,slow=37
NOA NORSAR Array B 74.51 337 P **P 23 40 15.2 0.0**
AKASG Malin Array Be 74.60 322 P **P 23 40 14.7 -1.2**
0.9nm,0.5s,mb3.9,baz=45,slow=6.6,SNR=4.1
AKASG Malin Array Be 74.60 322 P **P 23 40 14.8 -1.2**
NVAR Mina Array Bea 75.10 53 P **P 23 40 19.7 +0.6**
0.2nm,0.5s,mb3.4,baz=302,slow=4.1,SNR=3.9
NVAR Mina Array Bea 75.10 53 P **P 23 40 19.7 +0.6**
GERES GERESS Array B 83.03 328 P **P 23 41 01.3 -1.0**
0.1nm,0.3s,mb3.3,baz=39,slow=6.3,SNR=4.1
GERES GERESS Array B 83.03 328 P **P 23 41 01.3 -1.0**

MAN 06 23:28:42, 8˚.98N×125˚.95E, h23km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.33**	**268**	*e*P		Pb	23 28 51.5	+2.2
BUTP				*e*S		Sb	23 28 57.6	+3.4
CGP	**Cagayan de Oro**	**1.35**	**247**	‖*e*P		Pn	23 29 05.2	-0.3
CGP				*i* S		Sn	23 29 24.3	+1.6
BUKP	**Musuan**	**1.41**	**219**	*e*P		Pn	23 29 05.9	-0.3
MSLP	**Maasin**	**1.57**	**317**	*e*P		Pn	23 29 08.5	0.0

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*DJA **06** 23:36:41, 19˚.63S×175˚.39W, h236km, mb5.4/45*
*BJI **06** 23:36:41.4, 19˚.66S×174˚.89W, h257km, mB5.0/23, mb4.9/36*
*ISCJB **06** 23:36:42.5±0.2, 19˚.43S±0˚.04×175˚.82W±0˚.04, h236km, mb5.0/103, Error ellipse: s-maj=6.1km s-min=4.7km az=144.5*
*MOS **06** 23:36:43.9±2.4, 18˚.05S×176˚.50W, h190km, mb5.2/19, Error ellipse: s-maj=10.7km s-min=10.0km az=127.2*
*IDC **06** 23:36:43.6±0.7, 19˚.47S×175˚.84W, h231km±6km, mb4.5/20, mb1 4.7/21, mb1mx4.6/23, mbtmp4.5/21, Error ellipse: s-maj=12.2km s-min=7.5km az=127.0*
*NEIC **06** 23:36:46.8±0.8, 19˚.37S×175˚.92W, h260km±7km, mb4.9/46, Error ellipse: s-maj=6.7km s-min=4.9km az=136.0*
*BGS **06** 23:36:49.0±3.2, 19˚.37S×175˚.92W, h260km, mb4.9(NEIC)*
ISC 06 23:36:44.1±0.2, 19˚.44S±0˚.04×175˚.81W±0˚.04, h238km, h238km±3.5km; pP-P, n606, σ0=99/248, mb5.0/103, 35C-43D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**6.07**	**285**	*e*Pn		**Pn**	**23 38 15.5**	**+2.6**
MSVF				*e*S		**S**	**23 39 31.9**	**+8.1**
AFI	**Afiamalu**	**6.72**	**36**	P		**Pn**	**23 38 12.7**	**-8.4**
39nm,0.3s,baz=234,slow=8.7,SNR=41
AFI S **S 23 39 19.1 -20**
93nm,0.3s,baz=37,slow=23,SNR=15
AFI Afiamalu 6.72 36 P **Pn 23 38 12.7 -8.5**
AFI S **S 23 39 19.1 -20**
AFI Afiamalu 6.72 36 P **Pn 23 38 12.7 -8.5**
AFI S **S 23 39 19.1 -20**
AFI pmax pmax
comp=Z,39nm,0.3s
AFI smax
comp=N,93nm,0.3s
FUNA Funafuti 11.88 335 *e*Pn **Pn 23 39 26.2 -0.4**
RAR Rarotonga 15.15 99 P **Pn 23 40 03.4 -3.2**
comp=N,1.1nm,0.3s,baz=284,slow=7.8,SNR=6.9
RAR S **S 23 42 46.5 -7.5**
comp=N,1.1nm,0.3s,baz=130,slow=21,SNR=2.1
RAR Rarotonga 15.15 99 Pn **Pn 23 40 12.5 +5.9**
RAR S **S 23 42 46.5 -7.5**
RAR *e*S **S 23 42 55.1 +1.1**
RAR Rarotonga 15.15 99 P **Pn 23 40 12.5 +5.9**
BAYA Yate Dam 16.41 258 *e*P **P 23 40 23.6 +3.4**
DZM Mont Dzumac 16.80 258 *e*P **P 23 40 28.0 +3.4**
comp=N,371nm,0.8s
DZM Mont Dzumac 16.80 258 *e*Pn **Pn 23 40 27.2 +0.9**
comp=N,163nm,0.6s
MVNO Noumea 16.83 257 *e*P **P 23 40 36.4 +12**
NOUC Port Laguerre 16.94 258 *e*P **P 23 40 28.6 +2.6**
OUZ Omahuta 18.30 209 *e*Pn **P 23 40 42.8 +2.1**
comp=N,205nm,2.5s
URZ Urewera 19.74 197 P **P 23 40 55.1 -1.0**
comp=N,21nm,0.3s,baz=356,slow=3.0,SNR=76
URZ S **S 23 44 23.0 -2.3**
comp=N,3.4nm,0.3s,baz=66,slow=20,SNR=11
URZ Urewera 19.74 197 *e*P **P 23 40 55.8 -0.3**
comp=N,48nm,0.4s
URZ *e*S **S 23 44 17.7 -7.7**
URZ Urewera 19.74 197 *e*PN **P 23 40 54.6 -1.5**
URZ *e*SN **S 23 44 22.8 -2.5**
SNZO South Karori 23.26 198 *e*P **P 23 41 29.4 -1.0**
comp=N,37nm,0.8s,mb5.0
SNZO *e*S **S 23 45 25.7 +1.3**
THZ Tophouse 24.24 201 *e*PN **P 23 41 38.8 -0.5**
KHZ Kahutara 24.62 199 *e*P **P 23 41 43.0 +0.2**
comp=N,18nm,0.6s,mb4.9
TBI Tubuai 24.82 104 *e*P **P 23 41 44.2 -0.7**
comp=N,236nm,1.1s,mb5.7
PPT2 Papeete2 24.94 90 *e*P **P 23 41 44.7 -1.2**
comp=N,76nm,1.2s,mb5.2
LTZ Lake Taylor 25.36 201 *e*PN **P 23 41 48.5 -0.9**
HNR Honiara 25.47 290 P **P 23 41 50.4 -0.4**
comp=N,167nm,0.8s,mb5.7,baz=203,slow=5.1,SNR=11
HNR Honiara 25.47 290 *e*P **P 23 41 49.9 -0.9**
comp=N,236nm,1.0s,mb5.8
HNR Honiara 25.47 290 P **P 23 41 50.4 -0.3**
HNR pmax pmax
comp=Z,167nm,0.8s,mb5.7
WVZ Waitaha Valley 26.16 203 *e*PN **P 23 41 55.3 -1.2**
RPZ Rata Peaks 26.60 202 P **P 23 42 01.3 +0.8**
comp=Z,16nm,0.4s,mb5.0,baz=261,slow=3.1,SNR=16
RPZ Rata Peaks 26.60 202 *e*P **P 23 42 01.1 +0.5**
comp=Z,354nm,2.5s,mb5.5
WHZ Wether Hill Ro 29.60 203 *e*P **P 23 42 28.3 +1.3**
EIDS Eidsvold 31.12 253 *e*P **P 23 42 41.1 +0.4**
comp=Z,18nm,0.9s,mb4.7
ARMA Armidale 31.38 243 *e*P **P 23 42 44.2 +1.2**
ARMA Armidale 31.38 243 *e*P **P 23 42 44.3 +1.3**
comp=Z,23nm,0.7s,mb4.9
CNB Canberra Magne 34.52 235 *e*P **P 23 43 10.0 -0.1**
comp=Z,72nm,0.6s,mb5.4
CTA Charters Tower 35.66 262 P **P 23 43 20.8 +0.8**
comp=Z,182nm,0.7s,mb5.7,baz=90,slow=12
CTA PcP PcP 23 45 43.6 +0.7
comp=Z,7.7nm,0.6s,baz=92,slow=4.2,SNR=5.1
CTA Charters Tower 35.66 262 ‖*i* P **P 23 43 20.6 +0.7**
comp=Z,304nm,1.1s,mb5.7
CTA Charters Tower 35.66 262 P **P 23 43 20.8 +0.8**
CTA PcP PcP 23 45 43.6 +0.7
CTA Charters Tower 35.66 262 P **P 23 43 20.8 +0.9**
CTA 23 45 43.6
CTA pmax pmax
comp=Z,182nm,0.7s
CTA pmax pmax
comp=Z,8.0nm,0.6s
CTAO Charters Tower 35.66 262 *e*P **P 23 43 20.4 +0.4**
comp=Z,299nm,0.9s,mb5.8
CTAO Charters Tower 35.66 262 *e*P **P 23 43 20.4 +0.5**
CTAO pmax pmax
comp=Z,299nm,0.9s,mb5.8
CTAO Charters Tower 35.66 262 P **P 23 43 20.2 +0.3**
comp=Z,1.0nmcomp=Z,2μmcomp=Z,286nm,0.9s,mb5.8
CTAO Charters Tower 35.66 262 P **P 23 43 21.0 +1.1**
comp=Z,2μmcomp=Z,286nm,0.9s,mb5.8
PMG Port Moresby 37.15 280 *e*P **P 23 43 32.9 +0.3**
comp=Z,83nm,0.9s,mb5.3
PMG Port Moresby 37.15 280 *e*P **P 23 43 33.2 +0.6**
PMG pmax pmax
comp=Z,122nm,1.2s
PMG Port Moresby 37.15 280 P **P 23 43 33.3 +0.7**
comp=Z,756nmcomp=Z,100nm,0.9s,mb5.3
TOO Toolangi 38.18 233 *e*P **P 23 43 40.6 -0.3**
comp=Z,32nm,0.5s,mb5.1
COEN Coen 39.59 271 *e*P **P 23 43 53.1 +0.2**
comp=Z,348nm,0.8s,mb5.8
COEN Coen 39.59 271 P **P 23 43 53.0 +0.1**
comp=Z,691nmcomp=Z,72nm,0.8s,mb5.1
COEN Coen 39.59 271 P **P 23 43 53.6 +0.7**
comp=Z,689nmcomp=Z,72nm,0.8s,mb5.1
STKA Stephens Creek 40.10 243 P **P 23 43 57.1 +0.2**
comp=Z,28nm,0.8s,mb4.8,baz=90,slow=9.5,SNR=33
STKA PcP PcP 23 45 57.2 +0.6
comp=Z,12nm,0.8s,baz=81,slow=4.0,SNR=4.9
STKA ScP ScP 23 49 28.4 +5.6
comp=Z,0.8nm,0.3s,baz=45,slow=4.3,SNR=3.5
STKA Stephens Creek 40.10 243 *e*P **P 23 43 57.1 +0.2**
comp=Z,23nm,0.9s,mb4.6
STKA Stephens Creek 40.10 243 *e*P **P 23 43 57.2 +0.3**
comp=Z,4.7nm,0.8s,mb4.0
STKA PcP PcP 23 45 57.2 +0.6
STKA *e*PcP PcP 23 45 57.9 +1.3
STKA ScP ScP 23 49 28.4 +5.6
STKA Stephens Creek 40.10 243 *e*P **P 23 43 57.2 +0.3**
STKA *e* 23 45 57.9
STKA pmax pmax
comp=Z,5.0nm,0.8s
BBOO Buckleboo 44.86 243 *e*P **P 23 44 34.6 -0.5**
comp=Z,579nm,0.9s,mb5.9
JAY Jayapura 45.70 286 P **P 23 44 41.5 -0.4**
comp=Z,83nm,0.7s,mb5.2
AS31 Alice Springs 46.77 255 *e*P **P 23 44 49.9 -0.2**
ASAR Alice Springs 46.77 255 P **P 23 44 50.0 -0.2**
comp=Z,171nm,0.6s,mb5.6,baz=89,slow=8.2,SNR=821
ASAR PcP PcP 23 46 19.9 +0.5
comp=Z,13nm,0.7s,baz=105,slow=4.0,SNR=8.1
ASAR ScP ScP 23 49 55.4 +5.2
comp=Z,1.2nm,0.6s,baz=90,slow=3.9,SNR=5.4
ASAR S **S 23 51 21.4 -0.6**
comp=Z,1.3nm,0.6s,baz=90,slow=15,SNR=6.1
ASAR Alice Springs 46.77 255 P **P 23 44 50.0 -0.2**
ASAR PcP PcP 23 46 19.9 +0.5
ASAR ScP ScP 23 49 55.4 +5.2
ASAR S **S 23 51 21.4 -0.6**
ASAR Alice Springs 46.77 255 P **P 23 44 50.0 -0.1**
ASAR 23 46 19.9
ASAR S **S 23 51 21.4 -0.5**
ASAR pmax pmax
comp=Z,171nm,0.6s
ASAR pmax pmax
comp=Z,13nm,0.7s
ASAR pmax pmax
comp=N,1.0nm,0.6s
ASAR smax
comp=N,1.0nm,0.6s
WB2 Warramunga Arr 46.79 261 *e*P **P 23 44 49.5 -0.7**
WRAB Tennant Creek 46.79 261 *e*P **P 23 44 49.7 -0.6**
comp=N,74nm,0.6s,mb5.2
WRAB Tennant Creek 46.79 261 *e*P **P 23 44 49.7 -0.6**
WRAB pmax pmax
comp=Z,73nm,0.6s,mb5.2
WRAB Tennant Creek 46.79 261 P **P 23 44 49.6 -0.7**
comp=Z,2μmcomp=Z,200nm,0.7s,mb5.5
WRA Warramunga Arr 46.80 261 P **P 23 44 49.5 -0.9**
comp=Z,60nm,0.5s,mb5.2,baz=91,slow=6.0,SNR=601
WRA PcP PcP 23 46 19.6 +0.2
comp=Z,9.2nm,0.8s,baz=99,slow=3.3,SNR=5.1
WRA ScP ScP 23 49 55.7 +5.4
comp=Z,2.6nm,1.0s,baz=96,slow=4.4,SNR=4.7
WRA S **S 23 51 21.3 -1.0**
comp=Z,2.4nm,0.8s,baz=96,slow=14,SNR=6.0
WRA Warramunga Arr 46.80 261 P **P 23 44 49.5 -0.9**
WRA PcP PcP 23 46 19.6 +0.2
WRA ScP ScP 23 49 55.7 +5.4
WRA S **S 23 51 21.3 -1.0**
WRA Warramunga Arr 46.80 261 P **P 23 44 49.5 -0.9**
WRA 23 46 19.6
WRA S **S 23 51 21.3 -1.1**
WRA pmax pmax
comp=Z,60nm,0.5s
WRA pmax pmax
comp=Z,9.0nm,0.8s
WRA pmax pmax
comp=N,3.0nm,1.0s
WRA smax
comp=N,2.0nm,0.9s
SMPI Sarmi 47.73 286 P sP 23 46 15.3 +0.1
comp=N,199nm,0.7s
SMPI Sarmi 47.73 286 P **P 23 44 57.9 +0.3**
comp=N,5μmcomp=N,48nm,0.8s,mb4.9
BAKI Biak 50.42 285 P **P 23 45 18.5 +0.5**
comp=N,82nm,0.8s,mb5.1
FORT Forrest 51.61 246 *e*P **P 23 45 25.9 -0.7**
comp=N,64nm,0.5s,mb5.3
FORT Forrest 51.61 246 *e*P **P 23 45 26.0 -0.5**
comp=N,76nm,0.6s,mb5.3
FITZ Fitzroy Crossi 55.22 261 P **P 23 45 52.9 0.0**
comp=N,15nm,0.5s,mb4.8,baz=121,slow=4.2,SNR=92
FITZ Fitzroy Crossi 55.22 261 ‖*i* P **P 23 45 52.8 -0.2**
comp=N,21nm,0.3s,mb5.2
FITZ Fitzroy Crossi 55.22 261 *e*P **P 23 45 52.9 0.0**
comp=N,16nm,0.6s,mb4.7
FITZ Fitzroy Crossi 55.22 261 P **P 23 45 51.9 -1.1**
comp=N,29nm,0.8s,mb4.9
AAI Ambon 56.78 279 P **P 23 46 03.9 -0.2**
comp=N,2μmcomp=N,68nm,0.5s,mb5.5
NLAI Namlea 57.96 279 P **P 23 46 10.9 -1.4**
comp=N,66nm,0.9s,mb5.2
LBMI Labuha 58.54 282 P **P 23 46 16.9 +0.6**
comp=N,1μmcomp=N,105nm,0.9s,mb5.5
TNTI Ternate 59.21 283 P **P 23 46 21.1 +0.2**
comp=N,193nm,0.9s,mb5.7
MBWA Marble Bar 60.10 256 *e*P **P 23 46 26.2 -0.7**
comp=N,24nm,0.7s,mb4.9
MBWA Marble Bar 60.10 256 P **P 23 46 25.0 -1.9**
comp=N,55nm,0.9s,mb5.2
KLBR Kellerberrin 60.37 244 *e*P **P 23 46 27.9 -0.6**
comp=N,50nm,0.8s,mb5.2
NWAO Narrogin (SRO) 60.69 243 *e*P **P 23 46 30.7 0.0**
comp=N,28nm,1.1s,mb4.8
NWAO Narrogin (SRO) 60.69 243 *e*P **P 23 46 30.7 +0.1**
NWAO pmax pmax
comp=Z,28nm,1.1s
KDI Kendari 61.91 276 P **P 23 46 38.7 -0.4**
comp=Z,29nm,1.1s,mb4.8
GTOI Gorontalo 63.18 281 P **P 23 46 48.0 +0.5**
comp=Z,90nm,1.0s,mb5.4
BKSI Bulukumba 63.81 274 P **P 23 46 49.4 -2.2**
comp=Z,17nm,1.1s,mb4.6
MRSI Marisa 64.11 280 P **P 23 46 53.8 +0.2**
comp=Z,0.1nmcomp=Z,38nm,0.8s,mb5.0
MRSI Marisa 64.11 280 P **P 23 46 52.6 -1.0**
comp=Z,38nm,0.8s,mb5.1
BMNI Bima 64.16 270 P **P 23 46 53.0 -0.9**
comp=Z,1μmcomp=Z,135nm,1.0s,mb5.5
BMNI Bima 64.16 270 P **P 23 46 53.5 -0.4**
comp=Z,1μmcomp=Z,135nm,1.0s,mb5.5
KAPI Kappang 64.26 274 P **P 23 46 53.4 -1.1**
comp=Z,5.9nm,0.4s,mb4.6,baz=82,slow=7.1
KAPI Kappang 64.26 274 P **P 23 46 53.4 -1.1**
SPSI Sidrap Palu 64.58 275 P **P 23 46 55.8 -0.9**
comp=Z,0.1nmcomp=Z,1μmcomp=Z,30nm,0.9s,mb4.9
SPSI Sidrap Palu 64.58 275 P **P 23 46 55.2 -1.5**
comp=Z,1μmcomp=Z,30nm,0.9s,mb4.9
MTNI Mataram 66.51 269 P **P 23 47 08.9 0.0**
MTNI Mataram 66.51 269 P **P 23 47 07.2 -1.7**
comp=Z,5μmcomp=Z,49nm,0.8s,mb5.2
JAGI Jajag, Banyuwa 68.46 268 P **P 23 47 20.2 -1.0**
JAGI Jajag, Banyuwa 68.46 268 P **P 23 47 19.6 -1.6**
comp=Z,85nm,0.9s,mb5.4
BLJI Banyuglugur 69.21 269 P **P 23 47 25.8 0.0**
comp=Z,0.3nmcomp=Z,1μmcomp=Z,79nm,0.6s,mb5.5
BLJI Banyuglugur 69.21 269 P **P 23 47 24.5 -1.3**
comp=Z,1μmcomp=Z,79nm,0.6s,mb5.5
BBKI Banjar Baru 69.39 274 P **P 23 47 28.3 +1.4**
comp=Z,3μmcomp=Z,70nm,1.2s,mb5.2
MJAR Matsushiro Arr 70.61 322 P **P 23 47 33.5 -0.2**
comp=Z,37nm,0.8s,mb5.1,baz=160,slow=6.3,SNR=87
MJAR Matsushiro Arr 70.61 322 P **P 23 47 33.5 -0.2**
MJAR Matsushiro Arr 70.61 322 P **P 23 47 33.5 -0.2**
MJAR pmax pmax
comp=Z,37nm,0.8s
MAJO Matsushiro 70.61 322 *e*P **P 23 47 33.4 -0.3**
comp=Z,36nm,0.8s,mb5.0
MAJO Matsushiro 70.61 322 *e*P **P 23 47 33.4 -0.3**
MAJO pmax pmax
comp=Z,36nm,0.8s,mb5.0
MAT Matsushiro 70.61 322 P **P 23 47 33.6 -0.1**
QSPA South Pole Qui 70.63 180 *e*P **P 23 47 34.8 +1.6**
comp=Z,8.3nm,0.8s,mb4.4
QSPA *e*pP pP 23 48 29.0 +0.5
PWJI Pagerwojo 70.81 268 P **P 23 47 38.1 +2.6**
comp=Z,79nm,0.9s,mb5.3
PWJI Pagerwojo 70.81 268 P **P 23 47 35.4 -0.1**
comp=Z,79nm,0.9s,mb5.3
SJI Sawahan 70.94 268 P **P 23 47 36.7 +0.5**
comp=Z,62nm,0.8s,mb5.3
SJI Sawahan 70.94 268 P **P 23 47 35.9 -0.3**
comp=Z,62nm,0.8s,mb5.3
NGJI Ngawi 71.34 269 P **P 23 47 42.4 +3.8**
PCJI Pacitan 71.35 268 P **P 23 47 39.1 +0.4**
comp=Z,2μmcomp=Z,229nm,1.1s,mb5.7
PCJI Pacitan 71.35 268 P **P 23 47 39.4 +0.7**
comp=Z,2μmcomp=Z,229nm,1.1s,mb5.7
KKM Kota Kinabalu 71.50 284 *e*P **P 23 47 40.1 +0.5**
comp=Z,15nm,0.8s,mb4.7
SMRI Semarang 72.40 269 P **P 23 47 46.0 +1.1**
SMRI Semarang 72.40 269 P **P 23 47 44.6 -0.3**
comp=Z,102nm,0.8s,mb5.5
FX1 Attu Island--F 72.65 353 P **P 23 47 45.0 -0.5**
comp=Z,26nm,0.6s,mb5.0,baz=189,slow=13,SNR=6.0
FX1 Attu Island--F 72.65 353 P **P 23 47 45.0 -0.5**
FX1 Attu Island--F 72.65 353 P **P 23 47 45.0 -0.5**
FX1 pmax pmax
comp=Z,26nm,0.6s
UNV Unalaska Valle 73.42 6 *e*P **P 23 47 48.8 -1.2**
comp=Z,37nm,0.9s,mb5.0
CISI Cisompet, Garu 74.72 267 P **P 23 47 59.2 +0.8**
comp=Z,110nm,0.9s,mb5.5
LEM Lembang 75.13 268 P **P 23 48 01.3 +0.5**
comp=Z,170nm,1.0s,mb5.6
LEM Lembang 75.13 268 P **P 23 48 00.6 -0.2**
comp=Z,170nm,1.0s,mb5.6
SSLB Suanglung 75.13 302 *e*P **P 23 47 59.5 -1.0**
comp=Z,37nm,0.8s,mb5.1
TPUB Ta-pu 75.16 302 *e*P **P 23 47 59.8 -0.9**
comp=Z,77nm,0.7s,mb5.4
KSM Kuching 75.32 277 *e*P **P 23 48 02.8 +0.9**
comp=Z,34nm,0.8s,mb5.0
KSM Kuching 75.32 277 P **P 23 48 02.1 +0.2**
comp=Z,54nm,0.9s,mb5.2
PETK Petropavlovsk- 75.80 344 P **P 23 48 03.6 0.0**
comp=Z,31nm,0.9s,mb5.0,baz=135,slow=8.6,SNR=16
PETK Petropavlovsk- 75.80 344 P **P 23 48 03.6 0.0**
PETK Petropavlovsk- 75.80 344 P **P 23 48 03.6 0.0**
PETK pmax pmax
comp=Z,31nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 75.90 332 *e*P **P 23 48 00.9 -3.4**
YSS pmax pmax
comp=Z,39nm,1.5s,mb4.8
CBJI Citeko 75.98 268 P **P 23 48 04.8 -0.8**
comp=Z,254nm,0.8s,mb5.9
CBJI Citeko 75.98 268 P **P 23 48 03.9 -1.7**
comp=Z,254nm,0.8s,mb5.9
DBJI Dramaga 76.03 268 P **P 23 48 05.7 -0.2**
comp=Z,192nm,0.8s,mb5.8
DBJI Dramaga 76.03 268 P **P 23 48 05.6 -0.3**
comp=Z,192nm,0.8s,mb5.8
SKJI Sukabumi 76.07 267 P **P 23 48 05.9 -0.2**
comp=Z,201nm,0.6s,mb5.9
SKJI Sukabumi 76.07 267 P **P 23 48 05.1 -1.0**
comp=Z,200nm,0.6s,mb5.9
CGJI Cibinong 77.01 268 P **P 23 48 10.6 -0.8**
comp=Z,2μmcomp=Z,148nm,0.6s,mb5.8
CGJI Cibinong 77.01 268 P **P 23 48 10.0 -1.4**
comp=Z,2μmcomp=Z,148nm,0.6s,mb5.8
ISA Isabella 77.13 45 *e*P **P 23 48 12.2 +0.7**
comp=Z,14nm,1.5s,mb4.4
ISA Isabella 77.13 45 *e*P **P 23 48 12.2 +0.7**
ISA pmax pmax
comp=Z,14nm,1.5s,mb4.4
CMB Columbia Colle 77.29 42 *e*P **P 23 48 12.4 +0.1**
comp=Z,3.1nm,0.9s,mb3.9
CMB Columbia Colle 77.29 42 *e*P **P 23 48 12.4 0.0**
CMB pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
KSRS Korea Array 77.48 317 P **P 23 48 14.3 +0.9**
comp=Z,4.7nm,0.8s,mb4.2,baz=134,slow=6.6,SNR=12
KSRS Korea Array 77.48 317 P **P 23 48 14.3 +0.9**
KSRS pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
KSAR Wonju Array Be 77.50 317 P **P 23 48 14.3 +0.8**
KSAR Wonju Array Be 77.50 317 P **P 23 48 14.3 +0.8**
GSC Goldstone 78.04 46 *e*P **P 23 48 17.2 +0.6**
comp=Z,4.3nm,1.0s,mb4.0
GSC Goldstone 78.04 46 *e*P **P 23 48 17.2 +0.7**
GSC pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
VLA Vladivostok 78.62 324 *i* P **P 23 48 13.8 -5.7**
NVAR Mina Array Bea 78.85 42 P **P 23 48 21.5 +0.6**
comp=Z,5.9nm,0.7s,mb4.3,baz=225,slow=8.8,SNR=53
NVAR pP pP 23 49 17.4 0.0
comp=Z,2.1nm,0.9s,baz=225,slow=9.0,SNR=2.4
NVAR Mina Array Bea 78.85 42 P **P 23 48 21.5 +0.6**
NVAR pP pP 23 49 17.4 0.0
LWLI Liwa 79.06 269 P **P 23 48 25.4 +2.8**
comp=Z,126nm,0.7s,mb5.7
LWLI Liwa 79.06 269 P **P 23 48 21.1 -1.5**
comp=Z,126nm,0.7s,mb5.7
LDFC Landfair 79.07 47 *e*P **P 23 48 23.4 +1.2**
comp=Z,15nm,1.2s,mb4.5
MDSI Maura Dua 79.11 269 P **P 23 48 21.8 -1.1**
comp=Z,31nm,1.5s,mb4.7
MDSI Maura Dua 79.11 269 P **P 23 48 21.3 -1.6**
comp=Z,31nm,1.5s,mb4.7
KDAK Kodiak Island 79.32 12 P **P 23 48 22.9 -0.1**
comp=Z,12nm,0.7s,mb4.6,baz=211,slow=2.8,SNR=13
KDAK Kodiak Island 79.32 12 P **P 23 48 22.9 -0.1**
KDAK Kodiak Island 79.32 12 P **P 23 48 22.9 -0.1**
KDAK pmax pmax
comp=Z,12nm,0.7s,mb4.6
MOD Modoc 79.69 39 *e*P **P 23 48 25.9 +0.5**
comp=Z,4.0nm,0.6s,mb4.2
HABR Khabarovsk 80.56 329 *e*P **P 23 48 28.8 -1.0**
HABR *e* 23 48 33.8
HABR *e*S S 23 58 14.2 -2.1
HABR *e* 23 58 30.4
HABR pmax pmax
comp=N,14nm,1.3s
HABR pmax pmax
comp=E,25nm,1.3s
HABR pmax pmax
comp=Z,70nm,1.7s,mb5.0
HABR MLR MLR
comp=Z,58nm,17.0s
MDJ Mudanjiang 80.86 324 P **P 23 48 32.6 +1.1**
MDJ pmax pmax
comp=Z,61nm,0.9s,mb5.2
MDJ pmax pmax
comp=Z,50nm,3.7s
KSI Kapahiang 80.88 269 P **P 23 48 36.3 +3.9**
KSI Kapahiang 80.88 269 P **P 23 48 32.2 -0.2**
comp=Z,99nm,1.0s,mb5.4
KLR Kul'dur 82.69 328 *e*P **P 23 48 39.2 -1.7**
CN2 Changchun 82.74 321 ‖*i* P **P 23 48 42.0 +0.7**
CN2 *e*pP pP 23 49 43.0 +4.6
CN2 *e*S S 23 58 38.0 -0.8
CN2 pmax pmax
comp=Z,30nm,1.0s,mb5.0
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,400nm,21.0s
MAW Mawson 83.25 199 P **P 23 48 44.5 +0.9**
comp=Z,2.8nm,0.5s,mb4.2,baz=118,slow=2.4,SNR=3.8
MAW Mawson 83.25 199 P **P 23 48 44.5 +0.9**
MAW Mawson 83.25 199 P **P 23 48 44.5 +0.9**
MAW pmax pmax
comp=Z,3.0nm,0.5s
WHN Wuhan 83.49 305 P **P 23 48 46.5 +1.0**
TMUT Trail Mountain 83.95 45 *e*P **P 23 48 49.0 +1.5**
comp=Z,15nm,1.0s,mb4.7
HLID Hailey 84.19 40 *e*P **P 23 48 49.3 +0.7**
comp=Z,5.3nm,0.8s,mb4.3
HLID *e* pP 23 49 45.8 -0.1
TXAR Lajitas Array 84.75 57 P **P 23 48 53.1 +1.3**
comp=Z,1.1nm,0.9s,baz=210,slow=7.0,SNR=9.5
TXAR pP pP 23 49 48.0 -1.1
comp=Z,2.3nm,1.1s,baz=232,slow=6.1,SNR=3.6
TXAR Lajitas Array 84.75 57 P **P 23 48 53.1 +1.3**
TXAR pP pP 23 49 48.0 -1.1
TXAR Lajitas Array 84.75 57 P **P 23 48 53.2 +1.4**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,1.1s
TNA Tin City 84.94 3 *e*P **P 23 48 52.3 +0.4**
comp=Z,12nm,0.7s,mb4.7
TRF Thorofare Moun 85.00 11 *e*P **P 23 48 51.1 -1.1**
comp=Z,21nm,0.8s,mb4.9
TRF *e* 23 49 07.2
IPM Ipoh 85.05 276 P **P 23 48 54.1 +0.4**
comp=Z,40nm,0.6s,mb5.3
IPM Ipoh 85.05 276 P **P 23 48 53.0 -0.7**
comp=Z,66nm,1.0s,mb5.3
MCK McKinley 85.51 12 *e*P **P 23 48 54.3 -0.5**
comp=Z,25nm,0.9s,mb4.9
MCK *e* pP 23 49 51.0 -1.2
MCK McKinley 85.51 12 *e*P **P 23 48 54.3 -0.4**

MCK pmax pmax
comp=Z,25nm,0.9s,mb4.9
PAX Paxson 85.53 13 *eP* **P 23 48 54.3 -0.6**
comp=Z,4.1nm,1.0s,mb4.1
PAX Paxson 85.53 13 *eP* **P 23 48 54.3 -0.6**
PAX pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
BSMT Bassoo Peak 86.36 36 *eP* **P 23 48 59.3 0.0**
comp=Z,3.0nm,0.9s,mb4.0
PSI Prapat 86.46 274 P **P 23 48 58.6 -2.1**
comp=Z,30nm,1.0s,mb5.0
BJI Beijing 86.60 315 P **P 23 49 01.0 +0.3**
BJI pmax pmax
comp=Z,24nm,1.1s,mb4.8
BJI pmax pmax
comp=Z,210nm,6.0s
COLA College 86.74 12 *eP* **P 23 49 00.3 -0.5**
comp=Z,12nm,0.8s,mb4.7
COLA *e* pP 23 49 56.1 -2.3
COLA College 86.74 12 *eP* **P 23 49 00.3 -0.5**
COLA pmax pmax
comp=Z,12nm,0.8s,mb4.7
PDAR Pinedale Array 86.78 42 P **P 23 49 01.5 0.0**
comp=Z,1.0nm,0.7s,baz=213,slow=3.1,SNR=10
PDAR pP pP 23 49 56.8 -2.3
comp=Z,0.9nm,0.8s,baz=197,slow=1.5,SNR=3.4
PDAR PKKPbc PKKPbc 00 06 56.4 +0.1
comp=Z,0.3nm,0.7s,baz=54,slow=3.8,SNR=3.5
PDAR Pinedale Array 86.78 42 P **P 23 49 01.5 0.0**
PDAR pP pP 23 49 56.8 -2.3
PDAR PKKPbc PKKPbc 00 06 56.4 +0.1
ILAR Eielson Array 86.84 12 P **P 23 49 00.3 -0.9**
comp=Z,3.0nm,0.8s,mb4.1,baz=216,slow=4.7,SNR=48
ILAR pP pP 23 49 57.4 -1.5
comp=Z,1.5nm,0.8s,baz=230,slow=6.4,SNR=2.8
ILAR Eielson Array 86.84 12 P **P 23 49 00.3 -0.9**
ILAR pP pP 23 49 57.4 -1.5
ILAR Eielson Array 86.84 12 P **P 23 49 00.4 -0.8**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR pmax pmax
comp=Z,2.0nm,0.8s
DAWY Dawson 87.89 15 *eP* **P 23 49 06.0 -0.3**
DAWY *e* pP 23 50 02.7 -1.3
EGAK Eagle 88.06 14 *eP* **P 23 49 05.7 -1.3**
comp=Z,9.1nm,1.2s,mb4.5
SYO Syowa Base 88.20 192⇑ *eP* **P 23 49 07.4 -0.4**
SYO Syowa Base 88.20 192⇑ *e*PcP PcP 23 49 09.2 -0.2
VNA3 Neumayer Olymp 89.05 176 *e* **P 23 49 12.4 +0.6**
VNA3 *e* 23 49 18.5
VNA3 *e* 23 49 23.7
VNA3 *e* pP 23 50 08.7 -0.9
XAN Xi'an 89.14 307 P **P 23 49 14.2 +1.4**
XAN pmax pmax
comp=Z,11nm,1.1s,mb4.6
VNA2 Neumayer--Watz 89.52 176 *e* **P 23 49 14.6 +0.6**
VNA2 *e* 23 49 21.0
VNA2 *e* 23 49 25.9
VNA2 *e* pP 23 50 11.5 -0.4
HHC Hu-ho-hao-te 90.10 314 *eP* **P 23 49 18.4 +1.3**
HHC pP pP 23 50 20.3 +5.2
HHC sP sP 23 50 46.5 +6.6
HHC PP PP 23 52 56.5 +2.1
HHC SKS 23 59 22.4
HHC S S 23 59 46.9 -2.9
HHC sS sS 00 01 36.0 +4.4
HHC pmax pmax
comp=Z,29nm,0.9s,mb5.1
HHC pmax pmax
comp=Z,160nm,4.2s
KMI Kunming 90.72 296 P **P 23 49 22.3 +1.9**
KMI pP pP 23 50 24.1 +5.8
KMI sP sP 23 50 48.9 +5.7
KMI S S 23 59 53.3 -2.7
KMI pmax pmax
comp=Z,16nm,1.0s,mb4.9
KMI pmax pmax
comp=Z,230nm,5.8s
KMI LR LR
comp=N,180nm,15.1s
KMI LR LR
comp=E,240nm,12.2s
KMI LR LR
comp=Z,140nm,15.7s
KMI Kunming 90.72 296 P **P 23 49 22.3 +1.9**
comp=Z,16nm,1.0s,mb4.9
KMI pP pP 23 50 24.1 +5.8
KMI sP sP 23 50 48.9 +5.7
KMI S S 23 59 53.3 -2.7
KMI LR LR
comp=Z,140nm,15.7s
KMI Kunming 90.72 296 P **P 23 49 22.3 +1.9**
KMI S S 23 59 53.3 -2.7
KMI pmax pmax
comp=Z,16nm,1.0s,mb4.9
KMI MLR MLR
comp=Z,140nm,15.7s
CMAR Chiang Mai Arr 91.71 289 P **P 23 49 26.6 +1.4**
comp=Z,12nm,0.9s,mb4.8,baz=117,slow=2.7,SNR=53
CMAR Chiang Mai Arr 91.71 289 P **P 23 49 26.6 +1.4**
CMAR Chiang Mai Arr 91.71 289 P **P 23 49 26.6 +1.5**
CMAR pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 91.83 289 *eP* **P 23 49 26.7 +1.0**
comp=Z,13nm,0.9s,mb4.8
CHTO Chiang Mai 91.83 289 *eP* **P 23 49 26.7 +1.0**
CHTO pmax pmax
comp=Z,13nm,0.9s,mb4.9
CHTO Chiang Mai 91.83 289 P **P 23 49 26.4 +0.7**
comp=Z,20nm,1.0s,mb5.0
YAK Yakutsk 91.92 337 *eP* **P 23 49 24.4 -0.6**
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
CD2 Chengdu 91.96 302 *eP* **P 23 49 25.2 -0.8**
CD2 pP pP 23 50 27.1 +3.1
CD2 sP sP 23 50 53.2 +4.3
CD2 PP PP 23 53 11.0 +1.7
CD2 SKS 23 59 31.8
CD2 S S 00 00 01.8 -5.2
CD2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CD2 pmax pmax
comp=Z,20nm,6.8s
INK Inuvik 92.72 15 P **P 23 49 28.2 -0.4**
comp=Z,4.9nm,0.7s,mb4.6,baz=210,slow=5.1,SNR=24
INK Inuvik 92.72 15 *eP* **P 23 49 27.9 -0.7**
comp=Z,4.6nm,0.8s,mb4.6
INK *e* 23 49 42.4
INK Inuvik 92.72 15 *eP* **P 23 49 27.9 -0.7**
INK pmax pmax
comp=Z,5.0nm,0.8s
LZH Lanzhou 93.77 307 ⇑P **P 23 49 35.7 +1.5**
LZH pP pP 23 50 38.5 +6.2
LZH sP sP 23 51 05.0 +7.9
LZH PP PP 23 53 30.0 +6.7
LZH pmax pmax
comp=Z,17nm,1.3s,mb4.9
LZH pmax pmax
comp=Z,72nm,6.2s
LZH Lanzhou 93.77 307 ⇑P **P 23 49 35.7 +1.5**
comp=Z,17nm,1.3s,mb4.9
LZH pP pP 23 50 38.5 +6.2
LZH sP sP 23 51 05.0 +7.9
LZH PP PP 23 53 30.0 +6.7
LZH Lanzhou 93.77 307 ⇑P **P 23 49 35.7 +1.5**
LZH *PP pP 23 50 38.5 +6.2
LZH pmax pmax
comp=Z,17nm,1.3s,mb4.9
NNA Nana 94.34 104 *i* P **P 23 49 38.2 +0.8**
YKA Yellowknife Ar 94.70 24 P **P 23 49 37.2 -0.5**
comp=Z,1.1nm,0.8s,mb4.1,baz=242,slow=4.4,SNR=6.8
YKA Yellowknife Ar 94.70 24 P **P 23 49 37.2 -0.5**
YKA Yellowknife Ar 94.70 24 P **P 23 49 37.3 -0.5**
ULN Ulaanbaatar 95.92 319 *eP* **P 23 49 44.4 +0.7**
comp=Z,9.4nm,1.1s,mb4.9
ULN Ulaanbaatar 95.92 319 *eP* **P 23 49 44.4 +0.7**
ULN pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
ULN Ulaanbaatar 95.92 319 P **P 23 49 42.6 -1.1**
SONM Songino Array 96.32 319 P **P 23 49 45.7 +0.2**
comp=Z,2.4nm,0.9s,mb4.4,baz=122,slow=4.0,SNR=18
SONM PP PP 23 53 41.4 -1.3
comp=Z,0.7nm,0.9s,baz=124,slow=6.3,SNR=3.7
SONM Songino Array 96.32 319 P **P 23 49 45.7 +0.2**
SONM PP PP 23 53 41.4 -1.3
SONM Songino Array 96.32 319 P **P 23 49 45.7 +0.2**
SONM 23 53 41.4
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.9s
GTA Gaotai 97.91 309 *eP* **P 23 49 54.1 +1.2**
GTA pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
ZALV Zalesovo Beam 110.96 321 PKiKP PKiKP 23 54 48.0 -0.7
comp=Z,1.7nm,0.4s,baz=87,slow=1.5,SNR=7.3
ZALV Zalesovo Beam 110.96 321 PKiKP PKiKP 23 54 48.0 -0.7
MK31 Makanchi Array 111.97 314 *e*PKPdf PKiKP 23 54 50.2 -0.6
MK31 Makanchi Array 111.97 314 *e*PKIKP PKiKP 23 54 50.2 -0.6
MKAR Makanchi Array 111.97 314 Pdiff Pdif 23 50 57.6 +2.3
comp=Z,0.4nm,0.7s,baz=90,slow=6.2,SNR=4.0
MKAR PKiKP PKiKP 23 54 50.1 -0.7
comp=Z,2.0nm,0.6s,baz=99,slow=1.1,SNR=62
MKAR Makanchi Array 111.97 314 Pdif Pdif 23 50 57.6 +2.3
MKAR PKiKP PKiKP 23 54 50.1 -0.7
MKAR Makanchi Array 111.97 314*c i* PKIKP PKiKP 23 54 50.0 -0.8
MKAR pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 114.61 318 PKP PKiKP 23 54 55.3 -0.5
comp=Z,2.3nm,0.6s,baz=100,slow=1.8,SNR=25
KURK Kurchatov 114.61 318 *e*PKPdf PKiKP 23 54 55.0 -0.8
KURK Kurchatov 114.61 318 PKIKP PKiKP 23 54 55.3 -0.5
KURK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 117.25 309 *e*PKPdf PKPdf 23 55 01.0 -0.1
AAK Ala-Archa 117.25 309 *i* PKPdf PKPdf 23 55 01.9 +0.8
AAK pmax pmax
comp=Z,8.0nm,1.7s
EKS2 Erkin-Say 117.78 309 *e*PKPdf PKPdf 23 55 01.9 -0.2
EKS2 Erkin-Say 117.78 309 *e*PKIKP PKPdf 23 55 02.0 -0.1
BVAR Borovoye Array 119.58 321 PKP PKPdf 23 55 04.9 -0.4
comp=Z,4.1nm,0.3s,baz=105,slow=3.1,SNR=34
BVAR Borovoye Array 119.58 321 PKP PKPdf 23 55 04.9 -0.4
BVAR Borovoye Array 119.58 321 PKIKP PKPdf 23 55 04.9 -0.4
BVAR pmax pmax
comp=Z,4.0nm,0.4s
BRVK Borovoye 119.64 321 *i* PKIKP PKPdf 23 55 04.8 -0.6
BRVK pmax pmax
comp=Z,12nm,2.5s
KKAR Karatay Array 120.19 309 *e*PKPdf PKPdf 23 55 06.3 -0.4
KKAR Karatay Array 120.19 309 *e*PKIKP PKPdf 23 55 06.4 -0.3
SPITS Spitsbergen Ar 120.92 357 PKP PKPdf 23 55 06.7 -0.5
comp=Z,8.0nm,0.7s,baz=50,slow=3.0,SNR=21
SPITS Spitsbergen Ar 120.92 357 PKP PKPdf 23 55 06.7 -0.5
SPITS Spitsbergen Ar 120.92 357 PKIKP PKPdf 23 55 06.7 -0.5
SPITS pmax pmax
comp=Z,8.0nm,0.7s
KBL Kabul 121.18 299 *e*PKPdf PKPdf 23 55 09.9 +0.9
KBL Kabul 121.18 299 *e*PKIKP PKPdf 23 55 09.9 +1.0
ARU Arti 125.48 326 *e*PKPdf PKPdf 23 55 16.6 +0.1
ARU Arti 125.48 326 PKIKP PKPdf 23 55 16.6 +0.1
ARU PP PP 23 57 12.3 +1.5
ARU SKS SKSdf 00 01 56.1 -9.1
ARU SS SS 00 13 45.8 -4.3
ABKAR Akbulak array 126.72 317 *e*PKPdf PKPdf 23 55 19.5 +0.4
AKTO Aktyubinsk 127.63 319 PKP PKPdf 23 55 21.1 +0.4
comp=Z,2.8nm,0.8s,baz=86,slow=2.6,SNR=14
AKTO Aktyubinsk 127.63 319 PKP PKPdf 23 55 21.1 +0.4
AKTO Aktyubinsk 127.63 319 PKIKP PKPdf 23 55 21.2 +0.4
AKTO pmax pmax
comp=Z,3.0nm,0.8s
KEV Kevo 127.80 350 *e*PKIKP PKPdf 23 55 19.5 -1.1
KEV Kevo 127.80 350 *e*pkp PKPdf 23 55 19.5 -1.1
BOSA Boshof 128.07 204 PKP PKPdf 23 55 23.5 +1.1
comp=Z,1.9nm,0.8s,baz=160,slow=11,SNR=5.8
BOSA Boshof 128.07 204 PKP PKPdf 23 55 23.5 +1.1
BOSA Boshof 128.07 204 PKIKP PKPdf 23 55 23.5 +1.1
BOSA pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 128.23 351 PKP PKPdf 23 55 21.2 -0.2
comp=Z,6.2nm,0.4s,baz=41,slow=1.3,SNR=121
ARCES ARCESS Array B 128.23 351 PKP PKPdf 23 55 21.2 -0.2
ARCES ARCESS Array B 128.23 351 PKIKP PKPdf 23 55 21.2 -0.2
ARCES pmax pmax
comp=Z,6.0nm,0.4s
ARE0 ARCESS Array S 128.23 351 *e*PKPdf PKPdf 23 55 21.3 0.0
JOF Joensuu 132.73 343 *e*PKIKP PKPdf 23 55 29.8 -0.3
JOF Joensuu 132.73 343 *e*pkp PKPdf 23 55 29.8 -0.3
KAF Kangasniemi 134.67 346 *e*PKIKP PKPdf 23 55 31.7 -2.0
KAF Kangasniemi 134.67 346 *e*pkp PKPdf 23 55 31.7 -2.0
FINES FINESS Array B 135.31 345 PKhKP PKPpre 23 55 22.6
comp=Z,2.6nm,1.0s,baz=18,slow=3.1,SNR=6.1
FINES PKP PKPdf 23 55 36.2 +1.2
comp=Z,2.6nm,0.4s,baz=30,slow=3.4,SNR=19
FINES FINESS Array B 135.31 345 PKPpre PKPpre 23 55 22.6
FINES PKP PKPdf 23 55 36.2 +1.2
FINES FINESS Array B 135.31 345 PKHKP PKPpre 23 55 22.6
FINES 23 55 36.2
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES pmax pmax
comp=Z,3.0nm,0.4s
OBN Obninsk 136.77 333 *i* PKIKP PKPdf 23 55 36.9 -1.0
OBN pmax pmax
comp=Z,7.0nm,0.6s
NB2 NORSAR Subarra 138.14 355 PKPdf PKPpre 23 55 30.0
comp=Z,1.5nm,0.7s,baz=14,slow=1.8
NOA NORSAR Array B 138.14 355 PKhKP PKPpre 23 55 32.6
comp=Z,1.3nm,0.8s,baz=15,slow=4.8,SNR=5.5
NOA PKP PKPdf 23 55 42.1 +1.9
comp=Z,2.0nm,0.7s,baz=14,slow=3.7,SNR=6.9
NOA NORSAR Array B 138.14 355 PKPpre PKPpre 23 55 32.6
NOA PKP PKPdf 23 55 42.1 +1.9
NOA NORSAR Array B 138.14 355 PKHKP PKPpre 23 55 32.6
NOA 23 55 42.1
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 138.78 353 PKhKP PKPpre 23 55 30.1
comp=Z,2.6nm,0.6s,baz=20,slow=4.6,SNR=15
HFS PKP PKPdf 23 55 43.0 +1.6
comp=Z,2.2nm,0.5s,baz=29,slow=3.4,SNR=8.8
HFS Hagfors 138.78 353 PKPpre PKPpre 23 55 30.1
HFS PKP PKPdf 23 55 43.0 +1.6
HFS Hagfors 138.78 353 PKHKP PKPpre 23 55 30.1
HFS 23 55 43.0
HFS pmax pmax
comp=Z,3.0nm,0.6s
HFS pmax pmax
comp=Z,2.0nm,0.5s
EZM Erzurum 142.17 311 *eP* PKPdf 23 55 45.6 -2.6
SUW Suwalki 142.53 342 *e*PKP PKPdf 23 55 45.1 -3.3
SUW Suwalki 142.53 342 *e*PKHKP PKPpre 23 55 45.1
BAYT Ayd¨–ntepe-Bay 142.84 312 *eP* PKPdf 23 55 47.3 -2.0
BNGB Bing¨¶l 142.99 310 *eP* PKPdf 23 55 47.5 -2.1
AKASG Malin Array Be 143.04 333 PKhKP PKPpre 23 55 45.8
comp=Z,8.5nm,0.5s,baz=39,slow=4.0,SNR=47
AKASG Malin Array Be 143.04 333 PKPpre PKPpre 23 55 45.8
AKASG Malin Array Be 143.04 333*c i* PKIKP PKiKP 23 55 55.2 +2.5
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 143.04 333 *e*PKPdf PKPdf 23 55 46.0 -3.4
AKBB Malin Array Si 143.04 333 *e*PKHKP PKPdf 23 55 46.0 -3.3
KIEV Kiev 143.05 333 *e*PKPdf PKPdf 23 55 46.1 -3.3
KIEV Kiev 143.05 333 *e*PKHKP PKPdf 23 55 46.1 -3.3
GUMT Gumushane 143.28 313 *eP* PKPdf 23 55 48.7 -1.4
EZC Erzincan 143.66 311 *eP* PKPdf 23 55 50.1 -0.7
PTK Pertek 143.96 310 *eP* PKPdf 23 55 50.3 -1.1
SVRC Sivrice-ELAZID 144.22 309 *eP* PKPdf 23 55 51.8 0.0
SIM Simferopol' 144.46 322*de*PKHKP PKPdf 23 55 51.9 -0.1
SIM pmax pmax
comp=Z,44nm,0.8s
GKP Gorka Klasztor 144.75 346 *e*PKP PKPdf 23 55 51.9 -0.4
GKP Gorka Klasztor 144.75 346 *e*PKHKP PKPdf 23 55 51.9 -0.4
RSDY Resadiye-TOKAT 144.79 314 *eP* PKPdf 23 55 53.6 +0.9
MYA Malataya 144.88 310 *eP* PKPdf 23 55 54.2 +1.3
MALT Malatya 144.88 310 *eP* PKPdf 23 55 54.4 +1.4
BEL Belsk 145.14 342 *e*PKP PKPdf 23 55 53.8 +0.8
BEL Belsk 145.14 342 *e*PKIKP PKPdf 23 55 53.8 +0.8
DLF Lyons Farm 145.20 11 *eP* PKPdf 23 55 52.7 -0.3
BSEG Bad Segeberg 145.24 354 *e*PKPbc PKPbc 23 55 53.7 +0.4
BSEG Bad Segeberg 145.24 354 *e*PKIKP PKPdf 23 55 53.7 +0.6
KVT Kavak 145.34 315 *eP* PKPdf 23 55 55.3 +1.6
DIKM Dikmen 145.57 317 *eP* PKPdf 23 55 55.5 +1.4
LVV L'vov 145.79 337 *e*PKIKP PKPdf 23 55 54.8 +0.6
KBI1 Birley Grange 145.96 6 *eP* PKPdf 23 55 54.6 +0.3
SARI SarD1z-Kayseri 145.98 311 *eP* PKPbc 23 55 57.1 +1.0
STNC Stoke 146.04 7 *eP* PKPbc 23 55 55.9 +0.2
STNC AMB AMB 23 56 02.8
comp=Z,82nm,3.2s
STNC Stoke 146.04 7 P PKPbc 23 55 55.9 +0.2
STNC AMB AMB 23 56 02.8
comp=Z,82nm,3.2s
FOEL Foel Wylfa 146.12 8 *eP* PKPdf 23 55 54.5 -0.1
FOEL AMB AMB 23 55 56.0
comp=Z,78nm,2.2s
RUE Ruedersdorf 146.18 349 *e*PKPbc PKPbc 23 55 56.5 +0.3
GAZ Gaziantep 146.21 308 *eP* PKPbc 23 55 57.3 +0.6
KMRS Kahramanmaras 146.31 309 *eP* PKPdf 23 55 47.0 -8.4
KWP Kalwaria Pacla 146.43 338 *e*PKP PKPbc 23 55 57.4 +0.4
KWP Kalwaria Pacla 146.43 338 *e*PKPbc PKPbc 23 55 57.5 +0.5
KWP Kalwaria Pacla 146.43 338 *e*PKIKP PKPbc 23 55 57.5 +0.5
KWP Kalwaria Pacla 146.43 338⇓*i*P PKPbc 23 55 57.3 +0.3
BNN Bunyan 146.50 312 *eP* PKPdf 23 55 56.5 +0.8
HLM1 Long Mynd 146.53 8 *eP* PKPdf 23 55 56.0 +0.7
HLM1 AMB AMB 23 55 57.1
comp=Z,56nm,4.9s
LEOM Leova 146.58 329 ⇓PKP2 PKPbc 23 55 57.7 +0.2
LEOM Leova 146.58 329⇓*i*P PKPbc 23 55 57.7 +0.2
NRDL Niedersach Rie 146.69 353 *e*PKPbc PKPbc 23 55 57.9 +0.3
CORM Corum 146.72 315 *eP* PKPbc 23 55 58.2 +0.1
OJC Ojcow 146.87 342 *e*PKPab PKPbc 23 55 58.5 +0.3
OJC Ojcow 146.87 342 *e*PKIKP PKPbc 23 55 58.5 +0.3
MCH1 Michaelchurch 147.02 8 *eP* PKPbc 23 55 57.9 -0.7
MCH1 AMB AMB 23 55 58.8
comp=Z,32nm,0.7s
IBBN Ibbenburen 147.08 356 *e*PKPbc PKPbc 23 55 59.1 +0.4
BUR08 Bucovina Ar. S 147.08 334 *e*PKPbc PKPbc 23 55 59.9 +1.1
BURAR Bucovina Array 147.09 333 ⇑PKIKP PKPbc 23 55 59.9 +1.0
BURAR Bucovina Array 147.09 333⇑*i*P PKPbc 23 55 59.9 +1.0
KOZT Kozan 147.10 310 *eP* PKPbc 23 56 00.5 +1.2
STHS Stebnicka Huta 147.11 339 *e*PKIKP PKPbc 23 55 59.9 +1.0
STHS Stebnicka Huta 147.11 339 *e*PKP PKPbc 23 55 59.9 +1.0
KOLS Kolonicke sedl 147.17 338 *e*PKIKP PKPbc 23 55 59.7 +0.6
KOLS Kolonicke sedl 147.17 338 *e*PKP PKPbc 23 55 59.7 +0.6
SSW Stow on the Wo 147.19 7 *eP* PKPbc 23 55 59.3 +0.2
TLCR 147.20 327 ⇓PKIKP PKPbc 23 55 59.9 +0.6
TLCR 147.20 327⇓*i*P PKPbc 23 55 59.9 +0.6
KSP Ksiaz 147.23 346 *e*PKP PKPbc 23 56 00.0 +0.9
KSP Ksiaz 147.23 346 *i* PKPdf PKPbc 23 56 00.0 +0.8
KSP *e* 23 56 10.2
KSP Ksiaz 147.23 346⇓*i*PKIKP PKPbc 23 56 00.0 +0.8
GHRR 147.28 329⇓*i*P PKPbc 23 56 00.7 +1.2
CLZ Clausthal 147.30 353 *e*PKPbc PKPbc 23 56 00.0 +0.7
CLZ Clausthal 147.30 353 *e*PKIKP PKPbc 23 56 00.0 +0.7
TESR 147.31 331⇓*i*P PKPbc 23 55 59.7 +0.2
CEYT Ceyhan 147.35 309 *eP* PKPbc 23 56 00.7 +0.8
HGH Gray Hill 147.40 8 *eP* PKPbc 23 55 58.9 -0.7
HTY Hatay 147.40 307 *eP* PKPbc 23 56 00.8 +0.7
NIE Niedzica 147.41 340 *e*PKPab PKPbc 23 56 00.6 +0.9
NIE Niedzica 147.41 340 *e*PKIKP PKPbc 23 56 00.6 +0.9
UZH Uzhgorod 147.41 337 *e*PKIKP PKPbc 23 55 59.0 -0.7
UZH *i* 23 56 00.8
SAFT Safranbolu 147.43 318 *eP* PKPbc 23 56 00.6 +0.6
CLL Collm 147.44 350⇓*e*PKHKP PKPpre 23 55 58.0
CLL *i* *i* 23 56 00.1
CLL *i* 23 56 02.3
CLL pmax pmax
comp=Z,44nm,1.0s
CLL pmax pmax
comp=Z,23nm,0.7s
CLL Collm 147.44 350 *e*PKPdf PKPdf 23 55 58.0 +1.1
CLL ⇓*i*PKPbc PKPbc 23 56 00.1 +0.4
comp=Z,44nm,1.0s
CLL ⇑*i*PKPab PKPab 23 56 02.3 0.0
comp=Z,23nm,0.7s
CLL *e*pPKPdf pPKPdf 23 57 01.0 +3.1
CLL *e*pPKPbc pPKPbc 23 57 04.0 +4.0
CLL Collm 147.44 350 *i* (P) PKPab 23 56 10.8 +8.5
CLL *i* 23 56 12.1
comp=Z,15nm,0.5s
CRVS Cervenica-Dubn 147.48 339 *e*PKIKP PKPbc 23 56 00.4 +0.5
CRVS Cervenica-Dubn 147.48 339 *e*PKP PKPbc 23 56 00.4 +0.5
SKP1 Kophill 147.54 6 *eP* PKPbc 23 55 59.5 -0.4
CFR Carcaliu 147.55 328 ⇑PKIKP PKPbc 23 56 00.8 +0.6
CFR Carcaliu 147.55 328⇑*i*P PKPbc 23 56 00.8 +0.6
BR131 Keskin Array S 147.60 315 *e*PKPdf PKPdf 23 55 57.3 -0.2
BR131 *e*PKPbc PKPbc 23 56 01.0 +0.4
BRTR Keskin Array B 147.60 315 PKP PKPdf 23 55 57.7 +0.1
comp=Z,14nm,0.7s,baz=79,slow=2.9,SNR=80
BRTR PKPbc PKPbc 23 56 00.9 +0.3
comp=Z,14nm,0.7s,baz=134,slow=3.6,SNR=62
BRTR Keskin Array B 147.60 315 PKP PKPdf 23 55 57.7 +0.1
BRTR PKPbc PKPbc 23 56 00.9 +0.3
BRTR Keskin Array B 147.60 315*c i* PKIKP PKPbc 23 56 00.9 +0.3
BRTR pmax pmax
comp=Z,14nm,0.7s
UPC Upice 147.60 346 *e*PKIKP PKPbc 23 56 00.8 +0.6
UPC *e* 23 56 03.9
UPC *e* 23 57 05.0
UPC Upice 147.60 346⇑*e*PKP PKPbc 23 56 00.8 +0.6
UPC *e*PKPAB PKPab 23 56 03.9 +0.9
UPC *e*pPKP pPKPdf 23 57 05.0 +6.8
DPC Dobruska-Polom 147.68 345 *e*PKIKP PKPbc 23 56 01.4 +1.0
DPC *e* 23 56 03.8
DPC Dobruska-Polom 147.68 345⇑*e*PKP PKPbc 23 56 01.4 +1.0
DPC *e*PKPAB PKPab 23 56 03.8 +0.5
OKC Ostrava-Krasne 147.68 343 *e*PKIKP PKPbc 23 56 00.9 +0.5
OKC *e* 23 56 03.7
OKC Ostrava-Krasne 147.68 343⇑*e*PKP PKPbc 23 56 00.9 +0.5
OKC *e*PKPAB PKPab 23 56 03.7 +0.4
BRG Berggiesshubel 147.69 348 *e*PKP PKPdf 23 55 58.0 +0.7
comp=Z,10nm,1.4s
BRG *i* 23 56 00.9
comp=Z,18nm,0.8s
BRG *e*pPKP pPKPdf 23 57 03.1 +4.8
comp=Z,11nm,1.2s
BRG Berggiesshubel 147.69 348 *e*PKPbc PKPbc 23 56 00.8 +0.4
BRG Berggiesshubel 147.69 348 *e*PKHKP PKPpre 23 55 58.0
BRG *i* 23 56 00.9
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG pmax pmax
comp=Z,18nm,0.8s
BRG pmax pmax
comp=Z,11nm,1.2s
TRPA Tarpa 147.74 337⇓*i*P PKPbc 23 56 00.8 +0.2
VRI Vrincioaia 147.75 330⇓PKIKP PKPbc 23 56 01.0 +0.3
VRI Vrincioaia 147.75 330⇓*i*P PKPbc 23 56 00.9 +0.2
BMR Baia Mare 147.75 335⇓PKIKP PKPbc 23 56 01.7 +1.0
BMR Baia Mare 147.75 335⇓*i*P PKPbc 23 56 01.7 +1.0
PLOR Plostina 147.79 330 ⇑PKIKP PKPbc 23 56 00.6 -0.2
PLOR Plostina 147.79 330⇑*i*P PKPbc 23 56 00.6 -0.2
PVCC Panska Ves 147.90 348 *e*PKIKP PKPbc 23 56 01.7 +0.7
PVCC Panska Ves 147.90 348⇑*e*PKP PKPbc 23 56 01.7 +0.7
MORC Moravsky Berou 147.90 344 *e*PKPbc PKPbc 23 56 01.6 +0.6
MORC Moravsky Berou 147.90 344 *e*PKIKP PKPbc 23 56 01.6 +0.6
MORC Moravsky Berou 147.90 344⇓*i*P PKPbc 23 56 01.5 +0.5
WOL Wolverton 147.91 6 *eP* PKPbc 23 56 00.8 -0.2
WOL AMB AMB 23 56 02.1
comp=Z,72nm,1.6s
TIRR Tirgusor 147.91 326 ⇑PKIKP PKPbc 23 56 00.1 -1.1
TIRR Tirgusor 147.91 326⇑*i*P PKPbc 23 56 00.1 -1.1
BUG Bochum--Univer 147.97 356 *e*PKPbc PKPbc 23 56 01.4 +0.3
GRER 147.98 329⇑*i*P PKPbc 23 56 03.1 +1.7
ASF Jabal al Asfar 148.07 300 PKPbc PKPbc 23 56 03.0 +1.0
comp=Z,14nm,0.8s,baz=127,slow=1.6,SNR=39
ASF Jabal al Asfar 148.07 300 PKPbc PKPbc 23 56 03.0 +1.0
ASF Jabal al Asfar 148.07 300 PKIKP PKPbc 23 56 03.0 +1.0
ASF pmax pmax
comp=Z,14nm,0.8s
AFSR Af¨ar-Bala (A 148.12 315 *eP* PKPbc 23 56 01.5 -0.4
KECS Kecovo 148.17 339 *e*PKIKP PKPbc 23 56 02.3 +0.6
KECS Kecovo 148.17 339 *e*PKP PKPbc 23 56 02.3 +0.6
MANR Mangalia 148.25 325⇑*i*P PKPbc 23 56 03.2 +1.1
DOPR Dopca 148.29 331⇓*i*P PKPbc 23 56 02.1 0.0
MERS Mersin 148.30 310 *eP* PKPbc 23 56 02.8 +0.3
MOX Moxa 148.31 351 *e*PKPbc PKPbc 23 56 02.4 +0.4
MOX Moxa 148.31 351 *e*PKIKP PKPbc 23 56 02.4 +0.4
UBBA Unterbreizbach 148.35 353 *e*PKPbc PKPbc 23 56 02.1 0.0
MLR Muntele Rosu 148.39 330 ⇓PKIKP PKPbc 23 56 02.5 +0.1
MLR Muntele Rosu 148.39 330⇓*i*P PKPbc 23 56 02.5 +0.1
NKC Novy Kostel 148.58 350 *e*PKIKP PKPbc 23 56 03.2 +0.5
NKC *e* 23 56 07.1
NKC Novy Kostel 148.58 350⇑*e*PKP PKPbc 23 56 03.2 +0.5
NKC *e*PKPAB PKPab 23 56 07.1 +0.2
VRAC Vranov 148.58 344 ⇑PKIKP PKPbc 23 56 02.6 -0.1
VRAC Vranov 148.58 344⇑*i*P PKPbc 23 56 02.6 -0.1
MDB Medias 148.60 333 ⇓PKIKP PKPbc 23 56 02.6 -0.3

MDB	Medias	148.60 333	⇓iP	PKPbc	23 56 02.6	-0.3
BEBN	Eben Emael	148.69 358	PKPbc	PKPbc	23 56 03.4	+0.4
UCC	Uccle	148.71 360	PKPbc	PKPbc	23 56 03.8	+0.7
UCC			PKPab	PKPab	23 56 07.0	-0.5
KOLL	Kolacno	148.74 342	ePKIKP	PKPbc	23 56 04.0	+0.8
KOLL	Kolacno	148.74 342	ePKP	PKPbc	23 56 04.0	+0.8
DRGR		148.78 335	⇓PKIKP	PKPbc	23 56 03.7	+0.4
DRGR		148.78 335	⇓iP	PKPbc	23 56 03.7	+0.4
SULR		148.84 329	⇓iP	PKPdf	23 56 01.6	+2.2
VOIR		148.85 331	⇓PKIKP	PKPbc	23 56 04.7	+1.1
VOIR		148.85 331	⇓iP	PKPbc	23 56 04.7	+1.1
PSZ	Piszkesteto	148.86 339	ePKPdf	PKPdf	23 55 59.6	+0.3
PSZ			ePKPbc	PKPbc	23 56 03.9	+0.4
PSZ	Piszkesteto	148.86 339	⇓PKHKP	PKPdf	23 56 00.2	+0.9
PSZ	Piszkesteto	148.86 339	⇓ePKP	PKPbc	23 56 03.8	+0.3
PSZ	Piszkesteto	148.86 339	⇓iP	PKPdf	23 56 00.2	+0.9
TREC	Trest	148.86 346	ePKIKP	PKPbc	23 56 04.0	+0.5
TREC	Trest	148.86 346	⇑ePKP	PKPbc	23 56 04.0	+0.5
MEM	Membach	148.86 358	PKPbc	PKPbc	23 56 03.9	+0.4
SNF	Seneffe	149.00 360	PKPbc	PKPbc	23 56 04.5	+0.7
MMAI	Mount Meron Ar	149.04 302	PKPbc	PKPbc	23 56 05.5	+1.1
	comp=Z,26nm,0.6s,baz=74,slow=6.2,SNR=47					
MMAI	Mount Meron Ar	149.04 302	PKPbc	PKPbc	23 56 05.5	+1.1
ROTZ	Rotzenmuhle	149.07 350	ePKPbc	PKPbc	23 56 04.7	+0.7
BCLA	Clavier	149.07 359	PKPbc	PKPbc	23 56 04.1	+0.1
BCLA			PKPab	PKPab	23 56 08.3	-0.6
TNS	Taunus Mts	149.10 355	ePKPbc	PKPbc	23 56 04.5	+0.5
TNS	Taunus Mts	149.10 355	ePKIKP	PKPbc	23 56 04.5	+0.5
KIZT	Kizilcal	149.21 315	eP	PKPbc	23 56 05.2	+0.5
LADK	Ladik-KONYA	149.22 313	eP	PKPbc	23 56 03.6	-1.1
GRF	Grafenberg Arr	149.29 351	ePKPbc	PKPbc	23 56 05.2	+0.7
GRF	Grafenberg Arr	149.29 351	ePKIKP	PKPbc	23 56 05.2	+0.7
GIVF	Givet	149.40 359	ePKP1	PKPbc	23 56 05.1	+0.3
	comp=Z,34nm,0.6s					
GIVF	Givet	149.40 359	eP	PKPbc	23 56 05.1	+0.3
GIVF	Givet	149.40 359	ePKIKP	PKPbc	23 56 05.1	+0.3
DOU	Dourbes	149.41 359	PKPbc	PKPbc	23 56 05.2	+0.4
DOU			PKPab	PKPab	23 56 10.0	-0.3
KHC	Kasperske Hory	149.43 348	ePKPbc	PKPbc	23 56 05.3	+0.4
KHC	Kasperske Hory	149.43 348	ePKIKP	PKPbc	23 56 05.5	+0.6
KHC			e		23 56 08.7	
KHC	Kasperske Hory	149.43 348	ePKPDF	PKPdf	23 56 00.0	-0.2
KHC			⇑ePKP	PKPdf	23 56 05.5	+5.3
KHC			ePKPAB	PKPab	23 56 08.7	-1.7
KHC			ex	x	23 56 15.0	
KHC			epPKP	pPKPdf	23 57 07.0	+5.8
BAIF	Baives	149.45 360	ePKP1	PKPbc	23 56 05.4	+0.5
	comp=Z,33nm,0.7s					
BAIF	Baives	149.45 360	eP	PKPbc	23 56 05.4	+0.5
BAIF	Baives	149.45 360	ePKIKP	PKPbc	23 56 05.4	+0.5
ZST	Bratislava	149.46 343	ePKIKP	PKPbc	23 56 06.0	+1.0
ZST	Bratislava	149.46 343	ePKP	PKPbc	23 56 06.0	+1.0
BUD	Budapest	149.52 340	ePKP	PKPbc	23 56 05.7	+0.5
HUMR	Humele	149.57 330	⇑iP	PKPbc	23 56 04.9	-0.5
GEC2	GERESS Array S	149.68 348	ePKPbc	PKPbc	23 56 06.0	+0.5
GEC2	GERESS Array S	149.68 348	ePKIKP	PKPbc	23 56 06.0	+0.5
GERES	GERESS Array B	149.68 348	PKP	PKPdf	23 56 00.1	-0.5
	comp=Z,0.8nm,0.8s,baz=4.6,slow=4.9,SNR=8.3					
GERES			PKPbc	PKPbc	23 56 05.9	+0.4
	comp=Z,8.2nm,0.8s,baz=27,slow=2.4,SNR=47					
GERES			pPKPbc	pPKPbc	23 57 07.1	+1.1
	comp=Z,2.3nm,0.8s,baz=0.0,slow=1.7,SNR=3.4					
GERES	GERESS Array B	149.68 348	PKP	PKPdf	23 56 00.1	-0.5
GERES			PKPbc	PKPbc	23 56 05.9	+0.4
GERES			pPKPbc	pPKPbc	23 57 07.1	+1.1
GERES	GERESS Array B	149.68 348	PKHKP	PKPdf	23 56 00.1	-0.5
GERES					23 56 05.9	
GERES			pmax	pmax		
	comp=Z,1.0nm,0.8s					
GERES			pmax	pmax		
	comp=Z,8.0nm,0.8s					
GERES			pmax	pmax		
	comp=Z,2.0nm,0.8s					
WLF	Walferdange	149.80 357	PKPbc	PKPbc	23 56 06.8	+1.0
WLF	Walferdange	149.80 357	ePKPbc	PKPbc	23 56 06.7	+0.9
WLF	Walferdange	149.80 357	ePKPbc	PKPbc	23 56 06.9	+1.1
WLF	Walferdange	149.80 357	ePKIKP	PKPbc	23 56 06.9	+1.1
JSA	Saint Aubin	149.88 8	eP	PKPdf	23 56 03.6	+2.7
JSA			AMB	AMB	23 56 03.7	
	comp=Z,79nm,3.6s					
JSA	Saint Aubin	149.88 8	P	PKPdf	23 56 03.6	+2.7
JSA			AMB	AMB	23 56 03.7	
	comp=Z,79nm,3.6s					
GZR	Gura Zlata	149.88 333	⇓PKHKP	PKPbc	23 56 06.3	+0.2
GZR	Gura Zlata	149.88 333	⇓iP	PKPbc	23 56 06.3	+0.2
CSS	Prodhromos	149.96 307	ePKPbc	PKPbc	23 56 06.9	+0.3
SZH	Strazhica	150.02 327	P	PKPbc	23 56 07.8	+1.3
ZIMR		150.03 328	⇑PKIKP	PKPbc	23 56 05.6	-0.9
ZIMR		150.03 328	⇑iP	PKPbc	23 56 05.6	-0.9
CONA	Conrad Observa	150.04 344	i PKiKP	PKiKP	23 56 07.1	0.0
	comp=Z,15nm,0.7s,SNR=17					
SOP	Sopron	150.08 343	⇓ePKP	PKPbc	23 56 07.0	+0.5
BZS	Buzias	150.18 335	⇑PKHKP	PKPdf	23 56 01.7	+0.2
BZS	Buzias	150.18 335	⇑iP	PKPdf	23 56 01.7	+0.2
EIL	Elat	150.31 296	PKPbc	PKPbc	23 56 08.2	+0.6
	comp=Z,20nm,0.7s,baz=74,slow=2.6,SNR=32					
EIL	Elat	150.31 296	PKPbc	PKPbc	23 56 08.2	+0.6
STU	Stuttgart	150.46 353	ePKPbc	PKPbc	23 56 07.9	+0.6
STU	Stuttgart	150.46 353	ePKPbc	PKPbc	23 56 08.0	+0.6
STU	Stuttgart	150.46 353	ePKHKP	PKPbc	23 56 08.0	+0.7
MOA	Molln	150.50 346	i PKiKP	PKiKP	23 56 07.6	-0.5
	comp=Z,7.1nm,0.5s,SNR=13					
FLN	La Foliniere	150.50 6	ePKP1	PKPbc	23 56 07.4	-0.1
	comp=Z,45nm,0.8s					
FLN	La Foliniere	150.50 6	eP	PKPbc	23 56 07.4	-0.1
FLN	La Foliniere	150.50 6	ePKHKP	PKPbc	23 56 07.4	-0.1
ROSF	Rostrenen	150.54 10	ePKP1	PKPbc	23 56 07.9	+0.3
ROSF	Rostrenen	150.54 10	eP	PKPbc	23 56 07.9	+0.3
ROSF	Rostrenen	150.54 10	ePKHKP	PKPbc	23 56 07.9	+0.3
LDF	La Druitiere	150.71 6	ePKP1	PKPbc	23 56 07.7	-0.2
	comp=Z,9.6nm,0.4s					
LDF	La Druitiere	150.71 6	eP	PKPbc	23 56 07.7	-0.2
LDF	La Druitiere	150.71 6	ePKHKP	PKPbc	23 56 07.7	-0.2
SGMF	Saint Gilles	150.74 9	ePKP1	PKPbc	23 56 07.8	-0.2
	comp=Z,32nm,0.7s					
SGMF	Saint Gilles	150.74 9	eP	PKPbc	23 56 07.8	-0.2
SGMF	Saint Gilles	150.74 9	ePKHKP	PKPbc	23 56 07.8	-0.2
PKSM	Moragy	150.76 339	⇓PKHKP	PKPbc	23 56 08.9	+0.7
PKSM	Moragy	150.76 339	⇓iP	PKPbc	23 56 08.9	+0.7
FUR	Furstenfeldbru	150.77 350	ePKPbc	PKPbc	23 56 08.6	+0.5
FUR	Furstenfeldbru	150.77 350	ePKHKP	PKPbc	23 56 08.6	+0.5
GRR	Gorron	150.83 7	ePKP1	PKPbc	23 56 08.3	+0.1
	comp=Z,29nm,0.6s					
GRR	Gorron	150.83 7	eP	PKPbc	23 56 08.3	+0.1
GRR	Gorron	150.83 7	ePKHKP	PKPbc	23 56 08.3	+0.1
RJOB	Jochberg	150.91 348	ePKPbc	PKPbc	23 56 08.7	+0.2
PAGF	Fort de Pagny	150.93 358	ePKP1	PKPbc	23 56 09.1	+0.7
	comp=Z,11nm,0.7s					
QUIF	Quistinic	150.97 10	ePKP1	PKPbc	23 56 09.0	+0.4
	comp=Z,14nm,0.8s					
QUIF	Quistinic	150.97 10	eP	PKPbc	23 56 09.0	+0.4
QUIF	Quistinic	150.97 10	ePKHKP	PKPbc	23 56 09.0	+0.4
BFO	Black Forest	150.98 354	ePKPbc	PKPbc	23 56 09.0	+0.4
BFO	Black Forest	150.98 354	ePKPbc	PKPbc	23 56 08.9	+0.3
BFO	Black Forest	150.98 354	ePKHKP	PKPbc	23 56 09.0	+0.4
CDF	Champ du Feu	150.99 356	ePKP1	PKPbc	23 56 09.0	+0.4
	comp=Z,34nm,0.8s					
CDF	Champ du Feu	150.99 356	eP	PKPbc	23 56 09.0	+0.4
CDF	Champ du Feu	150.99 356	ePKHKP	PKPbc	23 56 09.0	+0.4
MEZF	Maizieres J'vi	151.00 359	ePKP1	PKPbc	23 56 09.1	+0.5
	comp=Z,21nm,0.5s					
MEZF	Maizieres J'vi	151.00 359	eP	PKPbc	23 56 09.1	+0.5
MPEP	Malo Peshtene	151.04 330	P	PKPbc	23 56 09.5	+0.6
DIM	Dimitrovgrad	151.09 326	P	PKPbc	23 56 09.7	+0.6
SFTF	Sexfontaines	151.29 359	ePKP1	PKPbc	23 56 09.8	+0.5
	comp=Z,67nm,0.5s					
SFTF	Sexfontaines	151.29 359	eP	PKPbc	23 56 09.8	+0.5
SOKA	Soboth	151.41 344	⇑iPKPbc	PKPbc	23 56 09.0	-0.6
	comp=Z,11nm,0.8s					
PERS	Pernice	151.43 344	i PKPbc	PKPbc	23 56 09.5	-0.2
PERS			i PKPab	PKPab	23 56 18.8	0.0
KDZ	Kurdzhali	151.44 325	P	PKPbc	23 56 10.1	+0.2
HAU	Haudompre	151.45 357	ePKP1	PKPbc	23 56 09.9	+0.2
	comp=Z,28nm,0.6s					
HAU	Haudompre	151.45 357	eP	PKPbc	23 56 09.9	+0.2
HAU	Haudompre	151.45 357	ePKIKP	PKPbc	23 56 09.9	+0.2
RETA	Reutte	151.51 351	⇓iPKiKP	PKiKP	23 56 10.1	-0.1
	comp=Z,10nm,1.0s					
WATA	Walderalm	151.53 349	i PKiKP	PKiKP	23 56 10.1	-0.2
	comp=Z,20nm,0.5s,SNR=33					
WTTA	Wattenberg	151.59 349	i PKiKP	PKiKP	23 56 10.4	+0.1
	comp=Z,41nm,0.4s,SNR=49					
MOTA	Moosalm	151.60 350	⇓iPKiKP	PKiKP	23 56 10.0	-0.4
	comp=Z,6.9nm,0.5s					
HINF	Hinteralfeld	151.61 356	ePKP1	PKPbc	23 56 10.1	+0.1
	comp=Z,20nm,0.6s					
HINF	Hinteralfeld	151.61 356	eP	PKPbc	23 56 10.1	+0.1
HINF	Hinteralfeld	151.61 356	ePKIKP	PKPbc	23 56 10.1	+0.1
MYKA	Terra Mystica	151.79 346	⇓iPKPbc	PKPbc	23 56 10.2	-0.3
	comp=Z,14nm,0.4s					
VTS	Vitosha	151.87 329	⇓PKIKP	PKPbc	23 56 11.3	+0.5
VTS	Vitosha	151.87 329	P	PKPbc	23 56 11.2	+0.4
VTS	Vitosha	151.87 329	⇓iP	PKPbc	23 56 11.3	+0.5
FETA	Feichten	151.97 350	⇑iPKiKP	PKiKP	23 56 11.4	+0.2
	comp=Z,16nm,0.8s					
HYF	Humbligny	152.21 2	ePKP1	PKPbc	23 56 12.0	+0.6
HYF	Humbligny	152.21 2	eP	PKPbc	23 56 12.0	+0.6
LOR	Lormes	152.24 0	ePKP1	PKPbc	23 56 11.8	+0.3
	comp=Z,15nm,0.5s					
LOR	Lormes	152.24 0	eP	PKPbc	23 56 11.8	+0.3
LOR	Lormes	152.24 0	ePKIKP	PKPbc	23 56 11.8	+0.3
VISS	Visnje	152.27 344	i PKPbc	PKPbc	23 56 11.7	+0.1
VISS			i PKPab	PKPab	23 56 21.9	-0.5
VISS			i		23 57 16.8	
DAVOX	Davos/Dischmat	152.33 352	PKPbc	PKPbc	23 56 12.2	+0.5
	comp=Z,29nm,0.5s,baz=272,slow=3.1,SNR=79					
DAVOX			PKPab	PKPab	23 56 23.1	+0.6
	comp=Z,13nm,0.6s,baz=225,slow=1.4,SNR=7.1					
DAVOX	Davos/Dischmat	152.33 352	PKPbc	PKPbc	23 56 12.2	+0.5
DAVOX			PKPab	PKPab	23 56 23.1	+0.6
DAVOX	Davos/Dischmat	152.33 352	PKIKP	PKPbc	23 56 12.2	+0.5
DAVOX					23 56 23.2	
DAVOX			pmax	pmax		
	comp=Z,29nm,0.5s					
DAVOX			pmax	pmax		
	comp=Z,13nm,0.6s					
MMB	Musomiste	152.36 327	P	PKPbc	23 56 11.8	-0.1
BOJS	Bojanci	152.44 343	i PKPdf	PKPdf	23 56 05.1	+0.2
BOJS			i PKPbc	PKPbc	23 56 12.3	+0.3
BOJS			i PKPab	PKPab	23 56 20.0	-3.1
BOJS			i		23 57 13.7	
SSF	Saint Saulge	152.44 1	ePKP1	PKPbc	23 56 12.2	+0.3
	comp=Z,16nm,0.7s					
SSF	Saint Saulge	152.44 1	eP	PKPbc	23 56 12.2	+0.3
SSF	Saint Saulge	152.44 1	ePKIKP	PKPbc	23 56 12.2	+0.3
KKB	Krupnik	152.48 328	P	PKPbc	23 56 12.4	+0.2
MFF	Saint Martin d	152.67 7	ePKP1	PKPbc	23 56 12.4	-0.1
	comp=Z,10nm,0.6s					
MFF	Saint Martin d	152.67 7	eP	PKPbc	23 56 12.4	-0.1
MFF	Saint Martin d	152.67 7	ePKIKP	PKPbc	23 56 12.4	-0.1
TUE	Suetta	152.71 352	ePKPbc	PKPbc	23 56 13.0	+0.5
AVF	Avril sur Loir	152.71 1	ePKP1	PKPbc	23 56 12.4	-0.1
	comp=Z,5.1nm,0.5s					
AVF	Avril sur Loir	152.71 1	eP	PKPbc	23 56 12.4	-0.1
AVF	Avril sur Loir	152.71 1	ePKIKP	PKPbc	23 56 12.4	-0.1
CABF	La Chapelle	152.85 357	ePKP1	PKPbc	23 56 13.7	+0.8
	comp=Z,22nm,0.8s					
CABF	La Chapelle	152.85 357	eP	PKPbc	23 56 13.7	+0.8
CABF	La Chapelle	152.85 357	ePKIKP	PKPbc	23 56 13.7	+0.8
SMF	Signal de Mont	152.86 1	ePKP1	PKPbc	23 56 13.7	+0.8
SMF	Signal de Mont	152.86 1	eP	PKPbc	23 56 13.7	+0.8
SMF	Signal de Mont	152.86 1	ePKIKP	PKPbc	23 56 13.7	+0.8
BGF	Bois d'Agland	152.93 2	ePKP1	PKPbc	23 56 13.2	+0.2
	comp=Z,25nm,0.7s					
BGF	Bois d'Agland	152.93 2	eP	PKPbc	23 56 13.2	+0.2
BGF	Bois d'Agland	152.93 2	ePKIKP	PKPbc	23 56 13.2	+0.2
TCF	Toulx Ste Croi	153.17 3	ePKP1	PKPbc	23 56 13.6	0.0
	comp=Z,15nm,0.7s					
TCF	Toulx Ste Croi	153.17 3	eP	PKPbc	23 56 13.6	0.0
TCF	Toulx Ste Croi	153.17 3	ePKIKP	PKPbc	23 56 13.6	0.0
LPL	La Plagne	153.91 356	ePKP1	PKPbc	23 56 16.3	+1.1
LPL	La Plagne	153.91 356	eP	PKPbc	23 56 16.3	+1.1
LPL	La Plagne	153.91 356	ePKIKP	PKPbc	23 56 16.3	+1.1
LPG	La Plagne	153.93 356	ePKP1	PKPbc	23 56 16.3	+1.1
	comp=Z,5.7nm,0.7s					
LPG	La Plagne	153.93 356	eP	PKPbc	23 56 16.3	+1.1
LPG	La Plagne	153.93 356	ePKIKP	PKPbc	23 56 16.3	+1.1
RJF	Les Rejaudoux	154.11 4	ePKP1	PKPbc	23 56 16.5	+0.9
	comp=Z,4.4nm,0.7s					
RJF	Les Rejaudoux	154.11 4	eP	PKPbc	23 56 16.5	+0.9
RJF	Les Rejaudoux	154.11 4	ePKIKP	PKPbc	23 56 16.5	+0.9
CAF	Calviac	154.52 4	ePKP1	PKPbc	23 56 17.6	+1.1
	comp=Z,3.9nm,0.5s					
CAF	Calviac	154.52 4	eP	PKPbc	23 56 17.6	+1.1
CAF	Calviac	154.52 4	ePKIKP	PKPbc	23 56 17.6	+1.1
ORIF	Oris-en-Rattie	154.55 357	ePKP1	PKPbc	23 56 17.0	+0.4
ORIF	Oris-en-Rattie	154.55 357	eP	PKPbc	23 56 17.0	+0.4
ORIF	Oris-en-Rattie	154.55 357	ePKIKP	PKPbc	23 56 17.0	+0.4
VIVF	Saint-Julien-l	154.65 359	ePKP1	PKPbc	23 56 17.3	+0.5
	comp=Z,5.5nm,0.6s					
VIVF	Saint-Julien-l	154.65 359	eP	PKPbc	23 56 17.3	+0.5
VIVF	Saint-Julien-l	154.65 359	ePKIKP	PKPbc	23 56 17.3	+0.5
MBDF	Montbardon	154.69 356	ePKP1	PKPbc	23 56 17.4	+0.5
	comp=Z,7.6nm,0.7s					
MBDF	Montbardon	154.69 356	eP	PKPbc	23 56 17.4	+0.5
MBDF	Montbardon	154.69 356	ePKIKP	PKPbc	23 56 17.4	+0.5
ESDC	Sonseca Array	158.64 17	PKP	PKPdf	23 56 14.1	+0.7
	comp=Z,0.9nm,0.7s,baz=352,slow=2.5,SNR=5.5					
ESDC			PKPab	PKPab	23 56 50.0	+0.2
	comp=Z,0.9nm,0.5s,baz=329,slow=3.1,SNR=7.2					
ESDC	Sonseca Array	158.64 17	PKP	PKPdf	23 56 14.1	+0.7
ESDC			PKPab	PKPab	23 56 50.0	+0.2
KEST	Kesra	163.14 345	PKPab	PKPab	23 57 09.1	-0.5
	comp=Z,1.5nm,0.8s,baz=321,slow=4.5,SNR=5.2					
KEST	Kesra	163.14 345	PKPab	PKPab	23 57 09.1	-0.5
TORD	Torodi Ar. Bea	173.30 159	PKP	PKPdf	23 56 24.4	-1.3
	comp=Z,2.0nm,0.9s,baz=205,slow=3.0,SNR=13					
TORD			PKPab	PKPab	23 57 54.7	-0.2
	comp=Z,0.7nm,0.7s,baz=207,slow=3.0,SNR=4.7					
TORD	Torodi Ar. Bea	173.30 159	PKP	PKPdf	23 56 24.4	-1.3
TORD			PKPab	PKPab	23 57 54.7	-0.2

IDC 06 23:47:53.1±1.5, 3°.77S×141°.10E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, MLA.0/1, MS4.2/1, Ms1 4.2/1, ms1mx2.9/23, Error ellipse: s-maj=86.9km s-min=28.0km az=116.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.38	202	P	Pn	Pn	23 51 56.5	-0.6
	0.6nm,0.3s,baz=20,slow=13,SNR=8.0							
WRA				S		Sn	23 54 54.9	-16
	0.3nm,0.3s,baz=26,slow=22,SNR=4.4							
FITZ	Fitzroy Crossi	20.79	226	P		P	23 52 37.4	+1.3
	0.7nm,0.3s,baz=50,slow=10,SNR=3.2							
FITZ				S		S	23 56 04.7	-24
	2.6nm,0.7s,baz=210,slow=20,SNR=3.5							
ASAR	Alice Springs	20.97	199	P		P	23 52 37.2	-0.7
	0.5nm,0.4s,baz=27,slow=11,SNR=4.3							
AFI	Afiamalu	47.55	105	LR		LR	00 11 48.1	
	comp=Z,252nm,20.6s,baz=244,slow=30							
ILAR	Eielson Array	85.81	24	P		P	00 00 34.1	-0.1
	0.2nm,0.5s,baz=255,slow=5.2,SNR=8.2							
QSPA	South Pole Qui	86.19	180	P		P	00 00 36.4	+0.5
	0.7nm,0.6s,baz=308,slow=2.3,SNR=8.9							

IDC 06 23:55:41.7±4.2, 16°.12S×178°.23W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.1/4, Error ellipse: s-maj=163.6km s-min=47.6km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.66	239	P	P	P	00 03 16.0	+0.4
	2.1nm,0.5s,baz=106,slow=8.5,SNR=5.7							
WRA	Warramunga Arr	45.15	258	P		P	00 04 00.5	0.0
	0.3nm,0.3s,baz=92,slow=8.0,SNR=14							
ASAR	Alice Springs	45.47	253	P		P	00 04 03.2	+0.3
	4.6nm,0.7s,baz=89,slow=8.1,SNR=84							
FITZ	Fitzroy Crossi	53.51	259	P		P	00 05 03.3	-1.2
	0.6nm,0.4s,baz=95,slow=7.6,SNR=5.4							
GERES	GERESS Array B	145.94	346	PKPbc	PKPbc		00 15 22.8	-0.4
	0.3nm,0.5s,baz=25,slow=3.2,SNR=4.7							

BER 07 00:16:18.5±2.1, 77°.84N×8°.57E, h7km, MD2.4, ML2.3, ML2.7(NAO), Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.28	30	Pg	Pg	Pg	00 16 40.7	-2.4
KBS				Lg			00 16 56.7	
KBS	Kingsbay	1.28	30	eP	Pn	Pn	00 16 40.7	-2.1
KBS				eS	Sb	Sb	00 16 56.5	-3.0
KBS				AML	AML		00 16 59.5	
	comp=Z,74nm,0.2s							
SPA0	Spitsbergen Ar	1.66	75	Pg	Pg		00 16 48.4	-2.0
	baz=251,slow=12							
SPA0				Lg			00 17 09.8	
	baz=253,slow=28							
HSP	Hornsund	1.74	115	eP	Pn		00 16 47.6	-1.4
HSP				eS	Sn		00 17 05.1	-6.3
DAG	Danmarks Havn	6.06	273	i P	Pn		00 17 41.8	-6.5
DAG				i S	Sn		00 18 43.3	-14
KEV	Kevo	9.54	138	ep	Pn		00 18 37.1	+1.1
	comp=Z,0.3nm,0.4s							

NAO 07 00:16:16.8±2.1, 77°.88N×8°.45E, ML2.7
UPP 07 00:19:03.3, 67°.84N×20°.18E, h0km, ML1.8, Mining explosion.
CSEM 07 00:19:03.2±0.4, 67°.83N×20°.21E, h2km, ML0.9, Error ellipse: s-maj=11.6km s-min=6.1km az=131.0, Mining explosion.

HEL 07 00:19:03.9±0.1, 67°.83N×20°.20E, h0km, ML0.9, ML1.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	23	i P	Pg		00 19 06.0	-0.5
KUA				i S	Sg		00 19 08.1	-0.1
LANU	Lannavaara	0.71	71	i P	Pg		00 19 16.8	-0.7
LANU	Lannavaara	0.71	71	P	Pg		00 19 16.8	-0.7
SALU	Saltoluokta	0.79	236	i P	Pg		00 19 18.2	-0.8
SALU	Saltoluokta	0.79	236	P	Pg		00 19 18.2	-0.8
KIF	Kilpisjarvi	1.20	10	eSB	Sb		00 19 43.1	-0.4
KIF				MSG			00 19 43.1	
	comp=Z,1.3nm,0.4s							
KIF				eRG			00 19 47.0	
KIF	Kilpisjarvi	1.20	10	Sb	Sb		00 19 43.1	-0.4
	comp=Z,1.3nm,0.4s							
HEF	Hetta	1.42	64	ePG	Pg		00 19 29.6	-1.5
HEF				MSG			00 19 50.0	
	comp=Z,0.8nm,0.4s							
HEF				eSN	Sn		00 19 50.0	-0.3
HEF				eRG			00 19 53.3	
HEF	Hetta	1.42	64	Pg	Pg		00 19 29.6	-1.5
HEF				Sn	Sn		00 19 50.0	-0.3
ERTU	Ertsjaerv	1.50	148	eP	Pn		00 19 30.3	-1.7
ERTU	Ertsjaerv	1.50	148	P	Pn		00 19 30.3	-1.7
KALU	Kalix	2.34	146	eP	Pn		00 19 43.7	+0.2
KALU	Kalix	2.34	146	P	Pn		00 19 43.7	+0.1
RNF	Rovaniemi	2.58	116	ePB	Pb		00 19 48.2	-2.7
	baz=292							
RNF				MSG			00 20 21.6	
	comp=Z,0.4nm,0.1s							
RNF				eSB	Sb		00 20 21.6	-1.4
ARA0	ARCESS Array S	2.59	46	Sn	Sn		00 20 16.6	-2.4
	baz=348,slow=22							
ARA0	ARCESS Array S	2.59	46	eP	Pn		00 19 47.0	+0.1
	baz=229							
ARA0				eS	Sn		00 20 17.1	-1.9
ARA0				MSG			00 20 17.1	
	comp=Z,0.2nm,0.2s							
ARA0				eRG			00 20 44.0	
ARA0	ARCESS Array S	2.59	46	P	Pn		00 19 47.0	+0.1
ARA0				Sn	Sn		00 20 16.6	-2.4
	baz=348,slow=21,SNR=50							
ARA0				S	Sn		00 20 17.1	-1.9
	comp=Z,0.2nm,0.2s							

NEIC 07 00:19:32.7±2.3, 5°.69S×149°.06E, h162km±18km, mb4.4/1, Error ellipse: s-maj=68.4km s-min=14.5km az=108.0
IDC 07 00:19:33.9±2.0, 5°.67S×148°.90E, h167km±16km, mb3.5/6, mb1 3.6/7, mb1mx3.5/15, mbtmp3.5/7, Error ellipse: s-maj=69.1km s-min=10.5km az=112.0

ISC 07 00:19:34.2±1.6, 5°.7S±0°.2×148°.8E±0°.5, h163km±17km, n21, σ0°.71/26, mb3.8/6, New Britain region

| Code |

*ISCJB **07** 00:53:30.0±0.8, 1.91S×0.06×127.73E±0.09, h81km±10km, mb3.5/2, Error ellipse: s-maj=15.8km s-min=8.5km az=160.6*
*DJA **07** 00:53:30, 1.90S×127.76E, h24km, MLv3.5/4*
*IDC **07** 00:53:32.9±5.2, 2.13S×128.16E, h75km±50km, mb3.3/2, mb1 3.5/3, mb1mx3.1/17, mbtmp3.2/3, ML3.6/1, Error ellipse: s-maj=129.4km s-min=13.7km az=69.0*
ISC 07 00:53:30.5±0.8, **1.92S**±0.06×**127.74E**±0.09, **h85**km±10km, **n8**, σ0**98**/12, **mb3.5**/2, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.29**	**349**	P	**Pn**	**00 53 52.2**	**-1.2**
NLAI	**Namlea**	**1.46**	**206**	P	**Pn**	**00 53 54.9**	**-0.7**
NLAI				S	**Sn**	**00 54 14.3**	**-0.2**
MSAI	**Masohi**	**1.85**	**140**	P	**Pn**	**00 54 01.4**	**+0.8**
MSAI				S	**Sn**	**00 54 23.8**	**+0.4**
TNTI	**Ternate**	**2.70**	**352**	P	**Pn**	**00 54 11.8**	**-0.1**
GTOI	**Gorontalo**	**5.37**	**298**	P	**Pn**	**00 54 49.5**	**+1.4**
WRA	**Warramunga Arr**	**19.04**	**161**	P	**Pn**	**00 57 46.5**	**-1.1**
	0.2nm,0.3s,baz=340,slow=12,SNR=12						
WRA				S	**S**	**01 01 14.0**	**-3.6**
	0.0nm,0.3s,baz=341,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**22.43**	**165**	P	**P**	**00 58 23.6**	**+1.3**
	2.0nm,0.6s,mb3.6,baz=345,slow=12,SNR=48						
ASAR				S	**S**	**01 02 23.0**	**+0.1**
	0.4nm,0.8s,baz=343,slow=18,SNR=4.4						
MKAR	**Makanchi Array**	**62.77**	**327**	P	**P**	**01 03 52.7**	**+5.9**
	0.4nm,0.9s,mb3.3,baz=134,slow=6.3,SNR=3.6						

*IDC **07** 01:13:48.3±2.9, 33.18S×177.68W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/14, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=74.6km s-min=35.5km az=125.0*
ISC 07 01:13:48.8±4.4, **33.3S**±0.1×**177.6W**±0.3, **h4**km±38km, **n16**, σ1**09**/12, **mb3.5**/2, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**6.21**	**212**	PN	**Pn**	**01 15 21.1**	**-0.1**
CNGZ				SN	**Sn**	**01 16 35.1**	**+2.6**
MWZ	**Matawai**	**6.41**	**216**	PN	**Pn**	**01 15 24.1**	**+0.1**
MWZ				SN	**Sn**	**01 16 36.8**	**-0.7**
URZ	**Urewera**	**6.56**	**219**	Pn	**Pn**	**01 15 26.2**	**+0.1**
	0.7nm,0.3s,baz=133,slow=17,SNR=7.7						
URZ				Sn	**Sn**	**01 16 41.7**	**+0.3**
	6.1nm,0.3s,baz=345,slow=21,SNR=23						
URZ	**Urewera**	**6.56**	**219**	PN	**Pn**	**01 15 26.6**	**+0.5**
URZ				SN	**Sn**	**01 16 39.3**	**-2.1**
URZ				SN	**Sn**	**01 16 39.3**	**-2.0**
MCHZ	**McNeill Hill**	**7.68**	**215**	SN	Sx	01 17 07.3	
WPHZ	**Waipukurau**	**8.29**	**213**	SN	Sx	01 17 20.4	
DVHZ	**Dannevirke**	**8.60**	**213**	SN	Sx	01 17 27.0	
TIWZ	**Tintock**	**9.11**	**213**	SN	Sx	01 17 38.7	
MRZ	**Mangatainoka R**	**9.16**	**214**	SN	Sx	01 17 39.0	
CTZ	**Chatham Island**	**10.49**	**176**	**Pn**	**Pn**	**01 16 19.5**	**-0.4**
CTZ				*e*SN	Sx	01 18 04.3	
KHZ	**Kahutara**	**11.49**	**215**	SN	Sx	01 18 31.8	
LTZ	**Lake Taylor**	**12.39**	**217**	SN	Sx	01 18 52.6	
MQZ	**McQueen's Vall**	**12.90**	**213**	SN	Sx	01 19 03.1	
ASAR	**Alice Springs**	**43.33**	**270**	P	**P**	**01 21 53.4**	**+1.2**
	0.7nm,0.9s,mb3.4,baz=116,slow=7.5,SNR=6.5						
WRA	**Warramunga Arr**	**44.58**	**275**	P	**P**	**01 22 01.1**	**-1.1**
	0.3nm,0.4s,mb3.5,baz=114,slow=7.8,SNR=20						
FINES	**FINESS Array B**	**147.92**	**339**	PKPbc	PKPbc	01 33 33.5	-0.9
	1.1nm,0.5s,baz=60,slow=4.6,SNR=12						

*ISCJB **07** 01:18:58.9±1.0, 33.69N±0.05×141.2E±0.1, h75km±10km, mb3.4/2, Error ellipse: s-maj=14.4km s-min=8.5km az=3.4*
*JMA **07** 01:18:58.4±0.2, 33.69N×141.27E, h73km±4km, M3.2*
*IDC **07** 01:18:58.4±2.7, 33.16N×136.50E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/25, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=175.4km s-min=25.4km az=107.0*
ISC 07 01:18:59.7±1.2, **33.67N**±0.06×**141.2E**±0.1, **h60**km±13km, **n14**, σ0**69**/21, **mb3.3**/2, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.00**	**347**	P	**Pn**	**01 19 16.9**	**-0.9**
BSO1				S	**Sn**	**01 19 31.2**	**0.0**
BSO2	**Boso 2**	**1.15**	**340**	S	**Sn**	**01 19 35.8**	**+1.2**
BSO3	**Boso 3**	**1.28**	**332**	P	**Pn**	**01 19 21.0**	**-0.4**
BSO3				S	**Sn**	**01 19 38.4**	**+0.7**
JHJ2	**Mitsune**	**1.32**	**245**	P	**Pn**	**01 19 21.9**	**-0.1**
JHJ2				*e*S	**Sn**	**01 19 39.2**	**+0.6**
BSO4	**Boso 4**	**1.51**	**331**	P	**Pn**	**01 19 24.7**	**+0.1**
JIM2	**Oshima 3**	**1.83**	**305**	P	**Pn**	**01 19 28.1**	**-0.7**
JIZS	**Izushimoda**	**2.22**	**299**	P	**Pn**	**01 19 33.7**	**-0.5**
JOD2	**Odawara 2**	**2.38**	**312**	P	**Pn**	**01 19 35.9**	**-0.5**
JOD2				*e*S	**Sn**	**01 20 03.0**	**-1.5**
JHU	**Hanno**	**2.71**	**324**	P	**Pn**	**01 19 40.7**	**-0.1**
JHU				*e*S	**Sn**	**01 20 11.4**	**-1.0**
JYN	**Shimob**	**2.88**	**310**	P	**Pn**	**01 19 43.2**	**+0.1**
MJAR	**Matsushiro Arr**	**3.79**	**320**	Pn	**Pn**	**01 19 56.5**	**+0.9**
	1.5nm,0.3s,baz=207,slow=11,SNR=15						
MJAR				Sn	**Sn**	**01 20 40.2**	**+1.2**
	0.9nm,0.3s,baz=94,slow=10,SNR=4.8						
MAT	**Matsushiro**	**3.79**	**320**	P	**Pn**	**01 19 55.7**	**0.0**
MAT				S	**Sn**	**01 20 39.3**	**+0.3**
WRA	**Warramunga Arr**	**53.72**	**188**	P	**P**	**01 28 15.7**	**0.0**
	0.2nm,0.3s,mb3.5,baz=1.8,slow=7.7,SNR=7.3						
ASAR	**Alice Springs**	**57.45**	**188**	P	**P**	**01 28 42.9**	**+0.5**
	0.1nm,0.4s,mb3.2,baz=3.9,slow=5.9,SNR=4.0						

*ISCJB **07** 02:00:49.2±2.4, 5.6S±0.3×105.4W±0.3, h10km, mb4.2/29, MS3.6/17, Error ellipse: s-maj=65.8km s-min=19.8km az=136.5*
*IDC **07** 02:00:49.5±7.6, 5.41S×104.92W, h0km, mb3.8/5, mb1 4.2/5, mb1mx4.0/11, mbtmp3.8/5, MS3.6/17, Ms1 3.7/17, ms1mx3.6/28, Error ellipse: s-maj=224.9km s-min=109.4km az=117.0*
*BJI **07** 02:00:51.4, 5.50S×105.30W, h10km, mB4.7/1, Ms5.1/2, Ms7 4.9/2*
*NEIC **07** 02:00:51.4±1.6, 5.49S×105.32W, h10km, mb4.4/24, Error ellipse: s-maj=45.1km s-min=13.9km az=47.0*
ISC 07 02:00:51.6±2.3, **5.5S**±0.3×**105.3W**±0.3, **h10**km, **n52**, σ0**68**/36, **mb4.2**/29, **MS3.6**/17, **Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**24.71**	**24**	LR	LR	02 13 42.2	
	comp=Z,110nm,18.1s,MS3.4,baz=180,slow=32						
JTS	**JuntasAbangare**	**25.64**	**52**	LR	LR	02 13 56.3	
	comp=Z,239nm,21.6s,MS3.7,baz=262,slow=31						
ATAH	**Atahualpa**	**26.80**	**95**	LR	LR	02 13 31.5	
	comp=Z,33nm,18.4s,MS2.9,baz=352,slow=29						
NNA	**Nana**	**28.85**	**105**	LR	LR	02 15 38.1	
	comp=Z,283nm,21.1s,MS3.9,baz=308,slow=31						
NNA	**Nana**	**28.85**	**105**	*e*P	**P**	**02 06 50.7**	**+0.2**
	22nm,1.0s,mb4.8						
TEIG	**Tepich**	**30.57**	**33**	LR	LR	02 17 14.6	
	comp=Z,143nm,21.2s,MS3.6,baz=303,slow=32						
ROSC	**El Rosal**	**32.61**	**72**	LR	LR	02 16 08.2	
	comp=Z,42nm,20.8s,MS3.1,baz=15,slow=28						
RKT	**Rikitea**	**33.53**	**236**	*e*T		02 42 31.3	
	2.8nm,0.3s						
TXAR	**Lajitas Array**	**34.68**	**3**	P	**P**	**02 07 40.5**	**-0.9**
	1.4nm,1.1s,mb3.8,baz=177,slow=11,SNR=6.9						
TXAR				LR	LR	02 19 24.5	
	comp=Z,92nm,18.9s,MS3.5,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**34.68**	**3**	P	**P**	**02 07 40.5**	**-0.9**
MNTX	**Cornudas Mount**	**37.00**	**360**	*e*P	**P**	**02 08 00.7**	**-0.7**
	3.2nm,1.1s,mb4.1						
LPAZ	**La Paz**	**37.98**	**109**	LR	LR	02 20 41.4	
	comp=Z,159nm,19.0s,MS3.8,baz=69,slow=32						
LAZ	**Ladron**	**39.73**	**358**	*e*P	**P**	**02 08 24.8**	**+0.4**
	6.8nm,1.5s,mb4.2						
ANMO	**Albuquerque**	**40.26**	**359**	*e*P	**P**	**02 08 28.3**	**-0.4**
	4.1nm,1.3s,mb4.0						
WMOK	**Wichita Mounta**	**40.50**	**8**	*e*P	**P**	**02 08 30.9**	**+0.1**
	2.1nm,1.0s,mb3.7						
MVCO	**Mesa Verde**	**42.60**	**356**	*e*P	**P**	**02 08 48.1**	**+0.2**
	17nm,1.7s,mb4.5						
SDCO	**Great Sand Dun**	**43.03**	**360**	*e*P	**P**	**02 08 52.2**	**+0.7**
	9.7nm,1.5s,mb4.3						
CFAA	**Coronel Fontan**	**43.33**	**131**	LR	LR	02 21 38.3	
	comp=Z,8.8nm,20.6s,MS2.6,baz=214,slow=29						
ARUT	**Antelope Range**	**43.73**	**351**	*e*P	**P**	**02 08 57.5**	**+0.5**
	3.1nm,0.9s,mb4.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCO	**Snowmass**	**44.49**	**358**	*e*P	**P**	**02 09 04.7**	**+1.6**
	4.6nm,1.0s,mb4.2						
SRU	**San Rafael**	**44.66**	**354**	*e*P	**P**	**02 09 04.8**	**+0.4**
	43nm,2.6s,mb4.8						
PPT	**Papeete**	**44.88**	**251**	*e*LR	LR	02 21 31.5	
	72nm,24.0s						
SJG	**San Juan**	**45.20**	**58**	LR	LR	02 24 54.7	
	comp=Z,54nm,18.1s,MS3.5,baz=100,slow=32						
NVAR	**Mina Array Bea**	**45.35**	**346**	P	**P**	**02 09 09.7**	**-0.3**
	0.3nm,0.5s,mb3.4,baz=172,slow=7.3,SNR=5.4						
NVAR				LR	LR	02 23 45.9	
	comp=Z,73nm,19.4s,MS3.6,baz=169,slow=30						
NVAR	**Mina Array Bea**	**45.35**	**346**	P	**P**	**02 09 09.7**	**-0.3**
MPU	**Maple Canyon**	**45.67**	**353**	*e*P	**P**	**02 09 13.3**	**+0.7**
	6.8nm,1.1s,mb4.5						
DUG	**Dugway**	**46.00**	**352**	*e*P	**P**	**02 09 15.6**	**+0.5**
	3.8nm,1.1s,mb4.2						
DAU	**Daniels Canyon**	**46.02**	**354**	*e*P	**P**	**02 09 16.0**	**+0.7**
TBI	**Tubuai**	**46.05**	**243**	*e*LR	LR	02 22 05.6	
	156nm,27.5s						
TBI				*e*T		02 58 04.0	
WCN	**Washoe City**	**46.54**	**345**	*e*P	**P**	**02 09 19.7**	**+0.3**
	11nm,1.6s,mb4.5						
PLCA	**Paso Flores**	**46.89**	**144**	LR	LR	02 24 13.3	
	comp=Z,217nm,21.0s,MS4.1,baz=44,slow=30						
HWUT	**Hardware Ranch**	**47.23**	**354**	*e*P	**P**	**02 09 25.5**	**+0.7**
	28nm,2.2s,mb4.8						
BW06	**Boulder Array**	**48.20**	**356**	*e*P	**P**	**02 09 30.4**	**-1.8**
	2.1nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**48.20**	**356**	P	**P**	**02 09 31.2**	**-1.1**
	1.3nm,0.9s,mb4.0,baz=165,slow=7.5,SNR=10						
PDAR				LR	LR	02 27 14.1	
	comp=Z,98nm,20.1s,MS3.8,baz=97,slow=33						
PDAR	**Pinedale Array**	**48.20**	**356**	P	**P**	**02 09 31.2**	**-1.1**
SNOW	**Snow King Moun**	**48.99**	**355**	*e*P	**P**	**02 09 38.5**	**+0.2**
	2.2nm,0.6s,mb4.4						
TPAW	**Teton Pass**	**49.04**	**355**	*e*P	**P**	**02 09 38.4**	**-0.2**
	5.0nm,1.3s,mb4.4						
LOHW	**Long Hollow**	**49.13**	**355**	*e*P	**P**	**02 09 38.6**	**-0.7**
	3.4nm,1.2s,mb4.2						
MOOW	**Moose Ponds**	**49.27**	**355**	*e*P	**P**	**02 09 40.7**	**+0.2**
RSSD	**Black Hills**	**49.41**	**1**	*e*P	**P**	**02 09 41.0**	**-0.5**
	3.8nm,1.0s,mb4.4						
IMW	**Indian Meadow**	**49.44**	**355**	*e*P	**P**	**02 09 41.7**	**0.0**
	6.6nm,1.3s,mb4.5						
HLID	**Hailey**	**49.53**	**351**	*e*P	**P**	**02 09 42.8**	**+0.4**
	3.2nm,1.0s,mb4.3						
FLWY	**Flagg Ranch**	**49.60**	**355**	*e*P	**P**	**02 09 43.2**	**+0.2**
	10nm,1.2s,mb4.7						
MFID	**Camas Ranch**	**49.62**	**350**	*e*P	**P**	**02 09 43.6**	**+0.5**
	7.0nm,1.1s,mb4.6						
NEW	**Newport**	**54.54**	**350**	*e*P	**P**	**02 10 18.8**	**-0.9**
	2.4nm,0.9s,mb4.2						
USHA	**Ushuaia**	**57.42**	**156**	LR	LR	02 29 30.7	
	comp=Z,290nm,21.9s,MS4.3,baz=50,slow=30						
PMSA	**Palmer Station**	**65.99**	**162**	LR	LR	02 35 03.3	
	comp=Z,232nm,18.8s,MS4.4,baz=311,slow=31						
DLBC	**Dease Lake**	**66.76**	**346**	LR	LR	02 38 04.8	
	comp=Z,84nm,18.5s,MS4.0,baz=124,slow=34						
YKA	**Yellowknife Ar**	**68.18**	**355**	P	**P**	**02 11 51.0**	**-0.8**
	0.6nm,0.9s,mb3.6,baz=162,slow=6.9,SNR=6.0						
YKA				LR	LR	02 39 48.1	
	comp=Z,11nm,18.6s,MS3.1,baz=25,slow=34						
YKA	**Yellowknife Ar**	**68.18**	**355**	P	**P**	**02 11 51.0**	**-0.8**
ILAR	**Eielson Array**	**76.53**	**343**	P	**P**	**02 12 41.4**	**-0.2**
	1.4nm,0.8s,mb3.9,baz=156,slow=5.4,SNR=25						
ILAR	**Eielson Array**	**76.53**	**343**	P	**P**	**02 12 41.4**	**-0.2**

*CSEM **07** 02:06:09.0±0.5, 51.49N×16.04E, h2km, ML3.1/4, Error ellipse: s-maj=8.7km s-min=7.3km az=66.0*
*PRU **07** 02:06:10.0, 51.42N×16.13E, h0km*
WAR 07 02:06:10.3, 51.48N×16.11E, ML2.2, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	Pg	02 06 22.2	-0.5
KSP				*e*Sg	Sg	02 06 30.8	-0.4
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	Pg	02 06 22.2	-0.5
KSP				*e*Sg	Sg	02 06 30.7	-0.5
UPC	**Upice**	**0.98**	**183**	*e*PG	Pg	02 06 28.2	-0.8
UPC	**Upice**	**0.98**	**183**	Pg	Pg	02 06 28.2	-0.8
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	Pg	02 06 31.1	-1.0
DPC				*e*SG	Sg	02 06 45.1	-1.8
	9.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**173**	Pg	Pg	02 06 31.1	-1.0
DPC				Sg	Sg	02 06 45.1	-1.8
	9.9nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	Pg	02 06 35.2	-1.2
PVCC				*e*SG	Sg	02 06 53.1	-0.9
	69nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**226**	Pg	Pg	02 06 35.2	-1.2
PVCC				Sg	Sg	02 06 53.1	-0.9
	69nm,0.2s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	Pn	02 06 43.0	-1.4
CLL	**Collm**	**1.95**	**266**	*e*(Pn)	Pn	02 06 43.0	-1.6
CLL				*i* Pg	Pg	02 06 45.3	-2.4
CLL				*i*		02 06 48.9	
CLL				*e*Sg	Sg	02 07 12.0	-0.9
	comp=Z,7.0nm,0.5s						
VRAC	**Vranov**	**2.20**	**172**	*e*Pn	Pn	02 06 47.8	-0.2
VRAC				*e*Sg	Sg	02 07 19.3	-1.6
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	Pn	02 06 53.4	-0.6
NKC				*e*PG	Pg	02 06 58.4	-2.3
NKC				*e*SG	Sg	02 07 33.0	-1.8
	comp=Z,13nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**243**	Pn	Pn	02 06 53.4	-0.6
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	Pn	02 06 56.2	-0.9
KHC				*e*PG	Pg	02 07 01.6	-3.4
KHC				*e*SG	Sg	02 07 38.8	-3.2
	comp=Z,3.1nm,0.5s						
KHC	**Kasperske Hory**	**2.86**	**216**	Pn	Pn	02 06 56.2	-0.9
KHC	**Kasperske Hory**	**2.86**	**216**	Pg	Pg	02 07 01.6	-3.4
KHC				Sg	Sg	02 07 38.8	-3.2
	comp=Z,3.1nm,0.5s						
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	Pn	02 07 06.4	-2.4
BSD				*e*S	Sn	02 07 46.8	-6.3
	comp=Z,1.0nm,0.4s,SNR=49						

*ISCJB **07** 02:12:09.0±0.4, 6.77N±0.04×72.91W±0.04, h174km±4km, mb4.0/34, Error ellipse: s-maj=7.6km s-min=5.3km az=139.0*
*IDC **07** 02:12:08.2±1.5, 6.75N×72.79W, h157km±14km, mb3.6/8, mb1 4.0/10, mb1mx3.6/22, mbtmp3.7/10, MS2.7/1, Ms1 2.7/1, ms1mx2.2/34, Error ellipse: s-maj=21.1km s-min=16.1km az=99.0*
*FUNV **07** 02:12:09.2, 6.75N×73.16W, h166km, MW4.1*
*NEIC **07** 02:12:09.7±0.5, 6.71N×72.90W, h170km±4km, mb4.0/29, Error ellipse: s-maj=7.1km s-min=5.3km az=101.0*
*BJI **07** 02:12:10.0, 6.70N×73.00W, h168km, mB4.7/2*
ISC 07 02:12:10.1±0.4, **6.78N**±0.04×**72.90W**±0.04, **h167**km±4km, **n93**, σ0**86**/98, **mb4.0**/34, **9C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**28**	⇑*i*P	**Pn**	**02 12 38.8**	**+0.4**
CAPV				*e*S	**Sn**	**02 12 59.9**	**-0.2**
ROSC	**El Rosal**	**2.38**	**217**	P	**Pn**	**02 12 50.3**	**-0.3**
	129nm,0.3s,baz=291,slow=7.0,SNR=198						
ROSC				S	**Sn**	**02 13 21.2**	**-0.8**
	106nm,0.3s,baz=106,slow=16,SNR=14						
ROSC	**El Rosal**	**2.38**	**217**	*e*Pn	**Pn**	**02 12 50.4**	**-0.2**
ROSC				*e*Sn	**Sn**	**02 13 17.6**	**-4.4**
ROSC				S	**Sn**	**02 13 21.2**	**-0.8**
SOCV	**Socops**	**2.52**	**53**	*e*P	**Pn**	**02 12 53.3**	**+1.1**
SOCV				*e*S	**Sn**	**02 13 25.3**	**+0.4**
VIGV	**El Vigia**	**2.55**	**37**	⇑*i*P	**Pn**	**02 12 53.1**	**+0.5**
VIGV				*e*S	**Sn**	**02 13 25.2**	**-0.4**
SDV	**Santo Domingo**	**3.07**	**47**	*e*Pn	**Pn**	**02 13 00.0**	**+1.0**
SDV				*e*Sn	**Sn**	**02 13 37.1**	**+0.1**
ELOV	**Elorza**	**3.40**	**86**	⇓*e*P	**Pn**	**02 13 04.7**	**+1.6**
ELOV				*e*S	**Sn**	**02 13 44.7**	**+0.3**
VIRV	**Villa del Rosa**	**3.73**	**7**	⇑*i*P	**Pn**	**02 13 05.4**	**-1.9**
VIRV				*e*S	**Sn**	**02 13 48.2**	**-3.8**
QARV	**Quebrada Arrib**	**4.14**	**34**	⇑*i*P	**Pn**	**02 13 13.0**	**+0.4**
QARV				*e*S	**Sn**	**02 13 60.0**	**-1.4**
SANV	**Sanarito**	**4.29**	**51**	*e*P	**Pn**	**02 13 15.0**	**+0.5**
SANV				*e*S	**Sn**	**02 14 03.9**	**-1.0**
CURV	**Curarigua**	**4.33**	**42**	⇑*e*P	**Pn**	**02 13 15.4**	**+0.3**
DABV	**Dabajuro**	**4.69**	**28**	⇑*e*P	**Pn**	**02 13 19.4**	**-0.2**
TEPV	**Terepaima**	**4.85**	**49**	⇑*e*P	**Pn**	**02 13 22.2**	**+0.4**
SIQV	**Siquisique**	**4.91**	**38**	⇑*i*P	**Pn**	**02 13 22.4**	**-0.2**
BAUV	**El Baul**	**5.27**	**66**	*e*P	**Pn**	**02 13 27.1**	**-0.3**
MAPV	**Macapo**	**5.34**	**55**	⇑*e*P	**Pn**	**02 13 28.6**	**+0.3**
IMOV	**Isla Los Monje**	**5.88**	**19**	*e*P	**Pn**	**02 13 33.2**	**-2.2**
MONV	**Montecano**	**5.90**	**29**	*e*P	**Pn**	**02 13 34.7**	**-0.9**
TURV	**Turiamo**	**6.19**	**54**	*e*P	**Pn**	**02 13 40.3**	**+0.9**
MERV	**Las Mercedes**	**6.99**	**69**	*e*P	**Pn**	**02 13 49.7**	**-0.3**
BCIP	**Isla Barro Col**	**7.27**	**290**	*e*Pn	**Pn**	**02 13 53.4**	**-0.4**
BIRV	**Birongo**	**7.51**	**60**	*e*P	**Pn**	**02 13 57.1**	**+0.1**
CUPV	**Cepira**	**7.75**	**65**	*e*P	**Pn**	**02 14 00.7**	**+0.6**
OTAV	**Otavalo**	**8.54**	**221**	*e*Pn	**Pn**	**02 14 08.5**	**-2.0**
PCRV	**Puerto La Cruz**	**8.84**	**67**	*e*P	**Pn**	**02 14 14.6**	**0.0**
YHJ	**Yallahs**	**11.59**	**343**	*i* P	**Pn**	**02 14 52.6**	**+2.0**
GWJ	**Greenwich**	**11.83**	**342**	*i* P	**Pn**	**02 14 55.6**	**+1.9**
STH	**Stony Hill**	**11.86**	**342**	*i* P	**Pn**	**02 14 54.2**	**+0.1**
SDDR	**Presa de Saban**	**12.23**	**7**	*e*Pn	**Pn**	**02 14 59.9**	**+1.0**
MTDJ	**Mount Denham**	**12.24**	**339**	*e*Pn	**Pn**	**02 15 00.5**	**+1.5**
BBJ	**Bamboo Saint A**	**12.29**	**340**	*i* P	**Pn**	**02 15 01.8**	**+2.1**
JTS	**JuntasAbangare**	**12.42**	**287**	P	**Pn**	**02 15 06.8**	**+5.4**
	2.0nm,0.3s,baz=101,slow=3.1,SNR=11						
JTS	**JuntasAbangare**	**12.42**	**287**	*e*Pn	**Pn**	**02 15 00.9**	**-0.4**
JTS				*e*P		02 15 06.2	
SJG	**San Juan**	**13.05**	**30**	P	**Pn**	**02 15 08.8**	**-0.5**
	2.4nm,0.3s,baz=213,slow=21,SNR=5.9						
SJG				S	**Sn**	**02 17 31.1**	**-3.0**
	3.0nm,0.3s,baz=312,slow=18,SNR=6.4						
SJG	**San Juan**	**13.05**	**30**	P	**Pn**	**02 15 08.8**	**-0.5**
SJG				S	**Sn**	**02 17 31.1**	**-3.0**
ATAH	**Atahualpa**	**14.87**	**202**	P	**Pn**	**02 15 37.5**	**+5.2**
	0.7nm,0.3s,baz=108,slow=12,SNR=4.9						
ATAH	**Atahualpa**	**14.87**	**202**	P	**Pn**	**02 15 37.5**	**+5.3**
NNA	**Nana**	**19.05**	**192**	*e*P	**P**	**02 16 19.9**	**+0.2**
	36nm,1.3s						
TEIG	**Tepich**	**20.03**	**313**	P	**P**	**02 16 30.3**	**+0.1**
	12nm,0.5s,baz=20,slow=0.8,SNR=18						
TEIG	**Tepich**	**20.03**	**313**	P	**P**	**02 16 30.3**	**+0.1**
LPAZ	**La Paz**	**23.40**	**168**	*e*P	**P**	**02 17 04.6**	**+0.5**
	2.3nm,0.7s,mb3.7						
HKT	**Hockley**	**31.57**	**320**	*e*P	**P**	**02 18 16.2**	**-0.7**
	2.3nm,0.9s,mb3.9						
WVT	**Waverly**	**32.26**	**337**	*e*P	**P**	**02 18 22.8**	**0.0**
	4.9nm,0.5s,mb4.5						
UALR	**University of**	**33.13**	**330**	*e*P	**P**	**02 18 24.7**	**-5.7**
	166nm,1.1s						
WCI	**Wyandotte Cave**	**33.58**	**341**	*e*P	**P**	**02 18 34.4**	**+0.1**
	6.6nm,0.7s,mb4.5						
CCM	**Cathedral Cave**	**35.30**	**335**	*e*P	**P**	**02 18 47.9**	**-1.3**
	11nm,0.7s,mb4.6						
WMOK	**Wichita Mounta**	**36.64**	**323**	*e*P	**P**	**02 18 58.5**	**-2.1**
	3.0nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**36.65**	**312**	P	**P**	**02 19 00.3**	**-0.5**
	1.8nm,0.6s,mb3.9,baz=126,slow=9.1,SNR=30						
TXAR				PcP	PcP	02 21 21.4	+1.3
	0.4nm,0.6s,baz=130,slow=6.0,SNR=5.1						
TXAR	**Lajitas Array**	**36.65**	**312**	P	**P**	**02 19 00.3**	**-0.5**
TXAR				PcP	PcP	02 21 21.4	+1.3
CFAA	**Coronel Fontan**	**38.42**	**174**	LR	LR	02 36 52.7	
	comp=Z,9.8nm,18.4s,baz=199,slow=39						
MNTX	**Cornudas Mount**	**39.16**	**314**	*e*P	**P**	**02 19 21.5**	**-0.3**
	3.2nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**41.70**	**317**	*e*P	**P**	**02 19 42.6**	**+0.1**
	0.7nm,0.6s,mb3.5						
LAZ	**Ladron**	**41.86**	**316**	*e*P	**P**	**02 19 44.2**	**+0.3**
	2.1nm,0.9s,mb3.8						
SDCO	**Great Sand Dun**	**42.72**	**321**	*e*P	**P**	**02 19 51.1**	**+0.4**
	2.0nm,0.7s,mb3.9						
TUC	**Tucson**	**43.44**	**311**	*e*P	**P**	**02 19 56.2**	**-0.4**
	2.5nm,1.1s,mb3.8					

GRO			*i* Sg		Sg	02 14 00.2	-0.1
DLMR	**Dylym**	**0.41 129**	PG		Pg	02 14 02.0	+4.2
DLMR			*e*S		Sg	02 14 05.0	+1.8
DLMR	**Dylym**	**0.41 129**	Pg		Pg	02 14 02.0	+4.2
DLMR			*e*Sg		Sg	02 14 05.0	+1.8
DBC	**Dubki**	**0.56 124**	*e*PG		Pg	02 14 00.5	-0.1
DBC			*e*S		Sg	02 14 08.5	+0.6
DBC	**Dubki**	**0.56 124**	*e*Pg		Pg	02 14 00.5	-0.1
DBC			*e*Sg		Sg	02 14 08.5	+0.6
BTLR	**Botlikh**	**0.67 178**	PG		Pg	02 14 00.0	-2.6
BTLR			S		Sg	02 14 08.8	-2.6
BTLR			pmax	pmax			
	comp=Z,37nm,0.2s						
BTLR	**Botlikh**	**0.67 178**	Pg		Pg	02 14 00.0	-2.6
	comp=Z,37nm,0.2s						
BTLR			Sg		Sg	02 14 08.8	-2.6
KRNR	**Karanay**	**0.73 134**	*e*PG		Pg	02 14 04.2	+0.4
KRNR			*i* S		Sg	02 14 13.0	-0.2
KRNR			pmax	pmax			
	comp=Z,29nm,0.2s						
KRNR	**Karanay**	**0.73 134**	*e*Pg		Pg	02 14 04.2	+0.4
	comp=Z,29nm,0.2s						
KRNR			*i* Sg		Sg	02 14 13.0	-0.2
UNCR	**Uncukul**	**0.76 144**	*e*PG		Pg	02 14 03.3	-1.1
UNCR			*e*S		Sg	02 14 13.5	-0.8
UNCR			pmax	pmax			
	comp=Z,34nm,0.2s						
UNCR	**Uncukul**	**0.76 144**	*e*Pg		Pg	02 14 03.3	-1.1
	comp=Z,34nm,0.2s						
UNCR			*e*Sg		Sg	02 14 13.5	-0.8
BUJR	**Buynaksk**	**0.84 127**	*e*PG		Pg	02 14 07.8	+1.9
BUJR			*e*S		Sg	02 14 19.0	+2.2
BUJR	**Buynaksk**	**0.84 127**	*e*Pg		Pg	02 14 07.8	+1.9
BUJR			*e*Sg		Sg	02 14 19.0	+2.2
ARKR	**Arakani**	**0.94 141**	*e*PG		Pg	02 14 07.0	-0.8
ARKR			*e*S		Sg	02 14 19.3	-0.6
ARKR	**Arakani**	**0.94 141**	*e*Pg		Pg	02 14 07.0	-0.8
ARKR			*e*Sg		Sg	02 14 19.3	-0.6
MAK	**Makhachkala**	**1.03 111**	*e*PG		Sg	02 14 22.8	-0.1
MAK			*e*			02 14 28.7	
MAK			pmax	pmax			
	comp=Z,75nm,0.9s						
MAK	**Makhachkala**	**1.03 111**	*e*Pg		Sg	02 14 22.8	-0.1
	comp=Z,75nm,0.9s						
MAK			*e*Sg		Sg	02 14 28.7	+5.8
SNJR	**Sundja**	**1.04 256** ⇑	*i*PG		Pg	02 14 09.9	+0.1
SNJR			*e*S		Sg	02 14 24.3	+1.0
SNJR	**Sundja**	**1.04 256**	*i* Pg		Pg	02 14 09.9	+0.1
SNJR			*e*Sg		Sg	02 14 24.3	+1.0
TRKR	**Terskaya**	**1.13 291** ⇓	*i*PG		Pg	02 14 12.0	+0.5
TRKR			*i* S		Sg	02 14 28.3	+2.2
TRKR	**Terskaya**	**1.13 291**	*i* Pg		Pg	02 14 12.0	+0.5
TRKR			*i* Sg		Sg	02 14 28.3	+2.2
VLKR	**Vladikavkaz**	**1.15 256**	*e*PG		Pg	02 14 11.5	-0.2
VLKR			*e*S		Sg	02 14 27.4	+0.8
VLKR	**Vladikavkaz**	**1.15 256**	*e*Pg		Pg	02 14 11.5	-0.2
VLKR			*e*Sg		Sg	02 14 27.4	+0.8
KMKR	**Kumukh**	**1.38 151**	*e*PG		Pg	02 14 15.0	-1.1
KMKR			*e*S		Sb	02 14 33.5	-0.1
KMKR			pmax	pmax			
	comp=Z,56nm,0.2s						
KMKR	**Kumukh**	**1.38 151**	*e*Pg		Pg	02 14 15.0	-1.1
	comp=Z,56nm,0.2s						
KMKR			*e*Sg		Sb	02 14 33.5	-0.1
KMSR	**Komsomolskaya**	**1.39 272** ⇑	*i*PG		Pg	02 14 16.0	-0.4
KMSR			*i* S		Sg	02 14 35.1	+0.8
KMSR	**Komsomolskaya**	**1.39 272**	*i* Pg		Pg	02 14 16.0	-0.4
KMSR			*i* Sg		Sg	02 14 35.1	+0.8
ARNR	**Ardon**	**1.41 265** ⇓	*i*PG		Pg	02 14 16.1	-0.6
ARNR			*i* S		Sg	02 14 35.3	+0.4
ARNR	**Ardon**	**1.41 265**	*i* Pg		Pg	02 14 16.1	-0.6
ARNR			*i* Sg		Sg	02 14 35.3	+0.4
PRTR	**Priterechnaya**	**1.45 287** ⇓	*i*PG		Pg	02 14 17.4	-0.2
PRTR			*e*S		Sg	02 14 37.5	+1.1
PRTR	**Priterechnaya**	**1.45 287**	*i* Pg		Pg	02 14 17.4	-0.2
PRTR			*e*Sg		Sg	02 14 37.5	+1.1
LACR	**Lac**	**1.48 251**	*e*PG		Pg	02 14 14.7	-3.4
LACR			*i* S		Sn	02 14 34.7	-1.8
LACR	**Lac**	**1.48 251**	*e*Pg		Pg	02 14 14.7	-3.4
LACR			*i* Sg		Sn	02 14 34.7	-1.8
KORR	**Kora**	**1.57 262** ⇑	*i*PG		Pg	02 14 18.5	-1.4
KORR			*i* S		Sg	02 14 40.0	-0.3
KORR	**Kora**	**1.57 262**	*i* Pg		Pg	02 14 18.5	-1.4
KORR			*i* Sg		Sg	02 14 40.0	-0.3
LSNR	**Lesken**	**1.74 269** ⇑	*i*PN		Pn	02 14 20.8	+0.4
LSNR			*i* S		Sn	02 14 44.2	+1.4
LSNR	**Lesken**	**1.74 269**	*i* Pn		Pn	02 14 20.8	+0.4
LSNR			*i* Sg		Sn	02 14 44.2	+1.4
TBLG	**Delisi**	**1.93 214**	*e*PN		Pn	02 14 23.6	+0.5
TBLG			*e*S		Sn	02 14 48.2	+0.6
TBLG	**Delisi**	**1.93 214**	P		Pn	02 14 23.6	+0.6
TBLG			S		Sn	02 14 48.2	+0.6
TBLG	**Delisi**	**1.93 214**	*e*Pn		Pn	02 14 23.6	+0.5
TBLG			*e*Sg		Sn	02 14 48.2	+0.6
MTA	**Mtatsminda**	**1.94 213**	P		Pn	02 14 23.7	+0.5
MTA			S		Sn	02 14 48.4	+0.5
DIGR	**Digorskoe uzhe**	**1.96 258** ⇑	*i*PN		Pn	02 14 23.5	0.0
DIGR			*i* S		Sn	02 14 48.9	+0.5
DIGR	**Digorskoe uzhe**	**1.96 258**	*i* Pn		Pn	02 14 23.5	0.0
DIGR			*i* Sg		Sn	02 14 48.9	+0.5
DGRG	**David-gareji**	**1.98 198**	P		Pn	02 14 24.4	+0.7
DGRG			S		Sn	02 14 50.5	+1.8
GOR	**Gori**	**2.04 229**	P		Pn	02 14 24.8	+0.2
GOR			S		Sn	02 14 50.5	+0.1
KUBR	**Kubataba**	**2.08 284** ⇑	*e*PN		Pn	02 14 24.1	-1.0
KUBR	**Kubataba**	**2.08 284**	*e*Pn		Pn	02 14 24.1	-1.0
ONI	**Oni**	**2.15 251**	P		Pn	02 14 26.5	+0.5
ONI			S		Sn	02 14 53.5	+0.6
SHAR	**Shatzhatmas**	**2.59 280** ⇓	*i*PN		Pn	02 14 30.6	-1.6
SHAR			*e*S		Sn	02 15 00.9	-3.1
SHAR	**Shatzhatmas**	**2.59 280**	*i* Pn		Pn	02 14 30.6	-1.6
SHAR			*e*Sn		Sn	02 15 00.9	-3.1
KIV	**Kislovodsk**	**2.62 285** ⇓	*i*PN		Pn	02 14 31.3	-1.2
KIV			*e*S		Sn	02 15 02.4	-2.2
KIV	**Kislovodsk**	**2.62 285**	*i* Pn		Pn	02 14 31.3	-1.2
KIV			*e*Sn		Sn	02 15 02.4	-2.2

ISCJB ***07*** *02:16:51.8±0.4, 38°.04N±0°.02×21°.55E±0°.02, h3km±3km, mb3.7/6, Error ellipse: s-maj=2.7km s-min=2.3km az=13.0*
ATH ***07*** *02:16:52.8, 38°.06N×21°.56E, h18km, ML3.8*
CSEM ***07*** *02:16:52.6±0.1, 38°.04N×21°.57E, h2km, ML3.9, Error ellipse: s-maj=3.2km s-min=2.7km az=27.0*
THE ***07*** *02:16:53.1, 38°.05N×21°.65E, h0km±1km, ML3.7/13, Error ellipse: s-maj=1.6km s-min=0.6km az=275.0*
NEIC ***07*** *02:16:58.7±0.9, 38°.19N×21°.50E, h63km±9km, Error ellipse: s-maj=12.6km s-min=7.4km az=181.0*
IDC ***07*** *02:16:58.9±3.1, 38°.20N×21°.52E, h65km±31km, mb3.4/6, mb1 3.4/10, mb1mx3.2/28, mbtmp3.3/10, ML3.4/4, Error ellipse: s-maj=25.7km s-min=18.8km az=146.0*
ISC 07 02:16:52.6±0.3, 38°.04N±0°.01×21°.57E±0°.02, h3km±2km, n228, σ1§19/312, mb3.7/6, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.08**	**284**	*e*PB	**Pg**	**02 16 56.1**	**+1.9**
RLS				*e*SB	**Sg**	**02 16 58.8**	**+3.5**
RLS	**Riolos of Patr**	**0.08**	**284**	P	**Pg**	**02 16 56.0**	**+1.8**
RLS				S	**Sg**	**02 16 58.7**	**+3.4**
RLS	**Riolos of Patr**	**0.08**	**284**	P	**Pg**	**02 16 56.0**	**+1.8**
RLS				S	**Sg**	**02 16 58.3**	**+3.0**
RLS				*e*Sb	**Sg**	**02 16 58.8**	**+3.5**
LAKA	**Lakka**	**0.38**	**58**	P	**Pg**	**02 16 59.4**	**-0.6**
LAKA				S	**Sg**	**02 17 04.7**	**-0.2**
LAKA	**Lakka**	**0.38**	**58**	P	**Pg**	**02 17 00.7**	**+0.7**
LAKA				S	**Sg**	**02 17 06.2**	**+1.3**
EFP	**Efpalio**	**0.47**	**34**	P	**Pg**	**02 17 00.9**	**-0.8**
EFP				S	**Sg**	**02 17 07.0**	**-0.8**
EFP	**Efpalio**	**0.47**	**34**	P	**Pg**	**02 17 02.1**	**+0.4**
EFP				S	**Sg**	**02 17 09.4**	**+1.6**
TRIZ	**Trizonia**	**0.52**	**51**	P	**Pg**	**02 17 00.6**	**-1.9**
TRIZ				S	**Sg**	**02 17 08.4**	**-0.8**
TRIZ	**Trizonia**	**0.52**	**51**	P	**Pg**	**02 17 00.6**	**-1.9**
TRIZ				S	**Sg**	**02 17 08.4**	**-0.8**
KALE	**Kalithea**	**0.57**	**52**	P	**Pg**	**02 17 02.7**	**-0.9**
KALE				S	**Sg**	**02 17 11.1**	**+0.1**
KALE	**Kalithea**	**0.57**	**52**	P	**Pg**	**02 17 03.9**	**+0.3**
KALE				S	**Sg**	**02 17 12.6**	**+1.6**
KFL	**Anninata**	**0.62**	**277**	P	**Pg**	**02 17 04.8**	**+0.3**
KFL				S	**Sg**	**02 17 16.3**	**+3.8**
KFL	**Anninata**	**0.62**	**277**	P	**Pg**	**02 17 04.8**	**+0.3**
KFL				S	**Sg**	**02 17 16.3**	**+3.8**
VLS	**Valsamata**	**0.78**	**281**	*e*PN	**Pn**	**02 17 07.5**	**-3.1**
VLS				*e*SN	**Sg**	**02 17 19.1**	**+1.3**
VLS	**Valsamata**	**0.78**	**281**	P	**Pg**	**02 17 06.8**	**-0.8**
VLS				S	**Sg**	**02 17 20.0**	**+2.2**
VLS	**Valsamata**	**0.78**	**281**	P	**Pg**	**02 17 06.8**	**-0.8**
VLS	**Valsamata**	**0.78**	**281**	*e*Pb	**Pb**	**02 17 07.1**	**-1.8**
VLS				S	**Sg**	**02 17 20.0**	**+2.2**
DSF	**Desfina**	**0.84**	**63**	P	**Pg**	**02 17 07.4**	**-1.4**
DSF	**Desfina**	**0.84**	**63**	P	**Pg**	**02 17 08.1**	**-0.7**
DESF	**Desfina**	**0.85**	**64**	P	**Pg**	**02 17 07.5**	**-1.4**
DESF				S	**Sg**	**02 17 18.8**	**-1.0**
DESF	**Desfina**	**0.85**	**64**	P	**Pg**	**02 17 07.5**	**-1.4**
DESF				S	**Sg**	**02 17 18.8**	**-1.0**
EVR	**Evrytania**	**0.90**	**12**	*e*PN	**Pn**	**02 17 10.1**	**-2.0**
EVR				*e*SN	**Sg**	**02 17 22.4**	**+0.9**
EVR	**Evrytania**	**0.90**	**12**	P	**Pg**	**02 17 09.5**	**-0.3**
EVR				S	**Sg**	**02 17 22.4**	**+0.9**
EVR	**Evrytania**	**0.90**	**12**	P	**Pg**	**02 17 09.5**	**-0.3**
EVR	**Evrytania**	**0.90**	**12**	*e*Pn	**Pn**	**02 17 10.3**	**-1.8**
EVR				S	**Sg**	**02 17 22.4**	**+0.9**
ITM	**Ithomi**	**0.90**	**161**	*e*PN	**Pn**	**02 17 10.1**	**-2.1**
ITM				*e*SN	**Sn**	**02 17 23.4**	**-2.4**
ITM	**Ithomi**	**0.90**	**161**	P	**Pg**	**02 17 09.9**	**0.0**
ITM				S	**Sg**	**02 17 23.5**	**+1.9**
ITM	**Ithomi**	**0.90**	**161**	P	**Pg**	**02 17 09.9**	**0.0**
ITM	**Ithomi**	**0.90**	**161**	*e*Pb	**Pb**	**02 17 10.2**	**-0.7**
ITM				S	**Sg**	**02 17 23.5**	**+1.9**
ITM				*e*Sn	**Sn**	**02 17 24.4**	**-1.4**
VLX	**Vlachokerasia**	**0.93**	**136**	P	**Pg**	**02 17 10.2**	**-0.2**
VLX				S	**Sg**	**02 17 22.9**	**+0.5**
VLX	**Vlachokerasia**	**0.93**	**136**	P	**Pg**	**02 17 10.2**	**-0.2**
VLX				S	**Sg**	**02 17 22.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.07**	**24**	P	**Pg**	**02 17 12.7**	**-0.4**
MAKR				S	**Sg**	**02 17 28.4**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.07**	**24**	P	**Pg**	**02 17 12.7**	**-0.4**
MAKR				S	**Sg**	**02 17 28.4**	**+1.4**
LTK	**Loutraki**	**1.11**	**90**	P	**Pg**	**02 17 13.0**	**-0.8**
LTK				S	**Sg**	**02 17 28.9**	**+0.8**
LTK	**Loutraki**	**1.11**	**90**	P	**Pg**	**02 17 13.0**	**-0.8**
LTK				S	**Sg**	**02 17 28.9**	**+0.8**
AXAR	**Agios Charalam**	**1.12**	**49**	P	**Pg**	**02 17 13.0**	**-1.2**
AXAR				S	**Sg**	**02 17 28.9**	**+0.1**
AXAR	**Agios Charalam**	**1.12**	**49**	P	**Pg**	**02 17 13.0**	**-1.2**
AXAR				S	**Sg**	**02 17 28.9**	**+0.1**
PYL	**PYLOS**	**1.15**	**173**	P	**Pg**	**02 17 14.1**	**-0.5**
PYL				S	**Sg**	**02 17 32.2**	**+2.7**
PYL	**PYLOS**	**1.15**	**173**	P	**Pg**	**02 17 14.2**	**-0.4**
PYL				S	**Sg**	**02 17 32.3**	**+1.8**
AGG	**Agios Georgios**	**1.15**	**31**	*e*PN	**Pn**	**02 17 13.9**	**-1.7**
AGG				*e*SN	**Sn**	**02 17 30.1**	**-1.8**
AGG	**Agios Georgios**	**1.15**	**31**	P	**Pg**	**02 17 13.3**	**-1.4**
AGG				S	**Sg**	**02 17 31.3**	**+1.7**
AGG	**Agios Georgios**	**1.15**	**31**	P	**Pg**	**02 17 13.3**	**-1.4**
AGG	**Agios Georgios**	**1.15**	**31**	*e*Pn	**Pn**	**02 17 13.9**	**-1.7**
AGG				*e*Sn	**Sn**	**02 17 30.1**	**-1.8**
AGG				S	**Sg**	**02 17 31.3**	**+1.7**
LKR	**Lokris**	**1.28**	**61**	*e*PN	**Pn**	**02 17 16.5**	**-0.9**
LKR				*e*SN	**Sn**	**02 17 35.0**	**-0.1**
LKR	**Lokris**	**1.28**	**61**	P	**Pg**	**02 17 15.7**	**-1.5**
LKR				S	**Sg**	**02 17 33.2**	**-0.6**
LKR	**Lokris**	**1.28**	**61**	P	**Pg**	**02 17 15.7**	**-1.5**
LKR	**Lokris**	**1.28**	**61**	*e*Pn	**Pn**	**02 17 16.4**	**-1.0**
LKR				S	**Sg**	**02 17 33.2**	**-0.6**
LKR				*e*Sn	**Sn**	**02 17 35.2**	**+0.1**
ATAL	**Atalanti**	**1.32**	**60**	P	**Pg**	**02 17 16.4**	**-1.5**
ATAL				S	**Sg**	**02 17 34.7**	**-0.2**
ATAL	**Atalanti**	**1.32**	**60**	P	**Pg**	**02 17 16.4**	**-1.5**
ATAL				S	**Sg**	**02 17 34.7**	**-0.2**
VIL1	**Vilia, Western**	**1.40**	**84**	*e*PN	**Pn**	**02 17 19.0**	**0.0**
VIL1				*e*SN	**Sn**	**02 17 38.5**	**+0.6**
DYR	**Agios Nikonas**	**1.41**	**154**	P	**Pn**	**02 17 19.2**	**0.0**
DIDY	**Didyma**	**1.42**	**113**	P	**Pn**	**02 17 18.9**	**-0.4**
DIDY				S	**Sg**	**02 17 39.4**	**+1.2**
DIDY	**Didyma**	**1.42**	**113**	P	**Pn**	**02 17 18.9**	**-0.4**
DIDY				S	**Sg**	**02 17 39.4**	**+1.2**
DID	**Didima**	**1.43**	**111**	P	**Pn**	**02 17 18.6**	**-0.8**
DID				S	**Sg**	**02 17 37.7**	**-0.7**
DID	**Didima**	**1.43**	**111**	P	**Pn**	**02 17 19.1**	**-0.3**
DID				S	**Sg**	**02 17 37.7**	**-0.7**
NAIG	**Nisos Aigina**	**1.55**	**100**	*e*PN	**Pn**	**02 17 22.0**	**+0.9**
NAIG	**Nisos Aigina**	**1.55**	**100**	*e*Pn	**Pn**	**02 17 22.0**	**+0.9**
THL	**Klokotos Trika**	**1.56**	**13**	*e*PN	**Pn**	**02 17 22.0**	**+0.7**
THL	**Klokotos Trika**	**1.56**	**13**	P	**Pn**	**02 17 21.4**	**+0.1**
THL				S	**Sn**	**02 17 42.5**	**+0.4**
THL	**Klokotos Trika**	**1.56**	**13**	P	**Pn**	**02 17 21.4**	**+0.1**
THL	**Klokotos Trika**	**1.56**	**13**	*e*Pn	**Pn**	**02 17 22.0**	**+0.7**
THL				S	**Sn**	**02 17 42.5**	**+0.4**
ATH	**Athens Observa**	**1.70**	**92**	*e*PN	**Pn**	**02 17 23.2**	**0.0**
ATH				*e*SN	**Sn**	**02 17 46.4**	**+1.0**
ATH	**Athens Observa**	**1.70**	**92**	P	**Pn**	**02 17 22.2**	**-1.0**
ATH				S	**Sn**	**02 17 44.3**	**-1.1**
ATH	**Athens Observa**	**1.70**	**92**	P	**Pn**	**02 17 22.2**	**-1.0**
ATH	**Athens Observa**	**1.70**	**92**	*e*Pb	**Pb**	**02 17 23.1**	**-1.4**
ATH				S	**Sn**	**02 17 44.3**	**-1.1**
ATH				*e*Sn	**Sn**	**02 17 46.4**	**+1.0**
JAN	**Janina**	**1.71**	**341**	*e*PN	**Pn**	**02 17 23.9**	**+0.6**
JAN	**Janina**	**1.71**	**341**	P	**Pn**	**02 17 24.3**	**+1.0**
JAN				S	**Sn**	**02 17 46.1**	**+0.4**
JAN	**Janina**	**1.71**	**341**	*e*Pn	**Pn**	**02 17 24.2**	**+0.9**
JAN				S	**Sn**	**02 17 46.1**	**+0.4**
VLI	**Veliai**	**1.71**	**140**	*e*PN	**Pn**	**02 17 24.7**	**+1.4**
VLI	**Veliai**	**1.71**	**140**	P	**Pn**	**02 17 23.4**	**+0.1**
VLI				S	**Sn**	**02 17 46.9**	**+1.2**
VLI	**Veliai**	**1.71**	**140**	P	**Pn**	**02 17 23.4**	**+0.1**
VLI	**Veliai**	**1.71**	**140**	*e*Pn	**Pn**	**02 17 24.7**	**+1.4**
VLI				S	**Sn**	**02 17 46.9**	**+1.2**
MRKA	**Markates**	**1.72**	**67**	P	**Pn**	**02 17 22.4**	**-1.1**
MRKA				S	**Sn**	**02 17 45.9**	**-0.1**
MRKA	**Markates**	**1.72**	**67**	P	**Pn**	**02 17 22.4**	**-1.1**
MRKA				S	**Sn**	**02 17 45.9**	**-0.1**
MEV	**Metsovon**	**1.76**	**352**	P	**Pn**	**02 17 24.1**	**0.0**
MEV	**Metsovon**	**1.76**	**352**	P	**Pn**	**02 17 24.1**	**0.0**
VLY	**Voula,Athens**	**1.77**	**95**	*e*PN	**Pn**	**02 17 24.4**	**+0.3**
VLY	**Voula,Athens**	**1.77**	**95**	P	**Pn**	**02 17 23.2**	**-0.9**
VLY				S	**Sn**	**02 17 47.0**	**-0.2**
VLY	**Voula,Athens**	**1.77**	**95**	P	**Pn**	**02 17 23.2**	**-0.9**
VLY	**Voula,Athens**	**1.77**	**95**	*e*Pb	**Pb**	**02 17 24.3**	**-1.4**
VLY				S	**Sn**	**02 17 47.0**	**-0.2**
VLY				*e*Sn	**Sn**	**02 17 49.1**	**+1.9**
IGT	**Igoumenitsa**	**1.78**	**328**	P	**Pn**	**02 17 24.5**	**+0.3**
IGT				S	**Sn**	**02 17 48.5**	**+1.2**
IGT	**Igoumenitsa**	**1.78**	**328**	P	**Pn**	**02 17 24.5**	**+0.3**
IGT				S	**Sn**	**02 17 48.5**	**+1.2**
NEO	**Neokhori**	**1.81**	**45**	*e*PN	**Pn**	**02 17 24.8**	**+0.1**
NEO				*e*SN	**Sn**	**02 17 48.4**	**+0.2**
NEO	**Neokhori**	**1.81**	**45**	P	**Pn**	**02 17 23.3**	**-1.4**
NEO	**Neokhori**	**1.81**	**45**	P	**Pn**	**02 17 23.3**	**-1.4**
NEO	**Neokhori**	**1.81**	**45**	*e*Pb	**Pb**	**02 17 24.4**	**-2.0**
NEO				*e*Sn	**Sn**	**02 17 48.4**	**+0.2**
PTL	**Penteli**	**1.81**	**89**	*e*PB	**Pb**	**02 17 24.6**	**-1.9**
PTL	**Penteli**	**1.81**	**89**	P	**Pn**	**02 17 24.1**	**-0.6**
PTL				S	**Sn**	**02 17 48.2**	**-0.1**
PTL	**Penteli**	**1.81**	**89**	P	**Pn**	**02 17 24.1**	**-0.6**
PTL				S	**Sn**	**02 17 48.2**	**-0.1**
PTL				*e*Sn	**Sn**	**02 17 48.5**	**+0.2**
KYTH	**Kithira**	**2.11**	**146**	*e*PN	**Pn**	**02 17 30.1**	**+1.3**
KYTH	**Kithira**	**2.11**	**146**	*e*Pn	**Pn**	**02 17 32.4**	**+3.6**
AOS	**Alonnisos**	**2.14**	**57**	P	**Pn**	**02 17 28.2**	**-1.0**
AOS	**Alonnisos**	**2.14**	**57**	P	**Pn**	**02 17 28.2**	**-1.0**
KEK	**Kerkira**	**2.17**	**321**	*e*PB	**Pb**	**02 17 29.6**	**-2.9**
KEK	**Kerkira**	**2.17**	**321**	P	**Pn**	**02 17 29.9**	**+0.3**
KEK	**Kerkira**	**2.17**	**321**	*e*Pb	**Pb**	**02 17 29.6**	**-2.9**
KEK	**Kerkira**	**2.17**	**321**	P	**Pn**	**02 17 29.9**	**+0.3**
LIT	**Litokhoron**	**2.18**	**19**	*e*PN	**Pn**	**02 17 30.2**	**+0.4**
LIT	**Litokhoron**	**2.18**	**19**	P	**Pn**	**02 17 30.2**	**+0.4**
LIT	**Litokhoron**	**2.18**	**19**	P	**Pn**	**02 17 30.2**	**+0.4**
MRMA	**Marmari**	**2.22**	**89**	P	**Pn**	**02 17 29.9**	**-0.4**
MRMA	**Marmari**	**2.22**	**89**	P	**Pn**	**02 17 29.9**	**-0.4**
KZN	**Kozani**	**2.27**	**4**	*e*PN	**Pn**	**02 17 32.1**	**+1.1**
KZN	**Kozani**	**2.27**	**4**	P	**Pn**	**02 17 32.1**	**+1.1**
KZN	**Kozani**	**2.27**	**4**	P	**Pn**	**02 17 32.1**	**+1.1**
KZN	**Kozani**	**2.27**	**4**	*e*Pn	**Pn**	**02 17 32.5**	**+1.5**
NEST	**Nestorio**	**2.41**	**351**	P	**Pn**	**02 17 34.6**	**+1.7**
NEST	**Nestorio**	**2.41**	**351**	P	**Pn**	**02 17 34.6**	**+1.7**
PAIG	**Paliouri**	**2.50**	**40**	P	**Pn**	**02 17 32.9**	**-1.3**
PAIG	**Paliouri**	**2.50**	**40**	P	**Pn**	**02 17 32.9**	**-1.3**
FNA	**Florina**	**2.75**	**357**	P	**Pn**	**02 17 38.6**	**+1.0**
FNA	**Florina**	**2.75**	**357**	P	**Pn**	**02 17 38.6**	**+1.0**
PLG	**Polygyros**	**2.75**	**31**	*e*PN	**Pn**	**02 17 38.2**	**+0.6**
PLG	**Polygyros**	**2.75**	**31**	P	**Pn**	**02 17 36.9**	**-0.7**
PLG	**Polygyros**	**2.75**	**31**	P	**Pn**	**02 17 36.9**	**-0.7**
PLG	**Polygyros**	**2.75**	**31**	*e*Pn	**Pn**	**02 17 38.2**	**+0.6**
OUR	**Ouranopolis**	**2.96**	**39**	P	**Pn**	**02 17 40.3**	**-0.2**
OUR	**Ouranopolis**	**2.96**	**39**	P	**Pn**	**02 17 40.3**	**-0.2**
BIA	**Bitola**	**2.98**	**356**	*e*Pg	**Pg**	**02 17 42.0**	**-7.8**
GRG	**Griva**	**2.99**	**12**	P	**Pn**	**02 17 42.0**	**+1.2**
GRG	**Griva**	**2.99**	**12**	P	**Pn**	**02 17 42.0**	**+1.2**
SOH	**Sokhos**	**3.10**	**26**	*e*PN	**Pn**	**02 17 43.3**	**+0.8**
SOH	**Sokhos**	**3.10**	**26**	P	**Pn**	**02 17 43.1**	**+0.6**
SOH				S	**Sn**	**02 18 21.1**	**+1.0**
SOH	**Sokhos**	**3.10**	**26**	P	**Pn**	**02 17 43.1**	**+0.6**
SOH				S	**Sn**	**02 18 21.1**	**+1.0**
KNT	**Kendrikon**	**3.29**	**18**	P	**Pn**	**02 17 46.5**	**+1.5**
KNT	**Kendrikon**	**3.29**	**18**	P	**Pn**	**02 17 46.5**	**+1.5**
APE	**Apeiranthos**	**3.30**	**106**	*e*P	**Pn**	**02 17 46.0**	**+0.9**
KRUS	**Krusevo**	**3.34**	**356**	*e*Pn	**Pn**	**02 17 45.9**	**+0.3**
KRUS	**Krusevo**	**3.34**	**356**	*e*Pn	**Pn**	**02 17 45.9**	**+0.2**
VAY	**Valandovo**	**3.37**	**13**	*e*Pn	**Pn**	**02 17 47.1**	**+1.0**
VAY				*e*Sn	**Sn**	**02 18 30.7**	**+4.1**
VAY	**Valandovo**	**3.37**	**13**	*e*Pn	**Pn**	**02 17 47.1**	**+1.0**
VAY				*e*Sn	**Sn**	**02 18 30.6**	**+4.0**
SRS	**Serrai**	**3.45**	**26**	P	**Pn**	**02 17 47.5**	**+0.3**
CHOS	**Chios island**	**3.55**	**83**	*e*PN	**Pn**	**02 17 49.4**	**+0.8**
CHOS	**Chios island**	**3.55**	**83**	*e*Pn	**Pn**	**02 17 49.4**	**+0.8**
TIR	**Tirane**	**3.56**	**339**	*e*Pn	**Pn**	**02 17 49.4**	**+0.7**
TIR	**Tirane**	**3.56**	**339**	*e*Pn	**Pn**	**02 17 49.4**	**+0.7**
KAVA	**Kavala**	**3.73**	**37**	P	**Pn**	**02 17 50.2**	**-0.9**
KAVA	**Kavala**	**3.73**	**37**	P	**Pn**	**02 17 50.2**	**-0.9**
MMB	**Musomiste**	**3.92**	**24**	P	**Pn**	**02 17 54.2**	**+0.5**
MMB	**Musomiste**	**3.92**	**24**	P	**Pn**	**02 17 54.2**	**+0.5**
TIP	**Timpagrande**	**3.94**	**288**	*e*Pn	**Pn**	**02 17 54.6**	**+0.7**
TIP	**Timpagrande**	**3.94**	**288**	*e*Pn	**Pn**	**02 17 54.6**	**+0.7**
GADA	**Gvkgeada**	**4.00**	**56**	*e*P	**Pn**	**02 17 55.5**	**+0.8**
GADA	**Gvkgeada**	**4.00**	**56**	*e*P	**Pn**	**02 17 55.5**	**+0.8**
KKB	**Krupnik**	**4.00**	**16**	P	**Pn**	**02 17 56.9**	**+2.1**
KKB	**Krupnik**	**4.00**	**16**	P	**Pn**	**02 17 56.9**	**+2.1**
EZN	**Ezine**	**4.12**	**63**	*e*P	**Pn**	**02 17 57.9**	**+1.5**
EZN

az=136.0 4 km ENE of Neunkirchen felt 5 ems98 at Neunkirchen / LOWER AUSTRIA
*BGR **07** 02:47:43.9±0.4, 47°.80N×16°.07E, h10km, ML3.9/15, Error ellipse: s-maj=5.6km s-min=3.3km az=90.0*
*PRU **07** 02:47:43.5, 47°.90N×16°.09E, h17km*
*STR **07** 02:47:50.5±0.7, 47°.88N×15°.13E, h5km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 07 02:47:40.7±0.2, 47°.80N±0°.01×16°.14E±0°.01, h8km±1km, n321, σ1§27/552, mb3.3/2, 41C-29D, Austria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.22**	**304**	⇑*i*Pg		**Pg**	**02 47 46.8**	**+1.6**
CONA	3μm,0.3s,SNR=2199			⇓*e*Sg		**Sg**	**02 47 51.4**	**+3.1**
CONA	**Conrad Observa**	**0.22**	**304**	Pg		**Pg**	**02 47 46.7**	**+1.5**
CONA	3μm,0.4s			Sg		**Sg**	**02 47 50.8**	**+2.6**
SOP	**Sopron**	**0.31**	**113**	⇑*e*Pg		**Pg**	**02 47 47.6**	**+0.8**
SOP				*e*Pn		**Sg**	**02 47 51.6**	**+0.7**
SOP	**Sopron**	**0.31**	**113**	⇑*e*Pg		**Pg**	**02 47 47.6**	**+0.8**
SOP				*e*Sn		**Sg**	**02 47 51.6**	**+0.7**
ARSA	**Arzberg**	**0.69**	**217**	*i* Pg		**Pg**	**02 47 54.3**	**+0.3**
ARSA	671nm,0.3s,SNR=1897			⇓*i*Sg		**Sg**	**02 48 04.1**	**+1.1**
ARSA	**Arzberg**	**0.69**	**217**	*e*Pg		**Pg**	**02 47 54.4**	**+0.4**
ARSA	788nm,0.2s			*e*Sg		**Sg**	**02 48 04.1**	**+1.1**
ARSA	**Arzberg**	**0.69**	**217**	*e*Pg		**Pg**	**02 47 54.4**	**+0.4**
ARSA				*e*Sg		**Sg**	**02 48 04.1**	**+1.2**
ARSA	**Arzberg**	**0.69**	**217**	Pg		**Pg**	**02 47 54.4**	**+0.4**
ARSA				*e*Sg		**Sg**	**02 48 03.5**	**+0.5**
ZST	**Bratislava**	**0.76**	**58**	*e*PG		**Pg**	**02 47 55.9**	**+0.6**
ZST				*e*SG		**Sg**	**02 48 07.0**	**+1.8**
ZST	**Bratislava**	**0.76**	**58**	*e*Pg		**Pg**	**02 47 55.7**	**+0.4**
ZST	baz=235			*e*Sg		**Sg**	**02 48 07.0**	**+1.8**
SMOL	**Smolenice**	**1.12**	**50**	*e*PN		**Pn**	**02 48 02.8**	**+0.2**
SMOL				*e*SN		**Sn**	**02 48 19.3**	**+1.1**
SMOL	**Smolenice**	**1.12**	**50**	*e*Pn		**Pn**	**02 48 02.8**	**+0.2**
SMOL				*e*Sn		**Sn**	**02 48 19.3**	**+1.1**
MOA	**Molln**	**1.26**	**273**	⇑*i*Pg		**Pg**	**02 48 05.2**	**+0.3**
MOA	47nm,0.1s,SNR=80			⇓*i*Sg		**Sg**	**02 48 22.3**	**+1.1**
MOA	**Molln**	**1.26**	**273**	*e*Pg		**Pg**	**02 48 05.3**	**+0.4**
MOA	204nm,0.2s			*e*Sg		**Sg**	**02 48 23.0**	**+1.8**
MOA	**Molln**	**1.26**	**273**	Pn		**Pn**	**02 48 05.2**	**+0.7**
MOA				Sg		**Sg**	**02 48 22.3**	**+1.1**
KRUC	**Moravsky**	**1.27**	**8**	*e*Pg		**Pg**	**02 48 05.0**	**-0.1**
KRUC	baz=186			*e*Sg		**Sg**	**02 48 21.4**	**-0.2**
SOKA	**Soboth**	**1.35**	**214**	⇓*i*Pg		**Pg**	**02 48 06.0**	**-0.7**
SOKA	258nm,0.4s			⇑*i*Sg		**Sg**	**02 48 23.4**	**-0.7**
SOKA	**Soboth**	**1.35**	**214**	Pn		**Pn**	**02 48 05.9**	**+0.1**
SOKA	176nm,0.3s			Sg		**Sg**	**02 48 23.4**	**-0.8**
KOGS	**Kog**	**1.36**	**177**	*i* Pg		**Pg**	**02 48 05.9**	**-0.8**
KOGS				*i* Sg		**Sg**	**02 48 25.2**	**+0.9**
KOGS	**Kog**	**1.36**	**177**	*i* Pn		**Pn**	**02 48 05.9**	**+0.1**
KOGS				*i* Sn		**Sn**	**02 48 25.2**	**+1.2**
PERS	**Pernice**	**1.36**	**211**	*i* Pg		**Pg**	**02 48 06.3**	**-0.5**
PERS				*i* Sg		**Sg**	**02 48 24.4**	**+0.1**
PERS	**Pernice**	**1.36**	**211**	*i* Pn		**Pn**	**02 48 06.2**	**+0.3**
PERS				*i* Sn		**Sn**	**02 48 24.4**	**+0.4**
BEHE	**Becsehely**	**1.40**	**162**	⇑*e*Pn		**Pn**	**02 48 07.0**	**+0.5**
BEHE				*e*Sn		**Sn**	**02 48 28.6**	**+3.5**
GROS	**Grobnik**	**1.41**	**198**	*i* Pg		**Pg**	**02 48 06.8**	**-0.9**
GROS				*i* Sg		**Sg**	**02 48 24.7**	**-1.3**
GROS	**Grobnik**	**1.41**	**198**	*i* Pn		**Pn**	**02 48 06.7**	**+0.1**
GROS				*i* Sn		**Sn**	**02 48 24.7**	**-0.6**
VRAC	**Vranov**	**1.54**	**11**	Pg		**Pg**	**02 48 08.7**	**-1.5**
VRAC	comp=Z,53nm,0.3s,baz=196,slow=14,SNR=487			Lg			02 48 28.4	
VRAC	**Vranov**	**1.54**	**11**	Pg		**Pg**	**02 48 08.7**	**-1.5**
VRAC	comp=Z,152nm,0.3s,baz=229,slow=1.0,SNR=37			Lg			02 48 28.4	
VRAC	**Vranov**	**1.54**	**11**	⇓*i*P		**Pn**	**02 48 08.6**	**+0.3**
VRAC	**Vranov**	**1.54**	**11**	⇓*i*P		**Pn**	**02 48 08.6**	**+0.3**
VRAC				Lg			02 48 28.4	
VRAC				S		**Sn**	**02 48 28.4**	**-0.1**
VRAC				*e*Sn		**Sn**	**02 48 28.8**	**+0.3**
TREC	**Trest**	**1.55**	**344**	*e*PG		**Pg**	**02 48 10.1**	**-0.4**
TREC				*e*SG		**Sg**	**02 48 30.4**	**-0.3**
TREC	**Trest**	**1.55**	**344**	*e*Pn		**Pn**	**02 48 09.7**	**+1.1**
TREC	baz=162 **Trest**	**1.55**	**344**	Pg		**Pg**	**02 48 10.1**	**-0.4**
TREC				*e*Sn		**Sg**	**02 48 30.4**	**-0.3**
TREC				*e*Sg		**Sg**	**02 48 30.9**	**+0.2**
PKSG		**1.58**	**104**	⇓*e*Pn		**Pn**	**02 48 08.6**	**-0.3**
PKSG				⇓*e*Sn		**Sn**	**02 48 27.5**	**-2.0**
OBKA	**Obir**	**1.69**	**221**	⇑*i*Pg		**Pg**	**02 48 11.4**	**-1.6**
OBKA	comp=Z,21nm,0.3s,SNR=188			⇑*i*Sg		**Sg**	**02 48 35.2**	**+0.3**
OBKA	**Obir**	**1.69**	**221**	*e*Pn		**Pn**	**02 48 11.5**	**+1.1**
OBKA	comp=Z,332nm,0.3s			*e*Pg		**Pg**	**02 48 14.2**	**+1.2**
OBKA				*e*Sg		**Sg**	**02 48 34.9**	**0.0**
OBKA	**Obir**	**1.69**	**221**	*e*Pn		**Pn**	**02 48 11.5**	**+1.1**
OBKA				*e*Pg		**Pg**	**02 48 14.2**	**+1.2**
OBKA				*e*Sg		**Sg**	**02 48 34.9**	**+0.1**
OBKA	**Obir**	**1.69**	**221**	Pn		**Pn**	**02 48 11.4**	**+1.0**
OBKA	**Obir**	**1.69**	**221**	Pg		**Pg**	**02 48 14.2**	**+1.2**
OBKA	comp=Z,332nm,0.3s			Sg		**Sg**	**02 48 35.2**	**+0.3**
KOLL	**Kolacno**	**1.70**	**62**	*e*PN		**Pn**	**02 48 10.6**	**0.0**
KOLL	**Kolacno**	**1.70**	**62**	*e*Pn		**Pn**	**02 48 10.6**	**0.0**
GEC2	**GERESS Array S**	**1.93**	**304**	*e*Pn		**Pn**	**02 48 15.4**	**+1.7**
GEC2				*e*Sg		**Sg**	**02 48 43.1**	**+0.4**
GEC2	**GERESS Array S**	**1.93**	**304**	Pn		**Pn**	**02 48 15.4**	**+1.7**
GEC2				Sg		**Sg**	**02 48 43.1**	**+0.4**
GERES	**GERESS Array B**	**1.93**	**304**	Pg		**Pg**	**02 48 15.3**	**-2.4**
GERES	comp=Z,13nm,0.3s,baz=118,slow=16,SNR=301			Lg			02 48 42.5	
GERES	**GERESS Array B**	**1.93**	**304**	Pg		**Pg**	**02 48 15.3**	**-2.4**
GERES	comp=Z,80nm,0.3s,baz=122,slow=30,SNR=22			Lg			02 48 42.5	
GERES	**GERESS Array B**	**1.93**	**304**	Pg		**Pg**	**02 48 15.3**	**-2.4**
GERES				Lg			02 48 42.5	
BUD	**Budapest**	**1.98**	**98**	⇑*e*Pn		**Pn**	**02 48 14.2**	**-0.2**
BUD	**Budapest**	**1.98**	**98**	⇑*e*Pn		**Pn**	**02 48 14.2**	**-0.2**
KBA	**Koelnbreinsper**	**2.03**	**250**	⇑*i*Pn		**Pn**	**02 48 17.0**	**+2.0**
KBA	comp=Z,8.5nm,0.1s,SNR=30			⇓*i*Sn		**Sn**	**02 48 41.5**	**+1.0**
KBA				⇑*i*Sg		**Sg**	**02 48 47.7**	**+1.9**
KBA	**Koelnbreinsper**	**2.03**	**250**	*e*Pn		**Pn**	**02 48 17.1**	**+2.0**
KBA	comp=Z,316nm,0.5s			*e*Pg		**Pg**	**02 48 20.1**	**+0.6**
KBA				*e*Sg		**Sg**	**02 48 47.4**	**+1.6**
KBA	**Koelnbreinsper**	**2.03**	**250**	*e*Pn		**Pn**	**02 48 17.1**	**+2.0**
KBA				*e*Pg		**Pg**	**02 48 20.1**	**+0.6**
KBA				*e*Sg		**Sg**	**02 48 47.4**	**+1.6**
KBA	**Koelnbreinsper**	**2.03**	**250**	Pn		**Pn**	**02 48 17.0**	**+1.9**
KBA	comp=Z,8.5nm,0.1s,SNR=30 **Koelnbreinsper**	**2.03**	**250**	Pg		**Pg**	**02 48 20.1**	**+0.6**
KBA				Sn		**Sn**	**02 48 41.5**	**+1.0**
KBA				Sg		**Sg**	**02 48 47.4**	**+1.6**
MYKA	**Terra Mystica**	**2.06**	**236**	⇑*i*Pn		**Pn**	**02 48 16.8**	**+1.2**
MYKA	comp=Z,3.5nm,0.2s			⇑*i*Sn		**Sn**	**02 48 41.9**	**+0.4**
MYKA				⇑*i*Sg		**Sg**	**02 48 48.1**	**+1.1**
MYKA	**Terra Mystica**	**2.06**	**236**	Pn		**Pn**	**02 48 16.8**	**+1.2**
MYKA	comp=Z,70nm,0.3s comp=Z,3.5nm,0.2s			Sn		**Sn**	**02 48 41.9**	**+0.4**
MYKA				Sg		**Sg**	**02 48 48.1**	**+1.1**
LJU	**Ljubljana**	**2.08**	**213**	*e*Pn		**Pn**	**02 48 16.8**	**+1.1**
LJU	comp=Z,70nm,0.3s			*e*Sn		**Sn**	**02 48 47.6**	**+5.9**
LJU	**Ljubljana**	**2.08**	**213**	*e*Pn		**Pn**	**02 48 16.8**	**+1.1**
BGLD	**Berchtesgaden**	**2.11**	**267**	⇑*i*Pn		**Pn**	**02 48 17.9**	**+1.7**
BGLD	**Berchtesgaden**	**2.11**	**267**	Pn		**Pn**	**02 48 17.9**	**+1.7**
KHC	**Kasperske Hory**	**2.16**	**309**	*e*Pn		**Pn**	**02 48 18.5**	**+1.6**
KHC				*e*Sn		**Sn**	**02 48 42.9**	**-0.9**
KHC	**Kasperske Hory**	**2.16**	**309**	*e*PN		**Pn**	**02 48 18.3**	**+1.4**
KHC				*e*PG		**Pg**	**02 48 21.3**	**-0.8**
KHC				*e*SG		**Sg**	**02 48 49.0**	**-1.0**
KHC	comp=Z,291nm,0.5s **Kasperske Hory**	**2.16**	**309**	*e*Pn		**Pn**	**02 48 18.3**	**+1.4**
KHC	**Kasperske Hory**	**2.16**	**309**	Pg		**Pg**	**02 48 21.3**	**-0.8**
KHC				*e*Sn		**Sn**	**02 48 42.9**	**-0.9**
KHC				Sg		**Sg**	**02 48 49.0**	**-1.0**
MORC	comp=Z,291nm,0.5s **Moravsky Berou**	**2.18**	**25**	*e*Pn		**Pn**	**02 48 17.6**	**+0.4**
MORC	**Moravsky Berou**	**2.18**	**25**	⇓*i*P		**Pn**	**02 48 18.0**	**+0.8**
MORC	**Moravsky Berou**	**2.18**	**25**	S		**Sn**	**02 48 44.6**	**+0.2**
MORC	**Moravsky Berou**	**2.18**	**25**	*e*Pn		**Pn**	**02 48 17.6**	**+0.4**
MORC	**Moravsky Berou**	**2.18**	**25**	⇓*i*P		**Pn**	**02 48 18.0**	**+0.8**
MORC				*e*Sn		**Sn**	**02 48 44.7**	**+0.3**
SISC	comp=Z,148nm,0.4s,baz=204 **Sisak**	**2.34**	**176**	*e*Pn		**Pn**	**02 48 20.5**	**+1.2**
SISC				Sn		**Sn**	**02 48 47.2**	**-1.0**
SISC	**Sisak**	**2.34**	**176**	*e*Pn		**Pn**	**02 48 20.4**	**+1.1**
SISC				Sn		**Sn**	**02 48 47.1**	**-1.1**
LIKS	**Likavka**	**2.34**	**57**	*e*PN		**Pn**	**02 48 22.0**	**+2.6**
LIKS				*e*SN		**Sn**	**02 48 51.0**	**+2.8**
LIKS	**Likavka**	**2.34**	**57**	*e*Pn		**Pn**	**02 48 22.0**	**+2.6**
LIKS				*e*Sn		**Sn**	**02 48 51.0**	**+2.8**
PKSM	**Moragy**	**2.34**	**132**	⇓*i*P		**Pn**	**02 48 18.6**	**-0.8**
PKSM	**Moragy**	**2.34**	**132**	⇓*i*P		**Pn**	**02 48 18.6**	**-0.8**
PKSM	**Moragy**	**2.34**	**132**	⇑*e*Pn		**Pn**	**02 48 18.9**	**-0.5**
PKSM				S		**Sn**	**02 48 45.3**	**-2.9**
VOY	**Vojsko**	**2.34**	**222**	*e*Pn		**Pn**	**02 48 20.2**	**+0.8**
VOY				*e*			02 48 26.2	
VOY				*e*Sn		**Sn**	**02 48 56.7**	**+8.3**
VOY	**Vojsko**	**2.34**	**222**	*e*Pn		**Pn**	**02 48 20.2**	**+0.8**
RHK3	**Tenkes**	**2.40**	**142**	⇑*e*Pn		**Pn**	**02 48 20.1**	**-0.1**
RHK3				⇑*e*Sn		**Sn**	**02 48 48.4**	**-1.4**
OKC	**Ostrava-Krasne**	**2.43**	**32**	*e*PN		**Pn**	**02 48 21.3**	**+0.7**
OKC	**Ostrava-Krasne**	**2.43**	**32**	*e*Pn		**Pn**	**02 48 21.3**	**+0.7**
PSZ	**Piszkesteto**	**2.53**	**86**	*e*Pn		**Pn**	**02 48 22.1**	**+0.1**
PSZ	**Piszkesteto**	**2.53**	**86**	⇑*e*Pn		**Pn**	**02 48 22.1**	**+0.1**
PSZ				*e*Sn		**Sn**	**02 48 51.7**	**-1.3**
PSZ	**Piszkesteto**	**2.53**	**86**	⇑*i*P		**Pn**	**02 48 22.0**	**0.0**
PSZ	**Piszkesteto**	**2.53**	**86**	⇑*e*Pn		**Pn**	**02 48 22.1**	**+0.1**
PSZ				S		**Sn**	**02 48 51.7**	**-1.3**
WET	**Wettzell**	**2.55**	**303**	*e*Pn		**Pn**	**02 48 24.1**	**+1.8**
WET				*e*Pg		**Pg**	**02 48 30.6**	**+1.1**
WET				*e*Sg		**Sg**	**02 49 02.4**	**-0.1**
WET	**Wettzell**	**2.55**	**303**	Pn		**Pn**	**02 48 24.1**	**+1.9**
DPC	**Dobruska-Polom**	**2.55**	**3**	*e*PN		**Pn**	**02 48 22.7**	**+0.4**
DPC				*e*SG		**Sg**	**02 49 01.0**	**-1.7**
DPC	comp=Z,229nm,0.4s **Dobruska-Polom**	**2.55**	**3**	*e*Pn		**Pn**	**02 48 22.7**	**+0.4**
DPC				*e*Sn		**Sn**	**02 48 54.4**	**+0.9**
DPC	baz=182			Sg		**Sg**	**02 49 01.0**	**-1.7**
PKS6	comp=Z,229nm,0.4s **Bocsa**	**2.63**	**116**	⇓*e*Pn		**Pn**	**02 48 23.1**	**-0.2**
PKS6				⇓*e*Sn		**Sn**	**02 48 52.6**	**-2.8**
RAC	**Raciborz**	**2.66**	**30**	*e*Pn		**Pn**	**02 48 24.8**	**+1.1**
RAC				*e*Pg		**Pg**	**02 48 32.5**	**+0.9**
RAC				*e*Sn		**Sn**	**02 48 55.9**	**-0.1**
RAC				*e*Sg		**Sg**	**02 49 04.9**	**-1.1**
RAC	**Raciborz**	**2.66**	**30**	*e*Pn		**Pn**	**02 48 24.8**	**+1.1**
PKSN	**Nyarlorinc**	**2.69**	**108**	⇑*e*Pn		**Pn**	**02 48 22.1**	**-2.1**
PKSN				⇑*e*Sn		**Sn**	**02 48 55.2**	**-1.8**
PVCC	**Panska Ves**	**2.92**	**340**	*e*SG		**Sg**	**02 49 13.4**	**-0.9**
PVCC	comp=Z,338nm,0.2s **Panska Ves**	**2.92**	**340**	Sg		**Sg**	**02 49 13.4**	**-0.9**
KECS	comp=Z,338nm,0.2s **Kecovo**	**2.99**	**75**	*e*PN		**Pn**	**02 48 28.3**	**0.0**
KECS				*e*SN		**Sn**	**02 49 04.1**	**-0.2**
KECS	**Kecovo**	**2.99**	**75**	*e*Pn		**Pn**	**02 48 28.3**	**0.0**
KECS				*e*Sn		**Sn**	**02 49 04.1**	**-0.2**
KSP	**Ksiaz**	**3.04**	**2**	*e*Pn		**Pn**	**02 48 29.8**	**+0.7**
KSP				*e*Pg		**Pg**	**02 48 36.2**	**-2.8**
KSP				*e*Sn		**Sn**	**02 49 16.8**	**+11**
KSP				*e*Sg		**Sg**	**02 49 19.9**	**+1.4**
KSP	**Ksiaz**	**3.04**	**2**	*e*Pn		**Pn**	**02 48 29.4**	**+0.3**
KSP				*e*Pg		**Pg**	**02 48 36.7**	**-2.3**
KSP				*e*Sg		**Sg**	**02 49 16.7**	**-1.7**
KSP	**Ksiaz**	**3.04**	**2**	*e*Pn		**Pn**	**02 48 29.4**	**+0.3**
KSP				*e*Pg		**Pg**	**02 48 36.7**	**-2.3**
KSP				*e*Sg		**Sg**	**02 49 16.7**	**-1.7**
KSP	**Ksiaz**	**3.04**	**2**	*e*Pn		**Pn**	**02 48 29.4**	**+0.3**
WTTA	**Wattenberg**	**3.10**	**262**	⇓*i*Pn		**Pn**	**02 48 31.6**	**+1.9**
WTTA	comp=Z,9.1nm,0.2s,SNR=48			⇑*i*Pg		**Pg**	**02 48 39.5**	**-0.5**
WTTA	comp=Z,39nm,0.2s			⇓*i*Sn		**Sn**	**02 49 07.2**	**+0.4**
WTTA	comp=Z,33nm,0.4s			⇑*i*Sg		**Sg**	**02 49 20.2**	**+0.1**
WTTA	comp=Z,97nm,0.4s **Wattenberg**	**3.10**	**262**	*e*Pn		**Pn**	**02 48 31.7**	**+2.0**
WTTA				*e*Pg		**Pg**	**02 48 39.8**	**-0.1**
WTTA				*e*Sg		**Sg**	**02 49 20.2**	**+0.1**
WTTA	**Wattenberg**	**3.10**	**262**	Pn		**Pn**	**02 48 31.6**	**+1.9**
SCE	comp=Z,9.1nm,0.2s,SNR=48 **Schlegeis**	**3.10**	**257**	⇓*i*Pn		**Pn**	**02 48 32.7**	**+2.9**
SCE	**Schlegeis**	**3.10**	**257**	Pn		**Pn**	**02 48 32.7**	**+2.9**
WATA	**Walderalm**	**3.12**	**263**	Pn		**Pn**	**02 48 30.8**	**+0.7**
NIE	**Niedzica**	**3.21**	**58**	*e*Pn		**Pn**	**02 48 32.2**	**+0.9**
NIE				*e*Sn		**Sn**	**02 49 11.2**	**+1.5**
NIE	**Niedzica**	**3.21**	**58**	*e*Pn		**Pn**	**02 48 32.2**	**+0.9**
NIE				*e*Sn		**Sn**	**02 49 11.2**	**+1.5**
FUR	**Furstenfeldbru**	**3.28**	**278**	*e*Pn		**Pn**	**02 48 34.9**	**+2.6**
FUR				*e*Pg		**Pg**	**02 48 44.2**	**+0.6**
FUR				*e*Sg		**Sg**	**02 49 27.2**	**+1.1**
FUR	**Furstenfeldbru**	**3.28**	**278**	Pn		**Pn**	**02 48 34.9**	**+2.6**
NVLJ	**Novalja**	**3.36**	**196**	*i* Pn		**Pn**	**02 48 34.9**	**+1.5**
NVLJ				Sn		**Sn**	**02 49 13.6**	**+0.2**
NVLJ	**Novalja**	**3.36**	**196**	*i* Pn		**Pn**	**02 48 34.8**	**+1.5**
NVLJ				Sn		**Sn**	**02 49 13.5**	**+0.2**
BRG	**Berggiesshubel**	**3.39**	**336**	PN		**Pn**	**02 48 35.7**	**+1.9**
BRG				PG		**Pg**	**02 48 45.2**	**-0.4**
BRG				*i*			02 49 19.2	
BRG	**Berggiesshubel**	**3.39**	**336**	SG		**Sg**	**02 49 26.5**	**-3.1**
BRG	comp=Z,134nm,0.5s **Berggiesshubel**	**3.39**	**336**	*e*Pn		**Pn**	**02 48 35.9**	**+2.1**
BRG				*e*Sg		**Sg**	**02 49 28.7**	**-0.9**
BRG	**Berggiesshubel**	**3.39**	**336**	Pn		**Pn**	**02 48 35.9**	**+2.1**
BRG				Sg		**Sg**	**02 49 28.7**	**-0.9**
OJC	**Ojcow**	**3.42**	**44**	*e*Pn		**Pn**	**02 48 34.7**	**+0.6**
OJC				*e*Sn		**Sn**	**02 49 14.3**	**-0.5**
OJC	**Ojcow**	**3.42**	**44**	*e*Pn		**Pn**	**02 48 34.7**	**+0.6**
OJC				*e*Sn		**Sn**	**02 49 14.3**	**-0.5**
NKC	**Novy Kostel**	**3.44**	**316**	*e*SG		**Sg**	**02 49 28.8**	**-2.2**
NKC	comp=Z,192nm,0.4s **Novy Kostel**	**3.44**	**316**	Sg		**Sg**	**02 49 28.8**	**-2.2**
MOTA	comp=Z,192nm,0.4s **Moosalm**	**3.44**	**264**	⇑*i*Pn		**Pn**	**02 48 36.1**	**+1.6**
MOTA	comp=Z,3.2nm,0.3s			⇑*i*Sg		**Sg**	**02 49 31.4**	**+0.4**
MOTA	comp=Z,45nm,0.2s **Moosalm**	**3.44**	**264**	Pn		**Pn**	**02 48 36.1**	**+1.7**
MOTA	comp=Z,3.2nm,0.3s			Sg		**Sg**	**02 49 31.4**	**+0.4**
RETA	comp=Z,45nm,0.2s **Reutte**	**3.65**	**267**	*i* Pn		**Pn**	**02 48 39.4**	**+2.1**
RETA	comp=Z,4.2nm,0.2s,SNR=22			⇑*e*Sg		**Sg**	**02 49 38.5**	**+0.7**
RETA	comp=Z,119nm,0.5s **Reutte**	**3.65**	**267**	Pn		**Pn**	**02 48 39.4**	**+2.1**
RETA	comp=Z,4.2nm,0.2s,SNR=22			Sg		**Sg**	**02 49 38.5**	**+0.8**
FGSL	comp=Z,119nm,0.5s **Fruska Gora**	**3.67**	**135**	⇓*i*Pn		**Pn**	**02 48 36.2**	**-1.4**
CRVS	**Cervenica-Dubn**	**3.72**	**71**	*e*PN		**Pn**	**02 48 38.9**	**+0.6**
CRVS				*e*SN		**Sn**	**02 49 22.7**	**+0.5**
CRVS	**Cervenica-Dubn**	**3.72**	**71**	*e*Pn		**Pn**	**02 48 38.9**	**+0.6**
CRVS				*e*Sn		**Sn**	**02 49 22.7**	**+0.5**
FETA	**Feichten**	**3.75**	**260**	⇓*i*Pn		**Pn**	**02 48 41.1**	**+2.3**
FETA	comp=Z,10nm,0.3s,SNR=34			⇓*i*Sn		**Sn**	**02 49 24.4**	**+1.3**
FETA	comp=Z,8.5nm,0.3s			⇓*i*Sg		**Sg**	**02 49 41.6**	**+0.5**
FETA	comp=Z,38nm,0.6s **Feichten**	**3.75**	**260**	Pn		**Pn**	**02 48 41.1**	**+2.3**
FETA	comp=Z,10nm,0.3s,SNR=34			Sn		**Sn**	**02 49 24.4**	**+1.3**
FETA	comp=Z,8.5nm,0.3s			Sg		**Sg**	**02 49 41.6**	**+0.4**
	comp=Z,38nm,0.6s							
STHS	**Stebnicka Huta**	**3.75**	**63**	*e*PN		**Pn**	**02 48 40.3**	**+1.5**
STHS				*e*SN		**Sn**	**02 49 23.4**	**+0.3**
STHS	**Stebnicka Huta**	**3.75**	**63**	*e*Pn		**Pn**	**02 48 40.3**	**+1.5**
STHS				*e*Sn		**Sn**	**02 49 23.4**	**+0.3**
GRA1	**Grafenberg Arr**	**3.76**	**302**	Pn		**Pn**	**02 48 41.5**	**+2.6**
GRA1	**Grafenberg Arr**	**3.76**	**302**	Pg		**Pg**	**02 48 53.2**	**+0.5**
GRA1				Sg		**Sg**	**02 49 40.9**	**-0.5**
GRF	**Grafenberg Arr**	**3.76**	**302**	*e*Pn		**Pn**	**02 48 41.5**	**+2.6**
GRF				*e*Pg		**Pg**	**02 48 53.2**	**+0.5**
GRF				*e*Sg		**Sg**	**02 49 40.9**	**-0.5**
GRFO	**Grafenberg**	**3.76**	**302**	Pn		**Pn**	**02 48 41.0**	**+2.1**
GRFO				*e*Pg		**Pg**	**02 48 56.6**	**+3.9**
GRFO				*e*Sg		**Sg**	**02 49 40.4**	**-1.0**
GRFO	**Grafenberg**	**3.76**	**302**	Pn		**Pn**	**02 48 41.0**	**+2.1**
CLL	**Collm**	**4.06**	**331**	*e*Pn		**Pn**	**02 48 45.5**	**+2.5**
CLL				*e*Sg		**Sg**	**02 49 48.9**	**-2.0**
CLL	**Collm**	**4.06**	**331**	*e*Pn		**Pn**	**02 48 46.0**	**+3.0**
CLL				*i* Pg		**Pg**	**02 48 58.7**	**+0.3**
CLL				*i* Sn		**Sn**	**02 49 34.1**	**+3.5**
CLL				*e*			02 49 44.0	
CLL				*e*Sg		**Sg**	**02 49 49.0**	**-1.9**
CLL	comp=Z,197nm,0.7s **Collm**	**4.06**	**331**	Pn		**Pn**	**02 48 45.5**	**+2.5**
CLL				Sg		**Sg**	**02 49 48.9**	**-2.0**
MOX	**Moxa**	**4.11**	**316**	*e*Pn		**Pn**	**02 48 45.8**	**+2.2**
MOX				*e*Sg		**Sg**	**02 49 50.0**	**-2.5**
MOX	**Moxa**	**4.11**	**316**	Pn		**Pn**	**02 48 45.8**	**+2.2**
MOX				Sg		**Sg**	**02 49 50.0**	**-2.5**
KOLS	**Kolonicke sedl**	**4.25**	**72**	*e*PN		**Pn**	**02 48 46.2**	**+0.7**
KOLS				*e*SN		**Sn**	**02 49 35.9**	**+0.7**
KOLS	**Kolonicke sedl**	**4.25**	**72**	*e*Pn		**Pn**	**02 48 46.2**	**+0.7**
KOLS				*e*Sn		**Sn**	**02 49 35.9**	**+0.7**
DAVA	**Damuels**	**4.27**	**265**	⇑*i*Pn		**Pn**	**02 48 47.4**	**+1.5**
DAVA	comp=Z,13nm,0.2s,SNR=19			⇑*i*Sn		**Sn**	**02 49 36.3**	**+0.5**
DAVA	comp=Z,27nm,0.4s **Damuels**	**4.27**	**265**	*e*Pn		**Pn**	**02 48 47.4**	**+1.6**
DAVA				*e*Sg		**Sg**	**02 49 57.5**	**-0.2**
DAVA	**Damuels**	**4.27**	**265**	Pn		**Pn**	**02 48 47.4**	**+1.5**
DAVA	comp=Z,13nm,0.2s,SNR=19			Sn		**Sn**	**02 49 36.3**	**+0.5**
DAVA	comp=Z,27nm,0.4s			Sg		**Sg**	**02 49 57.5**	**-0.2**
TRPA	**Tarpa**	**4.32**	**83**	⇑*i*P		**Pn**	**02 48 45.7**	**-0.8**
TRPA	**Tarpa**	**4.32**	**83**	⇑*i*P		**Pn**	**02 48 45.7**	**-0.8**
BZS	**Buzias**	**4.36**	**118**	⇑*i*P		**Pn**	**02 48 46.7**	**-0.4**
BZS	**Buzias**	**4.36**	**118**	⇑*i*P		**Pn**	**02 48 46.7**	**-0.4**
BZS				S		**Sn**	**02 49 35.2**	**-2.8**
DAVOX	**Davos/Dischmat**	**4.38**	**259**	Pn		**Pn**	**02 48 49.9**	**+2.5**
DAVOX	comp=Z,4.1nm,0.3s,baz=78,slow=12,SNR=79			Pg		**Pg**	**02 49 02.2**	**-2.3**
DAVOX	comp=Z,4.9nm,0.3s,baz=6.6,slow=13,SNR=11			Sn		**Sn**	**02 49 39.8**	**+1.3**
DAVOX	comp=Z,4.7nm,0.3s,baz=256,slow=16,SNR=3.2			Lg			02 50 01.1	
DAVOX	comp=Z,6.3nm,0.3s,baz=170,slow=23,SNR=4.0 **Davos/Dischmat**	**4.38**	**259**	Pn		**Pn**	**02 48 49.9**	**+2.5

LPG	**La Plagne**	**6.86 254**	*e*Pn	**Pn**	**02 49 21.6**	**+0.2**
WLF	**Walferdange**	**6.86 289**	*e*Pn	**Pn**	**02 49 23.2**	**+1.7**
WLF	**Walferdange**	**6.86 289**	Pn	**Pn**	**02 49 23.2**	**+1.7**
LPL	**La Plagne**	**6.86 254**	*e*Pn	**Pn**	**02 49 21.6**	**+0.1**
LPL			*e*Sn	**Sn**	**02 50 35.0**	**-4.7**
	comp=Z,1.6nm,0.3s					
LPL	**La Plagne**	**6.86 254**	*e*Pn	**Pn**	**02 49 21.6**	**+0.1**
LPL			*e*Sn	**Sn**	**02 50 35.0**	**-4.7**
LPL	**La Plagne**	**6.86 254**	*e*Pn	**Pn**	**02 49 21.6**	**+0.1**
RSL	**Roselend**	**6.87 256**	P	**Pn**	**02 49 23.5**	**+1.9**
RSL	**Roselend**	**6.87 256**	P	**Pn**	**02 49 23.5**	**+1.9**
CABF	**La Chapelle**	**6.95 264**	*e*Pn	**Pn**	**02 49 21.7**	**-1.0**
CABF			*e*Sn	**Sn**	**02 50 37.2**	**-4.6**
CABF			*e*Sg	**Sg**	**02 51 21.4**	**-2.2**
	comp=Z,46nm,0.9s					
CABF	**La Chapelle**	**6.95 264**	*e*Pn	**Pn**	**02 49 21.7**	**-1.0**
CABF			*e*Sn	**Sn**	**02 50 37.2**	**-4.6**
CABF			*e*Sg	**Sg**	**02 51 21.4**	**-2.2**
CABF	**La Chapelle**	**6.95 264**	*e*Pn	**Pn**	**02 49 21.7**	**-1.0**
PAGF	**Fort de Pagny**	**7.00 280**	*e*Pn	**Pn**	**02 49 22.6**	**-0.8**
PAGF			*e*Sn	**Sn**	**02 50 38.7**	**-4.4**
PAGF			*e*Sg	**Sg**	**02 51 23.6**	**-1.7**
	comp=Z,5.1nm,0.6s					
PAGF	**Fort de Pagny**	**7.00 280**	*e*Pn	**Pn**	**02 49 22.6**	**-0.8**
PAGF			*e*Sn	**Sn**	**02 50 38.7**	**-4.4**
PAGF			*e*Sg	**Sg**	**02 51 23.6**	**-1.7**
PAGF	**Fort de Pagny**	**7.00 280**	*e*Pn	**Pn**	**02 49 22.6**	**-0.8**
BNI	**Bardonecchia**	**7.09 251**	*e*Pn	**Pn**	**02 49 27.9**	**+3.3**
	comp=Z,5.2nm,0.4s					
MBDF	**Montbardon**	**7.18 248**	*e*Pn	**Pn**	**02 49 24.5**	**-1.4**
MBDF	**Montbardon**	**7.18 248**	*e*P	**Pn**	**02 49 29.8**	**+3.9**
MBDF			*e*Sn	**Sn**	**02 50 42.2**	**-5.3**
	comp=Z,7.1nm,0.5s					
MBDF	**Montbardon**	**7.18 248**	*e*Pn	**Pn**	**02 49 24.5**	**-1.4**
MBDF			*e*P		02 49 29.8	
MBDF			*e*Sn	**Sn**	**02 50 42.2**	**-5.3**
MBDF	**Montbardon**	**7.18 248**	*e*Pn	**Pn**	**02 49 24.5**	**-1.4**
SBF	**Sospel**	**7.24 240**	*e*Pn	**Pn**	**02 49 25.0**	**-1.7**
SBF			*e*Sn	**Sn**	**02 50 43.1**	**-5.9**
	comp=Z,3.5nm,0.3s					
SBF	**Sospel**	**7.24 240**	*e*Pn	**Pn**	**02 49 25.0**	**-1.7**
SBF			*e*Sn	**Sn**	**02 50 43.1**	**-5.9**
SBF	**Sospel**	**7.24 240**	*e*Pn	**Pn**	**02 49 25.0**	**-1.7**
PGF	**Pioggiola**	**7.28 226**	*e*Pn	**Pn**	**02 49 25.3**	**-1.9**
PGF			*e*Sn	**Sn**	**02 50 43.4**	**-6.6**
	comp=Z,1.7nm,0.5s					
PGF	**Pioggiola**	**7.28 226**	*e*Pn	**Pn**	**02 49 25.3**	**-1.9**
PGF			*e*Sn	**Sn**	**02 50 43.4**	**-6.6**
PGF	**Pioggiola**	**7.28 226**	*e*Pn	**Pn**	**02 49 25.3**	**-1.9**
BSD	**Bornholm Skovb**	**7.36 355**	*i* P	**Pn**	**02 49 28.5**	**+0.2**
BSD			*i* S	**Sn**	**02 50 50.2**	**-1.7**
BSD	**Bornholm Skovb**	**7.36 355**	*i* P	**Pn**	**02 49 28.5**	**+0.2**
MEZF	**Maizieres J'vi**	**7.45 279**	*e*Pn	**Pn**	**02 49 28.7**	**-0.8**
MEZF			*e*Sg	Sg	02 51 37.4	-2.2
	comp=Z,33nm,0.8s					
MEZF	**Maizieres J'vi**	**7.45 279**	*e*Pn	**Pn**	**02 49 28.7**	**-0.8**
MEZF			*e*Sg	Sg	02 51 37.4	-2.2
MEZF	**Maizieres J'vi**	**7.45 279**	*e*Pn	**Pn**	**02 49 28.7**	**-0.8**
SFTF	**Sexfontaines**	**7.46 277**	*e*Pn	**Pn**	**02 49 28.9**	**-0.7**
SFTF			*e*Sn	**Sn**	**02 50 49.4**	**-4.9**
SFTF			*e*Sg	Sg	02 51 37.8	-2.1
	comp=Z,21nm,0.7s					
SFTF	**Sexfontaines**	**7.46 277**	*e*Pn	**Pn**	**02 49 28.9**	**-0.7**
SFTF			*e*Sn	**Sn**	**02 50 49.4**	**-4.9**
SFTF			*e*Sg	Sg	02 51 37.8	-2.1
SFTF	**Sexfontaines**	**7.46 277**	*e*Pn	**Pn**	**02 49 28.9**	**-0.7**
ORIF	**Oris-en-Rattie**	**7.66 252**	*e*Pn	**Pn**	**02 49 33.1**	**+0.7**
ORIF			*e*Sn	**Sn**	**02 50 53.6**	**-5.7**
	comp=Z,17nm,0.6s					
ORIF	**Oris-en-Rattie**	**7.66 252**	*e*Pn	**Pn**	**02 49 33.1**	**+0.7**
ORIF			*e*Sn	**Sn**	**02 50 53.6**	**-5.7**
ORIF	**Oris-en-Rattie**	**7.66 252**	*e*Pn	**Pn**	**02 49 33.1**	**+0.7**
GIVF	**Givet**	**7.79 291**	*e*Pn	**Pn**	**02 49 33.3**	**-1.0**
GIVF			*e*Sn	**Sn**	**02 50 57.6**	**-5.0**
GIVF			*e*Sg	Sn	02 51 48.5	+46
	comp=Z,47nm,0.9s					
GIVF	**Givet**	**7.79 291**	*e*Pn	**Pn**	**02 49 33.3**	**-1.0**
GIVF			*e*Sn	**Sn**	**02 50 57.6**	**-5.0**
GIVF			*e*Sg	Sn	02 51 48.5	+46
GIVF	**Givet**	**7.79 291**	*e*Pn	**Pn**	**02 49 33.3**	**-1.0**
FRF	**La Foret Royal**	**7.88 241**	*e*Pn	**Pn**	**02 49 33.7**	**-1.8**
FRF			*e*Sn	**Sn**	**02 50 58.4**	**-6.4**
	comp=Z,0.5nm,0.2s					
FRF	**La Foret Royal**	**7.88 241**	*e*Pn	**Pn**	**02 49 33.7**	**-1.8**
FRF			*e*Sn	**Sn**	**02 50 58.4**	**-6.4**
FRF	**La Foret Royal**	**7.88 241**	*e*Pn	**Pn**	**02 49 33.7**	**-1.8**
LMR	**La Mourre**	**8.10 240**	*e*Pn	**Pn**	**02 49 36.4**	**-2.0**
LMR			*e*Sn	**Sn**	**02 51 03.3**	**-6.7**
	comp=Z,1.0nm,0.4s					
LMR	**La Mourre**	**8.10 240**	*e*Pn	**Pn**	**02 49 36.4**	**-2.0**
LMR			*e*Sn	**Sn**	**02 51 03.3**	**-6.7**
LMR	**La Mourre**	**8.10 240**	*e*Pn	**Pn**	**02 49 36.4**	**-2.0**
BAIF	**Baives**	**8.17 290**	*e*Pn	**Pn**	**02 49 38.8**	**-0.7**
BAIF			*e*Sn	**Sn**	**02 51 06.7**	**-5.2**
BAIF			*e*Sg	Sn	02 52 00.6	+49
	comp=Z,20nm,0.9s					
BAIF	**Baives**	**8.17 290**	*e*Pn	**Pn**	**02 49 38.8**	**-0.7**
BAIF			*e*Sn	**Sn**	**02 51 06.7**	**-5.2**
BAIF			*e*Sg	Sn	02 52 00.6	+49
BAIF	**Baives**	**8.17 290**	*e*Pn	**Pn**	**02 49 38.8**	**-0.7**
SMRF	**Simiane la Rot**	**8.30 246**	*e*Pn	**Pn**	**02 49 39.8**	**-1.4**
SMRF			*e*Sn	**Sn**	**02 51 08.5**	**-6.5**
	comp=Z,1.3nm,0.5s					
SMRF	**Simiane la Rot**	**8.30 246**	*e*Pn	**Pn**	**02 49 39.8**	**-1.4**
SMRF			*e*Sn	**Sn**	**02 51 08.5**	**-6.5**
SMRF	**Simiane la Rot**	**8.30 246**	*e*Pn	**Pn**	**02 49 39.8**	**-1.4**
LOR	**Lormes**	**8.33 271**	*e*Pn	**Pn**	**02 49 40.6**	**-1.0**
LOR			*e*Sn	**Sn**	**02 51 10.1**	**-5.6**
LOR			*e*Sg	Sn	02 52 04.8	+49
	comp=Z,25nm,1.0s					
LOR	**Lormes**	**8.33 271**	*e*Pn	**Pn**	**02 49 40.6**	**-1.0**
LOR			*e*Sn	**Sn**	**02 51 10.1**	**-5.6**
LOR			*e*Sg	Sn	02 52 04.8	+49
LOR	**Lormes**	**8.33 271**	*e*Pn	**Pn**	**02 49 40.6**	**-1.0**
SMF	**Signal de Mont**	**8.45 267**	*e*Pn	**Pn**	**02 49 42.1**	**-1.2**
SMF			*e*Sn	**Sn**	**02 51 13.0**	**-5.7**
SMF			*e*Sg	Sn	02 52 08.1	+49
	comp=Z,14nm,0.8s					
SMF	**Signal de Mont**	**8.45 267**	*e*Pn	**Pn**	**02 49 42.1**	**-1.2**
SMF			*e*Sn	**Sn**	**02 51 13.0**	**-5.7**
SMF			*e*Sg	Sn	02 52 08.1	+49
SMF	**Signal de Mont**	**8.45 267**	*e*Pn	**Pn**	**02 49 42.1**	**-1.2**
VIVF	**Saint-Julien-l**	**8.46 254**	*e*Pn	**Pn**	**02 49 41.9**	**-1.5**
VIVF			*e*Sn	**Sn**	**02 51 12.8**	**-6.2**
	comp=Z,7.7nm,0.5s					
VIVF	**Saint-Julien-l**	**8.46 254**	*e*Pn	**Pn**	**02 49 41.9**	**-1.5**
VIVF			*e*Sn	**Sn**	**02 51 12.8**	**-6.2**
VIVF	**Saint-Julien-l**	**8.46 254**	*e*Pn	**Pn**	**02 49 41.9**	**-1.5**
SSF	**Saint Saulge**	**8.60 270**	*e*Pn	**Pn**	**02 49 44.1**	**-1.2**
SSF			*e*Sn	**Sn**	**02 51 16.5**	**-5.8**
SSF			*e*Sg	Sn	02 52 13.0	+51
	comp=Z,6.7nm,0.6s					
SSF	**Saint Saulge**	**8.60 270**	*e*Pn	**Pn**	**02 49 44.1**	**-1.2**
SSF			*e*Sn	**Sn**	**02 51 16.5**	**-5.8**
SSF			*e*Sg	Sn	02 52 13.0	+51
SSF	**Saint Saulge**	**8.60 270**	*e*Pn	**Pn**	**02 49 44.1**	**-1.2**
AVF	**Avril sur Loir**	**8.75 268**	*e*Pn	**Pn**	**02 49 46.3**	**-1.1**
AVF			*e*Sn	**Sn**	**02 51 20.3**	**-5.8**
AVF			*e*Sg	Sn	02 52 17.6	+52
	comp=Z,4.2nm,0.7s					
AVF	**Avril sur Loir**	**8.75 268**	*e*Pn	**Pn**	**02 49 46.3**	**-1.1**
AVF			*e*Sn	**Sn**	**02 51 20.3**	**-5.8**
AVF			*e*Sg	Sn	02 52 17.6	+52
AVF	**Avril sur Loir**	**8.75 268**	*e*Pn	**Pn**	**02 49 46.3**	**-1.1**
BGF	**Bois d'Agland**	**9.14 267**	*e*Pn	**Pn**	**02 49 51.6**	**-1.1**
BGF			*e*Sn	**Sn**	**02 51 29.4**	**-6.2**
	comp=Z,8.5nm,0.4s					
BGF	**Bois d'Agland**	**9.14 267**	*e*Pn	**Pn**	**02 49 51.6**	**-1.1**
BGF			*e*Sn	**Sn**	**02 51 29.4**	**-6.2**
BGF	**Bois d'Agland**	**9.14 267**	*e*Pn	**Pn**	**02 49 51.6**	**-1.1**
HYF	**Humbligny**	**9.15 272**	*e*Pn	**Pn**	**02 49 51.7**	**-1.1**
HYF			*e*Sg	Sn	02 52 30.2	+54
HYF	**Humbligny**	**9.15 272**	*e*Pn	**Pn**	**02 49 51.7**	**-1.1**
HYF			*e*Sg	Sn	02 52 30.2	+54
HYF	**Humbligny**	**9.15 272**	*e*Pn	**Pn**	**02 49 51.7**	**-1.1**
LASF	**Ste Croix**	**9.33 251**	*e*Pn	**Pn**	**02 49 53.6**	**-1.7**
LASF			*e*Sn	**Sn**	**02 51 33.6**	**-6.8**
	comp=Z,14nm,0.6s					
LASF	**Ste Croix**	**9.33 251**	*e*Pn	**Pn**	**02 49 53.6**	**-1.7**
LASF			*e*Sn	**Sn**	**02 51 33.6**	**-6.8**
LASF	**Ste Croix**	**9.33 251**	*e*Pn	**Pn**	**02 49 53.6**	**-1.7**
TCF	**Toulx Ste Croi**	**9.63 266**	*e*Pn	**Pn**	**02 49 58.2**	**-1.2**
TCF			*e*Sn	**Sn**	**02 51 41.4**	**-6.3**
	comp=Z,2.3nm,0.3s					
TCF	**Toulx Ste Croi**	**9.63 266**	*e*Pn	**Pn**	**02 49 58.2**	**-1.2**
TCF			*e*Sn	**Sn**	**02 51 41.4**	**-6.3**
TCF	**Toulx Ste Croi**	**9.63 266**	*e*Pn	**Pn**	**02 49 58.2**	**-1.2**
CAF	**Calviac**	**10.14 259**	*e*Pn	**Pn**	**02 50 05.0**	**-1.5**
CAF			*e*Sn	**Sn**	**02 51 53.0**	**-7.3**
	comp=Z,1.6nm,0.3s					
CAF	**Calviac**	**10.14 259**	*e*Pn	**Pn**	**02 50 05.0**	**-1.5**
CAF			*e*Sn	**Sn**	**02 51 53.0**	**-7.3**
CAF	**Calviac**	**10.14 259**	*e*Pn	**Pn**	**02 50 05.0**	**-1.5**
RJF	**Les Rejaudoux**	**10.38 261**	*e*Pn	**Pn**	**02 50 08.3**	**-1.3**
RJF			*e*Sn	**Sn**	**02 51 58.5**	**-7.5**
	comp=Z,2.5nm,0.6s					
RJF	**Les Rejaudoux**	**10.38 261**	*e*Pn	**Pn**	**02 50 08.3**	**-1.3**
RJF			*e*Sn	**Sn**	**02 51 58.5**	**-7.5**
RJF	**Les Rejaudoux**	**10.38 261**	*e*Pn	**Pn**	**02 50 08.3**	**-1.3**
MTLF	**Montolieu**	**10.73 251**	*e*Pn	**Pn**	**02 50 12.5**	**-1.9**
MTLF			*e*Sn	**Sn**	**02 52 06.5**	**-8.1**
	comp=Z,3.3nm,0.7s					
MTLF	**Montolieu**	**10.73 251**	*e*Pn	**Pn**	**02 50 12.5**	**-1.9**
MTLF			*e*Sn	**Sn**	**02 52 06.5**	**-8.1**
MTLF	**Montolieu**	**10.73 251**	*e*Pn	**Pn**	**02 50 12.5**	**-1.9**
LDF	**La Druitiere**	**10.88 280**	*e*Pn	**Pn**	**02 50 15.4**	**-1.2**
LDF			*e*Sn	**Sn**	**02 52 11.5**	**-7.0**
	comp=Z,1.2nm,0.4s					
LDF	**La Druitiere**	**10.88 280**	*e*Pn	**Pn**	**02 50 15.4**	**-1.2**
LDF			*e*Sn	**Sn**	**02 52 11.5**	**-7.0**
LDF	**La Druitiere**	**10.88 280**	*e*Pn	**Pn**	**02 50 15.4**	**-1.2**
LFF	**La Frestale**	**11.02 261**	*e*Pn	**Pn**	**02 50 16.9**	**-1.5**
LFF			*e*Sn	**Sn**	**02 52 13.9**	**-7.8**
	comp=Z,3.0nm,0.4s					
LFF	**La Frestale**	**11.02 261**	*e*Pn	**Pn**	**02 50 16.9**	**-1.5**
LFF			*e*Sn	**Sn**	**02 52 13.9**	**-7.8**
LFF	**La Frestale**	**11.02 261**	*e*Pn	**Pn**	**02 50 16.9**	**-1.5**
FLN	**La Foliniere**	**11.12 281**	*e*Pn	**Pn**	**02 50 19.3**	**-0.5**
FLN			*e*Sn	**Sn**	**02 52 17.0**	**-7.2**
	comp=Z,1.2nm,0.3s					
FLN	**La Foliniere**	**11.12 281**	*e*Pn	**Pn**	**02 50 19.3**	**-0.5**
FLN			*e*Sn	**Sn**	**02 52 17.0**	**-7.2**
FLN	**La Foliniere**	**11.12 281**	*e*Pn	**Pn**	**02 50 19.3**	**-0.5**
MFF	**Saint Martin d**	**11.15 270**	*e*Pn	**Pn**	**02 50 19.1**	**-1.1**
MFF			*e*Sn	**Sn**	**02 52 17.5**	**-7.3**
	comp=Z,1.0nm,0.3s					
MFF	**Saint Martin d**	**11.15 270**	*e*Pn	**Pn**	**02 50 19.1**	**-1.1**
MFF			*e*Sn	**Sn**	**02 52 17.5**	**-7.3**
MFF	**Saint Martin d**	**11.15 270**	*e*Pn	**Pn**	**02 50 19.1**	**-1.1**
GRR	**Gorron**	**11.38 279**	*e*Pn	**Pn**	**02 50 22.2**	**-1.2**
GRR			*e*Sn	**Sn**	**02 52 23.4**	**-7.3**
	comp=Z,0.9nm,0.3s					
GRR	**Gorron**	**11.38 279**	*e*Pn	**Pn**	**02 50 22.2**	**-1.2**
GRR			*e*Sn	**Sn**	**02 52 23.4**	**-7.3**
GRR	**Gorron**	**11.38 279**	*e*Pn	**Pn**	**02 50 22.2**	**-1.2**
FINES	**FINESS Array B**	**14.80 19**	Pn	**Pn**	**02 51 08.0**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=3.3					
FINES	**FINESS Array B**	**14.80 19**	Pn	**Pn**	**02 51 08.0**	**-2.1**
ARCES	**ARCESS Array B**	**22.28 9**	P	**P**	**02 52 40.9**	**+3.1**
	comp=Z,0.9nm,0.8s,mb3.3,baz=199,slow=10,SNR=3.5					
ARCES	**ARCESS Array B**	**22.28 9**	P	**P**	**02 52 40.9**	**+3.1**
TORD	**Torodi Ar. Bea**	**36.59 204**	P	**P**	**02 54 48.2**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=14,slow=8.8,SNR=5.6					
TORD	**Torodi Ar. Bea**	**36.59 204**	P	**P**	**02 54 48.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**36.59 204**	P	**P**	**02 54 48.2**	**+1.1**

*ISCJB **07** 02:57:20.7±0.7, 24°.41N±0°.05×122°.96E±0°.02, h80km±7km,*
Error ellipse: s-maj=8.3km s-min=3.5km az=0.0
*JMA **07** 02:57:20.6±0.2, 24°.54N×122°.99E, h83km±2km, M2.6*
*TAP **07** 02:57:20.2, 24°.48N×122°.97E, h88km±1km, ML3.3, C*
ISC 07 02:57:21.3±0.7, 24°.42N±0°.05×122°.96E±0°.02, h78km±7km, n30, σ0°69/56, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.07**	**47**	P	**Pn**	**02 57 32.5**	**+0.1**
YOJ				S	**Sn**	**02 57 41.1**	**+0.5**
IRIF	**Iriomote-Funau**	**0.71**	**96**	P	**Pn**	**02 57 36.5**	**-0.4**
IRIF				S	**Sn**	**02 57 49.6**	**+1.2**
HATJ	**Hateruma jima**	**0.85**	**115**	P	**Pn**	**02 57 38.7**	**+0.3**
HATJ				*e*S	**Sn**	**02 57 51.8**	**+0.6**
JKRS	**Kuro-shima**	**0.98**	**100**	P	**Pn**	**02 57 39.8**	**-0.1**
JKRS				S	**Sn**	**02 57 54.3**	**+0.5**
TWC	**Suao**	**1.03**	**281**	P	**Pn**	**02 57 40.0**	**-0.5**
TWC	baz=277			S	**Sn**	**02 57 53.8**	**-1.1**
JIJ	**Ishigaki jima**	**1.08**	**92**	P	**Pn**	**02 57 40.6**	**-0.6**
JIJ				*e*S	**Sn**	**02 57 55.0**	**-1.1**
ENA	**Nanau**	**1.11**	**271**	*e*P	**Pn**	**02 57 41.6**	**+0.1**
ENA	baz=259			*e*S	**Sn**	**02 57 57.5**	**+0.8**
TWE	**Neicheng**	**1.21**	**285**	*e*P	**Pn**	**02 57 42.5**	**-0.3**
TWE	baz=281			S	**Sn**	**02 57 58.7**	**-0.3**
NWF	**Wu-fen Shan**	**1.25**	**302**	*e*P	**Pn**	**02 57 43.1**	**-0.2**
NWF	baz=291			*e*S	**Sn**	**02 57 59.7**	**-0.2**
ENTT	**Nioudou**	**1.29**	**280**	*i* P	**Pn**	**02 57 44.2**	**+0.4**
ENTT	baz=277			*e*S	**Sn**	**02 58 01.0**	**+0.4**
TWD	**Chiawan**	**1.29**	**255**	P	**Pn**	**02 57 43.1**	**-0.6**
TWD	baz=252			S	**Sn**	**02 58 00.0**	**-0.6**
NNS	**Nan Shan**	**1.44**	**271**	*e*P	**Pn**	**02 57 46.0**	**+0.3**
NNS	baz=260			*e*S	**Sn**	**02 58 03.6**	**-0.7**
NSK	**Sanguang**	**1.48**	**280**	P	**Pn**	**02 57 46.4**	**+0.2**
NSK	baz=277			*e*S	**Sn**	**02 58 04.8**	**-0.2**
ESL	**Shilin**	**1.52**	**247**	*i* P	**Pn**	**02 57 46.0**	**-0.7**
ESL	baz=238			*e*S	**Sn**	**02 58 05.2**	**-0.7**
WHF	**Hehuan Shan**	**1.57**	**260**	*i* P	**Pn**	**02 57 47.3**	**0.0**
WHF	baz=257			*e*S	**Sn**	**02 58 07.3**	**+0.2**
JTJ	**Tarama**	**1.60**	**82**	P	**Pn**	**02 57 47.7**	**-0.2**
JTJ				*e*S	**Sn**	**02 58 07.2**	**-0.8**
TWT	**Tachien**	**1.63**	**265**	*e*P	**Pn**	**02 57 48.7**	**+0.5**
TWT	baz=262			*e*S	**Sn**	**02 58 08.6**	**-0.1**
EHY	**Hungye**	**1.75**	**239**	P	**Pn**	**02 57 49.0**	**-0.8**
EHY	baz=235			*e*S	**Sn**	**02 58 10.7**	**-0.7**
TWF1	**Yuli**	**1.85**	**235**	P	**Pn**	**02 57 50.8**	**-0.3**
TWF1	baz=229			*e*S	**Sn**	**02 58 13.1**	**-0.8**
SMLT	**Sun Moon Lake**	**1.95**	**255**	*e*P	**Pn**	**02 57 52.8**	**+0.3**
SMLT	baz=249			*e*S	**Sn**	**02 58 16.4**	**+0.1**
TYC	**Yuchr**	**1.98**	**256**	*e*P	**Pn**	**02 57 53.4**	**+0.5**
TYC	baz=249			*e*S	**Sn**	**02 58 18.1**	**+1.1**
YUS	**Yu-Shan**	**2.05**	**244**	P	**Pn**	**02 57 54.6**	**+0.8**
	baz=236						
ELDTW	**Lidau**	**2.15**	**236**	P	**Pn**	**02 57 54.6**	**-0.6**
	baz=227						
ALS	**Alishan**	**2.17**	**246**	P	**Pn**	**02 57 56.2**	**+0.9**
	baz=244						
CHN5	**Tsauling**	**2.24**	**249**	*e*P	**Pn**	**02 57 57.7**	**+1.4**
CHN5	baz=239			*e*S	**Sn**	**02 58 23.1**	**0.0**
TWG	**Pinlang**	**2.35**	**228**	*e*P	**Pn**	**02 57 57.1**	**-0.6**
TWG	baz=235			*e*S	**Sn**	**02 58 24.4**	**-1.2**
STYT	**Tauyuan**	**2.37**	**239**	*e*P	**Pn**	**02 57 58.4**	**+0.3**
STYT	baz=240			*e*S	**Sn**	**02 58 26.0**	**-0.2**
CHN4	**Tsaushan**	**2.41**	**244**	*e*P	**Pn**	**02 58 00.5**	**+1.9**
CHN4	baz=242			*e*S	**Sn**	**02 58 29.3**	**+2.1**
CHN1	**Nanshi**	**2.54**	**242**	*e*P	**Pn**	**02 58 00.7**	**+0.3**
CHN1	baz=239			*e*S	**Sn**	**02 58 29.9**	**-0.4**
EAST	**Anshuo**	**2.80**	**224**	*e*P	**Pn**	**02 58 03.7**	**-0.2**
	baz=228						

*IDC **07** 02:57:34.8±1.9, 28°.85N×52°.79E, h0km, mb3.7/10,*
mb1 3.8/11, mb1mx3.6/28, mbtmp3.7/11, ML3.2/1, MS2.6/1,
Ms1 2.6/1, ms1mx1.8/44, Error ellipse: s-maj=44.6km
s-min=22.6km az=156.0
*CSEM **07** 02:57:37.4±0.7, 28°.93N×52°.85E, h10km, mb3.7/5, Error*
ellipse: s-maj=22.3km s-min=10.6km az=156.0
*ISCJB **07** 02:57:37.6±0.6, 29°.11N±0°.06×52°.69E±0°.04, h10km,*
mb3.7/13, Error ellipse: s-maj=9.4km s-min=5.2km az=5.5
*KISR **07** 02:57:40.8±0.5, 29°.04N×52°.21E, h34km±999km, ML3.2*
*TEH **07** 02:57:45.0, 29°.45N×52°.79E, h4km*
*NEIC **07** 02:57:45.0, 29°.45N×52°.79E, h4km, mb3.4/3, MN3.3(TEH),*
After TEH.
ISC 07 02:57:40.2±0.6, 29°.21N±0°.06×52°.67E±0°.04, h10km, n72,
σ1°50/74, mb3.7/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAR	**Pars**	**0.71**	**27**	Pg	**Pg**	**02 57 53.3**	**-0.7**
IPAR	**Pars**	**0.71**	**27**	*e*Pg	**Pg**	**02 57 53.4**	**-0.6**
IPAR	comp=Z,12μm,0.5s			*e*		02 58 11.7	
IPAR	**Pars**	**0.71**	**27**	Pg	**Pg**	**02 57 53.3**	**-0.7**
IMEH	**Mehriz**	**2.75**	**37**	Pn	**Pn**	**02 58 26.3**	**+2.0**
IMEH	**Mehriz**	**2.75**	**37**	*e*Pn	**Pn**	**02 58 26.3**	**+2.0**
IMEH	comp=Z,980nm,0.4s			*e*		02 59 17.7	
IMEH	**Mehriz**	**2.75**	**37**	Pn	**Pn**	**02 58 26.3**	**+2.0**
ISAD	**Sadrabad**	**2.84**	**18**	Pn	**Pn**	**02 58 27.5**	**+2.0**
ISAD	**Sadrabad**	**2.84**	**18**	*e*Pn	**Pn**	**02 58 27.6**	**+2.1**
ISAD	comp=Z,1μm,0.3s			*e*		02 59 27.1	
ISAD	**Sadrabad**	**2.84**	**18**	Pn	**Pn**	**02 58 27.5**	**+2.0**
ICHK	**Chekchek**	**3.38**	**26**	*e*Pn	**Pn**	**02 58 34.7**	**+1.7**
ICHK	comp=Z,550nm,0.2s			*e*		02 59 23.7	
IBND	**Bandar-abas**	**3.83**	**116**	*e*Pn	**Pn**	**02 58 44.7**	**+5.5**
IBND				*e*Sg	**Sg**	**02 59 45.1**	**+1.8**
IBND	comp=Z,2μm,0.0s			*e*		03 00 51.1	
IKLH	**Kolahrood**	**4.21**	**347**	Pn	**Pn**	**02 58 46.5**	**+2.1**
IKLH	**Kolahrood**	**4.21**	**347**	*e*Pn	**Pn**	**02 58 46.6**	**+2.2**
IKLH	comp=Z,282nm,0.6s			*e*		03 00 26.7	
IKLH	**Kolahrood**	**4.21**	**347**	Pn	**Pn**	**02 58 46.5**	**+2.1**
UMR	**Umm Al-Rimmam**	**4.34**	**276**	*e*P	**Pn**	**02 58 46.9**	**+0.7**
UMR	**Umm Al-Rimmam**	**4.34**	**276**	*e*P	**Pn**	**02 58 46.9**	**+0.7**
MIB	**Mutribah**	**4.69**	**279**	*e*P	**Pn**	**02 58 52.3**	**+1.4**
MIB				*e*S	**Sn**	**02 59 45.7**	**+0.3**
MIB	comp=Z,24nm,0.5s			AML	AML	02 59 52.4	
MIB	**Mutribah**	**4.69**	**279**	*e*P	**Pn**	**02 58 52.3**	**+1.3**
MIB				*e*S	**Sn**	**02 59 45.7**	**+0.3**
	comp=Z,24nm,0.5s						
NAY	**Al-Naaiem**	**4.75**	**272**	*e*P	**Pn**	**02 58 52.8**	**+1.0**
NAY	**Al-Naaiem**	**4.75**	**272**	*e*P	**Pn**	**02 58 52.8**	**+1.0**
ISFB	**Sefidab**	**5.14**	**356**	Pn	**Pn**	**02 58 58.8**	**+1.6**
ISFB	**Sefidab**	**5.14**	**356**	*e*Pn	**Pn**	**02 58 58.8**	**+1.6**
ISFB	comp=Z,134nm,0.4s			*e*		02 59 21.5	
ISFB	**Sefidab**	**5.14**	**356**	Pn	**Pn**	**02 58 58.8**	**+1.6**
ITEG	**Tejag**	**6.38**	**53**	*e*Pn	**Pn**	**02 59 14.3**	**+0.1**
IDHR	**Dehrash**	**7.65**	**317**	Pn	**Pn**	**02 59 34.7**	**+3.1**
IDHR	**Dehrash**	**7.65**	**317**	*e*Pn	**Pn**	**02 59 34.7**	**+3.1**
IDHR	comp=N,287nm,0.2s			*e*		03 01 12.3	
IDHR	**Dehrash**	**7.65**	**317**	Pn	**Pn**	**02 59 34.7**	**+3.1**
EIL	**Elat**	**15.45**	**276**	LR	LR	03 07 54.9	
	comp=N,25nm,21.5s,baz=261,slow=40						
BR131	**Keskin Array S**	**18.84**	**309**	*e*P	**Pn**	**03 02 01.5**	**+0.8**
	comp=N,1.1nm,0.7s						
BR131	**Keskin Array S**	**18.84**	**309**	*e*P	**Pn**	**03 02 01.5**	**+0.8**
	comp=N,1.1nm,0.7s						
BRTR	**Keskin Array B**	**18.84**	**309**	P	**Pn**	**03 02 00.8**	**+0.1**
	comp=N,0.1nm,0.3s,baz=129,

JMK			*e*S	Sn	03 00 43.4	+1.0
JOM	**Ohasama**	**1.72 301**	P	Pn	03 00 25.0	+0.8
JOU	**Okura**	**2.00 264**	P	Pn	03 00 29.1	+1.1
JMM	**Marumori**	**2.02 250**	P	Pn	03 00 28.9	+0.5
JANG	**Nango**	**2.19 324**	P	Pn	03 00 32.4	+1.6
JFK	**Kawauchi**	**2.21 237**	P	Pn	03 00 31.5	+0.6
JYK	**Kaneyama**	**2.24 279**	P	Pn	03 00 33.1	+1.8
JYS	**Shiratake**	**2.48 262**	P	Pn	03 00 36.4	+1.7
JFT	**Otama**	**2.50 245**	P	Pn	03 00 36.6	+1.7

ISCJB ***07*** *03:02:19.7±0.2, 31°.64N±0°.02×104°.46E±0°.03, h10km, mb4.4/49, MS3.7/15, Error ellipse: s-maj=3.5km s-min=3.1km az=2.9*
BJI ***07*** *03:02:20.9, 31°.65N×104°.60E, h12km, mB4.7/21, mb4.3/29, ML4.3/25, Ms4.5/35, Ms7 4.1/33*
IDC ***07*** *03:02:20.2±0.5, 31°.71N×104°.49E, h0km, mb4.2/19, mb1 4.3/21, mb1mx4.2/32, mbtmp4.2/21, ML3.7/2, MS3.6/12, Ms1 3.6/12, ms1mx3.3/51, Error ellipse: s-maj=23.7km s-min=11.1km az=58.0*
NEIC ***07*** *03:02:21.7±0.3, 31°.62N×104°.37E, h10km, mb4.6/27, Error ellipse: s-maj=5.8km s-min=5.4km az=123.0*
MOS ***07*** *03:02:22.2±0.8, 31°.67N×104°.44E, h25km, mb4.8/25, Error ellipse: s-maj=9.5km s-min=5.6km az=109.6*
ISC 07 03:02:21.9±0.2, 31°.67N±0°.02×104°.40E±0°.03, h10km, n192, σ1908/211, mb4.4/49, MS3.7/15, 2C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.93**	**216**	⇓*i*Pg	**Pg**	**03 02 38.6**	**-1.3**
CD2				Sg	**Sg**	**03 02 53.6**	**+1.6**
CD2				smax			
	comp=N,9μm,0.7s						
CD2				smax			
	comp=E,8μm,1.2s						
LZH	**Lanzhou**	**4.43**	**354**	Pn	**Pn**	**03 03 31.7**	**+2.5**
LZH				Pg	**Pg**	**03 03 43.2**	**-3.7**
LZH				Sg	**Sg**	**03 04 42.1**	**-2.2**
LZH				smax			
	comp=N,650nm,1.0s						
LZH				smax			
	comp=E,660nm,1.0s						
LZH				LR	LR		
	comp=N,4μm,5.6s						
LZH				LR	LR		
	comp=E,3μm,6.3s						
LZH				LR	LR		
	comp=Z,4μm,7.5s						
LZH	**Lanzhou**	**4.43**	**354**	Pn	**Pn**	**03 03 31.7**	**+2.5**
LZH				Pg	**Pg**	**03 03 43.2**	**-3.7**
LZH				Sg	**Sg**	**03 04 42.1**	**-2.2**
LZH	**Lanzhou**	**4.43**	**354**	P	**Pn**	**03 03 31.7**	**+2.5**
XAN	**Xi'an**	**4.48**	**57**	Pn	**Pn**	**03 03 28.7**	**-1.2**
XAN				Pg	**Pg**	**03 03 42.9**	**-4.8**
XAN				Sn	**Sn**	**03 04 20.4**	**-1.6**
XAN				Sg	**Sg**	**03 04 38.1**	**-7.7**
XAN				smax			
	comp=N,950nm,1.2s						
XAN				smax			
	comp=E,410nm,1.0s						
XAN				LR	LR		
	comp=N,4μm,6.2s						
XAN				LR	LR		
	comp=E,730nm,5.4s						
XAN				LR	LR		
	comp=Z,800nm,8.2s						
GYA	**Guiyang**	**5.55**	**159**	Pn	**Pn**	**03 03 44.2**	**-0.4**
GYA				Sn	**Sn**	**03 04 49.0**	**+0.5**
GYA				Sg	**Sg**	**03 05 20.9**	**+0.7**
GYA				smax			
	comp=N,250nm,0.8s						
GYA				smax			
	comp=E,300nm,1.1s						
KMI	**Kunming**	**6.68**	**193**	Pn	**Pn**	**03 04 03.3**	**+3.2**
KMI				Sn	**Sn**	**03 05 20.2**	**+3.9**
KMI				Sg	**Sg**	**03 05 56.6**	**+0.2**
KMI				smax			
	comp=N,120nm,1.5s						
KMI				smax			
	comp=E,98nm,1.6s						
KMI				LR	LR		
	comp=N,1μm,6.3s						
KMI				LR	LR		
	comp=E,3μm,5.3s						
KMI				LR	LR		
	comp=Z,1μm,7.7s						
KMI	**Kunming**	**6.68**	**193**	Pn	**Pn**	**03 04 03.3**	**+3.2**
KMI				Pg	**Pg**	**03 04 29.1**	**-0.8**
KMI				Sn	**Sn**	**03 05 20.2**	**+3.9**
KMI				Sg	**Sg**	**03 05 56.6**	**+0.2**
KMI	**Kunming**	**6.68**	**193**	P	**Pn**	**03 04 03.3**	**+3.2**
KMI						03 05 20.2	
GTA	**Gaotai**	**8.58**	**335**	*e*P	**Pn**	**03 04 27.2**	**+1.0**
GTA				pP		03 04 31.5	
GTA				sP		03 04 34.2	
GTA				S	**Sn**	**03 06 05.0**	**+1.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,76nm,5.0s						
GTA				LR	LR		
	comp=N,1μm,10.2s						
GTA				LR	LR		
	comp=E,590nm,12.1s						
GTA				LR	LR		
	comp=Z,800nm,11.6s						
WHN	**Wuhan**	**8.60**	**95**	P	**Pn**	**03 04 22.9**	**-3.6**
WHN				S	**Sn**	**03 05 57.7**	**-5.9**
WHN				LR	LR		
	comp=N,4μm,6.9s						
WHN				LR	LR		
	comp=E,4μm,7.0s						
WHN				LR	LR		
	comp=Z,3μm,7.6s						
HHC	**Hu-ho-hao-te**	**10.83**	**30**	*e*P	**Pn**	**03 04 58.3**	**+1.3**
HHC				sP		03 05 03.6	
HHC				PP		03 05 06.8	
HHC				S	**Sn**	**03 07 00.8**	**+2.6**
HHC				SS		03 07 13.3	
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,63nm,3.6s						
HHC				LR	LR		
	comp=N,750nm,7.1s						
HHC				LR	LR		
	comp=E,1μm,7.1s						
HHC				LR	LR		
	comp=Z,550nm,7.1s						
NJ2	**Nanjing**	**12.29**	**84**	*e*P	**Pn**	**03 05 18.3**	**+1.3**
NJ2				pP		03 05 21.6	
NJ2				sP		03 05 24.5	
NJ2				PP		03 05 28.4	
NJ2				S	**Sn**	**03 07 35.0**	**+0.9**
NJ2				sS		03 07 42.0	
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,270nm,5.1s						
NJ2				LR	LR		
	comp=N,850nm,16.7s						
NJ2				LR	LR		
	comp=E,2μm,14.7s						
NJ2				LR	LR		
	comp=Z,2μm,11.4s						
BJI	**Beijing**	**12.68**	**46**	P	**Pn**	**03 05 20.7**	**-1.6**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,170nm,4.3s						
BJI				LR	LR		
	comp=N,960nm,9.9s						
BJI				LR	LR		
	comp=E,430nm,9.9s						
BJI				LR	LR		
	comp=Z,220nm,18.6s						
QIZ	**Qiongzhong**	**13.51**	**157**	P	**Pn**	**03 05 33.4**	**-0.2**
QIZ				S	**Sn**	**03 08 04.4**	**+0.6**
QIZ				pmax	pmax		
	comp=Z,20nm,1.4s						
QIZ				LR	LR		
	comp=N,830nm,6.8s						
QIZ				LR	LR		
	comp=E,230nm,7.0s						
QIZ				LR	LR		
	comp=Z,800nm,12.8s						
CHTO	**Chiang Mai**	**13.71**	**202**	*e*Pn	**Pn**	**03 05 38.1**	**+1.7**
CHTO	**Chiang Mai**	**13.71**	**202**	*e*P	**Pn**	**03 05 38.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**14.05**	**202**	Pn	**Pn**	**03 05 42.9**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=15,slow=12,SNR=10						
CMAR				Lg		03 09 35.6	
	comp=Z,1.2nm,0.3s,baz=103,slow=14,SNR=5.2						
CMAR				LR	LR	03 11 19.2	
	comp=Z,54nm,20.5s,baz=35,slow=38						
CMAR	**Chiang Mai Arr**	**14.05**	**202**	Pn	**Pn**	**03 05 42.9**	**+1.9**
CMAR				Lg		03 09 35.6	
CMAR	**Chiang Mai Arr**	**14.05**	**202**	P	**Pn**	**03 05 42.9**	**+1.9**
RAMN	**Ramite**	**16.22**	**258**	*e*P	**Pn**	**03 06 08.7**	**-1.2**
	comp=Z,13nm,0.7s						
RAMN	**Ramite**	**16.22**	**258**	*e*P	**Pn**	**03 06 08.7**	**-1.2**
	comp=Z,13nm,0.7s						
SONM	**Songino Array**	**16.22**	**5**	Pn	**Pn**	**03 06 09.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=184,slow=11,SNR=11						
SONM				Lg		03 10 53.8	
	comp=Z,0.1nm,0.3s,baz=155,slow=25,SNR=3.6						
SONM	**Songino Array**	**16.22**	**5**	Pn	**Pn**	**03 06 09.8**	**0.0**
SONM				Lg		03 10 53.8	
SONM	**Songino Array**	**16.22**	**5**	P	**Pn**	**03 06 09.8**	**0.0**
ULN	**Ulaanbaatar**	**16.31**	**6**	*e*P	**Pn**	**03 06 11.0**	**+0.1**
	comp=Z,4.3nm,0.9s						
ULN	**Ulaanbaatar**	**16.31**	**6**	*e*P	**Pn**	**03 06 11.0**	**+0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JIRN	**Jiri**	**16.32**	**260**	*e*P	**Pn**	**03 06 10.5**	**-0.8**
	comp=Z,14nm,1.2s						
JIRN	**Jiri**	**16.32**	**260**	*e*P	**Pn**	**03 06 10.5**	**-0.8**
	comp=Z,14nm,1.2s						
GUN	**Gumba**	**16.51**	**262**	*e*P	**Pn**	**03 06 12.8**	**-0.8**
	comp=Z,68nm,1.0s						
GUN	**Gumba**	**16.51**	**262**	*e*P	**Pn**	**03 06 12.8**	**-0.8**
	comp=Z,68nm,1.0s						
PKI	**Pulchoki**	**17.01**	**261**	*e*P	**Pn**	**03 06 18.5**	**-1.5**
	comp=Z,34nm,0.9s						
PKI	**Pulchoki**	**17.01**	**261**	*e*P	**Pn**	**03 06 18.5**	**-1.5**
	comp=Z,34nm,0.9s						
PKI	**Pulchoki**	**17.01**	**261**	*e*P	**Pn**	**03 06 18.5**	**-1.5**
PKI				pmax	pmax		
	comp=Z,34nm,0.9s						
KKN	**Kakani**	**17.05**	**262**	*e*P	**Pn**	**03 06 19.4**	**-1.1**
	comp=Z,61nm,1.0s						
KKN	**Kakani**	**17.05**	**262**	*e*P	**Pn**	**03 06 19.4**	**-1.1**
	comp=Z,61nm,1.0s						
KKN	**Kakani**	**17.05**	**262**	*e*P	**Pn**	**03 06 19.4**	**-1.1**
KKN				pmax	pmax		
	comp=Z,61nm,1.0s						
DMN	**Daman**	**17.25**	**261**	*e*P	**Pn**	**03 06 21.5**	**-1.5**
	comp=Z,34nm,0.9s						
DMN	**Daman**	**17.25**	**261**	*e*P	**Pn**	**03 06 21.5**	**-1.5**
	comp=Z,34nm,0.9s						
GKN	**Gorkha**	**17.53**	**263**	*e*P	**Pn**	**03 06 25.2**	**-1.3**
	comp=Z,40nm,0.9s						
GKN	**Gorkha**	**17.53**	**263**	*e*P	**Pn**	**03 06 25.2**	**-1.3**
	comp=Z,40nm,0.9s						
WMQ	**Urumqi**	**17.90**	**317**	P	**Pn**	**03 06 32.7**	**+1.8**
WMQ				pP	pP	03 06 36.3	+2.0
WMQ				sP	sP	03 06 39.7	+4.0
WMQ				PP		03 06 47.6	
WMQ				S	**Sn**	**03 09 50.8**	**+0.4**
WMQ				sS	sS	03 09 56.5	-5.0
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.4s						
WMQ				LR	LR		
	comp=N,590nm,11.2s						
WMQ				LR	LR		
	comp=E,490nm,8.6s						
WMQ				LR	LR		
	comp=Z,230nm,24.0s						
DANN	**Dangsing**	**18.18**	**265**	*e*P	**Pn**	**03 06 32.7**	**-1.8**
	comp=Z,23nm,1.0s						
DANN	**Dangsing**	**18.18**	**265**	*e*P	**Pn**	**03 06 32.7**	**-1.8**
	comp=Z,23nm,1.0s						
KOLN	**Koldanda**	**18.48**	**263**	*e*P	**Pn**	**03 06 35.9**	**-2.2**
	comp=Z,18nm,0.7s						
KOLN	**Koldanda**	**18.48**	**263**	*e*P	**Pn**	**03 06 35.9**	**-2.2**
	comp=Z,18nm,0.7s						
ZAK	**Zakamensk**	**18.72**	**358**	*e*P	**Pn**	**03 06 40.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
PYUN	**Piuthan**	**18.90**	**265**	*e*P	**Pn**	**03 06 40.7**	**-2.6**
	comp=Z,54nm,1.1s						
PYUN	**Piuthan**	**18.90**	**265**	*e*P	**Pn**	**03 06 40.7**	**-2.6**
	comp=Z,54nm,1.1s						
KSAR	**Wonju Array Be**	**20.16**	**67**	P	**P**	**03 06 57.1**	**+0.8**
KSAR	**Wonju Array Be**	**20.16**	**67**	P	**P**	**03 06 57.2**	**+0.8**
KSRS	**Korea Array**	**20.19**	**67**	P	**P**	**03 06 57.1**	**+0.4**
	comp=Z,13nm,0.9s,baz=255,slow=10,SNR=26						
KSRS				LR	LR	03 15 02.0	
	comp=Z,131nm,19.6s,MS3.3,baz=339,slow=38						
KSRS	**Korea Array**	**20.19**	**67**	P	**P**	**03 06 57.2**	**+0.5**
KSRS				pmax	pmax		
	comp=Z,13nm,1.0s						
KSRS				MLR	MLR		
	comp=Z,131nm,19.6s,MS3.3						
CN2	**Changchun**	**20.52**	**48**	*e*P	**P**	**03 07 01.1**	**+0.9**
CN2				*e*S	**S**	**03 10 44.1**	**-5.7**
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
CN2				LR	LR		
	comp=N,800nm,10.0s,MS4.4						
CN2				LR	LR		
	comp=E,400nm,10.0s,MS4.4						
CN2				LR	LR		
	comp=Z,200nm,10.0s,MS3.8						
MK31	**Makanchi Array**	**22.73**	**318**	*e*P	**P**	**03 07 24.7**	**+0.8**
MK31	**Makanchi Array**	**22.73**	**318**	*e*P	**P**	**03 07 24.7**	**+0.8**
MKAR	**Makanchi Array**	**22.73**	**318**	P	**P**	**03 07 25.0**	**+1.1**
	comp=Z,6.3nm,0.9s,mb4.0,baz=116,slow=11,SNR=36						
MKAR				LR	LR	03 17 14.4	
	comp=Z,274nm,19.0s,MS3.7,baz=130,slow=39						
MKAR	**Makanchi Array**	**22.73**	**318**	P	**P**	**03 07 25.0**	**+1.1**
MKAR	**Makanchi Array**	**22.73**	**318**	P	**P**	**03 07 25.0**	**+1.1**
MDJ	**Mudanjiang**	**23.55**	**50**	P	**P**	**03 07 29.7**	**-2.8**
MDJ				pP		03 07 32.8	
MDJ				S	**S**	**03 11 42.9**	**-3.2**
MDJ				sS	sS	03 11 47.7	-3.4
MDJ				ScP	ScP	03 14 54.9	-0.9
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.9						
MDJ				LR	LR		
	comp=N,230nm,11.0s,MS4.0						
MDJ				LR	LR		
	comp=E,240nm,15.2s,MS4.0						
MDJ				LR	LR		
	comp=Z,230nm,12.8s,MS3.8						
KSH	**Kashi**	**24.34**	**297**	P	**P**	**03 07 43.7**	**+3.9**
KSH				pP		03 07 48.6	
KSH				sP	sP	03 07 51.3	+7.2
KSH				PP		03 08 20.9	
KSH				PcP	PcP	03 11 21.5	+2.2
KSH				S	**S**	**03 12 05.0**	**+5.9**
KSH				sS	sS	03 12 10.9	+6.8
KSH				SS		03 12 59.6	
KSH				ScP	ScP	03 14 58.5	+0.5
KSH				PcS	PcS	03 15 00.3	+1.2
KSH				ScS	ScS	03 18 45.0	-0.4
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
KSH				pmax	pmax		
	comp=Z,130nm,4.4s						
KSH				LR	LR		
	comp=N,160nm,8.4s						
KSH				LR	LR		
	comp=E,140nm,5.6s						
KSH				LR	LR		
	comp=Z,270nm,12.6s,MS3.9						
AAK	**Ala-Archa**	**26.10**	**303**	*e*P	**P**	**03 07 57.4**	**+1.6**
	comp=Z,22nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**26.10**	**303**	*e*P	**P**	**03 07 57.4**	**+1.6**
AAK				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
ZAA0	**Zalesovo Array**	**26.33**	**333**	*e*P	**P**	**03 07 57.6**	**-0.2**
ZALV	**Zalesovo Beam**	**26.33**	**333**	P	**P**	**03 07 58.2**	**+0.4**
	comp=Z,4.8nm,0.8s,mb4.1,baz=128,slow=9.6,SNR=17						
ZALV	**Zalesovo Beam**	**26.33**	**333**	P	**P**	**03 07 58.2**	**+0.4**
ZALV	**Zalesovo Beam**	**26.33**	**333**	P	**P**	**03 07 58.2**	**+0.4**
EKS2	**Erkin-Say**	**26.62**	**303**	*e*P	**P**	**03 08 01.6**	**+1.1**
	comp=Z,2.3nm,0.9s,mb3.7						
EKS2	**Erkin-Say**	**26.62**	**303**	*e*P	**P**	**03 08 01.6**	**+1.1**
EKS2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
KURK	**Kurchatov**	**26.95**	**322**	P	**P**	**03 08 04.3**	**+0.9**
	comp=Z,4.6nm,0.9s,mb4.0,baz=130,slow=9.0,SNR=30						
KURK				LR	LR	03 19 59.0	
	comp=Z,48nm,19.1s,MS3.1,baz=65,slow=39						
KURK	**Kurchatov**	**26.95**	**322**	*e*P	**P**	**03 08 03.6**	**+0.2**
	comp=Z,8.1nm,1.1s,mb4.2						
KURK	**Kurchatov**	**26.95**	**322**	P	**P**	**03 08 04.3**	**+0.9**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
KURK				MLR	MLR		
	comp=Z,49nm,19.1s,MS3.1						
KLR	**Kul'dur**	**27.00**	**42**	*e*P	**P**	**03 08 04.3**	**+0.5**
MJAR	**Matsushiro Arr**	**28.32**	**71**	LR	LR	03 19 29.8	
	comp=Z,97nm,18.8s,MS3.4,baz=125,slow=36						
ASAJ	**Asahikawa**	**32.32**	**56**	LR	LR	03 23 09.0	
	comp=Z,115nm,19.6s,MS3.6,baz=21,slow=39						
BVAR	**Borovoye Array**	**32.51**	**321**	P	**P**	**03 08 53.2**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=117,slow=9.0,SNR=7.7						
BVAR				LR	LR	03 22 43.2	
	comp=Z,88nm,20.6s,MS3.4,baz=326,slow=38						
BVAR	**Borovoye Array**	**32.51**	**321**	P	**P**	**03 08 53.2**	**+0.5**
BVAR	**Borovoye Array**	**32.51**	**321**	P	**P**	**03 08 53.2**	**+0.5**
BRVK	**Borovoye**	**32.59**	**321**	*e*P	**P**	**03 08 53.8**	**+0.5**
	comp=Z,3.2nm,0.7s,mb4.4						
BRVK	**Borovoye**	**32.59**	**321**	*e*P	**P**	**03 08 54.4**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
YAK	**Yakutsk**	**34.49**	**21**	*e*P	**P**	**03 09 10.0**	**+0.2**
	comp=Z,25nm,0.7s,mb5.2						
YAK	**Yakutsk**	**34.49**	**21**	*e*P	**P**	**03 09 06.8**	**-3.0**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ABKAR	**Akbulak array**	**37.49**	**311**	*e*P	**P**	**03 09 36.6**	**+0.9**
	comp=Z,1.3nm,0.7s,mb3.9						
AKTO	**Aktyubinsk**	**38.94**	**313**	P	**P**	**03 09 47.3**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.8,baz=84,slow=8.3,SNR=5.9						
AKTO	**Aktyubinsk**	**38.94**	**313**	P	**P**	**03 09 47.3**	**-0.5**
AKTO	**Aktyubinsk**	**38.94**	**313**	P	**P**	**03 09 47.3**	**-0.6**
KAPI	**Kappang**	**39.30**	**155**	P	**P**	**03 09 51.7**	**+0.5**
	comp=Z,6.2nm,0.6s,mb4.5,baz=194,slow=22,SNR=6.4						
KAPI	**Kappang**	**39.30**	**155**	*e*P	**P**	**03 09 49.1**	**-2.0**
	comp=Z,6.4nm,0.6s,mb4.5						
ARU	**Arti**	**40.15**	**322**	*e*P	**P**	**03 09 58.9**	**+1.1**
	comp=Z,15nm,0.8s,mb4.8						
ARU	**Arti**	**40.15**	**322**	*c i*P	**P**	**03 09 58.4**	**+0.6**
ARU				*e*		03 11 30.0	
ARU				S	**S**	**03 16 05.5**	**+1.4**
ARU				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
PETK	**Petropavlovsk-**	**43.61**	**44**	LR	LR	03 30 15.2	
	comp=Z,140nm,18.7s,MS3.9,baz=106,slow=38						
KIV	**Kislovodsk**	**49.22**	**303**	*e*P	**P**	**03 11 12.2**	**+1.8**
	comp=Z,9.3nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**49.22**	**303**	*e*P	**P**	**03 11 11.8**	**+1.4**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=Z,54nm,17.0s,MS3.6						
VSR	**Storozhevoye**	**50.89**	**313**	*e*P	**P**	**03 11 22.6**	**-0.4**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
VSR				pmax	pmax		
	comp=N,4.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,7.0nm,0.7s						
OBN	**Obninsk**	**52.24**	**318**	*e*P	**P**	**03 11 32.2**	**-0.7**
OBN				*e*		03 12 42.2	
OBN				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.51**	**155**	P	**P**	**03 11 42.1**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.1,baz=358,slow=5.6,SNR=5.6						
FITZ	**Fitzroy Crossi**	**53.51**	**155**	P	**P**	**03 11 42.1**	**-0.6**
JOF	**Joensuu**	**54.69**	**328**	*e*P	**P**	**03 11 50.6**	**-0.2**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
JOF	**Joensuu**	**54.69**	**328**	*e*p	**P**	**03 11 50.6**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.7						
KEV	**Kevo**	**56.33**	**336**	*e*P	**P**	**03 12 00.7**	**-1.8**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KEV	**Kevo**	**56.33**	**336**	*e*p	**P**	**03 12 00.7**	**-1.8**
	comp=Z,6.3nm,0.7s,mb4.8						
BR131	**Keskin Array S**	**56.69**	**299**	*e*P	**P**	**03 12 05.9**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**56.69**	**299**	P	**P**	**03 12 06.0**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=96,slow=6.9,SNR=13						
BRTR	**Keskin Array B**	**56.69**	**299**	P	**P**	**03 12 06.0**	**+0.4**
BRTR	**Keskin Array B**	**56.69**	**299**	P	**P**	**03 12 06.0**	**+0.4**
ARCES	**ARCESS Array B**	**56.85**	**336**	P	**P**	**03 12 05.9**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.6,baz=81,slow=7.9,SNR=14						
ARCES	**ARCESS Array B**	**56.85**	**336**	P	**P**	**03 12 05.9**	**-0.4**
ARCES	**ARCESS Array B**	**56.85**	**336**	P	**P**	**03 12 05.9**	**-0.4**
KAF	**Kangasniemi**	**57.06**	**327**	*e*P	**P**	**03 12 06.6**	**-1.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**57.06**	**327**	*e*p	**P**	**03 12 06.6**	**-1.2**
	comp=Z,2.6nm,0.6s,mb4.4						
AKASG	**Malin Array Be**	**57.19**	**313**	P	**P**	**03 12 08.6**	**-0.4**
	comp=Z,5.3nm,0.8s,mb4.6,baz=68,slow=7.0,SNR=6.6						
AKASG	**Malin Array Be**	**57.19**	**313**	P	**P**	**03 12 08.6**	**-0.4**
AKASG	**Malin Array Be**	**57.19**	**313**	P	**P**	**03 12 08.6**	**-0.3**
AKBB	**Malin Array Si**	**57.19**	**313**	*e*P	**P**	**03 12 08.3**	**-0.6**
AKBB	**Malin Array Si**	**57.19**	**313**	*e*P	**P**	**03 12 08.3**	**-0.6**
KIEV	**Kiev**	**57.20**	**313**	*e*P	**P**	**03 12 08.9**	**-0.1**
FINES	**FINESS Array B**	**57.25**	**326**	P	**P**	**03 12 09.2**	**+0.1**
	comp=Z,4.1nm,0.5s,mb4.7,baz=82,slow=6.9,SNR=30						
FINES	**FINESS Array B**	**57.25**	**326**	P	**P**	**03 12 09.2**	**+0.1**
FINES	**FINESS Array B**	**57.25**	**326**	P	**P**	**03 12 09.2**	**0.0**
PMG	**Port Moresby**	**57.79**	**128**	*ce*P	**P**	**03 12 07.6**	**-6.0**
PMG				pmax	pmax		
	comp=Z,28nm,1.7s						
COEN	**Coen**	**58.65**	**135**	*e*P	**P**	**03 12 18.8**	**-0.8**
	comp=Z,27nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**58.80**	**147**	*e*P	**P**	**03 12 20.6**	**+0.1**
	comp=Z,12nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**58.80**	**147**	*e*P	**P**	**03 12 20.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**58.80**	**147**	P	**P**	**03 12 20.2**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.5,baz=339,slow=7.6,SNR=33						
WRA	**Warramunga Arr**	**58.80**	**147**	P	**P**	**03 12 20.2**	**-0.3**
WRA	**Warramunga Arr**	**58.80**	**147**	P	**P**	**03 12 20.2**	**-0.3**
WB2	**Warramunga Arr**	**58.80**	**147**	*e*P	**P**	**03 12 19.9**	**-0.6**
SPITS	**Spitsbergen Ar**	**58.85**	**346**	LR	LR	03 45 33.5	
	comp=Z,35nm,18.1s,MS3.5,baz=110,slow=44						
SUW	**Suwalki**	**60.10**	**318**	*e*P	**P**	**03 12 28.8**	**-0.3**
SUW	**Suwalki**	**60.10**	**318**	*e*P	**P**	**03 12 29.1**	**0.0**
	comp=Z,29nm,1.4s,mb5.1						
SUW

KOLL	Kolacno	64.53	313	eP		P	03 12 59.6 +0.7
MORC	Moravsky Berou	64.66	314	eP		P	03 12 59.8 +0.1
	comp=Z,2.0nm,0.8s,mb4.2						
MORC	Moravsky Berou	64.66	314	eP		P	03 12 59.8 +0.1
MORC					pmax	pmax	
	comp=Z,2.0nm,0.8s,mb4.2						
DPC	Dobruska-Polom	65.20	315	eP		P	03 13 04.3 +1.0
	comp=Z,6.1nm,1.0s,mb4.6						
DPC	Dobruska-Polom	65.20	315	eP		P	03 13 04.3 +1.0
DPC					pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.6						
DPC	Dobruska-Polom	65.20	315	eP		P	03 13 04.1 +0.8
UPC	Upice	65.33	315	eP		P	03 13 05.3 +1.2
UPC	Upice	65.33	315	eP		P	03 13 05.3 +1.2
VRAC	Vranov	65.40	314	LR		LR	03 43 23.8
	comp=Z,92nm,18.1s,MS4.0,baz=192,slow=38						
BRG	Berggiesshubel	66.43	316	eP		P	03 13 11.4 +0.2
	comp=Z,3.0nm,0.7s,mb4.4						
BRG	Berggiesshubel	66.43	316	eP		P	03 13 11.4 +0.2
BRG					pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.4						
CLL	Collm	66.82	317	eP		P	03 13 14.0 +0.3
CLL	Collm	66.82	317	eP		P	03 13 14.0 +0.3
COLD	Coldfoot	66.86	24	eP		P	03 13 13.0 -0.6
	comp=Z,3.5nm,0.9s,mb4.4						
GERES	GERESS Array B	67.34	314	P		P	03 13 17.3 +0.3
	comp=Z,1.3nm,0.8s,mb4.0,baz=74,slow=5.7,SNR=12						
GERES					LR	LR	03 44 15.0
	comp=Z,97nm,18.5s,MS4.0,baz=75,slow=37						
GERES	GERESS Array B	67.34	314	P		P	03 13 17.3 +0.3
GERES	GERESS Array B	67.34	314	P		P	03 13 17.3 +0.3
COLA	College	68.81	26	eP		P	03 13 25.6 -0.4
	comp=Z,2.4nm,0.7s,mb4.2						
COLA	College	68.81	26	eP		P	03 13 25.6 -0.4
COLA					pmax	pmax	
	comp=Z,2.0nm,0.7s,mb4.2						
ILAR	Eielson Array	69.22	26	P		P	03 13 27.2 -1.3
	comp=Z,0.5nm,0.7s,mb3.5,baz=316,slow=4.8,SNR=8.5						
ILAR	Eielson Array	69.22	26	P		P	03 13 27.2 -1.3
ILAR	Eielson Array	69.22	26	P		P	03 13 27.2 -1.3
PMR	Palmer	69.93	29	eP		P	03 13 31.8 -1.1
	comp=Z,3.1nm,0.6s,mb4.4						
PMR	Palmer	69.93	29	eP		P	03 13 31.8 -1.1
PMR					pmax	pmax	
	comp=Z,3.0nm,0.6s,mb4.4						
EGAK	Eagle	71.29	24	eP		P	03 13 40.4 -0.7
	comp=Z,1.2nm,0.7s,mb3.9						
INK	Inuvik	71.54	19	eP		P	03 13 41.5 -1.2
	comp=Z,6.1nm,1.2s,mb4.4						
INK	Inuvik	71.54	19	eP		P	03 13 41.5 -1.2
INK					pmax	pmax	
	comp=Z,6.0nm,1.2s						
BMRM	Bremner River	72.12	29	eP		P	03 13 46.4 +0.1
	comp=Z,21nm,1.4s,mb4.9						
STKA	Stephens Creek	72.34	147	P		P	03 13 48.0 +0.2
	comp=Z,3.0nm,0.8s,mb4.3,baz=296,slow=3.1,SNR=4.9						
STKA	Stephens Creek	72.34	147	P		P	03 13 48.0 +0.2
STKA	Stephens Creek	72.34	147	P		P	03 13 48.0 +0.2
LPG	La Plagne	73.05	313	eP		P	03 13 52.7 +0.6
	comp=Z,12nm,0.7s,mb4.7						
LPG	La Plagne	73.05	313	eP		P	03 13 52.7 +0.6
	comp=Z,12nm,0.7s,mb4.9						
LPG	La Plagne	73.05	313	eP		P	03 13 52.7 +0.6
LPG					pmax	pmax	
	comp=Z,12nm,0.7s,mb4.9						
LPL	La Plagne	73.06	313	eP		P	03 13 52.7 +0.6
	comp=Z,10nm,0.8s,mb4.5						
LPL	La Plagne	73.06	313	eP		P	03 13 52.7 +0.6
	comp=Z,10nm,0.8s,mb4.8						
LPL	La Plagne	73.06	313	eP		P	03 13 52.7 +0.6
LPL					pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.8						
YKA	Yellowknife Ar	81.08	17	P		P	03 14 36.3 -0.6
	comp=Z,2.2nm,0.7s,mb4.2,baz=331,slow=5.3,SNR=21						
YKA	Yellowknife Ar	81.08	17	P		P	03 14 36.3 -0.6
YKA	Yellowknife Ar	81.08	17	P		P	03 14 36.3 -0.6
TORD	Torodi Ar. Bea	93.71	288	LR		LR	04 04 06.6
	comp=Z,37nm,20.5s,MS3.8,baz=235,slow=40						

IDC 07 03:08:56.1±9.9, 30°70S×179°21W, h285km±105km, mb2.6/2, mb1 3.0/3, mb1mx2.9/15, mbtmp2.8/3, Error ellipse: s-maj=95.9km s-min=43.0km az=2.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.13	201	P	Pn	03 10 52.1	+1.1
	1.2nm,0.3s,baz=191,slow=3.9,SNR=6.6						
URZ				S	S	03 12 22.6	-1.5
	1.4nm,0.3s,baz=145,slow=20,SNR=6.8						
ASAR	Alice Springs	42.05	268	P	P	03 16 20.9	+0.4
	0.2nm,0.7s,baz=107,slow=7.2,SNR=3.6						
WRA	Warramunga Arr	43.07	273	P	P	03 16 28.3	-0.3
	0.4nm,0.5s,baz=112,slow=7.9,SNR=11						
FINES	FINESS Array B	145.06	339	PKPbc	PKPbc	03 27 57.8	-1.0
	2.7nm,1.0s,baz=64,slow=4.4,SNR=8.4						

*ISCJB **07** 03:34:37.3±1.2, 23°.01S±0°.05×66°.8W±0°.2, h183km±11km, mb3.6/11, Error ellipse: s-maj=31.8km s-min=8.6km az=176.8*
*IDC **07** 03:34:38.8±2.3, 22°.95S×66°.60W, h181km±22km, mb3.3/5, mb1 3.6/7, mb1mx3.5/15, mbtmp3.3/7, Error ellipse: s-maj=27.3km s-min=18.0km az=76.0*
*NEIC **07** 03:34:39.1±1.1, 22°.97S×66°.66W, h185km±10km, mb3.7/7, Error ellipse: s-maj=21.3km s-min=9.4km az=84.0*
ISC 07 03:34:38.7±1.3, 22°.93S±0°.07×66°.6W±0°.2, h179km±11km, n31, σ0°97/27, mb3.6/11, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	6.76	348	P	Pn	03 36 17.8	+2.2
	3.0nm,0.3s,baz=169,slow=7.0,SNR=62						
LPAZ				S	Sn	03 37 31.4	-0.8
	baz=14,slow=6.5,SNR=2.9						
LPAZ	La Paz	6.76	348	P	Pn	03 36 17.8	+2.2
LPAZ				S	Sn	03 37 31.4	-0.8
CFAA	Coronel Fontan	8.76	189	P	Pn	03 36 40.8	-1.1
	0.1nm,0.3s,baz=27,slow=15,SNR=30						
CFAA				S	Sn	03 38 13.8	-5.9
	0.3nm,0.3s,baz=174,slow=15,SNR=12						
CFAA	Coronel Fontan	8.76	189	P	Pn	03 36 40.8	-1.1
CFAA				S	Sn	03 38 13.8	-5.9
PLCA	Paso Flores	18.05	190	P	P	03 38 37.6	+1.2
	0.3nm,0.3s,baz=1.2,slow=11,SNR=9.7						
PLCA	Paso Flores	18.05	190	eP	P	03 38 37.2	+0.8
	2.6nm,0.6s						
WVT	Waverly	62.07	341	eP	P	03 44 38.2	-2.0
	3.8nm,0.7s,mb4.3						
TXAR	Lajitas Array	63.01	324	P	P	03 44 46.1	-0.6
	0.1nm,0.4s,mb3.0,baz=144,slow=7.8,SNR=3.8						
TXAR	Lajitas Array	63.01	324	P	P	03 44 46.1	-0.6
MNTX	Cornudas Mount	65.78	324	eP	P	03 45 03.8	-0.8
	0.6nm,0.7s,mb3.5						
SDCO	Great Sand Dun	70.56	328	eP	P	03 45 34.5	+0.3
	0.8nm,0.5s,mb3.7						
TORD	Torodi Ar. Bea	75.87	69	P	P	03 46 05.1	-0.7
	1.2nm,0.3s,mb4.0,baz=256,slow=5.9,SNR=50						
TORD	Torodi Ar. Bea	75.87	69	P	P	03 46 05.1	-0.7
PDAR	Pinedale Array	76.41	329	P	P	03 46 08.1	-0.2
	0.2nm,0.3s,mb3.2,baz=122,slow=7.2,SNR=4.3						
PDAR	Pinedale Array	76.41	329	P	P	03 46 08.1	-0.2
LOHW	Long Hollow	77.55	329	eP	P	03 46 14.7	+0.1
	0.9nm,0.6s,mb3.6						
TPAW	Teton Pass	77.62	329	eP	P	03 46 15.6	+0.6
	0.9nm,0.6s,mb3.6						
NVAR	Mina Array Bea	77.92	321	P	P	03 46 17.8	+1.0
	0.2nm,0.6s,mb2.9,baz=131,slow=6.3,SNR=2.3						
NVAR	Mina Array Bea	77.92	321	P	P	03 46 17.8	+1.0
HLID	Hailey	79.38	327	eP	P	03 46 25.6	+1.0
	1.2nm,0.7s,mb3.6						
TAM	Tamanrasset	83.60	62	eP	P	03 46 48.0	+0.7
YKA	Yellowknife Ar	93.24	340	P	P	03 47 31.7	-0.5
	0.4nm,0.4s,mb3.9,baz=132,slow=4.7,SNR=9.6						
YKA	Yellowknife Ar	93.24	340	P	P	03 47 31.8	-0.5
ASAR	Alice Springs	129.56	205	PKP	PKPdf	03 53 26.6	-0.3
	0.1nm,0.4s,baz=134,slow=0.7,SNR=4.1						
ASAR	Alice Springs	129.56	205	PKP	PKPdf	03 53 26.6	-0.3
WRA	Warramunga Arr	132.73	207	PKP	PKPdf	03 53 32.9	-0.1
	0.3nm,0.5s,baz=153,slow=1.5,SNR=7.3						
WRA	Warramunga Arr	132.73	207	PKP	PKPdf	03 53 32.9	-0.1
MKAR	Makanchi Array	145.49	39	PKPbc	PKPbc	03 53 55.9	+0.2
	1.6nm,0.6s,baz=307,slow=3.1,SNR=20						
MKAR	Makanchi Array	145.49	39	PKPbc	PKPbc	03 53 55.9	+0.2
SONM	Songino Array	154.53	11	PKPab	PKPab	03 54 33.8	+0.6
	0.5nm,0.6s,baz=331,slow=6.0,SNR=3.8						
SONM	Songino Array	154.53	11	PKPab	PKPab	03 54 33.8	+0.6

IDC 07 03:40:03.6±1.7, 6°.02S×130°.40E, h0km, mb3.8/2, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=79.6km s-min=24.4km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.88	201	Pn	Pn	03 43 10.1	+2.1
	0.5nm,0.3s,baz=37,slow=10,SNR=12						
FITZ				Sn	Sn	03 45 26.3	-5.9
	0.2nm,0.3s,baz=230,slow=22,SNR=4.3						
WRA	Warramunga Arr	14.36	165	Pn	Pn	03 43 26.4	-1.9
	0.2nm,0.3s,baz=345,slow=13,SNR=18						
WRA				Sn	Sn	03 45 55.4	-13
	0.3nm,0.3s,baz=350,slow=22,SNR=6.6						
ASAR	Alice Springs	17.87	169	P	Pn	03 44 14.3	+0.5
	0.2nm,0.3s,baz=342,slow=9.0,SNR=11						
ASAR				S	Sn	03 47 20.3	-13
	0.1nm,0.3s,baz=352,slow=27,SNR=3.9						
STKA	Stephens Creek	27.78	159	P	P	03 45 54.0	-0.3
	2.0nm,0.9s,baz=0.0,slow=9.1,SNR=3.3						
MKAR	Makanchi Array	67.63	326	P	P	03 51 02.4	+0.1
	0.2nm,0.3s,baz=115,slow=8.1,SNR=9.1						

*IDC **07** 03:56:45.9±3.1, 21°.24S×170°.90E, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.8/14, mbtmp3.9/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/24, Error ellipse: s-maj=194.3km s-min=30.2km az=159.0*
*NOU **07** 03:56:47.6±0.4, 20°.02S×170°.96E, h30km, MD2.9, ML2.3*
*ISCJB **07** 03:56:49.6±4.1, 19°.9S±0°.4×170°.4E±0°.4, h19km±33km, mb4.0/3, Error ellipse: s-maj=90.2km s-min=12.6km az=142.9*
ISC 07 03:56:49.9±4.0, 20°.0S±0°.4×170°.5E±0°.4, h12km±27km, n9, σ0°86/9, mb4.0/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	4.00	236	eP	Pn	03 57 50.9	-0.2
BAYA				eS	Sn	03 58 37.3	-0.7
BAYA				AMP		03 58 44.3	
	comp=Z,5.7nm,0.7s						
NORM	Noumea	4.36	238	eP	Pn	03 57 55.9	-0.1
NORM				eS	Sn	03 58 46.1	-0.6
NOUC	Port Laguerre	4.44	241	eP	Pn	03 57 57.9	+0.8
NOUC				eS	Sn	03 58 50.6	+1.7
NOUC				AMP		03 58 57.2	
	comp=Z,28nm,0.0s						
URZ	Urewera	19.13	164	LR	LR	04 06 12.2	
	comp=Z,45nm,19.1s,baz=166,slow=32						
RPZ	Rata Peaks	23.70	179	LR	LR	04 08 43.2	
	comp=Z,106nm,19.2s,baz=163,slow=32						
WRA	Warramunga Arr	33.93	264	P	P	04 03 33.4	+0.2
	comp=Z,0.4nm,0.4s,mb3.8,baz=97,slow=8.6,SNR=16						
ASAR	Alice Springs	34.09	257	P	P	04 03 33.1	-1.5
	comp=Z,2.9nm,0.8s,mb4.3,baz=84,slow=9.1,SNR=21						
NVAR	Mina Array Bea	88.41	48	P	P	04 09 42.5	+0.5
	comp=Z,0.6nm,0.7s,mb4.0,baz=227,slow=7.9,SNR=8.5						
GERES	GERESS Array B	145.67	332	PKPbc	PKPbc	04 16 30.5	+2.0
	comp=Z,0.5nm,0.8s,baz=29,slow=2.2,SNR=4.5						

*ISCJB **07** 04:18:29.6±0.7, 38°.42N±0°.04×39°.34E±0°.05, h8km±5km, Error ellipse: s-maj=7.5km s-min=6.2km az=27.6*
*CSEM **07** 04:18:29.4±0.3, 38°.42N×39°.31E, h10km, MD2.6, Error ellipse: s-maj=7.3km s-min=5.7km az=19.0*
*DDA **07** 04:18:29.3, 38°.40N×39°.31E, h7km±4km, Md2.6*
*ISK **07** 04:18:29.4, 38°.43N×39°.35E, h5km, MD2.4*
ISC 07 04:18:29.9±0.9, 38°.41N±0°.04×39°.32E±0°.05, h9km±8km, n12, σ0°65/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.04	199	ePG	Pg	04 18 31.4	-0.1
SVRC				eSG	Sg	04 18 32.6	-0.1
SVRC	Sivrice-ELAZID	0.04	199	ePg	Pg	04 18 31.5	-0.1
SVRC				eSg	Sg	04 18 32.6	-0.1
ELZG	Elazig	0.28	288	i P	Pg	04 18 35.4	0.0
ELZG				i S	Sg	04 18 39.6	+0.4
ELZG	Elazig	0.28	288	i P	Pg	04 18 35.4	0.0
ELZG				i S	Sg	04 18 39.6	+0.4
PTK	Pertek	0.48	7	ePG	Pg	04 18 38.8	-0.5
PTK				eSG	Sg	04 18 46.0	+0.4
PTK	Pertek	0.48	7	ePg	Pg	04 18 38.8	-0.5
PTK				eSg	Sg	04 18 46.0	+0.3
MALT	Malatya	0.71	262	ePG	Pg	04 18 44.0	+0.5
MALT	Malatya	0.71	262	ePg	Pg	04 18 44.1	+0.5
DIYA	Diyarbakir	0.80	127	i P	Pg	04 18 45.5	+0.3
DIYA				i S	Sg	04 18 55.9	+0.2
DIYA	Diyarbakir	0.80	127	i P	Pg	04 18 45.5	+0.3
DIYA				i S	Sg	04 18 55.8	+0.2
AKCD	Akcadag	1.11	264	i P	Pg	04 18 49.2	-1.9
AKCD				i S	Sg	04 19 06.2	+0.7
AKCD	Akcadag	1.11	264	i P	Pg	04 18 49.2	-1.9
AKCD				i S	Sg	04 19 06.2	+0.7

IDC 07 04:26:27.6±2.1, 8°.36S×129°.69E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=77.7km s-min=28.9km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.46	202	Pn	Pn	04 28 57.6	-1.3
	0.3nm,0.3s,baz=27,slow=9.0,SNR=14						
FITZ				Sn	Sn	04 30 47.5	-9.4
	0.2nm,0.3s,baz=343,slow=23,SNR=2.0						
WRA	Warramunga Arr	12.36	159	Pn	Pn	04 29 26.0	+1.0
	0.2nm,0.3s,baz=344,slow=12,SNR=13						
WRA				Sn	Sn	04 31 37.5	-6.2
	0.1nm,0.3s,baz=331,slow=23,SNR=3.5						
ASAR	Alice Springs	15.75	166	Pn	Pn	04 30 11.2	+0.4
	0.1nm,0.3s,baz=342,slow=9.3,SNR=5.2						
ASAR				Sn	Sn	04 33 00.2	-6.0
	0.1nm,0.3s,baz=345,slow=25,SNR=4.1						
MKAR	Makanchi Array	69.19	327	P	P	04 37 36.2	+0.2
	0.2nm,0.5s,baz=110,slow=5.8,SNR=4.9						

IDC 07 04:27:48.5±7.4, 31°.75S×178°.98E, h518km±99km, mb2.8/3, mb1 3.0/4, mb1mx2.9/16, mbtmp2.9/4, Error ellipse: s-maj=122.4km s-min=40.0km az=5.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.67	193	P	P	04 29 32.8	+1.0
	0.9nm,0.3s,baz=106,slow=12,SNR=8.9						
URZ				S	S	04 30 55.8	-0.8
	0.7nm,0.3s,baz=242,slow=23,SNR=6.2						
ASAR	Alice Springs	40.48	270	P	P	04 34 42.2	+0.1
	0.5nm,0.7s,baz=124,slow=6.2,SNR=5.1						
WRA	Warramunga Arr	41.60	275	P	P	04 34 50.7	-0.4
	1.0nm,0.3s,baz=111,slow=8.1,SNR=18						
FITZ	Fitzroy Crossi	49.80	273	P	P	04 35 54.1	+0.4
	0.7nm,0.7s,baz=90,slow=11,SNR=2.9						
FINES	FINESS Array B	145.46	337	PKPbc	PKPbc	04 46 26.8	-1.0
	0.5nm,0.5s,baz=24,slow=2.9,SNR=5.6						

*IDC **07** 05:27:39.2±0.8, 8°.34S×129°.10E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/15, mbtmp4.1/8, ML4.4/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/28, Error ellipse: s-maj=45.3km s-min=19.2km az=62.0*
*ISCJB **07** 05:27:42.5±2.2, 8°.71S±0°.06×129°.37E±0°.07, h57km±22km, mb4.2/11, MS3.7/2, Error ellipse: s-maj=12.1km s-min=10.2km az=11.6*
*NEIC **07** 05:27:42.5±0.4, 8°.58S×129°.35E, h35km, mb4.2/4, Error ellipse: s-maj=16.1km s-min=6.2km az=73.0*
ISC 07 05:27:45.1±2.0, 8°.74S±0°.08×129°.39E±0°.07, h67km±22km, n41, σ0°92/46, mb4.2/11, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.99	201	Pn	Pn	05 30 06.9	+0.9
	2.4nm,0.3s,baz=30,slow=9.3,SNR=72						
FITZ				Sn	Sn	05 31 57.1	+0.5
	2.1nm,0.3s,baz=92,slow=23,SNR=6.7						
FITZ				LR	LR	05 34 48.9	
	comp=Z,162nm,19.5s,baz=26,slow=42						
FITZ	Fitzroy Crossi	9.99	201	eP	Pn	05 30 07.0	+1.0
	24nm,0.4s						
FITZ				eS	Sn	05 31 58.5	+1.9
FITZ	Fitzroy Crossi	9.99	201	Pn	Pn	05 30 06.9	+0.9
FITZ				eSn	Sn	05 31 56.5	-0.1
FITZ				Sn	Sn	05 31 57.1	+0.5
KAPI	Kappang	10.26	291	LR	LR	05 34 20.4	
	comp=Z,168nm,19.3s,baz=267,slow=41						
WRAB	Tennant Creek	12.12	157	ePn	Pn	05 30 35.4	+0.5
	11nm,0.6s						
WRAB				eSn	Sn	05 32 45.6	-2.7
WRA	Warramunga Arr	12.12	157	Pn	Pn	05 30 35.0	0.0
	2.2nm,0.3s,baz=340,slow=12,SNR=43						
WRA				Sn	Sn	05 32 48.4	-0.1
	2.1nm,0.3s,baz=326,slow=23,SNR=9.2						
WRA	Warramunga Arr	12.12	157	Pn	Pn	05 30 35.0	0.0
WRA				Sn	Sn	05 32 48.4	-0.1
WB2	Warramunga Arr	12.13	157	ePn	Pn	05 30 35.0	0.0
WB2				eSn	Sn	05 32 47.3	-1.3
COEN	Coen	14.47	112	eP	Pn	05 31 05.4	-1.1
	17nm,0.4s						
AS31	Alice Springs	15.46	164	ePn	Pn	05 31 20.0	+0.8
AS31				eSn	Sn	05 34 02.4	-7.1
ASAR	Alice Springs	15.46	164	Pn	Pn	05 31 19.9	+0.7
	0.4nm,0.3s,baz=341,slow=12,SNR=29						
ASAR				Sn	Sn	05 34 11.0	+1.5
	0.5nm,0.3s,baz=295,slow=43,SNR=7.6						
ASAR	Alice Springs	15.46	164	Pn	Pn	05 31 19.9	+0.7
ASAR				Sn	Sn	05 34 11.0	+1.4
MBWA	Marble Bar	15.47	216	eP	Pn	05 31 19.1	-0.2
MBWA	Marble Bar	15.47	216	ePn	Pn	05 31 18.7	-0.6
	16nm,1.0s						
MBWA				eSn	Sn	05 34 08.5	-1.3
CTA	Charters Tower	19.82	126	P	Pn	05 32 17.9	+5.2
	2.6nm,0.7s,baz=301,slow=9.4,SNR=4.3						
CTA				LR	LR	05 40 47.6	
	comp=Z,151nm,18.1s,baz=163,slow=39						
CTA	Charters Tower	19.82	126	P	Pn	05 32 17.9	+5.2
FORT	Forrest	21.96	183	eP	P	05 32 38.5	+5.1
	7.4nm,0.6s,mb4.2						
BBOO	Buckleboo	24.73	166	eP	P	05 33 05.3	+5.0
	38nm,0.9s,mb4.8						
STKA	Stephens Creek	25.66	155	P	P	05 33 14.8	+6.1
	2.5nm,0.6s,mb3.8,baz=345,slow=11,SNR=5.6						
STKA	Stephens Creek	25.66	155	eP	P	05 33 14.6	+5.9
	3.7nm,0.8s,mb3.9						
STKA	Stephens Creek	25.66	155	P	P	05 33 14.8	+6.1
	9.8nm,0.8s,mb4.3						
NWAO	Narrogin (SRO)	26.57	203	LR	LR	05 45 41.6	
	comp=Z,190nm,20.1s,baz=224,slow=40						
CMSA	Cobar Meteorol	27.29	148	eP	P	05 33 29.7	+6.3
	18nm,1.0s,mb4.5						
HNR	Honiara	30.18	94	LR	LR	05 46 15.7	
	comp=Z,153nm,18.3s,baz=275,slow=37						
CMAR	Chiang Mai Arr	40.41	312	P	P	05 35 15.6	-1.4
	0.7nm,0.3s,mb4.0,baz=137,slow=6.3,SNR=4.4						
CMAR	Chiang Mai Arr	40.41	312	P	P	05 35 15.6	-1.4
SONM	Songino Array	59.90	342	P	P	05 37 45.0	+1.0
	0.8nm,0.8s,mb3.8,baz=164,slow=8.5,SNR=4.9						
SONM	Songino Array	59.90	342	P	P	05 37 45.0	+1.0
MK31	Makanchi Array	69.35	327	eP	P	05 38 45.7	+0.1
MKAR	Makanchi Array	69.35	327	P	P	05 38 45.6	0.0
	2.1nm,0.6s,mb4.2,baz=125,slow=7.9,SNR=22						
MKAR	Makanchi Array	69.35	327	P	P	05 38 45.6	0.0
AAK	Ala-Archa	71.48	320	eP	P	05 38 58.5	-0.2
	11nm,0.8s,mb4.8						
ZALV	Zalesovo Beam	72.87	334	P	P	05 39 06.3	-0.4
	0.5nm,0.3s,mb3.8,baz=120,slow=8.7,SNR=4.0						
ZALV	Zalesovo Beam	72.87	334	P	P	05 39 06.3	-0.4
ABKAR	Akbulak array	83.49	322	eP	P	05 40 06.1	+0.5
	1.6nm,0.6s,mb4.0						
ILAR	Eielson Array	95.17	25	P	P	05 41 01.1	+0.3
	0.4nm,0.8s,mb3.9,baz=290,slow=3.2,SNR=5.4						
ILAR	Eielson Array	95.17	25	P	P	05 41 01.1	+0.3
TORD	Torodi Ar. Bea	128.53	280	PKP	PKPdf	05 46 48.6	+3.1
	0.2nm,0.7s,baz=105,slow=1.6,SNR=2.3						
TORD	Torodi Ar. Bea	128.53	280	PKP	PKPdf	05 46 48.6	+3.1
LPAZ	La Paz	149.68	145	PKPbc	PKPbc	05 47 34.4	+6.2
	1.2nm,0.7s,baz=288,slow=1.0,SNR=6.5						
LPAZ	La Paz	149.68	145	ePKPbc	PKPbc	05 47 34.4	+6.2

*NEIC **07** 05:41:49.6±0.8, 2°.82S×139°.25E, h35km, mb3.9/2, Error ellipse: s-maj=25.1km s-min=10.9km az=82.0*
*ISCJB **07** 05:41:53.8±0.9, 2°.92S±0°.05×139°.6E±0°.1, h110km±7km, mb3.8/6, Error ellipse: s-maj=17.7km s-min=8.4km az=174.3*
*DJA **07** 05:41:54, 2°.82S×139°.65E, h14km, MLv4.5/3*
*IDC **07** 05:42:01.1±3.4, 3°.00S×139°.29E, h160km±32km, mb3.5/7, mb1 3.7/9, mb1mx3.6/14, mbtmp3.5/9, Error ellipse: s-maj=25.0km s-min=10.6km az=100.0*
ISC 07 05:41:57.1±1.0, 3°.04S±0°.06×139°.4E±0°.1, h124km±7km, n30, σ1°26/37, mb3.8/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAMI	Wamena	1.09	219	P	Pn	05 42 19.4	-1.0
WAMI				S	Sn	05 42 38.7	+0.6
SMPI	Sarmi	1.25	326	P	Pn	05 42 16.3	-5.8
JAY	Jayapura	1.40	68	P	Pn	05 42 13.7	-10
COEN	Coen	11.47	161	ePn	Pn	05 44 33.8	-3.4
	74nm,1.4s						
COEN				eSn	Sn	05 46 43.6	-0.1
WRAB	Tennant Creek	17.50	196	eP	Pn	05 45 54.3	+0.7
	8.3nm,0.4s						
WRAB				eS	S	05 48

mb1 3.4/6, mb1mx3.1/17, mbtmp3.2/6, Error ellipse: s-maj=57.8km s-min=18.3km az=142.0

*NEIC **07** 05:52:51.8±1.0, 17°.65S×178°.63W, h543km±10km, mb3.6/3, Error ellipse: s-maj=47.5km s-min=14.1km az=148.0*

ISC 07 05:52:51.7±1.1, 17°.75S±0°.3×178°.6W±0°.2, h549km±13km, n20, σ0°78/16, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.23**	**268**	*eP*	**P**	**05 54 08.6**	**+0.5**
AFI	**Afiamalu**	**7.53**	**61**	P	**P**	**05 54 44.2**	**-0.6**
2.3nm,0.3s,baz=232,slow=18,SNR=3.6							
AFI	**Afiamalu**	**7.53**	**61**	P	**P**	**05 54 44.2**	**-0.6**
ARMA	**Armidale**	**29.93**	**239**	*eP*	**P**	**05 58 16.3**	**+0.7**
1.6nm,0.5s,mb3.8							
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**05 59 29.2**	**+0.9**
1.6nm,0.4s,mb3.9,baz=88,slow=10,SNR=6.5							
STKA	**Stephens Creek**	**38.62**	**241**	*eP*	**P**	**05 59 29.3**	**+1.0**
0.8nm,0.8s,mb3.3							
WRAB	**Tennant Creek**	**44.52**	**259**	*eP*	**P**	**06 00 13.7**	**-1.4**
1.8nm,0.8s,mb3.6							
WRA	**Warramunga Arr**	**44.53**	**259**	P	**P**	**06 00 14.1**	**-1.1**
0.9nm,0.7s,mb3.4,baz=91,slow=7.4,SNR=10.0							
WRA	**Warramunga Arr**	**44.53**	**259**	P	**P**	**06 00 14.1**	**-1.1**
AS31	**Alice Springs**	**44.71**	**254**	*eP*	**P**	**06 00 16.4**	**-0.1**
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**06 00 16.2**	**-0.3**
7.8nm,0.7s,mb4.3,baz=88,slow=8.1,SNR=106							
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**06 00 16.2**	**-0.3**
MJAR	**Matsushiro Arr**	**67.62**	**323**	P	**P**	**06 02 54.4**	**+0.3**
1.2nm,0.6s,mb3.6,baz=151,slow=6.1,SNR=3.6							
MJAR	**Matsushiro Arr**	**67.62**	**323**	P	**P**	**06 02 54.4**	**+0.3**
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**06 04 33.1**	**+0.9**
0.2nm,0.4s,mb3.1,baz=224,slow=5.5,SNR=4.7							
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**06 04 33.1**	**+0.9**
BRTR	**Keskin Array B**	**144.50**	**315**	PKP	PKPdf	06 11 27.9	+1.9
0.2nm,0.4s,baz=131,slow=5.4,SNR=4.1							
BRTR	**Keskin Array B**	**144.50**	**315**	PKP	PKPdf	06 11 27.9	+1.9
GERES	**GERESS Array B**	**147.34**	**345**	PKPbc	PKPbc	06 11 35.7	+1.8
0.3nm,0.5s,baz=5.7,slow=4.0,SNR=6.4							
GERES	**GERESS Array B**	**147.34**	**345**	PKPbc	PKPbc	06 11 35.7	+1.8

IDC 07 05:57:17.3±10.0, 4°.08N×94°.99E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/23, mbtmp3.5/3, Error ellipse: s-maj=481.1km s-min=31.9km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.95**	**347**	P	P	06 05 25.2	-0.9
0.2nm,0.4s,baz=153,slow=8.2,SNR=3.7							
WRA	**Warramunga Arr**	**45.43**	**123**	P	P	06 05 38.2	-0.1
0.3nm,0.6s,baz=297,slow=10,SNR=4.5							
ZALV	**Zalesovo Beam**	**50.41**	**352**	P	P	06 06 17.2	+0.9
0.6nm,0.4s,baz=153,slow=5.9,SNR=2.9							

*ISCJB **07** 06:23:08.7±0.2, 13°.43N±0°.04×44°.87W±0°.02, h10km, mb5.3/265, MS5.2/216, Error ellipse: s-maj=5.1km s-min=2.4km az=173.5*

*IDC **07** 06:23:08.1±0.4, 13°.37N×44°.90W, h0km, mb4.7/31, mb1 4.8/31, mb1mx4.8/32, mbtmp4.7/31, MS5.1/22, Ms1 5.1/22, ms1mx5.0/26, Error ellipse: s-maj=13.6km s-min=10.1km az=158.0*

*MOS **07** 06:23:08.7±1.0, 13°.47N×44°.87W, h10km, mb5.7/102, MS5.2/59, Error ellipse: s-maj=5.2km s-min=3.8km az=51.8*

*NEIC **07** 06:23:09.9±0.2, 13°.35N×44°.83W, h10km, mb5.6/171, MS5.3/159, Error ellipse: s-maj=5.9km s-min=2.7km az=175.0*

*BJI **07** 06:23:10.2, 13°.40N×44°.90W, h10km, mB5.7/14, Ms5.8/15, Ms7 5.4/17*

*GCMT **07** 06:23:12.8±0.1, 13°.44N×44°.83W, h12km, MW5.6, Moment Tensor Solution. s86,c159; s64,c74; Moment tensor: Scale 10^{17}Nm; M_{rr}-3.37±.03; $M_{\theta\theta}$-0.11±.03; $M_{\phi\phi}$3.48±.03; $M_{r\theta}$-0.32±.08; $M_{\theta\phi}$0.15±.03; $M_{\phi r}$-0.31±.08; Best double couple: $M_0$3.50000×10^{17} NP1:ϕ_s177.00000°, δ43.00000°, λ-98.00000°. NP2:ϕ_s8.00000°, δ48.00000°, λ-83.00000°. Principal axes: T 3.5000, Plg3.0000°, Azm93.0000°; N -0.0900, Plg5.0000°, Azm183.0000°; P -3.4100, Plg84.0000°, Azm335.0000°; Data Used: II IU IC G CN. Surface waves: sta=112, comp=237, per= 50.*

*SZGRF **07** 06:23:20.6, 13°.38N×43°.33W, h33km, mb5.6, MS5.2, Northern Mid-Atlantic Ridge*

*BGS **07** 06:23:28.4±3.7, 15°.13N×42°.96W, h10km, mb5.1, MS4.9, mb5.6(NEIC)*

ISC 07 06:23:10.5±0.2, 13°.38N±0°.03×44°.88W±0°.02, h10km, (h12km±3.9km: pP-P), n910, σ1.9 03/781, mb5.3/266, MS5.2/216, 38C-9D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**14.29**	**271**	*e*Pn	**Pn**	**06 26 34.7**	**+1.6**
FDF	**Fort de France**	**15.84**	**277**	*e*Pn	**Pn**	**06 26 52.0**	**-1.8**
143nm,1.0s							
FDF				*e*Sn	**Sn**	**06 29 39.0**	**-11**
FDF	**Fort de France**	**15.84**	**277**	*e*P	**Pn**	**06 26 52.0**	**-1.8**
FDF				pmax	pmax		
comp=Z,143nm,1.0s							
GRGR	**Grenville**	**16.41**	**268**	*e*Pn	**Pn**	**06 27 00.4**	**-0.7**
comp=Z,357nm,1.3s							
STVI	**Saint Thomas**	**19.93**	**287**	*e*P	**Pn**	**06 27 42.0**	**-2.4**
comp=Z,86nm,1.2s							
MTP	**Monte Pirata**	**20.44**	**286**	*e*P	**P**	**06 27 48.6**	**+0.4**
comp=Z,253nm,1.2s							
SACV	**Santiago Islan**	**20.69**	**83**	*e*P	**P**	**06 27 48.7**	**-2.2**
comp=Z,115nm,0.9s							
SACV				LR	LR		
comp=Z,8μm,19.0s,MS5.1							
HUMP	**Col San Antoni**	**20.73**	**286**	*e*Pn	**P**	**06 27 53.0**	**+1.7**
comp=Z,122nm,1.3s							
CBYP	**Canovanas**	**20.75**	**286**	*e*P	**P**	**06 27 53.0**	**+1.4**
comp=Z,1μm,2.6s							
SJG	**San Juan**	**21.00**	**286**	P	**P**	**06 27 54.7**	**+0.4**
comp=Z,82nm,1.1s,mb5.0,baz=104,slow=5.7,SNR=14							
SJG	**San Juan**	**21.00**	**286**	*e*P	**P**	**06 27 54.4**	**+0.1**
comp=Z,344nm,1.5s,mb5.5							
SJG				LR	LR		
comp=Z,8μm,21.0s,MS5.1							
SJG	**San Juan**	**21.00**	**286**	*e*P	**P**	**06 27 54.4**	**+0.1**
SJG				pmax	pmax		
comp=Z,344nm,1.5s							
SJG				MLR	MLR		
comp=Z,8μm,21.0s							
RCBR	**Riachuelo**	**21.06**	**154**	*e*P	**P**	**06 27 54.7**	**-0.2**
comp=Z,54nm,1.2s,mb4.8							
RCBR				LR	LR		
comp=Z,6μm,19.0s,MS5.0							
ICM	**Isla Caja Muer**	**21.31**	**285**	*e*P	**P**	**06 27 58.0**	**+0.3**
CELP	**Cerrillos**	**21.40**	**285**	*e*P	**P**	**06 27 59.9**	**+1.3**
OBIP	**Obispado Ponce**	**21.42**	**285**	*e*P	**P**	**06 27 59.3**	**+0.5**
comp=Z,240nm,1.2s,mb5.4							
AOPR	**Arecibo Observ**	**21.61**	**286**	*e*P	**P**	**06 28 01.7**	**+0.9**
comp=Z,122nm,1.3s,mb5.2							
LRS	**Lares**	**21.68**	**286**	*e*P	**P**	**06 28 03.0**	**+1.3**
CRPR	**Cabo Rojo, PR**	**21.88**	**285**	*e*P	**P**	**06 28 03.8**	**-0.1**
comp=Z,89nm,1.3s,mb5.0							
LSP	**Las Mesas**	**21.89**	**285**	*e*P	**P**	**06 28 04.3**	**+0.5**
MPR	**Mayaguez**	**21.95**	**286**	*e*P	**P**	**06 28 05.8**	**+1.3**
comp=Z,300nm,1.5s,mb5.5							
AGP	**Aguadilla**	**21.98**	**286**	*e*P	**P**	**06 28 10.1**	**+5.2**
comp=Z,263nm,1.3s,mb5.5							
SDV	**Santo Domingo**	**25.65**	**263**	*e*P	**P**	**06 28 39.9**	**-0.8**
comp=Z,92nm,1.2s,mb5.2							
SDV				LR	LR		
comp=Z,1μm,19.0s,MS4.5							
SDDR	**Presa de Saban**	**25.95**	**286**	*e*P	**P**	**06 28 45.0**	**+1.6**
comp=Z,82nm,1.1s,mb5.2							
SDDR				LR	LR		
comp=Z,9μm,21.0s,MS5.3							
BBSR	**BB Station**	**26.20**	**319**	PFAKE		06 29 00.0	+15
BBSR				LR	LR		
comp=Z,4μm,22.0s,MS4.9							
BBTS	**Babate**	**27.53**	**84**	P	**P**	**06 29 00.7**	**+3.1**
comp=Z,78nm,1.2s,mb5.2,baz=43,slow=2.9,SNR=4.7							
BBTS				LR	LR	06 37 10.2	
comp=Z,9μm,20.9s,MS5.3,baz=263,slow=31							
BBTS	**Babate**	**27.53**	**84**	P	**P**	**06 29 00.7**	**+3.1**
GTBY	**Guantanamo Bay**	**29.66**	**287**	PFAKE		06 29 30.0	+13
GTBY				LR	LR		
comp=Z,3μm,21.0s,MS4.9							
ROSC	**El Rosal**	**30.25**	**257**	P	**P**	**06 29 23.1**	**+1.2**
comp=Z,14nm,0.9s,mb4.7,baz=81,slow=4.5,SNR=14							
ROSC				LR	LR	06 41 44.2	
comp=Z,3μm,18.7s,MS4.9,baz=22,slow=37							
ROSC	**El Rosal**	**30.25**	**257**	P	**P**	**06 29 23.1**	**+1.2**
MTDJ	**Mount Denham**	**31.76**	**283**	PFAKE		06 29 50.0	+15
MTDJ				LR	LR		
comp=Z,5μm,22.0s,MS5.1							
PMOZ	**Porto Moniz, M**	**31.83**	**48**	*e*LQ		06 36 15.2	
PMOZ				*e*LR	LR	06 37 21.5	
comp=Z,3μm,22.0s							
PMOZ				*e*T		07 02 20.3	
PMAR	**Madeira**	**31.98**	**48**	*e*T		07 02 14.2	
BCIP	**Isla Barro Col**	**34.52**	**267**	PFAKE		06 30 10.0	+11
BCIP				LR	LR		
comp=Z,1μm,20.0s,MS4.6							
CAM4	**Nova Friburgo**	**35.58**	**176**	*i*P	**P**	**06 30 07.6**	**-0.6**
CAM4				*i*	pP	06 30 08.7	-2.7
CAM4				*i*	pP	06 30 11.9	+0.5
CAM4				*i*		06 30 19.9	
CAM4				*i*		06 30 23.3	
CAM4				*i*		06 30 35.2	
CAM4				*i*		06 30 54.1	
OTAV	**Otavalo**	**35.72**	**251**	*e*P	**P**	**06 30 10.0**	**+0.3**
OTAV				LR	LR		
comp=Z,4μm,21.0s,MS5.1							
SPB	**Sao Paulo**	**36.82**	**184**	*e*P	**P**	**06 30 19.0**	**+0.1**
comp=Z,46nm,0.9s,mb5.3							
SPB				LR	LR		
comp=Z,3μm,20.0s,MS5.1							
CNNC	**Cliffs of the**	**36.86**	**312**	PFAKE		06 30 30.0	+11
CNNC				LR	LR		
comp=Z,3μm,19.0s,MS5.0							
SOR	**Soroa**	**37.34**	**290**	*e*	**P**	**06 30 24.9**	**+1.5**
LPAZ	**La Paz**	**37.37**	**219**	PP	PP	06 31 49.9	+0.8
comp=Z,16nm,1.0s,baz=24,slow=11,SNR=4.2							
LPAZ				LR	LR	06 45 28.1	
comp=Z,7μm,20.5s,MS5.5,baz=32,slow=36							
LPAZ	**La Paz**	**37.37**	**219**	*e*P	**P**	**06 30 23.7**	**0.0**
comp=Z,73nm,1.2s,mb5.4							
LPAZ				PP	PP	06 31 49.9	+0.8
LPAZ	**La Paz**	**37.37**	**219**	*e*P	**P**	**06 30 23.7**	**0.0**
LPAZ						06 31 49.9	
LPAZ				pmax	pmax		
comp=Z,73nm,1.2s							
PAL	**Palisades**	**37.41**	**323**	*e*P	**P**	**06 30 24.0**	**+0.2**
comp=Z,191nm,2.1s,mb5.6							
PAL	**Palisades**	**37.41**	**323**	*e*P	**P**	**06 30 24.0**	**+0.2**
PAL				pmax	pmax		
comp=Z,191nm,2.1s,mb5.6							
NHSC	**New Hope**	**37.66**	**307**	PFAKE		06 30 40.0	+14
NHSC				LR	LR		
comp=Z,7μm,22.0s,MS5.4							
PKME	**Peaks-Kenny Pk**	**37.94**	**332**	PFAKE		06 30 40.0	+12
PKME				LR	LR		
comp=Z,3μm,21.0s,MS5.0							
CBN	**Corbin**	**37.98**	**317**	PFAKE		06 30 40.0	+11
CBN				LR	LR		
comp=Z,3μm,19.0s,MS5.2							
COW	**Cow Castle Cre**	**38.17**	**308**	*e*P	**P**	**06 30 31.9**	**+1.6**
SDMD	**Soldier's Deli**	**38.28**	**319**	*e*P	**P**	**06 30 31.5**	**+0.4**
comp=Z,99nm,1.8s,mb5.2							
MVL	**Millersville**	**38.30**	**320**	*e*P	**P**	**06 30 31.7**	**+0.4**
comp=Z,122nm,1.7s,mb5.4							
LBNH	**Lisbon**	**38.48**	**328**	PFAKE		06 30 40.0	+7.3
LBNH				LR	LR		
comp=Z,3μm,20.0s,MS5.2							
MDV	**Middlebury**	**38.97**	**327**	*e*P	**P**	**06 30 36.7**	**-0.1**
comp=Z,4μm,1.0s							
ATAH	**Atahualpa**	**39.02**	**240**	P	**P**	**06 30 38.5**	**+0.7**
comp=Z,83nm,1.0s,mb5.4,baz=70,slow=6.6,SNR=37							
ATAH	**Atahualpa**	**39.02**	**240**	P	**P**	**06 30 38.5**	**+0.7**
JTS	**JuntasAbangare**	**39.31**	**270**	PFAKE		06 30 50.0	+10
JTS				LR	LR		
comp=Z,1μm,19.0s,MS4.8							
BINY	**Binghamton**	**39.38**	**323**	PFAKE		06 30 50.0	+10
BINY				LR	LR		
comp=Z,3μm,22.0s,MS5.0							
NCB	**Newcomb**	**39.51**	**326**	PFAKE		06 30 50.0	+8.7
NCB				LR	LR		
comp=Z,3μm,20.0s,MS5.2							
BLA	**Blacksburg**	**39.59**	**313**	*e*P	**P**	**06 30 42.4**	**+0.2**
comp=Z,112nm,1.4s,mb5.4							
BLA				LR	LR		
comp=Z,3μm,20.0s,MS5.1							
BLA	**Blacksburg**	**39.59**	**313**	*e*P	**P**	**06 30 42.4**	**+0.3**
BLA				pmax	pmax		
comp=Z,112nm,1.4s,mb5.4							
BLA				MLR	MLR		
comp=Z,3μm,20.0s,MS5.1							
SSPA	**Standing Stone**	**39.63**	**319**	*e*P	**P**	**06 30 43.5**	**+1.1**
comp=Z,55nm,1.5s,mb5.1							
FRNY	**Flat Rock**	**39.75**	**328**	*e*P	**P**	**06 30 43.9**	**+0.5**
comp=Z,36nm,1.4s,mb4.9							
ELN	**Prospectdale**	**39.83**	**313**	*e*P	**P**	**06 30 44.4**	**+0.3**
DBIC	**Dimbokro**	**39.93**	**96**	*e*P	**P**	**06 30 43.7**	**-1.6**
DBIC	**Dimbokro**	**39.93**	**96**	P	**P**	**06 30 43.8**	**-1.5**
comp=Z,34nm,1.0s,mb5.0,baz=277,slow=10.0,SNR=18							
DBIC				LR	LR	06 45 29.1	
comp=Z,4μm,18.2s,MS5.3,baz=244,slow=34							
DBIC	**Dimbokro**	**39.93**	**96**	*e*P	**P**	**06 30 43.8**	**-1.6**
comp=Z,86nm,1.3s,mb5.3							
DBIC	**Dimbokro**	**39.93**	**96**	*e*P	**P**	**06 30 43.8**	**-1.5**
DBIC				pmax	pmax		
comp=Z,86nm,1.3s							
MORF	**Marmelete**	**40.12**	**47**	*e*S	**S**	**06 36 56.3**	**+3.3**
MORF				*e*LQ		06 40 01.6	
MORF				*e*LR	LR	06 41 14.2	
comp=Z,3μm,22.0s							
LONY	**Lake Ozonia**	**40.13**	**327**	PFAKE		06 31 00.0	+13
LONY				LR	LR		
comp=Z,3μm,22.0s,MS5.1							
GOGA	**Godfrey**	**40.33**	**306**	*e*P	**P**	**06 30 49.9**	**+1.5**
comp=Z,56nm,1.1s,mb5.2							
GOGA				LR	LR		
comp=Z,4μm,21.0s,MS5.2							
GOGA	**Godfrey**	**40.33**	**306**	*e*P	**P**	**06 30 49.9**	**+1.5**
GOGA				pmax	pmax		
comp=Z,56nm,1.1s,mb5.2							
GOGA				MLR	MLR		
comp=Z,4μm,21.0s,MS5.2							
PMAFR	**Mafra**	**40.45**	**44**	*e*S	**S**	**06 36 59.5**	**+1.5**
PMAFR				*e*LQ		06 40 04.2	
PMAFR				*e*LR	LR	06 41 14.7	
comp=Z,4μm,22.0s							
NNA	**Nana**	**40.49**	**233**	PFAKE		06 31 00.0	+10
NNA				LR	LR		
comp=Z,1μm,19.0s,MS4.8							
PNCL	**Nicolau / Gran**	**40.57**	**46**	*e*S	**S**	**06 37 01.2**	**+1.4**
PNCL				*e*LQ		06 40 00.8	
PNCL				*e*LR	LR	06 41 26.7	
comp=Z,4μm,20.0s							
PBDV	**Barranco-do-Ve**	**40.61**	**47**	*e*S	**S**	**06 37 04.9**	**+4.6**
PBDV				*e*LQ		06 39 58.2	
PBDV				*e*LR	LR	06 41 23.0	
comp=Z,3μm,22.0s							
PCVE	**Castro Verde**	**40.70**	**47**	*e*S	**S**	**06 37 03.5**	**+1.8**
PCVE				*e*LQ		06 40 02.1	
PCVE				*e*LR	LR	06 41 34.9	
comp=Z,3μm,22.0s							
PVAQ	**Vaqueiros**	**40.83**	**47**	*e*S	**S**	**06 37 05.8**	**+2.2**
PVAQ				*e*LQ		06 40 05.8	
PVAQ				*e*LR	LR	06 41 29.1	
comp=Z,3μm,22.0s							
EVOP	**Sao Brissos**	**41.05**	**46**	*e*P	**P**	**06 30 53.4**	**-0.8**
comp=Z,95nm,1.4s,mb5.2							
EVOP	**Sao Brissos**	**41.05**	**46**	*e*P	**P**	**06 30 53.4**	**-0.8**
EVOP				pmax	pmax		
comp=Z,95nm,1.4s,mb5.2							
EVO	**Evora**	**41.13**	**46**	*e*P	**P**	**06 30 53.4**	**-1.5**
comp=Z,95nm,1.4s,mb4.9							
EVO				*e*R			
comp=Z,6μm,22.2s							
TGUH	**Tegucigalpa,Un**	**41.15**	**276**	*e*P	**P**	**06 30 56.8**	**+1.5**
comp=Z,152nm,1.4s,mb5.4							
TGUH				LR	LR		
comp=Z,4μm,22.0s,MS5.3							
PMTG	**Montargil**	**41.23**	**45**	*e*S	**S**	**06 37 15.7**	**+6.2**
PMTG				*e*LQ		06 40 15.6	
PMTG				*e*LR	LR	06 41 41.9	
comp=Z,3μm,22.0s							
TKL	**Tuckaleechee C**	**41.39**	**309**	*e*P	**P**	**06 30 57.0**	**0.0**
TKL	**Tuckaleechee C**	**41.39**	**309**	*e*P	**P**	**06 30 57.0**	**-0.1**
SFS	**San Fernando**	**41.54**	**49**	PFAKE		06 31 10.0	+12
SFS				LR	LR		
comp=Z,3μm,19.0s,MS5.2							
PESTR	**Estremoz**	**41.57**	**45**	*e*S	**S**	**06 37 16.2**	**+1.5**
PESTR				*e*LQ		06 40 16.1	
PESTR				*e*LR	LR	06 41 42.5	
comp=Z,3μm,20.0s							
PBAR	**Barrancos**	**41.65**	**47**	*e*S	**S**	**06 37 20.1**	**+4.3**
PBAR				*e*LR	LR	06 42 00.6	
comp=Z,3μm,20.0s							
ERPA	**Erie**	**41.76**	**320**	PFAKE		06 31 10.0	+10
ERPA				LR	LR		
comp=Z,3μm,20.0s,MS5.2							
CPCT	**Cooper Cave**	**41.88**	**309**	*e*P	**P**	**06 31 00.8**	**-0.3**
PMRV	**Marv??o**	**41.97**	**45**	*e*S	**S**	**06 37 26.2**	**+5.7**
PMRV				*e*LQ		06 40 34.0	
PMRV				*e*LR	LR	06 41 50.4	
comp=Z,3μm,20.0s							
TEIG	**Tepich**	**42.01**	**285**	*e*P	**P**	**06 31 03.1**	**+0.8**
comp=Z,135nm,1.9s,mb5.2							
TEIG				LR	LR		
comp=Z,2μm,19.0s,MS5.0							
MTE	**Manteigas**	**42.33**	**43**	*e*S	**S**	**06 37 30.3**	**+4.6**
MTE				*e*LQ		06 40 47.1	
MTE				*e*LR	LR	06 42 20.1	
comp=Z,5μm,20.0s							
MTE	**Manteigas**	**42.33**	**43**	PFAKE		06 31 20.0	+15
MTE				LR	LR		
comp=Z,5μm,21.0s,MS5.4							
BRAL	**Brewton**	**42.52**	**301**	PFAKE		06 31 20.0	+14
BRAL				LR	LR		
comp=Z,7μm,21.0s,MS5.5							
PGAV	**Gavieira, Arco**	**42.63**	**41**	*e*S	**S**	**06 37 28.2**	**-2.0**
PGAV				*e*LQ		06 40 42.3	
PGAV				*e*LR	LR	06 42 28.2	
comp=Z,4μm,20.0s							
POLO	**Lamas de Olo**	**42.64**	**42**	*e*S	**S**	**06 37 32.5**	**+2.2**
POLO				*e*LQ		06 40 48.1	
POLO				*e*LR	LR	06 42 39.2	
comp=Z,2μm,18.0s							
ACSO	**Alum Creek Sta**	**42.76**	**316**	*e*P	**P**	**06 31 08.4**	**+0.1**
comp=Z,41nm,1.1s,mb5.1							
ACSO				LR	LR		
comp=Z,3μm,22.0s,MS5.2							
SWET	**Sewanee**	**42.87**	**308**	*e*P	**P**	**06 31 10.8**	**+1.6**
MVO	**Moncorvo**	**43.04**	**43**	*e*S	**S**	**06 37 38.1**	**+1.9**
MVO				*e*LQ		06 40 57.1	
MVO				*e*LR	LR	06 42 33.7	
comp=Z,4μm,22.2s							
PAB	**San Pablo**	**44.13**	**46**	PFAKE		06 31 30.0	+11
PAB				LR	LR		
comp=Z,3μm,19.0s,MS5.3							
AAM	**Ann Arbor**	**44.19**	**318**	*e*P	**P**	**06 31 18.9**	**-0.8**
comp=Z,54nm,1.1s,mb5.2							
AAM				LR	LR		
comp=Z,3μm,21.0s,MS5.2							
AAM	**Ann Arbor**	**44.19**	**318**	*e*P	**P**	**06 31 18.9**	**-0.8**
AAM				pmax	pmax		
comp=Z,54nm,1.1s,mb5.2							
AAM				MLR	MLR		
comp=Z,3μm,21.0s,MS5.2							
WCI	**Wyandotte Cave**	**44.24**	**312**	*e*P	**P**	**06 31 20.8**	**+0.6**
comp=Z,26nm,1.0s,mb4.9							
WCI	**Wyandotte Cave**	**44.24**	**312**	*e*P	**P**	**06 31 20.8**	**+0.7**
WCI				pmax	pmax		
comp=Z,26nm,1.0s,mb4.9							
PLAL	**Pickwick Lake**	**44.46**	**307**	*e*P	**P**	**06 31 21.6**	**-0.3**
comp=Z,122nm,1.2s,mb5.5							
PLAL				LR	LR		
comp=Z,4μm,22.0s,MS5.3							
ESDC	**Sonseca Array**	**44.46**	**46**	P	**P**	**06 31 21.5**	**-0.4**
comp=Z,1.8nm,0.8s,baz=244,slow=8.5,SNR=12							
ESDC				PcP	PcP	06 33 05.7	+0.3
comp=Z,1.0nm,0.8s,baz=240,slow=4.3,SNR=3.8							
ESDC				LR	LR	06 46 59.5	
comp=Z,3μm,19.0s,MS5.2,baz=245,slow=32							
ESDC	**Sonseca Array**	**44.46**	**46**	P	**P**	**06 31 21.5**	**-0.4**
ESDC				PcP	PcP	06 33 05.7	+0.3
ESLA	**Sonseca Array**	**44.46**	**46**	PFAKE		06 31 30.0	+8.1
ESLA				LR	LR		
comp=Z,17μm,20.0s,MS6.0							
WVT	**Waverly**	**44.63**	**308**	*e*P	**P**	**06 31 22.8**	**-0.6**
comp=Z,88nm,1.2s,mb5.5							
WVT	**Waverly**	**44.63**	**308**	*e*P	**P**	**06 31 22.8**	**-0.6**
WVT				pmax	pmax		
comp=Z,88nm,1.2s,mb5.5							
BLO	**Bloomington**	**44.77**	**313**	*e*P	**P**	**06 31 26.2**	**+1.8**
comp=Z,149nm,1.8s,mb5.5							
BLO	**Bloomington**	**44.77**	**313**	*e*P	**P**	**06 31 26.2**	**+1.8**
BLO				pmax	pmax		
comp=Z,149nm,1.8s,mb5.5							
SCHQ	**Schefferville**	**44.79**	**342**	P	**P**	**06 31 24.1**	**-0.2**
comp=Z,38nm,0.8s,mb5.2,baz=147,slow=6.5,SNR=23							
SCHQ				LR	LR	06 47 19.4	
comp=Z,2μm,21.2s,MS5.0,baz=190,slow=32							
SCHQ	**Schefferville**	**44.79**	**342**	*e*P	**P**	**06 31 24.1**	**-0.2**
comp=Z,55nm,1.0s,mb5.3							
USIN	**University of**	**45.14**	**311**	*e*P	**P**	**06 31 27.8**	**+0.4**
comp=Z,76nm,1.1s,mb5.4							
TORD	**Torodi Ar. Bea**	**45.28**	**85**	P	**P**	**06 31 26.6**	**-2.2**
comp=Z,16nm,0.9s,mb4.8,baz=283,slow=8.5,SNR=33							
TORD				PcP	PcP	06 33 08.1	-0.6
comp=Z,8.0nm,1.2s,baz=328,slow=3.4,SNR=3.9							
TORD				LR	LR	06 48 26.7	
comp=Z,7μm,20.3s,MS5.6,baz=270,slow=34							
TORD	**Torodi Ar. Bea**	**45.28**	**85**	P	**P**	**06 31 26.6**	**-2.2**
TORD				PcP	PcP	06 33 08.1	-0.6
OXF	**Oxford**	**45.37**	**306**	*e*P	**P**	**06 31 28.6**	**-0.7**
comp=Z,127nm,1.1s,mb5.7							
OXF				LR	LR		
comp=Z,6μm,22.0s,MS5.5							
OXF	**Oxford**	**45.37**	**306**	*e*P	**P**	**06 31 28.6**	**-0.6**
OXF				pmax	pmax		
comp=Z,127nm,

ETSF Etsaut 48.12 44 *e*P **P 06 31 50.2 -0.5**
ETSF pmax pmax
comp=Z,118nm,1.6s,mb5.7
REYF Montagne du Re 48.30 43 *e*P **P 06 31 53.1 +1.0**
TAM Tamanrasset 48.62 71 *e*P **P 06 31 56.2 +1.3**
comp=Z,27nm,1.4s,mb5.1
TAM LR LR
comp=Z,7μm,21.0s,MS5.6
TAM Tamanrasset 48.62 71 *e*P **P 06 31 56.2 +1.3**
TAM pmax pmax
comp=Z,27nm,1.4s,mb5.1
TAM MLR MLR
comp=Z,7μm,21.0s,MS5.6
MIAR Mount Ida 48.70 304 *e*P **P 06 31 55.3 0.0**
comp=Z,59nm,1.4s,mb5.4
MIAR LR LR
comp=Z,5μm,22.0s,MS5.4
MIAR Mount Ida 48.70 304 *e*P **P 06 31 55.3 0.0**
MIAR pmax pmax
comp=Z,59nm,1.4s,mb5.4
MIAR MLR MLR
comp=Z,5μm,22.0s,MS5.4
EPF Esparros 48.78 44 *e*P **P 06 31 55.4 -0.3**
comp=Z,124nm,1.6s,mb5.4
EPF Esparros 48.78 44 *e*P **P 06 31 55.4 -0.3**
comp=Z,124nm,1.6s,mb5.7
EPF Esparros 48.78 44 *e*P **P 06 31 55.4 -0.3**
EPF pmax pmax
comp=Z,124nm,1.6s,mb5.7
QUIF Quistinic 48.79 37 *e*P **P 06 31 53.7 -2.1**
comp=Z,326nm,1.9s,mb5.7
QUIF Quistinic 48.79 37 *e*P **P 06 31 53.7 -2.1**
comp=Z,326nm,1.9s,mb6.0
QUIF Quistinic 48.79 37 *e*P **P 06 31 53.7 -2.1**
QUIF pmax pmax
comp=Z,326nm,1.9s,mb6.0
JFWS Jewell Farm 48.83 316 *e*P **P 06 31 57.4 +1.3**
comp=Z,62nm,1.3s,mb5.5
JFWS LR LR
comp=Z,3μm,19.0s,MS5.3
JFWS Jewell Farm 48.83 316 *e*P **P 06 31 57.4 +1.2**
JFWS pmax pmax
comp=Z,62nm,1.3s,mb5.5
JFWS MLR MLR
comp=Z,3μm,19.0s,MS5.3
ROSF Rostrenen 48.95 36 *e*P **P 06 31 55.5 -1.4**
comp=Z,252nm,1.9s,mb5.6
ROSF Rostrenen 48.95 36 *e*P **P 06 31 55.5 -1.4**
comp=Z,252nm,1.8s,mb6.0
ROSF Rostrenen 48.95 36 *e*P **P 06 31 55.5 -1.4**
ROSF pmax pmax
comp=Z,252nm,1.8s,mb6.0
LCO Las Campanas 48.97 210 PFAKE 06 32 10.0 +13
LCO LR LR
comp=Z,2μm,20.0s,MS5.0
MELF Melles 49.00 44 *e*P **P 06 31 59.5 +2.1**
NATX Nacogdoches 49.03 301 PFAKE 06 32 10.0 +12
NATX LR LR
comp=Z,6μm,19.0s,MS5.6
SGMF Saint Gilles 49.32 36 *e*P **P 06 31 58.8 -1.0**
comp=Z,203nm,1.7s,mb5.6
SGMF Saint Gilles 49.32 36 *e*P **P 06 31 58.8 -1.0**
comp=Z,203nm,1.7s,mb5.9
SGMF Saint Gilles 49.32 36 *e*P **P 06 31 58.8 -1.0**
SGMF pmax pmax
comp=Z,203nm,1.7s,mb5.9
HUIG Huatulco 49.54 279 P **P 06 31 59.9 -2.1**
HTL Hartland 49.72 32 AMS AMS 06 46 24.6
comp=Z,2μm,31.5s,MS5.0
HKT Hockley 49.74 298 *e*P **P 06 32 02.2 -1.1**
comp=Z,53nm,1.5s,mb5.3
HKT Hockley 49.74 298 *e*P **P 06 32 02.3 -1.0**
HKT pmax pmax
comp=Z,53nm,1.5s,mb5.3
LFF La Frestale 49.82 42 *e*P **P 06 32 02.4 -1.2**
LFF La Frestale 49.82 42 *e*P **P 06 32 02.4 -1.2**
LFF La Frestale 49.82 42 *e*P **P 06 32 02.4 -1.2**
MFF Saint Martin d 49.97 39 *e*P **P 06 32 03.9 -0.9**
comp=Z,94nm,1.4s,mb5.3
MFF Saint Martin d 49.97 39 *e*P **P 06 32 03.9 -0.9**
comp=Z,94nm,1.4s,mb5.6
MFF Saint Martin d 49.97 39 *e*P **P 06 32 03.9 -0.9**
MFF pmax pmax
comp=Z,94nm,1.4s,mb5.6
JSA Saint Aubin 50.01 36 AMS AMS 06 46 25.2
comp=Z,2μm,33.2s,MS4.8
CFAA Coronel Fontan 50.02 206 P **P 06 32 03.6 -1.7**
comp=Z,3.3nm,1.0s,mb4.3,baz=27,slow=6.6,SNR=39
CFAA PcP PcP 06 33 25.9 +0.7
comp=Z,0.7nm,1.0s,baz=1.9,slow=7.1,SNR=2.4
CFAA Coronel Fontan 50.02 206 P **P 06 32 03.6 -1.7**
CFAA PcP PcP 06 33 25.9 +0.7
OXX Oaxaca 50.05 281 P **P 06 32 07.3 +1.5**
VHO Vista Hermosa 50.05 281 P **P 06 32 03.8 -2.1**
DLF Lyons Farm 50.06 29 *e*P **P 06 31 58.0 -7.3**
MTLF Montolieu 50.17 44 *e*P **P 06 32 05.1 -1.2**
comp=Z,37nm,1.2s,mb5.0
MTLF Montolieu 50.17 44 *e*P **P 06 32 05.1 -1.2**
comp=Z,37nm,1.2s,mb5.3
MTLF Montolieu 50.17 44 *e*P **P 06 32 05.1 -1.2**
MTLF pmax pmax
comp=Z,37nm,1.2s,mb5.3
GRR Gorron 50.37 37 *e*P **P 06 32 06.5 -1.3**
GRR Gorron 50.37 37 *e*P **P 06 32 06.5 -1.3**
GRR Gorron 50.37 37 *e*P **P 06 32 06.5 -1.3**
RJF Les Rejaudoux 50.47 42 *e*P **P 06 32 07.1 -1.5**
comp=Z,76nm,1.6s,mb5.2
RJF *e*R
comp=Z,4μm,20.8s
RJF Les Rejaudoux 50.47 42 *e*P **P 06 32 07.1 -1.5**
comp=Z,76nm,1.5s,mb5.5
RJF Les Rejaudoux 50.47 42 *e*P **P 06 32 07.1 -1.5**
RJF pmax pmax
comp=Z,77nm,1.5s,mb5.5
SCIA State Center 50.51 314 *e*P **P 06 32 09.6 +0.6**
comp=Z,230nm,1.8s,mb5.8
SCIA LR LR
comp=Z,2μm,20.0s,MS5.2
CAF Calviac 50.67 42 *e*P **P 06 32 09.0 -1.1**
comp=Z,115nm,1.6s,mb5.2
CAF Calviac 50.67 42 *e*P **P 06 32 09.0 -1.1**
comp=Z,115nm,1.6s,mb5.6
CAF Calviac 50.67 42 *e*P **P 06 32 09.0 -1.1**
CAF pmax pmax
comp=Z,115nm,1.6s,mb5.6
FLN La Foliniere 50.77 37 *e*P **P 06 32 09.5 -1.3**
comp=Z,177nm,1.9s,mb5.4
FLN *e*R
comp=Z,1μm,21.2s
FLN La Foliniere 50.77 37 *e*P **P 06 32 09.5 -1.3**
comp=Z,177nm,1.9s,mb5.7
FLN La Foliniere 50.77 37 *e*P **P 06 32 09.5 -1.3**
FLN pmax pmax
comp=Z,177nm,1.9s,mb5.7
LDF La Druitiere 50.90 37 *e*P **P 06 32 10.3 -1.5**
LDF La Druitiere 50.90 37 *e*P **P 06 32 10.3 -1.5**
LDF La Druitiere 50.90 37 *e*P **P 06 32 10.3 -1.5**
RFTA Plano 50.93 302 *e*P **P 06 32 11.9 -0.5**
HGH Gray Hill 50.95 33 *e*P **P 06 32 13.7 +1.6**
UTMO Huajuapan 51.03 282 P **P 06 32 13.5 +0.2**
MCH1 Michaelchurch 51.05 32 *e*P **P 06 32 12.5 -0.4**
MCH1 AMB AMB 06 32 18.6
comp=Z,76nm,3.4s
MCH1 AMS AMS 06 47 06.1
comp=Z,2μm,20.3s,MS5.1
KVTX Kingsville 51.27 295 PFAKE 06 32 30.0 +15
KVTX LR LR
comp=Z,3μm,20.0s,MS5.3
TCF Toulx Ste Croi 51.31 41 *e*P **P 06 32 14.0 -0.9**
comp=Z,158nm,1.6s,mb5.4
TCF Toulx Ste Croi 51.31 41 *e*P **P 06 32 14.0 -0.9**
comp=Z,158nm,1.6s,mb5.7
TCF Toulx Ste Croi 51.31 41 *e*P **P 06 32 14.0 -0.9**
TCF pmax pmax
comp=Z,158nm,1.6s,mb5.7
HLM1 Long Mynd 51.40 32 *e*P **P 06 32 13.4 -2.1**
HLM1 AMB AMB 06 32 16.6
comp=Z,32nm,1.6s,mb5.0
PNIG Pinotepa 51.43 280 P **P 06 32 13.6 -2.7**
FOEL Foel Wylfa 51.44 31 *e*P **P 06 32 13.5 -2.3**
FOEL AMB AMB 06 32 16.4
comp=Z,57nm,1.7s,mb5.2
LASF Ste Croix 51.54 44 *e*P **P 06 32 16.0 -0.7**
comp=Z,80nm,1.4s,mb5.1
LASF Ste Croix 51.54 44 *e*P **P 06 32 16.0 -0.7**
comp=Z,80nm,1.4s,mb5.5

LBL Lubilhac 51.56 42 *e*P **P 06 32 18.1 +1.3**
WOL Wolverton 51.62 34 *e*P **P 06 32 15.9 -1.2**
WOL AMB AMB 06 32 19.7
comp=Z,132nm,1.6s,mb5.6
WOL AMS AMS 06 48 14.2
comp=Z,2μm,22.1s,MS5.1
EYMN Ely 51.71 322 *e*P **P 06 32 18.5 +0.6**
EYMN LR LR
comp=Z,2μm,22.0s,MS5.2
PPM Popocatepetl 51.76 284 P **P 06 32 19.3 +0.6**
PPM Popocatepetl 51.76 284 P **P 06 32 19.3 +0.6**
AGO Saint Aguolin 51.80 41 *e*P **P 06 32 19.7 +1.1**
BGF Bois d'Agland 51.82 41 *e*P **P 06 32 17.6 -1.1**
comp=Z,116nm,1.5s,mb5.3
BGF Bois d'Agland 51.82 41 *e*P **P 06 32 17.6 -1.1**
comp=Z,116nm,1.5s,mb5.6
BGF Bois d'Agland 51.82 41 *e*P **P 06 32 17.6 -1.1**
BGF pmax pmax
comp=Z,116nm,1.5s,mb5.6
GAL1 Galloway 51.87 28 AMS AMS 06 47 34.7
comp=Z,2μm,30.3s,MS4.9
HYF Humbligny 51.98 40 *e*P **P 06 32 19.1 -0.8**
HYF Humbligny 51.98 40 *e*P **P 06 32 19.1 -0.8**
STNC Stoke 52.05 31 AMS AMS 06 47 34.4
comp=Z,2μm,31.0s,MS5.0
PLDF La Plantade 52.09 41 *e*P **P 06 32 21.8 +1.1**
AVF Avril sur Loir 52.23 40 *e*P **P 06 32 20.6 -1.2**
comp=Z,116nm,1.6s,mb5.3
AVF Avril sur Loir 52.23 40 *e*P **P 06 32 20.6 -1.2**
comp=Z,116nm,1.6s,mb5.6
AVF Avril sur Loir 52.23 40 *e*P **P 06 32 20.6 -1.2**
AVF pmax pmax
comp=Z,116nm,1.6s,mb5.6
VIVF Saint-Julien-l 52.36 43 *e*P **P 06 32 22.5 -0.3**
comp=Z,77nm,1.5s,mb5.1
VIVF Saint-Julien-l 52.36 43 *e*P **P 06 32 22.5 -0.3**
comp=Z,77nm,1.5s,mb5.4
VIVF Saint-Julien-l 52.36 43 *e*P **P 06 32 22.5 -0.3**
VIVF pmax pmax
comp=Z,77nm,1.5s,mb5.4
SSB Saint Sauveur 52.43 43 PFAKE 06 32 30.0 +6.7
SSB LR LR
comp=Z,3μm,20.0s,MS5.4
SSF Saint Saulge 52.44 40 *e*P **P 06 32 22.0 -1.3**
comp=Z,93nm,1.6s,mb5.2
SSF Saint Saulge 52.44 40 *e*P **P 06 32 22.0 -1.3**
comp=Z,93nm,1.6s,mb5.5
SSF Saint Saulge 52.44 40 *e*P **P 06 32 22.0 -1.3**
SSF pmax pmax
comp=Z,93nm,1.6s,mb5.5
SMF Signal de Mont 52.49 41 *e*P **P 06 32 22.6 -1.1**
comp=Z,158nm,1.8s,mb5.3
SMF Signal de Mont 52.49 41 *e*P **P 06 32 22.6 -1.1**
comp=Z,158nm,1.8s,mb5.6
SMF Signal de Mont 52.49 41 *e*P **P 06 32 22.6 -1.1**
SMF pmax pmax
comp=Z,158nm,1.8s,mb5.6
LNIG Linares 52.53 291 P **P 06 32 22.6 -1.8**
SMRF Simiane la Rot 52.67 44 *e*P **P 06 32 24.6 -0.5**
SMRF Simiane la Rot 52.67 44 *e*P **P 06 32 24.6 -0.5**
LOR Lormes 52.74 40 *e*P **P 06 32 24.3 -1.2**
comp=Z,150nm,1.7s,mb5.3
LOR *e*R
comp=Z,5μm,22.5s
LOR Lormes 52.74 40 *e*P **P 06 32 24.3 -1.2**
comp=Z,150nm,1.7s,mb5.7
LOR Lormes 52.74 40 *e*P **P 06 32 24.3 -1.2**
LOR pmax pmax
comp=Z,150nm,1.7s,mb5.7
ESK Eskdalemuir 52.83 28 AMS AMS 06 48 03.0
comp=Z,1μm,22.1s,MS4.9
ESK Eskdalemuir 52.83 28 PFAKE 06 32 40.0 +14
ESK LR LR
comp=Z,877nm,19.0s,MS4.8
ESK Eskdalemuir 52.83 28 *i*P **P 06 32 27.4 +1.3**
WMOK Wichita Mounta 52.94 304 *e*P **P 06 32 25.4 -1.8**
comp=Z,48nm,1.3s,mb5.3
WMOK LR LR
comp=Z,5μm,21.0s,MS5.6
WMOK Wichita Mounta 52.94 304 *e*P **P 06 32 25.4 -1.9**
WMOK pmax pmax
comp=Z,48nm,1.3s,mb5.3
WMOK MLR MLR
comp=Z,5μm,21.0s,MS5.6
KPL Plockton 52.99 25 AMS AMS 06 48 45.2
comp=Z,1μm,23.4s,MS5.0
LMR La Mourre 53.11 45 *e*P **P 06 32 26.8 -1.5**
comp=Z,71nm,1.4s,mb5.1
LMR La Mourre 53.11 45 *e*P **P 06 32 26.8 -1.5**
comp=Z,71nm,1.4s,mb5.4
LMR La Mourre 53.11 45 *e*P **P 06 32 26.8 -1.5**
LMR pmax pmax
comp=Z,71nm,1.4s,mb5.4
ORIF Oris-en-Rattie 53.19 43 *e*P **P 06 32 28.9 0.0**
ORIF *e*R
comp=Z,6μm,20.5s
ORIF Oris-en-Rattie 53.19 43 *e*P **P 06 32 28.9 0.0**
ORIF Oris-en-Rattie 53.19 43 *e*P **P 06 32 28.9 0.0**
EDI Edinburgh 53.20 28 AMS AMS 06 48 11.5
comp=Z,1μm,28.2s,MS4.8
JCT Junction City 53.21 298 *e*P **P 06 32 25.1 -4.2**
comp=Z,61nm,1.3s,mb5.4
JCT LR LR
comp=Z,2μm,19.0s,MS5.3
JCT Junction City 53.21 298 *e*P **P 06 32 25.1 -4.2**
JCT pmax pmax
comp=Z,61nm,1.3s,mb5.4
JCT MLR MLR
comp=Z,2μm,19.0s,MS5.3
FRF La Foret Royal 53.27 45 *e*P **P 06 32 28.4 -1.1**
comp=Z,172nm,1.9s,mb5.4
FRF La Foret Royal 53.27 45 *e*P **P 06 32 28.4 -1.1**
comp=Z,172nm,1.9s,mb5.7
FRF La Foret Royal 53.27 45 *e*P **P 06 32 28.4 -1.1**
FRF pmax pmax
comp=Z,172nm,1.9s,mb5.7
KEST Kesra 53.38 55 P **P 06 32 30.2 -0.3**
comp=Z,3.2nm,0.9s,mb4.2,baz=243,slow=6.3,SNR=5.6
KEST LR LR 06 53 10.9
comp=Z,916nm,20.1s,MS4.8,baz=336,slow=34
KEST Kesra 53.38 55 P **P 06 32 30.2 -0.3**
ECSD EROS Data Cent 53.47 315 *e*P **P 06 32 30.7 -0.3**
comp=Z,76nm,1.6s,mb5.4
ECSD LR LR
comp=Z,2μm,20.0s,MS5.2
MDO Dochfour 53.60 26 *e*P **P 06 32 32.5 +0.9**
TRQA Tornquist 53.61 197 PFAKE 06 32 40.0 +8.0
TRQA LR LR
comp=Z,1μm,20.0s,MS5.0
SFJD Kangerlussuaq 53.70 357 PFAKE 06 32 40.0 +7.7
SFJD LR LR
comp=Z,2μm,21.0s,MS5.2
SFJD Kangerlussuaq 53.70 357 *i*P **P 06 32 32.1 -0.2**
SFJD *e*S **S 06 40 03.5 -2.6**
SFJD pmax pmax
comp=Z,12nm,0.9s,mb4.8
SFJD MLR MLR
comp=Z,2μm,19.0s,MS5.1
SFJD Kangerlussuaq 53.70 357 *i*P **P 06 32 32.1 -0.2**
comp=Z,12nm,1.0s,mb4.8
SFJD *e*S **S 06 40 03.5 -2.6**
SFJD
comp=Z,2μm,19.0s
MBDF Montbardon 53.73 44 *e*P **P 06 32 32.6 -0.3**
MBDF Montbardon 53.73 44 *e*P **P 06 32 32.6 -0.3**
MBDF Montbardon 53.73 44 *e*P **P 06 32 32.6 -0.3**
BNI Bardonecchia 53.77 43 *e*P **P 06 32 35.6 +2.5**
comp=Z,105nm,1.9s,mb5.4
BNI LR LR
comp=Z,6μm,21.0s,MS5.6
BNI Bardonecchia 53.77 43 *e*P **P 06 32 35.7 +2.5**
BNI pmax pmax
comp=Z,105nm,1.9s,mb5.4
BNI MLR MLR
comp=Z,6μm,21.0s,MS5.6
BORG Borgarnes 53.82 12 LR LR 06 49 22.4
comp=Z,2μm,21.7s,MS5.2,baz=204,slow=29
SFTF Sexfontaines 53.84 39 *e*P **P 06 32 32.1 -1.5**
comp=Z,238nm,1.7s,mb5.5
SFTF Sexfontaines 53.84 39 *e*P **P 06 32 32.1 -1.5**
comp=Z,238nm,1.7s,mb5.8
CABF La Chapelle 53.91 42 *e*P **P 06 32 33.4 -0.8**
comp=Z,129nm,1.6s,mb5.3
CABF La Chapelle 53.91 42 *e*P **P 06 32 33.4 -0.8**
comp=Z,129nm,1.6s,mb5.6
CABF La Chapelle 53.91 42 *e*P **P 06 32 33.4 -0.8**

CABF pmax pmax
comp=Z,129nm,1.6s,mb5.6
LPL La Plagne 53.96 43 *e*P **P 06 32 34.5 0.0**
comp=Z,87nm,1.6s,mb5.1
LPL La Plagne 53.96 43 *e*P **P 06 32 34.5 0.0**
comp=Z,87nm,1.6s,mb5.4
LPL La Plagne 53.96 43 *e*P **P 06 32 34.5 0.0**
LPL pmax pmax
comp=Z,87nm,1.6s,mb5.4
MEZF Maizieres J'vi 53.96 39 *e*P **P 06 32 33.3 -1.2**
comp=Z,211nm,1.6s,mb5.5
MEZF Maizieres J'vi 53.96 39 *e*P **P 06 32 33.3 -1.2**
comp=Z,211nm,1.6s,mb5.8
LPG La Plagne 53.97 43 *e*P **P 06 32 34.7 +0.1**
comp=Z,113nm,1.9s,mb5.2
LPG La Plagne 53.97 43 *e*P **P 06 32 34.7 +0.1**
comp=Z,113nm,1.9s,mb5.5
LPG La Plagne 53.97 43 *e*P **P 06 32 34.7 +0.1**
LPG pmax pmax
comp=Z,113nm,1.9s,mb5.5
BAIF Baives 54.09 37 *e*P **P 06 32 33.9 -1.5**
comp=Z,150nm,1.6s,mb5.4
BAIF Baives 54.09 37 *e*P **P 06 32 33.9 -1.5**
comp=Z,150nm,1.6s,mb5.7
BAIF Baives 54.09 37 *e*P **P 06 32 33.9 -1.5**
BAIF pmax pmax
comp=Z,150nm,1.6s,mb5.7
VSL Villasalto 54.16 51 PFAKE 06 32 50.0 +14
VSL LR LR
comp=Z,1μm,21.0s,MS4.9
SNF Seneffe 54.32 36 P **P 06 32 37.3 +0.2**
comp=Z,25nm,2.4s,mb4.7
DOU Dourbes 54.33 37 P **P 06 32 38.3 +1.1**
comp=Z,30nm,2.7s,mb4.7
PAGF Fort de Pagny 54.40 39 *e*P **P 06 32 36.2 -1.5**
comp=Z,64nm,1.9s,mb4.9
THEF They Montfort 54.44 40 *e*P **P 06 32 38.2 +0.2**
GIVF Givet 54.47 37 *e*P **P 06 32 36.5 -1.7**
comp=Z,180nm,1.7s,mb5.4
GIVF Givet 54.47 37 *e*P **P 06 32 36.5 -1.7**
comp=Z,180nm,1.7s,mb5.7
GIVF Givet 54.47 37 *e*P **P 06 32 36.5 -1.7**
GIVF pmax pmax
comp=Z,180nm,1.7s,mb5.7
CBKS Cedar Bluff 54.47 308 *e*P **P 06 32 37.7 -0.7**
comp=Z,209nm,1.3s,mb5.9
CBKS LR LR
comp=Z,3μm,22.0s,MS5.3
CBKS Cedar Bluff 54.47 308 *e*P **P 06 32 37.7 -0.7**
CBKS pmax pmax
comp=Z,209nm,1.3s,mb5.9
CBKS MLR MLR
comp=Z,3μm,22.0s,MS5.3
UCC Uccle 54.49 36 P **P 06 32 38.1 -0.2**
AGMN Agassiz Nation 54.53 320 *e*P **P 06 32 38.2 -0.5**
comp=Z,86nm,1.5s,mb5.6
AGMN LR LR
comp=Z,2μm,21.0s,MS5.2
HAU Haudompre 54.58 40 *e*P **P 06 32 37.4 -1.6**
comp=Z,72nm,1.5s,mb5.2
HAU *e*R
comp=Z,3μm,21.0s
HAU Haudompre 54.58 40 *e*P **P 06 32 37.4 -1.6**
comp=Z,72nm,1.5s,mb5.5
HAU Haudompre 54.58 40 *e*P **P 06 32 37.4 -1.6**
HAU pmax pmax
comp=Z,72nm,1.5s,mb5.5
SENIN Lac Senin/Sane 54.61 42 *e*P **P 06 32 41.4 +2.1**
LOMF Lomont 54.65 41 *e*P **P 06 32 40.6 +1.1**
HINF Hinteralfeld 54.83 40 *e*P **P 06 32 39.2 -1.6**
comp=Z,103nm,1.7s,mb5.3
HINF Hinteralfeld 54.83 40 *e*P **P 06 32 39.2 -1.6**
comp=Z,103nm,1.7s,mb5.6
HINF Hinteralfeld 54.83 40 *e*P **P 06 32 39.2 -1.6**
HINF pmax pmax
comp=Z,103nm,1.7s,mb5.6
BCLA Clavier 54.88 37 P **P 06 32 41.1 -0.1**
comp=Z,36nm,2.3s,mb5.0
MOF Molkenrain 55.02 40 *e*P **P 06 32 41.9 -0.3**
WLF Walferdange 55.08 38 P **P 06 32 43.5 +0.9**
comp=Z,40nm,2.4s,mb5.0
WLF Walferdange 55.08 38 *e*P **P 06 32 42.6 0.0**
comp=Z,158nm,2.2s,mb5.7
WLF Walferdange 55.08 38 *e*P **P 06 32 43.5 +0.9**
comp=Z,67nm,1.6s,mb5.4
WLF LR LR
comp=Z,2μm,20.0s,MS5.2
WLF Walferdange 55.08 38 *e*P **P 06 32 43.5 +0.9**
WLF pmax pmax
comp=Z,67nm,1.6s,mb5.4
WLF MLR MLR
comp=Z,2μm,20.0s,MS5.2
ECH Echery 55.16 40 PFAKE 06 32 50.0 +6.8
ECH LR LR
comp=Z,2μm,21.0s,MS5.2
ECH Echery 55.16 40 *e*P **P 06 32 41.9 -1.3**
BEBN Eben Emael 55.25 37 P **P 06 32 44.4 +0.6**
ULM Lac du Bonnet 55.29 323 P **P 06 32 41.6 -2.4**
comp=Z,18nm,1.0s,mb5.1,baz=113,slow=7.1,SNR=15
ULM LR LR 06 52 46.1
comp=Z,3μm,20.8s,MS5.3,baz=126,slow=32
ULM Lac du Bonnet 55.29 323 *e*P **P 06 32 41.7 -2.4**
comp=Z,33nm,1.1s,mb5.3
ULM Lac du Bonnet 55.29 323 *e*P **P 06 32 41.7 -2.4**
ULM pmax pmax
comp=Z,33nm,1.1s
CDF Champ du Feu 55.30 40 *e*P **P 06 32 42.8 -1.5**
comp=Z,125nm,1.9s,mb5.3
CDF Champ du Feu 55.30 40 *e*P **P 06 32 42.8 -1.5**
comp=Z,125nm,1.9s,mb5.6
CDF Champ du Feu 55.30 40 *e*P **P 06 32 42.8 -1.5**
CDF pmax pmax
comp=Z,125nm,1.9s,mb5.6
AMTX Amarillo 55.32 303 *e*P **P 06 32 43.5 -1.1**
comp=Z,79nm,1.1s,mb5.7
AMTX LR LR
comp=Z,6μm,22.0s,MS5.7
MEM Membach 55.37 37 P **P 06 32 44.9 +0.3**
comp=Z,27nm,2.0s,mb4.9
LANF Langenberg 55.83 39 *e*P **P 06 32 48.4 +0.3**
SFJM Santa Fe 55.85 286 P **P 06 32 46.0 -2.7**
BFO Black Forest 55.93 40 *e*P **P 06 32 49.2 +0.4**
comp=Z,91nm,1.7s,mb5.5
BFO Black Forest 55.93 40 P **P 06 32 48.7 -0.1**
comp=Z,121nm,1.8s,mb5.6,SNR=8.0
BFO Black Forest 55.93 40 *e*P **P 06 32 48.8 0.0**
comp=Z,97nm,1.7s,mb5.6
BFO LR LR
comp=Z,2μm,21.0s,MS5.2
BFO Black Forest 55.93 40 *e*P **P 06 32 48.8 0.0**
BFO pmax pmax
comp=Z,97nm,1.7s,mb5.6
BFO MLR MLR
comp=Z,2μm,21.0s,MS5.2
TUE Stuetta 55.99 43 *e*P **P 06 32 50.2 +1.0**
comp=Z,96nm,2.0s,mb5.5
TUE LR LR
comp=Z,2μm,22.0s,MS5.3
BUG Bochum-Univer 56.42 36 *e*P **P 06 32 52.9 +0.7**
comp=Z,78nm,1.5s,mb5.5
DAVOX Davos/Dischmat 56.43 42 P **P 06 32 52.4 0.0**
comp=Z,9.9nm,1.0s,mb4.8,baz=250,slow=7.8,SNR=14
DAVOX Davos/Dischmat 56.43 42 P **P 06 32 52.4 0.0**
DAVOX Davos/Dischmat 56.43 42 P **P 06 32 52.4 0.0**
TXAR Lajitas Array 56.47 296 P **P 06 32 51.9 -1.0**
comp=Z,5.2nm,0.9s,mb4.6,baz=110,slow=6.8,SNR=36
TXAR PcP PcP 06 33 50.0 +0.1
comp=Z,5.6nm,1.1s,baz=134,slow=3.6,SNR=7.3
TXAR LR LR 06 55 24.8
comp=Z,2μm,21.9s,MS5.2,baz=0.0,slow=34
TXAR Lajitas Array 56.47 296 P **P 06 32 51.9 -1.0**
TXAR PcP PcP 06 33 50.0 +0.1
TXAR Lajitas Array 56.47 296 P **P 06 32 51.9 -1.0**
TXAR 06 33 50.0
LRW Lerwick 56.56 24 AMS AMS 06 51 10.4
comp=Z,1μm,26.0s,MS4.9
DAVA Damuels 56.59 42 *i*pP pP 06 32 54.4 -2.3
comp=Z,34nm,1.7s
STU Stuttgart 56.62 40 *e*P **P 06 32 53.7 0.0**
comp=Z,98nm,1.9s,mb5.5
STU Stuttgart 56.62 40 *e*P **P 06 32 54.5 +0.8**
comp=Z,75nm,1.6s,mb5.5
STU Stuttgart 56.62 40 *e*P **P 06 32 54.5 +0.8**
STU pmax pmax
comp=Z,75nm,1.6s,mb5.5
OGNE Ogallala 56.64 310 *e*P **P 06 32 54.6 +0.6**
comp=Z,155nm,1.4s,mb5.8

OGNE LR LR
comp=Z,3μm,20.0s,MS5.3
TNS Taunus Mts 56.66 38 *e*P **P 06 32 54.5 +0.5**
comp=Z,56nm,1.7s,mb5.3
TNS Taunus Mts 56.66 38 *e*P **P 06 32 54.5 +0.5**
TNS pmax pmax
comp=Z,56nm,1.7s,mb5.3
CLNB Carlsbad 56.85 300 *e*P **P 06 32 54.8 -0.9**
comp=Z,6.7nm,1.2s,mb4.5
CPRX Cap Rock 56.91 301 *e*P **P 06 32 54.8 -1.2**
comp=Z,54nm,1.1s,mb5.5
IBBN Ibbenburen 57.04 36 *e*P **P 06 32 57.4 +0.8**
comp=Z,181nm,1.8s,mb5.8
FETA Feichten 57.06 42⇑*i*P **P 06 32 57.3 +0.4**
comp=Z,45nm,1.7s,mb5.2,SNR=10
ANIG Ahuacatlan 57.21 287 P **P 06 32 57.6 -0.7**
RETA Reutte 57.22 42⇑*i*P **P 06 32 58.5 +0.5**
comp=Z,50nm,1.3s,mb5.4,SNR=7.0
GDL2 Guadalupe Moun 57.26 300 *e*P **P 06 32 58.0 -0.5**
MOTA Moosalm 57.40 42⇑*i*P **P 06 32 59.2 0.0**
comp=Z,48nm,1.4s,mb5.3,SNR=16
WDD Wield Dalam 57.56 56 PFAKE 06 33 10.0 +9.4
WDD LR LR
comp=Z,3μm,20.0s,MS5.4
WATA Walderalm 57.71 42⇑*i*P **P 06 33 01.3 -0.1**
comp=Z,37nm,1.5s,mb5.2,SNR=8.1
WTTA Wattenberg 57.73 42⇑*i*P **P 06 33 01.7 +0.2**
comp=Z,59nm,1.7s,mb5.3,SNR=14
FUR Furstenfeldbru 57.75 41 *e*P **P 06 33 02.1 +0.4**
comp=Z,350nm,2.0s,mb6.0
FUR Furstenfeldbru 57.75 41 *e*P **P 06 33 02.1 +0.4**
FUR pmax pmax
comp=Z,350nm,2.0s,mb6.0
AQU L'Aquila 57.75 48 *e*P **P 06 33 02.5 +0.7**
comp=Z,141nm,1.6s,mb5.7
AQU LR LR
comp=Z,2μm,21.0s,MS5.2
AQU L'Aquila 57.75 48 *e*P **P 06 33 02.5 +0.7**
AQU pmax pmax
comp=Z,141nm,1.6s,mb5.8
AQU MLR MLR
comp=Z,2μm,21.0s,MS5.2
UBBA Unterbreizbach 57.80 38 *e*P **P 06 33 02.4 +0.4**
comp=Z,91nm,2.0s,mb5.5
MNTX Cornudas Mount 58.08 299 *e*P **P 06 33 03.2 -1.1**
MNTX LR LR
comp=Z,2μm,20.0s,MS5.3
GRFO Grafenberg 58.18 39 *e*P **P 06 33 06.3 +1.6**
comp=Z,90nm,1.9s,mb5.5
GRFO Grafenberg 58.18 39 *e*P **P 06 33 06.3 +1.7**
GRFO pmax pmax
comp=Z,90nm,1.9s,mb5.5
GRF Grafenberg Arr 58.18 39 *e*P **P 06 33 04.9 +0.2**
comp=Z,99nm,1.9s,mb5.5
GRF *e*S **S 06 41 08.1 +1.9**
GRF *e*L 06 53 01.6
comp=Z,2μm,21.6s
GRF Grafenberg Arr 58.18 39 *e*P **P 06 33 04.9 +0.2**
GRF *e*S **S 06 41 08.1 +1.9**
GRF pmax pmax
comp=Z,99nm,1.9s,mb5.5
CLZ Clausthal 58.37 37 *e*P **P 06 33 06.4 +0.4**
comp=Z,91nm,1.8s,mb5.5
CLZ Clausthal 58.37 37 *e*P **P 06 33 06.4 +0.4**
CLZ pmax pmax
comp=Z,91nm,1.8s,mb5.5
NRDL Niedersach Rie 58.45 36 *e*P **P 06 33 07.4 +0.9**
comp=Z,150nm,1.6s,mb5.8
RJOB Jochberg 58.61 42 *e*P **P 06 33 07.6 -0.1**
comp=Z,71nm,1.9s,mb5.4
MOX Moxa 58.72 38 *e*P **P 06 33 08.9 +0.5**
comp=Z,85nm,1.9s,mb5.5
MOX Moxa 58.72 38 *e*P **P 06 33 08.9 +0.5**
MOX pmax pmax
comp=Z,85nm,1.9s,mb5.5
RSSD Black Hills 58.75 314 *e*P **P 06 33 09.1 +0.4**
comp=Z,50nm,1.6s,mb5.3
RSSD Black Hills 58.75 314 *e*P **P 06 33 09.1 +0.4**
RSSD pmax pmax
comp=Z,50nm,1.6s,mb5.3
SDCO Great Sand Dun 58.76 306 *e*P **P 06 33 08.9 0.0**
comp=Z,77nm,1.4s,mb5.5
SDCO LR LR
comp=Z,3μm,22.0s,MS5.3
KBA Koelnbreinsper 58.80 43⇑*i*P **P 06 33 09.1 +0.1**
comp=Z,51nm,1.6s,mb5.3
ROTZ Rotzenmuhle 58.81 40 *e*P **P 06 33 09.5 +0.4**
comp=Z,90nm,2.0s,mb5.5
SCO Scoresbysund 58.82 9 *i*P **P 06 33 10.9 +2.1**
SCO pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SCO Scoresbysund 58.82 9 *i*P **P 06 33 10.9 +2.1**
comp=Z,9.4nm,0.9s,mb4.8
CADS Cadrg 58.85 44 *i*P **P 06 33 09.8 +0.3**
CADS *e*S **S 06 41 20.2 +5.1**
PLCA Paso Flores 58.86 203 P **P 06 33 08.6 -0.8**
comp=Z,16nm,1.0s,mb5.0,baz=27,slow=9.9,SNR=20
PLCA LR LR 07 00 08.1
comp=Z,1μm,21.2s,MS5.1,baz=18,slow=38
PLCA Paso Flores 58.86 203 P **P 06 33 08.6 -0.8**
PLCA Paso Flores 58.86 203 P **P 06 33 08.6 -0.8**
CEL Celeste 58.95 53 PFAKE 06 33 20.0 +10
CEL LR LR
comp=Z,2μm,22.0s,MS5.2
WET Wettzell 59.05 40 *e*P **P 06 33 10.6 -0.1**
comp=Z,73nm,1.8s,mb5.4
WET Wettzell 59.05 40 *e*P **P 06 33 10.6 -0.1**
WET pmax pmax
comp=Z,73nm,1.8s,mb5.4
BSEG Bad Segeberg 59.08 34 *e*P **P 06 33 11.5 +0.6**
comp=Z,444nm,1.8s,mb6.2
BSEG Bad Segeberg 59.08 34 *e*P **P 06 33 11.5 +0.6**
BSEG pmax pmax
comp=Z,444nm,1.8s,mb6.2
NKC Novy Kostel 59.10 39 *e*P **P 06 33 11.0 0.0**
NKC *e*S **S 06 41 23.4 +5.2**
NKC MLR MLR
comp=Z,2μm,18.2s,MS5.2
NKC Novy Kostel 59.10 39 *e*P **P 06 33 11.0 0.0**
NKC *e*S **S 06 41 23.4 +5.2**
NKC AMS AMS 06 53 20.0
comp=Z,2μm,18.2s
CUC Castrocucco 59.13 51 *e*P **P 06 33 11.0 -0.5**
comp=Z,49nm,1.4s,mb5.3
CUC LR LR
comp=Z,2μm,19.0s,MS5.2
ISCO Idaho Springs 59.13 308 *e*P **P 06 33 12.2 +0.7**
comp=Z,143nm,1.3s,mb5.8
ISCO LR LR
comp=Z,3μm,22.0s,MS5.4
ISCO Idaho Springs 59.13 308 *e*P **P 06 33 12.2 +0.7**
ISCO pmax pmax
comp=Z,143nm,1.3s,mb5.8
ISCO MLR MLR
comp=Z,3μm,22.0s,MS5.4
ANMO Albuquerque 59.23 303 *e*P **P 06 33 12.3 0.0**
comp=Z,290nm,2.8s,mb5.8
ANMO LR LR
comp=Z,6μm,22.0s,MS5.7
ANMO Albuquerque 59.23 303 *e*P **P 06 33 12.3 0.0**
ANMO pmax pmax
comp=Z,290nm,2.8s
ANMO MLR MLR
comp=Z,6μm,22.0s
PHWY Pilot Hill 59.25 310 *e*P **P 06 33 13.5 +1.3**
comp=Z,67nm,1.4s,mb5.5
SUMG Summit 59.30 2 *e*P **P 06 33 13.0 +0.9**
SUMG Summit 59.30 2⇑*i*P **P 06 33 13.5 +1.4**
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 59.30 2⇑*i*P **P 06 33 13.5 +1.4**
comp=Z,12nm,1.0s,mb4.9
BNM Barren Site 59.30 302 *e*P **P 06 33 12.8 0.0**
comp=Z,33nm,1.3s,mb5.2
LPM Los Pinos Moun 59.32 302 *e*P **P 06 33 13.5 +0.6**
LJU Ljubljana 59.34 44 *e*P **P 06 33 13.4 +0.6**
LJU *e*S **S 06 41 23.0 +1.5**
MUD Monsted U'grnd 59.45 31 *i*P **P 06 33 13.0 -0.3**
MUD *e*S **S 06 41 24.9 +2.5**
MUD pmax pmax
comp=Z,16nm,1.1s,mb5.0
MUD MLR MLR
comp=Z,2μm,24.0s,MS5.0
MUD Monsted U'grnd 59.45 31 *i*P **P 06 33 13.0 -0.3**
comp=Z,16nm,1.1s,mb5.0
MUD *e*S **S 06 41 24.9 +2.5**
MUD
comp=Z,1μm,24.0s
OBKA Obir 59.46 44 *i*P **P 06 33 14.1 +0.5**
comp=Z,65nm,1.6s,mb5.4,SNR=13
KHC Kasperske Hory 59.49 41 *e*P **P 06 33 13.2 -0.5**
comp=Z,87nm,1.8s,mb5.5
KHC Kasperske Hory 59.49 41 *e*P **P 06 33 11.4 -2.4**
KHC *e* 06 33 19.5
KHC *e*S **S 06 41 23.8 +0.6**
KHC MLR MLR
comp=Z,2μm,19.6s,MS5.1
KHC Kasperske Hory 59.49 41 *e*P **P 06 33 11.4 -2.4**
KHC *e*pP pP 06 33 19.5 +2.5
KHC *e*S **S 06 41 23.8 +0.6**
KHC AMS AMS 06 53 50.0
comp=Z,2μm,19.6s
GEC2 GERESS Array S 59.49 41 *e*P **P 06 33 13.6 -0.2**
comp=Z,78nm,1.8s,mb5.4
GEC2 GERESS Array S 59.49 41 *e*P **P 06 33 13.6 -0.2**
GEC2 pmax pmax
comp=Z,78nm,1.8s,mb5.4
GERES GERESS Array B 59.49 41 P **P 06 33 13.1 -0.7**
comp=Z,4.3nm,1.1s,mb4.4,baz=256,slow=5.4,SNR=21
GERES LR LR 06 55 06.1
comp=Z,2μm,21.0s,MS5.1,baz=241,slow=32
GERES GERESS Array B 59.49 41 P **P 06 33 13.1 -0.7**
GERES GERESS Array B 59.49 41 P **P 06 33 13.1 -0.7**
LENM Lemitar 59.59 302 *e*P **P 06 33 16.0 +1.2**
MOA Molln 59.60 42⇑*i*P **P 06 33 14.4 -0.1**
comp=Z,45nm,1.6s,mb5.3
TIP Timpagrande 59.74 52 PFAKE 06 33 30.0 +14
TIP LR LR
comp=Z,3μm,20.0s,MS5.4
LAZ Ladron 59.74 302 *e*P **P 06 33 16.1 +0.3**
comp=Z,37nm,1.4s,mb5.2
CLL Collm 59.75 38 *e*P **P 06 33 15.7 +0.1**
comp=Z,87nm,1.8s,mb5.5
CLL Collm 59.75 38 *i*P **P 06 33 15.7 +0.1**
CLL *e*S **S 06 41 28.0 +1.4**
CLL pmax pmax
comp=Z,87nm,1.7s,mb5.5
CLL MLR MLR
comp=Z,2μm,21.8s,MS5.3
CLL Collm 59.75 38 *i*P **P 06 33 15.7 +0.1**
comp=Z,87nm,1.7s,mb5.5
CLL *e* 06 33 28.0
CLL *e*PP PP 06 35 30.0 +2.6
CLL *e*S **S 06 41 28.0 +1.4**
comp=N,600nm,26.3s
CLL *e*S **S 06 41 28.0 +1.4**
comp=E,800nm,26.8s
CLL *e*SS SS 06 45 18.0 -4.4
CLL *e*SSS 06 48 00.0
CLL Lm 06 53 00.0
comp=N,800nm,22.0s
CLL Lm 06 53 00.0
comp=E,2μm,21.9s
CLL Lm 06 53 00.0
comp=Z,2μm,21.8s
DGMT Dagmar 59.86 319 *e*P **P 06 33 15.8 -0.6**
comp=Z,132nm,1.2s,mb5.8
DGMT LR LR
comp=Z,3μm,20.0s,MS5.5
PERS Pernice 59.87 44 *e*P **P 06 33 16.4 0.0**
SMCO Snowmass 60.09 308 *e*P **P 06 33 18.3 +0.2**
comp=Z,84nm,1.4s,mb5.6
BRG Berggiesshubel 60.20 39 *e*P **P 06 33 19.1 +0.5**
comp=Z,138nm,2.1s,mb5.6
BRG S **S 06 41 37.0 +4.7**
BRG SS SS 06 45 31.0 +1.6
BRG
comp=N,508nm,16.0s
BRG
comp=E,1μm,21.7s
BRG
comp=Z,2μm,25.3s
BRG Berggiesshubel 60.20 39 *e*P **P 06 33 19.1 +0.5**
BRG S **S 06 41 37.0 +4.7**
BRG SS SS 06 45 31.0 +1.6
BRG pmax pmax
comp=Z,138nm,2.1s,mb5.6
BRG MLR MLR
comp=N,508nm,16.0s
BRG MLR MLR
comp=E,1μm,21.7s
BRG MLR MLR
comp=Z,2μm,25.3s
BRG smax
comp=N,2.0nm,0.4s
CGIG 60.25 297 P **P 06 33 21.6 +2.2**
PRA Prague 60.28 40 P **P 06 33 20.0 +0.8**
ARSA Arzberg 60.28 43⇑*i*P **P 06 33 18.9 -0.3**
comp=N,59nm,1.6s,mb5.4,SNR=23
PRU Pruhonice 60.32 40 *e*P **P 06 33 19.1 -0.4**
PRU *e*S **S 06 41 37.2 +3.2**
PRU MLR MLR
comp=Z,2μm,21.3s,MS5.1
PRU Pruhonice 60.32 40 *e*P **P 06 33 19.1 -0.4**
PRU *e*S **S 06 41 37.2 +3.2**
PRU AMS AMS 06 54 00.0
comp=Z,2μm,21.3s
FFC Flin Flon 60.40 326 *e*P **P 06 33 18.4 -1.6**
comp=Z,43nm,1.2s,mb5.4
FFC LR LR
comp=Z,2μm,21.0s,MS5.3
FFC Flin Flon 60.40 326 *e*P **P 06 33 18.4 -1.6**
FFC pmax pmax
comp=Z,43nm,1.2s,mb5.3
FFC MLR MLR
comp=Z,2μm,21.0s,MS5.3
PVCC Panska Ves 60.48 39 *e*P **P 06 33 21.0 +0.4**
PVCC *e*S **S 06 41 39.7 +3.7**
PVCC MLR MLR
comp=Z,2μm,21.3s,MS5.1
PVCC Panska Ves 60.48 39 *e*P **P 06 33 21.0 +0.4**
PVCC *e*S **S 06 41 39.7 +3.7**
PVCC AMS AMS 06 54 20.0
comp=Z,2μm,21.3s
RUE Ruedersdorf 60.56 37 *e*P **P 06 33 20.8 -0.3**
comp=Z,189nm,1.7s,mb6.0
KOGS Kog 60.60 44 *e*P **P 06 33 21.6 +0.2**
RWWY Rawlins 60.61 310 *e*P **P 06 33 23.4 +1.8**
CONA Conrad Observa 60.66 42⇑*i*P **P 06 33 22.0 +0.2**
comp=Z,96nm,1.7s,mb5.7,SNR=9.5
TREC Trest 60.74 41 *e*P **P 06 33 22.9 +0.5**
TREC MLR MLR
comp=Z,1μm,15.8s,MS5.1
TREC Trest 60.74 41 *e*P **P 06 33 22.9 +0.5**
TREC AMS AMS 06 55 20.0
comp=Z,1μm,15.8s
LAO LASA Array 60.79 316 *e*P **P 06 33 22.1 -0.7**
comp=Z,91nm,1.4s,mb5.7
LAO LR LR
comp=Z,2μm,19.0s,MS5.4
COP Copenhagen 60.85 33⇑*i*P **P 06 33 23.9 +0.9**
COP *e*S **S 06 41 47.6 +7.1**
COP MLR MLR
comp=Z,690nm,21.0s,MS4.8
COP Copenhagen 60.85 33⇑*i*P **P 06 33 23.9 +0.9**
COP *e*S **S 06 41 47.6 +7.1**
COP
comp=Z,680nm,21.0s
KONO Kongsberg 60.98 28 *e*P **P 06 33 24.1 +0.3**
comp=Z,71nm,1.6s,mb5.5
KONO LR LR
comp=Z,1μm,20.0s,MS5.0
KONO Kongsberg 60.98 28 *e*P **P 06 33 24.1 +0.3**
KONO pmax pmax
comp=Z,71nm,1.6s,mb5.5
KONO MLR MLR
comp=Z,1μm,20.0s,MS5.0
SOP Sopron 61.06 43⇑*e*P **P 06 33 24.9 +0.3**
MVCO Mesa Verde 61.07 305 *e*P **P 06 33 25.2 +0.3**
comp=Z,82nm,1.4s,mb5.7
MVCO LR LR
comp=Z,2μm,21.0s,MS5.2
PV01 Paradox Valley 61.22 306 *e*P **P 06 33 26.3 +0.5**
comp=Z,8μm,1.3s
UPC Upice 61.37 39 *e*P **P 06 33 26.3 -0.3**
UPC Upice 61.37 39 *e*P **P 06 33 26.3 -0.3**
VRAC Vranov 61.45 41 P **P 06 33 26.3 -0.9**
comp=Z,13nm,1.1s,mb5.0,baz=256,slow=7.8,SNR=30
VRAC Vranov 61.45 41 P **P 06 33 26.3 -0.9**
VRAC Vranov 61.45 41 P **P 06 33 26.3 -0.9**
VRAC Vranov 61.45 41⇑*i*P **P 06 33 28.6 +1.4**
PV04 Paradox Valley 61.50 307 *e*P **P 06 33 28.7 +0.9**
DPC Dobruska-Polom 61.52 40 *e*P **P 06 33 26.8 -0.9**
comp=Z,171nm,1.8s,mb5.9
DPC Dobruska-Polom 61.52 40 *e*P **P 06 33 28.1 +0.5**
DPC *e*S **S 06 41 52.6 +3.3**
DPC *e*S **S 06 41 53.1 +3.8**
DPC MLR MLR
comp=Z,1μm,20.4s,MS5.1
DPC Dobruska-Polom 61.52 40 *e*P **P 06 33 28.1 +0.5**
DPC *e*S **S 06 41 52.6 +3.3**
DPC AMS AMS 06 54 40.0
comp=Z,1μm,20.4s
ZST Bratislava 61.53 42 *e*P **P 06 33 28.2 +0.5**
ZST pmax pmax
comp=Z,22nm,1.4s,mb5.1
ZST Bratislava 61.53 42 *e*P **P 06 33 28.2 +0.5**
KSP Ksiaz 61.62 39 *e*P **P 06 33 29.0 +0.7**
KSP *e*S **S 06 41 54.5 +3.9**
KSP LMZ 06 55 01.6
comp=Z,2μm,21.6s
KSP Ksiaz 61.62 39 *e*P **P 06 33 28.9 +0.6**
KSP *e*S **S 06 41 52.5 +2.0**
KSP LM 06 55 07.0
comp=Z,4.0nm,21.6s
KSP Ksiaz 61.62 39⇑*e*P **P 06 33 28.9 +0.6**
KSP *e*S **S 06 41 52.5 +2.0**
JMIC Jan Mayen 61.71 13 LR LR 06 53 10.6
comp=Z,906nm,20.3s,MS4.9,baz=81,slow=29
BSD Bornholm Skovb 62.00 34 *i*P **P 06 33 30.2 -0.6**
BSD MLR MLR
comp=Z,1μm,18.0s,MS5.0
BSD Bornholm Skovb 62.00 34 *i*P **P 06 33 30.2 -0.6**
BSD
comp=Z,990nm,18.0s
NAO01 NORSAR Array S 62.06 27 PFAKE 06 33 40.0 +8.9
NAO01 LR LR
comp=Z,2μm,21.0s,MS5.2
MORC Moravsky Berou 62.15 41 *e*P **P 06 33 32.5 +0.6**
comp=Z,103nm,1.7s,mb5.7
MORC Moravsky Berou 62.15 41 *e*P **P 06 33 32.5 +0.6**
MORC pmax pmax
comp=Z,103nm,1.7s,mb5.7
MORC Moravsky Berou 62.15 41⇓*i*P **P 06 33 33.7 +1.8**
PKSM Moragy 62.18 45⇓P **P 06 33 32.4 +0.2**
PKSM Moragy 62.18 45⇓*i*P **P 06 33 32.4 +0.2**
NB2 NORSAR Subarra 62.29 27 P **P 06 33 32.4 -0.2**
comp=Z,138nm,1.7s,mb5.8,baz=246,slow=6.9
NOA NORSAR Array B 62.29 27 P **P 06 33 32.4 -0.2**
comp=Z,3.4nm,0.9s,mb4.5,baz=246,slow=6.5,SNR=7.2
NOA LR LR 06 55 11.8
comp=Z,780nm,21.8s,MS4.8,baz=235,slow=31
NOA NORSAR Array B 62.29 27 P **P 06 33 32.4 -0.2**
NOA NORSAR Array B 62.29 27 P **P 06 33 32.4 -0.2**
TIR Tirane 62.36 50 PFAKE 06 33 50.0 +17
TIR LR LR
comp=Z,3μm,22.0s,MS5.3
LPIG La Paz 62.41 290 P **P 06 33 34.9 +0.8**
KOLL Kolacno 62.46 42 *e*P **P 06 33 34.2 +0.2**
KOLL Kolacno 62.46 42 *e*P **P 06 33 34.2 +0.2**
BW06 Boulder Array 62.48 311 *e*P **P 06 33 33.0 -1.2**
BW06 LR LR
comp=Z,2μm,20.0s,MS5.3
PDAR Pinedale Array 62.48 311 P **P 06 33 33.0 -1.3**
comp=Z,32nm,1.2s,mb5.3,baz=97,slow=6.1,SNR=64
PDAR LR LR 06 57 49.0
comp=Z,2μm,19.3s,MS5.3,baz=118,slow=33
PDAR Pinedale Array 62.48 311 P **P 06 33 33.0 -1.3**
PD02 Pinedale Array 62.49 311 *e*P **P 06 33 32.9 -1.4**
PD01 Pinedale Array 62.50 311 *e*P **P 06 33 33.2 -1.2**
OKC Ostrava-Krasne 62.55 41 *e*P **P 06 33 35.8 +1.2**
OKC *e*S **S 06 42 03.4 +1.1**
OKC MLR MLR
comp=Z,900nm,16.1s,MS5.0
OKC Ostrava-Krasne 62.55 41 *e*P **P 06 33 35.8 +1.2**
OKC *e*S **S 06 42 03.4 +1.1**
OKC AMS AMS 06 57 00.0
comp=Z,900nm,16.1s
RLMT Red Lodge 62.60 314 *e*P **P 06 33 34.5 -0.5**
comp=Z,83nm,1.4s,mb5.7
RLMT LR LR
comp=Z,2μm,21.0s,MS5.3
RAC Raciborz 62.63 40 *e*P **P 06 33 36.6 +1.5**
BUD Budapest 62.66 43⇑*e*P **P 06 33 35.8 +0.4**
TUC Tucson 62.70 300 *e*P **P 06 33 35.3 -0.5**
comp=Z,58nm,1.4s,mb5.5
TUC LR LR
comp=Z,3μm,20.0s,MS5.5
TUC Tucson 62.70 300 *e*P **P 06 33 35.3 -0.6**
TUC pmax pmax
comp=Z,58nm,1.4s,mb5.5
TUC MLR MLR
comp=Z,3μm,20.0s,MS5.5
GKP Gorka Klasztor 62.80 37 *e*P **P 06 33 37.2 +1.0**
GKP LMZ 06 54 42.4
comp=Z,2μm,25.9s
GKP Gorka Klasztor 62.80 37 *e*P **P 06 33 37.2 +1.1**
HSIG 62.83 296 P **P 06 33 38.5 +1.7**
SRU San Rafael 62.83 307 *e*P **P 06 33 36.6 -0.1**
SRU San Rafael 62.83 307 *e*P **P 06 33 36.6 0.0**
HFS Hagfors 63.07 29 P **P 06 33 37.1 -0.7**
comp=Z,12nm,0.8s,mb5.1,baz=242,slow=6.2,SNR=13
HFS Hagfors 63.07 29 P **P 06 33 37.1 -0.7**
HFS Hagfors 63.07 29 P **P 06 33 37.1 -0.7**
WUAZ Wupatki 63.28 303 *e*P **P 06 33 40.2 +0.4**
comp=Z,99nm,1.4s,mb5.8
WUAZ LR LR
comp=Z,4μm,22.0s,MS5.6
PSZ Piszkesteto 63.31 43 *e*P **P 06 33 40.1 +0.4**
PSZ LR LR
comp=Z,1μm,20.0s,MS5.0
PSZ Piszkesteto 63.31 43 *e*P **P 06 33 40.1 +0.4**
PSZ MLR MLR
comp=Z,1μm,20.0s,MS5.0
PSZ Piszkesteto 63.31 43⇑*e*P **P 06 33 40.4 +0.7**
PSZ Piszkesteto 63.31 43⇑*i*P **P 06 33 40.3 +0.6**
LKWY Lake 63.32 313 *e*P **P 06 33 42.0 +2.3**
LKWY LR LR
comp=Z,4μm,20.0s,MS5.6
LKWY Lake 63.32 313 *e*P **P 06 33 42.1 +2.3**
LKWY MLR MLR
comp=Z,4μm,20.0s,MS5.6
LOHW Long Hollow 63.34 312 *e*P **P 06 33 38.9 -1.1**
comp=Z,85nm,1.5s,mb5.7
TMUT Trail Mountain 63.37 307 *e*P **P 06 33 41.1 +0.8**
EGMT Eagleton 63.40 317 *e*P **P 06 33 35.7 -4.6**
comp=Z,74nm,1.3s,mb5.7
EGMT LR LR
comp=Z,4μm,20.0s,MS5.5
MOOW Moose Ponds 63.46 312 *e*P **P 06 33 39.8 -1.0**
comp=Z,40nm,1.3s,mb5.4
FLWY Flagg Ranch 63.47 313 *e*P **P 06 33 40.3 -0.5**
comp=Z,196nm,1.5s,mb6.0
REDW Red Top Meadow 63.49 312 *e*P **P 06 33 40.1 -0.8**
DAU Daniels Canyon 63.50 309 *e*P **P 06 33 40.9 -0.1**
DAU Daniels Canyon 63.50 309 *e*P **P 06 33 40.9 -0.2**
YNR Norris Junctio 63.54 313 *e*P **P 06 33 43.0 +1.8**
TPAW Teton Pass 63.58 312 *e*P **P 06 33 41.0 -0.6**
AHID Auburn Hatcher 63.61 311 *e*P **P 06 33 41.3 -0.4**
AHID LR LR
comp=Z,3μm,20.0s,MS5.5
YFT Old Faithful 63.61 313 *e*P **P 06 33 43.0 +1.2**
IMW Indian Meadow 63.62 312 *e*P **P 06 33 41.3 -0.5**
comp=Z,100nm,1.3s,mb5.7
JLU Jordanelle 63.66 309 *e*P **P 06 33 42.1 -0.1**
comp=Z,168nm,1.6s,mb5.8
OJC Ojcow 63.67 40 *e*P **P 06 33 42.4 +0.4**
OJC *e*sP sP 06 33 46.6 +0.1
OJC *e*S **S 06 42 17.8 +1.5**
OJC Ojcow 63.67 40 *e*P **P 06 33 42.8 +0.8**
comp=Z,212nm,1.8s,mb5.9
OJC Ojcow 63.67 40 *e*P **P 06 33 42.4 +0.4**
OJC *e**SP sP 06 33 46.6 +0.1
OJC *e*S **S 06 42 17.8 +1.5**
YMR Madison River 63.73 313 *e*P **P 06 33 42.6 +0.1**
comp=Z,196nm,1.3s,mb6.0
MPU Maple Canyon 63.75 308 *e*P **P 06 33 43.6 +0.8**
comp=Z,70nm,1.5s,mb5.5
DCID1 Drake Creek 63.76 312 *e*P **P 06 33 42.2 -0.5**
comp=Z,148nm,1.4s,mb5.8
KECS Kecovo 63.80 42 *e*P **P 06 33 43.3 +0.4**
KECS pmax pmax
comp=Z,21nm,1.7s,mb4.9
KECS Kecovo 63.80 42 *e*P **P 06 33 43.3 +0.4**
RRI2 Red Ridge 63.83 312 *e*P **P 06 33 42.7 -0.5**
comp=Z,127nm,1.3s,mb5.8
HWUT Hardware Ranch 63.84 310 *e*P **P 06 33 42.2 -1.1**

HWUT LR LR
comp=Z,3µm,20.0s,MS5.5
NIE Niedzica 63.85 41 *e*P **P 06 33 44.5 +1.3**
NIE Niedzica 63.85 41 *e*P **P 06 33 44.5 +1.3**
SRIG Santa Rosalia 64.01 294 P **P 06 33 45.3 +0.6**
MSU Marysvale 64.07 306 *e*P **P 06 33 45.3 +0.4**
MSU Marysvale 64.07 306 *e*P **P 06 33 45.3 +0.4**
QLMT Earthquake Lak 64.08 313 *e*P **P 06 33 45.6 +0.8**
MVU Marysvale 64.10 306 PFAKE 06 34 00.0 +15
MVU LR LR
comp=Z,2µm,20.0s,MS5.2
BZS Buzias 64.14 46 P **P 06 33 45.9 +0.7**
BZS Buzias 64.14 46 ⇓*i*P **P 06 33 45.5 +0.3**
NOQ North Oquirrh 64.17 309 *e*P **P 06 33 46.3 +0.7**
BOZ Bozeman (W) 64.32 314 *e*P **P 06 33 45.9 -0.5**
comp=Z,29nm,1.4s,mb5.1
BOZ LR LR
comp=Z,1µm,19.0s,MS5.2
BOZ Bozeman (W) 64.32 314 *e*P **P 06 33 45.9 -0.5**
BOZ pmax pmax
comp=Z,29nm,1.4s,mb5.1
BOZ MLR MLR
comp=Z,1µm,19.0s,MS5.2
STHS Stebnicka Huta 64.45 41 *e*P **P 06 33 48.6 +1.5**
STHS pmax pmax
comp=Z,29nm,1.8s,mb5.0
STHS Stebnicka Huta 64.45 41 *e*P **P 06 33 48.6 +1.5**
CRVS Cervenica-Dubn 64.51 42 *e*P **P 06 33 48.3 +0.8**
CRVS pmax pmax
comp=Z,133nm,2.0s,mb5.6
CRVS Cervenica-Dubn 64.51 42 *e*P **P 06 33 48.3 +0.8**
BEL Belsk 64.59 39 *e*P **P 06 33 49.2 +1.2**
BEL *e*S **S 06 42 34.1 +6.4**
BEL LMZ 06 56 55.4
comp=Z,2µm,23.0s
BEL Belsk 64.59 39 *e*P **P 06 33 49.2 +1.2**
BEL *e*S **S 06 42 34.1 +6.4**
HRY Holter Researc 64.60 315 *e*P **P 06 33 47.2 -0.9**
DUG Dugway 64.67 308 *e*P **P 06 33 48.2 -0.6**
comp=Z,93nm,1.5s,mb5.6
DUG LR LR
comp=Z,2µm,19.0s,MS5.3
DUG Dugway 64.67 308 *e*P **P 06 33 48.2 -0.6**
DUG pmax pmax
comp=Z,93nm,1.5s,mb5.6
DUG MLR MLR
comp=Z,2µm,19.0s,MS5.3
HVU Hansel Valley 64.75 310 *e*P **P 06 33 49.1 -0.2**
comp=Z,71nm,1.5s,mb5.5
HVU Hansel Valley 64.75 310 *e*P **P 06 33 49.1 -0.2**
HVU pmax pmax
comp=Z,71nm,1.5s,mb5.5
KKB Krupnik 64.81 50 *e*P **P 06 33 50.9 +1.2**
DAG Danmarks Havn 64.87 6 *i*P **P 06 33 49.3 -0.1**
DAG *e*S **S 06 42 32.9 +2.6**
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
DAG Danmarks Havn 64.87 6 *i*P **P 06 33 49.3 -0.1**
comp=Z,4.8nm,0.9s,mb4.5
DAG *e*S **S 06 42 32.9 +2.6**
LRM Limekiln Ridge 64.91 314 *e*P **P 06 33 50.3 +0.1**
GZR Gura Zlata 64.93 46 ⇑P **P 06 33 51.3 +1.0**
GZR Gura Zlata 64.93 46 ⇑*i*P **P 06 33 51.3 +1.0**
CCUT Cedar City 64.96 305 *e*P **P 06 33 51.2 +0.5**
comp=Z,111nm,1.5s,mb5.7
DLMT Dillon 64.96 314 *e*P **P 06 33 50.3 -0.3**
comp=Z,83nm,1.3s,mb5.6
VTS Vitosha 64.96 49 *e*P **P 06 33 51.8 +1.2**
UZH Uzhgorod 65.01 42 *e*P **P 06 33 50.6 -0.2**
UZH *e* 06 34 24.2
ARUT Antelope Range 65.03 306 *e*P **P 06 33 51.5 +0.3**
comp=Z,120nm,1.4s,mb5.7
ARUT Antelope Range 65.03 306 *e*P **P 06 33 51.5 +0.3**
ARUT pmax pmax
comp=Z,120nm,1.4s,mb5.7
KOLS Kolonicke sedl 65.04 42 *e*P **P 06 33 51.8 +0.8**
KOLS pmax pmax
comp=Z,74nm,1.8s,mb5.4
KOLS Kolonicke sedl 65.04 42 *e*P **P 06 33 51.8 +0.8**
MCMT McKenzie Canyo 65.08 313 *e*P **P 06 33 51.6 +0.3**
comp=Z,17nm,1.6s,mb4.8
TRPA Tarpa 65.10 43 ⇑*i*P **P 06 33 51.7 +0.3**
MMB Musomiste 65.27 50 *e*P **P 06 33 53.5 +0.8**
MPEP Malo Peshtene 65.42 48 *e*P **P 06 33 54.2 +0.6**
KWP Kalwaria Pacla 65.42 41 *e*P **P 06 33 55.1 +1.7**
KWP *e*S S 06 42 42.5 +4.6
KWP LMZ 06 56 57.3
comp=Z,2µm,23.6s
KWP Kalwaria Pacla 65.42 41 PFAKE 06 34 00.0 +6.5
KWP LR LR
comp=Z,2µm,20.0s,MS5.2
KWP Kalwaria Pacla 65.42 41 *e*P **P 06 33 55.1 +1.6**
KWP *e*S S 06 42 42.5 +4.5
CHMT Chamberlain Mo 65.59 316 *e*P **P 06 33 54.3 -0.3**
PGB Panagyurishte 65.67 49 *e*P **P 06 33 56.2 +1.0**
BMR Baia Mare 65.68 44 P **P 06 33 55.8 +0.6**
EFI East Falkland 65.78 189 PFAKE 06 34 10.0 +14
EFI LR LR
comp=Z,1µm,20.0s,MS5.1
SLMT Seeley Lake 65.79 316 *e*P **P 06 33 54.8 -1.1**
PLD Plovdiv 66.03 50 *e*P **P 06 33 58.7 +1.1**
MSO Missoula 66.05 315 PFAKE 06 34 10.0 +12
MSO LR LR
comp=Z,2µm,20.0s,MS5.2
HLID Hailey 66.09 312 *e*P **P 06 33 57.4 -0.5**
comp=Z,64nm,1.5s,mb5.4
HLID LR LR
comp=Z,2µm,20.0s,MS5.4
GLA Glamis 66.11 300 *e*P **P 06 34 00.2 +2.0**
comp=Z,76nm,1.7s,mb5.5
GLA Glamis 66.11 300 *e*P **P 06 34 00.2 +2.0**
GLA pmax pmax
comp=Z,76nm,1.7s,mb5.5
SWMT Swartz Lake 66.16 316 *e*P **P 06 33 57.4 -0.9**
YBMT Yellow Bay 66.21 317 *e*P **P 06 33 54.1 -4.5**
WALA Waterton Lakes 66.28 318 *e*P **P 06 33 58.1 -0.9**
comp=Z,0.5nm,1.1s
LVV L'vov 66.30 41 *e*P **P 06 34 00.0 +0.9**
LVV MLR MLR
comp=Z,500nm,19.0s,MS4.7
LVV MLR MLR
comp=E,700nm,21.0s,MS5.0
LVV MLR MLR
comp=N,500nm,19.0s,MS5.0
LDFC Landfair 66.33 303 *e*P **P 06 34 00.5 +0.8**
comp=N,82nm,1.1s,mb5.7
JTMT Jette 66.38 316 *e*P **P 06 33 59.4 -0.3**
SUW Suwalki 66.41 37 *e*P **P 06 33 59.8 0.0**
SUW *e*S S 06 42 53.0 +3.2
SUW LMZ 06 56 43.5
comp=N,2µm,25.0s
SUW Suwalki 66.41 37 *e*P **P 06 33 59.8 +0.1**
comp=N,264nm,2.0s,mb5.9
SUW Suwalki 66.41 37 *e*P **P 06 33 59.8 0.0**
SUW *e*S S 06 42 53.0 +3.1
BLMT Blacktail Moun 66.46 317 *e*P **P 06 33 58.8 -1.4**
VOIR 66.52 46 P **P 06 34 02.3 +1.6**
KDZ Kurdzhali 66.54 50 *e*P **P 06 34 00.0 -0.8**
SPIG San Pedro Mart 66.70 298 P **P 06 34 02.0 0.0**
BSMT Bassoo Peak 66.73 316 *e*P **P 06 34 01.2 -0.7**
BUR08 Bucovina Ar. S 66.82 44 *e*P **P 06 34 03.0 +0.4**
BURAR Bucovina Array 66.83 44 ⇓P **P 06 34 03.1 +0.5**
BURAR Bucovina Array 66.83 44 ⇓*i*P **P 06 34 03.1 +0.5**
SZH Strazhica 67.01 49 *e*P **P 06 34 04.4 +0.6**
MLR Muntele Rosu 67.16 46 P **P 06 34 04.5 -0.1**
comp=N,9.7nm,1.2s,mb4.7,baz=292,slow=4.3,SNR=35
MLR Muntele Rosu 67.16 46 P **P 06 34 04.5 -0.1**
MLR Muntele Rosu 67.16 46 P **P 06 34 04.5 -0.2**
MLR Muntele Rosu 67.16 46 ⇑*i*P **P 06 34 04.4 -0.3**
RES Resolute Bay 67.18 347 *e*P **P 06 34 04.4 0.0**
comp=N,79nm,2.0s,mb5.4
RES Resolute Bay 67.18 347 *e*P **P 06 34 04.4 +0.1**
RES pmax pmax
comp=Z,79nm,2.0s,mb5.4
JMB Yambol 67.45 49 *e*P **P 06 34 07.6 +1.0**
PFO Pinyon Flat Ob 67.46 301 *e*P **P 06 34 07.0 +0.2**
PFO LR LR
comp=Z,2µm,20.0s,MS5.4
PFO Pinyon Flat Ob 67.46 301 P **P 06 34 07.5 +0.7**
comp=Z,93nm,1.4s,mb5.6,SNR=9.0
PFO Pinyon Flat Ob 67.46 301 *e*P **P 06 34 07.0 +0.2**
PFO MLR MLR
comp=Z,2µm,20.0s,MS5.4
BAR Barrett 67.67 300 *e*P **P 06 34 08.7 +0.5**
comp=Z,35nm,1.4s,mb5.2
GSC Goldstone 67.72 303 *e*P **P 06 34 08.2 -0.2**
comp=Z,54nm,1.3s,mb5.4
GSC Goldstone 67.72 303 *e*P **P 06 34 08.3 -0.1**
GSC pmax pmax
comp=Z,54nm,1.3s,mb5.4
TESR 67.72 45 ⇑*i*P **P 06 34 08.8 +0.6**
VRI Vrincioaia 67.73 46 ⇑P **P 06 34 08.3 0.0**
VRI Vrincioaia 67.73 46 ⇑*i*P **P 06 34 08.3 0.0**
TPH Tonopah 68.03 306 PFAKE 06 34 20.0 +10
TPH LR LR
comp=Z,2µm,21.0s,MS5.3
BMN Battle Mountai 68.05 308 *e*P **P 06 34 11.3 +0.9**
BMN LR LR
comp=Z,2µm,20.0s,MS5.3
BMN Battle Mountai 68.05 308 *e*P **P 06 34 11.3 +0.9**
BMN MLR MLR
comp=Z,2µm,20.0s,MS5.3
BMO Blue Mountains 68.25 313 *e*P **P 06 34 10.8 -0.8**
BMO LR LR
comp=Z,2µm,20.0s,MS5.3
BMO Blue Mountains 68.25 313 *e*P **P 06 34 10.8 -0.8**
BMO MLR MLR
comp=Z,2µm,20.0s,MS5.3
NEW Newport 68.33 317 *e*P **P 06 34 10.8 -1.2**
comp=Z,92nm,1.3s,mb5.7
NEW LR LR
comp=Z,3µm,19.0s,MS5.6
NEW Newport 68.33 317 *e*P **P 06 34 10.8 -1.2**
NEW pmax pmax
comp=Z,92nm,1.3s
NEW MLR MLR
comp=Z,3µm,19.0s
NACGM Naroch 68.62 36 *e*P **P 06 34 12.0 -1.7**
MWC Mount Wilson 68.77 302 *e*P **P 06 34 16.0 +1.0**
MWC Mount Wilson 68.77 302 *e*P **P 06 34 16.0 +0.9**
TIRR Tirgusor 68.85 47 *e*P **P 06 34 16.2 +0.8**
TIRR Tirgusor 68.85 47 ⇑P **P 06 34 14.7 -0.7**
TIRR Tirgusor 68.85 47 ⇑*i*P **P 06 34 14.7 -0.7**
NVAR Mina Array Bea 68.88 306 P **P 06 34 15.0 -0.6**
comp=Z,5.0nm,1.0s,mb4.4,baz=89,slow=3.9,SNR=31
NVAR PP PP 06 36 44.9 -2.8
comp=Z,0.8nm,1.0s,baz=97,slow=6.5,SNR=2.7
NVAR LR LR 07 01 40.2
comp=Z,848nm,21.2s,MS5.0,baz=259,slow=34
NVAR Mina Array Bea 68.88 306 P **P 06 34 15.0 -0.6**
NVAR PP PP 06 36 44.9 -2.8
PASC Pasadena Art C 68.88 302 *e*P **P 06 34 16.7 +0.9**
YKA Yellowknife Ar 68.89 332 P **P 06 34 12.6 -2.6**
comp=Z,8.8nm,0.9s,mb4.7,baz=102,slow=7.0,SNR=31
YKA Yellowknife Ar 68.89 332 P **P 06 34 12.6 -2.6**
YKA Yellowknife Ar 68.89 332 P **P 06 34 12.6 -2.6**
LNOR Lincton Mounta 68.98 314 *e*P **P 06 34 16.1 0.0**
LNOR Lincton Mounta 68.98 314 *e*P **P 06 34 16.2 0.0**
ISA Isabella 69.07 303 *e*P **P 06 34 17.4 +0.5**
ISA Isabella 69.07 303 *e*P **P 06 34 17.4 +0.5**
MTUM Tungsten Hills 69.10 305 *e*P **P 06 34 18.1 +1.1**
WVOR Wild Horse Val 69.14 310 *e*P **P 06 34 16.4 -0.8**
comp=Z,74nm,1.6s,mb5.4
WVOR LR LR
comp=Z,2µm,20.0s,MS5.4
WVOR Wild Horse Val 69.14 310 *e*P **P 06 34 16.4 -0.8**
WVOR pmax pmax
comp=Z,74nm,1.6s,mb5.4
WVOR MLR MLR
comp=Z,2µm,20.0s,MS5.4
MNK Minsk 69.18 37 ⇑*i*P **P 06 34 15.0 -2.2**
MNK pmax pmax
comp=Z,220nm,1.0s,mb6.0
MNK pmax pmax
comp=E,310nm,1.2s
MICGM Minsk 69.21 37 ⇑*i*P **P 06 34 15.0 -2.4**
KIS Kishinev 69.23 45 *e*P **P 06 34 16.5 -1.2**
comp=E,200nm,2.0s,mb5.7
KIS *e*S S 06 43 20.0 -3.9
comp=E,800nm,10.0s
KIS Kishinev 69.23 45 *e*P **P 06 34 16.5 -1.2**
KIS *i* 06 34 22.0
KIS *e*S S 06 43 20.0 -3.9
KIS *e*PS 06 43 48.0
KIS pmax pmax
comp=Z,210nm,2.0s,mb5.7
FINES FINESS Array B 69.26 29 P **P 06 34 16.8 -0.7**
comp=Z,15nm,1.1s,mb4.8,baz=213,slow=5.7,SNR=10.0
FINES LR LR 07 00 11.9
comp=Z,844nm,19.6s,MS5.0,baz=261,slow=32
FINES FINESS Array B 69.26 29 P **P 06 34 16.8 -0.7**
FINES FINESS Array B 69.26 29 P **P 06 34 16.8 -0.8**
OSI Osito Adit 69.31 302 *e*P **P 06 34 19.5 +1.1**
OD2 Odessa Site #2 69.34 316 *e*P **P 06 34 17.2 -1.1**
KAF Kangasniemi 69.49 28 *e*P **P 06 34 16.6 -2.3**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KAF Kangasniemi 69.49 28 *e*p **P 06 34 16.6 -2.3**
comp=Z,4.5nm,0.8s,mb4.5
TSUM Tsumeb 69.51 117 ⇓*i*P **P 06 34 21.3 +1.5**
TSUM Tsumeb 69.51 117 *e*P **P 06 34 19.9 +0.1**
comp=Z,70nm,1.8s,mb5.3
TSUM LR LR
comp=Z,2µm,20.0s,MS5.2
ALE Alert 69.53 358 P **P 06 34 17.6 -1.3**
comp=Z,211nm,1.4s,mb5.9,SNR=16
KIEV Kiev 69.69 41 *e*P **P 06 34 18.2 -2.2**
KIEV LR LR
comp=Z,862nm,21.0s,MS5.0
KIEV Kiev 69.69 41 *e*P **P 06 34 18.2 -2.2**
KIEV MLR MLR
comp=Z,862nm,21.0s,MS5.0
AKASG Malin Array Be 69.70 41 P **P 06 34 19.4 -1.2**
comp=Z,2.0nm,0.6s,mb4.3,baz=268,slow=6.1,SNR=22
AKASG LR LR 07 03 15.2
comp=Z,822nm,20.0s,MS5.0,baz=260,slow=34
AKASG Malin Array Be 69.70 41 P **P 06 34 19.4 -1.2**
AKASG Malin Array Be 69.70 41 *c*e**P P 06 34 19.3 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 69.70 41 *e*P **P 06 34 19.2 -1.3**
AKBB Malin Array Si 69.70 41 *e*P **P 06 34 19.2 -1.3**
HAWA Hanford 69.87 315 *e*P **P 06 34 20.3 -1.4**
HAWA LR LR
comp=Z,2µm,21.0s,MS5.3
RSW Rattlesnake Hi 69.91 315 *e*P **P 06 34 22.0 +0.1**
WCN Washoe City 70.00 307 *e*P **P 06 34 23.4 +0.9**
comp=Z,13nm,1.4s,mb4.7
WCN Washoe City 70.00 307 *e*P **P 06 34 23.4 +0.8**
WCN pmax pmax
comp=Z,13nm,1.4s,mb4.7
MOD Modoc 70.38 310 *e*P **P 06 34 24.7 -0.1**
ETW Entiat 70.45 316 *e*P **P 06 34 24.0 -1.1**
PTRM Twissleman Ran 70.48 303 *e*P **P 06 34 26.9 +1.3**
CMB Columbia Colle 70.53 306 *e*P **P 06 34 26.0 +0.1**
CMB Columbia Colle 70.53 306 *e*P **P 06 34 26.0 +0.2**
ARCES ARCESS Array B 70.73 21 P **P 06 34 25.8 -0.6**
comp=Z,4.2nm,0.7s,mb4.5,baz=247,slow=2.9,SNR=16
ARCES LR LR 06 58 39.9
comp=Z,695nm,20.8s,MS4.9,baz=249,slow=30
ARCES ARCESS Array B 70.73 21 P **P 06 34 25.8 -0.6**
ARCES ARCESS Array B 70.73 21 P **P 06 34 25.8 -0.6**
ARE0 ARCESS Array S 70.73 21 *e*P **P 06 34 25.9 -0.6**
KBS Kingsbay 70.82 10 PFAKE 06 34 40.0 +13
KBS LR LR
comp=Z,520nm,20.0s,MS4.8
KEV Kevo 71.29 20 *e*P **P 06 34 29.6 -0.3**
KEV LR LR
comp=Z,693nm,22.0s,MS4.9
KEV Kevo 71.29 20 *e*P **P 06 34 28.8 -1.0**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KEV Kevo 71.29 20 *e*p **P 06 34 28.8 -1.0**
comp=Z,5.1nm,0.7s,mb4.6
HOOD Mount Hood Mea 71.34 314 *e*P **P 06 34 31.6 +1.0**
OHCM Honcut 71.34 307 *e*P **P 06 34 30.4 -0.4**
SAO San Andreas Ge 71.42 305 *e*P **P 06 34 33.1 +1.7**
SAO San Andreas Ge 71.42 305 *e*P **P 06 34 33.1 +1.8**
JOF Joensuu 71.90 28 *e*P **P 06 34 31.2 -2.4**
JOF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
JOF Joensuu 71.90 28 *e*p **P 06 34 31.2 -2.4**
comp=Z,6.6nm,0.8s,mb4.6
WDC Whiskeytown Da 72.10 309 *e*P **P 06 34 34.2 -1.1**
WDC Whiskeytown Da 72.10 309 *e*P **P 06 34 34.2 -1.1**
YBH Yreka Blue Hor 72.18 310 *e*P **P 06 34 34.0 -1.7**
YBH Yreka Blue Hor 72.18 310 *e*P **P 06 34 34.1 -1.7**
HUMO Hull Mountain 72.33 311 *e*P **P 06 34 34.7 -1.9**
BMW Boistfort Moun 72.42 315 *e*P **P 06 34 38.0 +0.9**
BMW Boistfort Moun 72.42 315 *e*P **P 06 34 38.0 +0.9**
HOPS Hopland 72.59 307 *e*P **P 06 34 39.5 +1.2**
comp=Z,94nm,1.5s,mb5.5
BR131 Keskin Array S 72.80 52 *e*P **P 06 34 38.9 -0.6**
comp=Z,2.4nm,0.7s,mb4.2
BR131 LR LR
comp=Z,645nm,20.0s,MS4.9
BRTR Keskin Array B 72.80 52 P **P 06 34 38.9 -0.6**
comp=Z,2.0nm,0.8s,mb4.1,baz=265,slow=5.1,SNR=11
BRTR Keskin Array B 72.80 52 *c*e**P P 06 34 38.9 -0.6**
BRTR Keskin Array B 72.80 52 *c*e**P P 06 34 39.0 -0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
NLWA Neilton Lookou 72.84 316 *e*P **P 06 34 40.5 +0.8**
NLWA LR LR
comp=Z,3µm,20.0s,MS5.5
KIPM Iron Peak 72.86 308 *e*P **P 06 34 40.1 +0.3**
comp=Z,152nm,1.5s,mb5.7
CSS Prodhromos 72.88 57 PFAKE 06 34 50.0 +10
CSS LR LR
comp=Z,849nm,21.0s,MS5.0
SIM Simferopol' 72.92 47 *e*P **P 06 34 40.2 +0.1**
SIM *e*S S 06 44 05.7 -1.1
SIM pmax pmax
comp=Z,69nm,2.8s,mb5.1
SIM MLR MLR
comp=Z,1µm,19.1s,MS5.2
KCPM Cahto Peak 72.94 308 *e*P **P 06 34 41.6 +1.3**
KHMM Horse Mountain 72.99 309 *e*P **P 06 34 41.3 +0.7**
KRMB Red Mountain 73.09 310 *e*P **P 06 34 39.5 -1.6**
comp=Z,222nm,1.5s,mb5.9
APA Apatity 73.26 23 ⇓*i*P **P 06 34 41.6 0.0**
APA *e*S S 06 44 09.0 -0.8
APA *e*PS 06 44 40.0
APA *i* SS SS 06 48 58.0 +7.0
APA pmax pmax
comp=Z,100nm,1.6s,mb5.5
KBO Bosley Butte 73.29 310 *e*P **P 06 34 43.0 +0.7**
comp=Z,343nm,1.6s,mb6.0
KEBM Edson Butte 73.33 311 *e*P **P 06 34 44.7 +2.1**
OBN Obninsk 74.26 36 PFAKE 06 35 00.0 +12
OBN LR LR
comp=Z,848nm,20.0s,MS5.0
OBN Obninsk 74.26 36 *e*P **P 06 34 46.0 -1.8**
OBN *i* 06 35 09.9
OBN *i* 06 37 36.7
OBN *i* S S 06 44 25.2 +3.7
OBN *i* SS SS 06 49 11.5 +4.7
OBN pmax pmax
comp=Z,129nm,1.6s,mb5.6
OBN MLR MLR
comp=Z,800nm,17.0s,MS5.1
RPN Rapa Nui 74.35 237 PFAKE 06 35 00.0 +11
RPN LR LR
comp=Z,3µm,21.0s,MS5.6
EIL Elat 74.77 63 P **P 06 34 50.8 -0.5**
comp=Z,2.6nm,0.6s,mb4.3,baz=118,slow=18,SNR=11
EIL Elat 74.77 63 P **P 06 34 50.8 -0.5**
MOS Moscow 74.85 36 *e*P **P 06 34 50.8 -0.4**
MOS *e* 06 35 02.9
MOS *e*S S 06 44 28.7 +0.6
MOS *e* 06 44 58.6
MOS pmax pmax
comp=Z,137nm,1.9s,mb5.6
MOS pmax pmax
comp=Z,500nm,2.3s,mb6.0
ANN Anapa 75.28 47 *e*P **P 06 34 53.2 -0.7**
ANN *e**PP pP 06 34 56.8 -0.4
ANN *e* 06 35 04.3
ANN *e* 06 37 37.4
ANN *e*S S 06 44 33.7 +0.4
ANN *e* 06 45 02.1
ANN *e*SS SS 06 49 25.8 +2.9
ANN pmax pmax
comp=Z,54nm,1.5s,mb5.3
ANN MLR MLR
comp=N,418nm,22.0s,MS4.9
ANN MLR MLR
comp=E,474nm,22.0s,MS4.9
ANN MLR MLR
comp=Z,664nm,22.0s,MS4.9
VSR Storozhevoye 75.98 40 *e*P **P 06 34 57.3 -0.5**
VSR *e**PP pP 06 35 03.6 +2.5
VSR *e*S S 06 44 35.8 -5.1
VSR pmax pmax
comp=Z,20nm,1.5s,mb4.8
VSR pmax pmax
comp=N,20nm,2.3s
VSR pmax pmax
comp=E,30nm,1.8s
VSR smax
comp=E,250nm,4.5s
VSR smax
comp=Z,50nm,3.3s
VSR smax
comp=N,80nm,2.9s
ASF Jabal al Asfar 76.12 60 P **P 06 35 00.1 +1.1**
comp=N,6.7nm,1.1s,mb4.5,baz=134,slow=5.6,SNR=8.2
ASF Jabal al Asfar 76.12 60 P **P 06 35 00.1 +1.1**
ASF Jabal al Asfar 76.12 60 P **P 06 35 00.1 +1.1**
DLBC Dease Lake 76.18 327 *e*P **P 06 34 58.4 -0.4**
SOC Sochi 77.03 48 *c*i**P P 06 35 04.3 +0.4**
SOC *e**SP sP 06 35 07.4 -1.0
SOC *e* 06 35 13.7
SOC *e* 06 37 52.3
SOC *e*S S 06 44 51.2 -1.4
SOC pmax pmax
comp=Z,40nm,1.1s,mb5.3
SOC MLR MLR
comp=Z,506nm,19.0s,MS4.9
INK Inuvik 77.17 338 *e*P **P 06 35 02.6 -1.6**
comp=Z,70nm,1.5s,mb5.4
INK Inuvik 77.17 338 *e*P **P 06 35 02.6 -1.6**
INK pmax pmax
comp=Z,70nm,1.5s
SUR Sutherland 77.50 128 PFAKE 06 35 20.0 +13
SUR LR LR
comp=Z,2µm,21.0s,MS5.5
WRAK Wrangell Islan 77.58 325 PFAKE 06 35 20.0 +13
WRAK LR LR
comp=Z,2µm,21.0s,MS5.3
LSZ Lusaka 77.68 109 *e*P **P 06 35 10.2 +2.2**
LSZ AMB AMB 06 35 10.5
comp=Z,1µm,2.1s
LSZ Lusaka 77.68 109 *e*P **P 06 35 09.1 +1.1**
comp=Z,36nm,1.4s,mb5.1
LSZ LR LR
comp=Z,2µm,21.0s,MS5.5
LSZ Lusaka 77.68 109 *e*P **P 06 35 09.1 +1.1**
LSZ pmax pmax
comp=Z,37nm,1.4s,mb5.1
LSZ MLR MLR
comp=Z,2µm,21.0s,MS5.5
PKA Prieska 77.93 125 *e*P **P 06 35 10.2 +1.1**
PKA AMB AMB 06 35 10.6
comp=Z,15nm,1.9s,mb4.6
LBTB Lobatse 78.56 119 *e*P **P 06 35 13.1 +0.4**
LBTB AMB AMB 06 35 13.8
comp=Z,37nm,2.5s,mb4.9
LBTB Lobatse 78.56 119 *e*P **P 06 35 13.3 +0.6**
comp=Z,26nm,1.1s,mb5.1
LBTB LR LR
comp=Z,2µm,22.0s,MS5.3
LBTB Lobatse 78.56 119 *e*P **P 06 35 13.3 +0.6**
LBTB pmax pmax
comp=Z,25nm,1.1s,mb5.1
LBTB MLR MLR
comp=Z,2µm,22.0s,MS5.3
SKAG Skagway 78.83 329 *e*P **P 06 35 14.0 +0.5**
comp=Z,163nm,1.7s,mb5.7
SWZ Schweizer 79.10 121 *e*P **P 06 35 16.6 +0.9**
SWZ AMB AMB 06 35 16.8
comp=Z,48nm,2.4s,mb5.0
KIV Kislovodsk 79.12 47 PFAKE 06 35 30.0 +15
KIV LR LR
comp=Z,839nm,20.0s,MS5.1
KIV Kislovodsk 79.12 47 *e*P **P 06 35 15.6 +0.1**
KIV *e*S S 06 45 14.2 -0.9
KIV *e*SS SS 06 50 23.3 +2.5
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,772nm,19.0s,MS5.1
BOSA Boshof 79.56 123 *e*P **P 06 35 16.7 -1.4**

BOSA AMB AMB 06 35 19.1
comp=Z,45nm,2.5s,mb5.0
BOSA Boshof 79.56 123 P **P 06 35 16.6 -1.4**
comp=Z,4.9nm,0.8s,mb4.5,baz=269,slow=1.6,SNR=7.5
BOSA LR LR 07 03 00.8
comp=Z,2µm,21.9s,MS5.5,baz=97,slow=30
BOSA Boshof 79.56 123 P **P 06 35 16.6 -1.4**
BOSA Boshof 79.56 123 P **P 06 35 16.7 -1.4**
DAWY Dawson 80.05 334 *e*P **P 06 35 18.6 -1.5**
HVD Gariep Dam 80.48 125 *e*P **P 06 35 24.4 +1.3**
HVD AMB AMB 06 35 24.8
comp=Z,61nm,2.3s,mb5.1
HVD ⇑ *i*P 06 35 25.4
EGAK Eagle 80.67 334 PFAKE 06 35 30.0 +6.5
EGAK LR LR
comp=Z,774nm,20.0s,MS5.0
PRYS Parys 80.70 121 *e*P **P 06 35 23.9 -0.4**
PRYS AMB AMB 06 35 38.7
comp=Z,41nm,2.5s,mb4.9
SLR Silverton 81.08 119 *e*P **P 06 35 26.1 -0.2**
SLR AMB AMB 06 35 29.1
comp=Z,65nm,1.6s,mb5.3
GNI Garni 81.23 51 P **P 06 35 27.8 +0.9**
comp=Z,2.3nm,0.4s,mb4.5,baz=248,slow=1.7,SNR=11
GNI Garni 81.23 51 P **P 06 35 27.8 +0.9**
GNI LR LR
comp=Z,542nm,20.0s,MS4.9
GNI Garni 81.23 51 *c e*P **P 06 35 27.9 +1.0**
GNI pmax pmax
comp=Z,72nm,1.7s
ERPM east rand prop 81.25 120 *e*P **P 06 35 28.3 +1.1**
ERPM AMB AMB 06 35 28.5
comp=Z,52nm,2.5s,mb5.0
SOE Somerset East 81.31 127 *e*P **P 06 35 26.5 -0.9**
SOE AMB AMB 06 35 29.0
comp=Z,45nm,2.2s,mb5.0
SEK Senekal 81.41 122 *e*P **P 06 35 29.0 +1.0**
SEK AMB AMB 06 35 29.5
comp=Z,51nm,2.2s,mb5.1
MSNA Messina 81.50 115 *e*P **P 06 35 29.8 +1.1**
MSNA AMB AMB 06 35 30.5
comp=Z,59nm,2.5s,mb5.1
DOT Dot Lake 82.16 334 *e*P **P 06 35 30.2 -1.2**
comp=Z,36nm,1.9s,mb5.0
BHD Baghdad 82.18 58 *ex* x 06 35 25.3
BHD *ex* x 06 45 47.0
MENT Mentasta 82.18 333 *e*P **P 06 35 30.6 -0.9**
GRM Grahamstown 82.27 127 *e*P **P 06 35 33.1 +0.6**
GRM AMB AMB 06 35 34.9
comp=Z,46nm,2.9s,mb4.9
KMBO Kilima Mbogo 82.61 93 *e*P **P 06 35 37.4 +2.7**
KMBO Kilima Mbogo 82.61 93 *e*P **P 06 35 35.9 +1.2**
comp=Z,65nm,1.9s,mb5.3
KMBO LR LR
comp=Z,2µm,21.0s,MS5.5
KMBO Kilima Mbogo 82.61 93 *e*P **P 06 35 35.9 +1.2**
KMBO pmax pmax
comp=Z,65nm,1.9s
KMBO MLR MLR
comp=Z,2µm,21.0s
MAK Makhachkala 82.74 48 *e*P **P 06 35 25.0 -10**
MAK pmax pmax
comp=Z,195nm,1.1s,mb6.0
MAK MLR MLR
comp=Z,1µm,22.0s,MS5.2
PAX Paxson 82.95 333 *e*P **P 06 35 34.7 -0.8**
comp=Z,119nm,1.9s,mb5.6
PAX Paxson 82.95 333 *e*P **P 06 35 34.7 -0.8**
PAX pmax pmax
comp=Z,119nm,1.9s,mb5.6
ILAR Eielson Array 83.06 335 P **P 06 35 34.6 -1.4**
comp=Z,7.7nm,0.8s,mb4.8,baz=74,slow=3.7,SNR=68
ILAR PP PP 06 38 51.6 +5.1
comp=Z,0.5nm,0.9s,baz=45,slow=9.0,SNR=3.3
ILAR LR LR 07 13 37.9
comp=Z,726nm,18.4s,MS5.1,baz=243,slow=36
ILAR Eielson Array 83.06 335 P **P 06 35 34.6 -1.4**
ILAR PP PP 06 38 51.6 +5.1
ILAR Eielson Array 83.06 335 P **P 06 35 34.6 -1.4**
ILAR 06 38 51.6
BMRM Bremner River 83.08 331 *e*P **P 06 35 34.0 -2.2**
comp=Z,108nm,1.7s,mb5.6
COLA College 83.42 335 *e*P **P 06 35 36.0 -1.9**
comp=Z,108nm,1.5s,mb5.7
COLA LR LR
comp=Z,729nm,20.0s,MS5.0
COLA College 83.42 335 *e*P **P 06 35 36.0 -1.9**
COLA pmax pmax
comp=Z,108nm,1.5s,mb5.7
COLA MLR MLR
comp=Z,729nm,20.0s,MS5.0
COLD Coldfoot 83.59 338 *e*P **P 06 35 37.5 -1.3**
comp=Z,123nm,2.0s,mb5.7
KSD Kokstad 83.62 123 *e*P **P 06 35 39.4 -0.2**
KSD AMB AMB 06 35 42.0
comp=Z,140nm,2.7s,mb5.6
MCK McKinley 84.22 334 *e*P **P 06 35 41.5 -0.6**
comp=Z,54nm,1.3s,mb5.5
MCK McKinley 84.22 334 *e*P **P 06 35 41.5 -0.5**
MCK pmax pmax
comp=Z,54nm,1.3s,mb5.5
SML Sawmill 84.56 332 *e*P **P 06 35 43.0 -0.7**
comp=Z,56nm,2.1s,mb5.3
SML Sawmill 84.56 332 *e*P **P 06 35 43.1 -0.7**
SML pmax pmax
comp=Z,56nm,2.1s,mb5.3
TRF Thorofare Moun 84.89 334 *e*P **P 06 35 44.5 -0.9**
comp=Z,246nm,1.8s,mb6.0
BPAW Bear Paw Mtn. 84.95 335 *e*P **P 06 35 44.2 -1.5**
comp=Z,113nm,1.6s,mb5.8
PMR Palmer 84.99 332 *e*P **P 06 35 45.1 -0.9**
comp=Z,134nm,1.8s,mb5.8
PMR Palmer 84.99 332 *e*P **P 06 35 45.1 -0.8**
PMR pmax pmax
comp=Z,134nm,1.8s,mb5.8
SLKM Skilak Lake 85.85 331 *e*P **P 06 35 49.8 -0.5**
SLKM Skilak Lake 85.85 331 *e*P **P 06 35 49.8 -0.5**
PPLA Purkeypile 85.89 334 *e*P **P 06 35 49.4 -1.0**
comp=Z,395nm,1.8s,mb6.3
ARU Arti 86.25 33 *e*P **P 06 35 52.2 -0.1**
comp=Z,132nm,1.9s,mb5.8
ARU LR LR
comp=Z,1µm,20.0s,MS5.4
ARU Arti 86.25 33 *c i*P **P 06 35 52.9 +0.6**
ARU *e* 06 39 11.3
ARU S S 06 46 18.8 -8.6
ARU SS SS 06 52 07.3 +1.5
ARU pmax pmax
comp=Z,86nm,2.5s,mb5.5
ARU Arti 86.25 33 P **P 06 35 52.0 -0.3**
comp=Z,115nm,1.4s,mb5.9,SNR=7.5
SVE Sverdlovsk 87.20 32 ‖ *e*P **P 06 35 57.2 +0.2**
SVE *e* 06 39 23.0
SVE *e*S S 06 46 15.3 -21
SVE *e*SS SS 06 52 16.8 -2.9
SVE pmax pmax
comp=Z,65nm,2.0s,mb5.5
VNA3 Neumayer Olymp 87.72 169 *e* **P 06 35 58.2 -0.8**
VNA3 *e* pP 06 35 59.7 -2.7
AKTO Aktyubinsk 87.83 39 P **P 06 35 59.9 -0.3**
comp=Z,11nm,1.2s,mb5.0,baz=283,slow=7.0,SNR=22
AKTO Aktyubinsk 87.83 39 P **P 06 35 59.9 -0.3**
AKTO Aktyubinsk 87.83 39 P **P 06 35 59.9 -0.3**
VNA2 Neumayer--Watz 87.89 168 *e* **P 06 35 59.2 -0.6**
baz=359,slow=4.4
VNA2 *e* pP 06 36 00.4 -2.8
KDAK Kodiak Island 87.96 329 PFAKE 06 36 10.0 +9.4
KDAK LR LR
comp=Z,2µm,20.0s,MS5.4
ABKAR Akbulak array 89.40 39 *e*P **P 06 36 07.4 -0.2**
comp=Z,36nm,1.5s,mb5.5
MAIT Maitri 92.26 164 *e*P **P 06 36 21.9 +1.6**
BRVK Borovoye 93.81 33 PFAKE 06 36 40.0 +12
BRVK LR LR
comp=Z,1µm,20.0s,MS5.4
BRVK Borovoye 93.81 33 *e*P **P 06 36 27.8 -0.2**
BRVK pmax pmax
comp=Z,11nm,2.5s,mb4.8
RKT Rikitea 95.23 248 *e*LR LR 07 07 18.8
comp=Z,1µm,36.2s
BILL Bilibino 95.76 349 PFAKE 06 36 50.0 +13
BILL LR LR
comp=Z,9µm,21.0s,MS6.2
ABPO Ambohimpanom 96.22 108 PFAKE 06 36 50.0 +10
ABPO LR LR
comp=Z,556nm,19.0s,MS5.1
TAOE Nuku Hiva Isla 97.09 263 *e*PS PS 06 49 28.8 -1.2
comp=Z,310nm,26.2s
TAOE *e*SS SS 06 54 39.4 -5.3
comp=Z,503nm,25.5s
TAOE *e*LR LR 07 08 26.6
comp=Z,2µm,33.4s
KURK Kurchatov 99.44 33 PFAKE 06 37 00.0 +6.5
KURK LR LR
comp=Z,813nm,22.0s,MS5.2
KURK Kurchatov 99.44 33 *e*P **P 06 36 55.0 +1.5**
KURK pmax pmax
comp=Z,6.0nm,1.6s,mb4.9
ZALV Zalesovo Beam 100.49 28 PP PP 06 40 59.9 -4.2
comp=Z,0.5nm,0.5s,baz=273,slow=5.8,SNR=5.3
ZALV Zalesovo Beam 100.49 28 PP PP 06 40 59.9 -4.2
EKS2 Erkin-Say 100.90 41 PFAKE 06 37 10.0 +10
EKS2 LR LR
comp=Z,792nm,21.0s,MS5.2
MSEY Mahe Island 101.13 92 PFAKE 06 37 10.0 +9.1
MSEY LR LR
comp=Z,1µm,19.0s,MS5.5
AAK Ala-Archa 101.37 41 PFAKE 06 37 10.0 +8.0
AAK LR LR
comp=Z,871nm,20.0s,MS5.3
TKM2 Tokmak 2 101.93 40 PFAKE 06 37 20.0 +16
TKM2 LR LR
comp=Z,821nm,22.0s,MS5.2
QSPA South Pole Qui 103.36 180 PFAKE 06 37 20.0 +9.2
QSPA LR LR
comp=Z,820nm,21.0s,MS5.2
MKAR Makanchi Array 103.71 34 PKKPbc PKKPbc 06 53 03.4 -2.1
comp=Z,0.5nm,0.6s,baz=116,slow=3.4,SNR=3.8
MKAR Makanchi Array 103.71 34 PKKPbc PKKPbc 06 53 03.4 -2.1
RER Riviere de l'E 104.48 109 PFAKE 06 37 30.0 +14
RER LR LR
comp=Z,1µm,19.0s,MS5.4
YAK Yakutsk 104.72 3 PFAKE 06 37 30.0 +13
YAK LR LR
comp=Z,641nm,20.0s,MS5.2
NIL Nilore 104.83 50 PFAKE 06 37 30.0 +13
NIL LR LR
comp=Z,83nm,19.0s,MS4.3
PPT Papeete 107.73 256 *e*PS PS 06 51 20.6 -2.0
comp=Z,493nm,23.2s
PPT *e*SS SS 06 57 10.3 -1.4
comp=Z,658nm,29.2s
PPT *e*LR LR 07 12 58.6
comp=Z,2µm,33.5s
TBI Tubuai 108.41 250 *e*PS PS 06 51 25.2 -4.2
comp=Z,451nm,33.2s
TBI *e*SS SS 06 57 21.5 +0.8
comp=Z,442nm,29.8s
TBI *e*LR LR 07 13 26.3
comp=Z,1µm,33.0s
WMQ Urumqi 108.54 34 *e*Pdif Pdif 06 37 31.1 -2.8
WMQ PP PP 06 42 05.8 +1.6
WMQ S Sdif 06 49 33.0 -8.8
WMQ SS SS 06 57 16.8 -3.2
WMQ AMB AMB
comp=Z,120nm,5.2s
WMQ LR LR
comp=N,1µm,23.4s,MS5.6
WMQ LR LR
comp=E,1µm,21.4s,MS5.6
WMQ LR LR
comp=Z,2µm,27.4s
TLY Talaya 109.69 20 PFAKE 06 41 50.0 +8.3
TLY LR LR
comp=Z,584nm,20.0s,MS5.2
PET Petropavlovsk 110.84 345 PFAKE 06 41 50.0 +6.2
PET LR LR
comp=Z,726nm,21.0s,MS5.2
SONM Songino Array 113.90 21 PKiKP PKiKP 06 41 48.8 -1.1
comp=Z,0.7nm,0.9s,baz=280,slow=1.4,SNR=3.6
SONM PKKPbc PKKPbc 06 52 35.7 +2.5
comp=Z,0.6nm,0.9s,baz=142,slow=4.9,SNR=2.7
SONM Songino Array 113.90 21 PKiKP PKiKP 06 41 48.8 -1.1
SONM PKKPbc PKKPbc 06 52 35.7 +2.5
SONM Songino Array 113.90 21 PKiKP PKiKP 06 41 48.8 -1.0
ULN Ulaanbaatar 114.10 20 PFAKE 06 42 00.0 +10
ULN LR LR
comp=Z,796nm,21.0s,MS5.3
VNDA Vanda 114.42 186 PFAKE 06 42 00.0 +10
VNDA LR LR
comp=Z,845nm,21.0s,MS5.3
GTA Gaotai 118.03 30 *e*PKP PKPdf 06 41 57.6 -0.4
GTA PP PP 06 43 16.7 +5.1
GTA SS SS 06 59 27.7 +2.3
GTA AMB AMB
comp=Z,97nm,6.9s
GTA LR LR
comp=N,660nm,18.5s,MS5.5
GTA LR LR
comp=E,820nm,18.0s,MS5.5
GTA LR LR
comp=Z,930nm,22.3s,MS5.4
DGAR Diego Garcia 118.21 91 PFAKE 06 42 10.0 +11
DGAR LR LR
comp=Z,1µm,19.0s,MS5.6
YSS Yuzh-Sakhalins 119.56 354 PFAKE 06 42 10.0 +9.2
YSS LR LR
comp=Z,201nm,21.0s,MS4.7
HHC Hu-ho-hao-te 121.80 21 *e*PKP PKPdf 06 42 00.5 -4.8
HHC *s*PKP 06 42 12.9
HHC PP PP 06 43 37.4 +0.2
HHC PKS 06 45 36.3
HHC AMB AMB
comp=Z,120nm,9.5s
HHC LR LR
comp=N,380nm,23.8s,MS5.2
HHC LR LR
comp=E,470nm,19.0s,MS5.2
HHC LR LR
comp=Z,600nm,21.4s,MS5.2
YUK Yuzh-Kuril'sk 122.03 351 *i* PKIKP PKPpre 06 41 52.2
YUK *e* PP 06 43 38.1 -0.4
YUK *e* 06 49 15.0
YUK MLR MLR
comp=Z,561nm,21.0s,MS5.2
MDJ Mudanjiang 122.07 5 PKP PKPdf 06 42 04.4 -1.2
CN2 Changchun 122.42 8 *e*PKP PKPdf 06 42 07.6 +1.2
CN2 PP PP 06 43 47.0 +5.9
CN2 SS SS 07 00 24.2 +3.4
CN2 LR LR
comp=N,1µm,16.0s,MS5.8
CN2 LR LR
comp=E,700nm,16.0s,MS5.8
CN2 LR LR
comp=Z,500nm,16.0s,MS5.3
LZH Lanzhou 122.61 30 *e*PKP PKPdf 06 42 05.9 -1.1
LZH *s*PKP 06 42 10.6
LZH PP PP 06 43 46.1 +3.1
LZH SKKS SKKSac 06 50 35.5 -8.0
LZH SS SS 07 00 23.1 -1.2
LZH AMB AMB
comp=Z,220nm,8.0s
LZH LR LR
comp=N,710nm,17.6s,MS5.6
LZH LR LR
comp=E,960nm,18.2s,MS5.6
LZH LR LR
comp=Z,1µm,20.1s,MS5.5
LZH Lanzhou 122.61 30 *e*PKP PKPdf 06 42 05.9 -1.1
LZH pPKP pPKPdf 06 42 08.2 -2.2
LZH sPKP 06 42 10.6
LZH PP PP 06 43 46.1 +3.1
LZH SKKS SKKSac 06 50 35.5 -8.0
LZH SS SS 07 00 23.1 -1.2
LZH LR LR
comp=Z,1µm,20.1s,MS5.5
LZH Lanzhou 122.61 30 *e*PKIKP PKPdf 06 42 05.9 -1.1
LZH 06 42 08.2
LZH 06 42 10.6
LZH 06 43 46.1
LZH SS SS 07 00 23.1 -1.2
LZH MLR MLR
comp=Z,1µm,20.1s,MS5.5
CASY Casey 124.63 168 PFAKE 06 42 20.0 +10
CASY LR LR
comp=Z,1µm,22.0s,MS5.5
CD2 Chengdu 126.64 34 *e*PKP PKPdf 06 42 13.1 -1.7
CD2 PP PP 06 44 12.8 +2.7
CD2 PKS 06 45 48.2
CD2 SKS SKSdf 06 49 19.8 -7.3
CD2 SKKS SKKSac 06 51 00.8 -8.7
CD2 SS SS 07 01 11.6 -3.7
CD2 LR LR
comp=N,1µm,25.2s,MS5.5
CD2 LR LR
comp=E,750nm,26.4s,MS5.5
CD2 LR LR
comp=Z,730nm,24.0s,MS5.3
XAN Xi'an 126.66 27 PKP PKPdf 06 42 14.0 -0.8
INCN Inchon 128.79 9 PFAKE 06 42 30.0 +11
INCN LR LR
comp=Z,780nm,22.0s,MS5.3
MAJO Matsushiro 130.27 357 PFAKE 06 42 30.0 +8.4
MAJO LR LR
comp=Z,548nm,20.0s,MS5.2
MAT Matsushiro 130.27 357 PKP PKPdf 06 42 19.8 -1.8
MJAR Matsushiro Arr 130.27 357 PKP PKPdf 06 42 20.7 -0.9
comp=Z,3.4nm,0.8s,baz=301,slow=2.1,SNR=8.1
MJAR Matsushiro Arr 130.27 357 PKP PKPdf 06 42 20.7 -0.9
MJAR Matsushiro Arr 130.27 357 PKIKP PKPdf 06 42 20.7 -0.9
KMI Kunming 130.39 40 PKP PKPdf 06 42 21.5 -0.6
KMI PP PP 06 44 40.2 +5.2
KMI LR LR
comp=N,650nm,24.7s,MS5.3
KMI LR LR
comp=E,280nm,22.3s,MS5.3
KMI LR LR
comp=Z,610nm,28.9s
KMI Kunming 130.39 40 PKP PKPdf 06 42 21.5 -0.6
KMI PP PP 06 44 40.2 +5.2
KMI SS SS 07 02 08.7 +6.5
KMI SSS 07 06 48.7
KMI LR LR
comp=Z,610nm,28.9s,MS5.1
KMI Kunming 130.39 40 PKIKP PKPdf 06 42 21.5 -0.6
KMI 06 44 40.2
KMI SSS 07 06 48.7
KMI MLR MLR
comp=Z,610nm,28.9s,MS5.1
GYA Guiyang 131.70 35 Pdif Pdif 06 39 16.0 -0.8
GYA PP PP 06 44 47.4 +4.2
GYA PKS 06 45 57.8
GYA SKKS SKKSac 06 51 37.3 -3.8
GYA SS SS 07 02 16.7 -1.2
GYA AMB AMB
comp=Z,160nm,7.8s
GYA LR LR
comp=N,860nm,20.6s,MS5.5
GYA LR LR
comp=E,720nm,21.3s,MS5.5
GYA LR LR
comp=Z,940nm,22.0s,MS5.5
WHN Wuhan 131.98 24 PKP PKPdf 06 42 25.4 +0.4
WHN LR LR
comp=Z,1µm,21.9s,MS5.6
CHTO Chiang Mai 132.10 49 PFAKE 06 42 40.0 +15
CHTO LR LR
comp=Z,617nm,22.0s,MS5.3
NJ2 Nanjing 132.22 19 *e*PKP PKPdf 06 42 20.8 -4.6
NJ2 PP PP 06 44 51.0 +4.9
NJ2 SKKS SKKSac 06 51 35.5 -8.5
NJ2 AMB AMB
comp=Z,250nm,5.2s
NJ2 LR LR
comp=N,670nm,26.8s,MS5.5
NJ2 LR LR
comp=E,1µm,25.2s,MS5.5
NJ2 LR LR
comp=Z,750nm,26.2s,MS5.3
CM31 Chiang Mai Arr 132.33 49 PFAKE 06 42 40.0 +14
CM31 LR LR
comp=Z,465nm,20.0s,MS5.2
CMAR Chiang Mai Arr 132.33 49 PKP PKPdf 06 42 25.0 -0.9
comp=Z,3.6nm,0.8s,baz=284,slow=2.1,SNR=8.5
CMAR Chiang Mai Arr 132.33 49 PKP PKPdf 06 42 25.0 -0.9
CMAR Chiang Mai Arr 132.33 49 PKIKP PKPdf 06 42 25.0 -0.9
WAKE Wake Island 135.08 316 PFAKE 06 42 40.0 +8.9
WAKE LR LR
comp=Z,3µm,21.0s,MS6.0
SNZO South Karori 135.74 223 PFAKE 06 42 40.0 +8.4
SNZO LR LR
comp=Z,938nm,20.0s,MS5.5
MSVF Nonsavu 138.48 258 *e*PKPdf PKPdf 06 42 36.0 -1.4
MSVF LR LR
comp=Z,525nm,20.0s,MS5.3
MSVF Nonsavu 138.48 258 *e*PKIKP PKPdf 06 42 36.0 -1.4
MSVF MLR MLR
comp=Z,525nm,20.0s,MS5.3
TATO Taipei 139.63 19 PFAKE 06 42 50.0 +11
TATO LR LR
comp=Z,563nm,19.0s,MS5.3
TARA Tarawa 139.76 288 PFAKE 06 42 50.0 +10
TARA LR LR
comp=Z,2µm,22.0s,MS5.9
YHNB Yeheng 139.88 20 PFAKE 06 42 50.0 +10
YHNB LR LR
comp=Z,653nm,20.0s,MS5.4
KULM Kulim 141.07 64 PFAKE 06 42 50.0 +7.7
KULM LR LR
comp=Z,1µm,20.0s,MS5.6
COCO West Island 142.67 93 PFAKE 06 43 00.0 +15
COCO LR LR
comp=Z,1µm,19.0s,MS5.6
KSI Kapahiang 146.46 76 P PKPdf 06 42 53.8 +2.1
MDSI Maura Dua 148.22 77 P PKPdf 06 42 55.2 +0.6
KLSI 148.81 77 P PKPdf 06 42 53.7 -1.9
DZM Mont Dzumac 148.99 249 *e*LR LR 07 32 17.3
comp=Z,1µm,26.6s
DZM Mont Dzumac 148.99 249 *e*PKPdf PKPdf 06 42 55.4 -0.2
MOO Moorlands 149.21 198 *e*PKP PKPdf 06 43 00.8 +5.4
comp=Z,236nm,1.0s
CGJI Cibinong 150.27 80 P PKPdf 06 43 01.5 +3.6
DBJI Dramaga 151.27 79 P PKPdf 06 43 04.1 +4.7
KSM Kuching 151.31 61 *e*PKPbc PKPbc 06 43 04.9 -0.6
KSM LR LR
comp=Z,1µm,21.0s,MS5.6
LEM Lembang 152.17 79 P PKPdf 06 43 06.4 +5.6
KKM Kota Kinabalu 153.08 45 PFAKE 06 43 10.0 +7.8
KKM LR LR
comp=Z,865nm,20.0s,MS5.6
TOO Toolangi 154.19 199 *e*PKP PKPab 06 43 24.7 -0.1
comp=Z,73nm,0.9s
NWAO Narrogin (SRO) 154.60 143 PFAKE 06 43 10.0 +6.3
NWAO LR LR
comp=Z,632nm,20.0s,MS5.4
CAN Canberra 154.81 207 PFAKE 06 43 10.0 +6.0
CAN LR LR
comp=Z,670nm,19.0s,MS5.5
HNR Honiara 155.35 277 PFAKE 06 43 20.0 +15
HNR LR LR
comp=Z,849nm,22.0s,MS5.5
STKA Stephens Creek 160.65 197 PKP PKPdf 06 43 10.6 -0.7
comp=Z,3.4nm,0.7s,baz=3.2,slow=7.3,SNR=6.1
STKA Stephens Creek 160.65 197 *e*PKP PKPdf 06 43 09.6 -1.7
comp=Z,3.6nm,1.0s
STKA Stephens Creek 160.65 197 *e*PKPdf PKPdf 06 43 09.9 -1.4
STKA PKP PKPdf 06 43 10.6 -0.7
STKA Stephens Creek 160.65 197 *e*PKIKP PKPdf 06 43 10.0 -1.3
STKA 06 43 10.6
KAPI Kappang 162.72 63 PFAKE 06 43 20.0 +6.0
KAPI LR LR
comp=Z,682nm,22.0s
MBWA Marble Bar 163.40 120 PFAKE 06 43 20.0 +5.6
MBWA LR LR
comp=Z,897nm,21.0s
CTAO Charters Tower 167.42 236 PFAKE 06 43 30.0 +12
CTAO LR LR
comp=Z,904nm,20.0s
PMG Port Moresby 167.56 287 PFAKE 06 43 30.0 +12
PMG LR LR
comp=Z,833nm,20.0s
ASAR Alice Springs 169.70 174 PKP PKPdf 06 43 17.2 -2.0
comp=Z,1.6nm,0.9s,baz=169,slow=1.6,SNR=13
ASAR PKPab PKPab 06 44 30.3 -2.4
comp=Z,2.0nm,1.0s,baz=175,slow=4.7,SNR=6.2
ASAR PP PP 06 48 21.4 +0.3
comp=Z,0.7nm,0.8s,baz=162,slow=5.9,SNR=5.7
ASAR Alice Springs 169.70 174 PKP PKPdf 06 43 17.2 -2.0
ASAR PKPab PKPab 06 44 30.3 -2.4
ASAR PP PP 06 48 21.4 +0.3
ASAR Alice Springs 169.70 174 PKIKP PKPdf 06 43 17.2 -2.0
ASAR 06 44 30.3
ASAR 06 48 21.4
FITZ Fitzroy Crossi 169.74 118 PKP PKPdf 06 43 18.6 -0.7
comp=Z,1.9nm,1.0s,baz=320,slow=3.0,SNR=6.8

FITZ PKPab PKPab 06 44 34.0 +0.7
comp=Z,1.3nm,0.9s,baz=247,slow=7.7,SNR=2.6
FITZ Fitzroy Crossi 169.74 118 *e*PKP PKPdf 06 43 18.6 -0.7
comp=Z,8.2nm,1.7s
FITZ Fitzroy Crossi 169.74 118 PKP PKPdf 06 43 18.6 -0.7
FITZ PKPab PKPab 06 44 34.0 +0.7
MTSU Mount Surprise 169.96 241 *e*PKP PKPdf 06 43 18.9 -0.6
comp=Z,41nm,1.6s
COEN Coen 172.15 265 *e*PKP PKPdf 06 43 19.9 -0.8
comp=Z,30nm,1.3s
WRA Warramunga Arr 173.43 174 PKP PKPdf 06 43 18.0 -3.1
comp=Z,4.6nm,1.3s,baz=280,slow=0.2,SNR=18
WRA PKPab PKPab 06 44 46.8 -2.5
comp=Z,2.4nm,1.0s,baz=184,slow=4.2,SNR=7.6
WRA Warramunga Arr 173.43 174 PKP PKPdf 06 43 18.0 -3.1
WRA PKPab PKPab 06 44 46.8 -2.5
WRA Warramunga Arr 173.43 174 PKIKP PKPdf 06 43 18.0 -3.1
WRA 06 44 46.8
WRAB Tennant Creek 173.44 174 *e*PKPdf PKPdf 06 43 18.8 -2.3
WRAB *e*PKPab PKPab 06 44 48.7 -0.6
WRAB LR LR
comp=Z,1μm,22.0s
WRAB Tennant Creek 173.44 174 *e*PKIKP PKPdf 06 43 18.8 -2.3
WRAB *e* 06 44 48.7
WRAB MLR MLR
comp=Z,1μm,22.0s

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*IDC **07** 06:25:10.6±1.9, 6°.17S×130°.01E, h0km, mb4.0/1, mb1 4.3/4, mb1mx3.8/16, mbtmp4.1/4, ML4.2/3, Error ellipse: s-maj=72.8km s-min=27.0km az=77.0*
NEIC 07 06:25:23.1±4.4, 6.70S×129.79E, h116km±44km, mb4.3/2, Error ellipse: s-maj=33.3km s-min=22.5km az=180.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.03**	**199**	Pn	Pn	06 28 12.0	+1.1
	1.2nm,0.3s,baz=37,slow=12,SNR=31						
FITZ				Sn	Sn	06 30 19.8	-3.6
	0.7nm,0.3s,baz=252,slow=12,SNR=4.6						
FITZ	**Fitzroy Crossi**	**12.03**	**199**	*e*Pn	Pn	06 28 11.7	+0.8
	2.4nm,0.3s						
FITZ				Sn	Sn	06 30 19.8	-3.6
WRAB	**Tennant Creek**	**13.88**	**162**	*e*Pn	Pn	06 28 34.6	-0.3
	6.9nm,0.4s						
WRAB				*e*Sn	Sn	06 30 58.5	-10
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	Pn	06 28 34.1	-0.9
	1.0nm,0.3s,baz=343,slow=12,SNR=60						
WRA				Sn	Sn	06 30 59.6	-8.6
	1.8nm,0.3s,baz=342,slow=21,SNR=9.7						
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	Pn	06 28 34.1	-0.9
WRA				Sn	Sn	06 30 59.6	-8.6
WB2	**Warramunga Arr**	**13.89**	**162**	*e*Pn	Pn	06 28 34.0	-1.0
WB2				*e*Sn	Sn	06 30 57.2	-11
COEN	**Coen**	**15.00**	**120**	*e*Pn	Pn	06 28 50.2	+0.9
AS31	**Alice Springs**	**17.32**	**167**	*e*P	Pn	06 29 18.6	+0.8
AS31				*e*Sn	Sn	06 32 21.2	-10
ASAR	**Alice Springs**	**17.32**	**167**	P	Pn	06 29 19.8	+2.0
	0.9nm,0.3s,baz=345,slow=9.6,SNR=66						
ASAR				S	Sn	06 32 23.0	-8.1
	0.2nm,0.3s,baz=355,slow=29,SNR=4.2						
ASAR	**Alice Springs**	**17.32**	**167**	P	Pn	06 29 19.8	+2.0
ASAR				S	Sn	06 32 23.0	-8.1
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	06 36 08.8	-0.2
	0.9nm,0.5s,baz=122,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	06 36 08.8	-0.2
NATX	**Nacogdoches**	**131.66**	**53**	*e*PKPdf	PKPdf	06 44 22.9	-0.1

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*IDC **07** 06:37:01.1±1.6, 31°.61S×178°.35W, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.1/17, mbtmp4.1/5, ML4.3/1, Error ellipse: s-maj=41.3km s-min=31.7km az=60.0*
ISC 07 06:37:09.6±3.6, 31°.9S±0°.2×178°.7W±0°.3, h39km±27km, n13, σ1°.95/11, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.64**	**201**	PN	**Pn**	**06 38 42.5**	**-2.0**
PUZ				*e*SN	**Sn**	**06 39 59.1**	**+0.2**
CNGZ	**Carnagh Statio**	**7.03**	**200**	PN	**Pn**	**06 38 51.8**	**+1.8**
MWZ	**Matawai**	**7.12**	**205**	PN	**Pn**	**06 38 50.9**	**-0.2**
URZ	**Urewera**	**7.21**	**207**	Pn	**Pn**	**06 38 52.0**	**-0.4**
	4.1nm,0.3s,baz=47,slow=6.1,SNR=23						
URZ	**Urewera**	**7.21**	**207**	PN	**Pn**	**06 38 52.9**	**+0.5**
CTA	**Charters Tower**	**33.49**	**282**	P	**P**	**06 43 47.1**	**+1.8**
	1.5nm,0.5s,mb4.2,baz=89,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**42.46**	**269**	P	**P**	**06 45 00.4**	**-0.5**
	2.1nm,0.7s,mb3.9,baz=102,slow=7.6,SNR=30						
WRA	**Warramunga Arr**	**43.59**	**274**	P	**P**	**06 45 09.4**	**-0.6**
	4.3nm,0.5s,mb4.5,baz=115,slow=7.7,SNR=80						
FITZ	**Fitzroy Crossi**	**51.78**	**271**	P	**P**	**06 46 13.1**	**-0.6**
	1.1nm,0.6s,mb4.0,baz=106,slow=7.4,SNR=3.6						
QSPA	**South Pole Qui**	**58.20**	**180**	P	**P**	**06 46 59.3**	**+0.2**
	1.0nm,0.9s,mb3.9,baz=253,slow=2.8,SNR=5.1						
KAF	**Kangasniemi**	**145.76**	**339**	*e*p	PKPdf	06 56 38.2	-4.8
	1.5nm,0.6s						
FINES	**FINESS Array B**	**146.35**	**339**	PKPbc	PKPbc	06 56 42.3	-3.1
	1.2nm,0.4s,baz=36,slow=4.0,SNR=19						
BRTR	**Keskin Array B**	**152.76**	**296**	PKPbc	PKPbc	06 56 58.4	-3.7
	0.3nm,0.6s,baz=90,slow=1.4,SNR=2.6						

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*ISCJB **07** 06:48:55.9±0.3, 13°.42N±0°.06×44°.80W±0°.04, h10km, mb4.6/88, MS4.4/7, Error ellipse: s-maj=8.1km s-min=4.9km az=172.4*
*IDC **07** 06:48:55.6±0.4, 13°.36N×44°.82W, h0km, mb4.2/26, mb1 4.4/26, mb1mx4.3/28, mbtmp4.2/26, MS4.1/4, Ms1 4.2/4, ms1mx3.7/26, Error ellipse: s-maj=13.8km s-min=12.3km az=152.0*
*MOS **07** 06:48:56.0±0.9, 13°.47N×44°.81W, h10km, mb4.8/40, Error ellipse: s-maj=9.7km s-min=6.5km az=48.2*
*BJI **07** 06:48:56.9, 13°.40N×44°.80W, h10km, mB5.4/5, Ms5.2/6, Ms7 4.8/6*
*NEIC **07** 06:48:57.6±0.2, 13°.38N×44°.81W, h10km, mb4.9/59, Error ellipse: s-maj=6.0km s-min=3.7km az=175.0*
ISC 07 06:48:57.9±0.3, 13°.40N±0°.06×44°.80W±0°.04, h10km, n259, σ0°.77/237, mb4.6/88, MS4.4/7, 13C-5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACV	**Santiago Islan**	**20.61**	**83**	*e*P	**P**	**06 53 38.5**	**+1.1**
	58nm,0.8s						
RCBR	**Riachuelo**	**21.04**	**155**	P	**P**	**06 53 42.3**	**+0.2**
	10nm,0.9s,mb4.2,baz=342,slow=16,SNR=3.8						
RCBR	**Riachuelo**	**21.04**	**155**	P	**P**	**06 53 42.3**	**+0.2**
SJG	**San Juan**	**21.07**	**286**	P	**P**	**06 53 41.4**	**-1.0**
	6.2nm,0.7s,mb4.1,baz=72,slow=10,SNR=4.4						
SJG				LR	LR	06 58 52.2	
	comp=Z,513nm,19.0s,MS3.9,baz=146,slow=28						
SJG	**San Juan**	**21.07**	**286**	P	**P**	**06 53 41.4**	**-1.0**
SJG	**San Juan**	**21.07**	**286**	P	**P**	**06 53 41.4**	**-1.0**
SJG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SDV	**Santo Domingo**	**25.73**	**263**	*e*P	**P**	**06 54 28.1**	**-0.7**
	comp=Z,14nm,1.1s,mb4.4						
PMOZ	**Porto Moniz, M**	**31.75**	**48**	*e*T		07 28 12.1	
FUL	**Funchal**	**31.87**	**48**	*e*T		07 28 21.2	
PMAR	**Madeira**	**31.91**	**48**	*e*T		07 28 17.1	
OTAV	**Otavalo**	**35.80**	**251**	*e*P	**P**	**06 55 58.5**	**+0.8**
	comp=Z,6.7nm,1.2s,mb4.5						
LPAZ	**La Paz**	**37.44**	**219**	P	**P**	**06 56 12.7**	**+1.1**
	comp=Z,2.5nm,0.7s,mb4.1,baz=14,slow=8.6,SNR=9.4						
LPAZ				LR	LR	07 11 24.6	
	comp=Z,420nm,20.4s,MS4.2,baz=217,slow=36						
LPAZ	**La Paz**	**37.44**	**219**	*e*P	**P**	**06 56 12.7**	**+1.2**
	comp=Z,29nm,1.9s,mb4.8						
LPAZ	**La Paz**	**37.44**	**219**	P	**P**	**06 56 12.7**	**+1.1**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LPAZ				MLR	MLR		
	comp=Z,420nm,20.4s						
ATAH	**Atahualpa**	**39.10**	**241**	P	**P**	**06 56 25.4**	**-0.3**
	comp=Z,9.3nm,0.8s,mb4.6,baz=93,slow=3.1,SNR=7.8						
ATAH	**Atahualpa**	**39.10**	**241**	P	**P**	**06 56 25.4**	**-0.3**
DBIC	**Dimbokro**	**39.86**	**96**	P	**P**	**06 56 31.6**	**-0.5**
	comp=Z,16nm,0.9s,mb4.7,baz=268,slow=9.2,SNR=14						
DBIC				LR	LR	07 09 05.0	
	comp=Z,316nm,18.6s,MS4.2,baz=247,slow=30						
DBIC	**Dimbokro**	**39.86**	**96**	*e*P	**P**	**06 56 31.5**	**-0.5**
	comp=Z,24nm,1.0s,mb4.9						
DBIC	**Dimbokro**	**39.86**	**96**	P	**P**	**06 56 31.6**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,16nm,0.9s						
EVOP	**Sao Brissos**	**40.98**	**46**	*e*P	**P**	**06 56 40.9**	**-0.1**
EVOP	**Sao Brissos**	**40.98**	**46**	*e*P	**P**	**06 56 40.9**	**-0.1**
EVO	**Evora**	**41.06**	**46**	*e*P	**P**	**06 56 40.9**	**-0.7**
EVO				*e*R			
	comp=Z,757nm,17.8s						
TKL	**Tuckaleechee C**	**41.44**	**309**	P	**P**	**06 56 44.2**	**-0.5**
	comp=Z,2.3nm,0.8s,mb3.9,baz=114,slow=10.0,SNR=2.0						
TKL	**Tuckaleechee C**	**41.44**	**309**	P	**P**	**06 56 44.2**	**-0.5**
TKL	**Tuckaleechee C**	**41.44**	**309**	P	**P**	**06 56 44.3**	**-0.5**
TKL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ESDC	**Sonseca Array**	**44.39**	**46**	P	**P**	**06 57 08.8**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.8,baz=249,slow=8.3,SNR=11						
ESDC	**Sonseca Array**	**44.39**	**46**	P	**P**	**06 57 08.8**	**+0.1**
PLAL	**Pickwick Lake**	**44.51**	**307**	*e*P	**P**	**06 57 09.4**	**-0.3**
	comp=Z,29nm,1.7s,mb4.8						
WVT	**Waverly**	**44.68**	**308**	*e*P	**P**	**06 57 10.3**	**-0.7**
	comp=Z,5.5nm,0.8s,mb4.4						
WVT	**Waverly**	**44.68**	**308**	*e*P	**P**	**06 57 10.3**	**-0.8**
WVT				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
SCHQ	**Schefferville**	**44.79**	**342**	P	**P**	**06 57 13.1**	**+1.5**
	comp=Z,10nm,1.0s,mb4.6,baz=150,slow=7.0,SNR=4.4						
SCHQ	**Schefferville**	**44.79**	**342**	P	**P**	**06 57 13.1**	**+1.5**
TORD	**Torodi Ar. Bea**	**45.20**	**85**	P	**P**	**06 57 14.8**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.3,baz=286,slow=8.4,SNR=32						
TORD				PcP	PcP	06 58 54.9	-0.9
	comp=Z,1.7nm,0.9s,baz=317,slow=3.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**45.20**	**85**	P	**P**	**06 57 14.8**	**-0.7**
TORD				PcP	PcP	06 58 54.9	-0.9
SJPF	**Ste Jean**	**47.70**	**43**	*e*P	**P**	**06 57 35.2**	**+0.5**
	comp=Z,18nm,0.8s,mb4.8						
SJPF	**Ste Jean**	**47.70**	**43**	*e*P	**P**	**06 57 35.2**	**+0.5**
	comp=Z,18nm,0.8s,mb5.1						
SJPF	**Ste Jean**	**47.70**	**43**	*e*P	**P**	**06 57 35.2**	**+0.5**
SJPF				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
ETSF	**Etsaut**	**48.05**	**44**	*e*P	**P**	**06 57 38.0**	**+0.5**
ETSF	**Etsaut**	**48.05**	**44**	*e*P	**P**	**06 57 38.0**	**+0.5**
ETSF	**Etsaut**	**48.05**	**44**	*e*P	**P**	**06 57 38.0**	**+0.5**
EPF	**Esparros**	**48.71**	**44**	*e*P	**P**	**06 57 42.5**	**-0.1**
EPF	**Esparros**	**48.71**	**44**	*e*P	**P**	**06 57 42.5**	**-0.1**
EPF	**Esparros**	**48.71**	**44**	*e*P	**P**	**06 57 42.5**	**-0.1**
MFF	**Saint Martin d**	**49.91**	**39**	*e*P	**P**	**06 57 51.5**	**-0.1**
MFF	**Saint Martin d**	**49.91**	**39**	*e*P	**P**	**06 57 51.5**	**-0.1**
MFF	**Saint Martin d**	**49.91**	**39**	*e*P	**P**	**06 57 51.5**	**-0.1**
CFAA	**Coronel Fontan**	**50.07**	**206**	P	**P**	**06 57 52.0**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=34,slow=8.2,SNR=12						
CFAA	**Coronel Fontan**	**50.07**	**206**	P	**P**	**06 57 52.0**	**-1.0**
MTLF	**Montolieu**	**50.10**	**44**	*e*P	**P**	**06 57 52.2**	**-1.0**
MTLF	**Montolieu**	**50.10**	**44**	*e*P	**P**	**06 57 52.2**	**-1.0**
MTLF	**Montolieu**	**50.10**	**44**	*e*P	**P**	**06 57 52.2**	**-1.0**
TCF	**Toulx Ste Croi**	**51.24**	**41**	*e*P	**P**	**06 58 01.7**	**-0.1**
	comp=Z,19nm,1.1s,mb4.7						
TCF	**Toulx Ste Croi**	**51.24**	**41**	*e*P	**P**	**06 58 01.7**	**-0.1**
	comp=Z,19nm,1.0s,mb5.0						
TCF	**Toulx Ste Croi**	**51.24**	**41**	*e*P	**P**	**06 58 01.7**	**-0.1**
TCF				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
LASF	**Ste Croix**	**51.47**	**44**	*e*P	**P**	**06 58 03.7**	**+0.2**
LASF	**Ste Croix**	**51.47**	**44**	*e*P	**P**	**06 58 03.7**	**+0.2**
AVF	**Avril sur Loir**	**52.17**	**40**	*e*P	**P**	**06 58 08.4**	**-0.3**
	comp=Z,15nm,1.1s,mb4.5						
AVF	**Avril sur Loir**	**52.17**	**40**	*e*P	**P**	**06 58 08.4**	**-0.3**
	comp=Z,15nm,1.1s,mb4.8						
AVF	**Avril sur Loir**	**52.17**	**40**	*e*P	**P**	**06 58 08.4**	**-0.3**
AVF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
VIVF	**Saint-Julien-l**	**52.30**	**43**	*e*P	**P**	**06 58 10.3**	**+0.7**
	comp=Z,17nm,1.0s,mb4.6						
VIVF	**Saint-Julien-l**	**52.30**	**43**	*e*P	**P**	**06 58 10.3**	**+0.7**
	comp=Z,17nm,1.0s,mb4.9						
VIVF	**Saint-Julien-l**	**52.30**	**43**	*e*P	**P**	**06 58 10.3**	**+0.7**
VIVF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
WMOK	**Wichita Mounta**	**53.00**	**303**	*e*P	**P**	**06 58 13.6**	**-1.4**
	comp=Z,5.8nm,1.0s,mb4.5						
WMOK	**Wichita Mounta**	**53.00**	**303**	*e*P	**P**	**06 58 13.6**	**-1.4**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KEST	**Kesra**	**53.30**	**55**	P	**P**	**06 58 17.9**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.2,baz=248,slow=20,SNR=7.4						
KEST	**Kesra**	**53.30**	**55**	P	**P**	**06 58 17.9**	**+0.7**
CABF	**La Chapelle**	**53.85**	**41**	*e*P	**P**	**06 58 21.1**	**+0.1**
CABF	**La Chapelle**	**53.85**	**41**	*e*P	**P**	**06 58 21.1**	**+0.1**
CABF	**La Chapelle**	**53.85**	**41**	*e*P	**P**	**06 58 21.1**	**+0.1**
LPL	**La Plagne**	**53.89**	**43**	*e*P	**P**	**06 58 22.2**	**+0.8**
LPL	**La Plagne**	**53.89**	**43**	*e*P	**P**	**06 58 22.2**	**+0.8**
LPL	**La Plagne**	**53.89**	**43**	*e*P	**P**	**06 58 22.2**	**+0.8**
LPG	**La Plagne**	**53.90**	**43**	*e*P	**P**	**06 58 22.2**	**+0.8**
	comp=Z,11nm,0.9s,mb4.5						
LPG	**La Plagne**	**53.90**	**43**	*e*P	**P**	**06 58 22.2**	**+0.8**
	comp=Z,11nm,0.9s,mb4.8						
LPG	**La Plagne**	**53.90**	**43**	*e*P	**P**	**06 58 22.2**	**+0.8**
LPG				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
BAIF	**Baives**	**54.03**	**37**	*e*P	**P**	**06 58 21.6**	**-0.7**
	comp=Z,36nm,1.4s,mb4.8						
BAIF	**Baives**	**54.03**	**37**	*e*P	**P**	**06 58 21.6**	**-0.7**
	comp=Z,36nm,1.4s,mb5.1						
BAIF	**Baives**	**54.03**	**37**	*e*P	**P**	**06 58 21.6**	**-0.7**
BAIF				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.1						
HAU	**Haudompre**	**54.51**	**40**	*e*P	**P**	**06 58 25.1**	**-0.8**
HAU				*e*R			
	comp=Z,408nm,18.8s						
HAU	**Haudompre**	**54.51**	**40**	*e*P	**P**	**06 58 25.1**	**-0.8**
HAU	**Haudompre**	**54.51**	**40**	*e*P	**P**	**06 58 25.1**	**-0.8**
ULM	**Lac du Bonnet**	**55.32**	**323**	P	**P**	**06 58 32.1**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=113,slow=9.2,SNR=3.7						
ULM	**Lac du Bonnet**	**55.32**	**323**	P	**P**	**06 58 32.1**	**+0.4**
ULM	**Lac du Bonnet**	**55.32**	**323**	P	**P**	**06 58 32.1**	**+0.4**
DAVA	**Damuels**	**56.52**	**42⇑**	*i*pP	pP	06 58 42.5	-1.0
	comp=Z,7.9nm,0.8s						
TXAR	**Lajitas Array**	**56.53**	**296**	P	**P**	**06 58 40.0**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=110,slow=7.1,SNR=12						
TXAR				PcP	PcP	06 59 37.8	+0.4
	comp=Z,0.4nm,0.7s,baz=96,slow=6.5,SNR=2.5						
TXAR	**Lajitas Array**	**56.53**	**296**	P	**P**	**06 58 40.0**	**-0.7**
TXAR				PcP	PcP	06 59 37.8	+0.4
TXAR	**Lajitas Array**	**56.53**	**296**	P	**P**	**06 58 40.0**	**-0.7**
TXAR						06 59 37.8	
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RETA	**Reutte**	**57.15**	**42⇑**	*i*P	**P**	**06 58 45.2**	**+0.4**
	comp=Z,9.5nm,1.1s,mb4.7						
GDL2	**Guadalupe Moun**	**57.31**	**300**	*e*P	**P**	**06 58 43.4**	**-2.9**
	comp=Z,19nm,1.4s,mb4.9						
MNTX	**Cornudas Mount**	**58.14**	**299**	*e*P	**P**	**06 58 51.6**	**-0.5**
	comp=Z,49nm,3.0s						
SDCO	**Great Sand Dun**	**58.81**	**306**	*e*P	**P**	**06 58 57.6**	**+0.9**
	comp=Z,5.3nm,1.0s,mb4.5						
PLCA	**Paso Flores**	**58.90**	**203**	P	**P**	**06 58 56.5**	**-0.5**
	comp=Z,2.6nm,0.8s,mb4.3,baz=41,slow=5.9,SNR=7.2						
PLCA	**Paso Flores**	**58.90**	**203**	P	**P**	**06 58 56.5**	**-0.5**
PLCA	**Paso Flores**	**58.90**	**203**	P	**P**	**06 58 56.6**	**-0.5**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NKC	**Novy Kostel**	**59.03**	**39**	*e*P	**P**	**06 58 58.3**	**+0.4**
NKC	**Novy Kostel**	**59.03**	**39**	*e*P	**P**	**06 58 58.3**	**+0.4**
NKC				*e*x	x	06 59 08.7	
ISCO	**Idaho Springs**	**59.18**	**308**	*e*P	**P**	**06 59 00.3**	**+1.1**
	comp=Z,11nm,1.1s,mb4.8						
ISCO	**Idaho Springs**	**59.18**	**308**	*e*P	**P**	**06 59 00.3**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
SUMG	**Summit**	**59.28**	**2**	*e*P	**P**	**06 59 07.0**	**+7.7**
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SUMG	**Summit**	**59.28**	**2**	*i*P	**P**	**06 59 07.0**	**+7.7**
	comp=Z,7.1nm,0.9s,mb4.7						
KHC	**Kasperske Hory**	**59.42**	**41**	*e*P	**P**	**06 59 00.2**	**-0.4**
	comp=Z,51nm,2.4s,mb5.1						
KHC	**Kasperske Hory**	**59.42**	**41**	*e*P	**P**	**06 59 00.2**	**-0.5**
KHC				pmax	pmax		
	comp=Z,51nm,2.4s,mb5.1						
KHC	**Kasperske Hory**	**59.42**	**41**	*e*P	**P**	**06 59 00.1**	**-0.6**
GERES	**GERESS Array B**	**59.42**	**41**	P	**P**	**06 59 00.3**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=262,slow=4.0,SNR=4.8						
GERES	**GERESS Array B**	**59.42**	**41**	P	**P**	**06 59 00.3**	**-0.4**
GERES	**GERESS Array B**	**59.42**	**41**	P	**P**	**06 59 00.3**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CLL	**Collm**	**59.69**	**38**	*e*P	**P**	**06 59 02.0**	**-0.5**
CLL				*e*		06 59 11.0	
CLL	**Collm**	**59.69**	**38**	*e*P	**P**	**06 59 02.0**	**-0.5**
CLL				*e*		06 59 11.0	
LAZ	**Ladron**	**59.80**	**302**	*e*P	**P**	**06 59 03.8**	**+0.2**
	comp=Z,4.7nm,1.2s,mb4.4						
DGMT	**Dagmar**	**59.90**	**319**	*e*P	**P**	**06 59 05.5**	**+1.6**
SMCO	**Snowmass**	**60.14**	**308**	*e*P	**P**	**06 59 07.0**	**+1.2**
	comp=Z,30nm,2.1s,mb5.0						
CONA	**Conrad Observa**	**60.59**	**42⇑**	*i*P	**P**	**06 59 08.8**	**+0.1**
	comp=Z,25nm,2.3s,mb4.9						
PV01	**Paradox Valley**	**61.27**	**306**	*e*P	**P**	**06 59 14.4**	**+0.9**
	comp=Z,744nm,1.1s						
UPC	**Upice**	**61.30**	**39**	*e*P	**P**	**06 59 13.9**	**+0.4**
UPC	**Upice**	**61.30**	**39**	*e*P	**P**	**06 59 13.9**	**+0.4**
DPC	**Dobruska-Polom**	**61.46**	**40**	*e*P	**P**	**06 59 14.8**	**+0.2**
	comp=Z,72nm,2.3s,mb5.4						
DPC	**Dobruska-Polom**	**61.46**	**40**	*e*P	**P**	**06 59 14.8**	**+0.3**
DPC				pmax	pmax		
	comp=Z,72nm,2.3s,mb5.4						
DPC	**Dobruska-Polom**	**61.46**	**40**	*e*P	**P**	**06 59 14.5**	**0.0**
ZST	**Bratislava**	**61.46**	**42**	*e*P	**P**	**06 59 15.2**	**+0.6**
ZST				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
ZST	**Bratislava**	**61.46**	**42**	*e*P	**P**	**06 59 15.2**	**+0.6**
MORC	**Moravsky Berou**	**62.09**	**41**	*e*P	**P**	**06 59 18.9**	**+0.1**
	comp=Z,15nm,1.5s,mb4.9						
MORC	**Moravsky Berou**	**62.09**	**41**	*e*P	**P**	**06 59 18.9**	**+0.1**
MORC				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.9						
MORC	**Moravsky Berou**	**62.09**	**41⇓**	*i*P	**P**	**06 59 18.5**	**-0.3**
NOA	**NORSAR Array B**	**62.24**	**27**	P	**P**	**06 59 20.1**	**+0.5**
	comp=Z,1.5nm,1.0s,mb4.1,baz=248,slow=6.4,SNR=2.8						
NOA				LR	LR	07 20 46.7	
	comp=Z,104nm,18.4s,MS4.0,baz=95,slow=31						
NOA	**NORSAR Array B**	**62.24**	**27**	P	**P**	**06 59 20.1**	**+0.5**
NOA	**NORSAR Array B**	**62.24**	**27**	P	**P**	**06 59 20.1**	**+0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PDAR	**Pinedale Array**	**62.53**	**311**	P	**P**	**06 59 21.2**	**-0.6**
	comp=Z,2.4nm,1.1s,mb4.2,baz=95,slow=7.9,SNR=8.6						
PDAR	**Pinedale Array**	**62.53**	**311**	P	**P**	**06 59 21.2**	**-0.6**
PD02	**Pinedale Array**	**62.53**	**311**	*e*P	**P**	**06 59 20.9**	**-1.0**
PD01	**Pinedale Array**	**62.55**	**311**	*e*P	**P**	**06 59 21.1**	**-0.9**
RLMT	**Red Lodge**	**62.64**	**314**	*e*P	**P**	**06 59 23.0**	**+0.4**
	comp=Z,5.1nm,1.1s,mb4.6						
TUC	**Tucson**	**62.75**	**300**	*e*P	**P**	**06 59 24.5**	**+0.9**
	comp=Z,3.8nm,1.0s,mb4.5						
TUC	**Tucson**	**62.75**	**300**	*e*P	**P**	**06 59 24.5**	**+0.9**
TUC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
WUAZ	**Wupatki**	**63.34**	**303**	*e*P	**P**	**06 59 28.5**	**+1.1**
	comp=Z,5.5nm,0.9s,mb4.7						
LOHW	**Long Hollow**	**63.39**	**312**	*e*P	**P**	**06 59 27.9**	**+0.3**
	comp=Z,4.5nm,1.0s,mb4.5						
FLWY	**Flagg Ranch**	**63.51**	**313**	*e*P	**P**	**06 59 29.1**	**+0.7**
	comp=Z,8.8nm,0.9s,mb4.8						
DAU	**Daniels Canyon**	**63.55**	**309**	*e*P	**P**	**06 59 29.1**	**+0.4**
DAU	**Daniels Canyon**	**63.55**	**309**	*e*P	**P**	**06 59 29.1**	**+0.4**
OJC	**Ojcow**	**63.60**	**40**	*e*P	**P**	**06 59 29.0**	**+0.1**
	comp=Z,18nm,1.2s,mb5.0						
OJC	**Ojcow**	**63.60**	**40**	*e*P	**P**	**06 59 29.0**	**+0.1**
OJC				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
TPAW	**Teton Pass**	**63.62**	**312**	*e*P	**P**	**06 59 29.2**	**+0.1**
	comp=Z,7.6nm,1.2s,mb4.6						
IMW	**Indian Meadow**	**63.66**	**312**	*e*P	**P**	**06 59 29.8**	**+0.4**
	comp=Z,11nm,1.0s,mb4.8						
JLU	**Jordanelle**	**63.71**

comp=Z,58nm,2.6s,mb5.0
KIEV Kiev 69.63 41 *e*P **P 07 00 06.4 -1.0**
KIEV pmax pmax
comp=Z,58nm,2.6s,mb5.0
AKASG Malin Array Be 69.64 41 P **P 07 00 06.3 -1.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=262,slow=4.7,SNR=4.5
AKASG Malin Array Be 69.64 41 P **P 07 00 06.3 -1.1**
AKASG Malin Array Be 69.64 41 P **P 07 00 06.3 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
HAWA Hanford 69.91 315 *e*P **P 07 00 09.3 +0.1**
comp=Z,24nm,1.8s,mb4.8
MOD Modoc 70.43 310 *e*P **P 07 00 13.2 +0.8**
comp=Z,31nm,1.9s,mb4.9
ARCES ARCESS Array B 70.68 21 P **P 07 00 13.1 -0.4**
comp=Z,4.0nm,0.8s,mb4.4,baz=243,slow=5.3,SNR=15
ARCES ARCESS Array B 70.68 21 P **P 07 00 13.1 -0.4**
ARCES ARCESS Array B 70.68 21 P **P 07 00 13.1 -0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 72.73 52 *e*P **P 07 00 26.4 0.0**
comp=Z,1.3nm,0.7s,mb4.0
BRTR Keskin Array B 72.73 52 P **P 07 00 26.3 -0.1**
comp=Z,1.3nm,0.7s,mb4.0,baz=250,slow=5.2,SNR=9.1
BRTR Keskin Array B 72.73 52 P **P 07 00 26.3 -0.1**
BRTR Keskin Array B 72.73 52 P **P 07 00 26.3 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
KHMM Horse Mountain 73.04 309 *e*P **P 07 00 28.0 -0.2**
comp=Z,10nm,0.9s,mb4.8
OBN Obninsk 74.20 36 *e*P **P 07 00 35.7 +0.9**
comp=Z,12nm,0.3s,mb5.3
OBN Obninsk 74.20 36 *e*P **P 07 00 33.0 -1.7**
OBN *i* 07 00 40.7
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ANN Anapa 75.21 47 *e*P **P 07 00 31.8 -9.0**
ANN pmax pmax
comp=Z,30nm,1.1s,mb5.1
VSR Storozhevoye 75.92 40 *e*P **P 07 00 44.5 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.0s
INK Inuvik 77.19 338 *e*P **P 07 00 50.6 -1.0**
comp=E,8.3nm,1.3s,mb4.5
INK Inuvik 77.19 338 *e*P **P 07 00 50.6 -1.0**
INK pmax pmax
comp=Z,8.0nm,1.3s
LSZ Lusaka 77.61 109 *e*P **P 07 00 55.7 +0.7**
comp=Z,6.4nm,1.1s,mb4.5
LSZ Lusaka 77.61 109 *e*P **P 07 00 55.7 +0.8**
LSZ pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
PMSA Palmer Station 79.30 188 *e*P **P 07 01 03.1 0.0**
comp=Z,164nm,1.4s,mb5.8
BOSA Boshof 79.50 123 P **P 07 01 05.0 -0.1**
comp=Z,3.0nm,0.8s,mb4.3,baz=176,slow=1.4,SNR=5.4
BOSA Boshof 79.50 123 P **P 07 01 05.0 -0.1**
BOSA Boshof 79.50 123 P **P 07 01 05.0 -0.1**
BOSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ILAR Eielson Array 83.07 335 P **P 07 01 22.9 -0.6**
comp=Z,3.1nm,0.9s,mb4.3,baz=71,slow=4.4,SNR=40
ILAR Eielson Array 83.07 335 P **P 07 01 22.9 -0.6**
ILAR Eielson Array 83.07 335 P **P 07 01 22.9 -0.5**
ILAR pmax pmax
comp=Z,3.0nm,0.9s
COLA College 83.44 335 *e*P **P 07 01 25.3 0.0**
comp=Z,11nm,1.1s,mb4.8
COLA College 83.44 335 *e*P **P 07 01 25.3 0.0**
COLA pmax pmax
comp=Z,11nm,1.1s,mb4.8
TRF Thorofare Moun 84.90 334 *e*P **P 07 01 32.2 -0.5**
comp=Z,140nm,2.5s,mb5.7
BPAW Bear Paw Mtn. 84.97 335 *e*P **P 07 01 32.8 -0.3**
comp=Z,15nm,1.4s,mb4.9
SLKM Skilak Lake 85.87 331 *e*P **P 07 01 37.7 0.0**
SLKM Skilak Lake 85.87 331 *e*P **P 07 01 37.7 0.0**
PPLA Purkeypile 85.90 334 *e*P **P 07 01 37.0 -0.8**
comp=Z,61nm,1.6s,mb5.6
VNA3 Neumayer Olymp 87.73 169 *e* **P 07 01 46.4 0.0**
VNA3 *e* 07 01 52.4
AKTO Aktyubinsk 87.77 39 P **P 07 01 47.5 +0.3**
comp=Z,0.7nm,0.3s,mb4.4,baz=353,slow=14,SNR=6.4
AKTO Aktyubinsk 87.77 39 P **P 07 01 47.5 +0.3**
AKTO Aktyubinsk 87.77 39 P **P 07 01 47.5 +0.3**
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb4.5
VNA2 Neumayer--Watz 87.89 168 *e* **P 07 01 47.2 0.0**
baz=339,slow=5.9
VNA2 *e* pP 07 01 49.5 -1.0
SNAA Sanae 89.39 168 *e*P **P 07 01 44.2 -10**
comp=Z,9.4nm,0.9s,mb5.1
SNAA Sanae 89.39 168 *e*P **P 07 01 44.2 -10**
SNAA pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 99.39 33 *e*P **P 07 02 30.2 -10**
KURK pmax pmax
comp=Z,5.0nm,2.2s,mb4.7
HHC Hu-ho-hao-te 121.76 21 *e*PKP PKPdf 07 07 48.3 -4.2
HHC PP PP 07 09 25.6 +1.4
HHC PKS 07 11 23.3
HHC AMB AMB
comp=Z,150nm,7.1s
HHC LR LR
comp=N,260nm,21.4s,MS5.0
HHC LR LR
comp=E,270nm,21.4s,MS5.0
HHC LR LR
comp=Z,240nm,19.0s,MS4.9
MDJ Mudanjiang 122.04 5 PKP PKPdf 07 07 52.9 0.0
LZH Lanzhou 122.56 30 *e*PKP PKPdf 07 07 54.0 -0.2
LZH sPKP 07 07 58.7
LZH LR LR
comp=N,140nm,18.0s,MS4.8
LZH LR LR
comp=E,160nm,17.8s,MS4.8
LZH LR LR
comp=Z,220nm,20.0s,MS4.8
LZH Lanzhou 122.56 30 *e*PKP PKPdf 07 07 54.0 -0.2
LZH pPKP pPKPdf 07 07 57.3 -0.3
LZH sPKP 07 07 58.7
LZH LR LR
comp=Z,220nm,20.0s,MS4.8
LZH Lanzhou 122.56 30 *e*PKIKP PKPdf 07 07 54.0 -0.2
LZH 07 07 57.3
LZH 07 07 58.7
LZH MLR MLR
comp=Z,220nm,20.0s,MS4.8
CD2 Chengdu 126.58 34 *e*PKP PKPdf 07 08 01.0 -1.0
GYA Guiyang 131.64 35 Pdif Pdif 07 05 02.5 -1.4
GYA PKP PKPdf 07 08 10.3 -1.5
GYA PP PP 07 10 32.8 +2.6
GYA PKS 07 11 45.2
GYA SKKS SKKSac 07 17 22.5 -5.6
GYA SS SS 07 28 02.3 -2.2
GYA AMB AMB
comp=Z,110nm,7.8s
GYA LR LR
comp=N,110nm,20.4s,MS4.7
GYA LR LR
comp=E,90nm,21.0s,MS4.7
GYA LR LR
comp=Z,100nm,22.5s,MS4.5
WHN Wuhan 131.93 24 PKP PKPdf 07 08 08.7 -3.5
NJ2 Nanjing 132.18 19 *e*PKP PKPdf 07 08 08.8 -3.9
CMAR Chiang Mai Arr 132.25 49 PKP PKPdf 07 08 12.1 -1.0
comp=Z,1.9nm,0.7s,baz=290,slow=3.3,SNR=8.7
CMAR Chiang Mai Arr 132.25 49 PKP PKPdf 07 08 12.1 -1.0
CMAR Chiang Mai Arr 132.25 49 PKIKP PKPdf 07 08 12.1 -1.0
CMAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 169.71 173 PKP PKPdf 07 09 05.0 -1.5
comp=Z,0.4nm,0.8s,baz=187,slow=1.3,SNR=5.0
ASAR PKPab PKPab 07 10 17.7 -2.4
comp=Z,0.4nm,0.8s,baz=171,slow=4.7,SNR=4.7
ASAR Alice Springs 169.71 173 PKP PKPdf 07 09 05.0 -1.5
ASAR PKPab PKPab 07 10 17.7 -2.4
ASAR Alice Springs 169.71 173 PKIKP PKPdf 07 09 05.0 -1.5
ASAR 07 10 17.7
WRA Warramunga Arr 173.44 173 PKP PKPdf 07 09 07.2 -1.2
comp=Z,0.4nm,1.0s,baz=192,slow=1.3,SNR=3.6
WRA PKPab PKPab 07 10 33.2 -3.4
comp=Z,0.4nm,0.8s,baz=189,slow=3.9,SNR=4.8
WRA Warramunga Arr 173.44 173 PKP PKPdf 07 09 07.2 -1.2
WRA PKPab PKPab 07 10 33.2 -3.4
WRA Warramunga Arr 173.44 173 PKIKP PKPdf 07 09 07.2 -1.2
WRA 07 10 33.2

IDC 07 06:53:53.3±1.8, 8°.40S×129°.46E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=75.3km s-min=26.2km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.33**	**201**	Pn	Pn	06 56 22.9	0.0
	0.4nm,0.3s,baz=29,slow=10,SNR=13						
FITZ				Sn	Sn	06 58 12.9	-6.7
	0.2nm,0.3s,baz=31,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**12.41**	**158**	Pn	Pn	06 56 51.3	-0.1
	0.2nm,0.3s,baz=337,slow=12,SNR=14						
WRA				Sn	Sn	06 59 04.3	-6.2
	0.2nm,0.3s,baz=330,slow=22,SNR=5.3						
ASAR	**Alice Springs**	**15.77**	**165**	Pn	Pn	06 57 37.2	+0.4
	0.1nm,0.3s,baz=343,slow=9.2,SNR=5.8						
MKAR	**Makanchi Array**	**69.10**	**327**	P	P	07 05 01.6	+0.4
	0.5nm,0.7s,baz=124,slow=7.2,SNR=4.7						
KURK	**Kurchatov**	**73.43**	**329**	P	P	07 05 27.0	-0.3
	0.3nm,0.4s,baz=124,slow=4.3,SNR=4.7						

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*ISCJB **07** 06:54:21.3±1.3, 38°.27N±0°.05×22°.14E±0°.07, h23km±9km, Error ellipse: s-maj=10.4km s-min=7.7km az=38.7*
*CSEM **07** 06:54:22.7, 38°.24N×22°.18E, h10km, ML1.2/4, After THE*
*THE **07** 06:54:22.7, 38°.24N×22°.18E, h10km±4km, ML1.2/4, Error ellipse: s-maj=4.4km s-min=0.6km az=301.0*
*ATH **07** 06:55:17.3, 38°.81N×23°.10E, h4km, MD2.8/3*
ISC 07 06:54:21.4±1.3, 38°.27N±0°.05×22°.14E±0°.07, h23km±10km, n15, σ0°.84/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.11**	**333**	P	**Pb**	**06 54 25.6**	**-0.2**
TRIZ				S	**Sb**	**06 54 28.4**	**-0.4**
TRIZ	**Trizonia**	**0.11**	**333**	P	**Pb**	**06 54 25.6**	**-0.2**
TRIZ				S	**Sb**	**06 54 28.4**	**-0.4**
KALE	**Kalithea**	**0.13**	**1**	P	**Pb**	**06 54 26.6**	**+0.7**
KALE				S	**Sb**	**06 54 29.3**	**+0.2**
KALE	**Kalithea**	**0.13**	**1**	P	**Pb**	**06 54 26.6**	**+0.7**
KALE				S	**Sb**	**06 54 29.3**	**+0.2**
LAKA	**Lakka**	**0.13**	**259**	P	**Pb**	**06 54 26.6**	**+0.7**
LAKA				S	**Sb**	**06 54 28.7**	**-0.3**
LAKA	**Lakka**	**0.13**	**259**	P	**Pb**	**06 54 26.6**	**+0.7**
LAKA				S	**Sb**	**06 54 28.7**	**-0.3**
DSF	**Desfina**	**0.34**	**64**	P	**Pb**	**06 54 29.1**	**+0.3**
DSF				S	**Sb**	**06 54 34.2**	**+0.3**
DSF	**Desfina**	**0.34**	**64**	P	**Pb**	**06 54 29.1**	**+0.3**
DSF				S	**Sb**	**06 54 34.2**	**+0.3**
DESF	**Desfina**	**0.34**	**64**	P	**Pb**	**06 54 29.0**	**+0.1**
DESF				S	**Sb**	**06 54 33.6**	**-0.4**
DESF	**Desfina**	**0.34**	**64**	P	**Pb**	**06 54 29.0**	**+0.1**
DESF				S	**Sb**	**06 54 33.6**	**-0.4**
GUR	**Goura**	**0.36**	**154**	P	**Pb**	**06 54 29.2**	**0.0**
GUR				S	**Sb**	**06 54 34.3**	**-0.3**
GUR	**Goura**	**0.36**	**154**	P	**Pb**	**06 54 29.2**	**0.0**
GUR				S	**Sb**	**06 54 34.3**	**-0.3**
LTK	**Loutraki**	**0.70**	**110**	*e*PG	**Pb**	**06 54 32.4**	**-2.4**
VIL1	**Vilia, Western**	**0.94**	**96**	*e*PG	**Pb**	**06 54 30.0**	**-9.0**
VIL1				*e*SG	**Sb**	**06 54 39.3**	**-12**
DID	**Didima**	**1.15**	**131**	*e*PB	**Pn**	**06 54 42.1**	**0.0**
DID				*e*SB	**Sb**	**06 54 59.9**	**+2.8**

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*IDC **07** 07:13:29.5±1.9, 0°.14S×126°.50E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=170.2km s-min=25.6km az=65.0*
*ISCJB **07** 07:13:48.2±0.9, 0°.14N±0°.10×127°.57E±0°.08, h195km±6km, mb3.4/3, Error ellipse: s-maj=17.2km s-min=11.2km az=34.2*
*DJA **07** 07:13:52, 0°.01N×127°.39E, h158km, MLv3.5/5*
ISC 07 07:13:49.3±0.9, 0°.11N±0°.09×127°.56E±0°.08, h190km±6km, n10, σ1°.11/12, mb3.4/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.69**	**344**	P	**Pn**	**07 14 16.2**	**+0.1**
TNTI				S	**Sn**	**07 14 36.3**	**-0.6**
LBMI	**Labuha**	**0.74**	**184**	P	**Pn**	**07 14 16.8**	**+0.4**
LBMI				S	**Sn**	**07 14 36.4**	**-1.0**
MNI	**Manado**	**3.03**	**296**	P	Px	07 14 53.4	
NLAI	**Namlea**	**3.35**	**188**	P	**Pn**	**07 14 43.2**	**+0.5**
AAI	**Ambon**	**3.82**	**170**	P	**Pn**	**07 14 50.5**	**+2.0**
GTOI	**Gorontalo**	**4.58**	**277**	P	**Pn**	**07 14 59.6**	**+1.5**
GTOI				S	**Sn**	**07 15 52.7**	**+0.6**
LUWI	**Luwuk**	**4.92**	**257**	S	**Sn**	**07 15 57.3**	**-2.7**
WRA	**Warramunga Arr**	**21.00**	**162**	P	**P**	**07 18 17.9**	**-0.3**
	1.7nm,0.7s,mb3.5,baz=338,slow=12,SNR=25						
ASAR	**Alice Springs**	**24.42**	**166**	P	**P**	**07 18 49.1**	**-1.4**
	0.6nm,0.7s,mb3.2,baz=344,slow=11,SNR=11						
MKAR	**Makanchi Array**	**60.99**	**326**	P	**P**	**07 23 42.3**	**-0.3**
	0.3nm,0.4s,mb3.4,baz=118,slow=6.9,SNR=6.5						

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*ISCJB **07** 07:29:06.6±0.3, 45°.05N±0°.04×149°.57E±0°.04, h63km, mb4.5/45, Error ellipse: s-maj=6.2km s-min=2.7km az=147.7*
*BJI **07** 07:29:07.0, 45°.10N×149°.79E, h87km, mB5.2/17, mb4.7/29, Ms4.5/13, Ms7 4.2/12*
*JMA **07** 07:29:07.6±0.5, 45°.24N×149°.64E, h30km, M5.1*
*NEIC **07** 07:29:08.7±0.3, 45°.09N×149°.53E, mb4.6/18, Error ellipse: s-maj=10.6km s-min=4.8km az=151.0*
*MOS **07** 07:29:08.8±1.2, 45°.04N×149°.51E, h86km, mb4.7/7, Error ellipse: s-maj=9.0km s-min=7.3km az=50.2*
*IDC **07** 07:29:08.6±0.6, 45°.20N×149°.38E, h61km±5km, mb3.7/16, mb1 4.0/20, mb1mx3.9/26, mbtmp3.8/20, MS3.8/4, Ms1 3.9/4, ms1mx3.3/38, Error ellipse: s-maj=15.8km s-min=11.2km az=142.0*
*SKHL **07** 07:29:09.3±1.7, 45°.02N×149°.62E, h75km±14km, mb4.9/5*
ISC 07 07:29:08.8±0.3, 45°.07N±0°.04×149°.57E±0°.04, h65km, h65km±3.0km: pP-P, n178, σ1°.24/204, mb4.5/45, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.21**	**278**	⇑*i*PN	**Pn**	**07 29 29.6**	**-0.1**
KUR				*i* S	**Sn**	**07 29 44.0**	**-1.4**
KUR				pmax	pmax		
	comp=N,12μm,1.0s						
KUR				smax			
	comp=N,30μm,1.0s						
KUR				smax			
	comp=E,20nm,1.8s						
KUR	**Kuril'sk**	**1.21**	**278**	⇑*i*P	**Pn**	**07 29 29.6**	**-0.1**
KUR				AMB	AMB	07 29 30.2	
	comp=E,12μm,1.0s						
KUR				*i* S	**Sn**	**07 29 44.0**	**-1.4**
KUR				A		07 29 46.0	
	comp=E,22μm,1.0s						
KUR				A		07 29 46.0	
	comp=E,18μm,1.0s						
KUR				A		07 29 46.0	
	comp=E,30μm,1.0s						
KUR				A		07 29 46.0	
	comp=E,20μm,1.8s						
YUK	**Yuzh-Kuril'sk**	**2.84**	**250c**	*i*PN	**Pn**	**07 29 53.4**	**+1.7**
YUK				*i* S	**Sn**	**07 30 26.3**	**+1.5**
YUK				pmax	pmax		
	comp=N,186nm,0.4s						
YUK				pmax	pmax		
	comp=E,242nm,0.4s						
YUK				pmax	pmax		
	comp=Z,821nm,0.4s						
YUK				pmax	pmax		
	comp=Z,424nm,0.5s						
YUK				smax			
	comp=N,3μm,0.6s						
YUK				smax			
	comp=E,7μm,0.6s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=E,6μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.84**	**250**	⇑*i*P	**Pn**	**07 29 53.4**	**+1.7**
YUK				AMB	AMB	07 29 55.4	
	comp=E,360nm,0.5s						
YUK				AMB	AMB	07 29 55.4	
	comp=E,270nm,0.5s						
YUK				AMB	AMB	07 29 55.4	
	comp=E,1μm,0.5s						
YUK				AMB	AMB	07 29 56.1	
	comp=E,2μm,0.7s						
YUK				*i* S	**Sn**	**07 30 26.4**	**+1.6**
YUK				A		07 30 34.7	
	comp=E,3μm,0.5s						
YUK				A		07 30 34.7	
	comp=E,7μm,0.7s						
YUK				A		07 30 34.7	
	comp=E,4μm,0.6s						
YUK				A		07 30 34.7	
	comp=E,12μm,0.6s						
YUK				AMS	AMS	07 31 52.8	
	comp=E,561nm,21.0s						
NEM2	**Nemuro 2**	**3.23**	**240**	P	**Pn**	**07 29 57.1**	**+0.1**
NEM2				*e*S	**Sn**	**07 30 34.1**	**-0.2**
JRA	**Rausu**	**3.37**	**252**	P	**Pn**	**07 30 01.0**	**+2.0**
JRA				*e*S	**Sn**	**07 30 41.0**	**+3.2**
JNK	**Nakash**	**3.78**	**249**	P	**Pn**	**07 30 06.4**	**+1.9**
JNK				*e*S	**Sn**	**07 30 49.8**	**+2.1**
JAK	**Akkeshi**	**4.08**	**241**	P	**Pn**	**07 30 09.1**	**+0.5**
JAK				*e*S	**Sn**	**07 30 54.4**	**-0.6**
JTKR	**Abashiri--Toko**	**4.19**	**257**	P	**Pn**	**07 30 11.9**	**+1.8**
JAR	**Ashorobuto**	**4.53**	**249**	P	**Pn**	**07 30 17.1**	**+2.4**
JAR				*e*S	**Sn**	**07 31 09.2**	**+3.1**
JMP	**Maruseppu**	**4.56**	**259**	P	**Pn**	**07 30 17.7**	**+2.5**
JOB	**Onbets**	**4.67**	**244**	P	**Pn**	**07 30 18.2**	**+1.6**
JOB				*e*S	**Sn**	**07 31 10.1**	**+0.6**
JKK2	**Kamakawa 2**	**5.02**	**259**	P	**Pn**	**07 30 24.3**	**+2.8**
ASAJ	**Asahikawa**	**5.07**	**262**	P	**Pn**	**07 30 24.9**	**+2.8**
	comp=E,6.8nm,0.3s,baz=96,slow=18,SNR=34						
ASAJ				S	**Sn**	**07 31 25.0**	**+5.7**
	comp=E,7.5nm,0.3s,baz=199,slow=16,SNR=2.4						
ASAJ				LR	LR	07 32 17.9	
	comp=E,810nm,22.0s,baz=25,slow=38						
ASAJ	**Asahikawa**	**5.07**	**262**	*e*Pn	**Pn**	**07 30 24.6**	**+2.5**
	comp=E,35nm,0.8s						
ASAJ				*e*Sn	**Sn**	**07 31 16.9**	**-2.4**
ASAJ				S	**Sn**	**07 31 25.0**	**+5.7**
ASAJ	**Asahikawa**	**5.07**	**262**	PN	**Pn**	**07 30 24.9**	**+2.8**
ASAJ				S	**Sn**	**07 31 25.0**	**+5.7**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,810nm,22.0s						
ASAJ	**Asahikawa**	**5.07**	**262**	P	**Pn**	**07 30 24.9**	**+2.8**
YSS	**Yuzh-Sakhalins**	**5.11**	**294**	*e*Pn	**Pn**	**07 30 23.8**	**+1.2**
	comp=Z,52nm,0.6s						
YSS				*e*Sn	**Sn**	**07 31 20.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**5.11**	**294**	*e*PN	**Pn**	**07 30 24.0**	**+1.4**
YSS				*e*S	**Sn**	**07 31 18.0**	**-2.1**
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS				smax			
	comp=N,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.11**	**294**	*e*P	**Pn**	**07 30 24.0**	**+1.4**
YSS				AMB	AMB	07 30 24.5	
	comp=N,40nm,0.6s						
YSS				*e*S	**Sn**	**07 31 18.0**	**-2.1**
YSS				A		07 31 18.9	
	comp=N,60nm,1.0s						
JCH	**Churui**	**5.11**	**244**	P	**Pn**	**07 30 23.6**	**+0.9**
JCH				*e*S	**Sn**	**07 31 20.2**	**-0.2**
JWK2	**Keihoku**	**5.43**	**275**	P	**Pn**	**07 30 30.8**	**+3.8**
ERM	**Erimo**	**5.57**	**239**	*e*Pn	**Pn**	**07 30 31.2**	**+2.2**
	comp=N,236nm,0.4s						
ERM				*e*Sn	**Sn**	**07 31 30.3**	**-1.3**
ERM	**Erimo**	**5.57**	**239**	*e*PN	**Pn**	**07 30 31.2**	**+2.2**
ERM				*e*		07 31 30.3	
ERM				pmax	pmax		
	comp=Z,236nm,0.4s						
ERM	**Erimo**	**5.57**	**239**	*e*P	**Pn**	**07 30 31.2**	**+2.2**
JEM	**Erimo**	**5.57**	**239**	P	**Pn**	**07 30 31.1**	**+2.1**
JNBK	**Urakawa-nobuka**	**5.67**	**243**	P	**Pn**	**07 30 30.5**	**+0.1**
JNBK				*e*S	**Sn**	**07 31 32.2**	**-1.9**
JBT2	**Biratori 2**	**5.68**	**249**	P	**Pn**	**07 30 31.7**	**+1.2**
JNB	**Noboribetsu**	**6.70**	**250**	P	**Pn**	**07 30 45.2**	**+0.8**
JNB				*e*S	**Sn**	**07 31 58.3**	**-0.9**
JKB	**Kayabe**	**6.97**	**246**	P	**Pn**	**07 30 48.2**	**0.0**
JKB				*e*S	**Sn**	**07 32 02.4**	**-3.6**
SKR	**Severo-Kuril's**	**7.14**	**36**	*e*PN	**Pn**	**07 30 53.0**	**+2.6**
SKR				*e*		07 32 16.1	
SKR				pmax	pmax		
	comp=N,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR	**Severo-Kuril's**	**7.14**	**36**	*e*P	**Pn**	**07 30 53.0**	**+2.6**
SKR				AMB	AMB	07 30 54.2	
	comp=Z,80nm,0.6s						
JYM2	**Yakumo 2**	**7.30**	**249**	P	**Pn**	**07 30 53.4**	**+0.8**
TYV	**Tymovskoe**	**7.42**	**324**	*e*P	**Pn**	**07 30 56.0**	**+1.7**
TYV				AMB	AMB	07 30 59.2	
	comp=Z,22nm,0.8s						
TYV				AMS	AMS	07 34 27.0	
	comp=Z,1μm,14.0s						
JANG	**Nango**	**7.56**	**234**	P	**Pn**	**07 30 54.8**	**-1.4**
JANG				*e*S	**Sn**	**07 32 12.9**	**-7.4**
JTM	**Tenmabayashi**	**7.56**	**239**	P	**Pn**	**07 30 56.2**	**0.0**
JTM				*e*S	**Sn**	**07 32 14.3**	**-6.1**
JTH	**Tanohata**	**7.66**	**231**	P	**Pn**	**07 30 55.7**	**-1.8**
JTH				*e*S	**Sn**	**07 32 16.3**	**-6.5**
OFUJ	**Ofunato**	**8.38**	**227**	P	**Pn**	**07 31 05.9**	**-1.5**
JIO	**Ouri**	**9.02**	**226**	P	**Pn**	**07 31 14.3**	**-1.8**
JIO				*e*S	**Sn**	**07 32 48.9**	**-7.2**
PETK	**Petropavlovsk-**	**9.65**	**31**	P	**Pn**	**07 31 25.2**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=211,slow=15,SNR=25						
PETK				LR	LR	07 34 06.4	
	comp=Z,138nm,20.7s,baz=30,slow=31						
PETK	**Petropavlovsk-**	**9.65**	**31**	P	**Pn**	**07 31 25.2**	**+0.6**
PETK	**Petropavlovsk-**	**9.65**	**31**	PN	**Pn**	**07 31 25.2**	**+0.6**
JFK	**Kawauchi**	**10.10**	**223**	*e*S	**Sn**	**07 33 14.6**	**-7.9**
HABR	**Khabarovsk**	**10.52**	**294**	*e*PN	**Pn**	**07 31 40.1**	**+3.5**
HABR				*e*S	**Sn**	**07 33 33.3**	**+0.6**
HABR				pmax	pmax		
	comp=Z,52nm,1.3s						
HABR				pmax	pmax		
	comp=E,70nm,1.8s						
HABR				pmax	pmax		
	comp=N,35nm,1.8s						
MAJO	**Matsushiro**	**12.10**	**229**	*e*Pn	**Pn**	**07 31 57.5**	**-0.7**
	comp=N,14nm,0.8s						
MAJO	**Matsushiro**	**12.10**	**229**	*e*PN	**Pn**	**07 31 57.5**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**12.10**	**229**	P	**Pn**	**07 31 56.2**	**-2.0**
MAT				S	**Sn**	**07 34 12.0**	**+0.7**
MJAR	**Matsushiro Arr**	**12.10**	**229**	P	**Pn**	**07 31 57.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=27,slow=12,SNR=8.0						
MJAR	**Matsushiro Arr**	**12.10**	**229**	P	**Pn**	**07 31 57.1**	**-1.1**
MJAR	**Matsushiro Arr**	**12.10**	**229**	PN	**Pn**	**07 31 57.1**	**-1.1**
KLR	**Kul'dur**	**12.82**	**295**	*e*PN	**Pn**	**07 32 08.0**	**+0.1**
MDJ	**Mudanjiang**	**14.18**	**275**	P	**Pn**	**07 32 25.5**	**-0.7**
MDJ				S	**Sn**	**07 34 54.0**	**-7.9**
MDJ				ScP	ScP	07 41 02.9	-5.2
MDJ				PcS	PcS	07 41 13.7	-1.2
MDJ				ScS	ScS	07 44 40.2	-5.1
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,95nm,2.2s						
MDJ				LR	LR		
	comp=N,360nm,21.7s						
MDJ				LR	LR		
	comp=E,190nm,18.4s						
MDJ				LR	LR		
	comp=Z,390nm,15.6s						
ZEA	**Zeya**	**16.86**	**309**	*e*P	**Pn**	**07 32 57.6**	**-2.6**
ZEA				AMB	AMB	07 32 58.4	
	comp=Z,21nm,1.2s						
FX1	**Attu Island--F**	**17.30**	**55**	P	**Pn**	**07 33 07.9**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=298,slow=17,SNR=4.4						
FX1	**Attu Island--F**	**17.30**	**55**	P	**Pn**	**07 33 07.9**	**+2.3**
FX1	**Attu Island--F**	**17.30**	**55**	P	**Pn**	**07 33 07.9**	**+2.3**
KSRS	**Korea Array**	**17.93**	**252**	P	**Pn**	**07 33 12.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=6.0						

KSRS	Korea Array	17.93	252	P	Pn	07 33 12.2 -1.3
KSAR	Wonju Array Be	17.96	252	P	Pn	07 33 12.2 -1.6
KSAR	Wonju Array Be	17.96	252	P	Pn	07 33 12.2 -1.7
CLNS	Chul'man	19.38	316	eP	Pn	07 33 32.6 +2.0
CLNS				pmax	pmax	
	comp=Z,13nm,0.8s					
CLNS				pmax	pmax	
	comp=E,10.0nm,1.0s					
CLNS				pmax	pmax	
	comp=N,6.0nm,0.8s					
YAK	Yakutsk	20.54	333	eP	P	07 33 44.2 +2.6
	comp=N,41nm,0.8s					
YAK	Yakutsk	20.54	333	eP	P	07 33 43.8 +2.2
YAK				pmax	pmax	
	comp=E,8.0nm,0.9s					
YAK				pmax	pmax	
	comp=Z,33nm,0.9s					
YAK				pmax	pmax	
	comp=N,15nm,1.2s					
BJI	Beijing	24.99	270	P	P	07 34 24.3 -2.0
NJ2	Nanjing	27.13	252	eP	P	07 34 45.5 -0.1
NJ2				pP	pP	07 35 09.5 +8.3
NJ2				S	S	07 39 12.0 -7.3
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.4					
NJ2				pmax	pmax	
	comp=Z,240nm,4.6s					
NJ2				LR	LR	
	comp=N,610nm,18.3s					
NJ2				LR	LR	
	comp=E,560nm,18.4s					
NJ2				LR	LR	
	comp=Z,540nm,17.6s					
ULN	Ulaanbaatar	29.15	291	P	P	07 35 02.4 -1.0
	comp=Z,1.8nm,0.7s,mb3.9					
ULN	Ulaanbaatar	29.15	291	P	P	07 35 02.4 -1.0
ULN				pmax	pmax	
	comp=Z,2.0nm,0.7s,mb4.0					
SONM	Songino Array	29.59	291	P	P	07 35 06.1 -1.2
	comp=Z,0.7nm,0.7s,baz=70,slow=8.6,SNR=4.1					
SONM	Songino Array	29.59	291	P	P	07 35 06.1 -1.2
SONM	Songino Array	29.59	291	P	P	07 35 06.1 -1.2
WHN	Wuhan	31.10	254	⇑P	P	07 35 20.9 0.0
LZH	Lanzhou	35.46	272	eP	P	07 35 57.5 -1.3
LZH				pP	pP	07 36 21.6 +6.9
LZH				sP	sP	07 36 35.0 +13
LZH				ePP	PP	07 37 19.5 -0.7
LZH				pmax	pmax	
	comp=Z,22nm,1.3s,mb4.9					
LZH				pmax	pmax	
	comp=Z,61nm,5.4s					
LZH				LR	LR	
	comp=N,380nm,13.5s					
LZH				LR	LR	
	comp=E,360nm,14.0s					
LZH				LR	LR	
	comp=Z,440nm,17.4s					
LZH	Lanzhou	35.46	272	eP	P	07 35 57.5 -1.3
	comp=Z,22nm,1.3s,mb4.9					
LZH				pP	pP	07 36 21.6 +6.9
LZH				sP	sP	07 36 35.0 +13
LZH				ePP	PP	07 37 19.5 -0.7
LZH				LR	LR	
	comp=Z,440nm,17.4s					
LZH	Lanzhou	35.46	272	eP	P	07 35 57.5 -1.3
LZH				*PP	pP	07 36 21.6 +6.9
LZH				e		07 37 19.5
LZH				pmax	pmax	
	comp=Z,22nm,1.3s,mb4.9					
LZH				MLR	MLR	
	comp=Z,440nm,17.4s					
GTA	Gaotai	36.79	279	eP	P	07 36 10.5 +0.4
GTA				pP	pP	07 36 35.7 +10
GTA				S	S	07 41 47.3 -2.0
GTA				SS	SS	07 44 22.7 -10
GTA				pmax	pmax	
	comp=Z,6.0nm,1.1s,mb4.3					
GTA				pmax	pmax	
	comp=Z,420nm,4.5s					
GTA				LR	LR	
	comp=N,380nm,17.8s					
GTA				LR	LR	
	comp=E,430nm,17.8s					
GTA				LR	LR	
	comp=Z,460nm,17.8s					
RSO	Redoubt South	36.81	44	eP	P	07 36 10.2 +0.2
	comp=Z,19nm,1.0s,mb4.9					
PPLA	Purkeypile	37.06	40	eP	P	07 36 12.7 +0.6
	comp=Z,32nm,1.5s,mb4.9					
KDAK	Kodiak Island	37.08	49	i P	P	07 36 11.5 -0.8
COLD	Coldfoot	38.11	33	eP	P	07 36 20.7 -0.1
	comp=Z,4.4nm,1.0s,mb4.1					
CD2	Chengdu	38.26	264	eP	P	07 36 20.5 -2.1
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s,mb4.8					
SML	Sawmill	38.89	42	eP	P	07 36 27.2 -0.2
	comp=Z,6.3nm,0.8s,mb4.4					
SML	Sawmill	38.89	42	eP	P	07 36 27.2 -0.2
SML				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.4					
GYA	Guiyang	38.92	256	eP	P	07 36 26.8 -1.4
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.6					
COLA	College	38.98	37	eP	P	07 36 28.5 +0.3
	comp=Z,15nm,0.9s,mb4.7					
COLA				epP	pP	07 36 46.3 +2.1
COLA	College	38.98	37	eP	P	07 36 28.5 +0.3
COLA				e*PP	pP	07 36 46.3 +2.0
COLA				pmax	pmax	
	comp=Z,15nm,0.9s,mb4.7					
ILAR	Eielson Array	39.40	37	P	P	07 36 31.2 -0.4
	comp=Z,5.5nm,1.0s,mb4.2,baz=263,slow=6.6,SNR=37					
ILAR				pP	pP	07 36 45.7 -2.0
	comp=Z,1.0nm,0.8s,baz=269,slow=13,SNR=4.7					
ILAR	Eielson Array	39.40	37	P	P	07 36 31.2 -0.4
ILAR				pP	pP	07 36 45.7 -2.0
ILAR	Eielson Array	39.40	37	P	P	07 36 31.3 -0.4
DOT	Dot Lake	40.70	39	eP	P	07 36 41.6 -0.8
	comp=Z,1.5nm,0.9s,mb3.6					
BMRM	Bremner River	40.76	43	eP	P	07 36 43.5 +0.5
	comp=Z,7.6nm,0.8s,mb4.4					
ZALV	Zalesovo Beam	41.60	306	PcP	PcP	07 38 45.8 -0.1
	comp=Z,0.4nm,0.3s,baz=64,slow=3.4,SNR=3.6					
ZALV	Zalesovo Beam	41.60	306	PcP	PcP	07 38 45.8 -0.1
EGAK	Eagle	41.84	37	eP	P	07 36 51.0 -0.8
	comp=Z,15nm,1.2s,mb4.5					
EGAK				epP	pP	07 37 07.5 -0.5
KMI	Kunming	42.49	258	P	P	07 36 58.1 +0.6
KMI				pP	pP	07 37 14.1 +0.3
KMI				pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.4					
KMI	Kunming	42.49	258	P	P	07 36 58.1 +0.6
	comp=Z,10.0nm,1.1s,mb4.4					
KMI				pP	pP	07 37 14.1 +0.3
KMI				sP	sP	07 37 22.0 +0.8
KMI	Kunming	42.49	258	P	P	07 36 58.1 +0.6
KMI				*SP	sP	07 37 22.0 +0.8
KMI				pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.4					
WMQ	Urumqi	43.23	291	eP	P	07 37 02.9 -0.4
INK	Inuvik	44.39	31	eP	P	07 37 12.0 -0.3
	comp=Z,7.9nm,1.0s,mb4.4					
INK	Inuvik	44.39	31	eP	P	07 37 12.0 -0.3
INK				pmax	pmax	
	comp=Z,8.0nm,1.0s					
MKAR	Makanchi Array	45.51	297	P	P	07 37 20.7 -0.8
	comp=Z,0.7nm,0.9s,baz=75,slow=6.4,SNR=4.2					
MKAR				pP	pP	07 37 34.7 -3.2
	comp=Z,1.2nm,0.7s,baz=72,slow=7.4,SNR=7.0					
MKAR				PcP	PcP	07 38 59.2 0.0
	comp=Z,1.0nm,0.8s,baz=87,slow=3.0,SNR=3.7					
MKAR	Makanchi Array	45.51	297	P	P	07 37 20.7 -0.8
MKAR				pP	pP	07 37 34.7 -3.2
MKAR				PcP	PcP	07 38 59.2 0.0
MKAR	Makanchi Array	45.51	297	P	P	07 37 20.7 -0.8
MKAR						07 38 59.2
KURK	Kurchatov	46.23	304	P	P	07 37 26.5 -0.7
	comp=Z,0.5nm,0.4s,mb3.8,baz=72,slow=8.5,SNR=5.8					
KURK				pP	pP	07 37 42.1 -1.4
	comp=Z,1.3nm,0.6s,baz=69,slow=8.4,SNR=5.3					
KURK				PcP	PcP	07 39 01.5 -0.2
	comp=Z,1.1nm,1.1s,baz=76,slow=3.1,SNR=5.7					
KURK	Kurchatov	46.23	304	P	P	07 37 26.5 -0.7
KURK				pP	pP	07 37 42.1 -1.4
KURK				PcP	PcP	07 39 01.5 -0.2
KURK	Kurchatov	46.23	304	P	P	07 37 26.5 -0.6
KURK						07 39 01.5
CMAR	Chiang Mai Arr	49.55	255	P	P	07 37 53.7 +0.6
	comp=Z,2.0nm,0.7s,mb4.3,baz=39,slow=7.8,SNR=10					
CMAR				LR	LR	08 00 44.3
	comp=Z,181nm,21.9s,baz=340,slow=38					
CMAR	Chiang Mai Arr	49.55	255	P	P	07 37 53.7 +0.6
CMAR	Chiang Mai Arr	49.55	255	P	P	07 37 53.7 +0.6
BRVK	Borovoye	50.05	309	‖eP	P	07 37 54.4 -2.1
BRVK				pmax	pmax	
	comp=Z,4.0nm,1.8s,mb4.2					
TAPN	Taplejung	51.70	272	eP	P	07 38 09.5 +0.2
	comp=Z,16nm,0.7s,mb5.0					
TAPN	Taplejung	51.70	272	eP	P	07 38 09.5 +0.2
	comp=Z,16nm,0.7s,mb5.0					
JIRN	Jiri	52.59	273	eP	P	07 38 15.9 0.0
	comp=Z,14nm,1.0s,mb4.8					
JIRN	Jiri	52.59	273	eP	P	07 38 15.9 0.0
	comp=Z,14nm,1.0s,mb4.8					
GUN	Gumba	52.66	274	eP	P	07 38 16.3 -0.1
GUN	Gumba	52.66	274	eP	P	07 38 16.3 -0.1
RAMN	Ramite	52.73	272	eP	P	07 38 16.6 -0.3
	comp=Z,55nm,0.9s,mb5.5					
RAMN	Ramite	52.73	272	eP	P	07 38 16.6 -0.3
	comp=Z,55nm,0.9s,mb5.5					
KKN	Kakani	53.16	274	eP	P	07 38 19.9 -0.1
	comp=Z,25nm,0.8s,mb5.2					
KKN	Kakani	53.16	274	eP	P	07 38 19.9 -0.1
	comp=Z,25nm,0.8s,mb5.2					
KKN	Kakani	53.16	274	eP	P	07 38 19.9 -0.1
KKN				pmax	pmax	
	comp=Z,25nm,0.8s,mb5.2					
DMN	Daman	53.39	274	eP	P	07 38 21.6 -0.1
	comp=Z,45nm,1.2s,mb5.3					
DMN	Daman	53.39	274	eP	P	07 38 21.6 -0.1
	comp=Z,45nm,1.2s,mb5.3					
GKN	Gorkha	53.48	275	eP	P	07 38 22.0 -0.4
	comp=Z,9.8nm,0.4s,mb5.1					
YKA	Yellowknife Ar	53.74	35	P	P	07 38 23.6 -0.2
	comp=Z,3.3nm,0.8s,mb4.3,baz=299,slow=7.0,SNR=14					
YKA	Yellowknife Ar	53.74	35	P	P	07 38 23.6 -0.2
YKA	Yellowknife Ar	53.74	35	P	P	07 38 23.6 -0.2
DANN	Dangsing	53.89	276	eP	P	07 38 25.4 0.0
	comp=Z,28nm,0.8s,mb5.2					
DANN	Dangsing	53.89	276	eP	P	07 38 25.4 0.0
	comp=Z,28nm,0.8s,mb5.2					
KOLN	Koldanda	54.35	275	eP	P	07 38 28.9 +0.1
	comp=Z,18nm,0.9s,mb5.0					
KOLN	Koldanda	54.35	275	eP	P	07 38 28.9 +0.1
	comp=Z,18nm,0.9s,mb5.0					
PYUN	Piuthan	54.59	276	eP	P	07 38 30.0 -0.5
	comp=Z,35nm,1.0s,mb5.3					
PYUN	Piuthan	54.59	276	eP	P	07 38 30.0 -0.5
	comp=Z,35nm,1.0s,mb5.3					
ABKAR	Akbulak array	57.58	309	eP	P	07 38 48.8 -2.7
	comp=Z,1.3nm,0.4s,mb4.3					
SLMT	Seeley Lake	62.74	50	eP	P	07 39 26.6 -0.2
	comp=Z,9.4nm,1.3s,mb4.8					
FFC	Flin Flon	63.60	38	i P	P	07 39 32.6 +0.2
FINES	FINESS Array B	64.48	334	P	P	07 39 37.0 -1.0
	comp=Z,2.0nm,0.9s,mb4.2,baz=26,slow=7.2,SNR=4.3					
FINES	FINESS Array B	64.48	334	P	P	07 39 37.0 -1.0
FINES	FINESS Array B	64.48	334	P	P	07 39 37.0 -1.0
SAO	San Andreas Ge	64.50	63	eP	P	07 39 37.4 -1.1
	comp=Z,20nm,0.3s,mb5.6					
SAO	San Andreas Ge	64.50	63	eP	P	07 39 37.4 -1.2
SAO				pmax	pmax	
	comp=Z,20nm,0.3s,mb5.6					
NVAR	Mina Array Bea	65.42	60	P	P	07 39 45.5 +1.0
	comp=Z,2.0nm,0.7s,mb4.2,baz=296,slow=7.2,SNR=20					
NVAR	Mina Array Bea	65.42	60	P	P	07 39 45.5 +1.0
WRA	Warramunga Arr	66.17	196	P	P	07 39 49.8 +0.5
	comp=Z,1.1nm,0.8s,mb4.0,baz=13,slow=6.8,SNR=10					
WRA				pP	pP	07 40 07.1 +0.5
	comp=Z,1.2nm,0.9s,baz=18,slow=9.9,SNR=6.8					
WRA	Warramunga Arr	66.17	196	P	P	07 39 49.8 +0.5
WRA				pP	pP	07 40 07.1 +0.5
WRA	Warramunga Arr	66.17	196	P	P	07 39 49.8 +0.5
WRA				*PP	pP	07 40 07.1 +0.5
TPAW	Teton Pass	66.49	52	eP	P	07 39 52.2 +0.9
	comp=Z,3.9nm,1.0s,mb4.4					
REDW	Red Top Meadow	66.63	52	eP	P	07 39 53.1 +1.0
	comp=Z,6.7nm,1.4s,mb4.5					
PDAR	Pinedale Array	67.74	51	P	P	07 39 59.7 +0.5
	comp=Z,1.5nm,0.7s,mb4.1,baz=294,slow=3.0,SNR=14					
PDAR				pP	pP	07 40 17.7 +1.2
	comp=Z,0.8nm,0.6s,baz=278,slow=2.2,SNR=3.9					
PDAR	Pinedale Array	67.74	51	P	P	07 39 59.7 +0.5
PDAR				pP	pP	07 40 17.7 +1.2
NOA	NORSAR Array B	68.98	340	P	P	07 40 05.7 -1.0
	comp=Z,0.6nm,0.8s,mb3.6,baz=31,slow=6.2,SNR=4.0					
NOA	NORSAR Array B	68.98	340	P	P	07 40 05.7 -1.0
NOA	NORSAR Array B	68.98	340	P	P	07 40 05.7 -1.0
ASAR	Alice Springs	69.88	195	P	P	07 40 14.1 +1.5
	comp=Z,0.8nm,0.7s,mb3.7,baz=6.8,slow=4.9,SNR=12					
ASAR	Alice Springs	69.88	195	P	P	07 40 14.1 +1.5
ASAR	Alice Springs	69.88	195	P	P	07 40 14.1 +1.6
KIV	Kislovodsk	70.16	313	eP	P	07 40 15.0 +0.8
KIV				pmax	pmax	
	comp=Z,11nm,1.1s,mb4.7					
PV01	Paradox Valley	71.40	55	eP	P	07 40 22.3 +0.4
	comp=Z,227nm,1.1s					
BURAR	Bucovina Array	75.58	325	‖ i P	P	07 40 43.5 -2.7
MORC	Moravsky Berou	76.72	330	‖ i P	P	07 40 52.1 -0.6
STKA	Stephens Creek	76.92	187	P	P	07 40 53.1 -0.7
	comp=Z,2.9nm,1.0s,mb4.2,baz=320,slow=16,SNR=3.4					
STKA	Stephens Creek	76.92	187	P	P	07 40 53.1 -0.7
STKA	Stephens Creek	76.92	187	P	P	07 40 53.1 -0.7
CLL	Collm	76.92	334	eP	P	07 40 52.0 -1.7
CLL	Collm	76.92	334	eP	P	07 40 52.0 -1.7
BRTR	Keskin Array B	77.87	315	P	P	07 40 59.1 -0.2
	comp=Z,0.8nm,0.8s,mb3.7,baz=101,slow=5.2,SNR=5.4					
BRTR	Keskin Array B	77.87	315	P	P	07 40 59.0 -0.2
BRTR	Keskin Array B	77.87	315	ceP	P	07 40 59.5 +0.3
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
KHC	Kasperske Hory	78.62	332	eP	P	07 41 02.5 -0.7
KHC	Kasperske Hory	78.62	332	eP	P	07 41 02.5 -0.7
GERES	GERESS Array B	78.83	332	P	P	07 41 03.8 -0.6
	comp=Z,0.3nm,0.6s,baz=26,slow=5.4,SNR=3.5					
GERES	GERESS Array B	78.83	332	P	P	07 41 03.8 -0.6
GERES	GERESS Array B	78.83	332	P	P	07 41 03.8 -0.6
TXAR	Lajitas Array	80.48	58	P	P	07 41 14.0 +0.3
	comp=Z,2.4nm,0.7s,mb4.2,baz=301,slow=4.2,SNR=24					
TXAR	Lajitas Array	80.48	58	P	P	07 41 14.0 +0.3
TXAR	Lajitas Array	80.48	58	P	P	07 41 14.0 +0.3
URZ	Urewera	86.59	159	LR	LR	08 13 16.2
	comp=Z,157nm,20.9s,baz=271,slow=30					
PLCA	Paso Flores	150.51	96	PKPbc	PKPbc	07 48 53.2 +0.6
	comp=Z,1.2nm,0.7s,baz=221,slow=6.5,SNR=4.4					
PLCA	Paso Flores	150.51	96	PKPbc	PKPbc	07 48 53.2 +0.6
	comp=Z,95nm,18.3s,baz=181,slow=31					
JTS	JuntasAbangare	26.19	54	LR	LR	07 48 42.5
	comp=Z,254nm,21.9s,baz=76,slow=30					
NNA	Nana	29.63	105	LR	LR	07 50 09.8
	comp=Z,146nm,20.2s,baz=329,slow=30					
TXAR	Lajitas Array	34.61	4	P	P	07 42 26.8 0.0
	0.6nm,0.9s,baz=209,slow=9.2,SNR=3.8					
TXAR				LR	LR	07 53 13.1
	comp=Z,156nm,20.5s,baz=0.0,slow=30					
NVAR	Mina Array Bea	45.05	346	P	P	07 43 54.6 +1.1
	0.2nm,0.5s,baz=166,slow=9.8,SNR=4.4					
NVAR				LR	LR	07 57 59.5
	comp=Z,176nm,21.0s,baz=134,slow=30					
PLCA	Paso Flores	47.44	143	LR	LR	07 59 10.8
	comp=Z,292nm,19.8s,baz=117,slow=30					
PDAR	Pinedale Array	48.04	357	P	P	07 44 16.4 -0.4
	1.2nm,1.0s,baz=163,slow=7.5,SNR=6.9					
ULM	Lac du Bonnet	56.12	8	LR	LR	08 07 24.0
	comp=Z,98nm,22.0s,baz=330,slow=34					
YKA	Yellowknife Ar	68.01	356	P	P	07 46 37.4 +0.7
	0.8nm,0.8s,baz=165,slow=6.8,SNR=5.4					
ILAR	Eielson Array	76.19	343	P	P	07 47 24.9 -0.7
	0.6nm,0.7s,baz=175,slow=5.7,SNR=5.3					
SONM	Songino Array	129.41	332	PKP	PKPdf	07 54 46.8 +0.1
	0.2nm,0.4s,baz=11,slow=1.5,SNR=2.6					

IDC ***07*** *08:05:04.3±1.5, 2°.80S×119°.70E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=64.8km s-min=21.7km az=70.0*
DJA ***07*** *08:05:05, 2°.79S×119°.70E, h10km, MLv3.7/8*
ISCJB ***07*** *08:05:07.0±1.0, 2°.72S±0°.05×119°.7E±0°.1, h33km, mb3.5/3, Error ellipse: s-maj=18.6km s-min=7.1km az=10.7*
ISC 07 08:05:09.5±1.1, 2.74S±0°.05×119°.7E±0°.1, h35km, n13, σ1§08/15, mb3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.31	164	P	Pn	08 05 09.4	-8.2
MSSI	Masamba	0.62	73	P	Pn	08 05 16.8	-5.0
SPSI	Sidrap Palu	1.22	178	P	Pn	08 05 25.9	-4.1
BNSI	Bone	1.69	167	S	Sn	08 05 58.8	+1.8
KAPI	Kappang	2.26	179	Pn	Pn	08 05 41.9	-2.5
	7.0nm,0.3s,baz=350,slow=14,SNR=26						
KAPI				Sn	Sn	08 06 11.8	+0.7
	6.7nm,0.3s,baz=246,slow=18,SNR=4.4						
KAPI	Kappang	2.26	179	P	Pn	08 05 42.0	-2.4
BKSI	Bulukumba	2.59	171	P	Pn	08 05 48.9	-0.1
BKSI				S	Sn	08 06 29.3	+10
KDI	Kendari	3.12	113	P	Pn	08 05 55.6	-0.7
MRSI	Marisa	3.88	35	P	Pn	08 06 07.3	+0.5
GTOI	Gorontalo	4.69	44	P	Pn	08 06 18.5	+0.7
WRA	Warramunga Arr	22.27	141	P	P	08 10 02.4	-1.2
	1.2nm,0.8s,mb3.4,baz=318,slow=11,SNR=7.3						
ASAR	Alice Springs	24.91	148	P	P	08 10 29.4	-0.1
	1.9nm,1.2s,mb3.5,baz=322,slow=8.7,SNR=6.6						
MKAR	Makanchi Array	59.31	331	P	P	08 15 08.2	+0.4
	0.4nm,0.6s,mb3.6,baz=130,slow=7.2,SNR=6.0						

IDC ***07*** *08:45:28.7±1.7, 0°.39N×98°.58E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, Error ellipse: s-maj=69.9km s-min=18.6km az=63.0*
NEIC ***07*** *08:45:32.1±0.8, 0°.18N×98°.21E, h35km, mb4.1/3, Error ellipse: s-maj=20.0km s-min=9.5km az=76.0*
ISCJB ***07*** *08:45:34.2±1.3, 0°.40N±0°.07×98°.3E±0°.1, h68km±10km, mb3.9/9, Error ellipse: s-maj=18.5km s-min=8.6km az=152.6*
DJA ***07*** *08:45:34, 0°.46N×98°.31E, h21km, MLv4.3/10*
ISC 07 08:45:36.4±1.2, 0°.41N±0°.07×98°.4E±0°.1, h68km±9km, n34, σ1§20/33, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	1.26	72	P	Pn	08 45 56.8	-1.3
MNSI				S	Sn	08 46 14.0	-0.4
PPI	Padang Panjang	2.19	113	P	Pn	08 46 10.9	+0.3
PSI	Prapat	2.44	13	P	Pn	08 46 11.9	-2.0
PDSI	Padang	2.46	122	P	Pn	08 46 15.9	+1.7
BKNI	Bangkinang	2.66	92	P	Pn	08 46 25.7	+8.7
TSI	Tuntungan	3.08	3	P	Pn	08 46 25.6	+3.0
IPM	Ipoh	4.83	33	ePn	Pn	08 46 47.3	+0.6
	15nm,0.6s						
IPM	Ipoh	4.83	33	P	Pn	08 46 46.5	-0.1
KULM	Kulim	5.35	25	ePn	Pn	08 46 53.7	-0.1
KULM	Kulim	5.35	25	P	Pn	08 46 53.6	-0.2
	0.2nm24nm,1.4s						
MYKOM	Kota Tinggi	5.64	76	P	Pn	08 46 58.1	+0.4
	31nm,1.6s						
KSI	Kapahiang	5.83	134	P	Pn	08 47 01.6	+1.3
	1.4nm9µm108nm,0.4s						
BSI	Banda Aceh	5.92	329	P	Pn	08 46 59.3	-2.2
	0.1nm19nm,1.1s						
MDSI	Maura Dua	7.56	130	P	Pn	08 47 24.6	+0.6
KKM	Kota Kinabalu	18.66	72	eP	Pn	08 49 50.5	+0.4
	14nm,0.9s						
MBWA	Marble Bar	29.91	137	eP	P	08 51 36.5	-1.6
	5.0nm,1.0s,mb4.1						
WRA	Warramunga Arr	40.62	122	P	P	08 53 08.2	-1.8
	0.8nm,0.5s,mb3.8,baz=302,slow=9.0,SNR=18						
WRA				PcP	PcP	08 55 12.9	+1.9
	0.3nm,0.6s,baz=316,slow=2.7,SNR=6.3						
WRA	Warramunga Arr	40.62	122	P	P	08 53 08.2	-1.8
WRA				PcP	PcP	08 55 12.9	+1.9
WRAB	Tennant Creek	40.62	122	eP	P	08 53 09.1	-0.9
	1.0nm,0.6s,mb3.8						
WB2	Warramunga Arr	40.63	122	eP	P	08 53 09.1	-1.0
ASAR	Alice Springs	41.98	127	P	P	08 53 19.8	-1.3
	0.4nm,0.4s,mb3.5,baz=295,slow=8.0,SNR=12						
ASAR				PcP	PcP	08 55 17.1	+1.8
	0.4nm,0.6s,baz=305,slow=2.7,SNR=5.8						
ASAR	Alice Springs	41.98	127	P	P	08 53 19.8	-1.3
ASAR				PcP	PcP	08 55 17.1	+1.8
KSAR	Wonju Array Be	45.82	33	P	P	08 53 52.1	+0.5
KSRS	Korea Array	45.84	33	P	P	08 53 52.1	+0.2
	1.1nm,0.7s,mb3.7,baz=234,slow=7.3,SNR=4.8						
SONM	Songino Array	47.75	7	P	P	08 54 08.0	+1.5
	0.6nm,0.4s,mb3.8,baz=193,slow=9.3,SNR=8.6						
SONM	Songino Array	47.75	7	P	P	08 54 08.0	+1.5
MKAR	Makanchi Array	48.30	345	P	P	08 54 12.0	+1.2
	0.7nm,0.5s,mb3.8,baz=159,slow=8.2,SNR=12						
MKAR	Makanchi Array	48.30	345	P	P	08 54 12.0	+1.2
STKA	Stephens Creek	51.95	132	P	P	08 54 39.9	+1.2
	1.3nm,0.5s,mb4.2,baz=323,slow=5.1,SNR=3.9						
STKA	Stephens Creek	51.95	132	P	P	08 54 39.9	+1.2
ZALV	Zalesovo Beam	54.53	350	P	P	08 54 57.9	+0.7
	0.6nm,0.3s,mb4.1,baz=168,slow=7.4,SNR=2.6						
ZALV	Zalesovo Beam	54.53	350	P	P	08 54 57.9	+0.7
TXAR	Lajitas Array	143.70	34	PKP	PKPdf	09 05 03.9	-0.5
	0.1nm,0.4s,baz=25,slow=3.0,SNR=3.4						
TXAR	Lajitas Array	143.70	34	PKP	PKPdf	09 05 03.9	-0.5

CSEM ***07*** *08:50:31.8±0.5, 38°.34N×39°.00E, h12km, MD2.7, Error ellipse: s-maj=13.7km s-min=5.0km az=145.0*
DDA ***07*** *08:50:32.1, 38°.33N×38°.96E, h7km±3km, Md2.7*
ISC 07 08:50:31.6±2.1, 38°.31N±0°.09×39°.0E±0°.1, h16km±7km, n12, σ0§46/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.19	351	i P	Pg	08 50 36.6	+0.4
ELZG				i S	Sg	08 50 39.0	-0.5
ELZG	Elazig	0.19	351	i P	Pg	08 50 36.7	+0.4
ELZG				i S	Sg	08 50 39.0	-0.4
MALT	Malatya	0.47	271	ePG	Pg	08 50 41.1	+0.1
MALT	Malatya	0.47	271	ePg	Pg	08 50 41.1	+0.1
MYA	Malata

mb1 4.4/8, mb1mx4.2/13, mbtmp4.0/8, MS4.4/22, Ms1 4.4/22, ms1mx4.4/25, Error ellipse: s-maj=40.0km s-min=24.8km az=62.0

*BJI **07** 08:53:18.3, 5.10S×106.20W, h10km, mB5.2/4, Ms5.1/7, Ms7.4.8/7*

*ISCJB **07** 08:53:20.6±0.6, 4.61S±0.07×106.23W±0.08, h10km, mb4.4/49, MS4.4/26, Error ellipse: s-maj=12.4km s-min=9.6km az=140.5*

*NEIC **07** 08:53:21.8±0.7, 4.67S×106.29W, h10km, mb4.6/39, Error ellipse: s-maj=18.0km s-min=8.1km az=48.0*

*GCMT **07** 08:53:26.3±0.2, 4.46S×106.11W, h13km±1km, MW5.1, Moment Tensor Solution. s51,c83; s90,c154; Moment tensor: Scale 10^16 Nm; Mrr-0.64±.13; Mθθ2.47±.12; Mφφ-1.83±.14; Mrθ1.18±.31; Mrφ5.47±.12; Mθφ1.39±.35; Best double couple: M0 6.10000×10^16 NP1:φs102.00000°, δ76.00000°, λ6.00000°. NP2:φs10.00000°, δ85.00000°, λ166.00000°. Principal axes: T 6.6200, Plg14.0000°, Azm325.0000°; N -1.0100, Plg75.0000°, Azm169.0000°; P -5.6100, Plg6.0000°, Azm57.0000°; Data Used: II IU IC G CN.*

ISC 07 08:53:22.3±0.5, 4.64S±0.07×106.26W±0.08, h10km, n102, σ0.95/78, mb4.4/49, MS4.4/26, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**22.56**	**187**	LR	LR	09 04 34.4	
	comp=Z,600nm,21.9s,MS4.0,baz=121,slow=31						
CMIG	**Matias Romero**	**24.34**	**27**	LR	LR	09 05 58.7	
	comp=Z,773nm,19.6s,MS4.2,baz=196,slow=30						
JTS	**JuntasAbangare**	**25.89**	**55**	P	**P**	**08 58 56.3**	**+1.7**
	17nm,1.0s,mb4.5,baz=218,slow=6.9,SNR=9.7						
JTS				LR	LR	09 06 20.1	
	comp=Z,2μm,21.2s,MS4.6,baz=252,slow=29						
JTS	**JuntasAbangare**	**25.89**	**55**	P	**P**	**08 58 56.3**	**+1.7**
	1.3nm,1.1s,mb3.4						
TGUH	**Tegucigalpa,Un**	**26.45**	**45**	*e*P	**P**	**08 58 58.9**	**-0.8**
	9.6nm,0.9s,mb4.3						
ATAH	**Atahualpa**	**27.82**	**96**	LR	LR	09 07 22.5	
	comp=Z,733nm,19.4s,MS4.3,baz=105,slow=30						
OTAV	**Otavalo**	**28.20**	**81**	*e*P	**P**	**08 59 15.1**	**-0.4**
	40nm,2.1s,mb4.7						
NNA	**Nana**	**29.99**	**106**	LR	LR	09 08 09.8	
	comp=Z,740nm,19.2s,MS4.3,baz=278,slow=29						
NNA	**Nana**	**29.99**	**106**	P	**P**	**08 59 23.0**	**-8.3**
	26nm,1.3s,mb4.8						
TEIG	**Tepich**	**30.38**	**35**	LR	LR	09 09 50.0	
	comp=Z,912nm,20.4s,MS4.4,baz=349,slow=32						
TEIG	**Tepich**	**30.38**	**35**	*e*P	**P**	**08 59 33.3**	**-1.4**
	12nm,1.3s,mb4.5						
ROSC	**El Rosal**	**33.26**	**74**	LR	LR	09 10 43.0	
	comp=Z,619nm,21.3s,MS4.3,baz=222,slow=31						
RKT	**Rikitea**	**33.26**	**234**	*e*LR	LR	09 08 39.4	
	2μm,29.0s,baz=54						
TXAR	**Lajitas Array**	**33.87**	**4**	P	**P**	**09 00 05.4**	**+0.2**
	1.0nm,0.9s,mb3.7,baz=187,slow=7.1,SNR=9.3						
TXAR				LR	LR	09 11 21.1	
	comp=Z,581nm,19.8s,MS4.3,baz=285,slow=32						
TXAR	**Lajitas Array**	**33.87**	**4**	P	**P**	**09 00 05.4**	**+0.2**
TAOE	**Nuku Hiva Isla**	**33.90**	**261**	*e*LR	LR	09 08 57.4	
	1μm,26.6s						
MNTX	**Cornudas Mount**	**36.14**	**1**	*e*P	**P**	**09 00 23.7**	**-1.1**
	11nm,1.5s,mb4.5						
SDV	**Santo Domingo**	**37.97**	**69**	*e*P	**P**	**09 00 40.1**	**-0.5**
	10nm,0.8s,mb4.6						
BNM	**Barren Site**	**38.58**	**360**	*e*P	**P**	**09 00 45.4**	**0.0**
	4.6nm,1.1s,mb4.1						
LENM	**Lemitar**	**38.60**	**359**	*e*P	**P**	**09 00 45.8**	**+0.2**
LAZ	**Ladron**	**38.84**	**359**	*e*P	**P**	**09 00 48.3**	**+0.7**
	7.7nm,1.4s,mb4.2						
LPAZ	**La Paz**	**39.16**	**110**	LR	LR	09 14 33.2	
	comp=Z,218nm,19.4s,MS4.0,baz=86,slow=32						
LPAZ	**La Paz**	**39.16**	**110**	*e*P	**P**	**09 00 52.5**	**+1.9**
	2.4nm,1.1s,mb3.8						
PFO	**Pinyon Flat Ob**	**39.24**	**346**	*e*P	**P**	**09 00 51.4**	**+0.3**
	7.4nm,1.3s,mb4.3						
ANMO	**Albuquerque**	**39.38**	**360**	P	**P**	**09 00 51.4**	**-0.7**
	1.7nm,0.9s,mb3.8,baz=166,slow=7.0,SNR=5.0						
ANMO				LR	LR	09 14 36.8	
	comp=Z,406nm,18.5s,MS4.3,baz=332,slow=32						
ANMO	**Albuquerque**	**39.38**	**360**	*e*P	**P**	**09 00 51.8**	**-0.3**
WUAZ	**Wupatki**	**40.23**	**354**	*e*P	**P**	**09 00 59.5**	**+0.3**
	23nm,1.8s,mb4.6						
LDFC	**Landfair**	**40.37**	**349**	*e*P	**P**	**09 01 01.5**	**+1.1**
	24nm,1.6s,mb4.7						
GSC	**Goldstone**	**40.95**	**347**	*e*P	**P**	**09 01 05.4**	**+0.2**
	7.8nm,1.3s,mb4.2						
MVCO	**Mesa Verde**	**41.68**	**357**	*e*P	**P**	**09 01 10.4**	**-0.8**
	27nm,1.7s,mb4.6						
ISA	**Isabella**	**41.70**	**345**	*e*P	**P**	**09 01 11.9**	**+0.6**
SDCO	**Great Sand Dun**	**42.17**	**1**	*e*P	**P**	**09 01 16.8**	**+1.7**
	12nm,1.6s,mb4.3						
CCUT	**Cedar City**	**42.49**	**352**	*e*P	**P**	**09 01 18.2**	**+0.5**
	33nm,2.6s,mb4.5						
PV01	**Paradox Valley**	**42.61**	**357**	*e*P	**P**	**09 01 18.1**	**-0.6**
	3μm,2.0s						
ARUT	**Antelope Range**	**42.73**	**352**	*e*P	**P**	**09 01 20.8**	**+1.1**
	13nm,1.2s,mb4.5						
MSU	**Marysvale**	**43.28**	**353**	*e*P	**P**	**09 01 24.5**	**+0.4**
	2.9nm,1.0s,mb4.0						
MTUM	**Tungsten Hills**	**43.32**	**346**	*e*P	**P**	**09 01 25.5**	**+1.0**
SMCO	**Snowmass**	**43.60**	**359**	*e*P	**P**	**09 01 26.8**	**+0.1**
	3.4nm,0.9s,mb4.1						
SRU	**San Rafael**	**43.71**	**355**	*e*P	**P**	**09 01 27.8**	**+0.2**
	7.4nm,1.0s,mb4.4						
ISCO	**Idaho Springs**	**44.22**	**1**	*e*P	**P**	**09 01 33.5**	**+1.8**
	11nm,1.6s,mb4.3						
NVAR	**Mina Array Bea**	**44.28**	**346**	P	**P**	**09 01 31.9**	**-0.3**
	1.0nm,0.9s,mb3.5,baz=178,slow=12,SNR=7.9						
NVAR				LR	LR	09 15 51.9	
	comp=Z,640nm,21.7s,MS4.5,baz=0.6,slow=30						
NVAR	**Mina Array Bea**	**44.28**	**346**	P	**P**	**09 01 31.9**	**-0.3**
PPT	**Papeete**	**44.28**	**250**	*e*S	**S**	**09 08 06.1**	**-0.7**
	193nm,23.9s						
PPT				*e*LR	LR	09 13 45.0	
	1μm,26.5s,baz=70						
CMB	**Columbia Colle**	**44.44**	**344**	*e*P	**P**	**09 01 33.4**	**-0.1**
	50nm,2.8s,mb4.8						
CFAA	**Coronel Fontan**	**44.61**	**132**	P	**P**	**09 01 34.5**	**-0.5**
	0.3nm,0.8s,baz=266,slow=3.2,SNR=5.6						
CFAA	**Coronel Fontan**	**44.61**	**132**	P	**P**	**09 01 34.5**	**-0.5**
MPU	**Maple Canyon**	**44.71**	**354**	*e*P	**P**	**09 01 36.5**	**+0.9**
	28nm,1.6s,mb4.8						
DUG	**Dugway**	**45.02**	**353**	*e*P	**P**	**09 01 39.0**	**+0.9**
	8.5nm,1.2s,mb4.5						
DAU	**Daniels Canyon**	**45.06**	**355**	*e*P	**P**	**09 01 39.4**	**+1.0**
JLU	**Jordanelle**	**45.27**	**354**	*e*P	**P**	**09 01 41.3**	**+1.2**
	27nm,2.0s,mb4.7						
TKL	**Tuckaleechee C**	**45.30**	**26**	LR	LR	09 21 05.8	
	comp=Z,151nm,18.5s,MS4.0,baz=54,slow=36						
WCN	**Washoe City**	**45.46**	**345**	*e*P	**P**	**09 01 42.7**	**+1.1**
TBI	**Tubuai**	**45.62**	**242**	*e*S	**S**	**09 08 27.6**	**+1.5**
	252nm,27.0s						
TBI				*e*LQ		09 12 33.5	
	372nm,31.5s						
TBI				*e*LR	LR	09 14 30.9	
	1μm,28.2s,baz=72						
HWUT	**Hardware Ranch**	**46.28**	**354**	*e*P	**P**	**09 01 48.2**	**+0.2**
	30nm,1.9s,mb4.9						
BW06	**Boulder Array**	**47.27**	**357**	*e*P	**P**	**09 01 55.2**	**-0.6**
	4.3nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**47.27**	**357**	P	**P**	**09 01 55.0**	**-0.8**
	1.4nm,0.8s,mb4.0,baz=168,slow=7.2,SNR=10						
PDAR				LR	LR	09 19 12.2	
	comp=Z,387nm,19.7s,MS4.4,baz=185,slow=33						
PDAR	**Pinedale Array**	**47.27**	**357**	P	**P**	**09 01 55.0**	**-0.8**
PD01	**Pinedale Array**	**47.29**	**357**	*e*P	**P**	**09 01 54.9**	**-1.0**
PD02	**Pinedale Array**	**47.29**	**357**	*e*P	**P**	**09 01 54.9**	**-1.0**
REDW	**Red Top Meadow**	**47.96**	**355**	*e*P	**P**	**09 02 00.6**	**-0.5**
RRI2	**Red Ridge**	**47.98**	**355**	*e*P	**P**	**09 02 06.2**	**+4.9**
	7.2nm,1.0s,mb4.7						
MOD	**Modoc**	**48.05**	**346**	*e*P	**P**	**09 02 02.6**	**+0.8**
	18nm,1.6s,mb4.8						
PLCA	**Paso Flores**	**48.14**	**143**	P	**P**	**09 02 02.9**	**+0.3**
	1.7nm,1.0s,mb4.0,baz=282,slow=9.3,SNR=2.9						
PLCA				LR	LR	09 17 11.8	
	comp=Z,964nm,19.6s,MS4.8,baz=267,slow=30						
PLCA	**Paso Flores**	**48.14**	**143**	P	**P**	**09 02 02.9**	**+0.3**
WVOR	**Wild Horse Val**	**48.18**	**348**	*e*P	**P**	**09 02 00.7**	**-2.2**
	16nm,1.8s,mb4.8						
LOHW	**Long Hollow**	**48.19**	**356**	*e*P	**P**	**09 02 02.2**	**-0.6**
	7.3nm,1.4s,mb4.5						
MOOW	**Moose Ponds**	**48.33**	**356**	*e*P	**P**	**09 02 03.8**	**-0.2**
	14nm,1.6s,mb4.8						
IMW	**Indian Meadow**	**48.49**	**355**	*e*P	**P**	**09 02 05.1**	**-0.1**
	14nm,1.4s,mb4.8						
MFID	**Camas Ranch**	**48.60**	**351**	*e*P	**P**	**09 02 06.3**	**+0.2**
	18nm,1.4s,mb4.9						
FLWY	**Flagg Ranch**	**48.66**	**356**	*e*P	**P**	**09 02 06.5**	**0.0**
	52nm,1.8s,mb5.3						
QLMT	**Earthquake Lak**	**49.46**	**355**	*e*P	**P**	**09 02 15.1**	**+2.5**
MCMT	**McKenzie Canyo**	**49.59**	**354**	*e*P	**P**	**09 02 13.6**	**0.0**
	4.2nm,1.2s,mb4.3						
HRY	**Holter Researc**	**51.36**	**355**	*e*P	**P**	**09 02 26.6**	**-0.4**
SWMT	**Swartz Lake**	**52.37**	**353**	*e*P	**P**	**09 02 38.8**	**+4.3**
OD2	**Odessa Site #2**	**52.96**	**349**	*e*P	**P**	**09 02 38.9**	**+0.1**
SADO	**Sadowa**	**54.86**	**23**	LR	LR	09 26 12.1	
	comp=Z,294nm,19.0s,MS4.4,baz=238,slow=36						
ULM	**Lac du Bonnet**	**55.40**	**8**	LR	LR	09 24 54.4	
	comp=Z,559nm,19.9s,MS4.6,baz=193,slow=34						
BBB	**Bella Bella**	**59.58**	**345**	LR	LR	09 25 50.9	
	comp=Z,284nm,18.9s,MS4.4,baz=258,slow=33						
DLBC	**Dease Lake**	**65.70**	**347**	P	**P**	**09 04 06.8**	**0.0**
	5.3nm,1.2s,mb4.5,baz=216,slow=7.5,SNR=4.8						
DLBC				LR	LR	09 30 21.5	
	comp=Z,379nm,18.3s,MS4.6,baz=119,slow=34						
DLBC	**Dease Lake**	**65.70**	**347**	P	**P**	**09 04 06.8**	**0.0**
YKA	**Yellowknife Ar**	**67.25**	**356**	P	**P**	**09 04 14.3**	**-2.3**
	0.9nm,0.7s,mb3.9,baz=162,slow=6.5,SNR=4.5						
YKA				LR	LR	09 31 20.3	
	comp=Z,40nm,19.7s,MS3.6,baz=55,slow=34						
YKA	**Yellowknife Ar**	**67.25**	**356**	P	**P**	**09 04 14.3**	**-2.3**
SCHQ	**Schefferville**	**67.67**	**23**	LR	LR	09 36 44.8	
	comp=Z,203nm,18.0s,MS4.4,baz=238,slow=38						
BMRM	**Bremner River**	**71.87**	**341**	*e*P	**P**	**09 04 45.0**	**-0.2**
	9.7nm,1.1s,mb4.7						
KDAK	**Kodiak Island**	**72.49**	**336**	P	**P**	**09 04 47.9**	**-1.1**
	10.0nm,1.1s,mb4.7,baz=95,slow=1.8,SNR=3.6						
KDAK	**Kodiak Island**	**72.49**	**336**	P	**P**	**09 04 47.9**	**-1.1**
MENT	**Mentasta**	**73.11**	**343**	*e*P	**P**	**09 04 51.3**	**-1.3**
EGAK	**Eagle**	**73.88**	**345**	*e*P	**P**	**09 04 56.6**	**-0.4**
	13nm,1.4s,mb4.7						
INK	**Inuvik**	**75.23**	**350**	P	**P**	**09 05 03.1**	**-1.8**
	2.4nm,1.0s,mb4.1,baz=138,slow=4.7,SNR=5.8						
INK	**Inuvik**	**75.23**	**350**	P	**P**	**09 05 03.1**	**-1.8**
ILAR	**Eielson Array**	**75.42**	**343**	P	**P**	**09 05 04.0**	**-2.0**
	2.3nm,0.8s,mb4.2,baz=155,slow=5.2,SNR=26						
ILAR				LR	LR	09 31 47.4	
	comp=Z,252nm,18.8s,MS4.5,baz=270,slow=31						
ILAR	**Eielson Array**	**75.42**	**343**	P	**P**	**09 05 04.0**	**-2.0**
DZM	**Mont Dzumac**	**85.78**	**248**	*e*LR	LR	09 33 04.7	
	306nm,25.6s						
PETK	**Petropavlovsk-**	**97.32**	**323**	LR	LR	09 42 04.4	
	comp=Z,237nm,19.8s,MS4.7,baz=97,slow=30						
BJI	**Beijing**	**128.04**	**319**	PKP	PKPdf	09 12 27.9	-1.1
BJI				LR	LR		
	comp=N,160nm,22.8s,MS4.9						
BJI				LR	LR		
	comp=E,210nm,22.8s,MS4.9						
BJI				LR	LR		
	comp=Z,220nm,23.8s,MS4.8						
NJ2	**Nanjing**	**129.77**	**308**	*e*PKP	PKPdf	09 12 28.2	-4.4
HHC	**Hu-ho-hao-te**	**130.51**	**322**	*e*PKP	PKPdf	09 12 35.0	+1.3
HHC				PP	PP	09 14 54.8	+7.2
HHC				SKS	SKSdf	09 19 41.4	-4.1
HHC				SKKS	SKKSac	09 21 42.7	-2.4
HHC				SS	SS	09 32 17.2	+1.6
HHC				AMB	AMB		
	comp=Z,140nm,11.9s						
HHC				LR	LR		
	comp=N,170nm,16.7s,MS5.1						
HHC				LR	LR		
	comp=E,320nm,17.8s,MS5.1						
HHC				LR	LR		
	comp=Z,230nm,21.4s,MS4.8						
LZH	**Lanzhou**	**138.21**	**322**	*e*PKP	PKPdf	09 12 45.1	-3.2
LZH				sPKP		09 12 49.7	
LZH				LR	LR		
	comp=N,140nm,18.3s,MS4.9						
LZH				LR	LR		
	comp=E,140nm,18.0s,MS4.9						
LZH				LR	LR		
	comp=Z,190nm,20.2s,MS4.8						
WMQ	**Urumqi**	**139.08**	**345**	*e*PKP	PKPdf	09 12 49.3	-0.3
WMQ				LR	LR		
	comp=N,160nm,26.2s						
WMQ				LR	LR		
	comp=E,110nm,21.0s						
WMQ				LR	LR		
	comp=Z,180nm,22.0s,MS4.8						
GYA	**Guiyang**	**141.78**	**308**	PKP	PKPdf	09 12 53.8	-1.2
GYA				PP	PP	09 16 01.5	+2.5
GYA				AMB	AMB		
	comp=Z,90nm,7.9s						
CMAR	**Chiang Mai Arr**	**151.81**	**301**	PKP	PKPdf	09 13 05.3	-6.6
	comp=Z,0.7nm,0.3s,baz=15,slow=3.7,SNR=2.1						
CMAR				PKPbc	PKPbc	09 13 11.2	-7.1
	comp=Z,0.9nm,0.3s,baz=4.3,slow=3.6,SNR=6.8						
CMAR	**Chiang Mai Arr**	**151.81**	**301**	PKP	PKPdf	09 13 05.3	-6.6
CMAR				PKPbc	PKPbc	09 13 11.2	-7.1

*NEIC **07** 09:01:24.7, 18.06N×66.31W, h52km, MD2.8(RSPR), After RSPR.*

RSPR 07 09:01:24.7, 18.06N×66.31W, h52km±1km, MD2.8/6, 8C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**0.16**	**73**	↓*e*P	Pn	09 01 32.5	-0.6
SJG				*e*S	Sn	09 01 38.7	-0.4
SJG	**San Juan**	**0.16**	**73**	↓*e*P	Pn	09 01 32.4	-0.7
SJG	**San Juan**	**0.16**	**73**	↓*e*P	Pn	09 01 32.4	-0.7
SJG				*e*S	Sn	09 01 38.4	-0.7
SJG				*e*S	Sn	09 01 38.7	-0.4
CELP	**Cerrillos**	**0.25**	**273**	↑*e*P	Pn	09 01 33.0	-0.7
CELP				*e*S	Sn	09 01 39.6	-0.5
CELP	**Cerrillos**	**0.25**	**273**	↑*e*P	Pn	09 01 33.0	-0.7
CELP				*e*S	Sn	09 01 39.6	-0.5
ICM	**Isla Caja Muer**	**0.26**	**230**	↓*e*P	Pn	09 01 33.5	-0.3
ICM	**Isla Caja Muer**	**0.26**	**230**	↓*e*P	Pn	09 01 33.5	-0.3
OBIP	**Obispado Ponce**	**0.28**	**266**	↑*e*P	Pn	09 01 33.2	-0.7
OBIP	**Obispado Ponce**	**0.28**	**266**	↑*e*P	Pn	09 01 33.2	-0.7
OBIP				*e*S	Sn	09 01 40.3	-0.2
CPD	**Cerro la Pandu**	**0.38**	**94**	↓*e*P	Pn	09 01 34.2	-0.6
CPD	**Cerro la Pandu**	**0.38**	**94**	↓*e*P	Pn	09 01 34.2	-0.6
CPD				*e*S	Sn	09 01 41.6	-0.4
HUMP	**Col San Antoni**	**0.45**	**80**	↑*e*P	Pn	09 01 34.8	-0.8
HUMP	**Col San Antoni**	**0.45**	**80**	↑*e*P	Pn	09 01 34.8	-0.8
HUMP				*e*S	Sn	09 01 42.8	-0.5
CBYP	**Canovanas**	**0.48**	**64**	↓*e*P	Pn	09 01 35.4	-0.5
CBYP				*e*S	Sn	09 01 43.7	-0.3
CBYP	**Canovanas**	**0.48**	**64**	↓*e*P	Pn	09 01 35.4	-0.5
CBYP				*e*S	Sn	09 01 43.7	-0.3
AOPR	**Arecibo Observ**	**0.51**	**304**	↑*e*P	Pn	09 01 35.5	-0.7
AOPR	**Arecibo Observ**	**0.51**	**304**	*e*P	Pn	09 01 43.7	+7.6
	32nm,1.4s						
AOPR	**Arecibo Observ**	**0.51**	**304**	↑*e*P	Pn	09 01 35.5	-0.7
AOPR				*e*S	Sn	09 01 43.9	-0.6

*IDC **07** 09:13:14.9±1.5, 8.35S×129.59E, h0km, mb3.9/2, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, ML4.1/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/33, Error ellipse: s-maj=50.4km s-min=22.1km az=64.0*

*ISCJB **07** 09:13:18.1±1.9, 8.66S±0.07×129.34E±0.10, h41km±23km, mb3.7/2, Error ellipse: s-maj=18.0km s-min=9.1km az=149.9*

*NEIC **07** 09:13:19.8±0.7, 8.53S×129.40E, h35km, Error ellipse: s-maj=16.7km s-min=8.4km az=52.0*

ISC 07 09:13:20.0±1.3, 8.62S±0.07×129.40E±0.09, h36km±18km, n17, σ1.09/25, mb3.7/2, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.10**	**201**	Pn	**Pn**	**09 15 44.2**	**+1.5**
	1.4nm,0.3s,baz=25,slow=9.4,SNR=46						
FITZ				Sn	**Sn**	**09 17 34.5**	**-0.3**
	0.9nm,0.3s,baz=85,slow=13,SNR=3.8						
FITZ				LR	LR	09 20 36.1	
	comp=Z,83nm,18.4s,baz=131,slow=42						
FITZ	**Fitzroy Crossi**	**10.10**	**201**	*e*Pn	**Pn**	**09 15 43.9**	**+1.1**
	6.5nm,0.6s						
FITZ				*e*Sn	**Sn**	**09 17 40.2**	**+5.4**
KAPI	**Kappang**	**10.23**	**290**	Pn	**Pn**	**09 15 43.0**	**-1.4**
	0.6nm,0.3s,baz=86,slow=19,SNR=5.4						
KAPI				LR	LR	09 20 07.0	
	comp=Z,36nm,21.5s,baz=240,slow=40						
KAPI	**Kappang**	**10.23**	**290**	Pn	**Pn**	**09 15 43.0**	**-1.4**
WRAB	**Tennant Creek**	**12.22**	**157**	*e*Pn	**Pn**	**09 16 12.6**	**+0.9**
	16nm,1.0s						
WRAB				*e*Sn	**Sn**	**09 18 24.9**	**-1.9**
WRA	**Warramunga Arr**	**12.23**	**158**	Pn	**Pn**	**09 16 12.4**	**+0.7**
	1.6nm,0.3s,baz=346,slow=13,SNR=78						
WRA				Sn	**Sn**	**09 18 27.2**	**+0.4**
	1.1nm,0.3s,baz=329,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**12.23**	**158**	Pn	**Pn**	**09 16 12.4**	**+0.7**
WRA				Sn	**Sn**	**09 18 27.2**	**+0.4**
WB2	**Warramunga Arr**	**12.23**	**157**	*e*Pn	**Pn**	**09 16 12.6**	**+0.8**
WB2				*e*Sn	**Sn**	**09 18 25.1**	**-1.9**
COEN	**Coen**	**14.51**	**113**	*e*Pn	**Pn**	**09 16 42.5**	**-0.5**
AS31	**Alice Springs**	**15.57**	**164**	*e*P	**Pn**	**09 16 57.6**	**+0.7**
ASAR	**Alice Springs**	**15.57**	**164**	Pn	**Pn**	**09 16 57.3**	**+0.4**
	0.4nm,0.3s,baz=354,slow=14,SNR=30						
ASAR				Sn	**Sn**	**09 19 48.0**	**-0.4**
	0.2nm,0.3s,baz=351,slow=27,SNR=6.2						
ASAR	**Alice Springs**	**15.57**	**164**	Pn	**Pn**	**09 16 57.3**	**+0.4**
ASAR				Sn	**Sn**	**09 19 48.0**	**-0.4**
STKA	**Stephens Creek**	**25.77**	**156**	P	**P**	**09 18 50.2**	**+2.7**
	0.9nm,0.5s,mb3.6,baz=321,slow=13,SNR=4.0						
STKA				LR	LR	09 28 21.8	
	comp=Z,112nm,18.6s,baz=199,slow=35						
STKA	**Stephens Creek**	**25.77**	**156**	*e*P	**P**	**09 18 50.4**	**+2.9**
MK31	**Makanchi Array**	**69.26**	**327**	*e*P	**P**	**09 24 22.7**	**-0.7**
MKAR	**Makanchi Array**	**69.26**	**327**	P	**P**	**09 24 23.2**	**-0.2**
	0.7nm,0.5s,mb3.9,baz=117,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**69.26**	**327**	P	**P**	**09 24 23.2**	**-0.2**

*IDC **07** 09:29:26.5±39.0, 35.37N×98.67E, h0km, mb3.7/2, mb1 3.5/4, mb1mx3.2/28, mbtmp3.5/4, ML3.0/2, MS3.5/3, Ms1 3.5/3, ms1mx2.7/52, Error ellipse: s-maj=537.7km s-min=69.5km az=163.0*

*ISCJB **07** 09:29:43.6±1.5, 36.6N±0.1×97.77E±0.09, h33km, MS3.5/3, Error ellipse: s-maj=17.2km s-min=9.5km az=11.1*

ISC 07 09:29:45.7±1.6, 36.7N±0.1×97.74E±0.09, h35km, n9, σ1.01/8, MS3.5/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.19**	**30**	Pg	**Pn**	**09 30 34.9**	**+1.6**
GTA				Sg	**Sn**	**09 31 10.1**	**0.0**
GTA				smax			
	comp=N,8.0nm,0.6s						
GTA				smax			
	comp=E,14nm,0.6s						
LZH	**Lanzhou**	**4.96**	**95**	*e*Pg	**Pn**	**09 31 04.7**	**+7.0**
LZH				Sg	**Sn**	**09 31 53.8**	**0.0**
LZH				smax			
	comp=N,39nm,0.9s						
LZH				smax			
	comp=E,41nm,1.0s						
SONM	**Songino Array**	**12.86**	**27**	Pn	**Pn**	**09 32 43.0**	**-2.8**
	comp=E,0.1nm,0.3s,baz=204,slow=15,SNR=4.6						
MKAR	**Makanchi Array**	**15.31**	**316**	Pn	**Pn**	**09 33 19.2**	**+0.2**
	comp=E,0.0nm,0.3s,baz=122,slow=14,SNR=2.6						
ZALV	**Zalesovo Beam**	**19.46**	**337**	P	**Pn**	**09 34 10.3**	**-0.3**
	comp=E,0.8nm,0.5s,baz=137,slow=12,SNR=4.4						
KURK	**Kurchatov**	**19.62**	**322**	P	**Pn**	**09 34 12.5**	**0.0**
	comp=E,1.2nm,0.2s,baz=130,slow=11,SNR=6.7						
MJAR	**Matsushiro Arr**	**32.32**	**78**	LR	LR	09 48 41.5	
	comp=E,179nm,21.5s,MS3.7,baz=70,slow=36						
BRTR	**Keskin Array B**	**49.51**	**294**	LR	LR	10 02 34.4	
	comp=E,54nm,21.1s,MS3.5,baz=170,slow=39						
ASF	**Jabal al Asfar**	**49.66**	**284**	LR	LR	10 01 31.5	
	comp=E,20nm,20.0s,MS3.1,baz=258,slow=38						

IDC 07 09:35:23.0±1.8, 8.45S×129.74E, h0km, mb3.9/1, mb1 4.1/4, mb1mx3.8/14, mbtmp4.0/4, ML4.0/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=63.2km s-min=23.4km az=74.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.39**	**202**	Pn	Pn	09 37 53.0	-0.4
	1.0nm,0.3s,baz=28,slow=13,SNR=38						
FITZ				Sn	Sn	09 39 44.0	-6.6
	2.1nm,0.3s,baz=118,slow=13,SNR=6.7						
FITZ				LR	LR	09 42 23.1	
	comp=Z,101nm,18.2s,baz=26,slow=40						
KAPI	**Kappang**	**10.49**	**288**	LR	LR	09 42 24.5	
	comp=Z,53nm,18.2s,baz=32,slow=40						
WRA	**Warramunga Arr**	**12.26**	**159**	Pn	Pn	09 38 20.2	+1.2
	1.2nm,0.3s,baz=338,slow=12,SNR=35						
WRA		

VLX eSB Sb 09 55 40.7 -0.4
VLX Vlachokerasia 1.27 94 P Pn 09 55 23.9 -0.6
VLX S Sb 09 55 42.4 +1.3
VLX Vlachokerasia 1.27 94 P Pn 09 55 23.9 -0.6
VLX Vlachokerasia 1.27 94 ePb Pb 09 55 24.6 0.0
VLX eSb Sb 09 55 40.7 -0.4
VLX S Sb 09 55 41.0 -0.1
EFP Efpalio 1.31 42 ePN Pn 09 55 23.7 -1.4
EFP eSB Sb 09 55 40.5 -1.7
EFP Efpalio 1.31 42 P Pn 09 55 23.5 -1.6
EFP Efpalio 1.31 42 P Pn 09 55 23.5 -1.6
EFP eSb Sb 09 55 40.3 -1.9
EFP S Sb 09 55 42.1 -0.1
GUR Goura 1.32 68 ePG Pg 09 55 24.3 -1.4
GUR eSB Sb 09 55 42.2 -0.4
GUR Goura 1.32 68 P Pn 09 55 23.8 -1.4
GUR Goura 1.32 68 P Pn 09 55 23.8 -1.4
GUR S Sb 09 55 41.8 -0.8
GUR eSb Sb 09 55 42.2 -0.4
KALE Kalithea 1.41 48 P Pn 09 55 25.2 -1.4
KALE S Sb 09 55 45.0 -0.3
DYR Agios Nikonas 1.42 119 P Pn 09 55 27.1 +0.5
DYR S Sb 09 55 46.7 +1.3
EVR Evrytania 1.66 29 ePG Pg 09 55 30.2 -2.0
EVR eSB Sb 09 55 52.4 0.0
EVR Evrytania 1.66 29 P Pn 09 55 30.3 +0.4
EVR S Sb 09 55 52.4 0.0
EVR Evrytania 1.66 29 P Pn 09 55 30.3 +0.4
EVR S Sb 09 55 52.4 0.0
DSF Desfina 1.67 55 P Pn 09 55 30.2 +0.2
DSF S Sn 09 55 51.8 +0.1
DSF Desfina 1.67 55 P Pn 09 55 30.2 +0.2
DSF S Sn 09 55 51.8 +0.1
DSL Palaion Diasel 1.69 8 P Pn 09 55 30.2 -0.1
DSL S Sn 09 55 53.6 +1.4
DSL Palaion Diasel 1.69 8 P Pn 09 55 30.2 -0.1
DSL S Sn 09 55 53.6 +1.4
LTK Loutraki 1.81 71 ePG Pg 09 55 33.5 -1.7
LTK eSG Sg 09 55 56.2 -2.5
LTK Loutraki 1.81 71 P Pn 09 55 33.2 +1.2
LTK S Sn 09 55 56.5 +1.2
LTK Loutraki 1.81 71 P Pn 09 55 33.2 +1.2
LTK Loutraki 1.81 71 ePg Pg 09 55 33.5 -1.7
LTK eSg Sg 09 55 56.2 -2.5
LTK S Sn 09 55 56.5 +1.2
VLI Veliai 1.87 113 ePN Pn 09 55 35.2 +2.4
VLI eSN Sn 09 55 59.1 +2.5
VLI Veliai 1.87 113 P Pn 09 55 34.2 +1.4
VLI Veliai 1.87 113 P Pn 09 55 34.2 +1.4
VLI Veliai 1.87 113 ePg Pg 09 55 35.5 -0.7
VLI eSn Sn 09 55 59.1 +2.5
RGA Parga 1.89 350 P Pn 09 55 34.3 +1.2
RGA Parga 1.89 350 P Pn 09 55 34.3 +1.2
DID Didima 1.94 88 ePN Pn 09 55 34.7 +0.9
DID eSN Sn 09 56 00.3 +1.8
DID Didima 1.94 88 P Pn 09 55 34.4 +0.6
DID S Sn 09 55 59.7 +1.2
DID Didima 1.94 88 ePn Pn 09 55 34.6 +0.8
DID S Sn 09 55 59.7 +1.2
DID eSn Sn 09 56 00.3 +1.8
AGG Agios Georgios 1.97 37 ePN Pn 09 55 35.5 +1.2
AGG eSN Sn 09 56 00.2 +0.9
AGG Agios Georgios 1.97 37 P Pn 09 55 35.1 +0.8
AGG S Sn 09 56 01.1 +1.8
AGG Agios Georgios 1.97 37 P Pn 09 55 35.1 +0.8
AGG Agios Georgios 1.97 37 ePn Pn 09 55 35.5 +1.2
AGG eSn Sn 09 56 00.2 +0.9
AGG S Sn 09 56 01.1 +1.8
IGT Igoumenitsa 2.10 350 P Pn 09 55 36.5 +0.5
IGT S Sn 09 56 04.6 +2.2
IGT Igoumenitsa 2.10 350 P Pn 09 55 36.5 +0.5
IGT S Sn 09 56 04.6 +2.2
LKR Lokris 2.11 55 ePN Pn 09 55 37.4 +1.3
LKR eSN Sn 09 56 03.7 +1.1
LKR Lokris 2.11 55 P Pn 09 55 36.6 +0.5
LKR S Sn 09 56 04.1 +1.5
LKR Lokris 2.11 55 P Pn 09 55 36.6 +0.5
LKR Lokris 2.11 55 ePn Pn 09 55 37.4 +1.3
LKR eSn Sn 09 56 03.7 +1.1
LKR S Sn 09 56 04.1 +1.5
VIL1 Vilia, Western 2.13 70 ePN Pn 09 55 37.3 +0.9
VIL1 eSN Sn 09 56 04.5 +1.5
KYTH Kithira 2.15 123 ePN Pn 09 55 39.3 +2.6
KYTH Kithira 2.15 123 P Pn 09 55 37.3 +0.6
KYTH Kithira 2.15 123 P Pn 09 55 37.3 +0.6
KYTH Kithira 2.15 123 ePn Pn 09 55 39.7 +1.3
NAIG Nisos Aigina 2.16 81 ePN Pn 09 55 37.7 +0.9
NAIG Nisos Aigina 2.16 81 ePb Pb 09 55 37.5 -2.4
JAN Janina 2.19 1 ePN Pn 09 55 38.6 +1.3
JAN Janina 2.19 1 P Pn 09 55 38.9 +1.6
JAN Janina 2.19 1 ePn Pn 09 55 38.6 +1.3
JAN Janina 2.19 1 P Pn 09 55 38.9 +1.6
THL Klokotos Trika 2.31 24 ePN Pn 09 55 40.6 +1.7
THL Klokotos Trika 2.31 24 P Pn 09 55 39.5 +0.6
THL S Sn 09 56 08.5 +1.0
THL Klokotos Trika 2.31 24 P Pn 09 55 39.5 +0.6
THL Klokotos Trika 2.31 24 ePn Pn 09 55 40.6 +1.7
THL S Sn 09 56 08.5 +1.0
MEV Metsovon 2.35 8 P Pn 09 55 41.3 +1.9
MEV Metsovon 2.35 8 P Pn 09 55 41.3 +1.9
ATH Athens Observa 2.37 77 ePB Pb 09 55 40.6 -2.9
ATH Athens Observa 2.37 77 P Pn 09 55 40.4 +0.6
ATH S Sn 09 56 11.2 +2.1
ATH Athens Observa 2.37 77 P Pn 09 55 40.4 +0.6
ATH S Sn 09 56 11.2 +2.1
KEK Kerkira 2.38 341 ePB Pb 09 55 40.9 -2.7
KEK Kerkira 2.38 341 P Pn 09 55 40.5 +0.7
KEK Kerkira 2.38 341 P Pn 09 55 40.5 +0.7
VLY Voula,Athens 2.41 80 ePB Pb 09 55 41.2 -3.0
VLY Voula,Athens 2.41 80 P Pn 09 55 40.6 +0.3
VLY Voula,Athens 2.41 80 P Pn 09 55 40.6 +0.3
VLY Voula,Athens 2.41 80 ePb Pb 09 55 41.2 -3.0
SRN Sarande 2.50 346 ePN Pn 09 55 44.1 +2.7
PTL Penteli 2.50 75 ePN Pn 09 55 42.7 +1.2
PTL Penteli 2.50 75 P Pn 09 55 42.0 +0.5
PTL Penteli 2.50 75 P Pn 09 55 42.0 +0.5
PTL Penteli 2.50 75 ePn Pn 09 55 42.7 +1.2
NEO Neokhori 2.66 45 ePN Pn 09 55 44.9 +1.3
NEO Neokhori 2.66 45 P Pn 09 55 44.9 +1.3
NEO Neokhori 2.66 45 P Pn 09 55 44.9 +1.3
KZN Kozani 2.94 15 ePB Pb 09 55 49.3 -3.9
KZN Kozani 2.94 15 P Pn 09 55 49.6 +2.0
KZN Kozani 2.94 15 ePb Pb 09 55 49.3 -3.9
KZN Kozani 2.94 15 P Pn 09 55 49.6 +2.0
LIT Litokhoron 2.95 26 ePN Pn 09 55 49.0 +1.3
LIT Litokhoron 2.95 26 P Pn 09 55 48.6 +0.9
LIT Litokhoron 2.95 26 P Pn 09 55 48.6 +0.9
LIT Litokhoron 2.95 26 ePn Pn 09 55 49.0 +1.3
NEST Nestorio 2.96 4 P Pn 09 55 49.7 +1.9
NEST Nestorio 2.96 4 P Pn 09 55 49.7 +1.9
AOS Alonnisos 2.97 54 P Pn 09 55 48.7 +0.8
AOS S Sn 09 56 24.8 +1.0
AOS Alonnisos 2.97 54 P Pn 09 55 48.7 +0.8
AOS S Sn 09 56 24.8 +1.0
KBN Korca 3.16 360 ePN Pn 09 55 53.3 +2.8
VLO Vlora 3.17 342 ePN Pn 09 55 48.1 -2.6
PAIG Paliouri 3.34 42 P Pn 09 55 53.1 0.0
PAIG Paliouri 3.34 42 P Pn 09 55 53.1 0.0
FNA Florina 3.35 8 P Pn 09 55 54.5 +1.3
FNA Florina 3.35 8 P Pn 09 55 54.5 +1.3
VAM Vamos 3.43 126 ePN Pn 09 55 56.5 +2.3
VAM Vamos 3.43 126 P Pn 09 55 55.8 +1.6
VAM Vamos 3.43 126 P Pn 09 55 55.8 +1.6
VAM Vamos 3.43 126 ePn Pn 09 55 56.2 +2.0
PLG Polygyros 3.57 35 ePN Pn 09 55 56.6 +0.4
PLG Polygyros 3.57 35 P Pn 09 55 56.5 +0.3
PLG Polygyros 3.57 35 ePn Pn 09 55 56.6 +0.4
BIA Bitola 3.58 6 ePn Pn 09 55 57.7 +1.4
BIA Bitola 3.58 6 ePn Pn 09 55 57.6 +1.3
THE Thessaloniki 3.59 27 P Pn 09 55 57.1 +0.6
THE Thessaloniki 3.59 27 P Pn 09 55 57.1 +0.6
TIP Timpagrande 3.61 300 ePn Pn 09 55 57.7 +1.0
TIP eSn Sn 09 56 42.2 +2.6
TIP Timpagrande 3.61 300 ePn Pn 09 55 57.7 +1.0
TIP eSn Sn 09 56 42.2 +2.7
HORT Hortiatis 3.61 29 P Pn 09 55 57.1 +0.3
HORT Hortiatis 3.61 29 P Pn 09 55 57.1 +0.3
GRG Griva 3.71 19 P Pn 09 55 58.7 +0.6
GRG Griva 3.71 19 P Pn 09 55 58.7 +0.6

OUR Ouranopolis 3.80 40 P Pn 09 55 59.9 +0.6
OUR Ouranopolis 3.80 40 P Pn 09 55 59.9 +0.6
APE Apeiranthos 3.80 94 ePN Pn 09 56 02.0 +2.6
APE Apeiranthos 3.80 94 ⇓P Pn 09 56 01.6 +2.2
APE Apeiranthos 3.80 94 ⇓iP Pn 09 56 01.6 +2.2
APE Apeiranthos 3.80 94 P Pn 09 56 01.6 +2.2
APE Apeiranthos 3.80 94 ePn Pn 09 56 02.0 +2.6
APE S Sn 09 56 50.1 +5.8
THR6 Thira Island, 3.85 105 P Pn 09 56 00.9 +0.8
THR6 Thira Island, 3.85 105 P Pn 09 56 00.9 +0.8
SOH Sokhos 3.90 30 ePN Pn 09 56 02.3 +1.5
SOH Sokhos 3.90 30 P Pn 09 56 01.8 +1.0
SOH Sokhos 3.90 30 P Pn 09 56 01.8 +1.0
SOH Sokhos 3.90 30 ePn Pn 09 56 02.3 +1.5
KRUS Krusevo 3.92 5 ePn Pn 09 56 01.6 +0.6
KRUS Krusevo 3.92 5 ePn Pn 09 56 01.6 +0.6
TIR Tirane 3.95 350 ePN Pn 09 56 02.3 +0.9
TIR Tirane 3.95 350 ePn Pn 09 56 02.1 +0.7
TIR Tirane 3.95 350 ePn Pn 09 56 02.4 +1.0
TIR Tirane 3.95 350 eP Pn 09 56 02.4 +1.0
TIR Tirane 3.95 350 eP Pn 09 56 02.4 +1.0
KNT Kendrikon 4.04 23 P Pn 09 56 03.9 +1.2
KNT Kendrikon 4.04 23 P Pn 09 56 03.9 +1.2
VAY Valandovo 4.09 19 ePn Pn 09 56 03.7 +0.3
VAY Valandovo 4.09 19 ePn Pn 09 56 03.7 +0.3
VAY Valandovo 4.09 19 ePn Pn 09 56 03.7 +0.3
TAR1 Taranto 4.10 319 ePn Pn 09 56 03.4 -0.1
LIA Limnos Island 4.21 53 ePN Pn 09 56 06.7 +1.7
LIA Limnos Island 4.21 53 P Pn 09 56 05.6 +0.6
LIA Limnos Island 4.21 53 P Pn 09 56 05.6 +0.6
PE1 Pezze di Greco 4.25 323 ePn Pn 09 56 05.9 +0.4
PE1 eSn Sn 09 56 52.9 -2.4
SRS Serrai 4.25 30 P Pn 09 56 06.1 +0.6
SRS Serrai 4.25 30 P Pn 09 56 06.1 +0.6
CHOS Chios island 4.26 76 ePN Pn 09 56 07.5 +1.8
CHOS Chios island 4.26 76 P Pn 09 56 06.5 +0.8
CHOS Chios island 4.26 76 P Pn 09 56 06.5 +0.8
KAVA Kavala 4.56 38 P Pn 09 56 09.8 0.0
KAVA Kavala 4.56 38 P Pn 09 56 09.8 0.0
PUK Puka 4.63 352 ePN Pn 09 56 02.4 -8.3
CUC Castrocucco 4.64 305 ePn Pn 09 56 13.3 +2.4
CUC eSn Sn 09 57 01.4 -3.6
CUC Castrocucco 4.64 305 ePn Pn 09 56 13.3 +2.4
CUC eSn Sn 09 57 01.4 -3.6
ULC Ulcinj 4.65 346 ⇓iPn Pn 09 56 10.9 -0.2
ULC eSn Sn 09 57 05.4 +0.1
ULC Ulcinj 4.65 346 ⇓iPn Pn 09 56 10.9 -0.2
ULC eSn Sn 09 57 05.4 +0.1
MMB Musomiste 4.71 28 iP Pn 09 56 12.5 +0.7
MMB Musomiste 4.71 28 iP Pn 09 56 12.5 +0.7
BAI Bari 4.74 321 ePn Pn 09 56 13.1 +0.8
BAI eSn Sn 09 57 03.3 -4.2
KKB Krupnik 4.74 21 iP Pn 09 56 13.0 +0.7
KKB Krupnik 4.74 21 iP Pn 09 56 13.0 +0.7
BUM Brajici-Budva 5.05 344 ⇑iPn Pn 09 56 16.5 0.0
BUM eSn Sn 09 57 14.7 -0.4
BUM Brajici-Budva 5.05 344 ⇑iPn Pn 09 56 16.5 0.0
BUM eSn Sn 09 57 14.7 -0.4
TTG Podgorica 5.10 347 ⇓iPn Pn 09 56 17.1 -0.1
TTG eSn Sn 09 57 16.0 -0.4
PDG Podgorica 5.10 347 ePn Pn 09 56 16.5 -0.7
PDG Podgorica 5.10 347 ⇓iPn Pn 09 56 17.1 -0.1
PDG eSn Sn 09 57 16.0 -0.4
PVY Plav 5.17 353 ⇓iPn Pn 09 56 18.9 +0.8
PVY eSn Sn 09 57 17.4 -0.6
PVY Plav 5.17 353 ⇓iPn Pn 09 56 18.9 +0.8
PVY eSn Sn 09 57 17.4 -0.6
RZN Rozhen 5.20 34 iP Pn 09 56 19.8 +1.3
RZN Rozhen 5.20 34 iP Pn 09 56 19.8 +1.3
HCY Herceg Novi 5.29 341 ⇓iPn Pn 09 56 19.0 -0.8
HCY eSn Sn 09 57 20.4 -0.5
HCY Herceg Novi 5.29 341 ⇓iPn Pn 09 56 19.0 -0.8
HCY eSn Sn 09 57 20.4 -0.5
BARS Barje 5.41 8 ePn Pn 09 56 21.6 +0.2
BARS Barje 5.41 8 ePn Pn 09 56 21.6 +0.2
BEY Berane 5.45 353 ⇑iPn Pn 09 56 22.7 +0.7
BEY eSn Sn 09 57 24.4 -0.5
IVA Berane 5.45 353 ⇑iPn Pn 09 56 22.7 +0.7
IVA eSn Sn 09 57 24.4 -0.5
VTS Vitosha 5.45 19 ⇓P Pn 09 56 23.8 +1.8
VTS S Sn 09 57 27.0 +2.0
VTS Vitosha 5.45 19 iP Pn 09 56 23.0 +1.0
VTS Vitosha 5.45 19 ⇓iP Pn 09 56 23.8 +1.8
VTS Vitosha 5.45 19 S Sn 09 57 27.0 +2.0
VTS Vitosha 5.45 19 P Pn 09 56 23.8 +1.8
VTS S Sn 09 57 27.0 +2.0
KDZ Kurdzhali 5.50 39 iP Pn 09 56 22.0 -0.7
KDZ Kurdzhali 5.50 39 iP Pn 09 56 22.0 -0.7
NKY Niksic 5.52 346 ⇑iPn Pn 09 56 24.7 +1.7
NKY eSn Sn 09 57 26.3 -0.4
NKY Niksic 5.52 346 ⇑iPn Pn 09 56 24.7 +1.7
NKY eSn Sn 09 57 26.3 -0.4
BRY Bratogost 5.70 343 ⇓iPn Pn 09 56 24.6 -0.9
BRY eSn Sn 09 57 30.6 -0.6
BRY Bratogost 5.70 343 ⇓iPn Pn 09 56 24.6 -0.9
BRY eSn Sn 09 57 30.6 -0.6
SELS Selova 5.76 2 ePn Pn 09 56 25.3 -1.0
SJES Sjenica 5.83 354 ePn Pn 09 56 27.4 +0.2
SJES Sjenica 5.83 354 ePn Pn 09 56 27.4 +0.2
STON Ston 5.90 337 iPn Pn 09 56 26.3 -1.9
STON Sn Sn 09 57 31.1 -5.0
STON Ston 5.90 337 iPn Pn 09 56 26.3 -1.9
UPM Unac-Piva 5.92 346 ⇓iPn Pn 09 56 28.8 +0.4
UPM eSn Sn 09 57 36.1 -0.4
UPM Unac-Piva 5.92 346 ⇓iPn Pn 09 56 28.8 +0.4
UPM eSn Sn 09 57 36.0 -0.4
PLE Pljevlja 5.96 350 ⇑iPn Pn 09 56 30.1 +1.1
PLE eSn Sn 09 57 36.9 -0.6
PLE Pljevlja 5.96 350 ⇑iPn Pn 09 56 30.1 +1.1
PLE eSn Sn 09 57 36.9 -0.6
ZAPS Zavoj 5.97 13 ePn Pn 09 56 30.7 +1.5
IVAS Ivanjica 6.13 356 ePn Pn 09 56 31.4 +0.1
IVAS Ivanjica 6.13 356 ePn Pn 09 56 31.4 +0.1
MPEP Malo Peshtene 6.30 20 iP Pn 09 56 35.1 +1.4
GRUS Gruza 6.42 359 ePn Pn 09 56 34.7 -0.7
BOLS Boljevac 6.42 8 ePn Pn 09 56 32.8 -2.6
BBLS Lazići 6.49 351 ePn Pn 09 56 36.6 +0.4
BBLS Lazići 6.49 351 ePn Pn 09 56 36.6 +0.4
DIVS Divibare 6.66 355 ePn Pn 09 56 37.7 -0.9
DIVS Divibare 6.66 355 ePn Pn 09 56 37.7 -0.9
TRUS Trudelj 6.76 355 ePn Pn 09 56 37.4 -2.6
AQU L'Aquila 7.49 313 ePn Pn 09 56 53.9 +3.8
AQU L'Aquila 7.49 313 eP Pn 09 56 53.9 +3.8
FGSL Fruska Gora 7.73 355 ePn Pn 09 56 53.2 0.0
FRGS Fruska Gora 7.73 355 ePn Pn 09 56 53.2 -0.1
GZR Gura Zlata 8.06 10 ⇓P Pn 09 56 57.9 0.0
GZR Gura Zlata 8.06 10 ⇓iP Pn 09 56 57.9 0.0
GZR Gura Zlata 8.06 10 P Pn 09 56 57.9 0.0
BZS Buzias 8.17 4 ePn Pn 09 56 57.7 -1.7
BZS Buzias 8.17 4 ⇑P Pn 09 56 58.2 -1.2
BZS Buzias 8.17 4 ⇑iP Pn 09 56 58.2 -1.2
BZS Buzias 8.17 4 ePn Pn 09 56 57.7 -1.7
BZS Buzias 8.17 4 P Pn 09 56 58.2 -1.2
NVLJ Novalja 8.39 330 ePn Pn 09 57 02.3 0.0
NVLJ Sn Sn 09 58 32.7 -4.6
NVLJ Novalja 8.39 330 ePn Pn 09 57 02.3 0.0
VOIR 8.59 20 ⇑P Pn 09 57 06.7 +1.7
VOIR 8.59 20 ⇑iP Pn 09 57 06.7 +1.7
VOIR 8.59 20 P Pn 09 57 06.7 +1.7
ISR Istrita 8.79 28 ⇑iP Pn 09 57 10.7 +2.9
ISR Istrita 8.79 28 ⇑iP Pn 09 57 10.7 +2.9
PKSM Moragy 8.89 350 ⇑P Pn 09 57 09.4 +0.2
PKSM Moragy 8.89 350 ⇑iP Pn 09 57 09.4 +0.2
PKSM Moragy 8.89 350 P Pn 09 57 09.4 +0.2
MLR Muntele Rosu 8.90 24 Pn Pn 09 57 10.2 +0.8
0.2nm,0.3s,baz=216,slow=12,SNR=12
MLR Muntele Rosu 8.90 24 Pn Pn 09 57 10.2 +0.8
MLR Muntele Rosu 8.90 24 ⇓P Pn 09 57 11.1 +1.7
MLR Muntele Rosu 8.90 24 ⇓iP Pn 09 57 11.1 +1.7
MLR Muntele Rosu 8.90 24 Pn Pn 09 57 10.2 +0.8
MLR Muntele Rosu 8.90 24 P Pn 09 57 11.1 +1.7
BOJS Bojanci 9.05 334 ePn Pn 09 57 11.4 0.0
BOJS eSn Sn 09 58 49.0 -4.4
BOJS Bojanci 9.05 334 ePn Pn 09 57 11.4 +0.1
TIRR Tirgusor 9.06 37 ⇑P Pn 09 57 12.5 +1.0
TIRR Tirgusor 9.06 37 ⇑iP Pn 09 57 12.4 +0.9
TIRR Tirgusor 9.06 37 P Pn 09 57 12.5 +1.0
GBRS Gornja Briga 9.23 333 ePn Pn 09 57 14.2 +0.4
KEST Kesra 9.37 263 Pn Pn 09 57 19.6 +3.8

0.3nm,0.3s,baz=32,slow=16,SNR=7.3
KEST Kesra 9.37 263 Pn Pn 09 57 19.6 +3.8
VISS Visnje 9.45 334 ePn Pn 09 57 16.7 -0.1
VISS eSn Sn 09 58 58.2 -5.1
VISS Visnje 9.45 334 ePn Pn 09 57 16.7 -0.2
PLOR Plostina 9.46 26 ⇓iP Pn 09 57 19.3 +2.3
PLOR Plostina 9.46 26 ⇓iP Pn 09 57 19.3 +2.3
VRI Vrincioaia 9.50 26 ⇓P Pn 09 57 19.3 +1.8
VRI Vrincioaia 9.50 26 ⇓iP Pn 09 57 19.3 +1.8
VRI Vrincioaia 9.50 26 P Pn 09 57 19.3 +1.8
VOY Vojsko 9.99 331 ePn Pn 09 57 24.0 -0.3
VOY e 09 57 35.2
VOY eSn Sn 09 59 10.8 -5.8
VOY Vojsko 9.99 331 ePn Pn 09 57 24.0 -0.3
SOKA Soboth 10.15 337 ⇑iPn Pn 09 57 25.2 -1.3
SOKA ⇑iSn Sn 09 59 12.8 -7.8
SOKA Soboth 10.15 337 Pn Pn 09 57 25.2 -1.3
OBKA Obir 10.16 335 ⇑iPn Pn 09 57 25.7 -0.9
SNR=21
OBKA ⇓iSn Sn 09 59 13.3 -7.5
OBKA Obir 10.16 335 Pn Pn 09 57 25.7 -0.9
SNR=21
BR131 Keskin Array S 10.31 73 ePn Pn 09 57 32.1 +3.4
0.9nm,0.6s
BR131 Keskin Array S 10.31 73 ePn Pn 09 57 32.1 +3.4
0.9nm,0.6s
BRTR Keskin Array B 10.31 73 Pn Pn 09 57 31.6 +2.9
0.2nm,0.3s,baz=251,slow=13,SNR=7.1
BRTR Keskin Array B 10.31 73 Pn Pn 09 57 31.6 +2.9
BRTR Keskin Array B 10.31 73 P Pn 09 57 31.6 +2.9
BRTR Keskin Array B 10.31 73 P Pn 09 57 31.6 +2.9
PSZ Piszkesteto 10.47 357 ePn Pn 09 57 30.6 -0.3
PSZ Piszkesteto 10.47 357 ⇓P Pn 09 57 30.6 -0.3
PSZ Piszkesteto 10.47 357 ⇓iP Pn 09 57 30.6 -0.3
PSZ Piszkesteto 10.47 357 P Pn 09 57 30.6 -0.3
ARSA Arzberg 10.53 340 ⇓iPn Pn 09 57 29.6 -2.1
ARSA Arzberg 10.53 340 Pn Pn 09 57 29.6 -2.1
BURAR Bucovina Array 10.66 16 ⇑P Pn 09 57 35.2 +1.8
BURAR Bucovina Array 10.66 16 ⇑iP Pn 09 57 35.2 +1.8
BURAR Bucovina Array 10.66 16 ⇑iP Pn 09 57 35.2 +1.8
BUR08 Bucovina Ar. S 10.68 16 ePn Pn 09 57 34.8 +1.0
BUR08 Bucovina Ar. S 10.68 16 ePn Pn 09 57 34.8 +1.1
KECS Kecovo 11.02 359 eP Pn 09 57 37.2 -1.2
KECS Kecovo 11.02 359 ePN Pn 09 57 37.1 -1.3
KECS Kecovo 11.02 359 eP Pn 09 57 37.2 -1.2
ZST Bratislava 11.06 347 eP Pn 09 57 39.6 +0.6
ZST Bratislava 11.06 347 ePN Pn 09 57 39.6 +0.6
ZST Bratislava 11.06 347 eP Pn 09 57 39.6 +0.6
MOA Molln 11.44 337 ⇓iPn Pn 09 57 43.1 -1.0
SNR=15
MOA ⇑iSn Sn 09 59 43.2 -8.8
MOA Molln 11.44 337 Pn Pn 09 57 43.1 -1.0
SNR=15
CRVS Cervenica-Dubn 11.45 2 eP Pn 09 57 44.6 +0.4
CRVS Cervenica-Dubn 11.45 2 ePN Pn 09 57 44.6 +0.4
CRVS Cervenica-Dubn 11.45 2 eP Pn 09 57 44.6 +0.4
KOLS Kolonicke sedl 11.52 5 eP Pn 09 57 46.1 +0.9
KOLS Kolonicke sedl 11.52 5 ePN Pn 09 57 46.1 +0.9
KOLS Kolonicke sedl 11.52 5 eP Pn 09 57 46.1 +0.9
WTTA Wattenberg 11.90 328 ⇓iPn Pn 09 57 50.7 +0.3
SNR=9.3
WTTA ⇓iSn Sn 09 59 58.8 -4.6
WTTA Wattenberg 11.90 328 Pn Pn 09 57 50.7 +0.3
SNR=9.3
WATA Walderalm 11.98 328 ⇓iPn Pn 09 57 51.5 0.0
WATA Walderalm 11.98 328 Pn Pn 09 57 51.5 0.0
DAVOX Davos/Dischmat 12.33 322 Pn Pn 09 57 59.3 +3.0
0.3nm,0.3s,baz=79,slow=19,SNR=3.5
DAVOX Sn Sn 10 00 11.8 -2.2
0.7nm,0.3s,baz=336,slow=20,SNR=7.4
DAVOX Davos/Dischmat 12.33 322 Pn Pn 09 57 59.3 +3.0
DAVOX Sn Sn 10 00 11.8 -2.2
DAVOX Davos/Dischmat 12.33 322 P Pn 09 57 59.3 +3.0
DAVOX 10 00 11.8
DAVOX Davos/Dischmat 12.33 322 P Pn 09 57 59.3 +3.0
GERES GERESS Array B 12.49 338 Pn Pn 09 57 57.0 -1.5
0.4nm,0.3s,baz=164,slow=14,SNR=23
GERES Sn Sn 10 00 10.9 -7.0
0.5nm,0.3s,baz=154,slow=23,SNR=5.9
GERES GERESS Array B 12.49 338 Pn Pn 09 57 57.0 -1.5
GERES Sn Sn 10 00 10.9 -7.0
GERES GERESS Array B 12.49 338 P Pn 09 57 57.0 -1.5
GERES 10 00 10.9
GERES GERESS Array B 12.49 338 P Pn 09 57 57.0 -1.5
MMAI Mount Meron Ar 12.74 106 Pn Pn 09 57 59.6 -2.4
0.7nm,0.3s,baz=307,slow=12,SNR=2.1
MMAI Mount Meron Ar 12.74 106 Pn Pn 09 57 59.6 -2.4
KHC Kasperske Hory 12.79 338 ePn Pn 09 58 02.8 +0.3
KHC Kasperske Hory 12.79 338 eP Pn 09 58 03.0 +0.5
KHC Kasperske Hory 12.79 338 eP Pn 09 58 03.0 +0.5
KHC ex x 09 58 16.1
KHC Kasperske Hory 12.79 338 eP Pn 09 58 03.0 +0.5
DPC Dobruska-Polom 13.28 347 eP Pn 09 58 16.4 +7.2
DPC Dobruska-Polom 13.28 347 eP Pn 09 58 16.4 +7.2
UPC Upice 13.48 347 eP Pn 09 58 22.4 +10
UPC Upice 13.48 347 eP Pn 09 58 22.4 +10
GRFO Grafenberg 14.04 334 ePn Pn 09 58 23.3 +3.6
GRFO eP 09 58 30.0
GRFO Grafenberg 14.04 334 eP Pn 09 58 23.3 +3.7
NKC Novy Kostel 14.10 338 eP Pn 09 58 30.0 +10
EIL Elat 14.12 119 Pn Pn 09 58 17.4 -3.5
0.4nm,0.3s,baz=322,slow=17,SNR=4.9
EIL Sn Sn 10 00 46.1 -12
0.4nm,0.3s,baz=282,slow=19,SNR=3.5
EIL Elat 14.12 119 Pn Pn 09 58 17.4 -3.5
EIL Sn Sn 10 00 46.1 -12
BRG Berggiesshubel 14.27 342 eP Pn 09 58 32.5 +10
3.1nm,0.8s
BRG Berggiesshubel 14.27 342 eP Pn 09 58 32.5 +10
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 14.53 22 ePn Pn 09 58 27.1 +0.8
KIEV Kiev 14.53 22 eP Pn 09 58 27.1 +0.8
KIEV Kiev 14.53 22 ePn Pn 09 58 27.1 +0.8
AKASG Malin Array Be 14.54 22 Pn Pn 09 58 24.8 -1.7
comp=Z,0.8nm,0.3s,baz=210,slow=12,SNR=4.0
AKASG Malin Array Be 14.54 22 Pn Pn 09 58 24.8 -1.7
AKASG Malin Array Be 14.54 22 P Pn 09 58 24.8 -1.7
AKASG Malin Array Be 14.54 22 Pn Pn 09 58 24.8 -1.7
HINF Hinteralfeld 14.55 320 ⇑iP Pn 09 58 34.8 +8.2
comp=Z,8.7nm,0.5s
HINF Hinteralfeld 14.55 320 ⇑iP Pn 09 58 34.8 +8.2
comp=Z,8.7nm,0.5s
HINF Hinteralfeld 14.55 320 ⇑iP Pn 09 58 34.8 +8.2
HINF pmax pmax
comp=Z,9.0nm,0.5s
HINF Hinteralfeld 14.55 320 ⇑iP Pn 09 58 34.8 +8.2
comp=Z,8.7nm,0.5s
CDF Champ du Feu 14.73 322 eP Pn 09 58 37.6 +8.5
CDF Champ du Feu 14.73 322 eP Pn 09 58 37.6 +8.5
CDF Champ du Feu 14.73 322 eP Pn 09 58 37.6 +8.5
CDF Champ du Feu 14.73 322 eP Pn 09 58 37.6 +8.5
CLL Collm 14.91 341 eP Pn 09 58 26.0 -5.5
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 14.91 341 iPP Pn 09 58 39.0 +7.5
comp=Z,13nm,1.1s
CLL esPP sP 09 58 43.0 +3.0
HAU Haudompre 14.93 319 ⇑iP Pn 09 58 39.6 +7.8
comp=Z,17nm,0.6s
HAU Haudompre 14.93 319 ⇑iP Pn 09 58 39.6 +7.8
comp=Z,17nm,0.6s
HAU Haudompre 14.93 319 ⇑iP Pn 09 58 39.6 +7.8
HAU pmax pmax
comp=Z,17nm,0.6s
HAU Haudompre 14.93 319 ⇑iP Pn 09 58 39.6 +7.8
comp=Z,17nm,0.6s
RUE Ruedersdorf 15.80 344 eP Pn 09 58 48.3 +5.1
comp=Z,34nm,1.1s
RUE Ruedersdorf 15.80 344 eP Pn 09 58 48.3 +5.1
comp=Z,34nm,1.1s
MEZF Maizieres J'vi 15.92 319 eP Pn 09 58 51.3 +6.6
MEZF Maizieres J'vi 15.92 319 eP Pn 09 58 51.3 +6.6
MEZF Maizieres J'vi 15.92 319 eP Pn 09 58 51.3 +6.6
WLF Walferdange 16.13 324 P Pn 09 58 54.6 +7.1
comp=Z,21nm,2.5s
SUW Suwalki 16.64 5 eP Pn 09 58 53.0 -0.9
comp=Z,64nm,1.0s
SUW Suwalki 16.64 5 eP Pn 09 58 53.0 -0.9
SUW pmax pmax
comp=Z,64nm,1.0s

GIVF	Givet	17.06	323	eP		Pn	09 59 03.3	+4.0
GIVF	Givet	17.06	323	eP		Pn	09 59 03.3	+4.0
GIVF	Givet	17.06	323	eP		Pn	09 59 03.3	+4.0
GIVF	Givet	17.06	323	eP		Pn	09 59 03.3	+4.0
BAIF	Baives	17.33	322	eP		Pn	09 59 05.5	+2.8
	comp=Z,9.7nm,0.8s							
BAIF	Baives	17.33	322	eP		Pn	09 59 05.5	+2.8
	comp=Z,9.7nm,0.8s							
BAIF	Baives	17.33	322	eP		Pn	09 59 05.5	+2.8
BAIF					pmax	pmax		
	comp=Z,10.0nm,0.8s							
BAIF	Baives	17.33	322	eP		Pn	09 59 05.5	+2.8
	comp=Z,9.7nm,0.8s							
KIV	Kislovodsk	17.80	62	eP		Pn	09 59 01.4	-7.1
KIV				eS		Sn	10 02 15.2	-12
KIV					pmax	pmax		
	comp=Z,4.0nm,0.8s							
GNI	Garni	18.85	74	LR		LR	10 07 06.3	
	comp=Z,78nm,21.7s,baz=155,slow=39							
GNI	Garni	18.85	74	i P		Pn	09 59 13.7	-7.7
GNI					pmax	pmax		
	comp=Z,3.0nm,0.6s							
LDF	La Druitiere	18.85	313	eP		Pn	09 59 22.8	+1.5
	comp=Z,5.8nm,0.5s							
LDF	La Druitiere	18.85	313	eP		Pn	09 59 22.8	+1.5
	comp=Z,5.8nm,0.5s							
LDF	La Druitiere	18.85	313	eP		Pn	09 59 22.8	+1.5
LDF					pmax	pmax		
	comp=Z,6.0nm,0.5s							
LDF	La Druitiere	18.85	313	eP		Pn	09 59 22.8	+1.5
	comp=Z,5.8nm,0.5s							
GRR	Gorron	19.18	312	eP		Pn	09 59 30.3	+4.9
GRR	Gorron	19.18	312	eP		Pn	09 59 30.3	+4.9
GRR	Gorron	19.18	312	eP		Pn	09 59 30.3	+4.9
ESDC	Sonseca Array	19.47	284	P		Pn	09 59 29.7	+0.8
	comp=Z,0.2nm,0.3s,baz=79,slow=12,SNR=6.9							
ESDC	Sonseca Array	19.47	284	P		Pn	09 59 29.7	+0.8
ESDC	Sonseca Array	19.47	284	P		Pn	09 59 29.7	+0.8
OBN	Obninsk	20.66	26	eP		P	09 59 39.3	-1.3
	comp=Z,21nm,0.5s							
OBN	Obninsk	20.66	26	eP		P	09 59 34.6	-6.0
OBN				i			09 59 51.8	
OBN					pmax	pmax		
	comp=Z,21nm,1.1s							
OBN	Obninsk	20.66	26	eP		P	09 59 39.3	-1.3
	comp=Z,21nm,0.5s							
VSU	Vasula	21.37	9	eP		P	09 59 45.3	-2.9
VSU					pmax	pmax		
	comp=Z,43nm,0.6s,mb5.0							
HFS	Hagfors	23.14	351	P		P	10 00 05.4	-1.6
	comp=Z,3.0nm,0.3s,mb4.2,baz=163,slow=11,SNR=38							
HFS	Hagfors	23.14	351	P		P	10 00 05.4	-1.6
HFS	Hagfors	23.14	351	P		P	10 00 05.4	-1.6
ESK	Eskdalemuir	24.15	325	eP		P	10 00 17.3	+0.4
	comp=Z,9.2nm,0.6s,mb4.4							
ESK	Eskdalemuir	24.15	325	eP		P	10 00 17.3	+0.5
ESK					pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.4							
NAO01	NORSAR Array S	24.23	348	eP		P	10 00 16.4	-1.1
	comp=Z,4.9nm,0.6s,mb4.1							
FINES	FINESS Array B	24.23	6	P		P	10 00 15.9	-1.7
	comp=Z,1.6nm,0.4s,mb3.8,baz=179,slow=10,SNR=24							
FINES	FINESS Array B	24.23	6	P		P	10 00 15.9	-1.7
FINES	FINESS Array B	24.23	6	P		P	10 00 15.9	-1.7
NB2	NORSAR Subarra	24.36	349	P		P	10 00 17.6	-1.1
	comp=Z,0.5nm,0.7s,baz=152,slow=11							
NB2	NORSAR Subarra	24.36	349	P		P	10 00 17.6	-1.1
	comp=Z,0.5nm,0.7s,SNR=5.5							
NOA	NORSAR Array B	24.36	349	P		P	10 00 18.4	-0.3
	comp=Z,3.2nm,0.6s,mb3.9,baz=152,slow=11,SNR=16							
NOA	NORSAR Array B	24.36	349	P		P	10 00 18.4	-0.3
NOA	NORSAR Array B	24.36	349	P		P	10 00 18.4	-0.3
KAF	Kangasniemi	24.91	6	eP		P	10 00 22.4	-1.3
KAF					pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0							
KAF	Kangasniemi	24.91	6	ep		P	10 00 22.4	-1.3
	comp=Z,1.9nm,0.4s,mb4.0							
KAF	Kangasniemi	24.91	6	eP		P	10 00 22.4	-1.3
	comp=Z,1.9nm,0.4s,mb4.0							
JOF	Joensuu	26.29	11	eP		P	10 00 34.9	-1.3
JOF					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9							
JOF	Joensuu	26.29	11	ep		P	10 00 34.9	-1.3
	comp=Z,1.9nm,0.5s,mb3.9							
JOF	Joensuu	26.29	11	eP		P	10 00 34.9	-1.3
	comp=Z,1.9nm,0.5s,mb3.9							
AKTK	Aktyubinsk	29.45	52	P		P	10 01 03.3	-1.3
AKTO	Aktyubinsk	29.45	52	P		P	10 01 03.3	-1.3
	comp=Z,1.3nm,0.3s,mb4.2,baz=250,slow=10,SNR=7.2							
AKTO	Aktyubinsk	29.45	52	P		P	10 01 03.3	-1.3
AKTO	Aktyubinsk	29.45	52	P		P	10 01 03.3	-1.3
AKTO	Aktyubinsk	29.45	52	P		P	10 01 03.3	-1.3
TORD	Torodi Ar. Bea	29.61	220	P		P	10 01 07.9	+1.5
	comp=Z,1.4nm,0.6s,mb3.9,baz=32,slow=9.1,SNR=13							
TORD					LR	LR	10 15 27.3	
	comp=Z,36nm,19.3s,baz=185,slow=41							
TORD	Torodi Ar. Bea	29.61	220	P		P	10 01 07.9	+1.5
TORD	Torodi Ar. Bea	29.61	220	P		P	10 01 07.9	+1.6
ABKAR	Abkulak array	30.48	55	eP		P	10 01 12.4	-1.3
	comp=Z,0.7nm,0.3s,mb3.9							
ABKAR	Abkulak array	30.48	55	eP		P	10 01 12.4	-1.3
	comp=Z,0.6nm,0.3s,mb3.8							
ARU	Arti	31.46	41	eP		P	10 01 20.1	-2.2
	comp=Z,2.9nm,0.4s,mb4.5							
ARU	Arti	31.46	41	eP		P	10 01 20.1	-2.2
ARU					pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5							
ARCES	ARCESS Array B	32.24	3	P		P	10 01 28.1	-0.8
	comp=Z,1.2nm,0.5s,mb4.0,baz=194,slow=10,SNR=35							
ARCES	ARCESS Array B	32.24	3	P		P	10 01 28.1	-0.8
ARCES	ARCESS Array B	32.24	3	P		P	10 01 28.1	-0.9
ARCES	ARCESS Array B	32.24	3	P		P	10 01 28.1	-0.9
KEV	Kevo	32.53	4	eP		P	10 01 29.1	-2.4
KEV	Kevo	32.53	4	ep		P	10 01 29.1	-2.4
BRVK	Borovoye	37.36	49	eP		P	10 02 12.1	-1.3
	comp=Z,4.2nm,1.0s,mb4.2							
BRVK	Borovoye	37.36	49	eP		P	10 02 12.1	-1.3
BRVK					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2							
BRVK	Borovoye	37.36	49	eP		P	10 02 12.1	-1.3
	comp=Z,4.2nm,1.0s,mb4.2							
BVAR	Borovoye Array	37.42	49	P		P	10 02 12.6	-1.3
	comp=Z,0.9nm,0.4s,mb3.9,baz=259,slow=7.0,SNR=8.3							
BVAR	Borovoye Array	37.42	49	P		P	10 02 12.6	-1.3
BVAR	Borovoye Array	37.42	49	P		P	10 02 12.6	-1.3
BVAR	Borovoye Array	37.42	49	P		P	10 02 12.6	-1.3
KKAR	Karatay Array	37.89	65	eP		P	10 02 16.5	-1.5
	comp=Z,1.2nm,0.5s,mb3.9							
KKAR	Karatay Array	37.89	65	eP		P	10 02 16.5	-1.5
KKAR					pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8							
DBIC	Dimbokro	38.52	224	P		P	10 02 24.9	+1.4
	comp=Z,4.3nm,0.9s,mb4.2,baz=8.2,slow=8.4,SNR=5.4							
DBIC	Dimbokro	38.52	224	eP		P	10 02 24.8	+1.3
	comp=Z,5.2nm,0.8s,mb4.3							
DBIC	Dimbokro	38.52	224	P		P	10 02 24.9	+1.4
DBIC					pmax	pmax		
	comp=Z,4.0nm,0.9s							
DBIC	Dimbokro	38.52	224	eP		P	10 02 24.8	+1.3
	comp=Z,5.2nm,0.8s,mb4.3							
KURK	Kurchatov	42.54	53	P		P	10 02 54.1	-2.3
	comp=Z,2.1nm,0.6s,mb4.0,baz=280,slow=8.8,SNR=7.2							
KURK	Kurchatov	42.54	53	P		P	10 02 54.1	-2.3
KURK	Kurchatov	42.54	53	P		P	10 02 54.1	-2.3
MK31	Makanchi Array	45.50	58	eP		P	10 03 18.0	-2.2
MK31	Makanchi Array	45.50	58	eP		P	10 03 18.0	-2.3
MKAR	Makanchi Array	45.50	58	P		P	10 03 18.4	-1.9
	comp=Z,1.3nm,0.4s,mb4.1,baz=270,slow=7.5,SNR=24							
MKAR	Makanchi Array	45.50	58	eP		P	10 03 18.6	-1.6
MKAR	Makanchi Array	45.50	58	P		P	10 03 18.4	-1.9
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
ZAA0	Zalesovo Array	46.01	48	eP		P	10 03 21.7	-2.5
ZALV	Zalesovo Beam	46.01	48	P		P	10 03 21.8	-2.4
	comp=Z,2.4nm,0.4s,mb4.5,baz=277,slow=9.0,SNR=11							
ZALV	Zalesovo Beam	46.01	48	P		P	10 03 21.8	-2.4
ZALV	Zalesovo Beam	46.01	48	P		P	10 03 21.8	-2.4
WMQ	Urumqi	49.92	60	eP		P	10 03 55.0	+0.4
PYUN	Piuthan	52.29	81	eP		P	10 04 11.2	-1.5
	comp=Z,13nm,0.6s,mb5.0							
PYUN	Piuthan	52.29	81	eP		P	10 04 11.2	-1.5
	comp=Z,13nm,0.6s,mb5.0							
DANN	Dangsing	52.78	80	eP		P	10 04 15.0	-1.3
	comp=Z,12nm,0.6s,mb5.0							
DANN	Dangsing	52.78	80	eP		P	10 04 15.0	-1.3
	comp=Z,12nm,0.6s,mb5.0							
KOLN	Koldanda	52.92	81	eP		P	10 04 16.3	-1.0
	comp=Z,5.0nm,0.4s,mb4.8							
GUN	Gumba	54.64	80	eP		P	10 04 28.2	-1.8
	comp=Z,6.7nm,0.4s,mb5.0							
RAMN	Ramite	55.66	80	eP		P	10 04 35.2	-2.1
	comp=Z,11nm,0.8s,mb4.9							
RAMN	Ramite	55.66	80	eP		P	10 04 35.2	-2.1
	comp=Z,11nm,0.8s,mb4.9							
SONM	Songino Array	60.75	50	P		P	10 05 10.7	-1.9
	comp=Z,0.2nm,0.6s,mb3.5,baz=305,slow=5.1,SNR=2.4							
SONM	Songino Array	60.75	50	P		P	10 05 10.7	-1.9
SONM	Songino Array	60.75	50	P		P	10 05 10.7	-1.9
LZH	Lanzhou	64.33	63	eP		P	10 05 34.1	-2.7
LZH				pP		pP	10 05 37.3	-1.7
LZH				ePP		PP	10 07 57.2	-0.7
LZH					pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0							
LZH					pmax	pmax		
	comp=Z,47nm,6.5s							
LZH					LR	LR		
	comp=N,160nm,15.0s,MS4.5							
LZH					LR	LR		
	comp=E,160nm,16.1s,MS4.5							
LZH					LR	LR		
	comp=Z,190nm,18.6s,MS4.3							
LZH	Lanzhou	64.33	63	eP		P	10 05 34.1	-2.7
	comp=Z,20nm,1.3s,mb5.0							
LZH				pP		pP	10 05 37.3	-1.7
LZH				sP		sP	10 05 38.8	-1.0
LZH				ePP		PP	10 07 57.2	-0.7
LZH				LR		LR		
	comp=Z,190nm,18.6s,MS4.3							
LZH	Lanzhou	64.33	63	eP		P	10 05 34.1	-2.7
LZH				e			10 07 57.2	
LZH					pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0							
LZH					MLR	MLR		
	comp=Z,190nm,18.6s,MS4.3							
CD2	Chengdu	66.84	68	eP		P	10 05 52.3	-0.8
CD2					pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0							
CD2					pmax	pmax		
	comp=Z,30nm,5.2s							
HHC	Hu-ho-hao-te	67.27	55	eP		P	10 05 54.5	-1.1
HHC				sP		sP	10 06 00.4	+1.8
HHC				PcP		PcP	10 06 23.0	-0.4
HHC				PP		PP	10 08 24.3	+0.9
HHC				S		S	10 14 46.1	-4.8
HHC				ScS		ScS	10 15 47.9	-6.1
HHC				SS		SS	10 19 06.5	-3.3
HHC					pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2							
HHC					pmax	pmax		
	comp=Z,74nm,3.8s							
HHC					LR	LR		
	comp=N,230nm,17.8s,MS4.6							
HHC					LR	LR		
	comp=E,190nm,17.8s,MS4.6							
HHC					LR	LR		
	comp=Z,170nm,17.8s,MS4.3							
CMAR	Chiang Mai Arr	69.78	82	P		P	10 06 10.4	-1.2
	comp=Z,0.8nm,0.4s,mb4.0,baz=309,slow=7.5,SNR=5.5							
CMAR	Chiang Mai Arr	69.78	82	P		P	10 06 10.4	-1.2
CMAR	Chiang Mai Arr	69.78	82	P		P	10 06 10.4	-1.2
CMAR	Chiang Mai Arr	69.78	82	P		P	10 06 10.4	-1.2
GYA	Guiyang	71.35	71	eP		P	10 06 19.8	-1.4
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
INK	Inuvik	72.81	350	P		P	10 06 28.5	-0.6
	comp=Z,0.6nm,0.6s,mb3.7,baz=11,slow=8.4,SNR=7.2							
INK	Inuvik	72.81	350	P		P	10 06 28.5	-0.6
INK	Inuvik	72.81	350	P		P	10 06 28.5	-0.6
INK	Inuvik	72.81	350	P		P	10 06 28.5	-0.6
YKA	Yellowknife Ar	74.14	340	P		P	10 06 37.3	+0.3
	comp=Z,0.7nm,0.6s,mb3.8,baz=35,slow=5.4,SNR=8.9							
YKA	Yellowknife Ar	74.14	340	P		P	10 06 37.4	+0.3
YKA	Yellowknife Ar	74.14	340	P		P	10 06 37.3	+0.2
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKA	Yellowknife Ar	74.14	340	P		P	10 06 37.3	+0.2
	comp=Z,1.0nm,0.6s,mb3.9							
WHN	Wuhan	74.71	63	P		P	10 06 42.2	+1.2
MDJ	Mudanjiang	76.07	44	P		P	10 06 45.4	-3.1
MDJ					pmax	pmax		
	comp=Z,6.0nm,1.9s,mb4.2							
MDJ					pmax	pmax		
	comp=Z,9.0nm,2.3s,mb4.3							
ULM	Lac du Bonnet	76.41	324	P		P	10 06 50.3	0.0
	comp=Z,1.6nm,0.6s,mb4.1,baz=156,slow=2.7,SNR=3.6							
ULM	Lac du Bonnet	76.41	324	P		P	10 06 50.3	0.0
ULM	Lac du Bonnet	76.41	324	P		P	10 06 50.3	0.0
ULM	Lac du Bonnet	76.41	324	P		P	10 06 50.3	0.0
ILAR	Eielson Array	77.64	355	P		P	10 06 57.5	+0.5
	comp=Z,0.3nm,0.5s,mb3.5,baz=337,slow=3.7,SNR=8.0							
ILAR	Eielson Array	77.64	355	P		P	10 06 57.5	+0.5
ILAR	Eielson Array	77.64	355	P		P	10 06 57.5	+0.5
ILAR	Eielson Array	77.64	355	P		P	10 06 57.5	+0.5
PVMO	Portageville	82.34	310	eP		P	10 07 24.8	+1.8
	comp=Z,197nm,0.5s							
PVMO	Portageville	82.34	310	eP		P	10 07 24.8	+1.8
	comp=Z,197nm,0.5s							

IDC 07 10:02:15.3±2.1, 8°42S×129°52E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=69.5km s-min=29.2km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FITZ	Fitzroy Crossi	10.34	201	Pn		Pn	Pn	10 04 44.7	-0.3
	0.3nm,0.3s,baz=34,slow=12,SNR=12								
FITZ						Sn	Sn	10 06 36.9	-4.7
	0.3nm,0.3s,baz=227,slow=9.0,SNR=4.0								
WRA	Warramunga Arr	12.37	158	Pn		Pn	Pn	10 05 12.5	-0.3
	0.3nm,0.3s,baz=337,slow=12,SNR=6.2								
WRA						Sn	Sn	10 07 27.6	-3.8
	0.3nm,0.3s,baz=332,slow=26,SNR=4.6								
ASAR	Alice Springs	15.73	165	Pn		Pn	Pn	10 05 59.1	+0.8
	0.2nm,0.3s,baz=337,slow=9.1,SNR=10.0								
ASAR						Sn	Sn	10 08 51.4	-2.1
	0.1nm,0.3s,baz=352,slow=25,SNR=4.5								
MKAR	Makanchi Array	69.15	327	P		P	P	10 13 23.7	+0.1
	0.2nm,0.5s,baz=118,slow=7.7,SNR=4.5								

IDC 07 10:21:43.9±3.7, 10°12S×153°30E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML2.4/1, Error ellipse: s-maj=86.2km s-min=33.2km az=118.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	Port Moresby	6.10	276	Pn		Pn	Pn	10 23 15.5	+0.1
	0.6nm,0.3s,baz=61,slow=13,SNR=3.7								
WRA	Warramunga Arr	20.73	240	P		P	P	10 26 25.2	-1.0
	2.4nm,0.8s,baz=61,slow=11,SNR=8.1								
ASAR	Alice Springs	22.89	232	P		P	P	10 26 49.9	+0.5
	1.3nm,0.8s,baz=59,slow=10,SNR=16								
SONM	Songino Array	71.08	329	P		P	P	10 33 04.4	+0.5
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.6								

IDC 07 10:26:29.8±1.4, 35°13N×80°88E, h0km, mb3.7/3, mb1 3.6/7, mb1mx3.4/28, mbtmp3.5/7, ML3.5/4, Error ellipse: s-maj=30.6km s-min=24.4km az=72.0, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MKAR	Makanchi Array	11.70	5	Pn		Pn	Pn	10 29 16.9	-1.1
	0.1nm,0.3s,baz=188,slow=13,SNR=7.2								
KURK	Kurchatov	15.67	355	Pn		Pn	Pn	10 30 08.7	-3.1
	0.1nm,0.3s,baz=174,slow=12,SNR=4.0								
ZALV	Zalesovo Beam	19.02	7	P		Pn	Pn	10 30 52.9	-0.8
	0.2nm,0.3s,baz=184,slow=11,SNR=2.8								
BVAR	Borovoye Array	19.38	341	P		Pn	Pn	10 30 58.4	+0.4
	0.2nm,0.3s,baz=149,slow=14,SNR=8.0								
SONM	Songino Array	22.83	48	P		P	P	10 31 34.5	+0.3
	1.0nm,1.1s,baz=251,slow=9.1,SNR=4.0								
CMAR	Chiang Mai Arr	23.08	131	P		P	P	10 31 37.3	+0.2
	1.4nm,0.4s,baz=311,slow=12,SNR=6.8								
TORD	Torodi Ar. Bea	73.78	275	P		P	P	10 38 06.2	-0.1
	0.8nm,0.6s,baz=47,slow=5.6,SNR=8.2								

*IDC **07** 10:36:25.8±0.9, 20°84S×174°04W, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.2/21, mbtmp4.2/12, ML3.3/2, Error ellipse: s-maj=37.6km s-min=16.8km az=141.0*
*ISCJB **07** 10:36:27.5±0.6, 21°15±0°1×173°81W±0°10, h33km, mb4.3/15, Error ellipse: s-maj=19.2km s-min=11.4km az=157.4*
*NEIC **07** 10:36:29.9±0.4, 21°10S×173°84W, h35km, mb4.7/5, Error ellipse: s-maj=17.3km s-min=9.5km az=159.0*

ISC 07 10:36:29.4±0.6, 21°05±0°1×173°81W±0°09, h35km, n55, σ1°08/37, mb4.3/15, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	Afiamalu	7.32	16	Pn		Pn	Pn	10 38 11.2	-2.6
	5.6nm,0.3s,baz=246,slow=20,SNR=9.7								
AFI						Sn	Sn	10 39 26.9	-8.9
	15nm,0.3s,baz=213,slow=22,SNR=5.8								
AFI	Afiamalu	7.32	16	Pn		Pn	Pn	10 38 11.2	-2.7
AFI						Sn	Sn	10 39 26.9	-8.9
MSVF	Nonsavu	8.35	292	ePn		Pn	Pn	10 38 34.2	+6.2
	25nm,0.8s								
RAR	Rarotonga	13.10	93	Pn		Pn	Pn	10 39 31.2	-1.8
	5.1nm,0.3s,baz=255,slow=13,SNR=5.7								
RAR	Rarotonga	13.10	93	Pn		Pn	Pn	10 39 31.2	-1.8
URZ	Urewera	18.90	203	P		Pn	Pn	10 40 48.2	+0.5
	0.4nm,0.3s,baz=0.0,slow=12,SNR=3.9								
URZ						S	S	10 44 05.4	-14
	1.1nm,0.3s,baz=223,slow=22,SNR=7.7								
URZ	Urewera	18.90	203	P		Pn	Pn	10 40 48.2	+0.5
URZ						S	S	10 44 05.4	-14
TBI	Tubuai	22.66	100	eLR		LR	LR	10 46 43.7	
	167nm,31.2s								
PAE	Paea	23.09	86	eT				11 05 30.4	
	2.5nm,0.3s								
PPT2	Papeete2	23.11	86	eT				11 05 32.0	
	2.2nm,0.3s								
PPT	Papeete	23.12	86	eLR		LR	LR	10 46 54.6	
	177nm,25.5s								
MEH	Mehetia	24.46	87	eT				11 07 12.3	
	28nm,0.3s								
RKT	Rikitea	35.98	101	eT				11 21 35.1	
	1.5nm,0.3s								
CTA	Charters Tower	37.34	264	P			P	10 43 38.9	+0.1
	2.0nm,0.5s,mb4.2,baz=99,slow=10,SNR=4.0								
CTA	Charters Tower	37.34	264	P			P	10 43 38.9	+0.1
PMG	Port Moresby	39.29	281	P			P	10 43 55.0	-0.2
	8.3nm,0.8s,mb4.5,baz=81,slow=8.6,SNR=4.2								
PMG	Port Moresby	39.29	281	P			P	10 43 55.0	-0.2
STKA	Stephens Creek	41.12	245	P			P	10 44 10.8	+0.5
	2.8nm,0.7s,mb4.0,baz=68,slow=9.5,SNR=9.3								
STKA	Stephens Creek	41.12	245	eP			P	10 44 10.4	+0.2
	0.5nm,0.6s,mb3.3								
COEN	Coen	41.53	273	eP			P	10 44 13.3	-0.4
	14nm,0.6s,mb4.8								
AS31	Alice Springs	48.22	257	eP			P	10 45 06.6	-0.3
ASAR	Alice Springs	48.22	257	P			P	10 45 06.8	-0.2
	4.8nm,0.7s,mb4.6,baz=100,slow=7.7,SNR=59								
ASAR						PcP	PcP	10 46 35.6	+1.8
	1.1nm,0.8s,baz=99,slow=4.6,SNR=4.6								
ASAR	Alice Springs	48.22	257	P			P	10 45 06.8	-0.2
ASAR						PcP	PcP	10 46 35.6	+1.8
WRAB	Tennant Creek	48.41	262	eP			P	10 45 07.3	-1.1
	2.1nm,0.6s,mb4.3								
WRA	Warramunga Arr	48.41	262	P			P	10 45 07.5	-0.9
	2.1nm,0.8s,mb4.2,baz=97,slow=7.1,SNR=11								
WRA						PcP	PcP	10 46 36.0	+1.4
	0.7nm,0.8s,baz=96,slow=3.8,SNR=5.1								
WRA	Warramunga Arr	48.41	262	P			P	10 45 07.5	-0.9
WRA						PcP	PcP	10 46 36.0	+1.4
FITZ	Fitzroy Crossi	56.84	262	eP			P	10 46 10.9	0.0
	1.4nm,0.7s,mb4.1								
MBWA	Marble Bar	61.56	257	eP			P	10 46 43.3	-0.3
	6.5nm,0.7s,mb4.9								
MJAR	Matsushiro Ar	73.00	321	P			P	10 47 56.3	+0.7
	2.3nm,0.8s,mb4.2,baz=159,slow=5.9,SNR=8.4								
MJAR	Matsushiro Ar	73.00	321	P			P	10 47 56.3	+0.7
PETK	Petropavlovsk-	77.83	343	P			P	10 48 22.9	0.0
	3.4nm,0.8s,mb4.4,baz=123,slow=11,SNR=4.5								
PETK	Petropavlovsk-	77.83	343	P			P	10 48 22.9	0.0
NVAR	Mina Array Bea	78.75	41	P			P	10 48 31.3	+2.9
	1.4nm,0.6s,mb4.0,baz=224,slow=8.7,SNR=17								
NVAR	Mina Array Bea	78.75	41	P			P	10 48 31.3	+2.9
MCK	McKinley	86.67	11	eP			P	10 49 10.3	+1.4
	26nm,1.9s,mb5.1								
PDAR	Pinedale Array	86.69	42	P			P	10 49 11.4	+1.9
	0.6nm,0.9s,mb3.8,baz=242,slow=3.2,SNR=4.5								
PDAR	Pinedale Array	86.69	42	P

YOA smax
comp=N,4μm,0.4s
YOA Uoyan 0.98 346 ⇑ *i*Pg Pg 10 45 57.4 -0.4
YOA *i* Sg Sg 10 46 10.6 -0.1
YOA Pmax
comp=N,547nm,0.2s
YOA Smax
comp=N,4μm,0.4s
SVKR Severomuysk 1.23 40 *e*PG Pg 10 46 02.8 +0.3
SVKR *e* 10 46 19.7
SVKR pmax pmax
comp=Z,122nm,0.4s
SVKR smax
comp=N,1μm,0.9s
SVKR Severomuysk 1.23 40 *e*Pg Pg 10 46 03.1 +0.6
SVKR *e*Sg Sg 10 46 19.3 +0.8
SVKR Pmax
comp=N,131nm,0.2s
SVKR Smax
comp=N,1μm,0.5s
NIZ Nizh Angarsk 1.60 293 *e*PN Pn 10 46 07.8 +1.0
NIZ *e* 10 46 29.9
NIZ pmax pmax
comp=Z,110nm,0.5s
NIZ smax
comp=N,299nm,1.0s
NIZ Nizh Angarsk 1.60 293 ⇑ *i*Pg Pg 10 46 07.9 -1.7
NIZ *e*Sg Sg 10 46 29.8 -0.6
NIZ Pmax
comp=N,109nm,0.5s
NIZ Smax
comp=N,291nm,0.6s
SYVR Suvo 1.98 220 ⇓ *i*Pn Pn 10 46 13.7 +1.7
SYVR *e*Pg Pg 10 46 16.5 -0.3
SYVR *e*Sn Sn 10 46 40.7 +4.0
SYVR *e*Sg Sg 10 46 43.2 +0.7
SYVR Pmax
comp=N,34nm,0.7s
SYVR Smax
comp=N,124nm,0.4s
NLYR Nelyaty 2.39 55 *e*Pn Pn 10 46 18.7 +1.0
NLYR *e*Pg Pg 10 46 22.7 -2.0
NLYR *e* 10 46 29.4
NLYR *i* Sg Sg 10 46 53.9 -1.8
NLYR max
comp=N,86nm,0.3s
NLYR Smax
comp=N,178nm,0.9s
MXMB Maximikha 2.78 228 *e*Pn Pn 10 46 25.0 +2.0
MXMB *e*Pg Pg 10 46 30.7 -1.4
MXMB *e*Sn Sn 10 47 00.3 +4.0
MXMB *e*Sg Sg 10 47 07.9 -0.1
MXMB Pmax
comp=N,58nm,0.8s
MXMB Smax
comp=N,237nm,0.8s
BOD Bodaibo 2.83 20 *e*Pn Pn 10 46 24.9 +1.1
BOD *e*Pg Pg 10 46 29.4 -3.8
BOD *e*Sn Sn 10 46 56.9 -0.8
BOD *e*Sg Sg 10 47 04.7 -5.2
BOD Pmax
comp=N,18nm,0.5s
BOD Smax
comp=N,101nm,0.6s
OGRR Ongureny 3.08 242 *e*Pn Pn 10 46 29.1 +2.0
OGRR *e*Pg Pg 10 46 35.3 -2.5
OGRR *e*Sn Sn 10 47 04.6 +0.8
OGRR *e*Sg Sg 10 47 14.8 -2.9
OGRR Pmax
comp=N,18nm,0.4s
OGRR Smax
comp=N,112nm,1.2s
CIT Chita 3.28 165 *e*Pg Pg 10 46 41.1 -0.5
CIT *e*Sg Sg 10 47 25.3 +1.3
CIT Pmax
comp=N,129nm,0.1s
CIT Smax
comp=N,282nm,0.5s
CRS Chara 3.84 61 *e*PN Pn 10 46 38.8 +1.2
CRS *e* 10 46 48.7
CRS *e* 10 47 38.4
CRS pmax pmax
comp=Z,41nm,0.7s
CRS smax
comp=E,77nm,0.7s
CRS Chara 3.84 61 *e*Pn Pn 10 46 39.0 +1.4
CRS *e*Pg Pg 10 46 48.9 -3.4
CRS *e*Sn Sn 10 47 24.2 +1.8
CRS *e*Sg Sg 10 47 38.5 -3.5
CRS Pmax
comp=E,27nm,0.6s
CRS Smax
comp=E,82nm,2.1s
TRG Tyrgan 4.20 237 *e*Pn Pn 10 46 43.6 +1.1
TRG *e*Pg Pg 10 46 54.8 -4.5
TRG *e*Sn Sn 10 47 33.1 +1.7
TRG *e*Sg Sg 10 47 49.9 -3.7
TRG Pmax
comp=E,5.0nm,0.3s
TRG Smax
comp=E,48nm,0.4s
UUDB Ulan-Yde 4.27 221 *e*Pg Pg 10 46 56.6 -4.0
UUDB *e*Sg Sg 10 47 51.6 -4.2
UUDB Smax
comp=E,340nm,0.3s
FFNB Fofonovo 4.49 228 *e*Sg Sg 10 48 02.5 -0.4
FFNB Smax
comp=E,33nm,0.9s
TUP Tupik 4.58 96 *e*PN Pn 10 46 49.0 +1.3
TUP *e* 10 47 01.9
TUP *e*S Sn 10 47 42.8 +2.1
TUP *e* 10 48 02.5
TUP pmax pmax
comp=Z,18nm,0.4s
TUP smax
comp=N,110nm,0.4s
TUP Tupik 4.58 96 *e*Pn Pn 10 46 49.3 +1.6
TUP *e*Pg Pg 10 47 02.4 -4.1
TUP *e*Sn Sn 10 47 43.3 +2.6
TUP *e*Sg Sg 10 48 03.0 -2.7
TUP Pmax
comp=N,15nm,0.4s
TUP Smax
comp=N,110nm,0.4s
HRMR Khuramsha 4.73 223 *e*Pn Pn 10 46 53.1 +3.3
HRMR *e*Pg Pg 10 47 07.4 -2.0
HRMR *e*Sg Sg 10 48 10.3 -0.3
HRMR Pmax
comp=N,20nm,0.5s
HRMR Smax
comp=N,105nm,0.7s
LSTR Listvyanka 5.49 236 *e*Sg Sg 10 48 33.1 -1.7
LSTR Smax
comp=N,28nm,1.3s
KPC Khapcheranga 5.49 178 *e*Pn Pn 10 47 01.1 +0.8
KPC *e*Pg Pg 10 47 20.5 -3.5
KPC *e*Sg Sg 10 48 32.7 -2.3
KPC Pmax
comp=N,3.0nm,0.3s
KPC Smax
comp=N,51nm,1.4s
TLY Talaya 6.18 239 *e*Sg Sg 10 48 50.5 -6.5
TLY Smax
comp=N,42nm,1.8s
ZAK Zakamensk 7.21 232 *e*Sg Sg 10 49 26.6 -3.6
ZAK Smax
comp=N,12nm,1.1s
MOY Mondy 7.54 247 *e*Sg Sn 10 49 35.3 +42
MOY Smax
comp=N,40nm,2.1s
ORL Orlik 7.76 255 *e*PN Pn 10 47 34.1 +2.6
ORL *e* 10 47 59.9
ORL *e*S Sn 10 48 59.4 +0.3
ORL pmax pmax
comp=Z,3.0nm,0.6s
ORL smax
comp=N,15nm,0.8s
ORL Orlik 7.76 255 *e*Pn Pn 10 47 33.3 +1.8
ORL *e*Sn Sn 10 48 58.6 -0.5
ORL *e*Sg Sn 10 49 38.4 +39
ORL Smax
comp=N,35nm,2.4s

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*ISCJB **07** 11:22:09.8±2.2, 24°.70S±0°.09×179°.0W±0°.2, h313km±24km, mb3.8/6, Error ellipse: s-maj=26.3km s-min=13.8km az=177.1*
*IDC **07** 11:22:20.2±7.4, 24°.85S×178°.99W, h425km±82km, mb3.4/5, mb1 3.7/6, mb1mx3.3/17, mbtmp3.5/6, Error ellipse: s-maj=48.5km s-min=28.8km az=23.0*
ISC 07 11:22:15.4±1.7, **24°.86S**±0°.07×**179°.0W**±0°.2, **h359**km±20km, **n17**, σ1°**12**/21, **mb3.7**/6, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**13.38**	**189**	PN	**Pn**	**11 25 11.1**	**-2.0**
PUZ				SN	**S**	**11 27 32.6**	**-5.1**
MWZ	**Matawai**	**13.76**	**192**	PN	**Pn**	**11 25 15.7**	**-1.7**
MWZ				*e*SN	**S**	**11 27 44.1**	**-1.3**
URZ	**Urewera**	**13.76**	**193**	P	**P**	**11 25 17.2**	**+1.3**
5.3nm,0.3s,baz=352,slow=0.9,SNR=46							
URZ				S	**S**	**11 27 45.8**	**+0.3**
2.0nm,0.3s,baz=262,slow=23,SNR=11							
URZ	**Urewera**	**13.76**	**193**	PN	**Pn**	**11 25 17.1**	**-0.4**
URZ				*e*SN	**S**	**11 27 44.3**	**-1.2**
KAHZ	**Kahuranaki**	**15.29**	**192**	PN	**P**	**11 25 33.1**	**+0.5**
TSZ	**Takapari Road**	**15.74**	**194**	PN	**P**	**11 25 37.3**	**-0.1**
TSZ				*e*SN	**S**	**11 28 25.3**	**+0.4**
PRHZ	**Porangahau**	**15.80**	**192**	PN	**P**	**11 25 40.3**	**+2.3**
NNZ	**Nelson**	**17.51**	**199**	PN	**P**	**11 25 58.9**	**+2.4**
THZ	**Tophouse**	**18.15**	**200**	PN	**P**	**11 26 04.2**	**+0.9**
CTA	**Charters Tower**	**32.39**	**271**	P	**P**	**11 28 14.2**	**+1.1**
4.5nm,0.5s,mb3.9,baz=100,slow=13,SNR=9.2							
CTA	**Charters Tower**	**32.39**	**271**	*e*P	**P**	**11 28 13.2**	**+0.1**
4.2nm,0.6s,mb3.9							
PMG	**Port Moresby**	**35.66**	**290**	P	**P**	**11 28 40.1**	**-0.9**
9.9nm,0.8s,mb4.1,baz=109,slow=5.6,SNR=5.5							
ASAR	**Alice Springs**	**42.78**	**261**	P	**P**	**11 29 39.2**	**+0.1**
1.4nm,0.6s,mb3.3,baz=93,slow=7.2,SNR=32							
WRA	**Warramunga Arr**	**43.25**	**267**	P	**P**	**11 29 42.4**	**-0.6**
3.6nm,0.6s,mb3.7,baz=103,slow=8.2,SNR=17							
FITZ	**Fitzroy Crossi**	**51.66**	**266**	*e*P	**P**	**11 30 47.0**	**0.0**
5.3nm,0.6s,mb4.0							
TXAR	**Lajitas Array**	**90.17**	**58**	P	**P**	**11 34 35.5**	**-0.4**
0.2nm,0.9s,mb3.0,baz=204,slow=2.7,SNR=3.5							
HFS	**Hagfors**	**143.65**	**349**	PKP	PKPdf	11 41 02.5	-4.8
2.1nm,0.9s,baz=29,slow=6.6,SNR=3.7							

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*ISCJB **07** 11:30:08.2±1.4, 16°.6S±0°.2×174°.8W±0°.2, h178km±16km, mb3.7/10, Error ellipse: s-maj=36.0km s-min=14.8km az=42.0*
*IDC **07** 11:30:09.6±2.3, 16°.72S×174°.69W, h180km±21km, mb3.6/8, mb1 3.8/9, mb1mx3.6/18, mbtmp3.6/9, Error ellipse: s-maj=29.6km s-min=14.7km az=136.0*
*NEIC **07** 11:30:10.1±1.1, 16°.69S×174°.68W, h185km±10km, mb3.5/2, Error ellipse: s-maj=21.6km s-min=9.2km az=136.0*
ISC 07 11:30:09.1±1.4, **16°.7S**±0°.2×**174°.7W**±0°.2, **h174**km±15km, **n32**, σ0°**84**/23, **mb3.7**/10, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.91**	**46**	P	**Pn**	**11 31 10.7**	**+1.7**
33nm,0.3s,baz=40,slow=2.4,SNR=61							
AFI				S	**Sn**	**11 31 54.3**	**-1.3**
79nm,0.3s,baz=10,slow=19,SNR=18							
AFI	**Afiamalu**	**3.91**	**46**	P	**Pn**	**11 31 10.7**	**+1.7**
AFI				S	**Sn**	**11 31 54.3**	**-1.3**
URZ	**Urewera**	**22.70**	**197**	P	**P**	**11 34 55.2**	**-0.7**
4.2nm,0.4s,mb4.2,baz=268,slow=23,SNR=9.7							
URZ	**Urewera**	**22.70**	**197**	P	**P**	**11 34 55.2**	**-0.7**
STKA	**Stephens Creek**	**42.35**	**241**	*e*P	**P**	**11 37 47.8**	**+1.7**
3.4nm,1.8s,mb3.7							
WRAB	**Tennant Creek**	**48.36**	**258**	*e*P	**P**	**11 38 33.0**	**-0.6**
1.4nm,0.9s,mb3.6							
WRA	**Warramunga Arr**	**48.37**	**258**	P	**P**	**11 38 32.9**	**-0.8**
0.2nm,0.3s,mb3.2,baz=93,slow=6.6,SNR=4.8							
WRA	**Warramunga Arr**	**48.37**	**258**	P	**P**	**11 38 32.9**	**-0.7**
AS31	**Alice Springs**	**48.56**	**253**	*e*P	**P**	**11 38 34.7**	**-0.3**
ASAR	**Alice Springs**	**48.56**	**253**	P	**P**	**11 38 34.9**	**-0.1**
2.4nm,0.7s,mb3.9,baz=86,slow=8.2,SNR=47							
ASAR	**Alice Springs**	**48.56**	**253**	P	**P**	**11 38 34.9**	**-0.1**
MJAR	**Matsushiro Arr**	**69.11**	**321**	P	**P**	**11 40 56.7**	**+0.3**
0.7nm,0.4s,mb3.8,baz=153,slow=6.8,SNR=8.7							
MJAR	**Matsushiro Arr**	**69.11**	**321**	P	**P**	**11 40 56.7**	**+0.3**
PETK	**Petropavlovsk-**	**73.45**	**343**	P	**P**	**11 41 22.1**	**0.0**
2.1nm,0.5s,mb4.1,baz=122,slow=8.2,SNR=8.1							
PETK	**Petropavlovsk-**	**73.45**	**343**	P	**P**	**11 41 22.1**	**0.0**
NVAR	**Mina Array Bea**	**76.08**	**42**	P	**P**	**11 41 38.1**	**+0.6**
1.1nm,0.8s,mb3.5,baz=224,slow=9.3,SNR=9.9							
NVAR	**Mina Array Bea**	**76.08**	**42**	P	**P**	**11 41 38.1**	**+0.6**
ILAR	**Eielson Array**	**83.91**	**12**	P	**P**	**11 42 18.4**	**-0.4**
0.7nm,0.5s,mb3.7,baz=227,slow=5.5,SNR=33							
ILAR	**Eielson Array**	**83.91**	**12**	P	**P**	**11 42 18.4**	**-0.4**
PDAR	**Pinedale Array**	**84.02**	**42**	P	**P**	**11 42 20.1**	**+0.1**
0.8nm,0.6s,mb3.6,baz=206,slow=3.3,SNR=8.3							
PDAR	**Pinedale Array**	**84.02**	**42**	P	**P**	**11 42 20.1**	**+0.1**
ARCES	**ARCESS Array B**	**125.67**	**351**	PKP	PKPdf	11 48 49.0	-0.1
5.0nm,1.1s,baz=42,slow=1.5,SNR=4.5							
ARCES	**ARCESS Array B**	**125.67**	**351**	PKP	PKPdf	11 48 49.0	-0.1
FINES	**FINESS Array B**	**132.88**	**347**	PKP	PKPdf	11 49 03.2	+0.1
5.9nm,1.2s,baz=48,slow=2.1,SNR=3.0							
FINES	**FINESS Array B**	**132.88**	**347**	PKP	PKPdf	11 49 03.1	+0.1
CLL	**Collm**	**144.89**	**352**	*i* PKPdf	PKPdf	11 49 24.5	-0.7
BRTR	**Keskin Array B**	**146.31**	**319**	PKPbc	PKPbc	11 49 30.1	+0.5
0.6nm,0.6s,baz=61,slow=3.1,SNR=5.4							
BRTR	**Keskin Array B**	**146.31**	**319**	PKPbc	PKPbc	11 49 30.1	+0.5
GERES	**GERESS Array B**	**147.17**	**350**	PKPbc	PKPbc	11 49 31.4	-0.3
0.2nm,0.6s,baz=72,slow=4.3,SNR=3.7							
GERES	**GERESS Array B**	**147.17**	**350**	PKPbc	PKPbc	11 49 31.4	-0.3
DAVOX	**Davos/Dischmat**	**149.72**	**354**	PKPbc	PKPbc	11 49 38.2	0.0
3.4nm,0.8s,baz=14,slow=8.3,SNR=6.8							
DAVOX	**Davos/Dischmat**	**149.72**	**354**	PKPbc	PKPbc	11 49 38.2	0.0

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*CSEM **07** 11:40:59.9±0.1, 44°.57N×6°.90E, h15km, ML2.8/34, Error ellipse: s-maj=2.0km s-min=1.3km az=48.0*
*LDG **07** 11:41:00.5±0.1, 44°.58N×6°.94E, h2km, Md2.6/3, Ml2.7/25, Error ellipse: s-maj=1.3km s-min=0.7km az=63.0*
*GEN **07** 11:41:00.3, 44°.54N×6°.88E, h10km, ML2.3*
*NEIC **07** 11:41:00.5, 44°.58N×6°.94E, h2km, ML2.7(LDG), After LDG.*
*ROM **07** 11:41:00.4±0.2, 44°.56N×6°.93E, h11km±1km, Md2.4/7, Ml2.3/8, Error ellipse: s-maj=2.8km s-min=1.3km az=63.0*
*STR **07** 11:41:00.4±0.3, 44°.58N×6°.96E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **07** 11:41:00.2±0.2, 44°.58N±0°.01×6°.91E±0°.02, h24km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=151.4*
ISC 07 11:40:59.8±0.2, **44°.57N**±0°.01×**6°.89E**±0°.02, **h17**km±1km, **n142**, σ0°**90**/293, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.11**	**212**	Pg	**Pg**	**11 41 02.8**	**-0.5**
SURF				Sg	**Sg**	**11 41 04.5**	**-1.1**
SURF	**Saint Ours**	**0.11**	**212**	Pg	**Pg**	**11 41 02.8**	**-0.5**
SURF				Sg	**Sg**	**11 41 04.5**	**-1.1**
PZZ	**Stroppo**	**0.17**	**112**	Pg	**Pg**	**11 41 04.2**	**0.0**
PZZ				Sg	**Sg**	**11 41 06.9**	**-0.2**
2μm,0.2s							
PZZ	**Stroppo**	**0.17**	**112**	Pg	**Pg**	**11 41 04.2**	**0.0**
PZZ				Sg	**Sg**	**11 41 06.9**	**-0.2**
2μm,0.2s							
MBDF	**Montbardon**	**0.18**	**331**	*e*Pg	**Pg**	**11 41 04.5**	**+0.2**
MBDF				*e*Sg	**Sg**	**11 41 07.2**	**-0.1**
2μm,0.4s							
MBDF	**Montbardon**	**0.18**	**331**	*e*Pg	**Pg**	**11 41 04.5**	**+0.2**
MBDF				*e*Sg	**Sg**	**11 41 07.2**	**-0.1**
MBDF	**Montbardon**	**0.18**	**331**	*e*Pg	**Pg**	**11 41 04.5**	**+0.2**
MBDF				*e*Sg	**Sg**	**11 41 07.2**	**-0.1**
901nm,0.4s							
DOI	**San Damiano**	**0.26**	**105**	Pg	**Pg**	**11 41 05.7**	**+0.1**
DOI				Sg	**Sg**	**11 41 09.6**	**+0.1**
559nm,0.3s							
DOI	**San Damiano**	**0.26**	**105**	Pg	**Pg**	**11 41 05.7**	**+0.1**
DOI				Sg	**Sg**	**11 41 09.6**	**+0.1**
559nm,0.3s							
STV	**Sant Anna di V**	**0.45**	**136**	Pg	**Pg**	**11 41 08.9**	**0.0**
STV				Sg	**Sg**	**11 41 15.1**	**+0.1**
389nm,0.3s							
STV	**Sant Anna di V**	**0.45**	**136**	P	**Pg**	**11 41 08.7**	**-0.2**
STV				S	**Sg**	**11 41 14.3**	**-0.7**
STV				Sg	**Sg**	**11 41 15.1**	**+0.1**
389nm,0.3s							
BNI	**Bardonecchia**	**0.51**	**343**	Pg	**Pg**	**11 41 10.6**	**+0.7**
BNI				Sg	**Sg**	**11 41 17.7**	**+1.0**
65nm,0.4s							
BNI	**Bardonecchia**	**0.51**	**343**	Pg	**Pg**	**11 41 10.6**	**+0.7**
BNI				Sg	**Sg**	**11 41 17.7**	**+1.0**
65nm,0.4s							
TOUF	**Mont Tournerai**	**0.61**	**155**	Pg	**Pg**	**11 41 11.9**	**0.0**
TOUF				Sg	**Sg**	**11 41 20.4**	**+0.4**
TOUF	**Mont Tournerai**	**0.61**	**155**	Pg	**Pg**	**11 41 11.9**	**0.0**
TOUF				Sg	**Sg**	**11 41 20.4**	**+0.4**
RSP	**Reno Superiore**	**0.64**	**25**	Pg	**Pg**	**11 41 13.1**	**+0.8**
RSP				Sg	**Sg**	**11 41 21.9**	**+1.1**
76nm,0.2s							
RSP	**Reno Superiore**	**0.64**	**25**	P	**Pg**	**11 41 12.9**	**+0.6**
RSP				S	**Sg**	**11 41 21.4**	**+0.6**
RSP				Sg	**Sg**	**11 41 21.9**	**+1.1**
76nm,0.2s							
AUTN	**L'Aution**	**0.69**	**146**	Pg	**Pg**	**11 41 13.6**	**+0.2**
AUTN				Sg	**Sg**	**11 41 22.5**	**0.0**
AUTN	**L'Aution**	**0.69**	**146**	Pg	**Pg**	**11 41 13.6**	**+0.2**
AUTN				Sg	**Sg**	**11 41 22.5**	**0.0**
MVIF	**Mont Vial**	**0.70**	**164**	Pg	**Pg**	**11 41 13.8**	**+0.3**
MVIF				Sg	**Sg**	**11 41 23.3**	**+0.5**
MVIF	**Mont Vial**	**0.70**	**164**	Pg	**Pg**	**11 41 13.8**	**+0.3**
MVIF				Sg	**Sg**	**11 41 23.3**	**+0.5**
LUCF	**Luceram**	**0.75**	**154**	Pg	**Pg**	**11 41 14.5**	**0.0**
LUCF	**Luceram**	**0.75**	**154**	Pg	**Pg**	**11 41 14.5**	**0.0**
SAOF	**Saorge**	**0.75**	**141**	Pg	**Pg**	**11 41 14.7**	**+0.2**
SAOF				Sg	**Sg**	**11 41 24.8**	**+0.3**
SAOF	**Saorge**	**0.75**	**141**	Pg	**Pg**	**11 41 14.7**	**+0.2**
SAOF				Sg	**Sg**	**11 41 24.8**	**+0.3**
MONE	**Monesi**	**0.79**	**128**	P	**Pb**	**11 41 14.8**	**-0.3**
MONE				S	**Sb**	**11 41 24.6**	**-0.9**
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**11 41 15.3**	**-0.1**
ORIF				*e*Sg	**Sg**	**11 41 25.4**	**-0.6**
108nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**11 41 15.3**	**-0.1**
ORIF				*e*Sg	**Sg**	**11 41 25.4**	**-0.6**
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**11 41 15.3**	**-0.1**
ORIF				*e*Sg	**Sg**	**11 41 25.4**	**-0.6**
54nm,0.3s							
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**11 41 15.3**	**-0.2**
SBF				*e*Sg	**Sg**	**11 41 25.9**	**-0.3**
103nm,0.3s							
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**11 41 15.3**	**-0.2**
SBF				*e*Sg	**Sg**	**11 41 25.9**	**-0.3**
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**11 41 15.3**	**-0.2**
SBF				*e*Sg	**Sg**	**11 41 25.9**	**-0.3**
52nm,0.3s							
CALN	**Calern**	**0.82**	**180**	Pg	**Pg**	**11 41 16.0**	**+0.3**
CALN	**Calern**	**0.82**	**180**	Pg	**Pg**	**11 41 16.0**	**+0.3**
GDM	**Grand'Maison**	**0.84**	**319**	Pg	**Pg**	**11 41 16.4**	**+0.2**
GDM				Sg	**Sg**	**11 41 27.2**	**0.0**
GDM	**Grand'Maison**	**0.84**	**319**	Pg	**Pg**	**11 41 16.4**	**+0.2**
GDM				Sg	**Sg**	**11 41 27.2**	**0.0**
RONM	**Roccetta Nervi**	**0.86**	**144**	P	**Pb**	**11 41 15.9**	**-0.4**
RONM				S	**Sb**	**11 41 26.2**	**-1.3**
REVF	**Revere**	**0.90**	**157**	Pg	**Pg**	**11 41 17.8**	**+0.5**
REVF				Sg	**Sg**	**11 41 29.7**	**+0.7**
REVF	**Revere**	**0.90**	**157**	Pg	**Pg**	**11 41 17.8**	**+0.5**
REVF				Sg	**Sg**	**11 41 29.7**	**+0.7**
LSD	**Lago del Serru**	**0.91**	**11**	P	**Pb**	**11 41 17.8**	**+0.7**
LSD				S	**Sb**	**11 41 29.9**	**+1.0**
NEGI	**Seborga**	**0.93**	**141**	P	**Pb**	**11 41 17.2**	**-0.3**
NEGI				S	**Sb**	**11 41 28.5**	**-1.0**
LPG	**La Plagne**	**0.93**	**354**	*e*Pg	**Pg**	**11 41 18.6**	**+0.7**
LPG				*e*Sg	**Sg**	**11 41 30.1**	**-0.1**
64nm,0.5s							
LPG	**La Plagne**	**0.93**	**354**	*e*Pg	**Pg**	**11 41 18.6**	**+0.7**
LPG				*e*Sg	**Sg**	**11 41 30.1**	**-0.1**
LPG	**La Plagne**	**0.93**	**354**	*e*Pg	**Pg**	**11 41 18.6**	**+0.7**
LPG				*e*Sg	**Sg**	**11 41 30.1**	**-0.1**
32nm,0.5s							
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**11 41 18.6**	**+0.3**
LPL				*e*Sg	**Sg**	**11 41 30.7**	**-0.1**
43nm,0.3s							
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**11 41 18.6**	**+0.3**
LPL				*e*Sg	**Sg**	**11 41 30.7**	**-0.1**
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**11 41 18.6**	**+0.3**
LPL				*e*Sg	**Sg**	**11 41 30.7**	**-0.1**
22nm,0.3s							
RORO	**Rocca Rossa**	**0.96**	**118**	Pg	**Pg**	**11 41 17.8**	**-0.6**
RORO				Sg	**Sg**	**11 41 30.3**	**-0.7**
79nm,0.3s							
RORO	**Rocca Rossa**	**0.96**	**118**	P	**Pb**	**11 41 17.5**	**-0.5**
RORO	**Rocca Rossa**	**0.96**	**118**	Pg	**Pg**	**11 41 17.8**	**-0.6**
RORO				S	**Sb**	**11 41 29.0**	**-1.4**
RORO				Sg	**Sg**	**11 41 30.3**	**-0.7**
79nm,0.3s							
IMI	**Imperia**	**0.98**	**132**	Pg	**Pg**	**11 41 18.6**	**-0.1**
IMI				Sg	**Sg**	**11 41 31.7**	**+0.2**
IMI	**Imperia**	**0.98**	**132**	P	**Pb**	**11 41 18.1**	**-0.2**
IMI	**Imperia**	**0.98**	**132**	Pg	**Pg**	**11 41 18.6**	**-0.1**
IMI				S	**Sb**	**11 41 29.7**	**-1.2**
IMI				Sg	**Sg**	**11 41 31.7**	**+0.2**
FIN	**Finale Ligure**	**1.01**	**110**	P	**Pb**	**11 41 19.8**	**+0.9**
FIN				S	**Sb**	**11 41 32.5**	**+0.6**
FRF	**La Foret Royal**	**1.02**	**190**	*e*Pg	**Pg**	**11 41 19.2**	**-0.4**
FRF				*e*Sg	**Sg**	**11 41 33.4**	**+0.3**
53nm,0.2s							
FRF	**La Foret Royal**	**1.02**	**190**	*e*Pg	**Pg**	**11 41 19.2**	**-0.4**
FRF				*e*Sg	**Sg**	**11 41 33.4**	**+0.3**
FRF	**La Foret Royal**	**1.02**	**190**	*e*Pg	**Pg**	**11 41 19.2**	**-0.4**
FRF				*e*Sg	**Sg**	**11 41 33.4**	**+0.3**
26nm,0.2s							
GRN	**Grenoble**	**1.06**	**310**	Pg	**Pg**	**11 41 21.3**	**+1.0**
GRN				Sg	**Sg**	**11 41 35.0**	**+0.9**
GRN	**Grenoble**	**1.06**	**310**	Pg	**Pg**	**11 41 21.3**	**+1.0**
GRN				Sg	**Sg**	**11 41 35.0**	**+0.9**
QLNO	**Quiliano**	**1.07**	**103**	Pg	**Pg**	**11 41 20.4**	**-0.1**
QLNO				Sg	**Sg**	**11 41 33.5**	**-1.0**
50nm,0.5s							
QLNO	**Quiliano**	**1.07**	**103**	Pg	**Pg**	**11 41 20.4**	**-0.1**
QLNO				Sg	**Sg**	**11 41 33.5**	**-1.0**
50nm,0.5s							
ROTM	**Rocchetta Tana**	**1.08**	**75**	P	**Pb**	**11 41 20.7**	**+0.7**
ROTM				S	**Sb**	**11 41 34.4**	**+0.6**
SMRF	**Simiane la Rot**	**1.12**	**238**	*e*Pg	**Pg**	**11 41 21.9**	**+0.5**
SMRF				*e*Sg	**Sg**	**11 41 37.2**	**+1.2**
47nm,0.3s							
SMRF	**Simiane la Rot**	**1.12**	**238**	*e*Pg	**Pg**	**11 41 21.9**	**+0.5**
SMRF				*e*Sg	**Sg**	**11 41 37.2**	**+1.2**
SMRF	**Simiane la Rot**	**1.12**	**238**	*e*Pg	**Pg**	**11 41 21.9**	**+0.5**
SMRF				*e*Sg	**Sg**	**11 41 37.2**	**+1.2**
23nm,0.3s							
TRAV	**Traversella**	**1.12**	**32**	P	**Pb**	**11 41 20.8**	**0.0**
TRAV				S	**Sb**	**11 41 34.8**	**-0.3**
OG26	**St.-Nazaire-De**	**1.14**	**271**	Pg	**Pg**	**11 41 23.3**	**+1.5**
OG26	**St.-Nazaire-De**	**1.14**	**271**	Pg	**Pg**	**11 41 23.3**	**+1.5**
OG26				Sg	**Sg**	**11 41 41.9**	**+5.3**
PCP	**Piancastagn**	**1.18**	**91**	P	**Pn**	**11 41 21.8**	**+0.2**
PCP				S	**Sb**	**11 41 36.6**	**-0.2**
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	**Pg**	**11 41 23.6**	**-0.6**
LMR				*e*Sg	**Sg**	**11 41 40.1**	**-0.7**
36nm,0.3s							
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	**Pg**	**11 41 23.6**	**-0.6**
LMR				*e*Sg	**Sg**	**11 41 40.1**	**-0.7**
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	**Pg**	**11 41 23.6**	**-0.6**
LMR				*e*Sg	**Sg**	**11 41 40.1**	**-0.7**
18nm,0.3s							
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*Pn	**Pn**	**11 41 29.2**	**+1.8**
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*Pg	**Pg**	**11 41 31.3**	**+0.6**
VIVF				*e*Sg	**Sg**	**11 41 52.4**	**+0.8**
15nm,0.3s							
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*Pn	**Pn**	**11 41 29.2**	**+1.8**
VIVF				*e*Pg	**Pg**	**11 41 31.3**	**+0.6**
VIVF				*e*Sg	**Sg**	**11 41 52.4**	**+0.8**
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*

LASF	**Ste Croix**	**2.23 258**	*e*Pn	**Pn**	**11 41 36.9**	**+0.8**
LASF			*e*Sn	**Sn**	**11 42 04.1**	**+0.9**
3.5nm,0.5s						
PGF	**Pioggiola**	**2.54 142**	*e*Pn	**Pn**	**11 41 41.3**	**+1.1**
PGF			*e*Sn	**Sn**	**11 42 10.0**	**-0.7**
8.4nm,0.3s						
PGF	**Pioggiola**	**2.54 142**	*e*Pn	**Pn**	**11 41 41.3**	**+1.1**
PGF			*e*Sn	**Sn**	**11 42 10.0**	**-0.7**
PGF	**Pioggiola**	**2.54 142**	*e*Pn	**Pn**	**11 41 41.3**	**+1.1**
PGF			*e*Sn	**Sn**	**11 42 10.0**	**-0.7**
4.2nm,0.3s						
LBL	**Lubilhac**	**2.67 286**	Pn	**Pn**	**11 41 44.4**	**+2.3**
LBL	**Lubilhac**	**2.67 286**	Pn	**Pn**	**11 41 44.4**	**+2.3**
SMF	**Signal de Mont**	**2.98 315**	*e*Pn	**Pn**	**11 41 48.5**	**+2.2**
SMF	**Signal de Mont**	**2.98 315**	*e*Pg	**Pg**	**11 41 56.3**	**-0.6**
SMF			*e*Sg	**Sg**	**11 42 34.5**	**-1.1**
11nm,0.4s						
SMF	**Signal de Mont**	**2.98 315**	*e*Pn	**Pn**	**11 41 48.5**	**+2.2**
SMF			*e*Pg	**Pg**	**11 41 56.3**	**-0.6**
SMF			*e*Sg	**Sg**	**11 42 34.5**	**-1.1**
SMF	**Signal de Mont**	**2.98 315**	*e*Pn	**Pn**	**11 41 48.5**	**+2.2**
SMF	**Signal de Mont**	**2.98 315**	*e*Pg	**Pg**	**11 41 56.3**	**-0.6**
SMF			*e*Sg	**Sg**	**11 42 34.5**	**-1.1**
5.4nm,0.4s						
HINF	**Hinteralfeld**	**3.25 360**	*e*Pn	**Pn**	**11 41 50.5**	**+0.5**
HINF			*e*Sn	**Sn**	**11 42 26.9**	**-1.3**
0.9nm,0.2s						
HINF	**Hinteralfeld**	**3.25 360**	*e*Pn	**Pn**	**11 41 50.5**	**+0.5**
HINF			*e*Sn	**Sn**	**11 42 26.9**	**-1.3**
HINF	**Hinteralfeld**	**3.25 360**	*e*Pn	**Pn**	**11 41 50.5**	**+0.5**
HINF			*e*Sn	**Sn**	**11 42 26.9**	**-1.3**
0.4nm,0.2s						
AVF	**Avril sur Loir**	**3.33 313**	*e*Pn	**Pn**	**11 41 53.5**	**+2.4**
AVF	**Avril sur Loir**	**3.33 313**	*e*Pg	**Pg**	**11 42 02.6**	**-1.0**
AVF			*e*Sn	**Sn**	**11 42 30.0**	**-0.3**
AVF			*e*Sg	**Sg**	**11 42 45.3**	**-1.4**
6.6nm,0.5s						
AVF	**Avril sur Loir**	**3.33 313**	*e*Pn	**Pn**	**11 41 53.5**	**+2.4**
AVF			*e*Pg	**Pg**	**11 42 02.6**	**-1.0**
AVF			*e*Sn	**Sn**	**11 42 30.0**	**-0.3**
AVF			*e*Sg	**Sg**	**11 42 45.3**	**-1.4**
AVF	**Avril sur Loir**	**3.33 313**	*e*Pn	**Pn**	**11 41 53.5**	**+2.4**
AVF	**Avril sur Loir**	**3.33 313**	*e*Pg	**Pg**	**11 42 02.6**	**-1.0**
AVF			*e*Sn	**Sn**	**11 42 30.0**	**-0.3**
AVF			*e*Sg	**Sg**	**11 42 45.3**	**-1.4**
3.3nm,0.5s						
LOR	**Lormes**	**3.43 323**	*e*Pn	**Pn**	**11 41 53.3**	**+0.8**
LOR			*e*Sn	**Sn**	**11 42 32.0**	**-0.7**
LOR			*e*Sg	**Sg**	**11 42 48.1**	**-1.8**
9.0nm,0.6s						
LOR	**Lormes**	**3.43 323**	*e*Pn	**Pn**	**11 41 53.3**	**+0.8**
LOR			*e*Sn	**Sn**	**11 42 32.0**	**-0.7**
LOR			*e*Sg	**Sg**	**11 42 48.1**	**-1.8**
LOR	**Lormes**	**3.43 323**	*e*Pn	**Pn**	**11 41 53.3**	**+0.8**
LOR			*e*Sn	**Sn**	**11 42 32.0**	**-0.7**
LOR			*e*Sg	**Sg**	**11 42 48.1**	**-1.8**
4.5nm,0.6s						
SSF	**Saint Saulge**	**3.44 318**	*e*Pn	**Pn**	**11 41 53.3**	**+0.7**
SSF			*e*Sn	**Sn**	**11 42 32.0**	**-0.9**
SSF			*e*Sg	**Sg**	**11 42 48.6**	**-1.5**
5.4nm,0.5s						
SSF	**Saint Saulge**	**3.44 318**	*e*Pn	**Pn**	**11 41 53.3**	**+0.7**
SSF			*e*Sn	**Sn**	**11 42 32.0**	**-0.9**
SSF			*e*Sg	**Sg**	**11 42 48.6**	**-1.5**
SSF	**Saint Saulge**	**3.44 318**	*e*Pn	**Pn**	**11 41 53.3**	**+0.7**
SSF			*e*Sn	**Sn**	**11 42 32.0**	**-0.9**
SSF			*e*Sg	**Sg**	**11 42 48.6**	**-1.5**
2.7nm,0.5s						
HAU	**Haudompre**	**3.46 354**	*e*Pn	**Pn**	**11 41 53.1**	**+0.2**
HAU			*e*Sn	**Sn**	**11 42 32.2**	**-1.2**
3.5nm,0.4s						
HAU	**Haudompre**	**3.46 354**	*e*Pn	**Pn**	**11 41 53.1**	**+0.2**
HAU			*e*Sn	**Sn**	**11 42 32.2**	**-1.2**
HAU	**Haudompre**	**3.46 354**	*e*Pn	**Pn**	**11 41 53.1**	**+0.2**
HAU			*e*Sn	**Sn**	**11 42 32.2**	**-1.2**
1.8nm,0.4s						
CAF	**Calviac**	**3.46 278**	*e*Pn	**Pn**	**11 41 53.9**	**+1.0**
CAF			*e*Sg	**Sg**	**11 42 50.0**	**-0.8**
6.8nm,0.7s						
CAF	**Calviac**	**3.46 278**	*e*Pn	**Pn**	**11 41 53.9**	**+1.0**
CAF			*e*Sg	**Sg**	**11 42 50.0**	**-0.8**
CAF	**Calviac**	**3.46 278**	*e*Pn	**Pn**	**11 41 53.9**	**+1.0**
CAF			*e*Sg	**Sg**	**11 42 50.0**	**-0.8**
3.4nm,0.7s						
BGF	**Bois d'Agland**	**3.47 306**	*e*Pn	**Pn**	**11 41 55.4**	**+2.4**
BGF	**Bois d'Agland**	**3.47 306**	*e*Pg	**Pg**	**11 42 05.2**	**-1.0**
BGF			*e*Sn	**Sn**	**11 42 33.4**	**-0.3**
BGF			*e*Sg	**Sg**	**11 42 49.9**	**-1.2**
18nm,0.4s						
BGF	**Bois d'Agland**	**3.47 306**	*e*Pn	**Pn**	**11 41 55.4**	**+2.4**
BGF			*e*Pg	**Pg**	**11 42 05.2**	**-1.0**
BGF			*e*Sn	**Sn**	**11 42 33.4**	**-0.3**
BGF			*e*Sg	**Sg**	**11 42 49.9**	**-1.2**
BGF	**Bois d'Agland**	**3.47 306**	*e*Pn	**Pn**	**11 41 55.4**	**+2.4**
BGF	**Bois d'Agland**	**3.47 306**	*e*Pg	**Pg**	**11 42 05.2**	**-1.0**
BGF			*e*Sn	**Sn**	**11 42 33.4**	**-0.3**
BGF			*e*Sg	**Sg**	**11 42 49.9**	**-1.2**
9.1nm,0.4s						
MTLF	**Montolieu**	**3.59 252**	*e*Pn	**Pn**	**11 41 55.8**	**+1.1**
MTLF			*e*Sn	**Sn**	**11 42 36.5**	**-0.2**
MTLF			*e*Sg	**Sg**	**11 42 54.3**	**-0.8**
1.4nm,0.3s						
MTLF	**Montolieu**	**3.59 252**	*e*Pn	**Pn**	**11 41 55.8**	**+1.1**
MTLF			*e*Sn	**Sn**	**11 42 36.5**	**-0.2**
MTLF			*e*Sg	**Sg**	**11 42 54.3**	**-0.8**
MTLF	**Montolieu**	**3.59 252**	*e*Pn	**Pn**	**11 41 55.8**	**+1.1**
MTLF			*e*Sn	**Sn**	**11 42 36.5**	**-0.2**
MTLF			*e*Sg	**Sg**	**11 42 54.3**	**-0.8**
0.7nm,0.3s						
CDF	**Champ du Feu**	**3.85 4**	*e*Pn	**Pn**	**11 41 58.4**	**+0.1**
CDF			*e*Sn	**Sn**	**11 42 41.5**	**-1.6**
2.7nm,0.4s						
CDF	**Champ du Feu**	**3.85 4**	*e*Pn	**Pn**	**11 41 58.4**	**+0.1**
CDF			*e*Sn	**Sn**	**11 42 41.5**	**-1.6**
CDF	**Champ du Feu**	**3.85 4**	*e*Pn	**Pn**	**11 41 58.4**	**+0.1**
CDF			*e*Sn	**Sn**	**11 42 41.5**	**-1.6**
1.4nm,0.4s						
SFTF	**Sexfontaines**	**3.85 341**	*e*Pn	**Pn**	**11 41 58.7**	**+0.4**
SFTF			*e*Sn	**Sn**	**11 42 42.0**	**-1.2**
5.6nm,0.4s						
SFTF	**Sexfontaines**	**3.85 341**	*e*Pn	**Pn**	**11 41 58.7**	**+0.4**
SFTF			*e*Sn	**Sn**	**11 42 42.0**	**-1.2**
SFTF	**Sexfontaines**	**3.85 341**	*e*Pn	**Pn**	**11 41 58.7**	**+0.4**
SFTF			*e*Sn	**Sn**	**11 42 42.0**	**-1.2**
2.8nm,0.4s						
RJF	**Les Rejaudoux**	**3.89 283**	*e*Pn	**Pn**	**11 41 59.7**	**+0.9**
RJF			*e*Sn	**Sn**	**11 42 43.6**	**-0.4**
RJF			*e*Sg	**Sg**	**11 43 03.4**	**-1.2**
1.8nm,0.4s						
RJF	**Les Rejaudoux**	**3.89 283**	*e*Pn	**Pn**	**11 41 59.7**	**+0.9**
RJF			*e*Sn	**Sn**	**11 42 43.6**	**-0.4**
RJF			*e*Sg	**Sg**	**11 43 03.4**	**-1.2**
RJF	**Les Rejaudoux**	**3.89 283**	*e*Pn	**Pn**	**11 41 59.7**	**+0.9**
RJF			*e*Sn	**Sn**	**11 42 43.6**	**-0.4**
RJF			*e*Sg	**Sg**	**11 43 03.4**	**-1.2**
0.9nm,0.4s						
HYF	**Humbligny**	**4.01 314**	*e*Pn	**Pn**	**11 42 01.9**	**+1.4**
HYF			*e*Sg	**Sg**	**11 43 06.7**	**-1.8**
HYF	**Humbligny**	**4.01 314**	*e*Pn	**Pn**	**11 42 01.9**	**+1.4**
HYF			*e*Sg	**Sg**	**11 43 06.7**	**-1.8**
HYF	**Humbligny**	**4.01 314**	*e*Pn	**Pn**	**11 42 01.9**	**+1.4**
HYF			*e*Sg	**Sg**	**11 43 06.7**	**-1.8**
PAGF	**Fort de Pagny**	**4.07 349**	*e*Pn	**Pn**	**11 42 01.9**	**+0.7**
PAGF			*e*Sn	**Sn**	**11 42 46.8**	**-1.6**
1.1nm,0.4s						
PAGF	**Fort de Pagny**	**4.07 349**	*e*Pn	**Pn**	**11 42 01.9**	**+0.7**
PAGF			*e*Sn	**Sn**	**11 42 46.8**	**-1.6**
PAGF	**Fort de Pagny**	**4.07 349**	*e*Pn	**Pn**	**11 42 01.9**	**+0.7**
PAGF			*e*Sn	**Sn**	**11 42 46.8**	**-1.6**
0.6nm,0.4s						
EPF	**Esparros**	**4.99 254**	*e*Pn	**Pn**	**11 42 14.3**	**+0.4**
EPF			*e*Sn	**Sn**	**11 43 09.6**	**-1.5**
1.1nm,0.4s						
EPF	**Esparros**	**4.99 254**	*e*Pn	**Pn**	**11 42 14.3**	**+0.4**
EPF			*e*Sn	**Sn**	**11 43 09.6**	**-1.5**
EPF	**Esparros**	**4.99 254**	*e*Pn	**Pn**	**11 42 14.3**	**+0.4**
EPF			*e*Sn	**Sn**	**11 43 09.6**	**-1.5**
0.6nm,0.4s						
ETSF	**Etsaut**	**5.65 255**	*e*Pn	**Pn**	**11 42 23.9**	**+0.9**
ETSF			*e*Sn	**Sn**	**11 43 25.9**	**-1.6**
0.8nm,0.3s						
ETSF	**Etsaut**	**5.65 255**	*e*Pn	**Pn**	**11 42 23.9**	**+0.9**
ETSF			*e*Sn	**Sn**	**11 43 25.9**	**-1.6**
ETSF	**Etsaut**	**5.65 255**	*e*Pn	**Pn**	**11 42 23.9**	**+0.9**
ETSF			*e*Sn	**Sn**	**11 43 25.9**	**-1.6**
0.4nm,0.3s						

*ISCJB **07** 11:53:00.1±0.2, 44°.55N±0°.01×6°.86E±0°.02, h15km±2km, Error ellipse: s-maj=2.7km s-min=1.8km az=143.9*
*ROM **07** 11:53:00.9±0.2, 44°.54N×6°.91E, h11km±1km, Md2.2/6, Ml2.1/5, Error ellipse: s-maj=2.9km s-min=1.3km az=66.0*
*CSEM **07** 11:53:00.6±0.1, 44°.56N×6°.90E, h12km, ML2.5/23, Error ellipse: s-maj=2.1km s-min=1.3km az=52.0*
*STR **07** 11:53:01.3±0.2, 44°.54N×6°.90E, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **07** 11:53:01.2±0.1, 44°.57N×6°.93E, h2km, Md2.5/3, Ml2.5/19, Error ellipse: s-maj=1.4km s-min=0.7km az=62.0*
*GEN **07** 11:53:01.1, 44°.54N×6°.89E, h11km, ML2.0*
*NEIC **07** 11:53:01.2, 44°.57N×6°.93E, h2km, ML2.5(LDG), After LDG.*

ISC 07 11:53:00.5±0.2, 44°.57N±0°.01×6°.90E±0°.02, h15km±2km, n112, σ0°.90/224, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.11**	**214**	Pg	**Pg**	**11 53 03.5**	**-0.4**
SURF				Sg	**Sg**	**11 53 05.1**	**-1.0**
SURF	**Saint Ours**	**0.11**	**214**	Pg	**Pg**	**11 53 03.5**	**-0.4**
SURF				Sg	**Sg**	**11 53 05.1**	**-1.0**
PZZ	**Stroppo**	**0.17**	**111**	Pg	**Pg**	**11 53 05.0**	**+0.3**
PZZ				Sg	**Sg**	**11 53 07.7**	**+0.1**
1μm,0.1s							
PZZ	**Stroppo**	**0.17**	**111**	P	**Pg**	**11 53 05.0**	**+0.3**
PZZ				S	**Sg**	**11 53 07.7**	**+0.1**
MBDF	**Montbardon**	**0.18**	**331**	*e*Pg	**Pg**	**11 53 05.2**	**+0.3**
MBDF				*e*Sg	**Sg**	**11 53 08.0**	**+0.1**
550nm,0.2s							
MBDF	**Montbardon**	**0.18**	**331**	*e*Pg	**Pg**	**11 53 05.2**	**+0.3**
MBDF				*e*Sg	**Sg**	**11 53 08.0**	**+0.1**
MBDF	**Montbardon**	**0.18**	**331**	*e*Pg	**Pg**	**11 53 05.2**	**+0.3**
MBDF				*e*Sg	**Sg**	**11 53 08.0**	**+0.1**
275nm,0.2s							
DOI	**San Damiano**	**0.26**	**104**	Pg	**Pg**	**11 53 06.5**	**+0.3**
DOI				Sg	**Sg**	**11 53 10.5**	**+0.5**
232nm,0.4s							
DOI	**San Damiano**	**0.26**	**104**	Pg	**Pg**	**11 53 06.5**	**+0.3**
DOI				Sg	**Sg**	**11 53 10.5**	**+0.5**
232nm,0.4s							
STV	**Sant Anna di V**	**0.45**	**136**	Pg	**Pg**	**11 53 09.5**	**0.0**
STV				Sg	**Sg**	**11 53 15.7**	**+0.2**
220nm,0.2s							
STV	**Sant Anna di V**	**0.45**	**136**	Pg	**Pg**	**11 53 09.5**	**0.0**
STV				S	**Sg**	**11 53 15.1**	**-0.4**
STV				Sg	**Sg**	**11 53 15.7**	**+0.2**
220nm,0.2s							
BNI	**Bardonecchia**	**0.51**	**342**	Pg	**Pg**	**11 53 11.7**	**+1.1**
BNI				Sg	**Sg**	**11 53 18.7**	**+1.3**
BNI	**Bardonecchia**	**0.51**	**342**	Pg	**Pg**	**11 53 11.7**	**+1.1**
BNI				Sg	**Sg**	**11 53 18.7**	**+1.3**
TOUF	**Mont Tournerai**	**0.61**	**155**	Pg	**Pg**	**11 53 12.7**	**+0.2**
TOUF				Sg	**Sg**	**11 53 20.7**	**+0.1**
TOUF	**Mont Tournerai**	**0.61**	**155**	Pg	**Pg**	**11 53 12.7**	**+0.2**
TOUF				Sg	**Sg**	**11 53 20.7**	**+0.1**
RSP	**Reno Superiore**	**0.64**	**24**	Pg	**Pg**	**11 53 14.0**	**+1.0**
RSP				Sg	**Sg**	**11 53 23.4**	**+1.9**
41nm,0.2s							
RSP	**Reno Superiore**	**0.64**	**24**	P	**Pg**	**11 53 13.8**	**+0.8**
RSP				S	**Sg**	**11 53 22.1**	**+0.6**
RSP				Sg	**Sg**	**11 53 23.4**	**+1.9**
41nm,0.2s							
AUTN	**L'Aution**	**0.69**	**146**	Pg	**Pg**	**11 53 14.2**	**+0.2**
AUTN				Sg	**Sg**	**11 53 23.1**	**0.0**
AUTN	**L'Aution**	**0.69**	**146**	Pg	**Pg**	**11 53 14.2**	**+0.2**
AUTN				Sg	**Sg**	**11 53 23.1**	**0.0**
MVIF	**Mont Vial**	**0.70**	**165**	Pg	**Pg**	**11 53 14.7**	**+0.6**
MVIF				Sg	**Sg**	**11 53 24.1**	**+0.8**
MVIF	**Mont Vial**	**0.70**	**165**	Pg	**Pg**	**11 53 14.7**	**+0.6**
MVIF				Sg	**Sg**	**11 53 24.1**	**+0.8**
LUCF	**Luceram**	**0.75**	**154**	Pg	**Pg**	**11 53 15.3**	**+0.2**
LUCF				Sg	**Sg**	**11 53 24.9**	**-0.1**
LUCF	**Luceram**	**0.75**	**154**	Pg	**Pg**	**11 53 15.3**	**+0.2**
LUCF				Sg	**Sg**	**11 53 24.9**	**-0.1**
SAOF	**Saorge**	**0.75**	**141**	Pg	**Pg**	**11 53 15.2**	**+0.1**
SAOF				Sg	**Sg**	**11 53 24.9**	**-0.1**
SAOF	**Saorge**	**0.75**	**141**	Pg	**Pg**	**11 53 15.2**	**+0.1**
SAOF				Sg	**Sg**	**11 53 24.9**	**-0.1**
MONE	**Monesi**	**0.79**	**128**	P	**Pg**	**11 53 15.5**	**-0.3**
MONE				S	**Sg**	**11 53 25.1**	**-1.1**
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**11 53 16.1**	**-0.1**
ORIF				*e*Sg	**Sg**	**11 53 26.2**	**-0.6**
35nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**11 53 16.1**	**-0.1**
ORIF				*e*Sg	**Sg**	**11 53 26.2**	**-0.6**
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**11 53 16.1**	**-0.1**
ORIF				*e*Sg	**Sg**	**11 53 26.2**	**-0.6**
17nm,0.3s							
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**11 53 16.1**	**-0.1**
SBF				*e*Sg	**Sg**	**11 53 26.7**	**-0.1**
49nm,0.2s							
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**11 53 16.1**	**-0.1**
SBF				*e*Sg	**Sg**	**11 53 26.7**	**-0.1**
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**11 53 16.1**	**-0.1**
SBF				*e*Sg	**Sg**	**11 53 26.7**	**-0.1**
24nm,0.2s							
CALN	**Calern**	**0.82**	**180**	Pg	**Pg**	**11 53 17.0**	**+0.6**
CALN	**Calern**	**0.82**	**180**	Pg	**Pg**	**11 53 17.0**	**+0.6**
RONM	**Roccetta Nervi**	**0.86**	**144**	P	**Pb**	**11 53 16.4**	**-0.6**
RONM				S	**Sb**	**11 53 26.9**	**-1.4**
LSD	**Lago del Serru**	**0.91**	**11**	P	**Pb**	**11 53 18.6**	**+0.7**
LSD				S	**Sb**	**11 53 30.5**	**+0.7**
NEGI	**Seborga**	**0.93**	**141**	P	**Pb**	**11 53 17.9**	**-0.3**
NEGI				S	**Sb**	**11 53 29.2**	**-1.1**
LPG	**La Plagne**	**0.94**	**354**	*e*Pg	**Pg**	**11 53 19.3**	**+0.6**
LPG				*e*Sg	**Sg**	**11 53 30.9**	**0.0**
14nm,0.3s							
LPG	**La Plagne**	**0.94**	**354**	*e*Pg	**Pg**	**11 53 19.3**	**+0.6**
LPG				*e*Sg	**Sg**	**11 53 30.9**	**0.0**
LPG	**La Plagne**	**0.94**	**354**	*e*Pg	**Pg**	**11 53 19.3**	**+0.6**
LPG				*e*Sg	**Sg**	**11 53 30.9**	**0.0**
6.9nm,0.3s							
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**11 53 19.4**	**+0.4**
LPL				*e*Sg	**Sg**	**11 53 31.5**	**-0.1**
18nm,0.3s							
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**11 53 19.4**	**+0.4**
LPL				*e*Sg	**Sg**	**11 53 31.5**	**-0.1**
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**11 53 19.4**	**+0.4**
LPL				*e*Sg	**Sg**	**11 53 31.5**	**-0.1**
9.0nm,0.3s							
RORO	**Rocca Rossa**	**0.96**	**118**	Pg	**Pg**	**11 53 18.6**	**-0.4**
RORO				Sg	**Sg**	**11 53 31.1**	**-0.4**
RORO	**Rocca Rossa**	**0.96**	**118**	P	**Pb**	**11 53 18.3**	**-0.4**
RORO	**Rocca Rossa**	**0.96**	**118**	Pg	**Pg**	**11 53 18.6**	**-0.4**
RORO				S	**Sb**	**11 53 29.8**	**-1.3**
RORO				Sg	**Sg**	**11 53 31.1**	**-0.4**
IMI	**Imperia**	**0.97**	**132**	P	**Pb**	**11 53 18.5**	**-0.5**
IMI				S	**Sb**	**11 53 30.2**	**-1.4**
FIN	**Finale Ligure**	**1.01**	**110**	P	**Pb**	**11 53 20.4**	**+0.8**
FIN				S	**Sb**	**11 53 33.2**	**+0.6**
FRF	**La Foret Royal**	**1.02**	**190**	*e*Pg	**Pg**	**11 53 19.9**	**-0.4**
FRF				*e*Sg	**Sg**	**11 53 34.2**	**+0.5**
31nm,0.3s							
FRF	**La Foret Royal**	**1.02**	**190**	*e*Pg	**Pg**	**11 53 19.9**	**-0.4**
FRF				*e*Sg	**Sg**	**11 53 34.2**	**+0.5**
FRF	**La Foret Royal**	**1.02**	**190**	*e*Pg	**Pg**	**11 53 19.9**	**-0.4**
FRF				*e*Sg	**Sg**	**11 53 34.2**	**+0.5**
16nm,0.3s							
GRN	**Grenoble**	**1.06**	**310**	Pg	**Pg**	**11 53 21.5**	**+0.5**
GRN	**Grenoble**	**1.06**	**310**	Pg	**Pg**	**11 53 21.5**	**+0.5**
ROTM	**Rocchetta Tana**	**1.08**	**74**	P	**Pb**	**11 53 21.1**	**+0.3**
ROTM				S	**Sb**	**11 53 35.1**	**+0.5**
SMRF	**Simiane la Rot**	**1.12**	**238**	*e*Pg	**Pg**	**11 53 22.7**	**+0.6**
SMRF				*e*Sg	**Sg**	**11 53 37.9**	**+1.2**
38nm,0.3s							
SMRF	**Simiane la Rot**	**1.12**	**238**	*e*Pg	**Pg**	**11 53 22.7**	**+0.6**
SMRF				*e*Sg	**Sg**	**11 53 37.9**	**+1.2**
SMRF	**Simiane la Rot**	**1.12**	**238**	*e*Pg	**Pg**	**11 53 22.7**	**+0.6**
SMRF				*e*Sg	**Sg**	**11 53 37.9**	**+1.2**
19nm,0.3s							
TRAV	**Traversella**	**1.12**	**32**	P	**Pb**	**11 53 21.4**	**-0.2**
TRAV				S	**Sb**	**11 53 35.3**	**-0.6**
PCP	**Piancastagn**	**1.18**	**91**	P	**Pn**	**11 53 22.4**	**0.0**
PCP				S	**Sb**	**11 53 37.1**	**-0.5**
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	**Pg**	**11 53 24.4**	**-0.5**
LMR				*e*Sg	**Sg**	**11 53 40.8**	**-0.6**
19nm,0.2s							
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	**Pg**	**11 53 24.4**	**-0.5**
LMR				*e*Sg	**Sg**	**11 53 40.8**	**-0.6**
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	**Pg**	**11 53 24.4**	**-0.5**
LMR				*e*Sg	**Sg**	**11 53 40.8**	**-0.6**
9.3nm,0.2s							
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*Pn	**Pn**	**11 53 29.9**	**+1.6**
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*Pg	**Pg**	**11 53 32.2**	**+0.7**
VIVF				*e*Sg	**Sg**	**11 53 53.1**	**+0.7**
9.5nm,0.3s							
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*Pn	**Pn**	**11 53 29.9**	**+1.6**
VIVF				*e*Pg	**Pg**	**11 53 32.2**	**+0.7**
VIVF				*e*Sg	**Sg**	**11 53 53.1**	**+0.7**
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*Pn	**Pn**	**11 53 29.9**	**+1.6**
VIVF	**Saint-Julien-l**	**1.61**	**281**	*e*Pg	**Pg**	**11 53 32.2**	**+0.7**
VIVF				*e*Sg	**Sg**	**11 53 53.1**	**+0.7**
4.8nm,0.3s							
CABF	**La Chapelle**	**2.12**	**345**	*e*Pn	**Pn**	**11 53 37.6**	**+2.3**
CABF				*e*Sn	**Sn**	**11 54 01.3**	**-0.1**
6.9nm,0.5s							
CABF	**La Chapelle**	**2.12**	**345**	*e*Pn	**Pn**	**11 53 37.6**	**+2.3**
CABF				*e*Sn	**Sn**	**11 54 01.3**	**-0.1**
CABF	**La Chapelle**	**2.12**	**345**	*e*Pn	**Pn**	**11 53 37.6**	**+2.3**
CABF				*e*Sn	**Sn**	**11 54 01.3**	**-0.1**
3.5nm,0.5s							
LASF	**Ste Croix**	**2.24**	**258**	*e*Pn	**Pn**	**11 53 37.7**	**+0.8**
LASF				*e*Sn	**Sn**	**11 54 04.9**	**+0.7**
2.7nm,0.3s							
LASF	**Ste Croix**	**2.24**	**258**	*e*Pn	**Pn**	**11 53 37.7**	**+0.8**
LASF				*e*Sn	**Sn**	**11 54 04.9**	**+0.7**
LASF	**Ste Croix**	**2.24**	**258**	*e*Pn	**Pn**	**11 53 37.7**	**+0.8**
LASF				*e*Sn	**Sn**	**11 54 04.9**	**+0.7**
1.4nm,0.3s							
PGF	**Pioggiola**	**2.53**	**142**	*e*Pn	**Pn**	**11 53 42.1**	**+1.1**
PGF				*e*Sn	**Sn**	**11 54 10.8**	**-0.7**
7.0nm,0.3s							
PGF	**Pioggiola**	**2.53**	**142**	*e*Pn	**Pn**	**11 53 42.1**	**+1.1**
PGF				*e*Sn	**Sn**	**11 54 10.8**	**-0.7**
PGF	**Pioggiola**	**2.53**	**142**	*e*Pn	**Pn**	**11 53 42.1**	**+1.1**
PGF				*e*Sn	**Sn**	**11 54 10.8**	**-0.7**
3.5nm,0.3s							
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pn	**Pn**	**11 53 49.3**	**+2.1**
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pg	**Pg**	**11 53 57.0**	**-0.7**
SMF				*e*Sg	**Sg**	**11 54 35.3**	**-1.1**
3.1nm,0.4s							
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pn	**Pn**	**11 53 49.3**	**+2.1**
SMF				*e*Pg	**Pg**	**11 53 57.0**	**-0.7**
SMF				*e*Sg	**Sg**	**11 54 35.3**	**-1.1**
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pn	**Pn**	**11 53 49.3**	**+2.1**
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pg	**Pg**	**11 53 57.0**	**-0.7**
SMF				*e*Sg	**Sg**	**11 54 35.3**	**-1.1**
1.5nm,0.4s							
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pn	**Pn**	**11 53 54.3**	**+2.3**
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pg	**Pg**	**11 54 03.4**	**-1.0**
AVF				*e*Sg	**Sg**	**11 54 46.1**	**-1.4**
2.7nm,0.4s							
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pn	**Pn**	**11 53 54.3**	**+2.3**
AVF				*e*Pg	**Pg**	**11 54 03.4**	**-1.0**
AVF				*e*Sg	**Sg**	**11 54 46.1**	**-1.4**
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pn	**Pn**	**11 53 54.3**	**+2.3**
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pg	**Pg**	**11 54 03.4**	**-1.0**
AVF				*e*Sg	**Sg**	**11 54 46.

*ISCJB **07** 11:54:53.1±0.8, 19.°55S±0.°06×177.°67W±0.°08, h557km±11km, mb4.3/26, Error ellipse: s-maj=13.1km s-min=8.0km az=32.6*
*IDC **07** 11:54:55.0±1.3, 19.°61S×177.°65W, h573km±16km, mb3.4/11, mb1 3.7/13, mb1mx3.6/20, mbtmp3.5/13, Error ellipse: s-maj=20.6km s-min=9.8km az=150.0*
*NEIC **07** 11:54:55.7±0.8, 19.°53S×177.°61W, h581km±10km, mb4.7/11, Error ellipse: s-maj=15.1km s-min=10.6km az=142.0*
*BJI **07** 11:54:55.1, 19.°55S×177.°25W, h601km, mB4.9/6, mb4.5/15*
ISC 07 11:54:53.8±0.8, 19.°51S±0.°06×177.°62W±0.°08, h552km±11km, h594km±3.7km: pP-P, n72, σ0°89/67, mb4.3/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.47**	**293**	*e*Pn	**P**	**11 56 25.0**	**+5.5**
AFI	**Afiamalu**	**7.90**	**46**	P	**P**	**11 56 52.0**	**+1.3**
	17nm,0.3s,baz=355,slow=2.2,SNR=12						
AFI				S	**S**	**11 58 25.2**	**-1.2**
	14nm,0.3s,baz=358,slow=20,SNR=7.0						
AFI	**Afiamalu**	**7.90**	**46**	P	**P**	**11 56 52.0**	**+1.3**
AFI				S	**S**	**11 58 25.2**	**-1.2**
OUZ	**Omahuta**	**17.47**	**205**	*e*P	**P**	**11 58 29.8**	**+3.2**
	18nm,0.6s						
OPRZ	**Ohinepanea**	**18.96**	**194**	PN	**P**	**11 58 41.1**	**+0.9**
MWZ	**Matawai**	**19.23**	**192**	PN	**P**	**11 58 41.5**	**-1.0**
URZ	**Urewera**	**19.24**	**193**	P	**P**	**11 58 40.8**	**-1.9**
	8.5nm,0.3s,baz=347,slow=3.4,SNR=50						
URZ	**Urewera**	**19.24**	**193**	*e*P	**P**	**11 58 40.5**	**-2.2**
	34nm,0.6s						
URZ	**Urewera**	**19.24**	**193**	PN	**P**	**11 58 41.3**	**-1.4**
SNZO	**South Karori**	**22.70**	**195**	*e*P	**P**	**11 59 13.7**	**-0.1**
	28nm,0.7s,mb5.0						
QRZ	**Quartz Range**	**22.86**	**200**	PN	**P**	**11 59 15.7**	**+0.5**
NNZ	**Nelson**	**22.96**	**198**	PN	**P**	**11 59 16.1**	**-0.1**
THZ	**Tophouse**	**23.60**	**198**	PN	**P**	**11 59 21.5**	**-0.3**
KHZ	**Kahutara**	**24.03**	**196**	*e*P	**P**	**11 59 25.8**	**+0.1**
	12nm,0.7s,mb4.7						
LTZ	**Lake Taylor**	**24.72**	**198**	PN	**P**	**11 59 30.0**	**-1.7**
CNB	**Canberra Magne**	**33.08**	**235**	*e*P	**P**	**12 00 45.1**	**+0.8**
	38nm,0.8s,mb5.0						
CTA	**Charters Tower**	**33.95**	**263**	P	**P**	**12 00 52.5**	**+0.6**
	12nm,0.7s,mb4.5,baz=91,slow=10,SNR=12						
CTA	**Charters Tower**	**33.95**	**263**	*e*P	**P**	**12 00 52.6**	**+0.7**
	5.0nm,0.4s,mb4.4						
CTA	**Charters Tower**	**33.95**	**263**	P	**P**	**12 00 52.5**	**+0.6**
CTAO	**Charters Tower**	**33.95**	**263**	*e*P	**P**	**12 00 52.5**	**+0.6**
	9.0nm,0.6s,mb4.5						
PMG	**Port Moresby**	**35.48**	**281**	P	**P**	**12 01 05.4**	**+0.7**
	20nm,0.8s,mb4.7,baz=102,slow=4.8,SNR=11						
PMG	**Port Moresby**	**35.48**	**281**	P	**P**	**12 01 05.4**	**+0.7**
TOO	**Toolangi**	**36.77**	**233**	*e*P	**P**	**12 01 16.1**	**+1.1**
	53nm,0.6s,mb5.2						
COEN	**Coen**	**37.89**	**272**	*e*P	**P**	**12 01 24.8**	**+0.4**
	46nm,0.5s,mb5.3						
STKA	**Stephens Creek**	**38.54**	**243**	P	**P**	**12 01 30.1**	**+0.5**
	2.7nm,0.8s,mb3.8,baz=98,slow=8.1,SNR=6.7						
STKA	**Stephens Creek**	**38.54**	**243**	*e*P	**P**	**12 01 30.5**	**+0.9**
	3.9nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**38.54**	**243**	*e*P	**P**	**12 01 30.4**	**+0.8**
	0.7nm,0.7s,mb3.3						
WB2	**Warramunga Arr**	**45.09**	**261**	*e*P	**P**	**12 02 20.6**	**-0.7**
WRAB	**Tennant Creek**	**45.09**	**261**	*e*P	**P**	**12 02 20.5**	**-0.8**
	6.9nm,1.0s,mb4.1						
AS31	**Alice Springs**	**45.10**	**256**	*e*P	**P**	**12 02 21.2**	**0.0**
WRA	**Warramunga Arr**	**45.10**	**261**	P	**P**	**12 02 20.6**	**-0.7**
	4.3nm,0.6s,mb4.2,baz=97,slow=8.1,SNR=22						
WRA				S	**S**	**12 08 15.7**	**-5.0**
	0.9nm,0.8s,baz=96,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	**45.10**	**261**	P	**P**	**12 02 20.6**	**-0.7**
WRA				S	**S**	**12 08 15.7**	**-5.0**
ASAR	**Alice Springs**	**45.10**	**256**	P	**P**	**12 02 21.4**	**+0.1**
	4.3nm,0.4s,mb4.3,baz=86,slow=8.3,SNR=84						
ASAR				S	**S**	**12 08 17.1**	**-3.6**
	3.6nm,0.7s,baz=92,slow=16,SNR=28						
ASAR	**Alice Springs**	**45.10**	**256**	P	**P**	**12 02 21.4**	**+0.1**
ASAR				S	**S**	**12 08 17.1**	**-3.6**
FITZ	**Fitzroy Crossi**	**53.52**	**262**	*e*P	**P**	**12 03 23.3**	**-0.1**
	5.8nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.52**	**262**	*e*P	**P**	**12 03 23.1**	**-0.3**
	2.0nm,0.4s,mb3.8						
MJAR	**Matsushiro Arr**	**69.63**	**323**	P	**P**	**12 05 07.1**	**-0.9**
	2.1nm,0.7s,mb3.8,baz=158,slow=6.2,SNR=7.2						
MJAR	**Matsushiro Arr**	**69.63**	**323**	P	**P**	**12 05 07.1**	**-0.9**
CMB	**Columbia Colle**	**78.50**	**43**	*e*P	**P**	**12 05 58.2**	**+0.1**
	1.7nm,0.8s,mb3.4						
NJ2	**Nanjing**	**79.53**	**309**	*e*P	**P**	**12 06 03.6**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.3						
MDJ	**Mudanjiang**	**79.92**	**325**	P	**P**	**12 06 06.0**	**+0.5**
MDJ				pP	pP	12 08 10.0	+6.9
MDJ				sP	sP	12 09 10.2	+11
MDJ				PP	PP	12 09 18.5	+0.9
MDJ				S	S	12 15 22.7	-1.2
MDJ				ScS	ScS	12 15 37.1	-2.6
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
NVAR	**Mina Array Bea**	**80.06**	**43**	P	**P**	**12 06 07.2**	**+0.8**
	comp=Z,1.3nm,0.9s,mb3.2,baz=232,slow=8.9,SNR=9.3						
NVAR	**Mina Array Bea**	**80.06**	**43**	P	**P**	**12 06 07.2**	**+0.8**
TXAR	**Lajitas Array**	**86.22**	**57**	P	**P**	**12 06 38.5**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.3,baz=214,slow=5.7,SNR=8.0						
TXAR	**Lajitas Array**	**86.22**	**57**	P	**P**	**12 06 38.5**	**+1.1**
GYA	**Guiyang**	**86.47**	**299**	*e*P	**P**	**12 06 39.0**	**+0.4**
GYA				pP	pP	12 08 46.4	+7.7
GYA				sP	sP	12 09 44.1	+10
GYA				PP	PP	12 10 14.6	+3.9
GYA				SKS		12 16 09.4	
GYA				S	S	12 16 26.7	-2.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**87.27**	**13**	P	**P**	**12 06 39.9**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=226,slow=5.5,SNR=7.0						
ILAR	**Eielson Array**	**87.27**	**13**	P	**P**	**12 06 39.9**	**-1.5**
PDAR	**Pinedale Array**	**88.00**	**43**	P	**P**	**12 06 45.5**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.5,baz=213,slow=2.9,SNR=6.1						
PDAR	**Pinedale Array**	**88.00**	**43**	P	**P**	**12 06 45.5**	**+0.1**
HHC	**Hu-ho-hao-te**	**88.92**	**314**	*e*P	**P**	**12 06 49.0**	**-0.7**
HHC				pP	pP	12 08 59.3	+8.7
HHC				sP	sP	12 09 58.7	+13
HHC				PP	PP	12 10 33.2	+3.5
HHC				SKS		12 16 22.2	
HHC				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.0						
HHC				pmax	pmax		
	comp=Z,100nm,4.5s						
VNA3	**Neumayer Olymp**	**89.10**	**176**	*e*	**P**	**12 06 49.9**	**-0.2**
KMI	**Kunming**	**89.22**	**297**	P	**P**	**12 06 50.3**	**-1.1**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.3						
KMI	**Kunming**	**89.22**	**297**	P	**P**	**12 06 50.3**	**-1.1**
	comp=Z,9.0nm,1.8s,mb4.3						
VNA2	**Neumayer--Watz**	**89.55**	**177**	*e*	**P**	**12 06 52.3**	**+0.2**
PLCA	**Paso Flores**	**89.69**	**133**	*e*P	**P**	**12 06 54.0**	**+0.5**
	comp=Z,6.3nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**90.12**	**289**	P	**P**	**12 06 56.5**	**+0.7**
	comp=Z,1.6nm,0.8s,mb3.9,baz=117,slow=2.8,SNR=9.5						
CMAR	**Chiang Mai Arr**	**90.12**	**289**	P	**P**	**12 06 56.5**	**+0.7**
CD2	**Chengdu**	**90.56**	**303**	*e*P	**P**	**12 06 56.2**	**-1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**92.45**	**307**	P	**P**	**12 07 07.6**	**+1.5**
LZH				pP	pP	12 09 17.2	+10
LZH				sP	sP	12 10 15.7	+13
LZH				PP	PP	12 11 03.0	+5.7
LZH				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.9						
LZH				pmax	pmax		
	comp=Z,56nm,8.6s						
LZH	**Lanzhou**	**92.45**	**307**	P	**P**	**12 07 07.6**	**+1.5**
	comp=Z,18nm,1.5s,mb4.9						
LZH				pP	pP	12 09 17.2	+10
LZH				sP	sP	12 10 15.7	+13
LZH				PP	PP	12 11 03.0	+5.7
MKAR	**Makanchi Array**	**110.78**	**314**	PKiKP	PKiKP	12 12 21.3	-2.8
	comp=Z,0.2nm,0.6s,baz=90,slow=1.4,SNR=3.0						
MKAR	**Makanchi Array**	**110.78**	**314**	PKiKP	PKiKP	12 12 21.3	-2.8
BVAR	**Borovoye Array**	**118.55**	**320**	PKP	PKPdf	12 12 36.8	-2.0
	comp=Z,0.4nm,0.4s,baz=66,slow=2.1,SNR=3.6						
BVAR	**Borovoye Array**	**118.55**	**320**	PKP	PKPdf	12 12 36.8	-2.0
BRTR	**Keskin Array B**	**146.43**	**314**	PKPbc	PKPbc	12 13 31.9	-1.5
	comp=Z,1.5nm,0.8s,baz=139,slow=3.4,SNR=7.5						
BRTR	**Keskin Array B**	**146.43**	**314**	PKPbc	PKPbc	12 13 31.9	-1.5
CLL	**Collm**	**147.18**	**348**	*e*PKPbc	PKPbc	12 13 34.0	-1.0
CLL				*e*PKPab	PKPab	12 13 39.0	+0.5
MMAI	**Mount Meron Ar**	**147.62**	**301**	PKPbc	PKPbc	12 13 36.9	+0.1
	comp=Z,1.6nm,0.5s,baz=50,slow=7.8,SNR=5.1						
MMAI	**Mount Meron Ar**	**147.62**	**301**	PKPbc	PKPbc	12 13 36.9	+0.1
GERES	**GERESS Array B**	**149.34**	**345**	PKPbc	PKPbc	12 13 39.9	-0.7
	comp=Z,1.0nm,0.8s,baz=33,slow=3.2,SNR=9.1						
GERES	**GERESS Array B**	**149.34**	**345**	PKPbc	PKPbc	12 13 39.9	-0.7

DJA 07 12:01:40, 10.°49S×113.°30E, h118km, MLv3.7/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.18**	**23**	P	Pn	12 02 16.8	+1.2
JAGI				S	Sn	12 02 46.1	+3.2
GMJI	**Gumukmas**	**2.21**	**4**	P	Pn	12 02 16.5	+0.5
GMJI				S	Sn	12 02 46.4	+2.8
KRKI	**Karangkates**	**2.46**	**340**	P	Pn	12 02 20.8	+1.5
KRKI				S	Sn	12 02 49.8	+0.4
IGBI	**Denpasar**	**2.46**	**48**	P	Pn	12 02 19.6	+0.3
IGBI				S	Sn	12 02 52.0	+2.6
NBBI	**Negara**	**2.48**	**32**	P	Pn	12 02 20.5	+1.0
NBBI				S	Sn	12 02 53.0	+3.3
BLJI	**Banyuglugur**	**2.74**	**6**	P	Pn	12 02 25.6	+2.7
BLJI				S	Sn	12 02 57.5	+1.6
PWJI	**Pagerwojo**	**2.86**	**329**	P	Pn	12 02 24.9	+0.4
PWJI				S	Sn	12 03 01.7	+3.0
SRBI	**Singaraja**	**3.05**	**38**	P	Pn	12 02 27.7	+0.8
SRBI				S	Sn	12 03 06.2	+3.2
PCJI	**Pacitan**	**3.10**	**317**	P	Pn	12 02 28.4	+0.9
PCJI				S	Sn	12 03 05.2	+1.0
KHKI	**Kahang-Kahang**	**3.11**	**47**	P	Pn	12 02 30.3	+2.6
KHKI				S	Sn	12 03 08.1	+3.7
SJI	**Sawahan**	**3.13**	**331**	P	Pn	12 02 29.5	+1.5
MTNI	**Mataram**	**3.38**	**57**	P	Pn	12 02 30.6	-0.6
MTNI				S	Sn	12 03 10.1	-0.7
UGM	**Wanagama**	**3.75**	**313**	P	Pn	12 02 37.6	+1.4
UGM				S	Sn	12 03 22.0	+2.2

IDC 07 12:03:33.4±3.8, 55.°47N×35.°08W, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/29, mbtmp3.6/5, MS3.3/3, Ms1 3.3/3, ms1mx2.7/39, Error ellipse: s-maj=104.2km s-min=37.3km az=16.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**29.06**	**88**	LR	LR	12 20 04.0	
	comp=Z,68nm,18.2s,baz=263,slow=34						
VRAC	**Vranov**	**31.50**	**79**	LR	LR	12 21 18.4	
	comp=Z,35nm,20.0s,baz=219,slow=34						
INK	**Inuvik**	**42.95**	**327**	LR	LR	12 28 02.9	
	comp=Z,42nm,20.4s,baz=37,slow=34						
BRTR	**Keskin Array B**	**46.95**	**80**	P	P	12 12 06.3	+0.7
	1.0nm,0.7s,baz=306,slow=6.7,SNR=6.8						
ILAR	**Eielson Array**	**49.31**	**328**	P	P	12 12 23.9	+0.4
	0.5nm,0.9s,baz=56,slow=5.4,SNR=4.9						
BVAR	**Borovoye Array**	**55.71**	**45**	P	P	12 13 11.6	+0.5
	0.3nm,0.4s,baz=304,slow=6.6,SNR=4.3						
KURK	**Kurchatov**	**60.72**	**42**	P	P	12 13 46.3	+0.1
	0.8nm,0.7s,baz=323,slow=7.3,SNR=8.4						
MKAR	**Makanchi Array**	**65.33**	**42**	P	P	12 14 16.3	-0.6
	0.3nm,0.8s,baz=325,slow=6.3,SNR=3.1						
ASAR	**Alice Springs**	**147.20**	**19**	PKPbc	PKPbc	12 23 17.2	-1.0
	0.4nm,0.6s,baz=339,slow=2.1,SNR=7.3						

IDC 07 12:06:36.2±1.5, 16.°28S×176.°13W, h396km±33km, mb3.8/4, mb1 4.0/5, mb1mx3.3/18, mbtmp3.9/5, Error ellipse: s-maj=38.5km s-min=25.6km az=107.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.82**	**61**	P	Pn	12 07 57.5	+1.2
	32nm,0.3s,baz=16,slow=1.2,SNR=37						
AFI				S	S	12 09 01.2	-0.1
	2.5nm,0.3s,baz=86,slow=22,SNR=2.2						
URZ	**Urewera**	**22.69**	**194**	P	P	12 11 04.9	-0.3
	4.9nm,0.3s,baz=340,slow=3.5,SNR=14						
STKA	**Stephens Creek**	**41.32**	**240**	P	P	12 13 45.9	+0.6
	1.3nm,0.5s,baz=79,slow=8.9,SNR=7.1						
WRA	**Warramunga Arr**	**47.09**	**258**	P	P	12 14 29.9	-0.6
	5.6nm,0.7s,baz=91,slow=7.5,SNR=54						
ASAR	**Alice Springs**	**47.34**	**253**	P	P	12 14 32.5	0.0
	16nm,0.6s,baz=87,slow=7.8,SNR=543						
BRTR	**Keskin Array B**	**145.12**	**318**	PKPbc	PKPbc	12 25 27.4	-0.5
	0.3nm,0.3s,baz=29,slow=2.8,SNR=3.9						

IDC 07 12:11:51.6±1.4, 10.°45S×123.°62E, h0km, mb3.8/2, mb1 3.6/5, mb1mx3.4/16, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=114.1km s-min=24.8km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.86**	**166**	Pn	Pn	12 13 48.4	+1.2
	0.1nm,0.3s,baz=346,slow=11,SNR=8.7						
FITZ				Sn	Sn	12 15 12.0	-4.9
	1.4nm,0.3s,baz=159,slow=13,SNR=18						
WRA	**Warramunga Arr**	**14.00**	**134**	Pn	Pn	12 15 10.8	-0.6
	0.2nm,0.3s,baz=307,slow=15,SNR=4.8						
ASAR	**Alice Springs**	**16.40**	**145**	Pn	Pn	12 15 42.4	-0.9
	baz=318,slow=11,SNR=2.9						
ASAR				Sn	Sn	12 18 41.8	-4.4
	0.1nm,0.3s,baz=310,slow=22,SNR=5.0						
MKAR	**Makanchi Array**	**67.88**	**331**	P	P	12 22 52.1	+0.3
	0.5nm,0.5s,baz=141,slow=7.6,SNR=7.6						
ZALV	**Zalesovo Beam**	**72.07**	**337**	P	P	12 23 17.3	-0.1
	0.4nm,0.3s,baz=131,slow=5.9,SNR=2.4						

*IDC **07** 12:18:38.5±3.4, 35.°50S×179.°07W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/13, mbtmp3.7/3, ML3.8/1, MS4.4/1, Ms1 4.4/1, ms1mx3.1/24, Error ellipse: s-maj=86.2km s-min=37.2km az=131.0*
ISC 07 12:18:41.6±1.3, 36.°01S±0.°08×178.°41W±0.°09, h65km±16km, n31, σ1°09/42, mb3.5/2, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.05**	**239**	*e*PN	**Pn**	**12 19 26.1**	**-1.3**
MXZ				SN	**Sn**	**12 20 02.4**	**-0.4**
PUZ	**Puketiti**	**3.37**	**231**	PN	**Pn**	**12 19 32.1**	**+0.4**
PUZ				SN	**Sn**	**12 20 12.0**	**+1.6**
CNGZ	**Carnagh Statio**	**3.66**	**227**	PN	**Pn**	**12 19 36.7**	**+1.1**
MWZ	**Matawai**	**3.98**	**233**	PN	**Pn**	**12 19 39.9**	**-0.2**
MWZ				SN	**Sn**	**12 20 26.4**	**+0.8**
PRGZ	**Paritu Road**	**4.14**	**224**	PN	**Pn**	**12 19 43.3**	**+1.0**
PRGZ				SN	**Sn**	**12 20 31.8**	**+2.5**
URZ	**Urewera**	**4.22**	**237**	Pn	**Pn**	**12 19 43.0**	**-0.4**
	5.2nm,0.3s,baz=96,slow=6.0,SNR=29						
URZ				Sn	**Sn**	**12 20 31.4**	**0.0**
	13nm,0.3s,baz=276,slow=20,SNR=21						
URZ	**Urewera**	**4.22**	**237**	PN	**Pn**	**12 19 42.9**	**-0.4**
URZ				SN	**Sn**	**12 20 31.1**	**-0.3**
MHGZ	**Mahia Peninsul**	**4.29**	**222**	PN	**Pn**	**12 19 44.9**	**+0.6**
KNZ	**Kokohu**	**4.32**	**225**	PN	**Pn**	**12 19 45.2**	**+0.5**
RAHZ	**Arahi**	**4.61**	**230**	PN	**Pn**	**12 19 48.9**	**+0.3**
RAHZ				SN	**Sn**	**12 20 42.0**	**+1.2**
BKZ	**Black Stump Fm**	**5.13**	**231**	PN	**Pn**	**12 19 55.6**	**-0.1**
BKZ				SN	**Sn**	**12 20 53.9**	**+0.3**
MCHZ	**McNeill Hill**	**5.17**	**227**	PN	**Pn**	**12 19 56.6**	**+0.3**
MCHZ				SN	**Sn**	**12 20 56.4**	**+1.7**
KAHZ	**Kahuranaki**	**5.30**	**223**	PN	**Pn**	**12 19 58.0**	**-0.2**
BHHZ	**Black Hill Sta**	**5.58**	**230**	PN	**Pn**	**12 20 01.3**	**-0.7**
TSZ	**Takapari Road**	**6.00**	**226**	PN	**Pn**	**12 20 05.5**	**-2.2**
TSZ				SN	**Sn**	**12 21 14.0**	**-1.0**
WAZ	**Wanganui**	**6.42**	**232**	*e*PN	**Pn**	**12 20 13.8**	**+0.3**
WAZ				SN	**Sn**	**12 21 24.9**	**-0.4**
MRZ	**Mangatainoka R**	**6.62**	**224**	PN	**Pn**	**12 20 14.0**	**-2.2**
MRZ				SN	**Sn**	**12 21 28.0**	**-2.2**
SNZO	**South Karori**	**7.54**	**223**	*e*SN	**Sn**	**12 21 49.8**	**-3.0**
CTZ	**Chatham Island**	**7.83**	**170**	PN	**Pn**	**12 20 38.0**	**+5.3**
CTZ				SN	**Sn**	**12 22 00.3**	**+0.4**
NNZ	**Nelson**	**8.26**	**229**	SN	**Sn**	**12 22 06.0**	**-4.4**
QRZ	**Quartz Range**	**8.58**	**233**	SN	**Sn**	**12 22 12.0**	**-6.1**
THZ	**Tophouse**	**8.87**	**227**	SN	**Sn**	**12 22 20.1**	**-5.2**
KHZ	**Kahutara**	**8.94**	**222**	SN	**Sn**	**12 22 20.5**	**-6.3**
DSZ	**Denniston Nort**	**9.53**	**230**	SN	**Sn**	**12 22 33.0**	**-8.5**
LTZ	**Lake Taylor**	**9.88**	**224**	SN	**Sn**	**12 22 42.5**	**-7.4**
MQZ	**McQueen's Vall**	**10.30**	**219**	SN	**Sn**	**12 22 52.9**	**-7.3**
ODZ	**Otahua Downs**	**12.27**	**219**	SN	**Sn**	**12 23 38.1**	**-10**
HNR	**Honiara**	**32.98**	**318**	LR	LR	12 35 22.5	
	comp=Z,721nm,20.7s,baz=162,slow=31						
ASAR	**Alice Springs**	**42.77**	**273**	P	**P**	**12 26 33.4**	**+0.6**
	0.9nm,0.8s,mb3.6,baz=115,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**44.26**	**278**	P	**P**	**12 26 45.0**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=120,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**150.22**	**336**	PKPbc	PKPbc	12 38 28.3	+4.0
	2.0nm,0.9s,baz=46,slow=4.0,SNR=4.5						

*ISCJB **07** 12:20:53.8±0.5, 40.°06N±0.°02×21.°83E±0.°03, h2km±5km, Error ellipse: s-maj=4.0km s-min=3.2km az=153.8*
*ATH **07** 12:20:54.5, 40.°07N×21.°83E, h5km±1km, MD3.1/7*
*THE **07** 12:20:54.3, 40.°05N×21.°83E, h2km±2km, ML2.7/7, Error ellipse: s-maj=2.4km s-min=0.3km az=286.0*
*CSEM **07** 12:20:54.3±0.2, 40.°07N×21.°82E, h15km, MD3.1, Error ellipse: s-maj=4.8km s-min=3.8km az=64.0*
ISC 07 12:20:54.6±0.4, 40.°06N±0.°02×21.°81E±0.°03, h10km±4km, n39, σ0°91/69, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.25**	**353**	↑*i*PG	**Pg**	**12 20 59.3**	**-0.4**
KZN				*e*SG	**Sg**	**12 21 03.4**	**+0.3**
KZN	**Kozani**	**0.25**	**353**	P	**Pg**	**12 20 59.3**	**-0.4**
KZN				S	**Sg**	**12 21 03.2**	**+0.1**
KZN	**Kozani**	**0.25**	**353**	P	**Pg**	**12 20 59.3**	**-0.4**
KZN				S	**Sg**	**12 21 03.2**	**+0.1**
THL	**Klokotos Trika**	**0.52**	**162**	*e*PB	**Pg**	**12 21 04.8**	**+0.1**
THL				*e*SB	**Sg**	**12 21 12.7**	**+1.2**
THL	**Klokotos Trika**	**0.52**	**162**	P	**Pg**	**12 21 03.7**	**-1.0**
THL				S	**Sg**	**12 21 11.1**	**-0.4**
THL	**Klokotos Trika**	**0.52**	**162**	*e*Pb	**Pg**	**12 21 03.8**	**-0.9**
THL				S	**Sg**	**12 21 11.1**	**-0.4**
THL				*e*Sb	**Sg**	**12 21 13.0**	**+1.5**
LIT	**Litokhoron**	**0.52**	**85**	*e*PB	**Pg**	**12 21 04.4**	**-0.4**
LIT				*e*SB	**Sg**	**12 21 11.8**	**+0.1**
LIT	**Litokhoron**	**0.52**	**85**	P	**Pg**	**12 21 03.5**	**-1.3**
LIT				S	**Sg**	**12 21 11.7**	**0.0**
LIT	**Litokhoron**	**0.52**	**85**	P	**Pg**	**12 21 03.5**	**-1.3**
LIT	**Litokhoron**	**0.52**	**85**	*e*Pb	**Pg**	**12 21 04.4**	**-0.4**
LIT				S	**Sg**	**12 21 11.7**	**0.0**
NEST	**Nestorio**	**0.68**	**302**	P	**Pg**	**12 21 07.4**	**-0.4**
NEST				S	**Sg**	**12 21 18.0**	**+1.3**
NEST	**Nestorio**	**0.68**	**302**	P	**Pg**	**12 21 07.4**	**-0.4**
NEST				S	**Sg**	**12 21 18.0**	**+1.3**
FNA	**Florina**	**0.80**	**336**	P	**Pg**	**12 21 09.2**	**-0.8**
FNA				S	**Sg**	**12 21 21.1**	**+0.8**
FNA	**Florina**	**0.80**	**336**	P	**Pg**	**12 21 09.2**	**-0.8**
FNA				S	**Sg**	**12 21 21.1**	**+0.8**
JAN	**Janina**	**0.84**	**242**	*e*PB	**Pb**	**12 21 11.1**	**-0.2**
JAN				*e*SB	**Sb**	**12 21 23.3**	**+0.7**
JAN	**Janina**	**0.84**	**242**	*e*Pb	**Pb**	**12 21 11.1**	**-0.2**
JAN				*e*Sb	**Sb**	**12 21 23.6**	**+1.0**
BIA	**Bitola**	**1.03**	**339**	*e*Pn	**Pn**	**12 21 12.7**	**-2.4**
BIA				*e*Sn	**Sn**	**12 21 29.0**	**-0.5**
BIA	**Bitola**	**1.03**	**339**	*e*Pn	**Pn**	**12 21 12.6**	**-2.5**
BIA				*e*Sn	**Sn**	**12 21 28.9**	**-0.6**
AGG	**Agios Georgios**	**1.11**	**159**	*e*PB	**Pb**	**12 21 15.7**	**-0.2**
AGG				*e*SB	**Sb**	**12 21 31.5**	**+1.1**
AGG	**Agios Georgios**	**1.11**	**159**	P	**Pb**	**12 21 14.8**	**-1.1**
AGG				S	**Sg**	**12 21 31.1**	**+0.7**
AGG	**Agios Georgios**	**1.11**	**159**	P	**Pb**	**12 21 14.8**	**-1.1**
AGG	**Agios Georgios**	**1.11**	**159**	*e*Pb	**Pb**	**12 21 15.7**	**-0.2**
AGG				S	**Sg**	**12 21 31.1**	**+0.7**
AGG				*e*Sb	**Sb**	**12 21 31.5**	**+1.1**
EVR	**Evrytania**	**1.14**	**180**	*e*PN	**Pn**	**12 21 16.0**	**-0.6**
EVR	**Evrytania**	**1.14**	**180**	P	**Pb**	**12 21 15.4**	**-1.0**
EVR				S	**Sb**	**12 21 31.9**	**+0.6**
EVR	**Evrytania**	**1.14**	**180**

IDC 07 12:47:31.2±3.9, 56°26S×25°29W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/12, mbtmp4.0/2, Error ellipse: s-maj=132.8km s-min=49.8km az=171.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.65	159	eP	Pn	12 51 06.9	-5.9
VNA3	Neumayer Olymp	15.88	161	eP	Pn	12 51 08.6	-7.1
VNA2	Neumayer--Watz	16.05	159	eP	Pn	12 51 11.5	-6.4
	baz=325,slow=13						
LPAZ	La Paz	51.70	304	P	P	12 56 40.6	+0.7
	1.4nm,0.5s,baz=105,slow=8.9,SNR=9.6						
TORD	Torodi Ar. Bea	73.27	27	P	P	12 59 04.2	+0.1
	0.6nm,0.5s,baz=201,slow=6.8,SNR=6.1						
ILAR	Eielson Array	151.44	310	PKPbc	PKPbc	13 07 25.2	-0.1
	0.4nm,0.8s,baz=128,slow=1.4,SNR=5.4						

IDC 07 13:18:38.1±2.0, 8°42S×129°66E, h0km, mb3.2/1, mb1 3.3/4, mb1mx3.2/16, mbtmp3.1/4, ML3.1/2, Error ellipse: s-maj=80.4km s-min=28.1km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.38	202	Pn	Pn	13 21 07.7	-0.7
	0.1nm,0.3s,baz=168,slow=14,SNR=7.0						
FITZ				Sn	Sn	13 22 57.1	-8.5
	0.1nm,0.3s,baz=52,slow=13,SNR=3.3						
WRA	Warramunga Arr	12.31	159	Pn	Pn	13 21 36.5	+1.6
	0.1nm,0.3s,baz=339,slow=12,SNR=3.2						
WRA				Sn	Sn	13 23 48.5	-4.4
	0.2nm,0.3s,baz=321,slow=27,SNR=4.3						
ASAR	Alice Springs	15.69	165	Pn	Pn	13 22 19.5	-1.2
	0.0nm,0.3s,baz=347,slow=7.9,SNR=5.1						
MKAR	Makanchi Array	69.23	327	P	P	13 29 47.0	+0.2
	0.1nm,0.5s,baz=138,slow=7.0,SNR=3.4						

IDC 07 13:19:09.3±22.0, 47°29S×130°43E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/11, mbtmp3.7/3, Error ellipse: s-maj=368.4km s-min=129.7km az=166.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	17.61	33	P	Pn	13 23 15.8	-0.2
	0.1nm,0.3s,baz=184,slow=14,SNR=3.6						
ASAR	Alice Springs	23.74	8	P	P	13 24 23.3	+0.1
	2.7nm,0.8s,baz=187,slow=9.7,SNR=19						
WRA	Warramunga Arr	27.47	8	P	P	13 24 57.0	0.0
	0.6nm,0.8s,baz=197,slow=8.4,SNR=4.5						

IDC 07 13:26:57.2±1.6, 8°38S×129°58E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=66.3km s-min=25.7km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.39	201	Pn	Pn	13 29 26.2	-1.4
	0.2nm,0.3s,baz=21,slow=12,SNR=12						
FITZ				Sn	Sn	13 31 14.0	-11
	0.1nm,0.3s,baz=44,slow=22,SNR=3.2						
WRA	Warramunga Arr	12.38	159	Pn	Pn	13 29 55.3	+0.4
	0.2nm,0.3s,baz=338,slow=12,SNR=13						
ASAR	Alice Springs	15.76	165	Pn	Pn	13 30 41.9	+1.3
	0.1nm,0.3s,baz=338,slow=8.7,SNR=11						
MKAR	Makanchi Array	69.15	327	P	P	13 38 06.0	+0.6
	0.3nm,0.5s,baz=120,slow=6.7,SNR=8.1						
KURK	Kurchatov	73.47	329	P	P	13 38 31.1	-0.4
	0.2nm,0.5s,baz=129,slow=5.0,SNR=5.7						

IDC 07 13:29:08.0±1.7, 8°33S×129°82E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.6/16, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=76.9km s-min=25.9km az=78.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.53	202	Pn	Pn	13 31 38.5	-1.9
	0.6nm,0.3s,baz=20,slow=14,SNR=8.7						
FITZ				Sn	Sn	13 33 27.9	-11
	0.3nm,0.3s,baz=196,slow=20,SNR=3.2						
WRA	Warramunga Arr	12.35	160	Pn	Pn	13 32 06.8	+1.6
	0.5nm,0.3s,baz=345,slow=13,SNR=9.7						
WRA				Sn	Sn	13 34 19.3	-4.3
	0.5nm,0.3s,baz=329,slow=23,SNR=5.1						
ASAR	Alice Springs	15.74	166	Pn	Pn	13 32 51.5	+0.3
	0.1nm,0.3s,baz=344,slow=9.6,SNR=6.8						
MKAR	Makanchi Array	69.23	327	P	P	13 40 17.0	+0.3
	0.5nm,0.5s,baz=112,slow=6.6,SNR=7.8						
KURK	Kurchatov	73.55	329	P	P	13 40 42.7	-0.1
	0.2nm,0.5s,baz=133,slow=5.0,SNR=8.1						

IDC 07 13:31:47.0±27.0, 5°92S×105°02W, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.5/11, mbtmp3.2/3, Error ellipse: s-maj=940.3km s-min=119.3km az=120.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	35.07	2	P	P	13 38 42.0	+0.1
	0.3nm,0.9s,baz=169,slow=12,SNR=2.8						
PDAR	Pinedale Array	48.63	356	P	P	13 40 33.0	+0.4
	0.2nm,0.8s,baz=168,slow=9.2,SNR=2.4						
ILAR	Eielson Array	77.00	343	P	P	13 43 41.4	0.0
	0.8nm,0.8s,baz=160,slow=6.2,SNR=6.1						

*BGS **07** 13:35:56.4±2.3, 24°52N×58°19E, h10km, mb5.5, MS5.0, mb5.6(NEIC)*

*BJI **07** 13:36:14.3, 27°05N×55°16E, h10km, mB5.5/38, mb5.4/68, Ms5.4/65, Ms7 5.1/56*

*IDC **07** 13:36:18.7±0.4, 26°91N×55°92E, h0km, mb5.2/32, mb1 5.3/37, mb1mx5.2/42, mbtmp5.2/37, ML4.6/3, MS4.9/29, Ms1 4.9/29, ms1mx4.7/42, Error ellipse: s-maj=12.5km s-min=8.3km az=10.0*

*TEH **07** 13:36:19.1, 26°88N×55°91E, h11km*

*ISCJB **07** 13:36:19.3±0.1, 26°88N±0°02×55°89E±0°01, h13km, mb5.5/338, MS5.1/232, Error ellipse: s-maj=2.3km s-min=1.6km az=14.1*

*CSEM **07** 13:36:20.9±0.1, 26°93N×55°92E, h11km, mb5.5/99, Ms5.1, Mw5.4, Error ellipse: s-maj=4.0km s-min=2.8km az=6.0*

*THR **07** 13:36:20.8±0.7, 26°96N×55°77E, h11km±9km, mb5.6, ML5.2*

*NEIC **07** 13:36:21.3, 26°99N×55°80E, h15km, mb5.7/134, MS5.2/150, MW5.4, ML5.2(THR), Moment Tensor Solution. s50 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.50000×10^{17} NP1:ϕ_s356.00000°, δ19.00000°, λ45.00000°. NP2:ϕ_s223.00000°, δ76.00000°, λ104.00000°. Principal axes: T 1.5900, Plg56.0000°, Azm150.0000°; N -0.2000, Plg13.0000°, Azm39.0000°; P -1.3900, Plg30.0000°, Azm301.0000°; After THR.*

NEIC Five people injured and buildings damaged on Jazireh-ye Qeshm. Felt at Dubai, United Arab Emirates.

*MOS **07** 13:36:22.0±0.9, 26°94N×55°85E, h33km, mb5.8/119, MS4.9/68 Error ellipse: s-maj=5.2km s-min=3.0km az=120.9*

*GCMT **07** 13:36:23.1±0.1, 26°82N×55°74E, h12km, MW5.4, Moment Tensor Solution. s69,c121; s27,c27; Moment tensor: Scale 10^{17}Nm; M_{rr}1.29±.02; $M_{\theta\theta}$-0.90±.02; $M_{\phi\phi}$-0.39±.02; $M_{r\theta}$-0.05±.06; $M_{\theta\phi}$-0.95±.02; $M_{\phi r}$-0.44±.06; Best double couple: $M_0$1.50000×10^{17} NP1:ϕ_s69.00000°, δ41.00000°, λ115.00000°. NP2:ϕ_s217.00000°, δ53.00000°, λ69.00000°. Principal axes: T 1.4200, Plg73.0000°, Azm71.0000°; N 0.2400, Plg16.0000°, Azm230.0000°; P -1.6600, Plg6.0000°, Azm322.0000°; Data Used: IU II G CN IC. Surface waves: sta= 90, comp=192, per= 50.*

*OMAN **07** 13:36:24.2±99.0, 26°80N×56°13E, h10km Error ellipse: s-maj=868.0km s-min=31.6km az=8.0*

*DJA **07** 13:36:28, 27°10N×55°88E, h58km, mb5.5/25*

*SZGRF **07** 13:36:33.4, 26°71N×53°73E, h33km, mb5.5, MS4.8, Southern Iran*

ISC 07 13:36:21.4±0.1, 26°91N±0°02×55°90E±0°01, h14km, h14km±.8km: pP-P, n1897, σ1 s25/1894, mb5.5/338, MS5.1/232, 107C-48D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.54	26	eP	Pg	13 36 31.0	-1.0
BNDS	Bandar-Abbas	0.54	26	ePg	Pg	13 36 32.0	0.0
BNDS				AML	AML	13 36 45.7	
	comp=N,174μm,0.7s						
BNDS	Bandar-Abbas	0.54	26	eP	Pg	13 36 31.2	-0.8
IBND	Bandar-abas	0.78	47	ePg	Pg	13 36 35.3	-1.3
IBND				eSg	Sg	13 36 47.6	+0.8
IBND				e		13 37 11.9	
	comp=Z,2882μm,0.4s						
IBND	Bandar-abas	0.78	47	ePg	Pg	13 36 35.3	-1.3
NAZ	Nazwa, Dubai	1.93	186	P	Pn	13 36 56.1	+2.3
	SNR=114						
NAZ	Nazwa, Dubai	1.93	186	P	Pn	13 36 56.1	+2.3
	SNR=114						
HATD	Hatta, Dubai	2.09	174	P	Pn	13 36 57.7	+1.7
	SNR=78						
HATD	Hatta, Dubai	2.09	174	P	Pn	13 36 57.7	+1.7
	SNR=78						
ASUD	Al Ashush, Dub	2.33	193	P	Pn	13 37 02.1	+2.6
	SNR=1488						
ASUD	Al Ashush, Dub	2.33	193	P	Pn	13 37 02.1	+2.7
	SNR=1000						
KRBR	Kerman	3.15	14	eP	Pn	13 37 12.0	+1.4
KRBR	Kerman	3.15	14	ePn	Pn	13 37 12.8	+2.1
KRBR				AML	AML	13 38 10.8	
	comp=E,7μm,0.6s						
KRBR				AML	AML	13 38 19.6	
	comp=N,6μm,0.5s						
KRBR	Kerman	3.15	14	eP	Pn	13 37 12.0	+1.4
ISRV	Sarvestan	3.48	316	ePn	Pn	13 37 17.4	+2.2
ISRV				e		13 39 02.8	
	comp=Z,89μm,0.8s						
ISRV	Sarvestan	3.48	316	ePn	Pn	13 37 17.4	+2.2
IPAR	Pars	3.85	320	ePn	Pn	13 37 22.4	+2.1
IPAR				e		13 38 15.1	
	comp=Z,58μm,0.5s						
IPAR	Pars	3.85	320	ePn	Pn	13 37 22.4	+2.1
SHI	Shiraz	4.04	313	ePn	Pn	13 37 24.8	+1.9
SHI				e		13 39 07.0	
	comp=E,33μm,0.5s						
SHI	Shiraz	4.04	313	ePn	Pn	13 37 24.8	+1.9
IMEH	Mehriz	4.60	346	ePn	Pn	13 37 32.6	+2.0
IMEH				e		13 38 54.6	
	comp=Z,31μm,0.4s						
IMEH	Mehriz	4.60	346	ePn	Pn	13 37 32.6	+2.0
IBAF	Bafgh	4.67	356	⇑ePn	Pn	13 37 32.6	+1.1
IBAF				e		13 38 30.4	
	comp=Z,19μm,0.2s						
IBAF	Bafgh	4.67	356	⇑ePn	Pn	13 37 32.6	+1.1
ISAD	Sadrabad	5.34	339	⇑ePn	Pn	13 37 42.5	+1.7
ISAD				e		13 38 54.0	
	comp=Z,27μm,0.3s						
ISAD	Sadrabad	5.34	339	⇑ePn	Pn	13 37 42.5	+1.7
ICHK	Chekchek	5.47	347	ePn	Pn	13 37 43.0	+0.5
ICHK				e		13 38 51.9	
	comp=Z,20μm,0.3s						
ICHK	Chekchek	5.47	347	ePn	Pn	13 37 43.0	+0.5
IGAR	Gharneh	6.42	329	⇓ePn	Pn	13 37 57.0	+1.4
IGAR				e		13 38 13.3	
	comp=Z,14μm,0.2s						
NASN	Na'in	6.45	336	eP	Pn	13 37 56.0	0.0
NASN	Na'in	6.45	336	ePn	Pn	13 37 57.4	+1.3
NASN				Sn	Sn	13 39 07.2	-2.3
NASN	Na'in	6.45	336	eP	Pn	13 37 56.0	0.0
ITEG	Tejag	6.46	22	ePn	Pn	13 37 57.1	+1.0
ITEG				e		13 40 26.9	
	comp=Z,20μm,0.6s						
ITEG	Tejag	6.46	22	ePn	Pn	13 37 57.1	+1.0
IZEF	Zefreh	6.72	333	⇓ePn	Pn	13 38 00.1	+0.4
IZEF				e		13 38 04.4	
	comp=Z,9μm,0.5s						
IZEF	Zefreh	6.72	333	⇓ePn	Pn	13 38 00.1	+0.4
IDAH	Dahanechah	6.75	30	ePn	Pn	13 38 01.8	+1.7
IDAH				e		13 40 44.2	
	comp=Z,41μm,1.1s						
IDAH	Dahanechah	6.75	30	ePn	Pn	13 38 01.8	+1.7
TABS	Tabas	6.80	9	ePn	Pn	13 38 02.5	+1.8
TABS	Tabas	6.80	9	eP	Pn	13 38 02.0	+1.3
TABS				eS	Sn	13 39 15.2	-2.7
IMON	Monand	7.06	27	ePn	Pn	13 38 06.2	+1.9
IPIR	Pirpir	7.21	324	ePn	Pn	13 38 08.3	+1.8
IPIR				e		13 39 32.1	
	comp=Z,26μm,0.3s						
IPIR	Pirpir	7.21	324	ePn	Pn	13 38 08.3	+1.8
QRN	Al-Qurain	7.30	286	eP	Pn	13 38 08.7	+1.0
IKLH	Kolahrood	7.40	331	e	Pb	13 38 38.1	+8.5
	comp=Z,8μm,0.4s						
IKLH				⇓ePn	Pn	13 38 09.3	+0.3
KBD	Kabd	7.59	289	eP	Pn	13 38 13.1	+1.4
KBD	Kabd	7.59	289	eP	Pn	13 38 13.1	+1.4
RDF	Al-Radifah	7.66	287	eP	Pn	13 38 13.4	+0.8
RDF				AML	AML	13 39 39.2	
	comp=Z,2μm,0.5s						
RDF	Al-Radifah	7.66	287	eP	Pn	13 38 13.4	+0.8
UMR	Umm Al-Rimmam	7.68	292	eP	Pn	13 38 14.0	+1.1
UMR				AML	AML	13 39 41.9	
	comp=Z,1μm,0.5s						
UMR	Umm Al-Rimmam	7.68	292	eP	Pn	13 38 14.0	+1.1
SHRT	Shahrakht	7.71	28	ePn	Pn	13 38 15.0	+1.7
SHRT	Shahrakht	7.71	28	eP	Pn	13 38 15.0	+1.7
NAY	Al-Naaiem	8.00	289	eP	Pn	13 38 18.3	+1.1
NAY				AML	AML	13 39 45.8	
	comp=Z,335nm,0.5s						
NAY	Al-Naaiem	8.00	289	eP	Pn	13 38 18.3	+1.1
SHGR	Shooshtar-Gavs	8.06	312	ePn	Pn	13 38 18.0	-0.2
SHGR	Shooshtar-Gavs	8.06	312	ePn	Pn	13 38 18.6	+0.4
SHGR	Shooshtar-Gavs	8.06	312	eP	Pn	13 38 18.0	-0.2
MIB	Mutribah	8.07	293	eP	Pn	13 38 19.2	+0.9
MIB	Mutribah	8.07	293	eP	Pn	13 38 19.2	+0.9
IANJ	Anjilo	8.70	349	⇑ePn	Pn	13 38 27.7	+0.9
IANJ				e		13 38 40.0	
	comp=Z,3μm,0.3s						
IANJ	Anjilo	8.70	349	⇑ePn	Pn	13 38 27.7	+0.9
ILAS	Lasjerd	8.81	344	ePn	Pn	13 38 29.8	+1.4
ILAS				e		13 38 58.0	
	comp=Z,3μm,0.4s						
ILAS	Lasjerd	8.81	344	ePn	Pn	13 38 29.8	+1.4
ASAO	Ashtian	9.13	328	eP	Pn	13 38 33.0	+0.2
ASAO	Ashtian	9.13	328	ePn	Pn	13 38 33.5	+0.6
ASAO	Ashtian	9.13	328	eP	Pn	13 38 33.0	+0.2
ISHM	Shahmirzad	9.14	347	ePn	Pn	13 38 34.9	+2.0
ISHM	Shahmirzad	9.14	347	ePn	Pn	13 38 34.9	+2.0
DAMV	Damavand	9.32	340	eP	Pn	13 38 36.0	+0.7
DAMV	Damavand	9.32	340	ePn	Pn	13 38 37.0	+1.6
DAMV	Damavand	9.32	340	eP	Pn	13 38 36.0	+0.7
IKIA	Kiasar	9.46	349	ePn	Pn	13 38 38.9	+1.7
IKIA				e		13 38 52.0	
	comp=Z,4μm,0.5s						
IKIA	Kiasar	9.46	349	ePn	Pn	13 38 38.9	+1.7
IALA	Alasht	9.51	345	ePn	Pn	13 38 39.8	+1.8
IALA				e		13 38 44.5	
	comp=Z,5μm,0.2s						
IALA	Alasht	9.51	345	ePn	Pn	13 38 39.8	+1.8
IMOG	Moghan	9.62	17	ePn	Pn	13 38 41.9	+2.4
IMOG				e		13 42 06.8	
	comp=Z,13μm,1.3s						
IMOG	Moghan	9.62	17	ePn	Pn	13 38 41.9	+2.4
IGLO	Ghaloghah	9.72	350	ePn	Pn	13 38 42.5	+1.6
IGLO				e		13 38 50.5	
	comp=Z,5μm,0.4s						
IPRN	Peran	9.78	343	⇓ePn	Pn	13 38 43.6	+1.9
IPRN				e		13 38 49.3	
	comp=Z,7μm,0.2s						
ISRO	Mashad	9.85	17	ePn	Pn	13 38 44.3	+1.7
ISRO	Mashad	9.85	17	ePn	Pn	13 38 44.3	+1.7
IPAY	Payeh	9.87	15	ePn	Pn	13 38 44.5	+1.7
IPAY				e		13 42 10.8	
	comp=Z,7μm,1.1s						
IPAY	Payeh	9.87	15	ePn	Pn	13 38 44.5	+1.7
RAYN	Ar Rayn	10.00	253	Pn	Pn	13 38 42.5	-2.3
	comp=Z,2μm,0.7s,SNR=64						
IMYA	Miami	10.06	20	ePn	Pn	13 38 47.1	+1.6
IMYA				e		13 42 13.7	
	comp=Z,3μm,0.8s						
IMYA	Miami	10.06	20	ePn	Pn	13 38 47.1	+1.6
IKRD	Kardeh	10.08	12	ePn	Pn	13 38 50.5	+4.7
IKRD				e		13 43 00.2	
	comp=Z,9μm,1.4s						
IKRD	Kardeh	10.08	12	ePn	Pn	13 38 50.5	+4.7
IKOM	Komasi	10.23	317	ePn	Pn	13 38 46.5	-1.3
IKOM				e		13 38 56.2	
	comp=Z,19μm,0.3s						
IKOM	Komasi	10.23	317	ePn	Pn	13 38 46.5	-1.3
QUE	Quetta	10.25	69	eP	Pn	13 38 52.0	+3.9
QUE				eS	Sn	13 41 02.0	+19
QUE	Quetta	10.25	69	eP	Pn	13 38 52.0	+3.9
QUE	Quetta	10.25	69	eP	Pn	13 38 52.0	+3.9
QUE				eS	Sn	13 41 02.0	+19
ISHV	Shirvan	10.70	8	ePn	Pn	13 38 56.4	+2.1
ISHV	Shirvan	10.70	8	ePn	Pn	13 38 56.4	+2.1
IVIS	Veis	10.87	316	ePn	Pn	13 38 55.6	-1.0
IVIS				e		13 39 08.9	
	comp=Z,8μm,0.3s						
IVIS	Veis	10.87	316	ePn	Pn	13 38 55.6	-1.0
IGHG	Ghaleghazi	10.92	315	ePn	Pn	13 38 56.9	-0.3
IGHG				e		13 41 21.0	
	comp=Z,15μm,0.4s						
IGHG	Ghaleghazi	10.92	315	ePn	Pn	13 38 56.9	-0.3
ILIN	Lien	11.07	318	ePn	Pn	13 38 57.6	-1.7
ILIN				e		13 39 13.3	
	comp=Z,7μm,0.4s						
ILIN	Lien	11.07	318	ePn	Pn	13 38 57.6	-1.7
ABKT	Ailbek	11.14	9	Pn	Pn	13 39 02.2	+1.9
	comp=Z,367nm,1.1s,SNR=25						
IDHR	Dehrash	11.27	316	ePn	Pn	13 39 02.3	+0.2
BHD	Baghdad	11.81	305	ex	Pn	13 39 05.3	-4.2
BHD				ex	x	13 41 15.2	
ISRB	Sarab	12.91	329	ePn	Pn	13 39 24.1	-0.4
ISRB	Sarab	12.91	329	ePn	Pn	13 39 24.1	-0.4
IBST	Bostanabad	13.17	327	ePn	Pn	13 39 27.0	-1.1
IBST				e		13 39 42.7	
	comp=Z,2μm,0.4s						
IBST	Bostanabad	13.17	327	ePn	Pn	13 39 27.0	-1.1
IHRS	Heris	13.60	329	ePn	Pn	13 39 33.1	-0.7
IHRS				e		13 40 03.9	
	comp=Z,2μm,0.5s						
IHRS	Heris	13.60	329	ePn	Pn	13 39 33.1	-0.7
IAZR	Azarshahr	13.61	324	ePn	Pn	13 39 34.9	+0.8
IAZR	Azarshahr	13.61	324	ePn	Pn	13 39 34.9	+0.8
MUKL	Al Mukalla	13.94	209	eP	Pn	13 39 33.4	-5.2
MUKL				i S	Sn	13 42 09.3	-4.0
ITBZ	Tabriz	13.96	326	ePn	Pn	13 39 38.6	-0.2
ITBZ	Tabriz	13.96	326	ePn	Pn	13 39 38.6	-0.2
ISHB	Shabestar	14.26	325	ePn	Pn	13 39 42.6	-0.3
ISHB	Shabestar	14.26	325	ePn	Pn	13 39 42.6	-0.3
IMRD	Marand	14.55	327	ePn	Pn	13 39 47.3	+0.5
IMRD				e		13 40 04.4	
	comp=Z,4μm,0.4s						
IMRD	Marand	14.55	327	ePn	Pn	13 39 47.3	+0.5
CUKT	Cukurca	14.64	318	eP	Pn	13 39 43.5	-4.6
HKR	Hakkari	14.78	319	eP	Pn	13 39 46.8	-3.2
HAKT	HAKKARI	14.79	319	⇑iP	Pn	13 39 46.1	-4.1
THW	Thamme Wali	14.94	63	P	Pn	13 39 49.8	-2.4
THW				S	Sn	13 43 05.0	+27
CEP	Cherat	15.43	60	P	Pn	13 39 58.0	-0.7
MAKU	Maku	15.55	326	ePn	Pn	13 40 00.6	+0.4
MAKU				AMb	AMB	13 40 03.2	
	comp=Z,201nm,1.4s						
GEVA	Gevas	15.68	320	⇑iP	Pn	13 39 59.7	-2.2
VANB	Van	15.68	321	eP	Pn	13 40 00.8	-1.2
CLDR	Caldiran	15.78	324	eP	Pn	13 40 02.9	-0.4
SANA	San'a	15.81	226	eP	Pn	13 39 58.7	-5.1
HAJJ	Hajjah	15.98	226	⇓eP	Pn	13 40 00.8	-5.1
BDHA	Al Bayda'	16.09	219	eP	Pn	13 40 02.5	-5.0
BDHA				AMb	AMB	13 40 04.6	
	comp=Z,156nm,1.0s						
BDHA				i S	Sn	13 43 02.1	-3.7
GNI	Garni	16.13	328	Pn	Pn	13 40 10.2	+2.5
	comp=Z,0.9nm,0.3s,baz=150,slow=3.3,SNR=58						
GNI				Sn	Sn	13 43 11.9	+5.4
	baz=315,slow=20,SNR=1.5						
GNI				Lg		13 45 23.3	
	comp=Z,0.6nm,0.3s,baz=21,slow=18,SNR=1.9						
GNI				LR	LR	13 47 20.8	
	comp=Z,13μm,21.0s,baz=136,slow=41						
GNI	Garni	16.13	328	eP	Pn	13 40 08.8	+1.1
GNI	Garni	16.13	328	ePn	Pn	13 40 08.8	+1.1
	comp=Z,898nm,1.1s						
GNI				Sn	Sn	13 43 11.9	+5.4
GNI				Lg		13 45 23.3	
GNI	Garni	16.13	328	eP	Pn	13 40 08.8	+1.1
GNI						13 43 11.9	
GNI				pmax	pmax		
	comp=Z,898nm,1.1s						
GNI	Garni	16.13	328	eP	Pn	13 40 08.8	+1.1
GNI				S	Sn	13 43 11.9	+5.4
DHBB	Dhamar BB	16.32	223	eP	Pn	13 40 05.2	-5.1
DHBB				AMb	AMB	13 40 07.4	
	comp=Z,946nm,2.2s						
DHBB				i S	Sn	13 43 07.6	-3.5
LBOS		16.36	220	eP	Pn	13 40 06.0	-4.8
LBOS				AMb	AMB	13 40 07.2	
	comp=Z,268nm,1.6s						
LBOS				i S	Sn	13 43 08.6	-3.6
CHCP	Chirah Chowk	16.43	62	P	Pn	13 40 10.0	-1.6
MARD	Mardin	16.46	313	⇑iP	Pn	13 40 09.9	-2.1
BEST	Besiri	16.48	315	⇑iP	Pn	13 40 10.1	-2.2
TUTA	Tutak	16.57	322	⇑iP	Pn	13 40 14.5	+1.2
TUTA	Tutak	16.57	322	i P	Pn	13 40 14.5	+1.2
AJM	Ajmer	16.76	87	ePKP	Pn	13 40 16.0	+0.2
DGRG	David-gareji	16.89	332	P	Sn	13 40 18.3	+0.9
DGRG				S	Sn	13 43 28.8	+3.8
VRTB	Varto-Mus	17.17	319	eP	Pn	13 40 20.5	-0.5
VRTB	Varto-Mus	17.17	319	eP	Pn	13 40 20.5	-0.5
BNGL	BINGOL	17.22	318	⇑iP	Pn	13 40 18.9	-2.6
KARS	Kars	17.32	325	eP	Pn	13 40 24.5	+1.8
KARS	Kars	17.32	325	eP	Pn	13 40 24.5	+1.8
ASF	Jabal al Asfar	17.34	292	P	Pn	13 40 22.4	-0.7
	comp=Z,2.4nm,0.3s,baz=331,slow=2.8,SNR=32						
ASF				S	Sn	13 43 18.8	-17
	comp=Z,1.4nm,0.3s,baz=13,slow=5.7,SNR=2.4						
ASF				Lg		13 46 12.0	
	baz=50,slow=23,SNR=1.4						
ASF				LR	LR	13 48 22.1	
	comp=Z,3μm,19.8s,baz=339,slow=42						
ASF	Jabal al Asfar	17.34	292	P	Pn	13 40 22.4	-0.7
ASF				S	Sn	13 43 18.8	-17
ASF				Lg		13 46 12.0	
ASF	Jabal al Asfar	17.34	292	P	Pn	13 40 22.4	-0.7
MTA	Mtatsminda	17.34	331	P	Pn	13 40 23.9	+0.9
TBLG	Delisi	17.40	331

DBAD	Bademkaya	18.32 324	*i* P		Pn	13 40 37.1 +2.0
BHK	Bhakra	18.46 71	*e*PKP		Pn	13 40 38.0 +1.0
POO	Poona	18.52 113	*e*PKP		Pn	13 40 40.1 +2.3
RCY	Rachaya	18.53 296	*e*P		Pn	13 40 37.5 -0.3
RCY	Rachaya	18.53 296	*e*P		Pn	13 40 37.5 -0.2
MALT	Malatya	18.57 312	*e*P		Pn	13 40 38.4 +0.3
MALT	Malatya	18.57 312	*e*P		Pn	13 40 38.4 +0.3
DBOC	Borcka	18.57 324	⇑*i*P		Pn	13 40 39.8 +1.7
DBOC	Borcka	18.57 324	*i* P		Pn	13 40 39.8 +1.7
MYA	Malataya	18.57 312	*e*P		Pn	13 40 38.5 +0.3
MYA	Malataya	18.57 312	*e*P		Pn	13 40 38.5 +0.3
KSDI	Kefar Szold	18.59 295	*e*P		Sn	13 44 15.6 +9.3
KKR	Kurukshetra	18.64 76	*e*PKP		Pn	13 40 38.1 -1.1
KKR			AMb		AMB	13 40 43.6
	comp=Z,372nm,0.7s					
EIL	Elat	18.65 283	P		Pn	13 40 39.1 -0.1
	comp=Z,1.1nm,0.3s,baz=100,slow=4.0,SNR=36					
EIL			S		Sn	13 44 09.2 +1.5
	comp=Z,2.6nm,0.3s,baz=284,slow=16,SNR=2.5					
EIL			Lg			13 46 48.2
	comp=Z,1.0nm,0.3s,baz=275,slow=23,SNR=1.7					
EIL			LR		LR	13 49 25.1
	comp=Z,3μm,20.2s,baz=100,slow=42					
EIL	Elat	18.65 283	*e*P		Pn	13 40 38.2 -1.1
EIL	Elat	18.65 283	*e*P		Sn	13 44 17.8 +10
EIL	Elat	18.65 283	P		Pn	13 40 39.1 -0.1
EIL			S		Sn	13 44 09.2 +1.5
EIL			Lg			13 46 48.2
EIL	Elat	18.65 283	P		Pn	13 40 39.2 -0.1
EIL			S		Sn	13 44 09.2 +1.5
BCA	Borcka	18.66 325	*e*P		Pn	13 40 40.1 +0.9
BCA	Borcka	18.66 325	*e*P		Pn	13 40 40.1 +0.8
HWQ	Hawqa	18.66 298	*e*P		Pn	13 40 39.0 -0.4
HWQ	Hawqa	18.66 298	*e*P		Pn	13 40 39.0 -0.4
BAYT	Ayd¯-ntepe-Bay	18.75 320	*e*P		Pn	13 40 40.6 +0.3
BAYT	Ayd¯-ntepe-Bay	18.75 320	*e*P		Pn	13 40 40.6 +0.3
MMAI	Mount Meron Ar	18.76 294	P		Pn	13 40 40.6 0.0
	comp=Z,2.6nm,0.3s,baz=99,slow=15,SNR=91					
MMAI			LR		LR	13 49 31.9
	comp=Z,4μm,21.1s,baz=95,slow=42					
MMAI	Mount Meron Ar	18.76 294	P		Pn	13 40 40.6 0.0
MMAI	Mount Meron Ar	18.76 294	P		Pn	13 40 40.6 0.0
BHL	Bhannes	18.79 297	*e*P		Pn	13 40 41.4 +0.5
BHL	Bhannes	18.79 297	*e*P		Pn	13 40 41.3 +0.4
EZC	Erzincan	18.81 317	*e*P		Pn	13 40 42.1 +1.1
EZC	Erzincan	18.81 317	*e*P		Pn	13 40 42.1 +1.1
GAZ	Gaziantep	18.83 308	*e*P		Pn	13 40 41.3 0.0
GAZ	Gaziantep	18.83 308	*e*P		Pn	13 40 41.3 0.0
AYAN	Aya Nagar	18.86 80	*e*PKP		Pn	13 40 40.7 -1.2
AKCD	Akcadag	18.89 311	⇑*i*P		Pn	13 40 43.6 +1.5
AKCD	Akcadag	18.89 311	*i* P		Pn	13 40 43.6 +1.5
NDI	New Delhi	18.94 80	*e*PKP		Pn	13 40 42.3 -0.4
SDNR	Sundarnagar	18.95 71	*e*PKP		Pn	13 40 44.0 +1.2
KEMA	Kemaliye	19.05 315	⇑*i*P		Pn	13 40 45.8 +1.7
KELT	Kelkit	19.11 318	⇑*i*P		Pn	13 40 44.9 +0.2
KELT	Kelkit	19.11 318	*i* P		Pn	13 40 44.9 +0.2
BISR	Bishrakh	19.14 80	*e*PKP		Pn	13 40 44.3 -0.8
YAYL	Yayladag	19.15 303	⇑*i*P		Pn	13 40 45.6 +0.4
YAYL	Yayladag	19.15 303	*i* P		Pn	13 40 45.6 +0.4
GUMT	Gumushane	19.17 319	*e*P		Pn	13 40 46.6 +1.1
GUMT	Gumushane	19.17 319	*e*P		Pn	13 40 46.6 +1.1
KMRS	Kahramanmaras	19.20 308	*e*P		Pn	13 40 45.7 -0.2
KMRS	Kahramanmaras	19.20 308	*e*P		Pn	13 40 45.7 -0.2
COBT	Iskenderun	19.23 305	⇓*i*P		Pn	13 40 46.5 +0.3
COBT	Iskenderun	19.23 305	*i* P		Pn	13 40 46.5 +0.3
KTUT	Trabzon	19.35 321	*e*P		Pn	13 40 47.9 +0.3
KTUT	Trabzon	19.35 321	*e*P		Pn	13 40 47.9 +0.3
KAD	Karad	19.43 116	*e*PKP		Pn	13 40 50.4 +1.7
KAD			*e*S		Sn	13 44 31.7 +5.1
ATD	Arta Tunnel	19.62 221	P		Pn	13 40 51.0 0.0
	comp=Z,6.4nm,0.3s,baz=26,slow=7.1,SNR=31					
ATD			LR		LR	13 49 15.9
	comp=Z,3μm,21.7s,baz=45,slow=40					
ATD	Arta Tunnel	19.62 221	P		Pn	13 40 51.0 0.0
ATD	Arta Tunnel	19.62 221	P		Pn	13 40 51.0 0.0
ANDN	Andirin	19.63 308	⇑*i*P		Pn	13 40 51.9 +1.0
ANDN	Andirin	19.63 308	*i* P		Pn	13 40 51.9 +1.0
AGRA	Agra	19.63 84	*e*PKP		Pn	13 40 50.5 -0.6
AGRA			*ex*		x	13 40 50.9
AGRA			AMb		AMB	13 40 56.5
	comp=Z,111nm,0.5s					
DDI	Dehra Dun	19.74 75	*e*PKP		Pn	13 40 51.0 -1.3
DDI			*ex*		x	13 44 39.0
SUSE	Susehri	19.79 317	⇓*i*P		Pn	13 40 53.8 +1.0
CEYT	Ceyhan	19.81 306	*e*P		Pn	13 40 53.6 +0.5
CEYT	Ceyhan	19.81 306	*e*P		Pn	13 40 53.6 +0.5
BHPL	Bhopal	19.83 96	*e*PKP		Pn	13 40 54.1 +0.6
KRTS	Karatas	19.90 304	*e*P		Pn	13 40 56.0 +1.7
ESPY	Espiye-Giresun	19.91 319	*e*P		Pn	13 40 54.1 -0.2
ESPY	Espiye-Giresun	19.91 319	*e*P		Pn	13 40 54.1 -0.1
SARI	SarD1z-Kayseri	19.91 311	*e*P		Pn	13 40 54.0 -0.3
SARI	SarD1z-Kayseri	19.91 311	*e*P		Pn	13 40 54.0 -0.3
KOZT	Kozan	19.95 307	*e*P		Pn	13 40 55.7 +0.9
KK31	Karatay Array	20.05 33	*i* P		P	13 40 53.9 -0.3
KK31			pmax		pmax	
	comp=Z,319nm,1.7s					
KK31	Karatay Array	20.05 33	*i* P		P	13 40 53.9 -0.3
	comp=Z,319nm,1.7s					
KKAR	Karatay Array	20.05 33	*e*P		P	13 40 53.0 -1.1
KKAR	Karatay Array	20.05 33	*e*P		P	13 40 53.0 -1.2
KKAR	Karatay Array	20.05 33	*e*P		P	13 40 53.0 -1.2
KIV	Kislovodsk	20.08 331	*e*P		P	13 40 55.8 +1.4
	comp=Z,2μm,1.2s					
KIV	Kislovodsk	20.08 331	*c i*P		P	13 40 56.1 +1.6
KIV			*e*S		S	13 44 39.9 +0.2
KIV			pmax		pmax	
	comp=Z,2μm,1.0s					
KIV			MLR		MLR	
	comp=Z,2μm,14.0s,MS4.6					
KIV	Kislovodsk	20.08 331	Pn		P	13 40 56.0 +1.5
	comp=Z,8μm,1.7s					
KIV	Kislovodsk	20.08 331	*i* P		P	13 40 56.1 +1.6
	comp=Z,2μm,1.0s					
KIV			*e*S		S	13 44 39.9 +0.2
	comp=Z,2μm,14.0s					
GOA	Goa	20.18 121	⇓*i x*		x	13 41 00.1
GOA			*ex*		x	13 44 40.2
AKL	Akola	20.27 103	*e*PKP		P	13 40 58.0 +1.3
AKL			AMb		AMB	13 41 03.1
	comp=Z,565nm,1.7s					
PHNC	Paralimni	20.39 299	P		P	13 41 02.5 +4.6
	comp=Z,5.9nm,1.0s					
RSDY	Resadiye-TOKAT	20.44 316	*e*P		P	13 41 00.1 +1.7
RSDY	Resadiye-TOKAT	20.44 316	*e*P		P	13 41 00.1 +1.7
EREN	Erenkoy	20.44 300	*e*P		P	13 41 02.4 +3.9
BNN	Bunyan	20.58 310	*e*P		P	13 41 01.3 +1.4
BNN	Bunyan	20.58 310	*e*P		P	13 41 01.3 +1.4
GULE	Gulek	20.63 305	⇑*i*P		P	13 41 02.9 +2.4
GULE	Gulek	20.63 305	*i* P		P	13 41 02.9 +2.5
MERS	Mersin	20.65 304	*e*P		P	13 41 02.5 +1.8
MERS	Mersin	20.65 304	*e*P		P	13 41 02.5 +1.8
LATR	Latur	20.83 110	*e*PKP		P	13 41 04.0 +1.2
LFK	Lefkose	20.86 299	*e*P		P	13 41 05.6 +2.6
KSH	Kashi	20.92 48	P		P	13 40 56.9 -6.7
KSH			pP			13 41 00.9
KSH			sP		sP	13 41 03.2 -6.0
KSH			PP			13 41 16.4
KSH			PcP		PcP	13 45 12.3 +1.0
KSH			ScP		ScP	13 48 46.2 -1.5
KSH			PcS		PcS	13 48 48.7 -0.4
KSH			pmax		pmax	
	comp=Z,82nm,0.9s					
KSH			pmax		pmax	
	comp=Z,320nm,4.1s					
KSH			LR		LR	
	comp=N,7μm,10.7s,MS5.4					
KSH			LR		LR	
	comp=E,5μm,11.2s,MS5.4					
KSH			LR		LR	
	comp=Z,7μm,13.1s,MS5.2					
CSS	Prodhromos	20.93 298	P		P	13 41 04.9 +1.2
	comp=Z,9.3nm,1.3s					
CSS	Prodhromos	20.93 298	*e*P		P	13 41 04.2 +0.4
CSS	Prodhromos	20.93 298	P		P	13 41 04.0 +0.3
CSS	Prodhromos	20.93 298	*e*P		P	13 41 04.0 +0.3
	comp=Z,705nm,1.3s					
CSS			LR		LR	
	comp=Z,6μm,19.0s,MS5.0					
CSS	Prodhromos	20.93 298	P		P	13 41 04.0 +0.3
AML	Almayashu	21.04 39	P		P	13 41 04.5 -0.3
	SNR=98					
AML			P			13 41 04.5
	SNR=98					
MAMC	Mammari	21.07 299	P		P	13 41 07.1 +1.8
MAMC	Mammari	21.07 299	P		P	13 41 07.1 +1.8
SOC	Sochi	21.18 326	*d i*P		P	13 41 06.1 -0.3
SOC			*e**SP		sP	13 41 17.5 +5.5
SOC			*e*			13 41 22.7
SOC			*i* S		S	13 45 00.5 -1.0
SOC			pmax		pmax	
	comp=Z,626nm,1.2s,mb5.8					
SOC			MLR		MLR	
	comp=Z,6μm,14.0s,MS5.1					
SOC	Sochi	21.18 326	*i* P		P	13 41 06.1 -0.3
	comp=Z,626nm,1.2s,mb5.8					
SOC			*i* S		S	13 45 00.5 -1.0
	comp=Z,6μm,14.0s					
SZAC	Souni-Zanaja	21.23 297	P		P	13 41 10.0 +3.1
LEF	Lefka	21.32 298	*e*P		P	13 41 09.2 +1.3
LEF	Lefka	21.32 298	*e*P		P	13 41 09.2 +1.3
EKS2	Erkin-Say	21.43 38	P		P	13 41 09.2 +0.1
	SNR=202					
EKS2			P			13 41 09.2
	SNR=202					
EKS2	Erkin-Say	21.43 38	*e*P		P	13 41 09.0 -0.1
	comp=Z,359nm,1.4s,mb5.5					
EKS2	Erkin-Say	21.43 38	*e*P		P	13 41 09.0 -0.1
EKS2			pmax		pmax	
	comp=Z,359nm,1.4s,mb5.5					
EKS2	Erkin-Say	21.43 38	*e*P		P	13 41 09.0 -0.1
	comp=Z,359nm,1.4s,mb5.5					
ALFC	Alevga	21.56 298	P		P	13 41 11.4 +0.9
	comp=Z,8.7nm,0.9s,mb4.2					
ALFC	Alevga	21.56 298	P		P	13 41 11.4 +0.9
	comp=Z,8.7nm,0.9s,mb4.2					
KVT	Kavak	21.63 316	*e*P		P	13 41 12.1 +0.9
KVT	Kavak	21.63 316	*e*P		P	13 41 12.1 +0.9
PPCY	Paphos	21.69 297	P		P	13 41 12.9 +1.0
PPCY	Paphos	21.69 297	P		P	13 41 12.9 +1.0
AAK	Ala-Archa	21.82 39	P		P	13 41 13.4 +0.2
	SNR=48					
AAK			P			13 41 13.4
	SNR=48					
AAK	Ala-Archa	21.82 39	P		P	13 41 13.0 -0.2
	comp=Z,887nm,1.6s,mb5.9,SNR=63					
AAK	Ala-Archa	21.82 39	*e*P		P	13 41 13.2 0.0
	comp=Z,2μm,1.5s,mb6.3					
AAK			LR		LR	
	comp=Z,2μm,20.0s,MS4.6					
AAK	Ala-Archa	21.82 39	⇑*i*P		P	13 41 13.4 +0.2
AAK			MLR		MLR	
	comp=Z,7μm,19.0s,MS5.1					
AAK	Ala-Archa	21.82 39	P		P	13 41 14.0 +0.8
	comp=Z,835nm,1.4s,mb6.0					
AAK	Ala-Archa	21.82 39	*e*P		P	13 41 13.2 0.0
	comp=Z,2μm,1.5s,mb6.3					
NGP	Nagpur	21.89 100	*e*PKP		P	13 41 14.8 +0.6
NGP			*ex*		x	13 45 21.5
KZA	Kyzart	21.91 41	P		P	13 41 15.0 +0.8
	SNR=79					
KZA			P			13 41 15.0
	SNR=79					
SULT	Sultanhani-AKS	21.91 306	*e*P		P	13 41 16.3 +2.0
SULT	Sultanhani-AKS	21.91 306	*e*P		P	13 41 16.3 +2.0
CDAG	Cicekdag	21.95 311	⇑*i*P		P	13 41 24.0 +9.3
FRU	Bishkek	22.02 39	⇓*i*P		P	13 41 15.0 -0.3
FRU			*i*			13 41 32.0
FRU			*e*			13 41 56.0
FRU			*e*			13 45 05.0
FRU			pmax		pmax	
	comp=Z,380nm,2.2s,mb5.4					
FRU			MLR		MLR	
	comp=Z,5μm,11.0s,MS5.2					
FRU	Bishkek	22.02 39	*i* P		P	13 41 15.0 -0.3
	comp=Z,380nm,2.2s,mb5.4					
FRU			*e*S		S	13 45 05.0 -13
	comp=Z,5μm,11.0s					
CORM	Corum	22.05 312	*e*P		P	13 41 16.0 +0.3
CORM	Corum	22.05 312	*e*P		P	13 41 16.0 +0.3
KBK	Karagaybulak	22.09 40	P		P	13 41 16.4 +0.3
	SNR=62					
KBK			P			13 41 16.4
	SNR=62					
GAZI	Gazipasa	22.09 301	⇑*i*P		P	13 41 18.1 +1.9
GAZI	Gazipasa	22.09 301	*i* P		P	13 41 18.1 +1.9
CHMS	Chumysh	22.20 39	P		P	13 41 20.0 +2.8
	SNR=28					
CHMS			P			13 41 20.0
	SNR=28					
HDMB	Hadim	22.20 303	*e*P		P	13 41 18.5 +1.1
HDMB	Hadim	22.20 303	*e*P		P	13 41 18.5 +1.1
USP	Ospenovka	22.23 38	P		P	13 41 20.3 +2.7
	SNR=64					
USP			P			13 41 20.3
	SNR=64					
DIKM	Dikmen	22.44 316	*e*P		P	13 41 20.4 +0.6
DIKM	Dikmen	22.44 316	*e*P		P	13 41 20.4 +0.6
BR131	Keskin Array S	22.50 310	*e*P		P	13 41 20.2 -0.3
	comp=Z,711nm,1.2s,mb6.0					
BR131			LR		LR	
	comp=Z,5μm,21.0s,MS5.0					
BR131	Keskin Array S	22.50 310	*e*P		P	13 41 20.2 -0.3
	comp=Z,711nm,1.2s,mb6.0					
BRTR	Keskin Array B	22.50 310	P		P	13 41 20.8 +0.3
	comp=Z,91nm,1.0s,mb5.2,baz=129,slow=9.7,SNR=110					
BRTR			LR		LR	13 51 24.3
	comp=Z,5μm,18.9s,MS5.0,baz=116,slow=40					
BRTR	Keskin Array B	22.50 310	P		P	13 41 20.8 +0.3
BRTR	Keskin Array B	22.50 310	P		P	13 41 20.8 +0.3
BRTR	Keskin Array B	22.50 310	P		P	13 41 20.8 +0.3
AB31	Akbulak array	22.53 7	*i* P		P	13 41 20.0 -0.7
AB31			pmax		pmax	
	comp=Z,265nm,1.1s,mb5.6					
AB31	Akbulak array	22.53 7	*i* P		P	13 41 20.0 -0.7
	comp=Z,265nm,1.1s,mb5.6					
ABKAR	Akbulak array	22.53 7	*e*P		P	13 41 19.8 -0.8
ABKAR	Akbulak array	22.53 7	*e*P		P	13 41 19.8 -0.9
BOYT	Boyabat	22.53 315	⇑*i*P		P	13 41 22.4 +1.5
BOYT	Boyabat	22.53 315	*i* P		P	13 41 22.4 +1.6
ULHL	Ulahol	22.60 42	P		P	13 41 22.1 +0.5
	SNR=31					
ULHL			P			13 41 22.1
	SNR=31					
TKM2	Tokmak 2	22.63 40	P		P	13 41 22.1 +0.2
	SNR=21					
TKM2			P			13 41 22.1
	SNR=21					
TKM2	Tokmak 2	22.63 40	*e*P		P	13 41 21.2 -0.6
	comp=Z,118nm,1.3s,mb5.2					
TKM2			LR		LR	
	comp=Z,3μm,22.0s,MS4.6					
TKM2	Tokmak 2	22.63 40	*e*P		P	13 41 21.2 -0.6
TKM2			pmax		pmax	
	comp=Z,118nm,1.3s,mb5.2					
TKM2			MLR		MLR	
	comp=Z,3μm,22.0s,MS4.6					
TKM2	Tokmak 2	22.63 40	*e*P		P	13 41 21.2 -0.6
	comp=Z,118nm,1.3s,mb5.2					
BYBT	Boyabat	22.64 315	*e*P		P	13 41 22.8 +0.8
BYBT	Boyabat	22.64 315	*e*P		P	13 41 22.8 +0.8
KONT	Konya--Tatoy	22.65 305	*e*P		P	13 41 24.0 +1.9
KONT	Konya--Tatoy	22.65 305	*e*P		P	13 41 24.0 +1.9
LADK	Ladik-KONYA	22.74 306	*e*P		P	13 41 24.0 +0.8
LADK	Ladik-KONYA	22.74 306	*e*P		P	13 41 24.0 +0.9
AFSR	Af¯ar-Bala (A	22.76 309	*e*P		P	13 41 23.5 +0.2
AFSR	Af¯ar-Bala (A	22.76 309	*e*P		P	13 41 23.5 +0.2
BBAL	Bala	22.77 309	⇑*i*P		P	13 41 24.3 +1.0
BBAL	Bala	22.77 309	*i* P		P	13 41 24.3 +0.9
TOS	Tosya	22.89 314	*e*P		P	13 41 26.0 +1.4
TOS	Tosya	22.89 314	*e*P		P	13 41 26.0 +1.4
CANT	Cankiri	22.93 312	*e*P		P	13 41 24.0 -1.1
HYB	Hyderabad	22.98 110	*i* P		P	13 41 26.0 +0.2
ELDT	Eldivan	23.00 312	⇑*i*P		P	13 41 26.9 +1.1
ELDT	Eldivan	23.00 312	*i* P		P	13 41 26.9 +1.0
LOD	Lodumlu	23.17 310	*e*P		P	13 41 27.6 0.0
LOD	Lodumlu	23.17 310	*e*P		P	13 41 27.6 0.0
ANN	Anapa	23.20 325	*e*P		P	13 41 27.6 -0.3
ANN			*e*			13 41 52.8
ANN			*e*S		S	13 45 39.1 -0.1
ANN			*e*SS			13 46 16.4
ANN			pmax		pmax	
	comp=Z,243nm,1.4s,mb5.4					
ANN			MLR		MLR	
	comp=N,4μm,16.0s,MS5.0					
ANN			MLR		MLR	
	comp=E,2μm,16.0s,MS5.0					
ANN			MLR		MLR	
	comp=Z,3μm,16.0s,MS4.8					
ANN	Anapa	23.20 325	*e*P		P	13 41 27.6 -0.3
	comp=Z,243nm,1.4s,mb5.4					
ANN			*e*S		S	13 45 39.1 -0.1
KIZT	Kizilcal	23.36 307	*e*P		P	13 41 31.7 +2.1
KIZT	Kizilcal	23.36 307	*e*P		P	13 41 31.7 +2.1
BZK	Bozkurt	23.39 316	*e*P		P	13 41 27.2 -2.7
BZK	Bozkurt	23.39 316	*e*P		P	13 41 27.2 -2.7
AKTK	Aktyubinsk	23.54 3	P		P	13 41 30.8 -0.6
	comp=Z,32nm,1.0s,mb4.7					
AKTO	Aktyubinsk	23.54 3	P		P	13 41 30.9 -0.5
	comp=Z,70nm,0.6s,mb5.3,baz=181,slow=9.8,SNR=108					
AKTO			LR		LR	13 51 53.0
	comp=Z,4μm,18.4s,MS4.9,baz=171,slow=40					
AKTO	Aktyubinsk	23.54 3	P		P	13 41 30.9 -0.5
AKTO	Aktyubinsk	23.54 3	P		P	13 41 30.8 -0.6
AKTO			pmax		pmax	
	comp=Z,32nm,1.0s,mb4.7					
AKTO	Aktyubinsk	23.54 3	P		P	13 41 30.9 -0.5
BALT	Daday	23.56 314	⇑*i*P		P	13 41 31.5 -0.1
BALT	Daday	23.56 314	*i* P		P	13 41 31.5 -0.1
AAA	Alma-Ata	23.62 41	*e*P		P	13 41 31.9 -0.3
AAA			pmax		pmax	
	comp=Z,2μm,2.4s,mb6.1					
AAA			MLR		MLR	
	comp=Z,4μm,11.0s,MS5.1					
AAA	Alma-Ata	23.62 41	*e*P		P	13 41 31.9 -0.3
	comp=Z,4μm,11.0s					
SVRH	Sivrihisar-ESK	23.84 308	*e*P		P	13 41 35.6 +1.3
SVRH	Sivrihisar-ESK	23.84 308	*e*P		P	13 41 35.6 +1.3
SAFT	Safranbolu	23.86 313	*e*P		P	13 41 35.6 +1.2
SAFT	Safranbolu	23.86 313	*e*P		P	13 41 35.6 +1.2
BOLV	Bolvadin	23.97 306	⇓*i*P		P	13 41 36.5 +1.1
BOLV	Bolvadin	23.97 306	*i* P		P	13 41 36.5 +1.1
PYUN	Piuthan	24.04 81	*e*P		P	13 41 37.5 +1.3
	comp=Z,482nm,1.3s,mb5.8					
PYUN	Piuthan	24.04 81	*e*P		P	13 41 37.5 +1.3
	comp=Z,482nm,1.3s,mb5.8					
PYUN	Piuthan	24.04 81	*e*P		P	13 41 37.5 +1.3
	comp=Z,482nm,1.3s,mb5.8					
KSL	Kastellorizon	24.19 299	*e*P		P	13 41 46.5 +9.0
SHUT	Suhut-Afyon	24.20 305	*e*P		P	13 41 39.4 +1.9
SHUT	Suhut-Afyon	24.20 305	*e*P		P	13 41 39.4 +1.9
FURI	Furi	24.23 225	*e*P		P	13 41 40.0 +2.1
FURI			S		S	13 46 07.8 +12
FURI	Furi	24.23 225	*e*P		P	13 41 40.7 +2.8
	comp=Z,283nm,1.1s,mb5.6					
FURI	Furi	24.23 225	*e*P		P	13 41 40.7 +2.7
	comp=Z,283nm,1.1s,mb5.6					
ESKT	Eskisehir	24.35 307	*e*P		P	13 41 41.6 +2.8
MDUB	Mudurnu	24.50 310	*e*P		P	13 41 40.0 -0.2
MDUB	Mudurnu	24.50 310	*e*P		P	13 41 40.0 -0.3
KOLN	Koldanda	24.60 82	*e*P		P	13 41 42.6 +1.3
	comp=Z,75nm,0.9s,mb5.2					
KOLN	Koldanda	24.60 82	*e*P		P	13 41 42.6 +1.3
	comp=Z,75nm,0.9s,mb5.2					
KOLN	Koldanda	24.60 82	*e*P		P	13 41 42.6 +1.3
	comp=Z,75nm,0.9s,mb5.2					
ALT	Altintas	24.70 306	*e*P		P	13 41 43.2 +1.1
ALT	Altintas	24.70 306	*e*P		P	13 41 43.3 +1.2
DANN	Dangsing	24.70 80	*e*P		P	13 41 44.0 +1.8
	comp=Z,390nm,1.0s,mb5.9					
DANN	Dangsing	24.70 80	*e*P		P	13 41 44.0 +1.8
	comp=Z,390nm,1.0s,mb5.9					
DANN	Dangsing	24.70 80	*e*P		P	13 41 44.0 +1.8
	comp=Z,390nm,1.0s,mb5.9					
KDZE	Karadeniz Ereo	24.72 312	*e*P		P	13 41 42.9 +0.6
KDZE	Karadeniz Ereo	24.72 312	*e*P		P	13 41 42.9 +0.7
BORA	Eskisehir	24.77 308	⇑*i*P		P	13 41 43.1 +0.3
BORA	Eskisehir	24.77 308	*i* P		P	13 41 43.1 +0.3
GULT	Gulveren	24.96 309	*e*P		P	13 41 45.6 +1.2
GULT	Gulveren	24.96 309	*e*P		P	13 41 45.7 +1.3
SIM	Simferopol'	25.07 322	*d i*P		P	13 41 45.5 +0.1
SIM			*i* S		S	13 46 06.3 -3.1
SIM			pmax		pmax	
	comp=Z,165nm,1.0s,mb5.5					
SIM			MLR		MLR	
	comp=Z,3μm,18.7s,MS4.8					
SIM	Simferopol'	25.07 322	*i* P		P	13 41 45.5 +0.1
	comp=Z,165nm,1.0s,mb5.5					
SIM			*i* S		S	13 46 06.3 -3.1
	comp=Z,3μm,18.7s					
GDZ	Gediz	25.17 305	⇑*i*P		P	13 41 46.7 +0.4
GDZ	Gediz	25.17 305	*i* P		P	13 41 46.7 +0.3
CAVI	Cavuskoy	25.33 308	*e*P		P	13 41 49.1 +1.3
CAVI	Cavuskoy	25.33 308	*e*P		P	13 41 49.1 +1.3
ADVT	Abdulvahap	25.50 309	*e*P		P	13 41 50.4 +1.1
ADVT	Abdulvahap	25.50 309	*e*P		P	13 41 50.4 +1.1
GKN	Gorkha	25.50 81	*e*P		P	13 41 50.3 +0.8
	comp=Z,382nm,1.4s,mb5.7					
GKN	Gorkha	25.50 81	*e*P		P	13 41 50.3 +0.8
	comp=Z,382nm,1.4s,mb5.7					
GKN	Gorkha	25.50 81	*e*P		P	13 41 50.3 +0.8
	comp=Z,382nm,1.4s,mb5.7					
KULA	Kula-Manisa	25.58 304	*e*P		P	13 41 50.9 +0.8
KULA	Kula-Manisa	25.58 304	*e*P		P	13 41 50.9 +0.8
DEMI	Demirci	25.71 305	⇑*i*P		P	13 41 53.6 +2.3
DEMI	Demirci	25.71 305	*i* P		P	13 41 53.6 +2.3
YLV	Yalova	25.81 309	*e*P		P	13 41 54.4 +2.2
YLV	Yalova	25.81 309	*e*P		P	13 41 54.4 +2.3
SILT	Sile	25.86 310	*e*P		P	13 41 51.3 -1.4
SILT	Sile	25.86 310	*e*P		P	13 41 51.3 -1.3
GEMT	Gemlik	25.88 308	*e*P		P	13 41 53.8 +1.0
GEMT	Gemlik	25.88 308	*e*P		P	13 41 53.8 +1.0
MLSB	Milas	25.89 301	*e*P		P	13 41 54.1 +1.2
MLSB	Milas	25.89 301	*e*P		P	13 41 54.1 +1.2
DAT	Datca	25.90 299	*e*P		P	13 41 58.5 +5.5
HMDM	Hanimaadhoo

IZM	Izmir	26.59	303	eP	P	13 42 00.9 +1.7
IZM	Izmir	26.59	303	eP	P	13 42 00.9 +1.7
GUN	Gumba	26.60	81	eP	P	13 42 00.6 +1.1
	comp=Z,377nm,1.3s,mb5.8					
GUN	Gumba	26.60	81	eP	P	13 42 00.6 +1.1
	comp=Z,377nm,1.3s,mb5.8					
GUN	Gumba	26.60	81	eP	P	13 42 00.6 +1.1
	comp=Z,377nm,1.3s,mb5.8					
CTKS	Kestanelik-??a	26.68	309	eP	P	13 41 58.1 -1.9
CTKS	Kestanelik-??a	26.68	309	eP	P	13 41 58.1 -1.9
SMG	Samos	26.72	301	eP	P	13 42 05.1 +4.7
BALY	Balya	26.75	306	⇑iP	P	13 42 01.9 +1.3
BALY	Balya	26.75	306	iP	P	13 42 02.0 +1.3
BLCB	Balcova	26.75	303	eP	P	13 42 01.3 +0.7
BLCB	Balcova	26.75	303	eP	P	13 42 01.3 +0.6
BNT	Bandirma	26.75	307	eP	P	13 41 59.3 -1.4
BNT	Bandirma	26.75	307	eP	P	13 41 59.3 -1.4
EDC	Edincik	26.79	307	eP	P	13 42 00.1 -0.9
EDC	Edincik	26.79	307	eP	P	13 42 00.1 -0.9
GONE	Gonen-Balikesi	26.81	306	eP	P	13 42 01.8 +0.6
GONE	Gonen-Balikesi	26.81	306	eP	P	13 42 01.8 +0.6
SLVT	Silivri	26.88	309	eP	P	13 42 02.5 +0.7
SLVT	Silivri	26.88	309	eP	P	13 42 02.5 +0.7
JIRN	Jiri	26.90	81	eP	P	13 42 03.0 +0.8
	comp=Z,18nm,0.7s,mb4.7					
JIRN	Jiri	26.90	81	eP	P	13 42 03.0 +0.8
	comp=Z,18nm,0.7s,mb4.7					
JIRN	Jiri	26.90	81	eP	P	13 42 03.0 +0.8
	comp=Z,18nm,0.7s,mb4.7					
XRY	Khrisi	27.04	294	eP	P	13 42 08.9 +5.6
NPS	Neapolis	27.16	295	eP	P	13 42 09.5 +5.1
NPS	Neapolis	27.16	295	P	P	13 42 09.6 +5.2
NPS	Neapolis	27.16	295	P	P	13 42 09.6 +5.2
RAMN	Ramite	27.34	83	eP	P	13 42 06.4 +0.3
	comp=Z,287nm,1.6s,mb5.6					
RAMN	Ramite	27.34	83	eP	P	13 42 06.4 +0.3
	comp=Z,287nm,1.6s,mb5.5					
RAMN	Ramite	27.34	83	eP	P	13 42 06.4 +0.3
	comp=Z,287nm,1.6s,mb5.5					
VSR	Storozhevoye	27.40	337	eP	P	13 42 05.5 -0.8
VSR				e*SP	sP	13 42 12.4 +0.2
VSR				eS	S	13 46 42.2 -3.8
VSR				e*SS	sS	13 46 56.6 +3.8
VSR				eSS		13 47 53.9
VSR				pmax	pmax	
	comp=Z,10.0nm,0.6s,mb4.5					
VSR				pmax	pmax	
	comp=N,9.0nm,0.7s					
VSR				smax		
	comp=N,280nm,2.7s					
VSR				smax		
	comp=Z,260nm,2.7s					
VSR				smax		
	comp=E,110nm,1.5s					
VSR				MLR	MLR	
	comp=Z,2μm,16.0s,MS4.7					
VSR				MLR	MLR	
	comp=N,480nm,11.0s,MS4.6					
VSR				MLR	MLR	
	comp=E,990nm,15.0s,MS4.6					
VSR	Storozhevoye	27.40	337	eP	P	13 42 05.5 -0.8
	comp=E,9.0nm,0.7s,mb4.4					
VSR				eS	S	13 46 42.2 -3.8
CHOS	Chios island	27.50	302	eP	P	13 42 12.3 +4.9
CHOS	Chios island	27.50	302	P	P	13 42 11.8 +4.4
CHOS	Chios island	27.50	302	P	P	13 42 11.8 +4.4
APE	Apeiranthos	27.57	299	eP	P	13 42 13.3 +5.2
APE	Apeiranthos	27.57	299	P	P	13 42 10.1 +2.0
APE	Apeiranthos	27.57	299	⇓iP	P	13 42 12.1 +4.0
APE	Apeiranthos	27.57	299	⇓iP	P	13 42 12.1 +4.0
APE	Apeiranthos	27.57	299	P	P	13 42 10.1 +2.0
PRK	Paraskevi	27.58	304	eP	P	13 42 12.3 +4.2
PRK	Paraskevi	27.58	304	P	P	13 42 11.9 +3.8
PRK	Paraskevi	27.58	304	P	P	13 42 11.9 +3.8
VOR	Voronezh	27.82	337	P	P	13 42 10.0 -0.1
VOR				pmax	pmax	
	comp=Z,300nm,1.6s,mb5.7					
VOR	Voronezh	27.82	337	P	P	13 42 10.0 -0.1
	comp=Z,300nm,1.6s,mb5.7					
SIGR	SIGRI	27.88	304	P	P	13 42 14.4 +3.6
SIGR	SIGRI	27.88	304	P	P	13 42 14.4 +3.6
PSN	Preselentsi	27.95	314	iP	P	13 42 11.1 -0.3
PSN	Preselentsi	27.95	314	iP	P	13 42 11.1 -0.3
ODAN	Odare	28.05	83	eP	P	13 42 12.8 +0.3
	comp=Z,70nm,0.9s,mb5.3					
ODAN	Odare	28.05	83	eP	P	13 42 12.8 +0.3
	comp=Z,70nm,0.9s,mb5.3					
ODAN	Odare	28.05	83	eP	P	13 42 12.8 +0.3
	comp=Z,70nm,0.9s,mb5.3					
TIRR	Tirgusor	28.18	316	eP	P	13 42 12.2 -1.2
	comp=Z,76nm,1.2s,mb5.2					
TIRR	Tirgusor	28.18	316	eP	P	13 42 12.2 -1.2
TIRR				pmax	pmax	
	comp=Z,76nm,1.2s,mb5.2					
TIRR	Tirgusor	28.18	316	⇑iP	P	13 42 12.7 -0.7
TIRR	Tirgusor	28.18	316	eP	P	13 42 12.2 -1.2
	comp=Z,76nm,1.2s,mb5.2					
BRVK	Borovoye	28.23	18	P	P	13 42 13.1 -0.7
	comp=Z,546nm,0.9s,mb6.2,SNR=74					
BRVK	Borovoye	28.23	18	eP	P	13 42 13.2 -0.6
	comp=Z,83nm,0.9s,mb5.4					
BRVK				LR	LR	
	comp=Z,4μm,20.0s,MS5.0					
BRVK	Borovoye	28.23	18	⇑iP	P	13 42 13.3 -0.5
BRVK				pmax	pmax	
	comp=Z,132nm,1.2s,mb5.4					
BRVK				MLR	MLR	
	comp=Z,3μm,13.0s,MS5.1					
BRVK	Borovoye	28.23	18	eP	P	13 42 13.2 -0.6
	comp=Z,83nm,0.9s,mb5.4					
BVA0	Borovoye Array	28.23	19	iP	P	13 42 12.9 -0.9
BVA0				pmax	pmax	
	comp=Z,32nm,1.0s,mb4.9					
BVA0	Borovoye Array	28.23	19	iP	P	13 42 12.9 -0.9
	comp=Z,32nm,1.0s,mb4.9					
BVAR	Borovoye Array	28.23	19	P	P	13 42 13.4 -0.4
	comp=Z,128nm,0.8s,mb5.6,baz=210,slow=6.6,SNR=163					
BVAR				PcP	PcP	13 45 26.6 -0.4
	comp=Z,6.9nm,0.8s,baz=266,slow=3.9,SNR=4.2					
BVAR				LR	LR	13 54 05.3
	comp=Z,3μm,20.7s,MS4.8,baz=209,slow=38					
BVAR	Borovoye Array	28.23	19	P	P	13 42 13.4 -0.4
BVAR				PcP	PcP	13 45 26.6 -0.4
BVAR	Borovoye Array	28.23	19	P	P	13 42 13.4 -0.4
BVAR						13 45 26.6
BVAR	Borovoye Array	28.23	19	P	P	13 42 13.4 -0.4
LTBQ	Tobruq	28.25	288	iP	P	13 42 17.1 +2.9
	comp=Z,343nm,1.6s,mb5.7,SNR=152					
PRD	Provadia	28.25	312	iP	P	13 42 13.8 -0.2
PRD	Provadia	28.25	312	iP	P	13 42 13.8 -0.2
TAPN	Taplejung	28.27	82	eP	P	13 42 14.5 0.0
	comp=Z,248nm,1.9s,mb5.5					
TAPN	Taplejung	28.27	82	eP	P	13 42 14.5 0.0
	comp=Z,248nm,1.9s,mb5.5					
TAPN	Taplejung	28.27	82	eP	P	13 42 14.5 0.0
	comp=Z,248nm,1.9s,mb5.5					
ALN	Alexandroupoli	28.28	307	eP	P	13 42 18.3 +4.0
ALN	Alexandroupoli	28.28	307	P	P	13 42 14.2 -0.1
ALN	Alexandroupoli	28.28	307	P	P	13 42 14.2 -0.1
VAM	Vamos	28.33	295	eP	P	13 42 23.4 +8.6
JMB	Yambol	28.49	311	P	P	13 42 15.8 -0.4
JMB	Yambol	28.49	311	iP	P	13 42 20.3 +4.1
JMB	Yambol	28.49	311	P	P	13 42 15.8 -0.4
LIA	Limnos Island	28.58	305	eP	P	13 42 16.5 -0.5
LIA	Limnos Island	28.58	305	P	P	13 42 17.6 +0.6
LIA	Limnos Island	28.58	305	P	P	13 42 17.6 +0.6
CFR	Carcaliu	28.70	317	⇓iP	P	13 42 18.9 +0.8
CFR	Carcaliu	28.70	317	⇓iP	P	13 42 18.9 +0.8
CFR	Carcaliu	28.70	317	⇓iP	P	13 42 18.9 +0.8
MK31	Makanchi Array	28.75	39	eP	P	13 42 18.2 -0.3
MK31	Makanchi Array	28.75	39	iP	P	13 42 17.7 -0.8
MK31				pmax	pmax	
	comp=Z,122nm,1.7s,mb5.4					
MK31	Makanchi Array	28.75	39	eP	P	13 42 18.2 -0.3
MKAR	Makanchi Array	28.75	39	P	P	13 42 18.3 -0.2
	comp=Z,12nm,0.7s,mb4.7,baz=226,slow=6.6,SNR=48					
MKAR	Makanchi Array	28.75	39	P	P	13 42 18.3 -0.2
MKAR	Makanchi Array	28.75	39	P	P	13 42 18.3 -0.2
MKAR	Makanchi Array	28.75	39	P	P	13 42 18.3 -0.2
AMRR	Amara	28.93	315	P	P	13 42 21.2 +1.1
AMRR	Amara	28.93	315	P	P	13 42 21.2 +1.1
PTL	Penteli	29.08	301	eP	P	13 42 25.7 +4.2
PTL	Penteli	29.08	301	P	P	13 42 24.6 +3.1
PTL	Penteli	29.08	301	P	P	13 42 24.6 +3.1
VLY	Voula,Athens	29.09	300	eP	P	13 42 25.5 +3.9
VLY	Voula,Athens	29.09	300	P	P	13 42 24.0 +2.4
VLY	Voula,Athens	29.09	300	P	P	13 42 24.0 +2.4
ATH	Athens Observa	29.18	300	eP	P	13 42 26.3 +3.9
ATH	Athens Observa	29.18	300	P	P	13 42 23.9 +1.5
ATH	Athens Observa	29.18	300	P	P	13 42 23.9 +1.5
SZH	Strazhica	29.25	312	iP	P	13 42 25.7 +2.8
KIS	Kishinev	29.26	320	eP	P	13 42 22.0 -1.0
	comp=Z,200nm,2.0s,mb5.5					
KIS	Kishinev	29.26	320	ePP	PP	13 43 18.0 -11
KIS	Kishinev	29.26	320	ePPP	PP	13 43 34.0 +4.9
KIS				eS	S	13 47 10.0 -5.5
KIS				eSS	SS	13 48 42.0 -38
KIS				eLi		13 50 34.0
KIS				eLg1		13 51 18.0
KIS				eLg2		13 52 38.0
KIS				eRg		13 54 55.0
KIS				LRM		14 00 04.0
	comp=Z,2μm,14.0s					
KIS	Kishinev	29.26	320	eP	P	13 42 22.0 -1.0
KIS				e		13 43 18.0
KIS				ePPP		13 43 34.0
KIS				eS	S	13 47 10.0 -5.5
KIS				eSS	SS	13 48 42.0 -38
KIS				pmax	pmax	
	comp=Z,210nm,2.0s,mb5.5					
KIS	Kishinev	29.26	320	eP	P	13 42 22.0 -1.0
	comp=Z,200nm,2.0s,mb5.5					
KIS				eS	S	13 47 10.0 -5.5
LEOM	Leova	29.31	319	P	P	13 42 23.4 0.0
LEOM	Leova	29.31	319	P	P	13 42 23.4 0.0
AOS	Alonnisos	29.34	303	P	P	13 42 27.4 +3.6
AOS	Alonnisos	29.34	303	P	P	13 42 27.4 +3.6
KYTH	Kithira	29.39	297	eP	P	13 42 29.6 +5.3
KAVA	Kavala	29.40	307	P	P	13 42 24.1 -0.3
KAVA	Kavala	29.40	307	P	P	13 42 24.1 -0.3
KURK	Kurchatov	29.41	30	P	P	13 42 23.1 -1.1
	comp=Z,16nm,0.8s,mb4.8,baz=229,slow=8.4,SNR=69					
KURK				ScP	ScP	13 49 11.1 -0.4
	comp=Z,1.9nm,1.0s,baz=237,slow=3.3,SNR=4.6					
KURK				LR	LR	13 54 48.2
	comp=Z,1μm,20.1s,MS4.4,baz=215,slow=38					
KURK	Kurchatov	29.41	30	eP	P	13 42 23.7 -0.6
	comp=Z,53nm,1.4s,mb5.1					
KURK				ScP	ScP	13 49 11.1 -0.4
KURK	Kurchatov	29.41	30	P	P	13 42 24.9 +0.6
	comp=Z,132nm,1.1s,mb5.6,SNR=22					
KURK	Kurchatov	29.41	30	eP	P	13 42 23.7 -0.6
KURK						13 49 11.1
KURK				pmax	pmax	
	comp=Z,53nm,1.4s,mb5.1					
KURK	Kurchatov	29.41	30	eP	P	13 42 23.7 -0.6
DID	Didima	29.45	299	eP	P	13 42 28.0 +3.1
DID	Didima	29.45	299	P	P	13 42 26.5 +1.6
DID	Didima	29.45	299	P	P	13 42 26.5 +1.6
RZN	Rozhen	29.49	308	iP	P	13 42 25.0 -0.1
RZN	Rozhen	29.49	308	iP	P	13 42 25.0 -0.1
VIL1	Vilia, Western	29.52	301	eP	P	13 42 29.4 +4.0
VLI	Veliai	29.55	298	P	P	13 42 33.6 +7.9
VLI	Veliai	29.55	298	P	P	13 42 33.6 +7.9
ARU	Arti	29.56	3	eP	P	13 42 24.7 -0.8
	comp=Z,30nm,0.9s,mb5.0					
ARU				LR	LR	
	comp=Z,2μm,19.0s,MS4.7					
ARU	Arti	29.56	3	ciP	P	13 42 25.3 -0.2
ARU				e		13 43 19.4
ARU				ePPP		13 43 28.1
ARU				e		13 45 28.0
ARU				S	S	13 47 20.0 +0.1
ARU				SS	SS	13 48 47.3 -38
ARU				pmax	pmax	
	comp=Z,51nm,2.5s,mb4.8					
ARU				MLR	MLR	
	comp=Z,3μm,16.0s,MS5.0					
ARU	Arti	29.56	3	P	P	13 42 25.4 -0.1
	comp=Z,182nm,1.0s,mb5.8,SNR=9.9					
ARU	Arti	29.56	3	iP	P	13 42 25.3 -0.2
	comp=Z,51nm,2.5s,mb4.8					
ARU	Arti	29.56	3	ePcP	PcP	13 45 28.0 -2.2
ARU				S	S	13 47 20.0 +0.1
LKFR	Kufra	29.58	272	iP	P	13 42 25.8 -0.3
	comp=Z,226nm,1.5s,mb5.7,SNR=152					
LKFR				eS	S	13 47 19.0 -1.9
	SNR=152					
OUR	Ouranopolis	29.59	305	P	P	13 42 28.6 +2.6
OUR	Ouranopolis	29.59	305	P	P	13 42 28.6 +2.6
PLD	Plovdiv	29.64	309	P	P	13 42 26.1 -0.4
PLD	Plovdiv	29.64	309	iP	P	13 42 28.7 +2.2
PLD	Plovdiv	29.64	309	P	P	13 42 26.1 -0.4
ISR	Istrita	29.66	315	⇓iP	P	13 42 27.3 +0.7
ISR	Istrita	29.66	315	⇓iP	P	13 42 27.3 +0.7
ISR	Istrita	29.66	315	⇓iP	P	13 42 27.3 +0.7
PAIG	Paliouri	29.69	304	P	P	13 42 27.9 +1.0
PAIG	Paliouri	29.69	304	P	P	13 42 27.9 +1.0
CAL	Calcutta	29.73	91	ePKP	P	13 42 27.8 +0.3
CAL				ex	x	13 47 39.6
LTK	Loutraki	29.77	300	eP	pP	13 42 39.6 +7.8
LTK	Loutraki	29.77	300	P	P	13 42 36.7 +9.1
LTK	Loutraki	29.77	300	P	P	13 42 36.7 +9.1
NEO	Neokhori	29.87	303	eP	P	13 42 32.7 +4.2
NEO	Neokhori	29.87	303	P	P	13 42 32.2 +3.7
NEO	Neokhori	29.87	303	P	P	13 42 32.2 +3.7
LKR	Lokris	29.88	301	eP	P	13 42 32.0 +3.4
LKR	Lokris	29.88	301	P	P	13 42 31.4 +2.8
LKR	Lokris	29.88	301	P	P	13 42 31.4 +2.8
VRI	Vrincioaia	29.91	317	P	P	13 42 29.4 +0.7
VRI	Vrincioaia	29.91	317	⇑iP	P	13 42 29.2 +0.5
VRI	Vrincioaia	29.91	317	⇑iP	P	13 42 29.2 +0.5
PLOR	Plostina	29.95	317	P	P	13 42 29.8 +0.7
PLOR	Plostina	29.95	317	⇑iP	P	13 42 29.8 +0.7
PLOR	Plostina	29.95	317	⇑iP	P	13 42 29.8 +0.7
PLG	Polygyros	29.99	305	eP	P	13 42 31.4 +1.8
PLG	Polygyros	29.99	305	P	P	13 42 30.4 +0.8
PLG	Polygyros	29.99	305	P	P	13 42 30.4 +0.8
SVE	Sverdlovsk	30.09	5	⇑iP	P	13 42 30.0 -0.2
SVE				e		13 43 34.3
SVE				eS	S	13 47 27.8 -0.3
SVE				e		13 48 56.4
SVE				pmax	pmax	
	comp=Z,33nm,0.8s,mb5.1					
SVE				MLR	MLR	
	comp=Z,6μm,13.0s,MS5.4					
SVE	Sverdlovsk	30.09	5	iP	P	13 42 30.0 -0.2
	comp=Z,33nm,0.8s,mb5.1					
SVE				eS	S	13 47 27.8 -0.3
VLX	Vlachokerasia	30.10	299	eP	P	13 42 34.1 +3.5
VLX	Vlachokerasia	30.10	299	P	P	13 42 32.4 +1.8
VLX	Vlachokerasia	30.10	299	P	P	13 42 32.4 +1.8
SRS	Serrai	30.10	306	P	P	13 42 30.9 +0.3
SRS	Serrai	30.10	306	P	P	13 42 30.9 +0.3
MMB	Musomiste	30.16	307	iP	P	13 42 31.2 +0.2
MMB	Musomiste	30.16	307	iP	P	13 42 31.2 +0.2
SOH	Sokhos	30.19	306	eP	P	13 42 32.1 +0.8
SOH	Sokhos	30.19	306	P	P	13 42 31.7 +0.4
SOH	Sokhos	30.19	306	P	P	13 42 31.7 +0.4
DSF	Desfina	30.19	301	P	P	13 42 22.9 -8.5
DSF	Desfina	30.19	301	P	P	13 42 22.9 -8.5
MLR	Muntele Rosu	30.21	316	LR	LR	13 58 10.5
	comp=Z,1μm,18.3s,MS4.5,baz=120,slow=43					
MLR	Muntele Rosu	30.21	316	P	P	13 42 33.1 +1.7
MLR	Muntele Rosu	30.21	316	⇑iP	P	13 42 32.1 +0.7
MLR	Muntele Rosu	30.21	316	⇑iP	P	13 42 32.1 +0.7
GUR	Goura	30.23	300	eP	P	13 42 34.6 +2.8
GUR	Goura	30.23	300	P	P	13 42 31.8 0.0
GUR	Goura	30.23	300	P	P	13 42 31.8 0.0
TESR		30.27	318	⇓iP	P	13 42 31.6 -0.4
TESR		30.27	318	⇓iP	P	13 42 31.6 -0.4
HORT	Hortiatis	30.31	305	P	P	13 42 32.8 +0.4
HORT	Hortiatis	30.31	305	P	P	13 42 32.8 +0.4
HUMR	Humele	30.40	313	⇑iP	P	13 42 33.3 +0.2
HUMR	Humele	30.40	313	⇑iP	P	13 42 33.3 +0.2
THE	Thessaloniki	30.41	305	P	P	13 42 33.5 +0.2
THE	Thessaloniki	30.41	305	P	P	13 42 33.5 +0.2
ITM	Ithomi	30.42	298	eP	P	13 42 41.0 +7.6
ITM	Ithomi	30.42	298	P	P	13 42 28.9 -4.5
ITM	Ithomi	30.42	298	P	P	13 42 28.9 -4.5
AGG	Agios Georgios	30.48	302	eP	P	13 42 37.1 +3.2
AGG	Agios Georgios	30.48	302	P	P	13 42 33.4 -0.5
AGG	Agios Georgios	30.48	302	P	P	13 42 33.4 -0.5
PYL	PYLOS	30.52	298	eP	P	13 42 37.0 +2.7
PYL	PYLOS	30.52	298	P	P	13 42 35.9 +1.6
PYL	PYLOS	30.52	298	P	P	13 42 35.9 +1.6
LUJL	Ujela	30.56	282	iP	P	13 42 37.2 +2.5
	comp=Z,311nm,2.2s,mb5.8,SNR=153					
KNT	Kendrikon	30.62	306	P	P	13 42 31.9 -3.2
KNT	Kendrikon	30.62	306	P	P	13 42 31.9 -3.2
LIT	Litokhoron	30.62	304	eP	P	13 42 38.6 +3.5
LIT	Litokhoron	30.62	304	P	P	13 42 37.8 +2.7
LIT	Litokhoron	30.62	304	P	P	13 42 37.8 +2.7
WMQ	Urumqi	30.69	48	P	P	13 42 36.3 +0.6
WMQ				pP	pP	13 42 40.7 +0.9
WMQ				sP	sP	13 42 43.3 +1.8
WMQ				PP	PP	13 43 37.5 -7.4
WMQ				S	S	13 47 38.1 +0.2
WMQ				sS	sS	13 47 45.4 +0.7
WMQ				pmax	pmax	
	comp=Z,66nm,1.0s,mb5.4					
WMQ				LR	LR	
	comp=N,3μm,11.8s,MS5.3					
WMQ				LR	LR	
	comp=E,2μm,11.4s,MS5.3					
WMQ				LR	LR	
	comp=Z,2μm,19.4s					
KKB	Krupnik	30.70	308	iP	P	13 42 35.6 -0.2
KKB	Krupnik	30.70	308	iP	P	13 42 35.6 -0.2
VOIR		30.75	315	⇑iP	P	13 42 36.8 +0.6
VOIR		30.75	315	⇑iP	P	13 42 36.8 +0.6
VOIR		30.75	315	⇑iP	P	13 42 36.8 +0.6
MPEP	Malo Peshtene	30.76	311	iP	P	13 42 36.9 +0.6
DOPR	Dopca	30.78	316	⇑iP	P	13 42 36.8 +0.4
DOPR	Dopca	30.78	316	⇑iP	P	13 42 36.8 +0.4
THL	Klokotos Trika	30.84	303	eP	P	13 42 39.2 +2.1
EVR	Evrytania	30.85	301	P	P	13 42 36.0 -1.2
EVR	Evrytania	30.85	301	P	P	13 42 36.0 -1.2
VTS	Vitosha	30.85	309	P	P	13 42 37.6 +0.5
VTS	Vitosha	30.85	309	⇑P	P	13 42 37.5 +0.4
VTS	Vitosha	30.85	309	iP	P	13 42 37.9 +0.8
VTS	Vitosha	30.85	309	⇓iP	P	13 42 38.1 +1.0
VTS	Vitosha	30.85	309	P	P	13 42 37.6 +0.5
VAY	Valandovo	30.90	306	iP	P	13 42 37.3 -0.3
VAY	Valandovo	30.90	306	iP	P	13 42 37.3 -0.3
GRG	Griva	30.92	306	P	P	13 42 37.7 0.0
GRG	Griva	30.92	306	P	P	13 42 37.7 0.0
RLS	Riolos of Patr	30.94	300	eP	P	13 42 40.0 +2.0
RLS	Riolos of Patr	30.94	300	P	P	13 42 41.3 +3.3
RLS	Riolos of Patr	30.94	300	P	P	13 42 41.3 +3.3
LSA	Lhasa	31.09	77	P	P	13 42 41.5 +2.1
LSA				S	S	13 47 50.5 +6.0
KZN	Kozani	31.20	304	eP	P	13 42 43.8 +3.5
KZN	Kozani	31.20	304	P	P	13 42 39.8 -0.5
KZN	Kozani	31.20	304	P	P	13 42 39.8 -0.5
AKASG	Malin Array Be	31.26	327	P	P	13 42 39.3 -1.3
	comp=Z,32nm,0.7s,mb5.3,baz=130,slow=7.9,SNR=41					
AKASG				LR	LR	13 57 29.6
	comp=Z,1μm,19.1s,MS4.7,baz=125,slow=41					
AKASG	Malin Array Be	31.26	327	P	P	13 42 39.3 -1.3
AKASG	Malin Array Be	31.26	327	P	P	13 42 39.3 -1.3
AKASG	Malin Array Be	31.26	327	P	P	13 42 39.3 -1.3
AKBB	Malin Array Si	31.26	327	eP	P	13 42 39.2 -1.5
AKBB	Malin Array Si	31.26	327	eP	P	13 42 39.2 -1.4
AKBB	Malin Array Si	31.26	327	eP	P	13 42 39.2 -1.4
KIEV	Kiev	31.26	327	eP	P	13 42 38.6 -2.0
	comp=Z,76nm,0.8s,mb5.6					
KIEV				LR	LR	
	comp=Z,2μm,21.0s,MS4.6					
KIEV	Kiev	31.26	327	eP	P	13 42 38.7 -2.0
KIEV				pmax	pmax	
	comp=Z,76nm,0.8s,mb5.6					
KIEV				MLR	MLR	
	comp=Z,2μm,21.0s,MS4.6					
KIEV	Kiev	31.26	327	eP	P	13 42 38.7 -2.0
	comp=Z,76nm,0.8s,mb5.6					
MSEY	Mahe Island	31.40	181	PFAKE		13 42 50.0 +7.8
MSEY				LR	LR	
	comp=Z,2μm,19.0s,MS4.9					
KFL	Anninata	31.47	300	P	P	13 42 42.6 -0.1
KFL	Anninata	31.47	300	P	P	13 42 42.6 -0.1
MDB	Medias	31.48	316	P	P	13 42 44.5 +1.9
MDB	Medias	31.48	316	P	P	13 42 44.5 +1.9
OBN	Obninsk	31.51	339	eP	P	13 42 41.6 -1.1
OBN				LR	LR	
	comp=Z,2μm,21.0s,MS4.8					
OBN	Obninsk	31.51	339	⇓iP	P	13 42 42.7 0.0
OBN				i		13 43 51.2
OBN				iS	S	13 47 48.3 -2.1
OBN				iSS	SS	13 49 40.6 -25
OBN				pmax	pmax	
	comp=Z,172nm,1.0s,mb5.8					
OBN				MLR	MLR	
	comp=Z,2μm,22.0s,MS4.7					
OBN	Obninsk	31.51	339	P	P	13 42 43.1 +0.4
	comp=Z,1μm,0.8s,mb6.7,SNR=7.8					
OBN	Obninsk	31.51	339	eP	P	13 42 41.6 -1.1
OBN				iS	S	13 47 48.3 -2.1
FNA	Florina	31.62	305	P	P	13 42 43.3 -0.6
FNA	Florina	31.62	305	P	P	13 42 43.3 -0.6
VLS	Valsamata	31.64	300	eP	P	13 42 46.4 +2.3
VLS	Valsamata	31.64	300	P	P	13 42 43.3 -0.8
VLS	Valsamata	31.64	300	P	P	13 42 43.3 -0.8
BURAR	Bucovina Array	31.67	319	⇑P	P	13 42 44.2 -0.1
BURAR	Bucovina Array	31.67	319	⇑iP	P	13 42 44.2 -0.1
BURAR	Bucovina Array	31.67	319	⇑iP	P	13 42 44.2 -0.1
BUR08	Bucovina Ar. S	31.70	319	eP	P	13 42 44.1 -0.5
BUR08	Bucovina Ar. S	31.70	319	eP	P	13 42 44.1 -0.4
MOS	Moscow	31.70	340	eP	P	13 42 42.5 -1.9
MOS				ePPP		13 43 56.8
MOS				eS	S	13 47 49.8 -3.6
MOS				eSS	SS	13 49 35.2 -34
MOS				eSSS		13 49 58.5
MOS		

KMBO Kilima Mbogo 33.17 216 *eP* **P 13 42 59.4 +1.7**
comp=Z,59nm,0.9s,mb5.5
KMBO LR LR
comp=Z,2μm,19.0s,MS4.9
KMBO Kilima Mbogo 33.17 216 *eP* **P 13 42 59.4 +1.7**
KMBO pmax pmax
comp=Z,59nm,0.9s
KMBO MLR MLR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 33.17 216 *eP* **P 13 42 59.4 +1.7**
comp=Z,59nm,0.9s,mb5.5
IVAS Ivanjica 33.29 309⇑ *iP* **P 13 42 58.2 -0.3**
LVV L'vov 33.47 322 *eP* **P 13 42 59.6 -0.4**
LVV *e* 13 44 14.8
LVV *eS* **S 13 48 15.8 -5.3**
LVV L'vov 33.47 322 *eP* **P 13 42 59.6 -0.4**
LVV *eS* **S 13 48 15.8 -5.3**
DIVS Divibare 33.56 310 P **P 13 43 00.2 -0.7**
DIVS Divibare 33.56 310 P **P 13 43 00.2 -0.7**
UZH Uzhgorod 33.88 319 *eP* **P 13 43 03.5 -0.1**
UZH *eS* **S 13 48 18.5 -9.0**
UZH MLR MLR
comp=Z,900nm,22.0s,MS4.5
UZH Uzhgorod 33.88 319 *eP* **P 13 43 03.5 -0.1**
comp=Z,900nm,22.0s
UZH *eS* **S 13 48 18.5 -9.0**
LZLA Zalla 33.88 282 *i P* **P 13 43 04.3 +0.4**
comp=Z,190nm,1.1s,mb5.9,SNR=153
BBLS Lazići 33.89 310⇑ *iP* **P 13 43 03.6 -0.2**
KOLS Kolonicke sedl 34.03 319 *eP* **P 13 43 05.5 +0.6**
KOLS pmax pmax
comp=Z,191nm,1.2s,mb5.9
KOLS Kolonicke sedl 34.03 319 *eP* **P 13 43 05.5 +0.6**
KOLS Kolonicke sedl 34.03 319 *eP* **P 13 43 05.5 +0.6**
comp=Z,191nm,1.2s,mb5.9
FGSL Fruska Gora 34.04 312⇑ *iP* **P 13 43 03.8 -1.2**
KWP Kalwaria Pacla 34.12 321 *eP* **P 13 43 04.9 -0.8**
KWP *epP* pP 13 43 08.9 -0.9
KWP *ePcP* PcP 13 45 40.3 -2.4
KWP LMZ 13 59 57.2
comp=Z,2μm,22.4s
KWP Kalwaria Pacla 34.12 321 *eP* **P 13 43 04.7 -0.9**
comp=Z,105nm,1.1s,mb5.7
KWP LR LR
comp=Z,2μm,21.0s,MS4.8
KWP Kalwaria Pacla 34.12 321 *eP* **P 13 43 04.9 -0.7**
KWP *e* 13 45 40.3
KWP MLR MLR
comp=Z,2μm,22.4s,MS4.7
KWP Kalwaria Pacla 34.12 321⇓ *iP* **P 13 43 05.5 -0.1**
KWP Kalwaria Pacla 34.12 321 *eP* **P 13 43 04.7 -0.9**
comp=Z,105nm,1.1s,mb5.7
NVS Novosibirsk 34.30 28 *eP* **P 13 43 06.5 -0.7**
NVS *eS* **S 13 48 31.5 -2.4**
NVS pmax pmax
comp=Z,124nm,1.4s,mb5.7
NVS pmax pmax
comp=N,94nm,1.7s
NVS pmax pmax
comp=E,11nm,0.9s
NVS smax
comp=N,145nm,2.5s
NVS Novosibirsk 34.30 28 *eP* **P 13 43 06.5 -0.7**
comp=N,94nm,1.7s,mb5.4
NVS *eS* **S 13 48 31.5 -2.4**
comp=N,145nm,2.5s
MICGM Minsk 34.36 331⇓ *iP* **P 13 43 05.0 -2.7**
MNK Minsk 34.38 331⇓ *iP* **P 13 43 05.0 -2.9**
MNK *eS* **S 13 48 30.0 -5.2**
MNK pmax pmax
comp=Z,170nm,1.0s,mb5.9
MNK MLR MLR
comp=E,4μm,18.0s
MNK MLR MLR
comp=Z,7μm,18.0s,MS5.5
MNK Minsk 34.38 331 *i P* **P 13 43 05.0 -2.9**
comp=Z,170nm,1.0s,mb5.9
MNK *eS* **S 13 48 30.0 -5.2**
comp=Z,7μm,18.0s
ZAA0 Zalesovo Array 34.40 30 *eP* **P 13 43 06.9 -1.1**
ZAA0 Zalesovo Array 34.40 30 *eP* **P 13 43 06.9 -1.1**
ZALV Zalesovo Beam 34.40 30 P **P 13 43 07.2 -0.8**
comp=Z,38nm,0.4s,mb5.7,baz=241,slow=9.4,SNR=155
ZALV Zalesovo Beam 34.40 30 P **P 13 43 07.2 -0.8**
ZALV Zalesovo Beam 34.40 30 P **P 13 43 07.2 -0.8**
ZALV Zalesovo Beam 34.40 30 P **P 13 43 07.2 -0.8**
LSRT Sirt 34.45 286 *i P* **P 13 43 08.7 -0.1**
comp=Z,512nm,1.4s,mb6.3,SNR=27
CRVS Cervenica-Dubn 34.49 319 *eP* **P 13 43 09.0 +0.1**
CRVS pmax pmax
comp=Z,103nm,1.5s,mb5.5
CRVS Cervenica-Dubn 34.49 319 *eP* **P 13 43 09.0 +0.1**
CRVS *eS* **S 13 48 33.9 -3.1**
CRVS Cervenica-Dubn 34.49 319 *eP* **P 13 43 09.0 +0.1**
comp=Z,103nm,1.5s,mb5.5
TIP Timpagrande 34.76 301 *eP* **P 13 43 12.2 +0.9**
TIP LR LR
comp=Z,2μm,19.0s,MS4.9
TIP Timpagrande 34.76 301 *eP* **P 13 43 12.2 +0.8**
NOCI Noci 34.81 303 *eP* **P 13 43 14.6 +2.8**
STON Ston 34.81 307 P **P 13 43 10.1 -1.7**
STHS Stebnicka Huta 34.85 319 *eP* **P 13 43 14.2 +2.2**
STHS pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
STHS Stebnicka Huta 34.85 319 *eP* **P 13 43 14.2 +2.2**
STHS Stebnicka Huta 34.85 319 *eP* **P 13 43 14.2 +2.2**
comp=Z,8.6nm,0.7s,mb4.8
KECS Kecovo 34.89 318 *eP* **P 13 43 12.7 +0.4**
KECS pmax pmax
comp=Z,62nm,1.2s,mb5.4
KECS Kecovo 34.89 318 *eP* **P 13 43 12.7 +0.4**
KECS Kecovo 34.89 318 *eP* **P 13 43 12.7 +0.4**
comp=Z,62nm,1.2s,mb5.4
PSZ Piszkesteto 35.01 316 *eP* **P 13 43 12.7 -0.7**
comp=Z,71nm,1.1s,mb5.5
PSZ LR LR
comp=Z,2μm,20.0s,MS4.8
PSZ Piszkesteto 35.01 316 *eP* **P 13 43 12.7 -0.7**
PSZ pmax pmax
comp=Z,71nm,1.1s,mb5.5
PSZ MLR MLR
comp=Z,2μm,20.0s,MS4.8
PSZ Piszkesteto 35.01 316 *eP* **P 13 43 13.6 +0.2**
PSZ Piszkesteto 35.01 316⇓ *iP* **P 13 43 13.0 -0.4**
PSZ Piszkesteto 35.01 316 *eP* **P 13 43 12.7 -0.7**
comp=Z,71nm,1.1s,mb5.5
NACGM Naroch 35.11 331 *eP* **P 13 43 11.0 -3.2**
NACGM Naroch 35.11 331 *ePP* PP 13 44 36.0 +2.2
PKSM Moragy 35.17 313 P **P 13 43 15.1 +0.3**
PKSM Moragy 35.17 313⇑ *iP* **P 13 43 14.3 -0.5**
PKSM Moragy 35.17 313⇑ *iP* **P 13 43 14.3 -0.5**
CEL Celeste 35.31 299 *eP* **P 13 43 18.0 +1.9**
CEL Celeste 35.31 299 *eP* **P 13 43 16.6 +0.5**
comp=Z,134nm,1.4s,mb5.7
CEL LR LR
comp=Z,2μm,19.0s,MS4.9
CEL Celeste 35.31 299 *eP* **P 13 43 16.6 +0.5**
comp=Z,134nm,1.4s,mb5.7
LJFR Jufra 35.35 283 *i P* **P 13 43 16.6 0.0**
comp=Z,292nm,1.4s,mb6.0,SNR=153
BUD Budapest 35.38 315⇓ *eP* **P 13 43 19.9 +3.3**
NIE Niedzica 35.40 319 *eP* **P 13 43 20.5 +3.8**
NIE Niedzica 35.40 319 *eP* **P 13 43 20.5 +3.8**
NIE Niedzica 35.40 319 *eP* **P 13 43 20.5 +3.8**
CUC Castrocucco 35.61 302 *eP* **P 13 43 24.0 +5.3**
CUC Castrocucco 35.61 302 *eP* **P 13 43 19.2 +0.6**
comp=Z,180nm,1.3s,mb5.8
CUC LR LR
comp=Z,2μm,19.0s,MS4.8
CUC Castrocucco 35.61 302 *eP* **P 13 43 19.2 +0.5**
comp=Z,180nm,1.3s,mb5.8
IIGN Ignalina 35.65 331 *eP* **P 13 43 18.8 0.0**
IIGN AMB AMB 13 43 23.4
comp=Z,73nm,0.8s,mb5.7
IIGN Ignalina 35.65 331 *eP* **P 13 43 18.8 0.0**
comp=Z,73nm,0.8s,mb5.7,SNR=26
LMSR Misrath 35.80 289 *i P* **P 13 43 22.4 +2.0**
comp=Z,409nm,1.2s,mb6.2,SNR=153
LMSR *eS* **S 13 48 57.6 +0.1**
SNR=152
ISAL Salakas 35.83 331 *eP* **P 13 43 20.2 -0.1**
ISAL AMB AMB 13 43 25.0
comp=Z,47nm,1.0s,mb5.4
ISAL Salakas 35.83 331 *eP* **P 13 43 20.2 -0.2**
comp=Z,47nm,1.0s,mb5.4,SNR=26

IZAR Zarasai 35.90 332 *eP* **P 13 43 20.6 -0.3**
IZAR AMB AMB 13 43 25.5
comp=Z,62nm,0.9s,mb5.5
LIKS Likavka 35.95 318 *eP* **P 13 43 22.4 +0.9**
LIKS pmax pmax
comp=Z,120nm,0.8s,mb5.9
LIKS Likavka 35.95 318 *eP* **P 13 43 22.4 +0.9**
LIKS Likavka 35.95 318 *eP* **P 13 43 22.4 +0.9**
comp=Z,120nm,0.8s,mb5.9
OJC Ojcow 36.05 320 *eP* **P 13 43 21.9 -0.4**
OJC *esP* sP 13 43 25.5 -2.7
OJC *eS* **S 13 48 59.5 -1.4**
OJC Ojcow 36.05 320 *eP* **P 13 43 21.8 -0.5**
OJC Ojcow 36.05 320 *eP* **P 13 43 21.9 -0.4**
OJC *eS* **S 13 48 59.5 -1.4**
OJC Ojcow 36.05 320 *eP* **P 13 43 21.9 -0.4**
OJC *eS* **S 13 48 59.5 -1.4**
KOLL Kolacno 36.19 317 *eP* **P 13 43 24.1 +0.6**
KOLL Kolacno 36.19 317 *eP* **P 13 43 24.1 +0.6**
KOLL Kolacno 36.19 317 *eP* **P 13 43 24.1 +0.6**
WDD Wield Dalam 36.21 295 *eP* **P 13 43 24.9 +1.0**
WDD Wield Dalam 36.21 295 PFAKE 13 43 30.0 +6.1
WDD LR LR
comp=Z,2μm,20.0s,MS4.8
SUW Suwalki 36.21 327 *eP* **P 13 43 22.8 -0.9**
SUW *epP* pP 13 43 26.4 -1.4
SUW *ePcP* PcP 13 45 48.8 0.0
SUW *eS* **S 13 49 00.9 -2.5**
SUW LMZ 13 57 01.8
comp=Z,2μm,33.3s
SUW Suwalki 36.21 327 *eP* **P 13 43 22.3 -1.4**
comp=Z,195nm,0.9s,mb6.0
SUW Suwalki 36.21 327 *eP* **P 13 43 22.8 -0.9**
SUW *e* 13 45 48.8
SUW *eS* **S 13 49 00.9 -2.4**
SUW Suwalki 36.21 327 *eP* **P 13 43 22.3 -1.4**
comp=Z,195nm,0.9s,mb6.0
BEL Belsk 36.26 323 *eP* **P 13 43 24.1 0.0**
BEL *epP* pP 13 43 27.1 -1.2
BEL LMZ 13 59 29.4
comp=Z,2μm,22.8s
BEL Belsk 36.26 323 *eP* **P 13 43 24.1 0.0**
BEL MLR MLR
comp=Z,2μm,22.8s,MS4.9
BEL Belsk 36.26 323 *eP* **P 13 43 24.1 0.0**
SISC Sisak 36.44 311 P **P 13 43 29.4 +3.7**
MBAR Mbarara 36.54 226 *eP* **P 13 43 27.4 +0.5**
MBAR Mbarara 36.54 226 PFAKE 13 43 40.0 +13
MBAR LR LR
comp=Z,705nm,19.0s,MS4.5
MBAR Mbarara 36.54 226 P **P 13 43 27.0 +0.1**
comp=Z,189nm,0.9s,mb5.9,SNR=11
LSHF Shwairf 36.61 285 *i P* **P 13 43 28.1 +0.7**
comp=Z,421nm,1.5s,mb6.0,SNR=154
LSHF *eS* **S 13 49 10.1 +0.1**
SNR=152
LUMB Murzuk 36.71 278 *i P* **P 13 43 28.1 -0.2**
comp=Z,379nm,1.7s,mb6.0,SNR=154
LUMB *eS* **S 13 49 11.5 -0.1**
SNR=152
SMOL Smolenice 36.77 316 *eP* **P 13 43 28.5 +0.1**
SMOL Smolenice 36.77 316 *eP* **P 13 43 28.5 +0.1**
SMOL Smolenice 36.77 316 *eP* **P 13 43 28.5 +0.1**
KOGS Kog 36.81 313 *i P* **P 13 43 28.4 -0.5**
KOGS *eS* **S 13 49 11.4 -1.2**
KOGS Kog 36.81 313 *i P* **P 13 43 28.4 -0.5**
KOGS *eS* **S 13 49 11.4 -1.2**
OKC Ostrava-Krasne 36.85 319 *eP* **P 13 43 28.4 -0.7**
OKC *eS* **S 13 49 10.8 -2.3**
OKC MLR MLR
comp=Z,2μm,17.9s,MS4.8
OKC Ostrava-Krasne 36.85 319 *eP* **P 13 43 28.4 -0.7**
OKC *epP* pP 13 43 32.0 -1.3
OKC *eS* **S 13 49 10.8 -2.3**
OKC AMS AMS 14 02 10.0
comp=Z,2μm,17.9s
OKC Ostrava-Krasne 36.85 319 P **P 13 43 28.4 -0.7**
OKC S **S 13 49 10.8 -2.3**
ZST Bratislava 36.85 316 *eP* **P 13 43 32.7 +3.5**
ZST pmax pmax
comp=Z,26nm,0.8s,mb5.1
ZST Bratislava 36.85 316 *eP* **P 13 43 32.7 +3.5**
ZST *eS* **S 13 48 55.7 -17**
ZST Bratislava 36.85 316 *eP* **P 13 43 32.7 +3.5**
comp=Z,26nm,0.8s,mb5.1
RAC Raciborz 36.92 319 *eP* **P 13 43 29.3 -0.5**
RAC Raciborz 36.92 319 *eP* **P 13 43 29.3 -0.5**
SOP Sopron 37.01 315 *eP* **P 13 43 30.4 -0.2**
MORC Moravsky Berou 37.18 318 *eP* **P 13 43 30.9 -1.1**
comp=Z,91nm,1.0s,mb5.6
MORC Moravsky Berou 37.18 318 *eP* **P 13 43 30.9 -1.1**
MORC pmax pmax
comp=Z,91nm,1.0s,mb5.6
MORC Moravsky Berou 37.18 318⇓ *iP* **P 13 43 31.5 -0.5**
MORC Moravsky Berou 37.18 318 *eP* **P 13 43 30.9 -1.1**
comp=Z,91nm,1.0s,mb5.6
BOJS Bojanci 37.20 311 *i P* **P 13 43 31.9 -0.3**
BOJS *eS* **S 13 49 16.9 -1.7**
BOJS Bojanci 37.20 311 *i P* **P 13 43 32.0 -0.2**
BOJS *eS* **S 13 49 16.9 -1.7**
NVLJ Novalja 37.22 309 P **P 13 43 32.3 -0.1**
PUL Pulkovo 37.26 339⇑ *iP* **P 13 43 33.0 +0.5**
PUL pmax pmax
comp=Z,78nm,0.4s,mb5.9
PUL MLR MLR
comp=Z,1μm,16.0s,MS4.7
PUL Pulkovo 37.26 339 *i P* **P 13 43 33.0 +0.5**
comp=Z,1μm,16.0s
LTRP Tripoli 37.34 290 *i P* **P 13 43 35.9 +2.4**
comp=Z,667nm,1.2s,mb6.3,SNR=154
HVS Khovu-Aksy 37.43 39⇓ *iP* **P 13 43 33.9 -0.1**
HVS pmax pmax
comp=Z,142nm,1.3s,mb5.6
HVS MLR MLR
comp=Z,2μm,12.0s,MS5.2
HVS Khovu-Aksy 37.43 39 *i P* **P 13 43 33.9 -0.1**
comp=Z,2μm,12.0s
ARSA Arzberg 37.54 314 *i P* **P 13 43 34.8 -0.2**
comp=Z,39nm,1.2s,mb5.0,SNR=16
ARSA Arzberg 37.54 314 P **P 13 43 34.8 -0.2**
comp=Z,39nm,1.2s,mb5.0,SNR=16
CONA Conrad Observa 37.54 315⇑ *iP* **P 13 43 34.2 -0.8**
comp=Z,87nm,1.6s,mb5.2,SNR=38
CONA Conrad Observa 37.54 315 P **P 13 43 34.2 -0.8**
comp=Z,87nm,1.6s,mb5.2,SNR=38
VRAC Vranov 37.57 317 P **P 13 43 35.4 +0.1**
comp=Z,62nm,0.9s,mb5.4,baz=106,slow=8.7,SNR=31
VRAC LR LR 14 02 34.5
comp=Z,1μm,19.3s,MS4.8,baz=242,slow=42
VRAC Vranov 37.57 317 P **P 13 43 35.4 +0.1**
VRAC Vranov 37.57 317 P **P 13 43 35.6 +0.3**
VRAC Vranov 37.57 317⇓ *iP* **P 13 43 35.3 0.0**
VRAC Vranov 37.57 317 P **P 13 43 35.4 +0.1**
PERS Pernice 37.61 312 *i P* **P 13 43 35.0 -0.7**
PERS Pernice 37.61 312 *i P* **P 13 43 35.0 -0.7**
SOKA Soboth 37.68 313⇓ *iP* pP 13 43 36.8 -3.6
comp=Z,36nm,1.0s
SOKA Soboth 37.68 313 P **P 13 43 36.8 +0.5**
comp=Z,36nm,1.0s,mb5.0
DGAR Diego Garcia 37.70 152 PFAKE 13 43 50.0 +13
DGAR LR LR
comp=Z,4μm,20.0s,MS5.2
KRLC Kraliky 37.75 318 *eP* **P 13 43 37.1 +0.3**
KRLC *epP* pP 13 43 39.8 -1.2
KRLC Kraliky 37.75 318 P **P 13 43 37.1 +0.3**
AQU L'Aquila 37.80 305 *eP* **P 13 43 38.7 +1.4**
AQU L'Aquila 37.80 305 P **P 13 43 36.3 -1.0**
comp=Z,201nm,1.2s,mb5.7
AQU LR LR
comp=Z,2μm,21.0s,MS4.8
AQU L'Aquila 37.80 305 P **P 13 43 36.3 -1.0**
AQU pmax pmax
comp=Z,201nm,1.2s,mb5.7
AQU MLR MLR
comp=Z,2μm,21.0s,MS4.8
AQU L'Aquila 37.80 305 P **P 13 43 36.3 -1.0**
comp=Z,201nm,1.2s,mb5.7
LJU Ljubljana 37.84 311 *i P* **P 13 43 37.7 +0.1**
LJU *e* 13 45 13.0
LJU *eS* **S 13 49 27.2 -1.1**
LJU Ljubljana 37.84 311 *i P* **P 13 43 37.7 +0.1**
LJU *eS* **S 13 49 27.2 -1.1**
DPC Dobruska-Polom 38.13 319 *eP* **P 13 43 39.4 -0.6**
comp=Z,98nm,0.9s,mb5.5

DPC Dobruska-Polom 38.13 319 *eP* **P 13 43 39.2 -0.8**
DPC *eS* **S 13 49 31.1 -1.5**
DPC MLR MLR
comp=Z,2μm,22.8s,MS4.8
DPC Dobruska-Polom 38.13 319 *eP* **P 13 43 39.2 -0.8**
DPC *epP* pP 13 43 43.0 -1.2
DPC *eS* **S 13 49 31.1 -1.5**
DPC AMS AMS 14 02 50.0
comp=Z,2μm,22.8s
DPC Dobruska-Polom 38.13 319 *eP* **P 13 43 39.4 -0.6**
comp=Z,98nm,0.9s,mb5.5
DPC S **S 13 49 31.1 -1.5**
TREC Trest 38.24 317 *eP* **P 13 43 40.9 0.0**
TREC *eS* **S 13 49 31.7 -2.6**
TREC MLR MLR
comp=Z,3μm,15.3s,MS5.2
TREC Trest 38.24 317 *eP* **P 13 43 40.9 0.0**
TREC *epP* pP 13 43 44.0 -1.1
TREC *eS* **S 13 49 31.7 -2.6**
TREC AMS AMS 14 03 30.0
comp=Z,3μm,15.3s
TREC Trest 38.24 317 P **P 13 43 40.9 0.0**
TREC *eS* **S 13 49 31.7 -2.6**
comp=Z,3μm,15.3s
VOY Vojsko 38.26 311 *eP* **P 13 43 40.4 -0.7**
VOY *e* pP 13 43 44.3 -1.0
VOY *e* 13 43 49.1
VOY *e* 13 44 03.8
VOY *e* 13 44 18.0
VOY Vojsko 38.26 311 *eP* **P 13 43 40.4 -0.7**
KSP Ksiaz 38.34 319 *eP* **P 13 43 41.0 -0.8**
KSP *epP* pP 13 43 44.9 -1.0
KSP *eS* **S 13 49 34.1 -1.6**
KSP LMZ 14 02 48.5
comp=Z,2μm,20.7s
KSP Ksiaz 38.34 319 *eP* **P 13 43 41.1 -0.7**
KSP *i pP* pP 13 43 44.9 -1.1
KSP *ePP* PP 13 45 12.0 +2.6
KSP *eS* **S 13 49 32.0 -3.8**
KSP LM 14 02 57.0
comp=Z,3.8nm,20.7s
KSP Ksiaz 38.34 319⇑ *eP* **P 13 43 41.1 -0.7**
KSP *e* 13 45 12.0
KSP *eS* **S 13 49 32.0 -3.8**
KSP MLR MLR
comp=Z,4μm,20.7s,MS5.2
KSP Ksiaz 38.34 319⇑ *eP* **P 13 43 41.1 -0.7**
KSP *eS* **S 13 49 32.0 -3.8**
UPC Upice 38.38 319 *eP* **P 13 43 41.3 -0.8**
UPC Upice 38.38 319 *eP* **P 13 43 41.3 -0.8**
UPC *epP* pP 13 43 44.8 -1.4
UPC Upice 38.38 319 P **P 13 43 41.3 -0.8**
CADS Cadrg 38.42 311 *i P* **P 13 43 41.5 -0.9**
CADS *e* 13 45 08.3
CADS Cadrg 38.42 311 *i P* **P 13 43 41.5 -1.0**
GTA Gaotai 38.46 60⇑ P **P 13 43 43.6 +0.6**
GTA pP pP 13 43 48.4 +1.3
GTA sP sP 13 43 50.7 +1.9
GTA S **S 13 49 38.9 +1.0**
GTA SS SS 13 52 20.4 -6.4
GTA pmax pmax
comp=Z,62nm,1.5s,mb5.1
GTA pmax pmax
comp=Z,360nm,4.5s
GTA LR LR
comp=N,3μm,18.0s,MS5.2
GTA LR LR
comp=E,2μm,17.3s,MS5.2
GTA LR LR
comp=Z,2μm,17.5s,MS5.0
MOA Molln 38.53 314⇑ *iP* **P 13 43 42.8 -0.6**
comp=Z,72nm,0.8s,mb5.5,SNR=36
MOA Molln 38.53 314 P **P 13 43 42.8 -0.6**
comp=Z,72nm,0.8s,mb5.5,SNR=36
MYKA Terra Mystica 38.59 312⇑ *ipP* pP 13 43 45.2 -2.9
comp=Z,32nm,1.0s
MYKA Terra Mystica 38.59 312 P **P 13 43 45.2 +1.3**
comp=Z,32nm,1.0s,mb5.0
ALAS Alassa 38.64 290 *i P* **P 13 43 45.8 +1.3**
comp=Z,277nm,1.5s,mb5.8,SNR=154
ALAS *eS* **S 13 49 41.5 +0.8**
SNR=153
KBA Koelnbreinsper 38.91 313⇑ *iP* **P 13 43 45.9 -0.6**
comp=Z,124nm,1.5s,mb5.4,SNR=7.0
KBA Koelnbreinsper 38.91 313 P **P 13 43 45.9 -0.7**
comp=Z,124nm,1.5s,mb5.4,SNR=7.0
PRU Pruhonice 39.06 317 *eP* **P 13 43 47.6 -0.2**
PRU *eS* **S 13 49 42.1 -4.5**
PRU MLR MLR
comp=Z,2μm,16.3s,MS5.0
PRU Pruhonice 39.06 317 *eP* **P 13 43 47.6 -0.2**
PRU *eS* **S 13 49 42.1 -4.5**
PRU AMS AMS 14 04 00.0
comp=Z,2μm,16.3s
PRU Pruhonice 39.06 317 P **P 13 43 47.6 -0.2**
PRU *eS* **S 13 49 42.1 -4.5**
PRA Prague 39.16 317 P **P 13 43 48.0 -0.6**
GEC2 GERESS Array S 39.20 315 *eP* **P 13 43 48.1 -0.9**
comp=Z,304nm,2.3s,mb5.6
GEC2 GERESS Array S 39.20 315 *eP* **P 13 43 48.1 -0.9**
GEC2 pmax pmax
comp=Z,304nm,2.3s,mb5.6
GEC2 GERESS Array S 39.20 315 *eP* **P 13 43 48.1 -0.9**
comp=Z,304nm,2.3s,mb5.6
GERES GERESS Array B 39.20 315 P **P 13 43 48.0 -1.0**
comp=Z,8.9nm,0.8s,mb4.6,baz=106,slow=7.3,SNR=70
GERES LR LR 14 04 15.9
comp=Z,1μm,18.9s,MS4.8,baz=114,slow=43
GERES GERESS Array B 39.20 315 P **P 13 43 48.0 -1.0**
GERES GERESS Array B 39.20 315 P **P 13 43 48.0 -1.0**
GERES GERESS Array B 39.20 315 P **P 13 43 48.0 -1.0**
PVCC Panska Ves 39.24 318 *eP* **P 13 43 48.6 -0.7**
PVCC MLR MLR
comp=Z,3μm,17.0s,MS5.2
PVCC Panska Ves 39.24 318 *eP* **P 13 43 48.6 -0.7**
PVCC *epP* pP 13 43 52.4 -1.1
PVCC AMS AMS 14 04 20.0
comp=Z,3μm,17.0s
PVCC Panska Ves 39.24 318 P **P 13 43 48.6 -0.7**
KHC Kasperske Hory 39.37 316 *eP* **P 13 43 48.9 -1.5**
comp=Z,84nm,0.8s,mb5.5
KHC Kasperske Hory 39.37 316 *eP* **P 13 43 49.3 -1.1**
KHC *e* 13 43 57.5
KHC *eS* **S 13 49 45.6 -5.6**
KHC MLR MLR
comp=Z,2μm,18.2s,MS4.9
KHC Kasperske Hory 39.37 316 *eP* **P 13 43 49.3 -1.1**
KHC *epP* pP 13 43 53.1 -1.5
KHC *esP* sP 13 43 57.5 +1.3
KHC *eS* **S 13 49 45.6 -5.6**
KHC AMS AMS 14 03 30.0
comp=Z,2μm,18.2s
KHC Kasperske Hory 39.37 316 *eP* **P 13 43 48.9 -1.5**
comp=Z,84nm,0.8s,mb5.5
KHC *eS* **S 13 49 45.6 -5.6**
RJOB Jochberg 39.45 313 *eP* **P 13 43 50.3 -0.8**
comp=Z,197nm,1.6s,mb5.6
JOF Joensuu 39.47 343 *eP* **P 13 43 49.9 -1.2**
JOF pmax pmax
comp=Z,42nm,0.7s,mb5.3
JOF Joensuu 39.47 343 *ep* **P 13 43 49.9 -1.2**
comp=Z,42nm,0.7s,mb5.3
JOF Joensuu 39.47 343 *eP* **P 13 43 49.9 -1.2**
comp=Z,42nm,0.7s,mb5.3
BRG Berggiesshubel 39.73 318 *i P* **P 13 43 52.5 -0.9**
comp=Z,35nm,1.2s,mb5.0
BRG *i* 13 44 00.6
comp=Z,78nm,1.0s
BRG PP PP 13 45 25.0 +0.4
BRG S **S 13 50 07.0 +10**
BRG SS SS 13 53 04.0 +12
BRG
comp=N,2μm,15.1s
BRG
comp=E,1μm,20.1s
BRG
comp=Z,2μm,16.7s
BRG Berggiesshubel 39.73 318 *eP* **P 13 43 52.5 -0.9**
comp=Z,70nm,1.0s,mb5.3
BRG Berggiesshubel 39.73 318 *i P* **P 13 43 52.5 -0.9**
BRG *i* 13 44 00.6
BRG 13 45 25.0
BRG pmax pmax
comp=Z,35nm,1.2s,mb5.0

BRG MLR MLR
comp=N,2μm,15.1s,MS5.1
BRG MLR MLR
comp=E,1μm,20.1s,MS5.1
BRG MLR MLR
comp=Z,2μm,16.7s,MS5.1
BRG Berggiesshubel 39.73 318 *i* P **P 13 43 52.5 -0.9**
comp=Z,35nm,1.2s,mb5.0
WET Wettzell 39.81 316 *e*P **P 13 43 52.7 -1.3**
comp=Z,362nm,2.5s,mb5.7
WET Wettzell 39.81 316 *e*P **P 13 43 52.7 -1.3**
WET pmax pmax
comp=Z,362nm,2.5s,mb5.7
WET Wettzell 39.81 316 *e*P **P 13 43 52.7 -1.3**
comp=Z,362nm,2.5s,mb5.7
FINES FINESS Array B 39.91 338 P **P 13 43 54.0 -0.7**
comp=Z,43nm,0.7s,mb5.3,baz=141,slow=9.2,SNR=103
FINES PP PP 13 45 32.2 +5.9
comp=Z,52nm,1.1s,baz=114,slow=9.2,SNR=4.3
FINES FINESS Array B 39.91 338 P **P 13 43 54.0 -0.7**
FINES PP PP 13 45 32.2 +5.9
FINES FINESS Array B 39.91 338 P **P 13 43 54.1 -0.6**
FINES 13 45 32.3
FINES FINESS Array B 39.91 338 P **P 13 43 54.0 -0.7**
WTTA Wattenberg 40.08 312 *i* P **P 13 43 55.4 -0.9**
comp=Z,259nm,1.2s,mb5.8,SNR=36
WTTA Wattenberg 40.08 312 P **P 13 43 55.4 -0.9**
comp=Z,259nm,1.2s,mb5.8,SNR=36
WATA Walderalm 40.14 313 ⇑*i*P **P 13 43 55.6 -1.3**
comp=Z,114nm,0.8s,mb5.6,SNR=21
WATA Walderalm 40.14 313 P **P 13 43 55.6 -1.2**
comp=Z,114nm,0.8s,mb5.6,SNR=21
CHG Chiang Mai 40.32 92 ⇑P **P 13 43 59.3 +0.6**
comp=Z,13nm,1.3s,mb4.5
CHG S pP 13 44 01.9 -1.0
CHTO Chiang Mai 40.32 92 *e*P **P 13 43 59.0 +0.4**
comp=Z,153nm,1.4s,mb5.5
CHTO LR LR
comp=Z,1μm,21.0s,MS4.7
CHTO Chiang Mai 40.32 92 *e*P **P 13 43 59.1 +0.4**
CHTO pmax pmax
comp=Z,153nm,1.4s,mb5.5
CHTO MLR MLR
comp=Z,1μm,21.0s,MS4.7
CHTO Chiang Mai 40.32 92 P **P 13 43 59.5 +0.8**
comp=Z,2μmcomp=Z,98nm,1.6s,mb5.3
CHTO Chiang Mai 40.32 92 *e*P **P 13 43 59.0 +0.3**
comp=Z,153nm,1.4s,mb5.5
KAF Kangasniemi 40.32 339 *e*P **P 13 43 57.6 -0.5**
KAF pmax pmax
comp=Z,12nm,0.6s,mb4.8
KAF Kangasniemi 40.32 339 *e*p **P 13 43 57.6 -0.5**
comp=Z,12nm,0.6s,mb4.8
KAF Kangasniemi 40.32 339 *e*P **P 13 43 57.6 -0.5**
comp=Z,12nm,0.6s,mb4.8
NKC Novy Kostel 40.41 317 *e*P **P 13 43 59.0 -0.1**
NKC *e*S **S 13 50 04.1 -2.8**
NKC MLR MLR
comp=Z,2μm,14.4s,MS5.1
NKC Novy Kostel 40.41 317 *e*P **P 13 43 59.0 -0.1**
NKC *e*S **S 13 50 04.1 -2.8**
NKC AMS AMS 14 04 50.0
comp=Z,2μm,14.4s
NKC Novy Kostel 40.41 317 P **P 13 43 59.0 -0.1**
ROTZ Rotzenmuhle 40.41 316 *e*P **P 13 43 58.6 -0.5**
comp=Z,111nm,1.4s,mb5.4
KEST Kesra 40.42 294 P **P 13 44 00.6 +1.3**
comp=Z,13nm,0.7s,mb4.8,baz=344,slow=1.4,SNR=16
KEST LR LR 14 04 17.7
comp=Z,575nm,18.3s,MS4.5,baz=253,slow=42
KEST Kesra 40.42 294 *e*P **P 13 44 00.5 +1.2**
KEST Kesra 40.42 294 *e*P **P 13 44 00.5 +1.2**
RUE Ruedersdorf 40.42 321 *e*P **P 13 43 57.9 -1.2**
comp=Z,112nm,1.0s,mb5.5
RUE Ruedersdorf 40.42 321 *e*P **P 13 43 57.9 -1.2**
comp=Z,112nm,1.0s,mb5.5
CM31 Chiang Mai Arr 40.44 93 *e*P **P 13 44 00.4 +0.8**
comp=Z,26nm,1.0s,mb4.9
CM31 LR LR
comp=Z,1μm,20.0s,MS4.8
CM31 Chiang Mai Arr 40.44 93 *e*P **P 13 44 00.1 +0.7**
comp=Z,26nm,1.0s,mb4.9
CMAR Chiang Mai Arr 40.44 93 P **P 13 44 00.1 +0.5**
comp=Z,8.8nm,1.0s,mb4.5,baz=289,slow=7.3,SNR=58
CMAR PcP PcP 13 46 02.1 -0.4
comp=Z,2.4nm,0.8s,baz=288,slow=4.9,SNR=3.0
CMAR ScP ScP 13 49 52.0 +0.3
comp=Z,3.6nm,1.2s,baz=283,slow=5.8,SNR=4.9
CMAR LR LR 14 02 29.3
comp=Z,1μm,20.9s,MS4.8,baz=288,slow=39
CMAR Chiang Mai Arr 40.44 93 P **P 13 44 00.1 +0.5**
CMAR PcP PcP 13 46 02.1 -0.4
CMAR ScP ScP 13 49 52.0 +0.3
CMAR Chiang Mai Arr 40.44 93 P **P 13 44 00.2 +0.5**
CMAR 13 46 02.2
CMAR Chiang Mai Arr 40.44 93 P **P 13 44 00.2 +0.5**
CLL Collm 40.44 319 *e*P **P 13 43 58.7 -0.6**
comp=Z,148nm,1.4s,mb5.5
CLL Collm 40.44 319 *i* P **P 13 43 58.9 -0.4**
CLL *e*S **S 13 50 04.0 -3.3**
CLL pmax pmax
comp=Z,146nm,1.4s,mb5.5
CLL Collm 40.44 319 *i* P **P 13 43 58.9 -0.4**
comp=Z,52nm,1.2s,mb5.1
CLL *i* pP pP 13 44 02.0 -1.5
comp=Z,146nm,1.4s
CLL *i* (sP) sP 13 44 04.7 -0.5
CLL *i* 13 44 06.9
CLL *e*PP PP 13 45 40.0 +7.7
CLL *e* 13 45 45.0
CLL *e*PPP 13 45 57.0
CLL *e*S **S 13 50 04.0 -3.3**
CLL *e*SS SS 13 53 18.0 +12
CLL Collm 40.44 319 *i* P **P 13 43 58.9 -0.4**
comp=Z,146nm,1.4s,mb5.5
CLL *e*S **S 13 50 04.0 -3.3**
MOTA Moosalm 40.45 312 ⇑*i*P **P 13 43 58.0 -1.4**
comp=Z,122nm,0.9s,mb5.6,SNR=52
MOTA Moosalm 40.45 312 P **P 13 43 58.0 -1.4**
comp=Z,122nm,0.9s,mb5.6,SNR=52
VSL Villasalto 40.48 300 *e*P **P 13 43 59.6 -0.2**
comp=Z,928nm,2.1s,mb6.2
VSL LR LR
comp=Z,873nm,20.0s,MS4.6
VSL Villasalto 40.48 300 *e*P **P 13 43 59.6 -0.2**
comp=Z,928nm,2.1s,mb6.2
FUR Furstenfeldbru 40.55 314 *e*P **P 13 43 59.0 -1.2**
comp=Z,365nm,1.8s,mb5.7
FUR Furstenfeldbru 40.55 314 *e*P **P 13 43 59.0 -1.2**
FUR pmax pmax
comp=Z,365nm,1.8s,mb5.7
FUR Furstenfeldbru 40.55 314 *e*P **P 13 43 59.0 -1.2**
comp=Z,365nm,1.8s,mb5.7
FETA Feichten 40.62 312 *i* P **P 13 43 59.9 -0.9**
comp=Z,174nm,0.7s,mb5.8,SNR=69
FETA Feichten 40.62 312 P **P 13 43 59.9 -0.9**
comp=Z,174nm,0.7s,mb5.8,SNR=69
RETA Reutte 40.71 313 *i* P **P 13 44 00.2 -1.4**
comp=Z,59nm,0.9s,mb5.2,SNR=22
RETA Reutte 40.71 313 P **P 13 44 00.2 -1.4**
comp=Z,59nm,0.9s,mb5.2,SNR=22
CHRT Chiangrai 40.72 90 P **P 13 44 02.0 0.0**
comp=Z,145nm,1.0s,mb5.6
LGHD Ghdames 40.75 286 *i* P **P 13 44 02.2 +0.1**
comp=Z,292nm,2.0s,mb5.6,SNR=26
LGHD *e*S **S 13 50 10.1 -2.3**
SNR=27
BSD Bornholm Skovb 40.91 325 *e*P **P 13 44 01.1 -2.0**
BSD pmax pmax
comp=Z,100nm,0.8s,mb5.5
BSD MLR MLR
comp=Z,1μm,15.0s,MS4.9
BSD Bornholm Skovb 40.91 325 *i* P **P 13 44 01.1 -2.0**
comp=Z,104nm,0.8s,mb5.5
BSD
comp=Z,1μm,15.0s
BSD Bornholm Skovb 40.91 325 *e*P **P 13 44 01.1 -2.0**
comp=Z,104nm,0.8s,mb5.5
GRA1 Grafenberg Arr 41.00 316 *e*P **P 13 44 03.3 -0.6**
comp=Z,287nm,1.6s,mb5.7
GRF Grafenberg Arr 41.00 316 *e*P **P 13 44 03.3 -0.6**
comp=Z,287nm,1.6s,mb5.7
GRF *e*S **S 13 50 11.8 -3.9**
GRF *e*L 14 06 40.6
comp=Z,1μm,18.5s
GRF Grafenberg Arr 41.00 316 *e*P **P 13 44 03.3 -0.6**
GRF *e*S **S 13 50 11.8 -3.9**
GRF pmax pmax
comp=Z,287nm,1.6s,mb5.7
GRFO Grafenberg 41.00 316 *e*P **P 13 44 03.1 -0.8**
comp=Z,104nm,0.9s,mb5.5
GRFO Grafenberg 41.00 316 *e*P **P 13 44 03.2 -0.7**
GRFO pmax pmax
comp=Z,104nm,0.9s,mb5.5
GRFO Grafenberg 41.00 316 *e*P **P 13 44 03.2 -0.7**
comp=Z,104nm,0.9s,mb5.5
PGF Pioggiola 41.05 305 *e*P **P 13 44 03.0 -1.4**
comp=Z,60nm,0.7s,mb5.0
PGF Pioggiola 41.05 305 *e*P **P 13 44 03.0 -1.4**
comp=Z,60nm,0.7s,mb5.3
PGF Pioggiola 41.05 305 *e*P **P 13 44 03.0 -1.4**
PGF pmax pmax
comp=Z,60nm,0.7s,mb5.3
PGF Pioggiola 41.05 305 *e*P **P 13 44 03.0 -1.4**
comp=Z,30nm,0.7s,mb5.0
MOX Moxa 41.05 317 *e*P **P 13 44 03.6 -0.7**
comp=Z,77nm,1.5s,mb5.1
MOX Moxa 41.05 317 *e*P **P 13 44 03.6 -0.7**
MOX pmax pmax
comp=Z,77nm,1.5s,mb5.1
MOX Moxa 41.05 317 *e*P **P 13 44 03.6 -0.7**
comp=Z,77nm,1.5s,mb5.1
DAVOX Davos/Dischmat 41.14 311 P **P 13 44 04.3 -0.7**
comp=Z,13nm,0.4s,mb4.9,baz=114,slow=3.7,SNR=46
DAVOX Davos/Dischmat 41.14 311 P **P 13 44 04.3 -0.7**
DAVOX Davos/Dischmat 41.14 311 P **P 13 44 04.3 -0.8**
DAVOX Davos/Dischmat 41.14 311 P **P 13 44 04.3 -0.8**
DAVA Damuels 41.25 312 *i* P **P 13 44 04.9 -1.1**
comp=Z,244nm,0.5s,mb6.1,SNR=55
DAVA Damuels 41.25 312 P **P 13 44 04.9 -1.1**
comp=Z,244nm,0.5s,mb6.1,SNR=55
TUE Stuetta 41.43 311 *e*P **P 13 44 05.6 -1.9**
TUE LR LR
comp=Z,1μm,19.0s,MS4.7
TUE Stuetta 41.43 311 *e*P **P 13 44 05.6 -1.9**
LZH Lanzhou 41.54 65 ⇓P **P 13 44 09.6 +1.1**
LZH pP pP 13 44 12.8 0.0
LZH sP sP 13 44 14.3 -0.1
LZH PP PP 13 45 48.7 +4.2
LZH S **S 13 50 24.3 +0.3**
LZH SS SS 13 53 23.7 -5.0
LZH pmax pmax
comp=Z,130nm,1.2s,mb5.4
LZH pmax pmax
comp=Z,410nm,5.0s
LZH LR LR
comp=N,1μm,12.3s,MS5.3
LZH LR LR
comp=E,2μm,13.0s,MS5.3
LZH LR LR
comp=Z,3μm,14.7s,MS5.3
LZH Lanzhou 41.54 65 ⇓P **P 13 44 09.6 +1.1**
comp=Z,128nm,1.2s,mb5.4
LZH pP pP 13 44 12.8 0.0
LZH sP sP 13 44 14.3 -0.1
LZH PP PP 13 45 48.7 +4.2
LZH S **S 13 50 24.3 +0.3**
LZH sS sS 13 50 31.5 +0.5
LZH SS SS 13 53 23.7 -5.0
LZH LR LR
comp=Z,3μm,14.7s,MS5.3
LZH Lanzhou 41.54 65 ⇓P **P 13 44 09.6 +1.1**
LZH 13 45 48.7
LZH S **S 13 50 24.3 +0.3**
LZH SS SS 13 53 23.7 -5.0
LZH pmax pmax
comp=Z,128nm,1.2s,mb5.4
LZH MLR MLR
comp=Z,3μm,14.7s,MS5.3
LZH Lanzhou 41.54 65 ⇓P **P 13 44 09.6 +1.1**
comp=Z,128nm,1.2s,mb5.4
LZH pP pP 13 44 12.8 0.0
LZH S **S 13 50 24.3 +0.3**
CD2 Chengdu 41.83 73 ⇓*i*P **P 13 44 11.8 +0.8**
CD2 pP pP 13 44 16.3 +1.0
CD2 sP sP 13 44 19.0 +2.1
CD2 PP PP 13 45 51.9 +4.1
CD2 PcP PcP 13 46 08.5 +1.6
CD2 S **S 13 50 28.7 +0.2**
CD2 ScS ScS 13 54 12.3 -1.8
CD2 pmax pmax
comp=Z,70nm,1.0s,mb5.2
CD2 pmax pmax
comp=Z,380nm,8.4s
CD2 LR LR
comp=N,4μm,18.0s,MS5.5
CD2 LR LR
comp=E,3μm,13.2s,MS5.5
CD2 LR LR
comp=Z,3μm,14.4s,MS5.3
MOY Mondy 41.85 41 *e*P **P 13 44 11.5 +0.6**
MOY pmax pmax
comp=Z,64nm,1.8s,mb5.0
MOY Mondy 41.85 41 *e*P **P 13 44 11.5 +0.6**
comp=Z,64nm,1.8s,mb5.0
ABSA Djebel Ababsia 41.92 295 P **P 13 44 15.3 +3.6**
KMI Kunming 41.95 82 P **P 13 44 12.8 +0.8**
KMI pP pP 13 44 16.3 +0.1
KMI PP PP 13 45 50.2 +1.1
KMI S **S 13 50 32.5 +2.2**
KMI SS SS 13 53 37.1 0.0
KMI pmax pmax
comp=Z,50nm,1.7s,mb4.9
KMI pmax pmax
comp=Z,590nm,5.1s
KMI LR LR
comp=N,1μm,15.7s,MS4.9
KMI LR LR
comp=E,950nm,17.2s,MS4.9
KMI LR LR
comp=Z,1μm,16.7s,MS4.9
KMI Kunming 41.95 82 P **P 13 44 12.8 +0.8**
comp=Z,50nm,1.7s,mb4.9
KMI pP pP 13 44 16.3 +0.1
KMI PP PP 13 45 50.2 +1.1
KMI S **S 13 50 32.5 +2.2**
KMI SS SS 13 53 37.1 0.0
KMI LR LR
comp=Z,1μm,16.7s,MS4.9
KMI Kunming 41.95 82 P **P 13 44 12.8 +0.8**
KMI 13 45 50.2
KMI S **S 13 50 32.5 +2.2**
KMI SS SS 13 53 37.1 0.0
KMI pmax pmax
comp=Z,50nm,1.7s,mb4.9
KMI MLR MLR
comp=Z,1μm,16.7s,MS4.9
KMI Kunming 41.95 82 P **P 13 44 12.8 +0.8**
comp=Z,50nm,1.7s,mb4.9
KMI pP pP 13 44 16.3 +0.1
KMI S **S 13 50 32.5 +2.2**
KMI SS SS 13 53 37.1 0.0
KMI pmax pmax
comp=Z,1μm,16.7s
KMI SS SS 13 53 37.1 0.0
CMAH Djebel Manchou 41.96 296 P **P 13 44 14.1 +2.1**
CMAH Djebel Manchou 41.96 296 P **P 13 44 14.1 +2.1**
STU Stuttgart 42.04 314 *e*P **P 13 44 10.4 -2.1**
comp=Z,36nm,1.0s,mb5.0
STU Stuttgart 42.04 314 *e*P **P 13 44 11.3 -1.1**
comp=Z,57nm,1.3s,mb5.0
STU Stuttgart 42.04 314 *e*P **P 13 44 11.3 -1.2**
STU pmax pmax
comp=Z,57nm,1.3s,mb5.0
STU Stuttgart 42.04 314 *e*P **P 13 44 11.3 -1.2**
comp=Z,57nm,1.3s,mb5.0
UBBA Unterbreizbach 42.08 317 *e*P **P 13 44 12.5 -0.3**
comp=Z,167nm,1.8s,mb5.4
SPAK Spaichingen-Ko 42.15 313 *e*P **P 13 44 11.6 -1.8**
CLZ Clausthal 42.17 319 *e*P **P 13 44 13.4 -0.1**
comp=Z,156nm,1.0s,mb5.6
CLZ Clausthal 42.17 319 *e*P **P 13 44 13.4 -0.1**
CLZ pmax pmax
comp=Z,156nm,1.0s,mb5.6
CLZ Clausthal 42.17 319 *e*P **P 13 44 13.4 -0.1**
comp=Z,156nm,1.0s,mb5.6
SAOF Saorge 42.27 307 *e*P **P 13 44 14.5 +0.1**
SAOF Saorge 42.27 307 *e*P **P 13 44 14.5 +0.1**
SBF Sospel 42.34 306 *e*P **P 13 44 13.4 -1.6**
comp=Z,292nm,0.8s,mb5.6
SBF Sospel 42.34 306 *e*P **P 13 44 13.4 -1.6**
comp=Z,292nm,0.8s,mb6.0
SBF Sospel 42.34 306 *e*P **P 13 44 13.4 -1.6**
SBF pmax pmax
comp=Z,292nm,0.8s,mb6.0
SBF Sospel 42.34 306 *e*P **P 13 44 13.4 -1.6**
comp=Z,146nm,0.8s,mb5.6
AUTN L'Aution 42.37 307 *e*P **P 13 44 14.1 -1.1**
AUTN L'Aution 42.37 307 *e*P **P 13 44 14.1 -1.1**
LUCF Luceram 42.41 307 *e*P **P 13 44 13.6 -2.0**
LUCF Luceram 42.41 307 *e*P **P 13 44 13.6 -2.0**
CAEH 'Ain El Ouahch 42.42 296 P **P 13 44 18.7 +3.0**
CAEH 'Ain El Ouahch 42.42 296 P **P 13 44 18.7 +3.0**
COP Copenhagen 42.43 325 *i* P **P 13 44 17.3 +1.7**
COP *i* S **S 13 50 32.2 -4.5**
COP pmax pmax
comp=Z,77nm,0.9s,mb5.3
COP MLR MLR
comp=Z,670nm,18.0s,MS4.6
COP Copenhagen 42.43 325 *i* P **P 13 44 17.3 +1.7**
comp=Z,77nm,0.9s,mb5.3
COP *i* S **S 13 50 32.2 -4.5**
COP
comp=Z,670nm,18.0s
COP Copenhagen 42.43 325 *i* P **P 13 44 17.3 +1.7**
comp=Z,77nm,0.9s,mb5.3
TOD Tromm 42.49 315 *e*P **P 13 44 14.2 -1.9**
TOUF Mont Tournerai 42.50 307 *e*P **P 13 44 15.7 -0.6**
TOUF Mont Tournerai 42.50 307 *e*P **P 13 44 15.7 -0.6**
BFO Black Forest 42.50 313 *e*P **P 13 44 14.6 -1.6**
comp=Z,62nm,1.5s,mb5.0
BFO Black Forest 42.50 313 P **P 13 44 16.6 +0.4**
comp=Z,146nm,0.9s,mb5.6,SNR=8.0
BFO Black Forest 42.50 313 *e*P **P 13 44 16.0 -0.2**
comp=Z,22nm,0.9s,mb4.8
BFO LR LR
comp=Z,1μm,19.0s,MS4.9
BFO Black Forest 42.50 313 *e*P **P 13 44 14.6 -1.6**
BFO pmax pmax
comp=Z,62nm,1.5s,mb5.0
BFO Black Forest 42.50 313 *e*P **P 13 44 16.0 -0.2**
comp=Z,22nm,0.9s,mb4.8
NST Nakhon Sawan 42.51 96 P **P 13 44 19.0 +2.3**
NRDL Niedersach Rie 42.53 320 *e*P **P 13 44 16.6 +0.2**
comp=Z,130nm,1.1s,mb5.6
CKFL Kef-Lekhel 42.53 295 P **P 13 44 18.9 +2.2**
CKFL Kef-Lekhel 42.53 295 P **P 13 44 18.9 +2.2**
MVIF Mont Vial 42.55 307 *e*P **P 13 44 14.6 -2.1**
MVIF Mont Vial 42.55 307 *e*P **P 13 44 14.6 -2.1**
FELD Feldberg im Sc 42.61 312 *e*P **P 13 44 15.9 -1.2**
CASM Ain Smara 42.72 295 P **P 13 44 19.1 +0.9**
CASM Ain Smara 42.72 295 P **P 13 44 19.1 +0.9**
CTEI Djebel Teioual 42.80 295 P **P 13 44 19.7 +0.9**
CTEI Djebel Teioual 42.80 295 P **P 13 44 19.7 +0.9**
SENIN Lac Senin/Sane 42.80 310 *e*P **P 13 44 17.2 -1.5**
comp=Z,42nm,0.9s,mb5.2
SENIN Lac Senin/Sane 42.80 310 *e*P **P 13 44 17.2 -1.5**
comp=Z,42nm,0.9s,mb5.2
BBS Basel-Blauen 42.86 312 *e*P **P 13 44 16.7 -2.5**
ZAK Zakamensk 42.87 44 *e*P **P 13 44 15.9 -3.3**
ZAK *e* 13 46 03.9
ZAK pmax pmax
comp=Z,13nm,1.8s,mb4.4
TNS Taunus Mts 42.87 316 *e*P **P 13 44 18.9 -0.3**
comp=Z,305nm,1.7s,mb5.8
TNS Taunus Mts 42.87 316 *e*P **P 13 44 18.9 -0.3**
TNS pmax pmax
comp=Z,305nm,1.7s,mb5.8
TNS Taunus Mts 42.87 316 *e*P **P 13 44 18.9 -0.3**
comp=Z,305nm,1.7s,mb5.8
FRF La Foret Royal 42.88 306 *e*P **P 13 44 17.5 -1.8**
comp=Z,76nm,1.2s,mb5.0
FRF La Foret Royal 42.88 306 *e*P **P 13 44 17.5 -1.8**
comp=Z,76nm,1.2s,mb5.3
FRF La Foret Royal 42.88 306 *e*P **P 13 44 17.5 -1.8**
FRF pmax pmax
comp=Z,76nm,1.2s,mb5.3
FRF La Foret Royal 42.88 306 *e*P **P 13 44 17.5 -1.8**
comp=Z,38nm,1.2s,mb5.0
BSEG Bad Segeberg 42.90 322 *e*P **P 13 44 19.0 -0.4**
comp=Z,155nm,1.4s,mb5.5
BSEG Bad Segeberg 42.90 322 *e*P **P 13 44 19.0 -0.4**
BSEG pmax pmax
comp=Z,155nm,1.4s,mb5.5
BSEG Bad Segeberg 42.90 322 *e*P **P 13 44 19.0 -0.4**
comp=Z,155nm,1.4s,mb5.5
APA Apatity 42.92 348 ⇑*i*P **P 13 44 19.8 +0.5**
APA *i* S **S 13 50 38.0 -5.5**
APA *i* SS SS 13 53 40.0 -15
APA pmax pmax
comp=Z,72nm,1.2s,mb5.3
APA MLR MLR
comp=Z,3μm,14.0s,MS5.4
APA Apatity 42.92 348 *i* P **P 13 44 19.8 +0.5**
comp=Z,72nm,1.2s,mb5.3
MBDF Montbardon 42.92 308 *e*P **P 13 44 17.9 -1.8**
comp=Z,86nm,0.7s,mb5.3
MBDF Montbardon 42.92 308 *e*P **P 13 44 17.9 -1.8**
comp=Z,86nm,0.7s,mb5.6
MBDF Montbardon 42.92 308 *e*P **P 13 44 17.9 -1.8**
MBDF pmax pmax
comp=Z,86nm,0.7s,mb5.6
MBDF Montbardon 42.92 308 *e*P **P 13 44 17.9 -1.8**
comp=Z,43nm,0.7s,mb5.3
LMR La Mourre 42.95 306 *e*P **P 13 44 18.7 -1.3**
comp=Z,53nm,1.0s,mb4.9
LMR La Mourre 42.95 306 *e*P **P 13 44 18.7 -1.3**
comp=Z,53nm,1.0s,mb5.2
LMR La Mourre 42.95 306 *e*P **P 13 44 18.7 -1.3**
LMR pmax pmax
comp=Z,53nm,1.0s,mb5.2
LMR La Mourre 42.95 306 *e*P **P 13 44 18.7 -1.3**
comp=Z,26nm,1.0s,mb4.9
LANF Langenberg 42.98 314 *e*P **P 13 44 18.6 -1.5**
LANF Langenberg 42.98 314 *e*P **P 13 44 18.6 -1.5**
BNI Bardonecchia 43.03 308 *e*P **P 13 44 17.9 -2.7**
comp=Z,171nm,1.4s,mb5.6
BNI LR LR
comp=Z,1μm,21.0s,MS4.8
BNI Bardonecchia 43.03 308 *e*P **P 13 44 17.9 -2.7**
BNI pmax pmax
comp=Z,171nm,1.4s,mb5.6
BNI MLR MLR
comp=Z,1μm,21.0s,MS4.8
BNI Bardonecchia 43.03 308 *e*P **P 13 44 17.9 -2.7**
comp=Z,1μm,21.0s
LPG La Plagne 43.05 309 *e*P **P 13 44 19.0 -1.7**
comp=Z,100nm,0.7s,mb5.3
LPG La Plagne 43.05 309 *e*P **P 13 44 19.0 -1.7**
comp=Z,100nm,0.7s,mb5.7
LPG La Plagne 43.05 309 *e*P **P 13 44 19.0 -1.7**
LPG pmax pmax
comp=Z,100nm,0.7s,mb5.7
LPG La Plagne 43.05 309 *e*P **P 13 44 19.0 -1.7**
comp=Z,50nm,0.7s,mb5.3
LPL La Plagne 43.06 309 *e*P **P 13 44 19.1 -1.7**
comp=Z,84nm,0.7s,mb5.3
LPL La Plagne 43.06 309 *e*P **P 13 44 19.1 -1.7**
comp=Z,84nm,0.7s,mb5.6
LPL La Plagne 43.06 309 *e*P **P 13 44 19.1 -1.7**
LPL pmax pmax
comp=Z,85nm,0.7s,mb5.6
LPL La Plagne 43.06 309 *e*P **P 13 44 19.1 -1.7**
comp=Z,42nm,0.7s,mb5.3
MOF Molkenrain 43.18 312 *e*P **P 13 44 19.4 -2.4**
MOF Molkenrain 43.18 312 *e*P **P 13 44 19.4 -2.4**
CDF Champ du Feu 43.20 313 *e*P **P 13 44 19.7 -2.2**
comp=Z,36nm,0.7s,mb4.9
CDF Champ du Feu 43.20 313 *e*P **P 13 44 19.7 -2.2**
comp=Z,36nm,0.7s,mb5.2
CDF Champ du Feu 43.20 313 *e*P **P 13 44 19.7 -2.2**
CDF pmax pmax
comp=Z,36nm,0.7s,mb5.2
CDF Champ du Feu 43.20 313 *e*P **P 13 44 19.7 -2.2**
comp=Z,18nm,0.7s,mb4.9
ECH Echery 43.24 313 *e*P **P 13 44 20.4 -1.8**
comp=Z,76nm,1.0s,mb5.4
ECH LR LR
comp=Z,1μm,22.0s,MS4.7
ECH Echery 43.24 313 *e*P **P 13 44 20.4 -1.8**
ECH pmax pmax
comp=Z,76nm,1.0s,mb5.4
ECH MLR MLR
comp=Z,1μm,22.0s,MS4.7
ECH Echery 43.24 313 *e*P **P 13 44 20.4 -1.8**
comp=Z,1μm,22.0s
ECH Echery 43.24 313 *e*P **P 13 44 20.8 -1.4**
LOMF Lomont 43.29 311 *e*P **P 13 44 21.4 -1.3**
LOMF Lomont 43.29 311 *e*P **P 13 44 21.4 -1.3**

TAVF Tavernes 43.31 306 *eP* **P 13 44 24.1 +1.3**
TAVF Tavernes 43.31 306 *eP* **P 13 44 24.1 +1.3**
HINF Hinteralfeld 43.36 312 *eP* **P 13 44 21.2 -2.0**
comp=Z,169nm,1.1s,mb5.4
HINF Hinteralfeld 43.36 312 *eP* **P 13 44 21.2 -2.0**
comp=Z,169nm,1.1s,mb5.7
HINF Hinteralfeld 43.36 312 *eP* **P 13 44 21.2 -2.0**
HINF pmax pmax
comp=Z,169nm,1.1s,mb5.7
HINF Hinteralfeld 43.36 312 *eP* **P 13 44 21.2 -2.0**
comp=Z,85nm,1.1s,mb5.4
TLY Talaya 43.44 42 *eP* **P 13 44 24.9 +1.2**
comp=Z,36nm,1.6s,mb4.8
TLY LR LR
comp=Z,2µm,22.0s,MS4.9
TLY Talaya 43.44 42 *c i P* **P 13 44 24.3 +0.6**
TLY *eS* **S 13 50 53.1 +1.6**
TLY *e*SS SS 13 54 25.1 +20
TLY pmax pmax
comp=Z,13nm,1.1s,mb4.6
TLY MLR MLR
comp=Z,992nm,12.0s,MS4.9
TLY Talaya 43.44 42 *i P* **P 13 44 24.3 +0.6**
comp=Z,13nm,1.1s,mb4.6
TLY *eS* **S 13 50 53.1 +1.6**
TLY *e*ScS ScS 13 54 25.1 +1.9
comp=Z,992nm,12.0s
CKHR Kef el Ahmar 43.52 295 P **P 13 44 26.8 +2.1**
CKHR Kef el Ahmar 43.52 295 P **P 13 44 26.8 +2.1**
ORIF Oris-en-Rattie 43.58 308 *eP* **P 13 44 24.0 -1.0**
comp=Z,70nm,1.1s,mb5.0
ORIF *eR*
comp=Z,1µm,20.8s
ORIF Oris-en-Rattie 43.58 308 *eP* **P 13 44 24.0 -1.0**
comp=Z,70nm,1.1s,mb5.3
ORIF Oris-en-Rattie 43.58 308 *eP* **P 13 44 24.0 -1.0**
ORIF pmax pmax
comp=Z,70nm,1.1s,mb5.3
ORIF Oris-en-Rattie 43.58 308 *eP* **P 13 44 24.0 -1.0**
comp=Z,35nm,1.1s,mb5.0
SET Setif 43.60 295 P **P 13 44 27.0 +1.7**
SET Setif 43.60 295 P **P 13 44 27.0 +1.7**
CABF La Chapelle 43.67 310 *eP* **P 13 44 24.3 -1.4**
comp=Z,88nm,0.6s,mb5.3
CABF La Chapelle 43.67 310 *eP* **P 13 44 24.3 -1.4**
comp=Z,88nm,0.6s,mb5.7
CABF La Chapelle 43.67 310 *eP* **P 13 44 24.3 -1.4**
CABF pmax pmax
comp=Z,88nm,0.6s,mb5.7
CABF La Chapelle 43.67 310 *eP* **P 13 44 24.3 -1.4**
comp=Z,44nm,0.6s,mb5.3
SMRF Simiane la Rot 43.69 306 *eP* **P 13 44 24.6 -1.3**
comp=Z,94nm,1.2s,mb5.1
SMRF Simiane la Rot 43.69 306 *eP* **P 13 44 24.6 -1.3**
comp=Z,94nm,1.2s,mb5.4
SMRF Simiane la Rot 43.69 306 *eP* **P 13 44 24.6 -1.3**
comp=Z,47nm,1.2s,mb5.1
HAU Haudompre 43.73 312 *eP* **P 13 44 24.1 -2.1**
comp=Z,71nm,0.8s,mb5.1
HAU *eR*
comp=Z,2µm,20.2s
HAU Haudompre 43.73 312 *eP* **P 13 44 24.1 -2.1**
comp=Z,71nm,0.8s,mb5.5
HAU Haudompre 43.73 312 *eP* **P 13 44 24.1 -2.1**
HAU pmax pmax
comp=Z,71nm,0.8s,mb5.5
HAU Haudompre 43.73 312 *eP* **P 13 44 24.1 -2.1**
comp=Z,35nm,0.8s,mb5.1
TREF Trevaresse 43.80 306 *eP* **P 13 44 20.1 -6.7**
TREF Trevaresse 43.80 306 *eP* **P 13 44 20.1 -6.7**
IBBN Ibbenburen 43.85 319 *eP* **P 13 44 27.1 0.0**
comp=Z,156nm,1.3s,mb5.6
HFS Hagfors 43.88 331 P **P 13 44 26.1 -1.1**
comp=Z,42nm,0.8s,mb5.2,baz=128,slow=9.6,SNR=57
HFS LR LR 14 05 10.1
comp=Z,3µm,20.9s,MS5.1,baz=130,slow=39
HFS Hagfors 43.88 331 P **P 13 44 26.1 -1.1**
HFS Hagfors 43.88 331 P **P 13 44 26.1 -1.1**
HFS Hagfors 43.88 331 P **P 13 44 26.1 -1.1**
BUG Bochum--Univer 43.91 317 *eP* **P 13 44 27.6 +0.1**
comp=Z,173nm,1.2s,mb5.7
IRK Irkutsk 43.96 41 *eP* **P 13 44 27.8 -0.2**
IRK *e* 13 46 13.9
IRK pmax pmax
comp=Z,62nm,2.3s,mb4.9
IRK Irkutsk 43.96 41 *eP* **P 13 44 27.8 -0.2**
comp=Z,62nm,2.3s,mb4.9
IRK Irkutsk 43.96 41 *e*PcP PcP 13 46 13.9 +0.3
THEF They Montfort 44.01 313 *eP* **P 13 44 21.0 -7.4**
WLF Walferdange 44.18 315 P **P 13 44 29.0 -0.8**
comp=Z,66nm,1.3s,mb5.2
WLF Walferdange 44.18 315 *eP* **P 13 44 28.8 -1.0**
comp=Z,122nm,1.4s,mb5.4
WLF Walferdange 44.18 315 *eP* **P 13 44 29.2 -0.6**
comp=Z,96nm,1.0s,mb5.5
WLF LR LR
comp=Z,931nm,20.0s,MS4.7
WLF Walferdange 44.18 315 *eP* **P 13 44 29.2 -0.6**
WLF pmax pmax
comp=Z,96nm,1.0s,mb5.5
WLF MLR MLR
comp=Z,931nm,20.0s,MS4.7
WLF Walferdange 44.18 315 *eP* **P 13 44 29.2 -0.6**
comp=Z,96nm,1.0s,mb5.5
PAGF Fort de Pagny 44.24 313 *eP* **P 13 44 28.9 -1.4**
comp=Z,33nm,0.9s,mb4.8,baz=101
PAGF Fort de Pagny 44.24 313 *eP* **P 13 44 28.9 -1.4**
comp=Z,16nm,0.9s,mb4.8
SONM Songino Array 44.32 48 P **P 13 44 32.0 +1.0**
comp=Z,17nm,0.9s,mb4.8,baz=261,slow=6.5,SNR=79
SONM LR LR 14 04 10.8
comp=Z,2µm,18.7s,MS5.0,baz=259,slow=38
SONM Songino Array 44.32 48 P **P 13 44 32.0 +1.0**
SONM Songino Array 44.32 48 P **P 13 44 32.0 +1.1**
SONM Songino Array 44.32 48 P **P 13 44 32.0 +1.1**
MUD Monsted U'grnd 44.42 325 *i P* **P 13 44 31.9 +0.3**
MUD pmax pmax
comp=Z,43nm,0.9s,mb5.2
MUD MLR MLR
comp=Z,930nm,16.0s,MS4.8
MUD Monsted U'grnd 44.42 325 *i P* **P 13 44 31.9 +0.3**
comp=Z,43nm,0.9s,mb5.2
MUD
comp=Z,920nm,16.0s
MUD Monsted U'grnd 44.42 325 *i P* **P 13 44 31.9 +0.3**
comp=Z,43nm,0.9s,mb5.2,SNR=25
VIVF Saint-Julien-l 44.42 308 *eP* **P 13 44 29.7 -2.1**
comp=Z,130nm,1.1s,mb5.3
VIVF Saint-Julien-l 44.42 308 *eP* **P 13 44 29.7 -2.1**
comp=Z,130nm,1.1s,mb5.6
VIVF Saint-Julien-l 44.42 308 *eP* **P 13 44 29.7 -2.1**
VIVF pmax pmax
comp=Z,130nm,1.1s,mb5.6
VIVF Saint-Julien-l 44.42 308 *eP* **P 13 44 29.7 -2.1**
comp=Z,65nm,1.1s,mb5.3
MEM Membach 44.48 316 P **P 13 44 32.1 -0.1**
comp=Z,80nm,1.9s,mb5.1
MEM Membach 44.48 316 P **P 13 44 32.0 -0.1**
comp=Z,80nm,1.9s,mb5.1
SSB Saint Sauveur 44.56 308 *eP* **P 13 44 30.7 -2.2**
comp=Z,34nm,0.8s,mb5.2
SSB LR LR
comp=Z,1µm,21.0s,MS4.8
SSB Saint Sauveur 44.56 308 *eP* **P 13 44 30.7 -2.2**
SSB pmax pmax
comp=Z,35nm,0.8s,mb5.2
SSB MLR MLR
comp=Z,1µm,21.0s,MS4.8
SSB Saint Sauveur 44.56 308 *eP* **P 13 44 30.7 -2.2**
comp=Z,34nm,0.8s,mb5.2
SFTF Sexfontaines 44.63 312 *eP* **P 13 44 31.9 -1.5**
comp=Z,281nm,1.1s,mb5.7,baz=101
SFTF Sexfontaines 44.63 312 *eP* **P 13 44 31.9 -1.5**
comp=Z,281nm,1.1s,mb6.0
SFTF Sexfontaines 44.63 312 *eP* **P 13 44 31.9 -1.5**
comp=Z,140nm,1.1s,mb5.7
MEZF Maizieres J'vi 44.67 313 *eP* **P 13 44 32.5 -1.2**
comp=Z,381nm,1.2s,mb5.8,baz=101
MEZF Maizieres J'vi 44.67 313 *eP* **P 13 44 32.5 -1.2**
comp=Z,381nm,1.2s,mb6.1
MEZF Maizieres J'vi 44.67 313 *eP* **P 13 44 32.5 -1.2**
comp=Z,190nm,1.2s,mb5.8
BEBN Eben Emael 44.73 316 P **P 13 44 34.6 +0.4**
comp=Z,33nm,1.3s,mb5.0
BEBN Eben Emael 44.73 316 P **P 13 44 34.5 +0.4**
comp=Z,33nm,1.3s,mb5.0
ULN Ulaanbaatar 44.77 48 *eP* **P 13 44 33.5 -0.9**
comp=Z,193nm,2.0s,mb5.6
ULN Ulaanbaatar 44.77 48 *eP* **P 13 44 33.6 -0.9**
ULN pmax pmax
comp=Z,193nm,2.0s,mb5.6
ULN Ulaanbaatar 44.77 48 P **P 13 44 34.9 +0.4**
comp=Z,699nmcomp=Z,55nm,1.2s,mb5.2
ULN Ulaanbaatar 44.77 48 *eP* **P 13 44 33.6 -0.9**
comp=Z,193nm,2.0s,mb5.6
BCLA Clavier 44.88 316 P **P 13 44 35.0 -0.3**
comp=Z,75nm,1.4s,mb5.3
BCLA Clavier 44.88 316 P **P 13 44 35.0 -0.3**
comp=Z,75nm,1.4s,mb5.3
LASF Ste Croix 44.94 306 *eP* **P 13 44 34.2 -1.7**
comp=Z,132nm,0.9s,mb5.5
LASF Ste Croix 44.94 306 *eP* **P 13 44 34.2 -1.7**
comp=Z,132nm,0.9s,mb5.8
LASF Ste Croix 44.94 306 *eP* **P 13 44 34.2 -1.7**
comp=Z,66nm,0.9s,mb5.5
OSL Oslo 45.10 330 *eP* **P 13 44 36.2 -0.8**
OSL Oslo 45.10 330 *eP* **P 13 44 36.2 -0.7**
SNR=25
GYA Guiyang 45.10 79⇑ *i P* **P 13 44 37.1 -0.4**
GYA PP PP 13 46 24.7 +1.8
GYA ScP ScP 13 50 11.0 +0.6
GYA S **S 13 51 24.4 +7.9**
GYA SS SS 13 54 30.8 -8.0
GYA pmax pmax
comp=Z,30nm,1.0s,mb5.1
GYA pmax pmax
comp=Z,350nm,7.5s
GYA LR LR
comp=N,1µm,18.0s,MS4.9
GYA LR LR
comp=E,590nm,17.7s,MS4.9
GYA LR LR
comp=Z,510nm,11.8s
NC602 NORSAR Array S 45.11 331 *eP* **P 13 44 39.5 +2.5**
NC602 NORSAR Array S 45.11 331 *eP* **P 13 44 39.5 +2.5**
SNR=25
GIVF Givet 45.12 315 *eP* **P 13 44 36.7 -0.5**
comp=Z,414nm,1.2s,mb5.8
GIVF Givet 45.12 315 *eP* **P 13 44 36.7 -0.5**
comp=Z,414nm,1.2s,mb6.1
GIVF Givet 45.12 315 *eP* **P 13 44 36.7 -0.5**
GIVF pmax pmax
comp=Z,414nm,1.2s,mb6.1
GIVF Givet 45.12 315 *eP* **P 13 44 36.7 -0.5**
comp=Z,207nm,1.2s,mb5.8
SMF Signal de Mont 45.21 310 *eP* **P 13 44 36.1 -1.9**
comp=Z,327nm,1.0s,mb5.8
SMF Signal de Mont 45.21 310 *eP* **P 13 44 36.1 -1.9**
comp=Z,327nm,1.0s,mb6.1
SMF Signal de Mont 45.21 310 *eP* **P 13 44 36.1 -1.9**
SMF pmax pmax
comp=Z,327nm,1.0s,mb6.1
SMF Signal de Mont 45.21 310 *eP* **P 13 44 36.1 -1.9**
comp=Z,164nm,1.0s,mb5.8
DOU Dourbes 45.26 315 P **P 13 44 37.9 -0.4**
comp=Z,80nm,1.3s,mb5.4
DOU Dourbes 45.26 315 P **P 13 44 37.9 -0.5**
comp=Z,80nm,1.3s,mb5.4
LOR Lormes 45.27 311 *eP* **P 13 44 36.7 -1.8**
comp=Z,92nm,0.8s,mb5.3,baz=96
LOR *eR*
comp=Z,2µm,18.5s
LOR Lormes 45.27 311 *eP* **P 13 44 36.7 -1.8**
comp=Z,92nm,0.8s,mb5.7
LOR Lormes 45.27 311 *eP* **P 13 44 36.7 -1.8**
LOR pmax pmax
comp=Z,92nm,0.8s,mb5.7
LOR Lormes 45.27 311 *eP* **P 13 44 36.7 -1.8**
comp=Z,46nm,0.8s,mb5.3
PLDF La Plantade 45.28 309 *eP* **P 13 44 37.8 -0.8**
PLDF La Plantade 45.28 309 *eP* **P 13 44 37.8 -0.8**
NB2 NORSAR Subarra 45.39 331 P **P 13 44 38.1 -1.1**
comp=Z,44nm,0.9s,mb5.3,baz=118,slow=7.9
NB2 NORSAR Subarra 45.39 331 P **P 13 44 38.1 -1.1**
comp=Z,44nm,0.9s,mb5.3,SNR=9.6
NOA NORSAR Array B 45.39 331 P **P 13 44 37.6 -1.6**
comp=Z,27nm,0.8s,mb5.1,baz=117,slow=7.9,SNR=39
NOA PP PP 13 46 29.5 +4.2
comp=Z,12nm,0.8s,baz=123,slow=9.6,SNR=5.1
NOA LR LR 14 06 06.6
comp=Z,2µm,21.1s,MS5.0,baz=120,slow=39
NOA NORSAR Array B 45.39 331 P **P 13 44 37.6 -1.6**
NOA PP PP 13 46 29.5 +4.2
NOA NORSAR Array B 45.39 331 P **P 13 44 37.6 -1.6**
NOA 13 46 29.5
NOA NORSAR Array B 45.39 331 P **P 13 44 37.6 -1.6**
NAO01 NORSAR Array S 45.44 331 *eP* **P 13 44 38.4 -1.3**
comp=Z,32nm,0.8s,mb5.2
NAO01 LR LR
comp=Z,2µm,19.0s,MS5.1
NAO01 NORSAR Array S 45.44 331 *eP* **P 13 44 38.4 -1.2**
comp=Z,32nm,0.8s,mb5.2
LBL Lubilhac 45.47 308 *eP* **P 13 44 39.2 -0.9**
LBL Lubilhac 45.47 308 *eP* **P 13 44 39.2 -0.9**
KONO Kongsberg 45.48 329 *eP* **P 13 44 43.3 +3.3**
KONO *eS* **S 13 51 18.0 -3.1**
KONO *e*SS SS 13 54 41.2 -3.5
KONO Kongsberg 45.48 329 *eP* **P 13 44 38.0 -2.0**
comp=Z,30nm,0.8s,mb5.2
KONO LR LR
comp=Z,2µm,22.0s,MS4.9
KONO Kongsberg 45.48 329 *eP* **P 13 44 38.0 -2.0**
KONO pmax pmax
comp=Z,30nm,0.8s,mb5.2
KONO MLR MLR
comp=Z,2µm,22.0s,MS4.9
KONO Kongsberg 45.48 329 *eP* **P 13 44 38.0 -2.0**
comp=Z,30nm,0.8s,mb5.2
SSF Saint Saulge 45.49 311 *eP* **P 13 44 38.6 -1.6**
comp=Z,263nm,1.0s,mb5.7
SSF Saint Saulge 45.49 311 *eP* **P 13 44 38.6 -1.6**
comp=Z,263nm,1.0s,mb6.0
SSF Saint Saulge 45.49 311 *eP* **P 13 44 38.6 -1.6**
SSF pmax pmax
comp=Z,263nm,1.0s,mb6.0
SSF Saint Saulge 45.49 311 *eP* **P 13 44 38.6 -1.6**
comp=Z,132nm,1.0s,mb5.7
BAIF Baives 45.50 315 *eP* **P 13 44 39.8 -0.4**
comp=Z,551nm,1.2s,mb6.0
BAIF Baives 45.50 315 *eP* **P 13 44 39.8 -0.4**
comp=Z,551nm,1.2s,mb6.3
BAIF Baives 45.50 315 *eP* **P 13 44 39.8 -0.4**
BAIF pmax pmax
comp=Z,551nm,1.2s,mb6.3
BAIF Baives 45.50 315 *eP* **P 13 44 39.8 -0.4**
comp=Z,276nm,1.2s,mb6.0
SNF Seneffe 45.53 315 P **P 13 44 40.8 +0.3**
comp=Z,74nm,1.3s,mb5.5
SNF Seneffe 45.53 315 P **P 13 44 40.8 +0.3**
comp=Z,74nm,1.3s,mb5.5
AVF Avril sur Loir 45.56 310 *eP* **P 13 44 38.9 -1.9**
comp=Z,68nm,0.8s,mb5.3
AVF Avril sur Loir 45.56 310 *eP* **P 13 44 38.9 -1.9**
comp=Z,68nm,0.8s,mb5.6
AVF Avril sur Loir 45.56 310 *eP* **P 13 44 38.9 -1.9**
AVF pmax pmax
comp=Z,68nm,0.8s,mb5.6
AVF Avril sur Loir 45.56 310 *eP* **P 13 44 38.9 -1.9**
comp=Z,34nm,0.8s,mb5.3
EMHD Djebel Mahouad 45.58 295 P **P 13 44 43.0 +1.9**
EMHD Djebel Mahouad 45.58 295 P **P 13 44 43.0 +1.9**
AGO Saint Agoulin 45.63 309 *eP* **P 13 44 40.5 -0.9**
AGO Saint Agoulin 45.63 309 *eP* **P 13 44 40.5 -0.9**
PYM Petit Puy Mans 45.68 309 *eP* **P 13 44 40.4 -1.4**
PYM Petit Puy Mans 45.68 309 *eP* **P 13 44 40.4 -1.4**
BGF Bois d'Agland 45.88 310 *eP* **P 13 44 41.6 -1.7**
comp=Z,170nm,0.7s,mb5.8
BGF Bois d'Agland 45.88 310 *eP* **P 13 44 41.6 -1.7**
comp=Z,170nm,0.7s,mb6.1
BGF Bois d'Agland 45.88 310 *eP* **P 13 44 41.6 -1.7**
BGF pmax pmax
comp=Z,170nm,0.7s,mb6.1
BGF Bois d'Agland 45.88 310 *eP* **P 13 44 41.6 -1.7**
comp=Z,85nm,0.7s,mb5.8
KEV Kevo 46.04 346 *eP* **P 13 44 44.3 +0.1**
comp=Z,98nm,0.8s,mb5.8
KEV LR LR
comp=Z,1µm,21.0s,MS4.9
KEV Kevo 46.04 346 *eP* **P 13 44 44.3 +0.1**
KEV pmax pmax
comp=Z,98nm,0.8s,mb5.8
KEV MLR MLR
comp=Z,1µm,21.0s,MS4.9
KEV Kevo 46.04 346 *ep* **P 13 44 43.6 -0.6**
comp=Z,72nm,0.7s,mb5.7
KEV Kevo 46.04 346 *eP* **P 13 44 44.3 +0.1**
comp=Z,98nm,0.8s,mb5.8
MTLF Montolieu 46.08 305 *eP* **P 13 44 44.1 -0.8**
comp=Z,205nm,1.0s,mb5.7
MTLF Montolieu 46.08 305 *eP* **P 13 44 44.1 -0.8**
comp=Z,205nm,1.0s,mb6.0
MTLF Montolieu 46.08 305 *eP* **P 13 44 44.1 -0.8**
MTLF pmax pmax
comp=Z,205nm,1.0s,mb6.0
MTLF Montolieu 46.08 305 *eP* **P 13 44 44.1 -0.8**
comp=Z,102nm,1.0s,mb5.7
HYF Humbligny 46.10 311 *eP* **P 13 44 43.9 -1.2**
HYF Humbligny 46.10 311 *eP* **P 13 44 43.9 -1.2**
HYF Humbligny 46.10 311 *eP* **P 13 44 43.9 -1.2**
ARCES ARCESS Array B 46.19 346 P **P 13 44 45.1 -0.3**
comp=Z,25nm,0.7s,mb5.2,baz=136,slow=11,SNR=54
ARCES PP PP 13 46 50.6 +17
comp=Z,19nm,0.9s,baz=143,slow=10,SNR=3.6
ARCES ARCESS Array B 46.19 346 P **P 13 44 45.1 -0.3**
ARCES PP PP 13 46 50.6 +17
ARCES ARCESS Array B 46.19 346 P **P 13 44 45.1 -0.3**
ARCES ARCESS Array B 46.19 346 P **P 13 44 45.1 -0.3**
ARE0 ARCESS Array S 46.19 346 *eP* **P 13 44 46.2 +0.8**
ARE0 *e*SS SS 13 54 56.1 +0.1
ARE0 ARCESS Array S 46.19 346 *eP* **P 13 44 44.5 -0.9**
ARE0 ARCESS Array S 46.19 346 *eP* **P 13 44 44.5 -0.9**
VALF Valcebollere 46.19 304 *eP* **P 13 44 45.1 -0.7**
VALF Valcebollere 46.19 304 *eP* **P 13 44 45.1 -0.7**
CAF Calviac 46.28 307 *eP* **P 13 44 45.2 -1.3**
comp=Z,130nm,0.8s,mb5.6
CAF Calviac 46.28 307 *eP* **P 13 44 45.2 -1.3**
comp=Z,130nm,0.8s,mb5.9
CAF Calviac 46.28 307 *eP* **P 13 44 45.2 -1.3**
CAF pmax pmax
comp=Z,130nm,0.8s,mb5.9
CAF Calviac 46.28 307 *eP* **P 13 44 45.2 -1.3**
comp=Z,65nm,0.8s,mb5.6
TCF Toulx Ste Croi 46.29 309 *eP* **P 13 44 45.0 -1.6**
comp=Z,133nm,0.7s,mb5.7
TCF Toulx Ste Croi 46.29 309 *eP* **P 13 44 45.0 -1.6**
comp=Z,133nm,0.7s,mb6.0
TCF Toulx Ste Croi 46.29 309 *eP* **P 13 44 45.0 -1.6**
TCF pmax pmax
comp=Z,133nm,0.7s,mb6.0
TCF Toulx Ste Croi 46.29 309 *eP* **P 13 44 45.0 -1.6**
comp=Z,66nm,0.7s,mb5.7
KTK1 Kautokeino 46.31 344 *eP* **P 13 44 48.9 +2.5**
KTK1 *eS* **S 13 51 30.6 -2.1**
KTK1 *e*SS SS 13 54 58.7 +0.7
KTK1 AMS AMS 14 07 39.7
comp=Z,5µm,14.6s,MS5.6
KTK1 Kautokeino 46.31 344 *eP* **P 13 44 48.9 +2.5**
SNR=24
KTK1 *eS* **S 13 51 30.6 -2.1**
SNR=26
KTK1 *e*SS SS 13 54 58.7 +0.8
SNR=30
BTO Baotou 46.34 59 *eP* **P 13 44 47.4 +0.3**
ABPO Ambohimpanom 46.42 191 *eP* **P 13 44 49.0 +1.2**
comp=Z,42nm,1.8s,mb5.1
ABPO LR LR
comp=Z,851nm,22.0s,MS4.7
ABPO Ambohimpanom 46.42 191 *eP* **P 13 44 49.0 +1.2**
ABPO pmax pmax
comp=Z,42nm,1.8s,mb5.1
ABPO MLR MLR
comp=Z,851nm,22.0s,MS4.7
ABPO Ambohimpanom 46.42 191 *eP* **P 13 44 49.0 +1.2**
comp=Z,42nm,1.8s,mb5.1
RJF Les Rejaudoux 46.69 308 *eP* **P 13 44 48.6 -1.1**
comp=Z,185nm,0.9s,mb5.7
RJF *eR*
comp=Z,2µm,22.5s
RJF Les Rejaudoux 46.69 308 *eP* **P 13 44 48.6 -1.1**
comp=Z,185nm,0.9s,mb6.0
RJF Les Rejaudoux 46.69 308 *eP* **P 13 44 48.6 -1.1**
RJF pmax pmax
comp=Z,185nm,0.9s,mb6.0
RJF Les Rejaudoux 46.69 308 *eP* **P 13 44 48.6 -1.1**
comp=Z,92nm,0.9s,mb5.7
EBNR Beni Rached 46.72 296 P **P 13 44 51.0 +0.9**
EBNR Beni Rached 46.72 296 P **P 13 44 51.0 +0.9**
ECHA Ech Chlef 46.86 295 P **P 13 44 54.0 +2.8**
MLS Moulis 46.88 305 *eP* **P 13 44 48.1 -3.2**
MLS Moulis 46.88 305 *eP* **P 13 44 48.1 -3.2**
MOR8 Moi Rana 46.90 338 *eP* **P 13 44 50.7 -0.3**
MOR8 AMB AMB 13 44 53.8
comp=Z,52nm,1.2s,mb5.3
MOR8 Moi Rana 46.90 338 *eP* **P 13 44 50.7 -0.4**
comp=Z,52nm,1.2s,mb5.3,SNR=24
MRIV Mauritius Mete 46.95 178 P **P 13 44 50.0 -2.0**
MRIV Mauritius Mete 46.95 178 P **P 13 44 50.0 -2.0**
ETRT Tiaret 46.99 294 P **P 13 44 56.0 +3.8**
ETRT Tiaret 46.99 294 P **P 13 44 56.0 +3.8**
EANR 'Ain N'Sour 47.10 295 P **P 13 44 54.2 +1.1**
EANR 'Ain N'Sour 47.10 295 P **P 13 44 54.2 +1.1**
LFF La Frestale 47.22 307 *eP* **P 13 44 52.7 -1.2**
comp=Z,209nm,0.9s,mb5.8
LFF La Frestale 47.22 307 *eP* **P 13 44 52.7 -1.2**
comp=Z,209nm,0.9s,mb6.1
LFF La Frestale 47.22 307 *eP* **P 13 44 52.7 -1.2**
LFF pmax pmax
comp=Z,209nm,0.9s,mb6.1
LFF La Frestale 47.22 307 *eP* **P 13 44 52.7 -1.2**
comp=Z,105nm,0.9s,mb5.8
RESF Ens 47.44 305 *eP* **P 13 44 52.3 -3.3**
RESF Ens 47.44 305 *eP* **P 13 44 52.3 -3.3**
EPF Esparros 47.44 305 *eP* **P 13 44 53.5 -2.1**
comp=Z,31nm,0.8s,mb5.0
EPF Esparros 47.44 305 *eP* **P 13 44 53.5 -2.1**
comp=Z,31nm,0.8s,mb5.3
EPF Esparros 47.44 305 *eP* **P 13 44 53.5 -2.1**
EPF pmax pmax
comp=Z,31nm,0.8s,mb5.3
EPF Esparros 47.44 305 *eP* **P 13 44 53.5 -2.1**
comp=Z,15nm,0.8s,mb5.0
HHC Hu-ho-hao-te 47.51 58 *eP* **P 13 44 57.2 +1.0**
HHC sP sP 13 45 02.3 +0.1
HHC PcP PcP 13 46 27.9 +1.6
HHC PP PP 13 46 48.1 +0.6
HHC S **S 13 51 50.2 -0.5**
HHC ScS ScS 13 54 48.6 -1.3
HHC SS SS 13 55 11.2 -7.3
HHC pmax pmax
comp=Z,65nm,1.2s,mb5.5
HHC pmax pmax
comp=Z,500nm,4.3s
HHC LR LR
comp=N,1µm,16.7s,MS5.1
HHC LR LR
comp=E,1µm,14.3s,MS5.1
HHC LR LR
comp=Z,830nm,17.8s,MS4.8
PSI Prapat 47.63 113 P **P 13 44 58.5 +1.0**
comp=Z,550nmcomp=Z,22nm,1.8s,mb4.9
PSI Prapat 47.63 113 P **P 13 44 58.5 +1.0**
comp=Z,550nmcomp=Z,22nm,1.8s,mb4.9
KULM Kulim 47.72 109 PFAKE 13 45 10.0 +12
KULM LR LR
comp=Z,941nm,21.0s,MS4.7
BER Bergen 47.74 329 *eP* **P 13 44 59.8 +2.1**
BER *eS* **S 13 51 54.4 +0.9**
BER *e*SS SS 13 55 20.9 -0.6
BER Bergen 47.74 329 *eP* **P 13 44 59.8 +2.1**
SNR=24
BER *eS* **S 13 51 54.4 +1.0**
SNR=26
BER *e*SS SS 13 55 20.9 -0.6
SNR=29
RER Riviere de l'E 47.79 180 *eP* **P 13 44 58.2 -0.2**
comp=Z,30nm,0.7s,mb5.4
RER LR LR
comp=Z,997nm,19.0s,MS4.8
RER Riviere de l'E 47.79 180 *eP* **P 13 44 58.2 -0.2**
comp=Z,30nm,0.7s,mb5.4
TRO Tromso 47.82 343 *eP* **P 13 44 59.6 +1.4**
TRO *eS* **S 13 51 54.0 -0.3**
TRO *e*SS SS 13 55 22.5 0.0
TRO AMS AMS 14 08 58.9
comp=Z,2µm,15.0s,MS5.3
TRO Tromso 47.82 343 *eP* **P 13 44 59.6 +1.4**
SNR=24
TRO *eS* **S 13 51 54.0 -0.3**

SNR=25
TRO eSS SS 13 55 22.5 0.0
SNR=29
MFF Saint Martin d 47.94 310 eP **P 13 44 57.6 -1.8**
comp=Z,152nm,1.5s,mb5.5
MFF Saint Martin d 47.94 310 eP **P 13 44 57.6 -1.8**
comp=Z,152nm,1.5s,mb5.8
MFF Saint Martin d 47.94 310 eP **P 13 44 57.6 -1.8**
MFF pmax pmax
comp=Z,152nm,1.5s,mb5.8
MFF Saint Martin d 47.94 310 eP **P 13 44 57.6 -1.8**
comp=Z,76nm,1.5s,mb5.5
REYF Montagne du Re 47.98 305 eP **P 13 44 57.0 -2.8**
REYF Montagne du Re 47.98 305 eP **P 13 44 57.0 -2.8**
LDF La Druitiere 48.09 312 eP **P 13 44 58.6 -2.0**
comp=Z,44nm,0.6s,mb5.4
LDF La Druitiere 48.09 312 eP **P 13 44 58.6 -2.0**
comp=Z,44nm,0.6s,mb5.7
LDF La Druitiere 48.09 312 eP **P 13 44 58.6 -2.0**
LDF pmax pmax
comp=Z,44nm,0.6s,mb5.7
LDF La Druitiere 48.09 312 eP **P 13 44 58.6 -2.0**
comp=Z,22nm,0.6s,mb5.4
ETSF Etsaut 48.10 305 eP **P 13 45 00.1 -0.6**
comp=Z,141nm,0.8s,mb5.7
ETSF Etsaut 48.10 305 eP **P 13 45 00.1 -0.6**
comp=Z,141nm,0.8s,mb6.0
ETSF Etsaut 48.10 305 eP **P 13 45 00.1 -0.6**
ETSF pmax pmax
comp=Z,141nm,0.8s,mb6.0
ETSF Etsaut 48.10 305 eP **P 13 45 00.1 -0.6**
comp=Z,70nm,0.8s,mb5.7
ATE Arette 48.20 305 eP **P 13 45 01.4 -0.1**
ATE Arette 48.20 305 eP **P 13 45 01.4 -0.1**
FLN La Foliniere 48.34 312 eP **P 13 45 00.5 -2.0**
comp=Z,246nm,1.0s,mb5.9,baz=92
FLN eR
comp=Z,2μm,21.2s
FLN La Foliniere 48.34 312 eP **P 13 45 00.5 -2.0**
comp=Z,246nm,1.0s,mb6.2
FLN La Foliniere 48.34 312 eP **P 13 45 00.5 -2.0**
FLN pmax pmax
comp=Z,246nm,1.0s,mb6.2
FLN La Foliniere 48.34 312 eP **P 13 45 00.5 -2.0**
comp=Z,123nm,1.0s,mb5.9
IPM Ipoh 48.47 109 eP **P 13 45 02.0 -2.0**
comp=Z,44nm,1.3s,mb5.3
IPM Ipoh 48.47 109 eP **P 13 45 02.0 -1.9**
comp=Z,44nm,1.3s,mb5.3
GRR Gorron 48.56 312 eP **P 13 45 02.3 -1.9**
comp=Z,167nm,1.2s,mb5.6
GRR Gorron 48.56 312 eP **P 13 45 02.3 -1.9**
comp=Z,167nm,1.2s,mb5.9
GRR Gorron 48.56 312 eP **P 13 45 02.3 -1.9**
GRR pmax pmax
comp=Z,167nm,1.2s,mb5.9
GRR Gorron 48.56 312 eP **P 13 45 02.3 -1.9**
comp=Z,84nm,1.2s,mb5.6
SJPF Ste Jean 48.59 305 eP **P 13 45 03.6 -0.9**
comp=Z,161nm,0.9s,mb5.8
SJPF Ste Jean 48.59 305 eP **P 13 45 03.6 -0.9**
comp=Z,161nm,0.9s,mb6.0
SJPF Ste Jean 48.59 305 eP **P 13 45 03.6 -0.9**
SJPF pmax pmax
comp=Z,161nm,0.9s,mb6.0
SJPF Ste Jean 48.59 305 eP **P 13 45 03.6 -0.9**
comp=Z,81nm,0.9s,mb5.8
CART Cartagena 48.64 298 eP **P 13 45 05.4 +0.4**
comp=Z,40nm,0.8s,mb5.5
CART Cartagena 48.64 298 eP **P 13 45 05.4 +0.4**
comp=Z,40nm,0.8s,mb5.5
SKP1 Kophill 48.90 316 eP **P 13 45 05.8 -0.9**
SKP1 Kophill 48.90 316 eP **P 13 45 05.8 -1.0**
WOL Wolverton 49.10 316 eP **P 13 45 07.9 -0.4**
WOL AMB AMB 13 45 17.0
comp=Z,231nm,1.0s,mb6.2
WOL AMS AMS 14 11 51.5
comp=Z,1μm,14.4s,MS5.1
WOL Wolverton 49.10 316 eP **P 13 45 07.9 -0.4**
JSA Saint Aubin 49.49 313 eP **P 13 45 11.6 +0.3**
JSA AMB AMB 13 45 18.4
comp=Z,133nm,1.0s,mb5.9
JSA AMS AMS 14 11 12.5
comp=Z,896nm,14.0s,MS4.9
JSA Saint Aubin 49.49 313 eP **P 13 45 11.6 +0.3**
CIT Chita 49.52 43 eP **P 13 45 11.2 -0.3**
CIT e 13 45 25.2
CIT e 13 47 10.0
CIT pmax pmax
comp=Z,145nm,1.7s,mb5.7
CIT Chita 49.52 43 eP **P 13 45 11.2 -0.3**
comp=Z,145nm,1.7s,mb5.7
SSW Stow on the Wo 49.57 317 eP **P 13 45 11.3 -0.6**
SSW Stow on the Wo 49.57 317 eP **P 13 45 11.3 -0.6**
SGMF Saint Gilles 49.68 312 eP **P 13 45 11.1 -1.7**
comp=Z,183nm,1.0s,mb5.8
SGMF Saint Gilles 49.68 312 eP **P 13 45 11.1 -1.7**
comp=Z,183nm,1.0s,mb6.1
SGMF Saint Gilles 49.68 312 eP **P 13 45 11.1 -1.7**
SGMF pmax pmax
comp=Z,183nm,1.0s,mb6.1
SGMF Saint Gilles 49.68 312 eP **P 13 45 11.1 -1.7**
comp=Z,91nm,1.0s,mb5.8
KWE Weaver Farm 49.71 318 eP **P 13 45 12.4 -0.5**
KWE Weaver Farm 49.71 318 eP **P 13 45 12.4 -0.5**
LSZ Lusaka 49.83 216 ⇓i P **P 13 45 14.7 +0.4**
LSZ Lusaka 49.83 216 eP **P 13 45 14.5 +0.2**
comp=Z,58nm,1.4s,mb5.4
LSZ LR LR
comp=Z,2μm,19.0s,MS5.2
LSZ Lusaka 49.83 216 eP **P 13 45 14.5 +0.3**
LSZ pmax pmax
comp=Z,58nm,1.4s,mb5.4
LSZ MLR MLR
comp=Z,2μm,19.0s,MS5.2
LSZ Lusaka 49.83 216 eP **P 13 45 14.5 +0.3**
comp=Z,58nm,1.4s,mb5.4
QIZ Qiongzhong 49.98 87 P **P 13 45 14.7 -0.7**
QIZ S **S 13 52 26.5 +0.6**
QIZ pmax pmax
comp=Z,26nm,1.6s,mb5.0
QIZ pmax pmax
comp=Z,260nm,10.2s
QIZ LR LR
comp=N,1μm,21.8s
QIZ LR LR
comp=E,210nm,9.1s
QIZ LR LR
comp=Z,860nm,23.6s,MS4.7
QUIF Quistinic 50.07 311 eP **P 13 45 13.7 -2.0**
comp=Z,201nm,0.9s,mb5.8
QUIF Quistinic 50.07 311 eP **P 13 45 13.7 -2.0**
comp=Z,201nm,0.9s,mb6.2
QUIF Quistinic 50.07 311 eP **P 13 45 13.7 -2.0**
QUIF pmax pmax
comp=Z,201nm,0.9s,mb6.2
QUIF Quistinic 50.07 311 eP **P 13 45 13.7 -2.0**
comp=Z,101nm,0.9s,mb5.8
HGH Gray Hill 50.12 316 eP **P 13 45 15.1 -1.1**
HGH Gray Hill 50.12 316 eP **P 13 45 15.1 -1.0**
ROSF Rostrenen 50.16 312 eP **P 13 45 14.5 -1.9**
comp=Z,169nm,1.0s,mb5.7
ROSF Rostrenen 50.16 312 eP **P 13 45 14.5 -1.9**
comp=Z,169nm,1.0s,mb6.0
ROSF Rostrenen 50.16 312 eP **P 13 45 14.5 -1.9**
ROSF pmax pmax
comp=Z,169nm,1.0s,mb6.0
ROSF Rostrenen 50.16 312 eP **P 13 45 14.5 -1.9**
comp=Z,84nm,1.0s,mb5.7
XAL Allendale 50.21 320 eP **P 13 45 16.1 -0.5**
XAL Allendale 50.21 320 eP **P 13 45 16.1 -0.6**
HLM1 Long Mynd 50.27 317 eP **P 13 45 15.3 -1.8**
HLM1 AMB AMB 13 45 24.5
comp=Z,85nm,1.0s,mb5.7
HLM1 Long Mynd 50.27 317 eP **P 13 45 15.4 -1.8**
MCH1 Michaelchurch 50.28 317 eP **P 13 45 15.5 -1.8**
MCH1 AMB AMB 13 45 25.3
comp=Z,150nm,1.2s,mb5.9
MCH1 AMS AMS 14 12 48.6
comp=Z,1μm,18.7s,MS4.9
MCH1 Michaelchurch 50.28 317 eP **P 13 45 15.5 -1.8**
FOEL Foel Wylfa 50.51 318 eP **P 13 45 17.1 -1.8**
FOEL AMB AMB 13 45 22.3
comp=Z,141nm,2.5s,mb5.5
FOEL Foel Wylfa 50.51 318 eP **P 13 45 17.1 -1.9**
ESY Stoneypath 50.61 322 eP **P 13 45 18.6 -1.1**
ESY Stoneypath 50.61 322 eP **P 13 45 18.5 -1.2**
KESW Keswick, Cumbr 50.67 320 eP **P 13 45 19.6 -0.7**
KESW AMB AMB 13 45 24.2
comp=Z,110nm,2.8s,mb5.3
KESW Keswick, Cumbr 50.67 320 eP **P 13 45 19.6 -0.6**
PPI Padang Panjang 50.70 115 P **P 13 45 22.2 +1.2**
comp=Z,1μmcomp=Z,43nm,2.3s,mb5.0
BOD Bodaibo 50.74 36 eP **P 13 45 19.5 -1.2**
BOD pmax pmax
comp=Z,89nm,1.4s,mb5.5
BOD Bodaibo 50.74 36 eP **P 13 45 19.5 -1.2**
comp=Z,89nm,1.4s,mb5.5
ESDC Sonseca Array 50.78 301 P **P 13 45 20.5 -0.8**
comp=Z,2.0nm,0.4s,mb4.4,baz=75,slow=7.0,SNR=39
ESDC LR LR 14 10 28.3
comp=Z,557nm,18.3s,MS4.6,baz=140,slow=40
ESDC Sonseca Array 50.78 301 P **P 13 45 20.5 -0.8**
ESDC Sonseca Array 50.78 301 P **P 13 45 20.5 -0.8**
ESLA Sonseca Array 50.78 301 eP **P 13 45 19.8 -1.5**
comp=Z,10nm,0.9s,mb4.8
ESLA LR LR
comp=Z,4μm,19.0s,MS5.4
ESLA Sonseca Array 50.78 301 eP **P 13 45 19.8 -1.5**
comp=Z,10nm,0.9s,mb4.8
EBL Broad Law 50.82 321 eP **P 13 45 20.2 -1.1**
EBL Broad Law 50.82 321 eP **P 13 45 20.2 -1.1**
ESK Eskdalemuir 50.84 321 eP **P 13 45 19.1 -2.3**
ESK AMB AMB 13 45 24.1
comp=Z,66nm,2.5s,mb5.1
ESK AMS AMS 14 10 49.8
comp=Z,1μm,15.5s,MS5.0
ESK Eskdalemuir 50.84 321 P **P 13 45 20.8 -0.7**
comp=Z,179nm,1.1s,mb5.9,SNR=5.1
ESK Eskdalemuir 50.84 321 eP **P 13 45 20.6 -0.8**
comp=Z,363nm,2.5s,mb5.9
ESK LR LR
comp=Z,1μm,22.0s,MS5.0
ESK Eskdalemuir 50.84 321 eP **P 13 45 20.6 -0.9**
ESK pmax pmax
comp=Z,363nm,2.5s,mb5.9
ESK MLR MLR
comp=Z,1μm,22.0s,MS5.0
ESK Eskdalemuir 50.84 321 eP **P 13 45 20.6 -0.9**
comp=Z,363nm,2.5s,mb5.9
WHN Wuhan 50.90 71 P **P 13 45 22.5 +0.2**
WHN S **S 13 52 41.7 +3.2**
WHN pmax pmax
comp=Z,170nm,1.4s,mb5.8
WHN LR LR
comp=N,2μm,15.6s,MS5.5
WHN LR LR
comp=E,2μm,13.6s,MS5.5
WHN LR LR
comp=Z,4μm,16.4s,MS5.5
PDSI Padang 51.02 116 P **P 13 45 24.3 +0.9**
comp=Z,77nm,1.2s,mb5.5
MME1 Meikle Cairn 51.05 323 eP **P 13 45 22.8 -0.2**
MME1 Meikle Cairn 51.05 323 eP **P 13 45 22.8 -0.2**
BJI Beijing 51.07 59 P **P 13 45 23.6 +0.2**
BJI PP PP 13 47 19.0 -0.9
BJI S **S 13 52 47.2 +6.6**
BJI SS SS 13 56 16.3 +0.7
BJI pmax pmax
comp=Z,55nm,1.4s,mb5.3
BJI pmax pmax
comp=Z,340nm,8.7s
BJI LR LR
comp=N,960nm,19.3s,MS5.0
BJI LR LR
comp=E,910nm,19.3s,MS5.0
BJI LR LR
comp=Z,1μm,20.7s,MS4.8
PAB San Pablo 51.09 300 eP **P 13 45 22.6 -1.1**
comp=Z,66nm,0.9s,mb5.6
PAB LR LR
comp=Z,665nm,19.0s,MS4.7
PAB San Pablo 51.09 300 eP **P 13 45 22.6 -1.0**
PAB pmax pmax
comp=Z,66nm,0.9s,mb5.6
PAB MLR MLR
comp=Z,665nm,19.0s,MS4.7
PAB San Pablo 51.09 300 eP **P 13 45 22.5 -1.1**
comp=Z,66nm,0.9s,mb5.6
HTL Hartland 51.12 315 eP **P 13 45 22.8 -0.8**
HTL AMB AMB 13 45 24.0
comp=Z,94nm,3.6s
HTL AMS AMS 14 09 23.2
comp=Z,2μm,19.8s,MS5.1
HTL Hartland 51.12 315 eP **P 13 45 22.8 -0.8**
TOU Touzarine 51.15 294 i P **P 13 45 26.0 +1.9**
BJO Bjornoya 51.24 348 eS **S 13 52 42.5 +0.5**
BJO Bjornoya 51.24 348 eS **S 13 52 42.5 +0.4**
SNR=25
MCD Coleburn Disti 51.25 324 eP **P 13 45 23.6 -0.9**
MCD Coleburn Disti 51.25 324 eP **P 13 45 23.6 -0.9**
EAB Aberfoyle 51.61 322 eP **P 13 45 26.4 -0.8**
EAB Aberfoyle 51.61 322 eP **P 13 45 26.4 -0.8**
MVH1 Achvaich 51.80 324 eP **P 13 45 27.0 -1.6**
MVH1 Achvaich 51.80 324 eP **P 13 45 27.0 -1.6**
MDO Dochfour 51.81 323 eP **P 13 45 29.0 +0.3**
MDO Dochfour 51.81 323 eP **P 13 45 29.0 +0.3**
TIA Tai'an 52.23 64 eP **P 13 45 32.1 -0.1**
TIA pmax pmax
comp=Z,90nm,1.2s,mb5.6
KAC Achnashellach 52.32 323 eP **P 13 45 29.8 -2.8**
KAC Achnashellach 52.32 323 eP **P 13 45 29.8 -2.7**
TORD Torodi Ar. Bea 52.38 266 P **P 13 45 32.5 -1.0**
comp=Z,70nm,0.8s,mb5.7,baz=64,slow=7.3,SNR=281
TORD LR LR 14 10 09.1
comp=Z,2μm,18.2s,MS5.3,baz=80,slow=39
TORD Torodi Ar. Bea 52.38 266 P **P 13 45 32.5 -1.0**
TORD Torodi Ar. Bea 52.38 266 P **P 13 45 32.5 -1.0**
DSB Dublin 52.45 318 eP **P 13 45 32.9 -0.6**
comp=Z,44nm,0.8s,mb5.4
DSB Dublin 52.45 318 eP **P 13 45 32.9 -0.6**
comp=Z,44nm,0.8s,mb5.4
DLF Lyons Farm 52.55 318 eP **P 13 45 33.2 -1.0**
RSA Sarsar 52.84 295 i P **P 13 45 34.0 -2.8**
SFS San Fernando 52.90 297 PFAKE 13 45 50.0 +13
SFS LR LR
comp=Z,2μm,21.0s,MS5.0
MVO Moncorvo 52.99 303 eP **P 13 45 38.7 +1.0**
comp=Z,119nm,1.8s,mb5.5
MVO Moncorvo 52.99 303 eP **P 13 45 38.7 +1.0**
comp=Z,119nm,1.8s,mb5.5
PBAR Barrancos 53.33 299 eP **P 13 45 40.4 +0.1**
comp=Z,183nm,1.6s,mb5.8
PBAR eLR LR 14 07 45.8
comp=Z,684nm,22.0s
PBAR Barrancos 53.33 299 eP **P 13 45 40.4 +0.1**
comp=Z,183nm,1.6s,mb5.8
KIB El Ksiba 53.42 292 i P **P 13 45 41.0 -0.1**
PMRV Marv??o 53.45 301 eP **P 13 45 43.1 +2.0**
comp=Z,114nm,1.6s,mb5.5
PMRV eLR LR 14 09 12.4
comp=Z,686nm,18.0s
PMRV Marv??o 53.45 301 eP **P 13 45 43.1 +2.0**
comp=Z,114nm,1.6s,mb5.5
MTE Manteigas 53.45 302 eP **P 13 45 43.1 +2.0**
comp=Z,174nm,1.7s,mb5.7
MTE Manteigas 53.45 302 P **P 13 45 40.0 -1.2**
comp=Z,231nm,1.7s,mb5.8
MTE LR LR
comp=Z,1μm,22.0s,MS4.9
MTE Manteigas 53.45 302 P **P 13 45 40.0 -1.1**
comp=Z,231nm,1.7s,mb5.8
PCBR Castelo Branco 53.46 301 eP **P 13 45 41.7 +0.5**
comp=Z,127nm,1.6s,mb5.6
PCBR Castelo Branco 53.46 301 eP **P 13 45 41.7 +0.5**
comp=Z,127nm,1.6s,mb5.6
POLO Lamas de Olo 53.54 303 eP **P 13 45 41.6 -0.2**
comp=Z,66nm,1.7s,mb5.3
POLO Lamas de Olo 53.54 303 eP **P 13 45 41.6 -0.2**
comp=Z,66nm,1.7s,mb5.3
PESTR Estremoz 53.67 300 eP **P 13 45 44.6 +1.9**
comp=Z,64nm,1.5s,mb5.3
PESTR Estremoz 53.67 300 eP **P 13 45 44.6 +1.9**
comp=Z,64nm,1.5s,mb5.3
PCAB Cabril 53.68 303 eP **P 13 45 46.7 +3.9**
comp=Z,158nm,1.3s,mb5.8
PCAB Cabril 53.68 303 eP **P 13 45 46.7 +3.9**
comp=Z,158nm,1.3s,mb5.8
PVIS Viseu 53.68 302 eP **P 13 45 43.2 +0.4**
comp=Z,156nm,1.6s,mb5.7
PVIS Viseu 53.68 302 eP **P 13 45 43.2 +0.4**
comp=Z,156nm,1.6s,mb5.7
PGAV Gavieira, Arco 53.84 304 eP **P 13 45 47.6 +3.6**
comp=Z,216nm,1.7s,mb5.8
PGAV Gavieira, Arco 53.84 304 eP **P 13 45 47.6 +3.6**
comp=Z,216nm,1.7s,mb5.8
TZC Tazercounte 53.88 291 i P **P 13 45 43.0 -1.4**
PVAQ Vaqueiros 53.97 298 eP **P 13 45 47.0 +2.0**
comp=Z,70nm,2.0s,mb5.2
PVAQ Vaqueiros 53.97 298 eP **P 13 45 47.0 +2.0**
comp=Z,70nm,2.0s,mb5.2
PBEJ Beja 53.99 299 eP **P 13 45 48.3 +3.1**
comp=Z,108nm,1.4s,mb5.6
PBEJ Beja 53.99 299 eP **P 13 45 48.3 +3.1**
comp=Z,108nm,1.4s,mb5.6
EVO Evora 54.04 300 eP **P 13 45 45.4 -0.1**
comp=Z,63nm,0.8s,mb5.3
EVO eR
comp=Z,740nm,18.5s
EVO Evora 54.04 300 eP **P 13 45 45.4 -0.1**
comp=Z,92nm,2.3s,mb5.3
EVO Evora 54.04 300 eP **P 13 45 45.4 -0.1**
comp=Z,92nm,2.3s,mb5.3
EVOP Sao Brissos 54.12 300 eP **P 13 45 45.4 -0.7**
comp=Z,63nm,0.8s,mb5.6
EVOP Sao Brissos 54.12 300 eP **P 13 45 45.4 -0.7**
EVOP pmax pmax
comp=Z,63nm,0.8s,mb5.6
EVOP Sao Brissos 54.12 300 eP **P 13 45 45.4 -0.7**
comp=Z,32nm,0.8s,mb5.3
PMTG Montargil 54.13 300 eP **P 13 45 48.1 +2.0**
comp=Z,54nm,1.7s,mb5.2
PMTG Montargil 54.13 300 eP **P 13 45 48.1 +2.0**
comp=Z,54nm,1.7s,mb5.2
PCVE Castro Verde 54.19 298 eP **P 13 45 48.6 +2.0**
comp=Z,112nm,1.6s,mb5.5
PCVE Castro Verde 54.19 298 eP **P 13 45 48.6 +2.0**
comp=Z,112nm,1.6s,mb5.5
PTOM Tomar 54.20 301 eP **P 13 45 50.1 +3.4**
comp=Z,199nm,1.3s,mb5.9
PTOM Tomar 54.20 301 eP **P 13 45 50.1 +3.4**
comp=Z,199nm,1.3s,mb5.9
KSI Kapahiang 54.35 117 P **P 13 45 56.6 +8.5**
comp=Z,98nm,2.1s,mb5.4
NJ2 Nanjing 54.37 69 eP **P 13 45 48.7 +0.7**
NJ2 pP pP 13 45 53.2 +0.9
NJ2 sP sP 13 45 55.9 +2.0
NJ2 PP PP 13 47 51.7 +1.8
NJ2 S **S 13 53 24.0 -2.0**
NJ2 sS sS 13 53 35.0 +1.9
NJ2 pmax pmax
comp=Z,90nm,1.0s,mb5.7
NJ2 pmax pmax
comp=Z,330nm,5.8s
NJ2 LR LR
comp=N,260nm,20.6s,MS4.5
NJ2 LR LR
comp=E,390nm,22.5s,MS4.5
NJ2 LR LR
comp=Z,300nm,28.7s
SPITS Spitsbergen Ar 54.37 351 P **P 13 45 47.1 -0.2**
comp=Z,26nm,0.7s,mb5.3,baz=130,slow=11,SNR=29
SPITS Spitsbergen Ar 54.37 351 P **P 13 45 47.1 -0.2**
SPITS Spitsbergen Ar 54.37 351 P **P 13 45 47.1 -0.2**
SPITS Spitsbergen Ar 54.37 351 P **P 13 45 47.1 -0.2**
SPB4 Spitsbergen Ar 54.37 351 eP **P 13 45 48.2 +0.8**
SPB4 Spitsbergen Ar 54.37 351 eP **P 13 45 48.2 +0.9**
PNCL Nicolau / Gran 54.50 299 eP **P 13 45 51.7 +2.9**
comp=Z,111nm,1.6s,mb5.5
PNCL eLR LR 14 06 24.9
comp=Z,626nm,24.0s
PNCL Nicolau / Gran 54.50 299 eP **P 13 45 51.7 +2.9**
comp=Z,111nm,1.6s,mb5.5
MORF Marmelete 54.72 298 eLR LR 14 11 29.7
comp=Z,682nm,18.0s
MSNA Messina 55.00 210 eP **P 13 45 53.2 +0.7**
MSNA AMB AMB 13 45 54.7
comp=Z,83nm,1.3s,mb5.6
DL2 Dalian 55.39 60 P **P 13 45 54.4 -0.9**
DL2 S **S 13 53 36.4 -3.1**
DL2 pmax pmax
comp=Z,30nm,1.3s,mb5.2
DL2 pmax pmax
comp=Z,190nm,5.7s
DL2 LR LR
comp=N,1μm,21.2s,MS5.1
DL2 LR LR
comp=E,480nm,16.2s,MS5.1
DL2 LR LR
comp=Z,710nm,15.9s,MS4.8
MOPA Mopani 55.45 208 ⇑i P **P 13 45 55.8 +0.1**
MOPA AMB AMB 13 46 00.6
comp=Z,182nm,1.0s,mb6.1
KBS Kingsbay 55.53 351 eP **P 13 45 55.3 -0.4**
KBS eS **S 13 53 40.0 -0.2**
KBS AMS AMS 14 14 08.6
comp=Z,3μm,15.4s,MS5.4
KBS Kingsbay 55.53 351 eP **P 13 45 54.7 -1.0**
comp=Z,78nm,1.0s,mb5.7
KBS LR LR
comp=Z,1μm,20.0s,MS4.9
KBS Kingsbay 55.53 351 eP **P 13 45 54.7 -1.0**
KBS pmax pmax
comp=Z,78nm,1.0s,mb5.7
KBS MLR MLR
comp=Z,1μm,20.0s,MS4.9
KBS Kingsbay 55.53 351 eP **P 13 45 54.7 -1.0**
comp=Z,78nm,1.0s,mb5.7
KBS eS **S 13 53 40.0 -0.3**
SNR=24
COCO West Island 55.59 129 PFAKE 13 46 10.0 +13
COCO LR LR
comp=Z,914nm,21.0s,MS4.8
QZH Quanzhou 55.90 77 ⇓i P **P 13 45 55.7 -3.4**
QZH S **S 13 53 57.0 +10**
QZH pmax pmax
comp=Z,2μm,5.7s
QZH LR LR
comp=N,2μm,17.0s
QZH LR LR
comp=E,2μm,8.9s
QZH LR LR
comp=Z,3μm,16.8s,MS5.5
MDSI Maura Dua 56.12 116 P **P 13 45 59.9 -0.9**
comp=Z,41nm,1.4s,mb5.2
LWLI Liwa 56.34 117 P **P 13 46 04.5 +2.1**
comp=Z,138nm,0.8s,mb6.0
SNY Shenyang 56.45 56 ⇓P **P 13 46 02.1 -0.7**
SNY S **S 13 53 55.8 +2.2**
SNY pmax pmax
comp=Z,29nm,1.3s,mb5.2
SNY pmax pmax
comp=Z,470nm,6.7s
SNY LR LR
comp=N,1μm,14.2s,MS5.3
SNY LR LR
comp=E,2μm,16.7s,MS5.3
SNY LR LR
comp=Z,2μm,12.7s,MS5.3
CLNS Chul'man 56.49 38 eP **P 13 46 01.4 -1.4**
CLNS e*PP pP 13 46 08.9 +1.7
CLNS e 13 46 59.2
CLNS e 13 48 06.8
CLNS eS **S 13 53 47.3 -6.3**
CLNS pmax pmax
comp=E,18nm,1.2s
CLNS pmax pmax
comp=Z,34nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,17nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,16nm,1.2s
CLNS smax
comp=E,248nm,16.2s
CLNS smax
comp=N,215nm,12.5s
CLNS MLR MLR
comp=Z,2μm,14.0s,MS5.2
CLNS MLR MLR
comp=E,1μm,13.0s,MS5.3
CLNS MLR MLR
comp=N,1μm,15.0s,MS5.3
CLNS Chul'man 56.49 38 eP **P 13 46 01.4 -1.4**
comp=N,17nm,1.1s,mb5.0
CLNS Chul'man 56.49 38 ePcP PcP 13 46 59.2 -0.3

SSE Sheshan 56.52 69 P **P** **13 46 01.9 -1.6**
SSE S **S** **13 53 59.5 +4.7**
SSE pmax pmax
comp=Z,40nm,0.9s,mb5.5
SSE pmax pmax
comp=Z,170nm,8.2s
SSE LR LR
comp=N,2µm,19.7s,MS5.2
SSE LR LR
comp=E,420nm,19.7s,MS5.2
SSE LR LR
comp=Z,2µm,16.5s,MS5.2
SSE Sheshan 56.52 69 P **P** **13 46 01.9 -1.6**
comp=Z,40nm,0.9s,mb5.5
SSE S **S** **13 53 59.5 +4.7**
SSE LR LR
comp=Z,2µm,16.5s,MS5.2
SSE Sheshan 56.52 69 P **P** **13 46 01.9 -1.6**
comp=Z,40nm,0.9s,mb5.5
SSE S **S** **13 53 59.5 +4.7**
AFS Agadir Fac de 56.78 290 *i* P **P** **13 46 05.0 -0.3**
YBT Youssef Ben Ta 56.92 289 *i* P **P** **13 46 06.0 -0.3**
CN2 Changchun 57.56 54 ⇑P **P** **13 46 10.5 -0.1**
CN2 *es*P sP 13 46 17.5 +0.9
CN2 *e*S **S** **13 54 05.1 -3.0**
CN2 SS SS 13 57 55.9 -1.9
CN2 pmax pmax
comp=Z,20nm,1.2s,mb5.0
CN2 LR LR
comp=N,2µm,15.0s,MS5.3
CN2 LR LR
comp=E,1µm,15.0s,MS5.3
CN2 LR LR
comp=Z,1µm,16.0s,MS5.1
KSM Kuching 57.92 106 PFAKE 13 46 30.0 +16
KSM LR LR
comp=Z,734nm,20.0s,MS4.8
TPUB Ta-pu 58.16 78 *e*P **P** **13 46 17.5 +2.3**
comp=Z,233nm,1.3s,mb6.0
TPUB Ta-pu 58.16 78 *e*P **P** **13 46 17.5 +2.3**
comp=Z,233nm,1.3s,mb6.0
SSLB Suanglung 58.29 77 *e*P **P** **13 46 18.5 +2.4**
YHNB Yeheng 58.39 76 *e*P **P** **13 46 19.0 +2.2**
comp=Z,304nm,1.3s,mb6.2
YHNB LR LR
comp=Z,1µm,20.0s,MS5.0
YHNB Yeheng 58.39 76 *e*P **P** **13 46 19.0 +2.2**
comp=Z,304nm,1.3s,mb6.2
TWG Pinlang 58.70 79 *e*P **P** **13 46 21.2 +2.3**
comp=Z,271nm,1.3s,mb6.1
TWG Pinlang 58.70 79 *e*P **P** **13 46 21.2 +2.3**
comp=Z,271nm,1.3s,mb6.1
YULB Yu-li 58.72 78 *e*P **P** **13 46 21.7 +2.7**
SLR Silverton 58.72 209 *e*P **P** **13 46 19.6 +0.7**
SLR AMB AMB 13 46 19.9
comp=Z,81nm,1.8s,mb5.5
TSUM Tsumeb 59.01 223⇑*i*P **P** **13 46 21.5 +0.5**
TSUM Tsumeb 59.01 223 *e*P **P** **13 46 21.0 0.0**
TSUM LR LR
comp=Z,3µm,19.0s,MS5.4
TSUM Tsumeb 59.01 223 *e*P **P** **13 46 21.0 0.0**
YAK Yakutsk 59.03 32 *e*P **P** **13 46 19.0 -1.6**
YAK Yakutsk 59.03 32 *c*P **P** **13 46 18.8 -1.8**
YAK *e**PP pP 13 46 29.5 +4.6
YAK *e* 13 47 16.3
YAK *e* 13 48 26.3
YAK *e*S **S** **13 54 20.6 -6.1**
YAK *e* 13 56 05.0
YAK *e*SSS 14 00 46.9
YAK pmax pmax
comp=Z,59nm,1.2s,mb5.5
YAK pmax pmax
comp=E,47nm,1.2s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=Z,16nm,1.1s,mb5.0
YAK smax
comp=N,183nm,9.6s
YAK smax
comp=E,28nm,6.1s
YAK MLR MLR
comp=Z,2µm,12.0s,MS5.4
YAK MLR MLR
comp=E,2µm,13.0s,MS5.3
YAK MLR MLR
comp=N,533nm,15.0s,MS5.3
YAK Yakutsk 59.03 32 *e*P **P** **13 46 19.0 -1.6**
SBUM Sibu 59.08 104 P **P** **13 46 22.7 +1.0**
comp=N,24nm,2.2s,mb4.8
ERPM east rand prop 59.27 209 *e*P **P** **13 46 23.0 +0.3**
ERPM AMB AMB 13 46 27.3
comp=Z,119nm,1.1s,mb5.8
LBTB Lobatse 59.33 212⇑*i*P **P** **13 46 23.7 +0.6**
LBTB AMB AMB 13 46 28.3
comp=Z,90nm,1.1s,mb5.7
LBTB Lobatse 59.33 212 *e*P **P** **13 46 23.1 0.0**
comp=Z,111nm,1.0s,mb5.8
LBTB LR LR
comp=Z,1µm,20.0s,MS5.1
LBTB Lobatse 59.33 212 *e*P **P** **13 46 23.1 0.0**
LBTB pmax pmax
comp=Z,111nm,1.0s,mb5.8
LBTB MLR MLR
comp=Z,1µm,20.0s,MS5.1
LBTB Lobatse 59.33 212 *e*P **P** **13 46 23.1 0.0**
comp=Z,111nm,1.0s,mb5.8
DBJI Dramaga 59.40 116 P **P** **13 46 25.7 +1.9**
comp=Z,5µmcomp=Z,76nm,1.9s,mb5.4
KSR Koster 59.44 210 *e*P **P** **13 46 24.8 +1.0**
KSR AMB AMB 13 46 27.7
comp=Z,21nm,2.4s,mb4.8
SKJI Sukabumi 59.51 117 P **P** **13 46 24.8 +0.2**
INCN Inchon 59.52 61 P **P** **13 46 23.1 -1.3**
comp=Z,139nm,1.3s,mb5.8
INCN LR LR
comp=Z,1µm,21.0s,MS5.0
INCN Inchon 59.52 61 P **P** **13 46 23.1 -1.3**
comp=Z,139nm,1.3s,mb5.8
PRYS Parys 60.16 209⇑*e*P **P** **13 46 28.5 -0.3**
PRYS AMB AMB 13 46 29.2
comp=Z,51nm,1.7s,mb5.3
MDJ Mudanjiang 60.38 52 P **P** **13 46 29.3 -0.9**
MDJ pP pP 13 46 32.5 -2.1
MDJ sP sP 13 46 33.7 -2.5
MDJ ScP ScP 13 51 15.7 -0.4
MDJ PcS PcS 13 51 16.7 -0.8
MDJ S **S** **13 54 44.1 -0.6**
MDJ pmax pmax
comp=Z,24nm,1.4s,mb5.0
MDJ pmax pmax
comp=Z,230nm,4.6s
MDJ LR LR
comp=N,1µm,22.4s,MS5.1
MDJ LR LR
comp=E,470nm,17.8s,MS5.1
MDJ LR LR
comp=Z,1µm,13.1s,MS5.2
DAG Danmarks Havn 60.47 345⇑*i*P **P** **13 46 29.7 -0.6**
DAG pmax pmax
comp=Z,26nm,0.8s,mb5.3
DAG MLR MLR
comp=Z,560nm,19.0s,MS4.7
DAG Danmarks Havn 60.47 345⇑*i*P **P** **13 46 29.7 -0.6**
comp=Z,35nm,0.8s,mb5.4
DAG
comp=Z,530nm,19.0s
KSAR Wonju Array Be 60.50 60 P **P** **13 46 30.5 -0.7**
KSAR Wonju Array Be 60.50 60 P **P** **13 46 30.5 -0.7**
KSAR Wonju Array Be 60.50 60 P **P** **13 46 30.5 -0.7**
KSRS Korea Array 60.53 60 P **P** **13 46 30.5 -0.9**
comp=Z,17nm,0.5s,mb5.4,baz=278,slow=6.9,SNR=78
KSRS LR LR 14 17 18.7
comp=Z,878nm,18.6s,MS4.9,baz=274,slow=41
KSRS Korea Array 60.53 60 P **P** **13 46 30.5 -0.9**
KSRS pmax pmax
comp=Z,17nm,0.5s,mb5.4
KSRS MLR MLR
comp=Z,878nm,18.6s,MS4.9
KSRS Korea Array 60.53 60 P **P** **13 46 30.5 -0.9**
comp=Z,878nm,18.6s
CISI Cisompet, Garu 60.84 117 P **P** **13 46 33.0 -0.7**
SCO Scoresbysund 60.84 338 *i* P **P** **13 46 34.2 +1.3**
SCO pmax pmax
comp=Z,19nm,0.9s,mb5.2
SCO Scoresbysund 60.84 338 *i* P **P** **13 46 34.2 +1.3**
comp=Z,19nm,0.9s,mb5.2
SCO Scoresbysund 60.84 338 *i* P **P** **13 46 34.2 +1.3**
comp=Z,19nm,0.9s,mb5.2,SNR=21
KKM Kota Kinabalu 60.86 98 PFAKE 13 46 50.0 +16
KKM LR LR
comp=Z,896nm,20.0s,MS4.9
KKM Kota Kinabalu 60.86 98 P **P** **13 46 35.3 +1.3**
comp=Z,1µmcomp=Z,77nm,1.1s,mb5.7
DBIC Dimbokro 60.97 262⇑*i*P **P** **13 46 33.3 -1.4**
DBIC Dimbokro 60.97 262 P **P** **13 46 33.8 -0.9**
comp=Z,38nm,0.9s,mb5.5,baz=49,slow=6.9,SNR=21
DBIC LR LR 14 14 08.9
comp=Z,886nm,19.8s,MS4.9,baz=44,slow=37
DBIC Dimbokro 60.97 262 *e*P **P** **13 46 33.6 -1.1**
DBIC Dimbokro 60.97 262 P **P** **13 46 33.8 -0.9**
DBIC pmax pmax
comp=Z,38nm,0.9s
DBIC MLR MLR
comp=Z,886nm,19.8s
DBIC Dimbokro 60.97 262 *e*P **P** **13 46 33.7 -1.0**
KLR Kul'dur 61.11 47 *e*P **P** **13 46 31.1 -4.0**
KLR pmax pmax
comp=E,85nm,1.6s
KLR pmax pmax
comp=Z,200nm,1.6s,mb6.0
KLR MLR MLR
comp=Z,6µm,12.5s,MS6.0
SEK Senekal 61.26 208 *e*P **P** **13 46 36.4 +0.1**
SEK AMB AMB 13 46 40.8
comp=Z,152nm,1.0s,mb6.1
SWZ Schweizer 61.30 211⇑*i*P **P** **13 46 36.0 -0.5**
SWZ AMB AMB 13 46 41.2
comp=Z,106nm,1.1s,mb5.9
VLA Vladivostok 62.30 53⇑*i*P **P** **13 46 41.5 -1.7**
VLA *e* 13 47 21.4
VLA *e*S **S** **13 55 05.6 -3.5**
VLA pmax pmax
comp=Z,61nm,1.0s,mb5.7
VLA Vladivostok 62.30 53 *i* P **P** **13 46 41.5 -1.7**
comp=Z,61nm,1.0s,mb5.7
VLA Vladivostok 62.30 53 *e*PcP PcP 13 47 21.4 -1.5
KSD Kokstad 62.49 206⇓*i*P **P** **13 46 44.5 0.0**
KSD AMB AMB 13 46 46.2
comp=Z,180nm,1.4s,mb6.0
BOSA Boshof 62.55 210⇑*i*P **P** **13 46 44.8 -0.1**
BOSA AMB AMB 13 46 49.6
comp=Z,73nm,1.1s,mb5.7
BOSA Boshof 62.55 210 P **P** **13 46 44.6 -0.3**
comp=Z,57nm,0.9s,mb5.7,baz=36,slow=6.8,SNR=34
BOSA LR LR 14 13 21.7
comp=Z,973nm,20.8s,MS5.0,baz=35,slow=36
BOSA Boshof 62.55 210 *e*P **P** **13 46 44.5 -0.4**
comp=Z,40nm,0.5s,mb5.8
BOSA Boshof 62.55 210 P **P** **13 46 44.6 -0.3**
BOSA pmax pmax
comp=Z,57nm,0.9s,mb5.7
BOSA Boshof 62.55 210 *e*P **P** **13 46 44.5 -0.4**
comp=Z,40nm,0.5s,mb5.8
MYLDM Lahad Datu 63.28 98 P **P** **13 46 52.0 +1.8**
comp=Z,96nm,1.6s,mb5.7
HABR Khabarovsk 63.39 47*de*P **P** **13 46 48.3 -2.1**
HABR *e**PP pP 13 46 58.4 +3.6
HABR *e**SP sP 13 47 02.5 +6.1
HABR 13 47 24.7
HABR PPP 13 50 37.3
HABR *e*S **S** **13 55 19.3 -3.3**
HABR *e**SS sS 13 55 36.7 +6.9
HABR *e* 13 56 38.7
HABR *e*SS SS 13 59 27.7 -1.3
HABR pmax pmax
comp=Z,191nm,1.3s,mb6.1
HABR pmax pmax
comp=E,93nm,1.6s
HABR pmax pmax
comp=N,43nm,1.6s
HABR pmax pmax
comp=Z,246nm,1.4s,mb6.1
HABR MLR MLR
comp=Z,941nm,21.0s,MS4.9
HABR MLR MLR
comp=N,532nm,17.0s,MS5.1
HABR MLR MLR
comp=E,998nm,16.0s,MS5.1
HABR Khabarovsk 63.39 47 *e*P **P** **13 46 48.3 -2.1**
comp=E,246nm,1.4s,mb6.1
HABR Khabarovsk 63.39 47 PcP PcP 13 47 24.7 -2.6
JOW Kunigami 63.66 72 LR LR 14 17 49.6
comp=E,1µm,20.2s,MS5.0,baz=108,slow=39
JNU Nakatsue 63.95 64 *e*P **P** **13 46 54.1 -0.3**
comp=E,13nm,1.0s,mb4.9
JNU Nakatsue 63.95 64 *e*P **P** **13 46 54.2 -0.2**
comp=E,13nm,1.0s,mb4.9
SJI Sawahan 64.13 114 P **P** **13 46 55.0 -0.7**
comp=E,2µmcomp=E,34nm,1.7s,mb5.1
HVD Gariep Dam 64.16 209 *e*P **P** **13 46 55.4 -0.1**
HVD AMB AMB 13 47 00.3
comp=Z,84nm,1.1s,mb5.7
PKA Prieska 64.60 212 *e*P **P** **13 46 58.7 +0.2**
PKA AMB AMB 13 47 03.1
comp=Z,27nm,1.1s,mb5.2
SMKI Samarinda 64.84 104 P PcP 13 47 23.4 -10
SUMG Summit 65.87 341 *e*P **P** **13 47 06.4 +0.2**
comp=Z,118nm,0.9s,mb5.9
SUMG Summit 65.87 341 *e*P **P** **13 47 06.4 +0.2**
SUMG pmax pmax
comp=Z,118nm,0.9s
SUMG Summit 65.87 341⇑*i*P **P** **13 47 06.9 +0.7**
comp=Z,111nm,0.9s,mb5.9
SUMG Summit 65.87 341 *e*P **P** **13 47 06.4 +0.2**
comp=Z,118nm,0.9s,mb5.9
SOE Somerset East 65.95 208 *e*P **P** **13 47 08.2 +1.0**
SOE AMB AMB 13 47 12.4
comp=Z,121nm,1.2s,mb5.8
GRM Grahamstown 66.09 207 *e*P **P** **13 47 07.7 -0.3**
GRM AMB AMB 13 47 13.2
comp=Z,118nm,1.0s,mb5.9
JAGI Jajag, Banyuwa 66.49 113 P **P** **13 47 10.0 -1.0**
comp=Z,51nm,1.5s,mb5.3
NBBI Negara 66.82 113 P **P** **13 47 13.0 -0.1**
comp=Z,3µmcomp=Z,180nm,1.1s,mb6.0
ALE Alert 67.00 353 P **P** **13 47 13.9 +0.6**
comp=Z,271nm,0.8s,mb6.3,SNR=17
SRBI Singaraja 67.15 112 P **P** **13 47 14.5 -0.8**
comp=Z,1µmcomp=Z,82nm,1.4s,mb5.6
KOMG Komaggas 67.32 216 *e*P **P** **13 47 15.3 -0.7**
KOMG AMB AMB 13 47 20.5
comp=Z,46nm,1.3s,mb5.3
CVNA Calvinia 67.53 213 *e*P **P** **13 47 18.4 +1.1**
CVNA AMB AMB 13 47 22.4
comp=Z,78nm,1.2s,mb5.6
KHKI Kahang-Kahang 67.63 112 P **P** **13 47 16.5 -1.8**
comp=Z,2µmcomp=Z,143nm,1.4s,mb5.8
SUR Sutherland 67.77 212⇑*i*P **P** **13 47 18.9 +0.1**
SUR AMB AMB 13 47 21.2
comp=Z,55nm,6.3s
SUR Sutherland 67.77 212 *e*P **P** **13 47 18.1 -0.7**
comp=Z,48nm,0.9s,mb5.5
SUR LR LR
comp=Z,1µm,21.0s,MS5.0
SUR Sutherland 67.77 212 *e*P **P** **13 47 18.0 -0.8**
comp=Z,48nm,0.9s,mb5.5
MTNI Mataram 68.24 112 P **P** **13 47 19.7 -2.5**
TTSI Tana Toraja 68.39 105 P **P** **13 47 22.6 -0.5**
MRSI Marisa 68.51 101 P **P** **13 47 23.5 -0.4**
MAJO Matsushiro 68.70 59 *e*P **P** **13 47 23.9 -0.9**
comp=Z,52nm,1.5s,mb5.2
MAJO LR LR
comp=Z,1µm,20.0s,MS5.2
MAJO Matsushiro 68.70 59 *e*P **P** **13 47 23.9 -0.9**
MAJO pmax pmax
comp=Z,52nm,1.5s,mb5.2
MAJO MLR MLR
comp=Z,1µm,20.0s,MS5.2
MAJO Matsushiro 68.70 59 *e*P **P** **13 47 23.9 -0.9**
comp=Z,52nm,1.5s,mb5.2
MAT Matsushiro 68.70 59 P **P** **13 47 23.4 -1.4**
MJAR Matsushiro Arr 68.71 59 P **P** **13 47 24.2 -0.6**
comp=Z,14nm,1.2s,mb4.8,baz=286,slow=9.4,SNR=17
MJAR LR LR 14 21 05.2
comp=Z,775nm,21.0s,MS4.9,baz=300,slow=39
MJAR Matsushiro Arr 68.71 59 P **P** **13 47 24.2 -0.6**
MJAR Matsushiro Arr 68.71 59 P **P** **13 47 24.2 -0.6**
MJAR Matsushiro Arr 68.71 59 P **P** **13 47 24.2 -0.6**
DAV Davao City (W) 68.73 93 PFAKE 13 47 40.0 +15
DAV LR LR
comp=Z,686nm,21.0s,MS4.9
YSS Yuzh-Sakhalins 68.81 47 *e*P **P** **13 47 24.0 -1.2**
comp=Z,136nm,1.1s,mb5.8
YSS Yuzh-Sakhalins 68.81 47⇑*e*P **P** **13 47 23.8 -1.4**
YSS *e* 13 47 31.5
YSS *e* 13 47 41.5
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.7
YSS MLR MLR
comp=Z,2µm,16.0s,MS5.3
YSS Yuzh-Sakhalins 68.81 47 *e*P **P** **13 47 24.0 -1.2**
comp=Z,136nm,1.1s,mb5.8
SPSI Sidrap Palu 68.81 106 P **P** **13 47 25.6 -0.2**
CER Ceres 69.30 212 *e*P **P** **13 47 28.0 -0.3**
CER AMB AMB 13 47 41.9
comp=Z,21nm,1.3s,mb4.9
KAPI Kappang 69.33 107 P **P** **13 47 27.8 -1.2**
comp=Z,128nm,1.4s,mb5.7,baz=295,slow=8.0,SNR=19
KAPI Kappang 69.33 107 *e*P **P** **13 47 27.3 -1.7**
comp=Z,249nm,1.6s,mb5.9
KAPI LR LR
comp=Z,461nm,21.0s,MS4.7
KAPI Kappang 69.33 107 P **P** **13 47 28.3 -0.7**
comp=Z,2µmcomp=Z,104nm,1.8s,mb5.5
KAPI Kappang 69.33 107 *e*P **P** **13 47 27.3 -1.7**
comp=Z,249nm,1.6s,mb5.9
GTOI Gorontalo 69.37 100 P **P** **13 47 27.5 -1.8**
BKSI Bulukumba 69.81 107 P **P** **13 47 31.6 -0.3**
ERM Erimo 70.61 52 PFAKE 13 47 50.0 +14
ERM LR LR
comp=Z,960nm,19.0s,MS5.1
KDI Kendari 71.26 105 P **P** **13 47 40.9 +0.1**
SFJD Kangerlussuaq 71.69 337 PFAKE 13 47 50.0 +7.5
SFJD LR LR
comp=Z,986nm,19.0s,MS5.1
YUK Yuzh-Kuril'sk 71.80 49*c i*P **P** **13 47 36.4 -7.2**
YUK *e*PPP 13 51 59.8
YUK *e*S S 13 56 54.8 -8.9
YUK *e* 13 57 30.7
YUK pmax pmax
comp=E,409nm,1.8s
YUK pmax pmax
comp=Z,599nm,1.8s,mb6.2
YUK pmax pmax
comp=N,165nm,1.9s
YUK pmax pmax
comp=Z,941nm,2.1s,mb6.3
YUK smax
comp=N,2µm,2.4s
YUK smax
comp=E,1µm,2.5s
YUK MLR MLR
comp=Z,1µm,20.0s,MS5.2
BBSI Bau Bau 71.98 106 P **P** **13 47 46.3 +1.1**
TNTI Ternate 73.15 98 P **P** **13 47 53.1 +0.9**
comp=Z,2µmcomp=Z,124nm,1.2s,mb5.7
LBMI Labuha 73.93 99 P **P** **13 47 56.6 -0.1**
comp=Z,2µmcomp=Z,184nm,1.1s,mb5.9
SACV Santiago Islan 74.18 279 PFAKE 13 48 10.0 +12
SACV LR LR
comp=Z,1µm,19.0s,MS5.2
PETK Petropavlovsk- 75.58 38 LR LR 14 24 20.0
comp=Z,638nm,20.0s,MS4.9,baz=166,slow=38
AAI Ambon 75.98 102 P **P** **13 48 08.5 -0.1**
comp=Z,2µmcomp=Z,112nm,1.2s,mb5.7
MSAI Masohi 76.46 101 P **P** **13 48 12.4 +1.1**
RES Resolute Bay 76.89 352 P **P** **13 48 12.1 -0.6**
comp=Z,2.3nm,0.3s,mb4.6,baz=45,slow=7.1,SNR=7.8
RES Resolute Bay 76.89 352 P **P** **13 48 10.5 -2.2**
comp=Z,19nm,1.1s,mb4.9
RES Resolute Bay 76.89 352 P **P** **13 48 12.1 -0.6**
RES pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
RES Resolute Bay 76.89 352 P **P** **13 48 12.1 -0.6**
comp=Z,2.0nm,0.3s,mb4.5
MBWA Marble Bar 78.11 121 *e*P **P** **13 48 19.6 -0.8**
comp=Z,33nm,1.3s,mb5.1
MBWA LR LR
comp=Z,1µm,22.0s,MS5.2
MBWA Marble Bar 78.11 121 P **P** **13 48 20.8 +0.5**
comp=Z,1µmcomp=Z,44nm,1.4s,mb5.2
MBWA Marble Bar 78.11 121 *e*P **P** **13 48 19.5 -0.8**
comp=Z,33nm,1.3s,mb5.1
FITZ Fitzroy Crossi 81.08 115 *e*P **P** **13 48 36.0 -0.5**
comp=Z,36nm,1.0s,mb5.3
FITZ Fitzroy Crossi 81.08 115 *e*P **P** **13 48 35.8 -0.8**
comp=Z,89nm,1.5s,mb5.5
FITZ Fitzroy Crossi 81.08 115 *e*P **P** **13 48 35.8 -0.7**
comp=Z,89nm,1.5s,mb5.5
TNA Tin City 81.87 17 *e*P **P** **13 48 39.0 -1.0**
comp=Z,43nm,1.4s,mb5.2
TNA Tin City 81.87 17 *e*P **P** **13 48 39.0 -1.0**
comp=Z,43nm,1.4s,mb5.2
KLBR Kellerberrin 82.83 131 *e*P **P** **13 48 43.6 -1.9**
comp=Z,48nm,1.3s,mb5.4
NWAO Narrogin (SRO) 83.30 132 P **P** **13 48 46.6 -1.2**
comp=Z,18nm,0.8s,mb5.2,baz=314,slow=7.7,SNR=12
NWAO Narrogin (SRO) 83.30 132 *e*P **P** **13 48 46.8 -1.1**
comp=Z,12nm,1.1s,mb4.8
NWAO LR LR
comp=Z,431nm,19.0s,MS4.8
NWAO Narrogin (SRO) 83.30 132 *e*P **P** **13 48 46.8 -1.1**
NWAO pmax pmax
comp=Z,11nm,1.1s
NWAO MLR MLR
comp=Z,431nm,19.0s
NWAO Narrogin (SRO) 83.30 132 *e*P **P** **13 48 46.8 -1.1**
comp=Z,12nm,1.1s,mb4.8
COLD Coldfoot 84.11 10 *e*P **P** **13 48 51.6 0.0**
comp=Z,75nm,1.0s,mb5.8
COLD Coldfoot 84.11 10 *e*P **P** **13 48 51.6 0.0**
comp=Z,75nm,1.0s,mb5.8
INK Inuvik 84.81 4 P **P** **13 48 53.6 -1.5**
comp=Z,24nm,1.1s,mb5.2,baz=354,slow=7.6,SNR=4.7
INK Inuvik 84.81 4 *e*P **P** **13 48 54.4 -0.7**
comp=Z,55nm,1.1s,mb5.6
INK Inuvik 84.81 4 *e*P **P** **13 48 54.4 -0.7**
INK pmax pmax
comp=Z,55nm,1.1s
INK Inuvik 84.81 4 *e*P **P** **13 48 54.4 -0.7**
comp=Z,55nm,1.1s,mb5.6
SCHQ Schefferville 84.96 331 LR LR 14 31 10.0
comp=Z,261nm,19.1s,MS4.6,baz=272,slow=39
SCHQ Schefferville 84.96 331 P **P** **13 48 57.8 +1.7**
comp=Z,33nm,1.1s,mb5.4
SCHQ Schefferville 84.96 331 P **P** **13 48 57.8 +1.7**
comp=Z,33nm,1.1s,mb5.4
COLA College 86.67 10 *e*P **P** **13 49 03.6 -0.8**
comp=Z,38nm,1.0s,mb5.6
COLA LR LR
comp=Z,678nm,19.0s,MS5.1
COLA College 86.67 10 *e*P **P** **13 49 03.6 -0.8**
COLA pmax pmax
comp=Z,38nm,1.0s,mb5.6
COLA MLR MLR
comp=Z,678nm,19.0s,MS5.1
COLA College 86.67 10 *e*P **P** **13 49 03.6 -0.8**
comp=Z,38nm,1.0s,mb5.6
BPAW Bear Paw Mtn. 86.86 11 *e*P **P** **13 49 04.7 -0.7**
comp=Z,272nm,1.2s,mb6.3
BPAW Bear Paw Mtn. 86.86 11 *e*P **P** **13 49 04.7 -0.7**
comp=Z,272nm,1.2s,mb6.3
ILAR Eielson Array 86.91 10 P **P** **13 49 04.4 -1.2**
comp=Z,15nm,0.8s,mb5.3,baz=322,slow=3.5,SNR=77
ILAR PKKPbc PKKPbc 14 06 57.5 -2.5
comp=Z,0.4nm,0.6s,baz=190,slow=1.8,SNR=8.1
ILAR Eielson Array 86.91 10 P **P** **13 49 04.4 -1.2**
ILAR PKKPbc PKKPbc 14 06 57.5 -2.5
ILAR Eielson Array 86.91 10 P **P** **13 49 04.4 -1.2**
ILAR Eielson Array 86.91 10 P **P** **13 49 04.4 -1.2**
MCK McKinley 87.56 11 *e*P **P** **13 49 07.5 -1.2**
comp=Z,155nm,1.2s,mb6.1
MCK McKinley 87.56 11 *e*P **P** **13 49 07.5 -1.2**
MCK pmax pmax
comp=Z,155nm,1.2s,mb6.1
MCK McKinley 87.56 11 *e*P **P** **13 49 07.5 -1.2**
comp=Z,155nm,1.2s,mb6.1
TRF Thorofare Moun 87.59 11 *e*P **P** **13 49 08.0 -0.9**
comp=Z,30nm,0.8s,mb5.6
TRF Thorofare Moun 87.59 11 *e*P **P** **13 49 08.0 -0.9**
comp=Z,30nm,0.8s,mb5.6
EGAK Eagle 87.65 7 *e*P **P** **13 49 08.5 -0.7**
comp=Z,158nm,1.2s,mb6.1
EGAK LR LR
comp=Z,617nm,20.0s,MS5.0
EGAK Eagle 87.65 7 *e*P **P** **13 49 08.5 -0.6**
comp=Z,158nm,1.2s,mb6.1
PPLA Purkeypile 87.74 12 *e*P **P** **13 49 09.2 -0.5**

comp=Z,91nm,1.2s,mb5.9
PPLA Purkeypile 87.74 12 *e*P **P 13 49 09.1 -0.5**
comp=Z,91nm,1.2s,mb5.9
DOT Dot Lake 88.38 9 *e*P **P 13 49 12.0 -0.6**
comp=Z,33nm,1.3s,mb5.4
DOT Dot Lake 88.38 9 *e*P **P 13 49 12.0 -0.6**
comp=Z,33nm,1.3s,mb5.4
DAWY Dawson 88.53 7 *e*P **P 13 49 12.9 -0.4**
DAWY Dawson 88.53 7 *e*P **P 13 49 12.9 -0.4**
PAX Paxson 88.82 10 *e*P **P 13 49 13.8 -0.9**
comp=Z,21nm,1.2s,mb5.3
PAX Paxson 88.82 10 *e*P **P 13 49 13.8 -0.9**
PAX pmax pmax
comp=Z,21nm,1.2s,mb5.3
PAX Paxson 88.82 10 *e*P **P 13 49 13.8 -0.9**
comp=Z,21nm,1.2s,mb5.3
WRA Warramunga Arr 89.10 113 P **P 13 49 16.2 -0.5**
comp=Z,8.3nm,0.8s,mb5.1,baz=312,slow=3.8,SNR=38
WRA Warramunga Arr 89.10 113 P **P 13 49 16.2 -0.5**
WRA Warramunga Arr 89.10 113 P **P 13 49 16.2 -0.5**
WRA Warramunga Arr 89.10 113 P **P 13 49 16.2 -0.5**
MENT Mentasta 89.10 9 *e*P **P 13 49 15.8 -0.3**
MENT Mentasta 89.10 9 *e*P **P 13 49 15.8 -0.2**
WRAB Tennant Creek 89.10 113 *e*P **P 13 49 16.0 -0.8**
comp=Z,140nm,1.8s,mb6.0
WRAB LR LR
comp=Z,364nm,20.0s,MS4.8
WRAB Tennant Creek 89.10 113 P **P 13 49 16.4 -0.4**
comp=Z,146nm,1.3s,mb6.2,SNR=9.9
WRAB Tennant Creek 89.10 113 *e*P **P 13 49 16.0 -0.8**
WRAB pmax pmax
comp=Z,140nm,1.8s,mb6.0
WRAB MLR MLR
comp=Z,364nm,20.0s,MS4.8
WRAB Tennant Creek 89.10 113 P **P 13 49 16.6 -0.2**
WRAB Tennant Creek 89.10 113 *e*P **P 13 49 16.0 -0.8**
comp=Z,140nm,1.8s,mb6.0
WB2 Warramunga Arr 89.11 113 *e*P **P 13 49 15.6 -1.1**
WB2 Warramunga Arr 89.11 113 *e*P **P 13 49 15.6 -1.2**
SML Sawmill 89.45 11 *e*P **P 13 49 16.7 -1.0**
comp=Z,7.4nm,0.9s,mb5.0
SML Sawmill 89.45 11 *e*P **P 13 49 16.7 -1.0**
SML pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
SML Sawmill 89.45 11 *e*P **P 13 49 16.7 -1.0**
comp=Z,7.4nm,0.9s,mb5.0
PMR Palmer 89.52 12 *e*P **P 13 49 17.2 -0.8**
comp=Z,84nm,1.4s,mb5.9
PMR Palmer 89.52 12 *e*P **P 13 49 17.2 -0.8**
PMR pmax pmax
comp=Z,84nm,1.4s,mb5.9
PMR Palmer 89.52 12 *e*P **P 13 49 17.2 -0.8**
comp=Z,84nm,1.4s,mb5.9
FORT Forrest 89.64 125 *e*P **P 13 49 20.1 +1.1**
comp=Z,17nm,0.6s,mb5.5
RSO Redoubt South 89.84 14 P **P 13 49 16.4 -3.2**
comp=Z,48nm,1.0s,mb5.8
SLKM Skilak Lake 90.31 13 *e*P **P 13 49 20.7 -1.1**
SLKM Skilak Lake 90.31 13 *e*P **P 13 49 20.7 -1.1**
SLKM Skilak Lake 90.31 13 *e*P **P 13 49 20.7 -1.1**
DIV Divide 90.52 10 P **P 13 49 23.0 +0.3**
comp=Z,18nm,1.1s,mb5.3
DIV Divide 90.52 10 P **P 13 49 23.0 +0.3**
comp=Z,18nm,1.1s,mb5.3
ASAR Alice Springs 90.55 116 P **P 13 49 22.6 -0.8**
comp=Z,3.6nm,0.7s,mb4.8,baz=307,slow=5.0,SNR=67
ASAR PKKPbc PKKPbc 14 06 49.4 -1.3
comp=Z,0.3nm,0.8s,baz=114,slow=4.1,SNR=5.5
ASAR Alice Springs 90.55 116 P **P 13 49 22.6 -0.8**
ASAR PKKPbc PKKPbc 14 06 49.4 -1.3
ASAR Alice Springs 90.55 116 P **P 13 49 22.6 -0.8**
ASAR Alice Springs 90.55 116 P **P 13 49 22.6 -0.8**
AS31 Alice Springs 90.55 116 *e*P **P 13 49 22.3 -1.1**
AS31 Alice Springs 90.55 116 *e*P **P 13 49 22.3 -1.1**
YKA Yellowknife Ar 90.58 356 P **P 13 49 23.0 +0.1**
comp=Z,12nm,1.0s,mb5.2,baz=1.4,slow=4.1,SNR=22
YKA PKKPbc PKKPbc 14 06 54.3 +3.4
comp=Z,0.3nm,0.5s,baz=171,slow=2.2,SNR=4.4
YKA Yellowknife Ar 90.58 356 P **P 13 49 23.1 +0.1**
YKA PKKPbc PKKPbc 14 06 54.4 +3.4
YKA Yellowknife Ar 90.58 356 P **P 13 49 23.0 0.0**
YKA pmax pmax
comp=Z,12nm,1.0s
YKA Yellowknife Ar 90.58 356 P **P 13 49 23.0 0.0**
SEW Seward 90.84 12 P **P 13 49 23.5 -0.7**
comp=Z,28nm,0.9s,mb5.6
SEW Seward 90.84 12 P **P 13 49 23.5 -0.7**
comp=Z,28nm,0.9s,mb5.6
BMRM Bremner River 90.86 10 *e*P **P 13 49 24.5 +0.2**
comp=Z,44nm,1.1s,mb5.7
BMRM Bremner River 90.86 10 *e*P **P 13 49 24.5 +0.2**
comp=Z,44nm,1.1s,mb5.7
KDAK Kodiak Island 92.31 15 LR LR 14 39 57.5
comp=Z,822nm,18.6s,MS5.2,baz=234,slow=41
KDAK Kodiak Island 92.31 15 *e*P **P 13 49 30.5 -0.6**
comp=Z,63nm,1.2s,mb5.8
KDAK Kodiak Island 92.31 15 *e*P **P 13 49 30.5 -0.6**
KDAK pmax pmax
comp=Z,63nm,1.2s,mb5.8
KDAK Kodiak Island 92.31 15 *e*P **P 13 49 30.5 -0.6**
comp=Z,63nm,1.2s,mb5.8
PKME Peaks-Kenny Pk 92.56 325 PFAKE 13 49 40.0 +7.5
PKME LR LR
comp=Z,794nm,20.0s,MS5.2
SKAG Skagway 93.45 6 *e*P **P 13 49 36.1 -0.2**
comp=Z,29nm,1.4s,mb5.5
SKAG Skagway 93.45 6 *e*P **P 13 49 36.1 -0.2**
comp=Z,29nm,1.4s,mb5.5
RCBR Riachuelo 94.21 266 PFAKE 13 49 50.0 +9.4
RCBR LR LR
comp=Z,867nm,19.0s,MS5.2
MAW Mawson 94.37 177 LR LR 14 26 11.9
comp=Z,935nm,20.1s,MS5.2,baz=350,slow=32
LBNH Lisbon 94.62 325 PFAKE 13 49 50.0 +8.0
LBNH LR LR
comp=Z,807nm,20.0s,MS5.2
DLBC Dease Lake 94.83 3 *e*P **P 13 49 43.2 +0.6**
DLBC Dease Lake 94.83 3 *e*P **P 13 49 43.2 +0.5**
PMG Port Moresby 95.30 98 PFAKE 13 50 00.0 +14
PMG LR LR
comp=Z,438nm,19.0s,MS5.0
LONY Lake Ozonia 95.67 327 P **P 13 49 49.1 +2.3**
comp=Z,31nm,1.4s,mb5.5
LONY LR LR
comp=Z,601nm,22.0s,MS5.0
LONY Lake Ozonia 95.67 327 P **P 13 49 49.1 +2.3**
comp=Z,31nm,1.4s,mb5.5
NCB Newcomb 95.97 326 PFAKE 13 50 00.0 +12
NCB LR LR
comp=Z,587nm,21.0s,MS5.0
SYO Syowa Base 96.38 186‖ *e*P **P 13 49 52.0 +2.8**
FFC Flin Flon 96.50 347 P **P 13 49 48.0 -2.3**
comp=Z,14nm,1.3s,mb5.2
FFC LR LR
comp=Z,2μm,20.0s,MS5.5
FFC Flin Flon 96.50 347 P **P 13 49 48.0 -2.3**
FFC pmax pmax
comp=Z,14nm,1.3s,mb5.2
FFC MLR MLR
comp=Z,2μm,20.0s,MS5.5
FFC Flin Flon 96.50 347 P **P 13 49 48.0 -2.3**
comp=Z,14nm,1.3s,mb5.2
BINY Binghamton 98.15 326 PFAKE 13 50 10.0 +12
BINY LR LR
comp=Z,658nm,20.0s,MS5.1
BBSR BB Station 98.32 313 PFAKE 13 50 10.0 +11
BBSR LR LR
comp=Z,526nm,20.0s,MS5.0
CTAO Charters Tower 99.14 108 PFAKE 13 50 10.0 +7.2
CTAO LR LR
comp=Z,461nm,19.0s,MS5.0
EYMN Ely 99.93 338 PFAKE 13 50 20.0 +14
EYMN LR LR
comp=Z,745nm,19.0s,MS5.2
GLMI Grayling 100.03 333 PFAKE 13 50 20.0 +14
GLMI LR LR
comp=Z,706nm,20.0s,MS5.2
ERPA Erie 100.15 328 PFAKE 13 50 20.0 +13
ERPA LR LR
comp=Z,562nm,21.0s,MS5.0
STKA Stephens Creek 100.34 120 *e*P Pdif 13 50 02.7 -5.0
comp=Z,2.1nm,1.3s
AGMN Agassiz Nation 100.96 341 PFAKE 13 50 20.0 +10
AGMN LR LR
comp=Z,2μm,20.0s,MS5.7
AAM Ann Arbor 101.67 331 PFAKE 13 50 20.0 +6.4
AAM LR LR
comp=Z,607nm,20.0s,MS5.1
CASY Casey 101.69 160 PFAKE 13 50 20.0 +6.3
CASY LR LR
comp=Z,466nm,21.0s,MS5.0
CBN Corbin 101.83 324 PFAKE 13 50 20.0 +5.7
CBN LR LR
comp=Z,938nm,20.0s,MS5.3
DGMT Dagmar 102.87 347 PFAKE 13 50 30.0 +11
DGMT LR LR
comp=Z,2μm,20.0s,MS5.6
ACSO Alum Creek Sta 103.03 329 PFAKE 13 50 30.0 +10
ACSO LR LR
comp=Z,740nm,22.0s,MS5.2
JFWS Jewell Farm 103.85 335 PFAKE 13 50 30.0 +6.7
JFWS LR LR
comp=Z,769nm,20.0s,MS5.2
BLA Blacksburg 104.15 325 PFAKE 13 50 40.0 +15
BLA LR LR
comp=Z,658nm,20.0s,MS5.2
EGMT Eagleton 104.30 350 PFAKE 13 50 40.0 +15
EGMT LR LR
comp=Z,1μm,19.0s,MS5.5
CNNC Cliffs of the 104.31 322 PFAKE 13 50 40.0 +15
CNNC LR LR
comp=Z,1μm,20.0s,MS5.5
NEW Newport 104.91 355 PFAKE 13 50 40.0 +12
NEW LR LR
comp=Z,2μm,19.0s,MS5.7
LAO LASA Array 104.98 347 PFAKE 13 50 40.0 +12
LAO LR LR
comp=Z,997nm,22.0s,MS5.3
ANWB Willy Bob 105.06 299 PFAKE 13 50 40.0 +11
ANWB LR LR
comp=Z,950nm,22.0s,MS5.3
ECSD EROS Data Cent 105.31 340 PFAKE 13 54 50.0 +6.2
ECSD LR LR
comp=Z,2μm,20.0s,MS5.7
BBGH Gun Hill 105.80 294 PFAKE 13 55 00.0 +15
BBGH LR LR
comp=Z,2μm,20.0s,MS5.7
SCIA State Center 105.81 337 PFAKE 13 55 00.0 +15
SCIA LR LR
comp=Z,757nm,22.0s,MS5.2
MSO Missoula 106.03 353 PFAKE 13 55 00.0 +15
MSO LR LR
comp=Z,896nm,21.0s,MS5.3
NLWA Neilton Lookou 106.04 360 PFAKE 13 55 00.0 +15
NLWA LR LR
comp=Z,1μm,21.0s,MS5.5
FDF Fort de France 106.21 296 PFAKE 13 55 00.0 +14
FDF LR LR
comp=Z,714nm,20.0s,MS5.2
HNR Honiara 106.69 92 PFAKE 13 55 00.0 +13
HNR LR LR
comp=Z,646nm,20.0s,MS5.2
BOZ Bozeman (W) 106.90 351 PFAKE 13 55 00.0 +13
BOZ LR LR
comp=Z,1μm,20.0s,MS5.4
HAWA Hanford 106.93 357 PFAKE 13 55 00.0 +13
HAWA LR LR
comp=Z,2μm,20.0s,MS5.5
RLMT Red Lodge 107.05 349 PFAKE 13 55 00.0 +13
RLMT LR LR
comp=Z,1μm,20.0s,MS5.4
NHSC New Hope 107.16 322 PFAKE 13 55 00.0 +12
NHSC LR LR
comp=Z,1μm,20.0s,MS5.5
CAN Canberra 107.37 121 PFAKE 13 55 00.0 +12
CAN LR LR
comp=Z,693nm,22.0s,MS5.2
LKWY Lake 107.78 350 PFAKE 13 55 00.0 +12
LKWY LR LR
comp=Z,2μm,21.0s,MS5.6
GRGR Grenville 108.06 294 PFAKE 13 55 00.0 +10
GRGR LR LR
comp=Z,911nm,22.0s,MS5.3
SJG San Juan 108.15 302 PFAKE 13 55 00.0 +10
SJG LR LR
comp=Z,904nm,21.0s,MS5.3
BMO Blue Mountains 108.31 355 PFAKE 13 55 00.0 +11
BMO LR LR
comp=Z,2μm,20.0s,MS5.7
GOGA Godfrey 108.67 325 PFAKE 13 55 00.0 +10
GOGA LR LR
comp=Z,972nm,20.0s,MS5.4
HLID Hailey 109.31 353 PFAKE 13 55 00.0 +8.7
HLID LR LR
comp=Z,2μm,21.0s,MS5.5
BW06 Boulder Array 109.39 349 PFAKE 13 55 00.0 +8.5
BW06 LR LR
comp=Z,2μm,19.0s,MS5.7
PDAR Pinedale Array 109.39 349 PKiKP PKiKP 13 54 54.6 +3.1
comp=Z,0.8nm,0.6s,baz=67,slow=3.3,SNR=5.5
PDAR PKKPbc PKKPbc 14 06 07.0 +10
comp=Z,1.2nm,1.0s,baz=181,slow=5.3,SNR=7.3
PDAR Pinedale Array 109.39 349 PKiKP PKiKP 13 54 54.6 +3.1
PDAR PKKPbc PKKPbc 14 06 07.0 +10
PLAL Pickwick Lake 109.64 329 PFAKE 13 55 00.0 +7.8
PLAL LR LR
comp=Z,760nm,20.0s,MS5.3
AHID Auburn Hatcher 109.64 350 PFAKE 13 55 00.0 +8.1
AHID LR LR
comp=Z,1μm,21.0s,MS5.5
OXF Oxford 110.63 330 PFAKE 13 55 00.0 +5.9
OXF LR LR
comp=Z,691nm,20.0s,MS5.2
CBKS Cedar Bluff 110.76 340 PFAKE 13 55 10.0 +16
CBKS LR LR
comp=Z,3μm,21.0s,MS5.9
HWUT Hardware Ranch 110.85 350 PFAKE 13 55 10.0 +16
HWUT LR LR
comp=Z,1μm,22.0s,MS5.5
SDDR Presa de Saban 111.42 306 PFAKE 13 55 10.0 +14
SDDR LR LR
comp=Z,954nm,20.0s,MS5.4
ISCO Idaho Springs 111.43 345 PFAKE 13 55 10.0 +15
ISCO LR LR
comp=Z,2μm,22.0s,MS5.6
SPB Sao Paulo 111.60 254 PFAKE 13 55 10.0 +14
SPB LR LR
comp=Z,996nm,21.0s,MS5.4
MIAR Mount Ida 112.38 333 PFAKE 13 55 10.0 +13
MIAR LR LR
comp=Z,1μm,20.0s,MS5.4
BRAL Brewton 112.40 326 PFAKE 13 55 10.0 +12
BRAL LR LR
comp=Z,846nm,19.0s,MS5.3
DUG Dugway 112.42 351 PFAKE 13 55 10.0 +13
DUG LR LR
comp=Z,3μm,20.0s,MS5.9
BMN Battle Mountai 112.70 354 PFAKE 13 55 10.0 +12
BMN LR LR
comp=Z,2μm,21.0s,MS5.7
VBMS Vicksburg 113.06 329 PFAKE 13 55 10.0 +11
VBMS LR LR
comp=Z,658nm,19.0s,MS5.2
TARA Tarawa 113.27 76 PFAKE 13 55 10.0 +10
TARA LR LR
comp=Z,4μm,22.0s,MS6.0
SDCO Great Sand Dun 113.36 344 PFAKE 13 55 10.0 +11
SDCO LR LR
comp=Z,1μm,22.0s,MS5.4
GTBY Guantanamo Bay 113.50 309 PFAKE 13 55 10.0 +10
GTBY LR LR
comp=Z,1μm,22.0s,MS5.5
MVU Marysvale 113.98 350 PFAKE 13 55 10.0 +10
MVU LR LR
comp=Z,2μm,21.0s,MS5.7
MVCO Mesa Verde 114.55 346 PFAKE 13 55 10.0 +8.5
MVCO LR LR
comp=Z,2μm,22.0s,MS5.6
NVAR Mina Array Bea 114.78 355 PKP PKiKP 13 55 02.2 +0.4
comp=Z,0.7nm,0.6s,baz=299,slow=0.8,SNR=7.4
NVAR PKKPbc PKKPbc 14 05 48.0 +8.5
comp=Z,0.6nm,0.8s,baz=167,slow=7.2,SNR=4.9
NVAR Mina Array Bea 114.78 355 PKP PKiKP 13 55 02.2 +0.4
NVAR PKKPbc PKKPbc 14 05 48.0 +8.5
AMTX Amarillo 114.98 340 PFAKE 13 55 10.0 +7.7
AMTX LR LR
comp=Z,2μm,22.0s,MS5.6
TPH Tonopah 115.03 354 PFAKE 13 55 10.0 +10.6
TPH LR LR
comp=Z,992nm,22.0s,MS5.4
NATX Nacogdoches 115.25 332 PFAKE 13 55 10.0 +7.1
NATX LR LR
comp=Z,825nm,21.0s,MS5.3
ANMO Albuquerque 116.25 344 PFAKE 13 55 20.0 +15
ANMO LR LR
comp=Z,1μm,21.0s,MS5.5
MTDJ Mount Denham 116.33 310 PFAKE 13 55 20.0 +15
MTDJ LR LR
comp=Z,1μm,20.0s,MS5.5
QSPA South Pole Qui 116.76 180 *e*PKPdf PKPdf 13 55 03.8 -0.5
QSPA LR LR
comp=Z,1μm,20.0s,MS5.5
QSPA South Pole Qui 116.76 180 *e*PKIKP PKPdf 13 55 03.8 -0.5
SDV Santo Domingo 117.14 297 PFAKE 13 55 20.0 +13
SDV LR LR
comp=Z,830nm,20.0s,MS5.3
DZM Mont Dzumac 117.31 102 *e*LR LR 14 30 50.4
comp=Z,690nm,39.4s
JCT Junction City 118.38 336 PFAKE 13 55 20.0 +11
JCT LR LR
comp=Z,2μm,19.0s,MS5.8
MNTX Cornudas Mount 119.04 342 *e*PKPdf PKPdf 13 55 09.9 -0.4
MNTX LR LR
comp=Z,656nm,22.0s,MS5.2
MNTX Cornudas Mount 119.04 342 *e*PKIKP PKPdf 13 55 09.9 -0.4
PFO Pinyon Flat Ob 119.38 353 PFAKE 13 55 20.0 +9.2
PFO LR LR
comp=Z,3μm,22.0s,MS5.9
TUC Tucson 119.76 347 PFAKE 13 55 20.0 +8.4
TUC LR LR
comp=Z,2μm,20.0s,MS5.7
KVTX Kingsville 120.28 333 PFAKE 13 55 20.0 +7.3
KVTX LR LR
comp=Z,1μm,20.0s,MS5.5
SBA Scott Base 120.49 167 PFAKE 13 55 20.0 +8.5
SBA LR LR
comp=Z,796nm,22.0s,MS5.3
TXAR Lajitas Array 120.75 339 PKP PKPdf 13 55 12.9 -0.6
comp=Z,1.5nm,0.7s,baz=198,slow=2.8,SNR=13
TXAR Lajitas Array 120.75 339 PKP PKPdf 13 55 12.9 -0.6
TXAR Lajitas Array 120.75 339 PKIKP PKPdf 13 55 13.0 -0.6
TXAR Lajitas Array 120.75 339 PKIKP PKPdf 13 55 12.9 -0.7
TEIG Tepich 121.68 320 PFAKE 13 55 30.0 +14
TEIG LR LR
comp=Z,2μm,21.0s,MS5.8
EFI East Falkland 125.32 224 PFAKE 13 55 30.0 +8.5
EFI LR LR
comp=Z,2μm,22.0s,MS5.7
TGUH Tegucigalpa,Un 125.80 314 PKPdf PKPdf 13 55 23.4 -0.2
TGUH LR LR
comp=Z,361nm,21.0s,MS5.0
TGUH Tegucigalpa,Un 125.80 314 PKIKP PKPdf 13 55 23.4 -0.2
PMSA Palmer Station 126.71 208 PFAKE 13 55 40.0 +16
PMSA LR LR
comp=Z,3μm,20.0s,MS6.0
JTS JuntasAbangare 126.98 309 PFAKE 13 55 40.0 +14
JTS LR LR
comp=Z,424nm,22.0s,MS5.1
LPAZ La Paz 127.26 270 PKP PKPdf 13 55 26.6 +0.3
comp=Z,4.7nm,1.2s,baz=333,slow=2.3,SNR=6.0
LPAZ La Paz 127.26 270 PKP PKPdf 13 55 26.6 +0.3
LPAZ LR LR
comp=Z,987nm,22.0s,MS5.5
LPAZ La Paz 127.26 270 PKIKP PKPdf 13 55 26.6 +0.3
LPAZ MLR MLR
comp=Z,987nm,22.0s
LPAZ La Paz 127.26 270 PKIKP PKPdf 13 55 26.6 +0.3
TRQA Tornquist 127.30 241 *e*PKPdf PKPdf 13 55 25.3 -0.4
TRQA LR LR
comp=Z,2μm,20.0s,MS5.7
TRQA Tornquist 127.30 241 *e*PKIKP PKPdf 13 55 25.3 -0.4
CMIG Matias Romero 127.87 324 PKP PKPdf 13 55 27.5 0.0
comp=Z,3.7nm,0.8s,baz=2.6,slow=9.8,SNR=3.1
CMIG Matias Romero 127.87 324 PKP PKPdf 13 55 27.5 0.0
CMIG Matias Romero 127.87 324 PKIKP PKPdf 13 55 27.5 0.0
SNZO South Karori 128.33 123 PFAKE 13 55 40.0 +12
SNZO LR LR
comp=Z,1μm,22.0s,MS5.5
OTAV Otavalo 128.49 294 *e*PKPdf PKPdf 13 55 29.5 +0.7
OTAV LR LR
comp=Z,364nm,20.0s,MS5.1
OTAV Otavalo 128.49 294 *e*PKIKP PKPdf 13 55 29.5 +0.7
LCO Las Campanas 133.12 254 *e*PKPdf PKPdf 13 55 37.5 +0.4
LCO LR LR
comp=Z,2μm,19.0s,MS5.8
LCO Las Campanas 133.12 254 *e*PKIKP PKPdf 13 55 37.5 +0.4
NNA Nana 133.31 279 PFAKE 13 55 50.0 +12
NNA LR LR
comp=Z,594nm,20.0s,MS5.3
PLCA Paso Flores 134.09 238 PKP PKPdf 13 55 39.9 +1.4
comp=Z,5.0nm,1.1s,baz=208,slow=2.0,SNR=4.4
PLCA Paso Flores 134.09 238 PKP PKPdf 13 55 39.9 +1.4
PLCA LR LR
comp=Z,3μm,22.0s,MS6.0
PLCA Paso Flores 134.09 238 PKIKP PKPdf 13 55 39.9 +1.4
PLCA MLR MLR
comp=Z,3μm,22.0s
PLCA Paso Flores 134.09 238 PKIKP PKPdf 13 55 39.9 +1.4
PPT Papeete 154.69 74 *e*LR LR 14 48 04.0
comp=Z,700nm,31.2s
TAOE Nuku Hiva Isla 156.47 43 *e*LR LR 14 48 38.9
comp=Z,588nm,24.0s
TBI Tubuai 156.78 87 *e*LR LR 14 49 02.1
comp=Z,523nm,24.5s

ISCJB ***07*** *13:37:02.3±1.6,4°.2S±0°.2×106°.2W±0°.3,h10km,mb3.8/8, Error ellipse: s-maj=49.5km s-min=19.9km az=145.7*
IDC ***07*** *13:37:02.3±4.3,4°.24S×106°.79W,h0km,mb3.7/5, mb1 4.1/5,mb1mx4.0/11,mbtmp3.7/5,Error ellipse: s-maj=200.8km s-min=53.4km az=106.0*
NEIC ***07*** *13:37:03.9±1.1,4°.20S×106°.25W,h10km,mb3.9/3,Error ellipse: s-maj=38.4km s-min=19.5km az=58.0*
ISC 07 13:37:04.5±1.6,4°.2S±0°.2×106°.2W±0°.3,h10km,n15,
σ0°.99/13,mb3.8/8,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**33.38**	**4**	P	**P**	**13 43 44.5**	**+1.3**
0.4nm,0.9s,mb3.3,baz=196,slow=12,SNR=4.4							
TXAR	**Lajitas Array**	**33.38**	**4**	P	**P**	**13 43 44.5**	**+1.3**
SDV	**Santo Domingo**	**37.73**	**70**	*e*P	**P**	**13 44 20.0**	**-0.8**
7.6nm,0.8s,mb4.5							
NVAR	**Mina Array Bea**	**43.83**	**346**	P	**P**	**13 45 10.3**	**-0.5**
0.6nm,0.7s,mb3.4,baz=177,slow=10,SNR=4.7							
NVAR	**Mina Array Bea**	**43.83**	**346**	P	**P**	**13 45 10.3**	**-0.5**
PDAR	**Pinedale Array**	**46.79**	**357**	P	**P**	**13 45 34.5**	**+0.2**
0.9nm,0.7s,mb3.8,baz=172,slow=6.1,SNR=11							
PDAR	**Pinedale Array**	**46.79**	**357**	P	**P**	**13 45 34.5**	**+0.2**
MCMT	**McKenzie Canyo**	**49.12**	**354**	*e*P	**P**	**13 45 53.7**	**+1.4**
1.3nm,1.0s,mb3.9							
TRQA	**Tornquist**	**52.51**	**136**	*e*P	**P**	**13 46 18.7**	**+0.7**
0.4nm,0.6s,mb3.5							
YKA	**Yellowknife Ar**	**66.77**	**356**	P	**P**	**13 47 54.7**	**-1.0**
0.9nm,0.8s,mb3.9,baz=161,slow=5.7,SNR=4.6							
YKA	**Yellowknife Ar**	**66.77**	**356**	P	**P**	**13 47 54.7**	**-1.1**
ILAR	**Eielson Array**	**74.98**	**343**	P	**P**	**13 48 44.5**	**-1.2**
1.3nm,0.8s,mb3.9,baz=161,slow=5.5,SNR=19							
ILAR	**Eielson Array**	**74.98**	**343**	P	**P**	**13 48 44.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**151.62**	**302**	PKPbc	PKPbc	13 56 58.8	-1.4
0.2nm,0.4s,baz=8.5,slow=1.8,SNR=3.3							
CMAR	**Chiang Mai Arr**	**151.62**	**302**	PKPbc	PKPbc	13 56 58.8	-1.4

ISCJB ***07*** *13:41:41.9±0.7,26°.82N±0°.07×55°.95E±0°.10,h10km, mb4.0/13,Error ellipse: s-maj=13.1km s-min=9.9km az=18.0*
IDC ***07*** *13:41:42.5±1.1,26°.86N×55°.91E,h0km,mb4.0/13, mb1 4.1/13,mb1mx4.0/27,mbtmp4.0/13,Error ellipse: s-maj=27.2km s-min=19.1km az=20.0*
CSEM ***07*** *13:41:44.3±0.3,26°.93N×55°.96E,h10km,ML3.7,Error ellipse: s-maj=12.1km s-min=11.1km az=138.0*
NEIC ***07*** *13:41:49.5,27°.37N×55°.99E,h14km,ML3.7(THR),After THR.*
THR ***07*** *13:41:49.5±0.3,27°.38N×55°.99E,h14km±5km,ML3.6*
ISC 07 13:41:43.9±0.7,26°.85N±0°.07×55°.97E±0°.10,h10km,n52,
σ0°.86/55,mb4.0/13,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.57**	**18**	*e*Pg	**Pg**	**13 41 53.0**	**-2.1**
BNDS	**Bandar-Abbas**	**0.57**	**18**	*e*Pg	**Pg**	**13 41 53.8**	**-1.3**
BNDS				AML	AML	13 42 11.0	
comp=N,7μm,0.4s							

BNDS	Bandar-Abbas	0.57	18	*e*Pg		Pg	13 41 53.8 -1.3
KRBR	Kerman	3.20	12	*e*Pn		Pn	13 42 34.0 -0.2
KRBR				*e*Sg		Sn	13 43 13.0 +0.6
KRBR	Kerman	3.20	12	*e*Pn		Pn	13 42 34.6 +0.4
KRBR				*e*Sg		Sn	13 43 13.8 +1.5
KRBR				AML		AML	13 43 28.9
	comp=N,313nm,0.7s						
KRBR				AML		AML	13 43 31.6
	comp=E,351nm,0.5s						
KRBR	Kerman	3.20	12	*e*Pn		Pn	13 42 34.6 +0.4
KRBR				*e*Sg		Sn	13 43 13.8 +1.4
NASN	Na'in	6.53	336	*e*Pn		Pn	13 43 21.0 +1.0
NASN	Na'in	6.53	336	*e*Pn		Pn	13 43 21.3 +1.3
NASN	Na'in	6.53	336	*e*Pn		Pn	13 43 21.3 +1.3
ABKAR	Akbulak array	22.58	7	*e*P		P	13 46 42.8 -1.4
ABKAR	Akbulak array	22.58	7	*e*P		P	13 46 42.8 -1.5
BRTR	Keskin Array B	22.58	310	P		P	13 46 45.0 +0.6
	comp=E,2.7nm,0.9s,mb3.7,baz=121,slow=14,SNR=3.2						
BRTR	Keskin Array B	22.58	310	P		P	13 46 45.0 +0.6
BRTR	Keskin Array B	22.58	310	P		P	13 46 45.0 +0.6
BRVK	Borovoye	28.27	18	*e*P		P	13 47 36.5 -0.7
BRVK	Borovoye	28.27	18	*e*P		P	13 47 36.5 -0.7
BVAR	Borovoye Array	28.27	19	P		P	13 47 36.6 -0.6
	comp=E,2.7nm,0.7s,mb4.0,baz=205,slow=7.1,SNR=6.7						
BVAR	Borovoye Array	28.27	19	P		P	13 47 36.6 -0.6
BVAR	Borovoye Array	28.27	19	P		P	13 47 36.6 -0.6
MKAR	Makanchi Array	28.76	39	P		P	13 47 42.1 +0.5
	comp=E,2.1nm,0.9s,mb3.9,baz=219,slow=6.7,SNR=2.5						
MKAR	Makanchi Array	28.76	39	P		P	13 47 42.1 +0.5
MKAR	Makanchi Array	28.76	39	P		P	13 47 42.1 +0.5
AKASG	Malin Array Be	31.34	327	P		P	13 48 03.6 -0.8
	comp=E,0.9nm,0.5s,mb3.9,baz=131,slow=9.0,SNR=3.7						
AKASG	Malin Array Be	31.34	327	P		P	13 48 03.6 -0.8
AKASG	Malin Array Be	31.34	327	P		P	13 48 03.6 -0.8
ZALV	Zalesovo Beam	34.42	30	P		P	13 48 31.4 +0.1
	comp=E,3.6nm,0.5s,mb4.6,baz=242,slow=9.1,SNR=5.9						
ZALV	Zalesovo Beam	34.42	30	P		P	13 48 31.4 +0.1
ZALV	Zalesovo Beam	34.42	30	P		P	13 48 31.4 +0.1
GERES	GERESS Array B	39.28	315	P		P	13 49 12.1 -0.7
	comp=E,0.5nm,0.5s,mb3.5,baz=109,slow=7.2,SNR=3.8						
GERES	GERESS Array B	39.28	315	P		P	13 49 12.1 -0.7
GERES	GERESS Array B	39.28	315	P		P	13 49 12.1 -0.6
FINES	FINESS Array B	39.99	338	P		P	13 49 19.1 +0.6
	comp=E,1.8nm,0.6s,mb4.0,baz=146,slow=8.4,SNR=3.6						
FINES	FINESS Array B	39.99	338	P		P	13 49 19.1 +0.6
FINES	FINESS Array B	39.99	338	P		P	13 49 19.1 +0.7
NOA	NORSAR Array B	45.47	331	P		P	13 50 03.0 +0.1
	comp=E,1.5nm,0.9s,mb3.8,baz=133,slow=7.8,SNR=2.8						
NOA	NORSAR Array B	45.47	331	P		P	13 50 03.0 +0.1
NOA	NORSAR Array B	45.47	331	P		P	13 50 03.0 +0.1
ARCES	ARCESS Array B	46.26	346	P		P	13 50 10.0 +1.0
	comp=E,5.1nm,0.9s,mb4.5,baz=138,slow=9.6,SNR=3.8						
ARCES	ARCESS Array B	46.26	346	P		P	13 50 10.0 +0.9
ARCES	ARCESS Array B	46.26	346	P		P	13 50 10.0 +1.0
TORD	Torodi Ar. Bea	52.43	266	P		P	13 50 55.9 -1.1
	comp=E,1.4nm,0.5s,mb4.2,baz=71,slow=6.9,SNR=5.5						
TORD	Torodi Ar. Bea	52.43	266	P		P	13 50 55.9 -1.1
TORD	Torodi Ar. Bea	52.43	266	P		P	13 50 55.9 -1.1
KSAR	Wonju Array Be	60.48	60	P		P	13 51 53.9 -0.3
KSAR	Wonju Array Be	60.48	60	P		P	13 51 53.8 -0.3
KSRS	Korea Array	60.51	60	P		P	13 51 53.9 -0.4
	comp=E,1.5nm,0.8s,mb4.2,baz=274,slow=7.0,SNR=4.1						
WRA	Warramunga Arr	89.02	113	P		P	13 54 40.7 +1.2
	comp=E,0.5nm,0.6s,mb4.0,baz=310,slow=4.0,SNR=2.5						
WRA	Warramunga Arr	89.02	113	P		P	13 54 40.7 +1.2
WRA	Warramunga Arr	89.02	113	P		P	13 54 40.7 +1.2
ASAR	Alice Springs	90.47	116	P		P	13 54 46.9 +0.8
	comp=E,0.5nm,0.8s,mb3.9,baz=309,slow=3.8,SNR=3.5						
ASAR	Alice Springs	90.47	116	P		P	13 54 46.9 +0.8
ASAR	Alice Springs	90.47	116	P		P	13 54 46.9 +0.8

*IDC **07** 14:06:34.0±1.9, 30°.86N×83°.44E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/28, mbtmp3.4/7, ML3.5/2, MS4.2/1, Ms1 4.2/1, ms1mx2.9/32, Error ellipse: s-maj=66.8km s-min=20.4km az=71.0*

*NEIC **07** 14:06:34.4±0.7, 30°.71N×83°.11E, h10km, mb4.1/1, Error ellipse: s-maj=20.6km s-min=10.7km az=58.0*

*ISCJB **07** 14:06:35.7±0.7, 30°.8N±0°.1×83°.0E±0°.1, h33km, mb3.5/5, Error ellipse: s-maj=19.8km s-min=11.3km az=145.6*

ISC 07 14:06:38.0±0.7, 30°.80N±0°.10×83°.1E±0°.1, h35km, n21, σ1§11/19, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	12.38	291	*e*P	Pn	14 09 31.5	-0.3
MK31	Makanchi Array	15.98	358	*e*P	Pn	14 10 22.8	+2.8
MKAR	Makanchi Array	15.98	358	Pn	Pn	14 10 19.2	-0.8
	0.1nm,0.3s,baz=173,slow=11,SNR=7.8						
MKAR	Makanchi Array	15.98	358	Pn	Pn	14 10 19.2	-0.8
CMAR	Chiang Mai Arr	18.93	127	P	Pn	14 10 53.4	-3.4
	0.1nm,0.3s,baz=305,slow=11,SNR=2.7						
CMAR	Chiang Mai Arr	18.93	127	P	Pn	14 10 53.4	-3.4
KURK	Kurchatov	20.17	352	*e*P	P	14 11 07.7	-1.5
	1.0nm,0.8s,baz=174,slow=10,SNR=12						
KURK	Kurchatov	20.17	352	*e*P	P	14 11 10.7	+1.5
ZALV	Zalesovo Beam	23.17	3	P	P	14 11 42.1	+0.8
	0.2nm,0.3s,mb3.0,baz=204,slow=3.2,SNR=3.1						
ZALV	Zalesovo Beam	23.17	3	P	P	14 11 42.1	+0.8
SONM	Songino Array	24.65	40	P	P	14 11 53.7	-1.5
	0.6nm,0.7s,mb3.2,baz=225,slow=10,SNR=6.7						
SONM	Songino Array	24.65	40	P	P	14 11 53.7	-1.5
ABKAR	Akbulak array	25.39	323	*e*P	P	14 12 01.3	-0.6
WRA	Warramunga Arr	70.51	129	P	P	14 17 49.9	+0.5
	0.9nm,0.7s,mb3.8,baz=324,slow=6.3,SNR=9.7						
WRA	Warramunga Arr	70.51	129	P	P	14 17 49.9	+0.5
WRAB	Tennant Creek	70.51	129	*e*P	P	14 17 49.7	+0.3
	1.0nm,0.6s,mb3.9						
WB2	Warramunga Arr	70.52	129	*e*P	P	14 17 49.6	+0.2
ASAR	Alice Springs	72.85	132	P	P	14 18 03.9	+0.5
	0.3nm,0.8s,mb3.3,baz=312,slow=6.8,SNR=5.7						
ASAR	Alice Springs	72.85	132	P	P	14 18 03.9	+0.5
TXAR	Lajitas Array	119.86	7	PKP	PKPdf	14 25 26.0	+1.0
	0.4nm,0.8s,baz=355,slow=2.2,SNR=4.4						
TXAR	Lajitas Array	119.86	7	PKP	PKPdf	14 25 26.0	+1.0

*ISCJB **07** 14:10:39.8±1.1, 31°.87N±0°.03×104°.2E±0°.1, h1km±8km, mb3.6/8, Error ellipse: s-maj=14.8km s-min=5.3km az=3.0*

*IDC **07** 14:10:42.1±0.9, 31°.91N×104°.19E, h0km, mb3.4/8, mb1 3.5/10, mb1mx3.4/28, mbtmp3.4/10, ML3.5/2, Error ellipse: s-maj=35.1km s-min=17.4km az=55.0*

*NEIC **07** 14:10:43.3±0.5, 31°.92N×104°.19E, h10km, mb4.5/2, Error ellipse: s-maj=14.2km s-min=8.9km az=69.0*

*BJI **07** 14:10:46.1, 31°.76N×103°.86E, h14km, ML3.3/14*

ISC 07 14:10:42.2±0.9, 31°.83N±0°.03×104°.17E±0°.08, h2km±7km, n25, σ0§95/29, mb3.5/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.98	201	Pg	Pg	14 11 01.5	+0.5
CD2				Sg	Sg	14 11 13.3	-0.5
CD2				smax			
	comp=N,740nm,0.7s						
CD2				smax			
	comp=E,1μm,0.6s						
LZH	Lanzhou	4.25	356	*e*Pg	Pg	14 12 03.9	+0.2
LZH				Sg	Sg	14 13 00.1	+1.2
LZH				smax			
	comp=N,35nm,1.0s						
LZH				smax			
	comp=E,46nm,1.0s						
GYA	Guiyang	5.78	157	Pn	Pn	14 12 17.3	+8.3
GYA				Sn	Sn	14 13 16.9	+1.1
GYA				Sg	Sg	14 13 46.8	-1.1
GYA				smax			
	comp=N,50nm,0.9s						
GYA				smax			
	comp=E,50nm,0.7s						
CMAR	Chiang Mai Arr	14.13	201	Pn	Pn	14 14 04.9	+1.5
	comp=E,0.2nm,0.3s,baz=12,slow=7.7,SNR=4.1						
CMAR	Chiang Mai Arr	14.13	201	Pn	Pn	14 14 04.9	+1.5
SONM	Songino Array	16.07	5	Pn	Pn	14 14 27.7	-1.4
	comp=E,0.1nm,0.3s,baz=186,slow=10,SNR=3.3						
SONM	Songino Array	16.07	5	Pn	Pn	14 14 27.7	-1.4
KSAR	Wonju Array Be	20.28	67	P	P	14 15 19.2	+0.2
KSRS	Korea Array	20.31	67	P	P	14 15 19.3	-0.1
	comp=E,0.8nm,0.7s,baz=257,slow=12,SNR=3.1						
MKAR	Makanchi Array	22.47	318	P	P	14 15 40.9	-1.7
	comp=E,0.5nm,0.7s,mb3.1,baz=116,slow=10,SNR=4.2						
MKAR	Makanchi Array	22.47	318	P	P	14 15 40.9	-1.7
ZALV	Zalesovo Beam	26.09	334	P	P	14 16 16.4	-0.6
	comp=E,0.8nm,0.6s,mb3.4,baz=134,slow=6.4,SNR=4.6						
ZALV	Zalesovo Beam	26.09	334	P	P	14 16 16.4	-0.6
KURK	Kurchatov	26.70	322	P	P	14 16 22.1	-0.5
	comp=E,0.3nm,0.5s,mb3.0,baz=126,slow=9.0,SNR=3.7						
KURK	Kurchatov	26.70	322	P	P	14 16 22.1	-0.5
FINES	FINESS Array B	57.00	326	P	P	14 20 28.2	-0.7
	comp=E,1.1nm,0.6s,mb4.0,baz=98,slow=7.9,SNR=4.7						
FINES	FINESS Array B	57.00	326	P	P	14 20 28.2	-0.7
WRAB	Tennant Creek	59.04	147	*e*P	P	14 20 43.3	-0.4
	comp=E,2.2nm,1.1s,mb4.1						
WRA	Warramunga Arr	59.05	147	P	P	14 20 43.4	-0.3
	comp=E,0.2nm,0.4s,mb3.5,baz=339,slow=7.7,SNR=8.3						
WRA	Warramunga Arr	59.05	147	P	P	14 20 43.4	-0.3
WB2	Warramunga Arr	59.05	147	P	P	14 20 43.6	-0.2
ASAR	Alice Springs	62.08	149	P	P	14 21 05.7	+1.2
	comp=E,0.2nm,0.9s,mb3.3,baz=334,slow=7.3,SNR=4.2						
ASAR	Alice Springs	62.08	149	P	P	14 21 05.7	+1.2
GERES	GERESS Array B	67.08	314	P	P	14 21 38.7	+1.8
	comp=E,0.2nm,0.5s,mb3.4,baz=51,slow=7.7,SNR=2.3						
GERES	GERESS Array B	67.08	314	P	P	14 21 38.7	+1.8

*OMAN **07** 14:11:12.6±99.0, 27°.94N×55°.40E, h35km±999km, Error ellipse: s-maj=217.0km s-min=22.8km az=350.0*

*IDC **07** 14:11:19.8±1.1, 26°.80N×55°.87E, h0km, mb3.8/13, mb1 3.9/16, mb1mx3.7/32, mbtmp3.8/16, ML3.8/2, Error ellipse: s-maj=24.4km s-min=17.6km az=178.0*

*NEIC **07** 14:11:21.6±0.7, 26°.84N×55°.96E, h10km, mb4.0/8, Error ellipse: s-maj=15.8km s-min=8.4km az=172.0*

*TEH **07** 14:11:21.0, 26°.88N×55°.81E, h13km*

*CSEM **07** 14:11:23.0±0.2, 26°.96N×55°.90E, h10km, mb3.9/7, Error ellipse: s-maj=6.9km s-min=5.5km az=86.0*

*MOS **07** 14:11:23.9±1.5, 26°.84N×56°.09E, h32km, mb4.2/9, Error ellipse: s-maj=15.0km s-min=9.5km az=85.0*

*ISCJB **07** 14:11:24.9±0.5, 26°.96N±0°.03×55°.86E±0°.04, h43km±5km, mb3.8/18, Error ellipse: s-maj=5.9km s-min=5.1km az=165.4*

ISC 07 14:11:26.5±0.4, 26°.93N±0°.03×55°.90E±0°.04, h43km±5km, n138, σ0§90/145, mb3.8/18, 3C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.77	48	*e*Pg	Pn	14 11 38.4	-2.6
IBND				*e*Sg	Sn	14 11 50.4	-1.1
IBND				*e*		14 12 19.5	
	comp=Z,91μm,0.3s						
IBND	Bandar-abas	0.77	48	*e*Pg	Pn	14 11 38.4	-2.6
NAZ	Nazwa, Dubai	1.94	186	P	Pn	14 11 57.6	+0.6
	SNR=9.3						
NAZ				P		14 11 58.1	
	SNR=8.7						
NAZ	Nazwa, Dubai	1.94	186	P	Pn	14 11 57.6	+0.6
	SNR=9.3						
HATD	Hatta, Dubai	2.10	174	P	Pn	14 11 59.4	+0.2
	SNR=42						
HATD				P		14 11 59.7	
	SNR=18						
HATD	Hatta, Dubai	2.10	174	P	Pn	14 11 59.7	+0.4
	SNR=18						
ASUD	Al Ashush, Dub	2.35	193	P	Pn	14 12 03.7	+1.1
	SNR=113						
ASUD	Al Ashush, Dub	2.35	193	P	Pn	14 12 03.7	+1.1
	SNR=113						
ISRV	Sarvestan	3.47	316	*e*Pn	Pn	14 12 17.8	-0.2
ISRV				*e*		14 13 42.1	
	comp=Z,4μm,0.5s						
ISRV	Sarvestan	3.47	316	*e*Pn	Pn	14 12 17.8	-0.2
ARQ	Araqi	3.62	171	P	Pn	14 12 20.2	+0.2
	SNR=9.1						
ARQ				P		14 12 20.9	
	SNR=7.6						
ARQ	Araqi	3.62	171	P	Pn	14 12 20.9	+0.8
	SNR=7.6						
IPAR	Pars	3.84	320	*e*Pn	Pn	14 12 23.2	+0.1
IPAR				*e*		14 13 11.5	
	comp=Z,1μm,0.3s						
IPAR	Pars	3.84	320	*e*Pn	Pn	14 12 23.2	+0.1
SMDO	Samad	4.32	153	P	Pn	14 12 31.5	+1.8
	SNR=7.9						
SMDO	Samad	4.32	153	P	Pn	14 12 31.5	+1.8
	SNR=7.9						
IMEH	Mehriz	4.59	346	*e*Pn	Pn	14 12 33.7	+0.3
IMEH				*e*		14 13 31.7	
	comp=Z,947nm,0.2s						
IMEH	Mehriz	4.59	346	*e*Pn	Pn	14 12 33.7	+0.3
IBAF	Bafgh	4.66	357	*e*Pn	Pn	14 12 34.6	+0.3
IBAF	Bafgh	4.66	357	*e*Pn	Pn	14 12 34.6	+0.3
ISAD	Sadrabad	5.33	339	*e*Sn	Sn	14 13 44.7	+1.0
ISAD	Sadrabad	5.33	339	*e*Sn	Sn	14 13 44.7	+1.0
ICHK	Chekchek	5.46	347	*e*Pn	Pn	14 12 45.5	+0.2
ICHK				*e*Sn	Sn	14 13 47.6	+0.8
ICHK				*e*		14 13 52.0	
	comp=Z,560nm,0.2s						
ICHK	Chekchek	5.46	347	*e*Pn	Pn	14 12 45.5	+0.2
ICHK				*e*Sn	Sn	14 13 47.6	+0.8
IGAR	Gharneh	6.41	329	*e*Pn	Pn	14 12 58.3	0.0
IGAR				*e*		14 13 04.0	
	comp=Z,585nm,0.1s						
ITEG	Tejag	6.44	22	*e*Pn	Pn	14 12 59.3	+0.5
ITEG				*e*		14 15 33.3	
	comp=Z,271nm,0.5s						
ITEG	Tejag	6.44	22	*e*Pn	Pn	14 12 59.3	+0.5
IZEF	Zefreh	6.71	333	*e*	Pn	14 13 02.8	+0.3
	comp=Z,250nm,0.2s						
IZEF				*e*Pn	Pn	14 13 02.1	-0.3
IZEF	Zefreh	6.71	333	*e*Pn	Pn	14 13 02.1	-0.3
IDAH	Dahanechah	6.74	30	*e*Pn	Pn	14 13 04.1	+1.2
IDAH				*e*		14 15 11.4	
	comp=Z,165nm,0.4s						
IDAH	Dahanechah	6.74	30	*e*Pn	Pn	14 13 04.1	+1.2
IPIR	Pirpir	7.20	324	*e*Pn	Pn	14 13 08.8	-0.4
IPIR				*e*		14 14 31.4	
	comp=Z,578nm,0.3s						
IPIR	Pirpir	7.20	324	*e*Pn	Pn	14 13 08.8	-0.4
QRN	Al-Qurain	7.29	286	*e*P	Pn	14 13 10.2	-0.4
QRN				AML	AML	14 14 31.6	
	comp=Z,123nm,0.7s						
IKLH	Kolahrood	7.39	331	*e*Pn	Pn	14 13 11.1	-0.7
IKLH				*e*		14 13 18.5	
	comp=Z,174nm,0.1s						
IKLH	Kolahrood	7.39	331	*e*Pn	Pn	14 13 11.1	-0.7
RDF	Al-Radifah	7.65	287	*e*P	Pn	14 13 14.7	-0.7
RDF				AML	AML	14 14 37.6	
	comp=Z,22nm,0.5s						
RDF	Al-Radifah	7.65	287	*e*P	Pn	14 13 14.7	-0.7
UMR	Umm Al-Rimmam	7.67	292	*e*P	Pn	14 13 15.0	-0.8
UMR	Umm Al-Rimmam	7.67	292	*e*P	Pn	14 13 15.0	-0.8
NAY	Al-Naaiem	7.99	289	*e*P	Pn	14 13 19.1	-0.9
NAY				AML	AML	14 14 46.6	
	comp=Z,17nm,0.6s						
NAY	Al-Naaiem	7.99	289	*e*P	Pn	14 13 19.1	-0.9
MIB	Mutribah	8.06	293	*e*P	Pn	14 13 20.7	-0.4
MIB				AML	AML	14 14 48.7	
	comp=Z,17nm,0.5s						
MIB	Mutribah	8.06	293	*e*P	Pn	14 13 20.7	-0.4
RBK	Rabkut	9.51	190	P	Pn	14 13 40.7	-0.2
	SNR=5.5						
RBK	Rabkut	9.51	190	P	Pn	14 13 40.7	-0.2
	SNR=5.5						
ABTO	Aybut	9.83	195	P	Pn	14 13 43.4	-1.9
	SNR=8.3						
ABTO	Aybut	9.83	195	P	Pn	14 13 43.4	-1.9
	SNR=8.3						
GNI	Garni	16.12	328	Pn	Pn	14 15 12.5	+2.6
	comp=Z,0.6nm,0.3s,baz=181,slow=10,SNR=4.0						
GNI	Garni	16.12	328	P	Pn	14 15 14.1	+4.1
	comp=Z,15nm,1.1s						
GNI	Garni	16.12	328	P	Pn	14 15 12.5	+2.5
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	Garni	16.12	328	P	Pn	14 15 12.5	+2.5
	comp=Z,1.0nm,0.3s						
ASF	Jabal al Asfar	17.33	292	P	Pn	14 15 25.6	+0.3
	comp=Z,0.2nm,0.3s,baz=179,slow=6.9,SNR=3.7						
ASF				S	S	14 18 34.4	-10
	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=2.3						
ASF	Jabal al Asfar	17.33	292	P	Pn	14 15 25.6	+0.3
ASF				S	S	14 18 34.4	-10
ASF	Jabal al Asfar	17.33	292	P	Pn	14 15 25.6	+0.3
ASF				S	S	14 18 34.4	-10
EIL	Elat	18.64	283	P	Pn	14 15 42.8	+1.4
	comp=Z,0.3nm,0.3s,baz=44,slow=5.8,SNR=3.6						
EIL	Elat	18.64	283	P	Pn	14 15 42.8	+1.4
MMAI	Mount Meron Ar	18.75	294	P	Pn	14 15 39.4	-3.3
	comp=Z,0.6nm,0.3s,baz=124,slow=7.8,SNR=2.4						
MMAI	Mount Meron Ar	18.75	294	P	Pn	14 15 39.4	-3.2
MMAI	Mount Meron Ar	18.75	294	P	Pn	14 15 39.4	-3.2
KKAR	Karatay Array	20.04	33	*e*P	P	14 15 54.2	-1.7
	comp=Z,2.2nm,0.8s						
KKAR	Karatay Array	20.04	33	*e*P	P	14 15 54.2	-1.7
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	Karatay Array	20.04	33	*e*P	P	14 15 54.2	-1.7
	comp=Z,2.2nm,0.8s						
KIV	Kislovodsk	20.07	331	*e*P	P	14 15 57.6	+1.5
	comp=Z,29nm,1.1s						
KIV	Kislovodsk	20.07	331	*e*P	P	14 16 00.7	+4.6
KIV				pmax	pmax		
	comp=Z,21nm,1.1s						
KIV	Kislovodsk	20.07	331	*e*P	P	14 15 57.6	+1.5
	comp=Z,29nm,1.1s						
EKS2	Erkin-Say	21.43	38	*e*P	P	14 16 11.5	+0.6
	comp=Z,9.0nm,1.3s,mb3.9						
EKS2	Erkin-Say	21.43	38	*e*P	P	14 16 11.5	+0.7
EKS2				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb3.9						
EKS2	Erkin-Say	21.43	38	*e*P	P	14 16 11.5	+0.7
	comp=Z,9.0nm,1.3s,mb3.9						
AAK	Ala-Archa	21.81	39	*e*P	P	14 16 15.1	+0.2
	comp=Z,24nm,0.9s,mb4.6						
AAK	Ala-Archa	21.81	39	*c*e*P	P	14 16 15.4	+0.5
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.0						
AAK	Ala-Archa	21.81	39	*e*P	P	14 16 15.4	+0.5
	comp=Z,9.0nm,1.4s,mb4.0						
BR131	Keskin Array S	22.48	310	*e*P	P	14 16 22.8	+0.6
	comp=Z,8.7nm,1.1s,mb4.1						
BR131	Keskin Array S	22.48	310	*e*P	P	14 16 22.8	+0.7
	comp=Z,8.6nm,1.1s,mb4.1						
BRTR	Keskin Array B	22.48	310	P	P	14 16 22.6	+0.4
	comp=Z,0.8nm,0.6s,mb3.3,baz=101,slow=18,SNR=5.4						
BRTR	Keskin Array B	22.48	310	P	P	14 16 22.6	+0.4
BRTR	Keskin Array B	22.48	310	*c*e*P	P	14 16 31.2	+9.1
BRTR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BRTR	Keskin Array B	22.48	310	P	P	14 16 22.6	+0.5
ABKAR	Akbulak array	22.51	7	*e*P	P	14 16 21.6	-0.8
	comp=Z,2.2nm,0.6s,mb3.8						
ABKAR	Akbulak array	22.51	7	*e*P	P	14 16 21.5	-0.8
	comp=Z,2.2nm,0.6s,mb3.8						
AKTK	Aktyubinsk	23.53	3	P	P	14 16 32.8	+0.1
AKTO	Aktyubinsk	23.53	3	P	P	14 16 32.8	0.0
	comp=Z,3.0nm,0.6s,mb3.9,baz=175,slow=9.6,SNR=9.9						
AKTO	Aktyubinsk	23.53	3	P	P	14 16 32.8	0.0
AKTO	Aktyubinsk	23.53	3	P	P	14 16 32.8	+0.1
AKTO	Aktyubinsk	23.53	3	P	P	14 16 32.8	+0.1
BRVK	Borovoye	28.22	18	*e*P	P	14 17 15.0	-0.1
	comp=Z,1.4nm,0.6s,mb3.8						
BRVK	Borovoye	28.22	18	*e*P	P	14 17 15.0	-0.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
BRVK	Borovoye	28.22	18	*e*P	P	14 17 15.0	-0.1
	comp=Z,1.4nm,0.6s,mb3.8						
BVAR	Borovoye Array	28.22	19	P	P	14 17 15.4	+0.3
	comp=Z,1.9nm,0.6s,mb3.9,baz=202,slow=7.4,SNR=10						
BVAR	Borovoye Array	28.22	19	P	P	14 17 15.4	+0.3
BVAR	Borovoye Array	28.22	19	P	P	14 17 15.4	+0.3
BVAR	Borovoye Array	28.22	19	P	P	14 17 15.4	+0.3
MK31	Makanchi Array	28.75	39	P	P	14 17 18.9	-0.9
MK31	Makanchi Array	28.75	39	P	P	14 17 18.9	-1.0
MK31	Makanchi Array	28.75	39	P	P	14 17 18.9	-1.0
MKAR	Makanchi Array	28.75	39	P	P	14 17 20.4	+0.5
	comp=Z,0.6nm,0.7s,mb3.4,baz=226,slow=8.0,SNR=5.0						
MKAR	Makanchi Array	28.75	39	P	P	14 17 20.4	+0.5
MKAR	Makanchi Array	28.75	39	*c*e*P	P	14 17 20.3	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	28.75	39	*e*P	P	14 17 20.3	+0.4
	comp=Z,1.0nm,0.7s,mb3.6						
KURK	Kurchatov	29.40	30	P	P	14 17 24.4	-1.2
	comp=Z,0.3nm,0.2s,mb3.6,baz=230,slow=8.7,SNR=7.2						
KURK	Kurchatov	29.40	30	*e*P	P	14 17 25.5	-0.1
	comp=Z,2.1nm,1.0s,mb3.8						
KURK	Kurchatov	29.40	30	*e*P	P	14 17 25.5	-0.1
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
KURK	Kurchatov	29.40	30	*e*P	P	14 17 25.5	-0.1
	comp=Z,2.1nm,1.0s,mb3.8						
KIEV	Kiev	31.25	327	*i*P	P	14

CMIG LR LR 14 28 09.6
comp=Z,1μm,21.5s,MS4.3,baz=192,slow=31
CMIG Matias Romero 24.20 27 P **P 14 20 50.5 +0.1**
JTS JuntasAbangare 25.76 55 P **P 14 21 04.8 0.0**
47nm,1.0s,mb5.0,baz=214,slow=2.7,SNR=15
JTS LR LR 14 29 02.5
comp=Z,3μm,18.9s,MS4.8,baz=256,slow=32
JTS JuntasAbangare 25.76 55 *eP* **P 14 21 04.1 -0.7**
80nm,1.1s,mb5.2
ATAH Atahualpa 27.77 97 LR LR 14 29 53.8
comp=Z,2μm,19.4s,MS4.7,baz=91,slow=31
OTAV Otavalo 28.11 81 *eP* **P 14 21 26.5 +0.5**
17nm,1.3s,mb4.5
NNA Nana 29.95 106 LR LR 14 30 43.2
comp=Z,1μm,18.6s,MS4.6,baz=278,slow=30
ROSC El Rosal 33.16 74 P **P 14 22 10.3 -0.3**
4.1nm,0.4s,mb4.7,baz=104,slow=22,SNR=4.8
ROSC El Rosal 33.16 74 P **P 14 22 10.3 -0.3**
RKT Rikitea 33.39 234 *eS* **S 14 27 34.1 +0.3**
405nm,27.0s
RKT *eLR* LR 14 31 02.7
4μm,25.2s,baz=56
TXAR Lajitas Array 33.74 4 P **P 14 22 15.7 +0.3**
1.8nm,1.0s,mb3.9,baz=186,slow=10,SNR=11
TXAR Lajitas Array 33.74 4 P **P 14 22 15.7 +0.3**
TAOE Nuku Hiva Isla 33.99 261 *eLR* LR 14 31 15.8
4μm,25.1s,baz=91
MNTX Cornudas Mount 36.02 1 *eP* **P 14 22 33.7 -1.4**
8.7nm,1.2s,mb4.6
SDV Santo Domingo 37.86 69 *eP* **P 14 22 50.4 -0.7**
38nm,0.9s,mb5.1
GLA Glamis 38.25 348 *eP* **P 14 22 55.3 +1.3**
8.0nm,1.2s,mb4.3
LPAZ La Paz 39.13 110 *eP* **P 14 23 02.7 +1.0**
10.0nm,1.3s,mb4.4
PFO Pinyon Flat Ob 39.14 346 *eP* **P 14 23 02.9 +1.5**
6.5nm,1.2s,mb4.2
ANMO Albuquerque 39.25 360 P **P 14 23 02.6 +0.2**
2.3nm,1.1s,mb3.8,baz=172,slow=7.4,SNR=5.5
ANMO Albuquerque 39.25 360 *eP* **P 14 23 02.8 +0.4**
WUAZ Wupatki 40.11 353 *eP* **P 14 23 10.3 +0.7**
41nm,1.7s,mb4.9
LDFC Landfair 40.27 349 *eP* **P 14 23 11.2 +0.4**
12nm,1.1s,mb4.5
MIAR Mount Ida 40.63 16 *eP* **P 14 23 13.1 -0.8**
38nm,1.6s,mb4.8
GSC Goldstone 40.84 347 *eP* **P 14 23 16.2 +0.6**
10nm,1.2s,mb4.3
LCO Las Campanas 41.52 130 *eP* **P 14 23 22.9 +1.6**
28nm,1.3s,mb4.7
MVCO Mesa Verde 41.56 357 *eP* **P 14 23 22.1 +0.6**
18nm,1.1s,mb4.6
PV01 Paradox Valley 42.49 357 *eP* **P 14 23 29.4 +0.3**
1μm,1.3s
ARUT Antelope Range 42.62 352 *eP* **P 14 23 31.7 +1.5**
23nm,1.2s,mb4.8
PV04 Paradox Valley 42.76 357 P **P 14 23 31.5 +0.2**
MSU Marysvale 43.17 353 P **P 14 23 35.7 +1.2**
7.5nm,1.1s,mb4.3
SMCO Snowmass 43.48 359 *eP* **P 14 23 37.3 +0.3**
9.5nm,1.0s,mb4.5
SRU San Rafael 43.59 355 *eP* **P 14 23 39.0 +1.1**
10.0nm,1.0s,mb4.5
ISCO Idaho Springs 44.10 1 *eP* **P 14 23 42.5 +0.4**
13nm,1.3s,mb4.5
NVAR Mina Array Bea 44.18 346 P **P 14 23 44.3 +1.6**
1.6nm,1.0s,mb3.7,baz=168,slow=8.6,SNR=11
NVAR LR LR 14 38 24.4
comp=Z,2μm,21.8s,MS4.9,baz=190,slow=31
NVAR Mina Array Bea 44.18 346 P **P 14 23 44.3 +1.6**
PPT Papeete 44.39 250 *eS* **S 14 30 18.7 -1.0**
465nm,24.8s
PPT *eLQ* 14 34 11.6
2μm,24.5s
PPT *eLR* LR 14 36 06.1
4μm,25.0s,baz=75
CCM Cathedral Cave 44.57 17 *eP* **P 14 23 45.0 -0.8**
14nm,1.2s,mb4.7
MPU Maple Canyon 44.59 354 *eP* **P 14 23 47.1 +1.1**
13nm,0.6s,mb4.9
CFAA Coronel Fontan 44.64 132 P **P 14 23 44.9 -1.7**
0.9nm,1.0s,baz=300,slow=6.5,SNR=9.8
CFAA LR LR 14 36 34.9
comp=Z,19nm,21.3s,baz=291,slow=28
CFAA Coronel Fontan 44.64 132 P **P 14 23 44.9 -1.6**
DUG Dugway 44.90 353 *eP* **P 14 23 48.5 +0.1**
6.8nm,0.9s,mb4.5
DAU Daniels Canyon 44.95 355 *eP* **P 14 23 50.1 +1.3**
18nm,1.1s,mb4.8
WCN Washoe City 45.36 345 *eP* **P 14 23 53.3 +1.2**
24nm,1.6s,mb4.8
TBI Tubuai 45.74 242 *eS* **S 14 30 38.4 -0.7**
489nm,25.2s
TBI *eLQ* 14 34 47.3
724nm,26.8s
TBI *eLR* LR 14 36 41.7
2μm,26.5s,baz=72
HWUT Hardware Ranch 46.16 354 *eP* **P 14 23 58.5 +0.1**
10nm,1.0s,mb4.7
OLIL Olney 46.17 20 P **P 14 23 57.8 -0.8**
PDAR Pinedale Array 47.16 357 P **P 14 24 05.7 -0.5**
1.2nm,0.6s,mb4.0,baz=169,slow=7.6,SNR=12
PDAR Pinedale Array 47.16 357 P **P 14 24 05.7 -0.5**
PD01 Pinedale Array 47.17 357 P **P 14 24 06.3 +0.1**
PD02 Pinedale Array 47.17 357 *eP* **P 14 24 05.8 -0.4**
REDW Red Top Meadow 47.84 355 *eP* **P 14 24 11.8 +0.3**
15nm,1.1s,mb4.9
RRI2 Red Ridge 47.86 355 *eP* **P 14 24 11.4 -0.3**
9.7nm,0.9s,mb4.8
SNOW Snow King Moun 47.93 356 P **P 14 24 09.6 -2.6**
8.5nm,0.9s,mb4.8
MOD Modoc 47.95 346 *eP* **P 14 24 12.6 +0.3**
7.3nm,0.9s,mb4.7
TPAW Teton Pass 47.97 355 *eP* **P 14 24 11.7 -0.9**
6.3nm,0.9s,mb4.7
LOHW Long Hollow 48.07 356 *eP* **P 14 24 12.5 -0.8**
9.9nm,1.1s,mb4.8
PLCA Paso Flores 48.20 144 P **P 14 24 15.1 +0.7**
4.0nm,1.1s,mb4.4,baz=308,slow=14,SNR=3.6
PLCA LR LR 14 39 35.3
comp=Z,3μm,21.9s,MS5.2,baz=6.9,slow=30
PLCA Paso Flores 48.20 144 P **P 14 24 15.1 +0.7**
IMW Indian Meadow 48.38 355 *eP* **P 14 24 15.5 -0.2**
19nm,1.1s,mb5.0
HLID Hailey 48.43 352 *eP* **P 14 24 16.3 +0.3**
7.4nm,0.9s,mb4.7
RSSD Black Hills 48.45 2 *eP* **P 14 24 15.4 -0.8**
8.4nm,1.0s,mb4.7
MFID Camas Ranch 48.49 351 *eP* **P 14 24 16.9 +0.3**
16nm,1.1s,mb5.0
YMR Madison River 49.15 355 *eP* **P 14 24 21.9 +0.4**
7.4nm,0.4s,mb5.1
QLMT Earthquake Lak 49.34 355 P **P 14 24 23.5 +0.5**
0.7nm,0.4s,mb4.0
MCMT McKenzie Canyo 49.48 354 *eP* **P 14 24 24.7 +0.7**
6.3nm,1.0s,mb4.6
RLMT Red Lodge 49.49 357 *eP* **P 14 24 23.1 -1.0**
8.6nm,0.9s,mb4.8
DLMT Dillon 49.98 354 *eP* **P 14 24 28.1 +0.2**
8.1nm,1.2s,mb4.6
HRY Holter Researc 51.25 355 *eP* **P 14 24 36.2 -1.2**
12nm,1.0s,mb4.8
SLMT Seeley Lake 51.93 354 *eP* **P 14 24 41.3 -1.3**
4.5nm,1.0s,mb4.3
BSMT Bassoo Peak 52.69 353 *eP* **P 14 24 47.8 -0.3**
10nm,1.3s,mb4.6
OD2 Odessa Site #2 52.85 349 *eP* **P 14 24 48.8 -0.6**
21nm,1.1s,mb5.0
AGMN Agassiz Nation 53.36 9 *eP* **P 14 24 52.4 -0.7**
6.2nm,0.8s,mb4.6
JCW Jim Creek 54.27 347 *eP* **P 14 24 58.3 -1.5**
13nm,1.0s,mb4.8
ULM Lac du Bonnet 55.27 8 LR LR 14 47 17.1
comp=Z,1μm,20.8s,MS5.0,baz=92,slow=34
DLBC Dease Lake 65.60 346 *eP* **P 14 26 17.7 +0.3**
YKA Yellowknife Ar 67.13 356 P **P 14 26 26.7 -0.5**
3.3nm,0.9s,mb4.4,baz=164,slow=6.5,SNR=7.5
YKA Yellowknife Ar 67.13 356 P **P 14 26 26.6 -0.5**
SCHQ Schefferville 67.53 23 LR LR 14 55 53.0
comp=Z,520nm,20.1s,MS4.8,baz=235,slow=36
BMRM Bremner River 71.77 341 P **P 14 26 56.3 +0.3**
8.9nm,0.4s,mb5.0
EGAK Eagle 73.77 345 *eP* **P 14 27 06.9 -0.9**
19nm,1.4s,mb4.8
RSO Redoubt South 74.23 338 *eP* **P 14 27 09.2 -1.3**
15nm,0.8s,mb5.0
INK Inuvik 75.12 350 *eP* **P 14 27 14.2 -1.3**
13nm,1.3s,mb4.7

ILAR Eielson Array 75.33 343 P **P 14 27 15.9 -0.9**
2.1nm,0.8s,mb4.1,baz=162,slow=6.1,SNR=16
ILAR LR LR 14 53 21.5
comp=Z,519nm,20.9s,MS4.8,baz=339,slow=30
ILAR Eielson Array 75.33 343 P **P 14 27 15.9 -0.9**
COLD Coldfoot 78.05 344 *eP* **P 14 27 32.3 +0.2**
18nm,1.2s,mb4.9
QSPA South Pole Qui 85.54 180 *eP* **P 14 28 12.0 +0.5**
6.7nm,1.0s,mb4.8
DZM Mont Dzumac 85.89 248 *eLR* LR 14 55 23.5
700nm,22.6s
HNR Honiara 93.07 260 LR LR 14 59 27.1
comp=Z,419nm,21.2s,MS4.9,baz=339,slow=28
PETK Petropavlovsk- 97.26 323 LR LR 15 05 09.6
comp=Z,514nm,19.8s,MS5.0,baz=261,slow=31
SONM Songino Array 128.59 332 PKP PKPdf 14 34 45.1 +4.0
0.1nm,0.4s,baz=22,slow=1.6,SNR=2.3
SONM Songino Array 128.59 332 PKP PKPdf 14 34 45.1 +4.0
BRTR Keskin Array B 129.59 40 PKP PKPdf 14 34 44.4 +1.1
1.1nm,1.0s,baz=346,slow=3.2,SNR=4.3
BRTR Keskin Array B 129.59 40 PKP PKPdf 14 34 44.4 +1.1
NJ2 Nanjing 129.75 309 *ePKP* PKPdf 14 34 39.1 -4.7
HHC Hu-ho-hao-te 130.46 322 *ePKP* PKPdf 14 34 45.7 +0.8
HHC PP PP 14 37 04.0 +5.5
HHC PKS 14 38 21.3
HHC SKS SKSdf 14 41 51.8 -4.9
HHC SKKS SKKSac 14 43 52.0 -4.1
HHC SS SS 14 54 26.1 -0.1
HHC AMB AMB
comp=Z,140nm,9.5s
HHC LR LR
comp=N,270nm,15.5s,MS5.2
HHC LR LR
comp=E,340nm,16.7s,MS5.2
HHC LR LR
comp=Z,360nm,19.0s,MS5.1
LZH Lanzhou 138.16 323 *ePKP* PKPdf 14 34 57.5 -2.0
LZH *sPKP* 14 35 02.2
LZH LR LR
comp=N,140nm,18.0s
LZH LR LR
comp=Z,200nm,20.1s,MS4.8
WMQ Urumqi 138.98 345 *ePKP* PKPdf 14 34 59.9 -0.8
WMQ LR LR
comp=N,440nm,24.0s,MS5.2
WMQ LR LR
comp=E,260nm,21.2s,MS5.2
WMQ LR LR
comp=Z,500nm,22.0s,MS5.2
GYA Guiyang 141.76 308 PKP PKPdf 14 35 05.0 -1.3
GYA PP PP 14 38 13.2 +3.0
GYA AMB AMB
comp=Z,80nm,8.0s
CMAR Chiang Mai Arr 151.80 301 PKP PKPdf 14 35 23.4 +0.2
comp=Z,0.2nm,0.3s,baz=38,slow=3.4,SNR=3.3
CMAR PKPbc PKPbc 14 35 31.9 +2.3
comp=Z,2.1nm,0.9s,baz=61,slow=0.7,SNR=7.0
CMAR Chiang Mai Arr 151.80 301 PKP PKPdf 14 35 23.4 +0.2
CMAR PKPbc PKPbc 14 35 31.9 +2.3

*NEIC **07** 14:16:36.8, 17°.16N×100°.58W, h9km, MD3.6(MEX), After MEX.*
MEX 07 14:16:36.7±1.1, 17°.18N×100°.57W, h5km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.32**	**114**	*i* P		Pg	14 16 42.7	-0.2
CAIG				*i* S		Sg	14 16 46.4	-0.7
CAIG	**El Cayaco**	**0.32**	**114**	*i* P		Pg	14 16 42.7	-0.2
CAIG				*i* S		Sg	14 16 46.4	-0.7
ACX	**Acapulco**	**0.75**	**114**	*i* P		Pg	14 16 50.3	-0.8
ACX				*i* S		Sg	14 16 57.8	-3.0
ACX	**Acapulco**	**0.75**	**114**	*i* P		Pg	14 16 50.3	-0.8
ACX				*i* S		Sg	14 16 57.8	-3.0
ZIIG	**Zihuatanejo**	**0.95**	**297**	*i* P		Pg	14 16 51.6	-3.4
ZIIG				*i* S		Sg	14 17 03.2	-4.1
ZIIG	**Zihuatanejo**	**0.95**	**297**	*i* P		Pg	14 16 51.6	-3.4
ZIIG				*i* S		Sg	14 17 04.6	-2.8
PNIG	**Pinotepa**	**2.47**	**108**	*eP*		Pn	14 17 15.0	-2.6
PNIG				*i* S		Sn	14 17 42.4	-5.7
PNIG	**Pinotepa**	**2.47**	**108**	*eP*		Pn	14 17 15.0	-2.6
PNIG				*i* S		Sn	14 17 44.6	-3.5
PPM	**Popocatepetl**	**2.64**	**44**	*i* P		Pn	14 17 17.7	-2.2
PPM				*i* S		Sn	14 17 49.7	-2.6
PPM	**Popocatepetl**	**2.64**	**44**	*i* P		Pn	14 17 17.7	-2.2
PPM				*i* S		Sn	14 17 49.7	-2.6
UTMO	**Huajuapan**	**2.72**	**76**	*eP*		Pn	14 17 18.8	-2.2
UTMO				*i* S		Sn	14 17 49.2	-5.1
UTMO	**Huajuapan**	**2.72**	**76**	*eP*		Pn	14 17 18.8	-2.2
UTMO				*i* S		Sn	14 17 49.2	-5.1

IDC 07 14:26:28.6±3.5, 3°.40S×151°.68E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/15, mbtmp3.7/2, Error ellipse: s-maj=143.8km s-min=45.5km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**224**	P		P	14 31 42.3	+0.9
	2.5nm,0.5s,baz=50,slow=9.6,SNR=71							
ASAR	**Alice Springs**	**26.48**	**219**	P		P	14 32 07.2	-0.5
	0.2nm,0.4s,baz=49,slow=8.5,SNR=13							
TORD	**Torodi Ar. Bea**	**148.80**	**290**	PKPbc		PKPbc	14 46 18.5	-0.8
	0.2nm,0.3s,baz=60,slow=3.5,SNR=2.9							

*ISK **07** 14:29:53.6, 37°.38N×27°.09E, h5km, MD2.9*
*ISCJB **07** 14:29:54.6±0.5, 37°.39N±0°.03×27°.14E±0°.04, h10km, Error ellipse: s-maj=5.6km s-min=3.7km az=41.6*
*CSEM **07** 14:29:54.4±0.1, 37°.38N×27°.10E, h5km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.0km az=46.0*
*ATH **07** 14:29:55.0, 37°.38N×27°.08E, h4km, MD2.9/3*
ISC 07 14:29:54.7±0.6, 37°.39N±0°.03×27°.10E±0°.05, h4km±8km, n24, σ0s49/34, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.36**	**152**	*e*PG		**Pg**	**14 30 01.0**	**-0.6**
BODT				*e*SG		**Sg**	**14 30 06.9**	**+0.5**
BODT	**Bodrum**	**0.36**	**152**	*e*Pg		**Pg**	**14 30 01.0**	**-0.7**
BODT				*e*Sg		**Sg**	**14 30 06.9**	**+0.5**
SMG	**Samos**	**0.38**	**327**	⇑*i*PG		**Pg**	**14 30 02.1**	**0.0**
SMG				*e*SG		**Sg**	**14 30 07.7**	**+0.6**
SMG	**Samos**	**0.38**	**327**	⇑*i*Pg		**Pg**	**14 30 02.1**	**0.0**
SMG				*e*Sg		**Sg**	**14 30 07.7**	**+0.6**
MLSB	**Milas**	**0.55**	**99**	*e*PG		**Pg**	**14 30 05.0**	**-0.2**
MLSB				*e*SG		**Sg**	**14 30 13.3**	**+1.0**
MLSB	**Milas**	**0.55**	**99**	*e*Pg		**Pg**	**14 30 05.0**	**-0.2**
MLSB				*e*Sg		**Sg**	**14 30 13.3**	**+1.0**
DAT	**Datca**	**0.76**	**149**	*e*PG		**Pg**	**14 30 09.3**	**+0.1**
DAT	**Datca**	**0.76**	**149**	*e*Pg		**Pg**	**14 30 09.3**	**+0.1**
YER	**Yerkesik**	**0.98**	**104**	*e*PG		**Pg**	**14 30 12.9**	**-0.5**
YER	**Yerkesik**	**0.98**	**104**	*e*Pg		**Pg**	**14 30 12.9**	**-0.5**
BLCB	**Balcova**	**1.00**	**357**	*e*PG		**Pg**	**14 30 13.3**	**-0.6**
BLCB	**Balcova**	**1.00**	**357**	*e*Pg		**Pg**	**14 30 13.3**	**-0.5**
IZM	**Izmir**	**1.02**	**7**	*e*PG		**Pg**	**14 30 13.7**	**-0.6**
IZM	**Izmir**	**1.02**	**7**	*e*Pg		**Pg**	**14 30 13.7**	**-0.5**
APE	**Apeiranthos**	**1.29**	**256**	*e*PN		**Pn**	**14 30 18.7**	**-0.7**
APE	**Apeiranthos**	**1.29**	**256**	*e*PB		**Pb**	**14 30 19.2**	**-0.2**
APE				*e*SB		**Sb**	**14 30 36.8**	**+0.5**
APE	**Apeiranthos**	**1.29**	**256**	*e*Pn		**Pn**	**14 30 18.7**	**-0.7**
APE	**Apeiranthos**	**1.29**	**256**	*e*Pb		**Pb**	**14 30 19.2**	**-0.2**
APE				*e*Sb		**Sb**	**14 30 36.8**	**+0.5**
CHOS	**Chios island**	**1.30**	**321**	*e*PB		**Pb**	**14 30 19.5**	**-0.1**
CHOS				*e*SB		**Sb**	**14 30 37.1**	**+0.6**
CHOS	**Chios island**	**1.30**	**321**	*e*Pb		**Pb**	**14 30 19.7**	**+0.1**
CHOS				*e*Sb		**Sb**	**14 30 37.1**	**+0.6**
AKS	**Akhisar**	**1.59**	**20**	*e*PN		**Pn**	**14 30 23.3**	**-0.3**
AKS	**Akhisar**	**1.59**	**20**	*e*Pn		**Pn**	**14 30 23.3**	**-0.3**
KULA	**Kula-Manisa**	**1.67**	**47**	*e*PN		**Pn**	**14 30 24.9**	**+0.2**
KULA	**Kula-Manisa**	**1.67**	**47**	*e*Pn		**Pn**	**14 30 24.9**	**+0.3**

*ISCJB **07** 14:31:24.2±1.6, 26°.80N±0°.08×55°.88E±0°.06, h5km±8km, mb3.5/8, Error ellipse: s-maj=14.1km s-min=7.7km az=154.0*
*IDC **07** 14:31:24.7±2.8, 26°.73N×55°.85E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/26, mbtmp3.6/7, Error ellipse: s-maj=60.6km s-min=26.1km az=157.0*
*NEIC **07** 14:31:24.7, 26°.88N×55°.90E, h1km, mb3.4/2, ML3.3(THR), After THR.*
*CSEM **07** 14:31:25.9±0.5, 26°.83N×55°.94E, h2km, ML3.5, Error ellipse: s-maj=13.1km s-min=6.8km az=159.0*
*TEH **07** 14:31:26.7, 26°.93N×55°.89E, h19km*
ISC 07 14:31:25.9±1.7, 26°.82N±0°.08×55°.92E±0°.06, h2km±9km, n60, σ0s83/68, mb3.5/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.62**	**21**	*eP*		**Pg**	**14 31 36.0**	**-1.9**
BNDS				*e*Sg		**Sg**	**14 31 45.0**	**-0.9**
BNDS	**Bandar-Abbas**	**0.62**	**21**	*eP*		**Pg**	**14 31 36.0**	**-1.9**
BNDS				*e*Sg		**Sg**	**14 31 45.3**	**-0.6**
IBND	**Bandar-abas**	**0.84**	**41**	*e*Pg		**Pg**	**14 31 42.5**	**+0.5**
IBND				*e*Sg		**Sg**	**14 31 54.2**	**+1.3**
IBND				*e*			14 32 18.8
comp=Z,26μm,0.3s								
IBND	**Bandar-abas**	**0.84**	**41**	*e*Pg		**Pg**	**14 31 42.5**	**+0.5**
KRBR	**Kerman**	**3.24**	**13**	*eP*		**Pn**	**14 32 18.0**	**+0.2**
KRBR				*e*S		**Sn**	**14 32 57.0**	**+0.1**
KRBR	**Kerman**	**3.24**	**13**	*eP*		**Pn**	**14 32 18.0**	**+0.2**
KRBR				*e*S		**Sn**	**14 32 57.0**	**+0.1**
ISRV	**Sarvestan**	**3.56**	**317**	*e*Pn		**Pn**	**14 32 23.2**	**+1.0**
ISRV				*e*			14 33 48.4
comp=Z,1μm,0.5s								
ISRV	**Sarvestan**	**3.56**	**317**	*e*Pn		**Pn**	**14 32 23.2**	**+1.0**
IPAR	**Pars**	**3.93**	**321**	*e*Pn		**Pn**	**14 32 28.0**	**+0.7**
IPAR				*e*			14 33 28.2
comp=Z,537nm,0.4s								
IPAR	**Pars**	**3.93**	**321**	*e*Pn		**Pn**	**14 32 28.0**	**+0.7**
IMEH	**Mehriz**	**4.70**	**346**	*e*Pn		**Pn**	**14 32 38.2**	**+0.4**
IMEH				*e*			14 33 37.6
comp=Z,387nm,0.3s								
IMEH	**Mehriz**	**4.70**	**346**	*e*Pn		**Pn**	**14 32 38.2**	**+0.4**
IBAF	**Bafgh**	**4.76**	**356**	*e*Pn		**Pn**	**14 32 39.1**	**+0.3**
IBAF	**Bafgh**	**4.76**	**356**	*e*Pn		**Pn**	**14 32 39.1**	**+0.3**
ZHSF	**Zahedan**	**5.11**	**56**	*e*P		**Pn**	**14 32 44.0**	**+0.5**
ZHSF	**Zahedan**	**5.11**	**56**	*e*P		**Pn**	**14 32 44.0**	**+0.5**
ISAD	**Sadrabad**	**5.44**	**340**	*e*Pn		**Pn**	**14 32 48.3**	**+0.3**
ISAD				*e*			14 33 54.5
comp=Z,353nm,0.2s								
ISAD	**Sadrabad**	**5.44**	**340**	*e*Pn		**Pn**	**14 32 48.3**	**+0.3**
ICHK	**Chekchek**	**5.56**	**347**	*e*Pn		**Pn**	**14 32 47.8**	**-1.9**
ICHK				*e*			14 33 55.7
comp=Z,325nm,0.2s								
ICHK	**Chekchek**	**5.56**	**347**	*e*Pn		**Pn**	**14 32 47.8**	**-1.9**
IGAR	**Gharneh**	**6.51**	**330**	*e*		**Pn**	**14 33 07.9**	**+5.2**
comp=Z,241nm,0.1s								
IGAR				*e*Pn		**Pn**	**14 33 02.2**	**-0.5**
NASN	**Na'in**	**6.54**	**336**	*eP*		**Pn**	**14 33 03.0**	**-0.2**
NASN	**Na'in**	**6.54**	**336**	*eP*		**Pn**	**14 33 03.0**	**-0.2**
IZEF	**Zefreh**	**6.81**	**334**	*e*		**Pn**	**14 33 13.3**	**+6.4**
comp=Z,95nm,0.2s								
IZEF				*e*Pn		**Pn**	**14 33 06.6**	**-0.3**
IPIR	**Pirpir**	**7.30**	**324**	*e*Pn		**Pn**	**14 33 14.1**	**+0.6**
IPIR				*e*			14 34 37.1
comp=Z,175nm,0.3s								
IPIR	**Pirpir**	**7.30**	**324**	*e*Pn		**Pn**	**14 33 14.1**	**+0.6**
IKLH	**Kolahrood**	**7.49**	**331**	*e*Pn		**Pn**	**14 33 16.7**	**+0.5**
IKLH				*e*			14 34 46.8
comp=Z,106nm,0.2s								
IKLH	**Kolahrood**	**7.49**	**331**	*e*Pn		**Pn**	**14 33 16.7**	**+0.5**
UMR	**Umm Al-Rimmam**	**7.73**	**293**	*eP*		**Pn**	**14 33 20.0**	**+0.5**
UMR				AML		AML	14 34 43.2
comp=Z,7.6nm,0.4s								
UMR	**Umm Al-Rimmam**	**7.73**	**293**	*eP*		**Pn**	**14 33 20.0**	**+0.5**
NAY	**Al-Naaiem**	**8.04**	**290**	*eP*		**Pn**	**14 33 24.0**	**+0.2**
NAY				AML		AML	14 34 51.6
comp=Z,3.1nm,0.7s								
NAY	**Al-Naaiem**	**8.04**	**290**	*eP*		**Pn**	**14 33 24.0**	**+0.3**
MIB	**Mutribah**	**8.12**	**293**	*eP*		**Pn**	**14 33 25.5**	**+0.6**
MIB				AML		AML	14 34 55.9
comp=Z,11nm,0.7s								
MIB	**Mutribah**	**8.12**	**293**	*eP*		**Pn**	**14 33 25.5**	**+0.6**
IGHG	**Ghaleghazi**	**10.99**	**315**	*e*		**Pn**	**14 34 09.4**	**+5.2**
comp=Z,174nm,0.2s								
IGHG				*e*Pn		**Pn**	**14 34 03.7**	**-0.5**
BR131	**Keskin Array S**	**22.57**	**310**	P		**P**	**14 36 27.9**	**+0.5**
comp=Z,0.6nm,0.5s,mb3.3								
BR131	**Keskin Array S**	**22.57**	**310**	P		**P**	**14 36 27.9**	**+0.5**
comp=Z,0.6nm,0.5s,mb3.3								
BRTR	**Keskin Array B**	**22.57**	**310**	P		**P**	**14 36 28.1**	**+0.7**
comp=Z,0.5nm,0.7s,mb3.0,baz=132,slow=12,SNR=2.5								
BRTR	**Keskin Array B**	**22.57**	**310**	P		**P**	**14 36 28.1**	**+0.7**
BRTR	**Keskin Array B**	**22.57**	**310**	P		**P**	**14 36 28.1**	**+0.7**
ABKAR	**Akbulak array**	**22.62**	**7**	*eP*		**P**	**14 36 27.4**	**-0.4**
comp=Z,0.8nm,0.6s,mb3.3								
ABKAR	**Akbulak array**	**22.62**	**7**	*eP*		**P**	**14 36 27.5**	**-0.4**
comp=Z,0.8nm,0.6s,mb3.3								
BVAR	**Borovoye Array**	**28.32**	**19**	P		**P**	**14 37 20.8**	**-0.1**
comp=Z,0.7nm,0.5s,mb3.5,baz=193,slow=6.1,SNR=6.2								
BVAR	**Borovoye Array**	**28.32**	**19**	P		**P**	**14 37 20.8**	**-0.1**
BVAR	**Borovoye Array**	**28.32**	**19**	P		**P**	**14 37 20.8**	**-0.1**
MKAR	**Makanchi Array**	**28.82**	**39**	P		**P**	**14 37 26.5**	**+1.1**
comp=Z,0.1nm,0.5s,mb2.8,baz=214,slow=5.1,SNR=3.3								
MKAR	**Makanchi Array**	**28.82**	**39**	P		**P**	**14 37 26.5**	**+1.1**
MKAR	**Makanchi Array**	**28.82**	**39**	P		**P**	**14 37 26.5**	**+1.1**
ZALV	**Zalesovo Beam**	**34.47**	**30**	P		**P**	**14 38 14.3**	**-0.7**
comp=Z,0.6nm,0.3s,mb4.0,baz=250,slow=10.0,SNR=3.9								
ZALV	**Zalesovo Beam**	**34.47**	**30**	P		**P**	**14 38 14.3**	**-0.7**
ZALV	**Zalesovo Beam**	**34.47**	**30**	P		**P**	**14 38 14.3**	**-0.7**
FINES	**FINESS Array B**	**40.00**	**338**	P		**P**	**14 39 00.3**	**-1.5**
comp=Z,3.2nm,1.0s,mb4.0,baz=139,slow=10,SNR=4.9								
FINES	**FINESS Array B**	**40.00**	**338**	P		**P**	**14 39 00.3**	**-1.5**
FINES	**FINESS Array B**	**40.00**	**338**	P		**P**	**14 39 00.3**	**-1.5**
ARCES	**ARCESS Array B**	**46.28**	**346**	P		**P**	**14 39 52.2**	**-0.3**
comp=Z,1.1nm,0.8s,mb3.8,baz=139,slow=6.0,SNR=3.0								
ARCES	**ARCESS Array B**	**46.28**	**346**	P		**P**	**14 39 52.2**	**-0.3**
ARCES	**ARCESS Array B**	**46.28**	**346**	P		**P**	**14 39 52.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**52.38**	**266**	P		**P**	**14 40 38.4**	**-1.6**
comp=Z,0.3nm,0.4s,mb3.5,baz=72,slow=7.4,SNR=5.2								
TORD	**Torodi Ar. Bea**	**52.38**	**266**	P		**P**	**14 40 38.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**52.38**	**266**	P		**P**	**14 40 38.3**	**-1.6**

*IDC **07** 14:36:54.5±0.8, 8°.37S×129°.21E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/15, mbtmp4.1/10, ML4.3/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/28, Error ellipse: s-maj=34.7km s-min=18.2km az=68.0*
*ISCJB **07** 14:36:58.8±0.8, 8°.74S±0°.03×129°.48E±0°.07, h66km±9km, mb4.1/14, Error ellipse: s-maj=11.5km s-min=4.5km az=160.8*
*NEIC **07** 14:36:58.1±0.4, 8°.59S×129°.30E, h35km, mb4.3/7, Error ellipse: s-maj=13.3km s-min=6.9km az=62.0*
*DJA **07** 14:37:02, 8°.50S×129°.95E, h126km, mb4.4/10*
ISC 07 14:37:01.2±0.6, 8°.76S±0°.04×129°.48E±0°.07, h73km±7km, n62, σ1s10/66, mb4.1/14, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**5.20**	**346**	P		**Pn**	**14 38 11.0**	**-5.6**
MSAI	**Masohi**	**5.41

KAPI Kappang 10.35 290 Pn **Pn 14 39 19.1 -7.9**
SPSI Sidrap Palu 10.76 296 P **Pn 14 39 33.6 +1.0**
17nm,1.2s
GTOI Gorontalo 11.35 325 P **Pn 14 39 42.6 +2.1**
24nm,1.1s
MRSI Marisa 11.86 320 P **Pn 14 39 48.8 +1.2**
17nm,1.2s
WRAB Tennant Creek 12.06 158 *e*Pn **Pn 14 39 50.4 +0.1**
26nm,0.8s
WRAB *e*S **Sn 14 42 01.2 -1.9**
WRAB Tennant Creek 12.06 158 P **Pn 14 39 50.9 +0.6**
50nm,0.9s
WRA Warramunga Arr 12.07 158 Pn **Pn 14 39 50.4 +0.1**
2.4nm,0.3s,baz=346,slow=13,SNR=49
WRA Sn **Sn 14 42 05.5 +2.4**
1.9nm,0.3s,baz=327,slow=24,SNR=7.8
WRA Warramunga Arr 12.07 158 Pn **Pn 14 39 50.4 +0.1**
WRA Sn **Sn 14 42 05.5 +2.4**
WB2 Warramunga Arr 12.07 158 *e*P **Pn 14 39 50.1 -0.3**
WB2 *e*S **Sn 14 42 02.6 -0.7**
COEN Coen 14.38 112 *e*P **Pn 14 40 20.2 -1.1**
68nm,0.8s
AS31 Alice Springs 15.41 165 *e*P **Pn 14 40 34.9 +0.4**
ASAR Alice Springs 15.41 165 Pn **Pn 14 40 35.0 +0.5**
0.5nm,0.3s,baz=334,slow=10,SNR=66
ASAR Sn **Sn 14 43 24.2 -0.3**
0.3nm,0.3s,baz=344,slow=27,SNR=3.8
ASAR Alice Springs 15.41 165 Pn **Pn 14 40 35.0 +0.5**
ASAR Sn **Sn 14 43 24.2 -0.3**
MBWA Marble Bar 15.50 216 *e*Pn **Pn 14 40 36.1 +0.5**
18nm,0.9s
MBWA Marble Bar 15.50 216 P **Pn 14 40 36.5 +0.9**
CTA Charters Tower 19.74 127 P **Pn 14 41 30.6 +3.2**
2.4nm,0.7s,baz=323,slow=11,SNR=3.6
CTA LR LR 14 49 41.5
comp=Z,380nm,21.4s,baz=104,slow=38
CTA Charters Tower 19.74 127 P **Pn 14 41 30.6 +3.2**
KKM Kota Kinabalu 19.78 318 P **Pn 14 41 20.8 -7.1**
KSM Kuching 21.64 297 P **P 14 41 43.9 -2.0**
FORT Forrest 21.95 183 *e*P **P 14 41 48.5 -0.4**
15nm,0.6s,mb4.5
STKA Stephens Creek 25.61 156 P **P 14 42 30.5 +6.7**
3.2nm,0.8s,mb3.8,baz=333,slow=12,SNR=7.4
STKA Stephens Creek 25.61 156 *e*P **P 14 42 30.2 +6.4**
4.2nm,0.8s,mb3.9
STKA Stephens Creek 25.61 156 *e*P **P 14 42 29.9 +6.0**
2.1nm,0.9s,mb3.6
NWAO Narrogin (SRO) 26.58 203 LR LR 14 54 57.1
comp=Z,417nm,18.6s,baz=158,slow=40
JOW Kunigami 35.40 358 LR LR 14 57 00.1
comp=Z,231nm,20.7s,baz=164,slow=34
CMAR Chiang Mai Arr 40.49 312 P **P 14 44 31.4 -1.9**
0.8nm,0.6s,mb3.7,baz=140,slow=6.2,SNR=8.2
CMAR PcP PcP 14 46 37.9 +3.1
0.5nm,0.6s,baz=172,slow=2.7,SNR=5.0
CMAR Chiang Mai Arr 40.49 312 P **P 14 44 31.4 -1.9**
CMAR PcP PcP 14 46 37.9 +3.1
MJAR Matsushiro Arr 45.80 10 P **P 14 45 15.0 -0.8**
1.6nm,0.9s,mb3.7,baz=192,slow=9.8,SNR=4.3
MJAR Matsushiro Arr 45.80 10 P **P 14 45 15.0 -0.8**
ULN Ulaanbaatar 59.78 343 P **P 14 47 00.1 +1.5**
1.2nm,0.4s,mb4.3
SONM Songino Array 59.95 342 P **P 14 47 01.0 +1.2**
0.7nm,0.8s,mb3.8,baz=161,slow=7.2,SNR=5.5
SONM Songino Array 59.95 342 P **P 14 47 01.0 +1.2**
PETK Petropavlovsk- 66.15 18 P **P 14 47 42.7 +1.9**
3.9nm,0.9s,mb4.2,baz=175,slow=5.2,SNR=4.1
PETK Petropavlovsk- 66.15 18 P **P 14 47 42.7 +2.0**
MK31 Makanchi Array 69.42 327 *e*P **P 14 48 01.0 -0.4**
MKAR Makanchi Array 69.42 327 P **P 14 48 01.4 -0.1**
2.5nm,0.6s,mb4.2,baz=126,slow=7.7,SNR=35
MKAR Makanchi Array 69.42 327 P **P 14 48 01.4 -0.1**
AAK Ala-Archa 71.55 320 *e*P **P 14 48 14.9 +0.3**
12nm,0.8s,mb4.8
ZALV Zalesovo Beam 72.93 334 P **P 14 48 21.9 -0.7**
0.9nm,0.5s,mb3.8,baz=123,slow=5.5,SNR=5.1
ZALV Zalesovo Beam 72.93 334 P **P 14 48 21.9 -0.7**
KURK Kurchatov 73.75 329 *e*P **P 14 48 26.7 -0.7**
5.1nm,1.0s,mb4.2
BRVK Borovoye 79.35 328 *e*P **P 14 48 59.1 +0.1**
2.4nm,1.0s,mb4.0
ABKAR Akbulak array 83.56 322 *e*P **P 14 49 21.1 -0.2**
1.5nm,0.6s,mb4.0
ILAR Eielson Array 95.15 25 P **P 14 50 16.4 +0.3**
0.4nm,0.7s,mb3.9,baz=258,slow=4.9,SNR=5.8
ILAR Eielson Array 95.15 25 P **P 14 50 16.4 +0.3**
TORD Torodi Ar. Bea 128.62 280 PKP PKPdf 14 56 03.9 +2.9
0.2nm,0.4s,baz=43,slow=2.9,SNR=3.0
TORD Torodi Ar. Bea 128.62 280 PKP PKPdf 14 56 03.9 +2.9
LPAZ La Paz 149.61 145 PKPbc PKPbc 14 56 48.5 +5.0
1.4nm,0.9s,baz=225,slow=6.4,SNR=6.9
LPAZ La Paz 149.61 145 *e*PKPbc PKPbc 14 56 49.5 +6.1

NEIC ***07*** *14:58:34.9±1.4, 7°.17S×118°.96E, h492km±13km, mb3.5/1, Error ellipse: s-maj=71.3km s-min=14.0km az=59.0*
IDC ***07*** *14:58:35.0±2.7, 7°.71S×119°.08E, h493km±26km, mb2.2/2, mb1 2.4/5, mb1mx2.2/20, mbtmp2.2/5, Error ellipse: s-maj=122.5km s-min=16.8km az=58.0*
ISC 07 14:58:34.9±1.9, 7°.2S±0°.3×119°.0E±0°.5, h490km±17km**, n12,** σ0°**16/14, mb2.9/2, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.29**	**20**	P	**P**	**14 59 40.7**	**+0.1**
0.8nm,0.3s,baz=254,slow=23,SNR=4.5							
KAPI				S	**S**	**15 00 33.9**	**-0.1**
1.4nm,0.3s,baz=241,slow=14,SNR=5.4							
KAPI	**Kappang**	**2.29**	**20**	*e*P	**P**	**14 59 40.8**	**+0.2**
KAPI				S	**S**	**15 00 33.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.66**	**150**	P	**P**	**15 01 20.5**	**-0.1**
0.1nm,0.3s,baz=332,slow=17,SNR=3.2							
FITZ	**Fitzroy Crossi**	**12.66**	**150**	*e*P	**P**	**15 01 20.7**	**+0.2**
WRA	**Warramunga Arr**	**19.59**	**132**	P	**P**	**15 02 30.2**	**-0.2**
0.1nm,0.3s,baz=312,slow=10,SNR=4.9							
WRA	**Warramunga Arr**	**19.59**	**132**	P	**P**	**15 02 30.2**	**-0.2**
WRAB	**Tennant Creek**	**19.59**	**132**	*e*P	**P**	**15 02 30.5**	**+0.1**
0.6nm,0.5s							
WB2	**Warramunga Arr**	**19.60**	**132**	*e*P	**P**	**15 02 30.7**	**+0.2**
ASAR	**Alice Springs**	**21.79**	**140**	P	**P**	**15 02 50.0**	**-0.3**
0.1nm,0.3s,mb2.8,baz=314,slow=8.5,SNR=6.7							
ASAR	**Alice Springs**	**21.79**	**140**	P	**P**	**15 02 50.0**	**-0.3**
MKAR	**Makanchi Array**	**62.82**	**333**	P	**P**	**15 08 11.9**	**0.0**
0.2nm,0.5s,mb2.9,baz=141,slow=7.1,SNR=2.7							
MKAR	**Makanchi Array**	**62.82**	**333**	P	**P**	**15 08 11.9**	**0.0**

IDC 07 15:11:39.4±8.4, 11°.14S×162°.70E, h60km±60km**, mb3.3**/3**, mb1 3.6**/4**, mb1mx3.3**/17**, mbtmp3.6**/4**, ML4.5**/1**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx2.9**/29**, Error ellipse: s-maj=61.9km s-min=35.1km az=94.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.19**	**302**	P	Pn	15 12 26.8	-0.3
52nm,0.3s,baz=172,slow=3.9,SNR=25							
HNR				S	Sn	15 13 04.7	+0.7
93nm,0.3s,baz=333,slow=22,SNR=7.6							
WRA	**Warramunga Arr**	**28.65**	**249**	P	P	15 17 31.1	+0.4
0.5nm,0.7s,baz=78,slow=9.1,SNR=5.7							
ASAR	**Alice Springs**	**30.09**	**242**	P	P	15 17 43.1	-0.3
0.4nm,0.5s,baz=67,slow=9.9,SNR=22							
MJAR	**Matsushiro Arr**	**52.74**	**335**	LR	LR	15 42 59.5	
comp=Z,107nm,19.3s,baz=75,slow=36							
SONM	**Songino Array**	**77.00**	**325**	P	P	15 23 26.1	+0.4
0.1nm,0.5s,baz=145,slow=8.5,SNR=4.3							

ISCJB ***07*** *15:16:22.2±0.9, 19°.07S±0°.06×177°.68W±0°.08, h375km±12km, mb4.0/19, Error ellipse: s-maj=12.7km s-min=8.7km az=33.9*
IDC ***07*** *15:16:23.6±2.0, 19°.16S×177°.62W, h379km±21km, mb3.6/11, mb1 3.8/13, mb1mx3.7/19, mbtmp3.6/13, Error ellipse: s-maj=21.9km s-min=11.7km az=142.0*
NEIC ***07*** *15:16:25.1±1.1, 19°.36S×177°.44W, h405km±10km, mb3.8/3, Error ellipse: s-maj=21.7km s-min=11.0km az=147.0*
ISC 07 15:16:25.2±1.2, 19°.18S±0°.07×177°.54W±0°.08, h401km±13km**, n66,** σ1°**09/57, mb4.0/19, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.42**	**288**	*e*P	**Pn**	**15 17 45.0**	**+3.5**
AFI	**Afiamalu**	**7.61**	**47**	P	**P**	**15 18 14.3**	**-2.1**
7.5nm,0.3s,baz=212,slow=2.2,SNR=18							
AFI				S	**S**	**15 19 40.3**	**-6.2**
2.4nm,0.3s,baz=66,slow=20,SNR=4.4							
AFI	**Afiamalu**	**7.61**	**47**	P	**P**	**15 18 14.3**	**-2.1**
AFI				S	**S**	**15 19 40.3**	**-6.2**
DZM	**Mont Dzumac**	**15.27**	**256**	*e*P	**P**	**15 19 42.2**	**+1.6**
PUZ	**Puketiti**	**19.18**	**190**	PN	**P**	**15 20 21.5**	**-0.4**
PUZ				*e*SN	**S**	**15 23 36.7**	**+1.1**
MWZ	**Matawai**	**19.57**	**192**	PN	**P**	**15 20 25.1**	**-0.4**
URZ	**Urewera**	**19.58**	**193**	P	**P**	**15 20 24.5**	**-1.1**
1.2nm,0.3s,baz=5.0,slow=3.3,SNR=11							
URZ	**Urewera**	**19.58**	**193**	*e*P	**P**	**15 20 24.4**	**-1.2**
QRZ	**Quartz Range**	**23.20**	**199**	PN	**P**	**15 20 58.9**	**+0.4**
NNZ	**Nelson**	**23.30**	**198**	PN	**P**	**15 20 58.7**	**-0.7**
THZ	**Tophouse**	**23.94**	**198**	PN	**P**	**15 21 04.2**	**-0.9**
KHZ	**Kahutara**	**24.37**	**196**	PN	**P**	**15 21 08.8**	**-0.2**
EIDS	**Eidsvold**	**29.64**	**252**	*e*P	**P**	**15 21 56.7**	**+0.8**
ARMA	**Armidale**	**30.05**	**242**	*e*P	**P**	**15 22 00.7**	**+1.3**
RMQ	**Roma**	**31.83**	**251**	*e*P	**P**	**15 22 15.7**	**+0.8**
3.9nm,0.6s,mb3.9							
CTA	**Charters Tower**	**34.07**	**262**	P	**P**	**15 22 33.8**	**-0.3**
8.1nm,0.6s,mb4.2,baz=95,slow=10,SNR=15							
CTA	**Charters Tower**	**34.07**	**262**	*e*P	**P**	**15 22 33.8**	**-0.4**
4.9nm,0.6s,mb4.0							
CTA	**Charters Tower**	**34.07**	**262**	P	**P**	**15 22 33.8**	**-0.3**
CTAO	**Charters Tower**	**34.07**	**262**	*e*P	**P**	**15 22 33.7**	**-0.5**
5.0nm,0.5s,mb4.1							
TOO	**Toolangi**	**37.03**	**233**	*e*P	**P**	**15 22 59.3**	**+0.5**
43nm,0.9s,mb4.8							
COEN	**Coen**	**37.95**	**272**	*e*P	**P**	**15 23 06.1**	**-0.6**
19nm,0.5s,mb4.7							
STKA	**Stephens Creek**	**38.76**	**243**	P	**P**	**15 23 13.8**	**+0.7**
3.4nm,0.4s,mb4.0,baz=36,slow=8.7,SNR=12							
STKA	**Stephens Creek**	**38.76**	**243**	*e*P	**P**	**15 23 13.7**	**+0.5**
5.4nm,1.0s,mb3.8							
STKA	**Stephens Creek**	**38.76**	**243**	P	**P**	**15 23 13.8**	**+0.7**
BBOO	**Buckleboo**	**43.53**	**242**	*e*P	**P**	**15 23 51.4**	**0.0**
55nm,0.4s,mb5.2							
WB2	**Warramunga Arr**	**45.22**	**261**	*e*P	**P**	**15 24 03.2**	**-1.5**
WRAB	**Tennant Creek**	**45.22**	**261**	*e*P	**P**	**15 24 03.5**	**-1.3**
1.5nm,0.3s,mb3.8							
WRA	**Warramunga Arr**	**45.23**	**261**	P	**P**	**15 24 03.8**	**-1.1**
2.3nm,0.5s,mb3.8,baz=98,slow=6.1,SNR=57							
WRA				PcP	PcP	15 25 36.7	-0.4
0.4nm,0.4s,baz=92,slow=3.5,SNR=4.6							
WRA	**Warramunga Arr**	**45.23**	**261**	P	**P**	**15 24 03.8**	**-1.1**
WRA				PcP	PcP	15 25 36.7	-0.4
AS31	**Alice Springs**	**45.26**	**255**	*e*P	**P**	**15 24 04.3**	**-0.7**
ASAR	**Alice Springs**	**45.26**	**255**	P	**P**	**15 24 04.5**	**-0.5**
15nm,0.5s,mb4.5,baz=93,slow=8.0,SNR=496							
ASAR				PcP	PcP	15 25 37.1	-0.1
0.6nm,0.4s,baz=108,slow=4.1,SNR=5.3							
ASAR				S	**S**	**15 30 13.3**	**-1.4**
0.6nm,1.0s,baz=94,slow=13,SNR=5.2							
ASAR	**Alice Springs**	**45.26**	**255**	P	**P**	**15 24 04.5**	**-0.5**
ASAR				PcP	PcP	15 25 37.1	-0.1
ASAR				S	**S**	**15 30 13.3**	**-1.4**
FORT	**Forrest**	**50.22**	**246**	*e*P	**P**	**15 24 42.1**	**-0.5**
11nm,0.5s,mb4.4							
FITZ	**Fitzroy Crossi**	**53.64**	**261**	*e*P	**P**	**15 25 07.6**	**0.0**
7.2nm,0.4s,mb4.3							
SBA	**Scott Base**	**59.21**	**184**	*e*P	**P**	**15 25 49.0**	**+3.5**
VNDA	**Vanda**	**59.26**	**185**	*e*P	**P**	**15 25 42.4**	**-3.3**
4.1nm,1.1s,mb3.7							
MJAR	**Matsushiro Arr**	**69.41**	**323**	P	**P**	**15 26 50.7**	**-0.7**
1.8nm,0.6s,mb3.9,baz=161,slow=6.0,SNR=10							
MJAR	**Matsushiro Arr**	**69.41**	**323**	P	**P**	**15 26 50.7**	**-0.7**
PETK	**Petropavlovsk-**	**75.11**	**345**	P	**P**	**15 27 25.0**	**+0.8**
4.2nm,0.6s,mb4.3,baz=116,slow=7.7,SNR=13							
PETK	**Petropavlovsk-**	**75.11**	**345**	P	**P**	**15 27 25.0**	**+0.8**
NVAR	**Mina Array Bea**	**79.77**	**43**	P	**P**	**15 27 51.8**	**+1.7**
1.0nm,0.7s,mb3.5,baz=229,slow=8.1,SNR=9.4							
NVAR	**Mina Array Bea**	**79.77**	**43**	P	**P**	**15 27 51.8**	**+1.7**
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	**15 28 24.4**	**+2.5**
1.2nm,0.8s,mb3.7,baz=216,slow=6.3,SNR=14							
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	**15 28 24.4**	**+2.5**
ILAR	**Eielson Array**	**86.93**	**13**	P	**P**	**15 28 24.5**	**-1.0**
0.3nm,0.4s,mb3.4,baz=216,slow=5.1,SNR=15							
ILAR	**Eielson Array**	**86.93**	**13**	P	**P**	**15 28 24.5**	**-1.0**
PDAR	**Pinedale Array**	**87.70**	**43**	P	**P**	**15 28 29.9**	**+0.2**
0.3nm,0.6s,mb3.2,baz=151,slow=3.4,SNR=3.4							
PDAR	**Pinedale Array**	**87.70**	**43**	P	**P**	**15 28 29.9**	**+0.2**
VNA3	**Neumayer Olymp**	**89.43**	**176**	*e*	**P**	**15 28 38.3**	**+1.0**
VNA2	**Neumayer--Watz**	**89.88**	**177**	*e*	**P**	**15 28 40.5**	**+1.1**
baz=212,slow=4.2							
CMAR	**Chiang Mai Arr**	**90.08**	**289**	P	**P**	**15 28 42.4**	**+1.0**
1.0nm,0.9s,mb3.7,baz=118,slow=3.0,SNR=7.7							
CMAR	**Chiang Mai Arr**	**90.08**	**289**	P	**P**	**15 28 42.4**	**+1.0**
MKAR	**Makanchi Array**	**110.60**	**314**	PKiKP	PKiKP	15 34 10.1	-0.7
0.3nm,0.4s,baz=215,slow=1.0,SNR=12							
MKAR	**Makanchi Array**	**110.60**	**314**	PKiKP	PKiKP	15 34 10.1	-0.7
BVAR	**Borovoye Array**	**118.34**	**321**	PKP	PKPdf	15 34 25.1	-0.4
0.6nm,0.3s,baz=124,slow=1.2,SNR=8.2							
BVAR	**Borovoye Array**	**118.34**	**321**	PKP	PKPdf	15 34 25.1	-0.4
ARCES	**ARCESS Array B**	**127.70**	**350**	PKP	PKPdf	15 34 43.2	+0.2
1.4nm,0.7s,baz=33,slow=0.3,SNR=9.3							
ARCES	**ARCESS Array B**	**127.70**	**350**	PKP	PKPdf	15 34 43.2	+0.2
FINES	**FINESS Array B**	**134.63**	**344**	PKP	PKPdf	15 34 57.5	+1.2
1.1nm,0.8s,baz=107,slow=4.8,SNR=4.7							
FINES	**FINESS Array B**	**134.63**	**344**	PKP	PKPdf	15 34 57.5	+1.2
BR131	**Keskin Array S**	**146.25**	**314**	*e*PKPbc	PKPbc	15 35 19.9	+0.2
BRTR	**Keskin Array B**	**146.25**	**314**	PKPbc	PKPbc	15 35 19.9	+0.2
1.5nm,0.6s,baz=136,slow=4.5,SNR=11							
BRTR	**Keskin Array B**	**146.25**	**314**	PKPbc	PKPbc	15 35 19.9	+0.2
CLL	**Collm**	**146.87**	**348**	*e*PKPbc	PKPbc	15 35 21.0	0.0
GERES	**GERESS Array B**	**149.04**	**346**	PKPbc	PKPbc	15 35 27.2	+0.5
0.6nm,0.6s,baz=40,slow=2.3,SNR=7.7							
GERES	**GERESS Array B**	**149.04**	**346**	PKPbc	PKPbc	15 35 27.2	+0.5

SZGRF ***07*** *15:30:30.1, 50°.52N×153°.47E, h33km, mb5.5, Kuril Islands, Russia*
KRSC ***07*** *15:31:20.2±0.0, 50°.91N×152°.64E, h496km±16km, ML5.4*
DJA ***07*** *15:31:20, 51°.62N×152°.13E, h428km, mb5.1/11*
SKHL ***07*** *15:31:22.2±2.0, 51°.29N×152°.15E, h476km±20km, mb6.3/1, msh6.1/2*
ISCJB ***07*** *15:31:23.0±0.2, 51°.48N±0°.02×151°.80E±0°.03, h447km±2km, mb4.8/334, Error ellipse: s-maj=4.1km s-min=2.5km az=154.0*
BJI ***07*** *15:31:22.9, 51°.37N×151°.86E, h456km, mB4.9/30, mb4.7/50*
MOS ***07*** *15:31:22.9±0.8, 51°.48N×151°.82E, h447km, mb5.1/101, Error ellipse: s-maj=6.5km s-min=3.9km az=96.7*
NEIC ***07*** *15:31:23.8±0.1, 51°.48N×151°.76E, mb4.8/202, Error ellipse: s-maj=3.3km s-min=2.0km az=161.0*
BGS ***07*** *15:31:23.2±1.5, 51°.56N×152°.49E, h443km, mb4.8*
IDC ***07*** *15:31:24.4±0.5, 51°.49N×151°.79E, h451km±4km, mb4.5/40, mb1 4.5/44, mb1mx4.5/44, mbtmp4.4/44, Error ellipse: s-maj=7.0km s-min=5.6km az=143.0*
ISC 07 15:31:23.9±0.2, 51°.49N±0°.02×151°.75E±0°.03, h442km±2km**, h446**km±2.2km**: pP-P, n922,** σ0°**81/939, mb4.8/334, 37C-213D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.87**	**105**	⇓*i*PN	**P**	**15 32 30.4**	**+1.1**
SKR				*i* S	**S**	**15 33 21.8**	**-0.6**
SKR				pmax	pmax		
comp=N,170nm,0.5s							
SKR				pmax	pmax		
comp=E,310nm,0.5s							
SKR				pmax	pmax		
comp=Z,2μm,0.5s							
SKR				smax			
comp=N,6μm,2.0s							
SKR				smax			
comp=E,8μm,3.0s							
SKR				smax			
comp=E,5μm,0.2s							
SKR				smax			
comp=N,3μm,0.5s							
SKR	**Severo-Kuril's**	**2.87**	**105**	⇓*i*P	**P**	**15 32 30.4**	**+1.1**
SKR				⇓*i*P		15 32 30.4	
SKR				AMB	AMB	15 32 31.0	
comp=N,170nm,0.5s							
SKR				AMB	AMB	15 32 31.0	
comp=N,310nm,0.5s							
SKR				AMB	AMB	15 32 31.0	
comp=N,2μm,0.5s							
SKR				*i* S	**S**	**15 33 21.8**	**-0.6**
SKR				A		15 33 23.0	
comp=N,7μm,2.5s							
SKR				A		15 33 23.0	
comp=N,9μm,2.5s							
SKR				A		15 33 23.0	
comp=N,6μm,2.5s							
SKR				A		15 33 23.0	
comp=N,8μm,2.5s							
SKR				A		15 33 35.0	
comp=N,5μm,0.2s							
SKR				A		15 33 35.0	
comp=N,3μm,0.5s							
SKR				A		15 33 35.0	
comp=N,920nm,0.5s							
MIPR	**Malaya Ipel'ka**	**3.20**	**74**	*e*P	**P**	**15 32 31.6**	**-0.1**
MIPR				*i* S	**S**	**15 33 23.6**	**-3.4**
PEA0B	**Petropavlovsk-**	**4.00**	**64**	*e*P	**P**	**15 32 37.8**	**-0.6**
PETK	**Petropavlovsk-**	**4.00**	**64**	P	**P**	**15 32 37.8**	**-0.5**
comp=N,42nm,0.3s,baz=225,slow=7.9,SNR=794							
PETK				S	**S**	**15 33 40.0**	**+0.9**
comp=N,6.4nm,0.3s,baz=112,slow=8.1,SNR=2.5							
PETK	**Petropavlovsk-**	**4.00**	**64**	P	**P**	**15 32 37.8**	**-0.5**
PETK				S	**S**	**15 33 40.0**	**+0.9**
PETK	**Petropavlovsk-**	**4.00**	**64**	PN	**P**	**15 32 37.8**	**-0.5**
PETK				S	**S**	**15 33 40.0**	**+1.0**
GRL	**Gorelyy**	**4.05**	**72**	*e*P	**P**	**15 32 39.1**	**+0.3**
GRL				*i* S	**S**	**15 33 37.3**	**-2.6**
RUS	**Russkaya**	**4.29**	**75**	*e*P	**P**	**15 32 40.2**	**-0.8**
RUS				*i* S	**S**	**15 33 39.1**	**-4.8**
RUS	**Russkaya**	**4.29**	**75**	PN	**P**	**15 32 40.2**	**-0.8**
RUS				S	**S**	**15 33 39.1**	**-4.8**
GNL	**Ganaly**	**4.38**	**57**	*e*P	**P**	**15 32 41.6**	**-0.1**
PET	**Petropavlovsk**	**4.51**	**67**	*e*P	**P**	**15 32 42.8**	**-0.2**
PET				*i* S	**S**	**15 33 44.1**	**-3.5**
PET	**Petropavlovsk**	**4.51**	**67**	*e*P	**P**	**15 32 42.2**	**-0.8**
PET	**Petropavlovsk**	**4.51**	**67**	⇑*i*PN	**P**	**15 32 42.5**	**-0.5**
PET				*i* S	**S**	**15 33 44.1**	**-3.5**
PET				pmax	pmax		
comp=Z,497nm,0.5s							
PET				smax			
comp=N,3μm,0.9s							
PET				smax			
comp=E,2μm,0.6s							
KOK	**Koryaka**	**4.59**	**64**	*e*P	**P**	**15 32 43.8**	**+0.1**
AVH	**Avacha**	**4.64**	**65**	*e*P	**P**	**15 32 44.3**	**+0.1**
NLC	**Nalytchevo**	**4.96**	**67**	*e*P	**P**	**15 32 46.3**	**-0.9**
NLC				*i* S	**S**	**15 33 49.9**	**-5.4**
NLC	**Nalytchevo**	**4.96**	**67**	PN	**P**	**15 32 46.3**	**-0.9**
NLC				S	**S**	**15 33 49.9**	**-5.4**
SPN	**Mys Shipunski**	**5.33**	**69**	*e*P	**P**	**15 32 49.3**	**-1.6**
SPN				*i* S	**S**	**15 33 54.1**	**-7.9**
SPN	**Mys Shipunski**	**5.33**	**69**	PN	**P**	**15 32 49.3**	**-1.6**
OKH	**Okha**	**5.76**	**294**	*e*PN	**P**	**15 32 58.9**	**+3.7**
OKH				*e*S	**S**	**15 34 15.1**	**+5.1**
OKH	**Okha**	**5.76**	**294**	⇑*i*P	**P**	**15 32 58.9**	**+3.7**
OKH				AMB	AMB	15 32 59.0	
comp=E,300nm,0.7s							
OKH				*e*S	**S**	**15 34 15.1**	**+5.1**
ESO	**Esso**	**6.06**	**40**	*e*P	**P**	**15 32 59.8**	**+1.5**
ESO				*i* S	**S**	**15 34 15.4**	**-0.2**
ESO	**Esso**	**6.06**	**40**	PN	**P**	**15 32 59.8**	**+1.5**
ESO				S	**S**	**15 34 15.4**	**-0.2**
KMNR	**Kamenistaya**	**6.61**	**46**	*e*P	**P**	**15 33 06.3**	**+2.3**
KOZ	**Kozyrevsk**	**6.64**	**43**	*e*P	**P**	**15 33 06.5**	**+2.2**
KOZR	**Kozyr**	**6.66**	**43**	PN	**P**	**15 33 06.5**	**+2.0**
UGL	**Uglegorsk**	**6.66**	**253**	*e*P	**P**	**15 33 08.0**	**+3.3**
UGL				AMB	AMB	15 33 10.5	
comp=E,103nm,0.6s							
SRDR	**Sredinnyy**	**6.75**	**41**	*e*P	**P**	**15 33 08.3**	**+2.9**
MKZ	**Mys Kozlova**	**6.76**	**59**	*e*P	**P**	**15 33 03.8**	**-1.8**
MKZ				*i* S	**S**	**15 34 18.8**	**-10**
MKZ	**Mys Kozlova**	**6.76**	**59**	PN	**P**	**15 33 03.8**	**-1.8**
KUR	**Kuril'sk**	**6.77**	**204**	PN	**P**	**15 33 04.5**	**-1.5**
KUR				*e*S	**S**	**15 34 29.0**	**-0.5**
KUR				smax			
comp=N,580nm,0.8s							
KUR				smax			
comp=E,430nm,0.8s							
KUR	**Kuril'sk**	**6.77**	**204**	*e*P	**P**	**15 33 04.5**	**-1.5**
KUR				*e*S	**S**	**15 34 29.0**	**-0.5**
KUR				A		15 34 37.2	
comp=E,580nm,0.8s							
KUR				A		15 34 37.2	
comp=E,430nm,0.8s							
BZMR	**Bezymyannaya**	**6.83**	**46**	P	**P**	**15 33 07.6**	**+1.2**
KLY	**Klyuchi**	**7.14**	**44**	*e*P	**P**	**15 33 12.1**	**+2.5**
KLY	**Klyuchi**	**7.14**	**44**	PN	**P**	**15 33 12.1**	**+2.5**
YSS	**Yuzh-Sakhalins**	**7.43**	**236**	*e*P	**P**	**15 33 15.7**	**+2.7**
YSS	**Yuzh-Sakhalins**	**7.43**	**236**	*e*P	**P**	**15 33 15.4**	**+2.5**
comp=E,84nm,0.6s							
YSS	**Yuzh-Sakhalins**	**7.43**	**236**	⇑*e*PN	**P**	**15 33 15.0**	**+2.0**
YSS				pmax	pmax		
comp=Z,60nm,0.7s							
YSS	**Yuzh-Sakhalins**	**7.43**	**236**	⇑*e*P	**P**	**15 33 15.0**	**+2.0**
YSS				AMB	AMB	15 33 16.0	
comp=Z,60nm,0.7s							
YSS				*e*S	**S**	**15 34 44.0**	**+1.6**
YSS				A		15 34 46.3	
comp=Z,300nm,1.8s							
SRKR	**Sorokina**	**7.58**	**43**	P	**P**	**15 33 14.2**	**-0.1**
KBTR	**Krutoberegovo**	**8.07**	**50**	*e*P	**P**	**15 33 18.0**	**-1.6**
KBTR	**Krutoberegovo**	**8.07**	**50**	PN	**P**	**15 33 18.0**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**8.45**	**210**	*c i*PN	**P**	**15 33 22.5**	**-1

comp=Z,9.8nm,0.3s,baz=188,slow=6.8,SNR=16
FX1 Attu Island--F 13.21 76 P **P 15 34 15.8 +0.1**
FX1 Attu Island--F 13.21 76 PN **P 15 34 15.8 +0.1**
ZEA Zeya 15.03 288⇓*e*P **P 15 34 32.9 -2.3**
ZEA ⇓*e*P 15 34 32.9
ZEA AMB AMB 15 34 33.3
comp=Z,110nm,0.5s
ZEA AMB AMB 15 34 33.3
comp=Z,97nm,0.5s
ZEA AMB AMB 15 34 33.3
comp=Z,210nm,0.5s
ZEA AMB AMB 15 34 34.0
comp=Z,400nm,2.0s
ZEA *e*S **S 15 37 13.0 -0.3**
ZEA A 15 37 14.0
comp=Z,600nm,4.0s
ZEA A 15 37 14.5
comp=Z,32nm,1.0s
ZEA A 15 37 14.5
comp=Z,65nm,1.2s
ZEA A 15 37 14.5
comp=Z,220nm,1.4s
YAK Yakutsk 15.96 320 *e*P **P 15 34 45.1 +0.1**
comp=Z,939nm,0.6s
YAK Yakutsk 15.96 320 *d i*P **P 15 34 45.2 +0.2**
YAK *e*S **S 15 37 31.3 +0.1**
YAK pmax pmax
comp=Z,425nm,0.8s
YAK pmax pmax
comp=E,67nm,0.6s
YAK pmax pmax
comp=N,57nm,0.7s
YAK smax
comp=E,166nm,1.5s
YAK smax
comp=N,228nm,1.3s
MDJ Mudanjiang 16.29 254 P **P 15 34 47.9 -0.9**
MDJ S **S 15 37 37.1 -1.0**
MDJ ScP ScP 15 42 05.6 -0.4
MDJ PcS PcS 15 42 50.9 +0.9
MDJ ScS ScS 15 45 44.2 -1.0
MDJ pmax pmax
comp=Z,14nm,1.1s
CLNS Chul'man 16.55 299 *e*P **P 15 34 53.0 +1.7**
CLNS *e*S **S 15 37 47.5 +4.9**
CLNS pmax pmax
comp=Z,358nm,0.8s
CLNS pmax pmax
comp=E,230nm,0.9s
CLNS pmax pmax
comp=N,136nm,0.9s
CLNS smax
comp=E,48nm,1.4s
CLNS smax
comp=N,94nm,1.2s
MAJO Matsushiro 17.79 218 *e*P **P 15 35 03.2 -1.4**
comp=N,34nm,0.4s
MAJO Matsushiro 17.79 218 *e*P **P 15 35 03.2 -1.4**
MAJO pmax pmax
comp=Z,34nm,0.4s
MAT Matsushiro 17.79 218 P **P 15 35 03.3 -1.3**
MAT S **S 15 38 07.4 +0.8**
MJAR Matsushiro Arr 17.79 218 P **P 15 35 03.5 -1.1**
comp=Z,7.2nm,0.3s,baz=13,slow=8.8,SNR=121
MJAR ScP ScP 15 42 07.2 -2.0
comp=Z,0.6nm,0.3s,baz=305,slow=0.4,SNR=24
MJAR Matsushiro Arr 17.79 218 P **P 15 35 03.5 -1.1**
MJAR ScP ScP 15 42 07.2 -2.0
MJAR Matsushiro Arr 17.79 218 P **P 15 35 03.5 -1.1**
CN2 Changchun 19.24 257 *e*P **P 15 35 17.4 -1.1**
CN2 *e*S **S 15 38 21.4 -8.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SNY Shenyang 21.49 254 ⇑P **P 15 35 40.3 +1.2**
SNY sP sP 15 37 39.7 -0.6
SNY S **S 15 39 07.8 +1.3**
SNY pmax pmax
comp=Z,12nm,0.6s,mb4.5
SNY pmax pmax
comp=Z,150nm,6.9s
KSRS Korea Array 21.91 239 P **P 15 35 43.5 +0.6**
comp=Z,30nm,0.7s,mb4.9,baz=41,slow=9.6,SNR=144
KSRS PcP PcP 15 39 24.4 -0.1
comp=Z,4.1nm,0.6s,baz=5.8,slow=2.3,SNR=9.3
KSRS ScP ScP 15 42 17.9 -1.0
comp=Z,7.1nm,1.0s,baz=359,slow=2.0,SNR=15
KSRS Korea Array 21.91 239 P **P 15 35 43.5 +0.6**
KSRS 15 39 24.4
KSRS pmax pmax
comp=Z,31nm,0.7s,mb4.8
KSAR Wonju Array Be 21.94 240 P **P 15 35 43.5 +0.3**
KSAR PcP PcP 15 39 24.4 -0.1
KSAR ScP ScP 15 42 17.9 -1.1
KSAR Wonju Array Be 21.94 240 P **P 15 35 43.5 +0.3**
KSAR 15 39 24.4
JNU Nakatsue 23.84 228 *e*P **P 15 36 00.0 -0.3**
comp=Z,7.3nm,0.8s,mb4.2
TNA Tin City 24.77 40 *e*P **P 15 36 08.3 +0.1**
comp=Z,35nm,0.5s,mb5.0
BJI Beijing 27.06 259 P **P 15 36 31.6 +2.8**
BJI sP sP 15 38 37.2 -0.4
BJI pmax pmax
comp=Z,13nm,0.7s,mb4.5
ULN Ulaanbaatar 28.80 281 *e*P **P 15 36 44.6 +0.7**
comp=Z,21nm,0.8s,mb4.5
ULN Ulaanbaatar 28.80 281 *e*P **P 15 36 44.6 +0.6**
ULN pmax pmax
comp=Z,21nm,0.8s,mb4.5
ULN Ulaanbaatar 28.80 281 P **P 15 36 44.6 +0.6**
comp=Z,23nm,1.0s,mb4.5
SONM Songino Array 29.22 281 P **P 15 36 48.4 +0.8**
comp=Z,6.0nm,0.5s,mb4.2,baz=70,slow=7.7,SNR=62
SONM PcP PcP 15 39 40.6 -0.6
comp=Z,5.3nm,0.8s,baz=79,slow=2.1,SNR=8.4
SONM ScP ScP 15 42 38.4 -1.7
comp=Z,1.3nm,0.7s,baz=122,slow=1.7,SNR=4.8
SONM P3KPbc 16 08 43.1
comp=Z,0.4nm,0.8s,baz=194,slow=5.6,SNR=3.7
SONM Songino Array 29.22 281 P **P 15 36 48.4 +0.8**
SONM PcP PcP 15 39 40.6 -0.6
SONM ScP ScP 15 42 38.4 -1.7
SONM *e* 16 08 43.1
SONM Songino Array 29.22 281 P **P 15 36 48.4 +0.8**
SONM 15 39 40.6
HHC Hu-ho-hao-te 29.44 265 *e*P **P 15 36 49.2 -0.5**
HHC sP sP 15 38 59.3 +0.2
HHC S **S 15 41 11.3 0.0**
HHC PcS PcS 15 43 24.5 -1.0
HHC ScS ScS 15 46 36.0 -0.4
HHC pmax pmax
comp=Z,10.0nm,0.5s,mb4.4
HHC pmax pmax
comp=Z,76nm,5.1s
TLY Talaya 29.46 290 *e*P **P 15 36 51.0 +1.3**
comp=Z,51nm,1.0s,mb4.8
TLY Talaya 29.46 290 *d i*P **P 15 36 51.1 +1.4**
TLY pmax pmax
comp=Z,46nm,0.8s,mb4.9
TLY Talaya 29.46 290 P **P 15 36 51.4 +1.7**
SNR=12
ZAK Zakamensk 30.12 287⇓*i*P **P 15 36 57.0 +1.5**
ZAK *e* pP 15 38 20.7 +7.0
ZAK pmax pmax
comp=Z,32nm,1.1s,mb4.6
JOW Kunigami 30.36 225 P **P 15 36 57.2 -0.6**
comp=Z,45nm,0.3s,mb5.2,baz=48,slow=7.3,SNR=27
JOW Kunigami 30.36 225 *e*P **P 15 36 57.0 -0.9**
comp=Z,22nm,0.4s,mb4.8
NJ2 Nanjing 30.91 244 *e*P **P 15 37 02.6 +0.1**
NJ2 pmax pmax
comp=Z,60nm,0.8s,mb5.0
MOY Mondy 31.02 291 *e*P **P 15 37 04.1 +0.9**
MOY pmax pmax
comp=Z,44nm,1.3s,mb4.6
PPLA Purkeypile 31.39 47 *e*P **P 15 37 07.5 +1.3**
comp=Z,19nm,0.6s,mb4.6
RSO Redoubt South 31.42 52 *e*P **P 15 37 08.2 +1.7**
comp=Z,40nm,0.7s,mb4.9
OHAK Old Harbor 31.77 58 *e*P **P 15 37 07.2 -2.4**
comp=Z,9.6nm,0.4s,mb4.5
BPAW Bear Paw Mtn. 31.83 44 *e*P **P 15 37 10.9 +0.9**
comp=Z,22nm,0.8s,mb4.5
KDAK Kodiak Island 32.02 57 P **P 15 37 10.8 -0.9**
comp=Z,13nm,0.3s,mb4.7,baz=266,slow=3.9,SNR=78
KDAK PcP PcP 15 39 48.2 -0.3
comp=Z,6.7nm,0.5s,baz=130,slow=5.2,SNR=5.7
KDAK ScP ScP 15 42 48.5 -0.7
comp=Z,4.1nm,0.4s,baz=106,slow=14,SNR=7.6
KDAK Kodiak Island 32.02 57 P **P 15 37 10.8 -0.9**
KDAK PcP PcP 15 39 48.2 -0.3
KDAK ScP ScP 15 42 48.5 -0.7
KDAK Kodiak Island 32.02 57 P **P 15 37 10.8 -0.9**
KDAK 15 39 48.2
COLD Coldfoot 32.04 39 *e*P **P 15 37 11.6 -0.2**
comp=Z,45nm,0.6s,mb5.0
TRF Thorofare Moun 32.20 46 *e*P **P 15 37 13.7 +0.6**
comp=Z,24nm,0.6s,mb4.7
SLKM Skilak Lake 32.65 51 *e*P **P 15 37 15.9 -1.2**
SLKM Skilak Lake 32.65 51 *e*P **P 15 37 15.9 -1.2**
MCK McKinley 32.77 45 *e*P **P 15 37 17.4 -0.6**
comp=Z,31nm,0.7s,mb4.8
MCK McKinley 32.77 45 *e*P **P 15 37 17.5 -0.5**
MCK pmax pmax
comp=Z,31nm,0.7s,mb4.8
PMR Palmer 32.98 49 *e*P **P 15 37 19.1 -0.8**
comp=Z,10nm,0.7s,mb4.3
PMR Palmer 32.98 49 *e*P **P 15 37 19.1 -0.8**
PMR pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
SEW Seward 33.10 52 *e*P **P 15 37 19.8 -1.1**
comp=Z,21nm,0.5s,mb4.7
COLA College 33.11 43 *e*P **P 15 37 21.2 +0.3**
comp=Z,50nm,0.6s,mb5.0
COLA College 33.11 43 *e*P **P 15 37 21.2 +0.2**
COLA pmax pmax
comp=Z,50nm,0.6s,mb5.0
SML Sawmill 33.32 48 *e*P **P 15 37 22.7 0.0**
comp=Z,25nm,0.7s,mb4.7
SML Sawmill 33.32 48 *e*P **P 15 37 22.7 0.0**
SML pmax pmax
comp=Z,25nm,0.7s,mb4.7
ILAR Eielson Array 33.53 43 P **P 15 37 24.4 -0.2**
comp=Z,24nm,0.6s,mb4.7,baz=278,slow=11,SNR=404
ILAR PcP PcP 15 39 50.5 -2.2
comp=Z,1.1nm,0.3s,baz=286,slow=3.2,SNR=4.5
ILAR S **S 15 42 13.8 +0.2**
comp=Z,0.5nm,0.8s,baz=268,slow=14,SNR=4.1
ILAR ScP ScP 15 42 52.1 -2.2
comp=Z,2.2nm,0.9s,baz=281,slow=4.3,SNR=6.7
ILAR P3KPbc 16 08 24.8
comp=Z,0.6nm,0.7s,baz=100,slow=3.5,SNR=5.6
ILAR Eielson Array 33.53 43 P **P 15 37 24.4 -0.2**
ILAR PcP PcP 15 39 50.5 -2.2
ILAR S **S 15 42 13.8 +0.2**
ILAR ScP ScP 15 42 52.1 -2.2
ILAR *e* 16 08 24.8
ILAR Eielson Array 33.53 43 P **P 15 37 24.4 -0.2**
ILAR 15 39 50.5
ILAR S **S 15 42 13.8 +0.2**
PAX Paxson 34.42 46 *e*P **P 15 37 28.2 -3.8**
comp=Z,20nm,1.0s,mb4.4
PAX Paxson 34.42 46 *e*P **P 15 37 28.3 -3.8**
PAX pmax pmax
comp=Z,20nm,1.0s,mb4.4
WHN Wuhan 34.60 247⇓P **P 15 37 33.0 -1.0**
DIV Divide 34.66 49 *e*P **P 15 37 33.8 -0.3**
comp=Z,17nm,0.8s,mb4.4
DOT Dot Lake 34.92 45 *e*P **P 15 37 35.5 -0.8**
comp=Z,17nm,0.7s,mb4.5
MENT Mentasta 35.22 46 *e*P **P 15 37 39.1 +0.3**
BMRM Bremner River 35.25 49 *e*P **P 15 37 39.5 +0.4**
comp=Z,30nm,0.8s,mb4.7
HVS Khovu-Aksy 35.46 293⇓*i*P **P 15 37 42.6 +1.7**
HVS pmax pmax
comp=Z,357nm,1.3s,mb5.5
EGAK Eagle 35.96 42 *e*P **P 15 37 44.3 -0.6**
comp=Z,38nm,0.8s,mb4.8
YULB Yu-li 36.55 231 *e*P **P 15 37 49.7 -0.8**
comp=Z,9.2nm,0.4s,mb4.5
DAWY Dawson 36.86 43 *e*P **P 15 37 52.1 -0.4**
LZH Lanzhou 37.14 265⇑P **P 15 37 56.5 +1.4**
LZH pP pP 15 39 19.7 +3.5
LZH PP PP 15 39 36.0 +3.9
LZH sP sP 15 40 09.8 +3.0
LZH *e*S **S 15 43 10.0 +1.4**
LZH sS sS 15 45 37.0 +0.1
LZH pmax pmax
comp=Z,23nm,1.0s,mb4.5
LZH pmax pmax
comp=Z,76nm,4.9s
LZH Lanzhou 37.14 265⇑P **P 15 37 56.5 +1.4**
comp=Z,23nm,1.0s,mb4.5
LZH pP pP 15 39 19.7 +3.5
LZH PP PP 15 39 36.0 +3.9
LZH sP sP 15 40 09.8 +3.0
LZH *e*S **S 15 43 10.0 +1.4**
LZH sS sS 15 45 37.0 +0.1
LZH Lanzhou 37.14 265⇑P **P 15 37 56.5 +1.4**
LZH *PP pP 15 39 19.7 +3.5
LZH 15 39 36.0
LZH *SP sP 15 40 09.8 +3.0
LZH *e*S **S 15 43 10.0 +1.4**
LZH *SS sS 15 45 37.0 +0.1
LZH pmax pmax
comp=Z,23nm,1.0s,mb4.5
GTA Gaotai 37.61 272⇓P **P 15 38 00.2 +1.2**
GTA pP pP 15 39 23.7 +3.5
GTA PP PP 15 39 40.7 +3.7
GTA PcP PcP 15 40 06.0 +0.6
GTA ScP ScP 15 43 08.8 -1.1
GTA S **S 15 43 18.4 +2.8**
GTA ScS ScS 15 47 18.3 -1.6
GTA pmax pmax
comp=Z,17nm,0.9s,mb4.4
GTA pmax pmax
comp=Z,190nm,5.7s
INK Inuvik 38.21 35 P **P 15 38 03.5 0.0**
comp=Z,44nm,0.4s,mb5.1,baz=289,slow=6.7,SNR=621
INK ScP ScP 15 43 10.8 -0.8
comp=Z,6.8nm,1.1s,baz=328,slow=2.6,SNR=5.7
INK ScS ScS 15 47 20.4 -2.1
comp=Z,2.2nm,0.9s,baz=48,slow=29,SNR=27
INK Inuvik 38.21 35 *e*P **P 15 38 03.5 0.0**
comp=Z,46nm,0.4s,mb5.2
INK ScP ScP 15 43 10.8 -0.8
INK ScS ScS 15 47 20.4 -2.1
INK Inuvik 38.21 35 *e*P **P 15 38 03.5 0.0**
INK 15 47 20.4
INK pmax pmax
comp=Z,46nm,0.4s
ZAA0 Zalesovo Array 39.26 301 *e*P **P 15 38 12.0 -0.2**
ZALV Zalesovo Beam 39.26 301 P **P 15 38 12.2 0.0**
comp=Z,32nm,0.5s,mb5.0,baz=58,slow=6.8,SNR=196
ZALV PP PP 15 39 55.4 +1.2
comp=Z,2.8nm,0.6s,baz=49,slow=10,SNR=1.9
ZALV PcP PcP 15 40 09.1 -1.2
comp=Z,4.3nm,0.3s,baz=95,slow=4.3,SNR=6.3
ZALV ScP ScP 15 43 13.7 -2.3
comp=Z,4.4nm,0.7s,baz=39,slow=3.6,SNR=9.1
ZALV ScS ScS 15 47 27.6 -1.4
comp=Z,1.0nm,0.6s,baz=150,slow=6.6,SNR=4.0
ZALV Zalesovo Beam 39.26 301 P **P 15 38 12.2 0.0**
ZALV PP PP 15 39 55.4 +1.2
ZALV PcP PcP 15 40 09.1 -1.2
ZALV ScP ScP 15 43 13.7 -2.3
ZALV ScS ScS 15 47 27.6 -1.4
ZALV Zalesovo Beam 39.26 301 P **P 15 38 12.2 0.0**
ZALV 15 39 55.4
ZALV 15 40 09.1
ZALV 15 47 27.6
NVS Novosibirsk 39.73 303⇓*i*P **P 15 38 16.4 +0.4**
NVS *e*PPP 15 39 59.6
NVS *e*S **S 15 43 45.8 -0.6**
NVS pmax pmax
comp=Z,106nm,1.4s,mb5.0
NVS pmax pmax
comp=N,32nm,1.5s
NVS pmax pmax
comp=E,68nm,1.5s
NVS smax
comp=N,43nm,2.7s
SKAG Skagway 40.11 49 *e*P **P 15 38 19.6 +0.5**
comp=N,8.1nm,1.0s,mb4.0
CD2 Chengdu 40.66 259 *e*P **P 15 38 23.0 -0.9**
CD2 pP pP 15 39 47.3 +0.7
CD2 sP sP 15 40 36.6 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
CD2 pmax pmax
comp=Z,30nm,5.2s
GYA Guiyang 42.13 251⇑*i*P **P 15 38 35.5 -0.2**
GYA pP pP 15 40 01.2 +2.1
GYA PcP PcP 15 40 21.6 +1.3
GYA PP PP 15 40 23.8 -0.9
GYA ScP ScP 15 43 28.9 +1.1
GYA S **S 15 44 20.2 -2.0**
GYA sS sS 15 46 53.0 -0.6
GYA pmax pmax
comp=Z,30nm,0.8s,mb4.7
GYA pmax pmax
comp=Z,90nm,5.1s
WMQ Urumqi 42.56 286 P **P 15 38 40.5 +1.6**
WMQ pP pP 15 40 05.5 +3.1
WMQ sP sP 15 40 54.6 +2.2
WMQ pmax pmax
comp=Z,42nm,1.0s,mb4.7
WMQ pmax pmax
comp=Z,89nm,1.8s,mb4.8
DLBC Dease Lake 43.04 49 P **P 15 38 43.2 +0.8**
comp=Z,7.3nm,0.8s,mb4.1,baz=296,slow=8.7,SNR=17
DLBC ScP ScP 15 43 32.2 +1.3
comp=Z,3.0nm,1.0s,baz=329,slow=7.2,SNR=3.2
DLBC Dease Lake 43.04 49 *e*P **P 15 38 43.7 +1.3**
DLBC ScP ScP 15 43 32.2 +1.3
MK31 Makanchi Array 44.12 292 *e*P **P 15 38 51.6 +0.6**
MK31 Makanchi Array 44.12 292 *i*P **P 15 38 51.3 +0.2**
MK31 pmax pmax
comp=Z,21nm,0.3s,mb5.0
MKAR Makanchi Array 44.12 292 P **P 15 38 51.5 +0.5**
comp=Z,19nm,0.3s,mb4.8,baz=55,slow=6.2,SNR=505
MKAR ScS ScS 15 47 55.6 -3.9
comp=Z,1.6nm,0.9s,baz=68,slow=11,SNR=5.8
MKAR Makanchi Array 44.12 292 P **P 15 38 51.5 +0.5**
MKAR ScS ScS 15 47 55.6 -3.9
MKAR Makanchi Array 44.12 292 *i*P **P 15 38 51.5 +0.4**
MKAR pmax pmax
comp=Z,19nm,0.3s
KURK Kurchatov 44.13 299 P **P 15 38 52.4 +1.4**
comp=Z,101nm,0.6s,mb5.3,baz=66,slow=8.1,SNR=245
KURK pP pP 15 40 19.0 +3.7
comp=Z,6.7nm,1.1s,baz=66,slow=9.3,SNR=1.9
KURK PcP PcP 15 40 26.4 -0.3
comp=Z,10nm,0.5s,baz=56,slow=3.3,SNR=12
KURK ScP ScP 15 43 33.2 -2.3
comp=Z,3.6nm,0.3s,baz=65,slow=3.8,SNR=8.2
KURK Kurchatov 44.13 299 *e*P **P 15 38 51.3 +0.3**
comp=Z,117nm,0.6s,mb5.4
KURK pP pP 15 40 19.0 +3.7
KURK *e*PcP PcP 15 40 25.8 -0.9
KURK PcP PcP 15 40 26.4 -0.3
KURK ScP ScP 15 43 33.2 -2.3
KURK Kurchatov 44.13 299 P **P 15 38 52.4 +1.4**
KURK *PP pP 15 40 19.0 +3.7
KURK 15 40 26.4
KURK pmax pmax
comp=Z,101nm,0.6s,mb5.3
KURK Kurchatov 44.13 299 P **P 15 38 51.7 +0.7**
SNR=30
KMI Kunming 45.47 254 P **P 15 39 01.7 -0.1**
KMI pmax pmax
comp=Z,15nm,0.8s,mb4.4
KMI Kunming 45.47 254 P **P 15 39 01.7 -0.1**
comp=Z,15nm,0.8s,mb4.4
KMI Kunming 45.47 254 P **P 15 39 01.7 -0.1**
KMI pmax pmax
comp=Z,15nm,0.8s,mb4.4
RES Resolute Bay 46.64 20 P **P 15 39 09.6 -0.5**
comp=Z,12nm,0.5s,mb4.5,baz=319,slow=6.5,SNR=43
RES PcP PcP 15 40 35.5 +0.4
comp=Z,10.0nm,0.7s,baz=285,slow=4.8,SNR=7.9
RES ScP ScP 15 43 44.5 -1.1
comp=Z,8.8nm,0.7s,baz=299,slow=5.9,SNR=11
RES Resolute Bay 46.64 20 *e*P **P 15 39 09.1 -1.0**
comp=Z,24nm,0.9s,mb4.5
RES PcP PcP 15 40 35.5 +0.4
RES ScP ScP 15 43 44.5 -1.1
RES Resolute Bay 46.64 20 P **P 15 39 09.6 -0.5**
RES pP pP 15 40 35.5 0.0
RES pmax pmax
comp=Z,12nm,0.5s,mb4.5
BVA0 Borovoye Array 47.26 306 *i*P **P 15 39 15.2 +0.2**
BVA0 pmax pmax
comp=Z,5.0nm,0.3s,mb4.3
BVAR Borovoye Array 47.26 306 P **P 15 39 15.3 +0.3**
comp=Z,26nm,0.3s,mb5.0,baz=51,slow=8.6,SNR=334
BVAR PcP PcP 15 40 36.9 -0.8
comp=Z,11nm,0.5s,baz=81,slow=2.5,SNR=12
BVAR PP PP 15 41 06.5 -4.3
comp=Z,11nm,0.7s,baz=58,slow=10,SNR=6.2
BVAR ScP ScP 15 43 46.2 -2.4
comp=Z,7.4nm,0.7s,baz=75,slow=4.5,SNR=9.3
BVAR S **S 15 45 34.8 +0.7**
comp=Z,3.2nm,0.9s,baz=60,slow=9.0,SNR=4.3
BVAR ScS ScS 15 48 14.9 -4.9
comp=Z,1.1nm,0.7s,baz=29,slow=3.4,SNR=5.9
BVAR Borovoye Array 47.26 306 P **P 15 39 15.3 +0.3**
BVAR PcP PcP 15 40 36.9 -0.8
BVAR PP PP 15 41 06.5 -4.4
BVAR ScP ScP 15 43 46.2 -2.4
BVAR S **S 15 45 34.8 +0.7**
BVAR ScS ScS 15 48 14.9 -4.9
BVAR Borovoye Array 47.26 306 P **P 15 39 15.3 +0.3**
BVAR pP pP 15 40 36.9 -3.9
BVAR 15 41 06.5
BVAR S **S 15 45 34.8 +0.7**
BRVK Borovoye 47.29 306 *e*P **P 15 39 15.7 +0.4**
comp=Z,50nm,0.8s,mb4.9
BRVK Borovoye 47.29 306 *e*P **P 15 39 15.7 +0.4**
BRVK pmax pmax
comp=Z,50nm,0.8s,mb4.9
BRVK Borovoye 47.29 306 P **P 15 39 16.0 +0.7**
SNR=14
KBS Kingsbay 47.67 350 *e*P **P 15 39 17.6 -0.2**
YKA Yellowknife Ar 47.72 39 P **P 15 39 18.1 -0.3**
comp=Z,21nm,0.6s,mb4.6,baz=303,slow=7.3,SNR=92
YKA PcP PcP 15 40 38.8 -0.4
comp=Z,1.7nm,0.5s,baz=310,slow=3.5,SNR=7.1
YKA ScP ScP 15 43 49.5 -0.8
comp=Z,7.4nm,1.0s,baz=303,slow=4.2,SNR=11
YKA Yellowknife Ar 47.72 39 P **P 15 39 18.1 -0.3**
YKA PcP PcP 15 40 38.8 -0.4
YKA ScP ScP 15 43 49.5 -0.8
YKA Yellowknife Ar 47.72 39 P **P 15 39 18.1 -0.3**
YKA 15 40 38.8
SPA0 Spitsbergen Ar 47.78 349 *e*P **P 15 39 17.8 -0.9**
SPITS Spitsbergen Ar 47.78 349 P **P 15 39 18.1 -0.6**
comp=Z,9.0nm,0.6s,mb4.3,baz=66,slow=8.3,SNR=7.0
SPITS PcP PcP 15 40 38.6 -0.6
comp=Z,4.4nm,0.6s,baz=90,slow=7.5,SNR=2.4
SPITS ScP ScP 15 43 50.5 +0.1
comp=Z,1.8nm,0.5s,baz=98,slow=6.0,SNR=1.9
SPITS Spitsbergen Ar 47.78 349 P **P 15 39 18.1 -0.6**
SPITS PcP PcP 15 40 38.6 -0.6
SPITS ScP ScP 15 43 50.5 +0.1
SPITS Spitsbergen Ar 47.78 349 P **P 15 39 18.1 -0.6**
SPITS 15 40 38.6
SOKR Solikamsk 49.89 318 *d i*P **P 15 39 34.4 -0.2**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb4.5
TKM2 Tokmak 2 50.24 292 P **P 15 39 38.6 +1.1**
SNR=6.4
TKM2 P 15 39 38.6
SNR=6.4
TKM2 Tokmak 2 50.24 292 *e*P **P 15 39 38.4 +0.9**
comp=Z,23nm,0.9s,mb4.5
TKM2 Tokmak 2 50.24 292 *e*P **P 15 39 38.4 +0.9**
TKM2 pmax pmax
comp=Z,23nm,0.9s,mb4.5
ULHL Ulahol 50.28 291 P **P 15 39 39.1 +1.3**
SNR=5.2
ULHL P 15 39 39.1
SNR=5.2
USP Ospenovka 50.67 293 P **P 15 39 41.6 +1.0**
SNR=59
USP P 15 39 41.6
SNR=59
CHMS Chumysh 50.69 292 P **P 15 39 41.5 +0.8**
SNR=14
CHMS P 15 39 41.5
SNR=14
KBK Karagaybulak 50.78 292 P **P 15 39 42.4 +0.9**
SNR=17
KBK P 15 39 42.4
SNR=17
FRU Bishkek 50.87 292⇓*i*P **P 15 39 42.0 -0.1**

FRU pmax pmax
comp=Z,70nm,1.0s,mb4.8
KZA Kyzart 50.97 291 P **P 15 39 44.5 +1.6**
SNR=12
KZA P 15 39 44.5
SNR=12
ARU Arti 50.98 314 *e*P **P 15 39 42.8 +0.1**
comp=Z,209nm,0.4s,mb5.7
ARU Arti 50.98 314 *d i*P **P 15 39 42.8 +0.2**
ARU *e* 15 40 50.0
ARU *e** PP pP 15 41 13.0 +2.9
ARU *e* 15 41 42.5
ARU *SP sP 15 41 58.6 -0.4
ARU S **S 15 46 25.9 +0.8**
ARU pmax pmax
comp=Z,142nm,0.6s,mb5.4
AAK Ala-Archa 51.06 292 P **P 15 39 44.5 +1.0**
SNR=6.9
AAK P 15 39 44.5
SNR=6.9
AAK Ala-Archa 51.06 292 *e*P **P 15 39 42.5 -1.0**
comp=Z,132nm,0.8s,mb5.2
AAK Ala-Archa 51.06 292 *e*P **P 15 39 42.5 -1.0**
AAK pmax pmax
comp=Z,132nm,0.8s,mb5.2
AAK Ala-Archa 51.06 292 P **P 15 39 42.5 -1.0**
comp=Z,185nm,0.9s,mb5.3
AAK Ala-Archa 51.06 292 P **P 15 39 44.7 +1.2**
SNR=11
EKS2 Erkin-Say 51.46 293 P **P 15 39 47.5 +1.1**
SNR=29
EKS2 P 15 39 47.5
SNR=29
EKS2 Erkin-Say 51.46 293 *e*P **P 15 39 46.9 +0.5**
comp=Z,29nm,0.6s,mb4.7
EKS2 Erkin-Say 51.46 293 *e*P **P 15 39 46.9 +0.5**
EKS2 pmax pmax
comp=Z,29nm,0.6s,mb4.7
PGC Sidney 51.56 57 *e*P **P 15 39 46.6 -0.5**
comp=Z,0.4nm,0.5s
AML Almayashu 51.84 292 P **P 15 39 50.7 +1.5**
SNR=6.6
AML P 15 39 50.7
SNR=6.6
DAG Danmarks Havn 51.87 357 *i* P **P 15 39 47.6 -1.3**
DAG pmax pmax
comp=Z,7.0nm,0.7s,mb4.0
DAG Danmarks Havn 51.87 357 *i* P **P 15 39 47.6 -1.3**
comp=Z,10nm,0.7s,mb4.2
KSH Kashi 52.16 288 P **P 15 39 56.1 +4.6**
KSH PcP PcP 15 40 59.0 +2.9
KSH pP pP 15 41 25.3 +5.8
KSH PP PP 15 42 02.8 +7.6
KSH sP sP 15 42 13.3 +5.1
KSH ScP ScP 15 44 12.7 +2.8
KSH PcS PcS 15 44 56.9 +1.8
KSH S **S 15 46 48.2 +6.7**
KSH sS sS 15 49 26.4 +6.9
KSH SS SS 15 50 37.1 +11
KSH pmax pmax
comp=Z,14nm,0.8s,mb4.2
KSH pmax pmax
comp=Z,100nm,5.7s
CHTO Chiang Mai 52.54 252 *e*P **P 15 39 55.0 +0.4**
comp=Z,35nm,0.5s,mb4.8
CHTO Chiang Mai 52.54 252 *e*P **P 15 39 55.0 +0.5**
CHTO pmax pmax
comp=Z,35nm,0.5s,mb4.8
CHTO Chiang Mai 52.54 252 P **P 15 39 55.1 +0.6**
comp=Z,59nm,0.7s,mb4.9
KEV Kevo 52.58 339 *e*P **P 15 39 53.3 -0.8**
comp=Z,18nm,0.9s,mb4.3
KEV Kevo 52.58 339 *e*P **P 15 39 53.3 -0.8**
KEV pmax pmax
comp=Z,18nm,0.9s,mb4.3
KEV Kevo 52.58 339 *e*p **P 15 39 51.8 -2.3**
comp=Z,13nm,0.7s,mb4.3
JCW Jim Creek 52.64 57 *e*P **P 15 39 55.0 +0.1**
comp=Z,21nm,0.8s,mb4.4
APA Apatity 52.64 335⇑ *i*P **P 15 39 54.0 -0.6**
APA pmax pmax
comp=Z,25nm,0.7s,mb4.5
APA MLR MLR
comp=Z,300nm,18.0s
CM31 Chiang Mai Arr 52.82 252 *e*P **P 15 39 57.2 +0.6**
comp=Z,15nm,0.6s,mb4.4
CMAR Chiang Mai Arr 52.82 252 P **P 15 39 57.2 +0.7**
comp=Z,14nm,0.6s,mb4.4,baz=29,slow=7.3,SNR=94
CMAR PcP PcP 15 40 59.1 +0.2
comp=Z,3.3nm,0.6s,baz=16,slow=3.4,SNR=8.0
CMAR ScP ScP 15 44 11.4 -1.6
comp=Z,2.3nm,0.7s,baz=15,slow=3.5,SNR=7.5
CMAR Chiang Mai Arr 52.82 252 P **P 15 39 57.2 +0.7**
CMAR PcP PcP 15 40 59.1 +0.2
CMAR ScP ScP 15 44 11.4 -1.6
CMAR Chiang Mai Arr 52.82 252 P **P 15 39 57.2 +0.7**
CMAR 15 40 59.2
KK31 Karatay Array 53.05 295 *i* P **P 15 39 57.4 -0.5**
KK31 pmax pmax
comp=Z,22nm,0.8s,mb4.4
KKAR Karatay Array 53.05 295 *e*P **P 15 39 57.9 0.0**
comp=Z,12nm,0.7s,mb4.2
KKAR Karatay Array 53.05 295 *e*P **P 15 39 57.9 0.0**
KKAR pmax pmax
comp=Z,12nm,0.7s,mb4.2
ARCES ARCESS Array B 53.09 339 P **P 15 39 57.1 -0.6**
comp=Z,19nm,0.7s,mb4.4,baz=35,slow=8.0,SNR=118
ARCES ScP ScP 15 44 11.5 -1.9
comp=Z,2.8nm,0.7s,baz=54,slow=6.2,SNR=4.3
ARCES ARCESS Array B 53.09 339 P **P 15 39 57.1 -0.6**
ARCES ScP ScP 15 44 11.5 -1.9
ARCES ARCESS Array B 53.09 339 P **P 15 39 57.2 -0.5**
ARE0 ARCESS Array S 53.09 339 *e*P **P 15 39 56.5 -1.2**
TAPN Taplejung 53.12 269 *e*P **P 15 39 59.5 +0.9**
comp=Z,29nm,0.3s,mb4.9
TAPN Taplejung 53.12 269 *e*P **S 15 46 53.0 -1.7**
comp=Z,47nm,0.9s
TAPN Taplejung 53.12 269 *e*P **P 15 39 59.5 +0.9**
comp=Z,29nm,0.3s,mb5.0
ODAN Odare 53.67 269 *e*P **P 15 40 03.4 +0.8**
comp=Z,26nm,0.5s,mb4.7
ODAN Odare 53.67 269 *e*P **P 15 40 03.4 +0.8**
comp=Z,26nm,0.5s,mb4.7
ETW Entiat 53.85 57 *e*P **P 15 40 03.4 -0.1**
comp=Z,20nm,0.7s,mb4.4
JIRN Jiri 53.85 270 *e*P **P 15 40 04.8 +0.9**
comp=Z,5.4nm,0.3s,mb4.2
JIRN Jiri 53.85 270 *e*P **S 15 47 03.5 -0.9**
comp=Z,5.8nm,0.9s
JIRN Jiri 53.85 270 *e*P **P 15 40 04.8 +0.9**
comp=Z,5.4nm,0.3s,mb4.3
GUN Gumba 53.87 271 *e*P **P 15 40 04.6 +0.6**
comp=Z,61nm,0.4s,mb5.2
GUN Gumba 53.87 271 *e*P **S 15 47 05.1 +0.5**
comp=Z,29nm,1.0s
GUN Gumba 53.87 271 *e*P **P 15 40 04.6 +0.6**
comp=Z,61nm,0.4s,mb5.2
KTK1 Kautokeino 54.00 340 *e* **P 15 40 02.5 -1.8**
KTK1 *e*P 15 40 03.9
RAMN Ramite 54.10 269 *e*P **P 15 40 06.3 +0.7**
comp=Z,84nm,0.5s,mb5.3
RAMN Ramite 54.10 269 *e*P **P 15 40 06.3 +0.7**
comp=Z,84nm,0.5s,mb5.2
KKN Kakani 54.33 271 *e*P **P 15 40 08.1 +0.9**
comp=Z,64nm,0.4s,mb5.2
KKN Kakani 54.33 271 *e*P **P 15 40 08.1 +0.9**
comp=Z,64nm,0.4s,mb5.2
KKN Kakani 54.33 271 *e*P **P 15 40 08.1 +0.9**
KKN pmax pmax
comp=Z,64nm,0.4s,mb5.2
TRO Tromso 54.39 342 *e*P **P 15 40 06.4 -0.6**
PKI Pulchoki 54.40 271 *e*P **P 15 40 08.7 +0.9**
comp=Z,28nm,0.5s,mb4.8
PKI Pulchoki 54.40 271 *e*P **P 15 40 08.7 +0.9**
comp=Z,28nm,0.5s,mb4.8
PKI Pulchoki 54.40 271 *e*P **P 15 40 08.7 +0.9**
PKI pmax pmax
comp=Z,28nm,0.5s,mb4.8
DMN Daman 54.57 271 *e*P **P 15 40 10.0 +1.1**
comp=Z,42nm,0.5s,mb4.9
DMN Daman 54.57 271 *e*P **P 15 40 10.0 +1.1**
comp=Z,42nm,0.5s,mb4.9
GKN Gorkha 54.58 272 *e*P **P 15 40 09.9 +0.9**
comp=Z,42nm,0.3s,mb5.2
GKN Gorkha 54.58 272 *e*P **S 15 47 13.7 -0.3**
comp=Z,16nm,0.9s
GKN Gorkha 54.58 272 *e*P **P 15 40 09.9 +0.9**
comp=Z,42nm,0.3s,mb5.2
HOOD Mount Hood Mea 54.60 60 *e*P **P 15 40 09.5 +0.6**
comp=Z,28nm,0.9s,mb4.5
KEBM Edson Butte 54.71 64 *e*P **P 15 40 10.8 +1.2**
comp=Z,46nm,1.0s,mb4.7
AB31 Akbulak array 54.78 307 *i* P **P 15 40 10.0 -0.1**
AB31 pmax pmax
comp=Z,23nm,0.4s,mb4.8
ABKAR Akbulak array 54.78 307 *e*P **P 15 40 10.2 +0.1**
comp=Z,33nm,0.5s,mb4.8
ABKAR *e*PP PP 15 42 16.6 -1.7
OD2 Odessa Site #2 54.83 56 *e*P **P 15 40 10.1 -0.4**
comp=Z,13nm,0.8s,mb4.2
DANN Dangsing 54.88 273 *e*P **P 15 40 12.3 +1.1**
comp=Z,93nm,0.5s,mb5.2
DANN Dangsing 54.88 273 *e*P **S 15 47 19.3 +1.3**
comp=Z,90nm,1.6s
DANN Dangsing 54.88 273 *e*P **P 15 40 12.3 +1.1**
comp=Z,93nm,0.5s,mb5.3
AKTO Aktyubinsk 54.97 309 P **P 15 40 11.3 -0.1**
comp=Z,17nm,0.4s,mb4.6,baz=66,slow=7.9,SNR=131
AKTO PP PP 15 42 15.3 -4.6
comp=Z,5.3nm,0.6s,baz=72,slow=9.6,SNR=3.6
AKTO ScP ScP 15 44 18.8 -3.2
comp=Z,6.8nm,0.7s,baz=52,slow=2.0,SNR=8.1
AKTO Aktyubinsk 54.97 309 P **P 15 40 11.3 -0.1**
AKTO PP PP 15 42 15.3 -4.6
AKTO ScP ScP 15 44 18.8 -3.2
AKTO Aktyubinsk 54.97 309 P **P 15 40 11.3 -0.1**
HAWA Hanford 55.04 58 *e*P **P 15 40 11.9 -0.1**
comp=Z,3.4nm,0.5s,mb3.8
NEW Newport 55.08 55 *e*P **P 15 40 12.0 -0.2**
comp=Z,7.1nm,0.9s,mb3.9
NEW Newport 55.08 55 *e*P **P 15 40 12.0 -0.2**
NEW pmax pmax
comp=Z,7.0nm,0.9s
KOLN Koldanda 55.39 272 *e*P **P 15 40 15.6 +0.9**
comp=Z,50nm,0.5s,mb5.0
KOLN Koldanda 55.39 272 *e*P **P 15 40 15.6 +0.9**
comp=Z,50nm,0.5s,mb5.0
PYUN Piuthan 55.54 273 *e*P **P 15 40 16.6 +0.8**
comp=Z,60nm,0.4s,mb5.3
PYUN Piuthan 55.54 273 *e*P **P 15 40 16.6 +0.8**
comp=Z,60nm,0.4s,mb5.3
HUMO Hull Mountain 55.65 63 *e*P **P 15 40 17.2 +0.9**
comp=Z,15nm,1.0s,mb4.3
LBMI Labuha 55.85 210 P **P 15 40 17.4 -0.6**
SUMG Summit 56.03 4 *e*P **P 15 40 18.6 +0.2**
comp=Z,103nm,0.8s,mb5.2
SUMG Summit 56.03 4⇓ *i*P **P 15 40 18.8 +0.3**
SUMG pmax pmax
comp=Z,65nm,0.8s
SUMG Summit 56.03 4⇓ *i*P **P 15 40 18.8 +0.3**
comp=Z,65nm,0.8s,mb5.0
LNOR Lincton Mounta 56.04 57 *e*P **P 15 40 19.1 +0.1**
comp=Z,3.6nm,0.5s,mb4.0
LNOR Lincton Mounta 56.04 57 *e*P **P 15 40 19.1 +0.1**
GTOI Gorontalo 56.17 215 P **P 15 40 19.4 -0.8**
WALA Waterton Lakes 56.17 52 *e*P **P 15 40 19.7 -0.1**
comp=Z,0.3nm,0.6s
WALA *e*PcP PcP 15 41 12.0 +0.6
KHMM Horse Mountain 56.36 65 *e*P **P 15 40 22.4 +1.1**
comp=Z,11nm,0.7s,mb4.3
YBH Yreka Blue Hor 56.36 64 *e*P **P 15 40 22.4 +1.1**
comp=Z,5.3nm,0.6s,mb4.0
YBH Yreka Blue Hor 56.36 64 *e*P **P 15 40 22.4 +1.1**
YBH pmax pmax
comp=Z,5.0nm,0.6s
BSMT Bassoo Peak 56.54 54 *e*P **P 15 40 22.9 +0.6**
comp=Z,19nm,0.7s,mb4.5
BSMT *e*pP pP 15 41 53.8 +1.6
STEI Steigen 56.55 342 *e*P **P 15 40 21.3 -0.8**
BLMT Blacktail Moun 56.64 53 *e*P **P 15 40 23.5 +0.4**
comp=Z,7.3nm,0.4s,mb4.4
JOF Joensuu 56.70 332 *e*P **P 15 40 21.5 -1.8**
JOF pmax pmax
comp=Z,34nm,0.5s,mb4.9
JOF Joensuu 56.70 332 *e*p **P 15 40 21.5 -1.8**
comp=Z,34nm,0.5s,mb4.9
MRSI Marisa 56.71 216 P **P 15 40 23.3 -0.7**
comp=Z,595nmcomp=Z,73nm,0.9s,mb5.0
JTMT Jette 56.86 54 *e*P **P 15 40 24.9 +0.3**
comp=Z,7.8nm,0.9s,mb4.0
SWMT Swartz Lake 57.16 54 *e*P **P 15 40 27.0 +0.3**
comp=Z,4.9nm,0.5s,mb4.1
WDC Whiskeytown Da 57.23 65 *e*P **P 15 40 27.4 +0.1**
comp=Z,13nm,1.1s,mb4.2
WDC Whiskeytown Da 57.23 65 *e*P **P 15 40 27.4 +0.1**
WDC pmax pmax
comp=Z,13nm,1.1s,mb4.2
BMO Blue Mountains 57.23 58 *e*P **P 15 40 27.6 +0.4**
comp=Z,3.8nm,0.6s,mb3.9
MOD Modoc 57.59 62 *e*P **P 15 40 30.4 +0.7**
comp=Z,14nm,0.9s,mb4.3
SLMT Seeley Lake 57.59 54 *e*P **P 15 40 29.8 +0.1**
comp=Z,16nm,0.6s,mb4.5
MSO Missoula 57.65 54 *e*P **P 15 40 30.2 +0.2**
comp=Z,7.3nm,0.8s,mb4.1
FFC Flin Flon 57.72 41 *e*P **P 15 40 30.1 -0.3**
FFC comp=Z,25nm,0.8s,mb4.6
FFC *e*pP pP 15 42 01.5 +0.9
FFC Flin Flon 57.72 41 *e*P **P 15 40 30.2 -0.2**
FFC *e**PP pP 15 42 01.5 +0.9
FFC pmax pmax
comp=Z,25nm,0.8s,mb4.6
LUWI Luwuk 57.81 215 P **P 15 40 29.4 -2.2**
comp=Z,46nm,0.9s,mb4.8
CHMT Chamberlain Mo 57.94 54 *e*P **P 15 40 32.2 +0.2**
comp=Z,7.8nm,0.7s,mb4.2
MSAI Masohi 57.99 207 P **P 15 40 33.7 +0.9**
comp=Z,629nmcomp=Z,15nm,0.6s,mb4.5
KKR Kurukshetra 58.07 279 *ex* x 15 40 29.6
KKR AMb AMB 15 40 33.3
comp=Z,135nm,0.5s,mb5.5
WVOR Wild Horse Val 58.15 61 *e*P **P 15 40 34.2 +0.7**
comp=Z,10nm,0.8s,mb4.2
WVOR Wild Horse Val 58.15 61 *e*P **P 15 40 34.2 +0.7**
WVOR pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
MOR8 Moi Rana 58.23 341 *e*P **P 15 40 31.8 -2.0**
SCO Scoresbysund 58.25 358 *i* P **P 15 40 33.7 -0.1**
SCO pmax pmax
comp=Z,11nm,0.8s,mb4.2
SCO Scoresbysund 58.25 358 *i* P **P 15 40 33.7 -0.1**
comp=Z,11nm,0.8s,mb4.2
STOK Stokkvaagen 58.38 342 *e*P **P 15 40 34.2 -0.5**
NLAI Namlea 58.43 209 P **P 15 40 35.9 +0.1**
comp=Z,46nm,0.7s,mb4.9
AAI Ambon 58.53 208 P **P 15 40 36.4 0.0**
BISR Bishrakh 58.66 278 *e*PKP **P 15 40 34.7 -2.6**
BISR AMb AMB 15 40 35.0
comp=Z,64nm,0.5s,mb5.2
KAF Kangasniemi 58.78 333 *e*P **P 15 40 35.8 -1.7**
KAF pmax pmax
comp=Z,21nm,0.6s,mb4.6
KAF Kangasniemi 58.78 333 *e*p **P 15 40 35.8 -1.7**
comp=Z,20nm,0.6s,mb4.6
HRY Holter Researc 58.79 53 *e*P **P 15 40 38.5 +0.7**
comp=Z,32nm,0.5s,mb4.9
EGMT Eagleton 58.91 51 *e*P **P 15 40 38.4 -0.2**
comp=Z,5.4nm,0.6s,mb4.0
AYAN Aya Nagar 58.92 278 *e*PKP **P 15 40 38.4 -0.6**
MFID Camas Ranch 58.99 58 *e*P **P 15 40 39.7 +0.4**
comp=Z,6.4nm,0.6s,mb4.1
SBUM Sibu 59.01 228 P **P 15 40 40.9 +1.2**
comp=Z,38nm,1.0s,mb4.7
LRM Limekiln Ridge 59.09 54 *e*P **P 15 40 40.1 +0.2**
comp=Z,84nm,0.4s,mb5.4
AGRA Agra 59.30 276 *e*PKP **P 15 40 41.1 -0.5**
AGRA AMb AMB 15 40 41.5
comp=Z,60nm,0.4s,mb5.3
DLMT Dillon 59.33 55 *e*P **P 15 40 42.3 +0.8**
comp=Z,30nm,1.1s,mb4.5
FINES FINESS Array B 59.38 333 P **P 15 40 41.2 -0.3**
comp=Z,67nm,0.7s,mb5.1,baz=33,slow=7.6,SNR=450
FINES ScP ScP 15 44 38.6 -2.6
comp=Z,4.1nm,0.6s,baz=64,slow=4.4,SNR=4.6
FINES FINESS Array B 59.38 333 P **P 15 40 41.2 -0.3**
FINES ScP ScP 15 44 38.6 -2.6
FINES FINESS Array B 59.38 333 P **P 15 40 41.3 -0.3**
FINES 15 44 38.6
PUL Pulkovo 59.46 330⇓ *e*P **P 15 40 42.0 -0.1**
PUL pmax pmax
comp=Z,137nm,0.7s,mb5.4
KUDL Kundal 59.55 278 *e*PKP **P 15 40 42.7 -0.6**
KUDL AMb AMB 15 40 43.4
comp=Z,24nm,0.5s,mb4.9
MCMT McKenzie Canyo 59.57 55 *e*P **P 15 40 43.2 0.0**
comp=Z,4.5nm,0.6s,mb4.1
KBL Kabul 59.60 288 *e*P **P 15 40 42.3 -1.2**
comp=Z,17nm,0.7s,mb4.6
KBL Kabul 59.60 288 *e*P **P 15 40 42.3 -1.2**
KBL pmax pmax
comp=Z,17nm,0.7s,mb4.6
BOZ Bozeman (W) 59.63 54 *e*P **P 15 40 44.2 +0.8**
comp=Z,16nm,0.6s,mb4.6
BOZ Bozeman (W) 59.63 54 *e*P **P 15 40 44.3 +0.8**
BOZ pmax pmax
comp=Z,16nm,0.6s,mb4.6
HLID Hailey 59.63 57 *e*P **P 15 40 44.1 +0.6**
comp=Z,3.4nm,0.7s,mb3.9
WCN Washoe City 59.66 64 *e*P **P 15 40 43.0 -0.8**
comp=Z,9.9nm,0.8s,mb4.3
WCN Washoe City 59.66 64 *e*P **P 15 40 43.0 -0.9**
WCN pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
KHET Khetri 60.03 278 *e*PKP **P 15 40 45.7 -0.7**
KHET AMb AMB 15 40 46.5
comp=Z,7.0nm,0.5s,mb4.3
MOS Moscow 60.06 323 *e*P **P 15 40 44.4 -1.8**
MOS pmax pmax
comp=Z,53nm,0.6s,mb5.2
NSS Namsos 60.18 341 *e*P **P 15 40 45.3 -1.6**
BMN Battle Mountai 60.29 61 *e*P **P 15 40 48.8 +0.7**
comp=Z,11nm,1.0s,mb4.2
BMN Battle Mountai 60.29 61 *e*P **P 15 40 48.8 +0.8**
BMN pmax pmax
comp=Z,11nm,1.0s,mb4.2
QLMT Earthquake Lak 60.30 54 *e*P **P 15 40 48.8 +0.8**
comp=Z,1.1nm,0.4s,mb3.6
SFJD Kangerlussuaq 60.63 10 *i* P **P 15 40 48.1 -1.7**
SFJD pmax pmax
comp=Z,17nm,0.8s,mb4.5
SFJD Kangerlussuaq 60.63 10 *i* P **P 15 40 48.1 -1.7**
comp=Z,17nm,0.8s,mb4.5
YMR Madison River 60.65 54 *e*P **P 15 40 51.1 +0.8**
comp=Z,12nm,0.6s,mb4.5
PMG Port Moresby 60.78 185 P **P 15 40 51.2 -0.3**
comp=Z,42nm,0.7s,mb5.0,baz=11,slow=5.7,SNR=27
PMG Port Moresby 60.78 185 *e*P **P 15 40 50.8 -0.7**
comp=Z,42nm,0.8s,mb4.9
PMG Port Moresby 60.78 185 P **P 15 40 51.2 -0.3**
PMG pmax pmax
comp=Z,42nm,0.7s
PMG Port Moresby 60.78 185 P **P 15 40 51.1 -0.4**
comp=Z,572nmcomp=Z,64nm,0.8s,mb5.1
YFT Old Faithful 60.87 54 *e*P **P 15 40 53.8 +2.0**
comp=Z,21nm,0.7s,mb4.7
OBN Obninsk 60.92 323 *e*P **P 15 40 50.9 -1.1**
comp=Z,30nm,0.6s,mb4.9
OBN Obninsk 60.92 323⇓ *i*P **P 15 40 51.3 -0.7**
OBN *i* 15 41 29.2
OBN *i** PP pP 15 42 23.9 +0.5
OBN *i* 15 43 11.1
OBN pmax pmax
comp=Z,40nm,1.0s,mb4.8
NVAR Mina Array Bea 61.09 64 P **P 15 40 54.1 +0.8**
comp=Z,20nm,0.9s,mb4.6,baz=294,slow=6.9,SNR=34
NVAR Mina Array Bea 61.09 64 P **P 15 40 54.1 +0.8**
RLMT Red Lodge 61.18 53 *e*P **P 15 40 54.5 +0.7**
comp=Z,11nm,0.8s,mb4.3
FLWY Flagg Ranch 61.20 55 *e*P **P 15 40 55.2 +1.3**
comp=Z,5.9nm,0.7s,mb4.1
IMW Indian Meadow 61.20 55 *e*P **P 15 40 55.1 +1.1**
comp=Z,9.3nm,0.6s,mb4.4
RRI2 Red Ridge 61.40 56 *e*P **P 15 40 56.4 +1.1**
comp=Z,30nm,0.7s,mb4.8
MOOW Moose Ponds 61.41 55 *e*P **P 15 40 56.3 +0.9**
comp=Z,8.1nm,0.8s,mb4.2
TPAW Teton Pass 61.48 55 *e*P **P 15 40 57.0 +1.2**
comp=Z,18nm,0.7s,mb4.6
LOHW Long Hollow 61.58 55 *e*P **P 15 40 56.9 +0.4**
comp=Z,14nm,1.0s,mb4.4
SNOW Snow King Moun 61.61 55 *e*P **P 15 40 58.4 +1.7**
comp=Z,11nm,0.6s,mb4.6
REDW Red Top Meadow 61.63 55 *e*P **P 15 40 57.6 +0.8**
comp=Z,11nm,0.9s,mb4.4
HWUT Hardware Ranch 62.51 57 *e*P **P 15 41 03.1 +0.5**
comp=Z,16nm,0.7s,mb4.7
BHPL Bhopal 62.51 273 *e*PKP **P 15 41 02.6 -0.3**
KAPI Kappang 62.58 216 *e*P **P 15 41 02.4 -1.0**
comp=Z,30nm,0.6s,mb5.0
KAPI Kappang 62.58 216 P **P 15 41 02.4 -1.0**
comp=Z,530nmcomp=Z,51nm,0.8s,mb5.1
PD01 Pinedale Array 62.70 55 *e*P **P 15 41 04.2 +0.3**
PD02 Pinedale Array 62.70 55 *e*P **P 15 41 04.0 +0.2**
PDAR Pinedale Array 62.72 55 P **P 15 41 04.2 +0.3**
comp=Z,20nm,0.5s,mb4.9,baz=359,slow=1.8,SNR=261
PDAR pP pP 15 42 37.6 +1.5
comp=Z,2.8nm,0.9s,baz=305,slow=1.9,SNR=3.0
PDAR Pinedale Array 62.72 55 P **P 15 41 04.2 +0.3**
PDAR pP pP 15 42 37.6 +1.5
MOL Molde 62.81 342 *e*P **P 15 41 03.8 -0.5**
DUG Dugway 62.85 59 *e*P **P 15 41 05.3 +0.5**
comp=Z,18nm,0.8s,mb4.6
DUG Dugway 62.85 59 *e*P **P 15 41 05.3 +0.4**
DUG pmax pmax
comp=Z,18nm,0.8s,mb4.7
VSR Storozhevoye 62.88 319 *d i*P **P 15 41 04.4 -0.5**
VSR pmax pmax
comp=Z,30nm,0.4s,mb5.2
VSR pmax pmax
comp=N,20nm,0.5s
VSR pmax pmax
comp=E,20nm,0.6s
NOQ North Oquirrh 62.89 58 *e*P **P 15 41 05.9 +0.8**
comp=E,25nm,0.8s,mb4.8
JLU Jordanelle 63.28 58 *e*P **P 15 41 08.2 +0.5**
comp=E,4.5nm,0.7s,mb4.1
NB2 NORSAR Subarra 63.46 340 P **P 15 41 07.7 -0.7**
comp=Z,30nm,0.7s,mb4.9,baz=26,slow=6.5
NOA NORSAR Array B 63.46 340 P **P 15 41 08.1 -0.3**
comp=Z,29nm,0.7s,mb4.9,baz=26,slow=6.5,SNR=123
NOA NORSAR Array B 63.46 340 P **P 15 41 08.1 -0.3**
NOA NORSAR Array B 63.46 340 P **P 15 41 08.1 -0.3**
DAU Daniels Canyon 63.52 58 *e*P **P 15 41 10.1 +0.9**
comp=Z,7.9nm,0.5s,mb4.5
DAU Daniels Canyon 63.52 58 *e*P **P 15 41 10.1 +0.9**
DAU pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
ULM Lac du Bonnet 63.54 42 P **P 15 41 07.9 -1.3**
comp=Z,4.4nm,0.5s,mb4.2,baz=328,slow=7.1,SNR=7.9
ULM Lac du Bonnet 63.54 42 P **P 15 41 07.9 -1.2**
ULM Lac du Bonnet 63.54 42 P **P 15 41 07.9 -1.2**
MPU Maple Canyon 63.61 58 *e*P **P 15 41 10.1 +0.4**
comp=Z,24nm,0.6s,mb4.9
NC602 NORSAR Array S 63.66 339 *e*P **P 15 41 09.0 -0.7**
NAO01 NORSAR Array S 63.70 340 *e*P **P 15 41 09.3 -0.7**
comp=Z,35nm,1.0s,mb4.8
HFS Hagfors 63.71 338 P **P 15 41 09.5 -0.5**
comp=Z,35nm,0.6s,mb5.1,baz=56,slow=3.7,SNR=121
HFS Hagfors 63.71 338 P **P 15 41 09.5 -0.5**
HFS Hagfors 63.71 338 P **P 15 41 09.5 -0.5**
BORG Borgarnes 63.98 357 P **P 15 41 13.0 +1.3**
comp=Z,31nm,0.7s,mb5.0,baz=52,slow=6.4,SNR=12
BORG Borgarnes 63.98 357 P **P 15 41 13.0 +1.3**
BORG Borgarnes 63.98 357 P **P 15 41 13.0 +1.3**
IZAR Zarasai 63.99 329 *e*P **P 15 41 12.0 0.0**
IZAR AMB AMB 15 41 12.7
comp=Z,24nm,0.6s,mb4.9
ISAL Salakas 64.18 329 *e*P **P 15 41 13.2 +0.1**
ISAL AMB AMB 15 41 14.1
comp=Z,26nm,0.7s,mb4.8
IIGN Ignalina 64.33 329 *e*P **P 15 41 14.3 +0.2**
IIGN AMB AMB 15 41 15.0
comp=Z,45nm,0.6s,mb5.2
TMUT Trail Mountain 64.36 59 *e*P **P 15 41 15.2 +0.7**
comp=Z,26nm,0.7s,mb4.9
MSU Marysvale 64.40 60 *e*P **P 15 41 15.7 +0.9**
comp=Z,9.5nm,0.8s,mb4.4
MSU Marysvale 64.40 60 *e*P **P 15 41 15.7 +0.8**
MSU pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
RSSD Black Hills 64.48 51 *e*P **P 15 41 15.2 -0.1**
comp=Z,9.9nm,0.8s,mb4.4
RSSD Black Hills 64.48 51 *e*P **P 15 41 15.2 0.0**
RSSD pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
SRU San Rafael 64.86 58 *e*P **P 15 41 18.1 +0.3**
comp=Z,38nm,0.8s,mb5.1
SRU San Rafael 64.86 58 *e*P **P 15 41 18.1 +0.4**

SRU pmax pmax
comp=Z,38nm,0.8s,mb5.1
KONO Kongsberg 65.06 340 *eP* **P 15 41 18.6 0.0**
KONO Kongsberg 65.06 340 *eP* **P 15 41 18.7 0.0**
comp=Z,21nm,0.8s,mb4.8
KONO Kongsberg 65.06 340 *eP* **P 15 41 18.7 0.0**
KONO pmax pmax
comp=Z,21nm,0.8s,mb4.8
ASK Askoy 65.18 342 *eP* **P 15 41 16.4 -3.0**
RUND Rundenannen 65.22 342 *eP* **P 15 41 18.7 -0.9**
BER Bergen 65.25 342 *eP* **P 15 41 18.9 -1.0**
ODD1 Odda 65.44 342 *eP* **P 15 41 21.0 0.0**
COEN Coen 65.60 189 *eP* **P 15 41 22.6 0.0**
comp=Z,176nm,0.4s,mb6.0
COEN Coen 65.60 189 *eP* **P 15 41 22.4 -0.2**
comp=Z,383nm,0.9s,mb6.0
PV04 Paradox Valley 66.24 58 *eP* **P 15 41 26.7 +0.2**
SUW Suwalki 66.42 330 *i P* **P 15 41 26.5 -0.8**
SUW Suwalki 66.42 330 *eP* **P 15 41 26.5 -0.9**
comp=Z,92nm,0.8s,mb5.5
SUW Suwalki 66.42 330 ⇓*iP* **P 15 41 26.5 -0.8**
PV01 Paradox Valley 66.61 58 *eP* **P 15 41 28.8 0.0**
comp=Z,576nm,0.6s
SMCO Snowmass 66.67 56 *eP* **P 15 41 29.6 +0.5**
comp=Z,13nm,0.6s,mb4.7
SNART Snartemo 66.77 341 *eP* **P 15 41 29.7 +0.3**
KIV Kislovodsk 66.90 312 *eP* **P 15 41 31.0 +0.6**
comp=Z,33nm,0.8s,mb5.0
KIV Kislovodsk 66.90 312 *d iP* **P 15 41 31.0 +0.5**
KIV *e* 15 41 54.9
KIV *e**PP pP 15 43 05.2 +1.1
KIV *e* 15 44 05.3
KIV *e*PPP 15 45 50.4
KIV *e*S S 15 49 49.5 +2.2
KIV pmax pmax
comp=Z,43nm,0.9s,mb5.1
KIV Kislovodsk 66.90 312 P **P 15 41 31.6 +1.1**
SNR=8.7
ISCO Idaho Springs 66.91 55 *eP* **P 15 41 30.9 +0.3**
comp=Z,11nm,1.1s,mb4.4
ISCO Idaho Springs 66.91 55 *eP* **P 15 41 30.9 +0.3**
ISCO pmax pmax
comp=Z,11nm,1.1s,mb4.4
WUAZ Wupatki 67.03 62 *eP* **P 15 41 31.9 +0.5**
comp=Z,17nm,1.0s,mb4.6
AKASG Malin Array Be 67.13 324 P **P 15 41 30.9 -0.9**
comp=Z,25nm,0.4s,mb5.2,baz=33,slow=6.2,SNR=76
AKASG pP pP 15 43 07.5 +2.1
comp=Z,1.8nm,0.5s,baz=31,slow=6.0,SNR=2.4
AKASG S S 15 49 48.5 -1.3
comp=Z,0.5nm,0.5s,baz=36,slow=13,SNR=6.5
AKASG Malin Array Be 67.13 324 P **P 15 41 30.9 -0.9**
AKASG pP pP 15 43 07.5 +2.1
AKASG S S 15 49 48.5 -1.3
AKASG Malin Array Be 67.13 324 P **P 15 41 30.9 -0.9**
AKASG *PP pP 15 43 07.6 +2.1
AKASG S S 15 49 48.5 -1.3
AKBB Malin Array Si 67.13 324 *eP* **P 15 41 30.6 -1.3**
AKBB Malin Array Si 67.13 324 *eP* **P 15 41 30.6 -1.2**
KIEV Kiev 67.15 324 *eP* **P 15 41 30.6 -1.2**
comp=Z,44nm,0.7s,mb5.2
KIEV Kiev 67.15 324 *eP* **P 15 41 30.7 -1.2**
KIEV pmax pmax
comp=Z,45nm,0.7s,mb5.2
MVCO Mesa Verde 67.33 59 *eP* **P 15 41 33.5 +0.2**
comp=Z,12nm,0.8s,mb4.6
DGRG David-gareji 67.53 309 P **P 15 41 34.0 -0.4**
TBLG Delisi 67.62 309 P **P 15 41 35.6 +0.6**
TBLG Delisi 67.62 309 P **P 15 41 35.6 +0.6**
MTA Mtatsminda 67.63 309 P **P 15 41 36.0 +1.0**
BSD Bornholm Skovb 67.86 335 ⇓*iP* **P 15 41 35.9 -0.3**
BSD pmax pmax
comp=Z,53nm,0.7s,mb5.3
BSD Bornholm Skovb 67.86 335 ⇓*iP* **P 15 41 35.9 -0.3**
comp=Z,53nm,0.7s,mb5.3
COP Copenhagen 67.99 337 *i P* **P 15 41 36.9 -0.1**
COP pmax pmax
comp=Z,30nm,0.7s,mb5.0
COP Copenhagen 67.99 337 *i P* **P 15 41 36.9 -0.1**
comp=Z,30nm,0.7s,mb5.0
MUD Monsted U'grnd 68.07 339 *i P* **P 15 41 37.6 +0.2**
MUD pmax pmax
comp=Z,19nm,0.7s,mb4.8
MUD Monsted U'grnd 68.07 339 *i P* **P 15 41 37.6 +0.2**
comp=Z,19nm,0.7s,mb4.8
ECSD EROS Data Cent 68.25 47 *eP* **P 15 41 37.9 -0.9**
comp=Z,7.4nm,0.5s,mb4.6
SDCO Great Sand Dun 68.51 56 *eP* **P 15 41 40.6 +0.1**
comp=Z,5.0nm,0.7s,mb4.2
SOC Sochi 68.55 314 *eP* **P 15 41 39.9 -0.7**
SOC *e* 15 44 03.5
SOC *e*S S 15 50 10.0 +3.4
SOC *e*SS SS 15 54 43.3 +3.1
SOC pmax pmax
comp=Z,38nm,0.6s,mb5.2
ANN Anapa 68.60 316 *eP* **P 15 41 40.1 -0.8**
ANN *e**PP pP 15 43 14.2 -0.9
ANN *e*S S 15 50 07.3 +0.1
ANN pmax pmax
comp=Z,27nm,0.6s,mb5.0
GNI Garni 68.83 308 P **P 15 41 44.1 +1.7**
comp=Z,21nm,0.6s,mb4.9,baz=335,slow=3.7,SNR=18
GNI Garni 68.83 308 *eP* **P 15 41 43.7 +1.3**
comp=Z,25nm,0.8s,mb4.9
GNI Garni 68.83 308 P **P 15 41 44.1 +1.7**
GNI pmax pmax
comp=Z,21nm,0.6s
GNI Garni 68.83 308 P **P 15 41 44.7 +2.3**
SNR=7.9
GKP Gorka Klasztor 68.85 333 *i P* **P 15 41 42.1 -0.2**
GKP Gorka Klasztor 68.85 333 ⇓*iP* **P 15 41 42.1 -0.2**
KAD Karad 68.94 271 *ex* x 15 41 43.3
BEL Belsk 69.04 330 *i P* **P 15 41 43.7 +0.3**
BEL Belsk 69.04 330 ⇓*iP* **P 15 41 43.7 +0.3**
MVH1 Achvaich 69.18 347 ⇓*eP* **P 15 41 43.1 -1.0**
SCHQ Schefferville 69.28 23 P **P 15 41 44.1 -0.7**
comp=Z,13nm,0.4s,mb5.0,baz=346,slow=5.5,SNR=82
SCHQ Schefferville 69.28 23 *eP* **P 15 41 43.7 -1.1**
comp=Z,15nm,0.6s,mb4.8
MCD Coleburn Disti 69.37 346 *eP* **P 15 41 45.0 -0.4**
MDO Dochfour 69.67 346 ⇓*eP* **P 15 41 46.5 -0.7**
LVV L'vov 69.70 327 *eP* **P 15 41 46.8 -0.7**
TUC Tucson 69.74 64 *eP* **P 15 41 47.4 -0.6**
comp=Z,10nm,1.2s,mb4.2
TUC Tucson 69.74 64 *eP* **P 15 41 47.4 -0.6**
TUC pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
KAC Achnashellach 69.75 347 ⇓*eP* **P 15 41 47.1 -0.5**
SIM Simferopol' 69.90 318 *c iP* **P 15 41 48.8 0.0**
SIM pmax pmax
comp=Z,22nm,0.9s,mb4.7
KPL Plockton 69.95 347 *eP* **P 15 41 47.6 -1.2**
KPL AMB AMB 15 41 48.8
comp=Z,102nm,2.9s,mb4.8
KSB Sheil Bridge 70.05 347 ⇓*eP* **P 15 41 49.0 -0.4**
ANMO Albuquerque 70.12 59 *eP* **P 15 41 50.2 0.0**
comp=Z,11nm,1.2s,mb4.3
ANMO Albuquerque 70.12 59 *eP* **P 15 41 50.2 0.0**
ANMO pmax pmax
comp=Z,11nm,1.2s
KWP Kalwaria Pacla 70.31 328 *i P* **P 15 41 51.4 +0.3**
KWP Kalwaria Pacla 70.31 328 *eP* **P 15 41 51.1 0.0**
comp=Z,123nm,1.0s,mb5.4
KWP Kalwaria Pacla 70.31 328 *eP* **P 15 41 51.1 0.0**
KWP pmax pmax
comp=Z,123nm,1.0s,mb5.4
KWP Kalwaria Pacla 70.31 328 ⇓*iP* **P 15 41 51.5 +0.4**
KIS Kishinev 70.34 322 ⇓*i*UNK 15 41 50.0
KIS Kishinev 70.34 322 ⇓*iP* **P 15 41 50.0 -1.4**
KIS *e* 15 42 08.0
LPM Los Pinos Moun 70.51 59 *eP* **P 15 41 53.1 +0.5**
comp=Z,7.3nm,0.8s,mb4.3
RUE Ruedersdorf 70.52 334 *eP* **P 15 41 52.2 -0.1**
comp=Z,58nm,0.9s,mb5.1
BNM Barren Site 70.63 59 *eP* **P 15 41 53.9 +0.6**
comp=Z,5.6nm,0.5s,mb4.3
EBH Black Hill 70.69 346 ⇓*eP* **P 15 41 52.8 -0.5**
OJC Ojcow 70.75 330 *eP* **P 15 41 53.8 +0.1**
OJC Ojcow 70.75 330 ⇓*eP* **P 15 41 53.8 +0.1**
ESY Stoneypath 70.87 345 *eP* **P 15 41 53.9 -0.5**
EAB Aberfoyle 70.88 346 ⇓*eP* **P 15 41 53.1 -1.2**
STHS Stebnicka Huta 70.98 328 *eP* **P 15 41 55.8 +0.7**
STHS pmax pmax
comp=Z,39nm,0.7s,mb5.0
STHS Stebnicka Huta 70.98 328 *eP* **P 15 41 55.8 +0.7**
LEOM Leova 71.00 322 ⇓*iP* **P 15 41 55.0 -0.3**
LEOM Leova 71.00 322 ⇓*iP* **P 15 41 55.0 -0.3**
KOLS Kolonicke sedl 71.06 327 *eP* **P 15 41 55.5 -0.1**
KOLS pmax pmax
comp=Z,22nm,0.9s,mb4.7
KOLS Kolonicke sedl 71.06 327 *eP* **P 15 41 55.5 -0.1**
EAU Auchinoon 71.07 346 ⇓*eP* **P 15 41 55.0 -0.5**
EBL Broad Law 71.08 345 *eP* **P 15 41 54.9 -0.6**
BUR08 Bucovina Ar. S 71.14 325 *eP* **P 15 41 55.9 -0.2**
BURAR Bucovina Array 71.16 325 ⇑*iP* **P 15 41 56.3 +0.1**
BURAR Bucovina Array 71.16 325 ⇑*iP* **P 15 41 56.3 +0.1**
PGBU Glenifferbraes 71.26 346 ⇓*eP* **P 15 41 56.1 -0.6**
PGBU AMB AMB 15 41 58.3
comp=Z,145nm,3.8s
KSP Ksiaz 71.27 332 *i P* **P 15 41 56.8 0.0**
KSP Ksiaz 71.27 332 *i P* **P 15 41 56.8 0.0**
KSP Ksiaz 71.27 332 ⇓*iP* **P 15 41 56.8 0.0**
NIE Niedzica 71.28 329 *eP* **P 15 41 57.4 +0.5**
NIE Niedzica 71.28 329 *eP* **P 15 41 57.4 +0.5**
CRVS Cervenica-Dubn 71.36 328 *eP* **P 15 41 57.1 -0.2**
CRVS pmax pmax
comp=Z,19nm,1.1s,mb4.5
CRVS Cervenica-Dubn 71.36 328 *eP* **P 15 41 57.1 -0.2**
CTA Charters Tower 71.43 185 *eP* **P 15 41 57.4 -0.6**
comp=Z,28nm,0.9s,mb4.8
CTAO Charters Tower 71.43 185 *eP* **P 15 41 57.4 -0.6**
comp=Z,37nm,0.8s,mb5.0
CTAO Charters Tower 71.43 185 *eP* **P 15 41 57.4 -0.6**
CTAO pmax pmax
comp=Z,37nm,0.8s,mb5.0
CTAO Charters Tower 71.43 185 P **P 15 41 57.3 -0.7**
comp=Z,51nm,1.0s,mb5.0
NRDL Niedersach Rie 71.47 336 *eP* **P 15 41 57.7 -0.2**
comp=Z,24nm,0.8s,mb4.8
ESK Eskdalemuir 71.54 345 ⇓*eP* **P 15 41 56.8 -1.5**
ESK Eskdalemuir 71.54 345 *eP* **P 15 41 57.9 -0.4**
comp=Z,32nm,0.6s,mb5.0
ESK Eskdalemuir 71.54 345 *eP* **P 15 41 57.9 -0.4**
ESK pmax pmax
comp=Z,32nm,0.6s,mb5.0
TESR 71.57 323 ⇓*iP* **P 15 41 58.2 -0.4**
OKC Ostrava-Krasne 71.60 330 ⇓*iP* **P 15 41 58.9 +0.1**
OKC Ostrava-Krasne 71.60 330 ⇓*iP* **P 15 41 58.9 +0.1**
UPC Upice 71.65 332 ⇓*iP* **P 15 41 59.0 0.0**
UPC Upice 71.65 332 ⇓*iP* **P 15 41 59.0 0.0**
TRPA Tarpa 71.66 327 ⇑*iP* **P 15 41 59.3 +0.2**
DPC Dobruska-Polom 71.70 332 ⇓*iP* **P 15 41 59.8 +0.5**
DPC Dobruska-Polom 71.70 332 ⇓*iP* **P 15 41 59.8 +0.5**
CLL Collm 71.79 334 *eP* **P 15 41 59.5 -0.3**
comp=Z,67nm,0.9s,mb5.2
CLL Collm 71.79 334 ⇓*iP* **P 15 41 59.5 -0.3**
comp=Z,67nm,0.9s,mb5.2
CLL *e*pP pP 15 43 36.0 +1.0
CLL *e*(sP) sP 15 44 28.0 +6.2
CLL *e*PP PP 15 44 42.0 -3.7
KRLC Kraliky 71.81 331 ⇓*iP* **P 15 42 00.2 +0.2**
XAL Allendale 71.82 345 ⇓*eP* **P 15 41 59.4 -0.5**
MORC Moravsky Berou 71.84 331 *eP* **P 15 42 00.5 +0.3**
comp=Z,54nm,0.7s,mb5.2
MORC Moravsky Berou 71.84 331 *eP* **P 15 42 00.5 +0.3**
MORC pmax pmax
comp=Z,54nm,0.7s,mb5.2
MORC Moravsky Berou 71.84 331 ⇓*iP* **P 15 42 00.6 +0.4**
TLCR 71.85 321 ⇑*iP* **P 15 42 00.2 -0.1**
TLCR 71.85 321 ⇑*iP* **P 15 42 00.2 -0.1**
BRG Berggiesshubel 71.92 333 *i P* **P 15 42 00.2 -0.4**
comp=Z,20nm,0.6s,mb4.9
BRG *e*PP PP 15 44 44.3 -2.5
comp=Z,6.4nm,1.2s
BRG Berggiesshubel 71.92 333 *eP* **P 15 42 00.3 -0.3**
comp=Z,20nm,0.6s,mb4.8
BRG Berggiesshubel 71.92 333 *i P* **P 15 42 00.2 -0.4**
BRG *e* 15 44 44.3
BRG pmax pmax
comp=Z,21nm,0.6s,mb4.8
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.0
LIKS Likavka 71.99 329 *eP* **P 15 42 01.6 +0.5**
LIKS pmax pmax
comp=Z,41nm,0.9s,mb5.0
LIKS Likavka 71.99 329 *eP* **P 15 42 01.6 +0.5**
CLZ Clausthal 72.00 336 *eP* **P 15 42 01.4 +0.4**
comp=Z,40nm,0.8s,mb5.0
CLZ Clausthal 72.00 336 *eP* **P 15 42 01.4 +0.4**
CLZ pmax pmax
comp=Z,40nm,0.8s,mb5.0
PETR 72.02 323 ⇓*iP* **P 15 42 02.2 +1.0**
KECS Kecovo 72.04 328 *eP* **P 15 42 01.4 0.0**
KECS pmax pmax
comp=Z,13nm,0.7s,mb4.6
KECS Kecovo 72.04 328 *eP* **P 15 42 01.4 0.0**
VRI Vrincioaia 72.08 323 ⇑*iP* **P 15 42 01.7 +0.1**
VRI Vrincioaia 72.08 323 ⇑*iP* **P 15 42 01.7 +0.1**
CFR Carcaliu 72.12 322 ⇓*iP* **P 15 42 01.7 -0.2**
CFR Carcaliu 72.12 322 ⇓*iP* **P 15 42 01.6 -0.3**
PLOR Plostina 72.13 323 ⇑*iP* **P 15 42 01.9 0.0**
PLOR Plostina 72.13 323 ⇑*iP* **P 15 42 01.9 0.0**
GAL1 Galloway 72.21 346 ⇓*eP* **P 15 42 01.6 -0.6**
GAL1 AMB AMB 15 42 02.1
comp=Z,64nm,0.7s,mb5.2
IBBN Ibbenburen 72.21 338 *eP* **P 15 42 02.2 -0.1**
comp=Z,50nm,0.8s,mb5.1
KESW Keswick, Cumbr 72.23 345 ⇓*eP* **P 15 42 02.2 -0.1**
KESW AMB AMB 15 42 02.6
comp=Z,66nm,0.7s,mb5.3
XDE Dent Fell 72.37 345 *eP* **P 15 42 02.8 -0.3**
AFI Afiamalu 72.44 143 P **P 15 42 03.7 -0.4**
comp=Z,28nm,0.8s,mb4.9,baz=204,slow=21,SNR=4.3
AFI Afiamalu 72.44 143 P **P 15 42 03.7 -0.4**
AFI Afiamalu 72.44 143 P **P 15 42 03.7 -0.3**
VRAC Vranov 72.55 331 P **P 15 42 04.7 +0.4**
comp=Z,53nm,0.6s,mb5.2,baz=34,slow=5.6,SNR=77
VRAC Vranov 72.55 331 P **P 15 42 04.7 +0.4**
VRAC Vranov 72.55 331 ⇑*iP* **P 15 42 04.7 +0.4**
VRAC Vranov 72.55 331 ⇑*iP* **P 15 42 04.7 +0.4**
TIRR Tirgusor 72.62 321 *eP* **P 15 42 04.1 -0.7**
comp=Z,31nm,0.9s,mb4.8
TIRR Tirgusor 72.62 321 *eP* **P 15 42 04.1 -0.7**
TIRR pmax pmax
comp=Z,31nm,0.9s,mb4.8
TIRR Tirgusor 72.62 321 ⇓*iP* **P 15 42 04.7 -0.1**
KOLL Kolacno 72.63 330 *eP* **P 15 42 05.1 +0.3**
KOLL Kolacno 72.63 330 *eP* **P 15 42 05.0 +0.2**
MSVF Nonsavu 72.67 154 *eP* **P 15 42 05.3 0.0**
comp=Z,7.8nm,0.7s,mb4.3
MSVF Nonsavu 72.67 154 *eP* **P 15 42 05.3 0.0**
MSVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
AMTX Amarillo 72.68 56 *eP* **P 15 42 05.1 -0.2**
comp=Z,10nm,0.4s,mb4.7
MLR Muntele Rosu 72.69 323 P **P 15 42 05.1 -0.1**
comp=Z,10nm,0.5s,mb4.6,baz=347,slow=7.8,SNR=91
MLR Muntele Rosu 72.69 323 P **P 15 42 05.1 -0.1**
MLR Muntele Rosu 72.69 323 P **P 15 42 05.5 +0.3**
MLR Muntele Rosu 72.69 323 ⇓*iP* **P 15 42 05.1 -0.1**
MDB Medias 72.72 325 ⇓P **P 15 42 06.3 +1.0**
MDB Medias 72.72 325 ⇓*iP* **P 15 42 06.3 +1.0**
PSZ Piszkesteto 72.73 328 *eP* **P 15 42 05.6 +0.2**
comp=Z,22nm,0.9s,mb4.7
PSZ Piszkesteto 72.73 328 *eP* **P 15 42 05.6 +0.2**
PSZ pmax pmax
comp=Z,22nm,0.9s,mb4.7
PSZ Piszkesteto 72.73 328 ⇓*eP* **P 15 42 05.7 +0.3**
PSZ Piszkesteto 72.73 328 ⇑*iP* **P 15 42 05.5 +0.1**
WRAB Tennant Creek 72.73 197 *eP* **P 15 42 05.2 -0.4**
comp=Z,53nm,0.9s,mb5.1
WRAB Tennant Creek 72.73 197 *eP* **P 15 42 05.2 -0.4**
WRAB pmax pmax
comp=Z,53nm,0.9s,mb5.1
WRAB Tennant Creek 72.73 197 P **P 15 42 05.4 -0.2**
comp=Z,101nm,1.1s,mb5.3
WB2 Warramunga Arr 72.74 197 *eP* **P 15 42 05.2 -0.4**
WRA Warramunga Arr 72.75 197 P **P 15 42 05.4 -0.3**
comp=Z,34nm,0.6s,mb5.1,baz=17,slow=6.3,SNR=213
WRA pP pP 15 43 43.9 +2.5
comp=Z,2.7nm,0.9s,baz=17,slow=6.8,SNR=3.6
WRA Warramunga Arr 72.75 197 P **P 15 42 05.4 -0.3**
WRA pP pP 15 43 43.9 +2.5
WRA Warramunga Arr 72.75 197 P **P 15 42 05.4 -0.3**
WRA *PP pP 15 43 43.9 +2.6
MOX Moxa 72.76 335 *eP* **P 15 42 05.5 0.0**
comp=Z,26nm,0.7s,mb4.9
MOX Moxa 72.76 335 *eP* **P 15 42 05.5 0.0**
MOX pmax pmax
comp=Z,26nm,0.7s,mb4.9
ISR Istrita 72.78 323 ⇑*iP* **P 15 42 06.2 +0.5**
ISR Istrita 72.78 323 ⇑*iP* **P 15 42 06.2 +0.5**
TREC Trest 72.89 332 ⇓*iP* **P 15 42 06.5 +0.2**
TREC Trest 72.89 332 ⇓*iP* **P 15 42 06.5 +0.2**
NKC Novy Kostel 72.91 334 ⇓*iP* **P 15 42 06.3 -0.1**
NKC Novy Kostel 72.91 334 ⇓*iP* **P 15 42 06.3 -0.1**
FITZ Fitzroy Crossi 72.97 206 ⇑*iP* **P 15 42 07.0 0.0**
comp=Z,44nm,0.6s,mb5.2
FITZ Fitzroy Crossi 72.97 206 *eP* **P 15 42 07.0 0.0**
comp=Z,30nm,0.8s,mb4.9
CPRX Cap Rock 72.97 58 *eP* **P 15 42 07.0 0.0**
comp=Z,35nm,0.8s,mb4.9
SMOL Smolenice 72.99 330 *eP* **P 15 42 07.8 +0.9**
SMOL Smolenice 72.99 330 *eP* **P 15 42 07.8 +0.9**
UBBA Unterbreizbach 73.03 336 *eP* **P 15 42 06.7 -0.3**
comp=Z,11nm,0.6s,mb4.6
VOIR 73.07 324 ⇑*iP* **P 15 42 08.0 +0.6**
VOIR 73.07 324 ⇑*iP* **P 15 42 08.0 +0.6**
MANR Mangalia 73.09 321 ⇓*iP* **P 15 42 07.5 0.0**
BUG Bochum–Univer 73.13 338 *eP* **P 15 42 07.5 -0.1**
comp=Z,35nm,0.6s,mb5.1
MNTX Cornudas Mount 73.18 60 *eP* **P 15 42 08.3 0.0**
comp=Z,11nm,0.8s,mb4.4
KBI1 Birley Grange 73.24 344 ⇓*eP* **P 15 42 07.9 -0.3**
GDL2 Guadalupe Moun 73.34 59 *eP* **P 15 42 09.3 +0.1**
comp=Z,29nm,0.7s,mb4.9
ZST Bratislava 73.38 330 *eP* **P 15 42 09.8 +0.7**
ZST pmax pmax
comp=Z,21nm,0.8s,mb4.7
ZST Bratislava 73.38 330 *eP* **P 15 42 09.8 +0.7**
BUD Budapest 73.39 329 ⇓*eP* **P 15 42 09.7 +0.5**
ROTZ Rotzenmuhle 73.40 334 *eP* **P 15 42 09.5 +0.3**
comp=Z,30nm,0.8s,mb4.9
KWE Weaver Farm 73.53 344 *eP* **P 15 42 09.6 -0.2**
CLNB Carlsbad 73.55 59 *eP* **P 15 42 10.3 -0.1**
comp=Z,3.2nm,0.6s,mb4.1
KHC Kasperske Hory 73.59 333 *eP* **P 15 42 10.6 +0.3**
comp=Z,48nm,0.6s,mb5.3
KHC Kasperske Hory 73.59 333 *eP* **P 15 42 10.6 +0.3**
KHC pmax pmax
comp=Z,47nm,0.6s,mb5.3
KHC Kasperske Hory 73.59 333 ⇓*iP* **P 15 42 10.7 +0.4**
KHC *ex* x 15 42 16.5
GRF Grafenberg Arr 73.74 335 *eP* **P 15 42 11.6 +0.5**
comp=Z,94nm,0.5s,mb5.7
GRF Grafenberg Arr 73.74 335 *eP* **P 15 42 11.6 +0.5**
GRF pmax pmax
comp=Z,94nm,0.5s,mb5.7
GRFO Grafenberg 73.74 335 *eP* **P 15 42 11.5 +0.4**
comp=Z,72nm,0.6s,mb5.5
GRFO Grafenberg 73.74 335 *eP* **P 15 42 11.5 +0.4**
GRFO pmax pmax
comp=Z,72nm,0.6s,mb5.5
WET Wettzell 73.78 333 *eP* **P 15 42 11.9 +0.5**
comp=Z,49nm,0.6s,mb5.3
WET Wettzell 73.78 333 *eP* **P 15 42 11.9 +0.5**
WET pmax pmax
comp=Z,49nm,0.6s,mb5.3
GEC2 GERESS Array S 73.81 333 *eP* **P 15 42 11.7 +0.1**
comp=Z,35nm,0.5s,mb5.2
GEC2 GERESS Array S 73.81 333 *eP* **P 15 42 11.7 +0.1**
GEC2 pmax pmax
comp=Z,35nm,0.5s,mb5.2
GERES GERESS Array B 73.81 333 P **P 15 42 11.6 0.0**
comp=Z,29nm,0.4s,mb5.2,baz=36,slow=5.8,SNR=504
GERES GERESS Array B 73.81 333 P **P 15 42 11.6 0.0**
GERES GERESS Array B 73.81 333 P **P 15 42 11.6 0.0**
GZR Gura Zlata 73.94 325 ⇓P **P 15 42 12.3 0.0**
GZR Gura Zlata 73.94 325 ⇓*iP* **P 15 42 12.3 0.0**
TNS Taunus Mts 73.97 336 *eP* **P 15 42 12.6 +0.2**
comp=Z,51nm,0.6s,mb5.3
TNS Taunus Mts 73.97 336 *eP* **P 15 42 12.6 +0.2**
TNS pmax pmax
comp=Z,51nm,0.6s,mb5.3
CONA Conrad Observa 74.00 331 *i P* **P 15 42 13.3 +0.7**
comp=Z,33nm,0.6s,mb5.2,SNR=56
SOP Sopron 74.00 330 ⇓*eP* **P 15 42 13.4 +0.7**
DLF Lyons Farm 74.00 347 ⇓*iP* **P 15 42 12.3 -0.3**
BEBN Eben Emael 74.10 338 P **P 15 42 13.0 -0.2**
comp=Z,20nm,0.8s,mb4.8
BZS Buzias 74.15 326 P **P 15 42 13.2 -0.4**
BZS Buzias 74.15 326 ⇓*iP* **P 15 42 13.0 -0.6**
MEM Membach 74.20 338 P **P 15 42 13.7 -0.1**
comp=Z,36nm,0.8s,mb5.0
WMOK Wichita Mounta 74.27 54 *eP* **P 15 42 13.8 -0.6**
comp=Z,16nm,0.6s,mb4.8
WMOK Wichita Mounta 74.27 54 *eP* **P 15 42 13.8 -0.7**
WMOK pmax pmax
comp=Z,16nm,0.6s,mb4.8
BR131 Keskin Array S 74.36 315 *eP* **P 15 42 15.0 +0.2**
comp=Z,25nm,0.9s,mb4.8
BRTR Keskin Array B 74.36 315 P **P 15 42 15.1 +0.3**
comp=Z,16nm,0.8s,mb4.7,baz=71,slow=2.9,SNR=96
BRTR pP pP 15 43 52.0 +1.2
comp=Z,3.6nm,0.9s,baz=52,slow=3.0,SNR=4.3
BRTR PP PP 15 45 07.2 -0.4
comp=Z,2.9nm,0.9s,baz=58,slow=4.7,SNR=3.9
BRTR Keskin Array B 74.36 315 P **P 15 42 15.1 +0.3**
BRTR pP pP 15 43 52.0 +1.2
BRTR PP PP 15 45 07.2 -0.4
BRTR Keskin Array B 74.36 315 P **P 15 42 15.1 +0.3**
BRTR *PP pP 15 43 52.0 +1.1
BRTR 15 45 07.3
DZM Mont Dzumac 74.37 166 *eP* **P 15 42 15.0 0.0**
SSW Stow on the Wo 74.53 343 *eP* **P 15 42 15.6 0.0**
BCLA Clavier 74.54 338 P **P 15 42 15.5 -0.1**
comp=Z,24nm,0.7s,mb4.9
MOA Molln 74.55 332 ⇑*iP* **P 15 42 15.9 +0.1**
comp=Z,24nm,0.7s,mb4.9,SNR=35
SKP1 Kophill 74.58 343 ⇓*eP* **P 15 42 14.9 -1.0**
SZH Strazhica 74.59 322 *i P* **P 15 42 15.3 -0.8**
PKSM Moragy 74.64 328 ⇑P **P 15 42 15.7 -0.6**
PKSM Moragy 74.64 328 ⇑*iP* **P 15 42 15.7 -0.6**
SNF Seneffe 74.69 339 P **P 15 42 16.0 -0.5**
comp=Z,14nm,0.8s,mb4.6
MCH1 Michaelchurch 74.70 344 *eP* **P 15 42 16.2 -0.4**
MCH1 AMB AMB 15 42 19.7
comp=Z,41nm,1.8s,mb4.8
ARSA Arzberg 74.70 331 *i P* **P 15 42 17.0 +0.4**
comp=Z,14nm,0.7s,mb4.7,SNR=19
ELSH Elham, Standar 74.75 341 *eP* **P 15 42 16.1 -0.7**
GIVF Givet 74.95 339 ⇓*iP* **P 15 42 17.7 -0.3**
comp=Z,50nm,0.7s,mb5.0
GIVF Givet 74.95 339 ⇓*iP* **P 15 42 17.7 -0.3**
comp=Z,50nm,0.7s,mb5.2
GIVF Givet 74.95 339 ⇓*iP* **P 15 42 17.7 -0.3**
GIVF pmax pmax
comp=Z,50nm,0.7s,mb5.2
SWN1 Swindon 74.96 343 *eP* **P 15 42 18.2 +0.2**
SWN1 AMB AMB 15 42 18.6
comp=Z,183nm,0.8s,mb5.8
SWN1 Swindon 74.96 343 P **P 15 42 18.2 +0.2**
SWN1 AMB AMB 15 42 18.6
comp=Z,183nm,0.8s,mb5.8
DOU Dourbes 75.00 339 P **P 15 42 18.0 -0.3**
HGH Gray Hill 75.02 344 ⇓*eP* **P 15 42 17.8 -0.5**
WOL Wolverton 75.05 343 *eP* **P 15 42 17.9 -0.6**
WOL AMB AMB 15 42 18.9
comp=Z,96nm,0.7s,mb5.5
WLF Walferdange 75.05 338 P **P 15 42 18.4 -0.1**
WLF Walferdange 75.05 338 *eP* **P 15 42 18.6 +0.1**
comp=Z,18nm,0.6s,mb4.9
WLF Walferdange 75.05 338 *eP* **P 15 42 18.6 +0.1**
comp=Z,14nm,0.6s,mb4.8
WLF Walferdange 75.05 338 *eP* **P 15 42 18.6 +0.1**
WLF pmax pmax
comp=Z,14nm,0.6s,mb4.8
RJOB Jochberg 75.08 333 *eP* **P 15 42 19.3 +0.6**
comp=Z,22nm,0.7s,mb4.9
FUR Furstenfeldbru 75.11 334 *eP* **P 15 42 19.3 +0.4**
comp=Z,44nm,0.9s,mb5.1
FUR Furstenfeldbru 75.11 334 *eP* **P 15 42 19.3 +0.4**
FUR pmax pmax
comp=Z,44nm,0.9s,mb5.1
STU Stuttgart 75.11 335 *eP* **P 15 42 18.9 0.0**
comp=Z,27nm,0.7s,mb5.0
STU Stuttgart 75.11 335 *eP* **P 15 42 18.9 -0.1**
comp=Z,10nm,0.5s,mb4.7
STU Stuttgart 75.11 335 *eP* **P 15 42 18.9 0.0**
STU pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
BAIF Baives 75.12 339 ⇓*iP* **P 15 42 18.8 -0.2**
comp=Z,48nm,0.5s,mb5.1

BAIF Baives 75.12 339⇓iP P 15 42 18.8 -0.2
comp=Z,48nm,0.5s,mb5.4
BAIF Baives 75.12 339⇓iP P 15 42 18.8 -0.2
BAIF pmax pmax
comp=Z,48nm,0.5s,mb5.4
ARQ Araqi 75.22 289 P **P 15 42 20.1 +0.2**
SNR=6.9
ARQ Araqi 75.22 289 P **P 15 42 20.1 +0.1**
SNR=6.9
ARQ Araqi 75.22 289 P **P 15 42 20.1 +0.1**
SNR=6.9
BSYO Bisya 75.26 288 P **P 15 42 20.5 +0.3**
SNR=7.5
BSYO Bisya 75.26 288 P **P 15 42 20.5 +0.3**
SNR=7.5
BSY Bisya 75.27 288 P **P 15 42 20.5 +0.2**
SNR=7.5
LANF Langenberg 75.28 336 *eP* **P 15 42 19.5 -0.4**
MPEP Malo Peshtene 75.34 324 *iP* **P 15 42 19.8 -0.5**
SOKA Soboth 75.37 331⇓iP P 15 42 20.5 +0.1
comp=Z,16nm,0.5s,mb4.9
PERS Pernice 75.38 331 *iP* **P 15 42 20.6 +0.2**
UMR Umm Al-Rimmam 75.47 299 *eP* **P 15 42 20.7 -0.6**
UMR AMb AMB 15 42 21.7
comp=Z,97nm,0.6s,mb5.6
MIB Mutribah 75.48 300 *eP* **P 15 42 20.7 -0.6**
MIB AMb AMB 15 42 22.1
comp=Z,167nm,0.7s,mb5.8
KBA Koelnbreinsper 75.51 332⇓iP P 15 42 22.1 +0.9
comp=Z,78nm,0.5s,mb5.6,SNR=15
OBKA Obir 75.67 331⇓iP P 15 42 22.2 +0.1
comp=Z,19nm,0.6s,mb4.9,SNR=7.8
BFO Black Forest 75.75 336 *eP* **P 15 42 22.3 -0.2**
comp=Z,24nm,0.6s,mb5.0
BFO Black Forest 75.75 336 *eP* **P 15 42 22.2 -0.3**
comp=Z,22nm,0.6s,mb5.0
BFO Black Forest 75.75 336 *eP* **P 15 42 22.3 -0.2**
BFO pmax pmax
comp=Z,24nm,0.6s,mb5.0
KBD Kabd 75.77 299 *eP* **P 15 42 22.8 -0.2**
KBD AMb AMB 15 42 23.5
comp=Z,58nm,0.5s,mb5.5
WATA Walderalm 75.79 333 *iP* **P 15 42 23.1 +0.4**
comp=Z,49nm,0.4s,mb5.5,SNR=63
MYKA Terra Mystica 75.83 332⇓iP P 15 42 22.6 -0.4
comp=Z,18nm,0.6s,mb4.8
WTTA Wattenberg 75.83 333 *iP* **P 15 42 23.8 +0.8**
comp=Z,70nm,0.5s,mb5.5,SNR=86
RETA Reutte 75.87 334⇓iP P 15 42 23.3 +0.1
comp=Z,23nm,0.7s,mb4.9,SNR=14
MOTA Moosalm 75.91 334⇓eP P 15 42 23.8 +0.4
comp=Z,50nm,0.9s,mb5.2,SNR=26
HTL Hartland 75.92 345⇓eP P 15 42 22.9 -0.6
HTL AMB AMB 15 42 24.4
comp=Z,32nm,1.2s,mb4.8
HTL Hartland 75.92 345 P **P 15 42 22.9 -0.6**
HTL AMB AMB 15 42 24.4
comp=Z,32nm,1.2s,mb4.8
CDF Champ du Feu 75.94 336⇓iP P 15 42 23.5 -0.1
comp=Z,59nm,0.6s,mb5.1
CDF Champ du Feu 75.94 336⇓iP P 15 42 23.5 -0.1
comp=Z,59nm,0.6s,mb5.4
CDF Champ du Feu 75.94 336⇓iP P 15 42 23.5 -0.1
CDF pmax pmax
comp=Z,59nm,0.6s,mb5.4
TXAR Lajitas Array 75.94 61 P **P 15 42 24.1 +0.2**
comp=Z,5.5nm,0.4s,mb4.6,baz=298,slow=5.4,SNR=148
TXAR Lajitas Array 75.94 61 P **P 15 42 24.1 +0.2**
TXAR Lajitas Array 75.94 61 P **P 15 42 24.2 +0.3**
NAY Al-Naaiem 75.96 299 *eP* **P 15 42 23.4 -0.7**
NAY AMb AMB 15 42 24.3
comp=Z,37nm,0.7s,mb5.1
QRN Al-Qurain 75.99 298 *eP* **P 15 42 23.8 -0.4**
QRN AMb AMB 15 42 25.0
comp=Z,83nm,0.6s,mb5.5
CRES Cresnjev 76.00 330 *iP* **P 15 42 23.6 -0.3**
RDF Al-Radifah 76.05 299 *eP* **P 15 42 24.4 -0.1**
RDF AMb AMB 15 42 25.3
comp=Z,124nm,0.6s,mb5.7
LJU Ljubljana 76.09 331 *iP* **P 15 42 23.9 -0.5**
ECH Echery 76.15 336 *eP* **P 15 42 24.4 -0.3**
comp=Z,30nm,0.9s,mb4.9
ECH Echery 76.15 336 *eP* **P 15 42 24.4 -0.3**
ECH pmax pmax
comp=Z,30nm,0.9s,mb4.9
ECH Echery 76.15 336 *eP* **P 15 42 24.3 -0.4**
KDZ Kurdzhali 76.16 322 *iP* **P 15 42 24.9 -0.1**
PAGF Fort de Pagny 76.18 338⇓iP P 15 42 25.2 +0.3
comp=Z,39nm,0.6s,mb4.9
VTS Vitosha 76.20 324⇓P P 15 42 25.3 +0.2
VTS Vitosha 76.20 324 *iP* **P 15 42 24.9 -0.2**
VTS Vitosha 76.20 324⇓iP P 15 42 25.3 +0.2
LONY Lake Ozonia 76.23 32 *eP* **P 15 42 24.1 -1.1**
DAVA Damuels 76.30 334 *iP* **P 15 42 25.8 +0.2**
comp=Z,65nm,1.1s,mb5.2,SNR=24
FETA Feichten 76.31 334 *iP* **P 15 42 26.2 +0.6**
comp=Z,29nm,0.6s,mb5.1,SNR=39
BOJS Bojanci 76.35 330 *iP* **P 15 42 25.5 -0.4**
MEZF Maizieres J'vi 76.39 338⇓iP P 15 42 26.2 +0.1
comp=Z,86nm,0.5s,mb5.3
MEZF Maizieres J'vi 76.39 338⇓iP P 15 42 26.2 +0.1
comp=Z,86nm,0.5s,mb5.6
THEF They Montfort 76.43 337 *eP* **P 15 42 26.0 -0.3**
AS31 Alice Springs 76.46 197 *eP* **P 15 42 27.0 +0.4**
ASAR Alice Springs 76.46 197 P **P 15 42 27.1 +0.5**
comp=Z,47nm,0.7s,mb5.2,baz=14,slow=4.9,SNR=1008
ASAR S S 15 51 34.8 -0.4
comp=Z,0.1nm,0.4s,baz=349,slow=7.0,SNR=4.9
ASAR Alice Springs 76.46 197 P **P 15 42 27.1 +0.5**
ASAR S S 15 51 34.8 -0.4
ASAR Alice Springs 76.46 197 P **P 15 42 27.1 +0.5**
ASAR S S 15 51 34.8 -0.4
MOF Molkenrain 76.49 336 *eP* **P 15 42 25.4 -1.2**
EIDS Eidsvold 76.53 181 *eP* **P 15 42 27.2 +0.2**
comp=Z,56nm,1.4s,mb5.0
HAU Haudompre 76.54 337⇓iP P 15 42 26.6 -0.3
comp=Z,25nm,0.5s,mb4.8
HAU Haudompre 76.54 337⇓iP P 15 42 26.6 -0.3
comp=Z,25nm,0.5s,mb5.1
HAU Haudompre 76.54 337⇓iP P 15 42 26.6 -0.3
HAU pmax pmax
comp=Z,25nm,0.5s,mb5.1
HINF Hinteralfeld 76.59 337⇓iP P 15 42 26.7 -0.5
comp=Z,19nm,0.5s,mb4.7
HINF Hinteralfeld 76.59 337⇓iP P 15 42 26.7 -0.5
comp=Z,19nm,0.5s,mb5.0
HINF Hinteralfeld 76.59 337⇓iP P 15 42 26.7 -0.5
HINF pmax pmax
comp=Z,19nm,0.5s,mb5.0
SFTF Sexfontaines 76.67 338⇓iP P 15 42 27.6 0.0
comp=Z,215nm,0.4s,mb5.8
SFTF Sexfontaines 76.67 338⇓iP P 15 42 27.6 0.0
comp=Z,215nm,0.4s,mb6.1
DAVOX Davos/Dischmat 76.76 334 P **P 15 42 28.8 +0.7**
comp=Z,39nm,0.4s,mb5.4,baz=7.1,slow=2.0,SNR=109
DAVOX Davos/Dischmat 76.76 334 P **P 15 42 28.8 +0.7**
DAVOX Davos/Dischmat 76.76 334 P **P 15 42 28.8 +0.6**
MMB Musomiste 76.86 323 *iP* **P 15 42 28.8 0.0**
PLE Pljevlja 76.92 326⇓iP P 15 42 29.4 +0.3
MIAR Mount Ida 76.99 50 *eP* **P 15 42 28.9 -0.8**
comp=Z,6.6nm,0.6s,mb4.4
MIAR Mount Ida 76.99 50 *eP* **P 15 42 28.9 -0.8**
MIAR pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
LOMF Lomont 77.03 336 *eP* **P 15 42 29.7 +0.1**
JCT Junction City 77.11 57 *eP* **P 15 42 29.6 -0.7**
comp=Z,7.6nm,0.7s,mb4.4
JCT Junction City 77.11 57 *eP* **P 15 42 29.6 -0.8**
JCT pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
IVA Berane 77.15 326⇓iP P 15 42 29.7 -0.7
TUE Stuetta 77.19 334 *eP* **P 15 42 31.1 +0.6**
comp=Z,81nm,0.8s,mb5.4
UPM Unac-Piva 77.20 327⇓iP P 15 42 30.3 -0.3
JSA Saint Aubin 77.26 343 *eP* **P 15 42 29.4 -1.4**
JSA AMB AMB 15 42 30.5
comp=Z,78nm,1.0s,mb5.3
JSA Saint Aubin 77.26 343 P **P 15 42 29.4 -1.4**
JSA AMB AMB 15 42 30.5
comp=Z,78nm,1.0s,mb5.3
WCI Wyandotte Cave 77.27 43 *eP* **P 15 42 30.1 -1.0**
comp=Z,8.4nm,0.6s,mb4.5
WCI Wyandotte Cave 77.27 43 *eP* **P 15 42 30.1 -1.0**
WCI pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
NVLJ Novalja 77.32 330 P **P 15 42 30.0 -1.2**

FLN La Foliniere 77.34 342⇓iP P 15 42 31.0 -0.3
comp=Z,58nm,0.4s,mb5.2
FLN La Foliniere 77.34 342⇓iP P 15 42 31.0 -0.3
comp=Z,58nm,0.4s,mb5.6
FLN La Foliniere 77.34 342⇓iP P 15 42 31.0 -0.3
FLN pmax pmax
comp=Z,58nm,0.4s,mb5.6
PVY Plav 77.37 326⇓iP P 15 42 28.9 -2.7
LDF La Druitiere 77.43 341⇓iP P 15 42 31.4 -0.4
comp=Z,47nm,0.4s,mb5.2
LDF La Druitiere 77.43 341⇓iP P 15 42 31.4 -0.4
comp=Z,47nm,0.4s,mb5.5
LDF La Druitiere 77.43 341⇓iP P 15 42 31.4 -0.4
LDF pmax pmax
comp=Z,47nm,0.4s,mb5.5
NKY Niksic 77.52 326⇓iP P 15 42 31.4 -1.0
BRY Bratogost 77.59 327⇓iP P 15 42 31.7 -1.1
MBWA Marble Bar 77.60 210 *eP* **P 15 42 32.4 -0.5**
MBWA Marble Bar 77.60 210 *eP* **P 15 42 32.3 -0.7**
comp=Z,33nm,1.0s,mb4.9
MBWA Marble Bar 77.60 210 P **P 15 42 32.3 -0.6**
comp=Z,56nm,0.8s,mb5.2
TTG Podgorica 77.76 326⇓iP P 15 42 32.8 -0.9
GRR Gorron 77.77 342⇓iP P 15 42 33.6 -0.1
comp=Z,88nm,0.6s,mb5.3
GRR Gorron 77.77 342⇓iP P 15 42 33.6 -0.1
comp=Z,88nm,0.6s,mb5.6
GRR Gorron 77.77 342⇓iP P 15 42 33.6 -0.1
GRR pmax pmax
comp=Z,88nm,0.6s,mb5.6
LOR Lormes 77.83 338⇓iP P 15 42 33.7 -0.3
comp=Z,104nm,0.6s,mb5.4
LOR Lormes 77.83 338⇓iP P 15 42 33.7 -0.3
comp=Z,104nm,0.6s,mb5.6
LOR Lormes 77.83 338⇓iP P 15 42 33.7 -0.3
LOR pmax pmax
comp=Z,104nm,0.6s,mb5.6
STON Ston 77.91 327 P **P 15 42 31.9 -2.5**
CABF La Chapelle 77.91 337⇓iP P 15 42 34.4 0.0
comp=Z,40nm,0.7s,mb4.9
CABF La Chapelle 77.91 337⇓iP P 15 42 34.4 0.0
comp=Z,40nm,0.7s,mb5.2
CABF La Chapelle 77.91 337⇓iP P 15 42 34.4 0.0
CABF pmax pmax
comp=Z,40nm,0.7s,mb5.2
BUM Brajici-Budva 78.00 326⇓iP P 15 42 33.2 -1.8
HCY Herceg Novi 78.01 327⇓iP P 15 42 33.1 -2.0
SSF Saint Saulge 78.10 338⇓iP P 15 42 35.3 -0.2
comp=Z,50nm,0.7s,mb5.0
SSF Saint Saulge 78.10 338⇓iP P 15 42 35.3 -0.2
comp=Z,50nm,0.7s,mb5.3
SSF Saint Saulge 78.10 338⇓iP P 15 42 35.3 -0.2
SSF pmax pmax
comp=Z,50nm,0.7s,mb5.2
HYF Humbligny 78.11 339⇓iP P 15 42 35.7 +0.2
HYF Humbligny 78.11 339⇓iP P 15 42 35.7 +0.2
ULC Ulcinj 78.18 326⇓iP P 15 42 35.7 -0.3
SGMF Saint Gilles 78.23 343⇓iP P 15 42 36.1 0.0
comp=Z,144nm,0.7s,mb5.4
SGMF Saint Gilles 78.23 343⇓iP P 15 42 36.1 0.0
comp=Z,144nm,0.7s,mb5.7
SGMF Saint Gilles 78.23 343⇓iP P 15 42 36.1 0.0
SGMF pmax pmax
comp=Z,144nm,0.7s,mb5.7
ROSF Rostrenen 78.28 343⇓iP P 15 42 36.4 0.0
comp=Z,136nm,0.8s,mb5.3
ROSF Rostrenen 78.28 343⇓iP P 15 42 36.4 0.0
comp=Z,136nm,0.8s,mb5.6
ROSF Rostrenen 78.28 343⇓iP P 15 42 36.4 0.0
ROSF pmax pmax
comp=Z,136nm,0.8s,mb5.6
AVF Avril sur Loir 78.39 338⇓iP P 15 42 37.0 0.0
comp=Z,87nm,0.7s,mb5.2
AVF Avril sur Loir 78.39 338⇓iP P 15 42 37.0 0.0
comp=Z,87nm,0.7s,mb5.5
AVF Avril sur Loir 78.39 338⇓iP P 15 42 37.0 0.0
AVF pmax pmax
comp=Z,87nm,0.7s,mb5.5
SMF Signal de Mont 78.42 338⇓iP P 15 42 37.0 -0.2
comp=Z,46nm,0.6s,mb5.0
SMF Signal de Mont 78.42 338⇓iP P 15 42 37.0 -0.2
comp=Z,46nm,0.6s,mb5.3
SMF Signal de Mont 78.42 338⇓iP P 15 42 37.0 -0.2
SMF pmax pmax
comp=Z,46nm,0.6s,mb5.3
BST Brest 78.45 344 *eP* **P 15 42 37.5 +0.2**
QUIF Quistinic 78.66 343⇓iP P 15 42 38.3 -0.2
comp=Z,57nm,0.7s,mb5.0
QUIF Quistinic 78.66 343⇓iP P 15 42 38.3 -0.2
comp=Z,57nm,0.7s,mb5.3
QUIF Quistinic 78.66 343⇓iP P 15 42 38.3 -0.2
QUIF pmax pmax
comp=Z,57nm,0.7s,mb5.3
BGF Bois d'Agland 78.73 339⇓iP P 15 42 38.8 0.0
comp=Z,49nm,0.6s,mb5.0
BGF Bois d'Agland 78.73 339⇓iP P 15 42 38.8 0.0
comp=Z,49nm,0.6s,mb5.3
BGF Bois d'Agland 78.73 339⇓iP P 15 42 38.8 0.0
BGF pmax pmax
comp=Z,49nm,0.6s,mb5.3
LPL La Plagne 78.77 336⇓iP P 15 42 40.0 +0.9
comp=Z,97nm,0.5s,mb5.4
LPL La Plagne 78.77 336⇓iP P 15 42 40.0 +0.9
comp=Z,97nm,0.5s,mb5.7
LPL La Plagne 78.77 336⇓iP P 15 42 40.0 +0.9
LPL pmax pmax
comp=Z,97nm,0.5s,mb5.7
LPG La Plagne 78.78 336⇓iP P 15 42 40.2 +1.1
comp=Z,130nm,0.6s,mb5.5
LPG La Plagne 78.78 336⇓iP P 15 42 40.2 +1.1
comp=Z,130nm,0.6s,mb5.7
LPG La Plagne 78.78 336⇓iP P 15 42 40.2 +1.1
LPG pmax pmax
comp=Z,130nm,0.6s,mb5.7
PLDF La Plantade 79.11 338 *eP* **P 15 42 41.1 +0.2**
TCF Toulx Ste Croi 79.13 339⇓iP P 15 42 41.2 +0.2
comp=Z,61nm,0.7s,mb5.0
TCF Toulx Ste Croi 79.13 339⇓iP P 15 42 41.2 +0.2
comp=Z,61nm,0.7s,mb5.3
TCF Toulx Ste Croi 79.13 339⇓iP P 15 42 41.2 +0.2
TCF pmax pmax
comp=Z,61nm,0.7s,mb5.3
AGO Saint Agoulin 79.14 338 *eP* **P 15 42 41.6 +0.5**
BNI Bardonecchia 79.21 336 *eP* **P 15 42 42.0 +0.6**
comp=Z,34nm,0.6s,mb5.2
BNI Bardonecchia 79.21 336 *eP* **P 15 42 42.0 +0.5**
BNI pmax pmax
comp=Z,34nm,0.6s,mb5.2
MFF Saint Martin d 79.34 341⇓iP P 15 42 42.2 +0.1
comp=Z,46nm,0.8s,mb4.9
MFF Saint Martin d 79.34 341⇓iP P 15 42 42.2 +0.1
comp=Z,46nm,0.8s,mb5.2
MFF Saint Martin d 79.34 341⇓iP P 15 42 42.2 +0.1
MFF pmax pmax
comp=Z,46nm,0.8s,mb5.2
PYM Petit Puy Mans 79.45 338 *eP* **P 15 42 43.2 +0.5**
MBDF Montbardon 79.49 335⇓iP P 15 42 43.1 +0.2
comp=Z,41nm,0.5s,mb5.0
MBDF Montbardon 79.49 335⇓iP P 15 42 43.1 +0.2
comp=Z,41nm,0.5s,mb5.3
MBDF Montbardon 79.49 335⇓iP P 15 42 43.1 +0.2
MBDF pmax pmax
comp=Z,41nm,0.5s,mb5.3
SSB Saint Sauveur 79.53 337 *eP* **P 15 42 43.5 +0.3**
comp=Z,48nm,0.6s,mb5.3
SSB Saint Sauveur 79.53 337 *eP* **P 15 42 43.5 +0.3**
SSB pmax pmax
comp=Z,48nm,0.6s,mb5.3
ORIF Oris-en-Rattie 79.54 336⇓iP P 15 42 43.9 +0.7
comp=Z,83nm,0.6s,mb5.2
ORIF Oris-en-Rattie 79.54 336⇓iP P 15 42 43.9 +0.7
comp=Z,83nm,0.6s,mb5.5
ORIF Oris-en-Rattie 79.54 336⇓iP P 15 42 43.9 +0.7
ORIF pmax pmax
comp=Z,83nm,0.6s,mb5.5
AQU L'Aquila 79.77 330 *eP* **P 15 42 44.2 -0.3**
comp=Z,19nm,0.8s,mb4.8
AQU L'Aquila 79.77 330 *eP* **P 15 42 44.2 -0.3**
AQU pmax pmax
comp=Z,19nm,0.8s,mb4.8
LBL Lubilhac 79.89 338 *eP* **P 15 42 45.5 +0.5**
VIVF Saint-Julien-I 79.90 337⇓iP P 15 42 45.6 +0.5
comp=Z,79nm,0.7s,mb5.2
VIVF Saint-Julien-I 79.90 337⇓iP P 15 42 45.6 +0.5
comp=Z,79nm,0.7s,mb5.5
VIVF Saint-Julien-I 79.90 337⇓iP P 15 42 45.6 +0.5

VIVF pmax pmax
comp=Z,79nm,0.7s,mb5.5
SWET Sewanee 79.96 45 *eP* **P 15 42 42.9 -2.7**
comp=Z,7.5nm,0.6s,mb4.5
SAOF Saorge 79.97 335 *eP* **P 15 42 44.9 -0.6**
AUTN L'Aution 80.00 335 *eP* **P 15 42 45.5 -0.1**
TOUF Mont Tournerai 80.03 335 *eP* **P 15 42 45.1 -0.7**
LUCF Luceram 80.11 335 *eP* **P 15 42 45.9 -0.4**
SBF Sospel 80.12 335⇓iP P 15 42 45.9 -0.4
comp=Z,62nm,0.5s,mb5.2
SBF Sospel 80.12 335⇓iP P 15 42 45.9 -0.4
comp=Z,62nm,0.5s,mb5.5
SBF Sospel 80.12 335⇓iP P 15 42 45.9 -0.4
SBF pmax pmax
comp=Z,62nm,0.5s,mb5.5
MVIF Mont Vial 80.16 335 *eP* **P 15 42 46.2 -0.3**
RJF Les Rejaudoux 80.22 339⇓iP P 15 42 46.8 0.0
comp=Z,28nm,0.7s,mb4.7
RJF Les Rejaudoux 80.22 339⇓iP P 15 42 46.8 0.0
comp=Z,28nm,0.7s,mb5.0
RJF Les Rejaudoux 80.22 339⇓iP P 15 42 46.8 0.0
RJF pmax pmax
comp=Z,28nm,0.7s,mb5.0
REVF Revere 80.25 335 *eP* **P 15 42 46.2 -0.8**
CAF Calviac 80.45 339⇓iP P 15 42 48.7 +0.7
comp=Z,42nm,0.5s,mb5.0
CAF Calviac 80.45 339⇓iP P 15 42 48.7 +0.7
comp=Z,42nm,0.5s,mb5.3
CAF Calviac 80.45 339⇓iP P 15 42 48.7 +0.7
CAF pmax pmax
comp=Z,42nm,0.5s,mb5.3
SMRF Simiane la Rot 80.50 336 *eP* **P 15 42 49.1 +0.8**
comp=Z,30nm,0.8s,mb4.7
SMRF Simiane la Rot 80.50 336 *eP* **P 15 42 49.1 +0.8**
comp=Z,30nm,0.8s,mb5.0
VILF Villemus 80.58 336 *eP* **P 15 42 49.4 +0.7**
FRF La Foret Royal 80.61 335⇓iP P 15 42 48.4 -0.5
comp=Z,23nm,0.7s,mb4.7
FRF La Foret Royal 80.61 335⇓iP P 15 42 48.4 -0.5
comp=Z,23nm,0.7s,mb5.0
FRF La Foret Royal 80.61 335⇓iP P 15 42 48.4 -0.5
FRF pmax pmax
comp=Z,23nm,0.7s,mb5.0
TAVF Tavernes 80.71 335 *eP* **P 15 42 50.1 +0.7**
LFF La Frestale 80.73 340⇓iP P 15 42 49.9 +0.4
comp=Z,78nm,0.6s,mb5.3
LFF La Frestale 80.73 340⇓iP P 15 42 49.9 +0.4
comp=Z,78nm,0.6s,mb5.6
LFF La Frestale 80.73 340⇓iP P 15 42 49.9 +0.4
LFF pmax pmax
comp=Z,78nm,0.6s,mb5.6
PRAF Pradon 80.76 336 *eP* **P 15 42 50.7 +1.0**
LASF Ste Croix 80.83 337⇓iP P 15 42 50.6 +0.6
comp=Z,24nm,0.7s,mb4.7
LASF Ste Croix 80.83 337⇓iP P 15 42 50.6 +0.6
comp=Z,24nm,0.7s,mb5.0
LMR La Mourre 80.86 335⇓iP P 15 42 50.0 -0.1
comp=Z,58nm,0.7s,mb5.1
LMR La Mourre 80.86 335⇓iP P 15 42 50.0 -0.1
comp=Z,58nm,0.7s,mb5.4
LMR La Mourre 80.86 335⇓iP P 15 42 50.0 -0.1
LMR pmax pmax
comp=Z,58nm,0.7s,mb5.4
TREF Trevaresse 80.88 336 *eP* **P 15 42 51.5 +1.3**
PGF Pioggiola 80.91 333⇓iP P 15 42 50.0 -0.4
comp=Z,53nm,0.9s,mb5.0
PGF Pioggiola 80.91 333⇓iP P 15 42 50.0 -0.4
comp=Z,53nm,0.9s,mb5.3
PGF Pioggiola 80.91 333⇓iP P 15 42 50.0 -0.4
PGF pmax pmax
comp=Z,53nm,0.9s,mb5.3
RBK Rabkut 81.08 287 P **P 15 42 50.8 -1.0**
SNR=5.4
RBK Rabkut 81.08 287 P **P 15 42 50.8 -0.9**
SNR=5.4
RBK Rabkut 81.08 287 P **P 15 42 50.8 -0.9**
SNR=5.4
BERF Bertagne 81.09 336 *eP* **P 15 42 52.0 +0.6**
TIP Timpagrande 81.52 326 *eP* **P 15 42 53.2 -0.5**
comp=Z,11nm,0.7s,mb4.7
ARMA Armidale 81.55 180 *eP* **P 15 42 54.3 +0.6**
MTLF Montolieu 81.92 338⇓iP P 15 42 56.1 +0.5
comp=Z,56nm,0.8s,mb5.0
MTLF Montolieu 81.92 338⇓iP P 15 42 56.1 +0.5
comp=Z,56nm,0.8s,mb5.3
MTLF Montolieu 81.92 338⇓iP P 15 42 56.1 +0.5
MTLF pmax pmax
comp=Z,56nm,0.8s,mb5.3
EPF Esparros 82.64 339⇓iP P 15 42 59.0 -0.3
comp=Z,24nm,0.6s,mb4.8
EPF Esparros 82.64 339⇓iP P 15 42 59.0 -0.3
comp=Z,24nm,0.6s,mb5.1
EPF Esparros 82.64 339⇓iP P 15 42 59.0 -0.3
EPF pmax pmax
comp=Z,24nm,0.6s,mb5.1
SJPF Ste Jean 82.90 340⇓iP P 15 43 01.0 +0.4
comp=Z,14nm,0.8s,mb4.5
SJPF Ste Jean 82.90 340⇓iP P 15 43 01.0 +0.4
comp=Z,14nm,0.8s,mb4.8
SJPF Ste Jean 82.90 340⇓iP P 15 43 01.0 +0.4
SJPF pmax pmax
comp=Z,14nm,0.8s,mb4.7
ETSF Etsaut 82.96 340⇓iP P 15 43 01.5 +0.6
comp=Z,25nm,0.6s,mb4.8
ETSF Etsaut 82.96 340⇓iP P 15 43 01.5 +0.6
comp=Z,25nm,0.6s,mb5.1
ETSF Etsaut 82.96 340⇓iP P 15 43 01.5 +0.6
ETSF pmax pmax
comp=Z,25nm,0.6s,mb5.1
STKA Stephens Creek 83.49 189 P **P 15 43 03.5 0.0**
comp=Z,29nm,0.8s,mb5.1,baz=347,slow=6.7,SNR=77
STKA Stephens Creek 83.49 189⇓iP P 15 43 03.4 -0.1
comp=Z,14nm,0.5s,mb5.0
STKA Stephens Creek 83.49 189 *eP* **P 15 43 03.3 -0.1**
comp=Z,7.2nm,0.9s,mb4.4
STKA Stephens Creek 83.49 189 P **P 15 43 03.5 0.0**
STKA pmax pmax
comp=Z,29nm,0.8s
YNG Young 85.47 183 *eP* **P 15 43 13.7 +0.5**
comp=Z,21nm,0.5s,mb5.1
ESDC Sonseca Array 86.76 341 P **P 15 43 18.4 -1.2**
comp=Z,0.8nm,0.3s,mb3.9,baz=6.0,slow=4.1,SNR=21
ESDC Sonseca Array 86.76 341 P **P 15 43 18.4 -1.3**
KEST Kesra 87.09 330 P **P 15 43 21.2 -0.1**
comp=Z,6.0nm,0.5s,mb4.6,baz=336,slow=1.2,SNR=37
KEST Kesra 87.09 330 *eP* **P 15 43 21.1 -0.1**
TOO Toolangi 88.86 185 *eP* **P 15 43 29.9 +0.8**
comp=Z,67nm,0.7s,mb5.5
TORD Torodi Ar. Bea 110.57 329 PKiKP PKiKP 15 49 03.5 -1.7
comp=Z,0.6nm,0.5s,baz=18,slow=1.9,SNR=15
TORD PP PP 15 49 43.8 -4.6
comp=Z,3.3nm,0.7s,baz=7.7,slow=7.5,SNR=11
TORD PKKPbc PKKPbc 16 00 02.7 -0.7
comp=Z,0.9nm,0.3s,baz=193,slow=2.9,SNR=18
TORD PKKP PKKPbc 16 00 17.5 +14
comp=Z,0.6nm,0.7s,baz=213,slow=2.9,SNR=3.5
TORD Torodi Ar. Bea 110.57 329 PKiKP PKiKP 15 49 03.5 -1.7
TORD PP PP 15 49 43.8 -4.6
TORD PKKPbc PKKPbc 16 00 02.7 -0.7
TORD PKKP PKKPbc 16 00 17.5 +14
DBIC Dimbokro 118.68 333 PKP PKPdf 15 49 19.1 -1.7
comp=Z,5.0nm,0.7s,baz=42,slow=2.7,SNR=14
DBIC PP PP 15 50 43.2 -1.8
comp=Z,2.5nm,0.7s,baz=344,slow=13,SNR=3.7
DBIC PKKPbc PKKPbc 15 59 35.0 -1.1
comp=Z,0.7nm,0.4s,baz=166,slow=3.3,SNR=4.5
DBIC Dimbokro 118.68 333 PKP PKPdf 15 49 19.1 -1.7
DBIC PP PP 15 50 43.2 -1.8
DBIC PKKPbc PKKPbc 15 59 35.0 -1.1
DBIC Dimbokro 118.68 333 PKIKP PKPdf 15 49 19.1 -1.7
DBIC 15 50 43.2
LBTB Lobatse 131.51 282 PKP PKPdf 15 49 45.2 +0.3
comp=Z,3.3nm,0.5s,baz=69,slow=1.4,SNR=12
LBTB SKPbc SKPbc 15 52 26.1 -2.0
comp=Z,4.4nm,0.7s,baz=61,slow=4.3,SNR=5.8
LBTB Lobatse 131.51 282 PKP PKPdf 15 49 45.2 +0.3
LBTB SKPbc SKPbc 15 52 26.1 -2.0
LBTB Lobatse 131.51 282 PKIKP PKPdf 15 49 45.2 +0.3
LPAZ La Paz 132.71 57 PKP PKPdf 15 49 47.2 -0.2
comp=Z,1.0nm,0.4s,baz=336,slow=4.2,SNR=3.6
LPAZ SKPbc SKPbc 15 52 30.9 -1.6
comp=Z,1.3nm,0.3s,baz=342,slow=4.6,SNR=5.9
LPAZ La Paz 132.71 57 *eP*KPdf PKPdf 15 49 46.7 -0.7
LPAZ PKP PKPdf 15 49 47.2 -0.2
LPAZ SKPbc SKPbc 15 52 30.9 -1.6
LPAZ La Paz 132.71 57 PKIKP PKPdf 15 49 47.2 -0.2

LPAZ				pmax	pmax	
	comp=N,1.0nm,0.4s					
LPAZ				pmax	pmax	
	comp=Z,1.0nm,0.4s					
BOSA	**Boshof**	**134.32 279**		PKhKP	PKPpre	15 49 34.8
	comp=Z,1.1nm,0.8s,baz=254,slow=22,SNR=1.2					
BOSA				PKP	PKPdf	15 49 47.9 -2.2
	comp=Z,1.5nm,0.6s,baz=131,slow=21,SNR=5.3					
BOSA				SKPbc	SKPbc	15 52 38.4 +0.9
	comp=Z,2.0nm,0.6s,baz=333,slow=3.5,SNR=7.0					
BOSA	**Boshof**	**134.32 279**		PKPpre	PKPpre	15 49 34.8
BOSA				PKP	PKPdf	15 49 47.9 -2.2
BOSA				SKPbc	SKPbc	15 52 38.4 +0.9
BOSA	**Boshof**	**134.32 279**		PKHKP	PKPpre	15 49 34.8
BOSA						15 49 47.9
BOSA						15 52 38.4
MAW	**Mawson**	**135.74 213**		PKP	PKPdf	15 49 51.2 -0.2
	comp=Z,6.7nm,0.9s,baz=103,slow=20,SNR=2.3					
MAW	**Mawson**	**135.74 213**		PKP	PKPdf	15 49 51.2 -0.2
MAW	**Mawson**	**135.74 213**		PKIKP	PKPdf	15 49 51.2 -0.3
QSPA	**South Pole Qui**	**141.23 180**		PKhKP	PKPpre	15 49 55.0
	comp=Z,22nm,0.5s,baz=289,slow=0.5,SNR=43					
QSPA				SKPbc	SKPbc	15 52 52.9 -2.6
	comp=Z,8.9nm,0.8s,baz=285,slow=1.7,SNR=6.4					
QSPA	**South Pole Qui**	**141.23 180**	*e*	PKPpre	PKPpre	15 49 54.9
QSPA				SKPbc	SKPbc	15 52 52.9 -2.6
SYO	**Syowa Base**	**144.39 215**	‖ *i*	sPdiff	PKPdf	15 50 04.4 -2.6
FCH	**Farellones**	**144.64 76**	‖ *i*	P	PKPdf	15 50 07.3 -1.3
CAM4	**Nova Friburgo**	**148.87 26**	‖ *i*	P	PKPdf	15 50 19.9 +4.0
CAM4			*i*			15 50 22.2
CAM4			*i*			15 50 23.7
CAM4			*i*			15 50 26.5
CAM4			*i*			15 50 31.2
CAM4			*i*			15 50 38.2
PLCA	**Paso Flores**	**149.17 86**		PKP	PKPdf	15 50 15.1 -0.8
	comp=Z,4.5nm,0.9s,baz=166,slow=0.7,SNR=7.4					
PLCA				PKPbc	PKPbc	15 50 20.2 -0.5
	comp=Z,16nm,0.5s,baz=277,slow=2.7,SNR=12					
PLCA	**Paso Flores**	**149.17 86**		PKP	PKPdf	15 50 15.1 -0.8
PLCA			*e*	PKPbc	PKPbc	15 50 20.2 -0.5
PLCA	**Paso Flores**	**149.17 86**		PKHKP	PKPdf	15 50 15.1 -0.8
TRQA	**Tornquist**	**152.82 74**	*e*	PKPbc	PKPbc	15 50 27.7 -1.4
SNAA	**Sanae**	**156.78 200**		PKPbc	PKPdf	15 50 38.2 +12
	comp=Z,0.6nm,0.4s,baz=254,slow=6.2,SNR=12					
SNAA				PKPab	PKPab	15 50 57.8 -0.6
	comp=Z,1.8nm,0.6s,baz=174,slow=4.8,SNR=8.3					
SNAA	**Sanae**	**156.78 200**		PKPbc	PKPdf	15 50 38.2 +12
SNAA				PKPab	PKPab	15 50 57.8 -0.6
VNA2	**Neumayer--Watz**	**158.30 198**	*e*		PKPab	15 51 04.3 -0.7
	baz=119,slow=3.6					
VNA3	**Neumayer Olymp**	**158.47 196**	*e*		PKPab	15 51 04.7 -1.0

NEIC 07 15:39:01.7, 33°.87N×119°.32W, h12km, ML3.5(PAS), **After PAS., Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSI	**Osito Adit**	**0.90**	**34**	*e*Pg	Pg	15 39 17.6	-1.4
OSI				*e*Sg	Sg	15 39 28.1	-2.6
PASC	**Pasadena Art C**	**0.99**	**72**	*e*Pg	Pg	15 39 19.4	-1.4
PASC				*e*Sg	Sg	15 39 33.6	-0.2
MWC	**Mount Wilson**	**1.11**	**71**	*e*Pg	Pg	15 39 21.1	-2.0
MWC				*e*Sg	Sg	15 39 37.1	-0.4
ISA	**Isabella**	**1.92**	**21**	*e*Pn	Pn	15 39 33.8	-0.6
PFO	**Pinyon Flat Ob**	**2.40**	**95**	*e*Pn	Pn	15 39 39.4	-1.5
BAR	**Barrett**	**2.52**	**117**	*e*Pn	Pn	15 39 40.4	-2.1
BAR				*e*Pg	Pg	15 39 45.7	-4.3
BAR				*e*Sg	Sg	15 40 18.5	-4.1
GSC	**Goldstone**	**2.52**	**55**	*e*Pn	Pn	15 39 42.1	-0.5
SAO	**San Andreas Ge**	**3.37**	**330**	*e*Pn	Pn	15 39 53.7	-0.5
LDFC	**Landfair**	**3.69**	**70**	*e*Pn	Pn	15 39 57.1	-1.5
GLA	**Glamis**	**3.85**	**101**	Pn	Pn	15 40 00.1	-0.6
CMB	**Columbia Colle**	**4.25**	**349**	*e*Pn	Pn	15 40 06.4	+0.1
CCUT	**Cedar City**	**6.08**	**51**	*e*Pn	Pn	15 40 32.7	+1.2
	9.3nm,0.7s						
ARUT	**Antelope Range**	**6.18**	**49**	Pn	Pn	15 40 33.9	+1.1
	3.4nm,0.5s						

IDC ***07*** *15:43:08.9±1.1, 1°.48N×122°.24E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/20, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=65.0km s-min=19.8km az=69.0*

NEIC ***07*** *15:43:09.6±0.7, 1°.38N×122°.14E, h10km, mb3.7/1, Error ellipse: s-maj=25.5km s-min=9.8km az=64.0*

ISCJB ***07*** *15:43:11.7±0.6, 1°.37N±0°.05×121°.86E±0°.06, h33km, mb3.5/6, Error ellipse: s-maj=9.7km s-min=7.0km az=149.3*

DJA ***07*** *15:43:11, 1°.36N×122°.04E, h10km, MLv4.3/4*

ISC 07 15:43:13.8±0.6, 1°.31N±0°.06×121°.91E±0°.07, h35km, n22, σ1**§25/26, mb3.5/6, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.83**	**178**	P	**Pn**	**15 43 27.4**	**-1.6**
MRSI				S	**Sn**	**15 43 39.0**	**-1.1**
GTOI	**Gorontalo**	**1.29**	**121**	P	**Pn**	**15 43 29.9**	**-5.5**
GTOI				S	**Sn**	**15 43 43.7**	**-7.8**
KMSI	**Cibinong**	**2.20**	**109**	P	**Pn**	**15 43 48.8**	**+0.9**
KMSI				S	**Sn**	**15 44 15.1**	**+1.2**
LUWI	**Luwuk**	**2.50**	**160**	P	**Pn**	**15 43 54.0**	**+2.1**
LUWI				S	**Sn**	**15 44 28.1**	**+6.9**
TTSI	**Tana Toraja**	**4.80**	**206**	P	**Pn**	**15 44 25.9**	**+2.2**
KAPI	**Kappang**	**6.64**	**199**	Pn	**Pn**	**15 44 51.1**	**+2.1**
	0.4nm,0.3s,baz=110,slow=23,SNR=2.6						
KAPI	**Kappang**	**6.64**	**199**	*e*P	**Pn**	**15 44 49.8**	**+0.8**
KKM	**Kota Kinabalu**	**7.37**	**310**	*e*P	**Pn**	**15 44 59.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.64**	**169**	*e*P	**Pn**	**15 47 37.1**	**-4.1**
WRAB	**Tennant Creek**	**24.39**	**151**	*e*P	**P**	**15 48 26.2**	**-2.8**
	1.5nm,0.8s,mb3.5						
WRA	**Warramunga Arr**	**24.39**	**151**	P	**P**	**15 48 28.2**	**-0.7**
	1.3nm,0.6s,mb3.5,baz=331,slow=10,SNR=12						
WRA	**Warramunga Arr**	**24.39**	**151**	P	**P**	**15 48 28.2**	**-0.7**
WB2	**Warramunga Arr**	**24.40**	**151**	*e*P	**P**	**15 48 28.9**	**-0.1**
ASAR	**Alice Springs**	**27.43**	**156**	P	**P**	**15 48 55.3**	**-1.1**
	0.3nm,0.7s,mb2.9,baz=345,slow=14,SNR=1.9						
ASAR				PcP	PcP	15 52 18.2	+3.4
	0.1nm,0.4s,baz=346,slow=2.1,SNR=6.7						
ASAR	**Alice Springs**	**27.43**	**156**	P	**P**	**15 48 55.4**	**-1.1**
ASAR				PcP	PcP	15 52 18.2	+3.4
STKA	**Stephens Creek**	**37.92**	**152**	P	**P**	**15 50 28.7**	**+0.8**
	0.9nm,0.7s,mb3.6,baz=299,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**37.92**	**152**	P	**P**	**15 50 28.7**	**+0.8**
SONM	**Songino Array**	**48.25**	**346**	P	**P**	**15 51 51.0**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=165,slow=8.0,SNR=5.5						
SONM	**Songino Array**	**48.25**	**346**	P	**P**	**15 51 51.0**	**-0.2**
MK31	**Makanchi Array**	**56.93**	**328**	*e*P	**P**	**15 52 55.2**	**-0.3**
MKAR	**Makanchi Array**	**56.93**	**328**	P	**P**	**15 52 55.0**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=125,slow=8.0,SNR=6.1						
MKAR	**Makanchi Array**	**56.93**	**328**	P	**P**	**15 52 55.0**	**-0.5**

ISCJB ***07*** *15:49:55.9±0.3, 30°.59S±0°.03×177°.71W±0°.07, h57km, mb5.0/57, MS4.4/24, Error ellipse: s-maj=8.8km s-min=3.2km az=18.7*

MOS ***07*** *15:49:55.0±2.7, 29°.92S×177°.85W, h33km, mb5.3/21, Error ellipse: s-maj=11.2km s-min=9.6km az=99.4*

NEIC ***07*** *15:49:56.9±1.0, 30°.03S×177°.76W, h50km±8km, mb5.1/25, MS4.9/1, Error ellipse: s-maj=9.2km s-min=5.9km az=136.0*

BJI ***07*** *15:49:57.0, 30°.14S×177°.93W, h59km, mB5.5/18, mb5.1/21, Ms5.4/13, Ms7 4.9/14*

GCMT ***07*** *15:49:58.7±0.4, 29°.94S×177°.49W, h52km±1km, MW5.0, Moment Tension Solution. s40,c48; s50,c67; Moment tensor: Scale 10^16 Nm; Mrr=4.45±.23; Mθθ=0.13±.17; Mφφ=-4.33±.15; Mrθ=0.25±.13; Mθφ=-1.11±.12; Mφr=1.35±.12; Best double couple: Mo=4.70000×10^16 NP1:φs195.00000°, δ37.00000°, λ92.00000°. NP2:φs13.00000°, δ53.00000°, λ89.00000°. Principal axes: T 4.6500, Plg82.0000°, Azm277.0000°; N 0.1500, Plg1.0000°, Azm14.0000°; P -4.8100, Plg8.0000°, Azm104.0000°; Data Used: II IC G IU CN.*

IDC ***07*** *15:50:01.4±5.0, 30°.02S×177°.81W, h85km±41km, mb4.5/17, mb1 4.7/18, mb1mx4.6/19, mbtmp4.5/18, MS4.3/19, Ms1 4.3/19, ms1mx4.2/26 Error ellipse: s-maj=16.8km s-min=15.0km az=79.0*

DJA ***07*** *15:50:31, 30°.04S×178°.60W, h362km, mb4.9/7*

ISC 07 15:49:57.7±0.3, 30°.54S±0°.03×177°.70W±0°.07, h59km, h59km±4.5km:**pP-P, n466,** σ1**§51/201, mb5.0/57, MS4.4/24,**

10C-6D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.29**	**351**	*e*P	**Pn**	**15 50 10.0**	**-10**
RAO	**Raoul Island**	**1.29**	**351**	*e*P	**Pn**	**15 50 10.0**	**-10**
MXZ	**Matakaoa Point**	**7.75**	**204**	PN	**Pn**	**15 51 47.4**	**-0.4**
MXZ				SN	**Sn**	**15 53 20.0**	**+5.9**
PUZ	**Puketiti**	**8.23**	**203**	*e*PN	**Pn**	**15 51 52.6**	**-1.7**
PUZ				SN	**Sn**	**15 53 26.5**	**+0.8**
WCZ	**Waipu Caves**	**8.57**	**229**	PN	**Pn**	**15 52 08.6**	**+10**
CNGZ	**Carnagh Statio**	**8.62**	**202**	PN	**Pn**	**15 51 59.4**	**-0.2**
CNGZ				SN	**Sn**	**15 53 39.5**	**+4.2**
OUZ	**Omahuta**	**8.68**	**235**	*e*P	**Pn**	**15 52 09.2**	**+8.6**
	99nm,0.6s						
OUZ	**Omahuta**	**8.68**	**235**	*e*PN	**Pn**	**15 52 07.2**	**+6.6**
MWZ	**Matawai**	**8.72**	**206**	PN	**Pn**	**15 51 59.5**	**-1.5**
MWZ				SN	**Sn**	**15 53 44.0**	**+6.2**
URZ	**Urewera**	**8.82**	**208**	P	**Pn**	**15 52 02.2**	**-0.2**
	2.8nm,0.3s,baz=276,slow=2.0,SNR=26						
URZ				S	**Sn**	**15 53 44.2**	**+4.0**
	23nm,0.3s,baz=223,slow=21,SNR=15						
URZ	**Urewera**	**8.82**	**208**	*e*P	**Pn**	**15 52 01.7**	**-0.7**
	44nm,0.6s						
URZ				S	**Sn**	**15 53 44.2**	**+4.0**
URZ	**Urewera**	**8.82**	**208**	PN	**Pn**	**15 52 01.1**	**-1.2**
URZ				SN	**Sn**	**15 53 44.8**	**+4.6**
PRGZ	**Paritu Road**	**9.12**	**202**	PN	**Pn**	**15 52 06.1**	**-0.5**
KNZ	**Kokohu**	**9.28**	**203**	PN	**Pn**	**15 52 07.6**	**-1.0**
KNZ				SN	**Sn**	**15 53 51.2**	**-0.3**
RAHZ	**Arahi**	**9.40**	**206**	SN	**Sn**	**15 53 57.9**	**+3.5**
NMHZ	**Naumai**	**9.66**	**206**	SN	**Sn**	**15 54 03.7**	**+2.9**
BKZ	**Black Stump Fm**	**9.84**	**207**	PN	**Pn**	**15 52 14.5**	**-1.9**
MCHZ	**McNeill Hill**	**10.00**	**206**	SN	**Sn**	**15 54 12.8**	**+3.6**
KAHZ	**Kahuranaki**	**10.25**	**204**	SN	**Sn**	**15 54 15.5**	**+0.3**
BHHZ	**Black Hill Sta**	**10.29**	**208**	SN	**Sn**	**15 54 20.3**	**+4.1**
PXZ	**Pawanui**	**10.46**	**204**	SN	**Sn**	**15 54 19.9**	**-0.6**
TSZ	**Takapari Road**	**10.82**	**207**	PN	**Pn**	**15 52 26.0**	**-3.7**
TSZ				SN	**Sn**	**15 54 29.6**	**+0.5**
BFZ	**Birch Farm**	**11.25**	**204**	PN	**Pn**	**15 52 32.0**	**-3.6**
BFZ				SN	**Sn**	**15 54 37.7**	**-2.1**
MRZ	**Mangatainoka R**	**11.48**	**207**	PN	**Pn**	**15 52 34.4**	**-4.4**
MRZ				SN	**Sn**	**15 54 43.5**	**-2.0**
PAWZ	**Paruwai Farm**	**12.16**	**205**	SN	**Sn**	**15 54 59.7**	**-2.4**
PLWZ	**Palliser**	**12.39**	**205**	SN	**Sn**	**15 55 03.4**	**-4.1**
TUWZ	**Tuamarina**	**12.80**	**210**	SN	**Sn**	**15 55 14.1**	**-3.3**
NNZ	**Nelson**	**12.87**	**212**	PN	**Pn**	**15 52 52.3**	**-5.4**
NNZ				SN	**Sn**	**15 55 15.0**	**-4.3**
CTZ	**Chatham Island**	**13.20**	**177**	PN	**Pn**	**15 53 03.9**	**+1.7**
CTZ				SN	**Sn**	**15 55 20.7**	**-6.6**
MSVF	**Nonsavu**	**13.32**	**342**	*e*P	**Pn**	**15 52 57.0**	**-7.0**
	36nm,1.1s						
MSVF	**Nonsavu**	**13.32**	**342**	Pn	**Pn**	**15 52 57.6**	**-6.4**
	119nm,1.0s,SNR=7.0						
MSVF	**Nonsavu**	**13.32**	**342**	*e*P	**Pn**	**15 52 57.0**	**-7.0**
MSVF				pmax	pmax		
	comp=Z,36nm,1.1s						
THZ	**Tophouse**	**13.52**	**211**	PN	**Pn**	**15 53 02.9**	**-3.6**
THZ				SN	**Sn**	**15 55 31.4**	**-3.6**
KHZ	**Kahutara**	**13.78**	**208**	*e*P	**Pn**	**15 53 14.8**	**+4.8**
	comp=Z,66nm,0.4s						
KHZ	**Kahutara**	**13.78**	**208**	PN	**Pn**	**15 53 04.9**	**-5.2**
KHZ				SN	**Sn**	**15 55 36.9**	**-4.5**
DSZ	**Denniston Nort**	**14.03**	**214**	PN	**Pn**	**15 53 14.0**	**+0.7**
DSZ				SN	**Sn**	**15 55 39.4**	**-7.9**
LTZ	**Lake Taylor**	**14.62**	**211**	SN	**Sn**	**15 55 54.3**	**-7.5**
CRLZ	**Canterbury Las**	**15.12**	**208**	*e*PN	**Pn**	**15 53 26.1**	**-1.5**
CRLZ				*e*SN	Sx	15 56 05.3	
WVZ	**Waitaha Valley**	**15.55**	**213**	PN	**Pn**	**15 53 35.5**	**+2.4**
RPZ	**Rata Peaks**	**15.90**	**211**	P	**Pn**	**15 53 40.4**	**+2.9**
	comp=Z,6.4nm,0.3s,baz=317,slow=0.7,SNR=13						
RPZ				S	Sx	15 56 24.0	
	comp=Z,2.5nm,0.3s,baz=190,slow=17,SNR=6.4						
RPZ				LR	LR	15 59 50.5	
	comp=Z,936nm,22.0s,baz=62,slow=36						
RPZ	**Rata Peaks**	**15.90**	**211**	*e*P	**Pn**	**15 53 39.3**	**+1.8**
	comp=Z,28nm,0.5s						
RPZ				S	Sx	15 56 24.1	
FOZ	**Fox Glacier**	**16.42**	**214**	PN	**Pn**	**15 53 43.3**	**-0.8**
FOZ				*e*SN	Sx	15 56 32.6	
DZM	**Mont Dzumac**	**16.52**	**297**	*e*P	**Pn**	**15 53 46.6**	**+1.1**
	comp=Z,112nm,1.1s						
DZM				*e*LR	LR	15 57 45.0	
	comp=Z,3μm,25.1s						
DZM	**Mont Dzumac**	**16.52**	**297**	*e*P	**Pn**	**15 53 49.3**	**+3.8**
NOUC	**Port Laguerre**	**16.61**	**297**	*e*P	**Pn**	**15 53 49.4**	**+2.7**
LBZ	**Lake Benmore**	**16.82**	**211**	PN	**Pn**	**15 53 51.2**	**+2.1**
ODZ	**Otahua Downs**	**17.14**	**209**	*e*P	**Pn**	**15 53 55.7**	**+2.6**
ODZ	**Otahua Downs**	**17.14**	**209**	PN	**Pn**	**15 53 53.5**	**+0.5**
ODZ				SN	Sx	15 56 52.3	
JCZ	**Jackson Bay**	**17.25**	**215**	PN	**Pn**	**15 53 55.5**	**+1.1**
AFI	**Afiamalu**	**17.43**	**20**	P	**Pn**	**15 53 52.4**	**-4.3**
	comp=Z,1.4nm,0.3s,baz=212,slow=22,SNR=2.2						
AFI	**Afiamalu**	**17.43**	**20**	P	**Pn**	**15 53 52.4**	**-4.3**
AFI	**Afiamalu**	**17.43**	**20**	P	**Pn**	**15 53 52.4**	**-4.4**
WKZ	**Wanaka**	**17.69**	**213**	PN	**Pn**	**15 53 59.2**	**-0.6**
RAR	**Rarotonga**	**18.59**	**64**	P	**Pn**	**15 54 07.1**	**-3.8**
	comp=Z,1.8nm,0.3s,baz=164,slow=8.5,SNR=1.9						
RAR	**Rarotonga**	**18.59**	**64**	P	**Pn**	**15 54 07.1**	**-3.8**
RAR	**Rarotonga**	**18.59**	**64**	P	**Pn**	**15 54 07.1**	**-3.9**
TBI	**Tubuai**	**26.12**	**81**	*e*LR	LR	16 01 50.0	
	comp=Z,1μm,26.8s,baz=244						
ARMA	**Armidale**	**26.40**	**262**	*e*P	**P**	**15 55 32.3**	**+3.6**
ARMA	**Armidale**	**26.40**	**262**	*e*P	**P**	**15 55 32.0**	**+3.4**
	comp=Z,28nm,1.1s,mb4.7						
MGCD	**Mangrove Creek**	**26.57**	**256**	*e*P	**P**	**15 55 34.2**	**+4.0**
	comp=Z,69nm,1.0s,mb5.1						
CNB	**Canberra Magne**	**27.98**	**251**	*e*P	**P**	**15 55 46.1**	**+3.3**
	comp=Z,127nm,0.9s,mb5.5						
EIDS	**Eidsvold**	**28.00**	**273**	*e*P	**P**	**15 55 43.5**	**+0.4**
	comp=Z,47nm,1.2s,mb5.0						
CAN	**Canberra**	**28.28**	**251**	*e*P	**P**	**15 55 48.0**	**+2.6**
	comp=Z,38nm,0.9s,mb5.0						
CAN	**Canberra**	**28.28**	**251**	*e*P	**P**	**15 55 48.0**	**+2.5**
CAN				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.0						
PPT	**Papeete**	**28.65**	**70**	*e*S	**S**	**16 00 29.4**	**-4.2**
	comp=Z,203nm,26.5s						
PPT				*e*LR	LR	16 02 55.0	
	comp=Z,1μm,26.2s,baz=230						
YNG	**Young**	**28.79**	**254**	*e*P	**P**	**15 55 53.6**	**+3.6**
	comp=Z,20nm,0.8s,mb4.9						
HNR	**Honiara**	**29.59**	**311**	LR	LR	16 05 20.4	
	comp=Z,489nm,18.9s,MS4.2,baz=26,slow=32						
RMQ	**Roma**	**29.69**	**269**	*e*P	**P**	**15 56 00.3**	**+2.2**
	comp=Z,57nm,0.9s,mb5.3						
TOO	**Toolangi**	**31.15**	**247**	*e*P	**P**	**15 56 13.7**	**+2.8**
	comp=Z,65nm,1.0s,mb5.4						
CTA	**Charters Tower**	**34.08**	**279**	P	**P**	**15 56 37.3**	**+0.6**
	comp=Z,72nm,0.7s,mb5.7,baz=100,slow=11,SNR=74						
CTA				LR	LR	16 09 06.2	
	comp=Z,715nm,18.4s,MS4.4,baz=93,slow=34						
CTA	**Charters Tower**	**34.08**	**279**	*e*P	**P**	**15 56 37.7**	**+1.1**
	comp=Z,76nm,1.0s,mb5.6						
CTA	**Charters Tower**	**34.08**	**279**	P	**P**	**15 56 37.3**	**+0.7**
CTA	**Charters Tower**	**34.08**	**279**	P	**P**	**15 56 37.3**	**+0.7**
CTAO	**Charters Tower**	**34.08**	**279**	*e*P	**P**	**15 56 36.8**	**+0.1**
	comp=Z,92nm,0.9s,mb5.7						
CTAO	**Charters Tower**	**34.08**	**279**	*e*P	**P**	**15 56 36.8**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,92nm,0.9s,mb5.7						
CTAO	**Charters Tower**	**34.08**	**279**	P	**P**	**15 56 36.9**	**+0.3**
	comp=Z,1μmcomp=Z,99nm,0.9s,mb5.7						
STKA	**Stephens Creek**	**34.70**	**257**	P	**P**	**15 56 44.3**	**+2.4**
	comp=Z,37nm,0.8s,mb5.4,baz=98,slow=10,SNR=156						
STKA				LR	LR	16 10 02.5	
	comp=Z,710nm,18.5s,MS4.4,baz=282,slow=35						
STKA	**Stephens Creek**	**34.70**	**257**	*e*P	**P**	**15 56 44.0**	**+2.1**
	comp=Z,17nm,0.4s,mb5.3						
STKA	**Stephens Creek**	**34.70**	**257**	*e*P	**P**	**15 56 44.2**	**+2.3**
	comp=Z,8.4nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**34.70**	**257**	*e*P	**P**	**15 56 44.2**	**+2.3**
STKA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RKT	**Rikitea**	**38.66**	**90**	*e*LR	LR	16 07 40.6	
	comp=Z,776nm,29.2s,baz=260						
PMG	**Port Moresby**	**38.90**	**295**	P	**P**	**15 57 18.6**	**+0.8**
	comp=Z,5.2nm,0.5s,mb4.5,baz=177,slow=6.1,SNR=4.5						
PMG	**Port Moresby**	**38.90**	**295**	P	**P**	**15 57 18.6**	**+0.8**
PMG	**Port Moresby**	**38.90**	**295**	*ce*P	**P**	**15 57 15.7**	**-2.1**
PMG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BBOO	**Buckleboo**	**39.18**	**254**	*e*P	**P**	**15 57 19.8**	**-0.2**
	comp=Z,406nm,0.8s,mb6.2						
COEN	**Coen**	**39.56**	**286**	*e*P	**P**	**15 57 22.8**	**-0.4**
	comp=Z,53nm,0.9s,mb5.3						
TAOE	**Nuku Hiva Isla**	**41.12**	**66**	*e*LR	LR	16 08 32.3	
	comp=Z,782nm,28.9s						
AS31	**Alice Springs**	**43.36**	**267**	*e*P	**P**	**15 57 53.5**	**-0.8**
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**15 57 54.2**	**-0.1**
	comp=Z,9.6nm,0.4s,mb4.9,baz=105,slow=7.3,SNR=193						
ASAR				ScP	ScP	16 03 31.1	+2.6
	comp=Z,0.8nm,0.6s,baz=115,slow=3.5,SNR=3.2						
ASAR				S	**S**	**16 04 21.8**	**+3.7**
	comp=Z,0.5nm,0.9s,baz=116,slow=14,SNR=4.3						
ASAR				PKiKP	PKiKP	16 06 43.5	-1.3
	comp=Z,0.2nm,0.7s,baz=113,slow=1.7,SNR=3.7						
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**15 57 54.2**	**-0.1**
ASAR				ScP	ScP	16 03 31.1	+2.6
ASAR				S	**S**	**16 04 21.8**	**+3.7**
ASAR				PKiKP	PKiKP	16 06 43.5	-1.3
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**15 57 54.2**	**-0.1**
ASAR				S	**S**	**16 04 21.8**	**+3.7**
WB2	**Warramunga Arr**	**44.35**	**272**	*e*P	**P**	**15 58 00.9**	**-1.4**
WRAB	**Tennant Creek**	**44.36**	**272**	*e*P	**P**	**15 58 01.1**	**-1.3**
	comp=Z,75nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**44.36**	**272**	P	**P**	**15 58 01.4**	**-1.0**
	comp=Z,586nm,1.1s,mb6.2,SNR=35						
WRAB	**Tennant Creek**	**44.36**	**272**	*e*P	**P**	**15 58 01.1**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,75nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**44.36**	**272**	P	**P**	**15 58 01.4**	**-1.0**
	comp=Z,135nm,0.9s,mb5.7						
WRA	**Warramunga Arr**	**44.36**	**272**	P	**P**	**15 58 02.5**	**+0.1**
	comp=Z,35nm,0.4s,mb5.5,baz=110,slow=8.0,SNR=299						
WRA				ScP	ScP	16 03 37.0	+4.4
	comp=Z,1.7nm,0.6s,baz=104,slow=3.9,SNR=11						
WRA				PKiKP	PKiKP	16 06 45.1	-0.7
	comp=Z,0.4nm,0.7s,baz=104,slow=0.5,SNR=3.8						
WRA				LR	LR	16 14 52.0	
	comp=Z,400nm,20.1s,MS4.3,baz=80,slow=34						
WRA	**Warramunga Arr**	**44.36**	**272**	P	**P**	**15 58 02.5**	**+0.1**
WRA				ScP	ScP	16 03 37.0	+4.4
WRA				PKiKP	PKiKP	16 06 45.1	-0.7
WRA	**Warramunga Arr**	**44.36**	**272**	P	**P**	**15 58 02.5**	**+0.1**
SBA	**Scott Base**	**47.92**	**184**	*e*P	**P**	**15 58 37.0**	**+7.4**
	comp=Z,64nm,1.4s,mb5.6						
SBA	**Scott Base**	**47.92**	**184**	*e*P	**P**	**15 58 37.0**	**+7.4**
SBA				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.5						
FITZ	**Fitzroy Crossi**	**52.62**	**270**	P	**P**	**15 59 05.9**	**0.0**
FITZ				LR	LR	16 20 02.8	
	comp=Z,248nm,19.3s,MS4.3,baz=181,slow=34						
FITZ	**Fitzroy Crossi**	**52.62**	**270**	*e*P	**P**	**15 59 05.5**	**-0.4**
	comp=Z,26nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**52.62**	**270**	*e*P	**P**	**15 59 05.4**	**-0.6**
	comp=Z,18nm,0.9s,mb5.0						
CASY	**Casey**	**55.14**	**208**	*e*P	**P**	**15 59 26.4**	**+2.8**
	comp=Z,26nm,0.8s,mb5.3						
GUMO	**Guam**	**56.76**	**315**	LR	LR	16 18 58.8	
	comp=Z,447nm,21.8s,MS4.5,baz=136,slow=31						
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P**	**16 00 00.5**	**+5.9**
	comp=Z,26nm,1.0s,mb5.2						
QSPA	**South Pole Qui**	**59.57**	**180**	*e*P	**P**	**15 59 59.6**	**+5.0**
	comp=Z,41nm,0.9s,mb5.5						
KAPI	**Kappang**	**63.89**	**280**	P	**P**	**16 00 23.2**	**-1.5**
	comp=Z,6.6nm,0.7s,mb4.8						
KAPI				LR	LR	16 26

HABR	**Khabarovsk**	**89.29**	**331**	*e*P	**P**	**16 02 43.3**	**-3.7**
HABR				*e**PP	pP	16 02 53.8	-10
HABR				*e**SP	sP	16 02 58.1	-12
HABR				*e*		16 06 11.5	
HABR				*e*S	S	16 13 09.7	-22
HABR				*e*		16 13 33.1	
HABR				*e*SS	SS	16 19 21.5	-6.7
HABR				*e*SSS		16 22 57.1	
HABR				pmax	pmax		
	comp=E,29nm,2.0s						
HABR				pmax	pmax		
	comp=N,23nm,2.1s						
HABR				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.2						
HABR				MLR	MLR		
	comp=Z,57nm,19.0s,MS4.0						
CN2	**Changchun**	**90.41**	**323**	*e*P	**P**	**16 02 50.4**	**-2.0**
CN2				*e*pP	pP	16 03 07.5	-1.6
CN2				*e*sP	sP	16 03 14.2	-1.3
CN2				*e*S	S	16 13 36.2	-6.1
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
CN2				LR	LR		
	comp=Z,200nm,10.0s,MS4.8						
KDAK	**Kodiak Island**	**90.48**	**13**	LR	LR	16 34 17.9	
	comp=Z,161nm,20.3s,MS4.5,baz=248,slow=30						
WUAZ	**Wupatki**	**90.56**	**48**	*e*P	**P**	**16 02 54.4**	**+1.1**
	comp=Z,21nm,1.2s,mb5.3						
WVOR	**Wild Horse Val**	**90.66**	**39**	*e*P	**P**	**16 02 53.6**	**+0.1**
	comp=Z,12nm,1.6s,mb5.0						
WVOR	**Wild Horse Val**	**90.66**	**39**	*e*P	**P**	**16 02 53.7**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,12nm,1.6s,mb5.0						
KLR	**Kul'dur**	**91.28**	**330**	*e*P	**P**	**16 02 51.0**	**-5.3**
GYA	**Guiyang**	**91.84**	**300**	P	**P**	**16 02 59.0**	**-0.5**
GYA				sP	sP	16 03 23.6	+1.0
GYA				PP	PP	16 06 42.1	+2.5
GYA				SKS		16 13 25.7	
GYA				S	S	16 13 51.8	-4.4
GYA				SS	SS	16 20 03.2	-2.7
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.4						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,590nm,20.0s,MS5.1						
GYA				LR	LR		
	comp=E,490nm,21.7s,MS5.1						
GYA				LR	LR		
	comp=Z,470nm,20.8s,MS4.9						
TXAR	**Lajitas Array**	**92.24**	**57**	P	**P**	**16 03 02.2**	**+0.9**
	comp=Z,1.3nm,1.0s,mb4.2,baz=212,slow=6.1,SNR=8.1						
TXAR				LR	LR	16 39 16.3	
	comp=Z,81nm,19.2s,MS4.2,baz=75,slow=32						
TXAR	**Lajitas Array**	**92.24**	**57**	P	**P**	**16 03 02.2**	**+0.9**
TXAR	**Lajitas Array**	**92.24**	**57**	P	**P**	**16 03 02.2**	**+0.9**
SLKM	**Skilak Lake**	**93.47**	**13**	*e*P	**P**	**16 03 04.9**	**-1.2**
SLKM	**Skilak Lake**	**93.47**	**13**	*e*P	**P**	**16 03 04.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**93.69**	**289**	P	**P**	**16 03 08.6**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.5,baz=145,slow=3.2,SNR=14						
CMAR	**Chiang Mai Arr**	**93.69**	**289**	P	**P**	**16 03 08.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**93.69**	**289**	P	**P**	**16 03 08.6**	**+0.4**
HLID	**Hailey**	**93.74**	**41**	*e*P	**P**	**16 03 08.4**	**+0.6**
	comp=Z,3.2nm,0.9s,mb4.8						
KMI	**Kunming**	**94.11**	**297**	P	**P**	**16 03 11.5**	**+1.5**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb5.1						
KMI	**Kunming**	**94.11**	**297**	P	**P**	**16 03 11.5**	**+1.5**
	comp=Z,4.0nm,0.5s,mb5.1						
KMI	**Kunming**	**94.11**	**297**	P	**P**	**16 03 11.5**	**+1.5**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb5.1						
PDAR	**Pinedale Array**	**96.05**	**43**	P	**P**	**16 03 18.2**	**-0.2**
	comp=Z,0.6nm,0.7s,mb4.1,baz=227,slow=5.0,SNR=5.6						
PDAR				LR	LR	16 37 14.3	
	comp=Z,144nm,20.1s,MS4.5,baz=265,slow=30						
PDAR	**Pinedale Array**	**96.05**	**43**	P	**P**	**16 03 18.2**	**-0.2**
TNA	**Tin City**	**96.08**	**4**	*e*P	**P**	**16 03 16.8**	**-1.2**
	comp=Z,12nm,1.2s,mb5.2						
TRF	**Thorofare Moun**	**96.17**	**12**	*e*P	**P**	**16 03 16.7**	**-1.8**
	comp=Z,4.4nm,0.8s,mb4.9						
CD2	**Chengdu**	**96.38**	**302**	*e*P	**P**	**16 03 18.8**	**-1.4**
CD2				pP	pP	16 03 36.0	-1.0
CD2				sP	sP	16 03 42.7	-0.7
CD2				PP	PP	16 07 14.2	-0.7
CD2				SKS		16 13 48.6	
CD2				S	S	16 14 29.1	-6.7
CD2				sS	sS	16 14 58.7	-5.6
CD2				SS	SS	16 21 05.0	-5.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				pmax	pmax		
	comp=Z,30nm,6.8s						
CD2				LR	LR		
	comp=E,220nm,13.2s						
CD2				LR	LR		
	comp=Z,160nm,14.4s,MS4.6						
HHC	**Hu-ho-hao-te**	**96.52**	**314**	*e*P	**P**	**16 03 22.4**	**+1.8**
HHC				pP	pP	16 03 33.3	-4.0
HHC				PP	PP	16 07 19.3	+3.5
HHC				S	S	16 14 38.3	+1.8
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb5.1						
HHC				pmax	pmax		
	comp=Z,160nm,4.4s						
HHC				LR	LR		
	comp=N,210nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=E,200nm,16.6s,MS4.8						
HHC				LR	LR		
	comp=Z,210nm,19.0s,MS4.6						
LPAZ	**La Paz**	**97.85**	**114**	LR	LR	16 38 41.0	
	comp=Z,51nm,21.8s,MS4.0,baz=128,slow=30						
ILAR	**Eielson Array**	**98.00**	**13**	P	**P**	**16 03 24.6**	**-2.1**
	comp=Z,0.8nm,0.9s,mb4.2,baz=223,slow=5.0,SNR=7.7						
ILAR				PP	PP	16 07 20.0	-6.6
	comp=Z,0.5nm,0.9s,baz=173,slow=16,SNR=3.1						
ILAR	**Eielson Array**	**98.00**	**13**	P	**P**	**16 03 24.6**	**-2.1**
ILAR				PP	PP	16 07 20.0	-6.6
ILAR	**Eielson Array**	**98.00**	**13**	P	**P**	**16 03 24.6**	**-2.1**
ILAR						16 07 20.0	
LZH	**Lanzhou**	**99.01**	**307**	*e*P	**P**	**16 03 32.1**	**+0.2**
LZH				pP	pP	16 03 49.0	+0.3
LZH				sP	sP	16 03 55.8	+0.7
LZH				*e*PP	PP	16 07 36.2	+1.1
LZH				SKS		16 14 03.5	
LZH				*e*S	S	16 14 53.5	-4.5
LZH				sS	sS	16 15 22.3	-4.2
LZH				pmax	pmax		
	comp=Z,19nm,1.5s,mb5.4						
LZH				pmax	pmax		
	comp=Z,100nm,8.6s						
LZH				LR	LR		
	comp=N,240nm,16.3s,MS4.9						
LZH				LR	LR		
	comp=E,200nm,16.5s,MS4.9						
LZH				LR	LR		
	comp=Z,370nm,19.2s,MS4.9						
LZH	**Lanzhou**	**99.01**	**307**	*e*P	**P**	**16 03 32.1**	**+0.2**
	comp=Z,19nm,1.5s,mb5.4						
LZH				pP	pP	16 03 49.0	+0.3
LZH				sP	sP	16 03 55.8	+0.7
LZH				*e*PP	PP	16 07 36.2	+1.1
LZH				SKS		16 14 03.5	
LZH				*e*S	S	16 14 53.5	-4.5
LZH				sS	sS	16 15 22.3	-4.2
LZH				LR	LR		
	comp=Z,370nm,19.2s,MS4.9						
LZH	**Lanzhou**	**99.01**	**307**	*e*P	**P**	**16 03 32.1**	**+0.2**
LZH				*PP	pP	16 03 49.0	+0.3
LZH				*e*		16 07 36.2	
LZH						16 14 03.5	
LZH				*e*S	S	16 14 53.5	-4.5
LZH				pmax	pmax		
	comp=Z,19nm,1.5s,mb5.4						
LZH				MLR	MLR		
	comp=Z,370nm,19.2s,MS4.9						
SONM	**Songino Array**	**103.42**	**318**	Pdiff	Pdif	16 03 51.1	-0.4
	comp=Z,0.1nm,0.4s,baz=135,slow=52,SNR=1.7						
SONM	**Songino Array**	**103.42**	**318**	Pdif	Pdif	16 03 51.1	-0.4
SONM	**Songino Array**	**103.42**	**318**	P	Pdif	16 03 51.1	-0.4
YKA	**Yellowknife Ar**	**105.45**	**25**	PKKPbc	PKKPbc	16 19 39.9	-0.3
	comp=Z,0.9nm,0.7s,baz=32,slow=3.2,SNR=5.5						
YKA	**Yellowknife Ar**	**105.45**	**25**	PKKPbc	PKKPbc	16 19 39.9	-0.3
WMQ	**Urumqi**	**113.51**	**308**	*e*PKP	PKiKP	16 08 29.9	+1.0
BOSA	**Boshof**	**117.24**	**203**	PKP	PKPdf	16 08 38.5	+1.8
	comp=Z,2.1nm,0.9s,baz=303,slow=3.9,SNR=5.2						
BOSA	**Boshof**	**117.24**	**203**	PKP	PKPdf	16 08 38.5	+1.8
BOSA	**Boshof**	**117.24**	**203**	PKIKP	PKPdf	16 08 38.5	+1.8
MK31	**Makanchi Array**	**118.06**	**310**	*e*PKPdf	PKPdf	16 08 36.0	-1.5
MK31	**Makanchi Array**	**118.06**	**310**	*i* PKIKP	PKPdf	16 08 35.7	-1.8
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**118.06**	**310**	PKP	PKPdf	16 08 36.0	-1.6
	comp=Z,1.9nm,0.6s,baz=208,slow=1.1,SNR=19						
MKAR	**Makanchi Array**	**118.06**	**310**	PKP	PKPdf	16 08 36.0	-1.6
MKAR	**Makanchi Array**	**118.06**	**310**	PKIKP	PKPdf	16 08 36.0	-1.5
ZALV	**Zalesovo Beam**	**118.31**	**318**	PKP	PKPdf	16 08 35.9	-1.9
	comp=Z,1.2nm,0.5s,baz=154,slow=1.5,SNR=7.7						
ZALV	**Zalesovo Beam**	**118.31**	**318**	PKP	PKPdf	16 08 35.9	-1.8
ZALV	**Zalesovo Beam**	**118.31**	**318**	PKIKP	PKPdf	16 08 35.9	-1.9
NVS	**Novosibirsk**	**119.41**	**319**	*e*PKIKP	PKPdf	16 08 37.8	-2.1
KSH	**Kashi**	**120.53**	**300**	PKP	PKPdf	16 08 42.8	+0.3
KSH				PKS		16 12 18.4	
KSH				SKS	SKSdf	16 15 50.2	+0.7
KSH				SKKS	SKKSac	16 16 54.7	-10
KSH				AMB	AMB		
	comp=Z,130nm,4.8s						
KSH				LR	LR		
	comp=N,99nm,7.1s						
KSH				LR	LR		
	comp=E,94nm,6.0s						
KSH				LR	LR		
	comp=Z,180nm,6.0s						
KURK	**Kurchatov**	**121.33**	**314**	PKP	PKPdf	16 08 42.6	-1.0
	comp=Z,5.6nm,0.6s,baz=110,slow=1.8,SNR=50						
KURK	**Kurchatov**	**121.33**	**314**	*e*PKPdf	PKPdf	16 08 41.9	-1.8
KURK				PKP	PKPdf	16 08 42.6	-1.0
KURK	**Kurchatov**	**121.33**	**314**	*c i* PKIKP	PKPdf	16 08 41.7	-2.0
KURK				pmax	pmax		
	comp=Z,14nm,1.2s						
KZA	**Kyzart**	**121.73**	**303**	P	PKPdf	16 08 45.3	+0.5
	SNR=10						
KZA				P		16 08 45.3	
	SNR=10						
KBK	**Karagaybulak**	**122.08**	**304**	P	PKPdf	16 08 45.4	-0.1
	SNR=6.2						
KBK				P		16 08 45.4	
	SNR=6.2						
CHMS	**Chumysh**	**122.30**	**304**	P	PKPdf	16 08 44.9	-1.0
	SNR=6.9						
CHMS				P		16 08 44.9	
	SNR=6.9						
AAK	**Ala-Archa**	**122.40**	**304**	*e*PKPdf	PKPdf	16 08 44.1	-2.0
AAK	**Ala-Archa**	**122.40**	**304**	*c i* PKIKP	PKPdf	16 08 44.3	-1.7
AAK				pmax	pmax		
	comp=Z,18nm,1.2s						
AML	**Almayashu**	**122.86**	**303**	P	PKPdf	16 08 47.1	+0.1
	SNR=17						
AML				P		16 08 47.1	
	SNR=17						
EKS2	**Erkin-Say**	**122.92**	**304**	P	PKPdf	16 08 46.7	-0.3
	SNR=9.9						
EKS2				P		16 08 46.7	
	SNR=9.9						
EKS2	**Erkin-Say**	**122.92**	**304**	*e*PKPdf	PKPdf	16 08 46.8	-0.3
EKS2	**Erkin-Say**	**122.92**	**304**	*e*PKIKP	PKPdf	16 08 46.8	-0.2
KBL	**Kabul**	**124.51**	**293**	*e*PKPdf	PKPdf	16 08 49.7	-0.6
KBL	**Kabul**	**124.51**	**293**	*e*PKIKP	PKPdf	16 08 49.7	-0.6
KK31	**Karatay Array**	**125.36**	**303**	*i* PKIKP	PKPdf	16 08 50.6	-1.1
KK31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	**Karatay Array**	**125.36**	**303**	*e*PKPdf	PKPdf	16 08 50.8	-0.9
KKAR	**Karatay Array**	**125.36**	**303**	*e*PKIKP	PKPdf	16 08 50.8	-0.9
VOSK	**Vostochnaya**	**126.31**	**315**	PKIKP	PKPdf	16 08 51.5	-1.7
VOSK				pmax	pmax		
	comp=Z,13nm,0.9s						
BVA0	**Borovoye Array**	**126.68**	**316**	*i* PKIKP	PKPdf	16 08 53.0	-0.9
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**126.68**	**316**	PKP	PKPdf	16 08 53.6	-0.3
	comp=Z,5.5nm,0.5s,baz=131,slow=1.4,SNR=55						
BVAR	**Borovoye Array**	**126.68**	**316**	PKP	PKPdf	16 08 53.6	-0.3
BVAR	**Borovoye Array**	**126.68**	**316**	PKIKP	PKPdf	16 08 53.6	-0.3
BRVK	**Borovoye**	**126.75**	**316**	*e*PKPdf	PKPdf	16 08 52.9	-1.1
BRVK	**Borovoye**	**126.75**	**316**	PKIKP	PKPdf	16 08 52.7	-1.3
BRVK				pmax	pmax		
	comp=Z,18nm,1.0s						
ZRNK	**Zerenda**	**127.52**	**316**	PKIKP	PKPdf	16 08 54.1	-1.4
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LSZ	**Lusaka**	**128.08**	**212**	PKPdf	PKPdf	16 08 58.9	+1.1
LSZ	**Lusaka**	**128.08**	**212**	PKIKP	PKPdf	16 08 58.9	+1.1
SPITS	**Spitsbergen Ar**	**131.86**	**356**	PKP	PKPdf	16 09 03.3	+0.2
	comp=Z,10.0nm,1.0s,baz=81,slow=5.5,SNR=2.4						
SPITS	**Spitsbergen Ar**	**131.86**	**356**	PKP	PKPdf	16 09 03.3	+0.2
SPITS	**Spitsbergen Ar**	**131.86**	**356**	PKIKP	PKPdf	16 09 03.3	+0.2
AB31	**Akbulak array**	**133.19**	**311**	*i* PKIKP	PKPdf	16 09 09.8	+3.4
ABKAR	**Akbulak array**	**133.19**	**311**	*e*PKPdf	PKPdf	16 09 06.4	0.0
ARU	**Arti**	**133.36**	**321**	*e*PKPdf	PKPdf	16 09 05.6	-0.9
ARU	**Arti**	**133.36**	**321**	*i* PKIKP	PKPdf	16 09 05.6	-0.9
ARU						16 11 28.8	
ARU				SS	SS	16 29 06.2	-8.6
KMBO	**Kilima Mbogo**	**134.20**	**233**	PKPdf	PKPdf	16 09 11.5	+2.0
KMBO	**Kilima Mbogo**	**134.20**	**233**	PKIKP	PKPdf	16 09 11.5	+2.0
AKTO	**Aktyubinsk**	**134.38**	**312**	PKP	PKPdf	16 09 08.0	-0.6
	comp=Z,3.1nm,0.6s,baz=84,slow=4.3,SNR=13						
AKTO	**Aktyubinsk**	**134.38**	**312**	PKP	PKPdf	16 09 08.0	-0.6
AKTO	**Aktyubinsk**	**134.38**	**312**	PKIKP	PKPdf	16 09 07.1	-1.5
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ARCES	**ARCESS Array B**	**138.78**	**348**	PKhKP	PKPpre	16 09 07.4	
	comp=Z,1.6nm,0.7s,baz=90,slow=1.2,SNR=6.8						
ARCES				PKP	PKPdf	16 09 15.1	-1.1
	comp=Z,1.6nm,0.5s,baz=81,slow=1.5,SNR=9.5						
ARCES	**ARCESS Array B**	**138.78**	**348**	PKPpre	PKPpre	16 09 07.4	
ARCES				PKP	PKPdf	16 09 15.1	-1.1
ARCES	**ARCESS Array B**	**138.78**	**348**	PKHKP	PKPpre	16 09 07.4	
ARCES						16 09 15.1	
AREO	**ARCESS Array S**	**138.78**	**348**	*e*P	PKPdf	16 09 13.7	-2.5
KTK1	**Kautokeino**	**139.63**	**349**	*e*P	PKPdf	16 09 19.9	+2.1
TRO	**Tromso**	**139.73**	**351**	*e*P	PKPdf	16 09 13.5	-4.4
JOF	**Joensuu**	**142.64**	**339**	*e*PKHKP	PKPpre	16 09 17.0	
JOF	**Joensuu**	**142.64**	**339**	*e*pkp	PKPpre	16 09 17.0	
GNI	**Garni**	**144.37**	**297**	PKP	PKPdf	16 09 27.1	+0.1
	comp=Z,1.5nm,0.3s,baz=139,slow=13,SNR=3.4						
GNI	**Garni**	**144.37**	**297**	*e*PKP	PKPdf	16 09 25.6	-1.5
GNI				PKP	PKPdf	16 09 27.1	+0.1
GNI	**Garni**	**144.37**	**297**	*e*PKIKP	PKPdf	16 09 25.6	-1.5
KAF	**Kangasniemi**	**144.76**	**341**	*e*PKHKP	PKPpre	16 09 22.8	
KAF	**Kangasniemi**	**144.76**	**341**	*e*pkp	PKPdf	16 09 22.8	-4.2
FINES	**FINESS Array B**	**145.36**	**340**	PKP	PKPdf	16 09 25.9	-2.2
	comp=Z,36nm,0.5s,baz=61,slow=3.9,SNR=231						
FINES	**FINESS Array B**	**145.36**	**340**	PKP	PKPdf	16 09 25.9	-2.2
FINES	**FINESS Array B**	**145.36**	**340**	PKIKP	PKPdf	16 09 25.9	-2.2
OBN	**Obninsk**	**145.43**	**325**	*e*PKP	PKPdf	16 09 26.9	-1.5
OBN	**Obninsk**	**145.43**	**325**	⇓*i* PKIKP	PKPdf	16 09 26.7	-1.7
OBN				*e*		16 16 37.2	
OBN				pmax	pmax		
	comp=Z,29nm,1.1s						
NSS	**Namsos**	**145.45**	**353**	*e*P	PKPdf	16 09 25.2	-3.0
KIV	**Kislovodsk**	**145.52**	**304**	*e*PKP	PKPdf	16 09 27.4	-1.6
KIV	**Kislovodsk**	**145.52**	**304**	*e*PKP2	PKPab	16 09 28.0	-1.5
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
VSR	**Storozhevoye**	**145.81**	**318**	*e*PKP2	PKPab	16 09 27.7	-2.6
VSR				pmax	pmax		
	comp=Z,30nm,0.9s						
VSR				pmax	pmax		
	comp=N,8.0nm,1.2s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.4s						
FOO	**Floro**	**148.88**	**357**	*e*P	PKPbc	16 09 39.0	+1.0
NB2	**NORSAR Subarra**	**148.93**	**352**	PKP	PKPdf	16 09 37.0	+2.9
	comp=Z,23nm,0.8s,baz=16,slow=2.8						
NB2	**NORSAR Subarra**	**148.93**	**352**	PKP	PKPbc	16 09 37.0	-1.1
	baz=16,slow=2.8						
NOA	**NORSAR Array B**	**148.93**	**352**	PKPbc	PKPbc	16 09 36.5	-1.6
	comp=Z,16nm,0.9s,baz=14,slow=4.3,SNR=29						
NOA	**NORSAR Array B**	**148.93**	**352**	PKPbc	PKPbc	16 09 36.5	-1.6
NOA	**NORSAR Array B**	**148.93**	**352**	PKIKP	PKPbc	16 09 36.5	-1.6
ANN	**Anapa**	**149.02**	**307**	*i* PKP2	PKPbc	16 09 38.1	-0.8
ANN				pmax	pmax		
	comp=Z,69nm,1.1s						
NAO01	**NORSAR Array S**	**149.16**	**352**	*e*PKPbc	PKPbc	16 09 37.9	-0.7
NC602	**NORSAR Array S**	**149.18**	**351**	*e*P	PKPbc	16 09 37.5	-1.2
HFS	**Hagfors**	**149.43**	**349**	PKPbc	PKPbc	16 09 38.1	-1.3
	comp=Z,22nm,0.9s,baz=76,slow=0.6,SNR=30						
HFS	**Hagfors**	**149.43**	**349**	PKPbc	PKPbc	16 09 38.1	-1.3
HFS	**Hagfors**	**149.43**	**349**	PKP2	PKPbc	16 09 38.1	-1.3
IZAR	**Zarasai**	**149.64**	**333**	*e*P	PKPbc	16 09 39.2	-0.8
IZAR				AMB	AMB	16 09 44.4	
	comp=Z,21nm,1.1s						
ISAL	**Salakas**	**149.81**	**333**	*e*P	PKPbc	16 09 39.5	-0.9
ISAL				AMB	AMB	16 09 44.1	
	comp=Z,14nm,1.8s						
IIGN	**Ignalina**	**149.93**	**332**	*e*P	PKPbc	16 09 39.9	-0.9
IIGN				AMB	AMB	16 09 41.7	
	comp=Z,14nm,1.1s						
KONO	**Kongsberg**	**150.47**	**352**	*e*P	PKPbc	16 09 41.5	-0.4
KONO	**Kongsberg**	**150.47**	**352**	*e*PKPbc	PKPbc	16 09 40.9	-1.0
KONO	**Kongsberg**	**150.47**	**352**	*e*PKHKP	PKPbc	16 09 40.9	-1.0
ODD1	**Odda**	**150.48**	**356**	*e*P	PKPbc	16 09 41.2	-0.7
ASF	**Jabal al Asfar**	**150.48**	**282**	PKPbc	PKPbc	16 09 43.7	+0.9
	comp=Z,5.0nm,0.7s,baz=16,slow=5.7,SNR=8.6						
ASF	**Jabal al Asfar**	**150.48**	**282**	PKPbc	PKPbc	16 09 43.7	+0.9
ASF	**Jabal al Asfar**	**150.48**	**282**	PKIKP	PKPbc	16 09 43.7	+0.8
SIM	**Simferopol'**	**151.23**	**309**	*d i* PKIKP	PKPbc	16 09 44.2	0.0
SIM				*e*		16 09 56.0	
SIM				pmax	pmax		
	comp=Z,27nm,0.9s						
AKASG	**Malin Array Be**	**151.57**	**323**	PKPbc	PKPbc	16 09 43.9	-0.9
	comp=Z,17nm,0.6s,baz=48,slow=3.0,SNR=42						
AKASG	**Malin Array Be**	**151.57**	**323**	PKPbc	PKPbc	16 09 43.9	-0.9
AKASG	**Malin Array Be**	**151.57**	**323**	PKIKP	PKPbc	16 09 43.9	-0.9
AKBB	**Malin Array Si**	**151.57**	**323**	*e*PKPbc	PKPbc	16 09 43.6	-1.1
AKBB	**Malin Array Si**	**151.57**	**323**	*e*PKIKP	PKPbc	16 09 43.7	-1.1
KIEV	**Kiev**	**151.58**	**323**	*e*PKPbc	PKPbc	16 09 43.7	-1.1
KIEV	**Kiev**	**151.58**	**323**	*e*PKIKP	PKPbc	16 09 43.7	-1.1
EIL	**Elat**	**151.79**	**277**	PKPbc	PKPbc	16 09 46.5	+0.5
	comp=Z,20nm,0.8s,baz=130,slow=2.8,SNR=10						
EIL	**Elat**	**151.79**	**277**	PKPbc	PKPbc	16 09 46.5	+0.5
MMAI	**Mount Meron Ar**	**151.81**	**284**	PKPbc	PKPbc	16 09 47.0	+1.0
	comp=Z,26nm,0.7s,baz=75,slow=6.4,SNR=19						
MMAI	**Mount Meron Ar**	**151.81**	**284**	PKPbc	PKPbc	16 09 47.0	+1.0
SNART	**Snartemo**	**152.00**	**354**	*e*P	PKPbc	16 09 44.9	-0.6
SUW	**Suwalki**	**152.12**	**333**	*e*PKPbc	PKPbc	16 09 45.0	-0.9
SUW	**Suwalki**	**152.12**	**333**	*e*PKIKP	PKPbc	16 09 45.0	-0.9
BR131	**Keskin Array S**	**152.89**	**298**	*e*PKPbc	PKPbc	16 09 47.4	-0.8
BRTR	**Keskin Array B**	**152.89**	**298**	PKP	PKPdf	16 09 40.8	-0.1
	comp=Z,1.0nm,0.9s,baz=70,slow=1.4,SNR=4.9						
BRTR				PKPbc	PKPbc	16 09 46.9	-1.2
	comp=Z,6.9nm,0.9s,baz=147,slow=5.3,SNR=23						
BRTR	**Keskin Array B**	**152.89**	**298**	PKP	PKPdf	16 09 40.8	-0.1
BRTR				PKPbc	PKPbc	16 09 46.9	-1.2
BRTR	**Keskin Array B**	**152.89**	**298**	PKIKP	PKPdf	16 09 40.8	-0.1
BRTR						16 09 46.9	
TLCR		**154.61**	**313**	⇑*i* P	PKPbc	16 09 51.3	-0.4
TIRR	**Tirgusor**	**155.19**	**311**	⇑*i* P	PKPdf	16 09 52.7	+8.8
DBIC	**Dimbokro**	**155.32**	**163**	PKP	PKPdf	16 09 46.7	+1.6
	comp=Z,0.8nm,0.5s,baz=154,slow=9.5,SNR=4.1						
DBIC				PKPab	PKPab	16 10 11.2	+0.9
	comp=Z,4.1nm,0.9s,baz=240,slow=4.0,SNR=7.5						
DBIC	**Dimbokro**	**155.32**	**163**	*e*PKPdf	PKPdf	16 09 46.1	+1.0
DBIC				PKP	PKPdf	16 09 46.7	+1.6
DBIC				PKPab	PKPab	16 10 11.2	+0.9
DBIC	**Dimbokro**	**155.32**	**163**	*e*PKIKP	PKPdf	16 09 46.1	+1.0
DBIC						16 10 11.2	
BUR08	**Bucovina Ar. S**	**155.49**	**321**	*e*PKPbc	PKPdf	16 09 54.5	+10
KWP	**Kalwaria Pacla**	**155.49**	**327**	⇓*i* P	PKPdf	16 09 52.3	+8.1
BURAR	**Bucovina Array**	**155.50**	**321**	⇑*i* P	PKPdf	16 09 54.6	+10
VRI	**Vrincioaia**	**155.59**	**316**	⇑*i* P	PKPab	16 10 07.2	-3.5
BSEG	**Bad Segeberg**	**155.91**	**348**	*e*PKPab	PKPab	16 10 10.0	-1.7
KOLS	**Kolonicke sedl**	**156.18**	**326**	*e*PKP	PKPab	16 10 11.6	-1.5
CRVS	**Cervenica-Dubn**	**156.59**	**327**	*e*PKP	PKPab	16 10 13.6	-1.3
KSP	**Ksiaz**	**157.18**	**337**	*e*PKPab	PKPab	16 10 15.5	-1.8
KECS	**Kecovo**	**157.34**	**327**	*e*PKP	PKPab	16 10 15.7	-2.4
UPC	**Upice**	**157.56**	**337**	*e*PKP2	PKPab	16 10 17.5	-1.5
UPC	**Upice**	**157.56**	**337**	*e*PKPAB	PKPab	16 10 17.

HAU	Haudompre	162.28	351	*e*PKPab	PKPab	16 10 37.2	-2.3
HAU	Haudompre	162.28	351	*e*PKP2	PKPab	16 10 37.2	-2.3
FETA	Feichten	162.30	341	⇑*i*PKPab	PKPab	16 10 38.4	-1.3
	comp=Z,9.1nm,1.1s						
TORD	Torodi Ar. Bea	162.69	178	PKP	PKPdf	16 09 54.4	+0.8
	comp=Z,1.4nm,1.0s,baz=217,slow=1.4,SNR=7.9						
TORD				PKPab	PKPab	16 10 44.7	+2.6
	comp=Z,7.5nm,0.9s,baz=174,slow=3.4,SNR=11						
TORD				PP	PP	16 14 38.3	+13
	comp=Z,1.3nm,1.0s,baz=180,slow=3.2,SNR=3.5						
TORD	Torodi Ar. Bea	162.69	178	PKP	PKPdf	16 09 54.4	+0.8
TORD				PKPab	PKPab	16 10 44.7	+2.6
TORD				PP	PP	16 14 38.3	+13
DAVOX	Davos/Dischmat	162.75	342	PKPab	PKPab	16 10 40.9	-0.7
	comp=Z,7.3nm,0.6s,baz=250,slow=6.1,SNR=11						
DAVOX	Davos/Dischmat	162.75	342	PKPab	PKPab	16 10 40.9	-0.7
DAVOX	Davos/Dischmat	162.75	342	PKP2	PKPab	16 10 40.9	-0.8
LOR	Lormes	163.25	356	*e*PKP2	PKPab	16 10 41.4	-2.4
	comp=Z,28nm,1.1s						
LOR				*e*R			
	comp=Z,152nm,21.0s						
LOR	Lormes	163.25	356	*e*PKPab	PKPab	16 10 41.4	-2.4
LOR	Lormes	163.25	356	*e*PKP2	PKPab	16 10 41.4	-2.4
SSF	Saint Saulge	163.47	357	*e*PKP2	PKPab	16 10 42.6	-2.2
	comp=Z,27nm,1.0s						
SSF	Saint Saulge	163.47	357	*e*PKPab	PKPab	16 10 42.6	-2.2
SSF	Saint Saulge	163.47	357	*e*PKP2	PKPab	16 10 42.6	-2.2
CABF	La Chapelle	163.68	351	*e*PKP2	PKPab	16 10 43.6	-2.1
	comp=Z,22nm,1.1s						
CABF	La Chapelle	163.68	351	*e*PKPab	PKPab	16 10 43.6	-2.1
CABF	La Chapelle	163.68	351	*e*PKP2	PKPab	16 10 43.6	-2.1
AVF	Avril sur Loir	163.75	357	*e*PKP2	PKPab	16 10 43.7	-2.3
	comp=Z,31nm,1.3s						
AVF	Avril sur Loir	163.75	357	*e*PKPab	PKPab	16 10 43.7	-2.3
AVF	Avril sur Loir	163.75	357	*e*PKP2	PKPab	16 10 43.7	-2.3
MFF	Saint Martin d	163.85	6	*e*PKPab	PKPab	16 10 44.4	-2.1
MFF	Saint Martin d	163.85	6	*e*PKPab	PKPab	16 10 44.4	-2.1
MFF	Saint Martin d	163.85	6	*e*PKP2	PKPab	16 10 44.4	-2.1
SMF	Signal de Mont	163.87	356	*e*PKP2	PKPab	16 10 44.3	-2.3
	comp=Z,63nm,1.3s						
SMF	Signal de Mont	163.87	356	*e*PKPab	PKPab	16 10 44.3	-2.3
SMF	Signal de Mont	163.87	356	*e*PKP2	PKPab	16 10 44.3	-2.3
BGF	Bois d'Agland	164.00	359	*e*PKP2	PKPab	16 10 44.8	-2.3
BGF	Bois d'Agland	164.00	359	*e*PKPab	PKPab	16 10 44.8	-2.3
BGF	Bois d'Agland	164.00	359	*e*PKP2	PKPab	16 10 44.8	-2.3
TCF	Toulx Ste Croi	164.27	0	*e*PKP2	PKPab	16 10 45.9	-2.4
	comp=Z,6.0nm,0.7s						
TCF	Toulx Ste Croi	164.27	0	*e*PKPab	PKPab	16 10 45.9	-2.4
TCF	Toulx Ste Croi	164.27	0	*e*PKP2	PKPab	16 10 45.9	-2.4
LPL	La Plagne	164.65	348	*e*PKP2	PKPab	16 10 48.7	-1.3
	comp=Z,26nm,1.3s						
LPL	La Plagne	164.65	348	*e*PKPab	PKPab	16 10 48.7	-1.3
LPL	La Plagne	164.65	348	*e*PKP2	PKPab	16 10 48.7	-1.3
LPG	La Plagne	164.66	348	*e*PKP2	PKPab	16 10 48.8	-1.3
	comp=Z,22nm,1.1s						
LPG	La Plagne	164.66	348	*e*PKPab	PKPab	16 10 48.8	-1.3
LPG	La Plagne	164.66	348	*e*PKP2	PKPab	16 10 48.8	-1.3
RJF	Les Rejaudoux	165.24	2	*e*PKP2	PKPab	16 10 50.0	-2.6
	comp=Z,30nm,1.2s						
RJF				*e*R			
	comp=Z,89nm,18.0s						
RJF	Les Rejaudoux	165.24	2	*e*PKPab	PKPab	16 10 50.0	-2.6
RJF	Les Rejaudoux	165.24	2	*e*PKP2	PKPab	16 10 50.0	-2.6
ORIF	Oris-en-Rattie	165.37	350	*e*PKP2	PKPab	16 10 51.4	-1.8
	comp=Z,20nm,1.0s						
ORIF				*e*R			
	comp=Z,107nm,22.0s						
ORIF	Oris-en-Rattie	165.37	350	*e*PKPab	PKPab	16 10 51.4	-1.8
ORIF	Oris-en-Rattie	165.37	350	*e*PKP2	PKPab	16 10 51.4	-1.8
LFF	La Frestale	165.57	4	*e*PKP2	PKPab	16 10 52.0	-2.1
	comp=Z,33nm,1.0s						
LFF	La Frestale	165.57	4	*e*PKPab	PKPab	16 10 52.0	-2.1
LFF	La Frestale	165.57	4	*e*PKP2	PKPab	16 10 52.0	-2.1
VIVF	Saint-Julien-l	165.58	353	*e*PKP2	PKPab	16 10 52.2	-1.9
	comp=Z,36nm,1.3s						
VIVF	Saint-Julien-l	165.58	353	*e*PKPab	PKPab	16 10 52.2	-1.9
VIVF	Saint-Julien-l	165.58	353	*e*PKP2	PKPab	16 10 52.2	-1.9
CAF	Calviac	165.63	1	*e*PKP2	PKPab	16 10 52.3	-2.1
CAF	Calviac	165.63	1	*e*PKPab	PKPab	16 10 52.3	-2.1
SBF	Sospel	166.09	344	*e*PKP2	PKPab	16 10 53.9	-2.5
	comp=Z,49nm,0.9s						
SBF	Sospel	166.09	344	*e*PKPab	PKPab	16 10 53.9	-2.5
LASF	Ste Croix	166.43	355	*e*PKP2	PKPab	16 10 54.9	-3.0
	comp=Z,28nm,1.3s						
LASF	Ste Croix	166.43	355	*e*PKPab	PKPab	16 10 54.9	-3.0
FRF	La Foret Royal	166.55	346	*e*PKP2	PKPab	16 10 56.2	-2.3
FRF	La Foret Royal	166.55	346	*e*PKPab	PKPab	16 10 56.2	-2.3
LMR	La Mourre	166.79	346	*e*PKP2	PKPab	16 10 57.2	-2.3
	comp=Z,47nm,1.2s						
LMR	La Mourre	166.79	346	*e*PKPab	PKPab	16 10 57.2	-2.3
PGF	Pioggiola	166.87	338	*e*PKP2	PKPab	16 10 57.8	-2.1
	comp=Z,58nm,1.2s						
PGF	Pioggiola	166.87	338	*e*PKPab	PKPab	16 10 57.8	-2.1
SJPF	Ste Jean	167.14	12	*e*PKP2	PKPab	16 10 58.9	-2.1
	comp=Z,56nm,1.5s						
SJPF	Ste Jean	167.14	12	*e*PKPab	PKPab	16 10 58.9	-2.1
MTLF	Montolieu	167.22	0	*e*PKP2	PKPab	16 10 59.5	-1.9
	comp=Z,5.6nm,0.8s						
MTLF	Montolieu	167.22	0	*e*PKPab	PKPab	16 10 59.5	-1.9
EPF	Esparros	167.43	7	*e*PKP2	PKPab	16 11 00.0	-2.3
EPF	Esparros	167.43	7	*e*PKPab	PKPab	16 11 00.0	-2.3
ETSF	Etsaut	167.45	10	*e*PKP2	PKPab	16 10 59.1	-3.3
ETSF	Etsaut	167.45	10	*e*PKPab	PKPab	16 10 59.1	-3.3
ESDC	Sonseca Array	169.54	28	PKP	PKPdf	16 09 59.3	+0.9
	comp=Z,0.1nm,0.3s,baz=19,slow=38,SNR=2.1						
ESDC				PKPab	PKPab	16 11 11.1	-0.8
	comp=Z,0.3nm,0.6s,baz=58,slow=26,SNR=2.4						
ESDC	Sonseca Array	169.54	28	PKP	PKPdf	16 09 59.3	+0.9
ESDC				PKPab	PKPab	16 11 11.1	-0.8

*IDC **07** 16:10:52.5±1.2,34°.83N×25°.03E,h0km,mb3.7/8,*
mb1 3.8/11,mb1mx3.6/28,mbtmp3.7/11,ML3.8/3,Error
ellipse: s-maj=23.9km s-min=22.1km az=11.0
*ISCJB **07** 16:10:56.4±0.2,34°.56N±0°.02×25°.12E±0°.03,h71km±5km,*
mb3.6/11,Error ellipse: s-maj=4.7km s-min=2.9km
az=151.0
*NEIC **07** 16:10:57.5±1.6,34°.64N×25°.15E,h40km±15km,mb4.0/1,*
Error ellipse: s-maj=17.9km s-min=12.3km az=51.0
*ATH **07** 16:10:57.1,34°.63N×25°.02E,h66km±1km*
*CSEM **07** 16:10:58.1±0.1,34°.58N×25°.13E,h60km,ML3.4/2,Error*
ellipse: s-maj=4.3km s-min=2.5km az=55.0
*HLW **07** 16:10:59.7,34°.64N×25°.17E,h34km±21km,Md4.1,Ml3.3*
*THE **07** 16:11:02.2,34°.89N×25°.05E,h34km±2km,ML3.4/2,Error*
ellipse: s-maj=3.0km s-min=1.3km az=182.0

ISC 07 16:10:58.0±0.2,34°.58N±0°.02×25°.10E±0°.03,h57km±5km,
n206,σ1§10/238,mb3.6/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.49	331	*e*P	Pn	16 11 08.9	-0.8
SIVA				*e*S	Sn	16 11 18.2	+0.1
SIVA	Sivas	0.49	331	P	Pn	16 11 08.9	-0.8
SIVA				S	Sn	16 11 14.2	-3.9
SIVA	Sivas	0.49	331	P	Pn	16 11 08.9	-0.8
SIVA				S	Sn	16 11 14.2	-3.9
XRY	Khrisi	0.57	59	*e*P	Pn	16 11 10.8	+0.3
XRY	Khrisi	0.57	59	*e*P	Pn	16 11 10.8	+0.3
NPS	Neapolis	0.80	32	*e*P	Pn	16 11 13.6	+0.3
NPS				*e*S	Sn	16 11 25.1	+0.6
NPS	Neapolis	0.80	32	P	Pn	16 11 14.1	+0.8
NPS				S	Sn	16 11 21.8	-2.7
NPS	Neapolis	0.80	32	P	Pn	16 11 14.1	+0.8
NPS				S	Sn	16 11 21.8	-2.7
GVD	Gavdhos	0.87	287	P	Pn	16 11 15.7	+1.4
GVD	Gavdhos	0.87	287	P	Pn	16 11 15.7	+1.4
VAM	Vamos	1.10	318	*e*P	Pn	16 11 17.2	-0.1
VAM	Vamos	1.10	318	P	Pn	16 11 18.4	+1.1
VAM				S	Sn	16 11 28.2	-3.4
VAM	Vamos	1.10	318	*e*P	Pn	16 11 18.3	+1.0
VAM				S	Sn	16 11 28.2	-3.4
THR1	Thera Island	1.81	9	P	Pn	16 11 26.3	-0.5
THR1	Thera Island	1.81	9	P	Pn	16 11 26.3	-0.5
THR3	Thira Island,	1.84	8	P	Pn	16 11 26.8	-0.4
THR3	Thira Island,	1.84	8	P	Pn	16 11 26.8	-0.4
THR2	Thira island,	1.88	8	P	Pn	16 11 27.4	-0.4
THR2	Thira island,	1.88	8	P	Pn	16 11 27.4	-0.4
KARP	Karpathos	1.94	60	*e*P	Pn	16 11 29.9	+1.3
KARP	Karpathos	1.94	60	P	Pn	16 11 31.2	+2.6
KARP	Karpathos	1.94	60	P	Pn	16 11 31.2	+2.6
KYTH	Kithira	2.39	316	*e*P	Pn	16 11 34.7	0.0
KYTH	Kithira	2.39	316	P	Pn	16 11 35.6	+0.9
KYTH	Kithira	2.39	316	P	Pn	16 11 35.6	+0.9
APE	Apeiranthos	2.50	8	*e*PN	Pn	16 11 34.2	-2.1
APE	Apeiranthos	2.50	8	*e*P	Pn	16 11 36.0	-0.3
APE	Apeiranthos	2.50	8	*e*Pn	Pn	16 11 34.2	-2.1
APE	Apeiranthos	2.50	8	*e*P	Pn	16 11 36.0	-0.3
APE				*e*Sn	Sn	16 12 04.5	-1.1
LTBQ	Tobruq	2.71	202	*i* P	Pn	16 11 41.5	+2.4
	SNR=46						
LTBQ				*e*S	Sn	16 12 11.8	+1.1
	82nm,0.3s,SNR=46						
VLI	Veliai	2.76	321	*e*P	Pn	16 11 40.0	+0.2
VLI				*e*S	Sn	16 12 10.0	-2.0
VLI	Veliai	2.76	321	P	Pn	16 11 40.0	+0.2
VLI				S	Sn	16 12 09.8	-2.2
VLI	Veliai	2.76	321	P	Pn	16 11 40.0	+0.2
VLI				S	Sn	16 12 09.8	-2.2
DAT	Datca	2.94	43	*e*PN	Pn	16 11 43.0	+0.8
DAT	Datca	2.94	43	*e*Pn	Pn	16 11 43.1	+0.8
ARG	Arkhangelos	2.96	56	*e*P	Pn	16 11 44.1	+1.6
ARG				*e*S	Sn	16 12 17.9	+1.1
ARG	Arkhangelos	2.96	56	*e*P	Pn	16 11 44.1	+1.6
ARG				*e*S	Sn	16 12 17.9	+1.1
DID	Didima	3.28	333	*e*P	Pn	16 11 46.7	-0.3
DID	Didima	3.28	333	P	Pn	16 11 46.6	-0.4
DID				S	Sn	16 12 21.8	-3.0
DID	Didima	3.28	333	*e*P	Pn	16 11 46.7	-0.3
DID				S	Sn	16 12 21.8	-3.0
SMG	Samos	3.42	24	*e*P	Pn	16 11 49.2	+0.4
SMG	Samos	3.42	24	*e*P	Pn	16 11 49.2	+0.4
NAIG	Nisos Aigina	3.43	338	*e*P	Pn	16 11 48.6	-0.3
NAIG	Nisos Aigina	3.43	338	*e*P	Pn	16 11 48.6	-0.3
VLY	Voula,Athens	3.43	342	*e*P	Pn	16 11 49.0	+0.1
VLY				*e*S	Sn	16 12 26.9	-1.4
VLY	Voula,Athens	3.43	342	*e*P	Pn	16 11 49.0	+0.1
VLY				*e*S	Sn	16 12 26.9	-1.4
MLSB	Milas	3.47	38	*e*PN	Pn	16 11 48.6	-0.9
MLSB	Milas	3.47	38	*e*Pn	Pn	16 11 50.0	+0.5
VLX	Vlachokerasia	3.55	322	*e*P	Pn	16 11 51.0	+0.4
VLX	Vlachokerasia	3.55	322	*e*P	Pn	16 11 51.3	+0.7
PTL	Penteli	3.60	344	*e*P	Pn	16 11 51.2	-0.1
PTL	Penteli	3.60	344	*e*P	Pn	16 11 51.2	-0.1
YER	Yerkesik	3.63	45	*e*PN	Pn	16 11 52.9	+1.2
YER	Yerkesik	3.63	45	*e*Pn	Pn	16 11 52.9	+1.2
ITM	Ithomi	3.65	316	*e*P	Pn	16 11 52.1	+0.1
ITM	Ithomi	3.65	316	P	Pn	16 11 52.1	+0.1
ITM				S	Sn	16 12 31.7	-2.1
ITM	Ithomi	3.65	316	P	Pn	16 11 52.1	+0.1
ITM				S	Sn	16 12 31.7	-2.1
VIL1	Vilia, Western	3.85	339	*e*P	Pn	16 11 54.7	0.0
HMAT	Matruh	3.86	154	P	Pn	16 11 56.0	+1.1
	baz=154						
HMAT	Matruh	3.86	154	P	Pn	16 11 56.0	+1.1
CHOS	Chios island	3.87	11	*e*P	Pn	16 11 55.2	+0.2
CHOS	Chios island	3.87	11	*e*P	Pn	16 11 54.8	-0.2
KSL	Kastellorizon	3.98	66	*e*P	Pn	16 11 58.2	+1.7
GUR	Goura	4.02	327	*e*P	Pn	16 11 57.3	+0.3
GUR	Goura	4.02	327	*e*P	Pn	16 11 57.3	+0.3
LKR	Lokris	4.40	338	*e*P	Pn	16 12 02.3	+0.1
LKR	Lokris	4.40	338	P	Pn	16 12 02.2	0.0
LKR	Lokris	4.40	338	P	Pn	16 12 02.2	0.0
GLHS	Glhisar (BURDU	4.40	53	*e*PN	Pn	16 12 02.9	+0.7
GLHS	Glhisar (BURDU	4.40	53	*e*Pn	Pn	16 12 02.9	+0.7
ELL	Elmali	4.47	60	*e*PN	Pn	16 12 04.3	+1.1
ELL	Elmali	4.47	60	*e*Pn	Pn	16 12 04.3	+1.1
DENT	Denizli	4.49	44	*e*PN	Pn	16 12 06.4	+3.0
DENT	Denizli	4.49	44	*e*Pn	Pn	16 12 05.0	+1.6
RLS	Riolos of Patr	4.54	321	*e*P	Pn	16 12 05.0	+0.8
RLS	Riolos of Patr	4.54	321	*e*P	Pn	16 12 06.3	+2.1
EFP	Efpalio	4.62	327	*e*P	Pn	16 12 05.6	+0.4
EFP	Efpalio	4.62	327	*e*P	Pn	16 12 05.6	+0.4
AGG	Agios Georgios	4.96	334	*e*P	Pn	16 12 10.0	+0.1
AGG	Agios Georgios	4.96	334	*e*P	Pn	16 12 09.9	0.0
EVR	Evrytania	5.07	330	*e*P	Pn	16 12 12.1	+0.7
EVR	Evrytania	5.07	330	*e*P	Pn	16 12 14.1	+2.7
VLS	Valsamata	5.11	316	*e*P	Pn	16 12 13.2	+1.2
VLS	Valsamata	5.11	316	*e*P	Pn	16 12 13.4	+1.4
BCK	Bucak	5.29	56	*e*PN	Pn	16 12 15.7	+1.3
BCK	Bucak	5.29	56	*e*Pn	Pn	16 12 15.7	+1.2
SWA2		5.33	177	P	Pn	16 12 15.7	+0.6
	baz=177						
SWA2		5.33	177	P	Pn	16 12 15.7	+0.6
LJBD	Adjabya	5.52	230	*i* P	Pn	16 12 18.1	+0.5
	SNR=45						
HBRG	Burj al 'Arab	5.65	134	P	Pn	16 12 20.2	+0.7
	baz=134						
HBRG				S	Sn	16 13 20.6	-2.5
	baz=134						
ALT	Altintas	6.00	41	*e*PN	Pn	16 12 23.9	-0.3
ALT	Altintas	6.00	41	*e*Pn	Pn	16 12 24.0	-0.2
LUJL	Ujela	6.33	212	*i* P	Pn	16 12 29.4	+0.6
	SNR=43						
LEF	Lefka	6.43	83	*e*PN	Pn	16 12 31.2	+1.2
LEF	Lefka	6.43	83	*e*Pn	Pn	16 12 31.2	+1.2
HDMB	Hadim	6.46	66	*e*PN	Pn	16 12 32.5	+2.1
KONT	Konya--Tatoy	6.75	58	*e*PN	Pn	16 12 34.9	+0.4
KONT	Konya--Tatoy	6.75	58	*e*Pn	Pn	16 12 34.9	+0.4
CSS	Prodhromos	6.78	84	*e*P	Pn	16 12 33.4	-1.5
CSS	Prodhromos	6.78	84	*e*P	Pn	16 12 33.4	-1.5
HMYD	Mayadein	6.79	133	P	Pn	16 12 34.9	-0.2
	baz=133						
HMYD	Mayadein	6.79	133	P	Pn	16 12 34.9	-0.1
HNAT	Natroun	6.80	135	P	Pn	16 12 35.5	+0.3
	baz=135						
HNAT	Natroun	6.80	135	P	Pn	16 12 35.4	+0.2
LADK	Ladik-KONYA	6.88	56	*e*P	Pn	16 12 36.6	+0.4
LADK	Ladik-KONYA	6.88	56	*e*Pn	Pn	16 12 36.6	+0.4
SQR		6.97	131	P	Pn	16 12 37.5	0.0
	baz=131						
SQR		6.97	131	P	Pn	16 12 37.5	0.0
FYM	Al Fayyum	7.01	132	P	Pn	16 12 37.9	-0.2
	baz=133						
FYM				S	Sn	16 13 52.3	-4.1
	baz=133						
FYM	Al Fayyum	7.01	132	P	Pn	16 12 37.9	-0.2
AWBH		7.04	151	P	Pn	16 12 38.3	-0.1
	baz=152						
AWBH		7.04	151	P	Pn	16 12 38.3	-0.1
AYT	Al 'Ayyat	7.07	132	P	Pn	16 12 39.0	+0.1
	baz=132						
AYT	Al 'Ayyat	7.07	132	P	Pn	16 12 38.9	0.0
KOT	Kottamia	7.35	127	P	Pn	16 12 42.5	-0.1
	baz=128						
KOT	Kottamia	7.35	127	P	Pn	16 12 42.5	-0.2
HSAF	As Saff	7.38	130	P	Pn	16 12 43.1	0.0
	baz=131						
HSAF	As Saff	7.38	130	P	Pn	16 12 43.1	0.0
GLL	Jalalah	7.50	130	P	Pn	16 12 44.8	0.0
	baz=130						
GLL	Jalalah	7.50	130	P	Pn	16 12 44.8	0.0
HHAG	Hagoal	7.51	126	P	Pn	16 12 44.8	-0.1
	baz=126						
HHAG	Hagoal	7.51	126	P	Pn	16 12 44.8	-0.1
AMAG	Maghara	7.89	118	P	Pn	16 12 49.3	-0.7
	baz=118						
AMAG	Maghara	7.89	118	P	Pn	16 12 49.3	-0.7
HFRF	Wahat Farafira	7.91	159	P	Pn	16 12 50.1	-0.3
	baz=159						
HFRF				AMP		16 14 00.0	
	comp=E,20μm,0.1s,logA/T=5.2,baz=159						
HFRF				S	Sn	16 14 15.0	-3.4
	baz=159						
HFRF	Wahat Farafira	7.91	159	P	Pn	16 12 50.1	-0.3
SUZ		8.08	124	P	Pn	16 12 52.5	-0.2
	baz=124						
SUZ		8.08	124	P	Pn	16 12 52.5	-0.2
ZAF		8.24	128	P	Pn	16 12 54.6	-0.3
	baz=128						
ZAF		8.24	128	P	Pn	16 12 54.6	-0.3
ZNM		8.40	126	P	Pn	16 12 56.9	-0.2
	baz=126						
ZNM		8.40	126	P	Pn	16 12 56.9	-0.2
BRTR	Keskin Array B	8.53	51	Pn	Pn	16 12 59.6	+0.8
	comp=E,0.1nm,0.3s,baz=19,slow=27,SNR=2.5						
BRTR	Keskin Array B	8.53	51	Pn	Pn	16 12 59.6	+0.8
BRTR	Keskin Array B	8.53	51	Pn	Pn	16 12 59.6	+0.8
MMAI	Mount Meron Ar	8.72	97	Pn	Pn	16 13 00.3	-1.1
	comp=E,2.6nm,0.3s,baz=317,slow=12,SNR=14						
MMAI				Sn	Sn	16 14 33.5	-4.6
	comp=E,5.1nm,0.3s,baz=265,slow=25,SNR=7.5						
MMAI	Mount Meron Ar	8.72	97	Pn	Pn	16 13 00.3	-1.1
MMAI				Sn	Sn	16 14 33.5	-4.6
MMAI	Mount Meron Ar	8.72	97	Pn	Pn	16 13 00.3	-1.1
HNKL	Nakhl	8.83	119	P	Pn	16 13 02.1	-0.9
	baz=119						
HNKL	Nakhl	8.83	119	P	Pn	16 13 02.1	-0.9
GRB	Gharib	9.09	132	P	Pn	16 13 06.0	-0.5
	baz=132						
GRB	Gharib	9.09	132	P	Pn	16 13 06.0	-0.6
HRDS	Abu Rudays	9.11	128	P	Pn	16 13 05.9	-0.9
	baz=128						
TR2		9.61	128	P	Pn	16 13 12.8	-0.8
	baz=128						
TR2		9.61	128	P	Pn	16 13 12.9	-0.7
EIL	Elat	9.68	118	Pn	Pn	16 13 13.9	-0.6
	comp=E,1.3nm,0.3s,baz=256,slow=4.2,SNR=16						
EIL				Sn	Sn	16 14 55.1	-6.8
	comp=E,2.6nm,0.3s,baz=9.2,slow=9.7,SNR=9.0						
EIL	Elat	9.68	118	Pn	Pn	16 13 13.9	-0.6
EIL				Sn	Sn	16 14 55.1	-6.8
EIL	Elat	9.68	118	Pn	Pn	16 13 13.9	-0.7
HKAT	Jabal Katrina	9.70	126	P	Pn	16 13 13.7	-1.1
	baz=126						
HKAT	Jabal Katrina	9.70	126	P	Pn	16 13 13.7	-1.1
HBST	Basata	9.78	121	P	Pn	16 13 15.0	-0.9
	baz=121						
HBST	Basata	9.78	121	P	Pn	16 13 15.0	-0.9
HDHB	Dhahab	9.99	123	P	Pn	16 13 18.2	-0.7
	baz=123						
HDHB	Dhahab	9.99	123	P	Pn	16 13 18.2	-0.7
TR1		10.01	129	P	Pn	16 13 18.5	-0.6
	baz=129						
TR1		10.01	129	P	Pn	16 13 18.5	-0.6
STON	Ston	10.09	327	*e*Pn	Pn	16 13 14.5	-5.6
STON				Sn	Sn	16 14 56.7	-15
ASF	Jabal al Asfar	10.15	100	Pn	Pn	16 13 19.2	-1.8
	comp=E,0.2nm,0.3s,baz=175,slow=3.1,SNR=4.1						
ASF				Sn	Sn	16 15 06.8	-6.6
	comp=E,0.3nm,0.3s,baz=293,slow=7.7,SNR=3.0						
ASF	Jabal al Asfar	10.15	100	Pn	Pn	16 13 19.2	-1.8
ASF				Sn	Sn	16 15 06.8	-6.6
AKRG	Al Kharijah	10.18	151	P	Pn	16 13 21.3	-0.2
	baz=151						
GTR	Jabal at Tayr	10.20	151	P	Pn	16 13 21.4	-0.4
	baz=151						
GTR	Jabal at Tayr	10.20	151	P	Pn	16 13 21.4	-0.4
HDK2	Wahat Dakhilah	10.76	161	P	Pn	16 13 28.6	-0.8
	baz=161						
HDK2	Wahat Dakhilah	10.76	161	P	Pn	16 13 28.6	-0.8
HSFG		11.03	134	P	Pn	16 13 32.3	-0.7
	baz=134						
HSFG		11.03	134	P	Pn	16 13 32.3	-0.7
HQSR		11.91	135	P	Pn	16 13 44.5	-0.5
	baz=135						
HQSR		11.91	135	P	Pn	16 13 44.5	-0.5
NVLJ	Novalja	12.70	325	*e*Pn	Pn	16 13 52.6	-3.1
NVLJ				Sn	Sn	16 16 00.7	-15
AKASG	Malin Array Be	16.39	9	Pn	Pn	16 14 42.2	-1.9
	comp=E,1.7nm,0.3s,baz=202,slow=11,SNR=5.9						
AKASG	Malin Array Be	16.39	9	Pn	Pn	16 14 42.2	-1.9
AKASG	Malin Array Be	16.39	9	Pn	Pn	16 14 42.2	-1.9
AKBB	Malin Array Si	16.39	9	*e*P	Pn	16 14 44.9	+0.8
AKBB	Malin Array Si	16.39	9	*e*P	Pn	16 14 44.9	+0.8
GERES	GERESS Array B	16.57	333	Pn	Pn	16 14 47.7	+1.3
	comp=E,0.1nm,0.3s,baz=146,slow=12,SNR=5.3						
GERES	GERESS Array B	16.57	333	Pn	Pn	16 14 47.7	+1.3
GERES	GERESS Array B	16.57	333	Pn	Pn	16 14 47.7	+1.3
HFS	Hagfors	26.62	347	P	P	16 16 29.6	-1.3
	comp=E,1.9nm,0.9s,mb3.6,baz=112,slow=16,SNR=2.1						
HFS

KAPZ eS Sn 16 22 58.7 -0.3
VRNZ Vardanashen 1.05 312 eP Pn 16 22 41.7 -4.0
VRNZ eS Sn 16 22 59.2 +0.1
ISHB Shabestar 1.11 163⇑ ePg Pn 16 22 44.7 -1.8
ISHB eSg Sn 16 22 59.2 -1.4
ISHB e 16 23 04.5
comp=Z,9μm,0.2s
DYDN Diyadin 1.20 280 eP Pn 16 22 47.7 +0.1
DYDN eS Sn 16 23 01.4 -1.2
DYDN Diyadin 1.20 280 eP Pn 16 22 47.7 +0.1
DYDN eS Sn 16 23 01.4 -1.2
AMBZ Amberd 1.27 325 eP Pn 16 22 49.3 +0.7
AMBZ eS Sn 16 23 03.9 -0.6
ARUZ Aruch 1.27 317 eP Pn 16 22 47.5 -1.2
ARUZ eS Sn 16 23 03.5 -0.9
ITBZ Tabriz 1.33 147 ePg Pn 16 22 48.2 -1.4
ITBZ e Pn 16 22 49.5 0.0
comp=Z,4μm,0.1s
ITBZ eSg Sn 16 23 05.1 -1.0
LMTZ Lermontov 1.47 343⇑ iP Pn 16 22 52.8 +1.3
GANJ Ganja 1.55 33 P Pn 16 22 52.3 -0.2
SNR=11
GANJ S Sn 16 23 14.1 +2.7
VANB Van 1.61 243 ePN Pn 16 22 54.5 +1.2
VANB Van 1.61 243 ePn Pn 16 22 54.6 +1.3
IFTB Fath-abad 1.62 145 ePg Pn 16 22 53.5 0.0
TVAN Van 1.63 240 eP Pn 16 22 54.7 +1.1
TVAN eS Sn 16 23 21.1 +7.7
TVAN Van 1.63 240 eP Pn 16 22 54.7 +1.1
TVAN eS Sn 16 23 21.1 +7.7
SPIZ Spitak 1.64 334⇓ iP Pn 16 22 56.2 +2.4
AGRB Hanur-Agry 1.73 278 ePN Pn 16 22 56.0 +1.0
AGRB Hanur-Agry 1.73 278 ePn Pn 16 22 56.0 +1.0
STEZ Stepenevan 1.76 340 eP Pn 16 22 55.0 -0.4
STEZ eS Sn 16 23 24.0 +7.4
STEZ Stepenevan 1.76 340⇑ iP Pn 16 22 58.8 +3.3
IHRS Heris 1.76 125 ePn Pn 16 22 54.9 -0.5
IHRS eSg Sn 16 23 17.8 +1.2
IHRS e 16 23 24.4
comp=Z,2μm,0.1s
BRDA Brd 1.77 58 P Pn 16 22 55.9 +0.4
SNR=3.9
STE Stepanavan 1.77 339 P Pn 16 22 55.0 -0.5
IAZR Azarshahr 1.78 160 ePn Pn 16 22 56.1 +0.5
IAZR e 16 22 58.4
comp=Z,4μm,0.1s
TUTA Tutak 1.86 272 eP Pn 16 22 57.9 +1.2
TUTA eS Sn 16 23 27.0 +8.0
TUTA Tutak 1.86 272 eP Pn 16 22 57.9 +1.1
GEVA Gevas 1.98 239 eP Pn 16 23 01.2 +2.8
GEVA eS Sn 16 23 31.3 +9.4
GEVA Gevas 1.98 239 eP Pn 16 23 01.2 +2.8
DGRG David-gareji 2.10 3 P Pn 16 23 01.9 +1.8
DGRG S Sn 16 23 31.5 +6.6
DGRG David-gareji 2.10 3 P Pn 16 23 01.9 +1.8
IBST Bostanabad 2.11 141 ePn Pn 16 23 00.0 -0.2
IBST eSg Sn 16 23 28.9 +3.7
IBST e 16 23 44.0
comp=Z,855nm,0.4s
HAKT HAKKARI 2.15 214 eP Pn 16 23 02.9 +2.2
HAKT eS Sn 16 23 31.7 +5.6
HAKT HAKKARI 2.15 214 eP Pn 16 23 02.9 +2.2
HAKT eS Sn 16 23 31.7 +5.6
MTA Mtatsminda 2.36 352 P Pn 16 23 07.8 +4.1
MTA S Sn 16 23 37.8 +6.4
MTA Mtatsminda 2.36 352 P Pn 16 23 07.8 +4.1
MTA S Sn 16 23 37.8 +6.4
SEKA Sheki 2.40 39 P Pn 16 23 04.2 0.0
TBLG Delisi 2.40 352 P Pn 16 23 07.4 +3.1
TBLG S Sn 16 23 39.5 +7.1
TBLG Delisi 2.40 352 P Pn 16 23 07.4 +3.1
AKH Akhalkalaki 2.44 328 P Pn 16 23 08.9 +4.1
AKH S Sn 16 23 39.5 +6.2
AKH Akhalkalaki 2.44 328 P Pn 16 23 08.9 +4.1
AKH S Sn 16 23 39.5 +6.2
CUKT Cukurca 2.45 211 ePN Pn 16 23 08.7 +3.8
CUKT Cukurca 2.45 211 ePn Pn 16 23 08.7 +3.8
ISRB Sarab 2.45 128 ePn Pn 16 23 04.4 -0.6
ISRB e 16 23 57.7
comp=Z,722nm,0.2s
GLBA Ciilabad 2.47 92 P Pn 16 23 06.3 +1.1
SNR=6.8

*ISCJB **07** 16:26:33.9±0.8, 51°.07N±0°.07×157°.9E±0°.1, h72km±10km, mb3.5/4, Error ellipse: s-maj=17.2km s-min=5.2km az=42.5*
*KRSC **07** 16:26:33.8±0.5, 51°.17N×158°.01E, h10km±10km, ML4.4*
*MOS **07** 16:26:34.1±0.7, 51°.11N×157°.83E, h72km, mb4.1/1, Error ellipse: s-maj=26.1km s-min=8.0km az=66.4*
*NEIC **07** 16:26:35.7±0.9, 51°.15N×157°.79E, h72km±12km, mb3.9/1, Error ellipse: s-maj=20.5km s-min=7.4km az=136.0*
*IDC **07** 16:26:36.3±2.6, 51°.16N×157°.86E, h76km±28km, mb3.1/5, mb1 3.7/7, mb1mx3.3/26, mbtmp3.4/7, Error ellipse: s-maj=32.8km s-min=16.9km az=123.0*
ISC 07 16:26:35.5±0.7, 51°.12N±0°.07×157°.8E±0°.1, h67km±9km, n47, σ0=94/65, mb3.5/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.16	249	ePN	Pn	16 26 56.5	+0.7
SKR				eS	Sn	16 27 09.5	-1.5
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
RUS	Russkaya	1.39	18	eP	Pn	16 26 57.8	-1.0
RUS				iS	Sn	16 27 15.0	-1.3
RUS	Russkaya	1.39	18	PN	Pn	16 26 57.8	-1.0
RUS				S	Sn	16 27 15.0	-1.3
GRL	Gorelyy	1.45	6	eP	Pn	16 26 59.6	0.0
GRL				iS	Sn	16 27 18.4	+0.7
PET	Petropavlovsk	1.98	15	eP	Pn	16 27 06.6	-0.1
PET				iS	Sn	16 27 30.9	+0.4
PET	Petropavlovsk	1.98	15	eP	Pn	16 27 06.4	-0.3
PET				eS	Sn	16 27 30.9	+0.4
PET	Petropavlovsk	1.98	15	PN	Pn	16 27 06.6	-0.1
PET				S	Sn	16 27 30.9	+0.4
PEA0B	Petropavlovsk-	2.00	358	eP	Pn	16 27 07.1	+0.1
PETK	Petropavlovsk-	2.00	358	P	Pn	16 27 07.0	+0.1
	comp=Z,7.2nm,0.3s,baz=160,slow=16,SNR=108						
PETK				S	Sn	16 27 31.5	+0.6
	comp=Z,5.2nm,0.3s,baz=244,slow=24,SNR=7.1						
PETK	Petropavlovsk-	2.00	358	P	Pn	16 27 07.0	+0.1
PETK				S	Sn	16 27 31.5	+0.6
PETK	Petropavlovsk-	2.00	358	PN	Pn	16 27 07.1	+0.2
PETK				S	Sn	16 27 31.5	+0.6
AVH	Avacha	2.23	14	eP	Pn	16 27 11.1	+1.1
KOK	Koryaka	2.24	13	eP	Pn	16 27 11.5	+1.3
NLC	Nalytchevo	2.26	24	eP	Pn	16 27 09.4	-1.1
NLC				iS	Sn	16 27 35.7	-1.7
NLC	Nalytchevo	2.26	24	PN	Pn	16 27 09.4	-1.1
NLC				S	Sn	16 27 35.7	-1.7
SPN	Mys Shipunski	2.41	34	eP	Pn	16 27 12.5	0.0
SPN				iS	Sn	16 27 41.5	+0.7
SPN	Mys Shipunski	2.41	34	PN	Pn	16 27 12.5	0.0
SPN				S	Sn	16 27 41.5	+0.7
MKZ	Mys Kozlova	4.18	33	eP	Pn	16 27 37.8	+1.1
MKZ				iS	Sn	16 28 23.0	-1.2
MKZ	Mys Kozlova	4.18	33	PN	Pn	16 27 37.8	+1.1
MKZ				S	Sn	16 28 23.0	-1.2
KBTR	Krutoberegovo	5.90	28	eP	Pn	16 28 01.2	+1.0
KBTR	Krutoberegovo	5.90	28	PN	Pn	16 28 01.2	+1.0
FX1	Attu Island--F	9.63	73	P	Pn	16 28 52.1	+1.0
	comp=Z,1.7nm,0.3s,baz=263,slow=16,SNR=6.0						
FX1				S	Sn	16 30 32.5	-5.1
	comp=Z,5.4nm,0.3s,baz=325,slow=20,SNR=6.6						
FX1	Attu Island--F	9.63	73	P	Pn	16 28 52.1	+1.0
FX1				S	Sn	16 30 32.5	-5.1
FX1	Attu Island--F	9.63	73	PN	Pn	16 28 52.1	+1.0
ASAJ	Asahikawa	12.42	242	P	Pn	16 29 30.1	+1.0
	comp=Z,0.7nm,0.3s,baz=69,slow=14,SNR=7.3						
ASAJ	Asahikawa	12.42	242	eP	Pn	16 29 29.8	+0.6
ASAJ	Asahikawa	12.42	242	PN	Pn	16 29 30.1	+1.0
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	Erimo	13.56	234	eP	Pn	16 29 43.0	-1.7
ERM	Erimo	13.56	234	eP	Pn	16 29 43.0	-1.7
MAJO	Matsushiro	20.21	231	eP	P	16 31 05.4	+0.6
	comp=Z,2.5nm,0.4s						
MAJO	Matsushiro	20.21	231	eP	P	16 31 05.4	+0.6
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MJAR	Matsushiro Arr	20.21	231	P	P	16 31 05.7	+0.9
	comp=Z,0.6nm,0.6s,baz=12,slow=12,SNR=3.8						
MJAR	Matsushiro Arr	20.21	231	P	P	16 31 05.7	+0.9
MJAR	Matsushiro Arr	20.21	231	P	P	16 31 05.7	+0.9
ILAR	Eielson Array	31.21	43	P	P	16 32 47.7	-0.3
	comp=Z,0.5nm,0.8s,mb3.3,baz=265,slow=8.7,SNR=6.0						
ILAR	Eielson Array	31.21	43	P	P	16 32 47.7	-0.3
ILAR	Eielson Array	31.21	43	P	P	16 32 47.7	-0.3
INK	Inuvik	36.30	36	eP	P	16 33 32.1	+0.1
INK	Inuvik	36.30	36	eP	P	16 33 32.1	+0.1
YKA	Yellowknife Ar	45.58	41	P	P	16 34 47.8	-0.4
	comp=Z,0.3nm,0.5s,mb3.3,baz=294,slow=7.7,SNR=2.5						
YKA	Yellowknife Ar	45.58	41	P	P	16 34 47.8	-0.4
YKA	Yellowknife Ar	45.58	41	P	P	16 34 47.8	-0.4
NVAR	Mina Array Bea	57.77	67	P	P	16 36 17.6	-1.8
	comp=Z,0.5nm,0.6s,mb3.7,baz=305,slow=8.4,SNR=4.3						
NVAR	Mina Array Bea	57.77	67	P	P	16 36 17.6	-1.8
TXAR	Lajitas Array	72.73	65	P	P	16 37 56.6	+0.3
	comp=Z,0.4nm,0.5s,mb3.5,baz=310,slow=6.0,SNR=7.0						
TXAR	Lajitas Array	72.73	65	P	P	16 37 56.6	+0.3
TXAR	Lajitas Array	72.73	65	P	P	16 37 56.7	+0.4

*IDC **07** 16:31:08.8±4.5, 25°.45S×179°.96E, h476km±46km, mb3.2/9, mb1 3.4/10, mb1mx3.3/16, mbtmp3.3/10, Error ellipse: s-maj=34.3km s-min=28.7km az=131.0*
*ISCJB **07** 16:31:10.5±1.4, 25°.6S±0°.1×179°.9E±0°.2, h509km±15km, mb3.6/9, Error ellipse: s-maj=24.5km s-min=16.0km az=29.4*
*NEIC **07** 16:31:10.9±1.1, 25°.55S×179°.95E, h506km±10km, mb4.3/2, Error ellipse: s-maj=17.0km s-min=11.9km az=118.0*
ISC 07 16:31:11.4±1.3, 25°.6S±0°.1×179°.9E±0°.2, h507km±13km, n42, σ0=80/29, mb3.6/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.97	347	eP	P	16 33 07.0	-0.8
	9.3nm,0.6s						
DZM	Mont Dzumac	12.78	283	eP	P	16 33 59.7	+1.5
	16nm,0.9s						
URZ	Urewera	12.88	190	P	P	16 33 58.9	-0.1
	3.3nm,0.3s,baz=49,slow=3.8,SNR=11						
URZ				S	S	16 36 22.6	+5.4
	0.8nm,0.3s,baz=62,slow=20,SNR=2.0						
URZ	Urewera	12.88	190	eP	P	16 33 59.0	0.0
URZ				S	S	16 36 22.6	+5.4
CTA	Charters Tower	31.42	273	P	P	16 36 50.3	-0.3
	1.4nm,0.4s,mb3.7,baz=120,slow=12,SNR=1.9						
CTA	Charters Tower	31.42	273	P	P	16 36 50.3	-0.3
STKA	Stephens Creek	34.04	250	P	P	16 37 12.7	-0.1
	1.3nm,1.0s,mb3.3,baz=100,slow=12,SNR=3.5						
STKA				PcP	PcP	16 39 37.2	+1.1
	0.8nm,0.8s,baz=171,slow=20,SNR=3.4						
STKA	Stephens Creek	34.04	250	P	P	16 37 12.7	-0.1
STKA				PcP	PcP	16 39 37.2	+1.1
AS31	Alice Springs	41.69	262	eP	P	16 38 15.3	-0.1
ASAR	Alice Springs	41.69	262	P	P	16 38 15.4	0.0
	0.8nm,0.5s,mb3.4,baz=90,slow=7.0,SNR=31						
ASAR				PcP	PcP	16 40 01.1	+0.8
	0.4nm,0.6s,baz=110,slow=3.5,SNR=5.5						
ASAR				S	S	16 43 53.8	-1.5
	0.2nm,0.7s,baz=90,slow=14,SNR=4.5						
ASAR	Alice Springs	41.69	262	P	P	16 38 15.4	0.0
ASAR				PcP	PcP	16 40 01.1	+0.8
ASAR				S	S	16 43 53.8	-1.5
WB2	Warramunga Arr	42.21	268	eP	P	16 38 19.0	-0.5
WRAB	Tennant Creek	42.21	268	eP	P	16 38 19.0	-0.5
WRA	Warramunga Arr	42.22	268	P	P	16 38 19.2	-0.3
	1.0nm,0.4s,mb3.6,baz=99,slow=7.7,SNR=12						
WRA	Warramunga Arr	42.22	268	P	P	16 38 19.2	-0.3
MJAR	Matsushiro Arr	73.20	326	P	P	16 41 49.9	-0.4
	2.2nm,0.7s,mb3.8,baz=164,slow=5.2,SNR=7.1						
MJAR	Matsushiro Arr	73.20	326	P	P	16 41 49.9	-0.4
KSRS	Korea Array	79.43	65	P	P	16 42 25.4	+0.7
	1.4nm,0.7s,mb3.6,baz=135,slow=6.8,SNR=4.9						
KSAR	Wonju Array Be	79.46	320	P	P	16 42 25.4	+0.6
PETK	Petropavlovsk-	80.68	347	P	P	16 42 31.0	+0.3
	5.0nm,0.8s,mb4.1,baz=132,slow=7.7,SNR=7.1						
PETK	Petropavlovsk-	80.68	347	P	P	16 42 31.0	+0.3
CMAR	Chiang Mai Arr	90.00	290	P	P	16 43 19.0	+2.2
	0.3nm,0.4s,mb3.5,baz=143,slow=3.6,SNR=4.2						
CMAR	Chiang Mai Arr	90.00	290	P	P	16 43 19.0	+2.2
ILAR	Eielson Array	93.66	14	P	P	16 43 31.6	-1.0
	0.4nm,0.8s,mb3.5,baz=220,slow=5.0,SNR=4.6						
ILAR	Eielson Array	93.66	14	P	P	16 43 31.6	-1.0
MKAR	Makanchi Array	113.19	312	PKiKP	PKiKP	16 48 49.9	-0.8
	0.3nm,0.8s,baz=77,slow=3.1,SNR=3.8						
MKAR	Makanchi Array	113.19	312	PKiKP	PKiKP	16 48 49.9	-0.8
ARCES	ARCESS Array B	133.48	348	PKhKP	PKPpre	16 49 21.5	
	2.9nm,1.0s,baz=121,slow=2.6,SNR=3.5						
ARCES				PKP	PKPdf	16 49 29.2	+0.4
	0.8nm,0.6s,baz=82,slow=2.8,SNR=9.3						
ARCES	ARCESS Array B	133.48	348	PKPpre	PKPpre	16 49 21.5	
ARCES				PKP	PKPdf	16 49 29.2	+0.4
FINES	FINESS Array B	139.97	341	PKhKP	PKPpre	16 49 33.9	
	0.5nm,0.4s,baz=42,slow=3.1,SNR=7.4						
FINES				PKP	PKPdf	16 49 40.9	-0.1
	1.9nm,0.9s,baz=26,slow=4.9,SNR=1.9						
FINES	FINESS Array B	139.97	341	PKPpre	PKPpre	16 49 33.9	
FINES				PKP	PKPdf	16 49 40.9	-0.1
NB2	NORSAR Subarra	143.69	351	PKP	PKPdf	16 49 45.9	-1.7
	comp=Z,5.5nm,0.8s,baz=20,slow=3.8						
NOA	NORSAR Array B	143.69	351	PKP	PKPdf	16 49 46.0	-1.6
	comp=Z,4.3nm,0.7s,baz=16,slow=5.0,SNR=17						
NOA	NORSAR Array B	143.69	351	PKP	PKPdf	16 49 46.0	-1.6
AKASG	Malin Array Be	146.29	326	PKPbc	PKPbc	16 49 54.0	-0.6
	comp=Z,1.7nm,0.4s,baz=48,slow=4.2,SNR=6.6						
AKASG				PKPab	PKPab	16 49 56.4	-0.4
	comp=Z,1.7nm,0.4s,baz=50,slow=4.6,SNR=8.0						
AKASG	Malin Array Be	146.29	326	PKPbc	PKPbc	16 49 54.0	-0.6
AKASG				PKPab	PKPab	16 49 56.4	-0.4
BR131	Keskin Array S	148.47	305	ePKPbc	PKPbc	16 50 00.5	-0.2
BRTR	Keskin Array B	148.47	305	PKPbc	PKPbc	16 50 00.9	+0.3
	comp=Z,0.6nm,0.4s,baz=140,slow=3.5,SNR=12						
BRTR				PKPab	PKPab	16 50 06.4	+0.4
	comp=Z,1.6nm,0.7s,baz=117,slow=3.0,SNR=9.4						
BRTR	Keskin Array B	148.47	305	PKPbc	PKPbc	16 50 00.9	+0.3
BRTR				PKPab	PKPab	16 50 06.4	+0.4
CLL	Collm	152.40	342	ePKPbc	PKPbc	16 50 10.0	+0.6
GERES	GERESS Array B	154.36	339	PKPbc	PKPbc	16 50 14.4	+0.8
	comp=Z,0.3nm,0.3s,baz=104,slow=14,SNR=2.1						
GERES				PKPab	PKPab	16 50 30.2	-0.3
	comp=Z,0.2nm,0.4s,baz=108,slow=25,SNR=1.3						
GERES	GERESS Array B	154.36	339	PKPbc	PKPbc	16 50 14.4	+0.8
GERES				PKPab	PKPab	16 50 30.2	-0.3

*ISK **07** 16:37:51.0, 38°.43N×39°.25E, h5km, MD3.1*
*DDA **07** 16:37:51.3, 38°.40N×39°.28E, h7km±4km, Md3.2*
*CSEM **07** 16:37:51.6±0.2, 38°.42N×39°.26E, h0km±4km, MD3.1, Error ellipse: s-maj=6.1km s-min=4.5km az=157.0*
*ISCJB **07** 16:37:52.0±0.4, 38°.43N±0°.03×39°.27E±0°.03, h10km, Error ellipse: s-maj=4.8km s-min=3.5km az=169.1*
ISC 07 16:37:51.9±0.6, 38°.42N±0°.03×39°.28E±0°.03, h1km±6km, n31, σ0=86/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.05	156	ePG	Pg	16 37 53.0	+0.2
SVRC	Sivrice-ELAZID	0.05	156	ePg	Pg	16 37 53.0	+0.2
ELZG	Elazig	0.25	288	iP	Pg	16 37 56.6	0.0
ELZG				iS	Sg	16 38 01.2	+1.3
ELZG	Elazig	0.25	288	iP	Pg	16 37 56.6	0.0
ELZG				iS	Sg	16 38 01.2	+1.4
PTK	Pertek	0.48	10	ePG	Pg	16 38 00.3	-0.8
PTK				eSG	Sg	16 38 07.8	+0.5
PTK	Pertek	0.48	10	ePg	Pg	16 38 00.3	-0.8
PTK				eSg	Sg	16 38 07.8	+0.5
MYA	Malataya	0.68	262	ePG	Pg	16 38 04.3	-0.7
MYA	Malataya	0.68	262	ePg	Pg	16 38 04.3	-0.6
MALT	Malatya	0.68	261	ePG	Pg	16 38 04.3	-0.7
MALT				eSG	Sg	16 38 13.8	0.0
MALT	Malatya	0.68	261	ePg	Pg	16 38 04.3	-0.7
MALT				eSg	Sg	16 38 13.8	0.0
DIYA	Diyarbakir	0.83	127	iP	Pg	16 38 07.9	+0.2
DIYA				iS	Sg	16 38 19.4	+0.9
BINT	Bingol	1.05	64	ePn	Pn	16 38 15.9	+2.1
AKCD	Akcadag	1.08	264	iP	Pg	16 38 11.2	-1.3
AKCD				iS	Sg	16 38 27.9	+1.4
AKCD	Akcadag	1.08	264	iP	Pg	16 38 11.2	-1.3
AKCD				iS	Sg	16 38 27.9	+1.4
ATAB	Bozova	1.23	220	iP	Pg	16 38 14.1	-1.4
ATAB				iS	Sg	16 38 31.7	+0.3
ATAB	Bozova	1.23	220	iP	Pg	16 38 14.1	-1.4
ATAB				iS	Sg	16 38 31.7	+0.3
BNGB	Bing¶ll	1.23	62	ePN	Pn	16 38 15.9	-0.4
DARE	Darende-Malaty	1.27	295	ePN	Pn	16 38 17.9	+1.0
DARE	Darende-Malaty	1.27	295	ePn	Pn	16 38 17.9	+1.1
EZC	Erzincan	1.33	2	ePN	Pn	16 38 17.7	+0.1
EZC	Erzincan	1.33	2	ePn	Pn	16 38 17.7	+0.1
BEST	Besiri	1.65	108	iP	Pn	16 38 18.1	-4.0
BEST				iS	Sn	16 38 44.3	+0.3
VRTB	Varto-Mus	1.85	66	ePN	Pn	16 38 24.0	-0.8
VRTB	Varto-Mus	1.85	66	ePn	Pn	16 38 24.0	-0.8
GUMT	Gumushane	2.04	4	ePN	Pn	16 38 26.6	-0.9
GUMT	Gumushane	2.04	4	ePn	Pn	16 38 26.6	-0.8
GAZ	Gaziantep	2.06	233	ePN	Pn	16 38 27.3	-0.4
GAZ	Gaziantep	2.06	233	ePn	Pn	16 38 27.3	-0.4
KMRS	Kahramanmaras	2.09	245	ePN	Pn	16 38 28.1	0.0
KMRS	Kahramanmaras	2.09	245	ePn	Pn	16 38 28.1	0.0
EZM	Erzurum	2.19	47	ePN	Pn	16 38 28.9	-0.6

*IDC **07** 17:02:21.3±1.0, 23°.33S×115°.16W, h0km, mb4.0/7, mb1 4.4/7, mb1mx4.3/14, mbtmp4.0/7, MS4.0/12, Ms1 3.9/12, ms1mx3.8/30, Error ellipse: s-maj=40.5km s-min=22.1km az=48.0*
*ISCJB **07** 17:02:22.1±0.5, 23°.24S±0°.07×114°.72W±0°.07, h10km, mb4.6/34, MS4.2/15, Error ellipse: s-maj=10.7km s-min=9.3km az=174.1*
*NEIC **07** 17:02:22.9±0.4, 23°.42S×114°.85W, h10km, mb4.8/29, Error ellipse: s-maj=16.5km s-min=9.7km az=72.0*
*BJI **07** 17:02:25.2, 23°.40S×114°.70W, h10km, mB5.1/6, Ms5.2/6, Ms7 4.9/6*
ISC 07 17:02:24.9±6.6, 23°.33S±0°.08×114°.83W±0°.10, h16km±39km, n94, σ0=84/54, mb4.6/34, MS4.2/15, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	6.25	128	T		17 10 25.2	
	31nm,0.3s,baz=242,slow=9.8,SNR=14						
RKT	Rikitea	18.51	267	eS	Sn	17 10 07.5	+0.1
	1μm,28.5s						
RKT				eLR	LR	17 10 46.2	
	1μm,27.2s						
TAOE	Nuku Hiva Isla	28.19	297	eLR	LR	17 15 15.3	
	1μm,26.1s						
TBI	Tubuai	31.75	263	eLR	LR	17 16 51.3	
	472nm,26.5s,baz=93						
PPT	Papeete	33.00	273	eS	S	17 14 18.1	+0.7
	70nm,26.5s						
PPT				eLR	LR	17 17 04.9	
	497nm,27.2s						
PLCA	Paso Flores	40.89	126	P	P	17 10 08.4	+2.2
	2.8nm,1.0s,mb3.8,baz=331,slow=8.3,SNR=3.3						
PLCA				LR	LR	17 23 05.6	
	comp=Z,174nm,21.3s,MS3.9,baz=100,slow=30						
PLCA	Paso Flores	40.89	126	P	P	17 10 05.7	-0.5
	9.1nm,1.3s,mb4.2						
RAR	Rarotonga	41.52	264	LR	LR	17 21 42.9	
	comp=Z,455nm,21.3s,MS4.3,baz=270,slow=28						
CFAA	Coronel Fontan	41.90	112	P	P	17 10 15.8	+1.1
	0.3nm,0.9s,baz=260,slow=4.5,SNR=5.6						
CFAA	Coronel Fontan	41.90	112	P	P	17 10 15.8	+1.1
OTAV	Otavalo	42.40	62	P	P	17 10 18.7	-0.2
LPAZ	La Paz	44.34	90	P	P	17 10 36.5	+1.9
	2.4nm,1.0s,mb3.9,baz=293,slow=8.1,SNR=4.3						
LPAZ				LR	LR	17 25 52.1	
	comp=Z,89nm,18.2s,MS3.7,baz=120,slow=32						
LPAZ	La Paz	44.34	90	eP	P	17 10 32.2	-2.4
	10nm,1.4s,mb4.4						
TXAR	Lajitas Array	53.45	12	P	P	17 11 44.7	+0.6
	0.8nm,0.9s,mb3.6,baz=178,slow=11,SNR=6.9						
TXAR				LR	LR	17 29 55.1	
	comp=Z,83nm,19.6s,MS3.8,baz=245,slow=31						
TXAR	Lajitas Array	53.45	12	P	P	17 11 44.7	+0.6
AFI	Afiamalu	54.48	269	LR	LR	17 28 05.6	
	comp=Z,253nm,20.6s,MS4.3,baz=83,slow=28						
JCT	Junction City	55.41	16	eP	P	17 11 58.8	+0.4
	41nm,1.6s,mb5.2						
MNTX	Cornudas Mount	55.45	10	eP	P	17 11 58.6	-0.2
	10nm,1.3s,mb4.7						
GDL2	Guadalupe Moun	56.11	11	eP	P	17 12 02.6	-0.8
	1.8nm,0.6s,mb4.3						
CPRX	Cap Rock	57.01	11	P	P	17 12 09.3	-0.5
	7.7nm,0.7s,mb4.8						
LENM	Lemitar	57.66	8	eP	P	17 12 15.4	+1.0
	16nm,1.1s,mb5.0						
BNM	Barren Site	57.69	8	eP	P	17 12 14.9	+0.4
	5.8nm,0.3s,mb5.1						
LPM	Los Pinos Moun	57.85	8	eP	P	17 12 16.7	+1.0
	5.4nm,1.0s,mb4.5						
LAZ	Ladron	57.87	8	eP	P	17 12 16.2	+0.4
	9.6nm,0.9s,mb4.8						
LDFC	Landfair	58.08	360	eP	P	17 12 18.4	+1.0
	23nm,1.4s,mb5.0						
ANMO	Albuquerque	58.50	8	LR	LR	17 32 47.6	
	comp=Z,73nm,21.7s,MS3.8,baz=202,slow=31						
ISA	Isabella	58.77	357	eP	P	17 12 22.3	+0.2
	11nm,1.4s,mb4.7						
URZ	Urewera	59.12	238	LR	LR	17 30 58.7	
	comp=Z,129nm,21.6s,MS4.0,baz=180,slow=29						
CCUT	Cedar City	60.57	1	eP	P	17 12 35.0	+0.5
	8.1nm,1.0s,mb4.8						
ARUT	Antelope Range	60.80	1	eP	P	17 12 37.3	+1.3
	16nm,1.4s,mb5.0						
SDCO	Great Sand Dun	61.38	8	eP	P	17 12 40.3	+0.3
	8.7nm,1.3s,mb4.7						
NVAR	Mina Array Bea	61.51	357	P	P	17 12 41.8	+0.9
	4.7nm,0.9s,mb4.6,baz=184,slow=9.4,SNR=29						
NVAR	Mina Array Bea	61.51	357	P	P	17 12 41.8	+0.9
PV04	Paradox Valley	61.64	5	eP	P	17 12 41.6	-0.1
DUG	Dugway	63.22	2	eP	P	17 12 52.8

comp=Z,91nm,19.8s,MS4.2,baz=234,slow=30
ILAR Eielson Array 91.25 347 P **P 17 15 28.4 -0.4**
0.3nm,0.7s,mb3.7,baz=182,slow=4.4,SNR=6.5
ILAR Eielson Array 91.25 347 P **P 17 15 28.4 -0.4**
CN2 Changchun 126.98 308 *e*PKP PKPdf 17 21 24.3 -3.7
CN2 PP PP 17 23 27.4 +0.9
NJ2 Nanjing 132.08 293 *e*PKP PKPdf 17 21 33.8 -4.3
WHN Wuhan 135.84 290 PKP PKPdf 17 21 40.8 -4.4
HHC Hu-ho-hao-te 137.51 306 *e*PKP PKPdf 17 21 49.3 +1.3
HHC PP PP 17 24 39.5 +5.3
HHC PKS 17 25 23.5
HHC SKS SKSdf 17 28 54.0 -4.1
HHC SKKS SKKSac 17 31 26.2 -1.8
HHC SS SS 17 42 45.6 +3.6
HHC AMB AMB
comp=Z,110nm,7.1s
HHC LR LR
comp=N,120nm,19.0s,MS4.9
HHC LR LR
comp=E,170nm,17.8s,MS4.9
HHC LR LR
comp=Z,130nm,20.2s,MS4.7
SONM Songino Array 139.18 317 PKP PKPdf 17 21 51.2 +0.3
comp=Z,0.3nm,0.8s,baz=102,slow=22,SNR=3.2
SONM Songino Array 139.18 317 PKP PKPdf 17 21 51.1 +0.3
GYA Guiyang 142.34 284 PKP PKPdf 17 21 56.0 -1.2
GYA PP PP 17 25 07.4 +2.9
GYA AMB AMB
comp=Z,90nm,7.8s
LZH Lanzhou 144.31 300 *e*PKP PKPdf 17 22 00.5 +0.1
LZH pPKP pPKPdf 17 22 03.8 -2.1
LZH sPKP 17 22 05.3
LZH LR LR
comp=N,150nm,18.0s,MS5.0
LZH LR LR
comp=E,170nm,18.2s,MS5.0
LZH LR LR
comp=Z,240nm,20.1s,MS5.0
CD2 Chengdu 144.96 291 *e*PKPbc PKPdf 17 22 00.4 -1.4
ZAA0 Zalesovo Array 146.03 339 *e*PKP PKPdf 17 22 01.4 -1.4
ZALV Zalesovo Beam 146.03 339 PKPbc PKPbc 17 22 01.2 -2.3
comp=Z,1.2nm,0.6s,baz=7.1,slow=3.6,SNR=8.4
ZALV Zalesovo Beam 146.03 339 PKPbc PKPbc 17 22 01.2 -2.3
ARU Arti 146.58 7 *e*PKPdf PKPdf 17 22 03.6 -0.1
GTA Gaotai 146.59 307 *e*PKPbc PKPbc 17 22 05.0 -0.7
GTA PKPab PKPab 17 22 10.1 +3.3
GTA PP PP 17 25 33.7 +4.4
GTA SS SS 17 44 31.6 +4.3
GTA AMB AMB
comp=Z,74nm,5.5s
GTA LR LR
comp=N,85nm,14.7s,MS5.0
GTA LR LR
comp=E,190nm,14.7s,MS5.0
GTA LR LR
comp=Z,110nm,15.2s,MS4.8
CMAR Chiang Mai Arr 148.12 268 PKPbc PKPbc 17 22 09.8 -0.7
comp=Z,4.5nm,1.1s,baz=83,slow=0.6,SNR=20
CMAR Chiang Mai Arr 148.12 268 PKPbc PKPbc 17 22 09.8 -0.7
CHTO Chiang Mai 148.21 268 PKPdf PKPdf 17 22 07.8 +0.3
BR131 Keskin Array S 148.75 51 *e*PKPbc PKPbc 17 22 10.7 -0.9
BRTR Keskin Array B 148.75 51 PKPbc PKPbc 17 22 11.1 -0.5
comp=Z,1.7nm,0.8s,baz=275,slow=1.5,SNR=13
BRTR Keskin Array B 148.75 51 PKPbc PKPbc 17 22 11.1 -0.5
KURK Kurchatov 150.72 342 PKPbc PKPbc 17 22 14.1 -2.0
comp=Z,1.5nm,0.8s,baz=21,slow=1.7,SNR=13
KURK Kurchatov 150.72 342 PKPbc PKPbc 17 22 14.1 -2.0
AKTO Aktyubinsk 152.37 10 PKPbc PKPbc 17 22 17.6 -2.2
comp=Z,0.7nm,0.8s,baz=356,slow=19,SNR=2.2
AKTO Aktyubinsk 152.37 10 PKPbc PKPbc 17 22 17.6 -2.2
WMQ Urumqi 152.41 323 *e*PKPbc PKPbc 17 22 12.5 -7.7
MKAR Makanchi Array 152.83 334 PKPbc PKPbc 17 22 19.0 -2.0
comp=Z,0.6nm,0.7s,baz=8.1,slow=1.7,SNR=4.3
MKAR Makanchi Array 152.83 334 PKPbc PKPbc 17 22 19.0 -2.0
ABKAR Akbulak array 153.79 8 PKPbc PKPbc 17 22 21.9 -1.1

DJA 07 17:15:10, 1°00N×98°74E, h10km, MLv3.3/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.86**	**104**	P	Pg	17 15 36.4	+10
PSI	**Prapat**	**1.80**	**6**	P	Pn	17 15 38.7	-2.4
TPTI		**2.73**	**325**	P	Pn	17 15 56.2	+2.2
SDSI	**Sungai Dareh**	**3.30**	**126**	P	Pn	17 15 57.3	-4.5
KULM	**Kulim**	**4.67**	**24**	P	Pn	17 16 23.9	+3.3
LWLI	**Liwa**	**8.00**	**138**	P	Pn	17 17 07.4	+1.0

*ISCJB **07** 17:25:18.5±1.1, 4°.5S±0°.2×106°.3W±0°.2, h10km, mb4.0/13, MS3.6/8, Error ellipse: s-maj=34.8km s-min=21.0km az=163.4*
*IDC **07** 17:25:18.2±1.3, 4°.61S×106°.78W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.1/14, mbtmp3.9/8, MS3.7/8, Ms1 3.7/8, ms1mx3.4/21, Error ellipse: s-maj=120.7km s-min=25.6km az=91.0*
*NEIC **07** 17:25:19.4±0.8, 4°.62S×106°.33W, h10km, mb4.2/7, Error ellipse: s-maj=26.4km s-min=16.3km az=80.0*
ISC 07 17:25:20.0±1.1, 4°.6S±0°.2×106°.3W±0°.2, h10km, n31, σ0§80/21, mb4.0/13, MS3.6/8, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**24.30**	**27**	LR	LR	17 37 55.2	
	comp=Z,201nm,20.9s,MS3.6,baz=164,slow=31						
JTS	**JuntasAbangare**	**25.88**	**55**	LR	LR	17 38 18.5	
	comp=Z,262nm,21.2s,MS3.7,baz=38,slow=30						
ATAH	**Atahualpa**	**27.86**	**97**	LR	LR	17 39 09.2	
	comp=Z,92nm,20.8s,MS3.4,baz=108,slow=29						
NNA	**Nana**	**30.04**	**106**	LR	LR	17 40 10.0	
	comp=Z,146nm,18.2s,MS3.7,baz=326,slow=29						
TEIG	**Tepich**	**30.34**	**35**	LR	LR	17 41 56.8	
	comp=Z,169nm,18.6s,MS3.7,baz=201,slow=33						
ROSC	**El Rosal**	**33.27**	**74**	LR	LR	17 42 52.1	
	comp=Z,62nm,18.7s,MS3.3,baz=20,slow=31						
TXAR	**Lajitas Array**	**33.81**	**4**	P	**P**	**17 32 02.3**	**-0.1**
	0.7nm,1.0s,mb3.5,baz=209,slow=7.2,SNR=4.2						
TXAR	**Lajitas Array**	**33.81**	**4**	P	**P**	**17 32 02.3**	**-0.1**
SDV	**Santo Domingo**	**37.98**	**69**	P	**P**	**17 32 38.5**	**0.0**
	4.7nm,0.8s,mb4.3						
BNM	**Barren Site**	**38.52**	**360**	P	**P**	**17 32 41.6**	**-1.0**
	2.5nm,1.0s,mb3.9						
LPAZ	**La Paz**	**39.21**	**110**	LR	LR	17 46 41.2	
	comp=Z,59nm,19.6s,MS3.4,baz=348,slow=32						
ANMO	**Albuquerque**	**39.31**	**360**	P	**P**	**17 32 50.9**	**+1.6**
	1.6nm,0.9s,mb3.8,baz=170,slow=12,SNR=2.3						
ANMO	**Albuquerque**	**39.31**	**360**	P	**P**	**17 32 50.1**	**+0.8**
	3.3nm,1.2s,mb3.9						
NVAR	**Mina Array Bea**	**44.21**	**346**	P	**P**	**17 33 29.9**	**+0.5**
	0.2nm,0.4s,mb3.2,baz=95,slow=16,SNR=2.4						
NVAR	**Mina Array Bea**	**44.21**	**346**	P	**P**	**17 33 29.9**	**+0.5**
PDAR	**Pinedale Array**	**47.21**	**357**	P	**P**	**17 33 52.9**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=206,slow=13,SNR=2.9						
PDAR	**Pinedale Array**	**47.21**	**357**	P	**P**	**17 33 52.9**	**-0.1**
PLCA	**Paso Flores**	**48.21**	**143**	LR	LR	17 49 21.0	
	comp=Z,137nm,18.5s,MS4.0,baz=204,slow=30						
HLID	**Hailey**	**48.47**	**352**	P	**P**	**17 34 03.4**	**+0.6**
	2.1nm,1.2s,mb4.0						
FLWY	**Flagg Ranch**	**48.60**	**356**	*e*P	**P**	**17 34 03.9**	**+0.1**
	9.0nm,1.2s,mb4.7						
MCMT	**McKenzie Canyo**	**49.53**	**354**	*e*P	**P**	**17 34 12.3**	**+1.4**
	2.8nm,1.2s,mb4.2						
YKA	**Yellowknife Ar**	**67.18**	**356**	P	**P**	**17 36 12.5**	**-1.4**
	0.5nm,0.6s,mb3.7,baz=167,slow=6.4,SNR=3.8						
YKA	**Yellowknife Ar**	**67.18**	**356**	P	**P**	**17 36 12.6**	**-1.4**
INK	**Inuvik**	**75.17**	**350**	P	**P**	**17 37 01.6**	**-0.7**
	2.5nm,0.6s,mb4.3,baz=221,slow=3.0,SNR=5.0						
INK	**Inuvik**	**75.17**	**350**	P	**P**	**17 37 01.6**	**-0.7**
ILAR	**Eielson Array**	**75.36**	**343**	P	**P**	**17 37 02.5**	**-0.9**
	1.7nm,0.8s,mb4.0,baz=156,slow=5.2,SNR=21						
ILAR	**Eielson Array**	**75.36**	**343**	P	**P**	**17 37 02.5**	**-0.9**
QSPA	**South Pole Qui**	**85.48**	**180**	P	**P**	**17 37 58.0**	**+0.4**
	2.8nm,0.7s,mb4.5,baz=131,slow=3.4,SNR=11						
QSPA	**South Pole Qui**	**85.48**	**180**	*e*P	**P**	**17 37 57.9**	**+0.3**
	2.8nm,0.8s,mb4.4						
CMAR	**Chiang Mai Arr**	**151.75**	**301**	PKPbc	PKPbc	17 45 14.6	-1.4
	0.8nm,0.4s,baz=80,slow=1.5,SNR=10						
CMAR	**Chiang Mai Arr**	**151.75**	**301**	PKPbc	PKPbc	17 45 14.6	-1.4

IDC 07 17:26:15.5±26.0, 21°23S×171°20W, h0km, mb4.4/4, mb1 4.5/4, mb1mx3.9/18, mbtmp4.4/4, MS4.0/1, Ms1 4.0/1, ms1mx2.9/28, Error ellipse: s-maj=491.6km s-min=157.2km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**30.14**	**288**	LR	LR	17 41 40.8	
	comp=Z,314nm,21.2s,baz=138,slow=31						
CTA	**Charters Tower**	**39.74**	**264**	P	P	17 33 50.0	-0.2
	6.8nm,0.4s,baz=95,slow=11,SNR=26						
STKA	**Stephens Creek**	**43.25**	**246**	P	P	17 34 17.9	-1.0
	0.9nm,0.4s,baz=78,slow=8.9,SNR=8.0						
ASAR	**Alice Springs**	**50.54**	**256**	P	P	17 35 16.3	+0.3
	1.9nm,0.6s,baz=96,slow=7.3,SNR=80						
WRA	**Warramunga Arr**	**50.79**	**261**	P	P	17 35 18.4	+0.5
	1.3nm,0.3s,baz=89,slow=5.9,SNR=32						

GUC 07 17:26:45.7±0.7, 31°78S×71°42W, h28km±1km, MD4.2, ML3.6, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.12**	**216**	⇓*i*P	Pb	17 26 51.0	+0.1
CHNG				*i* S	Sb	17 26 54.6	+0.2
CHNG				AML	AML	17 26 54.9	
	comp=N,22μm,0.2s						
PTCH	**Petorca**	**0.63**	**139**	⇑*i*P	Pb	17 26 58.0	-0.3
PTCH				*i* S	Sb	17 27 06.8	+0.1
PTCH				AML	AML	17 27 07.7	
	comp=N,10μm,0.2s						
CMCH	**Combarbala**	**0.70**	**30**	⇑*i*P	Pb	17 26 58.8	-0.6
CMCH				*i* S	Sb	17 27 08.7	0.0
CMCH				AML	AML	17 27 13.0	
	comp=E,6μm,0.6s						
JACH	**Jahuel**	**1.14**	**142**	⇓*i*P	Pn	17 27 06.2	+0.4
JACH				*i* S	Sn	17 27 21.2	+0.8
OVCH	**Ovalle**	**1.19**	**9**	⇑*i*P	Pn	17 27 06.6	+0.2
OVCH				*i* S	Sn	17 27 22.4	+0.8
OVCH				AML	AML	17 27 24.4	
	comp=N,2μm,0.4s						
ROCH	**El Roble**	**1.23**	**164**	*e*P	Pn	17 27 06.8	-0.3
ROCH				*i* S	Sn	17 27 23.5	+0.7
IHA	**Instituto Hidr**	**1.25**	**189**	⇓*i*P	Pn	17 27 06.8	-0.6
PEL	**Peldehue**	**1.49**	**156**	⇓*i*P	Pn	17 27 11.3	+0.6
PEL				*i* S	Sn	17 27 30.7	+1.5
PEL				AML	AML	17 27 34.8	
	comp=E,2μm,0.3s						
TLL	**Tololo Astrono**	**1.69**	**18**	⇓*i*P	Pn	17 27 15.1	+1.7
TLL				*i* S	Sn	17 27 37.5	+3.3
TLL				AML	AML	17 27 41.3	
	comp=N,965nm,0.5s						
LCCH	**Las Cruces**	**1.69**	**184**	⇑*i*P	Pn	17 27 14.4	+1.0
SAN	**Santiago**	**1.78**	**159**	*e*P	Pn	17 27 16.1	+1.5
SAN				*i* S	Sn	17 27 38.8	+2.4
FCH	**Farellones**	**1.81**	**149**	⇓*i*P	Pn	17 27 15.5	+0.4
FCH				*i* S	Sn	17 27 39.2	+2.2
FCH				AML	AML	17 27 42.1	
	comp=E,870nm,0.7s						
FSR	**Penalolen**	**1.85**	**156**	*e*S	Sn	17 27 40.8	+2.8
ANTU	**Antumapu**	**1.90**	**160**	*e*P	Pn	17 27 17.8	+1.5
ANTU				*i* S	Sn	17 27 41.7	+2.4
ANTU				AML	AML	17 27 49.6	
	comp=E,638nm,0.4s						
PCH	**Pirque**	**1.98**	**158**	*e*P	Pn	17 27 19.1	+1.7
PCH				*i* S	Sn	17 27 44.1	+2.7
SJCH	**San Jose de Ma**	**2.06**	**155**	*e*P	Pn	17 27 20.2	+1.8
SJCH				*i* S	Sn	17 27 46.2	+3.0
SJCH				AML	AML	17 27 54.0	
	comp=E,544nm,0.2s						
CHCH	**Chadas Angostu**	**2.24**	**164**	*e*P	Pn	17 27 22.7	+1.8
LMEL	**Las Melosas**	**2.30**	**154**	*e*P	Pn	17 27 23.6	+1.9
LMEL				*e*S	Sn	17 27 52.2	+3.1
LMEL				AML	AML	17 28 01.1	
	comp=N,793nm,0.1s						
CACH	**El Canelo**	**2.43**	**164**	*e*P	Pn	17 27 25.7	+2.2
CACH				*i* S	Sn	17 27 56.3	+4.0
LCO	**Las Campanas**	**2.83**	**13**	*e*P	Pn	17 27 30.7	+1.6
LCO				*e*S	Sn	17 28 05.3	+3.1
LCO				AML	AML	17 28 17.9	
	comp=E,222nm,0.3s						

*NEIC **07** 17:35:36.0, 44°.95S×167°.43E, h71km, ML3.7(WEL), After WEL.*
WEL 07 17:35:36.0±0.2, 44°96S×167°43E, h71km±2km, ML3.7/10, 1C-1D, Error ellipse: s-maj=1.8km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.45**	**52**	⇑PN	Pn	17 35 48.3	-0.1
MSZ				SN	Sn	17 35 57.4	-0.2
MSZ	**Milford Sound**	**0.45**	**52**	Pn	Pn	17 35 48.3	-0.1
MSZ				Sn	Sn	17 35 57.4	-0.2
DCZ	**Deep Cove**	**0.56**	**200**	⇓PN	Pn	17 35 49.2	-0.2
DCZ				SN	Sn	17 35 59.2	-0.1
DCZ	**Deep Cove**	**0.56**	**200**	Pn	Pn	17 35 49.2	-0.2
DCZ				Sn	Sn	17 35 59.2	-0.1
MLZ	**Mavora Lakes**	**0.66**	**127**	PN	Pn	17 35 50.0	-0.5
MLZ				SN	Sn	17 36 00.7	-0.4
MLZ	**Mavora Lakes**	**0.66**	**127**	Pn	Pn	17 35 50.0	-0.5
MLZ				Sn	Sn	17 36 00.7	-0.4
WHZ	**Wether Hill Ro**	**1.01**	**159**	PN	Pn	17 35 54.2	-0.3
WHZ				SN	Sn	17 36 08.1	-0.3
WHZ	**Wether Hill Ro**	**1.01**	**159**	Pn	Pn	17 35 54.2	-0.3
WKZ	**Wanaka**	**1.14**	**84**	PN	Pn	17 35 56.3	+0.1
WKZ				SN	Sn	17 36 11.2	-0.1
WKZ	**Wanaka**	**1.14**	**84**	Pn	Pn	17 35 56.3	+0.1
JCZ	**Jackson Bay**	**1.30**	**48**	PN	Pn	17 35 57.6	-0.7
JCZ	**Jackson Bay**	**1.30**	**48**	Pn	Pn	17 35 57.6	-0.7
PYZ	**Puysegur Point**	**1.32**	**203**	PN	Pn	17 36 00.1	+1.5
PYZ	**Puysegur Point**	**1.32**	**203**	Pn	Pn	17 36 00.1	+1.6
EAZ	**Earnscleugh**	**1.36**	**102**	PN	Pn	17 35 58.9	-0.2
EAZ	**Earnscleugh**	**1.36**	**102**	Pn	Pn	17 35 58.9	-0.2
TUZ	**Tuapeka**	**1.85**	**124**	PN	Pn	17 36 05.1	-0.4
TUZ	**Tuapeka**	**1.85**	**124**	Pn	Pn	17 36 05.1	-0.4
APZ	**The Paps**	**1.92**	**168**	PN	Pn	17 36 06.4	-0.1
APZ	**The Paps**	**1.92**	**168**	Pn	Pn	17 36 06.4	-0.1
SYZ	**Scrubby Hill**	**1.98**	**144**	PN	Pn	17 36 06.9	-0.5
SYZ	**Scrubby Hill**	**1.98**	**144**	Pn	Pn	17 36 06.9	-0.5
LBZ	**Lake Benmore**	**2.05**	**75**	PN	Pn	17 36 07.0	-1.2
LBZ	**Lake Benmore**	**2.05**	**75**	Pn	Pn	17 36 07.0	-1.2
FOZ	**Fox Glacier**	**2.14**	**50**	PN	Pn	17 36 08.6	-0.9
FOZ	**Fox Glacier**	**2.14**	**50**	Pn	Pn	17 36 08.6	-0.9
ODZ	**Otahua Downs**	**2.28**	**93**	PN	Pn	17 36 10.2	-1.2
ODZ	**Otahua Downs**	**2.28**	**93**	Pn	Pn	17 36 10.2	-1.2
RPZ	**Rata Peaks**	**2.88**	**66**	PN	Pn	17 36 17.4	-2.1
RPZ	**Rata Peaks**	**2.88**	**66**	Pn	Pn	17 36 17.4	-2.1
LTZ	**Lake Taylor**	**4.12**	**60**	PN	Pn	17 36 33.7	-2.7
LTZ	**Lake Taylor**	**4.12**	**60**	Pn	Pn	17 36 33.7	-2.7
DSZ	**Denniston Nort**	**4.52**	**46**	PN	Pn	17 36 39.9	-2.0
THZ	**Tophouse**	**5.11**	**53**	PN	Pn	17 36 47.2	-2.8
THZ	**Tophouse**	**5.11**	**53**	Pn	Pn	17 36 47.2	-2.8
QRZ	**Quartz Range**	**5.57**	**44**	PN	Pn	17 36 54.6	-1.6
QRZ	**Quartz Range**	**5.57**	**44**	Pn	Pn	17 36 54.6	-1.6
TMWZ	**Te Maipa**	**7.29**	**61**	Pn	Pn	17 37 15.1	-4.6

*CSEM **07** 18:04:23.1±0.3, 33°33N×35°43E, h0km±4km, ML3.0, Error ellipse: s-maj=10.4km s-min=6.1km az=96.0*
GRAL 07 18:04:23.7±0.3, 33°33N×35°44E, h2km±17km, MD2.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matarih**	**0.18**	**331**	*e*P	Pg	18 04 27.1	-0.2
MATL	**Matarih**	**0.18**	**331**	*e*P	Pg	18 04 27.1	-0.2
RCY	**Rachaya**	**0.37**	**63**	*e*P	Pg	18 04 30.3	-0.5
RCY				*e*S	Sg	18 04 35.4	-0.4
RCY	**Rachaya**	**0.37**	**63**	*e*P	Pg	18 04 30.3	-0.6
RCY				*e*S	Sg	18 04 35.4	-0.3
BHL	**Bhannes**	**0.60**	**17**	*e*P	Pg	18 04 34.4	-0.9
BHL	**Bhannes**	**0.60**	**17**	*e*P	Pg	18 04 34.4	-0.9
HWQ	**Hawqa**	**1.04**	**24**	*e*P	Pg	18 04 42.9	-0.7

*CSEM **07** 18:27:19.7±0.4, 33°97N×48°78E, h5km, ML2.6, Error ellipse: s-maj=12.8km s-min=8.1km az=125.0*
*ISCJB **07** 18:27:20.2±0.9, 33°85N±0°03×48°76E±0°03, h5km±8km, Error ellipse: s-maj=6.0km s-min=4.5km az=22.9*
*TEH **07** 18:27:22.7, 33°91N×48°76E, h10km*
*KISR **07** 18:27:23.0±1.0, 33°47N×48°89E, h6km±999km, ML2.6*
ISC 07 18:27:21.2±0.9, 33°87N±0°03×48°75E±0°03, h5km±7km, n26, σ0§99/38, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.08**	**287**	*e*Pg	**Pg**	**18 27 40.7**	**-1.2**
IKOM				*e*Sg	**Sg**	**18 27 56.7**	**+0.8**
IKOM				*e*		18 28 04.4	
	comp=Z,3μm,0.2s						
ASAO	**Ashtian**	**1.25**	**57**	*e*Pg	**Pn**	**18 27 42.1**	**-3.4**
ASAO				*e*Sg	**Sn**	**18 27 58.3**	**-4.4**
SNGE	**Sanandaj**	**1.69**	**317**	*e*Pg	**Pn**	**18 27 51.0**	**-0.4**
IVIS	**Veis**	**1.71**	**293**	*e*Pn	**Pn**	**18 27 52.5**	**+0.8**
IVIS				*e*Sg	**Sg**	**18 28 15.3**	**-0.9**
IVIS				*e*		18 28 26.2	
	comp=Z,1μm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.75**	**179**	*e*Pg	**Pn**	**18 27 52.5**	**+0.2**
ILIN	**Lien**	**1.82**	**306**	*e*Pn	**Pn**	**18 27 53.8**	**+0.6**
ILIN				*e*		18 28 24.1	
	comp=Z,826nm,0.2s						
IGHG	**Ghaleghazi**	**1.87**	**285**	*e*Pn	**Pn**	**18 27 55.3**	**+1.4**
IGHG				*e*		18 28 36.9	
	comp=Z,3μm,0.3s						
IDHR	**Dehrash**	**2.13**	**294**	*e*Pn	**Pn**	**18 27 58.4**	**+0.9**
IDHR				*e*		18 28 36.5	
	comp=Z,1μm,0.2s						
IPIR	**Pirpir**	**2.14**	**123**	*e*Pn	**Pn**	**18 27 58.5**	**+0.8**
IPIR				*e*Sg	**Sg**	**18 28 30.6**	**+0.5**
IPIR				*e*		18 28 36.6	
	comp=Z,1μm,0.3s						
GHVR	**GHOM**	**2.19**	**73**	*e*Pn	**Pn**	**18 27 56.7**	**-1.7**
IMHD	**Mahdasht**	**2.40**	**40**	*e*	**Pn**	**18 28 07.8**	**+6.5**
	comp=Z,626nm,0.1s						
IMHD				*e*Pn	**Pn**	**18 28 01.6**	**+0.3**
IKLH	**Kolahrood**	**2.42**	**102**	*e*Pn	**Pn**	**18 28 02.4**	**+0.9**
IKLH				*e*		18 28 42.5	
	comp=Z,1μm,0.2s						
IVRN	**Varamin**	**2.70**	**65**	*e*	**Sg**	**18 28 45.0**	**-3.1**
	comp=Z,559nm,0.2s						
IVRN				*e*Pn	**Pn**	**18 28 05.8**	**+0.4**
IZEF	**Zefreh**	**3.14**	**107**	*e*Pn	**Pn**	**18 28 12.1**	**+0.7**
IZEF				*e*		18 29 02.8	
	comp=Z,366nm,0.4s						
IDMV	**Damavand**	**3.19**	**57**	*e*Pn	**Pn**	**18 28 12.2**	**+0.1**
IDMV				*e*		18 29 15.3	
	comp=Z,278nm,0.3s						
ISRB	**Sarab**	**4.05**	**348**	*e*Pn	**Pn**	**18 28 24.2**	**+0.3**
ISRB				*e*		18 28 50.5	
	comp=Z,102nm,0.3s						
ISHM	**Shahmirzad**	**4.21**	**61**	*e*Pn	**Pn**	**18 28 26.4**	**+0.4**
ISHM				*e*		18 29 40.8	
	comp=Z,318nm,0.1s						
MIB	**Mutribah**	**4.22**	**197**	*e*P	**Pn**	**18 28 27.1**	**+0.8**
MIB				*e*S	**Sn**	**18 29 14.5**	**-1.5**
MIB				AML	AML	18 29 16.9	
	comp=Z,8.6nm,0.5s						
MIB	**Mutribah**	**4.22**	**197**	*e*P	**Pn**	**18 28 27.1**	**+0.8**
MIB				*e*S	**Sn**	**18 29 14.5**	**-1.5**
	comp=Z,9.0nm,0.5s						
IHRS	**Heris**	**4.66**	**343**	*e*Pn	**Pn**	**18 28 32.0**	**-0.2**
IHRS				*e*		18 28 51.0	
	comp=Z,66nm,0.2s						
NAY	**Al-Naaiem**	**4.78**	**196**	*e*P	**Pn**	**18 28 34.3**	**+0.4**
NAY				*e*S	**Sn**	**18 29 29.0**	**-0.7**
NAY				AML	AML	18 29 30.9	
	comp=Z,3.8nm,0.6s						
NAY	**Al-Naaiem**	**4.78**	**196**	*e*P	**Pn**	**18 28 34.3**	**+0.4**
NAY				*e*S	**Sn**	**18 29 29.0**	**-0.7**
	comp=Z,4.0nm,0.6s						
RDF	**Al-Radifah**	**5.03**	**192**	*e*P	**Pn**	**18 28 38.2**	**+0.8**
RDF				*e*S	**Sn**	**18 29 34.2**	**-1.7**
RDF				AML	AML	18 29 36.4	
	comp=Z,9.6nm,0.4s						
RDF	**Al-Radifah**	**5.03**	**192**	*e*P	**Pn**	**18 28 38.2**	**+0.8**
RDF				*e*S	**Sn**	**18 29 34.2**	**-1.7**
	comp=Z,10.0nm,0.4s						
IPAR	**Pars**	**5.42**	**137**	*e*Pn	**Pn**	**18 28 43.3**	**+0.5**
IPAR				*e*		18 29 55.8	
	comp=Z,70nm,0.3s						
IMRD	**Marand**	**5.43**	**334**	*e*Pn	**Pn**	**18 28 41.5**	**-1.3**

*ISCJB **07** 18:49:06.4±2.6, 27°0N±0°2×55°6E±0°2, h10km, Error ellipse: s-maj=45.7km s-min=7.1km az=42.9*
*KISR **07** 18:49:07.5±0.4, 26°48N×54°99E, h34km±999km, ML2.9*
*CSEM **07** 18:49:09.0±2.0, 27°04N×55°93E, h40km, ML2.9, Error ellipse: s-maj=79.8km s-min=14.2km az=48.0*
*OMAN **07** 18:49:11.7±99.0, 26°69N×55°99E, h10km, Error ellipse: s-maj=101.4km s-min=12.6km az=25.0*
ISC 07 18:49:08.1±2.7, 26°9N±0°2×55°7E±0°3, h10km, n10, σ1§26/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.13**	**150**	P	**Pb**	**18 49 27.4**	**-2.4**
	SNR=124						
BANOM	**Banah**	**1.13**	**150**	P	**Pb**	**18 49 27.4**	**-2.4**
	SNR=124						
ASHO	**Ashiyiah**	**2.25**	**171**	P	**Pn**	**18 49 45.5**	**+0.1**
	SNR=9.2						
ASHO	**Ashiyiah**	**2.25**	**171**	P	**Pn**	**18 49 45.5**	**+0.1**
	SNR=9.2						
ASUD	**Al Ashush, Dub**	**2.30**	**188**	P	**Pn**	**18 49 47.5**	**+1.3**
	SNR=12						
ASUD	**Al Ashush, Dub**	**2.30**	**188**	P	**Pn**	**18 49 47.5**	**+1.4**
	SNR=12						
NAY	**Al-Naaiem**	**7.81**	**289**	*e*P	**Pn**	**18 51 02.4**	**+0.6**
NAY				*e*S	**Sn**	**18 52 28.8**	**-1.4**
NAY				AML	AML	18 52 28.9	
	comp=Z,0.9nm,0.5s						
NAY	**Al-Naaiem**	**7.81**	**289**	*e*P	**Pn**	**18 51 02.4**	**+0.6**
NAY				*e*S	**Sn**	**18 52 28.8**	**-1.4**
MIB	**Mutribah**	**7.89**	**293**	*e*P	**Pn**	**18 51 04.4**	**+1.5**
MIB				*e*S	**Sn**	**18 52 31.9**	**-0.4**
MIB				AML	AML	18 52 32.5	
	comp=Z,2.8nm,0.5s						

*NEIC **07** 19:12:33.5±0.3, 43°.71N×105°.13W, h0km, ML3.4, Error ellipse: s-maj=3.9km s-min=3.3km az=130.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 07 19:12:33.5±0.3, 43°.72N±0°.03×105°.12W±0°.05, h0km, n66, σ0=82/66, mb3.9/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.88**	**62**	*e*Pn	**Pn**	**19 12 52.7**	**-0.5**
PHWY	**Pilot Hill**	**2.43**	**186**	*e*Pn	**Pn**	**19 13 15.0**	**+0.6**
RWWY	**Rawlins**	**2.54**	**218**	*e*Pn	**Pn**	**19 13 16.3**	**+0.4**
LAO	**LASA Array**	**3.07**	**346**	*e*Pn	**Pn**	**19 13 23.5**	**+0.3**
RLMT	**Red Lodge**	**3.28**	**297**	*e*Pn	**Pn**	**19 13 25.8**	**-0.3**
PDAR	**Pinedale Array**	**3.38**	**255**	Pn	**Pn**	**19 13 26.4**	**-1.1**
	3.7nm,0.3s,baz=72,slow=15,SNR=64						
PDAR				Pg	**Pg**	**19 13 32.9**	**-5.3**
	15nm,0.3s,baz=66,slow=19,SNR=82						
PDAR				Lg		19 14 13.3	
	30nm,0.3s,baz=68,slow=33,SNR=19						
PDAR	**Pinedale Array**	**3.38**	**255**	Pn	**Pn**	**19 13 26.4**	**-1.1**
PDAR				Pg	**Pg**	**19 13 32.9**	**-5.3**
PDAR				Lg		19 14 13.3	
BW06	**Boulder Array**	**3.38**	**255**	*e*Pn	**Pn**	**19 13 26.4**	**-1.1**
PD02	**Pinedale Array**	**3.38**	**255**	*e*Pn	**Pn**	**19 13 26.4**	**-1.0**
PD01	**Pinedale Array**	**3.39**	**255**	*e*Pn	**Pn**	**19 13 26.5**	**-1.1**
OGNE	**Ogallala**	**3.59**	**139**	*e*Pn	**Pn**	**19 13 31.5**	**+1.1**
GCMT	**Greycliff**	**3.84**	**304**	*e*Pn	**Pn**	**19 13 33.9**	**+0.1**
LKWY	**Lake**	**3.89**	**284**	*e*Pn	**Pn**	**19 13 35.1**	**+0.7**
ISCO	**Idaho Springs**	**3.93**	**186**	*e*Pn	**Pn**	**19 13 35.4**	**+0.3**
LOHW	**Long Hollow**	**3.98**	**270**	*e*Pn	**Pn**	**19 13 36.8**	**+1.1**
FLWY	**Flagg Ranch**	**4.05**	**277**	*e*Pn	**Pn**	**19 13 36.5**	**-0.2**
MOOW	**Moose Ponds**	**4.07**	**272**	*e*Pn	**Pn**	**19 13 37.4**	**+0.4**
SNOW	**Snow King Moun**	**4.10**	**268**	*e*Pn	**Pn**	**19 13 38.3**	**+1.0**
REDW	**Red Top Meadow**	**4.18**	**267**	*e*Pn	**Pn**	**19 13 39.2**	**+0.7**
YFT	**Old Faithful**	**4.18**	**282**	*e*Pn	**Pn**	**19 13 39.5**	**+1.1**
IMW	**Indian Meadow**	**4.21**	**274**	*e*Pn	**Pn**	**19 13 38.9**	**0.0**
TPAW	**Teton Pass**	**4.24**	**269**	*e*Pn	**Pn**	**19 13 40.4**	**+1.2**
YMR	**Madison River**	**4.31**	**285**	*e*Pn	**Pn**	**19 13 41.7**	**+1.5**
RRI2	**Red Ridge**	**4.52**	**267**	*e*Pn	**Pn**	**19 13 42.5**	**-0.6**
QLMT	**Earthquake Lak**	**4.66**	**286**	*e*Pn	**Pn**	**19 13 45.0**	**-0.1**
DGMT	**Dagmar**	**4.80**	**7**	*e*Pn	**Pn**	**19 13 49.1**	**+2.1**
BOZ	**Bozeman (W)**	**5.03**	**295**	*e*Pn	**Pn**	**19 13 49.9**	**-0.2**
	9.6nm,0.5s						
HWUT	**Hardware Ranch**	**5.20**	**248**	*e*Pn	**Pn**	**19 13 51.0**	**-1.5**
	18nm,0.7s						
EGMT	**Eagleton**	**5.38**	**325**	*e*Pn	**Pn**	**19 13 55.9**	**+0.9**
	46nm,0.4s						
HRY	**Holter Researc**	**5.61**	**305**	*e*Pn	**Pn**	**19 13 57.9**	**-0.1**
	17nm,0.5s						
DAU	**Daniels Canyon**	**5.63**	**236**	*e*Pn	**Pn**	**19 13 59.6**	**+1.2**
	11nm,0.4s						
JLU	**Jordanelle**	**5.64**	**239**	*e*Pn	**Pn**	**19 13 57.1**	**-1.4**
	6.3nm,0.4s						
MCMT	**McKenzie Canyo**	**5.66**	**284**	*e*Pn	**Pn**	**19 13 59.1**	**+0.3**
	2μm,0.3s						
HVU	**Hansel Valley**	**5.96**	**254**	*e*Pn	**Pn**	**19 14 02.8**	**-0.1**
	6.6nm,0.6s						
SDCO	**Great Sand Dun**	**5.97**	**183**	*e*Pn	**Pn**	**19 14 03.3**	**+0.2**
	3.4nm,0.6s						
PV04	**Paradox Valley**	**6.04**	**210**	*e*Pn	**Pn**	**19 14 04.3**	**+0.3**
SRU	**San Rafael**	**6.14**	**223**	*e*Pn	**Pn**	**19 14 04.2**	**-1.2**
	14nm,0.6s						
PV01	**Paradox Valley**	**6.16**	**206**	*e*Pn	**Pn**	**19 14 06.0**	**+0.4**
	1μm,0.8s						
ECSD	**EROS Data Cent**	**6.17**	**87**	*e*Pn	**Pn**	**19 14 06.0**	**+0.3**
	9.7nm,0.4s						
TMUT	**Trail Mountain**	**6.35**	**228**	*e*Pn	**Pn**	**19 14 08.3**	**0.0**
	28nm,1.0s						
CHMT	**Chamberlain Mo**	**6.56**	**302**	*e*Pn	**Pn**	**19 14 10.9**	**-0.3**
	2.3nm,0.5s						
DUG	**Dugway**	**6.72**	**241**	*e*Pn	**Pn**	**19 14 12.0**	**-1.4**
	3.4nm,0.5s						
HLID	**Hailey**	**6.74**	**272**	*e*Pn	**Pn**	**19 14 14.4**	**+0.7**
	2.8nm,0.7s						
MVCO	**Mesa Verde**	**6.99**	**203**	*e*Pn	**Pn**	**19 14 17.9**	**+0.8**
	4.7nm,0.6s						
SWMT	**Swartz Lake**	**7.29**	**304**	*e*Pn	**Pn**	**19 14 21.5**	**+0.4**
	3.5nm,0.6s						
MSU	**Marysvale**	**7.44**	**228**	*e*Pn	**Pn**	**19 14 23.3**	**0.0**
	9.8nm,1.0s						
ARUT	**Antelope Range**	**8.65**	**230**	*e*Pn	**Pn**	**19 14 39.8**	**-0.1**
	3.1nm,0.4s						
ANMO	**Albuquerque**	**8.82**	**187**	Lg		19 17 09.4	
	0.1nm,0.3s,baz=120,slow=22,SNR=3.6						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**19 14 45.0**	**-0.7**
	1.7nm,0.3s,baz=236,slow=14,SNR=13						
ULM				Lg		19 17 19.9	
	0.5nm,0.3s,baz=308,slow=18,SNR=4.0						
ULM	**Lac du Bonnet**	**9.09**	**41**	*e*Pn	**Pn**	**19 14 44.6**	**-1.1**
	4.8nm,0.4s						
ULM				Lg		19 17 19.9	
WUAZ	**Wupatki**	**9.50**	**213**	*e*Pn	**Pn**	**19 14 51.7**	**+0.2**
	3.7nm,0.6s						
EYMN	**Ely**	**10.41**	**61**	*e*Pn	**Pn**	**19 15 03.8**	**-0.1**
FFC	**Flin Flon**	**11.21**	**9**	*e*Pn	**Pn**	**19 15 13.9**	**-0.9**
	4.5nm,0.6s						
NVAR	**Mina Array Bea**	**11.26**	**247**	Pn	**Pn**	**19 15 14.1**	**-1.5**
	0.1nm,0.3s,baz=56,slow=12,SNR=3.0						
NVAR	**Mina Array Bea**	**11.26**	**247**	Pn	**Pn**	**19 15 14.1**	**-1.5**
TXAR	**Lajitas Array**	**14.40**	**175**	Lg		19 19 51.6	
	0.1nm,0.3s,baz=13,slow=21,SNR=3.4						
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**Pn**	**19 17 03.5**	**-0.8**
	0.1nm,0.3s,baz=155,slow=13,SNR=4.3						
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**Pn**	**19 17 03.5**	**-0.8**
ILAR	**Eielson Array**	**31.35**	**327**	P	**P**	**19 18 55.6**	**+0.3**
	0.1nm,0.5s,mb3.0,baz=123,slow=9.2,SNR=3.7						
ILAR	**Eielson Array**	**31.35**	**327**	P	**P**	**19 18 55.6**	**+0.3**
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**19 22 50.2**	**-0.7**
	1.6nm,0.7s,mb4.3,baz=329,slow=6.3,SNR=6.9						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**19 22 50.2**	**-0.7**
FINES	**FINESS Array B**	**68.01**	**23**	P	**P**	**19 23 34.0**	**0.0**
	4.6nm,1.0s,mb4.7,baz=335,slow=6.2,SNR=3.9						
FINES	**FINESS Array B**	**68.01**	**23**	P	**P**	**19 23 34.0**	**0.0**
ZALV	**Zalesovo Beam**	**82.34**	**354**	P	**P**	**19 24 55.2**	**-1.6**
	0.5nm,0.6s,mb3.8,baz=4.6,slow=7.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**82.34**	**354**	P	**P**	**19 24 55.1**	**-1.6**

*ISCJB **07** 19:16:09.4±0.6, 10°.82N±0°.05×62°.33W±0°.03, h96km±7km, Error ellipse: s-maj=8.0km s-min=4.5km az=167.5*
*FUNV **07** 19:16:11.1, 10°.85N×62°.27W, h85km, MW2.9*
*TRN **07** 19:16:13.2, 11°.03N×62°.22W, h67km, MD3.0*

ISC 07 19:16:10.4±0.7, 10°.83N±0°.05×62°.32W±0°.03, h89km±7km, n18, σ0=97/32, 2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.20**	**151**	*e*P	**Pn**	**19 16 23.7**	**+0.4**
GUIV				*e*S	**Sn**	19 16 32.3	-0.5
GUNV	**Guanoco**	**0.90**	**223**	*e*P	**Pn**	19 16 30.2	+1.4
GUNV				*e*S	**Sn**	19 16 43.8	+1.1
CRUV	**Carupano**	**0.91**	**261**	↓*i*P	**Pn**	19 16 29.1	+0.2
CRUV				*e*S	**Sn**	19 16 42.9	0.0
TRN	**Trinidad (W)**	**0.92**	**101**	*e*P	**Pn**	19 16 30.2	+1.1
TRN				*e*S	**Sn**	19 16 43.2	0.0
ITEV	**Isla Los Testi**	**0.95**	**304**	↓*e*P	**Pn**	19 16 29.0	-0.4
TBH	**Brigand Hill**	**1.28**	**105**	*e*P	**Pn**	19 16 34.9	+1.6
TBH				*e*S	**Sn**	19 16 50.3	-0.4
GRW	**Mount Saint Ca**	**1.48**	**26**	*e*P	**Pn**	19 16 36.0	+0.2
GRW				*e*S	**Sn**	19 16 50.3	-4.8
TPR	**Prospect**	**1.56**	**77**	*e*P	**Pn**	19 16 37.7	+0.9
TPR				*e*S	**Sn**	19 16 55.5	-1.4
TOSP	**Speyside**	**1.82**	**75**	*e*P	**Pn**	19 16 40.0	-0.1
TOSP				*e*S	**Sn**	19 17 00.9	-1.9
ORIV	**Oritupano**	**2.05**	**212**	*e*P	**Pn**	19 16 44.3	+1.2
ORIV				*e*S	**Sn**	19 17 08.2	0.0
PCRV	**Puerto La Cruz**	**2.36**	**254**	*e*P	**Pn**	19 16 48.3	+1.0
PCRV				*e*S	**Sn**	19 17 14.2	-1.5
IBAV	**Isla La Blanqu**	**2.42**	**294**	*e*P	**Pn**	19 16 49.0	+0.9
RIOV	**Rio Grande**	**2.79**	**170**	*e*P	**Pn**	19 16 52.7	-0.3
RIOV				*e*S	**Sn**	19 17 24.5	-1.3
GURV	**El Guri**	**3.14**	**194**	*e*P	**Pn**	19 16 58.5	+0.8
CUPV	**Cœpira**	**3.49**	**258**	*e*P	**Pn**	19 17 03.6	+1.1
CUPV				*e*S	**Sn**	19 17 41.2	-1.7
MERV	**Las Mercedes**	**4.21**	**249**	*e*P	**Pn**	19 17 12.3	0.0
MERV				*e*S	**Sn**	19 17 58.5	-1.9
LUEV	**Luepa**	**5.02**	**170**	*e*P	**Pn**	19 17 23.2	-0.1
LUEV				*e*S	**Sn**	19 18 15.3	-4.8
BAUV	**El Baul**	**5.94**	**252**	*e*P	**Pn**	19 17 35.4	-0.3

*ISCJB **07** 19:31:26.4±0.4, 5°.63N±0°.06×78°.38W±0°.08, h28km, mb4.1/17, MS3.5/4, Error ellipse: s-maj=11.7km s-min=7.3km az=160.4*
*IDC **07** 19:31:28.6±0.6, 5°.66N×78°.22W, h28km±3km, mb3.9/13, mb1 4.2/17, mb1mx4.1/22, mbtmp4.0/17, ML4.1/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/23, Error ellipse: s-maj=20.2km s-min=12.7km az=57.0*
*NEIC **07** 19:31:28.1±0.3, 5°.63N×78°.29W, mb4.2/4, Error ellipse: s-maj=10.0km s-min=7.1km az=75.0*

ISC 07 19:31:28.6±0.4, 5°.64N±0°.05×78°.30W±0°.07, h29km, h29km±.3km: pP-P, n59, σ0=94/47, mb4.1/17, MS3.5/4, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**3.83**	**337**	*e*Pn	**Pn**	**19 32 21.7**	**-3.9**
ROSC	**El Rosal**	**4.02**	**101**	Pn	**Pn**	**19 32 28.5**	**+0.2**
	5.3nm,0.3s,baz=297,slow=16,SNR=7.6						
ROSC	**El Rosal**	**4.02**	**101**	*e*Pn	**Pn**	**19 32 28.3**	**0.0**
ROSC				Pn	**Pn**	**19 32 28.5**	**+0.2**
OTAV	**Otavalo**	**5.37**	**182**	*e*Pn	**Pn**	**19 32 44.5**	**-2.3**
	14nm,0.6s						
JTS	**JuntasAbangare**	**8.05**	**305**	Pn	**Pn**	**19 33 22.8**	**-0.9**
	1.1nm,0.3s,baz=118,slow=15,SNR=5.9						
JTS				LR	LR	19 36 18.5	
	comp=Z,373nm,20.9s,baz=148,slow=36						
JTS	**JuntasAbangare**	**8.05**	**305**	Pn	**Pn**	**19 33 22.8**	**-0.9**
SDV	**Santo Domingo**	**8.26**	**67**	*e*Pn	**Pn**	**19 33 24.9**	**-1.6**
	17nm,0.8s						
SDV				*e*		19 34 56.1	
ATAH	**Atahualpa**	**12.69**	**180**	Pn	**Pn**	**19 34 26.8**	**-0.4**
	2.2nm,0.3s,baz=22,slow=13,SNR=7.5						
ATAH				LR	LR	19 39 49.4	
	comp=Z,102nm,20.7s,baz=342,slow=39						
ATAH	**Atahualpa**	**12.69**	**180**	Pn	**Pn**	**19 34 26.8**	**-0.4**
SDDR	**Presa de Saban**	**14.92**	**27**	*e*Pn	**Pn**	**19 34 58.2**	**+0.6**
	9.3nm,0.2s						
TEIG	**Tepich**	**17.45**	**327**	LR	LR	19 41 15.3	
	comp=Z,163nm,21.2s,baz=329,slow=34						
NNA	**Nana**	**17.57**	**175**	Pn	**Pn**	**19 35 32.5**	**+1.0**
	2.5nm,0.3s,baz=3.8,slow=12,SNR=10						
NNA	**Nana**	**17.57**	**175**	Pn	**Pn**	**19 35 32.5**	**+1.0**
NNA				*e*Pn	**Pn**	**19 35 33.5**	**+2.1**
LPAZ	**La Paz**	**23.99**	**155**	P	**P**	**19 36 41.4**	**+0.5**
	3.5nm,0.8s,mb3.9,baz=357,slow=8.5,SNR=18						
LPAZ				LR	LR	19 47 04.6	
	comp=Z,168nm,20.4s,MS3.5,baz=258,slow=39						
LPAZ	**La Paz**	**23.99**	**155**	*e*P	**P**	**19 36 40.5**	**-0.3**
	3.9nm,0.8s,mb3.9						
LPAZ				P		19 36 41.4	
TXAR	**Lajitas Array**	**33.62**	**317**	P	**P**	**19 38 06.6**	**0.0**
	0.3nm,0.9s,mb3.2,baz=140,slow=5.9,SNR=3.7						
TXAR				PcP	PcP	19 40 47.1	+0.5
	1.0nm,0.9s,baz=107,slow=3.0,SNR=7.0						
TXAR				LR	LR	19 53 27.6	
	comp=Z,75nm,18.3s,MS3.5,baz=180,slow=39						
TXAR	**Lajitas Array**	**33.62**	**317**	P	**P**	**19 38 06.6**	**0.0**
TXAR				PcP	PcP	19 40 47.1	+0.5
CFAA	**Coronel Fontan**	**38.26**	**166**	P	**P**	**19 38 47.8**	**+1.5**
	0.1nm,0.7s,baz=345,slow=7.6,SNR=3.2						
CFAA	**Coronel Fontan**	**38.26**	**166**	P	**P**	**19 38 47.8**	**+1.5**
ANMO	**Albuquerque**	**39.07**	**322**	*e*P	**P**	**19 38 51.3**	**-1.8**
	1.8nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**46.17**	**328**	P	**P**	**19 39 56.0**	**+5.4**
	1.1nm,0.9s,mb3.8,baz=104,slow=7.6,SNR=5.9						
PDAR	**Pinedale Array**	**46.17**	**328**	P	**P**	**19 39 56.0**	**+5.4**
PLCA	**Paso Flores**	**46.69**	**172**	P	**P**	**19 39 54.5**	**-0.2**
	1.9nm,1.0s,mb4.0,baz=333,slow=8.6,SNR=3.6						
PLCA	**Paso Flores**	**46.69**	**172**	P	**P**	**19 39 54.5**	**-0.2**
ULM	**Lac du Bonnet**	**46.85**	**345**	P	**P**	**19 39 55.9**	**0.0**
	5.2nm,0.9s,mb4.5,baz=156,slow=9.2,SNR=4.1						
ULM	**Lac du Bonnet**	**46.85**	**345**	P	**P**	**19 39 55.9**	**0.0**
NVAR	**Mina Array Bea**	**48.77**	**318**	P	**P**	**19 40 12.5**	**+1.5**
	0.4nm,0.7s,mb3.6,baz=106,slow=6.7,SNR=4.2						
NVAR				pP	pP	19 40 20.8	+0.9
	1.2nm,0.8s,baz=123,slow=6.6,SNR=8.8						
NVAR	**Mina Array Bea**	**48.77**	**318**	P	**P**	**19 40 12.5**	**+1.5**
NVAR				pP	pP	19 40 20.8	+0.9
YKA	**Yellowknife Ar**	**62.69**	**342**	P	**P**	**19 41 50.3**	**-0.1**
	2.3nm,0.7s,mb4.4,baz=132,slow=6.8,SNR=16						
YKA				pP	pP	19 41 59.2	-0.3
	5.0nm,0.8s,baz=130,slow=7.2,SNR=18						
YKA	**Yellowknife Ar**	**62.69**	**342**	P	**P**	**19 41 50.4**	**0.0**
YKA				pP	pP	19 41 59.2	-0.3
INK	**Inuvik**	**72.44**	**341**	P	**P**	**19 42 51.8**	**-0.1**
	1.6nm,0.5s,mb4.2,baz=101,slow=5.2,SNR=14						
INK	**Inuvik**	**72.44**	**341**	P	**P**	**19 42 51.8**	**-0.1**
DOT	**Dot Lake**	**74.36**	**335**	*e*P	**P**	**19 43 04.1**	**+0.8**
	5.0nm,0.8s,mb4.5						
ESDC	**Sonseca Array**	**74.37**	**51**	P	**P**	**19 43 03.9**	**+0.1**
	2.9nm,0.8s,mb4.3,baz=265,slow=5.9,SNR=19						
ESDC				pP	pP	19 43 12.4	-0.7
	2.0nm,0.8s,baz=267,slow=6.2,SNR=5.7						
ESDC	**Sonseca Array**	**74.37**	**51**	P	**P**	**19 43 03.9**	**+0.1**
ESDC				pP	pP	19 43 12.4	-0.7
ILAR	**Eielson Array**	**75.89**	**336**	P	**P**	**19 43 12.8**	**+0.8**
	1.5nm,0.7s,mb4.0,baz=113,slow=4.2,SNR=31						
ILAR				pP	pP	19 43 21.6	+0.3
	2.8nm,0.7s,baz=114,slow=4.1,SNR=15						
ILAR	**Eielson Array**	**75.89**	**336**	P	**P**	**19 43 12.8**	**+0.8**
ILAR				pP	pP	19 43 21.6	+0.3
TORD	**Torodi Ar. Bea**	**79.01**	**78**	P	**P**	**19 43 29.8**	**-0.8**
	1.1nm,0.5s,mb4.0,baz=278,slow=5.6,SNR=18						
TORD				pP	pP	19 43 38.5	-1.4
	0.6nm,0.5s,baz=281,slow=5.7,SNR=4.2						
TORD				LR	LR	20 17 37.3	
	comp=Z,33nm,18.1s,MS3.7,baz=190,slow=35						
TORD	**Torodi Ar. Bea**	**79.01**	**78**	P	**P**	**19 43 29.8**	**-0.8**
TORD				pP	pP	19 43 38.5	-1.4
TAM	**Tamanrasset**	**82.16**	**68**	*e*P	**P**	**19 43 47.0**	**-0.3**
	2.7nm,0.8s,mb4.2						
KEST	**Kesra**	**84.83**	**55**	P	**P**	**19 44 01.3**	**+0.5**
	1.7nm,0.9s,mb4.2,baz=274,slow=4.0,SNR=7.7						
KEST	**Kesra**	**84.83**	**55**	P	**P**	**19 44 01.3**	**+0.5**
NOA	**NORSAR Array B**	**84.87**	**29**	LR	LR	20 17 42.6	
	comp=Z,16nm,19.7s,MS3.4,baz=85,slow=33						
GERES	**GERESS Array B**	**87.11**	**41**	P	**P**	**19 44 12.3**	**+0.5**
	1.4nm,0.9s,mb4.2,baz=285,slow=3.9,SNR=9.9						
GERES	**GERESS Array B**	**87.11**	**41**	P	**P**	**19 44 12.3**	**+0.5**
ARCES	**ARCESS Array B**	**89.55**	**20**	P	**P**	**19 44 23.0**	**+0.1**
	1.2nm,0.7s,mb4.3,baz=287,slow=3.3,SNR=4.0						
ARCES	**ARCESS Array B**	**89.55**	**20**	P	**P**	**19 44 23.0**	**+0.1**
KURK	**Kurchatov**	**120.45**	**17**	PKP	PKPdf	19 50 17.0	-0.3
	0.3nm,0.5s,baz=315,slow=2.4,SNR=5.0						
KURK	**Kurchatov**	**120.45**	**17**	PKP	PKPdf	19 50 17.0	-0.3
MKAR	**Makanchi Array**	**125.03**	**16**	PKP	PKPdf	19 50 25.6	-0.7
	0.5nm,0.6s,baz=328,slow=2.4,SNR=7.1						
MKAR	**Makanchi Array**	**125.03**	**16**	PKP	PKPdf	19 50 25.6	-0.7
SONM	**Songino Array**	**126.60**	**356**	PKP	PKPdf	19 50 29.3	+0.1
	0.4nm,0.8s,baz=305,slow=2.1,SNR=3.8						
SONM	**Songino Array**	**126.60**	**356**	PKP	PKPdf	19 50 29.3	+0.1
ASAR	**Alice Springs**	**144.21**	**237**	PKP	PKPdf	19 50 60.0	-2.6
	2.6nm,0.7s,baz=121,slow=3.7,SNR=33						
ASAR	**Alice Springs**	**144.21**	**237**	PKP	PKPdf	19 50 60.0	-2.6
WRA	**Warramunga Arr**	**145.24**	**243**	PKPbc	PKPbc	19 51 03.4	-0.7
	1.3nm,0.7s,baz=105,slow=3.5,SNR=13						
WRA	**Warramunga Arr**	**145.24**	**243**	PKPbc	PKPbc	19 51 03.4	-0.7
CMAR	**Chiang Mai Arr**	**155.90**	**6**	PKP	PKPdf	19 51 20.9	-0.1
	0.5nm,0.8s,baz=321,slow=2.3,SNR=5.3						
CMAR				PKPab	PKPab	19 51 46.6	-1.0
	0.5nm,0.6s,baz=324,slow=4.5,SNR=4.7						
CMAR	**Chiang Mai Arr**	**155.90**	**6**	PKP	PKPdf	19 51 20.9	-0.1
CMAR				PKPab	PKPab	19 51 46.6	-1.0

*NEIC **07** 19:31:42.2, 19°.47N×66°.29W, h10km, MD3.1(RSPR), After RSPR.*

RSPR 07 19:31:42.2, 19°.47N×66°.29W, h10km±27km, MD3.1/4, 6C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.20**	**202**	*e*Pn	**Pn**	19 32 00.4	-4.5
AOPR				*e*		19 32 16.0	
CBYP	**Canovanas**	**1.26**	**161**	↑*e*P	Pn	19 32 02.1	-3.6
CBYP	**Canovanas**	**1.26**	**161**	↑*e*P	Pn	19 32 02.1	-3.6
CBYP				*e*S	Sb	19 32 19.1	-3.1
HUMP	**Col San Antoni**	**1.38**	**163**	↓*e*P	Pn	19 32 03.9	-3.6
HUMP	**Col San Antoni**	**1.38**	**163**	↓*e*P	Pn	19 32 03.9	-3.6
HUMP				*e*S	Sb	19 32 21.6	-4.2
CPD	**Cerro la Pandu**	**1.47**	**166**	*e*Pn	Pn	19 32 05.6	-3.0
CPD				*e*Sn	Sn	19 32 23.5	-4.3
MTP	**Monte Pirata**	**1.53**	**153**	↑*e*P	Pn	19 32 06.9	-2.6
MTP	**Monte Pirata**	**1.53**	**153**	↑*e*P	Pn	19 32 06.9	-2.6
CRPR	**Cabo Rojo, PR**	**1.65**	**208**	↑*e*P	Pn	19 32 08.7	-2.5
CRPR	**Cabo Rojo, PR**	**1.65**	**208**	↑*e*P	Pn	19 32 08.7	-2.5
CRPR				*e*S	Sn	19 32 28.2	-4.2

*NEIC **07** 19:33:21.4, 41°.13S×175°.13E, h8km, ML3.5(WEL), After WEL.*
NEIC Felt [IV] at Silverstream and Upper Hutt.

WEL 07 19:33:21.4±0.0, 41°.13S×175°.13E, h8km, ML3.5/33, 3C-10D, Error ellipse: s-maj=0.4km s-min=0.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.05**	**296**	↓PG	Pg	19 33 23.1	+0.1
CAW				SG	Sg	19 33 24.1	-0.2
CAW	**Cannon Point**	**0.05**	**296**	Pg	Pg	19 33 23.1	+0.1
MTW	**Mount Morrison**	**0.28**	**96**	↓PG	Pg	19 33 27.0	0.0
MTW				SG	Sg	19 33 31.3	+0.5
MTW	**Mount Morrison**	**0.28**	**96**	Pg	Pg	19 33 27.0	0.0
MSWZ	**Moikau Station**	**0.30**	**162**	↓PG	Pg	19 33 27.4	+0.1
MSWZ				SG	Sg	19 33 32.1	+0.9
MSWZ	**Moikau Station**	**0.30**	**162**	Pg	Pg	19 33 27.4	+0.1
WEL	**Wellington**	**0.31**	**240**	PG	Pg	19 33 27.8	+0.3
WEL	**Wellington**	**0.31**	**240**	Pg	Pg	19 33 27.8	+0.3
OGWZ	**Otaki Gorge**	**0.31**	**6**	↓PG	Pg	19 33 27.8	+0.3
OGWZ				SG	Sg	19 33 32.3	+0.6
OGWZ	**Otaki Gorge**	**0.31**	**6**	Pg	Pg	19 33 27.9	+0.3
KIW	**Kapiti Island**	**0.32**	**328**	↓PG	Pg	19 33 28.0	+0.5
KIW	**Kapiti Island**	**0.32**	**328**	Pg	Pg	19 33 28.0	+0.5
PAWZ	**Paruwai Farm**	**0.34**	**138**	↓PG	Pg	19 33 28.0	+0.1
PAWZ				SG	Sg	19 33 28.0	+0.1
PAWZ	**Paruwai Farm**	**0.34**	**138**	Pg	Pg	19 33 28.0	+0.1
BHW	**Baring Head**	**0.34**	**215**	↑PG	Pg	19 33 27.9	-0.1
BHW	**Baring Head**	**0.34**	**215**	Pg	Pg	19 33 27.9	-0.1
SNZO	**South Karori**	**0.37**	**241**	↓PG	Pg	19 33 28.7	+0.2
SNZO	**South Karori**	**0.37**	**241**	Pg	Pg	19 33 28.7	+0.2
HOWZ	**Holdsworth Sta**	**0.37**	**52**	↑PG	Pg	19 33 28.7	+0.1
HOWZ	**Holdsworth Sta**	**0.37**	**52**	Pg	Pg	19 33 28.7	+0.1
PLWZ	**Palliser**	**0.45**	**168**	↓PG	Pg	19 33 30.4	+0.3
PLWZ	**Palliser**	**0.45**	**168**	Pg	Pg	19 33 30.4	+0.3
TRWZ	**Traveller**	**0.50**	**123**	PG	Pg	19 33 31.3	+0.3
TRWZ	**Traveller**	**0.50**	**123**	Pg	Pg	19 33 31.3	+0.3
TMWZ	**Te Maipa**	**0.58**	**88**	↓PG	Pg	19 33 32.8	+0.3
TMWZ	**Te Maipa**	**0.58**	**88**	Pg	Pg	19 33 32.8	+0.3
MRZ	**Mangatainoka R**	**0.58**	**36**	↑PG	Pg	19 33 32.3	-0.2
MRZ				SG	Sg	19 33 40.3	+0.2
MRZ	**Mangatainoka R**	**0.58**	**36**	Pg	Pg	19 33 32.3	-0.2

baz=246
ENA Nanau 0.74 336 ⇓ *i* P **Pb 19 42 22.6 +0.1**
baz=339
ENA *i* S **Sb 19 42 32.5 +0.3**
baz=339
YULB Yu-li 0.79 243 *e*Pg **Pg 19 42 23.6 +0.1**
YULB *e*Sg **Sg 19 42 34.0 0.0**
TWF1 Yuli 0.81 241 ⇑ *i* P **Pb 19 42 24.1 +0.5**
baz=236
TWF1 S **Sb 19 42 35.6 +1.3**
baz=236
WHF Hehuan Shan 0.83 298 ⇓ *i* P **Pb 19 42 24.0 0.0**
baz=298
WHF *e*S **Sb 19 42 34.5 -0.4**
baz=298
TWC Suao 0.88 347 P **Pb 19 42 25.2 +0.4**
baz=350
TWC S **Sb 19 42 36.9 +0.7**
baz=350
CHKT Chengkung 0.91 225 P **Pb 19 42 24.9 -0.5**
baz=220
CHKT *e*S **Sb 19 42 36.3 -1.0**
baz=220
NNS Nan Shan 0.94 317 ⇓ *i* P **Pb 19 42 25.8 +0.1**
baz=318
NNS S **Sb 19 42 37.9 +0.1**
baz=318
TWT Tachien 0.96 302 P **Pb 19 42 26.5 +0.3**
baz=301
TWT S **Sb 19 42 38.7 +0.2**
baz=301
ENTT Nioudou 1.00 333 *i* P **Pb 19 42 26.8 0.0**
baz=335
ENTT S **Sb 19 42 40.2 +0.5**
baz=335
SSLB Suanglung 1.02 272 *e*Pg **Pg 19 42 26.3 -1.5**
SSLB *e*Sg **Sg 19 42 37.8 -3.5**
TWE Neicheng 1.03 339 P **Pb 19 42 27.4 0.0**
baz=342
TWE S **Sb 19 42 41.0 +0.3**
baz=342
YUS Yu-Shan 1.06 256 *e*P **Pb 19 42 28.4 +0.6**
baz=253
YUS *e*S **Sb 19 42 41.5 +0.2**
baz=253
SMLT Sun Moon Lake 1.08 277 *e*P **Pb 19 42 28.5 +0.3**
baz=275
SMLT *e*S **Sb 19 42 41.5 -0.4**
baz=275
YHNB Yeheng 1.11 326 *e*Pg **Pg 19 42 27.8 -1.8**
YHNB *e* 19 42 34.7
ELDTW Lidau 1.11 240 ⇓ *i* P **Pn 19 42 28.2 -0.6**
baz=236
ELDTW *e*S **Sb 19 42 41.8 -1.2**
baz=236
YOJ Yonaguni jima 1.11 50 P **Pn 19 42 29.2 +0.4**
YOJ S **Sb 19 42 42.8 -0.3**
TYC Yuchr 1.12 278 *e*P **Pn 19 42 28.1 -0.8**
baz=276
TYC *e*S **Sb 19 42 43.0 -0.2**
baz=276
NSK Sanguang 1.13 325 *e*P **Pn 19 42 28.9 -0.1**
baz=326
NSK *e*S **Sb 19 42 43.0 -0.4**
baz=326
ALS Alishan 1.18 259 *e*P **Pn 19 42 30.6 +0.8**
baz=256
ALS *e*S **Sb 19 42 45.3 +0.3**
baz=256
TWB1 Santiao Chiao 1.25 357 *e*P **Pn 19 42 30.5 -0.2**
baz=359
WNT Mingjian 1.27 276 *e*P **Pn 19 42 28.9 -2.1**
baz=274
WNT *e*S **Sb 19 42 49.0 +1.4**
baz=274
CHN5 Tsauling 1.28 263 *e*P **Pn 19 42 31.5 +0.4**
baz=261
CHN5 *e*S **Sb 19 42 47.8 0.0**
baz=261
TWA Mucha 1.30 340 *e*P **Pn 19 42 31.6 +0.2**
baz=342
TWA *e*S **Sn 19 42 48.5 +0.1**
baz=342
TWG Pinlang 1.30 225 P **Pn 19 42 30.6 -0.8**
baz=221
TWG *e*S **Sn 19 42 46.5 -1.9**
baz=221
NSTT Nanjuang 1.31 312 *e*P **Pn 19 42 31.7 +0.2**
baz=312
NSTT *e*S **Sn 19 42 47.1 -1.5**
baz=312
TWQ1 Liyutan 1.32 297 *e*P **Pn 19 42 31.9 +0.2**
baz=296
TWQ1 *e*S **Sn 19 42 48.1 -0.8**
baz=296
STYT Tauyuan 1.34 244 *e*P **Pn 19 42 32.4 +0.6**
baz=241
STYT *e*S **Sn 19 42 48.4 -0.8**
baz=241
NWF Wu-fen Shan 1.34 349 *e*P **Pn 19 42 32.7 +0.7**
baz=350
NWF *e*S **Sn 19 42 48.8 -0.5**
baz=350
WGK Gukeng 1.38 268 *e*P **Pn 19 42 32.8 +0.3**
baz=265
WGK *e*S **Sn 19 42 49.1 -1.2**
baz=265
TPUB Ta-pu 1.39 252 *e*Pn **Pn 19 42 33.7 +1.0**
TPUB *e*Sn **Sn 19 42 52.3 +1.7**
CHN4 Tsaushan 1.41 254 *e*P **Pn 19 42 34.8 +1.9**
baz=251
CHN4 *e*S **Sn 19 42 53.1 +2.0**
baz=251
TWS1 Kuangyinshan 1.47 336 *e*P **Pn 19 42 34.3 +0.6**
baz=337
TWS1 *e*S **Sn 19 42 51.3 -1.2**
baz=337
CHN1 Nanshi 1.52 249 P **Pn 19 42 36.1 +1.7**
baz=246
CHN1 *e*S **Sn 19 42 56.1 +2.4**
baz=246
ECL Taimali 1.54 222 *e*P **Pn 19 42 33.6 -1.1**
baz=219
ECL *e*S **Sn 19 42 52.7 -1.5**
baz=219
HATJ Hateruma jima 1.62 79 *e*S **Sn 19 42 55.7 -0.5**
IRIF Iriomote-Funau 1.63 69 P **Pn 19 42 36.6 +0.7**
IRIF *e*S **Sn 19 42 56.0 -0.4**
SSD Sandimen 1.66 233 *e*P **Pn 19 42 36.8 +0.5**
baz=230
SSD *e*S **Sn 19 42 56.9 -0.2**
baz=230
EAST Anshuo 1.77 220 *e*P **Pn 19 42 38.0 +0.2**
baz=217
EAST *e*S **Sn 19 42 58.7 -1.1**
baz=217
TWM1 Shoushan 1.77 239 *e*P **Pn 19 42 37.8 -0.1**
baz=236
TWM1 *e*S **Sn 19 42 59.6 -0.4**
baz=236
JKRS Kuro-shima 1.84 74 P **Pn 19 42 40.1 +1.3**
JKRS *e*S **Sn 19 43 02.0 +0.3**
SCZT Fangliau 1.91 224 *e*P **Pn 19 42 40.0 +0.2**
baz=222
SCZT *e*S **Sn 19 43 03.5 +0.1**
baz=222
JIJ Ishigaki jima 1.99 72 P **Pn 19 42 41.3 +0.4**
JIJ S **Sn 19 43 04.3 -1.1**

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*ISCJB **07** 20:14:36.5±1.1, 26°.9N±0°.1×141°.6E±0°.3, h114km±10km, mb3.4/2, Error ellipse: s-maj=41.8km s-min=12.0km az=162.2*
*IDC **07** 20:14:37.0±1.6, 26°.86N×141°.70E, h104km±12km, mb3.3/2, mb1 3.6/3, mb1mx3.0/22, mbtmp3.2/3, Error ellipse: s-maj=50.6km s-min=30.5km az=95.0*
*JMA **07** 20:14:38.4±0.1, 26°.97N×141°.53E, h98km, M3.9*
ISC 07 20:14:37.6±1.0, 26°.9N±0°.1×141°.6E±0°.3, h110km±10km, n13, σ0°64/16, mb3.4/2, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.53**	**68**	P	**Pn**	**20 14 54.2**	**-0.4**
	185nm,0.3s,baz=268,slow=3.5,SNR=36						
CBIJ				S	**Sn**	**20 15 07.1**	**-0.3**
	154nm,0.3s,baz=195,slow=20,SNR=19						
CBIJ	**Chichi jima**	**0.53**	**68**	P	**Pn**	**20 14 54.7**	**+1.0**
CBIJ				S	**Sn**	**20 15 07.2**	**-0.2**
JHHJ	**Haha-jima-NKT**	**0.55**	**119**	P	**Pn**	**20 14 55.5**	**+0.7**
JHHJ				S	**Sn**	**20 15 07.7**	**0.0**
BSO1	**Boso 1**	**7.75**	**356**	P	**Pn**	**20 16 28.0**	**+0.3**
BSO3	**Boso 3**	**7.94**	**353**	P	**Pn**	**20 16 30.0**	**-0.2**
JOD2	**Odawara 2**	**8.62**	**346**	P	**Pn**	**20 16 41.1**	**+1.6**
JHU	**Hanno**	**9.15**	**348**	P	**Pn**	**20 16 46.8**	**+0.1**
JRY	**Ryogami san**	**9.38**	**346**	P	**Pn**	**20 16 50.1**	**+0.3**
JAG	**Ashikaga**	**9.68**	**349**	P	**Pn**	**20 16 52.5**	**-1.3**
JHO	**Hitachi**	**9.73**	**355**	P	**Pn**	**20 16 54.0**	**-0.5**
MJAR	**Matsushiro Arr**	**10.05**	**344**	P	**Pn**	**20 16 58.5**	**-0.3**
	0.4nm,0.3s,baz=157,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**47.09**	**189**	P	**P**	**20 22 58.1**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=10,slow=8.5,SNR=4.9						
WRA				pP	pP	20 23 27.6	+3.3
	0.4nm,0.5s,baz=11,slow=8.6,SNR=4.7						
NVAR	**Mina Array Bea**	**81.03**	**52**	P	**P**	**20 26 40.8**	**+0.3**
	0.5nm,0.9s,mb3.3,baz=289,slow=5.6,SNR=3.7						

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*NIED **07** 20:28:00, 38°.60N×143°.20E, h23km, Mw3.6 Best double couple: M₀2.45000×10¹⁴ NP1:φ₀±20.00000°, δ76.00000°, λ95.00000°. NP2:φ₀±181.00000°, δ15.00000°, λ71.00000°.*
*IDC **07** 20:28:36.2±3.1, 38°.71N×143°.52E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, ML3.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/26, Error ellipse: s-maj=70.7km s-min=36.4km az=67.0*
*JMA **07** 20:28:39.0±0.2, 38°.57N×143°.20E, h21km±4km, M3.7*
*ISCJB **07** 20:28:40.3±1.8, 38°.60N±0°.08×143°.2E±0°.2, h34km±15km, mb3.2/3, MS3.3/1, Error ellipse: s-maj=22.2km s-min=11.8km az=22.5*
ISC 07 20:28:40.3±3.0, 38°.66N±0°.08×143°.2E±0°.1, h17km±22km, n18, σ0°76/19, mb3.2/3, MS3.3/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.23**	**291**	P	**Pn**	**20 29 02.1**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.38**	**312**	P	**Pn**	**20 29 04.7**	**-0.1**
JIO	**Ouri**	**1.43**	**262**	P	**Pn**	**20 29 04.4**	**-1.0**
JIO				*e*S	**Sn**	**20 29 23.0**	**-0.8**
JMK	**Ichinoseki**	**1.54**	**282**	P	**Pn**	**20 29 06.6**	**-0.3**
JOM	**Ohasama**	**1.66**	**300**	P	**Pn**	**20 29 08.8**	**+0.2**
JOU	**Okura**	**1.97**	**262**	P	**Pn**	**20 29 12.7**	**-0.2**
JMM	**Marumori**	**2.02**	**248**	P	**Pn**	**20 29 12.5**	**-1.0**
JANG	**Nango**	**2.13**	**324**	P	**Pn**	**20 29 15.2**	**+0.1**
JYK	**Kaneyama**	**2.20**	**278**	P	**Pn**	**20 29 16.4**	**+0.4**
JFK	**Kawauchi**	**2.21**	**235**	P	**Pn**	**20 29 15.0**	**-1.2**
JYS	**Shiratake**	**2.46**	**261**	P	**Pn**	**20 29 20.0**	**+0.4**
JFT	**Otama**	**2.49**	**244**	P	**Pn**	**20 29 20.2**	**+0.1**
MJAR	**Matsushiro Arr**	**4.46**	**243**	Pn	**Pn**	**20 29 48.7**	**+1.7**
	1.1nm,0.3s,baz=54,slow=9.1,SNR=14						
MAT	**Matsushiro**	**4.46**	**243**	P	**Pn**	**20 29 48.5**	**+1.4**
MAT				*e*S	**Sn**	**20 30 39.2**	**+0.7**
SONM	**Songino Array**	**28.07**	**301**	P	**P**	**20 34 31.4**	**+0.7**
	0.4nm,0.8s,mb3.1,baz=107,slow=9.5,SNR=3.1						
MKAR	**Makanchi Array**	**44.44**	**301**	P	**P**	**20 36 50.5**	**+0.4**
	0.2nm,0.6s,mb3.0,baz=91,slow=7.2,SNR=4.6						
KAPI	**Kappang**	**48.56**	**212**	LR	LR	20 57 32.0	
	comp=Z,30nm,18.3s,MS3.3,baz=270,slow=36						
WRA	**Warramunga Arr**	**58.87**	**190**	P	**P**	**20 38 37.4**	**-0.8**
	0.5nm,1.0s,mb3.5,baz=6.8,slow=6.9,SNR=2.7						

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*NIED **07** 20:39:00, 38°.50N×143°.20E, h26km, Mw4.2 Best double couple: M₀2.16000×10¹⁵ NP1:φ₀±22.00000°, δ67.00000°, λ89.00000°. NP2:φ₀±203.00000°, δ23.00000°, λ92.00000°.*
*JMA **07** 20:39:30.7±0.1, 38°.55N×143°.22E, h14km±3km, M4.3*
*ISCJB **07** 20:39:31.7±1.5, 38°.59N±0°.04×143°.23E±0°.06, h21km±10km, mb4.4/35, MS3.6/4, Error ellipse: s-maj=8.6km s-min=5.7km az=38.7*
*MOS **07** 20:39:31.8±0.9, 38°.62N×143°.12E, h21km, mb4.7/12, Error ellipse: s-maj=10.3km s-min=7.6km az=113.4*
*IDC **07** 20:39:36.0±3.8, 38°.55N×143°.07E, h37km±30km, mb3.7/17, mb1 3.9/20, mb1mx3.8/28, mbtmp3.7/20, ML3.8/3, MS3.6/6, Ms1 3.6/6, ms1mx3.1/39, Error ellipse: s-maj=23.3km s-min=16.2km az=93.0*
*NEIC **07** 20:39:35.9±0.9, 38°.59N×143°.11E, h37km±7km, mb4.5/6, MW4.2(NIED), Error ellipse: s-maj=9.0km s-min=6.3km az=114.0*
ISC 07 20:39:32.0±1.8, 38°.63N±0°.04×143°.15E±0°.05, h8km±11km, n131, σ0°75/136, mb4.4/35, MS3.6/4, 1C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.24**	**292**	P	**Pn**	**20 39 54.8**	**-0.8**
OFUJ				*e*S	**Sb**	**20 40 12.1**	**+0.4**
JIO	**Ouri**	**1.42**	**263**	P	**Pn**	**20 39 56.8**	**-1.3**
JIO				*e*S	**Sn**	**20 40 15.6**	**-1.4**
JMK	**Ichinoseki**	**1.54**	**283**	P	**Pn**	**20 39 59.2**	**-0.5**
JMK				*e*S	**Sn**	**20 40 20.1**	**+0.2**
JTH	**Tanohata**	**1.64**	**323**	P	**Pn**	**20 40 00.8**	**-0.3**
JOM	**Ohasama**	**1.67**	**301**	P	**Pn**	**20 40 01.6**	**+0.1**
JOU	**Okura**	**1.97**	**263**	P	**Pn**	**20 40 05.4**	**-0.2**
JMM	**Marumori**	**2.01**	**248**	P	**Pn**	**20 40 05.2**	**-0.9**
JANG	**Nango**	**2.15**	**325**	P	**Pn**	**20 40 07.8**	**-0.3**
JFK	**Kawauchi**	**2.20**	**236**	P	**Pn**	**20 40 07.5**	**-1.2**
JYK	**Kaneyama**	**2.20**	**278**	P	**Pn**	**20 40 08.9**	**+0.1**
JYS	**Shiratake**	**2.46**	**261**	P	**Pn**	**20 40 12.4**	**+0.1**
JFT	**Otama**	**2.48**	**244**	P	**Pn**	**20 40 12.8**	**+0.2**
JAH	**Hinai**	**2.49**	**309**	P	**Pn**	**20 40 13.3**	**+0.5**
ERM	**Erimo**	**3.38**	**0**	*i* P	**Pn**	**20 40 24.9**	**-0.1**
MJAR	**Matsushiro Arr**	**4.44**	**244**	Pn	**Pn**	**20 40 40.1**	**+0.5**
	7.8nm,0.3s,baz=61,slow=10,SNR=88						
MJAR	**Matsushiro Arr**	**4.44**	**244**	Pn	**Pn**	**20 40 40.1**	**+0.5**
MJAR	**Matsushiro Arr**	**4.44**	**244**	P	**Pn**	**20 40 40.1**	**+0.5**
MAJO	**Matsushiro**	**4.45**	**244**	*e*Pn	**Pn**	**20 40 40.8**	**+1.2**
MAJO	**Matsushiro**	**4.45**	**244**	*e*P	**Pn**	**20 40 40.8**	**+1.2**
MAT	**Matsushiro**	**4.45**	**244**	P	**Pn**	**20 40 41.1**	**+1.5**
MAT				S	**Sn**	**20 41 32.8**	**+1.3**
ASAJ	**Asahikawa**	**5.50**	**356**	Pn	**Pn**	**20 40 54.9**	**+0.8**
	2.7nm,0.3s,baz=210,slow=9.2,SNR=12						
ASAJ				Sn	**Sn**	**20 41 57.6**	**+0.2**
	3.2nm,0.3s,baz=24,slow=20,SNR=5.6						
ASAJ				LR	LR	20 44 00.8	
	comp=Z,357nm,19.5s,baz=18,slow=48						
ASAJ	**Asahikawa**	**5.50**	**356**	Pn	**Pn**	**20 40 54.9**	**+0.8**
ASAJ				Sn	**Sn**	**20 41 57.6**	**+0.2**
ASAJ	**Asahikawa**	**5.50**	**356**	P	**Pn**	**20 40 54.9**	**+0.8**
ASAJ						20 41 57.7	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,357nm,19.5s						
YUK	**Yuzh-Kuril'sk**	**5.77**	**20**	*d* P	**Pn**	**20 40 57.8**	**0.0**
YUK				*i* S	**Sn**	**20 41 58.6**	**-5.6**
YUK				pmax	pmax		
	comp=Z,122nm,0.5s						
YUK				pmax	pmax		
	comp=N,102nm,0.5s						
YUK				pmax	pmax		
	comp=E,135nm,0.5s						
YUK				pmax	pmax		
	comp=Z,121nm,0.6s						
YUK				smax			
	comp=N,326nm,0.6s						
YUK				smax			
	comp=E,265nm,0.6s						
YUK				smax			
	comp=E,345nm,0.8s						
YUK				smax			
	comp=N,565nm,0.9s						
YUK				MLR	MLR		
	comp=Z,275nm,10.0s						
HABR	**Khabarovsk**	**11.45**	**332**	*e*P	**Pn**	**20 42 20.9**	**+5.2**
HABR				*e*SN	**Sn**	**20 44 19.6**	**-4.1**
HABR				MLR	MLR		
	comp=Z,150nm,16.0s						
KSRS	**Korea Array**	**12.07**	**269**	Pn	**Pn**	**20 42 25.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=88,slow=14,SNR=5.7						
KSRS				LR	LR	20 46 54.2	
	comp=Z,183nm,18.0s,baz=67,slow=36						
KSRS	**Korea Array**	**12.07**	**269**	P	**Pn**	**20 42 25.6**	**+1.5**
KSRS				MLR	MLR		
	comp=Z,183nm,18.0s						
KSAR	**Wonju Array Be**	**12.10**	**269**	Pn	**Pn**	**20 42 25.6**	**+1.0**
KSAR	**Wonju Array Be**	**12.10**	**269**	P	**Pn**	**20 42 25.6**	**+1.0**
KLR	**Kul'dur**	**13.39**	**326**	*e*P	**Pn**	**20 42 39.8**	**-2.3**
YAK	**Yakutsk**	**24.85**	**345**	*e*P	**P**	**20 44 54.6**	**+0.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
BOD	**Bodaibo**	**26.96**	**325**	*e*P	**P**	**20 45 12.2**	**-1.5**
ULN	**Ulaanbaatar**	**27.65**	**301**	*e*P	**P**	**20 45 20.4**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**27.65**	**301**	*e*P	**P**	**20 45 20.4**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
SONM	**Songino Array**	**28.09**	**301**	P	**P**	**20 45 24.4**	**+0.6**
	comp=Z,3.2nm,0.9s,mb4.0,baz=99,slow=8.3,SNR=20						
SONM				LR	LR	20 56 57.9	
	comp=Z,123nm,19.1s,MS3.5,baz=81,slow=37						
SONM	**Songino Array**	**28.09**	**301**	P	**P**	**20 45 24.4**	**+0.6**
SONM	**Songino Array**	**28.09**	**301**	P	**P**	**20 45 24.4**	**+0.5**
ZAK	**Zakamensk**	**30.41**	**306**	*e*P	**P**	**20 45 44.4**	**0.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
LZH	**Lanzhou**	**31.19**	**278**	*e*P	**P**	**20 45 55.0**	**+3.5**
	comp=Z,18nm,1.4s,mb4.7						
LZH				pP	pP	20 45 59.6	+5.7
LZH				sP	sP	20 46 02.0	+7.1
LZH	**Lanzhou**	**31.19**	**278**	*e*P	**P**	**20 45 55.0**	**+3.5**
LZH				*PP	pP	20 45 59.6	+5.7
LZH				*SP	sP	20 46 02.0	+7.1
LZH				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.7						
ZAA0	**Zalesovo Array**	**41.88**	**311**	*e*P	**P**	**20 47 22.5**	**+0.1**
ZALV	**Zalesovo Beam**	**41.88**	**311**	P	**P**	**20 47 22.2**	**-0.1**
	comp=Z,1.3nm,0.3s,mb4.0,baz=90,slow=8.1,SNR=9.8						
ZALV				PcP	PcP	20 49 17.6	-0.4
	comp=Z,1.1nm,0.5s,baz=77,slow=3.1,SNR=4.5						
ZALV				LR	LR	21 05 38.3	
	comp=Z,101nm,18.1s,MS3.7,baz=354,slow=37						
ZALV	**Zalesovo Beam**	**41.88**	**311**	P	**P**	**20 47 22.2**	**-0.1**
ZALV				PcP	PcP	20 49 17.6	-0.4
ZALV	**Zalesovo Beam**	**41.88**	**311**	P	**P**	**20 47 22.3**	**-0.1**
ZALV						20 49 17.6	
NVS	**Novosibirsk**	**42.76**	**312**	*e*P	**P**	**20 47 30.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**43.23**	**255**	P	**P**	**20 47 33.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=40,slow=7.4,SNR=5.4						
CMAR	**Chiang Mai Arr**	**43.23**	**255**	P	**P**	**20 47 33.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**43.23**	**255**	P	**P**	**20 47 33.0**	**-0.8**
MK31	**Makanchi Array**	**44.46**	**301**	*e*P	**P**	**20 47 41.7**	**-1.6**
MK31	**Makanchi Array**	**44.46**	**301**	*i* P	**P**	**20 47 42.9**	**-0.4**
MK31				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**44.46**	**301**	P	**P**	**20 47 43.2**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=83,slow=9.9,SNR=22						
MKAR				LR	LR	21 06 56.5	
	comp=Z,57nm,20.4s,MS3.5,baz=260,slow=37						
MKAR	**Makanchi Array**	**44.46**	**301**	P	**P**	**20 47 43.2**	**-0.1**
MKAR	**Makanchi Array**	**44.46**	**301**	P	**P**	**20 47 43.2**	**-0.1**
KURK	**Kurchatov**	**46.05**	**307**	P	**P**	**20 47 56.2**	**+0.3**
	comp=Z,7.5nm,0.6s,mb4.8,baz=81,slow=8.4,SNR=31						
KURK	**Kurchatov**	**46.05**	**307**	*e*P	**P**	**20 47 55.1**	**-0.8**
	comp=Z,9.9nm,0.9s,mb4.7						
KURK	**Kurchatov**	**46.05**	**307**	P	**P**	**20 47 56.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
TAPN	**Taplejung**	**47.21**	**273**	*e*P	**P**	**20 48 05.6**	**+0.3**
	comp=Z,13nm,0.5s,mb5.1						
TAPN	**Taplejung**	**47.21**	**273**	*e*P	**P**	**20 48 05.6**	**+0.3**
	comp=Z,13nm,0.5s,mb5.1						
ILAR	**Eielson Array**	**47.41**	**33**	P	**P**	**20 48 07.7**	**+1.3**
	comp=Z,0.4nm,0.7s,mb3.4,baz=263,slow=6.1,SNR=5.5						
ILAR	**Eielson Array**	**47.41**	**33**	P	**P**	**20 48 07.7**	**+1.3**
ILAR	**Eielson Array**	**47.41**	**33**	P	**P**	**20 48 07.7**	**+1.4**
ODAN	**Odare**	**47.69**	**273**	*e*P	**P**	**20 48 09.4**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
ODAN	**Odare**	**47.69**	**273**	*e*P	**P**	**20 48 09.4**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
JIRN	**Jiri**	**48.25**	**275**	*e*P	**P**	**20 48 14.0**	**+0.6**
	comp=Z,5.1nm,0.9s,mb4.5						
JIRN	**Jiri**	**48.25**	**275**	*e*P	**P**	**20 48 14.0**	**+0.6**
	comp=Z,5.1nm,0.9s,mb4.5						
RAMN	**Ramite**	**48.27**	**274**	*e*P	**P**	**20 48 13.7**	**+0.2**
	comp=Z,26nm,1.0s,mb5.2						
RAMN	**Ramite**	**48.27**	**274**	*e*P	**P**	**20 48 13.7**	**+0.2**
	comp=Z,26nm,1.0s,mb5.2						
GUN	**Gumba**	**48.38**	**275**	*e*P	**P**	**20 48 14.9**	**+0.6**
	comp=Z,32nm,0.9s,mb5.4						
GUN	**Gumba**	**48.38**	**275**	*e*P	**P**	**20 48 14.9**	**+0.6**
	comp=Z,32nm,0.9s,mb5.3						
KKN	**Kakani**	**48.90**	**275**	*e*P	**P**	**20 48 18.3**	**-0.1**
	comp=Z,12nm,0.7s,mb5.0						
KKN	**Kakani**	**48.90**	**275**	*e*P	**P**	**20 48 18.3**	**-0.1**
	comp=Z,12nm,0.7s,mb5.0						
KKN	**Kakani**	**48.90**	**275**	*e*P	**P**	**20 48 18.3**	**-0.1**
KKN				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
GKN	**Gorkha**	**49.30**	**276**	*e*P	**P**	**20 48 21.5**	**+0.1**
	comp=Z,52nm,1.4s,mb5.4						
GKN	**Gorkha**	**49.30**	**276**	*e*P	**P**	**20 48 21.5**	**+0.1**
	comp=Z,52nm,1.4s,mb5.4						
DANN	**Dangsing**	**49.82**	**277**	*e*P	**P**	**20 48 25.6**	**+0.2**
	comp=Z,41nm,0.7s						
DANN	**Dangsing**	**49.82**	**277**	*e*P	**P**	**20 48 25.6**	**+0.2**
	comp=Z,41nm,0.7s						
KOLN	**Koldanda**	**50.22**	**276**	*e*P	**P**	**20 48 28.1**	**-0.3**
	comp=Z,19nm,1.1s,mb5.0						
KOLN	**Koldanda**	**50.22**	**276**	*e*P	**P**	**20 48 28.1**	**-0.3**
	comp=Z,19nm,1.1s,mb5.0						
BVA0	**Borovoye Array**	**50.53**	**312**	*i* P	**P**	**20 48 29.5**	**-0.9**
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**20 48 30.0**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=81,slow=8.9,SNR=5.9						
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**20 48 30.0**	**-0.4**
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**20 48 30.0**	**-0.4**
PYUN	**Piuthan**	**50.54**	**277**	*e*P	**P**	**20 48 30.9**	**+0.1**
	comp=Z,36nm,1.0s,mb5.3						
PYUN	**Piuthan**	**50.54**	**277**	*e*P	**P**	**20 48 30.9**	**+0.1**
	comp=Z,36nm,1.0s,mb5.3						
KKAR	**Karatay Array**	**53.52**	**300**	*e*P	**P**	**20 48 52.3**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.9						
KKAR	**Karatay Array**	**53.52**	**300**	*e*P	**P**	**20 48 52.3**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
SVE	**Sverdlovsk**	**54.87**	**318**	*e*P	**P**	**20 49 03.3**	**+0.8**
AB31	**Akbulak array**	**57.97**	**310**	*i* P	**P**	**20 49 23.9**	**-0.8**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ABKAR	**Akbulak array**	**57.97**	**310**	*e*P	**P**	**20 49 24.4**	**-0.3**
	comp=Z,2.1nm,0.5s,mb4.4						
KBL	**Kabul**	**58.13**	**291**	*e*P	**P**	**20 49 25.3**	**-0.8**
	comp=Z,4.7nm,0.9s,mb4.5						
KBL	**Kabul**	**58.13**	**291**	*e*P	**P**	**20 49 25.3**	**-0.8**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
AKTO	**Aktyubinsk**	**58.64**	**312**	P	**P**	**20 49 29.3**	**0.0**
	comp=Z,2.0nm,0.9s,mb4.2,baz=59,slow=12,SNR=7.0						
AKTO	**Aktyubinsk**	**58.64**	**312**	P	**P**	**20 49 29.3**	**0.0**
AKTO	**Aktyubinsk**	**58.64**	**312**	P	**P**	**20 49 29.3**	**0.0**
WB2	**Warramunga Arr**	**58.84**	**190**	*e*P	**P**	**20 49 30.1**	**-0.9**
WRA	**Warramunga Arr**	**58.84**	**190**	P	**P**	**20 49 29.7**	**-1.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=8.3,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**58.84**	**190**	P	**P**	**20 49 29.7**	**-1.3**
WRA	**Warramunga Arr**	**58.84**	**190**	P	**P**	**20 49 29.7**	**-1.3**
SPITS	**Spitsbergen Ar**	**59.23**	**349**	LR	LR	21 15 57.2	
	comp=Z,44nm,18.2s,MS3.6,baz=315,slow=37						
ASAR	**Alice Springs**	**62.57**	**190**	P	**P**	**20 49 55.7**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.7,baz=9.6,slow=6.4,SNR=4.2						
ASAR	**Alice Springs**	**62.57**	**190**	P	**P**	**20 49 55.7**	**-0.7**
ASAR

AKASG	Malin Array Be	73.87	323	*i* P	P	20 51 06.6	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BUR08	Bucovina Ar. S	77.89	322	*e*P	P	20 51 30.3	+0.2
BURAR	Bucovina Array	77.90	322	⇑*i*P	P	20 51 30.5	+0.4
BRTR	Keskin Array B	78.81	312	P	P	20 51 35.6	+0.3
	comp=Z,0.4nm,0.5s,mb3.6,baz=67,slow=3.0,SNR=7.6						
BRTR	Keskin Array B	78.81	312	P	P	20 51 35.6	+0.3
BRTR	Keskin Array B	78.81	312	P	P	20 51 35.6	+0.3
CLL	Collm	80.39	331	*i* P	P	20 51 43.9	+0.3
CLL				*e*		20 51 51.0	
CLL	Collm	80.39	331	*i* P	P	20 51 43.9	+0.3
CLL				*e*PcP	PcP	20 51 51.0	+0.3
CLL				*e*pP	pP	20 51 54.0	+7.7
GERES	GERESS Array B	82.07	329	P	P	20 51 52.7	+0.1
	comp=Z,0.2nm,0.5s,mb3.4,baz=52,slow=6.4,SNR=5.4						
GERES	GERESS Array B	82.07	329	P	P	20 51 52.7	+0.1
GERES	GERESS Array B	82.07	329	P	P	20 51 52.7	+0.1
TXAR	Lajitas Array	88.06	53	P	P	20 52 24.2	+1.2
	comp=Z,0.2nm,0.6s,mb3.5,baz=263,slow=4.5,SNR=3.7						
TXAR	Lajitas Array	88.06	53	P	P	20 52 24.2	+1.2
TXAR	Lajitas Array	88.06	53	P	P	20 52 24.2	+1.1
TORD	Torodi Ar. Bea	117.14	317	PKP	PKPdf	20 58 16.0	-2.2
	comp=Z,0.2nm,0.8s,baz=30,slow=3.1,SNR=2.6						
TORD	Torodi Ar. Bea	117.14	317	PKP	PKPdf	20 58 15.9	-2.2

ISCJB ***07*** *20:47:32.5±1.3, 35°.4N±0°.2×98°.47E±0°.07, h10km, Error ellipse: s-maj=21.7km s-min=8.4km az=5.3*
IDC ***07*** *20:47:33.5±1.6, 35°.44N×98°.75E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.2/28, mbtmp3.3/5, ML3.0/2, Error ellipse: s-maj=70.6km s-min=25.4km az=59.0*
ISC 07 20:47:34.8±1.3, 35°.4N±0°.1×98°.37E±0°.08, h10km, n7, σ1♀24/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	4.19	16	Pg	Pn	20 48 42.2	+3.5
GTA				Sg	Sn	20 49 17.7	-10
GTA				smax			
	comp=N,7.0nm,0.9s						
GTA				smax			
	comp=E,14nm,0.7s						
LZH	Lanzhou	4.51	79	*e*Pg	Pg	20 49 11.5	+10
LZH				Sg	Sg	20 50 00.2	+0.5
LZH				smax			
	comp=N,19nm,0.6s						
LZH				smax			
	comp=E,23nm,0.7s						
SONM	Songino Array	13.81	23	Pn	Pn	20 50 47.6	-2.9
	comp=E,0.1nm,0.3s,baz=206,slow=15,SNR=6.7						
MKAR	Makanchi Array	16.61	318	Pn	Pn	20 51 27.1	-0.4
	comp=E,0.0nm,0.3s,baz=132,slow=14,SNR=2.3						
ZALV	Zalesovo Beam	20.85	337	P	P	20 52 17.7	+1.1
	comp=E,0.6nm,0.6s,baz=139,slow=12,SNR=4.3						
KURK	Kurchatov	20.95	323	P	P	20 52 18.6	+0.8
	comp=E,0.5nm,0.4s,baz=129,slow=11,SNR=4.5						
WRA	Warramunga Arr	64.74	142	P	P	20 58 12.9	-0.5
	comp=E,0.3nm,0.5s,baz=325,slow=6.2,SNR=5.4						

NIED ***07*** *21:18:00, 23°.90N×122°.20E, h29km, Mw5.2 Best double couple: M0 6.07000×10^16 NP1:φs 9.00000°, δ49.00000°, λ74.00000°. NP2:φs 213.00000°, δ44.00000°, λ107.00000°.*
IDC ***07*** *21:18:30.9±0.4, 23°.92N×122°.17E, h0km, mb5.0/26, mb1 5.0/28, mb1mx4.9/31, mbtmp4.9/28, ML4.8/2, MS4.5/28, Ms1 4.5/28, ms1mx4.3/42, Error ellipse: s-maj=14.9km s-min=10.7km az=62.0*
BJI ***07*** *21:18:32.0, 23°.83N×122°.25E, h17km, mB5.0/37, mb4.8/57, ML5.1/8, Ms4.9/65, Ms7 4.6/54*
ISCJB ***07*** *21:18:36.3±0.1, 23°.85N±0°.01×122°.23E±0°.01, h46km, mb5.3/258, MS4.6/55, Error ellipse: s-maj=1.7km s-min=1.4km az=143.1*
NEIC ***07*** *21:18:36.7, 23°.84N×122°.17E, h12km, mb5.4/118, After TAP.*
NEIC Felt at Taipei. Recorded [4 TAP] in Hua-lien; [3 TAP] in Chang-hua and T'ai-tung; [2 TAP] in I-lan, T'ai-chung, T'ai-nan and T'ai-pei; [1 TAP] in Chia-i, Nan-t'ou, P'eng-hu and P'ing-tung. Recorded [1 JMA] on Iriomote-jima and Yonoguni-jima, Ryukyu Islands.
JMA ***07*** *21:18:36.8±0.2, 23°.85N×122°.17E, h65km, M5.5*
JMA Felt I J1.
MOS ***07*** *21:18:37.1±0.9, 23°.94N×122°.14E, h52km, mb5.5/80, MS4.7/23, Error ellipse: s-maj=7.5km s-min=4.0km az=119.8*
TAP ***07*** *21:18:37.2, 23°.85N×122°.20E, h35km, ML5.9, B*
TEH ***07*** *21:18:37.0, 23°.88N×122°.11E, h35km*
GCMT ***07*** *21:18:38.3±0.2, 23°.81N×122°.18E, h38km, MW5.2, Moment Tensor Solution. s55,c76; s79,c123; Moment tensor: Scale 10^16 Nm; Mrr 6.34±.22; Mθθ 1.33±.14; Mφφ -7.67±.15; Mrθ -1.52±.14; Mθφ -1.48±.12; Mφr 2.63±.16; Best double couple: M0 7.80000×10^16 NP1:φs 208.00000°, δ39.00000°, λ119.00000°. NP2:φs 352.00000°, δ57.00000°, λ69.00000°. Principal axes: T 7.3400, Plg70.0000°, Azm214.0000°; N 0.9600, Plg18.0000°, Azm4.0000°; P -8.3000, Plg9.0000°, Azm97.0000°; Data Used: II IC G IU CN.*
DJA ***07*** *21:18:39, 23°.84N×122°.23E, h50km, Mw5.3/45*
SZGRF ***07*** *21:18:49.3, 25°.76N×120°.56E, h33km, mb5.2, Taiwan region*
ISC 07 21:18:38.1±0.1, 23°.88N±0°.01×122°.19E±0°.01, h48km, h48km±2.9km: pP-P, n850, σ1♀10/900, mb5.3/258, MS4.6/54, 132C-32D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.54	280	⇑*i*P	Pn	21 18 48.2	-1.5
	baz=273						
TWD	Chiawan	0.57	290	⇑*i*P	Pn	21 18 48.5	-1.6
	baz=284						
TWD				S	Sn	21 18 56.8	-2.1
	baz=284						
EHP	Heping Village	0.59	316	P	Pn	21 18 49.5	-0.9
	baz=307						
EHP				S	Sn	21 18 58.6	-0.6
	baz=307						
NACB	Ninganchiao	0.61	298	*e*Pn	Pn	21 18 48.7	-2.0
NACB				*e*Sn	Sn	21 18 57.7	-2.0
TEGC	Jichi Village	0.62	254	*e*P	Pn	21 18 49.1	-1.6
	baz=256						
TEGC				*e*S	Sn	21 18 58.1	-1.7
	baz=256						
ESF	Shoufeng Towns	0.62	269	P	Pn	21 18 49.0	-1.8
	baz=272						
ESF				S	Sn	21 18 57.9	-2.0
	baz=272						
ENA	Nanau	0.68	323	⇑*i*P	Pn	21 18 50.7	-0.8
	baz=324						
ESL	Shilin	0.69	265	⇑*i*P	Pn	21 18 49.8	-1.9
	baz=261						
ESL				*e*S	Sn	21 18 58.9	-2.6
	baz=261						
TWC	Suao	0.79	337	P	Pn	21 18 52.5	-0.4
	baz=346						
EHY	Hungye	0.88	245	⇑*i*P	Pn	21 18 52.5	-1.6
	baz=247						
WHF	Hehuan Shan	0.88	287	⇑*i*P	Pn	21 18 53.2	-1.0
	baz=289						
NNS	Nan Shan	0.93	307	⇑*i*P	Pn	21 18 54.3	-0.6
	baz=308						
NNS				*e*S	Sn	21 19 06.9	-0.2
	baz=308						
ENTT	Nioudou	0.94	323	⇑*i*P	Pn	21 18 54.8	-0.3
	baz=323						
YOJ	Yonaguni jima	0.95	52	⇓*i*P	Pn	21 18 55.0	-0.2
	baz=50						
YOJ				*i* S	Sn	21 19 07.8	+0.2
	baz=50						
YOJ	Yonaguni jima	0.95	52	P	Pn	21 18 54.9	-0.2
YOJ				S	Sn	21 19 08.1	+0.5
YULB	Yu-li	0.95	239	*e*Pn	Pn	21 18 52.9	-2.2
YULB				*e*Sn	Sn	21 19 04.8	-2.8
TWE	Neicheng	0.96	331	⇑P	Pn	21 18 55.2	-0.1
	baz=331						
TWE				*e*S	Sn	21 19 07.9	0.0
	baz=331						
ILA	Ilan	0.97	336	*e*P	Pn	21 18 55.6	+0.2
	baz=344						
ILA				S	Sn	21 19 09.2	+1.2
	baz=344						
TWF1	Yuli	0.97	237	⇑*i*P	Pn	21 18 54.0	-1.5
	baz=230						
TWF1				*e*S	Sn	21 19 06.3	-1.8
	baz=230						
TWT	Tachien	0.99	292	⇑*i*P	Pn	21 18 55.5	-0.2
	baz=292						
YHNB	Yeheng	1.08	317	*e*Pn	Pn	21 18 56.1	-0.8
CHKT	Chengkung	1.08	224	⇑P	Pn	21 18 54.6	-2.3
	baz=217						
CHKT				*e*S	Sn	21 19 06.9	-4.0
	baz=217						
NSK	Sanguang	1.09	316	⇑*i*P	Pn	21 18 57.0	-0.1
	baz=316						
SSLB	Suanglung	1.13	265	*e*Pn	Pn	21 18 55.9	-1.7
SSLB				*e*Sn	Sn	21 19 08.7	-3.3
TWB1	Santiao Chiao	1.14	351	P	Pn	21 18 57.7	0.0
	baz=349						
SMLT	Sun Moon Lake	1.18	270	⇑*i*P	Pn	21 18 57.9	-0.3
	baz=271						
SMLT				S	Sn	21 19 13.1	-0.1
	baz=271						
YUS	Yu-Shan	1.20	251	⇑*i*P	Pn	21 18 58.2	-0.3
	baz=253						
TYC	Yuchr	1.22	271	⇑*i*P	Pn	21 18 58.3	-0.5
	baz=272						
TWA	Mucha	1.22	333	⇑P	Pn	21 18 59.7	+0.8
	baz=333						
TWA				*e*S	Sn	21 19 15.4	+1.1
	baz=333						
NWF	Wu-fen Shan	1.24	343	P	Pn	21 18 59.6	+0.5
	baz=356						
TATO	Taipei	1.26	330	*e*Pn	Pn	21 18 59.6	+0.3
ELDTW	Lidau	1.28	238	⇑*i*P	Pn	21 18 58.1	-1.5
	baz=238						
ELDTW				*e*S	Sn	21 19 12.9	-2.6
	baz=238						
TAP1	Taipei	1.30	332	⇑*i*P	Pn	21 19 00.5	+0.6
	baz=331						
NSTT	Nanjuang	1.31	305	⇑*e*P	Pn	21 19 01.1	+1.0
	baz=305						
ALS	Alishan	1.32	254	*e*P	Pn	21 18 59.8	-0.4
	baz=255						
ALS				*e*S	Sn	21 19 16.2	-0.4
	baz=255						
TWQ1	Liyutan	1.37	290	⇑*i*P	Pn	21 19 01.9	+1.0
	baz=291						
TWQ1				*e*S	Sn	21 19 19.9	+2.0
	baz=291						
WNT	Mingjian	1.38	270	⇑*i*P	Pn	21 19 01.8	+0.8
	baz=271						
WNT				S	Sn	21 19 19.4	+1.5
	baz=271						
TWS1	Kuangyinshan	1.40	330	⇑P	Pn	21 19 01.9	+0.6
	baz=341						
TWS1				*e*S	Sn	21 19 18.8	+0.2
	baz=341						
TCU	Taichung	1.41	281	⇑*i*P	Pn	21 19 02.5	+1.2
	baz=282						
NSY	Sanyi	1.41	293	⇑*i*P	Pn	21 19 02.5	+1.1
	baz=293						
NSY				*e*S	Sn	21 19 21.1	+2.3
	baz=293						
CHN5	Tsauling	1.41	259	⇑*i*P	Pn	21 19 01.9	+0.5
	baz=260						
NCU	National Centr	1.42	320	⇑*i*P	Pn	21 19 02.2	+0.8
	baz=320						
NCU				S	Sn	21 19 20.6	+1.6
	baz=320						
HSN	Hsinchu	1.44	310	⇑*i*P	Pn	21 19 02.7	+0.9
	baz=312						
HSN				*e*S	Sn	21 19 21.6	+2.0
	baz=312						
TWG	Pinlang	1.47	224	⇑*i*P	Pn	21 19 00.3	-2.0
	baz=237						
TWG				*e*S	Sn	21 19 17.2	-3.1
	baz=237						
TWG	Pinlang	1.47	224	*e*Pn	Pn	21 19 00.1	-2.2
TWG				*e*Sn	Sn	21 19 18.2	-2.1
TTN	Taitung	1.47	221	*e*P	Pn	21 19 00.4	-1.9
	baz=212						
TTN				S	Sn	21 19 18.6	-1.7
	baz=212						
IRIF	Iriomote-Funau	1.48	72	P	Pn	21 19 02.1	-0.3
IRIF				S	Sn	21 19 21.4	+0.8
TWY	Chenhua	1.49	339	⇓P	Pn	21 19 03.4	+0.9
	baz=338						
TWY				*e*S	Sn	21 19 22.8	+2.1
	baz=338						
HATJ	Hateruma jima	1.49	83	P	Pn	21 19 01.8	-0.7
HATJ				S	Sn	21 19 21.0	+0.2
STYT	Tauyuan	1.49	242	⇑*i*P	Pn	21 19 02.2	-0.4
	baz=234						
STYT				*e*S	Sn	21 19 19.4	-1.4
	baz=234						
WGK	Gukeng	1.50	263	⇑*i*P	Pn	21 19 03.2	+0.6
	baz=264						
WGK				*e*S	Sn	21 19 22.6	+1.6
	baz=264						
TPUB	Ta-pu	1.54	248	*e*Pn	Pn	21 19 03.7	+0.5
TPUB				*e*Sn	Sn	21 19 22.5	+0.5
CHN4	Tsaushan	1.55	250	⇑P	Pn	21 19 04.0	+0.6
	baz=251						
CHN4				*e*S	Sn	21 19 23.7	+1.4
	baz=251						
CHY	Chiayi	1.66	257	⇑*i*P	Pn	21 19 05.6	+0.8
	baz=258						
CHN1	Nanshi	1.67	246	⇑*i*P	Pn	21 19 05.6	+0.7
	baz=247						
CHN1				*e*S	Sn	21 19 26.3	+1.0
	baz=247						
SGST	Jiashian	1.67	242	⇑P	Pn	21 19 05.6	+0.6
	baz=235						
JKRS	Kuro-shima	1.70	78	P	Pn	21 19 05.2	-0.2
JKRS				S	Sn	21 19 26.9	+0.9
ECL	Taimali	1.71	222	⇑*i*P	Pn	21 19 03.3	-2.2
	baz=232						
WTCT	Ta-ch'eng	1.74	270	⇑*i*P	Pn	21 19 07.0	+1.0
	baz=270						
WTCT				S	Sn	21 19 29.1	+2.0
	baz=270						
WSF	Szhu	1.82	263	⇑*i*P	Pn	21 19 07.6	+0.6
	baz=263						
WSF				S	Sn	21 19 30.6	+1.8
	baz=263						
SSD	Sandimen	1.82	232	⇑P	Pn	21 19 06.2	-0.8
	baz=229						
SSD				*e*S	Sn	21 19 29.4	+0.5
	baz=229						
JIJ	Ishigaki jima	1.85	75	P	Pn	21 19 06.7	-0.7
JIJ				S	Sn	21 19 28.8	-0.8
CHN3	Shinhua	1.85	245	⇑*i*P	Pn	21 19 09.2	+1.7
	baz=245						
CHN3				*e*S	Sn	21 19 33.0	+3.3
	baz=245						
CHN8	Yiju	1.89	254	⇑*i*P	Pn	21 19 08.4	+0.5
	baz=254						
CHN8				S	Sn	21 19 32.0	+1.4
	baz=254						
LAY	Lan-yu	1.93	198	P	Pn	21 19 05.9	-2.5
	baz=199						
TAW	Tawu	1.93	218	⇑P	Pn	21 19 06.9	-1.6
	baz=228						
TWM1	Shoushan	1.93	237	⇑*i*P	Pn	21 19 10.4	+1.9
	baz=238						
EAST	Anshuo	1.94	220	P	Pn	21 19 06.8	-1.8
	baz=221						
SGLT	Jiouru	1.94	234	*e*P	Pn	21 19 09.9	+1.2
	baz=234						
SGLT				*e*S	Sn	21 19 35.4	+3.6
	baz=234						
SCLT	Jiali	1.96	249	⇑P	Pn	21 19 09.8	+0.9
	baz=250						
SCLT				S	Sn	21 19 34.5	+2.2
	baz=250						
TAI1	Yung-k'ang	1.98	245	⇑*i*P	Pn	21 19 10.6	+1.3
	baz=259						
TAI1				*e*S	Sn	21 19 34.5	+1.6
	baz=259						
SCZT	Fangliau	2.08	224	*e*P	Pn	21 19 10.0	-0.6
	baz=220						
SCZT				*e*S	Sn	21 19 36.1	+0.7
	baz=220						
KAU	Kaohsiung	2.17	233	⇑P	Pn	21 19 13.6	+1.8
	baz=234						
KAU				*e*S	Sn	21 19 40.5	+3.1
	baz=234						
TWP	Hsiaoliuchiu	2.27	228	P	Pn	21 19 15.5	+2.3
	baz=242						
TWP				*e*S	Sn	21 19 44.1	+4.1
	baz=242						
HEN	Hengchun	2.30	216	⇑P	Pn	21 19 13.1	-0.4
	baz=209						
HEN				*e*S	Sn	21 19 38.5	-2.0
	baz=209						
TWK1	Hengchun	2.31	214	P	Pn	21 19 12.8	-1.0
	baz=214						
TWK1				*e*S	Sn	21 19 38.4	-2.6
	baz=214						
JTJ	Tarama	2.42	71	P	Pn	21 19 14.8	-0.4
PNG	Penghu	2.43	263	⇑*i*P	Pn	21 19 15.3	-0.1
	baz=263						
PNG				*e*S	Sn	21 19 43.6	-0.4
	baz=263						
JMJ	Miyako jima 2	2.98	71	*e*P	Pn	21 19 22.5	-0.5
	baz=71						
JMJ	Miyako jima 2	2.98	71	P	Pn	21 19 22.8	-0.1
JMJ				S	Sn	21 19 57.8	+0.3
JOGS	Gusukube	3.06	73	P	Pn	21 19 24.3	+0.2
QZH	Quanzhou	3.44	289	⇓*i*Pn	Pn	21 19 26.5	-2.8
QZH				Sn	Sn	21 20 03.8	-5.0
QZH				smax			
	comp=N,13μm,0.6s						
QZH				smax			
	comp=E,10μm,0.8s						
QZH				LR	LR		
	comp=N,12μm,10.8s						
QZH				LR	LR		
	comp=E,17μm,11.4s						
QZH				LR	LR		
	comp=Z,22μm,12.1s						
KNM	Kinmen	3.47	280	⇑*e*P	Pn	21 19 30.5	+0.9
	baz=279						
JKE	Kume jima 2	4.83	59	P	Pn	21 19 47.2	-1.1
JAGN	Aguni-jima	5.31	58	P	Pn	21 19 53.9	-1.0
NAH1	Naha	5.50	64	P	Pn	21 19 56.7	-0.8
JJT2	Tamagusuku 2	5.52	65	P	Pn	21 19 56.9	-0.9
SGCP	Mt. Cagua	5.61	181	*e*P	Sn	21 20 57.2	-5.1
JIH	Iheya	6.09	58	P	Pn	21 20 04.1	-1.6
JOW	Kunigami	6.24	61	Pn	Pn	21 20 05.1	-2.6
	comp=Z,102nm,0.3s,baz=237,slow=9.9,SNR=171						
JOW				Sn	Sn	21 21 14.8	-2.9
	comp=Z,15nm,0.3s,baz=323,slow=20,SNR=2.3						
JOW	Kunigami	6.24	61	⇓*e*P	Pn	21 20 05.5	-2.2
	baz=61						
JOW	Kunigami	6.24	61	*e*Pn	Pn	21 20 05.5	-2.2
JOW				Sn	Sn	21 21 14.8	-2.9
JOW	Kunigami	6.24	61	P	Pn	21 20 05.4	-2.3
JOW				*e*S	Sn	21 21 15.5	-2.2
ABRA	Dolores	6.35	193	*e*P	Pn	21 20 09.8	+0.6
CAUP	Cauayan	6.91	183	*e*P	Pn	21 20 18.7	+1.8
JTK	Tokunoshima	7.23	56	P	Pn	21 20 18.5	-2.7
JTK				*e*S	Sn	21 21 37.4	-4.6
SSE	Sheshan	7.24	353	P	Pn	21 20 21.7	+0.3
SSE				S	Sn	21 21 41.6	-0.6
SSE				smax			
	comp=N,270nm,0.8s						
SSE				smax			
	comp=E,440nm,1.0s						
SSE				LR	LR		
	comp=N,2μm,13.5s						
SSE				LR	LR		
	comp=E,4μm,13.3s						
SSE				LR	LR		
	comp=Z,3μm,13.8s						
SSE	Sheshan	7.24	353	Pn	Pn	21 20 21.7	+0.3
SSE				Sn	Sn	21 21 41.6	-0.6
JAM	Amami Oshima	8.05	54	P	Pn	21 20 29.8	-2.6
JAM				S	Sn	21 21 57.0	-5.1
BALP	Baler	8.12	184	*e*P	Pn	21 20 34.0	+0.5
GZH	Guangzhou	8.16	266	P	Pn	21 20 28.9	-5.1
GZH				smax			
	comp=N,2μm,0.8s						
GZH				smax			
	comp=E,1μm,0.9s						
JZK	Kikaishima	8.27	56	P	Pn	21 20 33.0	-2.5
SCZP	Santa Cruz	8.34	195	*e*P	Pn	21 20 36.7	+0.2
JMZ	Minamidaito 2	8.43	75	P	Pn	21 20 33.0	-4.7
NJ2	Nanjing	8.65	341	*e*P	Pn	21 20 40.0	-0.7
NJ2				S	Sn	21 22 16.0	-1.0
NJ2				sS		21 22 27.1	
NJ2				pmax	pmax		
	comp=Z,210nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,430nm,5.5s						
NJ2				smax			
	comp=N,690nm,0.8s						
NJ2				smax			
	comp=E,1μm,1.2s						
NJ2				LR	LR		
	comp=N,4μm,12.1s						
NJ2				LR	LR		
	comp=E,2μm,15.9s						
NJ2				LR	LR		
	comp=Z,4μm,14.3s						
WHN	Wuhan	9.62	315	⇑P	Pn	21 20 52.3	-1.7
WHN				pP		21 20 59.6	
WHN				S	Sn	21 22 37.4	-3.4
WHN				LR	LR		
	comp=N,14μm,9.9s						
WHN				LR	LR		
	comp=E,11μm,5.9s						
TGY	Tagaytay City	9.80	187	Pn	Pn	21 20 58.8	+2.3
	comp=E,79nm,0.3s,baz=138,slow=6.0,SNR=4.6						
TGY	Tagaytay City	9.80	187	Pn	Pn	21 20 58.8	+2.3
TGY	Tagaytay City	9.80	187	P	Pn	21 20 58.8	+2.3
GQP	Guinayangan	9.93	179	⇑*i*P	Pn	21 20 58.8	+0.5
JNU	Nakatsue	11.96	38	*e*Pn	Pn	21 21 27.1	+1.2
QIZ	Qiongzhong	12.46	250	P	Pn	21 21 31.3	-1.6
QIZ				S	Sn	21 23 50.0	-0.4
QIZ				LR	LR		
	comp=N,3μm,17.6s						
QIZ				LR	LR		
	comp=E,990nm,18.0s						
QIZ				LR	LR		
	comp=Z,3μm,16.1s						
TIA	Tai'an	13.04	342	P	Pn	21 21 41.3	+0.6
TIA				LR	LR		
	comp=N,2μm,14.7s						
TIA				LR	LR		
	comp=E,3μm,13.7s						
TIA				LR	LR		
	comp=Z,2μm,14.7s						
MSLP	Maasin	13.91	169	*e*P	Pn	21 21 53.6	+0.9
INCN	Inchon	14.08	15	*e*Pn	Pn	21 21 56.3	+1.4
	comp=Z,86nm,0.8s						
GYA	Guiyang	14.29	284	⇑*i*P	Pn	21 21 57.7	0.0
GYA				pP		21 22 05.4	
GYA				S	Sn	21 24 32.4	-2.4
GYA				sS		21 24 45.6	
GYA				SS		21 24 51.0	
GYA				pmax	pmax		
	comp=Z,100nm,1.0s						
GYA				pmax	pmax		
	comp=Z,270nm,6.5s						
GYA				LR	LR		
	comp=N,3μm,10.3s						
GYA				LR	LR		
	comp=E,3μm,9.3s						
GYA				LR	LR		
	comp=Z,3μm,11.5s						
KSAR	Wonju Array Be	14.37	19	Pn	Pn	21 22 00.2	+1.4
KSAR	Wonju Array Be	14.37	19	P	Pn	21 22 00.2	+1.4
KSRS	Korea Array	14.39	19	Pn	Pn	21 22 00.2	+1.1
	comp=Z,1.5nm,0.3s,baz=196,slow=12,SNR=44						
KSRS				LR	LR	21 28 06.1	
	comp=Z,1μm,18.8s,baz=194,slow=40						
BATP	Bataraza	15.58	196	*e*P	Pn	21 22 19.5	+4.9
CTBH	Cotabato--PC H	16.68	173	⇓*i*P	Pn	21 22 31.3	+2.6
BJI	Beijing	16.89	344	P	Pn	21 22 31.1	0.0
BJI				S	S	21 25 44.8	-1.4
BJI				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BJI				pmax	pmax		
	comp=Z,380nm,11.0s						
BJI				LR	LR		
	comp=N,1μm,14.7s						
BJI				LR	LR		
	comp=E,2μm,16.2s						
BJI				LR	LR		
	comp=Z,900nm,22.1s						
DAV	Davao City (W)	17.03	168	LR	LR	21 28 28.5	
	comp=Z,1μm,21.5s,baz=224,slow=35						

DAV	**Davao City (W)**	**17.03 168**	*e*Pn	**Pn**	**21 22 34.2**	**+1.2**
KDM	**Kudat**	**17.64 198**	P	**Pn**	**21 22 41.8**	**+1.3**
KMI	**Kunming**	**17.74 278**	P	**Pn**	**21 22 42.5**	**+0.7**
KMI			pP	pP	21 22 50.4	-2.8
KMI			sP	sP	21 22 53.6	-5.6
KMI			PP		21 22 58.7	
KMI			S	**S**	**21 25 56.3**	**-7.5**
KMI			pmax	pmax		
	comp=Z,33nm,0.9s					
KMI			pmax	pmax		
	comp=Z,360nm,3.9s					
KMI			LR	LR		
	comp=N,1μm,11.3s					
KMI			LR	LR		
	comp=E,3μm,10.7s					
KMI			LR	LR		
	comp=Z,3μm,11.6s					
KMI	**Kunming**	**17.74 278**	P	**Pn**	**21 22 42.5**	**+0.7**
	comp=Z,33nm,0.9s					
KMI			pP	pP	21 22 50.4	-2.8
KMI			sP	sP	21 22 53.6	-5.6
KMI			PP		21 22 58.7	
KMI			S	**S**	**21 25 56.3**	**-7.5**
KMI			sS	sS	21 26 12.4	-9.1
KMI			SSS		21 26 31.8	
KMI	**Kunming**	**17.74 278**	P	**Pn**	**21 22 42.5**	**+0.7**
KMI			S	**S**	**21 25 56.3**	**-7.5**
KMI			pmax	pmax		
	comp=Z,33nm,0.9s					
CD2	**Chengdu**	**17.79 297**	*e*P	**Pn**	**21 22 42.1**	**-0.2**
CD2			pP	pP	21 22 50.0	-3.6
CD2			PP		21 22 55.2	
CD2			S	**S**	**21 25 56.9**	**-7.7**
CD2			sS	sS	21 26 09.3	-13
CD2			SS		21 26 19.6	
CD2			pmax	pmax		
	comp=Z,100nm,0.8s					
CD2			pmax	pmax		
	comp=Z,270nm,4.8s					
CD2			LR	LR		
	comp=N,4μm,9.0s					
CD2			LR	LR		
	comp=E,4μm,9.6s					
CD2			LR	LR		
	comp=Z,5μm,15.6s					
SNY	**Shenyang**	**17.93 3**	⇓P	**Pn**	**21 22 46.0**	**+2.1**
SNY			S	**S**	**21 25 59.9**	**-7.5**
SNY			pmax	pmax		
	comp=Z,12nm,0.7s					
SNY			pmax	pmax		
	comp=Z,390nm,5.7s					
SNY			LR	LR		
	comp=N,1μm,17.1s					
SNY			LR	LR		
	comp=E,3μm,14.7s					
SNY			LR	LR		
	comp=Z,1μm,13.8s					
CBIJ	**Chichi jima**	**18.34 76**	LR	LR	21 29 31.5	
	comp=Z,1μm,18.5s,baz=300,slow=36					
KKM	**Kota Kinabalu**	**18.64 199**	P	**Pn**	**21 22 53.5**	**+0.8**
KKM	**Kota Kinabalu**	**18.64 199**	*e*Pn	**Pn**	**21 22 52.9**	**+0.1**
	comp=Z,185nm,1.1s					
KKM	**Kota Kinabalu**	**18.64 199**	P	**Pn**	**21 22 53.0**	**+0.3**
	comp=Z,3μmcomp=Z,169nm,1.6s					
MAJO	**Matsushiro**	**18.70 44**	*e*Pn	**Pn**	**21 22 55.3**	**+2.0**
	comp=Z,36nm,1.3s					
MAJO	**Matsushiro**	**18.70 44**	*e*P	**Pn**	**21 22 55.3**	**+2.0**
MAJO			pmax	pmax		
	comp=Z,36nm,1.3s					
MAT	**Matsushiro**	**18.70 44**	P	**Pn**	**21 22 51.6**	**-1.7**
MAT			S	**S**	**21 26 22.0**	**-0.6**
MJAR	**Matsushiro Arr**	**18.70 44**	P	**Pn**	**21 22 51.7**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=225,slow=9.8,SNR=13					
MJAR			LR	LR	21 30 45.0	
	comp=Z,1μm,19.8s,baz=215,slow=39					
MJAR	**Matsushiro Arr**	**18.70 44**	P	**Pn**	**21 22 51.7**	**-1.6**
MJAR	**Matsushiro Arr**	**18.70 44**	P	**Pn**	**21 22 51.7**	**-1.6**
SDKM	**Sandakan**	**18.76 196**	P	**Pn**	**21 22 54.6**	**+0.4**
MYLDM	**Lahad Datu**	**18.93 191**	P	**Pn**	**21 22 57.5**	**+1.3**
MYLDM	**Lahad Datu**	**18.93 191**	P	**Pn**	**21 22 57.0**	**+0.8**
	comp=Z,2μmcomp=Z,136nm,1.2s					
HHC	**Hu-ho-hao-te**	**19.12 335**	*e*P	**Pn**	**21 22 59.5**	**+1.2**
HHC			pP	pP	21 23 07.9	-0.3
HHC			sP	sP	21 23 11.5	-2.8
HHC			PP		21 23 16.9	
HHC			S	**S**	**21 26 28.9**	**-2.5**
HHC			SS		21 26 54.5	
HHC			PcP	PcP	21 27 21.9	+2.1
HHC			pmax	pmax		
	comp=Z,22nm,1.4s					
HHC			pmax	pmax		
	comp=Z,410nm,3.6s					
HHC			LR	LR		
	comp=N,1μm,16.6s					
HHC			LR	LR		
	comp=E,1μm,15.5s					
HHC			LR	LR		
	comp=Z,2μm,16.6s					
BTO	**Baotou**	**19.56 331**	*e*P	**Pn**	**21 23 01.1**	**-2.4**
TSM	**Tawau**	**19.91 193**	P	**Pn**	**21 23 06.5**	**-1.4**
LZH	**Lanzhou**	**19.97 312**	⇑P	**Pn**	**21 23 08.5**	**+0.1**
LZH			pP	pP	21 23 17.2	-0.4
LZH			sP	sP	21 23 21.7	-1.9
LZH			PP		21 23 27.8	
LZH			S	**S**	**21 26 46.0**	**-2.4**
LZH			sS	sS	21 26 58.6	-7.8
LZH			SS		21 27 13.5	
LZH	**Lanzhou**	**19.97 312**	⇑P	**Pn**	**21 23 08.5**	**+0.1**
	comp=Z,73nm,1.1s					
LZH			pP	pP	21 23 17.2	-0.4
LZH			sP	sP	21 23 21.7	-1.9
LZH			PP		21 23 27.8	
LZH			S	**S**	**21 26 46.0**	**-2.4**
LZH			sS	sS	21 26 58.6	-7.8
LZH			SS		21 27 13.5	
LZH	**Lanzhou**	**19.97 312**	⇑P	**Pn**	**21 23 08.5**	**+0.1**
LZH			S	**S**	**21 26 46.0**	**-2.4**
LZH			pmax	pmax		
	comp=Z,73nm,1.1s					
CN2	**Changchun**	**20.05 7**	⇑P	**P**	**21 23 07.1**	**-0.1**
CN2			*es*P	sP	21 23 15.8	-8.6
CN2			*es*P	sP	21 23 20.2	-4.2
CN2			*e*S	**S**	**21 26 46.1**	**-3.8**
CN2			pmax	pmax		
	comp=Z,40nm,0.9s					
CN2			pmax	pmax		
	comp=Z,200nm,5.0s					
CN2			LR	LR		
	comp=N,2μm,18.0s,MS4.5					
CN2			LR	LR		
	comp=E,2μm,18.0s,MS4.5					
CN2			LR	LR		
	comp=Z,2μm,17.0s,MS4.5					
SGSI	**Sangihe**	**20.34 170**	P	**P**	**21 23 09.5**	**-1.0**
	comp=Z,380nm,0.4s					
VLA	**Vladivostok**	**20.80 20**	⇓*i*P	**P**	**21 23 12.9**	**-2.4**
VLA			*e*S	**S**	**21 27 03.5**	**-1.2**
VLA			pmax	pmax		
	comp=Z,87nm,1.7s					
MDJ	**Mudanjiang**	**21.55 15**	P	**P**	**21 23 25.2**	**+1.8**
MDJ			pP		21 23 33.3	
MDJ			sP	sP	21 23 37.3	-3.4
MDJ			S	**S**	**21 27 24.0**	**+4.6**
MDJ			ScP	ScP	21 31 00.2	+2.8
MDJ			PcS	PcS	21 31 03.6	+1.3
MDJ			pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.0					
MDJ			LR	LR		
	comp=N,890nm,17.2s,MS4.6					
MDJ			LR	LR		
	comp=E,2μm,18.0s,MS4.6					
MDJ			LR	LR		
	comp=Z,860nm,24.9s					
CHG	**Chiang Mai**	**22.22 261**	⇑P	**P**	**21 23 31.7**	**+1.0**
	comp=Z,39nm,1.2s,mb4.7					
CHG			S		21 23 32.4	
CHTO	**Chiang Mai**	**22.22 261**	*e*P	**P**	**21 23 31.7**	**+1.0**
	comp=Z,132nm,1.3s,mb5.2					
CHTO	**Chiang Mai**	**22.22 261**	*e*P	**P**	**21 23 31.7**	**+1.0**
CHTO			pmax	pmax		
	comp=Z,132nm,1.3s,mb5.2					
CHTO	**Chiang Mai**	**22.22 261**	P	**P**	**21 23 31.6**	**+0.9**
	comp=Z,2μmcomp=Z,109nm,1.4s,mb5.1					
CHTO	**Chiang Mai**	**22.22 261**	P	**P**	**21 23 32.3**	**+1.6**
	SNR=22					
NST	**Nakhon Sawan**	**22.28 253**	P	**P**	**21 23 33.2**	**+1.8**
CM31	**Chiang Mai Arr**	**22.32 260**	*e*P	**P**	**21 23 32.1**	**+0.3**
	comp=Z,19nm,0.8s,mb4.6					
CMAR	**Chiang Mai Arr**	**22.32 260**	P	**P**	**21 23 32.1**	**+0.2**
	comp=Z,33nm,1.0s,mb4.7,baz=64,slow=8.7,SNR=95					
CMAR			PcP	PcP	21 27 26.6	+0.4
	comp=Z,6.8nm,0.9s,baz=59,slow=0.9,SNR=15					
CMAR			LR	LR	21 34 04.8	
	comp=Z,938nm,18.8s,MS4.2,baz=310,slow=42					
CMAR	**Chiang Mai Arr**	**22.32 260**	P	**P**	**21 23 32.1**	**+0.2**
CMAR			PcP	PcP	21 27 26.6	+0.4
CMAR	**Chiang Mai Arr**	**22.32 260**	P	**P**	**21 23 32.1**	**+0.2**
CMAR					21 27 26.6	
BTM	**Bintulu**	**22.36 205**	P	**P**	**21 23 32.8**	**+0.6**
MNI	**Manado**	**22.45 173**	P	**P**	**21 23 31.5**	**-1.7**
	comp=Z,2μmcomp=Z,105nm,1.4s,mb5.1					
BDT	**Bhumibol Dam**	**22.67 257**	P	**P**	**21 23 35.5**	**-0.1**
	comp=Z,18nm,1.0s,mb4.5					
GTOI	**Gorontalo**	**23.12 178**	P	**P**	**21 23 38.7**	**-1.6**
	comp=Z,3μmcomp=Z,316nm,1.4s,mb5.6					
KMSI	**Cibinong**	**23.23 175**	P	**P**	**21 23 42.4**	**+0.9**
	comp=Z,4μmcomp=Z,330nm,1.2s,mb5.7					
MRSI	**Marisa**	**23.27 181**	P	**P**	**21 23 41.4**	**-0.4**
	comp=Z,1μmcomp=Z,108nm,1.4s,mb5.1					
SBUM	**Sibu**	**23.39 206**	P	**P**	**21 23 42.0**	**-0.9**
SBUM	**Sibu**	**23.39 206**	P	**P**	**21 23 41.2**	**-1.7**
	comp=Z,1μmcomp=Z,107nm,1.1s,mb5.2					
TNTI	**Ternate**	**23.52 167**	P	**P**	**21 23 43.6**	**-0.5**
	comp=Z,4μmcomp=Z,318nm,1.1s,mb5.7					
GUMO	**Guam**	**23.76 111**	P	**P**	**21 23 46.3**	**0.0**
	comp=Z,94nm,0.4s,mb5.6,baz=12,slow=22,SNR=3.1					
GUMO			LR	LR	21 31 13.0	
	comp=Z,522nm,18.6s,MS4.0,baz=139,slow=32					
GUMO	**Guam**	**23.76 111**	P	**P**	**21 23 46.3**	**0.0**
GUMO	**Guam**	**23.76 111**	P	**P**	**21 23 46.3**	**-0.1**
GUMO	**Guam**	**23.76 111**	P	**P**	**21 23 45.8**	**-0.6**
	comp=Z,440nm,1.2s,mb5.8					
NNT	**Nongplab**	**24.06 246**	P	**P**	**21 23 50.8**	**+1.7**
GTA	**Gaotai**	**24.45 315**	⇑P	**P**	**21 23 52.8**	**+0.4**
GTA			pP		21 24 02.1	
GTA			sP	sP	21 24 06.1	-4.4
GTA			PcP	PcP	21 27 31.7	+1.4
GTA			S	**S**	**21 28 11.3**	**+2.1**
GTA			pmax	pmax		
	comp=Z,28nm,2.1s,mb4.3					
GTA			pmax	pmax		
	comp=Z,280nm,4.7s					
GTA			LR	LR		
	comp=N,1μm,20.4s,MS4.6					
GTA			LR	LR		
	comp=E,1μm,19.5s,MS4.6					
GTA			LR	LR		
	comp=Z,2μm,18.7s,MS4.5					
APSI	**Ampana**	**24.65 181**	P	**P**	**21 23 54.6**	**+0.2**
	comp=Z,8μm,0.8s					
SMKI	**Samarinda**	**24.66 192**	P	**P**	**21 23 55.8**	**+1.3**
	comp=Z,4μmcomp=Z,268nm,1.4s,mb5.6					
LUWI	**Luwuk**	**24.78 179**	P	**P**	**21 23 53.6**	**-2.0**
	comp=Z,2μmcomp=Z,174nm,1.2s,mb5.5					
LBMI	**Labuha**	**24.91 167**	P	**P**	**21 23 56.7**	**-0.1**
	comp=Z,2μmcomp=Z,137nm,0.9s,mb5.5					
KSM	**Kuching**	**25.07 209**	P	**P**	**21 23 58.1**	**-0.1**
KSM	**Kuching**	**25.07 209**	*e*P	**P**	**21 23 57.6**	**-0.7**
	comp=Z,175nm,1.1s,mb5.5					
KSM	**Kuching**	**25.07 209**	P	**P**	**21 23 57.5**	**-0.8**
	comp=Z,2μmcomp=Z,149nm,1.4s,mb5.3					
ERM	**Erimo**	**25.12 39**	P	**P**	**21 23 57.2**	**-1.3**
	comp=Z,263nm,0.9s,mb5.8,SNR=5.6					
STKI	**Sintang**	**25.86 205**	P	**P**	**21 24 05.8**	**+0.4**
	comp=Z,90nm,1.7s,mb5.0					
SWI	**Sorong**	**26.13 159**	P	**P**	**21 24 07.9**	**0.0**
ASAJ	**Asahikawa**	**26.21 35**	P	**P**	**21 24 06.3**	**-2.0**
	comp=Z,8.7nm,0.3s,mb4.7,baz=238,slow=8.9,SNR=17					
ASAJ			LR	LR	21 35 00.0	
	comp=Z,2μm,19.9s,MS4.5,baz=70,slow=38					
ASAJ	**Asahikawa**	**26.21 35**	P	**P**	**21 24 06.3**	**-2.0**
MSSI	**Masamba**	**26.34 184**	P	**P**	**21 24 09.6**	**-0.2**
	comp=Z,3μmcomp=Z,84nm,1.1s,mb5.2					
KLR	**Kul'dur**	**26.40 14**	*e*P	**P**	**21 24 06.0**	**-4.0**
HABR	**Khabarovsk**	**26.57 19**	P	**P**	**21 24 11.3**	**-0.3**
HABR			*e**SP	sP	21 24 23.9	-5.8
HABR			*e*PPP		21 24 59.3	
HABR			*e*S	**S**	**21 28 43.3**	**+0.6**
HABR			*e*		21 35 01.1	
HABR			pmax	pmax		
	comp=E,105nm,3.2s					
HABR			pmax	pmax		
	comp=N,53nm,3.2s					
HABR			pmax	pmax		
	comp=Z,118nm,3.2s					
HABR			MLR	MLR		
	comp=Z,1μm,17.0s,MS4.5					
ULN	**Ulaanbaatar**	**26.79 337**	*e*P	**P**	**21 24 12.8**	**-0.7**
	comp=Z,34nm,0.6s,mb5.1					
ULN	**Ulaanbaatar**	**26.79 337**	*e*P	**P**	**21 24 12.8**	**-0.8**
ULN			pmax	pmax		
	comp=Z,34nm,0.6s,mb5.0					
ULN	**Ulaanbaatar**	**26.79 337**	P	**P**	**21 24 13.7**	**+0.1**
	comp=Z,613nmcomp=Z,50nm,0.7s,mb5.1					
ULN	**Ulaanbaatar**	**26.79 337**	P	**P**	**21 24 13.5**	**0.0**
	SNR=16					
TTSI	**Tana Toraja**	**26.86 185**	P	**P**	**21 24 13.6**	**-0.9**
	comp=Z,745nmcomp=Z,43nm,0.9s,mb5.0					
SONM	**Songino Array**	**27.01 336**	P	**P**	**21 24 15.0**	**-0.5**
	comp=Z,19nm,0.8s,mb4.7,baz=151,slow=9.4,SNR=146					
SONM			LR	LR	21 36 15.7	
	comp=Z,2μm,18.1s,MS4.7,baz=151,slow=40					
SONM	**Songino Array**	**27.01 336**	P	**P**	**21 24 15.0**	**-0.5**
SONM	**Songino Array**	**27.01 336**	P	**P**	**21 24 15.0**	**-0.5**
NLAI	**Namlea**	**27.38 169**	P	**P**	**21 24 19.0**	**-0.1**
	comp=Z,1μmcomp=Z,167nm,0.8s,mb5.6					
SHL	**Shillong**	**27.55 280**	*e*PKP	**P**	**21 24 24.0**	**+3.4**
SHL			*ex*	x	21 31 23.9	
KDI	**Kendari**	**27.67 179**	P	**P**	**21 24 22.4**	**+0.7**
	comp=Z,372nmcomp=Z,17nm,1.2s,mb4.5					
KULM	**Kulim**	**27.78 232**	P	**P**	**21 24 24.0**	**+1.3**
KULM	**Kulim**	**27.78 232**	*e*P	**P**	**21 24 23.5**	**+0.7**
	comp=Z,55nm,1.0s,mb5.1					
KULM	**Kulim**	**27.78 232**	P	**P**	**21 24 23.7**	**+1.0**
	comp=Z,68nm,1.8s,mb5.0					
SPSI	**Sidrap Palu**	**27.78 185**	P	**P**	**21 24 21.3**	**-1.4**
	comp=Z,27nm,1.7s,mb4.6					
MSAI	**Masohi**	**27.85 165**	P	**P**	**21 24 24.3**	**+1.0**
	comp=Z,481nmcomp=Z,27nm,1.6s,mb4.6					
AAI	**Ambon**	**28.02 167**	P	**P**	**21 24 24.0**	**-0.8**
	comp=Z,1μmcomp=Z,59nm,1.4s,mb5.0					
IPM	**Ipoh**	**28.08 230**	P	**P**	**21 24 25.5**	**+0.1**
IPM	**Ipoh**	**28.08 230**	*e*P	**P**	**21 24 25.4**	**0.0**
	comp=Z,70nm,0.9s,mb5.3					
IPM	**Ipoh**	**28.08 230**	P	**P**	**21 24 25.3**	**-0.1**
	comp=Z,88nm,1.1s,mb5.3					
BBKI	**Banjar Baru**	**28.10 196**	P	**P**	**21 24 25.1**	**-0.5**
	comp=Z,2μmcomp=Z,156nm,1.6s,mb5.4					
MYKOM	**Kota Tinggi**	**28.24 222**	P	**P**	**21 24 27.6**	**+0.8**
MYKOM	**Kota Tinggi**	**28.24 222**	P	**P**	**21 24 27.1**	**+0.3**
	comp=Z,119nm,1.3s,mb5.4					
LSA	**Lhasa**	**28.25 289**	P	**P**	**21 24 28.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**28.31 30**	*e*P	**P**	**21 24 28.0**	**+0.8**
YSS			*e*	pP	21 24 43.0	+3.4
YSS			MLR	MLR		
	comp=Z,1μm,16.0s,MS4.6					
YSS			MLR	MLR		
	comp=N,1μm,14.0s					
KAPI	**Kappang**	**28.82 185**	P	**P**	**21 24 30.0**	**-2.0**
	comp=N,12nm,0.9s,mb4.6,baz=11,slow=10,SNR=5.8					
KAPI			LR	LR	21 35 58.4	
	comp=N,414nm,19.9s,MS4.0,baz=6.1,slow=36					
KAPI	**Kappang**	**28.82 185**	P	**P**	**21 24 30.0**	**-2.0**
TPI	**Tanjungpandan**	**30.02 210**	P	**P**	**21 24 43.1**	**+0.5**
	comp=N,73nm,1.4s,mb5.2					
PPBI	**Pangkal Pinang**	**30.23 213**	P	**P**	**21 24 44.8**	**+0.3**
	comp=N,43nm,1.8s,mb4.9					
ZAK	**Zakamensk**	**30.27 336**	*e*P	**P**	**21 24 42.0**	**-2.4**
ZAK			*e*		21 27 38.1	
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3					
SMPI	**Sarmi**	**30.32 146**	P	**P**	**21 24 45.2**	**-0.1**
	comp=Z,71nm,1.2s,mb5.2					
TSI	**Tuntungan**	**30.51 232**	P	**P**	**21 24 46.8**	**-0.2**
	comp=Z,138nm,1.1s,mb5.7					
PSI	**Prapat**	**30.74 231**	P	**P**	**21 24 49.8**	**+0.8**
	comp=Z,865nmcomp=Z,88nm,1.2s,mb5.5					
BKNI	**Bangkinang**	**31.13 224**	P	**P**	**21 24 52.6**	**+0.2**
	comp=Z,1μmcomp=Z,134nm,1.1s,mb5.7					
TLY	**Talaya**	**31.20 338**	*e*P	**P**	**21 24 52.9**	**+0.2**
	comp=Z,25nm,0.7s,mb5.2					
TLY	**Talaya**	**31.20 338**	*e*P	**P**	**21 24 50.9**	**-1.8**
TLY			*e*S	**S**	**21 29 52.1**	**-3.3**
TLY			*e*SS	SS	21 31 44.8	-25
TLY			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8					
TLY			MLR	MLR		
	comp=Z,823nm,17.0s,MS4.5					
TAPN	**Taplejung**	**31.22 284**	*e*P	**P**	**21 24 53.6**	**+0.4**
	comp=Z,105nm,0.8s,mb5.7					
TAPN	**Taplejung**	**31.22 284**	*e*P	**P**	**21 24 53.6**	**+0.4**
	comp=Z,105nm,0.8s,mb5.7					
IRK	**Irkutsk**	**31.46 339**	*e*P	**P**	**21 24 53.8**	**-1.1**
IRK			pmax	pmax		
	comp=Z,48nm,1.9s,mb5.0					
ODAN	**Odare**	**31.52 283**	*e*P	**P**	**21 24 56.4**	**+0.6**
	comp=Z,57nm,0.7s,mb5.5					
ODAN	**Odare**	**31.52 283**	*e*P	**P**	**21 24 56.4**	**+0.6**
	comp=Z,57nm,0.7s,mb5.5					
BSI	**Banda Aceh**	**31.68 239**	P	**P**	**21 24 57.7**	**+0.4**
	comp=Z,1μmcomp=Z,85nm,1.2s,mb5.5					
MNSI	**Mandailing Nat**	**31.73 227**	P	**P**	**21 24 57.7**	**0.0**
	comp=Z,1μmcomp=Z,163nm,1.1s,mb5.8					
PPI	**Padang Panjang**	**32.14 224**	P	**P**	**21 25 01.7**	**+0.4**
	comp=Z,2μmcomp=Z,126nm,1.4s,mb5.6					
MOY	**Mondy**	**32.17 335**	*e*P	**P**	**21 24 59.8**	**-1.3**
RAMN	**Ramite**	**32.22 283**	*e*P	**P**	**21 25 02.7**	**+0.7**
	comp=Z,50nm,0.6s,mb5.5					
RAMN	**Ramite**	**32.22 283**	*e*P	**P**	**21 25 02.7**	**+0.7**
	comp=Z,50nm,0.6s,mb5.5					
MMRI	**Maumere**	**32.32 180**	P	**P**	**21 25 01.7**	**-1.1**
	comp=Z,2μmcomp=Z,165nm,1.3s,mb5.7					
PDSI	**Padang**	**32.45 224**	P	**P**	**21 25 04.5**	**+0.5**
	comp=Z,62nm,1.1s,mb5.4					
SRBI	**Singaraja**	**32.49 193**	P	**P**	**21 25 04.0**	**-0.4**
	comp=Z,53nm,1.1s,mb5.3					
BLJI	**Banyuglugur**	**32.53 196**	P	**P**	**21 25 04.2**	**-0.5**
	comp=Z,3μmcomp=Z,132nm,0.9s,mb5.9					
JIRN	**Jiri**	**32.56 284**	*e*P	**P**	**21 25 05.6**	**+0.6**
	comp=Z,19nm,0.8s,mb5.1					
JIRN	**Jiri**	**32.56 284**	*e*P	**P**	**21 25 05.6**	**+0.6**
	comp=Z,19nm,0.8s,mb5.1					
KHKI	**Kahang-Kahang**	**32.69 192**	P	**P**	**21 25 06.7**	**+0.6**
	comp=Z,2μmcomp=Z,280nm,0.9s,mb6.2					
NGJI	**Ngawi**	**32.78 200**	P	**P**	**21 25 08.5**	**+1.6**
	comp=Z,166nm,1.0s,mb5.9					
GUN	**Gumba**	**32.83 285**	*e*P	**P**	**21 25 07.6**	**+0.3**
	comp=Z,109nm,0.9s,mb5.8					
GUN	**Gumba**	**32.83 285**	*e*P	**P**	**21 25 07.6**	**+0.3**
	comp=Z,109nm,0.9s,mb5.8					
MTNI	**Mataram**	**32.85 191**	P	**P**	**21 25 06.6**	**-0.9**
	comp=Z,1μmcomp=Z,95nm,0.8s,mb5.8					
SJI	**Sawahan**	**33.03 199**	P	**P**	**21 25 09.4**	**+0.3**
	comp=Z,4μmcomp=Z,176nm,1.2s,mb5.8					
KLSI		**33.11 213**	P	**P**	**21 25 10.4**	**+0.6**
	comp=Z,2μmcomp=Z,150nm,1.7s,mb5.7					
KLI	**Kotabumi**	**33.19 213**	P	**P**	**21 25 10.9**	**+0.4**
	comp=Z,2μmcomp=Z,99nm,1.3s,mb5.6					
MDSI	**Maura Dua**	**33.21 214**	P	**P**	**21 25 10.9**	**+0.2**
	comp=Z,940nmcomp=Z,79nm,1.1s,mb5.6					
PKI	**Pulchoki**	**33.26 284**	*e*P	**P**	**21 25 11.4**	**+0.4**
	comp=Z,36nm,0.8s,mb5.4					
PKI	**Pulchoki**	**33.26 284**	*e*P	**P**	**21 25 11.4**	**+0.4**
	comp=Z,36nm,0.8s,mb5.3					
PKI	**Pulchoki**	**33.26 284**	*e*P	**P**	**21 25 11.4**	**+0.4**
PKI			pmax	pmax		
	comp=Z,36nm,0.8s,mb5.3					
PWJI	**Pagerwojo**	**33.29 199**	P	**P**	**21 25 10.9**	**-0.4**
	comp=Z,178nm,1.4s,mb5.8					
BJII	**Banjamegara**	**33.33 203**	P	**P**	**21 25 13.0**	**+1.3**
	comp=Z,1μmcomp=Z,77nm,1.7s,mb5.4					
KKN	**Kakani**	**33.37 285**	*e*P	**P**	**21 25 12.2**	**+0.2**
	comp=Z,51nm,0.8s,mb5.5					
KKN	**Kakani**	**33.37 285**	*e*P	**P**	**21 25 12.2**	**+0.2**
	comp=Z,51nm,0.8s,mb5.5					
KKN	**Kakani**	**33.37 285**	*e*P	**P**	**21 25 12.2**	**+0.2**
KKN			pmax	pmax		
	comp=Z,51nm,0.8s,mb5.5					
KSI	**Kapahiang**	**33.37 217**	P	**P**	**21 25 12.4**	**+0.4**
	comp=Z,162nm,0.8s,mb6.0					
DMN	**Daman**	**33.52 284**	*e*P	**P**	**21 25 13.5**	**+0.1**
	comp=Z,58nm,0.7s,mb5.6					
DMN	**Daman**	**33.52 284**	*e*P	**P**	**21 25 13.5**	**+0.1**
	comp=Z,58nm,0.7s,mb5.6					
UGM	**Wanagama**	**33.59 201**	*e*P	**P**	**21 25 14.1**	**+0.2**
	comp=Z,418nm,1.3s,mb6.2					
UGM	**Wanagama**	**33.59 201**	P	**P**	**21 25 14.1**	**+0.1**
	comp=Z,296nm,1.5s,mb6.0					
SISI	**Saibi**	**33.64 225**	P	pP	21 25 27.1	+0.1
LEM	**Lembang**	**33.67 207**	P	**P**	**21 25 15.6**	**+0.9**
	comp=Z,92nm,1.0s,mb5.7					
LWLI	**Liwa**	**33.73 214**	P	**P**	**21 25 15.6**	**+0.4**
	comp=Z,2μmcomp=Z,192nm,0.8s,mb6.1					
DBJI	**Dramaga**	**33.80 208**	P	**P**	**21 25 16.8**	**+1.1**
	comp=Z,2μmcomp=Z,128nm,1.7s,mb5.6					
GKN	**Gorkha**	**33.93 285**	*e*P	**P**	**21 25 16.8**	**-0.1**
	comp=Z,108nm,1.1s,mb5.7					
GKN	**Gorkha**	**33.93 285**	*e*P	**P**	**21 25 16.8**	**-0.1**
	comp=Z,108nm,1.1s,mb5.7					
CISI	**Cisompet, Garu**	**34.25 206**	P	**P**	**21 25 19.1**	**-0.6**
	comp=Z,84nm,1.2s,mb5.5					
BOD	**Bodaibo**	**34.41 352**	*e*P	**P**	**21 25 20.3**	**-0.4**
WMQ	**Urumqi**	**34.52 314**	P	**P**	**21 25 22.0**	**+0.2**
WMQ			pP	pP	21 25 31.7	-2.7
WMQ			sP	sP	21 25 35.6	-4.5
WMQ			PP	PP	21 26 38.5	-2.2
WMQ			S	**S**	**21 30 47.5**	**+0.3**
WMQ			sS	sS	21 31 03.5	-4.9
WMQ			pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0					
WMQ			pmax	pmax		
	comp=Z,140nm,4.2s					
WMQ			LR	LR		
	comp=N,680nm,14.4s,MS4.8					
WMQ			LR	LR		
	comp=E,930nm,11.2s,MS4.8					
WMQ			LR	LR		
	comp=Z,330nm,16.2s,MS4.2					
DANN	**Dangsing**	**34.69 286**	*e*P	**P**	**21 25 23.7**	**+0.2**
	comp=

comp=E,314nm,15.0s,MS4.8
MK31 Makanchi Array 39.19 316 *e*P **P** **21 26 01.5 +0.1**
MK31 Makanchi Array 39.19 316 *i* P **P** **21 26 01.2 -0.2**
MK31 pmax pmax
comp=Z,12nm,0.5s,mb4.9
MKAR Makanchi Array 39.19 316 P **P** **21 26 01.2 -0.2**
comp=Z,19nm,0.7s,mb4.9,baz=101,slow=10,SNR=194
MKAR PcP PcP 21 28 09.9 0.0
comp=Z,3.2nm,0.7s,baz=101,slow=6.0,SNR=2.6
MKAR LR LR 21 43 43.5
comp=Z,667nm,19.3s,MS4.5,baz=107,slow=39
MKAR Makanchi Array 39.19 316 P **P** **21 26 01.2 -0.2**
MKAR PcP PcP 21 28 09.9 0.0
MKAR Makanchi Array 39.19 316 P **P** **21 26 01.2 -0.2**
MKAR 21 28 09.9
PETK Petropavlovsk- 39.61 33 P **P** **21 26 04.7 -0.1**
comp=Z,1.5nm,0.4s,mb4.1,baz=218,slow=4.1,SNR=5.5
PETK LR LR 21 42 25.5
comp=Z,810nm,19.2s,MS4.6,baz=232,slow=36
PETK Petropavlovsk- 39.61 33 P **P** **21 26 04.7 -0.1**
PETK Petropavlovsk- 39.61 33 P **P** **21 26 04.7 -0.1**
DDI Dehra Dun 39.62 289 *ex* **P** **21 26 04.5 -0.7**
AGRA Agra 39.90 284 *e*PKP **P** **21 26 10.5 +2.9**
AGRA AMb AMB 21 26 25.1
comp=Z,46nm,0.6s,mb5.4
ASOR Ausora 39.93 287 *e*PKP **P** **21 26 10.2 +2.3**
ASOR AMb AMB 21 26 12.5
comp=Z,788nm,0.3s
BISR Bishrakh 40.24 287 *e*PKP **P** **21 26 12.0 +1.6**
BISR AMb AMB 21 26 19.8
comp=Z,111nm,1.2s,mb5.5
AYAN Aya Nagar 40.52 286 *ex* **P** **21 26 11.8 -1.0**
AYAN AMb AMB 21 26 30.0
comp=Z,28nm,1.1s,mb4.8
SDNR Sundarnagar 40.52 291 *e*PKP **P** **21 26 13.8 +1.1**
SONA Sohna 40.58 286 *ex* **P** **21 26 12.9 -0.3**
SONA AMb AMB 21 26 15.0
comp=Z,19nm,0.9s,mb4.7
KKR Kurukshetra 40.70 289 *ex* **P** **21 26 14.5 +0.3**
KKR AMb AMB 21 26 15.2
comp=Z,266nm,0.3s,mb6.4
BHPL Bhopal 40.91 278 *e*PKP **P** **21 26 18.8 +2.8**
BHPL AMb AMB 21 26 23.8
comp=Z,12nm,0.6s,mb4.7
ZAA0 Zalesovo Array 41.00 327⇑ *e*P **P** **21 26 15.0 -1.2**
ZALV Zalesovo Beam 41.00 327 P **P** **21 26 15.0 -1.3**
comp=Z,42nm,0.8s,mb5.2,baz=117,slow=8.3,SNR=213
ZALV LR LR 21 44 44.0
comp=Z,679nm,19.0s,MS4.5,baz=315,slow=38
ZALV Zalesovo Beam 41.00 327 P **P** **21 26 15.0 -1.3**
ZALV Zalesovo Beam 41.00 327 P **P** **21 26 15.0 -1.3**
KUDL Kundal 41.11 286 *ex* **P** **21 26 17.1 -0.5**
PMG Port Moresby 41.11 141 P **P** **21 26 18.1 +0.4**
comp=Z,35nm,0.8s,mb5.0,baz=348,slow=10,SNR=16
PMG Port Moresby 41.11 141 *e*P **P** **21 26 18.4 +0.8**
comp=Z,45nm,0.9s,mb5.1
PMG Port Moresby 41.11 141 *e*P **P** **21 26 18.4 +0.7**
PMG pmax pmax
comp=Z,45nm,0.9s
PMG Port Moresby 41.11 141 P **P** **21 26 18.5 +0.8**
comp=Z,702nmcomp=Z,54nm,1.1s,mb5.1
HYB Hyderabad 41.21 269 *i* P **P** **21 26 21.0 +2.5**
KSH Kashi 41.83 303 P **P** **21 26 26.9 +3.5**
KSH pP pP 21 26 36.6 +0.4
KSH sP sP 21 26 40.6 -1.2
KSH PP PP 21 28 07.7 +7.0
KSH PcP PcP 21 28 22.2 +3.6
KSH ScP ScP 21 32 08.7 +3.6
KSH PcS PcS 21 32 12.7 +2.5
KSH S **S** **21 32 42.7 +4.9**
KSH sS sS 21 32 59.5 +0.2
KSH SS SS 21 35 45.4 +0.2
KSH ScS ScS 21 36 24.5 +2.4
KSH pmax pmax
comp=Z,19nm,1.0s,mb4.7
KSH pmax pmax
comp=Z,190nm,4.0s
KSH LR LR
comp=N,540nm,16.7s,MS5.0
KSH LR LR
comp=E,1μm,15.2s,MS5.0
KSH LR LR
comp=Z,2μm,18.0s,MS4.9
KSH Kashi 41.83 303 P **P** **21 26 27.1 +3.7**
KSH pP pP 21 26 36.4 +0.2
KSH PP PP 21 28 07.8 +7.1
KSH PcP PcP 21 28 22.5 +3.9
KSH ScP ScP 21 32 08.2 +3.1
KSH PcS PcS 21 32 12.6 +2.4
KSH S **S** **21 32 43.5 +5.7**
KSH sS sS 21 32 59.3 0.0
KSH SS SS 21 35 45.5 +0.3
KSH ScS ScS 21 36 24.2 +2.1
KSH pmax pmax
comp=Z,28nm,1.2s,mb4.8
KSH pmax pmax
comp=Z,190nm,4.0s
KSH LR LR
comp=N,540nm,13.3s,MS5.0
KSH LR LR
comp=E,1μm,15.2s,MS5.0
KSH LR LR
comp=Z,2μm,18.0s,MS4.9
FITZ Fitzroy Crossi 41.86 175 *e*P **P** **21 26 21.5 -2.2**
comp=Z,45nm,1.0s,mb5.0
FITZ Fitzroy Crossi 41.86 175 P **P** **21 26 22.0 -1.7**
comp=Z,37nm,1.2s,mb4.9
ULHL Ulahol 42.07 307 P **P** **21 26 27.1 +1.8**
SNR=15
ULHL P 21 26 27.1
SNR=15
NVS Novosibirsk 42.25 327⇑ *i*P **P** **21 26 25.7 -0.9**
NVS *e* 21 28 10.4
NVS *e*S **S** **21 32 41.6 -2.0**
NVS pmax pmax
comp=N,24nm,1.7s
NVS pmax pmax
comp=E,36nm,1.7s
NVS pmax pmax
comp=Z,69nm,1.7s,mb5.0
NVS smax
comp=E,15nm,1.5s
TKM2 Tokmak 2 42.67 308 P **P** **21 26 31.5 +1.3**
SNR=24
TKM2 P 21 26 31.5
SNR=24
TKM2 Tokmak 2 42.67 308 *e*P **P** **21 26 31.5 +1.4**
comp=E,37nm,0.9s,mb5.1
TKM2 Tokmak 2 42.67 308 *e*P **P** **21 26 31.5 +1.4**
TKM2 pmax pmax
comp=Z,37nm,0.9s,mb5.1
LATR Latur 42.76 272 *ex* **P** **21 26 31.2 0.0**
KZA Kyzart 42.77 307 P **P** **21 26 32.7 +1.8**
SNR=22
KZA P 21 26 32.7
SNR=22
COEN Coen 42.84 149 *e*P **P** **21 26 32.0 +0.3**
comp=Z,411nm,0.9s,mb6.2
COEN Coen 42.84 149 *e*P **P** **21 26 32.2 +0.5**
comp=Z,527nm,0.8s,mb6.3
COEN Coen 42.84 149 P **P** **21 26 32.7 +1.0**
comp=Z,953nmcomp=Z,118nm,1.1s,mb5.5
KURK Kurchatov 42.91 320 P **P** **21 26 31.4 -0.5**
comp=Z,24nm,0.9s,mb4.9,baz=110,slow=8.0,SNR=102
KURK Kurchatov 42.91 320 *e*P **P** **21 26 31.6 -0.4**
comp=Z,44nm,1.0s,mb5.2
KURK Kurchatov 42.91 320 P **P** **21 26 31.9 -0.1**
comp=Z,258nm,1.1s,mb5.9,SNR=28
KURK Kurchatov 42.91 320 *e*P **P** **21 26 31.6 -0.4**
KURK pmax pmax
comp=Z,44nm,1.0s,mb5.1
KURK Kurchatov 42.91 320 P **P** **21 26 31.8 -0.2**
SNR=17
KBK Karagaybulak 43.09 308 P **P** **21 26 35.0 +1.5**
SNR=25
KBK P 21 26 35.0
SNR=25
CHMS Chumysh 43.30 308 P **P** **21 26 36.1 +0.9**
SNR=20
CHMS P 21 26 36.1
SNR=20
UCH Uchtor 43.33 307 P **P** **21 26 37.9 +2.4**
SNR=8.4
UCH P 21 26 37.9
SNR=8.4
FRU Bishkek 43.36 308 *i* P **P** **21 26 36.0 +0.3**
FRU pmax pmax
comp=Z,50nm,1.0s,mb5.2
FRU MLR MLR
comp=Z,700nm,20.0s,MS4.6
AAK Ala-Archa 43.42 307 P **P** **21 26 37.3 +1.1**
SNR=12
AAK P 21 26 37.3
SNR=12
AAK Ala-Archa 43.42 307 *e*P **P** **21 26 37.2 +1.1**
comp=Z,70nm,0.9s,mb5.4
AAK Ala-Archa 43.42 307 *e*P **P** **21 26 37.3 +1.1**
AAK pmax pmax
comp=Z,70nm,0.9s,mb5.4
AAK Ala-Archa 43.42 307 P **P** **21 26 37.7 +1.5**
comp=Z,85nm,1.4s,mb5.3
USP Ospenovka 43.53 308 P **P** **21 26 37.6 +0.6**
SNR=12
USP P 21 26 37.6
SNR=12
COCO West Island 43.58 217 *e*P **P** **21 26 38.5 +0.8**
comp=Z,341nm,1.4s,mb5.9
COCO West Island 43.58 217 *e*P **P** **21 26 38.5 +0.7**
COCO pmax pmax
comp=Z,341nm,1.4s,mb5.9
COCO West Island 43.58 217 P **P** **21 26 38.2 +0.4**
comp=Z,177nm,1.5s,mb5.6
AML Almayashu 43.92 307 P **P** **21 26 42.1 +1.8**
SNR=42
AML P 21 26 42.1
SNR=42
EKS2 Erkin-Say 43.94 307 P **P** **21 26 41.4 +0.9**
SNR=17
EKS2 P 21 26 41.4
SNR=17
EKS2 Erkin-Say 43.94 307 *e*P **P** **21 26 41.4 +1.0**
comp=Z,12nm,0.9s,mb4.6
EKS2 Erkin-Say 43.94 307 *e*P **P** **21 26 41.4 +1.0**
EKS2 pmax pmax
comp=Z,12nm,0.9s,mb4.6
MBWA Marble Bar 44.83 183 *e*P **P** **21 26 45.3 -2.3**
comp=Z,52nm,0.9s,mb5.4
MBWA Marble Bar 44.83 183 P **P** **21 26 46.2 -1.4**
comp=Z,81nm,1.2s,mb5.4
WRAB Tennant Creek 45.13 164⇑ *e*P **P** **21 26 49.5 -0.6**
comp=Z,99nm,1.1s,mb5.5
WRAB Tennant Creek 45.13 164⇑ *e*P **P** **21 26 49.5 -0.5**
WRAB pmax pmax
comp=Z,99nm,1.1s,mb5.5
WRAB Tennant Creek 45.13 164 P **P** **21 26 49.8 -0.2**
comp=Z,151nm,1.3s,mb5.7
WRA Warramunga Arr 45.14 164 P **P** **21 26 49.2 -0.9**
comp=Z,38nm,0.9s,mb5.2,baz=346,slow=8.5,SNR=73
WRA Warramunga Arr 45.14 164 P **P** **21 26 49.2 -0.9**
WRA Warramunga Arr 45.14 164 P **P** **21 26 49.2 -0.9**
WB2 Warramunga Arr 45.14 164 *e*P **P** **21 26 49.2 -1.0**
POO Poona 45.21 273 *e*PKP **P** **21 26 51.4 +0.5**
POO AMb AMB 21 26 58.8
comp=Z,24nm,1.0s,mb5.0
KAD Karad 45.24 271 *ex* **P** **21 26 51.1 0.0**
KAD AMb AMB 21 27 09.7
comp=Z,26nm,1.7s,mb4.8
TRD Trivandrum 45.82 258⇓ *ex* x 21 27 07.7
TRD *ex* x 21 33 31.7
KKAR Karatay Array 46.38 307 *e*P **P** **21 26 60.0 +0.2**
KKAR Karatay Array 46.38 307 *e*P **P** **21 27 00.0 +0.3**
KBL Kabul 47.12 296 *e*P **P** **21 27 06.4 +0.7**
comp=Z,48nm,1.0s,mb5.4
KBL Kabul 47.12 296 *e*P **P** **21 27 06.4 +0.7**
KBL pmax pmax
comp=Z,47nm,1.0s,mb5.4
BVAR Borovoye Array 48.49 321 P **P** **21 27 15.2 -0.7**
comp=Z,12nm,0.6s,mb5.1,baz=108,slow=9.5,SNR=76
BVAR Borovoye Array 48.49 321 P **P** **21 27 15.2 -0.7**
BVAR Borovoye Array 48.49 321 P **P** **21 27 15.2 -0.7**
BRVK Borovoye 48.56 321 *e*P **P** **21 27 15.8 -0.6**
comp=Z,44nm,0.9s,mb5.5
BRVK Borovoye 48.56 321⇑ *i*P **P** **21 27 15.9 -0.6**
BRVK pmax pmax
comp=Z,64nm,1.1s,mb5.6
BRVK Borovoye 48.56 321 P **P** **21 27 16.9 +0.4**
SNR=16
AS31 Alice Springs 48.61 166 *e*P **P** **21 27 17.1 -0.1**
ASAR Alice Springs 48.61 166 P **P** **21 27 16.9 -0.3**
comp=Z,31nm,1.0s,mb5.3,baz=346,slow=6.8,SNR=138
ASAR PKPPKP 21 58 16.6
comp=Z,0.6nm,0.8s,baz=109,slow=3.2,SNR=4.6
ASAR Alice Springs 48.61 166 P **P** **21 27 16.9 -0.3**
ASAR P'P' 21 58 16.6
ASAR Alice Springs 48.61 166 P **P** **21 27 16.9 -0.3**
ZRNK Zerenda 49.27 320 *i* P **P** **21 27 21.3 -0.7**
ZRNK pmax pmax
comp=Z,88nm,1.0s,mb5.7
CTA Charters Tower 49.60 150 *e*P **P** **21 27 25.9 +1.1**
comp=Z,16nm,0.9s,mb5.0
CTAO Charters Tower 49.60 150 *e*P **P** **21 27 26.1 +1.3**
comp=Z,71nm,1.5s,mb5.5
CTAO Charters Tower 49.60 150 *e*P **P** **21 27 26.1 +1.3**
CTAO pmax pmax
comp=Z,71nm,1.5s,mb5.5
CTAO Charters Tower 49.60 150 P **P** **21 27 26.6 +1.8**
comp=Z,30nm,1.3s,mb5.2
BILL Bilibino 51.66 19 *e*P **P** **21 27 38.8 -0.9**
comp=Z,14nm,1.1s,mb4.8
BILL Bilibino 51.66 19 *e*P **P** **21 27 38.8 -0.9**
BILL pmax pmax
comp=Z,14nm,1.1s,mb4.8
IMYA Miami 54.30 299 *e*P **P** **21 28 00.9 +1.2**
AB31 Akbulak array 54.31 314 *i* P **P** **21 27 59.1 -0.4**
AB31 pmax pmax
comp=Z,26nm,0.5s,mb5.4
ABKAR Akbulak array 54.31 314 *e*P **P** **21 27 59.6 0.0**
FORT Forrest 54.64 174 *e*P **P** **21 28 01.4 -0.7**
comp=Z,75nm,1.1s,mb5.6
FORT Forrest 54.64 174 *e*P **P** **21 28 01.5 -0.5**
comp=Z,135nm,1.1s,mb5.9
ISRO Mashad 54.81 299 *e*P **P** **21 28 04.9 +1.5**
SVE Sverdlovsk 54.83 324 *d i*P **P** **21 28 03.1 -0.1**
SVE *e* 21 37 47.7
SVE *e* 21 39 25.6
SVE pmax pmax
comp=Z,67nm,1.2s,mb5.5
SVE MLR MLR
comp=Z,569nm,19.0s,MS4.7
IPAY Payeh 55.18 299 *e*P **P** **21 28 07.7 +1.6**
KLBR Kellberrin 55.32 185 *e*P **P** **21 28 05.7 -1.3**
comp=Z,32nm,0.7s,mb5.5
IKRD Kardeh 55.53 299 *e*P **P** **21 28 04.9 -3.7**
AKTO Aktyubinsk 55.63 316 *i* P **P** **21 28 08.5 -0.6**
AKTO pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
ABKT Ailbek 55.74 301 P **P** **21 28 11.6 +1.5**
comp=Z,160nm,0.8s,mb6.1,SNR=14
ARU Arti 55.90 323 *e*P **P** **21 28 10.2 -0.7**
comp=Z,40nm,0.9s,mb5.5
ARU Arti 55.90 323 *c i*P **P** **21 28 10.1 -0.8**
ARU *e* 21 30 14.4
ARU PPP 21 31 26.5
ARU S **S** **21 35 55.4 +0.5**
ARU pmax pmax
comp=Z,65nm,1.2s,mb5.5
ARU MLR MLR
comp=Z,424nm,22.0s,MS4.5
ARU Arti 55.90 323 P **P** **21 28 10.9 0.0**
comp=Z,274nm,0.7s,mb6.4,SNR=16
NWAO Narrogin (SRO) 56.69 185 *e*P **P** **21 28 16.1 -0.6**
comp=Z,91nm,1.1s,mb5.7
NWAO Narrogin (SRO) 56.69 185 *e*P **P** **21 28 16.1 -0.6**
NWAO pmax pmax
comp=Z,91nm,1.1s
SOKR Solikamsk 57.28 327 *c i*P **P** **21 28 20.1 -0.6**
SOKR pmax pmax
comp=Z,40nm,1.3s,mb5.3
SOKR MLR MLR
comp=Z,960nm,22.0s,MS4.9
BBOO Buckleboo 57.91 166 *e*P **P** **21 28 24.9 -0.4**
comp=Z,4μm,1.6s
STKA Stephens Creek 58.47 161 P **P** **21 28 29.2 -0.1**
comp=Z,42nm,0.7s,mb5.6,baz=331,slow=7.4,SNR=119
STKA LR LR 21 56 37.9
comp=Z,185nm,18.2s,MS4.2,baz=18,slow=39
STKA Stephens Creek 58.47 161 *e*P **P** **21 28 29.0 -0.3**
comp=Z,28nm,0.6s,mb5.5
STKA Stephens Creek 58.47 161 *e*P **P** **21 28 29.2 0.0**
comp=Z,9.3nm,0.8s,mb4.9
STKA Stephens Creek 58.47 161 *e*P **P** **21 28 29.2 -0.1**
STKA pmax pmax
comp=Z,9.0nm,0.8s
IBAF Bafgh 58.68 294 *e*P **P** **21 28 30.3 -0.6**
IGLO Ghaloghah 59.30 299 *e*P **P** **21 28 36.3 +1.1**
ILAS Lasjerd 60.18 298 *e*P **P** **21 28 41.9 +0.7**
ARMA Armidale 60.93 151 *e*P **P** **21 28 47.4 +1.1**
ARMA Armidale 60.93 151 *e*P **P** **21 28 48.1 +1.9**
comp=Z,21nm,1.1s,mb5.2
ARMA *e*pP pP 21 28 56.9 -2.8
IZEF Zefreh 61.13 296 *e*P **P** **21 28 48.5 +0.7**
IPAR Pars 61.15 292 *e*P **P** **21 28 48.2 +0.3**
ISRV Sarvestan 61.19 292 *e*P **P** **21 28 49.0 +0.8**
IKLH Kolahrood 61.67 296 *e*P **P** **21 28 52.0 +0.6**
IMHD Mahdasht 61.97 299 *e*P **P** **21 28 53.6 +0.3**
DZM Mont Dzumac 62.76 133 *e*LR LR 21 47 51.2
comp=Z,634nm,24.1s
DZM Mont Dzumac 62.76 133 *e*P **P** **21 28 59.9 +1.2**
comp=Z,22nm,1.1s,mb5.2
YNG Young 62.99 156 *e*P **P** **21 29 01.1 +1.1**
comp=Z,19nm,0.9s,mb5.2
ARPS Mount Arapiles 63.11 162 *e*P **P** **21 29 00.4 -0.3**
comp=Z,143nm,1.0s,mb6.1
RBK Rabkut 63.40 278⇑ P **P** **21 29 02.7 -0.4**
CNB Canberra Magne 64.26 156 *e*P **P** **21 29 09.5 +1.2**
comp=Z,154nm,0.8s,mb6.1
IHRS Heris 64.33 302 *e*P **P** **21 29 09.4 +0.4**
IKOM Komasi 64.81 298 *e*P **P** **21 29 11.5 -0.7**
TOO Toolangi 64.94 160 *e*P **P** **21 29 13.7 +1.0**
comp=Z,140nm,0.9s,mb6.0
DGRG David-gareji 65.01 306 P **P** **21 29 13.4 +0.1**
ILIN Lien 65.09 299 *e*P **P** **21 29 14.0 0.0**
IVIS Veis 65.26 298 *e*P **P** **21 29 14.8 -0.3**
IMRD Marand 65.28 303 *e*P **P** **21 29 15.8 +0.6**
ISHB Shabestar 65.44 303 *e*P **P** **21 29 17.0 +0.8**
IGHG Ghaleghazi 65.53 298 *e*P **P** **21 29 16.4 -0.5**
IDHR Dehrash 65.60 299 *e*P **P** **21 29 16.4 -0.9**
UMR Umm Al-Rimmam 65.73 293 *e*P **P** **21 29 16.9 -1.4**
UMR AMb AMB 21 29 18.9
comp=Z,82nm,1.3s,mb5.6
GNI Garni 65.73 305 *e*P **P** **21 29 19.0 +1.0**
comp=Z,27nm,1.0s,mb5.2
GNI Garni 65.73 305⇑ *i*P **P** **21 29 19.2 +1.2**
GNI pmax pmax
comp=Z,41nm,1.3s
GNI Garni 65.73 305 P **P** **21 29 20.0 +2.0**
SNR=7.1
MIB Mutribah 65.98 293 *e*P **P** **21 29 19.1 -0.7**
MIB AMb AMB 21 29 20.4
comp=Z,105nm,0.9s,mb5.9
RDF Al-Radifah 66.03 292 *e*P **P** **21 29 19.5 -0.6**
RDF AMb AMB 21 29 20.9
comp=Z,172nm,0.8s,mb6.1
ONI Oni 66.20 308 P **P** **21 29 22.1 +1.1**
NAY Al-Naaiem 66.20 293 *e*P **P** **21 29 20.4 -0.9**
NAY AMb AMB 21 29 21.8
comp=Z,63nm,0.8s,mb5.7
KIV Kislovodsk 66.49 309 *e*P **P** **21 29 23.3 +0.5**
comp=Z,78nm,1.3s,mb5.6
KIV Kislovodsk 66.49 309 *c i*P **P** **21 29 23.4 +0.6**
KIV *e* 21 29 50.9
KIV *e*S S 21 38 11.7 +1.8
KIV *e*SS SS 21 42 33.1 +6.0
KIV pmax pmax
comp=Z,48nm,1.1s,mb5.4
KIV pmax pmax
comp=Z,14nm,3.0s
KIV MLR MLR
comp=Z,290nm,18.0s,MS4.5
KIV Kislovodsk 66.49 309 P **P** **21 29 24.2 +1.3**
SNR=13
KIV Kislovodsk 66.49 309 P **P** **21 29 23.4 +0.6**
comp=Z,219nm,1.3s,mb6.0,SNR=9.5
PPLA Purkeypile 67.06 30 *e*P **P** **21 29 27.6 +1.5**
comp=Z,113nm,2.0s,mb5.5
RSO Redoubt South 67.12 32 *e*P **P** **21 29 28.0 +1.4**
SPU Mount Spurr 67.36 32 *e*P **P** **21 29 28.4 +0.3**
BPAW Bear Paw Mtn. 67.42 28 *e*P **P** **21 29 30.3 +1.9**
comp=Z,14nm,0.8s,mb5.1
VSR Storozhevoye 67.48 317 *e*P **P** **21 29 28.4 -0.6**
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=Z,50nm,1.2s,mb5.4
VSR pmax pmax
comp=E,30nm,1.0s
MOS Moscow 67.60 322 *e*P **P** **21 29 27.6 -2.1**
MOS pmax pmax
comp=Z,78nm,1.3s,mb5.6
MOS MLR MLR
comp=Z,800nm,21.0s,MS4.9
KDAK Kodiak Island 67.62 35 *e*P **P** **21 29 29.8 +0.1**
comp=Z,96nm,1.4s,mb5.6
KDAK Kodiak Island 67.62 35 *e*P **P** **21 29 29.8 0.0**
KDAK pmax pmax
comp=Z,95nm,1.4s,mb5.6
APA Apatity 67.72 336⇑ *i*P **P** **21 29 29.6 -0.6**
APA pmax pmax
comp=Z,48nm,1.1s,mb5.4
APA MLR MLR
comp=Z,600nm,15.0s,MS4.9
TRF Thorofare Moun 67.83 29 *e*P **P** **21 29 32.2 +1.3**
comp=Z,14nm,0.7s,mb5.1
OBN Obninsk 68.30 322 *e*P **P** **21 29 33.2 -0.9**
comp=Z,95nm,1.5s,mb5.6
OBN Obninsk 68.30 322⇓ *i*P **P** **21 29 33.4 -0.7**
OBN *i* 21 30 00.0
OBN *e* 21 32 04.2
OBN *i* S S 21 38 48.6 +17
OBN pmax pmax
comp=Z,81nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
MCK McKinley 68.38 29 *e*P **P** **21 29 34.9 +0.5**
comp=Z,16nm,0.8s,mb5.1
MCK McKinley 68.38 29 *e*P **P** **21 29 34.9 +0.5**
MCK pmax pmax
comp=Z,16nm,0.8s,mb5.1
MSVF Nonsavu 68.42 122 *e*P **P** **21 29 36.8 +1.5**
comp=Z,24nm,1.0s,mb5.2
MSVF Nonsavu 68.42 122 *e*P **P** **21 29 36.8 +1.4**
MSVF pmax pmax
comp=Z,23nm,1.0s,mb5.2
COLA College 68.64 27 *e*P **P** **21 29 36.9 +1.0**
comp=Z,12nm,0.8s,mb4.9
COLA College 68.64 27 *e*P **P** **21 29 36.9 +0.9**
COLA pmax pmax
comp=Z,12nm,0.8s,mb4.9
SOC Sochi 68.67 309 *e*P **P** **21 29 35.8 -0.8**
SOC *e*S S 21 38 33.8 -2.3
SOC *e*SS SS 21 43 00.4 -0.5
SOC pmax pmax
comp=Z,23nm,0.7s,mb5.2
SOC MLR MLR
comp=Z,394nm,18.0s,MS4.7
PMR Palmer 68.68 31 *e*P **P** **21 29 35.9 -0.4**
comp=Z,18nm,0.9s,mb5.0
PMR Palmer 68.68 31 *e*P **P** **21 29 35.9 -0.4**
PMR pmax pmax
comp=Z,18nm,0.9s,mb5.0
SEW Seward 68.81 32 *e*P **P** **21 29 37.2 +0.1**
comp=Z,41nm,1.2s,mb5.2
SML Sawmill 69.01 31 *e*P **P** **21 29 39.0 +0.6**
comp=Z,6.9nm,0.8s,mb4.6
SML Sawmill 69.01 31 *e*P **P** **21 29 39.0 +0.6**
SML pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ILAR Eielson Array 69.06 27 P **P** **21 29 37.7 -0.9**
comp=Z,1.6nm,0.7s,mb4.1,baz=275,slow=4.9,SNR=22
ILAR LR LR 22 01 55.8
comp=Z,202nm,18.9s,MS4.4,baz=146,slow=38
ILAR Eielson Array 69.06 27 P **P** **21 29 37.7 -0.9**
ILAR Eielson Array 69.06 27 P **P** **21 29 37.7 -0.9**
RAYN Ar Rayn 69.31 287 P **P** **21 29 40.5 -0.4**
comp=Z,154nm,1.1s,mb5.8,SNR=21
JOF Joensuu 69.42 331 *e*P **P** **21 29 38.7 -2.2**
JOF pmax pmax
comp=Z,26nm,0.7s,mb5.3
JOF Joensuu 69.42 331 *ep* **P** **21 29 38.7 -2.2**
comp=Z,26nm,0.7s,mb5.3
KEV Kevo 69.60 338 *e*P **P** **21 29 39.8 -2.1**
KEV pmax pmax
comp=Z,13nm,0.7s,mb5.0
KEV Kevo 69.60 338 *ep* **P** **21 29 39.8 -2.1**
comp=Z,13nm,0.7s,mb5.0
SPITS Spitsbergen Ar 69.97 348 P **P** **21 29 43.4 -0.6**
comp=Z,13nm,0.8s,mb4.9,baz=90,slow=9.9,SNR=12

SPITS Spitsbergen Ar 69.97 348 P P 21 29 43.5 -0.6
SPITS Spitsbergen Ar 69.97 348 P P 21 29 43.5 -0.6
SPB4 Spitsbergen Ar 69.98 348 eP P 21 29 44.5 +0.4
ANN Anapa 69.98 311 eP P 21 29 43.4 -1.3
ANN eS S 21 38 51.2 -0.3
ANN pmax pmax
comp=Z,78nm,1.2s,mb5.5
ARCES ARCESS Array B 70.16 338 P P 21 29 45.2 -0.1
comp=Z,10nm,0.7s,mb4.8,baz=75,slow=7.0,SNR=22
ARCES LR LR 22 05 41.7
comp=Z,244nm,18.2s,MS4.5,baz=292,slow=40
ARCES ARCESS Array B 70.16 338 P P 21 29 45.2 -0.1
ARCES ARCESS Array B 70.16 338 P P 21 29 45.2 -0.1
DIV Divide 70.36 31 eP P 21 29 47.8 +1.1
comp=Z,55nm,1.3s,mb5.3
TAU Tasmania Unive 70.38 161 eP P 21 29 48.3 +1.4
comp=Z,212nm,1.2s,mb6.0
TAU Tasmania Unive 70.38 161 eP P 21 29 48.3 +1.4
TAU pmax pmax
comp=Z,212nm,1.2s,mb6.0
DOT Dot Lake 70.52 28 eP P 21 29 48.0 +0.4
comp=Z,4.3nm,0.8s,mb4.4
BMRM Bremner River 70.95 31 eP P 21 29 51.1 +0.8
comp=Z,24nm,0.9s,mb5.1
RAGM Ragged Mountai 71.06 32 eP P 21 29 52.6 +1.6
comp=Z,50nm,1.1s,mb5.4
EGAK Eagle 71.44 27 eP P 21 29 53.6 +0.4
comp=Z,83nm,1.8s,mb5.4
KAF Kangasniemi 71.87 331 eP P 21 29 53.9 -1.9
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KAF Kangasniemi 71.87 331 ep P 21 29 53.9 -1.9
comp=Z,8.6nm,0.7s,mb4.8
FINES FINESS Array B 72.17 330 P P 21 29 56.6 -1.0
comp=Z,22nm,0.8s,mb5.2,baz=64,slow=6.5,SNR=52
FINES LR LR 22 05 07.8
comp=Z,786nm,18.8s,MS5.0,baz=260,slow=39
FINES FINESS Array B 72.17 330 P P 21 29 56.6 -1.0
FINES FINESS Array B 72.17 330 P P 21 29 56.6 -1.0
SIM Simferopol' 72.22 312 eP P 21 29 58.3 +0.1
SIM pmax pmax
comp=Z,29nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,200nm,17.1s,MS4.5
DAWY Dawson 72.39 27 eP P 21 29 59.5 +0.6
INK Inuvik 73.16 22 eP P 21 30 03.0 -0.4
comp=Z,20nm,0.9s,mb5.0
INK Inuvik 73.16 22 eP P 21 30 03.0 -0.4
INK pmax pmax
comp=Z,20nm,0.9s
AKASG Malin Array Be 73.70 319 P P 21 30 05.5 -1.4
comp=Z,7.4nm,0.8s,mb4.7,baz=60,slow=5.6,SNR=23
AKASG Malin Array Be 73.70 319 P P 21 30 05.5 -1.4
AKASG Malin Array Be 73.70 319 P P 21 30 05.5 -1.4
AKBB Malin Array Si 73.70 319 eP P 21 30 05.0 -1.9
AKBB Malin Array Si 73.70 319 eP P 21 30 05.0 -1.9
KIEV Kiev 73.72 319 eP P 21 30 06.1 -0.9
comp=Z,56nm,1.6s,mb5.2
KIEV Kiev 73.72 319 eP P 21 30 06.1 -0.9
KIEV pmax pmax
comp=Z,56nm,1.6s,mb5.2
NACGM Naroch 73.81 323 eP P 21 30 04.0 -3.4
BR131 Keskin Array S 74.09 307 eP P 21 30 09.2 -0.2
comp=Z,26nm,0.8s,mb5.2
BRTR Keskin Array B 74.09 307 P P 21 30 09.2 -0.1
comp=Z,33nm,0.9s,mb5.2,baz=99,slow=5.3,SNR=144
BRTR LR LR 22 08 47.9
comp=Z,102nm,20.3s,MS4.1,baz=173,slow=41
BRTR Keskin Array B 74.09 307 P P 21 30 09.2 -0.1
BRTR Keskin Array B 74.09 307 P P 21 30 09.3 -0.1
AFI Afiamalu 74.64 113 LR LR 22 00 24.6
comp=Z,229nm,21.1s,MS4.5,baz=338,slow=34
LEOM Leova 75.67 315 ⇑P P 21 30 17.9 -0.5
LEOM Leova 75.67 315⇑iP P 21 30 17.9 -0.5
TLCR 75.73 313 ⇓P P 21 30 18.7 0.0
TLCR 75.73 313⇓iP P 21 30 18.7 0.0
SKAG Skagway 75.81 31 eP P 21 30 19.3 +0.4
comp=Z,33nm,0.9s,mb5.3
CSS Prodhromos 75.84 302 eP P 21 30 19.5 0.0
comp=Z,47nm,0.8s,mb5.5
SUW Suwalki 76.09 323 eP P 21 30 19.8 -0.8
SUW LMZ 22 06 59.4
comp=Z,300nm,19.1s
SUW Suwalki 76.09 323 eP P 21 30 19.7 -0.9
comp=Z,142nm,1.0s,mb5.8
SUW Suwalki 76.09 323 eP P 21 30 19.7 -0.9
SUW pmax pmax
comp=Z,142nm,1.0s,mb5.8
TIRR Tirgusor 76.24 313 ⇑P P 21 30 21.8 +0.1
TIRR Tirgusor 76.24 313⇑iP P 21 30 21.8 +0.1
TESR 76.69 315⇓iP P 21 30 23.9 -0.3
MRIV Mauritius Mete 76.79 241 eP P 21 30 24.1 -1.0
DAG Danmarks Havn 76.80 351 iP P 21 30 23.4 -0.9
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
DAG Danmarks Havn 76.80 351 iP P 21 30 23.4 -0.9
comp=Z,4.8nm,0.9s,mb4.4
VRI Vrincioaia 76.87 314 ⇑P P 21 30 25.3 +0.1
VRI Vrincioaia 76.87 314⇑iP P 21 30 25.3 +0.1
GRER 76.88 314⇓iP P 21 30 27.0 +1.7
PLOR Plostina 76.93 314 ⇑P P 21 30 26.2 +0.7
PLOR Plostina 76.93 314⇑iP P 21 30 26.1 +0.6
PGOR Pogoanele 77.04 313⇓iP P 21 30 27.5 +1.3
LVV L'vov 77.14 319 eP P 21 30 25.8 -0.8
BUR08 Bucovina Ar. S 77.22 317 eP P 21 30 26.0 -1.1
BURAR Bucovina Array 77.22 316 ⇑P P 21 30 27.4 +0.3
BURAR Bucovina Array 77.22 316⇑iP P 21 30 27.4 +0.3
MLR Muntele Rosu 77.52 314 ⇑P P 21 30 29.5 +0.7
MLR Muntele Rosu 77.52 314⇑iP P 21 30 29.5 +0.7
SULR 77.61 313⇑iP P 21 30 27.8 -1.6
DOPR Dopca 77.71 315⇓iP P 21 30 30.5 +0.6
KWP Kalwaria Pacla 78.00 319 eP P 21 30 31.5 +0.1
KWP LMZ 22 05 22.8
comp=Z,300nm,25.2s
KWP Kalwaria Pacla 78.00 319 eP P 21 30 31.4 -0.1
comp=Z,159nm,1.5s,mb5.7
KWP Kalwaria Pacla 78.00 319 eP P 21 30 31.5 0.0
KWP MLR MLR
comp=Z,300nm,25.2s,MS4.5
KWP Kalwaria Pacla 78.00 319⇓iP P 21 30 31.4 -0.1
VOIR 78.12 314 ⇓P P 21 30 31.6 -0.6
VOIR 78.12 314⇓iP P 21 30 31.5 -0.7
BEL Belsk 78.26 322 eP P 21 30 32.7 -0.1
BEL LMZ 22 05 48.0
comp=Z,300nm,24.5s
BEL Belsk 78.26 322 eP P 21 30 32.7 -0.1
BEL MLR MLR
comp=Z,300nm,24.5s,MS4.5
BMR Baia Mare 78.27 317 ⇓P P 21 30 33.7 +0.7
BMR Baia Mare 78.27 317⇓iP P 21 30 33.7 +0.7
HFS Hagfors 78.28 331 LR LR 22 08 46.0
comp=Z,1µm,18.3s,MS5.2,baz=64,slow=38
HUMR Humele 78.51 314⇓iP P 21 30 33.9 -0.5
WRAK Wrangell Islan 78.52 33 eP P 21 30 35.1 +1.0
comp=Z,67nm,1.4s,mb5.4
CRAG Craig 78.54 34 eP P 21 30 36.7 +2.4
comp=Z,90nm,1.5s,mb5.5
KOLS Kolonicke sedl 78.54 318 eP P 21 30 34.1 -0.3
KOLS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KOLS Kolonicke sedl 78.54 318 eP P 21 30 34.1 -0.3
UZH Uzhgorod 78.64 318 eP P 21 30 34.0 -1.0
UZH e pP 21 30 48.8 -0.1
DLBC Dease Lake 78.74 31 eP P 21 30 36.4 +1.1
NB2 NORSAR Subarra 78.92 332 P P 21 30 34.9 -1.4
comp=Z,26nm,0.9s,mb5.2,baz=59,slow=5.6
NOA NORSAR Array B 78.92 332 P P 21 30 34.9 -1.4
comp=Z,18nm,0.8s,mb5.0,baz=58,slow=5.5,SNR=41
NOA LR LR 22 09 19.0
comp=Z,565nm,18.9s,MS4.9,baz=65,slow=39
NOA NORSAR Array B 78.92 332 P P 21 30 34.9 -1.4
NOA NORSAR Array B 78.92 332 P P 21 30 34.9 -1.4
STHS Stebnicka Huta 78.97 319 eP P 21 30 36.5 -0.3
STHS pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
STHS Stebnicka Huta 78.97 319 eP P 21 30 36.5 -0.3
CRVS Cervenica-Dubn 79.04 319 eP P 21 30 36.8 -0.4
CRVS pmax pmax
comp=Z,44nm,1.8s,mb5.1
CRVS Cervenica-Dubn 79.04 319 eP P 21 30 36.8 -0.4
KDZ Kurdzhali 79.30 311 iP P 21 30 38.0 -0.8
JMIC Jan Mayen 79.36 345 LR LR 22 10 07.1
comp=Z,313nm,18.8s,MS4.7,baz=72,slow=39
OJC Ojcow 79.49 320 eP P 21 30 39.4 -0.2

OJC Ojcow 79.49 320 eP P 21 30 39.5 -0.1
OJC Ojcow 79.49 320 eP P 21 30 39.5 -0.1
NIE Niedzica 79.52 319 eP P 21 30 40.1 +0.3
NIE Niedzica 79.52 319 eP P 21 30 40.1 +0.3
GZR Gura Zlata 79.62 315 ⇓P P 21 30 40.3 -0.1
GZR Gura Zlata 79.62 315⇓iP P 21 30 40.3 -0.1
GKP Gorka Klasztor 79.63 324 eP P 21 30 39.9 -0.4
GKP LMZ 22 10 42.9
comp=Z,500nm,17.9s
GKP Gorka Klasztor 79.63 324 eP P 21 30 39.9 -0.4
GKP MLR MLR
comp=Z,500nm,17.9s,MS4.9
RZN Rozhen 79.77 311 iP P 21 30 40.7 -0.6
MPEP Malo Peshtene 79.79 313 iP P 21 30 41.9 +0.5
KECS Kecovo 79.80 319 eP P 21 30 41.4 +0.1
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KECS Kecovo 79.80 319 eP P 21 30 41.4 +0.1
BZS Buzias 80.28 316 ⇑P P 21 30 43.2 -0.8
BZS Buzias 80.28 316⇑iP P 21 30 43.2 -0.8
LIKS Likavka 80.39 319 eP P 21 30 45.3 +0.8
LIKS Likavka 80.39 319 eP P 21 30 45.3 +0.8
PSZ Piszkesteto 80.40 318 eP P 21 30 44.8 +0.2
PSZ Piszkesteto 80.40 318 ⇓P P 21 30 44.9 +0.3
PSZ Piszkesteto 80.40 318⇑eP P 21 30 44.5 -0.1
PSZ Piszkesteto 80.40 318⇓iP P 21 30 44.9 +0.3
VTS Vitosha 80.45 312 ⇑P P 21 30 44.9 0.0
VTS Vitosha 80.45 312 iP P 21 30 44.8 -0.1
VTS Vitosha 80.45 312⇑iP P 21 30 44.9 0.0
URZ Urewera 80.45 139 LR LR 22 03 16.3
comp=Z,150nm,18.6s,MS4.4,baz=125,slow=33
RAC Raciborz 80.48 321 eP P 21 30 45.4 +0.4
MMB Musomiste 80.49 311 iP P 21 30 44.1 -1.1
FURI Furi 80.55 276 eP P 21 30 46.1 +0.1
comp=Z,16nm,0.8s,mb5.0
OKC Ostrava-Krasne 80.62 320 eP P 21 30 45.5 -0.2
OKC e pP 21 30 55.5 -4.2
OKC Ostrava-Krasne 80.62 320 eP P 21 30 45.5 -0.2
OKC epP pP 21 30 55.5 -4.2
KKB Krupnik 80.82 312 iP P 21 30 46.4 -0.6
APE Apeiranthos 80.98 306 ⇓P P 21 30 46.0 -1.9
APE Apeiranthos 80.98 306⇓iP P 21 30 46.0 -1.9
MORC Moravsky Berou 81.00 321 eP P 21 30 47.5 -0.2
comp=Z,33nm,1.5s,mb5.0
MORC Moravsky Berou 81.00 321 eP P 21 30 47.5 -0.2
MORC pmax pmax
comp=Z,33nm,1.5s,mb5.0
MORC Moravsky Berou 81.00 321⇓iP P 21 30 48.0 +0.3
KOLL Kolacno 81.02 319 eP P 21 30 48.3 +0.4
KOLL Kolacno 81.02 319 eP P 21 30 48.3 +0.4
BUD Budapest 81.12 318⇓eP P 21 30 48.9 +0.5
KSP Ksiaz 81.23 322 eP P 21 30 49.1 +0.2
KSP LMZ 22 10 31.0
comp=Z,500nm,19.9s
KSP Ksiaz 81.23 322 eP P 21 30 48.8 -0.2
KSP Ksiaz 81.23 322 eP P 21 30 48.8 -0.2
DPC Dobruska-Polom 81.44 321 eP P 21 30 50.2 +0.1
comp=Z,85nm,1.8s,mb5.4
DPC Dobruska-Polom 81.44 321 eP P 21 30 50.1 0.0
DPC e pP 21 31 04.7 +0.7
DPC MLR MLR
comp=Z,300nm,20.8s,MS4.6
DPC Dobruska-Polom 81.44 321 eP P 21 30 50.1 0.0
DPC epP pP 21 30 57.2 -6.8
DPC ex x 21 31 04.7
DPC AMS AMS 22 10 10.0
comp=Z,300nm,20.8s
UPC Upice 81.55 322 eP P 21 30 50.9 +0.3
UPC Upice 81.55 322 eP P 21 30 50.9 +0.3
VRAC Vranov 81.76 320 LR LR 22 08 00.1
comp=Z,122nm,21.0s,MS4.2,baz=12,slow=36
VRAC Vranov 81.76 320 ⇑P P 21 30 51.7 -0.1
VRAC Vranov 81.76 320⇑iP P 21 30 51.7 -0.1
PKSM Moragy 81.91 317 ⇑P P 21 30 52.4 -0.2
PKSM Moragy 81.91 317⇑iP P 21 30 52.4 -0.2
MUD Monsted U'grnd 82.17 329 iP P 21 30 54.0 +0.2
MUD pmax pmax
comp=Z,15nm,1.1s,mb4.8
MUD MLR MLR
comp=Z,620nm,12.0s,MS5.2
MUD Monsted U'grnd 82.17 329 iP P 21 30 54.0 +0.2
comp=Z,15nm,1.1s,mb4.8
MUD
comp=Z,620nm,12.0s
PVCC Panska Ves 82.35 322 eP P 21 30 55.2 +0.3
PVCC MLR MLR
comp=Z,500nm,21.4s,MS4.8
PVCC Panska Ves 82.35 322 eP P 21 30 55.2 +0.3
PVCC AMS AMS 22 10 50.0
comp=Z,500nm,21.4s
TREC Trest 82.41 321 eP P 21 30 55.3 +0.1
TREC MLR MLR
comp=Z,400nm,16.5s,MS4.9
TREC Trest 82.41 321 eP P 21 30 55.3 +0.1
TREC AMS AMS 22 10 20.0
comp=Z,400nm,16.5s
SOP Sopron 82.52 319⇓eP P 21 30 56.1 +0.3
BRG Berggiesshubel 82.54 323 eP P 21 30 55.3 -0.5
comp=Z,24nm,1.4s,mb5.0
BRG e 21 37 12.5
comp=Z,1.4nm,0.6s
BRG
comp=N,229nm,20.5s
BRG
comp=E,271nm,15.9s
BRG
comp=Z,501nm,21.2s
BRG Berggiesshubel 82.54 323 eP P 21 30 55.5 -0.3
comp=Z,24nm,1.4s,mb5.0
BRG Berggiesshubel 82.54 323 eP P 21 30 55.3 -0.5
BRG pmax pmax
comp=Z,24nm,1.4s,mb5.0
SCO Scoresbysund 82.54 349 iP P 21 30 56.0 +0.5
SCO pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SCO Scoresbysund 82.54 349 iP P 21 30 56.0 +0.5
comp=Z,6.8nm,0.9s,mb4.7
PRU Pruhonice 82.62 322 AMS AMS 22 10 50.0
comp=Z,300nm,22.6s
CONA Conrad Observa 82.83 319⇑iP P 21 30 57.4 0.0
comp=Z,27nm,1.5s,mb5.1
CLL Collm 82.84 323 eP P 21 30 56.7 -0.7
comp=Z,32nm,1.4s,mb5.2
CLL Collm 82.84 323⇑iP P 21 30 56.7 -0.7
CLL pmax pmax
comp=Z,32nm,1.4s,mb5.2
CLL MLR MLR
comp=Z,500nm,18.6s,MS4.9
CLL Collm 82.84 323⇑iP P 21 30 56.7 -0.7
comp=Z,32nm,1.4s,mb5.2
CLL e(PcP) PcP 21 31 05.0 +2.9
CLL ePP PP 21 34 05.0 -2.6
CLL eS S 21 41 18.0 +5.9
CLL Lm 22 12 00.0
comp=N,300nm,20.8s
CLL Lm 22 12 00.0
comp=E,300nm,21.2s
CLL Lm 22 12 00.0
comp=Z,500nm,18.6s
YKA Yellowknife Ar 82.89 23 P P 21 30 57.1 -0.3
comp=Z,6.3nm,0.9s,mb4.7,baz=318,slow=4.9,SNR=40
YKA LR LR 22 10 34.1
comp=Z,20nm,20.7s,MS3.5,baz=250,slow=38
YKA Yellowknife Ar 82.89 23 P P 21 30 57.1 -0.3
YKA Yellowknife Ar 82.89 23 P P 21 30 57.1 -0.3
SUMG Summit 82.90 354 eP P 21 30 58.0 +0.8
comp=Z,406nm,3.0s
SUMG Summit 82.90 354 iP P 21 30 57.7 +0.4
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 82.90 354 iP P 21 30 57.7 +0.4
comp=Z,13nm,0.8s,mb5.0
BSEG Bad Segeberg 82.93 326 eP P 21 30 57.7 -0.1
comp=Z,28nm,1.3s,mb5.1
BSEG Bad Segeberg 82.93 326 eP P 21 30 57.7 -0.1
BSEG pmax pmax
comp=Z,28nm,1.3s,mb5.1
KOGS Kog 83.28 318 iP P 21 30 59.1 -0.6
KHC Kasperske Hory 83.59 321 eP P 21 31 00.6 -0.7
comp=Z,32nm,1.5s,mb5.2
KHC Kasperske Hory 83.59 321 eP P 21 31 01.0 -0.3
KHC MLR MLR
comp=Z,400nm,20.9s,MS4.8
KHC Kasperske Hory 83.59 321 eP P 21 31 01.0 -0.3

KHC epP pP 21 31 07.8 -7.5
KHC AMS AMS 22 15 30.0
comp=Z,400nm,20.9s
GEC2 GERESS Array S 83.66 321 eP P 21 31 01.3 -0.3
comp=Z,29nm,1.3s,mb5.2
GEC2 GERESS Array S 83.66 321 eP P 21 31 01.3 -0.3
GEC2 pmax pmax
comp=Z,29nm,1.3s,mb5.2
GERES GERESS Array B 83.66 321 P P 21 31 01.1 -0.5
comp=Z,7.8nm,0.9s,mb4.8,baz=54,slow=5.0,SNR=64
GERES LR LR 22 11 55.0
comp=Z,266nm,18.4s,MS4.7,baz=53,slow=38
GERES GERESS Array B 83.66 321 P P 21 31 01.1 -0.5
GERES GERESS Array B 83.66 321 P P 21 31 01.1 -0.5
NKC Novy Kostel 83.68 323 eP P 21 31 01.8 +0.1
NKC MLR MLR
comp=Z,400nm,12.9s,MS5.0
NKC Novy Kostel 83.68 323 eP P 21 31 01.8 +0.1
NKC AMS AMS 22 11 40.0
comp=Z,400nm,12.9s
MOA Molln 83.81 320 iP P 21 31 02.5 +0.1
comp=Z,17nm,0.9s,mb5.2,SNR=18
PERS Pernice 83.88 319 iP P 21 31 02.4 -0.5
PERS epP pP 21 31 17.4 +0.5
SOKA Soboth 83.91 319⇑iP P 21 31 02.4 -0.6
comp=Z,13nm,0.9s,mb5.0
MOX Moxa 83.94 323 eP P 21 31 02.8 -0.2
comp=Z,34nm,1.5s,mb5.3
MOX Moxa 83.94 323 eP P 21 31 02.8 -0.2
MOX pmax pmax
comp=Z,34nm,1.5s,mb5.3
WET Wettzell 83.98 321 eP P 21 31 03.2 -0.1
comp=Z,26nm,1.5s,mb5.1
WET Wettzell 83.98 321 eP P 21 31 03.2 -0.1
WET pmax pmax
comp=Z,26nm,1.5s,mb5.1
CLZ Clausthal 83.99 325 eP P 21 31 03.4 +0.1
comp=Z,41nm,1.4s,mb5.4
CLZ Clausthal 83.99 325 eP P 21 31 03.4 +0.1
CLZ pmax pmax
comp=Z,41nm,1.4s,mb5.4
ROTZ Rotzenmuhle 84.05 322 eP P 21 31 03.7 +0.1
comp=Z,43nm,1.5s,mb5.4
BOJS Bojanci 84.34 317 iP P 21 31 04.9 -0.3
LJU Ljubljana 84.52 318 iP P 21 31 05.8 -0.3
LJU ipP pP 21 31 20.8 +0.6
ABPO Ambohimpanom 84.59 247 eP P 21 31 06.7 -0.1
comp=Z,4.0nm,0.7s,mb4.7
ABPO Ambohimpanom 84.59 247 eP P 21 31 06.7 -0.1
ABPO pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
GRF Grafenberg Arr 84.64 322 eP P 21 31 06.6 0.0
comp=Z,54nm,1.4s,mb5.5
GRF Grafenberg Arr 84.64 322 eP P 21 31 06.6 0.0
GRF pmax pmax
comp=Z,54nm,1.4s,mb5.5
GRFO Grafenberg 84.64 322 eP P 21 31 07.0 +0.4
comp=Z,67nm,1.6s,mb5.5
GRFO Grafenberg 84.64 322 eP P 21 31 07.1 +0.5
GRFO pmax pmax
comp=Z,67nm,1.6s,mb5.5
UBBA Unterbreizbach 84.72 324 eP P 21 31 06.7 -0.3
comp=Z,11nm,1.2s,mb4.9
RJOB Jochberg 84.73 320 eP P 21 31 07.0 -0.1
comp=Z,17nm,1.1s,mb5.1
CADS Cadrg 84.91 319 iP P 21 31 06.8 -1.2
IBBN Ibbenburen 85.11 326 eP P 21 31 08.8 -0.1
comp=Z,46nm,1.4s,mb5.4
FUR Furstenfeldbru 85.39 321 eP P 21 31 10.5 +0.1
comp=Z,36nm,0.9s,mb5.5
FUR Furstenfeldbru 85.39 321 eP P 21 31 10.5 +0.1
FUR pmax pmax
comp=Z,36nm,0.9s,mb5.5
WTTA Wattenberg 85.65 320⇑iP P 21 31 11.4 -0.3
comp=Z,18nm,1.1s,mb5.2
KMBO Kilima Mbogo 85.82 267 eP P 21 31 13.5 +0.3
comp=Z,467nm,1.1s,mb6.6
KMBO Kilima Mbogo 85.82 267 eP P 21 31 13.5 +0.3
KMBO pmax pmax
comp=Z,467nm,1.1s
KMBO Kilima Mbogo 85.82 267 P P 21 31 14.5 +1.3
SNR=9.2
MOTA Moosalm 85.92 320⇓iP P 21 31 12.1 -0.9
comp=Z,7.7nm,1.1s,mb4.9,SNR=6.5
TIP Timpagrande 86.33 311 eP P 21 31 15.4 +0.1
MEM Membach 86.97 325 P P 21 31 18.1 0.0
AQU L'Aquila 87.03 315 eP P 21 31 19.5 +0.8
comp=Z,38nm,1.1s,mb5.5
AQU L'Aquila 87.03 315 eP P 21 31 19.5 +0.9
AQU pmax pmax
comp=Z,38nm,1.1s,mb5.5
TUE Stuetta 87.40 320 eP P 21 31 20.2 -0.1
comp=Z,38nm,1.8s,mb5.3
WLF Walferdange 87.42 324 P P 21 31 20.7 +0.4
comp=Z,22nm,1.5s,mb5.2
WLF Walferdange 87.42 324 eP P 21 31 20.1 -0.2
WLF Walferdange 87.42 324 eP P 21 31 20.1 -0.3
CDF Champ du Feu 87.52 323⇑iP P 21 31 20.1 -0.7
comp=Z,39nm,1.4s,mb5.2
CDF Champ du Feu 87.52 323⇑iP P 21 31 20.1 -0.7
comp=Z,39nm,1.4s,mb5.5
CDF Champ du Feu 87.52 323⇑iP P 21 31 20.1 -0.7
CDF pmax pmax
comp=Z,39nm,1.4s,mb5.4
GIVF Givet 87.88 325 eP P 21 31 21.7 -0.8
GIVF Givet 87.88 325 eP P 21 31 21.7 -0.8
GIVF Givet 87.88 325 eP P 21 31 21.7 -0.8
SNF Seneffe 87.92 326 P P 21 31 22.5 -0.2
comp=Z,16nm,1.9s,mb4.9
DOU Dourbes 88.00 325 P P 21 31 22.8 -0.3
GNW Green Mountain 88.03 38 eP P 21 31 25.2 +1.9
comp=Z,16nm,1.0s,mb5.2
GNW epP pP 21 31 35.4 -2.1
HINF Hinteralfeld 88.09 322⇑iP P 21 31 22.3 -1.3
comp=Z,6.0nm,0.8s,mb4.6
HINF Hinteralfeld 88.09 322⇑iP P 21 31 22.3 -1.3
comp=Z,6.0nm,0.8s,mb4.9
HINF Hinteralfeld 88.09 322⇑iP P 21 31 22.3 -1.3
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
RAR Rarotonga 88.16 114 LR LR 22 04 19.5
comp=Z,184nm,20.4s,MS4.5,baz=318,slow=31
JCW Jim Creek 88.18 37 eP P 21 31 25.6 +1.7
BAIF Baives 88.22 325 eP P 21 31 23.4 -0.8
comp=Z,10nm,1.0s,mb4.7
BAIF Baives 88.22 325 eP P 21 31 23.4 -0.8
comp=Z,10nm,1.0s,mb5.0
BAIF Baives 88.22 325 eP P 21 31 23.4 -0.8
BAIF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
HAU Haudompre 88.26 323⇑iP P 21 31 23.2 -1.2
comp=Z,18nm,1.1s,mb4.9
HAU eR
comp=Z,362nm,20.0s
HAU Haudompre 88.26 323⇑iP P 21 31 23.2 -1.2
comp=Z,18nm,1.1s,mb5.2
HAU Haudompre 88.26 323⇑iP P 21 31 23.2 -1.2
HAU pmax pmax
comp=Z,18nm,1.1s,mb5.2
RPW Rockport 88.26 37 eP P 21 31 25.5 +1.2
PAGF Fort de Pagny 88.29 323 eP P 21 31 23.8 -0.7
comp=Z,4.1nm,1.0s,mb4.3
MEZF Maizieres J'vi 88.69 324 eP P 21 31 25.7 -0.7
MEZF Maizieres J'vi 88.69 324 eP P 21 31 25.7 -0.7
SFTF Sexfontaines 88.86 323 eP P 21 31 26.3 -0.9
comp=Z,25nm,0.9s,mb5.2
SFTF Sexfontaines 88.86 323 eP P 21 31 26.3 -0.9
comp=Z,25nm,0.9s,mb5.5
LON Longmire 89.06 38 eP P 21 31 30.0 +1.8
comp=Z,22nm,1.0s,mb5.5
LON Longmire 89.06 38 eP P 21 31 30.0 +1.8
LON pmax pmax
comp=Z,22nm,1.0s,mb5.4
CABF La Chapelle 89.20 322 eP P 21 31 27.8 -1.0
CABF La Chapelle 89.20 322 eP P 21 31 27.8 -1.0
CABF La Chapelle 89.20 322 eP P 21 31 27.8 -1.0
ETW Entiat 89.40 37 eP P 21 31 31.2 +1.5
LPG La Plagne 89.45 321⇑iP P 21 31 29.7 -0.3
comp=Z,25nm,0.9s,mb5.2
LPG La Plagne 89.45 321⇑iP P 21 31 29.7 -0.3
comp=Z,25nm,0.9s,mb5.5
LPG La Plagne 89.45 321⇑iP P 21 31 29.7 -0.3
LPG pmax pmax
comp=Z,25nm,0.9s,mb5.5
LPL La Plagne 89.45 321⇑iP P 21 31 29.6 -0.4
comp=Z,25nm,1.0s,mb5.2

LPL epP pP 21 31 44.7 +0.6
LPL La Plagne 89.45 321⇑iP P 21 31 29.6 -0.4
comp=Z,25nm,1.0s,mb5.5
LPL epP pP 21 31 44.7 +0.6
LPL La Plagne 89.45 321⇑iP P 21 31 29.6 -0.4
LPL e*PP pP 21 31 44.7 +0.6
LPL pmax pmax
comp=Z,25nm,1.0s,mb5.5
PGF Pioggiola 89.72 317 eP **P 21 31 30.7 -0.7**
comp=Z,50nm,1.1s,mb5.4
PGF epP pP 21 31 45.9 +0.4
PGF Pioggiola 89.72 317 eP **P 21 31 30.7 -0.7**
comp=Z,50nm,1.1s,mb5.8
PGF epP pP 21 31 45.9 +0.4
PGF Pioggiola 89.72 317 eP **P 21 31 30.7 -0.7**
PGF e*PP pP 21 31 45.9 +0.4
PGF pmax pmax
comp=Z,50nm,1.1s,mb5.8
KEBM Edson Butte 89.73 42 eP **P 21 31 33.8 +2.5**
comp=Z,37nm,1.0s,mb5.7
MBDF Montbardon 89.87 320 eP **P 21 31 30.4 -1.6**
MBDF Montbardon 89.87 320 eP **P 21 31 30.4 -1.6**
MBDF Montbardon 89.87 320 eP **P 21 31 30.4 -1.6**
SBF Sospel 89.96 319 eP **P 21 31 31.0 -1.4**
SBF Sospel 89.96 319 eP **P 21 31 31.0 -1.4**
SBF Sospel 89.96 319 eP **P 21 31 31.0 -1.4**
HOOD Mount Hood Mea 89.97 39 eP **P 21 31 35.6 +3.2**
comp=Z,18nm,1.0s,mb5.4
LOR Lormes 90.06 323⇑iP P 21 31 31.6 -1.2
comp=Z,31nm,1.2s,mb5.2
LOR eR
comp=Z,388nm,20.0s
LOR Lormes 90.06 323⇑iP P 21 31 31.6 -1.2
comp=Z,31nm,1.2s,mb5.5
LOR Lormes 90.06 323⇑iP P 21 31 31.6 -1.2
LOR pmax pmax
comp=Z,31nm,1.2s,mb5.5
ORIF Oris-en-Rattie 90.28 320⇑iP P 21 31 33.3 -0.6
comp=Z,14nm,1.0s,mb4.9
ORIF epP pP 21 31 48.3 +0.2
ORIF eR
comp=Z,319nm,18.2s
ORIF Oris-en-Rattie 90.28 320⇑iP P 21 31 33.3 -0.6
comp=Z,14nm,1.0s,mb5.2
ORIF epP pP 21 31 48.3 +0.2
ORIF Oris-en-Rattie 90.28 320⇑iP P 21 31 33.3 -0.6
ORIF e*PP pP 21 31 48.3 +0.2
ORIF pmax pmax
comp=Z,14nm,1.0s,mb5.2
SSF Saint Saulge 90.38 323⇑iP P 21 31 33.2 -1.1
comp=Z,16nm,1.0s,mb5.0
SSF Saint Saulge 90.38 323⇑iP P 21 31 33.2 -1.1
comp=Z,16nm,1.0s,mb5.3
SSF Saint Saulge 90.38 323⇑iP P 21 31 33.2 -1.1
SSF pmax pmax
comp=Z,16nm,1.0s,mb5.3
OD2 Odessa Site #2 90.41 36 eP **P 21 31 35.7 +1.3**
SMF Signal de Mont 90.44 323⇑iP P 21 31 33.6 -1.0
comp=Z,52nm,1.0s,mb5.5
SMF epP pP 21 31 48.6 -0.2
SMF Signal de Mont 90.44 323⇑iP P 21 31 33.6 -1.0
comp=Z,52nm,1.0s,mb5.8
SMF epP pP 21 31 48.6 -0.2
SMF Signal de Mont 90.44 323⇑iP P 21 31 33.6 -1.0
SMF e*PP pP 21 31 48.6 -0.2
SMF pmax pmax
comp=Z,53nm,1.0s,mb5.8
RSW Rattlesnake Hi 90.52 38 eP **P 21 31 37.5 +2.5**
HAWA Hanford 90.55 38 eP **P 21 31 36.8 +1.7**
comp=Z,27nm,1.0s,mb5.5
AVF Avril sur Loir 90.62 323⇑iP P 21 31 34.4 -1.1
comp=Z,52nm,1.3s,mb5.4
AVF epP pP 21 31 49.4 -0.2
AVF Avril sur Loir 90.62 323⇑iP P 21 31 34.4 -1.1
comp=Z,52nm,1.3s,mb5.7
AVF epP pP 21 31 49.4 -0.2
AVF Avril sur Loir 90.62 323⇑iP P 21 31 34.4 -1.1
AVF e*PP pP 21 31 49.4 -0.2
AVF pmax pmax
comp=Z,52nm,1.3s,mb5.7
HUMO Hull Mountain 90.72 42 eP **P 21 31 38.0 +2.0**
comp=Z,6.3nm,0.9s,mb5.0
HYF Humbligny 90.72 324 eP **P 21 31 35.4 -0.5**
HYF Humbligny 90.72 324 eP **P 21 31 35.4 -0.5**
NEW Newport 90.73 35 eP **P 21 31 37.0 +1.1**
comp=Z,40nm,1.2s,mb5.6
NEW Newport 90.73 35 eP **P 21 31 37.0 +1.1**
NEW pmax pmax
comp=Z,40nm,1.2s
SMRF Simiane la Rot 91.00 320 eP **P 21 31 36.6 -0.7**
comp=Z,82nm,1.7s,mb5.5
SMRF Simiane la Rot 91.00 320 eP **P 21 31 36.6 -0.7**
comp=Z,82nm,1.7s,mb5.8
VIVF Saint-Julien-l 91.02 321⇑iP P 21 31 36.5 -0.9
comp=Z,25nm,1.2s,mb5.1
VIVF epP pP 21 31 51.5 0.0
VIVF Saint-Julien-l 91.02 321⇑iP P 21 31 36.5 -0.9
comp=Z,25nm,1.2s,mb5.4
VIVF epP pP 21 31 51.5 0.0
VIVF Saint-Julien-l 91.02 321⇑iP P 21 31 36.5 -0.9
VIVF e*PP pP 21 31 51.5 0.0
VIVF pmax pmax
comp=Z,25nm,1.2s,mb5.4
BGF Bois d'Agland 91.04 323 eP **P 21 31 35.8 -1.6**
comp=Z,15nm,1.1s,mb5.0
BGF Bois d'Agland 91.04 323 eP **P 21 31 35.8 -1.6**
comp=Z,15nm,1.1s,mb5.2
BGF Bois d'Agland 91.04 323 eP **P 21 31 35.8 -1.6**
BGF pmax pmax
comp=Z,15nm,1.1s,mb5.2
YBH Yreka Blue Hor 91.36 43 eP **P 21 31 41.2 +2.2**
comp=Z,17nm,1.3s,mb5.2
YBH Yreka Blue Hor 91.36 43 eP **P 21 31 41.2 +2.2**
YBH pmax pmax
comp=Z,17nm,1.3s
LDF La Druitiere 91.36 326 eP **P 21 31 37.5 -1.4**
comp=Z,7.2nm,1.0s,mb4.7
LDF La Druitiere 91.36 326 eP **P 21 31 37.5 -1.4**
comp=Z,7.2nm,1.0s,mb5.0
LDF La Druitiere 91.36 326 eP **P 21 31 37.5 -1.4**
LDF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
TCF Toulx Ste Croi 91.55 323 eP **P 21 31 39.2 -0.6**
comp=Z,11nm,0.9s,mb4.9
TCF Toulx Ste Croi 91.55 323 eP **P 21 31 39.2 -0.6**
comp=Z,11nm,0.9s,mb5.2
TCF Toulx Ste Croi 91.55 323 eP **P 21 31 39.2 -0.6**
TCF pmax pmax
comp=Z,11nm,0.9s,mb5.2
LNOR Lincton Mounta 91.56 37 eP **P 21 31 41.4 +1.6**
comp=Z,13nm,1.0s,mb5.2
LNOR Lincton Mounta 91.56 37 eP **P 21 31 41.4 +1.6**
LNOR pmax pmax
comp=Z,13nm,1.0s,mb5.2
GRR Gorron 91.87 326 eP **P 21 31 40.2 -1.0**
GRR Gorron 91.87 326 eP **P 21 31 40.2 -1.0**
GRR Gorron 91.87 326 eP **P 21 31 40.2 -1.0**
WALA Waterton Lakes 91.87 33 eP **P 21 31 42.2 +1.0**
comp=Z,1.2nm,1.2s,mb4.1
BSMT Bassoo Peak 92.20 34 eP **P 21 31 44.7 +1.9**
CAF Calviac 92.47 322 eP **P 21 31 43.8 -0.3**
comp=Z,33nm,1.2s,mb5.2
CAF epP pP 21 31 58.9 +0.7
CAF Calviac 92.47 322 eP **P 21 31 43.8 -0.3**
comp=Z,33nm,1.2s,mb5.5
CAF epP pP 21 31 58.9 +0.7
CAF Calviac 92.47 322 eP **P 21 31 43.8 -0.3**
CAF e*PP pP 21 31 58.9 +0.7
CAF pmax pmax
comp=Z,33nm,1.2s,mb5.5
JTMT Jette 92.53 34 eP **P 21 31 45.2 +0.9**
RJF Les Rejaudoux 92.54 323⇑iP P 21 31 44.2 -0.2
comp=Z,42nm,1.1s,mb5.5
RJF epP pP 21 31 59.3 +0.8
RJF eR
comp=Z,315nm,20.8s
RJF Les Rejaudoux 92.54 323⇑iP P 21 31 44.2 -0.2
comp=Z,42nm,1.1s,mb5.8
RJF epP pP 21 31 59.3 +0.8
RJF Les Rejaudoux 92.54 323⇑iP P 21 31 44.2 -0.2
RJF e*PP pP 21 31 59.3 +0.8
RJF pmax pmax
comp=Z,42nm,1.1s,mb5.8
BMO Blue Mountains 92.73 38 eP **P 21 31 46.5 +1.2**
comp=Z,8.6nm,0.9s,mb5.2
MOD Modoc 92.74 42 eP **P 21 31 46.4 +1.0**
comp=Z,16nm,1.0s,mb5.4
SWMT Swartz Lake 92.83 34 eP **P 21 31 47.0 +1.3**
FFC Flin Flon 93.04 24 eP **P 21 31 46.1 -0.3**
comp=Z,22nm,1.0s,mb5.5
FFC Flin Flon 93.04 24 eP **P 21 31 46.1 -0.4**
FFC pmax pmax
comp=Z,22nm,1.0s,mb5.5
ROSF Rostrenen 93.12 327 eP **P 21 31 46.0 -1.0**
ROSF Rostrenen 93.12 327 eP **P 21 31 46.0 -1.0**
ROSF Rostrenen 93.12 327 eP **P 21 31 46.0 -1.0**
KEST Kesra 93.16 311 P **P 21 31 47.0 -0.5**
comp=Z,5.1nm,1.1s,mb4.9,baz=354,slow=2.1,SNR=10
KEST Kesra 93.16 311 eP **P 21 31 47.0 -0.5**
LFF La Frestale 93.20 323 eP **P 21 31 45.8 -1.6**
LFF La Frestale 93.20 323 eP **P 21 31 45.8 -1.6**
LFF La Frestale 93.20 323 eP **P 21 31 45.8 -1.6**
SLMT Seeley Lake 93.27 34 eP **P 21 31 48.8 +1.1**
MSO Missoula 93.30 35 eP **P 21 31 47.5 -0.3**
comp=Z,17nm,1.5s,mb5.3
WVOR Wild Horse Val 93.42 40 eP **P 21 31 49.9 +1.4**
comp=Z,13nm,1.1s,mb5.3
WVOR Wild Horse Val 93.42 40 eP **P 21 31 49.9 +1.4**
WVOR pmax pmax
comp=Z,13nm,1.1s,mb5.3
OHCM Honcut 93.48 44 eP **P 21 31 49.4 +0.5**
OHCM epP pP 21 32 00.4 -2.6
MFID Camas Ranch 94.45 38 eP **P 21 31 54.7 +1.5**
comp=Z,5.4nm,1.1s,mb4.9
EGMT Eagleton 94.61 32 eP **P 21 31 57.1 +3.3**
comp=Z,9.9nm,0.8s,mb5.3
CMB Columbia Colle 94.93 45 eP **P 21 31 55.7 +0.1**
comp=Z,10nm,1.0s,mb5.2
CMB Columbia Colle 94.93 45 eP **P 21 31 55.7 +0.2**
CMB pmax pmax
comp=Z,11nm,1.0s,mb5.2
HLID Hailey 95.16 38 eP **P 21 31 58.5 +2.0**
comp=Z,6.9nm,1.0s,mb5.0
ETSF Etsaut 95.21 322 eP **P 21 31 54.4 -2.3**
ETSF Etsaut 95.21 322 eP **P 21 31 54.4 -2.3**
ETSF Etsaut 95.21 322 eP **P 21 31 54.4 -2.3**
PPT Papeete 95.39 107 eLR LR 22 03 00.0
comp=Z,417nm,23.8s
NVAR Mina Array Bea 96.03 43 P **P 21 32 01.6 +1.1**
comp=Z,1.4nm,0.8s,mb4.5,baz=292,slow=4.8,SNR=12
NVAR LR LR 22 11 13.7
comp=Z,225nm,19.9s,MS4.6,baz=310,slow=33
NVAR Mina Array Bea 96.03 43 P **P 21 32 01.6 +1.1**
TBI Tubuai 97.73 112 eLR LR 22 04 04.0
comp=Z,153nm,25.0s
PDAR Pinedale Array 98.34 36 P **P 21 32 11.8 +0.9**
comp=Z,0.5nm,0.8s,mb4.1,baz=338,slow=2.1,SNR=3.6
PDAR PP PP 21 36 15.9 +5.5
comp=Z,1.3nm,1.0s,baz=316,slow=4.1,SNR=4.8
PDAR LR LR 22 12 18.8
comp=Z,164nm,21.5s,MS4.5,baz=338,slow=33
PDAR Pinedale Array 98.34 36 P **P 21 32 11.8 +0.9**
PDAR PP PP 21 36 15.9 +5.5
ULM Lac du Bonnet 98.86 24 LR LR 22 23 17.2
comp=Z,142nm,18.5s,MS4.5,baz=2.5,slow=39
TXAR Lajitas Array 111.13 42 PKiKP PKiKP 21 37 07.1 +0.2
comp=Z,1.5nm,0.8s,baz=223,slow=0.8,SNR=15
TXAR Lajitas Array 111.13 42 PKiKP PKiKP 21 37 07.1 +0.2
TXAR Lajitas Array 111.13 42 PKiKP PKiKP 21 37 07.1 +0.1
TORD Torodi Ar. Bea 111.19 296 PKiKP PKiKP 21 37 06.2 -1.2
comp=Z,1.9nm,1.1s,baz=42,slow=1.1,SNR=7.0
TORD PKKP PKKPbc 21 48 14.1 +11
comp=Z,2.0nm,0.9s,baz=238,slow=4.0,SNR=8.6
TORD Torodi Ar. Bea 111.19 296 PKiKP PKiKP 21 37 06.2 -1.2
TORD PKKP PKKPbc 21 48 14.1 +11
JCT Junction City 112.59 39 ePKiKP PKiKP 21 37 08.9 -0.8
JCT Junction City 112.59 39 ePKiKP PKiKP 21 37 09.0 -0.7
DBIC Dimbokro 120.09 294 PKP PKPdf 21 37 22.8 -1.7
comp=Z,4.7nm,1.0s,baz=288,slow=3.2,SNR=4.7
DBIC Dimbokro 120.09 294 PKP PKPdf 21 37 22.8 -1.7
DBIC Dimbokro 120.09 294 PKiKP PKPdf 21 37 22.8 -1.7
VNA2 Neumayer–Watz 124.89 198 e PKPdf 21 37 31.7 -0.3
baz=18,slow=0.8
VNA2 e 21 37 47.7
VNA3 Neumayer Olymp 125.35 197 e PKPdf 21 37 32.2 -0.6
VNA3 e 21 37 49.8
SDV Santo Domingo 145.11 23 ePKP PKPdf 21 38 10.5 -0.7
ROSC El Rosal 147.21 32 PKPbc PKPbc 21 38 14.9 -2.1
comp=Z,22nm,1.0s,baz=225,slow=1.4,SNR=14
ROSC El Rosal 147.21 32 PKPbc PKPbc 21 38 14.9 -2.1
ROSC ePKPdf PKPdf 21 38 16.1 +1.3
OTAV Otavalo 148.76 43 ePKPdf PKPdf 21 38 18.0 +0.6
ATAH Atahualpa 154.17 53 PKP PKPdf 21 38 27.3 +1.8
comp=Z,3.4nm,0.6s,baz=146,slow=16,SNR=5.3
ATAH PKPbc PKPbc 21 38 34.9 +1.2
comp=Z,17nm,0.9s,baz=255,slow=3.5,SNR=9.6
ATAH Atahualpa 154.17 53 PKP PKPdf 21 38 27.3 +1.8
ATAH PKPbc PKPbc 21 38 34.9 +1.2
PLCA Paso Flores 160.08 151 PKPab PKPab 21 39 11.4 -0.8
comp=Z,8.0nm,1.1s,baz=225,slow=4.3,SNR=4.8
PLCA Paso Flores 160.08 151 PKPab PKPab 21 39 11.4 -0.8
PLCA Paso Flores 160.08 151 PKP2 PKPab 21 39 11.4 -0.7
LPAZ La Paz 167.72 54 ePKPdf PKPdf 21 38 40.4 +0.6
LPAZ La Paz 167.72 54 ePKIKP PKPdf 21 38 40.4 +0.6

*ISCJB **07** 21:31:06.4±0.5, 23°.79N±0°.03×122°.15E±0°.02, h19km±5km, Error ellipse: s-maj=5.1km s-min=2.9km az=148.1*
*TAP **07** 21:31:07.4, 23°.83N×122°.12E, h27km, ML2.7, C*
*JMA **07** 21:31:09.2±0.3, 24°.84N×122°.37E, h96km, M1.8*
ISC 07 21:31:06.7±1.1, 23°.81N±0°.02×122°.13E±0°.02, h20km±7km, n31, σ0°.83/59, 4C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.56**	**299**	⇑iP	**Pb**	**21 31 17.9**	**+0.1**
baz=288							
TWD				eS	**Sb**	**21 31 25.4**	**-0.1**
baz=288							
ESL	**Shilin**	**0.64**	**271**	i P	**Pb**	**21 31 18.9**	**-0.3**
baz=269							
ESL				eS	**Sb**	**21 31 27.5**	**-0.3**
baz=269							
ENA	**Nanau**	**0.71**	**330**	P	**Pb**	**21 31 20.6**	**+0.1**
baz=317							
ENA				S	**Sb**	**21 31 30.6**	**+0.7**
baz=317							
EHY	**Hungye**	**0.80**	**248**	⇑iP	**Pb**	**21 31 21.8**	**-0.2**
baz=252							
EHY				eS	**Sb**	**21 31 32.1**	**-0.3**
baz=252							
TWC	**Suao**	**0.84**	**342**	P	**Pb**	**21 31 22.9**	**+0.3**
baz=355							
TWC				eS	**Sb**	**21 31 33.6**	**+0.1**
baz=355							
WHF	**Hehuan Shan**	**0.86**	**293**	eP	**Pb**	**21 31 22.8**	**-0.2**
baz=292							
WHF				eS	**Sb**	**21 31 34.3**	**+0.2**
baz=292							
TWF1	**Yuli**	**0.89**	**239**	i P	**Pb**	**21 31 23.3**	**-0.2**
baz=226							
TWF1				S	**Sb**	**21 31 35.0**	**0.0**
baz=226							
NNS	**Nan Shan**	**0.94**	**312**	i P	**Pb**	**21 31 24.1**	**-0.2**
baz=312							
NNS				eS	**Sb**	**21 31 36.0**	**-0.2**
baz=312							
ENTT	**Nioudou**	**0.97**	**328**	P	**Pb**	**21 31 24.6**	**-0.3**
baz=318							
ENTT				eS	**Sb**	**21 31 37.1**	**-0.3**
baz=318							
TWT	**Tachien**	**0.98**	**297**	P	**Pb**	**21 31 25.0**	**0.0**
baz=296							
TWT				eS	**Sb**	**21 31 37.8**	**+0.2**
baz=296							
CHKT	**Chengkung**	**1.00**	**225**	eS	**Sb**	**21 31 35.7**	**-2.4**
baz=212							
TWE	**Neicheng**	**1.00**	**335**	P	**Pb**	**21 31 25.2**	**-0.2**
baz=336							
TWE				eS	**Sb**	**21 31 38.2**	**+0.1**
baz=336							
YOJ	**Yonaguni jima**	**1.03**	**51**	P	**Pb**	**21 31 26.3**	**+0.4**
YOJ				eS	**Sb**	**21 31 38.7**	**-0.3**
NSK	**Sanguang**	**1.11**	**321**	P	**Pn**	**21 31 26.7**	**-0.5**
baz=309							
NSK				eS	**Sb**	**21 31 40.1**	**-1.3**
baz=309							
YUS	**Yu-Shan**	**1.13**	**254**	P	**Pn**	**21 31 27.4**	**0.0**
baz=253							
YUS				S	**Sb**	**21 31 41.2**	**-0.6**
baz=253							
SMLT	**Sun Moon Lake**	**1.13**	**274**	⇑iP	**Pn**	**21 31 27.2**	**-0.2**
baz=273							
SMLT				eS	**Sb**	**21 31 41.4**	**-0.4**
baz=273							
TYC	**Yuchr**	**1.17**	**275**	P	**Pn**	**21 31 27.6**	**-0.4**
baz=274							
TYC				eS	**Sb**	**21 31 43.0**	**0.0**
baz=274							
ELDTW	**Lidau**	**1.20**	**239**	eP	**Pn**	**21 31 27.3**	**-1.1**
baz=238							
ALS	**Alishan**	**1.25**	**257**	⇑iP	**Pn**	**21 31 29.5**	**+0.4**
baz=256							
ALS				i S	**Sb**	**21 31 45.0**	**-0.4**
baz=256							
NSTT	**Nanjuang**	**1.32**	**309**	P	**Pn**	**21 31 31.3**	**+1.3**
baz=309							
NSTT				S	**Sn**	**21 31 46.4**	**-0.7**
baz=309							
CHN5	**Tsauling**	**1.35**	**261**	P	**Pn**	**21 31 31.2**	**+0.7**
baz=261							
CHN5				S	**Sn**	**21 31 48.9**	**+1.1**
baz=261							
TWQ1	**Liyutan**	**1.35**	**294**	P	**Pn**	**21 31 31.4**	**+0.9**
baz=294							
TWQ1				S	**Sn**	**21 31 47.6**	**-0.3**
baz=294							
TWG	**Pinlang**	**1.39**	**225**	eP	**Pn**	**21 31 29.7**	**-1.3**
baz=236							
TWG				eS	**Sn**	**21 31 45.6**	**-3.0**
baz=236							
STYT	**Tauyuan**	**1.42**	**243**	eP	**Pn**	**21 31 31.5**	**+0.1**
baz=232							
STYT				eS	**Sn**	**21 31 48.6**	**-0.9**
baz=232							
CHN4	**Tsaushan**	**1.48**	**252**	P	**Pn**	**21 31 33.7**	**+1.4**
baz=252							
CHN4				S	**Sn**	**21 31 53.2**	**+2.1**
baz=252							
HATJ	**Hateruma jima**	**1.55**	**81**	P	**Pn**	**21 31 35.8**	**+2.6**
IRIF	**Iriomote-Funau**	**1.55**	**70**	P	**Pn**	**21 31 33.3**	**+0.1**
IRIF				eS	**Sn**	**21 31 52.5**	**-0.3**
CHN1	**Nanshi**	**1.60**	**247**	eP	**Pn**	**21 31 35.3**	**+1.5**
baz=248							
CHN1				S	**Sn**	**21 31 55.5**	**+1.6**
baz=248							
SSD	**Sandimen**	**1.74**	**233**	eP	**Pn**	**21 31 36.8**	**+1.0**
baz=225							
SSD				eS	**Sn**	**21 31 58.0**	**+0.6**
baz=225							
JKRS	**Kuro-shima**	**1.77**	**76**	P	**Pn**	**21 31 36.7**	**+0.5**
JKRS				eS	**Sn**	**21 31 58.2**	**+0.1**
JIJ	**Ishigaki jima**	**1.92**	**73**	P	**Pn**	**21 31 37.8**	**-0.5**
JIJ				eS	**Sn**	**21 32 00.0**	**-1.8**

*IDC **07** 21:35:43.2±1.0, 19°.41N×66°.25W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.5/5, MS4.1/1, Ms1 4.1/1, ms1mx2.8/38, Error ellipse: s-maj=30.6km s-min=17.4km az=65.0*
*ISCJB **07** 21:35:45.4±1.3, 19°.46N±0°.03×66°.37W±0°.04, h25km±10km, mb3.6/5, Error ellipse: s-maj=6.3km s-min=5.5km az=141.3*
*RSPR **07** 21:35:46.0, 19°.58N×66°.41W, h49km±18km, MD3.4/13*
*NEIC **07** 21:35:46.0, 19°.58N×66°.41W, h48km, MD3.4(RSPR), After RSPR.*
ISC 07 21:35:45.3±1.5, 19°.40N±0°.03×66°.36W±0°.04, h13km±10km, n50, σ0°.85/66, mb3.6/5, 9C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.11**	**200**	eS	**Sb**	**21 36 22.1**	**+1.3**
AOPR	**Arecibo Observ**	**1.11**	**200**	⇓eP	**Pb**	**21 36 06.1**	**-0.3**
AOPR	**Arecibo Observ**	**1.11**	**200**	ePn	**Pn**	**21 36 06.2**	**-0.4**
AOPR				eSn	**Sn**	**21 36 22.3**	**+0.5**
AGPR	**Aguadilla, PR**	**1.17**	**218**	ePn	**Pn**	**21 36 06.5**	**-0.8**
AGPR				eSn	**Sn**	**21 36 22.5**	**-0.7**
LRS	**Lares**	**1.20**	**203**	ePn	**Pn**	**21 36 07.4**	**-0.3**
LRS				eSn	**Sn**	**21 36 20.9**	**-2.9**
CBYP	**Canovanas**	**1.22**	**157**	eS	**Sb**	**21 36 25.2**	**+1.3**
CBYP	**Canovanas**	**1.22**	**157**	⇑eP	**Pn**	**21 36 08.1**	**+0.1**
CBYP	**Canovanas**	**1.22**	**157**	ePn	**Pn**	**21 36 07.5**	**-0.5**
CBYP				eSn	**Sn**	**21 36 23.1**	**-1.3**
SJG	**San Juan**	**1.30**	**171**	⇓eP	**Pn**	**21 36 09.4**	**+0.3**
SJG	**San Juan**	**1.30**	**171**	⇑iP	**Pn**	**21 36 08.9**	**-0.2**
SJG				eS	**Sb**	**21 36 28.0**	**+1.8**
SJG	**San Juan**	**1.30**	**171**	Pn	**Pn**	**21 36 08.9**	**-0.2**
39nm,0.3s,baz=4.6,slow=9.8,SNR=89							
SJG				Sn	**Sn**	**21 36 26.3**	**0.0**
78nm,0.3s,baz=270,slow=15,SNR=16							
SJG	**San Juan**	**1.30**	**171**	ePn	**Pn**	**21 36 08.8**	**-0.3**
SJG				eSn	**Sn**	**21 36 26.4**	**0.0**
CELP	**Cerrillos**	**1.34**	**189**	⇓eP	**Pn**	**21 36 09.6**	**0.0**
CELP	**Cerrillos**	**1.34**	**189**	ePn	**Pn**	**21 36 09.5**	**-0.1**
CELP				eSn	**Sn**	**21 36 26.6**	**-0.7**
HUMP	**Col San Antoni**	**1.34**	**159**	eS	**Sn**	**21 36 27.8**	**+0.3**
HUMP	**Col San Antoni**	**1.34**	**159**	⇓eP	**Pn**	**21 36 09.2**	**-0.5**
HUMP	**Col San Antoni**	**1.34**	**159**	ePn	**Pn**	**21 36 09.2**	**-0.5**
HUMP				eSn	**Sn**	**21 36 26.7**	**-0.7**
OBIP	**Obispado Ponce**	**1.37**	**190**	⇑eP	**Pn**	**21 36 10.4**	**+0.2**
OBIP	**Obispado Ponce**	**1.37**	**190**	eS	**Sn**	**21 36 28.7**	**+0.5**
OBIP	**Obispado Ponce**	**1.37**	**190**	ePn	**Pn**	**21 36 09.3**	**-0.8**
OBIP				eSn	**Sn**	**21 36 26.8**	**-1.4**
LSP	**Las Mesas**	**1.40**	**210**	ePn	**Pn**	**21 36 10.7**	**+0.2**
LSP				eSn	**Sn**	**21 36 29.2**	**+0.3**
CPD	**Cerro la Pandu**	**1.42**	**163**	⇑eP	**Pn**	**21 36 10.5**	**-0.3**
CPD	**Cerro la Pandu**	**1.42**	**163**	eS	**Sn**	**21 36 30.6**	**+1.2**
CPD	**Cerro la Pandu**	**1.42**	**163**	ePn	**Pn**	**21 36 10.4**	**-0.4**
CPD				eSn	**Sn**	**21 36 26.4**	**-3.0**
MTP	**Monte Pirata**	**1.51**	**149**	⇑eP	**Pn**	**21 36 11.7**	**-0.3**
MTP	**Monte Pirata**	**1.51**	**149**	eS	**Sn**	**21 36 32.6**	**+1.1**
MTP	**Monte Pirata**	**1.51**	**149**	ePn	**Pn**	**21 36 11.6**	**-0.4**
MTP				eSn	**Sn**	**21 36 30.4**	**-1.0**
ICM	**Isla Caja Muer**	**1.51**	**186**	⇑eP	**Pn**	**21 36 12.2**	**+0.2**
ICM	**Isla Caja Muer**	**1.51**	**186**	eS	**Sn**	**21 36 32.3**	**+0.8**
ICM	**Isla Caja Muer**	**1.51**	**186**	ePn	**Pn**	**21 36 12.0**	**-0.1**
ICM				eSn	**Sn**	**21 36 32.1**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.56**	**207**	⇑eP	**Pn**	**21 36 12.9**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.56**	**207**	eS	**Sn**	**21 36 33.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.56**	**207**	ePn	**Pn**	**21 36 12.8**	**+0.1**
CRPR				eSn	**Sn**	**21 36 33.5**	**+0.7**
STVI	**Saint Thomas**	**1.69**	**128**	⇑eP	**Pn**	**21 36 14.7**	**+0.2**
STVI	**Saint Thomas**	**1.69**	**128**	eS	**Sn**	**21 36 36.9**	**+0.8**
STVI	**Saint Thomas**	**1.69**	**128**	ePn	**Pn**	**21 36 14.5**	**0.0**
STVI				eSn	**Sn**	**21 36 35.6**	**-0.5**
TBVI	**Tortola**	**1.92**	**120**	⇓eP	**Pn**	**21 36 17.7**	**+0.1**
TBVI	**Tortola**	**1.92**	**120**	⇓eP	**Pn**	**21 36 17.7**	**+0.1**
SDDR	**Presa de Saban**	**4.68**	**266**	ePn	**Pn**	**21 36 54.1**	**-1.5**
SDDR				eSn	**Sn**	**21 37 50.2**	**+0.5**
TXAR	**Lajitas Array**	**35.26**	**294**	P	**P**	**21 42 41.0**	**+1.1**
0.3nm,0.4s,mb3.6,baz=112,slow=8.3,SNR=9.7							
TXAR	**Lajitas Array**	**35.26**	**294**	P	**P**	**21 42 41.0**	**+1.1**
PDAR	**Pinedale Array**	**43.10**	**312**	P	**P**	**21 43 46.5**	**+1.2**
0.2nm,0.3s,mb3.3,baz=106,slow=9.6,SNR=2.8							
PDAR	**Pinedale Array**	**43.10**	**312**	P	**P**	**21 43 46.5**	**+1.2**
NVAR	**Mina Array Bea**	**48.59**	**304**	P	**P**	**21 44 29.7**	**+1.0**
0.4nm,0.5s,mb3.7,baz=91,slow=7.2,SNR=4.3							
NVAR	**Mina Array Bea**	**48.59**	**304**	P	**P**	**21 44 29.7**	**+1.0**
DLBC	**Dease Lake**	**59.93**	**327**	LR	LR	22 11 36.7	
comp=Z,165nm,19.6s,baz=327,slow=36							
TORD	**Torodi Ar. Bea**	**65.27**	**84**	P	**P**	**21 46 27.0**	**-0.3**
0.3nm,0.7s,mb3.4,baz=294,slow=6.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**65.27**	**84**	P	**P**	**21 46 27.0**	**-0.3**
ILAR	**Eielson Array**	**68.60**	**333**	P	**P**	**21 46 47.2**	**-0.4**
0.8nm,0.6s,mb3.8,baz=101,slow=4.4,SNR=22							
ILAR	**Eielson Array**	**68.60**	**333**	P	**P**	**21 46 47.2**	**-0.4**

*ISCJB **07** 21:50:22.2±0.4, 40°.88N±0°.03×142°.05E±0°.05, h70km±3km, mb3.8/11, Error ellipse: s-maj=7.5km s-min=4.6km az=31.1*
*JMA **07** 21:50:22.4±0.1, 40°.90N×142°.14E, h51km±3km, M3.5*
JMA Felt I J1.
*MOS **07** 21:50:22.0±0.8, 40°.88N×142°.36E, h83km, mb4.0/4, Error ellipse: s-maj=15.4km s-min=9.5km az=83.8*
*NEIC **07** 21:50:24.2±0.7, 40°.88N×142°.20E, h78km±7km, mb4.1/3, Error ellipse: s-maj=14.2km s-min=6.6km az=104.0*
*IDC **07** 21:50:27.1±6.4, 40°.80N×141°.95E, h98km±53km, mb3.5/8, mb1 3.5/9, mb1mx3.3/26, mbtmp3.5/9, Error ellipse: s-maj=63.4km s-min=22.2km az=71.0*

ISC 07 21:50:23.2±0.4, 40°89N±0°03×142°05E±0°05, h61km±4km, n63, σ0°78/75, mb3.9/11, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.65**	**219**	⇓P	**Pn**	**21 50 36.4**	**-0.5**
JANG				S	**Sn**	**21 50 46.1**	**-0.9**
JTM	**Tenmabayashi**	**0.75**	**263**	⇓P	**Pn**	**21 50 37.7**	**-0.4**
JTM				S	**Sn**	**21 50 48.7**	**-0.4**
JOT	**Ohata**	**0.91**	**304**	⇓P	**Pn**	**21 50 39.3**	**-0.7**
JOT				S	**Sn**	**21 50 52.4**	**-0.1**
JKB	**Kayabe**	**1.26**	**323**	⇓P	**Pn**	**21 50 44.0**	**-0.7**
JKB				S	**Sn**	**21 51 00.0**	**-0.7**
JAH	**Hinai**	**1.28**	**238**	⇓P	**Pn**	**21 50 45.2**	**+0.2**
JAH				S	**Sn**	**21 51 02.1**	**+0.8**
JSR	**Shiriuchi**	**1.39**	**298**	P	**Pn**	**21 50 46.4**	**0.0**
JSR				S	**Sn**	**21 51 04.1**	**+0.3**
ERM	**Erimo**	**1.40**	**36**	*e*Pn	**Pn**	**21 50 47.1**	**+0.6**
ERM				*e*Sn	**Sn**	**21 51 04.7**	**+0.6**
ERM	**Erimo**	**1.40**	**36**	*e*P	**Pn**	**21 50 47.1**	**+0.6**
ERM				*e*		21 51 04.7	
JEM	**Erimo**	**1.40**	**36**	P	**Pn**	**21 50 46.4**	**-0.1**
JEM				*e*S	**Sn**	**21 51 03.6**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.49**	**20**	P	**Pn**	**21 50 48.3**	**+0.6**
JOM	**Ohasama**	**1.53**	**203**	⇑P	**Pn**	**21 50 48.3**	**+0.1**
JOM				S	**Sn**	**21 51 07.2**	**+0.1**
JIW	**Iwasaki**	**1.58**	**260**	P	**Pn**	**21 50 49.2**	**+0.3**
JIW				S	**Sn**	**21 51 08.5**	**+0.1**
ASAJ	**Asahikawa**	**3.25**	**7**	*e*Pn	**Pn**	**21 51 11.7**	**0.0**
ASAJ				*e*Sn	**Sn**	**21 51 53.0**	**+3.8**
YUK	**Yuzh-Kuril'sk**	**4.22**	**41**	*i* P	**Pn**	**21 51 21.3**	**-3.7**
YUK				*i* S	**Sn**	**21 52 09.1**	**-3.9**
YUK				pmax	pmax		
	comp=N,62nm,0.6s						
YUK				pmax	pmax		
	comp=E,60nm,0.6s						
YUK				pmax	pmax		
	comp=Z,100nm,0.6s						
YUK				smax			
	comp=N,87nm,0.6s						
YUK				smax			
	comp=E,145nm,0.6s						
MAJO	**Matsushiro**	**5.28**	**216**	*e*Pn	**Pn**	**21 51 42.3**	**+2.9**
MAJO	**Matsushiro**	**5.28**	**216**	*e*P	**Pn**	**21 51 42.3**	**+2.9**
MJAR	**Matsushiro Arr**	**5.28**	**216**	P	**Pn**	**21 51 41.9**	**+2.5**
	comp=E,0.5nm,0.4s,mb3.6,baz=96,slow=10,SNR=4.6						
MJAR	**Matsushiro Arr**	**5.28**	**216**	P	**Pn**	**21 51 41.9**	**+2.5**
MJAR	**Matsushiro Arr**	**5.28**	**216**	P	**Pn**	**21 51 41.9**	**+2.5**
YAK	**Yakutsk**	**22.46**	**345**	*e*P	**P**	**21 55 18.3**	**+1.6**
YAK	**Yakutsk**	**22.46**	**345**	*e*P	**P**	**21 55 18.3**	**+1.6**
ULN	**Ulaanbaatar**	**25.81**	**297**	*e*P	**P**	**21 55 48.7**	**+0.3**
ULN	**Ulaanbaatar**	**25.81**	**297**	*e*P	**P**	**21 55 48.7**	**+0.3**
ZALV	**Zalesovo Beam**	**39.78**	**309**	P	**P**	**21 57 49.8**	**0.0**
	comp=E,0.5nm,0.4s,mb3.6,baz=96,slow=10,SNR=4.4						
ZALV	**Zalesovo Beam**	**39.78**	**309**	P	**P**	**21 57 49.8**	**0.0**
ZALV	**Zalesovo Beam**	**39.78**	**309**	P	**P**	**21 57 49.8**	**0.0**
MKAR	**Makanchi Array**	**42.60**	**299**	P	**P**	**21 58 13.1**	**+0.1**
	comp=E,0.5nm,0.4s,mb3.6,baz=88,slow=8.8,SNR=20						
MKAR	**Makanchi Array**	**42.60**	**299**	P	**P**	**21 58 13.1**	**+0.1**
MKAR	**Makanchi Array**	**42.60**	**299**	P	**P**	**21 58 13.1**	**+0.1**
CHTO	**Chiang Mai**	**42.83**	**252**	*e*P	**P**	**21 58 13.7**	**-1.6**
CHTO	**Chiang Mai**	**42.83**	**252**	*e*P	**P**	**21 58 13.7**	**-1.5**
CM31	**Chiang Mai Arr**	**43.06**	**252**	*e*P	**P**	**21 58 16.3**	**-0.8**
KURK	**Kurchatov**	**44.04**	**305**	P	**P**	**21 58 24.8**	**+0.3**
	comp=E,0.7nm,0.4s,mb3.7,baz=79,slow=9.2,SNR=5.4						
KURK	**Kurchatov**	**44.04**	**305**	*e*P	**P**	**21 58 24.4**	**-0.2**
KURK	**Kurchatov**	**44.04**	**305**	P	**P**	**21 58 24.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
TKM2	**Tokmak 2**	**48.33**	**296**	*e*P	**P**	**21 58 59.0**	**+0.7**
TKM2	**Tokmak 2**	**48.33**	**296**	*e*P	**P**	**21 58 59.0**	**+0.7**
BVAR	**Borovoye Array**	**48.42**	**310**	P	**P**	**21 58 59.1**	**+0.2**
	comp=Z,1.2nm,0.3s,mb4.3,baz=70,slow=8.6,SNR=16						
BVAR	**Borovoye Array**	**48.42**	**310**	P	**P**	**21 58 59.1**	**+0.2**
BVAR	**Borovoye Array**	**48.42**	**310**	P	**P**	**21 58 59.1**	**+0.2**
BRVK	**Borovoye**	**48.47**	**310**	*e*P	**P**	**21 58 59.2**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**48.47**	**310**	*e*P	**P**	**21 58 59.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**49.19**	**296**	*e*P	**P**	**21 59 04.9**	**-0.1**
AAK	**Ala-Archa**	**49.19**	**296**	*e*P	**P**	**21 59 04.9**	**0.0**
ARU	**Arti**	**53.85**	**317**	*e*P	**P**	**21 59 39.2**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.1						
ARU	**Arti**	**53.85**	**317**	*e*P	**P**	**21 59 39.2**	**-0.3**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KBL	**Kabul**	**56.57**	**289**	*e*P	**P**	**21 59 59.8**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.7						
KBL	**Kabul**	**56.57**	**289**	*e*P	**P**	**21 59 59.8**	**+0.3**
KBL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
WRAB	**Tennant Creek**	**60.93**	**188**	*e*P	**P**	**22 00 28.8**	**-0.8**
WRAB	**Tennant Creek**	**60.93**	**188**	*e*P	**P**	**22 00 28.8**	**-0.8**
WB2	**Warramunga Arr**	**60.94**	**188**	*e*P	**P**	**22 00 28.8**	**-0.9**
WRA	**Warramunga Arr**	**60.94**	**188**	P	**P**	**22 00 29.1**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.7,baz=6.5,slow=6.9,SNR=3.5						
WRA	**Warramunga Arr**	**60.94**	**188**	P	**P**	**22 00 29.1**	**-0.7**
WRA	**Warramunga Arr**	**60.94**	**188**	P	**P**	**22 00 29.1**	**-0.6**
FINES	**FINESS Array B**	**65.65**	**332**	P	**P**	**22 01 00.6**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.4,baz=46,slow=8.0,SNR=15						
FINES	**FINESS Array B**	**65.65**	**332**	P	**P**	**22 01 00.6**	**+0.1**
FINES	**FINESS Array B**	**65.65**	**332**	P	**P**	**22 01 00.6**	**+0.1**
HFS	**Hagfors**	**70.79**	**335**	P	**P**	**22 01 32.4**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=35,slow=7.9,SNR=5.2						
HFS	**Hagfors**	**70.79**	**335**	P	**P**	**22 01 32.4**	**-0.3**
HFS	**Hagfors**	**70.79**	**335**	P	**P**	**22 01 32.4**	**-0.3**
NOA	**NORSAR Array B**	**70.84**	**337**	P	**P**	**22 01 33.6**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=22,slow=6.1,SNR=2.9						
NOA	**NORSAR Array B**	**70.84**	**337**	P	**P**	**22 01 33.6**	**+0.7**
NOA	**NORSAR Array B**	**70.84**	**337**	P	**P**	**22 01 33.6**	**+0.7**

IDC 07 21:55:57.5±45.0, 15°78S×173°84W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/16, mbtmp4.2/3, Error ellipse: s-maj=869.3km s-min=174.1km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.48**	**240**	P	P	22 04 02.8	+0.1
	3.6nm,0.9s,baz=90,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**49.35**	**257**	P	P	22 04 48.8	-0.2
	0.5nm,0.5s,baz=94,slow=7.1,SNR=9.2						
ASAR	**Alice Springs**	**49.59**	**252**	P	P	22 04 50.9	0.0
	5.6nm,0.6s,baz=88,slow=8.3,SNR=78						

IDC 07 22:10:49.5±2.1, 8°39S×129°66E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/16, mbtmp3.5/4, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/20, Error ellipse: s-maj=73.1km s-min=28.9km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.41**	**202**	Pn	Pn	22 13 18.7	-1.5
	0.3nm,0.3s,baz=23,slow=13,SNR=8.2						
FITZ				Sn	Sn	22 15 09.6	-8.1
	0.2nm,0.3s,baz=261,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**12.34**	**159**	Pn	Pn	22 13 47.4	+0.8
	0.3nm,0.3s,baz=339,slow=12,SNR=5.6						
WRA				Sn	Sn	22 16 01.5	-3.4
	0.3nm,0.3s,baz=336,slow=21,SNR=4.2						
WRA				LR	LR	22 19 04.7	
	comp=Z,70nm,18.9s,baz=45,slow=40						
ASAR	**Alice Springs**	**15.72**	**165**	Pn	Pn	22 14 33.2	+0.8
	0.1nm,0.3s,baz=348,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**69.20**	**327**	P	P	22 21 58.2	+0.2
	0.3nm,0.5s,baz=119,slow=7.9,SNR=5.6						

GUC 07 22:13:11.9±0.8, 33°14S×70°31W, h17km±4km, MD3.5, ML2.5, 4C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.31**	**270**	⇓*i*P	Pg	22 13 18.6	0.0
PEL				*i* S	Sg	22 13 22.8	-0.3
PEL				AML	AML	22 13 25.7	
	comp=E,741nm,0.6s						
CLCH	**Cerro Calan**	**0.32**	**217**	⇑*i*P	Pg	22 13 19.3	+0.6
CLCH				*i* S	Sg	22 13 24.7	+1.5
CLCH				AML	AML	22 13 26.7	
	comp=E,2μm,0.4s						
SAN	**Santiago**	**0.43**	**223**	*e*P	Pg	22 13 20.4	-0.2
SAN				*e*S	Sg	22 13 26.7	+0.2
SAN				AML	AML	22 13 31.3	
	comp=N,260nm,0.5s						
PCH	**Pirque**	**0.51**	**200**	⇓*i*P	Pg	22 13 21.9	-0.2
PCH				*i* S	Sg	22 13 29.3	+0.4
JACH	**Jahuel**	**0.52**	**333**	⇓*i*P	Pg	22 13 21.8	-0.4
JACH				*i* S	Sg	22 13 29.2	+0.1
ROCH	**El Roble**	**0.61**	**286**	⇑*i*P	Pg	22 13 24.0	0.0
ROCH				*i* S	Sg	22 13 33.2	+1.0
ROCH				AML	AML	22 13 34.9	
	comp=N,513nm,0.5s						
TACH	**Talagante**	**0.73**	**226**	*e*P	Pb	22 13 25.6	-0.6
CHCH	**Chadas Angostu**	**0.84**	**200**	⇓*i*P	Pb	22 13 27.6	-0.5
CHCH				*i* S	Sb	22 13 39.5	+0.5
CACH	**El Canelo**	**1.00**	**194**	⇑*i*P	Pb	22 13 30.9	+0.1
CACH				*i* S	Sb	22 13 45.1	+1.4
LNV	**Longovilo**	**1.23**	**228**	*e*P	Pn	22 13 34.2	-0.1
LNV				*i* S	Sb	22 13 50.7	+0.5
CHNG	**Los Chungos**	**1.61**	**321**	⇑*i*P	Pn	22 13 40.8	+1.2
CHNG				*i* S	Sn	22 14 02.6	+2.7
CHNG				AML	AML	22 14 05.6	
	comp=E,190nm,0.4s						
TLL	**Tololo Astrono**	**3.00**	**352**	*e*P	Pn	22 14 03.5	+4.9
TLL				*i* S	Sn	22 14 44.1	+10

*ISCJB **07** 22:17:50.7±0.5, 6°49N±0°05×126°01E±0°10, h147km±5km, mb3.8/10, Error ellipse: s-maj=15.9km s-min=8.0km az=166.1*
*IDC **07** 22:17:51.9±0.7, 6°53N×126°01E, h141km±9km, mb3.6/7, mb1 3.8/7, mb1mx3.5/20, mbtmp3.6/7, Error ellipse: s-maj=62.0km s-min=14.2km az=79.0*
*NEIC **07** 22:17:51.9±0.7, 6°51N×125°99E, h144km±7km, mb3.9/4, Error ellipse: s-maj=25.9km s-min=6.7km az=70.0*
*MAN **07** 22:17:57, 6°78N×125°90E, h76km, mb4.5, ML3.3, MS3.2*

ISC 07 22:17:51.9±0.5, 6°51N±0°05×126°01E±0°10, h141km±4km, n37, σ0°52/38, mb3.8/10, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.50**	**29**	*e*P	**Pn**	**22 18 11.6**	**-0.6**
MATI				*e*S	**Sn**	**22 18 21.8**	**-5.9**
DAV	**Davao City (W)**	**0.70**	**322**	P	**Pn**	**22 18 13.4**	**-0.1**
	299nm,0.3s,baz=180,slow=1.0,SNR=26						
DAV				S	**Sn**	**22 18 30.8**	**+0.9**
	424nm,0.3s,baz=143,slow=20,SNR=34						
DAV	**Davao City (W)**	**0.70**	**322**	P	**Pn**	**22 18 13.4**	**-0.1**
DAV				S	**Sn**	**22 18 30.8**	**+0.9**
GSPH	**General Santos**	**1.14**	**248**	⇓*e*P	**Pn**	**22 18 16.7**	**-0.4**
GSPH				*i* S	**Sn**	**22 18 35.9**	**-0.4**
BUKP	**Musuan**	**1.66**	**325**	*e*P	**Pn**	**22 18 22.6**	**0.0**
CTBH	**Cotabato--PC H**	**1.89**	**292**	⇑*i*P	**Pn**	**22 18 25.1**	**-0.1**
CGP	**Cagayan de Oro**	**2.33**	**326**	⇓*e*P	**Pn**	**22 18 30.4**	**-0.2**
CGP				*e*S	**Sn**	**22 19 00.5**	**+0.2**
BUTP	**Butuan**	**2.48**	**351**	*e*P	**Pn**	**22 18 32.5**	**+0.2**
PAGZ	**Pagadian**	**2.93**	**297**	*e*P	**Pn**	**22 18 38.7**	**+0.6**
TWG	**Pinlang**	**16.90**	**344**	P	**Pn**	**22 21 39.1**	**-1.1**
COEN	**Coen**	**26.52**	**140**	*e*P	**P**	**22 23 16.8**	**+0.2**
	74nm,0.6s						
WRAB	**Tennant Creek**	**27.52**	**163**	*e*P	**P**	**22 23 25.6**	**+0.1**
	1.4nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**27.53**	**163**	P	**P**	**22 23 25.5**	**0.0**
	0.6nm,0.3s,mb3.8,baz=340,slow=8.8,SNR=5.9						
WRA	**Warramunga Arr**	**27.53**	**163**	P	**P**	**22 23 25.5**	**0.0**
WB2	**Warramunga Arr**	**27.54**	**163**	*e*P	**P**	**22 23 25.2**	**-0.4**
KSAR	**Wonju Array Be**	**30.84**	**3**	P	**P**	**22 23 54.7**	**+0.1**
KSRS	**Korea Array**	**30.85**	**3**	P	**P**	**22 23 54.7**	**-0.1**
	1.0nm,0.6s,mb3.7,baz=190,slow=10,SNR=3.4						
AS31	**Alice Springs**	**30.96**	**166**	*e*P	**P**	**22 23 56.0**	**+0.2**
ASAR	**Alice Springs**	**30.96**	**166**	P	**P**	**22 23 56.5**	**+0.6**
	1.3nm,0.3s,mb4.2,baz=342,slow=7.0,SNR=22						
ASAR	**Alice Springs**	**30.96**	**166**	P	**P**	**22 23 56.5**	**+0.6**
STKA	**Stephens Creek**	**40.96**	**160**	P	**P**	**22 25 21.7**	**+0.8**
	1.5nm,0.5s,mb3.9,baz=333,slow=8.5,SNR=5.1						
STKA	**Stephens Creek**	**40.96**	**160**	*e*P	**P**	**22 25 20.7**	**-0.2**
	0.4nm,0.6s,mb3.2						
ULN	**Ulaanbaatar**	**44.27**	**342**	P	**P**	**22 25 46.9**	**-0.5**
SONM	**Songino Array**	**44.45**	**341**	P	**P**	**22 25 50.6**	**+1.7**
	0.3nm,0.4s,mb3.3,baz=154,slow=8.9,SNR=4.7						
SONM	**Songino Array**	**44.45**	**341**	P	**P**	**22 25 50.6**	**+1.7**
TKM2	**Tokmak 2**	**57.21**	**318**	P	**P**	**22 27 24.4**	**0.0**
KURK	**Kurchatov**	**59.03**	**327**	P	**P**	**22 27 37.1**	**+0.2**
KBL	**Kabul**	**59.29**	**306**	*e*P	**P**	**22 27 38.7**	**-0.4**
	1.4nm,0.9s,mb3.8						
ARU	**Arti**	**72.22**	**327**	*e*P	**P**	**22 29 01.6**	**+0.1**
	1.4nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**82.92**	**26**	P	**P**	**22 30 00.5**	**-0.1**
	1.0nm,0.6s,mb3.7,baz=250,slow=6.9,SNR=18						
ILAR	**Eielson Array**	**82.92**	**26**	P	**P**	**22 30 00.5**	**-0.1**
ARCES	**ARCESS Array B**	**87.61**	**340**	P	**P**	**22 30 23.0**	**-0.9**
	1.2nm,0.8s,mb3.8,baz=80,slow=6.8,SNR=4.0						
ARCES	**ARCESS Array B**	**87.61**	**340**	P	**P**	**22 30 23.0**	**-0.9**
TXAR	**Lajitas Array**	**120.43**	**51**	PKP	PKPdf	22 36 25.7	-1.7
	0.1nm,0.3s,baz=122,slow=3.3,SNR=4.0						
TXAR	**Lajitas Array**	**120.43**	**51**	PKP	PKPdf	22 36 25.7	-1.7
TORD	**Torodi Ar. Bea**	**121.35**	**290**	PKP	PKPdf	22 36 28.1	-1.3
	0.2nm,0.4s,baz=76,slow=0.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**121.35**	**290**	PKP	PKPdf	22 36 28.1	-1.3

*ROM **07** 22:36:37.9±0.2, 44°54N×6°90E, h10km±1km, Md2.5/10, Ml2.5/9, Error ellipse: s-maj=2.8km s-min=1.2km az=56.0*
*CSEM **07** 22:36:37.7±0.1, 44°58N×6°90E, h10km, ML2.8/37, Error ellipse: s-maj=1.8km s-min=1.3km az=49.0*
*NEIC **07** 22:36:38.3, 44°58N×6°96E, h2km, ML2.7(LDG), After LDG.*
*GEN **07** 22:36:38.0, 44°54N×6°86E, h9km, ML2.4*
*LDG **07** 22:36:38.3±0.0, 44°58N×6°96E, h2km, Md2.6/3, Ml2.7/33, Error ellipse: s-maj=1.1km s-min=0.7km az=63.0*
*ISCJB **07** 22:36:38.0±0.2, 44°60N±0°01×6°94E±0°02, h25km±2km, Error ellipse: s-maj=3.0km s-min=2.0km az=151.9*
*STR **07** 22:36:38.0±0.2, 44°58N×6°94E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 07 22:36:37.8±0.2, 44°58N±0°01×6°90E±0°02, h17km±1km, n170, σ0°92/337, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.12**	**211**	Pg	**Pg**	**22 36 40.7**	**-0.8**
SURF	**Saint Ours**	**0.12**	**211**	Pg	**Pg**	**22 36 40.7**	**-0.8**
MBDF	**Montbardon**	**0.17**	**329**	*e*Pg	**Pg**	**22 36 42.4**	**+0.2**
MBDF				*e*Sg	**Sg**	**22 36 45.1**	**-0.1**
	1μm,0.2s						
MBDF	**Montbardon**	**0.17**	**329**	*e*Pg	**Pg**	**22 36 42.4**	**+0.2**
MBDF				*e*Sg	**Sg**	**22 36 45.1**	**-0.1**
MBDF	**Montbardon**	**0.17**	**329**	*e*Pg	**Pg**	**22 36 42.4**	**+0.2**
MBDF				*e*Sg	**Sg**	**22 36 45.1**	**-0.1**
	596nm,0.2s						
PZZ	**Stroppo**	**0.17**	**115**	Pg	**Pg**	**22 36 42.1**	**-0.1**
PZZ				Sg	**Sg**	**22 36 45.0**	**-0.2**
	2μm,0.3s						
DOI	**San Damiano**	**0.26**	**107**	Pg	**Pg**	**22 36 43.6**	**0.0**
DOI				Sg	**Sg**	**22 36 47.8**	**+0.2**
	615nm,0.2s						
DOI	**San Damiano**	**0.26**	**107**	Pg	**Pg**	**22 36 43.6**	**0.0**
DOI				Sg	**Sg**	**22 36 47.8**	**+0.2**
	615nm,0.2s						
STV	**Sant Anna di V**	**0.46**	**137**	Pg	**Pg**	**22 36 46.7**	**-0.3**
STV				Sg	**Sg**	**22 36 52.8**	**-0.4**
	515nm,0.2s						
STV	**Sant Anna di V**	**0.46**	**137**	P	**Pg**	**22 36 46.6**	**-0.4**
STV				S	**Sg**	**22 36 52.3**	**-0.9**
STV				Sg	**Sg**	**22 36 52.8**	**-0.4**
	515nm,0.2s						
BNI	**Bardonecchia**	**0.50**	**342**	Pg	**Pg**	**22 36 48.5**	**+0.8**
BNI				Sg	**Sg**	**22 36 55.6**	**+1.2**
	54nm,0.5s						
BNI	**Bardonecchia**	**0.50**	**342**	Pg	**Pg**	**22 36 48.5**	**+0.8**
BNI				Sg	**Sg**	**22 36 55.6**	**+1.2**
	54nm,0.5s						
TOUF	**Mont Tournerai**	**0.62**	**156**	Pg	**Pg**	**22 36 49.8**	**-0.2**
TOUF				Sg	**Sg**	**22 36 57.5**	**-0.8**
TOUF	**Mont Tournerai**	**0.62**	**156**	Pg	**Pg**	**22 36 49.8**	**-0.2**
TOUF				Sg	**Sg**	**22 36 57.5**	**-0.8**
RSP	**Reno Superiore**	**0.62**	**25**	Pg	**Pg**	**22 36 51.0**	**+0.9**
RSP				Sg	**Sg**	**22 37 00.5**	**+2.0**
RSP	**Reno Superiore**	**0.62**	**25**	P	**Pg**	**22 36 50.8**	**+0.7**
RSP				S	**Sg**	**22 36 59.5**	**+1.0**
RSP				Sg	**Sg**	**22 37 00.5**	**+2.0**
AUTN	**L'Aution**	**0.70**	**147**	Pg	**Pg**	**22 36 51.6**	**+0.1**
AUTN				Sg	**Sg**	**22 37 00.1**	**-0.6**
AUTN	**L'Aution**	**0.70**	**147**	Pg	**Pg**	**22 36 51.6**	**+0.1**
AUTN				Sg	**Sg**	**22 37 00.1**	**-0.6**
MVIF	**Mont Vial**	**0.71**	**165**	Pg	**Pg**	**22 36 51.7**	**+0.1**
MVIF	**Mont Vial**	**0.71**	**165**	Pg	**Pg**	**22 36 51.7**	**+0.1**
SAOF	**Saorge**	**0.76**	**141**	Pg	**Pg**	**22 36 52.2**	**-0.4**
SAOF				Sg	**Sg**	**22 37 01.8**	**-0.9**
SAOF	**Saorge**	**0.76**	**141**	Pg	**Pg**	**22 36 52.2**	**-0.4**
SAOF				Sg	**Sg**	**22 37 01.8**	**-0.9**
LUCF	**Luceram**	**0.76**	**155**	Pg	**Pg**	**22 36 52.5**	**-0.1**
LUCF				Sg	**Sg**	**22 37 02.1**	**-0.6**
LUCF	**Luceram**	**0.76**	**155**	Pg	**Pg**	**22 36 52.5**	**-0.1**
LUCF				Sg	**Sg**	**22 37 02.1**	**-0.6**
MONE	**Monesi**	**0.80**	**129**	P	**Pb**	**22 36 52.7**	**-0.4**
ORIF	**Oris-en-Rattie**	**0.80**	**295**	*e*Pg	**Pg**	**22 36 53.2**	**-0.1**
ORIF				*e*Sg	**Sg**	**22 37 03.4**	**-0.5**
	154nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.80**	**295**	*e*Pg	**Pg**	**22 36 53.2**	**-0.1**
ORIF				*e*Sg	**Sg**	**22 37 03.4**	**-0.5**
ORIF	**Oris-en-Rattie**	**0.80**	**295**	*e*Pg	**Pg**	**22 36 53.2**	**-0.1**
ORIF				*e*Sg	**Sg**	**22 37 03.4**	**-0.5**
	77nm,0.3s						
SBF	**Sospel**	**0.82**	**151**	*e*Pg	**Pg**	**22 36 53.3**	**-0.4**
SBF				*e*Sg	**Sg**	**22 37 03.9**	**-0.5**
	86nm,0.2s						
SBF	**Sospel**	**0.82**	**151**	*e*Pg	**Pg**	**22 36 53.3**	**-0.4**
SBF				*e*Sg	**Sg**	**22 37 03.9**	**-0.5**
SBF	**Sospel**	**0.82**	**151**	*e*Pg	**Pg**	**22 36 53.3**	**-0.4**
SBF				*e*Sg	**Sg**	**22 37 03.9**	**-0.5**
	43nm,0.2s						
CALN	**Calern**	**0.83**	**180**	Pg	**Pg**	**22 36 53.9**	**0.0**
CALN	**Calern**	**0.83**	**180**	Pg	**Pg**	**22 36 53.9**	**0.0**
GDM	**Grand'Maison**	**0.83**	**319**	Pg	**Pg**	**22 36 54.4**	**+0.4**
GDM				Sg	**Sg**	**22 37 05.1**	**+0.1**
GDM	**Grand'Maison**	**0.83**	**319**	Pg	**Pg**	**22 36 54.4**	**+0.4**
GDM				Sg	**Sg**	**22 37 05.1**	**+0.1**
RONM	**Roccetta Nervi**	**0.87**	**144**	P	**Pb**	**22 36 54.1**	**-0.2**
LSD	**Lago del Serru**	**0.89**	**11**	P	**Pb**	**22 36 55.5**	**+0.7**
STOF	**St-Etienne Org**	**0.92**	**231**	Pg	**Pg**	**22 36 56.5**	**+0.9**
STOF				Sg	**Sg**	**22 37 09.8**	**+2.2**
STOF	**St-Etienne Org**	**0.92**	**231**	Pg	**Pg**	**22 36 56.5**	**+0.9**
STOF				Sg	**Sg**	**22 37 09.8**	**+2.2**
LPG	**La Plagne**	**0.92**	**354**	*e*Pg	**Pg**	**22 36 56.5**	**+0.8**
LPG				*e*Sg	**Sg**	**22 37 08.1**	**+0.3**
	75nm,0.5s						
LPG	**La Plagne**	**0.92**	**354**	*e*Pg	**Pg**	**22 36 56.5**	**+0.8**
LPG				*e*Sg	**Sg**	**22 37 08.1**	**+0.3**
LPG	**La Plagne**	**0.92**	**354**	*e*Pg	**Pg**	**22 36 56.5**	**+0.8**
LPG				*e*Sg	**Sg**	**22 37 08.1**	**+0.3**
	37nm,0.5s						
NEGI	**Seborga**	**0.94**	**141**	P	**Pb**	**22 36 55.2**	**-0.3**
LPL	**La Plagne**	**0.94**	**353**	*e*Pg	**Pg**	**22 36 56.6**	**+0.5**
LPL				*e*Sg	**Sg**	**22 37 08.7**	**+0.2**
	55nm,0.3s						
LPL	**La Plagne**	**0.94**	**353**	*e*Pg	**Pg**	**22 36 56.6**	**+0.5**
LPL				*e*Sg	**Sg**	**22 37 08.7**	**+0.2**
LPL	**La Plagne**	**0.94**	**353**	*e*Pg	**Pg**	**22 36 56.6**	**+0.5**
LPL				*e*Sg	**Sg**	**22 37 08.7**	**+0.2**
	28nm,0.3s						
RORO	**Rocca Rossa**	**0.96**	**119**	Pg	**Pg**	**22 36 55.7**	**-0.7**
RORO				Sg	**Sg**	**22 37 08.2**	**-0.8**
	108nm,0.3s						
RORO	**Rocca Rossa**	**0.96**	**119**	P	**Pb**	**22 36 55.6**	**-0.3**
RORO				Sg	**Sg**	**22 37 08.2**	**-0.8**
	108nm,0.3s						
IMI	**Imperia**	**0.98**	**133**	Pg	**Pg**	**22 36 56.3**	**-0.5

PGF eSn Sn 22 37 48.0 -0.7
6.2nm,0.2s
SMF Signal de Mont 2.98 315 ePn **Pn 22 37 26.5 +2.4**
SMF Signal de Mont 2.98 315 ePg **Pg 22 37 34.2 -0.6**
SMF eSg **Sg 22 38 12.4 -0.9**
9.4nm,0.4s
SMF Signal de Mont 2.98 315 ePn **Pn 22 37 26.5 +2.4**
SMF ePg **Pg 22 37 34.2 -0.6**
SMF eSg **Sg 22 38 12.4 -0.9**
SMF Signal de Mont 2.98 315 ePn **Pn 22 37 26.5 +2.4**
SMF Signal de Mont 2.98 315 ePg **Pg 22 37 34.2 -0.6**
SMF eSg **Sg 22 38 12.4 -0.9**
4.7nm,0.4s
HINF Hinteralfeld 3.24 359 ePn **Pn 22 37 28.6 +0.9**
HINF eSn **Sn 22 38 04.9 -0.9**
3.8nm,0.6s
HINF Hinteralfeld 3.24 359 ePn **Pn 22 37 28.6 +0.9**
HINF eSn **Sn 22 38 04.9 -0.9**
HINF Hinteralfeld 3.24 359 ePn **Pn 22 37 28.6 +0.9**
HINF eSn **Sn 22 38 04.9 -0.9**
1.9nm,0.6s
AVF Avril sur Loir 3.32 313 ePn **Pn 22 37 31.5 +2.6**
AVF Avril sur Loir 3.32 313 ePg **Pg 22 37 40.6 -0.8**
AVF eSn **Sn 22 38 07.9 0.0**
AVF eSg **Sg 22 38 23.3 -1.2**
7.8nm,0.5s
AVF Avril sur Loir 3.32 313 ePn **Pn 22 37 31.5 +2.6**
AVF ePg **Pg 22 37 40.6 -0.8**
AVF eSn **Sn 22 38 07.9 0.0**
AVF eSg **Sg 22 38 23.3 -1.2**
AVF Avril sur Loir 3.32 313 ePn **Pn 22 37 31.5 +2.6**
AVF Avril sur Loir 3.32 313 ePg **Pg 22 37 40.6 -0.8**
AVF eSn **Sn 22 38 07.9 0.0**
AVF eSg **Sg 22 38 23.3 -1.2**
3.9nm,0.5s
LOR Lormes 3.42 323 ePn **Pn 22 37 31.2 +1.0**
LOR eSn **Sn 22 38 10.0 -0.3**
LOR eSg **Sg 22 38 26.1 -1.5**
4.5nm,0.4s
LOR Lormes 3.42 323 ePn **Pn 22 37 31.2 +1.0**
LOR eSn **Sn 22 38 10.0 -0.3**
LOR eSg **Sg 22 38 26.1 -1.5**
LOR Lormes 3.42 323 ePn **Pn 22 37 31.2 +1.0**
LOR eSn **Sn 22 38 10.0 -0.3**
LOR eSg **Sg 22 38 26.1 -1.5**
2.2nm,0.4s
SSF Saint Saulge 3.43 318 ePn **Pn 22 37 31.2 +0.9**
SSF eSn **Sn 22 38 09.9 -0.6**
SSF eSg **Sg 22 38 26.6 -1.3**
3.6nm,0.3s
SSF Saint Saulge 3.43 318 ePn **Pn 22 37 31.2 +0.9**
SSF eSn **Sn 22 38 09.9 -0.6**
SSF eSg **Sg 22 38 26.6 -1.3**
SSF Saint Saulge 3.43 318 ePn **Pn 22 37 31.2 +0.9**
SSF eSn **Sn 22 38 09.9 -0.6**
SSF eSg **Sg 22 38 26.6 -1.3**
1.8nm,0.3s
HAU Haudompre 3.45 354 ePn **Pn 22 37 31.0 +0.4**
HAU eSn **Sn 22 38 10.2 -0.7**
7.0nm,0.5s
HAU Haudompre 3.45 354 ePn **Pn 22 37 31.0 +0.4**
HAU eSn **Sn 22 38 10.2 -0.7**
HAU Haudompre 3.45 354 ePn **Pn 22 37 31.0 +0.4**
HAU eSn **Sn 22 38 10.2 -0.7**
3.5nm,0.5s
CAF Calviac 3.46 277 ePn **Pn 22 37 31.8 +1.1**
CAF eSg **Sg 22 38 28.0 -0.8**
2.6nm,0.4s
CAF Calviac 3.46 277 ePn **Pn 22 37 31.8 +1.1**
CAF eSg **Sg 22 38 28.0 -0.8**
CAF Calviac 3.46 277 ePn **Pn 22 37 31.8 +1.1**
CAF eSg **Sg 22 38 28.0 -0.8**
1.3nm,0.4s
BGF Bois d'Agland 3.46 306 ePn **Pn 22 37 33.3 +2.5**
BGF Bois d'Agland 3.46 306 ePg **Pg 22 37 43.1 -1.0**
BGF eSn **Sn 22 38 11.3 -0.1**
BGF eSg **Sg 22 38 27.8 -1.1**
25nm,0.5s
BGF Bois d'Agland 3.46 306 ePn **Pn 22 37 33.3 +2.5**
BGF ePg **Pg 22 37 43.1 -1.0**
BGF eSn **Sn 22 38 11.3 -0.1**
BGF eSg **Sg 22 38 27.8 -1.1**
BGF Bois d'Agland 3.46 306 ePn **Pn 22 37 33.3 +2.5**
BGF Bois d'Agland 3.46 306 ePg **Pg 22 37 43.1 -1.0**
BGF eSn **Sn 22 38 11.3 -0.1**
BGF eSg **Sg 22 38 27.8 -1.1**
12nm,0.5s
MTLF Montolieu 3.60 251 ePn **Pn 22 37 33.8 +1.1**
MTLF eSn **Sn 22 38 14.4 -0.3**
MTLF eSg **Sg 22 38 32.2 -1.1**
1.1nm,0.3s
MTLF Montolieu 3.60 251 ePn **Pn 22 37 33.8 +1.1**
MTLF eSn **Sn 22 38 14.4 -0.3**
MTLF eSg **Sg 22 38 32.2 -1.1**
MTLF Montolieu 3.60 251 ePn **Pn 22 37 33.8 +1.1**
MTLF eSn **Sn 22 38 14.4 -0.3**
MTLF eSg **Sg 22 38 32.2 -1.1**
0.6nm,0.3s
TCF Toulx Ste Croi 3.71 299 ePn **Pn 22 37 35.0 +0.8**
TCF eSn **Sn 22 38 17.1 -0.4**
TCF eSg **Sg 22 38 35.9 -1.1**
2.2nm,0.4s
TCF Toulx Ste Croi 3.71 299 ePn **Pn 22 37 35.0 +0.8**
TCF eSn **Sn 22 38 17.1 -0.4**
TCF eSg **Sg 22 38 35.9 -1.1**
TCF Toulx Ste Croi 3.71 299 ePn **Pn 22 37 35.0 +0.8**
TCF eSn **Sn 22 38 17.1 -0.4**
TCF eSg **Sg 22 38 35.9 -1.1**
1.1nm,0.4s
CDF Champ du Feu 3.84 4 ePn **Pn 22 37 36.4 +0.4**
CDF eSn **Sn 22 38 19.5 -1.2**
2.1nm,0.4s
CDF Champ du Feu 3.84 4 ePn **Pn 22 37 36.4 +0.4**
CDF eSn **Sn 22 38 19.5 -1.2**
CDF Champ du Feu 3.84 4 ePn **Pn 22 37 36.4 +0.4**
CDF eSn **Sn 22 38 19.5 -1.2**
1.0nm,0.4s
SFTF Sexfontaines 3.85 341 ePn **Pn 22 37 36.7 +0.7**
SFTF eSn **Sn 22 38 19.9 -0.9**
7.7nm,0.4s
SFTF Sexfontaines 3.85 341 ePn **Pn 22 37 36.7 +0.7**
SFTF eSn **Sn 22 38 19.9 -0.9**
SFTF Sexfontaines 3.85 341 ePn **Pn 22 37 36.7 +0.7**
SFTF eSn **Sn 22 38 19.9 -0.9**
3.8nm,0.4s
RJF Les Rejaudoux 3.89 283 ePn **Pn 22 37 37.7 +1.1**
RJF eSn **Sn 22 38 21.6 -0.2**
RJF eSg **Sg 22 38 41.4 -1.1**
4.2nm,0.5s
RJF Les Rejaudoux 3.89 283 ePn **Pn 22 37 37.7 +1.1**
RJF eSn **Sn 22 38 21.6 -0.2**
RJF eSg **Sg 22 38 41.4 -1.1**
RJF Les Rejaudoux 3.89 283 ePn **Pn 22 37 37.7 +1.1**
RJF eSn **Sn 22 38 21.6 -0.2**
RJF eSg **Sg 22 38 41.4 -1.1**
2.1nm,0.5s
HYF Humbligny 4.00 314 ePn **Pn 22 37 39.8 +1.6**
HYF eSn **Sn 22 38 24.0 -0.7**
HYF eSg **Sg 22 38 44.7 -1.6**
HYF Humbligny 4.00 314 ePn **Pn 22 37 39.8 +1.6**
HYF eSn **Sn 22 38 24.0 -0.7**
HYF eSg **Sg 22 38 44.7 -1.6**
HYF Humbligny 4.00 314 ePn **Pn 22 37 39.8 +1.6**
HYF eSn **Sn 22 38 24.0 -0.7**
HYF eSg **Sg 22 38 44.7 -1.6**
PAGF Fort de Pagny 4.06 349 ePn **Pn 22 37 39.9 +1.0**
PAGF eSn **Sn 22 38 24.8 -1.2**
0.8nm,0.4s
PAGF Fort de Pagny 4.06 349 ePn **Pn 22 37 39.9 +1.0**
PAGF eSn **Sn 22 38 24.8 -1.2**
PAGF Fort de Pagny 4.06 349 ePn **Pn 22 37 39.9 +1.0**
PAGF eSn **Sn 22 38 24.8 -1.2**
0.4nm,0.4s
MEZF Maizieres J'vi 4.12 343 ePn **Pn 22 37 40.3 +0.4**
MEZF eSn **Sn 22 38 26.3 -1.3**
9.2nm,0.6s
MEZF Maizieres J'vi 4.12 343 ePn **Pn 22 37 40.3 +0.4**
MEZF eSn **Sn 22 38 26.3 -1.3**
MEZF Maizieres J'vi 4.12 343 ePn **Pn 22 37 40.3 +0.4**
MEZF eSn **Sn 22 38 26.3 -1.3**
4.6nm,0.6s
LFF La Frestale 4.40 277 ePn **Pn 22 37 44.3 +0.6**
LFF eSg **Sg 22 38 57.4 -1.5**
8.4nm,0.5s
LFF La Frestale 4.40 277 ePn **Pn 22 37 44.3 +0.6**
LFF eSg **Sg 22 38 57.4 -1.5**
LFF La Frestale 4.40 277 ePn **Pn 22 37 44.3 +0.6**
LFF eSg **Sg 22 38 57.4 -1.5**
4.2nm,0.5s
EPF Esparros 4.99 254 ePn **Pn 22 37 52.3 +0.5**
EPF eSn **Sn 22 38 47.6 -1.4**
0.6nm,0.3s
EPF Esparros 4.99 254 ePn **Pn 22 37 52.3 +0.5**
EPF eSn **Sn 22 38 47.6 -1.4**
EPF Esparros 4.99 254 ePn **Pn 22 37 52.3 +0.5**
EPF eSn **Sn 22 38 47.6 -1.4**
0.3nm,0.3s
MFF Saint Martin d 5.34 295 ePn **Pn 22 37 57.3 +0.7**
MFF eSn **Sn 22 38 55.9 -1.7**
0.5nm,0.3s
MFF Saint Martin d 5.34 295 ePn **Pn 22 37 57.3 +0.7**
MFF eSn **Sn 22 38 55.9 -1.7**
MFF Saint Martin d 5.34 295 ePn **Pn 22 37 57.3 +0.7**
MFF eSn **Sn 22 38 55.9 -1.7**
0.2nm,0.3s
ETSF Etsaut 5.66 255 ePn **Pn 22 38 01.8 +0.9**
ETSF eSn **Sn 22 39 03.8 -1.6**
0.5nm,0.3s
ETSF Etsaut 5.66 255 ePn **Pn 22 38 01.8 +0.9**
ETSF eSn **Sn 22 39 03.8 -1.6**
ETSF Etsaut 5.66 255 ePn **Pn 22 38 01.8 +0.9**
NVLJ Novalja 5.70 87⇑iPn **Pn 22 38 02.1 +0.7**
NVLJ Sn **Sn 22 39 05.9 -0.5**
BAIF Baives 5.78 343 ePn **Pn 22 38 03.2 +0.6**
BAIF eSn **Sn 22 39 06.0 -2.3**
2.4nm,0.5s
BAIF Baives 5.78 343 ePn **Pn 22 38 03.2 +0.6**
BAIF eSn **Sn 22 39 06.0 -2.3**
BAIF Baives 5.78 343 ePn **Pn 22 38 03.2 +0.6**
LDF La Druitiere 6.28 312 ePn **Pn 22 38 09.9 +0.4**
LDF eSn **Sn 22 39 18.6 -2.2**
2.2nm,0.5s
LDF La Druitiere 6.28 312 ePn **Pn 22 38 09.9 +0.4**
LDF eSn **Sn 22 39 18.6 -2.2**
LDF La Druitiere 6.28 312 ePn **Pn 22 38 09.9 +0.4**
GRR Gorron 6.57 308 ePn **Pn 22 38 13.9 +0.5**
GRR eSn **Sn 22 39 25.1 -2.7**
0.7nm,0.3s
GRR Gorron 6.57 308 ePn **Pn 22 38 13.9 +0.5**
GRR eSn **Sn 22 39 25.1 -2.7**
GRR Gorron 6.57 308 ePn **Pn 22 38 13.9 +0.5**

DDA 07 22:40:52.8, 40.83N×28.72E, h7km±4km, Md2.6
ISK 07 22:40:52.9, 40.84N×28.84E, h9km, MD2.7
ISCJB 07 22:40:53.1±0.4, 40.84N±0.03×28.78E±0.05, h6km±8km, Error ellipse: s-maj=6.2km s-min=4.3km az=160.7
CSEM 07 22:40:53.3±0.1, 40.85N×28.83E, h10km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.8km az=80.0
ISC 07 22:40:53.4±0.4, 40.84N±0.03×28.79E±0.05, h9km±6km, n30, σ0.66/42, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BUY Buyukada 0.25 88 eP **Pg 22 40 58.9 +0.4**
BUY eS **Sg 22 41 02.9 +1.0**
BUY Buyukada 0.25 88 eP **Pg 22 40 58.9 +0.4**
BUY eS **Sg 22 41 02.9 +1.0**
ARMT Armutlu 0.28 168 ePG **Pg 22 40 59.2 +0.1**
ARMT eSG **Sg 22 41 03.2 +0.4**
ARMT Armutlu 0.28 168 ePg **Pg 22 40 59.2 +0.2**
ARMT eSg **Sg 22 41 03.2 +0.4**
ISK Istanbul-Kandi 0.30 43 ePG **Pg 22 40 58.8 -0.7**
ISK Istanbul-Kandi 0.30 43 ePg **Pg 22 40 58.8 -0.7**
BGKT Bogazkoy 0.34 359 ePG **Pg 22 41 00.4 +0.3**
BGKT eSG **Sg 22 41 04.8 +0.1**
BGKT Bogazkoy 0.34 359 ePg **Pg 22 41 00.4 +0.3**
BGKT eSg **Sg 22 41 04.8 +0.2**
ELBA Catalca 0.41 319 eP **Pg 22 41 00.4 -0.9**
ELBA eS **Sg 22 41 06.0 -0.8**
ELBA Catalca 0.41 319 eP **Pg 22 41 00.4 -0.9**
ELBA eS **Sg 22 41 06.0 -0.7**
CTKS Kestanelik-??a 0.45 332 ePG **Pg 22 41 02.1 0.0**
CTKS Kestanelik-??a 0.45 332 ePg **Pg 22 41 02.1 0.0**
KLYT Kilyos 0.45 25 ePG **Pg 22 41 02.6 +0.4**
KLYT eSG **Sg 22 41 09.1 +0.9**
KLYT Kilyos 0.45 25 ePg **Pg 22 41 02.7 +0.4**
KLYT eSg **Sg 22 41 09.1 +0.8**
GEMT Gemlik 0.51 143 ePG **Pg 22 41 02.9 -0.4**
GEMT Gemlik 0.51 143 ePg **Pg 22 41 02.9 -0.4**
YLV Yalova 0.53 121 ePG **Pg 22 41 02.7 -0.9**
YLV Yalova 0.53 121 ePg **Pg 22 41 02.7 -0.9**
KCTX Karacabey (Bur 0.66 210 ePG **Pg 22 41 06.9 +0.7**
KCTX Karacabey (Bur 0.66 210 ePg **Pg 22 41 06.9 +0.7**
ADVT Abdulvahap 0.83 119 ePG **Pg 22 41 08.0 -1.4**
ADVT Abdulvahap 0.83 119 ePg **Pg 22 41 08.0 -1.4**
GONE Gonen-Balikesi 1.16 227 ePN **Pn 22 41 16.2 +0.5**
GONE Gonen-Balikesi 1.16 227 ePn **Pn 22 41 16.2 +0.4**
KRBG Karabiga-Canak 1.22 249 ePN **Pn 22 41 17.3 +0.7**
KRBG Karabiga-Canak 1.22 249 ePn **Pn 22 41 17.3 +0.7**
GULT Gulveren 1.38 107 ePN **Pn 22 41 18.1 -0.7**
GULT Gulveren 1.38 107 ePn **Pn 22 41 18.1 -0.7**
BALY Balya 1.42 219 eP **Pn 22 41 19.8 +0.5**
BALY eS **Sn 22 41 37.9 -0.2**
BALY Balya 1.42 219 eP **Pn 22 41 19.8 +0.4**
BALY eS **Sn 22 41 37.9 -0.2**

IDC 07 22:45:24.7±2.0, 8.38S×129.63E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=70.5km s-min=28.5km az=77.0, Timor Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAPI Kappang 10.36 288 LR LR 22 52 17.7
comp=Z,72nm,19.7s,baz=76,slow=40
FITZ Fitzroy Crossi 10.41 201 Pn Pn 22 47 54.9 -0.5
0.5nm,0.3s,baz=26,slow=12,SNR=21
FITZ Sn Sn 22 49 46.8 -6.1
0.5nm,0.3s,baz=148,slow=19,SNR=3.9
WRA Warramunga Arr 12.36 159 Pn Pn 22 48 22.0 -0.2
0.5nm,0.3s,baz=338,slow=13,SNR=7.0
WRA Sn Sn 22 50 36.0 -4.7
0.3nm,0.3s,baz=335,slow=22,SNR=3.3
ASAR Alice Springs 15.74 165 Pn Pn 22 49 08.8 +1.0
0.2nm,0.3s,baz=338,slow=9.3,SNR=8.2
MKAR Makanchi Array 69.18 327 P P 22 56 33.2 +0.1
0.4nm,0.6s,baz=126,slow=6.8,SNR=6.1

SKHL 07 23:11:24.3±0.6, 46.94N×153.97E, h108km±13km, mb5.5/4, msh6.1/2
BJI 07 23:11:28.0, 47.64N×153.08E, h131km, mB4.9/9, mb4.7/13
ISCJB 07 23:11:28.1±0.5, 47.71N±0.04×152.86E±0.05, h117km±4km, mb4.6/74, Error ellipse: s-maj=8.0km s-min=4.0km az=145.7
MOS 07 23:11:29.2±0.9, 47.78N×152.81E, h124km, mb4.6/24, Error ellipse: s-maj=8.1km s-min=6.1km az=85.0
NEIC 07 23:11:30.9±0.6, 47.82N×152.82E, h126km±5km, mb4.7/40, Error ellipse: s-maj=6.9km s-min=3.8km az=154.0
IDC 07 23:11:30.7±1.9, 47.89N×152.74E, h122km±16km, mb3.9/31, mb1 4.1/34, mb1mx4.1/35, mbtmp4.0/34, MS3.5/4, Ms1 3.5/4, ms1mx2.9/42, Error ellipse: s-maj=12.9km s-min=9.0km az=158.0
ISC 07 23:11:29.5±0.4, 47.74N±0.04×152.85E±0.05, h114km±4km, n302, σ1.02/323, mb4.6/74, 12C-4D, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 3.65 35 ePN **Pn 23 12 25.5 +1.4**
SKR eS **Sn 23 13 07.0 +0.6**
SKR pmax pmax
comp=Z,220nm,0.8s
SKR smax
comp=N,220nm,0.5s
SKR smax
comp=E,360nm,0.5s
SKR smax
comp=Z,160nm,0.9s
SKR Severo-Kuril's 3.65 35 eP **Pn 23 12 25.5 +1.4**
SKR AMB AMB 23 12 27.7
comp=Z,220nm,0.8s
SKR eS **Sn 23 13 07.0 +0.6**
SKR A 23 13 24.7
comp=Z,220nm,0.5s
SKR A 23 13 24.7
comp=Z,360nm,0.5s
SKR A 23 13 24.7
comp=Z,160nm,0.9s
KUR Kuril'sk 4.25 236 ePN **Pn 23 12 33.0 +0.8**
KUR eS **Sn 23 13 25.0 +4.1**
KUR pmax pmax
comp=Z,670nm,0.9s
KUR pmax pmax
comp=N,80nm,0.4s
KUR pmax pmax
comp=E,190nm,1.0s
KUR smax
comp=N,380nm,0.5s
KUR smax
comp=E,190nm,0.5s
KUR Kuril'sk 4.25 236 eP **Pn 23 12 33.0 +0.8**
KUR AMB AMB 23 12 35.0
comp=E,190nm,1.0s
KUR AMB AMB 23 12 35.0
comp=E,80nm,0.4s
KUR AMB AMB 23 12 35.0
comp=E,670nm,0.9s
KUR eS **Sn 23 13 25.0 +4.1**
KUR A 23 13 33.2
comp=E,380nm,0.5s
KUR A 23 13 33.2
comp=E,190nm,0.5s
YUK Yuzh-Kuril'sk 6.12 235 iPN **Pn 23 12 58.0 +0.6**
YUK iS **Sn 23 14 07.7 +1.7**
YUK pmax pmax
comp=N,67nm,0.2s
YUK pmax pmax
comp=Z,839nm,0.2s
YUK pmax pmax
comp=E,224nm,0.2s
YUK pmax pmax
comp=Z,376nm,0.5s
YUK smax
comp=N,259nm,0.9s
YUK smax
comp=E,292nm,0.9s
YUK smax
comp=E,626nm,1.5s
YUK smax
comp=N,901nm,1.5s
YUK MLR MLR
comp=Z,324nm,11.0s
YUK Yuzh-Kuril'sk 6.12 235⇑iP **Pn 23 12 58.0 +0.6**
YUK AMB AMB 23 12 59.3
comp=Z,390nm,0.5s
YUK AMB AMB 23 12 59.3
comp=Z,440nm,0.5s
YUK AMB AMB 23 12 59.3
comp=Z,890nm,0.5s
YUK isP 23 13 24.6
YUK iS **Sn 23 14 07.8 +1.8**
YUK A 23 14 11.7
comp=Z,540nm,0.7s
YUK A 23 14 11.7
comp=Z,380nm,0.6s
PETK Petropavlovsk- 6.21 28 P **Pn 23 12 58.0 -0.5**
comp=Z,3.2nm,0.3s,baz=200,slow=13,SNR=16
PETK Petropavlovsk- 6.21 28 P **Pn 23 12 58.0 -0.5**
PETK Petropavlovsk- 6.21 28 PN **Pn 23 12 58.0 -0.5**
PET Petropavlovsk 6.47 33 ePN **Pn 23 12 57.9 -4.1**
PET eS **Sn 23 14 11.2 -3.1**
PET smax
comp=N,78nm,0.5s
JRA Rausu 6.60 238 P **Pn 23 13 04.5 +0.6**
NEM2 Nemuro 2 6.63 231 P **Pn 23 13 02.1 -2.2**
NEM2 eS **Sn 23 14 12.5 -5.9**
YSS Yuzh-Sakhalins 6.90 267 ePn **Pn 23 13 11.5 +3.5**
YSS eSn **Sn 23 14 26.4 +1.5**
YSS Yuzh-Sakhalins 6.90 267⇓ePN **Pn 23 13 11.0 +3.0**
YSS pmax pmax
comp=E,110nm,0.9s
YSS pmax pmax
comp=Z,80nm,0.9s
YSS Yuzh-Sakhalins 6.90 267⇓eP **Pn 23 13 11.0 +3.0**
YSS AMB AMB 23 13 12.0
comp=Z,110nm,0.9s
YSS AMB AMB 23 13 12.0
comp=Z,80nm,0.9s
YSS sP 23 13 36.0
JNK Nakash 7.04 237 P **Pn 23 13 09.6 -0.3**
JTKR Abashiri--Toko 7.29 242 P **Pn 23 13 14.5 +1.3**
JAK Akkeshi 7.44 233 P **Pn 23 13 13.0 -2.3**
JAK eS **Sn 23 14 32.8 -5.3**
JMP Maruseppu 7.60 244 P **Pn 23 13 19.0 +1.6**
JSE Soyaes 7.62 252 P **Pn 23 13 22.8 +5.0**
JAR Ashorobuto 7.76 238 P **Pn 23 13 20.1 +0.4**
JWK2 Keihoku 7.93 256 P **Pn 23 13 27.2 +5.3**
JOB Onbets 7.98 236 P **Pn 23 13 21.2 -1.4**
JOB eS **Sn 23 14 46.5 -4.6**
ASAJ Asahikawa 8.01 247 P **Pn 23 13 25.8 +2.7**
comp=Z,24nm,0.3s,baz=80,slow=13,SNR=107
ASAJ Asahikawa 8.01 247 eP **Pn 23 13 25.9 +2.9**
ASAJ Asahikawa 8.01 247 PN **Pn 23 13 25.8 +2.8**
ASAJ pmax pmax
comp=Z,24nm,0.3s
ASAJ Asahikawa 8.01 247 P **Pn 23 13 25.9 +2.9**
JKK2 Kamakawa 2 8.04 245 P **Pn 23 13 25.3 +1.8**
JSS Shosan 8.34 250 P **Pn 23 13 32.5 +5.0**
JCH Churui 8.43 236 P **Pn 23 13 26.7 -2.0**
JCH eS **Sn 23 14 55.6 -6.4**
JFR Furan 8.53 241 P **Pn 23 13 31.3 +1.2**
JAB Ashibetsu 8.56 244 P **Pn 23 13 33.3 +2.8**
JHR Hokuryu 8.74 247 P **Pn 23 13 36.3 +3.4**
JBT2 Biratori 2 8.90 240 P **Pn 23 13 35.4 +0.3**
JEM Erimo 8.94 234 P **Pn 23 13 34.2 -1.5**
JEM eS **Sn 23 15 09.0 -5.5**
ERM Erimo 8.94 234 ePn **Pn 23 13 36.7 +1.0**
ERM eSn **Sn 23 15 09.9 -4.6**
ERM Erimo 8.94 234 ePN **Pn 23 13 36.7 +1.0**
ERM Erimo 8.94 234 eP **Pn 23 13 34.9 -0.8**
JNBK Urakawa-nobuka 8.99 236 P **Pn 23 13 33.1 -3.2**
JNBK eS **Sn 23 15 08.1 -7.5**
JNB Noboribetsu 9.87 242 P **Pn 23 13 47.2 -1.0**
JNB eS **Sn 23 15 31.9 -5.0**
JKB Kayabe 10.22 239 P **Pn 23 13 49.6 -3.4**
JKB eS **Sn 23 15 37.6 -8.0**
JSH Shimam 10.37 245 P **Pn 23 13 55.1 +0.2**
JYM2 Yakumo 2 10.47 242 P **Pn 23 13 54.4 -2.0**
JTM Tenmabayashi 10.93 235 P **Pn 23 13 57.4 -5.0**
JTM eS **Sn 23 15 50.8 -12**
JANG Nango 10.97 232 P **Pn 23 13 57.3 -5.8**
JANG eS **Sn 23 15 50.5 -13**
JOSM Okushiri--Mats 11.03 244 P **Pn 23 14 02.2 -1.6**
JTH Tanohata 11.11 229 eS **Sn 23 15 53.4 -14**
HABR Khabarovsk 11.92 280 PN **Pn 23 14 15.3 -0.3**
HABR S **Sn 23 16 27.9 +1.3**
HABR pmax pmax
comp=E,75nm,1.9s
HABR pmax pmax
comp=N,33nm,1.9s
HABR pmax pmax
comp=Z,51nm,1.5s
JRG Rokugo 12.15 231 P **Pn 23 14 14.4 -4.3**
JIO Ouri 12.50 226 P **Pn 23 14 17.9 -5.4**
JIO eS **Sn 23 16 28.5 -12**
FX1 Attu Island--F 13.95 61 P **Pn 23 14 41.4 -0.6**
comp=Z,7.6nm,0.3s,baz=248,slow=18,SNR=10
FX1 S **Sn 23 17 03.4 -12**
comp=Z,11nm,0.3s,baz=68,slow=19,SNR=11
FX1 Attu Island--F 13.95 61 P **Pn 23 14 41.4 -0.6**
FX1 S **Sn 23 17 03.4 -12**
FX1 Attu Island--F 13.95 61 P **Pn 23 14 41.4 -0.6**
KLR Kul'dur 14.07 284 eP **Pn 23 14 42.4 -1.1**
SEY Seymchan 15.23 359 ceP **Pn 23 14 57.9 -0.3**
MJAR Matsushiro Arr 15.56 229 P **Pn 23 15 00.8 -1.6**
comp=Z,0.8nm,0.3s,baz=28,slow=12,SNR=7.1
MJAR Matsushiro Arr 15.56 229 P **Pn 23 15 00.8 -1.6**
MJAR Matsushiro Arr 15.56 229 P **Pn 23 15 00.8 -1.6**
MAJO Matsushiro 15.56 229 ePn **Pn 23 15 03.2 +0.8**
comp=Z,17nm,0.6s
MAJO Matsushiro 15.56 229 eP **Pn 23 15 03.2 +0.8**
MAJO pmax pmax
comp=Z,17nm,0.6s
MAT Matsushiro 15.56 229 P **Pn 23 15 02.0 -0.4**
CLNS Chul'man 19.25 309 eP **P 23 15 46.7 +2.0**
CLNS pmax pmax

comp=Z,31nm,0.6s
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS pmax pmax
comp=N,21nm,0.8s
YAK Yakutsk 19.40 326 *e*Pn **Pn 23 15 48.8 +0.3**
YAK Yakutsk 19.40 326 *e*P **P 23 15 46.9 +0.7**
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,14nm,1.5s
CN2 Changchun 19.47 269 *e*P **P 23 15 45.6 -1.6**
CN2 pmax pmax
comp=Z,20nm,0.7s
KSRS Korea Array 20.94 250 P **P 23 16 04.4 +1.3**
comp=Z,25nm,0.8s,baz=52,slow=10,SNR=56
KSRS Korea Array 20.94 250 P **P 23 16 04.4 +1.3**
KSRS pmax pmax
comp=Z,25nm,0.8s
KSAR Wonju Array Be 20.97 250 P **P 23 16 04.4 +1.0**
KSAR Wonju Array Be 20.97 250 P **P 23 16 04.4 +1.0**
BOD Bodaibo 25.23 308 *e*P **P 23 16 43.4 -1.0**
SONM Songino Array 30.85 288 P **P 23 17 33.8 -0.7**
comp=Z,1.5nm,0.6s,mb3.9,baz=71,slow=8.2,SNR=14
SONM LR LR 23 29 27.4
comp=Z,88nm,18.8s,baz=46,slow=35
SONM Songino Array 30.85 288 P **P 23 17 33.8 -0.7**
SONM Songino Array 30.85 288 P **P 23 17 33.8 -0.7**
KDAK Kodiak Island 33.63 52 *i*P **P 23 17 58.0 -0.7**
WHN Wuhan 34.02 254 P **P 23 18 02.4 0.0**
SSLB Suanglung 34.82 238 P **P 23 18 09.1 -0.2**
SML Sawmill 35.39 45 *e*P **P 23 18 14.7 +0.9**
comp=Z,3.4nm,0.8s,mb4.2
SML Sawmill 35.39 45 *e*P **P 23 18 14.7 +0.9**
SML pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
ILAR Eielson Array 35.90 39 P **P 23 18 18.1 -0.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=265,slow=5.7,SNR=16
ILAR PcP PcP 23 20 41.0 -1.6
comp=Z,0.4nm,0.5s,baz=289,slow=3.8,SNR=5.8
ILAR Eielson Array 35.90 39 P **P 23 18 18.1 -0.1**
ILAR PcP PcP 23 20 41.0 -1.6
ILAR Eielson Array 35.90 39 P **P 23 18 18.1 0.0**
ILAR 23 20 41.0
LZH Lanzhou 37.69 270 *e*P **P 23 18 34.5 +0.9**
LZH pmax pmax
comp=Z,24nm,1.5s,mb4.8
LZH Lanzhou 37.69 270 *e*P **P 23 18 34.5 +0.9**
LZH pmax pmax
comp=Z,24nm,1.5s,mb4.8
GTA Gaotai 38.65 278 P **P 23 18 42.2 +0.6**
GTA pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
INK Inuvik 40.92 33 P **P 23 19 00.3 +0.3**
comp=Z,1.2nm,0.4s,mb4.1,baz=317,slow=4.1,SNR=8.4
INK Inuvik 40.92 33 *e*P **P 23 19 00.7 +0.6**
comp=Z,2.8nm,0.9s,mb4.1
INK Inuvik 40.92 33 *e*P **P 23 19 00.7 +0.6**
INK pmax pmax
comp=Z,3.0nm,0.9s
ZAA0 Zalesovo Array 41.89 305 *e*P **P 23 19 07.0 -1.1**
ZALV Zalesovo Beam 41.89 305 P **P 23 19 06.8 -1.4**
comp=Z,9.5nm,0.5s,mb4.8,baz=64,slow=6.8,SNR=69
ZALV PcP PcP 23 21 01.9 +0.3
comp=Z,0.6nm,0.3s,baz=80,slow=2.5,SNR=4.0
ZALV LR LR 23 37 11.9
comp=Z,37nm,19.1s,baz=64,slow=37
ZALV Zalesovo Beam 41.89 305 P **P 23 19 06.8 -1.4**
ZALV PcP PcP 23 21 01.9 +0.3
ZALV Zalesovo Beam 41.89 305 P **P 23 19 06.8 -1.4**
ZALV 23 21 01.9
NVS Novosibirsk 42.45 307 *e*P **P 23 19 11.7 -1.0**
DLBC Dease Lake 45.04 46 P **P 23 19 35.1 +1.8**
comp=Z,3.6nm,0.6s,mb4.3,baz=325,slow=12,SNR=8.9
DLBC Dease Lake 45.04 46 P **P 23 19 35.1 +1.8**
MK31 Makanchi Array 46.33 296 *e*P **P 23 19 42.9 -0.8**
MK31 *e*pP pP 23 20 12.8 +2.8
MK31 Makanchi Array 46.33 296 *e*P **P 23 19 42.9 -0.8**
MK31 *e**PP pP 23 20 12.8 +2.8
MKAR Makanchi Array 46.33 296 P **P 23 19 42.9 -0.7**
comp=Z,2.7nm,0.5s,mb4.2,baz=68,slow=7.7,SNR=61
MKAR PcP PcP 23 21 17.6 +0.7
comp=Z,0.3nm,0.4s,baz=68,slow=4.5,SNR=4.9
MKAR ScP ScP 23 24 59.6 +0.1
comp=Z,0.4nm,0.7s,baz=18,slow=5.0,SNR=3.7
MKAR LR LR 23 38 33.5
comp=Z,35nm,21.7s,baz=109,slow=35
MKAR Makanchi Array 46.33 296 P **P 23 19 42.9 -0.7**
MKAR PcP PcP 23 21 17.6 +0.7
MKAR ScP ScP 23 24 59.6 +0.1
MKAR Makanchi Array 46.33 296 *ce*P **P 23 19 43.2 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 46.67 303 P **P 23 19 45.9 -0.4**
comp=Z,21nm,0.6s,mb5.1,baz=68,slow=8.2,SNR=189
KURK Kurchatov 46.67 303 *e*P **P 23 19 45.1 -1.1**
comp=Z,22nm,0.6s,mb5.1
KURK Kurchatov 46.67 303 P **P 23 19 45.9 -0.4**
KURK pmax pmax
comp=Z,21nm,0.6s,mb5.0
BVAR Borovoye Array 50.10 309 P **P 23 20 11.9 -0.6**
comp=Z,4.6nm,0.5s,mb4.7,baz=56,slow=7.6,SNR=63
BVAR PcP PcP 23 21 29.4 -0.9
comp=Z,1.1nm,0.3s,baz=82,slow=4.3,SNR=9.0
BVAR Borovoye Array 50.10 309 P **P 23 20 11.9 -0.6**
BVAR PcP PcP 23 21 29.4 -0.9
BVAR Borovoye Array 50.10 309 P **P 23 20 11.9 -0.6**
BVAR 23 21 29.4
BRVK Borovoye 50.14 309 *e*P **P 23 20 12.6 -0.2**
comp=Z,8.4nm,0.6s,mb4.8
BRVK Borovoye 50.14 309 *e*P **P 23 20 12.6 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
YKA Yellowknife Ar 50.25 37 P **P 23 20 13.8 +0.4**
comp=Z,1.1nm,0.6s,mb4.0,baz=297,slow=7.4,SNR=6.6
YKA PcP PcP 23 21 30.5 -0.2
comp=Z,0.8nm,0.5s,baz=305,slow=3.9,SNR=6.2
YKA Yellowknife Ar 50.25 37 P **P 23 20 13.8 +0.4**
YKA PcP PcP 23 21 30.6 -0.2
YKA Yellowknife Ar 50.25 37 P **P 23 20 13.8 +0.3**
YKA 23 21 30.6
CHTO Chiang Mai 52.18 256 *e*P **P 23 20 29.8 +1.4**
CHTO Chiang Mai 52.18 256 *e*P **P 23 20 29.8 +1.4**
CMAR Chiang Mai Arr 52.43 255 P **P 23 20 31.4 +1.1**
comp=Z,4.3nm,0.7s,mb4.6,baz=35,slow=7.2,SNR=26
CMAR Chiang Mai Arr 52.43 255 P **P 23 20 31.4 +1.1**
CMAR Chiang Mai Arr 52.43 255 P **P 23 20 31.5 +1.1**
SVE Sverdlovsk 52.99 317⇑ *i*P **P 23 20 34.2 +0.3**
SVE pmax pmax
comp=Z,11nm,0.8s,mb4.9
AAK Ala-Archa 53.24 296 *e*P **P 23 20 36.6 +0.6**
AAK Ala-Archa 53.24 296⇓ *i*P **P 23 20 35.7 -0.3**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
EKS2 Erkin-Say 53.66 296 *e*P **P 23 20 39.8 +0.7**
EKS2 Erkin-Say 53.66 296 *e*P **P 23 20 39.8 +0.7**
TAPN Taplejung 53.87 272 *e*P **P 23 20 40.3 -0.5**
comp=Z,4.4nm,0.3s,mb5.0
TAPN Taplejung 53.87 272 *e*P **P 23 20 40.3 -0.5**
comp=Z,4.4nm,0.3s,mb5.0
ARU Arti 54.16 317 *e*P **P 23 20 41.2 -1.3**
ARU *e*pP pP 23 21 12.3 +2.7
ARU Arti 54.16 317 *c i*P **P 23 20 41.6 -0.9**
ARU *PP pP 23 21 07.6 -2.0
ARU *e* 23 21 42.8
ARU *e* 23 22 42.0
ARU S **S 23 28 12.3 +2.0**
ARU SS SS 23 31 58.7 +5.9
ARU pmax pmax
comp=Z,12nm,0.6s,mb5.1
ODAN Odare 54.41 272 *e*P **P 23 20 44.0 -0.7**
comp=Z,5.9nm,0.4s,mb5.0
ODAN Odare 54.41 272 *e*P **P 23 20 44.0 -0.7**
comp=Z,5.9nm,0.4s,mb5.0
JIRN Jiri 54.69 274 *e*P **P 23 20 47.4 +0.6**
comp=Z,5.5nm,0.4s,mb4.9
JIRN Jiri 54.69 274 *e*P **P 23 20 47.4 +0.6**
comp=Z,5.5nm,0.4s,mb4.9
GUN Gumba 54.74 274 *e*P **P 23 20 47.9 +0.8**
comp=Z,13nm,0.4s,mb5.4
GUN Gumba 54.74 274 *e*P **P 23 20 47.9 +0.8**
comp=Z,13nm,0.4s,mb5.3
RAMN Ramite 54.88 273 *e*P **P 23 20 47.2 -0.9**
comp=Z,11nm,0.3s,mb5.3
RAMN Ramite 54.88 273 *e*P **P 23 20 47.2 -0.9**
comp=Z,11nm,0.3s,mb5.4
KKN Kakani 55.22 274 *e*P **P 23 20 51.3 +0.7**
comp=Z,13nm,0.4s,mb5.3
KKN Kakani 55.22 274 *e*P **P 23 20 51.3 +0.7**
comp=Z,13nm,0.4s,mb5.3
KKN Kakani 55.22 274 *e*P **P 23 20 51.3 +0.7**
KKN pmax pmax
comp=Z,13nm,0.4s,mb5.3
ETW Entiat 55.35 55 *e*P **P 23 20 52.1 +0.8**
DMN Daman 55.46 274 *e*P **P 23 20 52.6 +0.4**
comp=Z,17nm,0.3s,mb5.5
DMN Daman 55.46 274 *e*P **P 23 20 52.6 +0.4**
comp=Z,17nm,0.3s,mb5.6
GKN Gorkha 55.52 275 *e*P **P 23 20 53.6 +0.9**
comp=Z,20nm,0.4s,mb5.5
GKN Gorkha 55.52 275 *e*P **P 23 20 53.6 +0.9**
comp=Z,20nm,0.4s,mb5.5
DANN Dangsing 55.88 276 *e*P **P 23 20 56.6 +1.3**
comp=Z,33nm,0.5s,mb5.7
DANN Dangsing 55.88 276 *e*P **P 23 20 56.6 +1.3**
comp=Z,33nm,0.5s,mb5.6
KOLN Koldanda 56.37 276 *e*P **P 23 20 59.6 +0.9**
comp=Z,9.1nm,0.3s,mb5.3
KOLN Koldanda 56.37 276 *e*P **P 23 20 59.6 +0.9**
comp=Z,9.1nm,0.3s,mb5.3
PYUN Piuthan 56.56 276 *e*P **P 23 21 01.0 +0.9**
comp=Z,16nm,0.4s,mb5.4
PYUN Piuthan 56.56 276 *e*P **P 23 21 01.0 +0.9**
comp=Z,16nm,0.4s,mb5.4
ARCES ARCESS Array B 56.86 340 P **P 23 20 59.6 -2.0**
comp=Z,2.9nm,0.9s,mb4.3,baz=46,slow=7.7,SNR=11
ARCES ARCESS Array B 56.86 340 P **P 23 20 59.6 -2.0**
ARCES ARCESS Array B 56.86 340 P **P 23 20 59.6 -2.0**
HNR Honiara 57.26 172 P **P 23 21 11.1 +6.1**
comp=Z,86nm,0.5s
HNR Honiara 57.26 172 P **P 23 21 11.1 +6.1**
HNR pmax pmax
comp=Z,86nm,0.5s
ABKAR Akbulak array 57.66 309 *e*P **P 23 21 06.5 -1.1**
comp=Z,3.3nm,0.6s,mb4.5
AKTO Aktyubinsk 57.94 311 P **P 23 21 09.2 -0.3**
comp=Z,1.6nm,0.5s,mb4.3,baz=69,slow=8.6,SNR=3.8
AKTO Aktyubinsk 57.94 311 P **P 23 21 09.2 -0.3**
AKTO Aktyubinsk 57.94 311 P **P 23 21 09.2 -0.2**
BSMT Bassoo Peak 58.23 52 *e*P **P 23 21 10.9 -0.6**
SLMT Seeley Lake 59.29 52 *e*P **P 23 21 19.5 +0.6**
comp=Z,5.9nm,0.6s,mb4.8
MSO Missoula 59.31 53 *e*P **P 23 21 19.2 +0.2**
comp=Z,4.1nm,1.0s,mb4.4
FFC Flin Flon 60.10 40 *i*P **P 23 21 26.0 +1.7**
JOF Joensuu 60.37 333 *e*P **P 23 21 23.8 -2.2**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
JOF Joensuu 60.37 333 *ep* **P 23 21 23.8 -2.2**
comp=Z,1.9nm,0.5s,mb4.4
EGMT Eagleton 60.76 50 P **P 23 21 29.1 +0.2**
comp=Z,10nm,0.8s,mb4.9
KBL Kabul 61.54 291 *e*P **P 23 21 33.4 -0.9**
comp=Z,2.8nm,0.6s,mb4.5
KBL Kabul 61.54 291 *e*P **P 23 21 33.4 -1.0**
KBL pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
NVAR Mina Array Bea 62.14 63 P **P 23 21 39.1 +0.7**
comp=Z,2.7nm,0.6s,mb4.5,baz=296,slow=7.7,SNR=24
NVAR Mina Array Bea 62.14 63 P **P 23 21 39.1 +0.8**
RLMT Red Lodge 62.91 52 *e*P **P 23 21 42.8 -0.5**
comp=Z,3.3nm,0.8s,mb4.3
RRI2 Red Ridge 62.96 55 *e*P **P 23 21 43.7 0.0**
comp=Z,7.5nm,0.7s,mb4.7
FINES FINESS Array B 63.07 334 P **P 23 21 42.6 -1.5**
comp=Z,2.6nm,0.4s,mb4.5,baz=36,slow=7.0,SNR=40
FINES FINESS Array B 63.07 334 P **P 23 21 42.6 -1.5**
FINES FINESS Array B 63.07 334 P **P 23 21 42.6 -1.5**
PD01 Pinedale Array 64.30 54 *e*P **P 23 21 53.0 +0.6**
PD02 Pinedale Array 64.30 54 *e*P **P 23 21 52.9 +0.4**
PDAR Pinedale Array 64.31 54 P **P 23 21 53.3 +0.7**
comp=Z,3.2nm,0.8s,mb4.2,baz=304,slow=2.0,SNR=24
PDAR Pinedale Array 64.31 54 P **P 23 21 53.3 +0.7**
ULM Lac du Bonnet 65.90 41 P **P 23 22 02.1 -0.6**
comp=Z,1.5nm,0.6s,mb4.0,baz=308,slow=3.7,SNR=3.2
ULM Lac du Bonnet 65.90 41 P **P 23 22 02.1 -0.6**
ULM Lac du Bonnet 65.90 41 P **P 23 22 02.1 -0.6**
RSSD Black Hills 66.33 50 *e*P **P 23 22 06.1 +0.5**
comp=Z,8.4nm,0.8s,mb4.6
RSSD Black Hills 66.33 50 *e*P **P 23 22 06.1 +0.6**
RSSD pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
NB2 NORSAR Subarra 67.24 341 P **P 23 22 10.4 -0.6**
comp=Z,1.6nm,0.7s,mb4.0,baz=30,slow=6.5
NOA NORSAR Array B 67.24 341 P **P 23 22 08.8 -2.2**
comp=Z,0.8nm,0.7s,mb3.7,baz=28,slow=6.5,SNR=11
NOA NORSAR Array B 67.24 341 P **P 23 22 08.8 -2.2**
NOA NORSAR Array B 67.24 341 P **P 23 22 08.8 -2.2**
HFS Hagfors 67.47 339 P **P 23 22 11.1 -1.4**
comp=Z,1.9nm,0.4s,mb4.3,baz=24,slow=6.2,SNR=22
HFS Hagfors 67.47 339 P **P 23 22 11.1 -1.4**
HFS Hagfors 67.47 339 P **P 23 22 11.1 -1.4**
WRA Warramunga Arr 69.39 199 P **P 23 22 24.5 -0.3**
comp=Z,2.6nm,0.7s,mb4.2,baz=18,slow=6.4,SNR=9.6
WRA Warramunga Arr 69.39 199 P **P 23 22 24.5 -0.3**
WRA Warramunga Arr 69.39 199 P **P 23 22 24.5 -0.3**
ECSD EROS Data Cent 70.33 46 *e*P **P 23 22 30.1 -0.4**
comp=Z,5.0nm,0.8s,mb4.4
AKASG Malin Array Be 70.63 326 P **P 23 22 31.4 -0.7**
comp=Z,1.2nm,0.3s,mb4.2,baz=33,slow=6.3,SNR=9.3
AKASG Malin Array Be 70.63 326 P **P 23 22 31.4 -0.7**
AKASG Malin Array Be 70.63 326 *ce*P **P 23 22 31.8 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
SCHQ Schefferville 72.47 23 P **P 23 22 42.1 -1.1**
comp=Z,1.2nm,0.4s,mb4.1,baz=301,slow=12,SNR=6.2
SCHQ Schefferville 72.47 23 P **P 23 22 42.1 -1.1**
AS31 Alice Springs 73.08 198 *e*P **P 23 22 46.6 -0.5**
ASAR Alice Springs 73.09 198 P **P 23 22 48.0 +0.9**
comp=Z,6.3nm,0.8s,mb4.5,baz=13,slow=5.6,SNR=61
ASAR Alice Springs 73.09 198 P **P 23 22 48.0 +0.9**
ASAR Alice Springs 73.09 198 P **P 23 22 48.0 +1.0**
BUR08 Bucovina Ar. S 74.65 326 *e*P **P 23 22 55.7 -0.3**
BURAR Bucovina Array 74.67 326⇑ *i*P **P 23 22 56.3 +0.2**
CLL Collm 75.49 335 *e*P **P 23 23 01.0 +0.2**
CLL *e* 23 23 21.0
CLL Collm 75.49 335 *e*P **P 23 23 01.0 +0.2**
PLOR Plostina 75.58 324⇑ *i*P **P 23 23 05.6 +4.2**
MLR Muntele Rosu 76.16 325 P **P 23 23 05.7 +1.0**
comp=Z,0.9nm,0.6s,mb3.7,baz=326,slow=3.6,SNR=6.7
MLR Muntele Rosu 76.16 325 P **P 23 23 05.7 +1.0**
MLR Muntele Rosu 76.16 325 P **P 23 23 05.7 +1.0**
MLR Muntele Rosu 76.16 325⇑ *i*P **P 23 23 06.3 +1.6**
VRAC Vranov 76.19 332 LR LR 00 04 18.8
comp=Z,46nm,18.3s,baz=195,slow=42
TXAR Lajitas Array 77.17 61 P **P 23 23 10.9 +0.3**
comp=Z,5.1nm,0.6s,mb4.5,baz=298,slow=4.6,SNR=94
TXAR Lajitas Array 77.17 61 P **P 23 23 10.9 +0.3**
TXAR Lajitas Array 77.17 61 P **P 23 23 10.9 +0.3**
KHC Kasperske Hory 77.27 334 *e*P **P 23 23 10.5 -0.4**
KHC Kasperske Hory 77.27 334 *e*P **P 23 23 10.5 -0.4**
GZR Gura Zlata 77.45 326⇑ *i*P **P 23 23 13.8 +1.9**
GERES GERESS Array B 77.49 334 P **P 23 23 11.4 -0.7**
comp=Z,0.4nm,0.5s,baz=33,slow=5.8,SNR=8.5
GERES GERESS Array B 77.49 334 P **P 23 23 11.4 -0.7**
GERES GERESS Array B 77.49 334 P **P 23 23 11.4 -0.7**
BR131 Keskin Array S 77.55 316 *e*P **P 23 23 13.3 +0.7**
comp=Z,1.1nm,0.7s,mb3.7
BRTR Keskin Array B 77.55 316 P **P 23 23 11.9 -0.7**
comp=Z,0.6nm,0.5s,mb3.5,baz=62,slow=1.5,SNR=9.3
BRTR Keskin Array B 77.55 316 P **P 23 23 11.9 -0.7**
BRTR Keskin Array B 77.55 316 *ce*P **P 23 23 13.3 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BZS Buzias 77.69 327⇓ *i*P **P 23 23 11.9 -1.3**
UMR Umm Al-Rimmam 77.97 301 *e*P **P 23 23 14.6 -0.5**
UMR AMb AMB 23 23 16.0
comp=Z,14nm,0.5s,mb5.0
MIB Mutribah 78.00 301 *e*P **P 23 23 14.4 -0.8**
MIB AMb AMB 23 23 16.3
comp=Z,22nm,0.4s,mb5.2
NAY Al-Naaiem 78.47 301 *e*P **P 23 23 16.8 -1.1**
RDF Al-Radifah 78.53 300 *e*P **P 23 23 17.9 -0.3**
RDF AMb AMB 23 23 19.4
comp=Z,16nm,0.4s,mb5.2
BAIF Baives 78.90 340 *e*P **P 23 23 20.0 +0.2**
BAIF Baives 78.90 340 *e*P **P 23 23 20.0 +0.2**
BAIF Baives 78.90 340 *e*P **P 23 23 20.0 +0.2**
VTS Vitosha 79.66 325⇑ *i*P **P 23 23 24.7 +0.6**
CDF Champ du Feu 79.68 337 *e*P **P 23 23 24.4 +0.3**
comp=Z,3.3nm,0.6s,mb4.0
CDF Champ du Feu 79.68 337 *e*P **P 23 23 24.4 +0.3**
comp=Z,3.3nm,0.6s,mb4.3
CDF Champ du Feu 79.68 337 *e*P **P 23 23 24.4 +0.3**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
STKA Stephens Creek 79.89 190 P **P 23 23 25.8 +0.6**
comp=Z,1.4nm,0.8s,mb3.8,baz=333,slow=9.0,SNR=3.7
STKA Stephens Creek 79.89 190 P **P 23 23 25.8 +0.6**
STKA Stephens Creek 79.89 190 P **P 23 23 25.8 +0.6**
PAGF Fort de Pagny 79.94 339 *e*P **P 23 23 25.8 +0.3**
comp=Z,2.2nm,0.6s,mb3.9
MEZF Maizieres J'vi 80.15 339 *e*P **P 23 23 26.6 0.0**
MEZF Maizieres J'vi 80.15 339 *e*P **P 23 23 26.6 0.0**
SFTF Sexfontaines 80.43 339 *e*P **P 23 23 28.1 0.0**
comp=Z,10nm,0.6s,mb4.5
SFTF Sexfontaines 80.43 339 *e*P **P 23 23 28.1 0.0**
comp=Z,10nm,0.6s,mb4.8
FLN La Foiniere 81.14 343 *e*P **P 23 23 32.1 +0.2**
FLN La Foiniere 81.14 343 *e*P **P 23 23 32.1 +0.2**
FLN La Foiniere 81.14 343 *e*P **P 23 23 32.1 +0.2**
LDF La Druitiere 81.23 342 *e*P **P 23 23 31.9 -0.5**
LDF La Druitiere 81.23 342 *e*P **P 23 23 31.9 -0.5**
LDF La Druitiere 81.23 342 *e*P **P 23 23 31.9 -0.5**
GRR Gorron 81.57 343 *e*P **P 23 23 34.2 0.0**
GRR Gorron 81.57 343 *e*P **P 23 23 34.2 0.0**
GRR Gorron 81.57 343 *e*P **P 23 23 34.2 0.0**
LOR Lormes 81.59 339 *e*P **P 23 23 34.1 -0.2**
comp=Z,6.2nm,0.5s,mb4.4
LOR Lormes 81.59 339 *e*P **P 23 23 34.1 -0.2**
comp=Z,6.2nm,0.5s,mb4.7
LOR Lormes 81.59 339 *e*P **P 23 23 34.1 -0.2**
LOR pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
SSF Saint Saulge 81.87 339 *e*P **P 23 23 35.6 -0.2**
comp=Z,6.1nm,0.7s,mb4.2
SSF Saint Saulge 81.87 339 *e*P **P 23 23 35.6 -0.2**
comp=Z,6.1nm,0.7s,mb4.5
SSF Saint Saulge 81.87 339 *e*P **P 23 23 35.6 -0.2**
SSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
MMAI Mount Meron Ar 82.03 311 P **P 23 23 37.3 +0.5**
comp=Z,2.4nm,0.5s,mb4.3,baz=46,slow=6.4,SNR=22
MMAI Mount Meron Ar 82.03 311 P **P 23 23 37.3 +0.5**
SGMF Saint Gilles 82.03 344 *e*P **P 23 23 36.6 0.0**
comp=Z,30nm,0.8s,mb4.8
SGMF Saint Gilles 82.03 344 *e*P **P 23 23 36.6 0.0**
comp=Z,30nm,0.8s,mb5.2
SGMF Saint Gilles 82.03 344 *e*P **P 23 23 36.6 0.0**
SGMF pmax pmax
comp=Z,30nm,0.8s,mb5.2
AVF Avril sur Loir 82.16 339 *e*P **P 23 23 37.2 -0.1**
comp=Z,10nm,0.6s,mb4.5
AVF Avril sur Loir 82.16 339 *e*P **P 23 23 37.2 -0.1**
comp=Z,10nm,0.6s,mb4.8
AVF Avril sur Loir 82.16 339 *e*P **P 23 23 37.2 -0.1**
AVF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
SMF Signal de Mont 82.18 339 *e*P **P 23 23 37.4 0.0**
comp=Z,7.4nm,0.6s,mb4.4
SMF Signal de Mont 82.18 339 *e*P **P 23 23 37.4 0.0**
comp=Z,7.4nm,0.6s,mb4.7
SMF Signal de Mont 82.18 339 *e*P **P 23 23 37.4 0.0**
SMF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
QUIF Quistinic 82.47 344 *e*P **P 23 23 39.7 +0.8**
QUIF Quistinic 82.47 344 *e*P **P 23 23 39.7 +0.8**
QUIF Quistinic 82.47 344 *e*P **P 23 23 39.7 +0.8**
LPL La Plagne 82.49 337 *e*P **P 23 23 39.4 +0.3**
comp=Z,2.8nm,0.5s,mb4.1
LPL La Plagne 82.49 337 *e*P **P 23 23 39.4 +0.3**
comp=Z,2.8nm,0.5s,mb4.3
LPL La Plagne 82.49 337 *e*P **P 23 23 39.4 +0.3**
LPL pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
BGF Bois d'Agland 82.50 340 *e*P **P 23 23 39.6 +0.5**
comp=Z,7.4nm,0.5s,mb4.4
BGF Bois d'Agland 82.50 340 *e*P **P 23 23 39.6 +0.5**
comp=Z,7.4nm,0.5s,mb4.8
BGF Bois d'Agland 82.50 340 *e*P **P 23 23 39.6 +0.5**
BGF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LPG La Plagne 82.51 337 *e*P **P 23 23 39.9 +0.8**
comp=Z,9.3nm,0.8s,mb4.3
LPG La Plagne 82.51 337 *e*P **P 23 23 39.9 +0.8**
comp=Z,9.3nm,0.8s,mb4.7
LPG La Plagne 82.51 337 *e*P **P 23 23 39.9 +0.8**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 82.90 340 *e*P **P 23 23 41.4 +0.2**
TCF Toulx Ste Croi 82.90 340 *e*P **P 23 23 41.4 +0.2**
TCF Toulx Ste Croi 82.90 340 *e*P **P 23 23 41.4 +0.2**
MFF Saint Martin d 83.13 342 *e*P **P 23 23 43.1 +0.8**
MFF Saint Martin d 83.13 342 *e*P **P 23 23 43.1 +0.8**
MFF Saint Martin d 83.13 342 *e*P **P 23 23 43.1 +0.8**
MBDF Montbardon 83.21 336 *e*P **P 23 23 42.8 0.0**
comp=Z,6.4nm,0.6s,mb4.3
MBDF Montbardon 83.21 336 *e*P **P 23 23 42.8 0.0**
comp=Z,6.4nm,0.6s,mb4.6
MBDF Montbardon 83.21 336 *e*P **P 23 23 42.8 0.0**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 83.28 337 *e*P **P 23 23 43.7 +0.6**
comp=Z,7.2nm,0.8s,mb4.3
ORIF Oris-en-Rattie 83.28 337 *e*P **P 23 23 43.7 +0.6**
comp=Z,7.2nm,0.8s,mb4.5
ORIF Oris-en-Rattie 83.28 337 *e*P **P 23 23 43.7 +0.6**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
VIVF Saint-Julien-l 83.65 338 *e*P **P 23 23 45.6 +0.6**
comp=Z,6.0nm,0.7s,mb4.2
VIVF Saint-Julien-l 83.65 338 *e*P **P 23 23 45.6 +0.6**
comp=Z,6.0nm,0.7s,mb4.5
VIVF Saint-Julien-l 83.65 338 *e*P **P 23 23 45.6 +0.6**
VIVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
EIL Elat 84.92 309 P **P 23 23 51.8 +0.1**
comp=Z,2.9nm,0.6s,mb4.4,baz=11,slow=12,SNR=9.4
EIL Elat 84.92 309 P **P 23 23 51.8 +0.1**
ESDC Sonseca Array 90.56 342 P **P 23 24 16.8 -1.7**
comp=Z,0.3nm,0.6s,mb3.6,baz=15,slow=3.5,SNR=3.8
ESDC Sonseca Array 90.56 342 P **P 23 24 16.8 -1.7**
PLCA Paso Flores 148.46 93 PKPbc PKPbc 23 31 02.1 -0.1
comp=Z,2.8nm,0.7s,baz=283,slow=2.9,SNR=7.7
PLCA Paso Flores 148.46 93 PKPbc PKPbc 23 31 02.1 -0.1

IDC ***07*** *23:49:51.8±0.5, 4°.51N×93°.36E, h0km, mb4.5/27, mb1 4.6/28, mb1mx4.5/34, mbtmp4.5/28, ML3.9/1, MS4.2/25, Ms1 4.2/25, ms1mx4.0/42, Error ellipse: s-maj=22.8km s-min=11.6km az=46.0*

MOS ***07*** *23:49:54.9±0.9, 4°.56N×93°.47E, h31km, mb5.3/59, MS4.2/10, Error ellipse: s-maj=10.2km s-min=4.5km az=116.5*

ISCJB ***07*** *23:49:54.8±0.2, 4°.51N±0°.03×93°.36E±0°.02, h29km, mb5.0/164, MS4.3/44, Error ellipse: s-maj=4.6km s-min=2.6km az=26.6*

BJI ***07*** *23:49:55.0, 4°.51N×93°.24E, h34km, mB5.0/27, mb4.9/41, Ms4.6/30, Ms7 4.2/28*

GCMT ***07*** *23:49:56.9±0.3, 4°.46N×93°.27E, h14km±1km, MW5.0, Moment Tensor Solution. s26,c33; s58,c97; Moment tensor: Scale 10^16Nm; M_{rr}-0.37±.13; $M_{\theta\theta}$1.40±.11; $M_{\phi\phi}$-1.04±.12; $M_{r\theta}$-0.80±.26; $M_{\theta\phi}$-2.98±.12; $M_{\phi r}$-1.60±.36; Best double couple: $M_0$3.70000×10^16 NP1:$\phi_0$82.00000°, δ69.00000°, λ-163.00000°. NP2:$\phi_0$346.00000°, δ75.00000°, λ-22.00000°. Principal axes: T 3.4200, Plg4.0000°, Azm35.0000°; N 0.5000, Plg63.0000°, Azm133.0000°; P -3.9300, Plg27.0000°, Azm303.0000°; Data Used: II IU IC G CN.*

NEIC ***07*** *23:49:57.5±0.8, 4°.57N×93°.40E, h36km±6km, mb5.2/59 Error ellipse: s-maj=7.8km s-min=4.1km az=53.0*

SZGRF ***07*** *23:49:59.1, 6°.00N×94°.54E, h33km, mb5.0, Northern Sumatera, Indonesia*

DJA ***07*** *23:50:00.0±1.1, 5°N±3°×9°4E±°, h38km±9km, M5.2/5, mb5.1/45, mB5.7/19, MLv5.2/8, Mw(mB)5.2/19*

ISC 07 23:49:56.7±0.2, **4°.53N**±0°.03×**93°.35E**±0°.02, **h29**km, **h29**km±1.4km:**pP-P, n487,** σ0**s85**/477, **mb5.0**/164, **MS4.3**/44, **103C-16D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.17**	**64**	P	**Pn**	**23 50 30.4**	**-0.4**
BSI				S	**Sn**	**23 50 54.9**	**-1.8**
LHMI	**Lhok Sumawe**	**3.65**	**79**	P	**Pn**	**23 50 51.2**	**-0.1**
LHMI				S	**Sn**	**23 51 34.0**	**+0.6**
TPTI		**4.02**	**108**	P	**Pn**	**23 50 55.1**	**-1.3**
TPTI				S	**Sn**	**23 51 38.7**	**-3.9**
TSI	**Tuntungan**	**5.30**	**101**	P	**Pn**	**23 51 14.6**	**+0.7**
	2.4nm7μm412nm,1.0s						
TSI				S	**Sn**	**23 52 11.7**	**-2.4**
	2.4nm7μm412nm,1.0s						
PSI	**Prapat**	**5.82**	**107**	P	**Pn**	**23 51 22.5**	**+1.4**
	0.6nm2μm159nm,1.1s						
MNSI	**Mandailing Nat**	**7.24**	**121**	P	**Pn**	**23 51 39.6**	**-1.0**
	2.0nm280nm,1.0s						
KULM	**Kulim**	**7.31**	**84**	P	**Pn**	**23 51 42.0**	**+0.4**
KULM	**Kulim**	**7.31**	**84**	*e*Pn	**Pn**	**23 51 41.6**	**0.0**
KULM	**Kulim**	**7.31**	**84**	P	**Pn**	**23 51 41.9**	**+0.3**
	0.6nm79nm,0.9s						
IPM	**Ipoh**	**7.65**	**90**	P	**Pn**	**23 51 46.5**	**+0.2**
IPM	**Ipoh**	**7.65**	**90**	*e*Pn	**Pn**	**23 51 45.8**	**-0.5**
IPM	**Ipoh**	**7.65**	**90**	P	**Pn**	**23 51 45.8**	**-0.5**
	0.3nm72nm,0.8s						
PPI	**Padang Panjang**	**8.61**	**125**	P	**Pn**	**23 51 58.6**	**-0.8**
	1μm128nm,1.1s						
BKNI	**Bangkinang**	**8.74**	**118**	P	**Pn**	**23 51 59.9**	**-1.3**
	2μm290nm,1.1s						
PDSI	**Padang**	**8.93**	**127**	P	**Pn**	**23 52 02.3**	**-1.5**
	2μm126nm,0.8s						
KGM	**Kluang**	**10.26**	**104**	P	**Pn**	**23 52 22.5**	**+0.4**
MYKOM	**Kota Tinggi**	**10.83**	**104**	P	**Pn**	**23 52 30.1**	**+0.2**
MYKOM	**Kota Tinggi**	**10.83**	**104**	P	**Pn**	**23 52 28.6**	**-1.3**
	76nm,1.6s						
MNAI	**Manna**	**13.04**	**132**	P	**Pn**	**23 52 56.7**	**-3.4**
	384nm,1.6s						
MDSI	**Maura Dua**	**14.04**	**129**	P	**Pn**	**23 53 12.5**	**-1.3**
	47nm,1.2s						
KLI	**Kotabumi**	**14.80**	**129**	P	**Pn**	**23 53 30.9**	**+6.7**
	89nm,1.0s						
CM31	**Chiang Mai Arr**	**14.89**	**21**	*e*Pn	**Pn**	**23 53 24.5**	**-0.8**
	79nm,1.0s						
CMAR	**Chiang Mai Arr**	**14.89**	**21**	Pn	**Pn**	**23 53 24.2**	**-1.0**
	0.2nm,0.3s,baz=219,slow=12,SNR=108						
CMAR				LR	LR	23 59 26.8	
	comp=Z,632nm,20.1s,baz=204,slow=39						
CMAR	**Chiang Mai Arr**	**14.89**	**21**	Pn	**Pn**	**23 53 24.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**14.89**	**21**	P	**Pn**	**23 53 24.2**	**-1.0**
CHTO	**Chiang Mai**	**15.21**	**21**	*e*Pn	**Pn**	**23 53 28.9**	**-0.7**
	59nm,1.0s						
CHTO	**Chiang Mai**	**15.21**	**21**	*e*P	**Pn**	**23 53 28.9**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,59nm,1.0s						
CHTO	**Chiang Mai**	**15.21**	**21**	P	**Pn**	**23 53 28.2**	**-1.4**
	comp=Z,767nmcomp=Z,84nm,1.3s						
BLSI	**Bandar Lampung**	**15.42**	**129**	P	**Pn**	**23 53 36.9**	**+4.6**
	comp=Z,109nm,0.7s						
MDRS	**Chennai**	**15.47**	**304**	*ex*	x	23 53 47.9	
CGJI	**Cibinong**	**16.56**	**132**	P	**Pn**	**23 53 48.8**	**+1.8**
	comp=Z,4μmcomp=Z,124nm,1.0s						
TRD	**Trivandrum**	**16.75**	**284⇑**	*ex*	x	23 54 01.7	
TRD				*ex*	x	23 56 29.7	
KSM	**Kuching**	**17.20**	**100**	P	**Pn**	**23 53 56.9**	**+1.8**
KSM	**Kuching**	**17.20**	**100**	*e*P	**Pn**	**23 53 57.4**	**+2.3**
	comp=Z,50nm,1.2s						
KSM	**Kuching**	**17.20**	**100**	P	**Pn**	**23 53 57.6**	**+2.5**
	comp=Z,45nm,1.2s						
DBJI	**Dramaga**	**17.32**	**129**	P	**Pn**	**23 53 57.5**	**+1.0**
	comp=Z,96nm,1.6s						
STKI	**Sintang**	**18.64**	**103**	P	**Pn**	**23 54 14.1**	**+1.3**
	comp=Z,48nm,1.1s						
CISI	**Cisompet, Garu**	**18.77**	**130**	P	**Pn**	**23 54 14.8**	**+0.5**
	comp=Z,56nm,1.2s						
SBUM	**Sibu**	**18.95**	**96**	P	**Pn**	**23 54 17.7**	**+1.2**
SBUM	**Sibu**	**18.95**	**96**	P	**Pn**	**23 54 16.0**	**-0.5**
	comp=Z,21nm,1.9s						
HYB	**Hyderabad**	**19.34**	**313**	*i*P	**Pn**	**23 54 19.0**	**-2.1**
HYB				*e*S	**Sn**	**23 57 57.0**	**-0.4**
AGT	**Agartala**	**19.35**	**354**	*ex*	**Pn**	**23 54 16.0**	**-5.2**
PBKI	**Pangkalan Bun**	**19.67**	**111**	P	**Pn**	**23 54 32.5**	**+7.5**
	comp=Z,146nm,1.0s						
BJII	**Banjamegara**	**20.13**	**126**	P	**P**	**23 54 37.4**	**+8.8**
IMP	**Imphal**	**20.15**	**2**	*e*PKP	**P**	**23 54 31.0**	**+2.4**
IMP				*ex*	x	23 58 06.0	
HMDM	**Hanimaadhoo**	**20.19**	**277**	P	**P**	**23 54 29.0**	**-0.2**
	comp=Z,63nm,1.2s						
SMRI	**Semarang**	**20.57**	**124**	P	**P**	**23 54 32.4**	**-1.0**
	comp=Z,107nm,0.9s						
SHL	**Shillong**	**20.97**	**356**	*e*PKP	**P**	**23 54 37.7**	**+0.2**
SHL				*ex*	x	23 58 28.0	
UGM	**Wanagama**	**21.12**	**126**	P	**P**	**23 54 38.8**	**-0.5**
	comp=Z,124nm,1.9s,mb4.9						
LATR	**Latur**	**21.45**	**311**	*e*PKP	**P**	**23 54 43.0**	**+0.3**
NGP	**Nagpur**	**21.59**	**321**	*e*PKP	**P**	**23 54 43.8**	**-0.5**
NGP				*ex*	x	23 58 53.1	
QIZ	**Qiongzhong**	**21.61**	**47**	P	**P**	**23 54 45.2**	**+0.7**
QIZ				pP		23 54 53.6	
QIZ				sP	sP	23 54 57.4	+1.3
QIZ				S	**S**	**23 58 43.8**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,51nm,1.4s,mb4.8						
QIZ				pmax	pmax		
	comp=Z,520nm,5.7s						
GOA	**Goa**	**22.07**	**301⇓**	*i*P	**P**	**23 54 49.9**	**+0.4**
KMI	**Kunming**	**22.38**	**23**	P	**P**	**23 54 53.3**	**+0.7**
KMI				pP		23 55 01.3	
KMI				S	**S**	**23 58 58.6**	**+1.3**
KMI				LR	LR		
	comp=N,630nm,14.2s,MS4.3						
KMI				LR	LR		
	comp=E,540nm,14.7s,MS4.3						
KMI				LR	LR		
	comp=Z,590nm,14.5s,MS4.2						
KMI	**Kunming**	**22.38**	**23**	P	**P**	**23 54 53.3**	**+0.7**
KMI				pP		23 55 01.3	
KMI				S	**S**	**23 58 58.6**	**+1.3**
KMI				LR	LR		
	comp=Z,590nm,14.5s,MS4.2						
KMI	**Kunming**	**22.38**	**23**	P	**P**	**23 54 53.3**	**+0.7**
KMI				*PP		23 55 01.3	
KMI				S	**S**	**23 58 58.6**	**+1.3**
KMI				MLR	MLR		
	comp=Z,590nm,14.5s,MS4.2						
KAD	**Karad**	**22.67**	**306**	*e*PKP	**P**	**23 54 55.8**	**0.0**
KAD				*e*PKP		23 54 55.9	
KAD				AMb	AMB	23 54 57.8	
	comp=Z,143nm,1.1s,mb5.3						
KKM	**Kota Kinabalu**	**22.82**	**85**	*ep*P	pP	23 55 06.3	+0.9
BBKI	**Banjar Baru**	**22.89**	**110**	P	**P**	**23 54 58.7**	**+0.4**
	comp=Z,1μmcomp=Z,120nm,1.3s,mb5.2						
ODAN	**Odare**	**22.93**	**346**	*e*P	**P**	**23 54 58.8**	**+0.4**
	comp=Z,82nm,0.6s,mb5.3						
ODAN	**Odare**	**22.93**	**346**	*e*P	**P**	**23 54 58.8**	**+0.4**
	comp=Z,82nm,0.6s,mb5.3						
RAMN	**Ramite**	**23.21**	**345**	*e*P	**P**	**23 55 01.6**	**+0.2**
	comp=Z,141nm,0.6s,mb5.6						
RAMN	**Ramite**	**23.21**	**345**	*e*P	**P**	**23 55 01.6**	**+0.2**
	comp=Z,141nm,0.6s,mb5.6						
TAPN	**Taplejung**	**23.32**	**347**	*e*P	**P**	**23 55 01.9**	**-0.7**
	comp=Z,217nm,1.0s,mb5.5						
TAPN	**Taplejung**	**23.32**	**347**	*e*P	**P**	**23 55 01.9**	**-0.7**
	comp=Z,217nm,1.0s,mb5.5						
KDM	**Kudat**	**23.49**	**83**	P	**P**	**23 55 05.4**	**+1.0**
POO	**Poona**	**23.59**	**308**	*e*PKP	**P**	**23 55 05.6**	**+0.2**
POO				AMb	AMB	23 55 07.8	
	comp=Z,71nm,0.9s,mb5.1						
SDKM	**Sandakan**	**23.78**	**86**	P	**P**	**23 55 08.2**	**+1.1**
JIRN	**Jiri**	**24.00**	**344**	*e*P	**P**	**23 55 09.1**	**+0.2**
	comp=Z,51nm,1.1s,mb4.9						
JIRN	**Jiri**	**24.00**	**344**	*e*P	**P**	**23 55 09.1**	**+0.2**
	comp=Z,51nm,1.1s,mb4.9						
PKI	**Pulchoki**	**24.13**	**343**	*e*P	**P**	**23 55 10.5**	**+0.3**
	comp=Z,65nm,0.6s,mb5.2						
PKI	**Pulchoki**	**24.13**	**343**	*e*P	**P**	**23 55 10.5**	**+0.3**
	comp=Z,65nm,0.6s,mb5.2						
PKI	**Pulchoki**	**24.13**	**343**	*e*P	**P**	**23 55 10.5**	**+0.3**
PKI				pmax	pmax		
	comp=Z,65nm,0.6s,mb5.2						
BHPL	**Bhopal**	**24.14**	**322**	*e*PKP	**P**	**23 55 10.2**	**-0.1**
BHPL				AMb	AMB	23 55 13.2	
	comp=Z,38nm,1.7s,mb4.5						
DMN	**Daman**	**24.26**	**342**	*e*P	**P**	**23 55 11.0**	**-0.3**
	comp=Z,92nm,0.7s,mb5.3						
DMN	**Daman**	**24.26**	**342**	*e*P	**P**	**23 55 11.0**	**-0.3**
	comp=Z,92nm,0.7s,mb5.3						
GUN	**Gumba**	**24.32**	**344**	*e*P	**P**	**23 55 12.1**	**+0.3**
	comp=Z,76nm,0.7s,mb5.2						
GUN	**Gumba**	**24.32**	**344**	*e*P	**P**	**23 55 12.1**	**+0.3**
	comp=Z,76nm,0.7s,mb5.2						
SMKI	**Samarinda**	**24.34**	**101**	P	**P**	**23 55 14.1**	**+1.8**
	comp=Z,2μmcomp=Z,53nm,1.5s,mb4.7						
KKN	**Kakani**	**24.38**	**342**	*e*P	**P**	**23 55 12.0**	**-0.4**
	comp=Z,61nm,0.9s,mb5.0						
KKN	**Kakani**	**24.38**	**342**	*e*P	**P**	**23 55 12.0**	**-0.4**
	comp=Z,61nm,0.9s,mb5.0						
KKN	**Kakani**	**24.38**	**342**	*e*P	**P**	**23 55 12.0**	**-0.4**
KKN				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.0						
TSM	**Tawau**	**24.45**	**90**	P	**P**	**23 55 13.0**	**-0.3**
GKN	**Gorkha**	**24.78**	**341**	*e*P	**P**	**23 55 16.1**	**+0.1**
	comp=Z,324nm,1.2s,mb5.7						
GKN	**Gorkha**	**24.78**	**341**	*e*P	**P**	**23 55 16.1**	**+0.1**
	comp=Z,324nm,1.2s,mb5.7						
KOLN	**Koldanda**	**24.91**	**339**	*e*P	**P**	**23 55 17.7**	**+0.5**
	comp=Z,67nm,0.6s,mb5.3						
KOLN	**Koldanda**	**24.91**	**339**	*e*P	**P**	**23 55 17.7**	**+0.5**
	comp=Z,67nm,0.6s,mb5.3						
MYLDM	**Lahad Datu**	**25.07**	**87**	P	**P**	**23 55 20.2**	**+1.3**
MYLDM	**Lahad Datu**	**25.07**	**87**	P	**P**	**23 55 20.5**	**+1.6**
	comp=Z,57nm,0.9s,mb5.1						
LSA	**Lhasa**	**25.12**	**355**	P	**P**	**23 55 19.1**	**-0.1**
LSA				S	**S**	**23 59 43.2**	**+1.0**
SRBI	**Singaraja**	**25.15**	**120**	P	**P**	**23 55 19.7**	**+0.1**
	comp=Z,840nmcomp=Z,55nm,1.2s,mb5.0						
GYA	**Guiyang**	**25.26**	**29⇑**	*i*P	**P**	**23 55 19.7**	**-0.7**
GYA				pP	pP	23 55 31.8	+2.9
GYA				PP		23 56 01.2	
GYA				PcP	PcP	23 58 55.9	+2.5
GYA				S	**S**	**23 59 43.7**	**-0.7**
GYA				SS		00 00 44.8	
GYA				ScP	ScP	00 02 31.9	+1.1
GYA				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
GYA				pmax	pmax		
	comp=Z,120nm,4.5s						
GYA				LR	LR		
	comp=N,480nm,16.7s,MS4.2						
GYA				LR	LR		
	comp=E,460nm,17.3s,MS4.2						
GYA				LR	LR		
	comp=Z,450nm,16.5s,MS4.1						
DANN	**Dangsing**	**25.39**	**340**	*e*P	**P**	**23 55 21.8**	**+0.2**
	comp=Z,228nm,0.8s,mb5.7						
DANN	**Dangsing**	**25.39**	**340**	*e*P	**P**	**23 55 21.8**	**+0.2**
	comp=Z,228nm,0.8s,mb5.8						
PYUN	**Piuthan**	**25.43**	**338**	*e*P	**P**	**23 55 22.2**	**+0.2**
	comp=Z,205nm,0.9s,mb5.7						
PYUN	**Piuthan**	**25.43**	**338**	*e*P	**P**	**23 55 22.2**	**+0.2**
	comp=Z,205nm,0.9s,mb5.7						
AGRA	**Agra**	**26.94**	**329**	*e*PKP	**P**	**23 55 35.4**	**-0.2**
AGRA				AMb	AMB	23 55 36.7	
	comp=Z,38nm,0.2s,mb5.5						
TTSI	**Tana Toraja**	**27.50**	**105**	P	**P**	**23 55 42.3**	**+1.5**
	comp=Z,2μmcomp=Z,28nm,1.3s,mb4.6						
MSSI	**Masamba**	**27.86**	**104**	P	**P**	**23 55 45.0**	**+0.9**
	comp=Z,5μmcomp=Z,62nm,0.5s,mb5.5						
CD2	**Chengdu**	**28.02**	**19**	P	**P**	**23 55 44.8**	**-0.4**
CD2				pP	pP	23 55 54.2	+0.4
CD2				sP	sP	23 55 58.5	+1.2
CD2				PP	PP	23 56 34.9	-14
CD2				S	**S**	**00 00 25.2**	**-2.7**
CD2				sS	sS	00 00 41.0	-1.0
CD2				SS		00 01 47.9	
CD2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=N,1μm,20.4s,MS4.6						
CD2				LR	LR		
	comp=E,920nm,16.8s,MS4.6						
CD2				LR	LR		
	comp=Z,510nm,19.2s,MS4.1						
KAPI	**Kappang**	**28.02**	**109**	P	**P**	**23 55 44.5**	**-1.0**
	comp=Z,7.4nm,1.1s,mb4.2,baz=24,slow=12,SNR=2.8						
KAPI				LR	LR	00 08 14.5	
	comp=Z,787nm,20.5s,MS4.3,baz=162,slow=39						
KAPI	**Kappang**	**28.02**	**109**	P	**P**	**23 55 44.5**	**-1.0**
KAPI				*ep*P	pP	23 56 01.4	+7.4
SONA	**Sohna**	**28.21**	**328**	*e*PKP	**P**	**23 55 46.9**	**-0.1**
SONA				AMb	AMB	23 55 48.8	
	comp=Z,40nm,0.9s,mb5.0						
BISR	**Bishrakh**	**28.29**	**329**	*ex*	**P**	**23 55 43.5**	**-4.2**
BISR				AMb	AMB	23 55 49.1	
	comp=Z,88nm,0.5s,mb5.6						
AYAN	**Aya Nagar**	**28.38**	**329**	*e*PKP	**P**	**23 55 48.4**	**-0.1**
AYAN				AMb	AMB	23 55 50.2	
	comp=Z,37nm,1.2s,mb4.9						
KUDL	**Kundal**	**28.44**	**327**	*e*PKP	**P**	**23 55 48.9**	**-0.1**
BKSI	**Bulukumba**	**28.47**	**110**	P	**P**	**23 55 49.7**	**+0.1**
	comp=Z,27nm,0.8s,mb4.9						
NDI	**New Delhi**	**28.49**	**329**	*ex*	x	23 55 37.0	
MRSI	**Marisa**	**28.84**	**97**	P	**P**	**23 55 54.4**	**+1.6**
	comp=Z,22nm,1.1s,mb4.8						
DDI	**Dehra Dun**	**29.44**	**332**	*ex*	**P**	**23 55 58.0**	**+0.1**
GTOI	**Gorontalo**	**29.88**	**97**	P	**P**	**23 56 03.2**	**+1.2**
	comp=Z,58nm,1.0s,mb5.3						
LUWI	**Luwuk**	**29.91**	**100**	P	**P**	**23 56 02.9**	**+0.5**
	comp=Z,695nmcomp=Z,68nm,1.3s,mb5.2						
KDI	**Kendari**	**30.43**	**106**	P	**P**	**23 56 05.5**	**-1.4**
	comp=Z,12nm,0.9s,mb4.6						
MMRI	**Maumere**	**31.64**	**114**	P	**P**	**23 56 14.1**	**-3.4**
	comp=Z,35nm,0.8s,mb5.3						
WHN	**Wuhan**	**32.59**	**35⇓**	P	**P**	**23 56 26.4**	**+0.7**
WHN				pP	pP	23 56 32.8	-1.4
WHN				S	**S**	**00 01 41.4**	**+1.8**
WHN				pmax	pmax		
	comp=Z,84nm,1.3s,mb5.5						
WHN				LR	LR		
	comp=Z,1μm,14.3s,MS4.8						
LZH	**Lanzhou**	**32.86**	**16**	*e*P	**P**	**23 56 26.5**	**-1.5**
LZH				pP	pP	23 56 36.2	-0.4
LZH				sP	sP	23 56 40.1	0.0
LZH				PP	PP	23 57 37.0	-5.7
LZH				*e*S	**S**	**00 01 41.5**	**-2.2**
LZH				sS	sS	00 01 57.6	-0.3
LZH				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
LZH				pmax	pmax		
	comp=Z,130nm,5.2s						
LZH				LR	LR		
	comp=N,430nm,15.4s,MS4.5						
LZH				LR	LR		
	comp=E,720nm,15.8s,MS4.5						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.7						
LZH	**Lanzhou**	**32.86**	**16**	*e*P	**P**	**23 56 26.5**	**-1.5**
	comp=Z,25nm,1.1s,mb5.1						
LZH				pP	pP	23 56 36.2	-0.4
LZH				sP	sP	23 56 40.1	0.0
LZH				PP	PP	23 57 37.0	-5.7
LZH				*e*S	**S**	**00 01 41.5**	**-2.2**
LZH				sS	sS	00 01 57.6	-0.3
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.7						
LZH	**Lanzhou**	**32.86**	**16**	*e*P	**P**	**23 56 26.5**	**-1.5**
LZH				*PP	pP	23 56 36.2	-0.4
LZH				*SP	sP	23 56 40.1	0.0
LZH						23 57 37.0	
LZH				*e*S	**S**	**00 01 41.5**	**-2.2**
LZH				*SS	sS	00 01 57.6	-0.3
LZH				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
LZH				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.7						
NLAI	**Namlea**	**34.59**	**102**	P	**P**	**23 56 45.3**	**+1.9**
	comp=Z,736nmcomp=Z,76nm,0.7s,mb5.7						
GTA	**Gaotai**	**35.22**	**9⇑**	P	**P**	**23 56 48.6**	**+0.2**
GTA				pP	pP	23 56 58.3	+1.3
GTA				sP	sP	23 57 02.3	+1.7
GTA				S	**S**	**00 02 19.3**	**-0.7**
GTA				sS	sS	00 02 35.0	+0.7
GTA				SS	SS	00 04 36.3	-18
GTA				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
GTA				pmax	pmax		
	comp=Z,170nm,6.6s						
GTA				LR	LR		
	comp=N,260nm,19.0s,MS4.2						
GTA				LR	LR		
	comp=E,310nm,19.9s,MS4.2						
GTA				LR	LR		
	comp=Z,310nm,22.8s,MS4.0						
AAI	**Ambon**	**35.76**	**103**	P	**P**	**23 56 52.8**	**-0.6**
	comp=Z,2μmcomp=Z,144nm,1.5s,mb5.7						
NJ2	**Nanjing**	**36.34**	**38**	*e*P	**P**	**23 56 59.4**	**+1.2**
NJ2				pP	pP	23 57 09.0	+2.2
NJ2				sP	sP	23 57 13.1	+2.7
NJ2				PP	PP	23 58 22.5	+1.3
NJ2				S	**S**	**00 02 38.0**	**+0.4**
NJ2				sS	sS	00 02 55.0	+3.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				pmax	pmax		
	comp=Z,730nm,6.8s						
NJ2				LR	LR		
	comp=N,4μm,20.6s,MS5.3						
NJ2				LR	LR		
	comp=E,4μm,22.5s,MS5.3						
NJ2				LR	LR		
	comp=Z,5μm,28.7s						
KBL	**Kabul**	**37.41**	**326**	*e*P	**P**	**23 57 07.3**	**0.0**
	comp=Z,6.6nm,0.8s,mb4.5						
KBL	**Kabul**	**37.41**	**326**	*e*P	**P**	**23 57 07.3**	**0.0**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
KSH	**Kashi**	**38.22**	**338**	P	**P**	**23 57 12.2**	**-1.8**
KSH				pP	pP	23 57 21.9	-0.7
KSH				sP	sP	23 57 25.8	-0.4
KSH				PP	PP	23 58 41.8	+0.1
KSH				PcP	PcP	23 59 28.9	+0.8
KSH				S	**S**	**00 03 00.0**	**-5.9**
KSH				ScP	ScP	00 03 12.5	-1.5
KSH				sS	sS	00 03 16.6	-3.6
KSH				SS	SS	00 05 36.8	-17
KSH				ScS	ScS	00 07 20.0	-3.6
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
KSH				pmax	pmax		
	comp=Z,130nm,5.0s						
KSH				LR	LR		
	comp=N,110nm,9.9s						
KSH				LR	LR		
	comp=E,190nm,5.4s						
KSH				LR	LR		
	comp=Z,330nm,19.9s,MS4.2						
FITZ	**Fitzroy Crossi**	**38.98**	**126**	P	**P**	**23 57 19.2**	**-1.4**
	comp=Z,2.9nm,0.8s,mb4.0,baz=325,slow=9.2,SNR=7.4						
FITZ	**Fitzroy Crossi**	**38.98**	**126**	*e*P	**P**	**23 57 18.6**	**-2.0**
	comp=Z,5.8nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**38.98**	**126**	P	**P**	**23 57 19.2**	**-1.5**
	comp=Z,9.0nm,0.9s,mb4.5						
WMQ	**Urumqi**	**39.45**	**354**	P	**P**	**23 57 24.9**	**+0.7**
WMQ				pP	pP	23 57 34.7	+1.8
WMQ				sP	sP	23 57 38.7	+2.3
WMQ				PP	PP	23 59 00.1	+5.0
WMQ				S	**S**	**00 03 24.1**	**-0.2**
WMQ				sS	sS	00 03 40.3	+1.7
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,130nm,5.0s						
WMQ				LR	LR		
	comp=N,280nm,36.2s,MS4.2						
WMQ				LR	LR		
	comp=E,570nm,34.8s,MS4.2						
WMQ				LR	LR		
	comp=Z,250nm,33.6s,MS3.8						
HHC	**Hu-ho-hao-te**	**39.70**	**22**	*e*P	**P**	**23 57 27.5**	**+1.2**
HHC				pP	pP	23 57 37.1	+2.1
HHC				sP	sP	23 57 41.8	+3.2
HHC				PP	PP	23 59 03.9	+6.1
HHC				PcP	PcP	23 59 33.6	+0.9
HHC				S	**S**	**00 03 27.9**	**-0.2**
HHC				sS	sS	00 03 45.8	+3.4
HHC				SS	SS	00 06 19.2	-5.1
HHC				ScS	ScS	00 07 30.5	-1.7
HHC				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
HHC				pmax	pmax		
	comp=Z,86nm,3.5s						
HHC				LR	LR		
	comp=N,300nm,16.6s,MS4.4						
HHC				LR	LR		
	comp=E,380nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=Z,270nm,19.0s,MS4.1						
KZA	**Kyzart**	**40.73**	**339**	P	**P**	**23 57 35.5**	**+0.6**
	SNR=8.9						
KZA				P		23 57 35.5	
	SNR=8.9						
BJI	**Beijing**	**40.92**	**27**	P	**P**	**23 57 36.8**	**+0.3**
BJI				pP	pP	23 57 46.2	+1.0
BJI				sP	sP	23 57 49.5	+0.8
BJI				PP	PP	23 59 12.0	+0.8
BJI				S	**S**	**00 03 47.7**	**+1.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.2						
BJI				pmax	pmax		
	comp=Z,99nm,5.6s						
BJI				LR	LR		
	comp=N,310nm,19.0s,MS4.4						
BJI				LR	LR		
	comp=E,370nm,19.0s,MS4.4						
BJI				LR	LR		
	comp=Z,190nm,21.6s,MS3.9						
AML	**Almayashu**	**41.34**	**338**	P	**P**	**23 57 40.8**	**+0.9**
	SNR=33						
AML				P		23 57 40.8	
	SNR=33						
KBK	**Karagaybulak**	**41.34**	**339**	P	**P**	**23 57 40.7**	**+0.8**
	SNR=21						
KBK				P		23 57 40.7	
	SNR=21						
TKM2	**Tokmak 2**	**41.35**	**340**	P	**P**	**23 57 40.8**	**+0.8**
	SNR=10						
TKM2				P		23 57 40.8	
	SNR=10						
TKM2	**Tokmak 2**	**41.35**	**340**	*e*P	**P**	**23 57 40.6**	**+0.6**
	comp=Z,21nm,1.4s,mb4.6						
TKM2	**Tokmak 2**	**41.35**	**340**	*e*P	**P**	**23 57 40.6**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.6						
AAK	**Ala-Archa**	**41.48**	**339**	P	**P**	**23 57 42.2**	**+1.2**
	SNR=8.9						
AAK				P		23 57 42.2	
	SNR=8.9						
AAK	**Ala-Archa**	**41.48**	**339**	P	**P**

KKAR Karatay Array 43.42 336 eP **P 23 57 56.7 -0.1**
SONM Songino Array 44.58 13 P **P 23 58 06.2 +0.1**
comp=Z,4.0nm,0.7s,mb4.3,baz=194,slow=5.6,SNR=26
SONM PcP PcP 23 59 49.9 +1.2
comp=Z,0.4nm,0.6s,baz=206,slow=4.2,SNR=8.8
SONM Songino Array 44.58 13 P **P 23 58 06.2 +0.1**
SONM PcP PcP 23 59 49.9 +1.2
SONM Songino Array 44.58 13 P **P 23 58 06.2 +0.2**
SONM 23 59 49.9
ULN Ulaanbaatar 44.75 13 eP **P 23 58 07.7 +0.3**
comp=Z,5.8nm,0.9s,mb4.4
ULN Ulaanbaatar 44.75 13 eP **P 23 58 07.7 +0.3**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
KSRS Korea Array 45.52 39 LR LR 00 20 09.7
comp=Z,266nm,19.2s,MS4.2,baz=352,slow=40
ABKT Ailbek 46.22 321 P **P 23 58 20.7 +1.5**
comp=Z,196nm,0.6s,mb6.2,SNR=13
HVS Khovu-Aksy 46.45 0⇑ iP **P 23 58 22.1 +1.3**
HVS pmax pmax
comp=Z,201nm,1.2s,mb5.9
ZAK Zakamensk 46.46 9 eP **P 23 58 20.7 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
WRA Warramunga Arr 47.05 123 P **P 23 58 25.2 -0.8**
comp=Z,5.8nm,0.8s,mb4.6,baz=299,slow=9.1,SNR=18
WRA LR LR 00 19 31.1
comp=Z,820nm,21.2s,MS4.7,baz=50,slow=38
WRA Warramunga Arr 47.05 123 P **P 23 58 25.2 -0.8**
WRA Warramunga Arr 47.05 123 P **P 23 58 25.2 -0.8**
WRAB Tennant Creek 47.06 123 eP **P 23 58 25.9 -0.2**
comp=Z,82nm,1.5s,mb5.4
WRAB Tennant Creek 47.06 123 P **P 23 58 25.0 -1.0**
comp=Z,117nm,0.8s,mb5.9,SNR=6.4
WRAB Tennant Creek 47.06 123 eP **P 23 58 25.9 -0.1**
WRAB pmax pmax
comp=Z,82nm,1.5s,mb5.4
WB2 Warramunga Arr 47.06 123 eP **P 23 58 25.7 -0.4**
KURK Kurchatov 47.66 347 LR LR 00 22 20.7
comp=Z,92nm,19.4s,MS3.8,baz=150,slow=41
KURK Kurchatov 47.66 347 eP **P 23 58 30.4 +0.1**
comp=Z,30nm,1.4s,mb5.1
KURK Kurchatov 47.66 347 P **P 23 58 30.9 +0.6**
comp=Z,74nm,0.9s,mb5.7,SNR=9.9
KURK Kurchatov 47.66 347 eP **P 23 58 30.4 +0.1**
KURK pmax pmax
comp=Z,30nm,1.4s,mb5.1
TLY Talaya 47.77 9 eP **P 23 58 36.6 +5.5**
TLY pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,121nm,18.0s,MS3.9
ASAR Alice Springs 48.46 127 P **P 23 58 36.3 -0.5**
comp=Z,0.6nm,0.5s,mb3.9,baz=312,slow=7.1,SNR=11
ASAR Alice Springs 48.46 127 P **P 23 58 36.3 -0.5**
ASAR Alice Springs 48.46 127 P **P 23 58 36.3 -0.5**
RDF Al-Radifah 49.68 304 eP **P 23 58 46.6 +0.4**
RDF AMb AMB 23 58 48.2
comp=Z,116nm,1.0s,mb5.9
ZAA0 Zalesovo Array 49.76 353 eP **P 23 58 46.6 +0.2**
ZALV Zalesovo Beam 49.76 353 P **P 23 58 46.7 +0.4**
comp=Z,6.4nm,0.5s,mb4.9,baz=180,slow=8.5,SNR=51
ZALV LR LR 00 24 48.7
comp=Z,57nm,19.9s,MS3.6,baz=194,slow=42
ZALV Zalesovo Beam 49.76 353 P **P 23 58 46.7 +0.4**
ZALV Zalesovo Beam 49.76 353 P **P 23 58 46.7 +0.4**
UMR Umm Al-Rimmam 49.77 305 eP **P 23 58 47.2 +0.3**
UMR AMb AMB 23 58 48.6
comp=Z,51nm,0.9s,mb5.6
RAYN Ar Rayn 49.82 297 P **P 23 58 47.2 -0.1**
comp=Z,90nm,1.0s,mb5.8,SNR=12
NAY Al-Naaiem 50.05 305 eP **P 23 58 49.2 +0.2**
NAY AMb AMB 23 58 50.6
comp=Z,50nm,1.0s,mb5.5
MIB Mutribah 50.16 305 eP **P 23 58 49.9 +0.1**
MIB AMb AMB 23 58 51.7
comp=Z,104nm,1.0s,mb5.8
NVS Novosibirsk 50.83 352⇓ iP **P 23 58 53.9 -0.5**
NVS eS **S 00 06 05.1 -3.3**
NVS pmax pmax
comp=Z,16nm,1.1s,mb4.9
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.1s
NVS smax
comp=E,38nm,2.6s
MDJ Mudanjiang 51.02 33 P **P 23 58 56.0 0.0**
MDJ pP pP 23 59 05.2 +0.3
MDJ sP sP 23 59 08.9 +0.5
MDJ ScP ScP 00 04 06.6 +0.3
MDJ PcS PcS 00 04 10.4 +1.2
MDJ S **S 00 06 13.0 +1.6**
MDJ sS sS 00 06 28.7 +2.7
MDJ pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
MDJ pmax pmax
comp=Z,120nm,4.1s
MDJ LR LR
comp=N,310nm,21.0s,MS4.4
MDJ LR LR
comp=E,210nm,18.6s,MS4.4
MDJ LR LR
comp=Z,230nm,18.6s,MS4.2
GUMO Guam 51.58 76 LR LR 00 20 23.7
comp=Z,304nm,19.5s,MS4.3,baz=111,slow=36
BVAR Borovoye Array 51.91 343 LR LR 00 23 26.3
comp=Z,235nm,20.9s,MS4.2,baz=154,slow=39
BRVK Borovoye 51.97 343 P **P 23 59 02.7 -0.2**
comp=Z,84nm,0.7s,mb5.8,SNR=7.7
BRVK Borovoye 51.97 343 eP **P 23 59 02.5 -0.4**
comp=Z,16nm,1.0s,mb4.9
BRVK Borovoye 51.97 343 eP **P 23 59 02.5 -0.4**
BRVK pmax pmax
comp=Z,16nm,1.0s,mb4.9
MJAR Matsushiro Arr 52.01 46 LR LR 00 22 25.3
comp=Z,292nm,19.1s,MS4.3,baz=230,slow=38
ZRNK Zerenda 52.27 342 i P **P 23 59 04.1 -1.1**
ZRNK pmax pmax
comp=Z,21nm,1.0s,mb5.0
AB31 Akbulak array 52.81 333ceP **P 23 59 08.3 -1.0**
AB31 pmax pmax
comp=Z,7.0nm,0.3s,mb5.1
ABKAR Akbulak array 52.81 333 eP **P 23 59 08.9 -0.3**
FURI Furi 54.43 278 eP **P 23 59 25.2 +3.4**
comp=Z,14nm,0.9s,mb4.9
AKTO Aktyubinsk 54.52 333 P **P 23 59 21.1 -0.7**
comp=Z,8.5nm,0.9s,mb4.8,baz=131,slow=7.8,SNR=25
AKTO Aktyubinsk 54.52 333 P **P 23 59 21.1 -0.7**
AKTO Aktyubinsk 54.52 333 P **P 23 59 21.2 -0.6**
KLR Kul'dur 55.16 30 eP **P 23 59 23.9 -2.5**
BOD Bodaibo 55.57 13 eP **P 23 59 24.0 -5.2**
BOD pmax pmax
comp=Z,13nm,1.1s,mb4.9
GNI Garni 56.25 316 P **P 23 59 34.1 -0.3**
comp=Z,1.8nm,0.4s,mb4.5,baz=351,slow=4.6,SNR=9.0
GNI Garni 56.25 316 P **P 23 59 34.1 -0.3**
GNI Garni 56.25 316⇑ iP **P 23 59 35.1 +0.7**
GNI pmax pmax
comp=Z,26nm,1.3s
KMBO Kilima Mbogo 56.33 266 eP **P 23 59 35.8 +0.3**
comp=Z,4.4nm,0.9s,mb4.5
KMBO epP pP 23 59 46.1 +1.6
KMBO Kilima Mbogo 56.33 266 eP **P 23 59 35.8 +0.3**
KMBO e*PP pP 23 59 46.1 +1.6
KMBO pmax pmax
comp=Z,4.0nm,0.9s
HABR Khabarovsk 56.37 32 eP **P 23 59 34.3 -0.8**
HABR e*PP pP 23 59 44.4 +0.3
HABR e*SP sP 23 59 48.6 +1.0
HABR eS **S 00 07 22.7 -1.1**
HABR e*SS sS 00 07 42.3 +3.7
HABR e 00 09 21.0
HABR eSS SS 00 11 12.5 +1.4
HABR pmax pmax
comp=E,29nm,1.1s
HABR pmax pmax
comp=Z,24nm,0.7s,mb5.3
HABR pmax pmax
comp=N,8.0nm,0.6s
HABR MLR MLR
comp=Z,164nm,22.0s,MS4.1
CTA Charters Tower 57.43 117 P **P 23 59 43.1 0.0**
comp=Z,1.5nm,0.4s,mb4.4,baz=309,slow=6.5,SNR=3.7
CTA Charters Tower 57.43 117 P **P 23 59 43.1 0.0**
CTA Charters Tower 57.43 117 P **P 23 59 43.2 +0.1**
SVE Sverdlovsk 58.22 340d iP **P 23 59 48.2 +0.1**
SVE e 00 03 20.5
SVE pmax pmax
comp=Z,60nm,1.1s,mb5.5
SVE MLR MLR
comp=Z,360nm,20.0s,MS4.5
STKA Stephens Creek 58.42 132 P **P 23 59 48.6 -1.3**
comp=Z,2.4nm,0.7s,mb4.3,baz=307,slow=5.3,SNR=5.4
STKA LR LR 00 23 40.5
comp=Z,789nm,20.3s,MS4.8,baz=118,slow=35
STKA Stephens Creek 58.42 132 P **P 23 59 48.6 -1.3**
STKA Stephens Creek 58.42 132 P **P 23 59 48.6 -1.3**
ASAJ Asahikawa 58.46 40 LR LR 00 27 57.3
comp=Z,219nm,18.9s,MS4.3,baz=168,slow=39
ARU Arti 58.66 338 eP **P 23 59 50.0 -1.2**
comp=Z,25nm,1.0s,mb5.2
ARU Arti 58.66 338d iP **P 23 59 50.3 -0.9**
ARU e 00 00 38.7
ARU e 00 01 58.9
ARU S **S 00 07 52.0 -1.7**
ARU pmax pmax
comp=Z,46nm,1.7s,mb5.2
ARU Arti 58.66 338 P **P 23 59 50.7 -0.5**
comp=Z,136nm,1.1s,mb5.9,SNR=7.8
KIV Kislovodsk 59.30 319 eP **P 23 59 55.1 -0.7**
comp=Z,16nm,1.0s,mb5.0
KIV Kislovodsk 59.30 319 eP **P 23 59 55.2 -0.6**
KIV pmax pmax
comp=Z,13nm,0.8s,mb5.0
KIV MLR MLR
comp=Z,65nm,17.0s,MS3.8
YSS Yuzh-Sakhalins 59.90 37 eP **P 00 00 02.7 +2.8**
YSS e 00 00 07.2
SOC Sochi 61.09 318 eP **P 00 00 05.8 -2.3**
SOC e 00 02 24.2
SOC eS **S 00 08 19.7 -5.7**
SOC eSS SS 00 12 18.8 -6.7
SOC pmax pmax
comp=Z,45nm,1.1s,mb5.5
SOKR Solikamsk 61.63 340c iP **P 00 00 11.4 0.0**
SOKR pmax pmax
comp=Z,40nm,1.2s,mb5.4
SOKR MLR MLR
comp=Z,260nm,20.0s,MS4.4
YAK Yakutsk 63.40 18 eP **P 00 00 28.3 +5.1**
YAK pmax pmax
comp=Z,32nm,1.3s,mb5.3
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,14nm,1.5s
YAK MLR MLR
comp=Z,223nm,17.0s,MS4.4
YAK MLR MLR
comp=E,145nm,16.0s,MS4.4
YAK MLR MLR
comp=N,158nm,20.0s,MS4.4
BRTR Keskin Array B 64.04 312 P **P 00 00 27.2 -0.7**
comp=N,18nm,0.7s,mb5.2,baz=126,slow=6.9,SNR=149
BRTR LR LR 00 30 15.3
comp=N,97nm,20.2s,MS4.0,baz=102,slow=38
BRTR Keskin Array B 64.04 312 P **P 00 00 27.2 -0.7**
BRTR Keskin Array B 64.04 312 P **P 00 00 27.2 -0.7**
VSR Storozhevoye 64.67 326 eP **P 00 00 29.9 -1.8**
VSR pmax pmax
comp=Z,20nm,1.1s,mb5.1
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.0s
OBN Obninsk 67.79 329⇑ iP **P 00 00 50.8 -0.9**
OBN e pP 00 00 57.7 -3.2
OBN pmax pmax
comp=Z,37nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
TIRR Tirgusor 69.07 316 eP **P 00 00 59.7 -0.2**
comp=Z,28nm,0.8s,mb5.2
TIRR Tirgusor 69.07 316 eP **P 00 00 59.7 -0.3**
TIRR pmax pmax
comp=Z,28nm,0.8s,mb5.2
AKASG Malin Array Be 70.30 323 P **P 00 01 05.6 -1.8**
comp=Z,3.8nm,0.6s,mb4.5,baz=93,slow=5.2,SNR=16
AKASG PP PP 00 03 40.7 -2.5
comp=Z,0.9nm,0.5s,baz=106,slow=5.9,SNR=4.5
AKASG LR LR 00 37 49.8
comp=Z,80nm,18.4s,MS4.0,baz=95,slow=41
AKASG Malin Array Be 70.30 323 P **P 00 01 05.6 -1.8**
AKASG PP PP 00 03 40.7 -2.5
AKASG Malin Array Be 70.30 323ceP **P 00 01 06.0 -1.3**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 70.30 323 eP **P 00 01 06.1 -1.3**
comp=Z,7.7nm,0.9s,mb4.6
KIEV Kiev 70.30 323 eP **P 00 01 06.1 -1.3**
KIEV pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ISR Istrita 70.53 316⇑ P **P 00 01 10.5 +1.6**
ISR Istrita 70.53 316⇑ iP **P 00 01 10.5 +1.6**
VRI Vrincioaia 70.58 317 P **P 00 01 10.3 +1.1**
VRI Vrincioaia 70.58 317⇓ iP **P 00 01 09.4 +0.2**
VRI Vrincioaia 70.58 317 S SKSac 00 11 05.0 -4.2
SULR 70.62 316⇑ iP **P 00 01 08.3 -1.2**
PLOR Plostina 70.63 317 P **P 00 01 10.7 +1.2**
PLOR Plostina 70.63 317⇑ iP **P 00 01 10.1 +0.6**
PLOR Plostina 70.63 317 S SKSac 00 11 03.6 -6.0
TESR 70.79 317⇓ iP **P 00 01 10.1 -0.4**
MLR Muntele Rosu 71.02 317 P **P 00 01 12.6 +0.7**
comp=Z,9.4nm,0.8s,mb4.8,baz=94,slow=2.4,SNR=47
MLR Muntele Rosu 71.02 317 P **P 00 01 12.6 +0.7**
MLR Muntele Rosu 71.02 317 P **P 00 01 13.0 +1.1**
MLR Muntele Rosu 71.02 317⇑ iP **P 00 01 12.5 +0.6**
ZIMR 71.02 315⇑ P **P 00 01 12.4 +0.5**
ZIMR 71.02 315⇑ iP **P 00 01 12.4 +0.5**
VOIR 71.63 316⇑ P **P 00 01 15.6 +0.1**
VOIR 71.63 316⇑ iP **P 00 01 15.6 +0.1**
LBTB Lobatse 71.97 242 eP **P 00 01 19.1 +1.0**
comp=Z,65nm,2.1s,mb5.2
LBTB Lobatse 71.97 242 eP **P 00 01 19.1 +1.1**
LBTB pmax pmax
comp=Z,65nm,2.1s,mb5.2
BURAR Bucovina Array 72.00 319⇑ P **P 00 01 18.4 +0.6**
BURAR Bucovina Array 72.00 319⇑ iP **P 00 01 18.4 +0.6**
MPEP Malo Peshtene 72.12 314 eP **P 00 01 18.2 -0.4**
KKB Krupnik 72.33 312 eP **P 00 01 17.9 -1.9**
VTS Vitosha 72.36 313⇑ P **P 00 01 20.1 +0.1**
VTS Vitosha 72.36 313 eP **P 00 01 18.0 -2.0**
VTS Vitosha 72.36 313⇑ iP **P 00 01 20.0 0.0**
BOSA Boshof 73.16 238 P **P 00 01 25.3 +0.3**
comp=Z,1.4nm,0.6s,mb4.1,baz=108,slow=6.3,SNR=6.0
BOSA LR LR 00 27 43.4
comp=Z,117nm,19.3s,MS4.2,baz=166,slow=31
BOSA Boshof 73.16 238 P **P 00 01 25.3 +0.3**
BOSA Boshof 73.16 238 P **P 00 01 25.3 +0.3**
JOF Joensuu 73.52 335 eP **P 00 01 24.5 -2.0**
JOF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
JOF Joensuu 73.52 335 ep **P 00 01 24.5 -2.0**
comp=Z,8.5nm,0.6s,mb4.8
TRPA Tarpa 73.88 319⇑ iP **P 00 01 29.2 +0.4**
BZS Buzias 74.03 316⇑ P **P 00 01 29.7 -0.1**
BZS Buzias 74.03 316⇑ iP **P 00 01 29.7 -0.1**
KWP Kalwaria Pacla 74.07 320⇓ P **P 00 01 29.8 -0.2**
KWP Kalwaria Pacla 74.07 320⇓ iP **P 00 01 29.8 -0.2**
KOLS Kolonicke sedl 74.21 320 eP **P 00 01 31.4 +0.6**
APA Apatity 74.69 340⇑ iP **P 00 01 33.0 -0.2**
APA pmax pmax
comp=Z,16nm,1.0s,mb4.9
APA MLR MLR
comp=Z,400nm,18.0s,MS4.8
CRVS Cervenica-Dubn 74.73 319 eP **P 00 01 34.2 +0.4**
SUW Suwalki 74.76 325 eP **P 00 01 32.7 -1.2**
comp=Z,45nm,1.0s,mb5.3
SUW epP pP 00 01 40.2 -2.9
SUW Suwalki 74.76 325 eP **P 00 01 32.7 -1.2**
SUW e*PP pP 00 01 40.2 -2.9
SUW pmax pmax
comp=Z,45nm,1.0s,mb5.3
STHS Stebnicka Huta 74.96 320 eP **P 00 01 36.4 +1.3**
MAW Mawson 75.12 192 LR LR 00 29 44.3
comp=Z,282nm,20.1s,MS4.6,baz=248,slow=32
KECS Kecovo 75.29 319 eP **P 00 01 37.1 +0.1**
FINES FINESS Array B 75.30 333 P **P 00 01 36.1 -0.7**
comp=Z,9.2nm,0.7s,mb4.8,baz=110,slow=7.6,SNR=23
FINES LR LR 00 42 12.1
comp=Z,145nm,19.0s,MS4.3,baz=320,slow=42
FINES FINESS Array B 75.30 333 P **P 00 01 36.1 -0.7**
FINES FINESS Array B 75.30 333 P **P 00 01 36.1 -0.7**
KAF Kangasniemi 75.40 333 eP **P 00 01 35.1 -2.3**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KAF Kangasniemi 75.40 333 ep **P 00 01 35.1 -2.3**
comp=Z,7.6nm,0.8s,mb4.7
PSZ Piszkesteto 75.58 318 eP **P 00 01 38.9 +0.1**
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 75.58 318 eP **P 00 01 38.9 +0.2**
PSZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 75.58 318⇓ eP **P 00 01 38.6 -0.1**
PSZ Piszkesteto 75.58 318⇓ iP **P 00 01 38.8 +0.1**
OJC Ojcow 76.03 321 eP **P 00 01 40.8 -0.5**
comp=Z,22nm,0.8s,mb5.1
OJC Ojcow 76.03 321 eP **P 00 01 40.8 -0.4**
OJC pmax pmax
comp=Z,22nm,0.8s,mb5.1
PKSM Moragy 76.17 316⇑ P **P 00 01 42.0 -0.1**
PKSM Moragy 76.17 316⇑ iP **P 00 01 42.0 -0.1**
KOLL Kolacno 76.67 319 eP **P 00 01 44.9 0.0**
OKC Ostrava-Krasne 77.02 320 eP **P 00 01 47.3 +0.4**
OKC e 00 01 53.8
OKC Ostrava-Krasne 77.02 320 eP **P 00 01 47.3 +0.4**
OKC ex x 00 01 53.8
MORC Moravsky Berou 77.40 320 eP **P 00 01 49.1 +0.1**
comp=Z,15nm,1.1s,mb4.8
MORC Moravsky Berou 77.40 320 eP **P 00 01 49.1 +0.1**
MORC pmax pmax
comp=Z,15nm,1.1s,mb4.8
MORC Moravsky Berou 77.40 320⇓ iP **P 00 01 48.9 -0.1**
ZST Bratislava 77.48 318 eP **P 00 01 49.8 +0.3**
KEV Kevo 77.72 341 eP **P 00 01 49.1 -1.3**
KEV pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KEV Kevo 77.72 341 ep **P 00 01 49.1 -1.3**
comp=Z,3.0nm,0.7s,mb4.3
SOP Sopron 77.78 318⇓ eP **P 00 01 51.2 +0.1**
VRAC Vranov 77.95 319 P **P 00 01 52.5 +0.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=123,slow=7.1,SNR=6.9
VRAC LR LR 00 39 48.5
comp=Z,95nm,19.0s,MS4.1,baz=275,slow=38
VRAC Vranov 77.95 319 P **P 00 01 52.5 +0.4**
VRAC Vranov 77.95 319⇑ P **P 00 01 52.5 +0.4**
VRAC Vranov 77.95 319⇑ iP **P 00 01 52.5 +0.4**
ARCES ARCESS Array B 78.13 341 P **P 00 01 52.7 0.0**
comp=Z,1.9nm,0.4s,mb4.4,baz=92,slow=6.4,SNR=35
ARCES LR LR 00 40 38.8
comp=Z,239nm,19.2s,MS4.5,baz=204,slow=39
ARCES ARCESS Array B 78.13 341 P **P 00 01 52.7 0.0**
ARCES ARCESS Array B 78.13 341 P **P 00 01 52.7 0.0**
DPC Dobruska-Polom 78.25 320 eP **P 00 01 54.5 +0.7**
comp=Z,30nm,1.1s,mb5.1
DPC Dobruska-Polom 78.25 320 eP **P 00 01 54.3 +0.6**
DPC e pP 00 02 01.6 -1.4
DPC Dobruska-Polom 78.25 320 eP **P 00 01 54.3 +0.6**
DPC ex x 00 02 01.6
CONA Conrad Observa 78.27 318 i P **P 00 01 54.1 +0.2**
comp=Z,12nm,1.1s,mb4.7,SNR=8.2
KSP Ksiaz 78.33 321 eP **P 00 01 54.5 +0.3**
KSP epP pP 00 02 01.5 -2.0
KSP Ksiaz 78.33 321⇓ eP **P 00 01 54.5 +0.3**
KSP e*PP pP 00 02 01.5 -2.0
ARSA Arzberg 78.43 317 i P **P 00 01 55.4 +0.6**
comp=Z,22nm,0.8s,mb5.1,SNR=18
UPC Upice 78.47 321 eP **P 00 01 55.5 +0.6**
UPC e pP 00 02 03.2 -1.0
UPC Upice 78.47 321 eP **P 00 01 55.5 +0.6**
UPC ex x 00 02 03.2
TREC Trest 78.67 319 eP **P 00 01 56.3 +0.3**
TREC Trest 78.67 319 eP **P 00 01 56.3 +0.3**
SOKA Soboth 78.70 317⇓ iP **P 00 01 56.7 +0.4**
comp=Z,32nm,1.1s,mb5.2
MOA Molln 79.33 318⇑ iP **P 00 01 58.7 -1.0**
comp=Z,6.2nm,0.9s,mb4.5,SNR=7.7
PVCC Panska Ves 79.39 320 eP **P 00 02 00.5 +0.5**
PVCC e pP 00 02 07.4 -1.9
PVCC Panska Ves 79.39 320 eP **P 00 02 00.5 +0.5**
PVCC ex x 00 02 07.4
MYKA Terra Mystica 79.66 316⇑ iP **P 00 02 02.0 +0.5**
comp=Z,15nm,1.0s,mb4.9
GEC2 GERESS Array S 79.79 319 eP **P 00 02 02.4 +0.2**
comp=Z,26nm,1.0s,mb5.1
GEC2 GERESS Array S 79.79 319 eP **P 00 02 02.4 +0.2**
GEC2 pmax pmax
comp=Z,26nm,1.0s,mb5.1
GERES GERESS Array B 79.79 319 P **P 00 02 02.5 +0.3**
comp=Z,13nm,0.8s,mb4.9,baz=96,slow=5.3,SNR=122
GERES LR LR 00 43 43.1
comp=Z,116nm,19.7s,MS4.2,baz=279,slow=40
GERES GERESS Array B 79.79 319 P **P 00 02 02.5 +0.3**
GERES GERESS Array B 79.79 319 P **P 00 02 02.6 +0.4**
BRG Berggiesshubel 79.82 321 eP **P 00 02 02.5 +0.2**
comp=Z,14nm,1.1s,mb4.8
BRG e pP 00 02 09.4 -2.2
comp=Z,8.3nm,1.0s
BRG Berggiesshubel 79.82 321 eP **P 00 02 02.3 0.0**
comp=Z,14nm,1.1s,mb4.8
BRG Berggiesshubel 79.82 321 eP **P 00 02 02.5 +0.2**
BRG e pP 00 02 09.4 -2.2
BRG pmax pmax
comp=Z,14nm,1.1s,mb4.8
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KHC Kasperske Hory 79.90 319 eP **P 00 02 02.8 0.0**
comp=Z,4.5nm,0.8s,mb4.5
KHC Kasperske Hory 79.90 319 eP **P 00 02 02.6 -0.2**
KHC e pP 00 02 09.6 -2.5
KHC Kasperske Hory 79.90 319 eP **P 00 02 02.6 -0.2**
KHC ex x 00 02 09.6
RUE Ruedersdorf 80.07 322 eP **P 00 02 03.4 -0.2**
comp=Z,24nm,0.6s,mb5.3
FBE Freiberg 80.19 321 eP **P 00 02 04.5 +0.2**
comp=Z,16nm,1.0s,mb4.9
WET Wettzell 80.36 319 eP **P 00 02 05.4 +0.2**
comp=Z,19nm,1.3s,mb4.9
WET Wettzell 80.36 319 eP **P 00 02 05.4 +0.2**
WET pmax pmax
comp=Z,19nm,1.3s,mb4.9
CLL Collm 80.45 321 eP **P 00 02 05.3 -0.4**
comp=Z,9.0nm,1.1s,mb4.6
CLL Collm 80.45 321 i P **P 00 02 05.3 -0.4**
CLL i pP 00 02 12.8 -2.2
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CLL Collm 80.45 321 i P **P 00 02 05.3 -0.4**
comp=Z,9.0nm,1.1s,mb4.6
CLL i PcP PcP 00 02 12.8 +0.2
GUNZ Gunzen 80.80 320 eP **P 00 02 07.6 0.0**
comp=Z,11nm,1.1s,mb4.7
ROTZ Rotzenmuhle 80.84 320 eP **P 00 02 08.4 +0.6**
comp=Z,13nm,1.1s,mb4.8
HFS Hagfors 80.94 330 P **P 00 02 07.7 -0.5**
comp=Z,6.5nm,0.9s,mb4.5,baz=104,slow=6.3,SNR=15
HFS LR LR 00 40 31.6
comp=Z,102nm,21.6s,MS4.1,baz=88,slow=38
HFS Hagfors 80.94 330 P **P 00 02 07.7 -0.5**
HFS Hagfors 80.94 330 P **P 00 02 07.7 -0.4**
WTTA Wattenberg 81.07 317⇓ iP **P 00 02 08.6 -0.5**
comp=Z,23nm,1.0s,mb5.1,SNR=19
WATA Walderalm 81.11 317⇑ iP **P 00 02 08.8 -0.5**
comp=Z,8.7nm,0.7s,mb4.8
NEUB Neuenburg 81.21 321 eP **P 00 02 09.5 -0.3**
comp=Z,16nm,1.1s,mb4.9
MOTA Moosalm 81.43 317⇑ iP **P 00 02 10.7 -0.4**
comp=Z,18nm,0.9s,mb5.0,SNR=18
GRF Grafenberg Arr 81.47 319 eP **P 00 02 11.5 +0.3**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 81.47 319 eP **P 00 02 11.5 +0.3**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRFO Grafenberg 81.47 319 eP **P 00 02 12.0 +0.8**
comp=Z,9.3nm,0.9s,mb4.7
GRFO Grafenberg 81.47 319 eP **P 00 02 12.0 +0.8**
GRFO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
RETA Reutte 81.67 317 i P **P 00 02 12.2 -0.1**
comp=Z,26nm,1.3s,mb5.0,SNR=21
FETA Feichten 81.67 317 i P **P 00 02 12.5 +0.2**
comp=Z,14nm,1.0s,mb4.9,SNR=10
CLZ Clausthal 82.12 322 eP **P 00 02 14.5 0.0**

comp=Z,15nm,1.1s,mb4.8
CLZ Clausthal 82.12 322 *e*P **P 00 02 14.5 0.0**
CLZ pmax pmax
comp=Z,15nm,1.1s,mb4.8
NB2 NORSAR Subarra 82.25 331 P **P 00 02 14.3 -0.7**
comp=Z,1.2nm,0.7s,mb3.9,baz=98,slow=5.3
NOA NORSAR Array B 82.25 331 P **P 00 02 14.2 -0.8**
comp=Z,3.4nm,0.9s,mb4.3,baz=93,slow=5.9,SNR=5.2
NOA LR LR 00 44 41.2
comp=Z,104nm,20.6s,MS4.2,baz=250,slow=40
NOA NORSAR Array B 82.25 331 P **P 00 02 14.2 -0.8**
NOA NORSAR Array B 82.25 331 P **P 00 02 14.2 -0.8**
DAVOX Davos/Dischmat 82.25 316 P **P 00 02 15.7 +0.4**
comp=Z,20nm,0.7s,mb5.1,baz=100,slow=6.1,SNR=3.3
DAVOX Davos/Dischmat 82.25 316 P **P 00 02 15.7 +0.4**
DAVOX Davos/Dischmat 82.25 316 P **P 00 02 15.7 +0.4**
DAVA Damuels 82.26 317⇑*i*P **P 00 02 15.6 +0.2**
comp=Z,21nm,1.0s,mb5.0
KEST Kesra 82.51 305 P **P 00 02 18.3 +1.4**
comp=Z,7.3nm,0.9s,mb4.7,baz=4.7,slow=2.2,SNR=23
KEST Kesra 82.51 305 *e*P **P 00 02 18.4 +1.4**
TUE Stuetta 82.61 316 *e*P **P 00 02 17.5 +0.3**
comp=Z,8.8nm,0.8s,mb4.8
SPITS Spitsbergen Ar 82.93 348 P **P 00 02 18.0 -0.3**
comp=Z,4.1nm,0.7s,mb4.6,baz=94,slow=7.7,SNR=4.1
SPITS LR LR 00 40 39.1
comp=Z,174nm,22.0s,MS4.4,baz=5.0,slow=37
SPITS Spitsbergen Ar 82.93 348 P **P 00 02 18.0 -0.3**
SPITS Spitsbergen Ar 82.93 348 P **P 00 02 18.0 -0.3**
TNS Taunus Mts 83.28 320 *e*P **P 00 02 20.7 +0.1**
comp=Z,12nm,0.9s,mb4.9
TNS Taunus Mts 83.28 320 *e*P **P 00 02 20.7 +0.1**
TNS pmax pmax
comp=Z,12nm,0.9s,mb4.9
BFO Black Forest 83.33 318 *e*P **P 00 02 20.1 -0.8**
comp=Z,81nm,2.3s,mb5.3
BFO Black Forest 83.33 318 *e*P **P 00 02 20.1 -0.8**
BFO pmax pmax
comp=Z,81nm,2.3s,mb5.3
SBF Sospel 83.94 313⇑*i*P **P 00 02 24.3 +0.1**
comp=Z,27nm,0.7s,mb5.2
SBF Sospel 83.94 313⇑*i*P **P 00 02 24.3 +0.1**
comp=Z,27nm,0.7s,mb5.5
SBF Sospel 83.94 313⇑*i*P **P 00 02 24.3 +0.1**
SBF pmax pmax
comp=Z,27nm,0.7s,mb5.5
SENIN Lac Senin/Sane 84.02 316 *e*P **P 00 02 25.1 +0.6**
comp=Z,93nm,2.3s,mb5.5
SENIN *e*pP pP 00 02 32.3 -1.6
LPG La Plagne 84.41 315⇑*i*P **P 00 02 27.0 +0.5**
comp=Z,26nm,0.9s,mb5.1
LPG La Plagne 84.41 315⇑*i*P **P 00 02 27.0 +0.5**
comp=Z,26nm,0.9s,mb5.4
LPG La Plagne 84.41 315⇑*i*P **P 00 02 27.0 +0.5**
LPG pmax pmax
comp=Z,27nm,0.9s,mb5.4
LPL La Plagne 84.43 315⇑*i*P **P 00 02 27.0 +0.4**
comp=Z,27nm,0.9s,mb5.0
LPL La Plagne 84.43 315⇑*i*P **P 00 02 27.0 +0.4**
comp=Z,27nm,0.9s,mb5.4
LPL La Plagne 84.43 315⇑*i*P **P 00 02 27.0 +0.4**
LPL pmax pmax
comp=Z,27nm,0.9s,mb5.4
BNI Bardonecchia 84.47 315 *e*P **P 00 02 25.6 -1.2**
comp=Z,12nm,1.0s,mb5.0
BNI Bardonecchia 84.47 315 *e*P **P 00 02 25.6 -1.2**
BNI pmax pmax
comp=Z,12nm,1.0s,mb5.0
FRF La Foret Royal 84.52 313⇑*i*P **P 00 02 27.4 +0.3**
comp=Z,86nm,1.4s,mb5.4
FRF La Foret Royal 84.52 313⇑*i*P **P 00 02 27.4 +0.3**
comp=Z,86nm,1.4s,mb5.7
FRF La Foret Royal 84.52 313⇑*i*P **P 00 02 27.4 +0.3**
FRF pmax pmax
comp=Z,86nm,1.4s,mb5.7
LMR La Mourre 84.62 313⇑*i*P **P 00 02 27.9 +0.3**
LMR La Mourre 84.62 313⇑*i*P **P 00 02 27.9 +0.3**
LMR La Mourre 84.62 313⇑*i*P **P 00 02 27.9 +0.3**
HAU Haudompre 84.66 318⇑*i*P **P 00 02 27.4 -0.3**
comp=Z,28nm,1.0s,mb5.0
HAU *e*R
comp=Z,98nm,21.2s
HAU Haudompre 84.66 318⇑*i*P **P 00 02 27.4 -0.3**
comp=Z,28nm,1.0s,mb5.3
HAU Haudompre 84.66 318⇑*i*P **P 00 02 27.4 -0.3**
HAU pmax pmax
comp=Z,28nm,1.0s,mb5.3
CABF La Chapelle 84.86 316⇑*i*P **P 00 02 29.2 +0.5**
comp=Z,17nm,0.9s,mb4.8
CABF La Chapelle 84.86 316⇑*i*P **P 00 02 29.2 +0.5**
comp=Z,17nm,0.9s,mb5.2
CABF La Chapelle 84.86 316⇑*i*P **P 00 02 29.2 +0.5**
CABF pmax pmax
comp=Z,17nm,0.9s,mb5.2
ORIF Oris-en-Rattie 85.04 315⇑*i*P **P 00 02 29.6 -0.1**
comp=Z,27nm,1.2s,mb5.0
ORIF *e*R
comp=Z,129nm,22.2s
ORIF Oris-en-Rattie 85.04 315⇑*i*P **P 00 02 29.6 -0.1**
comp=Z,27nm,1.2s,mb5.2
ORIF Oris-en-Rattie 85.04 315⇑*i*P **P 00 02 29.6 -0.1**
ORIF pmax pmax
comp=Z,27nm,1.2s,mb5.2
SMRF Simiane la Rot 85.28 314⇑*i*P **P 00 02 30.9 0.0**
SMRF Simiane la Rot 85.28 314⇑*i*P **P 00 02 30.9 0.0**
MEZF Maizieres J'vi 85.51 318⇑*i*P **P 00 02 31.9 -0.1**
MEZF Maizieres J'vi 85.51 318⇑*i*P **P 00 02 31.9 -0.1**
SFTF Sexfontaines 85.53 318⇑*i*P **P 00 02 32.0 -0.1**
comp=Z,37nm,1.0s,mb5.3
SFTF Sexfontaines 85.53 318⇑*i*P **P 00 02 32.0 -0.1**
comp=Z,37nm,1.0s,mb5.6
GIVF Givet 85.61 320⇑*i*P **P 00 02 32.5 +0.1**
GIVF Givet 85.61 320⇑*i*P **P 00 02 32.5 +0.1**
GIVF Givet 85.61 320⇑*i*P **P 00 02 32.5 +0.1**
VIVF Saint-Julien-l 85.90 315⇑*i*P **P 00 02 34.2 +0.2**
comp=Z,17nm,1.0s,mb5.0
VIVF Saint-Julien-l 85.90 315⇑*i*P **P 00 02 34.2 +0.2**
comp=Z,17nm,1.0s,mb5.2
VIVF Saint-Julien-l 85.90 315⇑*i*P **P 00 02 34.2 +0.2**
VIVF pmax pmax
comp=Z,17nm,1.0s,mb5.2
BAIF Baives 86.01 320⇑*i*P **P 00 02 34.7 +0.3**
BAIF Baives 86.01 320⇑*i*P **P 00 02 34.7 +0.3**
BAIF Baives 86.01 320⇑*i*P **P 00 02 34.7 +0.3**
LOR Lormes 86.36 317⇑*i*P **P 00 02 36.1 -0.1**
comp=Z,40nm,1.3s,mb5.2
LOR *e*R
comp=Z,101nm,20.9s
LOR Lormes 86.36 317⇑*i*P **P 00 02 36.1 -0.1**
comp=Z,40nm,1.3s,mb5.5
LOR Lormes 86.36 317⇑*i*P **P 00 02 36.1 -0.1**
LOR pmax pmax
comp=Z,40nm,1.3s,mb5.5
SMF Signal de Mont 86.40 316⇑*i*P **P 00 02 36.1 -0.3**
comp=Z,21nm,1.1s,mb5.0
SMF Signal de Mont 86.40 316⇑*i*P **P 00 02 36.1 -0.3**
comp=Z,21nm,1.1s,mb5.3
SMF Signal de Mont 86.40 316⇑*i*P **P 00 02 36.1 -0.3**
SMF pmax pmax
comp=Z,21nm,1.1s,mb5.3
SSF Saint Saulge 86.61 317⇑*i*P **P 00 02 37.4 0.0**
comp=Z,26nm,1.4s,mb5.0
SSF Saint Saulge 86.61 317⇑*i*P **P 00 02 37.4 0.0**
comp=Z,26nm,1.4s,mb5.3
SSF Saint Saulge 86.61 317⇑*i*P **P 00 02 37.4 0.0**
SSF pmax pmax
comp=Z,26nm,1.4s,mb5.3
AVF Avril sur Loir 86.73 317⇑*i*P **P 00 02 37.8 -0.2**
comp=Z,13nm,1.0s,mb4.8
AVF Avril sur Loir 86.73 317⇑*i*P **P 00 02 37.8 -0.2**
comp=Z,13nm,1.0s,mb5.1
AVF Avril sur Loir 86.73 317⇑*i*P **P 00 02 37.8 -0.2**
AVF pmax pmax
comp=Z,13nm,1.0s,mb5.1
BGF Bois d'Agland 87.09 316⇑*i*P **P 00 02 40.2 +0.4**
comp=Z,39nm,1.3s,mb5.2
BGF Bois d'Agland 87.09 316⇑*i*P **P 00 02 40.2 +0.4**
comp=Z,39nm,1.3s,mb5.5
BGF Bois d'Agland 87.09 316⇑*i*P **P 00 02 40.2 +0.4**
BGF pmax pmax
comp=Z,39nm,1.3s,mb5.5
TCF Toulx Ste Croi 87.55 316 *e*P **P 00 02 42.6 +0.6**
TCF Toulx Ste Croi 87.55 316 *e*P **P 00 02 42.6 +0.6**
TCF Toulx Ste Croi 87.55 316 *e*P **P 00 02 42.6 +0.6**
RJF Les Rejaudoux 88.11 315⇑*i*P **P 00 02 45.3 +0.6**
comp=Z,29nm,1.2s,mb5.1
RJF *e*R
comp=Z,94nm,19.2s
RJF Les Rejaudoux 88.11 315⇑*i*P **P 00 02 45.3 +0.6**
comp=Z,29nm,1.2s,mb5.4
RJF Les Rejaudoux 88.11 315⇑*i*P **P 00 02 45.3 +0.6**
RJF pmax pmax
comp=Z,29nm,1.2s,mb5.4
LFF La Frestale 88.68 315⇑*i*P **P 00 02 48.0 +0.6**
comp=Z,40nm,1.2s,mb5.3
LFF La Frestale 88.68 315⇑*i*P **P 00 02 48.0 +0.6**
comp=Z,40nm,1.2s,mb5.6
LFF La Frestale 88.68 315⇑*i*P **P 00 02 48.0 +0.6**
LFF pmax pmax
comp=Z,40nm,1.2s,mb5.6
FLN La Foliniere 89.16 319⇑*i*P **P 00 02 49.7 +0.1**
comp=Z,60nm,1.5s,mb5.4
FLN *e*R
comp=Z,90nm,22.5s
FLN La Foliniere 89.16 319⇑*i*P **P 00 02 49.7 +0.1**
comp=Z,60nm,1.5s,mb5.7
FLN La Foliniere 89.16 319⇑*i*P **P 00 02 49.7 +0.1**
FLN pmax pmax
comp=Z,60nm,1.5s,mb5.7
ETSF Etsaut 89.81 313⇑*i*P **P 00 02 52.7 -0.1**
ETSF Etsaut 89.81 313⇑*i*P **P 00 02 52.7 -0.1**
ETSF Etsaut 89.81 313⇑*i*P **P 00 02 52.7 -0.1**
TORD Torodi Ar. Bea 90.59 283 P **P 00 02 57.2 +0.2**
comp=Z,0.6nm,0.8s,mb4.0,baz=98,slow=3.7,SNR=6.1
TORD PP PP 00 06 32.7 +0.4
comp=Z,0.5nm,0.9s,baz=82,slow=6.9,SNR=4.0
TORD LR LR 00 39 29.2
comp=Z,105nm,20.5s,MS4.3,baz=90,slow=33
TORD Torodi Ar. Bea 90.59 283 P **P 00 02 57.2 +0.2**
TORD PP PP 00 06 32.7 +0.4
ESDC Sonseca Array 92.75 310 P **P 00 03 06.7 +0.2**
comp=Z,1.5nm,0.7s,mb4.5,baz=64,slow=4.4,SNR=8.9
ESDC Sonseca Array 92.75 310 P **P 00 03 06.7 +0.2**
DBIC Dimbokro 97.60 277 LR LR 00 44 21.6
comp=Z,81nm,19.0s,MS4.2,baz=66,slow=34
ILAR Eielson Array 98.12 22 P **P 00 03 30.8 +0.4**
comp=Z,0.2nm,0.7s,mb3.8,baz=284,slow=4.5,SNR=2.6
ILAR PP PP 00 07 29.9 +0.5
comp=Z,0.5nm,0.8s,baz=278,slow=6.1,SNR=5.8
ILAR Eielson Array 98.12 22 P **P 00 03 30.8 +0.3**
ILAR PP PP 00 07 29.9 +0.5
ILAR Eielson Array 98.12 22 P **P 00 03 30.8 +0.4**
ILAR 00 07 29.9
ULM Lac du Bonnet 124.86 7 PKP PKPdf 00 08 52.5 -1.4
comp=Z,2.2nm,0.8s,baz=297,slow=4.5,SNR=4.2
ULM Lac du Bonnet 124.86 7 PKP PKPdf 00 08 52.5 -1.4
ULM Lac du Bonnet 124.86 7 PKIKP PKPdf 00 08 52.5 -1.4
HLID Hailey 125.98 25 *e*PKPdf PKPdf 00 09 04.2 +8.0
NVAR Mina Array Bea 128.17 32 PKP PKPdf 00 09 01.4 +0.7
comp=Z,2.2nm,0.8s,baz=286,slow=3.4,SNR=5.0
NVAR Mina Array Bea 128.17 32 PKP PKPdf 00 09 01.4 +0.7
PDAR Pinedale Array 128.55 22 PKP PKPdf 00 09 01.0 -0.2
comp=Z,0.8nm,0.8s,baz=63,slow=2.4,SNR=5.6
PDAR Pinedale Array 128.55 22 PKP PKPdf 00 09 01.0 -0.2
MSU Marysvale 131.08 27 *e*PKPdf PKPdf 00 09 09.2 +3.0
MSU Marysvale 131.08 27 *e*PKIKP PKPdf 00 09 09.2 +3.1
ANMO Albuquerque 136.53 24 PKP PKPdf 00 09 17.6 +1.1
comp=Z,0.8nm,0.7s,baz=212,slow=1.9,SNR=3.6
ANMO Albuquerque 136.53 24 PKP PKPdf 00 09 17.6 +1.1
ANMO *e*PKPdf PKPdf 00 09 20.6 +4.1
ANMO Albuquerque 136.53 24 PKIKP PKPdf 00 09 17.6 +1.1
GDL2 Guadalupe Moun 139.78 24 *e*PKPdf PKPdf 00 09 21.5 -1.1
PLCA Paso Flores 141.15 200 PKhKP PKPpre 00 09 19.4
comp=Z,2.6nm,0.6s,baz=211,slow=16,SNR=8.6
PLCA Paso Flores 141.15 200 PKPpre PKPpre 00 09 19.4
TXAR Lajitas Array 142.58 25 PKhKP PKPpre 00 09 23.3
comp=Z,0.3nm,0.6s,baz=230,slow=2.2,SNR=4.7
TXAR PKP PKPdf 00 09 28.1 +0.5
comp=Z,0.3nm,0.6s,baz=233,slow=0.9,SNR=7.0
TXAR Lajitas Array 142.58 25 PKPpre PKPpre 00 09 23.3
TXAR PKP PKPdf 00 09 28.1 +0.5
JCT Junction City 142.99 19 *e*PKPdf PKPdf 00 09 32.2 +3.9
JCT Junction City 142.99 19 *e*PKIKP PKPdf 00 09 32.3 +4.0
LPAZ La Paz 158.38 236 PKPab PKPab 00 10 27.6 +0.9
comp=Z,2.1nm,0.8s,baz=128,slow=4.0,SNR=5.5
LPAZ La Paz 158.38 236 PKPab PKPab 00 10 27.6 +0.9
LPAZ La Paz 158.38 236 PKP2 PKPab 00 10 27.6 +1.0

ISCJB ***08*** *00:07:04.0±0.4, 6°.29S±0°.04×148°.54E±0°.07, h53km, mb4.3/22, MS4.4/12, Error ellipse: s-maj=10.6km s-min=5.5km az=20.8*
IDC ***08*** *00:07:04.3±3.2, 6°.25S×148°.40E, h35km±24km, mb4.0/15, mb1 4.3/18, mb1mx4.2/20, mbtmp4.1/18, ML4.3/3, MS4.3/14, Ms1 4.3/14, ms1mx4.1/24, Error ellipse: s-maj=25.3km s-min=11.1km az=116.0*
NEIC ***08*** *00:07:04.1±1.6, 6°.28S×148°.54E, h37km±14km, mb4.7/9, Error ellipse: s-maj=10.3km s-min=9.6km az=57.0*
GCMT ***08*** *00:07:10.2±0.4, 6°.56S×148°.63E, h30km±1km, MW5.0, Moment Tensor Solution. s26,c34; s50,c69; Moment tensor: Scale 10^16Nm; Mrr2.41±.25; Mθθ-3.30±.15; Mφφ0.89±.17; Mrθ2.29±.24; Mrφ1.46±.12; Mθφ-0.24±.29; Best double couple: M0 3.90000×10^16 NP1:φ304.00000°, δ29.00000°, λ115.00000°. NP2:φ96.00000°, δ64.00000°, λ77.00000°. Principal axes: T 3.2500, Plg68.0000°, Azm341.0000°; N 1.2600, Plg12.0000°, Azm102.0000°; P -4.5000, Plg18.0000°, Azm196.0000°; Data Used: II IU IC G CN.*

ISC 08 00:07:05.6±1.1, 6°.34S±0°.05×148°.49E±0°.07, h52km±10km, h55km±1.4km: pP-P, n70, σ1.9 08/66, mb4.3/22, MS4.4/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.32**	**203**	Pn	**Pn**	**00 07 55.8**	**+0.7**
	144nm,0.3s,baz=25,slow=6.5,SNR=176						
PMG				Sn	**Sn**	**00 08 34.8**	**+1.5**
	193nm,0.3s,baz=34,slow=15,SNR=16						
PMG				LR	LR	00 09 32.2	
	comp=Z,6μm,18.6s,baz=290,slow=44						
PMG	**Port Moresby**	**3.32**	**203**	Pn	**Pn**	**00 07 55.8**	**+0.7**
PMG				Sn	**Sn**	**00 08 34.8**	**+1.5**
COEN	**Coen**	**9.20**	**214**	*e*Pn	**Pn**	**00 09 15.2**	**-0.5**
	70nm,0.7s						
COEN				*e*Sn	**Sn**	**00 10 57.3**	**-0.6**
CTA	**Charters Tower**	**13.84**	**189**	Pn	**Pn**	**00 10 18.2**	**-0.9**
	0.4nm,0.3s,baz=23,slow=15,SNR=7.1						
CTA				LR	LR	00 15 28.0	
	comp=Z,1μm,20.1s,baz=14,slow=36						
CTA	**Charters Tower**	**13.84**	**189**	*e*P	**Pn**	**00 10 19.6**	**+0.5**
	16nm,1.7s						
CTA	**Charters Tower**	**13.84**	**189**	Pn	**Pn**	**00 10 18.2**	**-0.9**
EIDS	**Eidsvold**	**19.09**	**173**	*e*P	**Pn**	**00 11 24.2**	**-1.1**
	33nm,0.8s						
WRAB	**Tennant Creek**	**19.26**	**224**	*e*P	**Pn**	**00 11 26.4**	**-1.0**
	28nm,0.9s						
WRAB				*e*S	**S**	**00 15 01.9**	**+0.3**
WB2	**Warramunga Arr**	**19.27**	**224**	*e*P	**Pn**	**00 11 26.1**	**-1.4**
WB2				*e*S	**S**	**00 15 01.5**	**-0.2**
WRA	**Warramunga Arr**	**19.28**	**224**	P	**Pn**	**00 11 26.6**	**-1.0**
	2.1nm,0.3s,baz=50,slow=11,SNR=49						
WRA				S	**S**	**00 15 01.1**	**-0.8**
	baz=46,slow=22,SNR=15						
WRA				ScP	ScP	00 19 22.7	+3.5
	baz=46,slow=1.6,SNR=5.1						
WRA	**Warramunga Arr**	**19.28**	**224**	P	**Pn**	**00 11 26.6**	**-1.0**
WRA				S	**S**	**00 15 01.1**	**-0.8**
WRA				ScP	ScP	00 19 22.7	+3.5
AS31	**Alice Springs**	**22.21**	**218**	*e*P	**P**	**00 11 57.9**	**+0.1**
AS31				*e*S	**S**	**00 15 57.0**	**-2.6**
ASAR	**Alice Springs**	**22.21**	**218**	P	**P**	**00 11 58.9**	**+1.1**
	21nm,0.7s,mb4.7,baz=51,slow=9.4,SNR=163						
ASAR				S	**S**	**00 15 56.9**	**-2.8**
	3.8nm,0.8s,baz=31,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**22.21**	**218**	P	**P**	**00 11 58.9**	**+1.1**
ASAR				S	**S**	**00 15 56.9**	**-2.8**
DZM	**Mont Dzumac**	**23.36**	**134**	*e*P	**P**	**00 12 08.3**	**-1.5**
	54nm,1.0s,mb4.9						
DZM				*e*LR	LR	00 18 10.9	
	1μm,23.1s						
DZM	**Mont Dzumac**	**23.36**	**134**	*e*P	**P**	**00 12 08.5**	**-1.2**
	18nm,0.8s,mb4.5						
ARMA	**Armidale**	**24.13**	**173**	*e*P	**P**	**00 12 16.6**	**-0.2**
ARMA				*e*		00 12 29.8	
ARMA	**Armidale**	**24.13**	**173**	*e*P	**P**	**00 12 17.6**	**+0.8**
	35nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**25.16**	**240**	P	**P**	**00 12 27.8**	**+1.5**
	21nm,0.6s,mb4.8,baz=67,slow=8.7,SNR=44						
FITZ				LR	LR	00 23 46.3	
	comp=Z,759nm,19.0s,MS4.2,baz=60,slow=40						
FITZ	**Fitzroy Crossi**	**25.16**	**240**	*e*P	**P**	**00 12 27.6**	**+1.3**
	46nm,0.5s,mb5.3						
FITZ				*e*	pP	00 12 41.4	+1.9
FITZ				*e*S	**S**	**00 16 50.8**	**+2.9**
FITZ	**Fitzroy Crossi**	**25.16**	**240**	P	**P**	**00 12 27.8**	**+1.5**
STKA	**Stephens Creek**	**26.21**	**193**	P	**P**	**00 12 36.8**	**+1.2**
	12nm,0.9s,mb4.4,baz=2.1,slow=9.7,SNR=16						
STKA	**Stephens Creek**	**26.21**	**193**	*e*P	**P**	**00 12 36.8**	**+1.2**
	14nm,1.2s,mb4.4						
STKA				*e*	pP	00 12 50.4	+1.6
STKA	**Stephens Creek**	**26.21**	**193**	*e*P	**P**	**00 12 36.3**	**+0.7**
	19nm,1.7s,mb4.3						
KAPI	**Kappang**	**28.62**	**271**	P	**P**	**00 12 58.3**	**+0.9**
	14nm,1.1s,mb4.6,baz=105,slow=5.0,SNR=4.2						
KAPI	**Kappang**	**28.62**	**271**	P	**P**	**00 12 58.3**	**+0.9**
MSVF	**Nonsavu**	**31.00**	**114**	*e*P	**P**	**00 13 18.6**	**+0.1**
	9.9nm,0.9s,mb4.6						
MBWA	**Marble Bar**	**31.49**	**239**	*e*P	**P**	**00 13 23.2**	**+0.4**
	12nm,0.7s,mb4.8						
KMBL	**Kambalda**	**35.21**	**222**	*e*P	**P**	**00 13 56.1**	**+1.1**
	122nm,0.8s						
KMBL				*e*	pP	00 14 09.5	+1.0
KLBR	**Kellerberrin**	**38.16**	**225**	*e*P	**P**	**00 14 21.2**	**+1.1**
	20nm,1.0s,mb4.8						
KLBR				*e*	pP	00 14 34.6	+0.9
JOW	**Kunigami**	**38.35**	**330**	LR	LR	00 27 29.4	
	comp=Z,489nm,19.3s,MS4.3,baz=133,slow=32						
MJAR	**Matsushiro Arr**	**43.73**	**348**	P	**P**	**00 15 04.6**	**-1.3**
	1.0nm,0.3s,mb4.0,baz=180,slow=9.0,SNR=4.5						
MJAR	**Matsushiro Arr**	**43.73**	**348**	P	**P**	**00 15 04.6**	**-1.3**
KSRS	**Korea Array**	**47.61**	**338**	P	**P**	**00 15 36.0**	**-0.4**
	2.0nm,0.8s,mb4.2,baz=156,slow=9.5,SNR=5.9						
KSRS				LR	LR	00 34 00.2	
	comp=Z,218nm,20.7s,MS4.1,baz=151,slow=34						
KSAR	**Wonju Array Be**	**47.61**	**338**	P	**P**	**00 15 36.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**54.71**	**298**	P	**P**	**00 16 31.4**	**+1.4**
	0.3nm,0.4s,mb3.7,baz=114,slow=4.2,SNR=4.0						
CMAR	**Chiang Mai Arr**	**54.71**	**298**	P	**P**	**00 16 31.4**	**+1.4**
PETK	**Petropavlovsk-**	**59.73**	**6**	P	**P**	**00 17 06.6**	**+1.8**
	3.4nm,0.5s,mb4.6,baz=164,slow=7.4,SNR=5.0						
PETK				LR	LR	00 38 05.7	
	comp=Z,259nm,20.9s,MS4.3,baz=125,slow=31						
PETK	**Petropavlovsk-**	**59.73**	**6**	P	**P**	**00 17 06.6**	**+1.8**
PPT	**Papeete**	**61.38**	**106**	*e*LR	LR	00 35 51.4	
	162nm,24.0s						
TBI	**Tubuai**	**61.88**	**113**	*e*LR	LR	00 36 10.8	
	102nm,36.2s						
SONM	**Songino Array**	**65.42**	**330**	P	**P**	**00 17 44.6**	**+1.6**
	0.2nm,0.4s,mb3.5,baz=144,slow=4.1,SNR=4.4						
SONM				LR	LR	00 44 54.9	
	comp=Z,332nm,21.3s,MS4.5,baz=104,slow=35						
SONM	**Songino Array**	**65.42**	**330**	P	**P**	**00 17 44.6**	**+1.6**
MKAR	**Makanchi Array**	**78.70**	**320**	P	**P**	**00 19 01.1**	**-1.2**
	0.7nm,0.8s,mb3.6,baz=116,slow=6.1,SNR=6.5						
MKAR	**Makanchi Array**	**78.70**	**320**	P	**P**	**00 19 01.1**	**-1.2**
ZALV	**Zalesovo Beam**	**80.09**	**327**	P	**P**	**00 19 08.0**	**-1.8**
	0.5nm,0.5s,mb3.7,baz=95,slow=3.3,SNR=4.5						
ZALV				LR	LR	00 54 14.4	
	comp=Z,164nm,20.6s,MS4.4,baz=73,slow=35						
ZALV	**Zalesovo Beam**	**80.09**	**327**	P	**P**	**00 19 08.0**	**-1.8**
KURK	**Kurchatov**	**82.37**	**323**	P	**P**	**00 19 20.3**	**-1.6**
	0.7nm,0.8s,mb3.7,baz=107,slow=5.3,SNR=4.6						
KURK	**Kurchatov**	**82.37**	**323**	P	**P**	**00 19 20.3**	**-1.6**
MAW	**Mawson**	**82.50**	**203**	LR	LR	00 54 56.2	
	comp=Z,314nm,19.6s,MS4.7,baz=257,slow=35						
QSPA	**South Pole Qui**	**83.63**	**180**	*e*P	**P**	**00 19 29.0**	**+1.0**
	17nm,1.0s,mb5.1						
ILAR	**Eielson Array**	**85.21**	**23**	P	**P**	**00 19 35.5**	**-0.7**
	1.7nm,0.7s,mb4.3,baz=255,slow=4.3,SNR=18						
ILAR				LR	LR	00 53 51.1	
	comp=Z,101nm,19.1s,MS4.2,baz=270,slow=33						
ILAR	**Eielson Array**	**85.21**	**23**	P	**P**	**00 19 35.5**	**-0.7**
EGAK	**Eagle**	**87.47**	**24**	*e*P	**P**	**00 19 47.9**	**+0.6**
	4.8nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**87.91**	**324**	P	**P**	**00 19 48.8**	**-0.9**
	0.8nm,0.7s,mb4.0,baz=98,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**87.91**	**324**	P	**P**	**00 19 48.8**	**-0.9**
DAWY	**Dawson**	**87.96**	**25**	*e*P	**P**	**00 19 50.2**	**+0.6**
DLBC	**Dease Lake**	**90.91**	**31**	LR	LR	00 57 42.5	
	comp=Z,215nm,19.4s,MS4.6,baz=301,slow=33						
BBB	**Bella Bella**	**90.92**	**38**	LR	LR	00 53 23.5	
	comp=Z,149nm,19.4s,MS4.4,baz=237,slow=31						
INK	**Inuvik**	**91.43**	**21**	LR	LR	00 56 13.0	
	comp=Z,119nm,21.2s,MS4.3,baz=312,slow=32						
NVAR	**Mina Array Bea**	**96.41**	**52**	P	**P**	**00 20 30.0**	**+0.7**
	0.2nm,0.5s,mb3.8,baz=287,slow=6.3,SNR=2.4						
NVAR				LR	LR	01 00 27.7	
	comp=Z,131nm,18.8s,MS4.4,baz=119,slow=33						
NVAR	**Mina Array Bea**	**96.41**	**52**	P	**P**	**00 20 30.0**	**+0.7**
GERES	**GERESS Array B**	**123.02**	**326**	PKP	PKPdf	00 25 56.1	-0.3
	0.8nm,0.7s,baz=99,slow=1.8,SNR=9.0						
GERES	**GERESS Array B**	**123.02**	**326**	PKP	PKPdf	00 25 56.1	-0.3
LPAZ	**La Paz**	**137.36**	**122**	PKP	PKPdf	00 26 26.7	+2.3
	2.3nm,0.9s,baz=252,slow=3.2,SNR=7.7						
LPAZ	**La Paz**	**137.36**	**122**	PKP	PKPdf	00 26 26.7	+2.3
TORD	**Torodi Ar. Bea**	**146.60**	**284**	PKPbc	PKPbc	00 26 43.2	+0.7
	18nm,1.0s,baz=78,slow=2.3,SNR=84						
TORD	**Torodi Ar. Bea**	**146.60**	**284**	PKPbc	PKPbc	00 26 43.2	+0.7
DBIC	**Dimbokro**	**153.51**	**272**	PKPbc	PKPbc	00 27 00.8	+1.2
	8.5nm,1.0s,baz=140,slow=4.8,SNR=7.7						
DBIC	**Dimbokro**	**153.51**	**272**	PKPbc	PKPbc	00 27 00.8	+1.2

ATH ***08*** *00:24:03.1, 36°.04N×27°.16E, h17km±2km, MD2.9/7*
ISK ***08*** *00:24:03.5, 36°.00N×27°.24E, h7km, MD3.4*
ISCJB ***08*** *00:24:04.7±0.6, 35°.96N±0°.03×27°.25E±0°.04, h20km±6km, Error ellipse: s-maj=7.1km s-min=3.9km az=135.9*
CSEM ***08*** *00:24:04.7±0.2, 36°.01N×27°.18E, h15km, MD2.9, Error ellipse: s-maj=6.7km s-min=4.2km az=132.0*
DDA ***08*** *00:24:06.8, 36°.22N×27°.44E, h18km±3km, Md3.5*

ISC 08 00:24:04.5±0.6, 35°.99N±0°.03×27°.23E±0°.04, h13km±4km, n42, σ0.9 97/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.45**	**187**	*e*PB	**Pg**	**00 24 12.9**	**-0.4**
KARP				*e*SB	**Sg**	**00 24 19.9**	**+0.6**
KARP	**Karpathos**	**0.45**	**187**	*e*Pb	**Pg**	**00 24 12.9**	**-0.4**
KARP				*e*Sb	**Sg**	**00 24 19.9**	**+0.6**
ARG	**Arkhangelos**	**0.76**	**72**	*e*PN	**Pn**	**00 24 18.5**	**-2.5**
ARG				*e*SN	**Sn**	**00 24 29.9**	**-2.4**
DAT	**Datca**	**0.79**	**21**	*e*PG	**Pg**	**00 24 18.9**	**-1.0**
DAT				*e*SG	**Sg**	**00 24 30.2**	**0.0**
**DA

GOLH				*e*S		**Sn**	**00 25 08.3**	**-0.8**
GOLH	**Golhisar**	**2.25**	**56**	*e*P		**Pn**	**00 24 42.8**	**+1.3**
GOLH				*e*S		**Sn**	**00 25 08.3**	**-0.8**
DENT	**Denizli**	**2.28**	**39**	*e*PN		**Pn**	**00 24 42.3**	**+0.4**
DENT	**Denizli**	**2.28**	**39**	*e*Pn		**Pn**	**00 24 42.3**	**+0.5**
ELL	**Elmali**	**2.29**	**70**	*e*PN		**Pn**	**00 24 42.6**	**+0.6**
ELL	**Elmali**	**2.29**	**70**	*e*Pn		**Pn**	**00 24 42.6**	**+0.6**
VAM	**Vamos**	**2.53**	**258**	*e*PN		**Pn**	**00 24 46.0**	**+0.6**
KORT	**Korkueli**	**2.71**	**67**	*e*P		**Pn**	**00 24 50.2**	**+2.4**
KORT				*e*S		**Sn**	**00 25 19.3**	**-1.1**
KORT	**Korkueli**	**2.71**	**67**	*e*P		**Pn**	**00 24 50.2**	**+2.4**
KORT				*e*S		**Sn**	**00 25 19.3**	**-1.1**
BCK	**Bucak**	**3.07**	**60**	*e*PN		**Pn**	**00 24 53.7**	**+1.0**
BCK	**Bucak**	**3.07**	**60**	*e*Pn		**Pn**	**00 24 53.7**	**+0.9**
SHUT	**Suhut-Afyon**	**3.68**	**45**	*e*PN		**Pn**	**00 25 02.3**	**+1.1**
SHUT	**Suhut-Afyon**	**3.68**	**45**	*e*Pn		**Pn**	**00 25 02.3**	**+1.2**

*NEIC **08** 00:24:47.9, 17°.22N×94°.44W, h159km, MD3.8(MEX), After MEX.*

MEX 08 00:24:47.9±0.9, 17°.22N×94°.44W, h159km±8km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.45**	**254**	*i*P		00 25 09.1	-0.9
CMIG				*i*S		00 25 24.8	-2.0
CMIG	**Matias Romero**	**0.45**	**254**	*i*P		00 25 09.1	-0.9
CMIG				*i*S		00 25 24.8	-2.0
TGIG		**1.33**	**109**	*i*P		00 25 15.0	-1.4
TGIG				*i*S		00 25 35.2	-3.1
TGIG		**1.33**	**109**	*i*P		00 25 15.0	-1.4
TGIG				*i*S		00 25 35.2	-3.1
PCIG		**1.90**	**142**	*i*P		00 25 22.0	-0.5
PCIG				*i*S		00 25 46.4	-2.7
PCIG		**1.90**	**142**	*i*P		00 25 22.0	-0.5
PCIG				*i*S		00 25 46.4	-2.7
HUIG	**Huatulco**	**2.15**	**228**	*i*P		00 25 23.2	-2.2
HUIG				*i*S		00 25 52.9	-1.3
HUIG	**Huatulco**	**2.15**	**228**	*i*P		00 25 23.2	-2.2
HUIG				*i*S		00 25 52.9	-1.3
CCIG	**Comitan**	**2.39**	**112**	*i*P		00 25 27.3	-0.9
CCIG				*i*S		00 25 58.0	-1.1
CCIG	**Comitan**	**2.39**	**112**	*i*P		00 25 27.3	-0.9
CCIG				*i*S		00 25 58.0	-1.1
TPIG	**Tehuac#an**	**3.03**	**294**	*i*S		00 26 11.3	-2.0
TPIG	**Tehuac#an**	**3.03**	**294**	*i*S		00 26 11.3	-2.0
UTMO	**Huajuapan**	**3.27**	**281**	*e*P		00 25 38.7	-0.3
UTMO				*i*S		00 26 15.6	-3.0
UTMO	**Huajuapan**	**3.27**	**281**	*e*P		00 25 38.7	-0.3
UTMO				*i*S		00 26 15.6	-3.0
PNIG	**Pinotepa**	**3.63**	**258**	*i*P		00 25 42.0	-1.6
PNIG				*i*S		00 26 23.6	-3.2
PNIG	**Pinotepa**	**3.63**	**258**	*i*P		00 25 42.0	-1.6
PNIG				*i*S		00 26 23.6	-3.2
PPM	**Popocatepetl**	**4.39**	**295**	*i*P		00 25 52.2	-1.2
PPM				*i*S		00 26 41.2	-3.4
PPM	**Popocatepetl**	**4.39**	**295**	*i*P		00 25 52.2	-1.2
PPM				*i*S		00 26 41.2	-3.4

IDC 08 00:30:35.1±10.0, 4°.29S×105°.47W, h0km, mb3.4/4, mb1 3.9/4, mb1mx3.7/11, mbtmp3.4/4, MS3.4/2, Ms1 3.4/2, ms1mx3.0/12, Error ellipse: s-maj=285.1km s-min=112.8km az=122.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**23.68**	**26**	LR	LR	00 41 25.2	
	comp=Z,31nm,21.9s,baz=345,slow=28						
TXAR	**Lajitas Array**	**33.47**	**3**	P	P	00 37 15.3	-0.9
	0.1nm,0.5s,baz=187,slow=6.4,SNR=3.3						
NVAR	**Mina Array Bea**	**44.13**	**345**	P	P	00 38 45.4	-0.1
	0.3nm,0.7s,baz=170,slow=12,SNR=4.0						
PDAR	**Pinedale Array**	**46.98**	**356**	P	P	00 39 10.1	+2.2
	0.7nm,0.9s,baz=164,slow=8.0,SNR=4.4						
PLCA	**Paso Flores**	**47.96**	**144**	LR	LR	00 54 04.5	
	comp=Z,118nm,19.1s,baz=208,slow=29						
ILAR	**Eielson Array**	**75.32**	**343**	P	P	00 42 19.7	-0.2
	0.9nm,0.8s,baz=158,slow=5.6,SNR=11						

*ISCJB **08** 00:44:00.4±0.3, 32°.87N±0°.02×51°.55E±0°.03, h10km, Error ellipse: s-maj=3.5km s-min=3.2km az=29.8*
*TEH **08** 00:44:00.8, 32°.87N×51°.53E, h4km*
*KISR **08** 00:44:00.3±0.7, 32°.58N×51°.42E, h34km±680km, ML2.7*
*CSEM **08** 00:44:01.1±0.1, 32°.93N×51°.61E, h10km, ML2.7, Error ellipse: s-maj=3.4km s-min=2.5km az=137.0*

ISC 08 00:44:01.8±0.3, 32°.90N±0°.02×51°.59E±0°.03, h10km, n31, σ0°87/50, 2C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKLH	**Kolahrood**	**0.42**	**359**	*e*Sg	**Sg**	**00 44 15.2**	**-0.5**
IKLH				⇑*e*Pg	**Pg**	**00 44 08.9**	**-1.2**
IKLH				*e*		00 44 21.8	
	comp=Z,59μm,0.1s						
IGAR	**Gharneh**	**0.62**	**142**	⇑*e*Pg	**Pg**	**00 44 12.3**	**-1.5**
IGAR				*e*Sg	**Sg**	**00 44 20.4**	**-1.6**
IGAR				*e*		00 44 28.4	
	comp=Z,14μm,0.1s						
IZEF	**Zefreh**	**0.62**	**90**	⇓*e*Pg	**Pg**	**00 44 13.0**	**-0.9**
IZEF				*e*Sg	**Sg**	**00 44 21.9**	**-0.2**
IZEF				*e*		00 44 27.7	
	comp=Z,14μm,0.0s						
NASN	**Na'in**	**1.03**	**95**	*e*Pg	**Pg**	**00 44 21.0**	**-0.6**
NASN				*e*Sg	**Sg**	**00 44 34.8**	**-0.3**
ISFB	**Sefidab**	**1.55**	**20**	*e*Pn	**Pn**	**00 44 29.4**	**0.0**
ISFB				*e*Sg	**Sn**	**00 44 50.5**	**+0.9**
ISFB				*e*		00 44 53.0	
	comp=Z,6μm,0.2s						
GHVR	**GHOM**	**1.60**	**351**	*e*Pg	**Pg**	**00 44 31.0**	**-1.4**
GHVR				*e*Sg	**Sg**	**00 44 52.1**	**-1.1**
ISAD	**Sadrabad**	**2.03**	**118**	*e*Pn	**Pn**	**00 44 36.6**	**+0.6**
ISAD				*e*Sg	**Sn**	**00 45 04.3**	**+3.0**
ISAD				*e*		00 45 06.8	
	comp=Z,6μm,0.3s						
ICHK	**Chekchek**	**2.47**	**104**	*e*Pn	**Pn**	**00 44 42.7**	**+0.7**
ICHK				*e*Sg	**Sn**	**00 45 18.5**	**+6.3**
ICHK				*e*		00 45 24.1	
	comp=Z,4μm,0.2s						
SHGR	**Shooshtar-Gavs**	**2.48**	**252**	*e*Pn	**Pn**	**00 44 45.4**	**+3.2**
IR3	**Iran Long-Peri**	**2.62**	**350**	*e*Pn	**Pn**	**00 44 44.4**	**+0.3**
IR3				*e*		00 44 50.6	
	comp=Z,99nm,0.3s						
IR3				*e*Sg	**Sn**	**00 45 21.1**	**+5.2**
ILAS	**Lasjerd**	**2.73**	**24**	*e*Pn	**Pn**	**00 44 46.3**	**+0.7**
ILAS				*e*Sg	**Sg**	**00 45 28.9**	**-0.6**
ILAS				*e*		00 45 31.8	
	comp=Z,1μm,0.2s						
IMHD	**Mahdasht**	**2.88**	**345**	*e*Pn	**Pn**	**00 44 48.2**	**+0.4**
IMHD						00 44 53.0	
	comp=Z,731nm,0.2s						
IMHD				*e*Sg	**Sn**	**00 45 30.8**	**+8.3**
IFIR	**Firoozkooh**	**2.91**	**19**	*e*Pn	**Pn**	**00 44 48.7**	**+0.7**
IFIR				*e*		00 45 46.4	
	comp=Z,602nm,0.1s						
IMEH	**Mehriz**	**2.97**	**119**	*e*Pn	**Pn**	**00 44 49.5**	**+0.5**
IMEH				*e*Sg	**Sn**	**00 45 34.1**	**+9.4**
IMEH				*e*		00 45 44.5	
	comp=Z,677nm,0.2s						
IANJ	**Anjilo**	**3.21**	**36**	*e*Pn	**Pn**	**00 44 52.9**	**+0.7**
IBAF				*e*Pn	**Pn**	**00 44 58.1**	**+5.9**
ISHM	**Shahmirzad**	**3.23**	**25**	*e*Pn	**Pn**	**00 44 54.4**	**+1.9**
ISHM				*e*		00 45 50.5	
	comp=Z,1μm,0.2s						
IALA	**Alasht**	**3.34**	**17**	*e*	**Sg**	**00 45 48.5**	**-0.5**
	comp=Z,1μm,0.3s						
IPRN	**Peran**	**3.40**	**10**	*e*Pn	**Pn**	**00 44 55.2**	**+0.4**
IPRN				*e*		00 45 58.4	
	comp=Z,941nm,0.2s						
IKOM	**Komasi**	**3.63**	**292**	*e*Pn	**Pn**	**00 44 59.0**	**+0.9**
IKIA	**Kiasar**	**3.73**	**27**	*e*Pn	**Pn**	**00 44 59.8**	**+0.4**
IKIA				*e*		00 46 08.7	
	comp=Z,290nm,0.3s						
IGLO	**Ghaloghah**	**4.04**	**27**	*e*Pn	**Pn**	**00 45 04.1**	**+0.4**
IGLO				*e*		00 46 24.5	
	comp=Z,643nm,0.3s						
IVIS	**Veis**	**4.27**	**294**	*e*Pn	**Pn**	**00 45 06.1**	**-0.7**
IDHR	**Dehrash**	**4.69**	**294**	*e*Pn	**Pn**	**00 45 11.9**	**-0.6**
IDHR				*e*		00 46 10.9	
	comp=Z,518nm,0.2s						
UMR	**Umm Al-Rimmam**	**4.70**	**226**	*e*P	**Pn**	**00 45 13.0**	**+0.3**
UMR				*e*S	**Sn**	**00 46 06.8**	**-0.5**
UMR				AML	AML	00 46 08.4	
	comp=Z,9.5nm,0.3s						
UMR	**Umm Al-Rimmam**	**4.70**	**226**	*e*P	**Pn**	**00 45 13.0**	**+0.3**
UMR				*e*S	**Sn**	**00 46 06.8**	**-0.5**
MIB	**Mutribah**	**4.76**	**231**	*e*P	**Pn**	**00 45 13.7**	**+0.1**
MIB				*e*S	**Sn**	**00 46 08.9**	**0.0**
MIB				AML	AML	00 46 12.2	
	comp=Z,12nm,0.5s						
MIB	**Mutribah**	**4.76**	**231**	*e*P	**Pn**	**00 45 13.7**	**+0.1**
MIB				*e*S	**Sn**	**00 46 08.9**	**0.0**
NAY	**Al-Naaiem**	**5.21**	**227**	*e*P	**Pn**	**00 45 19.5**	**-0.2**
NAY				*e*S	**Sn**	**00 46 19.5**	**-0.3**
NAY				AML	AML	00 46 20.5	
	comp=Z,2.9nm,0.7s						
NAY	**Al-Naaiem**	**5.21**	**227**	*e*P	**Pn**	**00 45 19.5**	**-0.2**
NAY				*e*S	**Sn**	**00 46 19.5**	**-0.3**
RDF	**Al-Radifah**	**5.26**	**222**	*e*P	**Pn**	**00 45 20.6**	**+0.1**
RDF	**Al-Radifah**	**5.26**	**222**	*e*P	**Pn**	**00 45 20.6**	**+0.2**

*IDC **08** 01:01:01.3±1.7, 2°.99S×119°.62E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=167.1km s-min=21.8km az=60.0*
*DJA **08** 01:01:03, 2°.98S×119°.64E, h10km, MLv4.0/12*
*ISCJB **08** 01:01:04.6±0.5, 2°.95S±0°.04×119°.62E±0°.06, h33km, mb3.6/4, Error ellipse: s-maj=8.5km s-min=5.7km az=13.4*

ISC 08 01:01:06.5±0.6, 3°.02S±0°.05×119°.58E±0°.07, h35km, n16, σ0°73/19, mb3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.24**	**97**	P	**Pn**	**01 01 06.9**	**-6.8**
MSSI	**Masamba**	**0.87**	**58**	P	**Pn**	**01 01 17.0**	**-5.3**
MSSI				S	**Sn**	**01 01 28.6**	**-5.1**
SPSI	**Sidrap Palu**	**0.96**	**169**	P	**Pn**	**01 01 21.6**	**-1.9**
SPSI				S	**Sn**	**01 01 36.0**	**+0.1**
KAPI	**Kappang**	**1.99**	**175**	P	**Pn**	**01 01 37.5**	**-0.2**
KAPI				S	**Sn**	**01 02 04.9**	**+3.5**
BKSI	**Bulukumba**	**2.35**	**167**	P	**Pn**	**01 01 42.7**	**0.0**
KDI	**Kendari**	**3.17**	**107**	P	**Pn**	**01 01 54.5**	**+0.6**
SMKI	**Samarinda**	**3.49**	**317**	P	**Pn**	**01 01 58.0**	**-0.3**
LUWI	**Luwuk**	**3.74**	**58**	P	**Pn**	**01 02 02.0**	**+0.2**
MRSI	**Marisa**	**4.20**	**34**	P	**Pn**	**01 02 08.3**	**+0.3**
BBKI	**Banjar Baru**	**4.75**	**265**	P	**Pn**	**01 02 15.9**	**+0.2**
GTOI	**Gorontalo**	**4.99**	**43**	P	**Pn**	**01 02 18.8**	**-0.2**
BMNI	**Bima**	**5.56**	**189**	P	**Pn**	**01 02 27.3**	**+0.5**
WRA	**Warramunga Arr**	**22.15**	**141**	P	**P**	**01 05 58.1**	**-1.2**
	1.0nm,0.5s,mb3.5,baz=317,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**24.76**	**147**	P	**P**	**01 06 25.5**	**+0.5**
	0.7nm,0.6s,mb3.3,baz=327,slow=8.6,SNR=9.0						
SONM	**Songino Array**	**51.94**	**349**	P	**P**	**01 10 11.9**	**0.0**
	0.6nm,0.6s,mb3.7,baz=169,slow=9.1,SNR=5.0						
MKAR	**Makanchi Array**	**59.48**	**331**	P	**P**	**01 11 06.2**	**+0.3**
	0.6nm,0.7s,mb3.8,baz=136,slow=8.0,SNR=7.5						

DJA 08 01:20:08, 5°.34S×102°.72E, h13km, MLv3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.00**	**14**	P	Pb	01 20 26.4	-0.8
MNAI				S	Sb	01 20 40.6	+0.3
LWLI	**Liwa**	**1.37**	**77**	P	Pn	01 20 32.6	-0.3
KSI	**Kapahiang**	**1.68**	**356**	P	Pn	01 20 36.9	-0.2
KSI				S	Sn	01 20 59.4	+0.8
MDSI	**Maura Dua**	**1.68**	**60**	P	Pn	01 20 36.9	-0.2
MDSI				S	Sn	01 20 59.0	+0.4

*DDA **08** 01:28:02.4, 39°.02N×41°.15E, h11km±1km, Md2.9*
*CSEM **08** 01:28:02.2±0.3, 38°.98N×41°.07E, h2km, MD2.9, Error ellipse: s-maj=7.9km s-min=4.9km az=144.0*
*ISCJB **08** 01:28:03.4±0.5, 39°.02N±0°.03×41°.11E±0°.04, h8km±4km, Error ellipse: s-maj=5.1km s-min=4.0km az=34.8*
*ISK **08** 01:28:03.0, 39°.00N×41°.10E, h11km, MD2.9*

ISC 08 01:28:03.5±0.4, 39°.01N±0°.03×41°.11E±0°.04, h9km±4km, n26, σ0°84/41, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.07**	**153**	⇓*i*Pg	**Pg**	**01 28 04.9**	**-0.6**
BNGL				*i*Sg	**Sg**	**01 28 07.0**	**0.0**
VRTB	**Varto-Mus**	**0.31**	**61**	*e*PG	**Pg**	**01 28 09.6**	**+0.1**
VRTB				*e*SG	**Sg**	**01 28 15.0**	**+1.3**
VRTB	**Varto-Mus**	**0.31**	**61**	*e*Pg	**Pg**	**01 28 09.6**	**0.0**
VRTB				*e*Sg	**Sg**	**01 28 15.0**	**+1.3**
BNGB	**Bing¨¶l**	**0.34**	**267**	*e*PG	**Pg**	**01 28 09.9**	**-0.2**
BNGB				*e*SG	**Sg**	**01 28 15.4**	**+0.8**
BINT	**Bingol**	**0.50**	**255**	*e*Pg	**Pg**	**01 28 09.9**	**-3.4**
BINT				*e*Sg	**Sg**	**01 28 15.4**	**-4.5**
ERZM	**Erzurum**	**0.92**	**12**	*e*P	**Pg**	**01 28 20.1**	**-1.0**
ERZM				*e*S	**Sg**	**01 28 32.1**	**-1.0**
ERZM	**Erzurum**	**0.92**	**12**	*e*P	**Pg**	**01 28 20.1**	**-1.0**
ERZM				*e*S	**Sg**	**01 28 32.1**	**-0.9**
EZM	**Erzurum**	**0.92**	**12**	*e*PG	**Pg**	**01 28 21.2**	**+0.1**
EZM				*e*SG	**Sg**	**01 28 34.5**	**+1.5**
KOPT	**Kop Dagi**	**1.11**	**335**	*e*P	**Pb**	**01 28 23.9**	**-1.0**
KOPT				*e*S	**Sb**	**01 28 41.1**	**+1.6**
KOPT	**Kop Dagi**	**1.11**	**335**	*e*P	**Pb**	**01 28 23.9**	**-1.0**
KOPT				*e*S	**Sb**	**01 28 41.1**	**+1.6**
BEST	**Besiri**	**1.12**	**174**	*e*P	**Pb**	**01 28 24.9**	**-0.1**
BEST				*e*S	**Sb**	**01 28 40.3**	**+0.6**
ERZN	**Erzincan**	**1.22**	**299**	*e*PN	**Pn**	**01 28 26.3**	**-0.4**
DIYA	**Diyarbakir**	**1.33**	**216**	*e*P	**Pn**	**01 28 28.3**	**0.0**
DIYA				*e*S	**Sb**	**01 28 47.0**	**+1.2**
DIYA	**Diyarbakir**	**1.33**	**216**	*e*P	**Pn**	**01 28 28.3**	**0.0**
DIYA				*e*S	**Sb**	**01 28 47.0**	**+1.2**
PTK	**Pertek**	**1.35**	**266**	*e*PN	**Pn**	**01 28 27.5**	**-0.9**
PTK	**Pertek**	**1.35**	**266**	*e*Pn	**Pn**	**01 28 27.5**	**-0.9**
TUTA	**Tutak**	**1.38**	**73**	*e*P	**Pn**	**01 28 28.0**	**-0.8**
TUTA				*e*S	**Sb**	**01 28 46.7**	**-0.4**
TUTA	**Tutak**	**1.38**	**73**	*e*P	**Pn**	**01 28 28.0**	**-0.9**
TUTA				*e*S	**Sb**	**01 28 46.7**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.55**	**247**	*e*PN	**Pn**	**01 28 31.0**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.55**	**247**	*e*Pn	**Pn**	**01 28 31.0**	**-0.2**
EZC	**Erzincan**	**1.55**	**299**	*e*PN	**Pn**	**01 28 31.3**	**+0.1**
EZC	**Erzincan**	**1.55**	**299**	*e*Pn	**Pn**	**01 28 31.3**	**+0.1**
AGRB	**Hanur-Agry**	**1.56**	**68**	*e*PN	**Pn**	**01 28 32.0**	**+0.5**
AGRB	**Hanur-Agry**	**1.56**	**68**	*e*Pn	**Pn**	**01 28 32.0**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.57**	**332**	*e*PN	**Pn**	**01 28 31.2**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.57**	**332**	*e*Pn	**Pn**	**01 28 31.2**	**-0.3**

IDC 08 01:28:44.2±61.0, 24°.27S×178°.88W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=1110.0km s-min=167.5km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.54**	**249**	P	P	01 35 42.7	-0.4
	0.7nm,0.4s,baz=105,slow=14,SNR=6.4						
ASAR	**Alice Springs**	**42.98**	**261**	P	P	01 36 45.1	-0.2
	0.5nm,0.4s,baz=98,slow=9.2,SNR=4.2						
WRA	**Warramunga Arr**	**43.40**	**266**	P	P	01 36 49.2	+0.4
	0.8nm,0.4s,baz=104,slow=7.7,SNR=5.8						

IDC 08 01:38:30.0±3.3, 6°.04N×123°.78E, h630km±55km, mb2.7/7, mb1 2.8/7, mb1mx2.6/21, mbtmp2.7/7, Error ellipse: s-maj=117.4km s-min=14.3km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.83**	**158**	P	P	01 43 31.1	-0.5
	1.8nm,0.5s,baz=340,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**31.13**	**162**	P	P	01 44 00.3	+0.4
	0.5nm,0.3s,baz=342,slow=7.3,SNR=10						
STKA	**Stephens Creek**	**41.35**	**157**	P	P	01 45 23.9	+0.6
	1.4nm,0.7s,baz=325,slow=10,SNR=3.3						
SONM	**Songino Array**	**44.22**	**343**	P	P	01 45 45.2	0.0
	0.3nm,0.7s,baz=153,slow=9.7,SNR=2.5						
MKAR	**Makanchi Array**	**54.00**	**326**	P	P	01 46 57.4	+0.4
	0.8nm,0.5s,baz=120,slow=8.1,SNR=22						
MKAR				PcP	PcP	01 47 50.8	-1.0
	0.2nm,0.9s,baz=128,slow=3.7,SNR=4.6						
KURK	**Kurchatov**	**58.23**	**328**	P	P	01 47 26.2	+0.4
	0.9nm,0.5s,baz=131,slow=6.3,SNR=8.7						
BRTR	**Keskin Array B**	**86.30**	**309**	P	P	01 50 05.9	-1.1
	0.4nm,0.9s,baz=108,slow=2.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**119.41**	**289**	PKP	PKPdf	01 56 11.2	+0.8
	0.2nm,0.7s,baz=58,slow=3.6,SNR=2.5						

*TEH **08** 01:50:31.5, 26°.90N×55°.93E, h24km*
*CSEM **08** 01:50:32.7±0.1, 26°.97N×55°.88E, h2km, ML3.5, Error ellipse: s-maj=4.3km s-min=3.2km az=76.0*
*KISR **08** 01:50:34.8±0.7, 27°.28N×55°.28E, h34km±999km, ML3.7*
*OMAN **08** 01:50:36.6±99.0, 26°.77N×56°.04E, h10km, Error ellipse: s-maj=83.8km s-min=13.7km az=31.0*
*IDC **08** 01:50:48.0±17.0, 29°.19N×56°.08E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.4/28, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/37, Error ellipse: s-maj=333.0km s-min=36.5km az=174.0*

ISC 08 01:50:34.1±1.4, 26°.95N±0°.04×55°.92E±0°.07, h16km±11km, n41, σ1°05/46, mb3.7/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.74**	**47**	*e*Pg	**Pg**	**01 50 47.5**	**-1.1**
IBND				*e*Sg	**Sg**	**01 50 59.2**	**+0.7**
IBND				*e*		01 51 12.1	
	comp=Z,39μm,0.2s						
IBND	**Bandar-abas**	**0.74**	**47**	*e*Pg	**Pg**	**01 50 47.5**	**-1.1**
BANOM	**Banah**	**1.07**	**162**	P	**Pb**	**01 50 53.5**	**-0.8**
	SNR=261						
BANOM	**Banah**	**1.07**	**162**	P	**Pb**	**01 50 53.5**	**-0.8**
	SNR=261						
ASHO	**Ashiyiah**	**2.26**	**177**	P	**Pn**	**01 51 11.6**	**+0.8**
	SNR=26						
ASHO	**Ashiyiah**	**2.26**	**177**	P	**Pn**	**01 51 11.6**	**+0.8**
	SNR=26						
ASUD	**Al Ashush, Dub**	**2.37**	**193**	P	**Pn**	**01 51 13.7**	**+1.3**
	SNR=21						
ASUD	**Al Ashush, Dub**	**2.37**	**193**	P	**Pn**	**01 51 13.7**	**+1.3**
	SNR=21						
KRBR	**Kerman**	**3.11**	**13**	*e*Pn	**Pn**	**01 51 23.8**	**+1.2**
ISRV	**Sarvestan**	**3.47**	**315**	*e*Pn	**Pn**	**01 51 27.8**	**+0.3**
ISRV				*e*		01 53 09.5	
	comp=Z,1μm,0.4s						
ISRV	**Sarvestan**	**3.47**	**315**	*e*Pn	**Pn**	**01 51 27.8**	**+0.3**
IPAR	**Pars**	**3.84**	**319**	*e*Pn	**Pn**	**01 51 33.0**	**+0.4**
IPAR				*e*		01 52 24.8	
	comp=Z,390nm,0.4s						
IPAR	**Pars**	**3.84**	**319**	*e*Pn	**Pn**	**01 51 33.0**	**+0.4**
IMEH	**Mehriz**	**4.57**	**346**	*e*Pn	**Pn**	**01 51 43.0**	**+0.3**
IMEH				*e*		01 52 41.0	
	comp=Z,479nm,0.3s						
IMEH	**Mehriz**	**4.57**	**346**	*e*Pn	**Pn**	**01 51 43.0**	**+0.3**
IBAF	**Bafgh**	**4.64**	**356**	*e*Pn	**Pn**	**01 51 43.7**	**+0.2**
IBAF				*e*		01 51 46.5	
	comp=Z,446nm,0.1s						
IBAF	**Bafgh**	**4.64**	**356**	*e*Pn	**Pn**	**01 51 43.7**	**+0.2**
ZHSF	**Zahedan**	**5.04**	**57**	*e*Pn	**Pn**	**01 51 49.0**	**0.0**
ISAD	**Sadrabad**	**5.32**	**339**	*e*Pn	**Pn**	**01 51 53.3**	**+0.4**
ISAD				*e*		01 53 01.3	
	comp=Z,339nm,0.1s						
ISAD	**Sadrabad**	**5.32**	**339**	*e*Pn	**Pn**	**01 51 53.3**	**+0.4**
ICHK	**Chekchek**	**5.44**	**346**	*e*Pn	**Pn**	**01 51 54.8**	**+0.2**
ICHK				*e*		01 53 00.7	
	comp=Z,288nm,0.3s						
ICHK	**Chekchek**	**5.44**	**346**	*e*Pn	**Pn**	**01 51 54.8**	**+0.2**
IGAR	**Gharneh**	**6.40**	**329**	*e*Pn	**Pn**	**01 52 07.8**	**0.0**
IZEF	**Zefreh**	**6.70**	**333**	*e*Pn	**Pn**	**01 52 11.3**	**-0.6**
IZEF				*e*		01 52 24.3	
	comp=Z,118nm,0.2s						
IZEF	**Zefreh**	**6.70**	**333**	*e*Pn	**Pn**	**01 52 11.3**	**-0.6**
IKLH	**Kolahrood**	**7.38**	**330**	*e*Pn	**Pn**	**01 52 21.6**	**+0.4**
IKLH				*e*		01 52 40.2	
	comp=Z,84nm,0.1s						
IKLH	**Kolahrood**	**7.38**	**330**	*e*Pn	**Pn**	**01 52 21.6**	**+0.4**
RDF	**Al-Radifah**	**7.67**	**287**	*e*P	**Pn**	**01 52 24.6**	**-0.5**
RDF				*e*S	**Sn**	**01 53 47.1**	**-4.5**
RDF				AML	AML	01 53 48.6	
	comp=Z,15nm,0.6s						
RDF	**Al-Radifah**	**7.67**	**287**	*e*P	**Pn**	**01 52 24.6**	**-0.5**
UMR	**Umm Al-Rimmam**	**7.69**	**292**	*e*P	**Pn**	**01 52 24.6**	**-0.9**
UMR				*e*S	**Sn**	**01 53 47.5**	**-4.8**
UMR				AML	AML	01 53 49.0	
	comp=Z,10nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.69**	**292**	*e*P	**Pn**	**01 52 24.6**	**-0.9**
NAY	**Al-Naaiem**	**8.00**	**289**	*e*P	**Pn**	**01 52 29.3**	**-0.5**
NAY				*e*S	**Sn**	**01 53 54.8**	**-5.2**
NAY				AML	AML	01 53 55.8	
	comp=Z,7.5nm,0.5s						
NAY	**Al-Naaiem**	**8.00**	**289**	*

MTP Monte Pirata 20.49 286 *eP* **P 01 55 38.5 -1.2**
comp=Z,222nm,1.2s
SACV Santiago Islan 20.62 83 *e*Pn **P 01 55 42.2 +1.1**
comp=Z,231nm,0.9s
SACV LR LR
comp=Z,5µm,20.0s,MS4.9
SACV Santiago Islan 20.62 83 Pn **P 01 55 42.1 +1.0**
comp=Z,1µm,0.9s,SNR=6.5
HUMP Col San Antoni 20.77 286 *eP* **P 01 55 42.8 +0.1**
comp=Z,188nm,1.3s
CBYP Canovanas 20.80 286 *eP* **P 01 55 43.0 -0.1**
comp=Z,453nm,2.1s
CPD Cerro la Pandu 20.82 285 *eP* **P 01 55 42.7 -0.5**
comp=Z,286nm,1.4s
CPD Cerro la Pandu 20.82 285 *eP* **P 01 55 42.7 -0.5**
CPD pmax pmax
comp=Z,286nm,1.4s
SJG San Juan 21.05 286 P **P 01 55 43.7 -2.0**
comp=Z,65nm,1.1s,mb4.9,baz=103,slow=8.2,SNR=15
SJG San Juan 21.05 286 *eP* **P 01 55 43.9 -1.8**
comp=Z,801nm,1.9s,mb5.7
SJG LR LR
comp=Z,5µm,22.0s,MS4.8
SJG San Juan 21.05 286 *eP* **P 01 55 43.9 -1.8**
SJG pmax pmax
comp=Z,801nm,1.9s
SJG MLR MLR
comp=Z,5µm,22.0s
RCBR Riachuelo 21.06 155 P **P 01 55 44.6 -1.2**
comp=Z,18nm,1.0s,mb4.4,baz=351,slow=13,SNR=6.6
RCBR LR LR 02 01 43.8
comp=Z,4µm,21.4s,MS4.8,baz=318,slow=31
RCBR Riachuelo 21.06 155 *eP* **P 01 55 45.2 -0.6**
comp=Z,196nm,1.5s,mb5.2
ICM Isla Caja Muer 21.36 285 *eP* **P 01 55 47.1 -2.0**
CELP Cerrillos 21.45 285 *eP* **P 01 55 47.3 -2.7**
OBIP Obispado Ponce 21.47 285 *eP* **P 01 55 49.4 -0.9**
comp=Z,332nm,1.3s,mb5.5
AOPR Arecibo Observ 21.66 286 *eP* **P 01 55 52.1 -0.2**
comp=Z,200nm,1.4s,mb5.3
LRS Lares 21.73 286 *eP* **P 01 55 52.0 -1.1**
CRPR Cabo Rojo, PR 21.93 285 *eP* **P 01 55 54.7 -0.5**
comp=Z,80nm,1.2s,mb5.0
LSP Las Mesas 21.94 285 *eP* **P 01 55 55.3 0.0**
MPR Mayaguez 22.00 285 *eP* **P 01 55 55.7 -0.1**
comp=Z,400nm,1.7s,mb5.6
AGPR Aguadilla, PR 22.01 286 *eP* **P 01 55 58.5 +2.4**
comp=Z,308nm,1.2s,mb5.6
AGP Aguadilla 22.03 286 *eP* **P 01 55 56.4 +0.1**
comp=Z,324nm,1.2s,mb5.6
SDV Santo Domingo 25.71 263 *eP* **P 01 56 31.6 -0.6**
SDV LR LR
comp=Z,61nm,1.0s,mb5.1
SDV LR LR
comp=Z,860nm,19.0s,MS4.3
SDDR Presa de Saban 26.00 286 *eP* **P 01 56 35.0 +0.3**
comp=Z,85nm,1.1s,mb5.2
SDDR LR LR
comp=Z,5µm,22.0s,MS5.0
BBSR BB Station 26.21 319 PFAKE 01 56 50.0 +14
BBSR LR LR
comp=Z,2µm,22.0s,MS4.7
BBTS Babate 27.46 84 P **P 01 56 48.1 +0.2**
comp=Z,18nm,0.8s,mb4.6,baz=283,slow=3.1,SNR=4.2
BBTS LR LR 02 05 01.4
comp=Z,5µm,20.9s,MS5.1,baz=260,slow=31
BBTS Babate 27.46 84 P **P 01 56 48.1 +0.2**
ROSC El Rosal 30.32 256 P **P 01 57 13.7 +0.3**
comp=Z,6.9nm,0.6s,mb4.5,baz=101,slow=20,SNR=7.6
ROSC LR LR 02 08 35.5
comp=Z,2µm,21.9s,MS4.7,baz=21,slow=35
ROSC El Rosal 30.32 256 *eP* **P 01 57 13.6 +0.2**
LMGC Las Mercedes 31.49 287 *e* **P 01 57 24.0 +0.4**
PMAR Madeira 31.91 48 *eP* **P 01 57 31.4 +4.2**
CAM4 Nova Friburgo 35.61 176 ⇑*i*P **P 01 57 57.3 -2.1**
CAM4 *i* 01 58 04.4
CAM4 *i* 01 58 09.6
CAM4 *i* 01 58 12.8
CAM4 *i* 01 58 15.4
CAM4 *i* 01 58 28.5
CAM4 *i* 01 58 38.3
CAM4 *i* 01 58 43.9
CAM4 *i* 01 58 47.8
CAM4 *i* 01 59 00.5
CAM4 *i* 01 59 05.4
OTAV Otavalo 35.79 251 *eP* **P 01 58 01.7 +0.5**
comp=Z,61nm,1.3s,mb5.4
OTAV LR LR
comp=Z,2µm,21.0s,MS4.9
SPB Sao Paulo 36.86 184 *eP* **P 01 58 11.0 +0.9**
comp=Z,34nm,0.9s,mb5.2
SPB LR LR
comp=Z,2µm,20.0s,MS4.8
CNNC Cliffs of the 36.88 312 PFAKE 01 58 20.0 +10
CNNC LR LR
comp=Z,2µm,19.0s,MS4.8
LPAZ La Paz 37.44 219 P **P 01 58 15.8 +0.7**
comp=Z,33nm,1.1s,mb5.1,baz=15,slow=8.9,SNR=49
LPAZ LR LR 02 13 20.8
comp=Z,5µm,20.5s,MS5.3,baz=33,slow=36
LPAZ La Paz 37.44 219 *eP* **P 01 58 16.2 +1.1**
comp=Z,58nm,1.1s,mb5.3
LPAZ *e*PP PP 01 59 42.6 +2.0
LPAZ La Paz 37.44 219 *eP* **P 01 58 16.2 +1.1**
LPAZ *e* 01 59 42.6
LPAZ pmax pmax
comp=Z,58nm,1.1s
NHSC New Hope 37.69 307 PFAKE 01 58 30.0 +13
NHSC LR LR
comp=Z,4µm,22.0s,MS5.1
PKME Peaks-Kenny Pk 37.95 332 PFAKE 01 58 30.0 +11
PKME LR LR
comp=Z,2µm,22.0s,MS4.8
CBN Corbin 37.99 316 PFAKE 01 58 30.0 +10
CBN LR LR
comp=Z,2µm,20.0s,MS4.9
LBNH Lisbon 38.48 328 PFAKE 01 58 40.0 +16
LBNH LR LR
comp=Z,2µm,21.0s,MS4.9
ATAH Atahualpa 39.09 240 P **P 01 58 29.5 +0.4**
comp=Z,91nm,1.1s,mb5.4,baz=85,slow=5.5,SNR=23
ATAH Atahualpa 39.09 240 P **P 01 58 29.5 +0.4**
JTS JuntasAbangare 39.37 270 PFAKE 01 58 40.0 +8.5
JTS LR LR
comp=Z,801nm,19.0s,MS4.6
KMSC Kings Mountain 39.38 310 ⇑P **P 01 58 31.6 +0.3**
baz=39
BINY Binghamton 39.39 323 PFAKE 01 58 40.0 +8.8
BINY LR LR
comp=Z,2µm,19.0s,MS4.9
NCB Newcomb 39.51 326 PFAKE 01 58 40.0 +7.7
NCB LR LR
comp=Z,2µm,21.0s,MS4.9
BLA Blacksburg 39.61 313 *eP* **P 01 58 33.8 +0.6**
comp=Z,28nm,1.0s,mb5.0
BLA LR LR
comp=Z,2µm,19.0s,MS4.9
BLA Blacksburg 39.61 313 *eP* **P 01 58 33.8 +0.6**
BLA pmax pmax
comp=Z,28nm,1.0s,mb5.0
BLA MLR MLR
comp=Z,2µm,19.0s,MS4.9
DBIC Dimbokro 39.87 96 *eP* **P 01 58 35.4 -0.3**
DBIC Dimbokro 39.87 96 P **P 01 58 35.4 -0.3**
comp=Z,29nm,1.1s,mb5.0,baz=270,slow=9.7,SNR=30
DBIC LR LR 02 13 20.7
comp=Z,3µm,18.3s,MS5.1,baz=248,slow=34
DBIC Dimbokro 39.87 96 *eP* **P 01 58 34.9 -0.9**
DBIC *e* 02 00 01.8
DBIC Dimbokro 39.87 96 *eP* **P 01 58 34.9 -0.8**
DBIC pmax pmax
comp=Z,133nm,1.2s
MORF Marmelete 40.05 47 *eP* **P 01 58 37.7 +0.8**
MORF *e*S **S 02 04 43.8 +0.9**
MORF *e*LQ 02 07 41.9
MORF *e*LR LR 02 09 16.4
comp=Z,2µm,22.0s
LONY Lake Ozonia 40.13 327 PFAKE 01 58 50.0 +13
LONY LR LR
comp=Z,2µm,22.0s,MS4.9
GOGA Godfrey 40.36 306 *eP* **P 01 58 39.8 +0.3**
comp=Z,47nm,1.3s,mb5.0
GOGA LR LR
comp=Z,3µm,22.0s,MS5.0
GOGA Godfrey 40.36 306 *eP* **P 01 58 39.8 +0.3**
GOGA pmax pmax
comp=Z,47nm,1.3s,mb5.1
GOGA MLR MLR
comp=Z,3µm,22.0s,MS5.0
PMAFR Mafra 40.39 44 *e*S **S 02 04 57.1 +9.3**
PMAFR *e*LQ 02 07 55.4
PMAFR *e*LR LR 02 09 02.4
comp=Z,3µm,22.0s
PNCL Nicolau / Gran 40.51 46 *e*S **S 02 04 57.3 +7.6**
PNCL *e*LQ 02 07 51.2
PNCL *e*LR LR 02 09 13.2
comp=Z,3µm,20.0s
PBDV Barranco-do-Ve 40.54 47 *eP* **P 01 58 42.9 +2.0**
PBDV *e*S **S 02 04 50.0 -0.2**
PBDV *e*LQ 02 07 54.0
PBDV *e*LR LR 02 09 13.0
comp=Z,2µm,22.0s
NNA Nana 40.56 233 *eP* **P 01 58 40.6 -0.7**
comp=Z,53nm,1.1s,mb5.1
NNA LR LR
comp=Z,1µm,22.0s,MS4.8
NNA Nana 40.56 233 *eP* **P 01 58 40.6 -0.7**
NNA pmax pmax
comp=Z,53nm,1.1s
NNA MLR MLR
comp=Z,1µm,22.0s
PCVE Castro Verde 40.63 47 *eP* **P 01 58 42.2 +0.5**
comp=Z,95nm,1.5s,mb5.2
PCVE *e*S **S 02 04 54.5 +2.9**
PCVE *e*LQ 02 07 55.5
PCVE *e*LR LR 02 09 22.3
comp=Z,2µm,20.0s
PVAQ Vaqueiros 40.76 47 *eP* **P 01 58 44.2 +1.4**
comp=Z,62nm,1.7s,mb5.0
PVAQ *e*S **S 02 04 59.1 +5.6**
PVAQ *e*LQ 02 08 00.3
PVAQ *e*LR LR 02 09 12.9
comp=Z,2µm,22.0s
PBEJ Beja 40.93 46 *eP* **P 01 58 45.0 +0.8**
comp=Z,77nm,1.9s,mb5.0
EVOP Sao Brissos 40.98 46 *eP* **P 01 58 44.3 -0.3**
comp=Z,147nm,1.4s,mb5.4
EVOP Sao Brissos 40.98 46 *eP* **P 01 58 44.3 -0.3**
EVOP pmax pmax
comp=Z,147nm,1.4s,mb5.4
EVO Evora 41.06 46 *eP* **P 01 58 44.3 -0.9**
comp=Z,147nm,1.4s,mb5.1
EVO *e*R
comp=Z,4µm,22.2s
EVO Evora 41.06 46 *eP* **P 01 58 45.5 +0.3**
comp=Z,67nm,1.6s,mb5.0
PMTG Montargil 41.16 45 *eP* **P 01 58 46.0 0.0**
comp=Z,48nm,1.6s,mb4.9
PMTG *e*S **S 02 05 05.9 +6.5**
PMTG *e*LQ 02 08 06.5
PMTG *e*LR LR 02 09 24.0
comp=Z,2µm,22.0s
TGUH Tegucigalpa,Un 41.21 276 PFAKE 01 59 00.0 +13
TGUH LR LR
comp=Z,2µm,20.0s,MS5.0
PTOM Tomar 41.30 44 *eP* **P 01 58 48.1 +0.9**
comp=Z,79nm,1.7s,mb5.1
TKL Tuckaleechee C 41.41 309 LR LR 02 12 34.7
comp=Z,2µm,20.4s,MS4.9,baz=115,slow=31
TKL Tuckaleechee C 41.41 309 *eP* **P 01 58 48.4 +0.3**
TKL Tuckaleechee C 41.41 309 *eP* **P 01 58 48.4 +0.3**
SFS San Fernando 41.47 49 PFAKE 01 59 00.0 +11
SFS LR LR
comp=Z,2µm,19.0s,MS5.1
PESTR Estremoz 41.51 45 *eP* **P 01 58 54.8 +5.9**
comp=Z,42nm,1.8s,mb4.8
PESTR *e*S **S 02 05 09.1 +4.6**
PESTR *e*LQ 02 08 14.4
PESTR *e*LR LR 02 09 55.1
comp=Z,2µm,22.0s
PBAR Barrancos 41.58 47 *eP* **P 01 58 50.1 +0.6**
comp=Z,55nm,1.8s,mb4.9
PBAR *e*S **S 02 05 12.6 +6.9**
PBAR *e*LQ 02 08 16.3
PBAR *e*LR LR 02 09 44.8
comp=Z,2µm,18.0s
TZTN Tazewell 41.59 311 *eP* **P 01 58 50.2 +0.7**
comp=Z,306nm,2.1s,mb5.6
ERPA Erie 41.77 320 PFAKE 01 59 00.0 +9.0
ERPA LR LR
comp=Z,2µm,21.0s,MS5.0
CPCT Cooper Cave 41.90 309 *eP* **P 01 58 53.1 +0.9**
PMRV Marv??o 41.90 45 *e*S **S 02 05 20.2 +10**
PMRV *e*LQ 02 08 26.9
PMRV *e*LR LR 02 09 52.9
comp=Z,2µm,20.0s
PCBR Castelo Branco 42.04 44 *eP* **P 01 58 53.5 +0.3**
comp=Z,63nm,2.0s,mb4.9
TEIG Tepich 42.05 285 PFAKE 01 59 00.0 +6.4
TEIG LR LR
comp=Z,1µm,19.0s,MS4.7
PVIS Viseu 42.18 43 *eP* **P 01 58 55.1 +0.8**
comp=Z,73nm,1.7s,mb5.0
MTE Manteigas 42.26 43 *eP* **P 01 58 55.2 +0.2**
comp=Z,71nm,1.5s,mb5.1
MTE *e*S **S 02 05 11.0 -4.6**
MTE *e*LQ 02 08 34.6
MTE *e*LR LR 02 10 17.7
comp=Z,4µm,20.0s
MTE Manteigas 42.26 43 *eP* **P 01 58 54.9 -0.1**
comp=Z,38nm,1.2s,mb4.9
MTE LR LR
comp=Z,3µm,20.0s,MS5.2
BRAL Brewton 42.55 301 *eP* **P 01 58 57.4 -0.1**
comp=Z,229nm,1.4s,mb5.7
BRAL LR LR
comp=Z,4µm,21.0s,MS5.3
PGAV Gavieira, Arco 42.57 41 *eP* **P 01 58 57.9 +0.4**
comp=Z,82nm,1.7s,mb5.2
PGAV *e*S **S 02 05 26.1 +6.0**
PGAV *e*LQ 02 08 43.6
PGAV *e*LR LR 02 10 13.5
comp=Z,3µm,20.0s
POLO Lamas de Olo 42.57 42 *eP* **P 01 58 59.0 +1.5**
POLO *e*S **S 02 05 22.6 +2.4**
POLO *e*LQ 02 08 43.9
POLO *e*LR LR 02 10 29.0
comp=Z,1µm,20.0s
PCAB Cabril 42.59 41 *eP* **P 01 58 57.8 +0.1**
comp=Z,83nm,2.2s,mb5.1
SADO Sadowa 42.76 324 P **P 01 58 58.5 -0.5**
comp=Z,16nm,1.1s,mb4.7,baz=135,slow=12,SNR=3.7
SADO Sadowa 42.76 324 P **P 01 58 58.5 -0.5**
ACSO Alum Creek Sta 42.78 316 *eP* **P 01 58 58.6 -0.7**
comp=Z,46nm,1.1s,mb5.1
ACSO LR LR
comp=Z,2µm,22.0s,MS5.0
SWET Sewanee 42.90 308 *eP* **P 01 58 59.4 -0.9**
comp=Z,43nm,1.1s,mb5.1
MVO Moncorvo 42.97 43 *eP* **P 01 59 03.6 +2.8**
comp=Z,55nm,2.0s,mb4.9
MVO *e*S **S 02 05 32.0 +5.9**
MVO *e*LQ 02 08 51.3
MVO *e*LR LR 02 10 32.8
comp=Z,3µm,22.0s
PAB San Pablo 44.07 46 *eP* **P 01 59 09.8 +0.2**
comp=Z,112nm,2.2s,mb5.2
PAB LR LR
comp=Z,3µm,20.0s,MS5.2
PAB San Pablo 44.07 46 *eP* **P 01 59 09.8 +0.1**
PAB pmax pmax
comp=Z,112nm,2.2s,mb5.2
PAB MLR MLR
comp=Z,3µm,20.0s,MS5.2
AAM Ann Arbor 44.21 318 PFAKE 01 59 20.0 +9.3
AAM LR LR
comp=Z,2µm,19.0s,MS5.0
ESDC Sonseca Array 44.39 46 P **P 01 59 12.5 +0.3**
comp=Z,7.8nm,0.8s,mb4.5,baz=245,slow=8.1,SNR=30
ESDC LR LR 02 14 49.5
comp=Z,2µm,19.1s,MS5.0,baz=245,slow=32
ESDC Sonseca Array 44.39 46 P **P 01 59 12.5 +0.3**
ESLA Sonseca Array 44.39 46 *eP* **P 01 59 11.8 -0.4**
comp=Z,4.1nm,1.0s,mb4.1
ESLA LR LR
comp=Z,14µm,20.0s,MS5.9
PLAL Pickwick Lake 44.48 307 *eP* **P 01 59 13.0 -0.1**
comp=Z,90nm,1.3s,mb5.3
PLAL LR LR
comp=Z,3µm,22.0s,MS5.1
WVT Waverly 44.66 308 *eP* **P 01 59 13.5 -1.0**
comp=Z,650nm,2.8s,mb6.0
WVT Waverly 44.66 308 *eP* **P 01 59 13.5 -0.9**
WVT pmax pmax
comp=Z,650nm,2.8s,mb6.0
SCHQ Schefferville 44.77 342 P **P 01 59 14.9 -0.1**
comp=Z,15nm,1.0s,mb4.8,baz=143,slow=11,SNR=8.6
SCHQ PcP PcP 02 00 56.3 -0.7
comp=Z,4.6nm,0.7s,baz=190,slow=1.5,SNR=3.7
SCHQ LR LR 02 15 08.9
comp=Z,1µm,21.1s,MS4.8,baz=330,slow=32
SCHQ Schefferville 44.77 342 P **P 01 59 14.9 -0.1**
SCHQ PcP PcP 02 00 56.3 -0.7
USIN University of 45.17 311 *eP* **P 01 59 19.1 +0.7**
comp=Z,602nm,2.8s,mb5.9
USIN *e* 02 01 02.0
TORD Torodi Ar. Bea 45.22 85 P **P 01 59 17.7 -1.5**
comp=Z,5.5nm,0.5s,mb4.6,baz=286,slow=8.3,SNR=70
TORD PcP PcP 02 00 58.8 -0.6
comp=Z,3.8nm,1.0s,baz=307,slow=4.4,SNR=2.9
TORD LR LR 02 16 18.0
comp=Z,5µm,20.1s,MS5.4,baz=270,slow=34
TORD Torodi Ar. Bea 45.22 85 P **P 01 59 17.7 -1.5**
TORD PcP PcP 02 00 58.8 -0.6
OXF Oxford 45.40 305 *eP* **P 01 59 20.1 -0.2**
comp=Z,56nm,1.1s,mb5.3
OXF LR LR
comp=Z,3µm,22.0s,MS5.2
OXF Oxford 45.40 305 *eP* **P 01 59 20.1 -0.2**
OXF pmax pmax
comp=Z,55nm,1.1s,mb5.3
OXF MLR MLR
comp=Z,3µm,22.0s,MS5.2
SFIN Scholer Farm 45.68 314 ⇓P **P 01 59 23.0 +0.5**
baz=46
VBMS Vicksburg 45.71 302 PFAKE 01 59 30.0 +7.2
VBMS LR LR
comp=Z,3µm,20.0s,MS5.3
HALT Halls 45.75 307 *eP* **P 01 59 21.6 -1.5**
OLIL Olney 45.76 312 *eP* **P 01 59 23.6 +0.4**
comp=Z,65nm,1.2s,mb5.4
GLAT Glass 45.82 308 *eP* **P 01 59 23.9 +0.3**
GLMI Grayling 46.06 321 PFAKE 01 59 40.0 +15
GLMI LR LR
comp=Z,2µm,22.0s,MS5.0
PARMO Parma 46.30 308 *eP* **P 01 59 27.8 +0.3**
EANR 'Ain N'Sour 46.85 53 P **P 01 59 32.7 +1.0**
ETRT Tiaret 46.85 54 P **P 01 59 33.0 +1.3**
FVM French Village 47.23 310 *eP* **P 01 59 33.7 -0.9**
comp=Z,767nm,2.9s,mb6.1
FVM French Village 47.23 310 *eP* **P 01 59 33.7 -1.0**
FVM pmax pmax
comp=Z,767nm,2.9s,mb6.1
EBNR Beni Rached 47.28 53 P **P 01 59 37.2 +2.1**
SLM Saint Louis 47.30 311 *eP* **P 01 59 35.2 0.0**
comp=Z,119nm,1.5s,mb5.6
SLM Saint Louis 47.30 311 *eP* **P 01 59 35.2 0.0**
SLM pmax pmax
comp=Z,119nm,1.5s,mb5.6
SJPF Ste Jean 47.70 43 *eP* **P 01 59 37.7 -0.6**
comp=Z,96nm,1.0s,mb5.5
SJPF Ste Jean 47.70 43 *eP* **P 01 59 37.7 -0.6**
comp=Z,96nm,1.0s,mb5.8
SJPF Ste Jean 47.70 43 *eP* **P 01 59 37.7 -0.6**
SJPF pmax pmax
comp=Z,96nm,1.0s,mb5.8
UALR University of 47.80 305 *eP* **P 01 59 38.8 -0.4**
comp=Z,65nm,1.2s,mb5.5
CCM Cathedral Cave 47.86 310 *eP* **P 01 59 38.6 -1.0**
comp=Z,88nm,1.5s,mb5.6
CCM *e*PcP PcP 02 01 07.8 -0.5
CCM Cathedral Cave 47.86 310 *eP* **P 01 59 38.6 -1.0**
CCM *e* 02 01 07.8
CCM pmax pmax
comp=Z,88nm,1.5s,mb5.6
ETSF Etsaut 48.06 44 *eP* **P 01 59 40.8 -0.2**
comp=Z,242nm,1.6s,mb5.7
ETSF Etsaut 48.06 44 *eP* **P 01 59 40.8 -0.2**
comp=Z,242nm,1.6s,mb6.0
ETSF Etsaut 48.06 44 *eP* **P 01 59 40.8 -0.2**
ETSF pmax pmax
comp=Z,242nm,1.6s,mb6.0
REYF Montagne du Re 48.24 43 *eP* **P 01 59 43.8 +1.4**
EMHD Djebel Mahouad 48.36 53 P **P 01 59 44.5 +1.0**
SHEL Horse Pasture 48.41 126 PFAKE 02 00 00.0 +16
SHEL LR LR
comp=Z,3µm,21.0s,MS5.2
VIEF Viey 48.44 44 *eP* **P 01 59 45.4 +1.4**
LABF Labassere 48.54 44 *eP* **P 01 59 46.2 +1.4**
TAM Tamanrasset 48.56 71 *eP* **P 01 59 46.5 +1.3**
comp=Z,78nm,1.8s,mb5.4
TAM LR LR
comp=Z,4µm,22.0s,MS5.4
TAM Tamanrasset 48.56 71 *eP* **P 01 59 46.5 +1.3**
TAM pmax pmax
comp=Z,78nm,1.8s,mb5.4
TAM MLR MLR
comp=Z,4µm,22.0s,MS5.4
RESF Ens 48.62 44 *eP* **P 01 59 46.8 +1.4**
EPF Esparros 48.71 44 *eP* **P 01 59 45.8 -0.3**
comp=Z,70nm,1.2s,mb5.3
EPF Esparros 48.71 44 *eP* **P 01 59 45.8 -0.3**
comp=Z,70nm,1.2s,mb5.6
EPF Esparros 48.71 44 *eP* **P 01 59 45.8 -0.3**
EPF pmax pmax
comp=Z,70nm,1.2s,mb5.6
MIAR Mount Ida 48.73 304 *eP* **P 01 59 46.0 -0.4**
comp=Z,27nm,1.0s,mb5.2
MIAR *e*PcP PcP 02 01 08.1 -3.3
MIAR LR LR
comp=Z,2µm,21.0s,MS5.2
MIAR Mount Ida 48.73 304 *eP* **P 01 59 46.0 -0.4**
MIAR *e* 02 01 08.1
MIAR pmax pmax
comp=Z,27nm,1.0s,mb5.2
MIAR MLR MLR
comp=Z,2µm,21.0s,MS5.2
QUIF Quistinic 48.73 36 *eP* **P 01 59 44.5 -1.7**
comp=Z,318nm,1.9s,mb5.7
QUIF Quistinic 48.73 36 *eP* **P 01 59 44.5 -1.7**
comp=Z,318nm,1.9s,mb6.0
QUIF Quistinic 48.73 36 *eP* **P 01 59 44.5 -1.7**
QUIF pmax pmax
comp=Z,318nm,1.9s,mb6.0
JFWS Jewell Farm 48.85 316 *eP* **P 01 59 47.9 +0.8**
comp=Z,66nm,1.4s,mb5.5
JFWS LR LR
comp=Z,2µm,19.0s,MS5.0
JFWS Jewell Farm 48.85 316 *eP* **P 01 59 47.9 +0.7**
JFWS pmax pmax
comp=Z,66nm,1.4s,mb5.5
JFWS MLR MLR
comp=Z,2µm,19.0s,MS5.0
ROSF Rostrenen 48.88 36 *eP* **P 01 59 46.0 -1.3**
comp=Z,95nm,1.2s,mb5.4
ROSF Rostrenen 48.88 36 *eP* **P 01 59 46.0 -1.3**
comp=Z,95nm,1.2s,mb5.7
ROSF Rostrenen 48.88 36 *eP* **P 01 59 46.0 -1.3**
ROSF pmax pmax
comp=Z,95nm,1.2s,mb5.7
MELF Melles 48.94 44 *eP* **P 01 59 49.5 +1.7**
LCO Las Campanas 49.03 210 PFAKE 02 00 00.0 +11
LCO LR LR
comp=Z,1µm,21.0s,MS4.9
NATX Nacogdoches 49.06 300 PFAKE 02 00 00.0 +11
NATX LR LR
comp=Z,4µm,19.0s,MS5.4
MLS Moulis 49.20 44 *eP* **P 01 59 51.2 +1.4**
SGMF Saint Gilles 49.26 36 *eP* **P 01 59 49.1 -1.1**
comp=Z,256nm,1.7s,mb5.7
SGMF Saint Gilles 49.26 36 *eP* **P 01 59 49.1 -1.1**
comp=Z,256nm,1.7s,mb6.0
SGMF Saint Gilles 49.26 36 *eP* **P 01 59 49.1 -1.1**
SGMF pmax pmax
comp=Z,256nm,1.7s,mb6.0
HTL Hartland 49.66 32 AMS AMS 02 14 15.5
comp=Z,2µm,28.8s,MS4.8
LFF La Frestale 49.75 42 *eP* **P 01 59 53.0 -1.0**
comp=Z,99nm,1.2s,mb5.4
LFF La Frestale 49.75 42 *eP* **P 01 59 53.0 -1.0**
comp=Z,99nm,1.2s,mb5.7
LFF La Frestale 49.75 42 *eP* **P 01 59 53.0 -1.0**
LFF pmax pmax
comp=Z,99nm,1.2s,mb5.7
HKT Hockley 49.78 298 *eP* **P 01 59 54.1 -0.4**
comp=Z,351nm,2.9s,mb5.9
HKT *e* 02 01 21.9
HKT Hockley 49.78 298 *eP* **P 01 59 54.1 -0.4**

HKT *e* 02 01 21.9
HKT pmax pmax
comp=Z,351nm,2.9s,mb5.9
MFF Saint Martin d 49.91 39 *e*P **P 01 59 54.1 -1.1**
comp=Z,249nm,1.7s,mb5.7
MFF Saint Martin d 49.91 39 *e*P **P 01 59 54.1 -1.1**
comp=Z,249nm,1.7s,mb6.0
MFF Saint Martin d 49.91 39 *e*P **P 01 59 54.1 -1.1**
MFF pmax pmax
comp=Z,249nm,1.7s,mb6.0
CFAA Coronel Fontan 50.08 206 P **P 01 59 55.8 -0.8**
comp=Z,3.1nm,1.0s,mb4.3,baz=23,slow=5.7,SNR=26
CFAA Coronel Fontan 50.08 206 P **P 01 59 55.8 -0.8**
MTLF Montolieu 50.10 44 *e*P **P 01 59 55.4 -1.3**
comp=Z,101nm,1.4s,mb5.4
MTLF Montolieu 50.10 44 *e*P **P 01 59 55.4 -1.3**
comp=Z,101nm,1.4s,mb5.7
MTLF Montolieu 50.10 44 *e*P **P 01 59 55.4 -1.3**
MTLF pmax pmax
comp=Z,101nm,1.4s,mb5.7
SET Setif 50.27 54 P **P 02 00 00.0 +1.9**
GRR Gorron 50.31 37 *e*P **P 01 59 56.8 -1.4**
comp=Z,61nm,1.2s,mb5.2
GRR Gorron 50.31 37 *e*P **P 01 59 56.8 -1.4**
comp=Z,61nm,1.2s,mb5.5
GRR Gorron 50.31 37 *e*P **P 01 59 56.8 -1.4**
GRR pmax pmax
comp=Z,61nm,1.2s,mb5.5
CKHR Kef el Ahmar 50.32 54 P **P 02 00 00.0 +1.5**
RJF Les Rejaudoux 50.40 41 *e*P **P 01 59 57.5 -1.4**
comp=Z,52nm,1.1s,mb5.2
RJF *e*R
comp=Z,3μm,21.5s
RJF Les Rejaudoux 50.40 41 *e*P **P 01 59 57.5 -1.4**
comp=Z,52nm,1.1s,mb5.5
RJF Les Rejaudoux 50.40 41 *e*P **P 01 59 57.5 -1.4**
RJF pmax pmax
comp=Z,52nm,1.1s,mb5.5
SCIA State Center 50.53 314 PFAKE 02 00 10.0 +10
SCIA LR LR
comp=Z,1μm,20.0s,MS5.0
CAF Calviac 50.61 42 *e*P **P 01 59 59.4 -1.1**
comp=Z,129nm,1.4s,mb5.4
CAF Calviac 50.61 42 *e*P **P 01 59 59.4 -1.1**
comp=Z,129nm,1.4s,mb5.7
CAF Calviac 50.61 42 *e*P **P 01 59 59.4 -1.1**
CAF pmax pmax
comp=Z,129nm,1.4s,mb5.7
FLN La Foliniere 50.71 37 *e*P **P 01 59 59.8 -1.4**
comp=Z,46nm,1.0s,mb5.1
FLN *e*R
comp=Z,802nm,20.8s
FLN La Foliniere 50.71 37 *e*P **P 01 59 59.8 -1.4**
comp=Z,46nm,1.0s,mb5.4
FLN La Foliniere 50.71 37 *e*P **P 01 59 59.8 -1.4**
FLN pmax pmax
comp=Z,46nm,1.0s,mb5.4
TUL1 Tulsa 50.80 306 ⇑P **P 02 00 01.2 -0.9**
baz=51
LDF La Druitiere 50.84 37 *e*P **P 02 00 00.4 -1.8**
comp=Z,14nm,0.9s,mb4.6
LDF La Druitiere 50.84 37 *e*P **P 02 00 00.4 -1.8**
comp=Z,14nm,0.9s,mb4.9
LDF La Druitiere 50.84 37 *e*P **P 02 00 00.4 -1.8**
LDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
HGH Gray Hill 50.89 33 *e*P **P 02 00 02.5 0.0**
RFTA Plano 50.97 302 P **P 02 00 04.2 +0.7**
MCH1 Michaelchurch 50.99 32 *e*P **P 02 00 03.2 -0.1**
MCH1 AMB AMB 02 00 09.1
comp=Z,54nm,1.6s,mb5.2
MCH1 AMS AMS 02 16 56.8
comp=Z,1μm,17.4s,MS5.0
CASM Ain Smara 51.15 54 P **P 02 00 05.3 +0.6**
TCF Toulx Ste Croi 51.25 41 *e*P **P 02 00 04.4 -0.9**
comp=Z,69nm,1.1s,mb5.2
TCF Toulx Ste Croi 51.25 41 *e*P **P 02 00 04.4 -0.9**
comp=Z,69nm,1.1s,mb5.5
TCF Toulx Ste Croi 51.25 41 *e*P **P 02 00 04.4 -0.9**
TCF pmax pmax
comp=Z,69nm,1.1s,mb5.5
KVTX Kingsville 51.31 295 *e*P **P 02 00 06.7 +0.6**
comp=Z,176nm,1.2s,mb5.9
KVTX LR LR
comp=Z,2μm,21.0s,MS5.1
HLM1 Long Mynd 51.34 32 *e*P **P 02 00 04.7 -1.2**
HLM1 AMB AMB 02 00 18.2
comp=Z,76nm,2.3s,mb5.2
CKFL Kef-Lekhel 51.36 54 P **P 02 00 07.4 +1.1**
FOEL Foel Wylfa 51.38 31 *e*P **P 02 00 04.2 -2.0**
FOEL AMB AMB 02 00 17.2
comp=Z,67nm,1.8s,mb5.3
SPMN St. Paul 51.44 318 ⇓P **P 02 00 07.2 +0.4**
baz=52
LASF Ste Croix 51.48 44 *e*P **P 02 00 06.5 -0.6**
comp=Z,172nm,1.5s,mb5.5
LASF Ste Croix 51.48 44 *e*P **P 02 00 06.5 -0.6**
comp=Z,172nm,1.5s,mb5.8
LBL Lubilhac 51.50 42 *e*P **P 02 00 08.3 +1.1**
CAEH 'Ain El Ouahch 51.54 54 P **P 02 00 08.4 +0.7**
WOL Wolverton 51.56 34 *e*P **P 02 00 07.3 -0.3**
WOL AMB AMB 02 00 21.7
comp=Z,161nm,1.8s,mb5.7
WOL AMS AMS 02 16 05.0
comp=Z,1μm,21.5s,MS5.0
EYMN Ely 51.73 321 PFAKE 02 00 20.0 +11
EYMN LR LR
comp=Z,1μm,22.0s,MS4.9
AGO Saint Agoulin 51.74 41 *e*P **P 02 00 09.7 +0.7**
BGF Bois d'Agland 51.76 41 *e*P **P 02 00 08.1 -1.0**
comp=Z,80nm,1.1s,mb5.2
BGF Bois d'Agland 51.76 41 *e*P **P 02 00 08.1 -1.0**
comp=Z,80nm,1.1s,mb5.6
BGF Bois d'Agland 51.76 41 *e*P **P 02 00 08.1 -1.0**
BGF pmax pmax
comp=Z,80nm,1.1s,mb5.6
GAL1 Galloway 51.81 28 *e*P **P 02 00 07.8 -1.6**
GAL1 AMB AMB 02 00 22.1
comp=Z,89nm,2.2s,mb5.3
GAL1 AMS AMS 02 16 08.9
comp=Z,959nm,5.2s
HYF Humbligny 51.92 40 *e*P **P 02 00 09.4 -0.9**
HYF Humbligny 51.92 40 *e*P **P 02 00 09.4 -0.9**
ABSA Djebel Ababsia 51.93 54 P **P 02 00 11.4 +0.8**
CMAH Djebel Manchou 51.96 54 P **P 02 00 11.4 +0.6**
PLDF La Plantade 52.02 41 *e*P **P 02 00 11.7 +0.6**
AVF Avril sur Loir 52.17 40 *e*P **P 02 00 11.0 -1.2**
comp=Z,47nm,1.1s,mb5.0
AVF Avril sur Loir 52.17 40 *e*P **P 02 00 11.0 -1.2**
comp=Z,47nm,1.1s,mb5.3
AVF Avril sur Loir 52.17 40 *e*P **P 02 00 11.0 -1.2**
AVF pmax pmax
comp=Z,47nm,1.1s,mb5.3
VIVF Saint-Julien-l 52.30 43 *e*P **P 02 00 12.9 -0.3**
VIVF Saint-Julien-l 52.30 43 *e*P **P 02 00 12.9 -0.3**
VIVF Saint-Julien-l 52.30 43 *e*P **P 02 00 12.9 -0.3**
SSB Saint Sauveur 52.36 43 *e*P **P 02 00 13.8 +0.1**
comp=Z,101nm,1.9s,mb5.4
SSB LR LR
comp=Z,2μm,21.0s,MS5.2
SSB Saint Sauveur 52.36 43 *e*P **P 02 00 13.8 +0.1**
SSB pmax pmax
comp=Z,101nm,1.9s,mb5.4
SSB MLR MLR
comp=Z,2μm,21.0s,MS5.2
SSF Saint Saulge 52.38 40 *e*P **P 02 00 12.3 -1.4**
comp=Z,120nm,1.7s,mb5.2
SSF Saint Saulge 52.38 40 *e*P **P 02 00 12.3 -1.4**
comp=Z,120nm,1.7s,mb5.5
SSF Saint Saulge 52.38 40 *e*P **P 02 00 12.3 -1.4**
SSF pmax pmax
comp=Z,120nm,1.7s,mb5.5
KESW Keswick, Cumbr 52.40 29 *e*P **P 02 00 13.1 -0.6**
KESW AMB AMB 02 00 21.1
comp=Z,64nm,1.7s,mb5.3
SMF Signal de Mont 52.42 41 *e*P **P 02 00 12.9 -1.2**
comp=Z,142nm,1.6s,mb5.3
SMF Signal de Mont 52.42 41 *e*P **P 02 00 12.9 -1.2**
comp=Z,142nm,1.6s,mb5.7
SMF Signal de Mont 52.42 41 *e*P **P 02 00 12.9 -1.2**
SMF pmax pmax
comp=Z,142nm,1.6s,mb5.7
SMRF Simiane la Rot 52.60 44 *e*P **P 02 00 15.3 -0.2**
comp=Z,191nm,1.9s,mb5.4
SMRF Simiane la Rot 52.60 44 *e*P **P 02 00 15.3 -0.2**
comp=Z,191nm,1.9s,mb5.7

OG26 St.-Nazaire-De 52.62 44 *e*P **P 02 00 17.1 +1.5**
LOR Lormes 52.68 40 *e*P **P 02 00 14.6 -1.3**
comp=Z,147nm,1.7s,mb5.3
LOR *e*R
comp=Z,3μm,22.8s
LOR Lormes 52.68 40 *e*P **P 02 00 14.6 -1.3**
comp=Z,147nm,1.7s,mb5.6
LOR Lormes 52.68 40 *e*P **P 02 00 14.6 -1.3**
LOR pmax pmax
comp=Z,147nm,1.7s,mb5.6
ESK Eskdalemuir 52.78 28 PFAKE 02 00 30.0 +13
ESK LR LR
comp=Z,1μm,22.0s,MS4.9
WMOK Wichita Mounta 52.98 303 *e*P **P 02 00 17.3 -1.1**
comp=Z,48nm,1.3s,mb5.3
WMOK LR LR
comp=Z,3μm,21.0s,MS5.3
WMOK Wichita Mounta 52.98 303 *e*P **P 02 00 17.3 -1.1**
WMOK pmax pmax
comp=Z,48nm,1.3s,mb5.3
WMOK MLR MLR
comp=Z,3μm,21.0s,MS5.3
LMR La Mourre 53.04 45 *e*P **P 02 00 17.5 -1.2**
comp=Z,66nm,1.2s,mb5.1
LMR La Mourre 53.04 45 *e*P **P 02 00 17.5 -1.2**
comp=Z,66nm,1.3s,mb5.4
LMR La Mourre 53.04 45 *e*P **P 02 00 17.5 -1.2**
LMR pmax pmax
comp=Z,66nm,1.3s,mb5.4
ORIF Oris-en-Rattie 53.13 43 *e*P **P 02 00 19.3 0.0**
comp=Z,108nm,1.6s,mb5.2
ORIF *e*R
comp=Z,5μm,21.2s
ORIF Oris-en-Rattie 53.13 43 *e*P **P 02 00 19.3 0.0**
comp=Z,108nm,1.6s,mb5.5
ORIF Oris-en-Rattie 53.13 43 *e*P **P 02 00 19.3 0.0**
ORIF pmax pmax
comp=Z,108nm,1.6s,mb5.5
FRF La Foret Royal 53.21 45 *e*P **P 02 00 18.8 -1.1**
comp=Z,144nm,1.4s,mb5.4
FRF La Foret Royal 53.21 45 *e*P **P 02 00 18.8 -1.1**
comp=Z,144nm,1.4s,mb5.7
FRF La Foret Royal 53.21 45 *e*P **P 02 00 18.8 -1.1**
FRF pmax pmax
comp=Z,144nm,1.4s,mb5.7
JCT Junction City 53.25 298 ⇓P **P 02 00 19.6 -0.9**
baz=53,SNR=18
JCT Junction City 53.25 298 PFAKE 02 00 30.0 +10
JCT LR LR
comp=Z,1μm,19.0s,MS5.0
KEST Kesra 53.31 55 P **P 02 00 21.1 +0.3**
comp=Z,6.5nm,0.9s,mb4.6,baz=68,slow=0.7,SNR=18
KEST LR LR 02 21 00.9
comp=Z,664nm,20.2s,MS4.7,baz=345,slow=34
KEST Kesra 53.31 55 *e*P **P 02 00 21.2 +0.4**
OG35 Corcelles 53.31 42 *e*P **P 02 00 21.5 +0.8**
ECSD EROS Data Cent 53.49 315 *e*P **P 02 00 21.1 -0.9**
comp=Z,30nm,1.3s,mb5.1
ECSD *e*PcP PcP 02 01 28.3 -0.6
ECSD LR LR
comp=Z,1μm,21.0s,MS5.0
MDO Dochfour 53.54 26 *e*P **P 02 00 21.4 -0.7**
MBDF Montbardon 53.66 44 *e*P **P 02 00 22.9 -0.3**
comp=Z,143nm,1.5s,mb5.4
MBDF Montbardon 53.66 44 *e*P **P 02 00 22.9 -0.3**
comp=Z,143nm,1.5s,mb5.7
MBDF Montbardon 53.66 44 *e*P **P 02 00 22.9 -0.3**
MBDF pmax pmax
comp=Z,143nm,1.5s,mb5.7
TRQA Tornquist 53.66 197 PFAKE 02 00 40.0 +17
TRQA LR LR
comp=Z,1μm,22.0s,MS4.9
SFJD Kangerlussuaq 53.67 357 *e*P **P 02 00 23.0 0.0**
comp=Z,74nm,1.1s,mb5.5
SFJD LR LR
comp=Z,1μm,21.0s,MS5.0
SFJD Kangerlussuaq 53.67 357 *i* P **P 02 00 21.8 -1.2**
SFJD *i* S **S 02 07 57.5 +0.9**
SFJD pmax pmax
comp=Z,29nm,0.9s,mb5.2
SFJD Kangerlussuaq 53.67 357 *i* P **P 02 00 21.8 -1.2**
comp=Z,29nm,1.0s,mb5.2
SFJD *i* S **S 02 07 57.5 +0.9**
BNI Bardonecchia 53.70 43 *e*P **P 02 00 24.9 +1.4**
comp=Z,251nm,2.3s,mb5.7
BNI LR LR
comp=Z,4μm,21.0s,MS5.5
BNI Bardonecchia 53.70 43 *e*P **P 02 00 24.9 +1.3**
BNI pmax pmax
comp=Z,251nm,2.3s,mb5.7
BNI MLR MLR
comp=Z,4μm,21.0s,MS5.5
BORG Borgarnes 53.77 12 LR LR 02 17 10.7
comp=Z,2μm,19.7s,MS5.1,baz=193,slow=29
SFTF Sexfontaines 53.78 39 *e*P **P 02 00 22.4 -1.6**
comp=Z,357nm,1.8s,mb5.7
SFTF Sexfontaines 53.78 39 *e*P **P 02 00 22.4 -1.6**
comp=Z,357nm,1.8s,mb6.0
SBF Sospel 53.84 45 *e*P **P 02 00 23.5 -1.1**
comp=Z,75nm,1.0s,mb5.3
SBF Sospel 53.84 45 *e*P **P 02 00 23.5 -1.1**
comp=Z,75nm,1.0s,mb5.6
SBF Sospel 53.84 45 *e*P **P 02 00 23.5 -1.1**
SBF pmax pmax
comp=Z,75nm,1.0s,mb5.6
CABF La Chapelle 53.85 42 *e*P **P 02 00 23.9 -0.7**
comp=Z,68nm,1.0s,mb5.2
CABF La Chapelle 53.85 42 *e*P **P 02 00 23.9 -0.7**
comp=Z,68nm,1.0s,mb5.5
CABF La Chapelle 53.85 42 *e*P **P 02 00 23.9 -0.7**
CABF pmax pmax
comp=Z,68nm,1.0s,mb5.5
RSL Roselend 53.88 43 *e*P **P 02 00 25.7 +0.9**
LPL La Plagne 53.89 43 *e*P **P 02 00 25.0 +0.1**
comp=Z,188nm,1.9s,mb5.4
LPL La Plagne 53.89 43 *e*P **P 02 00 25.0 +0.1**
comp=Z,188nm,1.9s,mb5.7
LPL La Plagne 53.89 43 *e*P **P 02 00 25.0 +0.1**
LPL pmax pmax
comp=Z,188nm,1.9s,mb5.7
LPG La Plagne 53.90 43 *e*P **P 02 00 25.2 +0.2**
comp=Z,149nm,1.6s,mb5.4
LPG La Plagne 53.90 43 *e*P **P 02 00 25.2 +0.2**
comp=Z,149nm,1.6s,mb5.7
LPG La Plagne 53.90 43 *e*P **P 02 00 25.2 +0.2**
LPG pmax pmax
comp=Z,149nm,1.6s,mb5.7
BGNE Belgrade 53.92 312 ⇓P **P 02 00 24.1 -1.0**
baz=54
BAIF Baives 54.03 37 *e*P **P 02 00 24.2 -1.6**
comp=Z,63nm,1.1s,mb5.2
BAIF Baives 54.03 37 *e*P **P 02 00 24.2 -1.6**
comp=Z,63nm,1.1s,mb5.5
BAIF Baives 54.03 37 *e*P **P 02 00 24.2 -1.6**
BAIF pmax pmax
comp=Z,63nm,1.1s,mb5.5
VSL Villasalto 54.10 51 PFAKE 02 00 40.0 +13
VSL LR LR
comp=Z,650nm,19.0s,MS4.7
SNF Seneffe 54.26 36 P **P 02 00 27.3 -0.2**
comp=Z,33nm,2.6s,mb4.8
DOU Dourbes 54.27 37 P **P 02 00 27.7 +0.1**
PAGF Fort de Pagny 54.33 39 *e*P **P 02 00 26.6 -1.5**
comp=Z,16nm,1.1s,mb4.5
THEF They Montfort 54.37 40 *e*P **P 02 00 28.3 -0.1**
GIVF Givet 54.40 37 *e*P **P 02 00 27.1 -1.5**
GIVF Givet 54.40 37 *e*P **P 02 00 27.1 -1.5**
GIVF Givet 54.40 37 *e*P **P 02 00 27.1 -1.5**
CBKS Cedar Bluff 54.50 308 ⇑P **P 02 00 28.4 -1.1**
baz=54
CBKS Cedar Bluff 54.50 308 *e*P **P 02 00 29.4 -0.1**
comp=Z,170nm,1.4s,mb5.8
CBKS LR LR
comp=Z,2μm,22.0s,MS5.0
CBKS Cedar Bluff 54.50 308 *e*P **P 02 00 29.4 -0.1**
CBKS pmax pmax
comp=Z,170nm,1.4s,mb5.8
CBKS MLR MLR
comp=Z,2μm,22.0s,MS5.0
HAU Haudompre 54.52 40 *e*P **P 02 00 27.7 -1.7**
HAU *e*R
comp=Z,3μm,23.0s
HAU Haudompre 54.52 40 *e*P **P 02 00 27.7 -1.7**
HAU Haudompre 54.52 40 *e*P **P 02 00 27.7 -1.7**
AGMN Agassiz Nation 54.55 320 *e*P **P 02 00 28.5 -1.2**
comp=Z,110nm,1.8s,mb5.6

AGMN LR LR
comp=Z,1μm,20.0s,MS4.9
SENIN Lac Senin/Sane 54.55 42 *e*P **P 02 00 31.0 +1.3**
comp=Z,204nm,2.1s,mb5.8
PGF Pioggiola 54.57 47 *e*P **P 02 00 28.5 -1.4**
comp=Z,234nm,1.5s,mb5.7
PGF Pioggiola 54.57 47 *e*P **P 02 00 28.5 -1.4**
comp=Z,234nm,1.5s,mb6.0
PGF Pioggiola 54.57 47 *e*P **P 02 00 28.5 -1.4**
PGF pmax pmax
comp=Z,234nm,1.5s,mb6.0
LOMF Lomont 54.58 41 *e*P **P 02 00 30.9 +1.0**
HINF Hinteralfeld 54.76 40 *e*P **P 02 00 29.6 -1.6**
HINF Hinteralfeld 54.76 40 *e*P **P 02 00 29.6 -1.6**
HINF Hinteralfeld 54.76 40 *e*P **P 02 00 29.6 -1.6**
BCLA Clavier 54.81 37 P **P 02 00 31.5 -0.1**
comp=Z,45nm,2.1s,mb5.1
WLF Walferdange 55.02 38 P **P 02 00 32.5 -0.6**
comp=Z,27nm,2.3s,mb4.9
WLF Walferdange 55.02 38 PFAKE 02 00 40.0 +7.0
WLF LR LR
comp=Z,2μm,22.0s,MS5.1
ECH Echery 55.10 40 *e*P **P 02 00 33.4 -0.2**
comp=Z,72nm,1.8s,mb5.4
ECH LR LR
comp=Z,2μm,20.0s,MS5.1
ECH Echery 55.10 40 *e*P **P 02 00 33.4 -0.2**
ECH pmax pmax
comp=Z,72nm,1.8s,mb5.4
ECH MLR MLR
comp=Z,2μm,20.0s,MS5.1
ECH Echery 55.10 40 *e*P **P 02 00 33.5 -0.1**
BEBN Eben Emael 55.19 37 P **P 02 00 34.9 +0.7**
CDF Champ du Feu 55.24 40 *e*P **P 02 00 33.1 -1.6**
comp=Z,139nm,1.7s,mb5.4
CDF Champ du Feu 55.24 40 *e*P **P 02 00 33.1 -1.6**
comp=Z,139nm,1.7s,mb5.7
CDF Champ du Feu 55.24 40 *e*P **P 02 00 33.1 -1.6**
CDF pmax pmax
comp=Z,139nm,1.7s,mb5.7
ULM Lac du Bonnet 55.30 323 P **P 02 00 33.2 -1.8**
comp=Z,6.7nm,0.7s,mb4.8,baz=109,slow=7.2,SNR=14
ULM LR LR 02 20 35.9
comp=Z,1μm,20.3s,MS5.0,baz=293,slow=32
ULM Lac du Bonnet 55.30 323 *e*P **P 02 00 33.3 -1.7**
comp=Z,24nm,1.0s,mb5.2
ULM Lac du Bonnet 55.30 323 *e*P **P 02 00 33.3 -1.7**
ULM pmax pmax
comp=Z,24nm,1.0s
MEM Membach 55.30 37 P **P 02 00 35.1 0.0**
comp=Z,36nm,2.2s,mb5.0
BRSD Miller 55.31 315 ⇓P **P 02 00 34.2 -1.0**
baz=55
AMTX Amarillo 55.35 303 ⇑P **P 02 00 34.4 -1.3**
baz=55
AMTX Amarillo 55.35 303 *e*P **P 02 00 35.2 -0.5**
comp=Z,82nm,1.1s,mb5.7
AMTX LR LR
comp=Z,4μm,22.0s,MS5.4
428A Kincaid Ranch, 55.75 298 ⇓P **P 02 00 38.0 -0.6**
baz=56,SNR=34
LANF Langenberg 55.77 39 *e*P **P 02 00 38.7 +0.2**
528A Cox Ranch, San 55.80 297 ⇓P **P 02 00 38.2 -0.8**
baz=56
628A Black Gap, Mar 55.84 297 ⇑P **P 02 00 38.2 -1.1**
baz=56
BFO Black Forest 55.87 40 *e*P **P 02 00 38.6 -0.6**
comp=Z,251nm,2.3s,mb5.8
BFO Black Forest 55.87 40 P **P 02 00 39.0 -0.2**
comp=Z,135nm,1.0s,mb5.9,SNR=9.3
BFO Black Forest 55.87 40 *e*P **P 02 00 39.2 0.0**
comp=Z,130nm,1.7s,mb5.7
BFO LR LR
comp=Z,1μm,20.0s,MS5.1
BFO Black Forest 55.87 40 *e*P **P 02 00 38.6 -0.6**
BFO pmax pmax
comp=Z,251nm,2.3s,mb5.8
328A Wristen Ranch, 55.91 299 ⇓P **P 02 00 38.9 -0.9**
baz=56
TUE Stuetta 55.93 43 *e*P **P 02 00 40.1 +0.5**
comp=Z,67nm,1.6s,mb5.4
TUE LR LR
comp=Z,1μm,22.0s,MS5.0
MSTX Muleshoe 56.13 302 ⇑P **P 02 00 40.4 -1.0**
baz=56,SNR=29
627A Terlingua Ranc 56.27 297 ⇑P **P 02 00 41.4 -1.1**
baz=56,SNR=6.9
BUG Bochum-Univer 56.36 36 *e*P **P 02 00 42.2 -0.5**
comp=Z,142nm,2.0s,mb5.7
DAVOX Davos/Dischmat 56.37 42 P **P 02 00 42.6 -0.1**
comp=Z,26nm,0.8s,mb5.3,baz=237,slow=6.9,SNR=24
DAVOX LR LR 02 20 08.1
comp=Z,1μm,21.6s,MS4.9,baz=231,slow=31
DAVOX Davos/Dischmat 56.37 42 P **P 02 00 42.6 -0.1**
DAVOX Davos/Dischmat 56.37 42 P **P 02 00 42.7 -0.1**
227A Bennet, Jal 56.37 300 ⇑P **P 02 00 42.4 -0.7**
baz=56
427A Hayter Ranch, 56.37 298 ⇓P **P 02 00 42.5 -0.6**
baz=56,SNR=22
Z27A Tatum 56.43 301 ⇑P **P 02 00 42.3 -1.1**
baz=56,SNR=20
Y27A Causey 56.45 302 ⇓P **P 02 00 43.0 -0.6**
baz=56,SNR=26
X27A F and S Farms, 56.48 303 ⇓P **P 02 00 42.5 -1.3**
baz=56
127A Arkansas Junct 56.49 300 ⇑P **P 02 00 43.1 -0.8**
baz=56
W27A Bowe Ranch, En 56.50 303 ⇑P **P 02 00 43.5 -0.4**
baz=56
527A Woodward Ranch 56.51 297 ⇓P **P 02 00 43.8 -0.3**
baz=56,SNR=28
TXAR Lajitas Array 56.51 296 P **P 02 00 43.1 -1.0**
comp=Z,2.0nm,0.8s,mb4.2,baz=115,slow=6.8,SNR=12
TXAR PcP PcP 02 01 39.6 -1.2
comp=Z,3.4nm,0.9s,baz=104,slow=5.2,SNR=4.2
TXAR LR LR 02 26 16.4
comp=Z,962nm,18.5s,MS4.9,baz=5.0,slow=38
TXAR Lajitas Array 56.51 296 P **P 02 00 43.1 -1.0**
TXAR PcP PcP 02 01 39.6 -1.2
TXAR Lajitas Array 56.51 296 P **P 02 00 43.1 -1.0**
TXAR 02 01 39.6
DAVA Damuels 56.52 42 *i* P **P 02 00 44.5 +0.6**
comp=Z,30nm,0.9s,mb5.3,SNR=14
STU Stuttgart 56.56 40 *e*P **P 02 00 43.2 -0.9**
comp=Z,133nm,2.1s,mb5.6
STU Stuttgart 56.56 40 *e*P **P 02 00 43.9 -0.2**
comp=Z,40nm,1.2s,mb5.3
STU Stuttgart 56.56 40 *e*P **P 02 00 43.9 -0.2**
STU pmax pmax
comp=Z,40nm,1.2s,mb5.3
TNS Taunus Mts 56.60 38 *e*P **P 02 00 44.3 -0.1**
comp=Z,127nm,2.2s,mb5.6
TNS Taunus Mts 56.60 38 *e*P **P 02 00 44.3 -0.1**
TNS pmax pmax
comp=Z,127nm,2.2s,mb5.6
OGNE Ogallala 56.66 310 ⇑P **P 02 00 45.0 0.0**
baz=57
OGNE Ogallala 56.66 310 *e*P **P 02 00 46.6 +1.6**
comp=Z,236nm,1.9s,mb5.9
OGNE LR LR
comp=Z,2μm,21.0s,MS5.1
MDND Maddock 56.75 319 ⇓P **P 02 00 46.0 +0.5**
baz=57
426A McDonald Obser 56.90 298 ⇑P **P 02 00 47.0 +0.1**
baz=57,SNR=42
326A Caldwell Ranch 56.90 299 ⇓P **P 02 00 47.0 +0.1**
baz=57,SNR=5.3
526A Mary Lane Ranc 56.91 297 ⇑P **P 02 00 46.4 -0.5**
baz=57,SNR=23
626A Big Bend Ranch 56.92 297 ⇑P **P 02 00 46.9 -0.2**
baz=57,SNR=7.7
CPRX Cap Rock 56.95 301 *e*P **P 02 00 46.4 -0.8**
comp=Z,56nm,1.1s,mb5.5
IBBN Ibbenburen 56.98 36 *e*P **P 02 00 46.7 -0.3**
comp=Z,247nm,2.2s,mb5.8
FETA Feichten 57.00 42 *i* P **P 02 00 47.5 +0.3**
comp=Z,46nm,1.4s,mb5.3,SNR=14
Y26A Elida 57.00 302 ⇑P **P 02 00 47.4 -0.1**
baz=57
126A Clayton Basin, 57.04 300 ⇓P **P 02 00 47.5 -0.3**
baz=57
X26A CR and CF Fran 57.05 303 ⇑P **P 02 00 47.2 -0.7**
baz=57
Z26A Caprock 57.06 301 ⇓P **P 02 00 47.2 -0.8**
baz=57,SNR=27
W26A Owens Ranch, T 57.08 303 ⇓P **P 02 00 48.0 -0.1**
baz=57

L27A T5 Ranch, Ells 57.11 312 ⇓P P 02 00 48.1 -0.1
baz=57
RETA Reutte 57.16 42 *i* P P 02 00 48.6 +0.3
comp=Z,51nm,2.0s,mb5.2,SNR=19
V26A Tequesquite Ra 57.18 304 ⇓P P 02 00 48.7 0.0
baz=57
K27A Flueckinger Fa 57.18 312 ⇑P P 02 00 48.1 -0.5
baz=57
U26A Atchley Ranch, 57.22 305 ⇑P P 02 00 48.8 -0.3
baz=57,SNR=20
R26A Arlington 57.26 307 ⇓P P 02 00 49.0 -0.3
baz=57,SNR=22
GDL2 Guadalupe Moun 57.29 300 *e*P P 02 00 49.4 -0.3
MOTA Moosalm 57.34 42 *i* P P 02 00 49.6 0.0
comp=Z,38nm,0.9s,mb5.4,SNR=23
O26A Horse Wrangler 57.48 309 ⇑P P 02 00 50.4 -0.4
baz=58
WDD Wield Dalam 57.49 56 PFAKE 02 01 00.0 +9.0
WDD LR LR
comp=Z,2μm,20.0s,MS5.2
125A Gardner Draw, 57.58 300 ⇓P P 02 00 51.6 -0.1
baz=58,SNR=21
WATA Walderalm 57.64 42⇑*i*P P 02 00 51.6 -0.2
comp=Z,16nm,0.9s,mb5.1,SNR=13
L26A Underwood Farm 57.65 311 ⇓P P 02 00 51.8 -0.2
baz=58
W25A X Bar L Ranch, 57.66 303 ⇓P P 02 00 51.7 -0.4
baz=58
WTTA Wattenberg 57.66 42 *i* P P 02 00 52.2 +0.2
comp=Z,57nm,1.2s,mb5.5,SNR=16
225A Deer Hill, Car 57.67 300 ⇓P P 02 00 51.8 -0.6
baz=58,SNR=40
Z25A Roswell 57.68 301 ⇓P P 02 00 52.2 -0.2
baz=58,SNR=25
FUR Furstenfeldbru 57.69 41 *e*P P 02 00 51.8 -0.3
comp=Z,549nm,2.3s,mb6.2
FUR Furstenfeldbru 57.69 41 *e*P P 02 00 51.8 -0.3
FUR pmax pmax
comp=Z,549nm,2.3s,mb6.2
AQU L'Aquila 57.69 48 *e*P P 02 00 52.3 +0.1
comp=Z,194nm,1.5s,mb5.9
AQU LR LR
comp=Z,1μm,21.0s,MS5.0
AQU L'Aquila 57.69 48 *e*P P 02 00 52.3 +0.1
AQU pmax pmax
comp=Z,194nm,1.5s,mb5.9
AQU MLR MLR
comp=Z,1μm,21.0s,MS5.0
Y25A Mesa, Roswell 57.72 302 ⇓P P 02 00 52.2 -0.4
baz=58,SNR=25
425A Indio Mountain 57.73 298 ⇓P P 02 00 51.8 -0.9
baz=58,SNR=35
UBBA Unterbreizbach 57.74 38 *e*P P 02 00 52.1 -0.3
comp=Z,180nm,2.5s,mb5.7
325A Bean Ranch, Si 57.75 299 ⇓P P 02 00 52.4 -0.5
baz=58,SNR=30
X25A Clemmons Ranch 57.75 302 ⇑P P 02 00 52.1 -0.7
baz=58
U25A Circle Dot Ran 57.76 305 ⇑P P 02 00 52.7 -0.1
baz=58,SNR=30
T25A Trinidad 57.85 306 ⇑P P 02 00 53.5 0.0
baz=58,SNR=14
V25A Rancho No Teng 57.86 304 ⇓P P 02 00 52.8 -0.8
baz=58
K26A Motz Farm, Whi 57.86 312 ⇓P P 02 00 52.6 -0.8
baz=58
R25A Fountain Ranch 57.89 307 ⇓P P 02 00 53.1 -0.7
baz=58
S25A Robets Cordova 57.94 306 ⇓P P 02 00 54.4 +0.3
baz=58,SNR=15
Q25A Bedland, Calha 57.98 308 ⇑P P 02 00 54.3 0.0
baz=58
P25A Willow Gulch B 58.01 308 ⇑P P 02 00 54.6 0.0
baz=58
GRFO Grafenberg 58.11 39 *e*P P 02 00 54.9 -0.2
comp=Z,209nm,2.3s,mb5.8
GRFO Grafenberg 58.11 39 *e*P P 02 00 54.9 -0.2
GRFO pmax pmax
comp=Z,209nm,2.3s,mb5.8
GRF Grafenberg Arr 58.12 39 *e*P P 02 00 54.5 -0.6
comp=Z,87nm,1.8s,mb5.5
GRF *e*L 02 20 51.4
comp=Z,1μm,21.7s
GRF Grafenberg Arr 58.12 39 *e*P P 02 00 54.5 -0.6
GRF pmax pmax
comp=Z,87nm,1.8s,mb5.5
MNTX Cornudas Mount 58.12 299 ⇑P P 02 00 55.1 -0.3
baz=58,SNR=35
MNTX Cornudas Mount 58.12 299 *e*P P 02 00 54.2 -1.2
comp=Z,52nm,1.4s,mb5.4
MNTX LR LR
comp=Z,1μm,20.0s,MS5.0
N25A Grover 58.17 310 ⇓P P 02 00 55.2 -0.4
baz=58
124A Stringfield Ra 58.25 300 ⇑P P 02 00 56.2 -0.2
baz=58,SNR=18
M25A Palm-Egli Farm 58.25 311 ⇓P P 02 00 56.2 0.0
baz=58
224A Cornudas Mount 58.27 299 ⇓P P 02 00 56.3 -0.2
baz=58,SNR=31
CLZ Clausthal 58.31 37 *e*P P 02 00 56.0 -0.4
comp=Z,102nm,1.9s,mb5.5
CLZ Clausthal 58.31 37 *e*P P 02 00 56.0 -0.4
CLZ pmax pmax
comp=Z,102nm,1.9s,mb5.5
L25A Engebretsen Ra 58.32 311 ⇑P P 02 00 56.7 0.0
baz=58
Y24A Capitan 58.33 302 ⇑P P 02 00 57.2 +0.2
baz=58,SNR=18
T24A Torres, Weston 58.35 305 ⇓P P 02 00 57.3 +0.3
baz=58,SNR=26
V24A Rampart Ranch, 58.37 304 ⇓P P 02 00 57.6 +0.5
baz=58,SNR=13
NRDL Niedersach Rie 58.38 36 *e*P P 02 00 56.9 0.0
comp=Z,228nm,2.0s,mb5.9
X24A Lazy VL Ranch, 58.39 302 ⇑P P 02 00 57.6 +0.3
baz=58
W24A Lazy 6 Ranch, 58.43 303 ⇑P P 02 00 58.4 +0.8
baz=58,SNR=23
U24A Moreno Valley 58.45 305 ⇑P P 02 00 58.3 +0.6
baz=58
R24A Sanders Place, 58.55 307 ⇓P P 02 00 59.3 +0.9
baz=58,SNR=16
RJOB Jochberg 58.55 42 *e*P P 02 00 57.3 -0.8
comp=Z,132nm,2.3s,mb5.6
S24A Houchin Ranch, 58.55 306 ⇑P P 02 00 59.0 +0.7
baz=58,SNR=23
P24A Kohler Place, 58.58 308 ⇓P P 02 00 58.9 +0.4
baz=59
MOX Moxa 58.65 38 *e*P P 02 00 58.5 -0.3
comp=Z,153nm,2.3s,mb5.6
MOX Moxa 58.65 38 *e*P P 02 00 58.5 -0.3
MOX pmax pmax
comp=Z,153nm,2.3s,mb5.6
Q24A Divide 58.68 308 ⇓P P 02 00 59.6 +0.4
baz=59,SNR=14
ROTZ Rotzenmuhle 58.75 40 *e*P P 02 00 59.1 -0.4
comp=Z,78nm,1.9s,mb5.4
N24A Carr 58.76 310 ⇓P P 02 01 00.3 +0.5
baz=59
RSSD Black Hills 58.77 314 *e*P P 02 00 58.9 -0.9
comp=Z,21nm,1.2s,mb5.0
RSSD Black Hills 58.77 314 *e*P P 02 00 58.9 -0.8
RSSD pmax pmax
comp=Z,21nm,1.2s,mb5.0
SCO Scoresbysund 58.78 9 *e*P P 02 00 58.4 -1.0
SCO pmax pmax
comp=Z,20nm,1.0s,mb5.1
SCO Scoresbysund 58.78 9 *i* P P 02 00 58.4 -1.0
comp=Z,20nm,1.0s,mb5.1
SDCO Great Sand Dun 58.79 306 ⇓P P 02 00 59.7 -0.3
baz=59,SNR=26
SDCO Great Sand Dun 58.79 306 *e*P P 02 01 00.2 +0.1
comp=Z,49nm,1.3s,mb5.4
SDCO LR LR
comp=Z,1μm,21.0s,MS4.9
O24A Longmont 58.80 309 ⇓P P 02 00 59.7 -0.3
baz=59
MYKA Terra Mystica 58.82 43⇑*i*P P 02 01 00.2 +0.2
comp=Z,75nm,1.4s,mb5.5
M24A Cheyenne 58.83 310 ⇑P P 02 01 00.9 +0.6
baz=59,SNR=17
VOY Vojsko 58.84 44 *e*P P 02 01 00.3 +0.1
VOY *e* 02 01 06.3
VOY *e* 02 01 20.4
Y23A Lovelace Mesa, 58.85 302 ⇓P P 02 00 60.0 -0.5
baz=59,SNR=33
CEL Celeste 58.88 53 PFAKE 02 01 10.0 +9.4
CEL LR LR
comp=Z,2μm,22.0s,MS5.1
PLCA Paso Flores 58.91 203 P P 02 01 00.4 -0.2
comp=Z,12nm,0.8s,mb5.0,baz=28,slow=7.7,SNR=16
PLCA LR LR 02 30 06.2
comp=Z,862nm,18.2s,MS4.9,baz=33,slow=40
PLCA Paso Flores 58.91 203 *e*P P 02 01 00.1 -0.5
comp=Z,66nm,1.4s,mb5.5
PLCA Paso Flores 58.91 203 *e*P P 02 01 00.1 -0.5
PLCA pmax pmax
comp=Z,66nm,1.4s
123A Bell Site, Whi 58.93 300 ⇑P P 02 01 00.5 -0.6
baz=59
JAVS Javornik 58.93 44 *i* P P 02 01 00.7 -0.1
Z23A Rita Site, Whi 58.94 301 ⇓P P 02 01 01.4 +0.2
baz=59
WET Wettzell 58.99 40 *e*P P 02 01 00.4 -0.8
comp=Z,138nm,2.2s,mb5.6
WET Wettzell 58.99 40 *e*P P 02 01 00.4 -0.8
WET pmax pmax
comp=Z,138nm,2.2s,mb5.6
L24A Wheatland 59.01 311 ⇓P P 02 01 01.1 -0.3
baz=59
X23A Hourglass Bar 59.01 302 ⇓P P 02 01 01.8 +0.2
baz=59
BSEG Bad Segeberg 59.02 34 *e*P P 02 01 00.9 -0.4
comp=Z,532nm,2.2s,mb6.2
BSEG Bad Segeberg 59.02 34 *e*P P 02 01 00.9 -0.4
BSEG pmax pmax
comp=Z,532nm,2.2s,mb6.2
223A Chaparral, Ant 59.03 299 ⇓P P 02 01 01.5 -0.3
baz=59
W23A Werner Place, 59.03 303 ⇓P P 02 01 01.4 -0.3
baz=59
NKC Novy Kostel 59.03 39 *e*P P 02 01 01.3 -0.2
NKC *e* 02 01 07.6
NKC *e*S S 02 09 15.5 +7.3
NKC MLR MLR
comp=Z,1μm,17.7s,MS5.1
NKC Novy Kostel 59.03 39 *e*P P 02 01 01.3 -0.2
NKC *ep*P pP 02 01 07.6 +2.9
NKC *e*S S 02 09 15.5 +7.3
NKC AMS AMS 02 20 50.0
comp=Z,1μm,17.7s
J24A Dixon Ranch, L 59.05 313 ⇓P P 02 01 02.1 +0.3
baz=59
CUC Castrocucco 59.06 51 PFAKE 02 01 10.0 +8.1
CUC LR LR
comp=Z,1μm,19.0s,MS5.0
R23A Moffat 59.10 307 ⇓P P 02 01 02.4 +0.2
baz=59
V23A Ortiz Mt. (NFS 59.11 304 ⇓P P 02 01 02.3 0.0
baz=59,SNR=21
I24A Kuemmerle Ranc 59.13 313 ⇑P P 02 01 02.3 0.0
baz=59
T23A Casias Ranch, 59.13 305 ⇑P P 02 01 02.7 +0.3
baz=59,SNR=13
ISCO Idaho Springs 59.16 308 ⇓P P 02 01 03.6 +1.0
baz=59,SNR=61
ISCO Idaho Springs 59.16 308 *e*P P 02 01 03.7 +1.2
comp=Z,104nm,1.3s,mb5.7
ISCO LR LR
comp=Z,1μm,21.0s,MS5.0
ISCO Idaho Springs 59.16 308 *e*P P 02 01 03.7 +1.2
ISCO pmax pmax
comp=Z,104nm,1.3s,mb5.7
ISCO MLR MLR
comp=Z,1μm,21.0s,MS5.0
U23A El Rito 59.18 304 ⇓P P 02 01 03.0 +0.2
baz=59,SNR=39
S23A Nye Farm, Mont 59.18 306 ⇑P P 02 01 03.2 +0.4
baz=59
Q23A Hartsel 59.20 307 ⇓P P 02 01 03.3 +0.5
baz=59
H24A Dirks Ranch, A 59.26 314 ⇑P P 02 01 02.6 -0.6
baz=59,SNR=7.6
ANMO Albuquerque 59.27 303 *e*P P 02 01 02.7 -0.7
comp=Z,95nm,2.0s,mb5.5
ANMO LR LR
comp=Z,3μm,22.0s,MS5.4
ANMO Albuquerque 59.27 303 *e*P P 02 01 02.7 -0.7
ANMO pmax pmax
comp=Z,95nm,2.0s
ANMO MLR MLR
comp=Z,3μm,22.0s
SUMG Summit 59.27 2 *e*P P 02 01 03.1 +0.4
comp=Z,387nm,2.1s,mb6.1
SUMG Summit 59.27 2⇑*i*P P 02 01 03.3 +0.6
SUMG pmax pmax
comp=Z,25nm,0.9s
SUMG Summit 59.27 2⇑*i*P P 02 01 03.3 +0.6
comp=Z,25nm,0.9s,mb5.2
P23A Jefferson 59.27 308 ⇓P P 02 01 04.2 +0.9
baz=59,SNR=20
PHWY Pilot Hill 59.27 310 *e*P P 02 01 04.0 +0.7
comp=Z,30nm,1.2s,mb5.2
LJU Ljubljana 59.28 44 *i* P P 02 01 03.1 -0.2
G24A Alzada 59.29 315 ⇓P P 02 01 03.9 +0.6
baz=59
BNM Barren Site 59.34 302 *e*P P 02 01 03.9 0.0
comp=Z,17nm,1.0s,mb5.0
LPM Los Pinos Moun 59.35 302 *e*P P 02 01 05.1 +1.1
MUD Monsted U'grnd 59.39 31 *e*P P 02 01 04.0 +0.2
MUD pmax pmax
comp=Z,18nm,1.3s,mb4.9
MUD Monsted U'grnd 59.39 31 *i* P P 02 01 04.0 +0.2
comp=Z,18nm,1.3s,mb5.0
OBKA Obir 59.40 44⇓*i*P P 02 01 04.0 -0.1
comp=Z,89nm,2.4s,mb5.4,SNR=14
F24A Ekalaka 59.42 316 ⇓P P 02 01 05.1 +0.8
baz=59
KHC Kasperske Hory 59.42 41 *e*P P 02 01 04.0 -0.2
comp=Z,76nm,1.6s,mb5.5
KHC Kasperske Hory 59.42 41 *e*P P 02 01 03.9 -0.3
KHC *e* 02 01 09.7
KHC *e*S S 02 09 16.4 +3.1
KHC MLR MLR
comp=Z,1μm,21.7s,MS4.9
KHC Kasperske Hory 59.42 41 *e*P P 02 01 03.9 -0.3
KHC *ep*P pP 02 01 09.7 +2.3
KHC *e*S S 02 09 16.4 +3.1
KHC AMS AMS 02 21 30.0
comp=Z,1μm,21.7s
GEC2 GERESS Array S 59.42 41 *e*P P 02 01 03.4 -0.8
comp=Z,128nm,2.1s,mb5.6
GEC2 GERESS Array S 59.42 41 *e*P P 02 01 03.4 -0.8
GEC2 pmax pmax
comp=Z,128nm,2.1s,mb5.6
GERES GERESS Array B 59.42 41 P P 02 01 03.6 -0.6
comp=Z,2.3nm,0.8s,mb4.3,baz=264,slow=3.9,SNR=16
GERES LR LR 02 22 55.8
comp=Z,1μm,20.8s,MS5.0,baz=240,slow=32
GERES GERESS Array B 59.42 41 P P 02 01 03.6 -0.6
GERES GERESS Array B 59.42 41 P P 02 01 03.7 -0.5
VISS Visnje 59.44 45 *i* P P 02 01 04.2 -0.1
O23A Lake Granby, G 59.45 309 ⇑P P 02 01 05.0 +0.4
baz=59
E24A Baker 59.49 316 ⇑P P 02 01 05.6 +0.9
baz=60
M23A Laramie 59.49 310 ⇑P P 02 01 05.3 +0.5
baz=60
MOA Molln 59.53 42 *i* P P 02 01 04.7 -0.3
comp=Z,68nm,2.0s,mb5.3,SNR=13
122A Conniff Cattle 59.55 300 ⇓P P 02 01 05.5 +0.1
baz=60,SNR=13
Z22A Elephant Butte 59.55 301 ⇑P P 02 01 05.0 -0.4
baz=60
N23A Red Feather La 59.57 310 ⇑P P 02 01 06.2 +0.8
baz=60,SNR=16
Y22D IRIS PASSCAL I 59.58 302 ⇑P P 02 01 05.3 -0.2
baz=60
L23A Garrett 59.59 311 ⇑P P 02 01 06.0 +0.5
baz=60
Y22A Socorro 59.60 302 ⇑P P 02 01 05.3 -0.4
baz=60
222A Williams Famil 59.60 299 ⇓P P 02 01 06.2 +0.4
baz=60,SNR=18
W22A Albuquerque 59.61 303 ⇓P P 02 01 05.9 +0.2
baz=60
LENM Lemitar 59.62 302 *e*P P 02 01 06.2 +0.3
K23A Bowen Ranch, D 59.64 312 ⇑P P 02 01 05.8 -0.1
baz=60
BOJS Bojanci 59.65 45 *i* P P 02 01 06.1 +0.2
TIP Timpagrande 59.67 52 PFAKE 02 01 20.0 +14
TIP LR LR
comp=Z,2μm,20.0s,MS5.3
X22A Bernardo 59.68 302 ⇓P P 02 01 06.2 -0.1
baz=60
CLL Collm 59.69 38 *e*P P 02 01 05.5 -0.5
comp=Z,163nm,2.3s,mb5.7
CLL Collm 59.69 38 *i* P P 02 01 05.2 -0.8
CLL *i* 02 01 11.5
CLL *e*S S 02 09 10.0 -6.7
CLL pmax pmax
comp=Z,162nm,2.3s,mb5.7
CLL MLR MLR
comp=Z,2μm,22.0s,MS5.1
CLL Collm 59.69 38 *i* P P 02 01 05.2 -0.8
comp=Z,162nm,2.3s,mb5.7
CLL *i* 02 01 11.5
CLL *e*S S 02 09 20.0 +3.3
CLL *e*SS SS 02 13 09.0 -3.3
CLL *e*SSSS 02 16 13.0
CLL Lm 02 21 00.0
comp=Z,2μm,22.0s
U22A Llaves 59.72 304 ⇑P P 02 01 07.1 +0.6
baz=60,SNR=14
V22A San Miguel Ran 59.72 304 ⇓P P 02 01 06.7 +0.2
baz=60,SNR=26
I23A Meade Ranch, G 59.74 313 ⇑P P 02 01 06.9 +0.4
baz=60
LAZ Ladron 59.78 302 *e*P P 02 01 07.6 +0.7
comp=Z,20nm,1.2s,mb5.0
C24A Savage 59.80 317 ⇑P P 02 01 07.0 +0.2
baz=60
H23A Clabaugh Cattl 59.82 314 ⇓P P 02 01 06.9 -0.1
baz=60
T22A Edith 59.82 305 ⇑P P 02 01 08.2 +1.0
baz=60,SNR=31
R22A Saguache, Gunn 59.83 307 ⇓P P 02 01 08.1 +0.8
baz=60,SNR=19
S22A 4UR Ranch, Cre 59.84 306 ⇑P P 02 01 07.7 +0.4
baz=60,SNR=30
A24A Westby 59.87 319 ⇑P P 02 01 07.4 +0.1
baz=60
DGMT Dagmar 59.88 319 ⇓P P 02 01 07.3 0.0
baz=60,SNR=7.4
DGMT Dagmar 59.88 319 *e*P P 02 01 07.3 0.0
comp=Z,178nm,1.6s,mb5.8
DGMT LR LR
comp=Z,2μm,21.0s,MS5.2
O22A Kremmling 59.92 309 ⇑P P 02 01 08.2 +0.4
baz=60
G23A Biddle 59.94 315 ⇑P P 02 01 07.2 -0.6
baz=60,SNR=11
N22A Wattenberg Ran 59.94 309 ⇑P P 02 01 08.2 +0.3
baz=60,SNR=6.5
P22A Eagle 60.00 308 ⇓P P 02 01 09.0 +0.6
baz=60,SNR=6.0
Q22A Crested Butte, 60.03 307 ⇑P P 02 01 08.7 +0.1
baz=60
F23A Volborg 60.05 315 ⇓P P 02 01 08.8 +0.2
baz=60
L22A Ellis Ranch, M 60.11 311 ⇑P P 02 01 09.7 +0.6
baz=60,SNR=6.9
SMCO Snowmass 60.12 308 *e*P P 02 01 09.7 +0.5
comp=Z,40nm,1.2s,mb5.3
SMCO *e*PcP PcP 02 01 56.1 +1.2
BRG Berggiesshubel 60.13 39 *e*P P 02 01 09.3 +0.3
comp=Z,76nm,1.7s,mb5.5
BRG S S 02 09 26.0 +3.6
BRG
comp=N,445nm,16.1s
BRG
comp=E,1μm,19.0s
BRG
comp=Z,2μm,23.4s
BRG Berggiesshubel 60.13 39 *e*P P 02 01 08.9 -0.1
comp=Z,76nm,1.7s,mb5.5
BRG Berggiesshubel 60.13 39 *e*P P 02 01 09.3 +0.3
BRG S S 02 09 26.0 +3.6
BRG pmax pmax
comp=Z,76nm,1.7s,mb5.5
BRG MLR MLR
comp=N,445nm,16.1s,MS5.1
BRG MLR MLR
comp=E,1μm,19.0s,MS5.1
BRG MLR MLR
comp=Z,2μm,23.4s,MS5.1
M22A Cedar Creek Ra 60.13 310 ⇓P P 02 01 10.0 +0.7
baz=60,SNR=11
Z21A St. Cloud Mine 60.15 301 ⇓P P 02 01 10.5 +1.0
baz=60,SNR=28
E23A Ismay 60.15 316 ⇓P P 02 01 09.3 0.0
baz=60,SNR=8.2
221A Mesquite Ranch 60.17 299 ⇓P P 02 01 09.1 -0.6
baz=60
Y21A Point of Rocks 60.19 302 ⇓P P 02 01 10.4 +0.6
baz=60,SNR=19
121A Cookes Peak, D 60.20 300 ⇑P P 02 01 10.7 +0.8
baz=60,SNR=15
PRA Prague 60.21 40 P P 02 01 10.0 +0.4
PRA AMS AMS 02 21 00.0
ARSA Arzberg 60.22 43⇓*i*P P 02 01 09.1 -0.6
comp=Z,71nm,2.1s,mb5.3,SNR=21
D23A Lindsay 60.23 317 ⇓P P 02 01 10.6 +0.8
baz=60,SNR=6.6
W21A San Fidel 60.25 303 ⇑P P 02 01 11.5 +1.3
baz=60,SNR=15
PRU Pruhonice 60.26 40 *e*S S 02 09 28.7 +4.7
PRU AMS AMS 02 21 30.0
comp=Z,1μm,23.0s
K22A Casper 60.28 312 ⇑P P 02 01 10.5 +0.3
baz=60
V21A Milan 60.30 304 ⇑P P 02 01 10.7 +0.2
baz=60
X21A Alamocita Cree 60.31 302 ⇓P P 02 01 10.9 +0.3
baz=60,SNR=35
T21A Navajo Lake 60.32 305 ⇑P P 02 01 10.7 +0.1
baz=60
C23A Lambert 60.36 318 ⇑P P 02 01 11.2 +0.6
baz=60,SNR=9.7
U21A Nageezi 60.37 304 ⇑P P 02 01 10.7 -0.3
baz=60,SNR=34
J22A Midwest 60.37 312 ⇑P P 02 01 12.6 +1.8
baz=60,SNR=7.1
B23A Brockton 60.39 318 ⇑P P 02 01 11.1 +0.2
baz=60
FFC Flin Flon 60.41 326 *e*P P 02 01 09.6 -1.3
comp=Z,60nm,1.4s,mb5.4
FFC LR LR
comp=Z,1μm,20.0s,MS5.0
FFC Flin Flon 60.41 326 *e*P P 02 01 09.6 -1.3
FFC pmax pmax
comp=Z,60nm,1.4s,mb5.4
FFC MLR MLR
comp=Z,1μm,20.0s,MS5.0
PVCC Panska Ves 60.42 39 *e*P P 02 01 10.5 -0.5
PVCC *e* 02 01 17.6
PVCC MLR MLR
comp=Z,900nm,17.6s,MS5.0
PVCC Panska Ves 60.42 39 *e*P P 02 01 10.5 -0.5
PVCC *ep*P pP 02 01 17.6 +3.4
PVCC AMS AMS 02 22 20.0
comp=Z,900nm,17.6s
A23A Redstone 60.44 319 ⇓P P 02 01 11.8 +0.6
baz=60
I22A 9 Mile Ranch, 60.46 313 ⇑P P 02 01 10.8 -0.6
baz=60,SNR=16
R21A Cimarron 60.47 307 ⇓P P 02 01 12.3 +0.7
baz=60,SNR=34
H22A Clearmont 60.49 314 ⇑P P 02 01 11.4 -0.2
baz=60,SNR=10
P21A Newcastle 60.52 308 ⇓P P 02 01 12.5 +0.5
baz=60,SNR=12
Q21A Lamborn Mesa, 60.54 307 ⇓P P 02 01 12.8 +0.7
baz=60,SNR=39
G22A Birney 60.56 315 ⇓P P 02 01 12.0 -0.1
baz=60,SNR=7.2
E22A Miles City 60.57 316 ⇑P P 02 01 12.9 +0.7
baz=61
S21A Coal Bank Pass 60.59 306 ⇑P P 02 01 12.8 +0.4
baz=61,SNR=28
CONA Conrad Observa 60.59 42 *i* P P 02 01 12.4 +0.1
comp=Z,115nm,2.1s,mb5.6,SNR=20
RWWY Rawlins 60.63 310 *e*P P 02 01 14.5 +1.8
comp=Z,188nm,2.0s,mb5.9
F22A Rosebud 60.65 315 ⇑P P 02 01 12.3 -0.4
baz=61,SNR=10
TREC Trest 60.68 41 *e*P P 02 01 12.6 -0.2
TREC *e* 02 01 18.9
TREC MLR MLR
comp=Z,900nm,16.4s,MS5.0
TREC Trest 60.68 41 *e*P P 02 01 12.6 -0.2

TREC *e*pP pP 02 01 18.9 +2.9
TREC AMS AMS 02 22 50.0
comp=Z,900nm,16.4s
M21A Separation Pea 60.73 310 ⇑P P 02 01 13.9 +0.6
baz=61
N21A Black Mountain 60.73 309 ⇓P P 02 01 13.9 +0.6
baz=61
Y20A Horse Springs, 60.77 301 ⇓P P 02 01 14.4 +0.6
baz=61,SNR=25
320A Kipp Ranch, An 60.79 298 ⇓P P 02 01 14.4 +0.5
baz=61,SNR=31
L21A Rawlins 60.79 311 ⇓P P 02 01 14.0 +0.2
baz=61,SNR=28
COP Copenhagen 60.79 33 *e*P **P 02 01 13.4 0.0**
COP *i* S **S 02 09 37.0 +6.4**
COP pmax pmax
comp=Z,17nm,0.8s,mb5.2
COP MLR MLR
comp=Z,480nm,23.0s,MS4.6
COP Copenhagen 60.79 33 *i* P **P 02 01 13.4 0.0**
comp=Z,17nm,0.8s,mb5.2
COP *i* S **S 02 09 37.0 +6.4**
COP
comp=Z,480nm,23.0s
K21A Alcova 60.80 311 ⇓P **P 02 01 14.3 +0.5**
baz=61,SNR=7.2
220A Playas Peak, P 60.81 299 ⇓P **P 02 01 14.3 +0.3**
baz=61,SNR=36
C22A Vida 60.81 317 ⇓P **P 02 01 13.7 -0.1**
baz=61,SNR=15
LAO LASA Array 60.81 316 ⇓P **P 02 01 14.5 +0.7**
baz=61,SNR=6.2
LAO LASA Array 60.81 316 *e*P **P 02 01 13.5 -0.2**
comp=Z,55nm,1.1s,mb5.6
LAO LR LR
comp=Z,1μm,19.0s,MS5.1
D22A Cohagen 60.88 317 ⇓P **P 02 01 14.5 +0.3**
baz=61,SNR=16
X20A Quemado 60.91 302 ⇑P **P 02 01 15.2 +0.5**
baz=61,SNR=17
Z20A Nine Sixteen R 60.91 301 ⇓P **P 02 01 15.2 +0.5**
baz=61,SNR=18
120A U Bar Ranch, L 60.92 300 ⇑P **P 02 01 14.7 -0.1**
baz=61,SNR=30
KONO Kongsberg 60.92 28 PFAKE 02 01 30.0 +16
KONO LR LR
comp=Z,1μm,19.0s,MS5.1
W20A Ramah 60.95 303 ⇑P **P 02 01 15.5 +0.5**
baz=61,SNR=28
V20A Brimhall 60.97 304 ⇓P **P 02 01 14.9 -0.2**
baz=61
H21A Big Horn, Sher 60.98 314 ⇑P **P 02 01 14.4 -0.6**
baz=61,SNR=14
SOP Sopron 61.00 43⇓*e*P **P 02 01 14.6 -0.4**
B22A Reddig Ranch S 61.00 318 ⇓P **P 02 01 15.7 +0.7**
baz=61
I21A Big Trails, Te 61.02 313 ⇑P **P 02 01 14.3 -0.9**
baz=61,SNR=24
S20A Disappointment 61.05 306 ⇓P **P 02 01 16.3 +0.7**
baz=61,SNR=29
U20A Newcomb 61.05 304 ⇑P **P 02 01 16.0 +0.4**
baz=61
J21A Lysite 61.05 312 ⇑P **P 02 01 15.7 +0.2**
baz=61,SNR=7.5
R20A Redvale 61.10 306 ⇑P **P 02 01 16.5 +0.6**
baz=61,SNR=30
MVCO Mesa Verde 61.10 305 ⇓P **P 02 01 16.3 +0.4**
baz=61
MVCO Mesa Verde 61.10 305 *e*P **P 02 01 16.0 +0.1**
comp=Z,39nm,1.1s,mb5.5
MVCO LR LR
comp=Z,1μm,20.0s,MS5.0
A22A Carney Farms, 61.11 319 ⇑P **P 02 01 17.0 +1.2**
baz=61,SNR=6.5
Q20A Ridgley Place, 61.11 307 ⇑P **P 02 01 16.8 +0.8**
baz=61,SNR=33
G21A Lodge Grass 61.20 314 ⇑P **P 02 01 16.7 +0.3**
baz=61
O20A White River Ci 61.20 309 ⇓P **P 02 01 17.3 +0.8**
baz=61,SNR=11
PV01 Paradox Valley 61.24 306 *e*P **P 02 01 17.7 +0.8**
comp=Z,7μm,1.2s
P20A De Beque 61.25 308 ⇑P **P 02 01 17.7 +0.9**
baz=61
F21A Absaloka Mine, 61.25 315 ⇓P **P 02 01 17.3 +0.6**
baz=61
N20A Spence Gulch, 61.30 309 ⇑P **P 02 01 18.0 +0.8**
baz=61,SNR=8.2
UPC Upice 61.30 39 *e*P **P 02 01 17.2 +0.2**
UPC *e* 02 01 23.1
UPC Upice 61.30 39 *e*P **P 02 01 17.2 +0.2**
UPC *e*pP pP 02 01 23.1 +2.8
M20A Sweetwater, Wa 61.33 310 ⇑P **P 02 01 18.2 +0.8**
baz=61
VRAC Vranov 61.38 41 P **P 02 01 17.5 -0.1**
comp=Z,17nm,0.8s,mb5.2,baz=254,slow=7.8,SNR=22
VRAC Vranov 61.38 41 P **P 02 01 17.5 -0.1**
VRAC Vranov 61.38 41 P **P 02 01 17.5 -0.1**
D21A La Casta Ranch 61.40 316 ⇓P **P 02 01 18.3 +0.5**
baz=61,SNR=9.6
219A White Tail Can 61.43 299 ⇓P **P 02 01 18.9 +0.7**
baz=61,SNR=27
V19A Window Rock 61.43 303 ⇓P **P 02 01 18.1 -0.1**
baz=61
319A Douglas 61.43 299 ⇓P **P 02 01 18.4 +0.1**
baz=61
DPC Dobruska-Polom 61.46 40 *e*P **P 02 01 18.1 0.0**
DPC *e* 02 01 24.1
DPC *e*S **S 02 09 43.3 +4.0**
DPC MLR MLR
comp=Z,1μm,22.4s,MS4.9
DPC Dobruska-Polom 61.46 40 *e*P **P 02 01 18.1 0.0**
DPC *e*pP pP 02 01 24.1 +2.8
DPC *e*S **S 02 09 43.3 +4.0**
DPC AMS AMS 02 22 40.0
comp=Z,1μm,22.4s
ZST Bratislava 61.47 42 *e*P **P 02 01 18.6 +0.4**
ZST pmax pmax
comp=Z,23nm,0.8s,mb5.4
ZST Bratislava 61.47 42 *e*P **P 02 01 18.6 +0.4**
ZST *e*S **S 02 09 45.8 +6.3**
119A Ashpeak Ranch, 61.49 300 ⇓P **P 02 01 18.7 +0.1**
baz=62
T19A Beclabito 61.49 305 ⇑P **P 02 01 18.6 0.0**
baz=62,SNR=16
Y19A Nutrioso 61.50 301 ⇓P **P 02 01 19.1 +0.4**
baz=62,SNR=21
L20A Wamsutter 61.51 311 ⇑P **P 02 01 19.0 +0.4**
baz=62,SNR=21
J20A Shoshoni 61.52 312 ⇑P **P 02 01 19.2 +0.6**
baz=62
PV04 Paradox Valley 61.53 306 *e*P **P 02 01 20.1 +1.3**
X19A St. Johns 61.55 302 ⇑P **P 02 01 19.1 0.0**
baz=62,SNR=16
KSP Ksiaz 61.56 39 *e*P **P 02 01 18.6 -0.1**
KSP *e*S **S 02 09 43.5 +2.9**
KSP LMZ 02 22 56.1
comp=Z,1μm,21.4s
KSP Ksiaz 61.56 39 *e*P **P 02 01 18.3 -0.5**
KSP *e*pP pP 02 01 24.8 +2.8
KSP *e*S **S 02 09 43.0 +2.4**
KSP LM 02 22 57.0
comp=Z,2.7nm,21.4s
KSP Ksiaz 61.56 39⇓*e*P **P 02 01 18.3 -0.5**
KSP *e**PP pP 02 01 24.8 +2.8
KSP *e*S **S 02 09 43.0 +2.4**
U19A Dine' College, 61.60 304 ⇑P **P 02 01 19.6 +0.2**
baz=62
K20A Yellowstone Ra 61.60 311 ⇓P **P 02 01 19.5 +0.3**
baz=62,SNR=7.5
C21A Desert Coulee 61.62 317 ⇑P **P 02 01 19.4 +0.2**
baz=62,SNR=9.8
H20A Greybull 61.63 313 ⇑P **P 02 01 19.7 +0.4**
baz=62
I20A Worland 61.64 313 ⇓P **P 02 01 19.1 -0.3**
baz=62,SNR=22
S19A Harvey Farm, M 61.66 306 ⇓P **P 02 01 20.3 +0.7**
baz=62,SNR=20
JMIC Jan Mayen 61.66 13 LR LR 02 22 36.8
comp=Z,1μm,18.2s,MS5.0,baz=249,slow=31
W19A Sanders 61.67 303 ⇑P **P 02 01 19.8 -0.1**
baz=62
B21A Ellsworth Farm 61.70 318 ⇑P **P 02 01 19.7 0.0**
baz=62,SNR=7.2
P19A Cripple Cowboy 61.71 308 ⇑P **P 02 01 20.5 +0.5**
baz=62,SNR=10
SMOL Smolenice 61.74 42 *e*P **P 02 01 21.1 +1.0**
SMOL Smolenice 61.74 42 *e*P **P 02 01 21.1 +1.0**
A21A Bergtoll Ranch 61.76 319 ⇑P **P 02 01 20.4 +0.2**
baz=62
R19A Curley Farm, L 61.80 306 ⇑P **P 02 01 21.0 +0.3**
baz=62,SNR=33
Q19A Hogan Spring (61.86 307 ⇓P **P 02 01 21.0 0.0**
baz=62
O19A Miners Draw (B 61.89 309 ⇓P **P 02 01 21.0 -0.2**
baz=62
G20A Bridger 61.90 314 ⇑P **P 02 01 21.0 -0.2**
baz=62,SNR=20
F20A Billings 61.95 315 ⇓P **P 02 01 21.6 +0.1**
baz=62,SNR=6.7
W18A Petrified Fore 61.96 303 ⇓P **P 02 01 21.2 -0.6**
baz=62
K19A Absolon Red Bu 61.99 311 ⇓P **P 02 01 21.4 -0.5**
baz=62
N19A John Jarvie Ra 62.00 309 ⇓P **P 02 01 21.5 -0.4**
baz=62
NAO01 NORSAR Array S 62.01 27 PFAKE 02 01 30.0 +8.4
NAO01 LR LR
comp=Z,1μm,22.0s,MS5.0
318A Bisbee 62.04 299 ⇑P **P 02 01 22.2 -0.2**
baz=62,SNR=24
118A Homack Ranch, 62.05 300 ⇑P **P 02 01 22.5 +0.1**
baz=62,SNR=26
M19A Rock Springs 62.05 310 ⇓P **P 02 01 22.5 +0.2**
baz=62
E20A Meyer Farm, Mu 62.06 316 ⇑P **P 02 01 22.6 +0.3**
baz=62,SNR=18
MORC Moravsky Berou 62.09 41 *e*P **P 02 01 22.2 -0.1**
comp=Z,88nm,1.6s,mb5.6
MORC Moravsky Berou 62.09 41 *e*P **P 02 01 22.2 -0.2**
MORC pmax pmax
comp=Z,88nm,1.6s,mb5.6
MORC Moravsky Berou 62.09 41⇑*i*P **P 02 01 22.7 +0.3**
218A Dragoon 62.10 299 ⇓P **P 02 01 22.6 -0.2**
baz=62,SNR=28
X18A Snowflake 62.10 302 ⇑P **P 02 01 23.2 +0.4**
baz=62,SNR=19
PKSM Moragy 62.11 45 P **P 02 01 23.3 +0.7**
PKSM Moragy 62.11 45⇑*i*P **P 02 01 19.5 -3.1**
Z18A Geronimo 62.12 300 ⇓P **P 02 01 22.2 -0.7**
baz=62
U18A Rough Rock, Ch 62.14 304 ⇑P **P 02 01 22.5 -0.5**
baz=62
Y18A Canyon Day Jun 62.14 301 ⇑P **P 02 01 23.0 0.0**
baz=62,SNR=17
V18A Ganado 62.15 303 ⇑P **P 02 01 22.8 -0.3**
baz=62
D20A Manuel Ranch, 62.17 316 ⇑P **P 02 01 23.3 +0.4**
baz=62
T18A Mexican Hat 62.20 305 ⇓P **P 02 01 23.2 -0.1**
baz=62,SNR=30
C20A Veseth Ranch, 62.20 317 ⇑P **P 02 01 23.1 -0.1**
baz=62,SNR=13
J19A Crowheart 62.20 312 ⇓P **P 02 01 22.8 -0.4**
baz=62,SNR=16
NOA NORSAR Array B 62.23 27 P **P 02 01 23.1 +0.1**
comp=Z,3.2nm,0.7s,mb4.5,baz=248,slow=7.1,SNR=7.5
NOA PKKP 02 22 11.6
comp=Z,2.2nm,0.9s,baz=16,slow=5.0,SNR=3.3
NOA LR LR 02 23 00.8
comp=Z,562nm,20.9s,MS4.7,baz=245,slow=31
NOA NORSAR Array B 62.23 27 P **P 02 01 23.1 +0.1**
NOA PKKP 02 22 11.6
NOA NORSAR Array B 62.23 27 P **P 02 01 23.2 +0.1**
I19A Meeteetse 62.27 313 ⇑P **P 02 01 22.8 -0.9**
baz=62,SNR=24
L19A Farson 62.28 311 ⇓P **P 02 01 23.1 -0.6**
baz=62,SNR=14
TIR Tirane 62.29 50 PFAKE 02 01 40.0 +16
TIR LR LR
comp=Z,2μm,20.0s,MS5.2
R18A Canyonlands Na 62.31 306 ⇑P **P 02 01 23.6 -0.4**
baz=62,SNR=40
S18A Hurst Farm, Bl 62.33 306 ⇓P **P 02 01 24.1 -0.1**
baz=62,SNR=32
H19A Powell 62.36 314 ⇓P **P 02 01 23.1 -1.1**
baz=62,SNR=19
A20A Cobblestone Ra 62.38 318 ⇑P **P 02 01 24.3 0.0**
baz=62
N18A Larsen Ranch, 62.38 309 ⇓P **P 02 01 24.4 -0.1**
baz=62
KOLL Kolacno 62.39 42 *e*P **P 02 01 24.6 +0.2**
KOLL Kolacno 62.39 42 *e*P **P 02 01 24.6 +0.2**
OKC Ostrava-Krasne 62.49 41 *e*P **P 02 01 25.6 +0.6**
OKC *e* 02 01 31.0
OKC *e*S **S 02 09 59.8 +7.5**
OKC MLR MLR
comp=Z,800nm,21.9s,MS4.8
OKC Ostrava-Krasne 62.49 41 *e*P **P 02 01 25.6 +0.6**
OKC *e*pP pP 02 01 31.0 +2.8
OKC *e*S **S 02 09 59.8 +7.5**
OKC AMS AMS 02 24 20.0
comp=Z,800nm,21.9s
E19A Rath Farm, Rou 62.50 316 ⇑P **P 02 01 25.0 -0.2**
baz=62
BW06 Boulder Array 62.51 311 ⇓P **P 02 01 25.1 -0.2**
baz=62,SNR=41
BW06 Boulder Array 62.51 311 *e*P **P 02 01 24.9 -0.4**
comp=Z,50nm,1.3s,mb5.5
BW06 LR LR
comp=Z,1μm,20.0s,MS5.1
PDAR Pinedale Array 62.51 311 P **P 02 01 24.6 -0.7**
comp=Z,7.0nm,1.1s,mb4.7,baz=112,slow=6.7,SNR=16
PDAR LR LR 02 26 10.5
comp=Z,1μm,19.9s,MS5.0,baz=116,slow=34
PDAR PKP2bc 02 30 38.8
comp=Z,0.7nm,0.9s,baz=193,slow=3.7,SNR=3.9
PDAR Pinedale Array 62.51 311 P **P 02 01 24.6 -0.7**
PDAR ⇑*e* 02 30 38.8
F19A Roth Farm, Mol 62.51 315 ⇓P **P 02 01 25.1 -0.2**
baz=62,SNR=16
PD02 Pinedale Array 62.51 311 *e*P **P 02 01 24.7 -0.6**
PD01 Pinedale Array 62.52 311 *e*P **P 02 01 25.0 -0.5**
Q18A Rafter H Ranch 62.55 307 ⇓P **P 02 01 25.9 +0.2**
baz=62,SNR=8.1
O18A Roosevelt 62.56 308 ⇓P **P 02 01 26.1 +0.4**
baz=62,SNR=9.6
RAC Raciborz 62.57 40 *e*P **P 02 01 26.4 +0.8**
BUD Budapest 62.60 43⇓*e*P **P 02 01 25.5 -0.3**
RLMT Red Lodge 62.62 314 ⇓P **P 02 01 26.2 +0.1**
baz=63
RLMT Red Lodge 62.62 314 *e*P **P 02 01 24.9 -1.1**
comp=Z,97nm,1.5s,mb5.7
RLMT LR LR
comp=Z,1μm,20.0s,MS5.1
P18A Preston Nutter 62.69 308 ⇑P **P 02 01 27.0 +0.5**
baz=63,SNR=7.8
D19A Cripps Ranch, 62.69 316 ⇓P **P 02 01 26.6 +0.2**
baz=63,SNR=6.1
M18A Lyman 62.73 310 ⇓P **P 02 01 26.7 0.0**
baz=63,SNR=6.9
TUC Tucson 62.73 300 *e*P **P 02 01 27.1 +0.1**
comp=Z,33nm,1.1s,mb5.4
TUC *e* 02 02 16.5
TUC LR LR
comp=Z,2μm,19.0s,MS5.3
TUC Tucson 62.73 300 *e*P **P 02 01 27.1 +0.1**
TUC pmax pmax
comp=Z,33nm,1.1s,mb5.4
TUC MLR MLR
comp=Z,2μm,19.0s,MS5.3
GKP Gorka Klasztor 62.73 37 *e*P **P 02 01 26.1 -0.5**
GKP LMZ 02 22 36.0
comp=Z,1μm,26.0s
GKP Gorka Klasztor 62.73 37 *e*P **P 02 01 26.1 -0.5**
L18A Fontenelle, Gr 62.76 310 ⇓P **P 02 01 26.8 -0.1**
baz=63
U17A Shonto 62.79 304 ⇑P **P 02 01 27.1 -0.3**
baz=63
X17A Forest Lakes 62.80 302 ⇓P **P 02 01 27.7 +0.3**
baz=63,SNR=18
I18A Diamond G Ranc 62.81 312 ⇓P **P 02 01 27.4 +0.1**
baz=63,SNR=20
Y17A Roosevelt 62.81 301 ⇓P **P 02 01 27.9 +0.4**
baz=63,SNR=24
H18A Shoshone NF, C 62.84 313 ⇑P **P 02 01 27.4 0.0**
baz=63
K18A Toltan Ranch, 62.84 311 ⇑P **P 02 01 27.8 +0.3**
baz=63,SNR=21
V17A Tonalea, Kykot 62.85 303 ⇑P **P 02 01 27.8 +0.1**
baz=63,SNR=40
SRU San Rafael 62.86 307 *e*P **P 02 01 28.2 +0.5**
comp=Z,62nm,1.3s,mb5.6
SRU San Rafael 62.86 307 *e*P **P 02 01 28.2 +0.5**
SRU pmax pmax
comp=Z,62nm,1.3s,mb5.6
G18A Lazy EL Ranch, 62.86 314 ⇓P **P 02 01 27.5 -0.1**
baz=63
J18A Kendall Valley 62.90 312 ⇑P **P 02 01 27.4 -0.5**
baz=63,SNR=14
C19A Slack Wire Ran 62.90 317 ⇓P **P 02 01 27.5 -0.4**
baz=63
A19A Klindworth Far 62.92 318 ⇓P **P 02 01 27.4 -0.5**
baz=63,SNR=29
LIKS Likavka 62.94 42 *e*P **P 02 01 29.5 +1.4**
LIKS Likavka 62.94 42 *e*P **P 02 01 29.5 +1.4**
R17A Hanksville Air 62.95 306 ⇑P **P 02 01 28.0 -0.3**
baz=63,SNR=13
B19A Brinkman Farms 62.96 318 ⇓P **P 02 01 28.3 +0.1**
baz=63,SNR=14
S17A Black Ridge (B 62.97 305 ⇓P **P 02 01 29.1 +0.7**
baz=63,SNR=40
HFS Hagfors 63.01 29 P **P 02 01 28.1 -0.2**
comp=Z,17nm,0.8s,mb5.2,baz=214,slow=4.8,SNR=18
HFS LR LR 02 24 35.5
comp=Z,851nm,18.8s,MS4.9,baz=247,slow=32
HFS Hagfors 63.01 29 P **P 02 01 28.1 -0.2**
HFS Hagfors 63.01 29 P **P 02 01 28.1 -0.2**
F18A Big Timber 63.05 315 ⇓P **P 02 01 29.5 +0.7**
baz=63
P17A Butcher Ranch, 63.05 308 ⇓P **P 02 01 29.0 0.0**
baz=63
O17A Robinson Place 63.11 308 ⇑P **P 02 01 29.9 +0.5**
baz=63,SNR=8.2
U16A Tuba City 63.14 304 ⇑P **P 02 01 29.5 -0.2**
baz=63,SNR=23
M17A Scullys Gap (B 63.18 310 ⇓P **P 02 01 29.8 0.0**
baz=63,SNR=23
PSZ Piszkesteto 63.25 43 *e*P **P 02 01 29.5 -0.6**
comp=Z,122nm,2.0s,mb5.7
PSZ LR LR
comp=Z,1μm,22.0s,MS5.0
PSZ Piszkesteto 63.25 43 *e*P **P 02 01 29.5 -0.6**
PSZ pmax pmax
comp=Z,122nm,2.0s,mb5.7
PSZ MLR MLR
comp=Z,1μm,22.0s,MS5.0
PSZ Piszkesteto 63.25 43⇓*e*P **P 02 01 29.9 -0.2**
PSZ Piszkesteto 63.25 43⇓*i*P **P 02 01 29.9 -0.2**
N17A Moffit Pass 63.25 309 ⇓P **P 02 01 30.6 +0.3**
baz=63,SNR=9.0
E18A Harlowton 63.29 316 ⇑P **P 02 01 30.7 +0.3**
baz=63
216A Three Points, 63.30 299 ⇑P **P 02 01 31.2 +0.4**
baz=63
D18A Linhart Farms, 63.31 316 ⇑P **P 02 01 30.3 -0.3**
baz=63,SNR=16
WUAZ Wupatki 63.31 303 ⇑P **P 02 01 31.8 +0.9**
baz=63,SNR=28
WUAZ Wupatki 63.31 303 PFAKE 02 01 40.0 +9.2
WUAZ LR LR
comp=Z,3μm,22.0s,MS5.4
X16A Lo Mia Camp, P 63.33 302 ⇓P **P 02 01 31.6 +0.6**
baz=63,SNR=25
LKWY Lake 63.34 313 *e*P **P 02 01 38.0 +7.1**
comp=Z,130nm,1.5s,mb5.8
LKWY LR LR
comp=Z,3μm,21.0s,MS5.4
LKWY Lake 63.34 313 *e*P **P 02 01 38.0 +7.2**
LKWY pmax pmax
comp=Z,130nm,1.5s,mb5.8
LKWY MLR MLR
comp=Z,3μm,21.0s,MS5.4
Q16A Castle Valley 63.34 307 ⇓P **P 02 01 30.8 -0.2**
baz=63,SNR=15
BIA Bitola 63.36 51 *e*P **P 02 01 30.6 -0.4**
LOHW Long Hollow 63.37 312 *e*P **P 02 01 30.6 -0.4**
comp=Z,28nm,1.1s,mb5.3
L17A Cokeville 63.40 310 ⇓P **P 02 01 31.1 -0.1**
baz=63
TMUT Trail Mountain 63.40 307 *e*P **P 02 01 32.5 +1.2**
comp=Z,238nm,2.3s,mb5.9
EGMT Eagleton 63.42 317 ⇓P **P 02 01 31.8 +0.5**
baz=63
EGMT Eagleton 63.42 317 *e*P **P 02 01 30.2 -1.1**
comp=Z,18nm,0.9s,mb5.2
EGMT LR LR
comp=Z,2μm,20.0s,MS5.3
J17A Brown Place, J 63.42 312 ⇓P **P 02 01 31.8 +0.4**
baz=63
H17A Grant Village 63.45 313 ⇓P **P 02 01 32.1 +0.6**
baz=63
MOOW Moose Ponds 63.49 312 *e*P **P 02 01 31.5 -0.3**
comp=Z,56nm,1.4s,mb5.5
FLWY Flagg Ranch 63.49 313 *e*P **P 02 01 31.3 -0.5**
comp=Z,444nm,2.2s,mb6.2
K17A Gardner Place, 63.50 311 ⇑P **P 02 01 31.8 -0.1**
baz=64
DAU Daniels Canyon 63.53 309 *e*P **P 02 01 32.9 +0.7**
DAU Daniels Canyon 63.53 309 *e*P **P 02 01 32.9 +0.8**
SKO Skopje 63.53 50 *e*P **P 02 01 31.9 -0.2**
R16A Teasdale 63.55 306 ⇑P **P 02 01 32.3 +0.1**
baz=64,SNR=8.0
YNR Norris Junctio 63.56 313 *e*P **P 02 01 33.9 +1.6**
comp=Z,57nm,1.6s,mb5.3
S16A Weppner Ranch, 63.60 306 ⇑P **P 02 01 32.4 -0.2**
baz=64,SNR=21
TPAW Teton Pass 63.60 312 *e*P **P 02 01 32.4 -0.1**
comp=Z,53nm,1.3s,mb5.4
OJC Ojcow 63.61 40 *e*P **P 02 01 31.9 -0.5**
OJC Ojcow 63.61 40 *e*P **P 02 01 32.8 +0.4**
comp=Z,181nm,1.6s,mb5.8
OJC Ojcow 63.61 40 *e*P **P 02 01 32.8 +0.4**
OJC pmax pmax
comp=Z,181nm,1.6s,mb5.8
A18A Metzger Ranch, 63.63 318 ⇓P **P 02 01 32.3 -0.3**
baz=64,SNR=9.8
AHID Auburn Hatcher 63.63 311 *e*P **P 02 01 33.2 +0.4**
comp=Z,90nm,1.5s,mb5.6
AHID LR LR
comp=Z,2μm,20.0s,MS5.2
YFT Old Faithful 63.64 313 *e*P **P 02 01 34.9 +2.1**
comp=Z,48nm,1.1s,mb5.4
IMW Indian Meadow 63.64 312 *e*P **P 02 01 32.9 +0.1**
comp=Z,108nm,1.4s,mb5.7
G17A Pierce Place, 63.68 314 ⇓P **P 02 01 33.0 0.0**
baz=64
JLU Jordanelle 63.69 309 *e*P **P 02 01 33.7 +0.5**
comp=Z,85nm,1.4s,mb5.6
O16A Springville 63.70 308 ⇓P **P 02 01 32.4 -0.8**
baz=64
F17A Fitzpatrick Pl 63.70 315 ⇓P **P 02 01 33.2 0.0**
baz=64
N16A Rees Ranch, Co 63.70 309 ⇓P **P 02 01 33.3 +0.1**
baz=64
KECS Kecovo 63.74 42 *e*P **P 02 01 33.9 +0.6**
KECS pmax pmax
comp=Z,61nm,2.2s,mb5.2
KECS Kecovo 63.74 42 *e*P **P 02 01 33.9 +0.6**
P16A Fountain Green 63.77 308 ⇓P **P 02 01 33.9 +0.1**
baz=64
MPU Maple Canyon 63.78 308 *e*P **P 02 01 34.4 +0.5**
comp=Z,106nm,1.7s,mb5.6
DCID1 Drake Creek 63.78 312 *e*P **P 02 01 34.6 +0.9**
comp=Z,191nm,1.5s,mb5.9
NIE Niedzica 63.79 41 *e*P **P 02 01 34.8 +1.2**
NIE Niedzica 63.79 41 *e*P **P 02 01 34.8 +1.2**
L16A Fish Haven 63.80 310 ⇑P **P 02 01 33.5 -0.4**
baz=64,SNR=10
HWUT Hardware Ranch 63.86 310 *e*P **P 02 01 33.8 -0.5**
comp=Z,75nm,1.1s,mb5.6
HWUT LR LR
comp=Z,2μm,20.0s,MS5.2
D17A Six Diamond Ra 63.90 316 ⇑P **P 02 01 34.2 -0.3**
baz=64,SNR=7.8
E17A Martinsdale 63.92 315 ⇑P **P 02 01 34.6 +0.1**
baz=64,SNR=10
H16A Russell Place, 63.96 313 ⇑P **P 02 01 35.4 +0.5**
baz=64,SNR=24
K16A Soda Springs 64.00 311 ⇑P **P 02 01 35.2 0.0**
baz=64,SNR=7.9
C17A Wharram Farm, 64.02 317 ⇓P **P 02 01 34.8 -0.5**
baz=64,SNR=6.6
I16A Newdale 64.03 312 ⇓P **P 02 01 35.7 +0.3**
baz=64,SNR=6.2
J16A Bone 64.06 312 ⇓P **P 02 01 35.9 +0.3**
baz=64,SNR=14
BZS Buzias 64.08 46 P **P 02 01 36.9 +1.3**
BZS Buzias 64.08 46⇓*i*P **P 02 01 35.9 +0.3**
U15A North Rim 64.09 304 ⇑P **P 02 01 35.6 -0.4**
baz=64,SNR=44

MSU Marysvale 64.10 306 *e*P **P 02 01 36.7 +0.8**
MSU Marysvale 64.10 306 *e*P **P 02 01 36.7 +0.7**
QLMT Earthquake Lak 64.10 313 *e*P **P 02 01 36.6 +0.8**
MVU Marysvale 64.13 306 PFAKE 02 01 50.0 +14
MVU LR LR
comp=Z,1µm,20.0s,MS5.0
B17A L&G Farms, Che 64.15 317 ⇑P **P 02 01 35.5 -0.6**
baz=64,SNR=11
R15A Junction 64.16 306 ⇑P **P 02 01 36.4 +0.1**
baz=64
A17A Triple J Farms 64.19 318 ⇑P **P 02 01 36.8 +0.4**
baz=64
NOQ North Oquirrh 64.20 309 *e*P **P 02 01 37.0 +0.4**
comp=Z,48nm,1.2s,mb5.4
P15A Leamington 64.25 308 ⇓P **P 02 01 37.5 +0.6**
baz=64
VAY Valandovo 64.32 50 *e*P **P 02 01 37.0 -0.3**
BOZ Bozeman (W) 64.34 314 ⇓P **P 02 01 37.7 +0.3**
baz=64
BOZ Bozeman (W) 64.34 314 *e*P **P 02 01 37.1 -0.3**
comp=Z,15nm,1.1s,mb4.9
BOZ LR LR
comp=Z,849nm,20.0s,MS4.9
BOZ Bozeman (W) 64.34 314 *e*P **P 02 01 37.1 -0.3**
BOZ pmax pmax
comp=Z,15nm,1.1s,mb4.9
BOZ MLR MLR
comp=Z,849nm,20.0s,MS4.9
F16A Kennard Place, 64.36 314 ⇓P **P 02 01 37.3 -0.2**
baz=64,SNR=9.9
STHS Stebnicka Huta 64.38 41 *e*P **P 02 01 40.2 +2.6**
STHS pmax pmax
comp=Z,33nm,1.6s,mb5.1
STHS Stebnicka Huta 64.38 41 *e*P **P 02 01 40.2 +2.6**
G16A Moss Hill, Enn 64.41 314 ⇑P **P 02 01 37.9 0.0**
baz=64,SNR=18
O15A The Old Anders 64.44 308 ⇑P **P 02 01 38.9 +0.8**
baz=64
CRVS Cervenica-Dubn 64.44 42 *e*P **P 02 01 38.9 +0.9**
CRVS pmax pmax
comp=Z,220nm,2.3s,mb5.8
CRVS Cervenica-Dubn 64.44 42 *e*P **P 02 01 38.9 +0.9**
CRVS *e*S **S 02 10 21.0 +4.2**
214A Organ Pipe Nat 64.45 299 ⇑P **P 02 01 38.8 +0.4**
baz=64,SNR=5.5
D16A Dana Ranch, Ca 64.47 316 ⇓P **P 02 01 38.1 0.0**
baz=64,SNR=8.3
E16A East Helena 64.49 315 ⇓P **P 02 01 38.1 -0.2**
baz=64,SNR=9.1
114A Black Gap (USA 64.51 300 ⇑P **P 02 01 39.2 +0.5**
baz=64
L15A Malad City 64.51 310 ⇑P **P 02 01 38.4 -0.2**
baz=64,SNR=30
M15A Larsen Ranch, 64.51 310 ⇑P **P 02 01 38.3 -0.3**
baz=64,SNR=53
N15A Stansbury Isla 64.52 309 ⇓P **P 02 01 39.3 +0.7**
baz=64
BEL Belsk 64.53 39 *e*P **P 02 01 39.6 +1.1**
BEL LMZ 02 25 01.4
comp=Z,1µm,22.3s
BEL Belsk 64.53 39 *e*P **P 02 01 39.6 +1.1**
Z14A Wintersburg 64.56 301 ⇑P **P 02 01 38.4 -0.6**
baz=64
HRY Holter Researc 64.62 315 *e*P **P 02 01 39.0 -0.2**
Y14A Wickenburg 64.62 301 ⇑P **P 02 01 39.8 +0.4**
baz=65,SNR=5.2
K15A Arbon 64.67 311 ⇑P **P 02 01 39.9 +0.3**
baz=65,SNR=8.1
DUG Dugway 64.70 308 ⇑P **P 02 01 40.0 +0.1**
baz=65,SNR=25
DUG Dugway 64.70 308 *e*P **P 02 01 39.9 +0.1**
comp=Z,182nm,2.1s,mb5.7
DUG *e*PP PP 02 04 04.2 +2.2
DUG LR LR
comp=Z,1µm,21.0s,MS5.1
DUG Dugway 64.70 308 *e*P **P 02 01 39.9 +0.1**
DUG *e* 02 04 04.2
DUG pmax pmax
comp=Z,182nm,2.1s,mb5.7
DUG MLR MLR
comp=Z,1µm,21.0s,MS5.1
C16A Fuhringer Ranc 64.71 317 ⇓P **P 02 01 40.0 +0.2**
baz=65,SNR=16
KKB Krupnik 64.75 50 *e*P **P 02 01 40.6 +0.5**
I15A Monteview 64.76 312 ⇓P **P 02 01 39.7 -0.4**
baz=65
HVU Hansel Valley 64.78 310 *e*P **P 02 01 40.6 +0.3**
comp=Z,48nm,1.3s,mb5.4
HVU Hansel Valley 64.78 310 *e*P **P 02 01 40.6 +0.3**
HVU pmax pmax
comp=Z,48nm,1.3s,mb5.4
DAG Danmarks Havn 64.83 6 *i*P **P 02 01 40.4 +0.4**
DAG pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
DAG Danmarks Havn 64.83 6 *i*P **P 02 01 40.4 +0.4**
comp=Z,7.5nm,1.0s,mb4.7
G15A Dillon 64.89 314 ⇓P **P 02 01 41.1 +0.1**
baz=65,SNR=26
VTS Vitosha 64.90 49 ⇑P **P 02 01 42.2 +1.1**
VTS Vitosha 64.90 49 *e*P **P 02 01 39.8 -1.3**
VTS Vitosha 64.90 49 ⇑*i*P **P 02 01 42.2 +1.1**
LRM Limekiln Ridge 64.94 314 *e*P **P 02 01 41.1 -0.2**
H15A Lima 64.94 313 ⇑P **P 02 01 40.8 -0.5**
baz=65
UZH Uzhgorod 64.94 42 ⇑*i*P **P 02 01 40.2 -1.1**
UZH *e* 02 01 47.6
UZH *e*S **S 02 10 17.2 -5.8**
UZH *e*PS 02 10 45.0
F15A Butte 64.97 314 ⇓P **P 02 01 41.4 -0.1**
baz=65
KOLS Kolonicke sedl 64.98 42 *e*P **P 02 01 42.3 +0.8**
KOLS pmax pmax
comp=Z,75nm,1.5s,mb5.5
KOLS Kolonicke sedl 64.98 42 *e*P **P 02 01 42.3 +0.8**
DLMT Dillon 64.98 314 *e*P **P 02 01 41.9 +0.3**
comp=Z,63nm,1.4s,mb5.5
CCUT Cedar City 64.99 305 *e*P **P 02 01 43.1 +1.3**
comp=Z,84nm,1.3s,mb5.6
TRPA Tarpa 65.04 43 ⇑*i*P **P 02 01 41.8 -0.1**
ARUT Antelope Range 65.06 306 *e*P **P 02 01 43.3 +1.1**
comp=Z,59nm,1.2s,mb5.5
ARUT Antelope Range 65.06 306 *e*P **P 02 01 43.3 +1.0**
ARUT pmax pmax
comp=Z,59nm,1.2s,mb5.5
MCMT McKenzie Canyo 65.11 313 *e*P **P 02 01 43.3 +0.9**
comp=Z,14nm,1.6s,mb4.7
D15A Lincoln 65.13 316 ⇓P **P 02 01 42.1 -0.4**
baz=65,SNR=17
K14A Jones Ranch, D 65.14 311 ⇑P **P 02 01 42.6 0.0**
baz=65,SNR=6.8
L14A Malta 65.15 310 ⇑P **P 02 01 42.7 0.0**
baz=65,SNR=8.8
Z13A Yuma Proving G 65.16 300 ⇑P **P 02 01 42.9 0.0**
baz=65,SNR=22
MMB Musomiste 65.21 50 *e*P **P 02 01 42.5 -0.6**
113A Mohawk Valley, 65.25 300 ⇑P **P 02 01 43.3 -0.3**
baz=65
C15A Salmond Ranch, 65.28 317 ⇓P **P 02 01 43.3 -0.1**
baz=65,SNR=16
B15A Bradely Ranch, 65.32 317 ⇓P **P 02 01 43.0 -0.7**
baz=65,SNR=17
MPEP Malo Peshtene 65.35 48 *e*P **P 02 01 43.2 -0.8**
W13A Hualapai Mount 65.36 303 ⇓P **P 02 01 44.4 +0.2**
baz=65,SNR=15
KWP Kalwaria Pacla 65.36 41 *e*P **P 02 01 45.4 +1.5**
KWP LMZ 02 27 40.3
comp=Z,1µm,21.2s
KWP Kalwaria Pacla 65.36 41 *e*P **P 02 01 45.1 +1.2**
comp=Z,234nm,1.6s,mb6.0
KWP LR LR
comp=Z,1µm,20.0s,MS5.1
KWP Kalwaria Pacla 65.36 41 *e*P **P 02 01 45.1 +1.2**
KWP pmax pmax
comp=Z,234nm,1.6s,mb6.0
KWP MLR MLR
comp=Z,1µm,20.0s,MS5.1
KWP Kalwaria Pacla 65.36 41 ⇑*i*P **P 02 01 45.5 +1.6**
J14A Carey 65.45 312 ⇑P **P 02 01 45.0 +0.4**
baz=65,SNR=8.6
I14A Mackay 65.45 312 ⇑P **P 02 01 44.6 -0.1**
baz=65,SNR=8.7
R13A O'Grain Ranch, 65.50 306 ⇓P **P 02 01 45.5 +0.4**
baz=66
A15A Johnson Ranch, 65.52 318 ⇑P **P 02 01 44.8 -0.2**
baz=66,SNR=20
F14A Wisdom 65.57 314 ⇓P **P 02 01 45.7 +0.3**
baz=66,SNR=5.1
CHMT Chamberlain Mo 65.61 316 *e*P **P 02 01 45.5 -0.1**
BMR Baia Mare 65.62 44 P **P 02 01 46.2 +0.6**
E14A Clinton 65.72 315 ⇓P **P 02 01 46.6 +0.3**
baz=66
B14A Marquette Ranc 65.79 317 ⇑P **P 02 01 47.3 +0.5**
baz=66
D14A Greenough 65.80 316 ⇓P **P 02 01 46.5 -0.3**
baz=66
SLMT Seeley Lake 65.81 316 *e*P **P 02 01 46.8 -0.1**
EFI East Falkland 65.82 189 PFAKE 02 02 00.0 +13
EFI LR LR
comp=Z,989nm,21.0s,MS5.0
Y12C Blythe 65.88 301 ⇑P **P 02 01 47.9 +0.2**
baz=66
I13A Wildhorse Cree 65.93 312 ⇑P **P 02 01 47.7 -0.1**
baz=66,SNR=14
J13A Cove Ranch, Pi 65.93 312 ⇓P **P 02 01 47.5 -0.2**
baz=66
RZN Rozhen 65.95 50 *e*P **P 02 01 48.5 +0.6**
PLD Plovdiv 65.97 50 *e*P **P 02 01 47.7 -0.3**
A14A Double T Ranch 65.97 318 ⇓P **P 02 01 47.7 -0.2**
baz=66,SNR=7.4
C14A Swan Lake 66.04 316 ⇑P **P 02 01 48.0 -0.4**
baz=66
MSO Missoula 66.07 315 ⇓P **P 02 01 48.9 +0.3**
baz=66
MSO Missoula 66.07 315 *e*P **P 02 01 48.4 -0.2**
comp=Z,12nm,1.1s,mb4.8
MSO LR LR
comp=Z,791nm,19.0s,MS4.9
H13A Challis 66.08 313 ⇑P **P 02 01 48.6 0.0**
baz=66
G13A Cobalt 66.11 314 ⇓P **P 02 01 48.5 -0.4**
baz=66,SNR=7.3
HLID Hailey 66.12 312 ⇑P **P 02 01 49.1 +0.2**
baz=66,SNR=28
HLID Hailey 66.12 312 *e*P **P 02 01 49.2 +0.2**
comp=Z,19nm,1.0s,mb5.1
HLID LR LR
comp=Z,1µm,20.0s,MS5.1
GLA Glamis 66.14 300 ⇑P **P 02 01 49.5 +0.2**
baz=66
GLA Glamis 66.14 300 *e*P **P 02 01 50.3 +1.0**
comp=Z,81nm,1.9s,mb5.4
GLA Glamis 66.14 300 *e*P **P 02 01 50.3 +1.0**
GLA pmax pmax
comp=Z,81nm,1.9s,mb5.4
SWMT Swartz Lake 66.18 316 *e*P **P 02 01 48.8 -0.5**
E13A Victor 66.20 315 ⇑P **P 02 01 49.5 0.0**
baz=66,SNR=9.5
YBMT Yellow Bay 66.23 317 *e*P **P 02 01 50.7 +1.1**
LVV L'vov 66.24 41 *i*P **P 02 01 50.3 +0.7**
LVV *i* 02 01 56.4
LVV *e* 02 02 13.4
LVV *e*S S 02 10 37.2 -1.5
LVV *e*PS 02 11 05.0
F13A Darby 66.24 314 ⇓P **P 02 01 49.9 +0.3**
baz=66
WALA Waterton Lakes 66.30 318 *e*P **P 02 01 49.3 -0.7**
comp=Z,0.8nm,1.1s
SUW Suwalki 66.35 37 *e*P **P 02 01 49.6 -0.7**
SUW LMZ 02 24 50.8
comp=Z,1µm,23.7s
SUW Suwalki 66.35 37 *e*P **P 02 01 50.0 -0.2**
comp=Z,84nm,1.2s,mb5.6
SUW Suwalki 66.35 37 *e*P **P 02 01 50.0 -0.2**
SUW pmax pmax
comp=Z,84nm,1.2s,mb5.7
JTMT Jette 66.40 316 *e*P **P 02 01 50.4 -0.3**
IRM Iron Mountain 66.40 302 ⇑P **P 02 01 51.3 +0.4**
baz=66,SNR=17
D13A Huson 66.45 316 ⇑P **P 02 01 51.4 +0.4**
baz=66
KDZ Kurdzhali 66.47 50 *e*P **P 02 01 50.1 -1.2**
H12A Diamond D Ranc 66.51 313 ⇑P **P 02 01 51.8 +0.3**
baz=66,SNR=8.0
C13A Hot Springs 66.59 316 ⇑P **P 02 01 52.3 +0.5**
baz=66
B13A Whitefish 66.59 317 ⇓P **P 02 01 52.2 +0.4**
baz=67
A13A Flathead Natio 66.61 318 ⇑P **P 02 01 51.7 -0.3**
baz=67
I12A Atlanta 66.66 312 ⇑P **P 02 01 52.6 +0.2**
baz=67
BC3 Big Chuckawall 66.66 301 ⇓P **P 02 01 53.4 +0.7**
baz=67,SNR=5.3
BSMT Bassoo Peak 66.75 316 *e*P **P 02 01 52.8 -0.1**
BUR08 Bucovina Ar. S 66.76 44 *e*P **P 02 01 53.8 +0.8**
BURAR Bucovina Array 66.77 44 ⇑P **P 02 01 54.0 +1.0**
BURAR Bucovina Array 66.77 44 ⇑*i*P **P 02 01 54.0 +1.0**
R11A Troy Canyon, C 66.77 306 ⇓P **P 02 01 53.3 +0.1**
baz=67,SNR=19
GMRC Granite Mounta 66.81 302 ⇓P **P 02 01 53.6 0.0**
baz=67,SNR=29
G12A Big Creek, Yel 66.88 313 ⇑P **P 02 01 53.8 0.0**
baz=67
TUQ Turquoise Moun 67.03 303 ⇑P **P 02 01 55.5 +0.6**
baz=67,SNR=16
D12A Red Ives Fores 67.05 316 ⇓P **P 02 01 55.0 +0.2**
baz=67
MLR Muntele Rosu 67.09 46 P **P 02 01 55.5 +0.4**
comp=Z,4.8nm,1.0s,mb4.5,baz=305,slow=3.9,SNR=27
MLR LR LR 02 29 46.4
comp=Z,259nm,19.7s,MS4.5,baz=261,slow=35
MLR Muntele Rosu 67.09 46 P **P 02 01 55.5 +0.4**
MLR Muntele Rosu 67.09 46 P **P 02 01 55.9 +0.8**
MLR Muntele Rosu 67.09 46 ⇓*i*P **P 02 01 55.5 +0.4**
BELC Belle Mtn. Jos 67.11 301 ⇑P **P 02 01 55.8 +0.4**
baz=67,SNR=5.5
MFID Camas Ranch 67.14 312 ⇓P **P 02 01 55.4 -0.1**
baz=67,SNR=26
MFID Camas Ranch 67.14 312 *e*P **P 02 01 55.8 +0.3**
comp=Z,62nm,1.3s,mb5.5
E12A Beaver Dam Sad 67.15 315 ⇑P **P 02 01 54.7 -0.8**
baz=67
RES Resolute Bay 67.17 347 P **P 02 01 54.8 -0.3**
comp=Z,7.7nm,0.9s,mb4.7,baz=80,slow=6.2,SNR=8.3
RES Resolute Bay 67.17 347 P **P 02 01 54.8 -0.3**
RES Resolute Bay 67.17 347 P **P 02 01 54.8 -0.3**
C12B Naegeli Ranch, 67.19 316 ⇑P **P 02 01 56.7 +1.0**
baz=67
SULR 67.25 47 ⇑*i*P **P 02 01 56.7 +0.5**
SHOC Shoshone 67.31 303 ⇑P **P 02 01 57.3 +0.6**
baz=67
B12A Libby 67.34 317 ⇓P **P 02 01 56.8 +0.1**
baz=67
HEC Hector,Ludlow 67.37 302 ⇑P **P 02 01 57.5 +0.4**
baz=67
A12A Yaak River Ran 67.43 318 ⇑P **P 02 01 57.8 +0.6**
baz=67,SNR=44
MONP Monument Peak 67.48 300 ⇑P **P 02 01 58.5 +0.6**
baz=67
PFO Pinyon Flat Ob 67.49 301 ⇑P **P 02 01 58.4 +0.5**
baz=68
PFO Pinyon Flat Ob 67.49 301 *e*P **P 02 01 58.5 +0.6**
comp=Z,19nm,1.2s,mb5.0
PFO LR LR
comp=Z,1µm,19.0s,MS5.2
PFO Pinyon Flat Ob 67.49 301 *e*P **P 02 01 58.5 +0.6**
PFO pmax pmax
comp=Z,19nm,1.2s,mb5.0
PFO MLR MLR
comp=Z,1µm,19.0s,MS5.2
PLOR Plostina 67.61 46 ⇑P **P 02 01 59.3 +0.9**
PLOR Plostina 67.61 46 ⇑*i*P **P 02 01 59.3 +0.9**
TESR 67.65 45 ⇓*i*P **P 02 02 02.7 +4.0**
VRI Vrincioaia 67.66 46 P **P 02 01 59.2 +0.4**
VRI Vrincioaia 67.66 46 ⇓*i*P **P 02 01 58.3 -0.5**
C11A Tepee Creek (N 67.73 316 ⇓P **P 02 01 59.5 +0.3**
baz=68
GSC Goldstone 67.75 303 ⇑P **P 02 01 59.8 +0.3**
baz=68,SNR=18
GSC Goldstone 67.75 303 *e*P **P 02 02 00.5 +1.0**
comp=Z,44nm,1.1s,mb5.4
GSC Goldstone 67.75 303 *e*P **P 02 02 00.5 +1.0**
GSC pmax pmax
comp=Z,44nm,1.1s,mb5.4
FURC Furnace Creek, 67.78 304 ⇑P **P 02 02 00.0 +0.4**
baz=68,SNR=13
BBRC Big Bear Solar 67.86 302 ⇑P **P 02 02 00.4 +0.1**
baz=68
TPH Tonopah 68.06 306 PFAKE 02 02 10.0 +8.6
TPH LR LR
comp=Z,1µm,22.0s,MS5.2
BMN Battle Mountai 68.08 308 *e*P **P 02 02 01.7 +0.3**
comp=Z,48nm,1.3s,mb5.4
BMN LR LR
comp=Z,1µm,22.0s,MS5.1
BMN Battle Mountai 68.08 308 *e*P **P 02 02 01.7 +0.2**
BMN pmax pmax
comp=Z,48nm,1.3s,mb5.4
BMN MLR MLR
comp=Z,1µm,22.0s,MS5.1
MURC Murrieta 68.12 301 ⇓P **P 02 02 02.1 +0.2**
baz=68
GRAC Grapevine Rang 68.18 305 ⇑P **P 02 02 02.8 +0.6**
baz=68
BMO Blue Mountains 68.27 313 *e*P **P 02 02 01.9 -0.7**
comp=Z,63nm,2.0s,mb5.3
BMO LR LR
comp=Z,971nm,19.0s,MS5.0
BMO Blue Mountains 68.27 313 *e*P **P 02 02 01.9 -0.7**
BMO pmax pmax
comp=Z,63nm,2.0s,mb5.3
BMO MLR MLR
comp=Z,971nm,19.0s,MS5.0
F10A Beach Ranch, E 68.27 314 ⇑P **P 02 02 02.2 -0.4**
baz=68
MPMC Manual Prospec 68.29 304 ⇑P **P 02 02 03.0 +0.1**
baz=68,SNR=8.3
NEW Newport 68.34 317 ⇓P **P 02 02 02.9 0.0**
baz=68,SNR=38
NEW Newport 68.34 317 *e*P **P 02 02 02.5 -0.5**
comp=Z,60nm,1.1s,mb5.5
NEW LR LR
comp=Z,2µm,19.0s,MS5.3
NEW Newport 68.34 317 *e*P **P 02 02 02.5 -0.5**
NEW pmax pmax
comp=Z,60nm,1.1s
NEW MLR MLR
comp=Z,2µm,19.0s
LRMC Laurel Mountai 68.47 303 ⇓P **P 02 02 04.4 +0.4**
baz=68
BFSC Mount Baldy Ra 68.48 302 ⇓P **P 02 02 04.4 +0.3**
baz=68
NACGM Naroch 68.56 36 *e* **P 02 02 02.0 -2.2**
EDW2 Edwards Air Fo 68.73 302 ⇓P **P 02 02 05.9 +0.2**
baz=69
CWC Cottonwood Cre 68.76 304 ⇑P **P 02 02 05.3 -0.5**
baz=69,SNR=6.5
TIRR Tirgusor 68.78 47 *e*P **P 02 02 06.0 +0.1**
comp=Z,60nm,1.5s,mb5.3
TIRR Tirgusor 68.78 47 *e*P **P 02 02 06.0 +0.2**
TIRR pmax pmax
comp=Z,60nm,1.5s,mb5.3
TIRR Tirgusor 68.78 47 ⇑*i*P **P 02 02 06.1 +0.3**
MWC Mount Wilson 68.81 302 *e*P **P 02 02 08.3 +2.2**
comp=Z,76nm,1.5s,mb5.4
MWC Mount Wilson 68.81 302 *e*P **P 02 02 08.3 +2.1**
MWC pmax pmax
comp=Z,76nm,1.5s,mb5.4
YKA Yellowknife Ar 68.89 332 P **P 02 02 04.3 -1.8**
comp=Z,4.0nm,0.8s,mb4.4,baz=101,slow=7.0,SNR=19
YKA Yellowknife Ar 68.89 332 P **P 02 02 04.3 -1.8**
YKA Yellowknife Ar 68.89 332 P **P 02 02 04.4 -1.7**
NVAR Mina Array Bea 68.91 306 P **P 02 02 07.0 +0.2**
comp=Z,2.7nm,0.9s,mb4.2,baz=90,slow=4.8,SNR=15
NVAR LR LR 02 29 20.0
comp=Z,432nm,21.7s,MS4.7,baz=262,slow=34
NVAR PKP2ab 02 30 20.9
comp=Z,0.5nm,0.8s,baz=256,slow=1.9,SNR=3.9
NVAR Mina Array Bea 68.91 306 P **P 02 02 07.0 +0.2**
NVAR P'P'ab 02 30 20.9
PASC Pasadena Art C 68.92 302 *e*P **P 02 02 06.1 -0.7**
comp=Z,130nm,1.1s,mb5.8
E09A Wood Farm, Sta 68.93 315 ⇓P **P 02 02 05.8 -0.9**
baz=69,SNR=13
LNOR Lincton Mounta 69.00 314 *e*P **P 02 02 07.7 +0.6**
LNOR Lincton Mounta 69.00 314 *e*P **P 02 02 07.7 +0.5**
VSU Vasula 69.03 32 ⇑*i*P **P 02 02 06.8 -0.3**
VSU pmax pmax
comp=Z,63nm,1.6s,mb5.3
J08A Circle Bar Ran 69.06 311 ⇓P **P 02 02 07.9 +0.4**
baz=69
C09A Chrisman Ranch 69.08 316 ⇑P **P 02 02 07.8 +0.2**
baz=69
ISA Isabella 69.10 303 ⇑P **P 02 02 08.3 +0.3**
baz=69
ISA Isabella 69.10 303 *e*P **P 02 02 09.3 +1.3**
comp=Z,83nm,1.4s,mb5.5
ISA Isabella 69.10 303 *e*P **P 02 02 09.3 +1.3**
ISA pmax pmax
comp=Z,83nm,1.4s,mb5.5
MNK Minsk 69.12 37 ⇑*i*P **P 02 02 05.0 -2.7**
MNK pmax pmax
comp=Z,160nm,1.4s,mb5.8
MICGM Minsk 69.15 37 ⇑*i*P **P 02 02 05.0 -2.9**
WVOR Wild Horse Val 69.17 310 *e*P **P 02 02 08.4 +0.1**
comp=Z,42nm,0.5s,mb5.6
WVOR LR LR
comp=Z,1µm,20.0s,MS5.2
WVOR Wild Horse Val 69.17 310 *e*P **P 02 02 08.4 +0.2**
WVOR pmax pmax
comp=Z,42nm,0.5s,mb5.6
WVOR MLR MLR
comp=Z,1µm,20.0s,MS5.2
KIS Kishinev 69.17 45 *i*P **P 02 02 07.0 -1.2**
comp=Z,300nm,2.0s,mb5.9
KIS *e*S S 02 11 08.0 -6.0
KIS Kishinev 69.17 45 ⇑*i*P **P 02 02 07.0 -1.2**
KIS *i* 02 02 13.0
KIS *i* 02 02 27.0
KIS *e*S S 02 11 08.0 -6.0
KIS *e*PS 02 11 44.0
KIS pmax pmax
comp=Z,290nm,2.0s,mb5.9
KIS MLR MLR
comp=Z,800nm,18.0s,MS5.0
KIS MLR MLR
comp=Z,900nm,18.0s
FINES FINESS Array B 69.20 29 P **P 02 02 07.8 -0.3**
comp=Z,9.9nm,0.8s,mb4.8,baz=255,slow=3.7,SNR=18
FINES LR LR 02 27 21.2
comp=Z,833nm,21.4s,MS5.0,baz=268,slow=32
FINES FINESS Array B 69.20 29 P **P 02 02 07.8 -0.3**
FINES FINESS Array B 69.20 29 P **P 02 02 07.8 -0.3**
MLAC Mammoth Lakes 69.34 305 ⇓P **P 02 02 09.8 +0.4**
baz=69
OSI Osito Adit 69.34 302 *e*P **P 02 02 10.5 +1.0**
OD2 Odessa Site #2 69.36 316 *e*P **P 02 02 08.8 -0.5**
ARVC Arvin 69.41 303 ⇑P **P 02 02 09.9 +0.1**
baz=69
KAF Kangasniemi 69.43 28 *e*P **P 02 02 07.3 -2.2**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KAF Kangasniemi 69.43 28 *e*p **P 02 02 07.3 -2.2**
comp=Z,8.8nm,0.8s,mb4.7
TSUM Tsumeb 69.47 117 *e*P **P 02 02 11.0 +0.6**
TSUM AMB AMB 02 02 12.7
comp=Z,1µm,2.4s,mb6.5
TSUM Tsumeb 69.47 117 *e*P **P 02 02 11.0 +0.5**
comp=Z,168nm,2.2s,mb5.6
TSUM LR LR
comp=Z,986nm,20.0s,MS5.0
ALE Alert 69.50 358 P **P 02 02 07.0 -2.6**
comp=Z,188nm,1.0s,mb6.0,SNR=6.9
VES Vestal, Richgr 69.59 303 ⇑P **P 02 02 11.5 +0.5**
baz=70
KIEV Kiev 69.63 41 *e*P **P 02 02 10.0 -0.9**
comp=Z,197nm,2.4s,mb5.6
KIEV LR LR
comp=Z,695nm,20.0s,MS4.9
KIEV Kiev 69.63 41 *e*P **P 02 02 10.0 -0.9**
KIEV pmax pmax
comp=Z,197nm,2.4s,mb5.6
KIEV MLR MLR
comp=Z,695nm,20.0s,MS4.9
AKASG Malin Array Be 69.64 41 P **P 02 02 10.0 -1.0**
comp=Z,7.0nm,0.7s,mb4.7,baz=269,slow=5.3,SNR=24
AKASG LR LR 02 31 05.4
comp=Z,652nm,19.8s,MS4.9,baz=260,slow=34
AKASG Malin Array Be 69.64 41 P **P 02 02 10.0 -1.0**
AKASG Malin Array Be 69.64 41 *ce*P **P 02 02 10.0 -1.0**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 69.64 41 *e*P **P 02 02 09.1 -1.9**
AKBB Malin Array Si 69.64 41 *e*P **P 02 02 09.1 -1.9**
RCTC Rector, Farmer 69.70 304 ⇑P **P 02 02 11.8 +0.1**
baz=70
I07A Izee 69.82 312 ⇑P **P 02 02 12.6 +0.4**
baz=70

HAWA Hanford 69.89 315 *e*P **P 02 02 12.2 -0.4**
comp=Z,87nm,1.5s,mb5.5
HAWA LR LR
comp=Z,875nm,20.0s,MS5.0
RSW Rattlesnake Hi 69.93 315 *e*P **P 02 02 13.7 +0.8**
WCN Washoe City 70.03 307 ⇑P **P 02 02 14.0 +0.3**
baz=70
WCN Washoe City 70.03 307 *e*P **P 02 02 14.7 +1.1**
comp=Z,136nm,2.5s,mb5.4
WCN Washoe City 70.03 307 *e*P **P 02 02 14.7 +1.1**
WCN pmax pmax
comp=Z,136nm,2.5s,mb5.4
PKM Peak Mountain 70.23 302 ⇓P **P 02 02 14.5 -0.5**
baz=70
SMMC Simmler 70.36 303 ⇓P **P 02 02 15.3 -0.5**
baz=70
MOD Modoc 70.41 310 *e*P **P 02 02 16.7 +0.8**
comp=Z,69nm,1.3s,mb5.4
CMB Columbia Colle 70.56 306 *e*P **P 02 02 17.3 +0.4**
comp=Z,19nm,1.2s,mb4.9
CMB Columbia Colle 70.56 306 *e*P **P 02 02 17.3 +0.4**
CMB pmax pmax
comp=Z,19nm,1.2s,mb4.9
G06A Carlson Farm, 70.64 313 ⇓P **P 02 02 17.6 +0.3**
baz=71,SNR=19
ARCES ARCESS Array B 70.68 21 P **P 02 02 16.6 -0.4**
comp=Z,15nm,0.9s,mb4.9,baz=245,slow=4.7,SNR=28
ARCES LR LR 02 26 29.3
comp=Z,608nm,21.1s,MS4.8,baz=250,slow=30
ARCES ARCESS Array B 70.68 21 P **P 02 02 16.6 -0.4**
ARCES ARCESS Array B 70.68 21 P **P 02 02 16.6 -0.4**
ARE0 ARCESS Array S 70.68 21 *e*P **P 02 02 17.0 0.0**
KBS Kingsbay 70.78 10 PFAKE 02 02 30.0 +12
KBS LR LR
comp=Z,380nm,19.0s,MS4.7
K05A Summer Lake 70.83 311 ⇑P **P 02 02 17.9 -0.5**
baz=71,SNR=27
KEV Kevo 71.24 20 *e*P **P 02 02 20.0 -0.4**
comp=Z,44nm,1.0s,mb5.3
KEV LR LR
comp=Z,736nm,22.0s,MS4.9
KEV Kevo 71.24 20 *e*P **P 02 02 20.0 -0.4**
KEV pmax pmax
comp=Z,44nm,1.0s,mb5.3
KEV MLR MLR
comp=Z,736nm,22.0s,MS4.9
KEV Kevo 71.24 20 *e*p **P 02 02 19.1 -1.3**
comp=Z,14nm,0.8s,mb4.9
HOOD Mount Hood Mea 71.36 314 *e*P **P 02 02 24.7 +3.1**
comp=Z,79nm,1.3s,mb5.5
A05A Maple Falls 71.66 317 ⇑P **P 02 02 22.4 -0.9**
baz=72
JOF Joensuu 71.84 28 *e*P **P 02 02 21.9 -2.3**
JOF pmax pmax
comp=Z,11nm,0.8s,mb4.8
JOF Joensuu 71.84 28 *e*p **P 02 02 21.9 -2.3**
comp=Z,11nm,0.8s,mb4.8
WDC Whiskeytown Da 72.13 309 *e*P **P 02 02 29.1 +2.8**
comp=Z,27nm,1.3s,mb5.0
WDC Whiskeytown Da 72.13 309 *e*P **P 02 02 29.1 +2.8**
WDC pmax pmax
comp=Z,27nm,1.3s,mb5.0
YBH Yreka Blue Hor 72.21 310 *e*P **P 02 02 26.6 -0.1**
comp=Z,48nm,1.5s,mb5.2
YBH Yreka Blue Hor 72.21 310 *e*P **P 02 02 26.7 -0.1**
YBH pmax pmax
comp=Z,48nm,1.5s
HUMO Hull Mountain 72.36 311 *e*P **P 02 02 26.9 -0.8**
comp=Z,25nm,1.2s,mb5.0
BMW Boistfort Moun 72.44 315 *e*P **P 02 02 28.9 +0.8**
BMW Boistfort Moun 72.44 315 *e*P **P 02 02 28.9 +0.8**
PGC Sidney 72.56 317 *e*P **P 02 02 29.1 +0.3**
comp=Z,5.7nm,1.4s,mb4.3
E03A Lebam 72.67 315 ⇓P **P 02 02 29.4 0.0**
baz=73
BR131 Keskin Array S 72.73 52 *e*P **P 02 02 30.0 0.0**
comp=Z,6.4nm,0.9s,mb4.5
BR131 LR LR
comp=Z,460nm,20.0s,MS4.8
BRTR Keskin Array B 72.73 52 P **P 02 02 29.6 -0.4**
comp=Z,4.1nm,0.8s,mb4.4,baz=255,slow=5.1,SNR=22
BRTR Keskin Array B 72.73 52 P **P 02 02 29.6 -0.4**
BRTR Keskin Array B 72.73 52 *ce*P **P 02 02 29.6 -0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
CSS Prodhromos 72.81 57 PFAKE 02 02 40.0 +9.5
CSS LR LR
comp=Z,582nm,21.0s,MS4.8
SIM Simferopol' 72.85 47 *e*P **P 02 02 30.0 -0.6**
SIM *e*S S 02 12 03.0 +6.1
SIM *e*SS SS 02 16 32.0 -4.7
SIM pmax pmax
comp=Z,80nm,9.4s
SIM MLR MLR
comp=Z,970nm,19.6s,MS5.1
NLWA Neilton Lookou 72.86 316 PFAKE 02 02 40.0 +9.4
NLWA LR LR
comp=Z,2μm,21.0s,MS5.3
KHMM Horse Mountain 73.02 309 *e*P **P 02 02 35.0 +3.3**
comp=Z,154nm,1.2s,mb5.8
KRMB Red Mountain 73.11 310 *e*P **P 02 02 32.7 +0.5**
comp=Z,150nm,1.3s,mb5.8
APA Apatity 73.20 23 ⇓*i*P **P 02 02 32.7 +0.5**
APA *i* 02 02 38.5
APA pmax pmax
comp=Z,23nm,1.0s,mb5.1
KBO Bosley Butte 73.31 310 P **P 02 02 33.9 +0.5**
comp=Z,267nm,1.5s,mb6.0
OBN Obninsk 74.20 36 *e*P **P 02 02 37.9 -0.4**
comp=Z,216nm,1.6s,mb5.8
OBN LR LR
comp=Z,719nm,21.0s,MS4.9
OBN Obninsk 74.20 36 ⇓*e*P **P 02 02 38.0 -0.3**
OBN *i* 02 02 44.1
OBN *e* 02 02 50.9
OBN *e*S S 02 12 13.6 +1.9
OBN pmax pmax
comp=Z,109nm,1.9s,mb5.5
OBN MLR MLR
comp=Z,700nm,16.0s,MS5.0
RPN Rapa Nui 74.42 237 PFAKE 02 02 50.0 +10
RPN LR LR
comp=Z,4μm,20.0s,MS5.7
EIL Elat 74.70 63 LR LR 02 41 04.4
comp=Z,2μm,18.4s,MS5.3,baz=276,slow=40
MMAI Mount Meron Ar 74.70 59 LR LR 02 36 34.4
comp=Z,411nm,20.9s,MS4.7,baz=270,slow=37
MOS Moscow 74.79 36 *e*P **P 02 02 39.6 -2.1**
MOS *e* 02 02 47.6
MOS *e* 02 05 28.7
MOS *e*S S 02 12 18.4 +0.1
MOS pmax pmax
comp=Z,143nm,1.9s,mb5.6
MOS pmax pmax
comp=Z,400nm,2.3s,mb5.9
ANN Anapa 75.21 47 *e*P **P 02 02 44.2 -0.2**
ANN *e*S S 02 12 27.2 +3.7
ANN pmax pmax
comp=Z,48nm,1.4s,mb5.2
VSR Storozhevoye 75.92 40 *e*P **P 02 02 47.8 -0.5**
VSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,30nm,1.9s
ASF Jabal al Asfar 76.06 60 LR LR 02 41 15.2
comp=E,549nm,19.1s,MS4.9,baz=103,slow=40
MBAR Mbarara 76.10 94 *e*P **P 02 02 50.9 +0.9**
MBAR Mbarara 76.10 94 PFAKE 02 03 00.0 +10
MBAR LR LR
comp=Z,552nm,19.0s,MS4.9
DLBC Dease Lake 76.19 327 *e*P **P 02 02 49.8 +0.1**
MALT Malatya 76.57 53 PFAKE 02 03 00.0 +7.7
MALT LR LR
comp=Z,326nm,21.0s,MS4.6
SOC Sochi 76.96 48 *e*P **P 02 02 48.8 -5.6**
SOC *e*PPP 02 07 36.6
SOC *e*S S 02 12 33.4 -9.4
SOC MLR MLR
comp=Z,491nm,19.0s,MS4.8
INK Inuvik 77.17 338 P **P 02 02 54.2 -0.9**
comp=Z,10nm,0.9s,mb4.7,baz=75,slow=6.4,SNR=32
INK Inuvik 77.17 338 P **P 02 02 54.2 -0.9**
comp=Z,12nm,1.0s,mb4.8
INK Inuvik 77.17 338 P **P 02 02 54.2 -0.8**
INK pmax pmax
comp=Z,12nm,1.0s
SUR Sutherland 77.47 128 *e*P **P 02 02 57.7 +0.3**
comp=Z,18nm,1.0s,mb5.0
SUR LR LR
comp=Z,1μm,20.0s,MS5.3
WRAK Wrangell Islan 77.59 325 PFAKE 02 03 10.0 +12
WRAK LR LR
comp=Z,889nm,19.0s,MS5.1
LSZ Lusaka 77.63 109 ⇑*i*P **P 02 02 60.0 +1.4**
LSZ Lusaka 77.63 109 *e*P **P 02 02 59.5 +0.9**
comp=Z,35nm,1.1s,mb5.2
LSZ LR LR
comp=Z,1μm,21.0s,MS5.3
LSZ Lusaka 77.63 109 *e*P **P 02 02 59.5 +0.9**
LSZ pmax pmax
comp=Z,35nm,1.1s,mb5.2
LSZ MLR MLR
comp=Z,1μm,21.0s,MS5.3
LBTB Lobatse 78.52 119 *e*P **P 02 03 03.2 -0.1**
LBTB AMB AMB 02 03 05.2
comp=Z,37nm,1.5s,mb5.1
LBTB Lobatse 78.52 119 *e*P **P 02 03 03.2 -0.2**
comp=Z,37nm,1.0s,mb5.3
LBTB LR LR
comp=Z,926nm,22.0s,MS5.1
LBTB Lobatse 78.52 119 *e*P **P 02 03 03.2 -0.1**
LBTB pmax pmax
comp=Z,37nm,1.0s,mb5.3
LBTB MLR MLR
comp=Z,926nm,22.0s,MS5.1
SKAG Skagway 78.83 329 *e*P **P 02 03 04.7 +0.3**
comp=Z,49nm,1.0s,mb5.4
KIV Kislovodsk 79.05 47 PFAKE 02 03 20.0 +14
KIV LR LR
comp=Z,583nm,20.0s,MS4.9
KIV Kislovodsk 79.05 47 *e*P **P 02 03 06.7 +0.7**
KIV *e*S S 02 13 07.2 +1.9
KIV *e*SS SS 02 18 08.0 -2.6
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,540nm,19.0s,MS4.9
SWZ Schweizer 79.07 121 *e*P **P 02 03 06.3 0.0**
SWZ AMB AMB 02 03 08.2
comp=Z,62nm,2.1s,mb5.2
PMSA Palmer Station 79.31 188 PFAKE 02 03 20.0 +13
PMSA LR LR
comp=Z,721nm,19.0s,MS5.0
BOSA Boshof 79.53 123 *e*P **P 02 03 08.1 -0.7**
BOSA AMB AMB 02 03 09.4
comp=Z,53nm,1.9s,mb5.1
BOSA Boshof 79.53 123 P **P 02 03 09.2 +0.4**
comp=Z,9.2nm,0.9s,mb4.7,baz=301,slow=3.1,SNR=17
BOSA LR LR 02 31 03.4
comp=Z,1μm,20.9s,MS5.2,baz=289,slow=30
BOSA Boshof 79.53 123 *e*P **P 02 03 08.9 +0.1**
comp=Z,87nm,1.5s,mb5.5
BOSA Boshof 79.53 123 *e*P **P 02 03 08.9 +0.1**
BOSA pmax pmax
comp=Z,87nm,1.5s,mb5.5
DAWY Dawson 80.05 334 *e*P **P 02 03 10.3 -0.6**
HVD Gariep Dam 80.45 125 ⇑*i*P **P 02 03 14.2 +0.5**
HVD AMB AMB 02 03 21.5
comp=Z,92nm,1.4s,mb5.5
EGAK Eagle 80.67 334 *e*P **P 02 03 13.4 -0.9**
comp=Z,23nm,1.5s,mb4.9
EGAK LR LR
comp=Z,506nm,20.0s,MS4.9
PRYS Parys 80.67 121 *e*P **P 02 03 12.9 -2.1**
PRYS AMB AMB 02 03 16.9
comp=Z,46nm,2.3s,mb5.0
SLR Silverton 81.05 119 ⇓*i*P **P 02 03 17.5 +0.4**
SLR AMB AMB 02 03 19.2
comp=Z,104nm,1.7s,mb5.5
GNI Garni 81.16 51 LR LR 02 38 08.2
comp=Z,402nm,20.9s,MS4.8,baz=83,slow=35
GNI Garni 81.16 51 *e*P **P 02 03 18.3 +0.9**
comp=Z,117nm,1.6s,mb5.6
GNI Garni 81.16 51 ⇑*i*P **P 02 03 18.5 +1.1**
GNI pmax pmax
comp=Z,77nm,1.8s
BUFB Buffelsbos 81.19 128 *e*P **P 02 03 23.6 +5.9**
ERPM east rand prop 81.22 120 *e*P **P 02 03 18.3 +0.3**
ERPM AMB AMB 02 03 19.8
comp=Z,70nm,1.7s,mb5.3
SOE Somerset East 81.28 127 *e*P **P 02 03 18.7 +0.6**
SOE AMB AMB 02 03 25.6
comp=Z,77nm,1.5s,mb5.4
SEK Senekal 81.37 122 *e*P **P 02 03 19.1 +0.4**
SEK AMB AMB 02 03 20.7
comp=Z,81nm,2.0s,mb5.3
MSNA Messina 81.46 115 *e*P **P 02 03 20.3 +0.9**
MSNA *e* 02 03 25.3
baz=310,slow=5.6
MSNA AMB AMB 02 03 27.1
comp=Z,90nm,1.1s,mb5.6
BHD Baghdad 82.11 58 *ex* **P 02 03 20.7 -1.9**
BHD *ex* x 02 13 35.0
IMRD Marand 82.15 52 *e*P **P 02 03 21.6 -1.1**
DOT Dot Lake 82.16 334 *e*P **P 02 03 22.0 -0.2**
comp=Z,10nm,1.2s,mb4.6
ISHB Shabestar 82.16 53 *e*P **P 02 03 21.5 -1.3**
KMBO Kilima Mbogo 82.55 93 *e*P **P 02 03 28.2 +2.9**
KMBO Kilima Mbogo 82.55 93 *e*P **P 02 03 28.2 +2.9**
comp=Z,69nm,1.9s,mb5.4
KMBO *e*PP PP 02 06 36.3 +1.5
KMBO LR LR
comp=Z,1μm,21.0s,MS5.3
KMBO Kilima Mbogo 82.55 93 *e*P **P 02 03 28.2 +2.9**
KMBO *e* 02 06 36.3
KMBO pmax pmax
comp=Z,69nm,1.9s
KMBO MLR MLR
comp=Z,1μm,21.0s
MAK Makhachkala 82.67 48 *e*P **P 02 03 36.3 +11**
MAK MLR MLR
comp=Z,978nm,22.0s,MS5.1
ILAR Eielson Array 83.05 335 P **P 02 03 26.5 -0.4**
comp=Z,15nm,0.8s,mb5.1,baz=69,slow=4.5,SNR=148
ILAR LR LR 02 41 27.6
comp=Z,312nm,19.0s,MS4.7,baz=240,slow=36
ILAR Eielson Array 83.05 335 P **P 02 03 26.5 -0.4**
ILAR Eielson Array 83.05 335 P **P 02 03 26.5 -0.4**
BMRM Bremner River 83.08 331 *e*P **P 02 03 26.9 -0.2**
comp=Z,118nm,1.7s,mb5.6
RAGM Ragged Mountai 83.27 330 *e*P **P 02 03 28.4 +0.4**
comp=Z,70nm,1.3s,mb5.5
COLA College 83.42 335 *e*P **P 02 03 28.7 -0.1**
comp=Z,51nm,0.9s,mb5.5
COLA LR LR
comp=Z,386nm,20.0s,MS4.8
COLA College 83.42 335 *e*P **P 02 03 28.7 0.0**
COLA pmax pmax
comp=Z,51nm,0.9s,mb5.5
COLA MLR MLR
comp=Z,386nm,20.0s,MS4.8
IDHR Dehrash 83.47 56 *e*P **P 02 03 30.4 +0.7**
COLD Coldfoot 83.58 338 *e*P **P 02 03 30.0 +0.5**
comp=Z,22nm,1.0s,mb5.2
IVIS Veis 83.88 56 *e*P **P 02 03 31.2 -0.6**
MCK McKinley 84.22 334 *e*P **P 02 03 32.1 -0.8**
comp=Z,50nm,1.2s,mb5.5
MCK McKinley 84.22 334 *e*P **P 02 03 32.1 -0.8**
MCK pmax pmax
comp=Z,50nm,1.2s,mb5.5
SOKR Solikamsk 84.34 30 *d i*P **P 02 03 33.6 0.0**
SOKR pmax pmax
comp=Z,110nm,1.8s,mb5.7
SML Sawmill 84.56 332 *e*P **P 02 03 33.7 -0.9**
comp=Z,37nm,2.0s,mb5.2
SML Sawmill 84.56 332 *e*P **P 02 03 33.7 -0.9**
SML pmax pmax
comp=Z,37nm,2.0s,mb5.2
TRF Thorofare Moun 84.88 334 *e*P **P 02 03 36.6 +0.3**
comp=Z,90nm,1.2s,mb5.8
BPAW Bear Paw Mtn. 84.95 335 *e*P **P 02 03 36.0 -0.6**
comp=Z,38nm,0.8s,mb5.6
PMR Palmer 84.99 332 *e*P **P 02 03 36.7 -0.1**
comp=Z,114nm,1.5s,mb5.8
PMR Palmer 84.99 332 *e*P **P 02 03 36.7 -0.1**
PMR pmax pmax
comp=Z,114nm,1.5s,mb5.8
RAYN Ar Rayn 85.04 67 P **P 02 03 38.0 +0.1**
comp=Z,75nm,1.4s,mb5.6,SNR=7.7
SLKM Skilak Lake 85.85 331 *e*P **P 02 03 41.1 -0.1**
SLKM Skilak Lake 85.85 331 *e*P **P 02 03 41.1 0.0**
PPLA Purkeypile 85.89 334 *e*P **P 02 03 41.3 0.0**
comp=Z,187nm,1.3s,mb6.2
ARU Arti 86.19 33 *e*P **P 02 03 43.3 +0.4**
comp=Z,69nm,1.5s,mb5.7
ARU LR LR
comp=Z,1μm,20.0s,MS5.3
ARU Arti 86.19 33 *d i*P **P 02 03 42.8 -0.1**
ARU 02 07 04.5
ARU S S 02 14 08.8 -8.9
ARU SS SS 02 19 55.9 +0.1
ARU SSS 02 23 19.8
ARU pmax pmax
comp=Z,52nm,1.9s,mb5.4
ARU Arti 86.19 33 P **P 02 03 43.8 +0.9**
comp=Z,138nm,1.7s,mb5.9,SNR=5.5
SPU Mount Spurr 86.45 332 *e*P **P 02 03 43.9 -0.2**
IR3 Iran Long-Peri 87.00 54 *e*P **P 02 03 47.5 +0.1**
SVE Sverdlovsk 87.14 32 ⇓*i*P **P 02 03 48.0 +0.5**
SVE pmax pmax
comp=Z,42nm,1.3s,mb5.5
VNA3 Neumayer Olymp 87.74 169 *e* **P 02 03 50.6 +0.6**
VNA3 *e* 02 03 56.8
AKTO Aktyubinsk 87.77 39 P **P 02 03 50.9 +0.2**
comp=Z,3.9nm,0.9s,mb4.6,baz=292,slow=5.4
AKTO LR LR 02 43 47.0
comp=Z,770nm,18.8s,MS5.1,baz=291,slow=36
AKTO Aktyubinsk 87.77 39 P **P 02 03 50.9 +0.2**
AKTO Aktyubinsk 87.77 39 P **P 02 03 50.9 +0.2**
VNA2 Neumayer--Watz 87.91 168 *e* **P 02 03 50.4 -0.4**
VNA2 *e* pP 02 03 53.3 -0.8
VNA2 *e* 02 03 57.3
KDAK Kodiak Island 87.97 329 *e*P **P 02 03 51.1 -0.4**
comp=Z,66nm,1.3s,mb5.7
KDAK LR LR
comp=Z,1μm,20.0s,MS5.3
KDAK Kodiak Island 87.97 329 *e*P **P 02 03 51.1 -0.4**
KDAK pmax pmax
comp=Z,66nm,1.3s,mb5.7
KDAK MLR MLR
comp=Z,1μm,20.0s,MS5.3
IKLH Kolahrood 87.98 56 *e*P **P 02 03 51.7 -0.4**
ISFB Sefidab 88.25 55 *e*P **P 02 03 52.9 -0.5**
OHAK Old Harbor 88.53 329 *e*P **P 02 03 54.4 +0.2**
comp=Z,91nm,1.4s,mb5.9
IZEF Zefreh 88.70 57 *e*P **P 02 03 54.1 -1.4**
IKIA Kiasar 88.90 53 *e*P **P 02 03 56.6 +0.2**
IGLO Ghaloghah 88.94 53 *e*P **P 02 03 55.5 -1.1**
IANJ Anjilo 89.28 54 *e*P **P 02 03 58.0 -0.2**
ABKAR Akbulak array 89.33 39 *e*P **P 02 03 58.1 0.0**
comp=Z,13nm,1.2s,mb5.1
SNAA Sanae 89.41 168 LR LR 02 36 59.6
comp=Z,308nm,18.6s,MS4.8,baz=31,slow=31
IPAR Pars 90.09 59 *e*P **P 02 04 02.6 +0.5**
ISRV Sarvestan 90.27 60 *e*P **P 02 04 02.3 -0.7**
IBAF Bafgh 91.70 57 *e*P **P 02 04 08.6 -0.9**
IKRD Kardeh 92.45 51 *e*P **P 02 04 18.1 +5.2**
IPAY Payeh 92.93 52 *e*P **P 02 04 15.9 +0.8**
ISRO Mashad 93.33 52 *e*P **P 02 04 15.3 -1.7**
BRVK Borovoye 93.75 33 PFAKE 02 04 30.0 +11
BRVK LR LR
comp=Z,1μm,20.0s,MS5.3
BVAR Borovoye Array 93.83 33 P **P 02 04 18.2 -0.7**
comp=Z,0.4nm,0.7s,mb4.0,baz=318,slow=1.9,SNR=3.8
BVAR PP PP 02 08 01.4 -2.5
comp=Z,1.4nm,1.0s,baz=311,slow=6.8,SNR=4.3
BVAR LR LR 02 44 06.1
comp=Z,1μm,20.6s,MS5.3,baz=299,slow=34
BVAR Borovoye Array 93.83 33 P **P 02 04 18.2 -0.7**
BVAR PP PP 02 08 01.4 -2.5
BVAR Borovoye Array 93.83 33 P **P 02 04 18.2 -0.7**
BVAR 02 08 01.4
RKT Rikitea 95.30 248 *e*SS SS 02 22 01.9 -8.0
comp=Z,368nm,28.2s
RKT *e*LR LR 02 35 05.8
comp=Z,2μm,36.5s
BILL Bilibino 95.74 349 PFAKE 02 04 40.0 +13
BILL LR LR
comp=Z,527nm,21.0s,MS5.0
BILL Bilibino 95.74 349 P **P 02 04 27.0 -0.3**
BILL *e* 02 04 33.3
BILL SS SS 02 22 23.0 +10
BILL pmax pmax
comp=Z,21nm,1.7s,mb5.3
BILL MLR MLR
comp=Z,400nm,19.0s,MS4.9
ABPO Ambohimpanom 96.17 108 PFAKE 02 04 40.0 +10
ABPO LR LR
comp=Z,425nm,21.0s,MS4.9
TAOE Nuku Hiva Isla 97.16 263 *e*SS SS 02 22 28.5 -8.0
comp=Z,343nm,26.6s
TAOE *e*LR LR 02 35 56.1
comp=Z,1μm,32.6s
KURK Kurchatov 99.38 33 P **P 02 04 45.3 +1.2**
comp=Z,1.1nm,0.9s,mb4.4,baz=310,slow=5.9,SNR=4.3
KURK PP PP 02 08 35.4 -11
comp=Z,0.3nm,0.2s,baz=310,slow=7.4,SNR=4.2
KURK LR LR 02 49 16.2
comp=Z,374nm,19.3s,MS4.9,baz=305,slow=35
KURK Kurchatov 99.38 33 P **P 02 04 45.3 +1.2**
KURK PP PP 02 08 35.4 -11
KURK Kurchatov 99.38 33 P **P 02 04 45.3 +1.2**
ZALV Zalesovo Beam 100.43 28 P Pdif 02 04 47.6 -1.1
comp=Z,0.6nm,0.6s,baz=292,slow=7.6,SNR=2.9
ZALV PP PP 02 08 50.3 -4.2
comp=Z,1.4nm,0.8s,baz=303,slow=8.7,SNR=5.7
ZALV Zalesovo Beam 100.43 28 P Pdif 02 04 47.6 -1.1
ZALV PP PP 02 08 50.3 -4.2
ZALV Zalesovo Beam 100.43 28 P Pdif 02 04 47.6 -1.1
ZALV 02 08 50.3
EKS2 Erkin-Say 100.84 41 PFAKE 02 05 00.0 +10
EKS2 LR LR
comp=Z,521nm,21.0s,MS5.0
MSEY Mahe Island 101.07 92 PFAKE 02 05 00.0 +8.5
MSEY LR LR
comp=Z,1μm,19.0s,MS5.4
AAK Ala-Archa 101.31 41 PFAKE 02 05 00.0 +7.4
AAK LR LR
comp=Z,595nm,20.0s,MS5.1
TKM2 Tokmak 2 101.86 40 PFAKE 02 05 10.0 +15
TKM2 LR LR
comp=Z,398nm,19.0s,MS5.0
QSPA South Pole Qui 103.39 180 PFAKE 02 05 10.0 +8.2
QSPA LR LR
comp=Z,527nm,22.0s,MS5.0
MKAR Makanchi Array 103.65 34 PKKPbc PKKPbc 02 20 54.2 -2.3
comp=Z,0.3nm,0.8s,baz=76,slow=5.1,SNR=4.1
MKAR Makanchi Array 103.65 34 PKKPbc PKKPbc 02 20 54.2 -2.3
RER Riviere de l'E 104.43 109 PFAKE 02 05 20.0 +14
RER LR LR
comp=Z,742nm,20.0s,MS5.2
YAK Yakutsk 104.68 3 PFAKE 02 05 20.0 +12
YAK LR LR
comp=Z,1μm,19.0s,MS5.5
NIL Nilore 104.77 50 PFAKE 02 05 20.0 +12
NIL LR LR
comp=Z,116nm,20.0s,MS4.4
PPT Papeete 107.79 256 *e*PS PS 02 19 15.8 +1.7
comp=Z,488nm,30.2s
PPT *e*SS SS 02 25 03.3 -0.2
comp=Z,419nm,28.8s
PPT *e*LR LR 02 41 05.1
comp=Z,1μm,33.0s
TBI Tubuai 108.47 250 *e*PS PS 02 19 22.1 +1.2
comp=Z,272nm,28.8s
TBI *e*SS SS 02 25 10.5 -2.0
comp=Z,292nm,29.5s
TBI *e*LR LR 02 41 20.9
comp=Z,669nm,33.0s
WMQ Urumqi 108.48 34 *e*Pdif Pdif 02 05 25.4 +0.9
WMQ PP PP 02 09 59.8 +5.2
WMQ SS SS 02 25 13.8 +3.7
WMQ AMB AMB
comp=Z,39nm,8.0s
WMQ LR LR
comp=N,900nm,21.0s,MS5.4
WMQ LR LR
comp=E,880nm,24.2s,MS5.4
WMQ LR LR
comp=Z,1μm,24.6s,MS5.3
TLY Talaya 109.64 20 PFAKE 02 09 40.0 +7.5
TLY LR LR
comp=Z,461nm,20.0s,MS5.0
PET Petropavlovsk 110.83 345 PFAKE 02 09 50.0 +15
PET LR LR

comp=Z,3μm,19.0s,MS5.9
SONM Songino Array 113.85 21 PKiKP PKiKP 02 09 39.4 -1.2
comp=Z,0.4nm,0.6s,baz=324,slow=4.1,SNR=3.3
SONM Songino Array 113.85 21 PKiKP PKiKP 02 09 39.4 -1.2
SONM Songino Array 113.85 21 PKIKP PKiKP 02 09 39.4 -1.2
ULN Ulaanbaatar 114.05 20 PFAKE 02 09 50.0 +9.0
ULN LR LR
comp=Z,2μm,19.0s,MS5.7
VNDA Vanda 114.46 186 PFAKE 02 09 50.0 +9.1
VNDA LR LR
comp=Z,489nm,20.0s,MS5.1
JOHN Johnston Islan 117.71 297 PFAKE 02 10 00.0 +11
JOHN LR LR
comp=Z,11μm,19.0s,MS6.5
GTA Gaotai 117.97 31 *e*PKP PKPdf 02 09 49.3 +0.5
GTA PP PP 02 11 07.5 +5.5
GTA SKS SKSdf 02 17 00.6 -0.6
GTA SKKS SKKSac 02 18 00.2 -3.7
GTA SS SS 02 27 17.5 +2.0
GTA AMB AMB
comp=Z,140nm,8.1s
GTA LR LR
comp=N,340nm,20.4s,MS5.2
GTA LR LR
comp=E,470nm,20.4s,MS5.2
GTA LR LR
comp=Z,700nm,22.8s,MS5.2
YSS Yuzh-Sakhalins 119.53 354 PFAKE 02 10 00.0 +8.4
YSS LR LR
comp=Z,680nm,19.0s,MS5.3
HHC Hu-ho-hao-te 121.75 21 *e*PKP PKPdf 02 09 51.3 -4.7
HHC sPKP 02 10 00.0
HHC PP PP 02 11 29.2 +1.5
HHC LR LR
comp=N,310nm,19.0s,MS5.2
HHC LR LR
comp=E,390nm,19.0s,MS5.2
HHC LR LR
comp=Z,460nm,21.4s,MS5.1
MDJ Mudanjiang 122.03 5 PKP PKPdf 02 09 55.7 -0.7
MDJ sPKP 02 09 59.0
MDJ AMB AMB
comp=Z,140nm,4.8s
MDJ LR LR
comp=N,630nm,32.4s,MS5.2
MDJ LR LR
comp=E,630nm,32.4s,MS5.2
MDJ LR LR
comp=Z,900nm,27.0s
CN2 Changchun 122.38 8 *e*PKP PKPdf 02 09 53.4 -3.7
CN2 LR LR
comp=N,400nm,20.0s,MS5.2
CN2 LR LR
comp=E,300nm,20.0s,MS5.2
CN2 LR LR
comp=Z,400nm,20.0s,MS5.1
LZH Lanzhou 122.56 30 *e*PKP PKPdf 02 09 57.5 -0.2
LZH sPKP 02 10 02.2
LZH *e*PP PP 02 11 37.6 +4.2
LZH SKKS SKKSac 02 18 27.6 -6.4
LZH *e*SS SS 02 28 14.7 +0.3
LZH AMB AMB
comp=Z,150nm,5.8s
LZH LR LR
comp=N,1μm,18.0s,MS5.8
LZH LR LR
comp=E,1μm,16.7s,MS5.8
LZH LR LR
comp=Z,1μm,19.2s,MS5.5
LZH Lanzhou 122.56 30 *e*PKP PKPdf 02 09 57.5 -0.2
LZH pPKP pPKPdf 02 10 00.7 -0.4
LZH sPKP 02 10 02.2
LZH *e*PP PP 02 11 37.6 +4.2
LZH SKKS SKKSac 02 18 27.6 -6.4
LZH *e*SS SS 02 28 14.7 +0.3
LZH LR LR
comp=Z,1μm,19.2s,MS5.5
LZH Lanzhou 122.56 30 *e*PKIKP PKPdf 02 09 57.5 -0.2
LZH 02 10 00.7
LZH 02 10 02.2
LZH *e* 02 11 37.6
LZH *e*SS SS 02 28 14.7 +0.3
LZH MLR MLR
comp=Z,1μm,19.2s,MS5.5
BJI Beijing 123.97 18 PKP PKPpre 02 09 45.5
BJI PP PP 02 11 41.9 -0.7
BJI PKS 02 13 35.7
BJI SKS SKSdf 02 16 57.1 -15
BJI SKKS 02 27 37.8
BJI SS SS 02 28 32.1 +0.5
BJI AMB AMB
comp=Z,190nm,9.9s
BJI LR LR
comp=N,920nm,17.3s,MS5.7
BJI LR LR
comp=E,1μm,18.6s,MS5.7
BJI LR LR
comp=Z,520nm,25.6s
ERM Erimo 124.37 353 PFAKE 02 10 10.0 +9.0
ERM LR LR
comp=Z,4μm,20.0s,MS6.1
CASY Casey 124.65 168 PFAKE 02 10 10.0 +9.3
CASY LR LR
comp=Z,616nm,21.0s,MS5.2
CD2 Chengdu 126.58 34 *e*PKP PKPdf 02 10 04.2 -1.4
CD2 sPKP 02 10 09.2
CD2 PP PP 02 12 03.9 +3.3
CD2 PKS 02 13 39.5
CD2 SKS SKSdf 02 17 10.9 -6.9
CD2 SKKS SKKSac 02 18 52.7 -7.3
CD2 SS SS 02 29 04.9 -0.5
CD2 AMB AMB
comp=Z,340nm,11.2s
CD2 LR LR
comp=N,550nm,24.0s,MS5.3
CD2 LR LR
comp=E,570nm,22.8s,MS5.3
CD2 LR LR
comp=Z,460nm,20.4s,MS5.1
XAN Xi'an 126.60 27 PKP PKPdf 02 10 10.3 +4.8
XAN LR LR
comp=N,340nm,26.6s,MS4.9
XAN LR LR
comp=E,130nm,26.6s,MS4.9
XAN LR LR
comp=Z,160nm,29.7s,MS4.5
INCN Inchon 128.75 9 PFAKE 02 10 20.0 +10
INCN LR LR
comp=Z,1μm,19.0s,MS5.7
MAJO Matsushiro 130.24 357 PFAKE 02 10 20.0 +7.6
MAJO LR LR
comp=Z,2μm,20.0s,MS5.8
MJAR Matsushiro Arr 130.24 357 PKP PKPdf 02 10 11.3 -1.1
comp=Z,5.7nm,1.0s,baz=30,slow=0.7,SNR=4.3
MJAR Matsushiro Arr 130.24 357 PKP PKPdf 02 10 11.3 -1.1
MJAR Matsushiro Arr 130.24 357 PKIKP PKPdf 02 10 11.3 -1.1
KMI Kunming 130.33 40 PKP PKPdf 02 10 10.0 -2.9
KMI SS SS 02 29 52.9 +0.6
KMI LR LR
comp=N,630nm,18.7s,MS5.5
KMI LR LR
comp=E,490nm,15.2s,MS5.5
KMI LR LR
comp=Z,520nm,19.7s,MS5.2
KMI Kunming 130.33 40 PKP PKPdf 02 10 10.0 -2.9
KMI SS SS 02 29 52.9 +0.6
KMI SSS 02 34 41.2
KMI LR LR
comp=Z,520nm,19.7s,MS5.2
KMI Kunming 130.33 40 PKIKP PKPdf 02 10 10.0 -2.9
KMI SS SS 02 29 52.9 +0.6
KMI SSS 02 34 41.2
KMI MLR MLR
comp=Z,520nm,19.7s,MS5.2
GYA Guiyang 131.64 35 Pdif Pdif 02 07 06.8 -0.6
GYA PKP PKPdf 02 10 14.4 -0.9
GYA PKS 02 13 50.2
GYA SKKS SKKSac 02 19 27.3 -4.3
GYA SS SS 02 30 07.6 -0.4
GYA AMB AMB
comp=Z,140nm,7.6s
GYA LR LR
comp=N,180nm,20.7s,MS4.9
GYA LR LR
comp=E,160nm,21.3s,MS4.9
GYA LR LR
comp=Z,150nm,22.5s,MS4.6
CHTO Chiang Mai 132.04 49 PFAKE 02 10 30.0 +14
CHTO LR LR
comp=Z,788nm,20.0s,MS5.4
NJ2 Nanjing 132.17 19 *e*PKP PKPdf 02 10 12.7 -3.5
CM31 Chiang Mai Arr 132.26 49 PFAKE 02 10 30.0 +13
CM31 LR LR
comp=Z,808nm,20.0s,MS5.4
CMAR Chiang Mai Arr 132.26 49 PKP PKPdf 02 10 15.6 -1.1
comp=Z,3.9nm,0.8s,baz=292,slow=3.6,SNR=12
CMAR Chiang Mai Arr 132.26 49 PKP PKPdf 02 10 15.6 -1.1
CMAR Chiang Mai Arr 132.26 49 PKIKP PKPdf 02 10 15.6 -1.1
WAKE Wake Island 135.10 316 PFAKE 02 10 30.0 +8.0
WAKE LR LR
comp=Z,3μm,20.0s,MS6.1
SNZO South Karori 135.81 223 PFAKE 02 10 30.0 +7.4
SNZO LR LR
comp=Z,609nm,19.0s,MS5.3
FUNA Funafuti 136.56 272 PFAKE 02 10 40.0 +15
FUNA LR LR
comp=Z,8μm,20.0s,MS6.5
MSVF Nonsavu 138.55 258 PFAKE 02 10 40.0 +12
MSVF LR LR
comp=Z,678nm,19.0s,MS5.4
TARA Tarawa 139.81 289 PFAKE 02 10 40.0 +9.2
TARA LR LR
comp=Z,2μm,19.0s,MS5.9
YHNB Yeheng 139.83 20 PFAKE 02 10 40.0 +9.4
YHNB LR LR
comp=Z,802nm,19.0s,MS5.5
COCO West Island 142.61 93 PFAKE 02 10 50.0 +14
COCO LR LR
comp=Z,678nm,22.0s,MS5.4
PDSI Padang 143.45 73 P 02 10 48.7
comp=Z,38nm,1.2s,comp=Z,0.2nm
MDSI Maura Dua 148.15 77 P PKPdf 02 10 45.3 -0.1
comp=Z,0.4nmcomp=Z,2μmcomp=Z,102nm,1.2s
DZM Mont Dzumac 149.05 249 *e*LR LR 03 00 13.3
comp=Z,830nm,25.8s
DZM Mont Dzumac 149.05 249 *e*PKPbc PKPbc 02 10 49.1 -1.6
DZM *e*PKPab PKPab 02 10 52.8 -2.1
CGJI Cibinong 150.21 80 P PKPbc 02 10 52.9 -0.9
CGJI Cibinong 150.21 80 P PKPbc 02 10 51.4 -2.4
comp=Z,186nm,1.1s,comp=Z,2μmcomp=Z,0.6nm
XMIS Christmas Isla 150.97 87 *e*P PKPbc 02 10 55.0 -0.5
comp=Z,368nm,0.9s
XMIS Christmas Isla 150.97 87 P PKPab 02 11 01.7 -1.3
XMIS Christmas Isla 150.97 87 P PKPbc 02 10 55.4 -0.1
comp=Z,427nm,1.7s,comp=Z,1.9nm
DBJI Dramaga 151.20 79 P PKPbc 02 10 54.8 -1.3
KSM Kuching 151.24 61 PFAKE 02 11 00.0 +10
KSM LR LR
comp=Z,675nm,21.0s,MS5.4
LEM Lembang 152.11 79 P PKPbc 02 10 58.5 +0.3
CISI Cisompet, Garu 152.48 81 P PKPab 02 11 04.2 -5.1
CISI Cisompet, Garu 152.48 81 P PKPab 02 11 03.1 -6.2
KKM Kota Kinabalu 153.01 45 *e*PKPbc PKPbc 02 10 59.8 -0.4
KKM LR LR
comp=Z,423nm,22.0s,MS5.2
TOO Toolangi 154.24 199 *e*P PKPab 02 11 16.2 +0.3
comp=Z,60nm,1.0s
NWAO Narrogin (SRO) 154.59 143 PFAKE 02 11 10.0 +15
NWAO LR LR
comp=Z,611nm,22.0s,MS5.4
CAN Canberra 154.87 207 PFAKE 02 11 10.0 +15
CAN LR LR
comp=Z,486nm,20.0s,MS5.3
HNR Honiara 155.41 277 PFAKE 02 11 10.0 +14
HNR LR LR
comp=Z,855nm,20.0s,MS5.6
ARMA Armidale 157.26 219 *e*P PKPdf 02 11 01.2 +3.0
DAV Davao City (W) 157.53 26 PFAKE 02 11 10.0 +11
DAV LR LR
comp=Z,665nm,20.0s,MS5.5
STKA Stephens Creek 160.70 197 PKP PKPdf 02 11 01.6 -0.6
comp=Z,4.8nm,1.0s,baz=270,slow=4.3,SNR=4.7
STKA Stephens Creek 160.70 197 *e*P PKPdf 02 11 01.7 -0.5
comp=Z,8.0nm,1.1s
STKA Stephens Creek 160.70 197 PKP PKPdf 02 11 01.6 -0.6
STKA Stephens Creek 160.70 197 PKIKP PKPdf 02 11 01.7 -0.5
KAPI Kappang 162.65 63 PFAKE 02 11 20.0 +15
KAPI LR LR
comp=Z,585nm,22.0s
MBWA Marble Bar 163.36 120 PFAKE 02 11 20.0 +15
MBWA LR LR
comp=Z,544nm,20.0s
CTAO Charters Tower 167.49 236 PFAKE 02 11 20.0 +11
CTAO LR LR
comp=Z,671nm,21.0s
PMG Port Moresby 167.60 287 PKP PKPdf 02 11 08.4 -0.5
comp=Z,6.6nm,0.7s,baz=325,slow=22,SNR=4.1
PMG Port Moresby 167.60 287 PKP PKPdf 02 11 08.4 -0.5
PMG LR LR
comp=Z,889nm,20.0s
PMG Port Moresby 167.60 287 PKIKP PKPdf 02 11 08.4 -0.5
PMG MLR MLR
comp=Z,889nm,20.0s
FITZ Fitzroy Crossi 169.70 118 PKP PKPdf 02 11 09.7 -0.4
comp=Z,1.7nm,0.8s,baz=293,slow=5.8,SNR=4.0
FITZ PKPab PKPab 02 12 22.6 -1.4
comp=Z,1.6nm,0.8s,baz=244,slow=5.2,SNR=4.6
FITZ Fitzroy Crossi 169.70 118 *e*P PKPdf 02 11 10.5 +0.3
comp=Z,7.3nm,1.2s
FITZ Fitzroy Crossi 169.70 118 PKP PKPdf 02 11 09.7 -0.4
FITZ PKPab PKPab 02 12 22.6 -1.4
ASAR Alice Springs 169.72 173 PKP PKPdf 02 11 08.8 -1.3
comp=Z,2.0nm,1.0s,baz=200,slow=0.7,SNR=12
ASAR PKPab PKPab 02 12 21.3 -2.4
comp=Z,2.1nm,1.1s,baz=174,slow=3.3,SNR=5.6
ASAR Alice Springs 169.72 173 PKP PKPdf 02 11 08.8 -1.3
ASAR PKPab PKPab 02 12 21.3 -2.4
ASAR Alice Springs 169.72 173 PKIKP PKPdf 02 11 08.8 -1.3
ASAR 02 12 21.3
WRA Warramunga Arr 173.45 173 PKP PKPdf 02 11 10.7 -1.3
comp=Z,3.5nm,1.1s,baz=234,slow=0.5,SNR=12
WRA PKPab PKPab 02 12 37.8 -2.5
comp=Z,1.7nm,1.0s,baz=189,slow=3.8,SNR=3.8
WRA Warramunga Arr 173.45 173 PKP PKPdf 02 11 10.7 -1.3
WRA PKPab PKPab 02 12 37.8 -2.5
WRA Warramunga Arr 173.45 173 PKIKP PKPdf 02 11 10.7 -1.3
WRA 02 12 37.8
WRAB Tennant Creek 173.46 173 PFAKE 02 11 20.0 +8.0
WRAB LR LR
comp=Z,829nm,22.0s

*ISCJB **08** 01:57:18.5±0.6, 39°.50N±0°.03×37°.46E±0°.05, h10km, Error ellipse: s-maj=5.7km s-min=4.1km az=148.2*
*DDA **08** 01:57:18.2, 39°.53N×37°.56E, h7km±2km, Md2.8*
*CSEM **08** 01:57:18.1±0.3, 39°.44N×37°.43E, h8km, MD2.8, Error ellipse: s-maj=8.3km s-min=6.8km az=47.0*
*ISK **08** 01:57:20.7, 39°.11N×37°.37E, h13km, MD2.9*
ISC 08 01:57:18.3±0.7, 39°.50N±0°.03×37°.47E±0°.05, h6km±6km, n24, σ1§26/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCER	**sogukcermik**	**0.45**	**324**	*e*P	**Pg**	**01 57 27.7**	**+0.7**
SCER				*e*S	**Sg**	**01 57 34.7**	**+1.9**
SCER	**sogukcermik**	**0.45**	**324**	*e*P	**Pg**	**01 57 27.7**	**+0.7**
SCER				*e*S	**Sg**	**01 57 34.7**	**+1.9**
KEMA	**Kemaliye**	**0.83**	**106**	*i* P	**Pg**	**01 57 33.3**	**-0.9**
KEMA				*i* S	**Sg**	**01 57 44.2**	**-0.8**
KEMA	**Kemaliye**	**0.83**	**106**	*i* P	**Pg**	**01 57 33.3**	**-0.9**
KEMA				*i* S	**Sg**	**01 57 44.2**	**-0.7**
RSDY	**Resadiye-TOKAT**	**0.91**	**353**	*e*PN	**Sg**	**01 57 45.3**	**-2.2**
RSDY	**Resadiye-TOKAT**	**0.91**	**353**	*e*Pn	**Sg**	**01 57 45.3**	**-2.2**
SUSE	**Susehri**	**0.91**	**38**	*e*P	**Pg**	**01 57 37.4**	**+1.7**
SUSE				*e*S	**Sg**	**01 57 46.7**	**-0.8**
SUSE	**Susehri**	**0.91**	**38**	*e*P	**Pg**	**01 57 37.4**	**+1.6**
SUSE				*e*S	**Sg**	**01 57 46.7**	**-0.8**
AKCD	**Akcadag**	**1.25**	**163**	*e*P	**Pg**	**01 57 41.6**	**-0.7**
AKCD				*e*S	**Sg**	**01 57 59.9**	**+1.3**
AKCD	**Akcadag**	**1.25**	**163**	*e*P	**Pg**	**01 57 41.6**	**-0.7**
AKCD				*e*S	**Sg**	**01 57 59.9**	**+1.4**
MALT	**Malatya**	**1.40**	**147**	*e*PN	**Pn**	**01 57 43.1**	**-1.2**
MALT				*e*SN	**Sn**	**01 57 59.7**	**-3.4**
MALT	**Malatya**	**1.40**	**147**	*e*Pn	**Pn**	**01 57 43.1**	**-1.3**
MALT				*e*Sn	**Sn**	**01 57 59.7**	**-3.4**
BNN	**Bunyan**	**1.42**	**243**	*e*PN	**Pn**	**01 57 43.9**	**-0.7**
BNN	**Bunyan**	**1.42**	**243**	*e*Pn	**Pn**	**01 57 43.9**	**-0.7**
KELT	**Kelkit**	**1.52**	**64**	*e*P	**Pn**	**01 57 45.2**	**-0.9**
KELT				*e*S	**Sn**	**01 58 06.5**	**+0.4**
KELT	**Kelkit**	**1.52**	**64**	*e*P	**Pn**	**01 57 45.2**	**-0.9**
KELT				*e*S	**Sn**	**01 58 06.5**	**+0.3**
ELZG	**Elazig**	**1.55**	**130**	*e*P	**Pn**	**01 57 46.9**	**+0.5**
ELZG				*e*S	**Sn**	**01 58 07.3**	**+0.6**
ELZG	**Elazig**	**1.55**	**130**	*e*P	**Pn**	**01 57 46.9**	**+0.5**
ELZG				*e*S	**Sn**	**01 58 07.3**	**+0.5**
PTK	**Pertek**	**1.61**	**111**	*e*PN	**Pn**	**01 57 49.2**	**+1.9**
PTK				*e*SN	**Sn**	**01 58 09.4**	**+1.0**
PTK	**Pertek**	**1.61**	**111**	*e*Pn	**Pn**	**01 57 49.2**	**+1.9**
PTK				*e*Sn	**Sn**	**01 58 09.4**	**+1.0**
SVRC	**Sivrice-ELAZID**	**1.82**	**127**	*e*PN	**Pn**	**01 57 50.5**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.82**	**127**	*e*Pn	**Pn**	**01 57 50.5**	**+0.4**
CEYT	**Ceyhan**	**2.83**	**209**	*e*PN	**Pn**	**01 58 01.3**	**-2.7**
CEYT	**Ceyhan**	**2.83**	**209**	*e*Pn	**Pn**	**01 58 01.3**	**-2.7**

*NEIC **08** 02:17:01.1±1.2, 23°.48S×115°.11W, h10km, mb4.2/1, Error ellipse: s-maj=41.5km s-min=35.4km az=208.0*
IDC 08 02:16:59.7±1.4, 23°.44S×115°.11W, h0km, mb3.4/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.4/4, MS3.4/1, Ms1 3.4/1, ms1mx3.2/11, Error ellipse: s-maj=43.8km s-min=36.8km az=30.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.39**	**126**	LR	LR	02 19 42.4	
	comp=Z,332nm,20.7s,baz=117,slow=26						
LPAZ	**La Paz**	**44.60**	**90**	P	P	02 25 14.3	+0.3
	1.3nm,0.7s,baz=221,slow=11,SNR=5.3						
LPAZ	**La Paz**	**44.60**	**90**	*e*P	P	02 25 14.4	+0.4
	3.5nm,1.0s						
TXAR	**Lajitas Array**	**53.61**	**12**	P	P	02 26 24.8	+2.1
	0.0nm,0.3s,baz=202,slow=9.3,SNR=2.1						
TXAR	**Lajitas Array**	**53.61**	**12**	P	P	02 26 24.8	+2.1
NVAR	**Mina Array Bea**	**61.61**	**357**	P	P	02 27 18.0	-1.0
	0.7nm,0.7s,baz=171,slow=6.3,SNR=3.5						
NVAR	**Mina Array Bea**	**61.61**	**357**	P	P	02 27 18.0	-1.0
PDAR	**Pinedale Array**	**66.07**	**4**	P	P	02 27 49.0	+0.7
	0.2nm,0.5s,baz=163,slow=9.4,SNR=2.4						
PDAR	**Pinedale Array**	**66.07**	**4**	P	P	02 27 49.0	+0.7
ZALV	**Zalesovo Beam**	**146.04**	**339**	PKPbc	PKPbc	02 36 39.6	-1.6
	0.3nm,0.3s,baz=64,slow=3.4,SNR=2.3						
ZALV	**Zalesovo Beam**	**146.04**	**339**	PKPbc	PKPbc	02 36 39.6	-1.6
CMAR	**Chiang Mai Arr**	**147.86**	**268**	PKPbc	PKPbc	02 36 48.9	+1.4
	0.8nm,0.3s,baz=154,slow=0.4,SNR=5.7						
CMAR	**Chiang Mai Arr**	**147.86**	**268**	PKPbc	PKPbc	02 36 48.9	+1.4
BVAR	**Borovoye Array**	**150.16**	**353**	PKPbc	PKPbc	02 36 51.4	-0.8
	0.6nm,0.5s,baz=22,slow=1.6,SNR=5.3						
BVAR	**Borovoye Array**	**150.16**	**353**	PKPbc	PKPbc	02 36 51.4	-0.8
MKAR	**Makanchi Array**	**152.82**	**333**	PKPbc	PKPbc	02 36 58.1	-0.5
	0.3nm,0.6s,baz=10,slow=3.2,SNR=2.5						
MKAR				PKPab	PKPab	02 37 08.0	-1.5
	1.3nm,1.0s,baz=39,slow=2.4,SNR=4.9						
MKAR	**Makanchi Array**	**152.82**	**333**	PKPbc	PKPbc	02 36 58.1	-0.5
MKAR				PKPab	PKPab	02 37 08.0	-1.5

*ISCJB **08** 02:24:09.6±0.4, 43°.43N±0°.02×46°.31E±0°.02, h3km±2km, mb3.6/11, Error ellipse: s-maj=3.4km s-min=2.3km az=19.2*
*IDC **08** 02:24:09.5±0.8, 43°.30N×46°.01E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/27, mbtmp3.8/11, ML3.7/2, Error ellipse: s-maj=17.6km s-min=11.5km az=124.0*
*MOS **08** 02:24:10.1±1.2, 43°.44N×46°.31E, h9km, mb4.1/7, Error ellipse: s-maj=6.0km s-min=4.8km az=124.1*
*CSEM **08** 02:24:10.3±0.1, 43°.41N×46°.28E, h2km, mb3.9/5, Error ellipse: s-maj=3.9km s-min=2.8km az=19.0*
*TIF **08** 02:24:11.6, 43°.27N×46°.15E, h15km±2km*
*NEIC **08** 02:24:11.3±0.6, 43°.45N×46°.18E, h10km, mb3.6/1, Error ellipse: s-maj=13.2km s-min=8.2km az=161.0*
*NNC **08** 02:24:21.3±5.7, 43°.36N×47°.31E, h19km±93km, mb3.4, Error ellipse: s-maj=81.7km s-min=41.8km az=56.0*
ISC 08 02:24:11.2±0.4, 43°.39N±0°.02×46°.28E±0°.02, h4km±2km, n144, σ1§26/214, mb3.6/11, 17C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.39**	**260**	⇑*i*PG	**Pg**	**02 24 19.2**	**+0.5**
GRO				*i* S	**Sg**	**02 24 25.0**	**+1.2**
GRO	**Groznyy**	**0.39**	**260**	*i* Pg	**Pg**	**02 24 19.2**	**+0.5**
GRO				*i* Sg	**Sg**	**02 24 25.0**	**+1.2**
DLMR	**Dylym**	**0.41**	**141**	⇓*i*PG	**Pg**	**02 24 18.5**	**-0.5**
DLMR				S	**Sg**	**02 24 25.0**	**+0.7**
DLMR	**Dylym**	**0.41**	**141**	*i* Pg	**Pg**	**02 24 18.5**	**-0.5**
DLMR				Sg	**Sg**	**02 24 25.0**	**+0.7**
DBC	**Dubki**	**0.54**	**132**	*e*PG	**Pg**	**02 24 21.5**	**-0.1**
DBC				*e*S	**Sg**	**02 24 29.5**	**+0.8**
DBC	**Dubki**	**0.54**	**132**	*e*Pg	**Pg**	**02 24 21.5**	**-0.1**
DBC				*e*Sg	**Sg**	**02 24 29.5**	**+0.8**
KRNR	**Karanay**	**0.72**	**141**	⇑*i*PG	**Pg**	**02 24 24.0**	**-1.0**
KRNR				*i* S	**Sg**	**02 24 33.0**	**-1.4**
KRNR				pmax	pmax		
	comp=Z,229nm,0.2s						
KRNR	**Karanay**	**0.72**	**141**	*i* Pg	**Pg**	**02 24 24.0**	**-1.0**
	comp=Z,229nm,0.2s						
KRNR				*i* Sg	**Sg**	**02 24 33.0**	**-1.4**
BTLR	**Botlikh**	**0.72**	**183**	*e*PG	**Pg**	**02 24 22.2**	**-2.9**
BTLR				pmax	pmax		
	comp=Z,685nm,0.3s						
UNCR	**Uncukul**	**0.77**	**151**	⇑*i*PG	**Pg**	**02 24 24.0**	**-2.0**
UNCR				*e*S	**Sg**	**02 24 34.0**	**-1.9**
UNCR	**Uncukul**	**0.77**	**151**	*i* Pg	**Pg**	**02 24 24.0**	**-2.0**
UNCR				*e*Sg	**Sg**	**02 24 34.0**	**-1.9**
BUJR	**Buynaksk**	**0.83**	**133**	*e*PG	**Pg**	**02 24 26.2**	**-0.8**
BUJR				*e*S	**Sg**	**02 24 39.0**	**+1.3**
BUJR	**Buynaksk**	**0.83**	**133**	*e*Pg	**Pg**	**02 24 26.2**	**-0.8**
BUJR				*e*Sg	**Sg**	**02 24 39.0**	**+1.3**
MAK	**Makhachkala**	**0.99**	**115**	⇓*i*PG	**Pg**	**02 24 32.0**	**+1.8**
MAK				*i*		02 24 47.5	
MAK				pmax	pmax		
	comp=Z,312nm,0.2s						
MAK				smax			
	comp=N,3μm,0.5s						
MAK				smax			
	comp=E,2μm,0.4s						
SNJR	**Sundja**	**1.12**	**254**	⇑*i*PG	**Pg**	**02 24 32.2**	**-0.4**
SNJR				*i* S	**Sg**	**02 24 47.3**	**+0.1**
SNJR	**Sundja**	**1.12**	**254**	*i* Pg	**Pg**	**02 24 32.2**	**-0.4**
SNJR				*i* Sg	**Sg**	**02 24 47.3**	**+0.1**
TRKR	**Terskaya**	**1.18**	**287**	⇑*i*PG	**Pg**	**02 24 35.7**	**+2.0**
TRKR				*i* S	**Sg**	**02 24 53.8**	**+4.9**
VLKR	**Vladikavkaz**	**1.22**	**254**	⇑*i*PG	**Pg**	**02 24 34.9**	**+0.3**
VLKR				*i* S	**Sg**	**02 24 51.3**	**+0.9**
VLKR	**Vladikavkaz**	**1.22**	**254**	*i* Pg	**Pg**	**02 24 34.9**	**+0.3**
VLKR				*i* Sg	**Sg**	**02 24 51.3**	**+0.9**
MNSR	**Manas**	**1.26**	**123**	⇑*i*PG	**Pg**	**02 24 36.0**	**+0.7**
MNSR				*i* S	**Sg**	**02 24 54.2**	**+2.7**
MNSR				pmax	pmax		
	comp=Z,412nm,0.3s						
MNSR	**Manas**	**1.26**	**123**	*i* Pg	**Pg**	**02 24 36.0**	**+0.7**
	comp=Z,412nm,0.3s						
KMKR	**Kumukh**	**1.39**	**154**	⇓*i*PG	**Pg**	**02 24 36.0**	**-1.9**
KMKR				*e*S	**Sb**	**02 24 54.0**	**-1.9**
KMKR				pmax	pmax		
	comp=Z,370nm,0.2s						
KMKR	**Kumukh**	**1.39**	**154**	*i* Pg	**Pg**	**02 24 36.0**	**-1.9**
	comp=Z,370nm,0.2s						
KMSR	**Komsomolskaya**	**1.45**	**270**	⇑*i*PG	**Pg**	**02 24 38.4**	**-0.6**
KMSR				*e*S	**Sg**	**02 24 58.7**	**+1.0**
KMSR	**Komsomolskaya**	**1.45**	**270**	*i* Pg	**Pg**	**02 24 38.4**	**-0.6**
KMSR				*e*Sg	**Sg**	**02 24 58.7**	**+1.0**
ARNR	**Ardon**	**1.48**	**263**	⇑*i*PG	**Pg**	**02 24 38.7**	**-0.7**
ARNR				*i* S	**Sg**	**02 24 58.7**	**+0.1**
ARNR	**Ardon**	**1.48**	**263**	*i* Pg	**Pg**	**02 24 38.7**	**-0.7**
ARNR				*i* Sg	**Sg**	**02 24 58.7**	**+0.1**
PRTR	**Priterechnaya**	**1.50**	**285**	⇓*i*PG	**Pg**	**02 24 40.5**	**+0.6**
PRTR				*i* S	**Sn**	**02 25 02.2**	**+3.4**
PRTR	**Priterechnaya**	**1.50**	**285**	*i* Pg	**Pg**	**02 24 40.5**	**+0.6**
LACR	**Lac**	**1.56**	**250**	⇑*i*PG	**Pg**	**02 24 38.3**	**-2.7**
LACR				*i* S	**Sn**	**02 24 58.4**	**-1.9**
LACR	**Lac**	**1.56**	**250**	*i* Pg	**Pg**	**02 24 38.3**	**-2.7**
URKR	**Urkarakh**	**1.58**	**140**	*e*PG	**Pg**	**02 24 40.2**	**-1.2**
URKR				*e*S	**Sg**	**02 25 02.2**	**+0.4**
URKR				pmax	pmax		
	comp=Z,267nm,0.2s						
URKR	**Urkarakh**	**1.58**	**140**	*e*Pg	**Pg**	**02 24 40.2**	**-1.2**
	comp=Z,267nm,0.2s						
URKR				*e*Sg	**Sg**	**02 25 02.2**	**+0.4**
KORR	**Kora**	**1.65**	**260**	⇑*i*PN	**Pn**	**02 24 40.6**	**-0.3**
KORR				*i* S	**Sn**	**02 25 02.7**	**+0.2**

KORR	**Kora**	**1.65 260**	*i* Pn	**Pn**	**02 24 40.6**	**-0.3**
KORR			*i* Sg	**Sn**	**02 25 02.7**	**+0.2**
LSNR	**Lesken**	**1.80 267**	‖ *i*PN	**Pn**	**02 24 42.9**	**-0.1**
LSNR			*i* S	**Sn**	**02 25 07.6**	**+1.2**
LSNR	**Lesken**	**1.80 267**	*i* Pn	**Pn**	**02 24 42.9**	**-0.1**
LSNR			*i* Sg	**Sn**	**02 25 07.6**	**+1.2**
TBLG	**Delisi**	**2.01 215**	*i* PN	**Pn**	**02 24 45.7**	**-0.2**
TBLG	**Delisi**	**2.01 215**	P	**Pn**	**02 24 45.7**	**-0.1**
TBLG			S	**Sn**	**02 25 10.2**	**-1.3**
TBLG	**Delisi**	**2.01 215**	P	**Pn**	**02 24 45.7**	**-0.2**
TBLG			S	**Sn**	**02 25 10.2**	**-1.3**
MTA	**Mtatsminda**	**2.02 214**	P	**Pn**	**02 24 45.6**	**-0.4**
MTA			S	**Sn**	**02 25 10.3**	**-1.4**
MTA	**Mtatsminda**	**2.02 214**	P	**Pn**	**02 24 45.6**	**-0.4**
MTA			S	**Sn**	**02 25 10.3**	**-1.4**
DRN	**Derbent**	**2.03 131**	*e*PN	**Pn**	**02 24 47.8**	**+1.6**
DRN			pmax	pmax		
	comp=Z,152nm,0.3s					
DRN	**Derbent**	**2.03 131**	*e*Pn	**Pn**	**02 24 47.8**	**+1.6**
	comp=Z,152nm,0.3s					
DIGR	**Digorskoe uzhe**	**2.04 257**	*e*PN	**Pn**	**02 24 45.1**	**-1.1**
DIGR	**Digorskoe uzhe**	**2.04 257**	*e*Pn	**Pn**	**02 24 45.1**	**-1.1**
DGRG	**David-gareji**	**2.05 199**	P	**Pn**	**02 24 46.1**	**-0.3**
DGRG			S	**Sn**	**02 25 13.1**	**+0.7**
DGRG	**David-gareji**	**2.05 199**	P	**Pn**	**02 24 46.1**	**-0.3**
DGRG			S	**Sn**	**02 25 13.1**	**+0.7**
KUBR	**Kubataba**	**2.13 282** ⇑	*e*PN	**Pn**	**02 24 47.6**	**+0.1**
KUBR			*e*S	**Sb**	**02 25 17.8**	**+0.8**
KUBR	**Kubataba**	**2.13 282**	*e*Pn	**Pn**	**02 24 47.6**	**+0.1**
KUBR			*e*Sb	**Sb**	**02 25 17.8**	**+0.8**
GOR	**Gori**	**2.13 230**	P	**Pn**	**02 24 47.2**	**-0.3**
GOR			S	**Sn**	**02 25 14.8**	**+0.4**
GOR	**Gori**	**2.13 230**	P	**Pn**	**02 24 47.2**	**-0.3**
GOR			S	**Sn**	**02 25 14.8**	**+0.4**
AKT	**Akhty**	**2.19 150** ‖	*i*PN	**Pn**	**02 24 50.0**	**+1.7**
AKT			*e*S	**Sn**	**02 25 18.0**	**+2.2**
AKT			pmax	pmax		
	comp=Z,122nm,0.3s					
AKT	**Akhty**	**2.19 150**	*i* Pn	**Pn**	**02 24 50.0**	**+1.7**
	comp=Z,122nm,0.3s					
AKT			*e*Sn	**Sn**	**02 25 18.0**	**+2.2**
ONI	**Oni**	**2.22 250**	P	**Pn**	**02 24 48.9**	**0.0**
ONI			S	**Sn**	**02 25 16.0**	**-0.7**
ONI	**Oni**	**2.22 250**	P	**Pn**	**02 24 48.9**	**+0.1**
ONI			S	**Sn**	**02 25 16.0**	**-0.7**
KSMR	**Kasumkent**	**2.25 142**	*e*PN	**Pn**	**02 24 52.0**	**+2.9**
KSMR			*e*S	**Sb**	**02 25 23.5**	**+3.0**
KSMR			pmax	pmax		
	comp=Z,161nm,0.2s					
KSMR	**Kasumkent**	**2.25 142**	*e*Sb	**Sb**	**02 25 23.5**	**+3.0**
SEKA	**Sheki**	**2.28 162**	P	**Pn**	**02 24 49.8**	**+0.2**
	SNR=33					
SEKA			S	**Sn**	**02 25 18.4**	**+0.2**
QUBA	**Quba, Azerbaij**	**2.61 140**	P	**Pn**	**02 24 56.5**	**+2.4**
	SNR=4.6					
QUBA			S	**Sn**	**02 25 30.0**	**+3.7**
SHAR	**Shatzhatmas**	**2.65 279**	*i* PN	**Pn**	**02 24 53.9**	**-0.8**
SHAR			*e*S	**Sn**	**02 25 28.9**	**+1.6**
SHAR	**Shatzhatmas**	**2.65 279**	*i* Pn	**Pn**	**02 24 53.9**	**-0.8**
SHAR			*e*Sn	**Sn**	**02 25 28.9**	**+1.6**
KIV	**Kislovodsk**	**2.67 284**	*e*Pn	**Pn**	**02 24 54.2**	**-0.7**
KIV			*e*S	**Sn**	**02 25 34.4**	**+6.7**
KIV	**Kislovodsk**	**2.67 284**	*e*PN	**Pn**	**02 24 54.2**	**-0.8**
KIV			*e*S	**Sb**	**02 25 34.4**	**+1.8**
KIV	**Kislovodsk**	**2.67 284**	*e*Pn	**Pn**	**02 24 54.2**	**-0.8**
KIV			*e*Sb	**Sb**	**02 25 34.4**	**+1.8**
GANJ	**Ganja**	**2.74 179**	P	**Pn**	**02 24 54.6**	**-1.3**
	SNR=16					
GANJ			S	**Sn**	**02 25 26.7**	**-2.8**
AKH	**Akhalkalaki**	**2.86 227**	P	**Pn**	**02 24 58.3**	**+0.7**
AKH			S	**Sn**	**02 25 33.2**	**+0.9**
AKH	**Akhalkalaki**	**2.86 227**	P	**Pn**	**02 24 58.3**	**+0.8**
AKH			S	**Sn**	**02 25 33.2**	**+0.8**
IML	**Ismayilli**	**2.95 151**	P	**Pn**	**02 24 59.8**	**+0.9**
	SNR=4.8					
IML			S	**Sn**	**02 25 37.7**	**+3.0**
PQL	**Pirkuli**	**3.12 146**	P	**Pn**	**02 25 02.4**	**+1.3**
	SNR=9.3					
BRDA	**Brd**	**3.19 168**	S	**Sn**	**02 25 41.4**	**+0.7**
DOMR	**Dombai**	**3.40 270**	*i* PN	**Pn**	**02 25 05.8**	**+0.8**
DOMR	**Dombai**	**3.40 270**	*i* Pn	**Pn**	**02 25 05.8**	**+0.8**
GNI	**Garni**	**3.43 200**	Pn	**Pn**	**02 25 05.3**	**-0.2**
	comp=Z,3.9nm,0.3s,baz=18,slow=4.2,SNR=22					
GNI			Lg		02 25 48.9	
	comp=Z,6.7nm,0.3s,baz=227,slow=20,SNR=6.0					
GNI	**Garni**	**3.43 200**	*e*Pn	**Pn**	**02 25 06.2**	**+0.7**
GNI			Lg		02 25 49.0	
GNI			*e*S	**Sn**	**02 25 52.4**	**+5.8**
GNI	**Garni**	**3.43 200**	*e*PN	**Pn**	**02 25 06.2**	**+0.7**
GNI			*e*S	**Sn**	**02 25 52.4**	**+5.8**
GNI	**Garni**	**3.43 200**	*e*Pn	**Pn**	**02 25 06.2**	**+0.7**
NAX	**Nakhchivan**	**4.25 188**	P	**Pn**	**02 25 15.6**	**-1.1**
	SNR=8.1					
GLBA	**Clilabad**	**4.44 158**	P	**Pn**	**02 25 18.9**	**-0.3**
	SNR=5.0					
GLBA			S	**Sn**	**02 26 07.5**	**-3.8**
ANN	**Anapa**	**6.53 286**	*e*P	**Pn**	**02 25 39.1**	**-8.8**
ANN			pmax	pmax		
	comp=Z,76nm,1.4s					
AKTK	**Aktyubinsk**	**10.68 45**	P	**Pn**	**02 26 44.7**	**-0.1**
	comp=Z,1.0nm,0.3s					
AKTO	**Aktyubinsk**	**10.68 45**	⇑Pn	**Pn**	**02 26 45.6**	**+0.8**
	comp=Z,0.5nm,0.8s					
AKTO			⇑Sn	**Sn**	**02 28 40.4**	**-4.3**
	comp=Z,0.5nm,0.7s					
AKTO	**Aktyubinsk**	**10.68 45**	Pn	**Pn**	**02 26 44.7**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=227,slow=9.2,SNR=18					
AKTO			Sn	**Sn**	**02 28 38.1**	**-6.5**
	comp=Z,0.9nm,0.3s,baz=233,slow=21,SNR=7.5					
AKTO	**Aktyubinsk**	**10.68 45**	Pn	**Pn**	**02 26 44.7**	**-0.1**
AKTO			Sn	**Sn**	**02 28 38.1**	**-6.5**
AKTO	**Aktyubinsk**	**10.68 45**	P	**Pn**	**02 26 44.7**	**-0.1**
AKTO					02 28 38.2	
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKTO			smax			
	comp=N,1.0nm,0.3s					
AKTO	**Aktyubinsk**	**10.68 45**	Pn	**Pn**	**02 26 44.7**	**-0.1**
AB31	**Akbulak array**	**11.12 53**	⇑Pn	**Pn**	**02 26 51.8**	**+1.0**
	comp=N,0.4nm,0.3s,baz=238,slow=12,SNR=34					
AB31			⇑Sn	**Sn**	**02 28 50.1**	**-5.4**
	comp=N,0.9nm,0.2s,baz=241,slow=27,SNR=8.9					
AB31	**Akbulak array**	**11.12 53**	Pn	**Pn**	**02 26 51.8**	**+1.0**
	comp=N,0.4nm,0.3s,baz=238,SNR=34					
ABKAR	**Akbulak array**	**11.12 53**	*e*Pn	**Pn**	**02 26 50.8**	**0.0**
	comp=N,1.4nm,0.3s					
ABKAR			*e*S	**Sn**	**02 28 52.1**	**-3.3**
ABKAR	**Akbulak array**	**11.12 53**	*e*Pn	**Pn**	**02 26 50.8**	**0.0**
	comp=N,1.4nm,0.3s					
ABKAR			*e*S	**Sn**	**02 28 52.1**	**-3.4**
ARU	**Arti**	**15.23 27**	*e*Pn	**Pn**	**02 27 45.1**	**-1.7**
ARU			*e*S	**Sn**	**02 30 27.6**	**-8.2**
ARU	**Arti**	**15.23 27**	*e*P	**Pn**	**02 27 45.1**	**-1.8**
ARU			*e*S	**Sn**	**02 30 27.7**	**-8.2**
ARU	**Arti**	**15.23 27**	*e*Pn	**Pn**	**02 27 45.1**	**-1.8**
KKAR	**Karatay Array**	**17.65 83**	*e*Pn	**Pn**	**02 28 17.9**	**+0.1**
KKAR			*e*S	**Sn**	**02 31 28.5**	**-6.2**
KKAR	**Karatay Array**	**17.65 83**	*e*P	**Pn**	**02 28 17.9**	**+0.1**
KKAR			*e*S	**Sn**	**02 31 28.5**	**-6.2**
KKAR	**Karatay Array**	**17.65 83**	*e*P	**Pn**	**02 28 17.9**	**+0.1**
BRVK	**Borovoye**	**18.61 50**	*e*Pn	**Pn**	**02 28 27.9**	**-1.7**
	comp=N,2.2nm,0.6s					
BRVK	**Borovoye**	**18.61 50**	*e*P	**Pn**	**02 28 27.9**	**-1.6**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.6s					
BRVK	**Borovoye**	**18.61 50**	*e*P	**Pn**	**02 28 27.9**	**-1.6**
	comp=Z,2.0nm,0.6s					
BVA0	**Borovoye Array**	**18.66 50**	P	**Pn**	**02 28 31.3**	**+1.2**
	comp=Z,0.7nm,1.4s,baz=242,slow=12,SNR=7.1					
BVAR	**Borovoye Array**	**18.66 50**	Pn	**Pn**	**02 28 29.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=240,slow=13,SNR=8.3					
BVAR	**Borovoye Array**	**18.66 50**	Pn	**Pn**	**02 28 29.0**	**-1.2**
BVAR	**Borovoye Array**	**18.66 50**	P	**Pn**	**02 28 29.0**	**-1.1**
BVAR	**Borovoye Array**	**18.66 50**	P	**Pn**	**02 28 29.0**	**-1.1**
VOSK	**Vostochnaya**	**18.89 52**	⇑P	**Pn**	**02 28 34.1**	**+1.2**
	comp=Z,4.4nm,0.8s					
JOF	**Joensuu**	**21.42 341**	*e*P	**P**	**02 29 00.7**	**+0.9**
JOF			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0					
JOF	**Joensuu**	**21.42 341**	*e*p	**P**	**02 29 00.7**	**+0.9**
	comp=Z,5.8nm,0.7s,mb4.0					
JOF	**Joensuu**	**21.42 341**	*e*P	**P**	**02 29 00.7**	**+0.9**
	comp=Z,6.0nm,0.7s,mb4.0					
FINES	**FINESS Array B**	**21.71 333**	P	**P**	**02 29 02.0**	**-1.0**
	comp=Z,7.6nm,0.6s,mb4.3,baz=142,slow=9.8,SNR=27					
FINES	**FINESS Array B**	**21.71 333**	P	**P**	**02 29 02.0**	**-1.0**
FINES	**FINESS Array B**	**21.71 333**	P	**P**	**02 29 02.1**	**-0.9**
FINES			pmax	pmax		
	comp=Z,8.0nm,0.6s					
FINES	**FINESS Array B**	**21.71 333**	P	**P**	**02 29 02.0**	**-1.0**
KAF	**Kangasniemi**	**22.14 335**	*e*P	**P**	**02 29 06.6**	**-1.0**
KAF			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7					
KAF	**Kangasniemi**	**22.14 335**	*e*p	**P**	**02 29 06.6**	**-1.0**
	comp=Z,1.8nm,0.6s,mb3.7					
KAF	**Kangasniemi**	**22.14 335**	*e*P	**P**	**02 29 06.6**	**-1.0**
	comp=Z,2.0nm,0.6s,mb3.7					
KURK	**Kurchatov**	**23.08 60**	P	**P**	**02 29 19.8**	**+2.1**
	comp=Z,0.8nm,0.2s,mb3.7,baz=269,slow=13,SNR=3.3					
KURK	**Kurchatov**	**23.08 60**	P	**P**	**02 29 19.8**	**+2.1**
KURK	**Kurchatov**	**23.08 60**	P	**P**	**02 29 19.8**	**+2.1**
KURK			pmax	pmax		
	comp=Z,1.0nm,0.2s,mb3.9					
GERES	**GERESS Array B**	**23.12 295**	P	**P**	**02 29 16.9**	**-1.2**
	comp=Z,0.2nm,0.5s,mb2.8,baz=93,slow=5.4,SNR=3.1					
GERES	**GERESS Array B**	**23.12 295**	P	**P**	**02 29 16.9**	**-1.2**
GERES	**GERESS Array B**	**23.12 295**	P	**P**	**02 29 16.9**	**-1.2**
GERES	**GERESS Array B**	**23.12 295**	P	**P**	**02 29 16.9**	**-1.2**
MKAR	**Makanchi Array**	**25.51 70**	P	**P**	**02 29 40.0**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.0,baz=286,slow=7.3,SNR=4.8					
MKAR	**Makanchi Array**	**25.51 70**	P	**P**	**02 29 40.0**	**-0.5**
MKAR	**Makanchi Array**	**25.51 70**	P	**P**	**02 29 40.0**	**-0.5**
MKAR	**Makanchi Array**	**25.51 70**	P	**P**	**02 29 40.0**	**-0.5**
HFS	**Hagfors**	**25.84 322**	P	**P**	**02 29 40.5**	**-2.9**
	comp=Z,3.0nm,0.6s,mb4.0,baz=112,slow=11,SNR=14					
HFS	**Hagfors**	**25.84 322**	P	**P**	**02 29 40.5**	**-2.9**
HFS	**Hagfors**	**25.84 322**	P	**P**	**02 29 40.5**	**-2.9**
HFS			pmax	pmax		
	comp=Z,3.0nm,0.6s					
HFS	**Hagfors**	**25.84 322**	P	**P**	**02 29 40.5**	**-2.9**
	comp=Z,3.0nm,0.6s,mb4.0					
ZALV	**Zalesovo Beam**	**27.23 54**	P	**P**	**02 30 01.0**	**+5.1**
	comp=Z,0.3nm,0.4s,mb3.2,baz=282,slow=7.2,SNR=2.7					
ZALV	**Zalesovo Beam**	**27.23 54**	P	**P**	**02 30 01.1**	**+5.1**
ZALV	**Zalesovo Beam**	**27.23 54**	P	**P**	**02 30 01.1**	**+5.1**
NOA	**NORSAR Array B**	**27.33 322**	P	**P**	**02 29 55.4**	**-1.4**
	comp=Z,0.9nm,0.8s,mb3.4,baz=117,slow=8.7,SNR=3.8					
NOA	**NORSAR Array B**	**27.33 322**	P	**P**	**02 29 55.4**	**-1.4**
NOA	**NORSAR Array B**	**27.33 322**	P	**P**	**02 29 55.4**	**-1.4**
NOA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
NOA	**NORSAR Array B**	**27.33 322**	P	**P**	**02 29 55.4**	**-1.4**
	comp=Z,1.0nm,0.8s,mb3.4					
ARCES	**ARCESS Array B**	**28.30 345**	P	**P**	**02 30 04.7**	**-0.7**
	comp=Z,2.1nm,0.9s,mb3.8,baz=150,slow=9.1,SNR=7.2					
ARCES	**ARCESS Array B**	**28.30 345**	P	**P**	**02 30 04.7**	**-0.7**
ARCES	**ARCESS Array B**	**28.30 345**	P	**P**	**02 30 04.7**	**-0.7**
ARCES			pmax	pmax		
	comp=Z,2.0nm,0.9s					
ARCES	**ARCESS Array B**	**28.30 345**	P	**P**	**02 30 04.7**	**-0.7**
	comp=Z,2.0nm,0.9s,mb3.8					
TORD	**Torodi Ar. Bea**	**48.66 246**	P	**P**	**02 32 53.3**	**-3.2**
	comp=Z,0.3nm,0.4s,mb3.6,baz=45,slow=7.3,SNR=6.3					
TORD	**Torodi Ar. Bea**	**48.66 246**	P	**P**	**02 32 53.3**	**-3.2**
TORD	**Torodi Ar. Bea**	**48.66 246**	P	**P**	**02 32 53.3**	**-3.2**

CSEM ***08*** *02:24:55.0±0.5, 38°.94N×41°.07E, h10km, MD3.0, Error ellipse: s-maj=14.6km s-min=6.8km az=148.0*
ISK ***08*** *02:24:55.5, 38°.95N×41°.15E, h18km, MD3.0*
ISCJB ***08*** *02:24:56.1±0.5, 39°.03N±0°.03×41°.03E±0°.04, h7km±5km, Error ellipse: s-maj=6.0km s-min=4.6km az=137.1*
DDA ***08*** *02:24:56.2, 39°.05N×41°.12E, h7km±3km, Md3.0*
ISC 08 02:24:56.3±0.5, 39°.02N±0°.03×41°.05E±0°.04, h9km±4km, n15, σ1§20/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.11**	**131**	*i* Pg	**Pg**	**02 24 58.6**	**-0.3**
BNGL				*i* Sg	**Sg**	**02 25 00.6**	**-0.1**
BNGB	**Bing¶‖**	**0.29**	**264**	*e*PG	**Pg**	**02 25 03.8**	**+1.7**
BNGB				*e*SG	**Sg**	**02 25 09.4**	**+3.4**
VRTB	**Varto-Mus**	**0.35**	**66**	*e*PG	**Pg**	**02 25 02.7**	**-0.5**
VRTB				*e*SG	**Sg**	**02 25 07.8**	**-0.1**
VRTB	**Varto-Mus**	**0.35**	**66**	*e*Pg	**Pg**	**02 25 02.7**	**-0.5**
VRTB				*e*Sg	**Sg**	**02 25 07.8**	**0.0**
BINT	**Bingol**	**0.46**	**252**	*e*Pg	**Pg**	**02 25 03.8**	**-1.5**
BINT				*e*Sg	**Sg**	**02 25 09.4**	**-1.9**
EZM	**Erzurum**	**0.92**	**15**	*e*PG	**Pg**	**02 25 14.7**	**+0.8**
EZM				*e*SG	**Sg**	**02 25 28.5**	**+2.6**
ERZM	**Erzurum**	**0.92**	**16**	*e*P	**Pg**	**02 25 13.2**	**-0.8**
ERZM				*e*S	**Sg**	**02 25 25.4**	**-0.5**
ERZM	**Erzurum**	**0.92**	**16**	*e*P	**Pg**	**02 25 13.2**	**-0.8**
ERZM				*e*S	**Sg**	**02 25 25.4**	**-0.5**
BEST	**Besiri**	**1.14**	**171**	*e*P	**Pb**	**02 25 19.4**	**+1.2**
BEST				*e*S	**Sb**	**02 25 34.2**	**+1.1**
HOMI	**Horasan**	**1.22**	**33**	*e*P	**Pn**	**02 25 23.6**	**+4.1**
TUTA	**Tutak**	**1.42**	**74**	*e*P	**Pn**	**02 25 21.7**	**-0.6**
TUTA				*e*S	**Sn**	**02 25 41.5**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.51**	**245**	*e*PN	**Pn**	**02 25 23.1**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.51**	**245**	*e*Pn	**Pn**	**02 25 23.2**	**-0.2**
AGRB	**Hanur-Agry**	**1.61**	**69**	*e*PN	**Pn**	**02 25 22.8**	**-2.1**
AGRB	**Hanur-Agry**	**1.61**	**69**	*e*Pn	**Pn**	**02 25 22.8**	**-2.0**

IDC 08 02:34:14.2±7.1, 8°.74S×129°.48E, h66km±80km, mb3.2/1, mb1 3.5/4, mb1mx3.3/15, mbtmp3.4/4, ML3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/13, Error ellipse: s-maj=49.2km s-min=43.1km az=18.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.03**	**201**	P	Pn	02 36 35.6	+0.1
	0.4nm,0.3s,baz=25,slow=12,SNR=12						
FITZ				S	Sn	02 38 24.3	-2.2
	0.2nm,0.3s,baz=83,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**12.09**	**158**	P	Pn	02 37 04.0	+0.4
	0.2nm,0.3s,baz=339,slow=13,SNR=13						
WRA				S	Sn	02 39 17.8	+1.0
	0.5nm,0.3s,baz=335,slow=21,SNR=7.7						
WRA				LR	LR	02 41 09.9	
	comp=Z,155nm,21.9s,baz=45,slow=34						
ASAR	**Alice Springs**	**15.44**	**165**	P	Pn	02 37 50.0	+2.0
	0.1nm,0.3s,baz=340,slow=8.7,SNR=4.3						
ASAR				S	S	02 40 39.7	-11
	0.1nm,0.3s,baz=352,slow=27,SNR=4.4						
MKAR	**Makanchi Array**	**69.40**	**327**	P	P	02 45 15.1	+0.1
	0.3nm,0.5s,baz=125,slow=7.4,SNR=6.9						

ISK ***08*** *02:35:39.7, 39°.42N×33°.19E, h10km, MD2.9*
ISCJB ***08*** *02:35:40.8±1.0, 39°.42N±0°.04×33°.20E±0°.08, h10km, Error ellipse: s-maj=8.6km s-min=5.8km az=6.2*
CSEM ***08*** *02:35:40.1±0.2, 39°.43N×33°.22E, h8km, MD2.9, Error ellipse: s-maj=5.2km s-min=4.4km az=113.0*
DDA ***08*** *02:35:42.2, 39°.47N×32°.96E, h7km±1km, Md2.8*
ISC 08 02:35:40.9±1.1, 39°.41N±0°.06×33°.20E±0°.09, h10km±6km, n14, σ0§87/24, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¯ar-Bala (A**	**0.11**	**290**	*e*PG	**Pg**	**02 35 42.9**	**-0.7**
AFSR				*e*SG	**Sg**	**02 35 44.3**	**-1.2**
AFSR	**Af¯ar-Bala (A**	**0.11**	**290**	*e*Pg	**Pg**	**02 35 42.9**	**-0.7**
AFSR				*e*Sg	**Sg**	**02 35 44.3**	**-1.2**
BBAL	**Bala**	**0.14**	**336**	⇑ *i*Pg	**Pg**	**02 35 45.5**	**+1.3**
BBAL				*i* Sg	**Sg**	**02 35 48.0**	**+1.6**
LOD	**Lodumlu**	**0.58**	**325**	*e*PG	**Pg**	**02 35 51.1**	**-1.1**
LOD				*e*SG	**Sg**	**02 35 60.0**	**+0.1**
LOD	**Lodumlu**	**0.58**	**325**	*e*Pg	**Pg**	**02 35 51.1**	**-1.1**
LOD				*e*Sg	**Sg**	**02 36 00.0**	**+0.1**
CDAG	**Cicekdag**	**0.93**	**76**	*e*P	**Pg**	**02 36 09.8**	**+11**
CDAG				*e*S	**Sg**	**02 36 23.8**	**+13**
KDHN	**Kadinhani**	**1.23**	**224**	*e*P	**Pn**	**02 36 04.4**	**+0.4**
KDHN				*e*S	**Sb**	**02 36 20.8**	**+0.9**
KDHN	**Kadinhani**	**1.23**	**224**	*e*P	**Pn**	**02 36 04.4**	**+0.5**
KDHN				*e*S	**Sb**	**02 36 20.8**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.30**	**272**	*e*PN	**Pn**	**02 36 04.2**	**-0.8**
SVRH				*e*SN	**Sn**	**02 36 22.5**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.30**	**272**	*e*Pn	**Pn**	**02 36 04.2**	**-0.8**
SVRH				*e*Sn	**Sn**	**02 36 22.5**	**+0.2**
CORM	**Corum**	**1.34**	**55**	*e*PN	**Pn**	**02 36 05.1**	**-0.5**
CORM	**Corum**	**1.34**	**55**	*e*Pn	**Pn**	**02 36 05.1**	**-0.5**
LADK	**Ladik-KONYA**	**1.37**	**209**	*e*PN	**Pn**	**02 36 05.8**	**-0.2**
LADK	**Ladik-KONYA**	**1.37**	**209**	*e*Pn	**Pn**	**02 36 05.8**	**-0.2**

ISCJB ***08*** *02:38:36.6±0.8, 23°.6S±0°.1×115°.3W±0°.2, h10km, mb4.5/30, MS4.5/7, Error ellipse: s-maj=30.8km s-min=11.5km az=156.3*
IDC ***08*** *02:38:37.2±1.0, 23°.41S×115°.11W, h0km, mb4.1/7, mb1 4.5/7, mb1mx4.2/14, mbtmp4.1/7, MS4.3/6, Ms1 4.3/6, ms1mx4.1/17, Error ellipse: s-maj=41.6km s-min=20.6km az=47.0*
NEIC ***08*** *02:38:39.4±0.6, 23°.48S×115°.07W, h10km, mb4.8/23, Error ellipse: s-maj=26.9km s-min=13.7km az=70.0*
GCMT ***08*** *02:38:42.7±0.3, 23°.55S×115°.09W, h13km±1km, MW5.0, Moment Tensor Solution. s22,c24; s68,c99; Moment tensor: Scale 10^16 Nm; Mrr=0.25±.14; Mθθ=2.26±.13; Mφφ=2.51±.16; Mrθ=-1.36±.37; Mrφ=2.53±.12; Mθφ=1.11±.39; Best double couple: M0=3.90000×10^16 NP1:φs=66.00000°, δ=68.00000°, λ=-12.00000°. NP2:φs=160.00000°, δ=79.00000°, λ=-157.00000°. Principal axes: T 3.6700, Plg=8.0000°, Azm=291.0000°; N 0.4300, Plg=65.0000°, Azm=185.0000°; P -4.1000, Plg=24.0000°, Azm=25.0000°; Data Used: II IU CN G IC.*
BJI ***08*** *02:38:44.1, 23°.40S×115°.00W, h10km, Ms7 5.3/1*
ISC 08 02:38:38.0±0.8, 23°.7S±0°.1×115°.3W±0°.2, h10km, n72, σ1§10/47, mb4.5/30, MS4.5/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**18.03**	**268**	*e*LR	LR	02 47 01.8	
	2μm,26.5s,baz=101						
RKT				*e*T		03 01 23.9	
	3.4nm,0.2s						
TAOE	**Nuku Hiva Isla**	**27.95**	**298**	*e*LR	LR	02 51 32.4	
	2μm,25.5s						
TBI	**Tubuai**	**31.24**	**264**	*e*LR	LR	02 53 07.8	
	762nm,25.5s,baz=104						
TBI				*e*T		03 18 00.5	
	3.4nm,0.3s						
PPT	**Papeete**	**32.56**	**274**	*e*LR	LR	02 53 20.9	
	710nm,27.0s						
PLCA	**Paso Flores**	**41.05**	**125**	P	**P**	**02 46 23.4**	**+1.7**
	6.5nm,1.1s,mb4.2,baz=281,slow=11,SNR=6.0						
PLCA				LR	LR	02 59 00.2	
	comp=Z,624nm,21.2s,MS4.5,baz=218,slow=30						
PLCA	**Paso Flores**	**41.05**	**125**	*e*P	**P**	**02 46 23.7**	**+2.1**
CFAA	**Coronel Fontan**	**42.20**	**111**	P	**P**	**02 46 31.2**	**0.0**
	0.5nm,1.0s,baz=250,slow=6.7,SNR=7.1						
CFAA	**Coronel Fontan**	**42.20**	**111**	P	**P**	**02 46 31.2**	**0.0**
LPAZ	**La Paz**	**44.81**	**90**	P	**P**	**02 46 51.8**	**-0.7**
	9.8nm,1.1s,mb4.6,baz=290,slow=5.7,SNR=22						
LPAZ				LR	LR	03 01 04.2	
	comp=Z,315nm,19.6s,MS4.2,baz=249,slow=30						
LPAZ	**La Paz**	**44.81**	**90**	*e*P	**P**	**02 46 52.5**	**+0.1**
ROSC	**El Rosal**	**49.04**	**60**	LR	LR	03 02 15.8	
	comp=Z,180nm,18.6s,MS4.1,baz=210,slow=29						
TXAR	**Lajitas Array**	**53.92**	**13**	P	**P**	**02 48 01.9**	**+0.1**
	1.1nm,1.0s,mb3.8,baz=196,slow=7.6,SNR=4.8						
TXAR				LR	LR	03 06 28.3	
	comp=Z,160nm,19.3s,MS4.1,baz=180,slow=31						
TXAR	**Lajitas Array**	**53.92**	**13**	P	**P**	**02 48 01.9**	**+0.1**
TUC	**Tucson**	**55.87**	**5**	*e*P	**P**	**02 48 15.4**	**-0.5**
	6.3nm,1.2s,mb4.5						
JCT	**Junction City**	**55.90**	**16**	*e*P	**P**	**02 48 15.3**	**-0.8**
	8.6nm,0.8s,mb4.8						
MNTX	**Cornudas Mount**	**55.91**	**10**	*e*P	**P**	**02 48 14.7**	**-1.4**
	6.6nm,1.2s,mb4.5						
LENM	**Lemitar**	**58.10**	**8**	*e*P	**P**	**02 48 32.2**	**+0.6**
LAZ	**Ladron**	**58.31**	**8**	*e*P	**P**	**02 48 32.2**	**-0.8**
	3.6nm,1.1s,mb4.3						
WUAZ	**Wupatki**	**59.02**	**4**	*e*P	**P**	**02

MKAR PKPab PKPab 02 58 45.4 -1.3

DJA 08 02:39:21, 3°18S×128°00E, h10km, MLv3.0/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.54**	**159**	P	Pg	02 39 31.2	-0.3
AAI				S	Sg	02 39 40.0	+1.4
NLAI	**Namlea**	**0.90**	**266**	P	Pg	02 39 36.4	-2.0
NLAI				S	Sg	02 39 50.6	+0.5
MSAI	**Masohi**	**0.94**	**100**	P	Pg	02 39 38.4	-0.8
LBMI	**Labuha**	**2.57**	**349**	P	Pn	02 40 02.3	-0.5
GTOI	**Gorontalo**	**6.26**	**307**	P	Pn	02 40 53.7	+0.2

*CSEM **08** 02:41:37.0±0.5, 39°.48N×33°.10E, h10km, MD2.7, Error ellipse: s-maj=18.9km s-min=12.2km az=103.0*
*DDA **08** 02:41:38.5, 39°.50N×33°.00E, h6km±4km, Md2.8*

ISK 08 02:41:35.7, 39°.42N×33°.00E, h10km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¨ar-Bala (A**	**0.06**	**64**	*e*PG	Pg	02 41 38.4	+0.6
AFSR				*e*SG	Sg	02 41 39.7	+0.4
AFSR	**Af¨ar-Bala (A**	**0.06**	**64**	*e*Pg	Pg	02 41 38.4	+0.6
AFSR				*e*Sg	Sg	02 41 39.7	+0.3
BBAL	**Bala**	**0.16**	**38**	*e*P	Pg	02 41 41.0	+1.9
BBAL				*e*S	Sg	02 41 43.1	+1.5
BBAL	**Bala**	**0.16**	**38**	*e*P	Pg	02 41 41.0	+1.8
BBAL				*e*S	Sg	02 41 43.1	+1.5
LOD	**Lodumlu**	**0.50**	**339**	*e*PG	Pg	02 41 45.8	+0.3
LOD				*e*SG	Sg	02 41 53.7	+1.5
LOD	**Lodumlu**	**0.50**	**339**	*e*Pg	Pg	02 41 45.8	+0.3
LOD				*e*Sg	Sg	02 41 53.7	+1.6
CDAG	**Cicekdag**	**1.08**	**79**	*e*P	Pb	02 42 07.7	+11
CDAG				*e*S	Sg	02 42 21.4	+11
KDHN	**Kadinhani**	**1.13**	**218**	*e*P	Pb	02 42 02.1	+4.8
KDHN				*e*S	Sb	02 42 17.6	+5.5
KDHN	**Kadinhani**	**1.13**	**218**	*e*P	Pb	02 42 02.1	+4.8
KDHN				*e*S	Sb	02 42 17.6	+5.6
SVRH	**Sivrihisar-ESK**	**1.14**	**272**	*e*PN	Pn	02 41 57.7	0.0
LADK	**Ladik-KONYA**	**1.31**	**202**	*e*PN	Pn	02 42 00.8	+0.8
LADK	**Ladik-KONYA**	**1.31**	**202**	*e*Pn	Pn	02 42 00.9	+0.8
CORM	**Corum**	**1.47**	**58**	*e*PN	Pn	02 42 02.5	+0.3
CORM	**Corum**	**1.47**	**58**	*e*Pn	Pn	02 42 02.6	+0.4

IGQ 08 02:42:33.7, 1°59S×77°.89W, h196km±2km, Mb4.0, Ms3.8, 2C-16D, Error ellipse: s-maj=4.0km s-min=2.0km az=17.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.53**	**285**	P	Pn	02 43 01.0	+0.6
BULB	**Ulba Tungurahu**	**0.54**	**286**	⇓S	Sn	02 43 20.1	-1.0
BULB	**Ulba Tungurahu**	**0.54**	**286**	⇓P	Pn	02 43 01.0	+0.5
BRUN	**Tungurahua Vol**	**0.55**	**287**	⇓P	Pn	02 43 01.0	+0.5
PAT1	**Patacocha**	**0.55**	**278**	⇓S	Sn	02 43 20.9	-0.3
PAT1	**Patacocha**	**0.55**	**278**	⇓P	Pn	02 43 01.3	+0.8
RUN5	**Runtun**	**0.56**	**288**	P	Pn	02 43 01.1	+0.6
ARRY	**Arrayan**	**0.57**	**278**	⇓S	Sn	02 43 19.9	-1.3
ARRY	**Arrayan**	**0.57**	**278**	⇓P	Pn	02 43 01.1	+0.5
RETU	**Refugio**	**0.57**	**284**	P	Pn	02 43 01.6	+1.0
BMAS	**Trigal station**	**0.59**	**278**	⇓P	Pn	02 43 01.4	+0.7
BMAS	**Trigal station**	**0.59**	**278**	⇓S	Sn	02 43 20.9	-0.6
JUI6	**Juive**	**0.60**	**286**	P	Pn	02 43 01.2	+0.5
PISA	**Pisayambo**	**0.72**	**317**	P	Pn	02 43 02.0	+0.7
MACE	**Macas**	**0.73**	**205**	⇓P	Pn	02 43 02.2	+0.8
IGUA	**Igualata**	**0.75**	**277**	P	Pn	02 43 03.4	+2.0
RIOE	**Riobamba**	**0.76**	**257**	⇓P	Pn	02 43 02.4	+0.9
BMOR	**Cotopaxi Volca**	**1.02**	**326**	⇓P	Pn	02 43 04.4	+1.2
COV1	**Cotopaxi Volc**	**1.02**	**334**	P	Pn	02 43 04.8	+1.6
MOV1	**Cotopaxi Vol s**	**1.03**	**328**	⇓P	Pn	02 43 04.3	+1.1
BTAM	**Cotopaxi Volca**	**1.04**	**331**	⇓P	Pn	02 43 04.4	+1.1
BVC2	**Cotopaxi Volca**	**1.06**	**331**	P	Pn	02 43 04.1	+0.6
BREF	**Cotopaxi Volca**	**1.06**	**329**	⇓P	Pn	02 43 04.9	+1.4
VC1	**Cotopaxi 1**	**1.07**	**331**	⇑P	Pn	02 43 04.6	+1.1
PITA	**Cotopaxi Volc**	**1.16**	**332**	P	Pn	02 43 04.8	+0.6
CHAR	**Charly**	**1.50**	**8**	P	Pn	02 43 08.0	+0.9
LAV4	**Lava4-Reventad**	**1.51**	**10**	P	Pn	02 43 07.7	+0.6
CONE	**Cono NE Rev Vo**	**1.53**	**9**	P	Pn	02 43 07.7	+0.4
JUA2	**San Juan 2**	**1.54**	**332**	P	Pn	02 43 08.4	+1.0
GGP	**Refugio Guagua**	**1.57**	**333**	⇑P	Pn	02 43 08.9	+1.3
PINO	**Pino**	**1.59**	**333**	P	Pn	02 43 09.6	+1.7
CAYA	**Cayambe**	**1.65**	**357**	S	Sn	02 43 37.6	+2.1
CAYA	**Cayambe**	**1.65**	**357**	P	Pn	02 43 09.9	+1.5
OTAV	**Otavalo**	**1.90**	**343**	⇓P	Pn	02 43 11.6	+0.7
CHIS	**Cerro-Chispas-**	**2.88**	**281**	P	Pn	02 43 22.5	+0.7

*IDC **08** 02:55:11.8±2.5, 38°.71N×21°.63E, h0km, mb3.3/2, mb1 3.2/3, mb1mx3.1/24, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=142.1km s-min=27.3km az=145.0*
*ISCJB **08** 02:55:12.8±0.4, 38°.45N±0°.02×21°.99E±0°.02, h8km±3km, mb3.1/2, Error ellipse: s-maj=3.3km s-min=2.9km az=167.6*
*ATH **08** 02:55:12.7, 38°.44N×22°.00E, h17km, MD3.4/21, ML2.7*
*THE **08** 02:55:12.8, 38°.45N×21°.99E, h0km±1km, ML2.9/3, Error ellipse: s-maj=1.3km s-min=0.3km az=107.0*
*CSEM **08** 02:55:12.8±0.1, 38°.45N×21°.97E, h5km, ML2.6, Error ellipse: s-maj=2.8km s-min=2.3km az=81.0*

ISC 08 02:55:13.2±0.4, 38°.45N±0°.02×21°.99E±0°.02, h7km±3km, n73, σ0°.91/106, mb3.1/2, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**255**	P	**Pg**	**02 55 15.1**	**+0.1**
DSF	**Desfina**	**0.42**	**94**	P	**Pg**	**02 55 21.0**	**-0.4**
DSF				S	**Sg**	**02 55 27.7**	**+0.8**
EVR	**Evrytania**	**0.49**	**343**	*e*PB	**Pg**	**02 55 22.4**	**-0.3**
EVR				*e*SB	**Sg**	**02 55 29.4**	**+0.2**
EVR	**Evrytania**	**0.49**	**343**	P	**Pg**	**02 55 22.2**	**-0.5**
EVR				S	**Sg**	**02 55 29.5**	**+0.3**
EVR	**Evrytania**	**0.49**	**343**	*e*Pb	**Pg**	**02 55 22.4**	**-0.3**
EVR				*e*Sb	**Sg**	**02 55 29.4**	**+0.2**
RLS	**Riolos of Patr**	**0.57**	**227**	*e*PN	**Pg**	**02 55 24.0**	**-0.1**
RLS				*e*SN	**Sg**	**02 55 32.2**	**+0.7**
RLS	**Riolos of Patr**	**0.57**	**227**	P	**Pg**	**02 55 23.8**	**-0.3**
RLS				S	**Sg**	**02 55 31.8**	**+0.3**
RLS	**Riolos of Patr**	**0.57**	**227**	P	**Pg**	**02 55 23.8**	**-0.3**
RLS				S	**Sg**	**02 55 31.8**	**+0.3**
RLS				*e*Sn	**Sg**	**02 55 32.2**	**+0.7**
GUR	**Goura**	**0.58**	**151**	P	**Pg**	**02 55 24.0**	**-0.3**
AGG	**Agios Georgios**	**0.63**	**24**	*e*PB	**Pg**	**02 55 24.8**	**-0.6**
AGG				*e*SN	**Sg**	**02 55 34.1**	**+0.4**
AGG	**Agios Georgios**	**0.63**	**24**	P	**Pg**	**02 55 24.8**	**-0.6**
AGG				S	**Sg**	**02 55 34.1**	**+0.4**
AGG	**Agios Georgios**	**0.63**	**24**	P	**Pg**	**02 55 24.8**	**-0.6**
AGG				S	**Sg**	**02 55 34.1**	**+0.4**
LKR	**Lokris**	**0.82**	**75**	*e*PN	**Pg**	**02 55 28.1**	**-0.8**
LKR				*e*SN	**Sn**	**02 55 40.2**	**-3.1**
LKR	**Lokris**	**0.82**	**75**	P	**Pg**	**02 55 28.1**	**-0.8**
LKR				S	**Sg**	**02 55 40.4**	**+0.9**
LKR	**Lokris**	**0.82**	**75**	P	**Pg**	**02 55 28.1**	**-0.8**
LKR				S	**Sg**	**02 55 40.4**	**+0.9**
LKR				*e*Sn	**Sn**	**02 55 40.8**	**-2.5**
LTK	**Loutraki**	**0.88**	**118**	P	**Pg**	**02 55 29.6**	**-0.4**
LTK	**Loutraki**	**0.88**	**118**	P	**Pg**	**02 55 30.1**	**+0.1**
VIL1	**Vilia, Western**	**1.09**	**104**	*e*PN	**Pn**	**02 55 33.7**	**-1.1**
VIL1				*e*SN	**Sn**	**02 55 48.6**	**-1.4**
VLX	**Vlachokerasia**	**1.11**	**164**	P	**Pg**	**02 55 33.6**	**-1.0**
VLX	**Vlachokerasia**	**1.11**	**164**	P	**Pg**	**02 55 33.6**	**-1.0**
THL	**Klokotos Trika**	**1.12**	**1**	*e*PN	**Pn**	**02 55 34.2**	**-1.0**
THL				*e*SN	**Sn**	**02 55 49.9**	**-0.9**
THL	**Klokotos Trika**	**1.12**	**1**	P	**Pg**	**02 55 33.7**	**-1.0**
THL	**Klokotos Trika**	**1.12**	**1**	P	**Pg**	**02 55 33.7**	**-1.0**
THL	**Klokotos Trika**	**1.12**	**1**	*e*Pn	**Pn**	**02 55 34.2**	**-1.0**
THL				*e*Sn	**Sn**	**02 55 50.4**	**-0.4**
VLS	**Valsamata**	**1.14**	**257**	*e*PN	**Pn**	**02 55 34.1**	**-1.3**
VLS	**Valsamata**	**1.14**	**257**	P	**Pg**	**02 55 34.0**	**-1.0**
VLS				S	**Sg**	**02 55 50.5**	**+0.8**
VLS	**Valsamata**	**1.14**	**257**	*e*Pn	**Pn**	**02 55 33.7**	**-1.7**
VLS	**Valsamata**	**1.14**	**257**	P	**Pg**	**02 55 34.0**	**-1.0**
VLS				*e*Sn	**Sn**	**02 55 49.3**	**-1.9**
VLS				S	**Sg**	**02 55 50.5**	**+0.8**
ITM	**Ithomi**	**1.26**	**182**	*e*PN	**Pn**	**02 55 36.4**	**-0.8**
ITM	**Ithomi**	**1.26**	**182**	P	**Pn**	**02 55 36.2**	**-1.0**
ITM				S	**Sb**	**02 55 55.1**	**+1.4**
ITM	**Ithomi**	**1.26**	**182**	*e*Pn	**Pn**	**02 55 36.4**	**-0.8**
ITM				*e*Sn	**Sn**	**02 55 53.3**	**-1.1**
ITM				S	**Sb**	**02 55 55.1**	**+1.4**
NEO	**Neokhori**	**1.29**	**48**	*e*PN	**Pn**	**02 55 37.0**	**-0.6**
NEO				*e*SN	**Sn**	**02 55 54.5**	**-0.5**
NEO	**Neokhori**	**1.29**	**48**	P	**Pn**	**02 55 37.0**	**-0.6**
NEO	**Neokhori**	**1.29**	**48**	P	**Pn**	**02 55 37.0**	**-0.6**
NEO				*e*Sn	**Sn**	**02 55 54.5**	**-0.5**
DID	**Didima**	**1.36**	**133**	P	**Pn**	**02 55 38.3**	**-0.2**
DID				S	**Sb**	**02 55 57.0**	**+0.6**
NAIG	**Nisos Aigina**	**1.36**	**120**	*e*PN	**Pn**	**02 55 38.7**	**+0.1**
NAIG	**Nisos Aigina**	**1.36**	**120**	*e*Pn	**Pn**	**02 55 39.0**	**+0.4**
ATH	**Athens Observa**	**1.44**	**109**	*e*PN	**Pn**	**02 55 39.7**	**+0.1**
ATH				*e*SN	**Sn**	**02 55 58.8**	**+0.1**
ATH	**Athens Observa**	**1.44**	**109**	*e*Pn	**Pn**	**02 55 39.7**	**+0.1**
ATH				*e*Sn	**Sn**	**02 55 58.8**	**+0.1**
MEV	**Metsovon**	**1.46**	**336**	P	**Pn**	**02 55 39.5**	**-0.5**
MEV	**Metsovon**	**1.46**	**336**	P	**Pn**	**02 55 39.5**	**-0.5**
JAN	**Janina**	**1.50**	**324**	*e*PN	**Pn**	**02 55 41.2**	**+0.7**
JAN				*e*SN	**Sn**	**02 56 01.8**	**+1.5**
JAN	**Janina**	**1.50**	**324**	*e*Pn	**Pn**	**02 55 41.6**	**+1.1**
JAN				*e*Sn	**Sn**	**02 56 01.9**	**+1.6**
PTL	**Penteli**	**1.53**	**104**	*e*PN	**Pn**	**02 55 41.0**	**+0.2**
PTL	**Penteli**	**1.53**	**104**	*e*Pn	**Pn**	**02 55 41.0**	**+0.2**
VLY	**Voula,Athens**	**1.54**	**112**	*e*PN	**Pn**	**02 55 41.0**	**0.0**
VLY	**Voula,Athens**	**1.54**	**112**	*e*Pn	**Pn**	**02 55 40.8**	**-0.2**
PYL	**PYLOS**	**1.56**	**187**	P	**Pn**	**02 55 41.6**	**+0.3**
KZN	**Kozani**	**1.87**	**355**	*e*PN	**Pn**	**02 55 46.4**	**+0.9**
KZN				*e*SN	**Sn**	**02 56 10.7**	**+1.4**
KZN	**Kozani**	**1.87**	**355**	P	**Pn**	**02 55 45.3**	**-0.2**
KZN	**Kozani**	**1.87**	**355**	P	**Pn**	**02 55 45.3**	**-0.2**
KZN	**Kozani**	**1.87**	**355**	*e*Pn	**Pn**	**02 55 46.4**	**+0.9**
KZN				*e*Sn	**Sn**	**02 56 10.7**	**+1.4**
VLI	**Veliai**	**1.88**	**156**	*e*PN	**Pn**	**02 55 45.9**	**+0.2**
VLI	**Veliai**	**1.88**	**156**	P	**Pn**	**02 55 45.4**	**-0.3**
VLI	**Veliai**	**1.88**	**156**	P	**Pn**	**02 55 45.4**	**-0.3**
VLI	**Veliai**	**1.88**	**156**	*e*Pn	**Pn**	**02 55 45.9**	**+0.2**
KEK	**Kerkira**	**2.13**	**307**	*e*PN	**Pn**	**02 55 50.0**	**+0.9**
KEK	**Kerkira**	**2.13**	**307**	*e*Pn	**Pn**	**02 55 51.4**	**+2.3**
PLG	**Polygyros**	**2.23**	**30**	*e*PN	**Pn**	**02 55 50.5**	**0.0**
PLG	**Polygyros**	**2.23**	**30**	*e*Pn	**Pn**	**02 55 50.5**	**0.0**
KYTH	**Kithira**	**2.31**	**159**	*e*PN	**Pn**	**02 55 52.8**	**+1.2**
KYTH	**Kithira**	**2.31**	**159**	*e*Pn	**Pn**	**02 55 53.0**	**+1.4**
SOH	**Sokhos**	**2.60**	**23**	*e*PN	**Pn**	**02 55 55.8**	**+0.3**
SOH	**Sokhos**	**2.60**	**23**	*e*Pn	**Pn**	**02 55 55.5**	**0.0**
APE	**Apeiranthos**	**3.12**	**115**	*e*PN	**Pn**	**02 56 03.2**	**+0.4**
APE	**Apeiranthos**	**3.12**	**115**	*e*Pn	**Pn**	**02 56 03.2**	**+0.4**
VAM	**Vamos**	**3.51**	**149**	*e*PN	**Pn**	**02 56 09.4**	**+1.3**
VAM	**Vamos**	**3.51**	**149**	*e*Pn	**Pn**	**02 56 09.4**	**+1.3**
IDI	**Anoyia**	**3.91**	**143**	*e*PN	**Pn**	**02 56 14.7**	**+1.1**
IDI	**Anoyia**	**3.91**	**143**	*e*Pn	**Pn**	**02 56 14.7**	**+1.1**
BRTR	**Keskin Array B**	**9.15**	**78**	Pn	**Pn**	**02 57 28.3**	**+2.8**
	0.1nm,0.3s,baz=255,slow=11,SNR=6.2						
TORD	**Torodi Ar. Bea**	**30.98**	**221**	P	**P**	**03 01 31.0**	**-0.1**
	0.1nm,0.5s,mb2.9,baz=28,slow=9.4,SNR=6.0						
MKAR	**Makanchi Array**	**44.17**	**59**	P	**P**	**03 03 22.9**	**+0.5**
	0.3nm,0.6s,mb3.2,baz=270,slow=8.0,SNR=4.0						

*IDC **08** 02:58:03.3±0.6, 48°.86N×156°.23E, h0km, mb4.3/26, mb1 4.5/29, mb1mx4.5/30, mbtmp4.3/29, ML4.1/3, MS4.6/21, Ms1 4.7/21, ms1mx4.4/39, Error ellipse: s-maj=16.9km s-min=9.9km az=157.0*
*NEIC **08** 02:58:05.8±2.5, 48°.80N×156°.31E, h12km±15km, mb5.0/75, Error ellipse: s-maj=7.6km s-min=3.9km az=162.0*
*KRSC **08** 02:58:05.1±1.8, 48°.66N×157°.29E, h92km±32km, ML5.2*
*MOS **08** 02:58:06.4±1.4, 48°.84N×156°.42E, h28km, mb5.0/68, MS4.7/33, Error ellipse: s-maj=7.5km s-min=4.1km az=84.6*
*BJI **08** 02:58:07.9, 49°.33N×156°.17E, h38km, mB5.0/29, mb4.7/41, Ms5.0/36, Ms7 4.8/36*
*ISCJB **08** 02:58:08.4±0.1, 48°.85N±0°.03×156°.38E±0°.03, h45km, mb4.8/155, MS4.8/45, Error ellipse: s-maj=3.8km s-min=2.1km az=158.8*
*SKHL **08** 02:58:08.5±0.6, 48°.69N×156°.49E, h36km±1km, mb5.0/6, Ms5.1/1*
*GCMT **08** 02:58:10.0±0.3, 48°.85N×156°.59E, h18km±1km, MW5.0, Moment Tensor Solution. s18,c23; s69,c108; Moment tensor: Scale 10^16 Nm; Mrr 0.60±.14; Mθθ 2.63±.11; Mφφ -3.24±.12; Mrθ -1.23±.29; Mθφ -0.72±.08; Mφr 1.13±.27; Best double couple: M0 3.50000×10^16 NP1:φ230.00000°, δ61.00000°, λ170.00000°. NP2:φ325.00000°, δ81.00000°, λ30.00000°. Principal axes: T 3.4100, Plg27.0000°, Azm191.0000°; N 0.1600, Plg59.0000°, Azm339.0000°; P -3.5700, Plg14.0000°, Azm94.0000°; Data Used: II IU IC G CN.*
*TEH **08** 02:58:11.0, 49°.02N×156°.17E, h48km*
*SZGRF **08** 02:58:33.4, 52°.02N×152°.71E, h33km, mb5.0, Northwest of Kuril Islands, Russia*

ISC 08 02:58:10.8±0.1, 48°.90N±0°.03×156°.32E±0°.03, h47km, h47km±1.2km: pP-P, n649, σ0°.92/676, mb4.8/155, MS4.8/45, 129C-93D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.79**	**356**	*e*PN	**Pn**	**02 58 39.5**	**+0.3**
SKR				*i* S	**Sn**	**02 59 02.5**	**+1.7**
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
SKR	**Severo-Kuril's**	**1.79**	**356**	*e*P	**Pn**	**02 58 39.5**	**+0.3**
SKR				AMB	AMB	02 58 40.1	
	comp=Z,80nm,0.4s						
SKR				AMB	AMB	02 58 40.1	
	comp=Z,170nm,0.5s						
SKR				*i* S	**Sn**	**02 59 02.5**	**+1.7**
SKR				A		02 59 06.0	
	comp=Z,10μm,4.0s						
SKR				A		02 59 06.0	
	comp=Z,15μm,4.0s						
SKR				A		02 59 06.0	
	comp=Z,9μm,4.0s						
SKR				A		02 59 06.0	
	comp=Z,10μm,4.0s						
SKR				A		02 59 06.0	
	comp=Z,15μm,4.0s						
SKR				A		02 59 06.0	
	comp=Z,10μm,4.0s						
SKR				A		02 59 20.5	
	comp=Z,3μm,0.5s						
SKR				A		02 59 20.5	
	comp=Z,2μm,0.6s						
SKR				A		02 59 20.5	
	comp=Z,870nm,0.6s						
SKR				AMS	AMS	02 59 33.0	
	comp=Z,17μm,16.0s						
SKR				AMS	AMS	02 59 33.0	
	comp=Z,17μm,16.0s						
SKR				AMS	AMS	02 59 33.0	
	comp=Z,20μm,16.0s						
SKR				AMS	AMS	02 59 33.0	
	comp=Z,48μm,16.0s						
MIPR	**Malaya Ipel'ka**	**3.40**	**5**	*e*P	**Pn**	**02 59 00.7**	**-0.5**
MIPR				*e*S	**Sn**	**02 59 41.1**	**+1.0**
RUS	**Russkaya**	**3.81**	**21**	*e*P	**Pn**	**02 59 04.0**	**-2.8**
RUS				*e*S	**Sn**	**02 59 47.0**	**-3.2**
RUS	**Russkaya**	**3.81**	**21**	PN	**Pn**	**02 59 04.0**	**-2.8**
GRL	**Gorelyy**	**3.83**	**16**	*e*P	**Pn**	**02 59 05.9**	**-1.2**
GRL				*e*S	**Sn**	**02 59 50.7**	**0.0**
PEA0B	**Petropavlovsk-**	**4.31**	**11**	*e*Pn	**Pn**	**02 59 13.1**	**-0.6**
PETK	**Petropavlovsk-**	**4.31**	**11**	Pn	**Pn**	**02 59 12.8**	**-0.9**
	comp=Z,12nm,0.3s,baz=169,slow=14,SNR=64						
PETK				LR	LR	03 00 59.3	
	comp=Z,2μm,20.6s,baz=354,slow=40						
PETK	**Petropavlovsk-**	**4.31**	**11**	Pn	**Pn**	**02 59 12.8**	**-0.9**
PETK	**Petropavlovsk-**	**4.31**	**11**	PN	**Pn**	**02 59 12.8**	**-0.9**
PETK				pmax	pmax		
	comp=Z,12nm,0.3s						
PET	**Petropavlovsk**	**4.39**	**19**	*e*P	**Pn**	**02 59 12.9**	**-1.9**
PET				*e*S	**Sn**	**03 00 01.7**	**-2.9**
PET	**Petropavlovsk**	**4.39**	**19**	*e*Pn	**Pn**	**02 59 12.9**	**-1.9**
PET				*e*Sn	**Sn**	**03 00 02.3**	**-2.2**
PET	**Petropavlovsk**	**4.39**	**19**	PN	**Pn**	**02 59 12.9**	**-1.9**
UGLR	**Uglovaya**	**4.60**	**19**	*e*P	**Pn**	**02 59 16.6**	**-1.1**
AVH	**Avacha**	**4.63**	**18**	*e*P	**Pn**	**02 59 17.3**	**-0.8**
KOK	**Koryaka**	**4.64**	**17**	*e*P	**Pn**	**02 59 17.9**	**-0.3**
KOK				*e*S	**Sn**	**03 00 11.5**	**+0.8**
SMAR	**Somma**	**4.64**	**19**	*e*P	**Pn**	**02 59 17.2**	**-1.1**
SDLR	**Sedlovina**	**4.67**	**19**	*e*P	**Pn**	**02 59 17.0**	**-1.7**
NLC	**Nalytchevo**	**4.69**	**23**	*e*P	**Pn**	**02 59 15.5**	**-3.4**
NLC				*e*S	**Sn**	**03 00 06.9**	**-5.0**
NLC	**Nalytchevo**	**4.69**	**23**	PN	**Pn**	**02 59 15.5**	**-3.4**
SPN	**Mys Shipunski**	**4.81**	**28**	*e*P	**Pn**	**02 59 18.0**	**-2.6**
SPN				*e*S	**Sn**	**03 00 11.7**	**-3.3**
SPN	**Mys Shipunski**	**4.81**	**28**	PN	**Pn**	**02 59 18.0**	**-2.6**
MKZ	**Mys Kozlova**	**6.59**	**29**	*e*P	**Pn**	**02 59 41.3**	**-3.6**
MKZ				*e*S	**Sn**	**03 00 51.7**	**-6.9**
MKZ	**Mys Kozlova**	**6.59**	**29**	PN	**Pn**	**02 59 41.3**	**-3.6**
TUMR	**Tumrok**	**6.81**	**19**	P	**Pn**	**02 59 47.4**	**-0.7**
KUR	**Kuril'sk**	**6.84**	**241**	*e*PN	**Pn**	**02 59 46.5**	**-1.9**
KUR				pmax	pmax		
	comp=Z,450nm,0.9s						
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=E,130nm,0.5s						
KUR				MLR	MLR		
	comp=N,17μm,16.0s						
KUR				MLR	MLR		
	comp=E,17μm,16.0s						
KUR				MLR	MLR		
	comp=Z,17μm,16.0s						
KUR	**Kuril'sk**	**6.84**	**241**	*e*P	**Pn**	**02 59 46.5**	**-1.9**
KUR				AMB	AMB	03 00 03.0	
	comp=Z,130nm,0.5s						
KUR				AMB	AMB	03 00 03.0	
	comp=Z,110nm,0.6s						
KUR				AMB	AMB	03 00 03.0	
	comp=Z,450nm,0.9s						
KUR				*e*S	**Sn**	**03 01 04.4**	**-0.4**
KUR				A		03 01 30.5	
	comp=Z,1μm,1.5s						
KUR				A		03 01 30.5	
	comp=Z,640nm,1.2s						
KUR				AMS	AMS	03 02 30.0	
	comp=Z,14μm,16.0s						
KUR				AMS	AMS	03 02 30.0	
	comp=Z,17μm,18.0s						
KUR				AMS	AMS	03 02 30.0	
	comp=Z,17μm,16.0s						
KUR				AMS	AMS	03 02 30.0	
	comp=Z,17μm,16.0s						
KUR				AMS	AMS	03 02 30.0	
	comp=Z,17μm,16.0s						
KUR				AMS	AMS	03 02 30.0	
	comp=Z,15μm,18.0s						
ESO	**Esso**	**7.19**	**11**	*e*P	**Pn**	**02 59 51.4**	**-1.8**
ESO	**Esso**	**7.19**	**11**	PN	**Pn**	**02 59 51.4**	**-1.8**
SMKR	**Semkarok**	**8.30**	**20**	P	**Pn**	**03 00 03.4**	**-5.0**
KBTR	**Krutoberegovo**	**8.32**	**26**	*e*P	**Pn**	**03 00 05.5**	**-3.2**
KBTR				*e*S	**Sn**	**03 01 34.5**	**-6.7**
KBTR	**Krutoberegovo**	**8.32**	**26**	PN	**Pn**	**03 00 05.5**	**-3.2**
BKI	**Bering**	**8.67**	**40**	*e*S	**Sn**	**03 01 38.8**	**-11**
YUK	**Yuzh-Kuril'sk**	**8.70**	**240**	*i* PN	**Pn**	**03 00 15.5**	**+1.6**
YUK				pmax	pmax		
	comp=N,60nm,0.5s						
YUK				pmax	pmax		
	comp=E,75nm,1.0s						
YUK				pmax	pmax		
	comp=Z,199nm,1.0s						
YUK				MLR	MLR		
	comp=E,11μm,18.0s						
YUK				MLR	MLR		
	comp=Z,14μm,18.0s						
YUK	**Yuzh-Kuril'sk**	**8.70**	**240**	⇓*i* P	**Pn**	**03 00 15.6**	**+1.7**
YUK				AMB	AMB	03 00 29.5	
	comp=Z,210nm,0.4s						
YUK				*e*S	**Sn**	**03 01 50.6**	**0.0**
YUK				A		03 02 36.7	
	comp=Z,2μm,4.5s						
YUK				A		03 02 36.7	
	comp=Z,2μm,4.5s						
YUK				AMS	AMS	03 03 44.0	
	comp=Z,4μm,16.0s						
YUK				AMS	AMS	03 03 44.0	
	comp=Z,9μm,18.0s						
YUK				AMS	AMS	03 03 44.0	
	comp=Z,12μm,17.0s						
YSS	**Yuzh-Sakhalins**	**9.31**	**263**	*e*Pn	**Pn**	**03 00 15.8**	**-6.5**
YSS	**Yuzh-Sakhalins**	**9.31**	**263**	*e*PN	**Pn**	**03 00 23.9**	**+1.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,3μm,17.0s						
YSS	**Yuzh-Sakhalins**	**9.31**	**263**	*e*P	**Pn**	**03 00 23.9**	**+1.6**
YSS				AMB	AMB	03 00 24.4	
	comp=E,30nm,1.0s						
YSS				*e*pP		03 00 35.0	
YSS				*e*S	**Sn**	**03 02 06.0**	**+0.4**
YSS				*e*LQ		03 02

MJAR Matsushiro Arr 18.10 234 P **Pn** **03 02 13.8 -4.7**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR MLR MLR
comp=Z,2μm,19.4s
ZEA Zeya 18.73 296 *e*P **Pn** **03 02 28.3 +2.2**
ZEA AMB AMB 03 02 32.5
comp=Z,48nm,1.6s
MDJ Mudanjiang 18.76 267 P **Pn** **03 02 24.8 -1.8**
MDJ pP pP 03 02 33.3 -3.4
MDJ S **S** **03 05 54.5 -1.9**
MDJ PcS PcS 03 10 29.3 +1.2
MDJ pmax pmax
comp=Z,17nm,1.7s
MDJ pmax pmax
comp=Z,260nm,9.9s
MDJ LR LR
comp=N,630nm,33.1s
MDJ LR LR
comp=E,630nm,33.1s
MDJ LR LR
comp=Z,900nm,24.8s
YAK Yakutsk 19.83 321 *e*P **Pn** **03 02 35.7 -3.4**
comp=Z,40nm,0.7s
YAK Yakutsk 19.83 321 *e*P **Pn** **03 02 34.8 -4.3**
YAK *e*S **S** **03 06 11.9 -5.8**
YAK pmax pmax
comp=Z,49nm,1.2s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,24nm,1.2s
YAK smax
comp=E,95nm,2.5s
YAK smax
comp=N,112nm,2.5s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=E,957nm,17.0s
YAK MLR MLR
comp=N,1μm,16.0s
BILL Bilibino 19.84 11 *e*P **Pn** **03 02 37.5 -1.7**
comp=N,17nm,0.7s
BILL Biiibino 19.84 11κ *i*P **Pn** **03 02 38.1 -1.1**
BILL pmax pmax
comp=Z,21nm,0.8s
BILL MLR MLR
comp=Z,1μm,16.0s
CLNS Chul'man 20.42 305 *e*P **P** **03 02 43.0 -0.6**
CLNS *e* 03 02 53.3
CLNS *e*S **S** **03 06 18.8 -11**
CLNS pmax pmax
comp=Z,18nm,0.8s
CLNS pmax pmax
comp=N,14nm,1.2s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS smax
comp=E,377nm,15.2s
CLNS smax
comp=N,315nm,12.2s
CLNS MLR MLR
comp=Z,1μm,14.0s,MS4.5
CLNS MLR MLR
comp=N,541nm,14.0s,MS4.3
CLNS MLR MLR
comp=E,952nm,15.0s,MS4.3
CN2 Changchun 21.82 268 *e*P **P** **03 02 59.8 +1.0**
CN2 *es*P sP 03 03 17.0 +1.1
CN2 *e*S **S** **03 06 52.2 -5.0**
CN2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
CN2 LR LR
comp=N,2μm,16.0s,MS4.6
CN2 LR LR
comp=E,700nm,16.0s,MS4.6
CN2 LR LR
comp=Z,1μm,16.0s,MS4.5
KSRS Korea Array 23.52 252 P **P** **03 03 15.2 -1.3**
comp=Z,6.9nm,0.9s,mb4.1,baz=49,slow=11,SNR=14
KSRS LR LR 03 12 15.9
comp=Z,2μm,18.4s,MS4.6,baz=57,slow=36
KSRS Korea Array 23.52 252 P **P** **03 03 15.2 -1.3**
KSRS pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
KSRS MLR MLR
comp=Z,2μm,18.4s,MS4.6
KSAR Wonju Array Be 23.55 252 P **P** **03 03 15.2 -1.6**
KSAR Wonju Array Be 23.55 252 P **P** **03 03 15.2 -1.6**
TNA Tin City 25.04 35 *e*P **P** **03 03 31.2 +1.1**
comp=Z,56nm,1.0s,mb5.0
BJI Beijing 29.69 268 P **P** **03 04 11.0 -1.0**
BJI pmax pmax
comp=Z,8.0nm,0.4s,mb4.8
BJI LR LR
comp=N,320nm,19.6s,MS4.5
BJI LR LR
comp=E,1μm,18.1s,MS4.5
BJI LR LR
comp=Z,650nm,16.6s,MS4.3
RSO Redoubt South 30.83 49 *e*P **P** **03 04 21.9 +0.1**
comp=Z,13nm,0.8s,mb4.8
KDAK Kodiak Island 31.08 54 P **P** **03 04 22.9 -1.2**
comp=Z,15nm,0.8s,mb4.9,baz=301,slow=4.5,SNR=11
KDAK Kodiak Island 31.08 54 P **P** **03 04 22.9 -1.2**
KDAK Kodiak Island 31.08 54 P **P** **03 04 22.9 -1.2**
KDAK pmax pmax
comp=Z,15nm,0.8s,mb4.9
PPLA Purkeypile 31.12 44 *e*P **P** **03 04 25.5 +1.2**
comp=Z,78nm,1.7s,mb5.3
SPU Mount Spurr 31.16 47 *e*P **P** **03 04 25.0 +0.3**
TRF Thorofare Moun 32.00 43 *e*P **P** **03 04 32.4 +0.3**
comp=Z,92nm,2.0s,mb5.3
HHC Hu-ho-hao-te 32.33 273 *e*P **P** **03 04 34.8 -0.4**
HHC pP pP 03 04 47.0 -0.6
HHC sP sP 03 04 52.3 -0.9
HHC PP PP 03 05 41.7 -7.0
HHC PcP PcP 03 07 24.0 +1.9
HHC S **S** **03 09 41.9 -3.7**
HHC sS sS 03 10 02.1 -4.3
HHC SS SS 03 11 36.1 -29
HHC pmax pmax
comp=Z,13nm,0.5s,mb5.0
HHC pmax pmax
comp=Z,100nm,4.5s
HHC LR LR
comp=N,1μm,11.9s,MS4.9
HHC LR LR
comp=E,840nm,13.1s,MS4.9
HHC LR LR
comp=Z,1μm,14.3s,MS4.7
COLD Coldfoot 32.33 36 *e*P **P** **03 04 35.1 +0.1**
comp=Z,44nm,2.2s,mb4.9
PMR Palmer 32.55 46 *e*P **P** **03 04 36.7 -0.3**
comp=Z,6.2nm,0.8s,mb4.6
PMR Palmer 32.55 46 *e*P **P** **03 04 36.7 -0.3**
PMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MCK McKinley 32.61 42 P **P** **03 04 37.1 -0.3**
MCK McKinley 32.61 42 P **P** **03 04 37.1 -0.3**
NJ2 Nanjing 32.69 253 *e*P **P** **03 04 40.2 +1.7**
NJ2 pP pP 03 04 52.1 +1.2
NJ2 sP sP 03 04 57.5 +1.0
NJ2 PP PP 03 05 49.2 -3.7
NJ2 S **S** **03 09 54.0 +2.6**
NJ2 sS sS 03 10 12.0 -0.3
NJ2 pmax pmax
comp=Z,20nm,0.5s,mb5.3
NJ2 pmax pmax
comp=Z,160nm,12.0s
NJ2 LR LR
comp=N,2μm,18.3s,MS5.4
NJ2 LR LR
comp=E,8μm,22.6s,MS5.4
NJ2 LR LR
comp=Z,2μm,17.0s
SONM Songino Array 32.71 287 P **P** **03 04 36.4 -2.0**
comp=Z,0.8nm,0.8s,mb3.7,baz=82,slow=10,SNR=3.9
SONM PcP PcP 03 07 22.1 -0.9
comp=Z,0.6nm,0.7s,baz=129,slow=1.6,SNR=3.7
SONM LR LR 03 19 29.5
comp=Z,2μm,18.1s,MS4.9,baz=253,slow=39
SONM Songino Array 32.71 287 P **P** **03 04 36.4 -2.0**
SONM PcP PcP 03 07 22.1 -0.9
SONM Songino Array 32.71 287 P **P** **03 04 36.4 -2.1**
SONM MLR MLR 03 07 22.1
comp=Z,2μm,18.1s
SML Sawmill 32.92 46 *e*P **P** **03 04 39.8 -0.4**
comp=Z,14nm,0.9s,mb4.9
SML *e* pP 03 04 52.6 0.0
SML Sawmill 32.92 46 *e*P **P** **03 04 39.8 -0.4**
SML *e* pP 03 04 52.7 +0.1
SML pmax pmax
comp=Z,14nm,0.9s,mb4.9
COLA College 33.11 40 *e*P **P** **03 04 41.5 -0.3**
comp=Z,7.7nm,0.7s,mb4.7
COLA *e* pP 03 04 54.9 +0.8
COLA College 33.11 40 *e*P **P** **03 04 41.5 -0.2**
COLA *e* pP 03 04 54.9 +0.7
COLA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ILAR Eielson Array 33.52 40 P **P** **03 04 44.3 -1.0**
comp=Z,1.4nm,0.6s,mb4.1,baz=246,slow=8.1,SNR=30
ILAR Eielson Array 33.52 40 P **P** **03 04 44.3 -1.0**
ILAR Eielson Array 33.52 40 P **P** **03 04 44.3 -1.0**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
DIV Divide 34.20 47 *e*P **P** **03 04 50.8 -0.5**
comp=Z,21nm,1.0s,mb5.0
DIV *e* pP 03 05 03.4 -0.4
DOT Dot Lake 34.78 42 *e*P **P** **03 04 55.5 -0.9**
comp=Z,2.6nm,0.9s,mb4.2
BMRM Bremner River 34.78 47 *e*P **P** **03 04 55.8 -0.5**
comp=Z,22nm,1.0s,mb5.0
RAGM Ragged Mountai 34.83 48 *e*P **P** **03 04 58.0 +1.3**
comp=Z,26nm,1.0s,mb5.1
EGAK Eagle 35.97 40 *e*P **P** **03 05 05.5 -1.0**
comp=Z,34nm,1.5s,mb5.1
EGAK *e* pP 03 05 18.7 -0.3
WHN Wuhan 36.56 256 P **P** **03 05 11.5 -0.4**
DAWY Dawson 36.80 41 *e*P **P** **03 05 13.2 -0.4**
INK Inuvik 38.67 34 P **P** **03 05 29.7 +0.4**
comp=Z,5.1nm,0.8s,mb4.3,baz=291,slow=7.5,SNR=16
INK Inuvik 38.67 34 *e*P **P** **03 05 29.5 +0.2**
comp=Z,10nm,1.0s,mb4.5
INK Inuvik 38.67 34 P **P** **03 05 29.7 +0.4**
INK pmax pmax
comp=Z,5.0nm,0.8s
SKAG Skagway 39.62 48 *e*P **P** **03 05 38.0 +0.7**
comp=Z,59nm,1.6s,mb5.1
LZH Lanzhou 39.99 271 *e*P **P** **03 05 39.6 -1.1**
LZH pP pP 03 05 52.1 -1.2
LZH sP sP 03 05 57.7 -1.2
LZH *e*PP PP 03 07 16.0 +2.9
LZH *e*S **S** **03 11 41.2 -1.5**
LZH sS sS 03 12 01.3 -2.6
LZH pmax pmax
comp=Z,27nm,1.0s,mb4.9
LZH pmax pmax
comp=Z,260nm,5.7s
LZH LR LR
comp=N,1μm,14.0s,MS5.0
LZH LR LR
comp=E,1μm,15.7s,MS5.0
LZH LR LR
comp=Z,1μm,16.0s,MS4.8
LZH Lanzhou 39.99 271 *e*P **P** **03 05 39.6 -1.1**
comp=Z,27nm,1.0s,mb4.9
LZH pP pP 03 05 52.1 -1.2
LZH sP sP 03 05 57.7 -1.2
LZH *e*PP PP 03 07 16.0 +2.9
LZH *e*S **S** **03 11 41.2 -1.5**
LZH sS sS 03 12 01.3 -2.6
LZH LR LR
comp=Z,1μm,16.0s,MS4.8
LZH Lanzhou 39.99 271 *e*P **P** **03 05 39.6 -1.1**
LZH *PP pP 03 05 52.1 -1.2
LZH *e* 03 07 16.0
LZH *e*S **S** **03 11 41.2 -1.5**
LZH pmax pmax
comp=Z,27nm,1.0s,mb4.9
LZH MLR MLR
comp=Z,1μm,16.0s,MS4.8
GTA Gaotai 40.78 278 ⇑P **P** **03 05 45.9 -1.3**
GTA pP pP 03 05 58.4 -1.5
GTA sP sP 03 06 03.7 -1.7
GTA S **S** **03 11 51.6 -2.9**
GTA sS sS 03 12 12.5 -3.2
GTA SS SS 03 14 47.4 -9.0
GTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
GTA pmax pmax
comp=Z,130nm,4.3s
GTA LR LR
comp=N,1μm,14.7s,MS5.1
GTA LR LR
comp=E,2μm,15.9s,MS5.1
GTA LR LR
comp=Z,2μm,16.6s,MS5.0
DLBC Dease Lake 42.55 48 *e*P **P** **03 06 02.6 +1.3**
ZALV Zalesovo Beam 43.13 305 P **P** **03 06 03.6 -2.5**
comp=Z,1.2nm,0.6s,mb3.8,baz=54,slow=7.5,SNR=7.7
ZALV PcP PcP 03 07 55.1 +0.1
comp=Z,1.1nm,0.6s,baz=31,slow=3.4,SNR=3.1
ZALV LR LR 03 25 24.4
comp=Z,434nm,19.4s,MS4.4,baz=58,slow=38
ZALV Zalesovo Beam 43.13 305 P **P** **03 06 03.6 -2.5**
ZALV PcP PcP 03 07 55.1 +0.1
ZALV Zalesovo Beam 43.13 305 P **P** **03 06 03.6 -2.6**
ZALV 03 07 55.1
ZALV pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
ZALV MLR MLR
comp=Z,434nm,19.4s,MS4.4
CD2 Chengdu 43.21 265 *e*P **P** **03 06 06.4 -0.7**
CD2 sP sP 03 06 23.0 -2.4
CD2 PP PP 03 07 49.1 +1.1
CD2 S **S** **03 12 28.2 -2.3**
CD2 sS sS 03 12 49.0 -2.8
CD2 SS SS 03 15 34.7 -10
CD2 pmax pmax
comp=Z,30nm,0.8s,mb5.1
CD2 pmax pmax
comp=Z,130nm,6.8s
CD2 LR LR
comp=N,770nm,14.4s,MS4.9
CD2 LR LR
comp=E,870nm,16.8s,MS4.9
CD2 LR LR
comp=Z,1μm,16.8s,MS4.8
NVS Novosibirsk 43.62 307 *e*P **P** **03 06 08.2 -1.9**
GYA Guiyang 44.28 258 ⇑*i*P **P** **03 06 15.6 -0.1**
GYA pP pP 03 06 28.8 +0.3
GYA sP sP 03 06 35.2 +1.2
GYA PcP PcP 03 08 01.0 +1.6
GYA ScP ScP 03 11 47.5 +0.3
GYA PcS PcS 03 11 53.3 +0.5
GYA S **S** **03 12 45.0 -1.2**
GYA SS SS 03 15 55.6 -10
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.9
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,580nm,15.7s,MS4.7
GYA LR LR
comp=E,460nm,17.3s,MS4.7
GYA LR LR
comp=Z,550nm,16.5s,MS4.6
WMQ Urumqi 46.17 291 *e*P **P** **03 06 30.6 +0.1**
WMQ pP pP 03 06 43.0 -0.4
WMQ sP sP 03 06 48.3 -0.6
WMQ PP PP 03 08 18.9 -0.3
WMQ S **S** **03 13 11.6 -1.5**
WMQ sS sS 03 13 32.6 -2.0
WMQ LR LR
comp=N,2μm,19.8s,MS5.1
WMQ LR LR
comp=E,1μm,21.0s,MS5.1
WMQ LR LR
comp=Z,580nm,18.6s,MS4.6
ALE Alert 47.38 6 P **P** **03 06 39.0 -0.5**
comp=Z,135nm,0.8s,mb5.9,SNR=12
QIZ Qiongzhong 47.67 248 P **P** **03 06 42.4 -0.1**
QIZ S **S** **03 13 36.8 +1.9**
QIZ pmax pmax
comp=Z,47nm,2.1s,mb5.2
QIZ LR LR
comp=N,780nm,19.7s,MS4.7
QIZ LR LR
comp=E,410nm,19.2s,MS4.7
QIZ LR LR
comp=Z,1μm,18.2s,MS4.9
KMI Kunming 47.75 260 P **P** **03 06 47.7 +4.7**
KMI pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
KMI Kunming 47.75 260 P **P** **03 06 47.7 +4.7**
comp=Z,10.0nm,0.5s,mb5.1
KMI Kunming 47.75 260 P **P** **03 06 47.7 +4.7**
KMI pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
MK31 Makanchi Array 47.88 297 *e*P **P** **03 06 42.1 -1.7**
MK31 Makanchi Array 47.88 297 *ce*P **P** **03 06 41.8 -2.0**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
MKAR Makanchi Array 47.88 297 P **P** **03 06 41.7 -2.1**
comp=Z,4.9nm,0.8s,mb4.6,baz=58,slow=7.3,SNR=40
MKAR LR LR 03 28 04.0
comp=Z,1μm,18.3s,MS4.9,baz=44,slow=38
MKAR Makanchi Array 47.88 297 P **P** **03 06 41.7 -2.1**
MKAR Makanchi Array 47.88 297 P **P** **03 06 41.7 -2.1**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR MLR MLR
comp=Z,1μm,18.3s
YKA Yellowknife Ar 47.90 39 P **P** **03 06 43.6 -0.1**
comp=Z,4.0nm,0.8s,mb4.5,baz=296,slow=7.5,SNR=18
YKA Yellowknife Ar 47.90 39 P **P** **03 06 43.6 -0.1**
YKA Yellowknife Ar 47.90 39 P **P** **03 06 43.6 -0.1**
YKA pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 47.98 303 P **P** **03 06 43.5 -1.0**
comp=Z,5.8nm,0.8s,mb4.7,baz=66,slow=8.4,SNR=37
KURK Kurchatov 47.98 303 *e*P **P** **03 06 42.4 -2.1**
comp=Z,6.8nm,0.8s,mb4.7
KURK Kurchatov 47.98 303 P **P** **03 06 43.5 -1.0**
KURK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
RES Resolute Bay 48.10 20 P **P** **03 06 45.4 +0.3**
comp=Z,3.4nm,0.5s,mb4.6,baz=303,slow=8.4,SNR=7.0
RES Resolute Bay 48.10 20 *e*P **P** **03 06 45.6 +0.5**
comp=Z,15nm,1.3s,mb4.9
RES Resolute Bay 48.10 20 P **P** **03 06 45.4 +0.3**
RES pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BVAR Borovoye Array 51.17 309 P **P** **03 07 07.4 -1.3**
comp=Z,1.5nm,0.5s,mb4.2,baz=60,slow=8.9,SNR=7.8
BVAR Borovoye Array 51.17 309 P **P** **03 07 07.4 -1.3**
BVAR Borovoye Array 51.17 309 P **P** **03 07 07.4 -1.3**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 51.20 309⇓*e*P **P** **03 07 07.0 -2.0**
BRVK pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
G06A Carlson Farm, 53.98 60 ⇑P **P** **03 07 28.8 -0.8**
baz=54
NEW Newport 54.16 55 ⇑P **P** **03 07 30.5 -0.4**
baz=54
NEW Newport 54.16 55 *e*P **P** **03 07 31.2 +0.3**
comp=Z,38nm,2.0s,mb5.0
NEW Newport 54.16 55 *e*P **P** **03 07 31.3 +0.4**
NEW pmax pmax
comp=Z,38nm,2.0s
DAG Danmarks Havn 54.57 359 *i* P **P** **03 07 33.3 -0.2**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
DAG Danmarks Havn 54.57 359 *i* P **P** **03 07 33.3 -0.2**
comp=Z,6.6nm,0.9s,mb4.7
E09A Wood Farm, Sta 54.63 58 ⇓P **P** **03 07 33.6 -0.7**
baz=54
ARU Arti 54.88 318 P **P** **03 07 34.4 -1.6**
comp=Z,10nm,0.7s,mb5.0
ARU Arti 54.88 318*d i*P **P** **03 07 34.4 -1.6**
ARU 03 08 34.1
ARU S **S** **03 15 13.5 -0.1**
ARU pmax pmax
comp=Z,21nm,1.2s,mb5.0
ARU MLR MLR
comp=Z,660nm,17.0s,MS4.8
C11A Tepee Creek (N 54.88 55 ⇓P **P** **03 07 36.0 -0.2**
baz=55
CMAR Chiang Mai Arr 54.96 258 P **P** **03 07 37.4 +0.3**
comp=Z,4.6nm,0.8s,mb4.6,baz=31,slow=7.2,SNR=14
CMAR LR LR 03 32 44.1
comp=Z,856nm,18.8s,MS4.8,baz=47,slow=38
CMAR Chiang Mai Arr 54.96 258 P **P** **03 07 37.4 +0.3**
CMAR Chiang Mai Arr 54.96 258 P **P** **03 07 37.4 +0.3**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR MLR MLR
comp=Z,856nm,18.8s
A13A Flathead Natio 55.22 53 ⇓P **P** **03 07 38.2 -0.3**
baz=55
I07A Izee 55.31 61 ⇑P **P** **03 07 39.0 -0.3**
baz=55
K05A Summer Lake 55.32 63 ⇑P **P** **03 07 39.4 0.0**
baz=55
WALA Waterton Lakes 55.41 53 *e*P **P** **03 07 39.6 -0.3**
comp=Z,0.1nm,0.6s
F10A Beach Ranch, E 55.46 58 ⇑P **P** **03 07 40.1 -0.2**
baz=55
B13A Whitefish 55.53 54 ⇓P **P** **03 07 40.7 -0.1**
baz=55,SNR=6.4
BSMT Bassoo Peak 55.67 55 *e*P **P** **03 07 42.2 +0.4**
A14A Double T Ranch 55.72 53 ⇓P **P** **03 07 41.7 -0.5**
baz=56
KSH Kashi 55.82 293 P **P** **03 07 46.6 +3.6**
KSH pP pP 03 07 59.5 +3.3
KSH sP sP 03 08 04.6 +3.0
KSH PcP PcP 03 08 44.3 +2.8
KSH PP PP 03 09 53.4 +5.8
KSH ScP ScP 03 12 38.1 +1.7
KSH PcS PcS 03 12 43.6 +1.8
KSH S **S** **03 15 29.5 +2.9**
KSH sS sS 03 15 51.7 +3.1
KSH ScS ScS 03 17 28.5 +0.6
KSH SS SS 03 19 16.3 +4.1
KSH pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
KSH pmax pmax
comp=Z,73nm,4.0s
KSH LR LR
comp=N,680nm,15.3s,MS5.2
KSH LR LR
comp=E,1μm,14.7s,MS5.2
KSH LR LR
comp=Z,530nm,18.7s,MS4.7
D12A Red Ives Fores 55.85 56 ⇑P **P** **03 07 42.8 -0.3**
baz=56
C13A Hot Springs 55.89 55 ⇓P **P** **03 07 43.1 -0.3**
baz=56
A15A Johnson Ranch, 56.08 53 ⇓P **P** **03 07 44.3 -0.5**
baz=56
E12A Beaver Dam Sad 56.11 56 ⇑P **P** **03 07 45.4 +0.4**
baz=56,SNR=5.8
TAPN Taplejung 56.12 274 *e*P **P** **03 07 45.0 -0.3**
comp=Z,17nm,0.8s,mb5.1
TAPN Taplejung 56.12 274 *e*P **P** **03 07 45.0 -0.3**
comp=Z,17nm,0.8s,mb5.1
B14A Marquette Ranc 56.17 53 ⇑P **P** **03 07 44.7 -0.7**
baz=56
APA Apatity 56.21 337⇓*e*P **P** **03 07 40.7 -4.7**
APA MLR MLR
comp=Z,800nm,18.0s,MS4.8
C14A Swan Lake 56.28 54 ⇓P **P** **03 07 45.7 -0.4**
baz=56
SWMT Swartz Lake 56.30 55 *e*P **P** **03 07 47.0 +0.6**
comp=Z,12nm,1.7s,mb4.7
D13A Huson 56.31 55 ⇑P **P** **03 07 46.0 -0.4**
baz=56
J08A Circle Bar Ran 56.34 61 ⇑P **P** **03 07 46.6 -0.1**
baz=56
ARCES ARCESS Array B 56.52 341 P **P** **03 07 46.0 -1.5**
comp=Z,5.4nm,0.9s,mb4.6,baz=38,slow=10,SNR=6.1
ARCES LR LR 03 35 24.8
comp=Z,680nm,19.4s,MS4.8,baz=31,slow=40
ARCES ARCESS Array B 56.52 341 P **P** **03 07 46.0 -1.5**
ARCES ARCESS Array B 56.52 341 P **P** **03 07 46.0 -1.6**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,680nm,19.5s
B15A Bradely Ranch, 56.58 53 ⇑P **P** **03 07 47.9 -0.3**
baz=56
ODAN Odare 56.66 274 *e*P **P** **03 07 49.0 -0.2**

comp=Z,11nm,0.7s,mb5.0
ODAN Odare 56.66 274 *e*P P 03 07 49.0 -0.2
comp=Z,11nm,0.7s,mb5.0
SLMT Seeley Lake 56.74 55 *e*P P 03 07 49.6 +0.2
MSO Missoula 56.75 55 ⇑P P 03 07 49.2 -0.3
baz=57
MSO Missoula 56.75 55 *e*P P 03 07 50.4 +0.9
comp=Z,23nm,1.9s,mb4.9
MSO *e*pP pP 03 08 03.1 +0.4
WVOR Wild Horse Val 56.82 62 *e*P P 03 07 50.7 +0.7
comp=Z,23nm,1.6s,mb5.0
WVOR Wild Horse Val 56.82 62 *e*P P 03 07 50.7 +0.6
WVOR pmax pmax
comp=Z,23nm,1.6s,mb5.0
D14A Greenough 56.83 55 ⇑P P 03 07 49.9 -0.2
baz=57,SNR=8.5
E13A Victor 56.85 56 ⇑P P 03 07 49.6 -0.7
baz=57
C15A Salmond Ranch, 56.88 54 ⇑P P 03 07 50.6 +0.2
baz=57,SNR=9.4
JIRN Jiri 56.91 275 *e*P P 03 07 50.9 -0.1
comp=Z,12nm,0.9s,mb4.9
JIRN Jiri 56.91 275 *e*P P 03 07 50.9 -0.1
comp=Z,12nm,0.9s,mb4.9
GUN Gumba 56.95 276 *e*P P 03 07 51.3 +0.1
comp=Z,31nm,0.8s,mb5.4
GUN Gumba 56.95 276 *e*P P 03 07 51.3 +0.1
comp=Z,31nm,0.8s,mb5.4
G12A Big Creek, Yel 57.04 57 ⇑P P 03 07 51.2 -0.4
baz=57
CHMT Chamberlain Mo 57.07 55 *e*P P 03 07 52.0 +0.2
RAMN Ramite 57.12 274 *e*P P 03 07 52.5 +0.1
comp=Z,36nm,0.8s,mb5.4
RAMN Ramite 57.12 274 *e*P P 03 07 52.5 +0.1
comp=Z,36nm,0.8s,mb5.5
F13A Darby 57.18 56 ⇓P P 03 07 51.9 -0.6
baz=57
E14A Clinton 57.25 55 ⇑P P 03 07 52.9 -0.2
baz=57,SNR=5.3
C16A Fuhringer Ranc 57.32 53 ⇑P P 03 07 53.1 -0.5
baz=57
D15A Lincoln 57.38 54 ⇓P P 03 07 53.7 -0.3
baz=57
PKI Pulchoki 57.49 276 *e*P P 03 07 55.1 +0.1
comp=Z,32nm,1.0s,mb5.3
PKI Pulchoki 57.49 276 *e*P P 03 07 55.1 +0.1
comp=Z,32nm,1.0s,mb5.3
PKI Pulchoki 57.49 276 *e*P P 03 07 55.1 +0.1
PKI pmax pmax
comp=Z,32nm,1.0s,mb5.3
A18A Metzger Ranch, 57.62 51 ⇓P P 03 07 55.0 -0.7
baz=58
DMN Daman 57.66 276 *e*P P 03 07 56.3 +0.1
comp=Z,53nm,0.8s,mb5.6
DMN Daman 57.66 276 *e*P P 03 07 56.3 +0.1
comp=Z,53nm,0.8s,mb5.6
H12A Diamond D Ranc 57.66 58 ⇑P P 03 07 56.1 +0.1
baz=58
G13A Cobalt 57.67 57 ⇓P P 03 07 55.5 -0.5
baz=58,SNR=7.2
F14A Wisdom 57.69 56 ⇑P P 03 07 56.5 +0.3
baz=58
FFC Flin Flon 57.70 42 *e*P P 03 07 55.0 -1.1
comp=Z,11nm,0.9s,mb4.9
FFC Flin Flon 57.70 42 *e*P P 03 07 55.0 -1.1
FFC pmax pmax
comp=Z,11nm,0.9s,mb4.9
GKN Gorkha 57.70 277 *e*P P 03 07 56.3 -0.2
comp=Z,54nm,1.0s,mb5.5
GKN Gorkha 57.70 277 *e*P P 03 07 56.3 -0.2
comp=Z,54nm,1.0s,mb5.5
MFID Camas Ranch 57.82 59 ⇑P P 03 07 56.8 -0.3
baz=58
MFID Camas Ranch 57.82 59 *e*P P 03 07 58.3 +1.2
comp=Z,5.4nm,1.0s,mb4.5
D16A Dana Ranch, Ca 57.91 54 ⇑P P 03 07 57.5 -0.2
baz=58
C17A Wharram Farm, 57.95 53 ⇓P P 03 07 57.6 -0.4
baz=58,SNR=11
HRY Holter Researc 57.96 54 *e*P P 03 07 58.0 -0.1
I12A Atlanta 57.98 59 ⇑P P 03 07 58.4 +0.2
baz=58,SNR=8.2
B18A Beardsley Farm 57.98 52 ⇑P P 03 07 57.0 -1.1
baz=58
H13A Challis 57.98 57 ⇑P P 03 07 58.5 +0.3
baz=58,SNR=7.3
DANN Dangsing 58.05 278 *e*P P 03 07 58.9 0.0
comp=Z,27nm,0.7s,mb5.4
DANN Dangsing 58.05 278 *e*P P 03 07 58.9 0.0
comp=Z,27nm,0.7s,mb5.4
WCN Washoe City 58.12 65 ⇑P P 03 07 59.2 -0.1
baz=58
WCN Washoe City 58.12 65 *e*P P 03 08 00.1 +0.9
WCN Washoe City 58.12 65 *e*P P 03 08 00.2 +0.9
F15A Butte 58.15 55 ⇑P P 03 07 59.4 0.0
baz=58
A19A Klindworth Far 58.18 51 ⇑P P 03 07 59.4 -0.2
baz=58
LRM Limekiln Ridge 58.19 55 *e*P P 03 08 00.2 +0.6
EGMT Eagleton 58.23 52 ⇑P P 03 07 59.8 -0.1
baz=58
D17A Six Diamond Ra 58.29 53 ⇓P P 03 08 00.4 0.0
baz=58,SNR=5.5
B19A Brinkman Farms 58.37 51 ⇑P P 03 08 00.9 0.0
baz=58
SUMG Summit 58.39 5 *e*P P 03 08 01.6 +1.0
comp=Z,25nm,1.3s,mb5.1
SUMG Summit 58.39 5 *i*P P 03 08 01.7 +1.0
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 58.39 5 *i*P P 03 08 01.7 +1.0
comp=Z,10nm,0.9s,mb4.9
DLMT Dillon 58.40 56 *e*P P 03 08 02.0 +0.9
comp=Z,11nm,1.4s,mb4.7
I13A Wildhorse Cree 58.47 58 ⇓P P 03 08 01.7 0.0
baz=58,SNR=8.3
HLID Hailey 58.53 58 ⇓P P 03 08 01.9 -0.2
baz=58
HLID Hailey 58.53 58 *e*P P 03 08 03.0 +0.9
comp=Z,26nm,1.9s,mb4.9
G15A Dillon 58.58 56 ⇑P P 03 08 02.1 -0.3
baz=58,SNR=5.7
MCMT McKenzie Canyo 58.60 56 *e*P P 03 08 02.7 +0.2
comp=Z,2.4nm,1.1s,mb4.1
A20A Cobblestone Ra 58.62 50 ⇑P P 03 08 02.7 +0.1
baz=58,SNR=6.0
E17A Martinsdale 58.64 54 ⇓P P 03 08 03.1 +0.3
baz=58,SNR=5.3
F16A Kennard Place, 58.66 55 ⇓P P 03 08 03.0 +0.1
baz=58
AB31 Akbulak array 58.70 310 *ce*P P 03 08 01.8 -1.4
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
PYUN Piuthan 58.72 278 *e*P P 03 08 03.8 +0.2
comp=Z,42nm,1.0s,mb5.4
PYUN Piuthan 58.72 278 *e*P P 03 08 03.8 +0.2
comp=Z,42nm,1.0s,mb5.4
D18A Linhart Farms, 58.73 53 ⇑P P 03 08 03.0 -0.4
baz=59
J13A Cove Ranch, Pi 58.77 58 ⇑P P 03 08 03.5 -0.2
baz=59
C19A Slack Wire Ran 58.78 52 ⇓P P 03 08 03.2 -0.5
baz=59
I14A Mackay 58.83 58 ⇑P P 03 08 04.6 +0.4
baz=59,SNR=9.7
H15A Lima 58.84 57 ⇓P P 03 08 03.7 -0.5
baz=59
AKTO Aktyubinsk 58.89 312 LR LR 03 36 29.0
comp=Z,507nm,18.4s,MS4.7,baz=220,slow=39
G16A Moss Hill, Enn 58.91 56 ⇓P P 03 08 04.9 +0.2
baz=59,SNR=10.0
A21A Bergtoll Ranch 59.06 50 ⇓P P 03 08 05.2 -0.4
baz=59
E18A Harlowton 59.07 53 ⇓P P 03 08 05.5 -0.3
baz=59
F17A Fitzpatrick Pl 59.10 54 ⇑P P 03 08 05.8 -0.2
baz=59
J14A Carey 59.18 58 ⇑P P 03 08 07.3 +0.7
baz=59,SNR=11
D19A Cripps Ranch, 59.23 52 ⇑P P 03 08 07.3 +0.4
baz=59
C20A Veseth Ranch, 59.33 51 ⇑P P 03 08 07.9 +0.3
baz=59,SNR=7.2
QLMT Earthquake Lak 59.37 56 *e*P P 03 08 08.4 +0.5
G17A Pierce Place, 59.43 55 ⇑P P 03 08 08.1 -0.2
baz=59
NVAR Mina Array Bea 59.55 65 P P 03 08 08.3 -0.9
comp=Z,2.6nm,0.9s,mb4.3,baz=290,slow=7.5,SNR=14
NVAR Mina Array Bea 59.55 65 P P 03 08 08.3 -0.9
H16A Russell Place, 59.55 56 ⇑P P 03 08 09.7 +0.6
baz=59,SNR=9.7
A22A Carney Farms, 59.56 49 ⇑P P 03 08 09.2 0.0
baz=59,SNR=5.7
F18A Big Timber 59.60 54 ⇓P P 03 08 09.2 -0.3
baz=60
D20A Manuel Ranch, 59.67 52 ⇑P P 03 08 10.4 +0.5
baz=60,SNR=9.0
C21A Desert Coulee 59.73 51 ⇓P P 03 08 09.9 -0.4
baz=60
E19A Rath Farm, Rou 59.74 53 ⇑P P 03 08 10.5 +0.1
baz=60,SNR=5.0
K14A Jones Ranch, D 59.88 59 ⇑P P 03 08 11.6 +0.2
baz=60,SNR=6.1
I16A Newdale 59.96 57 ⇑P P 03 08 12.1 +0.1
baz=60
B22A Reddig Ranch S 59.98 50 ⇓P P 03 08 11.8 -0.2
baz=60
F19A Roth Farm, Mol 60.05 54 ⇓P P 03 08 12.2 -0.3
baz=60
E20A Meyer Farm, Mu 60.05 53 ⇑P P 03 08 12.6 0.0
baz=60
A23A Redstone 60.10 49 ⇑P P 03 08 12.5 -0.3
baz=60
K15A Arbon 60.15 58 ⇑P P 03 08 13.1 -0.2
baz=60
L14A Malta 60.17 59 ⇑P P 03 08 13.9 +0.4
baz=60
D21A La Casta Ranch 60.28 51 ⇓P P 03 08 14.5 +0.5
baz=60,SNR=8.5
J16A Bone 60.28 57 ⇓P P 03 08 14.4 +0.3
baz=60
JOF Joensuu 60.35 334 *e*P P 03 08 11.4 -2.9
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
JOF Joensuu 60.35 334 *ep* P 03 08 11.4 -2.9
comp=Z,2.0nm,0.6s,mb4.3
RLMT Red Lodge 60.35 54 ⇑P P 03 08 15.9 +1.3
baz=60,SNR=7.9
B23A Brockton 60.37 49 ⇑P P 03 08 14.4 -0.3
baz=60
C22A Vida 60.40 50 ⇑P P 03 08 15.0 +0.1
baz=60,SNR=5.8
F20A Billings 60.50 53 ⇓P P 03 08 15.9 +0.3
baz=60
TPAW Teton Pass 60.50 57 *e*P P 03 08 18.0 +2.3
comp=Z,36nm,1.8s,mb5.2
A24A Westby 60.56 48 ⇑P P 03 08 16.0 0.0
baz=60
E21A Keefer Ranch, 60.58 52 ⇑P P 03 08 16.5 +0.4
baz=60
K16A Soda Springs 60.58 58 ⇑P P 03 08 16.6 +0.4
baz=60
LOHW Long Hollow 60.61 56 *e*P P 03 08 18.7 +2.3
comp=Z,20nm,1.6s,mb5.0
D22A Cohagen 60.64 51 ⇓P P 03 08 16.9 +0.3
baz=60,SNR=6.5
REDW Red Top Meadow 60.64 57 *e*P P 03 08 17.4 +0.8
comp=Z,51nm,2.0s,mb5.3
L15A Malad City 60.67 59 ⇓P P 03 08 17.4 +0.6
baz=60
C23A Lambert 60.71 50 ⇓P P 03 08 17.5 +0.4
baz=61,SNR=5.1
J17A Brown Place, J 60.72 57 ⇑P P 03 08 17.3 +0.1
baz=61
DGMT Dagmar 60.76 49 ⇑P P 03 08 17.7 +0.3
baz=61
DGMT Dagmar 60.76 49 *e*P P 03 08 17.3 0.0
comp=Z,243nm,2.5s,mb5.9
H19A Powell 60.80 55 ⇓P P 03 08 18.7 +1.1
baz=61
G20A Bridger 60.85 54 ⇑P P 03 08 17.4 -0.6
baz=61
LAO LASA Array 60.92 51 ⇑P P 03 08 18.1 -0.4
baz=61,SNR=7.5
LAO LASA Array 60.92 51 *e*P P 03 08 19.3 +0.8
comp=Z,29nm,1.2s,mb5.3
SCO Scoresbysund 60.93 359 *i*P P 03 08 18.9 +0.8
SCO pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
SCO Scoresbysund 60.93 359 *i*P P 03 08 18.9 +0.8
comp=Z,7.3nm,1.0s,mb4.8
I18A Diamond G Ranc 60.99 56 ⇓P P 03 08 19.2 +0.2
baz=61
M15A Larsen Ranch, 60.99 59 ⇓P P 03 08 19.0 0.0
baz=61
GRAC Grapevine Rang 61.04 66 ⇓P P 03 08 19.5 +0.1
baz=61
D23A Lindsay 61.12 50 ⇓P P 03 08 20.0 +0.2
baz=61
J18A Kendall Valley 61.20 56 ⇓P P 03 08 20.5 +0.1
baz=61
I19A Meeteetse 61.21 55 ⇑P P 03 08 20.4 0.0
baz=61
R11A Troy Canyon, C 61.22 64 ⇑P P 03 08 20.3 -0.3
baz=61,SNR=5.5
E22A Miles City 61.23 51 ⇓P P 03 08 20.8 +0.2
baz=61
N15A Stansbury Isla 61.33 60 ⇑P P 03 08 21.4 +0.1
baz=61
HWUT Hardware Ranch 61.40 59 *e*P P 03 08 22.1 +0.3
comp=Z,40nm,2.3s,mb5.1
L17A Cokeville 61.46 58 ⇓P P 03 08 21.6 -0.6
baz=61
F22A Rosebud 61.51 52 ⇓P P 03 08 22.2 -0.2
baz=61
K18A Toltan Ranch, 61.57 57 ⇑P P 03 08 23.0 +0.1
baz=61
MPMC Manual Prospec 61.59 67 ⇓P P 03 08 23.4 +0.2
baz=62
DUG Dugway 61.62 61 ⇓P P 03 08 23.5 +0.2
baz=62
DUG Dugway 61.62 61 *e*P P 03 08 23.3 0.0
comp=Z,44nm,2.3s,mb5.2
DUG Dugway 61.62 61 *e*P P 03 08 23.3 0.0
DUG pmax pmax
comp=Z,44nm,2.3s,mb5.2
FURC Furnace Creek, 61.70 66 ⇓P P 03 08 23.7 -0.2
baz=62
PD01 Pinedale Array 61.73 57 *e*P P 03 08 23.4 -0.6
PD02 Pinedale Array 61.73 56 *e*P P 03 08 23.4 -0.7
I20A Worland 61.74 55 ⇓P P 03 08 23.5 -0.5
baz=62
BW06 Boulder Array 61.75 56 ⇓P P 03 08 24.1 0.0
baz=62
BW06 Boulder Array 61.75 56 *e*P P 03 08 24.9 +0.8
comp=Z,40nm,2.1s,mb5.2
PDAR Pinedale Array 61.75 56 P P 03 08 24.0 -0.1
comp=Z,2.5nm,0.9s,mb4.3,baz=266,slow=1.8,SNR=16
PDAR Pinedale Array 61.75 56 P P 03 08 24.0 -0.1
G22A Birney 61.87 53 ⇓P P 03 08 24.4 -0.5
baz=62
H21A Big Horn, Sher 61.87 54 ⇓P P 03 08 24.4 -0.5
baz=62
M17A Scullys Gap (B 61.99 58 ⇓P P 03 08 25.8 +0.1
baz=62
F23A Volborg 61.99 52 ⇑P P 03 08 25.6 -0.1
baz=62,SNR=6.9
L18A Fontenelle, Gr 62.04 57 ⇑P P 03 08 26.4 +0.3
baz=62
K19A Absolon Red Bu 62.10 56 ⇓P P 03 08 26.5 0.0
baz=62
JLU Jordanelle 62.13 59 *e*P P 03 08 26.8 +0.1
comp=Z,48nm,2.5s,mb5.2
J20A Shoshoni 62.16 55 ⇑P P 03 08 26.8 0.0
baz=62
N17A Moffit Pass 62.25 59 ⇑P P 03 08 27.8 +0.3
baz=62
I21A Big Trails, Te 62.28 54 ⇑P P 03 08 27.6 -0.1
baz=62,SNR=5.8
G23A Biddle 62.35 52 ⇑P P 03 08 27.9 -0.2
baz=62
O16A Springville 62.36 60 ⇓P P 03 08 28.2 0.0
baz=62
KAF Kangasniemi 62.38 336 *e*P P 03 08 26.2 -1.8
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
KAF Kangasniemi 62.38 336 *ep* P 03 08 26.2 -1.8
comp=Z,1.5nm,0.5s,mb4.4
F24A Ekalaka 62.40 51 ⇓P P 03 08 28.4 0.0
baz=62
I22A 9 Mile Ranch, 62.66 54 ⇓P P 03 08 30.6 +0.4
baz=62
G24A Alzada 62.77 52 ⇑P P 03 08 30.8 -0.1
baz=63
N18A Larsen Ranch, 62.88 58 ⇑P P 03 08 31.9 +0.2
baz=63
J22A Midwest 62.98 54 ⇑P P 03 08 32.6 +0.2
baz=63
FINES FINESS Array B 63.00 336 P P 03 08 31.1 -1.0
comp=Z,2.6nm,0.7s,mb4.5,baz=31,slow=7.4,SNR=17
FINES LR LR 03 39 21.5
comp=Z,896nm,18.3s,MS5.0,baz=194,slow=39
FINES FINESS Array B 63.00 336 P P 03 08 31.1 -1.0
FINES FINESS Array B 63.00 336 P P 03 08 31.2 -0.9
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES MLR MLR
comp=Z,896nm,18.3s
CCUT Cedar City 63.06 63 *e*P P 03 08 33.3 +0.3
comp=Z,52nm,2.8s,mb5.2
H24A Dirks Ranch, A 63.09 52 ⇑P P 03 08 32.8 -0.2
baz=63
K21A Alcova 63.10 55 ⇑P P 03 08 32.4 -0.8
baz=63,SNR=6.6
HEC Hector,Ludlow 63.11 67 ⇑P P 03 08 32.9 -0.4
baz=63
MDND Maddock 63.44 47 ⇓P P 03 08 35.3 0.0
baz=63
ULM Lac du Bonnet 63.48 43 P P 03 08 34.5 -1.1
comp=Z,3.9nm,0.8s,mb4.6,baz=322,slow=8.3,SNR=7.2
ULM LR LR 03 38 29.2
comp=Z,426nm,18.6s,MS4.7,baz=305,slow=38
ULM Lac du Bonnet 63.48 43 P P 03 08 34.5 -1.1
ULM Lac du Bonnet 63.48 43 P P 03 08 34.5 -1.0
ULM pmax pmax
comp=Z,4.0nm,0.8s
ULM MLR MLR
comp=Z,426nm,18.6s
GMRC Granite Mounta 63.55 67 ⇓P P 03 08 36.0 -0.3
baz=63
O19A Miners Draw (B 63.65 58 ⇑P P 03 08 36.1 -0.7
baz=64
COEN Coen 63.65 194 *e*P P 03 08 36.0 -0.9
comp=Z,40nm,0.9s,mb5.4
SRU San Rafael 63.66 60 *e*P P 03 08 36.9 0.0
comp=Z,8.3nm,0.9s,mb4.8
SRU San Rafael 63.66 60 *e*P P 03 08 36.9 0.0
SRU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
I24A Kuemmerle Ranc 63.66 53 ⇓P P 03 08 36.4 -0.5
baz=64
LDFC Landfair 63.68 66 *e*P P 03 08 36.4 -0.7
comp=Z,28nm,1.5s,mb5.1
N20A Spence Gulch, 63.76 57 ⇓P P 03 08 37.3 -0.2
baz=64
RSSD Black Hills 63.79 52 *e*P P 03 08 37.8 +0.1
comp=Z,15nm,1.2s,mb4.9
RSSD Black Hills 63.79 52 *e*P P 03 08 37.8 +0.1
RSSD pmax pmax
comp=Z,15nm,1.2s,mb4.9
R17A Hanksville Air 64.02 61 ⇑P P 03 08 38.9 -0.3
baz=64
P19A Cripple Cowboy 64.18 59 ⇑P P 03 08 40.0 -0.3
baz=64
L23A Garrett 64.29 55 ⇑P P 03 08 41.0 0.0
baz=64
Q19A Hogan Spring (64.48 59 ⇑P P 03 08 41.7 -0.6
baz=64,SNR=6.0
S17A Black Ridge (B 64.50 61 ⇑P P 03 08 41.5 -0.9
baz=64,SNR=9.0
R18A Canyonlands Na 64.51 60 ⇑P P 03 08 41.9 -0.6
baz=64,SNR=5.0
OBN Obninsk 64.74 327 P P 03 08 44.0 +0.3
OBN *e* pP 03 08 57.3 +0.2
OBN 03 09 18.0
OBN *e*S S 03 17 17.0 -3.3
OBN pmax pmax
comp=Z,28nm,2.1s,mb4.9
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.7
AGMN Agassiz Nation 64.89 45 *e*P P 03 08 43.9 -0.9
comp=Z,6.7nm,0.9s,mb4.7
S18A Hurst Farm, Bl 64.93 61 ⇑P P 03 08 44.6 -0.6
baz=65
R19A Curley Farm, L 64.94 60 ⇑P P 03 08 44.8 -0.5
baz=65
PV04 Paradox Valley 65.07 60 *e*P P 03 08 46.5 +0.4
PV04 *e*pP pP 03 09 00.6 +1.0
K26A Motz Farm, Whi 65.23 53 ⇓P P 03 08 46.8 -0.3
baz=65
S19A Harvey Farm, M 65.38 60 ⇑P P 03 08 48.1 -0.1
baz=65,SNR=6.9
P22A Eagle 65.45 57 ⇓P P 03 08 48.1 -0.4
baz=65
M25A Palm-Egli Farm 65.65 54 ⇓P P 03 08 49.9 +0.1
baz=66
BHPL Bhopal 65.69 278 *e*PKP P 03 08 49.7 -0.6
BHPL AMb AMB 03 08 51.3
comp=Z,14nm,0.8s,mb5.0
VIS Vishakhapatnam 65.71 269 *ex* x 03 08 47.0
VIS AMb AMB 03 08 50.4
comp=Z,21nm,1.2s,mb5.0
Y14A Wickenburg 65.73 66 ⇑P P 03 08 50.4 0.0
baz=66
S20A Disappointment 65.77 60 ⇑P P 03 08 50.2 -0.5
baz=66
Z13A Yuma Proving G 65.84 67 ⇓P P 03 08 50.8 -0.4
baz=66
R21A Cimarron 65.86 59 ⇑P P 03 08 51.1 -0.1
baz=66
U18A Rough Rock, Ch 65.87 62 ⇓P P 03 08 51.1 -0.3
baz=66
V17A Tonalea, Kykot 65.89 63 ⇑P P 03 08 51.6 +0.1
baz=66,SNR=8.4
ISCO Idaho Springs 65.94 57 ⇑P P 03 08 51.9 +0.2
baz=66
ISCO Idaho Springs 65.94 57 *e*P P 03 08 51.9 +0.2
comp=Z,31nm,2.0s,mb5.0
ISCO Idaho Springs 65.94 57 *e*P P 03 08 51.9 +0.2
ISCO pmax pmax
comp=Z,31nm,2.0s,mb5.0
MVCO Mesa Verde 66.12 60 ⇓P P 03 08 52.7 -0.2
baz=66
MVCO Mesa Verde 66.12 60 *e*P P 03 08 52.8 -0.2
comp=Z,2.6nm,0.8s,mb4.3
S21A Coal Bank Pass 66.21 60 ⇓P P 03 08 54.0 +0.5
baz=66,SNR=7.7
V18A Ganado 66.33 62 ⇑P P 03 08 53.8 -0.5
baz=66
X16A Lo Mia Camp, P 66.33 64 ⇓P P 03 08 54.6 +0.3
baz=66
S22A 4UR Ranch, Cre 66.70 59 ⇓P P 03 08 56.2 -0.4
baz=67
NB2 NORSAR Subarra 66.86 342 P P 03 08 56.0 -1.3
comp=Z,1.9nm,0.7s,mb4.2,baz=25,slow=6.5
NOA NORSAR Array B 66.86 342 P P 03 08 56.5 -0.8
comp=Z,2.5nm,0.7s,mb4.4,baz=25,slow=6.5,SNR=8.5
NOA LR LR 03 45 02.6
comp=Z,478nm,18.1s,MS4.8,baz=25,slow=42
NOA NORSAR Array B 66.86 342 P P 03 08 56.5 -0.8
NOA NORSAR Array B 66.86 342 P P 03 08 56.5 -0.8
NOA pmax pmax
comp=Z,3.0nm,0.7s
P25A Willow Gulch B 66.94 56 ⇑P P 03 08 58.4 +0.3
baz=67
R23A Moffat 66.95 58 ⇓P P 03 08 58.4 +0.2
baz=67
OGNE Ogallala 67.07 54 ⇓P P 03 08 58.8 -0.2
baz=67
OGNE Ogallala 67.07 54 *e*P P 03 08 59.8 +0.9
comp=Z,41nm,1.1s,mb5.4
T22A Edith 67.17 60 ⇑P P 03 08 59.8 +0.1
baz=67
HFS Hagfors 67.17 341 LR LR 03 42 56.2
comp=Z,402nm,18.6s,MS4.7,baz=283,slow=40
SDCO Great Sand Dun 67.44 58 ⇓P P 03 09 01.9 +0.6
baz=67
SDCO Great Sand Dun 67.44 58 *e*P P 03 09 02.8 +1.4
comp=Z,38nm,2.4s,mb5.0
W20A Ramah 67.57 62 ⇑P P 03 09 02.6 +0.3
baz=68
R25A Fountain Ranch 67.84 57 ⇑P P 03 09 04.0 +0.2
baz=68
ECSD EROS Data Cent 67.84 48 *e*P P 03 09 03.1 -0.7
comp=Z,14nm,1.2s,mb4.9
X20A Quemado 67.98 62 ⇓P P 03 09 05.2 +0.4
baz=68
T24A Torres, Weston 68.17 58 ⇑P P 03 09 06.4 +0.5
baz=68
R26A Arlington 68.19 57 ⇑P P 03 09 06.5 +0.4
baz=68
118A Homack Ranch, 68.45 65 ⇑P P 03 09 08.0 +0.2
baz=68

T25A Trinidad 68.49 58 ⇊P P 03 09 08.1 +0.2
baz=68
Y20A Horse Springs, 68.50 63 ⇊P P 03 09 08.2 +0.1
baz=68
SPMN St. Paul 68.57 45 ⇊P P 03 09 07.8 -0.5
baz=68
CTA Charters Tower 69.26 190 LR LR 03 36 00.6
comp=Z,473nm,19.9s,MS4.7,baz=321,slow=33
W25A X Bar L Ranch, 69.83 59 ⇑P P 03 09 16.6 +0.3
baz=70
Y23A Lovelace Mesa, 69.84 61 ⇑P P 03 09 16.6 +0.2
baz=70
SCHQ Schefferville 70.47 25 P **P 03 09 18.9 -1.0**
comp=Z,7.3nm,0.9s,mb4.6,baz=3.2,slow=10,SNR=3.7
SCHQ LR LR 03 43 13.9
comp=Z,252nm,20.3s,MS4.5,baz=22,slow=38
SCHQ Schefferville 70.47 25 P **P 03 09 18.9 -1.0**
BHJ Bhuj 70.72 283 *e*PKP **P 03 09 22.3 +0.4**
BHJ AMb AMB 03 09 26.8
comp=Z,31nm,1.5s,mb5.0
IGLO Ghaloghah 70.73 304 *e*P **P 03 09 23.3 +1.5**
KIV Kislovodsk 70.82 316 *e*P **P 03 09 25.5 +3.4**
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,315nm,18.0s,MS4.6
AKASG Malin Array Be 70.93 328 P **P 03 09 21.1 -1.6**
comp=Z,3.2nm,0.7s,mb4.4,baz=35,slow=6.3,SNR=10.0
AKASG LR LR 03 42 46.9
comp=Z,556nm,19.4s,MS4.8,baz=35,slow=38
AKASG Malin Array Be 70.93 328 P **P 03 09 21.1 -1.6**
AKASG Malin Array Be 70.93 328 P **P 03 09 21.1 -1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG MLR MLR
comp=Z,556nm,19.4s
KIEV Kiev 70.94 328 *e*P **P 03 09 22.3 -0.4**
comp=Z,16nm,1.3s,mb4.8
KIEV Kiev 70.94 328 *e*P **P 03 09 22.3 -0.5**
KIEV pmax pmax
comp=Z,16nm,1.3s,mb4.8
WRAB Tennant Creek 71.27 202 *e*P **P 03 09 24.1 -0.8**
comp=Z,4.8nm,0.9s,mb4.4
WRAB Tennant Creek 71.27 202 *e*P **P 03 09 24.1 -0.9**
WRAB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WB2 Warramunga Arr 71.28 202 *e*P **P 03 09 24.0 -1.0**
WRA Warramunga Arr 71.28 202 P **P 03 09 23.6 -1.4**
comp=Z,4.0nm,0.7s,mb4.4,baz=19,slow=6.6,SNR=23
WRA Warramunga Arr 71.28 202 P **P 03 09 23.6 -1.4**
WRA Warramunga Arr 71.28 202 P **P 03 09 23.6 -1.4**
WRA pmax pmax
comp=Z,4.0nm,0.7s
POO Poona 71.38 277 *e*PKP **P 03 09 26.3 +0.4**
POO AMb AMB 03 09 40.5
comp=Z,35nm,1.1s,mb5.2
224A Cornudas Mount 71.48 62 ⇊P P 03 09 26.3 -0.1
baz=71
Y27A Causey 71.53 60 ⇊P P 03 09 26.3 -0.3
baz=71
ISHM Shahmirzad 71.54 303 *e*P **P 03 09 28.5 +1.9**
125A Gardner Draw, 71.57 61 ⇊P P 03 09 26.9 0.0
baz=71
MSTX Muleshoe 71.69 59 ⇑P P 03 09 27.4 -0.2
baz=72
MNTX Cornudas Mount 71.84 63 ⇊P P 03 09 28.7 +0.2
baz=72
ILAS Lasjerd 72.03 303 *e*P **P 03 09 30.3 +0.7**
KAD Karad 72.04 276 *e*PKP **P 03 09 30.8 +0.9**
KAD *ex* x 03 09 43.0
GNI Garni 72.75 312 LR LR 03 46 43.4
comp=Z,506nm,18.3s,MS4.8,baz=35,slow=40
GNI Garni 72.75 312 *e*P **P 03 09 35.8 +2.0**
comp=Z,22nm,1.1s,mb5.0
GNI Garni 72.75 312 *e*P **P 03 09 35.8 +2.0**
GNI pmax pmax
comp=Z,22nm,1.1s
IHRS Heris 72.99 309 *e*P **P 03 09 35.8 +0.5**
ISFB Sefidab 73.19 303 *e*P **P 03 09 36.9 +0.4**
IMRD Marand 73.37 310 *e*P **P 03 09 37.5 0.0**
LVV L'vov 73.45 330 *e*P **P 03 09 38.4 +0.6**
LVV MLR MLR
comp=N,300nm,18.0s,MS4.8
LVV MLR MLR
comp=E,300nm,18.0s,MS4.8
LVV MLR MLR
comp=Z,300nm,18.0s,MS4.6
BSEG Bad Segeberg 73.60 340 *e*P **P 03 09 39.6 +1.1**
comp=Z,20nm,1.0s,mb5.0
BSEG Bad Segeberg 73.60 340 *e*P **P 03 09 39.6 +1.1**
BSEG pmax pmax
comp=Z,20nm,1.0s,mb5.0
ISHB Shabestar 73.74 310 *e*P **P 03 09 40.6 +0.9**
KWP Kalwaria Pacla 74.05 331 *e*P **P 03 09 41.9 +0.6**
KWP Kalwaria Pacla 74.05 331 *e*P **P 03 09 41.6 +0.3**
comp=Z,56nm,1.0s,mb5.5
KWP Kalwaria Pacla 74.05 331 *e*P **P 03 09 41.6 +0.3**
KWP pmax pmax
comp=Z,56nm,1.0s,mb5.5
428A Kincaid Ranch, 74.12 62 ⇊P P 03 09 40.7 -1.3
baz=74
IKLH Kolahrood 74.33 303 *e*P **P 03 09 44.2 +1.0**
OJC Ojcow 74.44 333 *e*P **P 03 09 43.8 +0.2**
OJC Ojcow 74.44 333 *e*P **P 03 09 43.5 0.0**
OJC Ojcow 74.44 333 *e*P **P 03 09 43.8 +0.2**
TXAR Lajitas Array 74.57 63 P **P 03 09 44.0 -0.7**
comp=Z,0.8nm,0.5s,mb4.0,baz=298,slow=5.1,SNR=28
TXAR Lajitas Array 74.57 63 P **P 03 09 44.0 -0.7**
TXAR Lajitas Array 74.57 63 P **P 03 09 44.0 -0.7**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
STHS Stebnicka Huta 74.70 331 *e*P **P 03 09 46.5 +1.4**
STHS pmax pmax
comp=Z,12nm,0.8s,mb4.9
STHS Stebnicka Huta 74.70 331 *e*P **P 03 09 46.5 +1.4**
KOLS Kolonicke sedl 74.80 331 *e*P **P 03 09 45.9 +0.3**
KOLS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KOLS Kolonicke sedl 74.80 331 *e*P **P 03 09 45.8 +0.2**
KSP Ksiaz 74.91 335 *e*P **P 03 09 46.5 +0.2**
KSP Ksiaz 74.91 335 *e*P **P 03 09 46.3 +0.1**
KSP LM 03 46 54.0
comp=Z,2.0nm,19.0s
KSP Ksiaz 74.91 335 *e*P **P 03 09 46.3 +0.1**
KSP MLR MLR
comp=Z,2μm,19.0s,MS5.4
BUR08 Bucovina Ar. S 74.93 328 *e*P **P 03 09 46.5 +0.1**
BURAR Bucovina Array 74.95 328 ⇑P P 03 09 46.5 0.0
BURAR Bucovina Array 74.95 328 ⇑*i*P P 03 09 46.5 0.0
ASAR Alice Springs 74.96 201 P **P 03 09 46.1 -0.6**
comp=Z,1.7nm,0.8s,mb4.0,baz=15,slow=5.3,SNR=19
ASAR Alice Springs 74.96 201 P **P 03 09 46.1 -0.6**
ASAR Alice Springs 74.96 201 P **P 03 09 46.2 -0.5**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
NRDL Niedersach Rie 74.98 339 *e*P **P 03 09 47.3 +0.7**
comp=Z,13nm,1.0s,mb4.8
UZH Uzhgorod 75.05 330 *e*P **P 03 09 47.8 +0.7**
UZH *e* pP 03 10 01.0 +0.2
UZH *eS* S 03 19 19.2 -2.1
UZH MLR MLR
comp=Z,200nm,15.0s,MS4.5
CRVS Cervenica-Dubn 75.08 331 *e*P **P 03 09 47.6 +0.3**
CRVS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CRVS Cervenica-Dubn 75.08 331 *e*P **P 03 09 47.6 +0.3**
OKC Ostrava-Krasne 75.28 333 *e*P **P 03 09 48.0 -0.4**
OKC *e* pP 03 09 57.2 -4.8
OKC MLR MLR
comp=Z,800nm,19.2s,MS5.0
OKC Ostrava-Krasne 75.28 333 *e*P **P 03 09 48.0 -0.4**
OKC *ex* x 03 09 57.2
OKC AMS AMS 03 46 40.0
comp=Z,800nm,19.2s
UPC Upice 75.29 335 *e*P **P 03 09 48.8 +0.4**
UPC Upice 75.29 335 *e*P **P 03 09 48.8 +0.4**
DPC Dobruska-Polom 75.34 335 *e*P **P 03 09 49.4 +0.7**
DPC Dobruska-Polom 75.34 335 *e*P **P 03 09 49.4 +0.7**
DPC *e* pP 03 10 01.7 -0.7
DPC MLR MLR
comp=Z,1μm,15.6s,MS5.2
DPC Dobruska-Polom 75.34 335 *e*P **P 03 09 49.4 +0.7**
DPC *e*PCP PcP 03 10 01.7 -0.1
DPC AMS AMS 03 46 50.0
comp=Z,1μm,15.6s

CLL Collm 75.36 337 *e*P **P 03 09 49.2 +0.3**
comp=Z,18nm,0.9s,mb5.0
CLL Collm 75.36 337⇑*i*P P 03 09 48.8 -0.1
CLL *i* 03 10 08.0
CLL pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLL MLR MLR
comp=Z,500nm,18.4s,MS4.8
CLL Collm 75.36 337⇑*i*P P 03 09 48.8 -0.1
comp=Z,19nm,0.9s,mb5.0
CLL *i* (sPcP) 03 10 08.0
CLL LmH 03 42 00.0
comp=N,500nm,18.6s
CLL LmH 03 42 00.0
comp=E,1μm,18.2s
CLL LmV 03 48 00.0
comp=Z,500nm,18.4s
TESR 75.38 327⇊*i*P P 03 09 48.7 -0.3
MORC Moravsky Berou 75.51 334 *e*P **P 03 09 50.4 +0.7**
comp=Z,23nm,0.8s,mb5.2
MORC Moravsky Berou 75.51 334 *e*P **P 03 09 50.4 +0.7**
MORC pmax pmax
comp=Z,23nm,0.8s,mb5.2
MORC Moravsky Berou 75.51 334⇊*i*P P 03 09 50.3 +0.6
BRG Berggiesshubel 75.52 336 *e*P **P 03 09 49.8 +0.1**
comp=Z,5.1nm,0.8s,mb4.5
BRG
comp=N,543nm,16.4s
BRG
comp=E,286nm,19.4s
BRG
comp=Z,791nm,14.7s
BRG Berggiesshubel 75.52 336 *e*P **P 03 09 50.1 +0.4**
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 75.52 336 *e*P **P 03 09 49.8 +0.1**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRG MLR MLR
comp=N,543nm,16.4s,MS5.0
BRG MLR MLR
comp=E,286nm,19.4s,MS5.0
BRG MLR MLR
comp=Z,791nm,14.7s,MS5.2
CLZ Clausthal 75.52 339 *e*P **P 03 09 51.0 +1.3**
comp=Z,26nm,1.1s,mb5.1
CLZ Clausthal 75.52 339 *e*P **P 03 09 51.0 +1.3**
CLZ pmax pmax
comp=Z,26nm,1.1s,mb5.1
PVCC Panska Ves 75.66 336 *e*P **P 03 09 50.9 +0.3**
PVCC *e* pP 03 10 04.2 -0.1
PVCC MLR MLR
comp=Z,700nm,18.5s,MS5.0
PVCC Panska Ves 75.66 336 *e*P **P 03 09 50.9 +0.3**
PVCC *e*PCP PcP 03 10 04.2 +1.0
PVCC AMS AMS 03 46 50.0
comp=Z,700nm,18.5s
IBBN Ibbenburen 75.68 341 *e*P **P 03 09 51.5 +0.8**
comp=Z,32nm,1.0s,mb5.2
TLCR 75.70 325 ⇊P **P 03 09 49.9 -1.0**
TLCR 75.70 325⇊*i*P P 03 09 49.9 -1.0
KECS Kecovo 75.76 331 *e*P **P 03 09 51.5 +0.3**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 75.76 331 *e*P **P 03 09 51.5 +0.3**
VRI Vrincioaia 75.90 326 ⇊P **P 03 09 52.4 +0.4**
VRI Vrincioaia 75.90 326⇊*i*P P 03 09 52.4 +0.4
PLOR Plostina 75.94 326 ⇑P **P 03 09 51.4 -0.9**
PLOR Plostina 75.94 326⇑*i*P P 03 09 51.4 -0.9
IPAR Pars 76.09 299 *e*P **P 03 09 53.5 +0.1**
PRU Pruhonice 76.16 336 AMS AMS 03 47 00.0
comp=Z,800nm,19.4s
VRAC Vranov 76.20 334 ⇑P **P 03 09 54.5 +0.8**
VRAC Vranov 76.20 334⇑*i*P P 03 09 54.5 +0.8
KOLL Kolacno 76.32 333 *e*P **P 03 09 54.0 -0.4**
KOLL Kolacno 76.32 333 *e*P **P 03 09 54.0 -0.4**
MOX Moxa 76.32 338 *e*P **P 03 09 55.1 +0.8**
comp=Z,14nm,1.2s,mb4.8
MOX Moxa 76.32 338 *e*P **P 03 09 55.1 +0.8**
MOX pmax pmax
comp=Z,14nm,1.2s,mb4.8
PSZ Piszkesteto 76.45 332 ⇑P **P 03 09 54.9 -0.2**
PSZ Piszkesteto 76.45 332⇑*i*P P 03 09 54.9 -0.2
NKC Novy Kostel 76.49 337 *e*P **P 03 09 55.9 +0.6**
NKC MLR MLR
comp=Z,800nm,15.2s,MS5.2
NKC Novy Kostel 76.49 337 *e*P **P 03 09 55.9 +0.6**
NKC AMS AMS 03 48 40.0
comp=Z,800nm,15.2s
MLR Muntele Rosu 76.51 327 ⇑P **P 03 09 56.1 +0.6**
MLR Muntele Rosu 76.51 327⇑*i*P P 03 09 56.1 +0.6
TREC Trest 76.53 335 *e*P **P 03 09 56.3 +0.8**
TREC MLR MLR
comp=Z,1μm,16.9s,MS5.2
TREC Trest 76.53 335 *e*P **P 03 09 56.3 +0.8**
TREC AMS AMS 03 47 30.0
comp=Z,1μm,16.9s
ISR Istrita 76.61 326 ⇑P **P 03 09 55.9 -0.1**
ISR Istrita 76.61 326⇑*i*P P 03 09 55.9 -0.1
VOIR 76.88 327 ⇑P **P 03 09 57.8 +0.2**
VOIR 76.88 327⇑*i*P P 03 09 57.8 +0.2
ROTZ Rotzenmuhle 76.98 337 *e*P **P 03 09 59.4 +1.3**
comp=Z,13nm,1.0s,mb4.8
ZST Bratislava 77.05 333 *e*P **P 03 09 59.8 +1.3**
ZST pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZST Bratislava 77.05 333 *e*P **P 03 09 59.8 +1.3**
SULR 77.09 326⇊*i*P P 03 09 57.0 -1.8
KHC Kasperske Hory 77.20 336 *e*P **P 03 10 00.3 +1.0**
KHC Kasperske Hory 77.20 336 *e*P **P 03 10 00.0 +0.7**
KHC *e* pP 03 10 11.7 -1.3
KHC MLR MLR
comp=Z,800nm,20.9s,MS5.0
KHC Kasperske Hory 77.20 336 *e*P **P 03 10 00.0 +0.7**
KHC *e*PCP PcP 03 10 11.7 +1.8
KHC AMS AMS 03 47 50.0
comp=Z,800nm,20.9s
GRF Grafenberg Arr 77.30 338 *e*P **P 03 10 01.2 +1.3**
comp=Z,24nm,1.0s,mb5.1
GRF Grafenberg Arr 77.30 338 *e*P **P 03 10 01.2 +1.3**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRFO Grafenberg 77.30 338 *e*P **P 03 10 00.8 +0.9**
comp=Z,18nm,0.9s,mb5.0
GRFO Grafenberg 77.30 338 *e*P **P 03 10 00.8 +0.9**
GRFO pmax pmax
comp=Z,18nm,0.9s,mb5.0
WET Wettzell 77.38 336 *e*P **P 03 10 01.7 +1.4**
comp=Z,19nm,1.2s,mb4.9
WET Wettzell 77.38 336 *e*P **P 03 10 01.7 +1.4**
WET pmax pmax
comp=Z,19nm,1.2s,mb4.9
GEC2 GERESS Array S 77.43 336 *e*P **P 03 10 01.6 +1.0**
comp=Z,10.0nm,1.5s,mb4.5
GEC2 GERESS Array S 77.43 336 *e*P **P 03 10 01.6 +1.0**
GEC2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
GERES GERESS Array B 77.43 336 P **P 03 10 01.0 +0.4**
comp=Z,3.3nm,0.8s,mb4.3,baz=34,slow=5.0,SNR=27
GERES LR LR 03 48 24.0
comp=Z,968nm,18.2s,MS5.2,baz=22,slow=39
GERES GERESS Array B 77.43 336 P **P 03 10 01.0 +0.4**
GERES GERESS Array B 77.43 336 P **P 03 10 01.0 +0.4**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,968nm,18.2s
TNS Taunus Mts 77.48 340 *e*P **P 03 10 01.9 +1.1**
comp=Z,11nm,0.9s,mb4.8
TNS Taunus Mts 77.48 340 *e*P **P 03 10 01.9 +1.1**
TNS pmax pmax
comp=Z,11nm,0.9s,mb4.8
MEM Membach 77.66 341 P **P 03 10 02.8 +0.9**
comp=Z,8.2nm,1.2s,mb4.5
CONA Conrad Observa 77.66 334 *i* pP **P 03 10 02.9 +1.0**
comp=Z,12nm,0.9s,mb4.8,SNR=12
BZS Buzias 77.92 329 ⇑P **P 03 10 03.0 -0.4**
BZS Buzias 77.92 329⇑*i*P P 03 10 03.0 -0.4
BR131 Keskin Array S 78.26 318 *e*P **P 03 10 05.8 +0.4**
comp=Z,6.7nm,0.9s,mb4.6
BRTR Keskin Array B 78.26 318 P **P 03 10 06.0 +0.6**
comp=Z,7.1nm,0.9s,mb4.6,baz=64,slow=3.2,SNR=31
BRTR Keskin Array B 78.26 318 P **P 03 10 06.0 +0.6**
BRTR Keskin Array B 78.26 318 P **P 03 10 06.0 +0.6**
BRTR pmax pmax
comp=Z,7.0nm,0.9s

ARSA Arzberg 78.37 334⇑*i*pP P 03 10 06.7 +0.8
comp=Z,8.9nm,1.7s,mb4.4
GIVF Givet 78.38 342 *e*P **P 03 10 06.2 +0.3**
GIVF Givet 78.38 342 *e*P **P 03 10 06.2 +0.3**
GIVF Givet 78.38 342 *e*P **P 03 10 06.2 +0.3**
DOU Dourbes 78.44 342 P **P 03 10 06.8 +0.6**
comp=Z,24nm,3.7s
BAIF Baives 78.55 342 *e*P **P 03 10 08.6 +1.8**
BAIF Baives 78.55 342 *e*P **P 03 10 08.6 +1.8**
BAIF Baives 78.55 342 *e*P **P 03 10 08.6 +1.8**
RJOB Jochberg 78.69 336 *e*P **P 03 10 09.0 +1.4**
comp=Z,7.0nm,1.1s,mb4.5
SOKA Soboth 79.03 334⇑*i*P P 03 10 10.2 +0.7
comp=Z,14nm,1.4s,mb4.7
BFO Black Forest 79.27 339 *e*P **P 03 10 12.0 +1.2**
comp=Z,6.3nm,1.3s,mb4.4
BFO Black Forest 79.27 339 *e*P **P 03 10 12.0 +1.2**
BFO pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
MIB Mutribah 79.34 303 *e*P **P 03 10 11.0 -0.5**
MIB AMb AMB 03 10 12.6
comp=Z,34nm,0.9s,mb5.3
WTTA Wattenberg 79.43 336⇑*i*pP P 03 10 12.9 +1.3
comp=Z,16nm,1.3s,mb4.8,SNR=8.2
CDF Champ du Feu 79.44 340 *e*P **P 03 10 13.5 +1.8**
comp=Z,19nm,1.0s,mb4.7
CDF Champ du Feu 79.44 340 *e*P **P 03 10 13.5 +1.8**
comp=Z,19nm,1.0s,mb5.0
CDF Champ du Feu 79.44 340 *e*P **P 03 10 13.5 +1.8**
CDF pmax pmax
comp=Z,19nm,1.0s,mb5.0
MOTA Moosalm 79.50 337⇑*i*pP P 03 10 12.9 +0.9
comp=Z,5.8nm,0.9s,mb4.5,SNR=5.4
PAGF Fort de Pagny 79.66 341 *e*P **P 03 10 15.3 +2.4**
comp=Z,11nm,1.2s,mb4.4
NAY Al-Naaiem 79.82 303 *e*P **P 03 10 13.6 -0.5**
NAY AMb AMB 03 10 14.7
comp=Z,13nm,0.9s,mb4.8
MEZF Maizieres J'vi 79.85 341 *e*P **P 03 10 15.8 +1.9**
MEZF Maizieres J'vi 79.85 341 *e*P **P 03 10 15.8 +1.9**
TAOE Nuku Hiva Isla 79.88 116 *e*LR LR 03 34 29.4
comp=Z,461nm,23.0s
RDF Al-Radifah 79.90 303 *e*P **P 03 10 14.2 -0.3**
RDF AMb AMB 03 10 17.0
comp=Z,50nm,1.3s,mb5.3
HAU Haudompre 80.04 340 *e*P **P 03 10 16.8 +1.9**
comp=Z,12nm,1.0s,mb4.5
HAU *e*R
comp=Z,511nm,19.8s
HAU Haudompre 80.04 340 *e*P **P 03 10 16.8 +1.9**
comp=Z,12nm,1.0s,mb4.8
HAU Haudompre 80.04 340 *e*P **P 03 10 16.8 +1.9**
HAU pmax pmax
comp=Z,12nm,1.0s,mb4.8
HINF Hinteralfeld 80.10 340 *e*P **P 03 10 16.8 +1.5**
comp=Z,15nm,1.2s,mb4.5
HINF Hinteralfeld 80.10 340 *e*P **P 03 10 16.8 +1.5**
comp=Z,15nm,1.2s,mb4.8
HINF Hinteralfeld 80.10 340 *e*P **P 03 10 16.8 +1.5**
HINF pmax pmax
comp=Z,15nm,1.2s,mb4.8
SFTF Sexfontaines 80.14 341 *e*P **P 03 10 18.3 +2.8**
SFTF Sexfontaines 80.14 341 *e*P **P 03 10 18.3 +2.8**
FLN La Foliniere 80.68 345 *e*P **P 03 10 20.5 +2.1**
comp=Z,57nm,1.3s,mb5.0
FLN *e*R
comp=Z,447nm,19.0s
FLN La Foliniere 80.68 345 *e*P **P 03 10 20.5 +2.1**
comp=Z,57nm,1.3s,mb5.3
FLN La Foliniere 80.68 345 *e*P **P 03 10 20.5 +2.1**
FLN pmax pmax
comp=Z,57nm,1.3s,mb5.3
TUE Stuetta 80.76 338 *e*P **P 03 10 20.2 +1.4**
LDF La Druitiere 80.78 344 *e*P **P 03 10 20.9 +2.0**
comp=Z,3.4nm,0.6s,mb4.2
LDF La Druitiere 80.78 344 *e*P **P 03 10 20.9 +2.0**
comp=Z,3.4nm,0.6s,mb4.5
LDF La Druitiere 80.78 344 *e*P **P 03 10 20.9 +2.0**
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
GRR Gorron 81.11 345 *e*P **P 03 10 22.2 +1.6**
comp=Z,24nm,1.0s,mb4.8
GRR Gorron 81.11 345 *e*P **P 03 10 22.2 +1.6**
comp=Z,24nm,1.0s,mb5.1
GRR Gorron 81.11 345 *e*P **P 03 10 22.2 +1.6**
GRR pmax pmax
comp=Z,24nm,1.0s,mb5.1
LOR Lormes 81.28 341 *e*P **P 03 10 23.6 +2.0**
comp=Z,9.1nm,1.0s,mb4.4
LOR *e*R
comp=Z,622nm,20.2s
LOR Lormes 81.28 341 *e*P **P 03 10 23.6 +2.0**
comp=Z,9.1nm,1.0s,mb4.7
LOR Lormes 81.28 341 *e*P **P 03 10 23.6 +2.0**
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CABF La Chapelle 81.41 340 *e*P **P 03 10 24.6 +2.3**
comp=Z,81nm,1.7s,mb5.1
CABF La Chapelle 81.41 340 *e*P **P 03 10 24.6 +2.3**
comp=Z,81nm,1.7s,mb5.4
CABF La Chapelle 81.41 340 *e*P **P 03 10 24.6 +2.3**
CABF pmax pmax
comp=Z,81nm,1.7s,mb5.4
SSF Saint Saulge 81.55 342 *e*P **P 03 10 25.0 +2.0**
comp=Z,16nm,1.2s,mb4.5
SSF Saint Saulge 81.55 342 *e*P **P 03 10 25.0 +2.0**
comp=Z,16nm,1.2s,mb4.8
SSF Saint Saulge 81.55 342 *e*P **P 03 10 25.0 +2.0**
SSF pmax pmax
comp=Z,17nm,1.2s,mb4.8
PPT Papeete 81.74 129 *e*LR LR 03 35 09.2
comp=Z,121nm,25.2s
AVF Avril sur Loir 81.84 342 *e*P **P 03 10 26.9 +2.4**
comp=Z,13nm,1.1s,mb4.5
AVF Avril sur Loir 81.84 342 *e*P **P 03 10 26.9 +2.4**
comp=Z,13nm,1.1s,mb4.8
AVF Avril sur Loir 81.84 342 *e*P **P 03 10 26.9 +2.4**
AVF pmax pmax
comp=Z,13nm,1.1s,mb4.8
LPL La Plagne 82.29 339 *e*P **P 03 10 28.5 +1.5**
LPL La Plagne 82.29 339 *e*P **P 03 10 28.5 +1.5**
LPL La Plagne 82.29 339 *e*P **P 03 10 28.5 +1.5**
LPG La Plagne 82.31 339 *e*P **P 03 10 28.2 +1.2**
LPG La Plagne 82.31 339 *e*P **P 03 10 28.2 +1.2**
LPG La Plagne 82.31 339 *e*P **P 03 10 28.2 +1.2**
TCF Toulx Ste Croi 82.55 342 *e*P **P 03 10 29.8 +1.5**
comp=Z,22nm,1.2s,mb4.8
TCF Toulx Ste Croi 82.55 342 *e*P **P 03 10 29.8 +1.5**
comp=Z,22nm,1.2s,mb5.1
TCF Toulx Ste Croi 82.55 342 *e*P **P 03 10 29.8 +1.5**
TCF pmax pmax
comp=Z,22nm,1.2s,mb5.1
MFF Saint Martin d 82.70 344 *e*P **P 03 10 30.8 +1.7**
MFF Saint Martin d 82.70 344 *e*P **P 03 10 30.8 +1.7**
MFF Saint Martin d 82.70 344 *e*P **P 03 10 30.8 +1.7**
ORIF Oris-en-Rattie 83.06 339 *e*P **P 03 10 33.0 +2.1**
comp=Z,8.0nm,0.9s,mb4.5
ORIF *e*R
comp=Z,488nm,21.0s
ORIF Oris-en-Rattie 83.06 339 *e*P **P 03 10 33.0 +2.1**
comp=Z,8.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 83.06 339 *e*P **P 03 10 33.0 +2.1**
ORIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 83.39 340 *e*P **P 03 10 34.5 +1.8**
comp=Z,21nm,1.2s,mb4.8
VIVF Saint-Julien-l 83.39 340 *e*P **P 03 10 34.5 +1.8**
comp=Z,21nm,1.2s,mb5.0
VIVF Saint-Julien-l 83.39 340 *e*P **P 03 10 34.5 +1.8**
VIVF pmax pmax
comp=Z,21nm,1.2s,mb5.0
SMRF Simiane la Rot 84.02 339 *e*P **P 03 10 37.7 +1.8**
comp=Z,11nm,0.8s,mb4.7
SMRF Simiane la Rot 84.02 339 *e*P **P 03 10 37.7 +1.8**
comp=Z,11nm,0.8s,mb5.0
TBI Tubuai 86.64 132 *e*LR LR 03 37 23.3
comp=Z,205nm,24.2s
ESDC Sonseca Array 90.10 345 P **P 03 11 05.2 -0.3**
comp=Z,0.4nm,0.5s,mb4.0,baz=4.2,slow=4.8,SNR=5.5
ESDC LR LR 03 57 28.0
comp=Z,252nm,18.4s,MS4.7,baz=340,slow=40
ESDC Sonseca Array 90.10 345 P **P 03 11 05.2 -0.3**
KEST Kesra 90.77 334 P **P 03 11 10.5 +1.9**
comp=Z,0.8nm,0.8s,mb4.1,baz=304,slow=5.3,SNR=7.1
KEST LR LR 03 56 21.3
comp=Z,160nm,19.6s,MS4.5,baz=316,slow=38

KEST	Kesra	90.77 334	P	P	03 11 10.5	+1.9
SYO	Syowa Base	143.88 213	⇓ePKiKP	PKiKP	03 17 43.6	+0.9

*NEIC **08** 03:11:50.3, 37°.75S×178°.89E, h58km, ML3.7(WEL), After WEL.*

WEL 08 03:11:41.5±0.2, 37°.70S×179°.70E, h12km, ML3.9/3, Error ellipse: s-maj=1.9km s-min=1.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.11**	**277**	P*	Pb	03 12 01.7	-0.9
MXZ				S*	Sb	03 12 16.4	-0.7
MXZ				S*	Sb	03 12 16.7	-0.4
MXZ	**Matakaoa Point**	**1.11**	**277**	Pn	Pn	03 12 01.7	-1.1
PUZ	**Puketiti**	**1.20**	**251**	P*	Pb	03 12 02.9	-1.2
PUZ				S*	Sb	03 12 19.0	-0.6
PUZ				S*	Sb	03 12 19.1	-0.5
PUZ	**Puketiti**	**1.20**	**251**	Pn	Pn	03 12 02.9	-1.2
CNGZ	**Carnagh Statio**	**1.41**	**236**	PN	Pn	03 12 06.9	0.0
CNGZ	**Carnagh Statio**	**1.41**	**236**	Pn	Pn	03 12 07.0	0.0
KNZ	**Kokohu**	**2.07**	**230**	PN	Pn	03 12 15.0	-1.0
KNZ				SN	Sn	03 12 41.7	+0.1
NMHZ	**Naumai**	**2.67**	**238**	PN	Pn	03 12 23.8	-0.4
NMHZ				SN	Sn	03 12 55.6	-0.8
NMHZ	**Naumai**	**2.67**	**238**	Pn	Pn	03 12 24.0	-0.2
BKZ	**Black Stump Fm**	**2.91**	**239**	PN	Pn	03 12 26.7	-0.9
BKZ				SN	Sn	03 13 00.6	-1.9
BKZ	**Black Stump Fm**	**2.91**	**239**	Pn	Pn	03 12 26.7	-0.9
MCHZ	**McNeill Hill**	**2.93**	**233**	PN	Pn	03 12 27.4	-0.4
MCHZ	**McNeill Hill**	**2.93**	**233**	Pn	Pn	03 12 27.4	-0.4
BHHZ	**Black Hill Sta**	**3.36**	**237**	PN	Pn	03 12 32.5	-1.3
PRHZ	**Porangahau**	**3.50**	**222**	PN	Pn	03 12 33.7	-2.0
TSZ	**Takapari Road**	**3.75**	**230**	PN	Pn	03 12 36.8	-2.3
BFZ	**Birch Farm**	**4.01**	**221**	PN	Pn	03 12 39.5	-3.1
HOWZ	**Holdsworth Sta**	**4.55**	**224**	PN	Pn	03 12 47.0	-3.1

GUC 08 03:25:17.6±0.9, 23°.29S×68°.79W, h115km±7km, ML3.6, 7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.66**	**55**	*e*P	Pn	03 25 37.0	+0.9
SPCH				*i* S	Sn	03 25 51.7	+1.6
SPCH				AML	AML	03 25 52.1	
	comp=E,2μm,0.2s						
PB04	**Plate Boundary**	**1.21**	**328**	⇓*i*P	Pn	03 25 46.8	+5.4
PB04				*i* S	Sn	03 26 08.5	+9.1
PB04				AML	AML	03 26 17.9	
	comp=E,440nm,0.4s						
MACH	**Maria Elena**	**1.41**	**320**	⇓*i*P	Pn	03 25 44.9	+1.3
MACH				*i* S	Sn	03 26 05.7	+2.3
ANCH	**Antofagasta**	**1.54**	**255**	⇓*i*P	Pn	03 25 45.8	+0.7
ANCH				*i* S	Sn	03 26 06.5	+0.4
ANCH				AML	AML	03 26 08.9	
	comp=E,1μm,0.1s						
MECH	**Mejillones**	**1.54**	**277**	⇓*i*P	Pn	03 25 46.3	+1.2
MECH				*i* S	Sn	03 26 07.9	+1.8
MECH				AML	AML	03 26 12.4	
	comp=E,488nm,0.4s						
PB09	**Plate Boundary**	**1.54**	**344**	⇓*i*P	Pn	03 25 47.2	+1.9
PB09				*i* S	Sn	03 26 09.2	+3.0
PB09				AML	AML	03 26 09.8	
	comp=E,2μm,0.5s						
PB07	**Plate Boundary**	**1.86**	**327**	⇓*i*P	Pn	03 25 50.1	+1.1
PB07				*i* S	Sn	03 26 14.2	+1.2
PB07				AML	AML	03 26 17.0	
	comp=E,423nm,0.4s						
PB01	**Plate Boundary**	**2.33**	**344**	⇓*i*P	Pn	03 25 55.9	+0.9
PB01				*i* S	Sn	03 26 24.8	+1.2
PB01				AML	AML	03 26 26.9	
	comp=N,367nm,0.3s						

*NEIC **08** 03:30:19.0±4.1, 7°.24S×128°.53E, h96km±40km, Error ellipse: s-maj=56.1km s-min=19.9km az=55.0*
*IDC **08** 03:30:19.8±5.7, 7°.25S×128°.54E, h103km±55km, mb3.5/5, mb1 3.5/8, mb1mx3.4/17, mbtmp3.4/8, Error ellipse: s-maj=81.2km s-min=23.6km az=63.0*

ISC 08 03:30:24.2±3.6, 7°.6S±0°.1×128°.3E±0°.2, h152km±37km, n18, σ1°.39/22, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.71**	**193**	P	**Pn**	**03 32 55.9**	**+2.3**
	0.7nm,0.3s,baz=37,slow=10,SNR=16						
FITZ				S	**Sn**	**03 34 50.0**	**-2.1**
	0.9nm,0.3s,baz=108,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**10.71**	**193**	*e*Pn	**Pn**	**03 32 55.4**	**+1.8**
	2.2nm,0.4s						
FITZ				*e*S	**Sn**	**03 34 50.9**	**-1.2**
WRA	**Warramunga Arr**	**13.58**	**155**	P	**Pn**	**03 33 29.6**	**-1.2**
	0.2nm,0.3s,baz=342,slow=13,SNR=9.5						
WRA				S	**Sn**	**03 35 51.7**	**-10**
	0.9nm,0.3s,baz=324,slow=23,SNR=12						
WRA	**Warramunga Arr**	**13.58**	**155**	P	**Pn**	**03 33 29.6**	**-1.2**
WRA				S	**Sn**	**03 35 51.7**	**-10**
ASAR	**Alice Springs**	**16.84**	**162**	P	**Pn**	**03 34 14.3**	**+3.3**
	0.2nm,0.3s,baz=337,slow=9.6,SNR=18						
ASAR				S	**S**	**03 37 17.8**	**-0.5**
	0.3nm,0.3s,baz=341,slow=25,SNR=6.8						
ASAR	**Alice Springs**	**16.84**	**162**	P	**Pn**	**03 34 14.3**	**+3.3**
ASAR				S	**S**	**03 37 17.8**	**-0.5**
STKA	**Stephens Creek**	**27.13**	**154**	P	**P**	**03 35 55.6**	**+2.4**
	2.0nm,1.1s,mb3.6,baz=339,slow=14,SNR=2.5						
STKA	**Stephens Creek**	**27.13**	**154**	P	**P**	**03 35 55.6**	**+2.5**
SONM	**Songino Array**	**58.52**	**343**	P	**P**	**03 40 03.1**	**-1.3**
	0.6nm,0.9s,mb3.4,baz=148,slow=8.5,SNR=3.5						
SONM	**Songino Array**	**58.52**	**343**	P	**P**	**03 40 03.1**	**-1.3**
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**03 41 06.4**	**+0.6**
	0.4nm,0.4s,mb3.5,baz=116,slow=8.3,SNR=8.3						
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**03 41 06.4**	**+0.6**
ZALV	**Zalesovo Beam**	**71.40**	**335**	P	**P**	**03 41 27.4**	**-0.2**
	0.6nm,0.4s,mb3.6,baz=126,slow=7.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**71.40**	**335**	P	**P**	**03 41 27.4**	**-0.2**
KURK	**Kurchatov**	**72.17**	**329**	P	**P**	**03 41 32.1**	**-0.1**
	0.8nm,0.4s,mb3.8,baz=130,slow=4.8,SNR=10						
KURK	**Kurchatov**	**72.17**	**329**	P	**P**	**03 41 32.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**127.23**	**281**	PKP	PKPdf	03 49 12.7	+1.0
	0.7nm,1.1s,baz=114,slow=4.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**127.23**	**281**	PKP	PKPdf	03 49 12.7	+1.0

MEX 08 03:36:05.0±0.9, 18°.11N×103°.38W, h14km±5km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.18**	**9**	*i* P	Pg	03 36 08.7	-0.6
MMIG				*i* S	Sg	03 36 11.4	-0.8
R15V		**1.20**	**331**	*e*P	Pn	03 36 23.3	-4.1
R15V				*i* S	Sb	03 36 37.9	-5.0
EZ5V		**1.38**	**351**	*e*P	Pn	03 36 27.4	-2.4
EZ5V				*i* S	Sn	03 36 42.6	-5.3
ZIIG	**Zihuatanejo**	**1.89**	**105**	*e*P	Pn	03 36 32.6	-4.2
ZIIG				*i* S	Sn	03 36 54.9	-5.6
SFJM	**Santa Fe**	**2.38**	**8**	*e*P	Pn	03 36 41.9	-1.8
SFJM				*i* S	Sn	03 37 09.9	-2.9
MOIG	**Morelia**	**2.59**	**53**	*e*P	Pn	03 36 45.3	-1.2
MOIG				*i* S	Sn	03 37 13.7	-4.1

*IDC **08** 03:54:23.5±0.9, 10°.13S×161°.01E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, ML4.0/1, MS3.8/2, Ms1 3.7/2, ms1mx3.0/26, Error ellipse: s-maj=31.9km s-min=19.5km az=135.0*
*ISCJB **08** 03:54:32.4±2.5, 10°.3S±0°.1×160°.9E±0°.2, h76km±19km, mb3.8/11, Error ellipse: s-maj=31.9km s-min=15.9km az=28.7*
*NEIC **08** 03:54:32.5±2.0, 10°.21S×160°.89E, h65km±15km, mb4.1/2, Error ellipse: s-maj=23.2km s-min=11.6km az=121.0*

ISC 08 03:54:32.6±2.6, 10°.3S±0°.1×160°.9E±0°.2, h65km±20km, n27, σ0°.82/26, mb3.8/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.29**	**311**	*e*Pn	**Pn**	**03 54 53.7**	**-0.8**
HNR				*e*S	**Sn**	**03 55 12.0**	**+1.0**
CTA	**Charters Tower**	**17.19**	**234**	P	**Pn**	**03 58 27.5**	**-1.0**
	0.4nm,0.3s,baz=36,slow=16,SNR=2.5						
CTA				LR	LR	04 03 31.5	
	comp=Z,166nm,18.3s,baz=50,slow=32						
CTA	**Charters Tower**	**17.19**	**234**	P	**Pn**	**03 58 27.5**	**-1.0**
WRAB	**Tennant Creek**	**27.37**	**246**	*e*P	**P**	**04 00 12.0**	**+0.2**
	1.6nm,0.6s,mb3.7						
WB2	**Warramunga Arr**	**27.37**	**246**	*e*P	**P**	**04 00 12.1**	**+0.2**
WRA	**Warramunga Arr**	**27.38**	**246**	P	**P**	**04 00 12.2**	**+0.2**
	1.6nm,0.7s,mb3.7,baz=75,slow=9.1,SNR=15						
WRA				PcP	PcP	04 03 29.3	-0.5
	0.3nm,0.7s,baz=70,slow=2.9,SNR=5.0						
WRA	**Warramunga Arr**	**27.38**	**246**	P	**P**	**04 00 12.2**	**+0.2**
WRA				PcP	PcP	04 03 29.3	-0.5
STKA	**Stephens Creek**	**27.97**	**217**	P	**P**	**04 00 18.2**	**+1.1**
	1.4nm,0.7s,mb3.6,baz=65,slow=19,SNR=2.6						
STKA				LR	LR	04 10 15.1	
	comp=Z,256nm,18.7s,baz=24,slow=34						
STKA	**Stephens Creek**	**27.97**	**217**	P	**P**	**04 00 18.2**	**+1.1**
ASAR	**Alice Springs**	**29.01**	**239**	P	**P**	**04 00 26.3**	**-0.2**
	1.4nm,0.8s,mb3.6,baz=67,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**29.01**	**239**	P	**P**	**04 00 26.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**35.04**	**253**	P	**P**	**04 01 19.3**	**-0.1**
	2.1nm,0.5s,mb4.3,baz=77,slow=9.9,SNR=14						
FITZ	**Fitzroy Crossi**	**35.04**	**253**	*e*P	**P**	**04 01 19.1**	**-0.4**
	3.9nm,0.8s,mb4.3						
KAPI	**Kappang**	**41.13**	**274**	P	**P**	**04 02 09.5**	**-1.2**
	2.0nm,0.4s,mb4.3,baz=142,slow=12,SNR=4.1						
KAPI	**Kappang**	**41.13**	**274**	P	**P**	**04 02 09.5**	**-1.2**
SONM	**Songino Array**	**75.30**	**325**	P	**P**	**04 06 08.4**	**-0.2**
	1.0nm,0.7s,mb3.6,baz=129,slow=6.3,SNR=3.9						
SONM	**Songino Array**	**75.30**	**325**	P	**P**	**04 06 08.4**	**-0.2**
QSPA	**South Pole Qui**	**79.72**	**180**	P	**P**	**04 06 33.6**	**+0.7**
	2.3nm,0.6s,mb4.2,baz=62,slow=2.2,SNR=12						
QSPA	**South Pole Qui**	**79.72**	**180**	P	**P**	**04 06 33.6**	**+0.7**
ILAR	**Eielson Array**	**84.34**	**20**	P	**P**	**04 06 55.5**	**-1.6**
	0.3nm,0.4s,mb3.5,baz=244,slow=5.1,SNR=11						
ILAR	**Eielson Array**	**84.34**	**20**	P	**P**	**04 06 55.5**	**-1.6**
NVAR	**Mina Array Bea**	**89.17**	**51**	P	**P**	**04 07 22.0**	**+0.7**
	0.2nm,0.3s,mb3.6,baz=219,slow=5.6,SNR=2.6						
NVAR	**Mina Array Bea**	**89.17**	**51**	P	**P**	**04 07 22.0**	**+0.7**
MKAR	**Makanchi Array**	**89.75**	**318**	P	**P**	**04 07 24.9**	**+1.1**
	0.3nm,0.7s,mb3.5,baz=101,slow=6.0,SNR=2.9						
MKAR	**Makanchi Array**	**89.75**	**318**	P	**P**	**04 07 24.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**159.48**	**280**	PKPab	PKPab	04 15 02.4	-0.6
	0.2nm,0.9s,baz=88,slow=5.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**159.48**	**280**	PKPab	PKPab	04 15 02.4	-0.6

*IDC **08** 04:22:55.9±0.9, 29°.32N×67°.35E, h0km, mb3.8/14, mb1 3.9/14, mb1mx3.7/32, mbtmp3.8/14, Error ellipse: s-maj=20.1km s-min=19.0km az=166.0*
*ISCJB **08** 04:22:56.6±0.5, 29°.14N±0°.06×67°.56E±0°.05, h33km, mb3.7/14, Error ellipse: s-maj=8.2km s-min=5.8km az=21.6*
*NEIC **08** 04:22:56.0±0.6, 29°.18N×67°.56E, h10km, mb4.0/7, Error ellipse: s-maj=10.0km s-min=6.4km az=202.0*

ISC 08 04:22:57.8±2.7, 29°.16N±0°.06×67°.61E±0°.06, h25km±22km, n61, σ1°.25/68, mb3.7/14, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUE	**Quetta**	**1.18**	**331**	*e*P	**Pn**	**04 23 23.0**	**+4.3**
QUE				*e*S	**Sn**	**04 23 40.0**	**+6.0**
KBL	**Kabul**	**5.50**	**12**	*e*Pn	**Pn**	**04 24 21.3**	**+3.1**
	11nm,0.4s						
KBL				*e*S	**Sn**	**04 25 20.7**	**+0.1**
AJM	**Ajmer**	**6.77**	**112**	*e*x	x	04 24 50.0	
KHET	**Khetri**	**7.28**	**97**	*e*PKP	**Pn**	**04 24 41.6**	**-1.1**
KHET				*e*x	x	04 26 04.0	
AYAN	**Aya Nagar**	**8.37**	**92**	*e*PKP	**Pn**	**04 24 55.1**	**-2.6**
AYAN				*e*S	**Sn**	**04 26 27.4**	**-4.0**
SDNR	**Sundarnagar**	**8.42**	**72**	*e*x	**Pn**	**04 25 01.0**	**+2.8**
SDNR				*e*x	x	04 26 35.0	
NDI	**New Delhi**	**8.43**	**91**	*e*x	**Pn**	**04 25 00.4**	**+2.0**
NDI				*e*S	**Sn**	**04 26 29.6**	**-3.2**
NDI				*e*S	**Sn**	**04 26 30.0**	**-2.8**
AGRA	**Agra**	**9.32**	**99**	*e*S	**Sn**	**04 26 49.7**	**-4.9**
AGRA				AML	AML	04 27 16.5	
	comp=N,58nm,0.2s						
AGRA				AML	AML	04 27 19.0	
	comp=E,65nm,0.3s						
BHPL	**Bhopal**	**10.60**	**122**	*e*PKP	**Pn**	**04 25 27.3**	**-0.9**
BHPL				*e*S	**Sn**	**04 27 19.4**	**-6.7**
PYUN	**Piuthan**	**13.55**	**91**	*e*P	**Pn**	**04 26 09.0**	**+0.5**
	comp=E,33nm,0.6s						
PYUN	**Piuthan**	**13.55**	**91**	*e*P	**Pn**	**04 26 09.0**	**+0.5**
	comp=E,33nm,0.6s						
KKAR	**Karatay Array**	**14.11**	**9**	*e*Pn	**Pn**	**04 26 14.4**	**-1.6**
	comp=E,1.1nm,0.3s						
KKAR				*e*S	**Sn**	**04 28 35.2**	**-17**
KOLN	**Koldanda**	**14.13**	**92**	*e*P	**Pn**	**04 26 17.7**	**+1.2**
	comp=E,11nm,0.4s						
KOLN	**Koldanda**	**14.13**	**92**	*e*P	**Pn**	**04 26 17.7**	**+1.2**
	comp=E,11nm,0.4s						
DANN	**Dangsing**	**14.19**	**89**	*e*P	**Pn**	**04 26 16.5**	**-0.8**
	comp=E,32nm,0.7s						
DANN	**Dangsing**	**14.19**	**89**	*e*P	**Pn**	**04 26 16.5**	**-0.8**
	comp=E,32nm,0.7s						
EKS2	**Erkin-Say**	**14.36**	**19**	*e*Pn	**Pn**	**04 26 18.3**	**-1.2**
	comp=E,54nm,0.9s						
AAK	**Ala-Archa**	**14.55**	**21**	*e*Pn	**Pn**	**04 26 21.5**	**-0.5**
	comp=E,11nm,0.6s						
AAK				*e*S	**Sn**	**04 28 56.8**	**-5.7**
TKM2	**Tokmak 2**	**15.16**	**23**	*e*Pn	**Pn**	**04 26 30.8**	**+0.5**
	comp=E,3.7nm,0.8s						
DMN	**Daman**	**15.48**	**92**	*e*P	**Pn**	**04 26 35.5**	**+1.0**
	comp=E,9.9nm,0.4s						
DMN	**Daman**	**15.48**	**92**	*e*P	**Pn**	**04 26 35.5**	**+1.0**
	comp=E,9.9nm,0.4s						
GUN	**Gumba**	**16.11**	**90**	*e*P	**Pn**	**04 26 42.4**	**-0.2**
	comp=E,43nm,0.7s						
GUN	**Gumba**	**16.11**	**90**	*e*P	**Pn**	**04 26 42.4**	**-0.2**
	comp=E,43nm,0.7s						
JIRN	**Jiri**	**16.42**	**91**	*e*P	**Pn**	**04 26 47.4**	**+0.8**
	comp=E,3.9nm,0.4s						
JIRN	**Jiri**	**16.42**	**91**	*e*P	**Pn**	**04 26 47.4**	**+0.8**
	comp=E,3.9nm,0.4s						
UMR	**Umm Al-Rimmam**	**17.35**	**276**	*e*P	**Pn**	**04 26 54.9**	**-3.4**
RDF	**Al-Radifah**	**17.55**	**274**	*e*P	**Pn**	**04 26 57.0**	**-3.8**
RDF				AMb	AMB	04 27 00.8	
	comp=Z,25nm,1.6s						
MIB	**Mutribah**	**17.67**	**277**	*e*P	**Pn**	**04 26 58.8**	**-3.5**
MIB				AMb	AMB	04 27 03.1	
	comp=Z,12nm,0.7s						
NAY	**Al-Naaiem**	**17.79**	**275**	*e*P	**Pn**	**04 27 00.1**	**-3.7**
NAY				AMb	AMB	04 27 03.6	
	comp=Z,7.1nm,0.7s						
TAPN	**Taplejung**	**17.80**	**91**	*e*P	**Pn**	**04 27 05.7**	**+1.8**
	comp=Z,5.8nm,0.4s						
TAPN	**Taplejung**	**17.80**	**91**	*e*P	**Pn**	**04 27 05.7**	**+1.8**
	comp=Z,5.8nm,0.4s						
ABKAR	**Akbulak array**	**20.91**	**346**	*e*P	**P**	**04 27 38.3**	**0.0**
	comp=Z,1.5nm,0.6s						
MK31	**Makanchi Array**	**21.00**	**29**	*e*P	**P**	**04 27 39.2**	**-0.1**
MKAR	**Makanchi Array**	**21.00**	**29**	P	**P**	**04 27 40.1**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.2,baz=206,slow=9.1,SNR=8.1						
MKAR	**Makanchi Array**	**21.00**	**29**	P	**P**	**04 27 40.1**	**+0.7**
GNI	**Garni**	**21.71**	**306**	P	**P**	**04 27 46.9**	**-0.2**
	comp=Z,1.5nm,0.3s,mb3.9,baz=106,slow=7.4,SNR=2.5						
GNI	**Garni**	**21.71**	**306**	P	**P**	**04 27 46.9**	**-0.2**
AKTO	**Aktyubinsk**	**22.45**	**344**	P	**P**	**04 27 53.3**	**-1.5**
	comp=Z,1.7nm,0.6s,mb3.7,baz=140,slow=18,SNR=2.6						
AKTO	**Aktyubinsk**	**22.45**	**344**	P	**P**	**04 27 53.3**	**-1.5**
KURK	**Kurchatov**	**23.07**	**18**	P	**P**	**04 28 00.8**	**-0.7**
	comp=Z,2.9nm,0.5s,mb3.9,baz=211,slow=9.6,SNR=27						
KURK	**Kurchatov**	**23.07**	**18**	*e*P	**P**	**04 28 01.4**	**0.0**
	comp=Z,2.5nm,0.8s,mb3.7						
BVAR	**Borovoye Array**	**23.93**	**4**	P	**P**	**04 28 10.5**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.4,baz=182,slow=9.9,SNR=7.1						
BVAR	**Borovoye Array**	**23.93**	**4**	P	**P**	**04 28 10.5**	**+0.7**
ASF	**Jabal al Asfar**	**26.55**	**284**	P	**P**	**04 28 33.3**	**-0.4**
	comp=Z,3.6nm,0.9s,mb3.9,baz=54,slow=19,SNR=1.7						
ASF	**Jabal al Asfar**	**26.55**	**284**	P	**P**	**04 28 33.3**	**-0.4**
ZALV	**Zalesovo Beam**	**27.77**	**22**	P	**P**	**04 28 45.4**	**+1.0**
	comp=Z,0.9nm,0.5s,mb3.7,baz=222,slow=9.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**27.77**	**22**	P	**P**	**04 28 45.4**	**+1.0**
FINES	**FINESS Array B**	**42.29**	**332**	P	**P**	**04 30 48.7**	**-0.4**
	comp=Z,2.5nm,0.9s,mb3.8,baz=17,slow=2.0,SNR=3.9						
FINES	**FINESS Array B**	**42.29**	**332**	P	**P**	**04 30 48.7**	**-0.4**
GERES	**GERESS Array B**	**45.23**	**311**	P	**P**	**04 31 13.2**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.4,baz=98,slow=8.5,SNR=4.2						
GERES	**GERESS Array B**	**45.23**	**311**	P	**P**	**04 31 13.2**	**+0.3**
ARCES	**ARCESS Array B**	**47.00**	**341**	P	**P**	**04 31 27.0**	**+0.5**
	comp=Z,1.2nm,0.5s,mb4.1,baz=132,slow=9.0,SNR=21						
ARCES	**ARCESS Array B**	**47.00**	**341**	P	**P**	**04 31 27.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**62.79**	**270**	P	**P**	**04 33 21.8**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.2,baz=57,slow=5.7,SNR=24						
TORD	**Torodi Ar. Bea**	**62.79**	**270**	P	**P**	**04 33 21.8**	**+0.1**
DBIC	**Dimbokro**	**71.48**	**267**	P	**P**	**04 34 16.9**	**+0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=29,slow=7.8,SNR=6.0						
DBIC	**Dimbokro**	**71.48**	**267**	P	**P**	**04 34 16.9**	**+0.1**
WRA	**Warramunga Arr**	**80.75**	**119**	P	**P**	**04 35 14.3**	**+4.9**
	comp=Z,0.3nm,0.9s,mb3.2,baz=322,slow=4.4,SNR=3.8						
WRA	**Warramunga Arr**	**80.75**	**119**	P	**P**	**04 35 14.3**	**+4.9**
ASAR	**Alice Springs**	**82.59**	**122**	P	**P**	**04 35 21.7**	**+2.7**
	comp=Z,0.2nm,0.3s,mb3.6,baz=302,slow=6.1,SNR=3.1						
ASAR	**Alice Springs**	**82.59**	**122**	P	**P**	**04 35 21.7**	**+2.7**

IDC 08 04:25:48.9±2.8, 7°.16S×153°.80E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.3/3, Error ellipse: s-maj=204.9km s-min=30.4km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**234**	P	P	04 30 52.9	0.0
	0.6nm,0.9s,baz=59,slow=10.0,SNR=5.3						
ASAR	**Alice Springs**	**25.18**	**227**	P	P	04 31 16.2	0.0
	0.2nm,0.5s,baz=64,slow=10,SNR=2.7						
ILAR	**Eielson Array**	**83.96**	**22**	P	P	04 38 20.8	+0.2
	0.3nm,0.5s,baz=240,slow=5.4,SNR=5.3						

JMA 08 04:42:21.8, 41°.91N×144°.48E, h25km±1km, M3.6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.99**	**277**	P	Pn	04 42 39.9	-0.2
JCH	**Churui**	**1.09**	**311**	P	Pn	04 42 41.6	+0.2
JCH				*e*S	Sn	04 42 56.2	+0.5
JAK	**Akkeshi**	**1.10**	**8**	P	Pn	04 42 41.6	0.0
JOB	**Onbets**	**1.10**	**335**	P	Pn	04 42 42.1	+0.5

*DDA **08** 04:44:22.0, 41°.15N×31°.34E, h7km±2km, Md2.8*
*CSEM **08** 04:44:30.7±0.7, 40°.77N×30°.75E, h26km±4km, MD2.5, Error ellipse: s-maj=19.5km s-min=9.3km az=172.0*
*ISK **08** 04:44:31.2, 40°.71N×30°.75E, h27km, MD2.5*

ISC 08 04:44:20.8±1.9, 41°.29N±0°.08×31°.20E±0°.07, h1km±12km, n23, σ1°.11/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.52**	**206**	*i* P	**Pg**	**04 44 35.6**	**+5.0**
HENT				*i* S	**Sg**	**04 44 38.0**	**+0.7**
HENT	**Hendek**	**0.52**	**206**	*i* P	**Pg**	**04 44 35.6**	**+5.0**
HENT				*i* S	**Sg**	**04 44 38.0**	**+0.7**
MDUB	**Mudurnu**	**0.82**	**180**	*e*PG	**Pg**	**04 44 40.8**	**+4.5**
MDUB				*e*SG	**Sg**	**04 44 47.5**	**+0.5**
MDUB	**Mudurnu**	**0.82**	**180**	*e*Pg	**Pg**	**04 44 40.8**	**+4.4**
MDUB				*e*Sg	**Sg**	**04 44 47.5**	**+0.6**
SPNC	**Sapanca-Adapaz**	**0.90**	**229**	*e*PG	**Pg**	**04 44 39.6**	**+1.5**
SPNC				*e*SG	**Sg**	**04 44 45.4**	**-4.3**
SPNC	**Sapanca-Adapaz**	**0.90**	**229**	*e*Pg	**Pg**	**04 44 39.6**	**+1.5**
SPNC				*e*Sg	**Sg**	**04 44 45.4**	**-4.3**
SGKT	**Sivrigoynuk**	**0.96**	**137**	*e*P	**Sg**	**04 44 51.0**	**-0.7**
SGKT	**Sivrigoynuk**	**0.96**	**137**	*e*P	**Sg**	**04 44 51.0**	**-0.7**
GULT	**Gulveren**	**1.00**	**211**	*e*PG	**Pg**	**04 44 39.6**	**-0.3**
GULT				*e*SG	**Sg**	**04 44 45.3**	**-7.6**
GULT	**Gulveren**	**1.00**	**211**	*e*Pg	**Pg**	**04 44 39.6**	**-0.3**
GULT				*e*Sg	**Sg**	**04 44 45.3**	**-7.5**
ADVT	**Abdulvahap**	**1.40**	**233**	*e*PG	**Pg**	**04 44 47.2**	**-0.3**
ADVT	**Abdulvahap**	**1.40**	**233**	*e*Pg	**Pg**	**04 44 47.2**	**-0.3**
CAVI	**Cavuskoy**	**1.50**	**224**	*e*PG	**Pg**	**04 44 47.9**	**-1.5**
CAVI	**Cavuskoy**	**1.50**	**224**	*e*Pg	**Pg**	**04 44 47.9**	**-1.5**
BORA	**Eskisehir**	**1.52**	**202**	*e*P	**Pn**	**04 44 49.7**	**+0.6**
BORA	**Eskisehir**	**1.52**	**202**	*e*P	**Pn**	**04 44 49.7**	**+0.7**
BALT	**Daday**	**1.66**	**81**	*e*P	**Pn**	**04 44

NKC				Sg	Sg	05 01 07.0	+1.1
	comp=Z,26nm,0.3s						
OJC	Ojcow	2.68	118	*e*Pg	Pg	05 00 32.6	+0.7
OJC				*e*Sg	Sg	05 01 07.6	+1.0
OJC	Ojcow	2.68	118	*e*Pg	Pg	05 00 32.6	+0.7
OJC				*e*Sg	Sg	05 01 07.6	+1.0
KHC	Kasperske Hory	2.90	215	*e*PN	Pn	05 00 28.0	+0.1
KHC				*e*PG	Pg	05 00 33.7	-2.4
KHC				*e*SG	Sg	05 01 12.5	-1.1
	comp=Z,7.8nm,0.4s						
KHC	Kasperske Hory	2.90	215	Pn	Pn	05 00 28.0	+0.1
SMOL	Smolenice	3.13	164	*e*SG	Sg	05 01 20.1	-1.1
SMOL	Smolenice	3.13	164	*e*Sg	Sg	05 01 20.1	-1.1
BSD	Bornholm Skovb	3.66	349	*i* P	Pn	05 00 37.5	-1.0
BSD				*i* S	Sn	05 01 18.0	-4.3
BSD	Bornholm Skovb	3.66	349	*i* P	Pn	05 00 37.5	-1.0
BSD				*i* S	Sn	05 01 18.0	-4.3
	comp=Z,1.2nm,0.4s,SNR=49						
STHS	Stebnicka Huta	3.90	121	*e*SG	Sg	05 01 47.0	+1.1
STHS	Stebnicka Huta	3.90	121	*e*Sg	Sg	05 01 47.0	+1.1

IDC 08 05:09:40.5±3.5, 28°.29S×177°.69W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/14, mbtmp3.8/2, Error ellipse: s-maj=128.9km s-min=43.6km az=23.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.54	265	P	P	05 17 45.2	-1.0
	0.5nm,0.5s,baz=101,slow=6.7,SNR=9.3						
WRA	Warramunga Arr	44.33	270	P	P	05 17 53.0	+0.3
	0.8nm,0.3s,baz=109,slow=6.2,SNR=18						
FINES	FINESS Array B	143.25	341	PKP	PKPdf	05 29 17.9	+1.8
	0.7nm,0.4s,baz=63,slow=5.1,SNR=5.7						
TORD	Torodi Ar. Bea	164.92	178	PKPab	PKPab	05 30 42.9	-0.3
	0.7nm,0.6s,baz=173,slow=3.6,SNR=14						

*ISK **08** 05:24:11.9, 37°.04N×29°.15E, h18km, MD3.2*
*DDA **08** 05:24:11.7, 36°.95N×29°.19E, h6km±4km, Md2.9*
*ISCJB **08** 05:24:13.0±0.6, 37°.02N±0°.05×29°.17E±0°.05, h22km±7km, Error ellipse: s-maj=9.3km s-min=6.4km az=29.9*
*CSEM **08** 05:24:12.6±0.2, 37°.05N×29°.14E, h15km, MD3.2, Error ellipse: s-maj=7.7km s-min=4.2km az=5.0*
ISC 08 05:24:12.6±0.7, 37°.00N±0°.05×29°.14E±0°.05, h15km±6km, n36, σ0°.95/48, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	Glhisar (BURDU	0.32	62	*e*PG	Pg	05 24 18.8	-0.5
GLHS				*e*SG	Sg	05 24 24.1	+0.2
GLHS	Glhisar (BURDU	0.32	62	*e*Pg	Pg	05 24 18.8	-0.5
GLHS				*e*Sg	Sg	05 24 24.1	+0.3
GOLH	Golhisar	0.41	55⇑	*i* P	Pg	05 24 19.5	-1.3
GOLH				*i* S	Sg	05 24 26.6	+0.2
GOLH	Golhisar	0.41	55	*i* P	Pg	05 24 19.5	-1.4
GOLH				*i* S	Sg	05 24 26.5	+0.1
TURN	Turunc	0.45	254	*e*P	Pg	05 24 26.8	+5.1
TURN				*e*S	Sg	05 24 37.8	+10
TURN	Turunc	0.45	254	*e*P	Pg	05 24 26.8	+5.1
TURN				*e*S	Sg	05 24 37.8	+10
ELL	Elmali	0.66	112	*e*PG	Pg	05 24 25.4	-0.2
ELL				*e*SG	Sg	05 24 35.4	+1.0
ELL	Elmali	0.66	112	*e*Pg	Pg	05 24 25.4	-0.2
ELL				*e*Sg	Sg	05 24 35.4	+1.0
DNZL	Cakiroluk	0.69	354⇑	*i* P	Pg	05 24 25.8	-0.3
DNZL				*i* S	Sg	05 24 36.8	+1.6
DNZL	Cakiroluk	0.69	354	*i* P	Pg	05 24 25.8	-0.3
DNZL				*i* S	Sg	05 24 36.8	+1.5
YER	Yerkesik	0.70	281	*e*PG	Pg	05 24 26.1	-0.2
YER	Yerkesik	0.70	281	*e*Pg	Pg	05 24 26.1	-0.2
DENT	Denizli	0.76	353	*e*PG	Pg	05 24 26.4	-1.0
DENT	Denizli	0.76	353	*e*Pg	Pg	05 24 26.4	-0.9
KORT	Korkueli	0.96	90	*e*P	Pb	05 24 33.2	+2.1
KORT	Korkueli	0.96	90	*e*P	Pb	05 24 33.2	+2.2
MLSB	Milas	1.13	285	*e*PN	Pn	05 24 33.4	-0.5
MLSB	Milas	1.13	285	*e*Pn	Pn	05 24 33.4	-0.5
AYDN	Tasoluk	1.20	303	*e*P	Pn	05 24 36.4	+1.5
AYDN				*e*S	Sb	05 24 52.8	+2.3
AYDN	Tasoluk	1.20	303	*e*P	Pn	05 24 36.4	+1.5
AYDN				*e*S	Sb	05 24 52.8	+2.3
BCK	Bucak	1.24	68	*e*PN	Pn	05 24 34.8	-0.6
BCK	Bucak	1.24	68	*e*Pn	Pn	05 24 34.8	-0.6
DAT	Datca	1.29	258	*e*PN	Pn	05 24 35.8	-0.2
DAT	Datca	1.29	258	*e*Pn	Pn	05 24 35.8	-0.2
BODT	Bodrum	1.47	273	*e*PN	Pn	05 24 38.3	-0.3
BODT	Bodrum	1.47	273	*e*Pn	Pn	05 24 38.3	-0.2
KULA	Kula-Manisa	1.56	346	*e*PN	Pn	05 24 38.8	-0.9
KULA	Kula-Manisa	1.56	346	*e*Pn	Pn	05 24 38.8	-1.0
SHUT	Suhut-Afyon	1.91	35	*e*PN	Pn	05 24 44.2	-0.4
SHUT	Suhut-Afyon	1.91	35	*e*Pn	Pn	05 24 44.2	-0.4
IZM	Izmir	2.04	314	*e*PN	Pn	05 24 45.8	-0.6
IZM	Izmir	2.04	314	*e*Pn	Pn	05 24 45.8	-0.6
AKS	Akhisar	2.15	331	*e*PN	Pn	05 24 47.2	-0.7
AKS	Akhisar	2.15	331	*e*Pn	Pn	05 24 47.2	-0.7
BLCB	Balcova	2.17	310	*e*PN	Pn	05 24 48.0	-0.1
BLCB	Balcova	2.17	310	*e*Pn	Pn	05 24 48.0	-0.1

*TRN **08** 05:27:28.4, 19°.16N×64°.85W, h35km, MD3.4(RSPR)*
*NEIC **08** 05:27:29.8, 19°.24N×64°.81W, h40km, MD3.4(RSPR), After RSPR.*
RSPR 08 05:27:29.8, 19°.24N×64°.81W, h40km±22km, MD3.4/3, 13C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.90	189⇑	*e*P	Pn	05 27 44.8	-1.1
STVI	Saint Thomas	0.90	189	*e*Pn	Pn	05 27 44.9	-1.1
STVI				*e*Sn	Sn	05 27 56.1	-1.6
STVI	Saint Thomas	0.90	189⇑	*e*P	Pn	05 27 44.8	-1.1
STVI				*e*S	Sn	05 27 56.2	-1.5
MTP	Monte Pirata	1.34	212⇑	*e*P	Pn	05 27 51.4	-0.6
MTP	Monte Pirata	1.34	212	*e*Pn	Pn	05 27 51.2	-0.8
MTP				*e*S	Sn	05 28 08.0	-0.6
MTP				*e*Sn	Sn	05 28 08.4	-0.2
MTP	Monte Pirata	1.34	212⇑	*e*P	Pn	05 27 51.4	-0.6
MTP				*e*S	Sn	05 28 08.0	-0.6
CBYP	Canovanas	1.39	226⇑	*e*P	Pn	05 27 51.3	-1.4
CBYP	Canovanas	1.39	226⇑	*e*P	Pn	05 27 51.3	-1.4
CBYP				*e*S	Sn	05 28 08.2	-1.5
CBYP	Canovanas	1.39	226⇑	*e*P	Pn	05 27 51.3	-1.4
CBYP				*e*S	Sn	05 28 08.2	-1.5
HUMP	Col San Antoni	1.48	222⇑	*e*P	Pn	05 27 52.7	-1.1
HUMP	Col San Antoni	1.48	222⇑	*e*P	Pn	05 27 52.7	-1.1
HUMP				*e*S	Sn	05 28 10.3	-1.6
HUMP	Col San Antoni	1.48	222⇑	*e*P	Pn	05 27 52.7	-1.1
HUMP				*e*S	Sn	05 28 10.3	-1.6
CPD	Cerro la Pandu	1.59	221⇑	*e*P	Pn	05 27 54.5	-1.0
CPD	Cerro la Pandu	1.59	221⇑	*e*P	Pn	05 27 54.5	-1.0
CPD				*e*S	Sn	05 28 14.2	-0.7
CPD	Cerro la Pandu	1.59	221⇑	*e*P	Pn	05 27 54.5	-1.0
CPD				*e*S	Sn	05 28 14.2	-0.7

*DDA **08** 05:43:50.8, 36°.38N×41°.03E, h8km±5km, Md3.1*
*ISCJB **08** 05:44:14.8±0.7, 37°.09N±0°.04×40°.80E±0°.06, h10km, Error ellipse: s-maj=7.4km s-min=4.8km az=140.7*
*ISK **08** 05:44:19.6, 36°.90N×40°.45E, h25km, MD3.3*
*CSEM **08** 05:44:20.6±0.3, 36°.79N×40°.45E, h40km, MD3.3, Error ellipse: s-maj=13.2km s-min=6.7km az=35.0*
ISC 08 05:44:16.3±0.7, 37°.13N±0°.04×40°.79E±0°.06, h10km, n19, σ1°.31/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	Mardin	0.18	358	*e*P	Pg	05 44 09.8	-11
MARD				*e*S	Sg	05 44 23.7	+0.8
BEST	Besiri	0.85	27	*e*P	Pg	05 44 19.9	-13
BEST				*e*S	Sg	05 44 41.1	-2.8
DIYA	Diyarbakir	0.95	326	*e*P	Pg	05 44 22.0	-13
DIYA				*e*S	Sg	05 44 46.1	-1.0
SVRC	Sivrice-ELAZID	1.71	317	*e*PN	Pg	05 44 48.8	-0.4
SVRC				*e*SN	Sg	05 45 10.1	-1.3
SVRC	Sivrice-ELAZID	1.71	317	*e*Pn	Pg	05 44 48.8	-0.4
SVRC				*e*Sn	Sg	05 45 10.1	-1.3
BINT	Bingol	1.76	352	*e*Pn	Pg	05 44 53.8	+3.7
BNGB	Bing¶‖	1.86	357	*e*PN	Pg	05 44 53.8	+1.8
MALT	Malatya	2.21	303	*e*PN	Pn	05 44 55.0	+1.9
MALT				*e*SN	Sn	05 45 20.4	0.0
MALT	Malatya	2.21	303	*e*Pn	Pn	05 44 55.0	+1.9
MALT				*e*Sn	Sn	05 45 20.4	-0.1
MYA	Malataya	2.22	303	*e*PN	Pn	05 44 55.5	+2.3
MYA	Malataya	2.22	303	*e*Pn	Pn	05 44 55.5	+2.3
CUKT	Cukurca	2.26	86	*e*PN	Pg	05 45 00.6	+1.0
CUKT	Cukurca	2.26	86	*e*Pn	Pg	05 45 00.6	+1.0
GAZ	Gaziantep	2.86	272	*e*PN	Pn	05 45 00.9	-1.0
GAZ	Gaziantep	2.86	272	*e*Pn	Pn	05 45 00.9	-1.0
KMRS	Kahramanmaras	3.12	278	*e*PN	Pn	05 45 05.4	-0.2
KMRS	Kahramanmaras	3.12	278	*e*Pn	Pn	05 45 05.4	-0.2
BHD	Baghdad	4.85	142	*ex*	Pn	05 45 28.8	-0.5
BHD				*ex*	Sn	05 46 24.5	-1.0
BHD	Baghdad	4.85	142	*e*Pn	Pn	05 45 28.8	-0.5
BHD				*e*Sn	Sn	05 46 24.5	-1.0

*NEIC **08** 05:46:21.0, 44°.67S×168°.11E, h87km, ML3.6(WEL), After WEL.*
WEL 08 05:46:20.9±0.2, 44°.66S×168°.12E, h85km±1km, ML3.6/16, Error ellipse: s-maj=1.7km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.14	266	PN	Pn	05 46 32.7	-0.4
MSZ				SN	Sn	05 46 41.6	-0.5
MSZ	Milford Sound	0.14	266	Pn	Pn	05 46 32.7	-0.4
MSZ				Sn	Sn	05 46 41.9	-0.2
WKZ	Wanaka	0.66	105	PN	Pn	05 46 37.0	+0.4
WKZ				SN	Sn	05 46 48.2	-0.1
WKZ	Wanaka	0.66	105	Pn	Pn	05 46 37.0	+0.4
MLZ	Mavora Lakes	0.69	177	PN	Pn	05 46 36.8	-0.1
MLZ				SN	Sn	05 46 48.9	+0.2
MLZ	Mavora Lakes	0.69	177	Pn	Pn	05 46 36.8	-0.1
JCZ	Jackson Bay	0.74	38	PN	Pn	05 46 37.9	+0.5
JCZ				SN	Sn	05 46 50.3	+0.5
JCZ	Jackson Bay	0.74	38	Pn	Pn	05 46 37.9	+0.5
JCZ				Sn	Sn	05 46 50.7	+0.9
JCZ				Sn	Sn	05 46 50.8	+1.0
EAZ	Earnscleugh	1.02	124	PN	Pn	05 46 40.7	+0.2
EAZ				SN	Sn	05 46 54.1	-1.1
EAZ	Earnscleugh	1.02	124	Pn	Pn	05 46 40.7	+0.2
EAZ				Sn	Sn	05 46 54.4	-0.8
DCZ	Deep Cove	1.06	220	PN	Pn	05 46 40.8	-0.2
DCZ	Deep Cove	1.06	220	Pn	Pn	05 46 40.8	-0.2
WHZ	Wether Hill Ro	1.24	186	PN	Pn	05 46 43.0	-0.2
WHZ	Wether Hill Ro	1.24	186	Pn	Pn	05 46 43.0	-0.2
LBZ	Lake Benmore	1.50	80	PN	Pn	05 46 46.2	-0.2
LBZ	Lake Benmore	1.50	80	Pn	Pn	05 46 46.2	-0.2
FOZ	Fox Glacier	1.57	46	PN	Pn	05 46 48.0	+0.6
FOZ	Fox Glacier	1.57	46	Pn	Pn	05 46 48.0	+0.6
TUZ	Tuapeka	1.68	141	PN	Pn	05 46 48.8	+0.1
TUZ	Tuapeka	1.68	141	Pn	Pn	05 46 48.8	+0.1
PYZ	Puysegur Point	1.81	213	PN	Pn	05 46 51.1	+0.6
PYZ	Puysegur Point	1.81	213	Pn	Pn	05 46 51.1	+0.6
ODZ	Otahua Downs	1.84	103	PN	Pn	05 46 50.5	-0.2
ODZ	Otahua Downs	1.84	103	Pn	Pn	05 46 50.5	-0.2
SYZ	Scrubby Hill	2.01	159	PN	Pn	05 46 53.0	0.0
SYZ	Scrubby Hill	2.01	159	Pn	Pn	05 46 53.0	0.0
APZ	The Paps	2.17	182	PN	Pn	05 46 54.8	-0.4
APZ	The Paps	2.17	182	Pn	Pn	05 46 54.8	-0.4
RPZ	Rata Peaks	2.31	67	PN	Pn	05 46 56.1	-1.0
RPZ	Rata Peaks	2.31	67	Pn	Pn	05 46 56.1	-1.0
WVZ	Waitahua Valley	2.47	51	PN	Pn	05 46 57.9	-1.3
LTZ	Lake Taylor	3.55	59	PN	Pn	05 47 11.7	-2.0
DSZ	Denniston Nort	3.97	44	PN	Pn	05 47 18.2	-1.2
QRZ	Quartz Range	5.02	42	PN	Pn	05 47 34.1	+0.3
NNZ	Nelson	5.17	50	PN	Pn	05 47 36.9	+1.1

*CSEM **08** 05:49:49.8±0.1, 44°.57N×6°.91E, h12km, ML2.9/32, Error ellipse: s-maj=2.0km s-min=1.3km az=51.0*
*ROM **08** 05:49:50.2±0.2, 44°.56N×6°.92E, h11km±1km, Md2.6/9, Ml2.4/9, Error ellipse: s-maj=2.9km s-min=1.4km az=58.0*
*GEN **08** 05:49:50.3, 44°.54N×6°.88E, h10km, ML2.4*
*ISCJB **08** 05:49:50.2±0.2, 44°.57N±0°.01×6°.91E±0°.02, h23km±3km, Error ellipse: s-maj=3.0km s-min=2.0km az=152.4*
*NEIC **08** 05:49:50.4, 44°.57N×6°.94E, h2km, ML2.8(LDG), After LDG.*
*STR **08** 05:49:50.5±0.2, 44°.55N×6°.91E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **08** 05:49:50.4±0.0, 44°.57N×6°.94E, h2km, Md2.5/3, Ml2.8/24, Error ellipse: s-maj=1.1km s-min=0.6km az=65.0*
ISC 08 05:49:49.8±0.2, 44°.57N±0°.01×6°.90E±0°.02, h16km±1km, n141, σ0°.91/278, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.11	215	Pg	Pg	05 49 52.8	-0.5
SURF				Sg	Sg	05 49 54.4	-1.2
SURF	Saint Ours	0.11	215	Pg	Pg	05 49 52.8	-0.5
SURF				Sg	Sg	05 49 54.4	-1.2
PZZ	Stroppo	0.17	114	Pg	Pg	05 49 54.2	+0.2
PZZ				Sg	Sg	05 49 56.9	+0.1
	3μm,0.2s						
MBDF	Montbardon	0.18	328	*e*Pg	Pg	05 49 54.5	+0.3
MBDF				*e*Sg	Sg	05 49 57.2	0.0
	2μm,0.3s						
MBDF	Montbardon	0.18	328	*e*Pg	Pg	05 49 54.5	+0.3
MBDF				*e*Sg	Sg	05 49 57.2	0.0
MBDF	Montbardon	0.18	328	*e*Pg	Pg	05 49 54.5	+0.3
MBDF				*e*Sg	Sg	05 49 57.2	0.0
	817nm,0.3s						
DOI	San Damiano	0.26	106	Pg	Pg	05 49 55.7	+0.3
DOI				Sg	Sg	05 49 59.5	+0.3
	684nm,0.5s						
DOI	San Damiano	0.26	106	Pg	Pg	05 49 55.7	+0.3
DOI				Sg	Sg	05 49 59.5	+0.3
	684nm,0.5s						
STV	Sant Anna di V	0.45	137	Pg	Pg	05 49 58.9	+0.1
STV				Sg	Sg	05 50 04.9	+0.1
	492nm,0.6s						
STV	Sant Anna di V	0.45	137	P	Pg	05 49 58.8	0.0
STV				Sg	Sg	05 50 04.9	+0.1
	492nm,0.6s						
BNI	Bardonecchia	0.50	342	*e*Pg	Pg	05 50 00.5	+0.6
BNI				*e*Sg	Sg	05 50 07.8	+1.1
BNI	Bardonecchia	0.50	342	Pg	Pg	05 50 00.8	+1.0
BNI				Sg	Sg	05 50 07.7	+1.1
	86nm,0.4s						
BNI	Bardonecchia	0.50	342	*e*Pg	Pg	05 50 00.5	+0.7
BNI				Sg	Sg	05 50 07.7	+1.1
	86nm,0.4s						
TOUF	Mont Tournerai	0.61	156	Pg	Pg	05 50 02.0	+0.2
TOUF				Sg	Sg	05 50 10.0	0.0
TOUF	Mont Tournerai	0.61	156	Pg	Pg	05 50 02.0	+0.2
TOUF				Sg	Sg	05 50 10.0	0.0
RSP	Reno Superiore	0.63	24	Pg	Pg	05 50 03.2	+1.0
RSP				Sg	Sg	05 50 12.0	+1.4
	158nm,0.1s						
RSP	Reno Superiore	0.63	24	P	Pg	05 50 03.0	+0.8
RSP				S	Sg	05 50 11.5	+0.9
RSP				Sg	Sg	05 50 12.0	+1.4
	158nm,0.1s						
AUTN	L'Aution	0.69	147	Pg	Pg	05 50 03.4	+0.1
AUTN				Sg	Sg	05 50 12.5	+0.1
AUTN	L'Aution	0.69	147	Pg	Pg	05 50 03.4	+0.1
AUTN				Sg	Sg	05 50 12.5	+0.1
MVIF	Mont Vial	0.70	165	Pg	Pg	05 50 04.0	+0.5
MVIF				Sg	Sg	05 50 12.9	+0.1
MVIF	Mont Vial	0.70	165	Pg	Pg	05 50 04.0	+0.5
MVIF				Sg	Sg	05 50 12.9	+0.1
LUCF	Luceram	0.75	155	Pg	Pg	05 50 04.5	0.0
LUCF				Sg	Sg	05 50 14.1	-0.3
LUCF	Luceram	0.75	155	Pg	Pg	05 50 04.5	0.0
LUCF				Sg	Sg	05 50 14.1	-0.3
SAOF	Saorge	0.75	141	Pg	Pg	05 50 04.5	0.0
SAOF				Sg	Sg	05 50 14.1	-0.3
SAOF	Saorge	0.75	141	Pg	Pg	05 50 04.5	0.0
SAOF				Sg	Sg	05 50 14.1	-0.3
MONE	Monesi	0.79	129	P	Pb	05 50 04.8	-0.3
MONE				S	Sg	05 50 14.6	-0.9
ORIF	Oris-en-Rattie	0.81	296	*e*Pg	Pg	05 50 05.3	-0.2
ORIF				*e*Sg	Sg	05 50 15.5	-0.6
	128nm,0.3s						
ORIF	Oris-en-Rattie	0.81	296	*e*Pg	Pg	05 50 05.3	-0.2
ORIF				*e*Sg	Sg	05 50 15.5	-0.6
ORIF	Oris-en-Rattie	0.81	296	*e*Pg	Pg	05 50 05.3	-0.2
ORIF				*e*Sg	Sg	05 50 15.5	-0.6
	64nm,0.3s						
SBF	Sospel	0.81	152	*e*Pg	Pg	05 50 05.4	-0.1
SBF				*e*Sg	Sg	05 50 15.9	-0.2
	200nm,0.5s						
SBF	Sospel	0.81	152	*e*Pg	Pg	05 50 05.4	-0.1
SBF				*e*Sg	Sg	05 50 15.9	-0.2
SBF	Sospel	0.81	152	*e*Pg	Pg	05 50 05.4	-0.1
SBF				*e*Sg	Sg	05 50 15.9	-0.2
	100nm,0.5s						
CALN	Calern	0.82	181	Pg	Pg	05 50 06.1	+0.3
CALN	Calern	0.82	181	Pg	Pg	05 50 06.1	+0.3
GDM	Grand'Maison	0.84	319	Pg	Pg	05 50 06.4	+0.2
GDM				Sg	Sg	05 50 17.3	0.0
GDM	Grand'Maison	0.84	319	Pg	Pg	05 50 06.4	+0.2
GDM				Sg	Sg	05 50 17.3	0.0
RONM	Roccetta Nervi	0.86	144	P	Pb	05 50 05.9	-0.4
RONM				S	Sb	05 50 16.5	-1.1
REVF	Revere	0.90	158	Pg	Pg	05 50 07.2	0.0
REVF	Revere	0.90	158	Pg	Pg	05 50 07.2	0.0
LSD	Lago del Serru	0.90	10	P	Pb	05 50 07.8	+0.7
LSD				S	Sb	05 50 19.9	+1.1
STOF	St-Etienne Org	0.92	231	Pg	Pg	05 50 08.6	+1.0
STOF	St-Etienne Org	0.92	231	Pg	Pg	05 50 08.6	+1.0
NEGI	Seborga	0.93	141	P	Pb	05 50 07.4	-0.1
NEGI				S	Sb	05 50 18.7	-0.8
LPG	La Plagne	0.93	353	*e*Pg	Pg	05 50 08.6	+0.8
LPG				*e*Sg	Sg	05 50 20.2	+0.1
	44nm,0.2s						
LPG	La Plagne	0.93	353	*e*Pg	Pg	05 50 08.6	+0.8
LPG				*e*Sg	Sg	05 50 20.2	+0.1
LPG	La Plagne	0.93	353	*e*Pg	Pg	05 50 08.6	+0.8
LPG				*e*Sg	Sg	05 50 20.2	+0.1
	22nm,0.2s						
LPL	La Plagne	0.95	353	*e*Pg	Pg	05 50 08.6	+0.4
LPL				*e*Sg	Sg	05 50 20.7	0.0
	52nm,0.3s						
LPL	La Plagne	0.95	353	*e*Pg	Pg	05 50 08.6	+0.4
LPL				*e*Sg	Sg	05 50 20.7	0.0
LPL	La Plagne	0.95	353	*e*Pg	Pg	05 50 08.6	+0.4
LPL				*e*Sg	Sg	05 50 20.7	0.0
	26nm,0.3s						
RORO	Rocca Rossa	0.95	119	Pg	Pg	05 50 07.8	-0.5
RORO				Sg	Sg	05 50 20.3	-0.5
	89nm,0.3s						
RORO	Rocca Rossa	0.95	119	P	Pb	05 50 07.7	-0.3
RORO				S	Sb	05 50 19.3	-1.0
RORO				Sg	Sg	05 50 20.3	-0.5
	89nm,0.3s						
IMI	Imperia	0.97	133	Pg	Pg	05 50 08.6	0.0
IMI	Imperia	0.97	133	P	Pb	05 50 08.3	0.0
IMI	Imperia	0.97	133	Pg	Pg	05 50 08.6	0.0
IMI				S	Sb	05 50 19.9	-1.0
FRF	La Foret Royal	1.03	190	*e*Pg	Pg	05 50 09.1	-0.6
FRF				*e*Sg	Sg	05 50 23.5	+0.3
	65nm,0.4s						
FRF	La Foret Royal	1.03	190	*e*Pg	Pg	05 50 09.1	-0.6
FRF				*e*Sg	Sg	05 50 23.5	+0.3
FRF	La Foret Royal	1.03	190	*e*Pg	Pg	05 50 09.1	-0.6
FRF				*e*Sg	Sg	05 50 23.5	+0.3
	33nm,0.4s						
GRN	Grenoble	1.06	310	Pg	Pg	05 50 11.0	+0.7
GRN	Grenoble	1.06	310	Pg	Pg	05 50 11.0	+0.7
QLNO	Quiliano	1.06	103	Pg	Pg	05 50 10.1	-0.3
QLNO				Sg	Sg	05 50 24.1	-0.2
	37nm,0.3s						
QLNO	Quiliano	1.06	103	Pg	Pg	05 50 10.1	-0.3
QLNO				Sg	Sg	05 50 24.1	-0.2
	37nm,0.3s						
ROTM	Rocchetta Tana	1.07	75	P	Pb	05 50 10.7	+0.8
ROTM				S	Sb	05 50 24.9	+1.2
TRAV	Traversella	1.11	32	P	Pb	05 50 10.7	0.0
TRAV				S	Sb	05 50 24.8	-0.1
SMRF	Simiane la Rot	1.13	238	*e*Pg	Pg	05 50 11.9	+0.4
SMRF				*e*Sg	Sg	05 50 27.1	+0.9
	58nm,0.3s						
SMRF	Simiane la Rot	1.13	238	*e*Pg	Pg	05 50 11.9	+0.4
SMRF				*e*Sg	Sg	05 50 27.1	+0.9
SMRF	Simiane la Rot	1.13	238	*e*Pg	Pg	05 50 11.9	+0.4
SMRF				*e*Sg	Sg	05 50 27.1	+0.9
	29nm,0.3s						
PCP	Piancastagn	1.17	91	Pg	Pn	05 50 12.0	+0.4
PCP				Sg	Sg	05 50 27.9	+0.1
	44nm,0.3s						
PCP	Piancastagn	1.17	91	P	Pn	05 50 12.0	+0.4
PCP				S	Sb	05 50 26.5	-0.2
PCP				Sg	Sg	05 50 27.9	+0.1
	44nm,0.3s						
LMR	La Mourre	1.27	193	*e*Pg	Pg	05 50 13.7	-0.6
LMR				*e*Sg	Sg	05 50 30.2	-0.7
	24nm,0.2s						
LMR	La Mourre	1.27	193	*e*Pg	Pg	05 50 13.7	-0.6
LMR				*e*Sg	Sg	05 50 30.2	-0.7
LMR	La Mourre	1.27	193	*e*Pg	Pg	05 50 13.7	-0.6
LMR				*e*Sg	Sg	05 50 30.2	-0.7
	12nm,0.2s						
VIVF	Saint-

AVF				eSg	Sg	05 51 35.4	-1.4
AVF	**Avril sur Loir**	**3.33**	**313**	ePn	**Pn**	**05 50 43.5**	**+2.3**
AVF	**Avril sur Loir**	**3.33**	**313**	ePg	**Pg**	**05 50 52.6**	**-1.0**
AVF				eSg	Sg	05 51 35.4	-1.4
	5.1nm,0.6s						
LOR	**Lormes**	**3.43**	**323**	ePn	**Pn**	**05 50 43.1**	**+0.5**
LOR				eSn	Sn	05 51 22.2	-0.7
LOR				eSg	Sg	05 51 38.1	-1.9
	4.6nm,0.4s						
LOR	**Lormes**	**3.43**	**323**	ePn	**Pn**	**05 50 43.1**	**+0.5**
LOR				eSn	Sn	05 51 22.2	-0.7
LOR				eSg	Sg	05 51 38.1	-1.9
LOR	**Lormes**	**3.43**	**323**	ePn	**Pn**	**05 50 43.1**	**+0.5**
LOR				eSn	Sn	05 51 22.2	-0.7
LOR				eSg	Sg	05 51 38.1	-1.9
	2.3nm,0.4s						
SSF	**Saint Saulge**	**3.44**	**318**	ePn	**Pn**	**05 50 43.2**	**+0.5**
SSF				eSn	Sn	05 51 21.9	-1.2
SSF				eSg	Sg	05 51 38.6	-1.6
	7.2nm,0.4s						
SSF	**Saint Saulge**	**3.44**	**318**	ePn	**Pn**	**05 50 43.2**	**+0.5**
SSF				eSn	Sn	05 51 21.9	-1.2
SSF				eSg	Sg	05 51 38.6	-1.6
SSF	**Saint Saulge**	**3.44**	**318**	ePn	**Pn**	**05 50 43.2**	**+0.5**
SSF				eSn	Sn	05 51 21.9	-1.2
SSF				eSg	Sg	05 51 38.6	-1.6
	3.6nm,0.4s						
CAF	**Calviac**	**3.46**	**278**	ePn	**Pn**	**05 50 43.9**	**+0.8**
CAF				eSg	Sg	05 51 40.1	-1.0
	4.7nm,0.5s						
CAF	**Calviac**	**3.46**	**278**	ePn	**Pn**	**05 50 43.9**	**+0.8**
CAF				eSg	Sg	05 51 40.1	-1.0
CAF	**Calviac**	**3.46**	**278**	ePn	**Pn**	**05 50 43.9**	**+0.8**
CAF				eSg	Sg	05 51 40.1	-1.0
	2.3nm,0.5s						
BGF	**Bois d'Agland**	**3.47**	**306**	ePn	**Pn**	**05 50 45.3**	**+2.2**
BGF	**Bois d'Agland**	**3.47**	**306**	ePg	**Pg**	**05 50 55.3**	**-1.0**
BGF				eSg	Sg	05 51 40.0	-1.3
	17nm,0.4s						
BGF	**Bois d'Agland**	**3.47**	**306**	ePn	**Pn**	**05 50 45.3**	**+2.2**
BGF				ePg	Pg	05 50 55.3	-1.0
BGF				eSg	Sg	05 51 40.0	-1.3
BGF	**Bois d'Agland**	**3.47**	**306**	ePn	**Pn**	**05 50 45.3**	**+2.2**
BGF	**Bois d'Agland**	**3.47**	**306**	ePg	**Pg**	**05 50 55.3**	**-1.0**
BGF				eSg	Sg	05 51 40.0	-1.3
	8.6nm,0.4s						
MTLF	**Montolieu**	**3.60**	**252**	ePn	**Pn**	**05 50 46.0**	**+1.1**
MTLF				eSn	Sn	05 51 26.6	-0.5
	3.4nm,0.4s						
MTLF	**Montolieu**	**3.60**	**252**	ePn	**Pn**	**05 50 46.0**	**+1.1**
MTLF				eSn	Sn	05 51 26.6	-0.5
MTLF	**Montolieu**	**3.60**	**252**	ePn	**Pn**	**05 50 46.0**	**+1.1**
MTLF				eSn	Sn	05 51 26.6	-0.5
	1.7nm,0.4s						
TCF	**Toulx Ste Croi**	**3.72**	**299**	ePn	**Pn**	**05 50 47.0**	**+0.4**
TCF				eSn	Sn	05 51 29.3	-0.8
TCF				eSg	Sg	05 51 48.0	-1.3
	5.0nm,0.5s						
TCF	**Toulx Ste Croi**	**3.72**	**299**	ePn	**Pn**	**05 50 47.0**	**+0.4**
TCF				eSn	Sn	05 51 29.3	-0.8
TCF				eSg	Sg	05 51 48.0	-1.3
TCF	**Toulx Ste Croi**	**3.72**	**299**	ePn	**Pn**	**05 50 47.0**	**+0.4**
TCF				eSn	Sn	05 51 29.3	-0.8
TCF				eSg	Sg	05 51 48.0	-1.3
	2.5nm,0.5s						
CDF	**Champ du Feu**	**3.85**	**4**	ePn	**Pn**	**05 50 48.4**	**+0.1**
CDF				eSn	Sn	05 51 31.6	-1.6
	5.5nm,0.5s						
CDF	**Champ du Feu**	**3.85**	**4**	ePn	**Pn**	**05 50 48.4**	**+0.1**
CDF				eSn	Sn	05 51 31.6	-1.6
CDF	**Champ du Feu**	**3.85**	**4**	ePn	**Pn**	**05 50 48.4**	**+0.1**
CDF				eSn	Sn	05 51 31.6	-1.6
	2.8nm,0.5s						
SFTF	**Sexfontaines**	**3.85**	**341**	ePn	**Pn**	**05 50 48.8**	**+0.4**
SFTF				eSn	Sn	05 51 31.9	-1.4
	3.2nm,0.3s						
SFTF	**Sexfontaines**	**3.85**	**341**	ePn	**Pn**	**05 50 48.8**	**+0.4**
SFTF				eSn	Sn	05 51 31.9	-1.4
SFTF	**Sexfontaines**	**3.85**	**341**	ePn	**Pn**	**05 50 48.8**	**+0.4**
SFTF				eSn	Sn	05 51 31.9	-1.4
	1.6nm,0.3s						
HYF	**Humbligny**	**4.01**	**314**	ePn	**Pn**	**05 50 51.9**	**+1.3**
HYF				eSn	Sn	05 51 36.1	-1.2
HYF				eSg	Sg	05 51 56.8	-1.8
HYF	**Humbligny**	**4.01**	**314**	ePn	**Pn**	**05 50 51.9**	**+1.3**
HYF				eSn	Sn	05 51 36.1	-1.2
HYF				eSg	Sg	05 51 56.8	-1.8
HYF	**Humbligny**	**4.01**	**314**	ePn	**Pn**	**05 50 51.9**	**+1.3**
HYF				eSn	Sn	05 51 36.1	-1.2
HYF				eSg	Sg	05 51 56.8	-1.8
PAGF	**Fort de Pagny**	**4.06**	**349**	ePn	**Pn**	**05 50 51.9**	**+0.6**
PAGF				eSn	Sn	05 51 36.9	-1.6
	2.6nm,0.5s						
PAGF	**Fort de Pagny**	**4.06**	**349**	ePn	**Pn**	**05 50 51.9**	**+0.6**
PAGF				eSn	Sn	05 51 36.9	-1.6
PAGF	**Fort de Pagny**	**4.06**	**349**	ePn	**Pn**	**05 50 51.9**	**+0.6**
PAGF				eSn	Sn	05 51 36.9	-1.6
	1.3nm,0.5s						
MEZF	**Maizieres J'vi**	**4.13**	**343**	ePn	**Pn**	**05 50 52.4**	**+0.2**
MEZF				eSn	Sn	05 51 38.4	-1.8
	8.2nm,0.3s						
MEZF	**Maizieres J'vi**	**4.13**	**343**	ePn	**Pn**	**05 50 52.4**	**+0.2**
MEZF				eSn	Sn	05 51 38.4	-1.8
MEZF	**Maizieres J'vi**	**4.13**	**343**	ePn	**Pn**	**05 50 52.4**	**+0.2**
MEZF				eSn	Sn	05 51 38.4	-1.8
	4.1nm,0.3s						
NVLJ	**Novalja**	**5.69**	**87**	i Pn	**Pn**	**05 51 14.1**	**+0.4**
NVLJ				Sn	Sn	05 52 16.2	-2.4
NVLJ	**Novalja**	**5.69**	**87**	i Pn	**Pn**	**05 51 14.0**	**+0.3**

*CSEM **08** 05:52:42.7,43.05N×46.65E,h9km,mb4.0,After OBN*
*MOS **08** 05:52:42.7±1.1,43.05N×46.65E,h9km,mb4.0/1,Error ellipse: s-maj=9.3km s-min=6.5km az=37.0*
*ISCJB **08** 05:52:43.6±0.6,43.10N±0.04×46.62E±0.04,h10km,Error ellipse: s-maj=6.2km s-min=2.8km az=37.9*
ISC 08 05:52:44.1±0.5,43.08N±0.03×46.57E±0.03,h10km,n44, σ1§24/72,4C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.04**	**107**	ePG	**Pg**	**05 52 44.0**	**-2.0**
DLMR	**Dylym**	**0.04**	**107**	ePg	**Pg**	**05 52 44.0**	**-2.0**
DBC	**Dubki**	**0.20**	**108**	ePG	**Pg**	**05 52 47.0**	**-1.3**
DBC				eS	Sg	05 52 53.0	+1.9
DBC	**Dubki**	**0.20**	**108**	ePg	**Pg**	**05 52 47.0**	**-1.3**
DBC				eSg	Sg	05 52 53.0	+1.9
KRNR	**Karanay**	**0.35**	**136**	ePG	**Pg**	**05 52 49.8**	**-1.3**
KRNR				i S	Sg	05 52 55.0	-0.8
KRNR				pmax	pmax		
	comp=Z,74nm,0.2s						
KRNR	**Karanay**	**0.35**	**136**	ePg	**Pg**	**05 52 49.8**	**-1.3**
	comp=Z,74nm,0.2s						
KRNR				i Sg	Sg	05 52 55.0	-0.8
UNCR	**Uncukul**	**0.40**	**156**	⇑iPG	**Pg**	**05 52 50.2**	**-1.8**
UNCR				eS	Sg	05 52 57.0	-0.3
UNCR				pmax	pmax		
	comp=Z,77nm,0.3s						
UNCR	**Uncukul**	**0.40**	**156**	i Pg	**Pg**	**05 52 50.2**	**-1.8**
	comp=Z,77nm,0.3s						
UNCR				eSg	Sg	05 52 57.0	-0.3
BUJR	**Buynaksk**	**0.47**	**123**	ePG	**Pg**	**05 52 52.8**	**-0.5**
BUJR				eS	Sg	05 52 59.8	+0.3
BUJR				pmax	pmax		
	comp=Z,67nm,0.2s						
BUJR	**Buynaksk**	**0.47**	**123**	ePg	**Pg**	**05 52 52.8**	**-0.5**
	comp=Z,67nm,0.2s						
BUJR				eSg	Sg	05 52 59.8	+0.3
BTLR	**Botlikh**	**0.49**	**212**	ePG	**Pg**	**05 52 52.0**	**-1.6**
BTLR				eS	Sg	05 53 01.5	+1.4
BTLR				pmax	pmax		
	comp=Z,98nm,0.3s						
BTLR	**Botlikh**	**0.49**	**212**	ePg	**Pg**	**05 52 52.0**	**-1.6**
	comp=Z,98nm,0.3s						
BTLR				eSg	Sg	05 53 01.5	+1.4
XNZR	**Khunzakh**	**0.55**	**170**	ePG	**Pg**	**05 52 53.3**	**-1.4**
XNZR				eS	Sg	05 53 02.7	+0.7
XNZR	**Khunzakh**	**0.55**	**170**	ePg	**Pg**	**05 52 53.3**	**-1.4**
XNZR				eSg	Sg	05 53 02.7	+0.7
GRO	**Groznyy**	**0.65**	**292**	⇑iPG	**Pg**	**05 52 56.7**	**+0.1**
GRO				i S	Sg	05 53 03.8	-1.3
GRO	**Groznyy**	**0.65**	**292**	i Pg	**Pg**	**05 52 56.7**	**+0.1**
GRO				i Sg	Sg	05 53 03.8	-1.3
KMKR	**Kumukh**	**1.03**	**158**	ePG	**Pg**	**05 53 03.5**	**-0.3**
KMKR				eS	Sg	05 53 19.0	+1.8
KMKR				pmax	pmax		
	comp=Z,42nm,0.2s						
KMKR	**Kumukh**	**1.03**	**158**	ePg	**Pg**	**05 53 03.5**	**-0.3**
	comp=Z,42nm,0.2s						
KMKR				eSg	Sg	05 53 19.0	+1.8
SNJR	**Sundja**	**1.29**	**270**	ePG	**Pn**	**05 53 07.6**	**-0.5**
SNJR				i S	Sb	05 53 23.0	-2.0
SNJR	**Sundja**	**1.29**	**270**	ePg	**Pn**	**05 53 07.6**	**-0.5**
SNJR				i Sg	Sb	05 53 23.0	-2.0
VLKR	**Vladikavkaz**	**1.39**	**269**	ePG	**Pn**	**05 53 09.1**	**-0.4**
VLKR	**Vladikavkaz**	**1.39**	**269**	ePg	**Pn**	**05 53 09.1**	**-0.4**
TRKR	**Terskaya**	**1.49**	**296**	⇓iPG	**Pn**	**05 53 12.6**	**+1.8**
TRKR				i S	Sg	05 53 31.8	-0.1
TRKR	**Terskaya**	**1.49**	**296**	i Pg	**Pn**	**05 53 12.6**	**+1.8**
TRKR				i Sg	Sg	05 53 31.8	-0.1
ARNR	**Ardon**	**1.68**	**274**	⇓iPN	**Pn**	**05 53 14.0**	**+0.5**
ARNR	**Ardon**	**1.68**	**274**	i Pn	**Pn**	**05 53 14.0**	**+0.5**
KMSR	**Komsomolskaya**	**1.69**	**281**	⇑iPN	**Pn**	**05 53 14.8**	**+1.1**
KMSR	**Komsomolskaya**	**1.69**	**281**	i Pn	**Pn**	**05 53 14.8**	**+1.1**
LACR	**Lac**	**1.69**	**262**	⇑iPN	**Pn**	**05 53 13.6**	**-0.1**
LACR	**Lac**	**1.69**	**262**	i Pn	**Pn**	**05 53 13.6**	**-0.1**
PRTR	**Priterechnaya**	**1.80**	**293**	⇓iPN	**Pn**	**05 53 16.9**	**+1.8**
PRTR	**Priterechnaya**	**1.80**	**293**	i Pn	**Pn**	**05 53 16.9**	**+1.8**
KORR	**Kora**	**1.83**	**271**	ePN	**Pn**	**05 53 16.3**	**+0.7**
KORR	**Kora**	**1.83**	**271**	ePn	**Pn**	**05 53 16.3**	**+0.7**
DGRG	**David-gareji**	**1.86**	**209**	P	**Pn**	**05 53 17.1**	**+1.1**
DGRG				S	Sn	05 53 45.3	+5.9
MTA	**Mtatsminda**	**1.91**	**224**	P	**Pn**	**05 53 17.8**	**+1.1**
MTA				S	Sn	05 53 45.2	+4.4
TBLG	**Delisi**	**1.92**	**226**	PN	**Pn**	**05 53 18.9**	**+2.2**
TBLG				i S	Sg	05 53 44.4	-1.2
TBLG	**Delisi**	**1.92**	**226**	P	**Pn**	**05 53 18.9**	**+2.2**
TBLG				S	Sn	05 53 44.5	+3.6
TBLG	**Delisi**	**1.92**	**226**	Pn	**Pn**	**05 53 18.9**	**+2.2**
TBLG				i Sg	Sg	05 53 44.4	-1.2
LSNR	**Lesken**	**2.03**	**276**	ePN	**Pn**	**05 53 19.4**	**+1.1**
LSNR	**Lesken**	**2.03**	**276**	ePn	**Pn**	**05 53 19.4**	**+1.1**
GOR	**Gori**	**2.13**	**240**	P	**Pn**	**05 53 24.0**	**+4.4**
GOR				S	Sn	05 53 51.2	+5.1
DIGR	**Digorskoe uzhe**	**2.20**	**266**	ePN	**Pn**	**05 53 20.7**	**0.0**
DIGR				i S	Sn	05 53 46.6	-1.4
DIGR	**Digorskoe uzhe**	**2.20**	**266**	ePn	**Pn**	**05 53 20.7**	**0.0**
DIGR				i Sn	Sn	05 53 46.6	-1.4

*NEIC **08** 06:03:05.7,38.24S×175.95E,h185km,MG3.5(WEL), After WEL.*
WEL 08 06:03:06.4±0.4,38.27S×175.96E,h180km±3km,ML3.4/11, Error ellipse: s-maj=4.0km s-min=3.3km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.90**	**90**	PN	Pn	06 03 33.0	-0.4
URZ				SN	Sn	06 03 54.4	+0.3
URZ	**Urewera**	**0.90**	**90**	Pn	Pn	06 03 33.0	-0.4
URZ				Sn	Sn	06 03 54.4	+0.3
BKZ	**Black Stump Fm**	**0.99**	**155**	PN	Pn	06 03 34.2	+0.3
BKZ				SN	Sn	06 03 55.1	-0.3
BKZ	**Black Stump Fm**	**0.99**	**155**	Pn	Pn	06 03 34.2	+0.3
WNVZ	**Wahianoa**	**1.10**	**195**	PN	Pn	06 03 35.2	+0.4
WNVZ	**Wahianoa**	**1.10**	**195**	Pn	Pn	06 03 35.2	+0.4
BHHZ	**Black Hill Sta**	**1.22**	**176**	PN	Pn	06 03 35.9	+0.1
BHHZ	**Black Hill Sta**	**1.22**	**176**	Pn	Pn	06 03 35.9	+0.1
MWZ	**Matawai**	**1.23**	**94**	PN	Pn	06 03 35.8	-0.1
MWZ				SN	Sn	06 03 58.8	+0.2
MWZ	**Matawai**	**1.23**	**94**	Pn	Pn	06 03 35.8	-0.1
MWZ				Sn	Sn	06 03 58.8	+0.2
KNZ	**Kokohu**	**1.54**	**120**	PN	Pn	06 03 38.8	+0.1
KNZ	**Kokohu**	**1.54**	**120**	Pn	Pn	06 03 38.8	+0.1
PNHZ	**Pukenui**	**1.66**	**174**	PN	Pn	06 03 39.7	-0.1
PNHZ	**Pukenui**	**1.66**	**174**	Pn	Pn	06 03 39.7	-0.1
WAZ	**Wanganui**	**1.67**	**207**	PN	Pn	06 03 39.5	-0.4
WAZ	**Wanganui**	**1.67**	**207**	Pn	Pn	06 03 39.5	-0.4
KAHZ	**Kahuranaki**	**1.68**	**155**	PN	Pn	06 03 40.5	+0.4
KAHZ	**Kahuranaki**	**1.68**	**155**	Pn	Pn	06 03 40.5	+0.4
MHGZ	**Mahia Peninsul**	**1.76**	**121**	PN	Pn	06 03 41.2	+0.3
MHGZ	**Mahia Peninsul**	**1.76**	**121**	Pn	Pn	06 03 41.2	+0.3
TSZ	**Takapari Road**	**1.79**	**180**	PN	Pn	06 03 40.8	-0.4
TSZ	**Takapari Road**	**1.79**	**180**	Pn	Pn	06 03 40.8	-0.4
WPHZ	**Waipukurau**	**1.83**	**168**	SN	Sn	06 04 07.8	-1.2
MRZ	**Mangatainoka R**	**2.41**	**187**	PN	Pn	06 03 46.4	-1.6
MRZ				SN	Sn	06 04 17.3	-3.1
MRZ	**Mangatainoka R**	**2.41**	**187**	Pn	Pn	06 03 46.4	-1.6
OGWZ	**Otaki Gorge**	**2.62**	**193**	PN	Pn	06 03 48.9	-1.5
OGWZ	**Otaki Gorge**	**2.62**	**193**	Pn	Pn	06 03 48.9	-1.5
HOWZ	**Holdsworth Sta**	**2.65**	**187**	PN	Pn	06 03 48.9	-1.9
HOWZ	**Holdsworth Sta**	**2.65**	**187**	Pn	Pn	06 03 48.9	-1.9
KIW	**Kapiti Island**	**2.72**	**197**	PN	Pn	06 03 49.5	-2.0
KIW	**Kapiti Island**	**2.72**	**197**	Pn	Pn	06 03 49.5	-2.0
CAW	**Cannon Point**	**2.92**	**193**	PN	Pn	06 03 51.8	-2.2
CAW	**Cannon Point**	**2.92**	**193**	Pn	Pn	06 03 51.8	-2.2
SNZO	**South Karori**	**3.19**	**197**	PN	Pn	06 03 54.6	-2.7
SNZO	**South Karori**	**3.19**	**197**	Pn	Pn	06 03 54.6	-2.7
TCW	**Tory Channel**	**3.22**	**203**	PN	Pn	06 03 55.0	-2.5
TCW	**Tory Channel**	**3.22**	**203**	Pn	Pn	06 03 55.0	-2.5
TUWZ	**Tuamarina**	**3.52**	**206**	PN	Pn	06 03 58.3	-3.1
TUWZ	**Tuamarina**	**3.52**	**206**	Pn	Pn	06 03 58.3	-3.0
NNZ	**Nelson**	**3.56**	**213**	PN	Pn	06 03 58.9	-2.9
NNZ	**Nelson**	**3.56**	**213**	Pn	Pn	06 03 58.9	-2.9
QRZ	**Quartz Range**	**3.69**	**225**	PN	Pn	06 03 59.6	-3.9
QRZ	**Quartz Range**	**3.69**	**225**	Pn	Pn	06 03 59.6	-3.9
BSWZ	**Blackbirch Sta**	**3.80**	**204**	PN	Pn	06 04 02.2	-2.7
BSWZ	**Blackbirch Sta**	**3.80**	**204**	Pn	Pn	06 04 02.2	-2.7
THZ	**Tophouse**	**4.21**	**213**	PN	Pn	06 04 06.4	-3.6
THZ	**Tophouse**	**4.21**	**213**	Pn	Pn	06 04 06.4	-3.6
KHZ	**Kahutara**	**4.54**	**203**	PN	Pn	06 04 11.0	-3.3
KHZ	**Kahutara**	**4.54**	**203**	Pn	Pn	06 04 11.0	-3.3
LTZ	**Lake Taylor**	**5.32**	**211**	PN	Pn	06 04 20.4	-4.3
LTZ	**Lake Taylor**	**5.32**	**211**	Pn	Pn	06 04 20.4	-4.3
MQZ	**McQueen's Vall**	**5.98**	**204**	PN	Pn	06 04 28.0	-5.0
MQZ	**McQueen's Vall**	**5.98**	**204**	Pn	Pn	06 04 28.0	-5.0
ODZ	**Otahua Downs**	**7.85**	**209**	PN	Pn	06 04 53.1	-4.5
ODZ	**Otahua Downs**	**7.85**	**209**	Pn	Pn	06 04 53.1	-4.5

GUC 08 06:27:26.6±0.6,34.41S×69.59W,h16km±7km,MD3.6, ML2.1,1C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.76**	**318**	⇓iP	Pg	06 27 40.9	-0.5
LMEL				i S	Sg	06 27 51.5	+0.2
LMEL				AML	AML	06 27 51.8	
	comp=E,200nm,0.3s						
CACH	**El Canelo**	**0.88**	**289**	⇓iP	Pb	06 27 42.8	-0.8
CACH				i S	Sb	06 27 55.1	0.0
CHCH	**Chadas Angostu**	**1.00**	**298**	eP	Pb	06 27 44.8	-0.8
CHCH				i S	Sb	06 27 59.4	+1.0
ANTU	**Antumapu**	**1.20**	**314**	⇑iP	Pn	06 27 49.0	+0.2
ANTU				i S	Sb	06 28 05.9	+1.5
ANTU				AML	AML	06 28 06.3	
	comp=N,107nm,0.3s						
FCH	**Farellones**	**1.23**	**331**	⇓iP	Pn	06 27 49.8	+0.8
FCH				AML	AML	06 28 11.7	
	comp=E,45nm,0.2s						
LNV	**Longovilo**	**1.57**	**286**	⇓iP	Pn	06 27 55.1	+1.2
LNV				i S	Sn	06 28 16.0	+2.1

IDC 08 06:33:39.0±55.0,17.82S×179.84W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/16,mbtmp3.7/3,Error ellipse: s-maj=999.9km s-min=156.7km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.48**	**241**	P	P	06 40 55.2	+0.8
	0.7nm,0.6s,baz=76,slow=8.3,SNR=3.0						
WRA	**Warramunga Arr**	**43.30**	**260**	P	P	06 41 42.9	0.0
	0.5nm,0.4s,baz=96,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**43.50**	**254**	P	P	06 41 43.8	-0.7
	1.0nm,0.7s,baz=90,slow=8.1,SNR=13						

*NEIC **08** 06:40:02.6±0.9,29.22S×178.35W,h35km,mb3.9/1,Error ellipse: s-maj=116.0km s-min=11.9km az=182.0*
IDC 08 06:39:51.8±4.8,29.15S×177.58W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/14,mbtmp3.8/3,Error ellipse: s-maj=179.1km s-min=75.0km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.31**	**250**	ePn	Pg	06 40 11.5	+14
URZ	**Urewera**	**10.11**	**205**	Sn	Sn	06 43 48.1	-24
	0.5nm,0.3s,baz=41,slow=20,SNR=4.0						
STKA	**Stephens Creek**	**35.13**	**255**	P	P	06 46 47.2	+0.1
	2.1nm,1.0s,baz=90,slow=7.1,SNR=3.0						
STKA	**Stephens Creek**	**35.13**	**255**	P	P	06 46 47.2	+0.1
ASAR	**Alice Springs**	**43.55**	**265**	P	P	06 47 57.6	+0.1
	0.2nm,0.4s,baz=108,slow=7.3,SNR=3.3						
ASAR	**Alice Springs**	**43.55**	**265**	P	P	06 47 57.6	+0.1
WB2	**Warramunga Arr**	**44.42**	**271**	eP	P	06 48 05.2	+0.7
WRAB	**Tennant Creek**	**44.42**	**271**	eP	P	06 48 05.4	+0.8
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**44.43**	**271**	P	P	06 48 04.4	-0.2
	0.7nm,0.3s,baz=111,slow=8.0,SNR=9.3						
WRA	**Warramunga Arr**	**44.43**	**271**	P	P	06 48 04.4	-0.2
FINES	**FINESS Array B**	**144.09**	**341**	PKP	PKPdf	06 59 27.9	-0.8
	1.4nm,0.5s,baz=64,slow=4.3,SNR=8.3						
FINES	**FINESS Array B**	**144.09**	**341**	PKP	PKPdf	06 59 27.9	-0.8

*OMAN **08** 06:44:00.7±0.2,27.58N×55.94E,h10km,Error ellipse: s-maj=18.1km s-min=5.8km az=277.0*
*IDC **08** 06:44:04.0±2.8,26.44N×56.19E,h0km,mb3.6/6, mb1 3.6/6,mb1mx3.4/29,mbtmp3.6/6,MS2.6/1,Ms1 2.6/1, ms1mx2.0/36,Error ellipse: s-maj=60.9km s-min=26.6km az=150.0*
*ISCJB **08** 06:44:08.2±0.4,26.97N±0.02×55.85E±0.05,h10km, mb3.5/6,Error ellipse: s-maj=6.8km s-min=3.4km az=178.7*
*CSEM **08** 06:44:08.7±0.2,26.95N×55.89E,h2km,ML3.6,Error ellipse: s-maj=5.8km s-min=3.4km az=82.0*
*TEH **08** 06:44:08.1,26.90N×55.79E,h20km*
ISC 08 06:44:09.7±0.4,26.96N±0.02×55.95E±0.06,h10km,n47, σ1§01/52,mb3.5/6,1C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.48**	**24**	ePg	**Pg**	**06 44 17.7**	**-1.4**
BNDS				eSg	**Sg**	**06 44 25.1**	**-0.3**
BANOM	**Banah**	**1.08**	**163**	P	**Pg**	**06 44 29.3**	**-1.3**
	SNR=259						
BANOM	**Banah**	**1.08**	**163**	P	**Pg**	**06 44 29.3**	**-1.2**
	SNR=259						
NAZ	**Nazwa, Dubai**	**1.98**	**188**	⇓S	**Sg**	**06 45 15.1**	**+1.6**
NAZ	**Nazwa, Dubai**	**1.98**	**188**	S	**Sg**	**06 45 15.1**	**+1.6**
HATD	**Hatta, Dubai**	**2.13**	**176**	P	**Pn**	**06 44 44.9**	**-0.5**
	SNR=9.6						
HATD	**Hatta, Dubai**	**2.13**	**176**	P	**Pn**	**06 44 44.9**	**-0.5**
	SNR=9.6						
ASHO	**Ashiyiah**	**2.27**	**178**	P	**Pn**	**06 44 47.2**	**-0.1**
	SNR=68						
ASHO				⇑S	**Sg**	**06 45 23.0**	**+0.2**
ASHO	**Ashiyiah**	**2.27**	**178**	P	**Pn**	**06 44 47.2**	**-0.1**
	SNR=68						
ASHO				S	**Sg**	**06 45 23.0**	**+0.3**
ASUD	**Al Ashush, Dub**	**2.39**	**194**	P	**Pn**	**06 44 49.4**	**+0.4**
	SNR=36						
ASUD	**Al Ashush, Dub**	**2.39**	**194**	P	**Pn**	**06 44 49.4**	**+0.4**
	SNR=36						
KRBR	**Kerman**	**3.09**	**13**	ePn	**Pn**	**06 45 00.1**	**+1.5**
ISRV	**Sarvestan**	**3.48**	**315**	ePn	**Pn**	**06 45 03.9**	**0.0**
ISRV				e		06 46 27.5	
	comp=Z,1µm,0.5s						
ISRV	**Sarvestan**	**3.48**	**315**	ePn	**Pn**	**06 45 03.9**	**0.0**
IPAR	**Pars**	**3.84**	**319**	ePn	**Pn**	**06 45 08.9**	**0.0**
IPAR				e		06 46 52.9	
	comp=Z,791nm,0.4s						
IPAR	**Pars**	**3.84**	**319**	ePn	**Pn**	**06 45 08.9**	**0.0**
IMEH	**Mehriz**	**4.56**	**345**	ePn	**Pn**	**06 45 20.1**	**+1.2**
IMEH				e		06 46 17.4	
	comp=Z,520nm,0.2s						
IMEH	**Mehriz**	**4.56**	**345**	ePn	**Pn**	**06 45 20.1**	**+1.2**
IBAF	**Bafgh**	**4.62**	**356**	e	**Pn**	**06 45 21.8**	**+2.1**
	comp=Z,584nm,0.1s						
IBAF				eSn	**Sn**	**06 46 13.8**	**+0.4**
ISAD	**Sadrabad**	**5.32**	**339**	ePn	**Pn**	**06 45 29.9**	**+0.7**
ISAD				e		06 46 35.9	
	comp=Z,696nm,0.2s						
ISAD	**Sadrabad**	**5.32**	**339**	ePn	**Pn**	**06 45 29.9**	**+0.7**
ICHK	**Chekchek**	**5.43**	**346**	ePn	**Pn**	**06 45 31.4**	**+0.6**
ICHK				eSn	**Sn**	**06 46 32.7**	**-0.7**
ICHK				e		06 46 36.5	
	comp=Z,550nm,0.3s						
ICHK	**Chekchek**	**5.43**	**346**	ePn	**Pn**	**06 45 31.4**	**+0.6**
ICHK				eSn	**Sn**	**06 46 32.7**	**-0.7**
IGAR	**Gharneh**	**6.40**	**329**	ePn	**Pn**	**06 45 43.8**	**-0.3**
NASN	**Na'in**	**6.42**	**336**	ePn	**Pn**	**06 45 45.1**	**+0.7**
IZEF	**Zefreh**	**6.70**	**333**	ePn	**Pn**	**06 45 47.8**	**-0.3**
IZEF	**Zefreh**	**6.70**	**333**	ePn	**Pn**	**06 45 47.8**	**-0.3**
IPIR	**Pirpir**	**7.20**	**324**	ePn	**Pn**	**06 45 55.4**	**+0.4**
IPIR				e		06 47 26.8	
	comp=E,485nm,0.2s						
IPIR	**Pirpir**	**7.20**	**324**	ePn	**Pn**	**06 45 55.4**	**+0.4**
IKLH	**Kolahrood**	**7.38**	**330**	ePn	**Pn**	**06 45 57.7**	**+0.2**
IKLH				e		06 47 24.8	
	comp=N,490nm,0.2s						
IKLH	**Kolahrood**	**7.38**	**330**	ePn	**Pn**	**06 45 57.7**	**+0.2**
RDF	**Al-Radifah**	**7.69**	**287**	eP	**Pn**	**06 46 00.3**	**-1.4**
RDF				AML	AML	06 47 24.0	
	comp=Z,4.7nm,0.4s						
RDF	**Al-Radifah**	**7.69**	**287**	eP	**Pn**	**06 46 00.3**	**-1.4**
UMR	**Umm Al-Rimmam**	**7.71**	**291**	eP	**Pn**	**06 46 01.1**	**-1.0**
UMR	**Umm Al-Rimmam**	**7.71**	**291**	eP	**Pn**	**06 46 01.1**	**-0.9**
NAY	**Al-Naaiem**	**8.02**	**289**	eP	**Pn**	**06 46 04.8**	**-1.6**
NAY				AML	AML	06 47 32.2	
	comp=Z,3.7nm,0.6s						
NAY	**Al-Naaiem**	**8.02**	**289**	eP	**Pn**	**06 46 04.8**	**-1.6**
MIB	**Mutribah**	**8.10**	**292**	eP	**Pn**	**06 46 06.5**	**-0.9**
MIB				AML	AML	06 47 36.5	
	comp=Z,16nm,0.6s						
MIB	**Mutribah**	**8.10**	**292**	eP	**Pn**	**06 46 06.5**	**-0.9**
BHD	**Baghdad**	**11.82**	**305**	ex	**Pn**	**06 46 59.3**	**+0.9**
BHD				ex	x	06 49 21.7	
GNI	**Garni**	**16.11**	**328**	LR	LR	06 56 02.3	
	comp=Z,20nm,18.9s,baz=297,slow=43						
BRTR	**Keskin Array B**	**22.50**	**310**	P	**P**	**06 49 11.8**	**+2.4**
	comp=Z,0.3nm,0.4s,mb3.0,baz=138,slow=13,SNR=3.6						
AKTO	**Aktyubinsk**	**23.49**	**3**	P	**P**	**06 49 19.1**	**-0.6**
	comp=Z,0.7nm,0.3s,mb3.5,baz=178,slow=10,SNR=5.1						
BVAR	**Borovoye Array**	**28.17**	**19**	P	**P**	**06 50 00.9**	**-1.3**
	comp=Z,1.0nm,0.6s,mb3.6,baz=210,slow=5.0,SNR=5.9						
MKAR	**Makanchi Array**	**28.69**	**39**	P	**P**	**06 50 06.4**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.0,baz=216,slow=8.9,SNR=2.4						
FINES	**FINESS Array B**	**39.88**	**338**	P	**P**	**06 51 43.9**	**+0.6**
	comp=Z,2.7nm,1.0s,mb3.9,baz=126,slow=7.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**52.42**	**266**	P	**P**	**06 53 19.6**	**-3.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=62,slow=6.4,SNR=8.9						

IDC 08 06:50:06.5±1.4,15.78N×145.64E,h290km±10km,mb3.1/6, mb1 3.2/7,mb1mx3.0/25,mbtmp3.1/7,Error ellipse: s-maj=38.0km s-min=17.3km az=94.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.31**	**199**	P	Pn	06 50 56.4	+1.3
	7.6nm,0.3s,baz=30,slow=20,SNR=2.3						
GUMO				S	S	06 51 33.8	+0.1
	26nm,0.3s,baz=167,slow=23,SNR=8.9						
WRA	**Warramunga Arr**	**37.20**	**198**	P	P	06 56 50.6	-0.1
	0.3nm,0.8s,baz=22,slow=11,SNR=3.1						
FITZ	**Fitzroy Crossi**	**39.01**	**211**	P	P	06 57 05.7	0.0
	1.0nm,0.8s,baz=5.2,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**60.46**	**315**	P	P	06 59 46.2	+0.2
	0.5nm,0.4s,baz=94,slow=7.7,SNR=9.5						
KURK	**Kurchatov**	**63.41**	**319**	P	P	07 00 05.9	+0.3
	1.3nm,0.3s,baz=98,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**66.28**	**26**	P	P	07 00 23.6	0.0
	0.9nm,1.1s,baz=245,slow=6.1,SNR=5.5						
BVAR	**Borovoye Array**	**68.69**	**321**	P	P	07 00 38.8	-0.2
	0.6nm,0.3s,baz=101,slow=8.0,SNR=6.0						

*MOS **08** 07:26:21.7±1.0,43.33N×44.18E,h7km,mb4.3/1,Error ellipse: s-maj=9.1km s-min=6.9km az=117.5*
MOS Felt (III-IV) at El'khotovo.
*ISCJB **08** 07:26:22.5±0.4,43.34N±0.02×44.16E±0.03,h2km±4km,*

Error ellipse: s-maj=4.3km s-min=3.1km az=33.8
*CSEM **08** 07:26:22.6±0.2, 43°.32N×44°.17E, h2km, mb4.3, Error ellipse: s-maj=5.0km s-min=3.8km az=33.0*

ISC 08 07:26:23.0±0.4, 43°.34N±0°.02×44°.20E±0°.03, h3km±4km, n50, σ1§14/80, 1C-8D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSR	Komsomolskaya	0.07	64	⇓iPG	Pg	07 26 24.1	-0.3
KMSR	Komsomolskaya	0.07	64	i Pg	Pg	07 26 24.1	-0.3
ARNR	Ardon	0.16	160	⇓iPG	Pg	07 26 25.6	-0.5
ARNR	Ardon	0.16	160	i Pg	Pg	07 26 25.6	-0.5
LSNR	Lesken	0.29	257	⇓iPG	Pg	07 26 28.8	+0.2
LSNR				i S	Sg	07 26 33.5	+1.1
LSNR	Lesken	0.29	257	i Pg	Pg	07 26 28.8	+0.2
LSNR				i Sg	Sg	07 26 33.5	+1.1
PRTR	Priterechnaya	0.41	8	⇑iPG	Pg	07 26 31.0	0.0
PRTR				eS	Sg	07 26 37.2	+0.8
PRTR	Priterechnaya	0.41	8	i Pg	Pg	07 26 31.0	0.0
PRTR				eSg	Sg	07 26 37.2	+0.8
VLKR	Vladikavkaz	0.45	130	⇓iPG	Pg	07 26 32.7	+1.0
VLKR				eS	Sg	07 26 39.0	+1.4
VLKR	Vladikavkaz	0.45	130	i Pg	Pg	07 26 32.7	+1.0
VLKR				eSg	Sg	07 26 39.0	+1.4
NCK	Nalchik	0.47	290	i Pg	Pg	07 26 32.1	+0.1
LACR	Lac	0.52	173	⇓iPG	Pg	07 26 32.1	-0.8
LACR				i S	Sg	07 26 39.2	-0.4
LACR	Lac	0.52	173	i Pg	Pg	07 26 32.1	-0.8
LACR				i Sg	Sg	07 26 39.2	-0.4
SNJR	Sundja	0.52	121	ePG	Pg	07 26 32.0	-1.0
SNJR				eS	Sg	07 26 39.2	-0.5
SNJR	Sundja	0.52	121	ePg	Pg	07 26 32.0	-1.0
SNJR				eSg	Sg	07 26 39.2	-0.5
TRKR	Terskaya	0.54	45	ePG	Pg	07 26 34.2	+0.8
TRKR				i S	Sg	07 26 45.1	+4.7
TRKR	Terskaya	0.54	45	ePg	Pg	07 26 34.2	+0.8
DIGR	Digorskoe uzhe	0.64	226	⇓iPG	Pg	07 26 34.7	-0.4
DIGR				eS	Sg	07 26 43.8	+0.4
DIGR	Digorskoe uzhe	0.64	226	i Pg	Pg	07 26 34.7	-0.4
DIGR				eSg	Sg	07 26 43.8	+0.4
KUBR	Kubataba	0.74	309	ePG	Pg	07 26 37.6	+0.5
KUBR				eS	Sg	07 26 50.1	+3.4
KUBR	Kubataba	0.74	309	ePg	Pg	07 26 37.6	+0.5
SHAR	Shatzhatmas	1.19	290	⇓ePG	Pg	07 26 44.3	-1.4
SHAR				eS	Sg	07 27 01.6	+0.5
SHAR	Shatzhatmas	1.19	290	ePg	Pg	07 26 44.3	-1.4
SHAR				eSg	Sg	07 27 01.6	+0.5
KIV	Kislovodsk	1.26	300	⇓ePG	Pg	07 26 45.3	-1.9
KIV				eS	Sg	07 27 04.0	+0.5
KIV	Kislovodsk	1.26	300	ePg	Pg	07 26 45.3	-1.9
KIV				eSg	Sg	07 27 04.0	+0.5
GOR	Gori	1.36	183	P	Pn	07 26 48.1	-0.7
GOR				S	Sg	07 27 08.5	+2.0
GOR	Gori	1.36	183	P	Pn	07 26 48.1	-0.7
GOR				S	Sg	07 27 08.5	+2.0
TBLG	Delisi	1.66	166	PN	Pn	07 26 52.2	-0.7
TBLG				i S	Sn	07 27 16.6	+1.9
TBLG	Delisi	1.66	166	P	Pn	07 26 52.2	-0.7
TBLG				S	Sn	07 27 16.6	+1.9
TBLG	Delisi	1.66	166	P	Pn	07 26 52.2	-0.7
TBLG				S	Sn	07 27 16.6	+1.9
MTA	Mtatsminda	1.70	165	P	Pn	07 26 52.7	-0.8
MTA				S	Sn	07 27 17.3	+1.5
MTA	Mtatsminda	1.70	165	P	Pn	07 26 52.7	-0.8
MTA				S	Sn	07 27 17.3	+1.5
DOMR	Dombai	1.88	269	ePN	Pn	07 26 55.0	-1.1
DOMR	Dombai	1.88	269	ePn	Pn	07 26 55.0	-1.1
DBC	Dubki	1.95	99	ePN	Pn	07 26 58.5	+1.6
DBC				eS	Sg	07 27 24.5	-1.0
DBC	Dubki	1.95	99	ePn	Pn	07 26 58.5	+1.6
DBC				eSg	Sg	07 27 24.5	-1.0
DGRG	David-gareji	2.08	155	P	Pn	07 26 57.7	-1.0
DGRG				S	Sn	07 27 30.9	+5.9
DGRG	David-gareji	2.08	155	P	Pn	07 26 57.7	-1.0
ARTV	Artvin	2.74	219	i P	Pn	07 27 05.8	-2.0
ARTV	Artvin	2.74	219	i P	Pn	07 27 05.8	-2.0
DBOC	Borcka	2.74	224	i P	Pn	07 26 59.4	-8.4
DAGI	Agilar	2.83	214	i P	Pn	07 27 08.4	-0.7
DBAD	Bademkaya	2.98	220	i P	Pn	07 27 08.0	-3.1
DBAD	Bademkaya	2.98	220	i P	Pn	07 27 08.0	-3.1
DDEM	Demirkent	3.05	218	i P	Pn	07 27 08.5	-3.6
DDEM	Demirkent	3.05	218	i P	Pn	07 27 08.5	-3.6
GNI	Garni	3.21	173	ePN	Pn	07 27 16.1	+1.8
GNI	Garni	3.21	173	ePn	Pn	07 27 16.1	+1.8
ANN	Anapa	5.09	289	ePN	Pn	07 27 39.6	-0.6
ANN				eS	Sn	07 28 40.6	+1.2
ANN				pmax	pmax		
	comp=Z,34nm,1.1s						
ANN	Anapa	5.09	289	ePn	Pn	07 27 39.6	-0.6
	comp=Z,34nm,1.1s						
ANN				eSn	Sn	07 28 40.6	+1.2

*IDC **08** 07:30:16.7±1.0, 32°.64N×90°.21E, h0km, mb3.6/6, mb1 3.6/9, mb1mx3.5/27, mbtmp3.5/9, ML3.1/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/44, Error ellipse: s-maj=36.8km s-min=20.8km az=65.0*
*NEIC **08** 07:30:18.8±0.5, 32°.76N×90°.18E, h10km, mb3.6/3, Error ellipse: s-maj=11.0km s-min=5.0km az=105.0*

ISC 08 07:30:17.2±2.3, 32°.77N±0°.05×90°.26E±0°.08, h1km±17km, n48, σ0§90/47, mb3.7/6, MS3.2/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	3.15	166	Pg	Pn	07 31 12.9	+4.9
LSA				Sg	Sg	07 31 57.9	-0.6
LSA				smax			
	comp=N,360nm,0.9s						
LSA				smax			
	comp=E,850nm,0.9s						
TAPN	Taplejung	5.83	203	eP	Pn	07 31 45.8	+0.9
	comp=E,41nm,1.0s						
TAPN	Taplejung	5.83	203	eP	Pn	07 31 45.8	+0.9
	comp=E,41nm,1.0s						
GUN	Gumba	6.14	219	eP	Pn	07 31 50.3	+1.1
	comp=E,13nm,0.4s						
GUN	Gumba	6.14	219	eP	Pn	07 31 50.3	+1.1
	comp=E,13nm,0.4s						
JIRN	Jiri	6.19	216	eP	Pn	07 31 50.9	+1.1
	comp=E,3.7nm,0.4s						
JIRN	Jiri	6.19	216	eP	Pn	07 31 50.9	+1.1
	comp=E,3.7nm,0.4s						
ODAN	Odare	6.39	204	eP	Pn	07 31 53.2	+0.6
	comp=E,17nm,0.5s						
ODAN	Odare	6.39	204	eP	Pn	07 31 53.2	+0.6
	comp=E,17nm,0.5s						
KKN	Kakani	6.57	222	eP	Pn	07 31 55.7	+0.7
	comp=E,7.3nm,0.3s						
KKN	Kakani	6.57	222	eP	Pn	07 31 55.7	+0.7
	comp=E,7.3nm,0.3s						
RAMN	Ramite	6.61	210	eP	Pn	07 31 55.3	-0.3
	comp=E,18nm,0.5s						
RAMN	Ramite	6.61	210	eP	Pn	07 31 55.3	-0.3
	comp=E,18nm,0.5s						
PKI	Pulchoki	6.67	220	eP	Pn	07 31 57.5	+1.2
	comp=E,15nm,0.5s						
PKI	Pulchoki	6.67	220	eP	Pn	07 31 57.5	+1.2
	comp=E,15nm,0.5s						
GKN	Gorkha	6.79	227	eP	Pn	07 31 57.8	-0.3
	comp=E,18nm,0.4s						
GKN	Gorkha	6.79	227	eP	Pn	07 31 57.8	-0.3
	comp=E,18nm,0.4s						
DMN	Daman	6.81	222	eP	Pn	07 31 58.7	+0.4
	comp=E,6.4nm,0.3s						
DMN	Daman	6.81	222	eP	Pn	07 31 58.7	+0.4
	comp=E,6.4nm,0.3s						
DANN	Dangsing	7.13	234	eP	Pn	07 32 01.4	-1.3
	comp=E,28nm,0.4s						
DANN	Dangsing	7.13	234	eP	Pn	07 32 01.4	-1.3
	comp=E,28nm,0.4s						
KOLN	Koldanda	7.61	231	eP	Pn	07 32 08.3	-1.0
	comp=E,14nm,0.5s						
KOLN	Koldanda	7.61	231	eP	Pn	07 32 08.3	-1.0
	comp=E,14nm,0.5s						
PYUN	Piuthan	7.81	235	eP	Pn	07 32 10.0	-2.1
	comp=E,24nm,0.6s						
PYUN	Piuthan	7.81	235	eP	Pn	07 32 10.0	-2.1
	comp=E,24nm,0.6s						
MK31	Makanchi Array	15.28	339	ePn	Pn	07 33 54.8	+0.7
MKAR	Makanchi Array	15.28	339	Pn	Pn	07 33 53.0	-1.1
	comp=E,0.1nm,0.3s,baz=142,slow=14,SNR=6.0						
MKAR	Makanchi Array	15.28	339	Pn	Pn	07 33 53.0	-1.1
TKM2	Tokmak 2	15.37	315	Pn	Pn	07 33 56.2	+0.9
	comp=E,2.4nm,0.9s						
EKS2	Erkin-Say	16.34	312	ePn	Pn	07 34 07.3	-0.5
	comp=E,6.6nm,0.7s						
SONM	Songino Array	19.38	34	P	Pn	07 34 46.4	+1.0
	comp=E,0.1nm,0.3s,baz=218,slow=10,SNR=2.4						
SONM	Songino Array	19.38	34	P	Pn	07 34 46.4	+1.0
KURK	Kurchatov	19.88	338	P	Pn	07 34 50.1	-1.2
	comp=E,0.0nm,0.3s,baz=148,slow=12,SNR=16						
KURK	Kurchatov	19.88	338	eP	Pn	07 34 50.4	-1.0
	comp=E,2.0nm,0.8s						
ZALV	Zalesovo Beam	21.53	351	P	P	07 35 07.9	+0.3
	comp=E,0.6nm,0.4s,mb3.3,baz=165,slow=13,SNR=5.4						
ZALV	Zalesovo Beam	21.53	351	P	P	07 35 07.9	+0.3
BVAR	Borovoye Array	24.78	331	P	P	07 35 41.2	+0.8
	comp=E,1.2nm,0.9s,mb3.6,baz=145,slow=8.1,SNR=6.6						
BVAR	Borovoye Array	24.78	331	P	P	07 35 41.2	+0.8
ASF	Jabal al Asfar	44.62	284	LR	LR	07 58 13.8	
	comp=E,18nm,18.7s,MS3.0,baz=63,slow=38						
EIL	Elat	46.95	282	LR	LR	08 01 52.7	
	comp=E,33nm,19.9s,MS3.3,baz=53,slow=40						
ASAR	Alice Springs	69.88	138	P	P	07 41 29.9	+0.1
	comp=E,0.6nm,0.8s,mb3.8,baz=334,slow=6.2,SNR=6.1						
ASAR	Alice Springs	69.88	138	P	P	07 41 29.9	+0.1
ILAR	Eielson Array	73.09	22	P	P	07 41 48.5	-0.2
	comp=E,0.6nm,0.9s,mb3.7,baz=297,slow=4.0,SNR=4.3						
ILAR	Eielson Array	73.09	22	P	P	07 41 48.5	-0.2
STKA	Stephens Creek	80.52	138	P	P	07 42 29.7	-1.3
	comp=E,1.3nm,0.7s,mb4.1,baz=355,slow=11,SNR=3.3						
STKA	Stephens Creek	80.52	138	P	P	07 42 29.7	-1.3
TORD	Torodi Ar. Bea	81.82	280	P	P	07 42 37.9	-0.6
	comp=E,0.2nm,0.6s,mb3.4,baz=38,slow=4.4,SNR=2.6						
TORD	Torodi Ar. Bea	81.82	280	P	P	07 42 37.9	-0.6

IDC 08 07:38:06.2±2.2, 8°.12S×130°.12E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=119.5km s-min=32.6km az=68.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.44	161	Pn	Pn	07 41 04.5	-0.2
	0.2nm,0.3s,baz=345,slow=13,SNR=11						
WRA				Sn	Sn	07 43 17.2	-6.8
	0.1nm,0.3s,baz=339,slow=24,SNR=6.6						
ASAR	Alice Springs	15.88	167	Pn	Pn	07 41 51.5	+0.4
	0.1nm,0.3s,baz=336,slow=7.3,SNR=4.6						
ASAR				Sn	Sn	07 44 40.4	-7.5
	0.0nm,0.3s,baz=348,slow=25,SNR=4.0						
MKAR	Makanchi Array	69.22	327	P	P	07 49 15.0	+0.1
	0.4nm,0.6s,baz=137,slow=7.1,SNR=5.0						

*NIED **08** 07:43:00, 38°.50N×143°.20E, h26km, Mw3.9 Best double couple: M0=7.96000×10^14 NP1:φ0=23.00000°, δ63.00000°, λ90.00000°. NP2:φ0=203.00000°, δ27.00000°, λ90.00000°.*
*IDC **08** 07:43:37.9±2.1, 38°.68N×143°.51E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=62.1km s-min=20.4km az=67.0*
*JMA **08** 07:43:39.8±0.1, 38°.55N×143°.17E, h9km±2km, M4.3*
*NEIC **08** 07:43:39.8, 38°.55N×143°.17E, h9km, mb4.2/2, After JMA.*
*ISCJB **08** 07:43:41.5±0.7, 38°.57N±0°.05×143°.24E±0°.07, h33km, mb3.8/9, Error ellipse: s-maj=8.5km s-min=6.5km az=139.0*

ISC 08 07:43:43.3±1.9, 38°.63N±0°.05×143°.14E±0°.07, h28km±15km, n36, σ0§84/45, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.23	292	P	Pn	07 44 03.6	-0.9
OFUJ				eS	Sn	07 44 20.4	+0.2
JIO	Ouri	1.41	264	P	Pn	07 44 05.7	-1.3
JIO				S	Sn	07 44 24.6	-0.1
JMK	Ichinoseki	1.53	283	P	Pn	07 44 08.1	-0.6
JMK				eS	Sn	07 44 28.3	+0.7
JOM	Ohasama	1.67	301	P	Pn	07 44 10.5	0.0
JOU	Okura	1.96	263	P	Pn	07 44 14.2	-0.3
JMM	Marumori	1.99	248	P	Pn	07 44 14.0	-1.0
JMM				eS	Sn	07 44 38.4	-0.6
JANG	Nango	2.15	325	P	Pn	07 44 16.8	-0.4
JFK	Kawauchi	2.18	236	P	Pn	07 44 16.3	-1.4
JYK	Kaneyama	2.19	278	P	Pn	07 44 18.2	+0.5
JYS	Shiratake	2.44	261	P	Pn	07 44 21.4	+0.2
JFT	Otama	2.47	244	P	Pn	07 44 21.6	0.0
JAH	Hinai	2.49	310	P	Pn	07 44 22.6	+0.8
JYA	Atsumi	2.68	270	P	Pn	07 44 24.6	+0.1
MJAR	Matsushiro Arr	4.43	244	Pn	Pn	07 44 50.0	+1.4
	4.0nm,0.3s,baz=34,slow=12,SNR=21						
MJAR				Sn	Sn	07 45 50.4	+11
	baz=48,slow=27,SNR=3.0						
MJAR	Matsushiro Arr	4.43	244	Pn	Pn	07 44 50.0	+1.4
MJAR				Sn	Sn	07 45 50.4	+11
MAJO	Matsushiro	4.43	244	ePn	Pn	07 44 50.3	+1.7
MAT	Matsushiro	4.43	244	P	Pn	07 44 49.0	+0.4
MAT				S	Sn	07 45 38.5	-0.7
ASAJ	Asahikawa	5.50	356	Pn	Pn	07 45 04.0	+0.8
	1.6nm,0.3s,baz=250,slow=21,SNR=6.4						
ASAJ				Sn	Sn	07 46 03.9	-1.6
	0.6nm,0.3s,baz=198,slow=20,SNR=3.1						
ASAJ				LR	LR	07 48 01.1	
	comp=Z,193nm,19.6s,baz=140,slow=48						
ASAJ	Asahikawa	5.50	356	Pn	Pn	07 45 04.0	+0.8
ASAJ				Sn	Sn	07 46 03.9	-1.6
SONM	Songino Array	28.08	301	P	P	07 49 33.5	+1.3
	0.5nm,0.4s,mb3.5,baz=100,slow=9.4,SNR=6.0						
SONM	Songino Array	28.08	301	P	P	07 49 33.5	+1.3
ZALV	Zalesovo Beam	41.87	311	P	P	07 51 31.3	+0.7
	0.4nm,0.4s,mb3.5,baz=85,slow=4.8,SNR=2.8						
ZALV	Zalesovo Beam	41.87	311	P	P	07 51 31.3	+0.7
MK31	Makanchi Array	44.45	301	eP	P	07 51 51.9	+0.3
MKAR	Makanchi Array	44.45	301	P	P	07 51 52.0	+0.5
	0.7nm,0.7s,mb3.5,baz=84,slow=9.3,SNR=5.8						
MKAR	Makanchi Array	44.45	301	P	P	07 51 52.0	+0.5
KURK	Kurchatov	46.04	307	P	P	07 52 05.1	+0.9
	2.4nm,0.5s,mb4.4,baz=81,slow=8.2,SNR=23						
KURK	Kurchatov	46.04	307	eP	P	07 52 04.6	+0.5
	2.5nm,0.7s,mb4.2						
BVAR	Borovoye Array	50.52	312	P	P	07 52 38.5	-0.1
	0.4nm,0.5s,mb3.6,baz=65,slow=10,SNR=3.0						
BVAR	Borovoye Array	50.52	312	P	P	07 52 38.5	-0.1
INK	Inuvik	52.35	28	eP	P	07 52 48.8	-3.3
	3.8nm,0.4s,mb4.7						
ABKAR	Akbulak array	57.96	310	P	P	07 53 32.9	0.0
	1.1nm,0.5s,mb4.1						
WRA	Warramunga Arr	58.84	190	P	P	07 53 38.6	-0.6
	0.5nm,0.7s,mb3.7,baz=7.4,slow=7.2,SNR=10						
WRA	Warramunga Arr	58.84	190	P	P	07 53 38.6	-0.6
ASAR	Alice Springs	62.56	190	P	P	07 54 04.8	+0.2
	0.3nm,0.9s,mb3.4,baz=10,slow=7.8,SNR=3.5						
ASAR	Alice Springs	62.56	190	P	P	07 54 04.8	+0.2

*IDC **08** 07:48:28.5±2.5, 38°.77N×21°.60E, h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/24, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=138.6km s-min=27.2km az=145.0*
*ISCJB **08** 07:48:29.9±0.4, 38°.41N±0°.02×22°.01E±0°.02, h2km±3km, mb3.3/2, Error ellipse: s-maj=3.1km s-min=2.6km az=153.6*
*CSEM **08** 07:48:30.0±0.1, 38°.41N×22°.00E, h2km, MD3.0, Error ellipse: s-maj=2.4km s-min=1.9km az=69.0*
*ATH **08** 07:48:30.1, 38°.40N×21°.97E, h10km±1km, MD3.0/12, ML2.8*
*THE **08** 07:48:30.4, 38°.40N×22°.01E, h2km, ML3.1/12, Error ellipse: s-maj=0.7km s-min=0.3km az=300.0*

ISC 08 07:48:30.5±0.3, 38°.41N±0°.02×22°.00E±0°.02, h5km±3km, n74, σ0§83/115, mb3.3/2, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.08	283	ePG	Pg	07 48 32.3	+0.1
EFP				eSG	Sg	07 48 33.8	+0.4
EFP	Efpalio	0.08	283	P	Pg	07 48 32.2	0.0
EFP				S	Sg	07 48 33.6	+0.2
EFP	Efpalio	0.08	283	P	Pg	07 48 32.2	0.0
EFP				S	Sg	07 48 33.6	+0.2
UPR	University Cam	0.21	233	ePG	Pg	07 48 34.7	+0.1
UPR				eSG	Sg	07 48 37.6	+0.2
UPR	University Cam	0.21	233	P	Pg	07 48 34.7	+0.1
UPR				S	Sg	07 48 37.7	+0.3
UPR	University Cam	0.21	233	P	Pg	07 48 34.7	+0.1
UPR				S	Sg	07 48 37.7	+0.3
DSF	Desfina	0.41	90	P	Pg	07 48 38.2	-0.3
DSF				S	Sg	07 48 44.2	+0.3
DSF	Desfina	0.41	90	P	Pg	07 48 38.2	-0.3
DSF				S	Sg	07 48 44.2	+0.3
EVR	Evrytania	0.53	344	P	Pg	07 48 40.3	-0.4
EVR				S	Sg	07 48 48.4	+0.8
EVR	Evrytania	0.53	344	P	Pg	07 48 40.3	-0.4
EVR				S	Sg	07 48 48.4	+0.8
GUR	Goura	0.54	150	ePG	Pg	07 48 40.6	-0.3
GUR				eSB	Sg	07 48 48.9	+0.9
GUR	Goura	0.54	150	P	Pg	07 48 40.5	-0.4
GUR				S	Sg	07 48 48.5	+0.5
GUR	Goura	0.54	150	ePg	Pg	07 48 40.6	-0.3
GUR				S	Sg	07 48 48.5	+0.5
GUR				eSb	Sg	07 48 48.9	+0.9
RLS	Riolos of Patr	0.55	230	P	Pg	07 48 40.8	-0.2
RLS	Riolos of Patr	0.55	230	P	Pg	07 48 40.8	-0.2
AGG	Agios Georgios	0.66	23	ePB	Pg	07 48 42.4	-0.9
AGG				eSB	Sb	07 48 52.9	-1.2
AGG	Agios Georgios	0.66	23	P	Pg	07 48 42.4	-0.9
AGG				S	Sg	07 48 52.7	+0.8
AGG	Agios Georgios	0.66	23	P	Pg	07 48 42.4	-0.9
AGG				S	Sg	07 48 52.7	+0.8
LKR	Lokris	0.82	73	ePG	Pg	07 48 45.8	-0.4
LKR	Lokris	0.82	73	P	Pg	07 48 45.5	-0.7
LKR				S	Sg	07 48 57.7	+0.8
LKR	Lokris	0.82	73	P	Pg	07 48 45.5	-0.7
LKR	Lokris	0.82	73	ePg	Pg	07 48 45.8	-0.4
LKR				S	Sg	07 48 57.7	+0.8
LTK	Loutraki	0.85	117	ePB	Pb	07 48 47.1	-0.7
LTK	Loutraki	0.85	117	P	Pg	07 48 47.0	+0.1
LTK				S	Sg	07 48 58.5	+0.6
LTK	Loutraki	0.85	117	P	Pg	07 48 46.9	0.0
LTK				S	Sg	07 48 58.5	+0.6
KFL	Anninata	1.00	253	P	Pg	07 48 48.7	-1.0
KFL				S	Sg	07 49 04.1	+1.4
KFL	Anninata	1.00	253	P	Pg	07 48 48.7	-1.0
KFL				S	Sg	07 49 03.5	+0.8
DSL	Palaion Diasel	1.01	316	P	Pg	07 48 49.2	-0.7
DSL				S	Sg	07 49 04.4	+1.4
DSL	Palaion Diasel	1.01	316	P	Pg	07 48 49.2	-0.7
DSL				S	Sg	07 49 04.4	+1.4
VLX	Vlachokerasia	1.08	164	ePG	Pg	07 48 50.1	-1.1
VLX	Vlachokerasia	1.08	164	P	Pg	07 48 50.0	-1.2
VLX				S	Sg	07 49 06.0	+0.8
VLX	Vlachokerasia	1.08	164	ePg	Pg	07 48 50.1	-1.1
VLX				S	Sg	07 49 05.3	+0.1
THL	Klokotos Trika	1.15	1	ePB	Pb	07 48 52.2	-0.7
THL	Klokotos Trika	1.15	1	P	Pg	07 48 51.9	-0.7
THL				S	Sg	07 49 08.9	+1.3
THL	Klokotos Trika	1.15	1	P	Pg	07 48 51.9	-0.7
THL	Klokotos Trika	1.15	1	ePb	Pb	07 48 52.2	-0.7
THL				S	Sg	07 49 08.9	+1.3
ITM	Ithomi	1.23	183	ePN	Pg	07 48 52.8	-1.3
ITM	Ithomi	1.23	183	P	Pg	07 48 52.8	-1.3
ITM				S	Sg	07 49 11.1	+1.1
ITM	Ithomi	1.23	183	P	Pg	07 48 52.8	-1.3
ITM				S	Sg	07 49 11.1	+1.1
NEO	Neokhori	1.31	46	ePB	Pb	07 48 55.2	-0.4
NEO	Neokhori	1.31	46	ePb	Pb	07 48 55.2	-0.4
DID	Didima	1.33	132	ePB	Pn	07 48 55.5	-0.2
DID	Didima	1.33	132	P	Pn	07 48 55.5	-0.2
DID				S	Sg	07 49 14.2	+1.0
DID	Didima	1.33	132	P	Pn	07 48 55.5	-0.2
DID				S	Sg	07 49 14.2	+1.0
NAIG	Nisos Aigina	1.34	118	ePB	Pb	07 48 56.0	-0.1
NAIG	Nisos Aigina	1.34	118	ePb	Pb	07 48 56.0	-0.1
ATH	Athens Observa	1.42	107	ePB	Pb	07 48 57.7	+0.2
ATH	Athens Observa	1.42	107	ePb	Pb	07 48 57.7	+0.2
MEV	Metsovon	1.50	337	P	Pn	07 48 57.7	-0.3
MEV	Metsovon	1.50	337	P	Pn	07 48 57.7	-0.3
PTL	Penteli	1.51	103	ePG	Pg	07 48 58.7	-0.8
PTL	Penteli	1.51	103	ePg	Pg	07 48 58.7	-0.8
VLY	Voula,Athens	1.52	111	ePG	Pg	07 48 58.8	-0.8
VLY	Voula,Athens	1.52	111	P	Pn	07 48 57.6	-0.7
VLY				S	Sn	07 49 18.8	+0.3
VLY	Voula,Athens	1.52	111	P	Pn	07 48 57.6	-0.7
VLY	Voula,Athens	1.52	111	ePg	Pg	07 48 58.8	-0.8
VLY				S	Sn	07 49 18.8	+0.3
PYL	PYLOS	1.52	188	ePG	Pg	07 48 58.1	-1.6
PYL	PYLOS	1.52	188	P	Pn	07 48 57.8	-0.6
PYL				S	Sn	07 49 18.9	+0.3
PYL	PYLOS	1.52	188	P	Pn	07 48 57.8	-0.6
PYL	PYLOS	1.52	188	ePg	Pg	07 48 58.1	-1.6
PYL				S	Sn	07 49 18.9	+0.3
LIT	Litokhoron	1.73	13	P	Pn	07 49 00.7	-0.5
LIT	Litokhoron	1.73	13	P	Pn	07 49 00.7	-0.5
VLI	Veliai	1.84	156	ePN	Pn	07 49 03.7	+0.9
VLI	Veliai	1.84	156	P	Pn	07 49 02.1	-0.7
VLI				S	Sn	07 49 27.1	+0.6
VLI	Veliai	1.84	156	P	Pn	07 49 02.1	-0.7
VLI				S	Sn	07 49 27.1	+0.6
KYTH	Kithira	2.28	158	ePN	Pn	07 49 10.4	+1.6
KYTH	Kithira	2.28	158

USP	Ospenovka	0.43	206	⇑P	Pg	07 51 31.4	-1.6
	6.1nm,0.1s,SNR=30						
USP				P		07 51 31.5	
	SNR=30						
USP				⇑S	Sg	07 51 38.8	0.0
	15nm,0.1s						
TKM2	Tokmak 2	0.95	140	⇑P	Pg	07 51 43.1	+0.1
	1.8nm,0.1s,SNR=16						
TKM2				P		07 51 43.1	
	SNR=16						
TKM2	Tokmak 2	0.95	140	⇓Pn	Pn	07 51 43.0	-1.1
	0.5nm,0.5s						
TKM2				⇓Sn	Sn	07 51 58.6	+0.9
	0.5nm,0.2s						
KBK	Karagaybulak	1.01	172	⇓P	Pg	07 51 44.2	+0.2
	3.7nm,0.1s,SNR=13						
KBK				P		07 51 44.2	
	SNR=13						
AAK	Ala-Archa	1.04	191	⇑P	Pg	07 51 43.3	-1.3
	2.7nm,0.1s,SNR=14						
AAK				P		07 51 43.5	
	SNR=14						
AAK				⇑S	Sg	07 51 59.4	+1.3
	2.5nm,0.1s						
EKS2	Erkin-Say	1.23	216	⇓P	Pn	07 51 44.9	-2.9
	1.9nm,0.1s,SNR=8.5						
EKS2				P		07 51 45.0	
	SNR=8.5						
AML	Almayashu	1.71	208	⇓P	Pn	07 51 54.1	-0.4
	1.5nm,0.1s,SNR=5.8						
AML				P		07 51 54.2	
	SNR=5.8						
ULHL	Ulahol	1.78	142	⇓P	Pn	07 51 58.4	+3.0
	4.1nm,0.3s,SNR=14						
ULHL				P		07 51 58.5	
	SNR=14						
KK31	Karatay Array	3.15	261	Pn	Pn	07 52 14.8	+0.6
	0.6nm,0.2s,baz=74,slow=18,SNR=12						
KK31				⇑Sn	Sn	07 52 53.3	+1.5
	1.1nm,0.4s,baz=76,slow=30,SNR=4.5						

NEIC 08 07:52:09.2, 66°.45N×157°.87W, h15km, ML3.5(AEIC), After AEIC., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM3	Indian Mountai	1.73	104	P	Pn	07 52 38.6	0.0
IM3				S	Sn	07 53 00.1	-0.4
GCSA	Galena City Sc	1.76	166	P	Pn	07 52 39.7	+0.7
GCSA				S	Sn	07 53 02.2	+1.0
COLD	Coldfoot	3.13	72	P	Pn	07 52 58.9	+1.0
COLD				S	Sn	07 53 37.3	+2.5
CHUM	Lake Minchumin	3.48	135	P	Pn	07 53 03.8	+1.1
CHUM				S	Sn	07 53 44.8	+1.3
TT01	Tatalina	3.64	167	P	Pn	07 53 05.4	+0.4
BPAW	Bear Paw Mtn.	3.73	126	P	Pn	07 53 07.2	+1.1
NEA	Nenana	4.11	113	P	Pn	07 53 11.8	+0.4
TNA	Tin City	4.20	262	P	Pn	07 53 13.1	+0.5
PPLA	Purkeypile	4.32	143	P	Pn	07 53 15.8	+1.6
TRF	Thorofare Moun	4.41	130	P	Pn	07 53 16.5	+1.0
COLA	College	4.44	106	P	Pn	07 53 16.4	+0.7
CCB	Clear Creek Bu	4.55	109	P	Pn	07 53 17.8	+0.4
MCK	McKinley	4.66	122	P	Pn	07 53 18.8	0.0
RND	Reindeer	4.90	124	P	Pn	07 53 23.0	+0.8
DHY	Denali Highway	5.62	122	P	Pn	07 53 33.3	+1.3

*NIED **08** 08:04:00, 31°.80N×140°.30E, h130km, Mw4.5 Best double couple: $M_0$7.19000×10[15] NP1:ϕ_s137.00000°, δ63.00000°, λ-113.00000°. NP2:ϕ_s1.00000°, δ35.00000°, λ-51.00000°.*
*MOS **08** 08:04:30.3±1.0, 31°.64N×140°.14E, h153km, mb4.6/48, Error ellipse: s-maj=10.5km s-min=5.4km az=111.2*
*IDC **08** 08:04:31.5±0.5, 31°.66N×140°.07E, h148km±4km, mb4.1/22, mb1 4.2/24, mb1mx4.1/27, mbtmp4.0/24, MS3.7/3, Ms1 3.7/3, ms1mx2.9/44, Error ellipse: s-maj=12.0km s-min=8.8km az=88.0*
*NEIC **08** 08:04:31.8±0.2, 31°.64N×140°.09E, mb4.7/67, MW4.5(NIED), Error ellipse: s-maj=4.7km s-min=3.6km az=147.0*
*ISCJB **08** 08:04:31.6±0.1, 31°.74N±0°.03×140°.01E±0°.02, h155km, mb4.5/107, Error ellipse: s-maj=4.0km s-min=2.9km az=12.1*
*BJI **08** 08:04:32.2, 31°.82N×140°.27E, h181km, mB4.8/29, mb4.7/40*
*JMA **08** 08:04:32.7±0.3, 31°.83N×140°.29E, h147km±2km, M4.5*
ISC 08 08:04:33.3±0.1, **31°.81N**±0°.03×**140°.02E**±0°.02, **h157**km, **h157**km±4.0km**:pP-P, n572,** σ**0°.67**/581, **mb4.5**/107, **162C-133D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.31	352	P	Pn	08 05 00.8	-0.7
JHJ2				S	Sn	08 05 22.3	-0.9
JMY	Miyakejima3	2.30	349	P	Pn	08 05 12.8	+0.5
TK02	Tokai 2	2.86	319	P	Pn	08 05 20.5	+1.4
BSO1	Boso 1	2.95	15	P	Pn	08 05 17.9	-2.3
BSO1				S	Sn	08 05 52.6	-4.0
BSO2	Boso 2	3.00	12	S	Sn	08 05 55.9	-1.9
TTO1	TONANKAI O.B.S	3.27	304	P	Pn	08 05 25.6	+1.2
JOD2	Odawara 2	3.53	347	P	Pn	08 05 27.7	+0.1
JOD2				S	Sn	08 06 09.1	-0.8
JIE	Ise	3.79	314	P	Pn	08 05 32.2	+1.2
JIE				S	Sn	08 06 18.4	+2.5
JYN	Shimob	3.88	342	P	Pn	08 05 33.4	+1.3
JWZ	Kozaga	4.02	296	P	Pn	08 05 35.1	+1.2
JWZ				S	Sn	08 06 24.0	+2.9
JRY	Ryogami san	4.30	348	P	Pn	08 05 37.6	0.0
JRY				eS	Sn	08 06 26.1	-1.6
JAG	Ashikaga	4.63	354	P	Pn	08 05 40.0	-1.9
JAG				eS	Sn	08 06 31.6	-3.8
MJAR	Matsushiro Arr	4.96	343	P	Pn	08 05 46.3	+0.2
	2.8nm,0.3s,baz=164,slow=11,SNR=23						
MJAR	Matsushiro Arr	4.96	343	P	Pn	08 05 46.3	+0.2
MJAR	Matsushiro Arr	4.96	343	P	Pn	08 05 46.3	+0.1
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAJO	Matsushiro	4.96	343	ePn	Pn	08 05 47.1	+1.0
MAJO	Matsushiro	4.96	343	eP	Pn	08 05 47.2	+1.0
MAT	Matsushiro	4.96	343	P	Pn	08 05 45.7	-0.5
MAT				S	Sn	08 06 42.6	-0.5
CBIJ	Chichi jima	5.06	158	P	Pn	08 05 42.3	-5.4
	comp=Z,27nm,0.3s,baz=309,slow=23,SNR=13						
CBIJ				S	Sn	08 06 34.2	-11
	comp=Z,71nm,0.3s,baz=91,slow=23,SNR=14						
CBIJ	Chichi jima	5.06	158	P	Pn	08 05 42.3	-5.4
CBIJ				S	Sn	08 06 34.2	-11
JNU	Nakatsue	7.84	282	ePn	Pn	08 06 28.3	+3.9
ERM	Erimo	10.49	13	i P	Pn	08 06 56.0	-3.5
KSRS	Korea Array	11.44	303	P	Pn	08 07 15.1	+3.0
	comp=Z,0.6nm,0.3s,baz=116,slow=14,SNR=36						
KSRS	Korea Array	11.44	303	P	Pn	08 07 15.1	+3.0
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	Wonju Array Be	11.47	303	P	Pn	08 07 15.1	+2.7
KSAR	Wonju Array Be	11.47	303	P	Pn	08 07 15.1	+2.7
ASAJ	Asahikawa	12.45	9	P	Pn	08 07 21.9	-3.2
	comp=Z,1.3nm,0.3s,baz=197,slow=31,SNR=8.5						
ASAJ				S	Sn	08 09 27.8	-15
	comp=Z,0.7nm,0.3s,baz=102,slow=20,SNR=2.3						
ASAJ	Asahikawa	12.45	9	P	Pn	08 07 21.9	-3.2
ASAJ				S	Sn	08 09 27.8	-15
ASAJ	Asahikawa	12.45	9	P	Pn	08 07 21.9	-3.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	Mudanjiang	15.17	330	P	Pn	08 07 58.7	-0.7
MDJ				S	S	08 10 46.4	-2.0
MDJ				pmax	pmax		
	comp=Z,23nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,140nm,5.2s						
YSS	Yuzh-Sakhalins	15.27	7	ePn	Pn	08 08 00.6	+0.1
YSS	Yuzh-Sakhalins	15.27	7	eP	Pn	08 07 59.7	-0.9
CN2	Changchun	16.58	320	eP	Pn	08 08 17.0	+0.4
CN2				esP	sP	08 09 02.7	-0.3
CN2				eS	S	08 11 14.8	-6.1
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
HABR	Khabarovsk	17.07	349	eP	Pn	08 08 20.4	-2.0
HABR				eS	S	08 11 30.2	-1.1
HABR				pmax	pmax		
	comp=E,45nm,1.6s						
HABR				pmax	pmax		
	comp=N,50nm,1.9s						
HABR				pmax	pmax		
	comp=Z,61nm,1.6s						
HABR				MLR	MLR		
	comp=Z,50nm,14.0s						
YHNB	Yeheng	17.89	251	eP	Pn	08 08 30.6	-1.8
	comp=Z,68nm,0.8s						
NJ2	Nanjing	17.97	276	eP	Pn	08 08 33.2	-0.2
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
KLR	Kul'dur	18.48	343	eP	P	08 08 33.3	-3.8
YULB	Yu-li	18.57	248	eP	P	08 08 37.9	-0.5
	comp=Z,47nm,0.9s						
SSLB	Suanglung	18.65	249	eP	P	08 08 39.7	+0.5
	comp=Z,80nm,0.8s						
TWG	Pinlang	19.05	247	eP	P	08 08 43.9	+0.3
	comp=Z,214nm,1.5s						
TPUB	Ta-pu	19.15	249	eP	P	08 08 45.4	+0.8
	comp=Z,50nm,0.8s						
BJI	Beijing	20.94	300	P	P	08 09 04.1	+0.4
BJI				LR	LR		
	comp=Z,40μm,15.7s						
WHN	Wuhan	21.99	273	P	P	08 09 13.2	-1.7
HHC	Hu-ho-hao-te	24.55	300	eP	P	08 09 39.6	+1.2
HHC				pP		08 10 13.9	
HHC				PP		08 10 24.6	
HHC				sP	sP	08 10 35.4	+6.3
HHC				S	S	08 13 45.1	-2.5
HHC				SS		08 14 59.4	
HHC				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.8						
HHC				pmax	pmax		
	comp=Z,170nm,4.5s						
PETK	Petropavlovsk-	24.83	26	P	P	08 09 41.4	+0.6
	comp=Z,4.7nm,0.7s,mb4.1,baz=191,slow=6.6,SNR=3.3						
PETK				LR	LR	08 19 25.7	
	comp=Z,68nm,20.6s,baz=47,slow=36						
PETK	Petropavlovsk-	24.83	26	P	P	08 09 41.4	+0.6
PETK	Petropavlovsk-	24.83	26	P	P	08 09 41.4	+0.6
PETK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
PETK				MLR	MLR		
	comp=Z,68nm,20.6s						
XAN	Xi'an	26.15	283	P	P	08 09 52.1	-0.9
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
XAN				pmax	pmax		
	comp=Z,37nm,6.0s						
CLNS	Chul'man	27.14	342	eP	P	08 10 01.1	-0.4
CLNS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.8s						
GYA	Guiyang	29.55	268	P	P	08 10 25.0	+1.7
GYA				pP	pP	08 11 01.8	+5.6
GYA				sP	sP	08 11 20.5	+6.2
GYA				PP	PP	08 11 28.0	-5.0
GYA				PcP	PcP	08 13 25.4	+1.0
GYA				S	S	08 15 04.5	-2.1
GYA				sS	sS	08 16 09.3	+4.6
GYA				ScP	ScP	08 16 50.0	-1.6
GYA				PcS	PcS	08 17 07.8	0.0
GYA				ScS	ScS	08 20 42.3	-4.5
GYA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
ULN	Ulaanbaatar	29.69	312	eP	P	08 10 25.5	+1.3
	comp=Z,15nm,0.9s,mb4.7						
ULN	Ulaanbaatar	29.69	312	eP	P	08 10 25.5	+1.3
ULN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
SONM	Songino Array	30.09	312	P	P	08 10 28.7	+1.0
	comp=Z,8.9nm,0.8s,mb4.6,baz=117,slow=8.6,SNR=64						
SONM				PcP	PcP	08 13 25.3	-0.1
	comp=Z,0.5nm,0.4s,baz=126,slow=2.4,SNR=5.8						
SONM				ScP	ScP	08 16 53.7	+0.8
	comp=Z,0.3nm,0.6s,baz=157,slow=3.7,SNR=3.3						
SONM				LR	LR	08 22 30.7	
	comp=Z,77nm,20.4s,baz=224,slow=36						
SONM	Songino Array	30.09	312	P	P	08 10 28.7	+1.0
SONM				PcP	PcP	08 13 25.3	-0.1
SONM				ScP	ScP	08 16 53.7	+0.8
SONM	Songino Array	30.09	312	P	P	08 10 28.7	+0.9
SONM						08 13 25.3	
SONM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				MLR	MLR		
	comp=Z,77nm,20.4s						
LZH	Lanzhou	30.20	288	eP	P	08 10 29.5	+0.6
LZH				sP	sP	08 11 27.0	+7.0
LZH				ePP	PP	08 11 34.6	-5.5
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.7						
LZH				pmax	pmax		
	comp=Z,54nm,4.8s						
LZH	Lanzhou	30.20	288	eP	P	08 10 29.5	+0.6
	comp=Z,21nm,1.2s,mb4.7						
LZH				pP	pP	08 10 55.8	-6.1
LZH				sP	sP	08 11 27.0	+7.0
LZH				ePP	PP	08 11 34.6	-5.5
LZH	Lanzhou	30.20	288	eP	P	08 10 29.5	+0.6
LZH				e		08 11 34.6	
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.7						
CD2	Chengdu	30.89	278	eP	P	08 10 36.0	+0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				pmax	pmax		
	comp=Z,20nm,4.2s						
YAK	Yakutsk	30.97	351	eP	P	08 10 34.3	-1.0
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
BOD	Bodaibo	31.51	333	eP	P	08 10 39.3	-0.8
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
ZAK	Zakamensk	32.89	315	eP	P	08 10 53.1	+0.8
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
TLY	Talaya	33.15	318	eP	P	08 10 55.7	+1.2
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
KMI	Kunming	33.33	268	P	P	08 10 58.1	+1.7
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
KMI	Kunming	33.33	268	P	P	08 10 58.1	+1.7
	comp=Z,9.0nm,0.8s,mb4.5						
KMI	Kunming	33.33	268	P	P	08 10 58.1	+1.7
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
GTA	Gaotai	33.34	295	eP	P	08 10 56.2	-0.2
GTA				pP	pP	08 11 33.4	+3.8
GTA				sP	sP	08 11 54.1	+6.5
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
HVS	Khovu-Aksy	38.94	314	d iP	P	08 11 45.1	+1.4
HVS				pmax	pmax		
	comp=Z,105nm,1.0s,mb5.4						
CMAR	Chiang Mai Arr	39.27	260	P	P	08 11 46.0	-0.8
	comp=Z,1.7nm,0.5s,mb4.0,baz=52,slow=7.7,SNR=8.0						
CMAR	Chiang Mai Arr	39.27	260	P	P	08 11 46.0	-0.8
CMAR	Chiang Mai Arr	39.27	260	P	P	08 11 46.0	-0.8
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BILL	Bilibino	39.35	15	⇑eP	P	08 11 47.0	+0.1
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
WMQ	Urumqi	42.39	302	P	P	08 12 12.2	+0.1
WMQ				pP	pP	08 12 50.5	+3.9
WMQ				sP	sP	08 13 10.3	+6.0
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,88nm,4.4s						
ZALV	Zalesovo Beam	44.74	316	P	P	08 12 30.7	0.0
	comp=Z,1.9nm,0.4s,mb4.1,baz=71,slow=10,SNR=12						
ZALV				PcP	PcP	08 14 09.5	-0.6
	comp=Z,5.2nm,0.6s,baz=110,slow=2.9,SNR=15						
ZALV				ScP	ScP	08 17 47.0	-0.7
	comp=Z,0.7nm,0.5s,baz=106,slow=4.7,SNR=2.9						
ZALV	Zalesovo Beam	44.74	316	P	P	08 12 30.7	0.0
ZALV				PcP	PcP	08 14 09.5	-0.6
ZALV				ScP	ScP	08 17 47.0	-0.7
ZALV	Zalesovo Beam	44.74	316	P	P	08 12 30.7	0.0
ZALV						08 14 09.5	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
ZALV				pmax	pmax		
	comp=N,1.0nm,0.5s						
ODAN	Odare	45.79	278	eP	P	08 12 38.9	-0.5
	comp=N,21nm,0.5s,mb5.1						
ODAN	Odare	45.79	278	eP	P	08 12 38.9	-0.5
	comp=N,21nm,0.5s,mb5.0						
MK31	Makanchi Array	46.10	306	eP	P	08 12 41.3	-0.2
MK31	Makanchi Array	46.10	306	eP	P	08 12 41.3	-0.2
MKAR	Makanchi Array	46.10	306	P	P	08 12 41.6	+0.1
	comp=N,8.8nm,0.5s,mb4.7,baz=85,slow=10,SNR=196						
MKAR				ScP	ScP	08 17 52.6	-0.8
	comp=N,1.0nm,0.6s,baz=85,slow=5.2,SNR=8.6						
MKAR	Makanchi Array	46.10	306	P	P	08 12 41.6	+0.1
MKAR				ScP	ScP	08 17 52.6	-0.8
MKAR	Makanchi Array	46.10	306	P	P	08 12 41.6	+0.1
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
RAMN	Ramite	46.42	278	eP	P	08 12 43.6	-0.7
	comp=N,17nm,0.6s,mb4.9						
RAMN	Ramite	46.42	278	eP	P	08 12 43.6	-0.7
	comp=N,17nm,0.6s,mb4.8						
JIRN	Jiri	46.54	279	eP	P	08 12 45.1	-0.1
	comp=N,9.1nm,0.4s,mb4.7						
JIRN	Jiri	46.54	279	eP	P	08 12 45.1	-0.1
	comp=N,9.1nm,0.4s,mb4.8						
GUN	Gumba	46.72	280	eP	P	08 12 46.3	-0.3
	comp=N,26nm,0.7s,mb5.0						
GUN	Gumba	46.72	280	eP	P	08 12 46.3	-0.3
	comp=N,26nm,0.7s,mb5.0						
GKN	Gorkha	47.73	280	eP	P	08 12 53.7	-0.8
	comp=N,23nm,0.8s,mb4.8						
GKN	Gorkha	47.73	280	eP	P	08 12 53.7	-0.8
	comp=N,23nm,0.8s,mb4.9						
DANN	Dangsing	48.35	281	eP	P	08 12 59.0	-0.2
	comp=N,18nm,0.6s,mb4.9						
DANN	Dangsing	48.35	281	eP	P	08 12 59.0	-0.2
	comp=N,18nm,0.6s,mb4.9						
KURK	Kurchatov	48.40	312	P	P	08 12 59.4	+0.1
	comp=N,6.8nm,0.4s,mb4.6,baz=92,slow=9.6,SNR=98						
KURK	Kurchatov	48.40	312	eP	P	08 12 58.9	-0.3
	comp=N,14nm,0.9s,mb4.6						
KURK				e	pP	08 13 33.9	-0.6
KURK	Kurchatov	48.40	312	eP	P	08 12 58.9	-0.3
KURK				e	pP	08 13 33.9	-0.6
KURK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
KOLN	Koldanda	48.67	281	eP	P	08 13 01.1	-0.6
	comp=Z,10.0nm,0.6s,mb4.6						
KOLN	Koldanda	48.67	281	eP	P	08 13 01.1	-0.6
	comp=Z,10.0nm,0.6s,mb4.6						
PYUN	Piuthan	49.08	281	eP	P	08 13 04.4	-0.4
	comp=Z,45nm,1.0s,mb5.1						
PYUN	Piuthan	49.08	281	eP	P	08 13 04.4	-0.4
	comp=Z,45nm,1.0s,mb5.0						
TKM2	Tokmak 2	51.25	302	eP	P	08 13 21.8	+0.9
	comp=Z,14nm,1.8s,mb4.3						
TKM2	Tokmak 2	51.25	302	eP	P	08 13 21.8	+0.9
TKM2				pmax	pmax		
	comp=Z,14nm,1.8s,mb4.3						
FITZ	Fitzroy Crossi	51.51	198	P	P	08 13 20.4	-2.6
	comp=Z,1.0nm,0.7s,mb3.6,baz=49,slow=11,SNR=3.3						
FITZ	Fitzroy Crossi	51.51	198	P	P	08 13 20.4	-2.6
KSH	Kashi	51.64	297	P	P	08 13 26.7	+2.9
KSH				pP	pP	08 14 06.6	+7.0
KSH				sP	sP	08 14 26.5	+10
KSH				PP	PP	08 15 27.5	+4.8
KSH				ScP	ScP	08 18 16.3	-0.9
KSH				PcS	PcS	08 18 32.2	-1.2
KSH				S	S	08 20 33.5	+0.7
KSH				sS	sS	08 21 43.7	+8.9
KSH				ScS	ScS	08 22 55.2	-2.9
KSH				SS	SS	08 24 11.5	+0.6
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
KSH				pmax	pmax		
	comp=Z,57nm,5.3s						
KSH				LR	LR		
	comp=N,140nm,6.2s						
KSH				LR	LR		
	comp=E,110nm,5.3s						
KSH				LR	LR		
	comp=Z,120nm,6.5s						
WRAB	Tennant Creek	51.73	187	eP	P	08 13 21.8	-2.8
	comp=Z,1.2nm,0.5s,mb3.8						
WRAB				epP	pP	08 13 57.0	-3.4
WRAB	Tennant Creek	51.73	187	eP	P	08 13 21.8	-2.8
WRAB				e*PP	pP	08 13 57.0	-3.4
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
WRA	Warramunga Arr	51.74	187	P	P	08 13 21.5	-3.2
	comp=Z,1.8nm,0.5s,mb3.9,baz=3.4,slow=7.7,SNR=49						
WRA				pP	pP	08 13 56.9	-3.5
	comp=Z,5.2nm,0.7s,baz=7.1,slow=7.9,SNR=12						
WRA				PcP	PcP	08 14 35.5	-0.3
	comp=Z,5.1nm,0.7s,baz=1.6,slow=3.9,SNR=15						
WRA				ScP	ScP	08 18 16.7	-1.0
	comp=Z,0.6nm,0.8s,baz=4.7,slow=4.3,SNR=5.0						
WRA	Warramunga Arr	51.74	187	P	P	08 13 21.5	-3.2
WRA				pP	pP	08 13 56.9	-3.5
WRA				PcP	PcP	08 14 35.5	-0.3
WRA				ScP	ScP	08 18 16.7	-1.0
WRA	Warramunga Arr	51.74	187	P	P	08 13 21.5	-3.2
WRA				*PP	pP	08 13 56.9	-3.5
WRA						08 14 35.5	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.9s						
RSO	Redoubt South	51.76	36	eP	P	08 13 24.7	+0.3
KDAK	Kodiak Island	51.81	39	P	P	08 13 24.2	-0.6
	comp=N,18nm,0.5s,mb5.0,baz=282,slow=4.1,SNR=37						
KDAK	Kodiak Island	51.81	39	P	P	08 13 24.2	-0.6
KDAK	Kodiak Island	51.81	39	P	P	08 13 24.3	-0.5
KDAK				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.0						
CTAO	Charters Tower	51.94	173	eP	P	08 13 23.3	-2.9
	comp=Z,1.9nm,0.3s,mb4.2						
CTAO	Charters Tower	51.94	173	eP	P	08 13 23.3	-2.9
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
AAK	Ala-Archa	52.10	302	eP	P	08 13 27.4	+0.2
	comp=Z,9.3nm,0.7s,mb4.5						
AAK	Ala-Archa	52.10	302	eP	P	08 13 27.4	+0.2
AAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.5						
SPU	Mount Spurr	52.13	35	eP	P	08 13 27.7	+0.6
PPLA	Purkeypile	52.15	32	eP	P	08 13 28.3	+1.1
	comp=Z,13nm,0.8s,mb4.6						
TRF	Thorofare Moun	53.03	32	eP	P	08 13 34.5	+0.8
BRVK	Borovoye	53.41	315	eP	P	08 13 36.7	+0.1
	comp=Z,2.9nm,0.5s,mb4.3						
BRVK	Borovoye	53.41	315	eP	P	08 13 36.7	+0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
SEW	Seward	53.41	36	eP	P	08 13 36.0	-0.5
	comp=Z,40nm,1.4s,mb5.0						
PMR	Palmer	53.54	34	eP	P	08 13 36.7	-0.8
	comp=Z,13nm,0.8s,mb4.7						
PMR	Palmer	53.54	34	eP	P	08 13 36.7	-0.7
PMR				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
MCK	McKinley	53.64	32	eP	P	08 13 38.3	+0.1
	comp=Z,15nm,1.0s,mb4.7						
MCK	McKinley	53.64	32	eP	P	08 13 38.3	+0.2
MCK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
SML	Sawmill	53.92	34	eP	P	08 13 40.2	0.0
SML	Sawmill	53.92	34	eP	P	08 13 40.2	0.0
COLA	College	54.13	30	eP	P	08 13 42.3	+0.6
	comp=Z,7.4nm,0.8s,mb4.5						

COLA College 54.13 30 eP P 08 13 42.3 +0.6
COLA pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
ILAR Eielson Array 54.55 30 P P 08 13 43.8 -0.9
comp=Z,5.3nm,0.7s,mb4.4,baz=266,slow=6.1,SNR=77
ILAR pP pP 08 14 18.3 -2.4
comp=Z,1.0nm,0.7s,baz=268,slow=7.1,SNR=2.2
ILAR Eielson Array 54.55 30 P P 08 13 43.8 -0.9
ILAR pP pP 08 14 18.3 -2.4
ILAR Eielson Array 54.55 30 P P 08 13 43.8 -0.9
ILAR *PP pP 08 14 18.3 -2.4
ILAR pmax pmax
comp=Z,5.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 54.87 303 eP P 08 13 47.8 +0.5
comp=Z,2.8nm,0.3s,mb4.5
KKAR Karatay Array 54.87 303 eP P 08 13 47.8 +0.4
KKAR pmax pmax
comp=Z,3.0nm,0.3s,mb4.5
DIV Divide 55.17 35 eP P 08 13 50.0 +0.7
comp=Z,35nm,1.3s,mb4.9
AS31 Alice Springs 55.47 187 eP P 08 13 49.8 -1.9
ASAR Alice Springs 55.47 187 P P 08 13 49.8 -1.9
comp=Z,0.7nm,0.5s,mb3.6,baz=16,slow=13,SNR=25
ASAR pP pP 08 14 24.3 -3.7
comp=Z,1.4nm,0.6s,baz=17,slow=12,SNR=6.9
ASAR PcP PcP 08 14 48.5 -1.4
comp=Z,1.1nm,0.6s,baz=2.1,slow=5.4,SNR=5.7
ASAR Alice Springs 55.47 187 P P 08 13 49.8 -1.9
ASAR pP pP 08 14 24.3 -3.7
ASAR PcP PcP 08 14 48.5 -1.4
ASAR Alice Springs 55.47 187 P P 08 13 49.8 -1.9
ASAR *PP pP 08 14 24.3 -3.7
ASAR 08 14 48.6
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
BMRM Bremner River 55.75 35 eP P 08 13 54.1 +0.8
comp=Z,25nm,0.8s,mb5.1
RAGM Ragged Mountai 55.77 36 eP P 08 13 53.9 +0.4
DOT Dot Lake 55.82 32 eP P 08 13 53.5 -0.3
comp=Z,4.6nm,0.6s,mb4.5
MENT Mentasta 56.02 32 eP P 08 13 56.2 +1.0
MBWA Marble Bar 56.14 203 eP P 08 13 54.7 -1.9
comp=Z,5.2nm,0.7s,mb4.5
EGAK Eagle 57.00 30 eP P 08 14 02.0 -0.1
comp=Z,6.3nm,0.8s,mb4.5
HYB Hyderabad 57.02 271 i P P 08 14 02.0 -1.0
DAWY Dawson 57.84 31 eP P 08 14 08.5 +0.5
INK Inuvik 59.57 25 eP P 08 14 19.8 -0.1
comp=Z,12nm,0.9s,mb4.7
INK Inuvik 59.57 25 eP P 08 14 19.8 -0.1
INK pmax pmax
comp=Z,13nm,0.9s
ARU Arti 59.58 320 eP P 08 14 20.1 0.0
comp=Z,9.5nm,0.5s,mb4.9
ARU Arti 59.58 320 d iP P 08 14 19.7 -0.4
ARU *PP pP 08 14 56.5 -0.3
ARU 08 15 02.4
ARU S S 08 22 18.1 +0.6
ARU SS SS 08 26 15.2 +0.2
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.6
ABKAR Akbulak array 60.51 312 eP P 08 14 26.4 -0.2
STKA Stephens Creek 63.36 179 P P 08 14 45.2 -0.4
comp=Z,0.9nm,0.6s,mb3.8,baz=18,slow=3.2,SNR=3.4
STKA Stephens Creek 63.36 179 eP P 08 14 45.2 -0.5
comp=Z,0.1nm,0.7s
STKA Stephens Creek 63.36 179 P P 08 14 45.2 -0.5
STKA pmax pmax
comp=Z,1.0nm,0.6s
DLBC Dease Lake 63.48 36 eP P 08 14 47.4 +1.1
AFI Afiamalu 64.80 127 LR LR 08 41 49.1
comp=Z,302nm,18.4s,baz=346,slow=35
KEV Kevo 67.92 340 eP P 08 15 14.4 -0.1
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
KEV Kevo 67.92 340 ep P 08 15 14.4 -0.1
comp=Z,5.9nm,0.7s,mb4.4
ARCES ARCESS Array B 68.48 340 P P 08 15 18.4 +0.3
comp=Z,7.6nm,0.6s,mb4.6,baz=79,slow=9.1,SNR=40
ARCES ARCESS Array B 68.48 340 P P 08 15 18.4 +0.3
ARCES ARCESS Array B 68.48 340 P P 08 15 18.4 +0.4
ARCES pmax pmax
comp=Z,8.0nm,0.6s
YKA Yellowknife Ar 68.91 29 P P 08 15 20.0 -0.7
comp=Z,5.1nm,0.8s,mb4.3,baz=295,slow=6.0,SNR=22
YKA Yellowknife Ar 68.91 29 P P 08 15 20.1 -0.7
YKA Yellowknife Ar 68.91 29 P P 08 15 20.0 -0.8
YKA pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 70.04 333 eP P 08 15 27.2 -0.5
JOF pmax pmax
comp=Z,9.0nm,0.4s,mb4.8
JOF Joensuu 70.04 333 ep P 08 15 27.2 -0.5
comp=Z,8.8nm,0.4s,mb4.8
NLWA Neilton Lookou 71.14 46 eP P 08 15 35.7 +1.1
comp=Z,9.8nm,0.9s,mb4.5
A05A Maple Falls 71.48 43 ⇓P P 08 15 36.6 -0.1
baz=71
OBN Obninsk 71.61 324 P P 08 15 37.0 -0.3
OBN pmax pmax
comp=Z,12nm,1.2s,mb4.5
KAF Kangasniemi 72.43 333 eP P 08 15 40.6 -1.4
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
KAF Kangasniemi 72.43 333 ep P 08 15 40.6 -1.4
comp=Z,7.9nm,0.5s,mb4.7
FINES FINESS Array B 72.91 333 P P 08 15 44.8 -0.1
comp=Z,9.1nm,0.4s,mb4.8,baz=64,slow=5.0,SNR=62
FINES FINESS Array B 72.91 333 P P 08 15 44.8 -0.1
FINES FINESS Array B 72.91 333 P P 08 15 44.8 -0.1
FINES pmax pmax
comp=Z,9.0nm,0.4s
KIV Kislovodsk 73.48 312 eP P 08 15 48.8 +0.2
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
GNI Garni 73.93 307 eP P 08 15 52.1 +0.8
GNI pmax pmax
comp=Z,7.0nm,1.4s
G06A Carlson Farm, 74.13 46 ⇓P P 08 15 52.4 0.0
baz=74
C09A Chrisman Ranch 74.28 43 ⇑P P 08 15 52.8 -0.3
baz=74
NEW Newport 74.71 42 ⇑P P 08 15 55.6 -0.1
baz=74
NEW Newport 74.71 42 eP P 08 15 55.6 -0.1
comp=Z,3.4nm,0.8s,mb4.0
NEW Newport 74.71 42 eP P 08 15 55.6 0.0
NEW pmax pmax
comp=Z,3.0nm,0.8s
E09A Wood Farm, Sta 75.00 44 ⇓P P 08 15 57.6 +0.3
baz=75
K05A Summer Lake 75.19 49 ⇓P P 08 15 59.3 +0.8
baz=75
A12A Yaak River Ran 75.20 41 ⇓P P 08 15 58.7 +0.3
baz=75
I07A Izee 75.40 47 ⇑P P 08 16 00.2 +0.5
baz=75
F10A Beach Ranch, E 75.83 45 ⇑P P 08 16 02.7 +0.6
baz=76
SUMG Summit 75.89 360 eP P 08 16 03.7 +1.8
comp=Z,15nm,1.0s,mb4.6
SUMG Summit 75.89 360 eP P 08 16 03.7 +1.7
SUMG pmax pmax
comp=Z,15nm,1.0s
A13A Flathead Natio 75.90 41 ⇓P P 08 16 02.7 +0.3
baz=76
C12B Naegeli Ranch, 75.95 42 ⇓P P 08 16 03.2 +0.5
baz=76
B13A Whitefish 76.17 41 ⇑P P 08 16 04.4 +0.5
baz=76,SNR=5.7
BSMT Bassoo Peak 76.26 42 eP P 08 16 05.2 +0.7
comp=Z,2.6nm,0.9s,mb3.9
BMO Blue Mountains 76.36 46 eP P 08 16 05.1 +0.1
comp=Z,8.1nm,1.2s,mb4.2
D12A Red Ives Fores 76.36 43 ⇑P P 08 16 04.7 -0.4
baz=76
J08A Circle Bar Ran 76.41 47 ⇑P P 08 16 05.7 +0.3
baz=76
A14A Double T Ranch 76.43 41 ⇑P P 08 16 05.4 0.0
baz=76,SNR=5.0

C13A Hot Springs 76.48 42 ⇓P P 08 16 05.6 -0.1
baz=76,SNR=9.5
JTMT Jette 76.61 42 eP P 08 16 07.1 +0.7
comp=Z,5.9nm,0.9s,mb4.2
WVOR Wild Horse Val 76.78 48 eP P 08 16 02.6 -4.9
comp=Z,8.7nm,0.9s,mb4.4
WVOR Wild Horse Val 76.78 48 eP P 08 16 02.6 -4.9
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
A15A Johnson Ranch, 76.80 40 ⇓P P 08 16 07.1 -0.4
baz=77,SNR=8.4
D13A Huson 76.86 43 ⇑P P 08 16 07.3 -0.5
baz=77
SWMT Swartz Lake 76.90 42 eP P 08 16 08.5 +0.4
comp=Z,5.4nm,0.9s,mb4.2
C14A Swan Lake 76.90 42 ⇓P P 08 16 07.9 -0.1
baz=77
MIB Mutribah 77.01 297 eP P 08 16 08.0 -1.0
MIB AMb AMB 08 16 08.9
comp=Z,14nm,0.7s,mb4.7
B15A Bradely Ranch, 77.27 41 ⇑P P 08 16 10.1 0.0
baz=77,SNR=8.3
RDF Al-Radifah 77.28 296 eP P 08 16 09.9 -0.7
RDF AMb AMB 08 16 16.1
comp=Z,20nm,1.4s,mb4.6
MSO Missoula 77.30 43 ⇓P P 08 16 10.1 -0.3
baz=77
SLMT Seeley Lake 77.33 42 eP P 08 16 10.4 -0.1
comp=Z,18nm,1.2s,mb4.6
NAY Al-Naaiem 77.36 297 eP P 08 16 09.9 -1.0
NAY AMb AMB 08 16 11.8
comp=Z,5.4nm,0.7s,mb4.3
E13A Victor 77.37 43 ⇑P P 08 16 10.8 +0.1
baz=77
D14A Greenough 77.41 42 ⇓P P 08 16 10.8 -0.1
baz=77
A16A West Butte Ran 77.44 40 ⇓P P 08 16 10.8 -0.3
baz=77
C15A Salmond Ranch, 77.54 41 ⇑P P 08 16 11.7 +0.1
baz=77,SNR=9.2
F13A Darby 77.64 44 ⇓P P 08 16 11.6 -0.6
baz=77
WCN Washoe City 77.66 51 ⇑P P 08 16 11.7 -0.7
baz=78
B16A M & M Farms, S 77.68 40 ⇓P P 08 16 12.4 0.0
baz=77
AKASG Malin Array Be 77.73 323 P P 08 16 12.2 -0.4
comp=Z,2.2nm,0.3s,mb4.2,baz=50,slow=5.6,SNR=21
AKASG Malin Array Be 77.73 323 P P 08 16 12.2 -0.4
AKASG Malin Array Be 77.73 323 P P 08 16 12.2 -0.4
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 77.73 323 eP P 08 16 12.4 -0.2
AKBB Malin Array Si 77.73 323 eP P 08 16 12.4 -0.2
KIEV Kiev 77.74 323 eP P 08 16 11.6 -1.1
comp=Z,6.4nm,0.6s,mb4.4
KIEV Kiev 77.74 323 eP P 08 16 11.6 -1.1
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
A17A Triple J Farms 77.93 40 ⇑P P 08 16 13.4 -0.4
baz=78
D15A Lincoln 78.00 42 ⇑P P 08 16 14.0 -0.1
baz=78
H12A Diamond D Ranc 78.00 45 ⇑P P 08 16 13.7 -0.5
baz=78
C16A Fuhringer Ranc 78.01 41 ⇓P P 08 16 13.9 -0.3
baz=78
MFID Camas Ranch 78.02 46 ⇑P P 08 16 14.7 +0.3
baz=78
MFID Camas Ranch 78.02 46 eP P 08 16 15.0 +0.6
comp=Z,7.3nm,1.0s,mb4.3
G13A Cobalt 78.08 44 ⇓P P 08 16 14.4 -0.3
baz=78
F14A Wisdom 78.19 43 ⇓P P 08 16 15.4 +0.1
baz=78
I12A Atlanta 78.24 46 ⇑P P 08 16 15.8 +0.2
baz=78
B17A L&G Farms, Che 78.25 40 ⇓P P 08 16 15.3 -0.3
baz=78,SNR=6.7
H13A Challis 78.35 45 ⇓P P 08 16 16.0 -0.2
baz=78
A18A Metzger Ranch, 78.41 39 ⇓P P 08 16 16.2 -0.2
baz=78
D16A Dana Ranch, Ca 78.55 41 ⇓P P 08 16 17.3 +0.1
baz=78,SNR=5.6
NB2 NORSAR Subarra 78.55 337 P P 08 16 16.6 -0.3
comp=Z,7.3nm,0.7s,mb4.4,baz=43,slow=5.3
NOA NORSAR Array B 78.55 337 P P 08 16 16.7 -0.2
comp=Z,7.9nm,0.7s,mb4.5,baz=42,slow=5.4,SNR=22
NOA pP pP 08 16 54.5 -1.0
comp=Z,1.8nm,0.7s,baz=42,slow=5.5,SNR=2.7
NOA NORSAR Array B 78.55 337 P P 08 16 16.7 -0.2
NOA pP pP 08 16 54.5 -1.0
NOA NORSAR Array B 78.55 337 P P 08 16 16.7 -0.2
NOA *PP pP 08 16 54.5 -1.0
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.7s
HRY Holter Researc 78.57 42 eP P 08 16 15.0 -2.3
comp=Z,2.2nm,0.4s,mb4.1
C17A Wharram Farm, 78.65 41 ⇑P P 08 16 17.7 0.0
baz=78
F15A Butte 78.68 43 ⇓P P 08 16 17.9 0.0
baz=78,SNR=24
LRM Limekiln Ridge 78.72 43 eP P 08 16 18.9 +0.8
comp=Z,145nm,1.0s,mb5.6
FFC Flin Flon 78.73 31 eP P 08 16 17.6 -0.5
comp=Z,3.2nm,0.7s,mb4.1
FFC Flin Flon 78.73 31 eP P 08 16 17.6 -0.5
FFC pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
B18A Beardsley Farm 78.75 40 ⇑P P 08 16 18.1 -0.2
baz=78
E16A East Helena 78.76 42 ⇓P P 08 16 18.6 +0.2
baz=78
I13A Wildhorse Cree 78.79 45 ⇓P P 08 16 19.2 +0.6
baz=79
HLID Hailey 78.81 46 ⇑P P 08 16 19.1 +0.5
baz=79
D17A Six Diamond Ra 78.97 41 ⇑P P 08 16 19.6 +0.1
baz=79,SNR=7.5
EGMT Eagleton 78.98 40 ⇑P P 08 16 19.5 0.0
baz=79
EGMT Eagleton 78.98 40 eP P 08 16 19.1 -0.4
comp=Z,15nm,1.3s,mb4.5
A19A Klindworth Far 78.99 39 ⇓P P 08 16 19.4 -0.2
baz=79
J13A Cove Ranch, Pi 79.04 46 ⇑P P 08 16 20.3 +0.3
baz=79
G15A Dillon 79.06 43 ⇑P P 08 16 20.1 +0.1
baz=79,SNR=5.4
NVAR Mina Array Bea 79.08 52 P P 08 16 20.9 +0.5
comp=Z,3.8nm,0.7s,mb4.1,baz=284,slow=5.9,SNR=29
NVAR Mina Array Bea 79.08 52 P P 08 16 20.9 +0.5
B19A Brinkman Farms 79.17 39 ⇑P P 08 16 20.6 +0.1
baz=79
F16A Kennard Place, 79.22 43 ⇓P P 08 16 20.8 0.0
baz=79,SNR=7.3
E17A Martinsdale 79.27 42 ⇓P P 08 16 21.1 0.0
baz=79,SNR=6.0
H15A Lima 79.28 44 ⇑P P 08 16 21.3 +0.1
baz=79
BOZ Bozeman (W) 79.29 43 ⇓P P 08 16 21.6 +0.3
baz=79
G16A Moss Hill, Enn 79.43 43 ⇓P P 08 16 21.9 -0.2
baz=79,SNR=5.1
J14A Carey 79.48 45 ⇑P P 08 16 23.2 +0.8
baz=79
C19A Slack Wire Ran 79.53 40 ⇓P P 08 16 23.0 +0.4
baz=79
F17A Fitzpatrick Pl 79.70 42 ⇓P P 08 16 24.3 +0.8
baz=80
I15A Monteview 79.72 44 ⇑P P 08 16 24.6 +0.9
baz=80
E18A Harlowton 79.74 41 ⇓P P 08 16 24.4 +0.7
baz=80
TIN Tinemaha 79.86 53 ⇓P P 08 16 24.6 +0.1
baz=80
A21A Bergtoll Ranch 79.92 38 ⇑P P 08 16 24.7 +0.1
baz=80
VES Vestal, Richgr 79.92 54 ⇑P P 08 16 24.0 -0.9
baz=80
D19A Cripps Ranch, 79.96 40 ⇓P P 08 16 24.8 -0.1
baz=80
G17A Pierce Place, 79.99 43 ⇑P P 08 16 25.5 +0.4
baz=80
H16A Russell Place, 80.05 43 ⇓P P 08 16 25.5 +0.1
baz=80

C20A Veseth Ranch, 80.11 39 ⇑P P 08 16 25.6 -0.1
baz=80
K14A Jones Ranch, D 80.12 46 ⇓P P 08 16 26.9 +1.1
baz=80
F18A Big Timber 80.24 42 ⇓P P 08 16 26.7 +0.3
baz=80
L14A Malta 80.37 46 ⇑P P 08 16 27.6 +0.4
baz=80
I16A Newdale 80.39 44 ⇓P P 08 16 27.9 +0.7
baz=80,SNR=5.6
D20A Manuel Ranch, 80.41 40 ⇑P P 08 16 27.3 +0.1
baz=80
E19A Rath Farm, Rou 80.43 41 ⇓P P 08 16 27.3 -0.1
baz=80
ISA Isabella 80.43 54 ⇑P P 08 16 26.7 -0.9
baz=80
A22A Carney Farms, 80.44 38 ⇑P P 08 16 27.0 -0.4
baz=80
GRAC Grapevine Rang 80.47 52 ⇑P P 08 16 27.9 +0.1
baz=80
C21A Desert Coulee 80.53 39 ⇓P P 08 16 27.8 -0.1
baz=80
J16A Bone 80.66 45 ⇓P P 08 16 29.3 +0.7
baz=80
E20A Meyer Farm, Mu 80.77 41 ⇑P P 08 16 29.2 0.0
baz=80
MPMC Manual Prospec 80.90 53 ⇓P P 08 16 30.1 0.0
baz=81
L15A Malad City 80.91 46 ⇑P P 08 16 30.5 +0.4
baz=81
K16A Soda Springs 80.92 45 ⇓P P 08 16 30.9 +0.8
baz=81,SNR=7.2
R11A Troy Canyon, C 80.93 50 ⇓P P 08 16 30.5 +0.3
baz=81
RLMT Red Lodge 80.95 42 ⇓P P 08 16 30.6 +0.4
baz=81
H18A Shoshone NF, C 80.99 43 ⇑P P 08 16 30.3 -0.1
baz=81
D21A La Casta Ranch 81.05 40 ⇑P P 08 16 30.1 -0.6
baz=81
LRMC Laurel Mountai 81.07 54 ⇑P P 08 16 30.5 -0.5
baz=81
FURC Furnace Creek, 81.10 53 ⇓P P 08 16 31.2 +0.1
baz=81
M15A Larsen Ranch, 81.19 46 ⇓P P 08 16 31.8 +0.3
baz=81
EDW2 Edwards Air Fo 81.19 54 ⇑P P 08 16 31.7 +0.1
baz=81
B23A Brockton 81.25 38 ⇑P P 08 16 31.7 0.0
baz=81
E21A Keefer Ranch, 81.33 40 ⇓P P 08 16 32.4 +0.3
baz=81
H19A Powell 81.38 42 ⇓P P 08 16 32.6 +0.2
baz=81
D22A Cohagen 81.44 39 ⇓P P 08 16 32.9 +0.2
baz=81
BR131 Keskin Array S 81.45 312 eP P 08 16 33.5 +0.6
comp=Z,1.9nm,0.7s,mb3.8
BRTR Keskin Array B 81.45 312 P P 08 16 33.3 +0.4
comp=Z,3.1nm,0.8s,mb4.0,baz=111,slow=4.5,SNR=16
BRTR Keskin Array B 81.45 312 P P 08 16 33.3 +0.4
BRTR Keskin Array B 81.45 312 P P 08 16 33.3 +0.4
BRTR pmax pmax
comp=Z,3.0nm,0.8s
N15A Stansbury Isla 81.47 47 ⇓P P 08 16 33.3 +0.3
baz=81,SNR=5.6
G20A Bridger 81.49 42 ⇓P P 08 16 33.2 +0.2
baz=81
L16A Fish Haven 81.49 46 ⇑P P 08 16 33.1 0.0
baz=81
C23A Lambert 81.56 38 ⇑P P 08 16 33.3 -0.1
baz=81
FMP Fort Macarthur 81.60 56 ⇓P P 08 16 34.3 +0.5
baz=81
J18A Kendall Valley 81.64 44 ⇓P P 08 16 34.1 +0.3
baz=81,SNR=6.1
HWUT Hardware Ranch 81.64 46 eP P 08 16 34.7 +0.8
comp=Z,6.6nm,0.9s,mb4.3
DGMT Dagmar 81.66 37 ⇑P P 08 16 34.0 +0.2
baz=81
DUG Dugway 81.68 48 ⇑P P 08 16 34.5 +0.4
baz=81
DUG Dugway 81.68 48 eP P 08 16 34.7 +0.5
comp=Z,4.9nm,0.9s,mb4.1
DUG Dugway 81.68 48 eP P 08 16 34.7 +0.6
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
CIS Catalina Islan 81.69 56 ⇑P P 08 16 34.3 -0.1
baz=82
I19A Meeteetse 81.75 43 ⇑P P 08 16 34.7 +0.3
baz=82
GSC Goldstone 81.78 54 ⇓P P 08 16 35.0 +0.3
baz=82
L17A Cokeville 81.78 45 ⇓P P 08 16 35.0 +0.4
baz=82
SHOC Shoshone 81.81 53 ⇓P P 08 16 34.5 -0.4
baz=82
D23A Lindsay 81.94 39 ⇑P P 08 16 35.4 0.0
baz=82
K18A Toltan Ranch, 81.97 44 ⇓P P 08 16 35.6 0.0
baz=82
G21A Lodge Grass 82.06 41 ⇓P P 08 16 36.1 +0.1
baz=82
H20A Greybull 82.06 42 ⇑P P 08 16 36.5 +0.5
baz=82
C24A Savage 82.14 38 ⇓P P 08 16 36.0 -0.4
baz=82
BW06 Boulder Array 82.18 44 ⇑P P 08 16 36.8 +0.2
baz=82
PDAR Pinedale Array 82.18 44 P P 08 16 36.5 -0.1
comp=Z,1.4nm,0.8s,mb3.7,baz=277,slow=2.8,SNR=12
PDAR pP pP 08 17 13.6 -2.0
comp=Z,0.6nm,0.6s,baz=259,slow=3.0,SNR=2.5
PDAR Pinedale Array 82.18 44 P P 08 16 36.5 -0.1
PDAR pP pP 08 17 13.6 -2.0
J19A Crowheart 82.18 44 ⇓P P 08 16 36.9 +0.3
baz=82,SNR=6.5
F22A Rosebud 82.24 40 ⇓P P 08 16 37.3 +0.4
baz=82
M17A Scullys Gap (B 82.27 46 ⇑P P 08 16 37.6 +0.4
baz=82
TUQ Turquoise Moun 82.30 53 ⇑P P 08 16 37.3 -0.2
baz=82
I20A Worland 82.31 43 ⇑P P 08 16 37.6 +0.3
baz=82
E23A Ismay 82.31 39 ⇓P P 08 16 37.6 +0.3
baz=82
HEC Hector,Ludlow 82.36 54 ⇑P P 08 16 37.6 -0.2
baz=82
P15A Leamington 82.37 48 ⇓P P 08 16 37.9 +0.2
baz=82
L18A Fontenelle, Gr 82.39 45 ⇑P P 08 16 37.8 0.0
baz=82
MURC Murrieta 82.43 55 ⇑P P 08 16 37.5 -0.7
baz=82
N17A Moffit Pass 82.48 46 ⇓P P 08 16 38.2 -0.1
baz=82
O16A Springville 82.49 47 ⇑P P 08 16 38.5 +0.2
baz=82
H21A Big Horn, Sher 82.51 42 ⇓P P 08 16 38.1 -0.2
baz=82
MPU Maple Canyon 82.52 47 eP P 08 16 38.9 +0.4
comp=Z,5.4nm,0.9s,mb4.3
DAU Daniels Canyon 82.53 47 eP P 08 16 39.6 +1.1
comp=Z,5.6nm,0.7s,mb4.4
DAU Daniels Canyon 82.53 47 eP P 08 16 39.6 +1.1
DAU pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
STHS Stebnicka Huta 82.56 325 eP P 08 16 40.0 +1.5
STHS Stebnicka Huta 82.56 325 eP P 08 16 40.0 +1.5
K19A Absolon Red Bu 82.56 44 ⇓P P 08 16 38.1 -0.6
baz=82
G22A Birney 82.57 41 ⇓P P 08 16 38.2 -0.5
baz=82
M18A Lyman 82.66 45 ⇓P P 08 16 39.1 -0.1
baz=82
J20A Shoshoni 82.69 43 ⇑P P 08 16 39.3 0.0
baz=82,SNR=5.1
L19A Farson 82.69 45 ⇑P P 08 16 39.0 -0.4
baz=82
F23A Volborg 82.75 40 ⇑P P 08 16 38.8 -0.7
baz=82
CRVS Cervenica-Dubn 82.79 324 eP P 08 16 40.6 +0.9
CRVS Cervenica-Dubn 82.79 324 eP P 08 16 40.6 +0.9
E24A Baker 82.81 39 ⇓P P 08 16 39.9 0.0
baz=82
GMRC Granite Mounta 82.85 53 ⇓P P 08 16 40.0 -0.3

baz=83
I21A Big Trails, Te 82.87 42 ⇑P P 08 16 39.7 -0.5
baz=83
H22A Clearmont 82.92 41 ⇓P P 08 16 40.0 -0.5
baz=83
PFO Pinyon Flat Ob 82.94 55 ⇓P P 08 16 40.4 -0.5
baz=83
K20A Yellowstone Ra 82.96 44 ⇓P P 08 16 40.2 -0.5
baz=83
O17A Robinson Place 82.98 47 ⇑P P 08 16 41.3 +0.4
baz=83,SNR=7.7
BELC Belle Mtn. Jos 83.05 54 ⇓P P 08 16 40.9 -0.4
baz=83
J21A Lysite 83.06 43 ⇑P P 08 16 40.5 -0.7
baz=83
G23A Biddle 83.08 40 ⇓P P 08 16 40.4 -0.9
baz=83
R15A Junction 83.16 49 ⇓P P 08 16 42.0 +0.2
baz=83
N18A Larsen Ranch, 83.17 46 ⇑P P 08 16 42.0 +0.1
baz=83,SNR=5.4
F24A Ekalaka 83.19 39 ⇑P P 08 16 41.3 -0.5
baz=83
I22A 9 Mile Ranch, 83.28 42 ⇑P P 08 16 42.7 +0.4
baz=83
MONP Monument Peak 83.36 55 ⇓P P 08 16 42.9 -0.1
baz=83
O18A Roosevelt 83.39 46 ⇑P P 08 16 43.6 +0.6
baz=83,SNR=5.9
P17A Butcher Ranch, 83.40 47 ⇑P P 08 16 43.4 +0.4
baz=83
Q16A Castle Valley 83.45 48 ⇑P P 08 16 44.0 +0.6
baz=83
N19A John Jarvie Ra 83.52 46 ⇓P P 08 16 43.6 0.0
baz=83
IRM Iron Mountain 83.54 54 ⇑P P 08 16 43.7 -0.2
baz=83
KECS Kecovo 83.55 324 *eP* **P 08 16 43.8 +0.2**
KECS Kecovo 83.55 324 *eP* **P 08 16 43.8 +0.2**
J22A Midwest 83.58 42 ⇓P P 08 16 43.6 -0.3
baz=83
BC3 Big Chuckawall 83.61 54 ⇑P P 08 16 44.8 +0.5
baz=83
K21A Alcova 83.61 43 ⇑P P 08 16 44.2 +0.1
baz=83,SNR=6.6
R16A Teasdale 83.62 49 ⇑P P 08 16 45.0 +0.8
baz=83,SNR=7.1
SRU San Rafael 83.75 48 *eP* **P 08 16 45.2 +0.3**
comp=Z,7.9nm,0.9s,mb4.4
SRU San Rafael 83.75 48 *eP* **P 08 16 45.2 +0.4**
SRU pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
M20A Sweetwater, Wa 83.76 45 ⇓P P 08 16 45.9 +1.1
baz=84
SWSC Sam W. Stewart 83.77 55 ⇑P P 08 16 43.5 -1.6
baz=84
H24A Dirks Ranch, A 83.83 40 ⇑P P 08 16 44.1 -1.0
baz=84
W13A Hualapai Mount 83.87 52 ⇓P P 08 16 45.6 0.0
baz=84
S16A Weppner Ranch, 83.88 49 ⇓P P 08 16 45.7 +0.1
baz=84
O19A Miners Draw (B 83.91 46 ⇓P P 08 16 46.0 +0.4
baz=84
KSP Ksiaz 83.92 328 *eP* **P 08 16 45.6 +0.1**
KSP Ksiaz 83.92 328⇓ *eP* **P 08 16 45.6 +0.1**
L21A Rawlins 83.95 44 ⇑P P 08 16 45.8 0.0
baz=84,SNR=5.2
Q18A Rafter H Ranch 84.00 47 ⇑P P 08 16 45.8 -0.2
baz=84
K22A Casper 84.03 43 ⇓P P 08 16 45.8 -0.4
baz=84
R17A Hanksville Air 84.03 48 ⇓P P 08 16 46.1 -0.2
baz=84,SNR=7.9
N20A Spence Gulch, 84.11 45 ⇑P P 08 16 46.7 +0.1
baz=84,SNR=8.6
U15A North Rim 84.17 51 ⇓P P 08 16 47.6 +0.5
baz=84
M21A Separation Pea 84.18 44 ⇓P P 08 16 47.4 +0.5
baz=84
Y12C Blythe 84.20 54 ⇓P P 08 16 47.4 +0.2
baz=84
DPC Dobruska-Polom 84.25 328 *eP* **P 08 16 47.5 +0.3**
DPC Dobruska-Polom 84.25 328 *eP* **P 08 16 47.5 +0.3**
UPC Upice 84.28 328 *eP* **P 08 16 47.4 +0.1**
UPC Upice 84.28 328 *eP* **P 08 16 47.4 +0.1**
GLA Glamis 84.39 55 ⇑P P 08 16 48.2 0.0
baz=84
MDND Maddock 84.39 36 ⇓P P 08 16 47.9 0.0
baz=84
P19A Cripple Cowboy 84.40 46 ⇑P P 08 16 48.0 -0.1
baz=84,SNR=6.3
S17A Black Ridge (B 84.44 49 ⇓P P 08 16 47.9 -0.5
baz=84
O20A White River Ci 84.55 46 ⇑P P 08 16 48.6 -0.3
baz=84,SNR=5.1
R18A Canyonlands Na 84.57 48 ⇓P P 08 16 48.6 -0.4
baz=84,SNR=5.9
N21A Black Mountain 84.60 45 ⇑P P 08 16 49.0 -0.1
baz=84
Q19A Hogan Spring (84.63 47 ⇑P P 08 16 49.1 -0.1
baz=84
J24A Dixon Ranch, L 84.67 41 ⇑P P 08 16 49.5 +0.1
baz=84
M22A Cedar Creek Ra 84.76 44 ⇓P P 08 16 50.0 +0.1
baz=84
L23A Garrett 84.84 43 ⇓P P 08 16 50.2 0.0
baz=85
P20A De Beque 84.84 46 ⇓P P 08 16 50.4 +0.1
baz=85
PVCC Panska Ves 84.92 329 *eP* **P 08 16 50.8 +0.3**
PVCC Panska Ves 84.92 329 *eP* **P 08 16 50.8 +0.3**
S18A Hurst Farm, Bl 84.92 48 ⇑P P 08 16 51.0 +0.2
baz=85
BRG Berggiesshubel 84.94 329 *eP* **P 08 16 50.5 -0.1**
comp=Z,7.0nm,0.9s,mb4.4
BRG Berggiesshubel 84.94 329 *eP* **P 08 16 50.5 -0.1**
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
R19A Curley Farm, L 85.03 48 ⇓P P 08 16 51.4 +0.1
baz=85,SNR=6.4
CLL Collm 85.04 330⇑ *iP* **P 08 16 50.8 -0.3**
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.5
CLL Collm 85.04 330⇑ *iP* **P 08 16 50.8 -0.3**
comp=Z,11nm,1.0s,mb4.5
U16A Tuba City 85.10 50 ⇓P P 08 16 52.0 +0.3
baz=85,SNR=5.8
Z13A Yuma Proving G 85.11 54 ⇑P P 08 16 51.6 -0.2
baz=85,SNR=5.7
Y14A Wickenburg 85.13 53 ⇓P P 08 16 51.9 0.0
baz=85
U17A Shonto 85.14 50 ⇓P P 08 16 52.1 +0.2
baz=85,SNR=7.6
Q20A Ridgley Place, 85.23 47 ⇑P P 08 16 52.0 -0.3
baz=85,SNR=12
WUAZ Wupatki 85.31 51 ⇑P P 08 16 53.0 +0.3
baz=85
PRU Pruhonice 85.32 328 *eP* **P 08 16 52.8 +0.3**
PRU Pruhonice 85.32 328 *eP* **P 08 16 52.8 +0.3**
T18A Mexican Hat 85.33 49 ⇑P P 08 16 52.2 -0.6
baz=85,SNR=6.6
P21A Newcastle 85.40 46 ⇓P P 08 16 53.3 +0.2
baz=85
S19A Harvey Farm, M 85.43 48 ⇑P P 08 16 53.3 0.0
baz=85
N23A Red Feather La 85.46 44 ⇑P P 08 16 53.7 +0.3
baz=85
O22A Kremmling 85.56 45 ⇑P P 08 16 53.7 -0.2
baz=85
V17A Tonalea, Kykot 85.63 51 ⇑P P 08 16 54.4 +0.1
baz=85,SNR=13
R20A Redvale 85.64 47 ⇓P P 08 16 54.6 +0.2
baz=85,SNR=6.1
Q21A Lamborn Mesa, 85.75 46 ⇑P P 08 16 55.2 +0.3
baz=86
M24A Cheyenne 85.75 43 ⇓P P 08 16 55.1 +0.3
baz=86
U18A Rough Rock, Ch 85.76 49 ⇓P P 08 16 55.4 +0.5
baz=86,SNR=10.0
P22A Eagle 85.78 45 ⇓P P 08 16 55.2 +0.2
baz=86,SNR=7.6
S20A Disappointment 85.87 48 ⇑P P 08 16 55.3 -0.1
baz=86
114A Black Gap (USA 85.90 54 ⇓P P 08 16 56.1 +0.4
baz=86
O23A Lake Granby, G 85.90 45 ⇑P P 08 16 55.8 +0.2
baz=86
K26A Motz Farm, Whi 85.90 41 ⇓P P 08 16 55.5 0.0
baz=86
X16A Lo Mia Camp, P 85.91 52 ⇑P P 08 16 55.6 -0.1
baz=86,SNR=5.1
R21A Cimarron 86.05 47 ⇓P P 08 16 56.9 +0.6
baz=86,SNR=5.5
T19A Beclabito 86.06 49 ⇓P P 08 16 56.5 +0.1
baz=86
Q22A Crested Butte, 86.14 46 ⇑P P 08 16 57.6 +0.8
baz=86,SNR=8.2
V18A Ganado 86.14 50 ⇓P P 08 16 57.1 +0.2
baz=86,SNR=6.1
MVCO Mesa Verde 86.16 48 ⇓P P 08 16 56.6 -0.3
baz=86
U19A Dine' College, 86.26 49 ⇓P P 08 16 57.7 +0.2
baz=86
S21A Coal Bank Pass 86.33 47 ⇓P P 08 16 58.0 +0.2
baz=86
KHC Kasperske Hory 86.37 328 *eP* **P 08 16 57.1 -0.6**
KHC Kasperske Hory 86.37 328 *eP* **P 08 16 57.1 -0.6**
X17A Forest Lakes 86.38 52 ⇓P P 08 16 58.3 +0.2
baz=86
214A Organ Pipe Nat 86.41 54 ⇑P P 08 16 58.1 -0.1
baz=86
GERES GERESS Array B 86.52 328 P P 08 16 57.6 -0.8
comp=Z,0.6nm,0.6s,mb3.6,baz=28,slow=3.6,SNR=7.0
GERES pP pP 08 17 35.7 -2.0
comp=Z,0.3nm,0.5s,baz=44,slow=4.2,SNR=2.9
GERES GERESS Array B 86.52 328 P P 08 16 57.6 -0.8
GERES pP pP 08 17 35.7 -2.0
GERES GERESS Array B 86.52 328 P P 08 16 57.6 -0.8
GERES *PP pP 08 17 35.7 -2.0
GERES pmax pmax
comp=Z,1.0nm,0.6s
R22A Saguache, Gunn 86.63 46 ⇓P P 08 16 59.5 +0.3
baz=86
U20A Newcomb 86.65 49 ⇑P P 08 16 59.3 0.0
baz=86
V19A Window Rock 86.72 50 ⇓P P 08 16 59.9 +0.2
baz=86
Y17A Roosevelt 86.73 52 ⇓P P 08 16 59.8 0.0
baz=86
S22A 4UR Ranch, Cre 86.88 47 ⇑P P 08 17 00.9 +0.5
baz=87
U21A Nageezi 87.17 48 ⇑P P 08 17 01.7 -0.2
baz=87
Y18A Canyon Day Jun 87.23 52 ⇑P P 08 17 02.1 0.0
baz=87
T22A Edith 87.29 47 ⇑P P 08 17 02.6 +0.2
baz=87
X19A St. Johns 87.33 51 ⇑P P 08 17 02.5 -0.2
baz=87
P25A Willow Gulch B 87.39 44 ⇓P P 08 17 02.7 -0.1
baz=87
SDCO Great Sand Dun 87.70 46 ⇑P P 08 17 04.3 -0.1
baz=88
U22A Llaves 87.71 48 ⇓P P 08 17 04.7 +0.3
baz=88
U23A El Rito 88.16 48 ⇑P P 08 17 07.0 +0.4
baz=88
Z20A Nine Sixteen R 88.59 51 ⇑P P 08 17 08.4 -0.2
baz=88
R26A Arlington 88.59 45 ⇑P P 08 17 08.0 -0.6
baz=88
T25A Trinidad 88.76 46 ⇓P P 08 17 09.0 -0.3
baz=88
Z21A St. Cloud Mine 89.08 51 ⇓P P 08 17 11.2 +0.3
baz=89
Y22A Socorro 89.15 50 ⇑P P 08 17 11.2 -0.1
baz=89
CDF Champ du Feu 89.65 331 *eP* **P 08 17 12.9 -0.4**
CDF Champ du Feu 89.65 331 *eP* **P 08 17 12.9 -0.4**
CDF Champ du Feu 89.65 331 *eP* **P 08 17 12.9 -0.4**
DAVOX Davos/Dischmat 89.78 328 P P 08 17 13.5 -0.4
comp=Z,0.7nm,0.3s,mb4.1,baz=56,slow=3.6,SNR=5.4
DAVOX Davos/Dischmat 89.78 328 P P 08 17 13.5 -0.4
DAVOX Davos/Dischmat 89.78 328 P P 08 17 13.5 -0.4
W25A X Bar L Ranch, 89.95 48 ⇑P P 08 17 14.7 -0.2
baz=90
Y24A Capitan 90.15 49 ⇓P P 08 17 16.1 +0.2
baz=90
CBKS Cedar Bluff 90.43 42 ⇑P P 08 17 16.5 -0.6
baz=90
Y25A Mesa, Roswell 90.63 49 ⇑P P 08 17 18.3 +0.2
baz=90
SFTF Sexfontaines 90.73 332 *eP* **P 08 17 18.0 -0.3**
comp=Z,14nm,0.7s,mb4.8
SFTF Sexfontaines 90.73 332 *eP* **P 08 17 18.0 -0.3**
comp=Z,14nm,0.6s,mb5.2
124A Stringfield Ra 90.91 50 ⇓P P 08 17 19.2 -0.2
baz=91
W27A Bowe Ranch, En 90.93 47 ⇑P P 08 17 19.2 -0.2
baz=91
Z25A Roswell 91.03 49 ⇑P P 08 17 20.1 +0.1
baz=91
224A Cornudas Mount 91.26 51 ⇓P P 08 17 21.0 -0.1
baz=91
125A Gardner Draw, 91.46 50 ⇑P P 08 17 22.0 0.0
baz=91
Z26A Caprock 91.50 49 ⇓P P 08 17 22.1 -0.1
baz=91
MNTX Cornudas Mount 91.59 51 ⇑P P 08 17 22.8 +0.2
baz=91
LOR Lormes 91.96 332⇑ *iP* **P 08 17 23.6 -0.4**
comp=Z,18nm,1.1s,mb4.7
LOR Lormes 91.96 332⇑ *iP* **P 08 17 23.6 -0.4**
comp=Z,18nm,1.1s,mb5.0
LOR Lormes 91.96 332⇑ *iP* **P 08 17 23.6 -0.4**
LOR pmax pmax
comp=Z,18nm,1.1s,mb5.0
Z27A Tatum 91.97 48 ⇑P P 08 17 24.4 +0.1
baz=92
325A Bean Ranch, Si 92.07 51 ⇑P P 08 17 25.1 +0.3
baz=92
LPL La Plagne 92.15 329⇑ *iP* **P 08 17 24.8 -0.1**
comp=Z,14nm,1.0s,mb4.7
LPL La Plagne 92.15 329⇑ *iP* **P 08 17 24.8 -0.1**
comp=Z,14nm,1.0s,mb4.9
LPL La Plagne 92.15 329⇑ *iP* **P 08 17 24.8 -0.1**
LPL pmax pmax
comp=Z,14nm,1.0s,mb5.0
LPG La Plagne 92.16 329⇑ *iP* **P 08 17 24.9 0.0**
comp=Z,11nm,0.9s,mb4.6
LPG La Plagne 92.16 329⇑ *iP* **P 08 17 24.9 0.0**
comp=Z,11nm,0.9s,mb4.9
LPG La Plagne 92.16 329⇑ *iP* **P 08 17 24.9 0.0**
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.9
SSF Saint Saulge 92.27 332⇑ *iP* **P 08 17 25.1 -0.3**
comp=Z,15nm,1.0s,mb4.7
SSF Saint Saulge 92.27 332⇑ *iP* **P 08 17 25.1 -0.3**
comp=Z,15nm,1.0s,mb5.0
SSF Saint Saulge 92.27 332⇑ *iP* **P 08 17 25.1 -0.3**
SSF pmax pmax
comp=Z,15nm,1.0s,mb5.0
LDF La Druitiere 92.39 335 *eP* **P 08 17 25.3 -0.6**
LDF La Druitiere 92.39 335 *eP* **P 08 17 25.3 -0.6**
LDF La Druitiere 92.39 335 *eP* **P 08 17 25.3 -0.6**
425A Indio Mountain 92.43 51 ⇑P P 08 17 26.7 +0.1
baz=92
SMF Signal de Mont 92.47 331⇑ *iP* **P 08 17 26.0 -0.4**
comp=Z,19nm,1.0s,mb4.8
SMF Signal de Mont 92.47 331⇑ *iP* **P 08 17 26.0 -0.4**
comp=Z,19nm,1.0s,mb5.1
SMF Signal de Mont 92.47 331⇑ *iP* **P 08 17 26.0 -0.4**
SMF pmax pmax
comp=Z,19nm,1.0s,mb5.1
AVF Avril sur Loir 92.55 332⇑ *iP* **P 08 17 26.4 -0.3**
comp=Z,22nm,0.8s,mb5.0
AVF Avril sur Loir 92.55 332⇑ *iP* **P 08 17 26.4 -0.3**
comp=Z,22nm,0.8s,mb5.3
AVF Avril sur Loir 92.55 332⇑ *iP* **P 08 17 26.4 -0.3**
AVF pmax pmax
comp=Z,22nm,0.8s,mb5.3
227A Bennet, Jal 92.76 49 ⇓P P 08 17 27.9 -0.1
baz=92
326A Caldwell Ranch 92.76 50 ⇑P P 08 17 28.3 +0.2
baz=92
GRR Gorron 92.83 335⇑ *iP* **P 08 17 27.8 -0.2**
comp=Z,11nm,0.8s,mb4.8
GRR Gorron 92.83 335⇑ *iP* **P 08 17 27.8 -0.2**
comp=Z,11nm,0.8s,mb5.0
GRR Gorron 92.83 335⇑ *iP* **P 08 17 27.8 -0.2**
GRR pmax pmax
comp=Z,11nm,0.8s,mb5.0
426A McDonald Obser 93.14 51 ⇓P P 08 17 29.8 0.0
baz=93
TCF Toulx Ste Croi 93.42 332 *eP* **P 08 17 30.5 -0.2**
TCF Toulx Ste Croi 93.42 332 *eP* **P 08 17 30.5 -0.2**
TCF Toulx Ste Croi 93.42 332 *eP* **P 08 17 30.5 -0.2**
427A Hayter Ranch, 93.44 50 ⇑P P 08 17 31.1 0.0
baz=93
328A Wristen Ranch, 93.48 50 ⇑P P 08 17 31.5 +0.2
baz=93
526A Mary Lane Ranc 93.49 51 ⇑P P 08 17 31.3 -0.1
baz=93
SGMF Saint Gilles 93.54 336⇑ *iP* **P 08 17 31.1 -0.1**
comp=Z,51nm,1.3s,mb5.2
SGMF Saint Gilles 93.54 336⇑ *iP* **P 08 17 31.1 -0.1**
comp=Z,51nm,1.3s,mb5.5
SGMF Saint Gilles 93.54 336⇑ *iP* **P 08 17 31.1 -0.1**
SGMF pmax pmax
comp=Z,51nm,1.3s,mb5.5
VIVF Saint-Julien-l 93.56 330⇑ *iP* **P 08 17 31.0 -0.4**
comp=Z,8.9nm,0.8s,mb4.6
VIVF Saint-Julien-l 93.56 330⇑ *iP* **P 08 17 31.0 -0.4**
comp=Z,8.9nm,0.8s,mb5.0
VIVF Saint-Julien-l 93.56 330⇑ *iP* **P 08 17 31.0 -0.4**
VIVF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
ROSF Rostrenen 93.72 336 *eP* **P 08 17 31.2 -0.9**
ROSF Rostrenen 93.72 336 *eP* **P 08 17 31.2 -0.9**
ROSF Rostrenen 93.72 336 *eP* **P 08 17 31.2 -0.9**
527A Woodward Ranch 93.75 51 ⇓P P 08 17 32.6 0.0
baz=94
626A Big Bend Ranch 93.78 52 ⇓P P 08 17 32.9 +0.1
baz=94
428A Kincaid Ranch, 93.99 50 ⇑P P 08 17 34.0 +0.3
baz=94
TXAR Lajitas Array 94.24 52 P P 08 17 34.9 +0.1
comp=Z,5.3nm,0.8s,mb4.7,baz=297,slow=3.3,SNR=59
TXAR pP pP 08 18 10.8 -3.7
comp=Z,0.8nm,0.6s,baz=303,slow=2.1,SNR=2.5
TXAR Lajitas Array 94.24 52 P P 08 17 34.9 +0.1
TXAR pP pP 08 18 10.8 -3.7
TXAR Lajitas Array 94.24 52 P P 08 17 34.9 +0.1
TXAR *PP pP 08 18 10.8 -3.6
TXAR pmax pmax
comp=Z,5.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.6s
528A Cox Ranch, San 94.28 51 ⇑P P 08 17 35.4 +0.3
baz=94
627A Terlingua Ranc 94.34 51 ⇑P P 08 17 35.6 +0.2
baz=94
RJF Les Rejaudoux 94.50 332 *eP* **P 08 17 35.1 -0.6**
comp=Z,13nm,1.0s,mb4.7
RJF Les Rejaudoux 94.50 332 *eP* **P 08 17 35.1 -0.6**
comp=Z,13nm,1.0s,mb5.0
RJF Les Rejaudoux 94.50 332 *eP* **P 08 17 35.1 -0.6**
RJF pmax pmax
comp=Z,13nm,1.0s,mb5.0
628A Black Gap, Mar 94.66 51 ⇓P P 08 17 36.5 -0.3
baz=94
TUL1 Tulsa 94.71 42 ⇑P P 08 17 36.6 -0.2
baz=94
TORD Torodi Ar. Bea 120.06 312 PKP PKPdf 08 23 04.6 -1.4
comp=Z,0.6nm,0.5s,baz=42,slow=1.0,SNR=12
TORD pPKP pPKPdf 08 23 44.9 -2.4
comp=Z,0.2nm,0.4s,baz=54,slow=1.0,SNR=3.0
TORD Torodi Ar. Bea 120.06 312 PKP PKPdf 08 23 04.6 -1.4
TORD pPKP pPKPdf 08 23 44.9 -2.4
DBIC Dimbokro 129.14 313 PKP PKPdf 08 23 22.7 -0.7
comp=Z,2.0nm,1.0s,baz=159,slow=17,SNR=3.7
DBIC Dimbokro 129.14 313 PKP PKPdf 08 23 22.7 -0.7
DBIC Dimbokro 129.14 313 PKIKP PKPdf 08 23 22.7 -0.7
DBIC pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 150.12 65 *e*PKPbc PKPbc 08 24 06.5 +0.4
comp=Z,7.1nm,0.8s,baz=342,slow=3.0,SNR=25
LPAZ La Paz 150.12 65 *e*PKPbc PKPbc 08 24 06.8 +0.8
PLCA Paso Flores 153.90 119 PKPbc PKPbc 08 24 12.0 -1.9
comp=Z,1.9nm,1.0s,baz=203,slow=1.3,SNR=3.8
PLCA PKPab PKPab 08 24 27.6 -0.2
comp=Z,1.3nm,0.8s,baz=218,slow=5.9,SNR=3.6
PLCA Paso Flores 153.90 119 PKPbc PKPbc 08 24 12.0 -1.8
PLCA PKPab PKPab 08 24 27.6 -0.2

NEIC ***08*** *08:22:02.3, 16°.79N×94°.54W, h116km, MD4.0(MEX), After MEX.*
MEX 08 08:22:02.3±0.9, 16°.78N×94°.55W, h116km±8km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.45**	**313**	*i* P		Pn	08 22 18.8	-0.7
CMIG				*i* S		Sn	08 22 30.6	-1.9
CMIG	**Matias Romero**	**0.45**	**313**	*i* P		Pn	08 22 18.8	-0.7
CMIG				*i* S		Sn	08 22 30.6	-1.9
TGIG		**1.36**	**90**	*i* P		Pn	08 22 26.7	-1.2
TGIG				*i* S		Sn	08 22 44.3	-3.0
TGIG		**1.36**	**90**	*i* P		Pn	08 22 26.7	-1.2
TGIG				*i* S		Sn	08 22 44.9	-2.5
PCIG		**1.67**	**130**	*i* P		Pn	08 22 30.6	-0.8
PCIG				*i* S		Sn	08 22 52.5	-1.2
PCIG		**1.67**	**130**	*i* P		Pn	08 22 30.6	-0.8
PCIG				*i* S		Sn	08 22 52.5	-1.2
HUIG	**Huatulco**	**1.81**	**236**	*i* P		Pn	08 22 31.2	-2.0
HUIG				*i* S		Sn	08 22 54.7	-2.0
HUIG	**Huatulco**	**1.81**	**236**	*i* P		Pn	08 22 31.2	-2.0
HUIG				*i* S		Sn	08 22 54.7	-2.0
VHO	**Vista Hermosa**	**2.11**	**278**	*i* P		Pn	08 22 35.7	-1.3
VHO				*i* S		Sn	08 23 02.4	-1.1
VHO	**Vista Hermosa**	**2.11**	**278**	*i* P		Pn	08 22 35.7	-1.3
VHO				*i* S		Sn	08 23 02.4	-1.1
CCIG	**Comitan**	**2.36**	**102**	*i* P		Pn	08 22 39.5	-0.7
CCIG				*i* S		Sn	08 23 07.5	-1.7
CCIG	**Comitan**	**2.36**	**102**	*i* P		Pn	08 22 39.5	-0.7
CCIG				*i* S		Sn	08 23 07.5	-1.7
TPIG	**Tehuac#an**	**3.14**	**302**	*e*P		Pn	08 22 51.7	+1.3
TPIG				*i* S		Sn	08 23 24.3	-3.1
TPIG	**Tehuac#an**	**3.14**	**302**	*e*P		Pn	08 22 51.7	+1.3
TPIG				*i* S		Sn	08 23 26.1	-1.3
UTMO	**Huajuapan**	**3.28**	**289**	*e*P		Pn	08 22 51.4	-0.8
UTMO				*i* S		Sn	08 23 29.5	-1.2
UTMO	**Huajuapan**	**3.28**	**289**	*e*P		Pn	08 22 51.4	-0.8
UTMO				*i* S		Sn	08 23 29.5	-1.2
PNIG	**Pinotepa**	**3.46**	**264**	*i* P		Pn	08 22 53.5	-1.0
PNIG				*i* S		Sn	08 23 31.2	-3.7
PNIG	**Pinotepa**	**3.46**	**264**	*i* P		Pn	08 22 53.5	-1.0
PNIG				*i* S		Sn	08 23 32.8	-2.1
PPM	**Popocatepetl**	**4.50**	**301**	*i* P		Pn	08 23 09.4	+0.9
PPM				*i* S		Sn	08 24 06.1	+6.2
PPM	**Popocatepetl**	**4.50**	**301**	*i* P		Pn	08 23 09.4	+0.9
PPM				*i* S		Sn	08 24 06.1	+6.2

ISCJB ***08*** *08:37:34.7±1.7, 20°.1S±0°.2×178°.4W±0°.2, h574km±16km, mb3.5/9, Error ellipse: s-maj=34.5km s-min=21.0km az=137.4*
NEIC ***08*** *08:37:35.1±1.2, 20°.13S×178°.29W, h567km±11km, mb3.7/1, Error ellipse: s-maj=22.9km s-min=14.1km az=137.0*
IDC ***08*** *08:37:35.5±9.4, 20°.17S×178°.28W, h572km±110km, mb3.0/7, mb1 3.2/7, mb1mx3.1/15, mbtmp3.0/7, Error ellipse: s-maj=46.8km s-min=33.9km az=124.0*
ISC 08 08:37:35.4±1.7, 20°.1S±0°.2×178°.3W±0°.2, h568km±16km, n18, σ0°38/18, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.17**	**304**	*e*P		**P**	**08 38 59.9**	**0.0**
STKA	**Stephens Creek**	**37.69**	**244**	P		**P**	**08 44 03.5**	**+0.3**
1.1nm,0.7s,mb3.5,baz=79,slow=13,SNR=3.3								
STKA	**Stephens Creek**	**37.69**	**244**	P		**P**	**08 44 03.5**	**+0.3**
ASAR	**Alice Springs**	**44.32**	**256**	P		**P**	**08 44 55.9**	**0.0**
1.3nm,0.5s,mb3.7,baz=95,slow=7.7,SNR=32								
ASAR				PcP		PcP	08 46 27.3	-0.2
0.4nm,0.6s,baz=92,slow=4.4,SNR=5.3								
ASAR	**Alice Springs**	**44.32**	**256**	P		**P**	**08 44 55.9**	**0.0**
ASAR				PcP		PcP	08 46 27.3	-0.2
WB2	**Warramunga Arr**	**44.35**	**262**	*e*P		**P**	**08 44 56.0**	**-0.2**
WRAB	**Tennant Creek**	**44.35**	**262**	*e*P		**P**	**08 44 56.2**	**0.0**
0.9nm,0.4s,mb3.6								
WRA	**Warramunga Arr**	**44.36**	**262**	P		**P**	**08 44 55.8**	**-0.4**
0.9nm,0.5s,mb3.6,baz=97,slow=7.8,SNR=30								
WRA	**Warramunga Arr**	**44.36**	**262**	P		**P**	**08 44 55.8**	**-0.4**
MJAR	**Matsushiro Arr**	**69.72**	**324**	P		**P**	**08 47 49.3**	**+0.4**
0.7nm,0.5s,mb3.5,baz=122,slow=5.8,SNR=3.0								
MJAR	**Matsushiro Arr**	**69.72**	**324**	P		**P**	**08 47 49.2**	**+0.4**

QSPA	South Pole Qui	69.96	180	*e*P	P	08 47 49.8 +0.1
	4.6nm,0.8s,mb4.1					
PETK	Petropavlovsk-	75.81	345	P	P	08 48 24.0 +0.6
	2.2nm,0.8s,mb3.7,baz=140,slow=7.6,SNR=3.2					
PETK	Petropavlovsk-	75.81	345	P	P	08 48 24.0 +0.6
TXAR	Lajitas Array	87.10	57	P	P	08 49 21.8 +0.1
	0.2nm,0.9s,mb2.8,baz=258,slow=4.2,SNR=2.6					
TXAR	Lajitas Array	87.10	57	P	P	08 49 21.8 +0.1
ILAR	Eielson Array	88.00	13	P	P	08 49 24.1 -0.9
	0.9nm,0.9s,mb3.5,baz=216,slow=5.1,SNR=12					
ILAR	Eielson Array	88.00	13	P	P	08 49 24.1 -0.9

*NEIC **08** 08:38:30.6±0.4,53°.43N×161°.58W,h10km,ML3.6(AEIC), Error ellipse: s-maj=6.2km s-min=4.2km az=186.0*
*ISCJB **08** 08:38:32.9±0.5,53°.45N±0°.05×161°.60W±0°.06,h42km, mb3.9/16,Error ellipse: s-maj=6.6km s-min=4.7km az=14.8*
*IDC **08** 08:38:34.8±0.9,53°.39N×161°.60W,h42km±4km,mb3.7/15, mb1 3.8/16,mb1mx3.7/30,mbtmp3.7/16,ML3.8/1,Error ellipse: s-maj=28.2km s-min=11.1km az=18.0*
ISC 08 08:38:35.0±0.5,53°.53N±0°.05×161°.64W±0°.06,h44km, h44km±1.8km:pP-P,n61,σ0°.96/69,mb3.9/16,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	Deer Island	1.48	346	P	Pn	08 38 58.6	-0.6
DRIA				S	Sn	08 39 19.0	+1.6
DT1	Dutton Round H	1.62	347	P	Pn	08 39 00.6	-0.5
DOL	Dolgoi Island	1.63	355	P	Pn	08 39 00.5	-0.7
DTNA	Dutton South F	1.66	348	P	Pn	08 39 01.2	-0.4
BRPK	Brown Peak	1.67	313	P	Pn	08 39 01.0	-0.7
FALS	False Pass	1.69	323	P	Pn	08 39 01.4	-0.7
FALS				S	Sn	08 39 23.2	+0.8
HAG	Hague Volcano	1.80	355	P	Pn	08 39 03.6	+0.1
PS4A	Pavlof South-4	1.82	356	P	Pn	08 39 03.8	0.0
SSLS	Shishaldin Sou	1.83	311	P	Pn	08 39 03.8	-0.1
SSLS				S	Sn	08 39 26.6	+0.8
PVV	Pavlof Volcano	1.85	357	P	Pn	08 39 04.0	-0.2
SDPT	Sand Point	1.94	20	*e*Pn	Pn	08 39 04.2	-1.3
SDPT				S	Sn	08 39 28.3	-0.3
SDPT				*e*Sn	Sn	08 39 28.7	0.0
AKUT	Akutan	2.52	286	P	Pn	08 39 12.8	-0.6
AKUT				S	Sn	08 39 42.7	-0.2
VNWF	Veniaminof 8	2.89	24	P	Pn	08 39 18.9	+0.5
MCIR	Makushin Cirqu	3.15	280	P	Pn	08 39 21.7	-0.3
MSOM	Makushin Julie	3.17	277	P	Pn	08 39 21.7	-0.7
ANNE	Aniakchak Nort	3.96	30	P	Pn	08 39 33.3	+0.2
KDAK	Kodiak Island	6.66	47	P	Pn	08 40 07.3	-2.9
	1.8nm,0.3s,baz=122,slow=17,SNR=24						
KDAK				S	Sn	08 41 17.8	-6.9
	3.2nm,0.3s,baz=144,slow=23,SNR=13						
KDAK	Kodiak Island	6.66	47	P	Pn	08 40 07.3	-2.9
KDAK				S	Sn	08 41 17.8	-6.9
ILAR	Eielson Array	13.53	28	P	Pn	08 41 38.9	-5.1
	0.2nm,0.3s,baz=217,slow=12,SNR=10						
ILAR	Eielson Array	13.53	28	P	Pn	08 41 38.9	-5.1
COLD	Coldfoot	14.81	18	*e*Pn	Pn	08 41 60.0	-1.3
FX1	Attu Island--F	15.09	278	P	Pn	08 42 02.9	-2.1
	0.4nm,0.3s,baz=41,slow=19,SNR=2.6						
FX1	Attu Island--F	15.09	278	P	Pn	08 42 02.9	-2.1
DAWY	Dawson	15.53	38	*e*Pn	Pn	08 42 09.5	-1.1
DLBC	Dease Lake	18.24	62	P	Pn	08 42 47.6	+3.1
	0.1nm,0.3s,baz=274,slow=15,SNR=3.8						
DLBC	Dease Lake	18.24	62	P	Pn	08 42 47.6	+3.1
INK	Inuvik	19.86	31	P	Pn	08 43 02.8	-1.1
	0.2nm,0.3s,baz=251,slow=11,SNR=9.0						
INK	Inuvik	19.86	31	P	Pn	08 43 02.8	-1.0
PETK	Petropavlovsk-	24.07	286	P	P	08 43 45.7	-0.2
	2.3nm,0.5s,mb3.9,baz=83,slow=15,SNR=9.8						
PETK				pP		08 43 58.7	
	4.5nm,0.5s,baz=82,slow=13,SNR=4.7						
PETK	Petropavlovsk-	24.07	286	P	P	08 43 45.7	-0.2
PETK				pP		08 43 58.7	
YKA	Yellowknife Ar	25.91	51	P	P	08 44 02.9	+0.4
	1.1nm,0.7s,mb3.5,baz=269,slow=9.0,SNR=7.5						
YKA				pP	pP	08 44 14.7	+0.5
	0.8nm,0.7s,baz=272,slow=8.9,SNR=4.1						
YKA	Yellowknife Ar	25.91	51	P	P	08 44 02.9	+0.4
YKA				pP	pP	08 44 14.7	+0.5
BLMT	Blacktail Moun	29.95	81	*e*P	P	08 44 39.4	+0.7
	2.5nm,0.2s,mb4.6						
JTMT	Jette	30.12	82	*e*P	P	08 44 41.0	+0.9
CHMT	Chamberlain Mo	31.14	82	*e*P	P	08 44 49.7	+0.5
NVAR	Mina Array Bea	33.11	99	P	P	08 45 06.7	+0.2
	0.6nm,0.7s,mb3.6,baz=295,slow=8.8,SNR=3.2						
NVAR	Mina Array Bea	33.11	99	P	P	08 45 06.8	+0.2
PDAR	Pinedale Array	35.62	86	P	P	08 45 27.6	-0.6
	1.1nm,0.8s,mb3.9,baz=311,slow=3.8,SNR=10						
PDAR				pP	pP	08 45 40.5	+0.4
	0.5nm,0.7s,baz=336,slow=3.3,SNR=3.2						
PDAR	Pinedale Array	35.62	86	P	P	08 45 27.6	-0.6
PDAR				pP	pP	08 45 40.5	+0.4
ULM	Lac du Bonnet	39.43	67	P	P	08 45 59.5	-0.8
	2.1nm,0.6s,mb4.1,baz=300,slow=8.1,SNR=3.1						
ULM	Lac du Bonnet	39.43	67	P	P	08 45 59.5	-0.8
TXAR	Lajitas Array	48.13	96	P	P	08 47 10.6	+0.2
	0.8nm,0.6s,mb4.0,baz=300,slow=5.2,SNR=17						
TXAR				pP	pP	08 47 22.3	-0.4
	1.0nm,0.6s,baz=295,slow=5.3,SNR=10						
TXAR				PcP	PcP	08 48 37.2	-0.1
	0.3nm,0.5s,baz=180,slow=0.9,SNR=5.7						
TXAR	Lajitas Array	48.13	96	P	P	08 47 10.6	+0.3
TXAR				pP	pP	08 47 22.3	-0.4
TXAR				PcP	PcP	08 48 37.2	-0.1
SONM	Songino Array	54.62	304	P	P	08 47 58.6	-0.1
	0.2nm,0.6s,mb3.3,baz=28,slow=6.5,SNR=2.2						
SONM	Songino Array	54.62	304	P	P	08 47 58.6	-0.1
ARCES	ARCESS Array B	57.13	357	P	P	08 48 17.9	+1.5
	1.0nm,0.6s,mb4.0,baz=12,slow=8.0,SNR=7.9						
ARCES	ARCESS Array B	57.13	357	P	P	08 48 17.9	+1.5
CMIG	Matias Romero	62.63	98	P	P	08 48 54.3	-0.5
	1.4nm,0.6s,mb4.3,baz=311,slow=9.3,SNR=3.4						
CMIG	Matias Romero	62.63	98	P	P	08 48 54.3	-0.5
KURK	Kurchatov	64.47	322	P	P	08 49 08.2	+1.7
	0.8nm,0.9s,mb3.8,baz=21,slow=6.6,SNR=3.5						
KURK				pP	pP	08 49 20.1	+0.8
	0.6nm,0.6s,baz=29,slow=7.5,SNR=4.5						
KURK	Kurchatov	64.47	322	P	P	08 49 08.2	+1.7
KURK				pP	pP	08 49 20.1	+0.8
FINES	FINESS Array B	65.21	356	P	P	08 49 12.3	+1.2
	1.4nm,0.6s,mb4.2,baz=352,slow=8.4,SNR=3.7						
FINES	FINESS Array B	65.21	356	P	P	08 49 12.3	+1.2
BVAR	Borovoye Array	65.33	328	P	P	08 49 13.9	+1.8
	2.6nm,0.8s,mb4.3,baz=47,slow=6.7,SNR=12						
BVAR				pP	pP	08 49 25.6	+0.8
	2.5nm,0.7s,baz=38,slow=7.5,SNR=10						
BVAR	Borovoye Array	65.33	328	P	P	08 49 13.9	+1.8
BVAR				pP	pP	08 49 25.6	+0.8
MKAR	Makanchi Array	66.26	318	P	P	08 49 18.5	+0.4
	0.2nm,0.4s,mb3.5,baz=44,slow=6.1,SNR=6.7						
MKAR				pP	pP	08 49 31.1	+0.2
	0.5nm,0.5s,baz=54,slow=6.4,SNR=5.2						
MKAR	Makanchi Array	66.26	318	P	P	08 49 18.5	+0.4
MKAR				pP	pP	08 49 31.1	+0.2
AKTO	Aktyubinsk	71.17	334	P	P	08 49 50.4	+1.8
	0.5nm,0.4s,mb3.8,baz=15,slow=7.6,SNR=4.0						
AKTO	Aktyubinsk	71.17	334	P	P	08 49 50.4	+1.8
AKASG	Malin Array Be	75.74	353	P	P	08 50 16.0	+0.5
	1.2nm,0.5s,mb4.1,baz=5.0,slow=5.2,SNR=3.5						
AKASG				pP	pP	08 50 27.9	-0.6
	0.6nm,0.3s,baz=10,slow=5.9,SNR=4.2						
AKASG	Malin Array Be	75.74	353	P	P	08 50 16.0	+0.5
AKASG				pP	pP	08 50 27.9	-0.6

*NEIC **08** 08:39:35.8,39°.04S×177°.45E,h70km,ML3.6(WEL),After WEL.*
WEL 08 08:39:37.2±0.1,39°.06S×177°.33E,h33km±4km,ML3.6/6, 3C-2D,Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAHZ	Arahi	0.24	306	⇑PN	Pb	08 39 43.3	-0.9
RAHZ				*e*SN	Sb	08 39 48.5	-0.4
RAHZ	Arahi	0.24	306	Pn	Pb	08 39 43.3	-0.9
KNZ	Kokohu	0.27	82	⇑PN	Pb	08 39 44.9	+0.4
KNZ				*e*SN	Sb	08 39 50.6	+1.1
KNZ	Kokohu	0.27	82	Pn	Pb	08 39 44.9	+0.3
NMHZ	Naumai	0.41	264	⇓PN	Pn	08 39 46.1	-0.7
NMHZ	Naumai	0.41	264	Pn	Pn	08 39 46.1	-0.7
PRGZ	Paritu Road	0.45	73	⇓PN	Pn	08 39 47.6	+0.3
PRGZ	Paritu Road	0.45	73	Pn	Pn	08 39 47.6	+0.3
MHGZ	Mahia Peninsul	0.46	102	⇑PN	Pn	08 39 48.0	+0.6
MHGZ	Mahia Peninsul	0.46	102	Pn	Pn	08 39 48.0	+0.6
MCHZ	McNeill Hill	0.63	232	PN	Pn	08 39 50.2	+0.4
MCHZ	McNeill Hill	0.63	232	Pn	Pn	08 39 50.2	+0.4
CKHZ	Cape Kidnapper	0.63	198	PN	Pn	08 39 49.8	-0.1
CKHZ	Cape Kidnapper	0.63	198	Pn	Pn	08 39 50.2	+0.3
BKZ	Black Stump Fm	0.66	260	PN	Pn	08 39 49.8	-0.4
BKZ	Black Stump Fm	0.66	260	Pn	Pn	08 39 49.8	-0.5
MWZ	Matawai	0.74	12	PN	Pn	08 39 50.9	-0.4
MWZ				*e*SN	Sn	08 40 00.5	-0.8
MWZ	Matawai	0.74	12	Pn	Pn	08 39 50.9	-0.4
URZ	Urewera	0.81	348	PN	Pn	08 39 51.5	-0.8
URZ				SN	Sn	08 40 02.9	-0.4
URZ	Urewera	0.81	348	Pn	Pn	08 39 51.5	-0.8
KAHZ	Kahuranaki	0.82	205	PN	Pn	08 39 52.8	+0.4
KAHZ	Kahuranaki	0.82	205	Pn	Pn	08 39 52.8	+0.4
CNGZ	Carnagh Statio	0.89	50	*e*PN	Pn	08 39 53.3	-0.1
CNGZ	Carnagh Statio	0.89	50	Pn	Pn	08 39 54.5	+1.1
ALRZ	Allen Road	0.92	302	PN	Pn	08 39 53.3	-0.4
ALRZ	Allen Road	0.92	302	Pn	Pn	08 39 53.3	-0.4
PRRZ	Plateau Road	0.92	307	PN	Pn	08 39 53.5	-0.3
PRRZ	Plateau Road	0.92	307	Pn	Pn	08 39 53.5	-0.3
RRRZ	Republican Roa	0.96	318	PN	Pn	08 39 53.8	-0.5
RRRZ	Republican Roa	0.96	318	Pn	Pn	08 39 53.8	-0.5
HATZ	Hinemaiaia	0.98	279	PN	Pn	08 39 54.6	0.0
HATZ	Hinemaiaia	0.98	279	Pn	Pn	08 39 54.6	0.0
PXZ	Pawanui	1.04	200	PN	Pn	08 39 54.8	-0.6
PXZ	Pawanui	1.04	200	Pn	Pn	08 39 54.8	-0.6
TARZ	Mount Tarawera	1.05	321	PN	Pn	08 39 55.2	-0.3
TARZ	Mount Tarawera	1.05	321	Pn	Pn	08 39 55.2	-0.3
HRRZ	Handcock Road	1.06	309	PN	Pn	08 39 55.0	-0.7
HRRZ	Handcock Road	1.06	309	Pn	Pn	08 39 55.0	-0.7
EDRZ	Edgecumbe	1.06	334	PN	Pn	08 39 55.1	-0.6
EDRZ	Edgecumbe	1.06	334	Pn	Pn	08 39 55.1	-0.6
BHHZ	Black Hill Sta	1.08	246	PN	Pn	08 39 56.0	+0.1
BHHZ				SN	Sn	08 40 10.4	+0.8
BHHZ	Black Hill Sta	1.08	246	Pn	Pn	08 39 56.0	+0.1
MKRZ	Makatiti	1.14	323	Pn	Pn	08 39 56.9	+0.1
WHTZ	Whakaora	1.14	289	*e*PN	Pn	08 39 56.9	0.0
WHTZ	Whakaora	1.14	289	Pn	Pn	08 39 56.9	+0.1
RITZ	Rihia Road	1.15	273	PN	Pn	08 39 57.4	+0.5
RITZ	Rihia Road	1.15	273	Pn	Pn	08 39 57.4	+0.5
OMRZ	Omania	1.21	321	PN	Pn	08 39 57.1	-0.6
OMRZ	Omania	1.21	321	Pn	Pn	08 39 57.1	-0.6
PUZ	Puketiti	1.22	37	*e*PN	Pn	08 39 56.9	-1.0
PUZ	Puketiti	1.22	37	Pn	Pn	08 39 57.2	-0.7
WPHZ	Waipukurau	1.22	214	PN	Pn	08 39 57.5	-0.4
WPHZ	Waipukurau	1.22	214	Pn	Pn	08 39 57.5	-0.4
PNHZ	Pukenui	1.23	225	PN	Pn	08 39 57.6	-0.4
PNHZ	Pukenui	1.23	225	Pn	Pn	08 39 57.6	-0.4
RATZ	Rangitukua	1.23	278	*e*PN	Pn	08 39 58.1	0.0
RATZ	Rangitukua	1.23	278	Pn	Pn	08 39 58.3	+0.2
MOVZ	Moawhango	1.28	254	*e*PN	Pn	08 39 59.3	+0.6
MOVZ	Moawhango	1.28	254	Pn	Pn	08 39 59.2	+0.5
KATZ	Kakaramea	1.28	273	*e*PN	Pn	08 39 59.2	+0.5
KATZ	Kakaramea	1.28	273	Pn	Pn	08 39 59.2	+0.5
WATZ	Wairara	1.30	285	*e*PN	Pn	08 39 58.8	-0.1
OTVZ	Oturere	1.30	265	PN	Pn	08 39 59.8	+0.7
OTVZ	Oturere	1.30	265	Pn	Pn	08 39 59.8	+0.7
KRVZ	Karewarewa	1.32	268	PN	Pn	08 39 59.8	+0.5
KRVZ	Karewarewa	1.32	268	Pn	Pn	08 39 59.8	+0.6
PRHZ	Porangahau	1.32	204	PN	Pn	08 39 58.5	-0.8
PRHZ	Porangahau	1.32	204	Pn	Pn	08 39 58.5	-0.8
TUVZ	Tukino	1.32	260	*e*PN	Pn	08 40 00.2	+0.9
TUVZ	Tukino	1.32	260	Pn	Pn	08 40 00.2	+0.9
NGZ	Ngauruhoe	1.35	264	PN	Pn	08 40 00.0	+0.3
NGZ	Ngauruhoe	1.35	264	Pn	Pn	08 40 00.1	+0.3
WTVZ	West Tongariro	1.36	267	PN	Pn	08 40 00.4	+0.6
WTVZ	West Tongariro	1.36	267	Pn	Pn	08 40 00.4	+0.6
WNVZ	Wahianoa	1.38	258	PN	Pn	08 40 00.3	+0.2
WNVZ	Wahianoa	1.38	258	Pn	Pn	08 40 00.3	+0.3
WPVZ	Whakapapa	1.40	263	PN	Pn	08 40 00.9	+0.5
WPVZ	Whakapapa	1.40	263	Pn	Pn	08 40 00.9	+0.5
FWVZ	Far West T-bar	1.40	261	PN	Pn	08 40 01.2	+0.9
FWVZ	Far West T-bar	1.40	261	Pn	Pn	08 40 01.2	+0.9
TRVZ	Turoa	1.41	260	PN	Pn	08 40 02.2	+1.7
TRVZ	Turoa	1.41	260	Pn	Pn	08 40 02.2	+1.7
TSZ	Takapari Road	1.46	226	PN	Pn	08 40 00.4	-0.8
TSZ				SN	Sn	08 40 18.9	-0.2
TSZ	Takapari Road	1.46	226	Pn	Pn	08 40 00.4	-0.8
MTVZ	Mangateitei	1.48	257	PN	Pn	08 40 01.8	+0.3
MTVZ	Mangateitei	1.48	257	Pn	Pn	08 40 01.8	+0.3
DVHZ	Dannevirke	1.53	216	PN	Pn	08 40 01.2	-1.1
DVHZ	Dannevirke	1.53	216	Pn	Pn	08 40 01.2	-1.0
MXZ	Matakaoa Point	1.68	27	*e*PN	Pn	08 40 04.3	+0.1
MXZ	Matakaoa Point	1.68	27	Pn	Pn	08 40 04.4	+0.2
POWZ	Post Office Ro	1.80	222	PN	Pn	08 40 04.9	-1.0
POWZ	Post Office Ro	1.80	222	Pn	Pn	08 40 04.9	-1.0
BFZ	Birch Farm	1.82	207	PN	Pn	08 40 05.0	-1.2
BFZ	Birch Farm	1.82	207	Pn	Pn	08 40 05.0	-1.2
WAZ	Wanganui	1.95	248	*e*PN	Pn	08 40 06.2	-1.7
WAZ	Wanganui	1.95	248	Pn	Pn	08 40 08.7	+0.7
TIWZ	Tintock	2.05	212	PN	Pn	08 40 08.1	-1.2
TIWZ	Tintock	2.05	212	Pn	Pn	08 40 08.1	-1.2
MRZ	Mangatainoka R	2.10	220	PN	Pn	08 40 08.3	-1.7
MRZ				SN	Sn	08 40 33.7	-1.2
MRZ	Mangatainoka R	2.10	220	Pn	Pn	08 40 08.3	-1.7
MRZ				Sn	Sn	08 40 33.7	-1.2
HOWZ	Holdsworth Sta	2.31	217	PN	Pn	08 40 10.9	-2.0
HOWZ	Holdsworth Sta	2.31	217	Pn	Pn	08 40 10.9	-2.0
TMWZ	Te Maipa	2.33	208	Pn	Pn	08 40 09.4	-3.7
OGWZ	Otaki Gorge	2.42	223	PN	Pn	08 40 12.5	-1.9
OGWZ	Otaki Gorge	2.42	223	Pn	Pn	08 40 12.6	-1.9
MTW	Mount Morrison	2.53	213	PN	Pn	08 40 13.5	-2.3
MTW	Mount Morrison	2.53	213	Pn	Pn	08 40 13.5	-2.3
KIW	Kapiti Island	2.59	225	PN	Pn	08 40 15.0	-1.8
KIW	Kapiti Island	2.59	225	Pn	Pn	08 40 15.0	-1.8
TRWZ	Traveller	2.66	208	Pn	Pn	08 40 15.2	-2.5
CAW	Cannon Point	2.69	220	PN	Pn	08 40 15.6	-2.4
CAW	Cannon Point	2.69	220	Pn	Pn	08 40 15.6	-2.4
PAWZ	Paruwai Farm	2.74	212	PN	Pn	08 40 16.7	-2.2
PAWZ	Paruwai Farm	2.74	212	Pn	Pn	08 40 16.7	-2.2
PLWZ	Palliser	2.97	212	PN	Pn	08 40 18.9	-3.1
PLWZ	Palliser	2.97	212	Pn	Pn	08 40 18.9	-3.1
BHW	Baring Head	3.01	218	PN	Pn	08 40 19.5	-3.1
BHW	Baring Head	3.01	218	Pn	Pn	08 40 19.5	-3.0
TCW	Tory Channel	3.18	226	Pn	Pn	08 40 22.6	-2.3
TUWZ	Tuamarina	3.51	227	Pn	Pn	08 40 26.6	-2.8
NNZ	Nelson	3.72	233	Pn	Pn	08 40 29.6	-2.4
THZ	Tophouse	4.33	230	PN	Pn	08 40 38.3	-2.3
KHZ	Kahutara	4.42	219	PN	Pn	08 40 40.4	-1.6
LTZ	Lake Taylor	5.34	224	*e*PN	Pn	08 40 50.1	-4.4
CTZ	Chatham Island	6.52	138	*e*PN	Pn	08 41 10.1	-0.7

*NEIC **08** 08:51:17.9,17°.14N×100°.35W,h27km,MD3.5(MEX),After MEX.*
MEX 08 08:51:18.0±0.7,17°.16N×100°.34W,h25km±6km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.13	147	*i*P	Pb	08 51 21.5	-1.5
CAIG				*i*S	Sb	08 51 24.9	-1.4
CAIG	El Cayaco	0.13	147	*i*P	Pb	08 51 21.5	-1.5
CAIG				*i*S	Sb	08 51 24.9	-1.4
ACX	Acapulco	0.55	122	*i*P	Pb	08 51 26.8	-2.2
ACX				*i*S	Sb	08 51 32.9	-3.6
ACX	Acapulco	0.55	122	*i*P	Pb	08 51 26.8	-2.2
ACX				*i*S	Sb	08 51 32.9	-3.6
MEIG	Mezcala	1.03	42	*i*P	Pn	08 51 33.9	-2.9
MEIG				*i*S	Sb	08 51 47.9	-2.3
MEIG	Mezcala	1.03	42	*i*P	Pn	08 51 33.9	-2.9
MEIG				*i*S	Sb	08 51 47.6	-2.7
ZIIG	Zihuatanejo	1.16	293	*i*P	Pn	08 51 36.0	-2.6
ZIIG				*i*S	Sn	08 51 50.0	-3.7
ZIIG	Zihuatanejo	1.16	293	*i*P	Pn	08 51 36.0	-2.6
ZIIG				*i*S	Sn	08 51 50.0	-3.7
PNIG	Pinotepa	2.26	109	*e*P	Pn	08 51 52.0	-1.7
PNIG				*i*S	Sn	08 52 18.7	-2.1
PNIG	Pinotepa	2.26	109	*e*P	Pn	08 51 52.0	-1.7
PNIG				*i*S	Sn	08 52 18.7	-2.1
PPM	Popocatepetl	2.50	40	*e*P	Pn	08 51 54.1	-3.0
PPM				*e*S	Sn	08 52 22.7	-4.1
PPM	Popocatepetl	2.50	40	*e*P	Pn	08 51 54.1	-3.0
PPM				*e*S	Sn	08 52 22.7	-4.1
UTMO	Huajuapan	2.51	74	*e*P	Pn	08 51 55.6	-1.6
UTMO				*i*S	Sn	08 52 24.6	-2.5
UTMO	Huajuapan	2.51	74	*e*P	Pn	08 51 55.6	-1.6
UTMO				*i*S	Sn	08 52 24.6	-2.5

*ISCJB **08** 08:53:15.3±2.6,1°.07N±0°.05×96°.94E±0°.07,h15km±18km, mb4.1/11,Error ellipse: s-maj=13.1km s-min=7.1km az=154.7*
*IDC **08** 08:53:15.8±1.5,1°.16N×97°.17E,h0km,mb4.1/9, mb1 4.2/10,mb1mx3.9/25,mbtmp4.1/10,Error ellipse: s-maj=58.4km s-min=15.9km az=59.0*
*DJA **08** 08:53:17,1°.12N×97°.02E,h15km,MLv4.2/9*
*NEIC **08** 08:53:20.8±0.5,1°.17N×97°.19E,h35km,mb4.2/3,Error ellipse: s-maj=13.0km s-min=7.1km az=63.0*
ISC 08 08:53:16.1±2.8,1°.10N±0°.05×97°.00E±0°.06,h6km±17km, n40,σ0°.74/42,mb4.1/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		2.15	5	P	Pn	08 53 52.2	-0.4
TPTI				S	Sn	08 54 19.1	-0.5
PSI	Prapat	2.56	49	P	Pn	08 53 57.7	-0.5
MNSI	Mandailing Nat	2.60	97	P	Pn	08 53 58.3	-0.4
MNSI				S	Sn	08 54 30.2	-0.4
TSI	Tuntungan	2.85	33	P	Pn	08 54 02.3	+0.1
TSI				S	Sn	08 54 38.9	+2.0
PPI	Padang Panjang	3.73	114	P	Pn	08 54 15.4	+1.1
PDSI	Padang	4.00	120	P	Pn	08 54 19.2	+1.2
BKNI	Bangkinang	4.11	101	P	Pn	08 54 20.4	+0.8
BSI	Banda Aceh	4.69	339	P	Sn	08 55 17.2	-4.9
IPM	Ipoh	5.24	50	*e*Pn	Pn	08 54 35.1	+0.1
	28nm,0.8s						
IPM				*e*Sn	Sn	08 55 30.4	-5.5
IPM	Ipoh	5.24	50	P	Pn	08 54 35.1	+0.1
	0.2nm45nm,0.9s						
KULM	Kulim	5.53	41	*e*Pn	Pn	08 54 38.6	-0.5
	49nm,0.8s						
KULM	Kulim	5.53	41	P	Pn	08 54 38.4	-0.7
CMAR	Chiang Mai Arr	17.35	6	P	Pn	08 57 17.9	-1.2
	baz=198,slow=10,SNR=7.9						
CMAR	Chiang Mai Arr	17.35	6	P	Pn	08 57 17.9	-1.2
WRA	Warramunga Arr	42.16	122	P	P	09 01 08.8	-1.0
	1.6nm,0.6s,mb3.9,baz=301,slow=9.1,SNR=25						
WRA	Warramunga Arr	42.16	122	P	P	09 01 08.8	-1.0
WRAB	Tennant Creek	42.16	122	*e*P	P	09 01 08.9	-0.9
	2.2nm,0.7s,mb3.9						
WB2	Warramunga Arr	42.16	122	*e*P	P	09 01 09.0	-0.9
ASAR	Alice Springs	43.50	127	P	P	09 01 20.4	-0.2
	0.8nm,0.6s,mb3.6,baz=296,slow=7.3,SNR=17						
ASAR	Alice Springs	43.50	127	P	P	09 01 20.4	-0.2
AS31	Alice Springs	43.50	127	*e*P	P	09 01 20.3	-0.3
KSAR	Wonju Array Be	46.01	35	P	P	09 01 40.1	-0.4
KSRS	Korea Array	46.04	35	P	P	09 01 40.1	-0.6
	5.0nm,0.9s,mb4.5,baz=221,slow=8.6,SNR=11						
SONM	Songino Array	47.26	9	P	P	09 01 50.3	+0.3
	0.7nm,0.4s,mb3.9,baz=191,slow=9.1,SNR=11						
SONM	Songino Array	47.26	9	P	P	09 01 50.3	+0.3
MK31	Makanchi Array	47.29	346	*e*P	P	09 01 50.3	0.0
MKAR	Makanchi Array	47.29	346	P	P	09 01 51.3	+1.0
	1.7nm,0.6s,mb4.1,baz=162,slow=9.0,SNR=23						
MK

KKN	**Kakani**	**3.56 127**	*e*P		**Pn**	**09 00 04.7 +1.2**
KKN			*e*			09 00 46.0
PKI	**Pulchoki**	**3.78 129**	*e*Pn		**Pn**	**09 00 07.8 +1.2**
PKI			*e*Sn		**Sn**	**09 00 52.3 +1.5**
39μm,0.8s						
PKI	**Pulchoki**	**3.78 129**	*e*Pn		**Pn**	**09 00 07.8 +1.2**
PKI			*e*Sn		**Sn**	**09 00 52.3 +1.5**
PKI	**Pulchoki**	**3.78 129**	*e*P		**Pn**	**09 00 07.8 +1.2**
PKI			*e*			09 00 52.3
GUN	**Gumba**	**3.92 121**	*e*Pn		**Pn**	**09 00 09.3 +0.9**
GUN			*e*Sn		**Sn**	**09 00 54.4 +0.3**
31μm,0.8s						
GUN	**Gumba**	**3.92 121**	*e*Pn		**Pn**	**09 00 09.3 +0.9**
GUN			*e*Sn		**Sn**	**09 00 54.4 +0.3**
JIRN	**Jiri**	**4.28 122**	*e*Pn		**Pn**	**09 00 14.9 +1.4**
JIRN	**Jiri**	**4.28 122**	*e*Pn		**Pn**	**09 00 14.9 +1.4**
NDI	**New Delhi**	**4.45 254**	*e*PKP		**Pn**	**09 00 15.0 -0.7**
NDI			*e*S		**Sn**	**09 01 02.2 -5.0**
SDNR	**Sundarnagar**	**4.65 290**	*e*PKP		**Pn**	**09 00 20.0 +1.5**
SDNR			*e*x		x	09 01 36.0
ALBI	**Allahabad**	**4.67 183**	*e*x		x	09 00 14.0
RAMN	**Ramite**	**5.00 126**	*e*Pn		**Pn**	**09 00 23.6 +0.3**
RAMN			*e*Sn		**Sn**	**09 01 21.2 +0.5**
17μm,0.8s						
RAMN	**Ramite**	**5.00 126**	*e*Pn		**Pn**	**09 00 23.6 +0.3**
RAMN			*e*Sn		**Sn**	**09 01 21.2 +0.5**
BHK	**Bhakra**	**5.08 288**	*e*PKP		**Pn**	**09 00 24.2 -0.3**
JHNI	**Jhansi**	**5.49 216**	*e*x		x	09 00 19.0
JHNI			*e*x		x	09 01 22.0
TAPN	**Taplejung**	**5.60 117**	*e*Pn		**Pn**	**09 00 32.1 +0.6**
TAPN	**Taplejung**	**5.60 117**	*e*Pn		**Pn**	**09 00 32.1 +0.6**
ODAN	**Odare**	**5.62 122**	*e*Pn		**Pn**	**09 00 32.5 +0.7**
ODAN			*e*Sn		**Sn**	**09 01 35.3 -0.7**
ODAN	**Odare**	**5.62 122**	*e*Pn		**Pn**	**09 00 32.5 +0.7**
ODAN			*e*Sn		**Sn**	**09 01 35.3 -0.7**
GTK	**Gangtok**	**6.32 113**	*e*PKP		**Pn**	**09 00 39.0 -2.4**
GTK			*e*x		x	09 01 23.5
SLGI	**Shiliguri**	**6.47 119**	*e*PKP		**Pn**	**09 00 41.1 -2.4**
BOK	**Bokaro**	**7.04 150**	*e*x		**Pn**	**09 00 50.0 -1.4**
BOK			*e*x		x	09 02 04.0
JBP	**Jabalpur**	**7.05 196**	*e*PKP		**Pn**	**09 00 49.0 -2.5**
JBP			*e*x		x	09 02 07.0
AJM	**Ajmer**	**7.44 244**	*e*PKP		**Pn**	**09 00 54.0 -2.8**
LSA	**Lhasa**	**7.88 90**	Pn		**Pn**	**09 01 04.9 +2.0**
LSA			Sn		**Sn**	**09 02 30.9 -0.9**
BHPL	**Bhopal**	**7.91 213**	*e*PKP		**Pn**	**09 01 01.1 -2.1**
BHPL			*e*S		**Sn**	**09 02 21.2 -11**
BHPL			AML		AML	09 03 15.3
comp=E,2μm,0.9s						
BHPL			AML		AML	09 03 15.7
comp=N,2μm,0.8s						
CHCP	**Chirah Chowk**	**8.35 298**	P		**Pn**	**09 01 09.7 +0.4**
NGP	**Nagpur**	**9.22 198**	*e*x		**Pn**	**09 01 15.8 -5.4**
NGP			*e*S		**Sn**	**09 02 52.8 -12**
CAL	**Calcutta**	**9.30 141**	*e*PKP		**Pn**	**09 01 19.2 -3.2**
CAL			*e*x		x	09 03 02.0
CAL			AML		AML	09 05 44.0
comp=N,2μm,0.6s						
CAL			AML		AML	09 05 45.4
comp=E,1μm,0.3s						
CEP	**Cherat**	**9.46 296**	P		**Pn**	**09 01 23.8 -0.7**
CEP			S		**Sn**	**09 03 08.0 -2.5**
AGT	**Agartala**	**10.19 124**	*e*PKP		**Pn**	**09 01 31.0 -3.5**
AGT			*e*x		x	09 02 12.0
KSH	**Kashi**	**10.75 334**	P		**Pn**	**09 01 40.2 -1.9**
KSH			pP			09 01 44.8
KSH			sP			09 01 47.4
KSH			PP			09 01 49.6
KSH			S		**Sn**	**09 03 39.6 -2.5**
KSH			sS			09 03 44.3
KSH			SS			09 03 53.5
KSH			pmax		pmax	
comp=Z,140nm,0.8s						
KSH			LR		LR	
comp=N,5μm,6.4s						
KSH			LR		LR	
comp=E,12μm,8.0s						
KSH			LR		LR	
comp=Z,7μm,6.7s						
KBL	**Kabul**	**11.93 296**	*e*Pn		**Pn**	**09 01 57.2 -1.2**
KBL			*e*Sn		**Sn**	**09 04 11.9 +0.7**
KBL	**Kabul**	**11.93 296**	*e*P		**Pn**	**09 01 57.2 -1.2**
KBL			*e*			09 04 11.9
LATR	**Latur**	**12.57 205**	*e*PKP		**Pn**	**09 02 03.4 -3.8**
LATR			*e*x		x	09 04 16.7
HYB	**Hyderabad**	**12.93 195**	*i* P		**Pn**	**09 02 06.0 -6.0**
ULHL	**Ulahol**	**13.11 341**	P		**Pn**	**09 02 14.7 +0.4**
SNR=20						
ULHL			P			09 02 14.7
SNR=20						
QUE	**Quetta**	**13.11 275**	*e*P		**Pn**	**09 02 20.0 +5.5**
QUE			*e*S		**Sn**	**09 04 40.0 -0.1**
QUE	**Quetta**	**13.11 275**	*e*P		**Pn**	**09 02 20.0 +5.5**
QUE			*e*S		**Sn**	**09 04 40.0 -0.1**
KZA	**Kyzart**	**13.26 337**	P		**Pn**	**09 02 17.7 +1.2**
SNR=16						
KZA			P			09 02 17.7
SNR=16						
POO	**Poona**	**13.65 215**	*e*PKP		**Pn**	**09 02 17.2 -4.7**
UCH	**Uchtor**	**13.65 336**	P		**Pn**	**09 02 21.6 -0.2**
SNR=14						
UCH			P			09 02 21.6
SNR=14						
AML	**Almayashu**	**13.88 333**	P		**Pn**	**09 02 25.1 +0.2**
SNR=8.7						
AML			P			09 02 25.1
SNR=8.7						
AAA	**Alma-Ata**	**13.88 344**	*e*P		**Pn**	**09 02 27.0 +2.1**
AAA			*e*S		**Sn**	**09 05 07.0 +8.3**
AAA			pmax		pmax	
comp=Z,400nm,6.0s						
AAA			smax			
comp=E,1μm,7.4s						
AAA			MLR		MLR	
comp=Z,13μm,13.0s						
KBK	**Karagaybulak**	**13.88 338**	P		**Pn**	**09 02 25.7 +0.7**
SNR=7.6						
KBK			P			09 02 25.7
SNR=7.6						
TKM2	**Tokmak 2**	**13.91 340**	P		**Pn**	**09 02 25.1 -0.3**
SNR=9.8						
TKM2			P			09 02 25.1
SNR=9.8						
TKM2	**Tokmak 2**	**13.91 340**	*e*Pn		**Pn**	**09 02 25.6 +0.2**
TKM2	**Tokmak 2**	**13.91 340**	*e*P		**Pn**	**09 02 25.6 +0.2**
AAK	**Ala-Archa**	**14.01 336**	P		**Pn**	**09 02 29.4 +2.6**
SNR=19						
AAK			P			09 02 29.4
SNR=19						
AAK	**Ala-Archa**	**14.01 336**	Pn		**Pn**	**09 02 27.6 +0.8**
comp=Z,260nm,1.1s,SNR=13						
AAK	**Ala-Archa**	**14.01 336**	*e*Pn		**Pn**	**09 02 27.9 +1.1**
AAK	**Ala-Archa**	**14.01 336**	*e*P		**Pn**	**09 02 27.9 +1.1**
AAK	**Ala-Archa**	**14.01 336**	P		**Pn**	**09 02 28.3 +1.5**
comp=Z,6μmcomp=Z,432nm,1.4s						
AAK	**Ala-Archa**	**14.01 336**	P		**Pn**	**09 02 28.4 +1.7**
SNR=49						
FRU	**Bishkek**	**14.15 337**	*e*P		**Pn**	**09 02 30.0 +1.4**
FRU			pmax		pmax	
comp=Z,125nm,1.8s						
EKS2	**Erkin-Say**	**14.30 334**	P		**Pn**	**09 02 31.7 +1.1**
SNR=8.6						
EKS2			P			09 02 31.7
SNR=8.6						
EKS2	**Erkin-Say**	**14.30 334**	*e*Pn		**Pn**	**09 02 30.4 -0.2**
EKS2	**Erkin-Say**	**14.30 334**	*e*P		**Pn**	**09 02 30.4 -0.2**
WMQ	**Urumqi**	**14.51 16**	P		**Pn**	**09 02 33.7 +0.2**
WMQ			PP			09 02 45.3
WMQ			S		**Sn**	**09 05 17.2 +3.1**
WMQ			PcP		PcP	09 07 48.3 +0.5
WMQ			ScP		ScP	09 11 22.1 +1.0
WMQ			pmax		pmax	
comp=Z,180nm,1.0s						
WMQ			pmax		pmax	
comp=Z,700nm,4.0s						
WMQ			LR		LR	
comp=N,5μm,12.2s						
WMQ			LR		LR	
comp=E,3μm,13.8s						
WMQ			LR		LR	
comp=Z,2μm,20.4s						
KAD	**Karad**	**14.54 212**	*e*PKP		**Pn**	**09 02 29.3 -4.8**
KAD			*e*x		x	09 04 54.9

USP	**Ospenovka**	**14.57 337**	P		**Pn**	**09 02 37.7 +3.3**
SNR=9.3						
USP			P			09 02 37.7
SNR=9.3						
KKAR	**Karatay Array**	**16.03 328**	*e*Pn		**Pn**	**09 02 51.4 -2.2**
KKAR			*e*Sn		**Sn**	**09 05 46.6 -4.5**
KKAR	**Karatay Array**	**16.03 328**	*e*P		**Pn**	**09 02 51.4 -2.3**
KKAR			*e*			09 05 46.6
GOA	**Goa**	**16.31 210** ⇓	*i*x		**Pn**	**09 02 51.0 -6.3**
GOA			*e*x		x	09 05 41.9
MK31	**Makanchi Array**	**16.78 0**	*e*Pn		**Pn**	**09 03 02.2 -0.9**
MK31	**Makanchi Array**	**16.78 0**	*e*P		**Pn**	**09 03 02.3 -0.8**
MKAR	**Makanchi Array**	**16.78 0**	Pn		**Pn**	**09 03 02.4 -0.8**
comp=Z,6.0nm,0.3s,baz=180,slow=11,SNR=71						
MKAR			LR		LR	09 10 31.1
comp=Z,2μm,19.5s,baz=181,slow=40						
MKAR	**Makanchi Array**	**16.78 0**	Pn		**Pn**	**09 03 02.4 -0.8**
MKAR	**Makanchi Array**	**16.78 0**	P		**Pn**	**09 03 02.4 -0.7**
MKAR			pmax		pmax	
comp=Z,6.0nm,0.3s						
MKAR			MLR		MLR	
comp=Z,2μm,19.5s						
GTA	**Gaotai**	**17.32 52** ⇑	P		**Pn**	**09 03 07.4 -2.6**
GTA			pP		pP	09 03 11.1 -4.6
GTA			sP		sP	09 03 14.4 -3.2
GTA			S		**Sn**	**09 06 18.6 -3.8**
GTA			sS		sS	09 06 24.8 -13
GTA			SS			09 06 40.7
GTA			ScP		ScP	09 11 25.1 -1.4
GTA			ScS		ScS	09 15 04.0 -2.3
GTA			pmax		pmax	
comp=Z,39nm,1.6s						
GTA			pmax		pmax	
comp=Z,260nm,4.3s						
GTA			LR		LR	
comp=N,9μm,16.4s						
GTA			LR		LR	
comp=E,4μm,16.4s						
GTA			LR		LR	
comp=Z,2μm,17.3s						
CD2	**Chengdu**	**18.71 82** ⇑	*i*P		**Pn**	**09 03 26.5 -0.7**
CD2			pP		pP	09 03 30.2 -0.9
CD2			sP		sP	09 03 33.6 +0.6
CD2			PP			09 03 42.8
CD2			S		**Sn**	**09 06 52.8 -3.4**
CD2			sS		sS	09 06 58.5 -7.7
CD2			SS			09 07 17.6
CD2			pmax		pmax	
comp=Z,300nm,0.8s						
CD2			pmax		pmax	
comp=Z,770nm,4.8s						
CD2			LR		LR	
comp=N,10μm,15.6s						
CD2			LR		LR	
comp=E,5μm,10.2s						
CD2			LR		LR	
comp=Z,7μm,9.6s						
CHRT	**Chiangrai**	**18.93 118** ⇑	P		**Pn**	**09 03 27.0 -2.8**
comp=Z,855nm,0.9s						
CHG	**Chiang Mai**	**18.93 122** ⇑	P		**Pn**	**09 03 27.5 -2.4**
comp=Z,121nm,1.0s						
CHTO	**Chiang Mai**	**18.93 122**	*e*P		**Pn**	**09 03 27.7 -2.3**
comp=Z,130nm,1.1s						
CHTO			*e*S		**Sn**	**09 07 00.4 -1.3**
CHTO	**Chiang Mai**	**18.93 122**	*e*P		**Pn**	**09 03 27.7 -2.2**
CHTO			*e*S		**Sn**	**09 07 00.4 -1.3**
CHTO			pmax		pmax	
comp=Z,130nm,1.1s						
CHTO	**Chiang Mai**	**18.93 122**	P		**Pn**	**09 03 28.0 -1.9**
comp=Z,1μmcomp=Z,140nm,1.1s						
CHTO	**Chiang Mai**	**18.93 122**	P		**Pn**	**09 03 28.0 -2.0**
SNR=36						
KMI	**Kunming**	**18.94 100**	P		**Pn**	**09 03 29.7 -0.3**
KMI			pP		pP	09 03 33.3 -0.3
KMI			PP			09 03 46.3
KMI			S		**Sn**	**09 06 58.7 -3.0**
KMI			sS		sS	09 07 04.5 -6.4
KMI			pmax		pmax	
comp=Z,230nm,0.9s						
KMI			pmax		pmax	
comp=Z,830nm,3.1s						
KMI			LR		LR	
comp=N,3μm,10.9s						
KMI			LR		LR	
comp=E,3μm,14.5s						
KMI			LR		LR	
comp=Z,3μm,12.5s						
KMI	**Kunming**	**18.94 100**	P		**Pn**	**09 03 29.7 -0.3**
comp=Z,229nm,0.9s						
KMI			pP		pP	09 03 33.3 -0.3
KMI			PP			09 03 46.3
KMI			PPP			09 03 55.1
KMI			S		**Sn**	**09 06 58.7 -3.0**
KMI			sS		sS	09 07 04.5 -6.4
KMI			SSS			09 07 37.4
KMI	**Kunming**	**18.94 100**	P		**Pn**	**09 03 29.7 -0.3**
KMI			S		**Sn**	**09 06 58.7 -3.0**
KMI			pmax		pmax	
comp=Z,229nm,0.9s						
CM31	**Chiang Mai Arr**	**19.16 123**	*e*P		**Pn**	**09 03 30.8 -1.8**
comp=Z,254nm,1.0s						
CMAR	**Chiang Mai Arr**	**19.16 123**	P		**Pn**	**09 03 30.8 -1.9**
comp=Z,4.2nm,0.3s,baz=306,slow=10,SNR=213						
CMAR			PcP		PcP	09 07 55.6 +0.1
baz=310,slow=2.2,SNR=5.2						
CMAR			LR		LR	09 10 46.6
comp=Z,1μm,21.7s,baz=120,slow=37						
CMAR			ScP		ScP	09 11 30.4 -0.4
comp=Z,0.5nm,0.3s,baz=289,slow=2.9,SNR=8.7						
CMAR	**Chiang Mai Arr**	**19.16 123**	P		**Pn**	**09 03 30.8 -1.9**
CMAR			PcP		PcP	09 07 55.6 +0.1
CMAR			ScP		ScP	09 11 30.4 -0.4
CMAR	**Chiang Mai Arr**	**19.16 123**	P		**Pn**	**09 03 30.8 -1.9**
CMAR			pmax		pmax	
comp=Z,4.0nm,0.3s						
CMAR			MLR		MLR	
comp=Z,1μm,21.7s						
LZH	**Lanzhou**	**19.21 66** ⇑	P		**Pn**	**09 03 32.3 -0.9**
LZH			pP		pP	09 03 34.7 -1.8
LZH			sP		sP	09 03 37.0 -1.5
LZH			PP			09 03 49.8
LZH			S		**Sn**	**09 07 04.1 -4.1**
LZH			sS		sS	09 07 09.5 -6.8
LZH			pmax		pmax	
comp=Z,190nm,1.0s						
LZH			pmax		pmax	
comp=Z,750nm,5.0s						
LZH			LR		LR	
comp=N,4μm,8.0s						
LZH			LR		LR	
comp=E,7μm,11.2s						
LZH			LR		LR	
comp=Z,8μm,13.0s						
LZH	**Lanzhou**	**19.21 66** ⇑	P		**Pn**	**09 03 32.3 -0.9**
comp=Z,190nm,1.0s						
LZH			pP		pP	09 03 34.7 -1.8
LZH			sP		sP	09 03 37.0 -1.5
LZH			PP			09 03 49.8
LZH			S		**Sn**	**09 07 04.1 -4.1**
LZH			sS		sS	09 07 09.5 -6.8
LZH			SS			09 07 31.2
LZH	**Lanzhou**	**19.21 66** ⇑	P		**Pn**	**09 03 32.3 -0.9**
LZH			S		**Sn**	**09 07 04.1 -4.1**
LZH			pmax		pmax	
comp=Z,190nm,1.0s						
KURK	**Kurchatov**	**20.87 354**	P		**P**	**09 03 49.3 -0.7**
comp=Z,288nm,0.9s,baz=178,slow=9.9,SNR=771						
KURK			ScP		ScP	09 11 32.9 -1.3
comp=Z,2.3nm,0.6s,baz=186,slow=2.1,SNR=5.7						
KURK			LR		LR	09 12 58.3
comp=Z,2μm,19.6s,MS4.4,baz=170,slow=40						
KURK	**Kurchatov**	**20.87 354**	*e*P		**P**	**09 03 50.3 +0.2**
comp=Z,316nm,0.7s						
KURK			ScP		ScP	09 11 32.9 -1.3
KURK	**Kurchatov**	**20.87 354**	P		**P**	**09 03 50.2 +0.1**
comp=Z,3μm,0.9s						
KURK	**Kurchatov**	**20.87 354**	P		**P**	**09 03 49.3 -0.8**
KURK			pmax		pmax	
comp=Z,289nm,0.9s						
KURK			MLR		MLR	
comp=Z,2μm,19.6s,MS4.4						
KURK	**Kurchatov**	**20.87 354**	P		**P**	**09 03 50.6 +0.5**
SNR=207						
ABKT	**Ailbek**	**21.36 298**	P		**P**	**09 03 56.7 +1.2**
comp=Z,733nm,0.7s,mb6.1,SNR=22						

NST	**Nakhon Sawan**	**21.86 127**	P		**P**	**09 04 01.0 0.0**
comp=Z,142nm,1.0s,mb5.3						
GYA	**Guiyang**	**21.93 93** ⇑	*i*P		**P**	**09 04 01.2 -0.5**
GYA			PP			09 04 29.3
GYA			S		**S**	**09 08 00.6 -2.9**
GYA			SS			09 08 38.2
GYA			pmax		pmax	
comp=Z,300nm,1.0s,mb5.7						
GYA			pmax		pmax	
comp=Z,390nm,4.6s						
GYA			LR		LR	
comp=N,2μm,12.0s,MS4.9						
GYA			LR		LR	
comp=E,2μm,11.4s,MS4.9						
GYA			LR		LR	
comp=Z,3μm,12.3s,MS4.9						
WBK	**Wadi Bani Khal**	**21.96 256**	P		**P**	**09 04 04.3 +2.1**
SNR=29						
SMDO	**Samad**	**22.56 258**	P		**P**	**09 04 10.8 +2.3**
SNR=23						
JMDO	**Jabal Madar**	**22.79 256**	P		**P**	**09 04 13.0 +2.0**
SNR=17						
HVS	**Khovu-Aksy**	**22.84 19***c*	*i*P		**P**	**09 04 11.3 +0.1**
HVS			pmax		pmax	
comp=Z,2μm,1.3s,mb6.3						
XAN	**Xi'an**	**23.08 73**	P		**P**	**09 04 12.5 -1.5**
XAN			pP			09 04 21.2
XAN			sP		sP	09 04 25.8 +5.5
XAN			S		**S**	**09 08 23.0 -1.4**
XAN			pmax		pmax	
comp=Z,62nm,1.1s,mb5.0						
XAN			pmax		pmax	
comp=Z,66nm,3.6s						
XAN			LR		LR	
comp=N,2μm,18.8s,MS4.6						
XAN			LR		LR	
comp=E,250nm,14.5s,MS4.6						
XAN			LR		LR	
comp=Z,750nm,11.0s,MS4.4						
KKTK	**Khon Kaen**	**23.36 121**	P		**P**	**09 04 16.5 -0.5**
comp=Z,309nm,1.0s,mb5.7						
BSY	**Bisya**	**23.41 258**	P		**P**	**09 04 19.3 +1.9**
SNR=14						
HATD	**Hatta, Dubai**	**23.58 264**	P		**P**	**09 04 26.6 +7.4**
SNR=17						
ASHO	**Ashiyiah**	**23.69 263**	P		**P**	**09 04 22.7 +2.5**
SNR=42						
ARQ	**Araqi**	**23.76 260**	P		**P**	**09 04 23.1 +2.3**
SNR=18						
NNT	**Nongplab**	**23.82 133**	P		**P**	**09 04 22.5 +1.1**
NAZ	**Nazwa, Dubai**	**23.94 264**	P		**P**	**09 04 27.4 +5.0**
SNR=7.6						
ZAA0	**Zalesovo Array**	**24.02 4**	*e*P		**P**	**09 04 23.0 +0.1**
ZALV	**Zalesovo Beam**	**24.02 4**	P		**P**	**09 04 23.2 +0.3**
comp=Z,45nm,0.6s,mb5.1,baz=186,slow=10,SNR=42						
ZALV			LR		LR	09 15 06.6
comp=Z,849nm,20.2s,MS4.2,baz=190,slow=40						
ZALV	**Zalesovo Beam**	**24.02 4**	P		**P**	**09 04 23.2 +0.3**
ZALV	**Zalesovo Beam**	**24.02 4**	P		**P**	**09 04 23.2 +0.3**
ZALV			pmax		pmax	
comp=Z,45nm,0.6s,mb5.1						
ZALV			MLR		MLR	
comp=Z,849nm,20.2s,MS4.2						
BVAR	**Borovoye Array**	**24.56 343**	P		**P**	**09 04 27.9 +0.1**
comp=Z,16nm,0.4s,mb4.9,baz=142,slow=9.4,SNR=77						
BVAR			PcP		PcP	09 08 04.7 -0.9
comp=Z,4.0nm,0.7s,baz=141,slow=5.2,SNR=3.5						
BVAR			ScP		ScP	09 11 44.0 +0.2
comp=Z,2.2nm,0.8s,baz=149,slow=6.1,SNR=3.8						
BVAR			LR		LR	09 14 41.2
comp=Z,3μm,18.3s,MS4.8,baz=154,slow=38						
BVAR	**Borovoye Array**	**24.56 343**	P		**P**	**09 04 27.9 +0.1**
BVAR			PcP		PcP	09 08 04.7 -0.9
BVAR			ScP		ScP	09 11 44.0 +0.2
BVAR	**Borovoye Array**	**24.56 343**	P		**P**	**09 04 27.9 +0.1**
BVAR						09 08 04.7
BVAR			pmax		pmax	
comp=Z,16nm,0.4s						
BVAR			MLR		MLR	
comp=Z,3μm,18.3s						
HMDM	**Hanimaadhoo**	**24.57 202**	P		**P**	**09 04 28.7 +0.5**
comp=Z,5μmcomp=Z,350nm,1.1s,mb5.8						
BRVK	**Borovoye**	**24.62 343**	P		**P**	**09 04 29.3 +0.9**
comp=Z,235nm,0.6s,mb5.9,SNR=17						
BRVK	**Borovoye**	**24.62 343**	*e*P		**P**	**09 04 28.5 +0.2**
comp=Z,41nm,0.9s,mb5.0						
BRVK			LR		LR	
comp=Z,4μm,19.0s,MS4.9						
BRVK	**Borovoye**	**24.62 343**	*e*P		**P**	**09 04 28.5 +0.1**
BRVK			pmax		pmax	
comp=Z,41nm,0.9s,mb5.0						
BRVK			MLR		MLR	
comp=Z,4μm,19.0s,MS4.9						
BRVK	**Borovoye**	**24.62 343**	P		**P**	**09 04 29.6 +1.2**
SNR=24						
NVS	**Novosibirsk**	**24.85 2**	*e*P		**P**	**09 04 30.1 -0.3**
NVS			*e*			09 05 01.8
NVS			*e*S		**S**	**09 08 57.8 +5.2**
NVS			pmax		pmax	
comp=N,182nm,2.0s						
NVS			pmax		pmax	
comp=Z,222nm,2.0s,mb5.3						
NVS			smax			
comp=E,105nm,1.3s						
BTO	**Baotou**	**25.04 57**	*e*P		**P**	**09 04 32.8 +0.4**
ABKAR	**Akbulak array**	**25.55 325**	*e*P		**P**	**09 04 37.5 +0.6**
comp=E,39nm,0.6s,mb5.1						
UBT	**Ubonrachathani**	**25.68 120** ⇓	P		**P**	**09 04 38.8 +0.4**
MOY	**Mondy**	**25.81 28**	*e*P		**P**	**09 04 40.6 +1.4**
MOY			pmax		pmax	
comp=Z,70nm,1.6s,mb4.9						
SONM	**Songino Array**	**25.82 40**	P		**P**	**09 04 40.8 +1.5**
comp=Z,50nm,0.9s,mb5.1,baz=229,slow=8.4,SNR=102						
SONM			ScP		ScP	09 11 46.4 -1.0
comp=Z,4.4nm,1.1s,baz=222,slow=2.1,SNR=5.8						
SONM			LR		LR	09 15 38.3
comp=Z,2μm,18.7s,MS4.6,baz=55,slow=38						
SONM	**Songino Array**	**25.82 40**	P		**P**	**09 04 40.8 +1.5**
SONM			ScP		ScP	09 11 46.4 -1.0
SONM	**Songino Array**	**25.82 40**	P		**P**	**09 04 40.8 +1.5**
SONM			pmax		pmax	
comp=Z,50nm,0.9s						
SONM			MLR		MLR	
comp=Z,2μm,18.7s						
ZAK	**Zakamensk**	**25.86 32** ⇑	*i*P		**P**	**09 04 40.7 +1.1**
ZAK			*e*			09 15 30.6
ZAK			pmax		pmax	
comp=Z,63nm,1.0s,mb5.1						
ULN	**Ulaanbaatar**	**26.20 40**	*e*P		**P**	**09 04 44.6 +1.8**
comp=Z,112nm,1.0s,mb5.3						
ULN			LR		LR	
comp=Z,2μm,22.0s,MS4.7						
ULN	**Ulaanbaatar**	**26.20 40**	*e*P		**P**	**09 04 44.6 +1.8**
ULN			pmax		pmax	
comp=Z,112nm,1.0s,mb5.3						
ULN			MLR		MLR	
comp=Z,2μm,22.0s,MS4.7						
ULN	**Ulaanbaatar**	**26.20 40**	P		**P**	**09 04 44.6 +1.8**
comp=Z,1μmcomp=Z,124nm,1.1s,mb5.3						
ULN	**Ulaanbaatar**	**26.20 40**	P		**P**	**09 04 44.4 +1.7**
SNR=50						
HHC	**Hu-ho-hao-te**	**26.24 58**	*e*P		**P**	**09 04 44.3 +1.1**
HHC			sP		sP	09 04 51.0 +1.2
HHC			PP			09 05 27.5
HHC			PcP		PcP	09 08 11.1 +1.5
HHC			S		**S**	**09 09 15.3 +0.4**
HHC			pmax		pmax	
comp=Z,100nm,1.4s,mb5.2						
HHC			pmax		pmax	
comp=Z,390nm,4.3s						
HHC			LR		LR	
comp=N,2μm,11.9s,MS5.0						
HHC			LR		LR	
comp=E,2μm,12.5s,MS5.0						
HHC			LR		LR	
comp=Z,2μm,14.9s,MS4.8						
TIY	**Taiyuan**	**26.27 65**	*e*P		**P**	**09 04 44.1 +0.5**
TIY			S		**S**	**09 09 14.8 -0.8**
TIY			LR		LR	
comp=N,2μm,9.2s						
TIY			LR		LR	
comp=E,3μm,10.0s						
TIY			LR		LR	
comp=Z,4μm,11.1s,MS5.3						
TLY	**Talaya**	**26.93 30**	PFAKE			09 05 00.0 +11
TLY			LR		LR	

comp=Z,2μm,21.0s,MS4.7
TLY Talaya 26.93 30 *e*P **P 09 04 43.2 -6.1**
TLY pmax pmax
comp=Z,19nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,2μm,19.0s,MS4.6
AKTO Aktyubinsk 27.26 325 P **P 09 04 53.2 +0.9**
comp=Z,8.4nm,0.5s,mb4.5,baz=120,slow=9.1,SNR=32
AKTO LR LR 09 16 59.9
comp=Z,2μm,19.3s,MS4.8,baz=310,slow=39
AKTO Aktyubinsk 27.26 325 P **P 09 04 53.2 +0.8**
AKTO Aktyubinsk 27.26 325 P **P 09 04 53.2 +0.9**
AKTO pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
AKTO MLR MLR
comp=Z,2μm,19.3s,MS4.8
BSI Banda Aceh 27.36 150 P **P 09 04 54.6 +1.1**
comp=Z,36nm,1.4s,mb4.7
QIZ Qiongzhong 27.44 107 P **P 09 04 55.1 +0.9**
QIZ S **S 09 09 28.5 -5.8**
QIZ pmax pmax
comp=Z,17nm,1.2s,mb4.5
QIZ pmax pmax
comp=Z,220nm,6.6s
QIZ LR LR
comp=N,1μm,12.9s
QIZ LR LR
comp=E,290nm,8.3s
QIZ LR LR
comp=Z,1μm,17.6s,MS4.5
IRK Irkutsk 27.61 30 *e*P **P 09 04 59.8 +4.4**
IRK pmax pmax
comp=Z,80nm,2.2s,mb5.0
WHN Wuhan 27.82 81 P **P 09 04 58.0 +0.4**
WHN pP pP 09 05 00.7 -1.5
WHN S **S 09 09 37.3 -2.9**
WHN pmax pmax
comp=Z,420nm,1.4s,mb5.9
WHN LR LR
comp=N,10μm,13.0s,MS5.6
WHN LR LR
comp=E,3μm,12.8s,MS5.6
WHN LR LR
comp=Z,10μm,10.8s,MS5.7
RBK Rabkut 28.30 250 P **P 09 05 03.5 +1.6**
SNR=6.7
ABTO Aybut 29.12 251 P **P 09 05 09.7 +0.5**
SNR=5.7
BJI Beijing 29.51 61 P **P 09 05 13.7 +1.2**
BJI S **S 09 10 03.5 -3.0**
BJI pmax pmax
comp=Z,120nm,0.9s,mb5.6
BJI pmax pmax
comp=Z,230nm,3.5s
BJI LR LR
comp=N,3μm,14.3s,MS5.2
BJI LR LR
comp=E,2μm,12.1s,MS5.2
BJI LR LR
comp=Z,1μm,24.5s
UMR Umm Al-Rimmam 29.77 278 *e*P **P 09 05 14.3 -0.6**
UMR AMb AMB 09 05 21.5
comp=Z,89nm,0.8s,mb5.6
KBD Kabd 29.86 277 *e*P **P 09 05 15.2 -0.5**
KBD AMb AMB 09 05 22.9
comp=Z,66nm,1.3s,mb5.2
TIA Tai'an 29.89 69 P **P 09 05 16.2 +0.3**
TIA S **S 09 10 11.4 -1.2**
TIA pmax pmax
comp=Z,60nm,1.2s,mb5.2
TIA LR LR
comp=N,2μm,13.7s,MS5.1
TIA LR LR
comp=E,3μm,17.6s,MS5.1
TIA LR LR
comp=Z,3μm,13.7s,MS5.0
RDF Al-Radifah 30.02 277 *e*P **P 09 05 16.6 -0.6**
RDF AMb AMB 09 05 24.5
comp=Z,121nm,0.9s,mb5.6
MIB Mutribah 30.06 278 *e*P **P 09 05 17.3 -0.2**
MIB AMb AMB 09 05 23.1
comp=Z,104nm,0.6s,mb5.8
KULM Kulim 30.17 141 *e*P **P 09 05 17.7 -0.8**
comp=Z,58nm,0.9s,mb5.3
KULM LR LR
comp=Z,630nm,19.0s,MS4.3
KULM Kulim 30.17 141 P **P 09 05 19.3 +0.8**
comp=Z,81nm,1.0s,mb5.4
TPTI 30.19 149 P **P 09 05 17.1 -1.6**
comp=Z,31nm,1.2s,mb4.9
NAY Al-Naaiem 30.23 277 *e*P **P 09 05 18.4 -0.6**
NAY AMb AMB 09 05 23.9
comp=Z,42nm,1.0s,mb5.1
MAK Makhachkala 30.45 305 P **P 09 05 18.8 -2.0**
MAK *e*S **S 09 10 17.8 -3.4**
MAK pmax pmax
comp=Z,339nm,2.0s,mb5.7
MAK MLR MLR
comp=Z,1μm,12.0s,MS4.8
TSI Tuntungan 30.62 146 P **P 09 05 23.3 +0.8**
comp=Z,68nm,0.9s,mb5.5
SVE Sverdlovsk 30.76 337⇓ *i*P **P 09 05 24.9 +1.6**
SVE *e* 09 06 19.6
SVE *e*S **S 09 10 30.9 +5.2**
SVE *e* 09 12 06.4
SVE *e* 09 12 34.0
SVE pmax pmax
comp=Z,49nm,0.9s,mb5.3
SVE MLR MLR
comp=Z,2μm,12.0s,MS4.9
IPM Ipoh 31.05 141 *e*P **P 09 05 25.4 -0.9**
comp=Z,51nm,0.9s,mb5.3
IPM Ipoh 31.05 141 P **P 09 05 25.5 -0.8**
comp=Z,64nm,0.9s,mb5.4
ARU Arti 31.19 335 *e*P **P 09 05 27.8 +0.7**
comp=Z,60nm,0.6s,mb5.6
ARU LR LR
comp=Z,1μm,20.0s,MS4.5
ARU Arti 31.19 335 *d i*P **P 09 05 27.6 +0.5**
ARU *e* 09 06 29.6
ARU 09 08 17.7
ARU S **S 09 10 36.6 +4.1**
ARU SS SS 09 12 19.0 -27
ARU pmax pmax
comp=Z,67nm,0.8s,mb5.5
ARU MLR MLR
comp=Z,1μm,16.0s,MS4.7
ARU Arti 31.19 335 P **P 09 05 27.2 +0.1**
comp=Z,625nm,0.5s,mb6.7,SNR=5.2
PSI Prapat 31.40 146 P **P 09 05 28.7 -0.7**
comp=Z,30nm,0.9s,mb5.1
NJ2 Nanjing 31.48 77 *e*P **P 09 05 30.8 +0.8**
NJ2 pP pP 09 05 35.2 +0.5
NJ2 sP sP 09 05 37.8 +1.2
NJ2 PP PP 09 06 31.2 -10
NJ2 S **S 09 10 32.0 -5.6**
NJ2 pmax pmax
comp=Z,20nm,0.6s,mb5.1
NJ2 pmax pmax
comp=Z,150nm,9.8s
NJ2 LR LR
comp=N,3μm,15.0s,MS5.3
NJ2 LR LR
comp=E,4μm,17.4s,MS5.3
NJ2 LR LR
comp=Z,3μm,12.3s
DGRG David-gareji 31.70 301 P **P 09 05 31.7 -0.1**
GNI Garni 32.00 299 P **P 09 05 36.7 +2.2**
comp=Z,24nm,0.8s,mb5.1,baz=36,slow=16,SNR=11
GNI Garni 32.00 299 P **P 09 05 36.7 +2.2**
GNI LR LR
comp=Z,418nm,20.0s,MS4.1
GNI Garni 32.00 299 P **P 09 05 36.7 +2.3**
GNI pmax pmax
comp=Z,24nm,0.8s
GNI Garni 32.00 299 P **P 09 05 37.0 +2.6**
SNR=23
BHD Baghdad 32.16 286 *i* x x 09 05 32.9
BHD *i* x x 09 10 46.3
MTA Mtatsminda 32.17 302 P **P 09 05 39.9 +4.0**
TBLG Delisi 32.22 302 P **P 09 05 39.4 +3.1**
TBLG Delisi 32.22 302 P **P 09 05 39.4 +3.1**
GOR Gori 32.72 302 P **P 09 05 31.7 -9.0**
RAYN Ar Rayn 33.20 268 P **P 09 05 45.7 +0.6**
comp=Z,428nm,1.0s,mb6.3,SNR=30
MNSI Mandailing Nat 33.47 147 P **P 09 05 47.0 -0.5**
comp=Z,83nm,0.8s,mb5.7
SSE Sheshan 33.58 78 P **P 09 05 48.9 +0.5**
SSE S **S 09 11 09.8 -0.4**
SSE pmax pmax
comp=Z,43nm,0.8s,mb5.4
SSE pmax pmax
comp=Z,110nm,5.0s
SSE LR LR
comp=N,590nm,18.6s,MS4.7
SSE LR LR
comp=E,1μm,18.6s,MS4.7
SSE LR LR
comp=Z,1μm,19.7s,MS4.7
SSE Sheshan 33.58 78 P **P 09 05 48.9 +0.5**
comp=Z,43nm,0.8s,mb5.4
SSE S **S 09 11 09.8 -0.4**
SSE LR LR
comp=Z,1μm,19.7s,MS4.7
DL2 Dalian 33.59 64 P **P 09 05 49.4 +1.1**
DL2 S **S 09 11 14.2 +4.0**
DL2 pmax pmax
comp=Z,100nm,0.8s,mb5.8
DL2 LR LR
comp=N,2μm,20.6s
DL2 LR LR
comp=Z,400nm,18.2s,MS4.2
SIRN S¨–rnak 33.64 294⇑ *i*P **P 09 05 49.9 +1.0**
KIV Kislovodsk 34.09 305 *e*P **P 09 05 53.6 +1.0**
comp=Z,57nm,1.0s,mb5.5
KIV LR LR
comp=Z,622nm,20.0s,MS4.3
KIV Kislovodsk 34.09 305 *e*P **P 09 05 53.7 +1.0**
KIV *e* 09 08 32.7
KIV *e*S **S 09 11 22.4 +4.5**
KIV pmax pmax
comp=Z,39nm,4.2s
KIV pmax pmax
comp=Z,64nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,693nm,14.0s,MS4.5
KIV Kislovodsk 34.09 305 P **P 09 05 54.6 +2.0**
SNR=11
KIV Kislovodsk 34.09 305 P **P 09 05 53.4 +0.7**
comp=Z,326nm,1.0s,mb6.2,SNR=5.3
MUKL Al Mukalla 34.11 250 *e*P **P 09 05 53.1 0.0**
MUKL AMb AMB 09 05 54.2
comp=Z,79nm,1.2s,mb5.5
SOKR Solikamsk 34.17 337 *d i*P **P 09 05 54.0 +0.8**
SOKR pmax pmax
comp=Z,90nm,1.2s,mb5.6
SOKR MLR MLR
comp=Z,940nm,15.0s,MS4.6
ERZM Erzurum 34.56 298⇑ *i*P **P 09 05 57.7 +0.9**
BKNI Bangkinang 34.58 145 P **P 09 05 56.8 -0.4**
comp=Z,4μmcomp=Z,466nm,1.1s,mb6.3
MYKOM Kota Tinggi 34.84 140 P **P 09 06 00.1 +0.7**
comp=Z,85nm,1.0s,mb5.6
PPI Padang Panjang 34.95 147 P **P 09 05 59.7 -0.6**
comp=Z,735nmcomp=Z,77nm,1.2s,mb5.5
YHNB Yeheng 35.19 89 *e*P **P 09 06 02.5 +0.2**
comp=Z,32nm,1.1s,mb5.2
YHNB LR LR
comp=Z,3μm,19.0s,MS5.0
TATO Taipei 35.19 88 PFAKE 09 06 10.0 +7.6
TATO LR LR
comp=Z,3μm,21.0s,MS5.0
SNY Shenyang 35.30 59⇑ P **P 09 06 03.4 +0.2**
SNY S **S 09 11 34.1 -2.5**
SNY pmax pmax
comp=Z,73nm,1.2s,mb5.5
SNY pmax pmax
comp=Z,400nm,3.5s
SNY LR LR
comp=E,2μm,14.5s
SNY LR LR
comp=Z,2μm,15.2s,MS5.0
PDSI Padang 35.38 147 P **P 09 06 03.2 -0.8**
comp=Z,2μmcomp=Z,242nm,1.0s,mb6.1
BOD Bodaibo 35.49 29 *e*P **P 09 06 05.0 +0.4**
BOD pmax pmax
comp=Z,25nm,1.7s,mb4.9
TWG Pinlang 35.51 92 *e*P **P 09 06 06.4 +1.2**
comp=Z,118nm,1.3s,mb5.7
YULB Yu-li 35.52 91 *e*P **P 09 05 59.6 -5.6**
comp=Z,55nm,1.1s,mb5.4
NACB Ninganchiao 35.53 90 *e*P **P 09 06 07.2 +1.8**
comp=Z,21nm,0.7s,mb5.2
SOC Sochi 36.15 304 *e*P **P 09 06 12.0 +1.5**
SOC *e* 09 07 30.6
SOC *e*S **S 09 11 50.3 +0.7**
SOC pmax pmax
comp=Z,60nm,1.0s,mb5.5
SOC MLR MLR
comp=Z,454nm,13.0s,MS4.4
KELT Kelkit 36.19 298⇑ *i*P **P 09 06 11.5 +0.7**
ELZG Elazig 36.36 295⇑ *i*P **P 09 06 13.7 +1.5**
KEMA Kemaliye 36.75 297⇑ *i*P **P 09 06 17.5 +1.9**
KRJI Kerinci 36.88 146 P **P 09 06 18.2 +1.3**
comp=Z,635nm,0.9s,mb6.4
CN2 Changchun 36.90 56 *e*P **P 09 06 17.1 +0.3**
CN2 *e*sP sP 09 06 23.2 -0.2
CN2 *e*S **S 09 12 01.9 +0.9**
CN2 pmax pmax
comp=Z,50nm,1.2s,mb5.2
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,700nm,18.0s,MS5.2
CN2 LR LR
comp=E,4μm,18.0s,MS5.2
CN2 LR LR
comp=Z,4μm,15.0s,MS5.4
AKCD Akcadag 37.19 295 *i* P **P 09 06 21.0 +1.6**
INCN Inchon 37.52 66 *e*P **P 09 06 22.4 +0.3**
comp=Z,166nm,0.9s,mb5.8
INCN LR LR
comp=Z,2μm,22.0s,MS4.8
INCN Inchon 37.52 66 P **P 09 06 22.9 +0.7**
SNR=8.2
LBOS 37.55 253⇓ *e*P **P 09 06 22.9 +0.3**
LBOS AMb AMB 09 06 23.7
comp=Z,67nm,1.1s,mb5.3
ANN Anapa 37.94 306 *e*P **P 09 06 25.8 +0.2**
ANN *e*S **S 09 12 16.6 -0.2**
ANN pmax pmax
comp=Z,56nm,1.0s,mb5.2
ANN MLR MLR
comp=N,355nm,15.0s,MS4.9
ANN MLR MLR
comp=E,1μm,15.0s,MS4.9
ANN MLR MLR
comp=Z,1μm,15.0s,MS4.8
VSR Storozhevoye 38.16 316 *e*P **P 09 06 27.5 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
VSR pmax pmax
comp=N,5.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.3s
DGAR Diego Garcia 38.32 196 PFAKE 09 06 40.0 +11
DGAR LR LR
comp=Z,2μm,19.0s,MS4.8
KSAR Wonju Array Be 38.51 66 P **P 09 06 29.9 -0.7**
KSAR ScP ScP 09 12 29.2 -1.5
KSAR Wonju Array Be 38.51 66 P **P 09 06 29.9 -0.6**
KSAR 09 12 29.3
KSRS Korea Array 38.54 66 P **P 09 06 29.9 -0.9**
comp=Z,34nm,0.8s,mb5.1,baz=274,slow=8.8,SNR=61
KSRS ScP ScP 09 12 29.2 -1.6
comp=Z,8.2nm,1.0s,baz=282,slow=3.2,SNR=11
KSRS LR LR 09 24 34.5
comp=Z,829nm,18.7s,MS4.6,baz=275,slow=40
KSRS Korea Array 38.54 66 P **P 09 06 29.9 -0.9**
KSRS 09 12 29.3
KSRS pmax pmax
comp=Z,34nm,0.8s,mb5.1
KSRS MLR MLR
comp=Z,829nm,18.7s,MS4.6
ASF Jabal al Asfar 38.55 285 P **P 09 06 31.6 +0.7**
comp=Z,8.9nm,1.1s,mb4.4,baz=347,slow=3.0,SNR=9.7
ASF Jabal al Asfar 38.55 285 P **P 09 06 31.6 +0.7**
ASF Jabal al Asfar 38.55 285 P **P 09 06 31.6 +0.7**
ASF pmax pmax
comp=Z,9.0nm,1.1s
COBT Iskenderun 38.59 292⇑ *i*P **P 09 06 31.2 0.0**
KSI Kapahiang 38.78 146 P **P 09 06 32.1 -0.9**
comp=Z,213nm,0.6s,mb6.1
TRBA At Turbah 38.82 253 *e*P **P 09 06 33.5 +0.2**
TRBA AMb AMB 09 06 34.3
comp=Z,84nm,1.6s,mb5.2
KSM Kuching 39.02 131 *e*P **P 09 06 35.5 +0.4**
comp=Z,69nm,1.2s,mb5.3
KSM LR LR
comp=Z,687nm,19.0s,MS4.5
KSM Kuching 39.02 131 P **P 09 06 36.3 +1.3**
comp=Z,48nm,1.3s,mb5.1
TGY Tagaytay City 39.11 105 P **P 09 06 36.4 +0.7**
comp=Z,118nm,0.3s,mb6.0,baz=269,slow=18,SNR=3.0
TGY Tagaytay City 39.11 105 P **P 09 06 36.4 +0.7**
TGY Tagaytay City 39.11 105 P **P 09 06 36.4 +0.6**
TGY pmax pmax
comp=Z,118nm,0.3s
PPBI Pangkal Pinang 39.37 140 P **P 09 06 39.0 +1.1**
comp=Z,39nm,1.2s,mb5.0
BOYT Boyabat 39.53 300⇑ *i*P **P 09 06 39.0 0.0**
SBUM Sibu 39.58 128 P **P 09 06 40.9 +1.2**
comp=Z,47nm,1.1s,mb5.1
AVNT Avonos 39.59 296⇑ *i*P **P 09 06 40.7 +1.2**
GULE Gulek 39.72 293⇑ *i*P **P 09 06 40.5 -0.1**
MDJ Mudanjiang 39.95 55 P **P 09 06 42.7 +0.3**
MDJ pP pP 09 06 45.9 -1.3
MDJ PP PP 09 08 12.7 -1.5
MDJ PcP PcP 09 08 47.7 0.0
MDJ S **S 09 12 42.6 -4.4**
MDJ SS SS 09 15 37.6 -6.1
MDJ pmax pmax
comp=Z,21nm,1.7s,mb4.6
MDJ pmax pmax
comp=Z,160nm,4.3s
MDJ LR LR
comp=N,1μm,22.5s,MS4.8
MDJ LR LR
comp=E,730nm,18.4s,MS4.8
MDJ LR LR
comp=Z,1μm,16.7s,MS4.8
KKM Kota Kinabalu 39.98 120 *e*P **P 09 06 44.0 +0.9**
comp=Z,96nm,1.3s,mb5.4
KKM LR LR
comp=Z,875nm,20.0s,MS4.6
KKM Kota Kinabalu 39.98 120 P **P 09 06 48.0 +4.9**
CLNS Chul'man 40.07 35 *e*P **P 09 06 43.5 +0.2**
CLNS *e**PP pP 09 06 50.9 +2.9
CLNS *e* 09 08 17.6
CLNS *e*PPP 09 08 41.7
CLNS *e*S **S 09 12 52.0 +3.5**
CLNS pmax pmax
comp=Z,28nm,1.7s,mb4.7
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,23nm,1.7s
CLNS pmax pmax
comp=Z,19nm,1.5s,mb4.6
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS smax
comp=N,233nm,11.3s
CLNS smax
comp=E,173nm,12.4s
CLNS MLR MLR
comp=Z,905nm,12.0s,MS4.8
CLNS MLR MLR
comp=N,412nm,13.0s,MS4.7
CLNS MLR MLR
comp=E,488nm,13.0s,MS4.7
MDSI Maura Dua 40.29 145 P **P 09 06 44.8 -0.7**
comp=E,35nm,1.0s,mb5.0
SIM Simferopol' 40.30 305 *e*P **P 09 06 46.0 +0.6**
SIM *e*S **S 09 12 55.0 +2.6**
SIM pmax pmax
comp=Z,64nm,0.9s,mb5.3
SIM MLR MLR
comp=Z,1μm,17.4s,MS4.7
ILGA Ilgaz 40.42 299⇑ *i*P **P 09 06 48.0 +1.6**
BR131 Keskin Array S 40.50 297 *e*P **P 09 06 47.1 0.0**
comp=Z,15nm,0.6s,mb4.8
BR131 LR LR
comp=Z,409nm,19.0s,MS4.3
BRTR Keskin Array B 40.50 297 P **P 09 06 47.6 +0.5**
comp=Z,21nm,0.9s,mb4.8,baz=117,slow=9.7,SNR=87
BRTR Keskin Array B 40.50 297 P **P 09 06 47.6 +0.5**
BRTR Keskin Array B 40.50 297 P **P 09 06 47.6 +0.5**
BRTR pmax pmax
comp=Z,21nm,0.9s
MOS Moscow 40.51 322 *e*P **P 09 06 46.3 -0.6**
MOS *e* 09 08 20.8
MOS *e*PPP 09 08 42.9
MOS *e*S **S 09 12 53.3 -1.8**
MOS pmax pmax
comp=Z,100nm,0.9s,mb5.5
MOS pmax pmax
comp=Z,81nm,0.8s,mb5.4
MOS MLR MLR
comp=Z,1μm,17.0s,MS4.7
JOW Kunigami 40.54 83 LR LR 09 24 15.0
comp=Z,710nm,19.5s,MS4.5,baz=278,slow=37
ELDT Eldivan 40.65 298⇑ *i*P **P 09 06 49.4 +1.1**
EIL Elat 40.66 282 P **P 09 06 49.4 +0.8**
comp=Z,11nm,0.9s,mb4.5,baz=76,slow=6.6,SNR=8.4
EIL Elat 40.66 282 P **P 09 06 49.4 +0.8**
ATD Arta Tunnel 40.77 252 P **P 09 06 50.6 +1.0**
comp=Z,79nm,1.0s,mb5.3,baz=28,slow=4.3,SNR=14
ATD LR LR 09 22 58.5
comp=Z,392nm,19.9s,MS4.3,baz=79,slow=35
ATD Arta Tunnel 40.77 252 P **P 09 06 50.6 +1.0**
STKI Sintang 40.85 131 P **P 09 06 51.4 +1.2**
comp=Z,89nm,1.2s,mb5.3
OBN Obninsk 40.86 321 *e*P **P 09 06 50.5 +0.6**
comp=Z,83nm,0.9s,mb5.4
OBN LR LR
comp=Z,2μm,22.0s,MS4.8
OBN Obninsk 40.86 321 *αe*P **P 09 06 50.1 +0.3**
OBN *i **SP sP 09 06 54.9 -1.6
OBN *e*S **S 09 13 05.3 +4.9**
OBN *e* 09 16 28.0
OBN pmax pmax
comp=Z,96nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,900nm,16.0s,MS4.7
BBAL Bala 40.91 297⇑ *i*P **P 09 06 50.8 +0.3**
CSS Prodhromos 41.11 290 *e*P **P 09 06 53.0 +0.8**
comp=Z,66nm,1.3s,mb5.1
CSS LR LR
comp=Z,950nm,21.0s,MS4.6
JNU Nakatsue 41.40 73 *e*P **P 09 06 55.2 +0.6**
comp=Z,27nm,1.0s,mb4.8
VLA Vladivostok 41.52 58 *e*P **P 09 06 56.5 +1.0**
VLA pmax pmax
comp=Z,111nm,1.4s,mb5.3
KDHN Kadinhani 41.74 296⇑ *i*P **P 09 06 57.3 0.0**
KLR Kul'dur 41.95 48 *e*P **P 09 06 57.7 -1.2**
KLR *e*S **S 09 13 07.0 -10**
MYLDM Lahad Datu 42.27 118 P **P 09 07 01.4 -0.5**
comp=Z,56nm,1.4s,mb5.0
HENT Hendek 42.56 299⇑ *i*P **P 09 07 03.8 -0.2**
BOLV Bolvadin 42.64 296⇑ *i*P **P 09 07 05.0 +0.4**
MSEY Mahe Island 42.87 221 PFAKE 09 07 20.0 +13
MSEY LR LR
comp=Z,1μm,21.0s,MS4.8
BORA Eskisehir 42.95 298⇑ *i*P **P 09 07 07.3 +0.2**
PBKI Pangkalan Bun 43.09 134 P **P 09 07 07.8 -0.7**
comp=Z,148nm,1.3s,mb5.6
KORT Korkueli 43.27 294⇑ *i*P **P 09 07 10.1 +0.3**
GDZ Gediz 43.75 297⇑ *i*P **P 09 07 13.0 -0.6**
KHAL Karahalli 43.81 296⇑ *i*P **P 09 07 13.9 -0.1**
GOLH Golhisar 43.87 294⇑ *i*P **P 09 07 12.9 -1.7**
HABR Khabarovsk 44.03 50 *e*P **P 09 07 15.0 -0.8**
HABR *e**PP pP 09 07 17.9 -2.6
HABR *e* 09 08 57.3
HABR *e*S **S 09 13 49.1 +1.8**
HABR *e**SS sS 09 13 54.0 -1.2
HABR *e* 09 17 13.1
HABR *e*SSS 09 17 47.7
HABR pmax pmax
comp=N,42nm,2.7s
HABR pmax pmax
comp=Z,74nm,2.7s,mb4.9
HABR pmax pmax
comp=E,20nm,1.4s

HABR MLR MLR
comp=Z,2μm,15.0s,MS5.0
KIS Kishinev 44.13 308 *eP* **P 09 07 20.0 +3.4**
KIS LRM 09 29 30.0
comp=Z,600nm,16.0s
KIS Kishinev 44.13 308 *eP* **P 09 07 20.0 +3.4**
KIS MLR MLR
comp=Z,600nm,17.0s,MS4.6
AKASG Malin Array Be 44.20 313 P **P 09 07 16.4 -0.7**
comp=Z,8.2nm,0.5s,mb4.7,baz=85,slow=7.1,SNR=33
AKASG PP PP 09 09 02.2 +2.2
comp=Z,10nm,0.9s,baz=85,slow=8.9,SNR=5.1
AKASG LR LR 09 28 33.2
comp=Z,1μm,18.9s,MS4.8,baz=120,slow=40
AKASG Malin Array Be 44.20 313 P **P 09 07 16.4 -0.7**
AKASG PP PP 09 09 02.2 +2.2
AKASG Malin Array Be 44.20 313 P **P 09 07 16.4 -0.7**
AKASG 09 09 02.2
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKASG MLR MLR
comp=Z,1μm,18.9s
AKBB Malin Array Si 44.20 313 *eP* **P 09 07 16.8 -0.3**
AKBB Malin Array Si 44.20 313 *eP* **P 09 07 16.8 -0.3**
KIEV Kiev 44.21 313 *eP* **P 09 07 16.9 -0.3**
comp=Z,22nm,0.7s,mb5.0
KIEV LR LR
comp=Z,1μm,21.0s,MS4.8
KIEV Kiev 44.21 313 *eP* **P 09 07 16.9 -0.2**
KIEV pmax pmax
comp=Z,21nm,0.7s,mb5.0
KIEV MLR MLR
comp=Z,1μm,21.0s,MS4.8
COCO West Island 44.28 159 PFAKE 09 07 30.0 +12
COCO LR LR
comp=Z,523nm,20.0s,MS4.5
TIRR Tirgusor 44.34 304 ⇑P **P 09 07 18.6 +0.3**
TIRR Tirgusor 44.34 304 ⇑*i*P **P 09 07 18.5 +0.2**
YAK Yakutsk 44.41 30 *eP* **P 09 07 19.0 +0.5**
comp=Z,43nm,0.5s,mb5.4
YAK LR LR
comp=Z,456nm,21.0s,MS4.4
YAK Yakutsk 44.41 30 *eP* **P 09 07 18.5 0.0**
YAK *e**PP pP 09 07 27.7 +4.4
YAK *e* 09 08 56.4
YAK *e* 09 09 04.6
YAK *e*PPP 09 09 40.0
YAK *e*S **S 09 13 52.2 -0.2**
YAK *e* 09 17 10.8
YAK pmax pmax
comp=Z,33nm,0.9s,mb5.1
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=Z,22nm,1.2s,mb4.8
YAK smax
comp=N,144nm,2.3s
YAK smax
comp=E,85nm,2.2s
YAK MLR MLR
comp=Z,704nm,15.0s,MS4.7
YAK MLR MLR
comp=N,239nm,13.0s,MS4.8
YAK MLR MLR
comp=E,630nm,13.0s,MS4.8
PSN Preselentsi 44.51 303 P **P 09 07 20.3 +0.6**
PRD Provadia 45.09 303 P **P 09 07 25.2 +0.9**
BALY Balya 45.13 298 ⇑*i*P **P 09 07 24.2 -0.5**
PUL Pulkovo 45.52 326 *eP* **P 09 07 27.4 -0.1**
PUL pmax pmax
comp=Z,178nm,1.1s,mb5.9
VRI Vrincioaia 45.54 306 ⇓P **P 09 07 29.2 +1.4**
VRI Vrincioaia 45.54 306 ⇓*i*P **P 09 07 29.2 +1.4**
MICGM Minsk 45.58 319 *e* **P 09 07 26.0 -2.0**
PLOR Plostina 45.60 306 ⇑P **P 09 07 29.5 +1.2**
PLOR Plostina 45.60 306 ⇑*i*P **P 09 07 29.5 +1.2**
MNK Minsk 45.60 319 *eP* **P 09 07 26.0 -2.2**
TESR 45.61 307 ⇑*i*P **P 09 07 29.0 +0.7**
BBKI Banjar Baru 45.70 131 P **P 09 07 29.0 -0.4**
comp=Z,1μmcomp=Z,117nm,0.7s,mb5.9
JMB Yambol 45.72 302 P **P 09 07 31.0 +1.7**
SMG Samos 45.96 295 *eP* **P 09 07 31.8 +0.5**
KARP Karpathos 46.02 292 *eP* **P 09 07 31.4 -0.4**
MLR Muntele Rosu 46.09 306 ⇑P **P 09 07 34.4 +2.2**
MLR Muntele Rosu 46.09 306 ⇑*i*P **P 09 07 34.4 +2.2**
JOF Joensuu 46.11 331 *eP* **P 09 07 31.9 -0.1**
JOF pmax pmax
comp=Z,25nm,0.7s,mb5.2
JOF Joensuu 46.11 331 *ep* **P 09 07 31.9 -0.1**
comp=Z,25nm,0.7s,mb5.3
SZH Strazhica 46.16 303 P **P 09 07 33.5 +0.7**
ALN Alexandroupoli 46.23 299 *eP* **P 09 07 30.5 -2.9**
NACGM Naroch 46.27 319 *e* **P 09 07 30.0 -3.5**
CHOS Chios island 46.49 296 *eP* **P 09 07 36.0 +0.6**
PVL Pavlikeni 46.60 303 P **P 09 07 37.9 +1.7**
BURAR Bucovina Array 46.60 309 ⇑P **P 09 07 36.6 +0.4**
BURAR Bucovina Array 46.60 309 ⇑*i*P **P 09 07 36.6 +0.4**
BUR08 Bucovina Ar. S 46.62 309 *eP* **P 09 07 36.9 +0.6**
KDZ Kurdzhali 46.64 301 P **P 09 07 39.8 +3.2**
IIGN Ignalina 46.66 319 *eP* **P 09 07 36.5 0.0**
IIGN AMB AMB 09 07 41.7
comp=Z,14nm,0.8s,mb4.9
IZAR Zarasai 46.72 320 *eP* **P 09 07 35.2 -1.7**
IZAR AMB AMB 09 07 44.5
comp=Z,27nm,0.9s,mb5.2
VOIR 46.72 306 ⇓P **P 09 07 38.0 +0.9**
VOIR 46.72 306 ⇓*i*P **P 09 07 38.0 +0.9**
DAV Davao City (W) 46.73 110 LR LR 09 27 48.5
comp=Z,254nm,21.7s,MS4.1,baz=335,slow=37
ISAL Salakas 46.75 320 *eP* **P 09 07 35.5 -1.7**
ISAL AMB AMB 09 07 42.4
comp=Z,16nm,0.9s,mb4.9
MAJO Matsushiro 46.82 66 *eP* **P 09 07 37.5 -0.5**
comp=Z,34nm,1.1s,mb5.2
MAJO LR LR
comp=Z,1μm,22.0s,MS4.8
MAJO Matsushiro 46.82 66 *eP* **P 09 07 37.5 -0.5**
MAJO pmax pmax
comp=Z,34nm,1.1s,mb5.2
MAJO MLR MLR
comp=Z,1μm,22.0s,MS4.8
MAT Matsushiro 46.82 66 P **P 09 07 37.1 -0.9**
MAT S **S 09 14 27.0 -0.9**
MJAR Matsushiro Arr 46.82 66 P **P 09 07 37.8 -0.2**
comp=Z,11nm,0.9s,mb4.8,baz=273,slow=10,SNR=18
MJAR LR LR 09 28 31.4
comp=Z,1μm,19.7s,MS4.8,baz=230,slow=38
MJAR Matsushiro Arr 46.82 66 P **P 09 07 37.8 -0.2**
MJAR Matsushiro Arr 46.82 66 P **P 09 07 37.8 -0.2**
MJAR pmax pmax
comp=Z,11nm,0.9s
MJAR MLR MLR
comp=Z,1μm,19.7s
LVZ Lovozero 46.97 338 *eP* **P 09 07 38.5 -0.2**
comp=Z,40nm,0.8s,mb5.4
LVZ LR LR
comp=Z,999nm,19.0s,MS4.8
LVZ Lovozero 46.97 338 *eP* **P 09 07 38.5 -0.2**
LVZ pmax pmax
comp=Z,40nm,0.8s,mb5.4
LVZ MLR MLR
comp=Z,999nm,19.0s,MS4.8
LVZ Lovozero 46.97 338 P **P 09 07 38.3 -0.4**
comp=Z,313nm,0.9s,mb6.2,SNR=8.2
VSU Vasula 46.97 324 *d i*P **P 09 07 38.9 0.0**
VSU pmax pmax
comp=Z,114nm,1.2s,mb5.7
APE Apeiranthos 47.08 294 *eP* **P 09 07 40.0 -0.1**
PLD Plovdiv 47.14 301 P **P 09 07 39.1 -1.3**
RZN Rozhen 47.16 301 P **P 09 07 41.8 +1.2**
APA Apatity 47.23 337 ⇓*i*P **P 09 07 40.3 -0.5**
APA *e*S **S 09 14 38.0 +5.1**
APA pmax pmax
comp=Z,16nm,0.8s,mb5.0
APA MLR MLR
comp=Z,2μm,17.0s,MS5.2
LVV L'vov 47.45 312 *eP* **P 09 07 43.1 +0.4**
LVV *i* pP 09 07 48.8 +1.3
LVV MLR MLR
comp=E,500nm,1.5s
LVV MLR MLR
comp=Z,400nm,1.5s
LVV MLR MLR
comp=N,700nm,14.0s
PGB Panagyurishte 47.50 302 P **P 09 07 41.1 -2.2**
IDI Anoyia 47.89 292 *eP* **P 09 07 46.6 +0.2**
comp=N,72nm,1.0s,mb5.7
MMB Musomiste 47.91 301 P **P 09 07 48.7 +2.3**
MRSI Marisa 47.93 120 P **P 09 07 47.4 +0.5**
comp=N,670nmcomp=N,74nm,0.9s,mb5.7
FINES FINESS Array B 47.99 328 P **P 09 07 46.5 -0.3**
comp=N,21nm,0.6s,mb5.3,baz=106,slow=8.4,SNR=68
FINES LR LR 09 29 42.9
comp=N,2μm,20.5s,MS5.0,baz=102,slow=38
FINES FINESS Array B 47.99 328 P **P 09 07 46.5 -0.3**
FINES FINESS Array B 47.99 328 P **P 09 07 46.5 -0.3**
FINES pmax pmax
comp=Z,21nm,0.6s
FINES MLR MLR
comp=Z,2μm,20.5s
KAF Kangasniemi 48.06 328 *eP* **P 09 07 46.9 -0.4**
KAF pmax pmax
comp=Z,16nm,0.7s,mb5.2
KAF Kangasniemi 48.06 328 *ep* **P 09 07 46.9 -0.4**
comp=Z,16nm,0.7s,mb5.2
VTS Vitosha 48.20 302 ⇑P **P 09 07 50.0 +1.3**
VTS Vitosha 48.20 302 P **P 09 07 49.2 +0.5**
VTS Vitosha 48.20 302 ⇑*i*P **P 09 07 50.0 +1.3**
BLJI Banyuglugur 48.21 136 P **P 09 07 51.0 +2.0**
comp=Z,3μmcomp=Z,98nm,0.8s,mb5.9
KWP Kalwaria Pacla 48.30 311 *eP* **P 09 07 50.6 +1.3**
KWP Kalwaria Pacla 48.30 311 *eP* **P 09 07 50.7 +1.3**
comp=Z,105nm,1.0s,mb5.8
KWP LR LR
comp=Z,943nm,21.0s,MS4.8
KWP Kalwaria Pacla 48.30 311 *eP* **P 09 07 50.7 +1.3**
KWP pmax pmax
comp=Z,105nm,1.0s,mb5.8
KWP MLR MLR
comp=Z,943nm,21.0s,MS4.8
KKB Krupnik 48.36 301 P **P 09 07 50.4 +0.5**
UZH Uzhgorod 48.57 310 *eP* **P 09 07 48.1 -3.3**
UZH *e* pP 09 07 52.5 -3.7
UZH *e* 09 07 55.7
UZH *e*S **S 09 14 44.2 -8.2**
UZH *e*SP 09 14 56.5
KOLS Kolonicke sedl 48.58 311 *eP* **P 09 07 52.4 +0.9**
KOLS *e* pP 09 07 56.8 +0.5
KOLS Kolonicke sedl 48.58 311 *eP* **P 09 07 52.4 +0.9**
KOLS *e*pP pP 09 07 56.8 +0.5
GTOI Gorontalo 48.63 119 P **P 09 07 52.4 +0.1**
comp=Z,64nm,0.9s,mb5.7
TTSI Tana Toraja 48.78 126 P **P 09 07 53.9 +0.4**
comp=Z,576nmcomp=Z,50nm,1.3s,mb5.4
MSSI Masamba 48.80 125 P **P 09 07 52.9 -0.7**
comp=Z,8μmcomp=Z,74nm,0.6s,mb5.9
CRVS Cervenica-Dubn 49.12 310 *eP* **P 09 07 57.7 +2.1**
CRVS *e* pP 09 08 01.2 +0.7
CRVS Cervenica-Dubn 49.12 310 *eP* **P 09 07 57.7 +2.1**
CRVS *e*pP pP 09 08 01.2 +0.7
BZS Buzias 49.13 306 ⇓P **P 09 07 56.7 +0.9**
BZS Buzias 49.13 306 ⇓*i*P **P 09 07 56.7 +0.9**
VLI Veliai 49.19 294 *eP* **P 09 07 54.0 -2.4**
YSS Yuzh-Sakhalins 49.20 52 *eP* **P 09 07 56.5 +0.2**
comp=Z,100nm,1.2s,mb5.7
YSS Yuzh-Sakhalins 49.20 52 ⇑*eP* **P 09 07 56.0 -0.3**
YSS *e* pP 09 08 02.0 +0.9
YSS MLR MLR
comp=Z,1μm,13.0s,MS5.1
YSS MLR MLR
comp=E,1μm,12.0s
STHS Stebnicka Huta 49.26 311 *eP* **P 09 07 56.6 -0.1**
STHS Stebnicka Huta 49.26 311 *eP* **P 09 07 56.6 -0.1**
ASAJ Asahikawa 49.26 56 LR LR 09 30 41.7
comp=E,2μm,19.5s,MS5.0,baz=300,slow=38
ASAJ Asahikawa 49.26 56 *eP* **P 09 07 57.2 +0.3**
comp=E,17nm,0.9s,mb5.1
AGG Agios Georgios 49.29 297 *eP* **P 09 07 56.6 -0.5**
KMSI Cibinong 49.41 118 P **P 09 08 05.8 +7.5**
GUR Goura 49.45 296 *eP* **P 09 07 56.7 -1.6**
THL Klokotos Trika 49.45 298 *eP* **P 09 07 55.9 -2.4**
LUWI Luwuk 49.55 121 P **P 09 08 06.4 +7.0**
EVR Evrytania 49.71 297 *eP* **P 09 07 59.8 -0.5**
KECS Kecovo 49.77 310 *eP* **P 09 08 01.1 +0.5**
KECS Kecovo 49.77 310 *eP* **P 09 08 01.1 +0.5**
NIE Niedzica 49.86 311 *eP* **P 09 08 02.7 +1.4**
NIE Niedzica 49.86 311 *eP* **P 09 08 02.7 +1.4**
ERM Erimo 49.88 59 PFAKE 09 08 10.0 +8.4
ERM LR LR
comp=Z,949nm,22.0s,MS4.8
ERM Erimo 49.88 59 *eP* **P 09 08 02.8 +1.2**
ERM pmax pmax
comp=Z,14nm,0.7s,mb5.1
ITM Ithomi 49.91 295 *eP* **P 09 08 00.6 -1.2**
KHKI Kahang-Kahang 49.92 134 P **P 09 08 00.2 -1.9**
PYL PYLOS 50.10 295 *eP* **P 09 08 01.1 -2.2**
RLS Riolos of Patr 50.11 296 *eP* **P 09 08 02.7 -0.7**
KAPI Kappang 50.13 128 P **P 09 08 01.6 -2.1**
comp=Z,28nm,1.0s,mb5.2,baz=293,slow=6.6,SNR=6.8
KAPI LR LR 09 33 22.7
comp=Z,401nm,19.8s,MS4.4,baz=138,slow=41
KAPI Kappang 50.13 128 *eP* **P 09 08 01.9 -1.9**
comp=Z,48nm,1.2s,mb5.4
OJC Ojcow 50.19 312 *eP* **P 09 08 03.6 -0.2**
comp=Z,13nm,0.7s,mb5.1
OJC Ojcow 50.19 312 *eP* **P 09 08 03.6 -0.1**
OJC pmax pmax
comp=Z,13nm,0.7s,mb5.1
PSZ Piszkesteto 50.19 309 *eP* **P 09 08 04.8 +1.0**
comp=Z,42nm,1.3s,mb5.3
PSZ LR LR
comp=Z,563nm,19.0s,MS4.6
PSZ Piszkesteto 50.19 309 *eP* **P 09 08 04.8 +1.0**
PSZ pmax pmax
comp=Z,42nm,1.3s,mb5.3
PSZ MLR MLR
comp=Z,563nm,19.0s,MS4.6
PSZ Piszkesteto 50.19 309 ⇑*eP* **P 09 08 04.9 +1.1**
PSZ Piszkesteto 50.19 309 ⇑*i*P **P 09 08 04.9 +1.1**
KEV Kevo 50.28 338 *eP* **P 09 08 04.0 -0.1**
comp=Z,27nm,0.7s,mb5.4
KEV Kevo 50.28 338 *eP* **P 09 08 04.0 -0.1**
KEV pmax pmax
comp=Z,27nm,0.7s,mb5.4
KEV Kevo 50.28 338 *ep* **P 09 08 03.5 -0.6**
comp=Z,24nm,0.6s,mb5.4
ARCES ARCESS Array B 50.68 338 P **P 09 08 07.1 -0.1**
comp=Z,35nm,0.7s,mb5.4,baz=98,slow=7.7,SNR=141
ARCES LR LR 09 32 07.2
comp=Z,614nm,19.7s,MS4.6,baz=110,slow=39
ARCES ARCESS Array B 50.68 338 P **P 09 08 07.1 -0.1**
ARCES ARCESS Array B 50.68 338 P **P 09 08 07.1 -0.1**
ARCES pmax pmax
comp=Z,35nm,0.7s
ARCES MLR MLR
comp=Z,614nm,19.7s
ARE0 ARCESS Array S 50.68 338 *eP* **P 09 08 07.2 0.0**
ARE0 ARCESS Array S 50.68 338 *eP* **P 09 08 07.3 0.0**
BUD Budapest 50.80 309 *eP* **P 09 08 08.2 -0.2**
TIR Tirane 50.82 301 *eP* **P 09 08 12.6 +3.9**
TIR LR LR
comp=Z,512nm,21.0s,MS4.5
TIR Tirane 50.82 301 *eP* **P 09 08 12.6 +3.9**
TIR MLR MLR
comp=Z,512nm,21.0s,MS4.5
KOLL Kolacno 51.15 310 *eP* **P 09 08 12.5 +1.4**
KOLL Kolacno 51.15 310 *eP* **P 09 08 12.5 +1.4**
PKSM Moragy 51.16 307 ⇑P **P 09 08 07.5 -3.6**
PKSM Moragy 51.16 307 ⇑*i*P **P 09 08 07.5 -3.6**
OKC Ostrava-Krasne 51.26 312 *eP* **P 09 08 12.6 +0.8**
OKC *e* pP 09 08 15.6 -1.1
OKC MLR MLR
comp=Z,700nm,9.3s
OKC Ostrava-Krasne 51.26 312 *eP* **P 09 08 12.6 +0.8**
OKC *ex* x 09 08 15.6
OKC AMS AMS 09 29 30.0
comp=Z,700nm,9.3s
KTK1 Kautokeino 51.27 337 *eP* **P 09 08 11.3 -0.3**
KTK1 AMS AMS 09 30 05.2
comp=Z,3μm,16.2s,MS5.4
KDI Kendari 51.41 124 P **P 09 08 16.4 +3.0**
MORC Moravsky Berou 51.65 312 *eP* **P 09 08 15.0 +0.2**
comp=Z,21nm,1.1s,mb5.0
MORC Moravsky Berou 51.65 312 ⇓P **P 09 08 15.0 +0.2**
MORC Moravsky Berou 51.65 312 ⇓*i*P **P 09 08 15.0 +0.2**
ZST Bratislava 52.04 310 *eP* **P 09 08 18.7 +1.0**
ZST Bratislava 52.04 310 *eP* **P 09 08 18.7 +1.0**
VRAC Vranov 52.30 311 ⇓P **P 09 08 20.5 +0.9**
VRAC Vranov 52.30 311 ⇓*i*P **P 09 08 20.5 +0.9**
CBIJ Chichi jima 52.35 77 LR LR 09 31 09.9
comp=Z,511nm,21.5s,MS4.5,baz=44,slow=37
KSP Ksiaz 52.40 313 *eP* **P 09 08 20.8 +0.5**
KSP Ksiaz 52.40 313 *eP* **P 09 08 20.3 0.0**
KSP *ep*P pP 09 08 24.4 -0.8
KSP Ksiaz 52.40 313 *eP* **P 09 08 20.3 0.0**
KSP *e**PP pP 09 08 24.4 -0.8
DPC Dobruska-Polom 52.41 313 *eP* **P 09 08 20.4 0.0**
comp=Z,54nm,1.3s,mb5.3
DPC Dobruska-Polom 52.41 313 *eP* **P 09 08 20.4 0.0**
DPC pmax pmax
comp=Z,54nm,1.3s,mb5.3
DPC Dobruska-Polom 52.41 313 *eP* **P 09 08 20.8 +0.4**
DPC *ex* x 09 08 24.5
DPC AMS AMS 09 30 30.0
comp=Z,800nm,20.4s
SOP Sopron 52.45 309 *eP* **P 09 08 20.2 -0.6**
UPC Upice 52.60 313 *eP* **P 09 08 23.0 +1.2**
UPC *e* pP 09 08 27.7 +1.0
UPC Upice 52.60 313 *eP* **P 09 08 23.0 +1.2**
UPC *ex* x 09 08 27.7
KMBO Kilima Mbogo 52.74 242 *eP* **P 09 08 23.0 -0.3**
comp=Z,44nm,1.2s,mb5.3
KMBO LR LR
comp=Z,394nm,19.0s,MS4.5
KMBO Kilima Mbogo 52.74 242 *eP* **P 09 08 23.0 -0.3**
KMBO pmax pmax
comp=Z,44nm,1.2s
KMBO MLR MLR
comp=Z,394nm,19.0s
KMBO Kilima Mbogo 52.74 242 P **P 09 08 23.5 +0.1**
SNR=21
CONA Conrad Observa 52.90 309 *i* P **P 09 08 24.4 +0.3**
comp=Z,65nm,1.1s,mb5.5,SNR=26
TRO Tromso 52.91 337 *eP* **P 09 08 23.6 -0.3**
TRO AMS AMS 09 31 13.8
comp=Z,1μm,10.2s,MS5.3
TREC Trest 53.02 311 *eP* **P 09 08 25.8 +0.8**
TREC MLR MLR
comp=Z,800nm,12.9s,MS5.0
TREC Trest 53.02 311 *eP* **P 09 08 25.8 +0.8**
TREC AMS AMS 09 30 40.0
comp=Z,800nm,12.9s
ARSA Arzberg 53.19 309 ⇑*i*P **P 09 08 26.7 +0.4**
comp=Z,24nm,1.0s,mb5.1
PVCC Panska Ves 53.52 313 AMS AMS 09 34 40.0
comp=Z,800nm,8.2s
TIP Timpagrande 53.53 299 *eP* **P 09 08 28.8 -0.1**
comp=Z,14nm,0.6s,mb5.1
TIP LR LR
comp=Z,293nm,20.0s,MS4.3
PERS Pernice 53.54 308 *i* P **P 09 08 29.6 +0.8**
PRU Pruhonice 53.58 312 *eP* **P 09 08 29.0 0.0**
PRU *e* pP 09 08 32.3 -1.6
PRU MLR MLR
comp=Z,700nm,15.6s,MS4.8
PRU Pruhonice 53.58 312 *eP* **P 09 08 29.0 0.0**
PRU *ex* x 09 08 32.3
PRU AMS AMS 09 31 10.0
comp=Z,700nm,15.6s
BOJS Bojanci 53.59 307 *i* P **P 09 08 29.8 +0.6**
SOKA Soboth 53.59 308 ⇑*i*P **P 09 08 29.8 +0.6**
comp=Z,64nm,0.9s,mb5.5
BRG Berggiesshubel 53.88 313 *eP* **P 09 08 31.3 0.0**
comp=Z,11nm,0.7s,mb4.9
BRG *i* pP 09 08 36.6 +0.4
comp=Z,31nm,1.0s
BRG S **S 09 16 08.0 +2.2**
BRG SS SS 09 19 51.0 +4.4
BRG
comp=N,674nm,27.8s
BRG
comp=E,794nm,20.4s
BRG
comp=Z,884nm,15.2s
BRG Berggiesshubel 53.88 313 *eP* **P 09 08 31.9 +0.6**
comp=Z,31nm,1.0s,mb5.2
BRG Berggiesshubel 53.88 313 *eP* **P 09 08 31.3 0.0**
BRG *i* pP 09 08 36.6 +0.5
BRG S **S 09 16 08.0 +2.2**
BRG SS SS 09 19 51.0 +4.4
BRG pmax pmax
comp=Z,11nm,0.7s,mb4.9
BRG MLR MLR
comp=E,794nm,20.4s
BRG MLR MLR
comp=Z,884nm,15.2s
OBKA Obir 53.94 308 *i* P **P 09 08 32.7 +0.9**
comp=Z,30nm,0.9s,mb5.2,SNR=16
MOR8 Moi Rana 53.95 332 *eP* **P 09 08 30.1 -1.4**
MOA Molln 53.97 310 ⇑*i*P **P 09 08 31.7 -0.2**
comp=Z,17nm,0.7s,mb5.1,SNR=10
LJU Ljubljana 54.02 307 *i* P **P 09 08 36.2 +3.9**
CUC Castrocucco 54.09 300 *eP* **P 09 08 32.6 -0.3**
comp=Z,72nm,0.8s,mb5.7
CUC LR LR
comp=Z,342nm,19.0s,MS4.4
GEC2 GERESS Array S 54.23 311 *eP* **P 09 08 34.5 +0.6**
comp=Z,22nm,1.4s,mb4.9
GEC2 GERESS Array S 54.23 311 *eP* **P 09 08 34.5 +0.6**
GEC2 pmax pmax
comp=Z,22nm,1.4s,mb4.9
GERES GERESS Array B 54.23 311 P **P 09 08 33.9 0.0**
comp=Z,3.9nm,0.5s,mb4.6,baz=83,slow=6.6,SNR=33
GERES LR LR 09 32 49.0
comp=Z,785nm,19.7s,MS4.8,baz=334,slow=37
GERES GERESS Array B 54.23 311 P **P 09 08 33.9 0.0**
GERES GERESS Array B 54.23 311 P **P 09 08 33.9 0.0**
GERES pmax pmax
comp=Z,4.0nm,0.5s
GERES MLR MLR
comp=Z,785nm,19.7s
KHC Kasperske Hory 54.28 311 *eP* **P 09 08 34.6 +0.4**
comp=Z,17nm,1.0s,mb4.9
KHC Kasperske Hory 54.28 311 *eP* **P 09 08 34.6 +0.4**
KHC pmax pmax
comp=Z,17nm,1.0s,mb4.9
KHC Kasperske Hory 54.28 311 *eP* **P 09 08 34.3 +0.1**
KHC *ex* x 09 08 37.3
KHC AMS AMS 09 32 20.0
comp=Z,900nm,17.4s
JAVS Javornik 54.36 307 *i* P **P 09 08 34.8 0.0**
CEL Celeste 54.38 298 *eP* **P 09 08 34.6 -0.5**
comp=Z,83nm,1.1s,mb5.6
CEL LR LR
comp=Z,219nm,20.0s,MS4.2
CLL Collm 54.44 314 *eP* **P 09 08 35.3 0.0**
comp=Z,16nm,1.2s,mb4.8
CLL Collm 54.44 314 *eP* **P 09 08 32.0 -3.3**
CLL *i* 09 08 39.7
CLL *e*S **S 09 16 17.0 +3.7**
CLL Collm 54.44 314 *eP* **P 09 08 34.0 -1.3**
CLL *i* Pmax pP 09 08 39.7 -0.5
comp=Z,15nm,1.2s
CLL *i* sP sP 09 08 50.8 +8.8
CLL *e*PP PP 09 10 43.0 +5.7
CLL *e*S **S 09 16 17.0 +3.7**
CLL *e*SS SS 09 20 18.0 +23
CLL LmH 09 29 00.0
comp=N,2μm,21.7s
CLL LmH 09 29 00.0
comp=E,400nm,20.9s
VOY Vojsko 54.46 307 *eP* **P 09 08 35.9 +0.4**
VOY *e* pP 09 08 38.7 -1.7
VOY *e* 09 08 51.9
VOY *e* 09 08 58.5
KONS Konsvik 54.52 333 *eP* **P 09 08 35.1 -0.6**
STOK Stokkvaagen 54.54 332 *eP* **P 09 08 35.2 -0.6**
WET Wettzell 54.74 311 *eP* **P 09 08 38.2 +0.7**
comp=Z,63nm,2.1s,mb5.3
WET Wettzell 54.74 311 *eP* **P 09 08 38.2 +0.7**
WET pmax pmax
comp=Z,63nm,2.1s,mb5.3
NSS Namsos 54.83 330 *eP* **P 09 08 36.1 -1.8**
NC602 NORSAR Array S 54.89 326 *eP* **P 09 08 37.8 -0.6**
NKC Novy Kostel 54.90 313 *eP* **P 09 08 38.9 +0.3**
NKC *e* pP 09 08 43.7 +0.2
NKC Novy Kostel 54.90 313 *eP* **P 09 08 38.9 +0.3**
NKC *ex* x 09 08 43.7
NB2 NORSAR Subarra 55.05 326 P **P 09 08 38.8 -0.8**
comp=Z,20nm,0.8s,mb5.2,baz=91,slow=7.9
NOA NORSAR Array B 55.05 326 P **P 09 08 39.0 -0.6**
comp=Z,12nm,1.0s,mb4.9,baz=90,slow=6.9,SNR=14

NOA LR LR 09 33 50.3
comp=Z,1µm,20.7s,MS4.9,baz=85,slow=38
NOA NORSAR Array B 55.05 326 P **P** **09 08 39.0 -0.6**
NOA NORSAR Array B 55.05 326 P **P** **09 08 39.0 -0.6**
NOA pmax pmax
comp=Z,12nm,1.0s
NOA MLR MLR
comp=Z,1µm,20.7s
ROTZ Rotzenmuhle 55.10 312 *e*P **P** **09 08 41.5 +1.4**
comp=Z,44nm,1.0s,mb5.4
NAO01 NORSAR Array S 55.21 326 *e*P **P** **09 08 40.1 -0.6**
comp=Z,16nm,0.8s,mb5.1
MOX Moxa 55.38 313 *e*P **P** **09 08 42.7 +0.6**
comp=Z,30nm,1.4s,mb5.1
MOX Moxa 55.38 313 *e*P **P** **09 08 42.7 +0.6**
MOX pmax pmax
comp=Z,30nm,1.4s,mb5.1
AQU L'Aquila 55.42 303 *e*P **P** **09 08 43.7 +1.1**
comp=Z,128nm,1.2s,mb5.8
AQU LR LR
comp=Z,450nm,20.0s,MS4.5
AQU L'Aquila 55.42 303 *e*P **P** **09 08 43.7 +1.2**
AQU pmax pmax
comp=Z,128nm,1.2s,mb5.8
AQU MLR MLR
comp=Z,450nm,20.0s,MS4.5
GRF Grafenberg Arr 55.74 312 *e*P **P** **09 08 45.8 +1.0**
comp=Z,87nm,1.5s,mb5.6
GRF *e*L 09 33 03.8
comp=Z,487nm,19.0s
GRF Grafenberg Arr 55.74 312 *e*P **P** **09 08 45.8 +1.0**
GRF pmax pmax
comp=Z,87nm,1.5s,mb5.6
GRF MLR MLR
comp=Z,500nm,19.0s,MS4.6
GRFO Grafenberg 55.75 312 *e*P **P** **09 08 50.5 +5.7**
comp=Z,25nm,1.0s,mb5.2
GRFO Grafenberg 55.75 312 *e*P **P** **09 08 50.5 +5.7**
GRFO pmax pmax
comp=Z,25nm,1.0s,mb5.2
WTTA Wattenberg 55.81 309 ‖ *i*P **P** **09 08 44.4 -0.9**
comp=Z,34nm,1.1s,mb5.3,SNR=12
BSEG Bad Segeberg 55.84 317 *e*P **P** **09 08 46.2 +0.8**
comp=Z,90nm,1.1s,mb5.7
BSEG Bad Segeberg 55.84 317 *e*P **P** **09 08 46.2 +0.8**
BSEG pmax pmax
comp=Z,90nm,1.1s,mb5.7
WATA Walderalm 55.84 309 ⇑ *i*P **P** **09 08 44.5 -1.0**
comp=Z,17nm,0.6s,mb5.2,SNR=10
FUR Furstenfeldbru 55.92 310 *e*P **P** **09 08 46.8 +0.7**
comp=Z,56nm,1.0s,mb5.5
FUR Furstenfeldbru 55.92 310 *e*P **P** **09 08 46.8 +0.7**
FUR pmax pmax
comp=Z,56nm,1.0s,mb5.5
SPA0 Spitsbergen Ar 55.93 347 *e*P **P** **09 08 45.7 0.0**
SPB4 Spitsbergen Ar 55.94 347 *e*P **P** **09 08 46.2 +0.5**
WDD Wield Dalam 56.01 295 PFAKE 09 09 00.0 +13
WDD LR LR
comp=Z,251nm,19.0s,MS4.3
CLZ Clausthal 56.02 315 *e*P **P** **09 08 47.4 +0.7**
comp=Z,50nm,1.0s,mb5.5
CLZ Clausthal 56.02 315 *e*P **P** **09 08 47.4 +0.7**
CLZ pmax pmax
comp=Z,50nm,1.0s,mb5.5
NRDL Niedersach Rie 56.11 316 *e*P **P** **09 08 48.2 +0.9**
comp=Z,75nm,1.1s,mb5.6
MOTA Moosalm 56.16 309 ⇑ *i*P **P** **09 08 46.6 -1.2**
comp=Z,26nm,0.8s,mb5.3,SNR=13
MUD Monsted U'grnd 56.28 320 *i* P **P** **09 08 54.6 +6.1**
MUD pmax pmax
comp=Z,18nm,1.0s,mb5.1
MUD Monsted U'grnd 56.28 320 *i* P **P** **09 08 54.6 +6.1**
comp=Z,18nm,1.0s,mb5.0
FETA Feichten 56.47 309 *i* P **P** **09 08 49.0 -0.9**
comp=Z,37nm,1.0s,mb5.4,SNR=11
RER Riviere de l'E 56.82 210 *e*P **P** **09 08 51.5 -1.1**
comp=Z,73nm,0.8s,mb5.8
RER LR LR
comp=Z,755nm,20.0s,MS4.8
KBS Kingsbay 56.98 347 *e*P **P** **09 08 53.2 0.0**
KBS AMS AMS 09 36 01.4
comp=Z,787nm,17.8s,MS4.9
KBS Kingsbay 56.98 347 PFAKE 09 09 10.0 +17
KBS LR LR
comp=Z,927nm,19.0s,MS4.9
KBS Kingsbay 56.98 347 *e*P **P** **09 08 53.5 +0.3**
KBS pmax pmax
comp=Z,19nm,0.9s,mb5.1
DAVA Damuels 56.99 309 ⇑ *i*P **P** **09 08 53.1 -0.6**
comp=Z,73nm,1.1s,mb5.6,SNR=20
STU Stuttgart 57.20 311 *e*P **P** **09 08 55.5 +0.4**
comp=Z,35nm,0.9s,mb5.4
STU Stuttgart 57.20 311 *e*P **P** **09 08 55.9 +0.8**
comp=Z,37nm,1.0s,mb5.4
STU Stuttgart 57.20 311 *e*P **P** **09 08 55.9 +0.8**
STU pmax pmax
comp=Z,37nm,1.0s,mb5.4
TNS Taunus Mts 57.44 313 *e*P **P** **09 08 57.3 +0.5**
comp=Z,39nm,1.2s,mb5.3
TNS Taunus Mts 57.44 313 *e*P **P** **09 08 57.3 +0.5**
TNS pmax pmax
comp=Z,39nm,1.2s,mb5.3
TUE Stuetta 57.50 309 *e*P **P** **09 08 56.8 -0.5**
comp=Z,18nm,0.8s,mb5.2
TUE LR LR
comp=Z,648nm,20.0s,MS4.7
MBAR Mbarara 57.54 248 PFAKE 09 09 10.0 +12
MBAR LR LR
comp=Z,860nm,22.0s,MS4.8
IBBN Ibbenburen 57.56 316 *e*P **P** **09 08 58.1 +0.5**
comp=Z,49nm,1.1s,mb5.5
BFO Black Forest 57.84 311 *e*P **P** **09 09 01.1 +1.4**
comp=Z,5.0nm,0.8s,mb4.6
BFO LR LR
comp=Z,462nm,21.0s,MS4.6
BFO Black Forest 57.84 311 *e*P **P** **09 09 01.1 +1.5**
BFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BFO MLR MLR
comp=Z,462nm,21.0s,MS4.6
BUG Bochum--Univer 57.99 315 *e*P **P** **09 09 01.1 +0.4**
comp=Z,64nm,1.1s,mb5.6
LANF Langenberg 58.06 312 *e*P **P** **09 09 01.1 -0.1**
PETK Petropavlovsk- 58.22 43 P **P** **09 09 00.8 -1.4**
comp=Z,9.1nm,1.1s,mb4.7,baz=278,slow=10.0,SNR=3.2
PETK LR LR 09 38 11.5
comp=Z,305nm,18.1s,MS4.5,baz=276,slow=40
PETK Petropavlovsk- 58.22 43 P **P** **09 09 00.8 -1.4**
PETK Petropavlovsk- 58.22 43 P **P** **09 09 00.8 -1.4**
PETK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
PETK MLR MLR
comp=Z,305nm,18.1s,MS4.5
CDF Champ du Feu 58.51 311 *e*P **P** **09 09 03.9 -0.5**
comp=Z,31nm,1.0s,mb5.0
CDF Champ du Feu 58.51 311 *e*P **P** **09 09 03.9 -0.5**
comp=Z,31nm,1.0s,mb5.3
CDF Champ du Feu 58.51 311 *e*P **P** **09 09 03.9 -0.5**
CDF pmax pmax
comp=Z,31nm,1.0s,mb5.3
PGF Pioggiola 58.56 304 *e*P **P** **09 09 04.0 -0.8**
comp=Z,88nm,1.4s,mb5.3
PGF Pioggiola 58.56 304 *e*P **P** **09 09 04.0 -0.8**
comp=Z,88nm,1.4s,mb5.6
PGF Pioggiola 58.56 304 *e*P **P** **09 09 04.0 -0.8**
PGF pmax pmax
comp=Z,88nm,1.4s,mb5.6
ECH Echery 58.63 311 *e*P **P** **09 09 04.5 -0.6**
comp=Z,8.5nm,0.9s,mb4.8
ECH LR LR
comp=Z,754nm,19.0s,MS4.8
ECH Echery 58.63 311 *e*P **P** **09 09 04.6 -0.6**
ECH pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ECH MLR MLR
comp=Z,754nm,19.0s,MS4.8
MOF Molkenrain 58.72 310 *e*P **P** **09 09 05.1 -0.7**
HINF Hinteralfeld 58.91 310 *e*P **P** **09 09 06.5 -0.6**
comp=Z,92nm,1.0s,mb5.5
HINF Hinteralfeld 58.91 310 *e*P **P** **09 09 06.5 -0.6**
comp=Z,92nm,1.0s,mb5.8
HINF Hinteralfeld 58.91 310 *e*P **P** **09 09 06.5 -0.6**
HINF pmax pmax
comp=Z,92nm,1.0s,mb5.8
SENIN Lac Senin/Sane 58.91 309 *e*P **P** **09 09 07.2 0.0**
MEM Membach 58.92 314 P **P** **09 09 06.7 -0.5**
comp=Z,18nm,1.4s,mb4.9

WLF Walferdange 59.00 313 P **P** **09 09 09.0 +1.3**
comp=Z,32nm,1.5s,mb5.1
WLF Walferdange 59.00 313 *e*P **P** **09 09 08.5 +0.8**
comp=Z,44nm,1.1s,mb5.4
WLF Walferdange 59.00 313 *e*P **P** **09 09 08.8 +1.1**
comp=Z,46nm,1.0s,mb5.5
WLF LR LR
comp=Z,232nm,19.0s,MS4.3
WLF Walferdange 59.00 313 *e*P **P** **09 09 08.8 +1.1**
WLF pmax pmax
comp=Z,46nm,1.0s,mb5.5
WLF MLR MLR
comp=Z,232nm,19.0s,MS4.3
LOMF Lomont 59.02 310 *e*P **P** **09 09 06.7 -1.2**
VSL Villasalto 59.03 301 *e*P **P** **09 09 08.2 +0.1**
VSL LR LR
comp=Z,342nm,21.0s,MS4.5
ABPO Ambohimpanom 59.17 219 *e*P **P** **09 09 08.5 -0.7**
comp=Z,8.6nm,0.8s,mb4.8
ABPO LR LR
comp=Z,299nm,20.0s,MS4.4
ABPO Ambohimpanom 59.17 219 *e*P **P** **09 09 08.5 -0.7**
ABPO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ABPO MLR MLR
comp=Z,299nm,20.0s,MS4.4
HAU Haudompre 59.20 311 *e*P **P** **09 09 08.5 -0.7**
comp=Z,62nm,0.9s,mb5.4
HAU *e*R
comp=Z,768nm,18.5s
HAU Haudompre 59.20 311 *e*P **P** **09 09 08.5 -0.7**
comp=Z,62nm,0.9s,mb5.6
HAU Haudompre 59.20 311 *e*P **P** **09 09 08.5 -0.7**
HAU pmax pmax
comp=Z,62nm,0.9s,mb5.6
SAOF Saorge 59.26 306 *e*P **P** **09 09 09.9 +0.3**
AUTN L'Aution 59.34 306 *e*P **P** **09 09 11.1 +0.9**
SBF Sospel 59.37 306 *e*P **P** **09 09 10.2 -0.2**
comp=Z,314nm,1.1s,mb6.0
SBF Sospel 59.37 306 *e*P **P** **09 09 10.2 -0.2**
comp=Z,314nm,1.1s,mb6.3
SBF Sospel 59.37 306 *e*P **P** **09 09 10.2 -0.2**
SBF pmax pmax
comp=Z,315nm,1.1s,mb6.3
BCLA Clavier 59.39 314 P **P** **09 09 11.2 +0.7**
comp=Z,18nm,1.3s,mb4.9
THEF They Montfort 59.39 311 *e*P **P** **09 09 10.2 -0.3**
LUCF Luceram 59.42 306 *e*P **P** **09 09 10.9 +0.1**
TOUF Mont Tournerai 59.46 306 *e*P **P** **09 09 11.5 +0.4**
LPG La Plagne 59.47 308 *e*P **P** **09 09 11.3 +0.2**
comp=Z,226nm,0.9s,mb5.9
LPG La Plagne 59.47 308 *e*P **P** **09 09 11.3 +0.2**
comp=Z,226nm,0.9s,mb6.2
LPG La Plagne 59.47 308 *e*P **P** **09 09 11.3 +0.2**
LPG pmax pmax
comp=Z,226nm,0.9s,mb6.2
LPL La Plagne 59.48 308 *e*P **P** **09 09 11.3 +0.2**
comp=Z,243nm,0.9s,mb6.0
LPL La Plagne 59.48 308 *e*P **P** **09 09 11.3 +0.2**
comp=Z,243nm,0.9s,mb6.2
LPL La Plagne 59.48 308 *e*P **P** **09 09 11.3 +0.2**
LPL pmax pmax
comp=Z,243nm,0.9s,mb6.2
OG22 Abries 59.49 307 *e*P **P** **09 09 11.3 +0.1**
PAGF Fort de Pagny 59.49 311 *e*P **P** **09 09 11.0 -0.2**
comp=Z,22nm,1.1s,mb4.8
RSL Roselend 59.51 308 *e*P **P** **09 09 11.5 +0.1**
MVIF Mont Vial 59.56 306 *e*P **P** **09 09 12.0 +0.3**
BNI Bardonecchia 59.62 307 *e*P **P** **09 09 12.0 -0.1**
comp=Z,41nm,0.9s,mb5.5
BNI LR LR
comp=Z,690nm,19.0s,MS4.8
BNI Bardonecchia 59.62 307 *e*P **P** **09 09 12.0 -0.1**
BNI pmax pmax
comp=Z,41nm,0.9s,mb5.5
BNI MLR MLR
comp=Z,690nm,19.0s,MS4.8
MBDF Montbardon 59.63 307 *e*P **P** **09 09 11.4 -0.8**
comp=Z,57nm,0.7s,mb5.4
MBDF Montbardon 59.63 307 *e*P **P** **09 09 11.4 -0.8**
comp=Z,57nm,0.7s,mb5.7
MBDF Montbardon 59.63 307 *e*P **P** **09 09 11.4 -0.8**
MBDF pmax pmax
comp=Z,57nm,0.7s,mb5.7
CABF La Chapelle 59.67 309 *e*P **P** **09 09 12.1 -0.3**
comp=Z,76nm,1.1s,mb5.3
CABF La Chapelle 59.67 309 *e*P **P** **09 09 12.1 -0.3**
comp=Z,76nm,1.1s,mb5.6
CABF La Chapelle 59.67 309 *e*P **P** **09 09 12.1 -0.3**
CABF pmax pmax
comp=Z,76nm,1.1s,mb5.6
GIVF Givet 59.76 313 *e*P **P** **09 09 12.8 -0.2**
comp=Z,58nm,0.9s,mb5.3
GIVF Givet 59.76 313 *e*P **P** **09 09 12.8 -0.2**
comp=Z,58nm,0.9s,mb5.6
GIVF Givet 59.76 313 *e*P **P** **09 09 12.8 -0.2**
GIVF pmax pmax
comp=Z,58nm,0.9s,mb5.6
DOU Dourbes 59.90 313 P **P** **09 09 14.2 +0.2**
comp=Z,15nm,1.7s,mb4.7
MEZF Maizieres J'vi 59.94 312 *e*P **P** **09 09 13.9 -0.4**
MEZF Maizieres J'vi 59.94 312 *e*P **P** **09 09 13.9 -0.4**
FRF La Foret Royal 60.00 306 *e*P **P** **09 09 14.1 -0.6**
comp=Z,98nm,0.9s,mb5.6
FRF La Foret Royal 60.00 306 *e*P **P** **09 09 14.1 -0.6**
comp=Z,98nm,0.9s,mb5.8
FRF La Foret Royal 60.00 306 *e*P **P** **09 09 14.1 -0.6**
FRF pmax pmax
comp=Z,98nm,0.9s,mb5.8
SNF Seneffe 60.01 314 P **P** **09 09 15.5 +0.8**
comp=Z,29nm,2.1s,mb4.9
SFTF Sexfontaines 60.02 311 *e*P **P** **09 09 14.1 -0.7**
SFTF Sexfontaines 60.02 311 *e*P **P** **09 09 14.1 -0.7**
KEST Kesra 60.09 296 P **P** **09 09 15.3 -0.2**
comp=Z,27nm,1.2s,mb5.1,baz=327,slow=2.0,SNR=14
KEST LR LR 09 38 50.1
comp=Z,102nm,18.8s,MS4.0,baz=8.8,slow=40
KEST Kesra 60.09 296 *e*P **P** **09 09 15.6 +0.1**
LMR La Mourre 60.15 305 *e*P **P** **09 09 15.1 -0.7**
comp=Z,92nm,1.2s,mb5.4
LMR La Mourre 60.15 305 *e*P **P** **09 09 15.1 -0.7**
comp=Z,92nm,1.2s,mb5.7
LMR La Mourre 60.15 305 *e*P **P** **09 09 15.1 -0.7**
LMR pmax pmax
comp=Z,92nm,1.2s,mb5.7
BAIF Baives 60.16 313 *e*P **P** **09 09 15.4 -0.3**
comp=Z,86nm,1.2s,mb5.3
BAIF Baives 60.16 313 *e*P **P** **09 09 15.4 -0.3**
comp=Z,86nm,1.2s,mb5.7
BAIF Baives 60.16 313 *e*P **P** **09 09 15.4 -0.3**
BAIF pmax pmax
comp=Z,86nm,1.2s,mb5.7
OG25 Le Caire 60.20 307 *e*P **P** **09 09 16.1 0.0**
ORIF Oris-en-Rattie 60.20 307 *e*P **P** **09 09 15.1 -1.0**
comp=Z,87nm,1.1s,mb5.4
ORIF *e*R
comp=Z,958nm,21.2s
ORIF Oris-en-Rattie 60.20 307 *e*P **P** **09 09 15.1 -1.0**
comp=Z,87nm,1.1s,mb5.7
ORIF Oris-en-Rattie 60.20 307 *e*P **P** **09 09 15.1 -1.0**
ORIF pmax pmax
comp=Z,87nm,1.1s,mb5.7
TAVF Tavernes 60.40 306 *e*P **P** **09 09 17.9 +0.4**
BILL Bilibino 60.41 25 *e*P **P** **09 09 17.5 +0.4**
comp=Z,25nm,0.8s,mb5.3
BILL LR LR
comp=Z,669nm,22.0s,MS4.7
BILL Bilibino 60.41 25 *αe*P **P** **09 09 18.1 +1.0**
BILL *i* pP 09 09 21.5 -0.5
BILL S **S** **09 17 38.0 +6.8**
BILL SSS 09 24 12.0
BILL pmax pmax
comp=Z,32nm,0.8s,mb5.4
BILL MLR MLR
comp=Z,700nm,15.0s,MS4.9
VILF Villemus 60.58 306 *e*P **P** **09 09 19.7 +1.0**
SMRF Simiane la Rot 60.65 306 *e*P **P** **09 09 19.1 -0.1**
comp=Z,106nm,1.1s,mb5.6
SMRF Simiane la Rot 60.65 306 *e*P **P** **09 09 19.1 -0.1**
comp=Z,106nm,1.1s,mb5.9
OG26 St.-Nazaire-De 60.68 307 *e*P **P** **09 09 18.6 -0.8**
BERF Bertagne 60.73 306 *e*P **P** **09 09 19.6 -0.2**
PRAF Pradon 60.97 306 *e*P **P** **09 09 21.9 +0.5**
LOR Lormes 61.01 310 *e*P **P** **09 09 20.6 -1.0**
comp=Z,50nm,1.1s,mb5.3
LOR *e*R
comp=Z,781nm,21.5s
LOR Lormes 61.01 310 *e*P **P** **09 09 20.6 -1.0**
comp=Z,50nm,1.1s,mb5.5
LOR Lormes 61.01 310 *e*P **P** **09 09 20.6 -1.0**
LOR pmax pmax
comp=Z,50nm,1.1s,mb5.6
SSB Saint Sauveur 61.03 308 *e*P **P** **09 09 21.1 -0.7**
comp=Z,32nm,0.9s,mb5.5
SSB LR LR
comp=Z,382nm,20.0s,MS4.5
SSB Saint Sauveur 61.03 308 *e*P **P** **09 09 21.1 -0.7**
SSB pmax pmax
comp=Z,32nm,0.9s,mb5.5
SSB MLR MLR
comp=Z,382nm,20.0s,MS4.5
VIVF Saint-Julien-l 61.05 308 *e*P **P** **09 09 21.4 -0.5**
comp=Z,82nm,1.2s,mb5.5
VIVF Saint-Julien-l 61.05 308 *e*P **P** **09 09 21.4 -0.5**
comp=Z,82nm,1.2s,mb5.7
VIVF Saint-Julien-l 61.05 308 *e*P **P** **09 09 21.4 -0.5**
VIVF pmax pmax
comp=Z,82nm,1.2s,mb5.7
SMF Signal de Mont 61.17 310 *e*P **P** **09 09 21.8 -0.9**
comp=Z,104nm,1.0s,mb5.6
SMF Signal de Mont 61.17 310 *e*P **P** **09 09 21.8 -0.9**
comp=Z,104nm,1.0s,mb5.9
SMF Signal de Mont 61.17 310 *e*P **P** **09 09 21.8 -0.9**
SMF pmax pmax
comp=Z,104nm,1.0s,mb5.9
SSF Saint Saulge 61.29 310 *e*P **P** **09 09 22.7 -0.8**
comp=Z,107nm,1.1s,mb5.6
SSF Saint Saulge 61.29 310 *e*P **P** **09 09 22.7 -0.8**
comp=Z,107nm,1.1s,mb5.9
SSF Saint Saulge 61.29 310 *e*P **P** **09 09 22.7 -0.8**
SSF pmax pmax
comp=Z,107nm,1.1s,mb5.9
CMAH Djebel Manchou 61.32 298 P **P** **09 09 23.9 0.0**
ABSA Djebel Ababsia 61.38 297 P **P** **09 09 24.7 +0.4**
AVF Avril sur Loir 61.46 310 *e*P **P** **09 09 23.8 -0.8**
comp=Z,67nm,0.9s,mb5.5
AVF Avril sur Loir 61.46 310 *e*P **P** **09 09 23.8 -0.8**
comp=Z,67nm,0.9s,mb5.8
AVF Avril sur Loir 61.46 310 *e*P **P** **09 09 23.8 -0.8**
AVF pmax pmax
comp=Z,67nm,0.9s,mb5.8
PLDF La Plantade 61.48 309 *e*P **P** **09 09 24.7 -0.1**
CAEH 'Ain El Ouahch 61.71 298 P **P** **09 09 26.4 -0.1**
AGO Saint Agoulin 61.79 309 *e*P **P** **09 09 26.5 -0.4**
HYF Humbligny 61.81 311 *e*P **P** **09 09 26.7 -0.3**
HYF Humbligny 61.81 311 *e*P **P** **09 09 26.7 -0.3**
LASF Ste Croix 61.82 307 *e*P **P** **09 09 26.9 -0.2**
comp=Z,94nm,1.0s,mb5.6
LASF Ste Croix 61.82 307 *e*P **P** **09 09 26.9 -0.2**
comp=Z,94nm,1.0s,mb5.9
BGF Bois d'Agland 61.85 310 *e*P **P** **09 09 26.5 -0.8**
comp=Z,53nm,1.0s,mb5.3
BGF Bois d'Agland 61.85 310 *e*P **P** **09 09 26.5 -0.8**
comp=Z,53nm,1.0s,mb5.6
BGF Bois d'Agland 61.85 310 *e*P **P** **09 09 26.5 -0.8**
BGF pmax pmax
comp=Z,53nm,1.0s,mb5.6
CKFL Kef-Lekhel 61.92 298 P **P** **09 09 28.0 +0.1**
LBL Lubilhac 61.93 308 *e*P **P** **09 09 26.5 -1.3**
PYM Petit Puy Mans 61.95 309 *e*P **P** **09 09 27.8 -0.2**
CASM Ain Smara 62.14 298 P **P** **09 09 29.1 -0.3**
CTEI Djebel Teioual 62.27 298 P **P** **09 09 30.4 +0.1**
TCF Toulx Ste Croi 62.35 310 *e*P **P** **09 09 30.3 -0.3**
comp=Z,152nm,1.1s,mb5.7
TCF Toulx Ste Croi 62.35 310 *e*P **P** **09 09 30.3 -0.3**
comp=Z,152nm,1.1s,mb6.0
TCF Toulx Ste Croi 62.35 310 *e*P **P** **09 09 30.3 -0.3**
TCF pmax pmax
comp=Z,152nm,1.1s,mb6.0
MBWA Marble Bar 62.44 140 *e*P **P** **09 09 29.0 -2.4**
MBWA LR LR
comp=Z,369nm,19.0s,MS4.6
MCD Coleburn Disti 62.81 323 ⇑ *e*P **P** **09 09 32.2 -1.3**
CAF Calviac 62.82 308 *e*P **P** **09 09 33.5 -0.3**
comp=Z,102nm,1.1s,mb5.6
CAF Calviac 62.82 308 *e*P **P** **09 09 33.5 -0.3**
comp=Z,102nm,1.1s,mb5.9
CAF Calviac 62.82 308 *e*P **P** **09 09 33.5 -0.3**
CAF pmax pmax
comp=Z,102nm,1.1s,mb5.9
ESY Stoneypath 62.86 321 *e*P **P** **09 09 33.0 -0.9**
SKP1 Kophill 62.86 316 *e*P **P** **09 09 33.2 -0.8**
XAL Allendale 62.90 320 *e*P **P** **09 09 32.5 -1.6**
CKHR Kef el Ahmar 62.97 298 P **P** **09 09 35.0 0.0**
SET Setif 63.00 298 P **P** **09 09 36.0 +0.9**
RJF Les Rejaudoux 63.09 309 *e*P **P** **09 09 35.5 -0.1**
comp=Z,107nm,1.0s,mb5.6
RJF *e*R
comp=Z,457nm,19.5s
RJF Les Rejaudoux 63.09 309 *e*P **P** **09 09 35.5 -0.1**
comp=Z,107nm,1.0s,mb5.9
RJF Les Rejaudoux 63.09 309 *e*P **P** **09 09 35.5 -0.1**
RJF pmax pmax
comp=Z,107nm,1.0s,mb5.9
EBL Broad Law 63.13 321 *e*P **P** **09 09 34.9 -0.8**
MTLF Montolieu 63.16 306 *e*P **P** **09 09 35.9 -0.2**
comp=Z,99nm,1.1s,mb5.6
MTLF Montolieu 63.16 306 *e*P **P** **09 09 35.9 -0.2**
comp=Z,99nm,1.1s,mb5.9
MTLF Montolieu 63.16 306 *e*P **P** **09 09 35.9 -0.2**
MTLF pmax pmax
comp=Z,99nm,1.1s,mb5.8
MVH1 Achvaich 63.21 323 *e*P **P** **09 09 34.3 -1.9**
WOL Wolverton 63.22 316 *e*P **P** **09 09 35.9 -0.4**
WOL AMB AMB 09 09 56.1
comp=Z,156nm,2.5s,mb5.7
LDF La Druitiere 63.26 313 *e*P **P** **09 09 35.5 -1.1**
comp=Z,52nm,0.8s,mb5.4
LDF La Druitiere 63.26 313 *e*P **P** **09 09 35.5 -1.1**
comp=Z,52nm,0.8s,mb5.7
LDF La Druitiere 63.26 313 *e*P **P** **09 09 35.5 -1.1**
LDF pmax pmax
comp=Z,52nm,0.8s,mb5.7
ESK Eskdalemuir 63.34 320 ⇑ *e*P **P** **09 09 35.3 -1.8**
ESK AMB AMB 09 09 50.6
comp=Z,90nm,4.2s
ESK Eskdalemuir 63.34 320 *e*P **P** **09 09 36.9 -0.1**
comp=Z,48nm,1.0s,mb5.6
ESK Eskdalemuir 63.34 320 *e*P **P** **09 09 36.9 -0.1**
ESK pmax pmax
comp=Z,48nm,1.0s,mb5.6
FLN La Foliniere 63.44 313 *e*P **P** **09 09 36.9 -0.9**
FLN *e*R
comp=Z,656nm,22.8s
FLN La Foliniere 63.44 313 *e*P **P** **09 09 36.9 -0.9**
FLN La Foliniere 63.44 313 *e*P **P** **09 09 36.9 -0.9**
KESW Keswick, Cumbr 63.47 320 *e*P **P** **09 09 36.4 -1.5**
KESW AMB AMB 09 09 46.5
comp=Z,157nm,1.3s,mb6.0
DAG Danmarks Havn 63.47 345 *i* P **P** **09 09 36.8 -0.8**
DAG pmax pmax
comp=Z,20nm,0.8s,mb5.3
DAG Danmarks Havn 63.47 345 *i* P **P** **09 09 36.8 -0.8**
comp=Z,26nm,0.8s,mb5.4
VALF Valcebollere 63.58 305 *e*P **P** **09 09 38.6 -0.3**
FITZ Fitzroy Crossi 63.61 133 *e*P **P** **09 09 37.9 -1.4**
comp=Z,13nm,0.6s,mb5.1
FITZ Fitzroy Crossi 63.61 133 *e*P **P** **09 09 38.6 -0.7**
comp=Z,14nm,1.0s,mb4.9
XDE Dent Fell 63.70 320 *e*P **P** **09 09 38.5 -1.0**
LFF La Frestale 63.72 308 *e*P **P** **09 09 38.5 -1.2**
comp=Z,84nm,0.9s,mb5.5
LFF La Frestale 63.72 308 *e*P **P** **09 09 38.5 -1.2**
comp=Z,84nm,0.9s,mb5.8
LFF La Frestale 63.72 308 *e*P **P** **09 09 38.5 -1.2**
LFF pmax pmax
comp=Z,84nm,0.9s,mb5.8
GRR Gorron 63.78 312 *e*P **P** **09 09 38.9 -1.2**
comp=Z,76nm,0.8s,mb5.5
GRR Gorron 63.78 312 *e*P **P** **09 09 38.9 -1.2**
comp=Z,76nm,0.8s,mb5.8
GRR Gorron 63.78 312 *e*P **P** **09 09 38.9 -1.2**
GRR pmax pmax
comp=Z,76nm,0.8s,mb5.8
MFF Saint Martin d 63.83 310 *e*P **P** **09 09 39.3 -1.2**
comp=Z,34nm,0.6s,mb5.2
MFF Saint Martin d 63.83 310 *e*P **P** **09 09 39.3 -1.2**
comp=Z,34nm,0.6s,mb5.5
MFF Saint Martin d 63.83 310 *e*P **P** **09 09 39.3 -1.2**
MFF pmax pmax
comp=Z,34nm,0.6s,mb5.5
HLM1 Long Mynd 63.88 317 *e*P **P** **09 09 39.5 -1.2**

HLM1 AMB AMB 09 09 49.5
comp=Z,78nm,2.1s,mb5.4
FOEL Foel Wylfa 63.97 316⇑ *e*P **P** **09 09 39.9 -1.3**
FOEL AMB AMB 09 09 40.3
comp=Z,174nm,1.7s,mb5.8
SALF Salau 64.06 306 *e*P **P** **09 09 41.3 -0.7**
MLS Moulis 64.06 306 *e*P **P** **09 09 40.2 -1.9**
HGH Gray Hill 64.08 316⇑ *e*P **P** **09 09 40.9 -1.1**
MCH1 Michaelchurch 64.10 317⇑ *e*P **P** **09 09 41.1 -1.1**
MCH1 AMB AMB 09 09 45.0
comp=Z,88nm,1.2s,mb5.7
EPF Esparros 64.57 307 *e*P **P** **09 09 43.2 -2.2**
comp=Z,24nm,0.9s,mb4.9
EPF Esparros 64.57 307 *e*P **P** **09 09 43.2 -2.2**
comp=Z,24nm,0.9s,mb5.2
EPF Esparros 64.57 307 *e*P **P** **09 09 43.2 -2.2**
EPF pmax pmax
comp=Z,24nm,0.9s,mb5.2
RESF Ens 64.64 306 *e*P **P** **09 09 46.1 +0.3**
VIEF Viey 64.83 306 *e*P **P** **09 09 47.4 +0.3**
EMHD Djebel Mahouad 64.87 299 P **P** **09 09 47.9 +0.5**
SGMF Saint Gilles 64.91 313 *e*P **P** **09 09 46.7 -0.8**
comp=Z,85nm,0.8s,mb5.5
SGMF Saint Gilles 64.91 313 *e*P **P** **09 09 46.7 -0.8**
comp=Z,85nm,0.8s,mb5.8
SGMF Saint Gilles 64.91 313 *e*P **P** **09 09 46.7 -0.8**
SGMF pmax pmax
comp=Z,85nm,0.8s,mb5.8
ETSF Etsaut 65.23 307 *e*P **P** **09 09 48.6 -1.1**
comp=Z,106nm,0.9s,mb5.6
ETSF Etsaut 65.23 307 *e*P **P** **09 09 48.6 -1.1**
comp=Z,106nm,0.9s,mb5.9
ETSF Etsaut 65.23 307 *e*P **P** **09 09 48.6 -1.1**
ETSF pmax pmax
comp=Z,106nm,0.9s,mb5.9
HTL Hartland 65.28 316 *e*P **P** **09 09 48.8 -1.1**
HTL AMB AMB 09 09 56.2
comp=Z,86nm,3.9s
HTL Hartland 65.28 316 P **P** **09 09 48.8 -1.1**
HTL AMB AMB 09 09 56.2
comp=Z,86nm,3.9s
ROSF Rostrenen 65.34 313 *e*P **P** **09 09 49.3 -1.0**
comp=Z,82nm,0.8s,mb5.5
ROSF Rostrenen 65.34 313 *e*P **P** **09 09 49.3 -1.0**
comp=Z,82nm,0.8s,mb5.8
ROSF Rostrenen 65.34 313 *e*P **P** **09 09 49.3 -1.0**
ROSF pmax pmax
comp=Z,82nm,0.8s,mb5.8
QUIF Quistinic 65.40 312 *e*P **P** **09 09 49.4 -1.3**
comp=Z,28nm,0.6s,mb5.2
QUIF Quistinic 65.40 312 *e*P **P** **09 09 49.4 -1.3**
comp=Z,28nm,0.6s,mb5.5
QUIF Quistinic 65.40 312 *e*P **P** **09 09 49.4 -1.3**
QUIF pmax pmax
comp=Z,29nm,0.6s,mb5.5
SJPF Ste Jean 65.63 307 *e*P **P** **09 09 51.4 -0.9**
comp=Z,40nm,0.8s,mb5.2
SJPF Ste Jean 65.63 307 *e*P **P** **09 09 51.4 -0.9**
comp=Z,40nm,0.8s,mb5.5
SJPF Ste Jean 65.63 307 *e*P **P** **09 09 51.4 -0.9**
SJPF pmax pmax
comp=Z,40nm,0.8s,mb5.5
EBNR Beni Rached 65.92 299 P **P** **09 09 55.2 +1.0**
EANR 'Ain N'Sour 66.36 299 P **P** **09 09 57.4 +0.3**
ALE Alert 66.40 355 P **P** **09 09 56.0 -0.7**
comp=Z,103nm,0.4s,mb6.2,SNR=5.6
ETRT Tiaret 66.41 298 P **P** **09 09 57.7 +0.3**
MORW Morawa 67.07 148 *e*P **P** **09 09 59.0 -2.5**
comp=Z,94nm,0.9s,mb5.8
FX1 Attu Island--F 67.31 41 P **P** **09 10 02.3 -0.5**
comp=Z,59nm,1.1s,mb5.5,baz=303,slow=17,SNR=3.6
FX1 Attu Island--F 67.31 41 P **P** **09 10 02.3 -0.5**
FX1 Attu Island--F 67.31 41 P **P** **09 10 02.3 -0.6**
FX1 pmax pmax
comp=Z,59nm,1.1s
CART Cartagena 67.36 301 *e*P **P** **09 10 02.6 -0.9**
comp=Z,86nm,0.8s,mb5.8
TAM Tamanrasset 67.81 284 *e*P **P** **09 10 05.7 -0.8**
comp=Z,9.2nm,1.0s,mb4.8
TAM LR LR
comp=Z,518nm,19.0s,MS4.8
TAM Tamanrasset 67.81 284 *e*P **P** **09 10 05.7 -0.8**
TAM pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TAM MLR MLR
comp=Z,518nm,19.0s,MS4.8
LSZ Lusaka 68.71 237 *e*P **P** **09 10 11.1 -1.0**
comp=Z,23nm,0.7s,mb5.2
LSZ LR LR
comp=Z,416nm,20.0s,MS4.7
LSZ Lusaka 68.71 237 *e*P **P** **09 10 11.1 -1.0**
LSZ pmax pmax
comp=Z,23nm,0.7s,mb5.2
LSZ MLR MLR
comp=Z,416nm,20.0s,MS4.7
ESDC Sonseca Array 68.75 304 P **P** **09 10 11.4 -0.8**
comp=Z,20nm,0.8s,mb5.1,baz=58,slow=6.4,SNR=60
ESDC Sonseca Array 68.75 304 P **P** **09 10 11.4 -0.8**
ESLA Sonseca Array 68.75 304 *e*P **P** **09 10 12.2 0.0**
comp=Z,8.2nm,0.9s,mb4.7
ESLA LR LR
comp=Z,2μm,19.0s,MS5.3
PAB San Pablo 69.08 304 *e*P **P** **09 10 13.8 -0.4**
comp=Z,32nm,0.8s,mb5.3
PAB San Pablo 69.08 304 *e*P **P** **09 10 13.8 -0.4**
PAB pmax pmax
comp=Z,32nm,0.8s,mb5.3
SUMG Summit 70.04 344 *e*P **P** **09 10 20.2 +0.7**
comp=Z,37nm,0.8s,mb5.4
SUMG Summit 70.04 344 *e*P **P** **09 10 20.2 +0.7**
SUMG pmax pmax
comp=Z,37nm,0.8s
SUMG Summit 70.04 344 *i*P **P** **09 10 20.1 +0.6**
comp=Z,34nm,0.8s,mb5.3
MVO Moncorvo 70.35 307 *e*P **P** **09 10 22.1 +0.1**
comp=Z,55nm,1.0s,mb5.4
WRA Warramunga Arr 70.67 128 P **P** **09 10 22.3 -1.8**
comp=Z,9.0nm,0.7s,mb4.8,baz=323,slow=6.1,SNR=62
WRA PKPPKP 09 38 22.8
comp=Z,0.6nm,0.9s,baz=123,slow=3.9,SNR=4.5
WRA LR LR 09 41 21.4
comp=Z,194nm,20.8s,MS4.3,baz=325,slow=36
WRA Warramunga Arr 70.67 128 P **P** **09 10 22.3 -1.8**
WRA P'P' 09 38 22.8
WRA Warramunga Arr 70.67 128 P **P** **09 10 22.3 -1.8**
WRA pmax pmax
comp=Z,9.0nm,0.7s
WRA MLR MLR
comp=Z,194nm,20.8s
WRAB Tennant Creek 70.67 128 *e*P **P** **09 10 22.9 -1.2**
comp=Z,28nm,0.9s,mb5.2
WRAB LR LR
comp=Z,257nm,19.0s,MS4.5
WRAB Tennant Creek 70.67 128 P **P** **09 10 23.0 -1.1**
comp=Z,178nm,1.0s,mb6.0,SNR=9.2
WRAB Tennant Creek 70.67 128 *e*P **P** **09 10 22.9 -1.2**
WRAB pmax pmax
comp=Z,28nm,0.9s,mb5.2
WRAB MLR MLR
comp=Z,257nm,19.0s,MS4.5
WB2 Warramunga Arr 70.68 128 *e*P **P** **09 10 22.4 -1.8**
PVRL Vila Real 70.79 307 *e*P **P** **09 10 24.7 0.0**
POLO Lamas de Olo 70.80 307 *e*P **P** **09 10 27.1 +2.4**
NWAO Narrogin (SRO) 70.88 149 P **P** **09 10 22.2 -2.9**
comp=Z,5.9nm,0.7s,mb4.6,baz=338,slow=9.8,SNR=5.9
NWAO LR LR 09 40 49.0
comp=Z,334nm,20.5s,MS4.6,baz=173,slow=35
NWAO Narrogin (SRO) 70.88 149 *e*P **P** **09 10 22.6 -2.5**
comp=Z,28nm,0.8s,mb5.2
NWAO Narrogin (SRO) 70.88 149 P **P** **09 10 22.2 -2.9**
NWAO pmax pmax
comp=Z,6.0nm,0.7s
PGAV Gavieira, Arco 70.89 308 *e*P **P** **09 10 27.8 +2.5**
MTE Manteigas 71.01 306 *e*P **P** **09 10 26.2 +0.1**
comp=Z,54nm,1.1s,mb5.4
MTE Manteigas 71.01 306 *e*P **P** **09 10 26.0 -0.1**
comp=Z,32nm,0.8s,mb5.3
PVIS Viseu 71.13 307 *e*P **P** **09 10 26.9 +0.1**
comp=Z,72nm,1.4s,mb5.4
PCBR Castelo Branco 71.19 306 *e*P **P** **09 10 27.3 +0.2**
comp=Z,46nm,1.3s,mb5.2
PMRV Marv??o 71.29 305 *e*P **P** **09 10 27.8 0.0**
comp=Z,29nm,1.4s,mb5.0
PBAR Barrancos 71.55 304 *e*P **P** **09 10 29.1 -0.2**
comp=Z,83nm,1.6s,mb5.4
PBAR *e*LR LR 09 41 04.8
comp=Z,226nm,18.0s
SFS San Fernando 71.63 302 PFAKE 09 10 40.0 +10
SFS LR LR
comp=Z,1μm,21.0s,MS5.1
PESTR Estremoz 71.66 305 *e*P **P** **09 10 32.5 +2.5**
PESTR *e*LR LR 09 41 00.1
comp=Z,249nm,18.0s
PTOM Tomar 71.94 306 *e*P **P** **09 10 31.8 +0.2**
comp=Z,87nm,1.5s,mb5.5
PMTG Montargil 72.03 305 *e*P **P** **09 10 32.1 -0.1**
comp=Z,47nm,1.7s,mb5.1
EVO Evora 72.10 304 *e*P **P** **09 10 32.7 +0.1**
comp=Z,95nm,1.3s,mb5.3
EVO *e*R
comp=Z,368nm,21.5s
EVOP Sao Brissos 72.18 305 *e*P **P** **09 10 32.7 -0.4**
comp=Z,95nm,1.3s,mb5.6
EVOP Sao Brissos 72.18 305 *e*P **P** **09 10 32.7 -0.4**
EVOP pmax pmax
comp=Z,95nm,1.3s,mb5.6
PBEJ Beja 72.20 304 *e*P **P** **09 10 33.5 +0.2**
comp=Z,56nm,1.3s,mb5.3
PVAQ Vaqueiros 72.35 303 *e*P **P** **09 10 34.2 0.0**
comp=Z,61nm,1.3s,mb5.4
PVAQ *e*LQ 09 40 19.8
PVAQ *e*LR LR 09 42 46.7
comp=Z,253nm,18.0s
PCVE Castro Verde 72.49 304 *e*P **P** **09 10 35.1 +0.1**
comp=Z,43nm,1.7s,mb5.1
PCVE *e*LR LR 09 42 49.7
comp=Z,247nm,18.0s
PBDV Barranco-do-Ve 72.57 303 *e*P **P** **09 10 35.8 +0.3**
comp=Z,103nm,1.4s,mb5.6
PBDV *e*LR LR 09 42 58.3
comp=Z,278nm,18.0s
PNCL Nicolau / Gran 72.64 304 *e*P **P** **09 10 39.1 +3.2**
PMAFR Mafra 72.83 305 *e*P **P** **09 10 39.8 +2.8**
AS31 Alice Springs 72.95 131 *e*P **P** **09 10 36.2 -1.6**
ASAR Alice Springs 72.95 131 P **P** **09 10 35.9 -1.9**
comp=Z,3.8nm,0.7s,mb4.5,baz=317,slow=6.2,SNR=51
ASAR PKPPKP 09 38 23.5
comp=Z,0.7nm,1.0s,baz=122,slow=3.4,SNR=5.0
ASAR Alice Springs 72.95 131 P **P** **09 10 35.9 -1.9**
ASAR P'P' 09 38 23.5
ASAR Alice Springs 72.95 131 P **P** **09 10 35.9 -1.9**
ASAR pmax pmax
comp=Z,4.0nm,0.7s
PTEO Sao Teotonio 73.02 304 *e*P **P** **09 10 40.5 +2.4**
PMG Port Moresby 73.74 111 PFAKE 09 10 50.0 +7.4
PMG LR LR
comp=Z,292nm,19.0s,MS4.6
PMG Port Moresby 73.74 111⇑ *i*P **P** **09 10 43.6 +1.0**
PMG pmax pmax
comp=Z,29nm,1.2s
FORT Forrest 74.59 140 *e*P **P** **09 10 51.7 +4.5**
comp=Z,42nm,1.8s,mb5.1
TORD Torodi Ar. Bea 75.32 277 P **P** **09 10 50.7 -1.2**
comp=Z,25nm,0.9s,mb5.2,baz=53,slow=4.8,SNR=82
TORD LR LR 09 48 39.2
comp=Z,452nm,18.2s,MS4.8,baz=80,slow=39
TORD Torodi Ar. Bea 75.32 277 P **P** **09 10 50.7 -1.2**
COLD Coldfoot 75.44 19 *e*P **P** **09 10 52.6 +1.0**
comp=Z,18nm,0.9s,mb5.0
RES Resolute Bay 75.57 359 P **P** **09 10 51.7 -0.7**
comp=Z,3.2nm,0.8s,mb4.3,baz=26,slow=10,SNR=5.2
RES Resolute Bay 75.57 359 *e*P **P** **09 10 52.2 -0.1**
comp=Z,4.6nm,0.6s,mb4.6
RES Resolute Bay 75.57 359 *e*P **P** **09 10 52.2 -0.1**
RES pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
WAKE Wake Island 76.06 76 PFAKE 09 11 10.0 +14
WAKE LR LR
comp=Z,3μm,19.0s,MS5.7
SFJD Kangerlussuaq 76.94 343 *i*P **P** **09 10 59.5 -0.7**
SFJD pmax pmax
comp=Z,13nm,0.8s,mb4.9
SFJD Kangerlussuaq 76.94 343 *i*P **P** **09 10 59.5 -0.7**
comp=Z,13nm,0.9s,mb4.9
LBTB Lobatse 76.97 231 P **P** **09 10 59.9 -1.1**
comp=Z,74nm,1.1s,mb5.5,baz=69,slow=5.3,SNR=55
LBTB Lobatse 76.97 231 P **P** **09 10 59.9 -1.1**
LBTB LR LR
comp=Z,394nm,21.0s,MS4.7
LBTB Lobatse 76.97 231 P **P** **09 10 59.9 -1.1**
LBTB pmax pmax
comp=Z,75nm,1.1s,mb5.5
COLA College 77.80 20 *e*P **P** **09 11 05.4 +0.4**
comp=Z,18nm,0.9s,mb5.0
COLA LR LR
comp=Z,399nm,21.0s,MS4.7
COLA College 77.80 20 *e*P **P** **09 11 05.4 +0.3**
COLA pmax pmax
comp=Z,19nm,0.9s,mb5.0
COLA MLR MLR
comp=Z,399nm,21.0s,MS4.7
PPLA Purkeypile 77.88 22 *e*P **P** **09 11 06.5 +1.0**
comp=Z,98nm,1.7s,mb5.5
ILAR Eielson Array 78.16 19 P **P** **09 11 06.3 -0.7**
comp=Z,7.5nm,0.9s,mb4.6,baz=306,slow=4.7,SNR=61
ILAR PP PP 09 14 04.2 +1.2
comp=Z,5.1nm,0.9s,baz=309,slow=6.7,SNR=5.4
ILAR LR LR 09 49 09.3
comp=Z,362nm,20.1s,MS4.7,baz=158,slow=38
ILAR Eielson Array 78.16 19 P **P** **09 11 06.3 -0.7**
ILAR PP PP 09 14 04.2 +1.2
ILAR Eielson Array 78.16 19 P **P** **09 11 06.4 -0.7**
ILAR 09 14 04.2
ILAR pmax pmax
comp=Z,8.0nm,0.9s
ILAR pmax pmax
comp=Z,5.0nm,1.0s
ILAR MLR MLR
comp=Z,362nm,20.1s
MCK McKinley 78.31 21 *e*P **P** **09 11 08.8 +0.8**
comp=Z,6.0nm,0.7s,mb4.6
MCK McKinley 78.31 21 *e*P **P** **09 11 08.8 +0.9**
MCK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
INK Inuvik 78.50 13 P **P** **09 11 08.5 -0.4**
comp=Z,8.2nm,0.6s,mb4.9,baz=353,slow=6.8,SNR=43
INK Inuvik 78.50 13 *e*P **P** **09 11 08.6 -0.3**
comp=Z,28nm,1.2s,mb5.1
INK Inuvik 78.50 13 *e*P **P** **09 11 08.6 -0.3**
INK pmax pmax
comp=Z,28nm,1.2s
TSUM Tsumeb 79.03 240 *e*P **P** **09 11 12.3 -0.2**
comp=Z,15nm,0.8s,mb5.0
TSUM LR LR
comp=Z,550nm,21.0s,MS4.9
CTA Charters Tower 79.31 121 *e*P **P** **09 11 13.1 -1.0**
comp=Z,7.8nm,1.0s,mb4.6
CTAO Charters Tower 79.31 121 *e*P **P** **09 11 13.8 -0.2**
comp=Z,16nm,0.9s,mb5.0
CTAO LR LR
comp=Z,333nm,20.0s,MS4.7
CTAO Charters Tower 79.31 121 *e*P **P** **09 11 13.8 -0.3**
CTAO pmax pmax
comp=Z,16nm,0.9s,mb5.0
CTAO MLR MLR
comp=Z,333nm,20.0s,MS4.7
BOSA Boshof 79.61 228 P **P** **09 11 14.0 -1.5**
comp=Z,34nm,0.9s,mb5.3,baz=48,slow=4.6,SNR=18
BOSA LR LR 09 45 10.2
comp=Z,406nm,18.3s,MS4.8,baz=346,slow=35
BOSA Boshof 79.61 228 P **P** **09 11 14.0 -1.5**
BOSA Boshof 79.61 228 P **P** **09 11 14.0 -1.5**
BOSA pmax pmax
comp=Z,35nm,0.9s,mb5.3
EGAK Eagle 79.72 17 *e*P **P** **09 11 15.6 0.0**
comp=Z,15nm,0.9s,mb4.9
EGAK LR LR
comp=Z,485nm,19.0s,MS4.9
PMR Palmer 79.81 22 *e*P **P** **09 11 16.0 -0.2**
comp=Z,17nm,0.8s,mb5.0
PMR Palmer 79.81 22 *e*P **P** **09 11 16.0 -0.2**
PMR pmax pmax
comp=Z,17nm,0.8s,mb5.0
DOT Dot Lake 79.82 19 *e*P **P** **09 11 16.3 +0.1**
comp=Z,4.8nm,0.9s,mb4.4
SML Sawmill 79.91 22 *e*P **P** **09 11 17.5 +0.7**
comp=Z,18nm,1.2s,mb4.9
SML Sawmill 79.91 22 *e*P **P** **09 11 17.5 +0.8**
SML pmax pmax
comp=Z,18nm,1.2s,mb4.9
SLKM Skilak Lake 80.23 23 *e*P **P** **09 11 18.6 +0.2**
SLKM Skilak Lake 80.23 23 *e*P **P** **09 11 18.6 +0.1**
BBOO Buckleboo 80.70 136 *e*P **P** **09 11 20.6 -0.8**
comp=Z,513nm,1.2s,mb6.3
DAWY Dawson 80.75 17 *e*P **P** **09 11 21.1 -0.1**
SEW Seward 80.79 23 P **P** **09 11 20.7 -0.8**
comp=Z,15nm,0.8s,mb5.0
KDAK Kodiak Island 81.31 26 P **P** **09 11 25.4 +1.1**
comp=Z,20nm,0.8s,mb5.1,baz=50,slow=7.0,SNR=8.6
KDAK Kodiak Island 81.31 26 P **P** **09 11 24.0 -0.3**
comp=Z,56nm,1.1s,mb5.4
KDAK LR LR
comp=Z,843nm,19.0s,MS5.1
KDAK Kodiak Island 81.31 26 P **P** **09 11 25.4 +1.1**
KDAK pmax pmax
comp=Z,20nm,0.8s,mb5.1
BMRM Bremner River 81.73 21 *e*P **P** **09 11 27.3 +0.9**
comp=Z,22nm,1.0s,mb5.0
STKA Stephens Creek 83.50 132 P **P** **09 11 34.2 -1.8**
comp=Z,3.2nm,0.6s,mb4.6,baz=324,slow=3.9,SNR=9.5
STKA LR LR 09 52 33.4
comp=Z,343nm,20.1s,MS4.7,baz=146,slow=38
STKA Stephens Creek 83.50 132 *e*P **P** **09 11 34.1 -1.9**
comp=Z,7.6nm,0.7s,mb4.9
STKA Stephens Creek 83.50 132 P **P** **09 11 34.2 -1.8**
STKA Stephens Creek 83.50 132 P **P** **09 11 34.2 -1.8**
STKA pmax pmax
comp=Z,3.0nm,0.6s
STKA MLR MLR
comp=Z,343nm,20.1s
DBIC Dimbokro 84.07 274 P **P** **09 11 38.9 -0.6**
comp=Z,41nm,1.0s,mb5.5,baz=42,slow=6.1,SNR=37
DBIC LR LR 09 51 25.4
comp=Z,346nm,19.2s,MS4.8,baz=42,slow=37
DBIC Dimbokro 84.07 274 P **P** **09 11 38.5 -0.9**
comp=Z,46nm,0.9s,mb5.6
DBIC Dimbokro 84.07 274 P **P** **09 11 38.9 -0.5**
DBIC pmax pmax
comp=Z,41nm,1.0s
DBIC MLR MLR
comp=Z,346nm,19.2s
HNR Honiara 84.32 104 PFAKE 09 11 50.0 +9.4
HNR LR LR
comp=Z,271nm,19.0s,MS4.7
SUR Sutherland 84.96 228 P **P** **09 11 43.1 -0.3**
comp=Z,7.7nm,0.7s,mb5.0,baz=56,slow=7.3,SNR=11
SUR Sutherland 84.96 228 *e*P **P** **09 11 43.5 0.0**
SUR LR LR
comp=Z,572nm,22.0s,MS4.9
SKAG Skagway 85.66 18 *e*P **P** **09 11 47.8 +1.2**
comp=Z,34nm,1.2s,mb5.5
YKA Yellowknife Ar 86.87 8 P **P** **09 11 51.1 -1.4**
comp=Z,4.7nm,0.7s,mb4.8,baz=338,slow=5.0,SNR=32
YKA PKKPbc PKKPbc 09 29 43.8 -3.0
comp=Z,0.6nm,0.6s,baz=161,slow=2.7,SNR=6.2
YKA LR LR 09 55 51.9
comp=Z,29nm,18.9s,MS3.7,baz=100,slow=39
YKA Yellowknife Ar 86.87 8 P **P** **09 11 51.1 -1.4**
YKA PKKPbc PKKPbc 09 29 43.9 -3.0
YKA Yellowknife Ar 86.87 8 P **P** **09 11 51.1 -1.4**
YKA pmax pmax
comp=Z,5.0nm,0.7s
DLBC Dease Lake 87.91 16 P **P** **09 11 57.5 -0.2**
comp=Z,6.0nm,0.8s,mb4.9,baz=290,slow=7.9,SNR=16
DLBC Dease Lake 87.91 16 *e*P **P** **09 11 58.3 +0.7**
ARMA Armidale 89.35 126 *e*P **P** **09 11 58.6 -6.2**
TOO Toolangi 89.62 135 *e*P **P** **09 12 05.5 -0.3**
comp=Z,49nm,0.8s,mb5.9
TARA Tarawa 90.06 88 PFAKE 09 12 20.0 +11
TARA LR LR
comp=Z,3μm,22.0s,MS5.6
CAN Canberra 90.46 131 PFAKE 09 12 20.0 +10
CAN LR LR
comp=Z,278nm,19.0s,MS4.7
SCHQ Schefferville 91.39 343 P **P** **09 12 13.2 -0.8**
comp=Z,3.7nm,0.9s,mb4.7,baz=39,slow=19,SNR=3.1
SCHQ LR LR 09 54 07.3
comp=Z,245nm,19.6s,MS4.7,baz=157,slow=36
SCHQ Schefferville 91.39 343 P **P** **09 12 13.2 -0.8**
FFC Flin Flon 95.56 2 PFAKE 09 12 40.0 +6.8
FFC LR LR
comp=Z,371nm,20.0s,MS4.9
FFC Flin Flon 95.56 2 *i*P **P** **09 12 36.0 +2.8**
SACV Santiago Islan 95.69 291 PFAKE 09 12 50.0 +15
SACV LR LR
comp=Z,440nm,21.0s,MS4.9
MAW Mawson 98.36 187 LR LR 09 51 39.1
comp=Z,407nm,19.7s,MS4.9,baz=351,slow=32
CASY Casey 98.41 169 PFAKE 09 13 00.0 +15
CASY LR LR
comp=Z,309nm,20.0s,MS4.8
ULM Lac du Bonnet 100.10 359 PFAKE 09 13 00.0 +6.2
ULM LR LR
comp=Z,530nm,19.0s,MS5.1
NEW Newport 100.22 13 PFAKE 09 13 10.0 +16
NEW LR LR
comp=Z,370nm,19.0s,MS4.9
HAWA Hanford 101.50 15 PFAKE 09 13 10.0 +10
HAWA LR LR
comp=Z,367nm,21.0s,MS4.9
EGMT Eagleton 101.62 8 PFAKE 09 13 10.0 +9.5
EGMT LR LR
comp=Z,379nm,20.0s,MS4.9
DGMT Dagmar 101.70 4 PFAKE 09 13 10.0 +9.1
DGMT LR LR
comp=Z,312nm,19.0s,MS4.8
AGMN Agassiz Nation 102.05 359 PFAKE 09 13 10.0 +7.6
AGMN LR LR
comp=Z,501nm,20.0s,MS5.0
MSO Missoula 102.18 11 PFAKE 09 13 10.0 +7.0
MSO LR LR
comp=Z,260nm,19.0s,MS4.8
EYMN Ely 102.21 356 PFAKE 09 13 10.0 +6.8
EYMN LR LR
comp=Z,516nm,20.0s,MS5.0
LAO LASA Array 103.31 6 PFAKE 09 13 20.0 +12
LAO LR LR
comp=Z,406nm,19.0s,MS5.0
BMO Blue Mountains 103.45 14 PFAKE 09 13 20.0 +11
BMO LR LR
comp=Z,277nm,19.0s,MS4.8
BOZ Bozeman (W) 103.70 10 PFAKE 09 13 20.0 +10
BOZ LR LR
comp=Z,247nm,19.0s,MS4.8
LKWY Lake 104.93 9 PFAKE 09 13 30.0 +15
LKWY LR LR
comp=Z,620nm,19.0s,MS5.2
HLID Hailey 105.26 12 PFAKE 09 17 40.0 +9.2
HLID LR LR
comp=Z,240nm,19.0s,MS4.8
BINY Binghamton 105.38 343 PFAKE 09 17 40.0 +8.9
BINY LR LR
comp=Z,779nm,19.0s,MS5.3
WVOR Wild Horse Val 105.45 16 PFAKE 09 17 40.0 +8.8
WVOR LR LR
comp=Z,404nm,21.0s,MS4.9
ERPA Erie 106.37 346 PFAKE 09 17 40.0 +7.1
ERPA LR LR
comp=Z,857nm,19.0s,MS5.3
AHID Auburn Hatcher 106.59 10 PFAKE 09 17 40.0 +6.7
AHID LR LR
comp=Z,294nm,19.0s,MS4.9
BW06 Boulder Array 106.81 9 PFAKE 09 17 40.0 +6.3
BW06 LR LR
comp=Z,500nm,21.0s,MS5.0
PDAR Pinedale Array 106.81 9 PKiKP PKiKP 09 17 32.9 -0.8
comp=Z,1.1nm,0.9s,baz=44,slow=2.7,SNR=7.5
PDAR Pinedale Array 106.81 9 PKiKP PKiKP 09 17 32.9 -0.8
JFWS Jewell Farm 107.11 354 PFAKE 09 17 50.0 +16
JFWS LR LR
comp=Z,622nm,21.0s,MS5.1
HWUT Hardware Ranch 107.65 11 PFAKE 09 17 50.0 +15
HWUT LR LR
comp=Z,408nm,21.0s,MS5.0
BMN Battle Mountai 107.68 15 PFAKE 09 17 50.0 +15
BMN LR LR
comp=Z,402nm,22.0s,MS4.9
SCIA State Center 108.33 356 PFAKE 09 17 50.0 +13
SCIA LR LR
comp=Z,412nm,22.0s,MS5.0
DUG Dugway 108.81 12 PFAKE 09 17 50.0 +12
DUG LR LR
comp=Z,292nm,21.0s,MS4.8
NVAR Mina Array Bea 109.32 17 PKiKP PKiKP 09 17 39.0 +0.5
comp=Z,0.8nm,0.7s,baz=301,slow=1.8,SNR=6.5
NVAR PKKPab PKKPab 09 29 01.8 +2.4
comp=Z,0.4nm,0.6s,baz=188,slow=4.6,SNR=3.9
NVAR Mina Array Bea 109.32 17 PKiKP PKiKP 09 17 39.0 +0.5
NVAR PKKPab PKKPab 09 29 01.8 +2.4

CBN	**Corbin**	**109.50**	**343**	PFAKE		09 17 50.0	+11
CBN				LR	LR		
comp=Z,412nm,19.0s,MS5.0							
TPH	**Tonopah**	**109.92**	**16**	PFAKE		09 17 50.0	+10
TPH				LR	LR		
comp=Z,254nm,19.0s,MS4.8							
ISCO	**Idaho Springs**	**110.20**	**6**	PFAKE		09 17 50.0	+10
ISCO				LR	LR		
comp=Z,303nm,21.0s,MS4.8							
MVU	**Marysvale**	**110.57**	**12**	PFAKE		09 17 50.0	+9.1
MVU				LR	LR		
comp=Z,317nm,21.0s,MS4.9							
BLA	**Blacksburg**	**111.17**	**345**	PFAKE		09 17 50.0	+7.9
BLA				LR	LR		
comp=Z,476nm,19.0s,MS5.1							
CBKS	**Cedar Bluff**	**111.53**	**2**	PFAKE		09 17 50.0	+7.3
CBKS				LR	LR		
comp=Z,456nm,19.0s,MS5.1							
DAC	**Darwin (Calif)**	**111.54**	**17**	PFAKE		09 17 50.0	+7.2
DAC				LR	LR		
comp=Z,310nm,21.0s,MS4.9							
SDCO	**Great Sand Dun**	**112.25**	**6**	PFAKE		09 18 00.0	+16
SDCO				LR	LR		
comp=Z,262nm,22.0s,MS4.8							
MVCO	**Mesa Verde**	**112.42**	**9**	PFAKE		09 18 00.0	+16
MVCO				LR	LR		
comp=Z,284nm,19.0s,MS4.9							
CNNC	**Cliffs of the**	**112.43**	**342**	PFAKE		09 18 00.0	+15
CNNC				LR	LR		
comp=Z,445nm,22.0s,MS5.0							
GSC	**Goldstone**	**112.66**	**17**	*e*Pdif	Pdif	09 13 49.6	0.0
GSC	**Goldstone**	**112.66**	**17**	*e*P	Pdif	09 13 49.6	0.0
WUAZ	**Wupatki**	**113.62**	**12**	PFAKE		09 18 00.0	+13
WUAZ				LR	LR		
comp=Z,238nm,20.0s,MS4.8							
PLAL	**Pickwick Lake**	**114.71**	**351**	PFAKE		09 18 00.0	+11
PLAL				LR	LR		
comp=Z,427nm,21.0s,MS5.0							
ANMO	**Albuquerque**	**114.91**	**8**	PFAKE		09 18 00.0	+11
ANMO				LR	LR		
comp=Z,235nm,20.0s,MS4.8							
NHSC	**New Hope**	**115.04**	**344**	PFAKE		09 18 00.0	+10
NHSC				LR	LR		
comp=Z,315nm,20.0s,MS4.9							
OXF	**Oxford**	**115.34**	**352**	PFAKE		09 18 00.0	+10
OXF				LR	LR		
comp=Z,472nm,22.0s,MS5.0							
AMTX	**Amarillo**	**115.38**	**3**	PFAKE		09 18 00.0	+10
AMTX				LR	LR		
comp=Z,259nm,20.0s,MS4.8							
GOGA	**Godfrey**	**115.48**	**347**	PFAKE		09 18 00.0	+10
GOGA				LR	LR		
comp=Z,421nm,21.0s,MS5.0							
WMOK	**Wichita Mounta**	**115.61**	**1**	PFAKE		09 18 00.0	+9.4
WMOK				LR	LR		
comp=Z,269nm,19.0s,MS4.9							
MIAR	**Mount Ida**	**115.68**	**356**	PFAKE		09 18 00.0	+9.2
MIAR				LR	LR		
comp=Z,638nm,21.0s,MS5.2							
SNAA	**Sanae**	**116.58**	**201**	PKP	PKPdf	09 17 50.3	-0.9
comp=Z,0.5nm,0.8s,baz=110,slow=9.7,SNR=4.5							
SNAA	**Sanae**	**116.58**	**201**	PKP	PKPdf	09 17 50.3	-0.9
SNAA	**Sanae**	**116.58**	**201**	PKIKP	PKPdf	09 17 50.3	-0.9
SNAA				pmax	pmax		
comp=Z,1.0nm,0.8s							
TUC	**Tucson**	**116.85**	**12**	*e*PKPdf	PKPdf	09 17 53.2	+0.1
TUC				LR	LR		
comp=Z,238nm,19.0s,MS4.8							
TUC	**Tucson**	**116.85**	**12**	*e*PKIKP	PKPdf	09 17 53.2	+0.1
TUC				MLR	MLR		
comp=Z,238nm,19.0s,MS4.8							
VNDA	**Vanda**	**116.86**	**166**	PFAKE		09 18 00.0	+8.4
VNDA				LR	LR		
comp=Z,355nm,19.0s,MS5.0							
RCBR	**Riachuelo**	**117.08**	**279**	PFAKE		09 18 00.0	+6.1
RCBR				LR	LR		
comp=Z,169nm,20.0s,MS4.7							
VBMS	**Vicksburg**	**117.74**	**353**	PFAKE		09 18 10.0	+15
VBMS				LR	LR		
comp=Z,460nm,19.0s,MS5.1							
VNA2	**Neumayer--Watz**	**117.84**	**202**	*e*	PKPdf	09 17 53.3	-0.3
baz=8.3,slow=2.4							
VNA2				*e*		09 17 59.5	
SBA	**Scott Base**	**117.97**	**166**	PFAKE		09 18 00.0	+6.2
SBA				LR	LR		
comp=Z,354nm,19.0s,MS5.0							
MNTX	**Cornudas Mount**	**118.24**	**7**	*e*PKPdf	PKPdf	09 17 55.5	-0.3
MNTX				LR	LR		
comp=Z,312nm,20.0s,MS4.9							
BRAL	**Brewton**	**118.46**	**349**	PFAKE		09 18 10.0	+14
BRAL				LR	LR		
comp=Z,267nm,22.0s,MS4.8							
NATX	**Nacogdoches**	**118.51**	**357**	PFAKE		09 18 10.0	+14
NATX				LR	LR		
comp=Z,356nm,20.0s,MS5.0							
VNA3	**Neumayer Olymp**	**118.63**	**202**	*e*	PKPdf	09 17 55.0	-0.1
VNA3				*e*		09 18 00.6	
QSPA	**South Pole Qui**	**119.79**	**180**	*e*PKPdf	PKPdf	09 17 56.3	-0.8
QSPA				LR	LR		
comp=Z,355nm,21.0s,MS5.0							
JCT	**Junction City**	**119.84**	**2**	*e*PKPdf	PKPdf	09 17 58.2	-0.7
JCT				LR	LR		
comp=Z,322nm,19.0s,MS5.0							
JCT	**Junction City**	**119.84**	**2**	*e*PKIKP	PKPdf	09 17 58.2	-0.7
JCT				MLR	MLR		
comp=Z,322nm,19.0s,MS5.0							
TXAR	**Lajitas Array**	**120.75**	**6**	PKP	PKPdf	09 17 59.9	-0.8
comp=Z,0.8nm,0.5s,baz=190,slow=1.3,SNR=19							
TXAR	**Lajitas Array**	**120.75**	**6**	PKP	PKPdf	09 17 59.9	-0.7
TXAR	**Lajitas Array**	**120.75**	**6**	PKIKP	PKPdf	09 17 59.9	-0.8
TXAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ANWB	**Willy Bob**	**121.20**	**319**	PFAKE		09 18 10.0	+8.2
ANWB				LR	LR		
comp=Z,235nm,22.0s,MS4.8							
FDF	**Fort de France**	**123.15**	**316**	PFAKE		09 18 20.0	+14
FDF				LR	LR		
comp=Z,180nm,19.0s,MS4.8							
SJG	**San Juan**	**123.22**	**323**	PFAKE		09 18 20.0	+14
SJG				LR	LR		
comp=Z,184nm,19.0s,MS4.8							
SDDR	**Presa de Saban**	**124.97**	**329**	PFAKE		09 18 20.0	+11
SDDR				LR	LR		
comp=Z,253nm,22.0s,MS4.8							
GTBY	**Guantanamo Bay**	**125.73**	**333**	PFAKE		09 18 20.0	+10
GTBY				LR	LR		
comp=Z,238nm,20.0s,MS4.9							
TEIG	**Tepich**	**129.22**	**348**	PKP	PKPdf	09 18 16.1	-0.9
comp=Z,12nm,0.8s,baz=5.0,slow=4.5,SNR=5.1							
TEIG	**Tepich**	**129.22**	**348**	PKP	PKPdf	09 18 16.1	-0.9
TEIG				LR	LR		
comp=Z,244nm,19.0s,MS4.9							
PPT	**Papeete**	**131.50**	**87**	*e*LR	LR	10 00 13.4	
comp=Z,228nm,24.0s							
CMIG	**Matias Romero**	**133.10**	**356**	PKP	PKPdf	09 18 23.8	-0.7
comp=Z,1.6nm,0.7s,baz=285,slow=5.6							
CMIG	**Matias Romero**	**133.10**	**356**	PKP	PKPdf	09 18 23.8	-0.7
SDV	**Santo Domingo**	**133.28**	**322**	PFAKE		09 18 40.0	+15
SDV				LR	LR		
comp=Z,96nm,22.0s,MS4.5							
TBI	**Tubuai**	**133.78**	**95**	*e*LR	LR	10 01 19.9	
comp=Z,167nm,29.2s							
SPB	**Sao Paulo**	**134.78**	**266**	PFAKE		09 18 40.0	+13
SPB				LR	LR		
comp=Z,217nm,19.0s,MS4.9							
TGUH	**Tegucigalpa,Un**	**135.03**	**345**	*e*PKPdf	PKPdf	09 18 28.6	+0.4
TGUH				LR	LR		
comp=Z,267nm,22.0s,MS4.9							
BCIP	**Isla Barro Col**	**137.36**	**333**	PFAKE		09 18 40.0	+7.5
BCIP				LR	LR		
comp=Z,274nm,21.0s,MS5.0							
JTS	**JuntasAbangare**	**138.05**	**341**	PFAKE		09 18 50.0	+16
JTS				LR	LR		
comp=Z,344nm,22.0s,MS5.0							
ROSC	**El Rosal**	**138.63**	**323**	PKP	PKPdf	09 18 35.1	+0.2
comp=Z,3.3nm,0.5s,baz=107,slow=19,SNR=4.4							
ROSC	**El Rosal**	**138.63**	**323**	PKP	PKPdf	09 18 35.1	+0.2
ROSC				*e*PKPdf	PKPdf	09 18 35.3	+0.4
OTAV	**Otavalo**	**144.68**	**325**	*e*PKPdf	PKPdf	09 18 45.0	-0.8
OTAV				LR	LR		
comp=Z,227nm,22.0s,MS4.9							
USHA	**Ushuaia**	**147.41**	**212**	PKPbc	PKPbc	09 18 50.2	-1.3
comp=Z,12nm,0.8s,baz=30,slow=6.1,SNR=7.2							
USHA	**Ushuaia**	**147.41**	**212**	PKPbc	PKPbc	09 18 50.2	-1.3
TRQA	**Tornquist**	**149.29**	**245**	*e*PKPbc	PKPbc	09 18 56.9	0.0
TRQA				LR	LR		
comp=Z,344nm,20.0s,MS5.1							
LPAZ	**La Paz**	**149.51**	**290**	PKPbc	PKPbc	09 18 58.4	+0.3
comp=Z,8.6nm,0.8s,baz=328,slow=1.8,SNR=13							
LPAZ	**La Paz**	**149.51**	**290**	*e*PKPdf	PKPdf	09 18 54.1	+0.5
LPAZ				*e*PKPbc	PKPbc	09 18 58.2	+0.1
LPAZ				PKPbc	PKPbc	09 18 58.4	+0.3
LPAZ				*e*PKPab	PKPab	09 19 03.4	+0.3
LPAZ				LR	LR		
comp=Z,274nm,19.0s,MS5.1							
ATAH	**Atahualpa**	**150.79**	**317**	PKPbc	PKPbc	09 19 00.4	-0.9
comp=Z,12nm,0.9s,baz=45,slow=8.0,SNR=6.4							
ATAH				PKPab	PKPab	09 19 07.3	-1.0
comp=Z,27nm,0.9s,baz=3.5,slow=3.8,SNR=8.3							
ATAH	**Atahualpa**	**150.79**	**317**	PKPbc	PKPbc	09 19 00.4	-0.9
ATAH				PKPab	PKPab	09 19 07.3	-1.0
NNA	**Nana**	**153.48**	**308**	PKP	PKPdf	09 18 59.2	-0.5
comp=Z,1.5nm,0.3s,baz=300,slow=14,SNR=2.2							
NNA				PKPbc	PKPbc	09 19 07.2	-0.2
comp=Z,4.4nm,0.7s,baz=270,slow=2.0,SNR=3.4							
NNA				PKPab	PKPab	09 19 19.4	-0.1
comp=Z,5.5nm,0.7s,baz=239,slow=2.4,SNR=6.9							
NNA	**Nana**	**153.48**	**308**	PKP	PKPdf	09 18 59.2	-0.5
NNA				PKPbc	PKPbc	09 19 07.2	-0.2
NNA				*e*PKPab	PKPab	09 19 18.9	-0.7
NNA				PKPab	PKPab	09 19 19.4	-0.1
NNA				LR	LR		
comp=Z,249nm,19.0s,MS5.0							
NNA	**Nana**	**153.48**	**308**	PKIKP	PKPdf	09 18 59.2	-0.5
NNA						09 19 07.2	
NNA				pmax	pmax		
comp=Z,2.0nm,0.3s							
PLCA	**Paso Flores**	**155.34**	**237**	PKP	PKPdf	09 18 58.4	-3.2
comp=Z,1.5nm,0.9s,baz=185,slow=2.4,SNR=2.9							
PLCA				PKPbc	PKPdf	09 19 10.6	+9.1
comp=Z,4.4nm,0.8s,baz=165,slow=3.3,SNR=8.1							
PLCA				PKPab	PKPab	09 19 25.7	-1.2
comp=Z,4.2nm,0.8s,baz=359,slow=0.6,SNR=6.2							
PLCA	**Paso Flores**	**155.34**	**237**	PKP	PKPdf	09 18 58.4	-3.2
PLCA				PKPbc	PKPdf	09 19 10.6	+9.1
PLCA				*e*PKPbc	PKPdf	09 19 11.0	+9.5
PLCA				PKPab	PKPab	09 19 25.7	-1.2
PLCA				*e*PKPab	PKPab	09 19 26.4	-0.4
PLCA	**Paso Flores**	**155.34**	**237**	PKIKP	PKPdf	09 18 58.4	-3.1
PLCA						09 19 10.6	
PLCA						09 19 25.7	
PLCA				pmax	pmax		
comp=Z,2.0nm,0.9s							
PLCA				pmax	pmax		
comp=Z,4.0nm,0.8s							

IDC 08 09:03:28.7±3.6, 23°46S×67°13W, h190km±31km, mb3.1/1, mb1 3.3/3, mb1mx3.1/15, mbtmp3.0/3, Error ellipse: s-maj=89.1km s-min=27.3km az=89.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.20**	**352**	P	Pn	09 05 11.8	+0.3
0.8nm,0.3s,baz=185,slow=6.2,SNR=20							
LPAZ				S	Sn	09 06 34.9	+1.9
0.2nm,0.3s,baz=286,slow=12,SNR=3.4							
PLCA	**Paso Flores**	**17.46**	**189**	P	Pn	09 07 19.4	-1.3
0.1nm,0.3s,baz=353,slow=8.1,SNR=3.1							
PDAR	**Pinedale Array**	**76.62**	**329**	P	P	09 14 58.6	+0.4
0.2nm,0.6s,baz=140,slow=7.1,SNR=3.7							
MKAR	**Makanchi Array**	**146.19**	**39**	PKPbc	PKPbc	09 22 45.8	-0.7
0.4nm,0.5s,baz=313,slow=3.4,SNR=6.4							

IDC 08 09:22:15.3±6.5, 6°69S×129°84E, h152km±63km, mb3.6/1, mb1 3.4/4, mb1mx3.1/16, mbtmp3.2/4, Error ellipse: s-maj=66.5km s-min=25.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.06**	**199**	P	Pn	09 25 03.5	+1.2
0.2nm,0.3s,baz=35,slow=12,SNR=5.6							
FITZ				S	Sn	09 27 11.7	-4.1
0.4nm,0.3s,baz=164,slow=17,SNR=6.3							
WRA	**Warramunga Arr**	**13.88**	**162**	P	Pn	09 25 25.5	-0.1
0.2nm,0.3s,baz=347,slow=13,SNR=5.2							
WRA				S	Sn	09 27 52.8	-6.7
0.6nm,0.3s,baz=347,slow=24,SNR=8.5							
ASAR	**Alice Springs**	**17.32**	**167**	P	Pn	09 26 08.5	+0.5
0.2nm,0.3s,baz=344,slow=9.6,SNR=22							
ASAR				S	S	09 29 20.0	+0.5
0.1nm,0.3s,baz=350,slow=27,SNR=4.7							
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	09 32 57.2	0.0
0.7nm,0.4s,baz=119,slow=7.7,SNR=11							

IDC 08 09:34:20.2±22.0, 4°94N×33°24W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/23, mbtmp3.9/3, Error ellipse: s-maj=445.9km s-min=75.7km az=44.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**35.41**	**74**	P	P	09 41 18.3	0.0
1.4nm,1.0s,baz=265,slow=8.7,SNR=6.7							
ESDC	**Sonseca Array**	**43.52**	**33**	P	P	09 42 25.7	+0.1
0.2nm,0.4s,baz=228,slow=9.4,SNR=5.3							
GERES	**GERESS Array B**	**59.10**	**34**	P	P	09 44 22.4	0.0
0.8nm,0.6s,baz=245,slow=5.4,SNR=5.3							

*ISCJB **08** 09:35:16.0±0.5, 38°18N±0°02×27°52E±0°05, h12km±5km, Error ellipse: s-maj=6.3km s-min=3.8km az=175.7*
*ISK **08** 09:35:15.8, 38°18N×27°54E, h5km, MD2.7*
*DDA **08** 09:35:15.6, 38°17N×27°53E, h14km±2km, Md3.1*
*CSEM **08** 09:35:16.2±0.2, 38°17N×27°52E, h15km, MD2.7, Error ellipse: s-maj=3.8km s-min=2.7km az=87.0*
ISC 08 09:35:16.3±0.5, 38°18N±0°02×27°51E±0°05, h16km±4km, n26, σ0°65/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.29**	**318**	*e*PG	**Pg**	**09 35 22.6**	**+0.1**
IZM				*e*SG	**Sg**	**09 35 26.8**	**0.0**
IZM	**Izmir**	**0.29**	**318**	*e*Pg	**Pg**	**09 35 22.6**	**+0.1**
IZM				*e*Sg	**Sg**	**09 35 26.8**	**+0.1**
BLCB	**Balcova**	**0.42**	**299**	*e*PG	**Pg**	**09 35 25.5**	**+0.7**
BLCB	**Balcova**	**0.42**	**299**	*e*Pg	**Pg**	**09 35 25.5**	**+0.7**
GCAM	**G?zelcaml?**	**0.53**	**204**	*i* P	**Pg**	**09 35 25.7**	**-1.0**
GCAM				*i* S	**Sg**	**09 35 33.9**	**+0.1**
GCAM	**G?zelcaml?**	**0.53**	**204**	*i* P	**Pg**	**09 35 25.7**	**-1.1**
GCAM				*i* S	**Sg**	**09 35 33.9**	**+0.1**
AYDN	**Tasoluk**	**0.60**	**150**	*i* P	**Pg**	**09 35 27.9**	**-0.1**
AYDN				*i* S	**Sg**	**09 35 35.7**	**-0.3**
AYDN	**Tasoluk**	**0.60**	**150**	*i* P	**Pg**	**09 35 28.0**	**-0.1**
AYDN				*i* S	**Sg**	**09 35 35.7**	**-0.3**
AKHS	**Akhisar**	**0.74**	**19**	*i* P	**Pg**	**09 35 30.5**	**-0.2**
AKHS				*i* S	**Sg**	**09 35 41.1**	**+0.7**
AKHS	**Akhisar**	**0.74**	**19**	*i* P	**Pg**	**09 35 30.5**	**-0.2**
AKHS				*i* S	**Sg**	**09 35 41.1**	**+0.6**
AKS	**Akhisar**	**0.74**	**19**	*e*PG	**Pg**	**09 35 30.8**	**0.0**
AKS	**Akhisar**	**0.74**	**19**	*e*Pg	**Pg**	**09 35 30.8**	**+0.1**
MLSB	**Milas**	**0.91**	**166**	*e*PG	**Pg**	**09 35 33.8**	**-0.2**
MLSB				*e*SG	**Sg**	**09 35 46.7**	**+0.8**
MLSB	**Milas**	**0.91**	**166**	*e*Pg	**Pg**	**09 35 33.8**	**-0.2**
MLSB				*e*Sg	**Sg**	**09 35 46.7**	**+0.8**
KULA	**Kula-Manisa**	**0.97**	**69**	*e*PG	**Pg**	**09 35 34.7**	**-0.3**
KULA				*e*SG	**Sg**	**09 35 47.3**	**-0.4**
KULA	**Kula-Manisa**	**0.97**	**69**	*e*Pg	**Pg**	**09 35 34.7**	**-0.3**
KULA				*e*Sg	**Sg**	**09 35 47.3**	**-0.4**
YER	**Yerkesik**	**1.21**	**149**	*e*PN	**Pn**	**09 35 38.8**	**+0.1**
YER	**Yerkesik**	**1.21**	**149**	*e*Pn	**Pn**	**09 35 38.8**	**+0.2**
DEMI	**Demirci**	**1.28**	**47**	*i* P	**Pn**	**09 35 40.8**	**+1.3**
DEMI				*i* S	**Sb**	**09 35 56.0**	**-0.3**
DEMI	**Demirci**	**1.28**	**47**	*i* P	**Pn**	**09 35 40.8**	**+1.3**
DEMI				*i* S	**Sb**	**09 35 56.0**	**-0.2**
DNZL	**Cakiroluk**	**1.31**	**111**	*i* P	**Pn**	**09 35 38.8**	**-1.2**
DNZL				*i* S	**Sn**	**09 35 58.2**	**+1.1**
DNZL	**Cakiroluk**	**1.31**	**111**	*i* P	**Pn**	**09 35 38.8**	**-1.2**
DNZL				*i* S	**Sn**	**09 35 58.2**	**+1.1**
BALY	**Balya**	**1.56**	**3**	*i* P	**Pn**	**09 35 39.7**	**-3.7**
BALY				*i* S	**Sn**	**09 36 02.4**	**-0.9**
BALY	**Balya**	**1.56**	**3**	*i* P	**Pn**	**09 35 39.7**	**-3.7**
BALY				*i* S	**Sn**	**09 36 02.4**	**-0.9**
DURS	**Dursunbey**	**1.61**	**28**	*i* P	**Pn**	**09 35 44.2**	**+0.2**
DURS				*i* S	**Sn**	**09 36 04.6**	**+0.2**

*IDC **08** 09:59:30.6±0.8, 51°74N×176°83E, h0km, mb3.5/11, mb1 3.9/14, mb1mx3.7/30, mbtmp3.7/14, ML4.0/3, Error ellipse: s-maj=23.6km s-min=10.9km az=10.0*
*ISCJB **08** 09:59:33.3±1.9, 51°8N±0°1×176°73E±0°06, h29km±14km, mb3.7/14, Error ellipse: s-maj=18.3km s-min=5.4km az=11.9*
*NEIC **08** 09:59:34.7, 51°81N×176°76E, h10km, mb3.9/3, ML3.9(AEIC), After AEIC.*
ISC 08 09:59:32.4±2.4, 51°8N±0°1×176°68E±0°06, h9km±16km, n47, σ0°66/51, mb3.7/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.84**	**302**	P	**Pn**	**10 00 05.3**	**+1.2**
SMY				S	**Sn**	**10 00 28.0**	**+0.4**
FX1	**Attu Island--F**	**2.42**	**298**	Pn	**Pn**	**10 00 12.4**	**+0.3**
138nm,0.3s,baz=150,slow=5.2,SNR=238							
FX1				Sn	**Sn**	**10 00 41.8**	**+0.1**
116nm,0.3s,baz=290,slow=22,SNR=11							
FX1	**Attu Island--F**	**2.42**	**298**	Pn	**Pn**	**10 00 12.4**	**+0.4**
FX1				Sn	**Sn**	**10 00 41.8**	**+0.1**
GANE	**Gareloi Northe**	**2.82**	**88**	P	**Pn**	**10 00 17.1**	**-0.4**
GALAA	**Gareloi Lava P**	**2.83**	**89**	P	**Pn**	**10 00 17.9**	**+0.3**
GAEA	**Gareloi East**	**2.84**	**88**	P	**Pn**	**10 00 18.0**	**+0.2**
TANO	**Tanaga North**	**3.23**	**86**	P	**Pn**	**10 00 22.9**	**-0.3**
TASE	**Tanaga Southea**	**3.28**	**87**	P	**Pn**	**10 00 23.8**	**-0.1**
TAFL	**Tanaga Flats**	**3.37**	**88**	P	**Pn**	**10 00 24.5**	**-0.5**
KIMD	**Kanaga Island**	**3.78**	**88**	P	**Pn**	**10 00 30.6**	**-0.1**
KIKV	**Kanaga Island**	**3.81**	**86**	P	**Pn**	**10 00 31.2**	**0.0**
KIRH	**Kanaga Island**	**3.86**	**86**	P	**Pn**	**10 00 31.9**	**0.0**
GSCK	**Great Sitkin C**	**4.44**	**84**	P	**Pn**	**10 00 40.6**	**+0.8**
GSTD	**Great Sitkin T**	**4.45**	**84**	P	**Pn**	**10 00 40.6**	**+0.7**
GSTD				S	**Sn**	**10 01 33.1**	**+1.4**
GSMY	**Great Sitkin M**	**4.50**	**84**	P	**Pn**	**10 00 41.2**	**+0.5**
ATKA	**Atka Island**	**5.65**	**82**	P	**Pn**	**10 00 56.5**	**0.0**
KOFP	**Flat Point**	**5.71**	**82**	P	**Pn**	**10 00 57.4**	**+0.2**
PETK	**Petropavlovsk-**	**11.66**	**284**	Pn	**Pn**	**10 02 18.1**	**-0.7**
0.2nm,0.3s,baz=272,slow=9.5,SNR=4.4							
PETK	**Petropavlovsk-**	**11.66**	**284**	Pn	**Pn**	**10 02 18.1**	**-0.7**
KDAK	**Kodiak Island**	**18.60**	**59**	P	**Pn**	**10 03 48.6**	**-1.2**
1.4nm,0.3s,baz=125,slow=16,SNR=15							
KDAK	**Kodiak Island**	**18.60**	**59**	P	**Pn**	**10 03 48.6**	**-1.2**
SML	**Sawmill**	**21.35**	**48**	*e*P	**P**	**10 04 21.0**	**+1.5**
3.8nm,0.8s,mb3.8							
ILAR	**Eielson Array**	**22.74**	**41**	P	**P**	**10 04 33.0**	**-1.3**
0.9nm,0.5s,mb3.5,baz=251,slow=6.3,SNR=24							
ILAR	**Eielson Array**	**22.74**	**41**	P	**P**	**10 04 33.0**	**-1.3**
DOT	**Dot Lake**	**23.66**	**45**	*e*P	**P**	**10 04 42.7**	**-1.1**
2.0nm,0.9s,mb3.5							
EGAK	**Eagle**	**25.12**	**43**	*e*P	**P**	**10 04 56.7**	**-0.4**
6.0nm,0.6s,mb4.3							
DAWY	**Dawson**	**25.77**	**45**	*e*P	**P**	**10 05 02.9**	**-0.1**
YKA	**Yellowknife Ar**	**36.98**	**46**	P	**P**	**10 06 41.5**	**0.0**
1.0nm,0.4s,mb4.0,baz=279,slow=9.1,SNR=13							
YKA	**Yellowknife Ar**	**36.98**	**46**	P	**P**	**10 06 41.5**	**0.0**
SONM	**Songino Array**	**43.92**	**294**	P	**P**	**10 07 39.7**	**+0.6**
0.4nm,0.5s,mb3.4,baz=56,slow=8.3,SNR=4.0							
SONM	**Songino Array**	**43.92**	**294**	P	**P**	**10 07 39.7**	**+0.6**
NVAR	**Mina Array Bea**	**46.28**	**80**	P	**P**	**10 07 57.8**	**-0.2**
0.4nm,0.6s,mb3.5,baz=299,slow=7.2,SNR=3.7							
NVAR	**Mina Array Bea**	**46.28**	**80**	P	**P**	**10 07 57.8**	**-0.2**
PDAR	**Pinedale Array**	**48.84**	**70**	P	**P**	**10 08 16.5**	**-1.3**
0.4nm,0.8s,mb3.5,baz=333,slow=2.6,SNR=4.5							
PDAR	**Pinedale Array**	**48.84**	**70**	P	**P**	**10 08 16.5**	**-1.3**
KURK	**Kurchatov**	**56.66**	**311**	P	**P**	**10 09 15.8**	**+0.3**
1.2nm,0.8s,mb4.0,baz=44,slow=6.3,SNR=9.0							
KURK	**Kurchatov**	**56.66**	**311**	P	**P**	**10 09 15.8**	**+0.3**
MKAR	**Makanchi Array**	**57.54**	**306**	P	**P**	**10 09 21.0**	**-0.7**
0.2nm,0.4s,mb3.5,baz=62,slow=6.5,SNR=4.5							
MKAR	**Makanchi Array**	**57.54**	**306**	P	**P**	**10 09 21.0**	**-0.7**
BVAR	**Borovoye Array**	**58.71**	**317**	P	**P**	**10 09 29.7**	**-0.2**
0.5nm,0.5s,mb3.8,baz=78,slow=7.5,SNR=3.2							
BVAR	**Borovoye Array**	**58.71**	**317**	P	**P**	**10 09 29.7**	**-0.2**
TXAR	**Lajitas Array**	**61.35**	**78**	P	**P**	**10 09 48.4**	**0.0**
0.2nm,0.4s,mb3.6,baz=298,slow=6.1,SNR=6.7							
TXAR	**Lajitas Array**	**61.35**	**78**	P	**P**	**10 09 48.4**	**0.0**
WRA	**Warramunga Arr**	**80.43**	**220**	P	**P**	**10 11 43.8**	**-0.4**
0.7nm,0.8s,mb3.6,baz=30,slow=6.1,SNR=5.9							
WRA	**Warramunga Arr**	**80.43**	**220**	P	**P**	**10 11 43.8**	**-0.4**
ASAR	**Alice Springs**	**83.96**	**219**	P	**P**	**10 12 02.9**	**+0.3**
0.3nm,0.6s,mb3.6,baz=25,slow=5.6,SNR=9.0							
ASAR	**Alice Springs**	**83.96**	**219**	P	**P**	**10 12 02.9**	**+0.3**

**PGC 08 10:10:27.6±3.6, 46°85N×129°84W, h10km, ML3.1/

20nm,1.2s
MRSI Marisa 11.72 320 P **Pn 10 23 20.7 +0.8**
11nm,1.1s
WRAB Tennant Creek 12.20 157 *e*Pn **Pn 10 23 26.4 +0.1**
25nm,0.9s
WRAB Tennant Creek 12.20 157 P **Pn 10 23 27.0 +0.7**
60nm,1.2s
WRA Warramunga Arr 12.20 157 Pn **Pn 10 23 25.9 -0.4**
1.8nm,0.3s,baz=339,slow=12,SNR=63
WRA Sn **Sn 10 25 40.0 -1.1**
2.7nm,0.3s,baz=330,slow=22,SNR=10
WRA Lg 10 27 09.9
baz=338,slow=29,SNR=3.3
WRA Warramunga Arr 12.20 157 Pn **Pn 10 23 25.9 -0.4**
WRA Sn **Sn 10 25 40.0 -1.1**
WRA Lg 10 27 09.9
WB2 Warramunga Arr 12.20 157 *e*Pn **Pn 10 23 26.3 -0.2**
COEN Coen 14.51 113 *e*P **Pn 10 23 57.8 -0.1**
28nm,0.4s
COEN *e*S **Sn 10 26 33.6 -3.9**
COEN Coen 14.51 113 *e*Pn **Pn 10 23 58.7 +0.8**
33nm,0.5s
COEN Coen 14.51 113 P **Pn 10 23 54.8 -3.1**
MBWA Marble Bar 15.52 216 *e*P **Pn 10 24 10.3 -0.8**
MBWA Marble Bar 15.52 216 *e*Pn **Pn 10 24 09.7 -1.4**
16nm,1.0s
AS31 Alice Springs 15.54 164 *e*Pn **Pn 10 24 11.7 +0.5**
ASAR Alice Springs 15.54 164 Pn **Pn 10 24 11.2 -0.1**
0.5nm,0.3s,baz=326,slow=10,SNR=48
ASAR Sn **Sn 10 27 01.8 -0.6**
0.6nm,0.3s,baz=329,slow=16,SNR=5.9
ASAR Lg 10 28 56.0
baz=352,slow=30,SNR=5.4
ASAR Alice Springs 15.54 164 Pn **Pn 10 24 11.2 -0.1**
ASAR Sn **Sn 10 27 01.8 -0.6**
ASAR Lg 10 28 56.0
MTSU Mount Surprise 17.30 124 *e*P **Pn 10 24 35.1 +1.5**
29nm,1.2s
CTA Charters Tower 19.88 127 P **Pn 10 25 10.7 +6.0**
6.2nm,1.1s,baz=326,slow=12,SNR=4.2
CTA LR LR 10 33 57.3
comp=Z,351nm,18.4s,baz=312,slow=40
CTA Charters Tower 19.88 127 P **Pn 10 25 10.7 +6.0**
CTAO Charters Tower 19.88 127 *e*P **Pn 10 25 03.1 -1.7**
FORT Forrest 22.04 183 *e*P **P 10 25 28.4 +2.4**
21nm,0.8s,mb4.6
BBOO Buckleboo 24.81 167 *e*P **P 10 25 57.4 +4.3**
55nm,0.9s,mb5.1
STKA Stephens Creek 25.74 156 P **P 10 26 05.9 +4.3**
3.2nm,0.8s,mb3.9,baz=340,slow=15,SNR=8.5
STKA Stephens Creek 25.74 156 *e*P **P 10 26 05.8 +4.2**
5.9nm,0.8s,mb4.2
STKA Stephens Creek 25.74 156 P **P 10 26 05.9 +4.3**
NWAO Narrogin (SRO) 26.64 203 LR LR 10 37 37.8
comp=Z,165nm,19.9s,MS3.6,baz=27,slow=38
CMSA Cobar Meteorol 27.36 149 *e*P **P 10 26 19.9 +3.7**
42nm,1.0s,mb4.9
KHZ Kahutara 51.26 139 P **P 10 29 38.0 +3.4**
SONM Songino Array 59.82 342 P **P 10 30 36.1 +0.2**
0.4nm,0.6s,mb3.6,baz=166,slow=8.6,SNR=3.8
SONM Songino Array 59.82 342 P **P 10 30 36.1 +0.2**
MK31 Makanchi Array 69.28 327 *e*P **P 10 31 36.9 -0.7**
MKAR Makanchi Array 69.28 327 P **P 10 31 37.0 -0.7**
1.8nm,0.7s,mb4.1,baz=126,slow=7.5,SNR=25
MKAR Makanchi Array 69.28 327 P **P 10 31 37.0 -0.7**
AAK Ala-Archa 71.41 320 *e*P **P 10 31 50.6 -0.2**
19nm,1.1s,mb4.9
EKS2 Erkin-Say 71.88 320 *e*P **P 10 31 53.2 -0.4**
2.4nm,0.8s,mb4.2
ZALV Zalesovo Beam 72.80 334 P **P 10 31 57.7 -1.1**
0.4nm,0.3s,mb3.8,baz=96,slow=3.0,SNR=4.6
ZALV Zalesovo Beam 72.80 334 P **P 10 31 57.7 -1.1**
KKAR Karatay Array 74.18 319 *e*P **P 10 32 06.9 -0.3**
2.0nm,0.9s,mb4.0
ABKAR Akbulak array 83.42 322 *e*P **P 10 32 58.0 +0.2**
2.0nm,0.9s,mb4.2
AKTO Aktyubinsk 85.01 323 P **P 10 33 05.4 -0.4**
0.7nm,0.3s,mb4.2,baz=90,slow=7.2,SNR=5.8
AKTO Aktyubinsk 85.01 323 P **P 10 33 05.4 -0.4**
ILAR Eielson Array 95.10 25 P **P 10 33 54.0 +0.9**
0.4nm,0.9s,mb3.9,baz=271,slow=5.2,SNR=3.3
ILAR Eielson Array 95.10 25 P **P 10 33 54.0 +0.9**
EIL Elat 98.06 299 LR LR 11 21 21.4
comp=Z,54nm,19.3s,MS4.0,baz=99,slow=37
TORD Torodi Ar. Bea 128.51 280 PKP PKPdf 10 39 41.5 +3.3
0.3nm,0.8s,baz=75,slow=1.2,SNR=2.8
TORD Torodi Ar. Bea 128.51 280 PKP PKPdf 10 39 41.5 +3.3
LPAZ La Paz 149.75 145 PKPbc PKPbc 10 40 25.9 +4.7
2.6nm,1.0s,baz=244,slow=1.5,SNR=4.8
LPAZ PKPab PKPab 10 40 31.3 +4.8
1.6nm,0.8s,baz=203,slow=5.0,SNR=4.5
LPAZ La Paz 149.75 145 PKPbc PKPbc 10 40 25.9 +4.7
LPAZ PKPab PKPab 10 40 31.3 +4.8

NIED ***08*** *10:32:00,46°.50N×153°.00E,h8km,Mw4.1 Best double couple: M0=1.48000×10^15 NP1:φ=212.00000°,δ=49.00000°, λ=114.00000° NP2:φ=359.00000°,δ=46.00000°,λ=65.00000°.*
ISCJB ***08*** *10:32:15.2±0.9,46°.11N±0°.07×152°.84E±0°.09,h37km±7km, mb4.4/33,MS3.5/4,Error ellipse: s-maj=15.0km s-min=5.5km az=139.6*
MOS ***08*** *10:32:16.7±0.9,46°.26N×152°.80E,h51km,mb4.3/21,Error ellipse: s-maj=11.6km s-min=9.5km az=73.1*
NEIC ***08*** *10:32:18.0±1.1,46°.24N×152°.90E,h43km±9km,mb4.8/11, Error ellipse: s-maj=11.6km s-min=7.0km az=144.0*
IDC ***08*** *10:32:18.1±2.7,46°.23N×152°.85E,h44km±24km,mb3.8/19, mb1 4.0/22,mb1mx3.9/30,mbtmp3.8/22,ML3.8/3,MS3.4/5, Ms1 3.4/5,ms1mx3.0/41,Error ellipse: s-maj=17.2km s-min=14.5km az=129.0*
ISC 08 10:32:17.3±0.8,46°.16N±0°.08×152°.87E±0°.09,h36km±6km, n122,σ1=14/135,mb4.4/33,MS3.5/4,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.62**	**257**	*i* PN	**Pn**	**10 33 12.1**	**+1.2**
KUR				*e*S	**Sn**	**10 33 53.5**	**+1.1**
KUR				pmax	pmax		
	comp=Z,270nm,0.6s						
KUR				pmax	pmax		
	comp=N,150nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.4s						
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,430nm,0.7s						
SKR	**Severo-Kuril's**	**5.02**	**24**	*e*PN	**Pn**	**10 33 31.5**	**+1.6**
SKR				pmax	pmax		
	comp=Z,70nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.40**	**249**	*i* PN	**Pn**	**10 33 36.0**	**+0.8**
YUK				*i* S	**Sn**	**10 34 37.0**	**+1.0**
YUK				pmax	pmax		
	comp=N,69nm,0.3s						
YUK				pmax	pmax		
	comp=E,30nm,0.3s						
YUK				pmax	pmax		
	comp=Z,189nm,0.3s						
YUK				smax			
	comp=E,223nm,0.3s						
YUK				smax			
	comp=N,60nm,0.3s						
NEM2	**Nemuro 2**	**5.79**	**244**	P	**Pn**	**10 33 38.9**	**-1.7**
NEM2				*e*S	**Sn**	**10 34 42.8**	**-3.0**
JRA	**Rausu**	**5.92**	**251**	P	**Pn**	**10 33 42.9**	**+0.5**
JNK	**Nakash**	**6.34**	**249**	P	**Pn**	**10 33 48.0**	**-0.1**
JNK				*e*S	**Sn**	**10 34 59.1**	**-0.1**
JAK	**Akkeshi**	**6.64**	**244**	P	**Pn**	**10 33 50.3**	**-1.9**
JAK				*e*S	**Sn**	**10 35 03.4**	**-3.2**
JTKR	**Abashiri--Toko**	**6.71**	**254**	P	**Pn**	**10 33 54.1**	**+0.9**
JMP	**Maruseppu**	**7.07**	**256**	P	**Pn**	**10 33 59.4**	**+1.3**
JAR	**Ashorobuto**	**7.08**	**249**	P	**Pn**	**10 33 58.4**	**0.0**
JAR				*e*S	**Sn**	**10 35 16.8**	**-0.8**
JOB	**Onbets**	**7.23**	**246**	P	**Pn**	**10 33 59.5**	**-0.8**
JKK2	**Kamakawa 2**	**7.53**	**256**	P	**Pn**	**10 34 05.9**	**+1.5**
ASAJ	**Asahikawa**	**7.54**	**258**	P	**Pn**	**10 34 07.0**	**+2.3**
	comp=N,2.5nm,0.3s,baz=103,slow=15,SNR=16						
ASAJ				S	**Sn**	**10 35 36.0**	**+7.1**
	baz=68,slow=15,SNR=2.5						
ASAJ				LR	LR	10 37 31.5	
	comp=N,122nm,18.6s,baz=97,slow=42						
ASAJ	**Asahikawa**	**7.54**	**258**	P	**Pn**	**10 34 07.0**	**+2.3**
ASAJ				S	**Sn**	**10 35 36.0**	**+7.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,122nm,18.6s						
PETK	**Petropavlovsk-**	**7.63**	**22**	P	**Pn**	**10 34 05.3**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=181,slow=14,SNR=7.9						
PETK				S	**Sn**	**10 35 36.0**	**+5.2**
	baz=176,slow=30,SNR=2.6						
PETK	**Petropavlovsk-**	**7.63**	**22**	P	**Pn**	**10 34 05.3**	**-0.4**
PETK				S	**Sn**	**10 35 36.0**	**+5.2**
PETK	**Petropavlovsk-**	**7.63**	**22**	PN	**Pn**	**10 34 05.3**	**-0.5**
PETK				S	**Sn**	**10 35 36.0**	**+5.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.67**	**246**	P	**Pn**	**10 34 05.4**	**-1.1**
JCH				*e*S	**Sn**	**10 35 28.3**	**-3.8**
JFR	**Furan**	**7.91**	**251**	P	**Pn**	**10 34 11.9**	**+2.2**
JNBK	**Urakawa-nobuka**	**8.23**	**246**	P	**Pn**	**10 34 12.5**	**-1.6**
JNBK				*e*S	**Sn**	**10 35 40.3**	**-5.5**
JBT2	**Biratori 2**	**8.24**	**250**	P	**Pn**	**10 34 14.5**	**+0.3**
JNB	**Noboribetsu**	**9.25**	**251**	P	**Pn**	**10 34 28.1**	**+0.1**
JKB	**Kayabe**	**9.53**	**248**	*e*S	**Sn**	**10 36 10.9**	**-6.8**
JYM2	**Yakumo 2**	**9.85**	**250**	P	**Pn**	**10 34 35.3**	**-1.0**
JANG	**Nango**	**10.10**	**239**	P	**Pn**	**10 34 35.5**	**-4.1**
JTM	**Tenmabayashi**	**10.12**	**242**	P	**Pn**	**10 34 37.1**	**-2.8**
JTM				*e*S	**Sn**	**10 36 24.2**	**-7.8**
JOSM	**Okushiri--Mats**	**10.46**	**252**	P	**Pn**	**10 34 44.0**	**-0.5**
MJAR	**Matsushiro Arr**	**14.59**	**234**	P	**Pn**	**10 35 40.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=7.2						
MJAR	**Matsushiro Arr**	**14.59**	**234**	P	**Pn**	**10 35 40.9**	**-0.1**
MJAR	**Matsushiro Arr**	**14.59**	**234**	P	**Pn**	**10 35 40.9**	**-0.2**
KSRS	**Korea Array**	**20.46**	**254**	P	**P**	**10 36 52.9**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=58,slow=12,SNR=6.3						
KSRS				LR	LR	10 45 26.8	
	comp=Z,42nm,18.6s,MS2.8,baz=65,slow=38						
KSRS	**Korea Array**	**20.46**	**254**	P	**P**	**10 36 52.9**	**+1.3**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,42nm,18.6s,MS2.8						
KSAR	**Wonju Array Be**	**20.50**	**254**	P	**P**	**10 36 52.9**	**+0.9**
KSAR	**Wonju Array Be**	**20.50**	**254**	P	**P**	**10 36 52.9**	**+0.9**
LZH	**Lanzhou**	**37.74**	**272**	*e*P	**P**	**10 39 30.7**	**+1.3**
	comp=Z,17nm,1.3s,mb4.6						
LZH				pP	pP	10 39 37.5	-2.4
LZH				sP	sP	10 39 40.0	-4.2
LZH	**Lanzhou**	**37.74**	**272**	*e*P	**P**	**10 39 30.7**	**+1.3**
LZH				*SP	sP	10 39 40.0	-4.2
LZH				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6						
ZALV	**Zalesovo Beam**	**42.82**	**306**	P	**P**	**10 40 09.3**	**-1.9**
	comp=Z,0.5nm,0.3s,mb3.7,baz=71,slow=7.5,SNR=3.8						
ZALV				PcP	PcP	10 42 02.2	+0.4
	comp=Z,0.3nm,0.3s,baz=64,slow=3.4,SNR=3.7						
ZALV				LR	LR	10 59 07.9	
	comp=Z,58nm,19.0s,MS3.5,baz=83,slow=38						
ZALV	**Zalesovo Beam**	**42.82**	**306**	P	**P**	**10 40 09.3**	**-1.9**
ZALV				PcP	PcP	10 42 02.2	+0.4
ZALV	**Zalesovo Beam**	**42.82**	**306**	P	**P**	**10 40 09.3**	**-1.9**
ZALV						10 42 02.2	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
ZALV				MLR	MLR		
	comp=Z,59nm,19.0s,MS3.5						
MK31	**Makanchi Array**	**47.06**	**298**	*e*P	**P**	**10 40 43.8**	**-1.3**
MK31	**Makanchi Array**	**47.06**	**298**	*e*P	**P**	**10 40 43.8**	**-1.3**
MKAR	**Makanchi Array**	**47.06**	**298**	P	**P**	**10 40 44.0**	**-1.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=64,slow=6.8,SNR=19						
MKAR				PcP	PcP	10 42 16.9	+0.3
	comp=Z,0.4nm,0.7s,baz=64,slow=2.9,SNR=2.5						
MKAR	**Makanchi Array**	**47.06**	**298**	P	**P**	**10 40 44.0**	**-1.0**
MKAR				PcP	PcP	10 42 16.9	+0.3
MKAR	**Makanchi Array**	**47.06**	**298**	P	**P**	**10 40 44.0**	**-1.1**
MKAR						10 42 16.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**47.55**	**304**	P	**P**	**10 40 47.9**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.3,baz=69,slow=8.5,SNR=9.7						
KURK	**Kurchatov**	**47.55**	**304**	P	**P**	**10 40 47.9**	**-0.9**
KURK	**Kurchatov**	**47.55**	**304**	P	**P**	**10 40 47.9**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**51.10**	**310**	P	**P**	**10 41 15.1**	**-0.8**
	comp=Z,1.2nm,0.4s,mb4.2,baz=58,slow=8.9,SNR=8.1						
BVAR				LR	LR	11 02 36.0	
	comp=Z,73nm,18.0s,MS3.7,baz=201,slow=36						
BVAR	**Borovoye Array**	**51.10**	**310**	P	**P**	**10 41 15.1**	**-0.8**
BVAR	**Borovoye Array**	**51.10**	**310**	P	**P**	**10 41 15.1**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,73nm,18.0s						
YKA	**Yellowknife Ar**	**51.50**	**36**	P	**P**	**10 41 19.1**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=294,slow=6.8,SNR=3.2						
YKA	**Yellowknife Ar**	**51.50**	**36**	P	**P**	**10 41 19.1**	**+0.4**
YKA	**Yellowknife Ar**	**51.50**	**36**	P	**P**	**10 41 19.1**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.07**	**257**	P	**P**	**10 41 24.9**	**+1.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=34,slow=7.9,SNR=9.4						
CMAR	**Chiang Mai Arr**	**52.07**	**257**	P	**P**	**10 41 24.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**52.07**	**257**	P	**P**	**10 41 25.0**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TAPN	**Taplejung**	**53.97**	**273**	*e*P	**P**	**10 41 38.7**	**+1.3**
	comp=Z,9.0nm,0.7s,mb4.8						
TAPN	**Taplejung**	**53.97**	**273**	*e*P	**P**	**10 41 38.7**	**+1.3**
	comp=Z,9.0nm,0.7s,mb4.8						
JIRN	**Jiri**	**54.83**	**275**	*e*P	**P**	**10 41 45.1**	**+1.4**
	comp=Z,3.2nm,0.5s,mb4.6						
JIRN	**Jiri**	**54.83**	**275**	*e*P	**P**	**10 41 45.1**	**+1.4**
	comp=Z,3.2nm,0.5s,mb4.6						
GUN	**Gumba**	**54.88**	**275**	*e*P	**P**	**10 41 45.6**	**+1.5**
	comp=Z,9.1nm,0.4s,mb5.1						
RAMN	**Ramite**	**54.98**	**274**	*e*P	**P**	**10 41 45.8**	**+1.0**
	comp=Z,21nm,0.8s,mb5.2						
RAMN	**Ramite**	**54.98**	**274**	*e*P	**P**	**10 41 45.8**	**+1.0**
	comp=Z,21nm,0.8s,mb5.2						
GKN	**Gorkha**	**55.69**	**276**	*e*P	**P**	**10 41 51.1**	**+1.2**
	comp=Z,7.7nm,0.4s,mb5.0						
DANN	**Dangsing**	**56.08**	**277**	*e*P	**P**	**10 41 54.4**	**+1.7**
	comp=Z,15nm,0.6s,mb5.2						
DANN	**Dangsing**	**56.08**	**277**	*e*P	**P**	**10 41 54.4**	**+1.7**
	comp=Z,15nm,0.6s,mb5.2						
KK31	**Karatay Array**	**56.14**	**299**	*i* P	**P**	**10 41 52.3**	**-0.6**
KKAR	**Karatay Array**	**56.14**	**299**	*e*P	**P**	**10 41 52.6**	**-0.3**
	comp=Z,0.7nm,0.5s,mb4.0						
KKAR	**Karatay Array**	**56.14**	**299**	*e*P	**P**	**10 41 52.6**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
KOLN	**Koldanda**	**56.55**	**277**	*e*P	**P**	**10 41 57.4**	**+1.4**
	comp=Z,12nm,0.6s,mb5.1						
KOLN	**Koldanda**	**56.55**	**277**	*e*P	**P**	**10 41 57.4**	**+1.4**
	comp=Z,12nm,0.6s,mb5.1						
PYUN	**Piuthan**	**56.76**	**277**	*e*P	**P**	**10 41 58.9**	**+1.3**
	comp=Z,14nm,0.9s,mb5.0						
PYUN	**Piuthan**	**56.76**	**277**	*e*P	**P**	**10 41 58.9**	**+1.3**
	comp=Z,14nm,0.9s,mb5.0						
KEV	**Kevo**	**57.84**	**341**	*e*P	**P**	**10 42 02.6**	**-2.0**
KEV	**Kevo**	**57.84**	**341**	ep	**P**	**10 42 02.6**	**-2.0**
ARCES	**ARCESS Array B**	**58.35**	**341**	P	**P**	**10 42 07.7**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.1,baz=41,slow=7.3,SNR=9.9						
ARCES	**ARCESS Array B**	**58.35**	**341**	P	**P**	**10 42 07.7**	**-0.5**
ARCES	**ARCESS Array B**	**58.35**	**341**	P	**P**	**10 42 07.7**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AB31	**Akbulak array**	**58.68**	**310**	*i* P	**P**	**10 42 09.8**	**-0.9**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
ABKAR	**Akbulak array**	**58.68**	**310**	*e*P	**P**	**10 42 09.7**	**-0.9**
	comp=Z,2.6nm,0.4s,mb4.6						
AKTO	**Aktyubinsk**	**58.99**	**312**	P	**P**	**10 42 12.7**	**-0.2**
	comp=Z,0.5nm,0.3s,mb4.0,baz=29,slow=13,SNR=3.6						
AKTO				LR	LR	11 08 36.4	
	comp=Z,59nm,18.2s,MS3.8,baz=238,slow=37						
AKTO	**Aktyubinsk**	**58.99**	**312**	P	**P**	**10 42 12.7**	**-0.2**
AKTO	**Aktyubinsk**	**58.99**	**312**	P	**P**	**10 42 12.7**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
AKTO				MLR	MLR		
	comp=Z,59nm,18.2s,MS3.8						
JOF	**Joensuu**	**61.79**	**334**	*e*P	**P**	**10 42 30.5**	**-1.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
JOF	**Joensuu**	**61.79**	**334**	*ep*	**P**	**10 42 30.5**	**-1.2**
	comp=Z,1.3nm,0.6s,mb4.2						
KBL	**Kabul**	**62.13**	**292**	*e*P	**P**	**10 42 33.7**	**-0.8**
	comp=Z,1.5nm,0.4s,mb4.5						
KBL	**Kabul**	**62.13**	**292**	*e*P	**P**	**10 42 33.7**	**-0.8**
KBL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
NVAR	**Mina Array Bea**	**62.86**	**62**	P	**P**	**10 42 39.1**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.8,baz=303,slow=6.5,SNR=4.8						
NVAR	**Mina Array Bea**	**62.86**	**62**	P	**P**	**10 42 39.1**	**-0.2**
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**10 42 49.0**	**-0.7**
	comp=Z,1.4nm,0.4s,mb4.3,baz=39,slow=7.7,SNR=7.2						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**10 42 49.0**	**-0.7**
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**10 42 49.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JLU	**Jordanelle**	**65.56**	**56**	*e*P	**P**	**10 42 57.3**	**+0.3**
	comp=Z,1.8nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**67.90**	**199**	P	**P**	**10 43 11.2**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=17,slow=6.8,SNR=9.6						
WRA	**Warramunga Arr**	**67.90**	**199**	P	**P**	**10 43 11.2**	**-0.8**
WRA	**Warramunga Arr**	**67.90**	**199**	P	**P**	**10 43 11.2**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.73**	**341**	P	**P**	**10 43 16.2**	**-0.5**
	comp=Z,2.0nm,0.4s,mb4.4,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.73**	**341**	P	**P**	**10 43 16.5**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.2,baz=27,slow=6.4,SNR=13						
NOA	**NORSAR Array B**	**68.73**	**341**	P	**P**	**10 43 16.5**	**-0.3**
NOA	**NORSAR Array B**	**68.73**	**341**	P	**P**	**10 43 16.5**	**-0.2**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**68.95**	**339**	P	**P**	**10 43 17.7**	**-0.4**
	comp=Z,5.1nm,0.5s,mb4.7,baz=48,slow=4.4,SNR=16						
HFS	**Hagfors**	**68.95**	**339**	P	**P**	**10 43 17.7**	**-0.4**
HFS	**Hagfors**	**68.95**	**339**	P	**P**	**10 43 17.7**	**-0.4**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ASAR	**Alice Springs**	**71.59**	**198**	P	**P**	**10 43 35.0**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=10,slow=5.8,SNR=12						
ASAR	**Alice Springs**	**71.59**	**198**	P	**P**	**10 43 35.0**	**+0.3**
ASAR	**Alice Springs**	**71.59**	**198**	P	**P**	**10 43 35.0**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**10 43 35.5**	**-1.0**
	comp=Z,2.0nm,0.4s,mb4.4,baz=34,slow=6.4,SNR=4.6						
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**10 43 35.5**	**-1.0**
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**10 43 35.5**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BUR08	**Bucovina Ar. S**	**75.97**	**327**	*e*P	**P**	**10 44 00.3**	**+0.2**
TXAR	**Lajitas Array**	**77.93**	**60**	P	**P**	**10 44 11.3**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=298,slow=4.6,SNR=18						
TXAR	**Lajitas Array**	**77.93**	**60**	P	**P**	**10 44 11.3**	**-0.1**
TXAR	**Lajitas Array**	**77.93**	**60**	P	**P**	**10 44 11.4**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.70**	**317**	P	**P**	**10 44 16.6**	**+1.0**
	comp=Z,2.0nm,1.0s,mb4.0,baz=20,slow=3.9,SNR=6.6						
BRTR	**Keskin Array B**	**78.70**	**317**	P	**P**	**10 44 16.6**	**+1.0**
BRTR	**Keskin Array B**	**78.70**	**317**	P	**P**	**10 44 16.6**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES	**GERESS Array B**	**78.91**	**334**	P	**P**	**10 44 16.6**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=31,slow=6.2,SNR=6.0						
GERES	**GERESS Array B**	**78.91**	**334**	P	**P**	**10 44 16.6**	**0.0**
GERES	**GERESS Array B**	**78.91**	**334**	P	**P**	**10 44 16.6**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PLCA	**Paso Flores**	**148.32**	**96**	PKPbc	PKPbc	10 51 58.9	-0.1
	comp=Z,1.0nm,0.6s,baz=27,slow=1.3,SNR=7.0						
PLCA	**Paso Flores**	**148.32**	**96**	PKPbc	PKPbc	10 51 58.9	-0.1

ISCJB ***08*** *10:36:39.4±1.3,26°.3S±0°.1×178°.8W±0°.1,h377km±13km, mb4.0/9,Error ellipse: s-maj=17.0km s-min=15.0km az=138.2*
IDC ***08*** *10:36:40.8±10.0,26°.21S×178°.76W,h385km±117km, mb3.4/6,mb1 3.7/7,mb1mx3.5/16,mbtmp3.4/7,Error ellipse: s-maj=53.9km s-min=25.9km az=11.0*
NEIC ***08*** *10:36:40.2±1.1,26°.24S×178°.74W,h381km±13km,mb4.5/1, Error ellipse: s-maj=22.3km s-min=13.6km az=180.0*
ISC 08 10:36:41.0±1.2,26°.35S±0°.10×178°.8W±0°.1,h383km±12km, n28,σ1=87/30,mb4.0/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.99**	**165**	Pn	**Pn**	**10 37 42.4**	**-0.3**
URZ	**Urewera**	**12.37**	**195**	P	**P**	**10 39 26.2**	**+1.0**
	0.5nm,0.3s,baz=202,slow=22,SNR=7.6						
URZ				S	**S**	**10 41 39.3**	**-1.8**
	1.1nm,0.3s,baz=76,slow=20,SNR=13						
URZ	**Urewera**	**12.37**	**195**	P	**P**	**10 39 26.2**	**+1.0**
URZ				S	**S**	**10 41 39.3**	**-1.8**
DZM	**Mont Dzumac**	**14.13**	**284**	*e*P	**P**	**10 39 45.2**	**+0.5**
DZM	**Mont Dzumac**	**14.13**	**284**	*e*P	**P**	**10 39 45.0**	**+0.3**
14nm,0.6s							
EIDS	**Eidsvold**	**27.10**	**265**	*e*P	**P**	**10 41 51.1**	**+0.5**
28nm,0.6s,mb4.9							
CMSA	**Cobar Meteorol**	**31.42**	**252**	*e*P	**P**	**10 42 29.2**	**+0.8**
26nm,1.0s,mb4.5							
CTA	**Charters Tower**	**32.65**	**274**	P	**P**	**10 42 39.5**	**+0.4**

EMIJ	**Mijas**	**3.90**	**10**	P	**Pn**	**10 47 34.6**	**-1.3**
	1.6nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**10 48 21.6**	**-0.1**
	3.0nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.15**	**357**	P	**Pn**	**10 47 39.7**	**+0.4**
	0.9nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**10 48 26.6**	**-1.2**
	2.5nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.15**	**357**	P	**Pn**	**10 47 39.7**	**+0.4**
	0.9nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**10 48 26.6**	**-1.3**
	2.5nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**4.43**	**22**	P	**Pn**	**10 47 42.7**	**-0.5**
	3.4nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**10 48 35.3**	**+0.4**
	5.8nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**4.43**	**22**	P	**Pn**	**10 47 42.7**	**-0.5**
	3.4nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**10 48 35.3**	**+0.4**
	5.8nm,0.4s,SNR=7.9						
ERON	**Agron**	**4.53**	**18**	P	**Pn**	**10 47 44.7**	**+0.1**
	1.4nm,0.3s,SNR=7.9						
ERON	**Agron**	**4.53**	**18**	P	**Pn**	**10 47 44.7**	**0.0**
	1.4nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**4.57**	**15**	S	**Sn**	**10 48 43.4**	**+5.0**
	1.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.81**	**21**	P	**Pn**	**10 47 48.5**	**0.0**
	0.8nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.81**	**21**	P	**Pn**	**10 47 50.4**	**+1.9**
	0.8nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.91**	**338**	*e*Pn	**Pn**	**10 47 49.9**	**+0.1**
PBDV				*e*Sn	**Sn**	**10 48 46.8**	**+0.2**
PBDV	**Barranco-do-Ve**	**4.91**	**338**	P	**Pn**	**10 47 49.9**	**+0.1**
PBDV				S	**Sn**	**10 48 46.8**	**+0.2**
PBDV	**Barranco-do-Ve**	**4.91**	**338**	*e*Pn	**Pn**	**10 47 49.9**	**+0.1**
PBDV				*e*Sn	**Sn**	**10 48 46.8**	**+0.2**
PVAQ	**Vaqueiros**	**4.99**	**340**	*e*Pn	**Pn**	**10 47 51.1**	**+0.2**
PVAQ				*e*Sn	**Sn**	**10 48 49.0**	**+0.4**
PVAQ				A		10 48 53.3	
	4.4nm,0.1s						
PVAQ	**Vaqueiros**	**4.99**	**340**	P	**Pn**	**10 47 51.1**	**+0.2**
PVAQ				S	**Sn**	**10 48 49.0**	**+0.4**
	4.4nm,0.1s						
PVAQ	**Vaqueiros**	**4.99**	**340**	*e*Pn	**Pn**	**10 47 51.1**	**+0.2**
PVAQ				*e*Sn	**Sn**	**10 48 49.0**	**+0.4**
	4.4nm,0.1s						
EGRO	**El Granado**	**5.05**	**343**	P	**Pn**	**10 47 51.9**	**+0.2**
	5.0nm,0.1s,SNR=36						
EGRO				S	**Sn**	**10 48 50.3**	**+0.2**
	6.1nm,0.2s,SNR=5.3						
EGRO	**El Granado**	**5.05**	**343**	P	**Pn**	**10 47 51.9**	**+0.2**
	5.0nm,0.1s,SNR=36						
EGRO				S	**Sn**	**10 48 50.3**	**+0.2**
	6.1nm,0.2s,SNR=5.3						
EMIN	**Mina Concepcio**	**5.12**	**350**	P	**Pn**	**10 47 52.3**	**-0.4**
	0.6nm,0.1s,SNR=23						
EMIN				S	**Sn**	**10 48 50.5**	**-1.2**
	1.2nm,0.1s,SNR=5.6						
EMIN	**Mina Concepcio**	**5.12**	**350**	P	**Pn**	**10 47 52.3**	**-0.3**
	0.6nm,0.1s,SNR=23						
EMIN				S	**Sn**	**10 48 50.5**	**-1.2**
	1.2nm,0.1s,SNR=5.6						
MORF	**Marmelete**	**5.22**	**332**	*e*Pn	**Pn**	**10 47 54.4**	**+0.3**
MORF				*e*Sn	**Sn**	**10 48 55.5**	**+1.1**
MORF				A		10 48 58.9	
	5.8nm,0.1s						
MORF	**Marmelete**	**5.22**	**332**	P	**Pn**	**10 47 54.4**	**+0.3**
MORF				S	**Sn**	**10 48 55.5**	**+1.1**
	5.8nm,0.1s						
MORF	**Marmelete**	**5.22**	**332**	*e*Pn	**Pn**	**10 47 54.4**	**+0.3**
MORF				*e*Sn	**Sn**	**10 48 55.5**	**+1.1**
	5.8nm,0.1s						
PCVE	**Castro Verde**	**5.30**	**338**	*e*Pn	**Pn**	**10 47 55.6**	**+0.5**
PCVE				*e*Sn	**Sn**	**10 48 56.9**	**+0.7**
PCVE	**Castro Verde**	**5.30**	**338**	P	**Pn**	**10 47 55.6**	**+0.5**
PCVE				S	**Sn**	**10 48 56.9**	**+0.7**
PCVE	**Castro Verde**	**5.30**	**338**	*e*Pn	**Pn**	**10 47 55.6**	**+0.5**
PCVE				*e*Sn	**Sn**	**10 48 56.9**	**+0.7**
PTEO	**Sao Teotonio**	**5.46**	**333**	*e*Pn	**Pn**	**10 47 57.9**	**+0.5**
PTEO				*e*Sn	**Sn**	**10 49 00.4**	**+0.2**
PTEO	**Sao Teotonio**	**5.46**	**333**	P	**Pn**	**10 47 57.9**	**+0.5**
PTEO				S	**Sn**	**10 49 00.4**	**+0.2**
PTEO	**Sao Teotonio**	**5.46**	**333**	*e*Pn	**Pn**	**10 47 57.9**	**+0.5**
PTEO				*e*Sn	**Sn**	**10 49 00.4**	**+0.2**
EQES	**Quesada**	**5.47**	**21**	P	**Pn**	**10 47 58.2**	**+0.6**
	0.7nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**10 48 53.1**	**-7.5**
	0.9nm,0.4s,SNR=7.9						
EQES	**Quesada**	**5.47**	**21**	P	**Pn**	**10 47 59.3**	**+1.7**
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.50**	**8**	P	**Pn**	**10 47 57.7**	**-0.2**
	0.9nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**10 49 00.6**	**-0.6**
	1.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.50**	**8**	P	**Pn**	**10 47 57.7**	**-0.2**
	0.9nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**10 49 00.6**	**-0.6**
	1.8nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**5.57**	**348**	*e*Pn	**Pn**	**10 47 58.9**	**0.0**
PBAR				*e*Sn	**Sn**	**10 49 03.5**	**+0.5**
PBAR				A		10 49 08.1	
	3.3nm,0.9s						
PBAR	**Barrancos**	**5.57**	**348**	P	**Pn**	**10 47 58.9**	**0.0**
PBAR				S	**Sn**	**10 49 03.5**	**+0.5**
	3.3nm,0.9s						
PBAR	**Barrancos**	**5.57**	**348**	*e*Pn	**Pn**	**10 47 58.9**	**0.0**
PBAR				*e*Sn	**Sn**	**10 49 03.5**	**+0.5**
	3.3nm,0.9s						
PBEJ	**Beja**	**5.61**	**341**	*e*Pn	**Pn**	**10 48 00.4**	**+0.9**
PBEJ				*e*Sn	**Sn**	**10 49 04.5**	**+0.5**
PBEJ	**Beja**	**5.61**	**341**	P	**Pn**	**10 48 00.4**	**+0.9**
PBEJ				S	**Sn**	**10 49 04.5**	**+0.5**
PBEJ	**Beja**	**5.61**	**341**	*e*Pn	**Pn**	**10 48 00.4**	**+0.9**
PBEJ				*e*Sn	**Sn**	**10 49 04.5**	**+0.5**
PNCL	**Nicolau / Gran**	**5.89**	**337**	*e*Pn	**Pn**	**10 48 03.6**	**+0.3**
PNCL				*e*Sn	**Sn**	**10 49 11.2**	**+0.3**
PNCL				A		10 49 15.3	
	2.5nm,0.2s						
PNCL	**Nicolau / Gran**	**5.89**	**337**	*e*Pn	**Pn**	**10 48 03.6**	**+0.3**
PNCL				*e*Sn	**Sn**	**10 49 11.2**	**+0.3**
	2.5nm,0.2s						
EVO	**Evora**	**6.13**	**342**	*e*Pn	**Pn**	**10 48 06.4**	**-0.1**
EVO	**Evora**	**6.13**	**342**	P	**Pn**	**10 48 06.4**	**-0.1**
EVO	**Evora**	**6.13**	**342**	*e*Pn	**Pn**	**10 48 06.4**	**-0.1**
EBAD	**Badajoz**	**6.13**	**350**	P	**Pn**	**10 48 06.8**	**+0.2**
	2.9nm,0.1s,SNR=36						
EBAD				S	**Sn**	**10 49 16.2**	**-0.7**
	5.2nm,0.2s,SNR=7.0						
EBAD	**Badajoz**	**6.13**	**350**	P	**Pn**	**10 48 06.8**	**+0.2**
	2.9nm,0.1s,SNR=36						
PESTR	**Estremoz**	**6.35**	**346**	*e*Pn	**Pn**	**10 48 10.1**	**+0.5**
PESTR				*e*Sn	**Sn**	**10 49 22.5**	**+0.4**
PESTR	**Estremoz**	**6.35**	**346**	P	**Pn**	**10 48 10.1**	**+0.5**
PESTR				S	**Sn**	**10 49 22.5**	**+0.4**
PESTR	**Estremoz**	**6.35**	**346**	*e*Pn	**Pn**	**10 48 10.1**	**+0.5**
PESTR				*e*Sn	**Sn**	**10 49 22.5**	**+0.4**
PMTG	**Montargil**	**6.69**	**342**	*e*Pn	**Pn**	**10 48 14.3**	**+0.1**
PMTG				*e*Sn	**Sn**	**10 49 31.2**	**+0.7**
PMTG	**Montargil**	**6.69**	**342**	*e*Pn	**Pn**	**10 48 14.3**	**+0.1**
PMTG				*e*Sn	**Sn**	**10 49 31.2**	**+0.7**
PMRV	**Marv??o**	**6.85**	**348**	*e*Pn	**Pn**	**10 48 16.9**	**+0.4**
PMRV				*e*Sn	**Sn**	**10 49 33.8**	**-0.7**
PMRV	**Marv??o**	**6.85**	**348**	P	**Pn**	**10 48 16.9**	**+0.4**
PMRV				S	**Sn**	**10 49 33.8**	**-0.7**
PMRV	**Marv??o**	**6.85**	**348**	*e*Pn	**Pn**	**10 48 16.9**	**+0.4**
PMRV				*e*Sn	**Sn**	**10 49 33.8**	**-0.7**
PMAFR	**Mafra**	**6.91**	**335**	*e*Pn	**Pn**	**10 48 18.1**	**+0.8**
PMAFR				*e*Sn	**Sn**	**10 49 36.8**	**+0.9**
PMAFR	**Mafra**	**6.91**	**335**	P	**Pn**	**10 48 18.0**	**+0.8**
	2.6nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**10 49 34.1**	**-1.8**
	6.7nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**6.91**	**335**	P	**Pn**	**10 48 18.0**	**+0.7**
	2.6nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**10 49 34.1**	**-1.8**
	6.7nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**10 49 36.8**	**+0.9**
ESDC	**Sonseca Array**	**7.07**	**10**	P	**Pn**	**10 48 18.6**	**-0.8**
	0.7nm,0.1s,baz=198,slow=13,SNR=9.4						
ESDC	**Sonseca Array**	**7.07**	**10**	P	**Pn**	**10 48 18.6**	**-0.8**
	0.7nm,0.1s,slow=13,SNR=9.4						
PCBR	**Castelo Branco**	**7.27**	**348**	*e*Pn	**Pn**	**10 48 22.5**	**+0.3**
PCBR				*e*Sn	**Sn**	**10 49 43.0**	**-1.8**
PCBR	**Castelo Branco**	**7.27**	**348**	P	**Pn**	**10 48 22.5**	**+0.3**
PCBR				S	**Sn**	**10 49 43.0**	**-1.8**
PCBR	**Castelo Branco**	**7.27**	**348**	*e*Pn	**Pn**	**10 48 22.5**	**+0.3**
PCBR				*e*Sn	**Sn**	**10 49 43.0**	**-1.8**
EPLA	**Plasencia**	**7.34**	**357**	P	**Pn**	**10 48 22.2**	**-1.0**
	3.5nm,0.1s,SNR=9.7						
EPLA				S	**Sn**	**10 49 43.4**	**-3.2**
	0.8nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**7.34**	**357**	P	**Pn**	**10 48 22.2**	**-1.0**
	3.5nm,0.1s,SNR=9.7						
EPLA				S	**Sn**	**10 49 43.4**	**-3.2**
	0.8nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**7.83**	**349**	*e*Pn	**Pn**	**10 48 30.2**	**+0.3**
MTE	**Manteigas**	**7.83**	**349**	P	**Pn**	**10 48 30.2**	**+0.3**
MTE	**Manteigas**	**7.83**	**349**	*e*Pn	**Pn**	**10 48 30.2**	**+0.3**
MVO	**Moncorvo**	**8.51**	**353**	*e*Pn	**Pn**	**10 48 39.8**	**+0.6**
MVO				*e*Sn	**Sn**	**10 50 13.9**	**-1.4**
MVO	**Moncorvo**	**8.51**	**353**	P	**Pn**	**10 48 39.7**	**+0.5**
	3.9nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**10 50 13.1**	**-2.2**
	2.0nm,0.3s,SNR=23						
MVO	**Moncorvo**	**8.51**	**353**	P	**Pn**	**10 48 39.7**	**+0.5**
	3.9nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**10 50 13.1**	**-2.2**
	2.0nm,0.3s,SNR=23						
MVO				*e*Sn	**Sn**	**10 50 13.9**	**-1.4**
ETOR	**Torete**	**8.57**	**18**	P	**Pn**	**10 48 38.7**	**-1.3**
	1.4nm,0.1s,SNR=7.9						
ETOR	**Torete**	**8.57**	**18**	P	**Pn**	**10 48 38.7**	**-1.3**
	1.4nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**8.71**	**349**	*e*Pn	**Pn**	**10 48 42.4**	**+0.4**
PVRL	**Vila Real**	**8.71**	**349**	P	**Pn**	**10 48 42.4**	**+0.4**
PVRL	**Vila Real**	**8.71**	**349**	*e*Pn	**Pn**	**10 48 42.4**	**+0.4**
POLO	**Lamas de Olo**	**8.82**	**349**	*e*Pn	**Pn**	**10 48 43.9**	**+0.5**
POLO	**Lamas de Olo**	**8.82**	**349**	*e*Pn	**Pn**	**10 48 43.9**	**+0.5**
ECAL	**Calabor**	**9.25**	**355**	P	**Pn**	**10 48 49.7**	**+0.3**
	1.0nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**10 50 31.4**	**-2.1**
	1.4nm,0.3s,SNR=4.0						
ECAL	**Calabor**	**9.25**	**355**	P	**Pn**	**10 48 49.7**	**+0.3**
	1.0nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**10 50 31.4**	**-2.1**
	1.4nm,0.3s,SNR=4.0						
ELOB	**Lobios**	**9.34**	**349**	P	**Pn**	**10 48 50.9**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**9.34**	**349**	P	**Pn**	**10 48 50.9**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**9.74**	**353**	P	**Pn**	**10 48 56.3**	**+0.2**
	0.9nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**9.74**	**353**	P	**Pn**	**10 48 56.3**	**+0.3**
	0.9nm,0.1s,SNR=7.9						

*NEIC **08** 11:25:15.5, 36°.77S×177°.49E, h164km, MG3.7(WEL), After WEL.*

WEL 08 11:25:15.4±0.8, 36°.75S×177°.45E, h161km±5km, ML3.7/5, Error ellipse: s-maj=6.9km s-min=5.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.07**	**140**	PN	Pn	11 25 41.4	-0.3
MXZ				SN	Sn	11 26 01.8	-0.2
MXZ	**Matakaoa Point**	**1.07**	**140**	Pn	Pn	11 25 41.4	-0.3
MXZ				Sn	Sn	11 26 02.1	+0.1
OPRZ	**Ohinepanea**	**1.31**	**213**	PN	Pn	11 25 43.0	-0.9
OPRZ	**Ohinepanea**	**1.31**	**213**	Pn	Pn	11 25 43.1	-0.8
MARZ	**Manawahe**	**1.38**	**206**	Pn	Pn	11 25 46.2	+1.5
PUZ	**Puketiti**	**1.47**	**154**	PN	Pn	11 25 45.9	+0.3
PUZ				SN	Sn	11 26 07.2	-1.6
PUZ	**Puketiti**	**1.47**	**154**	Pn	Pn	11 25 45.9	+0.3
URZ	**Urewera**	**1.54**	**190**	PN	Pn	11 25 46.6	+0.4
URZ				*e*SN	Sn	11 26 10.6	+0.7
URZ	**Urewera**	**1.54**	**190**	Pn	Pn	11 25 46.6	+0.4
MWZ	**Matawai**	**1.59**	**178**	PN	Pn	11 25 46.9	+0.2
MWZ				SN	Sn	11 26 10.9	0.0
MWZ	**Matawai**	**1.59**	**178**	Pn	Pn	11 25 46.9	+0.2
MWZ				Sn	Sn	11 26 10.9	0.0
CNGZ	**Carnagh Statio**	**1.84**	**161**	PN	Pn	11 25 49.9	+0.6
CNGZ	**Carnagh Statio**	**1.84**	**161**	Pn	Pn	11 25 49.9	+0.6
PRRZ	**Plateau Road**	**1.94**	**205**	Pn	Pn	11 25 52.1	+1.6
ALRZ	**Allen Road**	**2.02**	**205**	*e*PN	Pn	11 25 52.3	+1.0
ALRZ	**Allen Road**	**2.02**	**205**	Pn	Pn	11 25 52.7	+1.4
RAHZ	**Arahi**	**2.19**	**187**	PN	Pn	11 25 53.7	+0.4
RAHZ	**Arahi**	**2.19**	**187**	Pn	Pn	11 25 53.8	+0.4
PRGZ	**Paritu Road**	**2.20**	**171**	PN	Pn	11 25 53.3	-0.2
PRGZ	**Paritu Road**	**2.20**	**171**	Pn	Pn	11 25 53.3	-0.2
KNZ	**Kokohu**	**2.28**	**176**	PN	Pn	11 25 54.0	-0.3
KNZ	**Kokohu**	**2.28**	**176**	Pn	Pn	11 25 54.0	-0.3
NMHZ	**Naumai**	**2.40**	**192**	PN	Pn	11 25 56.8	+0.9
NMHZ	**Naumai**	**2.40**	**192**	Pn	Pn	11 25 56.8	+0.9
MHGZ	**Mahia Peninsul**	**2.43**	**172**	PN	Pn	11 25 56.0	-0.2
MHGZ	**Mahia Peninsul**	**2.43**	**172**	Pn	Pn	11 25 56.0	-0.2
BKZ	**Black Stump Fm**	**2.53**	**197**	PN	Pn	11 25 57.5	0.0
BKZ	**Black Stump Fm**	**2.53**	**197**	Pn	Pn	11 25 57.5	0.0
MCHZ	**McNeill Hill**	**2.76**	**192**	PN	Pn	11 26 00.4	+0.2
MCHZ	**McNeill Hill**	**2.76**	**192**	Pn	Pn	11 26 00.4	+0.2
WPVZ	**Whakapapa**	**2.88**	**211**	Pn	Pn	11 26 03.0	+1.4
FWVZ	**Far West T-bar**	**2.92**	**210**	PN	Pn	11 26 03.2	+1.1
FWVZ	**Far West T-bar**	**2.92**	**210**	Pn	Pn	11 26 03.2	+1.1
CKHZ	**Cape Kidnapper**	**2.92**	**186**	PN	Pn	11 26 01.6	-0.6
CKHZ	**Cape Kidnapper**	**2.92**	**186**	Pn	Pn	11 26 01.6	-0.6
BHHZ	**Black Hill Sta**	**2.95**	**201**	PN	Pn	11 26 02.3	-0.2
BHHZ	**Black Hill Sta**	**2.95**	**201**	Pn	Pn	11 26 02.3	-0.2
WNVZ	**Wahianoa**	**2.96**	**209**	PN	Pn	11 26 03.5	+0.8
WNVZ	**Wahianoa**	**2.96**	**209**	Pn	Pn	11 26 03.5	+0.8
MOVZ	**Moawhango**	**2.98**	**206**	PN	Pn	11 26 02.7	-0.1
MOVZ	**Moawhango**	**2.98**	**206**	Pn	Pn	11 26 02.7	-0.1
KAHZ	**Kahuranaki**	**3.08**	**188**	PN	Pn	11 26 03.6	-0.5
KAHZ	**Kahuranaki**	**3.08**	**188**	Pn	Pn	11 26 03.6	-0.5
PNHZ	**Pukenui**	**3.31**	**197**	PN	Pn	11 26 05.9	-1.1
PNHZ	**Pukenui**	**3.31**	**197**	Pn	Pn	11 26 06.0	-1.1
PXZ	**Pawanui**	**3.31**	**188**	PN	Pn	11 26 05.7	-1.4
PXZ	**Pawanui**	**3.31**	**188**	Pn	Pn	11 26 05.7	-1.4
WPHZ	**Waipukurau**	**3.41**	**193**	PN	Pn	11 26 07.2	-1.1
WPHZ	**Waipukurau**	**3.41**	**193**	Pn	Pn	11 26 07.2	-1.1
TSZ	**Takapari Road**	**3.51**	**199**	PN	Pn	11 26 08.2	-1.3
TSZ	**Takapari Road**	**3.51**	**199**	Pn	Pn	11 26 08.2	-1.3
PRHZ	**Porangahau**	**3.57**	**190**	PN	Pn	11 26 09.0	-1.4
PRHZ	**Porangahau**	**3.57**	**190**	Pn	Pn	11 26 09.0	-1.4
WAZ	**Wanganui**	**3.58**	**212**	PN	Pn	11 26 10.9	+0.5
WAZ	**Wanganui**	**3.58**	**212**	Pn	Pn	11 26 10.9	+0.5
DVHZ	**Dannevirke**	**3.69**	**195**	PN	Pn	11 26 10.5	-1.4
DVHZ	**Dannevirke**	**3.69**	**195**	Pn	Pn	11 26 10.5	-1.4
POWZ	**Post Office Ro**	**3.87**	**199**	PN	Pn	11 26 12.6	-1.6
POWZ	**Post Office Ro**	**3.87**	**199**	Pn	Pn	11 26 12.6	-1.6
BFZ	**Birch Farm**	**4.04**	**193**	PN	Pn	11 26 14.3	-2.1
BFZ	**Birch Farm**	**4.04**	**193**	Pn	Pn	11 26 14.3	-2.1
MRZ	**Mangatainoka R**	**4.17**	**200**	PN	Pn	11 26 15.9	-2.3
MRZ	**Mangatainoka R**	**4.17**	**200**	Pn	Pn	11 26 15.9	-2.3
TIWZ	**Tintock**	**4.21**	**196**	PN	Pn	11 26 16.6	-2.0
TIWZ	**Tintock**	**4.21**	**196**	Pn	Pn	11 26 16.6	-2.0
HOWZ	**Holdsworth Sta**	**4.41**	**199**	PN	Pn	11 26 18.7	-2.6
HOWZ	**Holdsworth Sta**	**4.41**	**199**	Pn	Pn	11 26 18.7	-2.6
OGWZ	**Otaki Gorge**	**4.44**	**203**	PN	Pn	11 26 19.4	-2.1
OGWZ	**Otaki Gorge**	**4.44**	**203**	Pn	Pn	11 26 19.4	-2.1
TMWZ	**Te Maipa**	**4.52**	**195**	PN	Pn	11 26 20.2	-2.5
TMWZ	**Te Maipa**	**4.52**	**195**	Pn	Pn	11 26 20.2	-2.5
KIW	**Kapiti Island**	**4.56**	**205**	PN	Pn	11 26 20.9	-2.3
KIW	**Kapiti Island**	**4.56**	**205**	Pn	Pn	11 26 20.9	-2.3
MTW	**Mount Morrison**	**4.66**	**198**	PN	Pn	11 26 21.4	-3.0
MTW	**Mount Morrison**	**4.66**	**198**	Pn	Pn	11 26 21.4	-3.0
CAW	**Cannon Point**	**4.74**	**202**	PN	Pn	11 26 22.6	-2.8
CAW	**Cannon Point**	**4.74**	**202**	Pn	Pn	11 26 22.6	-2.8
TRWZ	**Traveller**	**4.84**	**196**	PN	Pn	11 26 24.0	-2.9
TRWZ	**Traveller**	**4.84**	**196**	Pn	Pn	11 26 24.0	-2.9
PAWZ	**Paruwai Farm**	**4.89**	**198**	PN	Pn	11 26 24.2	-3.2
PAWZ	**Paruwai Farm**	**4.89**	**198**	Pn	Pn	11 26 24.2	-3.2
DUWZ	**D'Urville Isla**	**4.90**	**213**	PN	Pn	11 26 25.6	-2.0
DUWZ	**D'Urville Isla**	**4.90**	**213**	Pn	Pn	11 26 25.6	-2.0
MSWZ	**Moikau Station**	**4.97**	**199**	PN	Pn	11 26 25.3	-3.2
MSWZ	**Moikau Station**	**4.97**	**199**	Pn	Pn	11 26 25.3	-3.2
WEL	**Wellington**	**4.99**	**204**	PN	Pn	11 26 25.8	-3.0
WEL	**Wellington**	**4.99**	**204**	Pn	Pn	11 26 25.8	-3.0
SNZO	**South Karori**	**5.03**	**204**	PN	Pn	11 26 26.1	-3.2
SNZO	**South Karori**	**5.03**	**204**	Pn	Pn	11 26 26.1	-3.2
BHW	**Baring Head**	**5.07**	**203**	PN	Pn	11 26 26.5	-3.3
BHW	**Baring Head**	**5.07**	**203**	Pn	Pn	11 26 26.5	-3.3
TCW	**Tory Channel**	**5.10**	**208**	PN	Pn	11 26 27.2	-3.0
TCW	**Tory Channel**	**5.10**	**208**	Pn	Pn	11 26 27.2	-3.0
PLWZ	**Palliser**	**5.11**	**199**	PN	Pn	11 26 26.8	-3.5
PLWZ	**Palliser**	**5.11**	**199**	Pn	Pn	11 26 26.8	-3.5
TUWZ	**Tuamarina**	**5.42**	**209**	PN	Pn	11 26 31.3	-3.1
TUWZ	**Tuamarina**	**5.42**	**209**	Pn	Pn	11 26 31.3	-3.1
NNZ	**Nelson**	**5.48**	**214**	PN	Pn	11 26 32.3	-2.9
NNZ	**Nelson**	**5.48**	**214**	Pn	Pn	11 26 32.3	-2.9
BSWZ	**Blackbirch Sta**	**5.68**	**208**	PN	Pn	11 26 35.1	-2.9
BSWZ	**Blackbirch Sta**	**5.68**	**208**	Pn	Pn	11 26 35.1	-2.9
THZ	**Tophouse**	**6.13**	**214**	PN	Pn	11 26 40.7	-3.1
THZ	**Tophouse**	**6.13**	**214**	Pn	Pn	11 26 40.7	-3.1
KHZ	**Kahutara**	**6.42**	**207**	PN	Pn	11 26 43.9	-3.7
KHZ	**Kahutara**	**6.42**	**207**	Pn	Pn	11 26 43.9	-3.7
LTZ	**Lake Taylor**	**7.23**	**212**	PN	Pn	11 26 54.1	-4.3
LTZ	**Lake Taylor**	**7.23**	**212**	Pn	Pn	11 26 54.1	-4.3
MQZ	**McQueen's Vall**	**7.86**	**206**	PN	Pn	11 27 01.5	-5.3
MQZ	**McQueen's Vall**	**7.86**	**206**	Pn	Pn	11 27 01.5	-5.2
ODZ	**Otahua Downs**	**9.76**	**210**	*e*PN	Pn	11 27 27.3	-4.6

*NEIC **08** 12:00:15.7±1.9, 8°.08S×148°.45E, h72km±16km, mb4.0/1, Error ellipse: s-maj=27.0km s-min=11.7km az=108.0*
*ISCJB **08** 12:00:16.1±1.6, 8°.1S±0°.1×148°.4E±0°.2, h90km±12km, mb3.8/10, Error ellipse: s-maj=32.8km s-min=11.9km az=28.3*
*IDC **08** 12:00:19.4±1.8, 8°.18S×148°.20E, h101km±14km, mb3.6/11, mb1 3.7/12, mb1mx3.6/16, mbtmp3.6/12, Error ellipse: s-maj=34.6km s-min=15.1km az=120.0*

ISC 08 12:00:15.9±2.5, 8°.1S±0°.1×148°.5E±0°.2, h74km±19km, n30, σ0.72/34, mb3.8/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.83**	**224**	P	**Pn**	**12 00 45.1**	**-0.4**
	53nm,0.3s,baz=28,slow=4.7,SNR=195						
PMG				S	**Sn**	**12 01 08.5**	**+0.6**
	198nm,0.3s,baz=28,slow=8.8,SNR=56						
PMG	**Port Moresby**	**1.83**	**224**	P	**Pn**	**12 00 45.1**	**-0.4**
PMG				S	**Sn**	**12 01 08.5**	**+0.6**
WB2	**Warramunga Arr**	**18.04**	**228**	*e*P	**Pn**	**12 04 20.8**	**-0.9**
WRA	**Warramunga Arr**	**18.05**	**228**	P	**Pn**	**12 04 21.1**	**-0.7**
	0.5nm,0.3s,baz=53,slow=11,SNR=25						
WRA				S	**S**	**12 07 35.4**	**-8.3**
	0.1nm,0.3s,baz=47,slow=24,SNR=3.8						
WRA	**Warramunga Arr**	**18.05**	**228**	P	**Pn**	**12 04 21.1**	**-0.7**
WRA				S	**S**	**12 07 35.4**	**-8.3**
AS31	**Alice Springs**	**20.84**	**220**	*e*P	**P**	**12 04 51.9**	**+0.1**
ASAR	**Alice Springs**

VLX			S	Sn	12 06 29.4	0.0
VLX	**Vlachokerasia**	**1.62 306**	P	Pn	12 06 08.0	-0.8
VLX	**Vlachokerasia**	**1.62 306**	*e*Pn	Pn	12 06 09.3	+0.5
VLX			S	Sn	12 06 29.4	0.0
VLX			*e*Sn	Sn	12 06 31.0	+1.6
PTL	**Penteli**	**1.63 356**	*e*PN	Pn	12 06 08.8	-0.3
PTL			*e*SN	Sn	12 06 28.8	-1.0
PTL	**Penteli**	**1.63 356**	P	Pn	12 06 08.2	-0.9
PTL	**Penteli**	**1.63 356**	P	Pn	12 06 08.2	-0.9
PTL	**Penteli**	**1.63 356**	*e*Pn	Pn	12 06 08.8	-0.3
PTL			*e*Sn	Sn	12 06 28.4	-1.4
NPS	**Neapolis**	**1.74 131**	P	Pn	12 06 10.7	+0.2
NPS			S	Sn	12 06 33.4	+1.0
NPS	**Neapolis**	**1.74 131**	P	Pn	12 06 11.6	+1.1
NPS	**Neapolis**	**1.74 131**	P	Pn	12 06 10.7	+0.2
NPS			S	Sn	12 06 33.4	+1.0
LTK	**Loutraki**	**1.81 333**	*e*PN	Pn	12 06 11.9	+0.5
LTK	**Loutraki**	**1.81 333**	P	Pn	12 06 12.1	+0.7
LTK	**Loutraki**	**1.81 333**	*e*Pn	Pn	12 06 11.9	+0.5
VIL1	**Vilia, Western**	**1.83 343**	*e*PN	Pn	12 06 11.5	-0.2
VIL1			*e*SN	Sn	12 06 35.2	+0.6
ITM	**Ithomi**	**1.84 295**	*e*PN	Pn	12 06 12.6	+0.7
ITM			*e*SN	Sn	12 06 36.8	+1.9
ITM	**Ithomi**	**1.84 295**	P	Pn	12 06 11.2	-0.7
ITM			S	Sn	12 06 35.1	+0.2
ITM	**Ithomi**	**1.84 295**	P	Pn	12 06 14.3	+2.4
ITM	**Ithomi**	**1.84 295**	P	Pn	12 06 11.2	-0.7
ITM	**Ithomi**	**1.84 295**	*e*Pn	Pn	12 06 13.6	+1.7
ITM			S	Sn	12 06 35.1	+0.2
ITM			*e*Sn	Sn	12 06 37.0	+2.1
PYL	**PYLOS**	**1.89 285**	*e*PN	Pn	12 06 13.7	+1.2
PYL	**PYLOS**	**1.89 285**	P	Pn	12 06 13.7	+1.2
PYL	**PYLOS**	**1.89 285**	P	Pn	12 06 13.7	+1.2
PYL	**PYLOS**	**1.89 285**	*e*Pn	Pn	12 06 14.0	+1.5
GUR	**Goura**	**2.02 319**	*e*PB	Pn	12 06 14.4	0.0
GUR			*e*SN	Sn	12 06 40.0	+0.7
GUR	**Goura**	**2.02 319**	P	Pn	12 06 13.9	-0.5
GUR			S	Sn	12 06 39.2	-0.1
GUR	**Goura**	**2.02 319**	P	Pn	12 06 13.9	-0.5
GUR	**Goura**	**2.02 319**	*e*Pn	Pn	12 06 14.4	0.0
GUR			S	Sn	12 06 39.2	-0.1
GUR			*e*Sn	Sn	12 06 39.5	+0.2
DSF	**Desfina**	**2.31 330**	P	Pn	12 06 21.2	+2.8
DSF	**Desfina**	**2.31 330**	P	Pn	12 06 21.2	+2.8
LKR	**Lokris**	**2.37 340**	*e*PN	Pn	12 06 19.1	-0.1
LKR	**Lokris**	**2.37 340**	P	Pn	12 06 18.6	-0.6
LKR	**Lokris**	**2.37 340**	P	Pn	12 06 19.5	+0.3
LKR	**Lokris**	**2.37 340**	*e*Pn	Pn	12 06 19.1	-0.1
LKR	**Lokris**	**2.37 340**	P	Pn	12 06 19.5	+0.3
RLS	**Riolos of Patr**	**2.61 310**	*e*PB	Pb	12 06 23.5	-3.8
RLS	**Riolos of Patr**	**2.61 310**	P	Pn	12 06 27.8	+5.3
RLS	**Riolos of Patr**	**2.61 310**	*e*Pb	Pb	12 06 23.7	-3.6
EFP	**Efpalio**	**2.61 321**	*e*PN	Pn	12 06 23.0	+0.5
EFP			*e*SN	Sn	12 06 54.7	+0.7
EFP	**Efpalio**	**2.61 321**	*e*Pn	Pn	12 06 23.0	+0.5
EFP			*e*Sn	Sn	12 06 53.7	-0.3
KARP	**Karpathos**	**2.70 108**	P	Pn	12 06 26.6	+2.9
KARP	**Karpathos**	**2.70 108**	P	Pn	12 06 26.6	+2.9
AGG	**Agios Georgios**	**2.92 333**	*e*PN	Pn	12 06 27.5	+0.7
AGG	**Agios Georgios**	**2.92 333**	P	Pn	12 06 29.4	+2.6
AGG	**Agios Georgios**	**2.92 333**	*e*Pn	Pn	12 06 27.5	+0.7
AGG	**Agios Georgios**	**2.92 333**	P	Pn	12 06 29.4	+2.6
VLS	**Valsamata**	**3.24 304**	*e*PN	Pn	12 06 32.3	+1.1
VLS	**Valsamata**	**3.24 304**	*e*Pn	Pn	12 06 32.3	+1.1
RDO	**Rodhopi**	**4.87 14**	P	Pn	12 06 58.2	+4.7
RDO	**Rodhopi**	**4.87 14**	P	Pn	12 06 58.2	+4.7
CUC	**Castrocucco**	**7.37 301**	P	Pn	12 07 29.2	+1.3
CUC	**Castrocucco**	**7.37 301**	P	Pn	12 07 29.2	+1.3
BRTR	**Keskin Array B**	**8.28 64**	Pn	Pn	12 07 43.5	+3.1
	0.1nm,0.3s,baz=247,slow=14,SNR=4.0					
BRTR	**Keskin Array B**	**8.28 64**	Pn	Pn	12 07 43.5	+3.1
TORD	**Torodi Ar. Bea**	**30.63 227**	P	P	12 11 54.3	-0.3
	1.5nm,0.6s,mb4.0,baz=36,slow=9.1,SNR=16					
TORD	**Torodi Ar. Bea**	**30.63 227**	P	P	12 11 54.3	-0.3
TORD	**Torodi Ar. Bea**	**30.63 227**	P	P	12 11 54.3	-0.3
MKAR	**Makanchi Array**	**43.87 57**	P	P	12 13 46.3	-0.2
	0.3nm,0.5s,mb3.3,baz=274,slow=8.2,SNR=6.2					
MKAR	**Makanchi Array**	**43.87 57**	P	P	12 13 46.3	-0.2
MKAR	**Makanchi Array**	**43.87 57**	P	P	12 13 46.3	-0.2
ZALV	**Zalesovo Beam**	**44.82 47**	P	P	12 13 51.2	-2.8
	0.4nm,0.3s,mb3.7,baz=263,slow=8.0,SNR=2.1					
ZALV	**Zalesovo Beam**	**44.82 47**	P	P	12 13 51.2	-2.8

*ISCJB **08** 12:08:58.5±1.3, 36°.43N±0°.03×23°.99E±0°.04, h9km±10km, Error ellipse: s-maj=6.0km s-min=3.8km az=139.0*
*CSEM **08** 12:08:58.8±0.1, 36°.42N×24°.01E, h10km, ML3.0/1, Error ellipse: s-maj=4.3km s-min=2.8km az=40.0*
*ATH **08** 12:08:58.3, 36°.44N×24°.03E, h24km±1km, MD3.3/12*
*THE **08** 12:09:00.8, 36°.42N×23°.93E, h31km±14km, ML3.0/1, Error ellipse: s-maj=14.2km s-min=0.4km az=260.0*

ISC 08 12:08:58.7±0.7, 36°.42N±0°.03×24°.00E±0°.04, h11km±5km, n39, σ0°80/59, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.79**	**260**	*e*PN	**Pn**	**12 09 14.3**	**-1.4**
KYTH	**Kithira**	**0.79**	**260**	P	**Pg**	**12 09 14.1**	**+0.3**
KYTH	**Kithira**	**0.79**	**260**	P	**Pg**	**12 09 14.1**	**+0.3**
VLI	**Veliai**	**0.90**	**290**	*e*PN	**Pn**	**12 09 15.9**	**-1.4**
VLI				*e*SB	**Sb**	**12 09 28.6**	**+0.2**
VLI	**Veliai**	**0.90**	**290**	P	**Pg**	**12 09 15.7**	**-0.4**
VLI				S	**Sg**	**12 09 27.5**	**-0.4**
VLI	**Veliai**	**0.90**	**290**	P	**Pg**	**12 09 15.7**	**-0.4**
VLI				S	**Sg**	**12 09 27.5**	**-0.4**
VLI				*e*Sn	**Sn**	**12 09 28.3**	**-2.0**
VAM	**Vamos**	**1.02**	**171**	*e*PN	**Pn**	**12 09 18.9**	**0.0**
VAM				*e*SN	**Sn**	**12 09 32.9**	**-0.3**
VAM	**Vamos**	**1.02**	**171**	P	**Pg**	**12 09 18.5**	**+0.2**
VAM				S	**Sg**	**12 09 32.2**	**+0.6**
VAM	**Vamos**	**1.02**	**171**	P	**Pg**	**12 09 18.5**	**+0.2**
VAM	**Vamos**	**1.02**	**171**	*e*Pn	**Pn**	**12 09 18.9**	**0.0**
VAM				S	**Sg**	**12 09 32.2**	**+0.6**
VAM				*e*Sn	**Sn**	**12 09 32.9**	**-0.3**
THR3	**Thira Island,**	**1.13**	**90**	P	**Pb**	**12 09 20.5**	**+0.2**
THR3	**Thira Island,**	**1.13**	**90**	P	**Pb**	**12 09 20.5**	**+0.2**
THR6	**Thira Island,**	**1.13**	**93**	P	**Pb**	**12 09 20.3**	**+0.1**
THR6	**Thira Island,**	**1.13**	**93**	P	**Pb**	**12 09 20.3**	**+0.1**
DID	**Didima**	**1.25**	**331**	*e*PN	**Pn**	**12 09 22.1**	**+0.1**
DID				*e*SN	**Sn**	**12 09 39.5**	**+0.7**
DID	**Didima**	**1.25**	**331**	*e*Pn	**Pn**	**12 09 23.1**	**+1.1**
DID				*e*Sn	**Sn**	**12 09 39.8**	**+1.0**
IDI	**Anoyia**	**1.34**	**147**	P	**Pn**	**12 09 23.3**	**0.0**
IDI				S	**Sb**	**12 09 40.5**	**-0.4**
IDI	**Anoyia**	**1.34**	**147**	P	**Pn**	**12 09 23.3**	**0.0**
IDI				S	**Sb**	**12 09 40.5**	**-0.4**
APE	**Apeiranthos**	**1.40**	**62**	P	**Pn**	**12 09 24.0**	**0.0**
APE				S	**Sn**	**12 09 42.0**	**-0.4**
APE	**Apeiranthos**	**1.40**	**62**	P	**Pn**	**12 09 24.0**	**0.0**
APE				S	**Sn**	**12 09 42.0**	**-0.4**
NAIG	**Nisos Aigina**	**1.40**	**343**	*e*PN	**Pn**	**12 09 24.2**	**+0.1**
NAIG	**Nisos Aigina**	**1.40**	**343**	*e*Pn	**Pn**	**12 09 24.2**	**+0.1**
VLY	**Voula,Athens**	**1.44**	**354**	*e*PN	**Pn**	**12 09 24.4**	**-0.3**
VLY	**Voula,Athens**	**1.44**	**354**	*e*Pn	**Pn**	**12 09 24.4**	**-0.3**
VLX	**Vlachokerasia**	**1.61**	**307**	*e*PN	**Pn**	**12 09 27.0**	**0.0**
VLX				*e*SN	**Sb**	**12 09 48.6**	**-0.1**
VLX	**Vlachokerasia**	**1.61**	**307**	*e*Pn	**Pn**	**12 09 27.0**	**0.0**
VLX				*e*Sb	**Sb**	**12 09 48.6**	**-0.1**
LTK	**Loutraki**	**1.80**	**333**	*e*PN	**Pn**	**12 09 30.2**	**+0.6**
LTK	**Loutraki**	**1.80**	**333**	*e*Pn	**Pn**	**12 09 31.2**	**+1.6**
VIL1	**Vilia, Western**	**1.83**	**343**	*e*PB	**Pb**	**12 09 29.8**	**-2.3**
ITM	**Ithomi**	**1.83**	**295**	*e*PN	**Pn**	**12 09 30.7**	**+0.7**
ITM				*e*SN	**Sn**	**12 09 54.4**	**+1.3**
ITM	**Ithomi**	**1.83**	**295**	*e*Pn	**Pn**	**12 09 31.7**	**+1.7**
ITM				*e*Sn	**Sn**	**12 09 54.4**	**+1.3**
PYL	**PYLOS**	**1.87**	**285**	*e*PN	**Pn**	**12 09 31.7**	**+1.1**
PYL	**PYLOS**	**1.87**	**285**	*e*Pn	**Pn**	**12 09 32.1**	**+1.5**
GUR	**Goura**	**2.01**	**319**	*e*PN	**Pn**	**12 09 33.0**	**+0.5**
GUR				*e*SN	**Sn**	**12 09 57.8**	**+0.1**
GUR	**Goura**	**2.01**	**319**	*e*Pb	**Pn**	**12 09 33.0**	**+0.5**
GUR				*e*Sn	**Sn**	**12 09 57.8**	**+0.1**
LKR	**Lokris**	**2.37**	**341**	*e*PN	**Pn**	**12 09 37.2**	**-0.2**
LKR	**Lokris**	**2.37**	**341**	*e*Pn	**Pn**	**12 09 37.2**	**-0.2**
AGG	**Agios Georgios**	**2.92**	**334**	*e*PN	**Pn**	**12 09 45.2**	**+0.2**
AGG	**Agios Georgios**	**2.92**	**334**	*e*Pn	**Pn**	**12 09 45.3**	**+0.3**

*IDC **08** 12:11:00.3±2.6, 18°.03N×103°.47W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.5/21, mbtmp3.2/4, ML3.0/2, MS3.3/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=47.0km s-min=24.7km az=30.0*
*ISCJB **08** 12:11:02.2±1.1, 18°.15N±0°.06×103°.43W±0°.06, h21km±5km, mb3.4/2, Error ellipse: s-maj=12.2km s-min=5.2km az=43.2*
*MEX **08** 12:11:03.5±0.9, 18°.12N×103°.47W, h6km±7km, MD4.2*
*NEIC **08** 12:11:03.5, 18°.12N×103°.48W, h5km, MD4.2(MEX), After MEX.*

ISC 08 12:11:02.7±1.2, 18°.16N±0°.06×103°.45W±0°.06, h16km±4km, n24, σ1°10/40, mb3.4/2, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.16**	**39**	*i* P	**Pg**	**12 11 07.4**	**+0.4**
MMIG				*i* S	**Sg**	**12 11 10.0**	**+0.2**
R15V		**1.12**	**333**	*e*P	**Pb**	**12 11 21.9**	**-1.9**
R15V				*i* S	**Sb**	**12 11 36.7**	**-1.4**
EZ5V		**1.32**	**354**	*e*P	**Pn**	**12 11 26.0**	**-0.5**
EZ5V				*i* S	**Sn**	**12 11 43.7**	**0.0**
ZIIG	**Zihuatanejo**	**1.97**	**106**	*i* P	**Pn**	**12 11 34.8**	**-0.6**
ZIIG				*i* S	**Sn**	**12 11 58.3**	**-1.6**
ZIIG	**Zihuatanejo**	**1.97**	**106**	*i* P	**Pn**	**12 11 34.8**	**-0.6**
ZIIG				*i* S	**Sn**	**12 11 58.3**	**-1.6**
SFJM	**Santa Fe**	**2.35**	**10**	*e*P	**Pn**	**12 11 41.0**	**+0.4**
SFJM				*i* S	**Sn**	**12 12 10.7**	**+1.6**
SFJM	**Santa Fe**	**2.35**	**10**	*e*P	**Pn**	**12 11 41.0**	**+0.4**
SFJM				*i* S	**Sn**	**12 12 08.3**	**-0.8**
MOIG	**Morelia**	**2.62**	**55**	*e*P	**Pn**	**12 11 44.3**	**-0.1**
MOIG				*i* S	**Sn**	**12 12 17.1**	**+1.2**
MOIG	**Morelia**	**2.62**	**55**	*e*P	**Pn**	**12 11 44.3**	**-0.1**
MOIG				*i* S	**Sn**	**12 12 14.8**	**-1.1**
ANIG	**Ahuacatlan**	**3.05**	**341**	*e*P	**Pn**	**12 11 50.0**	**-0.3**
ANIG				*i* S	**Sn**	**12 12 26.7**	**+0.3**
ANIG	**Ahuacatlan**	**3.05**	**341**	*e*P	**Pn**	**12 11 50.0**	**-0.3**
ANIG				*i* S	**Sn**	**12 12 26.7**	**+0.3**
MEIG	**Mezcala**	**3.66**	**93**	*i* P	**Pn**	**12 11 58.8**	**+0.2**
MEIG				*i* S	**Sn**	**12 12 38.9**	**-2.5**
MEIG	**Mezcala**	**3.66**	**93**	*i* P	**Pn**	**12 11 58.8**	**+0.2**
MEIG				*i* S	**Sn**	**12 12 38.9**	**-2.5**
ACX	**Acapulco**	**3.66**	**110**	*e*P	**Pn**	**12 12 07.1**	**+8.4**
ACX				*e*S	**Sn**	**12 12 44.2**	**+2.7**
ACX	**Acapulco**	**3.66**	**110**	*e*P	**Pn**	**12 12 07.1**	**+8.4**
ACX				*e*S	**Sn**	**12 12 44.2**	**+2.7**
ZAIG	**Zacatecas**	**4.66**	**10**	*i* P	**Pn**	**12 12 12.9**	**+0.5**
ZAIG				*i* S	**Sn**	**12 13 06.8**	**+0.6**
CMIG	**Matias Romero**	**8.24**	**96**	Pn	**Pn**	**12 13 01.7**	**0.0**
	0.1nm,0.3s,baz=280,slow=12,SNR=1.4						
CMIG				Lg		12 15 21.5	
	0.4nm,0.3s,baz=10.0,slow=20,SNR=7.3						
CMIG	**Matias Romero**	**8.24**	**96**	Pn	**Pn**	**12 13 01.7**	**0.0**
CMIG				Lg		12 15 21.5	
TXAR	**Lajitas Array**	**11.12**	**359**	Pn	**Pn**	**12 13 45.1**	**+4.0**
	0.0nm,0.3s,baz=177,slow=14,SNR=4.1						
TXAR				Lg		12 16 55.6	
	0.1nm,0.3s,baz=182,slow=32,SNR=4.6						
TXAR				LR	LR	12 18 26.7	
	comp=Z,132nm,19.4s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**11.12**	**359**	Pn	**Pn**	**12 13 45.1**	**+4.0**
TXAR				Lg		12 16 55.6	
NVAR	**Mina Array Bea**	**24.00**	**330**	P	**P**	**12 16 18.6**	**+2.1**
	0.2nm,0.3s,mb3.0,baz=128,slow=10,SNR=4.1						
NVAR	**Mina Array Bea**	**24.00**	**330**	P	**P**	**12 16 18.6**	**+2.1**
ILAR	**Eielson Array**	**54.84**	**339**	P	**P**	**12 20 32.4**	**+0.6**
	0.7nm,0.8s,mb3.7,baz=149,slow=5.2,SNR=8.5						
ILAR	**Eielson Array**	**54.84**	**339**	P	**P**	**12 20 32.4**	**+0.6**

*IDC **08** 13:24:25.2±1.2, 15°.50N×94°.62W, h0km, mb3.6/7, mb1 4.1/9, mb1mx3.9/23, mbtmp3.8/9, ML4.2/2, MS3.4/5, Ms1 3.5/5, ms1mx3.1/30, Error ellipse: s-maj=31.8km s-min=20.4km az=60.0*
*ISCJB **08** 13:24:29.7±1.5, 15°.52N±0°.05×94°.65W±0°.03, h33km±11km, mb3.8/14, MS3.4/4, Error ellipse: s-maj=9.2km s-min=4.2km az=13.4*
*NEIC **08** 13:24:29.1±4.6, 15°.56N×94°.38W, h24km±31km, mb4.0/10, Error ellipse: s-maj=21.7km s-min=10.8km az=212.0*
*MEX **08** 13:24:30.3±0.6, 15°.44N×94°.76W, h16km±6km, MD4.2*

ISC 08 13:24:30.1±1.7, 15°.54N±0°.06×94°.60W±0°.03, h21km±12km, n206, σ0°89/216, mb3.8/14, MS3.4/4, 66C-94D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.34**	**83**	*e*P	**Pn**	**13 24 52.9**	**-0.8**
PCIG				*i* S	**Sn**	**13 25 10.5**	**-0.4**
HUIG	**Huatulco**	**1.47**	**279**	*e*P	**Pn**	**13 24 50.9**	**-4.5**
HUIG				*i* S	**Sn**	**13 25 06.0**	**-8.0**
CMIG	**Matias Romero**	**1.56**	**350**	Pn	**Pn**	**13 24 55.0**	**-1.8**
	230nm,0.3s,baz=156,slow=11,SNR=1900						
CMIG				Sn	**Sn**	**13 25 14.5**	**-1.9**
	215nm,0.3s,baz=105,slow=19,SNR=19						
CMIG				LR	LR	13 25 44.6	
	comp=Z,656nm,19.7s,baz=280,slow=49						
CMIG	**Matias Romero**	**1.56**	**350**	Pn	**Pn**	**13 24 55.0**	**-1.8**
CMIG				Sn	**Sn**	**13 25 14.5**	**-1.9**
CMIG	**Matias Romero**	**1.56**	**350**	*e*P	**Pn**	**13 24 55.0**	**-1.8**
CMIG				*i* S	**Sn**	**13 25 14.1**	**-2.3**
TGIG		**1.88**	**49**	*e*P	**Pn**	**13 25 01.7**	**+0.6**
TGIG				*i* S	**Sn**	**13 25 24.8**	**+0.6**
THIG		**2.34**	**105**	*i* P	**Pn**	**13 25 06.7**	**-0.7**
THIG				*i* S	**Sn**	**13 25 35.0**	**-0.7**
CCIG	**Comitan**	**2.48**	**72**	*e*P	**Pn**	**13 25 10.6**	**+1.2**
CCIG				*i* S	**Sn**	**13 25 40.5**	**+1.4**
VHO	**Vista Hermosa**	**2.55**	**307**	*e*P	**Pn**	**13 25 08.2**	**-2.1**
VHO				*i* S	**Sn**	**13 25 37.2**	**-3.5**
PNIG	**Pinotepa**	**3.49**	**284**	*e*P	**Pn**	**13 25 20.1**	**-3.2**
PNIG				*i* S	**Sn**	**13 25 57.5**	**-6.5**
UTMO	**Huajuapan**	**3.82**	**307**	*i* P	**Pn**	**13 25 26.9**	**-0.9**
UTMO				*i* S	**Sn**	**13 26 08.9**	**-3.2**
TPIG	**Tehuac#an**	**3.89**	**318**	*i* P	**Pn**	**13 25 26.9**	**-1.9**
TPIG				*i* S	**Sn**	**13 26 11.0**	**-2.9**
TEIG	**Tepich**	**7.62**	**51**	Pn	**Pn**	**13 26 18.9**	**-1.1**
	16nm,0.3s,baz=235,slow=5.9,SNR=39						
TEIG				Sn	**Sn**	**13 27 46.3**	**+0.7**
	11nm,0.3s,baz=114,slow=21,SNR=3.6						
TEIG				LR	LR	13 29 42.7	
	comp=Z,182nm,19.9s,baz=246,slow=42						
TEIG	**Tepich**	**7.62**	**51**	*e*Pn	**Pn**	**13 26 15.8**	**-4.1**
	55nm,0.3s						
TEIG				Sn	**Sn**	**13 27 46.3**	**+0.7**
JCT	**Junction City**	**15.62**	**343**	P	**Pn**	**13 28 10.5**	**+1.5**
	baz=16						
JCT	**Junction City**	**15.62**	**343**	P	**Pn**	**13 28 08.4**	**-0.6**
	12nm,0.8s						
628A	**Black Gap, Mar**	**15.84**	**333**	P	**Pn**	**13 28 13.1**	**+1.2**
	baz=16,SNR=6.0						
627A	**Terlingua Ranc**	**16.04**	**331**	P	**Pn**	**13 28 16.7**	**+2.3**
	baz=16,SNR=9.3						
TXAR	**Lajitas Array**	**16.07**	**330**	Pn	**Pn**	**13 28 14.8**	**-0.1**
	0.1nm,0.3s,baz=149,slow=13,SNR=13						
TXAR	**Lajitas Array**	**16.07**	**330**	Pn	**Pn**	**13 28 14.8**	**-0.1**
528A	**Cox Ranch, San**	**16.38**	**334**	P	**Pn**	**13 28 19.5**	**+0.6**
	baz=16						
626A	**Big Bend Ranch**	**16.48**	**329**	P	**Pn**	**13 28 21.3**	**+1.2**
	baz=17						
527A	**Woodward Ranch**	**16.73**	**332**	P	**Pn**	**13 28 24.4**	**+1.1**
	baz=17,SNR=7.8						
428A	**Kincaid Ranch,**	**16.83**	**335**	P	**Pn**	**13 28 25.2**	**+0.6**
	baz=17						
526A	**Mary Lane Ranc**	**16.88**	**331**	P	**Pn**	**13 28 26.5**	**+1.3**
	baz=17,SNR=7.1						
427A	**Hayter Ranch,**	**17.24**	**334**	P	**Pn**	**13 28 30.1**	**+0.5**
	baz=17						
426A	**McDonald Obser**	**17.36**	**332**	P	**Pn**	**13 28 32.0**	**+0.8**
	baz=17						
328A	**Wristen Ranch,**	**17.46**	**336**	P	**Pn**	**13 28 34.0**	**+1.6**
	baz=18						
425A	**Indio Mountain**	**17.91**	**330**	P	**Pn**	**13 28 38.7**	**+0.7**
	baz=18						
325A	**Bean Ranch, Si**	**18.39**	**331**	P	**Pn**	**13 28 44.0**	**+0.1**
	baz=18						
GDL2	**Guadalupe Moun**	**18.81**	**334**	*e*P	**Pn**	**13 28 48.6**	**-0.4**
	11nm,1.0s						
MNTX	**Cornudas Mount**	**18.85**	**330**	P	**Pn**	**13 28 49.7**	**+0.3**
	baz=19						
225A	**Deer Hill, Car**	**18.94**	**332**	P	**Pn**	**13 28 49.9**	**-0.6**
	baz=19						
MIAR	**Mount Ida**	**18.95**	**3**	*e*P	**Pn**	**13 28 48.5**	**-2.1**
224A	**Cornudas Mount**	**19.23**	**331**	P	**Pn**	**13 28 52.4**	**-1.6**
	baz=19						
125A	**Gardner Draw,**	**19.33**	**334**	P	**Pn**	**13 28 53.6**	**-1.7**
	baz=19						
Z27A	**Tatum**	**19.34**	**338**	P	**Pn**	**13 28 53.8**	**-1.6**
	baz=19,SNR=5.9						
WMOK	**Wichita Mounta**	**19.48**	**350**	*e*P	**Pn**	**13 28 53.4**	**-3.6**
	8.4nm,1.2s						
Z26A	**Caprock**	**19.59**	**336**	P	**Pn**	**13 28 56.2**	**-2.2**
	baz=20						
124A	**Stringfield Ra**	**19.72**	**332**	P	**Pn**	**13 28 59.3**	**-0.6**
	baz=20						
MSTX	**Muleshoe**	**19.77**	**340**	P	**Pn**	**13 28 59.6**	**-0.9**
	baz=20						
Y27A	**Causey**	**19.83**	**339**	P	**Pn**	**13 28 58.9**	**-2.3**
	baz=20						
Z25A	**Roswell**	**19.89**	**334**	P	**Pn**	**13 28 59.6**	**-2.3**
	baz=20						
320A	**Kipp Ranch, An**	**20.23**	**323**	P	**P**	**13 29 05.5**	**+1.7**
	baz=20						
AMTX	**Amarillo**	**20.28**	**343**	P	**P**	**13 29 04.5**	**+0.1**
	baz=20						
Y25A	**Mesa, Roswell**	**20.44**	**335**	P	**P**	**13 29 06.1**	**-0.1**
	baz=20,SNR=5.0						
Z23A	**Rita Site, Whi**	**20.55**	**331**	P	**P**	**13 29 07.7**	**+0.4**
	baz=21						
220A	**Playas Peak, P**	**20.65**	**325**	P	**P**	**13 29 09.2**	**+0.8**
	baz=21						
319A	**Douglas**	**20.69**	**322**	P	**P**	**13 29 09.7**	**+0.7**
	baz=21						
121A	**Cookes Peak, D**	**20.73**	**327**	P	**P**	**13 29 10.5**	**+1.2**
	baz=21,SNR=7.8						
Y24A	**Capitan**	**20.75**	**334**	P	**P**	**13 29 09.6**	**+0.1**
	baz=21						
W27A	**Bowe Ranch, En**	**20.87**	**340**	P	**P**	**13 29 10.3**	**-0.5**
	baz=21						
Z22A	**Elephant Butte**	**20.89**	**330**	P	**P**	**13 29 11.2**	**+0.2**
	baz=21						
Y23A	**Lovelace Mesa,**	**21.03**	**333**	P	**P**	**13 29 12.6**	**0.0**
	baz=21						
318A	**Bisbee**	**21.16**	**321**	P	**P**	**13 29 15.0**	**+1.0**
	baz=21						
120A	**U Bar Ranch, L**	**21.19**	**326**	P	**P**	**13 29 15.0**	**+0.6**
	baz=21						
Z21A	**St. Cloud Mine**	**21.28**	**329**	P	**P**	**13 29 15.6**	**+0.3**
	baz=21						
Y22A	**Socorro**	**21.45**	**331**	P	**P**	**13 29 17.2**	**+0.1**
	baz=22,SNR=6.5						
BNM	**Barren Site**	**21.47**	**332**	*e*P	**P**	**13 29 17.3**	**0.0**
	3.6nm,0.8s,mb3.8						
W25A	**X Bar L Ranch,**	**21.50**	**338**	P	**P**	**13 29 17.2**	**-0.4**
	baz=22						
Z20A	**Nine Sixteen R**	**21.60**	**327**	P	**P**	**13 29 19.9**	**+1.1**
	baz=22						
119A	**Ashpeak Ranch,**	**21.73**	**325**	P	**P**	**13 29 21.0**	**+1.0**
	baz=22						
V26A	**Tequesquite Ra**	**21.78**	**340**	P	**P**	**13 29 20.5**	**-0.1**
	baz=22						
Y21A	**Point of Rocks**	**21.84**	**330**	P	**P**	**13 29 21.9**	**+0.5**
	baz=22						
W24A	**Lazy 6 Ranch,**	**21.85**	**336**	P	**P**	**13 29 21.7**	**+0.3**
	baz=22						
LAZ	**Ladron**	**21.91**	**331**	*e*P	**P**	**13 29 23.2**	**+1.2**
	3.9nm,1.2s,mb3.7						
118A	**Homack Ranch,**	**22.01**	**323**	P	**P**	**13 29 23.2**	**+0.1**
	baz=22						
ANMO	**Albuquerque**	**22.07**	**333**	P	**P**	**13 29 23.3**	**-0.4**
	0.8nm,0.5s,mb3.4,baz=151,slow=11,SNR=5.2						
ANMO	**Albuquerque**	**22.07**	**333**	*e*P	**P**	**13 29 23.9**	**+0.2**
Z19A	**T-Link Ranch,**	**22.10**	**326**	P	**P**	**13 29 24.8**	**+0.7**
	baz=22						
V25A	**Rancho No Teng**	**22.11**	**338**	P	**P**	**13 29 23.6**	**-0.6**
	baz=22,SNR=7.6						
W23A	**Werner Place,**	**22.11**	**334**	P	**P**	**13 29 24.4**	**+0.2**
	baz=22						
Y20A	**Horse Springs,**	**22.11**	**328**	P	**P**	**13 29 25.

baz=26
PV01 **Paradox Valley** 25.66 334 *e*P P 13 29 59.3 +0.8
350nm,1.0s
P23A **Jefferson** 25.70 340 ⇑P P 13 30 00.0 +1.1
baz=26
O22A **Kremmling** 26.65 339 ⇑P P 13 30 09.5 +2.0
baz=27
SJG **San Juan** 27.34 81 LR LR 13 41 20.1
comp=Z,36nm,18.1s,MS3.0,baz=130,slow=37
PDAR **Pinedale Array** 30.01 338 P P 13 30 35.6 -1.8
0.3nm,0.8s,mb3.1,baz=153,slow=10.0,SNR=3.6
PDAR **Pinedale Array** 30.01 338 P P 13 30 35.6 -1.8
L14A **Malta** 30.90 332 ⇓P P 13 30 45.5 +0.2
baz=31
NVAR **Mina Array Bea** 30.91 322 P P 13 30 44.6 -0.7
0.9nm,0.7s,mb3.7,baz=125,slow=7.4,SNR=6.0
NVAR LR LR 13 44 57.1
comp=Z,139nm,18.6s,MS3.6,baz=318,slow=40
NVAR **Mina Array Bea** 30.91 322 P P 13 30 44.6 -0.7
J17A **Brown Place, J** 30.95 337 ⇑P P 13 30 44.7 -1.0
baz=31
H19A **Powell** 31.49 340 ⇑P P 13 30 49.8 -0.6
baz=32
H18A **Shoshone NF, C** 31.72 339 ⇓P P 13 30 52.0 -0.4
baz=32
RLMT **Red Lodge** 31.98 340 ⇓P P 13 30 54.5 -0.2
baz=32
J14A **Carey** 32.06 334 ⇓P P 13 30 55.0 -0.4
baz=32
G18A **Lazy EL Ranch,** 32.25 340 ⇑P P 13 30 56.6 -0.4
baz=32
J13A **Cove Ranch, Pi** 32.40 333 ⇓P P 13 30 57.5 -0.9
baz=32
I14A **Mackay** 32.52 334 ⇑P P 13 30 58.9 -0.6
baz=33
F19A **Roth Farm, Mol** 32.53 341 ⇑P P 13 30 57.6 -2.0
baz=33
HLID **Hailey** 32.64 333 ⇑P P 13 31 00.4 -0.1
baz=33
HLID **Hailey** 32.64 333 P P 13 30 59.8 -0.8
1.8nm,0.9s,mb4.0
H15A **Lima** 32.76 336 ⇑P P 13 31 02.5 +0.9
baz=33
I13A **Wildhorse Cree** 32.79 334 ⇑P P 13 31 02.9 +1.0
baz=33
F18A **Big Timber** 32.82 340 ⇓P P 13 31 01.5 -0.5
baz=33
E20A **Meyer Farm, Mu** 32.87 343 ⇓P P 13 31 01.9 -0.6
baz=33
D22A **Cohagen** 32.95 345 ⇓P P 13 31 03.0 -0.2
baz=33
MCMT **McKenzie Canyo** 33.02 336 *e*P P 13 31 04.2 +0.4
1.6nm,1.1s,mb3.9
E19A **Rath Farm, Rou** 33.03 342 ⇓P P 13 31 03.7 -0.2
baz=33
H14A **Leadore** 33.05 335 ⇓P P 13 31 04.1 0.0
baz=33
F17A **Fitzpatrick Pl** 33.13 339 ⇑P P 13 31 05.3 +0.5
baz=33
I12A **Atlanta** 33.14 332 ⇓P P 13 31 06.0 +1.1
baz=33
G15A **Dillon** 33.16 337 ⇓P P 13 31 05.9 +0.9
baz=33
H13A **Challis** 33.38 334 ⇑P P 13 31 07.6 +0.7
baz=33
D20A **Manuel Ranch,** 33.41 343 ⇓P P 13 31 06.3 -0.9
baz=33
E18A **Harlowton** 33.47 341 ⇑P P 13 31 07.3 -0.5
baz=34
H12A **Diamond D Ranc** 33.62 333 ⇓P P 13 31 09.2 +0.1
baz=34,SNR=5.3
E17A **Martinsdale** 33.69 340 ⇑P P 13 31 09.2 -0.4
baz=34
D19A **Cripps Ranch,** 33.69 342 ⇓P P 13 31 09.5 -0.2
baz=34
LRM **Limekiln Ridge** 33.70 337 *e*P P 13 31 09.5 -0.2
12nm,0.8s,mb4.9
F15A **Butte** 33.73 337 ⇑P P 13 31 09.7 -0.4
baz=34
G13A **Cobalt** 33.79 335 ⇑P P 13 31 10.9 +0.4
baz=34
D18A **Linhart Farms,** 33.99 341 ⇑P P 13 31 11.9 -0.4
baz=34,SNR=5.4
E16A **East Helena** 34.03 339 ⇑P P 13 31 12.8 +0.2
baz=34
F14A **Wisdom** 34.04 336 ⇑P P 13 31 12.9 +0.2
baz=34
D17A **Six Diamond Ra** 34.24 340 ⇓P P 13 31 13.9 -0.4
baz=34
E15A **Deer Lodge** 34.28 338 ⇓P P 13 31 14.4 -0.4
baz=34
G12A **Big Creek, Yel** 34.28 334 ⇑P P 13 31 15.0 +0.1
baz=34
F13A **Darby** 34.40 335 ⇓P P 13 31 15.9 0.0
baz=34
J08A **Circle Bar Ran** 34.41 329 ⇑P P 13 31 16.3 +0.4
baz=34
D16A **Dana Ranch, Ca** 34.42 339 ⇓P P 13 31 15.8 -0.2
baz=34
B20A **Solberg Farm,** 34.61 344 ⇓P P 13 31 17.4 -0.2
baz=35
C17A **Wharram Farm,** 34.68 341 ⇓P P 13 31 17.6 -0.7
baz=35,SNR=6.8
EGMT **Eagleton** 34.72 342 ⇓P P 13 31 18.1 -0.5
baz=35
D15A **Lincoln** 34.76 338 ⇓P P 13 31 18.7 -0.3
baz=35
E13A **Victor** 34.88 336 ⇓P P 13 31 19.7 -0.3
baz=35
B18A **Beardsley Farm** 35.06 342 ⇓P P 13 31 21.3 -0.2
baz=35
MSO **Missoula** 35.11 337 ⇑P P 13 31 21.9 0.0
baz=35
C16A **Fuhringer Ranc** 35.15 340 ⇓P P 13 31 22.2 -0.1
baz=35
D14A **Greenough** 35.16 337 ⇓P P 13 31 22.0 -0.3
baz=35
A19A **Klindworth Far** 35.25 344 ⇓P P 13 31 22.6 -0.6
baz=35
D13A **Huson** 35.52 336 ⇓P P 13 31 25.2 -0.3
baz=36
A18A **Metzger Ranch,** 35.55 343 ⇓P P 13 31 24.7 -1.1
baz=36
B16A **M & M Farms, S** 35.67 340 ⇑P P 13 31 26.0 -0.7
baz=36
F10A **Beach Ranch, E** 35.77 333 ⇓P P 13 31 26.9 -0.8
baz=36,SNR=6.9
A17A **Triple J Farms** 35.83 342 ⇑P P 13 31 27.6 -0.5
baz=36
D12A **Red Ives Fores** 35.84 336 ⇓P P 13 31 27.0 -1.2
baz=36
B15A **Bradely Ranch,** 35.87 339 ⇑P P 13 31 27.8 -0.7
baz=36
A16A **West Butte Ran** 36.11 341 ⇑P P 13 31 29.7 -0.7
baz=36
C12B **Naegeli Ranch,** 36.42 336 ⇑P P 13 31 32.9 -0.3
baz=36
B13A **Whitefish** 36.59 338 ⇓P P 13 31 35.2 +0.6
baz=37
E09A **Wood Farm, Sta** 36.60 332 ⇓P P 13 31 34.7 0.0
baz=37
A14A **Double T Ranch** 36.73 339 ⇑P P 13 31 35.1 -0.7
baz=37
C11A **Tepee Creek (N** 36.84 336 ⇓P P 13 31 36.4 -0.4
baz=37
A13A **Flathead Natio** 37.04 338 ⇑P P 13 31 38.2 -0.3
baz=37
B12A **Libby** 37.09 337 ⇓P P 13 31 38.7 -0.1
baz=37
LPAZ **La Paz** 41.02 139 LR LR 13 47 32.5
comp=Z,48nm,20.1s,MS3.4,baz=233,slow=34
YKA **Yellowknife Ar** 48.98 348 P P 13 33 12.9 -1.9
0.8nm,0.6s,mb4.0,baz=153,slow=7.2,SNR=6.8
YKA **Yellowknife Ar** 48.98 348 P P 13 33 12.9 -1.9
CFAA **Coronel Fontan** 53.27 152 P P 13 33 46.1 -1.4
0.1nm,0.4s,mb3.1,baz=4.5,slow=9.5,SNR=5.3
CFAA **Coronel Fontan** 53.27 152 P P 13 33 46.1 -1.4
ILAR **Eielson Array** 60.44 337 P P 13 34 37.0 -1.0
1.1nm,0.8s,mb3.9,baz=138,slow=4.3,SNR=13
ILAR **Eielson Array** 60.44 337 P P 13 34 37.0 -1.0
ESDC **Sonseca Array** 80.73 51 P P 13 36 40.7 -1.5
1.6nm,0.9s,mb4.0,baz=278,slow=4.4,SNR=7.4
ESDC LR LR 14 07 18.3
comp=Z,36nm,18.2s,MS3.8,baz=340,slow=32
ESDC **Sonseca Array** 80.73 51 P P 13 36 40.7 -1.5
WRA **Warramunga Arr** 133.31 257 PKP PKPdf 13 43 42.5 -2.9
0.3nm,0.7s,baz=89,slow=4.0,SNR=5.5
WRA **Warramunga Arr** 133.31 257 PKP PKPdf 13 43 42.5 -2.9

IDC 08 13:56:50.2±2.2,2°.02N×126°.41E,h0km,mb3.1/3,
mb1 3.4/3,mb1mx3.2/17,mbtmp3.2/3,Error ellipse:
s-maj=189.2km s-min=25.9km az=66.0,Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.17**	**161**	P	P	14 01 58.2	-0.2
	0.7nm,0.7s,baz=339,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**26.55**	**164**	P	P	14 02 30.3	+0.4
	0.2nm,0.8s,baz=346,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**58.78**	**326**	P	P	14 06 50.1	-0.1
	0.2nm,0.6s,baz=113,slow=7.2,SNR=5.3						

*ISCJB **08** 13:58:43.0±0.1,29°.31S±0°.02×71°.28W±0°.04,h53km,*
mb4.5/18,MS3.8/5,Error ellipse: s-maj=5.5km
s-min=2.9km az=168.0
*NEIC **08** 13:58:43.8±0.3,29°.19S×71°.13W,mb4.7/18,Error ellipse:*
s-maj=13.2km s-min=6.7km az=52.0
NEIC Felt [II] at La Serena.
*GUC **08** 13:58:43.3±0.7,29°.33S×71°.23W,h54km±19km,ML5.1*
*IDC **08** 13:58:43.7±0.6,29°.33S×71°.32W,h56km±4km,mb4.2/7,*
mb1 4.3/10,mb1mx4.1/16,mbtmp4.1/10,MS3.7/8,
Ms1 3.7/8,ms1mx3.5/23,Error ellipse: s-maj=26.8km
s-min=10.7km az=47.0
*BJI **08** 13:58:44.7,29°.20S×71°.10W,h52km,mB4.8/4,Ms5.3/4,*
Ms7 5.0/4
ISC 08 13:58:44.6±0.2,29°.32S±0°.02×71°.13W±0°.05,h55km,
h55km±1.0km:pP-P,n265,σ0°.68/223,mb4.5/18,MS3.8/5,
74C-94D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.48**	**51**	*e*Pg	**Pn**	**13 58 56.0**	**-0.1**
LCO				Sg	**Sn**	**13 59 04.9**	**+0.6**
LCO	**Las Campanas**	**0.48**	**51**	⇑P	**Pn**	**13 58 56.5**	**+0.4**
VACH	**Vallenar**	**0.81**	**24**	⇓*e*P	**Pn**	**13 58 59.7**	**-0.3**
VACH				*e*S	**Sn**	**13 59 11.8**	**+0.5**
VACH				AML	AML	13 59 13.3	
	comp=E,103μm,0.6s						
TLL	**Tololo Astrono**	**0.89**	**162**	*e*P	**Pn**	**13 59 01.3**	**+0.3**
TLL				*e*S	**Sn**	**13 59 14.4**	**+1.3**
OVCH	**Ovalle**	**1.28**	**183**	*e*P	**Pn**	**13 59 05.3**	**-1.0**
OVCH				*e*S	**Sn**	**13 59 21.6**	**-0.9**
CMCH	**Combarbala**	**1.85**	**177**	⇓*e*P	**Pn**	**13 59 13.1**	**-0.8**
CMCH				*e*S	**Sn**	**13 59 36.0**	**-0.2**
CMCH				AML	AML	13 59 47.9	
	comp=E,25μm,0.9s						
CPCH	**Copiapo**	**2.07**	**19**	⇓*e*P	**Pn**	**13 59 16.4**	**-0.6**
CPCH				*e*S	**Sn**	**13 59 42.3**	**+0.6**
CPCH				AML	AML	13 59 47.4	
	comp=N,19μm,0.1s						
CDCH	**Caldera**	**2.26**	**7**	*e*P	**Pn**	**13 59 17.1**	**-2.5**
CDCH				*e*S	**Sn**	**13 59 44.7**	**-1.6**
CHNG	**Los Chungos**	**2.57**	**187**	*e*P	**Pn**	**13 59 22.7**	**-1.1**
PTCH	**Petorca**	**2.94**	**177**	*e*P	**Pn**	**13 59 28.3**	**-0.5**
PTCH				AML	AML	14 00 18.8	
	comp=E,6μm,0.8s						
CFAA	**Coronel Fontan**	**3.38**	**133**	P	**Pn**	**13 59 37.3**	**+2.5**
	comp=E,3.8nm,0.3s,baz=315,slow=13,SNR=230						
CFAA				S	**Sn**	**14 00 16.9**	**+3.2**
	comp=E,11nm,0.3s,baz=221,slow=23,SNR=4.6						
CFAA	**Coronel Fontan**	**3.38**	**133**	P	**Pn**	**13 59 37.3**	**+2.5**
CFAA				S	**Sn**	**14 00 16.9**	**+3.2**
JACH	**Jahuel**	**3.38**	**172**	*e*P	**Pn**	**13 59 35.8**	**+0.9**
ROCH	**El Roble**	**3.64**	**178**	⇓*e*P	**Pn**	**13 59 38.2**	**-0.2**
ROCH				AML	AML	14 00 39.6	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**3.83**	**174**	*e*P	**Pn**	**13 59 41.1**	**+0.1**
FCH	**Farellones**	**4.06**	**170**	*e*P	**Pn**	**13 59 44.4**	**+0.2**
LMEL	**Las Melosas**	**4.58**	**170**	*e*P	**Pn**	**13 59 53.0**	**+1.7**
PLCA	**Paso Flores**	**11.40**	**178**	LR	LR	14 05 48.7	
	comp=E,277nm,20.3s,baz=355,slow=37						
TRQA	**Tornquist**	**11.57**	**141**	*e*Pn	**Pn**	**14 01 25.3**	**-1.6**
	comp=E,65nm,0.9s						
LPAZ	**La Paz**	**13.26**	**13**	P	**Pn**	**14 01 51.7**	**+1.6**
	comp=E,0.8nm,0.3s,baz=192,slow=7.1,SNR=20						
LPAZ				LR	LR	14 07 01.0	
	comp=E,230nm,20.1s,baz=54,slow=37						
LPAZ	**La Paz**	**13.26**	**13**	*e*Pn	**Pn**	**14 01 45.7**	**-4.4**
	comp=E,11nm,1.0s						
NNA	**Nana**	**18.05**	**342**	P	**Pn**	**14 02 50.2**	**-1.3**
	comp=E,0.5nm,0.3s,baz=229,slow=7.2,SNR=4.8						
NNA				LR	LR	14 08 21.5	
	comp=E,125nm,20.3s,baz=129,slow=32						
NNA	**Nana**	**18.05**	**342**	P	**Pn**	**14 02 50.2**	**-1.3**
SPB	**Sao Paulo**	**21.95**	**80**	*e*P	**P**	**14 03 33.4**	**-0.3**
	comp=E,52nm,1.0s,mb4.9						
ATAH	**Atahualpa**	**23.11**	**341**	LR	LR	14 10 47.6	
	comp=E,155nm,20.5s,MS3.4,baz=316,slow=31						
USHA	**Ushuaia**	**25.57**	**176**	LR	LR	14 15 20.0	
	comp=E,162nm,21.7s,MS3.5,baz=215,slow=39						
TEIG	**Tepich**	**51.96**	**339**	*e*P	**P**	**14 07 46.6**	**-1.5**
VNA3	**Neumayer Olymp**	**53.42**	**159**	*e*	**P**	**14 07 56.9**	**-1.4**
VNA3				*e*	pP	14 08 12.6	-0.6
VNA3				*e*		14 08 18.8	
VNA2	**Neumayer--Watz**	**54.05**	**159**	*e*	**P**	**14 08 03.0**	**+0.1**
	baz=294,slow=8.0						
VNA2				*e*	pP	14 08 16.9	-0.9
VNA2				*e*		14 08 23.3	
SNAA	**Sanae**	**55.64**	**159**	*e*	**P**	**14 08 02.2**	**-12**
SNAA				*e*	pP	14 08 16.1	-13
SNAA				*e*		14 08 22.7	
SNAA	**Sanae**	**55.64**	**159**	*e*P	**P**	**14 08 16.1**	**+1.6**
	comp=E,13nm,0.9s,mb5.0						
RKT	**Rikitea**	**57.00**	**260**	*e*T		15 09 33.3	
	comp=E,3.8nm,0.3s						
JCT	**Junction City**	**65.44**	**333**	⇑P	**P**	**14 09 21.9**	**+0.2**
	baz=66						
628A	**Black Gap, Mar**	**65.87**	**330**	⇑P	**P**	**14 09 24.7**	**+0.3**
	baz=66						
627A	**Terlingua Ranc**	**66.06**	**329**	⇓P	**P**	**14 09 25.7**	**0.0**
	baz=66						
TXAR	**Lajitas Array**	**66.08**	**329**	P	**P**	**14 09 25.4**	**-0.4**
	comp=E,1.2nm,0.8s,mb4.0,baz=150,slow=8.6,SNR=8.3						
TXAR				pP	pP	14 09 40.0	-1.1
	comp=E,2.0nm,0.8s,baz=146,slow=9.1,SNR=14						
TXAR	**Lajitas Array**	**66.08**	**329**	P	**P**	**14 09 25.4**	**-0.5**
TXAR				pP	pP	14 09 40.0	-1.1
528A	**Cox Ranch, San**	**66.41**	**330**	⇓P	**P**	**14 09 27.8**	**-0.1**
	baz=67						
626A	**Big Bend Ranch**	**66.48**	**329**	⇓P	**P**	**14 09 28.3**	**-0.1**
	baz=67						
527A	**Woodward Ranch**	**66.75**	**330**	⇓P	**P**	**14 09 30.0**	**-0.1**
	baz=67						
428A	**Kincaid Ranch,**	**66.85**	**331**	⇑P	**P**	**14 09 30.3**	**-0.4**
	baz=67						
526A	**Mary Lane Ranc**	**66.89**	**329**	⇑P	**P**	**14 09 31.1**	**+0.1**
	baz=67						
427A	**Hayter Ranch,**	**67.27**	**330**	⇓P	**P**	**14 09 33.4**	**+0.1**
	baz=68						
426A	**McDonald Obser**	**67.39**	**330**	⇓P	**P**	**14 09 33.9**	**-0.2**
	baz=68						
328A	**Wristen Ranch,**	**67.47**	**331**	⇑P	**P**	**14 09 34.4**	**-0.2**
	baz=68						
425A	**Indio Mountain**	**67.91**	**329**	⇓P	**P**	**14 09 36.9**	**-0.5**
	baz=68						
325A	**Bean Ranch, Si**	**68.40**	**329**	⇑P	**P**	**14 09 40.6**	**+0.1**
	baz=69						
BBTS	**Babate**	**68.46**	**58**	LR	LR	14 38 52.1	
	comp=E,77nm,18.8s,MS4.0,baz=264,slow=35						
226A	**Malaga, Loving**	**68.61**	**330**	⇓P	**P**	**14 09 41.2**	**-0.5**
	baz=69						
MNTX	**Cornudas Mount**	**68.87**	**329**	⇑P	**P**	**14 09 41.9**	**-1.4**
	baz=69						
TBI	**Tubuai**	**69.25**	**254**	*e*T		15 24 54.8	
	comp=E,5.7nm,0.2s						
224A	**Cornudas Mount**	**69.25**	**329**	⇓P	**P**	**14 09 44.6**	**-1.1**
	baz=70						
125A	**Gardner Draw,**	**69.36**	**330**	⇓P	**P**	**14 09 45.1**	**-1.3**
	baz=70						
Z26A	**Caprock**	**69.60**	**331**	⇓P	**P**	**14 09 46.8**	**-1.0**
	baz=70						
CCM	**Cathedral Cave**	**69.62**	**343**	*e*P	**P**	**14 09 45.1**	**-2.7**
	comp=E,30nm,1.1s,mb5.1						
CCM				*e*pP	pP	14 10 01.4	-1.8
MSTX	**Muleshoe**	**69.70**	**332**	⇓P	**P**	**14 09 47.2**	**-1.2**
	baz=70						
124A	**Stringfield Ra**	**69.75**	**330**	⇑P	**P**	**14 09 48.2**	**-0.6**
	baz=70						
Z25A	**Roswell**	**69.92**	**330**	⇓P	**P**	**14 09 49.3**	**-0.5**
	baz=70						
SYO	**Syowa Base**	**69.93**	**159**	⇑*e*P	**P**	**14 09 47.0**	**-2.5**
SYO	**Syowa Base**	**69.93**	**159**	⇑*e*pP	pP	14 10 03.0	-1.9
220A	**Playas Peak, P**	**70.50**	**327**	⇑P	**P**	**14 09 54.0**	**+0.6**
	baz=71						
Z23A	**Rita Site, Whi**	**70.57**	**329**	⇓P	**P**	**14 09 54.4**	**+0.6**
	baz=71						
121A	**Cookes Peak, D**	**70.67**	**328**	⇑P	**P**	**14 09 55.2**	**+0.7**
	baz=71						
Z22A	**Elephant Butte**	**70.89**	**329**	⇑P	**P**	**14 09 56.0**	**+0.3**
	baz=71						
219A	**White Tail Can**	**70.93**	**326**	⇑P	**P**	**14 09 56.2**	**+0.2**
	baz=71						
Y23A	**Lovelace Mesa,**	**71.06**	**330**	⇑P	**P**	**14 09 56.8**	**+0.1**
	baz=71						
120A	**U Bar Ranch, L**	**71.08**	**327**	⇑P	**P**	**14 09 57.7**	**+0.8**
	baz=71						
218A	**Dragoon**	**71.29**	**326**	⇓P	**P**	**14 09 58.6**	**+0.4**
	baz=72						
Z20A	**Nine Sixteen R**	**71.53**	**327**	⇓P	**P**	**14 09 59.7**	**+0.1**
	baz=72						
TIAR	**Tiarei**	**71.57**	**260**	*e*T		15 27 45.0	
	comp=E,8.9nm,0.2s						
119A	**Ashpeak Ranch,**	**71.58**	**327**	⇓P	**P**	**14 10 00.0**	**+0.1**
	baz=72						
V26A	**Tequesquite Ra**	**71.70**	**332**	⇓P	**P**	**14 09 59.9**	**-0.6**
	baz=72						
PPT	**Papeete**	**71.76**	**260**	*e*LR	LR	14 32 01.3	
	comp=E,118nm,22.8s						
W24A	**Lazy 6 Ranch,**	**71.86**	**331**	⇓P	**P**	**14 10 01.6**	**+0.1**
	baz=72						
Z19A	**T-Link Ranch,**	**71.99**	**327**	⇓P	**P**	**14 10 02.7**	**+0.3**
	baz=72						
V25A	**Rancho No Teng**	**72.07**	**332**	⇑P	**P**	**14 10 02.3**	**-0.5**
	baz=72						
Y20A	**Horse Springs,**	**72.08**	**328**	⇑P	**P**	**14 10 03.3**	**+0.3**
	baz=72						
X21A	**Alamocita Cree**	**72.26**	**329**	⇓P	**P**	**14 10 04.3**	**+0.3**
	baz=72						
U25A	**Circle Dot Ran**	**72.47**	**332**	⇑P	**P**	**14 10 05.0**	**-0.1**
	baz=73						
Y19A	**Nutrioso**	**72.53**	**327**	⇑P	**P**	**14 10 06.3**	**+0.7**
	baz=73						
CBKS	**Cedar Bluff**	**72.85**	**337**	⇓P	**P**	**14 10 07.5**	**+0.2**
	baz=73						
DBIC	**Dimbokro**	**72.97**	**72**	P	**P**	**14 10 08.0**	**-0.7**
	comp=E,9.2nm,0.6s,mb4.9,baz=207,slow=6.5,SNR=23						
DBIC				LR	LR	14 38 42.3	
	comp=E,67nm,19.5s,MS3.9,baz=220,slow=33						
DBIC	**Dimbokro**	**72.97**	**72**	*e*P	**P**	**14 10 07.6**	**-1.1**
	comp=E,9.6nm,0.8s,mb4.8						
Y17A	**Roosevelt**	**73.08**	**326**	⇑P	**P**	**14 10 09.3**	**+0.4**
	baz=73						
V22A	**San Miguel Ran**	**73.11**	**330**	⇑P	**P**	**14 10 09.4**	**+0.5**
	baz=73						
T25A	**Trinidad**	**73.11**	**333**	⇓P	**P**	**14 10 09.2**	**+0.2**
	baz=73						
W20A	**Ramah**	**73.15**	**329**	⇓P	**P**	**14 10 09.6**	**+0.4**
	baz=73						
V21A	**Milan**	**73.33**	**330**	⇑P	**P**	**14 10 10.3**	**0.0**
	baz=74						
S25A	**Robets Cordova**	**73.57**	**333**	⇓P	**P**	**14 10 11.7**	**+0.1**
	baz=74						
X17A	**Forest Lakes**	**73.58**	**327**	⇑P	**P**	**14 10 12.1**	**+0.3**
	baz=74						
W18A	**Petrified Fore**	**73.71**	**328**	⇓P	**P**	**14 10 13.4**	**+0.9**
	baz=74						
113A	**Mohawk Valley,**	**73.81**	**324**	⇑P	**P**	**14 10 13.1**	**0.0**
	baz=74						
U21A	**Nageezi**	**73.86**	**330**	⇓P	**P**	**14 10 13.9**	**+0.5**
	baz=74						
S24A	**Houchin Ranch,**	**73.86**	**332**	⇓P	**P**	**14 10 14.1**	**+0.7**
	baz=74						
R25A	**Fountain Ranch**	**73.93**	**333**	⇑P	**P**	**14 10 14.0**	**+0.3**
	baz=74						
X16A	**Lo Mia Camp, P**	**73.95**	**326**	⇑P	**P**	**14 10 14.7**	**+0.7**
	baz=74,SNR=5.1						
T22A	**Edith**	**74.03**	**331**	⇓P	**P**	**14 10 14.6**	**+0.3**
	baz=74						
SDCO	**Great Sand Dun**	**74.07**	**332**	⇓P	**P**	**14 10 14.5**	**-0.1**
	baz=74						
Z13A	**Yuma Proving G**	**74.09**	**324**	⇑P	**P**	**14 10 15.2**	**+0.4**
	baz=74						
W17A	**Winslow**	**74.14**	**327**	⇑P	**P**	**14 10 15.4**	**+0.4**
	baz=74						
U20A	**Newcomb**	**74.20**	**329**	⇑P	**P**	**14 10 15.2**	**-0.1**
	baz=74						
R24A	**Sanders Place,**	**74.33**	**333**	⇓P	**P**	**14 10 16.4**	**+0.3**
	baz=75						
U19A	**Dine' College,**	**74.44**	**329**	⇑P	**P**	**14 10 17.4**	**+0.6**
	baz=75						
R23A	**Moffat**	**74.58**	**332**	⇓P	**P**	**14 10 18.0**	**+0.5**
	baz=75						
V17A	**Tonalea, Kykot**	**74.62**	**327**	⇓P	**P**	**14 10 18.7**	**+0.8**
	baz=75						
T19A	**Beclabito**	**74.80**	**329**	⇓P	**P**	**14 10 19.5**	**+0.7**
	baz=75						
WUAZ	**Wupatki**	**74.81**	**327**	⇑P	**P**	**14 10 19.9**	**+1.0**
	baz=75						
MVCO	**Mesa Verde**	**74.89**	**330**	⇓P	**P**	**14 10 19.8**	**+0.5**
	baz=75						
S21A	**Coal Bank Pass**	**74.96**	**331**	⇑P	**P**	**14 10 20.6**	**+0.8**
	baz=75						
Y12C	**Blythe**	**74.97**	**324**	⇓P	**P**	**14 10 20.9**	**+1.0**
	baz=75						
Q24A	**Divide**	**74.98**	**333**	⇓P	**P**	**14 10 19.9**	**+0.1**
	baz=75						
R22A	**Saguache, Gunn**	**75.00**	**332**	⇑P	**P**	**14 10 20.6**	**+0.7**
	baz=75						
P25A	**Willow Gulch B**	**75.07**	**334**	⇑P	**P**	**14 10 20.5**	**+0.1**
	baz=75						
U16A	**Tuba City**	**75.20**	**327**	⇑P	**P**	**14 10 21.7**	**+0.6**
	baz=75						
MONP	**Monument Peak**	**75.31**	**322**	⇑P	**P**	**14 10 22.7**	**+0.9**
	baz=76						
S20A	**Disappointment**	**75.34**	**330**	⇑P	**P**	**14 10 22.5**	**+0.6**
	baz=76						
BC3	**Big Chuckawall**	**75.38**	**323**	⇓P	**P**	**14 10 22.2**	**-0.1**
	baz=76						
T18A	**Mexican Hat**	**75.44**	**329**	⇑P	**P**	**14 10 22.2**	**-0.3**
	baz=76						
Q22A	**Crested Butte,**	**75.60**	**332**	⇑P	**P**	**14 10 23.0**	**-0.4**
	baz=76						
S19A	**Harvey Farm, M**	**75.61**	**330**	⇑P	**P**	**14 10 23.2**	**-0.3**
	baz=76						
IRM	**Iron Mountain**	**75.61**	**323**	⇓P	**P**	**14 10 23.7**	**+0.2**
	baz=76						
R20A	**Redvale**	**75.65**	**331**	⇓P	**P**	**14 10 24.1**	**+0.4**
	baz=76						
W13A	**Hualapai Mount**	**75.70**	**325**	⇓P	**P**	**14 10 24.5**	**+0.4**
	baz=76						
T17A	**Navajo Res., N**	**75.75**	**328**	⇑P	**P**	**14 10 24.8**	**+0.5**
	baz=76						
SMCO	**Snowmass**	**75.89**	**332**	*e*P	**P**	**14 10 25.7**	**+0.6**
	comp=E,12nm,1.1s,mb4.8						
SMCO				*e*pP	pP	14 10 40.1	-0.5
S18A	**Hurst Farm, Bl**	**75.95**	**329**	⇓P	**P**	**14 10 26.0**	**+0.6**
	baz=76,SNR=6.7						
U15A	**North Rim**	**75.98**	**327**	⇑P	**P**	**14 10 27.0**	**+1.4**
	baz=76						
R19A	**Curley Farm, L**	**76.12**	**330**	⇑P	**P**	**14 10 26.9**	**+0.6**
	baz=76						
P21A	**Newcastle**	**76.38**	**332**	⇓P	**P**	**14 10 28.7**	**+0.9**
	baz=77						
O22A	**Kremmling**	**76.56**	**333**	⇓P	**P**	**14 10 28.7**	**-0.1**
	baz=77						
S16A	**Weppner Ranch,**	**76.70**	**328**	⇓P	**P**	**14 10 29.9**	**+0.3**
	baz=77						
R17A	**Hanksville Air**	**76.87**	**329**	⇓P	**P**	**14 10 30.8**	**+0.2**
	baz=77						
N22A	**Wattenberg Ran**	**77.07**	**333**	⇑P	**P**	**14 10 32.3**	**+0.7**
	baz=77						
P19A	**Cripple Cowboy**	**77.11**	**331**	⇓P	**P**	**14 10 32.4**	**+0.4**
	baz=77						
Q18A	**Rafter H Ranch**	**77.17**	**330**	⇑P	**P**	**14 10 32.5**	**+0.2**
	baz=77						
O20A	**White River Ci**	**77.22**	**332**	⇓P	**P**	**14 10 32.4**	**-0.1**
	baz=77						
MAW	**Mawson**	**77.44**	**164**	P	**P**	**14 10 32.8**	**-0.7**
	comp=E,11nm,1.2s,mb4.7,baz=204,slow=6.5,SNR=6.5						
MAW

	baz=78						
N20A	**Spence Gulch,**	**77.82**	**332**	⇑P	**P**	**14 10 36.5**	**+0.6**
	baz=78						
R13A	**O'Grain Ranch,**	**78.18**	**327**	⇓P	**P**	**14 10 38.4**	**+0.4**
	baz=78						
MPMC	**Manual Prospec**	**78.30**	**323**	⇓P	**P**	**14 10 38.6**	**0.0**
	baz=78						
O17A	**Robinson Place**	**78.34**	**330**	⇑P	**P**	**14 10 39.1**	**+0.4**
	baz=79,SNR=5.2						
M20A	**Sweetwater, Wa**	**78.34**	**332**	⇓P	**P**	**14 10 38.9**	**+0.1**
	baz=79						
L21A	**Rawlins**	**78.42**	**333**	⇓P	**P**	**14 10 39.8**	**+0.7**
	baz=79						
K23A	**Bowen Ranch, D**	**78.43**	**335**	⇓P	**P**	**14 10 39.5**	**+0.3**
	baz=79						
ISA	**Isabella**	**78.52**	**322**	⇑P	**P**	**14 10 40.6**	**+0.8**
	baz=79						
J24A	**Dixon Ranch, L**	**78.58**	**336**	⇓P	**P**	**14 10 39.9**	**-0.1**
	baz=79						
K22A	**Casper**	**78.68**	**334**	⇑P	**P**	**14 10 40.7**	**+0.2**
	baz=79						
K21A	**Alcova**	**78.94**	**334**	⇓P	**P**	**14 10 42.3**	**+0.3**
	baz=79						
JLU	**Jordanelle**	**78.98**	**330**	*e*P	**P**	**14 10 42.8**	**+0.5**
	comp=E,4.0nm,0.9s,mb4.3						
JLU				*e*pP	pP	14 10 57.3	-0.7
N17A	**Moffit Pass**	**78.99**	**330**	⇓P	**P**	**14 10 42.5**	**+0.2**
	baz=79						
M18A	**Lyman**	**79.07**	**331**	⇓P	**P**	**14 10 42.6**	**-0.1**
	baz=79						
R11A	**Troy Canyon, C**	**79.10**	**326**	⇓P	**P**	**14 10 43.3**	**+0.4**
	baz=79						
DUG	**Dugway**	**79.26**	**329**	⇑P	**P**	**14 10 44.0**	**+0.2**
	baz=80						
DUG	**Dugway**	**79.26**	**329**	*e*P	**P**	**14 10 43.7**	**-0.1**
	comp=E,4.0nm,1.0s,mb4.3						
DUG				*e*pP	pP	14 10 58.5	-1.0
J22A	**Midwest**	**79.31**	**335**	⇑P	**P**	**14 10 44.2**	**+0.2**
	baz=80,SNR=5.9						
L19A	**Farson**	**79.33**	**332**	⇑P	**P**	**14 10 44.0**	**-0.1**
	baz=80						
M16A	**Huntsville**	**79.64**	**330**	⇓P	**P**	**14 10 45.8**	**0.0**
	baz=80						
I22A	**9 Mile Ranch,**	**79.73**	**335**	⇓P	**P**	**14 10 46.4**	**+0.2**
	baz=80,SNR=6.0						
K19A	**Absolon Red Bu**	**79.73**	**333**	⇓P	**P**	**14 10 45.9**	**-0.3**
	baz=80						
TSUM	**Tsumeb**	**79.76**	**106**	*e*P	**P**	**14 10 47.2**	**+0.1**
	comp=E,12nm,1.0s,mb4.8						
HWUT	**Hardware Ranch**	**79.85**	**330**	*e*P	**P**	**14 10 46.4**	**-0.6**
	comp=E,3.4nm,0.8s,mb4.3						
HWUT				*e*pP	pP	14 11 01.2	-1.5
I21A	**Big Trails, Te**	**79.96**	**334**	⇑P	**P**	**14 10 47.7**	**+0.2**
	baz=80,SNR=5.9						
BW06	**Boulder Array**	**79.97**	**332**	⇓P	**P**	**14 10 47.6**	**0.0**
	baz=80						
PDAR	**Pinedale Array**	**79.97**	**332**	P	**P**	**14 10 46.9**	**-0.7**
	comp=E,0.7nm,0.6s,mb3.8,baz=131,slow=7.7,SNR=6.3						
PDAR				pP	pP	14 11 02.0	-1.2
	comp=E,2.4nm,1.0s,baz=128,slow=9.6,SNR=10						
PDAR	**Pinedale Array**	**79.97**	**332**	P	**P**	**14 10 46.9**	**-0.7**
PDAR				pP	pP	14 11 02.0	-1.2
PD02	**Pinedale Array**	**79.98**	**332**	pP	pP	14 11 01.8	-1.6
PD01	**Pinedale Array**	**79.99**	**332**	P	**P**	**14 10 46.6**	**-1.0**
PD01				*e*pP	pP	14 11 02.1	-1.2
K18A	**Toltan Ranch,**	**80.06**	**332**	⇑P	**P**	**14 10 48.3**	**+0.2**
	baz=80,SNR=6.6						
M15A	**Larsen Ranch,**	**80.12**	**330**	⇑P	**P**	**14 10 48.2**	**-0.2**
	baz=80,SNR=5.6						
L16A	**Fish Haven**	**80.13**	**331**	⇓P	**P**	**14 10 48.7**	**+0.2**
	baz=80,SNR=6.0						
J19A	**Crowheart**	**80.18**	**333**	⇑P	**P**	**14 10 49.0**	**+0.3**
	baz=80,SNR=7.0						
I20A	**Worland**	**80.40**	**334**	⇓P	**P**	**14 10 49.4**	**-0.4**
	baz=81						
NVAR	**Mina Array Bea**	**80.52**	**324**	P	**P**	**14 10 49.6**	**-1.1**
	comp=E,0.6nm,0.8s,mb3.6,baz=150,slow=6.3,SNR=4.2						
NVAR				pP	pP	14 11 05.6	-0.7
	comp=E,1.2nm,0.8s,baz=171,slow=6.8,SNR=6.9						
NVAR	**Mina Array Bea**	**80.52**	**324**	P	**P**	**14 10 49.6**	**-1.1**
NVAR				pP	pP	14 11 05.6	-0.7
J18A	**Kendall Valley**	**80.53**	**332**	⇑P	**P**	**14 10 49.6**	**-1.0**
	baz=81,SNR=5.3						
L15A	**Malad City**	**80.53**	**330**	⇓P	**P**	**14 10 50.3**	**-0.4**
	baz=81,SNR=5.1						
F24A	**Ekalaka**	**80.69**	**337**	⇓P	**P**	**14 10 51.3**	**-0.1**
	baz=81						
H20A	**Greybull**	**80.80**	**334**	⇓P	**P**	**14 10 52.2**	**+0.2**
	baz=81						
I19A	**Meeteetse**	**80.81**	**333**	⇓P	**P**	**14 10 52.7**	**+0.7**
	baz=81						
I18A	**Diamond G Ranc**	**80.85**	**333**	⇓P	**P**	**14 10 51.9**	**-0.4**
	baz=81,SNR=8.1						
K16A	**Soda Springs**	**80.86**	**331**	⇓P	**P**	**14 10 51.9**	**-0.4**
	baz=81						
G21A	**Lodge Grass**	**81.13**	**335**	⇓P	**P**	**14 10 53.7**	**-0.1**
	baz=81						
TPAW	**Teton Pass**	**81.14**	**332**	*e*pP	pP	14 11 08.2	-1.3
	comp=E,1.8nm,0.3s						
F22A	**Rosebud**	**81.27**	**336**	⇑P	**P**	**14 10 54.2**	**-0.3**
	baz=82,SNR=5.0						
IMW	**Indian Meadow**	**81.47**	**332**	*e*pP	pP	14 11 09.7	-1.6
	comp=E,2.5nm,1.1s						
G20A	**Bridger**	**81.50**	**334**	⇓P	**P**	**14 10 55.2**	**-0.6**
	baz=82,SNR=6.1						
BOSA	**Boshof**	**81.56**	**118**	P	**P**	**14 10 56.3**	**-0.4**
	comp=E,8.4nm,0.5s,mb4.9,baz=249,slow=4.3,SNR=20						
BOSA	**Boshof**	**81.56**	**118**	*e*P	**P**	**14 10 56.2**	**-0.4**
	comp=E,9.1nm,0.8s,mb4.8						
H18A	**Shoshone NF, C**	**81.61**	**333**	⇑P	**P**	**14 10 56.0**	**-0.2**
	baz=82						
RLMT	**Red Lodge**	**81.82**	**334**	⇑P	**P**	**14 10 56.2**	**-1.2**
	baz=82						
RLMT	**Red Lodge**	**81.82**	**334**	*e*P	**P**	**14 10 55.4**	**-2.0**
	comp=E,7.8nm,1.3s,mb4.5						
RLMT				pP	pP	14 11 11.0	-2.1
TORD	**Torodi Ar. Bea**	**81.89**	**70**	P	**P**	**14 10 57.7**	**-0.8**
	comp=E,10nm,0.8s,mb4.8,baz=273,slow=5.8,SNR=66						
TORD				pP	pP	14 11 14.6	+0.4
	comp=E,3.6nm,0.9s,baz=261,slow=3.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**81.89**	**70**	P	**P**	**14 10 57.7**	**-0.8**
TORD				pP	pP	14 11 14.6	+0.4
G18A	**Lazy EL Ranch,**	**82.10**	**334**	⇓P	**P**	**14 10 57.7**	**-1.1**
	baz=82						
J13A	**Cove Ranch, Pi**	**82.43**	**330**	⇑P	**P**	**14 11 00.8**	**+0.2**
	baz=83						
I14A	**Mackay**	**82.55**	**331**	⇓P	**P**	**14 11 02.0**	**+0.7**
	baz=83						
E20A	**Meyer Farm, Mu**	**82.56**	**335**	⇓P	**P**	**14 11 00.9**	**-0.4**
	baz=83						
F18A	**Big Timber**	**82.65**	**334**	⇓P	**P**	**14 11 00.8**	**-0.9**
	baz=83						
HLID	**Hailey**	**82.67**	**330**	⇓P	**P**	**14 11 01.7**	**-0.2**
	baz=83						
HLID	**Hailey**	**82.67**	**330**	*e*pP	pP	14 11 16.7	-0.9
	comp=E,11nm,1.4s						
H15A	**Lima**	**82.76**	**331**	⇓P	**P**	**14 11 02.5**	**+0.2**
	baz=83						
E19A	**Rath Farm, Rou**	**82.77**	**335**	⇑P	**P**	**14 11 01.8**	**-0.5**
	baz=83						
DGMT	**Dagmar**	**82.91**	**339**	*e*pP	pP	14 11 17.5	-1.2
	comp=E,14nm,0.9s						
F17A	**Fitzpatrick Pl**	**83.02**	**333**	⇑P	**P**	**14 11 02.6**	**-1.1**
	baz=83						
MCMT	**McKenzie Canyo**	**83.02**	**332**	*e*P	**P**	**14 11 04.0**	**+0.3**
	comp=E,3.8nm,1.4s,mb4.2						
MCMT				*e*pP	pP	14 11 18.8	-0.6
G15A	**Dillon**	**83.14**	**332**	⇑P	**P**	**14 11 03.0**	**-1.3**
	baz=83						
B23A	**Brockton**	**83.16**	**338**	⇑P	**P**	**14 11 03.8**	**-0.5**
	baz=83						
H13A	**Challis**	**83.40**	**331**	⇓P	**P**	**14 11 05.7**	**0.0**
	baz=84						
F15A	**Butte**	**83.69**	**332**	⇓P	**P**	**14 11 06.3**	**-0.8**
	baz=84						
B21A	**Ellsworth Farm**	**83.81**	**337**	⇓P	**P**	**14 11 07.9**	**+0.3**
	baz=84						
A22A	**Carney Farms,**	**83.92**	**338**	⇑P	**P**	**14 11 08.2**	**0.0**
	baz=84						
F14A	**Wisdom**	**84.03**	**332**	⇑P	**P**	**14 11 08.9**	**+0.1**
	baz=84						
D17A	**Six Diamond Ra**	**84.06**	**334**	⇑P	**P**	**14 11 08.9**	**0.0**
	baz=84						
J08A	**Circle Bar Ran**	**84.36**	**327**	⇓P	**P**	**14 11 10.4**	**-0.1**
	baz=85						
F13A	**Darby**	**84.41**	**331**	⇑P	**P**	**14 11 10.8**	**+0.1**
	baz=85						
C17A	**Wharram Farm,**	**84.49**	**334**	⇓P	**P**	**14 11 11.5**	**+0.4**
	baz=85						
D14A	**Greenough**	**85.11**	**332**	⇑P	**P**	**14 11 14.9**	**+0.6**
	baz=85						
I07A	**Izee**	**85.39**	**327**	⇓P	**P**	**14 11 15.7**	**0.0**
	baz=86						
D13A	**Huson**	**85.51**	**332**	⇑P	**P**	**14 11 16.4**	**+0.2**
	baz=86						
A17A	**Triple J Farms**	**85.55**	**335**	⇓P	**P**	**14 11 16.4**	**0.0**
	baz=86						
D12A	**Red Ives Fores**	**85.85**	**331**	⇑P	**P**	**14 11 17.9**	**+0.1**
	baz=86						
A16A	**West Butte Ran**	**85.89**	**335**	⇓P	**P**	**14 11 18.1**	**0.0**
	baz=86						
BSMT	**Bassoo Peak**	**86.25**	**332**	*e*pP	pP	14 11 34.6	-1.1
	comp=E,10.0nm,1.6s						
C11A	**Tepee Creek (N**	**86.84**	**331**	⇓P	**P**	**14 11 22.4**	**-0.3**
	baz=87						
A13A	**Flathead Natio**	**86.96**	**333**	⇓P	**P**	**14 11 23.1**	**-0.2**
	baz=87						
ASAR	**Alice Springs**	**122.08**	**207**	PKP	PKPdf	14 17 31.8	-1.8
	comp=E,0.7nm,0.9s,baz=128,slow=1.8,SNR=7.4						
ASAR				pPKP	pPKPdf	14 17 48.0	-2.1
	comp=E,0.2nm,0.5s,baz=153,slow=2.2,SNR=2.4						
ASAR	**Alice Springs**	**122.08**	**207**	PKP	PKPdf	14 17 31.8	-1.8
ASAR				pPKP	pPKPdf	14 17 48.0	-2.1
WRA	**Warramunga Arr**	**125.21**	**210**	PKP	PKPdf	14 17 38.1	-1.5
	comp=E,1.7nm,0.7s,baz=158,slow=1.7,SNR=27						
WRA				pPKP	pPKPdf	14 17 54.1	-2.0
	comp=E,0.6nm,0.5s,baz=158,slow=1.5,SNR=4.9						
WRA	**Warramunga Arr**	**125.21**	**210**	PKP	PKPdf	14 17 38.1	-1.5
WRA				pPKP	pPKPdf	14 17 54.1	-2.0
BVAR	**Borovoye Array**	**143.25**	**39**	PKhKP	PKPpre	14 18 05.4	
	comp=E,0.2nm,0.4s,baz=268,slow=4.3,SNR=2.8						
BVAR	**Borovoye Array**	**143.25**	**39**	PKPpre	PKPpre	14 18 05.4	
KBL	**Kabul**	**145.96**	**71**	PKPdf	PKPdf	14 18 16.9	-0.5
KKAR	**Karatay Array**	**146.43**	**55**	*e*PKPbc	PKPbc	14 18 18.5	-0.8
KURK	**Kurchatov**	**148.83**	**38**	PKPbc	PKPbc	14 18 25.1	-0.5
	comp=E,2.5nm,0.4s,baz=304,slow=3.1,SNR=24						
KURK				pPKPbc	pPKPbc	14 18 41.7	-0.3
	comp=E,0.9nm,0.5s,baz=303,slow=3.1,SNR=2.8						
KURK	**Kurchatov**	**148.83**	**38**	*e*PKPbc	PKPbc	14 18 24.7	-0.9
KURK				pPKPbc	pPKPbc	14 18 41.7	-0.3
EKS2	**Erkin-Say**	**148.87**	**55**	P	PKPdf	14 18 23.5	+1.5
	SNR=5.5						
EKS2				P		14 18 23.5	
	SNR=5.5						
EKS2	**Erkin-Say**	**148.87**	**55**	*e*PKPbc	PKPbc	14 18 26.0	0.0
USP	**Ospenovka**	**149.23**	**54**	P	PKPbc	14 18 27.4	+0.6
	SNR=5.0						
USP				P		14 18 27.4	
	SNR=5.0						
AAK	**Ala-Archa**	**149.39**	**55**	P	PKPbc	14 18 28.5	+1.2
	SNR=8.0						
AAK				P		14 18 28.5	
	SNR=8.0						
AAK	**Ala-Archa**	**149.39**	**55**	*e*PKPbc	PKPbc	14 18 27.6	+0.4
KBK	**Karagaybulak**	**149.71**	**55**	P	PKPbc	14 18 28.9	+0.8
	SNR=5.9						
KBK				P		14 18 28.9	
	SNR=5.9						
ZAA0	**Zalesovo Array**	**149.81**	**29**	*e*PKPbc	PKPbc	14 18 26.6	-1.3
ZALV	**Zalesovo Beam**	**149.81**	**29**	PKPbc	PKPbc	14 18 26.1	-1.8
	comp=E,14nm,0.7s,baz=298,slow=3.3,SNR=53						
ZALV				pPKPbc	pPKPbc	14 18 42.9	-1.4
	comp=E,3.6nm,0.5s,baz=311,slow=3.2,SNR=6.9						
ZALV	**Zalesovo Beam**	**149.81**	**29**	PKPbc	PKPbc	14 18 26.1	-1.8
ZALV				pPKPbc	pPKPbc	14 18 42.9	-1.4
HYB	**Hyderabad**	**149.84**	**106**	*i* PKP	PKPbc	14 18 28.0	-1.1
TKM2	**Tokmak 2**	**150.10**	**54**	P	PKPbc	14 18 29.1	+0.2
	SNR=9.7						
TKM2				P		14 18 29.1	
	SNR=9.7						
TKM2	**Tokmak 2**	**150.10**	**54**	*e*PKPbc	PKPbc	14 18 29.0	0.0
ULHL	**Ulahol**	**150.74**	**55**	P	PKPbc	14 18 31.2	+0.6
	SNR=7.7						
ULHL				P		14 18 31.2	
	SNR=7.7						
MK31	**Makanchi Array**	**152.95**	**43**	*e*PKPdf	PKPdf	14 18 27.3	-0.8
MK31				*e*PKPbc	PKPbc	14 18 34.4	-0.9
MK31				*e*		14 18 46.9	
MKAR	**Makanchi Array**	**152.95**	**43**	PKPbc	PKPbc	14 18 34.6	-0.8
	comp=E,1.9nm,0.7s,baz=309,slow=2.1,SNR=20						
MKAR				PKPab	PKPab	14 18 46.5	-0.2
	comp=E,0.9nm,0.6s,baz=310,slow=4.0,SNR=11						
MKAR	**Makanchi Array**	**152.95**	**43**	PKPbc	PKPbc	14 18 34.6	-0.8
MKAR				PKPab	PKPab	14 18 46.5	-0.2
MDJ	**Mudanjiang**	**157.57**	**319**	PKP	PKPdf	14 18 33.2	-1.2
MDJ				PP	PP	14 22 45.7	-0.2
WMQ	**Urumqi**	**157.76**	**44**	*e*PKP	PKPdf	14 18 33.0	-1.7
CN2	**Changchun**	**160.40**	**322**	*e*PKP	PKPdf	14 18 39.7	+1.9
CMAR	**Chiang Mai Arr**	**165.89**	**138**	PKP	PKPdf	14 18 43.5	-0.2
	comp=E,0.4nm,0.4s,baz=331,slow=0.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**165.89**	**138**	PKP	PKPdf	14 18 43.5	-0.2
HHC	**Hu-ho-hao-te**	**168.29**	**350**	*e*PKP	PKPdf	14 18 45.6	+0.7
HHC				pPKP	pPKPdf	14 18 56.8	-4.7
HHC				PKS		14 22 16.6	
HHC				PP	PP	14 23 45.8	+4.0
HHC				SKS	SKSdf	14 25 43.5	-0.4
HHC				SKKS	SKKSac	14 30 27.9	+3.1
HHC				SS	SS	14 44 30.5	+2.9
HHC				AMB	AMB		
	comp=Z,110nm,11.9s						
HHC				LR	LR		
	comp=N,580nm,16.6s						
HHC				LR	LR		
	comp=E,430nm,14.3s						
HHC				LR	LR		
	comp=Z,470nm,16.7s						
NJ2	**Nanjing**	**170.98**	**290**	*e*PKP	PKPdf	14 18 48.3	+1.5
LZH	**Lanzhou**	**172.04**	**31**	*e*PKP	PKPdf	14 18 48.0	+0.8
LZH				pPKP	pPKPdf	14 19 04.1	+0.3
LZH				sPKP		14 19 09.8	
LZH				PKPab	PKPab	14 20 13.2	+2.8
LZH				LR	LR		
	comp=N,130nm,18.1s						
LZH				LR	LR		
	comp=E,110nm,18.0s						
LZH				LR	LR		
	comp=Z,150nm,20.1s						
CD2	**Chengdu**	**175.30**	**69**	*e*PKP	PKPdf	14 18 48.9	+0.4
GYA	**Guiyang**	**176.54**	**145**	PKP	PKPdf	14 18 47.0	-2.0
GYA				pPKP	pPKPdf	14 19 03.2	-2.4
GYA				sPKP		14 19 10.5	
GYA				PKPab	PKPab	14 20 31.2	+0.6
GYA				PKS		14 22 19.0	
GYA				PP	PP	14 24 25.4	+2.4
GYA				AMB	AMB		
	comp=Z,90nm,8.0s						

*NNC **08** 14:26:06.3±2.2, 39°.34N×72°.98E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=17.6km s-min=9.6km az=2.0*
ISC 08 14:26:03.1±2.5, 39°.1N±0°.2×73°.0E±0°.1, h10km, n11, σ1971/13, 1C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.10**	**9**	P	**Pn**	**14 26 50.2**	**-1.9**
	SNR=74						
AML				P		14 26 50.2	
	SNR=74						
KZA	**Kyzart**	**3.45**	**29**	P	**Pn**	**14 26 54.8**	**-2.0**
	SNR=23						
KZA				P		14 26 54.8	
	SNR=23						
EKS2	**Erkin-Say**	**3.63**	**9**	P	**Pn**	**14 26 57.8**	**-1.6**
	SNR=20						
EKS2				P		14 26 57.8	
	SNR=20						
AAK	**Ala-Archa**	**3.73**	**17**	P	**Pn**	**14 26 59.2**	**-1.5**
	SNR=20						
AAK				P		14 26 59.2	
	SNR=20						
KBK	**Karagaybulak**	**3.87**	**22**	P	**Pn**	**14 27 05.2**	**+2.6**
	SNR=16						
KBK				P		14 27 05.2	
	SNR=16						
ULHL	**Ulahol**	**4.01**	**37**	P	**Pn**	**14 27 07.0**	**+2.5**
	SNR=8.0						
ULHL				P		14 27 07.0	
	SNR=8.0						
TKM2	**Tokmak 2**	**4.31**	**26**	P	**Pn**	**14 27 09.6**	**+0.9**
	SNR=6.2						
TKM2				P		14 27 09.6	
	SNR=6.2						
TKM2	**Tokmak 2**	**4.31**	**26**	⇓Pn	**Pn**	**14 27 09.7**	**+1.0**
	5.6nm,0.6s						
TKM2				⇓Sn	**Sn**	**14 28 00.3**	**+1.3**
	16nm,0.5s						
USP	**Ospenovka**	**4.34**	**14**	P	**Pn**	**14 27 07.1**	**-2.0**
	SNR=9.2						
USP				P		14 27 07.1	
	SNR=9.2						
KK31	**Karatay Array**	**4.46**	**336**	⇓Pn	**Pn**	**14 27 11.8**	**+1.1**
	2.4nm,0.5s,baz=130,slow=13,SNR=35						
KK31				⇓Sn	**Sn**	**14 28 02.3**	**-0.2**
	4.0nm,0.4s,baz=139,slow=24,SNR=5.3						
KK31				⇑Lg		14 28 18.3	
	14nm,0.5s,baz=147,slow=27,SNR=4.9						
AB31	**Akbulak array**	**13.83**	**322**	P	**Pn**	**14 29 22.5**	**+3.5**
	0.1nm,0.3s,baz=130,slow=15,SNR=4.2						

*MDD **08** 14:28:51.3±3.2, 32°.76N×6°.71W, h0km, mb3.6/5, Error ellipse: s-maj=38.0km s-min=27.3km az=68.0, PRXIMO*
INMG 08 14:28:51.3±0.9, 32°.56N×6°.94W, h23km±27km, Error ellipse: s-maj=33.0km s-min=5.4km az=19.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**4.75**	**350**	*e*Pn	Pn	14 30 00.5	-0.9
PBDV	**Barranco-do-Ve**	**4.75**	**350**	P	Pn	14 30 00.5	-0.9
PVAQ	**Vaqueiros**	**4.88**	**353**	*e*Pn	Pn	14 30 02.5	-0.7
PVAQ				*e*Sn	Sn	14 30 54.2	-4.8
PVAQ	**Vaqueiros**	**4.88**	**353**	P	Pn	14 30 02.5	-0.7
PVAQ				S	Sn	14 30 54.2	-4.8
EGRO	**El Granado**	**4.99**	**355**	P	Pn	14 30 03.9	-0.9
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	14 30 57.1	-4.6
	SNR=7.9						
EGUA	**Guajares**	**5.09**	**32**	P	Pn	14 30 04.2	-2.0
	1.7nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.14**	**350**	*e*Pn	Pn	14 30 06.3	-0.6
PCVE				*e*Sn	Sn	14 31 01.3	-4.2
PCVE	**Castro Verde**	**5.14**	**350**	P	Pn	14 30 06.3	-0.6
PCVE				S	Sn	14 31 01.3	-4.2
EMIN	**Mina Concepcio**	**5.20**	**2**	P	Pn	14 30 05.6	-2.1
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	14 31 02.5	-4.5
	SNR=7.9						
PBAR	**Barrancos**	**5.61**	**359**	*e*Pn	Pn	14 30 12.3	-0.9
PBAR				*e*Sn	Sn	14 31 12.5	-4.4
PBAR	**Barrancos**	**5.61**	**359**	P	Pn	14 30 12.3	-0.9
PBAR				S	Sn	14 31 12.5	-4.4
PNCL	**Nicolau / Gran**	**5.69**	**347**	*e*Pn	Pn	14 30 13.7	-0.7
EADA	**Adamuz**	**5.92**	**18**	P	Pn	14 30 15.7	-1.9
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	14 31 16.8	-7.9
	SNR=7.9						
EBAD	**Badajoz**	**6.18**	**359**	P	Pn	14 30 19.8	-1.4
	0.3nm,0.2s,SNR=7.9						
EBAD				S	Sn	14 31 24.3	-6.9
	SNR=7.9						
PMTG	**Montargil**	**6.58**	**351**	*e*Pn	Pn	14 30 26.5	-0.1
PMRV	**Marv??o**	**6.87**	**357**	*e*Pn	Pn	14 30 29.8	-0.8
PMRV	**Marv??o**	**6.87**	**357**	P	Pn	14 30 29.8	-0.8

*NEIC **08** 14:35:07.3±2.8, 23°.76N×122°.40E, h10km, Error ellipse: s-maj=31.4km s-min=12.3km az=102.0*
*ISCJB **08** 14:35:10.5±0.4, 23°.81N±0°.02×122°.23E±0°.02, h19km±3km, Error ellipse: s-maj=3.3km s-min=2.1km az=152.0*
*JMA **08** 14:35:12.3±0.2, 23°.94N×122°.22E, h72km±4km, M3.1*
*TAP **08** 14:35:12.3, 23°.86N×122°.17E, h37km, ML4.1, C*
ISC 08 14:35:10.9±0.6, 23°.83N±0°.02×122°.21E±0°.01, h19km±3km, n74, σ0°.85/125, 24C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.58**	**285**	*e*P	**Pb**	**14 35 22.7**	**+0.3**
	baz=275						
HWA				*e*S	**Sg**	**14 35 31.5**	**+1.2**
	baz=275						
TWD	**Chiawan**	**0.62**	**294**	⇑*i*P	**Pb**	**14 35 23.3**	**+0.1**
	baz=293						
TWD				*i* S	**Sb**	**14 35 31.5**	**0.0**
	baz=293						
TEGC	**Jichi Village**	**0.63**	**259**	*e*P	**Pb**	**14 35 23.7**	**+0.3**
	baz=255						
ESF	**Shoufeng Towns**	**0.65**	**274**	*e*P	**Pb**	**14 35 23.6**	**-0.1**
	baz=271						
NACB	**Ninganchiao**	**0.66**	**302**	*e*Pg	**Pg**	**14 35 23.6**	**-0.4**
NACB				*e*Sg	**Sg**	**14 35 32.7**	**-0.2**
ESL	**Shilin**	**0.72**	**269**	⇑*i*P	**Pb**	**14 35 24.6**	**-0.2**
	baz=260						
ESL				*e*S	**Sb**	**14 35 33.6**	**-0.7**
	baz=260						
ENA	**Nanau**	**0.74**	**324**	⇑*i*P	**Pb**	**14 35 25.7**	**+0.4**
	baz=313						
ENA				*e*S	**Sb**	**14 35 36.1**	**+1.1**
	baz=313						
TWC	**Suao**	**0.85**	**337**	⇑*i*P	**Pb**	**14 35 27.3**	**+0.2**
	baz=347						
TWC				S	**Sb**	**14 35 38.1**	**0.0**
	baz=347						
EHY	**Hungye**	**0.88**	**249**	P	**Pb**	**14 35 27.4**	**-0.2**
	baz=260						
EHY				*e*S	**Sb**	**14 35 38.0**	**-0.9**
	baz=260						
WHF	**Hehuan Shan**	**0.92**	**290**	⇑*i*P	**Pb**	**14 35 28.1**	**-0.3**
	baz=281						
WHF				S	**Sb**	**14 35 39.9**	**-0.4**
	baz=281						
YULB	**Yu-li**	**0.95**	**243**	*e*P	**Pb**	**14 35 28.2**	**-0.6**
YULB				*e*S	**Sb**	**14 35 39.9**	**-1.0**
**YOJ

	baz=238						
TWA	**Mucha**	**1.28**	**334**	⇑iP	**Pn**	**14 35 34.5**	**+0.6**
	baz=334						
TWA				S	**Sn**	**14 35 50.4**	**-0.2**
	baz=334						
NWF	**Wu-fen Shan**	**1.30**	**342**	⇑iP	**Pn**	**14 35 34.5**	**+0.4**
	baz=358						
NWF				iS	**Sn**	**14 35 50.1**	**-0.9**
	baz=358						
TATO	**Taipei**	**1.32**	**330**	ePn	**Pn**	**14 35 34.3**	**-0.1**
ALS	**Alishan**	**1.33**	**257**	⇑iP	**Pn**	**14 35 35.4**	**+0.8**
	baz=247						
TAP1	**Taipei**	**1.36**	**333**	eP	**Pn**	**14 35 36.1**	**+1.1**
	baz=332						
TAP1				eS	**Sn**	**14 35 52.2**	**-0.3**
	baz=332						
NSTT	**Nanjuang**	**1.37**	**306**	eP	**Pn**	**14 35 35.7**	**+0.6**
	baz=306						
NSTT				eS	**Sn**	**14 35 52.3**	**-0.3**
	baz=306						
WNT	**Mingjian**	**1.40**	**272**	⇑iP	**Pn**	**14 35 36.5**	**+1.0**
	baz=271						
WNT				eS	**Sn**	**14 35 53.4**	**-0.1**
	baz=271						
TWQ1	**Liyutan**	**1.42**	**292**	⇑iP	**Pn**	**14 35 36.6**	**+0.8**
	baz=291						
TWQ1				eS	**Sn**	**14 35 54.1**	**+0.3**
	baz=291						
CHN5	**Tsauling**	**1.43**	**261**	⇑P	**Pn**	**14 35 36.6**	**+0.7**
	baz=251						
CHN5				eS	**Sn**	**14 35 54.3**	**+0.2**
	baz=251						
TCU	**Taichung**	**1.44**	**283**	⇑eP	**Pn**	**14 35 37.2**	**+1.1**
	baz=282						
TCU				eS	**Sn**	**14 35 54.9**	**+0.4**
	baz=282						
TTN	**Taitung**	**1.45**	**223**	eP	**Pn**	**14 35 34.9**	**-1.3**
	baz=212						
TWG	**Pinlang**	**1.45**	**227**	eP	**Pn**	**14 35 35.1**	**-1.1**
	baz=225						
TWG	**Pinlang**	**1.45**	**227**	ePn	**Pn**	**14 35 34.2**	**-2.0**
NSY	**Sanyi**	**1.45**	**294**	P	**Pn**	**14 35 37.2**	**+1.0**
	baz=294						
NSY				eS	**Sn**	**14 35 55.4**	**+0.7**
	baz=294						
TWS1	**Kuangyinshan**	**1.46**	**330**	eP	**Pn**	**14 35 36.5**	**+0.2**
	baz=342						
TWS1				eS	**Sn**	**14 35 54.7**	**-0.3**
	baz=342						
HATJ	**Hateruma jima**	**1.47**	**81**	P	**Pn**	**14 35 36.9**	**+0.4**
HATJ				eS	**Sn**	**14 35 55.5**	**+0.2**
NCU	**National Centr**	**1.47**	**321**	eP	**Pn**	**14 35 36.5**	**0.0**
	baz=321						
NCU				eS	**Sn**	**14 35 55.0**	**-0.3**
	baz=321						
IRIF	**Iriomote-Funau**	**1.48**	**70**	P	**Pn**	**14 35 36.8**	**+0.3**
IRIF				S	**Sn**	**14 35 55.8**	**+0.5**
STYT	**Tauyuan**	**1.49**	**244**	⇓iP	**Pn**	**14 35 36.9**	**+0.2**
	baz=234						
STYT				eS	**Sn**	**14 35 54.8**	**-0.9**
	baz=234						
WGK	**Gukeng**	**1.52**	**265**	eP	**Pn**	**14 35 37.7**	**+0.5**
	baz=263						
WGK				eS	**Sn**	**14 35 57.1**	**+0.7**
	baz=263						
TPUB	**Ta-pu**	**1.54**	**251**	ePn	**Pn**	**14 35 38.1**	**+0.7**
CHN4	**Tsaushan**	**1.56**	**253**	P	**Pn**	**14 35 38.8**	**+1.1**
	baz=251						
CHN4				S	**Sn**	**14 35 58.8**	**+1.3**
	baz=251						
CHN1	**Nanshi**	**1.67**	**248**	⇑P	**Pn**	**14 35 40.4**	**+1.1**
	baz=246						
CHN1				S	**Sn**	**14 36 01.6**	**+1.4**
	baz=246						
CHY	**Chiayi**	**1.67**	**259**	eP	**Pn**	**14 35 41.3**	**+2.1**
	baz=257						
CHY				eS	**Sn**	**14 36 00.9**	**+0.7**
	baz=257						
ECL	**Taimali**	**1.69**	**224**	eP	**Pn**	**14 35 37.7**	**-1.7**
	baz=231						
JKRS	**Kuro-shima**	**1.69**	**76**	P	**Pn**	**14 35 40.0**	**+0.5**
JKRS				eS	**Sn**	**14 35 59.9**	**-0.8**
WTCT	**Ta-ch'eng**	**1.77**	**272**	⇑P	**Pn**	**14 35 41.5**	**+1.0**
	baz=270						
WTCT				eS	**Sn**	**14 36 03.9**	**+1.3**
	baz=270						
SSD	**Sandimen**	**1.81**	**234**	eP	**Pn**	**14 35 41.1**	**0.0**
	baz=225						
WSF	**Szhu**	**1.83**	**265**	eP	**Pn**	**14 35 42.2**	**+0.7**
	baz=263						
JIJ	**Ishigaki jima**	**1.84**	**73**	P	**Pn**	**14 35 41.4**	**-0.2**
JIJ				eS	**Sn**	**14 36 03.4**	**-1.0**
CHN3	**Shinhua**	**1.85**	**247**	eP	**Pn**	**14 35 42.8**	**+1.0**
	baz=246						
LAY	**Lan-yu**	**1.88**	**199**	eP	**Pn**	**14 35 40.6**	**-1.5**
	baz=198						
CHN8	**Yiju**	**1.90**	**256**	eP	**Pn**	**14 35 42.3**	**-0.1**
	baz=254						
CHN8				eS	**Sn**	**14 36 06.2**	**+0.4**
	baz=254						
EAST	**Anshuo**	**1.91**	**221**	eP	**Pn**	**14 35 41.4**	**-1.1**
	baz=220						
TWM1	**Shoushan**	**1.93**	**239**	eP	**Pn**	**14 35 44.1**	**+1.4**
	baz=238						
SCLT	**Jiali**	**1.96**	**251**	eP	**Pn**	**14 35 44.3**	**+1.0**
	baz=249						
SCLT				eS	**Sn**	**14 36 08.7**	**+1.2**
	baz=249						
SCZT	**Fangliau**	**2.06**	**226**	eP	**Pn**	**14 35 44.6**	**0.0**
	baz=220						
SCZT				eS	**Sn**	**14 36 10.5**	**+0.7**
	baz=220						
TWK1	**Hengchun**	**2.28**	**215**	eP	**Pn**	**14 35 49.3**	**+1.7**
	baz=214						
JTJ	**Tarama**	**2.41**	**70**	P	**Pn**	**14 35 49.5**	**+0.1**
JTJ				eS	**Sn**	**14 36 17.0**	**-1.4**
PNG	**Penghu**	**2.45**	**264**	eP	**Pn**	**14 35 49.9**	**0.0**
	baz=263						
PNG				eS	**Sn**	**14 36 17.9**	**-1.5**
	baz=263						
JMJ	**Miyako jima 2**	**2.98**	**70**	eS	**Sn**	**14 36 32.7**	**+0.3**
JOGS	**Gusukube**	**3.06**	**72**	P	**Pn**	**14 35 59.1**	**+0.8**
JOGS				eS	**Sn**	**14 36 34.0**	**-0.4**
QZH	**Quanzhou**	**3.48**	**289**	⇓iPn	**Pn**	**14 36 01.4**	**-2.8**
QZH				Sn	**Sn**	**14 36 38.4**	**-6.5**
QZH				smax			
	comp=N,230nm,0.4s						
QZH				smax			
	comp=E,150nm,0.3s						
KNM	**Kinmen**	**3.50**	**280**	eP	**Pn**	**14 36 05.2**	**+0.8**
	baz=279						
JKE	**Kume jima 2**	**4.83**	**58**	P	**Pn**	**14 36 22.1**	**-0.6**
JOW	**Kunigami**	**6.25**	**60**	eP	**Pn**	**14 36 41.6**	**-0.6**
	baz=59						

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*BGS **08** 14:41:18.1±2.5, 23°.45N×57°.32E, h10km, mb5.2*
*IDC **08** 14:41:42.9±0.3, 26°.92N×56°.01E, h0km, mb5.2/38, mb1 5.2/42, mb1mx5.1/45, mbtmp5.1/42, ML4.7/4, MS4.3/28, Ms1 4.3/28, ms1mx4.2/36, Error ellipse: s-maj=9.6km s-min=6.7km az=3.0*
*ISCJB **08** 14:41:43.9±0.5, 26°.86N±0°.02×55°.85E±0°.01, h20km±3km, mb5.3/257, MS4.6/167, Error ellipse: s-maj=2.7km s-min=2.1km az=21.5*
*BJI **08** 14:41:43.7, 27°.11N×55°.27E, h39km, mB5.2/32, mb5.4/60, Ms5.0/52, Ms7 4.7/50*
*NEIC **08** 14:41:43.3, 26°.92N×55°.85E, h6km, mb5.5/124, MS4.7/115, ML5.3(THR), After THR.*
NEIC Felt at Dubai, United Arab Emirates.
*TEH **08** 14:41:43.3, 26°.95N×55°.83E, h6km*
*CSEM **08** 14:41:44.2±0.1, 26°.87N×55°.86E, h9km, mb5.3/99, Ms4.5, Mw5.2, Error ellipse: s-maj=4.2km s-min=2.9km az=12.0*
*THR **08** 14:41:44.1±0.6, 27°.00N×55°.81E, h2km, mb5.3, ML4.9*
*OMAN **08** 14:41:45.4±1.9, 26°.90N×55°.74E, h12km, Error ellipse: s-maj=28.8km s-min=5.3km az=44.0*
*MOS **08** 14:41:47.9±0.9, 26°.97N×55°.83E, h49km, mb5.5/128, MS4.4/51, Error ellipse: s-maj=5.4km s-min=3.2km az=121.7*
*DJA **08** 14:41:52, 26°.81N×56°.06E, h60km, mb5.4/20*
*SZGRF **08** 14:42:05.4, 27°.33N×52°.89E, h33km, mb4.4, Southern Iran*

ISC 08 14:41:47.6±0.5**, 26°.85N**±0°.01×**55°.86E**±0°.01**, h33**km±3km**, h31**km±6.6km**:pP-P, n1363, σ1.06**/1309**, mb5.3**/257**,**
MS4.6/167**, 56C-28D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.61**	**27**	ePg	**Pb**	**14 41 54.0**	**-6.0**
BNDS				eSg	**Sb**	**14 42 02.0**	**-6.5**
BNDS	**Bandar-Abbas**	**0.61**	**27**	ePg	**Pb**	**14 41 54.6**	**-5.5**
BNDS				eSg	**Sb**	**14 42 02.3**	**-6.2**
BNDS	**Bandar-Abbas**	**0.61**	**27**	ePg	**Pb**	**14 41 54.2**	**-5.8**
BNDS				eSg	**Sb**	**14 42 02.0**	**-6.5**
IBND	**Bandar-abas**	**0.85**	**45**	ePg	**Pn**	**14 41 58.6**	**-4.7**
IBND				eSg	**Sb**	**14 42 11.6**	**-3.5**
IBND				e		14 42 36.3	
	comp=Z,1295µm,0.4s						
IBND	**Bandar-abas**	**0.85**	**45**	ePg	**Pn**	**14 41 58.6**	**-4.7**
BANOM	**Banah**	**1.00**	**157**	P	**Pn**	**14 42 05.3**	**-0.1**
	SNR=4101						
BANOM	**Banah**	**1.00**	**157**	P	**Pn**	**14 42 04.5**	**-0.9**
BANOM	**Banah**	**1.00**	**157**	ml		14 42 08.2	
	SNR=3591						
BANOM				ml		14 42 15.3	
	SNR=5591						
BANOM				⇑S	**Sn**	**14 42 21.8**	**+3.4**
NAZ	**Nazwa, Dubai**	**1.86**	**186**	P	**Pn**	**14 42 20.0**	**+2.8**
	SNR=456						
NAZ	**Nazwa, Dubai**	**1.86**	**186**	P	**Pn**	**14 42 20.3**	**+3.1**
	SNR=68						
HATD	**Hatta, Dubai**	**2.03**	**173**	P	**Pn**	**14 42 21.5**	**+1.9**
	SNR=2328						
HATD	**Hatta, Dubai**	**2.03**	**173**	P	**Pn**	**14 42 21.6**	**+2.0**
	SNR=133						
HATD	**Hatta, Dubai**	**2.03**	**173**	ml		14 42 28.4	
	SNR=6179						
ASHO	**Ashiyiah**	**2.17**	**175**	P	**Pn**	**14 42 23.7**	**+2.3**
	SNR=1133						
ASHO	**Ashiyiah**	**2.17**	**175**	P	**Pn**	**14 42 23.8**	**+2.4**
	SNR=1500						
ASHO	**Ashiyiah**	**2.17**	**175**	S	**Pn**	**14 42 23.8**	**+2.4**
	SNR=1500						
ASUD	**Al Ashush, Dub**	**2.27**	**192**	P	**Pn**	**14 42 26.2**	**+3.4**
	SNR=192						
ASUD	**Al Ashush, Dub**	**2.27**	**192**	P	**Pn**	**14 42 26.0**	**+3.3**
	SNR=2260						
ASUD	**Al Ashush, Dub**	**2.27**	**192**	S	**Pn**	**14 42 26.0**	**+3.3**
	SNR=2260						
ASUD	**Al Ashush, Dub**	**2.27**	**192**	ml		14 42 31.2	
	SNR=187						
KRBR	**Kerman**	**3.22**	**14**	ePn	**Pn**	**14 42 36.7**	**+0.8**
KRBR				Sn	**Sn**	**14 43 14.4**	**+1.3**
KRBR				AML	AML	14 43 26.9	
	comp=N,4µm,0.5s						
KRBR				AML	AML	14 43 46.9	
	comp=E,3µm,0.6s						
ISRV	**Sarvestan**	**3.50**	**317**	ePn	**Pn**	**14 42 40.5**	**+0.8**
ISRV				e		14 44 09.1	
	comp=Z,45µm,0.5s						
ISRV	**Sarvestan**	**3.50**	**317**	ePn	**Pn**	**14 42 40.5**	**+0.8**
ARQ	**Araqi**	**3.55**	**170**	P	**Pn**	**14 42 41.9**	**+1.4**
	SNR=134						
ARQ	**Araqi**	**3.55**	**170**	P	**Pn**	**14 42 41.7**	**+1.3**
	SNR=185						
IPAR	**Pars**	**3.88**	**321**	ePn	**Pn**	**14 42 46.4**	**+1.5**
IPAR				e		14 43 36.4	
	comp=Z,36µm,0.4s						
IPAR	**Pars**	**3.88**	**321**	ePn	**Pn**	**14 42 46.4**	**+1.5**
BSY	**Bisya**	**4.27**	**163**	P	**Pn**	**14 42 52.9**	**+2.6**
	SNR=44						
SMDO	**Samad**	**4.27**	**152**	P	**Pn**	**14 42 52.7**	**+2.4**
	SNR=49						
IMEH	**Mehriz**	**4.65**	**347**	ePn	**Pn**	**14 42 56.5**	**+0.9**
IMEH				e		14 43 56.0	
	comp=Z,20µm,0.3s						
IMEH	**Mehriz**	**4.65**	**347**	ePn	**Pn**	**14 42 56.5**	**+0.9**
IBAF	**Bafgh**	**4.73**	**357**	ePn	**Pn**	**14 42 56.6**	**0.0**
IBAF				e		14 42 59.0	
	comp=Z,13µm,0.2s						
IBAF	**Bafgh**	**4.73**	**357**	ePn	**Pn**	**14 42 56.6**	**0.0**
JMDO	**Jabal Madar**	**4.91**	**155**	P	**Pn**	**14 43 01.3**	**+2.2**
	SNR=72						
WBK	**Wadi Bani Khal**	**5.08**	**146**	P	**Pn**	**14 43 01.8**	**+0.3**
	SNR=147						
ZHSF	**Zahedan**	**5.13**	**56**	eSg	**Sn**	**14 44 30.0**	**+30**
ZHSF	**Zahedan**	**5.13**	**56**	eSg	**Sn**	**14 44 30.8**	**+30**
ISAD	**Sadrabad**	**5.39**	**340**	ePn	**Pn**	**14 43 05.4**	**-0.3**
ISAD				e		14 44 13.5	
	comp=Z,25µm,0.3s						
ISAD	**Sadrabad**	**5.39**	**340**	ePn	**Pn**	**14 43 05.4**	**-0.3**
ICHK	**Chekchek**	**5.52**	**347**	e	**Pn**	**14 43 10.7**	**+3.2**
	comp=Z,10µm,0.3s						
ICHK				ePn	**Pn**	**14 43 07.8**	**+0.3**
ICHK				eSn	**Sn**	**14 44 09.6**	**-0.3**
ICHK	**Chekchek**	**5.52**	**347**	ePn	**Pn**	**14 43 07.8**	**+0.3**
ICHK				eSn	**Sn**	**14 44 09.6**	**-0.3**
IGAR	**Gharneh**	**6.45**	**330**	ePn	**Pn**	**14 43 21.1**	**+0.8**
IGAR				e		14 44 34.4	
	comp=Z,15µm,0.5s						
NASN	**Na'in**	**6.49**	**337**	eP	**Pn**	**14 43 21.0**	**+0.1**
NASN				eS	**Sn**	**14 44 32.0**	**-1.8**
NASN	**Na'in**	**6.49**	**337**	ePn	**Pn**	**14 43 21.2**	**+0.3**
NASN	**Na'in**	**6.49**	**337**	eP	**Pn**	**14 43 21.0**	**+0.1**
NASN				eS	**Sn**	**14 44 32.0**	**-1.8**
ITEG	**Tejag**	**6.53**	**22**	ePn	**Pn**	**14 43 21.1**	**-0.2**
ITEG				e		14 45 27.8	
	comp=Z,8µm,0.6s						
ITEG	**Tejag**	**6.53**	**22**	ePn	**Pn**	**14 43 21.1**	**-0.2**
IZEF	**Zefreh**	**6.76**	**334**	ePn	**Pn**	**14 43 23.9**	**-0.6**
IZEF				e		14 44 46.4	
	comp=Z,5µm,0.4s						
IZEF	**Zefreh**	**6.76**	**334**	ePn	**Pn**	**14 43 23.9**	**-0.6**
IDAH	**Dahanechah**	**6.82**	**30**	ePn	**Pn**	**14 43 26.3**	**+0.9**
IDAH				e		14 45 53.5	
	comp=Z,9µm,0.6s						
IDAH	**Dahanechah**	**6.82**	**30**	ePn	**Pn**	**14 43 26.3**	**+0.9**
TABS	**Tabas**	**6.86**	**9**	ePn	**Pn**	**14 43 26.7**	**+0.8**
IPIR	**Pirpir**	**7.24**	**325**	ePn	**Pn**	**14 43 31.8**	**+0.7**
IPIR				e		14 44 55.0	
	comp=Z,18µm,0.3s						
IPIR	**Pirpir**	**7.24**	**325**	ePn	**Pn**	**14 43 31.8**	**+0.7**
IKLH	**Kolahrood**	**7.44**	**331**	ePn	**Pn**	**14 43 33.3**	**-0.5**
IKLH				eSn	**Sn**	**14 44 55.4**	**-1.6**
IKLH				e		14 45 07.7	
	comp=Z,6µm,0.3s						
IKLH	**Kolahrood**	**7.44**	**331**	ePn	**Pn**	**14 43 33.3**	**-0.5**
IKLH				eSn	**Sn**	**14 44 55.4**	**-1.6**
KBD	**Kabd**	**7.58**	**290**	eP	**Pn**	**14 43 36.2**	**+0.4**
KBD	**Kabd**	**7.58**	**290**	eP	**Pn**	**14 43 36.2**	**+0.4**
RDF	**Al-Radifah**	**7.64**	**288**	eP	**Pn**	**14 43 36.9**	**+0.2**
RDF	**Al-Radifah**	**7.64**	**288**	eP	**Pn**	**14 43 36.8**	**+0.2**
UMR	**Umm Al-Rimmam**	**7.67**	**292**	eP	**Pn**	**14 43 37.2**	**+0.2**
UMR				AML	AML	14 45 04.6	
	comp=Z,403nm,0.5s						
UMR	**Umm Al-Rimmam**	**7.67**	**292**	eP	**Pn**	**14 43 37.2**	**+0.1**
SHRT	**Shahrakht**	**7.78**	**28**	ePn	**Pn**	**14 43 38.7**	**+0.2**
SHRT	**Shahrakht**	**7.78**	**28**	ePn	**Pn**	**14 43 38.7**	**+0.2**
NAY	**Al-Naaiem**	**7.98**	**289**	eP	**Pn**	**14 43 42.4**	**+1.1**
NAY				AML	AML	14 45 12.8	
	comp=Z,208nm,0.4s						
NAY	**Al-Naaiem**	**7.98**	**289**	eP	**Pn**	**14 43 42.4**	**+1.1**
MIB	**Mutribah**	**8.06**	**293**	eP	**Pn**	**14 43 43.3**	**+0.8**
MIB				AML	AML	14 45 13.8	
	comp=Z,546nm,0.5s						
MIB	**Mutribah**	**8.06**	**293**	eP	**Pn**	**14 43 43.3**	**+0.9**
SHGR	**Shooshtar-Gavs**	**8.08**	**312**	ePn	**Pn**	**14 43 42.0**	**-0.6**
SHGR	**Shooshtar-Gavs**	**8.08**	**312**	ePn	**Pn**	**14 43 42.7**	**0.0**
SHGR	**Shooshtar-Gavs**	**8.08**	**312**	ePn	**Pn**	**14 43 42.7**	**+0.1**
GHVR	**GHOM**	**8.56**	**334**	eP	**Pn**	**14 43 49.0**	**-0.2**
GHVR	**GHOM**	**8.56**	**334**	ePn	**Pn**	**14 43 49.7**	**+0.5**
GHVR	**GHOM**	**8.56**	**334**	eP	**Pn**	**14 43 49.0**	**-0.2**
IANJ	**Anjilo**	**8.75**	**350**	ePn	**Pn**	**14 43 52.4**	**+0.6**
IANJ				e		14 44 14.8	
	comp=Z,2µm,0.3s						
IANJ	**Anjilo**	**8.75**	**350**	ePn	**Pn**	**14 43 52.4**	**+0.6**
IVRN	**Varamin**	**8.86**	**337**	ePn	**Pn**	**14 43 53.0**	**-0.3**
IVRN				ePn	**Pn**	**14 43 53.7**	**+0.4**
IVRN	**Varamin**	**8.86**	**337**	ePn	**Pn**	**14 43 53.0**	**-0.3**
ILAS	**Lasjerd**	**8.86**	**344**	ePn	**Pn**	**14 43 54.1**	**+0.8**
ILAS				e		14 46 19.1	
	comp=Z,2µm,0.3s						
ILAS	**Lasjerd**	**8.86**	**344**	ePn	**Pn**	**14 43 54.1**	**+0.8**
IFIR	**Firoozkooh**	**9.16**	**344**	ePn	**Pn**	**14 43 57.3**	**-0.1**
IFIR				e		14 44 07.4	
	comp=Z,1µm,0.2s						
IFIR	**Firoozkooh**	**9.16**	**344**	ePn	**Pn**	**14 43 57.3**	**-0.1**
ASAO	**Ashtian**	**9.17**	**328**	eP	**Pn**	**14 43 57.0**	**-0.6**
ASAO	**Ashtian**	**9.17**	**328**	ePn	**Pn**	**14 43 57.6**	**+0.1**
ASAO	**Ashtian**	**9.17**	**328**	eP	**Pn**	**14 43 57.0**	**-0.6**
ISHM	**Shahmirzad**	**9.19**	**347**	ePn	**Pn**	**14 43 57.9**	**0.0**
ISHM				e		14 44 01.2	
	comp=Z,4µm,0.3s						
ISHM	**Shahmirzad**	**9.19**	**347**	ePn	**Pn**	**14 43 57.9**	**0.0**
IDMV	**Damavand**	**9.29**	**340**	ePn	**Pn**	**14 44 00.1**	**+0.8**
IDMV				e		14 46 14.6	
	comp=Z,2µm,0.4s						
IDMV	**Damavand**	**9.29**	**340**	ePn	**Pn**	**14 44 00.1**	**+0.8**
DAMV	**Damavand**	**9.36**	**340**	ePn	**Pn**	**14 44 00.0**	**-0.2**
DAMV	**Damavand**	**9.36**	**340**	ePn	**Pn**	**14 44 01.0**	**+0.8**
DAMV	**Damavand**	**9.36**	**340**	ePn	**Pn**	**14 44 00.6**	**+0.4**
RBK	**Rabkut**	**9.43**	**190**	P	**Pn**	**14 44 01.1**	**-0.1**
	SNR=36						
IKIA	**Kiasar**	**9.51**	**349**	e	Px	14 44 15.9	
	comp=Z,1µm,0.3s						
IKIA				ePn	**Pn**	**14 44 02.7**	**+0.5**
IKIA	**Kiasar**	**9.51**	**349**	ePn	**Pn**	**14 44 02.7**	**+0.5**
IR3	**Iran Long-Peri**	**9.54**	**335**	ePn	**Pn**	**14 44 02.3**	**-0.4**
IR3	**Iran Long-Peri**	**9.54**	**335**	ePn	**Pn**	**14 44 02.3**	**-0.4**
IALA	**Alasht**	**9.56**	**345**	ePn	**Pn**	**14 44 03.7**	**+0.7**
IALA	**Alasht**	**9.56**	**345**	ePn	**Pn**	**14 44 03.7**	**+0.7**
IAFJ	**Afjeh**	**9.65**	**339**	ePn	**Pn**	**14 44 04.9**	**+0.7**
IAFJ	**Afjeh**	**9.65**	**339**	ePn	**Pn**	**14 44 04.9**	**+0.7**
ABTO	**Aybut**	**9.74**	**195**	P	**Pn**	**14 44 05.4**	**-0.2**
	SNR=120						
IGLO	**Ghaloghah**	**9.78**	**350**	ePn	**Pn**	**14 44 07.4**	**+1.5**
IPRN	**Peran**	**9.83**	**343**	ePn	**Pn**	**14 44 07.2**	**+0.6**
IMHD	**Mahdasht**	**9.86**	**335**	ePn	**Pn**	**14 44 06.5**	**-0.6**
IMHD	**Mahdasht**	**9.86**	**335**	ePn	**Pn**	**14 44 06.5**	**-0.6**
CHTH	**Charan**	**9.89**	**337**	eP	**Pn**	**14 44 07.0**	**-0.5**
CHTH	**Charan**	**9.89**	**337**	ePn	**Pn**	**14 44 07.8**	**+0.4**
CHTH	**Charan**	**9.89**	**337**	eP	**Pn**	**14 44 07.0**	**-0.5**
ISRO	**Mashad**	**9.92**	**17**	ePn	**Pn**	**14 44 08.9**	**+1.1**
ISRO	**Mashad**	**9.92**	**17**	ePn	**Pn**	**14 44 08.9**	**+1.1**
IPAY	**Payeh**	**9.94**	**15**	e	Px	14 44 40.3	
	comp=Z,508nm,0.2s						
IPAY				ePn	**Pn**	**14 44 08.8**	**+0.7**
IPAY	**Payeh**	**9.94**	**15**	ePn	**Pn**	**14 44 08.8**	**+0.7**
RAYN	**Ar Rayn**	**9.95**	**253**	Pn	**Pn**	**14 44 06.8**	**-1.5**
	comp=Z,1µm,0.5s,SNR=78						
THKV	**Tehran--Karaj**	**9.99**	**336**	eP	**Pn**	**14 44 09.0**	**+0.2**
THKV	**Tehran--Karaj**	**9.99**	**336**	ePn	**Pn**	**14 44 09.3**	**+0.6**
THKV	**Tehran--Karaj**	**9.99**	**336**	eP	**Pn**	**14 44 09.0**	**+0.2**
IMYA	**Miami**	**10.13**	**20**	ePn	**Pn**	**14 44 12.8**	**+2.1**
IMYA	**Miami**	**10.13**	**20**	ePn	**Pn**	**14 44 12.8**	**+2.1**
IKRD	**Kardeh**	**10.15**	**12**	ePn	**Pn**	**14 44 14.5**	**+3.5**
IKRD	**Kardeh**	**10.15**	**12**	ePn	**Pn**	**14 44 14.5**	**+3.5**
IKOM	**Komasi**	**10.25**	**317**	ePn	**Pn**	**14 44 12.8**	**+0.4**
IKOM				e		14 44 19.0	
	comp=Z,10µm,0.4s						
IKOM	**Komasi**	**10.25**	**317**	ePn	**Pn**	**14 44 12.8**	**+0.4**
ISHV	**Shirvan**	**10.77**	**8**	ePn	**Pn**	**14 44 20.3**	**+0.9**
ISHV				e		14 45 03.0	
	comp=Z,790nm,0.2s						
ISHV	**Shirvan**	**10.77**	**8**	ePn	**Pn**	**14 44 20.3**	**+0.9**
MRVT	**Maraveh tapeh**	**10.78**	**1**	eP	**Pn**	**14 44 19.0**	**-0.6**
MRVT	**Maraveh tapeh**	**10.78**	**1**	ePn	**Pn**	**14 44 19.9**	**+0.2**
MRVT	**Maraveh tapeh**	**10.78**	**1**	eP	**Pn**	**14 44 19.0**	**-0.6**
IEMG	**Emamgholi**	**10.80**	**12**	ePn	**Pn**	**14 44 21.0**	**+1.2**
IEMG				e		14 47 57.3	
	comp=Z,594nm,0.6s						
IVIS	**Veis**	**10.89**	**317**	ePn	**Pn**	**14 44 19.1**	**-2.0**
IVIS				e		14 44 27.2	
	comp=Z,4µm,0.3s						
IVIS	**Veis**	**10.89**	**317**	ePn	**Pn**	**14 44 19.1**	**-2.0**
IGHG	**Ghaleghazi**	**10.93**	**315**	ePn	**Pn**	**14 44 20.3**	**-1.4**
IGHG				e		14 46 35.1	
	comp=Z,6µm,0.3s						
IGHG	**Ghaleghazi**	**10.93**	**315**	ePn	**Pn**	**14 44 20.3**	**-1.4**
ILIN	**Lien**	**11.09**	**319**	ePn	**Pn**	**14 44 23.9**	**0.0**
ILIN				e		14 46 29.5	
	comp=Z,5µm,0.3s						
ILIN	**Lien**	**11.09**	**319**	ePn	**Pn**	**14 44 23.9**	**0.0**
ABKT	**Ailbek**	**11.21**	**9**	Pn	**Pn**	**14 44 26.1**	**+0.6**
	comp=Z,218nm,1.4s,SNR=7.6						
IDHR	**Dehrash**	**11.29**	**316**	ePn	**Pn**	**14 44 24.4**	**-2.2**
IDHR				e		14 44 35.4	
	comp=Z,7µm,0.2s						
IDHR	**Dehrash**	**11.29**	**316**	ePn	**Pn**	**14 44 24.4**	**-2.2**
BHD	**Baghdad**	**11.82**	**306**	ex	**Pn**	**14 44 27.2**	**-6.7**
BHD				ex	x	14 46 38.0	
ISRB	**Sarab**	**12.94**	**330**	ePn	**Pn**	**14 44 49.2**	**0.0**
ISRB				e		14 45 14.4	
	comp=Z,492nm,0.3s						
ISRB	**Sarab**	**12.94**	**330**	ePn	**Pn**	**14 44 49.2**	**0.0**
IBST	**Bostanabad**	**13.20**	**327**	ePn	**Pn**	**14 44 51.3**	**-1.5**
IBST				e		14 45 06.7	
	comp=Z,754nm,0.6s						
IBST	**Bostanabad**	**13.20**	**327**	ePn	**Pn**	**14 44 51.3**	**-1.5**
IHRS	**Heris**	**13.63**	**329**	ePn	**Pn**	**14 44 57.4**	**-1.2**
IHRS				e		14 45 15.5	
	comp=Z,707nm,0.4s						
IHRS	**Heris**	**13.63**	**329**	ePn	**Pn**	**14 44 57.4**	**-1.2**
IAZR	**Azarshahr**	**13.64**	**325**	ePn	**Pn**	**14 44 58.1**	**-0.7**
IAZR	**Azarshahr**	**13.64**	**325**	ePn	**Pn**	**14 44 58.1**	**-0.7**
GRMI	**Germi**	**13.67**	**333**	eP	**Pn**	**14 44 59.0**	**-0.1**
GRMI	**Germi**	**13.67**	**333**	eP	**Pn**	**14 44 59.9**	**+0.8**
GRMI				AMb	AMB	14 45 09.2	
	comp=Z,113nm,2.0s						
GRMI	**Germi**	**13.67**	**333**	eP	**Pn**	**14 44 59.0**	**-0.1**
KBL	**Kabul**	**13.68**	**53**	eP	**Pn**	**14 45 00.4**	**+1.1**
	comp=Z,59nm,0.9s						
KBL	**Kabul**	**13.68**	**53**	eP	**Pn**	**14 45 00.4**	**+1.1**
KBL				pmax	pmax		
	comp=Z,59nm,0.9s						
KBL	**Kabul**	**13.68**	**53**	eP	**Pn**	**14 45 00.4**	**+1.1**
	comp=Z,59nm,0.9s						
MUKL	**Al Mukalla**	**13.86**	**209**	⇑eP	**Pn**	**14 44 59.0**	**-2.9**
MUKL				AMb	AMB	14 45 01.3	
	comp=Z,374nm,1.3s						
MUKL				iS	**Sn**	**14 47 34.5**	**-0.3**
ISHB	**Shabestar**	**14.29**	**325**	e	**Pn**	**14 45 19.1**	**+12**
	comp=Z,661nm,0.3s						
ISHB				ePn	**Pn**	**14 45 06.6**	**-1.0**
ISHB	**Shabestar**	**14.29**	**325**	ePn	**Pn**	**14 45 06.6**	**-1.0**
IMRD	**Marand**	**14.58**	**327**	ePn	**Pn**	**14 45 11.1**	**-0.4**
IMRD				e		14 45 44.7	
	comp=Z,944nm,0.3s						
IMRD	**Marand**	**14.58**	**327**	ePn	**Pn**	**14 45 11.1**	**-0.4**
CEP	**Cherat**	**15.49**	**60**	P	**Pn**	**14 45 22.8**	**-0.9**
VANB	**Van**	**15.71**	**321**	eP	**Pn**	**14 45 25.8**	**-0.6**
CLDR	**Caldiran**	**15.81**	**324**	eP	**Pn**	**14 45 28.4**	**+0.7**
HAJJ	**Hajjah**	**15.91**	**228**	⇑eP	**Pn**	**14 45 26.2**	**-3.0**
BDHA	**Al Bayda'**	**16.02**	**219**	⇓eP	**Pn**	**14 45 27.8**	**-2.8**
BDHA				iS	**Sn**	**14 48 26.9**	**-0.4**
GNI	**Garni**	**16.16**	**328**	P	**Pn**	**14 45 34.7**	**+2.4**
GNI	**Garni**	**16.16**	**328**	eP	**Pn**	**14 45 33.1**	**+0.9**
	comp=Z,360nm,1.1s						
GNI	**Garni**	**16.16**	**328**	eP	**Pn**	**14 45 33.1**	**+0.8**
GNI				pmax	pmax		
	comp=Z,360nm,1.1s						
GNI	**Garni**	**16.16**	**328**	eP	**Pn**	**14 45 33.1**	**+0.8**
	comp=Z,360nm,1.1s						
DHBB	**Dhamar BB**	**16.24**	**223**	⇑eP	**Pn**	**14 45 30.7**	**-2.7**
DHBB				iS	**Sn**	**14 48 32.2**	**-0.5**
LBOS		**16.29**	**220**	⇓eP	**Pn**	**14 45 31.2**	**-2.7**
LBOS				iS	**Sn**	**14 48 33.3**	**-0.5**
NIL	**Nilore**	**16.48**	**62**	P	**Pn**	**14 45 32.3**	**-4.0**
NIL	**Nilore**	**16.48**	**62**	P	**Pn**	**14 45 32.3**	**-4.0**
NIL	**Nilore**	**16.48**	**62**	P	**Pn**	**14 45 32.3**	**-4.0**
CHCP	**Chirah Chowk**	**16.49**	**62**	P	**Pn**	**14 45 34.0**	**-2.4**
AGRB	**Hanur-Agry**	**16.62**	**323**	eP	**Pn**	**14 45 39.3**	**+1.3**
AGRB	**Hanur-Agry**	**16.62**	**323**	eP	**Pn**	**14 45 39.3**	**+1.3**
AJM	**Ajmer**	**16.80**	**87**	ex	**Pn**	**14 45 42.0**	**+1.6**
DGRG	**David-gareji**	**16.93**	**332**	P	**Pn**	**14 45 43.0**	**+1.0**
DGRG				S	**Sn**	**14 48 52.7**	**+3.7**
ASF	**Jabal al Asfar**	**17.33**	**292**	P	**Pn**	**14 45 46.9**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=330,slow=3.1,SNR=21						
ASF				S	**Sn**	**14 49 03.9**	**+5.0**
	comp=Z,1.9nm,0.3s,baz=0.3,slow=18,SNR=3.9						
ASF				LR	LR	14 53 46.6	
	comp=Z,649nm,18.2s,baz=154,slow=42						
ASF	**Jabal al Asfar**	**17.33**	**292**	P	**Pn**	**14 45 46.9**	**-0.1**
ASF				S	**Sn**	**14 49 03.9**	**+5.0**
ASF	**Jabal al Asfar**	**17.33**	**292**	P	**Pn**	**14 45 46.9**	**-0.1**
ASF				S	**Sn**	**14 49 03.9**	**+5.0**
ASF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASF				smax			
	comp=N,2.0nm,0.3s						
ASF				MLR	MLR		

comp=Z,649nm,18.2s
KARS Kars 17.34 326 *e*P **Pn 14 45 48.6 +1.5**
KARS Kars 17.34 326 *e*P **Pn 14 45 48.6 +1.5**
MTA Mtatsminda 17.38 331 P **Pn 14 45 48.9 +1.4**
MTA S **Sn 14 48 59.6 -0.3**
TBLG Delisi 17.43 331 P **Pn 14 45 49.7 +1.5**
TBLG S **Sn 14 49 00.9 -0.3**
TBLG Delisi 17.43 331 P **Pn 14 45 49.7 +1.5**
TBLG S **Sn 14 49 00.9 -0.3**
TBLG Delisi 17.43 331 P **Pn 14 45 49.7 +1.5**
MAK Makhachkala 17.45 339 *d i*P **Pn 14 45 52.0 +3.5**
MAK *e*S **Sn 14 49 05.5 +3.8**
MAK MLR MLR
comp=Z,1µm,13.0s
TRBA At Turbah 17.45 221 *e*P **Pn 14 45 45.9 -2.8**
TRBA AMb AMB 14 45 48.5
comp=Z,75nm,1.3s
BNGB Bing¶ll 17.55 317 *e*P **Pn 14 45 51.2 +1.6**
BINT Bingol 17.59 317 *e*P **Pn 14 45 51.2 +1.0**
AKH Akhalkalaki 17.74 328 P **Pn 14 45 53.2 +1.2**
AKH S **Sn 14 49 12.6 +4.0**
EZM Erzurum 17.75 321 *e*P **Pn 14 45 53.9 +1.8**
KHET Khetri 17.75 81 *e*PKP **Pn 14 45 49.2 -3.0**
GOR Gori 17.91 330 P **Pn 14 45 56.2 +2.1**
GOR S **Sn 14 49 17.9 +5.1**
SVRC Sivrice-ELAZID 18.04 314 *e*P **Pn 14 45 55.3 -0.4**
SVRC Sivrice-ELAZID 18.04 314 *e*P **Pn 14 45 55.3 -0.4**
FKH Fakeheh 18.29 298 *e*P **Pn 14 45 58.8 +0.1**
FKH Fakeheh 18.29 298 *e*P **Pn 14 45 58.8 +0.1**
KUDL Kundal 18.35 81 *e*PKP **Pn 14 45 56.4 -3.2**
BHK Bhakra 18.52 71 *e*x **Pn 14 46 02.0 +0.4**
RCY Rachaya 18.52 296 *e*P **Pn 14 46 02.3 +0.7**
RCY Rachaya 18.52 296 *e*P **Pn 14 46 02.3 +0.7**
POO Poona 18.54 113 *e*PKP **Pn 14 46 02.1 +0.2**
MALT Malatya 18.58 312 P **Pn 14 46 03.3 +1.0**
MALT Malatya 18.58 312 *i*P **Pn 14 46 03.3 +1.0**
MYA Malataya 18.59 312 *e*P **Pn 14 46 04.0 +1.6**
MYA Malataya 18.59 312 *e*P **Pn 14 46 04.0 +1.6**
EIL Elat 18.63 284 P **Pn 14 46 03.7 +0.7**
comp=Z,1.0nm,0.3s,baz=113,slow=5.1,SNR=16
EIL S **Sn 14 49 36.5 +6.1**
comp=Z,1.0nm,0.3s,baz=38,slow=19,SNR=2.4
EIL LR LR 14 54 28.1
comp=Z,659nm,18.9s,baz=101,slow=41
EIL Elat 18.63 284 P **Pn 14 46 03.7 +0.7**
EIL S **Sn 14 49 36.5 +6.1**
EIL Elat 18.63 284 P **Pn 14 46 03.7 +0.7**
EIL S **Sn 14 49 36.5 +6.1**
HWQ Hawqa 18.66 298 *e*P **Pn 14 46 03.4 0.0**
HWQ Hawqa 18.66 298 *e*P **Pn 14 46 03.3 0.0**
ONI Oni 18.69 330 P **Pn 14 46 04.7 +1.2**
ONI S **Sn 14 49 36.3 +4.7**
BCA Borcka 18.69 325 *e*P **Pn 14 46 01.3 -2.3**
BCA Borcka 18.69 325 *e*P **Pn 14 46 01.3 -2.3**
KKR Kurukshetra 18.70 76 *e*PKP **Pn 14 46 03.2 -0.6**
KKR AMb AMB 14 46 07.6
comp=Z,244nm,0.6s
MMAI Mount Meron Ar 18.75 294 P **Pn 14 46 05.4 +1.0**
comp=Z,2.7nm,0.3s,baz=99,slow=14,SNR=22
MMAI S **Sn 14 49 39.8 +6.5**
comp=Z,2.2nm,0.3s,baz=108,slow=35,SNR=3.3
MMAI LR LR 14 54 55.4
comp=Z,867nm,19.1s,baz=115,slow=42
MMAI Mount Meron Ar 18.75 294 P **Pn 14 46 05.4 +1.0**
MMAI S **Sn 14 49 39.8 +6.5**
MMAI Mount Meron Ar 18.75 294 P **Pn 14 46 05.4 +1.0**
MMAI S **Sn 14 49 39.8 +6.5**
BHL Bhannes 18.78 297 *e*P **Pn 14 46 06.5 +1.7**
BHL Bhannes 18.78 297 *e*P **Pn 14 46 06.4 +1.6**
AYAN Aya Nagar 18.91 80 *e*PKP **Pn 14 46 04.5 -1.9**
NDI New Delhi 18.99 80 *e*PKP **Pn 14 46 04.5 -2.8**
NDI *e*PKP 14 46 06.5
SDNR Sundarnagar 19.00 71 *e*x **Pn 14 46 08.0 +0.5**
SMLA Simla 19.11 72 *i*P **Pn 14 46 07.2 -1.6**
SMLA *i*x x 14 49 23.4
KMRS Kahramanmaras 19.21 308 *e*P **Pn 14 46 10.5 +0.5**
KMRS Kahramanmaras 19.21 308 *e*P **Pn 14 46 10.5 +0.6**
KAD Karad 19.44 115 *e*PKP **Pn 14 46 11.9 -0.8**
ATD Arta Tunnel 19.55 221 P **Pn 14 46 15.2 +1.1**
comp=Z,4.0nm,0.3s,baz=12,slow=6.1,SNR=38
ATD S **Sn 14 49 57.9 +5.1**
comp=Z,0.9nm,0.3s,baz=260,slow=6.1,SNR=1.7
ATD LR LR 14 54 28.0
comp=Z,1µm,18.8s,baz=225,slow=39
ATD Arta Tunnel 19.55 221 P **Pn 14 46 15.2 +1.1**
ATD S **Sn 14 49 57.9 +5.1**
ATD Arta Tunnel 19.55 221 P **Pn 14 46 15.2 +1.1**
AGRA Agra 19.68 84 *e*PKP **Pn 14 46 14.3 -1.3**
AGRA AMb AMB 14 46 14.9
comp=Z,55nm,0.3s
DDI Dehra Dun 19.79 75 *e*PKP **Pn 14 46 15.0 -1.9**
DDI *e*x x 14 50 15.0
BHPL Bhopal 19.86 96 *e*PKP **Pn 14 46 15.8 -2.0**
BHPL AMb AMB 14 46 22.8
comp=Z,144nm,0.9s
BHPL *e*S **Sn 14 49 59.0 -1.2**
SARI SarD1z-Kayseri 19.93 311 *e*P **Pn 14 46 20.3 +1.9**
ESPY Espiye-Giresun 19.93 319 *e*P **Pn 14 46 17.4 -1.0**
ESPY Espiye-Giresun 19.93 319 *e*P **Pn 14 46 17.4 -1.0**
KIV Kislovodsk 20.12 331 *e*P **P 14 46 19.9 +1.3**
comp=Z,862nm,1.4s
KIV LR LR
comp=Z,568nm,22.0s,MS3.9
KIV Kislovodsk 20.12 331 *e*P **P 14 46 20.0 +1.4**
KIV *e*S **S 14 50 02.9 +0.1**
KIV pmax pmax
comp=Z,342nm,0.9s
KIV MLR MLR
comp=Z,318nm,13.0s,MS3.9
KIV Kislovodsk 20.12 331 Pn **P 14 46 20.6 +2.0**
comp=Z,2µm,0.8s,SNR=52
KIV Kislovodsk 20.12 331 *e*P **P 14 46 19.9 +1.3**
comp=Z,862nm,1.4s
KKAR Karatay Array 20.13 33 *e*P **P 14 46 17.2 -1.6**
comp=Z,52nm,0.8s
KKAR Karatay Array 20.13 33 *e*P **P 14 46 17.2 -1.5**
KKAR pmax pmax
comp=Z,52nm,0.8s
KKAR Karatay Array 20.13 33 *e*P **P 14 46 17.2 -1.5**
comp=Z,52nm,0.8s
GOA Goa 20.18 120 ⇑*i*P **P 14 46 20.6 +1.1**
GOA *e*x x 14 50 11.9
BNN Bunyan 20.59 311 *e*P **P 14 46 22.7 -1.0**
BNN Bunyan 20.59 311 *e*P **P 14 46 22.7 -1.1**
LATR Latur 20.85 109 *e*PKP **P 14 46 28.0 +1.2**
CSS Prodhromos 20.92 298 *e*P **P 14 46 27.3 -0.2**
comp=Z,79nm,0.8s
CSS LR LR
comp=Z,594nm,19.0s,MS4.0
CSS Prodhromos 20.92 298 *e*P **P 14 46 27.3 -0.2**
comp=Z,79nm,0.8s
KSH Kashi 20.99 48 P **P 14 46 20.7 -7.4**
KSH S S 14 50 00.2 -20
KSH PcP PcP 14 50 36.8 +2.2
KSH pmax pmax
comp=Z,69nm,1.0s
KSH LR LR
comp=N,2µm,10.6s,MS4.9
KSH LR LR
comp=E,2µm,10.1s,MS4.9
KSH LR LR
comp=Z,2µm,11.1s,MS4.8
AML Almayashu 21.11 39 P **P 14 46 28.0 -1.4**
SNR=114
AML P 14 46 28.0
SNR=114
SOC Sochi 21.21 326 *d i*P **P 14 46 30.8 +0.3**
SOC *e* 14 46 46.5
SOC *e*S **S 14 50 25.1 +0.7**
SOC *e*SS sS 14 50 33.8 -4.6
SOC *e*SS 14 50 43.6
SOC pmax pmax
comp=Z,172nm,0.9s,mb5.4
SOC MLR MLR
comp=Z,2µm,12.0s,MS4.7
EKS2 Erkin-Say 21.51 38 P **P 14 46 33.3 -0.3**
SNR=186
EKS2 P 14 46 33.3
SNR=186
EKS2 Erkin-Say 21.51 38 *e*P **P 14 46 33.0 -0.7**
comp=Z,194nm,1.1s,mb5.5
EKS2 Erkin-Say 21.51 38 *e*P **P 14 46 33.0 -0.6**
EKS2 pmax pmax
comp=Z,194nm,1.1s,mb5.5
EKS2 Erkin-Say 21.51 38 *e*P **P 14 46 33.0 -0.6**
comp=Z,194nm,1.1s,mb5.5
UCH Uchtor 21.64 40 P **P 14 46 38.7 +3.6**
SNR=6.4
UCH P 14 46 38.7
SNR=6.4
KVT Kavak 21.64 316 *e*P **P 14 46 34.1 -1.0**
KVT Kavak 21.64 316 *e*P **P 14 46 34.1 -1.0**
AAK Ala-Archa 21.89 39 P **P 14 46 37.1 -0.6**
SNR=49
AAK P 14 46 37.1
SNR=49
AAK Ala-Archa 21.89 39 P **P 14 46 37.0 -0.7**
comp=Z,1µm,1.2s,mb6.2,SNR=57
AAK Ala-Archa 21.89 39 *e*P **P 14 46 37.2 -0.5**
comp=Z,725nm,0.9s,mb6.1
AAK LR LR
comp=Z,1µm,19.0s,MS4.2
AAK Ala-Archa 21.89 39 *e*P **P 14 46 37.2 -0.5**
AAK pmax pmax
comp=Z,725nm,0.9s,mb6.1
AAK MLR MLR
comp=Z,1µm,19.0s,MS4.2
AAK Ala-Archa 21.89 39 P **P 14 46 37.7 0.0**
comp=Z,896nm,0.9s,mb6.2
AAK Ala-Archa 21.89 39 *e*P **P 14 46 37.2 -0.5**
comp=Z,725nm,0.9s,mb6.1
NGP Nagpur 21.92 100 *e*PKP **P 14 46 37.9 -0.4**
NGP *e*x x 14 50 51.6
KZA Kyzart 21.98 41 P **P 14 46 39.3 +0.6**
SNR=155
KZA P 14 46 39.3
SNR=155
FRU Bishkek 22.09 39 *e*P **P 14 46 39.0 -0.9**
FRU pmax pmax
comp=Z,84nm,1.8s,mb4.9
KBK Karagaybulak 22.16 40 P **P 14 46 40.4 -0.2**
SNR=97
KBK P 14 46 40.4
SNR=97
HDMB Hadim 22.20 303 *e*P **P 14 46 42.8 +1.7**
HDMB Hadim 22.20 303 *e*P **P 14 46 42.8 +1.6**
CHMS Chumysh 22.27 39 P **P 14 46 44.3 +2.5**
SNR=77
CHMS P 14 46 44.3
SNR=77
USP Ospenovka 22.30 38 P **P 14 46 44.1 +1.9**
SNR=72
USP P 14 46 44.1
SNR=72
BR131 Keskin Array S 22.51 310 *e*P **P 14 46 44.9 +0.5**
comp=Z,14nm,0.9s,mb4.4
BR131 Keskin Array S 22.51 310 *e*P **P 14 46 44.9 +0.5**
comp=Z,14nm,0.9s,mb4.4
BRTR Keskin Array B 22.51 310 P **P 14 46 44.9 +0.5**
comp=Z,34nm,1.0s,mb4.7,baz=129,slow=11,SNR=85
BRTR ScP ScP 14 54 15.3 +2.5
comp=Z,1.9nm,0.8s,baz=131,slow=4.4,SNR=6.2
BRTR LR LR 14 56 48.7
comp=Z,2µm,18.6s,MS4.5,baz=115,slow=40
BRTR Keskin Array B 22.51 310 P **P 14 46 44.9 +0.5**
BRTR ScP ScP 14 54 15.3 +2.5
BRTR Keskin Array B 22.51 310 P **P 14 46 44.9 +0.5**
BRTR pmax pmax
comp=Z,34nm,1.0s
BRTR MLR MLR
comp=Z,2µm,18.6s
BRTR Keskin Array B 22.51 310 P **P 14 46 44.9 +0.5**
ABKAR Akbulak array 22.59 7 *e*P **P 14 46 43.5 -1.6**
comp=Z,79nm,0.8s,mb5.2
ABKAR Akbulak array 22.59 7 *e*P **P 14 46 43.5 -1.6**
comp=Z,79nm,0.8s,mb5.2
KONT Konya--Tatoy 22.66 305 *e*P **P 14 46 46.2 +0.2**
KONT Konya--Tatoy 22.66 305 *e*P **P 14 46 46.2 +0.2**
ULHL Ulahol 22.67 42 P **P 14 46 46.3 +0.3**
SNR=37
ULHL P 14 46 46.3
SNR=37
TKM2 Tokmak 2 22.70 40 P **P 14 46 45.5 -0.9**
SNR=99
TKM2 P 14 46 45.5
SNR=99
TKM2 Tokmak 2 22.70 40 *e*P **P 14 46 45.3 -1.1**
comp=Z,87nm,1.0s,mb5.1
TKM2 LR LR
comp=Z,110nm,21.0s,MS3.3
TKM2 Tokmak 2 22.70 40 *e*P **P 14 46 45.3 -1.1**
TKM2 pmax pmax
comp=Z,87nm,1.0s,mb5.1
TKM2 Tokmak 2 22.70 40 *e*P **P 14 46 45.3 -1.1**
comp=Z,87nm,1.0s,mb5.1
LADK Ladik-KONYA 22.75 306 *e*P **P 14 46 48.5 +1.5**
LADK Ladik-KONYA 22.75 306 *e*P **P 14 46 48.5 +1.5**
TOS Tosya 22.90 314 *e*P **P 14 46 49.5 +1.0**
TOS Tosya 22.90 314 *e*P **P 14 46 49.5 +1.0**
HYB Hyderabad 22.99 109 *i*P **P 14 46 49.0 -0.7**
comp=Z,220nm,1.0s,mb5.5
HYB *e*S **S 14 51 16.0 +18**
LOD Lodumlu 23.18 310 *e*P **P 14 46 47.5 -4.0**
ANN Anapa 23.23 325 *e*P **P 14 46 53.3 +1.4**
ANN *e*S **S 14 51 03.3 +1.8**
ANN pmax pmax
comp=Z,83nm,1.3s,mb5.0
KIZT Kizilcal 23.37 307 *e*P **P 14 46 54.9 +1.4**
KIZT Kizilcal 23.37 307 *e*P **P 14 46 54.9 +1.4**
AKTO Aktyubinsk 23.61 3 P **P 14 46 54.6 -1.0**
comp=Z,53nm,0.7s,mb5.1,baz=190,slow=10,SNR=172
AKTO LR LR 14 57 16.1
comp=Z,2µm,19.8s,MS4.5,baz=169,slow=40
AKTO Aktyubinsk 23.61 3 P **P 14 46 54.6 -1.0**
AKTO Aktyubinsk 23.61 3 P **P 14 46 54.6 -1.0**
AKTO pmax pmax
comp=Z,53nm,0.7s,mb5.1
AKTO MLR MLR
comp=Z,2µm,19.8s,MS4.5
AKTO Aktyubinsk 23.61 3 P **P 14 46 54.6 -1.0**
SVRH Sivrihisar-ESK 23.85 308 *e*P **P 14 46 58.9 +1.0**
SVRH Sivrihisar-ESK 23.85 308 *e*P **P 14 46 58.9 +1.0**
PYUN Piuthan 24.09 81 *e*P **P 14 47 02.0 +1.8**
comp=Z,529nm,1.5s,mb5.7
PYUN Piuthan 24.09 81 *e*P **P 14 47 02.0 +1.8**
comp=Z,529nm,1.5s,mb5.8
PYUN Piuthan 24.09 81 *e*P **P 14 47 02.0 +1.8**
comp=Z,529nm,1.5s,mb5.8
KOLN Koldanda 24.65 81 *e*P **P 14 47 06.7 +1.4**
comp=Z,74nm,0.8s,mb5.2
KOLN Koldanda 24.65 81 *e*P **P 14 47 06.7 +1.4**
comp=Z,74nm,0.8s,mb5.3
KOLN Koldanda 24.65 81 *e*P **P 14 47 06.7 +1.4**
comp=Z,74nm,0.8s,mb5.3
DANN Dangsing 24.75 80 *e*P **P 14 47 07.6 +1.3**
comp=Z,282nm,0.9s,mb5.8
DANN Dangsing 24.75 80 *e*P **P 14 47 07.6 +1.3**
comp=Z,282nm,0.9s,mb5.8
DANN Dangsing 24.75 80 *e*P **P 14 47 07.6 +1.3**
comp=Z,282nm,0.9s,mb5.8
GULT Gulveren 24.97 309 *e*P **P 14 47 10.0 +1.9**
GULT Gulveren 24.97 309 *e*P **P 14 47 10.0 +1.9**
SIM Simferopol' 25.10 322 *e*P **P 14 47 10.0 +0.8**
SIM *e*S **S 14 51 36.0 +4.4**
SIM pmax pmax
comp=Z,52nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,640nm,17.5s,MS4.2
GKN Gorkha 25.55 81 *e*P **P 14 47 14.7 +1.2**
comp=Z,273nm,1.4s,mb5.6
GKN Gorkha 25.55 81 *e*P **P 14 47 14.7 +1.2**
comp=Z,273nm,1.4s,mb5.6
GKN Gorkha 25.55 81 *e*P **P 14 47 14.7 +1.2**
comp=Z,273nm,1.4s,mb5.6
HMDM Hanimaadhoo 25.89 137 P **P 14 47 13.8 -2.9**
comp=Z,59nm,1.1s,mb5.0
KARP Karpathos 25.96 297 *e*P **P 14 47 19.4 +2.2**
DMN Daman 25.99 82 *e*P **P 14 47 18.4 +0.9**
comp=Z,166nm,1.3s,mb5.4
DMN Daman 25.99 82 *e*P **P 14 47 18.4 +0.9**
comp=Z,166nm,1.3s,mb5.4
DMN Daman 25.99 82 *e*P **P 14 47 18.4 +0.9**
comp=Z,166nm,1.3s,mb5.4
KKN Kakani 26.13 81 *e*P **P 14 47 19.9 +1.1**
comp=Z,150nm,1.0s,mb5.5
KKN Kakani 26.13 81 *e*P **P 14 47 19.9 +1.1**
comp=Z,150nm,1.0s,mb5.5
KKN Kakani 26.13 81 *e*P **P 14 47 19.9 +1.1**
KKN pmax pmax
comp=Z,150nm,1.0s,mb5.5
KKN Kakani 26.13 81 *e*P **P 14 47 19.9 +1.1**
comp=Z,150nm,1.0s,mb5.5
PKI Pulchoki 26.27 82 *e*P **P 14 47 21.2 +1.2**
comp=Z,143nm,1.0s,mb5.5
PKI Pulchoki 26.27 82 *e*P **P 14 47 21.2 +1.2**
comp=Z,143nm,1.0s,mb5.5
PKI Pulchoki 26.27 82 *e*P **P 14 47 21.2 +1.2**
PKI pmax pmax
comp=Z,143nm,1.0s,mb5.5
PKI Pulchoki 26.27 82 *e*P **P 14 47 21.2 +1.2**
comp=Z,143nm,1.0s,mb5.5
GUN Gumba 26.65 81 *e*P **P 14 47 25.0 +1.5**
comp=Z,146nm,0.9s,mb5.5
GUN Gumba 26.65 81 *e*P **P 14 47 25.0 +1.5**
comp=Z,146nm,0.9s,mb5.5
GUN Gumba 26.65 81 *e*P **P 14 47 25.0 +1.5**
comp=Z,146nm,0.9s,mb5.5
SMG Samos 26.72 301 *e*P **P 14 47 25.4 +1.4**
JIRN Jiri 26.95 81 *e*P **P 14 47 27.3 +1.2**
comp=Z,24nm,0.8s,mb4.8
JIRN Jiri 26.95 81 *e*P **P 14 47 27.3 +1.2**
comp=Z,24nm,0.8s,mb4.8
JIRN Jiri 26.95 81 *e*P **P 14 47 27.3 +1.2**
comp=Z,24nm,0.8s,mb4.8
NPS Neapolis 27.15 295 *e*P **P 14 47 31.1 +3.2**
RAMN Ramite 27.38 83 *e*P **P 14 47 30.7 +0.6**
comp=Z,177nm,1.5s,mb5.4
RAMN Ramite 27.38 83 *e*P **P 14 47 30.7 +0.6**
comp=Z,177nm,1.5s,mb5.4
RAMN Ramite 27.38 83 *e*P **P 14 47 30.7 +0.6**
comp=Z,177nm,1.5s,mb5.4
VSR Storozhevoye 27.44 337 *e*P **P 14 47 29.3 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,20nm,1.1s
CHOS Chios island 27.50 302 *e*P **P 14 47 33.2 +2.2**
APE Apeiranthos 27.57 299 *e*P **P 14 47 30.3 -1.4**
APE Apeiranthos 27.57 299 ⇑P **P 14 47 30.3 -1.4**
APE Apeiranthos 27.57 299 ⇑*i*P **P 14 47 30.3 -1.4**
APE Apeiranthos 27.57 299 ⇑*i*P **P 14 47 30.3 -1.4**
PSN Preselentsi 27.97 314 P **P 14 47 41.6 +6.5**
ODAN Odare 28.10 83 *e*P **P 14 47 37.3 +0.9**
comp=E,134nm,1.4s,mb5.4
ODAN Odare 28.10 83 *e*P **P 14 47 37.3 +0.9**
comp=E,134nm,1.4s,mb5.4
ODAN Odare 28.10 83 *e*P **P 14 47 37.3 +0.9**
comp=E,134nm,1.4s,mb5.4
TIRR Tirgusor 28.20 316 *e*P **P 14 47 36.4 -0.7**
comp=E,48nm,1.3s,mb5.0
TIRR Tirgusor 28.20 316 *e*P **P 14 47 36.4 -0.7**
TIRR pmax pmax
comp=Z,48nm,1.3s,mb5.0
TIRR Tirgusor 28.20 316 ⇑*i*P **P 14 47 37.6 +0.5**
TIRR Tirgusor 28.20 316 *e*P **P 14 47 36.4 -0.7**
comp=Z,48nm,1.3s,mb5.0
PRD Provadia 28.26 313 P **P 14 47 38.2 +0.5**
PRD Provadia 28.26 313 P **P 14 47 38.2 +0.5**
ALN Alexandroupoli 28.28 307 *e*P **P 14 47 38.8 +0.8**
BRVK Borovoye 28.30 18 P **P 14 47 37.9 -0.1**
comp=Z,469nm,1.1s,mb6.0,SNR=38
BRVK Borovoye 28.30 18 *e*P **P 14 47 36.8 -1.2**
comp=Z,66nm,0.8s,mb5.3
BRVK LR LR
comp=Z,2µm,19.0s,MS4.6
BRVK Borovoye 28.30 18 *c i*P **P 14 47 36.8 -1.2**
BRVK pmax pmax
comp=Z,117nm,1.2s,mb5.4
BRVK Borovoye 28.30 18 P **P 14 47 37.1 -0.8**
SNR=60
BRVK mb 14 47 39.0
SNR=59
BRVK Borovoye 28.30 18 P **P 14 47 37.1 -0.9**
SNR=60
BVAR Borovoye Array 28.31 19 P **P 14 47 37.2 -0.8**
comp=Z,96nm,0.7s,mb5.5,baz=203,slow=7.3,SNR=339
BVAR PcP PcP 14 50 51.6 +1.3
comp=Z,10nm,0.8s,baz=225,slow=3.5,SNR=5.5
BVAR LR LR 14 59 35.7
comp=Z,1µm,18.7s,MS4.6,baz=209,slow=38
BVAR Borovoye Array 28.31 19 P **P 14 47 37.2 -0.8**
BVAR PcP PcP 14 50 51.6 +1.3
BVAR Borovoye Array 28.31 19 P **P 14 47 37.2 -0.8**
BVAR 14 50 51.6
BVAR pmax pmax
comp=Z,96nm,0.7s
BVAR MLR MLR
comp=Z,1µm,18.7s
BVAR Borovoye Array 28.31 19 P **P 14 47 37.2 -0.8**
BVAR Borovoye Array 28.31 19 PcP PcP 14 50 51.6 +1.2
VAM Vamos 28.32 295 *e*P **P 14 47 42.3 +4.0**
TAPN Taplejung 28.32 82 *e*P **P 14 47 39.0 +0.5**
comp=Z,71nm,1.2s,mb5.2
TAPN Taplejung 28.32 82 *e*P **P 14 47 39.0 +0.5**
comp=Z,71nm,1.2s,mb5.2
TAPN Taplejung 28.32 82 *e*P **P 14 47 39.0 +0.5**
comp=Z,71nm,1.2s,mb5.2
MK31 Makanchi Array 28.83 39 *e*P **P 14 47 41.6 -1.1**
MK31 Makanchi Array 28.83 39 *e*P **P 14 47 41.6 -1.1**
MK31 Makanchi Array 28.83 39 *e*P **P 14 47 41.6 -1.1**
MKAR Makanchi Array 28.83 39 P **P 14 47 42.1 -0.6**
comp=Z,16nm,0.7s,mb4.8,baz=225,slow=7.3,SNR=144
MKAR LR LR 14 59 58.8
comp=Z,429nm,19.4s,MS4.1,baz=49,slow=38
MKAR Makanchi Array 28.83 39 P **P 14 47 42.1 -0.6**
MKAR Makanchi Array 28.83 39 P **P 14 47 42.2 -0.5**
MKAR pmax pmax
comp=Z,16nm,0.7s
MKAR MLR MLR
comp=Z,429nm,19.4s
MKAR Makanchi Array 28.83 39 P **P 14 47 42.2 -0.5**
SZH Strazhica 29.26 312 P **P 14 47 46.5 -0.1**
SZH Strazhica 29.26 312 P **P 14 47 46.5 -0.1**
KIS Kishinev 29.29 320 *e*P **P 14 47 50.0 +3.2**
KIS Kishinev 29.29 320 *e*P **P 14 47 50.0 +3.2**
KIS *e* 14 54 30.0
DID Didima 29.45 299 *e*P **P 14 47 49.2 +0.8**
KURK Kurchatov 29.48 30 P **P 14 47 47.3 -1.2**
comp=Z,20nm,0.8s,mb4.9,baz=229,slow=8.6,SNR=164
KURK PcP PcP 14 50 52.8 -0.5
comp=Z,5.2nm,0.8s,baz=224,slow=3.9,SNR=4.8
KURK LR LR 15 00 08.6
comp=Z,653nm,18.1s,MS4.3,baz=235,slow=38
KURK Kurchatov 29.48 30 *e*P **P 14 47 47.3 -1.2**
comp=Z,25nm,0.9s,mb5.0
KURK PcP PcP 14 50 52.8 -0.5
KURK Kurchatov 29.48 30 P **P 14 47 48.3 -0.2**
comp=Z,162nm,1.0s,mb5.7,SNR=20
KURK Kurchatov 29.48 30 P **P 14 47 47.3 -1.2**
KURK 14 50 52.8
KURK pmax pmax
comp=Z,21nm,0.8s,mb4.9
KURK MLR MLR
comp=Z,653nm,18.1s,MS4.3
KURK Kurchatov 29.48 30 P **P 14 47 48.1 -0.4**
SNR=38
KURK mb 14 47 49.8
SNR=28
KURK Kurchatov 29.48 30 P **P 14 47 48.1 -0.4**
SNR=38
KURK Kurchatov 29.48 30 PcP PcP 14 50 52.8 -0.6
RZN Rozhen 29.50 308 P **P 14 47 49.5 +0.8**
RZN Rozhen 29.50 308 P **P 14 47 49.5 +0.8**
ARU Arti 29.62 3 *e*P **P 14 47 47.5 -2.2**
comp=Z,13nm,0.6s,mb4.8
ARU LR LR
comp=Z,1µm,20.0s,MS4.6
ARU Arti 29.62 3 *c i*P **P 14 47 49.3 -0.3**
ARU *e*PPP 14 48 47.9
ARU 14 50 53.4
ARU S **S 14 52 43.2 +0.5**
ARU pmax pmax
comp=Z,16nm,0.8s,mb4.8
ARU Arti 29.62 3 P **P 14 47 49.8 +0.2**
comp=Z,132nm,0.5s,mb5.9,SNR=6.0
ARU Arti 29.62 3 *e*P **P 14 47 47.5 -2.1**
comp=Z,13nm,0.6s,mb4.8
LTK Loutraki 29.77 300 *e*P **P 14 47 50.6 -0.6**
VRI Vrincioaia 29.93 317 ⇓P **P 14 47 53.4 +0.9**
VRI Vrincioaia 29.93 317 ⇓*i*P **P 14 47 53.3 +0.8**
VRI Vrincioaia 29.93 317 ⇓*i*P **P 14 47 53.3 +0.8**
PLOR Plostina 29.96 317 ⇑P **P 14 47 53.8 +1.0**
PLOR Plostina 29.96 317 ⇑*i*P **P 14 47 53.8 +1.0**

PLOR Plostina 29.96 317⇑ *i*P P 14 47 53.8 +1.0
PLG Polygyros 29.99 305 *e*P P 14 47 55.2 +2.0
SVE Sverdlovsk 30.15 5⇓ *i*P P 14 47 54.0 -0.3
SVE *e* 14 58 22.6
SVE pmax pmax
comp=Z,33nm,0.9s,mb5.1
SVE MLR MLR
comp=Z,1μm,14.0s,MS4.8
MMB Musomiste 30.16 307 P **P 14 47 55.2 +0.6**
MMB Musomiste 30.16 307 P **P 14 47 55.2 +0.6**
PGB Panagyurishte 30.18 309 P **P 14 47 53.9 -0.9**
PGB Panagyurishte 30.18 309 P **P 14 47 53.9 -0.9**
SOH Sokhos 30.19 306 *e*P P 14 47 53.5 -1.4
MLR Muntele Rosu 30.23 316⇑ *i*P P 14 47 56.4 +1.2
MLR Muntele Rosu 30.23 316⇑ *i*P P 14 47 56.4 +1.2
MLR Muntele Rosu 30.23 316⇑ *i*P P 14 47 56.4 +1.2
GUR Goura 30.23 300 *e*P P 14 47 56.1 +0.8
TESR 30.29 318⇑ *i*P P 14 47 56.2 +0.5
TESR 30.29 318⇑ *i*P P 14 47 56.2 +0.5
AGG Agios Georgios 30.48 302 *e*P P 14 47 57.5 +0.1
PYL PYLOS 30.52 298 *e*P P 14 47 57.4 -0.4
EFP Efpalio 30.67 301 *e*P P 14 48 00.5 +1.4
KKB Krupnik 30.71 308 P **P 14 47 59.7 +0.3**
KKB Krupnik 30.71 308 P **P 14 47 59.7 +0.3**
WMQ Urumqi 30.75 48 P **P 14 48 00.8 +1.0**
WMQ PP PP 14 49 00.8 -8.7
WMQ PcP PcP 14 50 59.5 +2.7
WMQ S **S 14 53 03.4 +2.6**
WMQ pmax pmax
comp=Z,74nm,0.7s,mb5.6
WMQ LR LR
comp=N,880nm,12.6s,MS4.8
WMQ LR LR
comp=E,920nm,10.8s,MS4.8
WMQ LR LR
comp=Z,720nm,27.2s
VOIR 30.76 315⇓ P P 14 48 00.8 +0.9
VOIR 30.76 315⇓ *i*P P 14 48 00.8 +0.9
VOIR 30.76 315⇓ *i*P P 14 48 00.8 +0.9
DOPR Dopca 30.80 316⇓ *i*P P 14 48 00.9 +0.7
DOPR Dopca 30.80 316⇓ *i*P P 14 48 00.9 +0.7
VTS Vitosha 30.86 309⇓ P P 14 48 00.9 +0.1
VTS Vitosha 30.86 309 P **P 14 48 00.8 0.0**
VTS Vitosha 30.86 309⇓ *i*P P 14 48 00.9 +0.1
VTS Vitosha 30.86 309 *i* P **P 14 48 00.7 -0.1**
LSA Lhasa 31.14 76 P **P 14 48 05.6 +2.2**
LSA LR LR
comp=E,5μm,3.2s
LSA LR LR
comp=Z,4μm,3.6s
AKASG Malin Array Be 31.29 327 P **P 14 48 03.3 -1.2**
comp=Z,10nm,0.5s,mb4.9,baz=133,slow=8.4,SNR=40
AKASG PcP PcP 14 50 58.8 +0.7
comp=Z,10nm,0.8s,baz=95,slow=2.0,SNR=9.9
AKASG LR LR 15 03 20.1
comp=Z,358nm,19.0s,MS4.1,baz=140,slow=41
AKASG Malin Array Be 31.29 327 P **P 14 48 03.3 -1.2**
AKASG PcP PcP 14 50 58.8 +0.7
AKASG Malin Array Be 31.29 327 P **P 14 48 03.3 -1.1**
AKASG 14 50 58.8
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG MLR MLR
comp=Z,358nm,19.0s
AKASG Malin Array Be 31.29 327 P **P 14 48 03.3 -1.1**
AKASG Malin Array Be 31.29 327 PcP PcP 14 50 58.8 +0.7
AKBB Malin Array Si 31.29 327 *e*P P 14 48 02.9 -1.6
AKBB Malin Array Si 31.29 327 *e*P P 14 48 02.9 -1.5
AKBB Malin Array Si 31.29 327 *e*P P 14 48 02.9 -1.5
KIEV Kiev 31.29 327 *e*P P 14 48 02.3 -2.1
comp=Z,45nm,0.9s,mb5.3
KIEV LR LR
comp=Z,696nm,22.0s,MS4.3
KIEV Kiev 31.29 327 *e*P P 14 48 02.3 -2.2
KIEV pmax pmax
comp=Z,45nm,0.9s,mb5.3
KIEV MLR MLR
comp=Z,696nm,22.0s,MS4.3
KIEV Kiev 31.29 327 *e*P P 14 48 02.3 -2.2
comp=Z,45nm,0.9s,mb5.3
MSEY Mahe Island 31.34 181 PFAKE 14 48 20.0 +15
MSEY LR LR
comp=Z,1μm,21.0s,MS4.5
OBN Obninsk 31.55 339 *e*P P 14 48 06.4 -0.3
comp=Z,73nm,0.9s,mb5.5
OBN LR LR
comp=Z,695nm,22.0s,MS4.3
OBN Obninsk 31.55 339α *i*P P 14 48 06.8 +0.1
OBN *e* 14 50 59.6
OBN *e*S **S 14 53 14.8 +1.9**
OBN *e* 14 55 23.8
OBN pmax pmax
comp=Z,105nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,500nm,19.0s,MS4.2
OBN Obninsk 31.55 339 *e*P P 14 48 06.4 -0.3
comp=Z,73nm,0.9s,mb5.5
BURAR Bucovina Array 31.69 319⇓ P P 14 48 08.8 +0.8
BURAR Bucovina Array 31.69 319⇓ *i*P P 14 48 08.8 +0.8
BURAR Bucovina Array 31.69 319⇓ *i*P P 14 48 08.8 +0.8
BUR08 Bucovina Ar. S 31.72 319 *e*P P 14 48 08.1 -0.1
BUR08 Bucovina Ar. S 31.72 319 *e*P P 14 48 08.1 -0.2
MOS Moscow 31.74 340 *e*P P 14 48 08.2 -0.2
MOS *e* 14 49 17.0
MOS *e* 14 50 58.2
MOS *e*S **S 14 53 16.1 +0.2**
MOS pmax pmax
comp=Z,60nm,0.8s,mb5.5
BARS Barje 31.90 309 *i* P **P 14 48 09.5 -0.5**
BOLS Boljevac 32.15 311 *i* P **P 14 48 10.8 -1.3**
GZR Gura Zlata 32.20 314⇓ *i*P P 14 48 12.8 +0.3
GZR Gura Zlata 32.20 314⇓ *i*P P 14 48 12.8 +0.3
SHL Shillong 32.28 84 *e*PKP P 14 48 12.6 -0.9
SOKR Solikamsk 32.71 1*d* *i*P P 14 48 16.7 -0.1
SOKR pmax pmax
comp=Z,70nm,0.9s,mb5.6
SOKR MLR MLR
comp=Z,1μm,23.0s,MS4.6
TIR Tirane 32.87 305 PFAKE 14 48 30.0 +12
TIR LR LR
comp=Z,674nm,21.0s,MS4.3
GRUS Gruza 33.01 310 *i* P **P 14 48 17.9 -1.8**
BZS Buzias 33.03 314⇑ P P 14 48 20.1 +0.3
BZS Buzias 33.03 314⇑ *i*P P 14 48 20.1 +0.3
BZS Buzias 33.03 314⇑ *i*P P 14 48 20.1 +0.3
KMBO Kilima Mbogo 33.09 216 *e*P P 14 48 22.4 +1.8
comp=Z,42nm,1.0s,mb5.3
KMBO LR LR
comp=Z,684nm,21.0s,MS4.3
KMBO Kilima Mbogo 33.09 216 *e*P P 14 48 22.4 +1.8
KMBO pmax pmax
comp=Z,42nm,1.0s
KMBO MLR MLR
comp=Z,684nm,21.0s
KMBO Kilima Mbogo 33.09 216 *e*P P 14 48 22.4 +1.8
comp=Z,42nm,1.0s,mb5.3
IVAS Ivanjica 33.30 309 *i* P **P 14 48 22.4 +0.2**
TRPA Tarpa 33.52 318⇓ *i*P P 14 48 24.3 +0.2
TRPA Tarpa 33.52 318⇓ *i*P P 14 48 24.3 +0.2
DIVS Divibare 33.57 310 *i* P **P 14 48 23.9 -0.7**
UZH Uzhgorod 33.90 319 *e*P P 14 48 25.0 -2.3
UZH *e* 14 48 43.1
UZH *e*S **S 14 53 46.1 -3.5**
KOLS Kolonicke sedl 34.05 319 *e*P P 14 48 29.9 +1.3
KOLS pmax pmax
comp=Z,62nm,1.1s,mb5.5
KOLS Kolonicke sedl 34.05 319 *e*P P 14 48 29.9 +1.3
KOLS Kolonicke sedl 34.05 319 *e*P P 14 48 29.9 +1.3
comp=Z,62nm,1.1s,mb5.5
KWP Kalwaria Pacla 34.14 321 *e*P P 14 48 29.4 0.0
KWP Kalwaria Pacla 34.14 321 *e*P P 14 48 28.4 -1.0
comp=Z,43nm,1.1s,mb5.3
KWP Kalwaria Pacla 34.14 321 *e*P P 14 48 28.4 -1.0
KWP pmax pmax
comp=Z,43nm,1.1s,mb5.3
KWP Kalwaria Pacla 34.14 321⇓ *i*P P 14 48 29.7 +0.3
KWP Kalwaria Pacla 34.14 321 *e*P P 14 48 29.4 0.0
NVS Novosibirsk 34.37 28⇓ *i*P P 14 48 30.3 -1.0
NVS *e* 14 51 05.9
NVS *e*S **S 14 53 52.3 -4.5**
NVS pmax pmax
comp=N,47nm,1.2s
NVS pmax pmax
comp=Z,92nm,1.2s,mb5.6
NVS pmax pmax
comp=E,17nm,0.9s
NVS smax
comp=N,31nm,2.0s
NVS smax
comp=E,35nm,1.9s
MICGM Minsk 34.40 331 *e*P P 14 48 28.0 -3.6
MNK Minsk 34.42 331 *e*P P 14 48 28.0 -3.7
MNK pmax pmax
comp=Z,260nm,0.8s,mb6.2
ZAA0 Zalesovo Array 34.47 30 *e*P P 14 48 30.6 -1.5
ZAA0 Zalesovo Array 34.47 30 *e*P P 14 48 30.6 -1.6
ZALV Zalesovo Beam 34.47 30 P **P 14 48 31.0 -1.2**
comp=Z,74nm,0.7s,mb5.7,baz=239,slow=9.4,SNR=239
ZALV LR LR 15 03 19.6
comp=Z,377nm,20.2s,MS4.1,baz=57,slow=38
ZALV Zalesovo Beam 34.47 30 P **P 14 48 31.0 -1.2**
ZALV Zalesovo Beam 34.47 30 P **P 14 48 31.0 -1.2**
ZALV pmax pmax
comp=Z,74nm,0.7s,mb5.7
ZALV MLR MLR
comp=Z,377nm,20.3s,MS4.1
ZALV Zalesovo Beam 34.47 30 P **P 14 48 31.0 -1.2**
CRVS Cervenica-Dubn 34.51 319 *e*P P 14 48 33.2 +0.6
CRVS pmax pmax
comp=Z,30nm,1.1s,mb5.1
CRVS Cervenica-Dubn 34.51 319 *e*P P 14 48 33.2 +0.6
CRVS Cervenica-Dubn 34.51 319 *e*P P 14 48 33.2 +0.6
comp=Z,30nm,1.1s,mb5.1
TIP Timpagrande 34.76 301 *e*P P 14 48 35.4 +0.5
comp=Z,140nm,1.5s,mb5.7
TIP LR LR
comp=Z,595nm,19.0s,MS4.3
TIP Timpagrande 34.76 301 *e*P P 14 48 35.4 +0.5
comp=Z,140nm,1.5s,mb5.7
STHS Stebnicka Huta 34.88 320 *e*P P 14 48 39.6 +3.8
STHS Stebnicka Huta 34.88 320 *e* **P 14 48 39.6 +3.8**
KECS Kecovo 34.91 318 *e*P P 14 48 36.5 +0.4
KECS pmax pmax
comp=Z,22nm,1.0s,mb5.0
KECS Kecovo 34.91 318 *e*P P 14 48 36.5 +0.4
KECS Kecovo 34.91 318 *e*P P 14 48 36.5 +0.4
comp=Z,22nm,1.0s,mb5.0
PSZ Piszkesteto 35.03 317 *e*P P 14 48 36.9 -0.2
comp=Z,22nm,0.9s,mb5.1
PSZ LR LR
comp=Z,854nm,20.0s,MS4.5
PSZ Piszkesteto 35.03 317 *e*P P 14 48 36.9 -0.2
PSZ pmax pmax
comp=Z,22nm,0.9s,mb5.1
PSZ MLR MLR
comp=Z,854nm,20.0s,MS4.5
PSZ Piszkesteto 35.03 317⇑ *e*P P 14 48 37.4 +0.3
PSZ Piszkesteto 35.03 317⇑ *i*P P 14 48 37.5 +0.4
PSZ Piszkesteto 35.03 317⇑ *e*P P 14 48 37.4 +0.3
NACGM Naroch 35.14 331 *e* **P 14 48 34.0 -4.0**
PKSM Moragy 35.18 313⇑ *i*P P 14 48 38.6 +0.1
PKSM Moragy 35.18 313⇑ *i*P P 14 48 38.6 +0.1
PKSM Moragy 35.18 313 *i* P **P 14 48 38.3 -0.2**
CEL Celeste 35.31 299 PFAKE 14 48 50.0 +10
CEL LR LR
comp=Z,454nm,19.0s,MS4.2
BUD Budapest 35.40 315 *e*P P 14 48 40.3 0.0
BUD Budapest 35.40 315 *e*P P 14 48 40.3 0.0
CUC Castrocucco 35.61 302 *e*P P 14 48 43.7 +1.5
comp=Z,37nm,0.6s,mb5.5
CUC LR LR
comp=Z,546nm,20.0s,MS4.3
CUC Castrocucco 35.61 302 *e*P P 14 48 43.7 +1.5
comp=Z,37nm,0.6s,mb5.5
IIGN Ignalina 35.68 331 *e*P P 14 48 41.8 -0.8
IIGN AMB AMB 14 48 44.6
comp=Z,40nm,1.0s,mb5.3
PKSG 35.77 315 *e*P P 14 48 44.8 +1.4
ISAL Salakas 35.87 331 *e*P P 14 48 43.4 -0.8
ISAL AMB AMB 14 48 46.2
comp=Z,37nm,1.2s,mb5.2
IZAR Zarasai 35.93 332 *e*P P 14 48 43.9 -0.8
IZAR AMB AMB 14 48 46.7
comp=Z,29nm,1.1s,mb5.1
LIKS Likavka 35.98 318 *e*P P 14 48 45.5 +0.3
LIKS pmax pmax
comp=Z,57nm,0.9s,mb5.5
LIKS Likavka 35.98 318 *e*P P 14 48 45.5 +0.3
LIKS Likavka 35.98 318 *e*P P 14 48 45.5 +0.3
comp=Z,57nm,0.9s,mb5.5
OJC Ojcow 36.08 320 *e*P P 14 48 45.5 -0.6
OJC *es*P sP 14 49 05.1 +5.5
OJC Ojcow 36.08 320 *e*P P 14 48 45.5 -0.6
OJC *e**SP sP 14 49 05.1 +5.5
OJC Ojcow 36.08 320 *e*P P 14 48 45.5 -0.6
WDD Wield Dalam 36.20 295 PFAKE 14 49 00.0 +13
WDD LR LR
comp=Z,412nm,20.0s,MS4.2
KOLL Kolacno 36.21 317 *e*P P 14 48 47.3 +0.1
KOLL Kolacno 36.21 317 *e*P P 14 48 47.3 +0.1
KOLL Kolacno 36.21 317 *e*P P 14 48 47.3 +0.1
SUW Suwalki 36.25 327 *e*P P 14 48 47.0 -0.5
SUW Suwalki 36.25 327 *e*P P 14 48 46.5 -0.9
comp=Z,102nm,0.9s,mb5.8
SUW Suwalki 36.25 327 *e*P P 14 48 46.5 -1.0
SUW pmax pmax
comp=Z,102nm,0.9s,mb5.8
SUW Suwalki 36.25 327 *e*P P 14 48 46.5 -1.0
comp=Z,102nm,0.9s,mb5.8
MBAR Mbarara 36.47 226 PFAKE 14 49 00.0 +10
MBAR LR LR
comp=Z,984nm,21.0s,MS4.6
MBAR Mbarara 36.47 226 P **P 14 48 51.0 +1.2**
comp=Z,62nm,0.9s,mb5.5,SNR=9.2
BEHE Becsehely 36.49 313 *e*P P 14 48 49.9 +0.3
SMOL Smolenice 36.78 316 *e*P P 14 48 52.9 +0.8
SMOL Smolenice 36.78 316 *e*P P 14 48 52.9 +0.8
SMOL Smolenice 36.78 316 *e*P P 14 48 52.9 +0.8
ZST Bratislava 36.87 316 *e*P P 14 48 52.9 0.0
ZST pmax pmax
comp=Z,47nm,1.9s,mb5.0
ZST Bratislava 36.87 316 *e*P P 14 48 52.9 0.0
ZST Bratislava 36.87 316 *e*P P 14 48 52.9 0.0
comp=Z,46nm,1.9s,mb5.0
OKC Ostrava-Krasne 36.87 319 *e*P P 14 48 52.4 -0.5
OKC Ostrava-Krasne 36.87 319 *e*P P 14 48 52.4 -0.5
OKC Ostrava-Krasne 36.87 319 P **P 14 48 52.4 -0.5**
SOP Sopron 37.03 315⇑ *e*P P 14 48 54.5 +0.3
SOP Sopron 37.03 315⇑ *e*P P 14 48 54.5 +0.3
MORC Moravsky Berou 37.20 318 *e*P P 14 48 53.3 -2.4
comp=Z,29nm,0.8s,mb5.2
MORC Moravsky Berou 37.20 318 *e*P P 14 48 53.3 -2.4
MORC pmax pmax
comp=Z,29nm,0.8s,mb5.2
MORC Moravsky Berou 37.20 318⇑ *i*P P 14 48 55.7 0.0
MORC Moravsky Berou 37.20 318⇑ *i*P P 14 48 55.7 0.0
BOJS Bojanci 37.21 311 *i* P **P 14 48 56.3 +0.5**
BOJS Bojanci 37.21 311 *i* P **P 14 48 56.3 +0.5**
NVLJ Novalja 37.23 309 P **P 14 48 55.6 -0.4**
NVLJ Novalja 37.23 309 *i* P **P 14 48 55.6 -0.4**
PUL Pulkovo 37.31 339 *e*P P 14 48 56.5 +0.1
PUL pmax pmax
comp=Z,179nm,0.5s,mb6.2
HVS Khovu-Aksy 37.50 39*c* *i*P P 14 48 58.6 +0.4
HVS pmax pmax
comp=Z,94nm,1.2s,mb5.5
ARSA Arzberg 37.55 314 *i* pP pP 14 48 58.9 -9.4
comp=Z,17nm,1.2s,SNR=6.1
ARSA Arzberg 37.55 314 P **P 14 48 58.9 +0.2**
comp=Z,17nm,1.2s,mb4.6,SNR=6.1
CONA Conrad Observa 37.55 315 *i* pP pP 14 48 58.7 -10
comp=Z,19nm,1.5s,SNR=7.4
CONA Conrad Observa 37.55 315 P **P 14 48 58.7 0.0**
comp=Z,19nm,1.5s,mb4.6,SNR=7.4
VSU Vasula 37.59 335*c* *i*P P 14 48 58.4 -0.4
VSU pmax pmax
comp=Z,77nm,1.2s,mb5.3
VRAC Vranov 37.59 317⇑ *i*P P 14 48 59.3 +0.3
VRAC Vranov 37.59 317⇑ *i*P P 14 48 59.3 +0.3
VRAC Vranov 37.59 317⇑ *i*P P 14 48 59.3 +0.3
PERS Pernice 37.63 313 *i* P **P 14 48 59.5 +0.2**
PERS Pernice 37.63 313 *i* P **P 14 48 59.5 +0.2**
DGAR Diego Garcia 37.67 152 PFAKE 14 49 10.0 +10
DGAR LR LR
comp=Z,1μm,20.0s,MS4.8
KRLC Kraliky 37.77 318 *e*P P 14 49 00.0 -0.5
KRLC Kraliky 37.77 318 P **P 14 49 00.0 -0.5**
AQU L'Aquila 37.80 305 *e*P P 14 49 02.4 +1.5
comp=Z,56nm,0.8s,mb5.3
AQU LR LR
comp=Z,727nm,22.0s,MS4.4
AQU L'Aquila 37.80 305 *e*P P 14 49 02.4 +1.5
AQU pmax pmax
comp=Z,56nm,0.8s,mb5.3
AQU MLR MLR
comp=Z,727nm,22.0s,MS4.4
AQU L'Aquila 37.80 305 *e*P P 14 49 02.4 +1.5
comp=Z,56nm,0.8s,mb5.3
LJU Ljubljana 37.85 311 *i* P **P 14 49 02.0 +0.8**
LJU Ljubljana 37.85 311 *i* P **P 14 49 02.0 +0.8**
JAVS Javornik 38.12 311 *i* P **P 14 49 03.0 -0.5**
JAVS Javornik 38.12 311 *i* P **P 14 49 03.0 -0.5**
DPC Dobruska-Polom 38.15 319 *e*P P 14 49 03.1 -0.6
DPC Dobruska-Polom 38.15 319 *e*P P 14 49 03.1 -0.6
DPC Dobruska-Polom 38.15 319 P **P 14 49 03.1 -0.6**
TREC Trest 38.26 317 *e*P P 14 49 04.7 +0.1
TREC MLR MLR
comp=Z,700nm,18.0s,MS4.5
TREC Trest 38.26 317 *e*P P 14 49 04.7 +0.1
TREC AMS AMS 15 08 40.0
comp=Z,700nm,18.0s
TREC Trest 38.26 317 P **P 14 49 04.7 +0.1**
VOY Vojsko 38.27 311 *e*P P 14 49 04.8 0.0
VOY *e* 14 49 09.0
VOY *e* pP 14 49 13.5 -0.9
VOY *e* 14 49 32.8
VOY Vojsko 38.27 311 *e*P P 14 49 04.8 0.0
KSP Ksiaz 38.37 319 *e*P P 14 49 05.5 +0.1
KSP Ksiaz 38.37 319 *e*P P 14 49 05.3 -0.2
KSP Ksiaz 38.37 319 *e*P P 14 49 05.3 -0.2
KSP Ksiaz 38.37 319 *e*P P 14 49 05.3 -0.2
UPC Upice 38.40 319 *e*P P 14 49 05.2 -0.6
UPC Upice 38.40 319 *e*P P 14 49 05.2 -0.6
UPC Upice 38.40 319 P **P 14 49 05.2 -0.6**
GTA Gaotai 38.53 60⇑ P P 14 49 08.2 +1.2
GTA PcP PcP 14 51 19.4 0.0
GTA S **S 14 55 05.3 +4.7**
GTA pmax pmax
comp=Z,56nm,1.4s,mb5.1
GTA pmax pmax
comp=Z,230nm,5.5s
GTA LR LR
comp=N,730nm,17.1s,MS4.7
GTA LR LR
comp=E,590nm,16.4s,MS4.7
GTA LR LR
comp=Z,730nm,16.8s,MS4.6
MOA Molln 38.55 314 *i* pP pP 14 49 07.1 -10
comp=Z,20nm,0.9s,SNR=18
MOA Molln 38.55 314 P **P 14 49 07.1 +0.1**
comp=Z,20nm,0.9s,mb4.8,SNR=18
PRU Pruhonice 39.08 317 *e*P P 14 49 10.8 -0.7
PRU MLR MLR
comp=Z,700nm,20.8s,MS4.5
PRU Pruhonice 39.08 317 *e*P P 14 49 10.8 -0.7
PRU AMS AMS 15 07 10.0
comp=Z,700nm,20.8s
PRU Pruhonice 39.08 317 P **P 14 49 10.8 -0.7**
PRA Prague 39.18 318 P **P 14 49 13.0 +0.7**
GEC2 GERESS Array S 39.22 315 *e*P P 14 49 12.1 -0.5
comp=Z,68nm,2.2s,mb5.0
GEC2 GERESS Array S 39.22 315 *e*P P 14 49 12.1 -0.5
GEC2 pmax pmax
comp=Z,68nm,2.2s,mb5.0
GERES GERESS Array B 39.22 315 P **P 14 49 12.3 -0.3**
comp=Z,3.1nm,0.5s,mb4.3,baz=114,slow=8.9,SNR=32
GERES LR LR 15 08 41.2
comp=Z,309nm,19.2s,MS4.2,baz=113,slow=41
GERES GERESS Array B 39.22 315 P **P 14 49 12.3 -0.3**
GERES GERESS Array B 39.22 315 P **P 14 49 12.4 -0.2**
GERES pmax pmax
comp=Z,3.0nm,0.5s
GERES MLR MLR
comp=Z,309nm,19.2s
GERES GERESS Array B 39.22 315 P **P 14 49 12.4 -0.2**
KHC Kasperske Hory 39.38 316 *e*P P 14 49 13.2 -0.8
comp=Z,19nm,0.7s,mb4.9
KHC Kasperske Hory 39.38 316 *e*P P 14 49 13.3 -0.7
KHC MLR MLR
comp=Z,500nm,19.8s,MS4.3
KHC Kasperske Hory 39.38 316 *e*P P 14 49 13.3 -0.7
KHC *ex* x 14 49 19.0
KHC AMS AMS 15 07 00.0
comp=Z,500nm,19.8s
KHC Kasperske Hory 39.38 316 *e*P P 14 49 13.2 -0.8
comp=Z,19nm,0.7s,mb4.9
JOF Joensuu 39.52 343 *e*P P 14 49 13.8 -1.2
JOF pmax pmax
comp=Z,18nm,0.5s,mb5.1
JOF Joensuu 39.52 343 *ep* **P 14 49 13.8 -1.2**
comp=Z,18nm,0.5s,mb5.1
JOF Joensuu 39.52 343 *e*P P 14 49 13.8 -1.2
comp=Z,18nm,0.5s,mb5.1
BRG Berggiesshubel 39.76 319 *i* P **P 14 49 16.9 -0.2**
comp=Z,30nm,1.1s,mb5.0
BRG *e*PP PP 14 51 25.0 +36
comp=Z,8.2nm,1.1s
BRG
comp=N,864nm,18.3s
BRG
comp=E,520nm,13.0s
BRG
comp=Z,747nm,18.0s
BRG Berggiesshubel 39.76 319 *e*P P 14 49 16.6 -0.5
comp=Z,31nm,1.0s,mb5.0
BRG Berggiesshubel 39.76 319 *i* P **P 14 49 16.9 -0.2**
BRG *e* 14 51 25.0
BRG pmax pmax
comp=Z,31nm,1.1s,mb5.0
BRG MLR MLR
comp=N,864nm,18.3s
BRG MLR MLR
comp=E,520nm,13.0s
BRG MLR MLR
comp=Z,747nm,18.0s,MS4.6
WET Wettzell 39.82 316 *e*P P 14 49 16.8 -0.9
comp=Z,25nm,1.4s,mb4.8
WET Wettzell 39.82 316 *e*P P 14 49 16.8 -0.9
WET pmax pmax
comp=Z,25nm,1.4s,mb4.8
FINES FINESS Array B 39.95 338 P **P 14 49 17.8 -0.8**
comp=Z,22nm,0.5s,mb5.1,baz=142,slow=10.0,SNR=103
FINES LR LR 15 08 46.9
comp=Z,534nm,18.4s,MS4.4,baz=281,slow=41
FINES FINESS Array B 39.95 338 P **P 14 49 17.8 -0.8**
FINES FINESS Array B 39.95 338 P **P 14 49 17.8 -0.8**
FINES pmax pmax
comp=Z,22nm,0.5s
FINES MLR MLR
comp=Z,534nm,18.5s
FINES FINESS Array B 39.95 338 P **P 14 49 17.8 -0.8**
WTTA Wattenberg 40.09 312 *i* P **P 14 49 19.4 -0.6**
comp=Z,60nm,1.1s,mb5.2,SNR=23
WTTA Wattenberg 40.09 312 P **P 14 49 19.4 -0.6**
comp=Z,60nm,1.1s,mb5.2,SNR=23
WATA Walderalm 40.15 313 *i* P **P 14 49 19.8 -0.6**
comp=Z,88nm,1.3s,mb5.3,SNR=13
WATA Walderalm 40.15 313 P **P 14 49 19.8 -0.6**
comp=Z,88nm,1.3s,mb5.3,SNR=13
CHG Chiang Mai 40.35 92⇓ P P 14 49 22.3 -0.2
comp=Z,56nm,1.3s,mb5.1
CHTO Chiang Mai 40.35 92 *e*P P 14 49 22.6 +0.1
comp=Z,94nm,1.4s,mb5.3
CHTO LR LR
comp=Z,301nm,19.0s,MS4.2
CHTO Chiang Mai 40.35 92 *e*P P 14 49 22.6 +0.1
CHTO pmax pmax
comp=Z,94nm,1.4s,mb5.3
CHTO MLR MLR
comp=Z,301nm,19.0s,MS4.2
CHTO Chiang Mai 40.35 92 P **P 14 49 23.3 +0.8**
comp=Z,976nmcomp=Z,68nm,1.5s,mb5.2
CHTO Chiang Mai 40.35 92 P **P 14 49 21.9 -0.6**
comp=Z,981nmcomp=Z,68nm,1.5s,mb5.2
CHTO Chiang Mai 40.35 92 P **P 14 49 23.4 +0.9**
SNR=36
CHTO mb 14 49 25.9
SNR=31
CHTO Chiang Mai 40.35 92 *e*P P 14 49 22.6 +0.1
comp=Z,94nm,1.4s,mb5.3
KAF Kangasniemi 40.37 339 *e*P P 14 49 20.8 -1.2
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6

KAF Kangasniemi 40.37 339 *ep* **P 14 49 20.8 -1.2**
comp=Z,7.1nm,0.6s,mb4.6
KAF Kangasniemi 40.37 339 *eP* **P 14 49 20.8 -1.2**
comp=Z,7.1nm,0.6s,mb4.6
KEST Kesra 40.41 294 LR LR 15 09 40.5
comp=Z,164nm,18.3s,MS3.9,baz=312,slow=41
KEST Kesra 40.41 294 *eP* **P 14 49 24.8 +2.0**
KEST Kesra 40.41 294 *eP* **P 14 49 24.8 +2.0**
NKC Novy Kostel 40.43 317 *eP* **P 14 49 22.2 -0.5**
NKC Novy Kostel 40.43 317 *eP* **P 14 49 22.2 -0.5**
NKC Novy Kostel 40.43 317 P **P 14 49 22.2 -0.5**
ROTZ Rotzenmuhle 40.43 316 *eP* **P 14 49 22.7 0.0**
comp=Z,35nm,1.2s,mb5.0
CLL Collm 40.46 319 *eP* **P 14 49 22.8 -0.2**
comp=Z,45nm,1.2s,mb5.1
CLL Collm 40.46 319 *i* P **P 14 49 22.8 -0.2**
CLL *i* pP 14 49 31.8 -0.8
CLL *i* 14 49 39.1
CLL *e*S **S 14 55 32.0 +2.6**
CLL pmax pmax
comp=Z,45nm,1.2s,mb5.1
CLL MLR MLR
comp=Z,500nm,19.9s,MS4.4
CLL Collm 40.46 319 *i* P **P 14 49 22.8 -0.2**
comp=Z,45nm,1.2s,mb5.1
CLL *i* pP 14 49 31.8 -0.8
CLL *i* 14 49 39.1
CLL *e*PP PP 14 50 59.0 +2.6
CLL *e*S **S 14 55 32.0 +2.6**
CLL *e*SSS 14 58 48.0
CLL LmH 15 09 00.0
comp=N,600nm,21.3s
CLL LmH 15 09 00.0
comp=E,500nm,19.1s
CLL LmH 15 09 00.0
comp=Z,500nm,19.9s
MOTA Moosalm 40.46 312⇑ *i*P **P 14 49 21.5 -1.5**
comp=Z,21nm,0.6s,mb5.1,SNR=22
MOTA Moosalm 40.46 312 P **P 14 49 21.5 -1.5**
comp=Z,21nm,0.6s,mb5.1,SNR=22
CMAR Chiang Mai Arr 40.47 93 P **P 14 49 23.8 +0.3**
comp=Z,12nm,1.1s,mb4.6,baz=301,slow=6.7,SNR=50
CMAR PcP PcP 14 51 26.6 +0.8
comp=Z,6.1nm,0.9s,baz=287,slow=4.7,SNR=8.0
CMAR Chiang Mai Arr 40.47 93 P **P 14 49 23.8 +0.3**
CMAR PcP PcP 14 51 26.6 +0.8
CMAR Chiang Mai Arr 40.47 93 P **P 14 49 23.8 +0.3**
CMAR 14 51 26.7
CMAR pmax pmax
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 40.47 93 P **P 14 49 23.8 +0.3**
CMAR Chiang Mai Arr 40.47 93 PcP PcP 14 51 26.6 +0.7
VSL Villasalto 40.48 300 *eP* **P 14 49 24.4 +1.1**
comp=Z,43nm,0.9s,mb5.2
VSL LR LR
comp=Z,278nm,19.0s,MS4.1
VSL Villasalto 40.48 300 *eP* **P 14 49 24.4 +1.1**
comp=Z,43nm,0.9s,mb5.2
FETA Feichten 40.63 312⇑ *i*P **P 14 49 23.8 -0.6**
comp=Z,38nm,0.7s,mb5.1,SNR=43
FETA Feichten 40.63 312 P **P 14 49 23.8 -0.6**
comp=Z,38nm,0.7s,mb5.1,SNR=43
RETA Reutte 40.72 313 *i* P **P 14 49 24.3 -0.8**
comp=Z,28nm,0.9s,mb4.9,SNR=10
RETA Reutte 40.72 313 P **P 14 49 24.3 -0.9**
comp=Z,28nm,0.9s,mb4.9,SNR=10
BSD Bornholm Skovb 40.94 325⇑ *i*P **P 14 49 25.3 -1.5**
BSD pmax pmax
comp=Z,54nm,0.9s,mb5.2
BSD Bornholm Skovb 40.94 325⇑ *i*P **P 14 49 25.3 -1.5**
comp=Z,54nm,0.9s,mb5.2
BSD Bornholm Skovb 40.94 325⇑ *i*P **P 14 49 25.3 -1.5**
comp=Z,54nm,0.9s,mb5.2,SNR=26
GRF Grafenberg Arr 41.02 316 *eP* **P 14 49 27.3 -0.3**
comp=Z,81nm,1.4s,mb5.2
GRF *e*L 15 10 42.3
comp=Z,476nm,18.1s
GRF Grafenberg Arr 41.02 316 *eP* **P 14 49 27.3 -0.3**
GRF pmax pmax
comp=Z,81nm,1.4s,mb5.2
GRF MLR MLR
comp=Z,500nm,18.1s,MS4.4
GRFO Grafenberg 41.02 316 *eP* **P 14 49 27.6 +0.1**
comp=Z,88nm,1.4s,mb5.2
GRFO Grafenberg 41.02 316 *eP* **P 14 49 27.6 0.0**
GRFO pmax pmax
comp=Z,88nm,1.4s,mb5.2
GRFO Grafenberg 41.02 316 *eP* **P 14 49 27.6 0.0**
comp=Z,88nm,1.4s,mb5.2
PGF Pioggiola 41.05 305 *eP* **P 14 49 27.1 -0.9**
comp=Z,24nm,0.8s,mb4.6
PGF Pioggiola 41.05 305 *eP* **P 14 49 27.1 -0.9**
comp=Z,24nm,0.8s,mb4.9
PGF Pioggiola 41.05 305 *eP* **P 14 49 27.1 -0.9**
PGF pmax pmax
comp=Z,24nm,0.8s,mb4.9
PGF Pioggiola 41.05 305 *eP* **P 14 49 27.1 -0.9**
comp=Z,12nm,0.8s,mb4.6
MOX Moxa 41.07 317 *eP* **P 14 49 27.7 -0.3**
comp=Z,10.0nm,1.0s,mb4.4
MOX Moxa 41.07 317 *eP* **P 14 49 27.7 -0.3**
MOX pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
DAVA Damuels 41.26 312 *i* P **P 14 49 28.7 -0.9**
comp=Z,89nm,0.5s,mb5.7,SNR=29
DAVA Damuels 41.26 312 P **P 14 49 28.7 -0.9**
comp=Z,89nm,0.5s,mb5.7,SNR=29
TUE Stuetta 41.44 311 *eP* **P 14 49 30.6 -0.5**
comp=Z,22nm,0.8s,mb4.8
TUE LR LR
comp=Z,583nm,20.0s,MS4.5
TUE Stuetta 41.44 311 *eP* **P 14 49 30.6 -0.5**
comp=Z,22nm,0.8s,mb4.8
LZH Lanzhou 41.60 65 ⇑P **P 14 49 34.0 +1.5**
LZH PP PP 14 51 13.2 +4.3
LZH S **S 14 55 49.0 +2.4**
LZH SS SS 14 58 48.0 -4.2
LZH pmax pmax
comp=Z,92nm,1.0s,mb5.4
LZH pmax pmax
comp=Z,300nm,5.0s
LZH LR LR
comp=N,570nm,12.0s,MS4.9
LZH LR LR
comp=E,780nm,13.7s,MS4.9
LZH LR LR
comp=Z,1μm,16.5s,MS4.9
LZH Lanzhou 41.60 65 ⇑P **P 14 49 34.0 +1.5**
comp=Z,92nm,1.0s,mb5.4
LZH pP pP 14 49 37.2 -5.0
LZH sP sP 14 49 38.7 -7.5
LZH PP PP 14 51 13.2 +4.3
LZH S **S 14 55 49.0 +2.4**
LZH sS sS 14 55 56.1 -6.5
LZH SS SS 14 58 48.0 -4.2
LZH LR LR
comp=Z,1μm,16.5s,MS4.9
LZH Lanzhou 41.60 65 ⇑P **P 14 49 34.0 +1.5**
LZH 14 51 13.2
LZH S **S 14 55 49.0 +2.4**
LZH SS SS 14 58 48.0 -4.2
LZH pmax pmax
comp=Z,92nm,1.0s,mb5.4
LZH MLR MLR
comp=Z,1μm,16.5s,MS4.9
LZH Lanzhou 41.60 65 ⇑P **P 14 49 34.0 +1.5**
comp=Z,92nm,1.0s,mb5.4
LZH pP pP 14 49 37.2 -5.0
LZH S **S 14 55 49.0 +2.4**
CD2 Chengdu 41.89 73 *eP* **P 14 49 34.6 -0.4**
CD2 PP PP 14 51 14.0 +1.8
CD2 S **S 14 55 51.5 +0.4**
CD2 SS SS 14 58 52.1 -6.0
CD2 pmax pmax
comp=Z,80nm,0.6s,mb5.5
CD2 pmax pmax
comp=Z,260nm,8.4s
CD2 LR LR
comp=N,1μm,16.8s,MS4.9
CD2 LR LR
comp=E,640nm,12.0s,MS4.9
CD2 LR LR
comp=Z,510nm,12.0s,MS4.6
ABSA Djebel Ababsia 41.91 295 P **P 14 49 38.9 +3.8**
ABSA Djebel Ababsia 41.91 295 P **P 14 49 38.9 +3.8**
MOY Mondy 41.93 41 *eP* **P 14 49 35.8 +0.8**
MOY pmax pmax
comp=Z,46nm,1.9s,mb4.8
CMAH Djebel Manchou 41.96 296 P **P 14 49 39.7 +4.2**
CMAH Djebel Manchou 41.96 296 P **P 14 49 39.7 +4.2**
KMI Kunming 41.99 82 P **P 14 49 37.6 +1.7**
KMI PcP PcP 14 51 32.0 +1.2
KMI S **S 14 55 55.6 +2.9**
KMI SS SS 14 59 01.4 +1.1
KMI pmax pmax
comp=Z,43nm,1.2s,mb5.0
KMI pmax pmax
comp=Z,380nm,3.9s
KMI LR LR
comp=N,460nm,12.4s,MS4.7
KMI LR LR
comp=E,310nm,12.4s,MS4.7
KMI LR LR
comp=Z,330nm,14.7s,MS4.3
KMI Kunming 41.99 82 P **P 14 49 37.6 +1.7**
comp=Z,43nm,1.2s,mb5.0
KMI pP pP 14 49 39.6 -6.0
KMI PcP PcP 14 51 32.0 +1.2
KMI S **S 14 55 55.6 +2.9**
KMI SS SS 14 59 01.4 +1.1
KMI LR LR
comp=Z,330nm,14.7s,MS4.3
KMI Kunming 41.99 82 P **P 14 49 37.6 +1.7**
KMI 14 51 32.0
KMI S **S 14 55 55.6 +2.9**
KMI pmax pmax
comp=Z,43nm,1.2s,mb5.0
KMI MLR MLR
comp=Z,330nm,14.7s,MS4.3
KMI Kunming 41.99 82 P **P 14 49 37.6 +1.7**
comp=Z,43nm,1.2s,mb5.0
KMI pP pP 14 49 39.6 -6.0
KMI SS SS 14 59 01.4 +1.1
CLZ Clausthal 42.19 319 *eP* **P 14 49 37.5 +0.4**
comp=Z,75nm,1.0s,mb5.3
CLZ Clausthal 42.19 319 *eP* **P 14 49 37.5 +0.4**
CLZ pmax pmax
comp=Z,75nm,1.0s,mb5.3
SAOF Saorge 42.28 307 *eP* **P 14 49 37.8 -0.2**
SAOF Saorge 42.28 307 *eP* **P 14 49 37.8 -0.2**
SBF Sospel 42.35 307 *eP* **P 14 49 37.7 -0.9**
comp=Z,59nm,0.7s,mb5.0
SBF Sospel 42.35 307 *eP* **P 14 49 37.7 -0.9**
comp=Z,59nm,0.7s,mb5.3
SBF Sospel 42.35 307 *eP* **P 14 49 37.7 -0.9**
SBF pmax pmax
comp=Z,59nm,0.7s,mb5.3
SBF Sospel 42.35 307 *eP* **P 14 49 37.7 -0.9**
comp=Z,30nm,0.7s,mb5.0
AUTN L'Aution 42.37 307 *eP* **P 14 49 39.4 +0.7**
AUTN L'Aution 42.37 307 *eP* **P 14 49 39.4 +0.7**
CAEH 'Ain El Ouahch 42.41 296 P **P 14 49 40.7 +1.5**
CAEH 'Ain El Ouahch 42.41 296 P **P 14 49 40.7 +1.5**
LUCF Luceram 42.42 307 *eP* **P 14 49 38.4 -0.7**
LUCF Luceram 42.42 307 *eP* **P 14 49 38.4 -0.7**
COP Copenhagen 42.46 325 *i* P **P 14 49 40.2 +0.9**
COP pmax pmax
comp=Z,41nm,0.8s,mb5.1
COP Copenhagen 42.46 325 *i* P **P 14 49 40.2 +0.9**
comp=Z,41nm,0.8s,mb5.1
COP Copenhagen 42.46 325 *i* P **P 14 49 40.2 +0.9**
comp=Z,41nm,0.8s,mb5.1,SNR=25
TOUF Mont Tournerai 42.50 307 *eP* **P 14 49 40.2 +0.4**
TOUF Mont Tournerai 42.50 307 *eP* **P 14 49 40.2 +0.4**
BFO Black Forest 42.51 313 *eP* **P 14 49 40.0 +0.2**
comp=Z,14nm,0.7s,mb4.8
BFO LR LR
comp=Z,590nm,19.0s,MS4.5
BFO Black Forest 42.51 313 *eP* **P 14 49 40.0 +0.2**
BFO pmax pmax
comp=Z,14nm,0.7s,mb4.8
BFO MLR MLR
comp=Z,590nm,19.0s,MS4.5
BFO Black Forest 42.51 313 *eP* **P 14 49 40.0 +0.2**
comp=Z,14nm,0.7s,mb4.8
CKFL Kef-Lekhel 42.52 295 P **P 14 49 43.4 +3.3**
CKFL Kef-Lekhel 42.52 295 P **P 14 49 43.4 +3.3**
NRDL Niedersach Rie 42.55 320 *eP* **P 14 49 40.6 +0.5**
comp=Z,70nm,1.1s,mb5.3
FELD Feldberg im Sc 42.63 313 *eP* **P 14 49 40.0 -0.7**
CASM Ain Smara 42.71 295 P **P 14 49 45.0 +3.4**
CASM Ain Smara 42.71 295 P **P 14 49 45.0 +3.4**
CTEI Djebel Teioual 42.79 295 P **P 14 49 45.7 +3.5**
CTEI Djebel Teioual 42.79 295 P **P 14 49 45.7 +3.5**
BBS Basel-Blauen 42.87 312 *eP* **P 14 49 41.2 -1.5**
FRF La Foret Royal 42.88 306 *eP* **P 14 49 41.9 -1.0**
FRF La Foret Royal 42.88 306 *eP* **P 14 49 41.9 -1.0**
FRF La Foret Royal 42.88 306 *eP* **P 14 49 41.9 -1.0**
FRF La Foret Royal 42.88 306 *eP* **P 14 49 41.9 -1.0**
TNS Taunus Mts 42.89 316 *eP* **P 14 49 42.9 +0.1**
comp=Z,56nm,1.4s,mb5.1
TNS Taunus Mts 42.89 316 *eP* **P 14 49 42.9 +0.1**
TNS pmax pmax
comp=Z,56nm,1.4s,mb5.1
MBDF Montbardon 42.93 308 *eP* **P 14 49 42.0 -1.3**
comp=Z,45nm,0.6s,mb5.1
MBDF Montbardon 42.93 308 *eP* **P 14 49 42.0 -1.3**
comp=Z,45nm,0.6s,mb5.4
MBDF Montbardon 42.93 308 *eP* **P 14 49 42.0 -1.3**
MBDF pmax pmax
comp=Z,45nm,0.6s,mb5.4
MBDF Montbardon 42.93 308 *eP* **P 14 49 42.0 -1.3**
comp=Z,22nm,0.6s,mb5.1
ZAK Zakamensk 42.94 44 *eP* **P 14 49 43.4 +0.2**
ZAK pmax pmax
comp=Z,11nm,1.5s,mb4.4
LMR La Mourre 42.96 306 *eP* **P 14 49 42.0 -1.5**
LMR La Mourre 42.96 306 *eP* **P 14 49 42.0 -1.5**
LMR La Mourre 42.96 306 *eP* **P 14 49 42.0 -1.5**
LMR La Mourre 42.96 306 *eP* **P 14 49 42.0 -1.5**
APA Apatity 42.97 348⇓ *i*P **P 14 49 42.2 -1.0**
APA *i* 14 51 25.0
APA *e*S **S 14 56 07.0 +1.0**
APA pmax pmax
comp=Z,62nm,1.0s,mb5.3
APA MLR MLR
comp=Z,1μm,14.0s,MS4.9
LVZ Lovozero 43.03 348 *eP* **P 14 49 43.3 -0.4**
comp=Z,22nm,0.8s,mb5.0
LVZ Lovozero 43.03 348*c i*P **P 14 49 43.2 -0.5**
LVZ pmax pmax
comp=Z,37nm,1.2s,mb5.0
LVZ Lovozero 43.03 348 *eP* **P 14 49 43.3 -0.4**
comp=Z,22nm,0.8s,mb5.0
BNI Bardonecchia 43.04 308 *eP* **P 14 49 43.3 -0.8**
comp=Z,44nm,1.1s,mb5.1
BNI LR LR
comp=Z,817nm,19.0s,MS4.7
BNI Bardonecchia 43.04 308 *eP* **P 14 49 43.3 -0.9**
BNI pmax pmax
comp=Z,44nm,1.1s,mb5.1
BNI MLR MLR
comp=Z,817nm,19.0s,MS4.7
BNI Bardonecchia 43.04 308 *eP* **P 14 49 43.3 -0.9**
comp=Z,44nm,1.1s,mb5.1
LPG La Plagne 43.05 309 *eP* **P 14 49 43.1 -1.1**
comp=Z,48nm,0.8s,mb5.0
LPG La Plagne 43.05 309 *eP* **P 14 49 43.1 -1.1**
comp=Z,48nm,0.8s,mb5.3
LPG La Plagne 43.05 309 *eP* **P 14 49 43.1 -1.1**
LPG pmax pmax
comp=Z,48nm,0.8s,mb5.3
LPG La Plagne 43.05 309 *eP* **P 14 49 43.1 -1.1**
comp=Z,24nm,0.8s,mb5.0
LPL La Plagne 43.07 309 *eP* **P 14 49 43.0 -1.4**
comp=Z,43nm,0.6s,mb5.0
LPL La Plagne 43.07 309 *eP* **P 14 49 43.0 -1.4**
comp=Z,43nm,0.6s,mb5.3
LPL La Plagne 43.07 309 *eP* **P 14 49 43.0 -1.4**
LPL pmax pmax
comp=Z,43nm,0.6s,mb5.4
LPL La Plagne 43.07 309 *eP* **P 14 49 43.0 -1.4**
comp=Z,22nm,0.6s,mb5.0
RSL Roselend 43.17 309 *eP* **P 14 49 44.6 -0.6**
RSL Roselend 43.17 309 *eP* **P 14 49 44.6 -0.6**
MOF Molkenrain 43.20 312 *eP* **P 14 49 44.7 -0.7**
MOF Molkenrain 43.20 312 *eP* **P 14 49 44.7 -0.7**
CDF Champ du Feu 43.22 313 *eP* **P 14 49 44.1 -1.4**
comp=Z,25nm,0.8s,mb4.7
CDF Champ du Feu 43.22 313 *eP* **P 14 49 44.1 -1.4**
comp=Z,25nm,0.8s,mb5.0
CDF Champ du Feu 43.22 313 *eP* **P 14 49 44.1 -1.4**
CDF pmax pmax
comp=Z,25nm,0.8s,mb5.0
CDF Champ du Feu 43.22 313 *eP* **P 14 49 44.1 -1.4**
comp=Z,12nm,0.8s,mb4.7
ECH Echery 43.25 313 *eP* **P 14 49 44.9 -0.9**
comp=Z,27nm,1.0s,mb4.9
ECH Echery 43.25 313 *eP* **P 14 49 44.9 -0.9**
ECH pmax pmax
comp=Z,27nm,1.0s,mb4.9
ECH Echery 43.25 313 *eP* **P 14 49 45.0 -0.8**
ECH Echery 43.25 313 *eP* **P 14 49 45.0 -0.8**
LOMF Lomont 43.31 312 *eP* **P 14 49 45.7 -0.5**
LOMF Lomont 43.31 312 *eP* **P 14 49 45.7 -0.5**
HINF Hinteralfeld 43.38 312 *eP* **P 14 49 45.3 -1.5**
comp=Z,80nm,1.3s,mb5.0
HINF Hinteralfeld 43.38 312 *eP* **P 14 49 45.3 -1.5**
comp=Z,80nm,1.3s,mb5.3
HINF Hinteralfeld 43.38 312 *eP* **P 14 49 45.3 -1.5**
HINF pmax pmax
comp=Z,80nm,1.3s,mb5.3
HINF Hinteralfeld 43.38 312 *eP* **P 14 49 45.3 -1.5**
comp=Z,40nm,1.3s,mb5.0
TLY Talaya 43.51 42 PFAKE 14 50 00.0 +12
TLY LR LR
comp=Z,344nm,22.0s,MS4.2
TLY Talaya 43.51 42 *eP* **P 14 49 47.9 +0.1**
TLY pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,362nm,17.0s,MS4.3
CKHR Kef el Ahmar 43.51 295 P **P 14 49 51.3 +3.2**
CKHR Kef el Ahmar 43.51 295 P **P 14 49 51.3 +3.2**
ORIF Oris-en-Rattie 43.59 308 *eP* **P 14 49 47.4 -1.2**
comp=Z,15nm,0.7s,mb4.5
ORIF *e*R
comp=Z,351nm,20.0s
ORIF Oris-en-Rattie 43.59 308 *eP* **P 14 49 47.4 -1.2**
comp=Z,15nm,0.7s,mb4.8
ORIF Oris-en-Rattie 43.59 308 *eP* **P 14 49 47.4 -1.2**
ORIF pmax pmax
comp=Z,15nm,0.7s,mb4.8
ORIF Oris-en-Rattie 43.59 308 *eP* **P 14 49 47.4 -1.2**
comp=Z,7.3nm,0.7s,mb4.5
SET Setif 43.60 295 P **P 14 49 51.0 +2.2**
SET Setif 43.60 295 P **P 14 49 51.0 +2.2**
CABF La Chapelle 43.68 310 *eP* **P 14 49 48.4 -0.9**
comp=Z,37nm,0.6s,mb5.0
CABF La Chapelle 43.68 310 *eP* **P 14 49 48.4 -0.9**
comp=Z,37nm,0.6s,mb5.3
CABF La Chapelle 43.68 310 *eP* **P 14 49 48.4 -0.9**
CABF pmax pmax
comp=Z,37nm,0.6s,mb5.3
CABF La Chapelle 43.68 310 *eP* **P 14 49 48.4 -0.9**
comp=Z,18nm,0.6s,mb5.0
SMRF Simiane la Rot 43.70 306 *eP* **P 14 49 48.7 -0.8**
SMRF Simiane la Rot 43.70 306 *eP* **P 14 49 48.7 -0.8**
SMRF Simiane la Rot 43.70 306 *eP* **P 14 49 48.7 -0.8**
HAU Haudompre 43.74 312 *eP* **P 14 49 48.2 -1.6**
comp=Z,22nm,0.7s,mb4.7
HAU *e*R
comp=Z,481nm,19.8s
HAU Haudompre 43.74 312 *eP* **P 14 49 48.2 -1.6**
comp=Z,22nm,0.7s,mb5.0
HAU Haudompre 43.74 312 *eP* **P 14 49 48.2 -1.6**
HAU pmax pmax
comp=Z,22nm,0.7s,mb5.0
HAU Haudompre 43.74 312 *eP* **P 14 49 48.2 -1.6**
comp=Z,11nm,0.7s,mb4.7
IBBN Ibbenburen 43.87 319 *eP* **P 14 49 51.2 +0.5**
comp=Z,49nm,1.2s,mb5.1
BUG Bochum--Univer 43.93 317 *eP* **P 14 49 51.5 +0.3**
comp=Z,64nm,1.1s,mb5.3
WLF Walferdange 44.20 315 P **P 14 49 53.2 -0.2**
comp=Z,28nm,1.6s,mb4.7
WLF Walferdange 44.20 315 *eP* **P 14 49 53.0 -0.4**
comp=Z,32nm,1.0s,mb5.0
WLF Walferdange 44.20 315 *eP* **P 14 49 52.9 -0.5**
comp=Z,29nm,1.1s,mb4.9
WLF LR LR
comp=Z,676nm,20.0s,MS4.6
WLF Walferdange 44.20 315 *eP* **P 14 49 52.9 -0.5**
WLF pmax pmax
comp=Z,29nm,1.1s,mb4.9
WLF MLR MLR
comp=Z,676nm,20.0s,MS4.6
WLF Walferdange 44.20 315 *eP* **P 14 49 52.9 -0.5**
comp=Z,29nm,1.1s,mb4.9
SONM Songino Array 44.39 48 P **P 14 49 55.9 +0.9**
comp=Z,28nm,1.0s,mb4.9,baz=255,slow=8.2,SNR=103
SONM LR LR 15 09 26.7
comp=Z,603nm,20.0s,MS4.5,baz=253,slow=38
SONM Songino Array 44.39 48 P **P 14 49 55.9 +0.9**
SONM Songino Array 44.39 48 P **P 14 49 55.9 +0.9**
SONM pmax pmax
comp=Z,28nm,1.0s
SONM MLR MLR
comp=Z,603nm,20.0s
SONM Songino Array 44.39 48 P **P 14 49 55.9 +0.9**
VIVF Saint-Julien-I 44.43 308 *eP* **P 14 49 53.9 -1.4**
comp=Z,62nm,1.3s,mb4.9
VIVF Saint-Julien-I 44.43 308 *eP* **P 14 49 53.9 -1.4**
comp=Z,62nm,1.3s,mb5.2
VIVF Saint-Julien-I 44.43 308 *eP* **P 14 49 53.9 -1.4**
VIVF pmax pmax
comp=Z,62nm,1.3s,mb5.2
VIVF Saint-Julien-I 44.43 308 *eP* **P 14 49 53.9 -1.4**
comp=Z,31nm,1.3s,mb4.9
MUD Monsted U'grnd 44.45 325 *i* P **P 14 49 55.5 +0.2**
MUD pmax pmax
comp=Z,28nm,0.9s,mb5.0
MUD Monsted U'grnd 44.45 325 *i* P **P 14 49 55.5 +0.2**
comp=Z,28nm,0.9s,mb5.0
MUD Monsted U'grnd 44.45 325 *i* P **P 14 49 55.5 +0.2**
comp=Z,28nm,0.9s,mb5.0
MEM Membach 44.50 316 P **P 14 49 56.0 +0.2**
MEM Membach 44.50 316 P **P 14 49 56.0 +0.2**
SSB Saint Sauveur 44.57 308 *eP* **P 14 49 53.9 -2.6**
comp=Z,9.7nm,0.7s,mb4.7
SSB LR LR
comp=Z,153nm,21.0s,MS3.9
SSB Saint Sauveur 44.57 308 *eP* **P 14 49 53.9 -2.5**
SSB pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SSB MLR MLR
comp=Z,153nm,21.0s,MS3.9
SSB Saint Sauveur 44.57 308 *eP* **P 14 49 53.9 -2.5**
comp=Z,9.7nm,0.7s,mb4.7
MEZF Maizieres J'vi 44.69 313 *eP* **P 14 49 56.7 -0.6**
MEZF Maizieres J'vi 44.69 313 *eP* **P 14 49 56.7 -0.6**
MEZF Maizieres J'vi 44.69 313 *eP* **P 14 49 56.7 -0.6**
ULN Ulaanbaatar 44.84 48 *eP* **P 14 49 58.4 -0.1**
comp=Z,44nm,1.0s,mb5.2
ULN LR LR
comp=Z,565nm,20.0s,MS4.5
ULN Ulaanbaatar 44.84 48 *eP* **P 14 49 58.4 -0.1**
ULN pmax pmax
comp=Z,44nm,1.0s,mb5.2
ULN MLR MLR
comp=Z,565nm,20.0s,MS4.5
ULN Ulaanbaatar 44.84 48 P **P 14 49 58.3 -0.2**
comp=Z,471nmcomp=Z,45nm,1.1s,mb5.2
ULN Ulaanbaatar 44.84 48 P **P 14 49 59.4 +0.9**
SNR=32
ULN mb 14 50 00.5
SNR=27
ULN Ulaanbaatar 44.84 48 *eP* **P 14 49 58.4 -0.1**
comp=Z,44nm,1.0s,mb5.2
BCLA Clavier 44.90 316 P **P 14 49 59.5 +0.5**
comp=Z,28nm,1.8s,mb4.8
BCLA Clavier 44.90 316 P **P 14 49 59.4 +0.5**
comp=Z,28nm,1.8s,mb4.8
LASF Ste Croix 44.94 306 *eP* **P 14 49 58.5 -0.9**
comp=Z,43nm,0.9s,mb5.0
LASF Ste Croix 44.94 306 *eP* **P 14 49 58.5 -0.9**
comp=Z,43nm,0.9s,mb5.3
LASF Ste Croix 44.94 306 *eP* **P 14 49 58.5 -0.9**
comp=Z,22nm,0.9s,mb5.0
GIVF Givet 45.13 315 *eP* **P 14 50 00.9 +0.1**
comp=Z,123nm,1.2s,mb5.3
GIVF Givet 45.13 315 *eP* **P 14 50 00.9 +0.1**
comp=Z,123nm,1.2s,mb5.6
GIVF Givet 45.13 315 *eP* **P 14 50 00.9 +0.1**
GIVF pmax pmax
comp=Z,123nm,1.2s,mb5.6
GIVF Givet 45.13 315 *eP* **P 14 50 00.9 +0.1**
comp=Z,62nm,1.2s,mb5.3

NC602 NORSAR Array S 45.14 331 *eP* **P 14 49 59.8 -1.0**
NC602 NORSAR Array S 45.14 331 *eP* **P 14 49 59.8 -0.9**
SNR=24
SMF Signal de Mont 45.22 310 *eP* **P 14 50 00.3 -1.3**
comp=Z,118nm,1.2s,mb5.3
SMF Signal de Mont 45.22 310 *eP* **P 14 50 00.3 -1.3**
comp=Z,118nm,1.2s,mb5.6
SMF Signal de Mont 45.22 310 *eP* **P 14 50 00.3 -1.3**
SMF pmax pmax
comp=Z,118nm,1.2s,mb5.6
SMF Signal de Mont 45.22 310 *eP* **P 14 50 00.3 -1.3**
comp=Z,59nm,1.2s,mb5.3
DOU Dourbes 45.27 315 P **P 14 50 02.3 +0.3**
comp=Z,23nm,1.2s,mb4.9
DOU Dourbes 45.27 315 P **P 14 50 02.2 +0.2**
comp=Z,23nm,1.2s,mb4.9
LOR Lormes 45.29 311 *eP* **P 14 50 00.9 -1.2**
comp=Z,24nm,0.6s,mb4.9
LOR *eR*
comp=Z,767nm,22.2s
LOR Lormes 45.29 311 *eP* **P 14 50 00.9 -1.2**
comp=Z,24nm,0.6s,mb5.2
LOR Lormes 45.29 311 *eP* **P 14 50 00.9 -1.2**
LOR pmax pmax
comp=Z,24nm,0.6s,mb5.2
LOR Lormes 45.29 311 *eP* **P 14 50 00.9 -1.2**
comp=Z,12nm,0.6s,mb4.9
PLDF La Plantade 45.29 309 *eP* **P 14 50 01.7 -0.4**
PLDF La Plantade 45.29 309 *eP* **P 14 50 01.7 -0.4**
NB2 NORSAR Subarra 45.43 331 P **P 14 50 01.6 -1.4**
comp=Z,17nm,0.8s,mb4.9,baz=116,slow=7.9
NB2 NORSAR Subarra 45.43 331 P **P 14 50 01.6 -1.4**
comp=Z,17nm,0.8s,mb4.9,baz=116,slow=7.8,SNR=2.6
NOA NORSAR Array B 45.43 331 P **P 14 50 01.9 -1.1**
comp=Z,14nm,0.8s,mb4.8,baz=116,slow=7.9,SNR=35
NOA PP PP 14 51 50.1 +0.6
comp=Z,5.0nm,0.8s,baz=120,slow=8.5,SNR=4.2
NOA LR LR 15 11 30.8
comp=Z,475nm,20.4s,MS4.4,baz=140,slow=39
NOA NORSAR Array B 45.43 331 P **P 14 50 01.9 -1.1**
NOA PP PP 14 51 50.1 +0.7
NOA NORSAR Array B 45.43 331 P **P 14 50 01.9 -1.1**
NOA 14 51 50.1
NOA pmax pmax
comp=Z,14nm,0.8s
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA MLR MLR
comp=Z,475nm,20.4s
NOA NORSAR Array B 45.43 331 P **P 14 50 01.9 -1.1**
NOA NORSAR Array B 45.43 331 PP PP 14 51 50.1 +0.6
LBL Lubilhac 45.48 308 *eP* **P 14 50 03.1 -0.5**
LBL Lubilhac 45.48 308 *eP* **P 14 50 03.1 -0.5**
NAO01 NORSAR Array S 45.48 331 *eP* **P 14 50 02.5 -0.9**
comp=Z,18nm,0.8s,mb4.9
NAO01 NORSAR Array S 45.48 331 *eP* **P 14 50 02.5 -0.9**
comp=Z,18nm,0.8s,mb4.9
SSF Saint Saulge 45.50 311 *eP* **P 14 50 02.7 -1.1**
comp=Z,76nm,1.0s,mb5.2
SSF Saint Saulge 45.50 311 *eP* **P 14 50 02.7 -1.1**
comp=Z,76nm,1.0s,mb5.5
SSF Saint Saulge 45.50 311 *eP* **P 14 50 02.7 -1.1**
SSF pmax pmax
comp=Z,76nm,1.0s,mb5.5
SSF Saint Saulge 45.50 311 *eP* **P 14 50 02.7 -1.1**
comp=Z,38nm,1.0s,mb5.2
BAIF Baives 45.51 315 *eP* **P 14 50 03.9 +0.1**
comp=Z,180nm,1.2s,mb5.6
BAIF Baives 45.51 315 *eP* **P 14 50 03.9 +0.1**
comp=Z,180nm,1.2s,mb5.9
BAIF Baives 45.51 315 *eP* **P 14 50 03.9 +0.1**
BAIF pmax pmax
comp=Z,180nm,1.2s,mb5.9
BAIF Baives 45.51 315 *eP* **P 14 50 03.9 +0.1**
comp=Z,90nm,1.2s,mb5.6
SNF Seneffe 45.55 316 P **P 14 50 04.7 +0.5**
comp=Z,18nm,1.4s,mb4.8
SNF Seneffe 45.55 316 P **P 14 50 04.6 +0.5**
comp=Z,18nm,1.4s,mb4.8
AVF Avril sur Loir 45.57 310 *eP* **P 14 50 02.9 -1.4**
comp=Z,22nm,0.8s,mb4.9
AVF Avril sur Loir 45.57 310 *eP* **P 14 50 02.9 -1.4**
comp=Z,22nm,0.8s,mb5.1
AVF Avril sur Loir 45.57 310 *eP* **P 14 50 02.9 -1.4**
AVF pmax pmax
comp=Z,22nm,0.8s,mb5.1
AVF Avril sur Loir 45.57 310 *eP* **P 14 50 02.9 -1.4**
comp=Z,11nm,0.8s,mb4.9
EMHD Djebel Mahouad 45.57 295 P **P 14 50 07.0 +2.5**
EMHD Djebel Mahouad 45.57 295 P **P 14 50 07.0 +2.5**
AGO Saint Agoulin 45.64 309 *eP* **P 14 50 04.2 -0.7**
AGO Saint Agoulin 45.64 309 *eP* **P 14 50 04.2 -0.7**
PYM Petit Puy Mans 45.69 309 *eP* **P 14 50 05.0 -0.3**
PYM Petit Puy Mans 45.69 309 *eP* **P 14 50 05.0 -0.3**
XAN Xi'an 45.88 68 P **P 14 50 06.9 -0.1**
XAN PP PP 14 51 55.4 +0.6
XAN S **S 14 56 53.9 +4.7**
XAN pmax pmax
comp=Z,17nm,1.1s,mb4.9
XAN pmax pmax
comp=Z,30nm,5.2s
XAN LR LR
comp=N,440nm,24.1s
XAN LR LR
comp=Z,150nm,14.2s
BGF Bois d'Agland 45.89 310 *eP* **P 14 50 05.9 -1.0**
comp=Z,41nm,0.6s,mb5.2
BGF Bois d'Agland 45.89 310 *eP* **P 14 50 05.9 -1.0**
comp=Z,41nm,0.6s,mb5.5
BGF Bois d'Agland 45.89 310 *eP* **P 14 50 05.9 -1.0**
BGF pmax pmax
comp=Z,41nm,0.6s,mb5.5
BGF Bois d'Agland 45.89 310 *eP* **P 14 50 05.9 -1.0**
comp=Z,20nm,0.6s,mb5.2
TPTI 45.95 113 P **P 14 50 07.4 -0.4**
comp=Z,19nm,1.2s,mb4.9
MTLF Montolieu 46.08 305 *eP* **P 14 50 08.3 -0.1**
comp=Z,72nm,1.1s,mb5.2
MTLF Montolieu 46.08 305 *eP* **P 14 50 08.3 -0.1**
comp=Z,72nm,1.1s,mb5.5
MTLF Montolieu 46.08 305 *eP* **P 14 50 08.3 -0.1**
MTLF pmax pmax
comp=Z,72nm,1.1s,mb5.5
MTLF Montolieu 46.08 305 *eP* **P 14 50 08.3 -0.1**
comp=Z,36nm,1.1s,mb5.2
KEV Kevo 46.09 347 *eP* **P 14 50 08.1 0.0**
comp=Z,52nm,0.7s,mb5.6
KEV Kevo 46.09 347 *eP* **P 14 50 07.0 -1.1**
KEV pmax pmax
comp=Z,43nm,0.6s,mb5.6
KEV Kevo 46.09 347 *ep* **P 14 50 07.0 -1.1**
comp=Z,43nm,0.6s,mb5.6
KEV Kevo 46.09 347 *eP* **P 14 50 08.1 0.0**
comp=Z,52nm,0.7s,mb5.6
HYF Humbligny 46.11 311 *eP* **P 14 50 08.2 -0.4**
HYF Humbligny 46.11 311 *eP* **P 14 50 08.2 -0.4**
HYF Humbligny 46.11 311 *eP* **P 14 50 08.2 -0.4**
VALF Valcebollere 46.19 304 *eP* **P 14 50 10.2 +0.9**
VALF Valcebollere 46.19 304 *eP* **P 14 50 10.2 +0.9**
ARCES ARCESS Array B 46.24 346 P **P 14 50 09.3 0.0**
comp=Z,14nm,0.7s,mb5.0,baz=144,slow=10,SNR=50
ARCES PcP PcP 14 51 45.1 +0.7
comp=Z,12nm,0.8s,baz=160,slow=3.9,SNR=4.6
ARCES LR LR 15 12 04.3
comp=Z,472nm,19.4s,MS4.5,baz=141,slow=39
ARCES ARCESS Array B 46.24 346 P **P 14 50 09.3 0.0**
ARCES PcP PcP 14 51 45.1 +0.7
ARCES ARCESS Array B 46.24 346 P **P 14 50 09.3 0.0**
ARCES 14 51 45.1
ARCES pmax pmax
comp=Z,14nm,0.7s
ARCES MLR MLR
comp=Z,472nm,19.4s
ARCES ARCESS Array B 46.24 346 P **P 14 50 09.3 0.0**
ARCES ARCESS Array B 46.24 346 PcP PcP 14 51 45.1 +0.7
ARE0 ARCESS Array S 46.24 346 *eP* **P 14 50 08.5 -0.7**
ARE0 ARCESS Array S 46.24 346 *eP* **P 14 50 09.2 0.0**
ARE0 ARCESS Array S 46.24 346 *eP* **P 14 50 09.2 -0.1**
CAF Calviac 46.28 308 *eP* **P 14 50 09.4 -0.6**
comp=Z,32nm,0.7s,mb5.1
CAF Calviac 46.28 308 *eP* **P 14 50 09.4 -0.6**
comp=Z,32nm,0.7s,mb5.4
CAF Calviac 46.28 308 *eP* **P 14 50 09.4 -0.6**
CAF pmax pmax
comp=Z,32nm,0.7s,mb5.4
CAF Calviac 46.28 308 *eP* **P 14 50 09.4 -0.6**
comp=Z,16nm,0.7s,mb5.1
TCF Toulx Ste Croi 46.30 309 *eP* **P 14 50 09.2 -0.9**
comp=Z,40nm,0.9s,mb5.1
TCF Toulx Ste Croi 46.30 309 *eP* **P 14 50 09.2 -0.9**
comp=Z,40nm,0.9s,mb5.3
TCF Toulx Ste Croi 46.30 309 *eP* **P 14 50 09.2 -0.9**
TCF pmax pmax
comp=Z,40nm,0.9s,mb5.3
TCF Toulx Ste Croi 46.30 309 *eP* **P 14 50 09.2 -0.9**
comp=Z,20nm,0.9s,mb5.1
KTK1 Kautokeino 46.36 344 *eP* **P 14 50 09.4 -0.8**
KTK1 Kautokeino 46.36 344 *eP* **P 14 50 09.4 -0.8**
SNR=24
ABPO Ambohimpanom 46.36 191 PFAKE 14 50 20.0 +9.2
ABPO LR LR
comp=Z,181nm,21.0s,MS4.0
BTO Baotou 46.41 58 *eP* **P 14 50 11.3 +0.2**
RJF Les Rejaudoux 46.70 308 *eP* **P 14 50 12.9 -0.4**
comp=Z,84nm,1.2s,mb5.3
RJF *eR*
comp=Z,418nm,19.0s
RJF Les Rejaudoux 46.70 308 *eP* **P 14 50 12.9 -0.4**
comp=Z,84nm,1.2s,mb5.5
RJF Les Rejaudoux 46.70 308 *eP* **P 14 50 12.9 -0.4**
RJF pmax pmax
comp=Z,84nm,1.2s,mb5.5
RJF Les Rejaudoux 46.70 308 *eP* **P 14 50 12.9 -0.4**
comp=Z,42nm,1.2s,mb5.3
EBNR Beni Rached 46.71 296 P **P 14 50 22.0 +8.5**
EBNR Beni Rached 46.71 296 P **P 14 50 22.0 +8.5**
MRIV Mauritius Mete 46.90 178 *eP* **P 14 50 15.0 0.0**
MRIV Mauritius Mete 46.90 178 *eP* **P 14 50 15.0 +0.1**
ODD1 Odda 47.00 329 *eP* **P 14 50 17.4 +2.0**
ODD1 Odda 47.00 329 *eP* **P 14 50 17.4 +2.0**
SNR=24
EANR 'Ain N'Sour 47.09 295 P **P 14 50 18.0 +1.5**
EANR 'Ain N'Sour 47.09 295 P **P 14 50 18.0 +1.5**
LFF La Frestale 47.23 307 *eP* **P 14 50 16.9 -0.5**
comp=Z,32nm,0.7s,mb5.1
LFF La Frestale 47.23 307 *eP* **P 14 50 16.9 -0.5**
comp=Z,32nm,0.7s,mb5.4
LFF La Frestale 47.23 307 *eP* **P 14 50 16.9 -0.5**
LFF pmax pmax
comp=Z,32nm,0.7s,mb5.4
LFF La Frestale 47.23 307 *eP* **P 14 50 16.9 -0.5**
comp=Z,16nm,0.7s,mb5.1
EPF Esparros 47.44 305 *eP* **P 14 50 18.7 -0.4**
EPF Esparros 47.44 305 *eP* **P 14 50 18.7 -0.4**
EPF Esparros 47.44 305 *eP* **P 14 50 18.7 -0.4**
EPF Esparros 47.44 305 *eP* **P 14 50 18.7 -0.4**
STOK Stokkvaagen 47.51 338 *eP* **P 14 50 19.6 +0.3**
HHC Hu-ho-hao-te 47.58 58 *eP* **P 14 50 21.7 +1.5**
HHC PcP PcP 14 51 51.8 +2.1
HHC PP PP 14 52 13.2 +1.5
HHC PcS PcS 14 55 46.1 +1.0
HHC S **S 14 57 16.5 +3.2**
HHC SS SS 15 00 39.7 -1.7
HHC pmax pmax
comp=Z,83nm,1.2s,mb5.6
HHC pmax pmax
comp=Z,140nm,9.5s
HHC LR LR
comp=N,580nm,16.7s,MS4.8
HHC LR LR
comp=E,430nm,14.1s,MS4.8
HHC LR LR
comp=Z,450nm,14.3s,MS4.6
PSI Prapat 47.64 113 P **P 14 50 21.6 +0.6**
comp=Z,16nm,1.8s,mb4.8
KULM Kulim 47.74 109 PFAKE 14 50 30.0 +8.2
KULM LR LR
comp=Z,379nm,22.0s,MS4.3
TRO Tromso 47.87 344 *eP* **P 14 50 21.7 -0.3**
TRO Tromso 47.87 344 *eP* **P 14 50 21.7 -0.3**
SNR=24
MFF Saint Martin d 47.95 310 *eP* **P 14 50 21.7 -1.3**
MFF Saint Martin d 47.95 310 *eP* **P 14 50 21.7 -1.3**
MFF Saint Martin d 47.95 310 *eP* **P 14 50 21.7 -1.3**
MFF Saint Martin d 47.95 310 *eP* **P 14 50 21.7 -1.3**
ETSF Etsaut 48.10 305 *eP* **P 14 50 24.0 -0.2**
comp=Z,36nm,0.8s,mb5.1
ETSF Etsaut 48.10 305 *eP* **P 14 50 24.0 -0.2**
comp=Z,36nm,0.8s,mb5.5
ETSF Etsaut 48.10 305 *eP* **P 14 50 24.0 -0.2**
ETSF pmax pmax
comp=Z,36nm,0.8s,mb5.5
ETSF Etsaut 48.10 305 *eP* **P 14 50 24.0 -0.2**
comp=Z,18nm,0.8s,mb5.1
LDF La Druitiere 48.10 312 *eP* **P 14 50 22.5 -1.6**
comp=Z,22nm,0.4s,mb5.2
LDF La Druitiere 48.10 312 *eP* **P 14 50 22.5 -1.6**
comp=Z,22nm,0.4s,mb5.5
LDF La Druitiere 48.10 312 *eP* **P 14 50 22.5 -1.6**
LDF pmax pmax
comp=Z,22nm,0.4s,mb5.5
LDF La Druitiere 48.10 312 *eP* **P 14 50 22.5 -1.6**
comp=Z,11nm,0.4s,mb5.2
ATE Arette 48.20 305 *eP* **P 14 50 25.6 +0.6**
ATE Arette 48.20 305 *eP* **P 14 50 25.6 +0.6**
FLN La Foliniere 48.36 313 *eP* **P 14 50 24.8 -1.3**
comp=Z,62nm,0.9s,mb5.3
FLN *eR*
comp=Z,381nm,20.5s
FLN La Foliniere 48.36 313 *eP* **P 14 50 24.8 -1.3**
comp=Z,62nm,0.9s,mb5.6
FLN La Foliniere 48.36 313 *eP* **P 14 50 24.8 -1.3**
FLN pmax pmax
comp=Z,62nm,0.9s,mb5.6
FLN La Foliniere 48.36 313 *eP* **P 14 50 24.8 -1.3**
comp=Z,31nm,0.9s,mb5.3
IPM Ipoh 48.48 109 *eP* **P 14 50 25.8 -1.8**
comp=Z,15nm,0.8s,mb5.1
IPM Ipoh 48.48 109 *eP* **P 14 50 25.8 -1.7**
comp=Z,15nm,0.8s,mb5.1
SJPF Ste Jean 48.59 305 *eP* **P 14 50 27.8 -0.2**
comp=Z,33nm,0.6s,mb5.2
SJPF Ste Jean 48.59 305 *eP* **P 14 50 27.8 -0.2**
comp=Z,33nm,0.6s,mb5.5
SJPF Ste Jean 48.59 305 *eP* **P 14 50 27.8 -0.2**
SJPF pmax pmax
comp=Z,33nm,0.6s,mb5.5
SJPF Ste Jean 48.59 305 *eP* **P 14 50 27.8 -0.2**
comp=Z,17nm,0.6s,mb5.2
WOL Wolverton 49.12 316 *eP* **P 14 50 31.1 -0.8**
WOL AMB AMB 14 50 33.1
comp=Z,156nm,1.4s,mb5.8
WOL Wolverton 49.12 316 *eP* **P 14 50 31.1 -0.8**
SGMF Saint Gilles 49.69 312 *eP* **P 14 50 35.2 -1.1**
comp=Z,111nm,1.2s,mb5.5
SGMF Saint Gilles 49.69 312 *eP* **P 14 50 35.2 -1.1**
comp=Z,111nm,1.2s,mb5.8
SGMF Saint Gilles 49.69 312 *eP* **P 14 50 35.2 -1.1**
SGMF pmax pmax
comp=Z,111nm,1.2s,mb5.8
SGMF Saint Gilles 49.69 312 *eP* **P 14 50 35.2 -1.1**
comp=Z,56nm,1.2s,mb5.5
QIZ Qiongzhong 50.02 87 P **P 14 50 37.8 -1.4**
QIZ S **S 14 57 44.1 -4.0**
QIZ pmax pmax
comp=Z,23nm,2.0s,mb4.9
QIZ pmax pmax
comp=Z,350nm,6.0s
QUIF Quistinic 50.08 311 *eP* **P 14 50 37.9 -1.4**
comp=Z,98nm,1.2s,mb5.4
QUIF Quistinic 50.08 311 *eP* **P 14 50 37.9 -1.4**
comp=Z,98nm,1.2s,mb5.7
QUIF Quistinic 50.08 311 *eP* **P 14 50 37.9 -1.4**
QUIF pmax pmax
comp=Z,98nm,1.2s,mb5.7
QUIF Quistinic 50.08 311 *eP* **P 14 50 37.9 -1.4**
comp=Z,49nm,1.2s,mb5.4
HGH Gray Hill 50.14 316 *eP* **P 14 50 39.4 -0.3**
HGH Gray Hill 50.14 316 *eP* **P 14 50 39.4 -0.3**
ROSF Rostrenen 50.17 312 *eP* **P 14 50 38.7 -1.3**
comp=Z,92nm,1.3s,mb5.3
ROSF Rostrenen 50.17 312 *eP* **P 14 50 38.7 -1.3**
comp=Z,92nm,1.3s,mb5.7
ROSF Rostrenen 50.17 312 *eP* **P 14 50 38.7 -1.3**
ROSF pmax pmax
comp=Z,92nm,1.3s,mb5.7
ROSF Rostrenen 50.17 312 *eP* **P 14 50 38.7 -1.3**
comp=Z,46nm,1.3s,mb5.3
HLM1 Long Mynd 50.29 317 *eP* **P 14 50 39.2 -1.6**
HLM1 AMB AMB 14 50 46.6
comp=Z,75nm,3.1s
HLM1 Long Mynd 50.29 317 *eP* **P 14 50 39.2 -1.6**
MCH1 Michaelchurch 50.30 317 *eP* **P 14 50 40.1 -0.8**
MCH1 AMB AMB 14 50 49.5
comp=Z,69nm,2.2s,mb5.3
MCH1 Michaelchurch 50.30 317 *eP* **P 14 50 40.1 -0.8**
FOEL Foel Wylfa 50.53 318 *eP* **P 14 50 41.2 -1.3**
FOEL AMB AMB 14 50 42.9
comp=Z,51nm,1.6s,mb5.2
FOEL Foel Wylfa 50.53 318 *eP* **P 14 50 41.2 -1.4**
ESY Stoneypath 50.63 322 *eP* **P 14 50 42.9 -0.4**
ESY Stoneypath 50.63 322 *eP* **P 14 50 42.9 -0.4**
PPI Padang Panjang 50.71 115 P **P 14 50 44.7 +0.2**
comp=Z,821nmcomp=Z,41nm,1.4s,mb5.2
BKNI Bangkinang 50.78 114 P **P 14 50 45.4 +0.4**
comp=Z,82nm,0.9s,mb5.6
ESDC Sonseca Array 50.78 301 P **P 14 50 45.0 +0.3**
comp=Z,2.1nm,0.4s,mb4.4,baz=71,slow=7.1,SNR=34
ESDC Sonseca Array 50.78 301 P **P 14 50 45.0 +0.3**
ESDC Sonseca Array 50.78 301 P **P 14 50 45.0 +0.3**
ESLA Sonseca Array 50.78 301 *eP* **P 14 50 44.2 -0.5**
comp=Z,1.8nm,0.7s,mb4.1
ESLA Sonseca Array 50.78 301 *eP* **P 14 50 44.2 -0.5**
comp=Z,1.8nm,0.7s,mb4.1
BOD Bodaibo 50.81 36 *eP* **P 14 50 43.4 -1.3**
BOD pmax pmax
comp=Z,86nm,1.2s,mb5.6
EBL Broad Law 50.85 321 *eP* **P 14 50 45.0 +0.1**
EBL Broad Law 50.85 321 *eP* **P 14 50 45.0 +0.1**
WHN Wuhan 50.95 71 P **P 14 50 47.1 +1.0**
WHN S **S 14 58 02.7 +1.8**
WHN LR LR
comp=Z,860nm,18.7s,MS4.8
PDSI Padang 51.03 115 P **P 14 50 46.3 -0.6**
comp=Z,64nm,1.0s,mb5.5
PAB San Pablo 51.09 300 *eP* **P 14 50 47.1 +0.1**
comp=Z,26nm,0.9s,mb5.2
PAB LR LR
comp=Z,329nm,21.0s,MS4.3
PAB San Pablo 51.09 300 *eP* **P 14 50 47.1 +0.1**
PAB pmax pmax
comp=Z,26nm,0.9s,mb5.2
PAB MLR MLR
comp=Z,329nm,21.0s,MS4.3
PAB San Pablo 51.09 300 *eP* **P 14 50 47.1 +0.1**
comp=Z,26nm,0.9s,mb5.2
BJI Beijing 51.13 59 P **P 14 50 47.9 +0.6**
BJI PP PP 14 52 42.9 -1.2
BJI S **S 14 58 05.5 +2.4**
BJI pmax pmax
comp=Z,56nm,1.0s,mb5.5
BJI pmax pmax
comp=Z,160nm,6.1s
BJI LR LR
comp=N,320nm,15.2s,MS4.7
BJI LR LR
comp=E,430nm,16.1s,MS4.7
BJI LR LR
comp=Z,250nm,26.1s
TIA Tai'an 52.30 64 P **P 14 50 56.5 +0.4**
TIA pmax pmax
comp=Z,90nm,1.0s,mb5.7
TORD Torodi Ar. Bea 52.33 266 P **P 14 50 56.2 -0.4**
comp=Z,43nm,0.7s,mb5.5,baz=60,slow=6.9,SNR=329
TORD LR LR 15 15 33.0
comp=Z,688nm,18.1s,MS4.7,baz=65,slow=39
TORD Torodi Ar. Bea 52.33 266 P **P 14 50 56.2 -0.4**
TORD Torodi Ar. Bea 52.33 266 P **P 14 50 56.2 -0.4**
SFS San Fernando 52.90 297 PFAKE 14 51 10.0 +9.4
SFS LR LR
comp=Z,495nm,20.0s,MS4.5
MVO Moncorvo 52.99 303 *eP* **P 14 51 01.8 +0.7**
comp=Z,42nm,2.1s,mb5.0
MVO Moncorvo 52.99 303 *eP* **P 14 51 01.8 +0.7**
comp=Z,42nm,2.1s,mb5.0
PBAR Barrancos 53.32 299 *eP* **P 14 51 03.6 -0.1**
comp=Z,57nm,2.0s,mb5.2
PBAR Barrancos 53.32 299 *eP* **P 14 51 03.6 -0.1**
comp=Z,57nm,2.0s,mb5.2
PMRV Marv??o 53.44 301 *eP* **P 14 51 04.6 +0.1**
comp=Z,35nm,1.4s,mb5.1
PMRV Marv??o 53.44 301 *eP* **P 14 51 04.6 +0.1**
comp=Z,35nm,1.4s,mb5.1
PCBR Castelo Branco 53.46 301 *eP* **P 14 51 05.8 +1.1**
comp=Z,46nm,1.5s,mb5.2
PCBR Castelo Branco 53.46 301 *eP* **P 14 51 05.8 +1.1**
comp=Z,46nm,1.5s,mb5.2
PVRL Vila Real 53.49 303 *eP* **P 14 51 05.4 +0.5**
PVRL Vila Real 53.49 303 *eP* **P 14 51 05.4 +0.5**
POLO Lamas de Olo 53.54 303 *eP* **P 14 51 06.2 +1.0**
POLO Lamas de Olo 53.54 303 *eP* **P 14 51 06.2 +1.0**
PBEJ Beja 53.99 299 *eP* **P 14 51 08.3 -0.2**
PBEJ Beja 53.99 299 *eP* **P 14 51 08.3 -0.2**
EVO Evora 54.04 300 *eP* **P 14 51 09.1 +0.2**
comp=Z,26nm,0.9s,mb4.9
EVO *eR*
comp=Z,188nm,18.0s
EVO Evora 54.04 300 *eP* **P 14 51 09.1 +0.2**
comp=Z,39nm,1.7s,mb5.1
EVO Evora 54.04 300 *eP* **P 14 51 09.1 +0.2**
comp=Z,39nm,1.7s,mb5.1
EVOP Sao Brissos 54.12 300 *eP* **P 14 51 09.1 -0.4**
comp=Z,26nm,0.9s,mb5.2
EVOP Sao Brissos 54.12 300 *eP* **P 14 51 09.1 -0.4**
EVOP pmax pmax
comp=Z,27nm,0.9s,mb5.2
EVOP Sao Brissos 54.12 300 *eP* **P 14 51 09.1 -0.4**
comp=Z,13nm,0.9s,mb4.9
PTOM Tomar 54.20 301 *eP* **P 14 51 10.6 +0.5**
PTOM Tomar 54.20 301 *eP* **P 14 51 10.6 +0.5**
NJ2 Nanjing 54.43 68 *eP* **P 14 51 12.4 +0.6**
NJ2 PP PP 14 53 15.4 +1.4
NJ2 pmax pmax
comp=Z,50nm,0.9s,mb5.4
NJ2 pmax pmax
comp=Z,350nm,6.1s
NJ2 LR LR
comp=N,370nm,13.2s
NJ2 LR LR
comp=E,350nm,18.6s
NJ2 LR LR
comp=Z,490nm,13.8s,MS4.7
SPB4 Spitsbergen Ar 54.43 351 *eP* **P 14 51 11.0 -0.1**
SPB4 Spitsbergen Ar 54.43 351 *eP* **P 14 51 11.0 -0.1**
COCO West Island 55.58 129 *i P* **P 14 51 23.2 +2.9**
KBS Kingsbay 55.58 351 *eP* **P 14 51 16.5 -3.0**
KBS Kingsbay 55.58 351 *eP* **P 14 51 19.4 -0.1**
comp=Z,212nm,1.8s,mb5.9
KBS LR LR
comp=Z,349nm,20.0s,MS4.4
KBS Kingsbay 55.58 351 *eP* **P 14 51 19.4 -0.1**
KBS pmax pmax
comp=Z,212nm,1.8s,mb5.9
KBS MLR MLR
comp=Z,349nm,20.0s,MS4.4
KBS Kingsbay 55.58 351 *eP* **P 14 51 19.4 -0.1**
comp=Z,212nm,1.8s,mb5.9
MDSI Maura Dua 56.12 116 P **P 14 51 21.8 -2.4**
comp=Z,39nm,1.2s,mb5.3
LWLI Liwa 56.34 117 P **P 14 51 24.9 -0.9**
comp=Z,98nm,0.8s,mb5.9
SNY Shenyang 56.52 56 ⇑P **P 14 51 26.5 -0.2**
SNY S **S 14 59 12.8 -3.2**
SNY pmax pmax
comp=Z,41nm,0.9s,mb5.5
SNY pmax pmax
comp=Z,210nm,5.4s
SNY LR LR
comp=E,500nm,15.5s
SNY LR LR
comp=Z,600nm,14.0s,MS4.8
CLNS Chul'man 56.56 38*c i P* **P 14 51 27.1 +0.3**
CLNS *e* 14 52 22.0
CLNS *e* 14 53 30.4
CLNS pmax pmax
comp=Z,24nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,12nm,1.4s
CLNS pmax pmax
comp=E,16nm,1.4s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=Z,12nm,1.7s,mb4.7
CLNS pmax pmax
comp=N,17nm,1.7s
CLNS MLR MLR
comp=Z,535nm,14.0s,MS4.8

CLNS MLR MLR
comp=E,389nm,13.0s,MS4.8
CLNS MLR MLR
comp=N,411nm,16.0s,MS4.8
KLSI 56.69 116 P **P** **14 51 27.5 -0.8**
comp=N,62nm,1.1s,mb5.5
CN2 Changchun 57.62 53 *e*P **P** **14 51 34.0 -0.5**
CN2 *e*S **S** **14 59 29.2 -1.3**
CN2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,800nm,20.0s,MS4.9
CN2 LR LR
comp=E,400nm,20.0s,MS4.9
CN2 LR LR
comp=Z,600nm,15.0s,MS4.8
KSM Kuching 57.94 106 PFAKE 14 51 50.0 +13
KSM LR LR
comp=Z,496nm,22.0s,MS4.6
TPUB Ta-pu 58.21 78 *e*P **P** **14 51 41.2 +2.3**
comp=Z,250nm,1.4s,mb6.0
TPUB Ta-pu 58.21 78 *e*P **P** **14 51 41.2 +2.3**
comp=Z,250nm,1.4s,mb6.0
SSLB Suanglung 58.34 77 *e*P **P** **14 51 41.5 +1.7**
comp=Z,112nm,1.0s,mb5.8
SSLB Suanglung 58.34 77 *e*P **P** **14 51 41.5 +1.6**
comp=Z,112nm,1.0s,mb5.8
YHNB Yeheng 58.45 76 *e*P **P** **14 51 42.9 +2.3**
comp=Z,243nm,0.9s,mb6.2
YHNB LR LR
comp=Z,406nm,19.0s,MS4.6
YHNB Yeheng 58.45 76 *e*P **P** **14 51 42.8 +2.2**
comp=Z,243nm,0.9s,mb6.2
CGJI Cibinong 58.60 117 P **P** **14 51 40.1 -1.6**
comp=Z,76nm,1.7s,mb5.5
SBJI Serang 58.65 116 P **P** **14 51 29.6 -12**
TWG Pinlang 58.75 78 *e*P **P** **14 51 45.2 +2.5**
comp=Z,340nm,1.4s,mb6.2
TWG Pinlang 58.75 78 *e*P **P** **14 51 45.2 +2.5**
comp=Z,340nm,1.4s,mb6.2
YULB Yu-li 58.77 78 *e*P **P** **14 51 45.2 +2.4**
comp=Z,114nm,1.1s,mb5.8
YULB Yu-li 58.77 78 *e*P **P** **14 51 45.2 +2.4**
comp=Z,114nm,1.1s,mb5.8
TSUM Tsumeb 58.94 223 *e*P **P** **14 51 44.8 +0.9**
comp=Z,18nm,0.9s,mb5.1
TSUM LR LR
comp=Z,555nm,19.0s,MS4.7
TSUM Tsumeb 58.94 223 *e*P **P** **14 51 44.8 +0.9**
comp=Z,18nm,0.9s,mb5.1
YAK Yakutsk 59.10 32 *e*P **P** **14 51 43.0 -1.4**
comp=Z,107nm,1.1s,mb5.8
YAK *e*PcP PcP 14 52 32.0 -0.9
YAK LR LR
comp=Z,487nm,19.0s,MS4.7
YAK Yakutsk 59.10 32 *e*P **P** **14 51 43.0 -1.5**
YAK *e**PP pP 14 51 54.9 +0.4
YAK *e* 14 52 32.2
YAK *e* 14 53 52.6
YAK *e* 15 01 26.5
YAK *e*SSS 15 06 13.1
YAK pmax pmax
comp=Z,72nm,1.0s,mb5.7
YAK pmax pmax
comp=E,42nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=Z,14nm,1.1s,mb4.9
YAK pmax pmax
comp=E,18nm,1.2s
YAK pmax pmax
comp=N,17nm,1.4s
YAK MLR MLR
comp=Z,802nm,14.0s,MS5.0
YAK MLR MLR
comp=E,475nm,12.0s,MS4.8
YAK MLR MLR
comp=N,166nm,14.0s,MS4.8
YAK Yakutsk 59.10 32 *e*P **P** **14 51 43.0 -1.5**
comp=N,107nm,1.1s,mb5.8
YAK Yakutsk 59.10 32 *e*PcP PcP 14 52 32.0 -0.9
LBTB Lobatse 59.26 212 *e*P **P** **14 51 47.0 +1.1**
comp=N,80nm,0.8s,mb5.8
LBTB LR LR
comp=Z,304nm,20.0s,MS4.4
LBTB Lobatse 59.26 212 *e*P **P** **14 51 47.0 +1.0**
LBTB pmax pmax
comp=Z,80nm,0.8s,mb5.8
LBTB MLR MLR
comp=Z,304nm,20.0s,MS4.4
LBTB Lobatse 59.26 212 *e*P **P** **14 51 47.0 +1.0**
comp=Z,80nm,0.8s,mb5.8
INCN Inchon 59.59 61 *e*P **P** **14 51 47.9 -0.4**
comp=Z,118nm,1.0s,mb5.9
INCN Inchon 59.59 61 P **P** **14 51 48.3 +0.1**
SNR=9.1
INCN mb 14 51 50.1
SNR=6.4
INCN Inchon 59.59 61 P **P** **14 51 48.3 0.0**
SNR=9.1
MDJ Mudanjiang 60.45 52 P **P** **14 51 53.2 -0.9**
MDJ S **S** **15 00 07.8 +0.7**
MDJ pmax pmax
comp=Z,21nm,1.2s,mb5.0
MDJ pmax pmax
comp=Z,90nm,4.1s
MDJ LR LR
comp=N,420nm,25.5s,MS4.5
MDJ LR LR
comp=E,250nm,27.9s,MS4.5
MDJ LR LR
comp=Z,240nm,27.9s,MS4.2
DAG Danmarks Havn 60.52 345 *i*P **P** **14 51 53.4 -0.7**
DAG pmax pmax
comp=Z,16nm,0.8s,mb5.2
DAG Danmarks Havn 60.52 345 *i*P **P** **14 51 53.4 -0.7**
comp=Z,21nm,0.8s,mb5.3
KSAR Wonju Array Be 60.57 60 P **P** **14 51 54.4 -0.6**
KSAR Wonju Array Be 60.57 60 P **P** **14 51 54.4 -0.6**
KSAR Wonju Array Be 60.57 60 P **P** **14 51 54.4 -0.6**
KSRS Korea Array 60.59 60 P **P** **14 51 54.4 -0.8**
comp=Z,32nm,0.8s,mb5.5,baz=277,slow=6.9,SNR=90
KSRS LR LR 15 20 43.3
comp=Z,201nm,19.9s,MS4.3,baz=104,slow=39
KSRS Korea Array 60.59 60 P **P** **14 51 54.4 -0.8**
KSRS pmax pmax
comp=Z,32nm,0.8s,mb5.5
KSRS MLR MLR
comp=Z,201nm,19.9s,MS4.3
SCO Scoresbysund 60.89 338 *i*P **P** **14 51 57.4 +0.8**
SCO pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
SCO Scoresbysund 60.89 338 *i*P **P** **14 51 57.4 +0.8**
comp=Z,10.0nm,0.9s,mb5.0
KKM Kota Kinabalu 60.89 98 PFAKE 14 52 10.0 +12
KKM LR LR
comp=Z,191nm,21.0s,MS4.2
DBIC Dimbokro 60.93 262 P **P** **14 51 58.2 +0.5**
comp=Z,24nm,0.8s,mb5.4,baz=42,slow=7.6,SNR=48
DBIC LR LR 15 21 07.7
comp=Z,227nm,18.6s,MS4.3,baz=42,slow=39
DBIC Dimbokro 60.93 262 *e*P **P** **14 51 57.8 0.0**
comp=Z,30nm,0.8s,mb5.5
DBIC Dimbokro 60.93 262 P **P** **14 51 58.3 +0.5**
DBIC pmax pmax
comp=Z,24nm,0.8s
DBIC MLR MLR
comp=Z,227nm,18.6s
DBIC Dimbokro 60.93 262 *e*P **P** **14 51 57.8 0.0**
comp=Z,30nm,0.8s,mb5.5
KLR Kul'dur 61.18 47 *e*P **P** **14 51 54.8 -4.2**
KLR *e*S **S** **15 00 07.5 -8.8**
KLR pmax pmax
comp=E,120nm,1.6s
KLR pmax pmax
comp=Z,300nm,1.6s,mb6.2
VLA Vladivostok 62.37 53*c* *i*P **P** **14 52 06.6 -0.4**
VLA pmax pmax
comp=Z,103nm,1.0s,mb5.9
BOSA Boshof 62.48 210 P **P** **14 52 09.2 +1.3**
comp=Z,45nm,0.7s,mb5.7,baz=34,slow=6.4,SNR=22
BOSA LR LR 15 17 38.8
comp=Z,323nm,21.9s,MS4.5,baz=36,slow=34
BOSA Boshof 62.48 210 *e*P **P** **14 52 08.9 +1.0**
comp=Z,41nm,0.6s,mb5.7
BOSA Boshof 62.48 210 P **P** **14 52 09.2 +1.4**
BOSA pmax pmax
comp=Z,45nm,0.7s,mb5.7
BOSA Boshof 62.48 210 *e*P **P** **14 52 08.9 +1.1**
comp=Z,41nm,0.6s,mb5.7
MYLDM Lahad Datu 63.31 98 P **P** **14 52 16.2 +2.5**
HABR Khabarovsk 63.46 47*c**e*P **P** **14 52 13.3 -0.9**
HABR *e**SP sP 14 52 27.1 -1.1
HABR *e* 14 52 50.0
HABR *e* 14 54 32.0
HABR *e*S **S** **15 00 43.3 -1.7**
HABR *e* 15 02 02.8
HABR *e*SS SS 15 04 50.0 -1.9
HABR pmax pmax
comp=Z,234nm,1.5s,mb6.1
HABR pmax pmax
comp=E,113nm,1.5s
HABR pmax pmax
comp=N,39nm,1.5s
HABR MLR MLR
comp=Z,319nm,17.0s,MS4.6
JOW Kunigami 63.71 72 P **P** **14 52 16.7 +0.4**
comp=Z,30nm,0.8s,mb5.4,baz=284,slow=14,SNR=5.5
JOW Kunigami 63.71 72 P **P** **14 52 16.7 +0.4**
JOW Kunigami 63.71 72 P **P** **14 52 16.7 +0.4**
JNU Nakatsue 64.02 64 *e*P **P** **14 52 18.6 +0.4**
comp=Z,19nm,1.1s,mb5.0
JNU Nakatsue 64.02 64 *e*P **P** **14 52 18.6 +0.4**
comp=Z,19nm,1.1s,mb5.0
KMMI Kalianget 65.56 112 P **P** **14 52 29.4 +0.9**
SUMG Summit 65.91 341 *e*P **P** **14 52 30.3 +0.5**
comp=Z,85nm,1.0s,mb5.7
SUMG Summit 65.91 341 *i*P **P** **14 52 30.6 +0.8**
SUMG pmax pmax
comp=Z,51nm,0.9s
SUMG Summit 65.91 341 *i*P **P** **14 52 30.6 +0.8**
comp=Z,51nm,0.9s,mb5.5
SUMG Summit 65.91 341 *i*P **P** **14 52 30.6 +0.8**
comp=Z,51nm,0.9s,mb5.5
BYJI Banyuwangi 66.52 113 P **P** **14 52 35.7 +1.1**
comp=Z,4μmcomp=Z,119nm,1.1s,mb5.8
ALE Alert 67.05 353 P **P** **14 52 37.0 0.0**
comp=Z,190nm,1.0s,mb6.1,SNR=13
SRBI Singaraja 67.16 112 P **P** **14 52 38.3 -0.4**
comp=Z,1μmcomp=Z,102nm,1.2s,mb5.7
PCI Palu 67.36 103 P **P** **14 52 40.7 +0.7**
comp=Z,3μmcomp=Z,183nm,0.9s,mb6.1
KHKI Kahang-Kahang 67.64 112 P **P** **14 52 40.2 -1.5**
comp=Z,1μmcomp=Z,112nm,1.3s,mb5.7
SUR Sutherland 67.70 212 *e*P **P** **14 52 43.5 +1.8**
comp=Z,37nm,0.8s,mb5.5
SUR LR LR
comp=Z,423nm,21.0s,MS4.6
SUR Sutherland 67.70 212 *e*P **P** **14 52 43.5 +1.8**
comp=Z,37nm,0.8s,mb5.5
MTNI Mataram 68.25 112 P **P** **14 52 43.8 -1.8**
comp=Z,4μmcomp=Z,88nm,0.9s,mb5.8
MRSI Marisa 68.54 101 P **P** **14 52 47.8 +0.4**
MAJO Matsushiro 68.77 59 PFAKE 14 53 00.0 +11
MAJO LR LR
comp=Z,383nm,21.0s,MS4.6
MAT Matsushiro 68.77 59 P **P** **14 52 46.9 -1.6**
MJAR Matsushiro Arr 68.77 59 P **P** **14 52 48.6 +0.1**
comp=Z,12nm,0.9s,mb4.8,baz=282,slow=9.7,SNR=20
MJAR LR LR 15 26 37.6
comp=Z,189nm,19.5s,MS4.3,baz=225,slow=39
MJAR Matsushiro Arr 68.77 59 P **P** **14 52 48.6 +0.1**
MJAR Matsushiro Arr 68.77 59 P **P** **14 52 48.6 +0.1**
MJAR pmax pmax
comp=Z,12nm,1.0s
MJAR MLR MLR
comp=Z,189nm,19.5s
MJAR Matsushiro Arr 68.77 59 P **P** **14 52 48.6 +0.1**
YSS Yuzh-Sakhalins 68.87 47 *e*P **P** **14 52 47.7 -1.3**
comp=Z,170nm,0.9s,mb6.0
YSS Yuzh-Sakhalins 68.87 47 ||*i*P **P** **14 52 48.0 -1.0**
YSS pmax pmax
comp=E,80nm,0.9s
YSS pmax pmax
comp=Z,160nm,0.9s,mb6.0
YSS Yuzh-Sakhalins 68.87 47 *e*P **P** **14 52 47.7 -1.3**
comp=Z,170nm,0.9s,mb6.0
KAPI Kappang 69.35 107 P **P** **14 52 51.9 -0.5**
comp=Z,42nm,1.2s,mb5.2,baz=289,slow=5.7,SNR=19
KAPI Kappang 69.35 107 *e*P **P** **14 52 51.3 -1.2**
comp=Z,114nm,1.4s,mb5.6
KAPI LR LR
comp=Z,142nm,22.0s,MS4.2
KAPI Kappang 69.35 107 P **P** **14 52 51.6 -0.9**
SNR=13
KAPI Kappang 69.35 107 P **P** **14 52 51.6 -0.8**
SNR=13
GTOI Gorontalo 69.40 100 P **P** **14 52 51.9 -0.9**
ASAJ Asahikawa 69.62 50 P **P** **14 52 53.1 -0.6**
comp=Z,18nm,0.9s,mb5.0,baz=267,slow=9.1,SNR=11
ASAJ Asahikawa 69.62 50 P **P** **14 52 53.1 -0.6**
ASAJ Asahikawa 69.62 50 P **P** **14 52 53.1 -0.6**
ASAJ pmax pmax
comp=Z,18nm,0.9s
ASAJ Asahikawa 69.62 50 P **P** **14 52 53.1 -0.6**
BKSI Bulukumba 69.82 107 P **P** **14 52 55.5 +0.1**
ERM Erimo 70.67 52 PFAKE 14 53 10.0 +10
ERM LR LR
comp=Z,555nm,19.0s,MS4.8
YUK Yuzh-Kuril'sk 71.87 49 *e*P **P** **14 53 16.8 +9.4**
YUK *i* PPP 14 57 26.0
YUK *e*S S 15 02 26.5 +0.6
YUK MLR MLR
comp=Z,398nm,17.0s,MS4.8
BILL Bilibino 72.60 22 *e*P **P** **14 53 10.9 -0.4**
comp=Z,58nm,1.3s,mb5.3
BILL LR LR
comp=Z,466nm,22.0s,MS4.7
BILL Bilibino 72.60 22α *i*P **P** **14 53 11.9 +0.6**
BILL 14 53 29.0
BILL 14 55 55.0
BILL *e* 15 03 15.9
BILL pmax pmax
comp=Z,49nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,400nm,15.0s,MS4.8
BILL Bilibino 72.60 22 *e*P **P** **14 53 10.9 -0.4**
comp=Z,58nm,1.3s,mb5.3
SACV Santiago Islan 74.15 279 PFAKE 14 53 30.0 +8.7
SACV LR LR
comp=Z,338nm,20.0s,MS4.6
GIRL Giralia 74.88 125 *e*P **P** **14 53 27.1 +1.8**
comp=Z,865nm,1.1s,mb6.6
PETK Petropavlovsk- 75.65 38 P **P** **14 53 28.1 -1.2**
comp=Z,13nm,0.9s,mb4.8,baz=250,slow=3.0,SNR=6.8
PETK Petropavlovsk- 75.65 38 P **P** **14 53 28.1 -1.2**
PETK Petropavlovsk- 75.65 38 P **P** **14 53 28.1 -1.2**
PETK pmax pmax
comp=Z,13nm,0.9s,mb4.9
PETK Petropavlovsk- 75.65 38 P **P** **14 53 28.1 -1.2**
PET Petropavlovsk 76.20 37 *e*P **P** **14 53 31.8 -0.7**
PET pmax pmax
comp=Z,59nm,2.5s,mb5.1
RES Resolute Bay 76.94 352 P **P** **14 53 36.0 -0.4**
comp=Z,7.3nm,0.8s,mb4.6,baz=28,slow=11,SNR=18
RES Resolute Bay 76.94 352 *e*P **P** **14 53 36.1 -0.2**
comp=Z,9.5nm,0.9s,mb4.7
RES Resolute Bay 76.94 352 *e*P **P** **14 53 36.2 -0.1**
RES pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
RES Resolute Bay 76.94 352 *e*P **P** **14 53 36.2 -0.1**
comp=Z,9.5nm,0.9s,mb4.7
MBWA Marble Bar 78.11 121 *e*P **P** **14 53 43.0 -0.6**
MBWA Marble Bar 78.11 121 *e*P **P** **14 53 43.1 -0.6**
comp=Z,39nm,1.2s,mb5.2
MBWA LR LR
comp=Z,460nm,22.0s,MS4.8
MBWA Marble Bar 78.11 121 *e*P **P** **14 53 43.1 -0.5**
comp=Z,39nm,1.2s,mb5.2
MORW Morawa 80.11 130 *e*P **P** **14 53 54.3 -0.1**
comp=Z,101nm,1.3s,mb5.6
MEEK Meekatharra 80.46 126 *e*P **P** **14 53 55.5 -0.9**
comp=Z,52nm,0.9s,mb5.5
FITZ Fitzroy Crossi 81.09 115 P **P** **14 54 00.1 +0.3**
comp=Z,34nm,0.8s,mb5.3,baz=308,slow=5.2,SNR=62
FITZ Fitzroy Crossi 81.09 115 *e*P **P** **14 53 59.8 -0.1**
comp=Z,70nm,0.9s,mb5.6
FITZ Fitzroy Crossi 81.09 115 *e*P **P** **14 53 59.4 -0.5**
comp=Z,41nm,0.9s,mb5.4
FITZ Fitzroy Crossi 81.09 115 *e*P **P** **14 53 59.4 -0.5**
comp=Z,41nm,0.9s,mb5.4
TNA Tin City 81.94 17 *e*P **P** **14 54 03.0 -0.7**
comp=Z,22nm,0.9s,mb5.1
TNA Tin City 81.94 17 *e*P **P** **14 54 03.0 -0.7**
comp=Z,22nm,0.9s,mb5.1
NWAO Narrogin (SRO) 83.28 132 P **P** **14 54 11.1 0.0**
comp=Z,21nm,0.6s,mb5.3,baz=292,slow=5.0,SNR=26
NWAO LR LR 15 23 37.4
comp=Z,127nm,21.0s,MS4.3,baz=189,slow=30
NWAO Narrogin (SRO) 83.28 132 P **P** **14 54 11.1 0.0**
NWAO Narrogin (SRO) 83.28 132 P **P** **14 54 11.1 0.0**
NWAO pmax pmax
comp=Z,21nm,0.6s
NWAO Narrogin (SRO) 83.28 132 P **P** **14 54 11.1 0.0**
FX1 Attu Island--F 83.74 33 P **P** **14 54 12.4 -0.8**
comp=Z,35nm,0.8s,mb5.5,baz=31,slow=12,SNR=10
FX1 Attu Island--F 83.74 33 P **P** **14 54 12.4 -0.8**
FX1 Attu Island--F 83.74 33 P **P** **14 54 12.5 -0.7**
FX1 pmax pmax
comp=Z,35nm,0.9s
FX1 Attu Island--F 83.74 33 P **P** **14 54 12.4 -0.8**
COLD Coldfoot 84.18 10 *e*P **P** **14 54 15.1 -0.1**
comp=Z,86nm,0.9s,mb5.9
COLD Coldfoot 84.18 10 *e*P **P** **14 54 15.1 -0.1**
comp=Z,86nm,0.9s,mb5.9
INK Inuvik 84.88 3 P **P** **14 54 18.6 -0.1**
comp=Z,34nm,1.0s,mb5.4,baz=14,slow=8.1,SNR=71
INK Inuvik 84.88 3 *e*P **P** **14 54 18.0 -0.7**
comp=Z,44nm,1.0s,mb5.5
INK Inuvik 84.88 3 P **P** **14 54 18.6 -0.1**
INK pmax pmax
comp=Z,34nm,1.0s
INK Inuvik 84.88 3 *e*P **P** **14 54 18.0 -0.7**
comp=Z,44nm,1.0s,mb5.5
SCHQ Schefferville 85.00 331 P **P** **14 54 19.9 +0.4**
comp=Z,8.9nm,1.1s,mb4.8,baz=117,slow=4.5,SNR=3.3
SCHQ LR LR 15 30 24.4
comp=Z,197nm,18.2s,MS4.5,baz=62,slow=34
SCHQ Schefferville 85.00 331 P **P** **14 54 19.9 +0.4**
SCHQ Schefferville 85.00 331 P **P** **14 54 20.0 +0.5**
KMBL Kambalda 85.53 128 *e*P **P** **14 54 21.6 -0.9**
comp=Z,58nm,0.5s,mb6.1
COLA College 86.73 10 *e*P **P** **14 54 27.3 -0.7**
comp=Z,36nm,0.9s,mb5.6
COLA LR LR
comp=Z,313nm,22.0s,MS4.7
COLA College 86.73 10 *e*P **P** **14 54 27.3 -0.7**
COLA pmax pmax
comp=Z,36nm,0.9s,mb5.6
COLA MLR MLR
comp=Z,313nm,22.0s,MS4.7
COLA College 86.73 10 *e*P **P** **14 54 27.3 -0.7**
comp=Z,36nm,0.9s,mb5.6
BPAW Bear Paw Mtn. 86.93 11 *e*P **P** **14 54 29.0 +0.1**
comp=Z,194nm,0.9s,mb6.3
BPAW Bear Paw Mtn. 86.93 11 *e*P **P** **14 54 29.0 +0.1**
comp=Z,194nm,0.9s,mb6.3
ILAR Eielson Array 86.97 10 P **P** **14 54 28.1 -1.0**
comp=Z,23nm,0.8s,mb5.5,baz=324,slow=3.4,SNR=202
ILAR PP PP 14 57 55.5 +3.9
comp=Z,2.9nm,1.0s,baz=336,slow=7.8,SNR=5.9
ILAR PKKPbc PKKPbc 15 12 22.1 -0.9
comp=Z,1.0nm,0.7s,baz=193,slow=2.1,SNR=9.2
ILAR LR LR 15 35 23.4
comp=Z,264nm,21.8s,MS4.6,baz=140,slow=37
ILAR Eielson Array 86.97 10 P **P** **14 54 28.1 -1.0**
ILAR PP PP 14 57 55.5 +3.9
ILAR PKKPbc PKKPbc 15 12 22.1 -0.9
ILAR Eielson Array 86.97 10 P **P** **14 54 28.2 -0.9**
ILAR 14 57 55.6
ILAR pmax pmax
comp=Z,23nm,0.8s
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR MLR MLR
comp=Z,264nm,21.8s
ILAR Eielson Array 86.97 10 P **P** **14 54 28.1 -1.0**
ILAR Eielson Array 86.97 10 PP PP 14 57 55.5 +3.9
MCK McKinley 87.63 11 *e*P **P** **14 54 31.8 -0.5**
comp=Z,131nm,1.1s,mb6.1
MCK McKinley 87.63 11 *e*P **P** **14 54 31.8 -0.5**
MCK pmax pmax
comp=Z,131nm,1.1s,mb6.1
MCK McKinley 87.63 11 *e*P **P** **14 54 31.8 -0.5**
comp=Z,131nm,1.1s,mb6.1
TRF Thorofare Moun 87.65 11 *e*P **P** **14 54 32.0 -0.5**
comp=Z,50nm,0.8s,mb5.8
TRF Thorofare Moun 87.65 11 *e*P **P** **14 54 32.0 -0.4**
comp=Z,50nm,0.8s,mb5.8
EGAK Eagle 87.72 7 *e*P **P** **14 54 32.2 -0.5**
comp=Z,119nm,1.1s,mb6.0
EGAK LR LR
comp=Z,245nm,19.0s,MS4.6
EGAK Eagle 87.72 7 *e*P **P** **14 54 32.2 -0.5**
comp=Z,119nm,1.1s,mb6.0
PPLA Purkeypile 87.81 12 *e*P **P** **14 54 33.0 -0.2**
comp=Z,68nm,1.1s,mb5.8
PPLA Purkeypile 87.81 12 *e*P **P** **14 54 33.0 -0.2**
comp=Z,68nm,1.1s,mb5.8
DOT Dot Lake 88.44 9 *e*P **P** **14 54 36.2 0.0**
comp=Z,20nm,1.2s,mb5.2
DOT Dot Lake 88.44 9 *e*P **P** **14 54 36.2 0.0**
comp=Z,20nm,1.2s,mb5.2
DAWY Dawson 88.60 7 *e*P **P** **14 54 36.6 -0.3**
DAWY Dawson 88.60 7 *e*P **P** **14 54 36.6 -0.3**
PAX Paxson 88.89 10 *e*P **P** **14 54 38.7 +0.4**
comp=Z,14nm,1.0s,mb5.2
PAX Paxson 88.89 10 *e*P **P** **14 54 38.7 +0.4**
PAX pmax pmax
comp=Z,14nm,1.0s,mb5.2
PAX Paxson 88.89 10 *e*P **P** **14 54 38.7 +0.4**
comp=Z,14nm,1.0s,mb5.2
WRA Warramunga Arr 89.11 113 P **P** **14 54 40.1 +0.1**
comp=Z,13nm,0.9s,mb5.3,baz=314,slow=4.1,SNR=68
WRA Warramunga Arr 89.11 113 P **P** **14 54 40.1 +0.1**
WRA Warramunga Arr 89.11 113 P **P** **14 54 40.2 +0.2**
WRA pmax pmax
comp=Z,13nm,0.9s
WRA Warramunga Arr 89.11 113 P **P** **14 54 40.2 +0.2**
WRAB Tennant Creek 89.11 113 *e*P **P** **14 54 39.6 -0.5**
comp=Z,40nm,1.1s,mb5.7
WRAB LR LR
comp=Z,309nm,20.0s,MS4.7
WRAB Tennant Creek 89.11 113 P **P** **14 54 40.0 -0.1**
comp=Z,165nm,1.2s,mb6.2,SNR=15
WRAB Tennant Creek 89.11 113 *e*P **P** **14 54 39.6 -0.5**
WRAB pmax pmax
comp=Z,40nm,1.1s,mb5.7
WRAB MLR MLR
comp=Z,309nm,20.0s,MS4.7
WRAB Tennant Creek 89.11 113 *e*P **P** **14 54 39.6 -0.5**
comp=Z,40nm,1.1s,mb5.7
WB2 Warramunga Arr 89.12 113 *e*P **P** **14 54 39.7 -0.3**
WB2 Warramunga Arr 89.12 113 *e*P **P** **14 54 39.7 -0.4**
MENT Mentasta 89.17 9 *e*P **P** **14 54 40.4 +0.8**
MENT Mentasta 89.17 9 *e*P **P** **14 54 40.4 +0.8**
SML Sawmill 89.52 11 *e*P **P** **14 54 40.5 -0.8**
comp=Z,12nm,1.0s,mb5.2
SML Sawmill 89.52 11 *e*P **P** **14 54 40.5 -0.8**
SML pmax pmax
comp=Z,11nm,1.0s,mb5.1
SML Sawmill 89.52 11 *e*P **P** **14 54 40.5 -0.8**
comp=Z,12nm,1.0s,mb5.2
PMR Palmer 89.58 12 *e*P **P** **14 54 41.5 -0.1**
comp=Z,63nm,1.3s,mb5.8
PMR Palmer 89.58 12 *e*P **P** **14 54 41.5 -0.1**
PMR pmax pmax
comp=Z,63nm,1.3s,mb5.8
PMR Palmer 89.58 12 *e*P **P** **14 54 41.5 -0.1**
comp=Z,63nm,1.3s,mb5.8
FORT Forrest 89.64 125 *e*P **P** **14 54 43.4 +1.1**
comp=Z,34nm,0.9s,mb5.7
SLKM Skilak Lake 90.38 13 *e*P **P** **14 54 45.1 -0.3**
SLKM Skilak Lake 90.38 13 *e*P **P** **14 54 45.1 -0.2**
SLKM Skilak Lake 90.38 13 *e*P **P** **14 54 45.1 -0.2**
AS31 Alice Springs 90.55 116 *e*P **P** **14 54 46.4 -0.3**
AS31 Alice Springs 90.55 116 *e*P **P** **14 54 46.4 -0.3**
ASAR Alice Springs 90.55 116 P **P** **14 54 46.6 -0.1**
comp=Z,8.5nm,0.9s,mb5.1,baz=306,slow=4.9,SNR=95
ASAR Alice Springs 90.55 116 P **P** **14 54 46.6 -0.1**
ASAR Alice Springs 90.55 116 P **P** **14 54 46.6 -0.1**
ASAR pmax pmax
comp=Z,9.0nm,0.9s
ASAR Alice Springs 90.55 116 P **P** **14 54 46.6 -0.1**
DIV Divide 90.59 10 *e*P **P** **14 54 46.8 +0.5**
comp=Z,14nm,0.7s,mb5.4

DIV	Divide	90.59	10	eP	P	14 54 46.8	+0.5
	comp=Z,14nm,0.7s,mb5.4						
YKA	Yellowknife Ar	90.64	356	P	P	14 54 47.0	+0.5
	comp=Z,8.9nm,0.9s,mb5.1,baz=6.1,slow=5.2,SNR=47						
YKA				PP	PP	14 58 20.7	-0.2
	comp=Z,0.6nm,0.6s,baz=5.2,slow=7.2,SNR=4.2						
YKA				LR	LR	15 40 42.6	
	comp=Z,17nm,18.3s,MS3.5,baz=220,slow=39						
YKA	Yellowknife Ar	90.64	356	P	P	14 54 47.0	+0.5
YKA				PP	PP	14 58 20.8	-0.2
YKA	Yellowknife Ar	90.64	356	P	P	14 54 47.0	+0.5
YKA						14 58 20.7	
YKA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	90.64	356	P	P	14 54 47.0	+0.5
YKA	Yellowknife Ar	90.64	356	PP	PP	14 58 20.8	-0.1
SEW	Seward	90.91	12	eP	P	14 54 48.0	+0.2
	comp=Z,38nm,0.9s,mb5.7						
SEW	Seward	90.91	12	eP	P	14 54 48.0	+0.2
	comp=Z,38nm,0.9s,mb5.7						
BMRM	Bremner River	90.92	10	eP	P	14 54 48.2	+0.4
	comp=Z,42nm,1.0s,mb5.7						
BMRM	Bremner River	90.92	10	eP	P	14 54 48.2	+0.4
	comp=Z,42nm,1.0s,mb5.7						
KDAK	Kodiak Island	92.38	15	P	P	14 54 53.3	-1.4
	comp=Z,31nm,0.9s,mb5.7,baz=18,slow=7.1,SNR=8.8						
KDAK	Kodiak Island	92.38	15	eP	P	14 54 53.0	-1.6
	comp=Z,43nm,1.0s,mb5.7						
KDAK	Kodiak Island	92.38	15	eP	P	14 54 53.0	-1.6
KDAK				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.7						
KDAK	Kodiak Island	92.38	15	eP	P	14 54 53.0	-1.6
	comp=Z,42nm,1.0s,mb5.7						
COEN	Coen	93.84	104	eP	P	14 55 02.4	+0.3
	comp=Z,21nm,0.9s,mb5.6						
MAW	Mawson	94.31	177	P	P	14 55 03.4	+0.4
	comp=Z,3.7nm,0.8s,mb4.9,baz=279,slow=6.5,SNR=3.6						
MAW				LR	LR	15 31 55.2	
	comp=Z,252nm,18.6s,MS4.7,baz=71,slow=32						
MAW	Mawson	94.31	177	P	P	14 55 03.4	+0.4
MAW	Mawson	94.31	177	P	P	14 55 03.4	+0.4
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAW	Mawson	94.31	177	P	P	14 55 03.4	+0.4
DLBC	Dease Lake	94.90	3	P	P	14 55 07.5	+1.3
	comp=Z,14nm,1.1s,mb5.3,baz=329,slow=6.4,SNR=16						
DLBC	Dease Lake	94.90	3	eP	P	14 55 07.2	+1.0
DLBC	Dease Lake	94.90	3	eP	P	14 55 07.2	+1.0
PMG	Port Moresby	95.33	98	P	P	14 55 09.2	+0.2
	comp=Z,6.4nm,0.8s,mb5.1,baz=268,slow=12,SNR=4.5						
PMG	Port Moresby	95.33	98	P	P	14 55 09.2	+0.2
PMG				LR	LR		
	comp=Z,280nm,20.0s,MS4.7						
PMG	Port Moresby	95.33	98	P	P	14 55 09.2	+0.2
PMG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PMG	Port Moresby	95.33	98	P	P	14 55 09.2	+0.2
SYO	Syowa Base	96.32	186¶	eP	P	14 55 12.6	+0.5
FFC	Flin Flon	96.55	347	eP	P	14 55 13.7	-0.1
	comp=Z,13nm,1.4s,mb5.2						
FFC				LR	LR		
	comp=Z,293nm,19.0s,MS4.8						
FFC	Flin Flon	96.55	347	eP	P	14 55 13.7	-0.1
FFC				pmax	pmax		
	comp=Z,13nm,1.4s,mb5.2						
FFC				MLR	MLR		
	comp=Z,293nm,19.0s,MS4.8						
FFC	Flin Flon	96.55	347	eP	P	14 55 13.7	-0.1
	comp=Z,13nm,1.4s,mb5.2						
BBOO	Buckleboo	96.56	123	eP	P	14 55 14.2	+0.1
	comp=Z,29nm,0.6s,mb5.9						
CTA	Charters Tower	99.16	108	P	P	14 55 25.6	-0.5
	comp=Z,3.6nm,1.0s,mb4.9,baz=263,slow=8.1,SNR=3.0						
CTA	Charters Tower	99.16	108	P	P	14 55 25.6	-0.5
CTA	Charters Tower	99.16	108	P	P	14 55 25.6	-0.5
CTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CTA	Charters Tower	99.16	108	P	P	14 55 25.6	-0.5
CTAO	Charters Tower	99.16	108	PFAKE		14 55 40.0	+14
CTAO				LR	LR		
	comp=Z,230nm,20.0s,MS4.7						
ULM	Lac du Bonnet	99.25	342	LR	LR	15 41 11.3	
	comp=Z,236nm,21.1s,MS4.7,baz=25,slow=36						
ERPA	Erie	100.18	328	PFAKE		14 55 40.0	+10
ERPA				LR	LR		
	comp=Z,710nm,21.0s,MS5.2						
STKA	Stephens Creek	100.34	120	P	Pdif	14 55 31.4	+0.4
	comp=Z,3.0nm,1.0s,baz=297,slow=2.3,SNR=3.4						
STKA	Stephens Creek	100.34	120	P	Pdif	14 55 31.4	+0.4
STKA	Stephens Creek	100.34	120	P	Pdif	14 55 31.4	+0.4
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	Stephens Creek	100.34	120	P	Pdif	14 55 31.4	+0.4
AGMN	Agassiz Nation	101.01	341	PFAKE		14 55 40.0	+6.1
AGMN				LR	LR		
	comp=Z,256nm,22.0s,MS4.7						
CASY	Casey	101.65	160	PFAKE		14 55 50.0	+13
CASY				LR	LR		
	comp=Z,362nm,20.0s,MS4.9						
AAM	Ann Arbor	101.70	331	PFAKE		14 55 50.0	+13
AAM				LR	LR		
	comp=Z,395nm,22.0s,MS4.9						
DGMT	Dagmar	102.92	347	PFAKE		14 55 50.0	+7.6
DGMT				LR	LR		
	comp=Z,256nm,22.0s,MS4.7						
BLA	Blacksburg	104.18	325	PFAKE		14 56 00.0	+12
BLA				LR	LR		
	comp=Z,279nm,19.0s,MS4.8						
CNNC	Cliffs of the	104.34	322	PFAKE		14 56 00.0	+11
CNNC				LR	LR		
	comp=Z,162nm,20.0s,MS4.6						
EGMT	Eagleton	104.36	350	PFAKE		14 56 00.0	+11
EGMT				LR	LR		
	comp=Z,207nm,20.0s,MS4.7						
NEW	Newport	104.97	355	PFAKE		14 56 00.0	+8.5
NEW				LR	LR		
	comp=Z,278nm,20.0s,MS4.8						
ANWB	Willy Bob	105.05	299	PFAKE		15 00 20.0	+13
ANWB				LR	LR		
	comp=Z,156nm,19.0s,MS4.6						
ECSD	EROS Data Cent	105.36	340	PFAKE		15 00 20.0	+13
ECSD				LR	LR		
	comp=Z,293nm,19.0s,MS4.8						
MSO	Missoula	106.09	353	PFAKE		15 00 20.0	+12
MSO				LR	LR		
	comp=Z,152nm,20.0s,MS4.5						
FDF	Fort de France	106.20	296	PFAKE		15 00 20.0	+11
FDF				LR	LR		
	comp=Z,147nm,19.0s,MS4.5						
HNR	Honiara	106.72	92	PFAKE		15 00 20.0	+10
HNR				LR	LR		
	comp=Z,616nm,22.0s,MS5.1						
BOZ	Bozeman (W)	106.96	351	PFAKE		15 00 20.0	+10
BOZ				LR	LR		
	comp=Z,197nm,20.0s,MS4.7						
HAWA	Hanford	106.99	357	PFAKE		15 00 20.0	+10
HAWA				LR	LR		
	comp=Z,293nm,19.0s,MS4.9						
RLMT	Red Lodge	107.10	349	PFAKE		15 00 20.0	+10
RLMT				LR	LR		
	comp=Z,447nm,21.0s,MS5.0						
NHSC	New Hope	107.19	322	PFAKE		15 00 20.0	+9.2
NHSC				LR	LR		
	comp=Z,196nm,19.0s,MS4.7						
CAN	Canberra	107.37	121	PFAKE		15 00 20.0	+9.1
CAN				LR	LR		
	comp=Z,236nm,19.0s,MS4.8						
LKWY	Lake	107.83	350	PFAKE		15 00 20.0	+8.3
LKWY				LR	LR		
	comp=Z,394nm,21.0s,MS5.0						
SJG	San Juan	108.15	302	PFAKE		15 00 20.0	+7.1
SJG				LR	LR		
	comp=Z,78nm,19.0s,MS4.3						
BMO	Blue Mountains	108.37	355	PFAKE		15 00 20.0	+7.3
BMO				LR	LR		
	comp=Z,239nm,22.0s,MS4.7						
GOGA	Godfrey	108.70	325	PFAKE		15 00 20.0	+6.4
GOGA				LR	LR		
	comp=Z,185nm,22.0s,MS4.6						
HLID	Hailey	109.37	353	PFAKE		15 00 30.0	+15
HLID				LR	LR		
	comp=Z,319nm,21.0s,MS4.9						
BW06	Boulder Array	109.44	349	PFAKE		15 00 30.0	+15
BW06				LR	LR		
	comp=Z,274nm,20.0s,MS4.8						
PDAR	Pinedale Array	109.44	349	PKiKP	PKiKP	15 00 13.6	-1.1
	comp=Z,0.7nm,0.8s,baz=63,slow=4.4,SNR=5.0						
PDAR				PKKP	PKKPbc	15 11 31.6	+11
	comp=Z,0.9nm,0.6s,baz=167,slow=5.9,SNR=8.5						
PDAR	Pinedale Array	109.44	349	PKiKP	PKiKP	15 00 13.6	-1.1
PDAR				PKKP	PKKPbc	15 11 31.6	+11
PDAR	Pinedale Array	109.44	349	PKiKP	PKiKP	15 00 13.6	-1.1
KSU1	Kansas State U	109.53	338	PFAKE		15 00 30.0	+15
KSU1				LR	LR		
	comp=Z,393nm,21.0s,MS5.0						
PLAL	Pickwick Lake	109.67	329	PFAKE		15 00 30.0	+15
PLAL				LR	LR		
	comp=Z,335nm,21.0s,MS4.9						
AHID	Auburn Hatcher	109.70	350	PFAKE		15 00 30.0	+15
AHID				LR	LR		
	comp=Z,332nm,19.0s,MS4.9						
OXF	Oxford	110.67	330	PFAKE		15 00 30.0	+13
OXF				LR	LR		
	comp=Z,232nm,20.0s,MS4.8						
CBKS	Cedar Bluff	110.81	340	PFAKE		15 00 30.0	+13
CBKS				LR	LR		
	comp=Z,247nm,19.0s,MS4.8						
WVOR	Wild Horse Val	110.88	356	PFAKE		15 00 30.0	+13
WVOR				LR	LR		
	comp=Z,423nm,22.0s,MS5.0						
HWUT	Hardware Ranch	110.90	350	PFAKE		15 00 30.0	+12
HWUT				LR	LR		
	comp=Z,253nm,20.0s,MS4.8						
SDDR	Presa de Saban	111.42	306	PFAKE		15 00 30.0	+11
SDDR				LR	LR		
	comp=Z,113nm,20.0s,MS4.5						
ISCO	Idaho Springs	111.48	345	PFAKE		15 00 30.0	+11
ISCO				LR	LR		
	comp=Z,250nm,19.0s,MS4.8						
MIAR	Mount Ida	112.42	333	PFAKE		15 00 30.0	+9.4
MIAR				LR	LR		
	comp=Z,317nm,19.0s,MS4.9						
BRAL	Brewton	112.43	326	PFAKE		15 00 30.0	+9.3
BRAL				LR	LR		
	comp=Z,216nm,19.0s,MS4.8						
DUG	Dugway	112.47	351	PFAKE		15 00 30.0	+9.5
DUG				LR	LR		
	comp=Z,226nm,19.0s,MS4.8						
BMN	Battle Mountai	112.75	354	PFAKE		15 00 30.0	+8.9
BMN				LR	LR		
	comp=Z,192nm,20.0s,MS4.7						
VBMS	Vicksburg	113.09	329	PFAKE		15 00 30.0	+8.0
VBMS				LR	LR		
	comp=Z,339nm,19.0s,MS5.0						
TMUT	Trail Mountain	113.10	349	ePKiKP	PKiKP	15 00 21.0	-0.7
TMUT	Trail Mountain	113.10	349	ePKiKP	PKiKP	15 00 21.0	-0.8
SDCO	Great Sand Dun	113.41	344	PFAKE		15 00 30.0	+7.6
SDCO				LR	LR		
	comp=Z,239nm,21.0s,MS4.8						
MVU	Marysvale	114.04	350	PFAKE		15 00 40.0	+16
MVU				LR	LR		
	comp=Z,262nm,19.0s,MS4.8						
WMOK	Wichita Mounta	114.21	337	PFAKE		15 00 40.0	+16
WMOK				LR	LR		
	comp=Z,340nm,22.0s,MS4.9						
MVCO	Mesa Verde	114.60	346	PFAKE		15 00 40.0	+15
MVCO				LR	LR		
	comp=Z,228nm,20.0s,MS4.8						
NVAR	Mina Array Bea	114.83	355	PKP	PKiKP	15 00 26.5	+1.4
	comp=Z,1.8nm,0.8s,baz=337,slow=0.2,SNR=14						
NVAR	Mina Array Bea	114.83	355	PKP	PKiKP	15 00 26.5	+1.4
AMTX	Amarillo	115.03	340	PFAKE		15 00 40.0	+14
AMTX				LR	LR		
	comp=Z,256nm,19.0s,MS4.8						
TPH	Tonopah	115.09	354	PFAKE		15 00 40.0	+14
TPH				LR	LR		
	comp=Z,287nm,22.0s,MS4.8						
NATX	Nacogdoches	115.29	332	PFAKE		15 00 40.0	+14
NATX				LR	LR		
	comp=Z,300nm,20.0s,MS4.9						
ANMO	Albuquerque	116.30	344	PFAKE		15 00 40.0	+12
ANMO				LR	LR		
	comp=Z,255nm,20.0s,MS4.8						
QSPA	South Pole Qui	116.69	180	ePKPdf	PKPdf	15 00 26.4	-0.9
QSPA				LR	LR		
	comp=Z,291nm,20.0s,MS4.9						
WUAZ	Wupatki	116.81	348	PFAKE		15 00 40.0	+11
WUAZ				LR	LR		
	comp=Z,276nm,21.0s,MS4.8						
SDV	Santo Domingo	117.14	297	PFAKE		15 00 40.0	+10
SDV				LR	LR		
	comp=Z,72nm,19.0s,MS4.3						
JCT	Junction City	118.42	336	PFAKE		15 00 40.0	+7.7
JCT				LR	LR		
	comp=Z,255nm,21.0s,MS4.8						
MNTX	Cornudas Mount	119.09	342	ePKPdf	PKPdf	15 00 33.9	+0.4
MNTX				LR	LR		
	comp=Z,268nm,21.0s,MS4.8						
MNTX	Cornudas Mount	119.09	342	ePKIKP	PKPdf	15 00 33.9	+0.4
PFO	Pinyon Flat Ob	119.43	353	PFAKE		15 00 50.0	+16
PFO				LR	LR		
	comp=Z,171nm,19.0s,MS4.7						
VNDA	Vanda	119.47	166	PFAKE		15 00 40.0	+7.2
VNDA				LR	LR		
	comp=Z,206nm,19.0s,MS4.8						
TUC	Tucson	119.81	347	ePKPdf	PKPdf	15 00 35.8	+0.9
TUC				LR	LR		
	comp=Z,156nm,20.0s,MS4.6						
TUC	Tucson	119.81	347	ePKIKP	PKPdf	15 00 35.8	+0.9
TUC				MLR	MLR		
	comp=Z,156nm,20.0s,MS4.6						
TUC	Tucson	119.81	347	ePKIKP	PKPdf	15 00 35.8	+0.9
KVTX	Kingsville	120.32	333	PFAKE		15 00 50.0	+14
KVTX				LR	LR		
	comp=Z,380nm,19.0s,MS5.0						
TXAR	Lajitas Array	120.79	339	PKP	PKPdf	15 00 37.1	+0.3
	comp=Z,4.1nm,1.0s,baz=150,slow=0.6,SNR=26						
TXAR	Lajitas Array	120.79	339	PKP	PKPdf	15 00 37.1	+0.3
TXAR	Lajitas Array	120.79	339	PKIKP	PKPdf	15 00 37.1	+0.3
TXAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TXAR	Lajitas Array	120.79	339	PKIKP	PKPdf	15 00 37.1	+0.3
TEIG	Tepich	121.70	320	PFAKE		15 00 50.0	+11
TEIG				LR	LR		
	comp=Z,180nm,19.0s,MS4.7						
BCIP	Isla Barro Col	124.07	304	PFAKE		15 00 50.0	+6.5
BCIP				LR	LR		
	comp=Z,257nm,19.0s,MS4.9						
JTS	JuntasAbangare	126.99	309	PFAKE		15 01 00.0	+11
JTS				LR	LR		
	comp=Z,105nm,20.0s,MS4.5						
LPAZ	La Paz	127.22	269	PKP	PKPdf	15 00 50.8	+1.4
	comp=Z,1.8nm,0.8s,baz=19,slow=6.9,SNR=7.5						
LPAZ	La Paz	127.22	269	PKP	PKPdf	15 00 50.8	+1.4
LPAZ				LR	LR		
	comp=Z,170nm,21.0s,MS4.7						
LPAZ	La Paz	127.22	269	PKIKP	PKPdf	15 00 50.8	+1.5
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	La Paz	127.22	269	PKIKP	PKPdf	15 00 50.8	+1.5
TRQA	Tornquist	127.24	241	ePKPdf	PKPdf	15 00 49.7	+0.9
TRQA				LR	LR		
	comp=Z,278nm,20.0s,MS4.9						
TRQA	Tornquist	127.24	241	ePKIKP	PKPdf	15 00 49.7	+0.9
KHZ	Kahutara	127.53	124	ePKPdf	PKPdf	15 00 49.4	+0.2
KHZ	Kahutara	127.53	124	ePKIKP	PKPdf	15 00 49.4	+0.2
OTAV	Otavalo	128.48	294	ePKPdf	PKPdf	15 00 54.1	+2.1
OTAV				LR	LR		
	comp=Z,181nm,22.0s,MS4.7						
OTAV	Otavalo	128.48	294	ePKIKP	PKPdf	15 00 54.1	+2.2
LCO	Las Campanas	133.07	254	PFAKE		15 01 10.0	+10
LCO				LR	LR		
	comp=Z,235nm,19.0s,MS4.9						
NNA	Nana	133.28	279	PFAKE		15 01 10.0	+9.1
NNA				LR	LR		
	comp=Z,157nm,19.0s,MS4.7						
PLCA	Paso Flores	134.03	238	PKP	PKPdf	15 01 02.9	+1.3
	comp=Z,5.2nm,1.1s,baz=68,slow=3.0,SNR=6.2						
PLCA	Paso Flores	134.03	238	PKP	PKPdf	15 01 02.9	+1.3
PLCA	Paso Flores	134.03	238	PKIKP	PKPdf	15 01 02.9	+1.3
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PLCA	Paso Flores	134.03	238	PKIKP	PKPdf	15 01 02.8	+1.2

*IDC **08** 14:53:50.8±0.9, 51°.70N×176°.90E, h0km, mb3.4/8, mb1 3.8/11, mb1mx3.6/29, mbtmp3.6/11, ML3.8/3, Error ellipse: s-maj=23.2km s-min=12.4km az=11.0*

*ISCJB **08** 14:53:55.2±0.8, 51°.8N±0°.1×176°.80E±0°.06, h44km±8km, mb3.5/8, Error ellipse: s-maj=21.4km s-min=4.6km az=10.1.*

*NEIC **08** 14:53:56.5±0.5, 51°.88N×176°.77E, h38km±6km, ML3.7(AEIC), Error ellipse: s-maj=14.1km s-min=4.4km az=187.0*

ISC 08 14:53:56.2±2.0, 51°.8N±0°.1×176°.76E±0°.05, h33km±16km, n33, σ0°87/40, mb3.5/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	1.87	300	P	Pn	14 54 25.3	-0.5
SMY				S	Sn	14 54 48.9	+0.7
FX1	Attu Island--F	2.45	297	Pn	Pn	14 54 33.0	-0.8
	90nm,0.3s,baz=194,slow=4.6,SNR=289						
FX1				Sn	Sn	14 55 03.3	+0.8
	108nm,0.3s,baz=81,slow=22,SNR=13						
FX1	Attu Island--F	2.45	297	Pn	Pn	14 54 33.0	-0.8
FX1				Sn	Sn	14 55 03.3	+0.8
GANE	Gareloi Northe	2.77	88	P	Pn	14 54 37.8	-0.4
GANE				S	Sn	14 55 08.5	-1.9
GAEA	Gareloi East	2.79	89	P	Pn	14 54 38.6	+0.1
TASE	Tanaga Southea	3.23	88	P	Pn	14 54 44.4	-0.1
TAFP	Tanaga Falls P	3.26	87	P	Pn	14 54 44.3	-0.7
TAFP				S	Sn	14 55 24.7	+2.1
TAFL	Tanaga Flats	3.32	89	P	Pn	14 54 45.7	0.0
KIMD	Kanaga Island	3.73	89	P	Pn	14 54 51.5	+0.1
ADK	Adak	4.07	87	P	Pn	14 54 55.9	0.0
ADK				S	Sn	14 55 44.3	+1.9
GSCK	Great Sitkin C	4.39	85	P	Pn	14 55 01.4	+1.0
GSMY	Great Sitkin M	4.45	84	P	Pn	14 55 02.0	+0.7
ATKA	Atka Island	5.60	83	P	Pn	14 55 17.2	+0.2
ATKA				S	Sn	14 56 19.7	-0.4
PETK	Petropavlovsk-	11.70	284	Pn	Pn	14 56 41.8	+1.2
	0.2nm,0.3s,baz=96,slow=15,SNR=3.4						
PETK	Petropavlovsk-	11.70	284	Pn	Pn	14 56 41.8	+1.2
KDAK	Kodiak Island	18.54	59	P	Pn	14 58 08.6	-1.5
	0.6nm,0.3s,baz=307,slow=8.1,SNR=5.1						
KDAK	Kodiak Island	18.54	59	P	Pn	14 58 08.6	-1.5
ILAR	Eielson Array	22.68	41	P	P	14 58 53.6	-0.8
	0.4nm,0.5s,mb3.1,baz=247,slow=7.3,SNR=9.8						
ILAR	Eielson Array	22.68	41	P	P	14 58 53.6	-0.8
YKA	Yellowknife Ar	36.92	46	P	P	15 01 01.8	+0.3
	0.6nm,0.4s,mb3.7,baz=278,slow=9.1,SNR=7.0						
YKA	Yellowknife Ar	36.92	46	P	P	15 01 01.8	+0.3
SONM	Songino Array	43.95	294	P	P	15 01 58.6	-1.1
	0.3nm,0.5s,mb3.3,baz=30,slow=12,SNR=3.1						
SONM	Songino Array	43.95	294	P	P	15 01 58.6	-1.1
PDAR	Pinedale Array	48.79	70	P	P	15 02 37.1	-0.6
	0.2nm,0.4s,mb3.5,baz=336,slow=4.2,SNR=3.7						
PDAR	Pinedale Array	48.79	70	P	P	15 02 37.1	-0.6
MKAR	Makanchi Array	57.56	306	P	P	15 03 41.9	-0.3
	0.3nm,0.8s,mb3.4,baz=56,slow=7.8,SNR=2.9						
MKAR	Makanchi Array	57.56	306	P	P	15 03 41.9	-0.3
BVAR	Borovoye Array	58.72	317	P	P	15 03 50.4	+0.2
	0.2nm,0.3s,mb3.6,baz=62,slow=6.2,SNR=2.8						
BVAR	Borovoye Array	58.72	317	P	P	15 03 50.4	+0.2
WRA	Warramunga Arr	80.49	220	P	P	15 06 04.0	-0.6
	0.6nm,0.9s,mb3.5,baz=32,slow=5.9,SNR=4.3						
WRA	Warramunga Arr	80.49	220	P	P	15 06 04.0	-0.6
ASAR	Alice Springs	84.02	219	P	P	15 06 23.4	+0.5
	0.5nm,0.8s,mb3.7,baz=24,slow=5.5,SNR=11						
ASAR	Alice Springs	84.02	219	P	P	15 06 23.4	+0.5

*ISK **08** 14:59:38.3, 39°.47N×40°.28E, h5km, MD3.5*

*DDA **08** 14:59:39.8, 39°.54N×40°.28E, h15km±2km, Ml3.5*

*ISCJB **08** 14:59:40.3±0.2, 39°.47N±0°.02×40°.28E±0°.02, h10km, Error ellipse: s-maj=2.8km s-min=2.5km az=155.3*

*CSEM **08** 14:59:40.0±0.1, 39°.48N×40°.29E, h2km, MD3.5, Error ellipse: s-maj=4.3km s-min=3.3km az=148.0*

ISC 08 14:59:40.8±0.2, 39°.48N±0°.02×40°.29E±0°.02, h10km, n78, σ1§24/111, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	Erzincan	0.45	284	ePG	Pg	14 59 47.6	-2.0
ERZN				eSG	Sg	14 59 55.8	+0.2
KOPT	Kop Dagi	0.56	17	iP	Pg	14 59 50.9	-0.8
KOPT	Kop Dagi	0.56	17	iP	Pg	14 59 50.9	-0.8
BNGB	Bing ¶‖	0.58	148	ePG	Pg	14 59 50.1	-1.4
BNGB				eSG	Sg	14 59 59.7	+0.1
BINT	Bingol	0.62	165	ePg	Pg	14 59 50.5	-2.4
BINT				eSg	Sg	14 59 59.7	-1.4
EZC	Erzincan	0.77	291	ePG	Pg	14 59 54.5	-1.2
EZC	Erzincan	0.77	291	ePg	Pg	14 59 54.5	-1.2
BNGL	BINGOL	0.85	128	iP	Pg	14 59 56.0	-1.3
BNGL				iS	Sg	15 00 09.0	+0.7
BNGL	BINGOL	0.85	128	iP	Pg	14 59 59.7	+2.5
PTK	Pertek	0.91	230	ePG	Pg	14 59 56.4	-1.9
PTK				eSG	Sg	15 00 10.2	0.0
PTK	Pertek	0.91	230	ePg	Pg	14 59 56.4	-2.0
PTK				eSg	Sg	15 00 10.2	0.0
BAYT	Ayd¯–ntepe-Bay	0.92	353	ePG	Pg	14 59 56.6	-1.9
BAYT	Ayd¯–ntepe-Bay	0.92	353	ePg	Pg	14 59 56.6	-1.9
EZM	Erzurum	0.93	63	ePG	Pg	14 59 57.5	-1.2
ERZM	Erzurum	0.93	63	iP	Pg	14 59 56.7	-2.1
ERZM				iS	Sg	15 00 09.7	-1.2
ERZM	Erzurum	0.93	63	iP	Pg	14 59 56.7	-2.1
ERZM				iS	Sg	15 00 09.7	-1.2
VRTB	Varto-Mus	0.96	109	ePG	Pg	14 59 57.7	-1.6
VRTB	Varto-Mus	0.96	109	ePg	Pg	14 59 57.7	-1.6
KELT	Kelkit	1.04	310	iP	Pg	14 59 58.2	-2.5
KELT	Kelkit	1.04	310	iP	Pg	14 59 58.2	-2.6
GUMT	Gumushane	1.16	328	ePN	Pn	15 00 01.2	-1.9
SVRC	Sivrice-ELAZID	1.34	215	ePN	Pn	15 00 05.0	-0.5
SVRC	Sivrice-ELAZID	1.34	215	ePn	Pn	15 00 05.0	-0.6
HOMI	Horasan	1.37	65	iP	Pn	15 00 05.8	-0.1
HOMI				iS	Sb	15 00 25.2	+1.1
KEMA	Kemaliye	1.41	262	iP	Pn	15 00 06.2	-0.3
KEMA				iS	Sn	15 00 27.9	+2.8
KEMA	Kemaliye	1.41	262	iP	Pn	15 00 06.2	-0.3
KEMA				iS	Sn	15 00

AKCD	**Akcadag**	**2.19 238**	*i* P	**Pn**	**15 00 19.2 +1.9**
AKCD			*i* S	**Sn**	**15 00 49.3 +4.8**
AKCD	**Akcadag**	**2.19 238**	*i* P	**Pn**	**15 00 19.2 +1.9**
AKCD			*i* S	**Sn**	**15 00 49.3 +4.8**
MARD	**Mardin**	**2.20 170**	*i* P	**Pn**	**15 00 17.5 +0.2**
MARD			*i* S	**Sn**	**15 00 43.6 -1.0**
URFA	**Urfa**	**2.34 210**	*e*PN	**Pn**	**15 00 18.9 -0.4**
URFA	**Urfa**	**2.34 210**	*e*Pn	**Pn**	**15 00 19.0 -0.3**
RSDY	**Resadiye-TOKAT**	**2.45 293**	*e*PN	**Pn**	**15 00 21.6 +0.8**
RSDY	**Resadiye-TOKAT**	**2.45 293**	*e*Pn	**Pn**	**15 00 21.6 +0.7**
GEVA	**Gevas**	**2.46 117**	*i* P	**Pn**	**15 00 22.6 +1.7**
GEVA			*i* S	**Sn**	**15 00 58.6 +7.6**
GEVA	**Gevas**	**2.46 117**	*i* P	**Pn**	**15 00 22.6 +1.7**
SIRN	**S¨–rnak**	**2.59 139**	*i* P	**Pn**	**15 00 23.6 +0.9**
SIRN			*i* S	**Sn**	**15 00 59.8 +5.5**
SIRN	**S¨–rnak**	**2.59 139**	*i* P	**Pn**	**15 00 23.6 +0.9**
CLDR	**Caldiran**	**2.84 96**	*e*PN	**Pn**	**15 00 26.6 +0.5**
CLDR	**Caldiran**	**2.84 96**	*e*Pn	**Pn**	**15 00 26.6 +0.5**
SARI	**SarD1z-Kayseri**	**2.91 255**	*e*PN	**Pn**	**15 00 31.8 +4.7**
KMRS	**Kahramanmaras**	**3.31 234**	*e*PN	**Pn**	**15 00 33.2 +0.6**
KMRS	**Kahramanmaras**	**3.31 234**	*e*Pn	**Pn**	**15 00 33.2 +0.6**
GNI	**Garni**	**3.49 78**	*e*PN	**Pn**	**15 00 36.7 +1.5**
GNI	**Garni**	**3.49 78**	*e*Pn	**Pn**	**15 00 36.7 +1.5**
BNN	**Bunyan**	**3.51 261**	*e*PN	**Pn**	**15 00 36.0 +0.6**
BNN	**Bunyan**	**3.51 261**	*e*Pn	**Pn**	**15 00 36.0 +0.6**
YOZ	**Yozgat**	**3.84 274**	*e*PN	**Pn**	**15 00 41.0 +1.0**
YOZ	**Yozgat**	**3.84 274**	*e*Pn	**Pn**	**15 00 41.0 +1.0**

*IDC **08** 15:04:13.0±3.8, 9°.67S×109°.18E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/18, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=174.0km s-min=18.3km az=49.0*
*ISCJB **08** 15:04:13.9±0.6, 10°.05S±0°.05×108°.90E±0°.05, h33km, mb3.7/8, Error ellipse: s-maj=7.6km s-min=6.8km az=8.4*
*DJA **08** 15:04:13, 10°.04S×108°.95E, h15km, MLv4.2/11*
*NEIC **08** 15:04:18.7±1.9, 9°.54S×109°.38E, h35km, mb4.0/2, Error ellipse: s-maj=94.7km s-min=10.4km az=47.0*

ISC 08 15:04:16.3±0.6, 10°.01S±0°.05×108°.94E±0°.06, h35km, n30, σ1.9 22/32, mb3.7/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**2.28**	**2**	S	**Sn**	**15 05 20.4**	**+2.1**
UGM	**Wanagama**	**2.61**	**37**	P	**Pn**	**15 04 55.4**	**-0.6**
UGM				S	**Sn**	**15 05 25.5**	**-1.0**
CISI	**Cisompet, Garu**	**2.68**	**336**	P	**Pn**	**15 04 54.5**	**-2.5**
BJII	**Banjamegara**	**2.77**	**16**	P	**Pn**	**15 04 57.2**	**-1.0**
PCJI	**Pacitan**	**2.86**	**51**	P	**Pn**	**15 04 57.6**	**-1.8**
XMIS	**Christmas Isla**	**3.27**	**262**	P	**Pn**	**15 05 02.6**	**-2.4**
SMRI	**Semarang**	**3.30**	**27**	P	**Pn**	**15 05 06.1**	**+0.6**
SMRI				S	**Sn**	**15 05 45.4**	**+1.9**
LEM	**Lembang**	**3.42**	**338**	P	**Pn**	**15 05 07.7**	**+0.5**
PWJI	**Pagerwojo**	**3.46**	**55**	P	**Pn**	**15 05 06.6**	**-1.0**
SJI	**Sawahan**	**3.60**	**51**	P	**Pn**	**15 05 09.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**5.37**	**74**	P	**Pn**	**15 05 33.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.08**	**118**	P	**Pn**	**15 08 23.8**	**-0.9**
	0.1nm,0.3s,baz=300,slow=12,SNR=4.7						
FITZ	**Fitzroy Crossi**	**18.08**	**118**	*e*P	**Pn**	**15 08 23.5**	**-1.3**
WRA	**Warramunga Arr**	**26.41**	**115**	P	**P**	**15 09 50.6**	**+0.8**
	0.4nm,0.5s,mb3.2,baz=288,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**26.41**	**115**	P	**P**	**15 09 50.6**	**+0.8**
WRAB	**Tennant Creek**	**26.42**	**115**	*e*P	**P**	**15 09 50.5**	**+0.6**
	1.1nm,0.6s,mb3.6						
WB2	**Warramunga Arr**	**26.43**	**115**	*e*P	**P**	**15 09 50.1**	**+0.1**
AS31	**Alice Springs**	**27.42**	**123**	*e*P	**P**	**15 10 02.3**	**+3.4**
ASAR	**Alice Springs**	**27.42**	**123**	P	**P**	**15 10 01.1**	**+2.3**
	0.3nm,0.5s,mb3.1,baz=299,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**27.42**	**123**	P	**P**	**15 10 01.1**	**+2.3**
CMAR	**Chiang Mai Arr**	**29.96**	**341**	P	**P**	**15 10 20.9**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=176,slow=8.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**29.96**	**341**	P	**P**	**15 10 20.9**	**-0.5**
SONM	**Songino Array**	**57.63**	**358**	P	**P**	**15 14 03.0**	**+0.2**
	0.6nm,0.6s,mb3.8,baz=177,slow=7.5,SNR=6.1						
SONM	**Songino Array**	**57.63**	**358**	P	**P**	**15 14 03.0**	**+0.2**
MK31	**Makanchi Array**	**61.36**	**339**	*e*P	**P**	**15 14 29.2**	**+0.7**
MKAR	**Makanchi Array**	**61.36**	**339**	P	**P**	**15 14 28.4**	**-0.1**
	0.9nm,0.6s,mb4.1,baz=148,slow=6.9,SNR=17						
MKAR	**Makanchi Array**	**61.36**	**339**	P	**P**	**15 14 28.4**	**-0.1**
ZALV	**Zalesovo Beam**	**66.92**	**345**	P	**P**	**15 15 06.3**	**+1.5**
	0.5nm,0.5s,mb3.8,baz=132,slow=4.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**66.92**	**345**	P	**P**	**15 15 06.3**	**+1.5**
ABKAR	**Akbulak array**	**72.97**	**329**	*e*P	**P**	**15 15 42.2**	**+0.1**
	2.2nm,0.6s,mb4.3						

DJA 08 15:32:00.0±0.59S×100°.61E, h15km, MLv3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.25**	**302**	P	Pg	15 32 06.6	+1.1
PPI				S	Sg	15 32 12.4	+3.2
PDSI	**Padang**	**0.35**	**205**	P	Pg	15 32 08.2	+0.9
PDSI				S	Sg	15 32 14.6	+2.5
BKNI	**Bangkinang**	**1.01**	**25**	P	Pb	15 32 17.3	-1.9
BKNI				S	Sb	15 32 32.4	+0.2
RGRI	**Rengat**	**1.74**	**82**	P	Pn	15 32 30.4	+0.7
RGRI				S	Sn	15 32 52.0	+0.4

*NEIC **08** 15:46:37.3±1.1, 16°.79S×71°.62W, h81km±10km, mb4.3/3, Error ellipse: s-maj=15.3km s-min=10.6km az=56.0*
NEIC Felt [IV] at Mollendo and Punta de Bombon; [III] at Arequipa.
*ISCJB **08** 15:46:38.7±1.2, 16°.82S±0°.09×71°.48W±0°.10, h110km±12km, mb4.0/10, Error ellipse: s-maj=19.0km s-min=10.1km az=135.1*
*IDC **08** 15:46:39.4±2.1, 16°.74S×71°.39W, h96km±18km, mb3.8/9, mb1 4.0/11, mb1mx3.9/19, mbtmp3.8/11, MS3.6/3, Ms1 3.6/3, ms1mx3.0/28, Error ellipse: s-maj=24.2km s-min=14.3km az=38.0*

ISC 08 15:46:39.8±1.1, 16°.85S±0°.09×71°.47W±0°.10, h104km±11km, n43, σ0.985/27, mb4.0/10, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.25**	**81**	P	**Pn**	**15 47 29.7**	**+0.7**
	33nm,0.3s,baz=264,slow=7.5,SNR=492						
LPAZ	**La Paz**	**3.25**	**81**	*e*Pn	**Pn**	**15 47 29.8**	**+0.8**
NNA	**Nana**	**7.10**	**312**	P	**Pn**	**15 48 18.6**	**-2.5**
	3.5nm,0.3s,baz=152,slow=9.1,SNR=35						
NNA				S	**Sn**	**15 49 41.1**	**+0.8**
	3.5nm,0.3s,baz=34,slow=23,SNR=6.8						
NNA	**Nana**	**7.10**	**312**	*e*Pn	**Pn**	**15 48 15.7**	**-5.4**
	54nm,0.8s						
NNA				S	**Sn**	**15 49 41.1**	**+0.8**
CFAA	**Coronel Fontan**	**14.98**	**169**	P	**Pn**	**15 50 05.0**	**-1.1**
	0.0nm,0.3s,baz=344,slow=10,SNR=5.9						
CFAA	**Coronel Fontan**	**14.98**	**169**	P	**Pn**	**15 50 05.0**	**-1.1**
TRQA	**Tornquist**	**22.72**	**160**	*e*P	**P**	**15 51 39.5**	**+6.4**
	13nm,1.2s,mb4.1						
PLCA	**Paso Flores**	**23.82**	**178**	P	**P**	**15 51 44.0**	**+0.9**
	1.6nm,0.8s,mb3.4,baz=355,slow=9.5,SNR=5.2						
PLCA	**Paso Flores**	**23.82**	**178**	*e*P	**P**	**15 51 44.0**	**+0.9**
	10nm,1.0s,mb4.1						
RCBR	**Riachuelo**	**36.48**	**77**	LR	LR	16 08 09.7	
	comp=Z,50nm,18.3s,baz=276,slow=36						
TXAR	**Lajitas Array**	**55.44**	**326**	P	**P**	**15 56 03.9**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=147,slow=8.4,SNR=9.1						
TXAR	**Lajitas Array**	**55.44**	**326**	P	**P**	**15 56 03.9**	**+0.1**
SNAA	**Sanae**	**67.44**	**161**	P	**P**	**15 57 25.1**	**+1.1**
	0.4nm,0.7s,mb3.4,baz=306,slow=8.7,SNR=4.0						
SNAA	**Sanae**	**67.44**	**161**	P	**P**	**15 57 25.1**	**+1.1**
PDAR	**Pinedale Array**	**68.89**	**331**	P	**P**	**15 57 33.5**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=121,slow=5.7,SNR=4.5						
PDAR	**Pinedale Array**	**68.89**	**331**	P	**P**	**15 57 33.5**	**+0.2**
DBIC	**Dimbokro**	**69.86**	**76**	P	**P**	**15 57 38.5**	**-1.4**
	2.6nm,0.7s,mb4.2,baz=154,slow=3.5,SNR=7.5						
DBIC	**Dimbokro**	**69.86**	**76**	*e*P	**P**	**15 57 38.8**	**-1.1**
	5.3nm,1.0s,mb4.3						
ULM	**Lac du Bonnet**	**70.18**	**344**	P	**P**	**15 57 40.4**	**-0.7**
	3.3nm,0.5s,mb4.4,baz=155,slow=7.2,SNR=6.5						
ULM	**Lac du Bonnet**	**70.18**	**344**	P	**P**	**15 57 40.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**78.16**	**72**	P	**P**	**15 58 28.0**	**-0.3**
	2.6nm,0.7s,mb4.1,baz=250,slow=5.0,SNR=23						
TORD	**Torodi Ar. Bea**	**78.16**	**72**	P	**P**	**15 58 28.0**	**-0.3**
SUR	**Sutherland**	**83.03**	**122**	LR	LR	16 33 46.8	
	comp=Z,51nm,18.0s,baz=99,slow=34						
ESDC	**Sonseca Array**	**84.28**	**46**	P	**P**	**15 59 00.4**	**+0.3**
	2.1nm,0.7s,mb4.1,baz=259,slow=4.6,SNR=13						
ESDC	**Sonseca Array**	**84.28**	**46**	P	**P**	**15 59 00.4**	**+0.3**
MSKU	**Masuku**	**84.81**	**90**	LR	LR	16 36 51.9	
	comp=Z,23nm,18.9s,baz=177,slow=36						
YKA	**Yellowknife Ar**	**86.02**	**341**	P	**P**	**15 59 08.5**	**+0.3**
	1.7nm,0.5s,mb4.2,baz=134,slow=4.9,SNR=23						
YKA	**Yellowknife Ar**	**86.02**	**341**	P	**P**	**15 59 08.6**	**+0.3**
ASAR	**Alice Springs**	**132.72**	**212**	PKP	PKPdf	16 05 43.3	0.0
	0.2nm,0.7s,baz=147,slow=2.3,SNR=4.0						
ASAR	**Alice Springs**	**132.72**	**212**	PKP	PKPdf	16 05 43.3	0.0
WRA	**Warramunga Arr**	**135.51**	**216**	PKP	PKPdf	16 05 49.7	+1.1
	0.4nm,0.8s,baz=135,slow=1.4,SNR=4.5						
WRA	**Warramunga Arr**	**135.51**	**216**	PKP	PKPdf	16 05 49.7	+1.1
KURK	**Kurchatov**	**138.59**	**29**	PKP	PKPdf	16 05 54.7	+1.4
	0.2nm,0.3s,baz=303,slow=2.1,SNR=5.4						
KURK	**Kurchatov**	**138.59**	**29**	PKP	PKPdf	16 05 54.7	+1.4
ZALV	**Zalesovo Beam**	**138.64**	**21**	PKP	PKPdf	16 05 54.0	+0.7
	0.9nm,0.5s,baz=301,slow=3.0,SNR=6.7						
ZALV	**Zalesovo Beam**	**138.64**	**21**	PKP	PKPdf	16 05 54.0	+0.7
MK31	**Makanchi Array**	**143.07**	**30**	*e*PKPpre	PKPdf	16 05 59.1	-2.4
MKAR	**Makanchi Array**	**143.07**	**30**	PKP	PKPdf	16 05 59.5	-2.1
	0.7nm,0.7s,baz=314,slow=3.7,SNR=8.5						
MKAR	**Makanchi Array**	**143.07**	**30**	PKP	PKPdf	16 05 59.5	-2.1
MJAR	**Matsushiro Arr**	**147.22**	**313**	PKPbc	PKPbc	16 06 12.8	+1.3
	4.8nm,0.9s,baz=142,slow=0.8,SNR=8.5						
MJAR	**Matsushiro Arr**	**147.22**	**313**	PKPbc	PKPbc	16 06 12.8	+1.3
SONM	**Songino Array**	**149.05**	**3**	PKPbc	PKPbc	16 06 17.3	+1.5
	1.9nm,0.6s,baz=323,slow=1.9,SNR=13						
SONM	**Songino Array**	**149.05**	**3**	PKPbc	PKPbc	16 06 17.3	+1.5

IDC 08 16:49:14.3±2.0, 1°.93N×126°.08E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=177.5km s-min=25.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.20**	**160**	P	P	16 54 22.6	-0.4
	0.7nm,0.6s,baz=339,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.56**	**164**	P	P	16 54 54.7	+0.6
	0.2nm,0.7s,baz=340,slow=7.6,SNR=8.2						
MKAR	**Makanchi Array**	**58.66**	**326**	P	P	16 59 13.4	-0.1
	0.3nm,0.6s,baz=124,slow=7.4,SNR=6.2						

*ISCJB **08** 17:03:28.3±0.4, 27°.87N±0°.04×139°.81E±0°.07, h503km±4km, mb4.0/46, Error ellipse: s-maj=10.2km s-min=5.7km az=170.7*
*MOS **08** 17:03:28.3±0.7, 27°.83N×139°.65E, h500km, mb3.8/29, Error ellipse: s-maj=15.2km s-min=8.5km az=110.6*
*IDC **08** 17:03:28.6±0.6, 27°.87N×139°.70E, h484km±7km, mb3.4/16, mb1 3.5/18, mb1mx3.4/26, mbtmp3.3/18, Error ellipse: s-maj=13.7km s-min=9.5km az=87.0*
*JMA **08** 17:03:29.8±0.2, 28°.08N×140°.35E, h509km, M4.1*
*NEIC **08** 17:03:29.3±0.5, 27°.84N×139°.70E, h494km±6km, mb4.5/17, Error ellipse: s-maj=6.3km s-min=5.8km az=76.0*

ISC 08 17:03:29.3±0.4, 27°.89N±0°.04×139°.77E±0°.07, h494km±4km, n123, σ0.992/136, mb4.0/46, 5C-4D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.29**	**110**	P	**P**	**17 04 35.6**	**+0.2**
	48nm,0.3s,baz=233,slow=3.4,SNR=9.5						
CBIJ				S	**S**	**17 05 26.9**	**-2.1**
	125nm,0.3s,baz=291,slow=22,SNR=15						
CBIJ	**Chichi jima**	**2.29**	**110**	P	**P**	**17 04 35.6**	**+0.2**
CBIJ				*e*S	**S**	**17 05 26.9**	**-2.1**
CBIJ	**Chichi jima**	**2.29**	**110**	P	**P**	**17 04 35.4**	**0.0**
CBIJ				*e*S	**S**	**17 05 27.9**	**-1.1**
JHHJ	**Haha-jima-NKT**	**2.48**	**120**	*e*S	**S**	**17 05 31.7**	**+0.6**
BSO1	**Boso 1**	**6.82**	**8**	P	**P**	**17 05 14.1**	**+0.8**
BSO1				*e*S	**S**	**17 06 37.8**	**-0.7**
BSO3	**Boso 3**	**6.92**	**5**	P	**P**	**17 05 14.4**	**+0.1**
BSO3				*e*S	**S**	**17 06 37.8**	**-2.5**
JIE	**Ise**	**6.99**	**339**	P	**P**	**17 05 17.9**	**+2.9**
JIE				*e*S	**S**	**17 06 42.7**	**+1.0**
JKN2	**Miekihoku**	**7.00**	**335**	P	**P**	**17 05 17.7**	**+2.5**
JKN2				*e*S	**S**	**17 06 43.0**	**+1.1**
BSO4	**Boso 4**	**7.09**	**4**	*e*S	**S**	**17 06 42.0**	**-1.6**
JOD2	**Odawara 2**	**7.37**	**356**	P	**P**	**17 05 21.1**	**+2.2**
JHU	**Hanno**	**7.95**	**357**	*e*S	**S**	**17 06 55.2**	**-4.5**
JRY	**Ryogami san**	**8.13**	**355**	P	**P**	**17 05 27.3**	**+0.5**
JRY				*e*S	**S**	**17 07 00.8**	**-2.4**
JAG	**Ashikaga**	**8.51**	**358**	P	**P**	**17 05 30.5**	**-0.2**
JAG				*e*S	**S**	**17 07 05.2**	**-5.3**
JHO	**Hitachi**	**8.72**	**4**	P	**P**	**17 05 33.6**	**+0.7**
JHO				*e*S	**S**	**17 07 10.7**	**-3.8**
MJAR	**Matsushiro Arr**	**8.72**	**352**	P	**P**	**17 05 33.5**	**+0.5**
	0.5nm,0.3s,baz=112,slow=20,SNR=5.7						
MJAR				S	**S**	**17 07 13.3**	**-1.3**
	0.5nm,0.3s,baz=148,slow=14,SNR=4.4						
MJAR	**Matsushiro Arr**	**8.72**	**352**	P	**P**	**17 05 33.5**	**+0.5**
MJAR				S	**S**	**17 07 13.3**	**-1.3**
MJAR	**Matsushiro Arr**	**8.72**	**352**	P	**P**	**17 05 33.5**	**+0.6**
MJAR				S	**S**	**17 07 13.3**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MAJO	**Matsushiro**	**8.72**	**352**	*e*P	**P**	**17 05 34.3**	**+1.3**
JFK	**Kawauchi**	**9.49**	**5**	*e*S	**S**	**17 07 28.1**	**-1.3**
KSRS	**Korea Array**	**13.79**	**317**	P	**P**	**17 06 32.9**	**+6.1**
	comp=N,0.4nm,0.3s,baz=147,slow=8.9,SNR=10						
KSRS	**Korea Array**	**13.79**	**317**	P	**P**	**17 06 32.9**	**+6.2**
KSAR	**Wonju Array Be**	**13.80**	**317**	P	**P**	**17 06 32.9**	**+6.0**
KSAR	**Wonju Array Be**	**13.80**	**317**	P	**P**	**17 06 32.9**	**+6.0**
ERM	**Erimo**	**14.36**	**10**	*e*P	**P**	**17 06 33.0**	**+0.4**
ERM				pmax	pmax		
	comp=Z,79nm,1.3s						
PETK	**Petropavlovsk-**	**28.48**	**23**	P	**P**	**17 08 45.0**	**+1.6**
	comp=Z,4.1nm,1.0s,mb3.8,baz=204,slow=7.6,SNR=11						
PETK	**Petropavlovsk-**	**28.48**	**23**	P	**P**	**17 08 45.0**	**+1.6**
PETK	**Petropavlovsk-**	**28.48**	**23**	P	**P**	**17 08 45.0**	**+1.6**
PETK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
LZH	**Lanzhou**	**31.41**	**294**	*e*P	**P**	**17 09 08.5**	**-0.6**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.4						
SONM	**Songino Array**	**32.66**	**317**	P	**P**	**17 09 19.7**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.1,baz=133,slow=9.5,SNR=5.0						
SONM				ScP	ScP	17 14 46.1	-1.8
	comp=Z,0.8nm,0.5s,baz=142,slow=2.5,SNR=5.8						
SONM	**Songino Array**	**32.66**	**317**	P	**P**	**17 09 19.7**	**+0.1**
SONM				ScP	ScP	17 14 46.1	-1.8
SONM	**Songino Array**	**32.66**	**317**	P	**P**	**17 09 19.7**	**+0.1**
SONM				pmax	pmax		
	comp=N,1.0nm,0.5s						
CHTO	**Chiang Mai**	**38.41**	**265**	*e*P	**P**	**17 10 07.2**	**-0.8**
	comp=N,2.6nm,0.6s,mb3.8						
CHTO	**Chiang Mai**	**38.41**	**265**	*e*P	**P**	**17 10 07.2**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
CMAR	**Chiang Mai Arr**	**38.54**	**265**	P	**P**	**17 10 08.9**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.3,baz=56,slow=8.7,SNR=7.7						
CMAR	**Chiang Mai Arr**	**38.54**	**265**	P	**P**	**17 10 08.9**	**0.0**
CMAR	**Chiang Mai Arr**	**38.54**	**265**	P	**P**	**17 10 09.0**	**0.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HVS	**Khovu-Aksy**	**41.56**	**317**	*e*P	**P**	**17 10 32.9**	**+0.1**
HVS				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.2						
BILL	**Bilibino**	**43.18**	**14**K	*i*P	**P**	**17 10 46.6**	**+1.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
TAPN	**Taplejung**	**45.84**	**282**	*e*P	**P**	**17 11 06.7**	**+0.2**
	comp=Z,5.5nm,0.3s,mb4.4						
TAPN	**Taplejung**	**45.84**	**282**	*e*P	**P**	**17 11 06.7**	**+0.2**
	comp=Z,5.5nm,0.3s,mb4.5						
ODAN	**Odare**	**46.23**	**282**	*e*P	**P**	**17 11 09.6**	**+0.1**
	comp=Z,10nm,0.4s,mb4.6						
ODAN	**Odare**	**46.23**	**282**	*e*P	**P**	**17 11 09.6**	**+0.1**
	comp=Z,10nm,0.4s,mb4.6						
RAMN	**Ramite**	**46.89**	**282**	*e*P	**P**	**17 11 14.7**	**+0.2**
	comp=Z,13nm,0.5s,mb4.6						
RAMN	**Ramite**	**46.89**	**282**	*e*P	**P**	**17 11 14.7**	**+0.2**
	comp=Z,13nm,0.5s,mb4.6						
JIRN	**Jiri**	**47.08**	**283**	*e*P	**P**	**17 11 16.3**	**+0.4**
	comp=Z,7.3nm,0.5s,mb4.4						
JIRN	**Jiri**	**47.08**	**283**	*e*P	**P**	**17 11 16.3**	**+0.4**
	comp=Z,7.3nm,0.5s,mb4.4						
GUN	**Gumba**	**47.29**	**283**	*e*P	**P**	**17 11 18.0**	**+0.5**
	comp=Z,19nm,0.4s,mb4.9						
GUN	**Gumba**	**47.29**	**283**	*e*P	**P**	**17 11 18.0**	**+0.5**
	comp=Z,19nm,0.4s,mb4.9						
ZALV	**Zalesovo Beam**	**47.48**	**319**	P	**P**	**17 11 17.2**	**-1.3**
	comp=Z,1.0nm,0.3s,mb3.7,baz=93,slow=7.9,SNR=5.0						
ZALV				ScP	ScP	17 15 44.2	-1.6
	comp=Z,0.4nm,0.4s,baz=102,slow=3.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**47.48**	**319**	P	**P**	**17 11 17.2**	**-1.3**
ZALV				ScP	ScP	17 15 44.2	-1.6
ZALV	**Zalesovo Beam**	**47.48**	**319**	P	**P**	**17 11 17.3**	**-1.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
WRAB	**Tennant Creek**	**47.83**	**187**	*e*P	**P**	**17 11 20.8**	**-0.8**
	comp=Z,4.0nm,0.4s,mb4.1						
WRAB	**Tennant Creek**	**47.83**	**187**	*e*P	**P**	**17 11 20.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.1						
KKN	**Kakani**	**47.83**	**283**	*e*P	**P**	**17 11 21.8**	**+0.2**
	comp=Z,5.9nm,0.4s,mb4.3						
KKN	**Kakani**	**47.83**	**283**	*e*P	**P**	**17 11 21.8**	**+0.2**
	comp=Z,5.9nm,0.4s,mb4.3						
KKN	**Kakani**	**47.83**	**283**	*e*P	**P**	**17 11 21.8**	**+0.2**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.3						
WB2	**Warramunga Arr**	**47.84**	**187**	*e*P	**P**	**17 11 21.1**	**-0.5**
WRA	**Warramunga Arr**	**47.84**	**187**	P	**P**	**17 11 21.3**	**-0.3**
	comp=Z,5.8nm,0.3s,mb4.3,baz=2.5,slow=7.7,SNR=248						
WRA				PcP	PcP	17 12 41.8	+0.8
	comp=Z,0.6nm,0.5s,baz=0.5,slow=3.9,SNR=4.7						
WRA	**Warramunga Arr**	**47.84**	**187**	P	**P**	**17 11 21.3**	**-0.3**
WRA				PcP	PcP	17 12 41.8	+0.8
WRA	**Warramunga Arr**	**47.84**	**187**	P	**P**	**17 11 21.3**	**-0.3**
WRA						17 12 41.8	
WRA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DMN	**Daman**	**48.03**	**283**	*e*P	**P**	**17 11 23.1**	**0.0**
	comp=Z,9.0nm,0.4s,mb4.5						
DMN	**Daman**	**48.03**	**283**	*e*P	**P**	**17 11 23.1**	**0.0**
	comp=Z,9.0nm,0.4s,mb4.5						
MK31	**Makanchi Array**	**48.31**	**309**	*e*P	**P**	**17 11 24.3**	**-0.6**
MK31	**Makanchi Array**	**48.31**	**309**	*ce*P	**P**	**17 11 24.7**	**-0.2**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
MKAR	**Makanchi Array**	**48.31**	**309**	P	**P**	**17 11 24.8**	**-0.1**
	comp=Z,1.2nm,0.5s,mb3.5,baz=88,slow=9.9,SNR=39						
MKAR				PcP	PcP	17 12 42.0	-0.3
	comp=Z,0.3nm,0.7s,baz=95,slow=4.9,SNR=2.1						
MKAR				ScP	ScP	17 15 48.4	-1.2
	comp=Z,0.6nm,0.5s,baz=84,slow=4.8,SNR=7.9						
MKAR	**Makanchi Array**	**48.31**	**309**	P	**P**	**17 11 24.8**	**-0.1**
MKAR				PcP	PcP	17 12 42.0	-0.3
MKAR				ScP	ScP	17 15 48.4	-1.2
MKAR	**Makanchi Array**	**48.31**	**309**	P	**P**	**17 11 24.8**	**-0.1**
MKAR						17 12 42.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.5s						
GKN	**Gorkha**	**48.34**	**284**	*e*P	**P**	**17 11 25.6**	**+0.2**
	comp=N,11nm,0.7s,mb4.3						
GKN	**Gorkha**	**48.34**	**284**	*e*P	**P**	**17 11 25.6**	**+0.2**
	comp=N,11nm,0.7s,mb4.3						
DANN	**Dangsing**	**49.01**	**284**	*e*P	**P**	**17 11 30.8**	**+0.4**
	comp=N,23nm,0.7s,mb4.6						
DANN	**Dangsing**	**49.01**	**284**	*e*P	**

FINES	**FINES Array B**	**76.28**	**333**	P	**P**	**17 14 26.1**	**-0.2**
FINES				pmax	pmax		
comp=Z,1.0nm,0.3s							
MIB	**Mutribah**	**78.61**	**298**	*e*P	**P**	**17 14 38.9**	**-0.8**
MIB				AMb	AMB	17 14 39.6	
comp=Z,10nm,0.5s,mb4.6							
NAY	**Al-Naaiem**	**78.93**	**297**	*e*P	**P**	**17 14 40.6**	**-0.7**
NAY				AMb	AMB	17 14 41.3	
comp=Z,8.1nm,1.0s,mb4.2							
NVAR	**Mina Array Bea**	**81.70**	**51**	P	**P**	**17 14 57.5**	**+1.8**
comp=Z,0.5nm,0.4s,mb3.4,baz=303,slow=7.9,SNR=3.8							
NVAR	**Mina Array Bea**	**81.70**	**51**	P	**P**	**17 14 57.5**	**+1.8**
TXAR	**Lajitas Array**	**96.82**	**52**	P	**P**	**17 16 08.8**	**+1.8**
comp=Z,0.3nm,0.6s,mb3.7,baz=284,slow=2.6,SNR=4.0							
TXAR	**Lajitas Array**	**96.82**	**52**	P	**P**	**17 16 08.8**	**+1.8**
TXAR	**Lajitas Array**	**96.82**	**52**	P	**P**	**17 16 08.8**	**+1.7**

*ISCJB **08** 17:08:38.8±0.7,6°.6N±0°.1×68°.6E±0°.1,h10km,mb3.9/16, Error ellipse: s-maj=23.5km s-min=13.0km az=143.4*
*IDC **08** 17:08:39.0±0.8,6°.60N×68°.60E,h0km,mb3.8/14, mb1 4.0/14,mb1mx3.8/26,mbtmp3.8/14,Error ellipse: s-maj=28.5km s-min=17.1km az=52.0*
*NEIC **08** 17:08:40.6±0.5,6°.63N×68°.64E,h10km,mb4.4/2,Error ellipse: s-maj=16.9km s-min=9.3km az=53.0*
ISC 08 17:08:40.7±0.7,6°.6N±0°.1×68°.6E±0°.1,h10km,n33,
σ0§61/31,mb3.9/16,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.70**	**14**	P	**P**	**17 16 29.9**	**+0.3**
0.3nm,0.5s,mb3.2,baz=194,slow=8.7,SNR=6.1							
MKAR				PcP	PcP	17 18 26.1	-0.1
0.7nm,0.9s,baz=232,slow=1.4,SNR=6.1							
MKAR	**Makanchi Array**	**41.70**	**14**	P	**P**	**17 16 29.9**	**+0.3**
MKAR				PcP	PcP	17 18 26.1	-0.1
ABKAR	**Akbulak array**	**43.11**	**352**	*e*P	**P**	**17 16 40.5**	**-0.5**
2.9nm,1.0s,mb4.0							
AKTO	**Aktyubinsk**	**44.55**	**350**	P	**P**	**17 16 53.4**	**+0.7**
1.3nm,0.8s,mb3.8,baz=180,slow=7.5,SNR=5.4							
AKTO	**Aktyubinsk**	**44.55**	**350**	P	**P**	**17 16 53.4**	**+0.7**
KURK	**Kurchatov**	**44.72**	**9**	P	**P**	**17 16 52.9**	**-1.1**
0.8nm,0.7s,mb3.6,baz=206,slow=8.4,SNR=6.3							
KURK	**Kurchatov**	**44.72**	**9**	P	**P**	**17 16 52.9**	**-1.1**
BRTR	**Keskin Array B**	**45.52**	**322**	P	**P**	**17 17 01.8**	**+1.3**
1.3nm,0.9s,mb3.9,baz=137,slow=8.5,SNR=5.8							
BRTR	**Keskin Array B**	**45.52**	**322**	P	**P**	**17 17 01.8**	**+1.3**
BVAR	**Borovoye Array**	**46.27**	**1**	P	**P**	**17 17 06.3**	**+0.1**
0.3nm,0.5s,mb3.5,baz=185,slow=11,SNR=3.6							
BVAR	**Borovoye Array**	**46.27**	**1**	P	**P**	**17 17 06.3**	**+0.1**
ZALV	**Zalesovo Beam**	**48.97**	**13**	P	**P**	**17 17 26.5**	**-0.7**
1.4nm,0.6s,mb4.2,baz=215,slow=7.6,SNR=8.4							
ZALV	**Zalesovo Beam**	**48.97**	**13**	P	**P**	**17 17 26.5**	**-0.7**
SONM	**Songino Array**	**52.13**	**32**	P	**P**	**17 17 52.2**	**+1.0**
1.1nm,0.8s,mb3.8,baz=225,slow=6.6,SNR=7.4							
SONM	**Songino Array**	**52.13**	**32**	P	**P**	**17 17 52.2**	**+1.0**
AKASG	**Malin Array Be**	**54.79**	**330**	P	**P**	**17 18 10.8**	**+0.2**
0.4nm,0.4s,mb3.8,baz=146,slow=5.7,SNR=4.4							
AKASG	**Malin Array Be**	**54.79**	**330**	P	**P**	**17 18 10.8**	**+0.2**
ARCES	**ARCESS Array B**	**68.75**	**345**	P	**P**	**17 19 43.8**	**-0.7**
1.8nm,0.9s,mb4.0,baz=120,slow=4.6,SNR=5.8							
ARCES	**ARCESS Array B**	**68.75**	**345**	P	**P**	**17 19 43.8**	**-0.7**
WRA	**Warramunga Arr**	**69.78**	**114**	P	**P**	**17 19 52.1**	**+0.4**
1.7nm,0.8s,mb4.0,baz=297,slow=5.6,SNR=15							
WRA	**Warramunga Arr**	**69.78**	**114**	P	**P**	**17 19 52.1**	**+0.4**
WB2	**Warramunga Arr**	**69.79**	**114**	*e*P	**P**	**17 19 51.7**	**-0.1**
ASAR	**Alice Springs**	**70.41**	**118**	P	**P**	**17 19 55.9**	**+0.4**
1.1nm,0.9s,mb3.8,baz=291,slow=6.2,SNR=14							
ASAR	**Alice Springs**	**70.41**	**118**	P	**P**	**17 19 55.9**	**+0.4**
ESDC	**Sonseca Array**	**72.41**	**309**	P	**P**	**17 20 06.9**	**-0.4**
0.1nm,0.3s,mb3.2,baz=94,slow=5.0,SNR=4.0							
ESDC	**Sonseca Array**	**72.41**	**309**	P	**P**	**17 20 06.9**	**-0.4**
DBIC	**Dimbokro**	**72.92**	**275**	P	**P**	**17 20 10.7**	**-0.2**
2.2nm,0.7s,mb4.2,baz=37,slow=9.4,SNR=5.4							
DBIC	**Dimbokro**	**72.92**	**275**	P	**P**	**17 20 10.7**	**-0.2**
STKA	**Stephens Creek**	**79.20**	**124**	P	**P**	**17 20 46.2**	**-0.1**
2.5nm,0.9s,mb4.1,baz=320,slow=5.1,SNR=5.7							
STKA	**Stephens Creek**	**79.20**	**124**	P	**P**	**17 20 46.2**	**-0.1**
CTAO	**Charters Tower**	**80.73**	**112**	P	**P**	**17 20 54.3**	**-0.5**
18nm,1.4s,mb4.8							
TXAR	**Lajitas Array**	**143.49**	**349**	PKP	PKPdf	17 28 14.0	-2.4
0.3nm,0.6s,baz=45,slow=3.1,SNR=5.2							
TXAR	**Lajitas Array**	**143.49**	**349**	PKP	PKPdf	17 28 14.0	-2.3

*ISCJB **08** 17:21:49.7±0.3,51°.06N±0°.02×6°.30E±0°.03,h0km,Error ellipse: s-maj=3.3km s-min=2.1km az=44.3*
*UCC **08** 17:21:50.3±0.9,51°.13N×6°.51E,h0km,ML2.4*
*CSEM **08** 17:21:51.4±0.2,51°.09N×6°.46E,h1km,ML3.1/14,Error ellipse: s-maj=4.1km s-min=3.1km az=141.0*
*NEIC **08** 17:21:52.6,51°.12N×6°.48E,h2km,ML3.0(LDG),After LDG.*
*BGR **08** 17:21:52.7±0.3,51°.07N×6°.55E,h1km,ML2.6/5,Error ellipse: s-maj=3.3km s-min=2.2km az=126.0*
*LDG **08** 17:21:52.6±0.1,51°.12N×6°.48E,h2km,Ml3.0/26,Error ellipse: s-maj=1.0km s-min=0.7km az=5.0*
*BNS **08** 17:21:53.0±1.0,51°.09N×6°.51E,h1km±3km,ML2.2*
ISC 08 17:21:51.3±0.3,51°.08N±0°.02×6°.42E±0°.03,h0km,n121,
σ1§32/229,3C-3D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BD11	**Borschemich**	**0.01**	**95**	⇑*i*P*g*	**Pg**	**17 21 54.1**	**+2.6**
BD09	**Hochneukirch**	**0.03**	**67**	⇑*i*P*g*	**Pg**	**17 21 53.7**	**+1.7**
BD03	**Millendorf**	**0.13**	**136**	*e*P*g*	**Pg**	**17 21 55.2**	**+1.4**
RODG	**Roetgen-Dahlhe**	**0.16**	**293**	*e*P*g*	**Pg**	**17 21 57.1**	**+2.7**
RODG				*e*S*g*	**Sg**	**17 22 00.8**	**+4.3**
1μm,0.3s							
RODG	**Roetgen-Dahlhe**	**0.16**	**293**	P*g*	**Pg**	**17 21 57.1**	**+2.7**
RODG				S*g*	**Sg**	**17 22 00.8**	**+4.3**
1μm,0.3s							
BD07	**Roetschberg**	**0.21**	**131**	*e*P*g*	**Pg**	**17 21 56.9**	**+1.5**
BA05	**Sindorf**	**0.23**	**137**	*e*P*g*	**Pg**	**17 21 57.4**	**+1.7**
LAUG	**Laupendahl**	**0.43**	**51**	⇑*e*P*g*	**Pg**	**17 21 59.3**	**-0.2**
LAUG				*e*S*g*	**Sg**	**17 22 04.3**	**-0.8**
118nm,0.4s							
LAUG	**Laupendahl**	**0.43**	**51**	P*g*	**Pg**	**17 21 59.3**	**-0.2**
LAUG				S*g*	**Sg**	**17 22 04.3**	**-0.7**
118nm,0.4s							
DREG	**Dreilaegerbach**	**0.44**	**195**	*e*P*g*	**Pg**	**17 22 01.4**	**+1.8**
DREG				*e*S*g*	**Sg**	**17 22 07.7**	**+2.4**
228nm,0.4s							
DREG	**Dreilaegerbach**	**0.44**	**195**	P*g*	**Pg**	**17 22 01.4**	**+1.7**
DREG				S*g*	**Sg**	**17 22 07.7**	**+2.4**
228nm,0.4s							
KLL	**Kalltalsperre**	**0.44**	**189**	*e*P*g*	**Pg**	**17 22 01.4**	**+1.6**
KLL	**Kalltalsperre**	**0.44**	**189**	P*g*	**Pg**	**17 22 01.4**	**+1.6**
HGN	**Heimansgroeve**	**0.44**	**224**	*e*P*g*	**Pg**	**17 22 02.0**	**+2.2**
HGN				*e*S*g*	**Sg**	**17 22 08.7**	**+3.2**
HGN	**Heimansgroeve**	**0.44**	**224**	P*g*	**Pg**	**17 22 02.0**	**+2.2**
HGN				S*g*	**Sg**	**17 22 08.7**	**+3.2**
BNS	**Bensberg**	**0.49**	**104**	*e*S*g*	**Sg**	**17 22 07.5**	**+0.3**
357nm,0.2s							
BNS	**Bensberg**	**0.49**	**104**	S*g*	**Sg**	**17 22 07.5**	**+0.3**
357nm,0.2s							
MEM	**Membach**	**0.54**	**209**	⇓P	**Pg**	**17 22 03.5**	**+1.9**
MEM				S	**Sg**	**17 22 11.2**	**+2.5**
comp=E,100nm,0.4s							
MEM	**Membach**	**0.54**	**209**	*e*P*g*	**Pg**	**17 22 03.6**	**+1.9**
MEM				*e*S*g*	**Sg**	**17 22 11.2**	**+2.5**
MEM	**Membach**	**0.54**	**209**	P*g*	**Pg**	**17 22 03.6**	**+1.9**
MEM				S*g*	**Sg**	**17 22 11.2**	**+2.5**
BEBN	**Eben Emael**	**0.55**	**239**	⇓P	**Pg**	**17 22 05.0**	**+3.2**
BEBN				S	**Sg**	**17 22 12.5**	**+3.6**
BEBN	**Eben Emael**	**0.55**	**239**	P	**Pg**	**17 22 04.9**	**+3.1**
BEBN				S	**Sg**	**17 22 12.4**	**+3.5**
STB	**Steinbach**	**0.56**	**151**	*e*P*g*	**Pg**	**17 22 03.5**	**+1.5**
STB	**Steinbach**	**0.56**	**151**	P*g*	**Pg**	**17 22 03.5**	**+1.5**
HOBG	**Hohbusch**	**0.59**	**99**	*e*P*g*	**Pg**	**17 22 03.3**	**+0.7**
HOBG	**Hohbusch**	**0.59**	**99**	P*g*	**Pg**	**17 22 03.3**	**+0.7**
BUG	**Bochum--Univer**	**0.65**	**56**	*e*P*g*	**Pg**	**17 22 03.6**	**-0.1**
BUG				*e*S*g*	**Sg**	**17 22 11.5**	**-0.5**
HILG	**Hillesheim**	**0.81**	**168**	*e*P*g*	**Pg**	**17 22 08.1**	**+1.3**
HILG				*e*S*g*	**Sg**	**17 22 19.6**	**+2.3**
comp=E,84nm,0.3s							
HILG	**Hillesheim**	**0.81**	**168**	P*g*	**Pg**	**17 22 08.1**	**+1.3**
HILG				S*g*	**Sg**	**17 22 19.6**	**+2.3**
comp=E,84nm,0.3s							
WTSB	**Winterswijk**	**0.92**	**15**	*e*P*g*	**Pg**	**17 22 09.5**	**+0.6**
WTSB				*e*S*g*	**Sg**	**17 22 22.6**	**+1.9**
WTSB	**Winterswijk**	**0.92**	**15**	P*g*	**Pg**	**17 22 09.5**	**+0.6**
WTSB				S*g*	**Sg**	**17 22 22.6**	**+1.8**
BGG	**Burgeitz**	**1.06**	**146**	*e*P*g*	**Pg**	**17 22 12.1**	**+0.6**
BGG				*e*S*g*	**Sg**	**17 22 27.0**	**+1.8**
comp=E,66nm,0.1s							
BGG	**Burgeitz**	**1.06**	**146**	P*g*	**Pg**	**17 22 12.1**	**+0.6**
BGG				S*g*	**Sg**	**17 22 27.0**	**+1.8**
comp=E,66nm,0.1s							
KOE	**Koeppel**	**1.06**	**128**	*e*P*g*	**Pg**	**17 22 12.5**	**+0.8**
KOE				*e*S*g*	**Sg**	**17 22 26.7**	**+1.2**
KOE	**Koeppel**	**1.06**	**128**	P*g*	**Pg**	**17 22 12.5**	**+0.8**
KOE				S*g*	**Sg**	**17 22 26.7**	**+1.2**
GIVF	**Givet**	**1.41**	**227**	*e*P*n*	**Pn**	**17 22 18.5**	**+0.3**
GIVF	**Givet**	**1.41**	**227**	*e*P*g*	**Pg**	**17 22 19.9**	**+1.5**
GIVF				*e*S*g*	**Sg**	**17 22 38.9**	**+2.3**
comp=E,77nm,0.3s							
GIVF	**Givet**	**1.41**	**227**	*e*P*n*	**Pn**	**17 22 18.5**	**+0.3**
GIVF				*e*P*g*	**Pg**	**17 22 19.9**	**+1.5**
GIVF				*e*S*g*	**Sg**	**17 22 38.9**	**+2.3**
GIVF	**Givet**	**1.41**	**227**	*e*P*n*	**Pn**	**17 22 18.5**	**+0.3**
GIVF	**Givet**	**1.41**	**227**	*e*P*g*	**Pg**	**17 22 19.9**	**+1.5**
GIVF				*e*S*g*	**Sg**	**17 22 38.9**	**+2.3**
comp=E,38nm,0.3s							
WLF	**Walferdange**	**1.43**	**187**	*e*P*g*	**Pg**	**17 22 19.2**	**+0.4**
WLF				*e*S*g*	**Sg**	**17 22 38.1**	**+0.9**
WLF	**Walferdange**	**1.43**	**187**	P*g*	**Pg**	**17 22 19.2**	**+0.5**
WLF				S*g*	**Sg**	**17 22 38.1**	**+0.9**
IBBN	**Ibbenburen**	**1.48**	**34**	*e*P*g*	**Pg**	**17 22 19.3**	**-0.5**
IBBN				*e*S*g*	**Sg**	**17 22 39.0**	**0.0**
IBBN	**Ibbenburen**	**1.48**	**34**	P*g*	**Pg**	**17 22 19.3**	**-0.4**
IBBN				S*g*	**Sg**	**17 22 39.0**	**0.0**
DOU	**Dourbes**	**1.52**	**230**	⇓P	**Pn**	**17 22 20.7**	**+0.9**
DOU				S	**Sg**	**17 22 42.1**	**+1.9**
DOU	**Dourbes**	**1.52**	**230**	P	**Pn**	**17 22 20.6**	**+0.8**
DOU				S	**Sg**	**17 22 42.1**	**+1.9**
TNS	**Taunus Mts**	**1.55**	**123**	*e*P*n*	**Pn**	**17 22 20.1**	**-0.1**
TNS				*e*P*g*	**Pg**	**17 22 21.2**	**+0.1**
TNS				*e*S*g*	**Sg**	**17 22 40.1**	**-1.1**
TNS	**Taunus Mts**	**1.55**	**123**	P*n*	**Pn**	**17 22 20.1**	**-0.1**
BAIF	**Baives**	**1.74**	**235**	*e*P*n*	**Pn**	**17 22 22.9**	**+0.1**
BAIF				*e*S*n*	**Sn**	**17 22 44.9**	**-0.7**
comp=E,56nm,0.3s							
BAIF	**Baives**	**1.74**	**235**	*e*P*n*	**Pn**	**17 22 22.9**	**+0.1**
BAIF				*e*S*n*	**Sn**	**17 22 44.9**	**-0.7**
BAIF	**Baives**	**1.74**	**235**	*e*P*n*	**Pn**	**17 22 22.9**	**+0.1**
BAIF				*e*S*n*	**Sn**	**17 22 44.9**	**-0.7**
comp=E,28nm,0.3s							
CLZ	**Clausthal**	**2.59**	**71**	*e*P*n*	**Pn**	**17 22 33.1**	**-1.3**
CLZ				*e*P*g*	**Pg**	**17 22 39.5**	**-1.4**
CLZ				*e*S*g*	**Sg**	**17 23 11.8**	**-2.6**
CLZ	**Clausthal**	**2.59**	**71**	P*n*	**Pn**	**17 22 33.1**	**-1.3**
MEZF	**Maizieres J'vi**	**2.73**	**199**	*e*P*n*	**Pn**	**17 22 36.3**	**-0.1**
MEZF				*e*S*n*	**Sn**	**17 23 08.5**	**-1.5**
comp=E,12nm,0.2s							
MEZF	**Maizieres J'vi**	**2.73**	**199**	*e*P*n*	**Pn**	**17 22 36.3**	**-0.1**
MEZF				*e*S*n*	**Sn**	**17 23 08.5**	**-1.5**
MEZF	**Maizieres J'vi**	**2.73**	**199**	*e*P*n*	**Pn**	**17 22 36.3**	**-0.1**
MEZF				*e*S*n*	**Sn**	**17 23 08.5**	**-1.5**
comp=E,6.0nm,0.2s							
CDF	**Champ du Feu**	**2.73**	**168**	*e*P*n*	**Pn**	**17 22 35.9**	**-0.5**
CDF				*e*S*n*	**Sn**	**17 23 07.9**	**-2.1**
comp=E,9.1nm,0.5s							
CDF	**Champ du Feu**	**2.73**	**168**	*e*P*n*	**Pn**	**17 22 35.9**	**-0.5**
CDF				*e*S*n*	**Sn**	**17 23 07.9**	**-2.1**
CDF	**Champ du Feu**	**2.73**	**168**	*e*P*n*	**Pn**	**17 22 35.9**	**-0.5**
CDF				*e*S*n*	**Sn**	**17 23 07.9**	**-2.1**
comp=E,4.6nm,0.5s							
HAU	**Haudompre**	**3.08**	**181**	*e*P*n*	**Pn**	**17 22 40.7**	**-0.5**
HAU				*e*S*g*	**Sg**	**17 23 30.3**	**+0.1**
comp=E,10nm,0.3s							
HAU	**Haudompre**	**3.08**	**181**	*e*P*n*	**Pn**	**17 22 40.7**	**-0.5**
HAU				*e*S*g*	**Sg**	**17 23 30.3**	**+0.1**
HAU	**Haudompre**	**3.08**	**181**	*e*P*n*	**Pn**	**17 22 40.7**	**-0.5**
HAU				*e*S*g*	**Sg**	**17 23 30.3**	**+0.1**
comp=E,5.1nm,0.3s							
HINF	**Hinteralfeld**	**3.28**	**175**	*e*P*n*	**Pn**	**17 22 43.5**	**-0.4**
HINF				*e*S*n*	**Sn**	**17 23 21.0**	**-2.6**
comp=E,4.4nm,0.3s							
HINF	**Hinteralfeld**	**3.28**	**175**	*e*P*n*	**Pn**	**17 22 43.5**	**-0.4**
HINF				*e*S*n*	**Sn**	**17 23 21.0**	**-2.6**
HINF	**Hinteralfeld**	**3.28**	**175**	*e*P*n*	**Pn**	**17 22 43.5**	**-0.4**
HINF				*e*S*n*	**Sn**	**17 23 21.0**	**-2.6**
comp=E,2.2nm,0.3s							
CLL	**Collm**	**4.15**	**84**	*e*S*g*	**Sg**	**17 24 03.0**	**-1.5**
LOR	**Lormes**	**4.17**	**205**	*e*P*n*	**Pn**	**17 22 55.7**	**-0.4**
LOR				*e*S*n*	**Sn**	**17 23 42.8**	**-2.7**
LOR				*e*S*g*	**Sg**	**17 24 04.8**	**-0.4**
comp=E,12nm,0.4s							
LOR	**Lormes**	**4.17**	**205**	*e*P*n*	**Pn**	**17 22 55.7**	**-0.4**
LOR				*e*S*n*	**Sn**	**17 23 42.8**	**-2.7**
LOR				*e*S*g*	**Sg**	**17 24 04.8**	**-0.4**
LOR	**Lormes**	**4.17**	**205**	*e*P*n*	**Pn**	**17 22 55.7**	**-0.4**
LOR				*e*S*n*	**Sn**	**17 23 42.8**	**-2.7**
LOR				*e*S*g*	**Sg**	**17 24 04.8**	**-0.4**
comp=E,5.8nm,0.4s							
SSF	**Saint Saulge**	**4.46**	**207**	*e*P*n*	**Pn**	**17 22 59.6**	**-0.5**
SSF				*e*S*n*	**Sn**	**17 23 49.9**	**-2.7**
SSF				*e*S*g*	**Sg**	**17 24 13.8**	**-0.6**
comp=E,7.9nm,0.4s							
SSF	**Saint Saulge**	**4.46**	**207**	*e*P*n*	**Pn**	**17 22 59.6**	**-0.5**
SSF				*e*S*n*	**Sn**	**17 23 49.9**	**-2.7**
SSF				*e*S*g*	**Sg**	**17 24 13.8**	**-0.6**
SSF	**Saint Saulge**	**4.46**	**207**	*e*P*n*	**Pn**	**17 22 59.6**	**-0.5**
SSF				*e*S*n*	**Sn**	**17 23 49.9**	**-2.7**
SSF				*e*S*g*	**Sg**	**17 24 13.8**	**-0.6**
comp=E,4.0nm,0.4s							
CABF	**La Chapelle**	**4.48**	**183**	*e*P*n*	**Pn**	**17 23 00.4**	**0.0**
CABF				*e*S*g*	**Sg**	**17 24 14.2**	**-1.0**
comp=E,10nm,0.7s							
CABF	**La Chapelle**	**4.48**	**183**	*e*P*n*	**Pn**	**17 23 00.4**	**0.0**
CABF				*e*S*g*	**Sg**	**17 24 14.2**	**-1.0**
CABF	**La Chapelle**	**4.48**	**183**	*e*P*n*	**Pn**	**17 23 00.4**	**0.0**
CABF				*e*S*g*	**Sg**	**17 24 14.2**	**-1.0**
comp=E,5.2nm,0.7s							
HYF	**Humbligny**	**4.55**	**214**	*e*P*n*	**Pn**	**17 23 01.0**	**-0.4**
HYF				*e*S*g*	**Sg**	**17 24 17.0**	**-0.4**
HYF	**Humbligny**	**4.55**	**214**	*e*P*n*	**Pn**	**17 23 01.0**	**-0.4**
HYF				*e*S*g*	**Sg**	**17 24 17.0**	**-0.4**
HYF	**Humbligny**	**4.55**	**214**	*e*P*n*	**Pn**	**17 23 01.0**	**-0.4**
HYF				*e*S*g*	**Sg**	**17 24 17.0**	**-0.4**
AVF	**Avril sur Loir**	**4.75**	**206**	*e*P*n*	**Pn**	**17 23 03.8**	**-0.3**
AVF				*e*S*g*	**Sg**	**17 24 22.7**	**-1.0**
comp=E,3.3nm,0.5s							
AVF	**Avril sur Loir**	**4.75**	**206**	*e*P*n*	**Pn**	**17 23 03.8**	**-0.3**
AVF				*e*S*g*	**Sg**	**17 24 22.7**	**-1.0**
AVF	**Avril sur Loir**	**4.75**	**206**	*e*P*n*	**Pn**	**17 23 03.8**	**-0.3**
AVF				*e*S*g*	**Sg**	**17 24 22.7**	**-1.0**
comp=E,1.6nm,0.5s							
SMF	**Signal de Mont**	**4.75**	**202**	*e*P*n*	**Pn**	**17 23 03.8**	**-0.4**
SMF				*e*S*g*	**Sg**	**17 24 23.1**	**-0.9**
comp=E,6.6nm,0.3s							
SMF	**Signal de Mont**	**4.75**	**202**	*e*P*n*	**Pn**	**17 23 03.8**	**-0.4**
SMF				*e*S*g*	**Sg**	**17 24 23.1**	**-0.9**
SMF	**Signal de Mont**	**4.75**	**202**	*e*P*n*	**Pn**	**17 23 03.8**	**-0.4**
SMF				*e*S*g*	**Sg**	**17 24 23.1**	**-0.9**
comp=E,3.3nm,0.3s							
BRG	**Berggiesshubel**	**4.76**	**90**	SG	**Sg**	**17 24 22.4**	**-1.8**
comp=E,2.2nm,0.5s							
LDF	**La Druitiere**	**4.91**	**242**	*e*P*n*	**Pn**	**17 23 06.0**	**-0.3**
LDF				*e*S*n*	**Sn**	**17 24 00.8**	**-2.9**
comp=E,1.8nm,0.3s							
LDF	**La Druitiere**	**4.91**	**242**	*e*P*n*	**Pn**	**17 23 06.0**	**-0.3**
LDF	**La Druitiere**	**4.91**	**242**	*e*P*n*	**Pn**	**17 23 06.0**	**-0.3**
LDF				*e*S*n*	**Sn**	**17 24 00.8**	**-2.9**
comp=E,0.9nm,0.3s							
FLN	**La Foliniere**	**5.02**	**245**	*e*P*n*	**Pn**	**17 23 07.6**	**-0.3**
FLN				*e*S*n*	**Sn**	**17 24 03.4**	**-3.2**
comp=E,5.1nm,0.2s							
FLN	**La Foliniere**	**5.02**	**245**	*e*P*n*	**Pn**	**17 23 07.6**	**-0.3**
FLN				*e*S*n*	**Sn**	**17 24 03.4**	**-3.2**
FLN	**La Foliniere**	**5.02**	**245**	*e*P*n*	**Pn**	**17 23 07.6**	**-0.3**
FLN				*e*S*n*	**Sn**	**17 24 03.4**	**-3.2**
comp=E,2.5nm,0.2s							
BGF	**Bois d'Agland**	**5.11**	**209**	*e*P*n*	**Pn**	**17 23 08.5**	**-0.5**
BGF				*e*S*n*	**Sn**	**17 24 05.2**	**-3.4**
BGF				*e*S*g*	**Sg**	**17 24 34.2**	**-1.0**
comp=E,15nm,0.4s							
BGF	**Bois d'Agland**	**5.11**	**209**	*e*P*n*	**Pn**	**17 23 08.5**	**-0.5**
BGF				*e*S*n*	**Sn**	**17 24 05.2**	**-3.4**
BGF				*e*S*g*	**Sg**	**17 24 34.2**	**-1.0**
BGF	**Bois d'Agland**	**5.11**	**209**	*e*P*n*	**Pn**	**17 23 08.5**	**-0.5**
BGF				*e*S*n*	**Sn**	**17 24 05.2**	**-3.4**
BGF				*e*S*g*	**Sg**	**17 24 34.2**	**-1.0**
comp=E,7.3nm,0.4s							
GRR	**Gorron**	**5.43**	**243**	*e*P*n*	**Pn**	**17 23 13.2**	**-0.3**
GRR				*e*S*n*	**Sn**	**17 24 13.1**	**-3.5**
comp=E,11nm,0.5s							
GRR	**Gorron**	**5.43**	**243**	*e*P*n*	**Pn**	**17 23 13.2**	**-0.3**
GRR				*e*S*n*	**Sn**	**17 24 13.1**	**-3.5**
GRR	**Gorron**	**5.43**	**243**	*e*P*n*	**Pn**	**17 23 13.2**	**-0.3**
TCF	**Toulx Ste Croi**	**5.55**	**212**	*e*P*n*	**Pn**	**17 23 14.7**	**-0.4**
TCF				*e*S*n*	**Sn**	**17 24 15.8**	**-3.7**
TCF				*e*S*g*	**Sg**	**17 24 47.9**	**-1.5**
comp=E,3.9nm,0.4s							
TCF	**Toulx Ste Croi**	**5.55**	**212**	*e*P*n*	**Pn**	**17 23 14.7**	**-0.4**
TCF				*e*S*n*	**Sn**	**17 24 15.8**	**-3.7**
TCF				*e*S*g*	**Sg**	**17 24 47.9**	**-1.5**
TCF	**Toulx Ste Croi**	**5.55**	**212**	*e*P*n*	**Pn**	**17 23 14.7**	**-0.4**
LPL	**La Plagne**	**5.58**	**178**	*e*P*n*	**Pn**	**17 23 14.9**	**-0.5**
LPL				*e*S*n*	**Sn**	**17 24 16.4**	**-3.8**
comp=E,1.7nm,0.5s							
LPL	**La Plagne**	**5.58**	**178**	*e*P*n*	**Pn**	**17 23 14.9**	**-0.5**
LPL				*e*S*n*	**Sn**	**17 24 16.4**	**-3.8**
LPL	**La Plagne**	**5.58**	**178**	*e*P*n*	**Pn**	**17 23 14.9**	**-0.5**
LPL				*e*S*n*	**Sn**	**17 24 16.4**	**-3.8**
comp=E,0.9nm,0.5s							
LPG	**La Plagne**	**5.59**	**178**	*e*P*n*	**Pn**	**17 23 15.5**	**-0.2**
LPG				*e*S*n*	**Sn**	**17 24 16.8**	**-3.8**
comp=E,1.0nm,0.4s							
LPG	**La Plagne**	**5.59**	**178**	*e*P*n*	**Pn**	**17 23 15.5**	**-0.2**
LPG				*e*S*n*	**Sn**	**17 24 16.8**	**-3.8**
LPG	**La Plagne**	**5.59**	**178**	*e*P*n*	**Pn**	**17 23 15.5**	**-0.2**
MFF	**Saint Martin d**	**6.23**	**227**	*e*P*n*	**Pn**	**17 23 23.9**	**-0.6**
MFF				*e*S*n*	**Sn**	**17 24 32.3**	**-4.0**
comp=E,2.9nm,0.4s							
MFF	**Saint Martin d**	**6.23**	**227**	*e*P*n*	**Pn**	**17 23 23.9**	**-0.6**
MFF				*e*S*n*	**Sn**	**17 24 32.3**	**-4.0**
MFF	**Saint Martin d**	**6.23**	**227**	*e*P*n*	**Pn**	**17 23 23.9**	**-0.6**
SGMF	**Saint Gilles**	**6.47**	**248**	*e*P*n*	**Pn**	**17 23 27.4**	**-0.4**
SGMF				*e*S*n*	**Sn**	**17 24 37.9**	**-4.4**
comp=E,1.8nm,0.3s							
SGMF	**Saint Gilles**	**6.47**	**248**	*e*P*n*	**Pn**	**17 23 27.4**	**-0.4**
SGMF				*e*S*n*	**Sn**	**17 24 37.9**	**-4.4**
SGMF	**Saint Gilles**	**6.47**	**248**	*e*P*n*	**Pn**	**17 23 27.4**	**-0.4**
CAF	**Calviac**	**6.82**	**207**	*e*P*n*	**Pn**	**17 23

ITM				S	Sg	18 04 27.9	+1.1
EVR	**Evrytania**	**1.32**	**22**	*e*PN	**Pn**	18 04 25.6	+0.9
EVR				*e*SN	**Sn**	18 04 43.7	+1.6
EVR	**Evrytania**	**1.32**	**22**	P	**Pn**	18 04 24.4	-0.3
EVR	**Evrytania**	**1.32**	**22**	P	**Pn**	18 04 24.4	-0.3
EVR	**Evrytania**	**1.32**	**22**	*e*Pn	**Pn**	18 04 25.9	+1.2
EVR				*e*Sn	**Sn**	18 04 43.7	+1.6
AGG	**Agios Georgios**	**1.61**	**34**	*e*PN	**Pn**	18 04 29.3	+0.6
AGG	**Agios Georgios**	**1.61**	**34**	P	**Pn**	18 04 28.8	+0.1
AGG				S	**Sn**	18 04 49.3	+0.1
AGG	**Agios Georgios**	**1.61**	**34**	P	**Pn**	18 04 28.8	+0.1
AGG	**Agios Georgios**	**1.61**	**34**	*e*Pn	**Pn**	18 04 29.3	+0.6
AGG				S	**Sn**	18 04 49.3	+0.1
VLI	**Veliai**	**1.72**	**124**	P	**Pn**	18 04 30.5	+0.3
VLI	**Veliai**	**1.72**	**124**	P	**Pn**	18 04 30.5	+0.3
LKR	**Lokris**	**1.74**	**56**	*e*PN	**Pn**	18 04 30.3	-0.1
LKR				*e*SN	**Sn**	18 04 52.4	+0.2
LKR	**Lokris**	**1.74**	**56**	P	**Pn**	18 04 30.2	-0.2
LKR				S	**Sn**	18 04 52.4	+0.2
LKR	**Lokris**	**1.74**	**56**	*e*Pn	**Pn**	18 04 30.3	-0.1
LKR				S	**Sn**	18 04 52.4	+0.2
VIL1	**Vilia, Western**	**1.78**	**74**	*e*PN	**Pn**	18 04 30.7	-0.2
VIL1				*e*SN	**Sn**	18 04 53.4	+0.2
NAIG	**Nisos Aigina**	**1.85**	**87**	*e*PN	**Pn**	18 04 32.0	+0.1
NAIG	**Nisos Aigina**	**1.85**	**87**	*e*Pn	**Pn**	18 04 32.0	+0.1
IGT	**Igoumenitsa**	**1.95**	**341**	P	**Pn**	18 04 33.5	+0.2
IGT				S	**Sn**	18 04 58.6	+1.2
IGT	**Igoumenitsa**	**1.95**	**341**	P	**Pn**	18 04 33.5	+0.2
IGT				S	**Sn**	18 04 58.6	+1.2
THL	**Klokotos Trika**	**1.98**	**19**	*e*PB	**Pb**	18 04 34.5	-2.1
THL	**Klokotos Trika**	**1.98**	**19**	P	**Pn**	18 04 34.0	+0.2
THL	**Klokotos Trika**	**1.98**	**19**	P	**Pn**	18 04 34.0	+0.2
ATH	**Athens Observa**	**2.04**	**81**	*e*PB	**Pb**	18 04 33.8	-3.8
ATH	**Athens Observa**	**2.04**	**81**	*e*Pb	**Pb**	18 04 33.4	-4.2
VLY	**Voula,Athens**	**2.09**	**85**	P	**Pn**	18 04 34.9	-0.4
VLY				S	**Sn**	18 05 01.6	+0.6
VLY	**Voula,Athens**	**2.09**	**85**	P	**Pn**	18 04 34.9	-0.4
VLY				S	**Sn**	18 05 01.6	+0.6
PTL	**Penteli**	**2.17**	**80**	*e*PN	**Pn**	18 04 36.1	-0.2
PTL	**Penteli**	**2.17**	**80**	P	**Pn**	18 04 36.1	-0.2
PTL				S	**Sn**	18 05 02.9	0.0
PTL	**Penteli**	**2.17**	**80**	P	**Pn**	18 04 36.1	-0.2
PTL				S	**Sn**	18 05 02.9	0.0
NEO	**Neokhori**	**2.28**	**45**	*e*PB	**Pb**	18 04 38.0	-3.7
NEO	**Neokhori**	**2.28**	**45**	P	**Pn**	18 04 37.8	-0.1
NEO	**Neokhori**	**2.28**	**45**	P	**Pn**	18 04 37.8	-0.1
FNA	**Florina**	**3.09**	**3**	P	**Pn**	18 04 49.2	+0.2
FNA	**Florina**	**3.09**	**3**	P	**Pn**	18 04 49.2	+0.2
STON	**Ston**	**5.81**	**334**	*e*Pn	**Pn**	18 05 23.1	-3.2
STON				Sn	**Sn**	18 06 23.6	-9.0
NVLJ	**Novalja**	**8.34**	**327**	*i* Pn	**Pn**	18 06 00.0	-1.1
NVLJ				Sn	**Sn**	18 07 26.9	-8.0
NVLJ	**Novalja**	**8.34**	**327**	*i* Pn	**Pn**	18 06 00.0	-1.1
MLR	**Muntele Rosu**	**8.57**	**23**	LR	LR	18 08 25.2	
	comp=Z,32nm,19.8s,baz=36,slow=32						
FINES	**FINESS Array B**	**23.97**	**6**	P	**P**	**18 09 10.6**	**-3.7**
	2.2nm,0.7s,mb3.7,baz=193,slow=7.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**29.98**	**221**	P	**P**	**18 10 08.7**	**-0.1**
	0.1nm,0.5s,mb2.8,baz=32,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**45.13**	**58**	P	**P**	**18 12 12.9**	**-3.5**
	0.1nm,0.4s,mb3.0,baz=268,slow=7.8,SNR=5.1						

*UPP **08** 18:09:14.8, 67°.09N×21°.03E, h0km, ML2.3, Mining explosion.*
*ISCJB **08** 18:09:14.0±0.5, 67°.08N±0°.02×20°.99E±0°.10, h0km, Error ellipse: s-maj=5.5km s-min=3.0km az=0.6*
*IDC **08** 18:09:15.8±0.9, 67°.13N×20°.91E, h0km, mb1 3.2/4, mb1mx3.0/26, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=17.2km s-min=6.8km az=117.0*
*HEL **08** 18:09:15.6±0.1, 67°.06N×20°.95E, h0km, ML1.9, ML2.3(UPP), ML2.2(BER), Explosion*
*NAO **08** 18:09:15.5±1.2, 67°.08N×21°.11E, ML2.1*
*CSEM **08** 18:09:15.0±0.2, 67°.09N×20°.86E, h2km, ML3.3/4, Error ellipse: s-maj=6.4km s-min=3.1km az=106.0, Mining explosion.*
*BER **08** 18:09:16.8±3.2, 67°.04N×20°.84E, h0km, ML2.2, ML2.1(NAO), Suspected explosion*

ISC 08 18:09:14.9±0.4, 67°.07N±0°.02×20°.99E±0°.08, h0km, n48, σ1°.09/70, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.93**	**345**	*e*P	**Pg**	**18 09 31.8**	**-0.8**
KUA				*e*S	**Sg**	**18 09 44.9**	**+0.2**
LANU	**Lannavaara**	**1.06**	**21**	*e*P	**Pg**	**18 09 33.1**	**-2.1**
LANU				*e*SB	**Sb**	**18 09 50.7**	**+0.2**
LANU				*e*RG		18 09 51.6	
LANU	**Lannavaara**	**1.06**	**21**	P	**Pg**	**18 09 34.2**	**-1.0**
LANU				Sb	**Sb**	**18 09 50.7**	**+0.2**
KALU	**Kalix**	**1.54**	**141**	*e*P	**Pn**	**18 09 43.3**	**-0.3**
KALU	**Kalix**	**1.54**	**141**	P	**Pn**	**18 09 43.3**	**-0.2**
SJUU	**Sjulsmark**	**1.58**	**171**	*e*P	**Pn**	**18 09 44.0**	**-0.2**
SJUU	**Sjulsmark**	**1.58**	**171**	P	**Pn**	**18 09 44.0**	**-0.1**
HEF	**Hetta**	**1.69**	**36**	*e*P	**Pn**	**18 09 45.3**	**-0.3**
	baz=215						
HEF				*e*SG	**Sg**	**18 10 07.9**	**-1.2**
HEF				MSG		18 10 07.9	
	comp=Z,4.3nm,0.4s						
HEF	**Hetta**	**1.69**	**36**	P	**Pn**	**18 09 45.3**	**-0.3**
HEF				Sg	**Sg**	**18 10 07.9**	**-1.2**
	comp=Z,4.3nm,0.4s						
KIF	**Kilpisjarvi**	**1.95**	**358**	*e*P	**Pn**	**18 09 48.7**	**-0.4**
	baz=177						
KIF				*e*SG	**Sg**	**18 10 17.5**	**+0.1**
KIF				MSG		18 10 17.5	
	comp=Z,34nm,0.2s						
KIF	**Kilpisjarvi**	**1.95**	**358**	P	**Pn**	**18 09 48.7**	**-0.5**
KIF				Sg	**Sg**	**18 10 17.5**	**0.0**
	comp=Z,34nm,0.2s						
RNF	**Rovaniemi**	**2.04**	**101**	*e*PB	**Pb**	**18 09 51.5**	**-1.3**
RNF				*e*SG	**Sg**	**18 10 21.9**	**+1.6**
RNF				MSG		18 10 21.9	
	comp=Z,18nm,0.1s						
KTK1	**Kautokeino**	**2.13**	**22**	*e*P	**Pn**	**18 09 52.9**	**+1.2**
KTK1				*e*Sg	**Sg**	**18 10 23.2**	**-0.1**
KTK1				AML	AML	18 10 26.8	
	comp=Z,29nm,0.3s						
KTK1	**Kautokeino**	**2.13**	**22**	*e*P	**Pn**	**18 09 52.9**	**+1.2**
KTK1				*e*SG	**Sg**	**18 10 23.2**	**-0.1**
KTK1				AML	AML	18 10 26.8	
	comp=Z,29nm,0.3s						
KTK1	**Kautokeino**	**2.13**	**22**	P	**Pn**	**18 09 52.8**	**+1.1**
KTK1				*e*Sg	**Sg**	**18 10 23.2**	**-0.1**
	comp=Z,29nm,0.3s,SNR=90						
BURU	**Burvik**	**2.50**	**176**	*e*P	**Pn**	**18 09 57.7**	**+1.1**
BURU	**Burvik**	**2.50**	**176**	P	**Pn**	**18 09 57.7**	**+1.0**
SVAU	**Svanoeiden**	**2.65**	**193**	*e*P	**Pn**	**18 09 59.5**	**+0.8**
SVAU	**Svanoeiden**	**2.65**	**193**	P	**Pn**	**18 09 59.5**	**+0.8**
OUL	**Oulu**	**2.82**	**133**	*e*PB	**Pb**	**18 10 03.8**	**-2.2**
OUL				MSG		18 10 42.4	
	comp=Z,2.6nm,0.2s						
OUL				*e*SG	**Sg**	**18 10 42.4**	**-3.0**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 10 03.8**	**+0.2**
	baz=202,slow=16						
ARA0				Sn	**Sn**	**18 10 41.1**	**+1.0**
	baz=208,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**18 10 03.3**	**-0.2**
	baz=210						
ARA0				*e*SB	**Sb**	**18 10 45.4**	**-0.7**
ARA0				MSG		18 10 45.4	
	comp=Z,1.2nm,0.3s						
ARA0	**ARCESS Array S**	**3.00**	**32**	P	**Pn**	**18 10 03.3**	**-0.2**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 10 03.8**	**+0.3**
	baz=202,slow=15,SNR=50						
ARA0				Sn	**Sn**	**18 10 41.1**	**+1.0**
	baz=208,slow=25,SNR=50						
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 10 03.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=214,slow=13,SNR=59						
ARCES				Sn	**Sn**	**18 10 41.8**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=242,slow=23,SNR=8.8						
ARCES				Lg		18 10 48.8	
	comp=Z,1.5nm,0.3s,baz=218,slow=29,SNR=8.9						
VRF	**Varrio**	**3.40**	**74**	*e*P	**Pn**	**18 10 10.4**	**+1.4**
VRF				*e*SG	**Sg**	**18 11 01.0**	**-2.9**
VRF				MSG		18 11 01.0	
	comp=Z,1.1nm,0.4s						
VRF	**Varrio**	**3.40**	**74**	P	**Pn**	**18 10 10.4**	**+1.3**
MSF	**Maaselka**	**3.43**	**106**	*e*P	**Pn**	**18 10 11.4**	**+2.0**
MSF	**Maaselka**	**3.43**	**106**	P	**Pn**	**18 10 11.4**	**+1.9**
KEV	**Kevo**	**3.50**	**37**	*e*P	**Pn**	**18 10 10.9**	**+0.4**
KEV	**Kevo**	**3.50**	**37**	P	**Pn**	**18 10 10.9**	**+0.4**
VAF	**Ylistaro**	**4.10**	**169**	*e*P	**Pn**	**18 10 19.8**	**+1.0**
	baz=357						
VAF	**Ylistaro**	**4.10**	**169**	P	**Pn**	**18 10 19.7**	**+1.0**
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**18 10 26.5**	**-0.1**
	baz=270,slow=12						
APA0				Sn	**Sn**	**18 11 20.8**	**-0.7**
	baz=258,slow=22						
APA0	**Apatity Array**	**4.68**	**78**	*e*P	**Pn**	**18 10 26.5**	**-0.1**
APA0				*e*S	**Sn**	**18 11 20.8**	**-0.7**
APA0	**Apatity Array**	**4.68**	**78**	P	**Pn**	**18 10 26.5**	**-0.1**
APA0				S	**Sn**	**18 11 20.8**	**-0.7**
FIA0	**FINESS Array S**	**6.06**	**156**	Pn	**Pn**	**18 10 46.5**	**+0.9**
	baz=345,slow=16						
FIA0	**FINESS Array S**	**6.06**	**156**	*e*P	**Pn**	**18 10 46.5**	**+0.9**
FIA0	**FINESS Array S**	**6.06**	**156**	P	**Pn**	**18 10 46.5**	**+0.9**
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**18 10 47.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=345,slow=13,SNR=15						
FINES				Sn	**Sn**	**18 11 59.6**	**+4.0**
	comp=Z,0.3nm,0.3s,baz=349,slow=22,SNR=6.9						
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**18 11 03.0**	**-1.0**
	baz=22,slow=12						
NB2	**NORSAR Subarra**	**7.40**	**220**	*e*P	**Pn**	**18 11 03.0**	**-1.0**
NB2	**NORSAR Subarra**	**7.40**	**220**	P	**Pn**	**18 11 03.0**	**-1.0**
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**18 11 03.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=299,slow=17,SNR=5.8						
NOA				Sn	**Sn**	**18 12 27.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=269,slow=5.2,SNR=2.7						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 11 07.4**	**-0.3**
	baz=22,slow=14						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 11 07.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=9.1						
HFS	**Hagfors**	**7.67**	**208**	*e*P	**Pn**	**18 11 07.4**	**-0.3**
HFS	**Hagfors**	**7.67**	**208**	P	**Pn**	**18 11 07.4**	**-0.3**

NEIC 08 18:09:20.5, 66°.37N×157°.70W, h13km, ML3.5(AEIC), After AEIC., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM3	**Indian Mountai**	**1.65**	**102**	P	Pn	18 09 48.4	-0.8
IM3				S	Sn	18 10 09.9	-0.3
GCSA	**Galena City Sc**	**1.67**	**168**	P	Pn	18 09 49.6	+0.1
GCSA				S	Sn	18 10 11.0	+0.3
COLD	**Coldfoot**	**3.09**	**70**	P	Pn	18 10 08.5	-0.5
COLD				S	Sn	18 10 48.2	+2.6
CHUM	**Lake Minchumin**	**3.38**	**135**	P	Pn	18 10 14.2	+1.3
CHUM				S	Sn	18 10 55.8	+3.0
TT01	**Tatalina**	**3.56**	**167**	P	Pn	18 10 16.3	+0.9
BPAW	**Bear Paw Mtn.**	**3.63**	**126**	P	Pn	18 10 17.2	+0.8
MDM	**Murphy Dome**	**4.17**	**106**	P	Pn	18 10 24.0	+0.2
MDM				S	Sn	18 11 16.2	+3.9
PPLA	**Purkeypile**	**4.22**	**143**	P	Pn	18 10 25.5	+1.1
TNA	**Tin City**	**4.26**	**264**	*e*Pn	Pn	18 10 27.0	+2.0
TRF	**Thorofare Moun**	**4.31**	**129**	P	Pn	18 10 26.4	+0.8
COLA	**College**	**4.35**	**106**	P	Pn	18 10 26.2	0.0
CCB	**Clear Creek Bu**	**4.47**	**108**	P	Pn	18 10 27.5	-0.3
MCK	**McKinley**	**4.56**	**121**	P	Pn	18 10 29.1	0.0
IL1	**Eielson Array**	**4.77**	**105**	P	Pn	18 10 31.4	-0.5
RND	**Reindeer**	**4.80**	**124**	P	Pn	18 10 32.7	+0.3
SKT	**Skwentna**	**5.17**	**146**	P	Pn	18 10 38.5	+1.0
DHY	**Denali Highway**	**5.52**	**122**	P	Pn	18 10 42.9	+0.6
STLK	**Strandline Lak**	**5.53**	**149**	P	Pn	18 10 43.8	+1.3
DDM	**Donnelly Dome**	**5.64**	**112**	P	Pn	18 10 43.4	-0.5
SML	**Sawmill**	**6.15**	**134**	*e*Pn	Pn	18 10 51.1	+0.2
	3.2nm,0.7s						
EGAK	**Eagle**	**7.04**	**96**	*e*Pn	Pn	18 11 02.5	-0.6
	7.9nm,0.7s						
DAWY	**Dawson**	**8.03**	**98**	*e*Pn	Pn	18 11 15.6	-1.0

*ISCJB **08** 18:33:01.3±0.8, 40°.31N±0°.02×18°.95E±0°.05, h11km±5km, Error ellipse: s-maj=6.9km s-min=3.3km az=155.6*
*CSEM **08** 18:33:03.4±0.4, 40°.31N×19°.11E, h10km, ML2.4, Error ellipse: s-maj=10.1km s-min=4.4km az=79.0*
*THE **08** 18:33:03.1, 40°.29N×19°.05E, h8km±1km, ML2.9/5, Error ellipse: s-maj=2.2km s-min=1.2km az=263.0*
*ATH **08** 18:33:03.4, 40°.28N×19°.10E, h33km±3km, MD3.6/15*
*BEO **08** 18:33:17.8±0.8, 41°.19N×19°.10E, h0km, ML2.4/2*

ISC 08 18:33:02.9±0.8, 40°.31N±0°.03×19°.01E±0°.05, h13km±4km, n65, σ0°.87/95, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.85**	**134**	*e*PN	**Pg**	**18 33 18.2**	**-1.1**
KEK				*e*SN	**Sg**	**18 33 30.6**	**+0.2**
KEK	**Kerkira**	**0.85**	**134**	P	**Pg**	**18 33 18.2**	**-1.1**
KEK				S	**Sg**	**18 33 30.0**	**-0.4**
KEK	**Kerkira**	**0.85**	**134**	*e*Pb	**Pg**	**18 33 18.2**	**-1.1**
KEK				S	**Sg**	**18 33 30.0**	**-0.4**
KEK				*e*Sn	**Sn**	**18 33 31.3**	**-1.5**
TIR	**Tirane**	**1.22**	**32**	*e*Pg	**Pn**	**18 33 20.4**	**-5.3**
TIR				*e*SG	**Sg**	**18 33 42.7**	**+0.4**
TIR	**Tirane**	**1.22**	**32**	*e*PN	**Pn**	**18 33 26.2**	**+0.5**
TIR				*e*SN	**Sn**	**18 33 42.3**	**+0.3**
TIR	**Tirane**	**1.22**	**32**	*e*Pg	**Pn**	**18 33 20.4**	**-5.3**
TIR	**Tirane**	**1.22**	**32**	*e*Pn	**Pn**	**18 33 26.2**	**+0.5**
TIR				*e*Sn	**Sn**	**18 33 42.3**	**+0.3**
IGT	**Igoumenitsa**	**1.28**	**127**	P	**Pn**	**18 33 25.8**	**-0.6**
IGT				S	**Sb**	**18 33 43.2**	**+0.1**
IGT	**Igoumenitsa**	**1.28**	**127**	P	**Pn**	**18 33 25.8**	**-0.6**
IGT				S	**Sb**	**18 33 43.2**	**+0.1**
JAN	**Janina**	**1.56**	**114**	*e*PN	**Pn**	**18 33 29.8**	**-0.4**
JAN				*e*SN	**Sn**	**18 33 49.0**	**-1.2**
JAN	**Janina**	**1.56**	**114**	P	**Pn**	**18 33 29.9**	**-0.3**
JAN				S	**Sn**	**18 33 50.7**	**+0.5**
JAN	**Janina**	**1.56**	**114**	P	**Pn**	**18 33 29.9**	**-0.3**
JAN				*e*Sn	**Sn**	**18 33 50.1**	**-0.1**
JAN				S	**Sn**	**18 33 50.7**	**+0.5**
NEST	**Nestorio**	**1.56**	**86**	P	**Pn**	**18 33 29.1**	**-1.2**
NEST				S	**Sn**	**18 33 51.0**	**+0.7**
NEST	**Nestorio**	**1.56**	**86**	P	**Pn**	**18 33 29.1**	**-1.2**
NEST				S	**Sn**	**18 33 51.0**	**+0.7**
MEV	**Metsovon**	**1.78**	**106**	P	**Pn**	**18 33 33.6**	**+0.3**
MEV	**Metsovon**	**1.78**	**106**	P	**Pn**	**18 33 33.6**	**+0.3**
FNA	**Florina**	**1.86**	**75**	P	**Pn**	**18 33 33.9**	**-0.6**
FNA				S	**Sn**	**18 33 58.6**	**+0.8**
FNA	**Florina**	**1.86**	**75**	P	**Pn**	**18 33 33.9**	**-0.6**
FNA				S	**Sn**	**18 33 58.6**	**+0.8**
BIA	**Bitola**	**1.90**	**67**	*e*Pn	**Pn**	**18 33 34.6**	**-0.4**
BIA				*e*Sn	**Sn**	**18 33 57.5**	**-1.1**
KRUS	**Krusevo**	**2.00**	**57**	*e*Pn	**Pn**	**18 33 37.1**	**+0.8**
KZN	**Kozani**	**2.11**	**89**	*e*PN	**Pn**	**18 33 37.4**	**-0.4**
KZN	**Kozani**	**2.11**	**89**	P	**Pn**	**18 33 37.5**	**-0.3**
KZN	**Kozani**	**2.11**	**89**	P	**Pn**	**18 33 37.5**	**-0.3**
PDG	**Podgorica**	**2.13**	**5**	*e*Pn	**Pg**	**18 33 42.4**	**-1.3**
PDG				*e*Sn	**Sn**	**18 34 04.6**	**+0.3**
PDG	**Podgorica**	**2.13**	**5**	*e*Pn	**Pg**	**18 33 42.4**	**-1.3**
PDG				*e*Sn	**Sn**	**18 34 04.6**	**+0.3**
THL	**Klokotos Trika**	**2.42**	**107**	*e*PN	**Pn**	**18 33 42.0**	**-0.2**
THL	**Klokotos Trika**	**2.42**	**107**	P	**Pn**	**18 33 42.0**	**-0.2**
THL				S	**Sn**	**18 34 12.3**	**+0.6**
THL	**Klokotos Trika**	**2.42**	**107**	*e*Pn	**Pn**	**18 33 42.0**	**-0.2**
THL				S	**Sn**	**18 34 12.3**	**+0.6**
VLS	**Valsamata**	**2.46**	**150**	*e*PN	**Pn**	**18 33 42.3**	**-0.3**
VLS	**Valsamata**	**2.46**	**150**	P	**Pn**	**18 33 42.2**	**-0.4**
VLS				S	**Sn**	**18 34 12.8**	**+0.3**
VLS	**Valsamata**	**2.46**	**150**	P	**Pn**	**18 33 42.2**	**-0.4**
VLS				S	**Sn**	**18 34 12.8**	**+0.3**
EVR	**Evrytania**	**2.57**	**122**	*e*PN	**Pn**	**18 33 44.2**	**0.0**
EVR	**Evrytania**	**2.57**	**122**	P	**Pn**	**18 33 44.6**	**+0.4**
EVR	**Evrytania**	**2.57**	**122**	P	**Pn**	**18 33 44.6**	**+0.4**
EVR	**Evrytania**	**2.57**	**122**	*e*Pb	**Pn**	**18 33 45.2**	**+1.0**
LIT	**Litokhoron**	**2.67**	**93**	*e*PN	**Pn**	**18 33 45.4**	**-0.2**
LIT	**Litokhoron**	**2.67**	**93**	*e*Pn	**Pn**	**18 33 45.4**	**-0.2**
STON	**Ston**	**2.74**	**339**	*i* Pn	**Pn**	**18 33 44.9**	**-1.7**
STON				Sn	**Sn**	**18 34 18.7**	**-0.8**
AGG	**Agios Georgios**	**2.87**	**116**	*e*PN	**Pn**	**18 33 48.5**	**+0.2**
AGG	**Agios Georgios**	**2.87**	**116**	P	**Pn**	**18 33 48.8**	**+0.6**
AGG	**Agios Georgios**	**2.87**	**116**	*e*Pn	**Pn**	**18 33 48.8**	**+0.6**
RLS	**Riolos of Patr**	**2.95**	**139**	*e*PN	**Pn**	**18 33 49.5**	**+0.1**
RLS	**Riolos of Patr**	**2.95**	**139**	*e*Pn	**Pn**	**18 33 49.5**	**+0.1**
SJES	**Sjenica**	**3.04**	**13**	*e*Pn	**Pn**	**18 33 56.7**	**+6.1**
SJES				*e*Sn	**Sn**	**18 34 26.5**	**-0.2**
SJES	**Sjenica**	**3.04**	**13**	*e*Pn	**Pn**	**18 33 56.7**	**+6.1**
SJES				*e*Sn	**Sn**	**18 34 26.5**	**-0.2**
BARS	**Barje**	**3.27**	**39**	*e*Pn	**Pn**	**18 33 55.0**	**+1.2**
BARS	**Barje**	**3.27**	**39**	*e*Pn	**Pn**	**18 33 55.0**	**+1.2**
IVAS	**Ivanjica**	**3.37**	**14**	*e*Pn	**Pg**	**18 34 08.9**	**+1.4**
IVAS	**Ivanjica**	**3.37**	**14**	*e*Pn	**Pg**	**18 34 08.9**	**+1.4**
PLG	**Polygyros**	**3.39**	**87**	*e*PN	**Pn**	**18 33 54.6**	**-0.8**
PLG	**Polygyros**	**3.39**	**87**	*e*Pn	**Pn**	**18 33 54.6**	**-0.8**
LKR	**Lokris**	**3.50**	**117**	*e*PN	**Pn**	**18 33 56.5**	**-0.5**
LKR	**Lokris**	**3.50**	**117**	*e*Pn	**Pn**	**18 33 56.3**	**-0.7**
DIVS	**Divibare**	**3.85**	**11**	*e*Pn	**Pn**	**18 34 03.6**	**+1.8**
DIVS				*e*Sg	**Sn**	**18 34 44.0**	**-3.0**
DIVS	**Divibare**	**3.85**	**11**	*e*Pn	**Pn**	**18 34 03.6**	**+1.8**
DIVS				*e*Sg	**Sn**	**18 34 44.0**	**-3.0**
ITM	**Ithomi**	**3.87**	**143**	*e*PN	**Pn**	**18 34 02.6**	**+0.6**
ITM	**Ithomi**	**3.87**	**143**	*e*Pn	**Pn**	**18 34 02.9**	**+0.9**
VIL1	**Vilia, Western**	**3.98**	**121**	*e*PN	**Pn**	**18 34 03.5**	**0.0**
VLY	**Voula,Athens**	**4.46**	**122**	*e*PN	**Pn**	**18 34 10.7**	**+0.6**
VLY	**Voula,Athens**	**4.46**	**122**	*e*Pn	**Pn**	**18 34 11.7**	**+1.6**
VLI	**Veliai**	**4.72**	**138**	*e*PN	**Pn**	**18 34 14.4**	**+0.6**
VLI	**Veliai**	**4.72**	**138**	*e*Pn	**Pn**	**18 34 14.4**	**+0.6**
KYTH	**Kithira**	**5.12**	**141**	*e*PN	**Pn**	**18 34 20.3**	**+1.1**
KYTH	**Kithira**	**5.12**	**141**	*e*Pn	**Pn**	**18 34 21.3**	**+2.1**
NVLJ	**Novalja**	**5.24**	**326**	*i* Pn	**Pn**	**18 34 22.1**	**+1.3**
NVLJ				Sn	**Sn**	**18 35 21.1**	**0.0**

*BJI **08** 18:39:02.2, 53°.92S×106°.59E, h10km, mB6.6/49, mb5.8/56, Ms5.9/63, Ms7 5.7/61*
*BGS **08** 18:39:03.2±5.3, 53°.00S×106°.82E, h10km, mb6.2(NEIC)*
*ISCJB **08** 18:39:07.8±0.1, 53°.00S±0°.03×106°.81E±0°.05, h10km, mb5.9/212, MS5.9/210, Error ellipse: s-maj=4.4km s-min=3.3km az=35.3*
*IDC **08** 18:39:07.6±0.3, 52°.98S×106°.91E, h0km, mb5.7/28, mb1 5.6/28, mb1mx5.6/29, mbtmp5.6/28, MS5.9/12, Ms1 5.9/12, ms1mx5.6/20, Error ellipse: s-maj=11.6km s-min=5.8km az=119.0*
*MOS **08** 18:39:09.1±1.0, 52°.84S×107°.00E, h10km, mb6.1/46, MS5.8/86, Error ellipse: s-maj=14.5km s-min=8.4km az=86.9*
*NEIC **08** 18:39:09.5±0.1, 53°.01S×106°.82E, h11km, mb6.2/67, ME6.0, MS5.9/158, MW6.3, Error ellipse: s-maj=5.1km s-min=4.6km az=106.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*DJA **08** 18:39:14, 53°.09S×107°.17E, h40km, Mw6.5/104*
*GCMT **08** 18:39:15.8±0.1, 53°.09S×106°.76E, h21km, MW6.3, Moment Tensor Solution. s115, c259; s99, c194; Moment tensor: Scale 10^{18}Nm; M_{rr}=3.50±.02; $M_{\theta\theta}$0.12±.02; $M_{\phi\phi}$3.38±.02; $M_{r\theta}$-0.65±.04; $M_{r\phi}$-0.77±.01; $M_{\theta\phi}$0.27±.03; Best double couple: $M_0$3.60000×10^{18} NP1:ϕ_s356.00000°, δ42.00000°, λ-77.00000°. NP2: ϕ_s158.00000°, δ49.00000°, λ-102.00000°. Principal axes: T 3.5800, Plg3.0000°, Azm257.0000°; N 0.0400, Plg9.0000°, Azm166.0000°; P -3.6200, Plg80.0000°, Azm7.0000°; Data Used: II IU CN IC G. Mantle waves from 107 sta. Surface waves: sta=122, comp=290, per=50.*

ISC 08 18:39:09.6±0.1, 53°.02S±0°.03×106°.80E±0°.05, h10km, (h15km±1.6km: pP-P), n1762, σ1°.03/474, mb5.9/211, MS5.9/210, 233C-245D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**13.43**	**173**	*e*P	**Pn**	**18 42 19.1**	**-0.9**
CASY				*e*T		18 55 45.5	
CASY	**Casey**	**13.43**	**173**	*e*P	**Pn**	**18 42 18.6**	**-1.4**
	527nm,1.2s						
**M

VNDA Vanda 31.45 160 *e*P **P 18 45 30.0 -0.6**
VNDA pmax pmax
comp=Z,103nm,0.8s
VNDA MLR MLR
comp=Z,50μm,19.0s
SBA Scott Base 32.55 160 *e*P **P 18 45 41.3 +1.0**
comp=Z,513nm,1.6s,mb6.2
SBA LR LR
comp=Z,30μm,20.0s,MS6.0
SBA Scott Base 32.55 160 *e*P **P 18 45 41.3 +1.0**
SBA pmax pmax
comp=Z,513nm,1.6s,mb6.2
SBA MLR MLR
comp=Z,30μm,20.0s,MS6.0
STKA Stephens Creek 32.77 64 P **P 18 45 42.1 -0.5**
comp=Z,204nm,0.8s,mb6.1,baz=207,slow=9.3
STKA PcP PcP 18 48 27.1 -0.6
comp=Z,100nm,0.9s,baz=250,slow=2.3,SNR=11
STKA S **S 18 50 54.5 -4.7**
comp=Z,6.4nm,1.0s,baz=33,slow=21,SNR=1.4
STKA LR LR 18 56 49.0
comp=Z,15μm,18.9s,MS5.7,baz=218,slow=32
STKA Stephens Creek 32.77 64‖ *i*P **P 18 45 42.0 -0.6**
comp=Z,299nm,0.9s,mb6.2
STKA *e*PCP PcP 18 48 26.8 -0.8
STKA *e*S **S 18 50 57.9 -1.3**
STKA *e*PCS PcS 18 52 10.7 -2.2
STKA *e*SCS ScS 18 56 08.2 -3.0
STKA Stephens Creek 32.77 64 P **P 18 45 42.1 -0.5**
STKA PcP PcP 18 48 27.1 -0.6
STKA S **S 18 50 54.5 -4.7**
STKA Stephens Creek 32.77 64 P **P 18 45 42.1 -0.5**
STKA 18 48 27.1
STKA S **S 18 50 54.5 -4.7**
STKA pmax pmax
comp=Z,204nm,0.8s
STKA pmax pmax
comp=Z,100nm,0.9s
STKA smax
comp=N,6.0nm,1.0s
STKA MLR MLR
comp=Z,15μm,18.9s
MBWA Marble Bar 33.33 22 *e*P **P 18 45 46.8 -0.7**
comp=Z,156nm,1.0s,mb5.9
MBWA LR LR
comp=Z,14μm,19.0s,MS5.7
MBWA Marble Bar 33.33 22 P **P 18 45 47.4 -0.1**
comp=Z,6μmcomp=Z,211nm,1.1s,mb6.0
MBWA Marble Bar 33.33 22 P **P 18 45 48.1 +0.6**
SNR=17
SYO Syowa Base 34.14 216‖ *e*P **P 18 45 51.6 -2.5**
SYO Syowa Base 34.14 216‖ *e*P **P 18 45 54.0 -0.1**
SYO Syowa Base 34.14 216 *e*SH ScP 18 52 16.0 +0.4
CAN Canberra 34.45 76 *e*P **P 18 45 58.2 +1.0**
comp=Z,317nm,1.8s,mb6.0
CAN LR LR
comp=Z,23μm,19.0s,MS5.9
CAN Canberra 34.45 76 *e*P **P 18 45 58.2 +1.1**
CAN pmax pmax
comp=Z,317nm,1.8s,mb6.0
CAN MLR MLR
comp=Z,23μm,19.0s,MS5.9
CNB Canberra Magne 34.66 77 *e*P **P 18 45 59.5 +0.5**
comp=Z,764nm,1.5s,mb6.4
CNB *e*PP PP 18 47 19.9 +2.4
CNB *e*PCP PcP 18 48 34.9 +2.0
CNB *e*S **S 18 51 30.4 +1.9**
ASAR Alice Springs 35.79 46 P **P 18 46 07.8 -1.0**
comp=Z,37nm,0.6s,mb5.5,baz=208,slow=8.1,SNR=579
ASAR PcP PcP 18 48 35.0 -1.3
comp=Z,100nm,1.1s,baz=196,slow=2.2,SNR=9.6
ASAR S **S 18 51 43.9 -2.1**
comp=Z,1.2nm,0.8s,baz=208,slow=14,SNR=2.4
ASAR PKiKP PKiKP 18 55 54.8 -1.8
comp=Z,2.0nm,0.8s,baz=132,slow=0.6,SNR=7.9
ASAR P3KPbc 19 16 50.5
comp=Z,2.2nm,0.9s,baz=23,slow=4.6,SNR=13
ASAR Alice Springs 35.79 46 P **P 18 46 07.8 -1.0**
ASAR PcP PcP 18 48 35.0 -1.3
ASAR S **S 18 51 43.9 -2.1**
ASAR PKiKP PKiKP 18 55 54.8 -1.8
ASAR *e* 19 16 50.5
ASAR Alice Springs 35.79 46 P **P 18 46 07.9 -0.9**
ASAR 18 48 35.1
ASAR S **S 18 51 43.9 -2.1**
ASAR pmax pmax
comp=Z,37nm,0.6s
ASAR pmax pmax
comp=Z,100nm,1.1s
ASAR smax
comp=N,1.0nm,0.9s
RIV Riverview 36.76 77 *e*P **P 18 46 18.7 +1.7**
QSPA South Pole Qui 37.11 180 P **P 18 46 19.6 +0.1**
comp=N,90nm,0.7s,mb5.7,baz=316,slow=3.4,SNR=122
QSPA S **S 18 52 05.0 -0.2**
comp=N,4.5nm,1.0s,baz=78,slow=23,SNR=1.6
QSPA South Pole Qui 37.11 180 *e*P **P 18 46 19.1 -0.5**
comp=N,1μm,1.7s,mb6.5
QSPA S **S 18 52 05.0 -0.2**
QSPA LR LR
comp=Z,37μm,19.0s,MS6.2
FITZ Fitzroy Crossi 37.82 30 P **P 18 46 26.4 +0.3**
comp=Z,109nm,0.7s,mb5.7,baz=204,slow=6.9,SNR=224
FITZ PcP PcP 18 48 42.7 +0.1
comp=Z,28nm,1.0s,baz=185,slow=14,SNR=3.3
FITZ S **S 18 52 16.5 -0.5**
comp=Z,4.9nm,1.0s,baz=202,slow=16,SNR=2.0
FITZ LR LR 19 00 35.0
comp=Z,23μm,19.1s,MS6.0,baz=207,slow=34
FITZ Fitzroy Crossi 37.82 30‖ *i*P **P 18 46 26.4 +0.3**
comp=Z,370nm,0.9s,mb6.1
FITZ *e*PCP PcP 18 48 43.0 +0.4
FITZ *e*S **S 18 52 19.5 +2.5**
FITZ Fitzroy Crossi 37.82 30 *e*P **P 18 46 26.2 0.0**
comp=Z,458nm,1.2s,mb6.1
FITZ PcP PcP 18 48 42.7 +0.1
FITZ S **S 18 52 16.5 -0.5**
FITZ Fitzroy Crossi 37.82 30 P **P 18 46 26.1 0.0**
comp=Z,7μmcomp=Z,330nm,1.2s,mb5.9
WRA Warramunga Arr 39.27 43 P **P 18 46 37.4 -0.9**
comp=Z,125nm,0.9s,mb5.6,baz=207,slow=7.6,SNR=457
WRA PP PP 18 48 07.1 -1.3
comp=Z,6.7nm,0.8s,baz=197,slow=20,SNR=1.7
WRA PcP PcP 18 48 46.5 -0.6
comp=Z,46nm,0.8s,baz=215,slow=2.9,SNR=8.8
WRA S **S 18 52 37.4 -1.5**
comp=Z,3.0nm,1.1s,baz=184,slow=12,SNR=7.6
WRA PKiKP PKiKP 18 55 58.5 -1.0
comp=Z,2.6nm,0.9s,baz=252,slow=1.0,SNR=7.7
WRA LR LR 19 01 27.2
comp=Z,12μm,18.7s,MS5.8,baz=205,slow=34
WRA Warramunga Arr 39.27 43 P **P 18 46 37.4 -0.9**
WRA PP PP 18 48 07.1 -1.3
WRA PcP PcP 18 48 46.5 -0.6
WRA S **S 18 52 37.4 -1.5**
WRA PKiKP PKiKP 18 55 58.5 -1.0
WRA Warramunga Arr 39.27 43 P **P 18 46 37.4 -0.9**
WRA 18 48 07.1
WRA 18 48 46.5
WRA S **S 18 52 37.4 -1.5**
WRA pmax pmax
comp=Z,125nm,0.9s
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA pmax pmax
comp=Z,46nm,0.8s
WRA smax
comp=N,3.0nm,1.1s
WRAB Tennant Creek 39.28 43 *e*P **P 18 46 37.4 -1.0**
comp=N,511nm,0.9s,mb6.2
WRAB LR LR
comp=Z,11μm,19.0s,MS5.7
WRAB Tennant Creek 39.28 43 *e*P **P 18 46 37.4 -1.0**
WRAB pmax pmax
comp=Z,511nm,0.9s,mb6.2
WRAB MLR MLR
comp=Z,11μm,19.0s,MS5.7
WRAB Tennant Creek 39.28 43 P **P 18 46 37.5 -0.9**
comp=Z,974nm,1.0s,mb6.5
ARMA Armidale 39.50 73 *e*P **P 18 46 41.4 +1.2**
ARMA *e*PCP PcP 18 48 47.3 -0.4
ARMA *e*S **S 18 52 40.9 -1.4**
ARMA Armidale 39.50 73 *e*P **P 18 46 40.7 +0.5**
comp=Z,266nm,1.5s,mb5.8
COCO West Island 41.50 345 *e*P **P 18 46 57.1 +0.3**
comp=Z,333nm,1.3s,mb5.8
COCO LR LR
comp=Z,8μm,21.0s,MS5.6
COCO West Island 41.50 345 *e*P **P 18 46 57.1 +0.3**
COCO pmax pmax
comp=Z,333nm,1.3s,mb5.8
COCO MLR MLR
comp=Z,8μm,21.0s,MS5.6
COCO West Island 41.50 345 P **P 18 46 57.7 +0.9**
comp=Z,9μmcomp=Z,298nm,1.8s,mb5.6
COCO West Island 41.50 345 P **P 18 46 58.9 +2.1**
SNR=5.5
RPZ Rata Peaks 42.35 104 P **P 18 47 03.4 0.0**
comp=Z,23nm,0.9s,mb4.8,baz=271,slow=4.5,SNR=4.2
RPZ S **S 18 53 23.9 -0.4**
comp=Z,7.0nm,0.8s,baz=347,slow=8.8,SNR=1.6
RPZ LR LR 19 01 01.8
comp=Z,21μm,18.4s,MS6.1,baz=230,slow=31
RPZ Rata Peaks 42.35 104 P **P 18 47 03.5 0.0**
RPZ S **S 18 53 23.9 -0.4**
XMIS Christmas Isla 42.43 358 *e*P **P 18 47 04.3 -0.1**
comp=Z,432nm,0.9s,mb6.1
XMIS Christmas Isla 42.43 358 P **P 18 47 02.8 -1.6**
comp=Z,386nm,0.7s,mb6.1
NVL N'lazarevskaya 42.73 209‖ *e*P **P 18 47 07.4 +1.1**
NVL *e**PP pP 18 47 13.7 +4.3
NVL *e*PPP 18 49 00.4
NVL *e* 18 53 26.5
NVL pmax pmax
comp=Z,320nm,1.9s,mb5.7
MAIT Maitri 42.76 209 *e*P **P 18 47 06.6 +0.1**
MAIT *e* 18 48 46.0
MAIT *e*S **S 18 53 29.6 -0.2**
EIDS Eidsvold 43.04 68 *e*P **P 18 47 08.3 -1.0**
comp=Z,170nm,1.4s,mb5.6
IGBI Denpasar 44.59 12 P **P 18 47 21.7 -0.1**
comp=Z,140nm,1.7s,mb5.5
CTA Charters Tower 44.72 58 P **P 18 47 22.4 -0.4**
comp=Z,60nm,0.9s,mb5.4,baz=221,slow=8.6,SNR=32
CTA PcP PcP 18 49 05.8 +0.7
comp=Z,42nm,0.8s,baz=286,slow=2.6,SNR=3.5
CTA S **S 18 53 58.7 -0.7**
comp=Z,1.3nm,0.3s,baz=107,slow=19,SNR=1.8
CTA LR LR 19 05 29.8
comp=Z,20μm,19.1s,MS6.1,baz=201,slow=35
CTA Charters Tower 44.72 58‖ *i*P **P 18 47 22.2 -0.6**
comp=Z,91nm,1.0s,mb5.6
CTA *e* 18 47 35.2
CTA *e*PCP PcP 18 49 05.5 +0.4
CTA *e*S **S 18 53 58.7 -0.7**
CTA Charters Tower 44.72 58 P **P 18 47 22.4 -0.4**
CTA PcP PcP 18 49 05.8 +0.7
CTA S **S 18 53 58.7 -0.7**
CTA Charters Tower 44.72 58 P **P 18 47 22.4 -0.4**
CTA 18 49 05.8
CTA S **S 18 53 58.7 -0.7**
CTA pmax pmax
comp=Z,60nm,0.9s
CTA pmax pmax
comp=Z,42nm,0.8s
CTA smax
comp=N,1.0nm,0.3s
CTA MLR MLR
comp=Z,20μm,19.1s
CTAO Charters Tower 44.72 58 *e*P **P 18 47 22.0 -0.9**
comp=Z,372nm,1.1s,mb6.1
CTAO LR LR
comp=Z,22μm,19.0s,MS6.1
CTAO Charters Tower 44.72 58 *e*P **P 18 47 22.0 -0.8**
CTAO pmax pmax
comp=Z,372nm,1.1s,mb6.1
CTAO MLR MLR
comp=Z,22μm,19.0s,MS6.1
CTAO Charters Tower 44.72 58 P **P 18 47 22.7 -0.1**
comp=Z,6μmcomp=Z,301nm,1.2s,mb6.0
JAGI Jajag, Banyuwa 44.82 10 P **P 18 47 22.0 -1.6**
comp=Z,5μmcomp=Z,78nm,2.0s,mb5.2
PCJI Pacitan 44.84 6 P **P 18 47 23.5 -0.3**
comp=Z,414nm,1.9s,mb5.9
MTNI Mataram 44.91 13 P **P 18 47 24.1 -0.2**
comp=Z,9μmcomp=Z,246nm,1.7s,mb5.8
GMJI Gumukmas 44.94 9 P **P 18 47 24.2 -0.4**
comp=Z,7μmcomp=Z,182nm,1.3s,mb5.8
KRKI Karangkates 44.97 8 P **P 18 47 25.2 +0.4**
comp=Z,377nm,1.5s,mb6.0
NBBI Negara 44.97 11 P **P 18 47 25.4 +0.6**
comp=Z,7μmcomp=Z,164nm,1.5s,mb5.7
PWJI Pagerwojo 45.05 7 P **P 18 47 24.6 -0.9**
comp=Z,5μmcomp=Z,179nm,1.2s,mb5.8
UGM Wanagama 45.08 5 P **P 18 47 25.3 -0.4**
comp=Z,478nm,1.5s,mb6.1
KHKI Kahang-Kahang 45.10 12 P **P 18 47 24.8 -1.0**
comp=Z,5μmcomp=Z,88nm,2.5s,mb5.2
CLJI Cilicap 45.20 3 P **P 18 47 29.6 +2.9**
comp=Z,1μm,1.4s,mb6.5
SRBI Singaraja 45.32 12 P **P 18 47 28.4 +0.8**
comp=Z,7μmcomp=Z,202nm,1.9s,mb5.6
SJI Sawahan 45.33 7 P **P 18 47 28.9 +1.2**
comp=Z,463nm,2.2s,mb5.9
CISI Cisompet, Garu 45.34 1 P **P 18 47 27.7 0.0**
comp=Z,8μmcomp=Z,274nm,1.6s,mb5.8
BLJI Banyuglugur 45.48 9 P **P 18 47 29.3 +0.4**
comp=Z,5μmcomp=Z,146nm,1.5s,mb5.6
BJII Banjamegara 45.61 4 P **P 18 47 30.7 +0.8**
comp=Z,170nm,2.3s,mb5.6
SKJI Sukabumi 45.88 360 P **P 18 47 34.2 +2.2**
comp=Z,405nm,2.2s,mb6.0
SMRI Semarang 45.93 5 P **P 18 47 34.2 +1.8**
comp=Z,394nm,1.4s,mb6.2
SNZO South Karori 45.95 104 *e*P **P 18 47 29.9 -2.5**
comp=Z,924nm,1.5s,mb6.5
SNZO LR LR
comp=Z,10μm,19.0s,MS5.8
MMRI Maumere 46.00 21 P **P 18 47 32.7 -0.3**
comp=Z,421nm,1.7s,mb6.1
LEM Lembang 46.06 1 P **P 18 47 35.0 +1.6**
comp=Z,398nm,1.4s,mb6.2
KMMI Kalianget 46.20 10 P **P 18 47 36.4 +1.8**
comp=Z,161nm,2.1s,mb5.6
SNAA Sanae 46.23 204 P **P 18 47 33.7 -0.5**
comp=Z,13nm,0.8s,mb4.9,baz=139,slow=8.8,SNR=75
SNAA PcP PcP 18 49 10.4 +0.9
comp=Z,26nm,0.9s,baz=131,slow=3.4,SNR=5.9
SNAA PP PP 18 49 26.7 +4.4
comp=Z,14nm,1.0s,baz=148,slow=8.5,SNR=3.1
SNAA S **S 18 54 20.5 +0.2**
comp=Z,0.7nm,1.0s,baz=192,slow=19,SNR=1.9
SNAA Sanae 46.23 204 PcP PcP 18 49 10.4 +0.9
comp=Z,20nm,1.7s
SNAA PP PP 18 49 26.7 +4.4
SNAA S **S 18 54 20.5 +0.2**
SNAA Sanae 46.23 204 P **P 18 47 33.7 -0.5**
SNAA 18 49 10.4
SNAA 18 49 26.7
SNAA S **S 18 54 20.5 +0.3**
SNAA pmax pmax
comp=Z,13nm,0.8s
SNAA pmax pmax
comp=Z,26nm,0.9s
SNAA pmax pmax
comp=Z,14nm,1.0s
SNAA smax
comp=N,1.0nm,1.0s
CGJI Cibinong 46.27 358 P **P 18 47 35.9 +0.8**
comp=N,447nm,1.4s,mb6.2
DBJI Dramaga 46.32 360 P **P 18 47 36.2 +0.7**
comp=N,404nm,2.2s,mb6.0
TNG Tangerang 46.70 360 P **P 18 47 41.0 +2.5**
comp=N,718nm,2.1s,mb6.2
TNG P 18 47 40.2
comp=N,1μm,2.1s
SBJI Serang 46.76 359 P **P 18 47 40.5 +1.6**
comp=N,354nm,1.5s,mb6.1
BLSI Bandar Lampung 47.52 358 P **P 18 47 46.5 +1.6**
comp=N,8μmcomp=N,199nm,2.1s,mb5.8
VNA2 Neumayer--Watz 47.84 204 *e* **P 18 47 47.0 +0.2**
baz=118,slow=6.8
VNA2 *e* pP 18 47 50.2 +0.3
VNA2 *e* 18 49 15.6
LWLI Liwa 47.90 356 P **P 18 47 49.5 +1.6**
comp=N,9μmcomp=N,437nm,1.2s,mb6.3
KLI Kotabumi 48.03 357 P **P 18 47 51.5 +2.7**
comp=N,5μmcomp=N,282nm,1.2s,mb6.2
VNA3 Neumayer Olymp 48.17 203 *e* **P 18 47 49.0 -0.3**
VNA3 *e* 18 49 16.1
KLSI 48.20 357 P **P 18 47 51.2 +1.0**
comp=N,335nm,1.6s,mb6.1
VNA1 Neumayer--Stat 48.24 204 *e* **P 18 47 50.6 +0.7**
VNA1 *e* pP 18 47 53.9 +0.9
VNA1 *e* 18 49 17.2
MDSI Maura Dua 48.43 357 P **P 18 47 53.1 +1.2**
comp=N,7μmcomp=N,221nm,1.8s,mb5.9
COEN Coen 48.45 50 *e*P **P 18 47 51.5 -0.6**
comp=N,2μm,1.3s,mb7.0
COEN *e*PcP PcP 18 49 17.2 -1.1
COEN Coen 48.45 50 P **P 18 47 52.0 -0.1**
comp=N,7μmcomp=N,198nm,1.8s,mb5.8
BKSI Bulukumba 48.79 18 P **P 18 47 54.5 -0.2**
comp=N,6μmcomp=N,131nm,2.3s,mb5.5
KAPI Kappang 49.02 17 P **P 18 47 55.2 -1.3**
comp=N,48nm,0.7s,mb5.6,baz=231,slow=7.1,SNR=3.3
KAPI S **S 18 54 56.7 -4.2**
comp=N,2.7nm,0.8s,baz=242,slow=18,SNR=2.3
KAPI LR LR 19 06 31.1
comp=N,8μm,19.1s,MS5.8,baz=298,slow=34
KAPI Kappang 49.02 17 *e*P **P 18 47 55.0 -1.5**
comp=N,691nm,1.6s,mb6.4
KAPI S **S 18 54 56.7 -4.2**
KAPI Kappang 49.02 17 P **P 18 47 55.6 -0.9**
comp=N,9μmcomp=N,252nm,2.1s,mb5.9
KAPI Kappang 49.02 17 P **P 18 47 55.8 -0.7**
SNR=86
BBSI Bau Bau 49.12 21 P **P 18 47 58.9 +1.6**
comp=N,328nm,2.1s,mb6.0
OUZ Omahuta 49.27 97 *e*P **P 18 47 59.4 +1.2**
comp=N,475nm,1.7s,mb6.2
URZ Urewera 49.33 102 P **P 18 47 57.0 -1.7**
comp=N,86nm,0.8s,mb5.8,baz=237,slow=4.1,SNR=23
URZ S **S 18 54 58.8 -6.1**
comp=N,7.5nm,0.9s,baz=199,slow=20,SNR=1.9
URZ LR LR 19 05 59.4
comp=N,13μm,18.4s,MS6.0,baz=221,slow=33
URZ Urewera 49.33 102 *e*P **P 18 47 56.4 -2.3**
comp=N,350nm,1.2s,mb6.3
URZ S **S 18 54 58.8 -6.1**
BBKI Banjar Baru 49.84 11 P **P 18 48 03.0 +0.3**
comp=N,9μmcomp=N,215nm,2.1s,mb5.8
MRIV Mauritius Mete 49.87 291 *e*P **P 18 48 02.8 -0.1**
SPSI Sidrap Palu 50.05 17 P **P 18 48 04.7 +0.3**
comp=N,358nm,2.0s,mb6.0
TPI Tanjungpandan 50.10 1 P **P 18 48 06.0 +1.3**
comp=N,8μmcomp=N,264nm,2.0s,mb5.9
RER Riviere de l'E 50.18 289 *e*P **P 18 48 05.6 +0.3**
comp=N,317nm,1.8s,mb6.0
RER LR LR
comp=Z,8μm,19.0s,MS5.8
PBKI Pangkalan Bun 50.31 6 P **P 18 48 07.1 +0.8**
comp=Z,901nm,1.1s,mb6.7
KDI Kendari 50.62 21 P **P 18 48 08.9 +0.3**
comp=Z,6μmcomp=Z,204nm,1.5s,mb5.8
PPBI Pangkal Pinang 50.69 359 P **P 18 48 09.8 +0.6**
comp=Z,6μmcomp=Z,194nm,2.0s,mb5.7
KRJI Kerinci 50.95 353 P **P 18 48 13.5 +2.4**
comp=Z,748nm,2.1s,mb6.2
TTSI Tana Toraja 50.96 17 P **P 18 48 11.9 +0.7**
comp=Z,5μmcomp=Z,255nm,1.4s,mb6.0
MSSI Masamba 51.53 17 P **P 18 48 15.5 0.0**
comp=Z,4μmcomp=Z,88nm,1.5s,mb5.5
PDSI Padang 52.20 352 P **P 18 48 21.3 +0.9**
comp=Z,210nm,2.3s,mb5.7
AAI Ambon 52.25 27 P **P 18 48 18.7 -2.1**
comp=Z,8μmcomp=Z,220nm,2.0s,mb5.7
NLAI Namlea 52.38 26 P **P 18 48 20.6 -1.2**
comp=Z,4μmcomp=Z,82nm,2.1s,mb5.3
RGRI Rengat 52.62 354 P **P 18 48 24.6 +1.0**
comp=Z,301nm,1.1s,mb6.1
PPI Padang Panjang 52.65 352 P **P 18 48 24.5 +0.7**
comp=Z,8μmcomp=Z,176nm,2.5s,mb5.5
MSAI Masohi 52.78 28 P **P 18 48 23.3 -1.5**
comp=Z,840nmcomp=Z,37nm,1.7s,mb5.0
STKI Sintang 53.04 6 P **P 18 48 27.6 +0.9**
comp=Z,9μmcomp=Z,273nm,1.1s,mb6.1
SMKI Samarinda 53.11 13 P **P 18 48 28.8 +1.6**
comp=Z,10μmcomp=Z,251nm,2.3s,mb5.7
DGAR Diego Garcia 53.36 316 *e*P **P 18 48 27.7 -1.4**
comp=Z,903nm,1.5s,mb6.5
DGAR LR LR
comp=Z,8μm,20.0s,MS5.8
DGAR Diego Garcia 53.36 316 *e*P **P 18 48 27.7 -1.4**
DGAR pmax pmax
comp=Z,903nm,1.5s,mb6.5
DGAR MLR MLR
comp=Z,8μm,20.0s,MS5.8
BKNI Bangkinang 53.38 353 P **P 18 48 30.1 +0.9**
comp=Z,8μmcomp=Z,292nm,1.9s,mb5.9
LUWI Luwuk 53.48 20 P **P 18 48 29.9 0.0**
comp=Z,8μmcomp=Z,262nm,2.1s,mb5.8
MNSI Mandailing Nat 53.96 351 P **P 18 48 33.6 +0.1**
comp=Z,8μmcomp=Z,162nm,1.8s,mb5.7
PMG Port Moresby 54.29 52 P **P 18 48 36.3 +0.3**
comp=Z,104nm,0.9s,mb5.8,baz=225,slow=4.0,SNR=48
PMG PcP PcP 18 49 41.6 +1.6
comp=Z,101nm,1.1s,baz=135,slow=2.9,SNR=3.2
PMG S **S 18 56 11.2 -2.4**
comp=Z,1.5nm,0.6s,baz=106,slow=21,SNR=2.2
PMG Port Moresby 54.29 52 *e*P **P 18 48 35.9 0.0**
comp=Z,299nm,1.1s,mb6.1
PMG PcP PcP 18 49 41.6 +1.6
PMG S **S 18 56 11.2 -2.4**
PMG LR LR
comp=Z,13μm,19.0s,MS6.0
PMG Port Moresby 54.29 52 P **P 18 48 36.3 +0.4**
PMG 18 49 41.6
PMG S **S 18 56 11.2 -2.4**
PMG pmax pmax
comp=Z,104nm,0.9s
PMG pmax pmax
comp=Z,101nm,1.1s
PMG smax
comp=N,2.0nm,0.6s
PMG Port Moresby 54.29 52 P **P 18 48 35.9 0.0**
comp=N,6μmcomp=N,276nm,1.7s,mb5.9
KSM Kuching 54.38 4 P **P 18 48 37.7 +1.2**
KSM Kuching 54.38 4 *e*P **P 18 48 37.0 +0.5**
comp=N,814nm,2.0s,mb6.3
KSM LR LR
comp=Z,4μm,19.0s,MS5.5
KSM Kuching 54.38 4 P **P 18 48 36.3 -0.2**
comp=Z,7μmcomp=Z,137nm,2.2s,mb5.5
NOUC Port Laguerre 54.38 79 *e*P **P 18 48 36.4 -0.1**
NOUC *e*S PcP 18 49 42.3 +2.1
DZM Mont Dzumac 54.48 80 *e*P **P 18 48 37.1 -0.2**
comp=Z,386nm,1.8s,mb6.0
DZM *e*S **S 18 56 13.4 -2.7**
comp=Z,35μm,28.6s
DZM *e*LR LR 19 04 29.7
comp=Z,12μm,33.2s
DZM Mont Dzumac 54.48 80 *e*P **P 18 48 37.1 -0.2**
comp=Z,386nm,1.8s,mb6.0
DZM *e*S **S 18 56 13.4 -2.7**
comp=Z,35μm,28.6s
DZM *e*LR LR 19 04 29.7
comp=Z,12μm,33.2s
DZM Mont Dzumac 54.48 80 *e*P **P 18 48 37.2 0.0**
comp=Z,502nm,1.8s,mb6.2
MYKOM Kota Tinggi 54.67 356 P **P 18 48 39.8 +1.2**
MYKOM Kota Tinggi 54.67 356 P **P 18 48 38.0 -0.6**
comp=Z,7μmcomp=Z,185nm,1.1s,mb6.0
MRSI Marisa 54.79 19 P **P 18 48 38.7 -0.8**
comp=Z,7μmcomp=Z,200nm,0.8s,mb6.2
KGM Kluang 54.91 356 P **P 18 48 41.9 +1.5**
LBMI Labuha 54.98 26 P **P 18 48 40.8 -0.1**
comp=Z,1μm,2.0s,mb6.6
GTOI Gorontalo 55.16 20 P **P 18 48 41.4 -0.8**
comp=Z,347nm,2.1s,mb6.0
KMSI Cibinong 55.30 21 P **P 18 48 43.6 +0.4**
comp=Z,10μmcomp=Z,769nm,1.2s,mb6.6
SBUM Sibu 55.45 7 P **P 18 48 45.7 +1.4**
SBUM Sibu 55.45 7 P **P 18 48 45.0 +0.7**
comp=Z,6μmcomp=Z,161nm,2.2s,mb5.7
WAMI Wamena 55.58 40 P **P 18 48 44.3 -0.9**
comp=Z,6μmcomp=Z,148nm,2.2s,mb5.6
PSI Prapat 56.01 350 P **P 18 48 47.8 -0.5**
comp=Z,6μmcomp=Z,115nm,2.6s,mb5.5
BTM Bintulu 56.26 8 P **P 18 48 52.2 +2.1**
TNTI Ternate 56.30 25 P **P 18 48 49.4 -0.9**
comp=Z,5μmcomp=Z,125nm,1.9s,mb5.6
MNI Manado 56.34 22 P **P 18 48 49.6 -1.0**
comp=Z,289nm,2.5s,mb5.9
TPTI 56.66 348 P **P 18 48 52.8 -0.1**
comp=Z,113nm,2.0s,mb5.6
TSI Tuntungan 56.74 350 P **P 18 48 53.8 +0.3**
comp=Z,337nm,1.7s,mb6.1
ABPO Ambohimpanom 56.80 283 PFAKE 18 49 00.0 +6.1
ABPO LR LR

comp=Z,4μm,21.0s,MS5.5
BAKI Biak 57.10 36 P **P 18 48 56.1 0.0**
comp=Z,9μmcomp=Z,297nm,1.9s,mb6.0
SMPI Sarmi 57.31 39 P **P 18 48 58.8 +1.2**
comp=Z,361nm,1.7s,mb6.1
IPM Ipoh 57.49 353 P **P 18 48 59.2 +0.5**
IPM Ipoh 57.49 353 *eP* **P 18 48 58.2 -0.6**
comp=Z,629nm,1.9s,mb6.3
IPM Ipoh 57.49 353 P **P 18 48 59.1 +0.3**
comp=Z,6μmcomp=Z,146nm,2.6s,mb5.5
JAY Jayapura 57.61 41 P **P 18 48 59.9 +0.2**
comp=Z,4μmcomp=Z,130nm,2.2s,mb5.6
TSM Tawau 57.86 13 P **P 18 49 02.1 +0.7**
KULM Kulim 58.32 353 P **P 18 49 05.1 +0.5**
KULM Kulim 58.32 353 *eP* **P 18 49 04.0 -0.7**
comp=Z,108nm,1.0s,mb5.8
KULM LR LR
comp=Z,6μm,20.0s,MS5.7
KULM Kulim 58.32 353 P **P 18 49 03.5 -1.1**
comp=Z,6μmcomp=Z,182nm,1.1s,mb6.0
RAO Raoul Island 58.56 98 PFAKE 18 49 20.0 +14
RAO LR LR
comp=Z,7μm,21.0s,MS5.8
GRM Grahamstown 58.61 255 *eP* **P 18 49 06.9 +0.4**
GRM AMB AMB 18 49 09.6
comp=Z,213nm,1.3s,mb6.0
LHMI Lhok Sumawe 58.62 348 P **P 18 49 08.5 +1.8**
comp=Z,428nm,2.2s,mb6.1
MYLDM Lahad Datu 58.82 14 P **P 18 49 10.2 +2.1**
MYLDM Lahad Datu 58.82 14 P **P 18 49 09.8 +1.7**
comp=Z,8μmcomp=Z,189nm,1.5s,mb5.9
KSD Kokstad 58.89 260 *eP* **P 18 49 09.9 +1.4**
KSD AMB AMB 18 49 17.9
comp=Z,512nm,5.4s
BUFB Buffelsbos 59.04 253 *eP* **P 18 49 09.5 0.0**
SDKM Sandakan 59.10 12 P **P 18 49 10.7 +0.7**
BSI Banda Aceh 59.10 347 P **P 18 49 10.3 +0.3**
comp=Z,10μmcomp=Z,458nm,1.1s,mb6.4
KKM Kota Kinabalu 59.38 11 P **P 18 49 12.4 +0.5**
KKM Kota Kinabalu 59.38 11 *eP* **P 18 49 10.8 -1.1**
comp=Z,354nm,1.3s,mb6.2
KKM LR LR
comp=Z,6μm,22.0s,MS5.7
KKM Kota Kinabalu 59.38 11 P **P 18 49 12.3 +0.4**
comp=Z,10μmcomp=Z,246nm,2.4s,mb5.8
SOE Somerset East 59.59 255 *eP* **P 18 49 14.2 +0.9**
SOE AMB AMB 18 49 17.3
comp=Z,240nm,6.8s
KDM Kudat 60.31 11 P **P 18 49 20.0 +1.6**
HNR Honiara 60.84 65 P **P 18 49 21.9 -0.2**
comp=Z,156nm,0.8s,mb6.2,baz=195,slow=8.1,SNR=4.4
HNR LR LR 19 14 27.3
comp=Z,5μm,18.5s,MS5.7,baz=22,slow=35
HNR Honiara 60.84 65 *eP* **P 18 49 22.2 +0.2**
comp=Z,434nm,1.1s,mb6.5
HNR Honiara 60.84 65 *eP* **P 18 49 22.2 +0.1**
HNR pmax pmax
comp=Z,435nm,1.1s,mb6.5
HVD Gariep Dam 61.16 257 *eP* **P 18 49 24.6 +0.5**
HVD AMB AMB 18 49 32.5
comp=Z,282nm,1.5s,mb6.2
SEK Senekal 61.57 260 *eP* **P 18 49 27.1 +0.2**
SEK AMB AMB 18 49 35.2
comp=Z,266nm,2.9s,mb5.9
ELIM Elim 61.58 250 *eP* **P 18 49 29.0 +2.2**
ELIM AMB AMB 18 49 30.8
comp=Z,24μm,7.0s
CTBH Cotabato--PC H 61.81 20⇑*iP* **P 18 49 28.6 +0.1**
DAV Davao City (W) 61.95 21 P **P 18 49 29.5 +0.1**
comp=Z,122nm,0.5s,mb6.3,baz=53,slow=16,SNR=8.3
DAV Davao City (W) 61.95 21 P **P 18 49 29.5 +0.1**
DAV LR LR
comp=Z,5μm,20.0s,MS5.7
DAV Davao City (W) 61.95 21 P **P 18 49 29.2 -0.3**
comp=Z,266nm,0.6s,mb6.5
DAV Davao City (W) 61.95 21⇑*eP* **P 18 49 31.1 +1.6**
DAV Davao City (W) 61.95 21 P **P 18 49 29.8 +0.3**
SNR=6.4
PAGZ Pagadian 62.25 19 *eP* **P 18 49 31.4 -0.1**
BATP Bataraza 62.28 12 *eP* **P 18 49 30.7 -1.0**
PMSA Palmer Station 62.33 184 P **P 18 49 32.1 +0.7**
comp=Z,74nm,1.1s,mb5.7,baz=141,slow=7.1,SNR=5.5
PMSA Palmer Station 62.33 184 P **P 18 49 32.1 +0.7**
PMSA LR LR
comp=Z,11μm,20.0s,MS6.0
SUR Sutherland 62.58 252 *eP* **P 18 49 34.8 +1.2**
SUR AMB AMB 18 49 38.6
comp=Z,151nm,2.4s,mb5.7
SUR Sutherland 62.58 252 *eP* **P 18 49 31.5 -2.2**
comp=Z,94nm,0.8s,mb6.0
SUR LR LR
comp=Z,4μm,19.0s,MS5.6
SUR Sutherland 62.58 252 P **P 18 49 37.4 +3.7**
SNR=8.3
BUKP Musuan 62.62 20 *eP* **P 18 49 34.5 +0.6**
ERPM east rand prop 62.66 262 *eP* **P 18 49 34.7 +0.5**
ERPM AMB AMB 18 49 37.5
comp=Z,218nm,1.2s,mb6.2
CER Ceres 62.73 250 *eP* **P 18 49 35.7 +1.1**
CER AMB AMB 18 49 42.8
comp=Z,60nm,2.0s,mb5.4
BOSA Boshof 62.76 258 *eP* **P 18 49 34.7 -0.2**
BOSA AMB AMB 18 49 37.6
comp=Z,213nm,1.6s,mb6.0
BOSA Boshof 62.76 258 P **P 18 49 34.8 -0.1**
comp=Z,74nm,0.9s,mb5.8,baz=148,slow=5.6,SNR=42
BOSA S **S 18 57 55.9 -7.8**
comp=Z,2.2nm,1.0s,baz=159,slow=18,SNR=1.8
BOSA PKP2bc 19 18 48.3
comp=Z,6.0nm,1.1s,baz=330,slow=6.7,SNR=3.7
BOSA Boshof 62.76 258 P **P 18 49 34.8 -0.1**
BOSA S **S 18 57 55.9 -7.8**
BOSA ⇑*e* 19 18 48.3
BOSA Boshof 62.76 258 P **P 18 49 34.8 -0.1**
BOSA pmax pmax
comp=Z,74nm,0.9s,mb5.8
PRYS Parys 62.76 261 *eP* **P 18 49 34.0 -0.9**
PRYS AMB AMB 18 49 42.8
comp=Z,182nm,2.9s,mb5.7
KLOF Kloof 63.04 261 *eP* **P 18 49 35.5 -1.3**
KLOF AMB AMB 18 49 39.3
comp=Z,134nm,1.2s,mb6.0
SLR Silverton 63.09 262 *eP* **P 18 49 36.7 -0.4**
SLR AMB AMB 18 49 39.4
comp=Z,155nm,1.5s,mb5.9
CGP Cagayan de Oro 63.10 20 *eP* **P 18 49 37.6 +0.5**
PKA Prieska 63.45 255 *eP* **P 18 49 39.6 +0.2**
PKA AMB AMB 18 49 42.3
comp=Z,70nm,1.7s,mb5.5
SWZ Schweizer 63.77 259 *eP* **P 18 49 40.9 -0.7**
SWZ AMB AMB 18 49 44.1
comp=Z,187nm,1.2s,mb6.0
KSR Koster 63.83 261 *eP* **P 18 49 42.0 0.0**
KSR AMB AMB 18 49 44.6
comp=Z,58nm,1.1s,mb5.5
MSEY Mahe Island 63.85 300 PFAKE 18 49 50.0 +7.8
MSEY LR LR
comp=Z,16μm,20.0s,MS6.2
CVNA Calvinia 63.85 252 *eP* **P 18 49 42.4 +0.3**
CVNA AMB AMB 18 49 45.7
comp=Z,246nm,1.4s,mb6.0
MSVF Nonsavu 64.76 86 *eP* **P 18 49 48.0 -0.2**
comp=Z,1μm,1.8s,mb6.6
MSVF LR LR
comp=Z,4μm,19.0s,MS5.6
MSVF Nonsavu 64.76 86 *eP* **P 18 49 48.0 -0.2**
MSVF pmax pmax
comp=Z,1μm,1.8s,mb6.6
MSVF MLR MLR
comp=Z,4μm,19.0s,MS5.6
CUYO Cuyo Island 64.77 15 *eP* **P 18 49 47.9 -0.2**
MSLP Maasin 64.77 20 *eP* **P 18 49 46.9 -1.2**
GUIM Jordan 64.82 17 *eP* **P 18 49 47.0 -1.4**
ENPP El Nido 64.88 14 *eP* **P 18 49 48.4 -0.4**
LBTB Lobatse 65.23 261 *eP* **P 18 49 50.6 -0.6**
LBTB AMB AMB 18 49 53.3
comp=Z,111nm,1.6s,mb5.6
OCLP Ormoc 65.61 19 *eP* **P 18 49 52.7 -0.9**
RCP Roxas 65.76 17⇑*eP* **P 18 49 53.4 -1.1**
BUSP Coron 65.77 14 *eP* **P 18 49 55.6 +1.0**
HMDM Hanimaadhoo 66.03 323 P **P 18 49 57.7 +1.4**
comp=Z,10μmcomp=Z,242nm,1.3s,mb6.1
KOMG Komaggas 66.41 252 *eP* **P 18 49 57.5 -1.2**
KOMG AMB AMB 18 50 02.0
comp=Z,222nm,1.4s,mb6.0
OTRP Odiongan 66.42 16 *eP* **P 18 49 59.8 +1.0**

AUQP San Andres 67.47 17 *eP* **P 18 50 06.4 +1.0**
LUBP Lubang 67.48 14 *eP* **P 18 50 04.8 -0.6**
TGY Tagaytay City 67.95 15 P **P 18 50 08.7 +0.3**
comp=Z,164nm,0.3s,mb6.5,baz=165,slow=17,SNR=8.1
TGY Tagaytay City 67.95 15 P **P 18 50 08.7 +0.3**
TGY Tagaytay City 67.95 15 P **P 18 50 08.7 +0.3**
TGY pmax pmax
comp=Z,164nm,0.3s
UBT Ubonrachathani 68.00 358⇑P **P 18 50 10.0 +1.3**
NST Nakhon Sawan 68.65 353 P **P 18 50 13.0 +0.2**
comp=Z,158nm,0.7s,mb6.0
SCZP Santa Cruz 69.44 13 *eP* **P 18 50 17.1 -0.6**
BOLP Bolinao 70.03 13 *eP* **P 18 50 21.7 +0.4**
BDT Bhumibol Dam 70.29 352 P **P 18 50 22.0 -0.9**
comp=Z,51nm,1.1s,mb5.4
CAUP Cauayan 70.87 15 *eP* **P 18 50 25.9 -0.6**
LSZ Lusaka 71.11 270 *eP* **P 18 50 28.4 +0.3**
LSZ Lusaka 71.11 270 *eP* **P 18 50 28.0 -0.1**
comp=Z,208nm,1.0s,mb6.0
LSZ LR LR
comp=Z,5μm,19.0s,MS5.8
LSZ Lusaka 71.11 270 *eP* **P 18 50 28.0 -0.1**
LSZ pmax pmax
comp=Z,208nm,1.0s,mb6.0
LSZ MLR MLR
comp=Z,5μm,19.0s,MS5.8
ABRA Dolores 71.40 14 *eP* **P 18 50 29.3 -0.3**
CMAR Chiang Mai Arr 71.50 352 P **P 18 50 30.1 -0.2**
comp=Z,141nm,0.8s,mb5.9,baz=195,slow=5.5,SNR=223
CMAR S S 18 59 45.4 -3.4
comp=Z,0.2nm,0.3s,baz=259,slow=24,SNR=2.3
CMAR PKPPKP 19 18 20.6
comp=Z,0.8nm,1.0s,baz=339,slow=4.4,SNR=4.6
CMAR LR LR 19 21 03.2
comp=Z,4μm,19.1s,MS5.7,baz=283,slow=35
CMAR Chiang Mai Arr 71.50 352 P **P 18 50 30.1 -0.2**
CMAR S S 18 59 45.4 -3.4
CMAR P'P' 19 18 20.6
CMAR Chiang Mai Arr 71.50 352 P **P 18 50 30.1 -0.2**
CMAR S S 18 59 45.4 -3.4
CMAR pmax pmax
comp=Z,141nm,0.8s
CMAR pmax pmax
comp=Z,1.0nm,1.0s
CMAR MLR MLR
comp=Z,4μm,19.1s
APYP Conner 71.68 14 *eP* **P 18 50 30.7 -0.7**
QIZ Qiongzhong 71.79 3 P **P 18 50 31.8 -0.2**
QIZ pP pP 18 50 36.6 +1.3
QIZ sP sP 18 50 41.0 +4.5
QIZ S S 18 59 56.4 +4.2
QIZ sS sS 19 00 02.9 +5.3
QIZ pmax pmax
comp=Z,100nm,2.1s,mb5.4
QIZ pmax pmax
comp=Z,5μm,10.4s
QIZ LR LR
comp=N,2μm,16.6s,MS5.5
QIZ LR LR
comp=E,670nm,17.8s,MS5.5
QIZ LR LR
comp=Z,3μm,16.6s,MS5.6
CHG Chiang Mai 71.85 352⇓P **P 18 50 32.0 -0.4**
comp=Z,134nm,1.1s,mb5.8
CHTO Chiang Mai 71.85 352 *eP* **P 18 50 31.7 -0.7**
comp=Z,758nm,2.1s,mb6.3
CHTO LR LR
comp=Z,4μm,19.0s,MS5.7
CHTO Chiang Mai 71.85 352 *eP* **P 18 50 31.7 -0.7**
CHTO pmax pmax
comp=Z,758nm,2.1s,mb6.3
CHTO MLR MLR
comp=Z,4μm,19.0s,MS5.7
CHTO Chiang Mai 71.85 352 P **P 18 50 32.1 -0.3**
comp=Z,8μmcomp=Z,141nm,2.4s,mb5.5
CHTO Chiang Mai 71.85 352 P **P 18 50 32.4 +0.1**
SNR=59
USHA Ushuaia 72.44 183 P **P 18 50 35.2 -0.4**
comp=Z,18nm,0.9s,mb5.0,baz=159,slow=6.8,SNR=6.0
USHA S S 19 00 02.1 +3.1
comp=Z,7.5nm,1.0s,baz=108,slow=23,SNR=3.2
USHA Ushuaia 72.44 183 P **P 18 50 35.2 -0.4**
USHA S S 19 00 02.1 +3.1
FUNA Funafuti 72.66 81 P **P 18 50 36.7 -0.8**
comp=Z,591nm,1.8s,mb6.2
FUNA LR LR
comp=Z,7μm,20.0s,MS5.9
CHRT Chiangrai 72.84 353⇓P **P 18 50 37.0 -1.2**
comp=Z,379nm,0.8s,mb6.4
VIS Vishakhapatnam 73.32 337 *ex* x 18 50 25.5
GOA Goa 73.91 327⇑*iP* **P 18 50 43.5 -1.1**
GUMO Guam 73.95 39 P **P 18 50 44.8 -0.1**
comp=Z,168nm,0.6s,mb6.1,baz=193,slow=12,SNR=5.2
GUMO Guam 73.95 39 *eP* **P 18 50 36.9 -8.0**
comp=Z,710nm,1.3s,mb6.4
GUMO LR LR
comp=Z,4μm,21.0s,MS5.7
GUMO Guam 73.95 39 *eP* **P 18 50 36.9 -8.0**
GUMO pmax pmax
comp=Z,710nm,1.3s,mb6.4
GUMO MLR MLR
comp=Z,4μm,21.0s,MS5.7
GUMO Guam 73.95 39 P **P 18 50 40.8 -4.1**
comp=Z,584nm,1.5s,mb6.3
HYB Hyderabad 74.28 332 *i* P **P 18 50 46.0 -0.7**
comp=Z,100nm,1.0s,mb5.7
HYB *eS* S 19 00 20.0 -0.5
TSUM Tsumeb 74.44 259 *eP* **P 18 50 48.9 +1.0**
TSUM Tsumeb 74.44 259 *eP* **P 18 50 48.0 +0.1**
comp=Z,179nm,1.1s,mb5.9
TSUM LR LR
comp=Z,7μm,20.0s,MS5.9
EFI East Falkland 74.91 190 PFAKE 18 51 00.0 +10
EFI LR LR
comp=Z,6μm,19.0s,MS5.9
EFI East Falkland 74.91 190 *eP* **P 18 50 50.2 +0.1**
HKC Hong Kong Obse 75.28 7⇓*iP* **P 18 50 52.0 -0.4**
HKC S S 19 00 32.0 +0.6
RAR Rarotonga 75.35 106 P **P 18 50 53.7 +0.5**
comp=Z,112nm,1.1s,mb5.7,baz=210,slow=2.8,SNR=6.6
RAR Rarotonga 75.35 106 *eP* **P 18 50 53.7 +0.6**
comp=Z,700nm,1.8s,mb6.3
RAR LR LR
comp=Z,6μm,22.0s,MS5.9
RAR Rarotonga 75.35 106 P **P 18 50 53.7 +0.6**
RAR pmax pmax
comp=Z,113nm,1.1s
KAD Karad 75.50 328 *e*PKP **P 18 50 52.3 -1.5**
TRIS Tristan da Cun 75.93 226 PFAKE 18 51 10.0 +14
TRIS LR LR
comp=Z,4μm,19.0s,MS5.8
GZH Guangzhou 76.00 6 P **P 18 51 00.2 +3.7**
GZH pmax pmax
comp=Z,6μm,6.8s
GZH LR LR
comp=Z,4μm,24.5s,MS5.6
TWG Pinlang 76.53 14 *eP* **P 18 51 01.0 +1.4**
comp=Z,258nm,1.4s,mb6.0
POO Poona 76.75 328⇑*iP* **P 18 50 58.0 -2.9**
comp=Z,1μm,2.0s,mb6.5
POO *e*PKP pP 18 51 01.0 -3.2
POO AMb AMB 18 51 05.3
comp=Z,164nm,0.7s,mb6.1
KMBO Kilima Mbogo 76.90 286 *eP* **P 18 51 03.7 +1.7**
KMBO Kilima Mbogo 76.90 286 *eP* **P 18 51 02.3 +0.2**
comp=Z,364nm,2.0s,mb6.0
KMBO LR LR
comp=Z,5μm,20.0s,MS5.8
KMBO Kilima Mbogo 76.90 286 *eP* **P 18 51 02.3 +0.3**
KMBO pmax pmax
comp=Z,364nm,2.0s
KMBO MLR MLR
comp=Z,5μm,20.0s
KMBO Kilima Mbogo 76.90 286 P **P 18 51 03.1 +1.1**
SNR=43
CAL Calcutta 76.94 342 *e*PKP **P 18 51 01.4 -0.5**
CAL *ex* x 19 00 57.8
TPUB Ta-pu 76.94 13 *eP* **P 18 51 02.5 +0.6**
comp=Z,470nm,1.5s,mb6.2
YULB Yu-li 77.13 14 *eP* **P 18 51 04.8 +1.9**
comp=Z,191nm,1.3s,mb5.9
SSLB Suanglung 77.47 13 *eP* **P 18 51 04.7 -0.2**
comp=Z,345nm,1.3s,mb6.1
NGP Nagpur 77.69 334 *e*PKP **P 18 51 03.9 -2.2**
NGP *eS* S 19 00 57.9 0.0
AGT Agartala 77.76 345 *e*PKP **P 18 51 05.0 -1.5**

AGT *ex* x 18 51 40.0
KMI Kunming 77.89 356 P **P 18 51 08.2 +1.0**
KMI pP pP 18 51 12.3 +1.8
KMI sP sP 18 51 13.7 +2.0
KMI PcP PcP 18 51 18.3 +1.3
KMI PP PP 18 54 03.7 +0.3
KMI S S 19 01 00.1 +0.1
KMI pmax pmax
comp=Z,160nm,1.4s,mb5.8
KMI pmax pmax
comp=Z,5μm,7.1s
KMI LR LR
comp=N,2μm,21.1s,MS5.7
KMI LR LR
comp=E,3μm,19.0s,MS5.7
KMI LR LR
comp=Z,3μm,24.3s
KMI Kunming 77.89 356 P **P 18 51 08.2 +1.0**
comp=Z,159nm,1.4s,mb5.8
KMI pP pP 18 51 12.3 +1.8
KMI sP sP 18 51 13.7 +2.0
KMI PcP PcP 18 51 18.3 +1.3
KMI PP PP 18 54 03.7 +0.3
KMI PPP 18 55 54.9
KMI S S 19 01 00.1 +0.1
KMI PS 19 01 42.9
KMI SS SS 19 06 03.9 +2.4
KMI SSS 19 09 21.9
KMI LR LR
comp=Z,3μm,24.3s,MS5.6
KMI Kunming 77.89 356 P **P 18 51 08.2 +1.0**
KMI *PP pP 18 51 12.3 +1.8
KMI *SP sP 18 51 13.7 +2.0
KMI 18 51 18.3
KMI 18 54 03.7
KMI PPP 18 55 54.9
KMI S S 19 01 00.1 +0.1
KMI PS 19 01 42.9
KMI SS SS 19 06 03.9 +2.4
KMI SSS 19 09 21.9
KMI pmax pmax
comp=Z,159nm,1.4s,mb5.8
KMI MLR MLR
comp=Z,3μm,24.3s,MS5.6
NACB Ninganchiao 77.94 14 *eP* **P 18 51 07.2 -0.2**
comp=Z,234nm,1.3s,mb6.0
IMP Imphal 78.28 348 *e*PKP **P 18 51 09.0 -0.3**
IMP *ex* x 18 51 19.0
QZH Quanzhou 78.31 11⇓*iP* **P 18 51 07.9 -1.6**
QZH S S 19 01 02.8 -1.7
QZH pmax pmax
comp=Z,480nm,1.2s,mb6.3
QZH pmax pmax
comp=Z,9μm,7.6s
QZH LR LR
comp=N,2μm,12.6s,MS5.6
QZH LR LR
comp=E,830nm,11.5s,MS5.6
QZH LR LR
comp=Z,4μm,16.6s
YHNB Yeheng 78.39 14 *eP* **P 18 51 09.7 -0.3**
comp=Z,148nm,1.3s,mb5.8
YHNB LR LR
comp=Z,2μm,21.0s,MS5.5
TATO Taipei 78.71 14 PFAKE 18 51 20.0 +8.3
TATO LR LR
comp=Z,2μm,19.0s,MS5.5
GYA Guiyang 79.14 360⇑*iP* **P 18 51 17.7 +3.7**
GYA PcP PcP 18 51 26.3 +3.9
GYA S S 19 01 18.4 +5.1
GYA SKS 19 01 30.0
GYA pmax pmax
comp=Z,120nm,1.8s,mb5.5
GYA LR LR
comp=N,2μm,19.8s,MS5.7
GYA LR LR
comp=E,3μm,17.0s,MS5.7
GYA LR LR
comp=Z,3μm,20.1s,MS5.6
SHL Shillong 79.33 346 *e*PKP **P 18 51 14.5 -0.6**
TBI Tubuai 79.50 115 *eP* **P 18 51 18.3 +1.9**
comp=Z,221nm,1.0s,mb6.1
TBI Tubuai 79.50 115 *e*PP PP 18 54 07.9 -8.4
comp=Z,688nm,28.0s
TBI *e*S S 19 01 17.1 -0.7
comp=Z,5μm,39.2s
TBI *e*LR LR 19 16 08.5
comp=Z,5μm,24.0s,baz=218
TBI Tubuai 79.50 115 *eP* **P 18 51 18.3 +1.9**
comp=Z,221nm,1.0s,mb6.1
TBI Tubuai 79.50 115 *e*PP PP 18 54 07.9 -8.4
comp=Z,688nm,28.0s
TBI *e*S S 19 01 17.1 -0.7
comp=Z,5μm,39.2s
TBI *e*LR LR 19 16 08.5
comp=Z,5μm,24.0s,baz=218
BHPL Bhopal 80.12 333 *e*PKP **P 18 51 19.8 +0.3**
MBAR Mbarara 81.15 281 *eP* **P 18 51 26.1 +0.8**
MBAR Mbarara 81.15 281 PFAKE 18 51 40.0 +15
MBAR LR LR
comp=Z,728nm,20.0s,MS5.0
ODAN Odare 81.32 343 *eP* **P 18 51 24.7 -1.1**
comp=Z,531nm,1.5s,mb6.2
ODAN Odare 81.32 343 *eP* **P 18 51 24.7 -1.1**
comp=Z,531nm,1.5s,mb6.2
RAMN Ramite 81.56 342 *eP* **P 18 51 26.2 -0.8**
comp=Z,418nm,1.1s,mb6.3
RAMN Ramite 81.56 342 *eP* **P 18 51 26.2 -0.8**
comp=Z,418nm,1.1s,mb6.3
JOW Kunigami 81.69 19 P **P 18 51 27.7 -0.1**
comp=Z,56nm,0.9s,mb5.5,baz=157,slow=4.9,SNR=6.3
JOW Kunigami 81.69 19 *eP* **P 18 51 27.0 -0.7**
comp=Z,82nm,1.3s,mb5.5
TAPN Taplejung 81.74 343 *eP* **P 18 51 27.5 -0.5**
comp=Z,738nm,1.4s,mb6.4
TAPN Taplejung 81.74 343 *eP* **P 18 51 27.5 -0.5**
comp=Z,738nm,1.4s,mb6.4
JIRN Jiri 82.32 342 *eP* **P 18 51 30.5 -0.6**
comp=Z,201nm,1.2s,mb5.9
JIRN Jiri 82.32 342 *eP* **P 18 51 30.5 -0.6**
comp=Z,201nm,1.2s,mb5.9
PKI Pulchoki 82.39 341 *eP* **P 18 51 30.4 -1.0**
comp=Z,591nm,1.4s,mb6.3
PKI Pulchoki 82.39 341 *eP* **P 18 51 30.4 -1.0**
comp=Z,591nm,1.4s,mb6.3
PKI Pulchoki 82.39 341 *eP* **P 18 51 30.4 -1.0**
PKI pmax pmax
comp=Z,591nm,1.4s,mb6.3
DMN Daman 82.49 341 *eP* **P 18 51 31.0 -0.9**
comp=Z,539nm,1.3s,mb6.3
DMN Daman 82.49 341 *eP* **P 18 51 31.0 -0.9**
comp=Z,539nm,1.3s,mb6.3
GUN Gumba 82.63 341 *eP* **P 18 51 32.1 -0.5**
comp=Z,929nm,1.3s,mb6.7
GUN Gumba 82.63 341 *eP* **P 18 51 32.1 -0.5**
comp=Z,929nm,1.3s,mb6.7
KKN Kakani 82.63 341 *eP* **P 18 51 31.8 -0.8**
comp=Z,589nm,1.3s,mb6.4
KKN Kakani 82.63 341 *eP* **P 18 51 31.8 -0.8**
comp=Z,589nm,1.3s,mb6.5
KKN Kakani 82.63 341 *eP* **P 18 51 31.8 -0.8**
KKN pmax pmax
comp=Z,589nm,1.3s,mb6.5
KOLN Koldanda 82.95 339 *eP* **P 18 51 33.1 -1.2**
comp=Z,146nm,0.8s,mb6.1
KOLN Koldanda 82.95 339 *eP* **P 18 51 33.1 -1.2**
comp=Z,146nm,0.8s,mb6.1
GKN Gorkha 82.96 340 *eP* **P 18 51 33.0 -1.4**
comp=Z,204nm,0.9s,mb6.2
GKN Gorkha 82.96 340 *eP* **P 18 51 33.0 -1.4**
comp=Z,204nm,0.9s,mb6.2
PYUN Piuthan 83.40 339 *eP* **P 18 51 35.3 -1.3**
comp=Z,66nm,0.8s,mb5.7
PYUN Piuthan 83.40 339 *eP* **P 18 51 35.3 -1.3**
comp=Z,66nm,0.8s,mb5.7
WHN Wuhan 83.47 7⇓P **P 18 51 36.6 -0.3**
WHN S S 19 02 00.0 +1.9
WHN pmax pmax
comp=Z,400nm,1.4s,mb6.3
WHN LR LR
comp=N,3μm,15.6s,MS5.9
WHN LR LR
comp=E,2μm,15.3s,MS5.9
WHN LR LR
comp=Z,5μm,21.0s
DANN Dangsing 83.48 340 *eP* **P 18 51 35.8 -1.2**

comp=Z,380nm,0.7s,mb6.5
DANN Dangsing 83.48 340 *e*P **P 18 51 35.8 -1.2**
comp=Z,380nm,0.7s,mb6.5
LSA Lhasa 83.49 346 P **P 18 51 35.7 -1.4**
LSA S S 19 01 50.2 -8.2
LSA pmax pmax
comp=Z,90nm,1.7s,mb5.5
LSA pmax pmax
comp=Z,4μm,9.2s
LSA LR LR
comp=N,1μm,21.1s,MS5.7
LSA LR LR
comp=E,3μm,19.8s,MS5.7
LSA LR LR
comp=Z,3μm,20.2s,MS5.7
RBK Rabkut 83.57 310 P **P 18 51 38.5 +0.7**
SNR=13
CD2 Chengdu 83.62 357 ⇓*i*P **P 18 51 37.6 -0.1**
CD2 pP pP 18 51 42.4 +1.4
CD2 sP sP 18 51 45.2 +3.0
CD2 PP PP 18 54 53.2 +2.4
CD2 S S 19 01 58.6 -1.0
CD2 pmax pmax
comp=Z,170nm,1.2s,mb6.0
CD2 pmax pmax
comp=Z,9μm,10.8s
CD2 LR LR
comp=N,5μm,20.4s,MS6.0
CD2 LR LR
comp=E,4μm,20.4s,MS6.0
CD2 LR LR
comp=Z,5μm,19.2s,MS5.9
AGRA Agra 83.78 334 *e*PKP **P 18 51 36.9 -1.6**
ABTO Aybut 83.86 309 P **P 18 51 43.0 +3.7**
SNR=8.8
AJM Ajmer 83.97 331 *e*PKP **P 18 51 38.0 -1.6**
PAE Paea 83.99 111 *e*P **P 18 51 41.9 +1.8**
comp=Z,51nm,1.2s,mb5.5
PAE Paea 83.99 111 *e*P **P 18 51 41.9 +1.8**
comp=Z,51nm,1.2s,mb5.5
PPT2 Papeete2 84.05 111 *e*P **P 18 51 42.1 +1.7**
comp=Z,226nm,1.2s,mb6.2
PPT2 Papeete2 84.05 111 *e*P **P 18 51 42.1 +1.7**
comp=Z,226nm,1.2s,mb6.2
PPT Papeete 84.07 111 *e*PP PP 18 54 53.7 -0.4
comp=Z,895nm,25.2s
PPT *e*S S 19 02 03.3 -1.7
comp=Z,5μm,23.2s
PPT *e*LQ 19 14 32.4
comp=Z,22μm,29.2s
PPT *e*LR LR 19 18 09.3
comp=Z,8μm,21.8s,baz=212
PPT Papeete 84.07 111 *e*PP PP 18 54 53.7 -0.4
comp=Z,895nm,25.2s
PPT *e*S S 19 02 03.3 -1.7
comp=Z,5μm,23.2s
PPT *e*LQ 19 14 32.4
comp=Z,22μm,29.2s
PPT *e*LR LR 19 18 09.3
comp=Z,8μm,21.8s,baz=212
TIAR Tiarei 84.21 111 *e*P **P 18 51 42.2 +1.0**
comp=Z,422nm,1.1s,mb6.5
TIAR Tiarei 84.21 111 *e*P **P 18 51 42.2 +1.0**
comp=Z,422nm,1.1s,mb6.5
FURI Furi 84.26 293 *e*P **P 18 51 42.9 +1.4**
FURI S PP 18 54 55.6 -0.6
MEH Mehetia 84.67 113 *e*P **P 18 51 44.8 +1.2**
comp=Z,192nm,1.4s,mb6.0
MEH Mehetia 84.67 113 *e*P **P 18 51 44.8 +1.2**
comp=Z,192nm,1.4s,mb6.0
SSE Sheshan 84.69 12 P **P 18 51 41.7 -1.5**
SSE pP pP 18 51 48.7 +2.2
SSE sP sP 18 51 53.7 +6.0
SSE PP PP 18 54 56.8 -2.8
SSE S S 19 02 07.9 -2.5
SSE sS sS 19 02 21.8 +5.9
SSE pmax pmax
comp=Z,120nm,0.8s,mb6.1
SSE pmax pmax
comp=Z,3μm,8.4s
SSE LR LR
comp=N,1μm,18.5s,MS5.4
SSE LR LR
comp=E,650nm,18.8s,MS5.4
SSE LR LR
comp=Z,2μm,23.8s,MS5.4
SSE Sheshan 84.69 12 P **P 18 51 41.7 -1.5**
comp=Z,122nm,0.8s,mb6.1
SSE pP pP 18 51 48.7 +2.2
SSE sP sP 18 51 53.7 +6.0
SSE PP PP 18 54 56.8 -2.8
SSE S S 19 02 07.9 -2.5
SSE sS sS 19 02 21.8 +5.9
SSE SS SS 19 07 40.0 -2.9
SSE LR LR
comp=Z,2μm,23.8s,MS5.4
KUDL Kundal 85.03 333 *e*PKP **P 18 51 43.6 -1.3**
KUDL AMb AMB 18 51 48.6
comp=Z,312nm,1.4s,mb6.3
KHET Khetri 85.15 333 *e*PKP **P 18 51 43.8 -1.7**
KHET AMb AMB 18 51 48.5
comp=Z,196nm,1.7s,mb6.0
NDI New Delhi 85.35 334 *e*PKP **P 18 51 46.0 -0.5**
NJ2 Nanjing 85.36 10 *e*P **P 18 51 45.3 -1.2**
NJ2 pP pP 18 51 50.1 +0.3
NJ2 sP sP 18 51 52.3 +1.3
NJ2 pmax pmax
comp=Z,50nm,0.5s,mb5.9
NJ2 pmax pmax
comp=Z,350nm,6.8s
NJ2 LR LR
comp=N,2μm,8.6s
NJ2 LR LR
comp=E,2μm,7.5s
NJ2 LR LR
comp=Z,1μm,12.6s,MS5.6
WBK Wadi Bani Khal 85.98 317 P **P 18 51 51.2 +1.4**
SNR=20
JMDO Jabal Madar 86.13 316 P **P 18 51 51.6 +1.1**
SNR=14
PLCA Paso Flores 86.60 182 P **P 18 51 52.6 -0.2**
comp=Z,68nm,1.0s,mb5.8,baz=181,slow=5.6,SNR=12
PLCA S S 19 02 16.0 -13
comp=Z,0.7nm,0.5s,baz=62,slow=19,SNR=3.1
PLCA PKKPbc PKKPbc 19 09 47.0 +0.9
comp=Z,3.7nm,1.1s,baz=319,slow=3.7,SNR=4.6
PLCA LR LR 19 30 36.0
comp=Z,10μm,18.9s,MS6.2,baz=172,slow=36
PLCA Paso Flores 86.60 182 *e*P **P 18 51 52.5 -0.3**
PLCA S S 19 02 16.0 -13
PLCA PKKPbc PKKPbc 19 09 47.0 +0.9
PLCA Paso Flores 86.60 182 P **P 18 51 52.7 -0.1**
PLCA S S 19 02 16.0 -13
PLCA pmax pmax
comp=Z,68nm,1.0s
PLCA smax
comp=N,1.0nm,0.5s
PLCA pmax pmax
comp=Z,4.0nm,1.1s
PLCA MLR MLR
comp=Z,10μm,18.9s
KKR Kurukshetra 86.67 334 *e*PKP **P 18 51 52.3 -0.7**
KKR AMb AMB 18 51 57.6
comp=Z,485nm,2.3s,mb6.3
DDI Dehra Dun 86.69 335 *e*PKP **P 18 51 51.3 -1.8**
DDI *ex* x 18 55 25.5
XAN Xi'an 86.71 2 P **P 18 51 52.3 -0.8**
XAN pP pP 18 52 03.1 +6.7
XAN PP PP 18 55 15.6 -0.4
XAN SKS 19 02 16.6
XAN S S 19 02 30.7 +0.6
XAN pmax pmax
comp=Z,48nm,2.4s,mb5.3
XAN pmax pmax
comp=Z,1μm,8.8s
XAN LR LR
comp=N,2μm,18.1s,MS5.6
XAN LR LR
comp=E,440nm,17.4s,MS5.6
XAN LR LR
comp=Z,1μm,19.6s,MS5.3
SMDO Samad 86.76 316 P **P 18 51 54.6 +1.0**
SNR=20
BSY Bisya 86.84 315 P **P 18 51 54.6 +0.6**
SNR=9.1
PMOR Pomariorio Ree 87.08 111 *e*P **P 18 51 56.8 +1.3**
comp=Z,652nm,1.3s,mb6.7
PMOR Pomariorio Ree 87.08 111 *e*P **P 18 51 56.8 +1.3**
comp=Z,652nm,1.3s,mb6.7
RKT Rikitea 87.24 126 *e*P **P 18 51 58.2 +1.9**
comp=Z,298nm,1.1s,mb6.4
RKT *e*S S 19 02 34.5 -1.6
comp=Z,5μm,26.8s
RKT *e*SS SS 19 08 20.7 +1.6
comp=Z,4μm,28.0s
RKT *e*LQ 19 15 20.6
comp=Z,12μm,36.0s
RKT *e*LR LR 19 19 33.2
RKT Rikitea 87.24 126 *e*P **P 18 51 58.2 +1.9**
comp=Z,298nm,1.1s,mb6.4
RKT *e*S S 19 02 34.5 -1.6
comp=Z,5μm,26.8s
RKT *e*SS SS 19 08 20.7 +1.6
comp=Z,4μm,28.0s
RKT *e*LQ 19 15 20.6
comp=Z,12μm,36.0s
RKT *e*LR LR 19 19 33.2
ARQ Araqi 87.65 315 P **P 18 51 58.6 +0.6**
SNR=13
SMLA Simla 87.69 335 *i* P **P 18 51 56.3 -1.7**
WAKE Wake Island 88.57 55 PFAKE 18 52 10.0 +7.6
WAKE LR LR
comp=Z,4μm,19.0s,MS5.8
LZH Lanzhou 88.77 358 ⇓P **P 18 52 03.0 +0.1**
LZH pP pP 18 52 06.3 0.0
LZH PP PP 18 55 33.0 +0.5
LZH SKS 19 02 30.0
LZH S S 19 02 50.1 +0.4
LZH pmax pmax
comp=Z,310nm,1.4s,mb6.5
LZH pmax pmax
comp=Z,3μm,8.5s
LZH LR LR
comp=N,5μm,18.4s,MS6.0
LZH LR LR
comp=E,2μm,15.2s,MS6.0
LZH LR LR
comp=Z,7μm,20.0s,MS6.1
LZH Lanzhou 88.77 358 ⇓P **P 18 52 03.0 +0.1**
comp=Z,312nm,1.4s,mb6.5
LZH pP pP 18 52 06.3 0.0
LZH sP sP 18 52 07.6 +0.1
LZH PP PP 18 55 33.0 +0.5
LZH SKS 19 02 30.0
LZH S S 19 02 50.1 +0.4
LZH sS sS 19 02 55.2 0.0
LZH PS 19 03 58.0
LZH SS SS 19 08 45.0 +2.4
LZH LR LR
comp=Z,7μm,20.0s,MS6.1
LZH Lanzhou 88.77 358 ⇓P **P 18 52 03.0 +0.1**
LZH *PP pP 18 52 06.3 0.0
LZH *SP sP 18 52 07.6 +0.1
LZH 18 55 33.0
LZH 19 02 30.0
LZH S S 19 02 50.1 +0.4
LZH PS 19 03 58.0
LZH SS SS 19 08 45.0 +2.4
LZH pmax pmax
comp=Z,312nm,1.4s,mb6.5
LZH MLR MLR
comp=Z,7μm,20.0s,MS6.1
TRQA Tornquist 88.78 189 *e*P **P 18 52 01.8 -1.5**
comp=Z,61nm,1.4s,mb5.7
TRQA LR LR
comp=Z,7μm,20.0s,MS6.1
ASHO Ashiyiah 89.04 315 P **P 18 52 04.0 -0.5**
SNR=20
HATD Hatta, Dubai 89.13 315 P **P 18 52 04.4 -0.5**
SNR=18
TIA Tai'an 89.31 8 P **P 18 52 04.8 -0.7**
TIA S S 19 02 51.1 -3.6
TIA pmax pmax
comp=Z,5μm,7.8s
TIA LR LR
comp=N,2μm,23.5s,MS5.6
TIA LR LR
comp=E,2μm,24.5s,MS5.6
TIA LR LR
comp=Z,2μm,20.6s,MS5.5
BANOM Banah 90.03 316 P **P 18 52 09.3 +0.2**
SNR=9.6
SHEL Horse Pasture 90.29 243 PFAKE 18 52 20.0 +9.3
SHEL LR LR
comp=Z,3μm,20.0s,MS5.8
TIY Taiyuan 90.49 4 ⇓*i*P **P 18 52 10.2 -0.7**
TIY SKS 19 02 38.5
TIY S S 19 02 57.9 -7.7
TIY pmax pmax
comp=Z,3μm,8.3s
TIY LR LR
comp=N,520nm,13.1s,MS5.4
TIY LR LR
comp=E,760nm,13.9s,MS5.4
TIY LR LR
comp=Z,2μm,26.3s
LPA La Plata 91.43 193 *de*P **P 18 52 17.0 +1.2**
LPA PKIKP PKiKP 18 57 05.0 -2.5
LPA SCS ScS 19 03 18.0 +0.1
LPA PS PS 19 04 24.0 +0.1
INCN Inchon 91.76 16 P **P 18 52 20.9 +4.1**
INCN LR LR
comp=Z,1μm,21.0s,MS5.4
KSAR Wonju Array Be 91.93 17 P **P 18 52 18.0 +0.4**
KSAR PKKPbc PKKPbc 19 09 34.9 +0.4
KSAR Wonju Array Be 91.93 17 P **P 18 52 18.0 +0.4**
KSAR 19 09 34.9
KSRS Korea Array 91.95 17 P **P 18 52 18.0 +0.3**
comp=Z,26nm,0.9s,mb5.6,baz=194,slow=4.1,SNR=34
KSRS PKKPbc PKKPbc 19 09 34.9 +0.4
comp=Z,3.4nm,1.2s,baz=39,slow=6.4,SNR=5.2
KSRS Korea Array 91.95 17 P **P 18 52 18.0 +0.3**
KSRS 19 09 34.9
KSRS pmax pmax
comp=Z,27nm,0.9s,mb5.6
KSRS pmax pmax
comp=Z,3.0nm,1.2s,mb4.5
GTA Gaotai 92.25 355 ⇓P **P 18 52 18.3 -0.8**
GTA pP pP 18 52 23.2 +0.8
GTA sP sP 18 52 25.3 +1.7
GTA PP PP 18 56 01.8 +1.7
GTA SKS 19 02 49.8
GTA S S 19 03 18.7 -2.8
GTA pmax pmax
comp=Z,81nm,2.1s,mb5.7
GTA pmax pmax
comp=Z,3μm,6.6s
GTA LR LR
comp=N,3μm,20.9s,MS5.8
GTA LR LR
comp=E,3μm,19.7s,MS5.8
GTA LR LR
comp=Z,4μm,21.3s,MS5.8
DL2 Dalian 92.45 12 P **P 18 52 20.2 +0.2**
DL2 S S 19 03 22.3 -1.0
DL2 SS SS 19 09 40.1 +4.4
DL2 pmax pmax
comp=Z,30nm,1.5s,mb5.4
DL2 pmax pmax
comp=Z,1μm,6.5s
DL2 LR LR
comp=N,900nm,18.1s
DL2 LR LR
comp=Z,900nm,18.6s,MS5.2
RAYN Ar Rayn 92.86 306 P **P 18 52 22.4 +0.1**
comp=Z,177nm,1.4s,mb6.3,SNR=16
BJI Beijing 93.04 7 P **P 18 52 22.8 +0.1**
BJI PP PP 18 56 09.8 +3.5
BJI S S 19 03 33.9 +5.4
BJI pmax pmax
comp=Z,27nm,2.1s,mb5.3
BJI pmax pmax
comp=Z,2μm,10.5s
BJI LR LR
comp=N,1μm,19.1s,MS5.6
BJI LR LR
comp=E,2μm,18.0s,MS5.6
BJI LR LR
comp=Z,2μm,23.7s
MAJO Matsushiro 93.28 25 *e*P **P 18 52 23.1 -0.7**
comp=Z,99nm,1.3s,mb6.1
MAJO LR LR
comp=Z,2μm,21.0s,MS5.6
MAJO Matsushiro 93.28 25 *e*P **P 18 52 23.1 -0.8**
MAJO pmax pmax
comp=Z,99nm,1.3s,mb6.1
MAJO MLR MLR
comp=Z,2μm,21.0s,MS5.6
MAT Matsushiro 93.28 25 P **P 18 52 22.4 -1.5**
MAT S S 19 03 28.0 -2.8
MJAR Matsushiro Arr 93.28 25 P **P 18 52 23.5 -0.3**
comp=Z,27nm,1.2s,mb5.5,baz=184,slow=3.4,SNR=17
MJAR PP PP 18 56 07.9 -0.3
comp=Z,4.4nm,1.1s,baz=190,slow=5.6,SNR=4.2
MJAR Matsushiro Arr 93.28 25 P **P 18 52 23.5 -0.3**
MJAR PP PP 18 56 08.0 -0.3
MJAR Matsushiro Arr 93.28 25 P **P 18 52 23.5 -0.4**
MJAR 18 56 07.9
MJAR pmax pmax
comp=Z,27nm,1.2s
MJAR pmax pmax
comp=Z,4.0nm,1.1s
BTO Baotou 93.29 2 *e*P **P 18 52 23.3 -0.5**
HHC Hu-ho-hao-te 93.58 4 *e*P **P 18 52 24.5 -0.7**
HHC sP sP 18 52 31.1 +1.4
HHC PP PP 18 56 13.4 +2.9
HHC SKS 19 02 55.4
HHC S S 19 03 29.9 -3.3
HHC SS SS 19 09 55.8 +4.0
HHC pmax pmax
comp=Z,82nm,2.5s,mb5.7
HHC pmax pmax
comp=Z,2μm,7.8s
HHC LR LR
comp=N,2μm,19.0s,MS5.6
HHC LR LR
comp=E,990nm,16.6s,MS5.6
HHC LR LR
comp=Z,2μm,17.8s,MS5.7
RPN Rapa Nui 94.21 148 PFAKE 18 52 40.0 +11
RPN LR LR
comp=Z,3μm,20.0s,MS5.8
XMAS Kiritimati 95.09 93 PFAKE 18 52 40.0 +7.1
XMAS LR LR
comp=Z,6μm,19.0s,MS6.0
CFAA Coronel Fontan 95.62 184 P **P 18 52 34.0 -1.1**
comp=Z,7.5nm,1.1s,mb5.0,baz=187,slow=4.0,SNR=28
CFAA PP PP 18 56 26.4 +1.1
comp=Z,0.4nm,0.5s,baz=236,slow=3.7,SNR=3.2
CFAA PKKPbc PKKPbc 19 09 23.9 +0.4
comp=Z,0.2nm,0.7s,baz=325,slow=1.6,SNR=3.3
CFAA Coronel Fontan 95.62 184 P **P 18 52 34.0 -1.1**
CFAA PP PP 18 56 26.4 +1.1
CFAA PKKPbc PKKPbc 19 09 23.9 +0.4
KSH Kashi 95.95 337 P **P 18 52 34.6 -1.5**
KSH pP pP 18 52 38.2 -1.2
KSH sP sP 18 52 40.4 -0.2
KSH PP PP 18 56 25.5 -3.5
KSH SKS 19 03 07.6
KSH S S 19 03 44.3 -10
KSH pmax pmax
comp=Z,60nm,1.7s,mb5.8
KSH pmax pmax
comp=Z,1μm,8.3s
KSH LR LR
comp=N,2μm,16.3s,MS5.8
KSH LR LR
comp=E,2μm,18.2s,MS5.8
KSH LR LR
comp=Z,3μm,20.2s,MS5.8
QRN Al-Qurain 96.15 311 *e*P **P 18 52 37.0 -0.3**
QRN AMb AMB 18 52 41.1
comp=Z,223nm,1.5s,mb6.4
TAOE Nuku Hiva Isla 96.42 114 *e*P **P 18 52 40.9 +1.9**
comp=Z,317nm,1.2s,mb6.6
TAOE Nuku Hiva Isla 96.42 114 *e*PP PP 18 56 32.1 -0.3
comp=Z,902nm,27.7s
TAOE *e*SS SS 19 10 33.9 +2.2
comp=Z,3μm,28.7s
TAOE *e*LQ 19 19 39.3
comp=Z,5μm,28.8s
TAOE *e*LR LR 19 23 53.4
comp=Z,5μm,20.9s
TAOE Nuku Hiva Isla 96.42 114 *e*P **P 18 52 40.9 +1.9**
comp=Z,317nm,1.2s,mb6.6
TAOE Nuku Hiva Isla 96.42 114 *e*PP PP 18 56 32.1 -0.3
comp=Z,902nm,27.7s
TAOE *e*SS SS 19 10 33.9 +2.2
comp=Z,3μm,28.7s
TAOE *e*LQ 19 19 39.3
comp=Z,5μm,28.8s
TAOE *e*LR LR 19 23 53.4
comp=Z,5μm,20.9s
RDF Al-Radifah 96.47 311 *e*P **P 18 52 38.3 -0.4**
RDF AMb AMB 18 52 42.8
comp=Z,235nm,1.6s,mb6.4
NAY Al-Naaiem 96.89 311 *e*P **P 18 52 39.8 -0.8**
NAY AMb AMB 18 52 44.4
comp=Z,80nm,1.6s,mb5.9
UMR Umm Al-Rimmam 96.93 311 *e*P **P 18 52 40.6 -0.1**
UMR AMb AMB 18 52 44.8
comp=Z,206nm,1.4s,mb6.4
MIB Mutribah 97.31 311 *e*P **P 18 52 42.1 -0.4**
MIB AMb AMB 18 52 46.5
comp=Z,154nm,1.3s,mb6.3
CN2 Changchun 97.77 14 *e*P **P 18 52 42.9 -1.3**
CN2 *es*P sP 18 52 52.4 +3.7
CN2 *e*S S 19 04 03.4 -5.9
CN2 pmax pmax
comp=Z,40nm,1.2s,mb5.8
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,17.0s,MS5.6
CN2 LR LR
comp=E,2μm,17.0s,MS5.6
CN2 LR LR
comp=Z,1μm,17.0s,MS5.5
WMQ Urumqi 97.85 346 P **P 18 52 47.4 +2.9**
WMQ PP PP 18 56 48.7 +5.1
WMQ SKS 19 03 25.0
WMQ S S 19 04 11.4 +1.3
WMQ pmax pmax
comp=Z,12nm,1.0s,mb5.4
WMQ LR LR
comp=N,2μm,17.6s,MS5.8
WMQ LR LR
comp=E,3μm,19.0s,MS5.8
WMQ LR LR
comp=Z,2μm,26.6s
LCO Las Campanas 98.29 182 PFAKE 18 53 00.0 +13
LCO LR LR
comp=Z,4μm,22.0s,MS5.9
MDJ Mudanjiang 99.21 16 P **P 18 52 46.4 -4.2**
MDJ sP sP 18 53 03.3 +8.2
MDJ PP PP 18 56 45.4 -8.6
MDJ S S 19 04 21.3 -0.2
MDJ SS SS 19 11 10.9 -0.5
MDJ pmax pmax
comp=Z,24nm,3.0s
MDJ pmax pmax
comp=Z,1μm,11.9s
MDJ LR LR
comp=N,2μm,46.3s,MS5.6
MDJ LR LR
comp=E,4μm,47.8s,MS5.6
MDJ LR LR
comp=Z,2μm,49.2s,MS5.3
AAK Ala-Archa 99.26 336 *e*P **P 18 52 51.5 +0.6**
comp=Z,38nm,1.5s,mb5.7
AAK LR LR
comp=Z,5μm,20.0s,MS6.0
AAK Ala-Archa 99.26 336 *e*P **P 18 52 51.5 +0.6**
AAK pmax pmax
comp=Z,163nm,1.5s,mb6.3
AAK MLR MLR
comp=Z,5μm,20.0s,MS6.0
AAK Ala-Archa 99.26 336 P **P 18 52 51.8 +0.9**
SNR=14
TKM2 Tokmak 2 99.27 337 *e*P **P 18 52 48.8 -2.1**
comp=Z,22nm,1.7s,mb5.4
TKM2 LR LR
comp=Z,2μm,21.0s,MS5.6
TKM2 Tokmak 2 99.27 337 *e*P **P 18 52 48.8 -2.1**
TKM2 pmax pmax
comp=Z,22nm,1.7s,mb5.4
TKM2 MLR MLR

comp=Z,2μm,21.0s,MS5.6
FRU Bishkek 99.42 337 *e*P P 18 52 51.0 -0.6
FRU pmax pmax
comp=Z,114nm,2.2s,mb6.0
JOHN Johnston Islan 99.45 75 PFAKE 18 53 00.0 +7.6
JOHN LR LR
comp=Z,108μm,22.0s,MS7.3
EKS2 Erkin-Say 99.46 336 *e*P P 18 52 52.3 +0.5
comp=Z,29nm,1.5s,mb5.6
EKS2 LR LR
comp=Z,4μm,20.0s,MS5.9
EKS2 Erkin-Say 99.46 336 *e*P P 18 52 52.3 +0.5
EKS2 pmax pmax
comp=Z,29nm,1.5s,mb5.6
EKS2 MLR MLR
comp=Z,4μm,20.0s,MS5.9
ERM Erimo 99.72 27 PFAKE 18 53 00.0 +6.3
ERM LR LR
comp=Z,2μm,20.0s,MS5.6
CPUP Villa Florida 99.79 194 P Pdif 18 52 53.3 -0.7
comp=Z,13nm,1.0s,baz=159,slow=2.6,SNR=14
CPUP PP PP 18 56 58.0 +0.7
comp=Z,3.2nm,0.9s,baz=166,slow=7.1,SNR=4.1
CPUP PKKPbc PKKPbc 19 09 11.7 -0.3
comp=Z,4.4nm,1.0s,baz=333,slow=3.1,SNR=5.5
CPUP LR LR 19 36 44.5
comp=Z,2μm,18.6s,MS5.7,baz=145,slow=35
CPUP Villa Florida 99.79 194 P Pdif 18 52 53.3 -0.7
CPUP PP PP 18 56 58.0 +0.7
CPUP PKKPbc PKKPbc 19 09 11.7 -0.3
CPUP Villa Florida 99.79 194 P Pdif 18 52 53.3 -0.7
CPUP 18 56 58.0
CPUP pmax pmax
comp=Z,13nm,1.0s
CPUP pmax pmax
comp=Z,3.0nm,0.9s
CPUP pmax pmax
comp=Z,4.0nm,1.0s
CPUP MLR MLR
comp=Z,2μm,18.7s
SONM Songino Array 100.48 360 P Pdif 18 52 55.9 -1.2
comp=Z,6.6nm,1.0s,baz=180,slow=5.6,SNR=22
SONM PP PP 18 57 02.1 -1.5
comp=Z,5.6nm,1.3s,baz=174,slow=4.5,SNR=5.4
SONM PKKPbc PKKPbc 19 09 11.2 -0.2
comp=Z,3.4nm,0.9s,baz=328,slow=2.3,SNR=9.4
SONM PKPPKP 19 17 30.3
comp=Z,0.4nm,0.7s,baz=35,slow=5.4,SNR=4.4
SONM Songino Array 100.48 360 P Pdif 18 52 55.9 -1.2
SONM PP PP 18 57 02.1 -1.5
SONM PKKPbc PKKPbc 19 09 11.2 -0.2
SONM P'P' 19 17 30.3
SONM Songino Array 100.48 360 P Pdif 18 52 55.9 -1.2
SONM 18 57 02.1
SONM pmax pmax
comp=Z,7.0nm,1.0s
SONM pmax pmax
comp=Z,6.0nm,1.3s
SONM pmax pmax
comp=Z,3.0nm,1.0s
SPB Sao Paulo 100.49 204 PFAKE 18 53 10.0 +13
SPB LR LR
comp=Z,2μm,19.0s,MS5.7
ULN Ulaanbaatar 100.51 0 *e*Pdif Pdif 18 52 55.4 -1.9
comp=Z,24nm,1.3s
ULN LR LR
comp=Z,2μm,20.0s,MS5.5
ULN Ulaanbaatar 100.51 0 *e*P Pdif 18 52 55.4 -1.8
ULN pmax pmax
comp=Z,24nm,1.3s
ULN MLR MLR
comp=Z,2μm,20.0s,MS5.5
ULN Ulaanbaatar 100.51 0 P Pdif 18 52 56.2 -1.0
SNR=12
KKAR Karatay Array 100.72 334 *e*Pdif Pdif 18 52 56.4 -1.7
comp=Z,53nm,1.6s
KKAR Karatay Array 100.72 334 *e*P Pdif 18 52 56.4 -1.7
KKAR pmax pmax
comp=Z,53nm,1.6s
BHD Baghdad 101.58 311 *i* x Pdif 18 53 00.6 -1.4
BHD *i* x x 18 57 11.7
BHD *i* x x 18 59 29.0
BHD *i* x x 19 03 27.0
BHD *i* x x 19 04 20.0
BHD *i* x x 19 04 40.0
MKAR Makanchi Array 101.61 343 P Pdif 18 53 00.3 -1.9
comp=Z,1.9nm,1.0s,baz=197,slow=4.8,SNR=12
MKAR PP PP 18 57 10.5 -1.7
comp=Z,5.3nm,1.0s,baz=153,slow=6.8,SNR=5.8
MKAR PKKPbc PKKPbc 19 09 07.0 -1.0
comp=Z,2.3nm,1.0s,baz=338,slow=2.6,SNR=7.3
MKAR Makanchi Array 101.61 343 P Pdif 18 53 00.3 -1.9
MKAR PP PP 18 57 10.5 -1.7
MKAR PKKPbc PKKPbc 19 09 07.0 -1.0
MKAR Makanchi Array 101.61 343 P Pdif 18 53 00.3 -1.8
MKAR 18 57 10.5
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR pmax pmax
comp=Z,5.0nm,1.0s
MKAR pmax pmax
comp=Z,2.0nm,1.0s
YUK Yuzh-Kuril'sk 102.33 28 *de*P Pdif 18 52 58.1 -7.2
YUK *e* 18 57 12.7
YUK *i* S SKSac 19 03 42.9 -0.6
YUK *e*PS PS 19 06 19.4 -3.7
YUK *e*SS SS 19 11 49.7 -5.2
YUK *e*SSS 19 15 45.1
ZAK Zakamensk 103.07 358 *e*P Pdif 18 53 05.5 -3.1
ZAK pmax pmax
comp=Z,8.0nm,1.5s
HABR Khabarovsk 103.92 19 *ce*P Pdif 18 53 08.6 -3.8
HABR *i* 18 57 28.6
HABR *e*S SKSac 19 03 48.6 -2.1
HABR *e*S Sdif 19 04 56.5 -5.9
HABR *e*PS PS 19 06 34.2 -5.5
HABR SS SS 19 12 11.3 -5.4
HABR pmax pmax
comp=Z,114nm,2.4s
HABR pmax pmax
comp=N,39nm,2.6s
HABR pmax pmax
comp=E,37nm,2.1s
HABR MLR MLR
comp=Z,1μm,16.0s,MS5.5
KLR Kul'dur 104.05 17 *e*P Pdif 18 53 07.1 -5.8
KLR *e* 18 57 25.6
KLR *e* 19 06 38.5
MIDW Midway 104.14 62 PFAKE 18 53 20.0 +6.6
MIDW LR LR
comp=Z,3μm,19.0s,MS5.9
YSS Yuzh-Sakhalins 104.21 25 PFAKE 18 53 20.0 +6.3
YSS LR LR
comp=Z,456nm,20.0s,MS5.0
YSS Yuzh-Sakhalins 104.21 25 *de*P Pdif 18 53 14.0 +0.3
YSS *e* 19 03 50.0
YSS *e*S Sdif 19 04 52.0 -13
YSS *e*PS PS 19 06 44.0 +1.2
YSS *e*SS SS 19 12 30.0 +9.3
YSS *e*SSS 19 16 20.0
YSS pmax pmax
comp=Z,1μm,10.0s
YSS MLR MLR
comp=N,800nm,20.0s
YSS MLR MLR
comp=Z,1μm,20.0s,MS5.4
ASF Jabal al Asfar 104.25 305 Pdiff Pdif 18 53 15.4 +1.5
comp=Z,3.8nm,0.8s,baz=135,slow=1.7,SNR=4.0
ASF Jabal al Asfar 104.25 305 Pdif Pdif 18 53 15.4 +1.5
ASF Jabal al Asfar 104.25 305 P Pdif 18 53 15.4 +1.5
ASF pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 104.36 358 PFAKE 18 53 20.0 +5.7
TLY LR LR
comp=Z,2μm,19.0s,MS5.6
TLY Talaya 104.36 358 *e*P Pdif 18 53 14.2 -0.1
TLY *e* 18 57 29.7
TLY *e*PPP 18 59 49.9
TLY *e* 19 03 51.1
TLY *e*PS PS 19 06 47.2 +3.0
TLY *e*PPS 19 07 41.6
TLY pmax pmax
comp=Z,8.0nm,1.0s
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.5
TLY Talaya 104.36 358 P PKiKP 18 57 35.6 +6.1
SNR=7.0
KURK Kurchatov 106.06 342 Pdiff Pdif 18 53 19.3 -2.6
comp=Z,2.0nm,0.2s,baz=172,slow=4.1,SNR=15
KURK PKiKP PKiKP 18 57 30.0 -2.7
comp=Z,5.6nm,1.0s,baz=165,slow=1.9,SNR=10
KURK PKKPbc PKKPbc 19 08 53.6 -1.1
comp=Z,4.5nm,0.5s,baz=331,slow=2.8,SNR=15
KURK Kurchatov 106.06 342 Pdif Pdif 18 53 19.3 -2.6
KURK PKiKP PKiKP 18 57 30.0 -2.7
KURK *e*PKiKP PKiKP 18 57 30.6 -2.2
KURK PKKPbc PKKPbc 19 08 53.6 -1.1
KURK LR LR
comp=Z,3μm,22.0s,MS5.8
KURK Kurchatov 106.06 342 P Pdif 18 53 19.3 -2.6
KURK pmax pmax
comp=Z,2.0nm,0.2s
GNI Garni 107.15 315 *e*PKiKP PKiKP 18 57 36.5 +1.4
GNI LR LR
comp=Z,4μm,19.0s,MS6.0
DGRG David-gareji 107.96 316 P Pdif 18 53 23.9 -6.5
DGRG David-gareji 107.96 316 P PP 18 57 56.0 -3.4
DGRG S SP 19 07 20.6 0.0
ZAA0 Zalesovo Array 108.16 347 P Pdif 18 53 29.0 -2.3
ZALV Zalesovo Beam 108.16 347 Pdiff Pdif 18 53 32.9 +1.7
comp=Z,1.7nm,0.7s,baz=177,slow=3.7,SNR=8.7
ZALV PKiKP PKiKP 18 57 36.0 -0.5
comp=Z,4.2nm,1.0s,baz=172,slow=4.3,SNR=7.7
ZALV PP PP 18 58 00.5 -0.1
comp=Z,6.9nm,1.1s,baz=134,slow=4.3,SNR=4.3
ZALV PKKPbc PKKPbc 19 08 48.2 +0.1
comp=Z,4.0nm,0.9s,baz=305,slow=4.2,SNR=11
ZALV Zalesovo Beam 108.16 347 Pdif Pdif 18 53 32.9 +1.7
ZALV PKiKP PKiKP 18 57 36.0 -0.5
ZALV PP PP 18 58 00.5 -0.1
ZALV PKKPbc PKKPbc 19 08 48.2 +0.1
ZALV Zalesovo Beam 108.16 347 P Pdif 18 53 32.9 +1.7
ZALV pmax pmax
comp=Z,2.0nm,0.7s
CSS Prodhromos 108.27 304 PFAKE 18 57 50.0 +13
CSS LR LR
comp=Z,2μm,20.0s,MS5.7
DBIC Dimbokro 108.27 256 PKiKP PKiKP 18 57 38.0 -0.1
comp=Z,4.9nm,1.2s,baz=164,slow=7.4,SNR=2.1
DBIC PP PP 18 58 04.0 +2.4
comp=Z,8.9nm,1.2s,baz=114,slow=8.2,SNR=7.1
DBIC PKKPbc PKKPbc 19 08 50.7 +4.0
comp=Z,5.6nm,1.1s,baz=310,slow=8.9,SNR=3.9
DBIC Dimbokro 108.27 256 PKiKP PKiKP 18 57 38.0 -0.1
DBIC PP PP 18 58 04.0 +2.4
DBIC PKKPbc PKKPbc 19 08 50.7 +4.0
DBIC LR LR
comp=Z,4μm,19.0s,MS6.0
MAK Makhachkala 108.34 318 *e*P Pdif 18 53 29.5 -2.5
MAK *i* 18 58 05.0
MAK *e* 19 04 47.3
MAK *i*PS PS 19 07 25.1 -0.5
MAK *e*SS SS 19 13 30.6 +14
MAK pmax pmax
comp=Z,361nm,1.3s
MAK MLR MLR
comp=Z,2μm,18.0s,MS5.7
MTA Mtatsminda 108.40 316 P Pdif 18 53 26.7 -5.6
MTA Mtatsminda 108.40 316 P PP 18 57 58.4 -4.3
MTA S SP 19 07 24.2 -1.0
TBLG Delisi 108.46 316 P PP 18 57 58.4 -4.7
AKH Akhalkalaki 108.72 315 P Pdif 18 53 33.8 +0.1
AKH Akhalkalaki 108.72 315 P PP 18 58 00.8 -4.1
AKH S SP 19 07 26.5 -1.9
NVS Novosibirsk 109.25 346 *e*P Pdif 18 53 42.8 +6.7
ABKAR Akbulak array 109.35 330 *e*P Pdif 18 53 37.0 +0.4
TORD Torodi Ar. Bea 109.48 266 Pdiff Pdif 18 53 38.9 +1.8
comp=Z,1.1nm,0.8s,baz=120,slow=3.9,SNR=7.7
TORD PKiKP PKiKP 18 57 39.8 -0.5
comp=Z,3.1nm,0.9s,baz=116,slow=1.4,SNR=8.3
TORD PP PP 18 58 10.0 -0.6
comp=Z,7.0nm,1.0s,baz=139,slow=5.8,SNR=6.5
TORD PKKPbc PKKPbc 19 08 44.6 +1.8
comp=Z,1.9nm,0.8s,baz=304,slow=2.7,SNR=7.8
TORD Torodi Ar. Bea 109.48 266 Pdif Pdif 18 53 38.9 +1.8
TORD PKiKP PKiKP 18 57 39.8 -0.5
TORD PP PP 18 58 10.0 -0.6
TORD PKKPbc PKKPbc 19 08 44.6 +1.8
ONI Oni 109.71 315 P PP 18 58 11.0 -1.1
ONI S SP 19 07 32.3 -6.0
BVAR Borovoye Array 109.96 338 Pdiff Pdif 18 53 41.1 +1.9
comp=Z,0.5nm,0.6s,baz=232,slow=41,SNR=4.0
BVAR PKiKP PKiKP 18 57 40.1 +0.2
comp=Z,5.7nm,0.8s,baz=148,slow=4.6,SNR=19
BVAR PKKPbc PKKPbc 19 08 41.3 -1.0
comp=Z,3.5nm,0.9s,baz=316,slow=4.1,SNR=8.4
BVAR Borovoye Array 109.96 338 Pdif Pdif 18 53 41.1 +1.9
BVAR PKiKP PKiKP 18 57 40.1 +0.2
BVAR PKKPbc PKKPbc 19 08 41.3 -1.0
BVAR Borovoye Array 109.96 338 P Pdif 18 53 41.1 +1.8
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 110.02 338 *e*PKiKP PKiKP 18 57 40.0 0.0
BRVK LR LR
comp=Z,5μm,20.0s,MS6.1
CLNS Chul'man 110.49 10 *e*PKIKP PKiKP 18 57 30.5 -10
CLNS pmax pmax
comp=Z,15nm,1.4s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,1.3s
LPAZ La Paz 110.84 185 PP PP 18 58 21.9 +2.7
comp=N,3.7nm,1.0s,baz=154,slow=3.3,SNR=4.4
LPAZ PKKPbc PKKPbc 19 08 42.8 +4.2
comp=N,1.4nm,0.8s,baz=252,slow=10,SNR=4.2
LPAZ La Paz 110.84 185 PP PP 18 58 21.9 +2.7
LPAZ PKKPbc PKKPbc 19 08 42.8 +4.2
LPAZ LR LR
comp=Z,3μm,19.0s,MS5.9
AKTO Aktyubinsk 110.98 329 PKiKP PKiKP 18 57 42.4 +0.4
comp=Z,1.7nm,0.8s,baz=14,slow=10,SNR=3.8
AKTO PP PP 18 58 20.6 -0.5
comp=Z,0.6nm,0.5s,baz=152,slow=7.8,SNR=4.4
AKTO PKKPbc PKKPbc 19 08 40.8 +1.9
comp=Z,4.5nm,1.1s,baz=3.7,slow=1.6,SNR=5.7
AKTO Aktyubinsk 110.98 329 PKiKP PKiKP 18 57 42.4 +0.4
AKTO PP PP 18 58 20.6 -0.5
AKTO PKKPbc PKKPbc 19 08 40.8 +1.9
AKTO Aktyubinsk 110.98 329 *i* PKIKP PKiKP 18 57 42.4 +0.5
AKTO 18 58 20.7
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 111.14 316 *e*PKiKP PKiKP 18 57 44.2 +1.7
KIV LR LR
comp=Z,2μm,20.0s,MS5.7
KIV Kislovodsk 111.14 316 *e*P Pdif 18 53 43.4 -1.1
KIV *i* 18 57 42.9
KIV *e* 18 58 19.1
KIV *e*PS PS 19 07 56.7 +3.8
KIV *e*SS SS 19 13 51.2 -3.5
KIV pmax pmax
comp=Z,23nm,0.9s
KIV MLR MLR
comp=Z,2μm,19.0s,MS5.8
BR131 Keskin Array S 111.86 307 PFAKE 18 57 50.0 +6.0
BR131 LR LR
comp=Z,1μm,19.0s,MS5.6
BRTR Keskin Array B 111.86 307 Pdif Pdif 18 53 50.6 +2.9
comp=Z,1.6nm,1.0s,baz=152,slow=5.6,SNR=5.1
BRTR PKiKP PKiKP 18 57 44.0 +0.1
comp=Z,5.0nm,0.9s,baz=138,slow=7.7,SNR=16
BRTR PP PP 18 58 33.1 +5.5
comp=Z,2.0nm,0.9s,baz=134,slow=3.6,SNR=3.9
BRTR PKKPbc PKKPbc 19 08 38.1 +2.5
comp=Z,1.1nm,0.9s,baz=29,slow=2.8,SNR=4.3
BRTR PKPPKP 19 17 06.9
comp=Z,1.9nm,1.1s,baz=356,slow=5.8,SNR=4.2
BRTR Keskin Array B 111.86 307 Pdif Pdif 18 53 50.6 +2.9
BRTR PKiKP PKiKP 18 57 44.0 +0.1
BRTR PP PP 18 58 33.1 +5.5
BRTR PKKPbc PKKPbc 19 08 38.1 +2.5
BRTR P'P' 19 17 06.9
BRTR Keskin Array B 111.86 307 *i* PKIKP PKiKP 18 57 44.1 +0.1
BRTR 18 58 33.2
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR pmax pmax
comp=Z,2.0nm,1.1s
SOC Sochi 112.12 314 *e*P Pdif 18 53 50.5 +1.7
SOC *i* 18 57 45.8
SOC *e* 18 58 30.2
SOC *i*PS PS 19 08 02.9 +1.0
SOC *e* 19 09 08.7
SOC *e*SS SS 19 14 13.9 +6.2
SOC *e*SSS 19 18 26.1
SOC MLR MLR
comp=Z,4μm,20.0s,MS6.0
RCBR Riachuelo 113.44 221 PFAKE 18 58 00.0 +12
RCBR LR LR
comp=Z,4μm,21.0s,MS6.0
PETK Petropavlovsk- 113.96 31 PKiKP PKiKP 18 57 47.5 0.0
comp=Z,11nm,0.9s,baz=183,slow=3.0,SNR=6.2
PETK PP PP 18 58 37.4 -5.0
comp=Z,20nm,1.2s,baz=315,slow=3.4,SNR=3.9
PETK Petropavlovsk- 113.96 31 PKiKP PKiKP 18 57 47.5 0.0
PETK PP PP 18 58 37.4 -5.0
PETK Petropavlovsk- 113.96 31 *i* PKIKP PKiKP 18 57 47.5 0.0
PETK pmax pmax
comp=Z,11nm,0.9s
PETK pmax pmax
comp=Z,20nm,1.2s
ANN Anapa 114.08 313 *e*P Pdif 18 53 57.4 -0.2
ANN *e* 18 58 44.1
ANN *e* 19 04 34.4
ANN *e*PS PS 19 08 22.9 +3.0
ANN pmax pmax
comp=Z,180nm,1.3s
PET Petropavlovsk 114.18 31 PFAKE 18 58 00.0 +12
PET LR LR
comp=Z,1μm,19.0s,MS5.5
PET Petropavlovsk 114.18 31 *e*PKIKP PKiKP 18 57 46.4 -1.6
TAM Tamanrasset 114.58 276 *e*PKiKP PKiKP 18 57 50.5 +0.8
TAM LR LR
comp=Z,4μm,19.0s,MS6.1
TAM Tamanrasset 114.58 276 *e*PKIKP PKiKP 18 57 50.5 +0.8
TAM MLR MLR
comp=Z,4μm,19.0s,MS6.1
NNA Nana 115.18 176 PFAKE 18 58 00.0 +8.8
NNA LR LR
comp=Z,3μm,19.0s,MS6.0
SVE Sverdlovsk 115.83 334 ⇑ *i*PKIKP PKPdf 18 57 51.4 +0.4
SVE *e* 18 58 52.9
SVE pmax pmax
comp=Z,60nm,1.5s
SVE MLR MLR
comp=Z,1μm,17.0s,MS5.7
ARU Arti 116.05 333 *e*PKPdf PKPdf 18 57 50.2 -1.2
ARU LR LR
comp=Z,3μm,20.0s,MS5.9
ARU Arti 116.05 333 *i* PKIKP PKPdf 18 57 51.0 -0.4
ARU 18 58 54.9
ARU PS PS 19 08 31.5 -5.9
ARU SS SS 19 15 01.0 +1.9
ARU MLR MLR
comp=Z,3μm,19.0s,MS5.9
YAK Yakutsk 116.13 12 *e*PKPdf PKPdf 18 57 49.2 -2.2
YAK Yakutsk 116.13 12 *c i*PKIKP PKPdf 18 57 50.1 -1.3
YAK *e* 18 58 57.3
YAK *e* 19 01 25.9
YAK *e*SS SS 19 14 51.4 -8.6
YAK pmax pmax
comp=Z,45nm,0.9s
YAK pmax pmax
comp=Z,1μm,6.2s
YAK pmax pmax
comp=N,538nm,5.8s
YAK pmax pmax
comp=E,152nm,3.7s
KDZ Kurdzhali 117.37 303 P PKPdf 18 57 52.2 -2.3
JMB Yambol 117.39 305 P PKPdf 18 57 56.1 +1.6
PSN Preselentsi 117.51 307 P PKPdf 18 57 54.0 -0.7
PRD Provadia 117.54 306 P PKPdf 18 57 55.4 +0.7
DIM Dimitrovgrad 117.61 304 P PKPdf 18 57 54.7 -0.2
RZN Rozhen 117.75 303 P PKPdf 18 57 45.8 -9.4
TIRR Tirgusor 117.98 307 ⇓ PKIKP PKPdf 18 57 53.7 -1.9
TIRR Tirgusor 117.98 307 ⇓ *i*P PKPdf 18 57 53.7 -1.9
PLD Plovdiv 118.07 303 P PKPdf 18 57 54.1 -1.7
MMB Musomiste 118.19 302 P PKPdf 18 57 52.3 -3.8
SZH Strazhica 118.31 305 P PKPdf 18 57 54.1 -2.1
VSR Storozhevoye 118.36 319 *e*PKIKP PKPdf 18 57 55.2 -0.8
VSR *e* 18 59 17.8
VSR *e*PS PS 19 09 03.0 +4.4
VSR pmax pmax
comp=Z,50nm,1.0s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,6.0nm,1.2s
VSR pmax pmax
comp=Z,910nm,9.6s
VSR pmax pmax
comp=N,280nm,7.2s
VSR pmax pmax
comp=E,310nm,9.7s
VSR MLR MLR
comp=Z,2μm,19.0s,MS5.7
VSR MLR MLR
comp=N,900nm,18.0s,MS5.5
VSR MLR MLR
comp=E,810nm,23.0s,MS5.5
PVL Pavlikeni 118.57 305 P PKPdf 18 57 55.8 -0.9
PGB Panagyurishte 118.67 303 P PKPdf 18 57 55.3 -1.6
KKB Krupnik 118.72 302 P PKPdf 18 57 54.3 -2.8
WDD Wield Dalam 118.97 292 PFAKE 18 58 10.0 +12
WDD LR LR
comp=Z,4μm,19.0s,MS6.0
FX1 Attu Island--F 119.15 39 PKP PKPdf 18 57 59.4 +1.9
comp=Z,24nm,0.8s,baz=223,slow=21,SNR=5.7
FX1 Attu Island--F 119.15 39 PKP PKPdf 18 57 59.4 +1.9
FX1 Attu Island--F 119.15 39 PKIKP PKPdf 18 57 59.4 +1.9
FX1 pmax pmax
comp=Z,24nm,0.8s
VTS Vitosha 119.18 303 ⇑ PKIKP PKPdf 18 57 58.5 +0.6
VTS Vitosha 119.18 303 P PKPdf 18 57 58.4 +0.5
VTS Vitosha 119.18 303 ⇑ *i*P PKPdf 18 57 58.5 +0.6
SOKR Solikamsk 119.23 333 *c i*PKIKP PKPdf 18 57 59.3 +1.8
SOKR 18 59 18.8
SOKR 19 05 08.8
SOKR PS PS 19 09 05.2 -1.0
SOKR pmax pmax
comp=Z,100nm,1.3s
GHRR 119.64 308 ⇓ *i*P PKPdf 18 58 00.8 +2.1
KIS Kishinev 119.66 310 *e*PKP PKPdf 18 58 00.0 +1.3
KIS Kishinev 119.66 310 *e*PP PP 18 59 46.0 +24
KIS Kishinev 119.66 310 *e*PS PS 19 09 12.0 +1.5
KIS LRM 19 46 20.0
comp=Z,1μm,18.0s
KIS Kishinev 119.66 310 *e*PKIKP PKPdf 18 58 00.0 +1.3
KIS *e* 19 02 04.0
KIS *e*PS PS 19 09 12.0 +1.5
KIS MLR MLR
comp=Z,2μm,17.0s,MS5.7
VRI Vrincioaia 119.82 308 PKIKP PKPdf 18 57 59.4 +0.3
VRI Vrincioaia 119.82 308 ⇑ *i*P PKPdf 18 58 00.6 +1.5
PLOR Plostina 119.85 307 ⇑ PKIKP PKPdf 18 57 59.1 0.0
PLOR Plostina 119.85 307 ⇑ *i*P PKPdf 18 57 59.1 0.0
ATAH Atahualpa 119.92 174 PKP PKPdf 18 58 02.1 +1.8
comp=Z,13nm,0.9s,baz=103,slow=1.4,SNR=12
ATAH PKKPbc PKKPbc 19 08 10.8 +3.5
comp=Z,6.2nm,0.8s,baz=348,slow=2.9,SNR=8.7
ATAH Atahualpa 119.92 174 PKP PKPdf 18 58 02.1 +1.8
ATAH PKKPbc PKKPbc 19 08 10.8 +3.5
MLR Muntele Rosu 119.93 307 PKIKP PKPdf 18 57 59.6 +0.3
MLR Muntele Rosu 119.93 307 ⇑ *i*P PKPdf 18 58 00.2 +0.9
CEL Celeste 119.93 295 *e*PKPdf PKPdf 18 57 59.7 +0.2
CEL LR LR
comp=Z,2μm,21.0s,MS5.7
TIR Tirane 120.01 300 PFAKE 18 58 10.0 +10
TIR LR LR
comp=Z,2μm,21.0s,MS5.7
TIP Timpagrande 120.12 296 *e*PKPdf PKPdf 18 58 00.1 +0.2
TIP LR LR
comp=Z,2μm,21.0s,MS5.8
TESR 120.33 308 ⇑ *i*P PKPdf 18 57 59.5 -0.5
DOPR Dopca 120.54 307 ⇑ *i*P PKPdf 18 58 01.5 +1.1

CUC	**Castrocucco**	**121.21 296**	PFAKE		18 58 10.0	+8.1
CUC			LR	LR		
	comp=Z,1µm,22.0s,MS5.5					
GZR	**Gura Zlata**	**121.41 305**	⇑PKIKP	PKPdf	18 58 02.6	+0.5
GZR	**Gura Zlata**	**121.41 305**	⇑*i*P	PKPdf	18 58 02.6	+0.5
BURAR	**Bucovina Array**	**121.80 308**	⇑PKIKP	PKPdf	18 58 03.6	+0.8
BURAR	**Bucovina Array**	**121.80 308**	⇑*i*P	PKPdf	18 58 03.6	+0.8
KEST	**Kesra**	**121.81 288**	PKP	PKPdf	18 58 05.0	+1.8
	comp=Z,15nm,1.0s,baz=246,slow=1.5,SNR=28					
KEST			PKKPbc	PKKPbc	19 08 01.1	+0.9
	comp=Z,1.4nm,0.8s,baz=209,slow=1.4,SNR=5.7					
KEST	**Kesra**	**121.81 288**	*e*PKPdf	PKPdf	18 58 03.6	+0.4
KEST			PKP	PKPdf	18 58 05.0	+1.8
KEST			PKKPbc	PKKPbc	19 08 01.1	+0.9
BZS	**Buzias**	**122.14 304**	⇓PKIKP	PKPdf	18 58 03.1	-0.4
BZS	**Buzias**	**122.14 304**	⇓*i*P	PKPdf	18 58 03.0	-0.5
AKASG	**Malin Array Be**	**122.17 313**	PKhKP	PKPpre	18 57 51.0	
	comp=Z,0.5nm,0.5s,baz=129,slow=3.2,SNR=4.1					
AKASG			PKP	PKPdf	18 58 02.5	-0.9
	comp=Z,34nm,0.9s,baz=96,slow=1.8,SNR=46					
AKASG			PP	PP	18 59 38.3	-1.1
	comp=Z,0.8nm,0.6s,baz=149,slow=2.2,SNR=11					
AKASG			PKKPbc	PKKPbc	19 07 59.5	+0.3
	comp=Z,3.9nm,0.8s,baz=309,slow=3.2,SNR=8.9					
AKASG	**Malin Array Be**	**122.17 313**	PKPpre	PKPpre	18 57 51.0	
AKASG			PKP	PKPdf	18 58 02.5	-0.9
AKASG			PP	PP	18 59 38.3	-1.1
AKASG			PKKPbc	PKKPbc	19 07 59.5	+0.3
AKASG	**Malin Array Be**	**122.17 313**	*i* PKIKP	PKPpre	18 57 51.1	
AKASG					18 59 38.3	
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.5s					
AKASG			pmax	pmax		
	comp=Z,34nm,0.9s					
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.6s					
AKASG			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KIEV	**Kiev**	**122.17 313**	*e*PKPdf	PKPdf	18 58 02.0	-1.4
KIEV			LR	LR		
	comp=Z,2µm,22.0s,MS5.8					
KIEV	**Kiev**	**122.17 313**	*i* PKIKP	PKPdf	18 58 03.3	-0.1
OBN	**Obninsk**	**122.33 320**	*e*PKPdf	PKPdf	18 58 02.4	-1.2
OBN			LR	LR		
	comp=Z,3µm,19.0s,MS6.0					
OBN	**Obninsk**	**122.33 320**	⇓*i*PKIKP	PKPdf	18 58 03.5	-0.1
OBN			*i*		18 58 07.4	
OBN			*i*		18 59 44.5	
OBN			*e*PS	PS	19 09 37.8	+3.7
OBN			*i* SS	SS	19 16 18.2	-2.2
OBN			pmax	pmax		
	comp=Z,222nm,1.7s					
OBN			MLR	MLR		
	comp=Z,2µm,16.0s,MS5.8					
MOS	**Moscow**	**122.39 321**	*e*PKIKP	PKPdf	18 58 02.2	-1.5
MOS			*e*		18 59 44.0	
MOS			pmax	pmax		
	comp=Z,145nm,1.3s					
MOS			MLR	MLR		
	comp=N,2µm,18.0s					
MOS			MLR	MLR		
	comp=Z,2µm,19.0s,MS5.8					
ADK	**Adak**	**122.55 46**	PFAKE		18 58 10.0	+5.9
ADK			LR	LR		
	comp=Z,2µm,19.0s,MS5.9					
ABSA	**Djebel Ababsia**	**123.27 288**	P	PKPdf	18 58 06.4	+0.4
TRPA	**Tarpa**	**123.45 307**	⇑*i*P	PKPdf	18 58 06.2	+0.3
CMAH	**Djebel Manchou**	**123.54 288**	P	PKPdf	18 58 07.0	+0.5
CTEI	**Djebel Teioual**	**123.74 287**	P	PKPdf	18 58 07.1	+0.2
CKFL	**Kef-Lekhel**	**123.79 287**	P	PKPdf	18 58 07.8	+0.8
CASM	**Ain Smara**	**123.83 287**	P	PKPdf	18 58 07.4	+0.3
LVV	**L'vov**	**123.91 309**	*i* PKIKP	PKPdf	18 58 06.0	-0.8
LVV			*e*		19 09 52.0	
UZH	**Uzhgorod**	**123.91 307**	*i* PKIKP	PKPdf	18 58 09.0	+2.2
UZH			*e*		18 58 15.8	
UZH			*e*		18 59 53.2	
UZH			*e*SS	SS	19 16 47.2	+6.6
UZH			MLR	MLR		
	comp=N,1µm,18.0s,MS5.7					
UZH			MLR	MLR		
	comp=E,900nm,18.0s,MS5.7					
UZH			MLR	MLR		
	comp=Z,700nm,18.0s,MS5.4					
CAEH	**'Ain El Ouahch**	**123.98 288**	P	PKPdf	18 58 09.7	+2.3
PKSM	**Moragy**	**124.05 303**	PKIKP	PKPdf	18 58 06.8	-0.4
PKSM	**Moragy**	**124.05 303**	⇑*i*P	PKPdf	18 58 07.8	+0.6
KOLS	**Kolonicke sedl**	**124.13 308**	*e*PKIKP	PKPdf	18 58 08.6	+1.4
KOLS	**Kolonicke sedl**	**124.13 308**	*e*PKP	PKPdf	18 58 08.5	+1.3
AQU	**L'Aquila**	**124.16 297**	*e*PKPdf	PKPdf	18 58 09.2	+1.7
AQU			LR	LR		
	comp=Z,3µm,19.0s,MS6.0					
AQU	**L'Aquila**	**124.16 297**	*e*PKIKP	PKPdf	18 58 09.2	+1.7
AQU			MLR	MLR		
	comp=Z,3µm,19.0s,MS5.9					
KWP	**Kalwaria Pacla**	**124.40 308**	*e*PKPdf	PKPdf	18 58 08.1	+0.3
KWP	**Kalwaria Pacla**	**124.40 308**	*e*PKPdf	PKPdf	18 58 06.5	-1.2
KWP			LR	LR		
	comp=Z,2µm,20.0s,MS5.7					
KWP	**Kalwaria Pacla**	**124.40 308**	*e*PKIKP	PKPdf	18 58 06.6	-1.1
KWP			MLR	MLR		
	comp=Z,2µm,20.0s,MS5.7					
KWP	**Kalwaria Pacla**	**124.40 308**	⇑*i*P	PKPdf	18 58 07.1	-0.6
SET	**Setif**	**124.42 286**	P	PKPdf	18 58 10.0	+1.8
VSL	**Villasalto**	**124.42 292**	PFAKE		18 58 20.0	+12
VSL			LR	LR		
	comp=Z,2µm,20.0s,MS5.7					
CRVS	**Cervenica-Dubn**	**124.50 307**	*e*PKIKP	PKPdf	18 58 08.0	+0.1
CRVS	**Cervenica-Dubn**	**124.50 307**	*e*PKP	PKPdf	18 58 08.0	+0.1
PSZ	**Piszkesteto**	**124.59 305**	*e*PKPdf	PKPdf	18 58 08.1	-0.1
PSZ			LR	LR		
	comp=Z,2µm,19.0s,MS5.7					
PSZ	**Piszkesteto**	**124.59 305**	PKIKP	PKPdf	18 58 08.1	0.0
PSZ	**Piszkesteto**	**124.59 305**	⇑*e*PKP	PKPdf	18 58 08.3	+0.2
PSZ	**Piszkesteto**	**124.59 305**	⇓*i*P	PKPdf	18 58 08.9	+0.8
KECS	**Kecovo**	**124.69 306**	*e*PKIKP	PKPdf	18 58 09.1	+0.8
KECS	**Kecovo**	**124.69 306**	*e*PKP	PKPdf	18 58 09.1	+0.8
BUD	**Budapest**	**124.73 304**	⇑*e*PKP	PKPdf	18 58 10.3	+1.9
STHS	**Stebnicka Huta**	**124.95 307**	*e*PKIKP	PKPdf	18 58 10.8	+2.0
STHS	**Stebnicka Huta**	**124.95 307**	*e*PKP	PKPdf	18 58 10.8	+2.0
BOJS	**Bojanci**	**125.31 301**	*i* PKPdf	PKPdf	18 58 11.1	+1.5
NIE	**Niedzica**	**125.40 307**	*e*PKPdf	PKPdf	18 58 10.3	+0.7
NIE	**Niedzica**	**125.40 307**	*e*PKIKP	PKPdf	18 58 10.3	+0.7
MICGM	**Minsk**	**125.42 315**	*e*P	PKPdf	18 58 07.0	-2.5
MNK	**Minsk**	**125.44 315**	*e*PKIKP	PKPdf	18 58 07.0	-2.5
MNK			pmax	pmax		
	comp=Z,390nm,1.0s					
SACV	**Santiago Islan**	**125.67 245**	PFAKE		18 58 20.0	+8.8
SACV			LR	LR		
	comp=Z,2µm,19.0s,MS5.8					
KOLL	**Kolacno**	**125.77 305**	*e*PKIKP	PKPdf	18 58 11.0	+0.6
KOLL	**Kolacno**	**125.77 305**	*e*PKP	PKPdf	18 58 11.0	+0.6
EMHD	**Djebel Mahouad**	**125.84 284**	P	PKPdf	18 58 08.0	-2.9
OSPF	**L'Ospedale**	**125.99 293**	PKP	PKPdf	18 58 11.1	+0.1
LJU	**Ljubljana**	**126.05 301**	*i* PKPdf	PKPdf	18 58 13.3	+2.3
SOP	**Sopron**	**126.10 303**	⇑*e*PKP	PKPdf	18 58 10.6	-0.4
PERS	**Pernice**	**126.14 301**	*i* PKPdf	PKPdf	18 58 13.2	+2.0
NACGM	**Naroch**	**126.16 315**	*e*P	PKPdf	18 58 08.0	-2.9
ZST	**Bratislava**	**126.17 304**	*e*PKIKP	PKPdf	18 58 11.1	0.0
ZST	**Bratislava**	**126.17 304**	*e*PKP	PKPdf	18 58 11.1	0.0
OJC	**Ojcow**	**126.19 307**	*e*PKPdf	PKPdf	18 58 11.4	+0.3
OJC	**Ojcow**	**126.19 307**	*e*PKIKP	PKPdf	18 58 11.4	+0.3
SOKA	**Soboth**	**126.21 301**	⇑*i*PKPdf	PKPdf	18 58 11.7	+0.4
	comp=Z,127nm,1.3s					
SMOL	**Smolenice**	**126.21 305**	*e*PKIKP	PKPdf	18 58 13.7	+2.5
SMOL	**Smolenice**	**126.21 305**	*e*PKP	PKPdf	18 58 13.7	+2.5
ARSA	**Arzberg**	**126.34 302**	⇑*i*PKPdf	PKPdf	18 58 10.8	-0.8
	comp=Z,108nm,1.4s,SNR=41					
OBKA	**Obir**	**126.35 301**	⇑*i*PKPdf	PKPdf	18 58 10.7	-0.8
	comp=Z,62nm,1.3s,SNR=21					
VOY	**Vojsko**	**126.37 300**	*e*PKPdf	PKPdf	18 58 11.3	-0.3
VOY			*e*		18 58 13.4	
CONA	**Conrad Observa**	**126.61 303**	⇓*i*PKPdf	PKPdf	18 58 12.0	0.0
	comp=Z,52nm,1.5s,SNR=9.6					
PGF	**Pioggiola**	**126.69 294**	*e*PKIKP	PKPdf	18 58 12.0	-0.4
	comp=Z,218nm,1.3s					
PGF	**Pioggiola**	**126.69 294**	*e*PKPdf	PKPdf	18 58 12.0	-0.4
PGF	**Pioggiola**	**126.69 294**	*e*PKIKP	PKPdf	18 58 12.0	-0.4
IIGN	**Ignalina**	**126.70 315**	⇓*e*P	PKPdf	18 58 12.9	+0.9
IIGN			AMB	AMB	18 58 14.8	
	comp=Z,44nm,1.2s					
OKC	**Ostrava-Krasne**	**126.73 306**	*e*PKIKP	PKPdf	18 58 12.7	+0.5
OKC	**Ostrava-Krasne**	**126.73 306**	*e*PKPDF	PKPdf	18 58 12.7	+0.5
OKC			*ex*	x	18 58 22.9	
ECHA	**Ech Chlef**	**126.74 283**	P	PKPdf	18 58 16.0	+3.3
EBNR	**Beni Rached**	**126.74 283**	P	PKPdf	18 58 15.0	+2.3
EANR	**'Ain N'Sour**	**126.76 283**	P	PKPdf	18 58 16.5	+3.8
RAC	**Raciborz**	**126.87 306**	*e*PKIKP	PKPdf	18 58 12.3	-0.1
RAC			*e*		19 00 11.2	
ISAL	**Salakas**	**126.89 316**	*e*P	PKPdf	18 58 13.2	+0.9
ISAL			AMB	AMB	18 58 15.2	
	comp=Z,45nm,1.2s					
MYKA	**Terra Mystica**	**126.90 301**	⇓*i*PKPdf	PKPdf	18 58 12.8	+0.2
	comp=Z,124nm,1.2s					
IZAR	**Zarasai**	**126.96 316**	*e*P	PKPdf	18 58 13.2	+0.8
IZAR			AMB	AMB	18 58 15.2	
	comp=Z,43nm,1.2s					
MORC	**Moravsky Berou**	**126.99 306**	*e*PKPdf	PKPdf	18 58 12.1	-0.6
MORC	**Moravsky Berou**	**126.99 306**	PKIKP	PKPdf	18 58 12.7	0.0
MORC	**Moravsky Berou**	**126.99 306**	⇑*i*P	PKPdf	18 58 13.1	+0.4
SUW	**Suwalki**	**127.13 313**	*e*PKPdf	PKPdf	18 58 11.9	-0.9
SUW	**Suwalki**	**127.13 313**	*e*PKPdf	PKPdf	18 58 13.1	+0.3
SUW	**Suwalki**	**127.13 313**	*e*PKIKP	PKPdf	18 58 13.1	+0.3
VRAC	**Vranov**	**127.15 305**	⇓PKIKP	PKPdf	18 58 14.2	+1.2
VRAC	**Vranov**	**127.15 305**	⇓*i*P	PKPdf	18 58 14.2	+1.2
OTAV	**Otavalo**	**127.22 173**	*e*PKPdf	PKPdf	18 58 15.0	+0.7
OTAV			LR	LR		
	comp=Z,2µm,20.0s,MS5.8					
KBA	**Koelnbreinsper**	**127.35 301**	⇑*i*PKPdf	PKPdf	18 58 12.6	-0.8
	comp=Z,76nm,1.2s,SNR=10.0					
MOA	**Molln**	**127.37 302**	⇑*i*PKPdf	PKPdf	18 58 12.1	-1.3
	comp=Z,54nm,1.4s,SNR=11					
KRLC	**Kraliky**	**127.56 306**	*e*PKPDF	PKPdf	18 58 16.3	+2.6
TREC	**Trest**	**127.69 304**	*e*PKIKP	PKPdf	18 58 14.5	+0.5
TREC			MLR	MLR		
	comp=Z,2µm,17.8s,MS5.8					
TREC	**Trest**	**127.69 304**	*e*PKPDF	PKPdf	18 58 14.5	+0.5
TREC			AMS	AMS	20 01 50.0	
	comp=Z,2µm,17.8s					
DPC	**Dobruska-Polom**	**127.96 306**	*e*PKIKP	PKPdf	18 58 15.4	+0.9
DPC			*e*		19 00 17.7	
DPC			*e*		19 22 22.5	
DPC			MLR	MLR		
	comp=Z,2µm,22.4s,MS5.7					
DPC	**Dobruska-Polom**	**127.96 306**	*e*PKPDF	PKPdf	18 58 15.4	+0.9
DPC			*e*PP	PP	19 00 17.7	-0.5
DPC			*ex*	x	19 01 35.6	
DPC			*e*SS	SS	19 17 42.5	+11
DPC			*ex*	x	19 22 22.5	
DPC			AMS	AMS	19 59 30.0	
	comp=Z,2µm,22.4s					
PUL	**Pulkovo**	**128.01 321**	*i* PKIKP	PKPdf	18 58 15.6	+1.3
RJOB	**Jochberg**	**128.06 301**	*e*PKPdf	PKPdf	18 58 14.0	-0.8
UPC	**Upice**	**128.21 306**	*e*PKIKP	PKPdf	18 58 15.6	+0.6
UPC	**Upice**	**128.21 306**	*e*PKPDF	PKPdf	18 58 15.6	+0.6
UPC			*ex*	x	18 58 25.9	
UPC			*ex*	x	19 01 36.0	
KSP	**Ksiaz**	**128.29 306**	*e*PKPdf	PKPdf	18 58 15.5	+0.4
KSP	**Ksiaz**	**128.29 306**	*e*PKP	PKPdf	18 58 14.5	-0.6
KSP			*e*PP	PP	19 00 19.3	-1.0
KSP			*e*PKS		19 01 34.0	
KSP			*e*SS	SS	19 17 25.0	-10
KSP			LM		19 42 20.0	
	comp=Z,5.4nm,38.7s					
KSP	**Ksiaz**	**128.29 306**	*e*PKIKP	PKPdf	18 58 14.5	-0.6
KSP			*e*		19 00 19.3	
KSP			MLR	MLR		
	comp=Z,5µm,38.7s,MS5.9					
GEC2	**GERESS Array S**	**128.30 303**	*e*PKPdf	PKPdf	18 58 14.4	-0.8
GEC2	**GERESS Array S**	**128.30 303**	*e*PKIKP	PKPdf	18 58 14.4	-0.8
GERES	**GERESS Array B**	**128.30 303**	PKhKP	PKPpre	18 58 01.7	
	comp=Z,0.2nm,0.6s,baz=342,slow=28,SNR=4.7					
GERES			PKP	PKPdf	18 58 14.3	-0.9
	comp=Z,30nm,0.9s,baz=132,slow=2.0,SNR=70					
GERES	**GERESS Array B**	**128.30 303**	PKPpre	PKPpre	18 58 01.7	
GERES			PKP	PKPdf	18 58 14.3	-0.9
GERES	**GERESS Array B**	**128.30 303**	*i* PKHKP	PKPpre	18 58 01.7	
GERES					18 58 14.3	
GERES			pmax	pmax		
	comp=Z,30nm,1.0s					
WTTA	**Wattenberg**	**128.35 300**	⇑*i*PKPdf	PKPdf	18 58 15.2	-0.2
	comp=Z,147nm,1.3s,SNR=12					
UNV	**Unalaska Valle**	**128.41 49**	*e*PKPdf	PKPdf	18 58 17.1	+1.8
SBF	**Sospel**	**128.42 294**	*e*PKIKP	PKPdf	18 58 15.4	-0.2
	comp=Z,424nm,1.3s					
SBF	**Sospel**	**128.42 294**	*e*PKPdf	PKPdf	18 58 15.4	-0.2
SBF	**Sospel**	**128.42 294**	*e*PKIKP	PKPdf	18 58 15.4	-0.2
SAOF	**Saorge**	**128.43 295**	PKP	PKPdf	18 58 15.9	+0.3
WATA	**Walderalm**	**128.43 300**	⇓*i*PKPdf	PKPdf	18 58 15.3	-0.2
	comp=Z,104nm,1.4s,SNR=10					
LUCF	**Luceram**	**128.49 294**	PKP	PKPdf	18 58 16.9	+1.2
AUTN	**L'Aution**	**128.51 294**	PKP	PKPdf	18 58 16.9	+1.1
BILL	**Bilibino**	**128.53 24**	*e*PKPdf	PKPdf	18 58 14.8	-0.3
BILL			LR	LR		
	comp=Z,2µm,21.0s,MS5.8					
BILL	**Bilibino**	**128.53 24**	*d i*PKIKP	PKPdf	18 58 14.2	-0.9
BILL			*i*		18 58 20.1	
BILL			*i*		19 00 19.4	
BILL			PS	PS	19 10 32.0	+3.6
BILL			*e*		19 12 08.5	
BILL			SS	SS	19 17 36.0	-1.7
BILL			*e*SSS		19 22 17.3	
BILL			pmax	pmax		
	comp=Z,191nm,1.7s					
BILL			MLR	MLR		
	comp=Z,2µm,22.0s,MS5.6					
VSU	**Vasula**	**128.55 319**	*d i*PKIKP	PKPdf	18 58 16.0	+0.6
KHC	**Kasperske Hory**	**128.55 303**	*e*PKPdf	PKPdf	18 58 14.1	-1.6
KHC	**Kasperske Hory**	**128.55 303**	*e*PKIKP	PKPdf	18 58 13.8	-1.9
KHC			*e*		19 00 19.1	
KHC			MLR	MLR		
	comp=Z,2µm,15.9s,MS5.8					
KHC	**Kasperske Hory**	**128.55 303**	*e*PKPDF	PKPdf	18 58 13.8	-1.9
KHC			*e*PP	PP	19 00 19.1	-3.0
KHC			*ex*	x	19 01 36.1	
KHC			*ex*	x	19 17 22.0	
KHC			AMS	AMS	20 09 50.0	
	comp=Z,2µm,15.9s					
LMR	**La Mourre**	**128.59 293**	*e*PKIKP	PKPdf	18 58 16.0	+0.1
	comp=Z,407nm,1.7s					
LMR	**La Mourre**	**128.59 293**	*e*PKPdf	PKPdf	18 58 16.0	+0.1
LMR	**La Mourre**	**128.59 293**	*e*PKIKP	PKPdf	18 58 16.0	+0.1
MVIF	**Mont Vial**	**128.59 294**	PKP	PKPdf	18 58 16.9	+1.0
PRU	**Pruhonice**	**128.61 304**	*e*PKIKP	PKPdf	18 58 16.3	+0.5
PRU			*e*		19 17 42.6	
PRU			MLR	MLR		
	comp=Z,2µm,19.6s,MS5.7					
PRU	**Pruhonice**	**128.61 304**	*e*PKPDF	PKPdf	18 58 16.3	+0.5
PRU			*e*PP	PP	19 00 18.2	-4.2
PRU			*ex*	x	19 01 37.0	
PRU			*e*SS	SS	19 17 42.6	+3.2
PRU			*ex*	x	19 22 40.2	
PRU			AMS	AMS	19 55 20.0	
	comp=Z,2µm,19.6s					
TOUF	**Mont Tournerai**	**128.62 294**	PKP	PKPdf	18 58 16.4	+0.4
CALN	**Calern**	**128.65 294**	PKP	PKPdf	18 58 17.0	+1.0
FRF	**La Foret Royal**	**128.66 294**	*e*PKIKP	PKPdf	18 58 16.1	0.0
	comp=Z,490nm,1.6s					
FRF	**La Foret Royal**	**128.66 294**	*e*PKPdf	PKPdf	18 58 16.1	0.0
FRF	**La Foret Royal**	**128.66 294**	*e*PKIKP	PKPdf	18 58 16.1	0.0
FETA	**Feichten**	**128.68 299**	⇑*i*PKPdf	PKPdf	18 58 15.8	-0.2
	comp=Z,114nm,1.2s,SNR=22					
MOTA	**Moosalm**	**128.69 300**	⇑*i*PKPdf	PKPdf	18 58 15.9	-0.1
	comp=Z,73nm,1.2s,SNR=14					
PRA	**Prague**	**128.72 304**	PKPDF	PKPdf	18 58 16.0	0.0
WET	**Wettzell**	**128.91 303**	*e*PKPdf	PKPdf	18 58 15.8	-0.6
WET	**Wettzell**	**128.91 303**	*e*PKIKP	PKPdf	18 58 15.8	-0.6
PVCC	**Panska Ves**	**128.94 305**	*e*PKIKP	PKPdf	18 58 16.9	+0.5
PVCC			MLR	MLR		
	comp=Z,1µm,17.1s,MS5.7					
PVCC	**Panska Ves**	**128.94 305**	*e*PKPDF	PKPdf	18 58 16.9	+0.5
PVCC			*ex*	x	19 01 37.9	
PVCC			AMS	AMS	20 05 20.0	
	comp=Z,1µm,17.1s					
RETA	**Reutte**	**128.96 300**	⇓*i*PKPdf	PKPdf	18 58 16.3	-0.2
	comp=Z,89nm,1.4s,SNR=13					
TUE	**Stuetta**	**129.06 298**	*e*PKPdf	PKPdf	18 58 16.4	-0.3
TUE			LR	LR		
	comp=Z,2µm,20.0s,MS5.8					
CART	**Cartagena**	**129.11 283**	*e*PKPdf	PKPdf	18 58 17.2	+0.1
FUR	**Furstenfeldbru**	**129.12 301**	*e*PKPdf	PKPdf	18 58 16.3	-0.5
FUR	**Furstenfeldbru**	**129.12 301**	*e*PKIKP	PKPdf	18 58 16.3	-0.5
SURF	**Saint Ours**	**129.16 295**	PKP	PKPdf	18 58 18.0	+1.0
DAVA	**Damuels**	**129.29 299**	⇑*i*PKPdf	PKPdf	18 58 17.4	+0.3
	comp=Z,123nm,1.3s,SNR=24					
MBDF	**Montbardon**	**129.34 295**	*e*PKIKP	PKPdf	18 58 17.6	+0.3
	comp=Z,335nm,1.3s					
MBDF	**Montbardon**	**129.34 295**	*e*PKPdf	PKPdf	18 58 17.6	+0.3
MBDF	**Montbardon**	**129.34 295**	*e*PKIKP	PKPdf	18 58 17.6	+0.3
GKP	**Gorka Klasztor**	**129.37 309**	*e*PKPdf	PKPdf	18 58 19.0	+1.9
GKP	**Gorka Klasztor**	**129.37 309**	*e*PKIKP	PKPdf	18 58 19.0	+1.9
BRG	**Berggiesshubel**	**129.47 305**	PDIF	Pdif	18 55 00.0	-6.0
BRG	**Berggiesshubel**	**129.47 305**	*i* PKP	PKPdf	18 58 18.2	+0.9
	comp=Z,84nm,1.4s					
BRG			PP	PP	19 00 18.0	-10
BRG			SKP		19 01 40.0	
BRG			SS	SS	19 17 36.0	-14
BRG						
	comp=N,975nm,18.1s					
BRG						
	comp=E,1µm,15.7s					
BRG						
	comp=Z,2µm,16.8s					
BRG	**Berggiesshubel**	**129.47 305**	*e*PKPdf	PKPdf	18 58 17.0	-0.4
BRG	**Berggiesshubel**	**129.47 305**	P	Pdif	18 55 00.0	-6.0
BRG			*i*		18 58 18.2	
BRG			pmax	pmax		
	comp=Z,84nm,1.4s					
BRG			MLR	MLR		
	comp=N,975nm,18.1s,MS5.8					
BRG			MLR	MLR		
	comp=E,1µm,15.7s,MS5.8					
BRG			MLR	MLR		
	comp=Z,2µm,16.8s,MS5.8					
OG25	**Le Caire**	**129.49 294**	PKP	PKPdf	18 58 18.3	+0.7
SMRF	**Simiane la Rot**	**129.52 293**	*e*PKIKP	PKPdf	18 58 18.1	+0.4
	comp=Z,303nm,1.7s					
SMRF	**Simiane la Rot**	**129.52 293**	*e*PKPdf	PKPdf	18 58 18.1	+0.4
BNI	**Bardonecchia**	**129.60 295**	*e*PKPdf	PKPdf	18 58 17.6	-0.2
BNI			LR	LR		
	comp=Z,3µm,19.0s,MS6.0					
BNI	**Bardonecchia**	**129.60 295**	*e*PKIKP	PKPdf	18 58 17.6	-0.2
BNI			MLR	MLR		
	comp=Z,3µm,19.0s,MS6.0					
ROTZ	**Rotzenmuhle**	**129.65 303**	*e*PKPdf	PKPdf	18 58 17.4	-0.3
JOF	**Joensuu**	**129.74 325**	*e*PKIKP	PKPdf	18 58 16.7	-0.8
JOF	**Joensuu**	**129.74 325**	*e*pkp	PKPdf	18 58 16.7	-0.8
NKC	**Novy Kostel**	**129.81 304**	*e*PKIKP	PKPdf	18 58 16.9	-1.1
NKC			MLR	MLR		
	comp=Z,2µm,18.7s,MS5.8					
NKC	**Novy Kostel**	**129.81 304**	*e*PKPDF	PKPdf	18 58 16.9	-1.1
NKC			*ex*	x	18 58 29.5	
NKC			*e*SKP		19 01 44.0	
NKC			AMS	AMS	20 04 20.0	
	comp=Z,2µm,18.7s					
LPG	**La Plagne**	**129.84 296**	*e*PKIKP	PKPdf	18 58 18.6	+0.4
	comp=Z,296nm,1.6s					
LPG	**La Plagne**	**129.84 296**	*e*PKPdf	PKPdf	18 58 18.6	+0.4
LPG	**La Plagne**	**129.84 296**	*e*PKIKP	PKPdf	18 58 18.6	+0.4
LPL	**La Plagne**	**129.86 296**	*e*PKIKP	PKPdf	18 58 18.5	+0.2
	comp=Z,137nm,1.2s					
LPL	**La Plagne**	**129.86 296**	*e*PKPdf	PKPdf	18 58 18.5	+0.2
LPL	**La Plagne**	**129.86 296**	*e*PKIKP	PKPdf	18 58 18.5	+0.2
ORIF	**Oris-en-Rattie**	**129.95 294**	*e*PKIKP	PKPdf	18 58 18.5	0.0
	comp=Z,180nm,1.5s					
ORIF			*e*R			
	comp=Z,2µm,19.2s					
ORIF	**Oris-en-Rattie**	**129.95 294**	*e*PKPdf	PKPdf	18 58 18.5	0.0
ORIF	**Oris-en-Rattie**	**129.95 294**	*e*PKIKP	PKPdf	18 58 18.5	0.0
GDM	**Grand'Maison**	**130.00 295**	PKP	PKPdf	18 58 19.0	+0.4
RSL	**Roselend**	**130.03 296**	PKP	PKPdf	18 58 16.4	-2.2
OG26	**St.-Nazaire-De**	**130.05 294**	PKP	PKPdf	18 58 19.0	+0.3
GRF	**Grafenberg Arr**	**130.10 302**	*e*PKPdf	PKPdf	18 58 18.4	-0.2
GRF			*e*L		19 44 09.1	
	comp=Z,1µm,20.9s					
GRF	**Grafenberg Arr**	**130.10 302**	*e*PKIKP	PKPdf	18 58 18.4	-0.2
GRF			MLR	MLR		
	comp=Z,1µm,20.9s,MS5.6					
GRFO	**Grafenberg**	**130.10 302**	*e*PKPdf	PKPdf	18 58 18.6	+0.1
GRFO	**Grafenberg**	**130.10 302**	*e*PKIKP	PKPdf	18 58 18.7	+0.1
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SFS San Fernando 131.45 278 PFAKE 18 58 30.0 +8.4
SFS LR LR
comp=Z,7µm,19.0s,MS6.4
BSD Bornholm Skovb 131.58 310 *e*PKIKP PKPdf 18 58 22.2 +1.0
BSD pmax pmax
comp=Z,33nm,1.1s
BSD Bornholm Skovb 131.58 310 *i* P PKPdf 18 58 22.2 +1.0
comp=Z,33nm,1.1s
BSD *i* 19 01 49.7
LBL Lubilhac 131.60 293 PKP PKPdf 18 58 23.1 +1.5
HAU Haudompre 131.61 298 *e*PKIKP PKPdf 18 58 21.3 -0.2
comp=Z,154nm,1.3s
HAU *e*R
comp=Z,3µm,20.0s
HAU Haudompre 131.61 298 *e*PKPdf PKPdf 18 58 21.3 -0.2
HAU Haudompre 131.61 298 *e*PKIKP PKPdf 18 58 21.3 -0.2
RESF Ens 131.72 289 PKP PKPdf 18 58 22.8 +0.9
CLZ Clausthal 131.83 304 *e*PKPdf PKPdf 18 58 21.8 0.0
CLZ Clausthal 131.83 304 *e*PKIKP PKPdf 18 58 21.8 0.0
TNS Taunus Mts 131.85 301 *e*PKPdf PKPdf 18 58 22.0 +0.1
TNS Taunus Mts 131.85 301 *e*PKIKP PKPdf 18 58 22.0 +0.1
PLDF La Plantade 131.85 294 PKP PKPdf 18 58 14.4 -7.6
EPF Esparros 131.86 289 *e*PKIKP PKPdf 18 58 22.4 +0.2
comp=Z,49nm,0.9s
EPF Esparros 131.86 289 *e*PKPdf PKPdf 18 58 22.4 +0.2
EPF Esparros 131.86 289 *e*PKIKP PKPdf 18 58 22.4 +0.2
LVZ Lovozero 131.88 331 *e*PKPdf PKPdf 18 58 20.9 -0.6
LVZ LR LR
comp=Z,2µm,20.0s,MS5.9
LVZ Lovozero 131.88 331 *e*PKIKP PKPdf 18 58 20.9 -0.5
LVZ MLR MLR
comp=Z,2µm,20.0s,MS5.9
THEF They Montfort 131.94 298 PKP PKPdf 18 58 22.0 -0.1
ROSC El Rosal 131.98 178 PKP PKPdf 18 58 24.4 +1.0
comp=Z,52nm,1.0s,baz=172,slow=2.9,SNR=35
ROSC El Rosal 131.98 178 PKP PKPdf 18 58 24.4 +1.0
LABF Labassere 132.03 289 PKP PKPdf 18 58 22.6 +0.1
APA Apatity 132.04 330 ⇓*i*PKIKP PKPdf 18 58 21.6 -0.1
APA pmax pmax
comp=Z,45nm,1.1s
APA MLR MLR
comp=Z,3µm,19.0s,MS6.0
PYM Petit Puy Mans 132.05 294 PKP PKPdf 18 58 22.9 +0.5
CAF Calviac 132.07 292 *e*PKIKP PKPdf 18 58 23.0 +0.5
comp=Z,118nm,1.1s
CAF Calviac 132.07 292 *e*PKPdf PKPdf 18 58 23.0 +0.5
CAF Calviac 132.07 292 *e*PKIKP PKPdf 18 58 23.0 +0.5
SMF Signal de Mont 132.14 295 *e*PKIKP PKPdf 18 58 22.6 0.0
comp=Z,64nm,1.2s
SMF Signal de Mont 132.14 295 *e*PKPdf PKPdf 18 58 22.6 0.0
SMF Signal de Mont 132.14 295 *e*PKIKP PKPdf 18 58 22.6 0.0
ESDC Sonseca Array 132.22 283 PKhKP PKPpre 18 58 12.0
comp=Z,2.6nm,0.9s,baz=108,slow=1.8,SNR=8.7
ESDC PKP PKPdf 18 58 22.8 -0.2
comp=Z,8.7nm,0.7s,baz=80,slow=1.4,SNR=5.4
ESDC PP PP 19 00 46.4 +0.4
comp=Z,1.1nm,0.8s,baz=121,slow=5.0,SNR=3.2
ESDC Sonseca Array 132.22 283 PKPpre PKPpre 18 58 12.0
ESDC PKP PKPdf 18 58 22.8 -0.2
ESDC PP PP 19 00 46.4 +0.4
ESLA Sonseca Array 132.22 283 *e*PKPdf PKPdf 18 58 21.7 -1.2
ESLA LR LR
comp=Z,12µm,20.0s,MS6.6
ETSF Etsaut 132.29 289 *e*PKIKP PKPdf 18 58 23.7 +0.7
comp=Z,69nm,1.1s
ETSF Etsaut 132.29 289 *e*PKPdf PKPdf 18 58 23.7 +0.7
ETSF Etsaut 132.29 289 *e*PKIKP PKPdf 18 58 23.7 +0.7
REYF Montagne du Re 132.31 289 PKP PKPdf 18 58 23.4 +0.4
NRDL Niedersach Rie 132.35 305 *e*PKPdf PKPdf 18 58 22.7 -0.1
PAB San Pablo 132.37 283 *e*PKPdf PKPdf 18 58 19.9 -3.4
PAB LR LR
comp=Z,3µm,20.0s,MS6.0
PAB San Pablo 132.37 283 *e*PKIKP PKPdf 18 58 19.9 -3.4
PAB MLR MLR
comp=Z,3µm,20.0s,MS6.0
ATE Arette 132.49 289 PKP PKPdf 18 58 23.6 +0.2
AVF Avril sur Loir 132.50 295 *e*PKIKP PKPdf 18 58 23.3 +0.1
comp=Z,109nm,1.6s
AVF Avril sur Loir 132.50 295 *e*PKPdf PKPdf 18 58 23.3 +0.1
AVF Avril sur Loir 132.50 295 *e*PKIKP PKPdf 18 58 23.3 +0.1
LOR Lormes 132.51 296 *e*PKIKP PKPdf 18 58 23.5 +0.3
comp=Z,91nm,1.3s
LOR *e*R
comp=Z,3µm,19.5s
LOR Lormes 132.51 296 *e*PKPdf PKPdf 18 58 23.5 +0.3
LOR Lormes 132.51 296 *e*PKIKP PKPdf 18 58 23.5 +0.3
SSF Saint Saulge 132.57 295 *e*PKIKP PKPdf 18 58 23.6 +0.2
comp=Z,84nm,1.2s
SSF Saint Saulge 132.57 295 *e*PKPdf PKPdf 18 58 23.6 +0.2
SSF Saint Saulge 132.57 295 *e*PKIKP PKPdf 18 58 23.6 +0.2
MEZF Maizieres J'vi 132.60 298 *e*PKIKP PKPdf 18 58 23.7 +0.3
comp=Z,179nm,1.4s
MEZF Maizieres J'vi 132.60 298 *e*PKPdf PKPdf 18 58 23.7 +0.3
RJF Les Rejaudoux 132.61 292 *e*PKIKP PKPdf 18 58 23.9 +0.4
comp=Z,106nm,1.3s
RJF *e*R
comp=Z,4µm,19.2s
RJF Les Rejaudoux 132.61 292 *e*PKPdf PKPdf 18 58 23.9 +0.4
RJF Les Rejaudoux 132.61 292 *e*PKIKP PKPdf 18 58 23.9 +0.4
BGF Bois d'Agland 132.63 294 *e*PKIKP PKPdf 18 58 24.1 +0.6
comp=Z,184nm,1.1s
BGF Bois d'Agland 132.63 294 *e*PKPdf PKPdf 18 58 24.1 +0.6
BGF Bois d'Agland 132.63 294 *e*PKIKP PKPdf 18 58 24.1 +0.6
WLF Walferdange 132.71 300 PKP PKPdf 18 58 24.7 +1.2
WLF Walferdange 132.71 300 *e*PKPdf PKPdf 18 58 23.8 +0.3
WLF Walferdange 132.71 300 *e*PKPdf PKPdf 18 58 24.6 +1.1
WLF LR LR
comp=Z,2µm,19.0s,MS5.9
WLF Walferdange 132.71 300 *e*PKIKP PKPdf 18 58 24.6 +1.1
WLF MLR MLR
comp=Z,2µm,19.0s,MS5.9
SJPF Ste Jean 132.81 288 *e*PKIKP PKPdf 18 58 24.0 0.0
comp=Z,60nm,1.0s
SJPF Ste Jean 132.81 288 *e*PKPdf PKPdf 18 58 24.0 0.0
SJPF Ste Jean 132.81 288 *e*PKIKP PKPdf 18 58 24.0 0.0
LFF La Frestale 132.82 291 *e*PKIKP PKPdf 18 58 24.4 +0.5
comp=Z,195nm,1.7s
LFF La Frestale 132.82 291 *e*PKPdf PKPdf 18 58 24.4 +0.5
LFF La Frestale 132.82 291 *e*PKIKP PKPdf 18 58 24.4 +0.5
TCF Toulx Ste Croi 132.82 294 *e*PKIKP PKPdf 18 58 24.4 +0.5
comp=Z,87nm,1.2s
TCF Toulx Ste Croi 132.82 294 *e*PKPdf PKPdf 18 58 24.4 +0.5
TCF Toulx Ste Croi 132.82 294 *e*PKIKP PKPdf 18 58 24.4 +0.5
PVAQ Vaqueiros 132.97 278 *e*PKPdf PKPdf 18 58 24.3 -0.2
PVAQ Vaqueiros 132.97 278 *e*PP PP 19 00 54.5 +3.6
PVAQ *e*SS SS 19 18 39.2 +6.1
PVAQ *e*LR LR 19 42 37.6
comp=Z,3µm,16.0s
PBDV Barranco-do-Ve 133.00 278 *e*PKPdf PKPdf 18 58 24.7 +0.2
PBDV Barranco-do-Ve 133.00 278 *e*PP PP 19 00 53.7 +2.7
PBDV *e*SS SS 19 18 37.6 +4.2
PBDV *e*LR LR 19 42 46.1
comp=Z,3µm,18.0s
COP Copenhagen 133.07 309 *e*PKIKP PKPdf 18 58 20.9 -3.1
COP Copenhagen 133.07 309 *i* P PKPdf 18 58 20.9 -3.1
COP *i* 19 01 52.8
PBAR Barrancos 133.07 279 *e*PKPdf PKPdf 18 58 25.6 +1.0
PBAR Barrancos 133.07 279 *e*PP PP 19 00 53.7 +2.2
PBAR *e*SS SS 19 18 41.7 +7.3
PBAR *e*LR LR 19 42 34.0
comp=Z,4µm,18.0s
BUG Bochum--Univer 133.17 302 *e*PKPdf PKPdf 18 58 24.4 +0.1
HYF Humbligny 133.17 295 *e*PKIKP PKPdf 18 58 24.4 -0.1
HYF Humbligny 133.17 295 *e*PKPdf PKPdf 18 58 24.4 -0.1
PCVE Castro Verde 133.31 278 *e*PKPdf PKPdf 18 58 24.9 -0.2
PCVE Castro Verde 133.31 278 *e*PP PP 19 00 56.1 +3.0
PCVE *e*SS SS 19 18 40.2 +2.9
PCVE *e*LR LR 19 42 57.2
comp=Z,2µm,18.0s
MEM Membach 133.34 301 PKP PKPdf 18 58 24.9 +0.3
IBBN Ibbenburen 133.42 303 *e*PKPdf PKPdf 18 58 24.8 0.0
PFVI Vila Bisbo 133.46 277 *e*PKPdf PKPdf 18 58 25.9 +0.5
PFVI Vila Bisbo 133.46 277 *e*PP PP 19 00 55.7 +1.7
PFVI *e*SS SS 19 18 45.6 +6.6
PFVI *e*LR LR 19 42 37.6
comp=Z,2µm,16.0s
MORF Marmelete 133.47 277 *e*PKPdf PKPdf 18 58 25.5 +0.1
MORF Marmelete 133.47 277 *e*PP PP 19 00 57.3 +3.3
MORF *e*SS SS 19 18 43.4 +4.3
MORF *e*LR LR 19 43 00.8
comp=Z,2µm,18.0s
MORF Marmelete 133.47 277 *e*PKIKP PKPdf 18 58 26.5 +1.1
MORF *e* 19 00 54.5
MORF *e*SS SS 19 18 43.0 +3.9
PBEJ Beja 133.47 279 *e*PKPdf PKPdf 18 58 26.3 +0.9
BCLA Clavier 133.59 300 PKP PKPdf 18 58 26.9 +1.8
BEBN Eben Emael 133.62 301 PKP PKPdf 18 58 25.8 +0.6
GIVF Givet 133.66 299 *e*PKIKP PKPdf 18 58 25.9 +0.6
GIVF Givet 133.66 299 *e*PKPdf PKPdf 18 58 25.9 +0.6
GIVF Givet 133.66 299 *e*PKIKP PKPdf 18 58 25.9 +0.6
PTEO Sao Teotonio 133.67 277 *e*PKPdf PKPdf 18 58 26.8 +1.0
PTEO Sao Teotonio 133.67 277 *e*PP PP 19 00 59.4 +4.1
DOU Dourbes 133.78 299 PKP PKPdf 18 58 25.9 +0.4
PESTR Estremoz 133.85 280 *e*PKPdf PKPdf 18 58 26.7 +0.6
PESTR Estremoz 133.85 280 *e*PP PP 19 00 56.3 -0.2
PESTR *e*SS SS 19 18 50.6 +6.8
PESTR *e*LR LR 19 42 56.2
comp=Z,3µm,18.0s
EVO Evora 133.89 279 *e*PKIKP PKPdf 18 58 26.8 +0.7
comp=Z,86nm,0.9s
EVO *e*R
comp=Z,3µm,18.2s
EVO Evora 133.89 279 *e*PKPdf PKPdf 18 58 25.9 -0.2
EVO Evora 133.89 279 *e*PP PP 19 00 54.4 -2.3
PNCL Nicolau / Gran 133.92 278 *e*PKPdf PKPdf 18 58 26.9 +0.7
PNCL Nicolau / Gran 133.92 278 *e*PP PP 19 01 00.3 +3.4
PNCL *e*SS SS 19 18 48.4 +3.8
PNCL *e*LR LR 19 43 05.9
comp=Z,3µm,18.0s
EVOP Sao Brissos 133.95 279 *e*PKPdf PKPdf 18 58 26.8 +0.5
EVOP Sao Brissos 133.95 279 *e*PKIKP PKPdf 18 58 26.8 +0.5
BAIF Baives 133.96 299 *e*PKIKP PKPdf 18 58 26.5 +0.6
comp=Z,144nm,1.4s
BAIF Baives 133.96 299 *e*PKPdf PKPdf 18 58 26.5 +0.6
BAIF Baives 133.96 299 *e*PKIKP PKPdf 18 58 26.5 +0.6
PMRV Marv??o 134.09 280 *e*PKPdf PKPdf 18 58 28.0 +1.5
PMRV Marv??o 134.09 280 *e*PP PP 19 00 59.7 +1.7
PMRV *e*SS SS 19 18 56.4 +10
PMRV *e*LR LR 19 43 13.7
comp=Z,2µm,16.0s
SNF Seneffe 134.18 300 PKP PKPdf 18 58 27.3 +1.0
MFF Saint Martin d 134.31 293 *e*PKIKP PKPdf 18 58 27.2 +0.5
MFF Saint Martin d 134.31 293 *e*PKPdf PKPdf 18 58 27.2 +0.5
MFF Saint Martin d 134.31 293 *e*PKIKP PKPdf 18 58 27.2 +0.5
PMTG Montargil 134.36 279 *e*PKPdf PKPdf 18 58 28.8 +1.8
PMTG Montargil 134.36 279 *e*PP PP 19 01 02.6 +2.9
PMTG *e*SS SS 19 18 59.0 +9.1
PMTG *e*LR LR 19 43 09.1
comp=Z,3µm,18.0s
PCBR Castelo Branco 134.41 281 *e*PKPdf PKPdf 18 58 27.6 +0.5
LIS Lisbon 134.68 278 *e*P PKPdf 18 58 28.4 +0.7
LIS *e*PP PP 19 01 02.3 +0.5
LIS *e*SS SS 19 18 57.5 +3.7
LIS AMS AMS 19 58 23.8
comp=Z,3µm,24.0s,MS5.9
LIS Lisbon 134.68 278 *e*PP PP 19 01 02.3 +0.5
LIS *e*SS SS 19 18 57.5 +3.7
LIS A 19 58 23.8
comp=Z,3µm,24.0s
LIS Lisbon 134.68 278 *e*PKIKP PKPdf 18 58 28.4 +0.8
LIS *e* 19 01 02.3
LIS *e*SS SS 19 18 57.5 +3.7
TNA Tin City 134.74 36 *e*PKPpre PKPpre 18 58 19.5
MTE Manteigas 134.80 281 *e*PKPdf PKPdf 18 58 30.1 +2.3
MTE Manteigas 134.80 281 *e*PP PP 19 01 08.0 +5.5
MTE *e*SS SS 19 19 05.1 +10
MTE *e*LR LR 19 44 54.5
comp=Z,4µm,18.0s
MTE Manteigas 134.80 281 *e*PKPbc PKPdf 18 58 30.2 +2.4
MTE LR LR
comp=Z,4µm,19.0s,MS6.1
PTOM Tomar 134.82 280 *e*PKPdf PKPdf 18 58 29.4 +1.5
PMAFR Mafra 134.92 279 *e*PKPdf PKPdf 18 58 28.1 0.0
PMAFR Mafra 134.92 279 *e*PP PP 19 01 06.9 +3.7
PMAFR *e*SS SS 19 19 06.2 +10
PMAFR *e*LR LR 19 43 32.8
comp=Z,3µm,18.0s
MVO Moncorvo 134.98 282 *e*PKPdf PKPdf 18 58 28.8 +0.7
MVO Moncorvo 134.98 282 *e*PP PP 19 01 06.8 +3.2
MVO *e*SS SS 19 19 06.2 +8.9
MVO *e*LR LR 19 44 39.1
comp=Z,3µm,18.0s
MUD Monsted U'grnd 135.02 309 *e*PKIKP PKPdf 18 58 29.8 +2.2
MUD pmax pmax
comp=Z,14nm,1.0s
MUD Monsted U'grnd 135.02 309 *i* P PKPdf 18 58 29.8 +2.2
comp=Z,14nm,1.0s
MUD *i* 19 02 07.9
PVIS Viseu 135.21 281 *e*PKPdf PKPdf 18 58 30.1 +1.6
KEV Kevo 135.22 331 *e*PKPdf PKPdf 18 58 28.0 +0.3
KEV LR LR
comp=Z,2µm,20.0s,MS5.8
KEV Kevo 135.22 331 *e*PKIKP PKPdf 18 58 28.0 +0.4
KEV MLR MLR
comp=Z,2µm,20.0s,MS5.8
KEV Kevo 135.22 331 *e*pkp PKPdf 18 58 28.2 +0.6
PMPS Porto Santo 135.23 267 *e*PKPdf PKPdf 18 58 29.6 +0.8
PVRL Vila Real 135.45 282 *e*PKPdf PKPdf 18 58 31.0 +2.0
PVRL Vila Real 135.45 282 *e*PP PP 19 01 07.7 +1.1
LDF La Druitiere 135.45 295 *e*PKIKP PKPdf 18 58 29.3 +0.6
comp=Z,49nm,1.0s
LDF La Druitiere 135.45 295 *e*PKPdf PKPdf 18 58 29.3 +0.6
LDF La Druitiere 135.45 295 *e*PKIKP PKPdf 18 58 29.3 +0.6
ARCES ARCESS Array B 135.55 330 PKhKP PKPpre 18 58 14.5
comp=Z,5.3nm,0.9s,baz=64,slow=2.8,SNR=6.2
ARCES PKP PKPdf 18 58 29.2 +0.9
comp=Z,26nm,0.9s,baz=270,slow=0.1,SNR=15
ARCES ARCESS Array B 135.55 330 PKPpre PKPpre 18 58 14.5
ARCES PKP PKPdf 18 58 29.2 +0.9
ARCES ARCESS Array B 135.55 330 *i* PKHKP PKPpre 18 58 14.5
ARCES 18 58 29.2
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES pmax pmax
comp=Z,26nm,0.9s
ARE0 ARCESS Array S 135.55 330 *e*PP PP 19 01 06.6 -0.1
ARE0 ARCESS Array S 135.55 330 *e*PKPdf PKPdf 18 58 28.9 +0.7
POLO Lamas de Olo 135.56 282 *e*PKPdf PKPdf 18 58 31.7 +2.5
POLO Lamas de Olo 135.56 282 *e*PP PP 19 01 12.5 +5.2
POLO *e*LR LR 19 45 02.3
comp=Z,1µm,18.0s
PMOZ Porto Moniz, M 135.59 266 *e*PKPdf PKPdf 18 58 32.7 +3.2
PMOZ *e*LR LR 19 43 28.6
comp=Z,3µm,16.0s
GRR Gorron 135.74 294 *e*PKIKP PKPdf 18 58 29.9 +0.6
comp=Z,91nm,1.2s
GRR Gorron 135.74 294 *e*PKPdf PKPdf 18 58 29.9 +0.6
GRR Gorron 135.74 294 *e*PKIKP PKPdf 18 58 29.9 +0.6
FLN La Foliniere 135.75 295 *e*PKIKP PKPdf 18 58 29.9 +0.6
comp=Z,306nm,1.3s
FLN *e*R
comp=Z,3µm,20.5s
FLN La Foliniere 135.75 295 *e*PKPdf PKPdf 18 58 29.9 +0.6
FLN La Foliniere 135.75 295 *e*PKIKP PKPdf 18 58 29.9 +0.6
PCAB Cabril 135.90 282 *e*PKPdf PKPdf 18 58 32.2 +2.4
BCIP Isla Barro Col 135.94 171 PFAKE 18 58 40.0 +9.2
BCIP LR LR
comp=Z,2µm,19.0s,MS5.9
SDV Santo Domingo 135.94 184 *e*PKPdf PKPdf 18 58 30.3 -0.4
SDV LR LR
comp=Z,2µm,19.0s,MS5.8
KTK1 Kautokeino 135.97 329 *e*PKPdf PKPdf 18 58 30.0 +0.9
KTK1 *e*PP PP 19 01 08.2 -1.1
NC602 NORSAR Array S 136.16 315 *e*P PKPdf 18 58 31.3 +1.7
NC602 *e*PP PP 19 01 09.9 -0.8
PGAV Gavieira, Arco 136.20 283 *e*PKPdf PKPdf 18 58 32.4 +2.0
PGAV Gavieira, Arco 136.20 283 *e*PP PP 19 01 14.6 +3.3
PGAV *e*SS SS 19 19 15.9 +3.9
PGAV *e*LR LR 19 45 13.2
comp=Z,3µm,18.0s
JTS JuntasAbangare 136.34 163 PKP PKPdf 18 58 32.1 +0.6
comp=Z,36nm,0.9s,baz=262,slow=5.6,SNR=14
JTS JuntasAbangare 136.34 163 PKP PKPdf 18 58 32.1 +0.6
JTS *e*PKPdf PKPdf 18 58 33.3 +1.8
JTS LR LR
comp=Z,5µm,19.0s,MS6.3
JTS JuntasAbangare 136.34 163 PKIKP PKPdf 18 58 32.1 +0.6
JTS pmax pmax
comp=Z,36nm,0.9s
NB2 NORSAR Subarra136.45 315 PKPdf PKPpre 18 58 16.4
comp=Z,76nm,1.4s,baz=119,slow=1.9
NB2 NORSAR Subarra136.45 315 PKPdf PKPpre 18 58 16.4
baz=119,slow=1.9
NOA NORSAR Array B 136.45 315 PKhKP PKPpre 18 58 14.2
comp=Z,1.3nm,0.9s,baz=68,slow=9.4,SNR=3.6
NOA PKP PKPdf 18 58 30.2 0.0
comp=Z,12nm,0.9s,baz=107,slow=3.5,SNR=13
NOA NORSAR Array B 136.45 315 PKPpre PKPpre 18 58 14.2
NOA PKP PKPdf 18 58 30.2 0.0
NOA NORSAR Array B 136.45 315 *i* PKHKP PKPpre 18 58 14.2
NOA 18 58 30.2
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA pmax pmax
comp=Z,12nm,0.9s
KONO Kongsberg 136.47 313 *e*P PKPdf 18 58 27.5 -2.7
KONO *e*PP PP 19 01 13.8 +1.1
KONO Kongsberg 136.47 313 PFAKE 18 58 40.0 +10
KONO LR LR
comp=Z,2µm,21.0s,MS5.9
SGMF Saint Gilles 136.60 293 *e*PKIKP PKPdf 18 58 31.4 +0.5
comp=Z,253nm,1.6s
SGMF Saint Gilles 136.60 293 *e*PKPdf PKPdf 18 58 31.4 +0.5
SGMF Saint Gilles 136.60 293 *e*PKIKP PKPdf 18 58 31.4 +0.5
QUIF Quistinic 136.75 293 *e*PKIKP PKPdf 18 58 32.1 +0.9
comp=Z,249nm,1.4s
QUIF Quistinic 136.75 293 *e*PKPdf PKPdf 18 58 32.1 +0.9
QUIF Quistinic 136.75 293 *e*PKIKP PKPdf 18 58 32.1 +0.9
ROSF Rostrenen 137.05 293 *e*PKIKP PKPdf 18 58 32.4 +0.7
comp=Z,110nm,1.1s
ROSF Rostrenen 137.05 293 *e*PKPdf PKPdf 18 58 32.4 +0.7
ROSF Rostrenen 137.05 293 *e*PKIKP PKPdf 18 58 32.4 +0.7
KDAK Kodiak Island 137.10 51 PFAKE 18 58 40.0 +8.5
KDAK LR LR
comp=Z,3µm,20.0s,MS6.0
SVW2 Sparrevohn 137.34 45 *e*P PKPdf 18 58 32.9 +1.1
TRO Tromso 137.61 329 *e*P PKPdf 18 58 37.5 +5.3
TRO *e*PP PP 19 01 19.7 +0.1
GRGR Grenville 138.18 197 PFAKE 18 58 40.0 +5.1
GRGR LR LR
comp=Z,3µm,20.0s,MS6.0
HGH Gray Hill 138.55 298 *e*P PKPdf 18 58 27.5 -6.9
KBI1 Birley Grange 138.69 300 *e*P PKPdf 18 58 26.6 -8.0
BER Bergen 138.70 312 *e*P PKPdf 18 58 31.3 -3.0
BBGH Gun Hill 138.76 200 PFAKE 18 58 50.0 +14
BBGH LR LR
comp=Z,6µm,20.0s,MS6.3
MCH1 Michaelchurch 138.84 298 *e*P PKPdf 18 58 27.2 -7.7
FOO Floro 139.35 314 *e*P PKPdf 18 58 31.3 -4.2
SLKM Skilak Lake 139.43 48 *e*PKPpre PKPpre 18 58 27.6
SLKM Skilak Lake 139.43 48 *e*PKHKP PKPpre 18 58 27.6
BJO Bjornoya 139.53 336 *e*P PKPdf 18 58 31.3 -4.2
BJO *e*PP PP 19 01 33.0 +1.6
TGUH Tegucigalpa,Un 139.55 159 *e*PKPpre PKPpre 18 58 30.2
TGUH LR LR
comp=Z,2µm,22.0s,MS5.9
SEW Seward 139.61 49 *e*PKPpre PKPpre 18 58 28.4
XAL Allendale 139.82 302 *e*P PKPdf 18 58 28.4 -8.2
XDE Dent Fell 140.31 301 *e*P PKPdf 18 58 32.1 -5.4
CMIG Matias Romero 140.32 146 PKhKP PKPpre 18 58 33.1
comp=Z,8.8nm,0.9s,baz=2.0,slow=1.5,SNR=12
CMIG Matias Romero 140.32 146 PKPpre PKPpre 18 58 33.1
PMR Palmer 140.36 47 *e*P PKPdf 18 58 32.7 -4.6
PMR Palmer 140.36 47 *e*PKHKP PKPpre 18 58 30.2
ESK Eskdalemuir 140.53 302 *e*P PKPdf 18 58 28.7 -9.1
ESK Eskdalemuir 140.53 302 *e*PKPpre PKPpre 18 58 30.7
ESK LR LR
comp=Z,2µm,19.0s,MS6.0
ESK Eskdalemuir 140.53 302 *e*PKHKP PKPpre 18 58 30.7
ESK MLR MLR
comp=Z,2µm,19.0s,MS6.0
BPAW Bear Paw Mtn. 140.54 42 *e*PKPpre PKPpre 18 58 31.1
TRF Thorofare Moun 140.58 44 *e*PKPpre PKPpre 18 58 31.1
FDF Fort de France 140.63 199 PKPdf PKPdf 18 58 37.4 -1.9
FDF LR LR
comp=Z,2µm,19.0s,MS5.9
FDF Fort de France 140.63 199 PKIKP PKPdf 18 58 37.4 -1.9
FDF MLR MLR
comp=Z,2µm,19.0s,MS5.9
EBL Broad Law 140.66 303 *e*P PKPdf 18 58 31.8 -6.2
SML Sawmill 140.79 47 *e*PKPpre PKPpre 18 58 31.6
SML Sawmill 140.79 47 *e*PKHKP PKPpre 18 58 31.6
EAU Auchinoon 140.89 303 *e*P PKPdf 18 58 32.8 -5.7
EBH Black Hill 141.10 304 *e*P PKPdf 18 58 31.8 -7.1
DSB Dublin 141.25 298 *e*PKPpre PKPpre 18 58 34.7
MCK McKinley 141.25 44 *e*PKPpre PKPpre 18 58 31.4
MCK McKinley 141.25 44 *e*PKHKP PKPpre 18 58 31.4
SPA0 Spitsbergen Ar 141.32 341 *e*P PKPdf 18 58 32.4 -6.3
SPA0 *e*PP PP 19 01 40.0 -2.2
DLF Lyons Farm 141.35 298 *e*P PKPdf 18 58 29.0 -10
MCD Coleburn Disti 141.54 306 *e*P PKPdf 18 58 35.4 -4.2
DIV Divide 141.68 48 *e*PKPpre PKPpre 18 58 35.3
COLD Coldfoot 141.90 38 *e*PKPpre PKPpre 18 58 36.0
MDO Dochfour 142.03 305 *e*P PKPdf 18 58 35.8 -4.6
SCI San Clemente I 142.05 103 ⇓P PKPdf 18 58 37.7 -3.6
baz=142
COLA College 142.08 42 *e*PKPpre PKPpre 18 58 34.8
COLA LR LR
comp=Z,2µm,20.0s,MS5.9
COLA College 142.08 42 *e*PKHKP PKPpre 18 58 34.8
COLA MLR MLR
comp=Z,2µm,20.0s,MS5.9
BSC Santa Cruz Isl 142.13 101 ⇓P PKPdf 18 58 38.0 -3.5
baz=142
MVH1 Achvaich 142.13 306 *e*P PKPdf 18 58 38.1 -2.5
BMRM Bremner River 142.15 49 *e*PKPpre PKPpre 18 58 36.3
KBS Kingsbay 142.35 342 *e*P PKPdf 18 58 35.6 -5.0
KBS *e*PP PP 19 01 48.6 +0.1
KBS AMS AMS 20 00 47.0
comp=Z,2µm,16.9s,MS6.0
KBS Kingsbay 142.35 342 PFAKE 18 58 50.0 +9.5
KBS LR LR
comp=Z,2µm,20.0s,MS6.0
KBS Kingsbay 142.35 342 *i* PKIKP PKPdf 18 58 42.8 +2.3
SBC Santa Barbara 142.39 101 ⇑P PKPdf 18 58 38.7 -3.2
baz=142
ILAR Eielson Array 142.44 42 PKhKP PKPpre 18 58 35.3
comp=Z,9.1nm,0.8s,baz=281,slow=3.5,SNR=45
ILAR PP PP 19 01 51.9 +2.6
comp=Z,5.6nm,1.1s,baz=258,slow=4.5,SNR=3.4
ILAR Eielson Array 142.44 42 PKPpre PKPpre 18 58 35.3
ILAR PP PP 19 01 51.9 +2.6
ILAR Eielson Array 142.44 42 *i* PKHKP PKPpre 18 58 35.3
ILAR 19 01 51.9
ILAR pmax pmax
comp=Z,9.0nm,0.8s
ILAR pmax pmax
comp=Z,6.0nm,1.1s
CIS Catalina Islan 142.44 103 ⇓P PKPdf 18 58 38.6 -3.4
baz=142
PAX Paxson 142.46 46 *e*PKPdf PKPdf 18 58 40.6 -0.4
PAX Paxson 142.46 46 *e*PKIKP PKPdf 18 58 40.7 -0.4
KSB Sheil Bridge 142.46 304 *e*P PKPdf 18 58 37.7 -3.5
KAC Achnashellach 142.51 305 *e*P PKPdf 18 58 37.0 -4.3
BLG Laguna Peak 142.55 102 ⇓P PKPdf 18 58 38.6 -3.6
baz=143
KPL Plockton 142.63 304 *e*P PKPdf 18 58 36.7 -4.8
PKM Peak Mountain 142.64 100 ⇑P PKPdf 18 58 38.3 -4.1
baz=143
FMP Fort Macarthur 142.72 103 ⇑P PKPdf 18 58 38.8 -3.7
baz=143
SMMC Simmler 142.82 99 ⇓P PKPdf 18 58 40.0 -2.7
baz=143
109C Camp Elliot, M 142.83 105 ⇑P PKPdf 18 58 39.1 -3.7
baz=143
SAO San Andreas Ge 142.93 96 *e*PKPdf PKPdf 18 58 40.9 -1.9
SAO San Andreas Ge 142.93 96 *e*PKIKP PKPdf 18 58 40.9 -1.9
BAR Barrett 142.93 106 *e*PKPdf PKPdf 18 58 41.0 -1.9
BPA Boggy Peak 143.02 198 *e* PKPdf 18 58 41.5 -2.0
DECC Green Verdugo 143.08 102 ⇑P PKPdf 18 58 39.9 -3.2
baz=143
OSI Osito Adit 143.10 101 ⇑P PKPdf 18 58 40.1 -3.1
baz=143
PASC Pasadena Art C 143.11 102 *e*PKPdf PKPdf 18 58 41.6 -1.6
PSMN Pico do Norte, 143.16 264 *e*PKP PKPdf 18 58 42.8 -0.4
PSMA Santa Maria 143.19 264 *e*PKP PKPdf 18 58 39.8 -3.4
PSMA Santa Maria 143.19 264 *e*PKP PKPdf 18 58 43.4 +0.2
MENT Mentasta 143.21 46 *e*PKPpre PKPpre 18 58 40.6
MWC Mount Wilson 143.22 103 *e*P PKPdf 18 58 41.5 -1.8
MWC Mount Wilson 143.22 103 *e*PKIKP PKPdf 18 58 41.5 -1.9
MONP Monument Peak 143.23 106 ⇓P PKPdf 18 58 40.1 -3.3
baz=143
DVTC Desert V Tower 143.25 106 ⇑P PKPdf 18 58 40.5 -2.9
baz=143
DOT Dot Lake 143.27 45 *e*PKPpre PKPdf 18 58 40.3 -2.2
MURC Murrieta 143.28 104 ⇓P PKPdf 18 58 41.2 -2.3
baz=143
ARVC Arvin 143.39 101 ⇓P PKPdf 18 58 40.7 -3.0
baz=143

HOPS Hopland 143.40 92 ePKPdf PKPdf 18 58 41.9 -1.6
BFSC Mount Baldy Ra 143.47 103 ⇑P PKPdf 18 58 41.4 -2.4
baz=144
KCPM Cahto Peak 143.52 91 ePKPdf PKPdf 18 58 42.1 -1.6
ANWB Willy Bob 143.61 199 PFAKE 18 58 50.0 +5.5
ANWB LR LR
comp=Z,2µm,21.0s,MS5.7
SWSC Sam W. Stewart 143.63 106 ⇓P PKPdf 18 58 41.5 -2.7
baz=144
KIPM Iron Peak 143.66 91 ePKPdf PKPdf 18 58 41.9 -2.1
EDW2 Edwards Air Fo 143.72 102 ⇑P PKPdf 18 58 41.5 -2.7
baz=144
PFO Pinyon Flat Ob 143.73 105 ⇓P PKPdf 18 58 41.2 -3.0
baz=144
PFO Pinyon Flat Ob 143.73 105 ePKPdf PKPdf 18 58 41.9 -2.3
PFO LR LR
comp=Z,1µm,19.0s,MS5.8
PFO Pinyon Flat Ob 143.73 105 ePKIKP PKPdf 18 58 41.9 -2.4
PFO MLR MLR
comp=Z,2µm,19.0s,MS5.9
VES Vestal, Richgr 143.73 100 ⇓P PKPdf 18 58 41.0 -3.2
baz=144
BART Pico Bartolome 143.73 265 ePKP PKPdf 18 58 40.4 -3.8
BBRC Big Bear Solar 143.92 104 ⇑P PKPdf 18 58 42.2 -2.4
baz=144
RCTC Rector, Farmer 143.95 99 ⇓P PKPdf 18 58 41.7 -2.9
baz=144
ISA Isabella 143.97 100 ⇓P PKPdf 18 58 42.2 -2.5
baz=144
ISA Isabella 143.97 100 ePKPdf PKPdf 18 58 42.7 -1.9
ISA Isabella 143.97 100 ePKIKP PKPdf 18 58 42.7 -1.9
PDA Ponta Delgada 144.01 264 ePKP PKPdf 18 58 43.1 -1.5
KHMM Horse Mountain 144.16 89 ePKPdf PKPdf 18 58 43.0 -1.8
BELC Belle Mtn. Jos 144.27 105 ⇓P PKPdf 18 58 43.8 -1.4
baz=144
GLA Glamis 144.27 107 ⇑P PKPdf 18 58 43.4 -1.8
baz=144
GLA Glamis 144.27 107 ePKPdf PKPdf 18 58 44.0 -1.2
GLA Glamis 144.27 107 ePKIKP PKPdf 18 58 44.1 -1.2
RRX Edison Barstow 144.30 103 ⇓P PKPdf 18 58 43.7 -1.5
baz=144
LRMC Laurel Mountai 144.31 101 ⇓P PKPdf 18 58 44.0 -1.2
baz=144
BC3 Big Chuckawall 144.34 106 ⇓P PKPdf 18 58 44.5 -0.8
baz=144
CMB Columbia Colle 144.40 96 ePKPdf PKPdf 18 58 43.2 -2.2
CMB Columbia Colle 144.40 96 ePKIKP PKPdf 18 58 43.2 -2.1
KRMB Red Mountain 144.44 88 ePKPdf PKPdf 18 58 44.2 -1.0
ICM Isla Caja Muer 144.56 191 ePKPpre PKPdf 18 58 43.5 -2.7
214A Organ Pipe Nat 144.62 111 ⇑P PKPdf 18 58 45.0 -0.9
baz=145
MTP Monte Pirata 144.64 193 ePKPdf PKPdf 18 58 43.4 -2.9
KBO Bosley Butte 144.66 87 ePKPdf PKPdf 18 58 45.0 -0.6
HEC Hector,Ludlow 144.66 103 ⇑P PKPdf 18 58 44.9 -1.0
baz=145
113A Mohawk Valley, 144.68 109 ⇓P PKPdf 18 58 44.7 -1.3
baz=145
WDC Whiskeytown Da 144.70 90 ePKPpre PKPdf 18 58 43.6 -2.2
WDC Whiskeytown Da 144.70 90 ePKIKP PKPdf 18 58 43.6 -2.1
GSC Goldstone 144.71 102 ⇑P PKPdf 18 58 44.9 -1.1
baz=145
GSC Goldstone 144.71 102 ePKPpre PKPdf 18 58 44.7 -1.2
GSC Goldstone 144.71 102 ePKIKP PKPdf 18 58 44.7 -1.2
OBIP Obispado Ponce 144.72 191 ePKPdf PKPdf 18 58 43.6 -2.8
CWC Cottonwood Cre 144.73 100 ⇑P PKPdf 18 58 44.9 -1.0
baz=145
SJG San Juan 144.73 192 PKP PKPdf 18 58 45.8 -0.7
comp=Z,49nm,0.9s,baz=93,slow=22,SNR=10
SJG San Juan 144.73 192 ePKPdf PKPdf 18 58 45.5 -0.9
SJG PKP PKPdf 18 58 45.8 -0.7
SJG LR LR
comp=Z,2µm,22.0s,MS5.8
SJG San Juan 144.73 192 ePKIKP PKPdf 18 58 45.6 -0.9
SJG 18 58 45.8
SJG MLR MLR
comp=Z,2µm,22.0s
CRPR Cabo Rojo, PR 144.74 190 ePKPpre PKPdf 18 58 44.4 -2.1
CELP Cerrillos 144.75 191 ePKPpre PKPdf 18 58 43.5 -3.0
EGAK Eagle 144.80 44 ePKPdf PKPdf 18 58 43.4 -1.7
EGAK LR LR
comp=Z,2µm,21.0s,MS5.8
MCJ Malvern 144.80 173 *i* P PKPdf 18 58 46.0 -0.7
STVI Saint Thomas 144.81 194 ePKPdf PKPdf 18 58 44.3 -2.3
MPMC Manual Prospec 144.82 101 ⇑P PKPdf 18 58 45.6 -0.5
baz=145
YHJ Yallahs 144.85 175 ⇑*i* P PKPdf 18 58 45.4 -1.3
CBYP Canovanas 144.85 192 ePKPpre PKPdf 18 58 44.2 -2.5
IRM Iron Mountain 144.88 106 ⇓P PKPdf 18 58 45.5 -0.8
baz=145
LSP Las Mesas 144.90 190 ePKPdf PKPdf 18 58 48.0 +1.3
HOJ Hope 144.95 174 *i* P PKPdf 18 58 46.3 -0.5
Y12C Blythe 144.95 107 ⇓P PKPdf 18 58 46.0 -0.4
baz=145
KEBM Edson Butte 144.97 86 ePKPdf PKPdf 18 58 45.6 -0.5
LRS Lares 144.99 191 ePKPdf PKPdf 18 58 44.8 -2.1
STH Stony Hill 145.01 174 *i* P PKPab 18 58 46.1 -0.2
GWJ Greenwich 145.02 174 *i* P PKPbc 18 58 46.3 0.0
GMRC Granite Mounta 145.02 104 ⇓P PKPbc 18 58 46.5 +0.6
baz=145
Z13A Yuma Proving G 145.05 108 ⇑P PKPbc 18 58 46.4 +0.4
baz=145
TIN Tinemaha 145.05 99 ⇑P PKPbc 18 58 45.9 0.0
baz=145
MLAC Mammoth Lakes 145.07 98 ⇑P PKPbc 18 58 46.6 +0.6
baz=145
CMJ Castle Mountai 145.10 175 *i* P PKPbc 18 58 45.1 -1.5
MTDJ Mount Denham 145.11 173 ePKPdf PKPdf 18 58 46.1 -1.0
MTDJ LR LR
comp=Z,2µm,19.0s,MS5.9
114A Black Gap (USA 145.17 110 ⇑P PKPbc 18 58 46.4 0.0
baz=145
TEIG Tepich 145.25 155 PKPbc PKPbc 18 58 46.0 -1.0
comp=Z,147nm,0.9s,baz=26,slow=0.7,SNR=30
TEIG Tepich 145.25 155 ePKPdf PKPdf 18 58 45.5 -1.9
TEIG PKPbc PKPbc 18 58 46.0 -1.0
TEIG LR LR
comp=Z,2µm,19.0s,MS5.9
SIT Sitka 145.26 58 eP PKPbc 18 58 45.8 -0.2
SIT Sitka 145.26 58 ePKIKP PKPdf 18 58 45.8 -0.3
BBJ Bamboo Saint A 145.29 173 *i* P PKPbc 18 58 49.2 +2.0
YBH Yreka Blue Hor 145.29 89 ePKPdf PKPdf 18 58 46.1 -0.6
YBH Yreka Blue Hor 145.29 89 ePKIKP PKPdf 18 58 46.1 -0.6
TUQ Turquoise Moun 145.32 103 ⇑P PKPbc 18 58 47.3 +0.5
baz=145
DAWY Dawson 145.38 45 ePKPdf PKPdf 18 58 46.1 0.0
216A Three Points, 145.42 112 ⇑P PKPbc 18 58 47.6 +0.3
baz=145
SHOC Shoshone 145.43 102 ⇑P PKPdf 18 58 47.5 +0.3
baz=146
FURC Furnace Creek, 145.48 101 ⇓P PKPdf 18 58 47.6 +0.4
baz=146
GRAC Grapevine Rang 145.53 100 ⇑P PKPdf 18 58 47.8 +0.5
baz=146
ADH Angra Heroismo 145.54 264 ePKP PKPdf 18 58 47.4 +0.1
LDFC Landfair 145.55 104 ePKPdf PKPdf 18 58 47.7 +0.3
Z14A Wintersburg 145.58 109 ⇓P PKPdf 18 58 47.7 +0.2
baz=146
WCN Washoe City 145.59 94 ⇓P PKPdf 18 58 47.7 +0.4
baz=146
WCN Washoe City 145.59 94 ePKPdf PKPdf 18 58 47.3 0.0
WCN Washoe City 145.59 94 ePKIKP PKPdf 18 58 47.3 0.0
NEE2 Needles Airpor 145.62 105 ⇓P PKPdf 18 58 47.7 +0.2
baz=146
HUMO Hull Mountain 145.65 87 ePKPdf PKPdf 18 58 47.3 -0.1
318A Bisbee 145.81 114 ⇑P PKPdf 18 58 48.7 +0.8
baz=146
CRAG Craig 145.84 61 eP PKPdf 18 58 48.3 +1.1
NVAR Mina Array Bea 145.91 97 PKPbc PKPbc 18 58 49.5 +0.9
comp=Z,409nm,1.0s,baz=224,slow=5.4,SNR=119
NVAR Mina Array Bea 145.91 97 PKPbc PKPbc 18 58 49.5 +0.9
Y14A Wickenburg 145.96 108 ⇓P PKPdf 18 58 48.5 +0.4
baz=146
SDDR Presa de Saban 146.00 183 ePKPdf PKPdf 18 58 48.3 -0.3
SDDR LR LR
comp=Z,2µm,20.0s,MS6.0
TUC Tucson 146.02 112 ePKPdf PKPdf 18 58 48.1 -0.2
TUC LR LR
comp=Z,2µm,20.0s,MS6.0
TUC Tucson 146.02 112 ePKIKP PKPdf 18 58 48.1 -0.2
TUC MLR MLR
comp=Z,3µm,20.0s,MS6.0
SKAG Skagway 146.03 54 eP PKPdf 18 58 48.4 +1.0
PMAN Manadas 146.04 263 ePKP PKPdf 18 58 50.9 +2.8
PMAN Manadas 146.04 263 ePKP PKPdf 18 58 48.5 +0.4
319A Douglas 146.15 115 ⇑P PKPdf 18 58 49.1 +0.5
baz=146
PICO Pico 146.16 263 ePKP PKPdf 18 58 48.6 +0.3
PCAN Candelaria 146.17 263 ePKP PKPdf 18 58 48.5 +0.2
218A Dragoon 146.18 114 ⇓P PKPdf 18 58 49.5 +0.9
baz=146
ROSA Rosais 146.19 263 ePKP PKPdf 18 58 51.2 +2.8
W13A Hualapai Mount 146.28 106 ⇑P PKPdf 18 58 49.2 +0.6
baz=146
TPH Tonopah 146.33 98 PFAKE 18 59 00.0 +11
TPH LR LR
comp=Z,2µm,21.0s,MS5.8
CALA Caldeira 146.37 263 ePKP PKPdf 18 58 51.2 +2.5
PCED Cedros 146.40 263 ePKP PKPdf 18 58 51.4 +2.7
320A Kipp Ranch, An 146.53 116 ⇓P PKPdf 18 58 49.7 +0.5
baz=146
COR Corvallis 146.55 84 ePKPbc PKPbc 18 58 50.4 +0.1
COR Corvallis 146.55 84 ePKP2 PKPab 18 58 50.4 -1.0
WRAK Wrangell Islan 146.58 60 ePKPdf PKPdf 18 58 49.8 +1.4
WRAK LR LR
comp=Z,3µm,21.0s,MS6.0
HEBO Mount Hebo 146.61 83 ePKPdf PKPdf 18 58 48.3 -0.6
219A White Tail Can 146.63 115 ⇑P PKPdf 18 58 50.2 +0.9
baz=147
118A Homack Ranch, 146.72 113 ⇑P PKPdf 18 58 50.4 +0.9
baz=147
MOD Modoc 146.84 90 ePKPdf PKPdf 18 58 48.8 -0.5
Z17A San Carlos Hig 146.93 112 ⇓P PKPdf 18 58 50.6 +0.8
baz=147
GTBY Guantanamo Bay 146.94 177 ePKPdf PKPdf 18 58 49.2 -1.0
GTBY LR LR
comp=Z,2µm,19.0s,MS5.8
220A Playas Peak, P 146.96 116 ⇑P PKPdf 18 58 50.7 +0.8
baz=147
K05A Summer Lake 146.97 89 ⇑P PKPdf 18 58 50.5 +1.0
baz=147
Y17A Roosevelt 147.02 111 ⇓P PKPdf 18 58 50.3 +0.3
baz=147
Z18A Geronimo 147.02 112 ⇑P PKPdf 18 58 50.3 +0.3
baz=147
119A Ashpeak Ranch, 147.19 114 ⇑P PKPdf 18 58 50.4 +0.2
baz=147
X16A Lo Mia Camp, P 147.20 109 ⇓P PKPdf 18 58 50.7 +0.5
baz=147
626A Big Bend Ranch 147.41 124 ⇑P PKPdf 18 58 50.5 -0.2
baz=147
E03A Lebam 147.42 81 ⇓P PKPdf 18 58 51.4 +1.3
baz=148,SNR=42
TXAR Lajitas Array 147.46 125 PKPbc PKPbc 18 58 51.4 -1.9
comp=Z,121nm,1.1s,baz=183,slow=3.8,SNR=66
TXAR PP PP 19 02 19.9 +0.5
comp=Z,4.6nm,1.2s,baz=276,slow=8.7,SNR=2.2
TXAR Lajitas Array 147.46 125 PKPbc PKPbc 18 58 51.4 -1.9
TXAR PP PP 19 02 19.9 +0.5
TXAR Lajitas Array 147.46 125 PKIKP PKPdf 18 58 51.4 +0.6
TXAR 19 02 19.9
TXAR pmax pmax
comp=Z,121nm,1.1s
TXAR pmax pmax
comp=Z,5.0nm,1.2s
R11A Troy Canyon, C 147.48 100 ⇓P PKPdf 18 58 51.1 +0.5
baz=148
X17A Forest Lakes 147.51 110 ⇓P PKPdf 18 58 51.5 +0.7
baz=148
Y18A Canyon Day Jun 147.53 112 ⇓P PKPdf 18 58 51.5 +0.7
baz=148
Z19A T-Link Ranch, 147.60 113 ⇓P PKPdf 18 58 51.5 +0.6
baz=148
NLWA Neilton Lookou 147.65 79 ePKPdf PKPdf 18 58 51.5 +1.0
NLWA LR LR
comp=Z,2µm,20.0s,MS6.0
627A Berlingua Ranc 147.70 125 ⇑P PKPdf 18 58 51.6 +0.4
baz=148,SNR=145
BMN Battle Mountai 147.82 95 ePKPdf PKPdf 18 58 52.4 +1.4
BMN LR LR
comp=Z,2µm,19.0s,MS5.9
BMN Battle Mountai 147.82 95 ePKIKP PKPdf 18 58 52.4 +1.4
BMN MLR MLR
comp=Z,2µm,19.0s,MS5.9
Z20A Nine Sixteen R 147.84 114 ⇑P PKPdf 18 58 52.4 +1.0
baz=148
526A Mary Lane Ranc 147.84 123 ⇑P PKPdf 18 58 52.3 +0.9
baz=148
121A Cookes Peak, D 147.85 116 ⇓P PKPdf 18 58 52.2 +0.9
baz=148
222A Williams Famil 147.89 117 ⇑P PKPdf 18 58 52.4 +1.0
baz=148,SNR=56
HOOD Mount Hood Mea 147.93 84 ePKPdf PKPdf 18 58 51.7 +0.6
628A Black Gap, Mar 147.97 125 ⇓P PKPdf 18 58 53.2 +1.5
baz=148,SNR=63
WUAZ Wupatki 148.03 108 ⇑P PKPdf 18 58 52.2 +0.6
baz=148
WUAZ Wupatki 148.03 108 ePKPdf PKPdf 18 58 52.3 +0.8
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.9
W17A Winslow 148.09 109 ⇓P PKPdf 18 58 52.3 +0.6
baz=148
Y19A Nutrioso 148.10 112 ⇑P PKPdf 18 58 52.2 +0.4
baz=148
X18A Snowflake 148.13 111 ⇓P PKPdf 18 58 52.1 +0.3
baz=148
527A Woodward Ranch 148.15 124 ⇑P PKPdf 18 58 52.8 +0.9
baz=148,SNR=113
WVOR Wild Horse Val 148.16 91 ePKPdf PKPdf 18 58 52.4 +0.9
WVOR LR LR
comp=Z,3µm,20.0s,MS6.1
WVOR Wild Horse Val 148.16 91 ePKIKP PKPdf 18 58 52.4 +0.9
WVOR MLR MLR
comp=Z,3µm,20.0s,MS6.1
223A Chaparral, Ant 148.17 118 ⇑P PKPdf 18 58 52.4 +0.5
baz=148,SNR=7.3
CCUT Cedar City 148.27 103 ePKPdf PKPdf 18 58 52.9 +1.1
INK Inuvik 148.32 38 PKP PKPdf 18 58 50.9 -0.1
comp=Z,33nm,0.8s,baz=293,slow=1.4,SNR=44
INK PKPbc PKPbc 18 58 55.6 +1.2
comp=Z,430nm,1.1s,baz=265,slow=2.0,SNR=99
INK Inuvik 148.32 38 ePKPdf PKPdf 18 58 49.0 -2.0
INK PKP PKPdf 18 58 50.9 -0.1
INK PKPbc PKPbc 18 58 55.6 +1.2
R13A O'Grain Ranch, 148.33 101 ⇓P PKPdf 18 58 52.5 +0.5
baz=148
GNW Green Mountain 148.36 80 ePKPdf PKPdf 18 58 52.4 +0.8
426A Mcdonald Obser 148.37 123 ⇓P PKPdf 18 58 52.1 -0.2
baz=148
ARUT Antelope Range 148.38 102 ePKPbc PKPbc 18 58 54.6 -1.0
ARUT Antelope Range 148.38 102 ePKP2 PKPbc 18 58 54.6 -1.0
DLBC Dease Lake 148.39 57 ePKPdf PKPdf 18 58 52.1 +0.8
122A Conniff Cattle 148.40 116 ⇑P PKPdf 18 58 53.3 +1.0
baz=148,SNR=20
X19A St. Johns 148.43 112 ⇓P PKPdf 18 58 52.7 +0.5
baz=148
V17A Tonalea, Kykot 148.44 108 ⇑P PKPdf 18 58 52.4 +0.1
baz=148
325A Bean Ranch, Si 148.44 121 ⇑P PKPdf 18 58 53.1 +0.7
baz=148,SNR=114
MNTX Cornudas Mount 148.49 120 ⇓P PKPdf 18 58 52.3 -0.2
baz=148
MNTX Cornudas Mount 148.49 120 ePKPdf PKPdf 18 58 51.9 -0.5
MNTX LR LR
comp=Z,3µm,19.0s,MS6.1
Z21A St. Cloud Mine 148.50 115 ⇑P PKPdf 18 58 52.3 -0.1
baz=148,SNR=62
G06A Carlson Farm, 148.50 85 ⇓P PKPdf 18 58 52.5 +0.6
baz=149
Y20A Horse Springs, 148.56 113 ⇓P PKPdf 18 58 52.4 -0.1
baz=149
I07A Izee 148.56 88 ⇓P PKPdf 18 58 52.0 -0.1
baz=149
LON Longmire 148.57 82 ePKPdf PKPdf 18 58 52.3 +0.3
LON Longmire 148.57 82 ePKIKP PKPdf 18 58 52.3 +0.3
528A Cox Ranch, San 148.58 125 ⇑P PKPdf 18 58 52.5 -0.1
baz=149,SNR=86
U16A Tuba City 148.61 107 ⇑P PKPdf 18 58 52.3 -0.2
baz=149
KVTX Kingsville 148.64 135 ePKPdf PKPdf 18 58 54.2 +1.4
KVTX LR LR
comp=Z,4µm,19.0s,MS6.2
W18A Petrified Fore 148.68 110 ⇓P PKPdf 18 58 52.6 0.0
baz=149
224A Cornudas Mount 148.71 119 ⇓P PKPdf 18 58 53.1 +0.3
baz=149,SNR=53
123A Bell Site, Whi 148.75 117 ⇓P PKPdf 18 58 53.6 +0.7
baz=149,SNR=11
J08A Circle Bar Ran 148.78 90 ⇑P PKPdf 18 58 52.6 +0.1
baz=149
427A Hayter Ranch, 148.83 123 ⇓P PKPdf 18 58 52.9 -0.1
baz=149,SNR=70
Z22A Elephant Butte 148.84 116 ⇑P PKPdf 18 58 53.7 +0.8
baz=149,SNR=179
W19A Sanders 148.87 111 ⇑P PKPdf 18 58 52.8 -0.1
baz=149
DAG Danmarks Havn 148.89 339 *i* PKIKP PKPdf 18 58 51.6 -0.1
DAG pmax pmax
comp=Z,60nm,0.9s
DAG Danmarks Havn 148.89 339 *i* P PKPdf 18 58 51.6 -0.1
comp=Z,72nm,0.9s
326A Caldwell Ranch 148.91 122 ⇑P PKPdf 18 58 53.8 +0.7
baz=149,SNR=37
X20A Quemado 148.96 112 ⇓P PKPdf 18 58 53.4 +0.3
baz=149
V18A Ganado 148.99 109 ⇓P PKPdf 18 58 53.1 0.0
baz=149
Y21A Point of Rocks 149.02 114 ⇓P PKPdf 18 58 54.0 +0.8
baz=149,SNR=175
225A Deer Hill, Car 149.10 120 ⇓P PKPdf 18 58 53.8 +0.3
baz=149,SNR=100
JCW Jim Creek 149.19 79 ePKPdf PKPdf 18 58 53.0 0.0
U17A Shonto 149.20 107 ⇓P PKPdf 18 58 53.7 +0.3
baz=149
327A Balmorhea Ranc 149.20 123 ⇑P PKPdf 18 58 54.3 +0.7
baz=149,SNR=14
124A Stringfield Ra 149.23 118 ⇑P PKPdf 18 58 54.2 +0.6
baz=149,SNR=115
Z23A Rita Site, Whi 149.24 117 ⇓P PKPdf 18 58 53.9 +0.3
baz=149,SNR=92
X21A Alamocita Cree 149.28 113 ⇑P PKPdf 18 58 54.1 +0.4
baz=149,SNR=105
R15A Junction 149.35 103 ⇓P PKPdf 18 58 54.2 +0.6
baz=149
Y22A Socorro 149.36 115 ⇑P PKPdf 18 58 53.9 +0.2
baz=149
W20A Ramah 149.38 112 ⇓P PKPdf 18 58 53.7 0.0
baz=149,SNR=76
T17A Navajo Res., N 149.39 106 ⇑P PKPdf 18 58 54.0 +0.3
baz=149
GDL2 Guadalupe Moun 149.41 120 ePKPdf PKPdf 18 58 55.8 +1.8
S16A Weppner Ranch, 149.42 104 ⇑P PKPdf 18 58 53.5 -0.3
baz=150
226A Malaga, Loving 149.44 121 ⇓P PKPdf 18 58 53.4 -0.5
baz=149
A05A Maple Falls 149.46 78 ⇓P PKPdf 18 58 54.3 +0.9
baz=150,SNR=47
Y22D IRIS PASSCAL I 149.48 115 ⇓P PKPdf 18 58 54.1 +0.2
baz=150
V19A Window Rock 149.50 110 ⇑P PKPdf 18 58 54.2 +0.2
baz=150
LENM Lemitar 149.52 115 ePKPdf PKPdf 18 58 54.7 +0.7
U18A Rough Rock, Ch 149.53 108 ⇑P PKPdf 18 58 53.7 -0.2
baz=150
RPW Rockport 149.55 79 ePKPdf PKPdf 18 58 53.3 -0.2
328A Wristen Ranch, 149.56 123 ⇓P PKPdf 18 58 53.6 -0.6
baz=150,SNR=131
MVU Marysvale 149.58 103 PFAKE 18 59 00.0 +6.0
MVU LR LR
comp=Z,2µm,20.0s,MS6.0
LAZ Ladron 149.61 114 ePKPdf PKPdf 18 58 54.3 +0.2
MSU Marysvale 149.61 103 ePKPdf PKPdf 18 58 55.0 +1.0
MSU Marysvale 149.61 103 ePKHKP PKPpre 18 58 55.0
125A Gardner Draw, 149.62 119 ⇑P PKPdf 18 58 53.8 -0.4
baz=150
BNM Barren Site 149.70 115 ePKPdf PKPdf 18 58 54.7 +0.4
CLNB Carlsbad 149.72 121 ePKPbc PKPbc 18 58 59.1 0.0
RSW Rattlesnake Hi 149.72 84 ePKPbc PKPbc 18 58 56.7 -1.9
HAWA Hanford 149.75 84 ePKPdf PKPdf 18 58 53.8 -0.1
HAWA LR LR
comp=Z,2µm,19.0s,MS6.0
227A Bennet, Jal 149.82 122 ⇓P PKPdf 18 58 54.6 +0.1
baz=150,SNR=16
U19A Dine' College, 149.82 109 ⇓P PKPdf 18 58 54.2 -0.2
baz=150
LPM Los Pinos Moun 149.82 115 ePKPdf PKPdf 18 58 55.6 +1.1
S17A Black Ridge (B 149.83 105 ⇑P PKPdf 18 58 54.2 -0.2
baz=150
Y23A Lovelace Mesa, 149.85 116 ⇓P PKPdf 18 58 55.0 +0.4
baz=150,SNR=189
W21A San Fidel 149.85 113 ⇓P PKPdf 18 58 55.0 +0.5
baz=150,SNR=25
ETW Entiat 149.86 81 ePKPdf PKPdf 18 58 54.0 -0.1
R16A Teasdale 149.87 104 ⇑P PKPdf 18 58 54.8 +0.3
baz=150
V20A Brimhall 149.89 111 ⇑P PKPdf 18 58 54.5 0.0
baz=150,SNR=93
126A Clayton Basin, 149.94 120 ⇓P PKPdf 18 58 54.2 -0.5
baz=150,SNR=68
T18A Mexican Hat 150.02 107 ⇓P PKPdf 18 58 54.6 -0.1
baz=150
Z25A Roswell 150.07 119 ⇓P PKPdf 18 58 55.3 +0.4
baz=150,SNR=80
Y24A Capitan 150.18 117 ⇓P PKPdf 18 58 55.3 +0.3
baz=150
P15A Leamington 150.24 101 ⇑P PKPdf 18 58 55.1 +0.1
baz=150
LNOR Lincton Mounta 150.24 85 ePKPdf PKPdf 18 58 55.5 +0.7
LNOR Lincton Mounta 150.24 85 ePKIKP PKPdf 18 58 55.5 +0.7
W22A Albuquerque 150.25 114 ⇓P PKPdf 18 58 55.3 +0.2
baz=150,SNR=30
X23A Hourglass Bar 150.26 115 ⇓P PKPdf 18 58 55.0 -0.2
baz=150,SNR=15
U20A Newcomb 150.27 110 ⇓P PKPdf 18 58 55.0 -0.1
baz=150,SNR=30
JCT Junction City 150.28 129 ⇑P PKPdf 18 58 54.8 -0.5
baz=150
JCT Junction City 150.28 129 ePKPdf PKPdf 18 58 55.1 -0.2
JCT LR LR
comp=Z,2µm,20.0s,MS5.9
JCT Junction City 150.28 129 ePKIKP PKPdf 18 58 55.1 -0.2
JCT MLR MLR
comp=Z,2µm,20.0s,MS5.9
T19A Beclabito 150.30 109 ⇑P PKPdf 18 58 55.2 0.0
baz=150,SNR=42
BMO Blue Mountains 150.30 88 ePKPdf PKPdf 18 58 53.3 -1.6
BMO LR LR
comp=Z,4µm,19.0s,MS6.2
BMO Blue Mountains 150.30 88 ePKP2 PKPdf 18 58 53.3 -1.6
BMO MLR MLR
comp=Z,3µm,19.0s,MS6.1
127A Arkansas Junct 150.31 121 ⇑P PKPdf 18 58 55.2 -0.2
baz=150,SNR=23
DUG Dugway 150.31 100 ⇑P PKPdf 18 58 55.2 +0.2
baz=150
DUG Dugway 150.31 100 ePKPdf PKPdf 18 58 54.9 -0.2
DUG LR LR
comp=Z,3µm,20.0s,MS6.1
DUG Dugway 150.31 100 ePKIKP PKPdf 18 58 54.9 -0.2
DUG MLR MLR
comp=Z,3µm,20.0s,MS6.1
CPRX Cap Rock 150.32 120 ePKPdf PKPdf 18 58 55.6 +0.3
V21A Milan 150.36 112 ⇑P PKPdf 18 58 55.1 -0.1
baz=150
ANMO Albuquerque 150.39 114 ePKPdf PKPdf 18 58 55.7 +0.3
ANMO LR LR
comp=Z,4µm,19.0s,MS6.3
ANMO Albuquerque 150.39 114 ePKIKP PKPdf 18 58 55.7 +0.3
ANMO MLR MLR
comp=Z,4µm,19.0s
R17A Hanksville Air 150.41 104 ⇓P PKPdf 18 58 55.2 0.0
baz=150
MFID Camas Ranch 150.41 92 ⇓P PKPdf 18 58 55.5 +0.4
baz=150,SNR=46
MFID Camas Ranch 150.41 92 ePKPdf PKPdf 18 58 54.9 -0.2
Z26A Caprock 150.45 120 ⇑P PKPdf 18 58 55.0 -0.5
baz=150,SNR=76
Q16A Castle Valley 150.47 103 ⇑P PKPdf 18 58 55.7 +0.4
baz=150
O15A The Old Anders 150.57 100 ⇓P PKPdf 18 58 55.8 +0.3
baz=151
Y25A Mesa, Roswell 150.57 118 ⇑P PKPdf 18 58 55.5 -0.2
baz=151
P16A Fountain Green 150.63 102 ⇓P PKPdf 18 58 55.8 +0.3
baz=151
E09A Wood Farm, Sta 150.65 84 ⇑P PKPdf 18 58 55.0 -0.3
baz=151,SNR=43
X24A Lazy VL Ranch, 150.66 116 ⇑P PKPdf 18 58 55.3 -0.5
baz=151,SNR=17
TMUT Trail Mountain 150.69 103 ePKPdf PKPdf 18 58 57.1 +1.4
W23A Werner Place, 150.72 114 ⇓P PKPdf 18 58 55.8 -0.1
baz=151,SNR=52
OD2 Odessa Site #2 150.73 82 ePKPdf PKPdf 18 58 55.4 0.0
U21A Nageezi 150.79 111 ⇑P PKPdf 18 58 55.8 -0.1
baz=151,SNR=42
V22A San Miguel Ran 150.84 112 ⇓P PKPdf 18 58 56.1 +0.1
baz=151,SNR=28
R18A Canyonlands Na 150.86 105 ⇓P PKPdf 18 58 55.6 -0.4
baz=151,SNR=46

MVCO	Mesa Verde	150.87	109	⇑P	PKPdf	18 58 55.8	-0.2
	baz=151						
MVCO	Mesa Verde	150.87	109	ePKPdf	PKPdf	18 58 56.5	+0.5
MVCO				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
S19A	Harvey Farm, M	150.87	107	⇓P	PKPdf	18 58 55.4	-0.6
	baz=151,SNR=27						
Z27A	Tatum	150.88	121	⇑P	PKPdf	18 58 55.9	-0.3
	baz=151,SNR=32						
MPU	Maple Canyon	150.90	101	ePKPdf	PKPdf	18 58 57.1	+1.1
N15A	Stansbury Isla	150.92	99	⇓P	PKPdf	18 58 55.6	-0.4
	baz=151						
F10A	Beach Ranch, E	150.93	86	⇑P	PKPdf	18 58 54.9	-1.0
	baz=151						
SRU	San Rafael	150.97	104	ePKPdf	PKPdf	18 58 56.3	+0.2
SRU	San Rafael	150.97	104	ePKIKP	PKPdf	18 58 56.3	+0.2
NOQ	North Oquirrh	151.01	99	ePKPdf	PKPdf	18 58 57.7	+1.6
Y26A	Elida	151.04	119	⇓P	PKPdf	18 58 55.8	-0.6
	baz=151,SNR=25						
I12A	Atlanta	151.05	91	⇓P	PKPdf	18 58 56.1	+0.1
	baz=151						
X25A	Clemmons Ranch	151.05	117	⇑P	PKPdf	18 58 56.6	+0.2
	baz=151,SNR=24						
P17A	Butcher Ranch,	151.08	103	⇑P	PKPdf	18 58 55.9	-0.4
	baz=151,SNR=32						
O16A	Springville	151.10	101	⇑P	PKPdf	18 58 56.4	+0.2
	baz=151						
V23A	Ortiz Mt. (NFS	151.13	113	⇑P	PKPdf	18 58 57.1	+0.6
	baz=151,SNR=26						
W24A	Lazy 6 Ranch,	151.16	115	⇓P	PKPdf	18 58 56.6	+0.1
	baz=151,SNR=24						
R19A	Curley Farm, L	151.17	106	⇑P	PKPdf	18 58 56.9	+0.4
	baz=151						
L14A	Malta	151.18	96	⇑P	PKPdf	18 58 56.8	+0.5
	baz=151,SNR=28						
C09A	Chrisman Ranch	151.18	82	⇓P	PKPdf	18 58 55.7	-0.4
	baz=151,SNR=52						
Q18A	Rafter H Ranch	151.20	104	⇓P	PKPdf	18 58 56.0	-0.5
	baz=151						
U22A	Llaves	151.21	112	⇑P	PKPdf	18 58 56.7	+0.1
	baz=151						
CTU	Camp Tracy	151.26	100	ePKPbc	PKPbc	18 58 60.0	-2.5
T21A	Navajo Lake	151.26	110	⇓P	PKPdf	18 58 57.0	+0.4
	baz=151,SNR=32						
HVU	Hansel Valley	151.31	97	ePKPdf	PKPdf	18 58 56.7	+0.1
HVU	Hansel Valley	151.31	97	ePKIKP	PKPdf	18 58 56.7	+0.2
M15A	Larsen Ranch,	151.31	98	⇑P	PKPdf	18 58 56.5	0.0
	baz=151						
HLID	Hailey	151.35	92	⇓P	PKPdf	18 58 56.7	+0.2
	baz=151,SNR=31						
HLID	Hailey	151.35	92	ePKPdf	PKPdf	18 58 57.0	+0.4
HLID				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
Y27A	Causey	151.35	120	⇓P	PKPdf	18 58 56.8	-0.1
	baz=151						
SCO	Scoresbysund	151.36	327	ePKIKP	PKPdf	18 58 59.0	+3.3
SCO				pmax	pmax		
	comp=Z,84nm,1.1s						
SCO	Scoresbysund	151.36	327	*i* P	PKPdf	18 58 59.0	+3.3
	comp=Z,84nm,1.1s						
DAU	Daniels Canyon	151.38	101	ePKPdf	PKPdf	18 58 57.7	+1.0
DAU				ePKPbc	PKPbc	18 59 04.2	+1.5
DAU	Daniels Canyon	151.38	101	ePKIKP	PKPdf	18 58 57.7	+1.0
DAU				*e*		18 59 04.3	
JLU	Jordanelle	151.38	100	ePKPdf	PKPdf	18 58 57.3	+0.6
J13A	Cove Ranch, Pi	151.40	93	⇑P	PKPdf	18 58 57.0	+0.4
	baz=152,SNR=20						
PV04	Paradox Valley	151.44	106	ePKPdf	PKPdf	18 58 57.4	+0.5
PV01	Paradox Valley	151.46	107	ePKPdf	PKPdf	18 58 57.3	+0.4
K14A	Jones Ranch, D	151.52	95	⇓P	PKPdf	18 58 56.7	-0.1
	baz=152						
X26A	CR and CF Fran	151.53	118	⇓P	PKPdf	18 58 56.7	-0.5
	baz=152,SNR=22						
U23A	El Rito	151.55	113	⇑P	PKPdf	18 58 57.3	+0.2
	baz=152,SNR=15						
O17A	Robinson Place	151.55	102	⇓P	PKPdf	18 58 57.7	+0.8
	baz=152,SNR=31						
N16A	Rees Ranch, Co	151.56	100	⇓P	PKPdf	18 58 56.8	-0.2
	baz=152						
S21A	Coal Bank Pass	151.58	109	⇓P	PKPdf	18 58 57.1	0.0
	baz=152,SNR=34						
R20A	Redvale	151.61	107	⇓P	PKPdf	18 58 57.8	+0.7
	baz=152,SNR=30						
Q19A	Hogan Spring (	151.61	105	⇓P	PKPdf	18 58 57.0	-0.2
	baz=152,SNR=27						
HKT	Hockley	151.61	135	ePKPdf	PKPdf	18 58 58.1	+0.7
HKT	Hockley	151.61	135	ePKIKP	PKPdf	18 58 58.2	+0.8
V24A	Rampart Ranch,	151.62	115	⇑P	PKPdf	18 58 57.8	+0.6
	baz=152,SNR=27						
H12A	Diamond D Ranc	151.62	90	⇑P	PKPdf	18 58 56.9	0.0
	baz=152						
BORG	Borgarnes	151.62	315	ePKPdf	PKPdf	18 58 58.1	+1.8
BORG				LR	LR		
	comp=Z,3µm,19.0s,MS6.1						
BORG	Borgarnes	151.62	315	ePKIKP	PKPdf	18 58 58.1	+1.8
BORG				MLR	MLR		
	comp=Z,3µm,19.0s						
MSTX	Muleshoe	151.62	120	⇑P	PKPdf	18 58 57.2	-0.1
	baz=152,SNR=36						
T22A	Edith	151.64	111	⇑P	PKPdf	18 58 57.5	+0.3
	baz=152,SNR=33						
G12A	Big Creek, Yel	151.65	89	⇑P	PKPdf	18 58 56.7	-0.3
	baz=152						
L15A	Malad City	151.68	97	⇓P	PKPdf	18 58 56.6	-0.5
	baz=152						
W25A	X Bar L Ranch,	151.68	116	⇓P	PKPdf	18 58 57.5	+0.2
	baz=152,SNR=61						
M16A	Huntsville	151.71	99	⇓P	PKPdf	18 58 56.8	-0.4
	baz=152						
I13A	Wildhorse Cree	151.72	92	⇑P	PKPdf	18 58 57.4	+0.3
	baz=152						
J14A	Carey	151.76	94	⇓P	PKPdf	18 58 57.6	+0.4
	baz=152						
HWUT	Hardware Ranch	151.93	98	ePKPdf	PKPdf	18 58 58.1	+0.6
HWUT				LR	LR		
	comp=Z,3µm,19.0s,MS6.2						
W26A	Owens Ranch, T	151.96	117	⇓P	PKPdf	18 58 58.2	+0.4
	baz=152,SNR=19						
N17A	Moffit Pass	151.96	100	⇓P	PKPdf	18 58 58.2	+0.7
	baz=152,SNR=36						
X27A	F and S Farms,	151.98	119	⇓P	PKPdf	18 58 58.0	+0.2
	baz=152,SNR=15						
H13A	Challis	151.99	91	⇑P	PKPdf	18 58 57.8	+0.3
	baz=152,SNR=64						
O18A	Roosevelt	152.02	102	⇑P	PKPdf	18 58 57.8	+0.1
	baz=152						
V25A	Rancho No Teng	152.06	115	⇓P	PKPdf	18 58 57.7	-0.2
	baz=152,SNR=28						
NEW	Newport	152.08	82	⇑P	PKPdf	18 58 57.2	-0.3
	baz=152,SNR=42						
NEW	Newport	152.08	82	ePKPdf	PKPdf	18 58 57.2	-0.2
NEW				LR	LR		
	comp=Z,3µm,19.0s,MS6.1						
NEW	Newport	152.08	82	ePKIKP	PKPdf	18 58 57.2	-0.3
NEW				MLR	MLR		
	comp=Z,3µm,19.0s						
U24A	Moreno Valley	152.11	114	⇑P	PKPdf	18 58 57.9	0.0
	baz=152						
I14A	Mackay	152.13	93	⇓P	PKPdf	18 58 58.1	+0.4
	baz=152						
T23A	Casias Ranch,	152.14	112	⇑P	PKPdf	18 58 58.5	+0.5
	baz=152,SNR=14						
S22A	4UR Ranch, Cre	152.19	110	⇑P	PKPdf	18 58 58.6	+0.5
	baz=152,SNR=41						
R21A	Cimarron	152.21	108	⇓P	PKPdf	18 58 58.7	+0.7
	baz=152,SNR=19						
P19A	Cripple Cowboy	152.22	104	⇓P	PKPdf	18 58 58.5	+0.5
	baz=152,SNR=38						
L16A	Fish Haven	152.25	98	⇓P	PKPdf	18 58 57.8	-0.2
	baz=152						
G13A	Cobalt	152.29	90	⇑P	PKPdf	18 58 57.8	-0.1
	baz=152						
W27A	Bowe Ranch, En	152.31	118	⇑P	PKPdf	18 58 58.2	-0.1
	baz=152,SNR=13						
M17A	Scullys Gap (B	152.38	100	⇑P	PKPdf	18 58 58.5	+0.3
	baz=152,SNR=20						
V26A	Tequesquite Ra	152.48	116	⇑P	PKPdf	18 58 58.6	+0.1
	baz=152,SNR=56						
P20A	De Beque	152.48	105	⇑P	PKPdf	18 58 59.1	+0.7
	baz=152,SNR=28						
Q21A	Lamborn Mesa,	152.51	107	⇓P	PKPdf	18 58 58.8	+0.3
	baz=152,SNR=11						
R22A	Saguache, Gunn	152.57	109	⇓P	PKPdf	18 58 59.2	+0.7
	baz=153,SNR=27						
U25A	Circle Dot Ran	152.58	115	⇓P	PKPdf	18 58 58.5	-0.1
	baz=153						
F13A	Darby	152.59	89	⇓P	PKPdf	18 58 57.9	-0.4
	baz=153						
S23A	Nye Farm, Mont	152.63	111	⇓P	PKPdf	18 58 58.5	-0.2
	baz=153						
L17A	Cokeville	152.64	98	⇑P	PKPdf	18 58 58.5	0.0
	baz=153						
K16A	Soda Springs	152.64	96	⇓P	PKPdf	18 58 59.1	+0.6
	baz=153,SNR=32						
N18A	Larsen Ranch,	152.67	101	⇑P	PKPdf	18 58 58.8	+0.2
	baz=153,SNR=9.2						
M18A	Lyman	152.71	100	⇓P	PKPdf	18 58 58.9	+0.2
	baz=153,SNR=18						
T24A	Torres, Weston	152.72	113	⇑P	PKPdf	18 58 59.3	+0.5
	baz=153,SNR=22						
I15A	Monteview	152.76	93	⇓P	PKPdf	18 58 59.1	+0.4
	baz=153,SNR=16						
C12B	Naegeli Ranch,	152.82	84	⇓P	PKPdf	18 58 58.0	-0.5
	baz=153,SNR=13						
J16A	Bone	152.88	95	⇑P	PKPdf	18 58 59.2	+0.4
	baz=153,SNR=16						
AHID	Auburn Hatcher	152.89	97	ePKPdf	PKPdf	18 58 59.4	+0.6
AHID				LR	LR		
	comp=Z,3µm,22.0s,MS6.0						
AMTX	Amarillo	152.90	121	⇓P	PKPdf	18 58 58.7	-0.5
	baz=153						
AMTX	Amarillo	152.90	121	ePKPdf	PKPdf	18 58 59.0	-0.2
AMTX				LR	LR		
	comp=Z,4µm,20.0s,MS6.2						
N19A	John Jarvie Ra	152.91	102	⇓P	PKPdf	18 58 58.8	-0.2
	baz=153						
Q22A	Crested Butte,	152.91	108	⇓P	PKPdf	18 58 59.4	+0.3
	baz=153,SNR=31						
SDCO	Great Sand Dun	152.94	111	⇑P	PKPdf	18 58 59.2	0.0
	baz=153						
SDCO	Great Sand Dun	152.94	111	ePKPdf	PKPdf	18 58 59.1	0.0
SDCO				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
U26A	Atchley Ranch,	152.94	116	⇑P	PKPdf	18 58 59.3	+0.1
	baz=153,SNR=33						
O20A	White River Ci	152.98	104	⇓P	PKPdf	18 58 59.5	+0.4
	baz=153,SNR=18						
MCMT	McKenzie Canyo	152.98	92	ePKPdf	PKPdf	18 58 59.4	+0.4
K17A	Gardner Place,	152.99	97	⇓P	PKPdf	18 58 59.8	+0.7
	baz=153,SNR=18						
H15A	Lima	153.00	92	⇓P	PKPdf	18 58 59.5	+0.6
	baz=153,SNR=51						
E13A	Victor	153.00	87	⇓P	PKPdf	18 58 58.3	-0.6
	baz=153						
S24A	Houchin Ranch,	153.03	112	⇓P	PKPdf	18 58 58.9	-0.3
	baz=153						
L18A	Fontenelle, Gr	153.03	99	⇓P	PKPdf	18 58 59.1	0.0
	baz=153,SNR=29						
P21A	Newcastle	153.04	106	⇓P	PKPdf	18 58 59.2	0.0
	baz=153,SNR=9.2						
R23A	Moffat	153.07	110	⇑P	PKPdf	18 58 59.6	+0.3
	baz=153,SNR=17						
SMCO	Snowmass	153.09	107	ePKPdf	PKPdf	18 59 00.4	+1.2
B12A	Libby	153.09	82	⇓P	PKPdf	18 58 58.9	0.0
	baz=153,SNR=6.0						
RRI2	Red Ridge	153.09	96	ePKPdf	PKPdf	18 58 59.9	+0.7
T25A	Trinidad	153.12	114	⇓P	PKPdf	18 58 59.8	+0.4
	baz=153,SNR=8.3						
D13A	Huson	153.15	86	⇓P	PKPdf	18 58 58.4	-0.7
	baz=153						
F14A	Wisdom	153.18	89	⇑P	PKPdf	18 58 59.1	-0.1
	baz=153,SNR=36						
A12A	Yaak River Ran	153.25	82	⇑P	PKPdf	18 58 58.9	-0.3
	baz=153						
I16A	Newdale	153.29	94	⇑P	PKPdf	18 58 59.7	+0.3
	baz=153,SNR=16						
BSMT	Bassoo Peak	153.30	84	ePKPdf	PKPdf	18 58 58.6	-0.7
M19A	Rock Springs	153.30	101	⇓P	PKPdf	18 58 59.7	+0.2
	baz=153,SNR=24						
DCID1	Drake Creek	153.31	95	ePKPdf	PKPdf	18 59 00.6	+1.1
MSO	Missoula	153.33	87	⇑P	PKPdf	18 58 58.9	-0.5
	baz=153						
MSO	Missoula	153.33	87	ePKPdf	PKPdf	18 58 59.2	-0.2
MSO				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
C13A	Hot Springs	153.35	85	⇑P	PKPdf	18 58 58.9	-0.4
	baz=153						
G15A	Dillon	153.38	91	⇓P	PKPdf	18 58 59.6	+0.1
	baz=153						
REDW	Red Top Meadow	153.38	96	ePKPdf	PKPdf	18 59 00.1	+0.5
TPAW	Teton Pass	153.40	96	ePKPdf	PKPdf	18 58 59.7	+0.2
E14A	Clinton	153.40	88	⇑P	PKPdf	18 58 59.5	0.0
	baz=154						
N20A	Spence Gulch,	153.41	103	⇑P	PKPdf	18 58 60.0	+0.3
	baz=153,SNR=78						
DLMT	Dillon	153.41	91	ePKPdf	PKPdf	18 58 59.2	-0.4
K18A	Toltan Ranch,	153.45	98	⇓P	PKPdf	18 58 59.8	+0.1
	baz=154,SNR=19						
J17A	Brown Place, J	153.47	96	⇑P	PKPdf	18 59 00.3	+0.6
	baz=154,SNR=11						
S25A	Robets Cordova	153.48	113	⇑P	PKPdf	18 58 59.9	0.0
	baz=154						
O21A	Pagoda	153.48	105	⇓P	PKPdf	18 58 60.0	+0.1
	baz=154,SNR=16						
P22A	Eagle	153.49	107	⇑P	PKPdf	18 59 00.2	+0.4
	baz=154,SNR=5.7						
SNOW	Snow King Moun	153.50	96	ePKPdf	PKPdf	18 59 01.3	+1.6
R24A	Sanders Place,	153.50	111	⇑P	PKPdf	18 59 00.2	+0.3
	baz=154,SNR=7.5						
L19A	Farson	153.54	100	⇓P	PKPdf	18 59 00.2	+0.3
	baz=154						
JTMT	Jette	153.55	85	ePKPdf	PKPdf	18 58 58.5	-1.2
SWMT	Swartz Lake	153.62	85	ePKPdf	PKPdf	18 58 59.0	-0.7
BLMT	Blacktail Moun	153.62	84	ePKPdf	PKPdf	18 58 59.6	-0.1
IMW	Indian Meadow	153.63	95	ePKPdf	PKPdf	18 59 00.5	+0.6
MOOW	Moose Ponds	153.67	95	ePKPdf	PKPdf	18 59 00.1	+0.1
LOHW	Long Hollow	153.67	96	ePKPdf	PKPdf	18 59 00.5	+0.5
NATX	Nacogdoches	153.68	135	ePKPdf	PKPdf	18 59 01.0	+0.6
NATX				LR	LR		
	comp=Z,3µm,21.0s,MS6.1						
D14A	Greenough	153.71	87	⇑P	PKPdf	18 58 59.6	-0.3
	baz=154,SNR=18						
B13A	Whitefish	153.72	83	⇓P	PKPdf	18 58 59.7	-0.2
	baz=154,SNR=9.7						
F15A	Butte	153.72	90	⇓P	PKPdf	18 58 59.8	-0.1
	baz=154						
LRM	Limekiln Ridge	153.74	90	ePKPdf	PKPdf	18 58 59.6	-0.4
YBMT	Yellow Bay	153.77	85	ePKPdf	PKPdf	18 58 59.7	-0.3
CHMT	Chamberlain Mo	153.79	87	ePKPdf	PKPdf	18 58 59.2	-0.8
SLMT	Seeley Lake	153.80	86	ePKPdf	PKPdf	18 58 59.3	-0.7
J18A	Kendall Valley	153.80	97	⇑P	PKPdf	18 59 00.3	+0.1
	baz=154						
N21A	Black Mountain	153.80	104	⇑P	PKPdf	18 59 01.2	+0.9
	baz=154,SNR=8.6						
PD01	Pinedale Array	153.81	98	ePKPdf	PKPdf	18 58 59.6	-0.6
BW06	Boulder Array	153.82	98	⇑P	PKPdf	18 59 00.2	0.0
	baz=154						
BW06	Boulder Array	153.82	98	ePKPdf	PKPdf	18 58 59.5	-0.7
BW06				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
PDAR	Pinedale Array	153.82	98	PKP	PKPdf	18 59 00.5	+0.3
	comp=Z,39nm,1.1s,baz=171,slow=1.7,SNR=64						
PDAR				PKPbc	PKPbc	18 59 08.8	+0.7
	comp=Z,30nm,0.8s,baz=176,slow=2.7,SNR=41						
PDAR				PKPab	PKPab	18 59 22.6	+1.4
	comp=Z,60nm,0.9s,baz=207,slow=2.8,SNR=14						
PDAR				PP	PP	19 02 56.8	+0.5
	comp=Z,5.4nm,1.2s,baz=300,slow=6.1,SNR=5.1						
PDAR	Pinedale Array	153.82	98	PKP	PKPdf	18 59 00.5	+0.3
PDAR				PKPbc	PKPbc	18 59 08.8	+0.7
PDAR				PKPab	PKPab	18 59 22.6	+1.4
PDAR				PP	PP	19 02 56.8	+0.5
PD02	Pinedale Array	153.82	98	ePKPdf	PKPdf	18 58 58.9	-1.4
G16A	Moss Hill, Enn	153.82	92	⇓P	PKPdf	18 59 01.0	+0.8
	baz=154						
QLMT	Earthquake Lak	153.84	93	ePKPdf	PKPdf	18 59 01.2	+1.1
RFTA	Plano	153.85	131	ePKPdf	PKPdf	18 59 00.6	0.0
I17A	Pilgrim Ck.	153.86	95	⇓P	PKPdf	18 59 01.1	+0.9
	baz=154,SNR=43						
M20A	Sweetwater, Wa	153.87	102	⇑P	PKPdf	18 59 01.0	+0.7
	baz=154,SNR=13						
P23A	Jefferson	153.87	108	⇓P	PKPdf	18 59 01.2	+0.8
	baz=154,SNR=20						
FLWY	Flagg Ranch	153.88	95	ePKPdf	PKPdf	18 59 01.3	+1.1
H16A	Russell Place,	153.88	93	⇓P	PKPdf	18 59 01.1	+0.8
	baz=154,SNR=41						
R25A	Fountain Ranch	153.91	112	⇑P	PKPdf	18 59 00.4	-0.1
	baz=154,SNR=23						
E15A	Deer Lodge	153.92	89	⇑P	PKPdf	18 59 00.6	+0.4
	baz=154						
O22A	Kremmling	153.98	106	⇓P	PKPdf	18 59 00.3	-0.2
	baz=154						
Q24A	Divide	153.99	110	⇓P	PKPdf	18 59 00.2	-0.4
	baz=154,SNR=12						
A13A	Flathead Natio	153.99	82	⇓P	PKPdf	18 58 59.7	-0.5
	baz=154						
YFT	Old Faithful	154.00	94	ePKPdf	PKPdf	18 59 02.7	+2.3
YMR	Madison River	154.04	93	ePKPdf	PKPdf	18 59 01.8	+1.3
L20A	Wamsutter	154.09	101	⇓P	PKPdf	18 59 01.2	+0.6
	baz=154,SNR=13						
H17A	Grant Village	154.12	94	⇓P	PKPdf	18 59 01.3	+0.7
	baz=154,SNR=5.7						
BOZ	Bozeman (W)	154.15	91	⇑P	PKPdf	18 59 01.3	+0.7
	baz=154,SNR=48						
BOZ	Bozeman (W)	154.15	91	ePKPdf	PKPdf	18 59 01.0	+0.5
BOZ				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
BOZ	Bozeman (W)	154.15	91	ePKIKP	PKPdf	18 59 01.0	+0.4
BOZ				MLR	MLR		
	comp=Z,2µm,19.0s,MS6.0						
I18A	Diamond G Ranc	154.20	96	⇑P	PKPdf	18 59 00.7	0.0
	baz=154,SNR=11						
F16A	Kennard Place,	154.22	91	⇑P	PKPdf	18 59 01.3	+0.6
	baz=154,SNR=5.5						
YNR	Norris Junctio	154.23	94	ePKPdf	PKPdf	18 59 01.5	+0.8
WMOK	Wichita Mounta	154.26	125	ePKPdf	PKPdf	18 59 00.9	-0.2
WMOK				LR	LR		
	comp=Z,5µm,19.0s,MS6.3						
WMOK	Wichita Mounta	154.26	125	ePKIKP	PKPdf	18 59 00.9	-0.2
WMOK				MLR	MLR		
	comp=Z,5µm,19.0s,MS6.3						
K19A	Absolon Red Bu	154.28	99	⇑P	PKPdf	18 59 00.8	0.0
	baz=154,SNR=49						
ISCO	Idaho Springs	154.28	108	⇓P	PKPdf	18 59 01.3	+0.4
	baz=154,SNR=30						
ISCO	Idaho Springs	154.28	108	ePKPdf	PKPdf	18 59 01.6	+0.6
ISCO				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
ISCO	Idaho Springs	154.28	108	ePKIKP	PKPdf	18 59 01.6	+0.6
ISCO				MLR	MLR		
	comp=Z,2µm,19.0s,MS6.0						
D15A	Lincoln	154.29	87	⇓P	PKPdf	18 59 00.6	-0.1
	baz=154,SNR=28						
LKWY	Lake	154.32	94	ePKPdf	PKPdf	18 59 03.0	+2.1
LKWY				LR	LR		
	comp=Z,5µm,21.0s,MS6.3						
LKWY	Lake	154.32	94	ePKIKP	PKPdf	18 59 03.0	+2.1
LKWY				MLR	MLR		
	comp=Z,5µm,21.0s,MS6.3						
WALA	Waterton Lakes	154.34	82	ePKPdf	PKPdf	18 58 59.0	-1.8
O23A	Lake Granby, G	154.38	107	⇑P	PKPdf	18 59 01.3	+0.3
	baz=154,SNR=34						
J19A	Crowheart	154.41	98	⇓P	PKPdf	18 59 01.4	+0.4
	baz=154,SNR=23						
M21A	Separation Pea	154.42	103	⇓P	PKPdf	18 59 00.9	-0.2
	baz=154,SNR=47						
B14A	Marquette Ranc	154.43	84	⇑P	PKPdf	18 59 00.3	-0.5
	baz=154						
N22A	Wattenberg Ran	154.45	105	⇑P	PKPdf	18 59 01.1	-0.1
	baz=154,SNR=29						
Q25A	Bedland, Calha	154.46	111	⇑P	PKPdf	18 59 00.8	-0.4
	baz=154,SNR=8.6						
K20A	Yellowstone Ra	154.48	100	⇑P	PKPdf	18 59 00.9	-0.3
	baz=154						
R26A	Arlington	154.48	113	⇑P	PKPdf	18 59 01.7	+0.4
	baz=154,SNR=15						
P24A	Kohler Place,	154.50	109	⇓P	PKPdf	18 59 00.6	-0.6
	baz=154						
G17A	Pierce Place,	154.51	92	⇑P	PKPdf	18 59 02.1	+1.0
	baz=155,SNR=10						
HRY	Holter Researc	154.55	89	ePKPdf	PKPdf	18 59 01.7	+0.6
E16A	East Helena	154.56	89	⇓P	PKPdf	18 59 01.6	+0.5
	baz=155,SNR=9.6						
RWWY	Rawlins	154.56	103	ePKPdf	PKPdf	18 59 01.5	+0.2
C15A	Salmond Ranch,	154.57	86	⇓P	PKPdf	18 59 00.3	-0.8
	baz=155						
A14A	Double T Ranch	154.60	83	⇓P	PKPdf	18 59 00.6	-0.5
	baz=155						
N23A	Red Feather La	154.81	106	⇓P	PKPdf	18 59 01.6	-0.1
	baz=155,SNR=52						
O24A	Longmont	154.81	108	⇓P	PKPdf	18 59 01.9	+0.2
	baz=155						
H18A	Shoshone NF, C	154.82	95	⇓P	PKPdf	18 59 01.7	+0.2
	baz=155						
B15A	Bradely Ranch,	154.84	85	⇓P	PKPdf	18 59 00.8	-0.7
	baz=155						
F17A	Fitzpatrick Pl	154.86	91	⇓P	PKPdf	18 59 01.9	+0.4
	baz=155,SNR=25						
D16A	Dana Ranch, Ca	154.87	88	⇓P	PKPdf	18 59 01.6	0.0
	baz=155,SNR=17						
I19A	Meeteetse	154.88	96	⇑P	PKPdf	18 59 02.2	+0.5
	baz=155,SNR=24						
P25A	Willow Gulch B	154.92	110	⇓P	PKPdf	18 59 02.1	+0.2
	baz=155,SNR=9.7						
E17A	Martinsdale	155.02	90	⇓P	PKPdf	18 59 01.6	-0.1
	baz=155						
A15A	Johnson Ranch,	155.02	83	⇑P	PKPdf	18 59 00.9	-0.8
	baz=155						
J20A	Shoshoni	155.04	99	⇑P	PKPdf	18 59 01.6	-0.2

baz=156
K23A Bowen Ranch, D 156.15 102 ⇓P PKPdf 18 59 02.9 -0.5
baz=156
A17A Triple J Farms 156.23 85 ⇓P PKPdf 18 59 02.8 -0.5
baz=156
M25A Palm-Egli Farm 156.25 107 ⇑P PKPdf 18 59 03.1 -0.4
baz=156
E19A Rath Farm, Rou 156.27 92 ⇑P PKPdf 18 59 02.9 -0.5
baz=156
I22A 9 Mile Ranch, 156.30 99 ⇓P PKPdf 18 59 03.0 -0.6
baz=156
F20A Billings 156.32 94 ⇓P PKPdf 18 59 03.3 -0.3
baz=156
YKA Yellowknife Ar 156.37 50 PKP PKPdf 18 59 01.6 -1.4
comp=Z,19nm,1.0s,baz=281,slow=1.7,SNR=58
YKA PKPab PKPab 18 59 31.3 -0.3
comp=Z,65nm,1.0s,baz=278,slow=3.1,SNR=8.5
YKA PP PP 19 03 07.4 -2.7
comp=Z,2.6nm,1.0s,baz=289,slow=8.6,SNR=3.2
YKA Yellowknife Ar 156.37 50 PKP PKPdf 18 59 01.6 -1.4
YKA PKPab PKPab 18 59 31.3 -0.3
YKA PP PP 19 03 07.4 -2.7
YKA Yellowknife Ar 156.37 50 PKIKP PKPdf 18 59 01.6 -1.4
YKA 19 03 07.4
YKA pmax pmax
comp=Z,19nm,1.0s
YKA pmax pmax
comp=Z,65nm,1.0s
YKA pmax pmax
comp=Z,3.0nm,1.0s
H21A Big Horn, Sher 156.37 97 ⇑P PKPdf 18 59 02.7 -0.9
baz=156
EGMT Eagleton 156.41 87 ⇑P PKPdf 18 59 02.6 -0.9
baz=156
EGMT Eagleton 156.41 87 *e*PKPdf PKPdf 18 59 02.9 -0.7
EGMT LR LR
comp=Z,3μm,19.0s,MS6.1
MIAR Mount Ida 156.53 134 *e*PKPdf PKPdf 18 59 04.2 +0.1
MIAR LR LR
comp=Z,2μm,19.0s,MS6.0
MIAR Mount Ida 156.53 134 *e*PKIKP PKPdf 18 59 04.3 +0.1
MIAR MLR MLR
comp=Z,2μm,19.0s,MS6.0
D19A Cripps Ranch, 156.55 90 ⇓P PKPdf 18 59 03.2 -0.6
baz=157
RES Resolute Bay 156.55 14 PKP PKPdf 18 59 01.8 -1.2
comp=Z,33nm,1.0s,baz=318,slow=2.3,SNR=33
RES PKPab PKPab 18 59 32.1 0.0
comp=Z,24nm,0.9s,baz=331,slow=1.9,SNR=7.9
RES PP PP 19 03 09.0 -1.7
comp=Z,1.8nm,0.8s,baz=296,slow=15,SNR=1.9
RES Resolute Bay 156.55 14 *e*PKPdf PKPdf 18 58 59.3 -3.7
RES PKP PKPdf 18 59 01.8 -1.2
RES PKPab PKPab 18 59 32.1 0.0
RES PP PP 19 03 09.0 -1.7
RES Resolute Bay 156.55 14 *e*PKIKP PKPdf 18 58 59.3 -3.7
RES 18 59 01.8
RES 19 03 09.0
B18A Beardsley Farm 156.55 87 ⇓P PKPdf 18 59 03.1 -0.7
baz=157
J23A Dilts Ranch, B 156.57 101 ⇓P PKPdf 18 59 03.1 -0.9
baz=157
G21A Lodge Grass 156.59 96 ⇓P PKPdf 18 59 03.1 -0.8
baz=157
K24A Anderson Ranch 156.60 103 ⇓P PKPdf 18 59 02.9 -1.1
baz=157
TUL1 Tulsa 156.65 128 ⇑P PKPdf 18 59 03.4 -0.9
baz=157
E20A Meyer Farm, Mu 156.68 92 ⇓P PKPdf 18 59 03.4 -0.6
baz=157
C19A Slack Wire Ran 156.70 89 ⇑P PKPdf 18 59 03.4 -0.6
baz=157
A18A Metzger Ranch, 156.73 85 ⇑P PKPdf 18 59 03.3 -0.6
baz=157
L25A Engebretsen Ra 156.75 105 ⇑P PKPdf 18 59 03.5 -0.7
baz=157
H22A Clearmont 156.77 98 ⇓P PKPdf 18 59 03.3 -0.8
baz=157
CBKS Cedar Bluff 156.88 117 ⇓P PKPdf 18 59 03.6 -0.9
baz=157
CBKS Cedar Bluff 156.88 117 *e*PKPdf PKPdf 18 59 04.5 0.0
CBKS LR LR
comp=Z,2μm,22.0s,MS5.8
CBKS Cedar Bluff 156.88 117 *e*PKIKP PKPdf 18 59 04.5 0.0
CBKS MLR MLR
comp=Z,2μm,22.0s,MS5.8
I23A Meade Ranch, G 156.95 100 ⇓P PKPdf 18 59 03.7 -0.7
baz=157
F21A Absaloka Mine, 156.95 94 ⇑P PKPdf 18 59 03.2 -1.1
baz=157
D20A Manuel Ranch, 156.96 91 ⇑P PKPdf 18 59 03.7 -0.6
baz=157
J24A Dixon Ranch, L 157.06 102 ⇓P PKPdf 18 59 03.7 -0.9
baz=157
B19A Brinkman Farms 157.08 87 ⇑P PKPdf 18 59 04.0 -0.4
baz=157
G22A Birney 157.14 97 ⇑P PKPdf 18 59 03.9 -0.7
baz=157
L26A Underwood Farm 157.19 107 ⇓P PKPdf 18 59 03.7 -1.0
baz=157
UALR University of 157.26 136 *e*PKPdf PKPdf 18 59 05.8 +0.7
H23A Clabaugh Cattl 157.32 99 ⇑P PKPdf 18 59 03.7 -1.2
baz=157
E21A Keefer Ranch, 157.34 93 ⇑P PKPdf 18 59 04.2 -0.6
baz=157
I24A Kuemmerle Ranc 157.38 101 ⇓P PKPdf 18 59 04.0 -1.0
baz=157
A19A Klindworth Far 157.40 86 ⇓P PKPdf 18 59 04.3 -0.5
baz=157
F22A Rosebud 157.45 95 ⇑P PKPdf 18 59 04.6 -0.4
baz=158
K26A Motz Farm, Whi 157.55 105 ⇑P PKPdf 18 59 04.6 -0.6
baz=158
B20A Solberg Farm, 157.63 88 ⇑P PKPdf 18 59 04.9 -0.2
baz=158
D21A La Casta Ranch 157.64 92 ⇓P PKPdf 18 59 04.9 -0.2
baz=158,SNR=5.2
L27A T5 Ranch, Ells 157.67 108 ⇑P PKPdf 18 59 04.6 -0.8
baz=158
G23A Biddle 157.67 97 ⇑P PKPdf 18 59 04.5 -0.8
baz=158
A20A Cobblestone Ra 157.87 87 ⇓P PKPdf 18 59 04.9 -0.5
baz=158
RSSD Black Hills 157.88 101 *e*PKPdf PKPdf 18 59 04.2 -1.3
RSSD Black Hills 157.88 101 *e*PKIKP PKPdf 18 59 04.2 -1.4
C21A Desert Coulee 157.92 90 ⇑P PKPdf 18 59 04.8 -0.7
baz=158
LAO LASA Array 157.93 93 ⇑P PKPdf 18 59 04.9 -0.6
baz=158
LAO LASA Array 157.93 93 *e*PKPdf PKPdf 18 59 06.1 +0.5
LAO LR LR
comp=Z,2μm,19.0s,MS6.0
H24A Dirks Ranch, A 157.93 99 ⇓P PKPdf 18 59 04.5 -1.1
baz=158
F23A Volborg 157.93 96 ⇑P PKPdf 18 59 04.9 -0.6
baz=158,SNR=6.9
E22A Miles City 157.97 94 ⇑P PKPdf 18 59 04.9 -0.7
baz=158
K27A Flueckinger Fa 158.10 106 ⇑P PKPdf 18 59 05.0 -0.9
baz=158,SNR=7.7
D22A Cohagen 158.17 92 ⇓P PKPdf 18 59 05.2 -0.6
baz=158
OXF Oxford 158.20 142 *e*PKPdf PKPdf 18 59 07.8 +1.5
OXF LR LR
comp=Z,3μm,21.0s,MS6.1
OXF Oxford 158.20 142 *e*PKIKP PKPdf 18 59 07.8 +1.5
OXF MLR MLR
comp=Z,3μm,21.0s,MS6.1
B21A Ellsworth Farm 158.23 89 ⇑P PKPdf 18 59 05.4 -0.4
baz=158
G24A Alzada 158.32 98 ⇓P PKPdf 18 59 05.0 -1.0
baz=158
E23A Ismay 158.38 95 ⇓P PKPdf 18 59 06.1 0.0
baz=158,SNR=6.2
BBSR BB Station 158.47 200 PFAKE 18 59 20.0 +13
BBSR LR LR
comp=Z,2μm,20.0s,MS5.8
A21A Bergtoll Ranch 158.52 87 ⇑P PKPdf 18 59 05.5 -0.6
baz=159
F24A Ekalaka 158.57 97 ⇓P PKPdf 18 59 05.5 -0.9
baz=159
C22A Vida 158.62 91 ⇓P PKPdf 18 59 05.9 -0.4
baz=159
HBAR Harrisburg 158.63 138 *e*PKPdf PKPdf 18 59 07.1 +0.3
KSU1 Kansas State U 158.74 122 *e*PKPdf PKPdf 18 59 06.3 -0.4
KSU1 LR LR
comp=Z,3μm,20.0s,MS6.1

E24A Baker 159.02 95 ⇑P PKPdf 18 59 06.4 -0.5
baz=159,SNR=5.9
GOGA Godfrey 159.06 155 *e*PKPdf PKPdf 18 59 07.3 -0.1
GOGA LR LR
comp=Z,3μm,22.0s,MS6.1
GOGA Godfrey 159.06 155 *e*PKIKP PKPdf 18 59 07.3 -0.1
GOGA MLR MLR
comp=Z,3μm,22.0s,MS6.1
C23A Lambert 159.07 92 ⇑P PKPdf 18 59 06.4 -0.4
baz=159
PLAL Pickwick Lake 159.11 144 *e*PKPdf PKPdf 18 59 05.6 -1.8
PLAL LR LR
comp=Z,3μm,20.0s,MS6.2
A22A Carney Farms, 159.13 88 ⇓P PKPdf 18 59 06.5 -0.4
baz=159
C24A Savage 159.40 93 ⇓P PKPdf 18 59 06.8 -0.4
baz=159
NHSC New Hope 159.47 163 *e*PKPdf PKPdf 18 59 07.9 +0.1
NHSC LR LR
comp=Z,2μm,19.0s,MS6.0
BGNE Belgrade 159.57 115 ⇑P PKPdf 18 59 06.5 -1.2
baz=160
A23A Redstone 159.74 89 ⇑P PKPdf 18 59 07.0 -0.6
baz=160
GLAT Glass 159.79 140 *e*PKPdf PKPdf 18 59 07.9 -0.2
DGMT Dagmar 159.95 91 ⇓P PKPdf 18 59 07.1 -0.8
baz=160
DGMT Dagmar 159.95 91 *e*PKPdf PKPdf 18 59 07.9 0.0
DGMT LR LR
comp=Z,2μm,21.0s,MS6.0
SWET Sewanee 160.05 148 *e*PKPdf PKPdf 18 59 07.8 -0.6
A24A Westby 160.26 90 ⇓P PKPdf 18 59 07.7 -0.5
baz=160
JSC Jenkinsville 160.41 160 *e*PKPdf PKPdf 18 59 09.8 +0.9
JSC Jenkinsville 160.41 160 *e*PKIKP PKPdf 18 59 09.8 +0.9
CCM Cathedral Cave 160.50 133 *e*PKPdf PKPdf 18 59 07.9 -0.9
CCM *e*PKPab PKPab 18 59 49.4 -0.8
CCM Cathedral Cave 160.50 133 *e*PKIKP PKPdf 18 59 07.9 -0.9
CCM *e* 18 59 49.4
CPCT Cooper Cave 160.69 151 *e*PKPdf PKPdf 18 59 07.5 -1.6
FVM French Village 160.79 135 *e*PKPdf PKPdf 18 59 07.9 -1.3
FVM *e*PKPab PKPab 18 59 52.2 +0.7
FVM French Village 160.79 135 *e*PKIKP PKPdf 18 59 07.9 -1.3
FVM *e* 18 59 52.2
BRSD Miller 161.05 107 ⇑P PKPdf 18 59 08.8 -0.4
baz=161
SIUC Southern Illin 161.07 138 *e*PKPdf PKPdf 18 59 09.3 -0.2
TKL Tuckaleechee C 161.10 153 PKP PKPdf 18 59 09.3 -0.3
comp=Z,20nm,1.1s,baz=160,slow=4.1,SNR=10
TKL PKPab PKPab 18 59 51.8 -1.0
comp=Z,19nm,0.9s,baz=166,slow=8.4,SNR=5.3
TKL Tuckaleechee C 161.10 153 *e*PKPdf PKPdf 18 59 09.1 -0.4
TKL PKP PKPdf 18 59 09.3 -0.3
TKL PKPab PKPab 18 59 51.8 -1.0
TKL Tuckaleechee C 161.10 153 *e*PKIKP PKPdf 18 59 09.1 -0.5
TKL 18 59 09.3
TKL 18 59 51.8
KMSC Kings Mountain 161.22 159 ⇑P PKPdf 18 59 08.8 -0.9
baz=161
SLM Saint Louis 161.42 134 *e*PKPdf PKPdf 18 59 09.6 -0.2
SLM Saint Louis 161.42 134 *e*PKIKP PKPdf 18 59 09.6 -0.2
USIN University of 161.90 141 *e*PKPdf PKPdf 18 59 09.8 -0.5
CNNC Cliffs of the 161.91 168 PFAKE 18 59 20.0 +10
CNNC LR LR
comp=Z,3μm,19.0s
ECSD EROS Data Cent 161.95 112 *e*PKPdf PKPdf 18 59 08.2 -2.0
ECSD *e*PKPab PKPab 18 59 54.9 -1.5
ECSD LR LR
comp=Z,4μm,20.0s
TZTN Tazewell 161.99 152 *e*PKPdf PKPdf 18 59 10.6 +0.1
TZTN *e*PKPab PKPab 18 59 55.0 -1.6
SFJD Kangerlussuaq 162.18 330 PFAKE 18 59 20.0 +10
SFJD LR LR
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 162.18 330 *e*PKIKP PKPdf 18 59 09.3 -0.4
SFJD *i* 19 03 40.0
SFJD pmax pmax
comp=Z,16nm,1.1s
SFJD Kangerlussuaq 162.18 330 *i* P PKPdf 18 59 09.3 -0.4
comp=Z,16nm,1.1s
SFJD *i* 18 59 57.6
SFJD *i* 19 03 40.0
OLIL Olney 162.40 138 *e*PKPdf PKPdf 18 59 10.9 +0.1
MDND Maddock 162.45 97 ⇑P PKPdf 18 59 09.5 -1.0
baz=162
SCIA State Center 162.55 122 *e*PKPdf PKPdf 18 59 11.4 +0.5
SCIA LR LR
comp=Z,5μm,19.0s
WCI Wyandotte Cave 162.65 143 *e*PKPdf PKPdf 18 59 10.5 -0.5
WCI Wyandotte Cave 162.65 143 *e*PKIKP PKPdf 18 59 10.5 -0.6
FFC Flin Flon 162.99 73 *e*PKPdf PKPdf 18 59 08.1 -2.8
FFC *e*PKPab PKPab 18 59 59.5 -1.2
FFC LR LR
comp=Z,2μm,20.0s
FFC Flin Flon 162.99 73 *e*PKIKP PKPdf 18 59 08.1 -2.7
FFC *e* 18 59 59.5
FFC MLR MLR
comp=Z,2μm,20.0s
ELN Prospectdale 163.35 159 *e*PKPdf PKPdf 18 59 11.6 -0.2
BLO Bloomington 163.39 141 *e*PKPdf PKPdf 18 59 12.1 +0.4
BLO Bloomington 163.39 141 *e*PKIKP PKPdf 18 59 12.1 +0.4
BLA Blacksburg 163.41 159 *e*PKPdf PKPdf 18 59 11.5 -0.3
BLA LR LR
comp=Z,3μm,19.0s
BLA Blacksburg 163.41 159 *e*PKIKP PKPdf 18 59 11.5 -0.3
BLA MLR MLR
comp=Z,3μm,19.0s
HDIL Hopedale 163.41 132 *e*PKPdf PKPdf 18 59 11.5 -0.2
HDIL LR LR
comp=Z,4μm,20.0s
VWCC Virginia Weste 163.53 161 *e*PKPdf PKPdf 18 59 11.5 -0.5
SFIN Scholer Farm 164.20 138 ⇓P PKPdf 18 59 12.2 -0.3
baz=164
JFWS Jewell Farm 164.79 125 *e*PKPdf PKPdf 18 59 12.7 -0.2
JFWS LR LR
comp=Z,4μm,20.0s
JFWS Jewell Farm 164.79 125 *e*PKIKP PKPdf 18 59 12.7 -0.2
JFWS MLR MLR
comp=Z,4μm,20.0s
AGMN Agassiz Nation 164.89 99 *e*PKPdf PKPdf 18 59 11.3 -1.5
AGMN LR LR
comp=Z,5μm,22.0s
CBN Corbin 164.90 167 *e*PKPdf PKPdf 18 59 13.2 +0.1
CBN LR LR
comp=Z,4μm,21.0s
SPMN St. Paul 165.01 113 ⇑P PKPdf 18 59 12.3 -0.7
baz=165
ACSO Alum Creek Sta 165.57 149 *e*PKPdf PKPdf 18 59 13.1 -0.5
ACSO LR LR
comp=Z,3μm,19.0s
ULM Lac du Bonnet 165.66 92 PKP PKPdf 18 59 12.4 -0.9
comp=Z,25nm,0.8s,baz=260,slow=1.0,SNR=24
ULM PKPab PKPab 19 00 11.7 -0.9
comp=Z,30nm,1.1s,baz=239,slow=5.0,SNR=6.5
ULM PP PP 19 03 59.9 -0.5
comp=Z,9.4nm,1.2s,baz=257,slow=5.1,SNR=3.6
ULM Lac du Bonnet 165.66 92 PKP PKPdf 18 59 12.4 -0.9
ULM PKPab PKPab 19 00 11.7 -0.9
ULM PP PP 19 03 59.9 -0.5
ULM LR LR
comp=Z,4μm,21.0s
ULM Lac du Bonnet 165.66 92 PKIKP PKPdf 18 59 12.4 -1.0
ULM *i* 19 00 11.7
ULM 19 03 59.9
ULM pmax pmax
comp=Z,25nm,0.8s
ULM pmax pmax
comp=Z,30nm,1.1s
ULM pmax pmax
comp=Z,9.0nm,1.2s
SDMD Soldier's Deli 166.16 168 *e*PKPdf PKPdf 18 59 14.1 -0.1
SDMD *e*PKPab PKPab 19 00 11.8 -3.1
AAM Ann Arbor 167.18 143 *e*PKPdf PKPdf 18 59 14.8 0.0
AAM LR LR
comp=Z,4μm,20.0s
AAM Ann Arbor 167.18 143 *e*PKIKP PKPdf 18 59 14.8 0.0
AAM MLR MLR
comp=Z,4μm,20.0s
SSPA Standing Stone 167.21 164 *e*PKPdf PKPdf 18 59 14.7 -0.2
EYMN Ely 167.30 106 *e*PKPdf PKPdf 18 59 13.6 -1.1
EYMN LR LR
comp=Z,4μm,20.0s
ALLY Alegheny Colle 167.69 155 *e*PKPdf PKPdf 18 59 14.8 -0.4
PAL Palisades 167.97 177 *e*PKPdf PKPdf 18 59 16.4 +1.0
PAL *e*PKPab PKPab 19 00 23.5 +0.7
PAL Palisades 167.97 177 *e*PKIKP PKPdf 18 59 16.4 +1.0
PAL *e* 19 00 23.5
ERPA Erie 168.18 155 *e*PKPdf PKPdf 18 59 15.4 -0.2
ERPA LR LR
comp=Z,4μm,19.0s
GLMI Grayling 168.89 133 PFAKE 18 59 30.0 +14
GLMI LR LR
comp=Z,4μm,21.0s
BINY Binghamton 169.01 169 *e*PKPdf PKPdf 18 59 16.6 +0.5
BINY LR LR
comp=Z,4μm,19.0s
WES Weston 169.28 187 *e*PKPdf PKPdf 18 59 15.2 -1.0
WES Weston 169.28 187 *e*PKIKP PKPdf 18 59 15.2 -1.0
TRY Troy 169.70 178 *e*PKPdf PKPdf 18 59 14.5 -1.9
NCB Newcomb 170.92 175 *e*PKPdf PKPdf 18 59 16.2 -0.9
NCB LR LR
comp=Z,4μm,21.0s
MDV Middlebury 170.97 180 *e*PKPdf PKPdf 18 59 16.1 -1.1
LBNH Lisbon 171.17 186 PFAKE 18 59 30.0 +13
LBNH LR LR
comp=Z,4μm,19.0s
LONY Lake Ozonia 171.54 173 *e*PKPdf PKPdf 18 59 16.7 -0.7
LONY LR LR
comp=Z,4μm,20.0s
FRNY Flat Rock 171.80 178 *e*PKPdf PKPdf 18 59 17.3 -0.2
PKME Peaks-Kenny Pk 171.83 200 PFAKE 18 59 30.0 +12
PKME LR LR
comp=Z,4μm,20.0s
MSNY Massena 171.90 172 *e*PKPdf PKPdf 18 59 17.6 +0.1
SCHQ Schefferville 175.82 298 PKP PKPdf 18 59 17.9 -0.8
comp=Z,36nm,1.1s,baz=306,slow=2.4,SNR=8.1
SCHQ Schefferville 175.82 298 PKP PKPdf 18 59 17.9 -0.8
SCHQ LR LR
comp=Z,5μm,19.0s

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*IDC **08** 19:07:22.0±2.6, 42.°92N×104.°99W, h0km, mb3.5/2, mb1 4.0/4, mb1mx3.5/25, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=51.3km s-min=8.6km az=158.0*
*NEIC **08** 19:07:25.9±1.3, 43.°46N×105.°08W, h0km, ML3.1, Error ellipse: s-maj=17.6km s-min=13.2km az=111.0, Suspected Mining explosion.*
NEIC 85 km [50 miles] WSW of Newcastle.
*ISCJB **08** 19:07:26.7±0.2, 43.°68N±0.°01×105.°31W±0.°02, h0km, Error ellipse: s-maj=2.5km s-min=1.7km az=172.4*
ISC 08 19:07:27.7±0.2, 43.°67N±0.°01×105.°28W±0.°02, h0km, n172, σ0.977/187, 55C-66D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.32**	**335**	**P**	**Pg**	**19 07 34.5**	**+0.8**
	baz=0.3,SNR=96						
I23A				⇓S	**Sg**	**19 07 38.5**	**+0.6**
	baz=0.3						
J23A	**Dilts Ranch, B**	**0.33**	**217**	**P**	**Pg**	**19 07 33.8**	**-0.2**
	baz=0.3,SNR=1000						
J23A				⇓S	**Sg**	**19 07 36.2**	**-2.2**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.51**	**68**	**P**	**Pg**	**19 07 37.7**	**+0.2**
	baz=0.5,SNR=428						
J24A	**Dixon Ranch, L**	**0.56**	**127**	⇓P	**Pg**	**19 07 38.0**	**-0.4**
	baz=0.6						
J24A				⇑S	**Sg**	**19 07 46.4**	**+0.6**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.89**	**354**	⇑P	**Pg**	**19 07 44.4**	**-0.4**
	baz=0.9,SNR=25						
I22A	**9 Mile Ranch,**	**0.90**	**285**	**P**	**Pg**	**19 07 44.4**	**-0.5**
	baz=0.9,SNR=163						
J22A	**Midwest**	**0.91**	**254**	⇓P	**Pg**	**19 07 44.1**	**-1.0**
	baz=0.9,SNR=90						
J22A				⇑S	**Sg**	**19 07 56.8**	**-0.1**
	baz=0.9						
K23A	**Bowen Ranch, D**	**0.95**	**195**	⇑P	**Pg**	**19 07 44.8**	**-1.1**
	baz=0.9						
RSSD	**Black Hills**	**1.00**	**63**	*e*P	**Pg**	**19 07 46.0**	**-0.9**
K24A	**Anderson Ranch**	**1.01**	**160**	⇓P	**Pg**	**19 07 45.8**	**-1.2**
	baz=1.0						
K24A				⇓S	**Sg**	**19 07 59.9**	**-0.1**
	baz=1.0						
H24A	**Dirks Ranch, A**	**1.20**	**26**	**P**	**Pg**	**19 07 49.6**	**-1.0**
	baz=1.2,SNR=297						
H22A	**Clearmont**	**1.20**	**320**	⇑P	**Pg**	**19 07 50.3**	**-0.4**
	baz=1.2,SNR=39						
K22A	**Casper**	**1.37**	**222**	⇓P	**Pg**	**19 07 52.0**	**-1.9**
	baz=1.3						
K22A				⇑S	**Sg**	**19 08 11.8**	**+0.2**
	baz=1.3						
I21A	**Big Trails, Te**	**1.47**	**276**	⇓P	**Pn**	**19 07 53.5**	**-1.8**
	baz=1.5						
G23A	**Biddle**	**1.53**	**357**	⇑P	**Pn**	**19 07 55.5**	**-0.7**
	baz=1.6,SNR=106						
L23A	**Garrett**	**1.59**	**191**	⇓P	**Pn**	**19 07 55.6**	**-1.4**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.59**	**308**	⇓P	**Pn**	**19 07 56.7**	**-0.4**
	baz=1.6,SNR=34						
J21A	**Lysite**	**1.61**	**259**	⇑P	**Pn**	**19 07 56.0**	**-1.3**
	baz=1.6,SNR=61						
L24A	**Wheatland**	**1.65**	**171**	⇑P	**Pn**	**19 07 56.9**	**-0.9**
	baz=1.6						
G22A	**Birney**	**1.71**	**335**	⇓P	**Pn**	**19 07 58.9**	**+0.2**
	baz=1.7,SNR=98						
G24A	**Alzada**	**1.77**	**20**	⇑P	**Pn**	**19 07 59.6**	**+0.1**
	baz=1.8,SNR=26						
K21A	**Alcova**	**1.78**	**235**	**P**	**Pn**	**19 07 59.3**	**-0.3**
	baz=1.8,SNR=451						
L25A	**Engebretsen Ra**	**1.80**	**147**	**P**	**Pn**	**19 08 00.3**	**+0.4**
	baz=1.8,SNR=68						
K26A	**Motz Farm, Whi**	**1.82**	**122**	⇑P	**Pn**	**19 07 59.8**	**-0.3**
	baz=1.8,SNR=14						
L22A	**Ellis Ranch, M**	**1.85**	**208**	**P**	**Pn**	**19 08 00.2**	**-0.4**
	baz=1.8,SNR=182						
L22A				⇓S	**Sn**	**19 08 24.9**	**+0.4**
	baz=1.8						
F23A	**Volborg**	**2.05**	**358**	**P**	**Pn**	**19 08 03.6**	**+0.2**
	baz=2.1,SNR=105						
F23A				⇓S	**Sn**	**19 08 30.8**	**+1.2**
	baz=2.1						
J20A	**Shoshoni**	**2.06**	**262**	⇑Pb	**Pb**	**19 08 05.1**	**-0.9**
	baz=2.0,SNR=58						
G21A	**Lodge Grass**	**2.08**	**319**	⇓P	**Pn**	**19 08 03.9**	**+0.1**
	baz=2.1,SNR=32						
G21A				⇓Sb	**Sb**	**19 08 34.3**	**+1.8**
	baz=2.1						
I20A	**Worland**	**2.08**	**279**	⇑P	**Pn**	**19 08 04.2**	**+0.4**
	baz=2.1,SNR=84						
F22A	**Rosebud**	**2.22**	**342**	**P**	**Pn**	**19 08 05.4**	**-0.3**
	baz=2.2,SNR=57						
M23A	**Laramie**	**2.23**	**189**	⇑P	**Pn**	**19 08 05.5**	**-0.3**
	baz=2.2,SNR=29						
M23A				⇓Sb	**Sb**	**19 08 36.8**	**-0.1**
	baz=2.2						
M24A	**Cheyenne**	**2.23**	**171**	**P**	**Pn**	**19 08 06.5**	**+0.7**
	baz=2.2,SNR=203						
M24A				⇑Sb	**Sb**	**19 08 38.0**	**+1.1**
	baz=2.2						
F24A	**Ekalaka**	**2.25**	**15**	⇓P	**Pn**	**19 08 06.4**	**+0.3**
	baz=2.3,SNR=19						
PHWY	**Pilot Hill**	**2.37**	**183**	*e*P	**Pn**	**19 08 08.3**	**+0.5**
M25A	**Palm-Egli Farm**	**2.41**	**158**	**P**	**Pn**	**19 08 09.3**	**+0.9**
	baz=2.4,SNR=34						
K27A	**Flueckinger Fa**	**2.43**	**112**	⇓Sb	**Sb**	**19 08 43.9**	**+1.3**
	baz=2.4						
RWWY	**Rawlins**	**2.44**	**216**	*e*P	**Pn**	**19 08 09.6**	**+0.9**
K20A	**Yellowstone Ra**	**2.46**	**247**	⇑P	**Pn**	**19 08 09.5**	**+0.5**
	baz=2.4,SNR=109						
F21A	**Absaloka Mine,**	**2.52**	**329**	⇓P	**Pn**	**19 08 09.7**	**-0.2**
	baz=2.5,SNR=12						
M21A	**Separation Pea**	**2.57**	**217**	⇑P	**Pn**	**19 08 11.8**	**+1.3**
	baz=2.5,SNR=107						
G20A	**Bridger**	**2.61**	**307**	**P**	**Pn**	**19 08 10.6**	**-0.5**
	baz=2.6,SNR=216						
L27A	**T5 Ranch, Ells**	**2.70**	**125**	⇑Pb	**Pb**	**19 08 16.1**	**-0.7**
	baz=2.7						
I19A	**Meeteetse**	**2.71**	**279**	⇓P	**Pn**	**19 08 13.2**	**+0.7**
	baz=2.7,SNR=37						
K19A	**Absolon Red Bu**	**2.74**	**253**	**P**	**Pn**	**19 08 13.2**	**+0.3**
	baz=2.7,SNR=168						
J19A	**Crowheart**	**2.78**	**263**	⇓P	**Pn**	**19 08 14.0**	**+0.7**
	baz=2.8						
L20A	**Wamsutter**	**2.80**	**235**	⇓P	**Pn**	**19 08 14.9**	**+1.3**
	baz=2.8,SNR=20						
E22A	**Miles City**	**2.81**	**351**	⇑P	**Pn**	**19 08 13.1**	**-0.7**
	baz=2.8						
N23A	**Red Feather La**	**2.82**	**190**	⇑P	**Pn**	**19 08 14.5**	**+0.6**
	baz=2.8,SNR=212						

E23A	Ismay	2.83	360	P	Pn	19 08 14.1 +0.1
	baz=2.9,SNR=22					
H19A	Powell	2.85	292	⇓P	Pn	19 08 14.9 +0.6
	baz=2.8,SNR=24					
N24A	Carr	2.86	174	⇓P	Pn	19 08 15.1 +0.6
	baz=2.8					
F20A	Billings	2.95	317	⇓P	Pn	19 08 15.2 -0.6
	baz=3.0,SNR=20					
E24A	Baker	2.97	13	P	Pn	19 08 16.9 +0.9
	baz=3.0,SNR=36					
N25A	Grover	2.99	162	⇓Pb	Pb	19 08 20.7 -1.1
	baz=3.0					
N25A				⇑Sb	Sb	19 09 00.8 +2.0
	baz=3.0					
N22A	Wattenberg Ran	3.00	197	⇓P	Pn	19 08 18.0 +1.6
	baz=3.0					
M20A	Sweetwater, Wa	3.06	226	P	Pn	19 08 18.4 +1.1
	baz=3.0,SNR=26					
M20A				⇓Sb	Sb	19 09 02.4 +1.6
	baz=3.0					
LAO	LASA Array	3.09	348	⇓P	Pn	19 08 17.6 -0.1
	baz=3.1					
LAO	LASA Array	3.09	348	*e*Pn	Pn	19 08 18.3 +0.6
E21A	Keefer Ranch,	3.14	337	P	Pn	19 08 17.4 -1.0
	baz=3.2,SNR=7.7					
RLMT	Red Lodge	3.20	298	P	Pn	19 08 19.7 +0.5
	baz=3.2,SNR=27					
RLMT	Red Lodge	3.20	298	*e*Pn	Pn	19 08 19.4 +0.1
BW06	Boulder Array	3.25	255	P	Pn	19 08 20.1 +0.1
	baz=3.2,SNR=61					
BW06	Boulder Array	3.25	255	*e*Pn	Pn	19 08 19.6 -0.4
PDAR	Pinedale Array	3.25	255	Pn	Pn	19 08 19.9 0.0
	6.6nm,0.3s,baz=78,slow=17,SNR=68					
PDAR				Pg	Pg	19 08 25.0 -5.0
	24nm,0.3s,baz=69,slow=20,SNR=124					
PDAR				Lg		19 09 07.2
	24nm,0.3s,baz=72,slow=30,SNR=14					
PDAR	Pinedale Array	3.25	255	Pn	Pn	19 08 19.9 0.0
PDAR				Pg	Pg	19 08 25.0 -5.0
PDAR				Lg		19 09 07.2
PD02	Pinedale Array	3.26	256	*e*Pn	Pn	19 08 20.0 0.0
PD01	Pinedale Array	3.27	256	*e*Pn	Pn	19 08 20.0 -0.2
I18A	Diamond G Ranc	3.29	272	⇓P	Pn	19 08 22.1 +1.7
	baz=3.3					
H18A	Shoshone NF, C	3.31	289	⇓P	Pn	19 08 20.4 -0.3
	baz=3.3,SNR=17					
N21A	Black Mountain	3.35	211	⇑P	Pn	19 08 22.3 +1.0
	baz=3.3,SNR=23					
L19A	Farson	3.38	244	⇑P	Pn	19 08 22.4 +0.7
	baz=3.4,SNR=16					
F19A	Roth Farm, Mol	3.40	311	P	Pn	19 08 22.4 +0.4
	baz=3.4,SNR=58					
E20A	Meyer Farm, Mu	3.48	326	⇓P	Pn	19 08 22.9 -0.1
	baz=3.5,SNR=6.9					
G18A	Lazy EL Ranch,	3.48	300	P	Pn	19 08 23.4 +0.4
	baz=3.5,SNR=100					
J18A	Kendall Valley	3.48	264	⇓P	Pn	19 08 24.0 +0.9
	baz=3.5,SNR=37					
O23A	Lake Granby, G	3.49	188	⇑P	Pn	19 08 24.5 +1.3
	baz=3.5,SNR=27					
D22A	Cohagen	3.54	350	⇓P	Pn	19 08 23.7 -0.1
	baz=3.6,SNR=7.3					
M19A	Rock Springs	3.59	234	⇓Pb	Pb	19 08 31.3 -0.7
	baz=3.6					
N20A	Spence Gulch,	3.60	219	P	Pn	19 08 25.3 +0.7
	baz=3.6,SNR=24					
D21A	La Casta Ranch	3.60	341	⇓P	Pn	19 08 24.6 -0.1
	baz=3.6					
O22A	Kremmling	3.63	196	⇓P	Pn	19 08 26.2 +1.1
	baz=3.6,SNR=14					
K18A	Toltan Ranch,	3.63	255	⇓P	Pn	19 08 25.8 +0.7
	baz=3.6					
E19A	Rath Farm, Rou	3.73	320	⇓P	Pn	19 08 26.4 -0.1
	baz=3.7					
GCMT	Greycliff	3.78	306	*e*Pn	Pn	19 08 27.4 +0.4
F18A	Big Timber	3.87	307	⇑P	Pn	19 08 28.7 +0.4
	baz=3.9,SNR=28					
ISCO	Idaho Springs	3.88	184	⇑P	Pn	19 08 28.8 +0.3
	baz=3.9,SNR=6.4					
ISCO	Idaho Springs	3.88	184	*e*Pn	Pn	19 08 27.7 -0.8
C24A	Savage	3.91	9	⇑P	Pn	19 08 29.9 +1.0
	baz=3.9,SNR=18					
L18A	Fontenelle, Gr	3.91	245	⇑P	Pn	19 08 29.2 +0.3
	baz=3.9					
FLWY	Flagg Ranch	3.94	278	*e*Pn	Pn	19 08 29.6 +0.2
MOOW	Moose Ponds	3.96	273	*e*Pn	Pn	19 08 30.3 +0.6
D20A	Manuel Ranch,	3.97	331	⇓P	Pn	19 08 29.6 -0.1
	baz=4.0					
SNOW	Snow King Moun	3.98	269	*e*Pn	Pn	19 08 31.0 +1.0
N19A	John Jarvie Ra	4.01	227	⇑P	Pn	19 08 29.8 -0.5
	baz=4.0,SNR=22					
REDW	Red Top Meadow	4.06	268	*e*Pn	Pn	19 08 31.8 +0.7
C22A	Vida	4.10	354	⇑P	Pn	19 08 31.8 +0.3
	baz=4.1,SNR=14					
IMW	Indian Meadow	4.10	275	P	Pn	19 08 37.2 +5.6
TPAW	Teton Pass	4.12	269	*e*Pn	Pn	19 08 32.9 +1.0
C23A	Lambert	4.13	1	⇓P	Pn	19 08 32.8 +0.8
	baz=4.2,SNR=50					
O20A	White River Ci	4.17	213	⇑P	Pn	19 08 32.4 -0.1
	baz=4.1					
M18A	Lyman	4.19	239	⇓P	Pn	19 08 32.6 -0.1
	baz=4.2					
YMR	Madison River	4.21	286	*e*Pn	Pn	19 08 31.1 -2.0
N18A	Larsen Ranch,	4.23	232	⇑P	Pn	19 08 33.4 +0.2
	baz=4.2,SNR=16					
P25A	Willow Gulch B	4.24	168	⇑P	Pn	19 08 33.5 0.0
	baz=4.2					
G17A	Pierce Place,	4.24	295	⇑P	Pn	19 08 33.6 +0.2
	baz=4.2					
D19A	Cripps Ranch,	4.32	325	⇑P	Pn	19 08 34.8 +0.3
	baz=4.3					
P23A	Jefferson	4.32	186	⇓P	Pn	19 08 34.7 +0.2
	baz=4.3					
E18A	Harlowton	4.37	313	⇓P	Pn	19 08 35.7 +0.4
	baz=4.4,SNR=18					
RRI2	Red Ridge	4.41	268	*e*Pn	Pn	19 08 35.7 -0.1
F17A	Fitzpatrick Pl	4.43	302	⇑P	Pn	19 08 36.7 +0.6
	baz=4.4					
M17A	Scullys Gap (B	4.54	243	⇓P	Pn	19 08 38.1 +0.5
	baz=4.5					
SMCO	Snowmass	4.67	196	*e*Pg	Pg	19 08 48.6 -8.5
Q24A	Divide	4.71	179	⇓Pb	Pb	19 08 50.1 -0.9
	baz=4.7					
L16A	Fish Haven	4.82	252	⇑P	Pn	19 08 41.5 +0.1
	baz=4.8,SNR=6.4					
E17A	Martinsdale	4.84	307	⇑P	Pn	19 08 42.1 +0.5
	baz=4.8,SNR=18					
C19A	Slack Wire Ran	4.84	328	⇑P	Pn	19 08 41.7 0.0
	baz=4.9,SNR=26					
DGMT	Dagmar	4.86	9	⇑P	Pn	19 08 42.5 +0.5
	baz=4.9,SNR=22					
DGMT	Dagmar	4.86	9	*e*Pn	Pn	19 08 42.6 +0.7
	33nm,0.3s					
P19A	Cripple Cowboy	4.89	216	⇓P	Pn	19 08 42.7 +0.2
	baz=4.9					
O18A	Roosevelt	4.90	228	⇑P	Pn	19 08 41.8 -0.7
	baz=4.9					
G16A	Moss Hill, Enn	4.92	291	⇑P	Pn	19 08 42.8 -0.1
	baz=4.9					
N17A	Moffit Pass	4.94	238	⇓P	Pn	19 08 42.7 -0.4
	baz=4.9,SNR=9.6					
BOZ	Bozeman (W)	4.94	296	⇑P	Pn	19 08 42.9 -0.2
	baz=4.9					
BOZ	Bozeman (W)	4.94	296	*e*Pn	Pn	19 08 41.8 -1.3
	9.3nm,1.5s					
HWUT	Hardware Ranch	5.07	248	*e*Pn	Pn	19 08 39.7 -5.2
	5.7nm,0.3s					
B20A	Solberg Farm,	5.13	339	⇓P	Pn	19 08 45.9 +0.1
	baz=5.2					
D17A	Six Diamond Ra	5.16	314	P	Pn	19 08 46.1 +0.1
	baz=5.2,SNR=45					
M16A	Huntsville	5.25	246	⇑P	Pn	19 08 47.4 0.0
	baz=5.2					
A23A	Redstone	5.30	3	⇓P	Pn	19 08 48.3 +0.3
	baz=5.3					
A24A	Westby	5.33	9	⇑P	Pn	19 08 48.8 +0.4
	baz=5.4,SNR=7.3					
A22A	Carney Farms,	5.34	356	⇓P	Pn	19 08 48.5 -0.1
	baz=5.4					
E16A	East Helena	5.36	305	⇑P	Pn	19 08 48.9 +0.1
	baz=5.4,SNR=7.6					
A21A	Bergtoll Ranch	5.44	348	⇓P	Pn	19 08 50.0 0.0
	baz=5.5,SNR=9.3					
C17A	Wharram Farm,	5.52	318	⇓P	Pn	19 08 51.0 0.0
	baz=5.5,SNR=45					
R26A	Arlington	5.54	165	⇓P	Pn	19 08 51.0 -0.4
	baz=5.5,SNR=15					
D16A	Dana Ranch, Ca	5.55	309	⇓P	Pn	19 08 51.3 -0.1
	baz=5.5,SNR=28					
MCMT	McKenzie Canyo	5.56	285	*e*P	Pn	19 09 01.3 +10
	1.4nm,0.3s					
R25A	Fountain Ranch	5.57	172	⇑P	Pn	19 08 51.2 -0.5
	baz=5.6,SNR=9.2					
B18A	Beardsley Farm	5.67	328	⇓P	Pn	19 08 53.0 0.0
	baz=5.7					
MDND	Maddock	5.76	42	⇑P	Pn	19 08 53.5 -0.9
	baz=5.8					
P17A	Butcher Ranch,	5.86	226	⇑P	Pn	19 08 55.6 -0.2
	baz=5.8,SNR=7.0					
E15A	Deer Lodge	5.90	300	⇓P	Pn	19 08 56.1 -0.1
	baz=5.9,SNR=14					
SDCO	Great Sand Dun	5.92	182	*e*Pn	Pn	19 08 49.1 -7.5
PV04	Paradox Valley	5.94	209	*e*Pn	Pn	19 08 46.2 -11
MPU	Maple Canyon	5.99	235	*e*Pn	Pn	19 08 58.0 +0.5
B17A	L&G Farms, Che	6.01	322	⇑P	Pn	19 08 57.7 -0.1
	baz=6.0,SNR=7.1					
SRU	San Rafael	6.03	223	*e*Pn	Pn	19 08 57.2 -0.8
	13nm,0.3s					
S25A	Robets Cordova	6.04	174	⇓P	Pn	19 08 57.6 -0.6
	baz=6.0,SNR=7.5					
D15A	Lincoln	6.11	306	⇓P	Pn	19 08 58.8 -0.4
	baz=6.1,SNR=13					
C16A	Fuhringer Ranc	6.12	315	⇓P	Pn	19 08 58.7 -0.7
	baz=6.1,SNR=7.2					
R18A	Canyonlands Na	6.33	215	⇓P	Pn	19 09 01.8 -0.4
	baz=6.3					
E14A	Clinton	6.43	298	⇓P	Pn	19 09 03.5 0.0
	baz=6.4					
CHMT	Chamberlain Mo	6.49	303	*e*Pn	Pn	19 09 02.4 -2.0
	1.1nm,0.3s					
Q16A	Castle Valley	6.50	225	⇑P	Pn	19 09 04.5 0.0
	baz=6.5,SNR=8.0					
B16A	M & M Farms, S	6.52	319	⇑P	Pn	19 09 04.1 -0.7
	baz=6.5,SNR=11					
C15A	Salmond Ranch,	6.57	311	⇓P	Pn	19 09 04.9 -0.5
	baz=6.6,SNR=7.7					
DUG	Dugway	6.60	241	⇑P	Pn	19 09 05.3 -0.6
	baz=6.6,SNR=10					
DUG	Dugway	6.60	241	*e*Pn	Pn	19 09 04.8 -1.1
R17A	Hanksville Air	6.66	220	⇑P	Pn	19 09 05.9 -0.8
	baz=6.6,SNR=6.6					
D14A	Greenough	6.72	303	⇓P	Pn	19 09 06.8 -0.8
	baz=6.7,SNR=12					
B15A	Bradely Ranch,	6.87	315	⇓P	Pn	19 09 08.9 -0.7
	baz=6.9,SNR=15					
R16A	Teasdale	7.14	223	⇑P	Pn	19 09 12.1 -1.2
	baz=7.1					
B14A	Marquette Ranc	7.28	313	P	Pn	19 09 14.6 -0.6
	baz=7.3,SNR=48					
S17A	Black Ridge (B	7.34	217	⇓P	Pn	19 09 15.4 -0.7
	baz=7.3,SNR=16					
YBMT	Yellow Bay	7.40	308	*e*Pn	Pn	19 09 17.7 +0.8
	5.4nm,0.3s					
JTMT	Jette	7.50	306	*e*Pn	Pn	19 09 18.1 -0.1
ULM	Lac du Bonnet	9.20	41	Pn	Pn	19 09 39.2 -2.2
	2.2nm,0.3s,baz=228,slow=12,SNR=12					
ULM				Lg		19 12 17.4
	0.4nm,0.3s,baz=307,slow=23,SNR=3.2					
ULM	Lac du Bonnet	9.20	41	Pn	Pn	19 09 39.2 -2.2
ULM				Lg		19 12 17.4
YKA	Yellowknife Ar	19.63	347	P	Pn	19 12 01.8 +3.0
	0.3nm,0.3s,baz=153,slow=9.0,SNR=4.2					
YKA	Yellowknife Ar	19.63	347	P	Pn	19 12 01.8 +3.0
ARCES	ARCESS Array B	61.48	18	P	P	19 17 43.8 -1.8
	2.8nm,0.9s,baz=326,slow=7.4,SNR=6.2					
ARCES	ARCESS Array B	61.48	18	P	P	19 17 43.8 -1.8

CASC 08 19:15:49.8±2.1, 8°.81N×83°.07W, h44km±12km, MD3.7, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.18	210	⇓*i*P	Pn	19 15 57.1	-0.3
CTCR	Cotoan	0.32	75	*e*P	Pn	19 15 58.8	+0.2
BRU2	Volcan	0.38	93	*e*P	Pn	19 15 59.4	+0.1
BRU2				*e*S	Sn	19 16 07.8	+1.9
BUS	Buena Vista	1.00	318	*e*P	Pn	19 16 07.4	0.0
BUS				*e*S	Sn	19 16 21.6	+1.2
QCR	Quepos	1.24	299	⇑*e*P	Pn	19 16 10.4	-0.2
QCR				*e*S	Sn	19 16 28.5	+2.3
LAJ	Bijagual	1.47	315	*e*P	Pn	19 16 16.6	+2.8
LAJ				*e*S	Sn	19 16 40.0	+8.1
CGA2	Cerro Gallo 2	1.82	311	*e*P	Pn	19 16 18.9	+0.3
CGA2				*e*S	Sn	19 16 41.0	+0.5
JCR	Jicaral	2.26	297	*e*P	Pn	19 16 26.5	+1.8
PTP	Ponta Puerca	19.37	59	*e*P	x	19 16 03.0	
PTP				*e*S	x	19 16 12.1	

*ISCJB **08** 19:20:30.3±1.1, 4°.35S±0°.04×122°.91E±0°.04, h9km±8km, mb4.2/9, Error ellipse: s-maj=7.0km s-min=6.8km az=14.2*
*IDC **08** 19:20:30.6±0.8, 4°.38S×122°.91E, h0km, mb4.1/7, mb1 4.1/10, mb1mx4.0/21, mbtmp4.0/10, ML3.5/3, Error ellipse: s-maj=28.6km s-min=15.2km az=52.0*
*DJA **08** 19:20:32, 4°.30S×122°.86E, h10km, MLv4.1/11*
*NEIC **08** 19:20:35.6±0.5, 4°.52S×122°.83E, h35km, mb4.3/3, Error ellipse: s-maj=18.9km s-min=9.0km az=55.0*

ISC 08 19:20:31.8±0.9, 4°.34S±0°.03×122°.88E±0°.04, h7km±6km, n43, σ1°11/45, mb4.2/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	Kendari	0.46	325	P	Pg	19 20 40.2	-0.6
KDI				S	Sg	19 20 46.2	-0.6
BBSI	Bau Bau	1.18	195	P	Pg	19 20 55.1	+0.6
BBSI				S	Sg	19 21 12.1	+2.2
BKSI	Bulukumba	2.92	250	P	Pn	19 21 18.4	-0.3
SPSI	Sidrap Palu	3.13	277	P	Pn	19 21 20.7	-0.9
KAPI	Kappang	3.19	258	Pn	Pn	19 21 21.5	-0.9
	12nm,0.3s,baz=120,slow=5.9,SNR=21						
KAPI				Sn	Sn	19 22 01.7	+0.9
	2.4nm,0.3s,baz=56,slow=23,SNR=4.1						
KAPI	Kappang	3.19	258	Pn	Pn	19 21 21.5	-0.9
KAPI				Sn	Sn	19 22 01.7	+0.9
KAPI	Kappang	3.19	258	P	Pn	19 21 21.6	-0.8
LUWI	Luwuk	3.28	358	P	Pn	19 21 22.9	-0.7
TTSI	Tana Toraja	3.32	293	P	Pn	19 21 28.2	+4.0
MMRI	Maumere	4.32	189	P	Pn	19 21 37.6	-0.3
NLAI	Namlea	4.35	76	P	Pn	19 21 39.9	+1.6
MRSI	Marisa	4.88	349	P	Pn	19 21 45.0	-0.6
GTOI	Gorontalo	4.94	1	P	Pn	19 21 48.1	+1.6
KMSI	Cibinong	5.00	13	P	Pn	19 21 47.8	+0.4
AAI	Ambon	5.34	83	P	Pn	19 21 53.3	+1.3
	25nm,0.9s						
LBMI	Labuha	5.90	52	P	Pn	19 21 59.9	+0.2
	34nm,0.9s						
MNI	Manado	6.07	19	P	Pn	19 21 55.0	-7.0
TNTI	Ternate	6.77	42	P	Pn	19 22 11.1	-0.6
FITZ	Fitzroy Crossi	13.94	169	Pn	Pn	19 23 48.0	-1.9
	0.1nm,0.3s,baz=346,slow=11,SNR=3.8						
FITZ	Fitzroy Crossi	13.94	169	Pn	Pn	19 23 48.0	-1.9
WRAB	Tennant Creek	19.11	145	*e*P	Pn	19 24 53.6	-2.5
	14nm,1.3s						
WRA	Warramunga Arr	19.11	145	P	Pn	19 24 53.3	-2.9
	0.1nm,0.3s,baz=317,slow=13,SNR=37						
WRA	Warramunga Arr	19.11	145	P	Pn	19 24 53.3	-2.9
ASAR	Alice Springs	21.96	152	P	P	19 25 26.4	+0.1
	12nm,1.0s,mb4.3,baz=346,slow=17,SNR=44						
ASAR				PcP	PcP	19 29 24.6	-0.7
	0.5nm,0.6s,baz=345,slow=1.3,SNR=7.1						
ASAR	Alice Springs	21.96	152	P	P	19 25 26.4	+0.1
ASAR				PcP	PcP	19 29 24.6	-0.7
PMG	Port Moresby	24.61	103	P	P	19 25 52.6	-0.4
	6.1nm,0.7s,mb4.2,baz=348,slow=5.1,SNR=3.3						
PMG	Port Moresby	24.61	103	P	P	19 25 52.6	-0.4
STKA	Stephens Creek	32.54	150	P	P	19 27 03.4	-0.2
	1.7nm,0.8s,mb4.0,baz=309,slow=11,SNR=3.2						
STKA	Stephens Creek	32.54	150	P	P	19 27 03.4	-0.2
CMAR	Chiang Mai Arr	32.71	315	P	P	19 27 06.5	+1.3
	1.7nm,0.8s,mb4.0,baz=140,slow=6.7,SNR=17						
CMAR	Chiang Mai Arr	32.71	315	P	P	19 27 06.5	+1.3
SONM	Songino Array	53.94	346	P	P	19 29 56.9	+0.9
	1.2nm,0.7s,mb3.9,baz=166,slow=8.0,SNR=8.6						
SONM	Songino Array	53.94	346	P	P	19 29 56.9	+0.9
MK31	Makanchi Array	62.25	330	*e*P	P	19 30 55.0	+0.7
MKAR	Makanchi Array	62.25	330	P	P	19 30 53.4	-0.9
	1.2nm,0.7s,mb4.1,baz=127,slow=7.9,SNR=13						
MKAR	Makanchi Array	62.25	330	P	P	19 30 53.4	-0.9
ZAA0	Zalesovo Array	66.21	337	*e*P	P	19 31 20.4	+0.2
ZALV	Zalesovo Beam	66.21	337	P	P	19 31 20.1	-0.1
	2.2nm,0.7s,mb4.3,baz=123,slow=5.5,SNR=12						
ZALV	Zalesovo Beam	66.21	337	P	P	19 31 20.1	-0.1
KURK	Kurchatov	66.67	331	*e*P	P	19 31 22.1	-1.1
	6.9nm,0.9s,mb4.7						
BRVK	Borovoye	72.20	330	*e*P	P	19 31 59.5	+2.1
	3.3nm,1.0s,mb4.2						
TORD	Torodi Ar. Bea	121.33	283	PKP	PKPdf	19 39 28.9	+2.0
	0.6nm,0.9s,baz=50,slow=1.2,SNR=4.2						
TORD	Torodi Ar. Bea	121.33	283	PKP	PKPdf	19 39 28.9	+2.0

IDC 08 20:05:58.5±2.1, 17°.73S×66°.19W, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.6/18, mbtmp3.7/3, ML4.1/2, Error ellipse: s-maj=69.7km s-min=15.8km az=32.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.34	307	Pn	Pn	20 06 39.8	+1.6
	44nm,0.3s,baz=124,slow=12,SNR=342						
LPAZ				Pg	Pg	20 06 41.4	-2.0
	62nm,0.3s,baz=128,slow=11,SNR=346						
LPAZ				Lg		20 07 12.4	
	75nm,0.3s,baz=330,slow=6.2,SNR=8.0						
CPUP	Villa Florida	11.86	138	Pn	Pn	20 08 47.9	-1.1
	0.3nm,0.3s,baz=314,slow=9.1,SNR=3.7						
TORD	Torodi Ar. Bea	73.67	70	P	P	20 17 34.8	+0.2
	0.4nm,0.5s,baz=261,slow=5.4,SNR=6.0						

*IDC **08** 20:14:29.9±1.2, 8°.55N×92°.92E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.6/25, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=52.9km s-min=19.5km az=56.0*
*NEIC **08** 20:14:35.5±0.8, 8°.50N×93°.07E, h35km, mb4.3/11, Error ellipse: s-maj=25.7km s-min=10.1km az=59.0*
*ISCJB **08** 20:14:41.8±6.4, 8°.9N±0°.3×93°.5E±0°.3, h108km±55km, mb3.8/11, Error ellipse: s-maj=65.7km s-min=14.5km az=137.7*

ISC 08 20:14:42.4±4.7, 8°.9N±0°.3×93°.4E±0°.3, h94km±39km, n41, σ0°94/41, mb3.8/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.93	29	Pn	Pn	20 17 16.2	+0.4
	0.3nm,0.3s,baz=218,slow=15,SNR=4.2						
CMAR	Chiang Mai Arr	10.93	29	Pn	Pn	20 17 16.2	+0.4
ODAN	Odare	18.79	343	*e*P	Pn	20 18 55.2	-0.8
	7.0nm,0.7s						
ODAN	Odare	18.79	343	*e*P	Pn	20 18 55.2	-0.8
	7.0nm,0.7s						
RAMN	Ramite	19.12	341	*e*P	Pn	20 18 59.3	-0.5
	31nm,0.7s						
RAMN	Ramite	19.12	341	*e*P	Pn	20 18 59.3	-0.5
	31nm,0.7s						
TAPN	Taplejung	19.17	344	*e*P	Pn	20 18 58.8	-1.6
	26nm,0.8s						
TAPN	Taplejung	19.17	344	*e*P	Pn	20 18 58.8	-1.6
	26nm,0.8s						
JIRN	Jiri	19.91	341	*e*P	Pn	20 19 07.3	-1.8
	4.4nm,0.7s						
JIRN	Jiri	19.91	341	*e*P	Pn	20 19 07.3	-1.8
	4.4nm,0.7s						
PKI	Pulchoki	20.09	339	*e*P	P	20 19 09.8	+1.2
PKI	Pulchoki	20.09	339	*e*P	P	20 19 09.8	+1.2
DMN	Daman	20.24	338	*e*P	P	20 19 11.2	+1.1
	7.1nm,0.8s						
DMN	Daman	20.24	338	*e*P	P	20 19 11.2	+1.1
	7.1nm,0.8s						
GUN	Gumba	20.24	340	*e*P	P	20 19 10.7	+0.5
	17nm,0.8s						
GUN	Gumba	20.24	340	*e*P	P	20 19 10.7	+0.5
	17nm,0.8s						
KKN	Kakani	20.34	339	*e*P	P	20 19 11.9	+0.7
	6.5nm,0.8s						
KKN	Kakani	20.34	339	*e*P	P	20 19 11.9	+0.7
	6.5nm,0.8s						
GKN	Gorkha	20.77	338	*e*P	P	20 19 16.4	+0.5
	20nm,0.8s						
GKN	Gorkha	20.77	338	*e*P	P	20 19 16.4	+0.5
	20nm,0.8s						
KOLN	Koldanda	20.98	335	*e*P	P	20 19 18.9	+0.8
	9.7nm,0.6s						
KOLN	Koldanda	20.98	335	*e*P	P	20 19 18.9	+0.8
	9.7nm,0.6s						
DANN	Dangsing	21.42	336	*e*P	P	20 19 23.1	+0.3
	12nm,0.7s,mb4.3						
DANN	Dangsing	21.42	336	*e*P	P	20 19 23.1	+0.3
	12nm,0.7s,mb4.3						
MKAR	Makanchi Array	38.98	348	P	P	20 21 59.3	-0.1
	0.5nm,0.6s,mb3.5,baz=163,slow=8.9,SNR=7.5						
MKAR	Makanchi Array	38.98	348	P	P	20 21 59.3	-0.1
KURK	Kurchatov	43.49	346	P	P	20 22 35.5	-0.7
	1.1nm,0.9s,mb3.6,baz=164,slow=7.3,SNR=7.5						
KURK	Kurchatov	43.49	346	P	P	20 22 35.5	-0.7
ZALV	Zalesovo Beam	45.49	353	P	P	20 22 51.7	-0.4
	1.9nm,0.5s,mb4.1,baz=178,slow=8.0,SNR=15						
ZALV	Zalesovo Beam	45.49	353	P	P	20 22 51.7	-0.5
WRA	Warramunga Arr	49.40	126	P	P	20 23 25.3	+2.4
	0.4nm,0.9s,mb3.3,baz=304,slow=8.8,SNR=3.9						
WRA	Warramunga Arr	49.40	126	P	P	20 23 25.3	+2.4
ASAR	Alice Springs	51.08	130	P	P	20 23 34.0	-1.6
	0.4nm,0.9s,mb3.4,baz=324,slow=9.2,SNR=3.5						
ASAR	Alice Springs	51.08	130	P	P	20 23 34.0	-1.6
STKA	Stephens Creek	61.29	134	*e*P	P	20 24 47.8	-0.3
	1.2nm,1.2s,mb3.8						
FINES	FINESS Array B	71.52	332	P	P	20 25 52.9	0.0

MKAR Makanchi Array 69.19 327 P P 20 47 05.2 +0.1
2.1nm,0.9s,mb4.1,baz=129,slow=7.5,SNR=17
MKAR Makanchi Array 69.19 327 P P 20 47 05.2 +0.1
ZALV Zalesovo Beam 72.70 334 P P 20 47 25.5 -0.7
0.3nm,0.5s,mb3.5,baz=111,slow=7.9,SNR=3.8
ZALV Zalesovo Beam 72.70 334 P P 20 47 25.5 -0.8
KURK Kurchatov 73.52 329 *eP* **P 20 47 31.1 0.0**
5.0nm,1.4s,mb4.2

DDA ***08*** *20:57:46.8, 37°.40N×36°.28E, h7km±7km, Md2.8*
ISCJB ***08*** *20:57:47.8±0.6, 37°.37N±0°.04×36°.28E±0°.04, h6km±6km, Error ellipse: s-maj=6.6km s-min=5.0km az=4.9*
ISK ***08*** *20:57:47.0, 37°.39N×36°.28E, h3km, MD2.7*
CSEM ***08*** *20:57:47.9±0.1, 37°.39N×36°.28E, h5km, MD2.8, Error ellipse: s-maj=4.8km s-min=3.0km az=178.0*
ISC 08 20:57:48.2±0.6, 37°.38N±0°.04×36°.28E±0°.04, h7km±5km, n29, σ0§60/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.21**	**15**	*i* P	**Pg**	**20 57 51.1**	**-1.2**
ANDN				*i* S	**Sg**	**20 57 55.8**	**+0.7**
ANDN	**Andirin**	**0.21**	**15**	*i* P	**Pg**	**20 57 51.1**	**-1.2**
ANDN				*i* S	**Sg**	**20 57 55.8**	**+0.7**
KOZT	**Kozan**	**0.37**	**286**	PG	**Pg**	**20 57 55.3**	**-0.1**
KOZT				SG	**Sg**	**20 58 01.0**	**+0.7**
KOZT	**Kozan**	**0.37**	**286**	*i* Pg	**Pg**	**20 57 55.3**	**-0.1**
KOZT				*i* Sg	**Sg**	**20 58 01.0**	**+0.7**
KMRS	**Kahramanmaras**	**0.51**	**76**	*e*PG	**Pg**	**20 57 57.1**	**-0.9**
KMRS	**Kahramanmaras**	**0.51**	**76**	*e*Pg	**Pg**	**20 57 57.1**	**-1.0**
CEYT	**Ceyhan**	**0.56**	**229**	*e*PG	**Pg**	**20 57 58.6**	**-0.4**
CEYT	**Ceyhan**	**0.56**	**229**	*e*Pg	**Pg**	**20 57 58.6**	**-0.4**
GAZ	**Gaziantep**	**0.77**	**105**	*e*PG	**Pg**	**20 58 03.1**	**0.0**
GAZ				*e*SG	**Sg**	**20 58 14.3**	**+1.2**
GAZ	**Gaziantep**	**0.77**	**105**	*e*Pg	**Pg**	**20 58 03.1**	**0.0**
GAZ				*e*Sg	**Sg**	**20 58 14.3**	**+1.2**
KUZU	**Kuzuini**	**0.88**	**133**	*i* P	**Pg**	**20 58 04.7**	**-0.4**
KUZU				*i* S	**Sg**	**20 58 16.6**	**+0.1**
KUZU	**Kuzuini**	**0.88**	**133**	*i* P	**Pg**	**20 58 04.7**	**-0.4**
KUZU				*i* S	**Sg**	**20 58 16.6**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.34**	**14**	*e*PG	**Pg**	**20 58 07.3**	**-6.5**
MERS	**Mersin**	**1.49**	**250**	*e*PN	**Pn**	**20 58 15.4**	**0.0**
MERS	**Mersin**	**1.49**	**250**	*e*Pn	**Pn**	**20 58 15.5**	**+0.1**
BNN	**Bunyan**	**1.51**	**347**	*e*PN	**Pn**	**20 58 15.7**	**+0.1**
BNN	**Bunyan**	**1.51**	**347**	*e*Pn	**Pn**	**20 58 15.7**	**0.0**
AKCD	**Akcadag**	**1.59**	**54**	*i* P	**Pn**	**20 58 15.9**	**-0.9**
AKCD				*i* S	**Sn**	**20 58 37.5**	**-0.1**
AKCD	**Akcadag**	**1.59**	**54**	*i* P	**Pn**	**20 58 15.9**	**-0.9**
AKCD				*i* S	**Sn**	**20 58 37.5**	**-0.1**
ATAB	**Bozova**	**1.61**	**86**	*i* P	**Pn**	**20 58 16.7**	**-0.3**
ATAB				*i* S	**Sn**	**20 58 37.7**	**-0.4**
ATAB	**Bozova**	**1.61**	**86**	*i* P	**Pn**	**20 58 16.7**	**-0.3**
ATAB				*i* S	**Sn**	**20 58 37.7**	**-0.4**
MALT	**Malatya**	**1.94**	**61**	*e*PN	**Pn**	**20 58 22.3**	**+0.7**
MALT	**Malatya**	**1.94**	**61**	*e*Pn	**Pn**	**20 58 22.3**	**+0.7**
MYA	**Malataya**	**1.94**	**60**	*e*PN	**Pn**	**20 58 21.9**	**+0.2**
MYA	**Malataya**	**1.94**	**60**	*e*Pn	**Pn**	**20 58 21.9**	**+0.2**
URFA	**Urfa**	**2.03**	**88**	*e*PN	**Pn**	**20 58 23.3**	**+0.5**
URFA	**Urfa**	**2.03**	**88**	*e*Pn	**Pn**	**20 58 23.3**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.60**	**67**	*e*PN	**Pn**	**20 58 31.1**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.60**	**67**	*e*Pn	**Pn**	**20 58 31.2**	**+0.6**

JMA ***08*** *21:11:23.7±0.1, 34°.14N×137°.30E, h358km, M2.3*
ISCJB ***08*** *21:11:26.0±0.7, 34°.33N±0°.09×137°.42E±0°.08, h338km±7km, mb2.5/2, Error ellipse: s-maj=15.7km s-min=9.9km az=159.5*
IDC ***08*** *21:11:27.4±1.2, 34°.43N×137°.36E, h333km±26km, mb2.5/2, mb1 2.7/4, mb1mx2.5/26, mbtmp2.5/4, Error ellipse: s-maj=56.1km s-min=24.4km az=51.0*
ISC 08 21:11:26.9±0.7, 34°.3N±0°.1×137°.38E±0°.08, h330km±7km, n20, σ1§14/31, mb2.5/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.57**	**283**	P	**Pn**	**21 12 09.2**	**+0.2**
JNY	**Yasuok**	**1.17**	**20**	P	**Pn**	**21 12 11.8**	**+0.7**
JWZ	**Kozaga**	**1.56**	**243**	P	**Pn**	**21 12 12.5**	**-0.9**
JOD2	**Odawara 2**	**1.73**	**54**	P	**Pn**	**21 12 15.7**	**+1.3**
JOD2				S	**S**	**21 12 53.9**	**+1.6**
JWT	**Wachi**	**1.92**	**303**	P	**Pn**	**21 12 15.2**	**-0.5**
JRY	**Ryogami san**	**2.15**	**35**	P	**Pn**	**21 12 18.7**	**+1.3**
JRY				S	**S**	**21 13 00.5**	**+2.7**
JKG	**Kaga**	**2.19**	**337**	P	**Pn**	**21 12 17.5**	**-0.2**
JHU	**Hanno**	**2.23**	**44**	P	**Pn**	**21 12 18.8**	**+0.8**
JHU				*e*S	**S**	**21 12 58.4**	**-0.5**
MAT	**Matsushiro**	**2.38**	**16**	P	**Pn**	**21 12 19.2**	**0.0**
MAT				S	**S**	**21 13 02.3**	**+1.2**
MAT	**Matsushiro**	**2.38**	**16**	P	**Pn**	**21 12 19.9**	**+0.7**
MAT				S	**S**	**21 13 05.5**	**+4.4**
MJAR	**Matsushiro Arr**	**2.38**	**16**	P	**Pn**	**21 12 19.8**	**+0.7**
1.2nm,0.3s,baz=196,slow=10.0,SNR=21							
MJAR				S	**S**	**21 13 00.0**	**-1.0**
baz=268,slow=32,SNR=2.9							
JAI	**Aioi**	**2.48**	**260**	P	**Pn**	**21 12 19.0**	**-1.1**
JAG	**Ashikaga**	**2.75**	**38**	P	**Pn**	**21 12 22.1**	**-0.2**
JAG				*e*S	**S**	**21 13 04.1**	**-2.7**
BSO1	**Boso 1**	**3.00**	**81**	P	**Pn**	**21 12 23.9**	**-0.8**
BSO1				*e*S	**S**	**21 13 09.5**	**-1.6**
JYT	**Yasato**	**3.02**	**49**	P	**Pn**	**21 12 24.9**	**0.0**
JYT				*e*S	**S**	**21 13 08.5**	**-3.0**
JHO	**Hitachi**	**3.50**	**47**	P	**Pn**	**21 12 29.4**	**-0.2**
JHO				*e*S	**S**	**21 13 16.1**	**-3.8**
JFK	**Kawauchi**	**4.20**	**41**	P	**Pn**	**21 12 36.7**	**-0.1**
JFK				*e*S	**S**	**21 13 29.4**	**-3.7**
KSRS	**Korea Array**	**8.31**	**295**	P	**Pn**	**21 13 24.4**	**0.0**
0.2nm,0.3s,baz=104,slow=13,SNR=4.6							
MKAR	**Makanchi Array**	**42.88**	**304**	P	**P**	**21 18 52.8**	**-0.8**
0.1nm,0.6s,mb2.1,baz=90,slow=6.1,SNR=3.1							
WRA	**Warramunga Arr**	**53.98**	**184**	P	**P**	**21 20 19.0**	**+1.3**
0.2nm,0.4s,mb2.8,baz=0.0,slow=7.6,SNR=6.1							

IDC 08 21:15:55.9±1.7, 33°.73S×77°.32E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/19, mbtmp3.8/8, Error ellipse: s-maj=55.6km s-min=30.3km az=22.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**50.10**	**94**	P	P	21 24 52.8	-0.2
0.5nm,0.8s,baz=226,slow=8.5,SNR=5.3							
WRA	**Warramunga Arr**	**52.11**	**90**	P	P	21 25 08.1	0.0
1.8nm,1.0s,baz=242,slow=7.6,SNR=5.1							
CMAR	**Chiang Mai Arr**	**55.84**	**25**	P	P	21 25 35.6	+0.5
0.6nm,0.9s,baz=217,slow=7.8,SNR=4.9							
MKAR	**Makanchi Array**	**80.28**	**3**	P	P	21 28 07.7	-0.5
0.8nm,0.8s,baz=178,slow=6.0,SNR=8.9							
KURK	**Kurchatov**	**84.08**	**1**	P	P	21 28 27.3	-0.7
0.5nm,0.7s,baz=194,slow=5.2,SNR=6.3							
SONM	**Songino Array**	**85.28**	**19**	P	P	21 28 34.9	+0.8
0.5nm,0.6s,baz=176,slow=6.8,SNR=4.4							
TORD	**Torodi Ar. Bea**	**85.60**	**289**	P	P	21 28 36.9	+0.3
1.1nm,1.0s,baz=100,slow=2.4,SNR=6.2							
ZALV	**Zalesovo Beam**	**87.56**	**4**	P	P	21 28 45.1	-0.1
0.6nm,0.6s,baz=188,slow=4.5,SNR=6.1							
YKA	**Yellowknife Ar**	**150.24**	**11**	PKPbc	PKPbc	21 35 47.5	-0.5
0.8nm,0.8s,baz=333,slow=3.0,SNR=5.7							

ISCJB ***08*** *21:16:51.7±0.4, 36°.76N×0°.04×139°.90E±0°.07, h119km±3km, mb3.7/9, Error ellipse: s-maj=9.5km s-min=5.6km az=31.4*
JMA ***08*** *21:16:52.9±0.1, 36°.71N×139°.92E, h110km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs164.00000°, δ74.00000°, λ118.00000°. NP2: φs282.00000°, δ32.00000°, λ32.00000°. Principal axes: T Plg53.0000°, Azm107.0000°; N Plg26.0000°, Azm336.0000°; P Plg24.0000°, Azm233.0000°;*
JMA Felt I J1.
IDC ***08*** *21:16:52.3±1.5, 36°.87N×139°.97E, h105km±13km, mb3.4/9, mb1 3.6/10, mb1mx3.4/27, mbtmp3.4/10 Error ellipse: s-maj=21.0km s-min=11.4km az=114.0*
NEIC ***08*** *21:16:52.6±0.9, 36°.86N×139°.92E, h108km±7km, mb3.9/1, Error ellipse: s-maj=15.4km s-min=7.9km az=124.0*
ISC 08 21:16:52.9±0.4, 36°.77N±0°.04×139°.91E±0°.06, h112km±3km, n41, σ0§67/54, mb3.7/9, 7C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.20**	**3**	⇑P	**Pn**	**21 17 08.7**	**+0.2**
JSB				S	**Sn**	**21 17 20.8**	**+0.5**
JAG	**Ashikaga**	**0.50**	**227**	⇑P	**Pn**	**21 17 09.6**	**-0.4**
JKT	**Katashina**	**0.53**	**270**	⇑P	**Pn**	**21 17 10.3**	**+0.2**
JFY	**Yanaizu**	**0.65**	**346**	⇑P	**Pn**	**21 17 11.3**	**+0.2**
JFY				S	**Sn**	**21 17 25.0**	**+0.2**
JFT	**Otama**	**0.82**	**25**	⇓P	**Pn**	**21 17 13.0**	**+0.5**
JFT				S	**Sn**	**21 17 27.8**	**+0.5**
JHK	**Hiroka**	**0.86**	**304**	⇑P	**Pn**	**21 17 13.1**	**+0.3**
JHK				S	**Sn**	**21 17 28.3**	**+0.4**
JRY	**Ryogami san**	**1.11**	**227**	⇑P	**Pn**	**21 17 15.4**	**0.0**
JRY				S	**Sn**	**21 17 31.9**	**-0.5**
JMM	**Marumori**	**1.30**	**33**	⇓P	**Pn**	**21 17 17.8**	**+0.3**
MJAR	**Matsushiro Arr**	**1.38**	**261**	P	**Pn**	**21 17 18.2**	**-0.2**
37nm,0.3s,baz=74,slow=9.0,SNR=451							
MJAR				S	**Sn**	**21 17 37.6**	**-0.3**
13nm,0.3s,baz=14,slow=22,SNR=27							
MJAR	**Matsushiro Arr**	**1.38**	**261**	P	**Pn**	**21 17 18.2**	**-0.2**
MJAR				S	**Sn**	**21 17 37.6**	**-0.3**
MAJO	**Matsushiro**	**1.39**	**261**	*e*Pn	**Pn**	**21 17 18.7**	**+0.3**
MAJO				*e*Sn	**Sn**	**21 17 37.9**	**0.0**
MAT	**Matsushiro**	**1.39**	**261**	P	**Pn**	**21 17 18.6**	**+0.1**
MAT				S	**Sn**	**21 17 38.0**	**+0.1**
MAT	**Matsushiro**	**1.39**	**261**	P	**Pn**	**21 17 18.7**	**+0.2**
MAT				S	**Sn**	**21 17 38.3**	**+0.4**
JOD2	**Odawara 2**	**1.65**	**204**	P	**Pn**	**21 17 20.8**	**-0.8**
JOD2				S	**Sn**	**21 17 41.9**	**-1.5**
JYN	**Shimob**	**1.68**	**221**	⇓P	**Pn**	**21 17 22.3**	**+0.3**
JYN				S	**Sn**	**21 17 44.4**	**+0.2**
JAW	**Awa shima**	**1.76**	**343**	P	**Pn**	**21 17 23.2**	**+0.2**
JSD	**Sado**	**1.82**	**314**	⇑P	**Pn**	**21 17 23.5**	**-0.2**
JSD				S	**Sn**	**21 17 46.8**	**-0.4**
ASAJ	**Asahikawa**	**7.62**	**15**	P	**Pn**	**21 18 38.0**	**-3.1**
1.0nm,0.3s,baz=222,slow=5.8,SNR=13							
ASAJ				S	**Sn**	**21 19 59.0**	**-6.6**
1.0nm,0.3s,baz=53,slow=20,SNR=4.3							
ASAJ	**Asahikawa**	**7.62**	**15**	*e*Pn	**Pn**	**21 18 39.0**	**-2.0**
ASAJ				*e*Sn	**Sn**	**21 20 02.6**	**-3.1**
YHNB	**Yeheng**	**19.94**	**238**	*e*P	**P**	**21 21 17.2**	**+1.2**
PET	**Petropavlovsk**	**20.88**	**33**	*e*P	**P**	**21 21 24.7**	**-1.1**
SONM	**Songino Array**	**26.94**	**305**	P	**P**	**21 22 22.9**	**-0.6**
0.4nm,0.6s,mb3.1,baz=93,slow=7.8,SNR=3.7							
SONM	**Songino Array**	**26.94**	**305**	P	**P**	**21 22 22.9**	**-0.6**
MKAR	**Makanchi Array**	**43.23**	**302**	P	**P**	**21 24 42.9**	**+0.1**
0.6nm,0.8s,mb3.4,baz=91,slow=8.5,SNR=7.1							
MKAR	**Makanchi Array**	**43.23**	**302**	P	**P**	**21 24 42.9**	**+0.1**
KURK	**Kurchatov**	**45.14**	**308**	P	**P**	**21 24 57.9**	**-0.1**
0.7nm,0.5s,mb3.7,baz=83,slow=7.7,SNR=16							
KURK	**Kurchatov**	**45.14**	**308**	*e*P	**P**	**21 24 57.0**	**-0.9**
1.0nm,0.5s,mb3.8							
ILAR	**Eielson Array**	**50.36**	**32**	P	**P**	**21 25 37.9**	**-0.1**
0.9nm,0.6s,mb3.9,baz=262,slow=5.3,SNR=13							
ILAR	**Eielson Array**	**50.36**	**32**	P	**P**	**21 25 37.9**	**-0.1**
INK	**Inuvik**	**55.17**	**27**	P	**P**	**21 26 14.0**	**+0.7**
0.4nm,0.3s,mb3.9,baz=322,slow=5.2,SNR=3.8							
INK	**Inuvik**	**55.17**	**27**	P	**P**	**21 26 14.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**56.22**	**196**	P	**P**	**21 26 22.8**	**+1.5**
1.0nm,0.7s,mb4.0,baz=42,slow=6.4,SNR=4.3							
FITZ	**Fitzroy Crossi**	**56.22**	**196**	P	**P**	**21 26 22.8**	**+1.5**
WRA	**Warramunga Arr**	**56.65**	**186**	P	**P**	**21 26 23.8**	**-0.6**
1.1nm,0.5s,mb4.2,baz=1.4,slow=7.6,SNR=26							
WRA	**Warramunga Arr**	**56.65**	**186**	P	**P**	**21 26 23.8**	**-0.6**
ASAR	**Alice Springs**	**60.38**	**186**	P	**P**	**21 26 50.8**	**+0.6**
0.2nm,0.3s,mb3.6,baz=2.3,slow=5.9,SNR=4.7							
ASAR	**Alice Springs**	**60.38**	**186**	P	**P**	**21 26 50.8**	**+0.6**
YKA	**Yellowknife Ar**	**64.64**	**30**	P	**P**	**21 27 18.3**	**+0.3**
0.5nm,0.7s,mb3.5,baz=306,slow=6.6,SNR=5.6							
YKA	**Yellowknife Ar**	**64.64**	**30**	P	**P**	**21 27 18.3**	**+0.3**
LPAZ	**La Paz**	**147.86**	**58**	PKPbc	PKPbc	21 36 26.0	+0.8
0.9nm,0.7s,baz=8.1,slow=1.7,SNR=2.9							
LPAZ	**La Paz**	**147.86**	**58**	PKPbc	PKPbc	21 36 26.0	+0.8

ATH ***08*** *21:32:55.5, 35°.33N×20°.92E, h5km±3km, MD3.8/17, ML3.6*
NEIC ***08*** *21:32:56.0, 35°.36N×20°.94E, h5km, ML3.6(ATH), After ATH.*
ISCJB ***08*** *21:33:01.7±0.7, 35°.65N±0°.04×21°.24E±0°.05, h10km, mb3.6/8, Error ellipse: s-maj=7.0km s-min=4.4km az=41.1*
IDC ***08*** *21:33:02.6±1.2, 35°.78N×21°.66E, h0km, mb3.8/8, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML3.3/3, Error ellipse: s-maj=23.8km s-min=22.1km az=56.0*
CSEM ***08*** *21:33:03.3±0.5, 35°.54N×21°.25E, h20km, MD3.8, Error ellipse: s-maj=11.8km s-min=5.7km az=39.0*
THE ***08*** *21:33:07.2, 35°.67N×21°.37E, h31km±22km, ML3.1/3, Error ellipse: s-maj=22.7km s-min=0.6km az=220.0*
ISC 08 21:33:03.6±0.6, 35°.65N±0°.04×21°.30E±0°.05, h10km, n135, σ1§12/178, mb3.6/8, 4C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.54**	**65**	*e*PG	**Pg**	**21 33 31.9**	**-1.2**
KYTH				*e*SN	**Sg**	**21 33 59.3**	**+6.2**
KYTH	**Kithira**	**1.54**	**65**	P	**Pn**	**21 33 31.1**	**0.0**
KYTH	**Kithira**	**1.54**	**65**	P	**Pn**	**21 33 31.1**	**0.0**
KYTH	**Kithira**	**1.54**	**65**	P	**Pn**	**21 33 31.1**	**0.0**
KYTH	**Kithira**	**1.54**	**65**	*e*Pg	**Pg**	**21 33 31.9**	**-1.2**
KYTH				*e*Sn	**Sg**	**21 33 59.3**	**+6.2**
ITM	**Ithomi**	**1.61**	**18**	*e*PN	**Pn**	**21 33 33.1**	**+1.1**
ITM				*e*SN	**Sg**	**21 34 00.5**	**+5.2**
ITM	**Ithomi**	**1.61**	**18**	P	**Pn**	**21 33 32.2**	**+0.2**
ITM				S	**Sn**	**21 33 52.2**	**-0.6**
ITM	**Ithomi**	**1.61**	**18**	P	**Pn**	**21 33 32.2**	**+0.2**
ITM				S	**Sn**	**21 33 52.2**	**-0.6**
ITM	**Ithomi**	**1.61**	**18**	P	**Pn**	**21 33 32.2**	**+0.2**
ITM	**Ithomi**	**1.61**	**18**	*e*Pn	**Pn**	**21 33 33.1**	**+1.1**
ITM				S	**Sn**	**21 33 52.2**	**-0.6**
ITM				*e*Sn	**Sg**	**21 34 01.0**	**+5.7**
VLI	**Veliai**	**1.70**	**51**	*e*PN	**Pn**	**21 33 34.4**	**+1.1**
VLI	**Veliai**	**1.70**	**51**	P	**Pn**	**21 33 33.6**	**+0.3**
VLI	**Veliai**	**1.70**	**51**	P	**Pn**	**21 33 33.6**	**+0.3**
VLI	**Veliai**	**1.70**	**51**	P	**Pn**	**21 33 33.6**	**+0.3**
VLI	**Veliai**	**1.70**	**51**	*e*Pn	**Pn**	**21 33 34.2**	**+0.9**
VAM	**Vamos**	**2.37**	**95**	*e*PN	**Pn**	**21 33 42.9**	**+0.3**
VAM	**Vamos**	**2.37**	**95**	P	**Pn**	**21 33 43.0**	**+0.4**
VAM	**Vamos**	**2.37**	**95**	P	**Pn**	**21 33 43.0**	**+0.4**
VAM	**Vamos**	**2.37**	**95**	P	**Pn**	**21 33 43.0**	**+0.4**
RLS	**Riolos of Patr**	**2.41**	**3**	*e*PN	**Pn**	**21 33 43.7**	**+0.7**
RLS	**Riolos of Patr**	**2.41**	**3**	P	**Pn**	**21 33 44.1**	**+1.1**
RLS				S	**Sn**	**21 34 12.1**	**-0.4**
RLS	**Riolos of Patr**	**2.41**	**3**	P	**Pn**	**21 33 44.1**	**+1.1**
RLS				S	**Sn**	**21 34 12.1**	**-0.4**
RLS	**Riolos of Patr**	**2.41**	**3**	*e*Pn	**Pn**	**21 33 43.7**	**+0.7**
RLS	**Riolos of Patr**	**2.41**	**3**	P	**Pn**	**21 33 44.1**	**+1.1**
RLS				S	**Sn**	**21 34 12.1**	**-0.4**
VLS	**Valsamata**	**2.59**	**347**	*e*PN	**Pn**	**21 33 45.0**	**-0.5**
VLS				*e*SN	**Sn**	**21 34 21.4**	**+4.4**
VLS	**Valsamata**	**2.59**	**347**	P	**Pn**	**21 33 46.4**	**+0.9**
VLS				S	**Sn**	**21 34 17.1**	**+0.1**
VLS	**Valsamata**	**2.59**	**347**	P	**Pn**	**21 33 46.4**	**+0.9**
VLS				S	**Sn**	**21 34 17.1**	**+0.1**
VLS	**Valsamata**	**2.59**	**347**	*e*Pn	**Pn**	**21 33 45.0**	**-0.5**
VLS	**Valsamata**	**2.59**	**347**	P	**Pn**	**21 33 46.4**	**+0.9**
VLS				S	**Sn**	**21 34 17.1**	**+0.1**
VLS				*e*Sn	**Sn**	**21 34 21.4**	**+4.4**
NAIG	**Nisos Aigina**	**2.74**	**39**	*e*PB	**Pn**	**21 33 49.2**	**+1.6**
NAIG	**Nisos Aigina**	**2.74**	**39**	*e*Pb	**Pn**	**21 33 49.2**	**+1.6**
SIVA	**Sivas**	**2.94**	**101**	*e*PN	**Pn**	**21 33 50.1**	**-0.2**
SIVA	**Sivas**	**2.94**	**101**	*e*Pn	**Pn**	**21 33 51.1**	**+0.8**
IDI	**Anoyia**	**2.95**	**96**	P	**Pn**	**21 33 51.0**	**+0.5**
IDI				S	**Sn**	**21 34 25.6**	**-0.3**
IDI	**Anoyia**	**2.95**	**96**	P	**Pn**	**21 33 51.0**	**+0.5**
IDI				S	**Sn**	**21 34 25.6**	**-0.3**
IDI	**Anoyia**	**2.95**	**96**	P	**Pn**	**21 33 51.0**	**+0.5**
IDI				S	**Sn**	**21 34 25.6**	**-0.3**
VLY	**Voula,Athens**	**2.97**	**42**	*e*PN	**Pn**	**21 33 52.3**	**+1.5**
VLY	**Voula,Athens**	**2.97**	**42**	P	**Pn**	**21 33 51.7**	**+0.9**
VLY	**Voula,Athens**	**2.97**	**42**	P	**Pn**	**21 33 51.7**	**+0.9**
VLY	**Voula,Athens**	**2.97**	**42**	P	**Pn**	**21 33 51.7**	**+0.9**
ATH	**Athens Observa**	**3.02**	**39**	*e*PB	**Pn**	**21 33 53.7**	**+2.3**
ATH	**Athens Observa**	**3.02**	**39**	*e*Pb	**Pn**	**21 33 53.7**	**+2.3**
PTL	**Penteli**	**3.15**	**40**	*e*PN	**Pn**	**21 33 54.5**	**+1.2**
PTL	**Penteli**	**3.15**	**40**	P	**Pn**	**21 33 54.3**	**+1.0**
PTL				S	**Sn**	**21 34 30.5**	**-0.5**
PTL	**Penteli**	**3.15**	**40**	P	**Pn**	**21 33 54.3**	**+1.0**
PTL				S	**Sn**	**21 34 30.5**	**-0.5**
PTL	**Penteli**	**3.15**	**40**	*e*Pn	**Pn**	**21 33 54.2**	**+0.9**
PTL				S	**Sn**	**21 34 30.5**	**-0.5**
LKR	**Lokris**	**3.29**	**24**	*e*PN	**Pn**	**21 33 56.4**	**+1.3**
LKR	**Lokris**	**3.29**	**24**	P	**Pn**	**21 33 56.1**	**+1.0**
LKR				S	**Sn**	**21 34 33.7**	**-0.5**
LKR	**Lokris**	**3.29**	**24**	P	**Pn**	**21 33 56.1**	**+1.0**
LKR				S	**Sn**	**21 34 33.7**	**-0.5**
LKR	**Lokris**	**3.29**	**24**	*e*Pn	**Pn**	**21 33 56.1**	**+1.0**
LKR				S	**Sn**	**21 34 33.7**	**-0.5**
AGG	**Agios Georgios**	**3.46**	**13**	*e*PN	**Pn**	**21 33 59.3**	**+1.8**
AGG	**Agios Georgios**	**3.46**	**13**	P	**Pn**	**21 33 58.9**	**+1.4**
AGG				S	**Sn**	**21 34 38.8**	**+0.2**
AGG	**Agios Georgios**	**3.46**	**13**	P	**Pn**	**21 33 58.9**	**+1.4**
AGG				S	**Sn**	**21 34 38.8**	**+0.2**
AGG	**Agios Georgios**	**3.46**	**13**	P	**Pn**	**21 33 58.9**	**+1.4**
AGG	**Agios Georgios**	**3.46**	**13**	*e*Pn	**Pn**	**21 33 59.3**	**+1.8**
AGG				S	**Sn**	**21 34 38.8**	**+0.2**
NPS	**Neapolis**	**3.54**	**95**	*e*PN	**Pn**	**21 33 58.6**	**0.0**
NPS	**Neapolis**	**3.54**	**95**	P	**Pn**	**21 33 59.1**	**+0.5**
NPS	**Neapolis**	**3.54**	**95**	P	**Pn**	**21 33 59.1**	**+0.5**
NPS	**Neapolis**	**3.54**	**95**	P	**Pn**	**21 33 59.1**	**+0.5**
APE	**Apeiranthos**	**3.69**	**66**	*e*PN	**Pn**	**21 34 02.2**	**+1.5**
APE	**Apeiranthos**	**3.69**	**66**	P	**Pn**	**21 34 01.1**	**+0.4**
APE				S	**Sn**	**21 34 43.3**	**-1.0**
APE	**Apeiranthos**	**3.69**	**66**	P	**Pn**	**21 34 01.1**	**+0.4**
APE				S	**Sn**	**21 34 43.3**	**-1.0**
APE	**Apeiranthos**	**3.69**	**66**	*e*Pn	**Pn**	**21 34 00.9**	**+0.2**
APE				S	**Sn**	**21 34 43.3**	**-1.0**
THL	**Klokotos Trika**	**3.95**	**8**	*e*PN	**Pn**	**21 34 05.0**	**+0.8**
THL	**Klokotos Trika**	**3.95**	**8**	P	**Pn**	**21 34 05.2**	**+1.0**
THL				S	**Sn**	**21 34 50.7**	**+0.2**
THL	**Klokotos Trika**	**3.95**	**8**	P	**Pn**	**21 34 05.2**	**+1.0**
THL				S	**Sn**	**21 34 50.7**	**+0.2**
JAN	**Janina**	**4.01**	**355**	*e*PN	**Pn**	**21 34 05.5**	**+0.4**
JAN	**Janina**	**4.01**	**355**	*e*Pb	**Pn**	**21 34 06.8**	**+1.7**
KEK	**Kerkira**	**4.23**	**344**	*e*PN	**Pn**	**21 34 07.4**	**-0.6**
KEK	**Kerkira**	**4.23**	**344**	*e*Pn	**Pn**	**21 34 08.4**	**+0.4**
KZN	**Kozani**	**4.66**	**4**	*e*PN	**Pn**	**21 34 15.3**	**+1.3**
KZN	**Kozani**	**4.66**	**4**	P	**Pn**	**21 34 15.2**	**+1.2**
KZN	**Kozani**	**4.66**	**4**	P	**Pn**	**21 34 15.2**	**+1.2**
KZN	**Kozani**	**4.66**	**4**	P	**Pn**	**21 34 15.2**	**+1.2**
NEST	**Nestorio**	**4.76**	**358**	P	**Pn**	**21 34 17.1**	**+1.7**
NEST	**Nestorio**	**4.76**	**358**	P	**Pn**	**21 34 17.1**	**+1.7**
PLG	**Polygyros**	**5.01**	**19**	*e*PN	**Pn**	**21 34 20.0**	**+1.2**
PLG	**Polygyros**	**5.01**	**19**	*e*Pn	**Pn**	**21 34 18.7**	**-0.1**
BIA	**Bitola**	**5.36**	**0**	*e*Pn	**Pn**	**21 34 23.8**	**+0.2**
BIA				*e*Sn	**Sn**	**21 35 24.3**	**-1.0**
BIA	**Bitola**	**5.36**	**0**	*e*Pn	**Pn**	**21 34 23.7**	**+0.1**
BIA				*e*Sn	**Sn**	**21 35 24.3**	**-1.0**
KRUS	**Krusevo**	**5.71**	**360**	*e*Pn	**Pn**	**21 34 27.8**	**-0.6**
KRUS	**Krusevo**	**5.71**	**360**	*e*Pn	**Pn**	**21 34 27.8**	**-0.6**

0.8nm,0.9s,baz=110,slow=2.2,SNR=5.0
BRTR Keskin Array B 143.87 315 PKP PKPdf 21 58 06.8 +0.6
GERES GERESS Array B 146.71 345 PKPbc PKPbc 21 58 14.2 +0.7
0.2nm,0.4s,baz=46,slow=2.8,SNR=4.6
GERES GERESS Array B 146.71 345 PKPbc PKPbc 21 58 14.2 +0.7

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*ISCJB **08** 21:52:58.1±0.8,39.51N±0.04×20.34E±0.04,h1km±7km, Error ellipse: s-maj=6.5km s-min=5.7km az=10.6*
*ATH **08** 21:52:58.6,39.51N×20.35E,h13km±1km,MD3.3/8*
*CSEM **08** 21:52:59.3±0.5,39.56N×20.29E,h20km,MD3.3, Error ellipse: s-maj=13.3km s-min=8.6km az=28.0*
ISC 08 21:52:58.6±0.7,39.50N±0.04×20.33E±0.04,h4km±6km, n26,σ1°07/39,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.43**	**69**	*e*PB	**Pg**	**21 53 06.6**	**-0.3**
JAN				*e*SB	**Sg**	**21 53 12.5**	**0.0**
JAN	**Janina**	**0.43**	**69**	*e*Pg	**Pg**	**21 53 06.6**	**-0.3**
JAN				*e*Sg	**Sg**	**21 53 13.2**	**+0.7**
KEK	**Kerkira**	**0.46**	**298**	*e*PG	**Pg**	**21 53 07.7**	**+0.2**
KEK				*e*SB	**Sg**	**21 53 14.8**	**+1.3**
KEK	**Kerkira**	**0.46**	**298**	*e*Pg	**Pg**	**21 53 07.7**	**+0.2**
KEK				*e*Sb	**Sg**	**21 53 14.8**	**+1.3**
EVR	**Evrytania**	**1.29**	**116**	*e*PB	**Pb**	**21 53 22.7**	**-0.6**
EVR				*e*SN	**Sn**	**21 53 40.4**	**-0.5**
EVR	**Evrytania**	**1.29**	**116**	*e*Pb	**Pb**	**21 53 24.7**	**+1.4**
EVR				*e*Sn	**Sn**	**21 53 40.4**	**-0.5**
THL	**Klokotos Trika**	**1.30**	**87**	*e*PB	**Pb**	**21 53 23.3**	**-0.3**
THL	**Klokotos Trika**	**1.30**	**87**	*e*Pb	**Pb**	**21 53 23.3**	**-0.3**
VLS	**Valsamata**	**1.34**	**171**	*e*PB	**Pb**	**21 53 24.1**	**0.0**
VLS				*e*SB	**Sb**	**21 53 43.1**	**+1.5**
VLS	**Valsamata**	**1.34**	**171**	*e*Pn	**Pn**	**21 53 23.1**	**-0.8**
VLS				*e*Sb	**Sb**	**21 53 43.1**	**+1.5**
KZN	**Kozani**	**1.37**	**54**	*e*PG	**Pg**	**21 53 23.9**	**-1.0**
KZN	**Kozani**	**1.37**	**54**	*e*Pg	**Pg**	**21 53 23.9**	**-1.0**
AGG	**Agios Georgios**	**1.62**	**106**	*e*PB	**Pb**	**21 53 29.1**	**0.0**
AGG	**Agios Georgios**	**1.62**	**106**	*e*Pb	**Pb**	**21 53 29.1**	**0.0**
RLS	**Riolos of Patr**	**1.69**	**148**	*e*PG	**Pg**	**21 53 30.2**	**-0.8**
BIA	**Bitola**	**1.70**	**26**	*e*Pn	**Pn**	**21 53 29.8**	**+0.9**
BIA				*e*Sn	**Sn**	**21 53 53.3**	**+2.2**
BIA	**Bitola**	**1.70**	**26**	*e*Pn	**Pn**	**21 53 29.8**	**+0.9**
BIA				*e*Sn	**Sn**	**21 53 53.2**	**+2.2**
LIT	**Litokhoron**	**1.77**	**70**	*e*PN	**Pn**	**21 53 30.4**	**+0.5**
LIT	**Litokhoron**	**1.77**	**70**	*e*Pn	**Pn**	**21 53 30.4**	**+0.5**
KRUS	**Krusevo**	**1.99**	**20**	*e*Pn	**Pn**	**21 53 33.9**	**+0.9**
KRUS	**Krusevo**	**1.99**	**20**	*e*Pn	**Pn**	**21 53 33.8**	**+0.8**
NEO	**Neokhori**	**2.25**	**94**	*e*PN	**Pn**	**21 53 37.1**	**+0.6**
STON	**Ston**	**3.91**	**330**	*e*Pn	**Pn**	**21 53 56.1**	**-3.2**
STON				Sn	**Sn**	**21 54 39.7**	**-5.9**
STON	**Ston**	**3.91**	**330**	*e*Pn	**Pn**	**21 53 56.0**	**-3.3**
STON				Sn	**Sn**	**21 54 39.6**	**-6.0**
NVLJ	**Novalja**	**6.49**	**323**	*i* Pn	**Pn**	**21 54 31.9**	**-2.8**
NVLJ				Sn	**Sn**	**21 55 43.7**	**-5.4**
NVLJ	**Novalja**	**6.49**	**323**	*i* Pn	**Pn**	**21 54 31.9**	**-2.8**

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*NIED **08** 22:22:00,29.20N×130.10E,h38km,Mw4.3 Best double couple: M:3.66000×10^15 NP1:φ=29.00000°,δ=90.00000°, λ=87.00000°. NP2:φ=299.00000°,δ=3.00000°,λ=180.00000°.*
*ISCJB **08** 22:22:06.8±0.4,29.16N±0.03×130.18E±0.06,h55km±4km, mb4.2/26,Error ellipse: s-maj=9.2km s-min=3.6km az=20.1*
*JMA **08** 22:22:06.6±0.1,29.19N×130.09E,h65km±3km,M3.7*
*IDC **08** 22:22:07.9±2.0,29.18N×130.10E,h46km±19km,mb3.7/13, mb1 3.8/16,mb1mx3.7/30,mbtmp3.7/16,ML3.5/3,MS3.3/2, Ms1 3.3/2,ms1mx2.6/40,Error ellipse: s-maj=20.6km s-min=12.3km az=90.0*
*NEIC **08** 22:22:07.7±0.5,29.16N×130.14E,h46km±5km,mb4.6/16, MW4.3(NIED),Error ellipse: s-maj=6.1km s-min=4.4km az=120.0*
ISC 08 22:22:07.9±0.4,29.17N±0.03×130.15E±0.06,h47km±4km, n71,σ0°71/81,mb4.2/26,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.72**	**340**	P	**Pn**	**22 22 20.7**	**-1.1**
JNN				S	**Sn**	**22 22 31.9**	**+0.1**
JZK	**Kikaishima**	**0.86**	**191**	P	**Pn**	**22 22 23.5**	**-0.2**
JZK				*e*S	**Sn**	**22 22 36.4**	**+1.2**
JAM	**Amami Oshima**	**0.89**	**213**	P	**Pn**	**22 22 23.3**	**-0.8**
JAM				S	**Sn**	**22 22 35.9**	**0.0**
JKC	**Kuchinoerabu**	**1.29**	**2**	P	**Pn**	**22 22 28.7**	**-0.9**
JKC				S	**Sn**	**22 22 45.5**	**-0.2**
JTN	**Tanegashima 3**	**1.65**	**26**	P	**Pn**	**22 22 34.0**	**-0.4**
JTN				S	**Sn**	**22 22 54.7**	**+0.3**
JTK	**Tokunoshima**	**1.73**	**218**	P	**Pn**	**22 22 35.6**	**0.0**
JTK				*e*S	**Sn**	**22 22 57.0**	**+0.4**
JTSR	**Tashiro 2**	**2.10**	**18**	P	**Pn**	**22 22 40.4**	**-0.3**
JTSR				*e*S	**Sn**	**22 23 05.5**	**-0.1**
JOW	**Kunigami**	**2.86**	**216**	P	**Pn**	**22 22 50.9**	**-0.1**
	9.4nm,0.3s,baz=82,slow=18,SNR=21						
JOW				S	**Sn**	**22 23 24.4**	**+0.2**
	14nm,0.3s,baz=125,slow=27,SNR=4.4						
JOW	**Kunigami**	**2.86**	**216**	P	**Pn**	**22 22 50.9**	**-0.1**
JOW				S	**Sn**	**22 23 24.4**	**+0.2**
JOW	**Kunigami**	**2.86**	**216**	P	**Pn**	**22 22 50.7**	**-0.3**
JAGN	**Aguni-jima**	**3.64**	**226**	P	**Pn**	**22 23 01.6**	**-0.1**
JNU	**Nakatsue**	**3.99**	**9**	*e*Pn	**Pn**	**22 23 07.6**	**+1.0**
JNU				*e*Sn	**Sn**	**22 23 52.1**	**0.0**
JKE	**Kume jima 2**	**4.11**	**227**	P	**Pn**	**22 23 08.2**	**-0.1**
KSAR	**Wonju Array Be**	**8.47**	**348**	P	**Pn**	**22 24 10.6**	**+2.6**
KSRS	**Korea Array**	**8.47**	**348**	P	**Pn**	**22 24 10.6**	**+2.5**
	0.2nm,0.3s,baz=165,slow=14,SNR=5.7						
KSRS				LR	LR	22 27 40.8	
	comp=Z,143nm,20.4s,baz=157,slow=39						
YULB	**Yu-li**	**9.81**	**236**	*e*Pn	**Pn**	**22 24 25.3**	**-1.1**
SSLB	**Suanglung**	**9.83**	**239**	*e*P	**Pn**	**22 24 26.3**	**-0.4**
MAJO	**Matsushiro**	**9.99**	**41**	*e*Pn	**Pn**	**22 24 28.9**	**0.0**
	3.4nm,0.4s						
MJAR	**Matsushiro Arr**	**10.00**	**41**	P	**Pn**	**22 24 28.1**	**-0.8**
	0.4nm,0.3s,baz=234,slow=16,SNR=4.0						
MJAR	**Matsushiro Arr**	**10.00**	**41**	P	**Pn**	**22 24 28.1**	**-0.8**
ASAJ	**Asahikawa**	**17.92**	**30**	P	**Pn**	**22 26 14.9**	**+1.3**
	0.5nm,0.3s,baz=225,slow=5.7,SNR=5.3						
ASAJ	**Asahikawa**	**17.92**	**30**	*e*Pn	**Pn**	**22 26 13.6**	**0.0**
	12nm,1.4s						
GUMO	**Guam**	**20.65**	**136**	*e*P	**P**	**22 26 44.1**	**+0.3**
	100nm,0.5s						
ULN	**Ulaanbaatar**	**25.82**	**323**	*e*P	**P**	**22 27 34.1**	**-0.6**
	2.5nm,0.6s,mb3.9						
ULN				*e*PcP	PcP	22 31 02.3	-0.7
SONM	**Songino Array**	**26.16**	**322**	P	**P**	**22 27 37.6**	**-0.1**
	2.3nm,0.7s,mb3.8,baz=139,slow=10,SNR=13						
SONM				LR	LR	22 38 52.5	
	comp=Z,91nm,19.5s,baz=130,slow=38						
SONM	**Songino Array**	**26.16**	**322**	P	**P**	**22 27 37.6**	**-0.1**
CHTO	**Chiang Mai**	**30.23**	**257**	P	**P**	**22 28 14.1**	**-0.3**
YAK	**Yakutsk**	**32.87**	**360**	*e*P	**P**	**22 28 36.6**	**-0.5**
	9.7nm,0.3s,mb5.2						
ODAN	**Odare**	**37.68**	**277**	*e*P	**P**	**22 29 19.1**	**+0.3**
	12nm,0.8s,mb4.7						
ODAN	**Odare**	**37.68**	**277**	*e*P	**P**	**22 29 19.1**	**+0.3**
	12nm,0.8s,mb4.7						
GUN	**Gumba**	**38.74**	**279**	*e*P	**P**	**22 29 28.9**	**+1.1**
	15nm,0.4s,mb5.1						
GUN	**Gumba**	**38.74**	**279**	*e*P	**P**	**22 29 28.9**	**+1.1**
	15nm,0.4s,mb5.1						
PKI	**Pulchoki**	**39.23**	**279**	*e*P	**P**	**22 29 32.4**	**+0.5**
	9.3nm,0.5s,mb4.8						
PKI	**Pulchoki**	**39.23**	**279**	*e*P	**P**	**22 29 32.4**	**+0.5**
	9.3nm,0.5s,mb4.8						
KKN	**Kakani**	**39.29**	**279**	*e*P	**P**	**22 29 33.1**	**+0.7**
	6.5nm,0.4s,mb4.7						
KKN	**Kakani**	**39.29**	**279**	*e*P	**P**	**22 29 33.1**	**+0.7**
	6.5nm,0.4s,mb4.7						
DMN	**Daman**	**39.48**	**279**	*e*P	**P**	**22 29 34.6**	**+0.6**
	9.8nm,0.8s,mb4.6						
DMN	**Daman**	**39.48**	**279**	*e*P	**P**	**22 29 34.6**	**+0.6**
	9.8nm,0.8s,mb4.6						
GKN	**Gorkha**	**39.80**	**280**	*e*P	**P**	**22 29 36.8**	**+0.2**
	10nm,0.8s,mb4.6						
GKN	**Gorkha**	**39.80**	**280**	*e*P	**P**	**22 29 36.8**	**+0.2**
	10nm,0.8s,mb4.6						
KOLN	**Koldanda**	**40.74**	**280**	*e*P	**P**	**22 29 44.7**	**+0.2**
	3.0nm,0.3s,mb4.4						
KOLN	**Koldanda**	**40.74**	**280**	*e*P	**P**	**22 29 44.7**	**+0.2**
	3.0nm,0.3s,mb4.4						
MKAR	**Makanchi Array**	**40.94**	**309**	P	**P**	**22 29 45.5**	**-0.2**
	0.5nm,0.7s,mb3.2,baz=99,slow=9.7,SNR=7.1						
MKAR				PcP	PcP	22 31 45.6	+0.1
	0.5nm,0.7s,baz=56,slow=2.2,SNR=5.2						
MKAR	**Makanchi Array**	**40.94**	**309**	P	**P**	**22 29 45.5**	**-0.2**
MKAR				PcP	PcP	22 31 45.6	+0.1
ZALV	**Zalesovo Beam**	**41.02**	**320**	P	**P**	**22 29 46.0**	**-0.4**
	0.5nm,0.3s,mb3.6,baz=120,slow=8.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**41.02**	**320**	P	**P**	**22 29 46.0**	**-0.4**
KURK	**Kurchatov**	**43.94**	**314**	P	**P**	**22 30 09.8**	**-0.3**
	1.2nm,0.5s,mb3.9,baz=99,slow=8.7,SNR=12						
KURK	**Kurchatov**	**43.94**	**314**	*e*P	**P**	**22 30 09.8**	**-0.3**
	2.3nm,0.8s,mb4.0						
TKM2	**Tokmak 2**	**45.45**	**303**	*e*P	**P**	**22 30 21.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**47.19**	**186**	P	**P**	**22 30 35.7**	**-0.4**
	1.1nm,0.7s,mb3.9,baz=350,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**47.19**	**186**	P	**P**	**22 30 35.7**	**-0.4**
WRAB	**Tennant Creek**	**48.98**	**175**	*e*P	**P**	**22 30 49.3**	**-0.5**
	1.1nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**48.99**	**175**	P	**P**	**22 30 49.5**	**-0.4**
	1.7nm,0.7s,mb4.2,baz=354,slow=8.3,SNR=23						
WRA	**Warramunga Arr**	**48.99**	**175**	P	**P**	**22 30 49.5**	**-0.4**
BVAR	**Borovoye Array**	**49.28**	**316**	P	**P**	**22 30 52.1**	**+0.2**
	4.0nm,0.7s,mb4.6,baz=98,slow=9.3,SNR=19						
BVAR				PcP	PcP	22 32 14.0	-0.1
	1.2nm,0.7s,baz=120,slow=5.3,SNR=3.9						
BVAR	**Borovoye Array**	**49.28**	**316**	P	**P**	**22 30 52.1**	**+0.2**
BVAR				PcP	PcP	22 32 14.0	-0.1
BRVK	**Borovoye**	**49.34**	**317**	*e*P	**P**	**22 30 52.5**	**+0.2**
	4.7nm,0.8s,mb4.6						
KBL	**Kabul**	**51.51**	**293**	*e*P	**P**	**22 31 08.8**	**-0.2**
	1.3nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**52.65**	**176**	P	**P**	**22 31 17.9**	**+0.4**
	1.0nm,0.6s,mb4.0,baz=7.0,slow=14,SNR=15						
ASAR	**Alice Springs**	**52.65**	**176**	P	**P**	**22 31 17.9**	**+0.4**
ABKAR	**Akbulak array**	**55.93**	**312**	*e*P	**P**	**22 31 40.6**	**-0.5**
	4.1nm,0.8s,mb4.5						
AKTO	**Aktyubinsk**	**57.02**	**313**	P	**P**	**22 31 48.9**	**0.0**
	1.1nm,0.5s,mb4.2,baz=91,slow=8.7,SNR=7.9						
AKTO	**Aktyubinsk**	**57.02**	**313**	P	**P**	**22 31 48.9**	**0.0**
FINES	**FINESS Array B**	**71.16**	**330**	P	**P**	**22 33 19.3**	**-2.1**
	3.0nm,0.9s,mb4.2,baz=59,slow=4.7,SNR=7.2						
FINES	**FINESS Array B**	**71.16**	**330**	P	**P**	**22 33 19.3**	**-2.1**
YKA	**Yellowknife Ar**	**75.15**	**26**	P	**P**	**22 33 46.4**	**+1.4**
	0.3nm,0.4s,mb3.5,baz=311,slow=5.2,SNR=3.7						
YKA	**Yellowknife Ar**	**75.15**	**26**	P	**P**	**22 33 46.4**	**+1.4**
BRTR	**Keskin Array B**	**76.58**	**308**	P	**P**	**22 33 53.7**	**+0.1**
	1.1nm,0.8s,mb3.9,baz=93,slow=6.2,SNR=6.0						
BRTR	**Keskin Array B**	**76.58**	**308**	P	**P**	**22 33 53.7**	**+0.1**
GERES	**GERESS Array B**	**83.88**	**323**	P	**P**	**22 34 32.8**	**+0.1**
	0.5nm,0.8s,mb3.7,baz=35,slow=4.9,SNR=3.9						
GERES	**GERESS Array B**	**83.88**	**323**	P	**P**	**22 34 32.8**	**+0.1**

IDC 08 22:27:37.2±6.5,17.22S×177.16W,h0km,mb4.1/2, mb1 4.3/2,mb1mx3.8/16,mbtmp4.1/2,Error ellipse: s-maj=322.1km s-min=52.2km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.93**	**259**	P	P	22 36 01.7	-0.4
	0.4nm,0.5s,baz=95,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**46.12**	**254**	P	P	22 36 04.0	+0.3
	4.9nm,0.6s,baz=87,slow=8.4,SNR=50						
GERES	**GERESS Array B**	**147.23**	**347**	PKPbc	PKPbc	22 47 21.9	-0.6
	0.1nm,0.3s,baz=27,slow=2.4,SNR=4.3						

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*NEIC **08** 22:52:35.4±1.4,7.24S×129.23E,h99km±14km,mb4.0/1, Error ellipse: s-maj=18.2km s-min=6.8km az=46.0*
*IDC **08** 22:52:36.2±6.1,7.23S×129.19E,h102km±59km,mb3.5/4, mb1 3.8/7,mb1mx3.6/16,mbtmp3.7/7,Error ellipse: s-maj=83.7km s-min=24.5km az=63.0*
ISC 08 22:52:37.0±1.6,7.49S±0.08×129.04E±0.10,h113km±17km, n37,σ0°95/45,mb4.1/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.55**	**284**	*e*Pn	**Pn**	**22 54 51.7**	**0.0**
FITZ	**Fitzroy Crossi**	**11.05**	**197**	P	**Pn**	**22 55 15.7**	**+3.9**
	2.4nm,0.3s,baz=33,slow=12,SNR=34						
FITZ				S	**Sn**	**22 57 12.8**	**-0.7**
	0.9nm,0.3s,baz=66,slow=20,SNR=3.8						
FITZ	**Fitzroy Crossi**	**11.05**	**197**	P	**Pn**	**22 55 15.7**	**+3.9**
FITZ				S	**Sn**	**22 57 12.8**	**-0.7**
WRAB	**Tennant Creek**	**13.40**	**158**	*e*Pn	**Pn**	**22 55 42.6**	**-0.1**
	5.2nm,0.5s						
WRAB				*e*Sn	**Sn**	**22 58 03.2**	**-7.2**
WRA	**Warramunga Arr**	**13.40**	**158**	P	**Pn**	**22 55 42.8**	**0.0**
	1.7nm,0.3s,baz=346,slow=13,SNR=36						
WRA				S	**Sn**	**22 58 06.2**	**-4.2**
	3.2nm,0.3s,baz=328,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.40**	**158**	P	**Pn**	**22 55 42.8**	**0.0**
WRA				S	**Sn**	**22 58 06.2**	**-4.2**
WB2	**Warramunga Arr**	**13.41**	**158**	*e*Pn	**Pn**	**22 55 42.8**	**0.0**
WB2				*e*Sn	**Sn**	**22 58 03.7**	**-6.8**
COEN	**Coen**	**15.30**	**116**	*e*Pn	**Pn**	**22 56 06.2**	**-0.8**
COEN				*e*Sn	**Sn**	**22 58 39.2**	**-17**
AS31	**Alice Springs**	**16.75**	**164**	*e*Pn	**Pn**	**22 56 26.8**	**+1.9**
AS31				*e*Sn	**Sn**	**22 59 30.7**	**-0.4**
ASAR	**Alice Springs**	**16.75**	**164**	P	**Pn**	**22 56 27.1**	**+2.3**
	1.4nm,0.3s,baz=338,slow=9.9,SNR=59						
ASAR				S	**S**	**22 59 30.7**	**-1.1**
	0.7nm,0.3s,baz=352,slow=25,SNR=8.0						
ASAR	**Alice Springs**	**16.75**	**164**	P	**Pn**	**22 56 27.1**	**+2.3**
ASAR				S	**S**	**22 59 30.7**	**-1.1**
STKA	**Stephens Creek**	**26.94**	**156**	P	**P**	**22 58 10.2**	**+2.4**
	0.8nm,0.4s,mb3.6,baz=329,slow=13,SNR=2.5						
STKA	**Stephens Creek**	**26.94**	**156**	*e*P	**P**	**22 58 09.7**	**+1.9**
	8.5nm,1.9s,mb4.0						
ODAN	**Odare**	**52.86**	**312**	*e*P	**P**	**23 01 42.0**	**+0.6**
	4.3nm,0.5s						
ODAN	**Odare**	**52.86**	**312**	*e*P	**P**	**23 01 42.0**	**+0.6**
	4.3nm,0.5s,mb4.7						
TAPN	**Taplejung**	**52.91**	**313**	*e*P	**P**	**23 01 41.3**	**-0.4**
	3.4nm,0.4s						
TAPN	**Taplejung**	**52.91**	**313**	*e*P	**P**	**23 01 41.3**	**-0.4**
	3.4nm,0.4s,mb4.7						
RAMN	**Ramite**	**53.50**	**311**	*e*P	**P**	**23 01 46.7**	**+0.7**
	7.8nm,0.6s						
RAMN	**Ramite**	**53.50**	**311**	*e*P	**P**	**23 01 46.7**	**+0.7**
	7.8nm,0.6s						
GUN	**Gumba**	**54.56**	**312**	*e*P	**P**	**23 01 53.9**	**+0.1**
	7.1nm,0.6s						
GUN	**Gumba**	**54.56**	**312**	*e*P	**P**	**23 01 53.9**	**+0.1**
	7.1nm,0.6s						
KKN	**Kakani**	**54.94**	**312**	*e*P	**P**	**23 01 56.6**	**+0.1**
	23nm,1.5s						
KKN	**Kakani**	**54.94**	**312**	*e*P	**P**	**23 01 56.6**	**+0.1**
	23nm,1.5s						
GKN	**Gorkha**	**55.53**	**311**	*e*P	**P**	**23 02 00.6**	**-0.1**
	4.7nm,0.4s						
GKN	**Gorkha**	**55.53**	**311**	*e*P	**P**	**23 02 00.6**	**-0.1**
	4.7nm,0.4s						
KOLN	**Koldanda**	**56.19**	**311**	*e*P	**P**	**23 02 06.0**	**+0.6**
	2.9nm,0.3s,mb4.7						
KOLN	**Koldanda**	**56.19**	**311**	*e*P	**P**	**23 02 06.0**	**+0.6**
	2.9nm,0.3s						
SONM	**Songino Array**	**58.61**	**342**	P	**P**	**23 02 21.9**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=163,slow=6.3,SNR=3.0						
SONM	**Songino Array**	**58.61**	**342**	P	**P**	**23 02 21.9**	**-0.1**
MK31	**Makanchi Array**	**68.12**	**327**	*e*P	**P**	**23 03 23.3**	**-1.4**
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**23 03 24.6**	**-0.1**
	0.5nm,0.5s,mb3.6,baz=119,slow=7.8,SNR=12						
MKAR				pP	pP	23 03 50.0	-2.8
	0.4nm,0.5s,baz=130,slow=6.5,SNR=4.3						
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**23 03 24.6**	**-0.1**
MKAR				pP	pP	23 03 50.0	-2.8
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**23 03 44.3**	**-1.6**
	0.5nm,0.4s,mb3.7,baz=144,slow=5.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**23 03 44.3**	**-1.6**
GNI	**Garni**	**90.44**	**310**	*e*P	**P**	**23 05 25.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**127.97**	**281**	PKP	PKPdf	23 11 30.6	+0.1
	0.3nm,0.6s,baz=110,slow=1.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**127.97**	**281**	PKP	PKPdf	23 11 30.6	+0.1

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*DDA **08** 22:55:48.8,38.41N×39.30E,h22km±2km,Md3.0*
*ISCJB **08** 22:55:49.8±0.4,38.39N±0.03×39.28E±0.03,h5km±3km, Error ellipse: s-maj=5.0km s-min=3.3km az=14.3*
*ISK **08** 22:55:49.0,38.42N×39.24E,h3km,MD3.2*
*CSEM **08** 22:55:50.1±0.2,38.40N×39.24E,h2km,MD3.2,Error ellipse: s-maj=4.3km s-min=3.4km az=168.0*
ISC 08 22:55:50.2±0.4,38.39N±0.03×39.28E±0.03,h4km±3km, n53,σ0°98/72,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.03**	**115**	PG	**Pg**	**22 55 51.0**	**0.0**
SVRC				SG	**Sg**	**22 55 52.3**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.03**	**115**	*i* Pg	**Pg**	**22 55 51.0**	**0.0**
SVRC				*i* Sg	**Sg**	**22 55 52.3**	**+0.7**
ELZG	**Elazig**	**0.25**	**295**	*i* P	**Pg**	**22 55 54.9**	**-0.2**
ELZG				*i* S	**Sg**	**22 55 59.2**	**+0.8**
ELZG	**Elazig**	**0.25**	**295**	*i* P	**Pg**	**22 55 54.9**	**-0.2**
ELZG				*i* S	**Sg**	**22 55 59.2**	**+0.8**
PTK	**Pertek**	**0.51**	**10**	PG	**Pg**	**22 55 58.6**	**-1.4**
PTK	**Pertek**	**0.51**	**10**	*i* Pg	**Pg**	**22 55 58.6**	**-1.4**
MALT	**Malatya**	**0.67**	**264**	*e*PG	**Pg**	**22 56 02.5**	**-0.5**
MALT				*e*SG	**Sg**	**22 56 11.9**	**+0.1**
MALT	**Malatya**	**0.67**	**264**	*e*Pg	**Pg**	**22 56 02.5**	**-0.6**
MALT				*e*Sg	**Sg**	**22 56 11.9**	**+0.1**
MYA	**Malataya**	**0.67**	**265**	*e*PG	**Pg**	**22 56 02.4**	**-0.6**
MYA	**Malataya**	**0.67**	**265**	*e*Pg	**Pg**	**22 56 02.4**	**-0.7**
DIYA	**Diyarbakir**	**0.81**	**125**	*i* P	**Pg**	**22 56 05.6**	**-0.1**
DIYA				*i* S	**Sg**	**22 56 17.8**	**+1.6**
DIYA	**Diyarbakir**	**0.81**	**125**	*i* P	**Pg**	**22 56 05.6**	**-0.1**
DIYA				*i* S	**Sg**	**22 56 17.8**	**+1.6**
URFA	**Urfa**	**1.01**	**201**	*e*PG	**Pg**	**22 56 09.4**	**-0.2**
URFA	**Urfa**	**1.01**	**201**	*e*Pg	**Pg**	**22 56 09.4**	**-0.2**
BINT	**Bingol**	**1.07**	**63**	*e*Pn	**Pn**	**22 56 13.8**	**+1.9**
AKCD	**Akcadag**	**1.07**	**265**	*i* P	**Pg**	**22 56 09.4**	**-1.3**
AKCD				*i* S	**Sg**	**22 56 25.7**	**+1.2**
AKCD	**Akcadag**	**1.07**	**265**	*i* P	**Pg**	**22 56 09.4**	**-1.3**
AKCD				*i* S	**Sg**	**22 56 25.7**	**+1.2**
KEMA	**Kemaliye**	**1.07**	**325**	*i* P	**Pg**	**22 56 08.9**	**-1.8**
KEMA				*i* S	**Sg**	**22 56 24.9**	**+0.3**
KEMA	**Kemaliye**	**1.07**	**325**	*i* P	**Pg**	**22 56 08.9**	**-1.8**
KEMA				*i* S	**Sg**	**22 56 24.9**	**+0.3**
ATAB	**Bozova**	**1.20**	**221**	*i* P	**Pg**	**22 56 11.7**	**-1.5**
ATAB				*i* S	**Sg**	**22 56 29.3**	**+0.5**
ATAB	**Bozova**	**1.20**	**221**	*i* P	**Pg**	**22 56 11.7**	**-1.5**
ATAB				*i* S	**Sg**	**22 56 29.3**	**+0.5**
ERZN	**Erzincan**	**1.25**	**16**	*e*PN	**Pn**	**22 56 13.0**	**-1.3**
BNGB	**Bing¶ll**	**1.25**	**61**	*e*PN	**Pn**	**22 56 13.8**	**-0.6**
DARE	**Darende-Malaty**	**1.28**	**296**	*e*PN	**Pn**	**22 56 16.0**	**+1.2**
DARE	**Darende-Malaty**	**1.28**	**296**	*e*Pn	**Pn**	**22 56 16.0**	**+1.2**
MARD	**Mardin**	**1.60**	**132**	*i* P	**Pn**	**22 56 17.1**	**-2.1**
MARD				*i* S	**Sn**	**22 56 38.8**	**-1.5**
BEST	**Besiri**	**1.65**	**107**	*i* P	**Pn**	**22 56 18.9**	**-0.9**
BEST				*i* S	**Sn**	**22 56 41.4**	**-0.1**
VRTB	**Varto-Mus**	**1.87**	**65**	*e*PN	**Pn**	**22 56 23.5**	**+0.6**
VRTB	**Varto-Mus**	**1.87**	**65**	*e*Pn	**Pn**	**22 56 23.5**	**+0.6**
GAZ	**Gaziantep**	**2.04**	**234**	*e*PN	**Pn**	**22 56 25.2**	**0.0**
GAZ	**Gaziantep**	**2.04**	**234**	*e*Pn	**Pn**	**22 56 25.2**	**0.0**
GUMT	**Gumushane**	**2.07**	**4**	*e*PN	**Pn**	**22 56 25.5**	**-0.3**
GUMT	**Gumushane**	**2.07**	**4**	*e*Pn	**Pn**	**22 56 25.5**	**-0.2**
KMRS	**Kahramanmaras**	**2.08**	**246**	*e*PN	**Pn**	**22 56 25.5**	**-0.3**
KMRS	**Kahramanmaras**	**2.08**	**246**	*e*Pn	**Pn**	**22 56 25.5**	**-0.2**
BAYT	**Ayd¨–

RPZ				Sn	Sn	00 07 56.4	-9.0
DZM	Mont Dzumac	17.44	307	eLR	LR	00 10 37.7	
290nm,22.2s							
RAR	Rarotonga	20.81	58	P	P	00 07 21.2	-0.1
FUNA	Funafuti	25.04	355	eP	P	00 08 03.4	-0.6
26nm,0.6s,mb4.9							
TBI	Tubuai	27.57	76	eLR	LR	00 15 12.4	
101nm,29.8s							
PPT	Papeete	30.60	66	eLR	LR	00 16 31.0	
86nm,27.8s							
CTA	Charters Tower	33.88	284	P	P	00 09 24.3	+1.7
3.0nm,0.5s,mb4.5,baz=118,slow=12,SNR=6.4							
CTA				LR	LR	00 19 54.8	
comp=Z,152nm,21.3s,baz=52,slow=30							
CTA	Charters Tower	33.88	284	P	P	00 09 24.3	+1.7
CTAO	Charters Tower	33.88	284	eP	P	00 09 24.5	+1.9
2.6nm,0.5s,mb4.4							
COEN	Coen	39.70	290	eP	P	00 10 12.3	+0.1
AS31	Alice Springs	42.45	271	eP	P	00 10 34.6	-0.1
ASAR	Alice Springs	42.45	271	P	P	00 10 35.2	+0.4
5.7nm,0.7s,mb4.3,baz=112,slow=7.5,SNR=59							
ASAR				S	S	00 16 54.4	-0.5
0.8nm,0.9s,baz=114,slow=16,SNR=7.1							
ASAR	Alice Springs	42.45	271	P	P	00 10 35.2	+0.4
ASAR				S	S	00 16 54.4	-0.5
WB2	Warramunga Arr	43.72	276	eP	P	00 10 45.1	+0.1
WRAB	Tennant Creek	43.73	276	eP	P	00 10 44.1	-1.0
8.6nm,0.8s,mb4.5							
WRA	Warramunga Arr	43.73	276	P	P	00 10 45.3	+0.1
7.5nm,0.7s,mb4.5,baz=117,slow=7.4,SNR=72							
WRA	Warramunga Arr	43.73	276	P	P	00 10 45.3	+0.1
SBA	Scott Base	44.80	184	eP	P	00 10 53.4	+0.4
FITZ	Fitzroy Crossi	51.84	273	eP	P	00 11 48.1	+0.1
5.5nm,0.9s,mb4.5							
MBWA	Marble Bar	55.35	266	eP	P	00 12 14.0	+0.2
QSPA	South Pole Qui	56.51	180	P	P	00 12 23.8	+2.7
2.5nm,0.8s,mb4.3,baz=30,slow=1.5,SNR=6.0							
QSPA	South Pole Qui	56.51	180	eP	P	00 12 21.0	-0.2
DAV	Davao City (W)	66.48	297	eP	P	00 13 28.9	-0.5
MAW	Mawson	69.11	201	eP	P	00 13 47.8	+2.7
5.9nm,0.5s,mb4.8							
KKM	Kota Kinabalu	73.03	289	eP	P	00 14 09.2	-0.5
SNAA	Sanae	74.97	179	e	P	00 14 20.3	+0.1
SNAA	Sanae	74.97	179	eP	P	00 14 19.3	-0.9
COCO	West Island	78.80	263	eP	P	00 14 43.0	+0.2
YULB	Yu-li	80.46	306	eP	P	00 14 51.4	-0.1
MAJO	Matsushiro	80.55	326	eP	P	00 14 50.9	-0.8
MKAR	Makanchi Array	119.35	309	PKP	PKPdf	00 21 27.5	-0.8
0.1nm,0.5s,baz=252,slow=3.9,SNR=4.0							
MKAR	Makanchi Array	119.35	309	PKP	PKPdf	00 21 27.5	-0.8
ZALV	Zalesovo Beam	120.01	317	PKP	PKPdf	00 21 30.5	+1.1
0.3nm,0.4s,baz=132,slow=2.1,SNR=2.6							
ZALV	Zalesovo Beam	120.01	317	PKP	PKPdf	00 21 30.5	+1.1
FINES	FINESS Array B	147.92	338	PKPbc	PKPbc	00 22 22.7	-1.1
3.6nm,0.8s,baz=36,slow=3.6,SNR=19							
FINES	FINESS Array B	147.92	338	PKPbc	PKPbc	00 22 22.7	-1.1
ASF	Jabal al Asfar	150.17	277	PKPbc	PKPbc	00 22 30.9	+0.4
1.6nm,0.9s,baz=311,slow=11,SNR=3.7							
ASF	Jabal al Asfar	150.17	277	PKPbc	PKPbc	00 22 30.9	+0.4
EIL	Elat	151.16	271	PKPbc	PKPbc	00 22 33.0	+0.2
9.6nm,1.1s,baz=1.8,slow=11,SNR=5.4							
EIL	Elat	151.16	271	PKPbc	PKPbc	00 22 33.0	+0.2
MMAI	Mount Meron Ar	151.57	278	PKPbc	PKPbc	00 22 34.7	+1.0
5.2nm,0.8s,baz=116,slow=3.4,SNR=4.9							
MMAI	Mount Meron Ar	151.57	278	PKPbc	PKPbc	00 22 34.7	+1.0
DBIC	Dimbokro	152.59	167	PKPbc	PKPbc	00 22 35.2	-1.4
2.1nm,0.9s,baz=210,slow=8.1,SNR=2.9							
DBIC				PKPab	PKPab	00 22 46.4	-0.5
2.5nm,1.0s,baz=216,slow=4.9,SNR=4.7							
DBIC	Dimbokro	152.59	167	PKPbc	PKPbc	00 22 35.2	-1.4
DBIC				PKPab	PKPab	00 22 46.4	-0.5
BRTR	Keskin Array B	153.45	293	PKPbc	PKPbc	00 22 37.4	-0.3
1.5nm,0.9s,baz=174,slow=5.0,SNR=6.3							
BRTR	Keskin Array B	153.45	293	PKPbc	PKPbc	00 22 37.4	-0.3
TORD	Torodi Ar. Bea	159.63	181	PKPab	PKPab	00 23 16.7	-0.3
0.8nm,0.6s,baz=186,slow=2.8,SNR=14							
TORD	Torodi Ar. Bea	159.63	181	PKPab	PKPab	00 23 16.7	-0.3

IDC 09 00:10:11.0±4.4, 30°.42S×177°.54W, h0km, mb4.1/4, mb1 4.2/4, mb1mx4.0/16, mbtmp4.1/4, Error ellipse: s-maj=154.4km s-min=51.3km az=153.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.20	279	P	P	00 16 59.7	+1.4
0.8nm,0.3s,baz=111,slow=10.0,SNR=3.7							
STKA	Stephens Creek	34.87	257	P	P	00 17 04.9	+0.9
1.9nm,0.6s,baz=99,slow=8.5,SNR=4.8							
ASAR	Alice Springs	43.51	267	P	P	00 18 15.8	-0.6
0.6nm,0.6s,baz=107,slow=7.6,SNR=7.7							
WRA	Warramunga Arr	44.50	272	P	P	00 18 23.2	-1.1
1.5nm,0.6s,baz=111,slow=8.1,SNR=22							
FINES	FINESS Array B	145.30	340	PKPbc	PKPbc	00 29 49.0	-0.7
3.3nm,0.9s,baz=24,slow=4.9,SNR=6.3							

CASC 09 01:05:53.9±2.9, 8°.52N×83°.12W, h14km±10km, MD3.7, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.14	339	⇓iP	Pg	01 05 56.6	-1.0
ACR				eS	Sg	01 06 02.9	+2.7
BRU2	Volcan	0.50	57	⇓iP	Pg	01 06 04.3	+0.5
BRU2				eS	Sg	01 06 12.7	+2.2
BUS	Buena Vista	1.21	328	eP	Pn	01 06 14.3	-2.2
LAJ	Bijagual	1.66	323	eP	Pn	01 06 24.7	+2.0
LAJ				eS	Sn	01 06 50.0	+6.1
CGA2	Cerro Gallo 2	2.00	318	eP	Pn	01 06 27.3	+0.1
CGA2				eS	Sn	01 06 52.5	+0.4
PTP	Ponta Puerca	19.55	59	eP	x	01 06 02.8	
PTP				eS	x	01 06 08.6	

*ISCJB **09** 01:27:03.1±0.5, 30°.27N±0°.03×140°.8E±0°.1, h103km±5km, mb4.0/27, Error ellipse: s-maj=16.0km s-min=4.3km az=165.5*
*JMA **09** 01:27:03.8±0.1, 30°.39N×141°.50E, h50km, M4.6*
*IDC **09** 01:27:03.2±3.2, 30°.24N×140°.53E, h78km±30km, mb3.7/20, mb1 3.8/21, mb1mx3.8/27, mbtmp3.7/21, Error ellipse: s-maj=22.9km s-min=16.1km az=69.0*
*NEIC **09** 01:27:05.6±0.8, 30°.13N×140°.53E, h105km±7km, mb4.3/3, Error ellipse: s-maj=13.3km s-min=7.2km az=69.0*
*MOS **09** 01:27:05.6±1.0, 30°.19N×140°.42E, h118km, mb4.2/22, Error ellipse: s-maj=22.0km s-min=9.1km az=115.3*

ISC 09 01:27:04.6±0.5, 30°.25N±0°.03×140°.8E±0°.1, h99km±5km, n97, σ1s12/106, mb4.0/27, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.98	344	P	Pn	01 27 51.8	+1.9
JHJ2				eS	Sn	01 28 24.6	-0.3
CBIJ	Chichi jima	3.37	159	P	Pn	01 27 55.4	+0.2
49nm,0.3s,baz=68,slow=23,SNR=14							
CBIJ				S	Sn	01 28 32.8	-1.5
80nm,0.3s,baz=296,slow=21,SNR=10.0							
CBIJ	Chichi jima	3.37	159	P	Pn	01 27 55.4	+0.2
CBIJ				S	Sn	01 28 32.8	-1.5
CBIJ	Chichi jima	3.37	159	P	Pn	01 27 55.1	-0.1
JHHJ	Haha-jima-NKT	3.80	161	P	Pn	01 28 01.2	+0.1
JHHJ				eS	Sn	01 28 44.2	-0.6
BSO1	Boso 1	4.39	2	P	Pn	01 28 08.2	-0.8
BSO1				eS	Sn	01 28 56.7	-2.3
BSO3	Boso 3	4.55	357	P	Pn	01 28 10.4	-0.7
BSO3				eS	Sn	01 28 59.6	-3.1
BSO4	Boso 4	4.74	355	P	Pn	01 28 13.8	+0.1
BSO4				eS	Sn	01 29 06.2	-1.3
JOD2	Odawara 2	5.21	344	P	Pn	01 28 22.4	+2.4
JOD2				eS	Sn	01 29 18.0	-0.8
JWZ	Kozaga	5.43	308	P	Pn	01 28 24.0	+0.9
JNY	Yasuok	5.67	335	P	Pn	01 28 32.2	+5.9
JHU	Hanno	5.73	347	P	Pn	01 28 29.1	+2.0
JHU				eS	Sn	01 29 31.2	-0.3
JRY	Ryogami san	5.97	345	P	Pn	01 28 31.7	+1.3
JRY				eS	Sn	01 29 37.0	-0.3
JYT	Yasato	5.98	355	eS	Sn	01 29 33.6	-4.1
MJAR	Matsushiro Arr	6.64	342	P	Pn	01 28 41.8	+2.3
3.3nm,0.3s,baz=168,slow=11,SNR=11							
MJAR	Matsushiro Arr	6.64	342	P	Pn	01 28 41.8	+2.3
MJAR	Matsushiro Arr	6.64	342	P	Pn	01 28 41.8	+2.3
MJAR				pmax	pmax		
comp=Z,3.0nm,0.3s							
MAJO	Matsushiro	6.64	342	ePn	Pn	01 28 42.0	+2.5
MAJO	Matsushiro	6.64	342	eP	Pn	01 28 42.0	+2.5
MAT	Matsushiro	6.64	342	P	Pn	01 28 40.7	+1.2
MAT				eS	Sn	01 29 53.2	-0.5
KLR	Kul'dur	20.17	343	eP	P	01 31 26.8	-4.1
PETK	Petropavlovsk-	25.96	24	P	P	01 32 26.2	-1.4
comp=Z,2.4nm,0.4s,mb4.0,baz=193,slow=5.9,SNR=6.0							
PETK	Petropavlovsk-	25.96	24	P	P	01 32 26.2	-1.4
PETK	Petropavlovsk-	25.96	24	P	P	01 32 26.2	-1.4
PETK				pmax	pmax		
comp=Z,2.0nm,0.4s,mb3.9							
SONM	Songino Array	31.64	313	P	P	01 33 17.1	-1.1
comp=Z,0.7nm,0.6s,mb3.6,baz=125,slow=7.8,SNR=7.8							
SONM	Songino Array	31.64	313	P	P	01 33 17.1	-1.1
SONM	Songino Array	31.64	313	P	P	01 33 17.1	-1.0
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
CMAR	Chiang Mai Arr	39.71	263	P	P	01 34 26.9	-0.4
comp=Z,0.8nm,0.3s,mb4.1,baz=58,slow=6.6,SNR=5.2							
CMAR	Chiang Mai Arr	39.71	263	P	P	01 34 26.9	-0.4
CMAR	Chiang Mai Arr	39.71	263	P	P	01 34 27.0	-0.4
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZALV	Zalesovo Beam	46.34	317	P	P	01 35 19.3	-1.1
comp=Z,0.7nm,0.4s,mb3.8,baz=100,slow=8.2,SNR=5.8							
ZALV	Zalesovo Beam	46.34	317	P	P	01 35 19.3	-1.1
ZALV	Zalesovo Beam	46.34	317	P	P	01 35 19.3	-1.1
ZALV				pmax	pmax		
comp=Z,1.0nm,0.4s,mb3.9							
MK31	Makanchi Array	47.58	307	eP	P	01 35 28.9	-1.2
MK31	Makanchi Array	47.58	307	eP	P	01 35 28.9	-1.2
MKAR	Makanchi Array	47.58	307	P	P	01 35 29.1	-1.0
comp=Z,0.6nm,0.6s,mb3.6,baz=86,slow=10.0,SNR=11							
MKAR				PcP	PcP	01 36 59.2	+0.8
comp=Z,0.6nm,0.3s,baz=81,slow=6.2,SNR=20							
MKAR	Makanchi Array	47.58	307	P	P	01 35 29.1	-1.0
MKAR				PcP	PcP	01 36 59.2	+0.8
MKAR	Makanchi Array	47.58	307	P	P	01 35 29.1	-1.0
MKAR						01 36 59.3	
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
KURK	Kurchatov	49.95	313	P	P	01 35 47.6	-0.6
comp=Z,1.1nm,0.4s,mb4.1,baz=91,slow=9.2,SNR=20							
KURK	Kurchatov	49.95	313	P	P	01 35 47.6	-0.6
KURK	Kurchatov	49.95	313	P	P	01 35 47.6	-0.6
KURK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
WRA	Warramunga Arr	50.29	188	P	P	01 35 50.5	-0.5
comp=Z,0.4nm,0.4s,mb3.7,baz=8.0,slow=7.8,SNR=10							
WRA	Warramunga Arr	50.29	188	P	P	01 35 50.5	-0.5
WRA	Warramunga Arr	50.29	188	P	P	01 35 50.5	-0.5
ASAR	Alice Springs	54.02	188	P	P	01 36 19.1	+0.5
comp=Z,0.3nm,0.3s,mb3.8,baz=4.7,slow=5.6,SNR=6.2							
ASAR	Alice Springs	54.02	188	P	P	01 36 19.1	+0.5
ASAR	Alice Springs	54.02	188	P	P	01 36 19.1	+0.5
BVAR	Borovoye Array	54.93	316	P	P	01 36 24.8	-0.2
comp=Z,1.3nm,0.5s,mb4.2,baz=92,slow=7.3,SNR=9.3							
BVAR				PcP	PcP	01 37 26.7	+1.0
comp=Z,0.6nm,0.5s,baz=108,slow=4.7,SNR=2.5							
BVAR	Borovoye Array	54.93	316	P	P	01 36 24.8	-0.2
BVAR				PcP	PcP	01 37 26.7	+1.0
BVAR	Borovoye Array	54.93	316	P	P	01 36 24.8	-0.2
BVAR						01 37 26.7	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
BVAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ILAR	Eielson Array	55.55	30	P	P	01 36 29.9	+0.7
comp=Z,0.7nm,1.0s,mb3.6,baz=270,slow=6.3,SNR=3.5							
ILAR	Eielson Array	55.55	30	P	P	01 36 29.9	+0.7
ILAR	Eielson Array	55.55	30	P	P	01 36 29.9	+0.7
ILAR				pmax	pmax		
comp=Z,1.0nm,1.0s							
KK31	Karatay Array	56.30	304	eP	P	01 36 33.8	-1.1
KK31				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
KKAR	Karatay Array	56.30	304	eP	P	01 36 33.9	-1.0
comp=Z,2.2nm,0.8s,mb4.2							
KKAR	Karatay Array	56.30	304	eP	P	01 36 33.9	-1.0
KKAR				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
AB31	Akbulak array	62.06	313	iP	P	01 37 13.9	-0.6
AB31				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.3							
ABKAR	Akbulak array	62.06	313	eP	P	01 37 14.0	-0.5
comp=Z,2.0nm,0.4s,mb4.5							
AKTO	Aktyubinsk	62.95	315	P	P	01 37 20.0	-0.4
comp=Z,1.4nm,0.6s,mb4.1,baz=83,slow=13,SNR=6.7							
AKTO	Aktyubinsk	62.95	315	P	P	01 37 20.0	-0.4
AKTO	Aktyubinsk	62.95	315	P	P	01 37 20.0	-0.5
AKTO				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
SPITS	Spitsbergen Ar	67.07	349	P	P	01 37 47.8	+1.1
comp=Z,7.8nm,0.9s,mb4.5,baz=73,slow=6.5,SNR=9.0							
SPITS	Spitsbergen Ar	67.07	349	P	P	01 37 47.8	+1.1
SPITS	Spitsbergen Ar	67.07	349	P	P	01 37 47.8	+1.1
SPITS				pmax	pmax		
comp=Z,8.0nm,0.9s							
ARCES	ARCESS Array B	70.18	340	P	P	01 38 06.9	+0.8
comp=Z,1.6nm,0.8s,mb3.9,baz=66,slow=6.9,SNR=7.4							
ARCES	ARCESS Array B	70.18	340	P	P	01 38 06.9	+0.8
ARCES				pmax	pmax		
comp=Z,2.0nm,0.8s							
JOF	Joensuu	71.73	333	eP	P	01 38 15.4	-0.2
JOF				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.2							
JOF	Joensuu	71.73	333	ep	P	01 38 15.4	-0.2
comp=Z,1.6nm,0.5s,mb4.1							
KAF	Kangasniemi	74.12	334	eP	P	01 38 29.7	0.0
KAF				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.1							
KAF	Kangasniemi	74.12	334	ep	P	01 38 29.7	0.0
comp=Z,1.8nm,0.5s,mb4.1							
FINES	FINESS Array B	74.60	333	P	P	01 38 33.1	+0.7
comp=Z,2.1nm,0.4s,mb4.2,baz=76,slow=5.3,SNR=32							
FINES	FINESS Array B	74.60	333	P	P	01 38 33.1	+0.7
FINES	FINESS Array B	74.60	333	P	P	01 38 33.2	+0.7
FINES				pmax	pmax		
comp=Z,2.0nm,0.4s							
AKASG	Malin Array Be	79.38	323	P	P	01 38 59.7	+0.2
comp=Z,1.3nm,0.3s,mb4.2,baz=51,slow=5.4,SNR=7.6							
AKASG	Malin Array Be	79.38	323	P	P	01 38 59.7	+0.3
AKASG	Malin Array Be	79.38	323	P	P	01 38 59.7	+0.2
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
HFS	Hagfors	80.06	336	P	P	01 39 03.7	+0.7
comp=Z,1.9nm,0.6s,mb4.1,baz=358,slow=4.6,SNR=3.7							
HFS	Hagfors	80.06	336	P	P	01 39 03.7	+0.7
HFS	Hagfors	80.06	336	P	P	01 39 03.7	+0.7
HFS				pmax	pmax		
comp=Z,2.0nm,0.6s							
NOA	NORSAR Array B	80.25	338	P	P	01 39 04.6	+0.6
comp=Z,1.0nm,0.8s,mb3.7,baz=46,slow=4.7,SNR=3.9							
NOA	NORSAR Array B	80.25	338	P	P	01 39 04.6	+0.6
NOA	NORSAR Array B	80.25	338	P	P	01 39 04.6	+0.6
NOA				pmax	pmax		
comp=Z,1.0nm,0.8s							
PDAR	Pinedale Array	82.81	44	P	P	01 39 20.3	+2.4
comp=Z,0.3nm,0.6s,mb3.3,baz=268,slow=2.7,SNR=2.6							
PDAR	Pinedale Array	82.81	44	P	P	01 39 20.3	+2.4
BR131	Keskin Array S	82.99	312	P	P	01 39 19.7	+0.8
comp=Z,2.6nm,0.9s,mb4.1							
BRTR	Keskin Array B	82.99	312	P	P	01 39 19.7	+0.9
comp=Z,2.8nm,0.8s,mb4.1,baz=89,slow=2.9,SNR=14							
BRTR	Keskin Array B	82.99	312	P	P	01 39 19.7	+0.9
BRTR	Keskin Array B	82.99	312	P	P	01 39 19.7	+0.8
BRTR				pmax	pmax		
comp=Z,3.0nm,0.8s							
GERES	GERESS Array B	88.20	328	P	P	01 39 44.7	+0.2
comp=Z,0.1nm,0.4s,mb3.2,baz=38,slow=5.0,SNR=4.5							
GERES	GERESS Array B	88.20	328	P	P	01 39 44.7	+0.2
GERES	GERESS Array B	88.20	328	P	P	01 39 44.7	+0.3
TXAR	Lajitas Array	94.66	52	P	P	01 40 18.0	+3.2
comp=Z,0.6nm,0.8s,mb4.1,baz=292,slow=3.9,SNR=3.5							
TXAR	Lajitas Array	94.66	52	P	P	01 40 18.0	+3.2
TXAR	Lajitas Array	94.66	52	P	P	01 40 18.0	+3.2
TXAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
TORD	Torodi Ar. Bea	121.60	312	PKP	PKPdf	01 45 47.7	+0.4
comp=Z,0.2nm,0.7s,baz=60,slow=2.8,SNR=3.2							
TORD	Torodi Ar. Bea	121.60	312	PKP	PKPdf	01 45 47.7	+0.4

IDC 09 01:42:44.6±1.2, 0°.69N×125°.28E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=140.8km s-min=20.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.34	157	P	P	01 47 44.1	-0.1
0.9nm,0.4s,baz=334,slow=11,SNR=18							
ASAR	Alice Springs	25.62	161	P	P	01 48 16.1	+0.2
0.2nm,0.3s,baz=344,slow=9.6,SNR=3.8							
SONM	Songino Array	49.74	343	P	P	01 51 37.9	-0.7
0.1nm,0.4s,baz=173,slow=6.8,SNR=2.1							
MKAR	Makanchi Array	59.25	327	P	P	01 52 48.2	+0.4
0.2nm,0.4s,baz=125,slow=7.7,SNR=6.3							
KURK	Kurchatov	63.54	329	P	P	01 53 17.2	+0.4
0.3nm,0.6s,baz=126,slow=6.1,SNR=5.5							

*DJA **09** 01:58:24, 1°.80S×140°.92E, h8km, MLv4.4/3*
*IDC **09** 01:58:29.7±1.6, 2°.23S×140°.38E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/14, mbtmp3.8/7, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/28, Error ellipse: s-maj=53.7km s-min=22.3km az=96.0*
*ISCJB **09** 01:58:32.1±1.3, 2°.3S±0°.1×140°.40E±0°.10, h29km±12km, mb3.7/6, Error ellipse: s-maj=17.5km s-min=16.7km az=3.0*

ISC 09 01:58:31.8±2.1, 2°.2S±0°.1×140°.36E±0°.10, h12km±16km, n13, σ0s81/14, mb3.7/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.46	130	P	Pg	01 58 39.3	-1.5
JAY				S	Sg	01 58 48.1	+1.2
SMPI	Sarmi	1.66	278	P	Pn	01 59 00.9	+0.2
SMPI				S	Sn	01 59 29.9	+8.0
WAMI	Wamena	2.33	225	P	Pn	01 59 11.1	+1.2
WAMI				S	Sn	01 59 50.5	+12
GTOI	Gorontalo	17.57	279	P	Pn	02 02 36.7	0.0
WRA	Warramunga Arr	18.57	198	P	Pn	02 02 47.5	-1.4
0.2nm,0.3s,baz=26,slow=12,SNR=5.3							
WRA				LR	LR	02 10 23.4	
comp=Z,145nm,20.7s,baz=45,slow=38							
FITZ	Fitzroy Crossi	21.39	221	P	P	02 03 19.3	-0.1
3.8nm,1.0s,mb3.7,baz=36,slow=11,SNR=6.9							
ASAR	Alice Springs	22.22	196	P	P	02 03 28.2	0.0
2.9nm,0.8s,mb3.8,baz=28,slow=9.7,SNR=15							
CMAR	Chiang Mai Arr	45.63	299	P	P	02 06 53.0	+0.5
0.8nm,0.3s,mb4.1,baz=110,slow=6.8,SNR=4.5							
MKAR	Makanchi Array	70.41	322	P	P	02 09 45.8	0.0
0.7nm,0.7s,mb3.7,baz=122,slow=8.0,SNR=7.6							
ZALV	Zalesovo Beam	72.35	329	P	P	02 09 56.7	-0.6
0.2nm,0.3s,mb3.5,baz=97,slow=7.4,SNR=3.2							
ILAR	Eielson Array	84.71	24	P	P	02 11 05.8	+0.5
0.4nm,1.0s,mb3.5,baz=219,slow=7.0,SNR=2.6							
TORD	Torodi Ar. Bea	137.69	287	PKP	PKPdf	02 17 55.6	-1.4
1.3nm,1.3s,baz=97,slow=1.1,SNR=2.5							
DBIC	Dimbokro	145.05	278	PKPbc	PKPbc	02 18 09.6	0.0
3.2nm,0.8s,baz=86,slow=4.6,SNR=5.1							

*ATH **09** 02:26:06.7, 34°.68N×24°.04E, h5km±4km, MD3.5/7*
*ISCJB **09** 02:26:07.7±1.4, 34°.70N±0°.06×24°.13E±0°.05, h0km±7km, mb3.6/3, Error ellipse: s-maj=10.4km s-min=6.4km az=13.2*
*CSEM **09** 02:26:09.5±0.6, 34°.75N×24°.18E, h8km, ML3.1/1, Error ellipse: s-maj=12.4km s-min=6.6km az=8.0*
*THE **09** 02:26:10.0, 34°.81N×24°.18E, h0km±3km, ML3.1/1, Error ellipse: s-maj=5.8km s-min=1.4km az=194.0*
*IDC **09** 02:26:13.6±5.0, 34°.11N×24°.58E, h73km±50km, mb3.2/3, mb1 3.1/4, mb1mx2.9/23, mbtmp3.1/4, ML2.3/1, Error ellipse: s-maj=250.5km s-min=23.1km az=141.0*

ISC 09 02:26:08.3±1.4, 34°.69N±0°.06×24°.14E±0°.05, h5km±7km, n32, σ1s21/46, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.15	344	P	Pg	02 26 11.6	+0.2
GVD	Gavdhos	0.15	344	P	Pg	02 26 11.6	+0.2
SIVA	Sivas	0.64	59	ePB	Pb	02 26 20.5	-1.5
SIVA				eSB	Sg	02 26 31.2	+2.3
SIVA	Sivas	0.64	59	P	Pg	02 26 20.6	0.0
SIVA				S	Sg	02 26 29.8	+0.9
SIVA	Sivas	0.64	59	ePb	Pb	02 26 20.5	-1.5
SIVA				S	Sg	02 26 29.8	+0.9
SIVA				eSb	Sg	02 26 31.4	+2.5
VAM	Vamos	0.71	4	ePG	Pg	02 26 20.9	-1.1
VAM				eSB	Sb	02 26 31.9	-1.5
VAM	Vamos	0.71	4	P	Pg	02 26 20.8	-1.2
VAM				S	Sg	02 26 31.4	+0.1
VAM	Vamos	0.71	4	ePg	Pg	02

AKCD	**Akcadag**	**0.87 265**	*i* P	**Pg**	**02 37 18.1**	**-0.8**
AKCD			*i* S	**Sg**	**02 37 30.6**	**+0.4**
URFA	**Urfa**	**0.94 190**	*e*PG	**Pg**	**02 37 19.9**	**-0.4**
URFA	**Urfa**	**0.94 190**	*e*Pg	**Pg**	**02 37 19.9**	**-0.4**
DIYA	**Diyarbakir**	**0.97 117**	*i* P	**Pg**	**02 37 21.0**	**+0.1**
DIYA			*i* S	**Sg**	**02 37 35.2**	**+1.7**
DIYA	**Diyarbakir**	**0.97 117**	*i* P	**Pg**	**02 37 21.0**	**+0.1**
DIYA			*i* S	**Sg**	**02 37 35.2**	**+1.7**
KEMA	**Kemaliye**	**0.99 335**	*i* P	**Pg**	**02 37 20.1**	**-1.1**
KEMA			*i* S	**Sg**	**02 37 33.7**	**-0.2**
KEMA	**Kemaliye**	**0.99 335**	*i* P	**Pg**	**02 37 20.1**	**-1.0**
KEMA			*i* S	**Sg**	**02 37 33.7**	**-0.2**
ATAB	**Bozova**	**1.07 213**	*i* P	**Pg**	**02 37 21.9**	**-0.8**
ATAB			*i* S	**Sg**	**02 37 36.5**	**0.0**
ATAB	**Bozova**	**1.07 213**	*i* P	**Pg**	**02 37 21.9**	**-0.8**
ATAB			*i* S	**Sg**	**02 37 36.5**	**-0.1**
DARE	**Darende-Malaty**	**1.11 302**	*e*PN	**Pg**	**02 37 24.8**	**+1.2**
DARE	**Darende-Malaty**	**1.11 302**	*e*Pn	**Pg**	**02 37 24.8**	**+1.2**
BINT	**Bingol**	**1.25 66**	*e*Pn	**Pn**	**02 37 28.1**	**+1.5**
EZC	**Erzincan**	**1.40 10**	*e*PN	**Pn**	**02 37 27.3**	**-1.3**
EZC	**Erzincan**	**1.40 10**	*e*Pn	**Pn**	**02 37 27.3**	**-1.4**
BNGB	**Bing¶ll**	**1.44 64**	*e*PN	**Pn**	**02 37 28.1**	**-1.0**
MARD	**Mardin**	**1.75 127**	*i* P	**Pn**	**02 37 32.8**	**-0.6**
MARD			*i* S	**Sn**	**02 37 54.4**	**-1.7**
BEST	**Besiri**	**1.84 104**	*i* P	**Pn**	**02 37 35.2**	**+0.6**
BEST			*i* S	**Sn**	**02 37 58.9**	**+0.5**
SARI	**SarD1z-Kayseri**	**1.85 280**	*e*PN	**Pn**	**02 37 37.0**	**+2.2**
SARI	**SarD1z-Kayseri**	**1.85 280**	*e*Pn	**Pn**	**02 37 37.0**	**+2.2**
GAZ	**Gaziantep**	**1.87 231**	*e*PN	**Pn**	**02 37 35.1**	**0.0**
GAZ	**Gaziantep**	**1.87 231**	*e*Pn	**Pn**	**02 37 35.1**	**0.0**
KMRS	**Kahramanmaras**	**1.89 243**	*e*PN	**Pn**	**02 37 35.1**	**-0.2**
KMRS	**Kahramanmaras**	**1.89 243**	*e*Pn	**Pn**	**02 37 35.1**	**-0.3**
SCER	**sogukcermik**	**2.09 316**	*i* P	**Pn**	**02 37 39.5**	**+1.3**
SCER			*i* S	**Sn**	**02 38 09.8**	**+5.1**
SCER	**sogukcermik**	**2.09 316**	*i* P	**Pn**	**02 37 39.5**	**+1.3**
SCER			*i* S	**Sn**	**02 38 09.8**	**+5.1**
KUZU	**Kuzuini**	**2.22 225**	*i* P	**Pn**	**02 37 45.1**	**+5.1**
KUZU	**Kuzuini**	**2.22 225**	*i* P	**Pn**	**02 37 45.1**	**+5.1**

ISCJB ***09*** *02:46:31.5±0.1,30°.32N×0°.02×67°.53E±0°.02,h12km, mb5.0/186,MS4.9/75,Error ellipse: s-maj=3.0km s-min=1.9km az=9.2*

IDC ***09*** *02:46:31.8±0.4,30°.34N×67°.43E,h0km,mb4.7/38, mb1 4.8/38,mb1mx4.7/43,mbtmp4.7/38,MS4.8/35, Ms1 4.8/35,ms1mx4.7/41,Error ellipse: s-maj=9.6km s-min=8.3km az=156.0*

BJI ***09*** *02:46:32.7,30°.69N×67°.43E,h7km,mB5.0/40,mb5.0/52, Ms5.3/58,Ms7 5.1/52*

NEIC ***09*** *02:46:32.7±0.2,30°.34N×67°.56E,h10km,mb5.3/89,Error ellipse: s-maj=6.1km s-min=3.5km az=194.0*

NEIC Felt at Quetta and Ziarat.

SZGRF ***09*** *02:46:32.8,30°.20N×68°.04E,h33km,mb5.4,MS4.6, Pakistan*

DJA ***09*** *02:46:34,30°.35N×67°.51E,h10km,mb5.0/9*

MOS ***09*** *02:46:34.4±1.1,30°.49N×67°.44E,h25km,mb5.3/91, MS4.8/40,Error ellipse: s-maj=5.6km s-min=3.5km az=121.7*

NNC ***09*** *02:46:34.2±1.9,30°.62N×67°.56E,h0km,mb4.8,Error ellipse: s-maj=26.0km s-min=17.9km az=151.0*

GCMT ***09*** *02:46:35.5±0.2,30°.32N×67°.48E,h16km±1km,MW5.2, Moment Tensor Solution. s47,c70; s90,c167; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.62±.17; $M_{\theta\theta}$-6.34±.17; $M_{\phi\phi}$6.97±.17; $M_{r\theta}$0.38±.40; $M_{r\phi}$5.01±.14; $M_{\theta\phi}$2.27±.46; Best double couple: $M_0$8.60000×10^{16} NP1:ϕ_s64.00000°, δ79.00000°,λ7.00000°. NP2:ϕ_s333.00000°,δ83.00000°, λ169.00000°. Principal axes: T 9.1700, Plg13.0000°, Azm288.0000°; N -1.1300, Plg77.0000°, Azm121.0000°; P -8.0300, Plg3.0000°, Azm19.0000°; Data Used: II IU IC G CN.*

ISC 09 02:46:32.0±0.7,**30°.36N**±0°.02×**67°.51E**±0°.02,**h1**km±4km, **n658**,σ1§**12**/709,**mb5.0**/186,**MS4.9**/75,**30C-26D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**4.35**	**55**	P		**Pn**	**02 47 41.7**	**+2.5**
KBL	**Kabul**	**4.37**	**17**	*e*Pn		**Pn**	**02 47 42.4**	**+3.0**
KBL	**Kabul**	**4.37**	**17**	*e*P		**Pn**	**02 47 42.4**	**+3.0**
SARP	**Sargodha**	**4.69**	**69**	P		**Pn**	**02 47 44.2**	**+0.4**
CHCP	**Chirah Chowk**	**5.89**	**55**	⇑P		**Pn**	**02 48 01.9**	**+1.6**
AJM	**Ajmer**	**7.37**	**120**	*e*PKP		**Pn**	**02 48 21.0**	**+0.3**
AJM				*ex*		**Sn**	**02 49 45.0**	**0.0**
KHET	**Khetri**	**7.60**	**105**	*e*PKP		**Pn**	**02 48 22.8**	**-1.0**
BHK	**Bhakra**	**7.72**	**80**	*e*PKP		**Pn**	**02 48 26.2**	**+0.7**
BHK				*ex*		**Sn**	**02 49 53.2**	**-0.4**
SDNR	**Sundarnagar**	**8.20**	**80**	*e*PKP		**Pn**	**02 48 31.0**	**-1.1**
SDNR				*ex*		**Sn**	**02 50 06.0**	**+0.6**
SMLA	**Simla**	**8.34**	**82**	*i* P		**Pn**	**02 48 34.2**	**+0.2**
SMLA				*i* x		**Sn**	**02 50 07.8**	**-1.1**
SMLA	comp=E,6μm,0.6s				AML	AML	02 50 11.3	
SMLA	comp=N,4μm,0.4s				AML	AML	02 50 12.5	
AYAN	**Aya Nagar**	**8.59**	**100**	*e*PKP		**Pn**	**02 48 37.6**	**+0.2**
AYAN				*ex*		**Sn**	**02 50 13.7**	**-1.2**
NDI	**New Delhi**	**8.62**	**99**	*e*PKP		**Pn**	**02 48 36.0**	**-1.8**
NDI				*ex*		**Sn**	**02 50 11.2**	**-4.5**
DDI	**Dehra Dun**	**9.11**	**88**	*ex*		**Pn**	**02 48 48.0**	**+3.4**
DDI				*ex*		x	02 50 32.4	
BHV	**Bhavnagar**	**9.53**	**153**	*ex*		**Pn**	**02 48 51.5**	**+1.2**
AGRA	**Agra**	**9.67**	**106**	*e*PKP		**Pn**	**02 48 50.6**	**-1.6**
AGRA				*ex*		x	02 50 53.7	
AGRA	comp=E,475nm,0.4s				AML	AML	02 50 58.8	
AGRA	comp=N,441nm,0.3s				AML	AML	02 50 59.6	
BANOM	**Banah** SNR=21	**10.84**	**249**	P		**Pn**	**02 49 07.5**	**-0.7**
ABKT	**Ailbek** comp=N,233nm,0.9s,SNR=11	**10.84**	**317**	Pn		**Pn**	**02 49 09.2**	**+1.0**
WBK	**Wadi Bani Khal** SNR=9.6	**10.86**	**227**	P		**Pn**	**02 49 07.6**	**-1.0**
PTH	**Pithoragarh**	**11.05**	**91**	*e*PKP		**Pn**	**02 49 13.3**	**+2.2**
PTH				*eS*		**Sn**	**02 51 10.2**	**-5.1**
LGTI	**Lohaghat**	**11.09**	**91**	*e*PKP		**Pn**	**02 49 17.2**	**+5.6**
LGTI				*eS*		**Sn**	**02 51 14.1**	**-2.2**
SMDO	**Samad** SNR=13	**11.15**	**232**	P		**Pn**	**02 49 12.3**	**-0.2**
SMDO	**Samad** SNR=43	**11.15**	**232**	P		**Pn**	**02 49 12.2**	**-0.3**
BHPL	**Bhopal**	**11.34**	**126**	*e*PKP		**Pn**	**02 49 14.1**	**-0.9**
BHPL				*e*PKP			02 49 16.5	
BHPL				*eS*		**Sn**	**02 51 11.2**	**-11**
KSH	**Kashi**	**11.47**	**35**	*e*P		**Pn**	**02 49 12.4**	**-4.4**
KSH				pP			02 49 15.7	
KSH				sP			02 49 18.5	
KSH				PP			02 49 21.3	
KSH				S		**Sn**	**02 51 14.8**	**-11**
KSH				sS			02 51 19.6	
KSH				SS			02 51 27.6	
KSH	comp=Z,360nm,2.6s			pmax		pmax		
KSH	comp=N,9μm,7.1s			LR		LR		
KSH	comp=E,16μm,9.0s			LR		LR		
KSH	comp=Z,12μm,9.3s			LR		LR		
HATD	**Hatta, Dubai** SNR=10	**11.50**	**244**	P		**Pn**	**02 49 26.1**	**+8.8**
JMDO	**Jabal Madar** SNR=11	**11.59**	**229**	P		**Pn**	**02 49 18.6**	**+0.1**
JMDO	**Jabal Madar** SNR=32	**11.59**	**229**	P		**Pn**	**02 49 18.4**	**-0.1**
ASHO	**Ashiyiah** SNR=38	**11.63**	**244**	P		**Pn**	**02 49 20.1**	**+1.1**
ASHO	**Ashiyiah** SNR=61	**11.63**	**244**	P		**Pn**	**02 49 18.6**	**-0.5**
NAZ	**Nazwa, Dubai** SNR=24	**11.78**	**246**	P		**Pn**	**02 49 22.0**	**+0.8**
NAZ	**Nazwa, Dubai** SNR=25	**11.78**	**246**	P		**Pn**	**02 49 22.2**	**+1.0**
BSY	**Bisya** SNR=28	**11.94**	**233**	P		**Pn**	**02 49 23.6**	**+0.2**
ARQ	**Araqi** SNR=37	**12.04**	**237**	P		**Pn**	**02 49 26.0**	**+1.3**
ASUD	**Al Ashush, Dub** SNR=9.2	**12.23**	**245**	P		**Pn**	**02 49 28.6**	**+1.3**
AML	**Almayashu**	**12.76**	**21**	P		**Pn**	**02 49 34.2**	**-0.2**
AML	SNR=362			P			02 49 34.2	
KK31	**Karatay Array** SNR=362	**12.95**	**10**	Pn		**Pn**	**02 49 35.1**	**-1.8**
KK31	comp=Z,15nm,0.6s,baz=192,slow=14,SNR=155			⇑Sn		**Sn**	**02 52 00.3**	**-1.3**
KK31	**Karatay Array**	**12.95**	**10**	P		**Pn**	**02 49 35.1**	**-1.9**
KK31	comp=Z,23nm,0.8s,baz=193,slow=22			pmax		pmax		
KKAR	**Karatay Array**	**12.95**	**10**	*e*Pn		**Pn**	**02 49 35.4**	**-1.6**
KKAR	**Karatay Array**	**12.95**	**10**	*e*P		**Pn**	**02 49 35.4**	**-1.6**
POO	**Poona**	**13.11**	**153**	*e*PKP		**Pn**	**02 49 37.3**	**-2.0**
POO				*ex*		x	02 52 13.8	
UCH	**Uchtor** SNR=17	**13.12**	**24**	P		**Pn**	**02 49 41.7**	**+2.4**
UCH				P			02 49 41.7	
JBP	**Jabalpur**	**13.24**	**120**	*e*PKP		**Pn**	**02 49 39.8**	**-1.3**
JBP				*ex*		x	02 52 02.2	
KZA	**Kyzart** SNR=37	**13.25**	**26**	P		**Pn**	**02 49 41.9**	**+0.7**
KZA				P			02 49 41.9	
EKS2	**Erkin-Say** SNR=67	**13.27**	**21**	P		**Pn**	**02 49 41.3**	**0.0**
EKS2				P			02 49 41.3	
EKS2	**Erkin-Say**	**13.27**	**21**	*e*Pn		**Pn**	**02 49 41.3**	**-0.1**
EKS2				*eS*		**Sn**	**02 52 09.7**	**+0.2**
EKS2	**Erkin-Say**	**13.27**	**21**	*e*P		**Pn**	**02 49 41.3**	**-0.1**
EKS2				*eS*		**Sn**	**02 52 09.7**	**+0.2**
AAK	**Ala-Archa** SNR=76	**13.47**	**23**	P		**Pn**	**02 49 44.1**	**0.0**
AAK				P			02 49 44.1	
AAK	**Ala-Archa** comp=Z,474nm,0.5s,SNR=68	**13.47**	**23**	Pn		**Pn**	**02 49 44.0**	**-0.1**
AAK	**Ala-Archa**	**13.47**	**23**	*e*Pn		**Pn**	**02 49 43.9**	**-0.2**
AAK				*eS*n		**Sn**	**02 52 12.7**	**-1.7**
AAK	**Ala-Archa**	**13.47**	**23**	*e*P		**Pn**	**02 49 43.9**	**-0.2**
AAK				*e*			02 52 12.7	
AAK	**Ala-Archa** comp=Z,5μmcomp=Z,468nm,1.7s	**13.47**	**23**	P		**Pn**	**02 49 44.4**	**+0.3**
AAK	**Ala-Archa** SNR=60	**13.47**	**23**	P		**Pn**	**02 49 44.8**	**+0.7**
ALBI	**Allahabad**	**13.61**	**108**	*ex*		**Pn**	**02 49 42.0**	**-4.1**
KBK	**Karagaybulak** SNR=54	**13.64**	**24**	P		**Pn**	**02 49 47.2**	**+0.7**
KBK				P			02 49 47.2	
FRU	**Bishkek**	**13.69**	**23**	*e*P		**Pn**	**02 49 47.0**	**-0.1**
FRU				*eS*		**Sn**	**02 52 28.0**	**+8.2**
FRU	comp=Z,200nm,1.4s			pmax		pmax		
FRU	comp=N,350nm,1.6s			smax				
ULHL	**Ulahol** SNR=9.7	**13.78**	**28**	P		**Pn**	**02 49 47.6**	**-0.8**
ULHL				P			02 49 47.6	
NGP	**Nagpur**	**13.85**	**129**	*e*PKP		**Pn**	**02 49 48.2**	**-1.2**
NGP				*eS*		**Sn**	**02 52 25.0**	**+1.1**
CHMS	**Chumysh** SNR=58	**13.88**	**23**	P		**Pn**	**02 49 49.1**	**-0.6**
CHMS				P			02 49 49.1	
USP	**Ospenovka** SNR=21	**14.04**	**21**	P		**Pn**	**02 49 51.4**	**-0.5**
USP				P			02 49 51.4	
TKM2	**Tokmak 2** SNR=181	**14.11**	**25**	P		**Pn**	**02 49 52.1**	**-0.7**
TKM2				P			02 49 52.1	
TKM2	**Tokmak 2** comp=N,216nm,1.1s	**14.11**	**25**	⇓Pn		**Pn**	**02 49 52.6**	**-0.3**
TKM2	comp=N,38nm,1.4s			⇓Sn		**Sn**	**02 52 26.2**	**-3.8**
TKM2	**Tokmak 2**	**14.11**	**25**	*e*Pn		**Pn**	**02 49 52.0**	**-0.8**
TKM2	**Tokmak 2**	**14.11**	**25**	*i* P		**Pn**	**02 49 52.1**	**-0.7**
KOLN	**Koldanda** comp=N,175nm,0.6s	**14.30**	**96**	*e*P		**Pn**	**02 49 52.6**	**-3.0**
KOLN	**Koldanda** comp=N,175nm,0.6s	**14.30**	**96**	*e*P		**Pn**	**02 49 52.6**	**-3.0**
DANN	**Dangsing** comp=N,324nm,0.6s	**14.31**	**94**	*e*P		**Pn**	**02 49 53.4**	**-2.3**
DANN	**Dangsing** comp=N,324nm,0.6s	**14.31**	**94**	*e*P		**Pn**	**02 49 53.4**	**-2.3**
KAD	**Karad**	**14.35**	**153**	*e*PKP		**Pn**	**02 49 55.8**	**-0.4**
KAD				*ex*		x	02 52 43.3	
AAA	**Alma-Ata**	**14.93**	**28**	*e*P		**Pn**	**02 50 05.1**	**+1.1**
AAA				*eS*		**Sn**	**02 52 48.8**	**-1.1**
AAA	comp=Z,700nm,3.2s			pmax		pmax		
AAA	comp=E,2μm,6.4s			smax				
AAA	comp=Z,10μm,10.0s			MLR		MLR		
GKN	**Gorkha** comp=Z,171nm,0.7s	**15.14**	**95**	*e*P		**Pn**	**02 50 03.9**	**-3.1**
GKN	**Gorkha** comp=Z,171nm,0.7s	**15.14**	**95**	*e*P		**Pn**	**02 50 03.9**	**-3.1**
DMN	**Daman** comp=Z,157nm,0.8s	**15.64**	**96**	*e*P		**Pn**	**02 50 10.9**	**-2.6**
DMN	**Daman** comp=Z,157nm,0.8s	**15.64**	**96**	*e*P		**Pn**	**02 50 10.9**	**-2.6**
KKN	**Kakani** comp=Z,203nm,0.7s	**15.74**	**95**	*e*P		**Pn**	**02 50 11.7**	**-3.2**
KKN	**Kakani** comp=Z,203nm,0.7s	**15.74**	**95**	*e*P		**Pn**	**02 50 11.7**	**-3.2**
KKN	**Kakani**	**15.74**	**95**	*e*P		**Pn**	**02 50 11.7**	**-3.2**
KKN	comp=Z,203nm,0.7s			pmax		pmax		
GOA	**Goa**	**15.89**	**157**	⇓*e*PKP		**Pn**	**02 50 17.1**	**+0.3**
GOA				*ex*		x	02 53 34.7	
PKI	**Pulchoki** comp=Z,189nm,0.8s	**15.91**	**96**	*e*P		**Pn**	**02 50 14.2**	**-2.9**
PKI	**Pulchoki** comp=Z,189nm,0.8s	**15.91**	**96**	*e*P		**Pn**	**02 50 14.2**	**-2.9**
PKI	**Pulchoki**	**15.91**	**96**	*e*P		**Pn**	**02 50 14.2**	**-2.9**
PKI	comp=Z,189nm,0.8s			pmax		pmax		
GUN	**Gumba** comp=Z,963nm,1.0s	**16.23**	**94**	*e*P		**Pn**	**02 50 18.1**	**-3.2**
GUN	**Gumba** comp=Z,963nm,1.0s	**16.23**	**94**	*e*P		**Pn**	**02 50 18.1**	**-3.2**
HYB	**Hyderabad**	**16.35**	**139**	*i* P		**Pn**	**02 50 25.0**	**+2.2**
HYB				*eS*		**Sn**	**02 53 36.0**	**+11**
HYB	comp=Z,14nm,8.0s			LR		LR	02 57 48.0	
JIRN	**Jiri** comp=Z,231nm,1.0s	**16.56**	**95**	*e*P		**Pn**	**02 50 22.5**	**-2.9**
JIRN	**Jiri** comp=Z,231nm,1.0s	**16.56**	**95**	*e*P		**Pn**	**02 50 22.5**	**-2.9**
RAMN	**Ramite** comp=Z,287nm,0.7s	**17.09**	**97**	*e*P		**Pn**	**02 50 29.4**	**-2.8**
RAMN	**Ramite** comp=Z,287nm,0.7s	**17.09**	**97**	*e*P		**Pn**	**02 50 29.4**	**-2.8**
UMR	**Umm Al-Rimmam** comp=Z,202nm,0.9s	**17.18**	**272**	*e*P		**Pn**	**02 50 31.3**	**-2.0**
UMR				AMb		AMB	02 50 35.3	
RDF	**Al-Radifah**	**17.41**	**270**	*e*P		**Pn**	**02 50 33.5**	**-2.7**
MIB	**Mutribah** comp=Z,141nm,0.6s	**17.47**	**273**	*e*P		**Pn**	**02 50 34.4**	**-2.5**
MIB				AMb		AMB	02 50 39.2	
NAY	**Al-Naaiem** comp=Z,109nm,0.7s	**17.63**	**272**	*e*P		**Pn**	**02 50 36.8**	**-2.1**
NAY				AMb		AMB	02 50 40.3	
ODAN	**Odare** comp=Z,472nm,0.8s	**17.80**	**96**	*e*P		**Pn**	**02 50 38.2**	**-2.7**
ODAN	**Odare** comp=Z,472nm,0.8s	**17.80**	**96**	*e*P		**Pn**	**02 50 38.2**	**-2.7**
TAPN	**Taplejung** comp=Z,197nm,0.8s	**17.94**	**95**	*e*P		**Pn**	**02 50 40.0**	**-2.8**
TAPN	**Taplejung** comp=Z,197nm,0.8s	**17.94**	**95**	*e*P		**Pn**	**02 50 40.0**	**-2.8**
VIS	**Vishakhapatnam**	**19.12**	**128**	*e*PKP		**Pn**	**02 50 55.2**	**-2.0**
VIS				*i* x		x	02 54 09.0	
AB31	**Akbulak array** comp=Z,16nm,0.7s	**19.73**	**345**	⇑P		**Pn**	**02 51 03.1**	**-1.1**
AB31	**Akbulak array** comp=Z,16nm,0.7s	**19.73**	**345**	P		**Pn**	**02 51 02.8**	**-1.5**
AB31				pmax		pmax		
ABKAR	**Akbulak array**	**19.73**	**345**	*e*Pn		**Pn**	**02 51 03.1**	**-1.2**
BHD	**Baghdad**	**19.87**	**284**	*i* x		**Pn**	**02 51 00.5**	**-5.5**
BHD				*i* x		x	02 54 41.3	
MK31	**Makanchi Array** comp=Z,27nm,0.7s,baz=210,slow=9.5,SNR=265	**20.01**	**31**	P		**P**	**02 51 05.5**	**-0.5**
MK31	**Makanchi Array**	**20.01**	**31**	*e*P		**P**	**02 51 05.7**	**-0.2**
MK31	**Makanchi Array**	**20.01**	**31**	*e*P		**P**	**02 51 05.7**	**-0.3**
MKAR	**Makanchi Array** comp=Z,14nm,0.6s,baz=212,slow=10,SNR=114	**20.01**	**31**	P		**P**	**02 51 05.6**	**-0.3**
MKAR	comp=Z,1.1nm,0.8s,baz=232,slow=20,SNR=1.9			S		**S**	**02 54 54.1**	**+2.5**
MKAR	comp=Z,7μm,22.0s,MS4.9,baz=217,slow=40			LR		LR	02 59 58.5	
MKAR	**Makanchi Array**	**20.01**	**31**	P		**P**	**02 51 05.6**	**-0.3**
MKAR				S		**S**	**02 54 54.1**	**+2.5**
MKAR	**Makanchi Array**	**20.01**	**31**	P		**P**	**02 51 05.6**	**-0.4**
MKAR	comp=Z,14nm,0.6s			pmax		pmax		
MKAR	comp=Z,7μm,22.0s			MLR		MLR		
CAL	**Calcutta**	**20.18**	**108**	*e*PKP		**P**	**02 51 07.4**	**-0.5**
CAL				*ex*		x	02 55 03.6	
MAK	**Makhachkala**	**20.33**	**314**	*e*P		**P**	**02 51 04.6**	**-4.9**
MAK				*e*PPP			02 51 28.6	
MAK				*eS*		**S**	**02 54 48.3**	**-10**
MAK	comp=Z,1μm,1.8s			pmax		pmax		
MAK	comp=Z,3μm,11.0s,MS4.9			MLR		MLR		
LSA	**Lhasa**	**20.47**	**86**	P		**P**	**02 51 13.8**	**+2.7**
LSA				pP			02 51 19.5	
LSA	comp=Z,40nm,1.0s			pmax		pmax		
LSA	comp=E,13μm,6.6s			LR		LR		
LSA	comp=Z,14μm,8.1s			LR		LR		
RAYN	**Ar Rayn** comp=Z,779nm,0.7s,SNR=89	**20.75**	**256**	P		**P**	**02 51 13.5**	**-0.7**
WMQ	**Urumqi**	**20.90**	**44**	P		**P**	**02 51 18.0**	**+2.4**
WMQ				pP			02 51 22.0	
WMQ				sP		sP	02 51 25.0	+8.8
WMQ				PP			02 51 40.1	
WMQ				S		**S**	**02 55 04.8**	**-4.5**
WMQ				ScP		ScP	02 59 01.6	0.0
WMQ	comp=Z,150nm,1.2s			pmax		pmax		
WMQ	comp=Z,940nm,3.0s			pmax		pmax		
WMQ	comp=N,5μm,14.2s			LR		LR		
WMQ	comp=E,6μm,20.0s			LR		LR		
WMQ	comp=Z,3μm,18.6s,MS4.8			LR		LR		
GNI	**Garni** comp=Z,61nm,0.8s	**20.96**	**304**	*e*P		**P**	**02 51 17.9**	**+1.6**
GNI	**Garni**	**20.96**	**304**	*e*P		**P**	**02 51 17.9**	**+1.6**
GNI	comp=Z,61nm,0.8s			pmax		pmax		
GNI	**Garni** SNR=16	**20.96**	**304**	P		**P**	**02 51 18.7**	**+2.5**
DGRG	**David-gareji**	**21.02**	**308**	P		**P**	**02 51 17.5**	**+0.6**
AKTO	**Aktyubinsk** comp=Z,4.8nm,0.9s,mb3.8	**21.29**	**343**	⇑P		**P**	**02 51 19.1**	**-0.6**
AKTO	**Aktyubinsk** comp=Z,11nm,0.6s,mb4.4,baz=152,slow=12,SNR=33	**21.29**	**343**	P		**P**	**02 51 19.5**	**-0.2**
AKTO	comp=Z,1.4nm,0.6s,baz=162,slow=20,SNR=1.6			S		**S**	**02 55 18.4**	**+1.6**
AKTO	comp=Z,1μm,19.0s,MS4.3,baz=343,slow=39			LR		LR	03 00 12.7	
AKTO	**Aktyubinsk**	**21.29**	**343**	P		**P**	**02 51 19.5**	**-0.2**
AKTO				S		**S**	**02 55 18.4**	**+1.6**
AKTO	**Aktyubinsk**	**21.29**	**343**	P		**P**	**02 51 19.5**	**-0.2**
AKTO				S		**S**	**02 55 18.4**	**+1.6**
AKTO	comp=Z,11nm,0.6s,mb4.4			pmax		pmax		
AKTO	comp=N,1.0nm,0.6s			smax				
AKTO	comp=Z,1μm,19.0s,MS4.3			MLR		MLR		
MTA	**Mtatsminda**	**21.51**	**308**	P		**P**	**02 51 23.0**	**+0.8**
TBLG	**Delisi**	**21.57**	**308**	*e*P		**P**	**02 51 20.4**	**-2.4**
TBLG	**Delisi**	**21.57**	**308**	P		**P**	**02 51 20.4**	**-2.4**
KURK	**Kurchatov** comp=Z,51nm,0.9s,mb5.0,baz=209,slow=11,SNR=37	**21.97**	**19**	P		**P**	**02 51 25.4**	**-1.6**
KURK	comp=Z,1.3nm,0.2s,baz=210,slow=22,SNR=3.6			S		**S**	**02 55 31.7**	**+1.5**
KURK	comp=Z,2μm,19.9s,MS4.4,baz=195,slow=38			LR		LR	03 00 20.1	
KURK	**Kurchatov** comp=Z,60nm,0.8s,mb5.1	**21.97**	**19**	*e*P		**P**	**02 51 26.3**	**-0.8**
KURK				S		**S**	**02 55 31.7**	**+1.5**
KURK	**Kurchatov** comp=Z,468nm,1.1s,mb5.8,SNR=7.3	**21.97**	**19**	P		**P**	**02 51 26.3**	**-0.8**
KURK	**Kurchatov**	**21.97**	**19**	*e*P		**P**	**02 51 26.3**	**-0.8**
KURK				S		**S**	**02 55 31.7**	**+1.5**
KURK	comp=Z,60nm,0.8s,mb5.1			pmax		pmax		
KURK	**Kurchatov** SNR=34	**21.97**	**19**	P		**P**	**02 51 27.9**	**+0.9**
SHL	**Shillong**	**22.03**	**97**	*e*PKP		**P**	**02 51 26.5**	**-1.5**
SHL				*ex*		x	02 55 24.0	
AGT	**Agartala**	**22.07**	**101**	*ex*		**P**	**02 51 32.0**	**+3.6**
AGT				*ex*		x	02 52 09.0	
AKH	**Akhalkalaki**	**22.30**	**306**	P		**P**	**02 51 33.4**	**+2.7**
VOSK	**Vostochnaya** comp=Z,35nm,0.7s,mb4.9	**22.49**	**6**	⇓P		**P**	**02 51 32.5**	**-0.1**
ZRNK	**Zerenda** comp=Z,79nm,1.1s,mb5.1	**22.60**	**2**	⇑P		**P**	**02 51 33.8**	**+0.1**
BVA0	**Borovoye Array** comp=Z,14nm,1.3s,mb4.2	**22.75**	**4**	⇑P		**P**	**02 51 35.3**	**0.0**
BVA0	**Borovoye Array**	**22.75**	**4**	P		**P**	**02 51 35.2**	**-0.1**
BVA0	comp=Z,19nm,1.5s,mb4.3			pmax		pmax		
BVAR	**Borovoye Array** comp=Z,16nm,0.7s,mb4.6,baz=176,slow=11,SNR=72	**22.75**	**4**	P		**P**	**02 51 35.4**	**+0.1**
BVAR	comp=Z,1.8nm,0.9s,baz=203,slow=17,SNR=2.1			S		**S**	**02 55 45.7**	**+0.5**
BVAR	comp=Z,3μm,18.4s,MS4.8,baz=190,slow=40			LR		LR	03 01 41.0	
BVAR	**Borovoye Array**	**22.75**	**4**	P		**P**	**02 51 35.4**	**+0.1**
BVAR				S		**S**	**02 55 45.7**	**+0.5**
BVAR	**Borovoye Array**	**22.75**	**4**	P		**P**	**02 51 35.4**	**+0.1**
BVAR				S		**S**	**02 55 45.7**	**+0.6**
BVAR	comp=Z,16nm,0.7s			pmax		pmax		
BVAR	comp=N,2.0nm,0.9s			smax				
BVAR	comp=Z,3μm,18.4s			MLR		MLR		
BRVK	**Borovoye** comp=Z,395nm,1.8s,mb5.5,SNR=39	**22.77**	**4**	P		**P**	**02 51 35.5**	**-0.1**
BRVK	**Borovoye** comp=Z,57nm,0.7s,mb5.1	**22.77**	**4**	*e*P		**P**	**02 51 35.6**	**0.0**
BRVK	**Borovoye**	**22.77**	**4**	*d i*P		**P**	**02 51 35.7**	**+0.1**
BRVK	comp=Z,157nm,1.7s,mb5.2			pmax		pmax		
BRVK	comp=Z,3μm,15.0s,MS4.8			MLR		MLR		
BRVK	**Borovoye** SNR=57	**22.77**	**4**	P		**P**	**02 51 36.2**	**+0.6**
ONI	**Oni**	**22.79**

comp=Z,31nm,0.8s,mb4.9,baz=99,slow=5.1,SNR=40
ASF S **S** **02 56 45.0 +4.0**
comp=Z,1.3nm,0.9s,baz=60,slow=20,SNR=1.8
ASF LR LR 03 04 26.6
comp=Z,2μm,18.4s,MS4.7,baz=135,slow=41
ASF Jabal al Asfar 26.19 282 P **P** **02 52 08.1 0.0**
ASF S **S** **02 56 45.0 +4.0**
ASF Jabal al Asfar 26.19 282 P **P** **02 52 08.1 0.0**
ASF S **S** **02 56 45.0 +4.0**
ASF pmax pmax
comp=Z,31nm,0.8s
ASF smax
comp=N,1.0nm,1.0s
ASF MLR MLR
comp=Z,2μm,18.4s
ZAA0 Zalesovo Array 26.70 23 *e*P **P** **02 52 12.6 +0.2**
ZALV Zalesovo Beam 26.70 23 P **P** **02 52 12.8 +0.4**
comp=Z,32nm,0.5s,mb5.1,baz=224,slow=8.3,SNR=89
ZALV S **S** **02 56 54.0 +5.5**
comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=3.5
ZALV LR LR 03 03 56.8
comp=Z,824nm,20.9s,MS4.3,baz=39,slow=39
ZALV Zalesovo Beam 26.70 23 P **P** **02 52 12.8 +0.4**
ZALV S **S** **02 56 54.0 +5.5**
ZALV Zalesovo Beam 26.70 23 P **P** **02 52 12.8 +0.4**
ZALV pmax pmax
comp=Z,32nm,0.5s,mb5.1
ZALV MLR MLR
comp=Z,824nm,20.9s,MS4.3
ARU Arti 26.82 349 *e*P **P** **02 52 14.4 +0.9**
comp=Z,125nm,2.0s,mb5.1
ARU Arti 26.82 349 *d i*P **P** **02 52 15.2 +1.8**
ARU *e* 02 52 55.2
ARU S **S** **02 56 53.3 +3.0**
ARU SS 02 57 58.0
ARU pmax pmax
comp=Z,43nm,1.7s,mb4.7
SVE Sverdlovsk 26.90 352 *e*P **P** **02 52 16.7 +2.5**
SVE pmax pmax
comp=Z,41nm,1.6s,mb4.7
SVE MLR MLR
comp=Z,5μm,12.0s,MS5.3
NVS Novosibirsk 26.94 20 *e*P **P** **02 52 15.0 +0.4**
NVS *e* 02 52 53.7
NVS *e*S **S** **02 56 45.7 -6.6**
NVS pmax pmax
comp=Z,45nm,1.5s,mb4.8
NVS pmax pmax
comp=N,31nm,1.7s
NVS smax
comp=E,105nm,2.5s
MMAI Mount Meron Ar 27.40 284 P **P** **02 52 19.2 +0.2**
comp=E,3.5nm,0.7s,mb4.0,baz=77,slow=7.6,SNR=3.5
MMAI S **S** **02 57 06.6 +6.6**
comp=E,4.0nm,0.9s,baz=199,slow=24,SNR=4.2
MMAI LR LR 03 05 06.6
comp=E,3μm,18.8s,MS4.9,baz=75,slow=41
MMAI Mount Meron Ar 27.40 284 P **P** **02 52 19.2 +0.2**
MMAI S **S** **02 57 06.6 +6.6**
GTA Gaotai 27.88 62 *e*P **P** **02 52 26.1 +2.9**
GTA pP 02 52 30.4
GTA sP sP 02 52 33.8 +10
GTA S **S** **02 57 10.8 +3.4**
GTA sS sS 02 57 17.9 +10
GTA pmax pmax
comp=Z,13nm,1.2s,mb4.4
GTA pmax pmax
comp=Z,140nm,5.5s
GTA LR LR
comp=N,6μm,18.0s,MS5.3
GTA LR LR
comp=E,2μm,13.3s,MS5.3
GTA LR LR
comp=Z,2μm,13.3s,MS4.9
EIL Elat 28.16 277 P **P** **02 52 26.2 +0.4**
comp=Z,20nm,0.6s,mb4.9,baz=53,slow=2.8,SNR=22
EIL S **S** **02 57 19.5 +7.5**
comp=Z,2.4nm,0.8s,baz=75,slow=20,SNR=1.7
EIL LR LR 03 05 40.2
comp=Z,3μm,19.1s,MS5.0,baz=86,slow=41
EIL Elat 28.16 277 P **P** **02 52 26.2 +0.4**
EIL S **S** **02 57 19.5 +7.5**
HVS Khovu-Aksy 28.46 36 *e*P **P** **02 52 28.8 +0.6**
HVS pmax pmax
comp=Z,51nm,1.2s,mb5.0
HVS MLR MLR
comp=Z,5μm,17.0s,MS5.2
CSS Prodhromos 29.06 288 *e*P **P** **02 52 33.5 -0.2**
comp=Z,14nm,0.6s,mb4.9
BR131 Keskin Array S 29.12 298 *e*P **P** **02 52 33.4 -0.9**
comp=Z,2.2nm,0.6s,mb4.1
BRTR Keskin Array B 29.12 298 P **P** **02 52 33.6 -0.7**
comp=Z,2.4nm,0.6s,mb4.1,baz=131,slow=9.9,SNR=24
BRTR S **S** **02 57 25.9 -1.2**
comp=Z,0.8nm,1.1s,baz=120,slow=17,SNR=3.0
BRTR LR LR 03 06 44.8
comp=Z,1μm,18.2s,MS4.6,baz=95,slow=42
BRTR Keskin Array B 29.12 298 P **P** **02 52 33.6 -0.7**
BRTR S **S** **02 57 25.9 -1.2**
BRTR Keskin Array B 29.12 298 P **P** **02 52 33.6 -0.7**
BRTR S **S** **02 57 25.9 -1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR smax
comp=N,1.0nm,1.1s
BRTR MLR MLR
comp=Z,1μm,18.2s
ATD Arta Tunnel 29.57 236 LR LR 03 06 09.2
comp=Z,1μm,20.7s,MS4.6,baz=56,slow=40
VSR Storozhevoye 29.61 323 *e*P **P** **02 52 37.6 -0.9**
VSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
VSR pmax pmax
comp=N,10.0nm,2.2s
VSR pmax pmax
comp=E,10.0nm,1.0s
SIM Simferopol' 29.95 308 *e*P **P** **02 52 41.7 +0.2**
SIM *e*PPP 02 53 42.0
SIM *e*S **S** **02 57 36.0 -3.8**
SIM pmax pmax
comp=Z,25nm,1.3s,mb4.8
CHTO Chiang Mai 30.70 105 *e*P **P** **02 52 49.1 +0.6**
comp=Z,25nm,1.0s,mb5.0
CHTO Chiang Mai 30.70 105 *e*P **P** **02 52 49.1 +0.6**
CHTO pmax pmax
comp=Z,25nm,1.0s,mb5.0
CHTO Chiang Mai 30.70 105 P **P** **02 52 49.7 +1.2**
comp=Z,486nmcomp=Z,30nm,0.8s,mb5.1
CHTO Chiang Mai 30.70 105 P **P** **02 52 50.0 +1.5**
SNR=7.4
LZH Lanzhou 30.80 70 *e*P **P** **02 52 52.2 +3.0**
LZH pP 02 52 55.4
LZH sP sP 02 52 56.9 +7.1
LZH PP PP 02 53 53.1 -5.5
LZH *e*S **S** **02 57 52.1 -1.4**
LZH sS sS 02 57 59.4 +5.2
LZH SS SS 02 59 34.6 -30
LZH pmax pmax
comp=Z,62nm,1.2s,mb5.3
LZH pmax pmax
comp=Z,190nm,4.2s
LZH LR LR
comp=N,2μm,10.0s,MS5.2
LZH LR LR
comp=E,3μm,14.2s,MS5.2
LZH LR LR
comp=Z,3μm,15.5s,MS5.0
LZH Lanzhou 30.80 70 *e*P **P** **02 52 52.2 +3.0**
comp=Z,62nm,1.2s,mb5.3
LZH pP 02 52 55.4
LZH sP sP 02 52 56.9 +7.1
LZH PP PP 02 53 53.1 -5.5
LZH *e*S **S** **02 57 52.1 -1.4**
LZH sS sS 02 57 59.4 +5.2
LZH SS SS 02 59 34.6 -30
LZH LR LR
comp=Z,3μm,15.5s,MS5.0
LZH Lanzhou 30.80 70 *e*P **P** **02 52 52.2 +3.0**
LZH *SP sP 02 52 56.9 +7.1
LZH 02 53 53.1
LZH *e*S **S** **02 57 52.1 -1.4**
LZH *SS sS 02 57 59.4 +5.2
LZH SS SS 02 59 34.6 -30
LZH pmax pmax
comp=Z,62nm,1.2s,mb5.3
LZH MLR MLR
comp=Z,3μm,15.5s,MS5.0
CM31 Chiang Mai Arr 30.87 105 *e*P **P** **02 52 52.4 +2.5**
CMAR Chiang Mai Arr 30.87 105 P **P** **02 52 51.4 +1.4**
comp=Z,10nm,1.0s,mb4.6,baz=304,slow=7.6,SNR=27
CMAR PcP PcP 02 55 46.8 -0.2
comp=Z,2.4nm,0.6s,baz=300,slow=4.7,SNR=4.9
CMAR LR LR 03 07 57.0
comp=Z,1μm,21.0s,MS4.5,baz=284,slow=42
CMAR Chiang Mai Arr 30.87 105 P **P** **02 52 51.4 +1.4**
CMAR PcP PcP 02 55 46.8 -0.2
CMAR Chiang Mai Arr 30.87 105 P **P** **02 52 51.4 +1.4**
CMAR 02 55 46.8
CMAR pmax pmax
comp=Z,10.0nm,1.0s
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR MLR MLR
comp=Z,1μm,21.0s
CD2 Chengdu 31.11 80 *e*P **P** **02 52 54.4 +2.4**
CD2 pP 02 52 58.8
CD2 sP sP 02 53 02.2 +10
CD2 PP PP 02 53 56.2 -5.8
CD2 PcP PcP 02 55 50.3 +2.9
CD2 S **S** **02 57 57.6 -0.8**
CD2 sS sS 02 58 04.9 +5.8
CD2 SS SS 02 59 41.5 -29
CD2 ScS ScS 03 03 26.9 -1.7
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
CD2 pmax pmax
comp=Z,190nm,8.4s
CD2 LR LR
comp=N,4μm,10.8s,MS5.4
CD2 LR LR
comp=E,4μm,15.6s,MS5.4
CD2 LR LR
comp=Z,5μm,15.6s,MS5.3
KMI Kunming 31.53 91 P **P** **02 52 59.9 +4.2**
KMI pP 02 53 02.5
KMI PP PP 02 54 01.4 -5.4
KMI PcP PcP 02 55 51.2 +2.6
KMI S **S** **02 58 08.3 +3.3**
KMI PcS PcS 02 59 34.5 +1.3
KMI SS SS 02 59 54.6 -25
KMI pmax pmax
comp=Z,34nm,1.2s,mb5.0
KMI pmax pmax
comp=Z,140nm,3.7s
KMI LR LR
comp=N,2μm,15.9s,MS5.0
KMI LR LR
comp=E,1μm,16.4s,MS5.0
KMI LR LR
comp=Z,1μm,15.0s,MS4.7
KMI Kunming 31.53 91 P **P** **02 52 59.9 +4.2**
comp=Z,34nm,1.2s,mb5.0
KMI pP 02 53 02.5
KMI PP PP 02 54 01.4 -5.4
KMI PPP 02 54 19.2
KMI PcP PcP 02 55 51.2 +2.6
KMI S **S** **02 58 08.3 +3.3**
KMI sS sS 02 58 10.9 +5.1
KMI PcS PcS 02 59 34.5 +1.3
KMI SS SS 02 59 54.6 -25
KMI SSS 03 00 15.8
KMI LR LR
comp=Z,1μm,15.0s,MS4.7
KMI Kunming 31.53 91 P **P** **02 52 59.9 +4.2**
KMI *PP 02 53 02.5
KMI 02 54 01.4
KMI PPP 02 54 19.2
KMI 02 55 51.2
KMI S **S** **02 58 08.3 +3.3**
KMI SS SS 02 59 54.6 -25
KMI SSS 03 00 15.8
KMI pmax pmax
comp=Z,34nm,1.2s,mb5.0
KMI MLR MLR
comp=Z,1μm,15.0s,MS4.7
MOS Moscow 33.01 329 *e*P **P** **02 53 02.1 -6.3**
MOS pmax pmax
comp=Z,31nm,1.1s,mb5.2
OBN Obninsk 33.12 327 *e*P **P** **02 53 09.4 +0.1**
comp=Z,124nm,1.7s,mb5.6
OBN Obninsk 33.12 327⇑ *e*P **P** **02 53 09.0 -0.3**
OBN *e* 02 55 52.8
OBN *e*SS SS 03 00 25.5 -26
OBN pmax pmax
comp=Z,84nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,1μm,13.0s,MS4.8
KIS Kishinev 34.07 310 *e*P **P** **02 53 18.0 +0.3**
KIS Kishinev 34.07 310 *e*PP PP 02 54 19.0 -16
KIS *e*S **S** **02 58 35.0 -9.1**
KIS LRM 03 14 36.0
comp=Z,1μm,15.0s
KIS Kishinev 34.07 310 *e*P **P** **02 53 18.0 +0.3**
KIS *e*S **S** **02 58 35.0 -9.1**
TLY Talaya 34.09 41 *e*P **P** **02 53 20.9 +3.1**
TLY *e*S **S** **02 58 48.2 +3.9**
TLY pmax pmax
comp=Z,18nm,1.6s,mb4.8
TLY MLR MLR
comp=Z,2μm,17.0s,MS4.9
LEOM Leova 34.32 309 ⇓P **P** **02 53 20.1 +0.3**
LEOM Leova 34.32 309 ⇓*i*P **P** **02 53 20.1 +0.3**
SONM Songino Array 34.42 48 P **P** **02 53 21.2 +0.5**
comp=Z,4.7nm,1.1s,mb4.3,baz=253,slow=7.6,SNR=17
SONM LR LR 03 09 38.0
comp=Z,4μm,18.2s,MS5.2,baz=249,slow=40
SONM Songino Array 34.42 48 P **P** **02 53 21.2 +0.5**
SONM Songino Array 34.42 48 P **P** **02 53 21.2 +0.5**
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM MLR MLR
comp=Z,4μm,18.2s
GYA Guiyang 34.54 87⇑ *i*P **P** **02 53 23.7 +1.7**
GYA PP PP 02 54 40.0 -0.1
GYA PcP PcP 02 55 59.3 +2.3
GYA S **S** **02 58 51.0 -0.8**
GYA ScP ScP 02 59 43.7 +0.4
GYA SS SS 03 01 03.6 -18
GYA pmax pmax
comp=Z,30nm,0.8s,mb5.3
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=N,1μm,18.8s,MS4.8
GYA LR LR
comp=E,950nm,19.0s,MS4.8
GYA LR LR
comp=Z,1μm,17.1s,MS4.7
ULN Ulaanbaatar 34.85 49 *e*P **P** **02 53 27.4 +3.0**
comp=Z,2.1nm,0.6s,mb4.2
ULN Ulaanbaatar 34.85 49 *e*P **P** **02 53 27.4 +2.9**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ULN Ulaanbaatar 34.85 49 P **P** **02 53 27.7 +3.2**
comp=Z,5.3nm,1.8s,mb4.2
AKASG Malin Array Be 34.96 317 P **P** **02 53 24.8 -0.6**
comp=Z,8.1nm,0.7s,mb4.8,baz=100,slow=7.2,SNR=24
AKASG PP PP 02 54 45.8 +1.3
comp=Z,11nm,1.0s,baz=109,slow=10,SNR=5.5
AKASG LR LR 03 10 12.8
comp=Z,1μm,18.7s,MS4.7,baz=85,slow=41
AKASG Malin Array Be 34.96 317 P **P** **02 53 24.8 -0.6**
AKASG PP PP 02 54 45.8 +1.3
AKASG Malin Array Be 34.96 317 P **P** **02 53 24.8 -0.6**
AKASG 02 54 45.8
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG pmax pmax
comp=Z,11nm,1.0s
AKASG MLR MLR
comp=Z,1μm,18.7s
AKBB Malin Array Si 34.96 317 *e*P **P** **02 53 25.1 -0.3**
AKBB *e*PP PP 02 54 46.0 +1.5
AKBB Malin Array Si 34.96 317 *e*P **P** **02 53 25.1 -0.3**
AKBB *e* 02 54 46.0
KIEV Kiev 34.97 317 *e*P **P** **02 53 24.8 -0.7**
comp=Z,12nm,0.8s,mb4.9
KIEV *e*PP PP 02 54 46.1 +1.6
KIEV Kiev 34.97 317 *e*P **P** **02 53 24.8 -0.6**
KIEV *e* 02 54 46.1
KIEV pmax pmax
comp=Z,12nm,0.8s,mb4.9
XAN Xi'an 35.06 73 P **P** **02 53 27.9 +1.4**
XAN pP 02 53 33.0
XAN S **S** **02 58 58.0 -1.8**
XAN SS SS 03 01 12.5 -19
XAN pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
XAN pmax pmax
comp=Z,27nm,5.4s
XAN LR LR
comp=N,340nm,21.0s,MS4.3
XAN LR LR
comp=E,550nm,23.7s,MS4.3
XAN LR LR
comp=Z,730nm,18.4s
VRI Vrincioaia 35.21 308 ⇓P **P** **02 53 31.4 +3.8**
VRI Vrincioaia 35.21 308 ⇓*i*P **P** **02 53 31.4 +3.8**
PLOR Plostina 35.26 308 ⇑P **P** **02 53 28.9 +0.9**
PLOR Plostina 35.26 308 ⇑*i*P **P** **02 53 28.9 +0.9**
TESR 35.40 309 ⇓*i*P **P** **02 53 28.8 -0.4**
MLR Muntele Rosu 35.68 307 ⇓P **P** **02 53 33.8 +2.2**
MLR Muntele Rosu 35.68 307 ⇓*i*P **P** **02 53 33.8 +2.2**
BTO Baotou 35.79 62 *e*P **P** **02 53 35.0 +2.4**
BSI Banda Aceh 35.99 128 P **P** **02 53 36.4 +1.8**
comp=Z,36nm,1.1s,mb5.2
BURAR Bucovina Array 36.60 310 ⇑P **P** **02 53 39.6 +0.2**
BURAR Bucovina Array 36.60 310 ⇑*i*P **P** **02 53 39.6 +0.2**
BUR08 Bucovina Ar. S 36.61 310 *e*P **P** **02 53 39.6 0.0**
HHC Hu-ho-hao-te 36.97 61 *e*P **P** **02 53 43.3 +0.5**
HHC sP sP 02 53 49.5 +6.1
HHC PP PP 02 55 08.9 +2.1
HHC PcP PcP 02 56 05.2 +1.3
HHC S **S** **02 59 28.0 -0.9**
HHC ScP ScP 02 59 50.5 -1.5
HHC SS SS 03 01 54.8 -15
HHC ScS ScS 03 03 55.3 -3.9
HHC pmax pmax
comp=Z,13nm,0.6s,mb4.9
HHC pmax pmax
comp=Z,86nm,6.1s
HHC LR LR
comp=N,1μm,14.8s,MS5.0
HHC LR LR
comp=E,1μm,14.1s,MS5.0
HHC LR LR
comp=Z,1μm,14.3s,MS4.8
VTS Vitosha 37.26 302 ⇓P **P** **02 53 45.2 0.0**
VTS Vitosha 37.26 302 ⇓*i*P **P** **02 53 45.2 0.0**
GZR Gura Zlata 37.87 306 ⇓*i*P **P** **02 53 48.5 -1.7**
LVV L'vov 37.88 313 *e*P **P** **02 53 51.9 +1.6**
LVV MLR MLR
comp=N,1μm,16.0s,MS4.8
LVV MLR MLR
comp=E,500nm,16.0s,MS4.8
LVV MLR MLR
comp=Z,400nm,16.0s,MS4.3
KWP Kalwaria Pacla 38.67 313 *e*P **P** **02 53 57.5 +0.6**
KWP *e*pP 02 54 00.4
KWP LMZ 03 13 06.0
comp=Z,800nm,19.0s
KWP Kalwaria Pacla 38.67 313 *e*P **P** **02 53 57.2 +0.3**
comp=Z,108nm,1.6s,mb5.3
KWP Kalwaria Pacla 38.67 313 *e*P **P** **02 53 57.5 +0.6**
KWP *e*PP 02 54 00.4
KWP MLR MLR
comp=Z,800nm,19.0s,MS4.6
KWP Kalwaria Pacla 38.67 313 ⇓*i*P **P** **02 53 57.5 +0.6**
BZS Buzias 38.70 306 ⇓P **P** **02 53 58.1 +0.8**
BZS Buzias 38.70 306 ⇓*i*P **P** **02 53 58.1 +0.8**
UZH Uzhgorod 38.72 311 ⇓*i*P **P** **02 53 57.9 +0.5**
UZH *e* 02 54 05.0
KOLS Kolonicke sedl 38.80 312 *e*P **P** **02 53 58.7 +0.7**
KOLS pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
KOLS Kolonicke sedl 38.80 312 *e*P **P** **02 53 58.7 +0.7**
CRVS Cervenica-Dubn 39.31 311 *e*P **P** **02 54 03.1 +0.7**
CRVS pmax pmax
comp=Z,24nm,0.9s,mb4.9
CRVS Cervenica-Dubn 39.31 311 *e*P **P** **02 54 03.1 +0.7**
SUW Suwalki 39.57 320 *e*P **P** **02 54 01.4 -3.0**
SUW *e*pP 02 54 04.7
SUW LMZ 03 12 27.7
comp=Z,900nm,20.8s
SUW Suwalki 39.57 320 *e*P **P** **02 54 02.7 -1.7**
comp=Z,14nm,0.7s,mb4.8
SUW Suwalki 39.57 320 *e*P **P** **02 54 01.4 -3.0**
SUW *e*PP 02 54 04.7
SUW MLR MLR
comp=Z,900nm,20.8s,MS4.6
QIZ Qiongzhong 39.87 96 P **P** **02 54 08.6 +1.2**
QIZ S **S** **03 00 13.8 +0.7**
QIZ sS sS 03 00 19.8 +6.0
QIZ pmax pmax
comp=Z,19nm,1.7s,mb4.5
QIZ pmax pmax
comp=Z,94nm,5.4s
QIZ LR LR
comp=N,810nm,20.5s,MS4.6
QIZ LR LR
comp=E,280nm,19.6s,MS4.6
QIZ LR LR
comp=Z,940nm,18.9s,MS4.7
KECS Kecovo 39.88 311 *e*P **P** **02 54 07.4 +0.3**
KECS pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
KECS Kecovo 39.88 311 *e*P **P** **02 54 07.4 +0.3**
KULM Kulim 39.93 122 *e*P **P** **02 54 07.6 -0.3**
comp=Z,27nm,1.0s,mb4.9
KULM Kulim 39.93 122 P **P** **02 54 07.7 -0.2**
comp=Z,26nm,1.3s,mb4.8
JOF Joensuu 39.97 335 *e*P **P** **02 54 06.3 -1.4**
JOF pmax pmax
comp=Z,11nm,0.6s,mb4.8
JOF Joensuu 39.97 335 *e*p **P** **02 54 06.3 -1.4**
comp=Z,11nm,0.6s,mb4.8
WHN Wuhan 40.15 77 P **P** **02 54 09.6 0.0**
WHN LR LR
comp=N,3μm,16.0s,MS5.4
WHN LR LR
comp=E,4μm,18.3s,MS5.4
WHN LR LR
comp=Z,4μm,16.2s,MS5.3
NIE Niedzica 40.15 312 *e*P **P** **02 54 11.0 +1.7**
NIE Niedzica 40.15 312 *e*P **P** **02 54 11.0 +1.7**
PSZ Piszkesteto 40.18 310 *e*P **P** **02 54 10.0 +0.4**
comp=Z,30nm,0.8s,mb5.1
PSZ Piszkesteto 40.18 310 *e*P **P** **02 54 10.0 +0.4**
PSZ pmax pmax
comp=Z,30nm,0.8s,mb5.1
PSZ Piszkesteto 40.18 310⇑ *e*P **P** **02 54 10.5 +0.9**
PSZ Piszkesteto 40.18 310⇑ *i*P **P** **02 54 10.6 +1.0**
BJI Beijing 40.49 63 P **P** **02 54 12.0 -0.3**
BJI S **S** **03 00 20.8 -1.1**
BJI pmax pmax
comp=Z,14nm,0.6s,mb4.9
BJI pmax pmax
comp=Z,170nm,5.1s
BJI LR LR
comp=N,3μm,22.2s
BJI LR LR
comp=E,1μm,14.8s
BJI LR LR
comp=Z,690nm,28.1s
OJC Ojcow 40.63 313 *e*P **P** **02 54 15.3 +2.0**
comp=Z,201nm,2.7s,mb5.3
OJC Ojcow 40.63 313 *e*P **P** **02 54 15.3 +2.0**
OJC pmax pmax
comp=Z,201nm,2.7s,mb5.3
BUD Budapest 40.71 309⇑ *e*P **P** **02 54 13.6 -0.4**
IPM Ipoh 40.75 123 *e*P **P** **02 54 17.2 +2.5**
comp=Z,25nm,1.1s,mb4.8
IPM Ipoh 40.75 123 P **P** **02 54 15.3 +0.6**
comp=Z,23nm,1.8s,mb4.5
PKSM Moragy 40.83 307 ⇑P **P** **02 54 15.8 +0.8**
PKSM Moragy 40.83 307 ⇑*i*P **P** **02 54 15.8 +0.8**
FINES FINESS Array B 41.20 331 P **P** **02 54 17.2 -0.6**
comp=Z,4.8nm,0.5s,mb4.4,baz=119,slow=7.3,SNR=31
FINES LR LR 03 14 06.8
comp=Z,2μm,18.1s,MS5.1,baz=291,slow=40
FINES FINESS Array B 41.20 331 P **P** **02 54 17.2 -0.6**
FINES FINESS Array B 41.20 331 P **P** **02 54 17.2 -0.7**
FINES pmax pmax
comp=Z,5.0nm,0.5s

FINES MLR MLR
comp=Z,2µm,18.2s
KOLL Kolacno 41.26 310 *eP* **P 02 54 18.9 +0.4**
KOLL Kolacno 41.26 310 *eP* **P 02 54 18.9 +0.4**
KAF Kangasniemi 41.45 332 *eP* **P 02 54 18.2 -1.6**
KAF pmax pmax
comp=Z,13nm,0.6s,mb4.7
KAF Kangasniemi 41.45 332 *ep* **P 02 54 18.2 -1.6**
comp=Z,12nm,0.6s,mb4.7
OKC Ostrava-Krasne 41.61 312 *eP* **P 02 54 21.3 -0.1**
OKC Ostrava-Krasne 41.61 312 *eP* **P 02 54 21.3 -0.1**
SMOL Smolenice 41.90 310 *eP* **P 02 54 24.3 +0.6**
SMOL Smolenice 41.90 310 *eP* **P 02 54 24.3 +0.6**
MORC Moravsky Berou 41.99 312 *eP* **P 02 54 24.6 +0.2**
comp=Z,33nm,1.4s,mb4.8
MORC Moravsky Berou 41.99 312 *eP* **P 02 54 24.6 +0.1**
MORC pmax pmax
comp=Z,33nm,1.4s,mb4.8
MORC Moravsky Berou 41.99 312⇑ *iP* **P 02 54 24.7 +0.2**
BOD Bodaibo 41.99 35 *eP* **P 02 54 25.1 +0.7**
BOD pmax pmax
comp=Z,24nm,1.1s,mb4.7
ZST Bratislava 42.07 310 *eP* **P 02 54 25.3 +0.1**
ZST pmax pmax
comp=Z,15nm,0.8s,mb4.7
ZST Bratislava 42.07 310 *eP* **P 02 54 25.3 +0.1**
LVZ Lovozero 42.25 342 *eP* **P 02 54 26.4 +0.1**
comp=Z,31nm,0.9s,mb4.9
LVZ Lovozero 42.25 342 *eP* **P 02 54 25.3 -1.0**
LVZ pmax pmax
comp=Z,27nm,0.9s,mb4.9
APA Apatity 42.35 341⇑ *iP* **P 02 54 27.4 +0.2**
APA pmax pmax
comp=Z,20nm,0.8s,mb4.8
APA MLR MLR
comp=Z,2µm,20.0s,MS5.0
SOP Sopron 42.39 309⇑ *eP* **P 02 54 27.9 +0.2**
KOGS Kog 42.50 307 *iP* **P 02 54 28.9 +0.2**
VRAC Vranov 42.54 311 P **P 02 54 29.5 +0.6**
comp=Z,1.5nm,0.4s,mb4.0,baz=97,slow=11,SNR=5.7
VRAC Vranov 42.54 311 P **P 02 54 29.5 +0.6**
VRAC Vranov 42.54 311 P **P 02 54 29.5 +0.6**
VRAC pmax pmax
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 42.55 228 *eP* **P 02 54 33.1 +3.7**
comp=Z,42nm,1.7s,mb4.9
KMBO Kilima Mbogo 42.55 228 *eP* **P 02 54 33.1 +3.6**
KMBO pmax pmax
comp=Z,42nm,1.7s
KMBO Kilima Mbogo 42.55 228 P **P 02 54 33.8 +4.3**
SNR=8.1
CUC Castrocucco 42.82 298 *eP* **P 02 54 30.7 -0.7**
comp=Z,27nm,0.7s,mb5.1
DPC Dobruska-Polom 42.85 313 *eP* **P 02 54 32.5 +1.0**
comp=Z,213nm,2.3s,mb5.5
DPC Dobruska-Polom 42.85 313 *eP* **P 02 54 32.5 +1.0**
DPC pmax pmax
comp=Z,213nm,2.3s,mb5.5
DPC Dobruska-Polom 42.85 313 *eP* **P 02 54 32.3 +0.8**
DPC *ex* x 02 54 48.9
DPC AMS AMS 03 17 10.0
comp=Z,1µm,8.8s
CONA Conrad Observa 42.88 309⇓ *iP* **P 02 54 31.7 -0.1**
comp=Z,16nm,1.3s,mb4.6
KSP Ksiaz 42.94 313 *eP* **P 02 54 32.9 +0.7**
KSP LMZ 03 15 11.8
comp=Z,900nm,22.1s
KSP Ksiaz 42.94 313 *eP* **P 02 54 31.7 -0.5**
KSP *eS* **S 03 00 54.0 -3.9**
KSP Ksiaz 42.94 313 *eP* **P 02 54 31.7 -0.5**
KSP *eS* **S 03 00 54.0 -3.9**
ARSA Arzberg 43.05 308⇑ *iP* **P 02 54 33.6 +0.4**
comp=Z,56nm,1.5s,mb5.1
UPC Upice 43.07 313 *eP* **P 02 54 34.3 +1.1**
UPC *e* 02 54 49.7
UPC Upice 43.07 313 *eP* **P 02 54 34.3 +1.1**
UPC *ex* x 02 54 49.7
BOJS Bojanci 43.15 306 *iP* **P 02 54 33.9 -0.1**
TREC Trest 43.26 311 *eP* **P 02 54 34.9 +0.1**
TREC MLR MLR
comp=Z,1µm,22.3s,MS4.7
TREC Trest 43.26 311 *eP* **P 02 54 34.9 +0.1**
TREC AMS AMS 03 15 50.0
comp=Z,1µm,22.3s
PERS Pernice 43.29 307 *iP* **P 02 54 36.2 +1.1**
SOKA Soboth 43.35 307⇑ *iP* **P 02 54 35.9 +0.3**
comp=Z,31nm,1.9s,mb4.7
NJ2 Nanjing 43.61 74 *eP* **P 02 54 40.0 +2.1**
NJ2 pP 02 54 44.9
NJ2 sP sP 02 54 48.1 +10
NJ2 S **S 03 01 09.5 +1.3**
NJ2 pmax pmax
comp=Z,50nm,0.9s,mb5.2
NJ2 pmax pmax
comp=Z,260nm,6.2s
NJ2 LR LR
comp=N,3µm,21.4s,MS5.3
NJ2 LR LR
comp=E,3µm,20.3s,MS5.3
NJ2 LR LR
comp=Z,3µm,18.4s,MS5.2
LJU Ljubljana 43.68 306 *iP* **P 02 54 38.6 +0.4**
OBKA Obir 43.68 307⇑ *iP* **P 02 54 38.7 +0.4**
comp=Z,29nm,1.5s,mb4.8
MOZS Mozjanca 43.74 307 *iP* **P 02 54 39.1 +0.4**
PRU Pruhonice 43.94 312 *eP* **P 02 54 41.4 +1.1**
PRU MLR MLR
comp=Z,900nm,16.8s,MS4.8
PRU Pruhonice 43.94 312 *eP* **P 02 54 41.4 +1.1**
PRU AMS AMS 03 19 00.0
comp=Z,900nm,16.8s
MOA Molln 43.94 309⇑ *iP* **P 02 54 40.3 0.0**
comp=Z,28nm,0.9s,mb5.0
PVCC Panska Ves 43.98 313 *eP* **P 02 54 40.2 -0.4**
PVCC MLR MLR
comp=Z,1µm,10.8s,MS5.0
PVCC Panska Ves 43.98 313 *eP* **P 02 54 40.2 -0.4**
PVCC AMS AMS 03 18 20.0
comp=Z,1µm,10.8s
VOY Vojsko 44.12 306 *eP* **P 02 54 41.6 -0.2**
CADS Cadrg 44.23 307 *iP* **P 02 54 42.6 -0.1**
MYKA Terra Mystica 44.31 307⇑ *iP* **P 02 54 43.3 0.0**
comp=Z,17nm,1.0s,mb4.7
GEC2 GERESS Array S 44.38 310 *eP* **P 02 54 44.1 +0.2**
comp=Z,107nm,2.3s,mb5.2
GEC2 GERESS Array S 44.38 310 *eP* **P 02 54 44.1 +0.2**
GEC2 pmax pmax
comp=Z,107nm,2.3s,mb5.2
GERES GERESS Array B 44.38 310 P **P 02 54 43.4 -0.4**
comp=Z,6.4nm,0.8s,mb4.4,baz=101,slow=6.9,SNR=48
GERES PcP PcP 02 56 27.7 0.0
comp=Z,0.9nm,0.6s,baz=90,slow=4.9,SNR=3.4
GERES GERESS Array B 44.38 310 P **P 02 54 43.4 -0.4**
GERES PcP PcP 02 56 27.7 0.0
GERES GERESS Array B 44.38 310 P **P 02 54 43.4 -0.5**
GERES 02 56 27.7
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.6s
BRG Berggiesshubel 44.42 313 *eP* **P 02 54 44.8 +0.7**
comp=Z,9.3nm,0.8s,mb4.6
BRG *e* 02 54 48.5
comp=Z,79nm,1.9s
BRG *e* 02 55 15.6
comp=Z,38nm,1.6s
BRG *e*PCP PcP 02 56 25.1 -2.7
comp=Z,10.0nm,1.2s
BRG S **S 03 01 21.0 +1.5**
BRG SS SS 03 04 47.0 +9.0
BRG
comp=N,770nm,10.1s
BRG
comp=E,921nm,13.4s
BRG
comp=Z,2µm,15.0s
BRG Berggiesshubel 44.42 313 *eP* **P 02 54 44.9 +0.8**
comp=Z,79nm,1.9s,mb5.1
BRG Berggiesshubel 44.42 313 *eP* **P 02 54 44.8 +0.7**
BRG *e* 02 54 48.5
BRG *e* 02 56 25.1
BRG S **S 03 01 21.0 +1.5**
BRG pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
BRG pmax pmax
comp=Z,79nm,1.9s,mb5.1
BRG pmax pmax
comp=Z,38nm,1.6s,mb4.9
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
BRG MLR MLR
comp=N,770nm,10.1s,MS5.0
BRG MLR MLR
comp=E,921nm,13.4s,MS5.0
BRG MLR MLR
comp=Z,2µm,15.0s,MS5.0
KHC Kasperske Hory 44.49 311 *eP* **P 02 54 44.7 0.0**
KHC Kasperske Hory 44.49 311 *eP* **P 02 54 44.6 -0.1**
KHC MLR MLR
comp=Z,1µm,13.6s,MS5.0
KHC Kasperske Hory 44.49 311 *eP* **P 02 54 44.6 -0.1**
KHC AMS AMS 03 18 30.0
comp=Z,1µm,13.6s
AQU L'Aquila 44.51 301 *eP* **P 02 54 45.1 +0.1**
comp=Z,27nm,0.9s,mb5.1
AQU L'Aquila 44.51 301 *eP* **P 02 54 45.1 +0.1**
AQU pmax pmax
comp=Z,27nm,0.9s,mb5.1
KBA Koelnbreinsper 44.53 308⇓ *iP* **P 02 54 45.0 0.0**
comp=Z,19nm,0.8s,mb5.0
MYKOM Kota Tinggi 44.64 123 P **P 02 54 49.7 +3.4**
RJOB Jochberg 44.93 309 *eP* **P 02 54 49.9 +1.7**
comp=Z,23nm,1.1s,mb4.9
CLL Collm 45.05 314 *i* P **P 02 54 49.1 -0.1**
CLL *i* 02 54 53.6
CLL *i* 02 55 02.3
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
CLL Collm 45.05 314 *i* P **P 02 54 49.1 -0.1**
comp=Z,7.0nm,0.9s,mb4.5
CLL *i* sP sP 02 54 53.6 +3.8
comp=Z,16nm,1.5s
CLL *i* 02 55 02.3
CLL *e*PP PP 02 56 32.0 -2.2
CLL *e*S **S 03 01 30.0 +1.2**
CLL *e*SS SS 03 04 52.0 +1.7
CLL LmH 03 16 00.0
comp=N,2µm,18.9s
CLL LmH 03 16 00.0
comp=E,800nm,18.6s
NKC Novy Kostel 45.30 312 *eP* **P 02 54 52.0 +0.8**
NKC MLR MLR
comp=Z,1µm,12.1s,MS5.0
NKC Novy Kostel 45.30 312 *eP* **P 02 54 52.0 +0.8**
NKC AMS AMS 03 19 00.0
comp=Z,1µm,12.1s
ROTZ Rotzenmuhle 45.43 312 *eP* **P 02 54 52.8 +0.7**
comp=Z,45nm,1.8s,mb5.0
KEV Kevo 45.56 342 *eP* **P 02 54 50.5 -2.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KEV Kevo 45.56 342 *ep* **P 02 54 50.5 -2.4**
comp=Z,0.7nm,0.4s,mb3.9
WTTA Wattenberg 45.70 308⇑ *iP* **P 02 54 53.7 -0.6**
comp=Z,42nm,1.2s,mb5.2
WATA Walderalm 45.74 308⇓ *iP* **P 02 54 53.6 -1.1**
comp=Z,14nm,0.8s,mb4.9
SSE Sheshan 45.76 75 *eP* **P 02 54 53.3 -1.8**
SSE S **S 03 01 36.1 -3.4**
SSE pmax pmax
comp=Z,29nm,0.6s,mb5.4
SSE pmax pmax
comp=Z,170nm,6.0s
SSE LR LR
comp=N,620nm,17.4s,MS5.2
SSE LR LR
comp=E,2µm,17.4s,MS5.2
SSE LR LR
comp=Z,3µm,19.2s,MS5.2
SSE Sheshan 45.76 75 *eP* **P 02 54 53.3 -1.8**
comp=Z,29nm,0.6s,mb5.4
SSE pP 02 54 56.4
SSE S **S 03 01 36.1 -3.4**
SSE sS sS 03 01 42.3 +2.0
SSE LR LR
comp=Z,3µm,19.2s,MS5.2
ARCES ARCESS Array B 45.84 341 P **P 02 54 54.9 -0.3**
comp=Z,5.5nm,0.5s,mb4.7,baz=132,slow=9.2,SNR=60
ARCES LR LR 03 16 07.7
comp=Z,1µm,18.9s,MS4.9,baz=127,slow=39
ARCES ARCESS Array B 45.84 341 P **P 02 54 54.9 -0.3**
ARCES ARCESS Array B 45.84 341 P **P 02 54 54.9 -0.3**
ARCES pmax pmax
comp=Z,6.0nm,0.5s
ARCES MLR MLR
comp=Z,1µm,18.9s
ARE0 ARCESS Array S 45.84 341 *eP* **P 02 54 55.0 -0.1**
MOX Moxa 45.87 313 *eP* **P 02 54 56.5 +0.9**
comp=Z,80nm,1.9s,mb5.3
MOX Moxa 45.87 313 *eP* **P 02 54 56.5 +0.9**
MOX pmax pmax
comp=Z,80nm,1.9s,mb5.3
GRF Grafenberg Arr 46.06 311 *eP* **P 02 54 56.4 -0.8**
comp=Z,98nm,2.2s,mb5.3
GRF *e*L 03 17 10.3
comp=Z,656nm,20.7s
GRF Grafenberg Arr 46.06 311 *eP* **P 02 54 56.4 -0.8**
GRF pmax pmax
comp=Z,98nm,2.2s,mb5.3
GRF MLR MLR
comp=Z,700nm,20.7s,MS4.6
MOTA Moosalm 46.06 308⇓ *iP* **P 02 54 55.9 -1.3**
comp=Z,12nm,0.5s,mb5.1
RETA Reutte 46.30 308⇑ *iP* **P 02 54 58.1 -1.0**
comp=Z,16nm,0.8s,mb5.0
HFS Hagfors 46.31 326 P **P 02 54 58.3 -0.7**
comp=Z,13nm,0.9s,mb4.8,baz=117,slow=8.7,SNR=15
HFS Hagfors 46.31 326 P **P 02 54 58.3 -0.7**
HFS Hagfors 46.31 326 P **P 02 54 58.3 -0.7**
HFS pmax pmax
comp=Z,13nm,1.0s
FETA Feichten 46.31 308⇑ *iP* **P 02 54 58.6 -0.6**
comp=Z,24nm,1.0s,mb5.1
CLZ Clausthal 46.74 314 *eP* **P 02 55 03.1 +0.7**
comp=Z,32nm,1.5s,mb5.0
CLZ Clausthal 46.74 314 *eP* **P 02 55 03.1 +0.7**
CLZ pmax pmax
comp=Z,32nm,1.5s,mb5.0
DAVA Damuels 46.89 308⇑ *iP* **P 02 55 03.1 -0.7**
comp=Z,32nm,1.0s,mb5.2
DAVOX Davos/Dischmat 46.90 307 P **P 02 55 03.0 -0.8**
comp=Z,11nm,0.8s,mb4.8,baz=119,slow=6.4,SNR=33
DAVOX Davos/Dischmat 46.90 307 P **P 02 55 03.0 -0.8**
DAVOX Davos/Dischmat 46.90 307 P **P 02 55 03.0 -0.8**
CN2 Changchun 47.23 57 *eP* **P 02 55 08.0 +1.6**
CN2 *es*P sP 02 55 15.1 +8.1
CN2 *e*S **S 03 01 58.9 -1.3**
CN2 SS SS 03 05 19.0 -8.2
CN2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,11.0s,MS4.9
CN2 LR LR
comp=E,400nm,11.0s,MS4.9
CN2 LR LR
comp=Z,500nm,16.0s,MS4.6
TUE Stuetta 47.27 307 *eP* **P 02 55 06.2 -0.6**
comp=Z,100nm,1.9s,mb5.4
STU Stuttgart 47.36 310 *eP* **P 02 55 07.2 -0.1**
comp=Z,112nm,2.0s,mb5.5
STU Stuttgart 47.36 310 *eP* **P 02 55 07.2 -0.1**
comp=Z,81nm,1.6s,mb5.4
STU Stuttgart 47.36 310 *eP* **P 02 55 07.2 -0.1**
STU pmax pmax
comp=Z,81nm,1.6s,mb5.4
CLNS Chul'man 47.45 39 *eP* **P 02 55 08.4 +0.4**
CLNS pmax pmax
comp=Z,20nm,0.9s,mb5.0
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,1.0s
SSLB Suanglung 47.68 84 *eP* **P 02 55 10.6 +0.4**
comp=N,51nm,1.3s,mb5.4
NB2 NORSAR Subarra 47.72 327 P **P 02 55 08.7 -1.3**
comp=Z,0.5nm,0.6s,mb3.7,baz=105,slow=8.6
NOA NORSAR Array B 47.72 327 P **P 02 55 08.7 -1.3**
comp=Z,3.3nm,0.7s,mb4.5,baz=107,slow=7.6,SNR=9.3
NOA LR LR 03 18 21.1
comp=Z,1µm,19.6s,MS4.9,baz=115,slow=40
NOA NORSAR Array B 47.72 327 P **P 02 55 08.7 -1.3**
NOA NORSAR Array B 47.72 327 P **P 02 55 08.7 -1.3**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,1µm,19.6s
PGF Pioggiola 47.75 302 *eP* **P 02 55 09.0 -1.5**
PGF Pioggiola 47.75 302 *eP* **P 02 55 09.0 -1.5**
PGF Pioggiola 47.75 302 *eP* **P 02 55 09.0 -1.5**
VSL Villasalto 47.81 298 *eP* **P 02 55 11.0 0.0**
comp=Z,8.7nm,0.7s,mb4.9
TNS Taunus Mts 47.87 312 *eP* **P 02 55 13.5 +2.2**
comp=Z,84nm,2.4s,mb5.3
TNS Taunus Mts 47.87 312 *eP* **P 02 55 13.5 +2.2**
TNS pmax pmax
comp=Z,84nm,2.4s,mb5.3
BFO Black Forest 47.93 309 *eP* **P 02 55 11.0 -0.9**
comp=Z,124nm,2.7s,mb5.5
BFO Black Forest 47.93 309 *eP* **P 02 55 11.0 -0.8**
BFO pmax pmax
comp=Z,124nm,2.7s,mb5.5
LANF Langenberg 48.28 310 *eP* **P 02 55 16.1 +1.6**
KEST Kesra 48.45 293 P **P 02 55 16.3 +0.3**
comp=Z,6.1nm,0.8s,mb4.7,baz=215,slow=0.3,SNR=32
KEST LR LR 03 19 05.3
comp=Z,137nm,21.5s,MS3.9,baz=114,slow=40
KEST Kesra 48.45 293 *eP* **P 02 55 16.2 +0.2**
KEST *e*PcP PcP 02 56 44.4 +2.1
KEST *e*ScP ScP 03 00 19.2 -19
CDF Champ du Feu 48.63 310 *eP* **P 02 55 15.9 -1.3**
comp=Z,22nm,1.0s,mb4.8
CDF Champ du Feu 48.63 310 *eP* **P 02 55 15.9 -1.3**
comp=Z,22nm,1.0s,mb5.2
CDF Champ du Feu 48.63 310 *eP* **P 02 55 15.9 -1.3**
CDF pmax pmax
comp=Z,22nm,1.0s,mb5.1
BUG Bochum--Univer 48.65 314 *eP* **P 02 55 17.5 +0.2**
comp=Z,34nm,1.7s,mb5.1
SAOF Saorge 48.67 304 *eP* **P 02 55 17.2 -0.4**
SENIN Lac Senin/Sane 48.69 307 *eP* **P 02 55 17.1 -0.6**
ECH Echery 48.72 309 *eP* **P 02 55 18.2 +0.3**
comp=Z,19nm,1.1s,mb5.0
ECH Echery 48.72 309 *eP* **P 02 55 18.2 +0.3**
ECH pmax pmax
comp=Z,19nm,1.1s,mb5.0
ECH Echery 48.72 309 *eP* **P 02 55 18.7 +0.8**
MOF Molkenrain 48.74 309 *eP* **P 02 55 18.7 +0.6**
AUTN L'Aution 48.76 304 *eP* **P 02 55 19.7 +1.4**
SBF Sospel 48.77 304 *eP* **P 02 55 17.5 -0.8**
comp=Z,113nm,0.9s,mb5.6
SBF Sospel 48.77 304 *eP* **P 02 55 17.5 -0.8**
comp=Z,113nm,0.9s,mb5.9
SBF Sospel 48.77 304 *eP* **P 02 55 17.5 -0.8**
SBF pmax pmax
comp=Z,113nm,0.9s,mb5.9
LUCF Luceram 48.83 304 *eP* **P 02 55 20.2 +1.4**
TOUF Mont Tournerai 48.89 304 *eP* **P 02 55 20.9 +1.6**
HINF Hinteralfeld 48.93 309 *eP* **P 02 55 18.3 -1.2**
comp=Z,10nm,0.6s,mb4.8
HINF Hinteralfeld 48.93 309 *eP* **P 02 55 18.3 -1.2**
comp=Z,10nm,0.6s,mb5.0
HINF Hinteralfeld 48.93 309 *eP* **P 02 55 18.3 -1.2**
HINF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
LOMF Lomont 48.97 308 *eP* **P 02 55 18.2 -1.6**
MVIF Mont Vial 48.97 304 *eP* **P 02 55 21.6 +1.7**
LPG La Plagne 49.13 306 *eP* **P 02 55 20.5 -0.6**
comp=Z,33nm,0.6s,mb5.2
LPG La Plagne 49.13 306 *eP* **P 02 55 20.5 -0.6**
comp=Z,33nm,0.6s,mb5.5
LPG La Plagne 49.13 306 *eP* **P 02 55 20.5 -0.6**
LPG pmax pmax
comp=Z,33nm,0.6s,mb5.5
LPL La Plagne 49.14 306 *eP* **P 02 55 20.4 -0.7**
comp=Z,38nm,0.6s,mb5.3
LPL La Plagne 49.14 306 *eP* **P 02 55 20.4 -0.7**
comp=Z,38nm,0.6s,mb5.6
LPL La Plagne 49.14 306 *eP* **P 02 55 20.4 -0.7**
LPL pmax pmax
comp=Z,38nm,0.6s,mb5.6
MBDF Montbardon 49.17 305 *eP* **P 02 55 20.2 -1.2**
comp=Z,39nm,0.8s,mb5.2
MBDF Montbardon 49.17 305 *eP* **P 02 55 20.2 -1.2**
comp=Z,39nm,0.8s,mb5.5
MBDF Montbardon 49.17 305 *eP* **P 02 55 20.2 -1.2**
MBDF pmax pmax
comp=Z,39nm,0.8s,mb5.5
CALN Calern 49.17 303 *eP* **P 02 55 23.0 +1.6**
BNI Bardonecchia 49.21 305 *eP* **P 02 55 21.0 -0.7**
comp=Z,18nm,0.9s,mb5.1
BNI Bardonecchia 49.21 305 *eP* **P 02 55 21.0 -0.7**
BNI pmax pmax
comp=Z,18nm,0.9s,mb5.1
HAU Haudompre 49.27 309 *eP* **P 02 55 21.2 -0.9**
comp=Z,46nm,1.1s,mb5.1
HAU *e*R
comp=Z,642nm,18.0s
HAU Haudompre 49.27 309 *eP* **P 02 55 21.2 -0.9**
comp=Z,46nm,1.1s,mb5.4
HAU Haudompre 49.27 309 *eP* **P 02 55 21.2 -0.9**
HAU pmax pmax
comp=Z,46nm,1.1s,mb5.4
WLF Walferdange 49.35 311 P **P 02 55 23.1 +0.4**
comp=Z,24nm,2.0s,mb4.9
WLF Walferdange 49.35 311 *eP* **P 02 55 23.6 +0.9**
comp=Z,193nm,2.6s,mb5.7
WLF Walferdange 49.35 311 *eP* **P 02 55 22.8 +0.1**
comp=Z,38nm,1.3s,mb5.3
WLF Walferdange 49.35 311 *eP* **P 02 55 22.8 +0.1**
WLF pmax pmax
comp=Z,39nm,1.3s,mb5.3
FRF La Foret Royal 49.37 303 *eP* **P 02 55 21.7 -1.2**
FRF La Foret Royal 49.37 303 *eP* **P 02 55 21.7 -1.2**
FRF La Foret Royal 49.37 303 *eP* **P 02 55 21.7 -1.2**
LMR La Mourre 49.49 303 *eP* **P 02 55 22.8 -1.1**
LMR La Mourre 49.49 303 *eP* **P 02 55 22.8 -1.1**
LMR La Mourre 49.49 303 *eP* **P 02 55 22.8 -1.1**
THEF They Montfort 49.50 309 *eP* **P 02 55 25.3 +1.4**
CABF La Chapelle 49.51 307 *eP* **P 02 55 23.8 -0.2**
comp=Z,154nm,1.4s,mb5.5
CABF La Chapelle 49.51 307 *eP* **P 02 55 23.8 -0.2**
comp=Z,154nm,1.4s,mb5.8
CABF La Chapelle 49.51 307 *eP* **P 02 55 23.8 -0.2**
CABF pmax pmax
comp=Z,154nm,1.4s,mb5.8
KSAR Wonju Array Be 49.87 65 P **P 02 55 27.9 +1.0**
KSAR Wonju Array Be 49.87 65 P **P 02 55 27.9 +1.0**
BCLA Clavier 49.89 312 P **P 02 55 27.3 +0.5**
comp=Z,20nm,2.6s,mb4.7
KSRS Korea Array 49.90 65 P **P 02 55 27.9 +0.8**
comp=Z,13nm,1.0s,mb4.9,baz=272,slow=6.8,SNR=22
KSRS LR LR 03 20 40.7
comp=Z,665nm,20.0s,MS4.6,baz=282,slow=41
KSRS Korea Array 49.90 65 P **P 02 55 27.9 +0.8**
KSRS pmax pmax
comp=Z,13nm,1.0s,mb4.9
KSRS MLR MLR
comp=Z,665nm,20.0s,MS4.6
SMRF Simiane la Rot 50.10 304 *eP* **P 02 55 28.2 -0.3**
SMRF Simiane la Rot 50.10 304 *eP* **P 02 55 28.2 -0.3**
MEZF Maizieres J'vi 50.11 310 *eP* **P 02 55 27.5 -1.0**
comp=Z,114nm,1.4s,mb5.4
MEZF Maizieres J'vi 50.11 310 *eP* **P 02 55 27.5 -1.0**
comp=Z,114nm,1.4s,mb5.7
MDJ Mudanjiang 50.13 55 P **P 02 55 28.2 -0.5**
MDJ pP 02 55 31.0
MDJ PP PP 02 57 23.3 -0.4
MDJ ScP ScP 03 00 43.0 -2.1
MDJ S **S 03 02 35.6 -5.5**
MDJ ScS ScS 03 05 18.8 -2.4
MDJ pmax pmax
comp=Z,13nm,1.3s,mb4.8
MDJ pmax pmax
comp=Z,100nm,4.4s
MDJ LR LR
comp=N,760nm,15.9s,MS5.0
MDJ LR LR
comp=E,1µm,18.4s,MS5.0
MDJ LR LR
comp=Z,2µm,16.9s,MS5.1
GIVF Givet 50.20 312 *eP* **P 02 55 29.4 +0.2**
comp=Z,73nm,1.2s,mb5.3
GIVF Givet 50.20 312 *eP* **P 02 55 29.4 +0.2**
comp=Z,73nm,1.2s,mb5.6
GIVF Givet 50.20 312 *eP* **P 02 55 29.4 +0.2**

GIVF pmax pmax
comp=Z,73nm,1.2s,mb5.6
DOU Dourbes 50.35 312 P **P 02 55 30.6 +0.3**
comp=Z,11nm,1.3s,mb4.7
SNF Seneffe 50.54 312 P **P 02 55 31.9 +0.1**
comp=Z,17nm,1.5s,mb4.8
BAIF Baives 50.60 312 *e*P **P 02 55 32.4 +0.2**
comp=Z,40nm,0.8s,mb5.1
BAIF Baives 50.60 312 *e*P **P 02 55 32.4 +0.2**
comp=Z,40nm,0.8s,mb5.4
BAIF Baives 50.60 312 *e*P **P 02 55 32.4 +0.2**
BAIF pmax pmax
comp=Z,41nm,0.8s,mb5.4
VIVF Saint-Julien-I 50.65 305 *e*P **P 02 55 31.7 -0.9**
comp=Z,44nm,0.7s,mb5.2
VIVF Saint-Julien-I 50.65 305 *e*P **P 02 55 31.7 -0.9**
comp=Z,44nm,0.7s,mb5.5
VIVF Saint-Julien-I 50.65 305 *e*P **P 02 55 31.7 -0.9**
VIVF pmax pmax
comp=Z,44nm,0.7s,mb5.5
YAK Yakutsk 50.67 33 *e*P **P 02 55 32.6 +0.1**
comp=Z,108nm,1.3s,mb5.6
YAK Yakutsk 50.67 33 *d i*P **P 02 55 32.7 +0.1**
YAK *e**PP 02 55 35.9
YAK *e* 02 56 51.3
YAK *e* 02 57 25.9
YAK *e*S **S 03 02 45.1 -3.1**
YAK *e**SS sS 03 02 49.8 +0.8
YAK *e* 03 05 16.3
YAK *e*SSS 03 07 44.1
YAK pmax pmax
comp=Z,66nm,1.4s,mb5.4
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,53nm,1.7s
YAK pmax pmax
comp=Z,14nm,0.8s,mb4.9
YAK smax
comp=E,24nm,9.6s
YAK smax
comp=N,46nm,7.7s
YAK MLR MLR
comp=N,2µm,17.0s,MS5.3
YAK MLR MLR
comp=Z,2µm,17.0s,MS5.3
YAK MLR MLR
comp=E,2µm,19.0s,MS5.3
SSB Saint Sauveur 50.70 306 *e*P **P 02 55 31.8 -1.2**
comp=E,15nm,0.6s,mb5.1
SSB Saint Sauveur 50.70 306 *e*P **P 02 55 31.8 -1.2**
SSB pmax pmax
comp=Z,15nm,0.6s,mb5.1
LOR Lormes 50.99 308 *e*P **P 02 55 34.2 -1.0**
comp=Z,57nm,1.2s,mb5.1
LOR *e*R
comp=Z,784nm,18.0s
LOR Lormes 50.99 308 *e*P **P 02 55 34.2 -1.0**
comp=Z,57nm,1.2s,mb5.4
LOR Lormes 50.99 308 *e*P **P 02 55 34.2 -1.0**
LOR pmax pmax
comp=Z,57nm,1.2s,mb5.4
SMF Signal de Mont 51.05 307 *e*P **P 02 55 35.1 -0.6**
comp=Z,61nm,0.7s,mb5.4
SMF Signal de Mont 51.05 307 *e*P **P 02 55 35.1 -0.6**
comp=Z,61nm,0.7s,mb5.6
SMF Signal de Mont 51.05 307 *e*P **P 02 55 35.1 -0.6**
SMF pmax pmax
comp=Z,61nm,0.7s,mb5.6
KLR Kul'dur 51.24 49 *e*P **P 02 55 33.3 -3.7**
KLR *e*S **S 03 02 48.0 -8.4**
KLR pmax pmax
comp=Z,62nm,1.6s,mb5.3
KLR MLR MLR
comp=E,3µm,13.5s
KLR MLR MLR
comp=Z,6µm,13.5s,MS5.8
SSF Saint Saulge 51.25 308 *e*P **P 02 55 36.3 -0.8**
comp=Z,73nm,1.2s,mb5.2
SSF Saint Saulge 51.25 308 *e*P **P 02 55 36.3 -0.8**
comp=Z,73nm,1.2s,mb5.5
SSF Saint Saulge 51.25 308 *e*P **P 02 55 36.3 -0.8**
SSF pmax pmax
comp=Z,73nm,1.2s,mb5.5
PLDF La Plantade 51.27 307 *e*P **P 02 55 36.7 -0.6**
LASF Ste Croix 51.31 304 *e*P **P 02 55 37.0 -0.7**
comp=Z,65nm,1.2s,mb5.1
LASF Ste Croix 51.31 304 *e*P **P 02 55 37.0 -0.7**
comp=Z,65nm,1.2s,mb5.4
AVF Avril sur Loir 51.38 308 *e*P **P 02 55 38.1 0.0**
comp=Z,54nm,1.1s,mb5.1
AVF Avril sur Loir 51.38 308 *e*P **P 02 55 38.1 0.0**
comp=Z,54nm,1.1s,mb5.4
AVF Avril sur Loir 51.38 308 *e*P **P 02 55 38.1 0.0**
AVF pmax pmax
comp=Z,54nm,1.1s,mb5.4
AGO Saint Agoulin 51.60 307 *e*P **P 02 55 39.3 -0.5**
LBL Lubilhac 51.61 306 *e*P **P 02 55 39.3 -0.6**
BGF Bois d'Agland 51.74 307 *e*P **P 02 55 40.1 -0.8**
BGF Bois d'Agland 51.74 307 *e*P **P 02 55 40.1 -0.8**
BGF Bois d'Agland 51.74 307 *e*P **P 02 55 40.1 -0.8**
HYF Humbligny 51.82 308 *e*P **P 02 55 41.0 -0.4**
HYF Humbligny 51.82 308 *e*P **P 02 55 41.0 -0.4**
TCF Toulx Ste Croi 52.21 307 *e*P **P 02 55 44.0 -0.3**
comp=Z,34nm,1.0s,mb4.9
TCF Toulx Ste Croi 52.21 307 *e*P **P 02 55 44.0 -0.3**
comp=Z,34nm,1.0s,mb5.2
TCF Toulx Ste Croi 52.21 307 *e*P **P 02 55 44.0 -0.3**
TCF pmax pmax
comp=Z,34nm,1.0s,mb5.2
CAF Calviac 52.48 305 *e*P **P 02 55 46.0 -0.3**
comp=Z,49nm,0.7s,mb5.2
CAF Calviac 52.48 305 *e*P **P 02 55 46.0 -0.3**
comp=Z,49nm,0.7s,mb5.5
CAF Calviac 52.48 305 *e*P **P 02 55 46.0 -0.3**
CAF pmax pmax
comp=Z,49nm,0.7s,mb5.5
MTLF Montolieu 52.59 303 *e*P **P 02 55 46.4 -0.8**
comp=Z,20nm,0.7s,mb4.9
MTLF Montolieu 52.59 303 *e*P **P 02 55 46.4 -0.8**
comp=Z,20nm,0.7s,mb5.2
MTLF Montolieu 52.59 303 *e*P **P 02 55 46.4 -0.8**
MTLF pmax pmax
comp=Z,20nm,0.7s,mb5.2
RJF Les Rejaudoux 52.81 306 *e*P **P 02 55 48.5 -0.3**
RJF *e*R
comp=Z,521nm,22.8s
RJF Les Rejaudoux 52.81 306 *e*P **P 02 55 48.5 -0.3**
RJF Les Rejaudoux 52.81 306 *e*P **P 02 55 48.5 -0.3**
SPITS Spitsbergen Ar 52.85 348 P **P 02 55 48.8 +0.1**
comp=Z,4.8nm,0.7s,mb4.5,baz=165,slow=16,SNR=6.3
SPITS Spitsbergen Ar 52.85 348 P **P 02 55 48.8 +0.1**
SPITS Spitsbergen Ar 52.85 348 P **P 02 55 48.8 +0.2**
SPITS pmax pmax
comp=Z,5.0nm,0.7s
JOW Kunigami 52.91 78 LR LR 03 21 08.1
comp=Z,1µm,19.8s,MS4.9,baz=285,slow=39
LFF La Frestale 53.41 306 *e*P **P 02 55 52.8 -0.4**
comp=Z,38nm,0.7s,mb5.1
LFF La Frestale 53.41 306 *e*P **P 02 55 52.8 -0.4**
comp=Z,38nm,0.7s,mb5.4
LFF La Frestale 53.41 306 *e*P **P 02 55 52.8 -0.4**
LFF pmax pmax
comp=Z,38nm,0.7s,mb5.4
MLS Moulis 53.47 303 *e*P **P 02 55 52.1 -1.6**
HABR Khabarovsk 53.48 50 *e*P **P 02 55 55.1 +1.4**
HABR *e*S **S 03 03 24.8 -2.3**
HABR *e**SS sS 03 03 30.4 +2.5
HABR *e*SSS 03 08 58.1
HABR pmax pmax
comp=E,40nm,1.9s
HABR pmax pmax
comp=Z,46nm,1.9s,mb5.1
HABR pmax pmax
comp=N,12nm,0.9s
HABR MLR MLR
comp=Z,4µm,19.0s,MS5.5
LDF La Druitiere 53.53 310 *e*P **P 02 55 52.8 -1.2**
comp=Z,21nm,0.6s,mb5.0
LDF La Druitiere 53.53 310 *e*P **P 02 55 52.8 -1.2**
comp=Z,21nm,0.6s,mb5.2
LDF La Druitiere 53.53 310 *e*P **P 02 55 52.8 -1.2**
LDF pmax pmax
comp=Z,21nm,0.6s,mb5.2
FLN La Foliniere 53.75 310 *e*P **P 02 55 54.6 -1.0**
comp=Z,42nm,0.9s,mb5.1
FLN *e*R
comp=Z,1µm,21.2s
FLN La Foliniere 53.75 310 *e*P **P 02 55 54.6 -1.0**
comp=Z,42nm,0.9s,mb5.4
FLN La Foliniere 53.75 310 *e*P **P 02 55 54.6 -1.0**
FLN pmax pmax
comp=Z,42nm,0.9s,mb5.4
MFF Saint Martin d 53.79 308 *e*P **P 02 55 55.1 -0.9**
MFF Saint Martin d 53.79 308 *e*P **P 02 55 55.1 -0.9**
MFF Saint Martin d 53.79 308 *e*P **P 02 55 55.1 -0.9**
EPF Esparros 54.00 303 *e*P **P 02 55 55.6 -2.0**
comp=Z,16nm,0.7s,mb4.8
EPF Esparros 54.00 303 *e*P **P 02 55 55.6 -2.0**
comp=Z,16nm,0.7s,mb5.1
EPF Esparros 54.00 303 *e*P **P 02 55 55.6 -2.0**
EPF pmax pmax
comp=Z,17nm,0.7s,mb5.1
RESF Ens 54.04 303 *e*P **P 02 55 57.7 -0.2**
GRR Gorron 54.04 310 *e*P **P 02 55 56.7 -1.1**
comp=Z,21nm,0.8s,mb4.8
GRR Gorron 54.04 310 *e*P **P 02 55 56.7 -1.1**
comp=Z,21nm,0.8s,mb5.1
GRR Gorron 54.04 310 *e*P **P 02 55 56.7 -1.1**
GRR pmax pmax
comp=Z,21nm,0.8s,mb5.1
ETSF Etsaut 54.67 303 *e*P **P 02 56 01.9 -0.6**
comp=Z,37nm,0.7s,mb5.2
ETSF Etsaut 54.67 303 *e*P **P 02 56 01.9 -0.6**
comp=Z,37nm,0.7s,mb5.5
ETSF Etsaut 54.67 303 *e*P **P 02 56 01.9 -0.6**
ETSF pmax pmax
comp=Z,37nm,0.7s,mb5.5
SJPF Ste Jean 55.11 304 *e*P **P 02 56 05.1 -0.6**
comp=Z,77nm,1.3s,mb5.3
SJPF Ste Jean 55.11 304 *e*P **P 02 56 05.1 -0.6**
comp=Z,77nm,1.3s,mb5.6
SJPF Ste Jean 55.11 304 *e*P **P 02 56 05.1 -0.6**
SJPF pmax pmax
comp=Z,77nm,1.3s,mb5.6
SGMF Saint Gilles 55.18 310 *e*P **P 02 56 05.5 -0.6**
comp=Z,77nm,0.8s,mb5.5
SGMF Saint Gilles 55.18 310 *e*P **P 02 56 05.5 -0.6**
comp=Z,77nm,0.8s,mb5.8
SGMF Saint Gilles 55.18 310 *e*P **P 02 56 05.5 -0.6**
SGMF pmax pmax
comp=Z,77nm,0.8s,mb5.8
QUIF Quistinic 55.64 310 *e*P **P 02 56 07.7 -1.6**
QUIF Quistinic 55.64 310 *e*P **P 02 56 07.7 -1.6**
QUIF Quistinic 55.64 310 *e*P **P 02 56 07.7 -1.6**
ROSF Rostrenen 55.64 310 *e*P **P 02 56 08.5 -0.9**
comp=Z,131nm,1.2s,mb5.5
ROSF Rostrenen 55.64 310 *e*P **P 02 56 08.5 -0.9**
comp=Z,131nm,1.2s,mb5.8
ROSF Rostrenen 55.64 310 *e*P **P 02 56 08.5 -0.9**
ROSF pmax pmax
comp=Z,131nm,1.2s,mb5.8
ESDC Sonseca Array 57.88 300 P **P 02 56 25.0 -0.5**
comp=Z,6.0nm,0.6s,mb4.8,baz=65,slow=7.1,SNR=66
ESDC LR LR 03 24 39.3
comp=Z,287nm,19.3s,MS4.4,baz=25,slow=40
ESDC Sonseca Array 57.88 300 P **P 02 56 25.0 -0.5**
ESLA Sonseca Array 57.88 300 *e*P **P 02 56 24.3 -1.1**
comp=Z,12nm,1.4s,mb4.7
MJAR Matsushiro Arr 58.12 64 P **P 02 56 28.5 +1.4**
comp=Z,6.1nm,1.0s,mb4.6,baz=280,slow=9.6,SNR=11
MJAR Matsushiro Arr 58.12 64 P **P 02 56 28.5 +1.4**
MJAR Matsushiro Arr 58.12 64 P **P 02 56 28.5 +1.4**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
PAB San Pablo 58.20 300 *e*P **P 02 56 27.1 -0.6**
comp=Z,9.3nm,0.7s,mb4.9
PAB San Pablo 58.20 300 *e*P **P 02 56 27.1 -0.6**
PAB pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
YSS Yuzh-Sakhalins 58.86 51 *e*P **P 02 56 33.9 +1.7**
comp=Z,32nm,1.1s,mb5.3
YSS Yuzh-Sakhalins 58.86 51 *e*P **P 02 56 32.2 +0.1**
YSS *e* 02 56 39.3
YSS pmax pmax
comp=Z,80nm,1.4s,mb5.6
YSS MLR MLR
comp=Z,2µm,17.0s,MS5.3
YSS MLR MLR
comp=N,1µm,15.0s,MS5.4
YSS MLR MLR
comp=E,2µm,19.0s,MS5.4
LSZ Lusaka 59.09 225 *e*P **P 02 56 35.4 +1.3**
comp=E,12nm,1.2s,mb4.8
LSZ Lusaka 59.09 225 *e*P **P 02 56 35.4 +1.3**
LSZ pmax pmax
comp=Z,12nm,1.2s,mb4.8
ASAJ Asahikawa 59.40 54 P **P 02 56 36.5 +0.6**
comp=Z,6.2nm,0.5s,mb4.9,baz=303,slow=15,SNR=7.4
ASAJ LR LR 03 23 52.6
comp=Z,747nm,20.3s,MS4.8,baz=271,slow=38
ASAJ Asahikawa 59.40 54 P **P 02 56 36.5 +0.6**
ASAJ Asahikawa 59.40 54 P **P 02 56 36.5 +0.6**
ASAJ pmax pmax
comp=Z,6.0nm,0.5s
ASAJ MLR MLR
comp=Z,747nm,20.3s
MVO Moncorvo 59.76 303 *e*P **P 02 56 38.1 -0.4**
PVRL Vila Real 60.23 303 *e*PP PP 02 58 54.8 +0.6
POLO Lamas de Olo 60.26 303 *e*P **P 02 56 41.5 -0.4**
MTE Manteigas 60.34 302 *e*P **P 02 56 42.7 +0.2**
comp=Z,85nm,1.6s,mb5.5
PCBR Castelo Branco 60.45 301 *e*P **P 02 56 43.2 0.0**
comp=Z,78nm,1.9s,mb5.4
PMRV Marv??o 60.50 301 *e*P **P 02 56 43.8 +0.2**
comp=Z,49nm,1.9s,mb5.2
PVIS Viseu 60.51 302 *e*P **P 02 56 44.1 +0.5**
comp=Z,51nm,1.8s,mb5.3
PBAR Barrancos 60.60 299 *e*P **P 02 56 43.9 -0.4**
comp=Z,80nm,2.1s,mb5.5
PESTR Estremoz 60.81 300 *e*P **P 02 56 45.3 -0.4**
comp=Z,44nm,1.5s,mb5.4
KAPI Kappang 61.08 116 LR LR 03 27 30.0
comp=Z,533nm,18.4s,MS4.7,baz=305,slow=40
SEY Seymchan 61.15 31 *e*P **P 02 56 48.6 +1.0**
PTOM Tomar 61.20 301 *e*P **P 02 56 48.4 0.0**
comp=Z,136nm,1.3s,mb5.9
EVO Evora 61.22 300 *e*P **P 02 56 48.6 +0.1**
comp=Z,34nm,0.9s,mb5.2
EVO *e*R
comp=Z,426nm,19.0s
EVO Evora 61.22 300 *e*P **P 02 56 48.3 -0.2**
comp=Z,56nm,1.8s,mb5.4
PMTG Montargil 61.22 301 *e*P **P 02 56 48.4 -0.1**
comp=Z,48nm,1.7s,mb5.3
PBEJ Beja 61.26 299 *e*P **P 02 56 48.8 0.0**
comp=Z,43nm,1.8s,mb5.3
EVOP Sao Brissos 61.31 300 *e*P **P 02 56 48.6 -0.5**
comp=Z,34nm,0.9s,mb5.5
EVOP Sao Brissos 61.31 300 *e*P **P 02 56 48.6 -0.5**
EVOP pmax pmax
comp=Z,34nm,0.9s,mb5.5
PCVE Castro Verde 61.51 299 *e*P **P 02 56 50.5 0.0**
comp=Z,65nm,2.2s,mb5.4
PBDV Barranco-do-Ve 61.55 299 *e*P **P 02 56 51.1 +0.3**
YUK Yuzh-Kuril'sk 61.69 53 *de*P **P 02 56 52.3 +0.7**
YUK S S 03 05 36.1 +21
YUK SS SS 03 09 20.4 +4.3
YUK MLR MLR
comp=E,2µm,19.0s
YUK MLR MLR
comp=Z,2µm,19.0s,MS5.2
PNCL Nicolau / Gran 61.74 300 *e*P **P 02 56 52.0 0.0**
comp=Z,67nm,1.9s,mb5.5
TORD Torodi Ar. Bea 62.71 270 P **P 02 56 57.5 -1.3**
comp=Z,37nm,0.8s,mb5.6,baz=58,slow=6.0,SNR=279
TORD LR LR 03 26 54.5
comp=Z,1µm,18.3s,MS5.1,baz=50,slow=39
TORD Torodi Ar. Bea 62.71 270 P **P 02 56 57.5 -1.3**
CBIJ Chichi jima 64.44 72 LR LR 03 24 59.4
comp=Z,805nm,21.5s,MS4.9,baz=42,slow=36
BILL Biiibino 65.39 24 *e*P **P 02 57 16.4 +0.7**
BILL *e* 02 57 46.3
BILL *e* 02 59 37.8
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BILL MLR MLR
comp=Z,600nm,16.0s,MS4.9
SUMG Summit 65.93 342 *e*P **P 02 57 19.5 +0.4**
comp=Z,18nm,0.8s,mb5.1
SUMG Summit 65.93 342 *i* P **P 02 57 19.5 +0.4**
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 65.93 342 *i* P **P 02 57 19.5 +0.4**
comp=Z,16nm,0.8s,mb5.1
PETK Petropavlovsk- 66.45 41 LR LR 03 28 27.6
comp=Z,728nm,21.6s,MS4.8,baz=286,slow=38
PET Petropavlovsk 67.02 41 *e*P **P 02 57 31.4 +5.0**
PET *e*S S 03 06 20.5 -0.3
PET MLR MLR
comp=Z,900nm,15.0s,MS5.1
LBTB Lobatse 68.15 221 *e*P **P 02 57 35.0 +1.2**
comp=Z,22nm,1.3s,mb5.0
LBTB Lobatse 68.15 221 *e*P **P 02 57 35.0 +1.2**
LBTB pmax pmax
comp=Z,22nm,1.3s,mb5.0
TSUM Tsumeb 68.81 231 *e*P **P 02 57 39.2 +1.2**
comp=Z,28nm,1.5s,mb5.0
BOSA Boshof 71.16 219 P **P 02 57 52.9 +0.6**
comp=Z,9.6nm,0.8s,mb4.8,baz=37,slow=6.1,SNR=19
BOSA LR LR 03 31 42.2
comp=Z,331nm,19.2s,MS4.6,baz=346,slow=38
BOSA Boshof 71.16 219 *e*P **P 02 57 52.9 +0.6**
comp=Z,9.9nm,0.8s,mb4.8
BOSA Boshof 71.16 219 P **P 02 57 52.9 +0.6**
BOSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BOSA MLR MLR
comp=Z,331nm,19.2s,MS4.6
DBIC Dimbokro 71.45 267 P **P 02 57 54.0 -0.5**
comp=Z,25nm,0.9s,mb5.2,baz=44,slow=7.3,SNR=39
DBIC LR LR 03 31 44.9
comp=Z,2µm,19.8s,MS5.3,baz=40,slow=38
DBIC Dimbokro 71.45 267 *e*P **P 02 57 53.8 -0.7**
comp=Z,22nm,0.8s,mb5.1
DBIC Dimbokro 71.45 267 P **P 02 57 54.1 -0.4**
DBIC pmax pmax
comp=Z,25nm,0.9s
DBIC MLR MLR
comp=Z,2µm,19.8s
FITZ Fitzroy Crossi 73.81 123 LR LR 03 34 08.2
comp=Z,347nm,18.1s,MS4.7,baz=310,slow=39
FITZ Fitzroy Crossi 73.81 123 *e*P **P 02 58 09.1 +0.8**
comp=Z,24nm,1.6s,mb4.9
RES Resolute Bay 74.59 355 P **P 02 58 12.1 0.0**
comp=Z,0.8nm,0.3s,mb4.1,baz=20,slow=12,SNR=4.1
RES Resolute Bay 74.59 355 P **P 02 58 12.1 0.0**
RES Resolute Bay 74.59 355 P **P 02 58 12.1 0.0**
RES pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
FX1 Attu Island--F 75.01 37 LR LR 03 34 20.4
comp=Z,703nm,18.9s,MS5.0,baz=302,slow=38
COLD Coldfoot 78.64 14 *e*P **P 02 58 35.5 +0.4**
comp=Z,10nm,0.9s,mb4.8
INK Inuvik 80.39 8 P **P 02 58 44.9 +0.2**
comp=Z,12nm,0.8s,mb4.9,baz=3.7,slow=8.4,SNR=18
INK Inuvik 80.39 8 *e*P **P 02 58 45.1 +0.4**
comp=Z,26nm,1.0s,mb5.1
INK Inuvik 80.39 8 *e*P **P 02 58 45.1 +0.5**
INK pmax pmax
comp=Z,26nm,1.0s
COLA College 81.16 14 *e*P **P 02 58 49.7 +1.0**
comp=Z,11nm,0.9s,mb4.8
COLA College 81.16 14 *e*P **P 02 58 49.7 +0.9**
COLA pmax pmax
comp=Z,11nm,0.9s,mb4.8
WRA Warramunga Arr 81.40 119 P **P 02 58 50.9 +0.2**
comp=Z,4.6nm,0.8s,mb4.5,baz=319,slow=4.8,SNR=32
WRA LR LR 03 36 31.9
comp=Z,305nm,19.7s,MS4.7,baz=25,slow=37
WRA Warramunga Arr 81.40 119 P **P 02 58 50.9 +0.2**
WRA Warramunga Arr 81.40 119 P **P 02 58 50.9 +0.2**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA MLR MLR
comp=Z,305nm,19.7s
WRAB Tennant Creek 81.40 119 *e*P **P 02 58 49.6 -1.2**
comp=Z,21nm,1.3s,mb4.9
WRAB Tennant Creek 81.40 119 *e*P **P 02 58 49.6 -1.1**
WRAB pmax pmax
comp=Z,21nm,1.3s,mb4.9
WB2 Warramunga Arr 81.41 119 *e*P **P 02 58 50.8 0.0**
ILAR Eielson Array 81.45 14 P **P 02 58 49.9 -0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=321,slow=4.5,SNR=17
ILAR PP PP 03 01 55.9 +0.4
comp=Z,1.9nm,1.1s,baz=327,slow=6.5,SNR=4.5
ILAR LR LR 03 41 24.7
comp=Z,614nm,18.8s,MS5.0,baz=163,slow=40
ILAR Eielson Array 81.45 14 P **P 02 58 49.9 -0.4**
ILAR PP PP 03 01 55.9 +0.4
ILAR Eielson Array 81.45 14 P **P 02 58 49.9 -0.4**
ILAR 03 01 55.9
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,1.1s
MCK McKinley 81.90 15 *e*P **P 02 58 53.2 +0.5**
comp=Z,31nm,1.4s,mb5.0
MCK McKinley 81.90 15 *e*P **P 02 58 53.2 +0.5**
MCK pmax pmax
comp=Z,31nm,1.4s,mb5.0
EGAK Eagle 82.57 12 *e*P **P 02 58 58.4 +2.2**
comp=Z,59nm,1.8s,mb5.3
AS31 Alice Springs 83.30 122 *e*P **P 02 59 01.1 +0.5**
ASAR Alice Springs 83.30 122 P **P 02 59 00.9 +0.3**
comp=Z,7.5nm,0.8s,mb4.8,baz=311,slow=5.3,SNR=61
ASAR Alice Springs 83.30 122 P **P 02 59 00.9 +0.3**
ASAR Alice Springs 83.30 122 P **P 02 59 00.9 +0.3**
ASAR pmax pmax
comp=Z,8.0nm,0.8s
DAWY Dawson 83.53 12 *e*P **P 02 59 01.6 +0.5**
PMG Port Moresby 85.89 103 P **P 02 59 13.7 -0.2**
comp=Z,4.6nm,0.5s,mb5.0,baz=327,slow=9.5,SNR=4.5
PMG Port Moresby 85.89 103 P **P 02 59 13.7 -0.2**
PMG Port Moresby 85.89 103 P **P 02 59 13.7 -0.2**
PMG pmax pmax
comp=Z,5.0nm,0.5s
KDAK Kodiak Island 85.96 20 P **P 02 59 12.8 -0.8**
comp=Z,8.7nm,0.7s,mb5.1,baz=245,slow=5.9,SNR=4.2
KDAK Kodiak Island 85.96 20 P **P 02 59 12.8 -0.8**
KDAK Kodiak Island 85.96 20 P **P 02 59 12.8 -0.8**
KDAK pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
SCHQ Schefferville 86.53 336 LR LR 03 38 41.6
comp=Z,531nm,18.6s,MS5.0,baz=78,slow=36
YKA Yellowknife Ar 87.46 1 P **P 02 59 20.7 -0.1**
comp=Z,11nm,0.9s,mb5.1,baz=350,slow=5.0,SNR=37
YKA Yellowknife Ar 87.46 1 P **P 02 59 20.8 -0.1**
YKA Yellowknife Ar 87.46 1 P **P 02 59 20.7 -0.1**
YKA pmax pmax
comp=Z,11nm,0.9s
DLBC Dease Lake 90.34 9 P **P 02 59 35.2 +0.8**
comp=Z,6.5nm,1.1s,mb4.9,baz=302,slow=7.0,SNR=3.1
DLBC Dease Lake 90.34 9 P **P 02 59 35.2 +0.8**
STKA Stephens Creek 93.59 125 P **P 02 59 50.2 +0.4**
comp=Z,2.6nm,0.8s,mb4.7,baz=309,slow=6.5,SNR=3.7
STKA LR LR 03 47 25.0
comp=Z,727nm,18.4s,MS5.2,baz=118,slow=39
STKA Stephens Creek 93.59 125 P **P 02 59 50.2 +0.4**
STKA Stephens Creek 93.59 125 P **P 02 59 50.3 +0.5**
STKA pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 94.78 354 *i* P **P 02 59 57.5 +2.4**
MAW Mawson 97.72 182 LR LR 03 36 29.6
comp=Z,258nm,19.0s,MS4.7,baz=85,slow=31
ULM Lac du Bonnet 98.41 349 LR LR 03 49 22.3
comp=Z,662nm,18.7s,MS5.2,baz=5.0,slow=38
PDAR Pinedale Array 107.19 358 PKiKP PKiKP 03 05 00.1 +0.2
comp=Z,0.5nm,0.6s,baz=101,slow=0.9,SNR=3.8
PDAR Pinedale Array 107.19 358 PKiKP PKiKP 03 05 00.1 +0.2
DZM Mont Dzumac 108.20 105 *e*LR LR 03 36 53.8
comp=Z,314nm,23.1s
NVAR Mina Array Bea 111.36 5 PKiKP PKiKP 03 05 08.9 +1.0
comp=Z,0.5nm,0.6s,baz=282,slow=2.5,SNR=3.5
NVAR Mina Array Bea 111.36 5 PKiKP PKiKP 03 05 08.9 +1.0
TXAR Lajitas Array 120.05 351 PKP PKPdf 03 05 24.9 0.0
comp=Z,1.2nm,1.0s,baz=186,slow=4.4,SNR=5.2
TXAR Lajitas Array 120.05 351 PKP PKPdf 03 05 24.9 0.0
TXAR Lajitas Array 120.05 351 PKIKP PKPdf 03 05 24.9 +0.1
TXAR pmax pmax
comp=Z,1.0nm,1.0s
CPUP Villa Florida 131.68 260 PKP PKPdf 03 05 46.3 -0.7
comp=Z,0.8nm,0.6s,baz=104,slow=4.2,SNR=3.8
CPUP Villa Florida 131.68 260 PKP PKPdf 03 05 46.3 -0.7
CPUP Villa Florida 131.68 260 PKIKP PKPdf 03 05 46.3 -0.7
CPUP pmax pmax

comp=Z,1.0nm,0.6s
PPT Papeete 143.96 78 eLR LR 03 53 24.1
comp=Z,312nm,23.0s
TBI Tubuai 146.39 87 eLR LR 03 54 19.8
comp=Z,243nm,24.5s
TAOE Nuku Hiva Isla 146.46 56 eLR LR 03 54 31.8
comp=Z,498nm,22.8s
RKT Rikitea 158.69 76 eLR LR 04 00 10.9
comp=Z,321nm,29.8s

MEX 09 02:46:41.9±0.8, 16°.75N×95°.23W, h99km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.47**	**44**	*i* P	Pn	02 46 56.5	-0.9
CMIG				*i* S	Sn	02 47 06.7	-2.2
HUIG	**Huatulco**	**1.29**	**221**	*i* P	Pn	02 47 03.5	-2.1
HUIG				*i* S	Sn	02 47 22.8	-0.6
VHO	**Vista Hermosa**	**1.48**	**283**	*e*P	Pn	02 47 07.4	-0.3
VHO				*i* S	Sn	02 47 26.8	-0.7
TGIG		**2.02**	**89**	*e*P	Pn	02 47 13.6	-1.1
TGIG				*i* S	Sn	02 47 37.3	-2.4
PCIG		**2.19**	**118**	*e*P	Pn	02 47 16.3	-0.6
PCIG				*i* S	Sn	02 47 42.4	-1.3
UTMO	**Huajuapan**	**2.68**	**294**	*e*P	Pn	02 47 22.1	-1.4
UTMO				*i* S	Sn	02 47 54.9	-0.4
PNIG	**Pinotepa**	**2.80**	**263**	*e*P	Pn	02 47 22.3	-2.7
PNIG				*i* S	Sn	02 47 56.6	-1.6
CCIG	**Comitan**	**3.00**	**98**	*e*P	Pn	02 47 27.1	-0.5
CCIG				*i* S	Sn	02 48 02.2	-0.7

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*ISCJB **09** 02:54:53.3±0.6, 43°.28N±0°.04×46°.28E±0°.03, h4km±4km, Error ellipse: s-maj=7.6km s-min=2.7km az=24.6*
*CSEM **09** 02:54:53.8, 43°.22N×46°.26E, h8km, mb3.8, After OBN*
*MOS **09** 02:54:53.8±1.3, 43°.22N×46°.26E, h8km, mb3.8/1, Error ellipse: s-maj=10.0km s-min=6.7km az=30.9*
ISC 09 02:54:53.7±0.7, 43°.33N±0°.04×46°.32E±0°.04, h9km±3km, n43, σ0.97/82, 9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.34**	**138**	*e*PG	**Pg**	**02 55 03.0**	**+2.6**
DLMR				*e*S	**Sg**	**02 55 05.5**	**+0.6**
DLMR	**Dylym**	**0.34**	**138**	*e*Pg	**Pg**	**02 55 03.0**	**+2.6**
DLMR				*e*Sg	**Sg**	**02 55 05.5**	**+0.6**
GRO	**Groznyy**	**0.41**	**270**	⇓*i*PG	**Pg**	**02 55 01.3**	**-0.5**
GRO				*i* S	**Sg**	**02 55 07.2**	**0.0**
GRO	**Groznyy**	**0.41**	**270**	*i* Pg	**Pg**	**02 55 01.3**	**-0.5**
GRO				*i* Sg	**Sg**	**02 55 07.2**	**0.0**
DBC	**Dubki**	**0.48**	**129**	*e*PG	**Pg**	**02 55 02.0**	**-1.0**
DBC				*e*S	**Sg**	**02 55 10.0**	**+0.6**
DBC	**Dubki**	**0.48**	**129**	*e*Pg	**Pg**	**02 55 02.0**	**-1.0**
DBC				*e*Sg	**Sg**	**02 55 10.0**	**+0.6**
KRNR	**Karanay**	**0.66**	**139**	*e*PG	**Pg**	**02 55 06.2**	**-0.2**
KRNR				*i* S	**Sg**	**02 55 14.5**	**-0.5**
KRNR				pmax	pmax		
	comp=Z,40nm,0.2s						
KRNR	**Karanay**	**0.66**	**139**	*e*Pg	**Pg**	**02 55 06.2**	**-0.2**
	comp=Z,40nm,0.2s						
KRNR				*i* Sg	**Sg**	**02 55 14.5**	**-0.5**
BTLR	**Botlikh**	**0.66**	**186**	⇓*i*PG	**Pg**	**02 55 04.3**	**-2.2**
BTLR				*e*S	**Sg**	**02 55 16.9**	**+1.8**
BTLR				pmax	pmax		
	comp=Z,363nm,1.0s						
BTLR	**Botlikh**	**0.66**	**186**	*i* Pg	**Pg**	**02 55 04.3**	**-2.2**
	comp=Z,363nm,1.0s						
BTLR				*e*Sg	**Sg**	**02 55 16.9**	**+1.8**
UNCR	**Uncukul**	**0.70**	**150**	⇓PG	**Pg**	**02 55 06.0**	**-1.2**
UNCR				*i* S	**Sg**	**02 55 16.0**	**-0.4**
UNCR				pmax	pmax		
	comp=Z,34nm,0.2s						
UNCR	**Uncukul**	**0.70**	**150**	Pg	**Pg**	**02 55 06.0**	**-1.2**
	comp=Z,34nm,0.2s						
UNCR				*i* Sg	**Sg**	**02 55 16.0**	**-0.4**
BUJR	**Buynaksk**	**0.76**	**131**	*e*PG	**Pg**	**02 55 09.5**	**+1.1**
BUJR				*e*S	**Sg**	**02 55 22.0**	**+3.7**
BUJR	**Buynaksk**	**0.76**	**131**	*e*Pg	**Pg**	**02 55 09.5**	**+1.1**
BUJR				*e*Sg	**Sg**	**02 55 22.0**	**+3.7**
ARKR	**Arakani**	**0.88**	**145**	PG	**Pg**	**02 55 11.5**	**+1.0**
ARKR				*e*S	**Sg**	**02 55 20.5**	**-1.4**
ARKR	**Arakani**	**0.88**	**145**	Pg	**Pg**	**02 55 11.5**	**+1.0**
ARKR				*e*Sg	**Sg**	**02 55 20.5**	**-1.4**
SNJR	**Sundja**	**1.13**	**257**	⇓*i*PG	**Pg**	**02 55 14.9**	**-0.5**
SNJR				*e*S	**Sg**	**02 55 30.5**	**+0.4**
SNJR	**Sundja**	**1.13**	**257**	*i* Pg	**Pg**	**02 55 14.9**	**-0.5**
SNJR				*e*Sg	**Sg**	**02 55 30.5**	**+0.4**
VLKR	**Vladikavkaz**	**1.23**	**258**	*e*PG	**Pg**	**02 55 16.6**	**-0.7**
VLKR				*i* S	**Sg**	**02 55 33.6**	**+0.3**
VLKR	**Vladikavkaz**	**1.23**	**258**	*e*Pg	**Pg**	**02 55 16.6**	**-0.7**
VLKR				*i* Sg	**Sg**	**02 55 33.6**	**+0.3**
KMKR	**Kumukh**	**1.32**	**154**	⇓*e*PG	**Pg**	**02 55 18.5**	**-0.6**
KMKR				*i* S	**Sb**	**02 55 36.0**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
KMKR	**Kumukh**	**1.32**	**154**	*e*Pg	**Pg**	**02 55 18.5**	**-0.6**
	comp=Z,35nm,0.2s						
KMKR				*i* Sg	**Sb**	**02 55 36.0**	**+0.2**
KMSR	**Komsomolskaya**	**1.48**	**272**	⇓*i*PG	**Pg**	**02 55 21.3**	**-0.7**
KMSR				*i* S	**Sg**	**02 55 41.8**	**+0.6**
KMSR	**Komsomolskaya**	**1.48**	**272**	*i* Pg	**Pg**	**02 55 21.3**	**-0.7**
KMSR				*i* Sg	**Sg**	**02 55 41.8**	**+0.6**
ARNR	**Ardon**	**1.50**	**266**	⇓*i*PG	**Pn**	**02 55 21.2**	**+0.5**
ARNR				*i* S	**Sg**	**02 55 41.8**	**0.0**
ARNR	**Ardon**	**1.50**	**266**	*i* Pg	**Pn**	**02 55 21.2**	**+0.5**
ARNR				*i* Sg	**Sg**	**02 55 41.8**	**0.0**
PRTR	**Priterechnaya**	**1.54**	**287**	⇓*i*PG	**Pg**	**02 55 22.6**	**-0.6**
PRTR				*i* S	**Sg**	**02 55 44.6**	**+1.4**
PRTR	**Priterechnaya**	**1.54**	**287**	*i* Pg	**Pg**	**02 55 22.6**	**-0.6**
PRTR				*i* Sg	**Sg**	**02 55 44.6**	**+1.4**
LACR	**Lac**	**1.56**	**252**	⇓*i*PG	**Pn**	**02 55 20.0**	**-1.7**
LACR				*i* S	**Sn**	**02 55 40.8**	**-1.3**
LACR	**Lac**	**1.56**	**252**	*i* Pg	**Pn**	**02 55 20.0**	**-1.7**
LACR				*i* Sg	**Sn**	**02 55 40.8**	**-1.3**
KORR	**Kora**	**1.66**	**263**	*e*PG	**Pn**	**02 55 23.1**	**+0.1**
KORR				*i* S	**Sn**	**02 55 45.2**	**+0.7**
KORR	**Kora**	**1.66**	**263**	*e*Pg	**Pn**	**02 55 23.1**	**+0.1**
KORR				*i* Sg	**Sn**	**02 55 45.2**	**+0.7**
LSNR	**Lesken**	**1.83**	**269**	*e*PN	**Pn**	**02 55 25.5**	**+0.2**
LSNR				*i* S	**Sn**	**02 55 49.9**	**+1.3**
LSNR	**Lesken**	**1.83**	**269**	*e*Pn	**Pn**	**02 55 25.5**	**+0.2**
LSNR				*i* Sg	**Sn**	**02 55 49.9**	**+1.3**
TBLG	**Delisi**	**1.98**	**217**	*e*PN	**Pn**	**02 55 27.9**	**+0.6**
TBLG				*e*S	**Sn**	**02 55 53.5**	**+1.3**
TBLG	**Delisi**	**1.98**	**217**	P	**Pn**	**02 55 27.9**	**+0.6**
TBLG				S	**Sn**	**02 55 53.6**	**+1.4**
TBLG	**Delisi**	**1.98**	**217**	*e*Pn	**Pn**	**02 55 27.9**	**+0.6**
TBLG				*e*Sg	**Sn**	**02 55 53.5**	**+1.3**
MTA	**Mtatsminda**	**1.98**	**215**	P	**Pn**	**02 55 28.3**	**+0.8**
MTA				S	**Sg**	**02 55 57.3**	**-0.1**
DIGR	**Digorskoe uzhe**	**2.05**	**259**	*e*PN	**Pn**	**02 55 28.0**	**-0.4**
DIGR	**Digorskoe uzhe**	**2.05**	**259**	*e*Pn	**Pn**	**02 55 28.0**	**-0.4**
GOR	**Gori**	**2.11**	**231**	P	**Sn**	**02 55 54.3**	**-1.2**
ONI	**Oni**	**2.23**	**252**	P	**Pn**	**02 55 31.5**	**+0.6**
ONI				S	**Sn**	**02 55 57.1**	**-1.3**
AKH	**Akhalkalaki**	**2.84**	**229**	P	**Sn**	**02 56 17.8**	**+4.3**

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*IDC **09** 03:06:53.9±1.4, 6°.01S×145°.80E, h83km±11km, mb4.9/25, mb1 5.0/27, mb1mx5.0/27, mbtmp4.9/27, MS4.1/4, Ms1 4.0/4, ms1mx3.5/25, Error ellipse: s-maj=15.4km s-min=9.5km az=91.0*
*ISCJB **09** 03:06:54.5±0.7, 6°.00S±0°.03×145°.87E±0°.04, h104km±6km, mb5.4/137, Error ellipse: s-maj=6.1km s-min=4.5km az=177.6*
*BJI **09** 03:06:55.9, 5°.65S×146°.22E, h114km, mB5.4/27, mb5.5/56*
*MOS **09** 03:06:55.4±1.1, 5°.95S×145°.68E, h101km, mb5.4/31, MS4.2/4, Error ellipse: s-maj=10.2km s-min=5.7km az=106.8*
*NEIC **09** 03:06:57.0±0.7, 6°.02S×145°.80E, h110km±6km, mb5.4/53, Error ellipse: s-maj=5.9km s-min=4.1km az=73.0*
*DJA **09** 03:06:58, 6°.08S×145°.86E, h121km, mb5.3/45*
*GCMT **09** 03:06:59.9±0.2, 6°.09S×145°.72E, h128km±4km, MW5.0, Moment Tensor Solution. s25,c27; s77,c114; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.62±.18; $M_{\theta\theta}$1.40±.20; $M_{\phi\phi}$0.21±.22; $M_{r\theta}$-3.35±.11; $M_{\theta\phi}$-2.50±.15; $M_{r\phi}$0.05±.14; Best double couple: $M_0$4.40000×10^{16} NP1:ϕ_s345.00000°, δ34.00000°, λ-24.00000°. NP2:ϕ_s95.00000°, δ77.00000°, λ-122.00000°. Principal axes: T 4.6400, Plg25.0000°, Azm210.0000°; N -0.4200, Plg31.0000°, Azm103.0000°; P -4.2300, Plg48.0000°, Azm331.0000°; Data Used: II G IU IC CN.*
ISC 09 03:06:57.3±0.7, 6°.06S±0°.03×145°.82E±0°.04, h113km±6km, h113km±2.7km; pP-P, n493, σ1.06/327, mb5.4/135, 30C-18D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.58**	**158**	P	**Pn**	**03 07 50.9**	**-0.2**
	747nm,0.3s,baz=351,slow=6.0,SNR=1175						
PMG				S	**Sn**	**03 08 30.8**	**-1.9**
	592nm,0.3s,baz=152,slow=22,SNR=24						
PMG				LR	LR	03 09 20.0	
	comp=Z,2μm,21.2s,baz=24,slow=40						
PMG	**Port Moresby**	**3.58**	**158**	*e*Pn	**Pn**	**03 07 50.8**	**-0.3**
PMG				*e*Sn	**Sn**	**03 08 30.4**	**-2.3**
PMG				S	**Sn**	**03 08 30.8**	**-1.9**
PMG	**Port Moresby**	**3.58**	**158**	*e*P	**Pn**	**03 07 50.8**	**-0.3**
PMG				S	**Sn**	**03 08 30.8**	**-1.9**
PMG	**Port Moresby**	**3.58**	**158**	P	**Pn**	**03 07 50.6**	**-0.5**
JAY	**Jayapura**	**6.20**	**304**	P	**Pn**	**03 08 25.7**	**-0.7**
	0.9nm159nm,0.8s						
COEN	**Coen**	**8.26**	**198**	*e*P	**Pn**	**03 08 55.6**	**+1.2**
	2μm,0.6s						
COEN				*e*S	**Sn**	**03 10 23.6**	**-2.5**
COEN	**Coen**	**8.26**	**198**	*e*Pn	**Pn**	**03 08 55.8**	**+1.4**
COEN				*e*S	**Sn**	**03 10 25.4**	**-0.7**
COEN	**Coen**	**8.26**	**198**	P	**Pn**	**03 08 56.1**	**+1.7**
	7μm823nm,0.9s						
CTA	**Charters Tower**	**13.95**	**178**	P	**Pn**	**03 10 11.6**	**+1.5**
	0.5nm,0.3s,baz=351,slow=14,SNR=17						
CTA				S	**Sn**	**03 12 44.6**	**+0.7**
	0.7nm,0.3s,baz=315,slow=14,SNR=3.3						
CTA	**Charters Tower**	**13.95**	**178**	*e*P	**Pn**	**03 10 11.4**	**+1.3**
	24nm,0.7s						
CTA				*e*S	**Sn**	**03 12 39.4**	**-4.5**
CTA	**Charters Tower**	**13.95**	**178**	P	**Pn**	**03 10 11.6**	**+1.5**
CTA				S	**Sn**	**03 12 44.6**	**+0.7**
CTA	**Charters Tower**	**13.95**	**178**	P	**Pn**	**03 10 11.6**	**+1.5**
CTA				S	**Sn**	**03 12 44.6**	**+0.7**
CTAO	**Charters Tower**	**13.95**	**178**	*e*Pn	**Pn**	**03 10 11.1**	**+1.0**
CTAO				*e*S	**Sn**	**03 12 44.8**	**+0.9**
CTAO	**Charters Tower**	**13.95**	**178**	*e*P	**Pn**	**03 10 11.1**	**+1.0**
CTAO				*e*S	**Sn**	**03 12 44.8**	**+0.9**
CTAO	**Charters Tower**	**13.95**	**178**	P	**Pn**	**03 10 11.0**	**+0.9**
	740nm63nm,1.1s						
HNR	**Honiara**	**14.40**	**104**	P	**Pn**	**03 10 17.3**	**+1.4**
	8.0nm,0.3s,baz=231,slow=6.5,SNR=7.4						
HNR	**Honiara**	**14.40**	**104**	*e*Pn	**Pn**	**03 10 18.4**	**+2.5**
HNR	**Honiara**	**14.40**	**104**	*e*P	**Pn**	**03 10 18.4**	**+2.5**
AAI	**Ambon**	**17.71**	**277**	P	**Pn**	**03 10 57.9**	**+0.9**
	3μm261nm,0.8s						
WRAB	**Tennant Creek**	**17.73**	**218**	*e*Pn	**Pn**	**03 10 55.4**	**-1.7**
	265nm,1.3s						
WRAB				*e*S	**S**	**03 14 10.3**	**-4.2**
WRAB	**Tennant Creek**	**17.73**	**218**	*e*P	**Pn**	**03 10 55.4**	**-1.6**
WRAB				*e*S	**S**	**03 14 10.3**	**-4.2**
WRAB				pmax	pmax		
	comp=Z,265nm,1.3s						
WRAB	**Tennant Creek**	**17.73**	**218**	P	**Pn**	**03 10 55.5**	**-1.5**
	comp=Z,2μmcomp=Z,162nm,1.1s						
WB2	**Warramunga Arr**	**17.73**	**218**	*e*P	**Pn**	**03 10 55.3**	**-1.8**
WB2				*e*S	**S**	**03 14 08.2**	**-6.4**
WRA	**Warramunga Arr**	**17.74**	**218**	P	**Pn**	**03 10 55.8**	**-1.5**
	comp=Z,3.6nm,0.3s,baz=38,slow=12,SNR=114						
WRA				S	**S**	**03 14 11.6**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=35,slow=22,SNR=6.5						
WRA				LR	LR	03 18 32.5	
	comp=Z,364nm,18.1s,baz=25,slow=39						
WRA				ScP	ScP	03 18 57.8	+3.8
	comp=Z,0.2nm,0.3s,baz=35,slow=2.5,SNR=6.8						
WRA				PKiKP	PKiKP	03 23 20.3	-0.7
	comp=Z,0.1nm,0.3s,baz=318,slow=1.0,SNR=6.1						
WRA	**Warramunga Arr**	**17.74**	**218**	P	**Pn**	**03 10 55.8**	**-1.5**
WRA				S	**S**	**03 14 11.6**	**-3.1**
WRA				ScP	ScP	03 18 57.8	+3.8
WRA				PKiKP	PKiKP	03 23 20.3	-0.8
WRA	**Warramunga Arr**	**17.74**	**218**	P	**Pn**	**03 10 55.8**	**-1.4**
WRA				S	**S**	**03 14 11.6**	**-3.2**
NLAI	**Namlea**	**18.86**	**278**	P	**P**	**03 11 10.2**	**+1.4**
	comp=Z,2μmcomp=Z,152nm,1.1s						
LBMI	**Labuha**	**19.05**	**286**	P	**P**	**03 11 12.1**	**+1.2**
	comp=Z,4μmcomp=Z,281nm,1.3s						
GUMO	**Guam**	**19.55**	**357**	P	**P**	**03 11 12.8**	**-3.4**
	comp=Z,12nm,0.3s,baz=180,slow=20,SNR=4.2						
GUMO	**Guam**	**19.55**	**357**	P	**P**	**03 11 12.8**	**-3.4**
GUMO	**Guam**	**19.55**	**357**	P	**P**	**03 11 12.8**	**-3.4**
TNTI	**Ternate**	**19.63**	**290**	P	**P**	**03 11 19.1**	**+1.9**
	comp=Z,3μmcomp=Z,346nm,1.0s						
EIDS	**Eidsvold**	**19.85**	**166**	*e*P	**P**	**03 11 20.5**	**+1.1**
	comp=Z,61nm,0.8s						
AS31	**Alice Springs**	**20.92**	**212**	*e*P	**P**	**03 11 30.5**	**-0.4**
AS31				*e*S	**S**	**03 15 18.8**	**+0.9**
ASAR	**Alice Springs**	**20.92**	**212**	P	**P**	**03 11 30.2**	**-0.8**
	comp=Z,43nm,0.9s,baz=42,slow=9.0,SNR=178						
ASAR				S	**S**	**03 15 16.0**	**-1.9**
	comp=Z,8.5nm,0.9s,baz=29,slow=21,SNR=5.6						
ASAR				ScP	ScP	03 19 05.9	+4.8
	comp=Z,7.0nm,0.9s,baz=42,slow=4.6,SNR=5.0						
ASAR	**Alice Springs**	**20.92**	**212**	P	**P**	**03 11 30.2**	**-0.8**
ASAR				S	**S**	**03 15 16.0**	**-1.9**
ASAR				ScP	ScP	03 19 05.9	+4.8
ASAR	**Alice Springs**	**20.92**	**212**	P	**P**	**03 11 30.2**	**-0.7**
ASAR				S	**S**	**03 15 16.0**	**-1.9**
MNI	**Manado**	**22.23**	**289**	P	**P**	**03 11 44.4**	**-0.6**
	comp=Z,6μmcomp=Z,519nm,0.8s,mb5.9						
KMSI	**Cibinong**	**22.77**	**286**	P	**P**	**03 11 51.6**	**+1.1**
	comp=Z,413nm,1.1s,mb5.7						
FITZ	**Fitzroy Crossi**	**23.04**	**237**	P	**P**	**03 11 50.8**	**-2.1**
	comp=Z,50nm,0.7s,mb5.0,baz=53,slow=8.7,SNR=34						
FITZ				ScP	ScP	03 19 10.7	+4.1
	comp=Z,33nm,1.1s,baz=56,slow=4.7,SNR=4.9						
FITZ	**Fitzroy Crossi**	**23.04**	**237**	*e*P	**P**	**03 11 50.4**	**-2.5**
	comp=Z,98nm,0.8s,mb5.2						
FITZ				*e*S	**S**	**03 15 45.2**	**-10**
FITZ	**Fitzroy Crossi**	**23.04**	**237**	*e*P	**P**	**03 11 50.5**	**-2.4**
	comp=Z,59nm,0.8s,mb5.0						
FITZ				ScP	ScP	03 19 10.7	+4.1
FITZ	**Fitzroy Crossi**	**23.04**	**237**	P	**P**	**03 11 50.9**	**-2.0**
	comp=Z,595nmcomp=Z,78nm,1.1s,mb5.0						
BBSI	**Bau Bau**	**23.13**	**270**	P	**P**	**03 11 55.0**	**+1.2**
	comp=Z,1μmcomp=Z,115nm,1.0s,mb5.2						
KDI	**Kendari**	**23.20**	**274**	P	**P**	**03 11 55.3**	**+0.9**
	comp=Z,681nmcomp=Z,37nm,1.1s,mb4.7						
MMRI	**Maumere**	**23.52**	**262**	P	**P**	**03 11 57.3**	**-0.1**
	comp=Z,1μmcomp=Z,145nm,0.9s,mb5.3						
LUWI	**Luwuk**	**23.53**	**281**	P	**P**	**03 11 58.2**	**+0.8**
	comp=Z,3μmcomp=Z,320nm,0.9s,mb5.6						
GTOI	**Gorontalo**	**23.72**	**286**	P	**P**	**03 12 00.9**	**+1.7**
	comp=Z,8μmcomp=Z,768nm,1.1s,mb6.0						
MRSI	**Marisa**	**24.70**	**284**	P	**P**	**03 12 08.3**	**+0.2**
	comp=Z,95nm,1.0s,mb5.2						
ARMA	**Armidale**	**24.84**	**168**	*e*P	**P**	**03 12 10.0**	**+0.9**
ARMA	**Armidale**	**24.84**	**168**	*e*P	**P**	**03 12 10.2**	**+1.1**
	comp=Z,26nm,0.7s,mb4.8						
CTBH	**Cotabato--PC H**	**25.24**	**301**	⇑*i*P	**P**	**03 12 13.2**	**+0.2**
BKSI	**Bulukumba**	**25.58**	**270**	P	**P**	**03 12 16.0**	**-0.1**
	comp=Z,30nm,1.1s,mb4.6						
KAPI	**Kappang**	**25.96**	**271**	P	**P**	**03 12 19.0**	**-0.6**
	comp=Z,38nm,1.0s,mb4.8,baz=93,slow=5.8,SNR=12						
KAPI	**Kappang**	**25.96**	**271**	*e*P	**P**	**03 12 18.8**	**-0.8**
	comp=Z,42nm,0.9s,mb4.9						
KAPI	**Kappang**	**25.96**	**271**	P	**P**	**03 12 18.8**	**-0.8**
	comp=Z,504nmcomp=Z,53nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**25.98**	**188**	P	**P**	**03 12 18.9**	**-0.6**
	comp=Z,102nm,0.7s,mb5.3,baz=358,slow=8.5,SNR=63						
STKA				LR	LR	03 22 18.4	
	comp=Z,193nm,21.5s,baz=16,slow=36						
STKA	**Stephens Creek**	**25.98**	**188**	*e*P	**P**	**03 12 19.0**	**-0.5**
	comp=Z,84nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**25.98**	**188**	*e*P	**P**	**03 12 19.0**	**-0.5**
	comp=Z,22nm,0.8s,mb4.6						
STKA				*e*	pP	03 12 45.3	+1.2
STKA	**Stephens Creek**	**25.98**	**188**	*e*P	**P**	**03 12 19.0**	**-0.5**
STKA				*e*	pP	03 12 45.3	+1.2
STKA				pmax	pmax		
	comp=Z,22nm,0.8s						
SPSI	**Sidrap Palu**	**26.03**	**273**	P	**P**	**03 12 19.7**	**-0.5**
	comp=Z,484nmcomp=Z,30nm,1.1s,mb4.6						
BMNI	**Bima**	**27.01**	**263**	P	**P**	**03 12 28.1**	**-0.9**
	comp=Z,2μmcomp=Z,25nm,0.8s,mb4.8						
BBOO	**Buckleboo**	**28.12**	**198**	*e*P	**P**	**03 12 38.6**	**0.0**
	comp=Z,169nm,0.5s,mb5.8						
YNG	**Young**	**28.20**	**175**	*e*P	**P**	**03 12 40.0**	**+0.7**
	comp=Z,23nm,0.6s,mb4.9						
YNG				*e*	pP	03 13 07.5	+3.4
CAN	**Canberra**	**29.26**	**175**	*e*P	**P**	**03 12 49.4**	**+0.7**
	comp=Z,8.6nm,0.6s,mb4.6						
CAN	**Canberra**	**29.26**	**175**	*e*P	**P**	**03 12 49.4**	**+0.7**
CAN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
CNB	**Canberra Magne**	**29.29**	**174**	*e*P	**P**	**03 12 49.9**	**+0.9**
	comp=Z,42nm,0.7s,mb5.2						
MYLDM	**Lahad Datu**	**29.47**	**292**	P	**P**	**03 12 52.6**	**+1.8**
	comp=Z,91nm,1.0s,mb5.4						
SDKM	**Sandakan**	**30.84**	**292**	P	**P**	**03 13 02.4**	**-0.6**
TOO	**Toolangi**	**31.36**	**180**	*e*P	**P**	**03 13 08.4**	**+1.2**
	comp=Z,69nm,0.7s,mb5.5						
TOO				*e*	pP	03 13 33.3	+1.1
TGY	**Tagaytay City**	**31.79**	**309**	P	**P**	**03 13 11.5**	**+0.2**
	comp=Z,178nm,0.4s,mb6.2,baz=214,slow=4.8,SNR=7.8						
TGY	**Tagaytay City**	**31.79**	**309**	P	**P**	**03 13 11.5**	**+0.2**
TGY	**Tagaytay City**	**31.79**	**309**	P	**P**	**03 13 11.5**	**+0.2**
KKM	**Kota Kinabalu**	**31.90**	**292**	*e*P	**P**	**03 13 11.5**	**-0.8**
	comp=Z,41nm,0.8s,mb5.2						
KKM	**Kota Kinabalu**	**31.90**	**292**	P	**P**	**03 13 11.7**	**-0.6**
	comp=Z,85nm,1.4s,mb5.3						
MEEK	**Meekatharra**	**33.02**	**229**	*e*P	**P**	**03 13 21.7**	**-0.2**
	comp=Z,94nm,0.5s,mb5.9						
CBIJ	**Chichi jima**	**33.15**	**354**	P	**P**	**03 13 20.9**	**-2.0**
	comp=Z,449nm,0.6s,mb6.5,baz=258,slow=2.2,SNR=15						
CBIJ	**Chichi jima**	**33.15**	**354**	P	**P**	**03 13 20.9**	**-2.0**
KMBL	**Kambalda**	**33.71**	**219**	*e*P	**P**	**03 13 27.4**	**-0.4**
	comp=Z,100nm,0.7s,mb5.8						
SBUM	**Sibu**	**34.60**	**283**	P	**P**	**03 13 36.2**	**+0.5**
	comp=Z,53nm,1.5s,mb5.2						
KSM	**Kuching**	**36.23**	**281**	P	**P**	**03 13 50.3**	**+0.5**
	comp=Z,56nm,1.2s,mb5.4						
KLBR	**Kellerberrin**	**36.52**	**222**	*e*P	**P**	**03 13 50.7**	**-1.3**
	comp=Z,9.8nm,0.4s,mb5.1						
JOW	**Kunigami**	**36.85**	**333**	P	**P**	**03 13 54.0**	**-0.7**
	comp=Z,54nm,0.8s,mb5.5,baz=162,slow=11,SNR=5.2						
JOW	**Kunigami**	**36.85**	**333**	P	**P**	**03 13 54.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**37.70**	**221**	P	**P**	**03 14 01.2**	**-0.7**
	comp=Z,8.3nm,0.7s,mb4.7,baz=54,slow=4.6,SNR=5.9						
NWAO	**Narrogin (SRO)**	**37.70**	**221**	*e*P	**P**	**03 14 01.7**	**-0.2**
	comp=Z,33nm,1.5s,mb4.9						
NWAO	**Narrogin (SRO)**	**37.70**	**221**	*e*P	**P**	**03 14 01.7**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,33nm,1.5s						
CISI	**Cisompet, Garu**	**37.75**	**266**	P	**P**	**03 14 01.2**	**-1.4**
	comp=Z,78nm,1.3s,mb5.4						
YULB	**Yu-li**	**37.82**	**322**	*e*P	**P**	**03 14 02.0**	**-1.0**
	comp=Z,105nm,1.7s,mb5.4						
TPUB	**Ta-pu**	**38.17**	**321**	*e*P	**P**	**03 14 04.8**	**-1.2**
	comp=Z,63nm,0.8s,mb5.5						
TPI	**Tanjungpandan**	**38.18**	**273**	P	**P**	**03 14 07.3**	**+1.1**
	comp=Z,103nm,0.9s,mb5.6						
NACB	**Ninganchiao**	**38.22**	**323**	*e*P	**P**	**03 14 05.8**	**-0.6**
	comp=Z,30nm,0.6s,mb5.3						
SSLB	**Suanglung**	**38.33**	**322**	*e*P	**P**	**03 14 06.7**	**-0.5**
	comp=Z,33nm,0.6s,mb5.3						
YHNB	**Yeheng**	**38.73**	**323**	*e*P	**P**	**03 14 11.1**	**+0.5**
	comp=Z,100nm,0.7s,mb5.8						
TATO	**Taipei**	**38.89**	**323**	*e*P	**P**	**03 14 12.2**	**+0.2**
	comp=Z,235nm,0.8s,mb6.1						
CGJI	**Cibinong**	**39.87**	**267**	P	**P**	**03 14 19.1**	**-1.2**
	comp=Z,48nm,1.3s,mb5.2						
JNU	**Nakatsue**	**41.47**	**341**	*e*P	**P**	**03 14 32.0**	**-1.1**
	comp=Z,21nm,1.1s,mb4.9						
MDSI	**Maura Dua**	**41.48**	**270**	P

KMI sP sP 03 16 37.0 +1.4
KMI PcP PcP 03 17 08.0 +1.4
KMI PP PP 03 17 58.9 +3.3
KMI S **S** **03 23 10.0 -1.8**
KMI pmax pmax
comp=Z,90nm,0.9s,mb5.8
KMI pmax pmax
comp=Z,220nm,3.9s
KMI LR LR
comp=N,230nm,16.9s
KMI LR LR
comp=E,230nm,14.4s
KMI LR LR
comp=Z,230nm,18.7s
KMI Kunming 52.11 308 ⇓P **P** **03 15 58.2 +2.1**
comp=Z,90nm,0.9s,mb5.8
KMI pP pP 03 16 26.0 +3.0
KMI sP sP 03 16 37.0 +1.4
KMI PcP PcP 03 17 08.0 +1.4
KMI PP PP 03 17 58.9 +3.3
KMI S **S** **03 23 10.0 -1.8**
KMI LR LR
comp=Z,230nm,18.7s
KMI Kunming 52.11 308 ⇓P **P** **03 15 58.2 +2.1**
KMI *PP pP 03 16 26.0 +3.0
KMI *SP sP 03 16 37.0 +1.4
KMI 03 17 08.0
KMI 03 17 58.9
KMI S **S** **03 23 10.0 -1.8**
KMI pmax pmax
comp=Z,90nm,0.9s,mb5.8
KMI MLR MLR
comp=Z,230nm,18.7s
CMAR Chiang Mai Arr 52.24 299 P **P** **03 15 58.1 +0.9**
comp=Z,55nm,0.8s,mb5.6,baz=124,slow=5.8,SNR=153
CMAR ScP ScP 03 20 58.4 +4.2
comp=Z,1.9nm,0.6s,baz=126,slow=3.4,SNR=7.3
CMAR Chiang Mai Arr 52.24 299 P **P** **03 15 58.1 +0.9**
CMAR ScP ScP 03 20 58.4 +4.2
CMAR Chiang Mai Arr 52.24 299 P **P** **03 15 58.1 +0.9**
CHG Chiang Mai 52.38 299 ⇓P **P** **03 15 59.3 +1.0**
CHTO Chiang Mai 52.38 299 *e*P **P** **03 15 59.1 +0.8**
comp=Z,62nm,0.9s,mb5.6
CHTO Chiang Mai 52.38 299 *e*P **P** **03 15 59.1 +0.8**
CHTO pmax pmax
comp=Z,62nm,0.9s,mb5.6
CHTO Chiang Mai 52.38 299 P **P** **03 15 59.5 +1.2**
comp=Z,785nmcomp=Z,81nm,1.0s,mb5.7
MDJ Mudanjiang 52.52 345 P **P** **03 15 58.1 -0.7**
MDJ pmax pmax
comp=Z,24nm,0.8s,mb5.3
MDJ pmax pmax
comp=Z,140nm,5.0s
YSS Yuzh-Sakhalins 52.85 357 *e*P **P** **03 16 00.6 -0.6**
comp=Z,33nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 52.85 357 *e*P **P** **03 16 00.0 -1.2**
YSS pmax pmax
comp=Z,40nm,0.8s,mb5.5
XAN Xi'an 52.99 321 P **P** **03 16 02.2 -0.3**
XAN pmax pmax
comp=Z,30nm,1.2s,mb5.2
BJI Beijing 53.39 332 P **P** **03 16 04.6 -0.7**
BJI S **S** **03 23 31.4 +2.6**
BJI pmax pmax
comp=Z,51nm,0.9s,mb5.5
BJI pmax pmax
comp=Z,760nm,4.8s
BJI LR LR
comp=N,380nm,13.0s
BJI LR LR
comp=E,420nm,18.1s
BJI LR LR
comp=Z,110nm,19.4s
CD2 Chengdu 54.48 315 *e*P **P** **03 16 14.5 +1.1**
CD2 pP pP 03 16 40.8 +0.3
CD2 sP sP 03 16 53.5 +0.5
CD2 PP PP 03 18 19.4 +2.5
CD2 S **S** **03 23 41.6 -2.2**
CD2 sS sS 03 24 26.0 -4.3
CD2 SS SS 03 27 25.7 -2.4
CD2 pmax pmax
comp=Z,300nm,0.6s,mb6.5
CD2 pmax pmax
comp=Z,590nm,7.1s
HABR Khabarovsk 55.12 351 *e*P **P** **03 16 16.1 -1.6**
HABR *e*PP pP 03 16 37.6 -7.2
HABR *e* 03 18 19.4
HABR *e*PPP 03 19 32.3
HABR *e*S **S** **03 23 52.1 +0.4**
HABR *e* 03 25 56.4
HABR *e*SS SS 03 27 38.2 +0.7
HABR pmax pmax
comp=Z,64nm,1.1s,mb5.6
HABR pmax pmax
comp=N,62nm,3.0s
HABR pmax pmax
comp=E,68nm,2.3s
HABR MLR MLR
comp=Z,212nm,19.0s
HHC Hu-ho-hao-te 56.27 329 ⇓P **P** **03 16 26.5 +0.4**
HHC pP pP 03 16 52.9 -0.4
HHC sP sP 03 17 05.6 -0.2
HHC PcP PcP 03 17 22.2 0.0
HHC PP PP 03 18 34.8 +2.1
HHC ScP ScP 03 21 09.7 -1.5
HHC PcS PcS 03 21 22.0 -0.8
HHC S **S** **03 24 05.8 -1.5**
HHC sS sS 03 24 52.5 -1.6
HHC ScS ScS 03 26 00.6 -3.7
HHC SS SS 03 27 54.8 -1.2
HHC pmax pmax
comp=Z,45nm,0.9s,mb5.5
HHC pmax pmax
comp=Z,230nm,6.5s
KLR Kul'dur 56.42 349 *e*P **P** **03 16 21.7 -5.2**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,130nm,1.8s,mb5.7
LZH Lanzhou 57.49 320 *e*P **P** **03 16 36.2 +1.4**
LZH pP pP 03 17 04.0 +1.9
LZH sP sP 03 17 19.2 +4.6
LZH PcP PcP 03 17 28.7 +1.5
LZH PP PP 03 18 44.2 +0.5
LZH *e*S **S** **03 24 25.0 +1.4**
LZH sS sS 03 25 10.3 -0.2
LZH SS SS 03 28 18.0 +2.6
LZH pmax pmax
comp=Z,160nm,1.1s,mb6.0
LZH pmax pmax
comp=Z,390nm,5.2s
LZH Lanzhou 57.49 320 *e*P **P** **03 16 36.2 +1.4**
comp=Z,159nm,1.1s,mb6.0
LZH pP pP 03 17 04.0 +1.9
LZH sP sP 03 17 19.2 +4.6
LZH PcP PcP 03 17 28.7 +1.5
LZH PP PP 03 18 44.2 +0.5
LZH *e*S **S** **03 24 25.0 +1.4**
LZH sS sS 03 25 10.3 -0.2
LZH SS SS 03 28 18.0 +2.6
LZH Lanzhou 57.49 320 *e*P **P** **03 16 36.2 +1.4**
LZH *PP pP 03 17 04.0 +1.9
LZH 03 17 28.7
LZH 03 18 44.2
LZH *e*S **S** **03 24 25.0 +1.4**
LZH SS SS 03 28 18.0 +2.6
LZH pmax pmax
comp=Z,159nm,1.1s,mb6.0
IMP Imphal 59.05 304 *e*PKP **P** **03 16 45.0 -0.8**
IMP *ex* x 03 17 34.0
PEA0B Petropavlovsk- 59.80 8 *e*P **P** **03 16 50.5 +0.1**
PETK Petropavlovsk- 59.80 8 P **P** **03 16 50.6 +0.3**
comp=Z,79nm,0.8s,mb5.8,baz=177,slow=8.6,SNR=50
PETK Petropavlovsk- 59.80 8 P **P** **03 16 50.6 +0.3**
PETK Petropavlovsk- 59.80 8 P **P** **03 16 50.7 +0.3**
PET Petropavlovsk 59.86 9 *e*P **P** **03 16 50.7 -0.1**
PET pmax pmax
comp=Z,38nm,0.9s,mb5.4
SHL Shillong 61.07 303 *e*PKP **P** **03 17 01.5 +1.9**
SHL *ex* x 03 19 29.5
GTA Gaotai 62.04 321 ⇑P **P** **03 17 07.0 +1.1**
GTA pP pP 03 17 34.3 +0.8
GTA sP sP 03 17 46.8 +0.9
GTA S **S** **03 25 21.3 -0.5**
GTA sS sS 03 26 09.5 +0.1
GTA SS SS 03 29 28.8 +2.2
GTA pmax pmax
comp=Z,91nm,0.9s,mb5.8
GTA pmax pmax
comp=Z,480nm,9.0s
GTA LR LR
comp=N,150nm,10.2s
GTA LR LR
comp=E,190nm,12.1s
GTA LR LR
comp=Z,170nm,15.0s
FX1 Attu Island--F 63.14 18 P **P** **03 17 13.6 +0.7**
comp=Z,34nm,0.6s,mb5.5,baz=22,slow=0.7,SNR=15
FX1 Attu Island--F 63.14 18 P **P** **03 17 13.6 +0.7**
FX1 Attu Island--F 63.14 18 P **P** **03 17 13.6 +0.8**
LSA Lhasa 63.34 307 P **P** **03 17 16.8 +2.1**
ULN Ulaanbaatar 63.60 332 *e*P **P** **03 17 16.4 +0.4**
comp=Z,37nm,0.8s,mb5.3
ULN Ulaanbaatar 63.60 332 *e*P **P** **03 17 16.4 +0.4**
ULN pmax pmax
comp=Z,37nm,0.8s,mb5.3
ULN Ulaanbaatar 63.60 332 P **P** **03 17 16.6 +0.6**
comp=Z,52nm,0.8s,mb5.4
SONM Songino Array 63.89 332 P **P** **03 17 18.4 +0.5**
comp=Z,16nm,0.7s,mb5.0,baz=161,slow=5.3,SNR=113
SONM PKP2bc 03 46 18.5
comp=Z,1.8nm,0.9s,baz=270,slow=2.0,SNR=8.9
SONM Songino Array 63.89 332 P **P** **03 17 18.4 +0.5**
SONM ⇑*e* 03 46 18.5
SONM Songino Array 63.89 332 P **P** **03 17 18.4 +0.5**
CLNS Chul'man 64.98 347 *e*P **P** **03 17 25.1 +0.3**
CLNS *e* 03 17 59.3
CLNS *e* 03 19 44.3
CLNS *e*S **S** **03 26 02.7 +5.1**
CLNS *e* 03 27 13.4
CLNS pmax pmax
comp=Z,32nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,1.5s,mb4.2
CLNS smax
comp=N,558nm,16.2s
CLNS smax
comp=E,509nm,15.0s
CLNS MLR MLR
comp=E,272nm,13.0s
CLNS MLR MLR
comp=N,210nm,15.0s
CLNS MLR MLR
comp=Z,103nm,16.0s
TAPN Taplejung 65.20 304 *e*P **P** **03 17 28.1 +1.2**
comp=Z,194nm,1.0s,mb5.9
TAPN Taplejung 65.20 304 *e*P **P** **03 17 28.1 +1.2**
comp=Z,194nm,1.0s,mb5.9
ODAN Odare 65.29 303 *e*P **P** **03 17 28.5 +1.0**
comp=Z,217nm,0.9s,mb6.0
ODAN Odare 65.29 303 *e*P **P** **03 17 28.5 +1.0**
comp=Z,217nm,0.9s,mb6.0
RAMN Ramite 65.98 303 *e*P **P** **03 17 33.0 +1.1**
comp=Z,78nm,0.8s,mb5.6
RAMN Ramite 65.98 303 *e*P **P** **03 17 33.0 +1.1**
comp=Z,78nm,0.8s,mb5.6
JIRN Jiri 66.57 303 *e*P **P** **03 17 36.9 +1.2**
comp=Z,30nm,0.7s,mb5.2
JIRN Jiri 66.57 303 *e*P **P** **03 17 36.9 +1.2**
comp=Z,30nm,0.7s,mb5.2
GUN Gumba 66.92 304 *e*P **P** **03 17 39.2 +1.3**
comp=Z,224nm,0.7s,mb6.1
GUN Gumba 66.92 304 *e*P **P** **03 17 39.2 +1.3**
comp=Z,224nm,0.7s,mb6.1
ZAK Zakamensk 67.14 332 *e*P **P** **03 17 38.0 -0.7**
ZAK pmax pmax
comp=Z,29nm,1.0s,mb5.1
PKI Pulchoki 67.19 303 *e*P **P** **03 17 40.4 +0.8**
comp=Z,109nm,0.9s,mb5.7
PKI Pulchoki 67.19 303 *e*P **P** **03 17 40.4 +0.8**
comp=Z,109nm,0.9s,mb5.7
PKI Pulchoki 67.19 303 *e*P **P** **03 17 40.4 +0.8**
PKI pmax pmax
comp=Z,109nm,0.9s,mb5.7
KKN Kakani 67.37 303 *e*P **P** **03 17 41.8 +1.1**
comp=Z,187nm,0.9s,mb5.9
KKN Kakani 67.37 303 *e*P **P** **03 17 41.8 +1.1**
comp=Z,187nm,0.9s,mb5.9
KKN Kakani 67.37 303 *e*P **P** **03 17 41.8 +1.1**
KKN pmax pmax
comp=Z,187nm,0.9s,mb5.9
DMN Daman 67.46 303 *e*P **P** **03 17 42.4 +1.1**
comp=Z,276nm,0.9s,mb6.1
DMN Daman 67.46 303 *e*P **P** **03 17 42.4 +1.1**
comp=Z,276nm,0.9s,mb6.1
GKN Gorkha 67.98 303 *e*P **P** **03 17 45.4 +0.8**
comp=Z,229nm,0.9s,mb6.0
GKN Gorkha 67.98 303 *e*P **P** **03 17 45.4 +0.8**
comp=Z,229nm,0.9s,mb6.0
BOD Bodaibo 68.68 342 ⇓*i*P **P** **03 17 47.5 -0.7**
BOD pmax pmax
comp=Z,19nm,0.8s,mb5.0
KOLN Koldanda 68.77 303 *e*P **P** **03 17 50.3 +0.8**
comp=Z,160nm,0.8s,mb5.9
KOLN Koldanda 68.77 303 *e*P **P** **03 17 50.3 +0.8**
comp=Z,160nm,0.8s,mb5.9
DANN Dangsing 68.83 303 *e*P **P** **03 17 50.6 +0.8**
comp=Z,194nm,0.9s,mb5.9
DANN Dangsing 68.83 303 *e*P **P** **03 17 50.6 +0.8**
comp=Z,194nm,0.9s,mb5.9
SEY Seymchan 68.98 3 ⇑*i*P **P** **03 17 49.8 -0.2**
YAK Yakutsk 69.03 352 *e*P **P** **03 17 50.0 -0.3**
comp=Z,29nm,0.5s,mb5.4
YAK Yakutsk 69.03 352 *e*P **P** **03 17 49.0 -1.3**
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=Z,24nm,1.1s,mb4.9
YAK pmax pmax
comp=E,5.0nm,1.0s
MOY Mondy 69.07 332 *e*P **P** **03 17 51.5 +0.7**
MOY pmax pmax
comp=Z,43nm,2.4s,mb4.8
HYB Hyderabad 70.38 291 *i*P **P** **03 17 58.5 -1.1**
VNDA Vanda 71.92 176 *e*P **P** **03 18 08.6 +0.8**
comp=Z,9.6nm,0.8s,mb4.7
VNDA Vanda 71.92 176 *e*P **P** **03 18 08.6 +0.8**
VNDA pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 72.07 320 P **P** **03 18 10.1 +0.9**
WMQ pP pP 03 18 38.0 +0.4
WMQ sP sP 03 18 50.3 +0.4
WMQ pmax pmax
comp=Z,120nm,0.9s,mb5.7
WMQ pmax pmax
comp=Z,400nm,6.0s
HVS Khovu-Aksy 72.34 329 *d*i P **P** **03 18 11.1 +0.4**
HVS pmax pmax
comp=Z,234nm,1.2s,mb5.9
BHPL Bhopal 72.80 296 *e*PKP **P** **03 18 13.9 -0.1**
BHPL AMb AMB 03 18 14.7
comp=Z,27nm,0.8s,mb5.1
AGRA Agra 73.39 301 *e*PKP **P** **03 18 17.0 -0.4**
AGRA AMb AMB 03 18 18.4
comp=Z,47nm,0.4s,mb5.7
ASOR Ausora 73.96 302 *e*PKP **P** **03 18 20.6 -0.1**
ASOR AMb AMB 03 18 22.2
comp=Z,155nm,0.5s,mb6.0
DDI Dehra Dun 74.17 304 *ex* **P** **03 18 21.5 -0.4**
NDI New Delhi 74.41 302 *ex* **P** **03 18 20.5 -2.8**
AYAN Aya Nagar 74.43 302 *e*PKP **P** **03 18 22.9 -0.6**
AYAN AMb AMB 03 18 24.0
comp=Z,49nm,0.5s,mb5.5
BHGR Bahadurgarh 74.65 302 *e*PKP **P** **03 18 24.6 -0.1**
BHGR AMb AMB 03 18 25.3
comp=Z,160nm,0.1s,mb6.6
POO Poona 74.99 291 *e*PKP **P** **03 18 26.6 -0.2**
POO AMb AMB 03 18 27.9
comp=Z,23nm,0.4s,mb5.3
KKR Kurukshetra 75.09 303 *e*PKP **P** **03 18 27.5 +0.3**
KKR AMb AMB 03 18 29.2
comp=Z,108nm,0.5s,mb5.8
BILL Bilibino 75.33 8 *e*P **P** **03 18 27.7 -0.1**
comp=Z,35nm,1.0s,mb5.0
BILL Bilibino 75.33 8 *e*P **P** **03 18 27.6 -0.1**
BILL *e* 03 18 40.9
BILL pmax pmax
comp=Z,35nm,1.2s,mb5.0
BILL MLR MLR
comp=Z,100nm,15.0s
MK31 Makanchi Array 76.80 321 *e*P **P** **03 18 36.9 +0.3**
MK31 Makanchi Array 76.80 321 *i*P **P** **03 18 36.8 +0.3**
MK31 pmax pmax
comp=Z,59nm,0.9s,mb5.3
MKAR Makanchi Array 76.80 321 P **P** **03 18 36.9 +0.4**
comp=Z,27nm,0.7s,mb5.1,baz=100,slow=7.7,SNR=254
MKAR Makanchi Array 76.80 321 P **P** **03 18 36.9 +0.4**
MKAR Makanchi Array 76.80 321 *i*P **P** **03 18 36.9 +0.4**
MKAR pmax pmax
comp=Z,27nm,0.7s
ZAA0 Zalesovo Array 78.44 328 *e*P **P** **03 18 44.2 -1.2**
ZALV Zalesovo Beam 78.44 328 P **P** **03 18 44.4 -1.1**
comp=Z,15nm,0.8s,mb4.8,baz=112,slow=5.3,SNR=52
ZALV Zalesovo Beam 78.44 328 P **P** **03 18 44.4 -1.1**
ZALV Zalesovo Beam 78.44 328 P **P** **03 18 44.4 -1.1**
KSH Kashi 78.55 312 ⇓*i*P **P** **03 18 48.5 +2.1**
KSH PcP PcP 03 19 00.4 +5.3
KSH S S 03 28 31.5 -2.3
KSH ScS ScS 03 29 00.5 +3.1
KSH pmax pmax
comp=Z,62nm,0.9s,mb5.4
KSH pmax pmax
comp=Z,210nm,5.4s
KSH LR LR
comp=N,210nm,6.0s
KSH LR LR
comp=E,100nm,5.3s
KSH LR LR
comp=Z,190nm,7.3s
ULHL Ulahol 79.20 315 P **P** **03 18 51.2 +1.3**
SNR=11
ULHL P 03 18 51.2
SNR=11
NVS Novosibirsk 79.67 329 *e*P **P** **03 18 50.5 -1.7**
NVS *e* pP 03 19 19.3 -1.8
NVS pmax pmax
comp=Z,52nm,1.7s,mb5.1
NVS pmax pmax
comp=N,15nm,1.6s
NVS pmax pmax
comp=E,27nm,1.7s
KZA Kyzart 79.85 315 P **P** **03 18 55.6 +2.2**
SNR=214
KZA P 03 18 55.6
SNR=214
TKM2 Tokmak 2 79.86 315 P **P** **03 18 54.5 +1.0**
SNR=70
TKM2 P 03 18 54.5
SNR=70
TKM2 Tokmak 2 79.86 315 *e*P **P** **03 18 54.5 +1.0**
comp=E,75nm,0.8s,mb5.6
TKM2 Tokmak 2 79.86 315 *e*P **P** **03 18 54.5 +1.0**
TKM2 pmax pmax
comp=Z,75nm,0.8s,mb5.6
KBK Karagaybulak 80.23 315 P **P** **03 18 56.6 +1.1**
SNR=34
KBK P 03 18 56.6
SNR=34
UCH Uchtor 80.41 314 P **P** **03 18 58.4 +2.0**
SNR=17
UCH P 03 18 58.4
SNR=17
CHMS Chumysh 80.47 315 P **P** **03 18 57.3 +0.5**
SNR=32
CHMS P 03 18 57.3
SNR=32
FRU Bishkek 80.52 315 *e*P **P** **03 18 56.0 -1.0**
FRU *e* pP 03 19 20.0 -6.0
FRU pmax pmax
comp=Z,200nm,1.6s,mb5.7
AAK Ala-Archa 80.55 315 P **P** **03 18 58.3 +1.1**
SNR=43
AAK P 03 18 58.3
SNR=43
AAK Ala-Archa 80.55 315 *e*P **P** **03 18 58.1 +0.9**
comp=Z,186nm,0.8s,mb6.0
AAK Ala-Archa 80.55 315 *e*P **P** **03 18 58.1 +0.9**
AAK pmax pmax
comp=Z,186nm,0.8s,mb6.0
KURK Kurchatov 80.56 324 P **P** **03 18 56.9 -0.1**
comp=Z,11nm,0.5s,mb4.9,baz=114,slow=4.4,SNR=73
KURK Kurchatov 80.56 324 *e*P **P** **03 18 56.3 -0.7**
comp=Z,56nm,1.1s,mb5.3
KURK Kurchatov 80.56 324 P **P** **03 18 56.7 -0.3**
KURK pmax pmax
comp=Z,31nm,0.8s,mb5.2
USP Ospenovka 80.73 315 P **P** **03 18 58.6 +0.4**
SNR=78
USP P 03 18 58.6
SNR=78
AML Almayashu 80.97 314 P **P** **03 19 01.3 +1.9**
SNR=6.7
AML P 03 19 01.3
SNR=6.7
EKS2 Erkin-Say 81.06 315 P **P** **03 19 01.2 +1.3**
SNR=74
EKS2 P 03 19 01.2
SNR=74
EKS2 Erkin-Say 81.06 315 *e*P **P** **03 19 00.9 +1.0**
comp=Z,108nm,1.0s,mb5.6
EKS2 Erkin-Say 81.06 315 *e*P **P** **03 19 00.9 +1.0**
EKS2 pmax pmax
comp=Z,108nm,1.0s,mb5.6
MAW Mawson 81.74 203 P **P** **03 19 03.5 +0.5**
comp=Z,10nm,0.7s,mb4.8,baz=92,slow=8.4,SNR=18
MAW Mawson 81.74 203 P **P** **03 19 03.5 +0.5**
MAW Mawson 81.74 203 P **P** **03 19 03.5 +0.5**
KBL Kabul 82.61 306 *e*P **P** **03 19 07.8 -0.4**
comp=Z,50nm,0.8s,mb5.4
KBL Kabul 82.61 306 *e*P **P** **03 19 07.8 -0.4**
KBL pmax pmax
comp=Z,50nm,0.8s,mb5.4
KK31 Karatay Array 83.49 315 *i*P **P** **03 19 12.8 +0.2**
KK31 pmax pmax
comp=Z,27nm,0.6s,mb5.2
KKAR Karatay Array 83.49 315 *e*P **P** **03 19 12.7 +0.2**
comp=Z,25nm,0.6s,mb5.2
KKAR Karatay Array 83.49 315 *e*P **P** **03 19 12.7 +0.1**
KKAR pmax pmax
comp=Z,25nm,0.6s,mb5.2
QSPA South Pole Qui 83.90 180 LR LR 03 53 08.6
comp=Z,348nm,20.0s,baz=151,slow=33
MCK McKinley 84.76 24 *e*P **P** **03 19 17.4 -1.1**
comp=Z,46nm,1.1s,mb5.3
MCK McKinley 84.76 24 *e*P **P** **03 19 17.4 -1.1**
MCK pmax pmax
comp=Z,46nm,1.1s,mb5.3
COLA College 85.67 23 *e*P **P** **03 19 21.6 -1.4**
comp=Z,18nm,0.8s,mb5.0
COLA College 85.67 23 *e*P **P** **03 19 21.7 -1.3**
COLA pmax pmax
comp=Z,18nm,0.8s,mb5.0
ILAR Eielson Array 86.00 23 P **P** **03 19 23.0 -1.7**
comp=Z,16nm,0.7s,mb5.1,baz=250,slow=5.1,SNR=126
ILAR Eielson Array 86.00 23 P **P** **03 19 23.0 -1.7**
ILAR Eielson Array 86.00 23 P **P** **03 19 23.0 -1.7**
BVA0 Borovoye Array 86.13 324 *i*P **P** **03 19 24.4 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 86.13 324 P **P** **03 19 24.7 -0.8**
comp=Z,13nm,0.7s,mb5.0,baz=111,slow=5.8,SNR=75
BVAR Borovoye Array 86.13 324 P **P** **03 19 24.7 -0.8**
BVAR Borovoye Array 86.13 324 P **P** **03 19 24.7 -0.8**
BRVK Borovoye 86.20 324 *e*P **P** **03 19 24.7 -1.1**
comp=Z,6.5nm,0.6s,mb4.7
BRVK Borovoye 86.20 324 *d*i P **P** **03 19 25.0 -0.9**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
EGAK Eagle 88.30 24 *e*P **P** **03 19 35.6 -0.2**
comp=Z,33nm,1.3s,mb5.2
DAWY Dawson 88.83 25 *e*P **P** **03 19 38.1 -0.1**
SYO Syowa Base 90.13 200 ⇓*e*P **P** **03 19 43.0 -1.3**
AB31 Akbulak array 91.85 319 *i*P **P** **03 19 51.4 -1.3**
AB31 pmax pmax
comp=Z,29nm,0.8s,mb5.6
ABKAR Akbulak array 91.85 319 *e*P **P** **03 19 51.3 -1.4**
comp=Z,21nm,0.8s,mb5.4
ABKT Ailbek 91.87 308 P **P** **03 19 53.5 +0.5**

comp=Z,184nm,0.8s,mb6.4,SNR=9.2
INK Inuvik 92.14 22 P **P 03 19 51.8 -1.8**
comp=Z,7.0nm,1.0s,mb4.8,baz=256,slow=8.0,SNR=13
INK Inuvik 92.14 22 P **P 03 19 51.8 -1.8**
INK Inuvik 92.14 22 P **P 03 19 51.8 -1.8**
AKTO Aktyubinsk 93.22 320 P **P 03 19 58.4 -0.6**
comp=Z,3.7nm,0.4s,mb5.0,baz=90,slow=5.3
AKTO Aktyubinsk 93.22 320 P **P 03 19 58.4 -0.6**
AKTO Aktyubinsk 93.22 320 P **P 03 19 58.4 -0.6**
ARU Arti 93.48 326 *d iP* **P 03 19 57.9 -2.1**
ARU 03 23 42.1
ARU S SKSac 03 30 23.2 -0.6
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
NVAR Mina Array Bea 98.34 52 P **P 03 20 23.0 +0.5**
comp=Z,3.5nm,0.9s,mb4.9,baz=260,slow=6.0,SNR=12
NVAR Mina Array Bea 98.34 52 P **P 03 20 23.0 +0.5**
YKA Yellowknife Ar 99.78 28 P Pdif 03 20 28.1 -0.5
comp=Z,1.1nm,0.8s,baz=277,slow=4.7,SNR=9.5
YKA Yellowknife Ar 99.78 28 P Pdif 03 20 28.1 -0.5
YKA Yellowknife Ar 99.78 28 P Pdif 03 20 28.1 -0.5
VNA2 Neumayer–Watz 101.11 189 *e* Pdif 03 20 41.5 +7.0
baz=140,slow=1.7
VNA3 Neumayer Olymp 101.15 188 *e* Pdif 03 20 36.6 +1.9
PDAR Pinedale Array 104.83 47 Pdiff Pdif 03 20 51.0 0.0
comp=Z,0.7nm,0.7s,baz=238,slow=2.0,SNR=6.9
PDAR PKiKP PKiKP 03 25 07.0 +0.9
comp=Z,0.3nm,0.5s,baz=354,slow=2.8,SNR=3.9
PDAR Pinedale Array 104.83 47 Pdif Pdif 03 20 51.0 0.0
PDAR PKiKP PKiKP 03 25 07.0 +0.9
OBN Obninsk 105.92 326 *eP* Pdif 03 20 54.6 -1.3
OBN *eSS* SS 03 40 12.5 +1.4
OBN pmax pmax
comp=Z,6.0nm,1.2s
ARCES ARCESS Array B 105.95 342 Pdiff Pdif 03 20 54.5 -1.4
comp=Z,3.6nm,1.0s,baz=69,slow=6.6,SNR=5.4
ARCES PKiKP PKiKP 03 25 07.8 +0.5
comp=Z,3.0nm,1.1s,baz=64,slow=2.1,SNR=3.7
ARCES PKKPbc PKKPbc 03 36 29.7 -3.5
comp=Z,1.9nm,0.8s,baz=251,slow=2.8,SNR=7.1
ARCES ARCESS Array B 105.95 342 Pdif Pdif 03 20 54.5 -1.4
ARCES PKiKP PKiKP 03 25 07.8 +0.5
ARCES PKKPbc PKKPbc 03 36 29.7 -3.5
ARCES ARCESS Array B 105.95 342 P Pdif 03 20 54.6 -1.4
FINES FINESS Array B 109.21 334 PKiKP PKiKP 03 25 13.0 -0.6
comp=Z,4.1nm,0.9s,baz=101,slow=6.0,SNR=5.8
FINES FINESS Array B 109.21 334 PKiKP PKiKP 03 25 13.0 -0.7
TXAR Lajitas Array 110.82 61 PKiKP PKiKP 03 25 17.6 0.0
comp=Z,0.3nm,0.6s,baz=235,slow=3.2,SNR=4.5
TXAR Lajitas Array 110.82 61 PKiKP PKiKP 03 25 17.6 0.0
TXAR Lajitas Array 110.82 61 PKiKP PKiKP 03 25 17.6 -0.1
BRTR Keskin Array B 110.87 310 Pdiff Pdif 03 21 17.1 -0.7
comp=Z,0.7nm,0.9s,baz=86,slow=4.3,SNR=3.5
BRTR PKiKP PKiKP 03 25 17.3 -0.1
comp=Z,1.3nm,0.9s,baz=136,slow=2.3,SNR=7.4
BRTR Keskin Array B 110.87 310 Pdif Pdif 03 21 17.1 -0.7
BRTR PKiKP PKiKP 03 25 17.4 -0.1
BRTR Keskin Array B 110.87 310 P Pdif 03 21 17.2 -0.7
BRTR *i* 03 25 17.4
EIL Elat 111.10 299 PKiKP PKiKP 03 25 18.6 +0.5
comp=Z,3.4nm,0.9s,baz=79,slow=5.2,SNR=3.9
EIL Elat 111.10 299 PKiKP PKiKP 03 25 18.6 +0.5
AKASG Malin Array Be 111.35 322 PP PP 03 25 59.3 -0.3
comp=Z,2.0nm,0.7s,baz=62,slow=6.2,SNR=6.8
AKASG Malin Array Be 111.35 322 PP PP 03 25 59.3 -0.3
SUW Suwalki 113.66 327 *e*PKP PKiKP 03 25 22.4 +0.1
SUW Suwalki 113.66 327 *e*PKIKP PKiKP 03 25 22.4 +0.1
VRI Vrincioaia 114.39 318 ⇑PKIKP PKiKP 03 25 24.4 +0.5
VRI Vrincioaia 114.39 318 ⇑*i*P PKiKP 03 25 23.5 -0.4
VRI Vrincioaia 114.39 318 ⇓*i*P PKiKP 03 25 23.6 -0.3
VRI Vrincioaia 114.39 318 ⇓*i*P PKiKP 03 25 24.4 +0.5
LSZ Lusaka 114.68 250 *e*PKPdf PKiKP 03 25 26.4 +1.1
LSZ Lusaka 114.68 250 *e*PKIKP PKiKP 03 25 26.4 +1.0
NOA NORSAR Array B 115.56 337 PKP PKPdf 03 25 25.1 -0.7
comp=Z,1.7nm,0.9s,baz=45,slow=1.9,SNR=4.1
NOA NORSAR Array B 115.56 337 PKP PKPdf 03 25 25.1 -0.7
NOA NORSAR Array B 115.56 337 PKIKP PKPdf 03 25 25.1 -0.6
KOLS Kolonicke sedl 116.18 322 *e*PKIKP PKPdf 03 25 28.0 +0.7
KOLS Kolonicke sedl 116.18 322 *e*PKP PKPdf 03 25 28.0 +0.7
CRVS Cervenica-Dubn 116.69 322 *e*PKIKP PKPdf 03 25 28.8 +0.5
CRVS Cervenica-Dubn 116.69 322 *e*PKP PKPdf 03 25 28.8 +0.5
GZR Gura Zlata 117.16 318 ⇑PKIKP PKPdf 03 25 28.8 -0.5
GZR Gura Zlata 117.16 318 ⇑*i*P PKPdf 03 25 28.8 -0.5
NIE Niedzica 117.17 323 *e*PKP PKPdf 03 25 30.1 +0.9
NIE Niedzica 117.17 323 *e*PKIKP PKPdf 03 25 30.1 +0.9
VTS Vitosha 117.81 315 ⇑PKIKP PKPdf 03 25 30.9 +0.3
VTS Vitosha 117.81 315 ⇑*i*P PKPdf 03 25 30.9 +0.3
PSZ Piszkesteto 118.04 322 ⇑PKIKP PKPdf 03 25 28.9 -2.0
PSZ Piszkesteto 118.04 322 ⇑*i*P PKPdf 03 25 28.9 -2.0
OKC Ostrava-Krasne 118.26 324 *e*PKIKP PKPdf 03 25 31.8 +0.5
OKC Ostrava-Krasne 118.26 324 *e*PKPDF PKPdf 03 25 31.8 +0.5
MORC Moravsky Berou 118.64 325 ⇓PKIKP PKPdf 03 25 32.8 +0.8
MORC Moravsky Berou 118.64 325 ⇓*i*P PKPdf 03 25 32.8 +0.8
KOLL Kolacno 118.67 323 *e*PKIKP PKPdf 03 25 32.2 +0.1
KOLL Kolacno 118.67 323 *e*PKP PKPdf 03 25 32.2 +0.1
KSP Ksiaz 118.84 326 *e*PKP PKPdf 03 25 32.8 +0.4
KRLC Kraliky 118.93 325 *e*PKPDF PKPdf 03 25 33.1 +0.5
DPC Dobruska-Polom 119.06 326 *e*PKIKP PKPdf 03 25 33.7 +0.9
DPC Dobruska-Polom 119.06 326 *e*PKPDF PKPdf 03 25 33.7 +0.9
UPC Upice 119.16 326 *e*PKIKP PKPdf 03 25 33.5 +0.5
UPC Upice 119.16 326 *e*PKPDF PKPdf 03 25 33.5 +0.5
PKSM Moragy 119.52 321 ⇑PKIKP PKPdf 03 25 33.8 0.0
PKSM Moragy 119.52 321 ⇑*i*P PKPdf 03 25 33.8 0.0
ZST Bratislava 119.61 323 *e*PKIKP PKPdf 03 25 34.7 +0.8
ZST Bratislava 119.61 323 *e*PKP PKPdf 03 25 34.7 +0.8
PVCC Panska Ves 119.95 326 *e*PKIKP PKPdf 03 25 35.2 +0.7
PVCC Panska Ves 119.95 326 *e*PKPDF PKPdf 03 25 35.2 +0.7
TREC Trest 120.04 325 *e*PKIKP PKPdf 03 25 35.0 +0.3
TREC Trest 120.04 325 *e*PKPDF PKPdf 03 25 35.0 +0.3
BRG Berggiesshubel 120.12 327 *e*PKP PKPdf 03 25 35.1 +0.3
comp=Z,9.2nm,1.1s
BRG Berggiesshubel 120.12 327 *e*PKIKP PKPdf 03 25 35.1 +0.3
BRG pmax pmax
comp=Z,9.0nm,1.1s
PRU Pruhonice 120.24 326 *e*PKIKP PKPdf 03 25 35.0 -0.1
PRU Pruhonice 120.24 326 *e*PKPDF PKPdf 03 25 35.0 -0.1
CLL Collm 120.39 328 ⇑*i*PKIKP PKPdf 03 25 35.5 +0.2
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 120.39 328 ⇑*i*PKPdf PKPdf 03 25 35.5 +0.2
comp=Z,11nm,1.2s
CONA Conrad Observa 120.47 323 ⇑*i*PKIKP PKPdf 03 25 36.0 +0.4
comp=Z,6.2nm,0.9s
KOGS Kog 120.92 322 *i* PKPdf PKPdf 03 25 36.3 -0.2
KHC Kasperske Hory 121.21 325 *e*PKPdf PKPdf 03 25 37.4 +0.4
KHC Kasperske Hory 121.21 325 *e*PKIKP PKPdf 03 25 37.4 +0.4
KHC Kasperske Hory 121.21 325 *e*PKPDF PKPdf 03 25 37.0 0.0
NKC Novy Kostel 121.26 327 *e*PKIKP PKPdf 03 25 37.4 +0.4
NKC Novy Kostel 121.26 327 *e*PKPDF PKPdf 03 25 37.4 +0.4
GERES GERESS Array B 121.29 325 PKP PKPdf 03 25 37.1 -0.1
comp=Z,3.8nm,0.7s,baz=67,slow=1.6,SNR=45
GERES PP PP 03 27 08.7 -0.2
comp=Z,0.8nm,0.8s,baz=72,slow=6.3,SNR=4.2
GERES GERESS Array B 121.29 325 PKP PKPdf 03 25 37.1 0.0
GERES PP PP 03 27 08.7 -0.2
GERES GERESS Array B 121.29 325 PKIKP PKPdf 03 25 37.1 0.0
GERES 03 27 08.7
PERS Pernice 121.53 322 *e*PKPdf PKPdf 03 25 37.5 -0.1
SOKA Soboth 121.56 322 ⇓*i*PKIKP PKPdf 03 25 37.4 -0.3
comp=Z,9.0nm,0.9s
LEGS Legarje 121.72 321 *i* PKPdf PKPdf 03 25 37.6 -0.5
BOJS Bojanci 121.96 321 *i* PKPdf PKPdf 03 25 38.8 +0.3
LJU Ljubljana 122.16 322 *i* PKPdf PKPdf 03 25 39.2 +0.3
KBA Koelnbreinsper 122.38 323 ⇑*i*PKPdf PKPdf 03 25 38.6 -0.7
comp=Z,9.4nm,1.1s
CADS Cadrg 122.56 322 *e*PKPdf PKPdf 03 25 39.0 -0.6
PLCA Paso Flores 122.71 148 PKP PKPdf 03 25 41.1 +1.0
comp=Z,4.1nm,0.6s,baz=220,slow=3.2,SNR=22
PLCA Paso Flores 122.71 148 PKP PKPdf 03 25 41.1 +1.0
PLCA Paso Flores 122.71 148 PKIKP PKPdf 03 25 41.2 +1.0
WTTA Wattenberg 123.29 324 ⇑*i*PKIKP PKPdf 03 25 41.2 +0.2
comp=Z,19nm,0.9s
MOTA Moosalm 123.55 325 ⇑*i*PKPdf PKPdf 03 25 41.0 -0.5
comp=Z,15nm,0.9s
FETA Feichten 123.94 324 ⇑*i*PKIKP PKPdf 03 25 42.5 +0.2
comp=Z,13nm,0.9s
DAVA Damuels 124.29 325 ⇑*i*PKiKP PKPdf 03 25 43.0 +0.1
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 124.56 325 PKP PKPdf 03 25 44.1 +0.6
comp=Z,8.6nm,0.8s,baz=53,slow=5.1,SNR=16
DAVOX Davos/Dischmat 124.56 325 PKP PKPdf 03 25 44.1 +0.6
DAVOX Davos/Dischmat 124.56 325 PKIKP PKPdf 03 25 44.1 +0.6
TUE Stuetta 125.04 324 *e*PKPdf PKPdf 03 25 43.8 -0.6

CDF Champ du Feu 125.08 327 ⇑*i*PKP1 PKPdf 03 25 44.1 -0.3
comp=Z,22nm,1.2s
CDF Champ du Feu 125.08 327 *eP* PKPdf 03 25 44.1 -0.3
CDF Champ du Feu 125.08 327 *e*PKIKP PKPdf 03 25 44.1 -0.3
GIVF Givet 125.30 330 *e*PKP1 PKPdf 03 25 45.2 +0.4
GIVF Givet 125.30 330 *eP* PKPdf 03 25 45.2 +0.4
GIVF Givet 125.30 330 *e*PKIKP PKPdf 03 25 45.2 +0.4
BAIF Baives 125.63 330 *e*PKP1 PKPdf 03 25 45.9 +0.5
BAIF Baives 125.63 330 *eP* PKPdf 03 25 45.9 +0.5
BAIF Baives 125.63 330 *e*PKIKP PKPdf 03 25 45.9 +0.5
HINF Hinteralfeld 125.67 327 ⇑*i*PKP1 PKPdf 03 25 45.4 -0.2
comp=Z,26nm,0.9s
HINF Hinteralfeld 125.67 327 *eP* PKPdf 03 25 45.4 -0.2
HINF Hinteralfeld 125.67 327 *e*PKIKP PKPdf 03 25 45.4 -0.2
HAU Haudompre 125.83 327 *e*PKP1 PKPdf 03 25 45.7 -0.2
comp=Z,31nm,1.0s
HAU Haudompre 125.83 327 *eP* PKPdf 03 25 45.7 -0.2
HAU Haudompre 125.83 327 *e*PKIKP PKPdf 03 25 45.7 -0.2
MEZF Maizieres J'vi 126.20 329 *e*PKP1 PKPdf 03 25 46.9 +0.3
MEZF Maizieres J'vi 126.20 329 *eP* PKPdf 03 25 46.9 +0.3
CABF La Chapelle 126.81 326 ⇑*i*PKP1 PKPdf 03 25 48.3 +0.5
comp=Z,36nm,1.0s
CABF La Chapelle 126.81 326 *eP* PKPdf 03 25 48.3 +0.5
CABF La Chapelle 126.81 326 *e*PKIKP PKPdf 03 25 48.3 +0.5
LPG La Plagne 127.08 325 ⇑*i*PKP1 PKPdf 03 25 49.0 +0.7
comp=Z,15nm,1.0s
LPG La Plagne 127.08 325 *eP* PKPdf 03 25 49.0 +0.7
LPG La Plagne 127.08 325 *e*PKIKP PKPdf 03 25 49.0 +0.7
LPL La Plagne 127.08 325 *e*PKP1 PKPdf 03 25 48.9 +0.6
comp=Z,16nm,0.9s
LPL La Plagne 127.08 325 *eP* PKPdf 03 25 48.9 +0.6
LPL La Plagne 127.08 325 *e*PKIKP PKPdf 03 25 48.9 +0.6
PGF Pioggiola 127.34 320 ⇑*i*PKP1 PKPdf 03 25 49.1 +0.2
comp=Z,47nm,1.1s
PGF Pioggiola 127.34 320 *eP* PKPdf 03 25 49.1 +0.2
PGF Pioggiola 127.34 320 *e*PKIKP PKPdf 03 25 49.1 +0.2
MBDF Montbardon 127.51 324 *e*PKP1 PKPdf 03 25 49.3 +0.1
comp=Z,27nm,1.2s
MBDF Montbardon 127.51 324 *eP* PKPdf 03 25 49.3 +0.1
MBDF Montbardon 127.51 324 *e*PKIKP PKPdf 03 25 49.3 +0.1
SBF Sospel 127.60 323 *e*PKP1 PKPdf 03 25 49.5 +0.1
comp=Z,60nm,1.2s
SBF Sospel 127.60 323 *eP* PKPdf 03 25 49.5 +0.1
SBF Sospel 127.60 323 *e*PKIKP PKPdf 03 25 49.5 +0.1
LOR Lormes 127.61 328 *e*PKP1 PKPdf 03 25 49.5 +0.2
comp=Z,31nm,1.2s
LOR Lormes 127.61 328 *eP* PKPdf 03 25 49.5 +0.2
LOR Lormes 127.61 328 *e*PKIKP PKPdf 03 25 49.5 +0.2
SSF Saint Saulge 127.92 328 ⇑*i*PKP1 PKPdf 03 25 50.1 +0.2
comp=Z,27nm,1.2s
SSF Saint Saulge 127.92 328 *eP* PKPdf 03 25 50.1 +0.2
SSF Saint Saulge 127.92 328 *e*PKIKP PKPdf 03 25 50.1 +0.2
SMF Signal de Mont 128.01 327 *e*PKP1 PKPdf 03 25 50.1 0.0
SMF Signal de Mont 128.01 327 *eP* PKPdf 03 25 50.1 0.0
SMF Signal de Mont 128.01 327 *e*PKIKP PKPdf 03 25 50.1 0.0
AVF Avril sur Loir 128.18 328 *e*PKP1 PKPdf 03 25 50.2 -0.2
AVF Avril sur Loir 128.18 328 *eP* PKPdf 03 25 50.2 -0.2
AVF Avril sur Loir 128.18 328 *e*PKIKP PKPdf 03 25 50.2 -0.2
HYF Humbligny 128.24 329 *e*PKP1 PKPdf 03 25 51.2 +0.7
HYF Humbligny 128.24 329 *eP* PKPdf 03 25 51.2 +0.7
FRF La Foret Royal 128.25 323 *e*PKP1 PKPdf 03 25 50.7 +0.1
comp=Z,98nm,1.4s
FRF La Foret Royal 128.25 323 *eP* PKPdf 03 25 50.7 +0.1
FRF La Foret Royal 128.25 323 *e*PKIKP PKPdf 03 25 50.7 +0.1
LMR La Mourre 128.46 323 *e*PKP1 PKPdf 03 25 51.2 +0.2
comp=Z,69nm,1.4s
LMR La Mourre 128.46 323 *eP* PKPdf 03 25 51.2 +0.2
LMR La Mourre 128.46 323 *e*PKIKP PKPdf 03 25 51.2 +0.2
BGF Bois d'Agland 128.59 328 ⇑*i*PKP1 PKPdf 03 25 51.6 +0.4
BGF Bois d'Agland 128.59 328 *eP* PKPdf 03 25 51.6 +0.4
BGF Bois d'Agland 128.59 328 *e*PKIKP PKPdf 03 25 51.6 +0.4
SMRF Simiane la Rot 128.65 324 *e*PKP1 PKPdf 03 25 52.1 +0.7
comp=Z,134nm,1.6s
SMRF Simiane la Rot 128.65 324 *eP* PKPdf 03 25 52.1 +0.7
VIVF Saint-Julien-l 128.65 325 *e*PKP1 PKPdf 03 25 51.6 +0.2
VIVF Saint-Julien-l 128.65 325 *eP* PKPdf 03 25 51.6 +0.2
VIVF Saint-Julien-l 128.65 325 *e*PKIKP PKPdf 03 25 51.6 +0.2
LDF La Druitiere 128.71 332 *e*PKP1 PKPdf 03 25 51.4 0.0
LDF La Druitiere 128.71 332 *eP* PKPdf 03 25 51.4 0.0
LDF La Druitiere 128.71 332 *e*PKIKP PKPdf 03 25 51.4 0.0
FLN La Foliniere 128.76 332 *e*PKP1 PKPdf 03 25 51.6 +0.2
FLN La Foliniere 128.76 332 *eP* PKPdf 03 25 51.6 +0.2
FLN La Foliniere 128.76 332 *e*PKIKP PKPdf 03 25 51.6 +0.2
TCF Toulx Ste Croi 129.10 328 ⇑*i*PKP1 PKPdf 03 25 52.4 +0.2
TCF Toulx Ste Croi 129.10 328 *eP* PKPdf 03 25 52.4 +0.2
TCF Toulx Ste Croi 129.10 328 *e*PKIKP PKPdf 03 25 52.4 +0.2
GRR Gorron 129.21 332 *e*PKP1 PKPdf 03 25 52.2 -0.1
GRR Gorron 129.21 332 *eP* PKPdf 03 25 52.2 -0.1
GRR Gorron 129.21 332 *e*PKIKP PKPdf 03 25 52.2 -0.1
SGMF Saint Gilles 130.09 333 *e*PKP1 PKPdf 03 25 53.6 -0.4
SGMF Saint Gilles 130.09 333 *eP* PKPdf 03 25 53.6 -0.4
SGMF Saint Gilles 130.09 333 *e*PKIKP PKPdf 03 25 53.6 -0.4
MFF Saint Martin d 130.11 330 *e*PKP1 PKPdf 03 25 54.2 +0.1
MFF Saint Martin d 130.11 330 *eP* PKPdf 03 25 54.2 +0.1
MFF Saint Martin d 130.11 330 *e*PKIKP PKPdf 03 25 54.2 +0.1
KEST Kesra 130.36 313 PKP PKPdf 03 25 55.5 +0.6
comp=Z,4.0nm,0.9s,baz=240,slow=2.9,SNR=19
KEST Kesra 130.36 313 PKP PKPdf 03 25 55.5 +0.6
ESDC Sonseca Array 136.88 325 PKP PKPdf 03 26 07.2 +0.2
comp=Z,0.5nm,0.8s,baz=8.2,slow=2.9,SNR=4.0
ESDC PP PP 03 28 51.1 +0.5
comp=Z,1.6nm,0.9s,baz=38,slow=7.8,SNR=4.9
ESDC Sonseca Array 136.88 325 PKP PKPdf 03 26 07.2 +0.2
ESDC PP PP 03 28 51.1 +0.5
LPAZ La Paz 139.73 124 PKhKP PKPpre 03 26 09.5
comp=Z,2.0nm,0.5s,baz=267,slow=4.1,SNR=12
LPAZ SKPbc SKPbc 03 29 40.9 +2.4
comp=Z,3.9nm,0.9s,baz=233,slow=1.6,SNR=5.6
LPAZ La Paz 139.73 124 PKPpre PKPpre 03 26 09.5
LPAZ *e*PKPdf PKPdf 03 26 10.4 -2.5
LPAZ SKPbc SKPbc 03 29 40.9 +2.4
LPAZ La Paz 139.73 124 PKIKP PKPpre 03 26 09.5
ROSC El Rosal 140.03 90 PKP PKPdf 03 26 13.2 -0.3
comp=Z,12nm,0.5s,baz=92,slow=19,SNR=9.8
ROSC El Rosal 140.03 90 PKP PKPdf 03 26 13.2 -0.3
CPUP Villa Florida 140.75 146 PKP PKPdf 03 26 13.3 -1.2
comp=Z,2.1nm,0.6s,baz=227,slow=1.6,SNR=7.4
CPUP SKPbc SKPbc 03 29 42.5 +1.6
comp=Z,2.3nm,0.8s,baz=236,slow=2.4,SNR=4.6
CPUP Villa Florida 140.75 146 PKP PKPdf 03 26 13.3 -1.2
CPUP SKPbc SKPbc 03 29 42.5 +1.6
CPUP Villa Florida 140.75 146 PKIKP PKPdf 03 26 13.3 -1.2
SDV Santo Domingo 143.76 83 *e*PKPdf PKPdf 03 26 18.3 -1.9
TORD Torodi Ar. Bea 143.96 284 PKP PKPdf 03 26 19.0 -1.5
comp=Z,11nm,0.5s,baz=71,slow=3.1,SNR=288
TORD PP PP 03 29 36.3 +0.8
comp=Z,0.9nm,0.9s,baz=90,slow=5.6,SNR=2.6
TORD SKPbc SKPbc 03 29 49.8 +0.6
comp=Z,1.5nm,1.0s,baz=106,slow=2.6,SNR=3.6
TORD SKKPbc 03 37 57.8
comp=Z,1.0nm,1.1s,baz=266,slow=3.4,SNR=4.2
TORD Torodi Ar. Bea 143.96 284 PKP PKPdf 03 26 19.0 -1.5
TORD PP PP 03 29 36.3 +0.8
TORD SKPbc SKPbc 03 29 49.8 +0.6
TORD SKKPbc 03 37 57.8
CRPR Cabo Rojo, PR 145.75 67 *e*PKPdf PKPdf 03 26 23.5 0.0
CELP Cerrillos 146.22 66 *e*PKPbc PKPbc 03 26 25.4 -0.1
SJG San Juan 146.60 66 *e*PKPdf PKPdf 03 26 25.2 +0.3
SJG San Juan 146.60 66 *e*PKIKP PKPdf 03 26 25.2 +0.3
MTP Monte Pirata 147.15 66 *e*PKPbc PKPbc 03 26 28.3 +0.2
DBIC Dimbokro 150.85 273 PKPbc PKPbc 03 26 38.3 +0.6
comp=Z,51nm,0.6s,baz=84,slow=2.3,SNR=157
DBIC Dimbokro 150.85 273 *e*PKPbc PKPbc 03 26 38.4 +0.7

ISCJB ***09*** *03:21:38.8±1.0, 42°.77N±0°.05×76°.73E±0°.09, h10km, Error ellipse: s-maj=11.5km s-min=5.1km az=33.1*
NNC ***09*** *03:21:39.0±2.0, 43°.45N×76°.41E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=18.9km s-min=3.8km az=177.0*
KNET ***09*** *03:21:39.9±0.9, 42°.76N×76°.58E, h9km±4km, ml1.9, Error ellipse: s-maj=8.2km s-min=2.7km az=73.0*
ISC 09 03:21:39.2±0.9, 42°.78N±0°.05×76°.70E±0°.08, h10km, n11, σ0.72/14, 11C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.47**	**24**	⇓P	**Pg**	**03 21 48.1**	**-0.5**
23nm,0.2s							
KNDC				⇑S	**Sg**	**03 21 54.9**	**+0.1**
102nm,0.2s							
ULHL	**Ulahol**	**0.64**	**213**	P	**Pg**	**03 21 51.1**	**-0.5**
SNR=146							
ULHL				P		03 21 51.1	
18nm,0.1s,SNR=146							
ULHL				⇓S	**Sg**	**03 21 59.8**	**0.0**
109nm,0.3s							
TKM2	**Tokmak 2**	**0.82**	**280**	⇑P	**Pg**	**03 21 54.3**	**-0.9**
7.1nm,0.1s,SNR=130							
TKM2				P		03 21 54.3	
SNR=130							
TKM2	**Tokmak 2**	**0.82**	**280**	⇑P	**Pg**	**03 21 54.2**	**-0.9**
3.4nm,0.4s							
TKM2				⇑S	**Sg**	**03 22 05.7**	**-0.2**
4.4nm,0.2s							
KZA	**Kyzart**	**1.29**	**237**	⇑P	**Pn**	**03 22 03.2**	**0.0**
6.3nm,0.1s,SNR=28							
KZA				P		03 22 03.3	
SNR=28							
KBK	**Karagaybulak**	**1.30**	**265**	⇑P	**Pn**	**03 22 03.2**	**-0.2**
25nm,0.1s,SNR=40							
KBK				P		03 22 03.3	
SNR=40							
CHMS	**Chumysh**	**1.45**	**279**	⇑P	**Pn**	**03 22 05.2**	**-0.3**
6.5nm,0.1s,SNR=10							
CHMS				P		03 22 05.3	
SNR=10							
AAK	**Ala-Archa**	**1.63**	**265**	⇑P	**Pn**	**03 22 08.9**	**+0.8**
8.3nm,0.2s,SNR=20							
AAK				P		03 22 09.0	
SNR=20							
USP	**Ospenovka**	**1.69**	**287**	⇑P	**Pn**	**03 22 09.3**	**+0.6**
16nm,0.2s,SNR=39							
USP				P		03 22 09.4	
SNR=39							
EKS2	**Erkin-Say**	**2.16**	**268**	⇑P	**Pn**	**03 22 18.4**	**+3.2**
6.1nm,0.1s,SNR=31							
EKS2				P		03 22 18.4	
SNR=31							
KK31	**Karatay Array**	**4.56**	**276**	⇑Pg	**Pg**	**03 23 02.1**	**-4.3**
0.5nm,0.4s,baz=90,slow=16,SNR=7.3							
KK31				⇓Lg		03 23 59.8	
0.6nm,0.3s,baz=83,slow=27							

ISCJB ***09*** *03:49:23.3±0.9, 34°.59N±0°.05×24°.19E±0°.06, h24km±5km, mb3.8/3, MS3.6/2, Error ellipse: s-maj=8.8km s-min=7.5km az=29.2*
CSEM ***09*** *03:49:24.2±0.4, 34°.63N×24°.20E, h12km, MD2.8, Error ellipse: s-maj=10.5km s-min=8.4km az=25.0*
NEIC ***09*** *03:49:25.7, 34°.75N×24°.12E, h22km, ML2.8(ATH), After ATH.*
ATH ***09*** *03:49:25.8, 34°.76N×24°.13E, h22km±1km, MD2.8/6*
THE ***09*** *03:49:27.7, 34°.90N×24°.23E, h1km±2km, ML3.1/1, Error ellipse: s-maj=2.7km s-min=0.8km az=146.0*
IDC ***09*** *03:49:28.6±5.1, 34°.57N×24°.36E, h55km±51km, mb3.6/3, mb1 3.5/7, mb1mx3.3/28, mbtmp3.5/7, ML3.1/4, MS2.8/2, Ms1 2.9/2, ms1mx2.4/41, Error ellipse: s-maj=66.0km s-min=21.7km az=139.0*
ISC 09 03:49:25.4±0.8, 34°.71N±0°.05×24°.15E±0°.05, h20km±5km, n50, σ1.42/66, mb3.8/3, MS3.6/2, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.14**	**338**	*e*PB	**Pb**	**03 49 29.9**	**+0.1**
GVD				*e*SB	**Sb**	**03 49 33.2**	**+0.3**
GVD	**Gavdhos**	**0.14**	**338**	P	**Pb**	**03 49 30.0**	**+0.2**
GVD				S	**Sb**	**03 49 33.2**	**+0.3**
GVD	**Gavdhos**	**0.14**	**338**	P	**Pb**	**03 49 30.0**	**+0.2**
GVD				S	**Sb**	**03 49 33.2**	**+0.3**
SIVA	**Sivas**	**0.62**	**60**	*e*PN	**Pn**	**03 49 37.8**	**-1.2**
SIVA				*e*SN	**Sb**	**03 49 47.2**	**+1.3**
SIVA	**Sivas**	**0.62**	**60**	P	**Pb**	**03 49 37.7**	**+0.1**
SIVA	**Sivas**	**0.62**	**60**	*e*Pn	**Pn**	**03 49 37.8**	**-1.2**
VAM	**Vamos**	**0.70**	**3**	*e*PB	**Pb**	**03 49 37.9**	**-1.0**
VAM				*e*SN	**Sn**	**03 49 48.2**	**-2.2**
VAM	**Vamos**	**0.70**	**3**	P	**Pb**	**03 49 37.8**	**-1.1**
VAM				S	**Sb**	**03 49 45.9**	**-2.2**
VAM	**Vamos**	**0.70**	**3**	*e*Pb	**Pb**	**03 49 37.9**	**-1.0**
VAM				S	**Sb**	**03 49 45.9**	**-2.2**
VAM				*e*Sn	**Sn**	**03 49 48.2**	**-2.2**
IDI	**Anoyia**	**0.84**	**46**	*e*PN	**Pn**	**03 49 40.7**	**-1.3**
IDI				*e*SN	**Sn**	**03 49 53.5**	**-0.3**
IDI	**Anoyia**	**0.84**	**46**	P	**Pb**	**03 49 40.2**	**-1.1**
IDI				S	**Sb**	**03 49 50.1**	**-2.0**
IDI	**Anoyia**	**0.84**	**46**	*e*Pg	**Pb**	**03 49 40.5**	**-0.8**
IDI				*e*S	**Sb**	**03 49 53.6**	**+1.5**
IDI	**Anoyia**	**0.84**	**46**	P	**Pb**	**03 49 40.2**	**-1.1**
IDI	**Anoyia**	**0.84**	**46**	*e*Pg	**Pb**	**03 49 40.5**	**-0.8**
IDI	**Anoyia**	**0.84**	**46**	*e*Pn	**Pn**	**03 49 40.7**	**-1.3**
IDI				*e*S	**Sb**	**03 49 53.6**	**+1.5**
IDI				*e*Sn	**Sn**	**03 49 53.9**	**+0.1**
NPS	**Neapolis**	**1.32**	**65**	*e*PN	**Pn**	**03 49 50.5**	**+1.9**
NPS				*e*SN	**Sn**	**03 50 08.3**	**+2.6**
NPS	**Neapolis**	**1.32**	**65**	P	**Pn**	**03 49 50.4**	**+1.8**
NPS	**Neapolis**	**1.32**	**65**	P	**Pn**	**03 49 50.4**	**+1.8**
NPS				*e*Sn	**Sn**	**03 50 08.3**	**+2.6**
KYTH	**Kithira**	**1.82**	**330**	*e*PN	**Pn**	**03 49 57.3**	**+1.9**
KYTH	**Kithira**	**1.82**	**330**	P	**Pn**	**03 49 57.3**	**+1.9**
KYTH	**Kithira**	**1.82**	**330**	P	**Pn**	**03 49 57.3**	**+1.9**
VLI	**Veliai**	**2.24**	**334**	*e*PN	**Pn**	**03 50 03.5**	**+2.2**
VLI	**Veliai**	**2.24**	**334**	P	**Pn**	**03 50 02.4**	**+1.1**
VLI				S	**Sn**	**03 50 30.1**	**+1.8**
VLI	**Veliai**	**2.24**	**334**	P	**Pn**	**03 50 02.4**	**+1.1**
VLI	**Veliai**	**2.24**	**334**	*e*Pn	**Pn**	**03 50 03.5**	**+2.2**
VLI				S	**Sn**	**03 50 30.1**	**+1.8**
KARP	**Karpathos**	**2.

-4.2300, Plg64.0000°, Azm184.0000°; Data Used: II IU G IC CN.

ISC 09 03:54:41.5±5.1, 15°33N±0°05×144°9E±0°2, h34km±37km, n56, σ0°83/38, mb4.1/20, MS4.1/20, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.73**	**181**	Pn	**Pn**	**03 55 08.9**	**-0.4**
	82nm,0.3s,baz=326,slow=2.4,SNR=8.6						
GUMO				Sn	**Sn**	**03 55 29.5**	**-0.7**
	115nm,0.3s,baz=100,slow=21,SNR=12						
GUMO	**Guam**	**1.73**	**181**	Pn	**Pn**	**03 55 08.9**	**-0.4**
GUMO				Sn	**Sn**	**03 55 29.5**	**-0.7**
CBIJ	**Chichi jima**	**11.98**	**348**	LR	LR	04 01 09.8	
	comp=Z,601nm,22.0s,baz=127,slow=32						
JOW	**Kunigami**	**19.26**	**309**	LR	LR	04 04 45.2	
	comp=Z,959nm,21.8s,baz=146,slow=31						
MJAR	**Matsushiro Arr**	**21.95**	**345**	P	**P**	**03 59 31.7**	**-0.6**
	1.8nm,0.8s,mb3.5,baz=172,slow=18,SNR=4.3						
MJAR				LR	LR	04 05 52.1	
	comp=Z,187nm,20.8s,MS3.5,baz=170,slow=31						
MJAR	**Matsushiro Arr**	**21.95**	**345**	P	**P**	**03 59 31.7**	**-0.6**
PMG	**Port Moresby**	**24.68**	**175**	P	**P**	**04 00 02.2**	**+2.8**
	4.1nm,0.5s,mb4.2,baz=12,slow=14,SNR=4.0						
PMG	**Port Moresby**	**24.68**	**175**	P	**P**	**04 00 02.2**	**+2.8**
KSRS	**Korea Array**	**26.69**	**329**	P	**P**	**04 00 17.3**	**-0.2**
	1.7nm,0.6s,mb3.7,baz=145,slow=9.1,SNR=5.5						
KSRS				LR	LR	04 09 29.6	
	comp=Z,164nm,19.2s,MS3.6,baz=154,slow=33						
KSAR	**Wonju Array Be**	**26.70**	**329**	P	**P**	**04 00 17.3**	**-0.3**
ASAJ	**Asahikawa**	**28.76**	**357**	LR	LR	04 12 19.6	
	comp=Z,223nm,19.5s,MS3.8,baz=199,slow=37						
HNR	**Honiara**	**28.76**	**148**	LR	LR	04 11 05.0	
	comp=Z,375nm,20.8s,MS4.0,baz=164,slow=34						
WRAB	**Tennant Creek**	**36.55**	**197**	*eP*	**P**	**04 01 43.4**	**-0.7**
	5.0nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**36.56**	**197**	P	**P**	**04 01 44.5**	**+0.2**
	3.5nm,1.0s,mb4.1,baz=17,slow=9.4,SNR=11						
WRA				LR	LR	04 17 12.1	
	comp=Z,230nm,19.9s,MS4.0,baz=55,slow=37						
WRA	**Warramunga Arr**	**36.56**	**197**	P	**P**	**04 01 44.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**38.27**	**210**	LR	LR	04 18 33.3	
	comp=Z,99nm,18.3s,MS3.7,baz=32,slow=37						
FITZ	**Fitzroy Crossi**	**38.27**	**210**	*eP*	**P**	**04 01 58.7**	**0.0**
	11nm,1.2s,mb4.5						
PETK	**Petropavlovsk-**	**39.02**	**12**	P	**P**	**04 02 06.1**	**+1.3**
	6.3nm,1.0s,mb4.3,baz=228,slow=7.6,SNR=3.0						
PETK				LR	LR	04 15 36.4	
	comp=Z,116nm,20.9s,MS3.7,baz=227,slow=32						
PETK	**Petropavlovsk-**	**39.02**	**12**	P	**P**	**04 02 06.1**	**+1.3**
ASAR	**Alice Springs**	**40.22**	**196**	P	**P**	**04 02 16.1**	**+1.0**
	0.5nm,0.7s,mb3.4,baz=24,slow=9.7,SNR=6.2						
ASAR	**Alice Springs**	**40.22**	**196**	P	**P**	**04 02 16.1**	**+1.0**
LZH	**Lanzhou**	**41.98**	**307**	*eP*	**P**	**04 02 32.6**	**+3.1**
	25nm,1.0s,mb4.8						
LZH				pP	pP	04 02 44.5	+5.1
LZH				sP	sP	04 02 48.7	+5.2
CMAR	**Chiang Mai Arr**	**44.01**	**281**	P	**P**	**04 02 46.2**	**+0.1**
	1.0nm,0.4s,mb3.9,baz=83,slow=6.7,SNR=4.4						
CMAR				LR	LR	04 18 17.4	
	comp=Z,214nm,20.8s,MS4.0,baz=83,slow=32						
CMAR	**Chiang Mai Arr**	**44.01**	**281**	P	**P**	**04 02 46.2**	**+0.1**
SONM	**Songino Array**	**45.35**	**324**	PcP	PcP	04 04 36.9	+1.4
	0.5nm,0.7s,baz=126,slow=2.0,SNR=1.7						
SONM				LR	LR	04 21 36.3	
	comp=Z,239nm,18.4s,MS4.2,baz=170,slow=36						
NWAO	**Narrogin (SRO)**	**54.79**	**209**	LR	LR	04 27 24.3	
	comp=Z,190nm,18.1s,MS4.2,baz=293,slow=36						
ZALV	**Zalesovo Beam**	**60.24**	**324**	P	**P**	**04 04 46.6**	**+0.3**
	0.5nm,0.3s,mb4.0,baz=110,slow=6.3,SNR=5.0						
ZALV				LR	LR	04 31 13.2	
	comp=Z,121nm,18.4s,MS4.1,baz=251,slow=36						
ZALV	**Zalesovo Beam**	**60.24**	**324**	P	**P**	**04 04 46.6**	**+0.3**
MKAR	**Makanchi Array**	**60.28**	**315**	P	**P**	**04 04 47.0**	**+0.4**
	1.2nm,0.9s,mb3.9,baz=100,slow=8.5,SNR=8.5						
MKAR				LR	LR	04 33 13.1	
	comp=Z,108nm,18.6s,MS4.0,baz=110,slow=38						
MKAR	**Makanchi Array**	**60.28**	**315**	P	**P**	**04 04 47.0**	**+0.4**
KURK	**Kurchatov**	**63.29**	**319**	LR	LR	04 33 04.4	
	comp=Z,202nm,20.0s,MS4.3,baz=100,slow=36						
KURK	**Kurchatov**	**63.29**	**319**	*eP*	**P**	**04 05 06.4**	**-0.5**
	8.4nm,1.0s,mb4.8						
ILAR	**Eielson Array**	**66.99**	**26**	P	**P**	**04 05 30.1**	**-0.6**
	0.4nm,0.7s,mb3.6,baz=242,slow=7.0,SNR=3.7						
ILAR				LR	LR	04 33 52.4	
	comp=Z,124nm,18.7s,MS4.2,baz=285,slow=35						
ILAR	**Eielson Array**	**66.99**	**26**	P	**P**	**04 05 30.1**	**-0.6**
BVAR	**Borovoye Array**	**68.59**	**321**	LR	LR	04 36 39.3	
	comp=Z,281nm,18.9s,MS4.5,baz=284,slow=37						
BRVK	**Borovoye**	**68.66**	**321**	*eP*	**P**	**04 05 40.3**	**-1.1**
	13nm,1.2s,mb4.7						
PPT	**Papeete**	**72.38**	**114**	*eLR*	LR	04 28 08.6	
	337nm,22.2s,baz=298						
TBI	**Tubuai**	**74.79**	**120**	*eLR*	LR	04 29 22.5	
	302nm,29.2s						
ABKAR	**Akbulak array**	**75.29**	**318**	*eP*	**P**	**04 06 21.1**	**-0.1**
	5.0nm,1.0s,mb4.4						
TAOE	**Nuku Hiva Isla**	**78.02**	**103**	*eLR*	LR	04 30 36.4	
	503nm,23.9s						
YKA	**Yellowknife Ar**	**81.31**	**28**	P	**P**	**04 06 53.9**	**-0.3**
	0.2nm,0.6s,mb3.2,baz=290,slow=5.2,SNR=2.9						
YKA	**Yellowknife Ar**	**81.31**	**28**	P	**P**	**04 06 53.9**	**-0.3**
ARCES	**ARCESS Array B**	**85.45**	**342**	P	**P**	**04 07 14.9**	**-0.5**
	5.4nm,1.1s,mb4.6,baz=47,slow=10.0,SNR=3.9						
ARCES				LR	LR	04 45 59.3	
	comp=Z,153nm,20.2s,MS4.4,baz=185,slow=36						
ARCES	**ARCESS Array B**	**85.45**	**342**	P	**P**	**04 07 14.9**	**-0.5**
RKT	**Rikitea**	**87.14**	**115**	*eLR*	LR	04 35 04.3	
	402nm,30.8s						
FINES	**FINESS Array B**	**89.61**	**335**	P	**P**	**04 07 35.0**	**-0.5**
	3.5nm,1.1s,mb4.6,baz=96,slow=1.4,SNR=3.1						
FINES				LR	LR	04 49 58.5	
	comp=Z,198nm,18.9s,MS4.6,baz=319,slow=37						
FINES	**FINESS Array B**	**89.61**	**335**	P	**P**	**04 07 35.0**	**-0.5**
PDAR	**Pinedale Array**	**90.72**	**45**	LR	LR	04 48 24.5	
	comp=Z,91nm,18.1s,MS4.2,baz=245,slow=36						
AKASG	**Malin Array Be**	**93.62**	**325**	LR	LR	04 52 11.8	
	comp=Z,225nm,18.8s,MS4.7,baz=90,slow=37						
NOA	**NORSAR Array B**	**95.44**	**339**	LR	LR	04 55 04.0	
	comp=Z,99nm,18.6s,MS4.3,baz=290,slow=38						
BRTR	**Keskin Array B**	**95.89**	**314**	P	**P**	**04 08 05.7**	**+0.6**
	1.6nm,1.0s,mb4.4,baz=10,slow=8.8,SNR=4.3						
BRTR	**Keskin Array B**	**95.89**	**314**	P	**P**	**04 08 05.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**133.90**	**306**	PKP	PKPdf	04 13 55.8	-0.3
	0.4nm,0.9s,baz=59,slow=2.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**133.90**	**306**	PKP	PKPdf	04 13 55.8	-0.3
LPAZ	**La Paz**	**148.22**	**96**	PKPbc	PKPbc	04 14 30.1	+5.2
	1.4nm,0.9s,baz=307,slow=5.1,SNR=3.0						
LPAZ	**La Paz**	**148.22**	**96**	PKPbc	PKPbc	04 14 30.1	+5.2

ISC 09 04:49:23.9±0.6, 46°43N±0°04×13°13E±0°05, h10km, n8, σ0°49/13, 4C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSE	**Fusea**	**0.09**	**258**	⇓*e*Pg	**Pg**	**04 49 26.3**	**-0.1**
FUSE				*e*Sg	**Sg**	**04 49 28.4**	**+0.2**
ZOU	**Zoufplan**	**0.17**	**318**	⇑*e*Pg	**Pg**	**04 49 27.4**	**-0.1**
ZOU				*e*Sg	**Sg**	**04 49 30.2**	**+0.2**
VINO	**Villanova**	**0.20**	**150**	⇑*e*Pg	**Pg**	**04 49 28.0**	**-0.2**
VINO				*e*Sg	**Sg**	**04 49 31.7**	**+0.6**
BAD	**Bernadia**	**0.21**	**159**	⇑*e*Pg	**Pg**	**04 49 28.1**	**-0.2**
BAD				*e*Sg	**Sg**	**04 49 31.9**	**+0.7**
ACOM	**Acomizza, Ital**	**0.29**	**66**	⇑*e*Pg	**Pg**	**04 49 29.8**	**+0.1**
ACOM				*e*Sg	**Sg**	**04 49 34.4**	**+0.8**
ROBS	**Robic**	**0.32**	**126**	*i* Pg	**Pg**	**04 49 29.9**	**-0.4**
CADS	**Cadrg**	**0.47**	**116**	*e*Pg	**Pg**	**04 49 32.2**	**-0.8**
GORS	**Gorjuse**	**0.61**	**101**	*i* Pg	**Pg**	**04 49 34.9**	**-0.8**

*IDC **09** 04:49:30.9±1.1, 1°32N×126°51E, h0km, mb4.1/6, mb1 4.2/8, mb1mx3.9/21, mbtmp4.1/8, ML4.0/2, Error ellipse: s-maj=52.3km s-min=16.3km az=69.0*

*ISCJB **09** 04:49:35.7±0.7, 1°33N±0°06×126°41E±0°05, h57km±8km, mb4.1/6, Error ellipse: s-maj=10.5km s-min=6.7km az=33.3*

*DJA **09** 04:49:35, 1°44N×126°44E, h23km, MLv4.2/8*

ISC 09 04:49:36.8±0.7, 1°35N±0°06×126°44E±0°05, h45km±9km, n19, σ0°97/21, mb4.1/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**122**	P	**Pn**	**04 49 55.4**	**-0.2**
TNTI				S	**Sn**	**04 50 10.1**	**+0.5**
MNI	**Manado**	**1.60**	**273**	P	**Pn**	**04 50 01.6**	**-1.0**
MNI				S	**Sn**	**04 50 21.2**	**-0.9**
LBMI	**Labuha**	**2.24**	**152**	P	**Pn**	**04 50 11.1**	**-0.3**
SGSI	**Sangihe**	**2.50**	**339**	S	**Sn**	**04 50 43.8**	**-0.4**
KMSI	**Cibinong**	**2.58**	**253**	P	**Pn**	**04 50 14.8**	**-1.2**
GTOI	**Gorontalo**	**3.50**	**258**	P	**Pn**	**04 50 29.4**	**+0.7**
LUWI	**Luwuk**	**4.37**	**237**	P	**Pn**	**04 50 41.8**	**+1.1**
MRSI	**Marisa**	**4.58**	**259**	P	**Pn**	**04 50 43.9**	**+0.3**
NLAI	**Namlea**	**4.60**	**172**	P	**Pn**	**04 50 44.5**	**+0.6**
SPSI	**Sidrap Palu**	**8.50**	**232**	P	**Pn**	**04 51 38.5**	**+1.1**
	18nm,0.8s						
BKSI	**Bulukumba**	**9.15**	**224**	P	**Pn**	**04 51 47.1**	**+0.8**
KAPI	**Kappang**	**9.20**	**227**	Pn	**Pn**	**04 51 47.4**	**+0.5**
	1.3nm,0.3s,baz=20,slow=5.9,SNR=5.4						
FITZ	**Fitzroy Crossi**	**19.34**	**182**	P	**Pn**	**04 53 57.3**	**-2.7**
	0.4nm,0.3s,baz=5.5,slow=8.5,SNR=5.6						
WRA	**Warramunga Arr**	**22.53**	**160**	P	**P**	**04 54 31.7**	**-1.2**
	4.4nm,0.3s,mb4.3,baz=334,slow=11,SNR=60						
ASAR	**Alice Springs**	**25.90**	**164**	P	**P**	**04 55 04.0**	**-0.7**
	1.6nm,0.6s,mb3.8,baz=343,slow=7.6,SNR=17						
STKA	**Stephens Creek**	**36.03**	**158**	P	**P**	**04 56 33.8**	**-0.1**
	1.4nm,0.3s,mb4.3,baz=334,slow=10.0,SNR=7.1						
MKAR	**Makanchi Array**	**59.35**	**326**	P	**P**	**04 59 34.4**	**0.0**
	0.4nm,0.3s,mb3.9,baz=118,slow=7.5,SNR=6.2						
KURK	**Kurchatov**	**63.59**	**328**	P	**P**	**05 00 03.3**	**+0.4**
	1.9nm,0.7s,mb4.2,baz=130,slow=6.3,SNR=13						
AKTO	**Aktyubinsk**	**75.34**	**322**	P	**P**	**05 01 17.9**	**+2.5**
	1.0nm,0.5s,mb4.0,baz=127,slow=5.1,SNR=3.1						

*IDC **09** 04:55:48.9±0.9, 39°32N×73°72E, h0km, mb3.7/10, mb1 3.9/13, mb1mx3.7/29, mbtmp3.8/13, ML3.4/4, Error ellipse: s-maj=20.0km s-min=17.6km az=30.0*

*NEIC **09** 04:55:54.9±0.7, 39°49N×73°66E, h35km, Error ellipse: s-maj=12.1km s-min=9.7km az=128.0*

*ISCJB **09** 04:55:55.7±0.9, 39°55N±0°06×73°67E±0°08, h65km±9km, mb3.6/10, Error ellipse: s-maj=11.1km s-min=9.5km az=153.1*

*NNC **09** 04:55:55.2±5.5, 39°77N×73°85E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=46.2km s-min=26.4km az=169.0*

ISC 09 04:55:57.1±1.0, 39°56N±0°07×73°62E±0°08, h60km±9km, n54, σ1°09/57, mb3.7/10, 8C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.57**	**1**	P	**Pn**	**04 56 36.3**	**0.0**
	SNR=69						
AML				P		04 56 36.3	
	SNR=69						
UCH	**Uchtor**	**2.75**	**14**	P	**Pn**	**04 56 40.0**	**+1.3**
	SNR=13						
UCH				P		04 56 40.0	
	SNR=13						
KZA	**Kyzart**	**2.80**	**26**	P	**Pn**	**04 56 39.3**	**-0.2**
	SNR=19						
KZA				P		04 56 39.3	
	SNR=19						
EKS2	**Erkin-Say**	**3.10**	**2**	P	**Pn**	**04 56 44.5**	**+1.0**
	SNR=34						
EKS2				P		04 56 44.5	
	SNR=34						
EKS2	**Erkin-Say**	**3.10**	**2**	*e*Pn	**Pn**	**04 56 43.4**	**-0.1**
EKS2				*e*S	**Sn**	**04 57 24.8**	**+5.5**
AAK	**Ala-Archa**	**3.14**	**12**	P	**Pn**	**04 56 44.9**	**+0.8**
	SNR=28						
AAK				P		04 56 44.9	
	SNR=28						
AAK	**Ala-Archa**	**3.14**	**12**	*e*Pn	**Pn**	**04 56 44.6**	**+0.6**
AAK				*e*S	**Sn**	**04 57 27.4**	**+7.1**
KBK	**Karagaybulak**	**3.25**	**18**	P	**Pn**	**04 56 46.2**	**+0.6**
	SNR=19						
KBK				P		04 56 46.2	
	SNR=19						
ULHL	**Ulahol**	**3.34**	**36**	P	**Pn**	**04 56 47.8**	**+1.0**
	SNR=20						
ULHL				P		04 56 47.8	
	SNR=20						
CHMS	**Chumysh**	**3.54**	**14**	P	**Pn**	**04 56 49.6**	**0.0**
	SNR=10						
CHMS				P		04 56 49.6	
	SNR=10						
TKM2	**Tokmak 2**	**3.67**	**23**	P	**Pn**	**04 56 51.5**	**+0.1**
	SNR=22						
TKM2				P		04 56 51.5	
	SNR=22						
TKM2	**Tokmak 2**	**3.67**	**23**	⇑Pn	**Pn**	**04 56 51.7**	**+0.3**
	17nm,0.7s						
TKM2				⇑Lg		04 57 46.9	
	54nm,0.6s						
TKM2	**Tokmak 2**	**3.67**	**23**	*e*Pn	**Pn**	**04 56 51.5**	**+0.1**
USP	**Ospenovka**	**3.76**	**10**	P	**Pn**	**04 56 54.1**	**+1.5**
	SNR=11						
USP				P		04 56 54.1	
	SNR=11						
KK31	**Karatay Array**	**4.24**	**328**	⇓Pn	**Pn**	**04 56 59.5**	**+0.3**
	3.4nm,0.3s,baz=168,slow=16,SNR=108						
KK31				⇓Pg	**Pn**	**04 57 09.4**	**+10**
	6.9nm,0.4s,baz=134,slow=15,SNR=26						
KK31				⇑Sn	**Sn**	**04 57 51.7**	**+4.4**
	8.6nm,0.3s,baz=142,slow=23,SNR=4.8						
KK31				⇑Lg		04 58 08.9	
	30nm,0.5s,baz=134,slow=30,SNR=4.3						
KKAR	**Karatay Array**	**4.24**	**328**	*e*Pn	**Pn**	**04 56 59.5**	**+0.3**
KNDC	**Almaty**	**4.44**	**34**	⇓Lg		04 58 10.4	
	102nm,0.5s						
KBL	**Kabul**	**6.20**	**218**	*e*Pn	**Pn**	**04 57 25.7**	**-0.4**
	5.0nm,0.6s						
KBL				*e*S	**Sn**	**04 58 40.4**	**+4.8**
MK31	**Makanchi Array**	**9.61**	**38**	*e*Pn	**Pn**	**04 58 12.1**	**-0.4**
MKAR	**Makanchi Array**	**9.61**	**38**	Pn	**Pn**	**04 58 12.4**	**-0.1**
	0.1nm,0.3s,baz=227,slow=5.7,SNR=2.4						
MKAR				Lg		05 00 54.2	
	0.2nm,0.3s,baz=221,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**9.61**	**38**	Pn	**Pn**	**04 58 12.4**	**-0.1**
KURK	**Kurchatov**	**11.70**	**16**	Lg		05 01 55.7	
	0.1nm,0.3s,baz=205,slow=33,SNR=7.3						
VOSK	**Vostochnaya**	**13.29**	**353**	⇑P	**Pn**	**04 59 01.2**	**-1.5**
	1.5nm,0.7s						
BVA0	**Borovoye Array**	**13.65**	**352**	⇓P	**Pn**	**04 59 04.1**	**-3.5**
	0.3nm,0.5s,baz=158,slow=11,SNR=4.9						
BVAR	**Borovoye Array**	**13.65**	**352**	Pn	**Pn**	**04 59 05.2**	**-2.4**
	0.2nm,0.3s,baz=160,slow=14,SNR=10						
BVAR				Lg		05 03 03.5	
	0.1nm,0.3s,baz=140,slow=25,SNR=4.7						
BVAR	**Borovoye Array**	**13.65**	**352**	Pn	**Pn**	**04 59 05.2**	**-2.4**
AB31	**Akbulak array**	**13.74**	**319**	⇑P	**Pn**	**04 59 06.5**	**-2.4**
	1.1nm,0.5s						
ABKAR	**Akbulak array**	**13.74**	**319**	*e*Pn	**Pn**	**04 59 06.9**	**-2.0**
	1.3nm,0.4s						
ZRNK	**Zerenda**	**13.76**	**348**	⇑P	**Pn**	**04 59 08.0**	**-1.1**
	1.4nm,0.5s						
AKTO	**Aktyubinsk**	**15.46**	**320**	⇑P	**Pn**	**04 59 33.1**	**+1.9**
	1.1nm,1.0s						
AKTO	**Aktyubinsk**	**15.46**	**320**	Pn	**Pn**	**04 59 30.8**	**-0.4**
	0.2nm,0.3s,baz=121,slow=10,SNR=5.2						
AKTO	**Aktyubinsk**	**15.46**	**320**	Pn	**Pn**	**04 59 30.8**	**-0.4**
ZALV	**Zalesovo Beam**	**16.28**	**24**	Pn	**Pn**	**04 59 39.1**	**-2.5**
	0.4nm,0.3s,baz=209,slow=13,SNR=7.3						
ZALV	**Zalesovo Beam**	**16.28**	**24**	Pn	**Pn**	**04 59 39.1**	**-2.5**
SONM	**Songino Array**	**24.95**	**60**	P	**P**	**05 01 14.3**	**-0.3**
	0.2nm,0.4s,mb3.0,baz=262,slow=10.0,SNR=3.2						
SONM	**Songino Array**	**24.95**	**60**	P	**P**	**05 01 14.3**	**-0.3**
BRTR	**Keskin Array B**	**30.61**	**283**	P	**P**	**05 02 07.7**	**+2.3**
	0.8nm,0.7s,mb3.7,baz=81,slow=7.9,SNR=5.0						
BRTR	**Keskin Array B**	**30.61**	**283**	P	**P**	**05 02 07.7**	**+2.3**
FINES	**FINESS Array B**	**36.19**	**323**	P	**P**	**05 02 53.5**	**0.0**
	2.9nm,0.8s,mb4.2,baz=95,slow=8.4,SNR=4.9						
FINES	**FINESS Array B**	**36.19**	**323**	P	**P**	**05 02 53.5**	**0.0**
ARCES	**ARCESS Array B**	**39.16**	**336**	P	**P**	**05 03 19.4**	**+0.8**
	1.0nm,0.4s,mb3.9,baz=108,slow=8.6,SNR=13						
ARCES	**ARCESS Array B**	**39.16**	**336**	P	**P**	**05 03 19.4**	**+0.8**
HFS	**Hagfors**	**42.00**	**320**	P	**P**	**05 03 42.5**	**+0.5**
	1.9nm,0.6s,mb3.9,baz=108,slow=9.5,SNR=5.4						
HFS	**Hagfors**	**42.00**	**320**	P	**P**	**05 03 42.5**	**+0.5**
NOA	**NORSAR Array B**	**43.24**	**321**	P	**P**	**05 03 52.6**	**+0.5**
	0.7nm,0.8s,mb3.5,baz=105,slow=7.4,SNR=2.5						
NOA	**NORSAR Array B**	**43.24**	**321**	P	**P**	**05 03 52.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**67.85**	**269**	P	**P**	**05 06 49.5**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=50,slow=5.6,SNR=11						
TORD	**Torodi Ar. Bea**	**67.85**	**269**	P	**P**	**05 06 49.5**	**+0.3**
YKA	**Yellowknife Ar**	**78.08**	**4**	P	**P**	**05 07 49.7**	**+0.7**
	0.2nm,0.5s,mb3.3,baz=346,slow=5.3,SNR=2.7						
YKA	**Yellowknife Ar**	**78.08**	**4**	P	**P**	**05 07 49.7**	**+0.7**
WRA	**Warramunga Arr**	**81.92**	**124**	P	**P**	**05 08 09.9**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=324,slow=4.9,SNR=8.2						
WRA	**Warramunga Arr**	**81.92**	**124**	P	**P**	**05 08 09.9**	**-0.3**
ASAR	**Alice Springs**	**84.37**	**127**	P	**P**	**05 08 22.1**	**-0.7**
	0.2nm,0.3s,mb3.8,baz=325,slow=4.7,SNR=4.1						
ASAR	**Alice Springs**	**84.37**	**127**	P	**P**	**05 08 22.1**	**-0.7**

IDC 09 05:05:29.9±2.4, 4°77S×152°82E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=167.1km s-min=28.8km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.48**	**228**	P	P	05 10 40.6	-0.8
	0.6nm,0.8s,baz=53,slow=9.7,SNR=4.2						
ASAR	**Alice Springs**	**26.18**	**222**	P	P	05 11 07.2	+0.9
	0.5nm,0.6s,baz=61,slow=8.5,SNR=6.3						
ILAR	**Eielson Array**	**82.13**	**22**	P	P	05 17 52.6	+0.5
	1.0nm,0.9s,baz=241,slow=6.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**150.32**	**288**	PKPbc	PKPbc	05 25 23.4	-0.8
	0.2nm,0.4s,baz=86,slow=2.3,SNR=9.3						

IDC 09 05:22:52.0±2.3, 6°07S×130°25E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=99.1km s-min=28.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.78**	**200**	Pn	Pn	05 25 56.1	+1.0
	0.6nm,0.3s,baz=20,slow=17,SNR=22						
FITZ				Sn	Sn	05 28 07.3	-11
	0.4nm,0.3s,baz=45,slow=10.0,SNR=6.9						
WRA	**Warramunga Arr**	**14.35**	**164**	Pn	Pn	05 26 14.9	-1.6
	0.2nm,0.3s,baz=345,slow=13,SNR=10						
WRA				Sn	Sn	05 28 42.3	-14
	0.5nm,0.3s,baz=337,slow=22,SNR=8.4						
ASAR	**Alice Springs**	**17.85**	**169**	P	Pn	05 27 02.2	+0.4
	0.2nm,0.3s,baz=346,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**67.59**	**326**	P	P	05 33 50.5	+0.1
	0.2nm,0.4s,baz=122,slow=7.5,SNR=3.5						

*ISCJB **09** 05:23:02.2±0.3, 60°66N±0°03×151°65W±0°05, h89km±4km, mb3.6/2, Error ellipse: s-maj=5.2km s-min=3.2km az=41.3*

*NEIC **09** 05:23:04.5, 60°66N×151°70W, h68km, ML3.9(PMR), ML3.5(AEIC), After AEIC.*

NEIC Felt at Chugiak and Homer.

*IDC **09** 05:23:04.0±1.4, 60°64N×151°86W, h89km±27km, mb3.3/2, mb1 3.6/6, mb1mx3.2/27, mbtmp3.5/6, Error ellipse: s-maj=41.9km s-min=10.4km az=111.0*

ISC 09 05:23:03.5±0.3, 60°65N±0°03×151°65W±0°05, h78km±5km, n78, σ0°66/91, mb3.6/2, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKA	**Nikishka**	**0.22**	**66**	P	**Pn**	**05 23 16.7**	**+1.5**
BKG	**Blockade Glaci**	**0.51**	**325**	P	**Pn**	**05 23 16.6**	**-0.5**
RDN	**Redoubt North**	**0.56**	**256**	P	**Pn**	**05 23 17.0**	**-0.7**
RSO	**Redoubt South**	**0.58**	**251**	P	**Pn**	**05 23 17.4**	**-0.4**
RED	**Redoubt Volcan**	**0.60**	**247**	P	**Pn**	**05 23 17.4**	**-0.6**
RED				S	**Sn**	**05 23 28.2**	**-0.5**
NNL	**Ninilchik**	**0.64**	**164**	P	**Pn**	**05 23 19.6**	**+1.2**
CKL	**Chakachamna La**	**0.64**	**329**	P	**Pn**	**05 23 17.9**	**-0.5**
SLKM	**Skilak Lake**	**0.72**	**101**	P	**Pn**	**05 23 19.4**	**+0.2**
SPNW	**Spurr Northwes**	**0.84**	**327**	P	**Pn**	**05 23 20.2**	**-0.3**
STLK	**Strandline Lak**	**0.85**	**354**	P	**Pn**	**05 23 20.3**	**-0.4**
INE	**Iliamna NE**	**0.92**	**230**	P	**Pn**	**05 23 20.9**	**-0.5**
SUA	**Susitna One**	**0.93**	**28**	P	**Pn**	**05 23 21.8**	**+0.3**
SUA				S	**Sn**	**05 23 35.4**	**+0.5**
ILW	**Iliamna West**	**0.95**	**232**	P	**Pn**	**05 23 21.3**	**-0.5**
HOM	**Homer**	**1.00**	**180**	P	**Pn**	**05 23 23.2**	**+0.8**

MOS ***09*** *05:33:09.5±0.9, 1°.26N×126°.85E, h41km, mb5.2/37, MS4.1/5, Error ellipse: s-maj=11.8km s-min=6.1km az=111.8*
BJI ***09*** *05:33:12.1, 0°.93N×127°.13E, h86km, mB5.1/33, mb4.9/41, Ms4.7/27, Ms7 4.4/29*
ISCJB ***09*** *05:33:13.3±0.4, 1°.25N±0°.02×126°.97E±0°.03, h75km±3km, mb5.0/124, Error ellipse: s-maj=5.0km s-min=3.4km az=172.2*
IDC ***09*** *05:33:14.4±1.1, 1°.24N×126°.86E, h68km±9km, mb4.6/28, mb1 4.6/31, mb1mx4.6/33, mbtmp4.6/31, MS4.0/12, Ms1 4.0/12, ms1mx3.8/37, Error ellipse: s-maj=14.3km s-min=6.9km az=78.0*
DJA ***09*** *05:33:15, 1°.27N×126°.96E, h70km, mb5.3/54*
NEIC ***09*** *05:33:15.2±0.9, 1°.22N×126°.89E, h79km±8km, mb5.1/54, Error ellipse: s-maj=7.0km s-min=4.0km az=67.0*
NEIC Felt [III] on Pulau Ternate, Indonesia.
GCMT ***09*** *05:33:16.0±0.2, 1°.50N×126°.78E, h75km±1km, MW5.2, Moment Tensor Solution. s61,c92; s80,c131; Moment tensor: Scale 10^{16}Nm; M_{rr}-5.93±.22; $M_{\theta\theta}$6.28±.18; $M_{\phi\phi}$-0.36±.23; $M_{r\theta}$2.87±.14; $M_{\theta\phi}$2.19±.19; $M_{\phi r}$-2.78±.18; Best double couple: $M_0$7.60000×10^{16} NP1:ϕ_b50.00000°, δ42.00000°,λ-130.00000°. NP2:ϕ_b278.00000°, δ59.00000°,λ-60.00000°. Principal axes: T 7.2600, Plg9.0000°, Azm347.0000°; N 0.6700, Plg26.0000°, Azm82.0000°; P -7.9400, Plg63.0000°, Azm239.0000°; Data Used: II IU IC G CN.*

ISC 09 05:33:14.9±0.4, 1°.24N±0°.02×126°.97E±0°.03, h74km±3km, h80km±2.0km:pP-P, n378, σ1§16/368, mb5.0/124, 3C-5D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.61**	**139**	P	**Pn**	**05 33 29.7**	**+0.5**
LBMI	**Labuha**	**1.94**	**164**	P	**Pn**	**05 33 47.0**	**+1.2**
MNI	**Manado**	**2.13**	**276**	P	**Pn**	**05 33 47.7**	**-0.7**
SGSI	**Sangihe**	**2.82**	**329**	P	**Pn**	**05 33 55.6**	**-2.2**
KMSI	**Cibinong**	**3.06**	**258**	P	**Pn**	**05 34 00.8**	**-0.1**
GTOI	**Gorontalo**	**4.00**	**261**	P	**Pn**	**05 34 14.6**	**+0.8**
NLAI	**Namlea**	**4.45**	**178**	P	**Pn**	**05 34 20.8**	**+0.9**
LUWI	**Luwuk**	**4.76**	**242**	P	**Pn**	**05 34 24.1**	**-0.1**
MSAI	**Masohi**	**4.96**	**157**	P	**Pn**	**05 34 31.1**	**+4.2**
AAI	**Ambon**	**5.04**	**166**	P	**Pn**	**05 34 30.6**	**+2.5**
	1.8nm619nm,0.9s						
MRSI	**Marisa**	**5.08**	**261**	P	**Pn**	**05 34 27.8**	**-0.7**
	1.8nm5μm554nm,1.0s						
DAV	**Davao City (W)**	**5.96**	**347**	P	**Pn**	**05 34 40.7**	**+0.2**
	58nm,0.3s,baz=139,slow=3.0,SNR=9.4						
DAV				S	**Sn**	**05 35 50.9**	**+3.5**
	151nm,0.3s,baz=351,slow=14,SNR=3.9						
DAV	**Davao City (W)**	**5.96**	**347**	*e*Pn	**Pn**	**05 34 41.8**	**+1.3**
DAV				*e*Sn	**Sn**	**05 35 49.9**	**+2.5**
DAV	**Davao City (W)**	**5.96**	**347**	P	**Pn**	**05 34 41.5**	**+1.0**
	5.8nm662nm,0.7s						
DAV	**Davao City (W)**	**5.96**	**347**	P	**Pn**	**05 34 42.3**	**+1.8**
	SNR=14						
CTBH	**Cotabato--PC H**	**6.53**	**336**	⇑*i*P	**Pn**	**05 34 47.5**	**-0.9**
KDI	**Kendari**	**6.75**	**220**	P	**Pn**	**05 34 49.8**	**-1.5**
	1.1nm4μm372nm,1.3s						
BUKP	**Musuan**	**6.86**	**344**	*e*P	**Pn**	**05 34 52.4**	**-0.5**
PAGZ	**Pagadian**	**7.47**	**332**	*e*P	**Pn**	**05 34 59.5**	**-1.8**
CGP	**Cagayan de Oro**	**7.52**	**343**	⇓*e*P	**Pn**	**05 35 01.5**	**-0.4**
CGP				*e*S	**Sn**	**05 36 22.1**	**-3.5**
MSSI	**Masamba**	**7.63**	**240**	P	**Pn**	**05 35 02.6**	**-0.9**
	1.4nm8μm419nm,0.9s						
BBSI	**Bau Bau**	**7.99**	**213**	P	**Pn**	**05 35 10.0**	**+1.6**
	3μm432nm,1.0s						
SPSI	**Sidrap Palu**	**8.86**	**234**	P	**Pn**	**05 35 19.1**	**-1.1**
	3μm275nm,0.9s						
MSLP	**Maasin**	**9.08**	**347**	*e*P	**Pn**	**05 35 22.6**	**-0.7**
MYLDM	**Lahad Datu**	**9.31**	**295**	P	**Pn**	**05 35 28.1**	**+1.7**
MYLDM	**Lahad Datu**	**9.31**	**295**	P	**Pn**	**05 35 28.1**	**+1.7**
	3μm242nm,1.1s						
BKSI	**Bulukumba**	**9.44**	**226**	P	**Pn**	**05 35 28.2**	**0.0**
	5μm385nm,0.6s						
KAPI	**Kappang**	**9.51**	**229**	P	**Pn**	**05 35 27.8**	**-1.4**
	24nm,0.3s,baz=341,slow=1.1,SNR=50						
KAPI				S	**Sn**	**05 37 10.8**	**-3.7**
	12nm,0.3s,baz=300,slow=21,SNR=4.7						
KAPI	**Kappang**	**9.51**	**229**	*e*Pn	**Pn**	**05 35 27.8**	**-1.4**
KAPI				*e*Sn	**Sn**	**05 37 10.1**	**-4.4**
KAPI				S	**Sn**	**05 37 10.8**	**-3.7**
KAPI	**Kappang**	**9.51**	**229**	P	**Pn**	**05 35 27.7**	**-1.4**
	2μm179nm,1.2s						
KAPI	**Kappang**	**9.51**	**229**	P	**Pn**	**05 35 27.7**	**-1.5**
	SNR=34						
TSM	**Tawau**	**9.57**	**289**	P	**Pn**	**05 35 29.7**	**-0.3**
GUIM	**Jordan**	**10.29**	**335**	*e*P	**Pn**	**05 35 38.8**	**-1.0**
SDKM	**Sandakan**	**10.69**	**294**	P	**Pn**	**05 35 45.3**	**+0.1**
RCP	**Roxas**	**11.08**	**338**	⇓*e*P	**Pn**	**05 35 50.3**	**-0.1**
KKM	**Kota Kinabalu**	**11.74**	**294**	P	**Pn**	**05 36 01.4**	**+1.8**
KKM	**Kota Kinabalu**	**11.74**	**294**	*e*Pn	**Pn**	**05 36 01.7**	**+2.2**
KKM	**Kota Kinabalu**	**11.74**	**294**	P	**Pn**	**05 36 01.8**	**+2.3**
	89nm,1.0s						
BMNI	**Bima**	**12.74**	**220**	P	**Pn**	**05 36 14.0**	**+0.8**
	1μm79nm,0.8s						
BBKI	**Banjar Baru**	**12.99**	**249**	P	**Pn**	**05 36 15.9**	**-0.6**
	4μm116nm,1.4s						
MTNI	**Mataram**	**14.56**	**227**	P	**Pn**	**05 36 40.3**	**+3.1**
	322nm,0.9s						
MTNI				P		05 36 35.9	
	860nm82nm,0.6s						
SBUM	**Sibu**	**14.79**	**275**	P	**Pn**	**05 36 41.8**	**+1.7**
SBUM	**Sibu**	**14.79**	**275**	P	**Pn**	**05 36 42.1**	**+2.0**
	67nm,1.2s						
KHKI	**Kahang-Kahang**	**14.80**	**230**	P	**Pn**	**05 36 40.7**	**+0.3**
	2μm207nm,1.2s						
KMMI	**Kalianget**	**15.36**	**237**	P	**Pn**	**05 36 53.1**	**+5.6**
STKI	**Sintang**	**15.53**	**266**	P	**Pn**	**05 36 48.9**	**-0.8**
	125nm,1.5s						
BYJI	**Banyuwangi**	**15.69**	**233**	P	**Pn**	**05 36 54.6**	**+2.9**
	436nm,1.1s						
JAGI	**Jajag, Banyuwa**	**16.00**	**233**	P	**Pn**	**05 36 51.2**	**-4.4**
	2μm147nm,1.3s						
BLJI	**Banyuglugur**	**16.05**	**236**	P	**Pn**	**05 36 59.6**	**+3.5**
	4μm214nm,1.0s						
GMJI	**Gumukmas**	**16.46**	**235**	P	**Pn**	**05 37 02.6**	**+1.3**
	150nm,1.0s						
KSM	**Kuching**	**16.65**	**271**	P	**Pn**	**05 37 03.3**	**-0.5**
KSM	**Kuching**	**16.65**	**271**	*e*P	**Pn**	**05 37 04.6**	**+0.8**
	88nm,1.0s						
KSM	**Kuching**	**16.65**	**271**	P	**Pn**	**05 37 04.7**	**+0.9**
	1μm94nm,1.0s						
KRKI	**Karangkates**	**17.22**	**237**	P	**Pn**	**05 37 12.7**	**+2.0**
	496nm,1.3s						
SJI	**Sawahan**	**17.58**	**239**	P	**Pn**	**05 37 15.7**	**+0.5**
	4μm223nm,0.9s						
PWJI	**Pagerwojo**	**17.70**	**238**	P	**Pn**	**05 37 17.0**	**+0.4**
	3μm283nm,1.0s						
PCJI	**Pacitan**	**18.32**	**239**	P	**Pn**	**05 37 25.0**	**+0.9**
	4μm376nm,1.4s						
SMRI	**Semarang**	**18.43**	**243**	P	**Pn**	**05 37 25.1**	**-0.3**
	133nm,1.2s						
BJII	**Banjamegara**	**19.20**	**243**	P	**Pn**	**05 37 36.0**	**+1.3**
	2μm214nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.26**	**184**	P	**Pn**	**05 37 32.8**	**-2.5**
	2.5nm,0.3s,baz=19,slow=9.4,SNR=66						
FITZ				S	**S**	**05 41 01.5**	**-6.4**
	baz=239,slow=12,SNR=3.1						
FITZ				LR	LR	05 45 37.7	
	comp=Z,352nm,19.9s,baz=14,slow=39						
FITZ	**Fitzroy Crossi**	**19.26**	**184**	*e*P	**Pn**	**05 37 32.3**	**-3.0**
	70nm,0.8s						
FITZ				*e*S	**S**	**05 41 00.8**	**-7.1**
FITZ	**Fitzroy Crossi**	**19.26**	**184**	*e*P	**Pn**	**05 37 32.8**	**-2.5**
	52nm,0.9s						
FITZ				S	**S**	**05 41 01.5**	**-6.4**
FITZ	**Fitzroy Crossi**	**19.26**	**184**	P	**Pn**	**05 37 33.0**	**-2.3**
	636nm61nm,1.0s						
CISI	**Cisompet, Garu**	**21.00**	**245**	P	**P**	**05 37 51.3**	**-1.3**
	184nm,0.7s,mb5.5						
PPBI	**Pangkal Pinang**	**21.10**	**261**	P	**P**	**05 37 51.1**	**-2.5**
	6μm56nm,1.1s,mb4.8						
CBJI	**Citeko**	**21.47**	**249**	P	**P**	**05 37 56.2**	**-1.4**
	435nm,1.0s,mb5.7						
DBJI	**Dramaga**	**21.61**	**249**	P	**P**	**05 38 01.5**	**+2.4**
	4μm132nm,1.1s,mb5.2						
COEN	**Coen**	**22.04**	**134**	*e*P	**P**	**05 38 05.1**	**+1.4**
	204nm,0.8s,mb5.5						
COEN	**Coen**	**22.04**	**134**	P	**P**	**05 38 05.5**	**+1.9**
	1μm44nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**22.25**	**161**	*e*P	**P**	**05 38 04.7**	**-1.1**
	178nm,1.1s,mb5.3						
WRAB	**Tennant Creek**	**22.25**	**161**	P	**P**	**05 38 04.0**	**-1.8**
	630nm,1.0s,mb5.9						
WRAB	**Tennant Creek**	**22.25**	**161**	*e*P	**P**	**05 38 04.7**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,178nm,1.1s,mb5.3						
WRAB	**Tennant Creek**	**22.25**	**161**	P	**P**	**05 38 05.0**	**-0.8**
	comp=Z,2μmcomp=Z,204nm,1.0s,mb5.4						
WRA	**Warramunga Arr**	**22.26**	**161**	P	**P**	**05 38 04.4**	**-1.4**
	comp=Z,73nm,0.8s,mb5.0,baz=339,slow=11,SNR=127						
WRA				S	**S**	**05 42 04.2**	**-2.1**
	comp=Z,7.0nm,0.8s,baz=342,slow=21,SNR=7.9						
WRA				LR	LR	05 47 14.7	
	comp=Z,477nm,20.7s,baz=325,slow=38						
WRA	**Warramunga Arr**	**22.26**	**161**	P	**P**	**05 38 04.4**	**-1.4**
WRA				S	**S**	**05 42 04.2**	**-2.1**
WRA	**Warramunga Arr**	**22.26**	**161**	P	**P**	**05 38 04.4**	**-1.4**
WRA				S	**S**	**05 42 04.3**	**-2.0**
WB2	**Warramunga Arr**	**22.26**	**161**	*e*P	**P**	**05 38 04.7**	**-1.2**
RBSI	**Rajabasa**	**22.33**	**251**	P	**P**	**05 38 06.2**	**-0.5**
	comp=Z,1μmcomp=Z,100nm,0.6s,mb5.3						
CGJI	**Cibinong**	**22.62**	**250**	P	**P**	**05 38 08.5**	**-1.3**
	comp=Z,107nm,0.7s,mb5.3						
YULB	**Yu-li**	**22.70**	**346**	*e*P	**P**	**05 38 06.7**	**-3.7**
	comp=Z,41nm,1.0s,mb4.7						
PMG	**Port Moresby**	**22.72**	**118**	P	**P**	**05 38 12.1**	**+1.3**
	comp=Z,11nm,0.7s,mb4.3,baz=340,slow=3.9,SNR=6.7						
PMG	**Port Moresby**	**22.72**	**118**	*e*P	**P**	**05 38 12.3**	**+1.5**
	comp=Z,182nm,2.1s,mb5.0						
PMG	**Port Moresby**	**22.72**	**118**	*e*P	**P**	**05 38 12.3**	**+1.5**
PMG				pmax	pmax		
	comp=Z,182nm,2.1s						
PMG	**Port Moresby**	**22.72**	**118**	P	**P**	**05 38 12.7**	**+1.9**
	comp=Z,31nm,1.6s,mb4.4						
TPUB	**Ta-pu**	**22.78**	**345**	*e*P	**P**	**05 38 09.1**	**-2.2**
	comp=Z,70nm,0.7s,mb5.1						
SSLB	**Suanglung**	**23.16**	**346**	*e*P	**P**	**05 38 13.3**	**-1.8**
	comp=Z,51nm,0.9s,mb4.8						
MBWA	**Marble Bar**	**23.36**	**197**	*e*P	**P**	**05 38 14.8**	**-2.1**
MBWA	**Marble Bar**	**23.36**	**197**	*e*P	**P**	**05 38 15.0**	**-2.0**
	comp=Z,56nm,0.6s,mb5.1						
MBWA	**Marble Bar**	**23.36**	**197**	P	**P**	**05 38 15.4**	**-1.5**
	comp=Z,108nm,1.0s,mb5.2						
MDSI	**Maura Dua**	**23.47**	**256**	P	**P**	**05 38 17.4**	**-0.7**
	comp=Z,58nm,1.0s,mb4.9						
LWLI	**Liwa**	**23.71**	**255**	P	**P**	**05 38 20.1**	**-0.2**
	comp=Z,108nm,0.8s,mb5.2						
YHNB	**Yeheng**	**23.91**	**347**	*e*P	**P**	**05 38 21.4**	**-0.6**
	comp=Z,55nm,0.9s,mb4.9						
XMIS	**Christmas Isla**	**24.19**	**241**	*e*P	**P**	**05 38 23.4**	**-1.3**
	comp=Z,1μm,0.8s						
XMIS	**Christmas Isla**	**24.19**	**241**	*e*P	**P**	**05 38 23.6**	**-1.1**
	comp=Z,1μm,1.0s						
XMIS	**Christmas Isla**	**24.19**	**241**	P	**P**	**05 38 23.6**	**-1.1**
	comp=Z,320nm,1.1s,mb5.6						
QIZ	**Qiongzhong**	**24.38**	**318**	P	**P**	**05 38 27.3**	**+1.0**
QIZ				S	**S**	**05 42 44.7**	**+3.9**
QIZ				sS	sS	05 43 18.0	+7.5
QIZ				pmax	pmax		
	comp=Z,50nm,2.3s,mb4.4						
JOW	**Kunigami**	**25.48**	**3**	P	**P**	**05 38 37.2**	**+1.0**
	comp=Z,38nm,0.6s,mb5.0,baz=198,slow=9.3,SNR=8.5						
JOW				LR	LR	05 48 54.5	
	comp=Z,383nm,18.9s,baz=117,slow=37						
JOW	**Kunigami**	**25.48**	**3**	*e*P	**P**	**05 38 37.0**	**+0.8**
	comp=Z,14nm,0.6s,mb4.6						
AS31	**Alice Springs**	**25.66**	**165**	*e*P	**P**	**05 38 37.9**	**0.0**
ASAR	**Alice Springs**	**25.66**	**165**	P	**P**	**05 38 37.2**	**-0.7**
	comp=Z,20nm,0.7s,mb4.7,baz=346,slow=7.9,SNR=83						
ASAR				PcP	PcP	05 42 06.5	-0.5
	comp=Z,3.5nm,0.6s,baz=348,slow=2.5,SNR=4.2						
ASAR				S	**S**	**05 43 06.5**	**+5.5**
	comp=Z,20nm,0.9s,baz=350,slow=19,SNR=20						
ASAR				ScP	ScP	05 45 39.1	-1.0
	comp=Z,2.2nm,0.8s,baz=7.2,slow=1.6,SNR=5.9						
ASAR	**Alice Springs**	**25.66**	**165**	P	**P**	**05 38 37.2**	**-0.7**
ASAR				PcP	PcP	05 42 06.5	-0.5
ASAR				S	**S**	**05 43 06.5**	**+5.5**
ASAR				ScP	ScP	05 45 39.0	-1.0
ASAR	**Alice Springs**	**25.66**	**165**	P	**P**	**05 38 37.2**	**-0.7**
ASAR						05 42 06.5	
ASAR				S	**S**	**05 43 06.5**	**+5.4**
PDSI	**Padang**	**26.59**	**266**	P	**P**	**05 38 48.2**	**+1.8**
	comp=Z,54nm,1.0s,mb5.0						
PPI	**Padang Panjang**	**26.62**	**267**	P	**P**	**05 38 47.3**	**+0.6**
	comp=Z,20nm,1.0s,mb4.6						
MNSI	**Mandailing Nat**	**27.38**	**269**	P	**P**	**05 38 54.4**	**+0.8**
	comp=Z,22nm,1.0s,mb4.6						
PSI	**Prapat**	**28.07**	**274**	P	**P**	**05 38 57.5**	**-2.2**
	comp=Z,18nm,0.9s,mb4.6						
CTA	**Charters Tower**	**28.40**	**139**	P	**P**	**05 39 02.7**	**+0.2**
	comp=Z,5.0nm,0.7s,mb4.2,baz=325,slow=11,SNR=6.8						
CTA				PcP	PcP	05 42 15.3	+1.8
	comp=Z,2.2nm,0.3s,baz=291,slow=6.3,SNR=3.6						
CTA				LR	LR	05 49 36.9	
	comp=Z,427nm,19.9s,baz=327,slow=34						
CTA	**Charters Tower**	**28.40**	**139**	P	**P**	**05 39 02.7**	**+0.2**
CTA				PcP	PcP	05 42 15.3	+1.8
CTA	**Charters Tower**	**28.40**	**139**	P	**P**	**05 39 02.7**	**+0.1**
CTA						05 42 15.3	
CTAO	**Charters Tower**	**28.40**	**139**	*e*P	**P**	**05 39 04.2**	**+1.6**
	comp=Z,5.8nm,0.7s,mb4.2						
CTAO	**Charters Tower**	**28.40**	**139**	*e*P	**P**	**05 39 04.2**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
MEEK	**Meekatharra**	**28.86**	**196**	*e*P	**P**	**05 39 05.5**	**-1.0**
	comp=Z,349nm,1.0s,mb5.9						
CBIJ	**Chichi jima**	**29.57**	**28**	LR	LR	05 48 45.1	
	comp=Z,233nm,20.1s,baz=117,slow=31						
GYA	**Guiyang**	**31.78**	**324**	P	**P**	**05 39 34.0**	**+1.7**
GYA				pP	pP	05 39 53.7	+3.8
GYA				sP	sP	05 40 03.5	+4.9
GYA				PP	PP	05 40 42.1	-3.3
GYA				PcP	PcP	05 42 23.6	+1.4
GYA				S	**S**	**05 44 38.0**	**+0.7**
GYA				sS	sS	05 45 11.9	+4.5
GYA				ScP	ScP	05 45 58.4	-0.8
GYA				PcS	PcS	05 46 06.7	-0.2
GYA				ScS	ScS	05 49 55.0	-2.6
GYA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,560nm,16.8s						
GYA				LR	LR		
	comp=E,440nm,17.0s						
GYA				LR	LR		
	comp=Z,490nm,18.1s						
FORT	**Forrest**	**31.86**	**178**	*e*P	**P**	**05 39 32.4**	**-0.5**
FORT				*e*		05 42 22.4	
FORT	**Forrest**	**31.86**	**178**	*e*P	**P**	**05 39 32.4**	**-0.5**
	comp=Z,161nm,0.7s,mb5.9						
CMAR	**Chiang Mai Arr**	**32.38**	**304**	P	**P**	**05 39 36.8**	**-1.0**
	comp=Z,0.9nm,0.3s,mb3.9,baz=124,slow=6.9,SNR=10						
CMAR				PcP	PcP	05 42 25.5	+1.5
	comp=Z,1.9nm,0.4s,baz=193,slow=1.7,SNR=8.7						
CMAR				ScP	ScP	05 46 01.4	0.0
	comp=Z,1.0nm,0.3s,baz=167,slow=2.5,SNR=8.2						
CMAR				LR	LR	05 51 28.7	
	comp=Z,182nm,21.8s,baz=341,slow=34						
CMAR	**Chiang Mai Arr**	**32.38**	**304**	P	**P**	**05 39 36.8**	**-1.0**
CMAR				PcP	PcP	05 42 25.5	+1.5
CMAR				ScP	ScP	05 46 01.4	0.0
CMAR	**Chiang Mai Arr**	**32.38**	**304**	P	**P**	**05 39 36.8**	**-0.9**
CMAR						05 42 25.5	
CHTO	**Chiang Mai**	**32.55**	**304**	*e*P	**P**	**05 39 37.7**	**-1.6**
	comp=Z,5.5nm,0.6s,mb4.6						
CHTO	**Chiang Mai**	**32.55**	**304**	*e*P	**P**	**05 39 37.7**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
CHTO	**Chiang Mai**	**32.55**	**304**	P	**P**	**05 39 38.2**	**-1.0**
	comp=Z,11nm,0.7s,mb4.8						
COCO	**West Island**	**32.76**	**245**	*e*P	**P**	**05 39 39.7**	**-1.4**
	comp=Z,55nm,0.8s,mb5.4						
COCO	**West Island**	**32.76**	**245**	*e*P	**P**	**05 39 39.7**	**-1.4**
COCO				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.4						
COCO	**West Island**	**32.76**	**245**	P	**P**	**05 39 40.3**	**-0.8**
	comp=Z,162nm,1.0s,mb5.8						
KMI	**Kunming**	**33.33**	**317**	P	**P**	**05 39 48.2**	**+2.3**
KMI				S	**S**	**05 45 03.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
KMI				LR	LR		
	comp=Z,370nm,28.0s						
KMI	**Kunming**	**33.33**	**317**	P	**P**	**05 39 48.2**	**+2.3**
KMI				S	**S**	**05 45 03.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
KMI				MLR	MLR		
	comp=Z,370nm,28.0s						
KLBR	**Kellerberrin**	**33.80**	**194**	*e*P	**P**	**05 39 49.6**	**-0.3**
	comp=Z,64nm,0.8s,mb5.5						
KLBR				*e*		05 42 28.5	
HNR	**Honiara**	**34.52**	**109**	LR	LR	05 52 30.7	
	comp=Z,220nm,21.5s,baz=49,slow=33						
BBOO	**Buckleboo**	**34.94**	**167**	*e*P	**P**	**05 39 58.6**	**-1.1**
	comp=Z,789nm,1.2s						
NWAO	**Narrogin (SRO)**	**35.20**	**194**	P	**P**	**05 40 01.8**	**-0.2**
	comp=Z,31nm,0.8s,mb5.2,baz=21,slow=10,SNR=20						
NWAO				LR	LR	05 55 35.9	
	comp=Z,166nm,18.8s,baz=194,slow=38						
NWAO	**Narrogin (SRO)**	**35.20**	**194**	*e*P	**P**	**05 40 01.2**	**-0.8**
NWAO	**Narrogin (SRO)**	**35.20**	**194**	*e*P	**P**	**05 40 01.2**	**-0.8**
EIDS	**Eidsvold**	**35.28**	**140**	*e*P	**P**	**05 40 02.1**	**-0.7**
	comp=Z,76nm,0.8s,mb5.6						
EIDS	**Eidsvold**	**35.28**	**140**	*e*P	**P**	**05 40 02.6**	**-0.1**
	comp=Z,18nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**35.74**	**158**	P	**P**	**05 40 06.5**	**-0.1**
	comp=Z,42nm,0.8s,mb5.5,baz=331,slow=8.2,SNR=51						
STKA				LR	LR	05 53 56.0	
	comp=Z,432nm,21.8s,baz=1.0,slow=35						
STKA	**Stephens Creek**	**35.74**	**158**	*e*P	**P**	**05 40 06.2**	**-0.4**
	comp=Z,35nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**35.74**	**158**	*e*P	**P**	**05 40 06.1**	**-0.5**
	comp=Z,8.3nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**35.74**	**158**	*e*P	**P**	**05 40 06.1**	**-0.5**
STKA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSAR	**Wonju Array Be**	**36.04**	**1**	P	**P**	**05 40 09.6**	**+0.5**
KSAR				PcP	PcP	05 42 35.2	+1.1
KSAR				ScP	ScP	05 46 13.2	-0.8
KSAR	**Wonju Array Be**	**36.04**	**1**	P	**P**	**05 40 09.6**	**+0.5**
KSAR						05 42 35.2	
KSRS	**Korea Array**	**36.05**	**1**	P	**P**	**05 40 09.6**	**+0.4**
	comp=Z,5.5nm,0.7s,mb4.6,baz=180,slow=9.9,SNR=19						
KSRS				PcP	PcP	05 42 35.2	+1.1
	comp=Z,3.4nm,0.8s,baz=184,slow=3.1,SNR=7.3						
KSRS				ScP	ScP	05 46 13.2	-0.9
	comp=Z,3.1nm,0.8s,baz=181,slow=3.3,SNR=8.0						
KSRS				LR	LR	05 54 54.2	
	comp=Z,243nm,18.8s,baz=194,slow=36						
MAJO	**Matsushiro**	**36.64**	**15**	*e*P	**P**	**05 40 12.7**	**-1.5**
	comp=Z,12nm,0.6s,mb5.0						
MAJO	**Matsushiro**	**36.64**	**15**	*e*P	**P**	**05 40 12.7**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
MAT	**Matsushiro**	**36.64**	**15**	P	**P**	**05 40 12.6**	**-1.6**
MJAR	**Matsushiro Arr**	**36.64**	**15**	P	**P**	**05 40 12.8**	**-1.5**
	comp=Z,12nm,0.7s,mb4.9,baz=186,slow=9.9,SNR=22						
MJAR				PcP	PcP	05 42 37.2	+1.3
	comp=Z,4.9nm,0.8s,baz=186,slow=3.3,SNR=6.1						
MJAR				ScP	ScP	05 46 15.8	-0.4
	comp=Z,4.8nm,0.9s,baz=192,slow=4.6,SNR=6.3						
MJAR				LR	LR	05 52 29.2	
	comp=Z,271nm,21.5s,baz=205,slow=32						
MJAR	**Matsushiro Arr**	**36.64**	**15**	P	**P**	**05 40 12.8**	**-1.5**
MJAR				PcP	PcP	05 42 37.2	+1.3
MJAR				ScP	ScP	05 46 15.8	-0.4
MJAR	**Matsushiro Arr**	**36.64**	**15**	P	**P**	**05 40 12.8**	**-1.4**
MJAR						05 42 37.2	
XAN	**Xi'an**	**36.74**	**335**	P	**P**	**05 40 14.1**	**-1.1**
XAN				S	**S**	**05 45 51.7**	**-1.9**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
XAN				pmax	pmax		
	comp=Z,41nm,6.7s						
XAN				LR	LR		
	comp=N,230nm,23.7s						
XAN				LR	LR		
	comp=Z,100nm,26.3s						
CD2	**Chengdu**	**36.80**	**326**	*e*P	**P**	**05 40 17.9**	**+2.2**
CD2				pP	pP	05 40 40.4	+6.9
CD2				sP	sP	05 40 52.2	+10
CD2				PP	PP	05 41 47.1	+6.2
CD2				PcP	PcP	05 42 37.4	+0.9
CD2				S	**S**	**05 45 55.6**	**+1.0**
CD2				sS	sS	05 46 34.6	+9.5
CD2				SS	SS	05 48 27.4	-11
CD2				ScS	ScS	05 50 20.3	-3.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9			

HHC pmax pmax
comp=Z,21nm,0.6s,mb5.0
HHC pmax pmax
comp=Z,200nm,6.2s
HHC LR LR
comp=N,330nm,14.7s
HHC LR LR
comp=E,190nm,15.7s
HHC LR LR
comp=Z,540nm,15.3s
CN2 Changchun 42.40 358 *e*P **P 05 41 04.3 +2.3**
CN2 *e*pP pP 05 41 22.7 +2.5
CN2 *e*S **S 05 47 21.4 +3.3**
CN2 SS SS 05 50 27.0 -2.8
CN2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,200nm,19.0s
MDJ Mudanjiang 43.26 3 P **P 05 41 09.6 +0.7**
MDJ pP pP 05 41 28.6 +1.5
MDJ sP sP 05 41 38.1 +2.5
MDJ PP PP 05 42 51.0 +0.2
MDJ S **S 05 47 30.8 +0.2**
MDJ pmax pmax
comp=Z,15nm,0.9s,mb4.7
MDJ pmax pmax
comp=Z,55nm,6.0s
MDJ LR LR
comp=N,210nm,20.8s
MDJ LR LR
comp=E,170nm,21.6s
MDJ LR LR
comp=Z,210nm,18.0s
ASAJ Asahikawa 44.90 16 P **P 05 41 21.8 -0.3**
comp=Z,6.9nm,0.5s,mb4.6,baz=245,slow=14,SNR=4.2
ASAJ LR LR 05 59 22.8
comp=Z,113nm,20.7s,baz=238,slow=35
ASAJ Asahikawa 44.90 16 P **P 05 41 21.8 -0.3**
GTA Gaotai 45.35 330 P **P 05 41 26.5 +0.7**
GTA pP pP 05 41 44.5 +0.4
GTA sP sP 05 41 54.3 +1.8
GTA PcP PcP 05 43 05.9 +1.7
GTA ScP ScP 05 46 48.8 -1.8
GTA S **S 05 48 02.2 +1.0**
GTA ScS ScS 05 51 14.7 -0.7
GTA SS SS 05 51 18.4 -7.5
GTA pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
GTA pmax pmax
comp=Z,79nm,5.5s
GTA LR LR
comp=N,150nm,10.7s
GTA LR LR
comp=E,170nm,11.9s
GTA LR LR
comp=Z,350nm,15.2s
TAPN Taplejung 45.70 308 *e*P **P 05 41 27.9 -0.8**
comp=Z,9.5nm,0.5s,mb4.8
TAPN Taplejung 45.70 308 *e*P **P 05 41 27.9 -0.8**
comp=Z,9.5nm,0.5s,mb4.8
ODAN Odare 45.73 307 *e*P **P 05 41 28.1 -0.9**
comp=Z,18nm,0.7s,mb4.9
ODAN Odare 45.73 307 *e*P **P 05 41 28.1 -0.9**
comp=Z,18nm,0.7s,mb4.9
RAMN Ramite 46.40 307 *e*P **P 05 41 33.7 -0.5**
comp=Z,27nm,0.8s,mb5.0
RAMN Ramite 46.40 307 *e*P **P 05 41 33.7 -0.5**
comp=Z,27nm,0.8s,mb5.0
JIRN Jiri 47.04 308 *e*P **P 05 41 38.4 -0.9**
comp=Z,3.8nm,0.4s,mb4.5
GUN Gumba 47.40 308 *e*P **P 05 41 41.0 -1.0**
comp=Z,27nm,0.5s,mb5.3
GUN Gumba 47.40 308 *e*P **P 05 41 41.0 -1.0**
comp=Z,27nm,0.5s,mb5.2
HABR Khabarovsk 47.57 7 *e*P **P 05 41 41.8 -1.1**
HABR *e*PP pP 05 42 01.2 -0.2
HABR *e*S **S 05 48 31.6 -1.0**
HABR *e* 05 51 26.8
HABR *e*SS SS 05 52 01.3 -0.3
HABR *e*SSS 05 53 11.7
HABR pmax pmax
comp=E,69nm,3.0s
HABR pmax pmax
comp=Z,38nm,1.5s,mb5.0
HABR pmax pmax
comp=N,19nm,1.2s
HABR MLR MLR
comp=Z,153nm,17.0s
YSS Yuzh-Sakhalins 47.57 15 *e*P **P 05 41 42.7 -0.3**
YSS pmax pmax
comp=Z,26nm,1.3s,mb4.9
KKN Kakani 47.82 307 *e*P **P 05 41 44.5 -0.8**
comp=Z,9.1nm,0.5s,mb4.9
KKN Kakani 47.82 307 *e*P **P 05 41 44.5 -0.8**
comp=Z,9.1nm,0.5s,mb4.9
KKN Kakani 47.82 307 *e*P **P 05 41 44.5 -0.8**
KKN pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
DMN Daman 47.88 307 *e*P **P 05 41 44.7 -1.1**
comp=Z,8.0nm,0.4s,mb4.9
KLR Kul'dur 47.98 4 *e*P **P 05 41 40.8 -5.4**
KOLN Koldanda 49.16 306 *e*P **P 05 41 54.8 -0.8**
comp=Z,28nm,0.5s,mb5.4
KOLN Koldanda 49.16 306 *e*P **P 05 41 54.8 -0.8**
comp=Z,28nm,0.5s,mb5.5
DANN Dangsing 49.27 307 *e*P **P 05 41 55.5 -1.0**
comp=Z,43nm,0.7s,mb5.5
DANN Dangsing 49.27 307 *e*P **P 05 41 55.5 -1.0**
comp=Z,43nm,0.7s,mb5.5
ULN Ulaanbaatar 49.55 342 *e*P **P 05 41 59.1 +1.0**
comp=Z,30nm,1.1s,mb5.1
ULN Ulaanbaatar 49.55 342 *e*P **P 05 41 59.1 +0.9**
ULN pmax pmax
comp=Z,30nm,1.1s,mb5.1
ULN Ulaanbaatar 49.55 342 P **P 05 41 59.2 +1.0**
comp=Z,536nmcomp=Z,28nm,1.8s,mb4.9
ULN Ulaanbaatar 49.55 342 P **P 05 41 59.7 +1.6**
SNR=8.3
SONM Songino Array 49.72 342 P **P 05 42 00.1 +0.6**
comp=Z,8.7nm,0.8s,mb4.8,baz=159,slow=7.3,SNR=68
SONM PcP PcP 05 43 20.7 +1.1
comp=Z,3.7nm,0.6s,baz=165,slow=4.5,SNR=4.1
SONM ScP ScP 05 47 08.2 -0.5
comp=Z,2.6nm,0.9s,baz=156,slow=4.4,SNR=8.5
SONM Songino Array 49.72 342 P **P 05 42 00.1 +0.6**
SONM PcP PcP 05 43 20.7 +1.1
SONM ScP ScP 05 47 08.2 -0.5
SONM Songino Array 49.72 342 P **P 05 42 00.1 +0.6**
SONM 05 43 20.7
HYB Hyderabad 50.21 292 *i* P **P 05 42 02.0 -1.7**
ZAK Zakamensk 52.94 341 *e*P **P 05 42 24.8 +1.3**
ZAK *e* 05 43 31.7
ZAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MSVF Nonsavu 53.70 113 *e*P **P 05 42 31.4 +1.8**
comp=Z,16nm,0.9s,mb5.1
MSVF Nonsavu 53.70 113 *e*P **P 05 42 31.4 +1.8**
MSVF pmax pmax
comp=Z,16nm,0.9s,mb5.0
TLY Talaya 53.96 342 *e*P **P 05 42 40.2 +9.3**
TLY *e* 05 44 27.4
TLY pmax pmax
comp=Z,13nm,1.2s,mb4.8
TLY MLR MLR
comp=Z,299nm,18.0s
MOY Mondy 54.79 340 *e*P **P 05 42 39.5 +2.5**
MOY pmax pmax
comp=Z,28nm,2.2s,mb4.9
WMQ Urumqi 54.90 326 P **P 05 42 38.9 +1.0**
WMQ pP pP 05 42 58.0 +1.2
WMQ sP sP 05 43 06.7 +1.6
WMQ PP PP 05 44 44.0 +2.4
WMQ S **S 05 50 12.8 -1.1**
WMQ pmax pmax
comp=Z,31nm,1.2s,mb5.2
WMQ pmax pmax
comp=Z,250nm,5.2s
HVS Khovu-Aksy 57.09 336 *d i*P **P 05 42 54.3 +0.9**
HVS pmax pmax
comp=Z,144nm,1.3s,mb5.8
BOD Bodaibo 57.35 352 *e*P **P 05 42 54.7 -0.4**
BOD pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
PETK Petropavlovsk- 57.64 21 P **P 05 42 56.9 -0.4**
comp=Z,8.2nm,0.5s,mb5.0,baz=190,slow=5.4,SNR=24
PETK PcP PcP 05 43 50.0 +0.4
comp=Z,4.5nm,0.6s,baz=245,slow=9.2,SNR=4.0
PETK Petropavlovsk- 57.64 21 P **P 05 42 56.9 -0.4**
PETK PcP PcP 05 43 50.0 +0.4
PETK Petropavlovsk- 57.64 21 P **P 05 42 56.9 -0.4**
PETK 05 43 50.0
PET Petropavlovsk 57.93 22 *e*P **P 05 42 57.3 -2.0**
PET *e*S **S 05 50 50.1 -3.5**
PET pmax pmax
comp=Z,11nm,1.2s,mb4.8
PET MLR MLR
comp=Z,100nm,19.0s
RPZ Rata Peaks 59.61 144 P **P 05 43 12.0 +0.9**
comp=Z,22nm,0.7s,mb5.3,baz=180,slow=1.6,SNR=7.9
RPZ Rata Peaks 59.61 144 *e*P **P 05 43 10.6 -0.5**
comp=Z,27nm,0.8s,mb5.3
MK31 Makanchi Array 59.73 326 *e*P **P 05 43 12.2 +0.3**
MK31 Makanchi Array 59.73 326 *e*P **P 05 43 12.0 +0.1**
MK31 pmax pmax
comp=Z,22nm,0.8s,mb5.2
MKAR Makanchi Array 59.73 326 P **P 05 43 12.2 +0.3**
comp=Z,9.5nm,0.6s,mb5.0,baz=121,slow=8.0,SNR=82
MKAR PcP PcP 05 43 58.5 +0.4
comp=Z,10.0nm,0.8s,baz=119,slow=6.2,SNR=5.0
MKAR ScP ScP 05 47 51.6 -1.1
comp=Z,2.5nm,0.7s,baz=120,slow=5.0,SNR=7.4
MKAR Makanchi Array 59.73 326 P **P 05 43 12.2 +0.3**
MKAR PcP PcP 05 43 58.5 +0.4
MKAR ScP ScP 05 47 51.6 -1.1
MKAR Makanchi Array 59.73 326 P **P 05 43 12.2 +0.3**
MKAR 05 43 58.5
KSH Kashi 59.98 316 *e*P **P 05 43 16.6 +2.9**
KSH pP pP 05 43 35.6 +2.8
KSH sP sP 05 43 44.4 +3.3
KSH PcP PcP 05 44 01.6 +2.4
KSH PP PP 05 45 31.1 +4.2
KSH ScP ScP 05 47 54.2 +0.3
KSH PcS PcS 05 48 02.6 +1.1
KSH S **S 05 51 22.0 +1.4**
KSH ScS ScS 05 52 55.8 -1.8
KSH SS SS 05 55 19.2 +0.8
KSH pmax pmax
comp=Z,15nm,1.3s,mb4.9
KSH pmax pmax
comp=Z,90nm,6.7s
KSH LR LR
comp=N,830nm,9.6s
KSH LR LR
comp=E,680nm,10.3s
KSH LR LR
comp=Z,1μm,10.6s
URZ Urewera 60.58 136 P **P 05 43 17.4 -0.5**
comp=Z,17nm,0.9s,mb5.1,baz=328,slow=7.9,SNR=8.5
URZ Urewera 60.58 136 P **P 05 43 17.4 -0.5**
YAK Yakutsk 60.68 1 *e*P **P 05 43 16.9 -1.2**
YAK pmax pmax
comp=Z,20nm,1.1s,mb5.1
KZA Kyzart 61.61 318 P **P 05 43 26.2 +1.4**
SNR=15
KZA P 05 43 26.2
SNR=15
TKM2 Tokmak 2 61.77 319 P **P 05 43 27.8 +1.9**
SNR=6.0
TKM2 P 05 43 27.8
SNR=6.0
TKM2 Tokmak 2 61.77 319 *e*P **P 05 43 26.9 +1.1**
comp=Z,14nm,0.6s,mb5.2
TKM2 Tokmak 2 61.77 319 P **P 05 43 27.0 +1.2**
TKM2 pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
KBK Karagaybulak 62.07 319 P **P 05 43 30.1 +2.3**
SNR=6.3
KBK P 05 43 30.1
SNR=6.3
AAK Ala-Archa 62.36 319 P **P 05 43 32.0 +2.2**
SNR=6.0
AAK P 05 43 32.0
SNR=6.0
AAK Ala-Archa 62.36 319 P **P 05 43 31.0 +1.2**
comp=Z,53nm,0.6s,mb5.7,SNR=6.4
AAK Ala-Archa 62.36 319 *e*P **P 05 43 31.0 +1.2**
comp=Z,58nm,1.1s,mb5.5
AAK Ala-Archa 62.36 319 *e*P **P 05 43 31.0 +1.2**
AAK pmax pmax
comp=Z,58nm,1.1s,mb5.5
AAK Ala-Archa 62.36 319 P **P 05 43 31.9 +2.1**
comp=Z,50nm,1.9s,mb5.2
AAK Ala-Archa 62.36 319 P **P 05 43 32.4 +2.6**
SNR=6.9
USP Ospenovka 62.64 319 P **P 05 43 33.4 +1.8**
SNR=15
USP P 05 43 33.4
SNR=15
AML Almayashu 62.67 318 P **P 05 43 33.7 +1.8**
SNR=21
AML P 05 43 33.7
SNR=21
EKS2 Erkin-Say 62.85 318 P **P 05 43 34.2 +1.2**
SNR=14
EKS2 P 05 43 34.2
SNR=14
EKS2 Erkin-Say 62.85 318 *e*P **P 05 43 34.0 +0.9**
comp=Z,27nm,1.2s,mb5.0
EKS2 Erkin-Say 62.85 318 *e*P **P 05 43 34.0 +1.0**
EKS2 pmax pmax
comp=Z,27nm,1.2s,mb5.0
ZAA0 Zalesovo Array 62.90 334 *e*P **P 05 43 32.0 -1.2**
ZALV Zalesovo Beam 62.90 334 P **P 05 43 32.3 -0.9**
comp=Z,2.1nm,0.4s,mb4.4,baz=119,slow=7.2,SNR=14
ZALV Zalesovo Beam 62.90 334 P **P 05 43 32.3 -0.9**
ZALV Zalesovo Beam 62.90 334 P **P 05 43 32.3 -0.9**
KBL Kabul 63.23 308 *e*P **P 05 43 35.1 -0.7**
comp=Z,24nm,1.1s,mb5.0
KBL Kabul 63.23 308 *e*P **P 05 43 35.1 -0.7**
KBL pmax pmax
comp=Z,24nm,1.1s,mb5.0
KURK Kurchatov 63.96 328 P **P 05 43 40.0 -0.2**
comp=Z,20nm,0.6s,mb5.2,baz=129,slow=6.1,SNR=148
KURK Kurchatov 63.96 328 *e*P **P 05 43 40.1 -0.1**
comp=Z,41nm,0.7s,mb5.4
KURK Kurchatov 63.96 328 P **P 05 43 40.8 +0.6**
comp=Z,352nm,0.6s,SNR=47
KURK Kurchatov 63.96 328 *c i*P **P 05 43 40.2 0.0**
KURK pmax pmax
comp=Z,40nm,0.7s,mb5.4
KURK Kurchatov 63.96 328 P **P 05 43 41.0 +0.7**
SNR=19
FX1 Attu Island--F 64.12 29 P **P 05 43 42.2 +0.9**
comp=Z,12nm,0.5s,mb5.0,baz=75,slow=3.9,SNR=9.6
FX1 Attu Island--F 64.12 29 P **P 05 43 42.2 +0.9**
FX1 Attu Island--F 64.12 29 P **P 05 43 42.2 +1.0**
NVS Novosibirsk 64.19 334 *e*P **P 05 43 40.8 -0.8**
NVS pmax pmax
comp=Z,76nm,1.9s,mb5.2
NVS pmax pmax
comp=N,30nm,1.7s
NVS pmax pmax
comp=E,30nm,1.8s
KK31 Karatay Array 65.21 318 *i*P **P 05 43 48.7 +0.2**
KK31 pmax pmax
comp=Z,16nm,0.8s,mb4.9
KKAR Karatay Array 65.21 318 *e*P **P 05 43 48.5 0.0**
comp=Z,18nm,0.9s,mb4.9
KKAR Karatay Array 65.21 318 *e*P **P 05 43 48.5 0.0**
KKAR pmax pmax
comp=Z,18nm,0.9s,mb4.9
CASY Casey 68.39 187 *e*P **P 05 44 09.4 +1.2**
CASY Casey 68.39 187 *e*P **P 05 44 08.7 +0.4**
comp=Z,39nm,0.7s,mb5.3
BVA2 Borovoye Array 69.52 327 P **P 05 44 15.2 -0.4**
BVA2 pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
BVAR Borovoye Array 69.53 327 P **P 05 44 15.7 +0.1**
comp=Z,7.1nm,0.8s,mb4.5,baz=126,slow=7.5,SNR=20
BVAR Borovoye Array 69.53 327 P **P 05 44 15.7 +0.1**
BVAR Borovoye Array 69.53 327 P **P 05 44 15.7 +0.1**
BRVK Borovoye 69.60 327 P **P 05 44 16.6 +0.6**
comp=Z,86nm,1.1s,mb5.5,SNR=6.1
BRVK Borovoye 69.60 327 *e*P **P 05 44 15.8 -0.2**
comp=Z,22nm,1.1s,mb4.9
BRVK Borovoye 69.60 327 P **P 05 44 15.8 -0.2**
BRVK pmax pmax
comp=Z,22nm,1.1s,mb4.9
BRVK Borovoye 69.60 327 P **P 05 44 17.1 +1.1**
SNR=7.2
IDAH Dahanechah 70.16 304 *e*Pn **P 05 44 21.3 +1.4**
BILL Bilibino 71.89 15 *e*P **P 05 44 29.3 -0.3**
comp=Z,5.1nm,0.5s,mb4.6
BILL Bilibino 71.89 15 *c i*P **P 05 44 30.3 +0.7**
BILL *e* 05 47 10.1
BILL *e*SS SS 05 58 23.5 +1.3
BILL pmax pmax
comp=Z,22nm,2.5s,mb4.5
HATD Hatta, Dubai 72.11 296 P **P 05 44 32.4 +0.6**
SNR=6.7
NAZ Nazwa, Dubai 72.55 296 P **P 05 44 35.9 +1.4**
SNR=5.5
ASUD Al Ashush, Dub 72.81 295 P **P 05 44 37.2 +1.1**
SNR=5.3
ISHV Shirvan 72.88 309 *e*P **P 05 44 38.1 +1.9**
RER Riviere de l'E 72.98 248 *e*P **P 05 44 37.9 +0.8**
comp=Z,31nm,0.8s,mb5.2
IBAF Bafgh 73.54 303 *e*P **P 05 44 39.8 -0.4**
AB31 Akbulak array 74.22 321 P **P 05 44 43.4 -0.4**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
ABKAR Akbulak array 74.22 321 *e*P **P 05 44 43.3 -0.5**
comp=Z,2.2nm,0.4s,mb4.2
IMEH Mehriz 74.32 302 *e*P **P 05 44 43.9 -0.8**
ICHK Chekchek 74.61 303 *e*Pn **P 05 44 47.0 +0.5**
ISRV Sarvestan 75.33 300 *e*P **P 05 44 50.6 -0.1**
IPAR Pars 75.45 300 *e*P **P 05 44 50.8 -0.5**
IANJ Anjilo 75.50 306 *e*P **P 05 44 51.7 +0.2**
IGLO Ghaloghah 75.73 307 *e*Pn **P 05 44 54.7 +1.9**
AKTO Aktyubinsk 75.75 322 P **P 05 44 52.6 0.0**
comp=Z,9.8nm,0.7s,mb4.7,baz=109,slow=7.5,SNR=30
AKTO Aktyubinsk 75.75 322 P **P 05 44 52.6 0.0**
AKTO Aktyubinsk 75.75 322 P **P 05 44 52.6 0.0**
IKIA Kiasar 75.80 307 *e*Pn **P 05 44 54.6 +1.4**
ISHM Shahmirzad 76.06 307 *e*P **P 05 44 55.6 +0.9**
SVE Sverdlovsk 76.20 329 *e*P **P 05 44 54.5 -0.5**
SVE pmax pmax
comp=Z,26nm,1.1s,mb4.9
IFIR Firoozkooh 76.47 306 *e*Pn **P 05 44 57.4 +0.4**
ISFB Sefidab 76.70 305 *e*P **P 05 44 58.1 -0.3**
ARU Arti 77.16 328 *e*P **P 05 44 59.5 -0.9**
comp=Z,11nm,0.8s,mb4.6
ARU Arti 77.16 328 *d i*P **P 05 44 59.7 -0.7**
ARU *e* 05 47 48.5
ARU S S 05 54 43.4 -0.3
ARU SS SS 05 59 43.3 +0.6
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.5
IVRN Varamin 77.21 306 *e*P **P 05 45 01.4 +0.2**
IR3 Iran Long-Peri 77.84 306 *e*Pn **P 05 45 04.3 -0.4**
SDPT Sand Point 79.12 34 *e*P **P 05 45 11.3 0.0**
comp=Z,168nm,1.0s,mb5.8
QRN Al-Qurain 79.80 299 *e*P **P 05 45 15.0 -0.6**
QRN AMb AMB 05 45 16.4
comp=Z,97nm,0.7s,mb5.7
RDF Al-Radifah 80.14 299 *e*P **P 05 45 16.4 -1.0**
RDF AMb AMB 05 45 20.3
comp=Z,67nm,1.3s,mb5.3
MIB Mutribah 80.38 300 *e*P **P 05 45 18.1 -0.6**
MIB AMb AMB 05 45 19.6
comp=Z,79nm,0.8s,mb5.6
NAY Al-Naaiem 80.43 299 *e*P **P 05 45 17.9 -1.1**
NAY AMb AMB 05 45 21.7
comp=Z,38nm,1.1s,mb5.2
VNDA Vanda 80.94 173 *e*P **P 05 45 20.2 -0.5**
comp=Z,15nm,0.8s,mb4.9
VNDA Vanda 80.94 173 *e*P **P 05 45 20.2 -0.5**
VNDA pmax pmax
comp=Z,15nm,0.8s
MAW Mawson 81.51 200 P **P 05 45 24.1 +0.2**
comp=Z,25nm,0.8s,mb5.1,baz=65,slow=5.8,SNR=31
MAW Mawson 81.51 200 *e*P **P 05 45 24.1 +0.2**
comp=Z,17nm,0.7s,mb5.0
MAW Mawson 81.51 200 *e*P **P 05 45 23.9 +0.1**
comp=Z,4.8nm,0.8s,mb4.4
MAW Mawson 81.51 200 *e*P **P 05 45 23.9 0.0**
MAW pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 81.68 293 P **P 05 45 25.0 -0.7**
comp=Z,172nm,0.8s,mb5.9,SNR=16
KDAK Kodiak Island 83.86 32 P **P 05 45 37.6 +1.3**
comp=Z,18nm,0.8s,mb5.0,baz=264,slow=13,SNR=8.0
KDAK Kodiak Island 83.86 32 P **P 05 45 37.6 +1.3**
KDAK Kodiak Island 83.86 32 P **P 05 45 37.6 +1.3**
RSO Redoubt South 84.13 29 *e*P **P 05 45 37.9 +0.3**
comp=Z,62nm,0.9s,mb5.4
PMR Palmer 86.01 28 *e*P **P 05 45 47.8 +0.9**
comp=Z,23nm,0.9s,mb5.1
PMR Palmer 86.01 28 *e*P **P 05 45 47.8 +0.9**
PMR pmax pmax
comp=Z,23nm,0.9s,mb5.1
COLD Coldfoot 86.08 23 *e*P **P 05 45 48.1 +0.9**
comp=Z,13nm,0.7s,mb5.0
MCK McKinley 86.28 26 *e*P **P 05 45 47.9 -0.3**
comp=Z,6.1nm,0.7s,mb4.6
MCK McKinley 86.28 26 *e*P **P 05 45 47.9 -0.3**
MCK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ILAR Eielson Array 87.24 25 P **P 05 45 50.7 -2.2**
comp=Z,2.1nm,0.6s,mb4.3,baz=250,slow=4.7,SNR=28
ILAR Eielson Array 87.24 25 P **P 05 45 50.7 -2.2**
ILAR Eielson Array 87.24 25 P **P 05 45 50.7 -2.2**
OBN Obninsk 89.22 325 *e*P **P 05 46 01.5 -1.0**
OBN *e*PS PS 05 57 58.9 -1.1
OBN pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
EGAK Eagle 89.69 25 *e*P **P 05 46 04.2 -0.2**
comp=Z,3.4nm,0.7s,mb4.6
KMBO Kilima Mbogo 89.74 269 *e*P **P 05 46 06.9 +1.0**
comp=Z,2.9nm,0.3s,mb4.9
KMBO Kilima Mbogo 89.74 269 *e*P **P 05 46 06.9 +1.1**
KMBO pmax pmax
comp=Z,3.0nm,0.3s
SYO Syowa Base 90.20 201 *e*P **P 05 46 05.6 -1.2**
QSPA South Pole Qui 91.16 180 P **P 05 46 10.8 -0.2**
comp=Z,3.5nm,0.6s,mb4.6,baz=340,slow=2.3,SNR=13
QSPA South Pole Qui 91.16 180 P **P 05 46 10.8 -0.2**
BRTR Keskin Array B 91.78 310 P **P 05 46 13.6 -1.2**
comp=Z,1.4nm,0.8s,mb4.2,baz=139,slow=6.0,SNR=7.4
BRTR Keskin Array B 91.78 310 P **P 05 46 13.6 -1.2**
BRTR Keskin Array B 91.78 310 *i*P **P 05 46 14.1 -0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 92.38 22 P **P 05 46 16.0 -0.9**
comp=Z,4.9nm,0.8s,mb4.8,baz=278,slow=4.7,SNR=14
INK Inuvik 92.38 22 P **P 05 46 16.0 -0.9**
INK Inuvik 92.38 22 P **P 05 46 16.0 -0.9**
ARCES ARCESS Array B 92.85 340 P **P 05 46 18.1 -0.9**
comp=Z,5.0nm,0.8s,mb4.9,baz=85,slow=6.4,SNR=10
ARCES ARCESS Array B 92.85 340 P **P 05 46 18.1 -0.9**
ARCES ARCESS Array B 92.85 340 P **P 05 46 18.2 -0.9**
FINES FINESS Array B 94.12 332 P **P 05 46 23.9 -1.1**
comp=Z,2.6nm,0.9s,mb4.5,baz=70,slow=4.9,SNR=2.9
FINES FINESS Array B 94.12 332 P **P 05 46 23.9 -1.1**
FINES FINESS Array B 94.12 332 P **P 05 46 24.0 -1.1**
LSZ Lusaka 98.79 255 *e*P **P 05 46 46.6 -0.6**
comp=Z,8.6nm,1.4s,mb5.1
LSZ Lusaka 98.79 255 *e*P **P 05 46 46.6 -0.6**
LSZ pmax pmax
comp=Z,9.0nm,1.4s,mb5.1
RES Resolute Bay 100.21 10 P Pdif 05 46 52.4 -0.3
comp=Z,7.2nm,0.3s,baz=287,slow=6.3,SNR=39
RES Resolute Bay 100.21 10 P Pdif 05 46 52.4 -0.3
RES Resolute Bay 100.21 10 P Pdif 05 46 52.4 -0.3
YKA Yellowknife Ar 101.65 25 P Pdif 05 46 59.0 -0.1
comp=Z,1.3nm,0.8s,baz=296,slow=4.8,SNR=11
YKA PKiKP PKiKP 05 51 22.5 +0.4
comp=Z,0.5nm,0.7s,baz=298,slow=2.0,SNR=5.8
YKA PKKPbc PKKPbc 06 03 05.3 -2.8
comp=Z,1.0nm,0.7s,baz=111,slow=2.3,SNR=9.8
YKA Yellowknife Ar 101.65 25 P Pdif 05 46 59.0 -0.1
YKA PKiKP PKiKP 05 51 22.5 +0.4
YKA PKKPbc PKKPbc 06 03 05.3 -2.8
YKA Yellowknife Ar 101.65 25 P Pdif 05 46 59.0 -0.1
NVAR Mina Array Bea 108.38 49 Pdiff Pdif 05 47 28.8 -0.2
comp=Z,0.3nm,0.7s,baz=253,slow=9.3,SNR=2.7
NVAR PKiKP PKiKP 05 51 36.8 +1.5
comp=Z,0.8nm,0.9s,baz=237,slow=3.2,SNR=6.0
NVAR Mina Array Bea 108.38 49 Pdif Pdif 05 47 28.8 -0.2

NVAR PKiKP PKiKP 05 51 36.8 +1.5
PDAR Pinedale Array 113.05 42 PKiKP PKiKP 05 51 46.5 +2.5
comp=Z,0.5nm,0.6s,baz=202,slow=0.9,SNR=4.4
PDAR PKKPbc PKKPbc 06 02 30.6 -1.3
comp=Z,1.2nm,0.7s,baz=116,slow=5.2,SNR=9.4
PDAR Pinedale Array 113.05 42 PKiKP PKiKP 05 51 46.5 +2.5
PDAR PKKPbc PKKPbc 06 02 30.6 -1.3
ULM Lac du Bonnet 117.01 29 PKP PKPdf 05 51 50.5 -0.8
comp=Z,4.8nm,0.8s,baz=337,slow=2.9,SNR=7.6
ULM Lac du Bonnet 117.01 29 PKP PKPdf 05 51 50.5 -0.8
ULM Lac du Bonnet 117.01 29 PKIKP PKPdf 05 51 50.5 -0.8
ANMO Albuquerque 118.50 49 PKP PKPdf 05 51 55.6 +1.0
comp=Z,1.9nm,0.7s,baz=222,slow=1.9,SNR=14
ANMO Albuquerque 118.50 49 *e*PKPdf PKPdf 05 51 55.3 +0.6
ANMO PKP PKPdf 05 51 55.6 +1.0
ANMO Albuquerque 118.50 49 *e*PKIKP PKPdf 05 51 55.3 +0.6
BNM Barren Site 118.69 50 *e*PKPdf PKPdf 05 51 55.5 +0.5
TXAR Lajitas Array 122.91 54 PKP PKPdf 05 52 04.1 +0.8
comp=Z,2.6nm,0.7s,baz=221,slow=0.7,SNR=39
TXAR PKKPbc PKKPbc 06 01 56.9 +0.8
comp=Z,0.6nm,0.7s,baz=123,slow=7.0,SNR=8.2
TXAR Lajitas Array 122.91 54 PKP PKPdf 05 52 04.1 +0.8
TXAR PKKPbc PKKPbc 06 01 56.9 +0.8
TXAR Lajitas Array 122.91 54 PKIKP PKPdf 05 52 04.1 +0.8
SCHQ Schefferville 122.97 9 PKP PKPdf 05 52 03.2 +0.5
comp=Z,7.1nm,0.9s,baz=29,slow=3.2,SNR=5.2
SCHQ Schefferville 122.97 9 PKP PKPdf 05 52 03.2 +0.5
TORD Torodi Ar. Bea 123.88 287 PKP PKPdf 05 52 04.2 -1.3
comp=Z,6.8nm,0.7s,baz=46,slow=1.9,SNR=56
TORD PKKPbc PKKPbc 06 01 53.1 +1.2
comp=Z,1.5nm,0.7s,baz=274,slow=4.0,SNR=11
TORD Torodi Ar. Bea 123.88 287 PKP PKPdf 05 52 04.2 -1.3
TORD PKKPbc PKKPbc 06 01 53.1 +1.2
JCT Junction City 125.48 51 *e*PKPdf PKPdf 05 52 08.3 +0.1
JCT Junction City 125.48 51 *e*PKIKP PKPdf 05 52 08.3 +0.1
DBIC Dimbokro 131.28 280 PKP PKPdf 05 52 20.0 +0.3
comp=Z,4.3nm,0.6s,baz=34,slow=0.8,SNR=15
DBIC SKPbc SKPbc 05 55 37.2 -1.1
comp=Z,7.5nm,0.9s,baz=76,slow=5.8,SNR=9.2
DBIC Dimbokro 131.28 280 *e*PKPdf PKPdf 05 52 19.4 -0.3
DBIC PKP PKPdf 05 52 20.0 +0.3
DBIC *e*SKPbc SKPbc 05 55 37.0 -1.3
DBIC SKPbc SKPbc 05 55 37.2 -1.1
DBIC Dimbokro 131.28 280 *e*PKIKP PKPdf 05 52 19.4 -0.3
ELN Prospectdale 133.91 31 *e*PKPdf PKPdf 05 52 24.7 +0.7
PLCA Paso Flores 137.60 160 PKP PKPdf 05 52 32.7 +1.9
comp=Z,3.3nm,0.7s,baz=236,slow=0.7,SNR=9.0
PLCA Paso Flores 137.60 160 PKP PKPdf 05 52 32.7 +1.9
PLCA Paso Flores 137.60 160 PKIKP PKPdf 05 52 32.7 +1.9
TRQA Tornquist 142.45 168 *e*PKPdf PKPdf 05 52 38.4 -1.3
LCO Las Campanas 147.65 150 *e*PKPbc PKPbc 05 52 52.7 +1.0
CPUP Villa Florida 154.71 171 PKP PKPdf 05 53 01.4 +1.7
comp=Z,1.6nm,0.7s,baz=354,slow=2.7,SNR=7.1
CPUP PKPbc PKPbc 05 53 08.9 +0.6
comp=Z,4.2nm,0.8s,baz=164,slow=2.9,SNR=9.6
CPUP PKPab PKPab 05 53 24.4 +1.2
comp=Z,6.5nm,0.8s,baz=193,slow=4.2,SNR=10.0
CPUP Villa Florida 154.71 171 PKP PKPdf 05 53 01.4 +1.7
CPUP PKPbc PKPbc 05 53 08.9 +0.6
CPUP PKPab PKPab 05 53 24.4 +1.2
CPUP Villa Florida 154.71 171 PKIKP PKPdf 05 53 01.4 +1.7
CPUP 05 53 08.9
LPAZ La Paz 158.91 136 PKP PKPdf 05 53 07.3 +2.0
comp=Z,2.4nm,0.8s,baz=68,slow=0.8,SNR=11
LPAZ La Paz 158.91 136 PKP PKPdf 05 53 07.3 +2.0
LPAZ *e*PKPdf PKPdf 05 53 07.4 +2.1
LPAZ La Paz 158.91 136 PKIKP PKPdf 05 53 07.3 +2.0
SDV Santo Domingo 159.78 60 *e*PKPdf PKPdf 05 53 06.7 +0.2

*ISCJB **09** 05:40:23.2±0.5, 1.°28N±0.°04×126.°96E±0.°04, h85km±4km, mb4.5/28, Error ellipse: s-maj=6.6km s-min=5.3km az=139.4*
*IDC **09** 05:40:24.3±2.2, 1.°18N×126.°90E, h82km±19km, mb4.2/16, mb1 4.3/18, mb1mx4.1/25, mbtmp4.2/18, Error ellipse: s-maj=19.4km s-min=8.8km az=82.0*
*NEIC **09** 05:40:24.3±1.6, 1.°20N×126.°99E, h83km±15km, mb4.7/12, Error ellipse: s-maj=14.5km s-min=6.4km az=65.0*
*DJA **09** 05:40:25, 1.°23N×126.°76E, h31km, MLv4.9/10*
ISC 09 05:40:24.5±0.5, **1.°25N**±0.°04×**126.°98E**±0.°04, **h81**km±4km, **n84**, σ1§**01**/88, **mb4.5**/28, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.61**	**140**	P		**Pn**		**05 40 38.9**	**-0.5**
TNTI				S		**Sn**		**05 40 49.7**	**-0.7**
LBMI	**Labuha**	**1.94**	**164**	P		**Pn**		**05 40 56.9**	**+1.2**
LBMI				S		**Sn**		**05 41 21.2**	**+1.8**
MNI	**Manado**	**2.15**	**275**	P		**Pn**		**05 40 57.5**	**-0.9**
SGSI	**Sangihe**	**2.82**	**329**	P		**Pn**		**05 41 07.7**	**+0.1**
SGSI				S		**Sn**		**05 41 36.2**	**-4.4**
KMSI	**Cibinong**	**3.07**	**258**	P		**Pn**		**05 41 10.1**	**-0.8**
KMSI				S		**Sn**		**05 41 46.0**	**-0.6**
GTOI	**Gorontalo**	**4.01**	**261**	P		**Pn**		**05 41 23.9**	**+0.2**
GTOI				S		**Sn**		**05 42 08.5**	**-1.1**
NLAI	**Namlea**	**4.46**	**178**	P		**Pn**		**05 41 30.1**	**+0.4**
NLAI				S		**Sn**		**05 42 20.2**	**-0.2**
LUWI	**Luwuk**	**4.78**	**242**	P		**Pn**		**05 41 34.9**	**+0.8**
MSAI	**Masohi**	**4.96**	**157**	P		**Pn**		**05 41 41.6**	**+5.0**
0.2nm36nm,1.1s									
MRSI	**Marisa**	**5.09**	**261**	P		**Pn**		**05 41 37.9**	**-0.5**
KDI	**Kendari**	**6.76**	**220**	P		**Pn**		**05 42 00.8**	**-0.4**
0.3nm75nm,0.8s									
KDI				S		**Sn**		**05 43 11.3**	**-5.4**
0.3nm75nm,0.8s									
MSSI	**Masamba**	**7.65**	**240**	P		**Pn**		**05 42 12.4**	**-0.9**
0.6nm115nm,0.8s									
BBSI	**Bau Bau**	**8.01**	**213**	P		**Pn**		**05 42 20.9**	**+2.7**
0.3nm1um103nm,0.9s									
MYLDM	**Lahad Datu**	**9.32**	**295**	P		**Pn**		**05 42 37.5**	**+1.3**
152nm,1.0s									
BAKI	**Biak**	**9.44**	**105**	P		**Pn**		**05 42 42.7**	**+4.9**
BKSI	**Bulukumba**	**9.46**	**226**	P		**Sn**		**05 44 27.1**	**+4.4**
BKSI	**Bulukumba**	**9.46**	**226**	P		**Pn**		**05 42 37.7**	**-0.3**
1μm107nm,0.5s									
KAPI	**Kappang**	**9.53**	**229**	P		**Pn**		**05 42 37.7**	**-1.2**
7.8nm,0.3s,baz=54,slow=5.7,SNR=13									
KAPI				S		**Sn**		**05 44 19.6**	**-4.8**
3.9nm,0.3s,baz=304,slow=23,SNR=6.3									
KAPI	**Kappang**	**9.53**	**229**	*e*Pn		**Pn**		**05 42 37.0**	**-1.9**
24nm,0.4s									
KAPI				*e*Sn		**Sn**		**05 44 19.0**	**-5.4**
KAPI	**Kappang**	**9.53**	**229**	P		**Sn**		**05 44 22.9**	**-1.5**
KAPI	**Kappang**	**9.53**	**229**	P		**Pn**		**05 42 37.9**	**-1.1**
36nm,1.2s									
KKM	**Kota Kinabalu**	**11.75**	**294**	*e*Pn		**Pn**		**05 43 10.9**	**+1.6**
52nm,0.6s									
BLJI	**Banyuglugur**	**16.06**	**236**	P		Px		05 44 17.5	
SJI	**Sawahan**	**17.60**	**239**	P		**Pn**		**05 44 27.0**	**+2.4**
PWJI	**Pagerwojo**	**17.71**	**238**	P		**Pn**		**05 44 27.6**	**+1.6**
BJII	**Banjamegara**	**19.22**	**243**	P		**Pn**		**05 44 45.5**	**+1.4**
0.2nm61nm,1.3s									
FITZ	**Fitzroy Crossi**	**19.27**	**184**	P		**Pn**		**05 44 42.0**	**-2.6**
0.6nm,0.3s,baz=4.6,slow=5.6,SNR=8.1									
FITZ	**Fitzroy Crossi**	**19.27**	**184**	P		**Pn**		**05 44 42.0**	**-2.6**
WRAB	**Tennant Creek**	**22.25**	**161**	*e*P		**P**		**05 45 13.6**	**-1.3**
WRA	**Warramunga Arr**	**22.26**	**161**	P		**P**		**05 45 13.7**	**-1.2**
9.0nm,0.7s,mb4.2,baz=340,slow=11,SNR=39									
WRA				S		**S**		**05 49 13.8**	**-1.0**
2.7nm,0.8s,baz=335,slow=20,SNR=7.3									
WRA	**Warramunga Arr**	**22.26**	**161**	P		**P**		**05 45 13.7**	**-1.2**
WRA				S		**S**		**05 49 13.8**	**-1.0**
WB2	**Warramunga Arr**	**22.26**	**161**	*e*P		**P**		**05 45 13.8**	**-1.1**
AS31	**Alice Springs**	**25.66**	**165**	*e*P		**P**		**05 45 48.1**	**+1.2**
ASAR	**Alice Springs**	**25.66**	**165**	P		**P**		**05 45 48.1**	**+1.3**
4.1nm,0.3s,mb4.3,baz=347,slow=13,SNR=31									
ASAR				PcP		PcP		05 49 15.7	0.0
0.5nm,0.5s,baz=354,slow=2.5,SNR=3.6									
ASAR				S		**S**		**05 50 09.8**	**+0.3**
1.4nm,0.8s,baz=341,slow=16,SNR=4.3									
ASAR	**Alice Springs**	**25.66**	**165**	P		**P**		**05 45 48.1**	**+1.3**
ASAR				PcP		PcP		05 49 15.7	0.0
ASAR				S		**S**		**05 50 09.8**	**+0.3**
CTAO	**Charters Tower**	**28.40**	**139**	*e*P		**P**		**05 46 08.0**	**-3.5**
4.6nm,0.6s,mb4.2									
FORT	**Forrest**	**31.86**	**178**	*e*P		**P**		**05 46 42.0**	**0.0**
28nm,0.9s,mb5.0									
CMAR	**Chiang Mai Arr**	**32.39**	**304**	P		**P**		**05 46 45.2**	**-1.6**
0.8nm,0.3s,mb3.9,baz=126,slow=7.6,SNR=6.7									
CMAR	**Chiang Mai Arr**	**32.39**	**304**	P		**P**		**05 46 45.2**	**-1.6**
KSAR	**Wonju Array Be**	**36.03**	**1**	P		**P**		**05 47 18.6**	**+0.6**
KSRS	**Korea Array**	**36.04**	**1**	P		**P**		**05 47 18.6**	**+0.5**
3.4nm,0.8s,mb4.3,baz=181,slow=10,SNR=11									
MJAR	**Matsushiro Arr**	**36.63**	**15**	P		**P**		**05 47 21.9**	**-1.2**
8.0nm,0.8s,mb4.7,baz=187,slow=9.9,SNR=14									
MJAR	**Matsushiro Arr**	**36.63**	**15**	P		**P**		**05 47 21.9**	**-1.2**
MAJO	**Matsushiro**	**36.63**	**15**	*e*P		**P**		**05 47 22.1**	**-1.0**
8.2nm,0.6s,mb4.8									
ARMA	**Armidale**	**39.28**	**145**	*e*P		**P**		**05 47 46.4**	**+0.8**
8.8nm,0.8s,mb4.6									
ASAJ	**Asahikawa**	**44.89**	**16**	P		**P**		**05 48 31.6**	**+0.6**
7.0nm,0.7s,mb4.5,baz=231,slow=20,SNR=4.0									
ASAJ	**Asahikawa**	**44.89**	**16**	P		**P**		**05 48 31.6**	**+0.6**
ULN	**Ulaanbaatar**	**49.54**	**342**	*e*P		**P**		**05 49 07.7**	**+0.6**
8.8nm,1.2s,mb4.6									
SONM	**Songino Array**	**49.72**	**342**	P		**P**		**05 49 08.9**	**+0.6**
1.7nm,0.6s,mb4.1,baz=158,slow=7.7,SNR=10									
SONM				PcP		PcP		05 50 28.8	+0.4
1.2nm,0.8s,baz=168,slow=3.2,SNR=4.2									
SONM	**Songino Array**	**49.72**	**342**	P		**P**		**05 49 08.9**	**+0.6**
SONM				PcP		PcP		05 50 28.8	+0.4
PETK	**Petropavlovsk-**	**57.63**	**21**	P		**P**		**05 50 06.9**	**+0.8**
6.1nm,0.6s,mb4.8,baz=177,slow=3.4,SNR=11									
PETK	**Petropavlovsk-**	**57.63**	**21**	P		**P**		**05 50 06.9**	**+0.8**
MK31	**Makanchi Array**	**59.73**	**326**	Pn		**P**		**05 50 21.0**	**+0.2**
14nm,1.0s,mb5.0,baz=120,slow=8.8,SNR=46									
MK31	**Makanchi Array**	**59.73**	**326**	*e*P		**P**		**05 50 21.1**	**+0.3**
MKAR	**Makanchi Array**	**59.73**	**326**	P		**P**		**05 50 21.2**	**+0.4**
8.5nm,0.8s,mb4.8,baz=123,slow=8.0,SNR=42									
MKAR				ScP		ScP		05 54 59.9	-0.8
0.6nm,0.8s,baz=117,slow=5.2,SNR=3.5									
MKAR	**Makanchi Array**	**59.73**	**326**	P		**P**		**05 50 21.2**	**+0.4**
MKAR				ScP		ScP		05 54 59.9	-0.8
TKM2	**Tokmak 2**	**61.77**	**319**	*e*P		**P**		**05 50 35.0**	**+0.3**
8.3nm,0.8s,mb4.8									
AAK	**Ala-Archa**	**62.36**	**319**	*e*P		**P**		**05 50 39.4**	**+0.7**
5.4nm,0.6s,mb4.8									
KBL	**Kabul**	**63.24**	**308**	*e*P		**P**		**05 50 45.0**	**+0.3**
4.3nm,0.9s,mb4.4									
KURK	**Kurchatov**	**63.96**	**328**	P		**P**		**05 50 49.0**	**-0.1**
5.6nm,0.6s,mb4.6,baz=126,slow=6.2,SNR=50									
KURK	**Kurchatov**	**63.96**	**328**	*e*P		**P**		**05 50 48.9**	**-0.2**
13nm,0.8s,mb4.8									
FX1	**Attu Island--F**	**64.11**	**29**	P		**P**		**05 50 50.1**	**+0.1**
14nm,0.7s,mb4.9,baz=86,slow=10.0,SNR=5.5									
FX1	**Attu Island--F**	**64.11**	**29**	P		**P**		**05 50 50.1**	**+0.1**
KKAR	**Karatay Array**	**65.22**	**318**	*e*P		**P**		**05 50 57.4**	**0.0**
7.2nm,0.9s,mb4.5									
BVAR	**Borovoye Array**	**69.53**	**327**	P		**P**		**05 51 24.4**	**-0.1**
3.5nm,0.8s,mb4.2,baz=133,slow=6.3,SNR=14									
BVAR	**Borovoye Array**	**69.53**	**327**	P		**P**		**05 51 24.4**	**-0.1**
BRVK	**Borovoye**	**69.60**	**327**	*e*P		**P**		**05 51 24.6**	**-0.3**
13nm,1.3s,mb4.6									
ABKAR	**Akbulak array**	**74.22**	**321**	*e*P		**P**		**05 51 51.8**	**-0.8**
1.1nm,0.4s,mb3.9									
AKTO	**Aktyubinsk**	**75.75**	**322**	P		**P**		**05 52 01.6**	**+0.1**
1.8nm,0.6s,mb4.0,baz=104,slow=9.7,SNR=6.8									
AKTO	**Aktyubinsk**	**75.75**	**322**	P		**P**		**05 52 01.6**	**+0.1**
ILAR	**Eielson Array**	**87.23**	**25**	P		**P**		**05 53 00.7**	**-1.0**
1.0nm,0.6s,mb4.0,baz=244,slow=4.9,SNR=15									
ILAR	**Eielson Array**	**87.23**	**25**	P		**P**		**05 53 00.7**	**-1.0**
INK	**Inuvik**	**92.37**	**22**	P		**P**		**05 53 25.3**	**-0.4**
2.1nm,0.9s,mb4.3,baz=231,slow=5.2,SNR=6.0									
INK	**Inuvik**	**92.37**	**22**	P		**P**		**05 53 25.3**	**-0.4**
ARCES	**ARCESS Array B**	**92.85**	**340**	P		**P**		**05 53 26.6**	**-1.3**
5.1nm,0.9s,mb4.8,baz=17,slow=8.9,SNR=4.1									
ARCES	**ARCESS Array B**	**92.85**	**340**	P		**P**		**05 53 26.6**	**-1.3**
RES	**Resolute Bay**	**100.20**	**10**	P		Pdif		05 54 01.0	-0.5
1.1nm,0.8s,baz=301,slow=4.7,SNR=5.2									
RES	**Resolute Bay**	**100.20**	**10**	P		Pdif		05 54 01.0	-0.5
YKA	**Yellowknife Ar**	**101.64**	**25**	P		Pdif		05 54 08.1	+0.3
0.6nm,0.9s,baz=302,slow=5.1,SNR=5.3									
YKA	**Yellowknife Ar**	**101.64**	**25**	P		Pdif		05 54 08.2	+0.3
TXAR	**Lajitas Array**	**122.89**	**54**	PKP		PKPdf		05 59 12.2	+0.1
0.6nm,0.8s,baz=285,slow=1.5,SNR=6.0									
TXAR	**Lajitas Array**	**122.89**	**54**	PKP		PKPdf		05 59 12.2	+0.1
TORD	**Torodi Ar. Bea**	**123.89**	**287**	PKP		PKPdf		05 59 13.2	-1.2
0.9nm,0.9s,baz=45,slow=2.1,SNR=5.3									
TORD	**Torodi Ar. Bea**	**123.89**	**287**	PKP		PKPdf		05 59 13.2	-1.2

*ISCJB **09** 05:46:18.4±1.0, 1.°18N±0.°09×126.°91E±0.°08, h91km±9km, mb3.8/5, Error ellipse: s-maj=16.0km s-min=12.2km az=37.5*
*IDC **09** 05:46:20.6±8.3, 1.°10N×126.°74E, h91km±80km, mb3.6/5, mb1 3.7/7, mb1mx3.5/20, mbtmp3.6/7, ML4.1/2, Error ellipse: s-maj=60.4km s-min=18.2km az=58.0*
*DJA **09** 05:46:20, 1.°18N×126.°89E, h38km, MLv4.4/6*
ISC 09 05:46:19.7±0.9, **1.°12N**±0.°08×**126.°90E**±0.°07, **h85**km±9km, **n15**, σ1§**17**/16, **mb3.8**/5, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.59**	**126**	P		**Pn**		**05 46 33.6**	**-1.1**
TNTI	**Ternate**	**0.59**	**126**	P		**Pn**		**05 46 33.6**	**-1.1**
LBMI	**Labuha**	**1.85**	**161**	P		**Pn**		**05 46 50.8**	**+1.0**
MNI	**Manado**	**2.08**	**279**	P		**Pn**		**05 46 51.5**	**-1.3**
KMSI	**Cibinong**	**2.96**	**259**	P		**Pn**		**05 47 05.2**	**+0.5**
GTOI	**Gorontalo**	**3.91**	**263**	P		**Pn**		**05 47 20.2**	**+2.6**
KDI	**Kendari**	**6.61**	**220**	P		**Pn**		**05 47 54.8**	**+0.4**
BKSI	**Bulukumba**	**9.31**	**227**	P		**Pn**		**05 48 33.5**	**+2.3**
KAPI	**Kappang**	**9.38**	**229**	P		**Pn**		**05 48 32.0**	**-0.2**
5.3nm,0.3s,baz=58,slow=10,SNR=11									
KAPI				S		**Sn**		**05 50 14.0**	**-2.0**
1.1nm,0.3s,baz=252,slow=20,SNR=3.9									
FITZ	**Fitzroy Crossi**	**19.14**	**184**	P		**Pn**		**05 50 36.7**	**-1.4**
0.2nm,0.3s,baz=10,slow=9.1,SNR=6.2									
WRA	**Warramunga Arr**	**22.17**	**161**	P		**P**		**05 51 08.7**	**-0.2**
2.2nm,0.4s,mb3.8,baz=336,slow=11,SNR=15									
ASAR	**Alice Springs**	**25.57**	**165**	P		**P**		**05 51 42.0**	**+1.1**
1.7nm,0.4s,mb3.9,baz=345,slow=11,SNR=14									
SONM	**Songino Array**	**49.81**	**342**	P		**P**		**05 55 03.7**	**-0.2**
0.3nm,0.6s,mb3.4,baz=144,slow=10.0,SNR=3.3									
MKAR	**Makanchi Array**	**59.79**	**326**	P		**P**		**05 56 16.0**	**0.0**
0.6nm,0.4s,mb4.0,baz=119,slow=8.1,SNR=7.5									
KURK	**Kurchatov**	**64.02**	**328**	P		**P**		**05 56 43.9**	**-0.4**
1.1nm,0.6s,mb3.9,baz=124,slow=6.4,SNR=9.3									

*TEH **09** 05:53:00.0, 30.°41N×67.°50E, h10km*
*IDC **09** 05:53:41.5±0.4, 30.°45N×67.°45E, h0km, mb5.0/41, mb1 5.0/42, mb1mx5.0/45, mbtmp5.0/42, MS4.9/19, Ms1 4.9/19, ms1mx4.7/55, Error ellipse: s-maj=10.2km s-min=9.0km az=159.0*
*ISCJB **09** 05:53:42.1±0.1, 30.°33N±0.°02×67.°50E±0.°01, h17km, mb5.2/227, MS5.0/63, Error ellipse: s-maj=3.1km s-min=1.8km az=7.3*
*SZGRF **09** 05:53:42.6, 29.°30N×67.°57E, h33km, mb5.3, MS4.8, Pakistan*
*BGS **09** 05:53:43.8±2.5, 30.°39N×67.°45E, h10km, mb5.2*
*BJI **09** 05:53:43.6, 30.°66N×67.°71E, h11km, mB5.2/36, mb5.1/52, Ms5.4/62, Ms7 5.2/54*
*NEIC **09** 05:53:43.0±0.2, 30.°39N×67.°45E, h10km, mb5.4/112, Error ellipse: s-maj=4.9km s-min=3.7km az=184.0*
*MOS **09** 05:53:44.4±1.2, 30.°43N×67.°50E, h28km, mb5.4/116, MS4.9/41, Error ellipse: s-maj=5.4km s-min=3.4km az=121.4*
*GCMT **09** 05:53:45.8±0.2, 30.°31N×67.°50E, h15km±1km, MW5.3, Moment Tensor Solution. s54,c81; s73,c125; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10±.03; $M_{\theta\theta}$-0.96±.03; $M_{\phi\phi}$1.06±.03; $M_{r\theta}$0.08±.07; $M_{\theta\phi}$0.63±.02; $M_{r\phi}$0.53±.09; Best double couple: $M_0$1.30000×10^{17} NP1:ϕ_p63.00000°, δ73.00000°, λ11.00000°. NP2:ϕ_p330.00000°, δ80.00000°, λ163.00000°. Principal axes: T 1.4300, Plg19.0000°, Azm285.0000°; N -0.2800, Plg70.0000°, Azm119.0000°; P -1.1500, Plg4.0000°, Azm17.0000°; Data Used: II IU IC G CN.*
*NNC **09** 05:53:45.7±1.6, 30.°81N×67.°87E, h0km, mb5.0 Error ellipse: s-maj=21.3km s-min=16.7km az=168.0*
*DJA **09** 05:53:49, 30.°53N×67.°49E, h57km, mb5.3/22*
ISC 09 05:53:41.6±0.7, **30.36N**±0.°02×**67.°52E**±0.°01, **h0**km±4km, **n761**, σ1§**22**/799, **mb5.2**/227, **MS5.0**/63, **25C-37D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
QUE	**Quetta**	**0.52**	**251**	*e*P		**Pg**		**05 53 51.0**	**-0.5**
QUE				*e*S		**Sg**		**05 54 02.0**	**+3.7**
QUE	**Quetta**	**0.52**	**251**	*e*P		**Pg**		**05 53 51.0**	**-0.5**
QUE				*e*S		**Sg**		**05 54 02.0**	**+3.7**
THW	**Thamme Wali**	**4.35**	**55**	||P	**Pn**		**05 54 49.9**	**+1.0**
KBL	**Kabul**	**4.37**	**17**	*e*Pn		**Pn**		**05 54 51.6**	**+2.4**
KBL	**Kabul**	**4.37**	**17**	*e*P		**Pn**		**05 54 51.6**	**+2.4**
SARP	**Sargodha**	**4.69**	**69**	||P	**Pn**		**05 54 53.6**	**0.0**
CHCP	**Chirah Chowk**	**5.89**	**55**	P		**Pn**		**05 55 11.0**	**+1.0**
IDAH	**Dahanechah**	**6.95**	**292**	*e*P		**Pn**		**05 55 24.7**	**+0.1**
AJM	**Ajmer**	**7.37**	**120**	*e*PKP		**Pn**		**05 55 30.0**	**-0.4**
AJM				*ex*		**Sn**		**05 56 53.0**	**-1.7**
KHET	**Khetri**	**7.59**	**105**	*ex*		**Sn**		**05 56 56.8**	**-3.5**
BHK	**Bhakra**	**7.72**	**80**	*e*PKP		**Pn**		**05 55 36.0**	**+0.8**
BHK				*ex*		**Sn**		**05 57 04.0**	**+0.6**
ITEG	**Tejag**	**7.89**	**291**	*e*P		**Pn**		**05 55 38.1**	**+0.5**
SDNR	**Sundarnagar**	**8.20**	**80**	*e*PKP		**Pn**		**05 55 43.0**	**+1.2**
SDNR				*ex*		**Sn**		**05 57 16.0**	**+0.8**
SMLA	**Simla**	**8.34**	**82**	*i* P		**Pn**		**05 55 44.2**	**+0.4**
SMLA				*i* x		**Sn**		**05 57 16.1**	**-2.6**
SMLA						AML	AML		05 57 28.3
comp=N,6μm,0.5s									
SMLA						AML	AML		05 57 30.9
comp=E,7μm,0.7s									
NDI	**New Delhi**	**8.61**	**99**	*ex*		**Pn**		**05 55 45.4**	**-2.1**
NDI				*e*S		**Sn**		**05 57 19.4**	**-6.0**
DDI	**Dehra Dun**	**9.11**	**88**	⇑*i*P		**Pn**		**05 55 56.0**	**+1.7**
DDI				*ex*		x		05 59 08.0
AGRA	**Agra**	**9.66**	**106**	*e*PKP		**Pn**		**05 56 02.9**	**+1.0**
IBND	**Bandar-abas**	**10.05**	**256**	*e*P		**Pn**		**05 56 07.6**	**+0.4**
IBND				*e*P				05 56 07.9
IBAF	**Bafgh**	**10.33**	**280**	*e*P		**Pn**		**05 56 11.8**	**+0.7**
BANOM	**Banah**	**10.84**	**249**	P		**Pn**		**05 56 16.4**	**-1.6**
SNR=22									
ABKT	**Ailbek**	**10.84**	**317**	Pn		**Pn**		**05 56 19.0**	**+1.0**
comp=E,272nm,1.0s,SNR=10									
WBK	**Wadi Bani Khal**	**10.86**	**227**	P		**Pn**		**05 56 17.3**	**-1.0**
SNR=21									
PTH	**Pithoragarh**	**11.04**	**91**	*ex*		**Pn**		**05 56 23.9**	**+3.1**
PTH				*ex*		**Sn**		**05 58 25.2**	**+0.1**
IMEH	**Mehriz**	**11.14**	**279**	*e*P		**Pn**		**05 56 24.9**	**+2.8**
SMDO	**Samad**	**11.15**	**232**	P		**Pn**		**05 56 21.0**	**-1.4**
SNR=27									
BHPL	**Bhopal**	**11.33**	**126**	*e*PKP		**Pn**		**05 56 24.0**	**-0.8**
KSH	**Kashi**	**11.47**	**35**	P		**Pn**		**05 56 21.3**	**-5.3**
KSH				pP				05 56 24.2
KSH				sP				05 56 27.3
KSH				PP				05 56 29.7
KSH				S		**Sn**		**05 58 23.5**	**-12**
KSH				sS				05 58 27.9
KSH				SS				05 58 36.4
KSH				pmax		pmax		
comp=Z,150nm,0.9s									
KSH				LR		LR		
comp=N,12μm,8.4s									
KSH				LR		LR		
comp=E,18μm,7.0s									
KSH				LR		LR		
comp=Z,22μm,10.0s									
HATD	**Hatta, Dubai**	**11.50**	**244**	P		**Pn**		**05 56 27.1**	**0.0**
SNR=14									
JMDO	**Jabal Madar**	**11.59**	**229**	P		**Pn**		**05 56 27.4**	**-0.9**
SNR=25									
ASHO	**Ashiyiah**	**11.63**	**244**	P		**Pn**		**05 56 30.7**	**+1.8**
SNR=42									
NAZ	**Nazwa, Dubai**	**11.79**	**246**	P		**Pn**		**05 56 35.5**	**+4.5**
SNR=33									
BSY	**Bisya**	**11.94**	**233**	P		**Pn**		**05 56 32.7**	**-0.5**
SNR=72									
ARQ	**Araqi**	**12.05**	**237**	P		**Pn**		**05 56 36.0**	**+1.4**

Sta	Name	Dist	Az	Phase	ISC	Time	Res
KAD				ex	x	06 00 08.0	
LATR	**Latur**	**14.45**	**143**	ePKP	**Pn**	**05 57 08.0**	**+0.6**
IR3	**Iran Long-Peri**	**14.76**	**295**	eP	**Pn**	**05 57 13.0**	**+1.4**
AAA	**Alma-Ata**	**14.92**	**28**	eP	**Pn**	**05 57 16.1**	**+2.4**
AAA				eS	**Sn**	**06 00 01.0**	**+1.2**
AAA				pmax	pmax		
	comp=Z,500nm,1.9s						
AAA				smax			
	comp=E,3µm,13.9s						
AAA				MLR	MLR		
	comp=Z,12µm,13.0s						
IMHD	**Mahdasht**	**15.10**	**295**	eP	**Pn**	**05 57 21.7**	**+5.6**
GKN	**Gorkha**	**15.14**	**95**	eP	**Pn**	**05 57 12.9**	**-3.9**
	comp=Z,305nm,0.8s						
GKN	**Gorkha**	**15.14**	**95**	eP	**Pn**	**05 57 12.9**	**-3.9**
	comp=Z,305nm,0.8s						
DMN	**Daman**	**15.63**	**96**	eP	**Pn**	**05 57 20.6**	**-2.7**
	comp=Z,464nm,1.0s						
DMN	**Daman**	**15.63**	**96**	eP	**Pn**	**05 57 20.6**	**-2.7**
	comp=Z,464nm,1.0s						
KKN	**Kakani**	**15.74**	**95**	eP	**Pn**	**05 57 21.9**	**-2.8**
	comp=Z,696nm,1.1s						
KKN	**Kakani**	**15.74**	**95**	eP	**Pn**	**05 57 21.9**	**-2.8**
	comp=Z,696nm,1.1s						
KKN	**Kakani**	**15.74**	**95**	eP	**Pn**	**05 57 21.9**	**-2.8**
KKN				pmax	pmax		
	comp=Z,696nm,1.1s						
GOA	**Goa**	**15.89**	**157**⇑	ex	x	05 57 20.9	
GOA				ex	x	06 01 41.1	
PKI	**Pulchoki**	**15.90**	**96**	eP	**Pn**	**05 57 23.9**	**-2.9**
	comp=Z,334nm,0.8s						
PKI	**Pulchoki**	**15.90**	**96**	eP	**Pn**	**05 57 23.9**	**-2.9**
	comp=Z,334nm,0.8s						
PKI	**Pulchoki**	**15.90**	**96**	eP	**Pn**	**05 57 23.9**	**-2.9**
PKI				pmax	pmax		
	comp=Z,334nm,0.8s						
GUN	**Gumba**	**16.23**	**94**	eP	**Pn**	**05 57 27.3**	**-3.7**
	comp=Z,1µm,0.7s						
GUN	**Gumba**	**16.23**	**94**	eP	**Pn**	**05 57 27.3**	**-3.7**
	comp=Z,1µm,0.7s						
HYB	**Hyderabad**	**16.35**	**140**	i P	**Pn**	**05 57 30.0**	**-2.5**
	comp=Z,120nm,1.0s						
HYB				eS	**Sn**	**06 00 49.0**	**+14**
JIRN	**Jiri**	**16.55**	**95**	eP	**Pn**	**05 57 32.5**	**-2.7**
	comp=Z,480nm,1.1s						
JIRN	**Jiri**	**16.55**	**95**	eP	**Pn**	**05 57 32.5**	**-2.7**
	comp=Z,480nm,1.1s						
RAMN	**Ramite**	**17.09**	**97**	eP	**Pn**	**05 57 38.7**	**-3.2**
	comp=Z,266nm,0.6s						
RAMN	**Ramite**	**17.09**	**97**	eP	**Pn**	**05 57 38.7**	**-3.2**
	comp=Z,266nm,0.6s						
QRN	**Al-Qurain**	**17.13**	**270**	eP	**Pn**	**05 57 40.0**	**-2.5**
QRN				AMb	AMB	05 57 43.4	
	comp=Z,78nm,0.4s						
UMR	**Umm Al-Rimmam**	**17.18**	**272**	eP	**Pn**	**05 57 40.8**	**-2.2**
UMR				AMb	AMB	05 57 47.0	
	comp=Z,168nm,0.6s						
KBD	**Kabd**	**17.26**	**271**	eP	**Pn**	**05 57 42.0**	**-2.0**
KBD				AMb	AMB	05 57 44.6	
	comp=Z,71nm,0.7s						
IKOM	**Komasi**	**17.34**	**288**	eP	**Pn**	**05 57 44.2**	**-0.8**
MIB	**Mutribah**	**17.48**	**273**	eP	**Pn**	**05 57 43.9**	**-2.8**
MIB				AMb	AMB	05 57 49.2	
	comp=Z,123nm,0.5s						
NAY	**Al-Naaiem**	**17.64**	**272**	eP	**Pn**	**05 57 45.9**	**-2.8**
NAY				AMb	AMB	05 57 49.0	
	comp=Z,64nm,0.8s						
RBK	**Rabkut**	**17.64**	**226**	P	**Pn**	**05 57 53.4**	**+4.7**
	SNR=5.3						
ODAN	**Odare**	**17.79**	**96**	eP	**Pn**	**05 57 49.2**	**-1.5**
	comp=Z,1µm,0.8s						
ODAN	**Odare**	**17.79**	**96**	eP	**Pn**	**05 57 49.2**	**-1.5**
	comp=Z,1µm,0.8s						
IVIS	**Veis**	**17.93**	**289**	eP	**Pn**	**05 57 50.9**	**-1.4**
TAPN	**Taplejung**	**17.94**	**95**	eP	**Pn**	**05 57 50.2**	**-2.3**
	comp=Z,562nm,1.0s						
TAPN	**Taplejung**	**17.94**	**95**	eP	**Pn**	**05 57 50.2**	**-2.3**
	comp=Z,562nm,1.0s						
ISRB	**Sarab**	**18.03**	**300**	eP	**Pn**	**05 57 54.5**	**+0.9**
IGHG	**Ghaleghazi**	**18.14**	**288**	eP	**Pn**	**05 57 54.2**	**-0.7**
ABTO	**Aybut**	**18.32**	**228**	P	**Pn**	**05 57 56.5**	**-0.8**
	SNR=6.2						
IDHR	**Dehrash**	**18.33**	**289**	eP	**Pn**	**05 57 56.9**	**-0.4**
IBST	**Bostanabad**	**18.58**	**299**	eP	**Pn**	**05 58 00.3**	**0.0**
IHRS	**Heris**	**18.66**	**301**	eP	**Pn**	**05 58 01.7**	**+0.5**
ISHB	**Shabestar**	**19.71**	**300**	eP	**Pn**	**05 58 12.5**	**-1.4**
AB31	**Akbulak array**	**19.73**	**345**	P	**Pn**	**05 58 12.9**	**-1.2**
	comp=Z,44nm,0.8s,baz=155,slow=11,SNR=281						
ABKAR	**Akbulak array**	**19.73**	**345**	eP	**Pn**	**05 58 12.8**	**-1.2**
	comp=Z,51nm,0.8s						
IMRD	**Marand**	**19.78**	**301**	eP	**Pn**	**05 58 13.4**	**-1.3**
BHD	**Baghdad**	**19.87**	**284**	i x	**Pn**	**05 58 12.0**	**-3.9**
BHD				i x	x	06 01 53.5	
MK31	**Makanchi Array**	**20.01**	**31**	P	**P**	**05 58 14.2**	**-1.5**
	comp=Z,48nm,0.7s,baz=210,slow=9.3,SNR=255						
MK31	**Makanchi Array**	**20.01**	**31**	eP	**P**	**05 58 14.6**	**-1.2**
MK31	**Makanchi Array**	**20.01**	**31**	eP	**P**	**05 58 14.6**	**-1.1**
MKAR	**Makanchi Array**	**20.01**	**31**	P	**P**	**05 58 14.4**	**-1.4**
	comp=Z,2.6nm,0.3s,baz=210,slow=10,SNR=110						
MKAR				S	**S**	**06 01 59.6**	**-1.9**
	baz=188,slow=20,SNR=2.2						
MKAR				LR	LR	06 06 46.3	
	comp=Z,5µm,20.4s,MS4.8,baz=218,slow=39						
MKAR	**Makanchi Array**	**20.01**	**31**	P	**P**	**05 58 14.4**	**-1.4**
MKAR				S	**S**	**06 01 59.6**	**-1.9**
MKAR	**Makanchi Array**	**20.01**	**31**	P	**P**	**05 58 14.4**	**-1.3**
MKAR				S	**S**	**06 01 59.6**	**-1.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,5µm,20.4s						
CAL	**Calcutta**	**20.18**	**108**	ePKP	**P**	**05 58 20.1**	**+2.4**
CAL				ex	x	06 02 12.7	
MAK	**Makhachkala**	**20.34**	**314**	eP	**P**	**05 58 15.5**	**-3.8**
MAK				e		05 58 34.3	
MAK				eS	**S**	**06 02 02.9**	**-5.1**
MAK				eSS		06 02 24.5	
MAK				pmax	pmax		
	comp=Z,814nm,2.2s						
MAK				MLR	MLR		
	comp=Z,5µm,12.0s,MS5.1						
RAYN	**Ar Rayn**	**20.75**	**256**	P	**P**	**05 58 21.9**	**-2.1**
	comp=Z,710nm,0.7s,SNR=53						
WMQ	**Urumqi**	**20.90**	**44**	P	**P**	**05 58 28.1**	**+2.7**
WMQ				pP		05 58 32.2	
WMQ				sP	sP	05 58 35.1	+10
WMQ				PP		05 58 50.2	
WMQ				S	**S**	**06 02 15.8**	**-3.4**
WMQ				pmax	pmax		
	comp=Z,180nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,730nm,3.6s						
WMQ				LR	LR		
	comp=N,7µm,16.4s,MS5.3						
WMQ				LR	LR		
	comp=E,7µm,16.4s,MS5.3						
WMQ				LR	LR		
	comp=Z,5µm,20.6s,MS4.8						
GNI	**Garni**	**20.96**	**304**	eP	**P**	**05 58 27.0**	**+0.9**
	comp=Z,218nm,1.3s						
GNI	**Garni**	**20.96**	**304**	eP	**P**	**05 58 27.0**	**+0.9**
GNI				pmax	pmax		
	comp=Z,218nm,1.3s						
GNI	**Garni**	**20.96**	**304**	P	**P**	**05 58 28.5**	**+2.4**
	SNR=16						
HAKT	**HAKKARI**	**20.98**	**296**	i P	**P**	**05 58 25.0**	**-1.4**
DGRG	**David-gareji**	**21.02**	**308**	P	**P**	**05 58 31.2**	**+4.4**
DGRG				S	S	06 02 58.6	+37
AKTO	**Aktyubinsk**	**21.29**	**343**	⇓P	**P**	**05 58 30.4**	**+0.8**
	comp=Z,18nm,1.1s,mb4.3						
AKTO	**Aktyubinsk**	**21.29**	**343**	P	**P**	**05 58 29.6**	**0.0**
	comp=Z,39nm,0.9s,mb4.7,baz=162,slow=9.6,SNR=43						
AKTO	**Aktyubinsk**	**21.29**	**343**	P	**P**	**05 58 29.6**	**0.0**
AKTO	**Aktyubinsk**	**21.29**	**343**	P	**P**	**05 58 29.6**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,39nm,0.9s,mb4.7						
TVAN	**Van**	**21.45**	**299**	i P	**P**	**05 58 35.9**	**+4.5**
MTA	**Mtatsminda**	**21.52**	**308**	P	**P**	**05 58 33.5**	**+1.4**
MTA				S	**S**	**06 02 35.5**	**+4.1**
TBLG	**Delisi**	**21.57**	**308**	eP	**P**	**05 58 33.5**	**+0.8**
TBLG	**Delisi**	**21.57**	**308**	P	**P**	**05 58 33.6**	**+0.9**
TBLG				S	**S**	**06 02 51.9**	**+19**
GEVA	**Gevas**	**21.66**	**298**	i P	**P**	**05 58 37.7**	**+4.1**
KURBB	**Kurchatov Arra**	**21.86**	**19**	⇓P	**P**	**05 58 33.9**	**-1.8**
	comp=Z,14nm,0.8s,mb4.4						
KURK	**Kurchatov**	**21.97**	**19**	⇓P	**P**	**05 58 35.3**	**-1.5**
	comp=Z,126nm,1.2s,mb5.2						
KURK	**Kurchatov**	**21.97**	**19**	P	**P**	**05 58 34.0**	**-2.9**
	comp=Z,67nm,0.9s,mb5.1,baz=208,slow=10,SNR=86						
KURK				LR	LR	06 08 18.3	
	comp=Z,2µm,19.8s,MS4.5,baz=195,slow=40						
KURK	**Kurchatov**	**21.97**	**19**	eP	**P**	**05 58 35.0**	**-1.8**
	comp=Z,84nm,0.9s,mb5.2						
KURK	**Kurchatov**	**21.97**	**19**	P	**P**	**05 58 35.0**	**-1.9**
	comp=Z,560nm,0.9s,mb6.0,SNR=41						
KURK	**Kurchatov**	**21.97**	**19**d	iP	**P**	**05 58 35.1**	**-1.8**
KURK				pmax	pmax		
	comp=Z,114nm,1.0s,mb5.3						
KURK				MLR	MLR		
	comp=Z,3µm,19.0s,MS4.7						
KURK	**Kurchatov**	**21.97**	**19**	P	**P**	**05 58 35.3**	**-1.6**
	SNR=55						
SIRN	**S˜–rnak**	**21.98**	**296**	i P	**P**	**05 58 38.6**	**+1.5**
SHL	**Shillong**	**22.03**	**97**	ePKP	**P**	**05 58 38.7**	**+1.0**
SHL				ex	x	06 02 39.5	
AGT	**Agartala**	**22.06**	**101**	ePKP	**P**	**05 58 38.0**	**-0.1**
AGT				ex	x	05 59 08.0	
AKH	**Akhalkalaki**	**22.30**	**306**	P	**P**	**05 58 43.4**	**+2.9**
AKH				S	**S**	**06 02 50.3**	**+3.5**
VOSK	**Vostochnaya**	**22.49**	**6**	⇓P	**P**	**05 58 41.4**	**-1.0**
	comp=Z,65nm,0.7s,mb5.2						
ZRNK	**Zerenda**	**22.60**	**2**	⇓P	**P**	**05 58 42.6**	**-1.0**
	comp=Z,101nm,0.9s,mb5.3						
BVA0	**Borovoye Array**	**22.75**	**4**	⇓P	**P**	**05 58 44.1**	**-1.0**
	comp=Z,21nm,1.4s,mb4.5						
BVAR	**Borovoye Array**	**22.75**	**4**	P	**P**	**05 58 44.1**	**-1.1**
	comp=Z,20nm,0.6s,mb4.8,baz=172,slow=11,SNR=96						
BVAR				S	**S**	**06 02 53.2**	**-1.9**
	comp=Z,2.3nm,1.0s,baz=230,slow=11,SNR=2.7						
BVAR				LR	LR	06 08 52.8	
	comp=Z,5µm,20.7s,MS5.0,baz=190,slow=40						
BVAR	**Borovoye Array**	**22.75**	**4**	P	**P**	**05 58 44.1**	**-1.1**
BVAR				S	**S**	**06 02 53.2**	**-1.9**
BVAR	**Borovoye Array**	**22.75**	**4**	P	**P**	**05 58 44.1**	**-1.0**
BVAR				S	**S**	**06 02 53.2**	**-1.9**
BVAR				pmax	pmax		
	comp=Z,20nm,0.6s						
BVAR				smax			
	comp=N,2.0nm,1.0s						
BVAR				MLR	MLR		
	comp=Z,5µm,20.7s						
BRVK	**Borovoye**	**22.77**	**4**	P	**P**	**05 58 45.0**	**-0.4**
	comp=Z,619nm,0.8s,mb6.2,SNR=28						
BRVK	**Borovoye**	**22.77**	**4**	eP	**P**	**05 58 44.8**	**-0.6**
	comp=Z,112nm,0.9s,mb5.4						
BRVK	**Borovoye**	**22.77**	**4**	eP	**P**	**05 58 44.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,112nm,0.9s,mb5.4						
BRVK	**Borovoye**	**22.77**	**4**	P	**P**	**05 58 44.5**	**-0.9**
	SNR=67						
ONI	**Oni**	**22.80**	**309**	P	**P**	**05 58 45.8**	**0.0**
ONI				S	**S**	**06 02 58.7**	**+2.6**
MARD	**Mardin**	**23.22**	**295**	i P	**P**	**05 58 48.6**	**-1.7**
BNGL	**BINGOL**	**23.26**	**299**	i P	**P**	**05 58 52.6**	**+1.9**
DAGI	**Agillar**	**23.30**	**304**	i P	**P**	**05 58 51.6**	**+0.5**
ARTV	**Artvin**	**23.32**	**305**	i P	**P**	**05 58 47.4**	**-4.0**
DDEM	**Demirkent**	**23.36**	**304**	i P	**P**	**05 58 54.0**	**+2.3**
TRD	**Trivandrum**	**23.46**	**156**⇓	ex	**P**	**05 58 59.0**	**+6.0**
DBOC	**Borcka**	**23.56**	**305**	i P	**P**	**05 58 55.3**	**+1.5**
DIYA	**Diyarbakir**	**23.84**	**296**	i P	**P**	**05 58 56.9**	**+0.4**
KIV	**Kislovodsk**	**23.89**	**311**	eP	**P**	**05 58 59.7**	**+2.9**
	comp=Z,94nm,1.0s,mb5.3						
KIV	**Kislovodsk**	**23.89**	**311**c	iP	**P**	**05 58 58.2**	**+1.4**
KIV				eS	**S**	**06 03 14.7**	**+0.9**
KIV				pmax	pmax		
	comp=Z,55nm,1.1s,mb5.0						
KIV				MLR	MLR		
	comp=Z,1µm,13.0s,MS4.6						
KIV	**Kislovodsk**	**23.89**	**311**	P	**P**	**05 58 58.5**	**+1.7**
	SNR=11						
KIV	**Kislovodsk**	**23.89**	**311**	P	**P**	**05 58 59.7**	**+2.9**
	comp=Z,280nm,1.3s,mb5.6,SNR=6.6						
IMP	**Imphal**	**24.04**	**97**	ePKP	**P**	**05 59 00.0**	**+1.6**
IMP				ex	x	06 03 12.0	
ELZG	**Elazig**	**24.83**	**297**	i P	**P**	**05 59 07.0**	**+1.6**
KELT	**Kelkit**	**24.97**	**301**	i P	**P**	**05 59 05.6**	**-1.2**
ATAB	**Bozova**	**25.20**	**294**	i P	**P**	**05 59 08.4**	**-0.5**
KEMA	**Kemaliye**	**25.35**	**298**	i P	**P**	**05 59 10.4**	**+0.2**
AKCD	**Akcadag**	**25.61**	**296**	i P	**P**	**05 59 11.2**	**-1.4**
SOC	**Sochi**	**25.70**	**309**	eP	**P**	**05 59 12.8**	**-0.6**
SOC				e		05 59 50.7	
SOC				eS	**S**	**06 03 39.5**	**-3.5**
SOC				pmax	pmax		
	comp=Z,107nm,1.5s,mb5.2						
SOC				MLR	MLR		
	comp=Z,3µm,14.0s,MS5.0						
ASF	**Jabal al Asfar**	**26.20**	**282**	P	**P**	**05 59 18.4**	**+0.4**
	comp=Z,23nm,0.8s,mb4.8,baz=339,slow=4.3,SNR=26						
ASF				LR	LR	06 11 36.1	
	comp=Z,3µm,18.3s,MS4.9,baz=136,slow=41						
ASF	**Jabal al Asfar**	**26.20**	**282**	P	**P**	**05 59 18.4**	**+0.4**
ASF	**Jabal al Asfar**	**26.20**	**282**	P	**P**	**05 59 18.4**	**+0.4**
ASF				pmax	pmax		
	comp=Z,23nm,0.9s						
ASF				MLR	MLR		
	comp=Z,3µm,18.3s						
SCER	**sogukcermik**	**26.50**	**299**	i P	**P**	**05 59 23.9**	**+3.3**
ZAA0	**Zalesovo Array**	**26.70**	**23**	eP	**P**	**05 59 22.4**	**+0.1**
ZALV	**Zalesovo Beam**	**26.70**	**23**	P	**P**	**05 59 22.5**	**+0.3**
	comp=Z,58nm,0.6s,mb5.5,baz=224,slow=9.4,SNR=110						
ZALV				LR	LR	06 11 06.7	
	comp=Z,1µm,19.4s,MS4.5,baz=36,slow=39						
ZALV	**Zalesovo Beam**	**26.70**	**23**	P	**P**	**05 59 22.5**	**+0.3**
ZALV	**Zalesovo Beam**	**26.70**	**23**	P	**P**	**05 59 22.5**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,58nm,0.6s,mb5.5						
ZALV				MLR	MLR		
	comp=Z,1µm,19.4s,MS4.5						
ARU	**Arti**	**26.82**	**349**	eP	**P**	**05 59 24.9**	**+1.6**
	comp=Z,40nm,1.0s,mb5.1						
ARU	**Arti**	**26.82**	**349**d	iP	**P**	**05 59 25.4**	**+2.1**
ARU				e		06 00 05.1	
ARU				ePPP		06 00 13.3	
ARU						06 02 40.9	
ARU				S	**S**	**06 04 04.6**	**+4.3**
ARU				SS		06 05 09.7	
ARU				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.2						
ARU				MLR	MLR		
	comp=Z,3µm,21.0s,MS4.8						
SVE	**Sverdlovsk**	**26.90**	**352**	eP	**P**	**05 59 24.7**	**+0.7**
SVE				eS	**S**	**06 03 54.9**	**-6.7**
SVE				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.1						
SVE				MLR	MLR		
	comp=Z,7µm,12.0s,MS5.5						
NVS	**Novosibirsk**	**26.94**	**20**	eP	**P**	**05 59 24.7**	**+0.3**
NVS				eS	**S**	**06 03 55.1**	**-7.2**
NVS				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.3						
NVS				pmax	pmax		
	comp=N,71nm,1.3s						
NVS				smax			
	comp=E,120nm,2.5s						
MMAI	**Mount Meron Ar**	**27.40**	**284**	P	**P**	**05 59 28.7**	**-0.2**
	comp=E,3.4nm,0.8s,mb4.1,baz=96,slow=13,SNR=2.9						
MMAI				LR	LR	06 12 16.4	
	comp=E,5µm,18.9s,MS5.1,baz=75,slow=41						
MMAI	**Mount Meron Ar**	**27.40**	**284**	P	**P**	**05 59 28.7**	**-0.2**
GTA	**Gaotai**	**27.87**	**62**	eP	**P**	**05 59 34.5**	**+1.5**
GTA				S	**S**	**06 04 18.7**	**+1.4**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
GTA				pmax	pmax		
	comp=Z,230nm,5.5s						
GTA				LR	LR		
	comp=N,8µm,18.5s,MS5.4						
GTA				LR	LR		
	comp=E,3µm,16.6s,MS5.4						
GTA				LR	LR		
	comp=Z,2µm,14.7s,MS4.8						
EIL	**Elat**	**28.16**	**277**	P	**P**	**05 59 35.9**	**+0.3**
	comp=Z,22nm,1.0s,mb5.0,baz=102,slow=2.2,SNR=6.8						
EIL				LR	LR	06 12 50.2	
	comp=Z,5µm,19.4s,MS5.1,baz=226,slow=41						
EIL	**Elat**	**28.16**	**277**	P	**P**	**05 59 35.9**	**+0.3**
HVS	**Khovu-Aksy**	**28.45**	**36**c	iP	**P**	**05 59 38.2**	**+0.2**
HVS				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.3						
HVS				MLR	MLR		
	comp=Z,8µm,18.0s,MS5.4						
BRTR	**Keskin Array B**	**29.13**	**298**	P	**P**	**05 59 43.0**	**-1.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=133,slow=9.8,SNR=19						
BRTR				LR	LR	06 13 54.4	
	comp=Z,2µm,18.1s,MS4.7,baz=96,slow=42						
BRTR	**Keskin Array B**	**29.13**	**298**	P	**P**	**05 59 43.0**	**-1.1**
BRTR	**Keskin Array B**	**29.13**	**298**c	eP	**P**	**05 59 45.9**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BR131	**Keskin Array S**	**29.13**	**298**	eP	**P**	**05 59 42.4**	**-1.8**
	comp=Z,6.8nm,0.9s,mb4.5						
ATD	**Arta Tunnel**	**29.58**	**236**	LR	LR	06 13 18.3	
	comp=Z,2µm,20.6s,MS4.7,baz=58,slow=40						
VSR	**Storozhevoye**	**29.61**	**323**	eP	**P**	**05 59 49.8**	**+1.5**
VSR				e*SP	sP	05 59 55.4	+7.1
VSR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
VSR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,30nm,1.1s						
VSR				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.0						
VSR				MLR	MLR		
	comp=N,3µm,17.0s						
VSR				MLR	MLR		
	comp=E,840nm,9.0s						
SIM	**Simferopol’**	**29.95**	**308**	eP	**P**	**05 59 53.2**	**+1.8**
SIM				eS	**S**	**06 04 46.0**	**-3.9**
SIM				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.0						
SIM				MLR	MLR		
	comp=Z,750nm,20.0s,MS4.3						
CHTO	**Chiang Mai**	**30.70**	**105**	eP	**P**	**05 59 58.8**	**+0.6**
	comp=Z,48nm,0.8s,mb5.5						
CHTO	**Chiang Mai**	**30.70**	**105**	eP	**P**	**05 59 58.8**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.5						
CHTO	**Chiang Mai**	**30.70**	**105**	P	**P**	**05 59 58.9**	**+0.6**
	comp=Z,658nmcomp=Z,73nm,0.9s,mb5.6						
CHTO	**Chiang Mai**	**30.70**	**105**	P	**P**	**05 59 59.5**	**+1.3**
	SNR=16						
LZH	**Lanzhou**	**30.80**	**70**	eP	**P**	**06 00 01.6**	**+2.6**
LZH				pP		06 00 05.3	
LZH				sP	sP	06 00 06.9	+7.9
LZH				PP	PP	06 00 59.1	-9.2
LZH				eS	**S**	**06 05 01.5**	**-1.9**
LZH				sS	sS	06 05 05.5	+2.1
LZH				SS	SS	06 06 39.6	-35
LZH				pmax	pmax		
	comp=Z,84nm,1.0s,mb5.6						
LZH				pmax	pmax		
	comp=Z,370nm,5.8s						
LZH				LR	LR		
	comp=N,1µm,9.1s						
LZH				LR	LR		
	comp=E,3µm,13.2s						
LZH				LR	LR		
	comp=Z,4µm,15.8s,MS5.2						
LZH	**Lanzhou**	**30.80**	**70**	eP	**P**	**06 00 01.6**	**+2.6**
	comp=Z,84nm,1.0s,mb5.6						
LZH				pP		06 00 05.3	
LZH				sP	sP	06 00 06.9	+7.9
LZH				PP	PP	06 00 59.1	-9.2
LZH				eS	**S**	**06 05 01.5**	**-1.9**
LZH				sS	sS	06 05 05.5	+2.1
LZH				SS	SS	06 06 39.6	-35
LZH				LR	LR		
	comp=Z,4µm,15.8s,MS5.2						
LZH	**Lanzhou**	**30.80**	**70**	eP	**P**	**06 00 01.6**	**+2.6**
LZH				*SP	sP	06 00 06.9	+7.9
LZH						06 00 59.1	
LZH				eS	**S**	**06 05 01.5**	**-1.9**
LZH				SS	SS	06 06 39.6	-35
LZH				pmax	pmax		
	comp=Z,84nm,1.0s,mb5.6						
LZH				MLR	MLR		
	comp=Z,4µm,15.8s,MS5.2						
CM31	**Chiang Mai Arr**	**30.87**	**105**	eP	**P**	**06 00 00.8**	**+1.1**
	comp=Z,12nm,0.7s,mb4.9						
CMAR	**Chiang Mai Arr**	**30.87**	**105**	P	**P**	**06 00 00.1**	**+0.3**
	comp=Z,18nm,0.9s,mb5.0,baz=304,slow=7.9,SNR=52						
CMAR				PcP	PcP	06 02 56.6	-0.2
	comp=Z,3.0nm,0.4s,baz=290,slow=5.0,SNR=5.1						
CMAR				LR	LR	06 14 21.5	
	comp=Z,2µm,21.8s,MS4.7,baz=295,slow=40						
CMAR	**Chiang Mai Arr**	**30.87**	**105**	P	**P**	**06 00 00.1**	**+0.3**
CMAR				PcP	PcP	06 02 56.6	-0.2
CMAR	**Chiang Mai Arr**	**30.87**	**105**	P	**P**	**06 00 00.1**	**+0.4**
CMAR						06 02 56.6	
CMAR				pmax	pmax		
	comp=Z,18nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,2µm,21.8s						
CD2	**Chengdu**	**31.10**	**80**	eP	**P**	**06 00 04.8**	**+3.1**
CD2				pP		06 00 09.2	
CD2				sP	sP	06 00 11.8	+10
CD2				PP	PP	06 01 06.8	-5.0
CD2				S	**S**	**06 05 08.0**	**-0.3**
CD2				sS	sS	06 05 15.3	+7.0
CD2				SS	SS	06 06 52.0	-29
CD2				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
CD2				pmax	pmax		
	comp=Z,50nm,4.2s						
CD2				LR	LR		
	comp=N,5µm,12.0s,MS5.5						
CD2				LR	LR		
	comp=E,5µm,12.0s,MS5.5						
CD2				LR	LR		
	comp=Z,6µm,14.4s,MS5.4						
KMI	**Kunming**	**31.52**	**91**	P	**P**	**06 00 07.0**	**+1.5**
KMI				pP		06 00 09.9	
KMI				sP	sP	06 00 11.3	+5.8
KMI				PP	PP	06 01 11.3	-5.2
KMI				S	**S**	**06 05 14.3**	**-0.6**
KMI				sS	sS	06 05 19.3	+4.3
KMI				SS	SS	06 07 01.3	-28
KMI				ScS	ScS	06 10 38.4	-2.4
KMI				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
KMI				pmax	pmax		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,2µm,15.8s,MS5.1						
KMI				LR	LR		
	comp=E,2µm,15.3s,MS5.1						
KMI				LR	LR		
	comp=Z,2µm,14.0s,MS4.8						
KMI	**Kunming**	**31.52**	**91**	P	**P**	**06 00 07.0**	**+1.5**
	comp=Z,28nm,1.0s,mb5.2						
KMI				pP		06 00 09.9	
KMI				sP	sP	06 00 11.3	+5.8
KMI				PP	PP	06 01 11.3	-5.2
KMI				PPP		06 01 26.5	
KMI				S	**S**	**06 05 14.3**	**-0.6**
KMI				sS	sS	06 05 19.3	+4.3
KMI				SS	SS	06 07 01.3	-28
KMI				SSS		06 07 22.5	
KMI				ScS	ScS	06 10 38.4	-2.4
KMI				LR	LR		
	comp=Z,2µm,14.0s,MS4.8						
KMI	**Kunming**	**31.52**	**91**	P	**P**	**06 00 07.0**	**+1.5**
KMI				*SP	sP	06 00 11.3	+5.8
KMI						06 01 11.3	
KMI				PPP		06 01 26.5	
KMI				S	**S**	**06 05 14.3**	**-0.6**
KMI				SS	SS	06 07 01.3	-28
KMI				SSS		06 07 22.5	
KMI						06 10 38.4	
KMI				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
KMI				MLR	MLR		
	comp=Z,2µm,14.0s,MS4.8						
MOY	**Mondy**	**32.60**	**40**	eP	**P**	**06 00 19.5**	**+4.9**
MOY				pmax	pmax		
	comp=Z,34nm,2.3s,mb4.9						
MOS	**Moscow**	**33.02**	**329**	eP	**P**	**06 00 15.4**	**-2.8**
MOS				e		06 00 31.3	
MOS				e		06 01 25.9	
MOS				ePPP		06 01 45.2	
MOS				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.4						

OBN	**Obninsk**	**33.12**	**327**	*e*P	**P**	**06 00 20.9**	**+1.7**
	comp=Z,53nm,0.8s,mb5.5						
OBN	**Obninsk**	**33.12**	**327**κ	*i*P	**P**	**06 00 20.5**	**+1.3**
OBN				*e*		06 01 29.3	
OBN				*e*		06 03 03.2	
OBN				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.5						
ZAK	**Zakamensk**	**33.35**	**43**	*e*P	**P**	**06 00 21.8**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
KIS	**Kishinev**	**34.07**	**310**	*e*P	**P**	**06 00 27.0**	**-0.5**
KIS				LRM		06 21 00.0	
	comp=Z,2μm,16.0s						
KIS	**Kishinev**	**34.07**	**310**	*e*P	**P**	**06 00 27.0**	**-0.5**
TLY	**Talaya**	**34.09**	**41**	*e*P	**P**	**06 00 29.6**	**+2.0**
	comp=Z,90nm,2.0s,mb5.3						
TLY	**Talaya**	**34.09**	**41**	*e*P	**P**	**06 00 29.4**	**+1.8**
TLY				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
TLY				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.0						
SONM	**Songino Array**	**34.42**	**48**	P	**P**	**06 00 31.1**	**+0.5**
	comp=Z,7.2nm,0.8s,mb4.6,baz=257,slow=9.4,SNR=34						
SONM				PP	PP	06 01 56.3	+8.1
	comp=Z,4.6nm,0.8s,baz=255,slow=11,SNR=3.9						
SONM				PcP	PcP	06 03 08.0	+1.9
	comp=Z,3.0nm,0.8s,baz=262,slow=4.6,SNR=4.4						
SONM				LR	LR	06 16 48.8	
	comp=Z,6μm,18.6s,MS5.3,baz=248,slow=40						
SONM	**Songino Array**	**34.42**	**48**	P	**P**	**06 00 31.1**	**+0.5**
SONM				PP	PP	06 01 56.3	+8.1
SONM				PcP	PcP	06 03 08.0	+1.9
SONM	**Songino Array**	**34.42**	**48**	P	**P**	**06 00 31.1**	**+0.6**
SONM						06 03 08.0	
SONM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,6μm,18.6s						
GYA	**Guiyang**	**34.53**	**87**⇑	*i*P	**P**	**06 00 32.4**	**+0.6**
GYA				PP	PP	06 01 49.3	-0.6
GYA				S	**S**	**06 06 01.7**	**0.0**
GYA				ScP	ScP	06 06 51.8	-1.5
GYA				SS	SS	06 08 11.0	-20
GYA				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=N,2μm,20.8s,MS5.0						
GYA				LR	LR		
	comp=E,2μm,20.0s,MS5.0						
GYA				LR	LR		
	comp=Z,2μm,20.8s,MS4.9						
ULN	**Ulaanbaatar**	**34.85**	**49**	*e*P	**P**	**06 00 35.8**	**+1.5**
	comp=Z,6.5nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**34.85**	**49**	*e*P	**P**	**06 00 35.8**	**+1.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**34.85**	**49**	P	**P**	**06 00 33.6**	**-0.7**
	comp=Z,14nm,1.6s,mb4.6						
AKASG	**Malin Array Be**	**34.97**	**317**	P	**P**	**06 00 34.1**	**-1.1**
	comp=Z,26nm,0.8s,mb5.2,baz=101,slow=7.3,SNR=22						
AKASG				LR	LR	06 17 22.7	
	comp=Z,2μm,19.0s,MS4.9,baz=90,slow=41						
AKASG	**Malin Array Be**	**34.97**	**317**	P	**P**	**06 00 34.1**	**-1.1**
AKASG	**Malin Array Be**	**34.97**	**317**	P	**P**	**06 00 34.2**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,26nm,0.8s						
AKASG				MLR	MLR		
	comp=Z,2μm,19.0s						
AKBB	**Malin Array Si**	**34.97**	**317**	*e*P	**P**	**06 00 36.0**	**+0.8**
AKBB	**Malin Array Si**	**34.97**	**317**	*e*P	**P**	**06 00 36.0**	**+0.8**
KIEV	**Kiev**	**34.97**	**317**	*e*P	**P**	**06 00 34.2**	**-1.1**
	comp=Z,40nm,0.9s,mb5.3						
KIEV	**Kiev**	**34.97**	**317**	*e*P	**P**	**06 00 34.2**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
XAN	**Xi'an**	**35.06**	**73**	P	**P**	**06 00 36.5**	**+0.2**
XAN				pP		06 00 42.3	
XAN				sP	sP	06 00 44.7	+8.4
XAN				S	**S**	**06 06 08.5**	**-1.2**
XAN				SS	SS	06 08 20.1	-21
XAN				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
XAN				pmax	pmax		
	comp=Z,30nm,8.1s						
XAN				LR	LR		
	comp=N,5μm,21.0s,MS5.2						
XAN				LR	LR		
	comp=E,720nm,23.7s,MS5.2						
XAN				LR	LR		
	comp=Z,1μm,19.7s,MS4.7						
VRI	**Vrincioaia**	**35.22**	**308**⇑	P	**P**	**06 00 39.4**	**+2.0**
VRI	**Vrincioaia**	**35.22**	**308**⇑	*i*P	**P**	**06 00 39.4**	**+2.0**
PLOR	**Plostina**	**35.27**	**308**⇓	P	**P**	**06 00 40.0**	**+2.1**
PLOR	**Plostina**	**35.27**	**308**⇓	*i*P	**P**	**06 00 40.0**	**+2.1**
MLR	**Muntele Rosu**	**35.68**	**307**	P	**P**	**06 00 42.9**	**+1.4**
	comp=Z,8.0nm,0.9s,mb4.5,baz=326,slow=1.0,SNR=14						
MLR				LR	LR	06 18 50.5	
	comp=Z,360nm,20.3s,MS4.1,baz=313,slow=42						
MLR	**Muntele Rosu**	**35.68**	**307**	P	**P**	**06 00 42.9**	**+1.4**
MLR	**Muntele Rosu**	**35.68**	**307**	⇓P	**P**	**06 00 42.9**	**+1.4**
MLR	**Muntele Rosu**	**35.68**	**307**	⇓*i*P	**P**	**06 00 42.9**	**+1.4**
BTO	**Baotou**	**35.79**	**62**	*e*P	**P**	**06 00 43.3**	**+0.9**
BSI	**Banda Aceh**	**35.99**	**128**	P	**P**	**06 00 42.9**	**-1.5**
	comp=Z,820nmcomp=Z,68nm,1.1s,mb5.4						
DOPR	**Dopca**	**36.15**	**308**⇓	*i*P	**P**	**06 00 46.3**	**+0.8**
VOIR		**36.29**	**307**	⇓P	**P**	**06 00 48.2**	**+1.5**
VOIR		**36.29**	**307**⇓	*i*P	**P**	**06 00 48.2**	**+1.5**
BURAR	**Bucovina Array**	**36.60**	**310**	⇓P	**P**	**06 00 49.4**	**+0.1**
BURAR	**Bucovina Array**	**36.60**	**310**⇓	*i*P	**P**	**06 00 49.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**36.62**	**310**	*e*P	**P**	**06 00 49.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**36.97**	**61**	*e*P	**P**	**06 00 54.5**	**+2.0**
HHC				sP	sP	06 01 00.2	+7.6
HHC				PP	PP	06 02 20.3	+3.7
HHC				PcP	PcP	06 03 15.9	+2.1
HHC				S	**S**	**06 06 37.7**	**-1.1**
HHC				sS	sS	06 06 44.9	+6.1
HHC				ScP	ScP	06 07 01.7	-0.3
HHC				PcS	PcS	06 07 02.8	+1.0
HHC				SS	SS	06 09 06.6	-13
HHC				ScS	ScS	06 11 07.2	-1.9
HHC				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.9						
HHC				pmax	pmax		
	comp=Z,98nm,5.3s						
HHC				LR	LR		
	comp=N,2μm,13.4s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,14.8s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,14.1s,MS5.0						
MICGM	**Minsk**	**37.18**	**322**	*e*	**P**	**06 00 52.0**	**-2.2**
MNK	**Minsk**	**37.21**	**322**	*e*P	**P**	**06 00 52.0**	**-2.4**
VTS	**Vitosha**	**37.27**	**302**	⇓P	**P**	**06 00 57.0**	**+2.0**
VTS	**Vitosha**	**37.27**	**302**⇓	*i*P	**P**	**06 00 57.0**	**+2.0**
GZR	**Gura Zlata**	**37.87**	**306**⇑	P	**P**	**06 01 02.0**	**+1.9**
GZR	**Gura Zlata**	**37.87**	**306**⇑	*i*P	**P**	**06 01 02.0**	**+1.9**
LVV	**L'vov**	**37.88**	**313**	*e*P	**P**	**06 01 01.1**	**+1.0**
LVV				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.5						
LVV				MLR	MLR		
	comp=N,2μm,16.0s,MS5.0						
LVV				MLR	MLR		
	comp=E,1μm,16.0s,MS5.0						
NACGM	**Naroch**	**37.93**	**322**	*e*	**P**	**06 01 01.0**	**+0.5**
TRPA	**Tarpa**	**38.47**	**310**⇓	*i*P	**P**	**06 01 05.2**	**+0.1**
KWP	**Kalwaria Pacla**	**38.67**	**313**	*e*P	**P**	**06 01 07.0**	**+0.2**
	comp=E,56nm,1.0s,mb5.2						
KWP	**Kalwaria Pacla**	**38.67**	**313**	*e*P	**P**	**06 01 07.0**	**+0.2**
KWP				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.2						
KWP	**Kalwaria Pacla**	**38.67**	**313**⇓	*i*P	**P**	**06 01 09.8**	**+3.0**
BZS	**Buzias**	**38.71**	**306**	⇓P	**P**	**06 01 07.2**	**0.0**
BZS	**Buzias**	**38.71**	**306**⇓	*i*P	**P**	**06 01 07.2**	**0.0**
UZH	**Uzhgorod**	**38.73**	**311**⇑	*i*P	**P**	**06 01 07.5**	**+0.2**
UZH				*e*		06 01 13.5	
KOLS	**Kolonicke sedl**	**38.80**	**312**	*e*P	**P**	**06 01 08.1**	**+0.2**
KOLS				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.7						
KOLS	**Kolonicke sedl**	**38.80**	**312**	*e*P	**P**	**06 01 08.1**	**+0.2**
TPTI		**38.89**	**128**	P	**P**	**06 01 10.3**	**+1.3**
	comp=Z,41nm,1.5s,mb4.8						
CRVS	**Cervenica-Dubn**	**39.32**	**311**	*e*P	**P**	**06 01 12.2**	**0.0**
CRVS				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
CRVS	**Cervenica-Dubn**	**39.32**	**311**	*e*P	**P**	**06 01 12.2**	**0.0**
VSU	**Vasula**	**39.48**	**327**	*d i*P	**P**	**06 01 14.4**	**+0.9**
VSU				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.2						
VSU				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.1						
SUW	**Suwalki**	**39.57**	**320**	*e*P	**P**	**06 01 15.9**	**+1.6**
SUW	**Suwalki**	**39.57**	**320**	*e*P	**P**	**06 01 16.1**	**+1.8**
	comp=Z,69nm,1.0s,mb5.2						
SUW	**Suwalki**	**39.57**	**320**	*e*P	**P**	**06 01 16.1**	**+1.8**
SUW				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.2						
QIZ	**Qiongzhong**	**39.87**	**96**	P	**P**	**06 01 15.0**	**-2.2**
QIZ				S	**S**	**06 07 22.9**	**-0.1**
QIZ				sS	sS	06 07 29.6	+6.6
QIZ				pmax	pmax		
	comp=Z,39nm,2.1s,mb4.7						
QIZ				pmax	pmax		
	comp=Z,190nm,4.8s						
QIZ				LR	LR		
	comp=N,1μm,15.6s,MS4.8						
QIZ				LR	LR		
	comp=E,450nm,14.9s,MS4.8						
QIZ				LR	LR		
	comp=Z,1μm,18.7s,MS4.8						
KECS	**Kecovo**	**39.88**	**311**	*e*P	**P**	**06 01 17.3**	**+0.4**
KECS				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
KECS	**Kecovo**	**39.88**	**311**	*e*P	**P**	**06 01 17.2**	**+0.3**
KULM	**Kulim**	**39.93**	**122**	*e*P	**P**	**06 01 18.8**	**+1.1**
	comp=Z,30nm,0.8s,mb5.0						
KULM	**Kulim**	**39.93**	**122**	P	**P**	**06 01 19.1**	**+1.4**
	comp=Z,44nm,0.9s,mb5.1						
JOF	**Joensuu**	**39.98**	**335**	*e*P	**P**	**06 01 16.7**	**-0.8**
JOF				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.2						
JOF	**Joensuu**	**39.98**	**335**	*e*p	**P**	**06 01 16.7**	**-0.8**
	comp=Z,48nm,0.7s,mb5.2						
WHN	**Wuhan**	**40.14**	**77**	P	**P**	**06 01 20.0**	**+0.7**
WHN				S	**S**	**06 07 20.7**	**-6.2**
WHN				LR	LR		
	comp=N,4μm,15.4s,MS5.5						
WHN				LR	LR		
	comp=E,5μm,17.3s,MS5.5						
WHN				LR	LR		
	comp=Z,6μm,16.0s,MS5.5						
NIE	**Niedzica**	**40.16**	**312**	*e*P	**P**	**06 01 19.7**	**+0.5**
NIE	**Niedzica**	**40.16**	**312**	*e*P	**P**	**06 01 19.7**	**+0.5**
PSZ	**Piszkesteto**	**40.19**	**310**	*e*P	**P**	**06 01 19.8**	**+0.4**
	comp=Z,54nm,0.9s,mb5.2						
PSZ	**Piszkesteto**	**40.19**	**310**	*e*P	**P**	**06 01 19.8**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,54nm,0.9s,mb5.2						
PSZ	**Piszkesteto**	**40.19**	**310**⇑	*e*P	**P**	**06 01 19.6**	**+0.1**
PSZ	**Piszkesteto**	**40.19**	**310**⇓	*i*P	**P**	**06 01 19.9**	**+0.4**
PSI	**Prapat**	**40.42**	**127**	P	**P**	**06 01 16.5**	**-5.3**
BJI	**Beijing**	**40.49**	**63**	P	**P**	**06 01 22.8**	**+0.7**
BJI				S	**S**	**06 07 30.0**	**-1.9**
BJI				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.8						
BJI				pmax	pmax		
	comp=Z,130nm,3.6s						
BJI				LR	LR		
	comp=N,4μm,20.5s,MS5.4						
BJI				LR	LR		
	comp=E,2μm,16.3s,MS5.4						
BJI				LR	LR		
	comp=Z,950nm,28.1s						
OJC	**Ojcow**	**40.63**	**313**	*e*P	**P**	**06 01 23.7**	**+0.6**
	comp=Z,30nm,1.2s,mb4.9						
OJC	**Ojcow**	**40.63**	**313**	*e*P	**P**	**06 01 23.7**	**+0.6**
OJC				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9						
IPM	**Ipoh**	**40.75**	**123**	*e*P	**P**	**06 01 25.1**	**+0.6**
	comp=Z,23nm,0.8s,mb5.0						
IPM	**Ipoh**	**40.75**	**123**	P	**P**	**06 01 25.7**	**+1.2**
	comp=Z,37nm,1.0s,mb5.1						
PKSM	**Moragy**	**40.84**	**307**⇑	P	**P**	**06 01 26.0**	**+1.1**
PKSM	**Moragy**	**40.84**	**307**⇑	*i*P	**P**	**06 01 26.0**	**+1.1**
LIKS	**Likavka**	**40.87**	**311**	*e*P	**P**	**06 01 25.2**	**+0.1**
LIKS				pmax	pmax		
	comp=Z,41nm,1.5s,mb4.9						
LIKS	**Likavka**	**40.87**	**311**	*e*P	**P**	**06 01 25.2**	**+0.1**
FINES	**FINESS Array B**	**41.21**	**331**	P	**P**	**06 01 25.9**	**-1.8**
	comp=Z,30nm,0.8s,mb5.1,baz=111,slow=11,SNR=31						
FINES				LR	LR	06 21 08.2	
	comp=Z,3μm,19.3s,MS5.2,baz=116,slow=40						
FINES	**FINESS Array B**	**41.21**	**331**	P	**P**	**06 01 25.9**	**-1.8**
FINES	**FINESS Array B**	**41.21**	**331**	P	**P**	**06 01 25.9**	**-1.8**
FINES				pmax	pmax		
	comp=Z,30nm,0.8s						
FINES				MLR	MLR		
	comp=Z,3μm,19.3s						
KOLL	**Kolacno**	**41.27**	**310**	*e*P	**P**	**06 01 28.7**	**+0.3**
KOLL	**Kolacno**	**41.27**	**310**	*e*P	**P**	**06 01 28.7**	**+0.3**
KAF	**Kangasniemi**	**41.45**	**332**	*e*P	**P**	**06 01 29.1**	**-0.6**
KAF				pmax	pmax		
	comp=Z,41nm,0.7s,mb5.3						
KAF	**Kangasniemi**	**41.45**	**332**	*e*p	**P**	**06 01 29.1**	**-0.6**
	comp=Z,41nm,0.7s,mb5.3						
OKC	**Ostrava-Krasne**	**41.61**	**312**	*e*P	**P**	**06 01 31.1**	**-0.1**
OKC				*e*		06 01 39.4	
OKC				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.9						
OKC	**Ostrava-Krasne**	**41.61**	**312**	*e*P	**P**	**06 01 31.1**	**-0.1**
OKC				*ex*	x	06 01 39.4	
OKC				AMS	AMS	06 23 50.0	
	comp=Z,1μm,17.0s						
BOD	**Bodaibo**	**41.99**	**35**	*e*P	**P**	**06 01 33.8**	**-0.4**
BOD				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.0						
MORC	**Moravsky Berou**	**41.99**	**312**	*e*P	**P**	**06 01 33.7**	**-0.6**
	comp=Z,18nm,0.9s,mb4.8						
MORC	**Moravsky Berou**	**41.99**	**312**	*e*P	**P**	**06 01 33.7**	**-0.6**
MORC				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8						
MORC	**Moravsky Berou**	**41.99**	**312**⇑	*i*P	**P**	**06 01 35.2**	**+0.9**
ZST	**Bratislava**	**42.08**	**310**	*e*P	**P**	**06 01 34.9**	**-0.1**
ZST				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.0						
ZST	**Bratislava**	**42.08**	**310**	*e*P	**P**	**06 01 34.9**	**-0.1**
LVZ	**Lovozero**	**42.25**	**342**	*e*P	**P**	**06 01 37.6**	**+1.5**
	comp=Z,45nm,0.9s,mb5.2						
LVZ	**Lovozero**	**42.25**	**342**⇓	*i*P	**P**	**06 01 36.7**	**+0.5**
LVZ				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.2						
LVZ				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.9						
MNSI	**Mandailing Nat**	**42.32**	**128**	P	**P**	**06 01 38.6**	**+1.2**
	comp=Z,48nm,0.9s,mb5.2						
MNSI	**Mandailing Nat**	**42.32**	**128**	P	**P**	**06 01 38.8**	**+1.4**
	comp=Z,48nm,0.9s,mb5.2						
APA	**Apatity**	**42.35**	**341**⇓	*i*P	**P**	**06 01 38.2**	**+1.2**
APA				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.2						
APA				MLR	MLR		
	comp=Z,24μm,13.0s,MS6.3						
SOP	**Sopron**	**42.39**	**309**⇑	*e*P	**P**	**06 01 38.5**	**+0.9**
KOGS	**Kog**	**42.51**	**307**	*i* P	**P**	**06 01 37.9**	**-0.7**
KMBO	**Kilima Mbogo**	**42.56**	**228**	*e*P	**P**	**06 01 40.6**	**+1.3**
	comp=Z,17nm,1.1s,mb4.7						
KMBO	**Kilima Mbogo**	**42.56**	**228**	*e*P	**P**	**06 01 40.7**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,17nm,1.1s						
KMBO	**Kilima Mbogo**	**42.56**	**228**	P	**P**	**06 01 44.5**	**+5.2**
	SNR=7.6						
CUC	**Castrocucco**	**42.82**	**298**	*e*P	**P**	**06 01 41.2**	**-0.1**
	comp=Z,22nm,0.7s,mb5.0						
DPC	**Dobruska-Polom**	**42.85**	**313**	*e*P	**P**	**06 01 41.9**	**+0.6**
	comp=Z,50nm,1.2s,mb5.1						
DPC	**Dobruska-Polom**	**42.85**	**313**	*e*P	**P**	**06 01 41.9**	**+0.6**
DPC				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.1						
DPC	**Dobruska-Polom**	**42.85**	**313**	*e*P	**P**	**06 01 41.7**	**+0.4**
DPC				AMS	AMS	06 24 10.0	
	comp=Z,1μm,17.4s						
CSNA	**Conrad Observa**	**42.88**	**309**⇑	*i*P	**P**	**06 01 41.1**	**-0.5**
	comp=Z,15nm,1.3s,mb4.6						
KSP	**Ksiaz**	**42.94**	**313**	*e*P	**P**	**06 01 43.3**	**+1.3**
KSP	**Ksiaz**	**42.94**	**313**	*e*P	**P**	**06 01 43.0**	**+1.0**
KSP				*e*pP		06 01 50.4	
KSP				*e*S	**S**	**06 08 08.5**	**+0.6**
KSP				LM		06 22 26.0	
	comp=Z,3.1nm,21.2s						
KSP	**Ksiaz**	**42.94**	**313**	*e*P	**P**	**06 01 43.0**	**+1.0**
KSP				*e**PP		06 01 50.4	
KSP				*e*S	**S**	**06 08 08.5**	**+0.6**
KSP				MLR	MLR		
	comp=Z,3μm,21.2s,MS5.2						
CRES	**Cresnjev**	**43.02**	**306**	*e*P	**P**	**06 01 42.3**	**-0.4**
ARSA	**Arzberg**	**43.06**	**308**	*i* pP	pP	06 01 43.2	+0.2
	comp=Z,55nm,1.1s,SNR=15						
UPC	**Upice**	**43.07**	**313**	*e*P	**P**	**06 01 44.7**	**+1.6**
UPC				*e*		06 01 51.9	
UPC	**Upice**	**43.07**	**313**	*e*P	**P**	**06 01 44.7**	**+1.6**
UPC				*ex*	x	06 01 51.9	
TREC	**Trest**	**43.26**	**311**	*e*P	**P**	**06 01 45.5**	**+0.9**
TREC				*e*		06 01 53.6	
TREC				MLR	MLR		
	comp=Z,2μm,17.3s,MS5.0						
TREC	**Trest**	**43.26**	**311**	*e*P	**P**	**06 01 45.5**	**+0.9**
TREC				*ex*	x	06 01 53.6	
TREC				AMS	AMS	06 22 50.0	
	comp=Z,2μm,17.3s						
PDKS	**Podkum**	**43.35**	**306**	*i* P	**P**	**06 01 45.2**	**-0.2**
SOKA	**Soboth**	**43.36**	**307**⇑	*i*P	**P**	**06 01 45.2**	**-0.3**
	comp=Z,25nm,1.1s,mb4.9						
NJ2	**Nanjing**	**43.60**	**74**	*e*P	**P**	**06 01 48.5**	**+0.8**
NJ2				pP		06 01 52.0	
NJ2				sP	sP	06 01 56.6	+8.9
NJ2				S	**S**	**06 08 17.0**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.4						
NJ2				pmax	pmax		
	comp=Z,270nm,10.8s						
NJ2				LR	LR		
	comp=N,4μm,21.3s,MS5.5						
NJ2				LR	LR		
	comp=E,4μm,21.3s,MS5.5						
NJ2				LR	LR		
	comp=Z,4μm,19.1s,MS5.4						
BKNI	**Bangkinang**	**43.66**	**127**	P	**P**	**06 01 51.1**	**+2.8**
BKNI	**Bangkinang**	**43.66**	**127**	P	**P**	**06 01 49.4**	**+1.1**
	comp=Z,1μmcomp=Z,104nm,1.1s,mb5.5						
OBKA	**Obir**	**43.68**	**307**⇓	*i*P	**P**	**06 01 48.0**	**-0.1**
	comp=Z,23nm,1.2s,mb4.8,SNR=6.0						
CEY	**Cerknica**	**43.74**	**306**⇑	*e*P	**P**	**06 01 48.0**	**-0.6**
PPI	**Padang Panjang**	**43.79**	**128**	P	**P**	**06 01 51.4**	**+2.1**
	comp=Z,738nmcomp=Z,28nm,1.2s,mb4.9						
PPI	**Padang Panjang**	**43.79**	**128**	P	**P**	**06 01 49.4**	**+0.1**
	comp=Z,746nmcomp=Z,29nm,0.6s,mb5.2						
PRU	**Pruhonice**	**43.94**	**312**	*e*P	**P**	**06 01 45.7**	**-4.4**
PRU				MLR	MLR		
	comp=Z,1μm,14.7s,MS5.0						
PRU	**Pruhonice**	**43.94**	**312**	*e*P	**P**	**06 01 45.7**	**-4.4**
PRU				AMS	AMS	06 26 10.0	
	comp=Z,1μm,14.7s						
MOA	**Molln**	**43.95**	**309**	*i* P	**P**	**06 01 49.7**	**-0.5**
	comp=Z,53nm,1.0s,mb5.2,SNR=21						
PVCC	**Panska Ves**	**43.99**	**313**	*e*P	**P**	**06 01 51.5**	**+1.0**
PVCC				*e*		06 02 00.0	
PVCC	**Panska Ves**	**43.99**	**313**	*e*P	**P**	**06 01 51.5**	**+1.0**
PVCC				*ex*	x	06 02 00.0	
VOY	**Vojsko**	**44.12**	**306**	*e*P	**P**	**06 01 50.7**	**-0.9**
VOY				*e*		06 01 53.3	
VOY				*e*		06 02 16.2	
PDSI	**Padang**	**44.16**	**129**	P	**P**	**06 01 53.0**	**+0.7**
	comp=Z,65nm,1.0s,mb5.3						
PDSI	**Padang**	**44.16**	**129**	P	**P**	**06 01 52.8**	**+0.5**
	comp=Z,65nm,1.0s,mb5.3						
CADS	**Cadrg**	**44.23**	**307**	*i* P	**P**	**06 01 51.7**	**-0.8**
GEC2	**GERESS Array S**	**44.39**	**310**	*e*P	**P**	**06 01 54.7**	**+1.0**
	comp=Z,34nm,1.6s,mb4.8						
GEC2	**GERESS Array S**	**44.39**	**310**	*e*P	**P**	**06 01 54.7**	**+1.0**
GEC2				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.8						
GERES	**GERESS Array B**	**44.39**	**310**	P	**P**	**06 01 53.3**	**-0.4**
	comp=Z,10.0nm,0.8s,mb4.6,baz=94,slow=8.0,SNR=42						
GERES	**GERESS Array B**	**44.39**	**310**	P	**P**	**06 01 53.3**	**-0.4**
GERES	**GERESS Array B**	**44.39**	**310**	P	**P**	**06 01 53.3**	**-0.4**
GERES				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRG	**Berggiesshubel**	**44.42**	**313**	*e*P	**P**	**06 01 54.2**	**+0.2**
	comp=Z,45nm,1.4s,mb5.0						
BRG				*i*		06 02 08.4	
	comp=Z,72nm,1.4s						
BRG				S	**S**	**06 08 33.0**	**+3.4**
BRG				SS	SS	06 11 55.0	+7.0
BRG							
	comp=N,1μm,10.6s						
BRG							
	comp=E,1μm,15.7s						
BRG							
	comp=Z,2μm,15.4s						
BRG	**Berggiesshubel**	**44.42**	**313**	*e*P	**P**	**06 01 55.4**	**+1.5**
	comp=Z,45nm,1.4s,mb5.0						
BRG	**Berggiesshubel**	**44.42**	**313**	*e*P	**P**	**06 01 54.2**	**+0.3**
BRG				*i*		06 02 08.4	
BRG				S	**S**	**06 08 33.0**	**+3.4**
BRG				SS	SS	06 11 55.0	+7.0
BRG				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.0						
BRG				pmax	pmax		
	comp=Z,72nm,1.4s,mb5.2						
BRG				MLR	MLR		
	comp=N,1μm,10.6s						
BRG				MLR	MLR		
	comp=E,1μm,15.7s						
BRG				MLR	MLR		
	comp=Z,2μm,15.4s,MS5.2						
KHC	**Kasperske Hory**	**44.49**	**311**	*e*P	**P**	**06 01 55.0**	**+0.5**
	comp=Z,11nm,1.0s,mb4.5

WTTA	**Wattenberg**	**45.70 308**	⇑ *i*P	**P**	**06 02 03.0**	**-1.2**
	comp=Z,64nm,1.2s,mb5.5,SNR=16					
SSE	**Sheshan**	**45.76 75**	*e*P	**P**	**06 02 01.0**	**-3.9**
SSE			S	**S**	**06 08 40.2**	**-9.2**
SSE			pmax	pmax		
	comp=Z,41nm,0.7s,mb5.6					
SSE			pmax	pmax		
	comp=Z,160nm,9.7s					
SSE			LR	LR		
	comp=N,690nm,17.8s,MS5.3					
SSE			LR	LR		
	comp=E,3µm,17.8s,MS5.3					
SSE			LR	LR		
	comp=Z,4µm,19.5s,MS5.4					
SSE	**Sheshan**	**45.76 75**	*e*P	**P**	**06 02 01.0**	**-3.9**
	comp=Z,41nm,0.7s,mb5.6					
SSE			sP	sP	06 02 05.4	+0.5
SSE			S	**S**	**06 08 40.2**	**-9.2**
SSE			sS	sS	06 08 45.7	-3.7
SSE			LR	LR		
	comp=Z,4µm,19.5s,MS5.4					
ARCES	**ARCESS Array B**	**45.85 341**	P	**P**	**06 02 03.6**	**-1.4**
	comp=Z,30nm,0.9s,mb5.3,baz=139,slow=8.1,SNR=44					
ARCES			LR	LR	06 23 17.6	
	comp=Z,2µm,19.3s,MS5.1,baz=126,slow=39					
ARCES	**ARCESS Array B**	**45.85 341**	P	**P**	**06 02 03.6**	**-1.4**
ARCES	**ARCESS Array B**	**45.85 341**	P	**P**	**06 02 03.7**	**-1.3**
ARCES			pmax	pmax		
	comp=Z,30nm,0.9s					
ARCES			MLR	MLR		
	comp=Z,2µm,19.3s					
ARE0	**ARCESS Array S**	**45.85 341**	*e*P	**P**	**06 02 06.0**	**+1.0**
MOX	**Moxa**	**45.87 313**	*e*P	**P**	**06 02 06.9**	**+1.4**
	comp=Z,35nm,1.0s,mb5.3					
MOX	**Moxa**	**45.87 313**	*e*P	**P**	**06 02 06.9**	**+1.4**
MOX			pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3					
GRF	**Grafenberg Arr**	**46.06 311**	*e*P	**P**	**06 02 08.5**	**+1.5**
	comp=Z,56nm,1.6s,mb5.3					
GRF			*e*L		06 24 20.2	
	comp=Z,1µm,20.9s					
GRF	**Grafenberg Arr**	**46.06 311**	*e*P	**P**	**06 02 08.5**	**+1.5**
GRF			pmax	pmax		
	comp=Z,56nm,1.6s,mb5.3					
GRF			MLR	MLR		
	comp=Z,1µm,20.9s,MS4.8					
GRFO	**Grafenberg**	**46.06 311**	*e*P	**P**	**06 02 08.0**	**+1.0**
	comp=Z,31nm,1.1s,mb5.2					
GRFO	**Grafenberg**	**46.06 311**	*e*P	**P**	**06 02 08.0**	**+1.0**
GRFO			pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2					
MOTA	**Moosalm**	**46.06 308**	⇑ *i*P	**P**	**06 02 05.3**	**-1.7**
	comp=Z,60nm,1.1s,mb5.5,SNR=13					
RETA	**Reutte**	**46.30 308**	⇑ *i*P	**P**	**06 02 07.5**	**-1.4**
	comp=Z,32nm,1.1s,mb5.3,SNR=6.9					
HFS	**Hagfors**	**46.31 326**	LR	LR	06 23 12.7	
	comp=Z,2µm,20.0s,MS5.1,baz=101,slow=38					
FETA	**Feichten**	**46.32 308**	*i* P	**P**	**06 02 08.2**	**-0.9**
	comp=Z,58nm,1.0s,mb5.6,SNR=13					
CLZ	**Clausthal**	**46.74 314**	*e*P	**P**	**06 02 13.5**	**+1.2**
	comp=Z,27nm,1.0s,mb5.3					
CLZ	**Clausthal**	**46.74 314**	*e*P	**P**	**06 02 13.5**	**+1.2**
CLZ			pmax	pmax		
	comp=Z,27nm,1.0s,mb5.3					
DAVA	**Damuels**	**46.90 308**	*i* P	**P**	**06 02 12.6**	**-1.0**
	comp=Z,76nm,1.0s,mb5.8,SNR=13					
NRDL	**Niedersach Rie**	**46.96 315**	*e*P	**P**	**06 02 15.1**	**+1.1**
	comp=Z,20nm,1.0s,mb5.2					
CN2	**Changchun**	**47.22 57**	*e*P	**P**	**06 02 19.1**	**+2.9**
CN2			*es*P	sP	06 02 26.1	+10
CN2			SS	SS	06 12 30.0	-7.1
CN2			pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.6					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,2µm,14.0s,MS5.4					
CN2			LR	LR		
	comp=E,2µm,14.0s,MS5.4					
CN2			LR	LR		
	comp=Z,2µm,17.0s,MS5.2					
TUE	**Stuetta**	**47.27 307**	*e*P	**P**	**06 02 15.4**	**-1.1**
	comp=Z,27nm,1.0s,mb5.3					
STU	**Stuttgart**	**47.36 310**	*e*P	**P**	**06 02 17.8**	**+0.6**
	comp=Z,46nm,1.0s,mb5.6					
STU	**Stuttgart**	**47.36 310**	*e*P	**P**	**06 02 18.8**	**+1.6**
	comp=Z,22nm,0.7s,mb5.4					
STU	**Stuttgart**	**47.36 310**	*e*P	**P**	**06 02 18.8**	**+1.6**
STU			pmax	pmax		
	comp=Z,22nm,0.7s,mb5.4					
CLNS	**Chul'man**	**47.45 39**	*e*P	**P**	**06 02 18.3**	**+0.5**
CLNS			*e**PP		06 02 30.8	
CLNS			*e*		06 03 46.8	
CLNS			*e*		06 04 10.4	
CLNS			*e*PPP		06 04 57.6	
CLNS			*e*S	**S**	**06 09 08.1**	**-4.9**
CLNS			*e*SS	SS	06 12 24.1	-16
CLNS			*e*SSS		06 13 37.1	
CLNS			pmax	pmax		
	comp=Z,31nm,0.8s,mb5.5					
CLNS			pmax	pmax		
	comp=E,16nm,0.9s					
CLNS			pmax	pmax		
	comp=N,9.0nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7					
CLNS			pmax	pmax		
	comp=N,4.0nm,0.7s					
CLNS			pmax	pmax		
	comp=E,7.0nm,1.1s					
CLNS			smax			
	comp=E,247nm,14.9s					
CLNS			smax			
	comp=N,522nm,15.9s					
CLNS			MLR	MLR		
	comp=Z,3µm,15.0s,MS5.4					
CLNS			MLR	MLR		
	comp=N,1µm,12.0s,MS5.4					
CLNS			MLR	MLR		
	comp=E,2µm,16.0s,MS5.4					
NB2	**NORSAR Subarra**	**47.73 327**	P	**P**	**06 02 19.9**	**+0.1**
	comp=Z,34nm,1.0s,mb5.4,baz=105,slow=7.9					
NOA	**NORSAR Array B**	**47.73 327**	P	**P**	**06 02 20.0**	**+0.2**
	comp=Z,24nm,0.9s,mb5.3,baz=104,slow=7.7,SNR=37					
NOA			LR	LR	06 25 41.2	
	comp=Z,2µm,19.2s,MS5.1,baz=110,slow=40					
NOA	**NORSAR Array B**	**47.73 327**	P	**P**	**06 02 20.0**	**+0.2**
NOA	**NORSAR Array B**	**47.73 327**	P	**P**	**06 02 20.0**	**+0.2**
NOA			pmax	pmax		
	comp=Z,24nm,0.9s					
NOA			MLR	MLR		
	comp=Z,2µm,19.2s					
PGF	**Pioggiola**	**47.75 302**	*e*P	**P**	**06 02 19.0**	**-1.3**
	comp=Z,86nm,1.5s,mb5.3					
PGF	**Pioggiola**	**47.75 302**	*e*P	**P**	**06 02 19.0**	**-1.3**
	comp=Z,86nm,1.5s,mb5.7					
PGF	**Pioggiola**	**47.75 302**	*e*P	**P**	**06 02 19.0**	**-1.3**
PGF			pmax	pmax		
	comp=Z,86nm,1.5s,mb5.7					
MUD	**Monsted U'grnd**	**47.93 320**	*i*	**P**	**06 02 23.1**	**+1.6**
BFO	**Black Forest**	**47.94 309**	*e*P	**P**	**06 02 22.7**	**+1.0**
	comp=Z,20nm,1.1s,mb5.2					
BFO	**Black Forest**	**47.94 309**	*e*P	**P**	**06 02 22.8**	**+1.1**
	comp=Z,22nm,1.1s,mb5.2					
BFO	**Black Forest**	**47.94 309**	*e*P	**P**	**06 02 22.8**	**+1.1**
BFO			pmax	pmax		
	comp=Z,22nm,1.1s,mb5.2					
KONO	**Kongsberg**	**48.22 325**	*e*P	**P**	**06 02 25.0**	**+1.3**
	comp=Z,34nm,1.1s,mb5.4					
KONO	**Kongsberg**	**48.22 325**	*e*P	**P**	**06 02 25.0**	**+1.3**
KONO			pmax	pmax		
	comp=Z,34nm,1.1s,mb5.4					
IBBN	**Ibbenburen**	**48.38 315**	*e*P	**P**	**06 02 26.0**	**+1.0**
	comp=Z,53nm,1.0s,mb5.6					
KEST	**Kesra**	**48.45 293**	P	**P**	**06 02 25.3**	**-0.6**
	comp=Z,6.3nm,0.7s,mb4.9,baz=291,slow=1.2,SNR=25					
KEST			LR	LR	06 26 25.6	
	comp=Z,198nm,20.3s,MS4.1,baz=98,slow=41					
KEST	**Kesra**	**48.45 293**	*e*P	**P**	**06 02 25.9**	**0.0**
CDF	**Champ du Feu**	**48.64 310**	*e*P	**P**	**06 02 25.7**	**-1.4**
	comp=Z,19nm,0.9s,mb4.8					
CDF	**Champ du Feu**	**48.64 310**	*e*P	**P**	**06 02 25.7**	**-1.4**
	comp=Z,19nm,0.9s,mb5.1					
CDF	**Champ du Feu**	**48.64 310**	*e*P	**P**	**06 02 25.7**	**-1.4**
CDF			pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1					
BUG	**Bochum--Univer**	**48.65 314**	*e*P	**P**	**06 02 28.2**	**+1.1**
	comp=Z,30nm,0.9s,mb5.3					
SAOF	**Saorge**	**48.68 304**	*e*P	**P**	**06 02 28.1**	**+0.7**
ECH	**Echery**	**48.72 309**	*e*P	**P**	**06 02 26.7**	**-1.0**
	comp=Z,32nm,1.1s,mb5.3					
ECH	**Echery**	**48.72 309**	*e*P	**P**	**06 02 26.7**	**-1.0**
ECH			pmax	pmax		
	comp=Z,32nm,1.1s,mb5.3					
ECH	**Echery**	**48.72 309**	*e*P	**P**	**06 02 28.3**	**+0.6**
SBF	**Sospel**	**48.77 304**	*e*P	**P**	**06 02 27.0**	**-1.2**
	comp=Z,102nm,0.9s,mb5.6					
SBF	**Sospel**	**48.77 304**	*e*P	**P**	**06 02 27.0**	**-1.2**
	comp=Z,102nm,0.9s,mb5.8					
SBF	**Sospel**	**48.77 304**	*e*P	**P**	**06 02 27.0**	**-1.2**
SBF			pmax	pmax		
	comp=Z,102nm,0.9s,mb5.8					
LUCF	**Luceram**	**48.83 304**	*e*P	**P**	**06 02 27.5**	**-1.2**
TOUF	**Mont Tournerai**	**48.89 304**	*e*P	**P**	**06 02 29.1**	**0.0**
HINF	**Hinteralfeld**	**48.94 309**	*e*P	**P**	**06 02 28.0**	**-1.4**
	comp=Z,17nm,0.7s,mb4.9					
HINF	**Hinteralfeld**	**48.94 309**	*e*P	**P**	**06 02 28.0**	**-1.4**
	comp=Z,17nm,0.7s,mb5.2					
HINF	**Hinteralfeld**	**48.94 309**	*e*P	**P**	**06 02 28.0**	**-1.4**
HINF			pmax	pmax		
	comp=Z,17nm,0.7s,mb5.2					
LOMF	**Lomont**	**48.97 308**	*e*P	**P**	**06 02 29.5**	**-0.2**
MVIF	**Mont Vial**	**48.97 304**	*e*P	**P**	**06 02 29.6**	**-0.1**
LPG	**La Plagne**	**49.13 306**	*e*P	**P**	**06 02 29.8**	**-1.1**
	comp=Z,52nm,0.8s,mb5.3					
LPG	**La Plagne**	**49.13 306**	*e*P	**P**	**06 02 29.8**	**-1.1**
	comp=Z,52nm,0.8s,mb5.6					
LPG	**La Plagne**	**49.13 306**	*e*P	**P**	**06 02 29.8**	**-1.1**
LPG			pmax	pmax		
	comp=Z,52nm,0.8s,mb5.6					
LPL	**La Plagne**	**49.14 306**	*e*P	**P**	**06 02 29.9**	**-1.1**
	comp=Z,110nm,1.1s,mb5.5					
LPL	**La Plagne**	**49.14 306**	*e*P	**P**	**06 02 29.9**	**-1.1**
	comp=Z,110nm,1.1s,mb5.8					
LPL	**La Plagne**	**49.14 306**	*e*P	**P**	**06 02 29.9**	**-1.1**
LPL			pmax	pmax		
	comp=Z,110nm,1.1s,mb5.8					
MBDF	**Montbardon**	**49.17 305**	*e*P	**P**	**06 02 29.7**	**-1.6**
	comp=Z,78nm,1.0s,mb5.4					
MBDF	**Montbardon**	**49.17 305**	*e*P	**P**	**06 02 29.7**	**-1.6**
	comp=Z,78nm,1.0s,mb5.7					
MBDF	**Montbardon**	**49.17 305**	*e*P	**P**	**06 02 29.7**	**-1.6**
MBDF			pmax	pmax		
	comp=Z,78nm,1.0s,mb5.7					
BNI	**Bardonecchia**	**49.21 305**	*e*P	**P**	**06 02 31.0**	**-0.6**
	comp=Z,46nm,1.1s,mb5.4					
BNI	**Bardonecchia**	**49.21 305**	*e*P	**P**	**06 02 31.0**	**-0.6**
BNI			pmax	pmax		
	comp=Z,46nm,1.1s,mb5.4					
HAU	**Haudompre**	**49.27 309**	*e*P	**P**	**06 02 30.9**	**-1.0**
	comp=Z,84nm,1.2s,mb5.4					
HAU			*e*R			
	comp=Z,941nm,19.0s					
HAU	**Haudompre**	**49.27 309**	*e*P	**P**	**06 02 30.9**	**-1.0**
	comp=Z,84nm,1.2s,mb5.6					
HAU	**Haudompre**	**49.27 309**	*e*P	**P**	**06 02 30.9**	**-1.0**
HAU			pmax	pmax		
	comp=Z,84nm,1.2s,mb5.7					
WLF	**Walferdange**	**49.35 311**	P	**P**	**06 02 32.8**	**+0.2**
	comp=Z,33nm,1.6s,mb5.1					
WLF	**Walferdange**	**49.35 311**	*e*P	**P**	**06 02 34.2**	**+1.6**
	comp=Z,38nm,1.3s,mb5.3					
WLF	**Walferdange**	**49.35 311**	*e*P	**P**	**06 02 35.2**	**+2.6**
	comp=Z,26nm,0.9s,mb5.3					
WLF	**Walferdange**	**49.35 311**	*e*P	**P**	**06 02 35.2**	**+2.6**
WLF			pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3					
FRF	**La Foret Royal**	**49.37 303**	*e*P	**P**	**06 02 31.1**	**-1.7**
FRF	**La Foret Royal**	**49.37 303**	*e*P	**P**	**06 02 31.1**	**-1.7**
FRF	**La Foret Royal**	**49.37 303**	*e*P	**P**	**06 02 31.1**	**-1.7**
MEM	**Membach**	**49.44 313**	P	**P**	**06 02 33.5**	**+0.3**
	comp=Z,16nm,1.3s,mb4.9					
LMR	**La Mourre**	**49.49 303**	*e*P	**P**	**06 02 32.5**	**-1.2**
	comp=Z,52nm,1.3s,mb5.1					
LMR	**La Mourre**	**49.49 303**	*e*P	**P**	**06 02 32.5**	**-1.2**
	comp=Z,52nm,1.3s,mb5.4					
LMR	**La Mourre**	**49.49 303**	*e*P	**P**	**06 02 32.5**	**-1.2**
LMR			pmax	pmax		
	comp=Z,52nm,1.3s,mb5.4					
CABF	**La Chapelle**	**49.52 307**	*e*P	**P**	**06 02 33.4**	**-0.5**
	comp=Z,127nm,0.9s,mb5.5					
CABF	**La Chapelle**	**49.52 307**	*e*P	**P**	**06 02 33.4**	**-0.5**
	comp=Z,127nm,0.9s,mb5.8					
CABF	**La Chapelle**	**49.52 307**	*e*P	**P**	**06 02 33.4**	**-0.5**
CABF			pmax	pmax		
	comp=Z,127nm,0.9s,mb5.8					
KSAR	**Wonju Array Be**	**49.87 65**	P	**P**	**06 02 36.4**	**-0.3**
KSAR			PcP	PcP	06 03 59.2	+2.0
KSAR	**Wonju Array Be**	**49.87 65**	P	**P**	**06 02 36.4**	**-0.3**
KSAR					06 03 59.2	
BCLA	**Clavier**	**49.89 312**	P	**P**	**06 02 37.3**	**+0.6**
	comp=Z,17nm,2.2s,mb4.6					
KSRS	**Korea Array**	**49.89 65**	P	**P**	**06 02 36.4**	**-0.5**
	comp=Z,15nm,0.9s,mb4.9,baz=271,slow=6.8,SNR=26					
KSRS			PcP	PcP	06 03 59.2	+1.9
	comp=Z,8.9nm,0.9s,baz=287,slow=4.3,SNR=4.8					
KSRS	**Korea Array**	**49.89 65**	P	**P**	**06 02 36.4**	**-0.5**
KSRS					06 03 59.2	
KSRS			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9					
KSRS			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7					
SMRF	**Simiane la Rot**	**50.10 304**	*e*P	**P**	**06 02 37.4**	**-0.9**
SMRF	**Simiane la Rot**	**50.10 304**	*e*P	**P**	**06 02 37.4**	**-0.9**
MEZF	**Maizieres J'vi**	**50.11 310**	*e*P	**P**	**06 02 36.7**	**-1.7**
MEZF	**Maizieres J'vi**	**50.11 310**	*e*P	**P**	**06 02 36.7**	**-1.7**
MDJ	**Mudanjiang**	**50.13 55**	P	**P**	**06 02 40.4**	**+1.9**
MDJ			pP		06 02 43.6	
MDJ			sP	sP	06 02 44.9	+6.3
MDJ			PcP	PcP	06 03 58.2	+0.1
MDJ			PP	PP	06 04 36.0	+2.5
MDJ			ScP	ScP	06 07 54.1	-1.0
MDJ			S	**S**	**06 09 52.9**	**+1.8**
MDJ			ScS	ScS	06 12 24.6	-6.6
MDJ			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7					
MDJ			pmax	pmax		
	comp=Z,150nm,6.3s					
MDJ			LR	LR		
	comp=N,1µm,16.9s,MS5.2					
MDJ			LR	LR		
	comp=E,2µm,17.4s,MS5.2					
MDJ			LR	LR		
	comp=Z,2µm,16.9s,MS5.3					
GIVF	**Givet**	**50.20 312**	*e*P	**P**	**06 02 39.0**	**0.0**
	comp=Z,103nm,1.1s,mb5.3					
GIVF	**Givet**	**50.20 312**	*e*P	**P**	**06 02 39.0**	**0.0**
	comp=Z,103nm,1.1s,mb5.7					
GIVF	**Givet**	**50.20 312**	*e*P	**P**	**06 02 39.0**	**0.0**
GIVF			pmax	pmax		
	comp=Z,103nm,1.1s,mb5.7					
DOU	**Dourbes**	**50.35 312**	P	**P**	**06 02 40.7**	**+0.6**
	comp=Z,22nm,1.2s,mb5.0					
SNF	**Seneffe**	**50.54 312**	P	**P**	**06 02 43.9**	**+2.3**
	comp=Z,36nm,1.7s,mb5.0					
SBUM	**Sibu**	**50.57 115**	P	**P**	**06 02 43.9**	**+1.7**
	comp=Z,30nm,1.7s,mb4.9					
BAIF	**Baives**	**50.60 312**	*e*P	**P**	**06 02 41.9**	**-0.1**
	comp=Z,90nm,0.9s,mb5.4					
BAIF	**Baives**	**50.60 312**	*e*P	**P**	**06 02 41.9**	**-0.1**
	comp=Z,90nm,0.9s,mb5.7					
BAIF	**Baives**	**50.60 312**	*e*P	**P**	**06 02 41.9**	**-0.1**
BAIF			pmax	pmax		
	comp=Z,90nm,0.9s,mb5.7					
VIVF	**Saint-Julien-l**	**50.65 305**	*e*P	**P**	**06 02 41.3**	**-1.2**
	comp=Z,85nm,1.1s,mb5.3					
VIVF	**Saint-Julien-l**	**50.65 305**	*e*P	**P**	**06 02 41.3**	**-1.2**
	comp=Z,85nm,1.1s,mb5.6					
VIVF	**Saint-Julien-l**	**50.65 305**	*e*P	**P**	**06 02 41.3**	**-1.2**
VIVF			pmax	pmax		
	comp=Z,85nm,1.1s,mb5.6					
YAK	**Yakutsk**	**50.67 33**	*e*P	**P**	**06 02 42.1**	**-0.3**
	comp=Z,110nm,0.9s,mb5.8					
YAK	**Yakutsk**	**50.67 33**	*e*P	**P**	**06 02 41.1**	**-1.3**
YAK			*e**PP		06 02 50.1	
YAK			*e*		06 03 56.6	
YAK			*e*		06 04 33.4	
YAK			*e*S	**S**	**06 09 55.4**	**-2.8**
YAK			*e**SS	sS	06 10 13.5	+15
YAK			pmax	pmax		
	comp=Z,72nm,0.7s,mb5.7					
YAK			pmax	pmax		
	comp=E,39nm,1.3s					
YAK			pmax	pmax		
	comp=N,15nm,1.5s					
YAK			pmax	pmax		
	comp=Z,210nm,4.0s					
YAK			smax			
	comp=E,93nm,2.8s					
YAK			smax			
	comp=N,154nm,5.4s					
YAK			MLR	MLR		
	comp=E,2µm,17.0s,MS5.4					
YAK			MLR	MLR		
	comp=N,2µm,20.0s,MS5.4					
YAK			MLR	MLR		
	comp=Z,4µm,16.0s,MS5.5					
SSB	**Saint Sauveur**	**50.70 306**	*e*P	**P**	**06 02 41.2**	**-1.7**
	comp=Z,60nm,1.2s,mb5.4					
SSB	**Saint Sauveur**	**50.70 306**	*e*P	**P**	**06 02 41.2**	**-1.7**
SSB			pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4					
LOR	**Lormes**	**50.99 308**	*e*P	**P**	**06 02 43.8**	**-1.2**
	comp=Z,47nm,1.0s,mb5.1					
LOR			*e*R			
	comp=Z,1µm,17.8s					
LOR	**Lormes**	**50.99 308**	*e*P	**P**	**06 02 43.8**	**-1.2**
	comp=Z,47nm,1.0s,mb5.4					
LOR	**Lormes**	**50.99 308**	*e*P	**P**	**06 02 43.8**	**-1.2**
LOR			pmax	pmax		
	comp=Z,47nm,1.0s,mb5.4					
SMF	**Signal de Mont**	**51.06 307**	*e*P	**P**	**06 02 44.6**	**-0.9**
	comp=Z,126nm,0.9s,mb5.6					
SMF	**Signal de Mont**	**51.06 307**	*e*P	**P**	**06 02 44.6**	**-0.9**
	comp=Z,126nm,0.9s,mb5.8					
SMF	**Signal de Mont**	**51.06 307**	*e*P	**P**	**06 02 44.6**	**-0.9**
SMF			pmax	pmax		
	comp=Z,126nm,0.9s,mb5.8					
KLR	**Kul'dur**	**51.24 49**	*e*P	**P**	**06 02 42.0**	**-4.9**
SSF	**Saint Saulge**	**51.25 308**	*e*P	**P**	**06 02 46.0**	**-1.0**
	comp=Z,73nm,0.8s,mb5.3					
SSF	**Saint Saulge**	**51.25 308**	*e*P	**P**	**06 02 46.0**	**-1.0**
	comp=Z,73nm,0.8s,mb5.7					
SSF	**Saint Saulge**	**51.25 308**	*e*P	**P**	**06 02 46.0**	**-1.0**
SSF			pmax	pmax		
	comp=Z,73nm,0.8s,mb5.7					
PLDF	**La Plantade**	**51.27 307**	*e*P	**P**	**06 02 46.4**	**-0.8**
LASF	**Ste Croix**	**51.32 304**	*e*P	**P**	**06 02 46.5**	**-1.0**
	comp=Z,106nm,1.3s,mb5.3					
LASF	**Ste Croix**	**51.32 304**	*e*P	**P**	**06 02 46.5**	**-1.0**
	comp=Z,106nm,1.3s,mb5.6					
AVF	**Avril sur Loir**	**51.38 308**	*e*P	**P**	**06 02 47.8**	**-0.1**
	comp=Z,53nm,0.9s,mb5.2					
AVF	**Avril sur Loir**	**51.38 308**	*e*P	**P**	**06 02 47.8**	**-0.1**
	comp=Z,53nm,0.9s,mb5.5					
AVF	**Avril sur Loir**	**51.38 308**	*e*P	**P**	**06 02 47.8**	**-0.1**
AVF			pmax	pmax		
	comp=Z,53nm,0.9s,mb5.5					
STKI	**Sintang**	**51.48 117**	P	**P**	**06 02 50.6**	**+1.5**
	comp=Z,59nm,1.1s,mb5.5					
AGO	**Saint Agoulin**	**51.60 307**	*e*P	**P**	**06 02 48.7**	**-0.9**
LBL	**Lubilhac**	**51.61 306**	*e*P	**P**	**06 02 48.8**	**-0.9**
PYM	**Petit Puy Mans**	**51.72 306**	*e*P	**P**	**06 02 49.4**	**-1.1**
BGF	**Bois d'Agland**	**51.75 307**	*e*P	**P**	**06 02 49.6**	**-1.1**
	comp=Z,38nm,1.0s,mb5.0					
BGF	**Bois d'Agland**	**51.75 307**	*e*P	**P**	**06 02 49.6**	**-1.1**
	comp=Z,38nm,1.0s,mb5.3					
BGF	**Bois d'Agland**	**51.75 307**	*e*P	**P**	**06 02 49.6**	**-1.1**
BGF			pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3					
HYF	**Humbligny**	**51.82 308**	*e*P	**P**	**06 02 50.8**	**-0.4**
HYF	**Humbligny**	**51.82 308**	*e*P	**P**	**06 02 50.8**	**-0.4**
VLA	**Vladivostok**	**51.96 57**	*e*P	**P**	**06 02 51.4**	**-1.0**
VLA			pmax	pmax		
	comp=Z,47nm,1.0s,mb5.4					
VLA			MLR	MLR		
	comp=Z,3µm,20.0s,MS5.3					
TCF	**Toulx Ste Croi**	**52.22 307**	*e*P	**P**	**06 02 53.4**	**-0.8**
	comp=Z,48nm,1.0s,mb5.1					
TCF	**Toulx Ste Croi**	**52.22 307**	*e*P	**P**	**06 02 53.4**	**-0.8**
	comp=Z,48nm,1.0s,mb5.4					
TCF	**Toulx Ste Croi**	**52.22 307**	*e*P	**P**	**06 02 53.4**	**-0.8**
TCF			pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4					
CAF	**Calviac**	**52.48 305**	*e*P	**P**	**06 02 55.7**	**-0.5**
	comp=Z,92nm,0.9s,mb5.4					
CAF	**Calviac**	**52.48 305**	*e*P	**P**	**06 02 55.7**	**-0.5**
	comp=Z,92nm,0.9s,mb5.7					
CAF	**Calviac**	**52.48 305**	*e*P	**P**	**06 02 55.7**	**-0.5**
CAF			pmax	pmax		
	comp=Z,92nm,0.9s,mb5.7					
MTLF	**Montolieu**	**52.60 303**	*e*P	**P**	**06 02 56.2**	**-0.9**
	comp=Z,48nm,0.9s,mb5.1					
MTLF	**Montolieu**	**52.60 303**	*e*P	**P**	**06 02 56.2**	**-0.9**
	comp=Z,48nm,0.9s,mb5.4					
MTLF	**Montolieu**	**52.60 303**	*e*P	**P**	**06 02 56.2**	**-0.9**
MTLF			pmax	pmax		
	comp=Z,48nm,0.9s,mb5.4					
RJF	**Les Rejaudoux**	**52.82 306**	*e*P	**P**	**06 02 58.2**	**-0.5**
	comp=Z,99nm,1.2s,mb5.3					
RJF			*e*R			
	comp=Z,665nm,19.0s					
RJF	**Les Rejaudoux**	**52.82 306**	*e*P	**P**	**06 02 58.2**	**-0.5**
	comp=Z,99nm,1.2s,mb5.6					
RJF	**Les Rejaudoux**	**52.82 306**	*e*P	**P**	**06 02 58.2**	**-0.5**
RJF			pmax	pmax		
	comp=Z,99nm,1.2s,mb5.6					
SPITS	**Spitsbergen Ar**	**52.85 348**	P	**P**	**06 02 59.5**	**+1.0**
	comp=Z,18nm,0.9s,mb5.0,baz=124,slow=10,SNR=8.7					
SPITS			LR	LR	06 27 54.1	
	comp=Z,1µm,18.4s,MS5.0,baz=85,slow=39					
SPITS	**Spitsbergen Ar**	**52.85 348**	P	**P**	**06 02 59.5**	**+1.0**
SPITS	**Spitsbergen Ar**	**52.85 348**	P	**P**	**06 02 59.5**	**+1.0**
SPITS			pmax	pmax		
	comp=Z,19nm,0.9s					
SPITS			MLR	MLR		
	comp=Z,1µm,18.4s					
JOW	**Kunigami**	**52.91 78**	P	**P**	**06 03 00.2**	**+0.6**
	comp=Z,38nm,0.6s,mb5.5,baz=299,slow=9.4,SNR=5.5					
JOW	**Kunigami**	**52.91 78**	*e*P	**P**	**06 02 59.3**	**-0.3**
	comp=Z,15nm,0.6s,mb5.1					
JNU	**Nakatsue**	**53.22 69**	*e*P	**P**	**06 03 02.7**	**+0.8**
	comp=Z,18nm,1.0s,mb5.0					
**L

KBS pmax pmax
comp=Z,92nm,1.7s,mb5.5
KBS MLR MLR
comp=Z,762nm,19.0s,MS4.8
EPF Esparros 54.00 303 *eP* **P 06 03 05.2 -2.2**
comp=Z,28nm,0.8s,mb5.0
EPF Esparros 54.00 303 *eP* **P 06 03 05.2 -2.2**
comp=Z,28nm,0.8s,mb5.3
EPF Esparros 54.00 303 *eP* **P 06 03 05.2 -2.2**
EPF pmax pmax
comp=Z,28nm,0.8s,mb5.3
GRR Gorron 54.04 310 *eP* **P 06 03 06.5 -1.1**
comp=Z,90nm,1.2s,mb5.4
GRR Gorron 54.04 310 *eP* **P 06 03 06.5 -1.1**
comp=Z,90nm,1.2s,mb5.7
GRR Gorron 54.04 310 *eP* **P 06 03 06.5 -1.1**
GRR pmax pmax
comp=Z,90nm,1.2s,mb5.7
XAL Allendale 54.31 318[1] *eP* **P 06 03 10.7 +1.2**
STNC Stoke 54.43 316 *eP* **P 06 03 10.5 +0.2**
STNC AMB AMB 06 03 13.1
comp=Z,120nm,1.6s,mb5.7
STNC Stoke 54.43 316 P **P 06 03 10.5 +0.2**
STNC AMB AMB 06 03 13.1
comp=Z,120nm,1.6s,mb5.7
ETSF Etsaut 54.68 303 *eP* **P 06 03 11.4 -0.9**
comp=Z,105nm,1.0s,mb5.5
ETSF Etsaut 54.68 303 *eP* **P 06 03 11.4 -0.9**
comp=Z,105nm,1.0s,mb5.8
ETSF Etsaut 54.68 303 *eP* **P 06 03 11.4 -0.9**
ETSF pmax pmax
comp=Z,105nm,1.0s,mb5.8
MCD Coleburn Disti 54.76 321 *eP* **P 06 03 13.8 +1.1**
ESK Eskdalemuir 54.85 319 *eP* **P 06 03 12.8 -0.6**
ESK AMB AMB 06 03 22.7
comp=Z,66nm,2.7s,mb5.2
ESK Eskdalemuir 54.85 319 P **P 06 03 12.8 -0.6**
ESK AMB AMB 06 03 22.7
comp=Z,66nm,2.7s,mb5.2
HLM1 Long Mynd 54.88 315 *eP* **P 06 03 12.6 -1.1**
HLM1 AMB AMB 06 03 17.2
comp=Z,36nm,1.4s,mb5.2
HGH Gray Hill 54.93 314 *eP* **P 06 03 13.6 -0.4**
EBH Black Hill 54.96 320 *eP* **P 06 03 13.3 -0.9**
MCH1 Michaelchurch 55.01 315[1] *eP* **P 06 03 14.1 -0.5**
MCH1 AMB AMB 06 03 20.4
comp=Z,66nm,4.1s
FOEL Foel Wylfa 55.04 316 *eP* **P 06 03 15.4 +0.6**
FOEL AMB AMB 06 03 16.9
comp=Z,70nm,1.0s,mb5.6
SJPF Ste Jean 55.12 304 *eP* **P 06 03 14.7 -0.8**
comp=Z,48nm,1.1s,mb5.2
SJPF Ste Jean 55.12 304 *eP* **P 06 03 14.7 -0.8**
comp=Z,48nm,1.1s,mb5.4
SJPF Ste Jean 55.12 304 *eP* **P 06 03 14.7 -0.8**
SJPF pmax pmax
comp=Z,48nm,1.1s,mb5.4
SGMF Saint Gilles 55.19 310 *eP* **P 06 03 15.2 -0.7**
comp=Z,109nm,0.9s,mb5.6
SGMF Saint Gilles 55.19 310 *eP* **P 06 03 15.2 -0.7**
comp=Z,109nm,0.9s,mb5.9
SGMF Saint Gilles 55.19 310 *eP* **P 06 03 15.2 -0.7**
SGMF pmax pmax
comp=Z,109nm,0.9s,mb5.9
MVH1 Achvaich 55.24 322 *eP* **P 06 03 16.3 +0.1**
MDO Dochfour 55.37 321 *eP* **P 06 03 17.4 +0.3**
TAM Tamanrasset 55.37 278 *eP* **P 06 03 15.8 -1.8**
comp=Z,3.2nm,0.9s,mb4.3
TAM Tamanrasset 55.37 278 *eP* **P 06 03 15.9 -1.8**
TAM pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
QUIF Quistinic 55.64 310 *eP* **P 06 03 17.9 -1.3**
comp=Z,91nm,1.0s,mb5.5
QUIF Quistinic 55.64 310 *eP* **P 06 03 17.9 -1.3**
comp=Z,91nm,1.0s,mb5.8
QUIF Quistinic 55.64 310 *eP* **P 06 03 17.9 -1.3**
QUIF pmax pmax
comp=Z,91nm,1.0s,mb5.8
ROSF Rostrenen 55.65 310 *eP* **P 06 03 18.2 -1.1**
comp=Z,42nm,0.8s,mb5.2
ROSF Rostrenen 55.65 310 *eP* **P 06 03 18.2 -1.1**
comp=Z,42nm,0.8s,mb5.5
ROSF Rostrenen 55.65 310 *eP* **P 06 03 18.2 -1.1**
ROSF pmax pmax
comp=Z,42nm,0.8s,mb5.5
KAC Achnashellach 55.87 321 *eP* **P 06 03 20.2 -0.5**
ESDC Sonseca Array 57.88 300 P **P 06 03 34.4 -1.0**
comp=Z,8.6nm,0.8s,mb4.8,baz=64,slow=7.0,SNR=17
ESDC Sonseca Array 57.88 300 P **P 06 03 34.4 -1.0**
ESLA Sonseca Array 57.88 300 *eP* **P 06 03 33.6 -1.7**
comp=Z,14nm,1.4s,mb4.8
MAJO Matsushiro 58.11 64 *eP* **P 06 03 38.6 +1.7**
comp=Z,14nm,0.9s,mb5.5
MAJO Matsushiro 58.11 64 *eP* **P 06 03 38.7 +1.8**
MAJO pmax pmax
comp=Z,14nm,0.9s,mb5.0
MAT Matsushiro 58.11 64 P **P 06 03 38.6 +1.7**
MAT *eS* **S 06 11 38.0 -1.2**
MJAR Matsushiro Arr 58.11 64 P **P 06 03 37.9 +0.9**
comp=Z,8.7nm,0.9s,mb4.8,baz=284,slow=8.9,SNR=14
MJAR Matsushiro Arr 58.11 64 P **P 06 03 37.9 +0.9**
MJAR Matsushiro Arr 58.11 64 P **P 06 03 37.9 +0.9**
MJAR pmax pmax
comp=Z,9.0nm,1.0s
PAB San Pablo 58.20 300 *eP* **P 06 03 35.1 -2.4**
comp=Z,52nm,1.3s,mb5.4
PAB San Pablo 58.20 300 *eP* **P 06 03 35.1 -2.5**
PAB pmax pmax
comp=Z,52nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 58.85 51 *eP* **P 06 03 41.3 -0.7**
comp=Z,72nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 58.85 51 *eP* **P 06 03 41.0 -1.0**
YSS *e* 06 03 51.0
YSS MLR MLR
comp=Z,3μm,17.0s,MS5.5
YSS MLR MLR
comp=N,1μm,14.0s,MS5.5
YSS MLR MLR
comp=E,3μm,19.0s,MS5.5
LSZ Lusaka 59.09 225 *eP* **P 06 03 45.1 +1.2**
comp=E,12nm,1.1s,mb4.8
LSZ Lusaka 59.09 225 *eP* **P 06 03 45.1 +1.2**
LSZ pmax pmax
comp=Z,12nm,1.1s,mb4.8
ASAJ Asahikawa 59.39 54 P **P 06 03 45.2 -0.5**
comp=Z,9.8nm,0.6s,mb5.0,baz=297,slow=10,SNR=5.9
ASAJ Asahikawa 59.39 54 *eP* **P 06 03 44.9 -0.9**
comp=Z,8.1nm,0.9s,mb4.8
ASAJ Asahikawa 59.39 54 P **P 06 03 45.3 -0.5**
ASAJ pmax pmax
comp=Z,10.0nm,0.6s
MRSI Marisa 59.53 109 P **P 06 03 48.1 +1.0**
comp=Z,644nmcomp=Z,30nm,1.0s,mb5.3
MRSI Marisa 59.53 109 P **P 06 03 47.4 +0.3**
comp=Z,642nmcomp=Z,30nm,1.0s,mb5.3
MVO Moncorvo 59.76 303 *eP* **P 06 03 49.2 +0.9**
comp=Z,50nm,1.3s,mb5.4
PVRL Vila Real 60.23 303 *eP* **P 06 03 52.6 +1.0**
POLO Lamas de Olo 60.26 303 *eP* **P 06 03 53.6 +1.8**
GTOI Gorontalo 60.32 108 P **P 06 03 53.9 +1.4**
comp=Z,1μmcomp=Z,33nm,1.1s,mb5.3
GTOI Gorontalo 60.32 108 P **P 06 03 50.7 -1.8**
comp=Z,33nm,1.1s,mb5.3
MTE Manteigas 60.34 302 *eP* **P 06 03 52.2 -0.2**
comp=Z,131nm,1.4s,mb5.8
MTE Manteigas 60.34 302 *eP* **P 06 03 51.8 -0.6**
comp=Z,54nm,0.9s,mb5.6
MSKU Masuku 60.36 248 P **P 06 03 52.2 -0.5**
comp=Z,17nm,0.8s,mb5.1,baz=311,slow=21,SNR=4.5
MSKU Masuku 60.36 248 P **P 06 03 52.2 -0.5**
PGAV Gavieira, Arco 60.45 304 *eP* **P 06 03 53.6 +0.6**
comp=Z,124nm,1.3s,mb5.8
PCBR Castelo Branco 60.45 301 *eP* **P 06 03 53.9 +0.8**
comp=Z,114nm,1.1s,mb5.8
PMRV Marv??o 60.50 301 *eP* **P 06 03 52.9 -0.6**
comp=Z,58nm,1.4s,mb5.5
PVIS Viseu 60.51 302 *eP* **P 06 03 53.6 +0.1**
comp=Z,82nm,1.5s,mb5.6
PBAR Barrancos 60.60 299 *eP* **P 06 03 53.5 -0.6**
comp=Z,100nm,1.3s,mb5.8
PESTR Estremoz 60.81 300 *eP* **P 06 03 55.3 -0.3**
comp=Z,69nm,1.4s,mb5.6
PTOM Tomar 61.20 301 *eP* **P 06 03 58.7 +0.5**
comp=Z,155nm,1.2s,mb6.0
EVO Evora 61.23 300 *eP* **P 06 03 57.9 -0.5**
comp=Z,108nm,1.2s,mb5.5
EVO *eR*
comp=Z,699nm,19.0s
EVO Evora 61.23 300 *eP* **P 06 03 57.5 -0.9**
comp=Z,95nm,1.3s,mb5.8
PMTG Montargil 61.23 301 *eP* **P 06 03 59.9 +1.5**
comp=Z,58nm,1.3s,mb5.5
PBEJ Beja 61.27 299 *eP* **P 06 03 58.8 +0.1**
comp=Z,40nm,1.6s,mb5.3
EVOP Sao Brissos 61.31 300 *eP* **P 06 03 57.9 -1.1**
comp=Z,108nm,1.2s,mb5.8
EVOP Sao Brissos 61.31 300 *eP* **P 06 03 57.9 -1.1**
EVOP pmax pmax
comp=Z,108nm,1.2s,mb5.8
PVAQ Vaqueiros 61.34 299 *eP* **P 06 04 01.6 +2.4**
comp=Z,60nm,1.7s,mb5.5
BKSI Bulukumba 61.55 116 P **P 06 04 02.3 +1.4**
comp=Z,671nmcomp=Z,12nm,1.3s,mb4.9
BKSI Bulukumba 61.55 116 P **P 06 03 59.6 -1.3**
comp=Z,674nmcomp=Z,11nm,1.8s,mb4.8
PNCL Nicolau / Gran 61.74 300 *eP* **P 06 04 02.1 +0.2**
TORD Torodi Ar. Bea 62.71 270 P **P 06 04 06.7 -2.0**
comp=Z,20nm,0.7s,mb5.3,baz=58,slow=6.1,SNR=164
TORD Torodi Ar. Bea 62.71 270 P **P 06 04 06.7 -2.0**
LBMI Labuha 64.73 107 P **P 06 04 23.1 +1.0**
comp=Z,2μmcomp=Z,60nm,1.2s,mb5.7
BILL Bilibino 65.39 24 *eP* **P 06 04 26.3 +0.8**
comp=Z,12nm,0.9s,mb5.1
BILL Bilibino 65.39 24 *dP* **P 06 04 25.9 +0.4**
BILL *e* 06 06 51.0
BILL *eSS* SS 06 17 26.1 +3.4
BILL pmax pmax
comp=Z,17nm,1.0s,mb5.2
BILL MLR MLR
comp=Z,2μm,19.0s,MS5.4
SUMG Summit 65.93 342 *eP* **P 06 04 30.0 +1.1**
comp=Z,38nm,0.8s,mb5.7
SUMG Summit 65.93 342 *eP* **P 06 04 30.0 +1.1**
SUMG pmax pmax
comp=Z,38nm,0.8s
SUMG Summit 65.93 342 *i* **P 06 04 30.3 +1.4**
PETK Petropavlovsk- 66.45 41 P **P 06 04 31.2 -1.3**
comp=Z,8.7nm,0.8s,mb5.0,baz=214,slow=4.5,SNR=5.6
PETK Petropavlovsk- 66.45 41 P **P 06 04 31.2 -1.3**
PETK Petropavlovsk- 66.45 41 P **P 06 04 31.2 -1.4**
PETK pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
PET Petropavlovsk 67.02 41 *eP* **P 06 04 30.4 -5.8**
PET pmax pmax
comp=Z,12nm,1.1s,mb5.0
PET MLR MLR
comp=Z,2μm,20.0s,MS5.3
LBTB Lobatse 68.16 221 *eP* **P 06 04 44.1 +0.4**
comp=Z,32nm,1.1s,mb5.5
LBTB Lobatse 68.16 221 *eP* **P 06 04 44.1 +0.4**
LBTB pmax pmax
comp=Z,32nm,1.1s,mb5.5
TSUM Tsumeb 68.81 231 *eP* **P 06 04 49.1 +1.3**
comp=Z,10nm,1.0s,mb5.0
BOSA Boshof 71.16 219 P **P 06 05 01.8 -0.3**
comp=Z,15nm,0.8s,mb5.2,baz=39,slow=6.9,SNR=21
BOSA Boshof 71.16 219 *eP* **P 06 05 01.9 -0.2**
comp=Z,15nm,0.8s,mb5.2
BOSA Boshof 71.16 219 *eP* **P 06 05 01.9 -0.3**
BOSA pmax pmax
comp=Z,15nm,0.8s,mb5.2
DBIC Dimbokro 71.46 267 P **P 06 05 02.9 -1.5**
comp=Z,11nm,0.6s,mb5.2,baz=44,slow=7.2,SNR=28
DBIC Dimbokro 71.46 267 *eP* **P 06 05 03.0 -1.3**
comp=Z,43nm,1.2s,mb5.5
DBIC Dimbokro 71.46 267 *eP* **P 06 05 03.0 -1.4**
DBIC pmax pmax
comp=Z,43nm,1.2s
FITZ Fitzroy Crossi 73.81 123 P **P 06 05 18.6 +0.4**
comp=Z,7.8nm,0.9s,mb4.7,baz=327,slow=4.0,SNR=13
FITZ Fitzroy Crossi 73.81 123 *eP* **P 06 05 18.6 +0.5**
comp=Z,16nm,0.9s,mb5.1
FITZ Fitzroy Crossi 73.81 123 *eP* **P 06 05 18.6 +0.4**
comp=Z,11nm,0.9s,mb4.9
RES Resolute Bay 74.59 355 P **P 06 05 22.6 +0.7**
comp=Z,2.7nm,0.3s,mb4.8,baz=29,slow=9.4,SNR=45
RES Resolute Bay 74.59 355 *eP* **P 06 05 22.4 +0.5**
comp=Z,7.5nm,0.9s,mb4.7
RES Resolute Bay 74.59 355 *eP* **P 06 05 22.4 +0.5**
RES pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
FX1 Attu Island--F 75.01 37 P **P 06 05 24.7 0.0**
comp=Z,46nm,0.9s,mb5.5,baz=316,slow=4.6,SNR=5.2
FX1 Attu Island--F 75.01 37 P **P 06 05 24.7 0.0**
FX1 Attu Island--F 75.01 37 P **P 06 05 24.7 0.0**
FX1 pmax pmax
comp=Z,46nm,0.9s
SUR Sutherland 76.49 219 P **P 06 05 35.0 +1.6**
comp=Z,9.4nm,0.8s,mb5.0,baz=54,slow=7.8,SNR=5.8
SUR Sutherland 76.49 219 P **P 06 05 35.0 +1.6**
BBTS Babate 77.69 280 P **P 06 05 39.5 -1.1**
comp=Z,30nm,1.0s,mb5.4,baz=18,slow=2.3,SNR=3.3
BBTS Babate 77.69 280 P **P 06 05 39.5 -1.1**
KLBR Kellerberrin 77.90 138 *eP* **P 06 05 39.9 -1.4**
comp=Z,44nm,1.8s,mb5.3
NWAO Narrogin (SRO) 78.58 139 *eP* **P 06 05 44.9 -0.1**
comp=Z,17nm,0.9s,mb5.1
NWAO Narrogin (SRO) 78.58 139 *eP* **P 06 05 44.9 -0.1**
NWAO pmax pmax
comp=Z,17nm,0.9s
COLD Coldfoot 78.64 14 *eP* **P 06 05 45.0 0.0**
comp=Z,30nm,1.0s,mb5.3
INK Inuvik 80.39 8 *eP* **P 06 05 54.5 0.0**
comp=Z,95nm,1.2s,mb5.6
INK Inuvik 80.39 8 *eP* **P 06 05 54.5 0.0**
INK pmax pmax
comp=Z,95nm,1.2s
COLA College 81.16 14 *eP* **P 06 05 58.6 0.0**
comp=Z,32nm,1.0s,mb5.3
COLA College 81.16 14 *eP* **P 06 05 58.6 0.0**
COLA pmax pmax
comp=Z,32nm,1.0s,mb5.3
WRA Warramunga Arr 81.40 119 P **P 06 06 00.8 +0.2**
comp=Z,6.0nm,0.7s,mb4.8,baz=319,slow=4.8,SNR=62
WRA Warramunga Arr 81.40 119 P **P 06 06 00.8 +0.2**
WRA Warramunga Arr 81.40 119 P **P 06 06 00.8 +0.2**
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRAB Tennant Creek 81.40 119 *eP* **P 06 06 00.3 -0.2**
comp=Z,23nm,1.0s,mb5.2
WRAB Tennant Creek 81.40 119 P **P 06 06 01.0 +0.4**
comp=Z,108nm,0.9s,mb5.9,SNR=8.0
WRAB Tennant Creek 81.40 119 *eP* **P 06 06 00.4 -0.2**
WRAB pmax pmax
comp=Z,23nm,1.0s,mb5.2
WB2 Warramunga Arr 81.41 119 *eP* **P 06 06 00.5 -0.2**
ILAR Eielson Array 81.45 14 P **P 06 05 59.1 -1.1**
comp=Z,16nm,1.1s,mb5.0,baz=323,slow=3.8,SNR=32
ILAR PP PP 06 09 10.8 +5.5
comp=Z,3.4nm,1.0s,baz=319,slow=8.6,SNR=5.9
ILAR Eielson Array 81.45 14 P **P 06 05 59.1 -1.1**
ILAR PP PP 06 09 10.8 +5.5
ILAR Eielson Array 81.45 14 P **P 06 05 59.1 -1.1**
ILAR 06 09 10.9
ILAR pmax pmax
comp=Z,16nm,1.1s
ILAR pmax pmax
comp=Z,3.0nm,1.0s
PPLA Purkeypile 81.81 17 *eP* **P 06 06 03.2 +1.1**
comp=Z,16nm,0.8s,mb5.2
MCK McKinley 81.90 15 *eP* **P 06 06 02.7 +0.2**
comp=Z,18nm,0.9s,mb5.2
MCK McKinley 81.90 15 *eP* **P 06 06 02.7 +0.2**
MCK pmax pmax
comp=Z,18nm,0.9s,mb5.2
EGAK Eagle 82.57 12 *eP* **P 06 06 08.1 +2.0**
comp=Z,44nm,1.2s,mb5.6
AS31 Alice Springs 83.30 122 *eP* **P 06 06 10.8 +0.4**
ASAR Alice Springs 83.30 122 P **P 06 06 10.8 +0.3**
comp=Z,11nm,0.7s,mb5.2,baz=310,slow=5.4,SNR=91
ASAR Alice Springs 83.30 122 P **P 06 06 10.8 +0.3**
ASAR Alice Springs 83.30 122 P **P 06 06 10.8 +0.4**
ASAR pmax pmax
comp=Z,11nm,0.7s
DAWY Dawson 83.53 12 *eP* **P 06 06 11.3 +0.3**
PMR Palmer 83.69 17 *eP* **P 06 06 11.8 0.0**
comp=Z,26nm,1.0s,mb5.4
PMR Palmer 83.69 17 *eP* **P 06 06 11.9 0.0**
PMR pmax pmax
comp=Z,25nm,1.0s,mb5.4
FORT Forrest 83.69 131 *eP* **P 06 06 12.3 0.0**
comp=Z,16nm,0.6s,mb5.4
FORT Forrest 83.69 131 *eP* **P 06 06 12.3 0.0**
comp=Z,21nm,0.7s,mb5.5
SML Sawmill 83.70 16 *eP* **P 06 06 12.2 +0.3**
comp=Z,13nm,0.9s,mb5.2
SML Sawmill 83.70 16 *eP* **P 06 06 12.2 +0.3**
SML pmax pmax
comp=Z,13nm,0.9s,mb5.2
SLKM Skilak Lake 84.33 18 *eP* **P 06 06 16.0 +0.8**
SLKM Skilak Lake 84.33 18 *eP* **P 06 06 16.0 +0.8**
PMG Port Moresby 85.89 103 P **P 06 06 24.3 +0.5**
comp=Z,14nm,0.6s,mb5.2,baz=15,slow=12,SNR=5.6
PMG Port Moresby 85.89 103 *eP* **P 06 06 26.3 +2.6**
comp=Z,23nm,0.9s,mb5.3
PMG Port Moresby 85.89 103 *eP* **P 06 06 26.3 +2.5**
PMG pmax pmax
comp=Z,23nm,0.9s
KDAK Kodiak Island 85.96 20 P **P 06 06 23.1 -0.3**
comp=Z,25nm,0.7s,mb5.5,baz=274,slow=4.5,SNR=6.8
KDAK Kodiak Island 85.96 20 P **P 06 06 23.1 -0.3**
KDAK Kodiak Island 85.96 20 P **P 06 06 23.1 -0.3**
KDAK pmax pmax
comp=Z,25nm,0.7s,mb5.5
YKA Yellowknife Ar 87.46 1 P **P 06 06 30.4 -0.2**
comp=Z,29nm,0.9s,mb5.5,baz=350,slow=4.9,SNR=62
YKA Yellowknife Ar 87.46 1 P **P 06 06 30.4 -0.2**
YKA Yellowknife Ar 87.46 1 P **P 06 06 30.4 -0.3**
YKA pmax pmax
comp=Z,29nm,0.9s
CTA Charters Tower 90.74 113 P **P 06 06 47.2 +0.5**
comp=Z,2.7nm,0.7s,mb4.7,baz=305,slow=4.9,SNR=4.6
CTA Charters Tower 90.74 113 P **P 06 06 47.2 +0.5**
CTA Charters Tower 90.74 113 P **P 06 06 47.3 +0.5**
CTA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 93.58 125 P **P 06 07 00.0 +0.3**
comp=Z,3.0nm,0.8s,mb4.7,baz=39,slow=1.4,SNR=3.5
STKA Stephens Creek 93.58 125 P **P 06 07 00.0 +0.3**
STKA Stephens Creek 93.58 125 P **P 06 07 00.0 +0.3**
STKA pmax pmax
comp=Z,3.0nm,0.9s
FFC Flin Flon 94.79 354 *iP* **P 06 07 07.3 +2.4**
ULM Lac du Bonnet 98.41 349 P **P 06 07 19.2 -2.2**
comp=Z,3.0nm,0.8s,mb5.1,baz=18,slow=3.2,SNR=4.0
ULM Lac du Bonnet 98.41 349 P **P 06 07 19.2 -2.2**
ULM Lac du Bonnet 98.41 349 P **P 06 07 19.3 -2.1**
ULM pmax pmax
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 107.19 358 PKiKP PKiKP 06 12 10.3 +0.5
comp=Z,1.0nm,0.7s,baz=82,slow=3.1,SNR=5.4
PDAR Pinedale Array 107.19 358 PKiKP PKiKP 06 12 10.3 +0.5
NVAR Mina Array Bea 111.36 5 PKiKP PKiKP 06 12 18.0 +0.3
comp=Z,1.3nm,0.8s,baz=299,slow=1.6,SNR=9.2
NVAR Mina Array Bea 111.36 5 PKiKP PKiKP 06 12 18.0 +0.3
TXAR Lajitas Array 120.05 351 PKP PKPdf 06 12 35.0 +0.4
comp=Z,1.6nm,0.9s,baz=95,slow=1.2,SNR=12
TXAR Lajitas Array 120.05 351 PKP PKPdf 06 12 35.0 +0.4
TXAR Lajitas Array 120.05 351 PKIKP PKPdf 06 12 35.0 +0.3
TXAR pmax pmax
comp=Z,2.0nm,0.9s
QSPA South Pole Qui 120.17 180 PKP PKPdf 06 12 32.6 -0.6
comp=Z,2.8nm,0.8s,baz=245,slow=1.3,SNR=4.9
QSPA South Pole Qui 120.17 180 PKP PKPdf 06 12 32.6 -0.6
CPUP Villa Florida 131.69 260 PKP PKPdf 06 12 56.6 -0.2
comp=Z,0.9nm,0.5s,baz=29,slow=3.6,SNR=8.3
CPUP Villa Florida 131.69 260 PKP PKPdf 06 12 56.6 -0.2
CPUP Villa Florida 131.69 260 PKIKP PKPdf 06 12 56.6 -0.2
CPUP pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 137.20 279 PKP PKPdf 06 13 07.1 -0.3
comp=Z,0.9nm,0.7s,baz=297,slow=2.3,SNR=3.7
LPAZ La Paz 137.20 279 PKP PKPdf 06 13 07.1 -0.3
LPAZ La Paz 137.20 279 PKIKP PKPdf 06 13 07.1 -0.3
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 144.64 241 PKP PKPdf 06 13 19.3 -0.8
comp=Z,2.6nm,0.7s,baz=143,slow=1.6,SNR=7.4
PLCA Paso Flores 144.64 241 *e*PKPdf PKPdf 06 13 19.2 -0.9
PLCA Paso Flores 144.64 241 PKIKP PKPdf 06 13 19.3 -0.8
PLCA pmax pmax
comp=Z,3.0nm,0.7s

ISCJB ***09*** *05:54:09.2±1.2, 1°.14N±0°.10×126°.83E±0°.09, h100km±10km, mb3.9/5, Error ellipse: s-maj=18.5km s-min=11.8km az=40.0*
DJA ***09*** *05:54:09, 1°.34N×126°.96E, h40km, MLv4.2/5*
IDC ***09*** *05:54:11.9±9.3, 1°.05N×126°.70E, h106km±88km, mb3.7/5, mb1 3.7/7, mb1mx3.6/20, mbtmp3.7/7, ML3.9/2, Error ellipse: s-maj=68.2km s-min=18.1km az=55.0*
ISC 09 05:54:10.7±1.1, 1°.09N±0°.09×126°.80E±0°.08, h96km±11km, n14, σ0°.96/15, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.65**	**119**	P	**Pn**	**05 54 23.3**	**-3.9**
LBMI	**Labuha**	**1.85**	**158**	P	**Pn**	**05 54 41.1**	**-0.1**
MNI	**Manado**	**1.99**	**280**	P	**Pn**	**05 54 42.1**	**-1.0**
KMSI	**Cibinong**	**2.87**	**260**	P	**Pn**	**05 54 54.9**	**+0.3**
GTOI	**Gorontalo**	**3.82**	**263**	P	**Pn**	**05 55 08.3**	**+0.9**
NLAI	**Namlea**	**4.31**	**176**	P	**Pn**	**05 55 15.3**	**+1.3**
BKSI	**Bulukumba**	**9.22**	**226**	P	**Pn**	**05 56 23.3**	**+2.4**
KAPI	**Kappang**	**9.29**	**229**	P	**Pn**	**05 56 21.7**	**-0.1**
	2.2nm,0.3s,baz=99,slow=9.7,SNR=9.2						
KAPI				S	**Sn**	**05 58 03.3**	**-1.4**
	1.6nm,0.3s,baz=280,slow=23,SNR=6.9						
FITZ	**Fitzroy Crossi**	**19.10**	**183**	P	**Pn**	**05 58 26.8**	**-1.1**
	0.2nm,0.3s,baz=4.8,slow=9.9,SNR=7.5						
WRA	**Warramunga Arr**	**22.17**	**161**	P	**P**	**05 58 58.4**	**-0.6**
	3.1nm,0.6s,mb3.8,baz=339,slow=11,SNR=19						
ASAR	**Alice Springs**	**25.55**	**165**	P	**P**	**05 59 31.6**	**+0.9**
	1.3nm,0.4s,mb3.7,baz=345,slow=12,SNR=20						
STKA	**Stephens Creek**	**35.66**	**158**	P	**P**	**06 00 59.5**	**-0.2**
	1.4nm,0.6s,mb4.0,baz=348,slow=6.5,SNR=3.5						
MKAR	**Makanchi Array**	**59.77**	**326**	P	**P**	**06 04 05.8**	**+0.2**
	1.5nm,0.7s,mb4.1,baz=122,slow=8.0,SNR=5.2						
KURK	**Kurchatov**	**64.00**	**328**	P	**P**	**06 04 33.7**	**-0.3**
	1.1nm,0.5s,mb3.9,baz=128,slow=6.1,SNR=5.1						

IDC ***09*** *06:04:05.3±2.6, 15°.20N×96°.05E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/26, mbtmp3.9/4, ML4.6/1, Error ellipse: s-maj=37.0km s-min=26.3km az=0.0*
ISCJB ***09*** *06:04:07.3±1.3, 15°.5N±0°.1×96°.1E±0°.1, h10km, mb3.8/3, Error ellipse: s-maj=18.5km s-min=13.2km az=144.2*
ISC 09 06:04:09.6±1.3, 15°.6N±0°.1×96°.0E±0°.1, h10km, n8, σ0°.59/9, mb3.8/3, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**3.96**	**88**	P	**Pn**	**06 05 04.6**	**-5.9**
	155nm,0.8s						
CMAR	**Chiang Mai Arr**	**4.01**	**44**	Pn	**Pn**	**06 05 10.5**	**-0.6**
	9.4nm,0.3s,baz=234,slow=15,SNR=63						
CMAR				Pg	**Pg**	**06 05 27.3**	**+0.8**
	5.5nm,0.3s,baz=227,slow=19,SNR=29						
CMAR				Lg		06 06 21.3	
	3.0nm,0.3s,baz=223,slow=30,SNR=4.9						
CHG	**Chiang Mai**	**4.27**	**40**	P	**Pn**	**06 05 14.0**	**-0.7**
NNT	**Nongplab**	**4.66**	**129**	P	**Pg**	**06 05 39.0**	**+0.1**
CHRT	**Chiangrai**	**5.59**	**39**	P	**Pn**	**06 05 37.0**	**+4.2**
	166nm,0.8s						
MKAR	**Makanchi Array**	**33.17**	**343**	P	**P**	**06 10 46.6**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=150,slow=9.8,SNR=4.9						
KURK	**Kurchatov**	**37.77**	**342**	P	**P**	**06 11 25.2**	**-0.4**
	1.8nm,0.7s,mb3.9,baz=151,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**39.29**	**350**	P	**P**	**06 11 38.8**	**+0.4**
	1.6nm,0.6s,mb3.9,baz=162,slow=7.6,SNR=6.4						

IDC ***09*** *06:04:56.0±1.8, 1°.04N×97°.20E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, ML4.4/1, Error ellipse: s-maj=62.8km s-min=20.1km az=57.0*
ISCJB ***09*** *06:05:00.8±2.2, 1°.2N±0°.1×97°.2E±0°.2, h47km±15km, mb4.0/10, Error ellipse: s-maj=32.0km s-min=9.7km az=153.4*
DJA ***09*** *06:05:00, 1°.16N×97°.00E, h53km, MLv4.1/9*
NEIC ***09*** *06:05:01.3±0.8, 1°.06N×97°.23E, h35km, mb4.3/2, Error ellipse: s-maj=16.6km s-min=10.3km az=66.0*
ISC 09 06:05:01.9±2.3, 1°.1N±0°.1×97°.2E±0°.2, h38km±16km, n31, σ0°.93/31, mb4.0/10, Northern Sumatera

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

TPTI		2.10	1	P		Pn	06 05 33.1	-1.6
PSI	Prapat	2.42	47	P		Pn	06 05 38.7	-0.3
MNSI	Mandailing Nat	2.45	98	P		Pn	06 05 38.9	-0.5
TSI	Tuntungan	2.73	31	P		Pn	06 05 43.8	+0.5
PPI	Padang Panjang	3.61	116	P		Pn	06 05 55.5	+0.1
PDSI	Padang	3.88	122	P		Pn	06 06 00.3	+1.1
BKNI	Bangkinang	3.97	102	P		Pn	06 06 01.8	+1.5
IPM	Ipoh	5.09	49	*e*Pn		Pn	06 06 15.9	+0.1
	30nm,0.9s							
IPM	Ipoh	5.09	49	P		Pn	06 06 16.3	+0.5
	0.2nm39nm,0.9s							
KULM	Kulim	5.40	40	*e*Pn		Pn	06 06 19.4	-0.6
	55nm,1.0s							
KULM	Kulim	5.40	40	P		Pn	06 06 18.2	-1.8
CMAR	Chiang Mai Arr	17.30	6	P		Pn	06 09 00.5	-0.1
	0.5nm,0.3s,baz=184,slow=11,SNR=2.7							
CMAR	Chiang Mai Arr	17.30	6	P		Pn	06 09 00.5	-0.1
KMI	Kunming	24.44	12	P		P	06 10 19.7	+2.5
	18nm,1.1s,mb4.4							
WRA	Warramunga Arr	42.04	122	P		P	06 12 48.5	-1.6
	0.5nm,0.5s,mb3.4,baz=303,slow=9.1,SNR=6.5							
WRA	Warramunga Arr	42.04	122	P		P	06 12 48.5	-1.6
WRAB	Tennant Creek	42.05	122	*e*P		P	06 12 49.5	-0.7
	3.4nm,1.1s,mb3.9							
ASAR	Alice Springs	43.40	127	P		P	06 13 00.3	-0.8
	0.8nm,0.9s,mb3.4,baz=302,slow=8.8,SNR=4.8							
ASAR	Alice Springs	43.40	127	P		P	06 13 00.3	-0.8
KSAR	Wonju Array Be	45.89	35	P		P	06 13 20.7	-0.1
KSRS	Korea Array	45.92	35	P		P	06 13 20.7	-0.3
	3.5nm,0.9s,mb4.3,baz=220,slow=9.3,SNR=9.5							
SONM	Songino Array	47.20	8	P		P	06 13 31.3	+0.5
	1.4nm,0.8s,mb4.0,baz=201,slow=8.5,SNR=9.2							
SONM				PcP		PcP	06 15 02.7	+0.9
	0.4nm,0.7s,baz=180,slow=3.6,SNR=3.2							
SONM	Songino Array	47.20	8	P		P	06 13 31.3	+0.5
SONM				PcP		PcP	06 15 02.7	+0.9
MKAR	Makanchi Array	47.29	346	P		P	06 13 32.5	+0.9
	1.7nm,0.8s,mb4.0,baz=160,slow=7.5,SNR=8.9							
MKAR	Makanchi Array	47.29	346	P		P	06 13 32.5	+0.9
KURK	Kurchatov	51.84	345	P		P	06 14 06.1	0.0
	1.3nm,0.8s,mb3.9,baz=166,slow=7.2,SNR=11							
KURK	Kurchatov	51.84	345	P		P	06 14 06.1	0.0
ZALV	Zalesovo Beam	53.61	351	P		P	06 14 19.8	+0.6
	4.7nm,0.9s,mb4.4,baz=174,slow=5.7,SNR=11							
ZALV	Zalesovo Beam	53.61	351	P		P	06 14 19.8	+0.6
BVAR	Borovoye Array	56.29	341	P		P	06 14 38.3	-0.3
	0.4nm,0.4s,mb3.8,baz=141,slow=7.4,SNR=3.3							
BVAR	Borovoye Array	56.29	341	P		P	06 14 38.3	-0.3

BJI ***09*** *06:23:57.5, 30°.51S × 176°.37W, h12km, mB6.9/31, mb6.1/56, Ms6.6/70, Ms7 6.4/62*

IDC ***09*** *06:23:57.4±0.3, 30°.98S × 176°.86W, h0km, mb5.9/31, mb1 5.8/31, mb1mx5.8/31, mbtmp5.8/31, MS6.6/21, Ms1 6.6/21, ms1mx6.5/29, Error ellipse: s-maj=14.0km s-min=11.6km az=17.0*

ISCJB ***09*** *06:23:59.2±0.1, 31°.31S±0°.02 × 176°.90W±0°.02, h25km, mb6.2/279, MS6.7/238, Error ellipse: s-maj=3.7km s-min=1.6km az=44.0*

NEIC ***09*** *06:23:59.8±0.1, 31°.23S × 176°.92W, h18km, mb6.2/170, ME6.6, MS6.7/159, MW6.8, MW6.6, Error ellipse: s-maj=5.4km s-min=2.0km az=124.0, Moment Tensor Solution. s57 Moment tensor: Scale 10^{18}Nm; M_{rr}-9.97; $M_{\theta\theta}$2.36; $M_{\phi\phi}$7.61; $M_{r\theta}$-0.25; $M_{\theta\phi}$-1.14; $M_{\phi r}$0.38; Best double couple: $M_0$9.10000×10^{18} NP1:ϕ_s167.00000°, δ46.00000°, λ-91.00000°. NP2:ϕ_s349.00000°, δ44.00000°, λ-89.00000°. Principal axes: T 7.8600, Plg1.0000°, Azm258.0000°; N 2.1300, Plg0.0000°, Azm168.0000°; P -9.9800, Plg88.0000°, Azm48.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

MOS ***09*** *06:24:00.9±0.9, 30°.88S × 176°.95W, h26km, mb6.4/71, MS6.6/82 Error ellipse: s-maj=8.5km s-min=6.3km az=87.8*

GCMT ***09*** *06:24:07.0±0.0, 31°.03S × 176°.54W, h19km, MW6.7, Moment Tensor Solution. s117,c278; s99,c256; Moment tensor: Scale 10^{19}Nm; M_{rr}-1.29±.01; $M_{\theta\theta}$-0.23±.01; $M_{\phi\phi}$1.52±.01; $M_{r\theta}$-0.19±.01; $M_{\theta\phi}$0.08; $M_{\phi r}$-0.35±.01; Best double couple: $M_0$1.50000×10^{19} NP1:ϕ_s174.00000°, δ38.00000°, λ-104.00000°. NP2: ϕ_s11.00000°, δ53.00000°, λ-79.00000°. Principal axes: T 1.5700, Plg7.0000°, Azm93.0000°; N -0.2100, Plg8.0000°, Azm184.0000°; P -1.3600, Plg79.0000°, Azm323.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 110 sta. Surface waves: sta=121, comp=281, per= 50.*

DJA ***09*** *06:24:11, 30°.95S × 177°.00W, h102km, Mw6.7/72*

ISC 09 06:24:01.0±0.1, 31°.27S±0°.02 × 176°.85W±0°.02, h26km, h26km±2.4km: pP-P, n2212, σ0s95/1149, mb6.2/278, MS6.7/238, 236C-275D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.21	335	*e*Pn	Pn	06 24 31.4	-4.6
RAO	Raoul Island	2.21	335	*e*P	Pn	06 24 31.4	-4.6
MXZ	Matakaoa Point	7.45	211	Pn	Pn	06 25 47.7	-0.2
MXZ				Sn	Sn	06 27 14.9	+3.4
MXZ	Matakaoa Point	7.45	211	*e*PN	Pn	06 25 47.0	-0.9
MXZ				SN	Sn	06 27 14.9	+3.4
MXZ				T		06 33 14.9	
MXZ				T(MAX)		06 34 31.3	
PUZ	Puketiti	7.89	209	Pn	Pn	06 25 53.1	-1.0
PUZ				Sn	Sn	06 27 28.4	+5.2
PUZ	Puketiti	7.89	209	*e*PN	Pn	06 25 52.8	-1.3
PUZ				SN	Sn	06 27 27.8	+5.2
WIZ	White Island	7.95	217	Pn	Pn	06 25 55.7	+0.9
WIZ	White Island	7.95	217	*e*PN	Pn	06 25 55.4	+0.6
WIZ				SN	Sn	06 27 26.8	+2.9
KUZ	Kuaotunu	8.24	226	Pn	Pn	06 26 02.0	+3.2
KUZ	Kuaotunu	8.24	226	*e*PN	Pn	06 26 01.5	+2.7
CNGZ	Carnagh Statio	8.27	208	Pn	Pn	06 25 58.5	-0.7
CNGZ	Carnagh Statio	8.27	208	*e*PN	Pn	06 25 58.1	-1.1
MWZ	Matawai	8.43	212	Pn	Pn	06 26 00.5	-0.9
MWZ	Matawai	8.43	212	*e*PN	Pn	06 26 00.1	-1.3
MWZ				SN	Sn	06 27 38.1	+2.4
OPRZ	Ohinepanea	8.52	218	Pn	Pn	06 26 03.4	+0.7
OPRZ	Ohinepanea	8.52	218	*e*PN	Pn	06 26 03.4	+0.7
OPRZ				SN	Sn	06 27 41.3	+3.3
URZ	Urewera	8.56	214	Pn	Pn	06 26 02.2	-1.0
	20nm,0.3s,baz=51,slow=3.1,SNR=70						
URZ				Sn	Sn	06 27 40.4	+1.4
	254nm,0.3s,baz=167,slow=19,SNR=6.4						
URZ				T		06 35 10.2	
	12nm,0.3s,baz=274,slow=14,SNR=4.8						
URZ	Urewera	8.56	214	*e*Pn	Pn	06 26 02.4	-0.9
URZ				*e*Sn	Sn	06 27 44.1	+5.1
URZ				TT		06 35 10.2	
URZ	Urewera	8.56	214	*e*PN	Pn	06 26 02.2	-1.0
URZ				*e*SN	Sn	06 27 39.6	+0.6
MARZ	Manawahe	8.56	217	Pn	Pn	06 26 05.4	+2.1
MARZ	Manawahe	8.56	217	*e*PN	Pn	06 26 04.9	+1.6
TGRZ	Tauranga	8.59	220	Pn	Pn	06 26 05.0	+1.3
TGRZ	Tauranga	8.59	220	*e*PN	Pn	06 26 05.0	+1.3
EDRZ	Edgecumbe	8.62	216	Pn	Pn	06 26 05.3	+1.2
EDRZ	Edgecumbe	8.62	216	*e*PN	Pn	06 26 05.3	+1.1
WCZ	Waipu Caves	8.70	235	Pn	Pn	06 26 09.6	+4.5
WCZ	Waipu Caves	8.70	235	*e*PN	Pn	06 26 09.6	+4.5
PRGZ	Paritu Road	8.77	208	Pn	Pn	06 26 05.3	-0.8
PRGZ	Paritu Road	8.77	208	*e*PN	Pn	06 26 04.7	-1.4
MKAZ	Moumakai	8.81	226	Pn	Pn	06 26 10.7	+4.1
MKAZ	Moumakai	8.81	226	PN	Pn	06 26 10.7	+4.1
OMRZ	Omania	8.81	217	Pn	Pn	06 26 08.9	+2.2
OMRZ	Omania	8.81	217	*e*PN	Pn	06 26 06.9	+0.2
KARZ	Kaharoa	8.82	218	Pn	Pn	06 26 08.8	+2.1
KARZ	Kaharoa	8.82	218	*e*PN	Pn	06 26 07.8	+1.1
TARZ	Mount Tarawera	8.84	216	Pn	Pn	06 26 07.9	+0.9
TARZ	Mount Tarawera	8.84	216	*e*PN	Pn	06 26 07.9	+0.9
OTAZ	Otara	8.87	228	Pn	Pn	06 26 12.8	+5.4
OTAZ	Otara	8.87	228	PN	Pn	06 26 12.3	+4.9
RRRZ	Republican Roa	8.92	216	Pn	Pn	06 26 09.8	+1.6
RRRZ	Republican Roa	8.92	216	PN	Pn	06 26 08.7	+0.6
OUZ	Omahuta	8.92	241	*e*Pn	Pn	06 26 13.7	+5.5
OUZ	Omahuta	8.92	241	PN	Pn	06 26 13.2	+5.1
KAAZ	Kauri Point	8.93	229	Pn	Pn	06 26 14.4	+6.0
KAAZ	Kauri Point	8.93	229	PN	Pn	06 26 13.4	+5.0
KNZ	Kokohu	8.94	209	Pn	Pn	06 26 06.2	-2.2
KNZ	Kokohu	8.94	209	*e*PN	Pn	06 26 06.2	-2.2
KNZ				*e*SN	Sn	06 27 49.5	+1.3
MHGZ	Mahia Peninsul	8.96	207	Pn	Pn	06 26 06.9	-1.8
MHGZ	Mahia Peninsul	8.96	207	PN	Pn	06 26 06.4	-2.3
TOZ	Tahuroa Road	9.02	222	PN	Pn	06 26 11.4	+1.9
HRRZ	Handcock Road	9.07	217	Pn	Pn	06 26 12.6	+2.4
HRRZ	Handcock Road	9.07	217	*e*PN	Pn	06 26 12.1	+1.9
PRRZ	Plateau Road	9.10	216	Pn	Pn	06 26 11.0	+0.4
PRRZ	Plateau Road	9.10	216	PN	Pn	06 26 11.0	+0.4
RAHZ	Arahi	9.11	211	Pn	Pn	06 26 10.6	-0.1
RAHZ				Sn	Sn	06 27 56.8	+4.5
RAHZ	Arahi	9.11	211	*e*PN	Pn	06 26 10.6	-0.1
RAHZ				SN	Sn	06 27 56.8	+4.5
ALRZ	Allen Road	9.17	216	Pn	Pn	06 26 12.3	+0.7
ALRZ	Allen Road	9.17	216	*e*PN	Pn	06 26 12.3	+0.7
NMHZ	Naumai	9.38	212	Pn	Pn	06 26 13.6	-0.8
NMHZ				Sn	Sn	06 28 01.5	+2.5
NMHZ	Naumai	9.38	212	*e*PN	Pn	06 26 13.6	-0.8
WHTZ	Whakaora	9.45	217	Pn	Pn	06 26 17.1	+1.7
WHTZ	Whakaora	9.45	217	*e*PN	Pn	06 26 16.8	+1.5
BKZ	Black Stump Fm	9.58	213	Pn	Pn	06 26 15.5	-1.6
BKZ	Black Stump Fm	9.58	213	*e*PN	Pn	06 26 15.5	-1.6
WATZ	Wairara	9.60	217	Pn	Pn	06 26 19.6	+2.2
WATZ	Wairara	9.60	217	*e*PN	Pn	06 26 19.6	+2.2
RATZ	Rangitukua	9.70	217	Pn	Pn	06 26 20.7	+1.9
RATZ	Rangitukua	9.70	217	*e*PN	Pn	06 26 18.7	-0.1
MCHZ	McNeill Hill	9.71	211	Pn	Pn	06 26 17.6	-1.3
MCHZ	McNeill Hill	9.71	211	*e*PN	Pn	06 26 17.6	-1.3
CKHZ	Cape Kidnapper	9.73	209	Pn	Pn	06 26 17.1	-2.1
CKHZ	Cape Kidnapper	9.73	209	*e*PN	Pn	06 26 17.1	-2.1
RITZ	Rihia Road	9.73	216	Pn	Pn	06 26 19.7	+0.4
RITZ	Rihia Road	9.73	216	*e*PN	Pn	06 26 19.7	+0.4
KATZ	Kakaramea	9.82	216	Pn	Pn	06 26 22.0	+1.6
KATZ	Kakaramea	9.82	216	*e*PN	Pn	06 26 22.0	+1.6
KAHZ	Kahuranaki	9.92	209	Pn	Pn	06 26 18.7	-3.2
HIZ	Hauiti	9.93	221	Pn	Pn	06 26 23.8	+1.8
KRVZ	Karewarewa	9.93	216	Pn	Pn	06 26 22.3	+0.3
OTVZ	Oturere	9.97	216	Pn	Pn	06 26 21.6	-1.0
OTVZ	Oturere	9.97	216	*e*PN	Pn	06 26 22.3	-0.2
WTVZ	West Tongariro	9.98	216	Pn	Pn	06 26 23.7	+1.1
NGZ	Ngauruhoe	10.02	216	Pn	Pn	06 26 23.6	+0.4
TWVZ	Taurewa	10.02	217	Pn	Pn	06 26 23.2	0.0
BHHZ	Black Hill Sta	10.03	213	*e*PN	Pn	06 26 23.1	-0.3
TUVZ	Tukino	10.06	215	Pn	Pn	06 26 25.1	+1.3
WPVZ	Whakapapa	10.06	216	Pn	Pn	06 26 24.8	+0.9
WPVZ	Whakapapa	10.06	216	*e*PN	Pn	06 26 24.1	+0.2
FWVZ	Far West T-bar	10.10	216	Pn	Pn	06 26 24.9	+0.5
MOVZ	Moawhango	10.12	215	Pn	Pn	06 26 23.5	-1.1
PXZ	Pawanui	10.13	209	Pn	Pn	06 26 20.9	-3.8
PXZ	Pawanui	10.13	209	*e*PN	Pn	06 26 20.8	-3.9
PXZ				*e*SN	Sn	06 28 15.3	-2.2
WNVZ	Wahianoa	10.13	215	Pn	Pn	06 26 23.9	-0.8
WNVZ	Wahianoa	10.13	215	*e*PN	Pn	06 26 23.8	-1.0
TRVZ	Turoa	10.14	216	Pn	Pn	06 26 26.9	+2.1
MTVZ	Mangateitei	10.24	216	Pn	Pn	06 26 30.7	+4.4
PNHZ	Pukenui	10.31	211	Pn	Pn	06 26 24.3	-2.9
PNHZ	Pukenui	10.31	211	*e*PN	Pn	06 26 24.6	-2.6
WPHZ	Waipukurau	10.33	210	Pn	Pn	06 26 25.5	-2.0
VRZ	Vera Road	10.42	219	*e*PN	Pn	06 26 31.8	+3.2
PRHZ	Porangahau	10.42	209	Pn	Pn	06 26 25.7	-3.0
TSZ	Takapari Road	10.54	212	*e*PN	Pn	06 26 27.6	-2.7
TSZ				*e*SN	Sn	06 28 26.1	-1.4
DVHZ	Dannevirke	10.64	210	Pn	Pn	06 26 29.2	-2.5
WAZ	Wanganui	10.77	216	Pn	Pn	06 26 33.0	-0.4
NEZ	North Egmont	10.88	220	Pn	Pn	06 26 39.3	+4.3
PKE	Pukeiti	10.89	221	Pn	Pn	06 26 37.8	+2.7
POWZ	Post Office Ro	10.90	211	Pn	Pn	06 26 32.8	-2.4
POWZ	Post Office Ro	10.90	211	*e*PN	Pn	06 26 32.5	-2.7
DFE	Dawson Falls	10.92	220	Pn	Pn	06 26 38.7	+3.2
BFZ	Birch Farm	10.93	209	Pn	Pn	06 26 30.6	-5.0
BFZ	Birch Farm	10.93	209	*e*PN	Pn	06 26 30.5	-5.1
NRZ	Ngariki Road	11.02	221	Pn	Pn	06 26 41.4	+4.5
TIWZ	Tintock	11.16	210	Pn	Pn	06 26 36.7	-2.1
MRZ	Mangatainoka R	11.20	211	Pn	Pn	06 26 35.8	-3.6
MRZ	Mangatainoka R	11.20	211	*e*PN	Pn	06 26 35.7	-3.6
MRZ				*e*SN	Sn	06 28 39.6	-4.0
HOWZ	Holdsworth Sta	11.42	211	Pn	Pn	06 26 38.2	-4.2
HOWZ	Holdsworth Sta	11.42	211	*e*PN	Pn	06 26 37.8	-4.6
TMWZ	Te Maipa	11.43	209	Pn	Pn	06 26 39.0	-3.5
OGWZ	Otaki Gorge	11.51	212	Pn	Pn	06 26 40.1	-3.4
OGWZ	Otaki Gorge	11.51	212	*e*PN	Pn	06 26 38.6	-4.9
MTW	Mount Morrison	11.64	210	Pn	Pn	06 26 42.2	-3.2
TRWZ	Traveller	11.76	209	Pn	Pn	06 26 42.8	-4.2
CAW	Cannon Point	11.79	211	Pn	Pn	06 26 42.6	-4.8
PAWZ	Paruwai Farm	11.86	209	Pn	Pn	06 26 44.5	-3.8
MSWZ	Moikau Station	11.96	210	Pn	Pn	06 26 45.7	-4.0
PLWZ	Palliser	12.08	209	Pn	Pn	06 26 47.0	-4.5
DUWZ	D'Urville Isla	12.09	216	Pn	Pn	06 26 49.3	-2.2
SNZO	South Karori	12.11	212	*e*Pn	Pn	06 26 49.9	-1.9
SNZO				*e*Sn	Sn	06 29 02.7	-3.3
SNZO	South Karori	12.11	212	*e*PN	Pn	06 26 46.3	-5.5
SNZO				*e*SN	Sn	06 28 59.7	-6.3
TCW	Tory Channel	12.23	213	Pn	Pn	06 26 49.0	-4.5
CTZ	Chatham Island	12.45	179	Pn	Pn	06 26 53.7	-2.7
CTZ	Chatham Island	12.45	179	*e*PN	Pn	06 26 53.0	-3.4
TUWZ	Tuamarina	12.56	214	Pn	Pn	06 26 53.8	-4.1
NNZ	Nelson	12.67	216	Pn	Pn	06 26 55.6	-3.9
NNZ	Nelson	12.67	216	*e*PN	Pn	06 26 55.1	-4.4
BSWZ	Blackbirch Sta	12.81	213	Pn	Pn	06 26 57.3	-4.1
QRZ	Quartz Range	12.83	219	Pn	Pn	06 26 58.1	-3.5
THZ	Tophouse	13.32	215	Pn	Pn	06 27 03.3	-5.0
THZ	Tophouse	13.32	215	*e*PN	Pn	06 27 03.4	-4.9
THZ				*e*SN	Sn	06 29 30.2	-5.2
KHZ	Kahutara	13.52	212	*e*Pn	Pn	06 27 08.1	-3.0
KHZ				*e*Sn	Sn	06 29 37.7	-2.7
KHZ	Kahutara	13.52	212	*e*PN	Pn	06 27 06.8	-4.2
DSZ	Denniston Nort	13.87	218	Pn	Pn	06 27 11.7	-4.1
MSVF	Nonsavu	14.24	340	*e*Pn	Pn	06 27 16.8	-4.3
MSVF	Nonsavu	14.24	340	Pn	Pn	06 27 17.0	-4.1
	2μm,1.5s,SNR=42						
MSVF	Nonsavu	14.24	340	*e*P	Pn	06 27 16.8	-4.3
LTZ	Lake Taylor	14.39	214	Pn	Pn	06 27 17.1	-5.9
CRLZ	Canterbury Las	14.85	211	Pn	Pn	06 27 26.0	-3.2
MQZ	McQueen's Vall	14.94	211	Pn	Pn	06 27 24.6	-5.8
MQZ	McQueen's Vall	14.94	211	*e*PN	Pn	06 27 24.3	-6.0
MQZ				*e*SN	Sn	06 30 04.3	-11
WVZ	Waitaha Valley	15.37	216	Pn	Pn	06 27 32.1	-3.9
RPZ	Rata Peaks	15.68	214	Pn	Pn	06 27 35.2	-4.8
	107nm,0.3s,baz=49,slow=2.2,SNR=170						
RPZ				Sn	Sn	06 30 23.9	-9.0
	43nm,0.3s,baz=149,slow=22,SNR=8.9						
RPZ	Rata Peaks	15.68	214	*e*P	Pn	06 27 37.9	-2.1
RPZ				*e*S	Sn	06 30 31.1	-1.9
FOZ	Fox Glacier	16.25	217	Pn	Pn	06 27 43.4	-4.1
FOZ	Fox Glacier	16.25	217	*e*PN	Pn	06 27 41.6	-5.9
FOZ				*e*SN	Sn	06 30 34.2	-13
LBZ	Lake Benmore	16.60	214	Pn	Pn	06 27 48.0	-3.9
ODZ	Otahua Downs	16.88	212	*e*P	Pn	06 27 55.0	-0.4
ODZ				*e*S	Sn	06 30 56.3	-5.8
ODZ	Otahua Downs	16.88	212	*e*PN	Pn	06 27 49.8	-5.5
ODZ				*e*SN	Sn	06 30 50.0	-12
JCZ	Jackson Bay	17.09	218	Pn	Pn	06 27 53.5	-4.5
BAYA	Yate Dam	17.11	298	*e*P	Pn	06 28 05.0	+6.5
PLUM	Mont Dore	17.23	297	*e*P	Pn	06 28 03.3	+3.4
NORM	Noumea	17.38	297	*e*P	Pn	06 28 06.9	+5.1
WKZ	Wanaka	17.49	215	Pn	Pn	06 27 59.6	-3.3
WKZ	Wanaka	17.49	215	*e*PN	Pn	06 27 58.0	-4.9
WKZ				*e*SN	Sn	06 31 03.8	-13
DZM	Mont Dzumac	17.50	298	*e*P	Pn	06 28 04.0	+0.8
	3μm,1.3s						
DZM				*e*LR	LR	06 32 10.1	
	455μm,24.2s						
DZM	Mont Dzumac	17.50	298	*e*P	Pn	06 28 05.7	+2.5
DZM	Mont Dzumac	17.50	298	*e*P	Pn	06 28 05.2	+2.0
	755nm,0.8s						
NOUC	Port Laguerre	17.59	297	*e*P	Pn	06 28 06.3	+2.0
EAZ	Earnscleugh	17.64	214	Pn	Pn	06 28 02.7	-2.2
AFI	Afiamalu	17.89	16	P	Pn	06 28 01.6	-6.5
	12nm,0.3s,baz=214,slow=10,SNR=14						
AFI				S	Sn	06 31 02.0	-25
	17nm,0.3s,baz=41,slow=19,SNR=4.2						
AFI				T		06 46 09.7	
	37nm,0.3s,baz=75,slow=18,SNR=4.1						
AFI	Afiamalu	17.89	16	P	Pn	06 28 01.6	-6.5
AFI				S	Sn	06 31 02.0	-25
AFI				TT		06 46 09.7	
AFI	Afiamalu	17.89	16	P	Pn	06 28 01.6	-6.5
AFI				pmax	pmax		
	comp=Z,12nm,0.3s						
MSZ	Milford Sound	17.93	217	Pn	Pn	06 28 05.8	-2.6
MSZ	Milford Sound	17.93	217	P	Pn	06 28 05.8	-2.7
MSZ	Milford Sound	17.93	217	*e*PN	Pn	06 28 05.7	-2.7
MSZ				*e*SN	Sn	06 31 16.8	-11
TUZ	Tuapeka	18.04	212	Pn	Pn	06 28 08.6	-1.1
MLZ	Mavora Lakes	18.28	216	Pn	Pn	06 28 11.7	-1.0
RAR	Rarotonga	18.28	61	P	Pn	06 28 05.9	-6.9
	comp=Z,38nm,0.3s,baz=239,slow=8.2,SNR=27						
RAR				S	Sn	06 31 06.5	-30
	comp=Z,22nm,0.3s,baz=76,slow=19,SNR=9.3						
RAR				LR	LR	06 33 25.1	
	comp=Z,157μm,19.5s,baz=242,slow=31						
RAR	Rarotonga	18.28	61	*e*P	Pn	06 28 06.0	-6.9
RAR				*e*S	Sn	06 31 04.6	-32
RAR				S	Sn	06 31 06.5	-30
RAR	Rarotonga	18.28	61	P	Pn	06 28 05.9	-7.0
RAR				pmax	pmax		
	comp=Z,38nm,0.3s						
RAR				MLR	MLR		
	comp=Z,157μm,19.5s						
WHZ	Wether Hill Ro	18.78	215	*e*P	Pn	06 28 17.4	-1.4
DCZ	Deep Cove	18.89	217	Pn	Pn	06 28 19.2	-0.8
FUNA	Funafuti	22.92	350	*e*P	P	06 29 00.9	-2.2
	comp=Z,2μm,1.2s,mb6.5						
FUNA				LR	LR		
	comp=Z,78μm,20.0s,MS6.2						
TBI	Tubuai	25.54	79	*e*P	P	06 29 23.7	-4.0
	comp=Z,2μm,1.2s,mb6.4						
TBI				*e*S	S	06 33 45.8	-8.0
	comp=Z,106μm,29.5s						
TBI				*e*LR	LR	06 35 46.5	
	comp=Z,289μm,26.2s,baz=244						
ARMA	Armidale	27.03	264	⇓*i*P	P	06 29 44.5	+3.4
ARMA				*e*S	S	06 34 27.5	+10
ARMA	Armidale	27.03	264	*e*P	P	06 29 44.6	+3.5
	comp=Z,155nm,0.8s,mb5.6						
RIV	Riverview	27.03	256	*e*P	P	06 29 44.1	+3.0
PAE	Paea	28.18	68	*e*P	P	06 29 47.8	-3.7
	comp=Z,81nm,1.3s,mb5.2						
PPT2	Papeete2	28.23	68	*e*P	P	06 29 48.1	-3.8
	comp=Z,515nm,1.3s,mb6.0						
PPT	Papeete	28.24	68	*e*S	S	06 34 29.2	-7.3
	comp=Z,55μm,25.2s						
PPT				*e*LQ		06 35 24.5	
	comp=Z,313μm,25.5s						
PPT				*e*LR	LR	06 36 57.9	
	comp=Z,195μm,24.5s,baz=231						
TIAR	Tiarei	28.43	68	*e*P	P	06 29 50.2	-3.5
	comp=Z,913nm,1.0s,mb6.4						
CNB	Canberra Magne	28.45	253	*e*P	P	06 29 56.8	+3.1
	comp=Z,648nm,0.8s,mb6.3						
CNB				*e*PCP	PcP	06 33 07.1	+1.7
CNB				*e*S	S	06 34 46.6	+7.1
CAN	Canberra	28.74	253	*e*P	P	06 29 59.4	+3.0
	comp=Z,190nm,1.0s,mb5.8						
CAN				LR	LR		
	comp=Z,117μm,21.0s,MS6.5						
CAN	Canberra	28.74	253	*e*P	P	06 29 59.4	+3.0
CAN				pmax	pmax		
	comp=Z,190nm,1.0s,mb5.8						
CAN				MLR	MLR		
	comp=Z,117μm,21.0s,MS6.5						
EIDS	Eidsvold	28.77	274	*e*P	P	06 29 57.7	+1.0
	comp=Z,147nm,0.8s,mb5.8						
MCQ	Macquarie Isla	28.94	210	*e*P	P	06 30 02.3	+4.4
	comp=Z,47μm,1.5s				

PMG Port Moresby 39.87 295 P **P** **06 31 31.6 -1.1**
PMG 06 33 39.8
PMG 06 37 30.3
PMG pmax pmax
comp=Z,79nm,1.0s
PMG Port Moresby 39.87 295 P **P** **06 31 31.4 -1.3**
comp=Z,7μmcomp=Z,196nm,0.9s,mb5.8
COEN Coen 40.46 286 *eP* **P** **06 31 37.8 +0.2**
comp=Z,982nm,0.9s,mb6.5
COEN Coen 40.46 286 P **P** **06 31 38.5 +0.9**
comp=Z,307nm,2.8s,mb5.5
TAOE Nuku Hiva Isla 40.76 65 *eS* **S** **06 37 43.7 -5.7**
comp=Z,55μm,25.5s
TAOE *e*LQ 06 40 48.1
comp=Z,81μm,27.4s
TAOE *e*LR LR 06 42 44.9
comp=Z,117μm,24.6s,baz=242
DRV Dumont d'Urvil 43.73 203 P **P** **06 32 09.0 +5.4**
DRV Dumont d'Urvil 43.73 203 PP PP 06 34 03.0 +18
DRV S **S** **06 38 38.0 +6.0**
DRV L 06 42 00.0
AS31 Alice Springs 44.05 267 *eP* **P** **06 32 06.5 -0.4**
ASAR Alice Springs 44.05 267 P **P** **06 32 06.4 -0.4**
comp=Z,72nm,0.6s,mb5.6,baz=107,slow=7.3,SNR=307
ASAR PcP PcP 06 33 53.0 +0.9
comp=Z,52nm,0.6s,baz=118,slow=3.7,SNR=5.4
ASAR ScP ScP 06 37 46.1 +4.0
comp=Z,7.4nm,0.8s,baz=109,slow=4.4,SNR=2.9
ASAR S **S** **06 38 39.2 +1.4**
comp=Z,13nm,1.1s,baz=108,slow=15,SNR=4.5
ASAR P3KPbc 07 01 11.4
comp=Z,0.0nm,0.3s,baz=288,slow=3.5,SNR=9.5
ASAR P3KP 07 02 48.9
comp=Z,0.9nm,0.8s,baz=337,slow=0.6,SNR=4.6
ASAR P4KPbc 07 10 02.9
comp=Z,1.2nm,0.7s,baz=119,slow=4.5,SNR=9.0
ASAR Alice Springs 44.05 267 P **P** **06 32 06.4 -0.4**
ASAR PcP PcP 06 33 53.0 +0.9
ASAR ScP ScP 06 37 46.1 +4.0
ASAR S **S** **06 38 39.2 +1.4**
ASAR *e* 07 01 11.4
ASAR PKKKP 07 02 48.9
ASAR *e* 07 10 02.9
ASAR Alice Springs 44.05 267 P **P** **06 32 06.4 -0.4**
ASAR 06 33 53.0
ASAR S **S** **06 38 39.2 +1.4**
ASAR pmax pmax
comp=Z,72nm,0.6s
ASAR smax
comp=N,13nm,1.1s
WB2 Warramunga Arr 45.11 272 *eP* **P** **06 32 14.5 -0.8**
WB2 *e*S **S** **06 38 51.2 -1.9**
WRAB Tennant Creek 45.11 272 *eP* **P** **06 32 14.2 -1.1**
comp=N,365nm,0.8s,mb6.3
WRAB *e*PP PP 06 33 58.0 -3.0
WRAB *e*S **S** **06 38 50.9 -2.3**
WRAB LR LR
comp=Z,114μm,19.0s,MS6.8
WRAB Tennant Creek 45.11 272 P **P** **06 32 14.0 -1.3**
comp=Z,3μm,0.7s,mb7.2
WRAB Tennant Creek 45.11 272 *eP* **P** **06 32 14.3 -1.0**
WRAB *e* 06 33 58.0
WRAB *e*S **S** **06 38 50.9 -2.3**
WRAB pmax pmax
comp=Z,365nm,0.8s,mb6.3
WRAB MLR MLR
comp=Z,114μm,19.0s,MS6.8
WRAB Tennant Creek 45.11 272 P **P** **06 32 14.5 -0.8**
comp=Z,814nm,0.8s,mb6.6
WRA Warramunga Arr 45.12 272 P **P** **06 32 14.2 -1.2**
comp=Z,121nm,0.5s,mb6.0,baz=111,slow=7.8,SNR=260
WRA PcP PcP 06 33 57.6 +1.9
comp=Z,96nm,0.9s,baz=117,slow=3.5,SNR=5.1
WRA S **S** **06 38 51.4 -1.9**
comp=Z,56nm,1.2s,baz=112,slow=13,SNR=7.3
WRA LR LR 06 51 23.8
comp=Z,129μm,18.3s,MS6.9,baz=115,slow=36
WRA PKPPKP 07 03 42.3
comp=Z,1.6nm,0.9s,baz=270,slow=1.7,SNR=5.4
WRA P4KPbc 07 10 08.2
comp=Z,3.0nm,0.6s,baz=104,slow=4.4,SNR=20
WRA Warramunga Arr 45.12 272 P **P** **06 32 14.2 -1.1**
WRA PcP PcP 06 33 57.6 +1.9
WRA S **S** **06 38 51.4 -1.9**
WRA P'P' 07 03 42.3
WRA *e* 07 10 08.2
WRA Warramunga Arr 45.12 272 P **P** **06 32 14.2 -1.2**
WRA 06 33 57.6
WRA S **S** **06 38 51.4 -1.9**
WRA pmax pmax
comp=Z,121nm,0.5s
WRA smax
comp=N,56nm,1.2s
WRA MLR MLR
comp=Z,129μm,18.3s
FORT Forrest 46.78 256 *eP* **P** **06 32 27.8 -0.6**
comp=Z,272nm,0.7s,mb6.3
FORT *e*PCP PcP 06 34 01.6 +0.2
FORT *e*S **S** **06 39 16.1 -1.0**
FORT *e*SCS ScS 06 42 25.4 +3.9
FORT Forrest 46.78 256 *eP* **P** **06 32 27.8 -0.6**
comp=Z,274nm,0.7s,mb6.3
SBA Scott Base 47.25 185 *eP* **P** **06 32 37.5 +6.1**
comp=Z,551nm,0.9s,mb6.5
SBA LR LR
comp=Z,38μm,19.0s,MS6.4
SBA Scott Base 47.25 185 *eP* **P** **06 32 37.5 +6.1**
SBA pmax pmax
comp=Z,551nm,0.9s,mb6.5
SBA MLR MLR
comp=Z,38μm,19.0s,MS6.4
VNDA Vanda 47.34 186 *eP* **P** **06 32 36.3 +4.2**
comp=Z,242nm,1.2s,mb6.0
VNDA LR LR
comp=Z,45μm,19.0s,MS6.5
VNDA Vanda 47.34 186 *eP* **P** **06 32 36.3 +4.2**
VNDA pmax pmax
comp=Z,242nm,1.2s
VNDA MLR MLR
comp=Z,45μm,19.0s
JOHN Johnston Islan 48.24 9 *eP* **P** **06 32 39.4 -0.2**
comp=Z,682nm,0.9s,mb6.7
JOHN LR LR
comp=Z,42μm,20.0s,MS6.4
JAY Jayapura 49.17 297 P 07 05 28.0
JAY Jayapura 49.17 297 P **P** **06 32 46.1 -0.9**
comp=Z,264nm,0.9s,mb6.3
WAKE Wake Island 52.70 340 *eP* **P** **06 33 12.4 -1.0**
comp=Z,975nm,0.8s,mb6.8
WAKE LR LR
comp=Z,61μm,21.0s,MS6.6
FITZ Fitzroy Crossi 53.34 270 P **P** **06 33 17.6 -0.7**
comp=Z,62nm,0.7s,mb5.7,baz=124,slow=6.7,SNR=73
FITZ S **S** **06 40 48.0 -0.8**
comp=Z,10nm,1.1s,baz=288,slow=21,SNR=7.0
FITZ LR LR 06 57 35.1
comp=Z,90μm,18.0s,MS6.9,baz=110,slow=38
FITZ Fitzroy Crossi 53.34 270 ⇓*iP* **P** **06 33 17.5 -0.8**
comp=Z,258nm,0.8s,mb6.2
FITZ *e*S **S** **06 40 47.3 -1.5**
FITZ *e*SCS ScS 06 43 14.7 +8.2
FITZ Fitzroy Crossi 53.34 270 *eP* **P** **06 33 17.5 -0.9**
comp=Z,1.4nm,0.6s
FITZ Fitzroy Crossi 53.34 270 P **P** **06 33 18.1 -0.2**
comp=Z,7μmcomp=Z,288nm,1.2s,mb6.1
KHU Kahuku 54.21 25 *eP* **P** **06 33 24.2 -0.2**
KHU Kahuku 54.21 25 *eP* **P** **06 33 24.2 -0.2**
PUH Pauahi 54.47 25 *eP* **P** **06 33 25.6 -0.8**
STCH Steam Cracks 54.51 25 *eP* **P** **06 33 27.0 +0.4**
POHA Pohakuloa 54.70 25 *eP* **P** **06 33 27.6 -0.5**
CASY Casey 54.84 208 *eP* **P** **06 33 31.0 +2.5**
CASY *e*S **S** **06 41 15.4 +7.7**
CASY Casey 54.84 208 *eP* **P** **06 33 30.9 +2.4**
comp=Z,630nm,1.0s,mb6.6
CASY LR LR
comp=Z,33μm,19.0s,MS6.4
KLBR Kellerberrin 55.01 251 *eP* **P** **06 33 29.5 -0.8**
comp=Z,699nm,1.9s,mb6.4
KLBR *e*PCP PcP 06 34 34.9 +3.1
KLBR *e*SCP ScP 06 38 38.8 +10
KLBR *e*S **S** **06 41 13.1 +2.2**
KLBR *e*SCS ScS 06 43 20.1 +2.1
NWAO Narrogin (SRO) 55.02 250 P **P** **06 33 30.4 0.0**
comp=Z,20nm,0.7s,mb5.3,baz=97,slow=6.9,SNR=16
NWAO PcP PcP 06 34 32.4 +0.6
comp=Z,46nm,0.8s,baz=99,slow=5.8,SNR=5.8
NWAO LR LR 06 55 41.9
comp=Z,74μm,20.2s,MS6.8,baz=255,slow=35
NWAO Narrogin (SRO) 55.02 250 *eP* **P** **06 33 31.6 +1.2**
comp=Z,38nm,0.8s,mb5.5
NWAO PcP PcP 06 34 32.4 +0.6
NWAO Narrogin (SRO) 55.02 250 P **P** **06 33 30.4 0.0**
NWAO 06 34 32.4
NWAO pmax pmax
comp=Z,20nm,0.7s
NWAO Narrogin (SRO) 55.02 250 P **P** **06 33 33.1 +2.8**
SNR=9.3
HON Honolulu 55.33 21 *eP* **P** **06 33 31.8 -0.7**
HON Honolulu 55.33 21 *eP* **P** **06 33 31.8 -0.8**
KIP Kipapa 55.42 21 *eP* **P** **06 33 31.8 -1.4**
comp=Z,1μm,1.1s,mb6.8
KIP LR LR
comp=Z,11μm,19.0s,MS6.0
KIP Kipapa 55.42 21 *eP* **P** **06 33 31.8 -1.4**
KIP pmax pmax
comp=Z,1μm,1.1s,mb6.8
KIP MLR MLR
comp=Z,11μm,19.0s,MS6.0
OPA Opana 55.67 21 *eP* **P** **06 33 34.7 -0.3**
OPA Opana 55.67 21 *eP* **P** **06 33 34.7 -0.3**
MBWA Marble Bar 57.11 264 *eP* **P** **06 33 44.6 -0.9**
comp=Z,175nm,0.9s,mb6.1
MBWA LR LR
comp=Z,64μm,19.0s,MS6.7
MBWA Marble Bar 57.11 264 P **P** **06 33 44.5 -1.0**
comp=Z,8μmcomp=Z,230nm,0.9s,mb6.2
MBWA Marble Bar 57.11 264 P **P** **06 33 44.5 -1.0**
SNR=17
GUMO Guam 57.79 315 P **P** **06 33 48.2 -2.0**
comp=Z,175nm,0.6s,mb6.3,baz=194,slow=19,SNR=3.6
GUMO LR LR 06 56 48.1
comp=Z,25μm,18.4s,MS6.4,baz=240,slow=34
GUMO Guam 57.79 315 P **P** **06 33 48.2 -2.0**
GUMO Guam 57.79 315 P **P** **06 33 48.2 -2.0**
GUMO pmax pmax
comp=Z,175nm,0.6s,mb6.3
MSAI Masohi 58.01 287 P **P** **06 33 53.7 +1.8**
comp=Z,3μmcomp=Z,85nm,0.9s,mb5.8
MSAI Masohi 58.01 287 P **P** **06 33 51.1 -0.8**
comp=Z,3μmcomp=Z,86nm,0.7s,mb5.9
RPN Rapa Nui 58.26 104 P **P** **06 33 53.3 -0.2**
comp=Z,117nm,1.0s,mb5.9,baz=328,slow=2.8,SNR=4.6
RPN LR LR 06 55 07.2
comp=Z,64μm,18.2s,MS6.8,baz=324,slow=32
RPN Rapa Nui 58.26 104 *eP* **P** **06 33 56.1 +2.6**
comp=Z,548nm,1.3s,mb6.4
RPN Rapa Nui 58.26 104 P **P** **06 33 53.3 -0.2**
RPN pmax pmax
comp=Z,117nm,1.0s,mb5.9
AAI Ambon 58.42 286 P **P** **06 33 53.4 -1.3**
comp=Z,8μmcomp=Z,203nm,2.5s,mb5.7
QSPA South Pole Qui 58.85 180 P **P** **06 34 00.7 +3.9**
comp=Z,829nm,1.0s,mb6.7,baz=40,slow=2.2,SNR=183
QSPA S **S** **06 42 11.7 +11**
comp=Z,3.2nm,0.6s,baz=54,slow=23,SNR=8.7
QSPA LR LR 06 55 51.1
comp=Z,101μm,20.6s,MS6.9,baz=224,slow=32
QSPA PKPPKP 07 03 36.3
comp=Z,14nm,0.8s,baz=294,slow=2.5,SNR=5.9
QSPA South Pole Qui 58.85 180 P **P** **06 34 00.7 +3.9**
QSPA S **S** **06 42 11.7 +11**
QSPA P'P' 07 03 36.3
MIDW Midway 59.15 359 *eP* **P** **06 33 59.1 -0.3**
comp=Z,2μm,1.8s,mb6.7
MIDW LR LR
comp=Z,19μm,22.0s,MS6.2
NLAI Namlea 59.57 286 P **P** **06 34 01.0 -1.7**
comp=Z,9μmcomp=Z,344nm,1.5s,mb6.2
LBMI Labuha 60.73 289 P **P** **06 34 09.6 -1.1**
comp=Z,9μmcomp=Z,338nm,1.5s,mb6.3
MMRI Maumere 60.74 278 P 07 03 45.9
comp=Z,59nm,1.8s
MMRI Maumere 60.74 278 P **S** **06 42 29.0 +2.5**
MMRI Maumere 60.74 278 P **P** **06 34 10.8 0.0**
comp=Z,817nm,1.1s,mb6.8
TNTI Ternate 61.67 290 P 07 03 07.9
TNTI Ternate 61.67 290 P **P** **06 34 16.2 -0.8**
comp=Z,506nm,2.5s,mb6.2
MIR Mirnyy 61.80 207 ⇑*iP* **P** **06 34 20.4 +3.3**
MIR *i* 06 34 56.0
MIR *e* 06 36 45.0
MIR *e*S **S** **06 42 46.0 +7.5**
MIR pmax pmax
comp=Z,1μm,1.6s,mb6.8
MIR pmax pmax
comp=N,2μm,12.0s
MIR pmax pmax
comp=Z,15μm,12.0s
MIR pmax pmax
comp=E,7μm,12.0s
MIR smax
comp=E,12μm,12.0s
MIR smax
comp=N,10μm,20.0s
MIR MLR MLR
comp=N,10μm,18.0s,MS6.4
MIR MLR MLR
comp=E,21μm,18.0s,MS6.4
MIR MLR MLR
comp=Z,33μm,18.0s,MS6.5
BBSI Bau Bau 62.11 281 P **P** **06 34 20.4 +0.4**
comp=Z,8μmcomp=Z,279nm,1.2s,mb6.2
KDI Kendari 62.89 283 P 07 03 35.7
KDI Kendari 62.89 283 P **P** **06 34 23.8 -1.4**
comp=Z,6μmcomp=Z,214nm,1.3s,mb6.1
BMNI Bima 63.81 276 P 07 03 31.5
comp=Z,53nm,2.5s
BMNI Bima 63.81 276 P **S** **06 43 09.7 +4.6**
comp=Z,67nm,0.9s,comp=Z,6μm
BMNI Bima 63.81 276 P **P** **06 34 30.6 -0.7**
comp=Z,824nm,1.2s,mb6.6
MNI Manado 64.10 289 P **P** **06 34 35.2 +2.0**
comp=Z,8μmcomp=Z,451nm,1.6s,mb6.2
BKSI Bulukumba 64.26 280 P 07 03 27.1
LUWI Luwuk 64.37 285 P **P** **06 34 34.4 -0.6**
comp=Z,488nm,1.3s,mb6.4
KAPI Kappang 64.73 280 P **P** **06 34 35.2 -2.2**
comp=Z,42nm,0.9s,mb5.5,baz=133,slow=3.4,SNR=30
KAPI S **S** **06 43 19.8 +3.3**
comp=Z,8.9nm,1.0s,baz=348,slow=22,SNR=5.6
KAPI Kappang 64.73 280 *eP* **P** **06 34 35.5 -1.9**
comp=Z,241nm,1.0s,mb6.2
KAPI LR LR
comp=Z,29μm,20.0s,MS6.5
KAPI Kappang 64.73 280 P 07 03 20.6
comp=Z,26nm,3.1s
KAPI Kappang 64.73 280 P **P** **06 34 35.6 -1.8**
comp=Z,10μmcomp=Z,272nm,1.2s,mb6.2
KAPI Kappang 64.73 280 P **P** **06 34 35.7 -1.7**
SNR=87
GTOI Gorontalo 65.12 287 P 07 03 12.1
GTOI Gorontalo 65.12 287 P **P** **06 34 39.0 -0.9**
comp=Z,10μmcomp=Z,307nm,0.6s,mb6.5
SPSI Sidrap Palu 65.27 281 P 07 03 07.9
comp=Z,60nm,2.8s
MSSI Masamba 65.57 283 P **P** **06 34 43.9 +1.1**
comp=Z,7μmcomp=Z,247nm,1.0s,mb6.2
MTNI Mataram 65.91 275 P 07 03 19.5
comp=Z,51nm,2.3s
MTNI Mataram 65.91 275 P **P** **06 34 45.0 0.0**
comp=Z,930nm,0.9s,mb6.8
MATI Mati 66.28 295 *eP* sP 06 35 04.9 +6.3
KHKI Kahang-Kahang 66.53 274 P 07 03 23.2
comp=Z,514nm,1.5s
KHKI Kahang-Kahang 66.53 274 P **P** **06 34 48.7 -0.3**
comp=Z,497nm,1.3s,mb6.4
KHKI Kahang-Kahang 66.53 274 P **P** **06 34 48.1 -0.9**
comp=Z,497nm,1.3s,mb6.4
IGBI Denpasar 66.69 274 P 07 03 19.2
comp=Z,82nm,1.6s
IGBI Denpasar 66.69 274 P **P** **06 34 50.7 +0.7**
comp=Z,674nm,1.1s,mb6.6
IGBI Denpasar 66.69 274 P **P** **06 34 50.7 +0.7**
comp=Z,670nm,1.1s,mb6.6
DAV Davao City (W) 66.88 294 P **P** **06 34 51.3 +0.1**
comp=Z,187nm,0.4s,mb6.5,baz=52,slow=12,SNR=6.5
DAV Davao City (W) 66.88 294 P **P** **06 34 51.3 +0.1**
DAV LR LR
comp=Z,15μm,20.0s,MS6.2
DAV Davao City (W) 66.88 294 P **P** **06 34 51.4 +0.3**
SNR=9.7
SRBI Singaraja 67.00 275 P 07 03 21.1
comp=Z,82nm,3.1s
SRBI Singaraja 67.00 275 P S 06 43 49.0 +4.7
comp=Z,293nm,1.6s,comp=Z,6μm
SRBI Singaraja 67.00 275 P **P** **06 34 52.3 +0.3**
SRBI Singaraja 67.00 275 P **P** **06 34 52.2 +0.2**
comp=Z,872nm,1.3s,mb6.6
NBBI Negara 67.37 274 P **P** **06 34 57.2 +2.9**
comp=Z,712nm,0.9s,mb6.7
NBBI Negara 67.37 274 P **P** **06 34 55.2 +0.9**
comp=Z,575nm,1.1s,mb6.5
BYJI Banyuwangi 67.67 274 P S 06 44 04.9 +13
BYJI Banyuwangi 67.67 274 P **P** **06 34 57.3 +1.1**
comp=Z,1μm,1.3s,mb6.7
BYJI Banyuwangi 67.67 274 P **P** **06 34 57.0 +0.8**
comp=Z,1μm,1.3s,mb6.7
JAGI Jajag, Banyuwa 67.72 274 P 07 03 16.8
comp=Z,86nm,4.0s
JAGI Jajag, Banyuwa 67.72 274 P **P** **06 34 56.1 -0.4**
comp=Z,881nm,1.2s,mb6.7
JAGI Jajag, Banyuwa 67.72 274 P **P** **06 34 55.4 -1.1**
comp=Z,881nm,1.2s,mb6.7
BUKP Musuan 67.78 295 *eP* **P** **06 34 56.1 -0.8**
BUKP *e*S pP 06 35 11.2 +6.0
CTBH Cotabato--PC H 68.02 294 ⇓*iP* **P** **06 34 58.7 +0.4**
GMJI Gumukmas 68.42 273 P 07 03 14.4
comp=Z,142nm,3.2s
GMJI Gumukmas 68.42 273 P **P** **06 35 00.8 -0.2**
comp=Z,1μm,0.9s,mb6.8
GMJI Gumukmas 68.42 273 P **P** **06 35 00.6 -0.4**
comp=Z,1μm,0.9s,mb6.8
CGP Cagayan de Oro 68.42 295 ⇓*eP* **P** **06 35 04.8 +3.9**
CGP *e*S pP 06 35 18.8 +10
BLJI Banyuglugur 68.56 274 P 07 03 12.0
comp=Z,114nm,2.3s
BLJI Banyuglugur 68.56 274 P **P** **06 35 02.0 +0.2**
BLJI Banyuglugur 68.56 274 P **P** **06 35 01.6 -0.2**
comp=Z,681nm,0.9s,mb6.6
KMMI Kalianget 68.59 275 P 07 03 17.3
KMMI Kalianget 68.59 275 P **P** **06 35 02.2 +0.2**
comp=Z,929nm,2.4s,mb6.3
PAGZ Pagadian 69.08 294 *eP* **P** **06 35 04.0 -1.0**
KRKI Karangkates 69.32 273 P 07 03 08.7
comp=Z,204nm,2.1s
KRKI Karangkates 69.32 273 P S 06 44 20.3 +8.3
comp=Z,349nm,1.7s
KRKI Karangkates 69.32 273 P **P** **06 35 07.9 +1.3**
comp=Z,2μm,1.5s,mb6.8
KRKI Karangkates 69.32 273 P **P** **06 35 05.7 -0.9**
comp=Z,2μm,1.5s,mb6.8
BBKI Banjar Baru 69.70 279 P 07 03 10.8
BBKI Banjar Baru 69.70 279 P **P** **06 35 09.7 +0.8**
comp=Z,635nm,2.0s,mb6.2
PWJI Pagerwojo 69.95 273 P 07 03 10.9
PWJI Pagerwojo 69.95 273 P **P** **06 35 11.0 +0.6**
comp=Z,926nm,1.7s,mb6.4
PWJI Pagerwojo 69.95 273 P **P** **06 35 10.7 +0.3**
comp=Z,653nm,1.0s,mb6.5
CBIJ Chichi jima 69.97 322 P **P** **06 35 08.1 -2.1**
comp=Z,456nm,1.0s,mb6.4,baz=255,slow=12,SNR=5.7
CBIJ Chichi jima 69.97 322 P **P** **06 35 08.1 -2.1**
SJI Sawahan 70.12 273 P 07 03 08.5
SJI Sawahan 70.12 273 P S 06 44 29.6 +8.2
comp=Z,72nm,1.5s
SJI Sawahan 70.12 273 P **P** **06 35 12.2 +0.7**
comp=Z,638nm,0.8s,mb6.6
SJI Sawahan 70.12 273 P **P** **06 35 12.2 +0.7**
comp=Z,639nm,0.8s,mb6.6
PCJI Pacitan 70.40 272 P **P** **06 35 13.8 +0.6**
comp=Z,2μm,1.1s,mb7.0
PCJI Pacitan 70.40 272 P **P** **06 35 14.2 +1.0**
comp=Z,2μm,1.1s,mb7.0
PMSA Palmer Station 71.07 155 *eP* **P** **06 35 17.6 +1.2**
comp=Z,117nm,1.0s,mb5.8
PMSA LR LR
comp=Z,54μm,21.0s,MS6.8
UGM Wanagama 71.10 272 *eP* **P** **06 35 17.6 +0.1**
UGM Wanagama 71.10 272 P **P** **06 35 21.0 +3.5**
comp=Z,417nm,1.2s,mb6.2
UGM Wanagama 71.10 272 P **P** **06 35 18.1 +0.6**
comp=Z,516nm,1.2s,mb6.3
TSM Tawau 71.41 287 P **P** **06 35 18.7 -0.7**
SMRI Semarang 71.60 273 P **P** **06 35 23.4 +2.9**
SMRI Semarang 71.60 273 P **P** **06 35 21.3 +0.8**
comp=Z,525nm,1.1s,mb6.4
MAW Mawson 71.85 200 P **P** **06 35 24.0 +2.9**
comp=Z,402nm,1.1s,mb6.3,baz=124,slow=7.1,SNR=68
MAW LR LR 07 07 40.4
comp=Z,37μm,19.1s,MS6.7,baz=118,slow=36
MAW Mawson 71.85 200 *eP* **P** **06 35 23.7 +2.6**
comp=Z,365nm,1.1s,mb6.2
MAW *e*S S 06 44 47.9 +8.2
MAW Mawson 71.85 200 *eP* **P** **06 35 23.8 +2.8**
comp=Z,174nm,1.2s,mb5.9
MAW Mawson 71.85 200 P **P** **06 35 24.0 +2.9**
MAW pmax pmax
comp=Z,402nm,1.1s
MAW MLR MLR
comp=Z,37μm,19.1s
BJII Banjamegara 72.08 272 P S 06 44 48.2 +4.1
comp=Z,166nm,1.9s,comp=Z,8μm
BJII Banjamegara 72.08 272 P **P** **06 35 26.3 +2.9**
comp=Z,428nm,1.4s,mb6.2
BJII Banjamegara 72.08 272 P **P** **06 35 24.0 +0.6**
comp=Z,437nm,1.3s,mb6.2
SDKM Sandakan 72.73 288 P **P** **06 35 26.5 -0.7**
PBKI Pangkalan Bun 72.79 277 P **P** **06 35 28.7 +1.1**
comp=Z,689nm,1.3s,mb6.4
CISI Cisompet, Garu 73.59 271 P S 06 45 09.4 +8.1
comp=Z,346nm,1.3s
CISI Cisompet, Garu 73.59 271 P **P** **06 35 32.3 -0.1**
comp=Z,842nm,1.0s,mb6.6
KDM Kudat 73.75 289 P **P** **06 35 32.5 -0.8**
KKM Kota Kinabalu 73.76 288 *eP* **P** **06 35 31.8 -1.5**
comp=Z,86nm,0.7s,mb5.8
KKM LR LR
comp=Z,18μm,22.0s,MS6.3
XMIS Christmas Isla 74.00 267 *eP* **P** **06 35 34.5 -0.2**
comp=Z,2μm,0.7s,mb7.0
XMIS Christmas Isla 74.00 267 *eP* **P** **06 35 35.0 +0.3**
XMIS Christmas Isla 74.00 267 P 07 03 19.7
XMIS Christmas Isla 74.00 267 P **P** **06 35 34.8 +0.1**
comp=Z,234nm,2.0s,mb5.8
LEM Lembang 74.13 272 P S 06 45 14.3 +6.9
LEM Lembang 74.13 272 P **P** **06 35 36.5 +1.0**
comp=Z,2μm,0.9s,mb7.0
LEM Lembang 74.13 272 P **P** **06 35 36.0 +0.5**
comp=Z,2μm,0.9s,mb7.0
STKI Sintang 74.41 280 P **P** **06 35 37.4 +0.2**
comp=Z,387nm,0.8s,mb6.4
BTM Bintulu 74.76 283 P **P** **06 35 40.9 +1.8**
SKJI Sukabumi 74.95 271 P S 06 45 19.5 +3.0
comp=Z,321nm,1.8s,comp=Z,8μm
CBJI Citeko 74.99 272 P **P** **06 35 41.6 +1.1**
comp=Z,2μm,0.9s,mb7.1
DBJI Dramaga 75.01 271 P **P** **06 35 40.6 0.0**
comp=Z,2μm,1.0s,mb6.9
DBJI Dramaga 75.01 271 P **P** **06 35 41.0 +0.4**
comp=Z,2μm,1.0s,mb6.9
TNG Tangerang 75.29 272 P **P** **06 35 47.2 +4.9**
TNG P 06 35 47.2
TNG Tangerang 75.29 272 P **P** **06 35 43.2 +0.9**
comp=Z,2μm,1.1s,mb7.0
TNG P 06 35 43.1
comp=Z,2μm,1.1s
SBJI Serang 75.76 271 P **P** **06 35 47.6 +2.7**
comp=Z,650nm,1.3s,mb6.4
KSM Kuching 76.15 280 *eP* **P** **06 35 48.7 +1.6**
comp=Z,161nm,0.8s,mb6.0
KSM LR LR
comp=Z,25μm,19.0s,MS6.5
TPI Tanjungpandan 76.18 275 P **P** **06 35 48.4 +1.1**
comp=Z,10μmcomp=Z,344nm,1.0s,mb6.2
RBSI Rajabasa 76.23 272 P **P** **06 35 48.5 +0.9**
comp=Z,6μmcomp=Z,810nm,0.9s,mb6.7
RBSI Rajabasa 76.23 272 P **P** **06 35 47.5 -0.1**
comp=Z,6μmcomp=Z,810nm,0.9s,mb6.7
SYO Syowa Base 76.49 193 ⇑*iP* **P** **06 35 48.6 +0.4**
SYO Syowa Base 76.49 193 ⇓*iP*pP pP 06 35 54.2 -2.3
SYO Syowa Base 76.49 193 *e*SH S 06 45 37.6 +5.7
BLSI Bandar Lampung 76.90 272 P **P** **06 35 52.5 +1.1**
comp=Z,10μmcomp=Z,814nm,0.7s,mb6.8
BLSI Bandar Lampung 76.90 272 P **P** **06 35 50.6 -0.8**
comp=Z,10μmcomp=Z,814nm,0.7s,mb6.8
VNA3 Neumayer Olymp 77.38 176 *e* **P** **06 35 54.8 +1.7**
VNA3 *e* pP 06 36 03.5 +2.0
KLI Kotabumi 77.49 272 P **P** **06 35 53.8 -0.9**
comp=Z,1μm,0.9s,mb6.8

KLI	Kotabumi	77.49	272	P	P	06 35 54.3 -0.4
	comp=Z,1μm,0.9s,mb6.8					
COYC	Coyhaique	77.63	136	⇑iP	P	06 35 54.7 -0.3
KLSI		77.68	272	P	S	06 45 31.3 -15
PPBI	Pangkal Pinang	77.78	275	P	P	06 35 56.1 -0.2
	comp=Z,9μmcomp=Z,384nm,1.1s,mb6.3					
VNA2	Neumayer--Watz	77.82	176	e	P	06 35 57.6 +2.0
	baz=180,slow=4.6					
VNA2				e	pP	06 36 06.2 +2.2
JOW	Kunigami	77.97	312	P	P	06 35 56.5 -0.6
	comp=Z,281nm,0.9s,mb6.2,baz=163,slow=5.9,SNR=16					
JOW	Kunigami	77.97	312	eP	P	06 35 56.5 -0.5
	comp=Z,134nm,0.9s,mb5.9					
VNA1	Neumayer--Stat	78.05	176	e	P	06 35 59.9 +3.1
VNA1				e	pP	06 36 06.2 +1.0
MAIT	Maitri	78.06	183	eP	P	06 35 59.3 +2.4
MAIT				eS	S	06 45 42.6 -6.3
NVL	N'lazarevskaya	78.07	183	eP	P	06 35 59.4 +2.4
NVL				e*PP	pP	06 36 06.9 +1.6
NVL				e		06 36 10.1
NVL				e*SP	sP	06 36 13.8 +5.4
NVL				pmax	pmax	
	comp=Z,469nm,1.1s,mb6.3					
LWLI	Liwa	78.09	271	P	P	06 35 57.8 -0.3
	comp=Z,2μm,0.9s,mb7.0					
LWLI	Liwa	78.09	271	P	P	06 35 57.7 -0.4
	comp=Z,2μm,0.9s,mb7.0					
MDSI	Maura Dua	78.26	272	P	P	06 35 57.3 -1.7
	comp=Z,1μm,1.1s,mb6.7					
MDSI	Maura Dua	78.26	272	P	P	06 35 57.7 -1.3
	comp=Z,1μm,1.1s,mb6.7					
MNAI	Manna	79.37	271	P	P	06 36 11.1 +6.0
	comp=Z,738nm,1.2s,mb6.5					
MNAI	Manna	79.37	271	P	P	06 36 06.3 +1.2
	comp=Z,738nm,1.2s,mb6.5					
MJAR	Matsushiro Arr	79.51	325	P	P	06 36 03.8 -1.5
	comp=Z,68nm,1.0s,mb5.5,baz=169,slow=5.3,SNR=28					
MJAR	Matsushiro Arr	79.51	325	P	P	06 36 03.8 -1.5
MJAR	Matsushiro Arr	79.51	325	P	P	06 36 03.8 -1.5
MJAR				pmax	pmax	
	comp=Z,68nm,1.0s					
MAJO	Matsushiro	79.52	325	eP	P	06 36 04.7 -0.6
	comp=Z,426nm,1.5s,mb6.2					
MAJO				LR	LR	
	comp=Z,14μm,21.0s,MS6.3					
MAJO	Matsushiro	79.52	325	eP	P	06 36 04.7 -0.6
MAJO				pmax	pmax	
	comp=Z,426nm,1.5s,mb6.2					
MAJO				MLR	MLR	
	comp=Z,14μm,21.0s,MS6.3					
MAT	Matsushiro	79.52	325	P	P	06 36 03.8 -1.5
MAT				S	S	06 46 04.0 -1.1
KSI	Kapahiang	80.04	272	P	P	06 36 08.3 -0.5
	comp=Z,2μm,1.1s,mb6.9					
KSI	Kapahiang	80.04	272	P	P	06 36 08.6 -0.2
	comp=Z,2μm,1.1s,mb6.9					
PAF	Port-aux-Franc	80.07	218	eP	P	06 36 11.8 +3.5
	comp=Z,2μm,1.5s,mb6.8					
PAF				LR	LR	
	comp=Z,30μm,19.0s,MS6.7					
PAF	Port-aux-Franc	80.07	218	eP	P	06 36 11.8 +3.5
PAF				pmax	pmax	
	comp=Z,2μm,1.5s,mb6.8					
PAF				MLR	MLR	
	comp=Z,30μm,19.0s,MS6.7					
TWG	Pinlang	80.16	304	eP	P	06 36 05.9 -3.2
	comp=Z,140nm,0.7s,mb6.0					
YULB	Yu-li	80.37	305	eP	P	06 36 07.7 -2.5
	comp=Z,54nm,0.7s,mb5.6					
NACB	Ninganchiao	80.66	306	eP	P	06 36 08.9 -2.8
	comp=Z,108nm,1.1s,mb5.7					
COCO	West Island	80.67	261	P	P	06 36 13.6 +1.5
	comp=Z,3μm,1.0s,mb7.2,SNR=6.1					
COCO	West Island	80.67	261	eP	P	06 36 13.8 +1.8
	comp=Z,553nm,1.0s,mb6.4					
COCO				LR	LR	
	comp=Z,74μm,19.0s,MS7.1					
COCO	West Island	80.67	261	eP	P	06 36 13.9 +1.8
COCO				pmax	pmax	
	comp=Z,553nm,1.0s,mb6.4					
COCO				MLR	MLR	
	comp=Z,74μm,19.0s,MS7.1					
COCO	West Island	80.67	261	P	P	06 36 14.0 +1.9
	comp=Z,693nm,1.4s,mb6.4					
COCO	West Island	80.67	261	P	P	06 36 14.2 +2.1
	SNR=17					
TPUB	Ta-pu	80.78	304	eP	P	06 36 10.1 -2.3
	comp=Z,382nm,1.0s,mb6.3					
JNU	Nakatsue	80.86	318	eP	P	06 36 11.7 -0.9
	comp=Z,46nm,0.9s,mb5.4					
SSLB	Suanglung	80.86	305	eP	P	06 36 10.6 -2.2
	comp=Z,191nm,0.7s,mb6.1					
YHNB	Yeheng	81.13	306	eP	P	06 36 12.7 -1.6
	comp=Z,107nm,0.8s,mb5.8					
YHNB				LR	LR	
	comp=Z,21μm,22.0s,MS6.5					
PLCA	Paso Flores	81.20	132	P	P	06 36 15.8 +1.3
	comp=Z,46nm,0.9s,mb5.4,baz=238,slow=5.5,SNR=32					
PLCA				PKKPbc	PKKPbc	06 54 51.8 +2.2
	comp=Z,3.2nm,0.9s,baz=33,slow=0.3,SNR=5.7					
PLCA				PKPPKP		07 02 57.8
	comp=Z,6.3nm,1.0s,baz=65,slow=4.6,SNR=4.6					
PLCA				LR	LR	07 06 44.4
	comp=Z,49μm,18.5s,MS6.9,baz=243,slow=32					
PLCA	Paso Flores	81.20	132	eP	P	06 36 16.0 +1.5
	comp=Z,133nm,1.1s,mb5.8					
PLCA				PKKPbc	PKKPbc	06 54 51.8 +2.2
PLCA				P'P'		07 02 57.8
PLCA	Paso Flores	81.20	132	P	P	06 36 15.9 +1.4
PLCA				pmax	pmax	
	comp=Z,46nm,0.9s					
TATO	Taipei	81.25	306	eP	P	06 36 14.1 -0.9
	comp=Z,248nm,1.0s,mb6.1					
TATO				LR	LR	
	comp=Z,21μm,22.0s,MS6.5					
EFI	East Falkland	81.53	147	eP	P	06 36 17.2 +1.2
	comp=Z,461nm,1.0s,mb6.4					
EFI				LR	LR	
	comp=Z,29μm,21.0s,MS6.6					
EFI	East Falkland	81.53	147	eP	P	06 36 17.2 +1.1
EFI				pmax	pmax	
	comp=Z,461nm,1.0s,mb6.4					
EFI				MLR	MLR	
	comp=Z,29μm,21.0s,MS6.6					
ERM	Erimo	81.69	331	eP	P	06 36 18.8 +2.0
	comp=Z,148nm,0.8s,mb6.0					
ERM				LR	LR	
	comp=Z,27μm,20.0s,MS6.6					
ERM	Erimo	81.69	331	eP	P	06 36 18.8 +2.0
ERM				pmax	pmax	
	comp=Z,148nm,0.8s,mb6.0					
ERM				MLR	MLR	
	comp=Z,27μm,20.0s,MS6.6					
MYKOM	Kota Tinggi	81.78	277	P	P	06 36 18.4 +0.4
	comp=Z,9μmcomp=Z,475nm,1.1s,mb6.3					
KRJI	Kerinci	81.81	273	P	P	06 36 18.8 +0.6
	comp=Z,3μm,1.0s,mb7.2					
KRJI	Kerinci	81.81	273	P	P	06 36 18.6 +0.4
	comp=Z,3μm,1.0s,mb7.2					
RGRI	Rengat	81.96	274	P		07 01 25.1
RGRI	Rengat	81.96	274	P	P	06 36 19.8 +0.8
	comp=Z,1μm,1.1s,mb6.8					
YUK	Yuzh-Kuril'sk	82.32	334	iP	P	06 36 17.7 -2.3
YUK				eS	S	06 46 35.1 +1.1
YUK				pmax	pmax	
	comp=Z,3μm,2.6s,mb6.7					
YUK				pmax	pmax	
	comp=N,492nm,1.1s					
YUK				pmax	pmax	
	comp=E,293nm,1.1s					
YUK				pmax	pmax	
	comp=Z,562nm,1.1s,mb6.4					
YUK				smax		
	comp=E,6μm,5.2s					
YUK				smax		
	comp=N,3μm,5.2s					
KGM	Kluang	82.35	277	P	P	06 36 21.3 +0.3
CCHI	Chillan	82.48	128	⇓iP	P	06 36 22.2 +0.8
ADK	Adak	82.79	0	eP	P	06 36 22.8 +0.5
	comp=N,206nm,0.9s,mb6.2					
ADK				LR	LR	
	comp=Z,14μm,21.0s,MS6.3					
ADK	Adak	82.79	0	eP	P	06 36 22.8 +0.5
ADK				pmax	pmax	
	comp=Z,206nm,0.9s,mb6.2					
ADK				MLR	MLR	
	comp=Z,14μm,21.0s,MS6.3					
QZH	Quanzhou	83.26	304	⇓iP	P	06 36 23.4 -2.0
QZH				S	S	06 46 42.8 -1.6
QZH				pmax	pmax	
	comp=Z,290nm,1.0s,mb6.3					
QZH				pmax	pmax	
	comp=Z,14μm,9.0s					
QZH				LR	LR	
	comp=N,8μm,17.0s,MS6.6					
QZH				LR	LR	
	comp=E,23μm,19.0s,MS6.6					
QZH				LR	LR	
	comp=Z,20μm,21.5s,MS6.5					
PDSI	Padang	83.27	273	P	P	06 36 23.8 -2.0
	comp=Z,1μm,0.6s,mb7.1					
PDSI	Padang	83.27	273	P	P	06 36 24.4 -1.4
	comp=Z,1μm,0.6s,mb7.1					
BKNI	Bangkinang	83.42	274	P	P	06 36 26.7 +0.1
BKNI	Bangkinang	83.42	274	P	P	06 36 26.0 -0.6
	comp=Z,2μm,1.0s,mb7.0					
PPI	Padang Panjang	83.56	273	P	P	06 36 25.5 -1.8
	comp=Z,6μmcomp=Z,326nm,1.3s,mb6.3					
PPI	Padang Panjang	83.56	273	P	P	06 36 26.0 -1.3
	comp=Z,6μmcomp=Z,326nm,1.3s,mb6.3					
ASAJ	Asahikawa	83.66	332	P	P	06 36 27.9 +0.9
	comp=Z,317nm,1.0s,mb6.4,baz=215,slow=10,SNR=30					
ASAJ	Asahikawa	83.66	332	eP	P	06 36 27.3 +0.3
	comp=Z,198nm,1.1s,mb6.2					
ASAJ	Asahikawa	83.66	332	P	P	06 36 28.0 +1.0
ASAJ				pmax	pmax	
	comp=Z,317nm,1.0s					
NICH	Los Niches	83.94	127	eP	P	06 36 29.6 +0.7
SMY	Shemya	84.01	354	eP	P	06 36 30.1 +1.6
	comp=Z,294nm,1.0s,mb6.4					
SMY	Shemya	84.01	354	eP	P	06 36 30.1 +1.5
SMY				pmax	pmax	
	comp=Z,294nm,1.0s,mb6.4					
NIKO	Nikolski	84.17	5	eP	P	06 36 29.0 -0.4
	comp=Z,134nm,0.5s,mb6.3					
FX1	Attu Island--F	84.24	354	P	P	06 36 28.9 -0.9
	comp=Z,164nm,1.1s,mb6.1,baz=123,slow=4.6,SNR=11					
FX1	Attu Island--F	84.24	354	eP	P	06 36 31.3 +1.6
FX1	Attu Island--F	84.24	354	P	P	06 36 28.9 -0.8
FX1				pmax	pmax	
	comp=Z,165nm,1.1s					
SCI	San Clemente I	84.36	46	⇑P	P	06 36 30.2 -0.7
	baz=84					
BSC	Santa Cruz Isl	84.39	45	⇑P	P	06 36 30.7 -0.3
	baz=85					
SBC	Santa Barbara	84.65	44	⇓P	P	06 36 32.4 +0.1
	baz=85					
CIS	Catalina Islan	84.73	46	⇓P	P	06 36 31.9 -0.8
	baz=85					
IHA	Instituto Hidr	84.76	126	eP	P	06 36 34.1 +1.0
BLG	Laguna Peak	84.81	45	⇑P	P	06 36 33.0 -0.2
	baz=85					
HKC	Hong Kong Obse	84.86	300	⇓iP	P	06 36 36.0 +2.4
PKM	Peak Mountain	84.90	44	⇑P	P	06 36 33.5 0.0
	baz=85,SNR=17					
MNSI	Mandailing Nat	84.91	274	P	P	06 36 32.4 -1.7
	comp=Z,9μmcomp=Z,783nm,0.8s,mb6.9					
MNSI	Mandailing Nat	84.91	274	P	P	06 36 32.9 -1.2
	comp=Z,9μmcomp=Z,783nm,0.8s,mb6.9					
FMP	Fort Macarthur	85.01	46	⇑P	P	06 36 34.1 0.0
	baz=85					
SKR	Severo-Kuril's	85.02	343	eP	P	06 36 35.5 +1.8
SKR				e	pP	06 36 44.5 +2.3
SKR				e		06 39 54.0
SKR				eS	S	06 47 06.0 +5.1
SKR				ePS		06 47 54.0
SKR				eSS	SS	06 52 36.0 +0.7
SKR				pmax	pmax	
	comp=N,50nm,0.6s					
SKR				pmax	pmax	
	comp=E,50nm,0.6s					
SKR				pmax	pmax	
	comp=Z,80nm,0.6s,mb6.0					
SKR				smax		
	comp=N,11μm,12.0s					
SKR				smax		
	comp=E,11μm,12.0s					
SMMC	Simmler	85.08	43	⇓P	P	06 36 34.6 +0.2
	baz=85,SNR=12					
109C	Camp Elliot, M	85.19	47	⇓P	P	06 36 34.7 -0.3
	baz=85					
PTRM	Twissleman Ran	85.19	43	eP	P	06 36 39.8 +4.8
UNV	Unalaska Valle	85.23	6	eP	P	06 36 34.9 +0.2
	comp=E,80nm,0.9s,mb5.8					
SAO	San Andreas Ge	85.26	42	eP	P	06 36 35.8 +0.5
	comp=E,313nm,1.5s,mb6.2					
SAO	San Andreas Ge	85.26	42	eP	P	06 36 35.8 +0.5
SAO				pmax	pmax	
	comp=Z,313nm,1.5s,mb6.2					
SAC	San Andreas	85.30	40	eP	P	06 36 35.4 0.0
SAC	San Andreas	85.30	40	eP	P	06 36 35.4 0.0
BAR	Barrett	85.32	47	eP	P	06 36 35.6 0.0
	comp=Z,859nm,1.9s,mb6.6					
DECC	Green Verdugo	85.35	45	⇑P	P	06 36 35.4 -0.4
	baz=86					
PASC	Pasadena Art C	85.39	45	eP	P	06 36 36.2 +0.2
	comp=Z,221nm,1.3s,mb6.1					
SSE	Sheshan	85.42	311	⇓P	P	06 36 35.5 -0.7
SSE				pP	pP	06 36 46.2 +1.5
SSE				S	S	06 47 01.0 -4.7
SSE				pmax	pmax	
	comp=Z,45nm,0.7s,mb5.7					
SSE				pmax	pmax	
	comp=Z,7μm,10.6s					
SSE				LR	LR	
	comp=N,12μm,22.4s,MS6.4					
SSE				LR	LR	
	comp=E,10μm,22.2s,MS6.4					
SSE				LR	LR	
	comp=Z,18μm,22.6s,MS6.4					
SSE	Sheshan	85.42	311	⇓P	P	06 36 35.5 -0.7
	comp=Z,45nm,0.7s,mb5.7					
SSE				pP	pP	06 36 46.2 +1.5
SSE				S	S	06 47 01.0 -4.7
SSE				sS	sS	06 47 21.8 +2.1
SSE				LR	LR	
	comp=Z,18μm,22.6s,MS6.4					
MCCM	Marconi Confer	85.44	40	eP	P	06 36 37.7 +1.5
	comp=Z,237nm,1.2s,mb6.2					
MWC	Mount Wilson	85.50	45	eP	P	06 36 37.0 +0.4
	comp=Z,3μm,2.3s,mb7.0					
MWC	Mount Wilson	85.50	45	eP	P	06 36 37.0 +0.5
MWC				pmax	pmax	
	comp=Z,3μm,2.3s,mb7.0					
FCH	Farellones	85.52	126	⇓iP	P	06 36 39.5 +2.5
IPM	Ipoh	85.59	278	eP	P	06 36 37.3 -0.2
	comp=Z,438nm,0.7s,mb6.8					
IPM	Ipoh	85.59	278	P	P	06 36 37.5 0.0
	comp=Z,9μmcomp=Z,686nm,1.1s,mb6.8					
MURC	Murrieta	85.61	46	⇑P	P	06 36 37.0 0.0
	baz=86,SNR=49					
MONP	Monument Peak	85.62	47	⇑P	P	06 36 37.3 +0.2
	baz=86					
KSRS	Korea Array	85.64	319	P	P	06 36 37.2 0.0
	comp=Z,49nm,0.8s,mb5.8,baz=139,slow=5.3,SNR=35					
KSRS				PP	PP	06 39 60.0 +3.2
	comp=Z,25nm,1.2s,baz=139,slow=8.7,SNR=5.1					
KSRS				LR	LR	07 11 04.4
	comp=Z,11μm,20.4s,MS6.2,baz=130,slow=33					
KSRS	Korea Array	85.64	319	P	P	06 36 37.2 0.0
KSRS						06 40 00.0
KSRS				pmax	pmax	
	comp=Z,49nm,0.8s,mb5.8					
KSRS				pmax	pmax	
	comp=Z,25nm,1.2s,mb5.3					
ARVC	Arvin	85.65	44	⇑P	P	06 36 36.9 -0.4
	baz=86,SNR=30					
KSAR	Wonju Array Be	85.66	319	P	P	06 36 37.2 -0.1
KSAR				PP	PP	06 39 60.0 +3.1
KSAR	Wonju Array Be	85.66	319	P	P	06 36 37.2 -0.1
KSAR						06 40 00.0
DVTC	Desert V Tower	85.67	48	⇑P	P	06 36 37.6 +0.2
	baz=86					
BFSC	Mount Baldy Ra	85.75	46	⇓P	P	06 36 37.5 -0.3
	baz=86,SNR=43					
GZH	Guangzhou	85.94	300	P	P	06 36 39.6 +0.6
GZH				S	S	06 47 08.3 -2.9
GZH				pmax	pmax	
	comp=Z,14μm,12.4s					
GZH				LR	LR	
	comp=N,3μm,17.3s,MS6.2					
GZH				LR	LR	
	comp=E,9μm,20.6s,MS6.2					
GZH				LR	LR	
	comp=Z,16μm,22.4s,MS6.4					
HOPS	Hopland	85.95	39	eP	P	06 36 39.3 +0.6
	comp=Z,218nm,1.1s,mb6.3					
YSS	Yuzh-Sakhalins	85.95	334	eP	P	06 36 39.0 +0.5
	comp=Z,723nm,0.9s,mb6.9					
YSS				LR	LR	
	comp=Z,12μm,20.0s,MS6.3					
YSS	Yuzh-Sakhalins	85.95	334κ	iP	P	06 36 38.6 +0.1
YSS				e		06 40 03.0
YSS				eS	S	06 47 13.0 +2.7
YSS				ePS		06 48 04.0
YSS				pmax	pmax	
	comp=Z,730nm,1.0s,mb6.9					
YSS				pmax	pmax	
	comp=Z,12μm,16.0s					
YSS				MLR	MLR	
	comp=N,20μm,19.0s,MS6.6					
YSS				MLR	MLR	
	comp=Z,24μm,19.0s,MS6.6					
YSS				MLR	MLR	
	comp=E,9μm,18.0s,MS6.6					
EDW2	Edwards Air Fo	85.98	45	⇓P	P	06 36 39.0 +0.1
	baz=86,SNR=56					
VES	Vestal, Richgr	85.98	44	⇑P	P	06 36 38.5 -0.4
	baz=86,SNR=44					
SWSC	Sam W. Stewart	86.05	48	⇑P	P	06 36 39.2 -0.1
	baz=86					
PFO	Pinyon Flat Ob	86.07	47	⇑P	P	06 36 39.3 -0.1
	baz=86,SNR=27					
PFO	Pinyon Flat Ob	86.07	47	eP	P	06 36 39.8 +0.3
	comp=E,505nm,1.6s,mb6.5					
PFO				LR	LR	
	comp=Z,48μm,20.0s,MS6.9					
PFO	Pinyon Flat Ob	86.07	47	P	P	06 36 39.5 +0.1
	comp=Z,804nm,2.1s,mb6.6,SNR=24					
PFO	Pinyon Flat Ob	86.07	47	eP	P	06 36 39.8 +0.4
PFO				pmax	pmax	
	comp=Z,505nm,1.6s,mb6.5					
PFO				MLR	MLR	
	comp=Z,48μm,20.0s,MS6.9					
KCPM	Cahto Peak	86.17	38	eP	P	06 36 40.8 +1.0
	comp=Z,63nm,1.0s,mb5.8					
RCTC	Rector, Farmer	86.22	43	⇑P	P	06 36 39.1 -0.9
	baz=86,SNR=13					
BBRC	Big Bear Solar	86.22	46	⇓P	P	06 36 39.6 -0.6
	baz=86					
ISA	Isabella	86.22	44	⇓P	P	06 36 40.2 +0.1
	baz=86,SNR=71					
ISA	Isabella	86.22	44	eP	P	06 36 40.2 +0.1
	comp=Z,1μm,1.9s,mb6.8					
ISA	Isabella	86.22	44	eP	P	06 36 40.2 +0.1
ISA				pmax	pmax	
	comp=Z,1μm,1.9s,mb6.8					
CMCH	Combarbala	86.24	124	⇑iP	P	06 36 40.8 +0.2
QIZ	Qiongzhong	86.25	295	P	P	06 36 41.3 +0.7
QIZ				pP	pP	06 36 51.1 +2.0
QIZ				PP	PP	06 40 00.1 -1.8
QIZ				S	S	06 47 14.1 -0.3
QIZ				pmax	pmax	
	comp=Z,170nm,1.1s,mb6.2					
QIZ				LR	LR	
	comp=N,12μm,24.4s,MS6.2					
QIZ				LR	LR	
	comp=E,3μm,28.0s,MS6.2					
QIZ				LR	LR	
	comp=Z,19μm,46.4s					
KIPM	Iron Peak	86.32	38	eP	P	06 36 40.7 +0.2
	comp=Z,529nm,1.6s,mb6.5					
KULM	Kulim	86.33	278	eP	P	06 36 41.1 -0.1
	comp=Z,435nm,0.8s,mb6.7					
KULM				LR	LR	
	comp=Z,44μm,20.0s,MS6.9					
KULM	Kulim	86.33	278	P	P	06 36 41.3 +0.1
	comp=Z,789nm,1.1s,mb6.8					
INCN	Inchon	86.39	318	eP	P	06 36 42.3 +1.4
INCN				LR	LR	
	comp=Z,10μm,19.0s,MS6.2					
INCN	Inchon	86.39	318	P	P	06 36 42.0 +1.1
	SNR=9.9					
PSI	Prapat	86.50	275	P	P	06 36 40.6 -1.5
	comp=Z,956nm,1.1s,mb6.9					
PSI	Prapat	86.50	275	P	P	06 36 40.4 -1.7
	comp=Z,956nm,1.1s,mb6.9					
LRMC	Laurel Mountai	86.57	45	⇑P	P	06 36 41.9 +0.1
	baz=87,SNR=44					
RRX	Edison Barstow	86.58	45	⇓P	P	06 36 42.0 +0.1
	baz=87,SNR=14					
PET	Petropavlovsk	86.61	345	eP	P	06 36 40.8 -0.8
	comp=Z,88nm,0.9s,mb6.0					
PET				LR	LR	
	comp=Z,18μm,20.0s,MS6.5					
PET	Petropavlovsk	86.61	345κ	iP	P	06 36 40.7 -0.8
PET				e		06 40 02.9
PET				eS	S	06 47 12.1 -4.3
PET				ePS		06 48 08.3
PET				eSS	SS	06 52 49.8 -8.7
PET				pmax	pmax	
	comp=Z,10μm,13.8s					
PET				pmax	pmax	
	comp=Z,41nm,0.9s,mb5.7					
PET				pmax	pmax	
	comp=Z,12μm,15.0s					
PET				pmax	pmax	
	comp=Z,3μm,19.1s					
PET				MLR	MLR	
	comp=Z,12μm,20.0s,MS6.3					
PET				MLR	MLR	
	comp=Z,10μm,17.0s					
BELC	Belle Mtn. Jos	86.62	47	⇑P	P	06 36 42.3 +0.2
	baz=87,SNR=34					
BC3	Big Chuckawall	86.73	47	⇑P	P	06 36 43.2 +0.5
	baz=87,SNR=17					
GLA	Glamis	86.73	48	⇑P	P	06 36 43.4 +0.8
	baz=87,SNR=19					
GLA	Glamis	86.73	48	eP	P	06 36 43.7 +1.0
	comp=Z,916nm,1.8s,mb6.7					
GLA	Glamis	86.73	48	eP	P	06 36 43.7 +1.0
GLA				pmax	pmax	
	comp=Z,916nm,1.8s,mb6.7					
CMB	Columbia Colle	86.75	41	eP	P	06 36 42.5 -0.1
	comp=Z,104nm,1.0s,mb6.0					
CMB	Columbia Colle	86.75	41	eP	P	06 36 42.5 -0.1
CMB				pmax	pmax	
	comp=Z,104nm,1.0s,mb6.0					
PEA0B	Petropavlovsk-	86.90	345	eP	P	06 36 42.5 -0.5
PETK	Petropavlovsk-	86.90	345	P	P	06 36 43.0 0.0
	comp=Z,114nm,0.9s,mb6.1,baz=124,slow=8.0,SNR=33					
PETK				PP	PP	06 40 08.4 +1.9
	comp=Z,18nm,1.0s,baz=152,slow=9.9,SNR=3.7					
PETK				LR	LR	07 10 34.4
	comp=Z,13μm,21.2s,MS6.3,baz=170,slow=32					
PETK	Petropavlovsk-	86.90	345	P	P	06 36 43.0 0.0
PETK				PP	PP	06 40 08.4 +1.9
PETK	Petropavlovsk-	86.90	345	P	P	06 36 43.0 +0.1
PETK						06 40 08.4
PETK				pmax	pmax	
	comp=Z,114nm,0.9s,mb6.1					
PETK				pmax	pmax	
	comp=Z,18nm,1.0s,mb5.3					
TLL	Tololo Astrono	86.95	124	eP	P	06 36 44.6 +0.5
KHMM	Horse Mountain	86.96	37	eP	P	06 36 44.3 +0.7
	comp=Z,82nm,0.8s,mb6.0					
HEC	Hector,Ludlow	86.96	46	⇓P	P	06 36 43.8 0.0
	baz=87,SNR=71					
GSC	Goldstone	86.98	45	⇓P	P	06 36 43.9 +0.1
	baz=87,SNR=43					
GSC	Goldstone	86.98	45	eP	P	06 36 44.5 +0.7
	comp=Z,245nm,1.1s,mb6.3					
GSC	Goldstone	86.98	45	eP	P	06 36 44.5 +0.7
GSC				pmax	pmax	
	comp=Z,245nm,1.1s,mb6.3					
CWC	Cottonwood Cre	86.99	44	⇓P	P	06 36 43.7 -0.1
	baz=87,SNR=17					
OHCM	Honcut	87.06	40	eP	P	06 36 43.7 -0.4
MPMC	Manual Prospec	87.08	44	⇑P	P	06 36 44.4 +0.1
	baz=87,SNR=65					
TSI	Tuntungan	87.17	276	P	P	06 36 45.7 +0.4
TSI	Tuntungan	87.17	276	P	P	06 36 45.1 -0.2
	comp=Z,1μm,0.9s,mb7.0					
113A	Mohawk Valley,	87.23	49	⇓P	P	06 36 45.2 +0.1
	baz=87,SNR=18					
IRM	Iron Mountain	87.25	47	⇑P	P	06 36 45.7 +0.5
	baz=87,SNR=84					
TIN	Tinemaha	87.32	43	⇓P	P	06 36 45.4 0.0
	baz=88					
MTUM	Tungsten Hills	87.33	43	eP	P	06 36 45.5 +0.1

214A **Organ Pipe Nat 87.33 50** ⇓P **P 06 36 45.8 +0.2**
baz=88,SNR=16
KRMB **Red Mountain 87.34 37** *eP* **P 06 36 46.4 +1.0**
comp=Z,1μm,2.2s,mb6.8
GMRC **Granite Mounta 87.34 46** ⇓P **P 06 36 45.9 +0.3**
baz=88,SNR=52
SNG **Songkhla 87.34 280** P **P 06 36 46.0 -0.1**
comp=Z,760nm,1.0s,mb6.9
MLAC **Mammoth Lakes 87.36 42** ⇓P **P 06 36 45.8 +0.2**
baz=88
WDC **Whiskeytown Da 87.37 38** *eP* **P 06 36 45.9 +0.3**
comp=Z,198nm,1.1s,mb6.3
WDC **Whiskeytown Da 87.37 38** *eP* **P 06 36 45.9 +0.3**
WDC pmax pmax
comp=Z,198nm,1.1s,mb6.3
Y12C **Blythe 87.38 48** ⇑P **P 06 36 46.0 +0.3**
baz=88,SNR=22
SDPT **Sand Point 87.40 9** *eP* **P 06 36 46.4 +1.1**
comp=Z,6μm,2.9s,mb7.3
NJ2 **Nanjing 87.55 310** *eP* **P 06 36 47.5 +0.8**
NJ2 pP pP 06 36 51.9 -3.3
NJ2 sP sP 06 36 55.5 -2.7
NJ2 S S 06 47 27.0 +0.5
NJ2 pmax pmax
comp=Z,410nm,1.4s,mb6.5
NJ2 pmax pmax
comp=Z,11μm,10.1s
NJ2 LR LR
comp=N,14μm,25.7s,MS6.5
NJ2 LR LR
comp=E,19μm,25.7s,MS6.5
NJ2 LR LR
comp=Z,9μm,28.2s,MS6.0
Z13A **Yuma Proving G 87.58 49** ⇓P **P 06 36 47.0 +0.2**
baz=88,SNR=37
TUQ **Turquoise Moun 87.61 46** ⇓P **P 06 36 47.0 +0.2**
baz=88
VLA **Vladivostok 87.67 325** *diP* **P 06 36 46.9 0.0**
LCO **Las Campanas 87.68 123** *eP* **P 06 36 48.7 +1.1**
comp=Z,307nm,1.4s,mb6.3
LCO LR LR
comp=Z,45μm,20.0s,MS6.9
LCO **Las Campanas 87.68 123** *eP* **P 06 36 48.0 +0.5**
KBO **Bosley Butte 87.68 36** *eP* **P 06 36 47.3 +0.2**
comp=Z,1μm,1.8s,mb6.8
SHOC **Shoshone 87.70 45** ⇑P **P 06 36 47.5 +0.2**
baz=88,SNR=15
FURC **Furnace Creek, 87.73 44** ⇑P **P 06 36 47.2 -0.2**
baz=88,SNR=19
GRAC **Grapevine Rang 87.78 44** ⇓P **P 06 36 47.9 +0.2**
baz=88,SNR=20
114A **Black Gap (USA 87.79 49** ⇓P **P 06 36 47.9 +0.1**
baz=88,SNR=16
LDFC **Landfair 87.88 46** *eP* **P 06 36 49.3 +1.2**
comp=Z,363nm,0.9s,mb6.6
CFAA **Coronel Fontan 87.93 126** LR LR 07 10 45.5
comp=Z,6μm,18.5s,MS6.0,baz=200,slow=32
NEE2 **Needles Airpor 87.98 47** ⇓P **P 06 36 49.3 +0.6**
baz=88
WCN **Washoe City 87.99 41** ⇓P **P 06 36 48.8 +0.2**
baz=88
WCN **Washoe City 87.99 41** *eP* **P 06 36 48.6 0.0**
comp=Z,109nm,1.0s,mb6.0
WCN **Washoe City 87.99 41** *eP* **P 06 36 48.6 0.0**
WCN pmax pmax
comp=Z,109nm,1.0s,mb6.0
UBT **Ubonrachathani 87.99 289** P **P 06 36 50.8 +1.7**
KEBM **Edson Butte 88.11 36** *eP* **P 06 36 50.5 +1.4**
comp=Z,313nm,1.2s,mb6.4
YBH **Yreka Blue Hor 88.11 37** *eP* **P 06 36 49.2 +0.1**
comp=Z,141nm,1.1s,mb6.1
YBH **Yreka Blue Hor 88.11 37** *eP* **P 06 36 49.2 +0.1**
YBH pmax pmax
comp=Z,141nm,1.1s
TRQA **Tornquist 88.13 134** *eP* **P 06 36 50.4 +0.9**
comp=Z,495nm,1.7s,mb6.5
TRQA LR LR
comp=Z,33μm,21.0s,MS6.7
Z14A **Wintersburg 88.14 49** ⇓P **P 06 36 49.9 +0.5**
baz=88,SNR=42
NVAR **Mina Array Bea 88.21 42** P **P 06 36 49.7 +0.1**
comp=Z,33nm,0.7s,mb5.7,baz=221,slow=8.3,SNR=92
NVAR PKKPbc PKKPbc 06 54 34.4 -0.1
comp=Z,1.7nm,0.8s,baz=87,slow=1.5,SNR=4.9
NVAR PKPPKP 07 02 39.5
comp=Z,0.8nm,0.7s,baz=92,slow=2.2,SNR=3.6
NVAR LR LR 07 09 54.8
comp=Z,59μm,19.3s,MS7.0,baz=130,slow=31
NVAR **Mina Array Bea 88.21 42** P **P 06 36 49.7 +0.1**
NVAR PKKPbc PKKPbc 06 54 34.4 -0.1
NVAR P'P' 07 02 39.5
TPTI **88.23 275** P **P 06 36 49.7 -0.7**
comp=Z,910nm,0.7s,mb7.1
TPTI **88.23 275** P **P 06 36 50.1 -0.3**
comp=Z,910nm,0.7s,mb7.1
216A **Three Points, 88.25 51** ⇑P **P 06 36 50.5 +0.5**
baz=88,SNR=20
Y14A **Wickenburg 88.47 48** ⇓P **P 06 36 51.2 +0.2**
baz=89,SNR=48
TPH **Tonopah 88.59 43** PFAKE 06 37 00.0 +8.5
TPH LR LR
comp=Z,31μm,20.0s,MS6.7
HUMO **Hull Mountain 88.61 37** *eP* **P 06 36 51.8 +0.4**
comp=Z,334nm,1.4s,mb6.5
CHGN **Chignik 88.62 10** *eP* **P 06 36 51.9 +0.8**
W13A **Hualapai Mount 88.65 47** ⇓P **P 06 36 52.4 +0.6**
baz=89,SNR=44
318A **Bisbee 88.88 52** ⇓P **P 06 36 53.5 +0.5**
baz=89,SNR=75
TUC **Tucson 88.89 51** *eP* **P 06 36 53.8 +0.8**
comp=Z,467nm,1.5s,mb6.6
TUC LR LR
comp=Z,32μm,20.0s,MS6.7
TUC **Tucson 88.89 51** *eP* **P 06 36 53.8 +0.8**
TUC pmax pmax
comp=Z,467nm,1.5s,mb6.6
TUC MLR MLR
comp=Z,32μm,20.0s,MS6.7
218A **Dragoon 89.17 51** ⇓P **P 06 36 55.2 +0.9**
baz=89,SNR=32
319A **Douglas 89.32 52** ⇑P **P 06 36 55.7 +0.6**
baz=90,SNR=40
LHMI **Lhok Sumawe 89.44 276** P **P 06 36 56.8 +0.7**
comp=Z,995nm,1.3s,mb7.0
LHMI **Lhok Sumawe 89.44 276** P **P 06 36 56.4 +0.3**
comp=Z,994nm,1.3s,mb7.0
MOD **Modoc 89.50 39** *eP* **P 06 36 55.5 -0.1**
comp=Z,112nm,1.2s,mb6.1
118A **Homack Ranch, 89.63 51** ⇓P **P 06 36 57.1 +0.7**
baz=90,SNR=68
WHN **Wuhan 89.65 306** P **P 06 36 56.8 +0.2**
WHN PP PP 06 40 29.2 +0.1
WHN SKS 06 47 22.2
WHN S S 06 47 45.8 -0.6
WHN pmax pmax
comp=Z,130nm,1.2s,mb6.1
WHN LR LR
comp=N,21μm,17.5s,MS6.7
WHN LR LR
comp=E,9μm,17.2s,MS6.7
WHN LR LR
comp=Z,27μm,22.0s,MS6.6
Z17A **San Carlos Hig 89.70 50** ⇑P **P 06 36 57.7 +0.9**
baz=90,SNR=20
Y17A **Roosevelt 89.71 50** ⇓P **P 06 36 57.4 +0.6**
baz=90,SNR=50
219A **White Tail Can 89.71 52** ⇑P **P 06 36 57.7 +0.8**
baz=90,SNR=51
R11A **Troy Canyon, C 89.74 44** ⇑P **P 06 36 56.9 +0.1**
baz=90
K05A **Summer Lake 89.77 38** ⇓P **P 06 36 57.1 +0.3**
baz=90,SNR=48
X16A **Lo Mia Camp, P 89.77 49** ⇓P **P 06 36 58.3 +1.2**
baz=90,SNR=102
320A **Kipp Ranch, An 89.81 53** ⇑P **P 06 36 58.1 +0.7**
baz=90,SNR=54
Z18A **Geronimo 89.86 51** ⇓P **P 06 36 58.3 +0.8**
baz=90,SNR=12
COR **Corvallis 89.87 35** *eP* **P 06 36 57.9 +0.6**
comp=Z,832nm,1.9s,mb6.7
COR **Corvallis 89.87 35** *eP* **P 06 36 57.9 +0.6**
COR pmax pmax
comp=Z,832nm,1.9s,mb6.7
MDJ **Mudanjiang 89.90 325** P **P 06 36 58.0 +0.6**
MDJ pP pP 06 37 01.3 -4.6
MDJ sP sP 06 37 02.5 -6.4
MDJ PP PP 06 40 26.4 -4.4
MDJ S S 06 47 49.2 +1.2
MDJ SS SS 06 53 42.6 -4.2
MDJ pmax pmax
comp=Z,120nm,1.4s,mb6.0
MDJ pmax pmax
comp=Z,6μm,12.4s
MDJ LR LR
comp=N,9μm,26.1s,MS6.1
MDJ LR LR
comp=E,6μm,27.4s,MS6.1
MDJ LR LR
comp=Z,15μm,26.7s,MS6.3
HEBO **Mount Hebo 90.11 34** *eP* **P 06 36 59.1 +0.7**
comp=Z,416nm,1.2s,mb6.6
X17A **Forest Lakes 90.13 49** ⇑P **P 06 36 59.7 +0.9**
baz=90,SNR=97
220A **Playas Peak, P 90.15 52** ⇑P **P 06 36 59.9 +1.0**
baz=90,SNR=60
119A **Ashpeak Ranch, 90.15 51** ⇑P **P 06 36 59.8 +0.9**
baz=90,SNR=42
BMN **Battle Mountai 90.18 41** *eP* **P 06 36 59.2 +0.4**
comp=Z,351nm,1.5s,mb6.5
BMN LR LR
comp=Z,63μm,20.0s,MS7.0
BMN **Battle Mountai 90.18 41** *eP* **P 06 36 59.2 +0.4**
BMN pmax pmax
comp=Z,351nm,1.5s,mb6.5
BMN MLR MLR
comp=Z,63μm,20.0s,MS7.0
DL2 **Dalian 90.25 317** ⇓*iP* **P 06 36 59.8 +0.6**
DL2 S S 06 47 50.5 -1.1
DL2 pmax pmax
comp=Z,100nm,1.7s,mb5.9
DL2 pmax pmax
comp=Z,4μm,11.2s
DL2 LR LR
comp=N,6μm,20.4s,MS6.1
DL2 LR LR
comp=E,5μm,22.9s,MS6.1
DL2 LR LR
comp=Z,9μm,21.2s,MS6.2
HABR **Khabarovsk 90.28 330** *de*P **P 06 36 58.9 -0.2**
HABR *e**PP pP 06 37 06.4 -1.2
HABR 06 40 31.8
HABR *e* 06 47 52.3
HABR *e*PS PS 06 48 59.5 -2.0
HABR *e*SS SS 06 53 50.1 -2.1
HABR *e*SSS 06 57 24.6
HABR pmax pmax
comp=Z,2μm,2.3s,mb7.1
Y18A **Canyon Day Jun 90.29 50** ⇓P **P 06 37 00.4 +0.9**
baz=90,SNR=127
KKTK **Khon Kaen 90.36 289** P **P 06 37 02.0 +1.8**
comp=Z,926nm,0.7s,mb7.2
OHAK **Old Harbor 90.37 13** *eP* **P 06 36 59.5 +0.2**
comp=Z,186nm,1.1s,mb6.3
120A **U Bar Ranch, L 90.47 52** ⇑P **P 06 37 01.3 +0.9**
baz=91,SNR=67
U15A **North Rim 90.50 47** ⇑P **P 06 37 01.2 +0.7**
baz=91
Z19A **T-Link Ranch, 90.50 51** ⇓P **P 06 37 01.4 +0.9**
baz=91,SNR=24
WUAZ **Wupatki 90.50 48** ⇓P **P 06 37 01.2 +0.7**
baz=91
WUAZ **Wupatki 90.50 48** *eP* **P 06 37 01.7 +1.2**
comp=Z,170nm,0.9s,mb6.4
WUAZ LR LR
comp=Z,44μm,20.0s,MS6.9
CCUT **Cedar City 90.55 45** *eP* **P 06 37 01.7 +1.1**
comp=Z,196nm,1.4s,mb6.2
R13A **O'Grain Ranch, 90.59 45** ⇓P **P 06 37 01.6 +0.8**
baz=91
W17A **Winslow 90.65 49** ⇑P **P 06 37 02.0 +0.8**
baz=91,SNR=35
ARUT **Antelope Range 90.66 45** *eP* **P 06 37 01.9 +0.7**
comp=Z,627nm,2.0s,mb6.6
ARUT **Antelope Range 90.66 45** *eP* **P 06 37 01.9 +0.8**
ARUT pmax pmax
comp=Z,627nm,2.0s,mb6.6
221A **Mesquite Ranch 90.72 53** ⇓P **P 06 37 02.3 +0.7**
baz=91,SNR=16
WVOR **Wild Horse Val 90.76 39** *eP* **P 06 37 01.1 -0.4**
comp=Z,682nm,2.0s,mb6.6
WVOR LR LR
comp=Z,61μm,19.0s,MS7.0
WVOR **Wild Horse Val 90.76 39** *eP* **P 06 37 01.1 -0.4**
WVOR pmax pmax
comp=Z,682nm,2.0s,mb6.6
WVOR MLR MLR
comp=Z,61μm,19.0s,MS7.0
X18A **Snowflake 90.81 49** ⇑P **P 06 37 02.7 +0.8**
baz=91,SNR=68
Z20A **Nine Sixteen R 90.84 51** ⇓P **P 06 37 03.1 +1.0**
baz=91,SNR=60
Y19A **Nutrioso 90.91 50** ⇓P **P 06 37 03.1 +0.7**
baz=91,SNR=71
NNT **Nongplab 90.91 284** P **P 06 37 04.8 +1.9**
V17A **Tonalea, Kykot 90.94 48** ⇑P **P 06 37 03.2 +0.7**
baz=91,SNR=108
BSI **Banda Aceh 90.98 276** P **P 06 37 02.4 -0.9**
BSI **Banda Aceh 90.98 276** P **P 06 37 02.6 -0.7**
comp=Z,7μmcomp=Z,609nm,1.1s,mb6.8
KDAK **Kodiak Island 91.03 13** P **P 06 37 02.1 -0.2**
comp=Z,46nm,1.0s,mb5.8,baz=259,slow=7.3,SNR=5.8
KDAK **Kodiak Island 91.03 13** P **P 06 37 02.1 -0.2**
KDAK LR LR
comp=Z,25μm,21.0s,MS6.6
KDAK **Kodiak Island 91.03 13** P **P 06 37 02.1 -0.2**
KDAK pmax pmax
comp=Z,46nm,1.0s,mb5.8
121A **Cookes Peak, D 91.03 52** ⇑P **P 06 37 03.4 +0.4**
baz=91,SNR=29
U16A **Tuba City 91.05 48** ⇓P **P 06 37 03.7 +0.7**
baz=91
SNY **Shenyang 91.09 320** ⇓P **P 06 37 02.7 -0.3**
SNY SKS 06 47 34.5
SNY pmax pmax
comp=Z,190nm,1.7s,mb6.2
SNY pmax pmax
comp=Z,14μm,8.0s
SNY LR LR
comp=N,9μm,22.5s
SNY LR LR
comp=Z,10μm,24.5s,MS6.2
E03A **Lebam 91.17 34** ⇑P **P 06 37 03.9 +0.6**
baz=91
X19A **St. Johns 91.17 50** ⇓P **P 06 37 04.1 +0.4**
baz=91,SNR=26
HOOD **Mount Hood Mea 91.22 35** *eP* **P 06 37 03.8 +0.3**
comp=Z,92nm,0.9s,mb6.1
222A **Williams Famil 91.24 53** ⇑P **P 06 37 04.2 +0.2**
baz=91,SNR=36
BMW **Boistfort Moun 91.28 34** *eP* **P 06 37 04.2 +0.4**
BMW **Boistfort Moun 91.28 34** *eP* **P 06 37 04.2 +0.4**
TIA **Tai'an 91.28 312** ⇓P **P 06 37 04.3 +0.2**
TIA pP pP 06 37 14.5 +1.9
TIA pmax pmax
comp=Z,290nm,1.1s,mb6.5
TIA LR LR
comp=N,19μm,23.1s,MS6.7
TIA LR LR
comp=E,25μm,23.1s,MS6.7
TIA LR LR
comp=Z,5μm,19.6s,MS5.9
W18A **Petrified Fore 91.31 49** ⇑P **P 06 37 04.7 +0.4**
baz=92
CN2 **Changchun 91.43 322** *eP* **P 06 37 04.3 -0.2**
CN2 *eS* S 06 48 05.5 +3.5
CN2 pmax pmax
comp=Z,20nm,1.2s,mb5.3
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,6μm,20.0s,MS6.2
CN2 LR LR
comp=E,7μm,20.0s,MS6.2
CN2 LR LR
comp=Z,9μm,20.0s,MS6.2
I07A **Izee 91.44 37** ⇓P **P 06 37 04.9 +0.3**
baz=92,SNR=51
Y20A **Horse Springs, 91.46 51** ⇑P **P 06 37 06.0 +1.0**
baz=92,SNR=56
J08A **Circle Bar Ran 91.48 38** ⇓P **P 06 37 05.0 +0.1**
baz=92,SNR=40
W19A **Sanders 91.53 49** ⇓P **P 06 37 05.8 +0.6**
baz=92,SNR=62
V18A **Ganado 91.54 48** ⇑P **P 06 37 06.0 +0.7**
baz=92,SNR=76
Z21A **St. Cloud Mine 91.57 52** ⇑P **P 06 37 06.5 +1.0**
baz=92,SNR=32
U17A **Shonto 91.63 47** ⇑P **P 06 37 06.4 +0.7**
baz=92,SNR=31
R15A **Junction 91.63 45** ⇓P **P 06 37 06.2 +0.5**
baz=92,SNR=13
NLWA **Neilton Lookou 91.64 33** *eP* **P 06 37 06.3 +0.9**
comp=Z,111nm,1.1s,mb6.1
NLWA LR LR
comp=Z,22μm,20.0s,MS6.6
223A **Chaparral, Ant 91.64 53** ⇑P **P 06 37 05.8 0.0**
baz=92
122A **Conniff Cattle 91.66 52** ⇑P **P 06 37 06.4 +0.5**
baz=92
G06A **Carlson Farm, 91.66 36** ⇓P **P 06 37 05.4 -0.2**
baz=92,SNR=63
S16A **Weppner Ranch, 91.74 46** ⇓P **P 06 37 06.7 +0.5**
baz=92,SNR=15
X20A **Quemado 91.76 50** ⇑P **P 06 37 07.0 +0.7**
baz=92,SNR=131
T17A **Navajo Res., N 91.78 47** ⇑P **P 06 37 06.9 +0.5**
baz=92,SNR=43
626A **Big Bend Ranch 91.82 56** ⇓P **P 06 37 06.7 -0.1**
baz=92,SNR=47
MVU **Marysvale 91.86 45** PFAKE 06 37 20.0 +13
MVU LR LR
comp=Z,42μm,20.0s,MS6.9
MSU **Marysvale 91.89 45** *eP* **P 06 37 07.3 +0.5**
MSU **Marysvale 91.89 45** *eP* **P 06 37 07.4 +0.6**
425A **Indio Mountain 91.93 55** ⇑P **P 06 37 07.2 -0.1**
baz=92,SNR=46
Y21A **Point of Rocks 91.99 51** ⇓P **P 06 37 07.9 +0.5**
baz=92,SNR=49
Z22A **Elephant Butte 92.02 52** ⇑P **P 06 37 07.9 +0.4**
baz=92,SNR=46
U18A **Rough Rock, Ch 92.02 48** ⇑P **P 06 37 07.7 +0.2**
baz=92,SNR=46
TXAR **Lajitas Array 92.03 57** P **P 06 37 07.6 -0.1**
comp=Z,10nm,0.9s,mb5.2,baz=207,slow=5.3,SNR=68
TXAR PKKPbc PKKPbc 06 54 24.1 -0.3
comp=Z,1.0nm,0.7s,baz=123,slow=3.3,SNR=5.2
TXAR PKPPKP 07 02 37.8
comp=Z,0.9nm,0.9s,baz=98,slow=2.5,SNR=4.9
TXAR LR LR 07 11 00.4
comp=Z,37μm,19.5s,MS6.8,baz=15,slow=31
TXAR **Lajitas Array 92.03 57** P **P 06 37 07.6 -0.1**
TXAR PKKPbc PKKPbc 06 54 24.1 -0.3
TXAR P'P' 07 02 37.8
TXAR **Lajitas Array 92.03 57** P **P 06 37 07.6 -0.1**
TXAR 06 54 24.1
TXAR pmax pmax
comp=Z,11nm,0.9s
W20A **Ramah 92.11 50** ⇓P **P 06 37 08.5 +0.6**
baz=92,SNR=108
123A **Bell Site, Whi 92.12 53** ⇓P **P 06 37 08.4 +0.4**
baz=92
526A **Mary Lane Ranc 92.14 56** ⇓P **P 06 37 08.4 +0.2**
baz=92,SNR=48
LON **Longmire 92.15 34** *eP* **P 06 37 07.7 -0.1**
comp=Z,314nm,1.8s,mb6.3
LON **Longmire 92.15 34** *eP* **P 06 37 07.7 -0.1**
LON pmax pmax
comp=Z,314nm,1.8s,mb6.3
R16A **Teasdale 92.17 46** ⇑P **P 06 37 08.6 +0.5**
baz=92
X21A **Alamocita Cree 92.17 51** ⇑P **P 06 37 08.4 +0.2**
baz=92,SNR=72
MNTX **Cornudas Mount 92.18 54** ⇓P **P 06 37 08.5 +0.1**
baz=92,SNR=43
MNTX **Cornudas Mount 92.18 54** *eP* **P 06 37 08.0 -0.3**
comp=Z,413nm,1.9s,mb6.4
MNTX LR LR
comp=Z,18μm,20.0s,MS6.5
S17A **Black Ridge (B 92.18 47** ⇑P **P 06 37 08.0 -0.3**
baz=92,SNR=13
NST **Nakhon Sawan 92.20 287** P **P 06 37 09.7 +0.9**
comp=Z,204nm,1.0s,mb6.4
NNA **Nana 92.24 105** *eP* **P 06 37 09.8 +0.7**
comp=Z,308nm,1.5s,mb6.4
NNA LR LR
comp=Z,27μm,19.0s,MS6.7
NNA **Nana 92.24 105** *eP* **P 06 37 09.8 +0.7**
NNA pmax pmax
comp=Z,308nm,1.5s
NNA MLR MLR
comp=Z,27μm,19.0s
NNA **Nana 92.24 105** P **P 06 37 09.0 -0.1**
comp=Z,466nm,1.0s,mb6.8,SNR=16
GNW **Green Mountain 92.25 33** *eP* **P 06 37 08.7 +0.4**
comp=Z,176nm,1.7s,mb6.1
325A **Bean Ranch, Si 92.28 54** ⇓P **P 06 37 08.5 -0.3**
baz=92,SNR=32
KLR **Kul'dur 92.28 329** ⇑*iP* **P 06 37 04.6 -3.7**
KLR *eS* S 06 48 12.5 +3.0
KLR pmax pmax
comp=Z,2μm,2.6s,mb6.9
KLR pmax pmax
comp=Z,16μm,12.0s
627A **Terlingua Ranc 92.30 57** ⇓P **P 06 37 09.1 +0.1**
baz=92,SNR=66
224A **Cornudas Mount 92.31 54** ⇓P **P 06 37 09.1 +0.2**
baz=92,SNR=28
U19A **Dine' College, 92.36 48** ⇑P **P 06 37 09.0 0.0**
baz=92,SNR=53
Y22A **Socorro 92.42 51** ⇑P **P 06 37 09.4 0.0**
baz=93,SNR=32
T18A **Mexican Hat 92.45 47** ⇑P **P 06 37 09.3 -0.2**
baz=93,SNR=49
P15A **Leamington 92.49 44** ⇑P **P 06 37 10.0 +0.4**
baz=93,SNR=14
Z23A **Rita Site, Whi 92.51 52** ⇑P **P 06 37 09.9 0.0**
baz=93,SNR=18
Y22D **IRIS PASSCAL I 92.53 51** ⇑P **P 06 37 09.8 -0.1**
baz=93
527A **Woodward Ranch 92.53 56** ⇓P **P 06 37 09.6 -0.5**
baz=93,SNR=34
426A **McDonald Obser 92.53 55** ⇑P **P 06 37 09.8 -0.2**
baz=93,SNR=15
V20A **Brimhall 92.54 49** ⇑P **P 06 37 10.2 +0.3**
baz=93,SNR=38
LENM **Lemitar 92.55 51** *eP* **P 06 37 10.9 +0.9**
DUG **Dugway 92.57 44** ⇑P **P 06 37 10.4 +0.4**
baz=93
DUG **Dugway 92.57 44** *eP* **P 06 37 09.6 -0.3**
comp=Z,22nm,1.1s,mb5.5
DUG LR LR
comp=Z,39μm,20.0s,MS6.8
DUG **Dugway 92.57 44** *eP* **P 06 37 09.6 -0.3**
DUG pmax pmax
comp=Z,22nm,1.1s,mb5.5
DUG MLR MLR
comp=Z,39μm,20.0s,MS6.8
LAZ **Ladron 92.58 51** *eP* **P 06 37 10.9 +0.7**
comp=Z,335nm,2.1s,mb6.4
LPA **La Plata 92.64 134** *de*P **P 06 37 16.0 +5.3**
LPA sP sP 06 37 19.0 -3.2
LPA SKS 06 47 44.0
LPA SCS ScS 06 48 19.0 +3.1
LPA PS PS 06 49 30.0 +2.2
LPA
comp=Z,31μm,22.0s
W21A **San Fidel 92.67 50** ⇑P **P 06 37 10.9 +0.4**
baz=93,SNR=38
628A **Black Gap, Mar 92.67 57** ⇑P **P 06 37 10.5 -0.2**
baz=93,SNR=37
124A **Stringfield Ra 92.72 53** ⇓P **P 06 37 11.0 +0.2**
baz=93,SNR=19
S18A **Hurst Farm, Bl 92.72 47** ⇑P **P 06 37 10.8 +0.1**
baz=93
R17A **Hanksville Air 92.72 46** ⇑P **P 06 37 10.8 +0.1**
baz=93,SNR=23
X22A **Bernardo 92.72 51** ⇑P **P 06 37 11.0 +0.1**
baz=93
PGC **Sidney 92.75 32** *eP* **P 06 37 10.0 -0.5**
comp=Z,6.3nm,1.3s,mb4.9
Q16A **Castle Valley 92.75 45** ⇓P **P 06 37 11.2 +0.4**
baz=93,SNR=19
BNM **Barren Site 92.77 51** *eP* **P 06 37 11.3 +0.3**
comp=Z,587nm,2.1s,mb6.7
T19A **Beclabito 92.81 48** ⇓P **P 06 37 11.2 +0.1**
baz=93,SNR=22
225A **Deer Hill, Car 92.81 54** ⇑P **P 06 37 11.3 +0.1**
baz=93,SNR=20
O15A **The Old Anders 92.83 44** ⇓P **P 06 37 10.8 -0.3**
baz=93
GYA **Guiyang 92.83 299** ⇓*iP* **P 06 37 12.0 +0.5**

GYA				pP	pP	06 37 17.0	-3.0
GYA				PP	PP	06 40 57.3	+2.9
GYA				SKS		06 47 44.2	
GYA				S	S	06 48 13.3	-2.2
GYA				SS	SS	06 54 31.7	+1.9
GYA				pmax	pmax		
	comp=Z,140nm,1.0s,mb6.3						
GYA				pmax	pmax		
	comp=Z,4μm,13.0s						
GYA				LR	LR		
	comp=N,12μm,21.9s,MS6.4						
GYA				LR	LR		
	comp=E,10μm,23.1s,MS6.4						
GYA				LR	LR		
	comp=Z,8μm,21.9s,MS6.1						
U20A	**Newcomb**	**92.85**	**49**	⇓P	**P**	**06 37 11.7**	**+0.3**
	baz=93,SNR=24						
LPM	**Los Pinos Moun**	**92.86**	**51**	*e*P	**P**	**06 37 12.1**	**+0.6**
P16A	**Fountain Green**	**92.89**	**45**	⇓P	**P**	**06 37 12.2**	**+0.8**
	baz=93						
326A	**Caldwell Ranch**	**92.94**	**55**	⇑P	**P**	**06 37 11.1**	**-0.8**
	baz=93,SNR=16						
MFID	**Camas Ranch**	**92.95**	**40**	⇑P	**P**	**06 37 11.3**	**-0.3**
	baz=93,SNR=42						
MFID	**Camas Ranch**	**92.95**	**40**	*e*P	**P**	**06 37 11.3**	**-0.2**
	comp=Z,126nm,1.2s,mb6.2						
TMUT	**Trail Mountain**	**92.97**	**45**	*e*P	**P**	**06 37 13.0**	**+1.2**
	comp=Z,136nm,1.0s,mb6.3						
RSW	**Rattlesnake Hi**	**92.99**	**36**	*e*P	**P**	**06 37 12.3**	**+0.6**
HAWA	**Hanford**	**93.02**	**36**	*e*P	**P**	**06 37 11.8**	**-0.1**
	comp=Z,95nm,1.1s,mb6.1						
HAWA				LR	LR		
	comp=Z,36μm,20.0s,MS6.8						
Y23A	**Lovelace Mesa,**	**93.03**	**52**	⇓P	**P**	**06 37 12.2**	**0.0**
	baz=93,SNR=34						
427A	**Hayter Ranch,**	**93.08**	**56**	⇓P	**P**	**06 37 12.5**	**-0.1**
	baz=93,SNR=52						
V21A	**Milan**	**93.08**	**50**	⇑P	**P**	**06 37 12.5**	**0.0**
	baz=93,SNR=16						
BMO	**Blue Mountains**	**93.11**	**38**	*e*P	**P**	**06 37 11.6**	**-0.7**
	comp=Z,124nm,1.5s,mb6.1						
BMO				LR	LR		
	comp=Z,35μm,20.0s,MS6.8						
JCW	**Jim Creek**	**93.13**	**33**	*e*P	**P**	**06 37 12.0**	**-0.3**
528A	**Cox Ranch, San**	**93.13**	**57**	⇓P	**P**	**06 37 12.3**	**-0.5**
	baz=93						
W22A	**Albuquerque**	**93.15**	**51**	⇓P	**P**	**06 37 13.2**	**+0.4**
	baz=93						
MPU	**Maple Canyon**	**93.16**	**44**	*e*P	**P**	**06 37 13.5**	**+0.8**
	comp=Z,51nm,1.1s,mb5.9						
N15A	**Stansbury Isla**	**93.19**	**43**	⇑P	**P**	**06 37 12.6**	**-0.2**
	baz=93						
R18A	**Canyonlands Na**	**93.21**	**46**	⇑P	**P**	**06 37 12.7**	**-0.3**
	baz=93,SNR=27						
125A	**Gardner Draw,**	**93.24**	**54**	⇓P	**P**	**06 37 13.2**	**0.0**
	baz=93,SNR=21						
SRU	**San Rafael**	**93.27**	**46**	*e*P	**P**	**06 37 13.6**	**+0.4**
	comp=Z,80nm,1.1s,mb6.1						
SRU	**San Rafael**	**93.27**	**46**	*e*P	**P**	**06 37 13.6**	**+0.4**
SRU				pmax	pmax		
	comp=Z,79nm,1.1s,mb6.1						
NOQ	**North Oquirrh**	**93.27**	**44**	*e*P	**P**	**06 37 13.4**	**+0.3**
	comp=Z,34nm,0.8s,mb5.8						
226A	**Malaga, Loving**	**93.28**	**54**	⇓P	**P**	**06 37 12.8**	**-0.7**
	baz=94						
S19A	**Harvey Farm, M**	**93.29**	**47**	⇓P	**P**	**06 37 13.6**	**+0.2**
	baz=94,SNR=20						
LNOR	**Lincton Mounta**	**93.30**	**37**	*e*P	**P**	**06 37 12.4**	**-0.7**
LNOR	**Lincton Mounta**	**93.30**	**37**	*e*P	**P**	**06 37 12.4**	**-0.7**
X23A	**Hourglass Bar**	**93.32**	**51**	⇑P	**P**	**06 37 13.5**	**0.0**
	baz=94,SNR=19						
ANMO	**Albuquerque**	**93.35**	**51**	P	**P**	**06 37 13.7**	**0.0**
	comp=Z,21nm,0.8s,mb5.6,baz=202,slow=5.1,SNR=25						
ANMO	**Albuquerque**	**93.35**	**51**	*e*P	**P**	**06 37 13.6**	**-0.1**
	comp=Z,168nm,1.4s,mb6.3						
ANMO				LR	LR		
	comp=Z,49μm,20.0s,MS7.0						
ANMO	**Albuquerque**	**93.35**	**51**	*e*P	**P**	**06 37 13.6**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,168nm,1.4s						
ANMO				MLR	MLR		
	comp=Z,49μm,20.0s						
O16A	**Springville**	**93.36**	**44**	⇑P	**P**	**06 37 13.6**	**0.0**
	baz=94,SNR=15						
P17A	**Butcher Ranch,**	**93.36**	**45**	⇓P	**P**	**06 37 13.5**	**-0.1**
	baz=94,SNR=12						
MVCO	**Mesa Verde**	**93.37**	**48**	⇑P	**P**	**06 37 13.4**	**-0.3**
	baz=94,SNR=9.6						
MVCO	**Mesa Verde**	**93.37**	**48**	*e*P	**P**	**06 37 14.3**	**+0.6**
	comp=Z,105nm,1.2s,mb6.1						
MVCO				LR	LR		
	comp=Z,47μm,20.0s,MS6.9						
BBB	**Bella Bella**	**93.40**	**28**	P	**P**	**06 37 14.7**	**+1.3**
	comp=Z,36nm,0.9s,mb5.8,baz=191,slow=9.3,SNR=5.5						
BBB	**Bella Bella**	**93.40**	**28**	P	**P**	**06 37 14.7**	**+1.3**
Y24A	**Capitan**	**93.44**	**52**	⇓P	**P**	**06 37 13.9**	**-0.3**
	baz=94,SNR=47						
U21A	**Nageezi**	**93.44**	**49**	⇓P	**P**	**06 37 14.0**	**-0.1**
	baz=94,SNR=52						
ETW	**Entiat**	**93.47**	**34**	*e*P	**P**	**06 37 13.7**	**-0.2**
L14A	**Malta**	**93.50**	**42**	⇓P	**P**	**06 37 14.1**	**-0.1**
	baz=94,SNR=15						
Q18A	**Rafter H Ranch**	**93.50**	**46**	⇓P	**P**	**06 37 13.9**	**-0.4**
	baz=94,SNR=19						
RPW	**Rockport**	**93.50**	**33**	*e*P	**P**	**06 37 13.8**	**-0.3**
RSO	**Redoubt South**	**93.51**	**12**	*e*P	**P**	**06 37 14.4**	**+0.7**
ATAH	**Atahualpa**	**93.51**	**100**	LR	LR	07 13 38.4	
	comp=Z,23μm,18.2s,MS6.7,baz=205,slow=32						
428A	**Kincaid Ranch,**	**93.52**	**56**	⇓P	**P**	**06 37 14.1**	**-0.5**
	baz=94,SNR=20						
R19A	**Curley Farm, L**	**93.55**	**47**	⇑P	**P**	**06 37 14.2**	**-0.3**
	baz=94,SNR=21						
Z25A	**Roswell**	**93.56**	**53**	⇑P	**P**	**06 37 14.3**	**-0.4**
	baz=94,SNR=25						
I12A	**Atlanta**	**93.58**	**40**	⇓P	**P**	**06 37 14.5**	**0.0**
	baz=94,SNR=43						
M15A	**Larsen Ranch,**	**93.59**	**43**	⇓P	**P**	**06 37 14.2**	**-0.5**
	baz=94						
HVU	**Hansel Valley**	**93.60**	**42**	*e*P	**P**	**06 37 15.0**	**+0.4**
	comp=Z,210nm,1.4s,mb6.4						
HVU	**Hansel Valley**	**93.60**	**42**	*e*P	**P**	**06 37 15.0**	**+0.3**
HVU				pmax	pmax		
	comp=Z,210nm,1.4s,mb6.4						
V22A	**San Miguel Ran**	**93.62**	**50**	⇓P	**P**	**06 37 14.9**	**0.0**
	baz=94,SNR=25						
A05A	**Maple Falls**	**93.63**	**33**	⇑P	**P**	**06 37 13.8**	**-0.8**
	baz=94						
JLU	**Jordanelle**	**93.64**	**44**	*e*P	**P**	**06 37 15.3**	**+0.5**
SVW2	**Sparrevohn**	**93.65**	**10**	*e*P	**P**	**06 37 15.9**	**+1.5**
126A	**Clayton Basin,**	**93.67**	**54**	⇑P	**P**	**06 37 14.8**	**-0.4**
	baz=94,SNR=12						
W23A	**Werner Place,**	**93.68**	**51**	⇑P	**P**	**06 37 15.1**	**-0.1**
	baz=94,SNR=16						
PV10	**Paradox Valley**	**93.73**	**47**	*e*P	**P**	**06 37 15.5**	**+0.1**
	comp=Z,673nm,0.9s,mb7.1						
P18A	**Preston Nutter**	**93.75**	**45**	⇓P	**P**	**06 37 15.2**	**-0.3**
	baz=94,SNR=25						
328A	**Wristen Ranch,**	**93.80**	**56**	⇓P	**P**	**06 37 15.0**	**-0.8**
	baz=94,SNR=13						
E09A	**Wood Farm, Sta**	**93.80**	**36**	⇓P	**P**	**06 37 14.6**	**-0.8**
	baz=94						
O17A	**Robinson Place**	**93.81**	**45**	⇑P	**P**	**06 37 15.5**	**-0.1**
	baz=94,SNR=27						
X24A	**Lazy VL Ranch,**	**93.81**	**52**	⇓P	**P**	**06 37 14.7**	**-1.1**
	baz=94						
227A	**Bennet, Jal**	**93.82**	**55**	⇑P	**P**	**06 37 14.7**	**-1.2**
	baz=94						
HLID	**Hailey**	**93.82**	**40**	⇓P	**P**	**06 37 15.5**	**-0.2**
	baz=94,SNR=49						
HLID	**Hailey**	**93.82**	**40**	*e*P	**P**	**06 37 15.8**	**+0.2**
	comp=Z,40nm,0.8s,mb5.9						
HLID				LR	LR		
	comp=Z,33μm,20.0s,MS6.8						
N16A	**Rees Ranch, Co**	**93.82**	**44**	⇑P	**P**	**06 37 15.5**	**-0.2**
	baz=94,SNR=18						
PV04	**Paradox Valley**	**93.83**	**47**	*e*P	**P**	**06 37 16.9**	**+1.2**
S20A	**Disappointment**	**93.83**	**48**	⇓P	**P**	**06 37 15.7**	**-0.2**
	baz=94,SNR=18						
J13A	**Cove Ranch, Pi**	**93.85**	**40**	⇓P	**P**	**06 37 15.7**	**0.0**
	baz=94,SNR=78						
T21A	**Navajo Lake**	**93.86**	**49**	⇑P	**P**	**06 37 15.6**	**-0.3**
	baz=94,SNR=13						
K14A	**Jones Ranch, D**	**93.86**	**42**	⇓P	**P**	**06 37 15.5**	**-0.3**
	baz=94,SNR=28						
PV01	**Paradox Valley**	**93.88**	**47**	*e*P	**P**	**06 37 15.8**	**-0.3**
	comp=Z,5μm,1.2s						
F10A	**Beach Ranch, E**	**93.91**	**37**	⇓P	**P**	**06 37 14.7**	**-1.2**
	baz=94						
U22A	**Llaves**	**93.93**	**49**	⇓P	**P**	**06 37 15.6**	**-0.7**
	baz=94,SNR=16						
Y25A	**Mesa, Roswell**	**93.94**	**53**	⇓P	**P**	**06 37 15.7**	**-0.8**
	baz=94,SNR=31						
Q19A	**Hogan Spring (**	**93.95**	**46**	⇓P	**P**	**06 37 15.8**	**-0.5**
	baz=94,SNR=24						
L15A	**Malad City**	**93.97**	**42**	⇑P	**P**	**06 37 15.6**	**-0.7**
	baz=94,SNR=34						
V23A	**Ortiz Mt. (NFS**	**94.00**	**50**	⇑P	**P**	**06 37 16.6**	**-0.1**
	baz=94,SNR=24						
SLKM	**Skilak Lake**	**94.02**	**13**	*e*P	**P**	**06 37 14.8**	**-1.3**
SLKM	**Skilak Lake**	**94.02**	**13**	*e*P	**P**	**06 37 14.8**	**-1.3**
R20A	**Redvale**	**94.03**	**47**	⇑P	**P**	**06 37 16.1**	**-0.7**
	baz=94,SNR=10						
Z26A	**Caprock**	**94.06**	**53**	⇓P	**P**	**06 37 16.2**	**-0.8**
	baz=94,SNR=32						
S21A	**Coal Bank Pass**	**94.09**	**48**	⇑P	**P**	**06 37 17.1**	**+0.1**
	baz=94,SNR=22						
OD2	**Odessa Site #2**	**94.12**	**35**	*e*P	**P**	**06 37 17.0**	**+0.2**
127A	**Arkansas Junct**	**94.15**	**54**	⇓P	**P**	**06 37 16.5**	**-0.9**
	baz=94,SNR=18						
J14A	**Carey**	**94.16**	**41**	⇓P	**P**	**06 37 17.3**	**+0.1**
	baz=94,SNR=71						
HWUT	**Hardware Ranch**	**94.20**	**43**	*e*P	**P**	**06 37 16.8**	**-0.6**
	comp=Z,36nm,1.1s,mb5.7						
HWUT				LR	LR		
	comp=Z,51μm,20.0s,MS7.0						
W24A	**Lazy 6 Ranch,**	**94.20**	**51**	⇑P	**P**	**06 37 17.2**	**-0.4**
	baz=94,SNR=19						
I13A	**Wildhorse Cree**	**94.21**	**40**	⇓P	**P**	**06 37 17.5**	**+0.1**
	baz=94,SNR=24						
N17A	**Moffit Pass**	**94.21**	**44**	⇓P	**P**	**06 37 17.3**	**-0.2**
	baz=94,SNR=15						
H12A	**Diamond D Ranc**	**94.22**	**39**	⇓P	**P**	**06 37 17.0**	**-0.4**
	baz=94,SNR=50						
BJI	**Beijing**	**94.23**	**315**	P	**P**	**06 37 17.7**	**+0.1**
BJI				S	S	06 48 30.0	+2.8
BJI				pmax	pmax		
	comp=Z,150nm,1.5s,mb6.2						
BJI				pmax	pmax		
	comp=Z,6μm,11.5s						
BJI				LR	LR		
	comp=N,14μm,38.0s,MS6.2						
BJI				LR	LR		
	comp=E,10μm,39.0s,MS6.2						
BJI				LR	LR		
	comp=Z,18μm,34.9s,MS6.3						
T22A	**Edith**	**94.28**	**49**	⇑P	**P**	**06 37 17.7**	**-0.2**
	baz=94,SNR=18						
O18A	**Roosevelt**	**94.29**	**45**	⇓P	**P**	**06 37 17.2**	**-0.6**
	baz=94						
SPU	**Mount Spurr**	**94.31**	**12**	*e*P	**P**	**06 37 18.2**	**+0.8**
X25A	**Clemmons Ranch**	**94.31**	**52**	⇓P	**P**	**06 37 17.2**	**-0.9**
	baz=94						
U23A	**El Rito**	**94.34**	**50**	⇓P	**P**	**06 37 17.8**	**-0.4**
	baz=94,SNR=23						
G12A	**Big Creek, Yel**	**94.35**	**39**	⇓P	**P**	**06 37 17.2**	**-0.8**
	baz=94,SNR=54						
L16A	**Fish Haven**	**94.53**	**43**	⇓P	**P**	**06 37 18.1**	**-0.8**
	baz=95,SNR=10						
P19A	**Cripple Cowboy**	**94.53**	**46**	⇓P	**P**	**06 37 18.5**	**-0.5**
	baz=95,SNR=12						
Y26A	**Elida**	**94.53**	**53**	⇓P	**P**	**06 37 18.2**	**-0.9**
	baz=95						
Q20A	**Ridgley Place,**	**94.55**	**47**	⇓P	**P**	**06 37 18.9**	**-0.2**
	baz=95,SNR=17						
H13A	**Challis**	**94.56**	**40**	⇓P	**P**	**06 37 18.7**	**-0.3**
	baz=95,SNR=34						
I14A	**Mackay**	**94.59**	**40**	⇓P	**P**	**06 37 19.1**	**-0.1**
	baz=95						
V24A	**Rampart Ranch,**	**94.59**	**51**	⇑P	**P**	**06 37 19.4**	**0.0**
	baz=95,SNR=31						
Z27A	**Tatum**	**94.61**	**54**	⇑P	**P**	**06 37 18.6**	**-0.9**
	baz=95,SNR=16						
C09A	**Chrisman Ranch**	**94.61**	**35**	⇓P	**P**	**06 37 18.7**	**-0.5**
	baz=95,SNR=17						
CM31	**Chiang Mai Arr**	**94.61**	**289**	*e*P	**P**	**06 37 21.4**	**+1.5**
	comp=Z,98nm,1.0s,mb6.2						
CM31				LR	LR		
	comp=Z,14μm,19.0s,MS6.4						
CMAR	**Chiang Mai Arr**	**94.61**	**289**	P	**P**	**06 37 21.6**	**+1.7**
	comp=Z,93nm,1.1s,mb6.1,baz=145,slow=3.2,SNR=50						
CMAR				PP	PP	06 41 10.3	+1.9
	comp=Z,2.0nm,0.2s,baz=141,slow=6.4,SNR=12						
CMAR				PKKP	PKKPbc	06 54 18.9	+1.8
	comp=Z,2.1nm,0.3s,baz=287,slow=4.6,SNR=10.0						
CMAR				PKPPKP		07 02 30.8	
	comp=Z,0.8nm,0.3s,baz=254,slow=3.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**94.61**	**289**	P	**P**	**06 37 21.6**	**+1.7**
CMAR				PP	PP	06 41 10.3	+1.9
CMAR				PKKP	PKKPbc	06 54 18.9	+1.8
CMAR				P'P'		07 02 30.8	
CMAR	**Chiang Mai Arr**	**94.61**	**289**	P	**P**	**06 37 21.6**	**+1.7**
CMAR						06 41 10.3	
CMAR				pmax	pmax		
	comp=Z,93nm,1.1s						
M17A	**Scullys Gap (B**	**94.64**	**44**	⇑P	**P**	**06 37 18.7**	**-0.7**
	baz=95,SNR=12						
R21A	**Cimarron**	**94.67**	**48**	⇑P	**P**	**06 37 19.5**	**-0.2**
	baz=95,SNR=17						
CHRT	**Chiangrai**	**94.67**	**290**	P	**P**	**06 37 20.0**	**-0.1**
	comp=Z,290nm,1.0s,mb6.7						
S22A	**4UR Ranch, Cre**	**94.76**	**48**	⇑P	**P**	**06 37 20.1**	**0.0**
	baz=95,SNR=19						
CHG	**Chiang Mai**	**94.80**	**289**	⇓P	**P**	**06 37 21.7**	**+1.0**
	comp=Z,19nm,1.1s,mb5.4						
CHTO	**Chiang Mai**	**94.80**	**289**	*e*P	**P**	**06 37 21.6**	**+0.9**
	comp=Z,88nm,1.0s,mb6.2						
CHTO				LR	LR		
	comp=Z,17μm,19.0s,MS6.5						
CHTO	**Chiang Mai**	**94.80**	**289**	*e*P	**P**	**06 37 21.6**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,88nm,1.0s,mb6.1						
CHTO				MLR	MLR		
	comp=Z,17μm,19.0s,MS6.5						
CHTO	**Chiang Mai**	**94.80**	**289**	P	**P**	**06 37 21.7**	**+1.0**
CHTO	**Chiang Mai**	**94.80**	**289**	P	**P**	**06 37 21.8**	**+1.1**
	SNR=37						
P20A	**De Beque**	**94.81**	**46**	⇓P	**P**	**06 37 20.0**	**-0.3**
	baz=95,SNR=14						
W25A	**X Bar L Ranch,**	**94.84**	**52**	⇓P	**P**	**06 37 19.6**	**-0.9**
	baz=95,SNR=26						
O19A	**Miners Draw (B**	**94.85**	**45**	⇑P	**P**	**06 37 20.0**	**-0.4**
	baz=95,SNR=13						
T23A	**Casias Ranch,**	**94.85**	**49**	⇓P	**P**	**06 37 20.2**	**-0.4**
	baz=95,SNR=14						
X26A	**CR and CF Fran**	**94.90**	**52**	⇑P	**P**	**06 37 20.0**	**-0.8**
	baz=95,SNR=12						
L17A	**Cokeville**	**94.91**	**43**	⇑P	**P**	**06 37 19.8**	**-0.9**
	baz=95						
G13A	**Cobalt**	**94.91**	**39**	⇑P	**P**	**06 37 19.9**	**-0.7**
	baz=95,SNR=32						
N18A	**Larsen Ranch,**	**94.93**	**44**	⇑P	**P**	**06 37 20.1**	**-0.6**
	baz=95						
Q21A	**Lamborn Mesa,**	**94.93**	**47**	⇑P	**P**	**06 37 20.3**	**-0.6**
	baz=95						
K16A	**Soda Springs**	**94.95**	**42**	⇑P	**P**	**06 37 20.3**	**-0.5**
	baz=95,SNR=25						
Y27A	**Causey**	**94.96**	**53**	⇑P	**P**	**06 37 20.6**	**-0.6**
	baz=95,SNR=15						
M18A	**Lyman**	**94.97**	**44**	⇓P	**P**	**06 37 20.6**	**-0.4**
	baz=95,SNR=17						
KMI	**Kunming**	**95.09**	**296**	P	**P**	**06 37 23.8**	**+1.9**
KMI				pP	pP	06 37 28.1	-2.3
KMI				sP	sP	06 37 29.7	-3.8
KMI				PP	PP	06 41 14.0	+2.0
KMI				SKS		06 47 59.6	
KMI				S	S	06 48 35.9	+0.6
KMI				SS	SS	06 55 01.7	-0.4
KMI				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.8						
KMI				pmax	pmax		
	comp=Z,4μm,11.1s						
KMI				LR	LR		
	comp=N,13μm,20.4s,MS6.6						
KMI				LR	LR		
	comp=E,14μm,20.0s,MS6.6						
KMI				LR	LR		
	comp=Z,19μm,16.8s,MS6.6						
KMI	**Kunming**	**95.09**	**296**	P	**P**	**06 37 23.8**	**+1.9**
	comp=Z,52nm,1.4s,mb5.8						
KMI				pP	pP	06 37 28.1	-2.3
KMI				sP	sP	06 37 29.7	-3.8
KMI				PP	PP	06 41 14.0	+2.0
KMI				PPP		06 43 18.6	
KMI				SKS		06 47 59.6	
KMI				S	S	06 48 35.9	+0.6
KMI				SS	SS	06 55 01.7	-0.4
KMI				SSS		06 58 46.3	
KMI				LR	LR		
	comp=Z,19μm,16.8s,MS6.6						
KMI	**Kunming**	**95.09**	**296**	P	**P**	**06 37 23.8**	**+1.9**
KMI				*SP	sP	06 37 29.7	-3.8
KMI						06 41 14.0	
KMI				PPP		06 43 18.6	
KMI						06 47 59.6	
KMI				S	S	06 48 35.9	+0.6
KMI				PS	PS	06 49 57.7	+2.1
KMI				SS	SS	06 55 01.7	-0.4
KMI				SSS		06 58 46.3	
KMI				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.8						
KMI				MLR	MLR		
	comp=Z,19μm,16.8s,MS6.6						
V25A	**Rancho No Teng**	**95.09**	**51**	⇓P	**P**	**06 37 20.9**	**-0.8**
	baz=95						
WRAK	**Wrangell Islan**	**95.16**	**23**	PFAKE		06 37 30.0	+8.6
WRAK				LR	LR		
	comp=Z,16μm,20.0s,MS6.5						
I15A	**Monteview**	**95.17**	**41**	⇓P	**P**	**06 37 21.5**	**-0.3**
	baz=95,SNR=16						
N19A	**John Jarvie Ra**	**95.17**	**45**	⇑P	**P**	**06 37 21.3**	**-0.6**
	baz=95,SNR=11						
TIY	**Taiyuan**	**95.18**	**311**	⇓*i*P	**P**	**06 37 22.5**	**+0.5**
TIY				pP	pP	06 37 27.8	-2.7
TIY				SKS		06 47 57.1	
TIY				S	S	06 48 38.2	+2.7
TIY				LR	LR		
	comp=N,8μm,18.5s						
TIY				LR	LR		
	comp=E,790nm,9.8s						
TIY				LR	LR		
	comp=Z,9μm,22.0s,MS6.2						
AHID	**Auburn Hatcher**	**95.19**	**42**	*e*P	**P**	**06 37 22.3**	**+0.4**
	comp=Z,114nm,1.2s,mb6.2						
AHID				LR	LR		
	comp=Z,46μm,20.0s,MS7.0						
J16A	**Bone**	**95.21**	**42**	⇑P	**P**	**06 37 21.7**	**-0.3**
	baz=95,SNR=26						
PMR	**Palmer**	**95.22**	**13**	*e*P	**P**	**06 37 23.8**	**+2.2**
	comp=Z,124nm,1.4s,mb6.2						
PMR	**Palmer**	**95.22**	**13**	*e*P	**P**	**06 37 23.8**	**+2.2**
PMR				pmax	pmax		
	comp=Z,124nm,1.4s,mb6.2						
W26A	**Owens Ranch, T**	**95.23**	**52**	⇓P	**P**	**06 37 21.8**	**-0.5**
	baz=95,SNR=12						
KVTX	**Kingsville**	**95.28**	**61**	*e*P	**P**	**06 37 25.4**	**+2.7**
	comp=Z,622nm,1.7s,mb6.8						
KVTX				LR	LR		
	comp=Z,22μm,19.0s,MS6.7						
MSTX	**Muleshoe**	**95.28**	**53**	⇓P	**P**	**06 37 21.9**	**-0.7**
	baz=96,SNR=17						
K17A	**Gardner Place,**	**95.28**	**42**	⇑P	**P**	**06 37 22.0**	**-0.4**
	baz=96,SNR=34						
O20A	**White River Ci**	**95.29**	**46**	⇑P	**P**	**06 37 21.9**	**-0.5**
	baz=96						
L18A	**Fontenelle, Gr**	**95.29**	**44**	⇑P	**P**	**06 37 22.0**	**-0.4**
	baz=96						
F13A	**Darby**	**95.31**	**39**	⇓P	**P**	**06 37 21.6**	**-0.8**
	baz=96,SNR=31						
Q22A	**Crested Butte,**	**95.36**	**47**	⇑P	**P**	**06 37 21.9**	**-1.0**
	baz=96,SNR=16						
P21A	**Newcastle**	**95.41**	**47**	⇓P	**P**	**06 37 22.7**	**-0.3**
	baz=96						
XAN	**Xi'an**	**95.42**	**307**	P	**P**	**06 37 23.6**	**+0.4**
XAN				PP	PP	06 41 09.4	-5.0
XAN				SKS		06 48 01.2	
XAN				S	S	06 48 43.3	+5.5
XAN				pmax	pmax		
	comp=Z,12nm,1.9s,mb5.0						
XAN				pmax	pmax		
	comp=Z,1μm,14.6s						
XAN				LR	LR		
	comp=N,8μm,55.6s						
XAN				LR	LR		
	comp=E,4μm,49.7s						
XAN				LR	LR		
	comp=Z,5μm,18.1s						
RRI2	**Red Ridge**	**95.42**	**42**	*e*P	**P**	**06 37 23.4**	**+0.5**
	comp=Z,264nm,1.8s,mb6.4						
X27A	**F and S Farms,**	**95.44**	**53**	⇑P	**P**	**06 37 22.3**	**-0.9**
	baz=96						
JCT	**Junction City**	**95.45**	**58**	⇑P	**P**	**06 37 22.2**	**-1.3**
	baz=96						
JCT	**Junction City**	**95.45**	**58**	*e*P	**P**	**06 37 22.6**	**-0.9**
	comp=Z,55nm,1.0s,mb5.9						
JCT				LR	LR		
	comp=Z,57μm,20.0s,MS7.0						
JCT	**Junction City**	**95.45**	**58**	*e*P	**P**	**06 37 22.6**	**-0.8**
JCT				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.9						
JCT				MLR	MLR		
	comp=Z,57μm,20.0s,MS7.0						
H15A	**Lima**	**95.47**	**40**	⇑P	**P**	**06 37 22.8**	**-0.3**
	baz=96,SNR=20						
MCMT	**McKenzie Canyo**	**95.50**	**40**	*e*P	**P**	**06 37 23.3**	**0.0**
	comp=Z,40nm,1.2s,mb5.7						
NEW	**Newport**	**95.50**	**35**	⇑P	**P**	**06 37 22.4**	**-0.7**
	baz=96,SNR=9.8						
NEW	**Newport**	**95.50**	**35**	*e*P	**P**	**06 37 22.5**	**-0.7**
	comp=Z,95nm,1.7s,mb6.0						
NEW				LR	LR		
	comp=Z,43μm,20.0s,MS6.9						
NEW	**Newport**	**95.50**	**35**	*e*P	**P**	**06 37 22.5**	**-0.7**
NEW				pmax	pmax		
	comp=Z,95nm,1.7s						
NEW				MLR	MLR		
	comp=Z,43μm,20.0s						
SMCO	**Snowmass**	**95.51**	**47**	*e*P	**P**	**06 37 23.8**	**+0.3**
	comp=Z,37nm,1.0s,mb5.8						
T24A	**Torres, Weston**	**95.51**	**50**	⇑P	**P**	**06 37 22.7**	**-0.9**
	baz=96,SNR=14						
U25A	**Circle Dot Ran**	**95.

baz=96,SNR=13
G15A Dillon 95.91 40 ⇊P **P 06 37 25.0 -0.1**
baz=96,SNR=34
C12B Naegeli Ranch, 95.96 37 ⇊P **P 06 37 24.8 -0.5**
baz=96,SNR=14
T25A Trinidad 95.97 50 ⇊P **P 06 37 25.0 -0.6**
baz=96,SNR=17
DLMT Dillon 95.97 40 *e*P **P 06 37 25.8 +0.3**
comp=Z,55nm,1.1s,mb5.9
IMW Indian Meadow 95.98 42 *e*P **P 06 37 25.5 0.0**
comp=Z,68nm,1.3s,mb5.9
U26A Atchley Ranch, 95.99 51 ⇑P **P 06 37 24.8 -0.9**
baz=96,SNR=15
LOHW Long Hollow 96.00 42 *e*P **P 06 37 25.8 +0.2**
comp=Z,31nm,0.9s,mb5.7
MOOW Moose Ponds 96.00 42 *e*P **P 06 37 25.9 +0.3**
comp=Z,202nm,1.9s,mb6.2
PD01 Pinedale Array 96.08 43 *e*P **P 06 37 25.1 -0.8**
BW06 Boulder Array 96.08 43 ⇊P **P 06 37 25.5 -0.5**
baz=96,SNR=16
BW06 Boulder Array 96.08 43 *e*P **P 06 37 25.5 -0.5**
comp=Z,29nm,1.1s,mb5.6
BW06 LR LR
comp=Z,53μm,20.0s,MS7.0
D13A Huson 96.08 38 ⇓P **P 06 37 25.3 -0.6**
baz=96,SNR=14
PDAR Pinedale Array 96.08 43 P **P 06 37 25.5 -0.6**
comp=Z,7.4nm,0.7s,mb5.2,baz=201,slow=3.6,SNR=24
PDAR PP PP 06 41 24.6 +5.2
comp=Z,6.7nm,1.1s,baz=233,slow=4.7,SNR=3.9
PDAR PKKP PKKPbc 06 54 15.7 +1.4
comp=Z,4.7nm,0.6s,baz=86,slow=2.5,SNR=16
PDAR PKPPKP 07 02 21.9
comp=Z,1.1nm,1.0s,baz=99,slow=4.7,SNR=4.3
PDAR LR LR 07 14 48.6
comp=Z,45μm,19.3s,MS7.0,baz=239,slow=32
PDAR Pinedale Array 96.08 43 P **P 06 37 25.5 -0.5**
PDAR PP PP 06 41 24.6 +5.2
PDAR PKKP PKKPbc 06 54 15.7 +1.4
PDAR P'P' 07 02 21.9
J18A Kendall Valley 96.09 43 ⇑P **P 06 37 25.9 -0.1**
baz=96,SNR=24
PD02 Pinedale Array 96.09 43 *e*P **P 06 37 25.2 -0.8**
N21A Black Mountain 96.10 46 ⇓P **P 06 37 25.9 -0.2**
baz=96,SNR=10
M20A Sweetwater, Wa 96.13 45 ⇓P **P 06 37 26.1 -0.2**
baz=96,SNR=12
R24A Sanders Place, 96.14 49 ⇓P **P 06 37 25.8 -0.6**
baz=96,SNR=9.6
E14A Clinton 96.16 38 ⇓P **P 06 37 25.8 -0.4**
baz=96,SNR=18
MSO Missoula 96.18 38 ⇓P **P 06 37 26.2 -0.2**
baz=96,SNR=16
MSO Missoula 96.18 38 *e*P **P 06 37 26.2 -0.1**
comp=Z,27nm,1.1s,mb5.6
MSO LR LR
comp=Z,35μm,19.0s,MS6.9
I17A Pilgrim Ck. 96.20 42 ⇓P **P 06 37 26.3 -0.3**
baz=96
FLWY Flagg Ranch 96.23 42 *e*P **P 06 37 27.0 +0.4**
comp=Z,120nm,1.3s,mb6.2
S25A Robets Cordova 96.25 50 ⇑P **P 06 37 26.8 -0.2**
baz=96,SNR=20
QLMT Earthquake Lak 96.28 41 *e*P **P 06 37 27.8 +0.9**
H16A Russell Place, 96.31 41 ⇑P **P 06 37 27.1 +0.1**
baz=96,SNR=37
G16A Moss Hill, Enn 96.32 40 ⇑P **P 06 37 26.9 -0.1**
baz=96,SNR=20
F15A Butte 96.33 39 ⇑P **P 06 37 26.7 -0.3**
baz=96,SNR=11
P23A Jefferson 96.34 48 ⇓P **P 06 37 27.3 0.0**
baz=96
LRM Limekiln Ridge 96.34 39 *e*P **P 06 37 27.2 +0.2**
L20A Wamsutter 96.35 44 ⇑P **P 06 37 26.8 -0.4**
baz=96,SNR=33
O22A Kremmling 96.35 47 ⇓P **P 06 37 26.9 -0.3**
baz=96,SNR=15
YFT Old Faithful 96.38 41 *e*P **P 06 37 29.1 +1.8**
comp=Z,62nm,1.2s,mb5.9
B12A Libby 96.40 36 ⇑P **P 06 37 26.9 -0.4**
baz=97
C13A Hot Springs 96.40 37 ⇑P **P 06 37 26.8 -0.6**
baz=97
BSMT Bassoo Peak 96.40 37 *e*P **P 06 37 27.1 -0.2**
YMR Madison River 96.44 41 *e*P **P 06 37 28.1 +0.5**
comp=Z,304nm,1.7s,mb6.5
H17A Grant Village 96.49 41 ⇑P **P 06 37 27.6 -0.3**
baz=97
I18A Diamond G Ranc 96.50 42 ⇓P **P 06 37 27.4 -0.5**
baz=97,SNR=11
K19A Absolon Red Bu 96.54 43 ⇓P **P 06 37 26.8 -1.3**
baz=97,SNR=10.0
AMTX Amarillo 96.54 53 ⇓P **P 06 37 27.3 -1.0**
baz=97
AMTX Amarillo 96.54 53 PFAKE 06 37 40.0 +12
AMTX LR LR
comp=Z,31μm,20.0s,MS6.8
Q24A Divide 96.54 48 ⇓P **P 06 37 27.3 -0.9**
baz=97
D14A Greenough 96.58 38 ⇑P **P 06 37 27.2 -1.0**
baz=97,SNR=14
SWMT Swartz Lake 96.59 37 *e*P **P 06 37 28.0 -0.2**
JTMT Jette 96.60 37 *e*P **P 06 37 29.4 +1.2**
CHMT Chamberlain Mo 96.60 38 *e*P **P 06 37 27.8 -0.5**
E15A Deer Lodge 96.62 39 ⇑P **P 06 37 27.9 -0.5**
baz=97,SNR=9.6
R25A Fountain Ranch 96.63 49 ⇓P **P 06 37 27.9 -0.7**
baz=97
YNR Norris Junctio 96.63 41 *e*P **P 06 37 30.5 +2.1**
comp=Z,182nm,1.7s,mb6.2
A12A Yaak River Ran 96.67 36 ⇑P **P 06 37 28.1 -0.4**
baz=97
BOZ Bozeman (W) 96.68 40 ⇑P **P 06 37 28.3 -0.4**
baz=97,SNR=36
BOZ Bozeman (W) 96.68 40 *e*P **P 06 37 28.6 0.0**
comp=Z,42nm,1.1s,mb5.8
BOZ LR LR
comp=Z,26μm,20.0s,MS6.7
BOZ Bozeman (W) 96.68 40 *e*P **P 06 37 28.7 +0.1**
BOZ pmax pmax
comp=Z,42nm,1.1s,mb5.8
BOZ MLR MLR
comp=Z,26μm,20.0s,MS6.7
J19A Crowheart 96.68 43 ⇑P **P 06 37 28.3 -0.4**
baz=97,SNR=11
SLMT Seeley Lake 96.68 38 *e*P **P 06 37 27.8 -0.8**
LKWY Lake 96.70 41 *e*P **P 06 37 30.1 +1.4**
comp=Z,62nm,1.2s,mb5.9
LKWY LR LR
comp=Z,75μm,20.0s,MS7.2
LKWY Lake 96.70 41 *e*P **P 06 37 30.1 +1.4**
LKWY pmax pmax
comp=Z,62nm,1.2s,mb5.9
LKWY MLR MLR
comp=Z,75μm,20.0s,MS7.2
M21A Separation Pea 96.70 45 ⇓P **P 06 37 28.4 -0.5**
baz=97,SNR=11
SKAG Skagway 96.70 20 *e*P **P 06 37 30.2 +1.8**
comp=Z,136nm,1.5s,mb6.2
ISCO Idaho Springs 96.72 47 ⇑P **P 06 37 28.1 -0.9**
baz=97
ISCO Idaho Springs 96.72 47 *e*P **P 06 37 29.1 +0.1**
comp=Z,143nm,2.1s,mb6.0
ISCO LR LR
comp=Z,43μm,20.0s,MS6.9
ISCO Idaho Springs 96.72 47 *e*P **P 06 37 29.1 +0.1**
ISCO pmax pmax
comp=Z,143nm,2.1s,mb6.0
ISCO MLR MLR
comp=Z,43μm,20.0s,MS6.9
TRF Thorofare Moun 96.73 12 *e*P **P 06 37 27.5 -0.9**
comp=Z,77nm,1.0s,mb6.1
K20A Yellowstone Ra 96.73 44 ⇓P **P 06 37 28.2 -0.8**
baz=97,SNR=12
TNA Tin City 96.76 4 *e*P **P 06 37 28.2 -0.3**
comp=Z,25nm,1.0s,mb5.6
F16A Kennard Place, 96.77 40 ⇓P **P 06 37 28.9 -0.1**
baz=97,SNR=13
O23A Lake Granby, G 96.77 47 ⇑P **P 06 37 29.7 +0.5**
baz=97,SNR=15
N22A Wattenberg Ran 96.78 46 ⇑P **P 06 37 28.7 -0.5**
baz=97,SNR=8.5
TGUH Tegucigalpa,Un 96.81 78 *e*P **P 06 37 31.6 +1.6**
comp=Z,93nm,1.4s,mb6.0
TGUH LR LR
comp=Z,30μm,20.0s,MS6.8
RWWY Rawlins 96.84 45 *e*P **P 06 37 30.0 +0.5**
comp=Z,89nm,1.3s,mb6.0

JTS JuntasAbangare 96.87 82 *e*P **P 06 37 32.9 +2.6**
comp=Z,222nm,1.5s,mb6.4
JTS LR LR
comp=Z,26μm,19.0s,MS6.7
JTS JuntasAbangare 96.87 82 *e*P **P 06 37 32.9 +2.6**
JTS pmax pmax
comp=Z,222nm,1.5s
JTS MLR MLR
comp=Z,26μm,19.0s
C14A Swan Lake 96.89 37 ⇓P **P 06 37 29.2 -0.3**
baz=97
LPAZ La Paz 96.89 114 P **P 06 37 32.1 +1.7**
comp=Z,17nm,0.9s,mb5.5,baz=242,slow=2.9,SNR=36
LPAZ PKKP PKKPbc 06 54 13.8 +3.1
comp=Z,1.9nm,0.8s,baz=40,slow=4.6,SNR=3.8
LPAZ LR LR 07 14 24.3
comp=Z,18μm,20.4s,MS6.5,baz=223,slow=31
LPAZ La Paz 96.89 114 *e*P **P 06 37 32.2 +1.8**
comp=Z,49nm,0.9s,mb5.9
LPAZ PKKP PKKPbc 06 54 13.8 +3.1
LPAZ La Paz 96.89 114 P **P 06 37 32.1 +1.7**
LPAZ pmax pmax
comp=Z,17nm,0.9s
L21A Rawlins 96.90 45 ⇓P **P 06 37 29.8 0.0**
baz=97,SNR=9.1
B13A Whitefish 96.91 37 ⇓P **P 06 37 29.0 -0.6**
baz=97
G17A Pierce Place, 96.97 41 ⇑P **P 06 37 29.8 -0.1**
baz=97
M22A Cedar Creek Ra 97.05 46 ⇑P **P 06 37 29.7 -0.7**
baz=97
D15A Lincoln 97.07 38 ⇓P **P 06 37 30.1 -0.2**
baz=97,SNR=21
Q25A Bedland, Calha 97.09 49 ⇓P **P 06 37 30.1 -0.5**
baz=97
N23A Red Feather La 97.15 46 ⇓P **P 06 37 30.5 -0.4**
baz=97
I19A Meeteetse 97.18 42 ⇓P **P 06 37 31.0 +0.1**
baz=97,SNR=11
H18A Shoshone NF, C 97.18 42 ⇑P **P 06 37 30.8 -0.2**
baz=97,SNR=16
E16A East Helena 97.21 39 ⇓P **P 06 37 30.7 -0.3**
baz=97,SNR=10
MCK McKinley 97.23 12 *e*P **P 06 37 29.7 -1.0**
comp=Z,111nm,1.3s,mb6.1
MCK McKinley 97.23 12 *e*P **P 06 37 29.7 -1.0**
MCK pmax pmax
comp=Z,111nm,1.3s,mb6.1
O24A Longmont 97.25 47 ⇓P **P 06 37 31.1 -0.3**
baz=97
R26A Arlington 97.26 49 ⇓P **P 06 37 31.1 -0.3**
baz=97
A13A Flathead Natio 97.29 36 ⇓P **P 06 37 31.1 -0.2**
baz=98
J20A Shoshoni 97.30 43 ⇓P **P 06 37 31.3 -0.2**
baz=98,SNR=12
OTAV Otavalo 97.31 94 *e*P **P 06 37 34.6 +2.3**
comp=Z,120nm,1.8s,mb6.0
OTAV LR LR
comp=Z,23μm,19.0s,MS6.7
K21A Alcova 97.37 44 ⇑P **P 06 37 31.4 -0.5**
baz=98,SNR=16
F17A Fitzpatrick Pl 97.37 40 ⇑P **P 06 37 31.2 -0.5**
baz=98,SNR=12
CD2 Chengdu 97.38 302 ⇓*i*P **P 06 37 32.5 +0.3**
CD2 pP pP 06 37 43.0 +2.3
CD2 sP sP 06 37 46.8 +3.1
CD2 PP PP 06 41 31.7 +2.0
CD2 SKS 06 48 05.8
CD2 S S 06 48 50.1 -4.8
CD2 SS SS 06 55 31.9 -2.5
CD2 pmax pmax
comp=Z,90nm,1.8s,mb5.9
CD2 pmax pmax
comp=Z,6μm,12.0s
CD2 LR LR
comp=N,11μm,20.4s,MS6.5
CD2 LR LR
comp=E,10μm,21.6s,MS6.5
CD2 LR LR
comp=Z,9μm,19.2s,MS6.3
P25A Willow Gulch B 97.48 48 ⇓P **P 06 37 32.1 -0.3**
baz=98
C15A Salmond Ranch, 97.49 38 ⇑P **P 06 37 31.9 -0.4**
baz=98,SNR=11
L22A Ellis Ranch, M 97.51 45 ⇓P **P 06 37 31.9 -0.6**
baz=98
B14A Marquette Ranc 97.51 37 ⇓P **P 06 37 31.8 -0.5**
baz=98,SNR=15
DLBC Dease Lake 97.53 23 P **P 06 37 33.0 +0.9**
comp=Z,4.1nm,0.8s,mb5.0,baz=7.1,slow=7.6,SNR=5.2
DLBC PP PP 06 41 28.8 -1.4
comp=Z,16nm,1.1s,baz=229,slow=7.4,SNR=5.5
DLBC Dease Lake 97.53 23 *e*P **P 06 37 32.8 +0.6**
DLBC PP PP 06 41 28.8 -1.4
HHC Hu-ho-hao-te 97.54 313 *e*P **P 06 37 32.8 +0.1**
HHC pP pP 06 37 43.6 +2.4
HHC PP PP 06 41 32.7 +2.0
HHC SKS 06 48 05.9
HHC S S 06 48 51.9 -3.9
HHC sS sS 06 49 09.6 -0.4
HHC SS SS 06 55 35.0 -1.3
HHC pmax pmax
comp=Z,24nm,1.0s,mb5.7
HHC pmax pmax
comp=Z,3μm,8.4s
HHC LR LR
comp=N,6μm,18.6s,MS6.3
HHC LR LR
comp=E,7μm,18.5s,MS6.3
HHC LR LR
comp=Z,15μm,18.6s,MS6.5
H19A Powell 97.56 42 ⇑P **P 06 37 32.3 -0.3**
baz=98,SNR=12
D16A Dana Ranch, Ca 97.58 39 ⇓P **P 06 37 32.4 -0.3**
baz=98
E17A Martinsdale 97.61 40 ⇑P **P 06 37 32.5 -0.3**
baz=98,SNR=9.3
M23A Laramie 97.62 46 ⇓P **P 06 37 32.1 -0.9**
baz=98
G18A Lazy EL Ranch, 97.63 41 ⇑P **P 06 37 32.5 -0.4**
baz=98,SNR=11
I20A Worland 97.63 43 ⇓P **P 06 37 32.3 -0.7**
baz=98
WALA Waterton Lakes 97.63 36 *e*P **P 06 37 33.7 +0.9**
comp=Z,5.9nm,1.9s,mb4.8
J21A Lysite 97.67 44 ⇑P **P 06 37 32.7 -0.5**
baz=98,SNR=13
RLMT Red Lodge 97.67 41 ⇓P **P 06 37 32.7 -0.4**
baz=98
RLMT Red Lodge 97.67 41 *e*P **P 06 37 32.9 -0.2**
comp=Z,369nm,2.5s,mb6.5
RLMT LR LR
comp=Z,43μm,20.0s,MS6.9
PHWY Pilot Hill 97.69 46 *e*P **P 06 37 34.8 +1.5**
comp=Z,61nm,1.7s,mb5.8
K22A Casper 97.81 45 ⇑P **P 06 37 33.1 -0.7**
baz=98,SNR=14
A14A Double T Ranch 97.82 37 ⇑P **P 06 37 33.6 -0.1**
baz=98,SNR=14
B15A Bradely Ranch, 97.85 37 ⇓P **P 06 37 33.1 -0.8**
baz=98
GCMT Greycliff 97.85 41 *e*P **P 06 37 34.1 +0.2**
comp=Z,47nm,1.4s,mb5.8
F18A Big Timber 97.90 41 ⇑P **P 06 37 33.6 -0.6**
baz=98,SNR=14
C16A Fuhringer Ranc 97.96 38 ⇓P **P 06 37 33.8 -0.5**
baz=98,SNR=15
L23A Garrett 98.00 45 ⇑P **P 06 37 33.8 -0.9**
baz=98
H20A Greybull 98.02 42 ⇓P **P 06 37 34.3 -0.5**
baz=98,SNR=10
I21A Big Trails, Te 98.04 43 ⇑P **P 06 37 34.3 -0.5**
baz=98,SNR=18
HKT Hockley 98.08 60 *e*P **P 06 37 36.4 +1.1**
comp=Z,130nm,1.8s,mb6.2
HKT Hockley 98.08 60 *e*P **P 06 37 36.4 +1.0**
HKT pmax pmax
comp=Z,130nm,1.8s,mb6.2
DOT Dot Lake 98.10 14 *e*P **P 06 37 33.2 -1.4**
comp=Z,29nm,1.4s,mb5.6
D17A Six Diamond Ra 98.12 39 ⇑P **P 06 37 34.8 -0.3**
baz=98,SNR=14
M24A Cheyenne 98.17 46 ⇓Pdiff **P 06 37 35.4 0.0**
baz=98
A15A Johnson Ranch, 98.18 37 ⇓Pdiff **P 06 37 35.2 -0.1**
baz=98

E18A Harlowton 98.19 40 ⇑Pdiff **P 06 37 35.6 +0.2**
baz=98
J22A Midwest 98.28 44 ⇑Pdiff **P 06 37 35.7 -0.3**
baz=98
F19A Roth Farm, Mol 98.30 41 ⇓Pdiff **P 06 37 35.8 -0.1**
baz=98
G20A Bridger 98.33 42 ⇓Pdiff **P 06 37 35.6 -0.5**
baz=98
B16A M & M Farms, S 98.36 38 ⇓Pdiff **P 06 37 35.7 -0.4**
baz=98
BTO Baotou 98.37 313 *e*P **P 06 37 36.9 +0.5**
C17A Wharram Farm, 98.38 39 ⇓Pdiff **P 06 37 36.6 +0.3**
baz=99
K23A Bowen Ranch, D 98.42 45 ⇓Pdiff **P 06 37 36.6 +0.1**
baz=99
O26A Horse Wrangler 98.43 48 ⇑Pdiff **P 06 37 36.2 -0.5**
baz=99
L24A Wheatland 98.43 46 ⇓Pdiff **P 06 37 36.1 -0.5**
baz=99
WMOK Wichita Mounta 98.46 55 *e*P **P 06 37 37.5 +0.5**
comp=Z,60nm,2.0s,mb5.8
WMOK LR LR
comp=Z,26μm,20.0s,MS6.7
WMOK Wichita Mounta 98.46 55 *e*P **P 06 37 37.5 +0.5**
WMOK pmax pmax
comp=Z,60nm,2.0s,mb5.8
WMOK MLR MLR
comp=Z,26μm,20.0s,MS6.7
COLA College 98.47 12 *e*P **P 06 37 34.6 -1.6**
comp=Z,61nm,1.1s,mb6.0
COLA LR LR
comp=Z,16μm,22.0s,MS6.5
COLA College 98.47 12 *e*P **P 06 37 34.6 -1.6**
COLA pmax pmax
comp=Z,61nm,1.1s,mb6.0
COLA MLR MLR
comp=Z,16μm,22.0s,MS6.5
ILAR Eielson Array 98.55 13 P **P 06 37 35.4 -1.2**
comp=Z,12nm,0.9s,mb5.4,baz=220,slow=5.2,SNR=43
ILAR PP PP 06 41 34.5 -3.3
comp=Z,14nm,1.1s,baz=217,slow=6.9,SNR=5.1
ILAR PKiKP PKiKP 06 42 09.5 +1.3
comp=Z,7.6nm,0.7s,baz=276,slow=2.5,SNR=15
ILAR PKKPbc PKKPbc 06 54 08.6 +0.4
comp=Z,3.1nm,0.9s,baz=316,slow=2.9,SNR=6.4
ILAR PKPPKP 07 02 23.6
comp=Z,0.6nm,0.9s,baz=348,slow=2.2,SNR=5.3
ILAR Eielson Array 98.55 13 P **P 06 37 35.4 -1.2**
ILAR PP PP 06 41 34.5 -3.3
ILAR PKiKP PKiKP 06 42 09.5 +1.3
ILAR PKKPbc PKKPbc 06 54 08.6 +0.4
ILAR P'P' 07 02 23.6
ILAR Eielson Array 98.55 13 P **P 06 37 35.4 -1.2**
ILAR 06 41 34.6
ILAR pmax pmax
comp=Z,12nm,0.9s
ILAR pmax pmax
comp=Z,15nm,1.1s
I22A 9 Mile Ranch, 98.56 44 ⇓Pdiff **P 06 37 37.3 +0.1**
baz=99
D18A Linhart Farms, 98.63 39 ⇑Pdiff **P 06 37 37.1 -0.3**
baz=99
M25A Palm-Egli Farm 98.63 47 ⇑Pdiff **P 06 37 36.5 -1.1**
baz=99
H21A Big Horn, Sher 98.66 43 ⇑Pdiff **P 06 37 37.8 +0.2**
baz=99
CPUP Villa Florida 98.68 128 P **P 06 37 39.4 +1.1**
comp=Z,9.0nm,0.9s,mb5.3,baz=246,slow=4.8,SNR=15
CPUP PKKP PKKPbc 06 54 06.1 +0.2
comp=Z,5.7nm,0.8s,baz=56,slow=3.2,SNR=14
CPUP PKPPKP 07 02 20.4
comp=Z,2.5nm,0.9s,baz=354,slow=7.3,SNR=3.2
CPUP LR LR 07 17 04.4
comp=Z,35μm,18.2s,MS6.9,baz=217,slow=32
CPUP Villa Florida 98.68 128 *e*P **P 06 37 39.6 +1.3**
comp=Z,57nm,0.9s,mb6.1
CPUP P'P' 07 02 20.4
CPUP Villa Florida 98.68 128 P **P 06 37 39.4 +1.1**
CPUP pmax pmax
comp=Z,9.0nm,0.9s
A16A West Butte Ran 98.75 37 ⇑Pdiff **P 06 37 37.8 0.0**
baz=99
E19A Rath Farm, Rou 98.75 40 ⇑Pdiff **P 06 37 38.2 +0.3**
baz=99
B17A L&G Farms, Che 98.76 38 ⇓Pdiff **P 06 37 37.9 -0.1**
baz=99
J23A Dilts Ranch, B 98.83 44 ⇑Pdiff **P 06 37 37.5 -0.9**
baz=99
K24A Anderson Ranch 98.89 45 ⇑Pdiff **P 06 37 37.7 -0.9**
baz=99
G21A Lodge Grass 98.91 42 ⇑Pdiff **P 06 37 38.9 +0.2**
baz=99
H22A Clearmont 99.04 43 ⇓Pdiff **P 06 37 39.1 -0.1**
baz=99
TEIG Tepich 99.06 72 PFAKE 06 37 50.0 +10
TEIG LR LR
comp=Z,14μm,21.0s,MS6.5
L25A Engebretsen Ra 99.09 46 ⇓Pdiff **P 06 37 38.6 -0.9**
baz=99
D19A Cripps Ranch, 99.11 40 ⇑Pdiff **P 06 37 39.8 +0.3**
baz=99
E20A Meyer Farm, Mu 99.14 41 ⇑Pdiff **P 06 37 39.8 +0.1**
baz=99
EGMT Eagleton 99.15 39 ⇓Pdiff **P 06 37 40.0 +0.3**
baz=99
EGMT Eagleton 99.15 39 *e*P **P 06 37 40.5 +0.8**
comp=Z,282nm,2.2s,mb6.4
EGMT LR LR
comp=Z,50μm,20.0s,MS7.0
A17A Triple J Farms 99.21 38 ⇓Pdiff **P 06 37 40.0 +0.1**
baz=99
J24A Dixon Ranch, L 99.32 45 ⇑Pdiff **P 06 37 40.0 -0.5**
baz=100
C19A Slack Wire Ran 99.36 39 ⇓Pdiff **P 06 37 40.8 +0.2**
baz=100
B18A Beardsley Farm 99.36 38 ⇑Pdiff **P 06 37 40.8 +0.2**
baz=100
K25A Mack Ranch, Ha 99.40 46 ⇓Pdiff **P 06 37 41.0 +0.1**
baz=100
G22A Birney 99.43 43 ⇓Pdiff **P 06 37 41.0 0.0**
baz=100
D20A Manuel Ranch, 99.48 40 ⇑Pdiff **P 06 37 41.4 +0.3**
baz=100
DAWY Dawson 99.49 16 *e*P **P 06 37 40.8 0.0**
DAWY *e*PP PP 06 41 41.1 -4.0
L26A Underwood Farm 99.57 46 ⇓Pdiff **P 06 37 41.5 -0.2**
baz=100
I24A Kuemmerle Ranc 99.64 44 ⇑Pdiff Pdif 06 37 42.1 -0.1
baz=100
A18A Metzger Ranch, 99.64 38 ⇓Pdiff Pdif 06 37 41.8 -0.4
baz=100
EGAK Eagle 99.71 15 *e*P Pdif 06 37 40.9 -1.7
comp=Z,16nm,0.9s
EGAK LR LR
comp=Z,15μm,20.0s,MS6.5
E21A Keefer Ranch, 99.75 41 ⇓Pdiff Pdif 06 37 42.7 0.0
baz=100
F22A Rosebud 99.78 42 ⇑Pdiff Pdif 06 37 42.8 0.0
baz=100
BILL Bilibino 99.81 354 *e*P Pdif 06 37 41.8 -1.1
comp=Z,19nm,1.0s
BILL *e*PP PP 06 41 45.5 -1.9
BILL LR LR
comp=Z,20μm,22.0s,MS6.6
BILL Bilibino 99.81 354κ *i*P Pdif 06 37 41.2 -1.7
BILL *e**PP 06 37 51.2
BILL *e**SP 06 37 54.7
BILL *e* 06 41 47.2
BILL *e* 06 48 20.7
BILL *e* 06 49 22.0
BILL *e*PS PS 06 50 46.6 +1.1
BILL *e*SS SS 06 56 08.8 +1.9
BILL pmax pmax
comp=Z,13nm,1.2s,mb5.2
B19A Brinkman Farms 99.84 39 ⇓Pdiff Pdif 06 37 43.2 +0.1
baz=100
NATX Nacogdoches 99.87 59 PFAKE 06 37 50.0 +6.8
NATX LR LR
comp=Z,41μm,19.0s,MS7.0
K26A Motz Farm, Whi 99.88 46 ⇑Pdiff Pdif 06 37 43.1 -0.1
baz=100
G23A Biddle 99.95 43 ⇓Pdiff Pdif 06 37 43.3 -0.3
baz=100
CBKS Cedar Bluff 99.97 51 PFAKE 06 38 00.0 +16
CBKS LR LR
comp=Z,41μm,20.0s,MS6.9
LZH Lanzhou 100.03 306 *e*P Pdif 06 37 44.0 +0.1

LZH				pP			06 37 48.9	
LZH				sP			06 37 51.8	
LZH				PP	PP		06 41 46.1	-3.7
LZH				SKS			06 48 23.5	
LZH				eS	Sdif		06 49 12.3	-4.7
LZH				SS	SS		06 56 10.2	-1.1
LZH				pmax	pmax			
	comp=Z,37nm,1.0s							
LZH				pmax	pmax			
	comp=Z,350nm,5.5s							
LZH				LR	LR			
	comp=N,3μm,14.7s,MS6.4							
LZH				LR	LR			
	comp=E,10μm,17.9s,MS6.4							
LZH				LR	LR			
	comp=Z,15μm,18.2s,MS6.5							
LZH	**Lanzhou**	**100.03**	**306**	*e*P	Pdif		06 37 44.0	+0.1
	comp=Z,37nm,1.0s							
LZH				pP			06 37 48.9	
LZH				sP			06 37 51.8	
LZH				PP	PP		06 41 46.1	-3.7
LZH				PPP			06 44 06.5	
LZH				SKS			06 48 23.5	
LZH				eS	Sdif		06 49 12.3	-4.7
LZH				sS	sS		06 49 21.2	-10
LZH				SS	SS		06 56 10.2	-1.1
LZH				LR	LR			
	comp=Z,15μm,18.2s,MS6.5							
LZH	**Lanzhou**	**100.03**	**306**	*e*P	Pdif		06 37 44.0	+0.1
LZH				*SP			06 37 51.8	
LZH							06 41 46.1	
LZH				PPP			06 44 06.5	
LZH							06 48 23.5	
LZH				eS	Sdif		06 49 12.3	-4.7
LZH				*SS	sS		06 49 21.2	-10
LZH				SS	SS		06 56 10.2	-1.1
LZH				pmax	pmax			
	comp=Z,37nm,1.0s							
LZH				MLR	MLR			
	comp=Z,15μm,18.2s,MS6.5							
D21A	**La Casta Ranch**	**100.10**	**41**	⇓Pdiff	Pdif		06 37 44.3	+0.1
	baz=100							
RSSD	**Black Hills**	**100.14**	**44**	*e*Pdif	Pdif		06 37 44.2	-0.3
RSSD	**Black Hills**	**100.14**	**44**	*e*P	Pdif		06 37 44.2	-0.2
H24A	**Dirks Ranch, A**	**100.18**	**44**	⇑Pdiff	Pdif		06 37 44.7	+0.1
	baz=100							
A19A	**Klindworth Far**	**100.23**	**38**	⇑Pdiff	Pdif		06 37 44.6	-0.2
	baz=100							
F23A	**Volborg**	**100.23**	**42**	⇑Pdiff	Pdif		06 37 45.0	+0.2
	baz=100							
LAO	**LASA Array**	**100.32**	**41**	⇑Pdiff	Pdif		06 37 45.7	+0.4
	baz=100							
LAO	**LASA Array**	**100.32**	**41**	*e*Pdif	Pdif		06 37 45.6	+0.4
	comp=Z,331nm,2.0s							
LAO				LR	LR			
	comp=Z,27μm,19.0s,MS6.8							
E22A	**Miles City**	**100.33**	**42**	⇓Pdiff	Pdif		06 37 45.7	+0.4
	baz=100							
B20A	**Solberg Farm,**	**100.33**	**39**	⇓Pdiff	Pdif		06 37 45.7	+0.4
	baz=100							
K27A	**Flueckinger Fa**	**100.46**	**46**	⇑Pdiff	Pdif		06 37 45.8	0.0
	baz=101							
C21A	**Desert Coulee**	**100.48**	**40**	⇓Pdiff	Pdif		06 37 46.3	+0.3
	baz=101							
G24A	**Alzada**	**100.59**	**43**	⇓Pdiff	Pdif		06 37 46.8	+0.3
	baz=101							
CLNS	**Chul'man**	**100.59**	**332**	*e*P	Pdif		06 37 45.7	-0.7
CLNS				pmax	pmax			
	comp=Z,25nm,1.1s							
CLNS				pmax	pmax			
	comp=E,10.0nm,1.0s							
CLNS				pmax	pmax			
	comp=N,19nm,1.2s							
CLNS				MLR	MLR			
	comp=Z,12μm,21.0s,MS6.4							
CLNS				MLR	MLR			
	comp=N,8μm,17.0s,MS6.4							
CLNS				MLR	MLR			
	comp=E,7μm,18.0s,MS6.4							
D22A	**Cohagen**	**100.60**	**41**	⇑Pdiff	Pdif		06 37 47.0	+0.6
	baz=101							
A20A	**Cobblestone Ra**	**100.64**	**39**	⇓Pdiff	Pdif		06 37 47.1	+0.4
	baz=101							
BCIP	**Isla Barro Col**	**100.66**	**86**	PFAKE			06 38 00.0	+13
BCIP				LR	LR			
	comp=Z,36μm,21.0s,MS6.9							
E23A	**Ismay**	**100.73**	**42**	⇓Pdiff	Pdif		06 37 47.7	+0.7
	baz=101							
F24A	**Ekalaka**	**100.86**	**43**	⇓Pdiff	Pdif		06 37 48.1	+0.4
	baz=101							
B21A	**Ellsworth Farm**	**100.87**	**40**	⇓Pdiff	Pdif		06 37 48.1	+0.4
	baz=101							
C22A	**Vida**	**101.11**	**41**	⇑Pdiff	Pdif		06 37 49.2	+0.4
	baz=101							
D23A	**Lindsay**	**101.16**	**41**	⇑Pdiff	Pdif		06 37 49.5	+0.6
	baz=101							
A21A	**Bergtoll Ranch**	**101.24**	**39**	⇓Pdiff	Pdif		06 37 49.5	+0.2
	baz=101							
B22A	**Reddig Ranch S**	**101.36**	**40**	⇓Pdiff	Pdif		06 37 50.3	+0.4
	baz=102							
C23A	**Lambert**	**101.53**	**41**	⇓Pdiff	Pdif		06 37 51.1	+0.5
	baz=102							
D24A	**Glendive**	**101.63**	**42**	⇑Pdiff	Pdif		06 37 51.9	+0.8
	baz=102							
A22A	**Carney Farms,**	**101.79**	**39**	⇑Pdiff	Pdif		06 37 52.3	+0.5
	baz=102							
C24A	**Savage**	**101.81**	**41**	⇑Pdiff	Pdif		06 37 51.6	-0.2
	baz=102							
B23A	**Brockton**	**102.00**	**40**	⇓Pdiff	Pdif		06 37 53.3	+0.5
	baz=102							
MIAR	**Mount Ida**	**102.05**	**57**	PFAKE			06 38 00.0	+7.1
MIAR				LR	LR			
	comp=Z,35μm,20.0s,MS6.9							
KSU1	**Kansas State U**	**102.21**	**52**	PFAKE			06 38 10.0	+16
KSU1				LR	LR			
	comp=Z,36μm,20.0s,MS6.9							
A23A	**Redstone**	**102.34**	**40**	⇓Pdiff	Pdif		06 37 54.2	0.0
	baz=102							
BGNE	**Belgrade**	**102.36**	**49**	⇑Pdiff	Pdif		06 37 54.4	+0.1
	baz=102							
YAK	**Yakutsk**	**102.42**	**337**	PFAKE			06 38 10.0	+15
YAK				LR	LR			
	comp=Z,15μm,21.0s,MS6.5							
YAK	**Yakutsk**	**102.42**	**337**	*e*P	Pdif		06 37 51.7	-2.9
YAK				*e*			06 42 05.8	
YAK				pmax	pmax			
	comp=Z,31nm,1.2s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.2s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.2s							
YAK				pmax	pmax			
	comp=Z,31nm,0.9s							
DGMT	**Dagmar**	**102.45**	**41**	⇓Pdiff	Pdif		06 37 54.9	+0.2
	baz=103							
DGMT	**Dagmar**	**102.45**	**41**	*e*Pdif	Pdif		06 37 56.0	+1.4
	comp=Z,492nm,2.4s							
DGMT				LR	LR			
	comp=Z,24μm,20.0s,MS6.7							
CIT	**Chita**	**102.80**	**324**	*e*P	Pdif		06 37 56.2	-0.1
A24A	**Westby**	**102.81**	**40**	⇓Pdiff	Pdif		06 37 56.3	0.0
	baz=103							
VBMS	**Vicksburg**	**103.16**	**60**	PFAKE			06 38 10.0	+12
VBMS				LR	LR			
	comp=Z,25μm,20.0s,MS6.7							
ROSC	**El Rosal**	**103.20**	**92**	Pdiff	Pdif		06 38 01.1	+3.1
	comp=Z,1.2nm,0.4s,baz=131,slow=16,SNR=5.9							
ROSC				PP	PP		06 42 18.1	+4.2
	comp=Z,2.1nm,0.3s,baz=99,slow=19,SNR=5.2							
ROSC				PKKP	PKKPbc		06 53 58.5	+5.7
	comp=Z,4.6nm,0.7s,baz=72,slow=3.2,SNR=3.1							
ROSC	**El Rosal**	**103.20**	**92**	*e*Pdif	Pdif		06 38 01.9	+3.9
ROSC				PP	PP		06 42 18.1	+4.2
ROSC				PKKP	PKKPbc		06 53 58.5	+5.7
DGAR	**Diego Garcia**	**103.53**	**253**	PFAKE			06 38 10.0	+11
DGAR				LR	LR			
	comp=Z,25μm,20.0s,MS6.8							
ULN	**Ulaanbaatar**	**104.08**	**318**	*e*Pdif	Pdif		06 38 03.0	+1.1
	comp=Z,25nm,0.9s							
ULN				LR	LR			
	comp=Z,14μm,20.0s,MS6.5							
ULN	**Ulaanbaatar**	**104.08**	**318**	*e*P	Pdif		06 38 03.0	+1.1
ULN				pmax	pmax			
	comp=Z,25nm,0.9s							
ULN				MLR	MLR			
	comp=Z,14μm,20.0s,MS6.5							
ULN	**Ulaanbaatar**	**104.08**	**318**	P	Pdif		06 38 01.9	0.0
	SNR=13							
INK	**Inuvik**	**104.35**	**15**	Pdiff	Pdif		06 38 03.7	+0.5
	comp=Z,4.2nm,0.9s,baz=211,slow=7.0,SNR=5.2							
INK				PP	PP		06 42 19.5	-2.0
	comp=Z,12nm,1.0s,baz=217,slow=5.6,SNR=6.5							
INK				PKKPbc	PKKPbc		06 53 51.0	-0.3
	comp=Z,1.9nm,0.8s,baz=46,slow=6.2,SNR=3.4							
INK	**Inuvik**	**104.35**	**15**	*e*Pdif	Pdif		06 38 02.8	-0.4
	comp=Z,59nm,1.7s							
INK				PP	PP		06 42 19.5	-2.0
INK				PKKPbc	PKKPbc		06 53 51.0	-0.3
INK	**Inuvik**	**104.35**	**15**	*e*P	Pdif		06 38 02.8	-0.3
INK							06 42 19.5	
INK				pmax	pmax			
	comp=Z,59nm,1.7s							
SONM	**Songino Array**	**104.44**	**317**	Pdiff	Pdif		06 38 02.7	-0.9
	comp=Z,2.8nm,0.9s,baz=136,slow=2.3,SNR=12							
SONM				PKiKP	PKiKP		06 42 20.1	+0.8
	comp=Z,3.5nm,0.7s,baz=148,slow=1.9,SNR=3.9							
SONM				PKKPbc	PKKPbc		06 53 51.4	+1.1
	comp=Z,3.8nm,0.8s,baz=275,slow=2.6,SNR=9.6							
SONM	**Songino Array**	**104.44**	**317**	Pdif	Pdif		06 38 02.7	-0.9
SONM				PKiKP	PKiKP		06 42 20.1	+0.8
SONM				PKKPbc	PKKPbc		06 53 51.4	+1.1
SONM	**Songino Array**	**104.44**	**317**	P	Pdif		06 38 02.7	-0.9
SONM				*i*			06 42 20.1	
SONM				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SONM				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ECSD	**EROS Data Cent**	**104.51**	**48**	*e*Pdif	Pdif		06 38 04.3	+0.4
	comp=Z,174nm,2.1s							
ECSD				LR	LR			
	comp=Z,40μm,20.0s,MS7.0							
MDND	**Maddock**	**104.74**	**43**	⇑Pdiff	Pdif		06 38 05.4	+0.5
	baz=105							
OXF	**Oxford**	**105.05**	**59**	PFAKE			06 42 30.0	+9.1
OXF				LR	LR			
	comp=Z,41μm,20.0s,MS7.0							
BRAL	**Brewton**	**105.20**	**63**	PFAKE			06 42 30.0	+8.7
BRAL				LR	LR			
	comp=Z,11μm,21.0s,MS6.4							
CAL	**Calcutta**	**105.27**	**287**	*e*PKP	Pdif		06 38 04.5	-2.8
CAL				*ex*	x		06 42 32.8	
YKA	**Yellowknife Ar**	**105.80**	**25**	Pdiff	Pdif		06 38 08.4	-1.1
	comp=Z,1.6nm,1.0s,baz=232,slow=4.6,SNR=9.3							
YKA				PKiKP	PKiKP		06 42 21.9	+0.5
	comp=Z,5.2nm,0.7s,baz=252,slow=1.4,SNR=18							
YKA				PKKPbc	PKKPbc		06 53 46.2	-0.4
	comp=Z,2.8nm,0.7s,baz=38,slow=3.1,SNR=15							
YKA				PKPPKP			07 02 06.0	
	comp=Z,0.5nm,0.8s,baz=63,slow=2.1,SNR=4.0							
YKA	**Yellowknife Ar**	**105.80**	**25**	Pdif	Pdif		06 38 08.4	-1.1
YKA				PKiKP	PKiKP		06 42 21.9	+0.5
YKA				PKKPbc	PKKPbc		06 53 46.2	-0.4
YKA				P'P'			07 02 06.0	
YKA	**Yellowknife Ar**	**105.80**	**25**	P	Pdif		06 38 08.4	-1.2
YKA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SCIA	**State Center**	**105.83**	**50**	PFAKE			06 42 30.0	+7.9
SCIA				LR	LR			
	comp=Z,33μm,20.0s,MS6.9							
BOD	**Bodaibo**	**105.85**	**329**	*e*P	Pdif		06 38 07.6	-2.2
BOD				pmax	pmax			
	comp=Z,9.0nm,2.0s							
PLAL	**Pickwick Lake**	**106.25**	**59**	PFAKE			06 42 30.0	+6.9
PLAL				LR	LR			
	comp=Z,55μm,20.0s,MS7.1							
FFC	**Flin Flon**	**106.92**	**36**	PFAKE			06 42 40.0	+16
FFC				LR	LR			
	comp=Z,26μm,20.0s,MS6.8							
MTDJ	**Mount Denham**	**107.00**	**79**	PFAKE			06 42 40.0	+15
MTDJ				LR	LR			
	comp=Z,34μm,21.0s,MS6.9							
SPB	**Sao Paulo**	**107.06**	**132**	PFAKE			06 42 40.0	+15
SPB				LR	LR			
	comp=Z,48μm,19.0s,MS7.1							
AGMN	**Agassiz Nation**	**107.15**	**44**	PFAKE			06 42 40.0	+16
AGMN				LR	LR			
	comp=Z,41μm,20.0s,MS7.0							
VIS	**Vishakhapatnam**	**107.18**	**281**	*ex*	x		06 42 29.7	
VIS				AMS	AMS		07 31 20.5	
	comp=Z,9μm,14.7s,MS6.5							
RER	**Riviere de l'E**	**107.47**	**231**	PFAKE			06 42 40.0	+14
RER				LR	LR			
	comp=Z,17μm,20.0s,MS6.6							
ZAK	**Zakamensk**	**107.47**	**319**	*e*P	Pdif		06 38 18.7	+1.7
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.1s							
TLY	**Talaya**	**107.88**	**320**	PFAKE			06 42 40.0	+14
TLY				LR	LR			
	comp=Z,8μm,20.0s,MS6.3							
TLY	**Talaya**	**107.88**	**320**	*e*P	Pdif		06 38 19.1	+0.3
TLY				*e*SS	SS		06 58 07.0	+8.4
TLY				pmax	pmax			
	comp=Z,8.0nm,1.2s							
TAPN	**Taplejung**	**107.95**	**291**	*e*P	Pdif		06 38 21.8	+2.7
	comp=Z,62nm,1.3s							
TAPN	**Taplejung**	**107.95**	**291**	*e*P	Pdif		06 38 21.8	+2.7
	comp=Z,62nm,1.3s							
ODAN	**Odare**	**107.99**	**291**	*e*P	Pdif		06 38 21.5	+2.2
	comp=Z,32nm,0.8s							
ODAN	**Odare**	**107.99**	**291**	*e*P	Pdif		06 38 21.5	+2.2
	comp=Z,32nm,0.8s							
ULM	**Lac du Bonnet**	**108.05**	**42**	PKiKP	PKiKP		06 42 26.3	+0.3
	comp=Z,8.2nm,0.8s,baz=280,slow=3.3,SNR=9.5							
ULM				PKKPbc	PKKPbc		06 53 39.0	-0.2
	comp=Z,4.1nm,0.8s,baz=124,slow=5.8,SNR=4.1							
ULM	**Lac du Bonnet**	**108.05**	**42**	PKiKP	PKiKP		06 42 26.3	+0.3
ULM				PKKPbc	PKKPbc		06 53 39.0	-0.2
ULM				LR	LR			
	comp=Z,41μm,20.0s,MS7.0							
JFWS	**Jewell Farm**	**108.25**	**51**	PFAKE			06 42 40.0	+13
JFWS				LR	LR			
	comp=Z,30μm,20.0s,MS6.8							
SDV	**Santo Domingo**	**108.40**	**91**	PFAKE			06 42 40.0	+12
SDV				LR	LR			
	comp=Z,8μm,19.0s,MS6.3							
RAMN	**Ramite**	**108.66**	**291**	*e*P	Pdif		06 38 24.5	+2.2
	comp=Z,11nm,0.6s							
RAMN	**Ramite**	**108.66**	**291**	*e*P	Pdif		06 38 24.5	+2.2
	comp=Z,11nm,0.6s							
WCI	**Wyandotte Cave**	**108.95**	**56**	*e*PKPdf	PKiKP		06 42 26.9	-1.1
GOGA	**Godfrey**	**108.99**	**62**	*e*PKPdf	PKiKP		06 42 28.8	+0.5
GOGA				*e*PP	PP		06 42 54.9	-1.6
GOGA				LR	LR			
	comp=Z,24μm,20.0s,MS6.8							
JIRN	**Jiri**	**109.30**	**291**	*e*P	Pdif		06 38 28.3	+3.2
	comp=Z,5.5nm,0.7s							
JIRN	**Jiri**	**109.30**	**291**	*e*P	Pdif		06 38 28.3	+3.2
EYMN	**Ely**	**109.62**	**45**	PFAKE			06 42 40.0	+11
EYMN				LR	LR			
	comp=Z,48μm,20.0s,MS7.1							
GUN	**Gumba**	**109.66**	**291**	*e*P	Pdif		06 38 30.3	+3.6
	comp=Z,43nm,1.0s							
GUN	**Gumba**	**109.66**	**291**	*e*P	Pdif		06 38 30.3	+3.6
GTBY	**Guantanamo Bay**	**109.81**	**78**	PFAKE			06 42 40.0	+10
GTBY				LR	LR			
	comp=Z,14μm,19.0s,MS6.6							
PKI	**Pulchoki**	**109.89**	**291**	*e*P	Pdif		06 38 31.1	+3.3
	comp=Z,17nm,0.6s							
PKI	**Pulchoki**	**109.89**	**291**	*e*P	Pdif		06 38 31.1	+3.3
PKI	**Pulchoki**	**109.89**	**291**	*e*P	Pdif		06 38 31.1	+3.3
KKN	**Kakani**	**110.08**	**291**	*e*P	Pdif		06 38 32.3	+3.7
	comp=Z,34nm,0.8s							
KKN	**Kakani**	**110.08**	**291**	*e*P	Pdif		06 38 32.3	+3.7
KKN	**Kakani**	**110.08**	**291**	*e*P	Pdif		06 38 32.3	+3.7
DMN	**Daman**	**110.14**	**291**	*e*P	Pdif		06 38 32.7	+3.8
	comp=Z,376nm,2.3s							
DMN	**Daman**	**110.14**	**291**	*e*P	Pdif		06 38 32.7	+3.8
TRIS	**Tristan da Cun**	**110.50**	**167**	PFAKE			06 42 40.0	+8.8
TRIS				LR	LR			
	comp=Z,18μm,22.0s,MS6.6							
GKN	**Gorkha**	**110.69**	**291**	*e*P	Pdif		06 38 34.8	+3.5
	comp=Z,36nm,1.1s							
GKN	**Gorkha**	**110.69**	**291**	*e*P	Pdif		06 38 34.8	+3.5
HYB	**Hyderabad**	**111.08**	**278**	*i* Pdiff	Pdif		06 38 32.0	-1.1
HYB				*e*			06 42 36.0	
HYB				*e*PP	PP		06 43 12.0	+0.2
HYB				*e*			06 45 40.0	
HYB				*e*SKS	SKSac		06 49 12.0	+0.7
HYB				*e*			06 49 54.0	
HYB				*e*SP	SP		06 52 40.0	-0.2
HYB				*e*PKKP	PKKPbc		06 53 39.5	+11
KMSC	**Kings Mountain**	**111.31**	**61**	⇑Pdiff	PKiKP		06 42 32.7	+0.1
	baz=112							
NHSC	**New Hope**	**111.36**	**64**	PFAKE			06 42 40.0	+7.2
NHSC				LR	LR			
	comp=Z,16μm,20.0s,MS6.6							
KOLN	**Koldanda**	**111.42**	**290**	*e*P	Pdif		06 38 38.6	+4.0
	comp=Z,16nm,0.8s							
KOLN	**Koldanda**	**111.42**	**290**	*e*P	Pdif		06 38 38.6	+4.0
DANN	**Dangsing**	**111.53**	**291**	*e*P	Pdif		06 38 39.3	+4.2
	comp=Z,22nm,0.7s							
DANN	**Dangsing**	**111.53**	**291**	*e*P	Pdif		06 38 39.3	+4.2
ACSO	**Alum Creek Sta**	**112.12**	**56**	PFAKE			06 42 50.0	+16
ACSO				LR	LR			
	comp=Z,53μm,20.0s,MS7.1							
NGP	**Nagpur**	**112.33**	**282**	⇓*ex*	PP		06 43 17.8	-3.0
NGP				*ex*	x		06 53 10.6	
AAM	**Ann Arbor**	**112.44**	**53**	PFAKE			06 42 50.0	+15
AAM				LR	LR			
	comp=Z,24μm,20.0s,MS6.8							
SDDR	**Presa de Saban**	**112.61**	**81**	PFAKE			06 42 50.0	+14
SDDR				LR	LR			
	comp=Z,11μm,19.0s,MS6.5							
GLMI	**Grayling**	**112.74**	**50**	PFAKE			06 42 50.0	+15
GLMI				LR	LR			
	comp=Z,33μm,20.0s,MS6.9							
BLA	**Blacksburg**	**112.80**	**59**	*e*PKPdf	PKiKP		06 42 35.9	+0.6
BLA				LR	LR			
	comp=Z,23μm,19.0s,MS6.8							
BLA	**Blacksburg**	**112.80**	**59**	*e*PKIKP	PKiKP		06 42 35.9	+0.5
BLA				MLR	MLR			
	comp=Z,23μm,19.0s,MS6.8							
SOE	**Somerset East**	**112.93**	**200**	*e*P	PKiKP		06 42 26.9	-9.1
SOE				AMS	AMS		07 24 11.7	
	comp=Z,21μm,20.5s,MS6.7							
CNNC	**Cliffs of the**	**113.94**	**62**	PFAKE			06 42 50.0	+12
CNNC				LR	LR			
	comp=Z,16μm,20.0s,MS6.6							
ABPO	**Ambohimpanom**	**114.50**	**226**	PFAKE			06 42 50.0	+11
ABPO				LR	LR			
	comp=Z,12μm,19.0s,MS6.5							
SUR	**Sutherland**	**114.53**	**196**	PKKPbc	PKKPbc		06 53 17.5	0.0
	comp=Z,6.8nm,0.7s,baz=295,slow=5.0,SNR=5.8							
SUR	**Sutherland**	**114.53**	**196**	PKKPbc	PKKPbc		06 53 17.5	0.0
SUR				LR	LR			
	comp=Z,28μm,20.0s,MS6.9							
WMQ	**Urumqi**	**114.53**	**308**	*e*PKP	PKiKP		06 42 36.1	-2.4
WMQ				PP	PP		06 43 36.1	+0.1
WMQ				SKS	SKSdf		06 49 43.3	-5.4
WMQ				AMB	AMB			
	comp=Z,4μm,14.0s							
WMQ				LR	LR			
	comp=N,7μm,19.6s,MS6.4							
WMQ				LR	LR			
	comp=E,8μm,22.6s,MS6.4							
WMQ				LR	LR			
	comp=Z,12μm,25.6s,MS6.4							
BHPL	**Bhopal**	**114.59**	**283**	*e*PKP	PKiKP		06 42 37.1	-2.1
BHPL				AMb	AMB		06 42 42.4	
	comp=Z,26nm,0.7s							
BHPL				AMS	AMS		07 20 16.0	
	comp=Z,3μm,21.4s,MS5.8							
KAD	**Karad**	**114.74**	**276**	*e*PKP	PKiKP		06 42 38.8	-0.8
KAD				AMS	AMS		07 32 11.1	
	comp=Z,12μm,21.2s,MS6.5							
ERPA	**Erie**	**114.91**	**55**	PFAKE			06 42 50.0	+11
ERPA				LR	LR			
	comp=Z,28μm,21.0s,MS6.8							
HVD	**Gariep Dam**	**114.91**	**201**	*e*P	PKiKP		06 42 41.3	+1.5
HVD				AMS	AMS		07 29 06.4	
	comp=Z,16μm,19.3s,MS6.7							
CBN	**Corbin**	**115.42**	**59**	PFAKE			06 42 50.0	+10
CBN				LR	LR			
	comp=Z,15μm,20.0s,MS6.6							
POO	**Poona**	**115.57**	**277**	*e*PKP	PKPdf		06 42 41.0	-0.2
SSPA	**Standing Stone**	**115.89**	**57**	*e*PKPdf	PKPdf		06 42 39.9	-1.3
LRS	**Lares**	**116.07**	**84**	*e*PKPdf	PKPdf		06 42 41.5	-0.6
SEK	**Senekal**	**116.32**	**204**	*e*P	PKiKP		06 42 43.2	+0.7
SEK				AMS	AMS		07 32 14.5	
	comp=Z,18μm,18.5s,MS6.7							
SJG	**San Juan**	**116.58**	**84**	*e*PKPdf	PKPdf		06 42 42.5	-0.7
SJG				LR	LR			
	comp=Z,11μm,20.0s,MS6.5							
SJG	**San Juan**	**116.58**	**84**	*e*PKIKP	PKPdf		06 42 42.5	-0.7
SJG				MLR	MLR			
	comp=Z,11μm,20.0s							
PKA	**Prieska**	**116.60**	**199**	*e*P	PKPdf		06 42 44.1	+1.1
PKA				AMS	AMS		07 29 09.9	
	comp=Z,7μm,18.0s,MS6.3							
BOM	**Bombay**	**116.61**	**277**	*ex*	x		06 46 07.1	
BOM				*ex*	x		06 56 04.3	
BOSA	**Boshof**	**116.84**	**202**	*e*P	PKPdf		06 42 44.3	+0.8
BOSA				AMS	AMS		07 29 00.1	
	comp=Z,21μm,20.0s,MS6.8							
BOSA	**Boshof**	**116.84**	**202**	PKP	PKPdf		06 42 44.5	+1.0
	comp=Z,23nm,0.8s,baz=138,slow=1.8,SNR=20							
BOSA				PKKPbc	PKKPbc		06 53 10.1	+0.7
	comp=Z,6.1nm,0.8s,baz=31,slow=2.5,SNR=6.8							
BOSA	**Boshof**	**116.84**	**202**	*e*PKPdf	PKPdf		06 42 44.5	+0.9
BOSA				*e*PP	PP		06 43 57.7	+6.8
BOSA				PKKPbc	PKKPbc		06 53 10.1	+0.7
BOSA				LR	LR			
	comp=Z,28μm,20.0s,MS6.9							
BOSA	**Boshof**	**116.84**	**202**	PKIKP	PKPdf		06 42 44.5	+0.9
BOSA				pmax	pmax			
	comp=Z,23nm,0.9s							
NDI	**New Delhi**	**116.94**	**289**	*e*PKP	PKPdf		06 42 42.4	-1.2
MTP	**Monte Pirata**	**117.08**	**84**	*e*PKPdf	PKPdf		06 42 44.6	+0.5
PRYS	**Parys**	**117.69**	**204**	*e*P	PKPdf		06 42 46.0	+0.8
PRYS				AMS	AMS		07 29 41.8	
	comp=Z,15μm,15.4s,MS6.7							
BINY	**Binghamton**	**117.75**	**56**

comp=Z,18µm,19.7s,MS6.7
FDF Fort de France 119.33 90 PFAKE 06 43 00.0 +11
FDF LR LR
comp=Z,13µm,19.0s,MS6.6
ZAA0 Zalesovo Array 119.33 318 *e*PKPdf PKPdf 06 42 46.4 -0.9
ZALV Zalesovo Beam 119.33 318 Pdiff Pdif 06 39 13.1 +3.3
comp=Z,0.5nm,0.5s,baz=146,slow=1.0,SNR=5.2
ZALV PKP PKPdf 06 42 46.4 -0.9
comp=Z,11nm,0.7s,baz=199,slow=2.2,SNR=23
ZALV PKKPab PKKPab 06 53 03.1 +3.0
comp=Z,3.7nm,0.9s,baz=268,slow=4.0,SNR=4.8
ZALV SKKPbc 06 56 55.2
comp=Z,4.0nm,1.0s,baz=252,slow=2.9,SNR=3.6
ZALV Zalesovo Beam 119.33 318 Pdif Pdif 06 39 13.1 +3.3
ZALV PKP PKPdf 06 42 46.4 -0.9
ZALV PKKPab PKKPab 06 53 03.1 +3.0
ZALV SKKPbc 06 56 55.2
ZALV Zalesovo Beam 119.33 318 P Pdif 06 39 13.1 +3.3
ZALV 06 42 46.4
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV pmax pmax
comp=Z,11nm,0.7s
LONY Lake Ozonia 119.44 53 *e*PKPdf PKPdf 06 42 47.0 -0.9
LONY LR LR
comp=Z,19µm,20.0s,MS6.7
NCB Newcomb 119.50 54 PFAKE 06 43 00.0 +12
NCB LR LR
comp=Z,22µm,19.0s,MS6.8
BBGH Gun Hill 119.95 92 PFAKE 06 43 00.0 +10
BBGH LR LR
comp=Z,16µm,19.0s,MS6.7
LBTB Lobatse 120.06 204 *e*P PKPdf 06 42 50.2 +0.4
LBTB AMS AMS 07 39 41.3
comp=Z,22µm,17.5s,MS6.9
LBTB Lobatse 120.06 204 PP PP 06 44 17.6 +4.3
comp=Z,22nm,0.8s,baz=151,slow=7.8,SNR=5.2
LBTB PKKPbc PKKPbc 06 52 57.4 -0.3
comp=Z,14nm,0.9s,baz=329,slow=5.0,SNR=8.7
LBTB Lobatse 120.06 204 *e*PKPdf PKPdf 06 42 50.5 +0.7
LBTB PP PP 06 44 17.6 +4.3
LBTB PKKPbc PKKPbc 06 52 57.4 -0.3
LBTB LR LR
comp=Z,20µm,20.0s,MS6.7
LBTB Lobatse 120.06 204 *e*PKIKP PKPdf 06 42 50.5 +0.7
LBTB 06 44 17.6
LBTB MLR MLR
comp=Z,20µm,20.0s,MS6.7
ANWB Willy Bob 120.11 87 PFAKE 06 43 00.0 +10
ANWB LR LR
comp=Z,17µm,22.0s,MS6.6
NVS Novosibirsk 120.43 319 *e*P Pdif 06 39 09.7 -5.0
NVS *e* 06 42 47.5
NVS *i* 06 44 12.7
NVS *e* 06 49 49.1
NVS pmax pmax
comp=Z,254nm,2.0s
NVS pmax pmax
comp=N,74nm,2.2s
NVS pmax pmax
comp=E,102nm,2.1s
BRYW Bryant College 120.83 57 *e*PKPdf PKPdf 06 42 50.0 -0.7
LBNH Lisbon 121.17 54 *e*PKPdf PKPdf 06 42 51.7 +0.5
LBNH LR LR
comp=Z,20µm,19.0s,MS6.8
LBNH Lisbon 121.17 54 *e*PKIKP PKPdf 06 42 51.7 +0.5
LBNH MLR MLR
comp=Z,20µm,19.0s,MS6.8
KSH Kashi 121.53 300 *e*PKP PKPdf 06 42 52.4 +0.3
KSH SKS SKSdf 06 50 02.6 +0.3
KSH SKKS SKKSac 06 51 14.4 -7.4
KSH AMB AMB
comp=Z,1µm,7.8s
KSH LR LR
comp=N,12µm,19.3s,MS6.6
KSH LR LR
comp=E,6µm,15.8s,MS6.6
KSH LR LR
comp=Z,15µm,20.9s
ULHL Ulahol 122.06 303 P PKPdf 06 42 53.9 +0.9
SNR=16
ULHL P 06 42 53.9
SNR=16
KURK Kurchatov 122.36 313 PKP PKPdf 06 42 52.5 -0.7
comp=Z,30nm,0.7s,baz=107,slow=1.8,SNR=36
KURK PP PP 06 44 30.5 +0.5
comp=Z,9.8nm,0.9s,baz=98,slow=7.1,SNR=4.3
KURK Kurchatov 122.36 313 *e*PKPdf PKPdf 06 42 52.0 -1.2
KURK PKP PKPdf 06 42 52.5 -0.7
KURK PP PP 06 44 30.5 +0.5
KURK LR LR
comp=Z,10µm,19.0s,MS6.5
KURK Kurchatov 122.36 313 PKIKP PKPdf 06 42 52.6 -0.7
KURK 06 44 30.5
KURK pmax pmax
comp=Z,30nm,0.7s
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 122.36 313 P PKPdf 06 42 52.6 -0.7
SNR=39
TKM2 Tokmak 2 122.69 304 P PKPdf 06 42 54.4 +0.2
SNR=18
TKM2 P 06 42 54.4
SNR=18
TKM2 Tokmak 2 122.69 304 *e*PKPdf PKPdf 06 42 54.1 -0.1
TKM2 LR LR
comp=Z,13µm,20.0s,MS6.6
TKM2 Tokmak 2 122.69 304 *e*PKIKP PKPdf 06 42 54.1 -0.1
TKM2 MLR MLR
comp=Z,13µm,20.0s,MS6.6
KZA Kyzart 122.73 303 P PKPdf 06 42 55.1 +0.8
SNR=28
KZA P 06 42 55.1
SNR=28
KBK Karagaybulak 123.09 303 P PKPdf 06 42 54.8 -0.2
SNR=15
KBK P 06 42 54.8
SNR=15
PKME Peaks-Kenny Pk 123.24 54 *e*PKPdf PKPdf 06 42 54.9 -0.3
PKME LR LR
comp=Z,24µm,19.0s,MS6.9
BBSR BB Station 123.26 70 PFAKE 06 43 10.0 +14
BBSR LR LR
comp=Z,14µm,20.0s,MS6.6
UCH Uchtor 123.30 303 P PKPdf 06 42 56.5 +1.2
SNR=10
UCH P 06 42 56.5
SNR=10
CHMS Chumysh 123.31 304 P PKPdf 06 42 55.3 -0.1
SNR=23
CHMS P 06 42 55.3
SNR=23
FRU Bishkek 123.37 303 *e*PKIKP PKPdf 06 42 54.0 -1.5
FRU pmax pmax
comp=Z,280nm,1.8s
AAK Ala-Archa 123.41 303 P PKPdf 06 42 56.1 +0.6
SNR=13
AAK P 06 42 56.1
SNR=13
AAK Ala-Archa 123.41 303 *e*PKPdf PKPdf 06 42 55.3 -0.3
AAK *e*PKKPbc PKKPbc 06 52 45.9 +0.9
AAK LR LR
comp=Z,14µm,20.0s,MS6.6
AAK Ala-Archa 123.41 303 *e*PKIKP PKPdf 06 42 55.3 -0.3
AAK MLR MLR
comp=Z,14µm,20.0s,MS6.6
AAK Ala-Archa 123.41 303 P PKPdf 06 42 56.0 +0.4
SNR=28
USP Ospenovka 123.55 304 P PKPdf 06 42 55.5 -0.3
SNR=17
USP P 06 42 55.5
SNR=17
AML Almayashu 123.87 302 P PKPdf 06 42 57.3 +0.8
SNR=41
AML P 06 42 57.3
SNR=41
EKS2 Erkin-Say 123.93 303 P PKPdf 06 42 57.1 +0.6
SNR=30
EKS2 P 06 42 57.1
SNR=30
EKS2 Erkin-Say 123.93 303 *e*PKPdf PKPdf 06 42 56.9 +0.3
EKS2 LR LR
comp=Z,21µm,20.0s,MS6.8
EKS2 Erkin-Say 123.93 303 *e*PKIKP PKPdf 06 42 56.9 +0.3
EKS2 MLR MLR
comp=Z,21µm,20.0s,MS6.8

PQI Presque Isle 124.39 52 *e*PKPdf PKPdf 06 42 56.6 -0.8
KBL Kabul 125.46 292 *e*PKPdf PKPdf 06 42 60.0 +0.2
KBL Kabul 125.46 292 *e*PKIKP PKPdf 06 43 00.0 +0.2
SCHQ Schefferville 126.22 42 PKP PKPdf 06 42 59.7 -0.8
comp=Z,68nm,0.8s,baz=280,slow=1.6,SNR=18
SCHQ Schefferville 126.22 42 *e*PKPdf PKPdf 06 42 59.5 -1.0
SCHQ PKP PKPdf 06 42 59.7 -0.8
SCHQ LR LR
comp=Z,57µm,20.0s,MS7.2
KK31 Karatay Array 126.37 303 *i* PKIKP PKPdf 06 43 00.2 -1.0
KK31 pmax pmax
comp=Z,64nm,0.9s
KKAR Karatay Array 126.37 303 *e*PKPdf PKPdf 06 43 01.1 -0.1
KKAR Karatay Array 126.37 303 *e*PKIKP PKPdf 06 43 01.1 -0.1
RCBR Riachuelo 127.56 128 PKP PKPdf 06 43 05.2 +0.7
comp=Z,10nm,0.8s,baz=200,slow=2.7
RCBR Riachuelo 127.56 128 *e*PKPdf PKPdf 06 43 04.8 +0.4
RCBR PKP PKPdf 06 43 05.2 +0.7
RCBR LR LR
comp=Z,39µm,19.0s,MS7.1
BVA0 Borovoye Array 127.71 315 *i* PKIKP PKPdf 06 43 01.7 -1.8
BVA0 pmax pmax
comp=Z,37nm,1.4s
BVAR Borovoye Array 127.71 315 PKhKP PKPpre 06 42 56.0
comp=Z,4.3nm,0.7s,baz=132,slow=2.1,SNR=8.5
BVAR PKP PKPdf 06 43 02.4 -1.0
comp=Z,12nm,0.7s,baz=64,slow=1.2,SNR=9.8
BVAR Borovoye Array 127.71 315 PKPpre PKPpre 06 42 56.0
BVAR PKP PKPdf 06 43 02.4 -1.0
BVAR Borovoye Array 127.71 315 *i* PKIKP PKPpre 06 42 56.0
BVAR 06 43 02.4
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 127.78 315 *e*PKPpre PKPpre 06 42 58.4
BRVK LR LR
comp=Z,11µm,20.0s,MS6.5
BRVK Borovoye 127.78 315 *e*PKIKP PKPpre 06 42 58.4
BRVK MLR MLR
comp=Z,11µm,20.0s,MS6.5
BRVK Borovoye 127.78 315 P PKPdf 06 43 03.6 0.0
SNR=49
LSZ Lusaka 127.85 211 *e*PKPdf PKPdf 06 43 06.2 +1.3
LSZ LR LR
comp=Z,25µm,19.0s,MS6.9
LSZ Lusaka 127.85 211 *e*PKIKP PKPdf 06 43 06.2 +1.3
LSZ MLR MLR
comp=Z,25µm,19.0s,MS6.9
LSZ Lusaka 127.85 211 P PKPdf 06 43 06.6 +1.6
SNR=52
TSUM Tsumeb 127.94 197 *e*PKPdf PKPdf 06 43 06.1 +1.0
TSUM *e*PP PP 06 45 08.4 +2.3
TSUM LR LR
comp=Z,44µm,20.0s,MS7.1
JMDO Jabal Madar 130.58 274 P PKPdf 06 43 10.3 +0.4
SNR=9.9
SMDO Samad 130.89 275 P PKPdf 06 43 12.7 +2.2
SNR=13
BSY Bisya 131.50 274 P PKPdf 06 43 11.3 -0.3
SNR=16
RBK Rabkut 131.91 266 P PKPdf 06 43 14.7 +2.1
SNR=13
KBS Kingsbay 132.09 358 *e*P PKPdf 06 43 13.0 +1.9
KBS AMB AMB 06 43 15.7
comp=Z,226nm,3.1s
KBS *e*PP PP 06 45 29.2 -4.1
KBS Kingsbay 132.09 358 *e*PKPdf PKPdf 06 43 10.3 -0.8
KBS LR LR
comp=Z,8µm,21.0s,MS6.4
KBS Kingsbay 132.09 358 *e*PKIKP PKPdf 06 43 10.3 -0.8
KBS MLR MLR
comp=Z,8µm,21.0s,MS6.4
ARQ Araqi 132.30 274 P PKPdf 06 43 13.8 +0.7
SNR=8.7
SFJD Kangerlussuaq 132.36 25 PFAKE 06 43 20.0 +8.1
SFJD LR LR
comp=Z,20µm,19.0s,MS6.8
SFJD Kangerlussuaq 132.36 25 *i* PKIKP PKPdf 06 43 09.6 -2.3
SFJD MLR MLR
comp=Z,12µm,23.0s,MS6.5
SFJD Kangerlussuaq 132.36 25 *i* P PKPdf 06 43 09.6 -2.3
SFJD
comp=Z,12µm,23.0s
ABTO Aybut 132.62 265 P PKPdf 06 43 15.7 +1.8
SNR=7.4
SPA0 Spitsbergen Ar 132.63 356 *e*P PKPdf 06 43 14.0 +1.8
SPA0 *e*PP PP 06 45 35.9 -0.9
SPB4 Spitsbergen Ar 132.63 356 *e*PKPdf PKPdf 06 43 12.4 +0.2
SPITS Spitsbergen Ar 132.63 356 PKP PKPdf 06 43 12.3 +0.1
comp=Z,103nm,0.7s,baz=110,slow=2.9,SNR=30
SPITS Spitsbergen Ar 132.63 356 PKP PKPdf 06 43 12.3 +0.1
SPITS Spitsbergen Ar 132.63 356 PKIKP PKPdf 06 43 12.3 +0.1
SPITS pmax pmax
comp=Z,103nm,0.7s
HATD Hatta, Dubai 133.16 276 P PKPdf 06 43 15.2 +0.5
SNR=24
ASHO Ashiyiah 133.18 276 P PKPdf 06 43 15.2 +0.4
SNR=19
SVE Sverdlovsk 133.19 321 *i* PKIKP PKPdf 06 43 14.0 +0.3
SVE *e* 06 45 37.8
SVE *e*SS SS 07 03 17.9 -4.9
SVE *e*SSS 07 08 23.4
SVE pmax pmax
comp=Z,152nm,1.9s
SUMG Summit 133.26 16 *e*PKPdf PKPdf 06 43 14.1 +0.6
SUMG *e*PP PP 06 45 37.5 -3.4
SUMG Summit 133.26 16 *i* PKIKP PKPdf 06 43 12.9 -0.6
SUMG *i* 06 45 40.6
SUMG Summit 133.26 16 *i* P PKPdf 06 43 12.9 -0.6
SUMG *i* PP PP 06 45 40.6 -0.3
SUMG
comp=Z,10µm,19.0s
SUMG Summit 133.26 16 *i* P SP 06 55 41.6 -13
comp=Z,12nm,1.1s
DAG Danmarks Havn 133.29 7 *i* PKIKP PKPdf 06 43 10.4 -3.0
DAG *e* 06 45 38.4
DAG Danmarks Havn 133.29 7 *i* P PKPdf 06 43 10.4 -3.0
DAG *e*PP PP 06 45 38.4 -2.6
DAG
comp=Z,9µm,20.0s
NAZ Nazwa, Dubai 133.62 276 P PKPdf 06 43 17.4 +1.9
SNR=14
AB31 Akbulak array 134.22 310 *i* PKIKP PKPdf 06 43 16.1 +0.2
AB31 pmax pmax
comp=Z,18nm,0.7s
ABKAR Akbulak array 134.22 310 *e*PKPpre PKPpre 06 43 05.6
KMBO Kilima Mbogo 134.33 232 *e*PKPpre PKPpre 06 43 10.4
KMBO *e*PP PP 06 45 49.2 +0.7
KMBO *e*SKPdf SKPdf 06 46 57.6 +6.9
KMBO LR LR
comp=Z,15µm,20.0s,MS6.7
KMBO Kilima Mbogo 134.33 232 *e*PKHKP PKPpre 06 43 10.4
KMBO *e* 06 45 49.2
KMBO MLR MLR
comp=Z,15µm,20.0s
KMBO Kilima Mbogo 134.33 232 P PKPdf 06 43 18.9 +1.6
SNR=21
ARU Arti 134.38 320 PFAKE 06 43 30.0 +14
ARU LR LR
comp=Z,15µm,22.0s,MS6.7
ARU Arti 134.38 320 *i* PKIKP PKPdf 06 43 17.5 +1.5
ARU 06 45 47.6
ARU PPP 06 48 46.7
ARU 06 50 24.0
SOKR Solikamsk 134.66 325 ⇓ *i* PKIKP PKPdf 06 43 13.5 -2.9
SOKR pmax pmax
comp=Z,100nm,1.1s
SOKR MLR MLR
comp=Z,17µm,20.0s,MS6.8
AKTO Aktyubinsk 135.41 312 PKhKP PKPpre 06 43 07.5
comp=Z,14nm,0.8s,baz=239,slow=5.9,SNR=26
AKTO PKP PKPdf 06 43 18.9 +0.8
comp=Z,11nm,0.7s,baz=74,slow=1.9,SNR=11
AKTO Aktyubinsk 135.41 312 PKPpre PKPpre 06 43 07.5
AKTO PKP PKPdf 06 43 18.9 +0.8
AKTO Aktyubinsk 135.41 312 PKHKP PKPpre 06 43 07.5
AKTO 06 43 19.0
AKTO pmax pmax
comp=Z,14nm,0.8s
AKTO pmax pmax
comp=Z,11nm,0.7s
BJO Bjornoya 135.94 354 *e*P PKPdf 06 43 20.4 +2.0
BJO *e*PP PP 06 45 56.1 -1.7
SCO Scoresbysund 138.33 12 *i* PKIKP PKPdf 06 43 22.2 -0.7
SCO MLR MLR
comp=Z,10µm,21.0s,MS6.5

SCO Scoresbysund 138.33 12 *i* P PKPdf 06 43 22.2 -0.7
SCO
comp=Z,10µm,21.0s
ATD Arta Tunnel 138.44 251 PKP PKPdf 06 43 25.8 +0.9
comp=Z,7.0nm,0.4s,baz=113,slow=7.7,SNR=2.0
ATD Arta Tunnel 138.44 251 PKP PKPdf 06 43 25.8 +0.9
LVZ Lovozero 138.97 342 *e*PKPpre PKPpre 06 43 19.5
LVZ LR LR
comp=Z,12µm,20.0s,MS6.6
LVZ Lovozero 138.97 342 *c* *i* PKIKP PKPdf 06 43 28.7 +4.5
LVZ pmax pmax
comp=Z,83nm,1.2s
KEV Kevo 139.18 348 *e*PKPpre PKPpre 06 43 17.7
KEV *e*PKPdf PKPdf 06 43 23.8 -0.7
KEV LR LR
comp=Z,19µm,22.0s,MS6.8
KEV Kevo 139.18 348 *e*PKHKP PKPpre 06 43 17.7
KEV *e* 06 43 23.8
KEV MLR MLR
comp=Z,19µm,22.0s,MS6.8
KEV Kevo 139.18 348 *e*pkp PKPpre 06 43 15.4
APA Apatity 139.53 343 ⇑ *i* PKIKP PKPdf 06 43 19.8 -5.4
APA *i* 06 43 25.0
APA *i* 06 46 19.0
APA pmax pmax
comp=Z,3µm,10.0s
APA MLR MLR
comp=Z,15µm,23.0s,MS6.7
ARCES ARCESS Array B 139.64 348 PKhKP PKPpre 06 43 17.6
comp=Z,31nm,0.8s,baz=358,slow=2.2,SNR=42
ARCES PKP PKPdf 06 43 27.4 +2.1
comp=Z,102nm,0.8s,baz=36,slow=1.7,SNR=26
ARCES ARCESS Array B 139.64 348 PKPpre PKPpre 06 43 17.6
ARCES PKP PKPdf 06 43 27.4 +2.1
ARCES ARCESS Array B 139.64 348 *i* PKHKP PKPpre 06 43 17.6
ARCES 06 43 27.4
ARCES pmax pmax
comp=Z,31nm,0.8s
ARCES pmax pmax
comp=Z,103nm,0.8s
ARE0 ARCESS Array S 139.64 348 *e*P PKPpre 06 43 18.3
ARE0 *e*PP PP 06 46 17.0 -3.8
ARE0 *e*SS SS 07 04 45.6 +7.2
ARE0 ARCESS Array S 139.64 348 *e*PKPpre PKPpre 06 43 18.6
KTK1 Kautokeino 140.49 349 *e*P PKPdf 06 43 22.6 -4.3
KTK1 AMB AMB 06 43 34.1
comp=Z,323nm,1.7s
KTK1 *e*PP PP 06 46 24.3 -1.7
KTK1 *e*SS SS 07 04 51.8 +3.4
TRO Tromso 140.56 351 *e*P PKPdf 06 43 22.7 -4.3
TRO *e*PP PP 06 46 24.9 -1.5
TRO *e*SS SS 07 04 53.3 +4.2
TRO AMS AMS 07 48 39.2
comp=Z,8µm,20.7s,MS6.5
KBD Kabd 141.65 279 *e*P PKPdf 06 43 26.4 -3.8
KBD AMb AMB 06 43 35.0
comp=Z,181nm,1.9s
RDF Al-Radifah 141.70 278 *e*P PKPdf 06 43 26.7 -3.7
RDF AMb AMB 06 43 36.0
comp=Z,527nm,1.7s
NAY Al-Naaiem 142.04 279 *e*P PKPdf 06 43 26.9 -4.0
NAY AMb AMB 06 43 36.5
comp=Z,116nm,1.9s
STEI Steigen 142.62 353 *e*P PKPdf 06 43 27.3 -3.4
MAK Makhachkala 143.14 301 *c* *i* PKIKP PKPdf 06 43 31.5 -1.0
MAK *e* 06 46 43.6
MAK *e*PPP 06 49 57.4
MAK *e*SSS 07 10 42.6
MAK pmax pmax
comp=Z,227nm,0.6s
BORG Borgarnes 143.21 17 PKP PKPdf 06 43 32.8 +0.9
comp=Z,22nm,0.8s,baz=343,slow=5.6,SNR=3.8
BORG Borgarnes 143.21 17 PKP PKPdf 06 43 32.8 +0.9
BORG LR LR
comp=Z,18µm,19.0s,MS6.8
BORG Borgarnes 143.21 17 PKIKP PKPdf 06 43 32.8 +0.9
BORG pmax pmax
comp=Z,22nm,0.8s
JOF Joensuu 143.58 339 *e*PKHKP PKPpre 06 43 28.7
JOF Joensuu 143.58 339 *e*pkp PKPpre 06 43 28.7
BTLR Botlikh 144.11 301 *e*PKIKP PKPdf 06 43 33.0 -1.2
BTLR pmax pmax
comp=Z,373nm,0.4s
FLOS Flostrand 144.36 353 *e*P PKPdf 06 43 32.6 -1.2
STOK Stokkvaagen 144.40 353 *e*P PKPdf 06 43 33.2 -0.7
STOK AMB AMB 06 43 37.8
comp=Z,882nm,1.4s
DGRG David-gareji 144.81 299 P PKPdf 06 43 35.6 +0.2
MTA Mtatsminda 145.23 299 P PKPbc 06 43 36.2 +0.3
BHD Baghdad 145.24 284 *i* x PKPbc 06 43 31.9 -4.3
TBLG Delisi 145.27 299 *i* PKIKP PKPdf 06 43 36.6 +0.4
TBLG Delisi 145.27 299 P PKPbc 06 43 36.6 +0.6
GNI Garni 145.34 297 *e*P PKPbc 06 43 36.5 +0.2
GNI Garni 145.34 297 *e*PKPdf PKPdf 06 43 36.9 +0.5
GNI LR LR
comp=Z,10µm,21.0s,MS6.6
GNI Garni 145.34 297 *e*PKIKP PKPdf 06 43 36.9 +0.5
GNI MLR MLR
comp=Z,10µm,21.0s
GNI Garni 145.34 297 P PKPbc 06 43 37.4 +1.2
SNR=135
MOS Moscow 145.60 325 *e*PKIKP PKPdf 06 43 35.8 -0.5
MOS *e* 06 46 57.3
MOS pmax pmax
comp=Z,2µm,1.4s
MOS pmax pmax
comp=Z,8µm,2.1s
MOS MLR MLR
comp=Z,13µm,22.0s,MS6.7
KAF Kangasniemi 145.69 341 *e*PKP2 PKPdf 06 43 33.9 -2.4
KAF Kangasniemi 145.69 341 *e*pkp PKPdf 06 43 33.9 -2.4
MSKU Masuku 145.78 199 PKPbc PKPbc 06 43 39.5 +1.1
comp=Z,324nm,0.7s,baz=127,slow=2.1,SNR=58
MSKU Masuku 145.78 199 PKPbc PKPbc 06 43 39.5 +1.1
CLDR Caldiran 146.00 295 *e*P PKPdf 06 43 38.4 +0.9
HKR Hakkari 146.12 292 *e*P PKPab 06 43 40.2 +0.8
HAKT HAKKARI 146.15 292 *i* P PKPdf 06 43 36.7 -1.1
ONI Oni 146.15 301 P PKPdf 06 43 38.7 +1.0
DYDN Diyadin 146.17 295 *i* P PKPdf 06 43 38.9 +1.1
PUL Pulkovo 146.20 335 *d* *i* PKP2 PKPab 06 43 37.8 -1.2
CUKT Cukurca 146.22 291 *e*P PKPdf 06 43 38.8 +0.8
AKH Akhalkalaki 146.22 299 P PKPab 06 43 39.7 0.0
FINES FINESS Array B 146.29 340 PKPbc PKPbc 06 43 37.3 -1.2
comp=Z,426nm,0.8s,baz=52,slow=3.1,SNR=142
FINES FINESS Array B 146.29 340 PKPbc PKPbc 06 43 37.3 -1.2
FINES FINESS Array B 146.29 340 PKP2 PKPbc 06 43 37.3 -1.2
FINES pmax pmax
comp=Z,426nm,0.8s
TVAN Van 146.40 294 *i* P PKPdf 06 43 38.9 +0.6
VANB Van 146.41 294 *e*P PKPab 06 43 40.7 +0.1
OBN Obninsk 146.44 325 *e*PKPbc PKPbc 06 43 39.0 -0.2
OBN LR LR
comp=Z,11µm,22.0s,MS6.6
OBN Obninsk 146.44 325 *d* *i* PKP2 PKPbc 06 43 38.4 -0.7
OBN *e* 06 47 00.8
OBN *e* 06 50 42.7
OBN *e*SS SS 07 05 53.3 -4.6
OBN pmax pmax
comp=Z,2µm,1.3s
OBN MLR MLR
comp=Z,12µm,23.0s,MS6.6
KIV Kislovodsk 146.53 304 *e*PKPdf PKPdf 06 43 38.4 +0.2
KIV LR LR
comp=Z,10µm,20.0s,MS6.6
KIV Kislovodsk 146.53 304 *i* PKIKP PKPdf 06 43 37.3 -1.0
KIV *e* 06 59 41.8
KIV *e*SS SS 07 05 53.1 -7.0
KIV *e*SSS 07 11 27.2
KIV pmax pmax
comp=Z,385nm,1.1s
KIV Kislovodsk 146.53 304 P PKPdf 06 43 38.6 +0.4
SNR=95
KARS Kars 146.59 297 *e*P PKPab 06 43 40.7 -0.5
VOR Voronezh 146.62 318 ⇑ PKHKP PKPpre 06 43 35.0
VOR pmax pmax
comp=Z,1µm,2.0s
GEVA Gevas 146.67 293 *i* P PKPdf 06 43 38.9 +0.2
AGRB Hanur-Agry 146.71 296 *e*P PKPdf 06 43 41.7 +3.0
VSR Storozhevoye 146.84 317 *e*PKIKP PKPdf 06 43 38.7 +0.2
VSR *e*SS SS 07 05 57.5 -5.3
VSR pmax pmax
comp=Z,2µm,2.1s
VSR pmax pmax
comp=N,160nm,2.3s

VSR pmax pmax
comp=E,310nm,1.5s
VSR MLR MLR
comp=Z,11µm,23.0s,MS6.6
VSR MLR MLR
comp=N,6µm,24.0s,MS6.5
VSR MLR MLR
comp=E,6µm,20.0s,MS6.5
TUTA Tutak 146.85 295 *i* P PKPbc 06 43 41.0 +0.2
SIRN S˜–rnak 147.18 292 *i* P PKPdf 06 43 37.8 -1.8
TATV Tatvan 147.29 294 *i* P PKPdf 06 43 41.0 +1.3
ARTV Artvin 147.42 299 *i* P PKPdf 06 43 37.8 -2.1
DAGI Agillar 147.44 298 *i* P PKPdf 06 43 37.8 -2.1
HOMI Horasan 147.52 296 *i* P PKPbc 06 43 42.1 -0.6
DDEM Demirkent 147.58 298 *i* P PKPbc 06 43 42.1 -0.8
DBOC Borcka 147.60 299 *i* P PKPdf 06 43 41.0 +0.8
DBAD Bademkaya 147.61 298 *i* P PKPdf 06 43 39.9 -0.2
BCA Borcka 147.62 299 *e*P PKPab 06 43 45.6 +0.4
VRTB Varto-Mus 147.91 295 *e*P PKPbc 06 43 44.3 +0.5
ERZM Erzurum 147.94 296 *i* P PKPdf 06 43 42.1 +1.3
EZM Erzurum 147.94 296 *e*P PKPbc 06 43 44.3 +0.4
BNGL BINGOL 148.16 295 *i* P PKPdf 06 43 42.1 +0.9
PZAR Pazar-Rize 148.19 299 *e*P PKPbc 06 43 43.5 -1.0
VSU Vasula 148.41 336*d* *i*PKIKP PKPdf 06 43 42.2 +1.3
MARD Mardin 148.48 291 *i* P PKPdf 06 43 42.1 +0.3
BNGB Bingˆ¶l 148.52 295 *e*P PKPbc 06 43 44.0 -1.4
MOL Molde 148.55 356 *e*P PKPbc 06 43 43.5 -1.2
MOL AMB AMB 06 43 50.4
comp=Z,707nm,1.9s
MOL AMS AMS 07 52 58.1
comp=Z,7µm,19.5s,MS6.5
KOPT Kop Dagi 148.60 297 *i* P PKPbc 06 43 45.3 -0.3
SOC Sochi 148.71 304*d* *i*PKHKP PKPdf 06 43 39.7 -2.2
SOC *i* 06 43 45.3
SOC *e* 06 47 11.0
SOC *e*SSS 07 12 02.3
SOC pmax pmax
comp=Z,43nm,1.0s
SOC pmax pmax
comp=Z,380nm,0.9s
BAYT Ayd˜–ntepe-Bay 148.84 297 *e*P PKPdf 06 43 42.7 +0.5
DIYA Diyarbakir 148.99 293 *i* P PKPdf 06 43 42.1 -0.5
KTUT Trabzon 149.06 299 *e*P PKPdf 06 43 44.8 +2.2
MACK Trabzon 149.07 298 *i* P PKPdf 06 43 43.1 +0.6
ERZN Erzincan 149.23 296 *e*P PKPbc 06 43 46.3 -0.8
GUMT Gumushane 149.34 298 *e*P PKPbc 06 43 45.8 -1.6
EZC Erzincan 149.50 296 *e*P PKPbc 06 43 45.8 -2.0
PTK Pertek 149.53 295 *e*P PKPdf 06 43 44.3 +0.9
KELT Kelkit 149.54 297 *i* P PKPdf 06 43 43.1 -0.2
SVRC Sivrice-ELAZID 149.62 294 *e*P PKPdf 06 43 45.5 +2.0
FOO Floro 149.63 358 *e*P PKPdf 06 43 44.0 +1.2
NB2 NORSAR Subarra 149.75 352 PKP PKPdf 06 43 42.8 -0.2
comp=Z,434nm,1.0s,baz=14,slow=4.3
NB2 NORSAR Subarra 149.75 352 PKP PKPdf 06 43 42.8 -0.2
baz=14,slow=4.3
NOA NORSAR Array B 149.75 352 PKP PKPdf 06 43 42.9 -0.1
comp=Z,110nm,0.8s,baz=14,slow=4.2,SNR=60
NOA PKPbc PKPbc 06 43 47.5 -0.2
comp=Z,158nm,0.8s,baz=14,slow=4.4,SNR=74
NOA NORSAR Array B 149.75 352 PKP PKPdf 06 43 42.9 -0.1
NOA PKPbc PKPbc 06 43 47.5 -0.2
NOA NORSAR Array B 149.75 352 PKIKP PKPdf 06 43 42.9 -0.1
NOA 06 43 47.5
NOA pmax pmax
comp=Z,110nm,0.8s
ESPY Espiye-Giresun 149.85 299 *e*P PKPbc 06 43 49.3 +0.7
ELZG Elazig 149.87 294 *i* P PKPdf 06 43 44.2 +0.3
NAO01 NORSAR Array S 149.97 352 *e*PKPdf PKPdf 06 43 43.6 +0.2
NAO01 LR LR
comp=Z,11µm,19.0s,MS6.7
NC602 NORSAR Array S 150.00 352 *e*P PKPdf 06 43 46.0 +2.6
HYA Hoyanger 150.03 357 *e*P PKPbc 06 43 49.2 +0.8
HYA AMB AMB 06 43 51.6
comp=Z,538nm,2.3s
URFA Urfa 150.03 292 *e*P PKPdf 06 43 46.8 +2.6
ANN Anapa 150.04 307*c* *i*PKIKP PKPdf 06 43 41.7 -2.3
ANN pmax pmax
comp=N,457nm,5.4s
ANN pmax pmax
comp=E,448nm,5.4s
ANN pmax pmax
comp=Z,2µm,5.4s
ANN pmax pmax
comp=N,418nm,2.6s
ANN pmax pmax
comp=E,192nm,2.6s
ANN pmax pmax
comp=Z,1µm,2.6s
KEMA Kemaliye 150.20 295 *i* P PKPdf 06 43 45.3 +0.8
HFS Hagfors 150.28 349 PKP PKPdf 06 43 43.3 -0.6
comp=Z,108nm,0.9s,baz=270,slow=0.3,SNR=28
HFS PKPbc PKPbc 06 43 48.7 -0.4
comp=Z,307nm,0.8s,baz=90,slow=0.3,SNR=56
HFS Hagfors 150.28 349 PKP PKPdf 06 43 43.3 -0.6
HFS PKPbc PKPbc 06 43 48.7 -0.4
HFS Hagfors 150.28 349 PKIKP PKPdf 06 43 43.3 -0.6
HFS 06 43 48.7
HFS pmax pmax
comp=Z,108nm,0.9s
MALT Malatya 150.31 293 *e*P PKPbc 06 43 52.2 +2.4
MALT Malatya 150.31 293 ⇑PKIKP PKPbc 06 43 52.6 +2.7
MALT Malatya 150.31 293⇑*i*P PKPbc 06 43 52.6 +2.7
MYA Malataya 150.32 293 *e*P PKPdf 06 43 46.8 +2.2
SUSE Susehri 150.34 297 *i* P PKPdf 06 43 43.1 -1.5
ATAB Bozova 150.45 292 *i* P PKPdf 06 43 39.9 -5.0
IZAR Zarasai 150.61 333 *e*P PKPdf 06 43 50.7 +6.2
IZAR AMB AMB 06 44 03.8
comp=Z,312nm,1.1s
SACV Santiago Islan 150.64 117 *e*PKPbc PKPbc 06 43 50.9 -0.4
SACV LR LR
comp=Z,11µm,20.0s,MS6.7
AKCD Akcadag 150.71 293 *i* P PKPdf 06 43 42.1 -3.2
ASK Askoy 150.75 358 *e*P PKPbc 06 43 49.4 -0.7
ISAL Salakas 150.79 333 *e*P PKPbc 06 43 51.0 +0.6
ISAL AMB AMB 06 44 02.2
comp=Z,177nm,1.1s
RUND Rundenannen 150.81 358 *e*P PKPbc 06 43 49.6 -0.7
MICGM Minsk 150.83 330 *e*PKP PKPdf 06 43 43.0 -1.9
WAL1 Walls 150.83 5 *e*P PKPdf 06 43 43.9 -0.9
BER Bergen 150.84 358 *e*P PKPdf 06 43 43.4 -1.3
BER AMS AMS 07 52 12.2
comp=Z,9µm,17.8s,MS6.6
MNK Minsk 150.85 330 *e*PKIKP PKPdf 06 43 43.0 -1.9
MNK *e* 06 47 24.0
MNK *e*PPP 06 50 42.0
MNK pmax pmax
comp=Z,12µm,5.0s
MNK pmax pmax
comp=E,660nm,1.8s
MNK pmax pmax
comp=N,1µm,2.0s
MNK pmax pmax
comp=Z,2µm,1.3s
OSL Oslo 150.88 352 *e*P PKPdf 06 43 43.9 -0.9
IIGN Ignalina 150.91 333 *e*P PKPbc 06 43 51.3 +0.6
IIGN AMB AMB 06 43 59.2
comp=Z,217nm,1.0s
RSDY Resadiye-TOKAT 150.98 298 *e*P PKPdf 06 43 47.1 +1.5
LRW Lerwick 150.98 4 *e*P PKPdf 06 43 47.2 +2.3
LRW AMS AMS 07 51 42.2
comp=Z,10µm,18.3s,MS6.7
NACGM Naroch 151.01 331 *e*PKP PKPdf 06 43 42.0 -3.2
SCER sogukcermik 151.19 297 *i* P PKPdf 06 43 46.3 +0.4
ODD1 Odda 151.25 356 *e*P PKPdf 06 43 48.5 +3.2
ODD1 AMB AMB 06 43 53.5
comp=Z,678nm,2.1s
KONO Kongsberg 151.28 353 *e*P PKPbc 06 43 51.5 +0.1
KONO AMB AMB 06 43 55.4
comp=Z,770nm,1.3s
KONO Kongsberg 151.28 353 *e*PKPbc PKPbc 06 43 50.9 -0.5
KONO LR LR
comp=Z,11µm,20.0s,MS6.7
KONO Kongsberg 151.28 353 *e*PKIKP PKPbc 06 43 50.9 -0.5
KONO MLR MLR
comp=Z,11µm,20.0s,MS6.7
GAZ Gaziantep 151.32 291 *e*P PKPbc 06 43 50.4 -1.9
ASF Jabal al Asfar 151.34 281 PKP PKPdf 06 43 46.0 -0.4
comp=Z,4.0nm,0.8s,baz=168,slow=6.6,SNR=5.5
ASF PKPbc PKPbc 06 43 53.4 +0.9
comp=Z,43nm,0.8s,baz=321,slow=1.1,SNR=25
ASF Jabal al Asfar 151.34 281 PKP PKPdf 06 43 46.0 -0.4
ASF PKPbc PKPbc 06 43 53.4 +0.9
ASF Jabal al Asfar 151.34 281 PKIKP PKPdf 06 43 46.0 -0.4
ASF 06 43 53.4
ASF pmax pmax
comp=Z,4.0nm,0.8s
ERBA Erbaa 151.37 299 *i* P PKPdf 06 43 45.3 -0.9
KUZU Kuzuini 151.44 290 *i* P PKPdf 06 43 48.5 +2.0
KMRS Kahramanmaras 151.56 292 *e*P PKPbc 06 43 50.4 -2.4
TOKT Tokat 151.58 298 *e*P PKPbc 06 43 53.0 +0.2
TOKA Tokat 151.63 298 *i* P PKPdf 06 43 44.2 -2.4
BLS5 Blasjo 151.75 356 *e*P PKPbc 06 43 52.5 0.0
KVT Kavak 151.84 300 *e*P PKPdf 06 43 50.9 +4.0
ANDN Andirin 152.00 292 *i* P PKPdf 06 43 46.3 -0.9
HAVZ Havza 152.08 300 *i* P PKPdf 06 43 47.4 +0.1
COBT Iskenderun 152.11 290 *i* P PKPbc 06 43 53.8 -0.3
HTY Hatay 152.21 289 *e*P PKPbc 06 43 54.7 +0.4
YAYL Yayladag 152.23 289 *i* P PKPdf 06 43 50.6 +3.0
SIM Simferopol' 152.25 308*c* *i*PKIKP PKPdf 06 43 49.2 +1.8
SIM *e* 06 47 33.0
BNN Bunyan 152.29 295 *e*P PKPdf 06 43 46.6 -1.1
DIKM Dikmen 152.31 301 *e*P PKPbc 06 43 55.0 +0.6
HWQ Hawqa 152.32 285 *e*P PKPdf 06 43 47.4 -0.5
RCY Rachaya 152.37 283 *e*P PKPdf 06 43 49.3 +1.4
KOZT Kozan 152.41 292 *e*P PKPdf 06 43 49.9 +2.0
CEYT Ceyhan 152.50 291 *e*P PKPdf 06 43 48.1 +0.1
BHL Bhannes 152.54 284 *e*P PKPdf 06 43 48.0 -0.2
AKASG Malin Array Be 152.59 323 PKP PKPdf 06 43 46.9 -0.8
comp=Z,6.6nm,0.8s,baz=54,slow=1.4,SNR=16
AKASG PKPbc PKPbc 06 43 54.7 +0.1
comp=Z,180nm,0.8s,baz=47,slow=2.6,SNR=74
AKASG Malin Array Be 152.59 323 PKP PKPdf 06 43 46.9 -0.8
AKASG PKPbc PKPbc 06 43 54.7 +0.1
AKASG Malin Array Be 152.59 323 PKIKP PKPdf 06 43 46.9 -0.8
AKASG 06 43 54.7
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 152.59 323 *e*PKPdf PKPdf 06 43 46.7 -1.0
AKBB *e*PKPbc PKPbc 06 43 54.2 -0.4
AKBB Malin Array Si 152.59 323 *e*PKIKP PKPdf 06 43 46.7 -1.0
AKBB *e* 06 43 54.2
KIEV Kiev 152.60 323 *e*PKPdf PKPdf 06 43 46.8 -0.9
KIEV *e*PKPbc PKPbc 06 43 54.4 -0.3
KIEV LR LR
comp=Z,13µm,19.0s,MS6.8
KIEV Kiev 152.60 323 *e*PKIKP PKPdf 06 43 46.8 -0.9
KIEV *e* 06 43 54.4
KIEV MLR MLR
comp=Z,13µm,19.0s,MS6.8
YOZ Yozgat 152.60 297 *e*P PKPdf 06 43 50.9 +2.8
BOYT Boyabat 152.62 301 *i* P PKPdf 06 43 51.7 +3.6
MMAI Mount Meron Ar 152.69 282 PKP PKPdf 06 43 49.6 +1.2
comp=Z,5.4nm,0.9s,baz=338,slow=3.1,SNR=3.5
MMAI PKPbc PKPbc 06 43 57.1 +1.7
comp=Z,27nm,0.4s,baz=84,slow=8.5,SNR=37
MMAI Mount Meron Ar 152.69 282 PKP PKPdf 06 43 49.6 +1.2
MMAI PKPbc PKPbc 06 43 57.1 +1.7
SNART Snartemo 152.79 355 *e*P PKPbc 06 43 54.9 0.0
KRTS Karatas 152.81 290 *e*P PKPdf 06 43 50.1 +1.7
CTKT Corum 152.85 299 *i* P PKPdf 06 43 46.3 -2.1
MVH1 Achvaich 152.87 9 *e*P PKPdf 06 43 50.7 +2.9
PCED Cedros 152.97 65 *e*PKP PKPdf 06 43 51.6 +2.9
CALA Caldeira 152.98 66 *e*PKP PKPdf 06 43 50.3 +1.6
HOR Horta 153.04 66 *e*PKP PKPdf 06 43 51.9 +3.1
CORM Corum 153.05 298 *e*P PKPdf 06 43 50.6 +1.9
AVNT Avonos 153.07 295 *i* P PKPbc 06 43 54.9 -1.3
SUW Suwalki 153.09 333 *e*PKPdf PKPdf 06 43 47.9 -0.4
SUW *e*PKiKP PKiKP 06 43 54.0 -1.9
SUW *e*PKPab PKPab 06 44 05.7 -1.6
SUW *e*PP PP 06 47 38.8 -1.7
SUW *e*SKSdf SKSdf 06 50 51.3 -2.1
SUW LMZ 07 50 25.8
comp=Z,17µm,26.1s
SUW Suwalki 153.09 333 *e*PKPdf PKPdf 06 43 48.7 +0.4
SUW *e*PKPbc PKPbc 06 43 56.3 +0.6
SUW Suwalki 153.09 333 *e*PKIKP PKPdf 06 43 48.7 +0.4
SUW *e* 06 43 56.3
KAC Achnashellach 153.13 10 *e*P PKPdf 06 43 48.6 +0.3
PCAN Candelaria 153.16 66 *e*PKP PKPdf 06 43 51.6 +2.7
BZK Bozkurt 153.16 302 *e*P PKPdf 06 43 50.4 +1.6
PICO Pico 153.20 66 *e*PKP PKPdf 06 43 49.4 +0.4
KPL Plockton 153.23 11 *e*P PKPdf 06 43 49.5 +1.1
KPL AMS AMS 07 51 57.3
comp=Z,9µm,23.4s,MS6.5
GULE Gulek 153.26 292 *i* P PKPdf 06 43 47.4 -1.7
MCD Coleburn Disti 153.32 8 *e*P PKPdf 06 43 52.6 +4.1
MDO Dochfour 153.32 9 *e*P PKPdf 06 43 51.0 +2.5
KAST KASTAMONU 153.32 301 *i* P PKPdf 06 43 50.6 +1.5
ROSA Rosais 153.32 65 *e*PKP PKPdf 06 43 50.5 +1.3
TOS Tosya 153.35 300 *e*P PKPdf 06 43 49.4 +0.3
KSB Sheil Bridge 153.39 10 *e*P PKPdf 06 43 51.6 +3.0
PMAN Manadas 153.45 65 *e*PKP PKPdf 06 43 52.2 +2.9
MERS Mersin 153.49 291 *e*P PKPdf 06 43 49.9 +0.4
ILGA Ilgaz 153.57 300 *i* P PKPdf 06 43 47.4 -2.0
MME1 Meikle Cairn 153.61 7 *e*P PKPdf 06 43 53.6 +4.7
CANT Cankiri 153.73 299 *e*P PKPdf 06 43 49.6 0.0
EREN Erenkoy 153.81 288 *e*P PKPdf 06 43 51.4 +1.5
BR131 Keskin Array S 153.88 297 *e*PKPdf PKPdf 06 43 49.0 -0.9
BR131 LR LR
comp=Z,8µm,19.0s,MS6.5
BRTR Keskin Array B 153.88 297 PKP PKPdf 06 43 49.2 -0.7
comp=Z,9.5nm,1.0s,baz=132,slow=1.8,SNR=16
BRTR PKPbc PKPbc 06 43 58.2 +0.3
comp=Z,24nm,0.9s,baz=80,slow=1.8,SNR=15
BRTR PKPab PKPab 06 44 12.7 +1.6
comp=Z,35nm,0.6s,baz=116,slow=3.4,SNR=19
BRTR Keskin Array B 153.88 297 PKP PKPdf 06 43 49.2 -0.7
BRTR PKPbc PKPbc 06 43 58.2 +0.3
BRTR PKPab PKPab 06 44 12.7 +1.6
BRTR Keskin Array B 153.88 297 PKIKP PKPdf 06 43 49.3 -0.6
BRTR 06 43 58.2
BRTR pmax pmax
comp=Z,10.0nm,1.0s
ELDT Eldivan 153.90 299 *i* P PKPdf 06 43 46.3 -3.6
PHNC Paralimni 153.92 287 P PKPab 06 44 05.0 -6.5
comp=Z,5.1nm,0.8s
ADH Angra Heroismo 154.11 65 *e*PKP PKPdf 06 43 53.6 +3.3
SULT Sultanhani-AKS 154.18 294 *e*P PKPdf 06 43 51.2 +0.8
SAFT Safranbolu 154.29 301 *e*P PKPdf 06 43 49.1 -1.3
BBAL Bala 154.30 297 *i* P PKPdf 06 43 46.3 -4.2
AFSR Af¯ar-Bala (A 154.35 297 *e*P PKPdf 06 43 50.1 -0.5
DBIC Dimbokro 154.41 161 PKP PKPdf 06 43 52.4 +0.9
comp=Z,18nm,0.7s,baz=146,slow=1.9,SNR=26
DBIC PKPbc PKPbc 06 43 59.5 -0.3
comp=Z,43nm,0.9s,baz=157,slow=1.9,SNR=16
DBIC PKPab PKPab 06 44 16.8 +2.9
comp=Z,102nm,1.0s,baz=181,slow=3.1,SNR=9.0
DBIC Dimbokro 154.41 161 *e*PKPdf PKPdf 06 43 52.1 +0.7
DBIC PKP PKPdf 06 43 52.4 +0.9
DBIC PKPbc PKPbc 06 43 59.5 -0.3
DBIC PKPab PKPab 06 44 16.8 +2.9
DBIC LR LR
comp=Z,23µm,19.0s,MS7.0
DBIC Dimbokro 154.41 161 *e*PKIKP PKPdf 06 43 52.1 +0.6
DBIC 06 43 59.6
DBIC 06 44 16.8
DBIC MLR MLR
comp=Z,23µm,19.0s
MUD Monsted U'grnd 154.47 352 *i* PKIKP PKPdf 06 43 52.2 +2.0
MUD MLR MLR
comp=Z,12µm,21.0s,MS6.7
MUD Monsted U'grnd 154.47 352 *i* P PKPdf 06 43 52.2 +2.0
MUD
comp=Z,12µm,21.0s
CSS Prodhromos 154.50 286 P PKPbc 06 44 05.1 +5.7
comp=Z,2.7nm,0.7s
CSS Prodhromos 154.50 286 *e*P PKPdf 06 43 56.8 +5.8
CSS Prodhromos 154.50 286 P PKPdf 06 43 51.8 +0.9
CSS Prodhromos 154.50 286 *e*PKPdf PKPdf 06 43 50.9 0.0
CSS *e*PKPbc PKPbc 06 43 59.4 0.0
CSS LR LR
comp=Z,28µm,21.0s,MS7.0
LOD Lodumlu 154.51 298 *e*P PKPdf 06 43 48.9 -1.9
EAB Aberfoyle 154.54 10 *e*P PKPdf 06 43 50.5 +0.2
MAMC Mammari 154.59 287 P PKPbc 06 44 05.2 +5.6
EBH Black Hill 154.59 9 *e*P PKPdf 06 43 54.8 +4.5
COP Copenhagen 154.72 348 *i* PKIKP PKPdf 06 43 53.0 +2.4
COP Copenhagen 154.72 348 *i* P PKPdf 06 43 53.0 +2.4
COP *e*PP PP 06 47 42.4 -7.0
COP
comp=Z,8µm,24.0s
BSD Bornholm Skovb 154.74 344 *i* PKIKP PKPdf 06 43 52.6 +2.0
BSD *e* 06 47 48.3
BSD Bornholm Skovb 154.74 344 *i* P PKPdf 06 43 52.6 +2.0
BSD *e*PP PP 06 47 48.3 -1.2
BSD
comp=Z,12µm,22.0s
KIS Kishinev 154.79 316⇓*i*PKIKP PKPdf 06 43 52.0 +1.1
KIS M 06 43 58.0
comp=Z,5µm,10.0s
KIS *i* SKP 06 46 58.0
KIS Kishinev 154.79 316 *e*PP PP 06 48 46.0 +55
comp=Z,5µm,18.0s
KIS Kishinev 154.79 316 *e*PKKP SKKSac 06 54 00.0 -39
KIS LRM 08 05 34.0
comp=Z,15µm,20.0s
KIS Kishinev 154.79 316*d* *i*PKIKP PKPdf 06 43 52.0 +1.1
KIS *e* 06 44 00.0
KIS pmax pmax
comp=Z,5µm,10.0s
LEF Lefka 154.86 287 *e*P PKPbc 06 43 57.8 -2.3
SZAC Souni-Zanaja 154.87 286 P PKPbc 06 44 05.6 +5.5
PGBU Glenifferbraes 154.88 10 *e*P PKPdf 06 43 49.1 -1.6
PGBU AMS AMS 07 49 54.9
comp=Z,10µm,19.4s,MS6.6
SGKT Sivrigoynuk 154.91 300 *i* P PKPdf 06 43 50.6 -0.7
EDI Edinburgh 154.95 8 AMS AMS 07 49 30.7
comp=Z,10µm,20.3s,MS6.6
EAU Auchinoon 154.99 9 *e*P PKPdf 06 43 53.7 +2.8
ESY Stoneypath 155.02 8 *e*P PKPdf 06 43 53.6 +2.6
LADK Ladik-KONYA 155.08 294 *e*P PKPdf 06 43 55.2 +3.6
ALFC Alevga 155.10 287 P PKPdf 06 44 05.8 +14
comp=Z,5.0nm,0.8s
HDMB Hadim 155.11 291 *e*P PKPdf 06 43 58.3 +6.6
KONT Konya--Tatoy 155.11 294 *e*P PKPdf 06 43 54.0 +2.3
EBL Broad Law 155.11 8 *e*P PKPdf 06 43 53.9 +2.8
KDZE Karadeniz Ereo 155.18 302 *e*P PKPab 06 44 13.4 -3.2
KDHN Kadinhani 155.23 295 *i* P PKPdf 06 43 48.5 -3.4
GAZI Gazipasa 155.29 289 *i* P PKPdf 06 43 54.9 +2.9
PPCY Paphos 155.31 286 P PKPdf 06 44 06.6 +15
KIZT Kizilcal 155.36 296 *e*P PKPdf 06 43 50.9 -1.1
LEOM Leova 155.40 315 ⇑PKIKP PKPdf 06 43 52.3 +0.5
LEOM Leova 155.40 315⇑*i*P PKPdf 06 43 52.3 +0.5
PSET Sete Cidades 155.40 67 *e*PKP PKPdf 06 43 54.8 +2.7
PDA Ponta Delgada 155.45 67 *e*PKP PKPdf 06 43 54.4 +2.2
SVRH Sivrihisar-ESK 155.53 297 *e*P PKPdf 06 43 52.2 0.0
ESK Eskdalemuir 155.54 9 AMS AMS 07 50 02.5
comp=Z,11µm,18.6s,MS6.7
ESK Eskdalemuir 155.54 9 *e*PKPdf PKPdf 06 43 52.8 +1.1
ESK *e*PP PP 06 47 53.4 -0.4
ESK LR LR
comp=Z,13µm,20.0s,MS6.8
ESK Eskdalemuir 155.54 9 *e*PKIKP PKPdf 06 43 52.8 +1.1
ESK *e* 06 47 53.4
ESK MLR MLR
comp=Z,13µm,20.0s,MS6.8
BBTS Babate 155.54 128 PKP PKPdf 06 43 52.1 -0.8
comp=Z,44nm,1.0s,baz=280,slow=1.4,SNR=12
BBTS PKPab PKPab 06 44 19.8 +1.0
comp=Z,118nm,0.8s,baz=270,slow=2.9,SNR=12
BBTS Babate 155.54 128 PKP PKPdf 06 43 52.1 -0.8
BBTS PKPab PKPab 06 44 19.8 +1.0
GRON Grota Negra 155.55 67 *e*PKP PKPdf 06 43 55.3 +3.0
MDUB Mudurnu 155.57 300 *e*P PKPdf 06 43 51.7 -0.5
TLCR 155.64 312 ⇓PKIKP PKPdf 06 43 58.9 +6.7
TLCR 155.64 312⇓*i*P PKPdf 06 43 58.8 +6.6
BEL Belsk 155.69 333 *e*PKPdf PKPdf 06 43 51.1 -0.9
BEL *e* 06 44 04.5
BEL *e*PKPab PKPab 06 44 16.8 -1.6
BEL *e*SKSdf SKSdf 06 50 53.9 -2.5
BEL LMZ 07 52 29.7
comp=Z,25µm,23.0s
BEL Belsk 155.69 333 *e*PKIKP PKPdf 06 43 51.1 -0.9
BEL *e* 06 44 04.5
HENT Hendek 155.70 301 *i* P PKPdf 06 43 48.5 -3.9
LVV L'vov 155.74 326 *i* PKIKP PKPdf 06 43 52.0 -0.1
LVV 06 44 17.0
GKP Gorka Klasztor 155.75 339 *e*PKPdf PKPdf 06 43 51.7 -0.4
GKP *e*PKPab PKPab 06 44 16.9 -1.6
GKP *e*PP PP 06 47 55.4 +0.1
GKP *e*SKSdf SKSdf 06 50 53.2 -3.2
GKP LMZ 07 58 23.5
comp=Z,19µm,20.0s
GKP Gorka Klasztor 155.75 339 *e*PKIKP PKPdf 06 43 51.7 -0.3
GAL1 Galloway 155.75 11 *e*P PKPdf 06 43 55.7 +3.7
GAL1 AMS AMS 07 57 21.3
comp=Z,12µm,18.5s,MS6.7
BART Pico Bartolome 155.84 67 *e*PKP PKPdf 06 43 55.3 +2.6
PSMA Santa Maria 155.95 69 *e*PKP PKPdf 06 43 54.7 +1.8
PSMN Pico do Norte, 156.00 69 *e*PKP PKPdf 06 43 53.6 +0.7
ESKT Eskisehir 156.03 298 *e*P PKPdf 06 43 58.1 +5.2
ESKT Eskisehir 156.03 298 *i* P PKPdf 06 43 51.7 -1.2
BOLV Bolvadin 156.10 296 *i* P PKPdf 06 43 50.6 -2.4
XAL Allendale 156.11 8 *e*P PKPdf 06 43 52.6 +0.1
TIRR Tirgusor 156.21 311 *e*PKPdf PKPdf 06 43 55.6 +2.7
TIRR *e*PKPab PKPab 06 44 23.8 +2.9
TIRR Tirgusor 156.21 311 ⇓PKIKP PKPdf 06 43 53.9 +1.0
TIRR Tirgusor 156.21 311⇓*i*P PKPdf 06 43 53.9 +1.0
BORA Eskisehir 156.25 299 *i* P PKPdf 06 43 50.6 -2.6
PETR 156.38 314⇓*i*P PKPdf 06 43 59.7 +6.6
KWP Kalwaria Pacla 156.50 327 *e*PKPdf PKPdf 06 43 53.9 +0.8
KWP *e*PKPab PKPab 06 44 21.4 -0.5
KWP *e*PP PP 06 47 57.2 -2.5
KWP *e*SKSdf SKSdf 06 51 00.9 +3.5
KWP LMZ 07 54 40.4
comp=Z,13µm,21.7s
KWP Kalwaria Pacla 156.50 327 *e*PKPdf PKPdf 06 43 52.8 -0.3
KWP LR LR
comp=Z,16µm,20.0s,MS6.8
KWP Kalwaria Pacla 156.50 327 *e*PKIKP PKPdf 06 43 52.8 -0.3
KWP MLR MLR
comp=Z,16µm,20.0s,MS6.8
KWP Kalwaria Pacla 156.50 327⇑*i*P PKPdf 06 43 53.2 +0.1
BUR08 Bucovina Ar. S 156.51 320 *e*PKPdf PKPdf 06 43 53.5 +0.2
BUR08 *e*PKPab PKPab 06 44 25.2 +3.1
BURAR Bucovina Array 156.52 320 ⇑PKIKP PKPdf 06 43 53.6 +0.4
BURAR Bucovina Array 156.52 320⇑*i*P PKPdf 06 43 53.6 +0.4
VRI Vrincioaia 156.61 315 ⇓PKIKP PKPdf 06 43 53.7 +0.3
VRI Vrincioaia 156.61 315⇓*i*P PKPdf 06 43 53.7 +0.3
PLOR Plostina 156.67 315 ⇑PKIKP PKPdf 06 43 58.3 +4.8
ALT Altintas 156.69 297 *i* P PKPdf 06 43 52.7 -1.0
KORT Korkueli 156.81 292 *i* P PKPdf 06 43 51.7 -2.3
AMRR Amara 156.84 312 ⇑PKIKP PKPdf 06 43 55.9 +2.2
AMRR Amara 156.84 312⇑*i*P PKPdf 06 43 55.9 +2.2
DLF Lyons Farm 156.89 15 *e*P PKPdf 06 43 58.0 +4.5
BUY Buyukada 157.00 302 *i* P PKPdf 06 43 50.6 -3.5
GDZ Gediz 157.16 297 *i* P PKPdf 06 43 52.7 -1.6
ULDT Uludag 157.18 300 *i* P PKPdf 06 43 52.7 -1.6
KOLS Kolonicke sedl 157.19 326 *e*PKIKP PKPdf 06 43 54.2 +0.2
KOLS *e* 06 48 06.6
KOLS Kolonicke sedl 157.19 326 *e*PKP PKPdf 06 43 54.2 +0.2
KOLS *e* 06 44 25.8
KOLS *e*PP PP 06 48 06.6 +3.0
MLR Muntele Rosu 157.28 315 ⇓PKIKP PKPdf 06 43 53.2 -1.1
MLR Muntele Rosu 157.28 315⇓*i*P PKPdf 06 43 53.2 -1.1
KHAL Karahalli 157.29 295 *i* P PKPdf 06 43 51.7 -2.9
STHS Stebnicka Huta 157.32 328 *e*PKIKP PKPdf 06 43 54.2 0.0
STHS Stebnicka Huta 157.32 328 *e*PKP PKPdf 06 43 54.2 0.0
STHS *e* 06 44 26.0
OJC Ojcow 157.34 331 *e*PKPdf PKPdf 06 43 53.6 -0.6
OJC *e*pPKPdf pPKPdf 06 44 03.6 +0.6
OJC *e*PKPab PKPab 06 44 24.0 -1.5
OJC *e*PP PP 06 48 00.5 -3.8
OJC Ojcow 157.34 331 *e*PKIKP PKPdf 06 43 53.6 -0.6
OJC *e* 06 44 03.6
UZH Uzhgorod 157.38 326 *i* PKIKP PKPdf 06 43 53.0 -1.3
UZH *e* 06 48 03.8
UZH *e* 06 50 52.0
UZH *e*PPP 06 51 36.8
GOLH Golhisar 157.41 292 *i* P PKPdf 06 43 50.6 -4.1
BMR Baia Mare 157.41 322 PKIKP PKPdf 06 43 54.8 +0.4
BMR Baia Mare 157.41 322⇑*i*P PKPdf 06 43 56.7 +2.3
ELBA Catalca 157.41 303 *i* P PKPdf 06 43 51.7 -2.9
RUE Ruedersdorf 157.42 343 *e*PKPdf PKPdf 06 43 55.5 +1.3
SULR 157.49 313⇓*i*P PKPdf 06 43 58.3 +3.7
CRVS Cervenica-Dubn 157.59 327 *e*PKIKP PKPdf 06 43 54.2 -0.4
CRVS *e* 06 48 07.7
CRVS Cervenica-Dubn 157.59 327 *e*PKP PKPdf 06 43 54.2 -0.4
CRVS *e* 06 44 26.8
CRVS *e*PP PP 06 48 07.7 +1.9
TRPA Tarpa 157.60 324⇑*i*P PKPdf 06 43 54.1 -0.5
NIE Niedzica 157.73 329 *e*PKPdf PKPdf 06 43 55.4 +0.7
NIE *e*PKPab PKPab 06 44 27.3 +0.1
NIE *e*PP PP 06 47 59.0 -7.5
NIE Niedzica 157.73 329 *e*PKIKP PKPdf 06 43 55.4 +0.7
DNZL Cakiroluk 157.75 294 *i* P PKPdf 06 43 53.8 -1.3
DEMI Demirci 157.75 297 *i* P PKPdf 06 43 53.8 -1.3

DURS	**Dursunbey**	**157.80 299**	*i* P	PKPdf	06 43 52.7	-2.4
VOIR		**157.84 316**	PKIKP	PKPdf	06 43 55.4	+0.4
VOIR		**157.84 316**	⇓*i*P	PKPdf	06 43 56.1	+1.1
STNC	**Stoke**	**157.84 9**	AMS	AMS	08 00 16.5	
	comp=Z,15µm,18.6s,MS6.8					
RAC	**Raciborz**	**158.09 333**	*e*PKIKP	PKPdf	06 43 55.2	+0.1
RAC			*e*		06 48 07.6	
KSP	**Ksiaz**	**158.14 337**	*e*PKPdf	PKPdf	06 43 55.3	+0.1
KSP			*e*PKPab	PKPab	06 44 28.3	-0.6
KSP			*e*PP	PP	06 48 06.6	-1.9
KSP			LMZ		07 56 44.1	
	comp=Z,24µm,21.3s					
KSP	**Ksiaz**	**158.14 337**	*e*PKPdf	PKPdf	06 43 55.0	-0.2
KSP			*e*PKPab	PKPab	06 44 28.5	-0.4
KSP			*e*PP	PP	06 48 06.5	-2.0
KSP			e		06 58 17.5	
KSP			*e*SS	SS	07 07 52.0	-14
KSP			LM		07 56 48.0	
	comp=Z,49nm,21.3s					
KSP	**Ksiaz**	**158.14 337**	*e*PKIKP	PKPdf	06 43 55.0	-0.2
NRDL	**Niedersach Rie**	**158.18 348**	*e*PKPdf	PKPdf	06 43 54.5	-0.7
NRDL			*e*PKPab	PKPab	06 44 28.1	-0.9
TURN	**Turunc**	**158.21 292**	*i* P	PKPdf	06 43 48.5	-7.3
JMB	**Yambol**	**158.24 307**	P	PKPdf	06 43 55.4	-0.2
OKC	**Ostrava-Krasne**	**158.30 333**	*e*PKIKP	PKPdf	06 43 55.5	+0.1
OKC			*e*		06 44 29.2	
OKC			*e*SS	SS	07 08 04.5	-3.3
OKC			MLR	MLR		
	comp=Z,20µm,19.6s,MS7.0					
OKC	**Ostrava-Krasne**	**158.30 333**	*e*PKPDF	PKPdf	06 43 55.5	+0.1
OKC			*e*PKPAB	PKPab	06 44 29.2	-0.5
OKC			*e*SS	SS	07 08 04.5	-3.3
OKC			AMS	AMS	08 01 10.0	
	comp=Z,20µm,19.6s					
HLM1	**Long Mynd**	**158.31 10**	*e*P	PKPdf	06 43 55.3	0.0
SZH	**Strazhica**	**158.34 310**	P	PKPdf	06 43 54.4	-1.3
KECS	**Kecovo**	**158.34 328**	*e*PKIKP	PKPdf	06 43 55.1	-0.4
KECS			*e*		06 44 29.7	
KECS	**Kecovo**	**158.34 328**	*e*PKP	PKPdf	06 43 55.1	-0.4
KECS			*e*		06 44 29.7	
HUMR	**Humele**	**158.35 314**	⇓*i*P	PKPdf	06 43 56.1	+0.5
BALY	**Balya**	**158.41 300**	*i* P	PKPdf	06 43 50.6	-5.3
SART	**Tekirdag**	**158.45 303**	*i* P	PKPdf	06 43 54.9	-1.0
AKHS	**Akhisar**	**158.47 297**	*i* P	PKPdf	06 43 51.7	-4.3
UPC	**Upice**	**158.52 337**	*e*PKIKP	PKPdf	06 43 54.4	-1.2
UPC			*e*		06 44 31.2	
UPC	**Upice**	**158.52 337**	*e*PKPDF	PKPdf	06 43 54.4	-1.2
UPC			*e*PKPAB	PKPab	06 44 31.2	+0.6
LIKS	**Likavka**	**158.53 330**	*e*PKP2	PKPab	06 44 31.4	+0.7
LIKS	**Likavka**	**158.53 330**	*e*PKP	PKPab	06 44 31.4	+0.7
DPC	**Dobruska-Polom**	**158.54 336**	*e*PKIKP	PKPdf	06 43 55.9	+0.2
DPC			*e*		06 48 05.2	
DPC			*e*SS	SS	07 08 12.8	+2.6
DPC			MLR	MLR		
	comp=Z,20µm,18.5s,MS7.0					
DPC	**Dobruska-Polom**	**158.54 336**	*e*PKPDF	PKPdf	06 43 55.9	+0.2
DPC			*e*PKPAB	PKPab	06 44 31.6	+0.9
DPC			*e*PP	PP	06 48 05.2	-5.5
DPC			*e*SS	SS	07 08 12.8	+2.6
DPC			AMS	AMS	08 07 20.0	
	comp=Z,20µm,18.5s					
MORC	**Moravsky Berou**	**158.58 334**	*e*PKPdf	PKPdf	06 43 55.3	-0.5
MORC			*e*PKPab	PKPab	06 44 30.2	-0.7
MORC			*e*PP	PP	06 48 07.0	-4.0
MORC	**Moravsky Berou**	**158.58 334**	*e*PKIKP	PKPdf	06 43 55.3	-0.4
MORC			*e*		06 44 30.2	
MORC			*e*		06 48 07.0	
MORC	**Moravsky Berou**	**158.58 334**	⇓*i*P	PKPdf	06 43 56.2	+0.5
KRLC	**Kraliky**	**158.62 335**	*e*PKPDF	PKPdf	06 43 55.6	-0.2
KRLC			*e*PKPAB	PKPab	06 44 31.1	+0.1
AYDN	**Tasoluk**	**158.67 294**	*i* P	PKPdf	06 43 52.7	-3.5
CLL	**Collm**	**158.69 343**	*e*PKPdf	PKPdf	06 43 55.2	-0.6
CLL			*e*PKPab	PKPab	06 44 30.4	-0.9
CLL			*e*PP	PP	06 48 09.9	-1.5
CLL	**Collm**	**158.69 343**	⇓*i*PKIKP	PKPdf	06 43 54.8	-1.0
CLL			*i*		06 44 29.5	
CLL			*i*		06 48 09.8	
CLL			pmax	pmax		
	comp=Z,363nm,2.2s					
CLL			pmax	pmax		
	comp=Z,256nm,1.4s					
CLL			pmax	pmax		
	comp=Z,575nm,2.7s					
CLL			MLR	MLR		
	comp=Z,17µm,21.2s,MS6.9					
CLL	**Collm**	**158.69 343**	⇓*i*PKPdf	PKPdf	06 43 54.8	-1.0
	comp=Z,363nm,2.2s					
CLL			*e*PKPdiff	PKPdf	06 44 12.0	+16
CLL			*i* PKPab	PKPab	06 44 29.5	-1.8
	comp=Z,256nm,1.4s					
CLL			*i*		06 44 52.8	
CLL			*i* PP	PP	06 48 09.8	-1.6
	comp=Z,575nm,2.7s					
CLL			*e*PPIp		06 48 12.0	
	comp=Z,5µm,22.6s					
CLL			*e*PPP		06 51 43.0	
CLL			*e*PPPP		06 54 24.0	
CLL			*e*PSKS		06 58 36.0	
CLL			*e*PPS		07 01 31.0	
CLL			*e*SS	SS	07 08 18.0	+6.5
CLL			*e*PSPS		07 09 46.0	
CLL			*e*SSS		07 14 24.0	
CLL			*e*		07 19 30.0	
CLL			LmV		07 56 00.0	
	comp=Z,17µm,21.2s					
CLL			LmH		08 12 00.0	
	comp=N,11µm,18.5s					
CLL			LmH		08 12 00.0	
	comp=E,7µm,18.9s					
IBBN	**Ibbenburen**	**158.71 352**	*e*PKPdf	PKPdf	06 43 55.3	-0.5
IBBN			*e*PKPab	PKPab	06 44 30.6	-0.7
IBBN			*e*PP	PP	06 48 10.1	-1.2
CLZ	**Clausthal**	**158.76 348**	*e*PKPdf	PKPdf	06 43 55.6	-0.3
CLZ			*e*PKPab	PKPab	06 44 31.1	-0.5
CLZ	**Clausthal**	**158.76 348**	*e*PKIKP	PKPdf	06 43 55.6	-0.3
MCH1	**Michaelchurch**	**158.80 11**	*e*P	PKPdf	06 43 56.1	+0.2
MCH1			AMS	AMS	07 52 41.1	
	comp=Z,16µm,21.2s,MS6.8					
BRG	**Berggiesshubel**	**158.83 341**	*i* PKP	PKPdf	06 43 55.6	-0.4
	comp=Z,503nm,2.2s					
BRG			*i*		06 44 33.1	
	comp=Z,165nm,1.2s					
BRG			PP	PP	06 48 15.0	+2.8
BRG			*e*		06 58 21.0	
BRG			SS	SS	07 08 18.0	+4.9
BRG						
	comp=N,10µm,20.0s					
BRG						
	comp=E,5µm,20.9s					
BRG						
	comp=Z,13µm,21.4s					
BRG	**Berggiesshubel**	**158.83 341**	*e*PKPdf	PKPdf	06 43 55.5	-0.5
BRG			*e*PKPab	PKPab	06 44 31.3	-0.6
BRG	**Berggiesshubel**	**158.83 341**	*i* PKIKP	PKPdf	06 43 55.6	-0.4
BRG					06 48 15.0	
BRG			SS	SS	07 08 18.0	+4.9
BRG			pmax	pmax		
	comp=Z,503nm,2.3s					
BRG			MLR	MLR		
	comp=N,10µm,20.0s,MS6.7					
BRG			MLR	MLR		
	comp=E,5µm,20.9s,MS6.7					
BRG			MLR	MLR		
	comp=Z,13µm,21.4s,MS6.7					
PVCC	**Panska Ves**	**158.96 339**	*e*PKIKP	PKPdf	06 43 55.7	-0.5
PVCC			*e*		06 48 08.5	
PVCC			*e*SS	SS	07 08 17.5	+3.0
PVCC			MLR	MLR		
	comp=Z,17µm,19.7s,MS6.9					
PVCC	**Panska Ves**	**158.96 339**	*e*PKPDF	PKPdf	06 43 55.7	-0.5
PVCC			*e*PKPAB	PKPab	06 44 33.0	+0.5
PVCC			*e*PP	PP	06 48 08.5	-4.4
PVCC			*e*SS	SS	07 08 17.5	+3.0
PVCC			AMS	AMS	08 07 50.0	
	comp=Z,17µm,19.7s					
PSZ	**Piszkesteto**	**159.02 327**	*e*PKPdf	PKPdf	06 43 55.6	-0.7
PSZ			*e*PKPab	PKPab	06 44 33.3	+0.5
PSZ			LR	LR		
	comp=Z,19µm,20.0s,MS6.9					
PSZ	**Piszkesteto**	**159.02 327**	*e*PKIKP	PKPdf	06 43 55.6	-0.7
PSZ			*e*		06 44 33.3	
PSZ			MLR	MLR		
	comp=Z,19µm,20.0s,MS6.9					
PSZ	**Piszkesteto**	**159.02 327**	⇓*e*PKP	PKPdf	06 43 57.3	+1.0
PSZ			*e*PKP	PKPab	06 44 32.4	-0.5
GCAM	**G?zelcaml?**	**159.16 294**	*i* P	PKPdf	06 43 54.9	-2.0
KOLL	**Kolacno**	**159.19 331**	*e*PKIKP	PKPdf	06 43 56.3	-0.2
KOLL			*e*		06 48 14.2	
KOLL	**Kolacno**	**159.19 331**	*e*PKP	PKPdf	06 43 56.2	-0.3
KOLL			*e*		06 44 36.1	
KOLL			*e*PP	PP	06 48 14.2	-0.2
GZR	**Gura Zlata**	**159.19 318**	PKIKP	PKPdf	06 43 56.4	-0.2
GZR	**Gura Zlata**	**159.19 318**	⇓*i*P	PKPdf	06 43 56.1	-0.5
ALN	**Alexandroupoli**	**159.20 304**	*e*P	PKPdf	06 43 56.5	-0.3
ALN	**Alexandroupoli**	**159.20 304**	P	PKPdf	06 43 53.0	-3.8
VRAC	**Vranov**	**159.32 334**	PP	PP	06 48 13.3	-1.7
	comp=Z,12nm,1.0s,baz=59,slow=4.4,SNR=5.8					
VRAC	**Vranov**	**159.32 334**	PP	PP	06 48 13.3	-1.7
VRAC	**Vranov**	**159.32 334**	PKIKP	PKPdf	06 43 57.1	+0.5
VRAC	**Vranov**	**159.32 334**	⇓*i*P	PKPdf	06 43 58.0	+1.4
KDZ	**Kurdzhali**	**159.36 306**	P	PKPdf	06 43 55.5	-1.4
PRA	**Prague**	**159.40 339**	PKPDF	PKPdf	06 43 57.0	+0.3
PRA			PKPAB	PKPab	06 44 34.0	-0.4
PRA			PP	PP	06 48 18.0	+2.7
PRA			SS	SS	07 08 23.0	+3.8
PRA			AMS	AMS	08 00 00.0	
PRU	**Pruhonice**	**159.44 339**	*e*PKIKP	PKPdf	06 43 55.5	-1.2
PRU			*e*		06 44 34.5	
PRU			*e*		06 48 14.9	
PRU			*e*SS	SS	07 08 22.5	+2.9
PRU			MLR	MLR		
	comp=Z,14µm,19.0s,MS6.8					
PRU	**Pruhonice**	**159.44 339**	*e*PKPDF	PKPdf	06 43 55.5	-1.2
PRU			*e*PKPAB	PKPab	06 44 34.5	-0.1
PRU			*e*PP	PP	06 48 14.9	-0.6
PRU			*e*SS	SS	07 08 22.5	+2.9
PRU			AMS	AMS	08 03 30.0	
	comp=Z,14µm,19.0s					
SWN1	**Swindon**	**159.44 9**	AMS	AMS	08 00 16.2	
	comp=Z,16µm,18.7s,MS6.9					
RDO	**Rodhopi**	**159.47 305**	*e*P	PKPdf	06 43 57.3	+0.2
SMG	**Samos**	**159.47 295**	*e*P	PKPab	06 44 24.5	-11
HTL	**Hartland**	**159.49 14**	AMS	AMS	08 00 22.7	
	comp=Z,18µm,18.3s,MS7.0					
KARP	**Karpathos**	**159.52 288**	*e*P	PKPab	06 44 35.8	+0.3
KARP	**Karpathos**	**159.52 288**	P	PKPdf	06 43 55.9	-1.4
URLA	**Izmir**	**159.52 297**	*i* P	PKPdf	06 43 54.9	-2.3
PRK	**Paraskevi**	**159.54 299**	*e*P	PKPdf	06 43 59.1	+1.9
BUG	**Bochum--Univer**	**159.61 353**	*e*PKPdf	PKPdf	06 43 56.1	-0.8
BUG			*e*PKPab	PKPab	06 44 34.2	-1.1
BUG			*e*PP	PP	06 48 15.0	-1.3
MOX	**Moxa**	**159.64 344**	*e*PKPdf	PKPdf	06 43 56.4	-0.5
MOX			*e*PKPab	PKPab	06 44 34.6	-0.8
MOX			*e*PP	PP	06 48 15.6	-0.9
MOX	**Moxa**	**159.64 344**	*e*PKIKP	PKPdf	06 43 56.4	-0.5
SMOL	**Smolenice**	**159.64 332**	*e*PKIKP	PKPdf	06 43 58.9	+1.9
SMOL			*e*		06 48 15.7	
SMOL	**Smolenice**	**159.64 332**	*e*PKP	PKPdf	06 43 58.9	+1.9
SMOL			*e*		06 44 35.9	
SMOL			*e*PP	PP	06 48 15.7	-1.1
PLD	**Plovdiv**	**159.66 308**	P	PKPdf	06 43 55.6	-1.7
BZS	**Buzias**	**159.71 320**	PKIKP	PKPdf	06 43 56.5	-0.7
BZS	**Buzias**	**159.71 320**	⇑*i*P	PKPdf	06 43 56.2	-1.0
WOL	**Wolverton**	**159.71 8**	AMS	AMS	07 53 51.1	
	comp=Z,19µm,19.6s,MS6.9					
TREC	**Trest**	**159.73 336**	*e*PKIKP	PKPdf	06 43 56.5	-0.6
TREC			*e*		06 44 35.6	
TREC			*e*		06 48 15.5	
TREC			MLR	MLR		
	comp=Z,18µm,19.5s,MS6.9					
TREC	**Trest**	**159.73 336**	*e*PKPDF	PKPdf	06 43 56.5	-0.6
TREC			*e*PKPAB	PKPab	06 44 35.6	-0.3
TREC			*e*PP	PP	06 48 15.5	-1.7
TREC			AMS	AMS	08 04 20.0	
	comp=Z,18µm,19.5s					
BUD	**Budapest**	**159.74 328**	⇓*e*PKP	PKPdf	06 43 58.0	+0.8
BUD			*e*PKP	PKPab	06 44 40.1	+4.1
UBBA	**Unterbreizbach**	**159.81 347**	*e*PKPdf	PKPdf	06 43 56.4	-0.7
UBBA			*e*PKPab	PKPab	06 44 35.2	-0.9
UBBA			*e*PP	PP	06 48 15.1	-2.3
NKC	**Novy Kostel**	**159.81 342**	*e*PKIKP	PKPdf	06 43 57.8	+0.6
NKC			*e*		06 44 36.0	
NKC			MLR	MLR		
	comp=Z,20µm,18.4s,MS7.0					
NKC	**Novy Kostel**	**159.81 342**	*e*PKPDF	PKPdf	06 43 57.8	+0.6
NKC			*e*PKPAB	PKPab	06 44 36.0	-0.2
NKC			*e*PP	PP	06 48 09.7	-7.8
NKC			*e*SS	SS	07 08 30.7	+7.3
NKC			AMS	AMS	08 06 00.0	
	comp=Z,20µm,18.4s					
PGB	**Panagyurishte**	**159.82 310**	P	PKPdf	06 43 56.8	-0.6
RZN	**Rozhen**	**159.83 307**	P	PKPdf	06 43 56.4	-1.1
CHOS	**Chios island**	**159.93 297**	*e*P	PKPdf	06 43 59.0	+1.3
CHOS	**Chios island**	**159.93 297**	P	PKPdf	06 43 58.5	+0.8
ZST	**Bratislava**	**160.03 332**	*e*PKIKP	PKPdf	06 43 57.3	-0.2
ZST			*e*		06 48 15.5	
ZST	**Bratislava**	**160.03 332**	*e*PKP	PKPdf	06 43 57.3	-0.2
ZST			*e*		06 44 37.5	
ZST			*e*PP	PP	06 48 15.5	-3.4
LIA	**Limnos Island**	**160.15 302**	*e*P	PKPdf	06 44 00.1	+2.2
LIA	**Limnos Island**	**160.15 302**	P	PKPdf	06 43 56.1	-1.8
KAVA	**Kavala**	**160.24 305**	P	PKPdf	06 43 58.6	+0.7
ROTZ	**Rotzenmuhle**	**160.31 342**	*e*PKPdf	PKPdf	06 43 56.9	-0.8
ROTZ			*e*PKPab	PKPab	06 44 38.4	+0.1
ROTZ			*e*PP	PP	06 48 17.7	-2.4
BEBN	**Eben Emael**	**160.40 355**	PKPdf	PKPdf	06 43 59.1	+1.3
BEBN			PKPab	PKPab	06 44 39.9	+1.2
VTS	**Vitosha**	**160.43 311**	P	PKPdf	06 43 57.0	-1.1
VTS	**Vitosha**	**160.43 311**	⇓PKIKP	PKPdf	06 43 57.3	-0.8
VTS	**Vitosha**	**160.43 311**	P	PKPdf	06 43 58.8	+0.7
VTS	**Vitosha**	**160.43 311**	⇓*i*P	PKPdf	06 43 57.3	-0.8
KHC	**Kasperske Hory**	**160.49 339**	*e*PKPdf	PKPdf	06 43 57.4	-0.6
KHC			*e*PKPab	PKPab	06 44 38.8	-0.4
KHC	**Kasperske Hory**	**160.49 339**	*e*PKIKP	PKPdf	06 43 56.9	-1.0
KHC			*e*		06 44 39.3	
KHC			*e*		06 48 19.2	
KHC			MLR	MLR		
	comp=Z,22µm,21.3s					
KHC	**Kasperske Hory**	**160.49 339**	*e*PKPDF	PKPdf	06 43 56.9	-1.0
KHC			*e*PKPAB	PKPab	06 44 39.3	+0.1
KHC			*ex*	x	06 44 57.5	
KHC			*e*PP	PP	06 48 19.2	-2.0
KHC			*e*SS	SS	07 08 35.6	+4.9
KHC			AMS	AMS	07 58 20.0	
	comp=Z,22µm,21.3s					
MMB	**Musomiste**	**160.54 308**	P	PKPdf	06 43 56.0	-2.3
MEM	**Membach**	**160.56 355**	PKPdf	PKPdf	06 43 58.0	0.0
MEM			PKPab	PKPab	06 44 39.5	+0.1
APE	**Apeiranthos**	**160.61 293**	P	PKPdf	06 43 58.6	+0.1
APE	**Apeiranthos**	**160.61 293**	⇓PKIKP	PKPdf	06 43 58.5	0.0
APE	**Apeiranthos**	**160.61 293**	⇓*i*P	PKPdf	06 43 58.5	0.0
GRF	**Grafenberg Arr**	**160.62 344**	*e*PKPdf	PKPdf	06 43 57.5	-0.6
GRF			*e*PKPab	PKPab	06 44 39.5	-0.2
GRF			*e*L		07 58 05.6	
	comp=Z,18µm,21.1s					
GRF	**Grafenberg Arr**	**160.62 344**	*e*PKIKP	PKPdf	06 43 57.5	-0.6
GRFO	**Grafenberg**	**160.62 344**	*e*PKPdf	PKPdf	06 43 57.6	-0.5
GRFO			*e*PKPab	PKPab	06 44 39.7	0.0
GRFO	**Grafenberg**	**160.62 344**	*e*PKIKP	PKPdf	06 43 57.6	-0.5
GRFO			*e*		06 44 39.7	
TNS	**Taunus Mts**	**160.65 350**	*e*PKPdf	PKPdf	06 43 57.7	-0.4
TNS			*e*PKPab	PKPab	06 44 39.1	-0.7
TNS	**Taunus Mts**	**160.65 350**	*e*PKIKP	PKPdf	06 43 57.7	-0.4
SOP	**Sopron**	**160.66 332**	⇓*e*PKP	PKPdf	06 43 59.1	+0.9
SOP			*e*PKP	PKPab	06 44 40.7	+0.7
WET	**Wettzell**	**160.69 340**	*e*PKPdf	PKPdf	06 43 57.5	-0.7
WET			*e*PKPab	PKPab	06 44 40.1	+0.1
WET	**Wettzell**	**160.69 340**	*e*PKIKP	PKPdf	06 43 57.5	-0.7
GEC2	**GERESS Array S**	**160.71 339**	*e*PKPdf	PKPdf	06 43 57.5	-0.7
GEC2			*e*PKPab	PKPab	06 44 39.8	-0.3
GEC2	**GERESS Array S**	**160.71 339**	*e*PKIKP	PKPdf	06 43 57.5	-0.7
GERES	**GERESS Array B**	**160.71 339**	PKP	PKPdf	06 43 57.6	-0.5
	comp=Z,3.9nm,0.8s,baz=117,slow=0.6,SNR=16					
GERES			PKPab	PKPab	06 44 39.4	-0.7
	comp=Z,68nm,1.0s,baz=44,slow=4.1,SNR=14					
GERES	**GERESS Array B**	**160.71 339**	PKP	PKPdf	06 43 57.6	-0.5
GERES			PKPab	PKPab	06 44 39.4	-0.7
GERES	**GERESS Array B**	**160.71 339**	PKIKP	PKPdf	06 43 57.7	-0.5
GERES					06 44 39.4	
GERES			pmax	pmax		
	comp=Z,4.0nm,0.8s					
GERES			pmax	pmax		
	comp=Z,68nm,1.0s					
CONA	**Conrad Observa**	**160.73 333**	*i* PKPdf	PKPdf	06 43 58.0	-0.2
	comp=Z,84nm,2.0s,SNR=17					
CONA			⇓*i*PKPab	PKPab	06 44 40.1	-0.2
	comp=Z,161nm,1.3s					
SNF	**Seneffe**	**160.76 358**	PKPdf	PKPdf	06 43 58.5	+0.3
SNF			PKPab	PKPab	06 44 37.2	-3.1
XRY	**Khrisi**	**160.77 287**	*e*P	PKPab	06 44 23.7	-17
BCLA	**Clavier**	**160.80 356**	PKPdf	PKPdf	06 43 58.7	+0.5
NPS	**Neapolis**	**160.80 288**	*e*P	PKPdf	06 44 09.3	+11
NPS	**Neapolis**	**160.80 288**	P	PKPdf	06 43 57.4	-1.4
SRS	**Serrai**	**160.83 307**	P	PKPdf	06 43 55.1	-3.5
PKSM	**Moragy**	**160.85 326**	PKIKP	PKPdf	06 43 57.4	-1.0
KKB	**Krupnik**	**160.85 309**	P	PKPdf	06 43 57.3	-1.3
SOH	**Sokhos**	**161.12 306**	*e*P	PKPab	06 44 39.0	-3.3
GIVF	**Givet**	**161.14 357**	*e*PKIKP	PKPdf	06 43 58.2	-0.4
	comp=Z,883nm,1.9s					
GIVF	**Givet**	**161.14 357**	*e*PKPdf	PKPdf	06 43 58.2	-0.4
GIVF	**Givet**	**161.14 357**	*e*PKIKP	PKPdf	06 43 58.2	-0.4
DOU	**Dourbes**	**161.16 357**	PKPdf	PKPdf	06 43 58.0	-0.7
BAIF	**Baives**	**161.21 358**	*e*PKIKP	PKPdf	06 43 58.3	-0.4
	comp=Z,320nm,1.6s					
BAIF	**Baives**	**161.21 358**	*e*PKPdf	PKPdf	06 43 58.3	-0.4
BAIF	**Baives**	**161.21 358**	*e*PKIKP	PKPdf	06 43 58.3	-0.4
PLG	**Polygyros**	**161.23 305**	*e*P	PKPab	06 44 33.7	-9.1
PLG	**Polygyros**	**161.23 305**	P	PKPdf	06 43 57.4	-1.6
KNT	**Kendrikon**	**161.29 307**	P	PKPdf	06 43 53.7	-5.4
AOS	**Alonnisos**	**161.34 301**	P	PKPdf	06 43 59.3	+0.1
HORT	**Hortiatis**	**161.38 306**	P	PKPdf	06 43 57.4	-1.8
MOA	**Molln**	**161.38 336**	*i* PKPdf	PKPdf	06 43 58.3	-0.7
	comp=Z,33nm,1.6s,SNR=14					
MOA			⇓*i*PKPab	PKPab	06 44 43.9	+0.8
	comp=Z,185nm,1.2s					
IDI	**Anoyia**	**161.39 288**	*e*P	PKPdf	06 43 57.8	-1.6
IDI	**Anoyia**	**161.39 288**	P	PKPdf	06 43 59.2	-0.2
IDI	**Anoyia**	**161.39 288**	*e*PKPdf	PKPdf	06 43 59.0	-0.3
IDI			*e*PKPab	PKPab	06 44 44.8	+1.1
ARSA	**Arzberg**	**161.42 333**	*i* PKPdf	PKPdf	06 43 58.3	-0.7
	comp=Z,58nm,2.0s,SNR=15					
ARSA			⇑*i*PKPab	PKPab	06 44 43.5	+0.2
	comp=Z,70nm,1.2s					
VAY	**Valandovo**	**161.44 308**	*e*Sn	PKPab	06 44 44.1	+0.4
WLF	**Walferdange**	**161.48 354**	PKPdf	PKPdf	06 43 59.6	+0.6
WLF			PKPab	PKPab	06 44 43.7	+0.3
WLF	**Walferdange**	**161.48 354**	*e*PKPdf	PKPdf	06 43 59.1	+0.1
WLF			*e*PKPab	PKPab	06 44 43.1	-0.4
WLF			*e*PP	PP	06 48 25.3	-1.0
WLF	**Walferdange**	**161.48 354**	*e*PKPdf	PKPdf	06 43 59.1	+0.1
WLF			*e*PKPab	PKPab	06 44 43.5	0.0
WLF			*e*PP	PP	06 48 24.3	-2.0
WLF			LR	LR		
	comp=Z,25µm,20.0s					
WLF	**Walferdange**	**161.48 354**	*e*PKIKP	PKPdf	06 43 59.1	+0.1
WLF			*e*		06 44 43.5	
WLF			*e*		06 48 24.3	
WLF			MLR	MLR		
	comp=Z,25µm,20.0s					
SIVA	**Sivas**	**161.48 287**	*e*P	PKPab	06 44 29.5	-15
DIVS	**Divibare**	**161.56 319**	P	PKPdf	06 43 58.5	-0.8
JSA	**Saint Aubin**	**161.65 11**	AMS	AMS	07 58 37.5	
	comp=Z,16µm,19.1s					
GRG	**Griva**	**161.72 307**	P	PKPdf	06 43 57.6	-1.9
KOGS	**Kog**	**161.76 330**	*e*PKPdf	PKPdf	06 43 58.7	-0.7
KOGS			*e*PKPab	PKPab	06 44 43.8	-1.1
NEO	**Neokhori**	**161.78 302**	P	PKPdf	06 44 00.0	+0.3
VLY	**Voula,Athens**	**161.79 297**	*e*P	PKPab	06 44 34.9	-10
VLY	**Voula,Athens**	**161.79 297**	P	PKPdf	06 43 57.4	-2.3
TORD	**Torodi Ar. Bea**	**161.92 175**	PKP	PKPdf	06 44 00.5	0.0
	comp=Z,9.4nm,0.8s,baz=250,slow=0.6,SNR=52					
TORD			PKPab	PKPab	06 44 47.7	+1.5
	comp=Z,135nm,1.0s,baz=188,slow=3.2,SNR=22					
TORD			PP	PP	06 48 30.0	+1.4
	comp=Z,16nm,1.0s,baz=150,slow=5.3,SNR=4.7					
TORD	**Torodi Ar. Bea**	**161.92 175**	PKP	PKPdf	06 44 00.5	0.0
TORD			PKPab	PKPab	06 44 47.7	+1.5
TORD			PP	PP	06 48 30.0	+1.4
STU	**Stuttgart**	**161.92 347**	*e*PKPdf	PKPdf	06 43 58.7	-0.8
STU			*e*PKPab	PKPab	06 44 44.6	-0.8
STU	**Stuttgart**	**161.92 347**	*e*PKPdf	PKPdf	06 43 59.1	-0.4
STU	**Stuttgart**	**161.92 347**	*e*PKIKP	PKPdf	06 43 59.1	-0.4
VAM	**Vamos**	**161.94 289**	*e*P	PKPab	06 44 45.1	-1.0
VAM	**Vamos**	**161.94 289**	P	PKPdf	06 43 59.3	-0.6
LANF	**Langenberg**	**161.96 350**	PKP	PKPdf	06 43 59.0	-0.5
RJOB	**Jochberg**	**161.97 339**	*e*PKPdf	PKPdf	06 43 58.5	-1.1
RJOB			*e*PKPab	PKPab	06 44 45.8	+0.1
LIT	**Litokhoron**	**162.01 305**	*e*P	PKPdf	06 43 58.6	-1.3
LIT	**Litokhoron**	**162.01 305**	P	PKP

WTTA	**Wattenberg**	162.74	340	⇓iPKPdf	PKPdf	06 43 59.5	-0.8
	comp=Z,143nm,2.3s,SNR=25						
WTTA				⇑iPKPab	PKPab	06 44 49.1	+0.1
	comp=Z,218nm,1.2s						
RETA	**Reutte**	162.78	342	i PKPdf	PKPdf	06 43 60.0	-0.4
	comp=Z,50nm,1.9s,SNR=9.7						
RETA				⇑iPKPab	PKPab	06 44 49.2	0.0
	comp=Z,135nm,1.1s						
ECH	**Echery**	162.80	351	ePKPdf	PKPdf	06 43 59.4	-0.9
ECH				ePKPab	PKPab	06 44 47.8	-1.5
ECH				LR	LR		
	comp=Z,22µm,21.0s						
ECH	**Echery**	162.80	351	ePKIKP	PKPdf	06 43 59.4	-1.0
ECH				e		06 44 47.8	
ECH				MLR	MLR		
	comp=Z,22µm,21.0s						
ECH	**Echery**	162.80	351	PKP	PKPdf	06 43 59.4	-1.0
LJU	**Ljubljana**	162.80	332	ePKPdf	PKPdf	06 44 00.1	-0.4
LJU				ePKPab	PKPab	06 44 48.2	-1.2
LJU				ePP	PP	06 48 33.1	-0.6
LJU				e		07 02 16.8	
MOTA	**Moosalm**	162.82	341	⇑iPKPdf	PKPdf	06 43 59.9	-0.6
	comp=Z,24nm,0.8s,SNR=12						
MOTA				⇑iPKPab	PKPab	06 44 49.1	-0.3
	comp=Z,95nm,0.9s						
NEST	**Nestorio**	162.88	307	P	PKPdf	06 43 59.8	-0.9
PMAR	**Madeira**	162.92	80	ePKPdf	PKPdf	06 44 03.3	+2.3
NKY	**Niksic**	162.92	317	⇑iPKP	PKPdf	06 43 58.8	-1.9
THEF	**They Montfort**	162.92	354	PKP	PKPdf	06 43 59.0	-1.5
FUL	**Funchal**	162.93	80	ePKPdf	PKPdf	06 44 04.8	+3.8
FUL	**Funchal**	162.93	80	ePKPab	PKPab	06 44 55.2	+4.6
FUL	**Funchal**	162.93	80	ePP	PP	06 48 37.2	+1.3
BOJS	**Bojanci**	162.94	330	ePKPdf	PKPdf	06 44 00.1	-0.5
BOJS				ePP	PP	06 48 32.0	-2.5
BOJS				eSS	SS	07 08 53.8	-2.8
BOJS				e		07 15 00.2	
BOJS				e		07 48 10.7	
EVR	**Evrytania**	162.94	302	eP	PKPdf	06 44 05.6	+4.8
CADS	**Cadrg**	162.95	334	ePKPdf	PKPdf	06 43 59.5	-1.1
TTG	**Podgorica**	162.99	315	⇑iPKP	PKPdf	06 43 58.4	-2.4
VOY	**Vojsko**	163.06	334	ePKPdf	PKPdf	06 44 00.2	-0.5
VOY				ePKPab	PKPab	06 44 49.1	-1.4
VOY				e		06 44 51.3	
VOY				e		06 45 29.2	
HAU	**Haudompre**	163.10	353	ePKIKP	PKPdf	06 44 00.1	-0.6
	comp=Z,424nm,1.6s						
HAU				eR			
	comp=Z,24µm,20.2s						
HAU	**Haudompre**	163.10	353	ePKPdf	PKPdf	06 44 00.1	-0.6
HAU	**Haudompre**	163.10	353	ePKIKP	PKPdf	06 44 00.1	-0.6
BRY	**Bratogost**	163.13	318	⇑iPKP	PKPdf	06 43 59.2	-1.7
MOF	**Molkenrain**	163.16	351	PKP	PKPdf	06 44 00.3	-0.4
DAVA	**Damuels**	163.19	344	i PKPdf	PKPdf	06 44 00.7	-0.1
	comp=Z,65nm,1.8s,SNR=10						
DAVA				⇓iPKPab	PKPab	06 44 51.3	+0.3
	comp=Z,71nm,1.0s						
TIR	**Tirane**	163.21	311	PFAKE		06 44 10.0	+9.0
TIR				LR	LR		
	comp=Z,18µm,20.0s						
FETA	**Feichten**	163.22	342	i PKPdf	PKPdf	06 44 00.5	-0.3
	comp=Z,54nm,1.1s,SNR=24						
HINF	**Hinteralfeld**	163.23	351	ePKIKP	PKPdf	06 44 00.0	-0.8
	comp=Z,667nm,1.9s						
HINF	**Hinteralfeld**	163.23	351	ePKPdf	PKPdf	06 44 00.0	-0.8
HINF	**Hinteralfeld**	163.23	351	ePKIKP	PKPdf	06 44 00.0	-0.8
ULC	**Ulcinj**	163.26	314	⇑iPKP	PKPdf	06 43 59.7	-1.3
BUM	**Brajici-Budva**	163.28	316	ePKP	PKPdf	06 43 58.4	-2.6
JAN	**Janina**	163.34	305	P	PKPdf	06 44 00.3	-0.9
ITM	**Ithomi**	163.39	296	eP	PKPab	06 44 45.9	-6.5
ITM	**Ithomi**	163.39	296	P	PKPdf	06 43 59.8	-1.5
PMPS	**Porto Santo**	163.41	79	ePKPdf	PKPdf	06 44 03.2	+1.7
PMPS	**Porto Santo**	163.41	79	ePKPab	PKPab	06 44 54.6	+2.0
HCY	**Herceg Novi**	163.43	317	⇑iPKP	PKPdf	06 43 57.7	-3.5
RLS	**Riolos of Patr**	163.49	299	eP	PKPdf	06 43 56.6	-4.8
RLS	**Riolos of Patr**	163.49	299	P	PKPdf	06 44 00.4	-1.0
DAVOX	**Davos/Dischmat**	163.66	343	PKP	PKPdf	06 44 00.6	-0.6
	comp=Z,19nm,0.8s,baz=48,slow=4.5,SNR=20						
DAVOX				PKPab	PKPab	06 44 52.3	-0.8
	comp=Z,27nm,0.7s,baz=37,slow=4.2,SNR=6.8						
DAVOX				PP	PP	06 48 39.7	+1.7
	comp=Z,5.1nm,0.9s,baz=1.2,slow=7.5,SNR=4.2						
DAVOX	**Davos/Dischmat**	163.66	343	PKP	PKPdf	06 44 00.6	-0.6
DAVOX				PKPab	PKPab	06 44 52.3	-0.8
DAVOX				PP	PP	06 48 39.7	+1.7
DAVOX	**Davos/Dischmat**	163.66	343	PKIKP	PKPdf	06 44 00.6	-0.6
DAVOX						06 44 52.3	
DAVOX						06 48 39.7	
LOMF	**Lomont**	163.69	351	PKP	PKPdf	06 44 00.8	-0.5
LOR	**Lormes**	164.01	358	ePKIKP	PKPdf	06 44 01.3	-0.2
	comp=Z,604nm,1.9s						
LOR				eR			
	comp=Z,21µm,19.8s						
LOR	**Lormes**	164.01	358	ePKPdf	PKPdf	06 44 01.3	-0.2
LOR	**Lormes**	164.01	358	ePKIKP	PKPdf	06 44 01.3	-0.2
HYF	**Humbligny**	164.01	1	ePKIKP	PKPdf	06 44 01.6	0.0
HYF	**Humbligny**	164.01	1	ePKPdf	PKPdf	06 44 01.6	0.0
KEK	**Kerkira**	164.05	306	P	PKPdf	06 44 01.3	-0.5
TUE	**Stuetta**	164.08	344	ePKPdf	PKPdf	06 44 01.0	-0.7
TUE				ePKPab	PKPab	06 44 53.6	-1.3
TUE				ePP	PP	06 48 39.6	-0.6
TUE				LR	LR		
	comp=Z,25µm,20.0s						
VLS	**Valsamata**	164.10	300	eP	PKPab	06 44 43.4	-12
VLS	**Valsamata**	164.10	300	P	PKPdf	06 44 01.2	-0.7
SSF	**Saint Saulge**	164.22	359	ePKIKP	PKPdf	06 44 01.4	-0.3
	comp=Z,264nm,1.5s						
SSF	**Saint Saulge**	164.22	359	ePKPdf	PKPdf	06 44 01.4	-0.3
SSF	**Saint Saulge**	164.22	359	ePKIKP	PKPdf	06 44 01.4	-0.3
MFF	**Saint Martin d**	164.47	9	ePKIKP	PKPdf	06 44 01.8	-0.2
	comp=Z,439nm,1.8s						
MFF	**Saint Martin d**	164.47	9	ePKPdf	PKPdf	06 44 01.8	-0.2
MFF	**Saint Martin d**	164.47	9	ePKIKP	PKPdf	06 44 01.8	-0.2
AVF	**Avril sur Loir**	164.50	359	ePKIKP	PKPdf	06 44 01.5	-0.5
	comp=Z,105nm,1.3s						
AVF	**Avril sur Loir**	164.50	359	ePKPdf	PKPdf	06 44 01.5	-0.5
AVF	**Avril sur Loir**	164.50	359	ePKIKP	PKPdf	06 44 01.5	-0.5
CABF	**La Chapelle**	164.51	352	ePKIKP	PKPdf	06 44 02.1	+0.1
	comp=Z,870nm,1.9s						
CABF	**La Chapelle**	164.51	352	ePKPdf	PKPdf	06 44 02.1	+0.1
CABF	**La Chapelle**	164.51	352	ePKIKP	PKPdf	06 44 02.1	+0.1
SMF	**Signal de Mont**	164.63	358	ePKIKP	PKPdf	06 44 01.6	-0.5
SMF	**Signal de Mont**	164.63	358	ePKPdf	PKPdf	06 44 01.6	-0.5
SMF	**Signal de Mont**	164.63	358	ePKIKP	PKPdf	06 44 01.6	-0.5
BGF	**Bois d'Agland**	164.73	1	ePKIKP	PKPdf	06 44 02.0	-0.2
	comp=Z,691nm,1.7s						
BGF	**Bois d'Agland**	164.73	1	ePKPdf	PKPdf	06 44 02.0	-0.2
BGF	**Bois d'Agland**	164.73	1	ePKIKP	PKPdf	06 44 02.0	-0.2
TCF	**Toulx Ste Croi**	164.98	3	ePKIKP	PKPdf	06 44 02.1	-0.3
	comp=Z,343nm,1.6s						
TCF	**Toulx Ste Croi**	164.98	3	ePKPdf	PKPdf	06 44 02.1	-0.3
TCF	**Toulx Ste Croi**	164.98	3	ePKIKP	PKPdf	06 44 02.1	-0.3
AGO	**Saint Agoulin**	165.24	0	PKP	PKPdf	06 44 02.8	+0.1
PLDF	**La Plantade**	165.31	359	PKP	PKPdf	06 44 02.5	-0.2
LPL	**La Plagne**	165.50	350	ePKIKP	PKPdf	06 44 03.0	+0.1
	comp=Z,128nm,1.4s						
LPL	**La Plagne**	165.50	350	ePKPdf	PKPdf	06 44 03.0	+0.1
LPL	**La Plagne**	165.50	350	ePKIKP	PKPdf	06 44 03.0	+0.1
LPG	**La Plagne**	165.51	350	ePKIKP	PKPdf	06 44 03.3	+0.4
	comp=Z,70nm,0.9s						
LPG	**La Plagne**	165.51	350	ePKPdf	PKPdf	06 44 03.3	+0.4
LPG	**La Plagne**	165.51	350	ePKIKP	PKPdf	06 44 03.3	+0.4
PYM	**Petit Puy Mans**	165.54	0	PKP	PKPdf	06 44 02.3	-0.6
GDM	**Grand'Maison**	165.89	351	PKP	PKPdf	06 44 03.8	+0.6
GRN	**Grenoble**	165.90	352	PKP	PKPdf	06 44 03.9	+0.7
RJF	**Les Rejaudoux**	165.93	5	ePKIKP	PKPdf	06 44 03.2	-0.1
	comp=Z,403nm,1.8s						
RJF				eR			
	comp=Z,26µm,19.0s						
RJF	**Les Rejaudoux**	165.93	5	ePKPdf	PKPdf	06 44 03.2	-0.1
RJF	**Les Rejaudoux**	165.93	5	ePKIKP	PKPdf	06 44 03.2	-0.1
PGAV	**Gavieira, Arco**	165.94	37	ePKPdf	PKPdf	06 44 05.0	+1.6
PGAV	**Gavieira, Arco**	165.94	37	ePKPab	PKPab	06 45 03.7	+0.3
PGAV	**Gavieira, Arco**	165.94	37	ePP	PP	06 48 50.4	-0.1
PGAV				eSS	SS	07 09 31.1	+3.2
PGAV				eLQ		07 32 10.4	
PGAV				eLR	LR	07 44 13.0	
	comp=Z,23µm,22.0s						
BNI	**Bardonecchia**	165.96	350	ePKPdf	PKPdf	06 44 03.8	+0.5
BNI				ePKPab	PKPab	06 45 04.0	+0.7
BNI				LR	LR		
	comp=Z,30µm,22.0s						
BNI	**Bardonecchia**	165.96	350	ePKIKP	PKPdf	06 44 03.8	+0.5
BNI				MLR	MLR		
	comp=Z,30µm,22.0s						
SSB	**Saint Sauveur**	165.97	356	ePKPdf	PKPdf	06 44 03.2	-0.1
SSB				LR	LR		
	comp=Z,17µm,19.0s						
SSB	**Saint Sauveur**	165.97	356	ePKIKP	PKPdf	06 44 03.2	-0.1
SSB				MLR	MLR		
	comp=Z,17µm,19.0s						
LBL	**Lubilhac**	166.06	360	PKP	PKPdf	06 44 02.5	-0.9
LFF	**La Frestale**	166.22	7	ePKIKP	PKPdf	06 44 03.7	+0.2
LFF	**La Frestale**	166.22	7	ePKPdf	PKPdf	06 44 03.7	+0.2
LFF	**La Frestale**	166.22	7	ePKIKP	PKPdf	06 44 03.7	+0.2
AQU	**L'Aquila**	166.23	326	PFAKE		06 44 10.0	+6.4
AQU				LR	LR		
	comp=Z,23µm,21.0s						
PCAB	**Cabril**	166.25	38	ePKPdf	PKPdf	06 44 07.0	+3.4
MBDF	**Montbardon**	166.26	349	ePKIKP	PKPdf	06 44 03.4	-0.1
	comp=Z,365nm,1.7s						
MBDF	**Montbardon**	166.26	349	ePKPdf	PKPdf	06 44 03.4	-0.1
MBDF	**Montbardon**	166.26	349	ePKIKP	PKPdf	06 44 03.4	-0.1
CAF	**Calviac**	166.34	3	ePKIKP	PKPdf	06 44 03.8	+0.2
	comp=Z,98nm,1.2s						
CAF	**Calviac**	166.34	3	ePKPdf	PKPdf	06 44 03.8	+0.2
CAF	**Calviac**	166.34	3	ePKIKP	PKPdf	06 44 03.8	+0.2
TIP	**Timpagrande**	166.37	309	ePKPdf	PKPdf	06 44 04.2	+0.3
TIP				ePKPab	PKPab	06 45 05.6	+0.2
TIP				LR	LR		
	comp=Z,20µm,20.0s						
VIVF	**Saint-Julien-l**	166.38	355	ePKIKP	PKPdf	06 44 03.7	+0.1
	comp=Z,392nm,1.6s						
VIVF	**Saint-Julien-l**	166.38	355	ePKPdf	PKPdf	06 44 03.7	+0.1
VIVF	**Saint-Julien-l**	166.38	355	ePKIKP	PKPdf	06 44 03.7	+0.1
SURF	**Saint Ours**	166.50	349	PKP	PKPdf	06 44 03.8	+0.1
CUC	**Castrocucco**	166.52	314	PFAKE		06 44 10.0	+6.1
CUC				LR	LR		
	comp=Z,13µm,20.0s						
POLO	**Lamas de Olo**	166.61	38	ePKPdf	PKPdf	06 44 06.1	+2.2
POLO	**Lamas de Olo**	166.61	38	ePKPab	PKPab	06 45 06.9	+0.5
POLO	**Lamas de Olo**	166.61	38	ePP	PP	06 48 54.4	+0.4
POLO				eSS	SS	07 09 40.6	+5.9
POLO				eLR	LR	07 42 51.8	
	comp=Z,12µm,20.0s						
PVRL	**Vila Real**	166.72	38	ePKPdf	PKPdf	06 44 06.3	+2.3
PVRL	**Vila Real**	166.72	38	ePKPab	PKPab	06 45 07.4	+0.6
PVRL	**Vila Real**	166.72	38	ePP	PP	06 48 55.0	+0.5
PBRG	**Braganca**	166.83	34	eSS	SS	07 09 40.7	+4.0
PBRG				eLQ		07 33 07.3	
PBRG				eLR	LR	07 49 04.7	
	comp=Z,28µm,18.0s						
SAOF	**Saorge**	166.83	346	PKP	PKPdf	06 44 02.3	-1.7
AUTN	**L'Aution**	166.85	346	PKP	PKPdf	06 44 03.0	-1.0
TOUF	**Mont Tournerai**	166.87	347	PKP	PKPdf	06 44 04.1	+0.1
LUCF	**Luceram**	166.97	346	PKP	PKPdf	06 44 02.3	-1.8
SBF	**Sospel**	166.98	346	ePKIKP	PKPdf	06 44 03.4	-0.7
SBF	**Sospel**	166.98	346	ePKPdf	PKPdf	06 44 03.4	-0.7
SBF	**Sospel**	166.98	346	ePKIKP	PKPdf	06 44 03.4	-0.7
MVIF	**Mont Vial**	167.00	347	PKP	PKPdf	06 44 02.3	-1.8
PVIS	**Viseu**	167.02	40	ePKPdf	PKPdf	06 44 05.7	+1.4
PVIS	**Viseu**	167.02	40	ePKPab	PKPab	06 45 08.3	+0.1
PVIS	**Viseu**	167.02	40	ePP	PP	06 49 00.1	+4.0
STOF	**St-Etienne Org**	167.10	351	PKP	PKPdf	06 44 05.2	+1.0
MVO	**Moncorvo**	167.16	37	ePKPdf	PKPdf	06 44 06.1	+1.7
MVO	**Moncorvo**	167.16	37	ePKPab	PKPab	06 45 09.5	+0.7
MVO	**Moncorvo**	167.16	37	ePP	PP	06 48 57.9	+1.1
MVO				eSS	SS	07 09 47.0	+6.8
MVO				eLQ		07 33 06.4	
MVO				eLR	LR	07 44 36.7	
SMRF	**Simiane la Rot**	167.17	352	ePKIKP	PKPdf	06 44 04.4	+0.1
	comp=Z,536nm,1.8s						
SMRF	**Simiane la Rot**	167.17	352	ePKPdf	PKPdf	06 44 04.4	+0.1
LASF	**Ste Croix**	167.20	358	ePKIKP	PKPdf	06 44 04.4	+0.1
	comp=Z,424nm,1.8s						
LASF	**Ste Croix**	167.20	358	ePKPdf	PKPdf	06 44 04.4	+0.1
PMAFR	**Mafra**	167.26	50	ePKPdf	PKPdf	06 44 06.9	+2.4
PMAFR	**Mafra**	167.26	50	ePKPab	PKPab	06 45 09.0	-0.4
PMAFR	**Mafra**	167.26	50	ePP	PP	06 48 58.1	+0.4
PMAFR				eSS	SS	07 10 07.3	+25
PMAFR				eLQ		07 33 01.0	
PMAFR				eLR	LR	07 45 49.9	
	comp=Z,24µm,20.0s						
VILF	**Villemus**	167.27	352	PKP	PKPdf	06 44 03.8	-0.5
PRAF	**Pradon**	167.38	353	PKP	PKPdf	06 44 01.5	-2.9
CEL	**Celeste**	167.42	307	ePKPdf	PKPdf	06 44 05.1	+0.5
CEL				ePKPab	PKPab	06 45 10.5	+0.4
CEL				LR	LR		
	comp=Z,22µm,19.0s						
FRF	**La Foret Royal**	167.42	348	ePKIKP	PKPdf	06 44 04.0	-0.5
	comp=Z,225nm,1.6s						
FRF	**La Foret Royal**	167.42	348	ePKPdf	PKPdf	06 44 04.0	-0.5
FRF	**La Foret Royal**	167.42	348	ePKIKP	PKPdf	06 44 04.0	-0.5
MTE	**Manteigas**	167.43	41	ePKPdf	PKPdf	06 44 06.5	+1.9
MTE	**Manteigas**	167.43	41	ePKPab	PKPab	06 45 09.8	-0.2
MTE	**Manteigas**	167.43	41	ePP	PP	06 48 57.7	-0.5
MTE				eSS	SS	07 09 55.5	+12
MTE				eLQ		07 33 03.0	
MTE				eLR	LR	07 45 49.8	
	comp=Z,36µm,18.0s						
MTE	**Manteigas**	167.43	41	ePKPdf	PKPdf	06 44 04.5	-0.1
MTE				LR	LR		
	comp=Z,38µm,20.0s						
PTOM	**Tomar**	167.43	45	ePKPdf	PKPdf	06 44 05.7	+1.1
PTOM	**Tomar**	167.43	45	ePKPab	PKPab	06 45 13.0	+2.9
PTOM	**Tomar**	167.43	45	ePP	PP	06 48 58.2	-0.2
TAVF	**Tavernes**	167.46	350	PKP	PKPdf	06 44 02.6	-1.9
LIS	**Lisbon**	167.48	50	eP	PKPdf	06 44 04.7	0.0
LIS				ePP	PP	06 48 58.9	+0.1
LIS				eSS	SS	07 09 44.0	-0.3
LIS				AMS	AMS	07 57 55.6	
	comp=Z,31µm,20.4s						
LIS	**Lisbon**	167.48	50	ePP	PP	06 48 58.9	0.0
LIS				eSS	SS	07 09 44.0	-0.3
LIS				A		07 57 55.6	
	comp=Z,31µm,20.4s						
LIS	**Lisbon**	167.48	50	ePKIKP	PKPdf	06 44 04.7	0.0
LIS				e		06 48 58.9	
LIS				eSS	SS	07 09 44.0	-0.3
OSSF	**Osses**	167.53	15	PKP	PKPdf	06 44 05.2	+0.7
TREF	**Trevaresse**	167.54	352	PKP	PKPdf	06 44 04.3	-0.2
ORDF	**Ordiarp**	167.64	14	PKP	PKPdf	06 44 04.9	+0.3
LMR	**La Mourre**	167.66	348	ePKIKP	PKPdf	06 44 04.2	-0.4
	comp=Z,186nm,1.6s						
LMR	**La Mourre**	167.66	348	ePKPdf	PKPdf	06 44 04.2	-0.4
LMR	**La Mourre**	167.66	348	ePKIKP	PKPdf	06 44 04.2	-0.4
SJPF	**Ste Jean**	167.67	15	ePKIKP	PKPdf	06 44 05.4	+0.7
	comp=Z,922nm,1.9s						
SJPF	**Ste Jean**	167.67	15	ePKPdf	PKPdf	06 44 05.4	+0.7
SJPF	**Ste Jean**	167.67	15	ePKIKP	PKPdf	06 44 05.4	+0.7
BERF	**Bertagne**	167.81	351	PKP	PKPdf	06 44 03.1	-1.6
PGF	**Pioggiola**	167.81	339	ePKIKP	PKPdf	06 44 04.1	-0.7
	comp=Z,499nm,1.9s						
PGF	**Pioggiola**	167.81	339	ePKPdf	PKPdf	06 44 04.1	-0.7
PGF	**Pioggiola**	167.81	339	ePKIKP	PKPdf	06 44 04.1	-0.7
ATE	**Arette**	167.81	13	PKP	PKPdf	06 44 05.5	+0.7
PCBR	**Castelo Branco**	167.84	42	ePKPdf	PKPdf	06 44 06.2	+1.3
PCBR	**Castelo Branco**	167.84	42	ePKPab	PKPab	06 45 08.8	-3.1
PMTG	**Montargil**	167.88	47	ePKPdf	PKPdf	06 44 07.0	+2.1
PMTG	**Montargil**	167.88	47	ePKPab	PKPab	06 45 11.7	-0.4
PMTG	**Montargil**	167.88	47	ePP	PP	06 49 03.4	+2.6
PMTG				eSS	SS	07 10 05.6	+18
PMTG				eLQ		07 33 09.3	
PMTG				eLR	LR	07 45 33.7	
	comp=Z,21µm,20.0s						
REYF	**Montagne du Re**	167.89	12	PKP	PKPdf	06 44 06.0	+1.2
MTLF	**Montolieu**	167.92	3	ePKIKP	PKPdf	06 44 04.9	+0.1
	comp=Z,439nm,1.9s						
MTLF	**Montolieu**	167.92	3	ePKPdf	PKPdf	06 44 04.9	+0.1
MTLF	**Montolieu**	167.92	3	ePKIKP	PKPdf	06 44 04.9	+0.1
ETSF	**Etsaut**	168.02	13	ePKIKP	PKPdf	06 44 05.9	+1.0
ETSF	**Etsaut**	168.02	13	ePKPdf	PKPdf	06 44 05.9	+1.0
ETSF	**Etsaut**	168.02	13	ePKIKP	PKPdf	06 44 05.9	+1.0
EPF	**Esparros**	168.05	10	ePKIKP	PKPdf	06 44 05.3	+0.4
	comp=Z,205nm,1.1s						
EPF	**Esparros**	168.05	10	ePKPdf	PKPdf	06 44 05.3	+0.4
EPF	**Esparros**	168.05	10	ePKIKP	PKPdf	06 44 05.3	+0.4
VIEF	**Viey**	168.14	11	PKP	PKPdf	06 44 06.4	+1.4
PMRV	**Marv??o**	168.16	44	ePKPdf	PKPdf	06 44 07.3	+2.2
PMRV	**Marv??o**	168.16	44	ePKPab	PKPab	06 45 13.4	+0.1
PMRV	**Marv??o**	168.16	44	ePP	PP	06 49 03.7	+1.6
PMRV				eSS	SS	07 10 11.0	+20
PMRV				eLQ		07 33 18.4	
PMRV				eLR	LR	07 44 45.0	
	comp=Z,26µm,18.0s						
MLS	**Moulis**	168.22	7	PKP	PKPdf	06 44 06.0	+1.0
PNCL	**Nicolau / Gran**	168.22	51	ePKPdf	PKPdf	06 44 06.2	+1.0
PNCL	**Nicolau / Gran**	168.22	51	ePKPab	PKPab	06 45 13.8	+0.2
PNCL	**Nicolau / Gran**	168.22	51	ePP	PP	06 49 04.3	+1.7
PNCL				eSS	SS	07 10 02.0	+10
PNCL				eLQ		07 33 38.2	
PNCL				eLR	LR	07 43 49.4	
	comp=Z,20µm,20.0s						
EVOP	**Sao Brissos**	168.25	49	ePKPdf	PKPdf	06 44 06.6	+1.4
EVOP	**Sao Brissos**	168.25	49	ePKIKP	PKPdf	06 44 06.6	+1.4
RESF	**Ens**	168.26	10	PKP	PKPdf	06 44 06.0	+0.9
EVO	**Evora**	168.32	49	ePKIKP	PKPdf	06 44 06.6	+1.3
	comp=Z,876nm,1.9s						
EVO				eR			
	comp=Z,42µm,21.0s						
EVO	**Evora**	168.32	49	ePKPdf	PKPdf	06 44 07.0	+1.7
EVO	**Evora**	168.32	49	ePKPab	PKPab	06 45 13.9	-0.2
EVO	**Evora**	168.32	49	ePP	PP	06 49 04.8	+1.7
LRDF	**Laroque-de-Fa**	168.34	2	PKP	PKPdf	06 44 04.5	-0.6
PTEO	**Sao Teotonio**	168.37	54	ePKPdf	PKPdf	06 44 06.5	+1.2
PTEO	**Sao Teotonio**	168.37	54	ePKPab	PKPab	06 45 15.0	+0.7
PESTR	**Estremoz**	168.39	46	ePKPdf	PKPdf	06 44 07.0	+1.7
PESTR	**Estremoz**	168.39	46	ePKPab	PKPab	06 45 12.3	-2.0
PESTR	**Estremoz**	168.39	46	ePP	PP	06 49 06.0	+2.6
PESTR				eSS	SS	07 10 05.6	+12
PESTR				eLQ		07 33 21.1	
PESTR				eLR	LR	07 45 41.5	
	comp=Z,21µm,20.0s						
PFVI	**Vila Bisbo**	168.49	56	eSS	SS	07 10 02.3	+7.5
PFVI				eLQ		07 33 39.6	
PFVI				eLR	LR	07 44 59.2	
	comp=Z,28µm,18.0s						
MORF	**Marmelete**	168.54	55	ePKPdf	PKPdf	06 44 06.9	+1.5
MORF	**Marmelete**	168.54	55	ePKPab	PKPab	06 45 15.7	+0.6
MORF	**Marmelete**	168.54	55	ePP	PP	06 49 06.0	+1.6
MORF				eSS	SS	07 10 24.6	+29
MORF				eLR	LR	07 44 33.7	
	comp=Z,23µm,20.0s						
MORF	**Marmelete**	168.54	55	ePKIKP	PKPdf	06 44 05.0	-0.4
MORF				e		06 49 04.9	
MORF				eSS	SS	07 09 55.4	+0.3
PBEJ	**Beja**	168.70	50	ePKPdf	PKPdf	06 44 07.2	+1.7
PBEJ	**Beja**	168.70	50	ePKPab	PKPab	06 45 16.3	+0.5
PBEJ	**Beja**	168.70	50	ePP	PP	06 49 06.2	+1.1
PCVE	**Castro Verde**	168.80	52	ePKPdf	PKPdf	06 44 07.8	+2.2
PCVE	**Castro Verde**	168.80	52	ePKPab	PKPab	06 45 16.6	+0.4
PCVE	**Castro Verde**	168.80	52	ePP	PP	06 49 06.7	+1.1
PCVE				eSS	SS	07 10 11.9	+14
PCVE				eLQ		07 33 31.4	
PCVE				eLR	LR	07 44 13.8	
	comp=Z,18µm,18.0s						
VALF	**Valcebollere**	168.85	4	PKP	PKPdf	06 44 06.7	+1.2
PBDV	**Barranco-do-Ve**	169.07	54	ePKPdf	PKPdf	06 44 07.1	+1.3
PBDV	**Barranco-do-Ve**	169.07	54	ePKPab	PKPab	06 45 18.4	+1.0
PBDV	**Barranco-do-Ve**	169.07	54	ePP	PP	06 49 08.5	+1.4
PBDV				eSS	SS	07 10 08.0	+7.6
PBDV				eLQ		07 33 47.7	
PBDV				eLR	LR	07 44 16.5	
	comp=Z,23µm,18.0s						
PVAQ	**Vaqueiros**	169.13	53	ePKPdf	PKPdf	06 44 07.2	+1.4
PVAQ	**Vaqueiros**	169.13	53	ePKPab	PKPab	06 45 18.0	+0.3
PVAQ	**Vaqueiros**	169.13	53	ePP	PP	06 49 08.7	+1.3
PVAQ				eSS	SS	07 10 12.4	+11
PVAQ				eLQ		07 33 50.7	
PVAQ				eLR	LR	07 44 16.1	
	comp=Z,17µm,20.0s						
PBAR	**Barrancos**	169.15	48	ePKPdf	PKPdf	06 44 07.6	+1.8
PBAR	**Barrancos**	169.15	48	ePKPab	PKPab	06 45 18.2	+0.5
PBAR	**Barrancos**	169.15	48	ePP	PP	06 49 07.3	0.0
PBAR				eSS	SS	07 10 10.2	+9.3
PBAR				eLQ		07 33 45.3	
PBAR				eLR	LR	07 43 19.0	
	comp=Z,21µm,18.0s						
WDD	**Wield Dalam**	169.46	299	PFAKE		06 44 20.0	+14
WDD				LR	LR		
	comp=Z,29µm,20.0s						
PAB	**San Pablo**	169.72	34	ePKPdf	PKPdf	06 44 06.8	+0.7
PAB				ePP	PP	06 49 10.4	+0.7
PAB				LR	LR		
	comp=Z,28µm,20.0s						
PAB	**San Pablo**	169.72	34	ePKIKP	PKPdf	06 44 06.8	+0.7
PAB				e		06 49 10.4	
PAB				MLR	MLR		
	comp=Z,28µm,20.0s						
ESDC	**Sonseca Array**	169.81	33	PKP	PKPdf	06 44 07.2	+1.1
	comp=Z,8.4nm,0.8s,baz=341,slow=1.8,SNR=16						
ESDC				PKPab	PKPab	06 45 19.9	-0.6
	comp=Z,7.3nm,0.8s,baz=315,slow=4.1,SNR=5.4						
ESDC				PP	PP	06 49 10.4	+0.4
	comp=Z,10nm,1.1s,baz=16,slow=6.5,SNR=6.6						
ESDC	**Sonseca Array**	169.81	33	PKP	PKPdf	06 44 07.2	+1.1
ESDC				PKPab	PKPab	06 45 19.9	-0.6
ESDC				PP	PP	06 49 10.4	+0.4
ESLA	**Sonseca Array**	169.81	33	ePKPdf	PKPdf	06 44 06.6	+0.5
ESLA				ePKPab	PKPab	06 45 20.0	-0.5
ESLA				ePP	PP	06 49 09.0	-1.1
ESLA				LR	LR		
	comp=Z,101µm,19.0s						
VSL	**Villasalto**	170.34	330	ePKPdf	PKPdf	06 44 06.5	0.0
VSL				LR	LR		
	comp=Z,19µm,22.0s						
SFS	**San Fernando**	170.66	54	PFAKE		06 44 20.0	+13
SFS				LR	LR		
	comp=Z,41µm,19.0s						
TAM	**Tamanrasset**	171.30	195	ePKPdf	PKPdf	06 44 08.5	+1.0
TAM				ePKPab	PKPab	06 45 29.3	+1.9
TAM				ePP	PP	06 49 21.0	+4.0
TAM				LR	LR		
	comp=Z,16µm,20.0s						
TAM	**Tamanrasset**	171.30	195	ePKIKP	PKPdf	06 44 08.5	+1.0
TAM				e		06 45 29.3	
TAM				e		06 49 21.0	
TAM				MLR	MLR		
	comp=Z,16µm,20.0s						
CART	**Cartagena**	172.82	27	ePKPdf	PKPdf	06 44 08.0	+0.3
CART				ePKPab	PKPab	06 45 33.3	-0.6
CART				ePP	PP	06 49 24.1	-0.8
KEST	**Kesra**	173.17	312	PKP	PKPdf	06 44 08.9	+1.0
	comp=Z,5.3nm,0.8s,baz=234,slow=2.9,SNR=12						
KEST				PKPab	PKPab	06 45 36.3	+0.7
	comp=Z,21nm,1.0s,baz=280,slow=2.9,SNR=7.1						
KEST				PP	PP	06 49 32.5	+5.2
	comp=Z,8.4nm,1.1s,baz=226,slow=5.3,SNR=4.2						
KEST	**Kesra**	173.17	312	ePKPdf	PKPdf	06 44 08.7	+0.7
KEST				PKP	PKPdf	06 44 08.9	+1.0
KEST				ePKPab	PKPab	06 45 35.1	-0.5
KEST				PKPab	PKPab	06 45 36.3	+0.7
KEST				PP	PP	06 49 32.5	+5.2
CAEH	**'Ain El Ouahch**	173.70	332	P	PKPdf	06 44 10.5	+2.4
CKFL	**Kef-Lekhel**	174.08	331	P	PKPdf	06 44 08.4	+0.2
CASM	**Ain Smara**	174.29	332	P	PKPdf	06 44 07.2	-1.1
ABA	**Alger-Bouzarea**	174.48	1	P	PKPdf	06 44 10.2	+1.8
CTEI	**Djebel Teioual**	174.50	331	P	PKPdf	06 44 09.0	+0.6
SET	**Setif**	174.73	340	P	PKPdf	06 44 10.0	+1.5
EBNR	**Beni Rached**	174.81	15	P	PKPdf	06 44 12.1	+3.6
CKHR	**Kef el Ahmar**	174.87	338	P	PKPdf	06 44 10.0	+1.5
ECHA	**Ech Chlef**	174.91	16	P	PKPdf	06 44 13.8	+5.3
EANR	**'Ain N'Sour**	175.03	20	P	PKPdf	06 44 10.8	+2.2
EMHD	**Djebel Mahouad**	175.07	2	P	PKPdf	06 44 10.7	+2.1
ETRT	**Tiaret**	175.61	20	P	PKPdf	06 44 11.2	+2.5

IDC ***09*** *06:29:29.9±1.4, 60°.03N×153°.82W, h136km±20km, mb3.5/4, mb1 3.5/7, mb1mx3.3/27, mbtmp3.3/7, Error ellipse: s-maj=23.2km s-min=19.9km az=70.0*

ISCJB ***09*** *06:29:30.5±0.4, 59°.97N±0°.03×153°.37W±0°.08, h167km±4km, mb3.8/4, Error ellipse: s-maj=7.6km s-min=3.9km az=35.4*

NEIC ***09*** *06:29:32.9, 59°.98N×153°.42W, h156km, MG3.0(AEIC), After AEIC.*

ISC 09 06:29:31.6±0.4**, 59°.97N**±0°.03×**153°.37W**±0°.08**, h160**km±4km**, n60, σ0s78**/77**, mb3.8**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.15**	**52**	P	**Pn**	**06 29 53.3**	**+0.3**
ILS	**Iliamna Low So**	**0.15**	**94**	P	**Pn**	**06 29 53.1**	**+0.1**
INE	**Iliamna NE**	**0.18**	**59**	P	**Pn**	**06 29 53.4**	**+0.3**
OPT	**Oil Point**	**0.33**	**167**	P	**Pn**	**06 29 53.9**	**+0.5**
RED	**Redoubt Volcan**	**0.54**	**33**	P	**Pn**	**06 29 54.5**	**+0.2**
RED				S	**Sn**	**06 30 11.5**	**-0.2**
RSO	**Redoubt South**	**0.58**	**32**	P	**Pn**	**06 29 54.8**	**+0.3**

AUW	Augustine West	0.60	185	P		Pn	06 29 55.1 +0.5
AUE	Augustine Isla	0.61	180	P		Pn	06 29 55.0 +0.3
HOM	Homer	0.93	109	P		Pn	06 29 57.8 +1.0
HOM				S		Sn	06 30 17.7 +1.7
NNL	Ninilchik	1.05	85	P		Pn	06 29 59.7 +2.0
FOSS	Fourpeaked Sta	1.19	188	P		Pn	06 29 59.0 +0.1
FOPK	Fourpeaked Vol	1.22	182	P		Pn	06 29 59.1 -0.1
BKG	Blockade Glaci	1.23	26	P		Pn	06 29 59.6 +0.3
CKL	Chakachamna La	1.33	22	P		Pn	06 30 00.7 +0.5
SPNW	Spurr Northwes	1.43	15	P		Pn	06 30 01.6 +0.4
KAPH	Katmai Pasha	1.46	200	P		Pn	06 30 01.7 +0.1
SLKM	Skilak Lake	1.66	70	P		Pn	06 30 04.1 +0.5
STLK	Strandline Lak	1.71	26	P		Pn	06 30 04.3 +0.2
KAKN	Katmai Knife C	1.89	208	P		Pn	06 30 05.9 -0.2
KAKN				S		Sn	06 30 32.0 -0.6
KCE	Katmai Mt Cerb	1.97	209	P		Pn	06 30 07.9 +0.9
KABU	Katmai Buttres	1.97	211	P		Pn	06 30 07.2 +0.2
KABU				S		Sn	06 30 33.8 -0.4
SEW	Seward	1.97	84	P		Pn	06 30 07.7 +0.7
SEW				S		Sn	06 30 33.5 -0.7
SUA	Susitna One	1.98	40	P		Pn	06 30 06.9 -0.1
SUA				S		Sn	06 30 34.8 +0.4
MGLS	Mageik Landsli	2.06	207	P		Pn	06 30 08.1 0.0
RC01	Rabbit Creek A	2.12	56	P		Pn	06 30 08.4 -0.3
RC01				S		Sn	06 30 36.8 -0.4
CAHL	Cahill	2.17	208	P		Pn	06 30 09.4 +0.2
SKT	Skwentna	2.21	23	P		Pn	06 30 10.0 +0.3
KDAK	Kodiak Island	2.23	169	P		Pn	06 30 08.9 -1.1
	3.9nm,0.3s,baz=44,slow=7.2,SNR=54						
KDAK				S		Sn	06 30 38.2 -1.3
	21nm,0.3s,baz=142,slow=20,SNR=41						
KDAK	Kodiak Island	2.23	169	P		Pn	06 30 09.1 -0.9
KDAK				S		Sn	06 30 38.4 -1.2
PMR	Palmer	2.64	50	*e*Pn		Pn	06 30 14.5 -0.4
PMR				*e*Sn		Sn	06 30 45.2 -3.2
OHAK	Old Harbor	2.75	179	P		Pn	06 30 15.0 -1.3
OHAK				S		Sn	06 30 48.5 -2.3
KNK	Knik Glacier	2.82	57	P		Pn	06 30 16.6 -0.4
PPLA	Purkeypile	2.99	10	P		Pn	06 30 19.9 +0.7
TT01	Tatalina	3.21	338	P		Pn	06 30 21.0 -0.9
GLI	Glacier Island	3.25	71	P		Pn	06 30 22.2 -0.2
SCM	Sheep Creek Mo	3.50	55	P		Pn	06 30 25.4 -0.1
FID	Port Fidalgo	3.51	74	P		Pn	06 30 25.9 +0.1
JPK	Jack Peak	3.52	69	P		Pn	06 30 26.9 +1.0
TRF	Thorofare Moun	3.79	21	P		Pn	06 30 29.3 +0.1
TRF				S		Sn	06 31 12.9 -1.3
DIV	Divide	3.93	69	P		Pn	06 30 31.9 +0.8
DIV				S		Sn	06 31 16.6 -0.8
KLU	Klutina	3.97	64	P		Pn	06 30 31.6 0.0
RND	Reindeer	4.07	30	P		Pn	06 30 32.3 -0.5
DHY	Denali Highway	4.24	40	P		Pn	06 30 34.8 -0.3
DHY				S		Sn	06 31 22.8 -1.8
MCK	McKinley	4.32	27	P		Pn	06 30 36.3 +0.1
BMRM	Bremner River	4.46	73	*e*Pn		Pn	06 30 38.6 +0.7
BMRM				*e*Sn		Sn	06 31 29.2 -0.4
DDM	Donnelly Dome	5.22	40	P		Pn	06 30 48.6 +0.6
BALM	Baldy	5.55	74	P		Pn	06 30 53.2 +0.9
IL1	Eielson Array	5.69	29	P		Pn	06 30 53.1 -0.9
ILAR	Eielson Array	5.69	29	P		Pn	06 30 53.1 -0.9
	0.7nm,0.3s,baz=219,slow=13,SNR=49						
ILAR				S		Sn	06 31 54.1 -4.5
	0.8nm,0.3s,baz=221,slow=23,SNR=14						
ILAR	Eielson Array	5.69	29	P		Pn	06 30 53.1 -0.9
ILAR				S		Sn	06 31 54.1 -4.5
YKA	Yellowknife Ar	18.64	65	P		P	06 33 37.5 +0.9
	0.2nm,0.3s,baz=277,slow=10.0,SNR=5.3						
YKA	Yellowknife Ar	18.64	65	P		P	06 33 37.5 +0.9
PDAR	Pinedale Array	31.57	103	P		P	06 35 41.9 +3.3
	0.2nm,0.4s,mb3.2,baz=344,slow=3.9,SNR=6.9						
PDAR	Pinedale Array	31.57	103	P		P	06 35 41.9 +3.3
ZALV	Zalesovo Beam	57.29	323	P		P	06 39 01.4 -0.5
	2.1nm,0.5s,mb4.2,baz=29,slow=6.8,SNR=13						
ZALV	Zalesovo Beam	57.29	323	P		P	06 39 01.4 -0.5
KURK	Kurchatov	61.95	325	P		P	06 39 34.2 +0.4
	0.9nm,0.7s,mb3.7,baz=36,slow=6.9,SNR=5.9						
KURK	Kurchatov	61.95	325	P		P	06 39 34.2 +0.4
BVAR	Borovoye Array	62.01	332	P		P	06 39 34.0 -0.2
	1.4nm,0.6s,mb4.0,baz=30,slow=5.4,SNR=7.5						
BVAR	Borovoye Array	62.01	332	P		P	06 39 34.0 -0.2

IDC 09 06:41:45.3±1.8, 30°.95S×176°.95W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.9/16, mbtmp3.9/3, Error ellipse: s-maj=44.4km s-min=43.2km az=15.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.78	212	Pn	Pn	06 43 52.2	-1.2
	baz=48,slow=16,SNR=3.4						
URZ				Sn	Sn	06 45 29.6	-3.5
	1.7nm,0.3s,baz=162,slow=20,SNR=5.3						
ASAR	Alice Springs	43.98	267	P	P	06 49 54.7	+0.2
	0.5nm,0.4s,baz=107,slow=7.5,SNR=7.8						
WRA	Warramunga Arr	45.02	272	P	P	06 50 02.8	0.0
	0.9nm,0.3s,baz=112,slow=7.9,SNR=20						
FINES	FINESS Array B	145.97	340	PKPbc	PKPbc	07 01 25.0	-1.1
	1.6nm,0.5s,baz=31,slow=3.2,SNR=10.0						
TORD	Torodi Ar. Bea	162.24	176	PKPab	PKPab	07 02 35.9	-0.2
	0.3nm,0.7s,baz=162,slow=3.5,SNR=2.3						

IDC 09 07:13:50.3±3.0, 31°.17S×176°.86W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, ML3.3/1, Error ellipse: s-maj=73.7km s-min=36.2km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.64	213	Pn	Pn	07 15 56.6	0.0
	0.3nm,0.3s,baz=59,slow=12,SNR=5.5						
URZ				Sn	Sn	07 17 35.2	+0.5
	1.7nm,0.3s,baz=139,slow=20,SNR=3.6						
ASAR	Alice Springs	44.05	267	P	P	07 22 00.1	0.0
	0.6nm,0.6s,baz=105,slow=7.4,SNR=11						
WRA	Warramunga Arr	45.11	272	P	P	07 22 08.5	-0.1
	0.9nm,0.3s,baz=111,slow=8.0,SNR=23						
FINES	FINESS Array B	146.20	340	PKPbc	PKPbc	07 33 31.0	-0.8
	2.2nm,0.7s,baz=64,slow=3.2,SNR=9.5						

IDC 09 07:22:00.6±0.9, 33°.53S×77°.30E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=34.6km s-min=26.7km az=36.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	50.13	94	P	P	07 30 57.5	-0.5
	0.2nm,0.5s,baz=248,slow=6.7,SNR=4.1						
WRA	Warramunga Arr	52.13	90	P	P	07 31 13.3	+0.4
	0.3nm,0.5s,baz=237,slow=8.8,SNR=189						
QSPA	South Pole Qui	56.62	180	P	P	07 31 45.1	+0.3
	1.0nm,0.3s,baz=314,slow=2.7,SNR=3.9						
MKAR	Makanchi Array	80.08	3	P	P	07 34 11.3	-0.5
	0.8nm,0.7s,baz=180,slow=6.8,SNR=10						
BRTR	Keskin Array B	83.33	328	P	P	07 34 29.9	+0.7
	0.9nm,0.8s,baz=117,slow=4.7,SNR=4.0						
SONM	Songino Array	85.09	19	P	P	07 34 38.5	+0.6
	0.7nm,0.9s,baz=212,slow=4.7,SNR=4.8						
TORD	Torodi Ar. Bea	85.52	289	P	P	07 34 41.1	+0.2
	1.1nm,0.8s,baz=107,slow=4.5,SNR=7.9						
ZALV	Zalesovo Beam	87.36	4	P	P	07 34 49.5	+0.5
	0.9nm,0.6s,baz=168,slow=5.4,SNR=5.2						
YKA	Yellowknife Ar	150.04	11	PKPbc	PKPbc	07 41 51.4	-0.9
	0.8nm,0.8s,baz=348,slow=2.6,SNR=8.3						

IDC 09 07:27:26.1±1.8, 31°.06S×176°.74W, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=54.0km s-min=29.3km az=33.0
NEIC 09 07:27:28.0±1.3, 31°.47S×176°.80W, h10km, mb4.4/3, Error ellipse: s-maj=26.0km s-min=17.4km az=91.0

ISC 09 07:27:34.1±1.0, 31°.64S±0°.06×177°.2W±0°.2, h35km, n36, σ1§29/47, mb4.0/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	7.43	209	PN	Pn	07 29 20.8	+0.7
PUZ				SN	Sn	07 30 48.5	+5.4
CNGZ	Carnagh Statio	7.81	208	*e*PN	Pn	07 29 26.0	+0.9
MWZ	Matawai	7.97	212	*e*PN	Pn	07 29 27.6	+0.3
MWZ				SN	Sn	07 31 02.7	+6.5
URZ	Urewera	8.10	214	Pn	Pn	07 29 30.1	+0.9
	2.9nm,0.3s,baz=163,slow=16,SNR=13						
URZ				Sn	Sn	07 31 05.2	+5.8
	5.9nm,0.3s,baz=161,slow=20,SNR=11						
URZ	Urewera	8.10	214	*e*Pn	Pn	07 29 30.4	+1.2
URZ				*e*Sn	Sn	07 31 09.1	+10
MHGZ	Mahia Peninsul	8.50	207	PN	Pn	07 29 35.0	+0.3
MHGZ				SN	Sn	07 31 15.4	+6.0
MCHZ	McNeill Hill	9.25	211	PN	Pn	07 29 47.1	+2.2
MCHZ				SN	Sn	07 31 34.3	+6.7
KAHZ	Kahuranaki	9.46	209	PN	Pn	07 29 46.5	-1.3
PXZ	Pawanui	9.67	208	PN	Pn	07 29 51.9	+1.2
PXZ				*e*SN	Sn	07 31 39.8	+1.8
BFZ	Birch Farm	10.47	209	*e*PN	Pn	07 30 01.5	-0.2
BFZ				*e*SN	Sn	07 32 00.0	+2.5
MRZ	Mangatainoka R	10.73	211	*e*PN	Pn	07 30 04.2	-1.1
MRZ				*e*SN	Sn	07 32 04.2	+0.1
KIW	Kapiti Island	11.20	213	PN	Pn	07 30 09.8	-1.8
KIW				*e*SN	Sn	07 32 15.4	-0.1
TCW	Tory Channel	11.77	213	*e*PN	Pn	07 30 17.0	-2.4
TCW				*e*SN	Sn	07 32 27.6	-1.8
CTZ	Chatham Island	12.08	178	*e*PN	Pn	07 30 23.3	-0.4
CTZ				*e*SN	Sn	07 32 30.8	-6.2
TUWZ	Tuamarina	12.09	214	*e*PN	Pn	07 30 23.3	-0.5
THZ	Tophouse	12.85	215	*e*PN	Pn	07 30 31.7	-2.5
KHZ	Kahutara	13.05	212	*e*Pn	Pn	07 30 37.7	+0.7
KHZ	Kahutara	13.05	212	*e*PN	Pn	07 30 34.7	-2.3
LTZ	Lake Taylor	13.93	214	*e*PN	Pn	07 30 47.6	-1.3
LTZ				*e*SN	Sn	07 33 17.9	-4.3
RPZ	Rata Peaks	15.22	214	Pn	Pn	07 31 05.4	-0.8
	4.0nm,0.3s,baz=98,slow=1.1,SNR=14						
RPZ				Sn	Sn	07 33 47.4	-6.2
	0.7nm,0.3s,baz=90,slow=20,SNR=4.2						
RPZ	Rata Peaks	15.22	214	*e*P	Pn	07 31 05.3	-0.9
	11nm,0.5s						
RPZ				Sn	Sn	07 33 47.4	-6.2
CTA	Charters Tower	34.71	280	P	P	07 34 21.4	+0.6
	1.3nm,0.5s,mb4.2,baz=108,slow=10,SNR=2.7						
CTA	Charters Tower	34.71	280	P	P	07 34 21.4	+0.6
STKA	Stephens Creek	34.91	258	P	P	07 34 24.1	+1.7
	0.5nm,0.3s,mb3.9,baz=97,slow=8.1,SNR=2.9						
STKA	Stephens Creek	34.91	258	P	P	07 34 24.1	+1.7
ASAR	Alice Springs	43.76	268	P	P	07 35 35.8	-0.6
	0.5nm,0.6s,mb3.5,baz=108,slow=7.1,SNR=7.4						
ASAR	Alice Springs	43.76	268	P	P	07 35 35.8	-0.6
WRAB	Tennant Creek	44.85	273	*e*P	P	07 35 46.4	+1.2
	2.1nm,0.6s,mb4.1						
WRA	Warramunga Arr	44.86	273	P	P	07 35 44.2	-1.0
	1.5nm,0.5s,mb4.1,baz=112,slow=7.9,SNR=14						
WRA	Warramunga Arr	44.86	273	P	P	07 35 44.2	-1.0
QSPA	South Pole Qui	58.47	180	P	P	07 37 27.8	+1.8
	1.6nm,0.6s,mb4.2,baz=7.4,slow=4.8,SNR=4.8						
QSPA	South Pole Qui	58.47	180	*e*P	P	07 37 26.5	+0.5
	3.0nm,0.9s,mb4.3						
FINES	FINESS Array B	146.55	340	PKPbc	PKPbc	07 47 06.9	-4.1
	4.5nm,0.9s,baz=54,slow=5.5,SNR=6.0						
FINES	FINESS Array B	146.55	340	PKPbc	PKPbc	07 47 06.9	-4.1
TORD	Torodi Ar. Bea	161.56	177	PKPab	PKPab	07 48 15.7	-0.7
	0.7nm,0.5s,baz=179,slow=3.5,SNR=7.2						
TORD	Torodi Ar. Bea	161.56	177	PKPab	PKPab	07 48 15.7	-0.7

GUC 09 08:09:50.6±0.4, 23°.70S×67°.84W, h230km±14km, ML4.2
ISCJB 09 08:09:51.3±0.9, 23°.82S±0°.07×67°.7W±0°.1, h216km±17km, Error ellipse: s-maj=19.9km s-min=11.8km az=3.1
IDC 09 08:09:55.4±2.2, 23°.55S×67°.28W, h212km±21km, mb3.0/1, mb1 3.2/4, mb1mx3.0/16, mbtmp3.0/4, Error ellipse: s-maj=34.4km s-min=19.3km az=83.0

ISC 09 08:09:52.1±0.9, 23°.79S±0°.07×67°.7W±0°.1, h212km±17km, n13, σ0§37/19, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	Plate Boundary	2.23	312	⇑*i*P	Pn	08 10 38.7	+4.8
PB04				*i* S	S	08 11 15.1	+8.5
PB04				AML	AML	08 11 19.3	
	comp=N,385nm,0.4s						
PB09	Plate Boundary	2.44	324	⇑*i*P	Pn	08 10 36.2	+0.1
PB09				*e*S	S	08 11 10.7	+0.2
PB09				AML	AML	08 11 17.7	
	comp=N,1μm,0.4s						
MACH	Maria Elena	2.47	310	⇓*i*P	Pn	08 10 36.5	+0.1
MACH				*i* S	S	08 11 11.5	+0.4
ANCH	Antofagasta	2.48	272	⇓*i*P	Pn	08 10 36.4	-0.1
ANCH				*i* S	S	08 11 10.9	-0.3
MECH	Mejillones	2.61	285	⇑*i*P	Pn	08 10 38.2	+0.3
MECH				*i* S	S	08 11 13.9	+0.1
MECH				AML	AML	08 11 16.9	
	comp=N,434nm,0.2s						
PB07	Plate Boundary	2.88	315	⇑*i*P	Pn	08 10 41.0	0.0
PB07				*i* S	S	08 11 19.1	-0.1
PB07				AML	AML	08 11 20.1	
	comp=N,443nm,0.2s						
PB01	Plate Boundary	3.19	329	⇑*i*P	Pn	08 10 44.1	-0.6
PB01				*i* S	S	08 11 25.4	-0.5
PB01				AML	AML	08 11 26.0	
	comp=E,419nm,0.2s						
LPAZ	La Paz	7.48	357	P	Pn	08 11 39.6	+1.0
	comp=E,1.0nm,0.3s,baz=158,slow=7.9,SNR=39						
LPAZ				S	S	08 13 03.3	-0.3
	baz=194,slow=19,SNR=4.4						
CPUP	Villa Florida	9.74	107	P	Pn	08 12 07.8	-0.1
	comp=E,0.5nm,0.3s,baz=260,slow=19,SNR=3.7						
PLCA	Paso Flores	17.06	187	P	P	08 13 43.4	+6.6
	comp=E,0.1nm,0.3s,baz=21,slow=7.4,SNR=4.8						
TORD	Torodi Ar. Bea	77.10	69	P	P	08 21 22.4	-0.2
	comp=E,0.2nm,0.5s,baz=250,slow=5.6,SNR=5.5						
ASAR	Alice Springs	128.37	206	PKP	PKPdf	08 28 37.1	+2.9
	comp=E,0.1nm,0.4s,baz=158,slow=3.0,SNR=3.5						
MKAR	Makanchi Array	146.77	39	PKPbc	PKPbc	08 29 12.1	+3.0
	comp=E,0.2nm,0.5s,baz=320,slow=2.3,SNR=3.8						

IDC 09 08:12:33.5±0.9, 31°.06S×176°.77W, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.2/16, mbtmp4.2/6, Error ellipse: s-maj=33.2km s-min=24.6km az=169.0
NEIC 09 08:12:34.8±0.7, 31°.19S×176°.81W, h10km, mb4.8/6, Error ellipse: s-maj=17.1km s-min=11.1km az=104.0
ISCJB 09 08:12:35.4±0.8, 31°.69S±0°.06×176°.6W±0°.1, h33km, mb4.3/9, Error ellipse: s-maj=16.3km s-min=5.9km az=20.3

ISC 09 08:12:37.7±0.8, 31°.61S±0°.05×176°.7W±0°.1, h35km, n47, σ1§48/55, mb4.3/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.59	335	*e*Pn	Pn	08 13 09.0	-8.1
PUZ	Puketiti	7.68	212	PN	Pn	08 14 26.7	-0.4
PUZ				*e*SN	Sn	08 15 55.3	+2.5
CNGZ	Carnagh Statio	8.05	210	PN	Pn	08 14 32.5	+0.5
MWZ	Matawai	8.23	214	PN	Pn	08 14 34.7	+0.1
MWZ				SN	Sn	08 16 09.7	+3.4
URZ	Urewera	8.38	216	Pn	Pn	08 14 36.7	+0.1
	0.8nm,0.3s,baz=183,slow=20,SNR=15						
URZ				Sn	Sn	08 16 13.2	+3.4
	9.3nm,0.3s,baz=192,slow=14,SNR=12						
URZ	Urewera	8.38	216	*e*Pn	Pn	08 14 38.0	+1.5
URZ				*e*Sn	Sn	08 16 15.3	+5.4
URZ	Urewera	8.38	216	PN	Pn	08 14 36.5	0.0
URZ				SN	Sn	08 16 13.0	+3.2
KNZ	Kokohu	8.72	210	PN	Pn	08 14 40.6	-0.7
KNZ				*e*SN	Sn	08 16 20.8	+2.4
NMHZ	Naumai	9.18	214	PN	Pn	08 14 49.9	+2.4
MCHZ	McNeill Hill	9.51	213	SN	Sn	08 16 39.8	+2.2
PXZ	Pawanui	9.91	210	PN	Pn	08 14 55.3	-2.3
PXZ				*e*SN	Sn	08 16 47.5	0.0
BFZ	Birch Farm	10.71	210	PN	Pn	08 15 06.1	-2.4
BFZ				SN	Sn	08 17 06.5	-0.7
MRZ	Mangatainoka R	10.99	213	PN	Pn	08 15 10.3	-2.1
MRZ				*e*SN	Sn	08 17 11.6	-2.5
CTZ	Chatham Island	12.11	180	*e*PN	Pn	08 15 28.4	+0.8
CTZ				SN	Sn	08 17 34.7	-6.5
THZ	Tophouse	13.14	217	PN	Pn	08 15 39.4	-2.2
THZ				*e*SN	Sn	08 18 03.1	-3.3
KHZ	Kahutara	13.32	213	*e*Pn	Pn	08 15 47.6	+3.4
KHZ	Kahutara	13.32	213	PN	Pn	08 15 44.4	+0.3
LTZ	Lake Taylor	14.21	215	PN	Pn	08 15 55.1	-1.2
LTZ				*e*SN	Sn	08 18 24.9	-7.6
MQZ	McQueen's Vall	14.73	212	*e*SN	Sn	08 18 36.1	-9.2
RPZ	Rata Peaks	15.49	215	Pn	Pn	08 16 15.0	+1.6
	1.9nm,0.3s,baz=117,slow=2.3,SNR=4.5						
RPZ				Sn	Sn	08 18 56.5	-7.4
	0.5nm,0.3s,baz=338,slow=19,SNR=3.3						
RPZ	Rata Peaks	15.49	215	Pn	Pn	08 16 15.1	+1.6
RPZ				Sn	Sn	08 18 56.5	-7.4
ODZ	Otahua Downs	16.68	213	*e*P	Pn	08 16 32.6	+4.1
	652nm,1.7s						
CTAO	Charters Tower	35.14	280	*e*P	P	08 19 29.3	+1.3
	22nm,1.4s,mb4.9						
STKA	Stephens Creek	35.35	258	P	P	08 19 31.6	+1.8
	4.7nm,0.8s,mb4.5,baz=99,slow=8.4,SNR=7.6						
STKA	Stephens Creek	35.35	258	*e*P	P	08 19 31.8	+2.0
	1.1nm,0.8s,mb3.8						
AS31	Alice Springs	44.20	268	*e*P	P	08 20 44.1	+0.6
ASAR	Alice Springs	44.20	268	P	P	08 20 43.2	-0.2
	3.4nm,0.9s,mb4.1,baz=108,slow=7.6,SNR=24						
ASAR	Alice Springs	44.20	268	P	P	08 20 43.2	-0.2
WB2	Warramunga Arr	45.29	273	*e*P	P	08 20 52.1	-0.1
WRAB	Tennant Creek	45.30	273	*e*P	P	08 20 51.0	-1.2
	10nm,1.2s,mb4.5						
WRA	Warramunga Arr	45.30	273	P	P	08 20 51.7	-0.6
	3.9nm,0.8s,mb4.3,baz=113,slow=7.8,SNR=15						
WRA	Warramunga Arr	45.30	273	P	P	08 20 51.7	-0.6
FITZ	Fitzroy Crossi	53.51	270	*e*P	P	08 21 54.7	-0.3
	15nm,1.4s,mb4.7						
QSPA	South Pole Qui	58.51	180	P	P	08 22 35.4	+5.6
	1.9nm,0.4s,mb4.5,baz=48,slow=3.0,SNR=9.3						
QSPA	South Pole Qui	58.51	180	*e*P	P	08 22 35.8	+6.0
	9.6nm,1.3s,mb4.7						
VNA3	Neumayer Olymp	77.02	176	*e*	P	08 24 30.3	+3.8
VNA2	Neumayer--Watz	77.47	176	*e*	P	08 24 33.5	+4.5
	baz=174,slow=4.9						
NVAR	Mina Array Bea	88.35	42	P	P	08 25 26.4	+0.8
	0.5nm,0.7s,mb3.9,baz=221,slow=7.5,SNR=4.8						
NVAR	Mina Array Bea	88.35	42	P	P	08 25 26.4	+0.8
TXAR	Lajitas Array	92.08	57	P	P	08 25 42.5	-0.7
	0.8nm,0.9s,mb4.0,baz=188,slow=3.8,SNR=6.2						
TXAR	Lajitas Array	92.08	57	P	P	08 25 42.5	-0.7
FINES	FINESS Array B	146.67	340	PKPbc	PKPbc	08 32 15.0	+0.1
	1.9nm,0.6s,baz=58,slow=3.0,SNR=6.8						
FINES	FINESS Array B	146.67	340	PKPbc	PKPbc	08 32 15.0	+0.1
AKASG	Malin Array Be	152.96	322	PKPbc	PKPbc	08 32 31.2	+0.4
	0.4nm,0.4s,baz=323,slow=2.9,SNR=4.3						
AKASG	Malin Array Be	152.96	322	PKPbc	PKPbc	08 32 31.2	+0.4
TORD	Torodi Ar. Bea	161.56	175	PKPab	PKPab	08 33 23.1	+3.1
	1.3nm,0.8s,baz=187,slow=3.7,SNR=7.7						
TORD	Torodi Ar. Bea	161.56	175	PKPab	PKPab	08 33 23.1	+3.1

MAN 09 08:22:22, 18°.50N×120°.90E, h24km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.71	216	⇓*e*P	Pb	08 22 47.9	+12
APYP	Conner	0.71	152	*e*P	Pb	08 22 36.4	+0.7
APYP				*e*S	Sb	08 22 44.1	-1.0
ABRA	Dolores	0.86	192	*e*P	Pb	08 22 38.0	-0.2
CAUP	Cauayan	1.78	150	*e*P	Pn	08 22 53.7	+2.4

TRN 09 08:24:18.2, 18°.45N×64°.56W, h54km, MD3.0(RSPR)
NEIC 09 08:24:19.3, 18°.47N×64°.48W, h57km, MD3.0(RSPR), After RSPR.

RSPR 09 08:24:19.3, 18°.47N×64°.48W, h57km±1km, MD3.0/4, 12C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.14	246	⇑*e*P	Pn	08 24 27.6	-0.5
TBVI				*e*S	Sn	08 24 34.2	-0.2
TBVI	Tortola	0.14	246	⇑*e*P	Pn	08 24 27.6	-0.5
TBVI				*e*S	Sn	08 24 34.2	-0.2
TBVI	Tortola	0.14	246	⇑*e*P	Pn	08 24 27.6	-0.5
TBVI				*e*S	Sn	08 24 34.2	-0.2
STVI	Saint Thomas	0.47	255	⇑*e*P	Pn	08 24 29.9	-0.8
STVI	Saint Thomas	0.47	255	⇑*e*P	Pn	08 24 29.9	-0.8
STVI				*e*S	Sn	08 24 38.2	-0.7
STVI	Saint Thomas	0.47	255	⇑*e*P	Pn	08 24 29.9	-0.8
STVI				*e*S	Sn	08 24 38.2	-0.7
MTP	Monte Pirata	1.08	250	⇑*e*P	Pn	08 24 37.8	-0.6
MTP	Monte Pirata	1.08	250	⇑*e*P	Pn	08 24 37.8	-0.6
MTP				*e*S	Sn	08 24 51.8	-0.7
MTP	Monte Pirata	1.08	250	⇑*e*P	Pn	08 24 37.8	-0.6
MTP				*e*S	Sn	08 24 51.8	-0.7
CBYP	Canovanas	1.32	261	⇑*e*P	Pn	08 24 40.5	-1.0
CBYP	Canovanas	1.32	261	⇑*e*P	Pn	08 24 40.5	-1.0
CBYP				*e*S	Sn	08 24 57.6	-0.5
CBYP

KK31 pmax pmax
comp=Z,161nm,0.3s
KK31 smax
comp=Z,136nm,0.5s
KKAR Karatay Array 6.73 354 *e*Pn **Pn 08 29 48.3 -0.7**
comp=Z,231nm,0.4s
KKAR *e*Sn **Sn 08 31 00.1 -4.0**
KKAR Karatay Array 6.73 354 *e*PN **Pn 08 29 48.3 -0.7**
KKAR *e* 08 31 00.1
KKAR pmax pmax
comp=Z,231nm,0.4s
SDNR Sundarnagar 6.73 135 *e*PKP **Pn 08 29 51.0 +1.9**
SDNR *e*S **Sn 08 31 04.0 -0.3**
KBK Karagaybulak 6.82 23 P **Pn 08 29 52.0 +1.7**
SNR=50
KBK P 08 29 52.0
SNR=50
FRU Bishkek 6.89 20 *e*PN **Pn 08 29 52.0 +0.9**
FRU *e*S **Sn 08 31 07.0 -0.9**
FRU pmax pmax
comp=Z,100nm,1.6s
FRU smax
comp=N,150nm,1.6s
ULHL Ulahol 6.94 31 P **Pn 08 29 53.5 +1.6**
SNR=16
ULHL P 08 29 53.5
SNR=16
CHMS Chumysh 7.08 20 P **Pn 08 29 54.7 +1.0**
SNR=50
CHMS P 08 29 54.7
SNR=50
SMLA Simla 7.12 136 *i* P **Pn 08 29 56.1 +1.7**
SMLA *i* S **Sn 08 31 11.3 -2.4**
SMLA ⇓AML AML 08 31 16.4
comp=N,6μm,0.3s
SMLA ⇓AML AML 08 31 17.3
comp=E,4μm,0.3s
USP Ospenovka 7.26 18 P **Pn 08 29 56.7 +0.5**
SNR=73
USP P 08 29 56.7
SNR=73
TKM2 Tokmak 2 7.27 25 P **Pn 08 29 57.8 +1.4**
SNR=115
TKM2 P 08 29 57.8
SNR=115
TKM2 Tokmak 2 7.27 25 ⇓P **Pn 08 29 57.6 +1.2**
comp=E,36nm,0.5s
TKM2 ⇑S **Sn 08 31 17.7 +0.5**
comp=E,24nm,0.7s
TKM2 Tokmak 2 7.27 25 *e*Pn **Pn 08 29 57.6 +1.2**
comp=E,58nm,0.5s
TKM2 Tokmak 2 7.27 25 *i* PN **Pn 08 29 57.7 +1.3**
DDI Dehra Dun 8.23 136 *e*PKP **Pn 08 30 12.0 +2.5**
DDI *ex* **Sn 08 31 43.5 +2.7**
KHET Khetri 9.10 155 *e*PKP **Pn 08 30 19.9 -1.5**
KHET *e*S **Sn 08 31 52.9 -9.2**
KHET AML AML 08 32 00.8
comp=E,134nm,0.4s
KHET AML AML 08 32 01.1
comp=N,136nm,0.5s
AYAN Aya Nagar 9.26 147 *e*PKP **Pn 08 30 23.6 +0.1**
ASOR Ausora 9.33 143 *e*PKP **Pn 08 30 24.2 -0.2**
PTH Pithoragarh 10.07 130 *e*PKP **Pn 08 30 34.9 +0.3**
PTH *ex* **Sn 08 32 23.1 -2.7**
AJM Ajmer 10.27 163 *ex* **Pn 08 30 37.0 -0.3**
AJM *ex* x 08 32 27.0
AGRA Agra 10.70 147 *e*PKP **Pn 08 30 42.1 -1.1**
AGRA *e*S **Sn 08 32 31.3 -10**
AGRA AML AML 08 32 39.9
comp=N,110nm,0.3s
AGRA AML AML 08 32 49.9
comp=E,95nm,0.5s
DANN Dangsing 13.17 124 *e*P **Pn 08 31 16.0 -0.3**
comp=E,33nm,0.3s
DANN Dangsing 13.17 124 *e*P **Pn 08 31 16.0 -0.3**
comp=E,33nm,0.3s
MK31 Makanchi Array 13.19 35 ⇑P **Pn 08 31 15.6 -0.9**
comp=E,5.7nm,0.7s,baz=207,slow=9.2,SNR=6.8
MK31 Makanchi Array 13.19 35 *e*Pn **Pn 08 31 15.6 -0.8**
MK31 Makanchi Array 13.19 35 *e*P **Pn 08 31 15.6 -0.8**
MKAR Makanchi Array 13.19 35 P **Pn 08 31 15.7 -0.7**
comp=E,0.3nm,0.3s,baz=224,slow=14,SNR=32
MKAR Makanchi Array 13.19 35 P **Pn 08 31 15.7 -0.7**
MKAR Makanchi Array 13.19 35 P **Pn 08 31 15.7 -0.7**
KOLN Koldanda 13.45 126 *e*P **Pn 08 31 20.0 0.0**
comp=E,30nm,0.5s
KOLN Koldanda 13.45 126 *e*P **Pn 08 31 20.0 0.0**
comp=E,30nm,0.5s
GKN Gorkha 13.98 123 *e*P **Pn 08 31 26.5 -0.4**
GKN Gorkha 13.98 123 *e*P **Pn 08 31 26.5 -0.4**
BHPL Bhopal 14.11 157 *e*PKP **Pn 08 31 27.5 -1.2**
WMQ Urumqi 14.49 54 P **Pn 08 31 34.0 +0.5**
DMN Daman 14.55 123 *e*P **Pn 08 31 33.8 -0.5**
DMN Daman 14.55 123 *e*P **Pn 08 31 33.8 -0.5**
KKN Kakani 14.55 122 *e*P **Pn 08 31 33.0 -1.4**
KKN Kakani 14.55 122 *e*P **Pn 08 31 33.0 -1.4**
KKN Kakani 14.55 122 *e*P **Pn 08 31 33.0 -1.4**
PKI Pulchoki 14.78 123 *e*P **Pn 08 31 36.1 -1.2**
comp=E,63nm,0.5s
PKI Pulchoki 14.78 123 *e*P **Pn 08 31 36.1 -1.2**
comp=E,63nm,0.5s
PKI Pulchoki 14.78 123 *e*P **Pn 08 31 36.1 -1.2**
PKI pmax pmax
comp=Z,63nm,0.5s
GUN Gumba 14.89 121 *e*P **Pn 08 31 37.2 -1.5**
comp=Z,59nm,0.4s
GUN Gumba 14.89 121 *e*P **Pn 08 31 37.2 -1.5**
comp=Z,59nm,0.4s
KURBB Kurchatov Arra 15.12 18 ⇓P **Pn 08 31 41.8 +0.5**
comp=Z,1.8nm,0.6s
KURK Kurchatov 15.22 18 ⇑P **Pn 08 31 43.7 +1.0**
comp=Z,6.6nm,0.7s
KURK Kurchatov 15.22 18 P **Pn 08 31 37.3 -5.4**
comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=24
KURK S **S 08 34 33.7 -7.8**
baz=202,slow=17,SNR=3.4
KURK Kurchatov 15.22 18 *e*Pn **Pn 08 31 39.8 -3.0**
comp=Z,7.7nm,0.7s
KURK Kurchatov 15.22 18 P **Pn 08 31 37.3 -5.4**
JIRN Jiri 15.26 121 *e*P **Pn 08 31 42.7 -0.7**
comp=Z,26nm,0.5s
JIRN Jiri 15.26 121 *e*P **Pn 08 31 42.7 -0.7**
comp=Z,26nm,0.5s
AB31 Akbulak array 15.33 331 ⇓P **Pn 08 31 40.5 -3.6**
comp=Z,6.9nm,0.5s,baz=139,slow=12,SNR=259
ABKAR Akbulak array 15.33 331 *e*P **Pn 08 31 39.5 -4.6**
comp=Z,10nm,0.4s
ABKAR *e*S S 08 34 15.6 -28
RAMN Ramite 15.99 122 *e*P **Pn 08 31 51.1 -1.5**
comp=Z,65nm,0.5s
RAMN Ramite 15.99 122 *e*P **Pn 08 31 51.1 -1.5**
comp=Z,65nm,0.5s
VOSK Vostochnaya 16.32 359 ⇑P **Pn 08 31 52.8 -3.7**
comp=Z,17nm,1.1s
VOSK Vostochnaya 16.32 359 P **Pn 08 31 52.8 -3.7**
VOSK pmax pmax
comp=Z,17nm,1.1s
TAPN Taplejung 16.52 119 *e*P **Pn 08 31 57.8 -1.3**
comp=Z,67nm,0.6s
TAPN Taplejung 16.52 119 *e*P **Pn 08 31 57.8 -1.3**
comp=Z,67nm,0.6s
ZRNK Zerenda 16.63 355 ⇓P **Pn 08 31 59.1 -1.2**
comp=Z,12nm,0.6s
ZRNK Zerenda 16.63 355 P **Pn 08 31 56.6 -3.7**
ZRNK pmax pmax
comp=Z,12nm,0.6s
BVA0 Borovoye Array 16.64 358 ⇑P **Pn 08 31 58.4 -1.9**
comp=Z,1.8nm,0.7s,baz=158,slow=14,SNR=41
BVA0 Borovoye Array 16.64 358 *i* P **Pn 08 31 58.8 -1.6**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 16.64 358 P **Pn 08 31 58.7 -1.7**
comp=Z,1.8nm,0.3s,baz=161,slow=14,SNR=42
BVAR S **S 08 34 51.5 -19**
comp=Z,0.2nm,0.3s,baz=167,slow=16,SNR=2.3
BVAR Borovoye Array 16.64 358 P **Pn 08 31 58.7 -1.7**
BVAR S **S 08 34 51.5 -19**
BVAR Borovoye Array 16.64 358 P **Pn 08 31 58.7 -1.7**
BVAR S **S 08 34 51.5 -19**
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BRVK Borovoye 16.67 358 *e*P **Pn 08 31 58.0 -2.8**
comp=Z,14nm,0.8s
BRVK Borovoye 16.67 358 P **Pn 08 31 58.2 -2.6**
BRVK pmax pmax
comp=Z,23nm,1.0s

AKTO Aktyubinsk 17.03 330 ⇑P **Pn 08 32 02.9 -2.3**
comp=Z,4.1nm,0.7s
AKTO Aktyubinsk 17.03 330 P **Pn 08 32 02.8 -2.4**
comp=Z,1.3nm,0.3s,baz=132,slow=12,SNR=37
AKTO S **S 08 35 00.9 -17**
comp=Z,0.5nm,0.3s,baz=338,slow=19,SNR=4.8
AKTO Aktyubinsk 17.03 330 P **Pn 08 32 02.8 -2.4**
AKTO S **S 08 35 00.9 -17**
AKTO Aktyubinsk 17.03 330 P **Pn 08 32 02.8 -2.4**
AKTO S **S 08 35 00.9 -17**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax
comp=N,1.0nm,0.3s
LSA Lhasa 17.84 106 P **Pn 08 32 17.0 +1.7**
ZAA0 Zalesovo Array 19.87 24 *e*P **Pn 08 32 35.9 -3.2**
ZALV Zalesovo Beam 19.87 24 P **Pn 08 32 36.0 -3.1**
comp=N,3.9nm,0.3s,baz=223,slow=10.0,SNR=63
ZALV S **S 08 36 19.2 +3.8**
comp=N,0.2nm,0.3s,baz=212,slow=19,SNR=4.5
ZALV Zalesovo Beam 19.87 24 P **Pn 08 32 36.0 -3.1**
ZALV S **S 08 36 19.1 +3.8**
ZALV Zalesovo Beam 19.87 24 P **Pn 08 32 36.0 -3.1**
ZALV pmax pmax
comp=Z,4.0nm,0.3s
HYB Hyderabad 19.94 160 *i* P **Pn 08 32 39.5 -0.7**
NVS Novosibirsk 20.16 20 *e*P **P 08 32 38.8 -1.0**
NVS *e*S **S 08 36 04.3 -17**
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=Z,13nm,0.8s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS smax
comp=E,6.0nm,0.9s
SHL Shillong 20.57 116 *ex* **P 08 32 47.7 +3.1**
SHL *ex* x 08 36 21.0
DGRG David-gareji 20.83 292 P **P 08 32 46.9 -0.3**
GNI Garni 21.23 288 *e*P **P 08 32 52.7 +1.2**
comp=E,41nm,0.9s,mb4.8
GNI Garni 21.23 288 *e*P **P 08 32 52.7 +1.2**
GNI pmax pmax
comp=Z,41nm,0.9s
MTA Mtatsminda 21.29 293 P **P 08 32 52.7 +0.6**
TBLG Delisi 21.33 293 *e*P **P 08 32 53.3 +0.7**
TBLG Delisi 21.33 293 P **P 08 32 53.3 +0.7**
RDF Al-Radifah 21.38 256 *e*P **P 08 32 52.2 -1.0**
RDF AMb AMB 08 32 55.9
comp=Z,63nm,1.5s,mb4.7
NAY Al-Naaiem 21.48 258 *e*P **P 08 32 53.5 -0.8**
NAY AMb AMB 08 33 00.2
comp=Z,21nm,1.1s,mb4.4
SVE Sverdlovsk 21.68 344 *e*P **P 08 32 54.5 -1.6**
SVE pmax pmax
comp=Z,19nm,0.8s,mb4.5
HVS Khovu-Aksy 21.70 40⇓ *e*P **P 08 32 56.7 +0.3**
HVS pmax pmax
comp=Z,26nm,0.8s,mb4.6
ARU Arti 21.83 341 *e*P **P 08 32 56.2 -1.5**
comp=Z,19nm,0.9s,mb4.4
ARU Arti 21.83 341*c* *i* P **P 08 32 56.6 -1.1**
ARU 08 33 20.0
ARU S **S 08 36 41.2 -12**
ARU pmax pmax
comp=Z,34nm,1.2s,mb4.5
AKH Akhalkalaki 22.24 292 P **P 08 33 03.8 +1.7**
ONI Oni 22.38 295 P **P 08 33 06.0 +2.4**
GTA Gaotai 22.58 74 *e*P **P 08 33 09.1 +3.3**
GTA pP 08 33 29.2
GTA sP sP 08 33 41.5 +6.6
GTA S **S 08 37 05.4 -1.3**
GTA sS sS 08 37 40.6 +2.2
GTA SS 08 37 55.3
GTA pmax pmax
comp=Z,23nm,1.0s,mb4.5
GTA pmax pmax
comp=Z,1μm,6.2s
GTA LR LR
comp=N,2μm,20.0s
GTA LR LR
comp=E,2μm,17.6s
GTA LR LR
comp=Z,2μm,19.0s
KIV Kislovodsk 23.12 298 *e*P **P 08 33 13.7 +2.6**
KIV *e**PP 08 33 45.0
KIV *e*S **S 08 37 15.0 -0.3**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.1
LZH Lanzhou 26.11 81 *e*P **P 08 33 45.0 +6.7**
LZH pmax pmax
comp=Z,17nm,1.3s,mb4.3
SONM Songino Array 28.13 55 P **P 08 33 57.6 +1.3**
comp=Z,1.3nm,0.8s,mb3.5,baz=266,slow=8.6,SNR=7.9
SONM Songino Array 28.13 55 P **P 08 33 57.6 +1.3**
SONM Songino Array 28.13 55 P **P 08 33 57.6 +1.3**
SONM pmax pmax
comp=Z,1.0nm,0.8s
KMI Kunming 29.06 104 P **P 08 34 10.0 +5.2**
KMI pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
KMI Kunming 29.06 104 P **P 08 34 10.0 +5.2**
comp=Z,10.0nm,0.8s,mb4.5
KMI Kunming 29.06 104 P **P 08 34 10.0 +5.2**
KMI pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
BRTR Keskin Array B 29.77 288 P **P 08 34 12.1 +1.1**
comp=Z,0.5nm,0.6s,mb3.4,baz=119,slow=8.5,SNR=3.7
BRTR Keskin Array B 29.77 288 P **P 08 34 12.1 +1.1**
BRTR Keskin Array B 29.77 288 P **P 08 34 12.1 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
CHRT Chiangrai 29.81 116 P sP 08 34 44.0 +1.8
comp=Z,184nm,0.6s
OBN Obninsk 30.22 319⇑ *e*P **P 08 34 14.5 -0.2**
OBN *i* 08 34 56.2
OBN *e* 08 37 13.5
OBN pmax pmax
comp=Z,18nm,0.6s,mb4.9
OBN MLR MLR
comp=Z,2μm,17.0s
HHC Hu-ho-hao-te 31.50 69 *e*P **P 08 34 29.2 +3.1**
HHC pP pP 08 34 50.5 +3.9
HHC sP sP 08 35 02.4 +5.4
HHC PP PP 08 35 36.9 -1.8
HHC PcP PcP 08 37 19.8 +2.8
HHC S **S 08 39 28.6 +0.9**
HHC sS sS 08 40 06.4 +3.3
HHC ScP ScP 08 40 52.7 +0.6
HHC PcS PcS 08 41 03.4 +2.0
HHC SS SS 08 41 23.9 -22
HHC ScS ScS 08 44 49.9 0.0
HHC pmax pmax
comp=Z,17nm,0.6s,mb5.0
HHC pmax pmax
comp=Z,830nm,5.0s
HHC LR LR
comp=N,1μm,11.4s
HHC LR LR
comp=E,660nm,12.5s
HHC LR LR
comp=Z,2μm,12.8s
GYA Guiyang 31.53 98 *e*P **P 08 34 31.0 +4.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
AKASG Malin Array Be 33.26 309 P **P 08 34 40.7 -0.7**
comp=Z,13nm,0.7s,mb4.9,baz=80,slow=7.3,SNR=35
AKASG Malin Array Be 33.26 309 P **P 08 34 40.7 -0.7**
AKASG Malin Array Be 33.26 309 P **P 08 34 40.7 -0.7**
AKASG pmax pmax
comp=Z,13nm,0.7s
KIEV Kiev 33.27 309 *i* P **P 08 34 42.0 +0.5**
BJI Beijing 35.09 70 P **P 08 34 59.0 +1.6**
BJI S **S 08 40 25.5 +2.2**
BJI pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
BJI pmax pmax
comp=Z,720nm,10.1s
BJI LR LR
comp=N,4μm,20.5s
BJI LR LR
comp=E,3μm,20.5s
BJI LR LR
comp=Z,3μm,23.5s
FINES FINESS Array B 37.74 326 P **P 08 35 19.4 -0.3**

comp=Z,6.7nm,0.7s,mb4.6,baz=116,slow=8.5,SNR=11
FINES FINESS Array B 37.74 326 P **P 08 35 19.4 -0.3**
FINES FINESS Array B 37.74 326 P **P 08 35 19.4 -0.3**
FINES pmax pmax
comp=Z,7.0nm,0.7s
MORC Moravsky Berou 40.68 307 *e*P **P 08 35 44.9 +0.6**
comp=Z,2.9nm,0.6s,mb4.3
MORC Moravsky Berou 40.68 307 *e*P **P 08 35 44.9 +0.6**
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ARCES ARCESS Array B 41.36 338 P **P 08 35 49.5 0.0**
comp=Z,9.3nm,0.7s,mb4.8,baz=111,slow=7.2,SNR=35
ARCES pP pP 08 36 15.2 +4.5
comp=Z,3.4nm,0.9s,baz=105,slow=6.9,SNR=1.3
ARCES ARCESS Array B 41.36 338 P **P 08 35 49.5 0.0**
ARCES pP pP 08 36 15.2 +4.5
ARCES ARCESS Array B 41.36 338 P **P 08 35 49.5 -0.1**
ARCES *PP pP 08 36 15.2 +4.5
ARCES pmax pmax
comp=Z,9.0nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARE0 ARCESS Array S 41.36 338 *e*P **P 08 35 48.4 -1.2**
BRG Berggiesshubel 42.94 308 *e*P **P 08 36 03.0 +0.4**
comp=Z,4.2nm,0.9s,mb4.2
BRG Berggiesshubel 42.94 308 *e*P **P 08 36 03.0 +0.3**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
GERES GERESS Array B 43.25 305 P **P 08 36 05.4 +0.2**
comp=Z,0.7nm,0.7s,mb3.5,baz=61,slow=11,SNR=4.8
GERES GERESS Array B 43.25 305 P **P 08 36 05.4 +0.2**
GERES GERESS Array B 43.25 305 P **P 08 36 05.4 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 43.50 309 *e*P **P 08 36 07.0 -0.2**
CLL pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
CLL Collm 43.50 309 *e*P **P 08 36 07.0 -0.2**
comp=Z,3.0nm,0.8s,mb4.1
YAK Yakutsk 43.86 35 *i* P **P 08 36 10.5 +0.6**
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.7
KSAR Wonju Array Be 44.58 71 P **P 08 36 17.8 +1.8**
KSAR Wonju Array Be 44.58 71 P **P 08 36 17.8 +1.8**
KSRS Korea Array 44.61 71 P **P 08 36 17.8 +1.6**
comp=Z,1.0nm,0.3s,mb4.0,baz=278,slow=7.0,SNR=8.0
KSRS Korea Array 44.61 71 P **P 08 36 17.8 +1.6**
KSRS pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
NB2 NORSAR Subarra 44.65 323 P **P 08 36 15.3 -0.9**
comp=Z,12nm,0.8s,mb4.7,baz=93,slow=7.9
NOA NORSAR Array B 44.65 323 P **P 08 36 15.6 -0.6**
comp=Z,9.7nm,0.7s,mb4.6,baz=96,slow=7.8,SNR=32
NOA NORSAR Array B 44.65 323 P **P 08 36 15.6 -0.6**
NOA NORSAR Array B 44.65 323 P **P 08 36 15.6 -0.6**
NOA pmax pmax
comp=Z,10.0nm,0.7s
HINF Hinteralfeld 47.92 305 *e*P **P 08 36 42.0 0.0**
HINF Hinteralfeld 47.92 305 *e*P **P 08 36 42.0 0.0**
HINF Hinteralfeld 47.92 305 *e*P **P 08 36 42.0 0.0**
HAU Haudompre 48.22 305 *e*P **P 08 36 43.9 -0.4**
comp=Z,6.4nm,0.6s,mb4.3
HAU Haudompre 48.22 305 *e*P **P 08 36 43.9 -0.4**
comp=Z,6.4nm,0.6s,mb4.6
HAU Haudompre 48.22 305 *e*P **P 08 36 43.9 -0.4**
HAU pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
MBDF Montbardon 48.64 301 *e*P **P 08 36 48.3 +0.7**
comp=Z,6.9nm,0.7s,mb4.4
MBDF Montbardon 48.64 301 *e*P **P 08 36 48.3 +0.7**
comp=Z,6.9nm,0.7s,mb4.7
MBDF Montbardon 48.64 301 *e*P **P 08 36 48.3 +0.7**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SMF Signal de Mont 50.18 304 *e*P **P 08 36 58.8 -0.5**
comp=Z,5.6nm,0.6s,mb4.4
SMF Signal de Mont 50.18 304 *e*P **P 08 36 58.8 -0.5**
comp=Z,5.6nm,0.6s,mb4.7
SMF Signal de Mont 50.18 304 *e*P **P 08 36 58.8 -0.5**
SMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
AVF Avril sur Loir 50.47 304 *e*P **P 08 37 01.0 -0.5**
comp=Z,2.9nm,0.5s,mb4.2
AVF Avril sur Loir 50.47 304 *e*P **P 08 37 01.0 -0.5**
comp=Z,2.9nm,0.5s,mb4.5
AVF Avril sur Loir 50.47 304 *e*P **P 08 37 01.0 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
MJAR Matsushiro Arr 52.69 69 P **P 08 37 19.4 +1.2**
comp=Z,2.3nm,0.9s,mb4.2,baz=286,slow=9.6,SNR=5.2
MJAR Matsushiro Arr 52.69 69 P **P 08 37 19.4 +1.2**
MJAR Matsushiro Arr 52.69 69 P **P 08 37 19.4 +1.2**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 57.79 298 P **P 08 37 54.8 +0.1**
comp=Z,0.5nm,0.5s,mb3.8,baz=52,slow=6.7,SNR=3.6
ESDC Sonseca Array 57.79 298 P **P 08 37 54.8 +0.1**
BILL Bilibino 58.55 26⇑ *e*P **P 08 38 00.6 +1.0**
BILL *e* pP 08 38 26.6 +4.7
BILL *e* 08 38 48.4
BILL *e* 08 40 06.8
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BILL MLR MLR
comp=Z,2μm,18.0s
SUMG Summit 61.26 341 *e*P **P 08 38 18.7 +0.6**
comp=Z,13nm,0.9s,mb5.0
SUMG Summit 61.26 341 *e*P **P 08 38 18.7 +0.6**
SUMG pmax pmax
comp=Z,13nm,0.9s
TORD Torodi Ar. Bea 66.04 269 P **P 08 38 48.0 -2.3**
comp=Z,1.6nm,0.7s,mb4.0,baz=46,slow=5.4,SNR=15
TORD pP pP 08 39 14.8 +1.7
comp=Z,0.9nm,0.8s,baz=42,slow=5.6,SNR=3.4
TORD sP sP 08 39 25.7 +2.7
comp=Z,1.4nm,0.5s,baz=46,slow=5.8,SNR=4.3
TORD Torodi Ar. Bea 66.04 269 P **P 08 38 48.0 -2.3**
TORD pP pP 08 39 14.8 +1.7
TORD sP sP 08 39 25.7 +2.7
RES Resolute Bay 68.82 356 *e*P **P 08 39 08.0 +1.0**
comp=Z,1.2nm,0.4s,mb4.1
RES Resolute Bay 68.82 356 *e*P **P 08 39 08.0 +1.0**
RES pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
INK Inuvik 73.95 9 P **P 08 39 38.1 +0.2**
comp=Z,3.0nm,0.6s,mb4.2,baz=359,slow=6.4,SNR=19
INK Inuvik 73.95 9 *e*P **P 08 39 38.4 +0.5**
comp=Z,2.6nm,0.7s,mb4.1
INK Inuvik 73.95 9 *e*P **P 08 39 38.4 +0.4**
INK pmax pmax
comp=Z,3.0nm,0.7s
COLA College 74.48 16 *e*P **P 08 39 41.8 +0.7**
comp=Z,5.7nm,0.8s,mb4.3
COLA College 74.48 16 *e*P **P 08 39 41.8 +0.7**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ILAR Eielson Array 74.79 16 P **P 08 39 42.0 -0.8**
comp=Z,2.2nm,0.9s,mb3.9,baz=315,slow=5.7,SNR=16
ILAR Eielson Array 74.79 16 P **P 08 39 42.0 -0.8**
ILAR Eielson Array 74.79 16 P **P 08 39 42.0 -0.8**
ILAR pmax pmax
comp=Z,2.0nm,1.0s
DBIC Dimbokro 75.01 267 P **P 08 39 45.0 0.0**
comp=Z,1.0nm,0.5s,mb3.8,baz=27,slow=2.3,SNR=3.9
DBIC Dimbokro 75.01 267 P **P 08 39 45.0 0.0**
DBIC Dimbokro 75.01 267 P **P 08 39 45.1 +0.1**
DBIC pmax pmax
comp=Z,1.0nm,0.5s
BOSA Boshof 77.88 220 P **P 08 40 00.5 -0.2**
comp=Z,3.4nm,0.8s,mb4.1,baz=40,slow=6.9,SNR=5.5
BOSA Boshof 77.88 220 P **P 08 40 00.5 -0.2**
BOSA Boshof 77.88 220 P **P 08 40 00.5 -0.3**
BOSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
YKA Yellowknife Ar 81.33 3 P **P 08 40 18.9 -0.2**
comp=Z,3.0nm,0.7s,mb4.2,baz=349,slow=5.5,SNR=25
YKA pP pP 08 40 45.4 +2.8
comp=Z,0.5nm,0.5s,baz=353,slow=5.5,SNR=2.1
YKA Yellowknife Ar 81.33 3 P **P 08 40 18.9 -0.2**
YKA pP pP 08 40 45.4 +2.8
YKA Yellowknife Ar 81.33 3 P **P 08 40 18.9 -0.2**
YKA *PP pP 08 40 45.4 +2.8
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.5s

WRA Warramunga Arr 81.67 122 P P 08 40 20.9 -0.5
comp=Z,1.0nm,0.7s,mb3.8,baz=322,slow=4.8,SNR=6.6
WRA Warramunga Arr 81.67 122 P P 08 40 20.9 -0.5
WRA Warramunga Arr 81.67 122 P P 08 40 20.9 -0.5
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 83.93 125 P P 08 40 32.9 -0.2
comp=Z,0.9nm,0.6s,mb3.8,baz=311,slow=5.0,SNR=10
ASAR pP pP 08 41 00.6 +3.9
comp=Z,0.6nm,0.7s,baz=316,slow=5.2,SNR=2.9
ASAR Alice Springs 83.93 125 P P 08 40 32.9 -0.2
ASAR pP pP 08 41 00.6 +3.9
ASAR Alice Springs 83.93 125 P P 08 40 32.9 -0.2
ASAR *PP pP 08 41 00.6 +3.9
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR pmax pmax
comp=Z,1.0nm,0.7s

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*IDC **09** 08:31:57.1±1.1, 15°.41N×96°.09E, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.9/7, ML4.3/1, Error ellipse: s-maj=26.5km s-min=17.0km az=58.0*
*ISCJB **09** 08:31:59.9±1.0, 15°.5N±0°.1×96°.2E±0°.1, h33km, mb3.9/6, Error ellipse: s-maj=18.5km s-min=13.7km az=31.6*
ISC 09 08:32:00.4±3.3, 15°.6N±0°.1×96°.2E±0°.1, h18km±18km, n11, σ0s87/12, mb3.9/6, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDT	**Bhumibol Dam**	**3.17**	**57**	P	**Pn**	**08 32 50.0**	**+0.7**
	53nm,0.8s						
NST	**Nakhon Sawan**	**3.78**	**88**	P	**Pn**	**08 32 56.5**	**-1.2**
	100nm,0.8s						
CMAR	**Chiang Mai Arr**	**3.90**	**42**	Pn	**Pn**	**08 33 00.8**	**+1.4**
	5.0nm,0.3s,baz=234,slow=15,SNR=43						
CMAR				Pg	**Pg**	**08 33 14.2**	**-0.9**
	2.4nm,0.3s,baz=224,slow=14,SNR=10						
CMAR				Lg		08 34 06.8	
	1.8nm,0.3s,baz=224,slow=30,SNR=4.7						
CHG	**Chiang Mai**	**4.17**	**38**	PG	**Pg**	**08 33 20.2**	**-0.1**
CHG				SG	Px	08 33 32.6	
NNT	**Nongplab**	**4.50**	**130**	P	**Pg**	**08 33 30.0**	**+3.3**
MKAR	**Makanchi Array**	**33.25**	**342**	P	**P**	**08 38 36.8**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=152,slow=9.6,SNR=3.7						
KURK	**Kurchatov**	**37.84**	**342**	P	**P**	**08 39 15.4**	**-0.4**
	2.8nm,0.7s,mb4.1,baz=151,slow=8.3,SNR=8.4						
ZALV	**Zalesovo Beam**	**39.34**	**349**	P	**P**	**08 39 28.9**	**+0.5**
	2.1nm,0.5s,mb4.1,baz=168,slow=8.2,SNR=7.3						
AKTO	**Aktyubinsk**	**46.44**	**327**	P	**P**	**08 40 25.6**	**-0.3**
	0.8nm,0.3s,mb4.1,baz=104,slow=8.3,SNR=2.8						
WRA	**Warramunga Arr**	**51.46**	**132**	P	**P**	**08 41 05.0**	**0.0**
	1.2nm,0.8s,mb3.9,baz=313,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**53.63**	**136**	P	**P**	**08 41 20.1**	**-0.7**
	0.6nm,0.6s,mb3.7,baz=308,slow=6.2,SNR=3.0						

IDC 09 08:43:36.3±1.8, 1°.20N×126°.49E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=180.5km s-min=21.3km az=66.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.38**	**160**	P	P	08 48 34.9	-1.4
	0.7nm,0.5s,baz=338,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**25.75**	**164**	P	P	08 49 09.8	+1.0
	0.5nm,0.3s,baz=346,slow=12,SNR=13						
MKAR	**Makanchi Array**	**59.50**	**326**	P	P	08 53 41.5	+0.2
	0.7nm,0.7s,baz=115,slow=9.7,SNR=3.3						
KURK	**Kurchatov**	**63.74**	**328**	P	P	08 54 09.7	-0.2
	0.8nm,0.6s,baz=130,slow=6.4,SNR=5.5						

IDC 09 08:45:12.3±4.2, 23°.99S×67°.33W, h211km±30km, mb3.2/1, mb1 3.2/3, mb1mx3.1/15, mbtmp3.1/3, MS4.1/1, Ms1 4.3/1, ms1mx4.1/5, Error ellipse: s-maj=58.4km s-min=24.3km az=53.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.70**	**354**	P	Pn	08 47 02.5	+0.8
	0.4nm,0.3s,baz=166,slow=8.3,SNR=15						
LPAZ				S	S	08 48 29.8	+0.8
	0.0nm,0.3s,baz=332,slow=17,SNR=2.5						
LPAZ				LR	LR	08 50 35.9	
	comp=Z,2μm,21.2s,baz=224,slow=42						
CPUP	**Villa Florida**	**9.36**	**107**	P	Pn	08 47 23.5	+0.4
	1.0nm,0.3s,baz=268,slow=12,SNR=10.0						
TORD	**Torodi Ar. Bea**	**76.84**	**69**	P	P	08 56 40.7	-0.7
	0.4nm,0.5s,baz=250,slow=4.7,SNR=6.1						
ASAR	**Alice Springs**	**128.34**	**205**	PKP	PKPdf	09 03 53.3	-1.0
	0.2nm,0.7s,baz=129,slow=2.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**143.52**	**28**	PKP	PKPdf	09 04 20.7	-0.6
	0.6nm,0.4s,baz=319,slow=6.3,SNR=2.4						
MKAR	**Makanchi Array**	**146.71**	**39**	PKPbc	PKPbc	09 04 29.7	+0.6
	0.9nm,0.5s,baz=310,slow=3.0,SNR=6.8						

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*IDC **09** 08:45:44.3±2.1, 53°.83N×90°.93E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/29, mbtmp3.5/4, ML3.3/3, MS4.5/1, Ms1 4.5/1, ms1mx3.3/50, Error ellipse: s-maj=22.2km s-min=19.2km az=135.0*
*NNC **09** 08:45:47.2±2.7, 53°.78N×90°.55E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=21.5km s-min=20.0km az=129.0*
ISC 09 08:45:44.7±2.7, 53°.81N±0°.10×90°.9E±0°.2, h1km±21km, n10, σ0s75/12, 5C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**3.62**	**275**	Pn	**Pn**	**08 46 42.3**	**+0.5**
	1.5nm,0.3s,baz=90,slow=13,SNR=7.4						
ZALV				Pg	**Pb**	**08 46 48.4**	**-1.0**
	2.0nm,0.3s,baz=92,slow=15,SNR=32						
ZALV				Lg		08 47 38.3	
	2.8nm,0.3s,baz=89,slow=29,SNR=12						
KURK	**Kurchatov**	**8.16**	**253**	⇑Pn	**Pn**	**08 47 44.3**	**+0.2**
	6.9nm,1.1s						
KURK				⇑Sn	**Sn**	**08 49 14.9**	**-2.0**
	8.3nm,0.7s						
KURK				⇑Lg		08 49 59.3	
	42nm,1.1s						
KURK	**Kurchatov**	**8.16**	**253**	Pn	**Pn**	**08 47 45.8**	**+1.6**
	0.3nm,0.3s,baz=64,slow=14,SNR=14						
KURK				Sn	**Sn**	**08 49 17.5**	**+0.6**
	0.1nm,0.3s,baz=67,slow=25,SNR=8.4						
KURK				Lg		08 50 04.2	
	0.1nm,0.3s,baz=61,slow=33,SNR=4.9						
MK31	**Makanchi Array**	**8.93**	**222**	⇑Pn	**Pn**	**08 47 54.5**	**-0.2**
	1.4nm,0.7s,baz=41,slow=12,SNR=14						
MK31				Sn	**Sn**	**08 49 36.0**	**+0.1**
	2.6nm,0.7s,baz=41,slow=27,SNR=4.5						
MK31				⇑Lg		08 50 27.7	
	17nm,0.9s,baz=35,slow=34,SNR=5.9						
MKAR	**Makanchi Array**	**8.93**	**222**	Pn	**Pn**	**08 47 55.4**	**+0.6**
	0.2nm,0.3s,baz=42,slow=14,SNR=20						
MKAR				Sn	**Sn**	**08 49 35.7**	**-0.3**
	0.1nm,0.3s,baz=41,slow=27,SNR=5.3						
MKAR				Lg		08 50 24.3	
	0.1nm,0.3s,baz=40,slow=29,SNR=5.0						
SONM	**Songino Array**	**11.46**	**115**	Lg		08 51 38.2	
	0.1nm,0.3s,baz=303,slow=28,SNR=5.4						
BVAR	**Borovoye Array**	**12.27**	**275**	Sn	**Sn**	**08 50 58.3**	**+0.6**
	0.2nm,0.3s,baz=96,slow=22,SNR=2.9						
TKM2	**Tokmak 2**	**14.88**	**229**	⇓Lg		08 53 33.0	
	5.9nm,1.0s						
AKASG	**Malin Array Be**	**36.85**	**291**	LR	LR	09 11 11.2	
	comp=Z,588nm,18.1s,baz=40,slow=41						
TORD	**Torodi Ar. Bea**	**79.06**	**277**	P	**P**	**08 57 50.0**	**-0.6**
	0.5nm,1.1s,baz=46,slow=6.2,SNR=2.4						

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*IDC **09** 09:16:32.7±0.8, 31°.09S×176°.70W, h0km, mb4.4/8, mb1 4.6/8, mb1mx4.4/17, mbtmp4.4/8, Error ellipse: s-maj=29.8km s-min=21.5km az=176.0*
*NEIC **09** 09:16:34.3±0.7, 31°.31S×176°.74W, h10km, mb4.7/1, Error ellipse: s-maj=22.8km s-min=17.2km az=151.0*
*ISCJB **09** 09:16:36.8±0.7, 31°.48S±0°.08×176°.9W±0°.1, h33km, mb4.4/9, Error ellipse: s-maj=16.7km s-min=10.4km az=29.5*
ISC 09 09:16:38.4±0.7, 31°.38S±0°.09×176°.8W±0°.1, h35km, n41, σ1s26/30, mb4.4/9, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.47**	**214**	Pn	**Pn**	**09 18 36.7**	**-1.9**
	1.7nm,0.3s,baz=233,slow=1.4,SNR=13						
URZ				Sn	**Sn**	**09 20 12.8**	**-0.1**
	2.5nm,0.3s,baz=124,slow=22,SNR=8.9						
URZ	**Urewera**	**8.47**	**214**	Pn	**Pn**	**09 18 36.7**	**-1.9**
URZ				Sn	**Sn**	**09 20 12.8**	**-0.1**
RPZ	**Rata Peaks**	**15.59**	**214**	Pn	**Pn**	**09 20 11.8**	**-3.6**
	2.9nm,0.3s,baz=103,slow=2.6,SNR=14						
RPZ	**Rata Peaks**	**15.59**	**214**	Pn	**Pn**	**09 20 11.8**	**-3.6**
CTA	**Charters Tower**	**34.94**	**280**	*eP*	**P**	**09 23 28.5**	**+1.4**
	6.7nm,0.6s,mb4.7,baz=106,slow=11,SNR=10						
CTA	**Charters Tower**	**34.94**	**280**	*eP*	**P**	**09 23 28.1**	**+1.0**
	5.7nm,0.6s,mb4.7						
CTA	**Charters Tower**	**34.94**	**280**	P	**P**	**09 23 28.5**	**+1.4**
STKA	**Stephens Creek**	**35.24**	**258**	P	**P**	**09 23 30.9**	**+1.3**
	5.1nm,0.8s,mb4.5,baz=84,slow=8.9,SNR=8.9						
STKA	**Stephens Creek**	**35.24**	**258**	*eP*	**P**	**09 23 30.8**	**+1.2**
	5.4nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**35.24**	**258**	P	**P**	**09 23 30.9**	**+1.3**
AS31	**Alice Springs**	**44.06**	**267**	*eP*	**P**	**09 24 42.7**	**-0.3**
ASAR	**Alice Springs**	**44.06**	**267**	P	**P**	**09 24 42.4**	**-0.6**
	3.1nm,0.9s,mb4.0,baz=110,slow=7.7,SNR=31						
ASAR				PcP	PcP	09 26 28.2	+0.2
	0.9nm,0.8s,baz=120,slow=4.1,SNR=2.3						
ASAR	**Alice Springs**	**44.06**	**267**	P	**P**	**09 24 42.4**	**-0.6**
ASAR				PcP	PcP	09 26 28.2	+0.2
WRAB	**Tennant Creek**	**45.13**	**273**	*eP*	**P**	**09 24 51.3**	**-0.3**
	11nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**45.13**	**273**	P	**P**	**09 24 50.7**	**-0.9**
	3.5nm,0.6s,mb4.4,baz=112,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**45.13**	**273**	P	**P**	**09 24 50.7**	**-0.9**
QSPA	**South Pole Qui**	**58.73**	**180**	P	**P**	**09 26 34.7**	**+2.6**
	2.5nm,0.3s,mb4.8,baz=35,slow=2.9,SNR=13						
QSPA	**South Pole Qui**	**58.73**	**180**	P	**P**	**09 26 34.7**	**+2.6**
SYO	**Syowa Base**	**76.38**	**193**	⇓*eP*	**P**	**09 28 23.5**	**-0.1**
VNA3	**Neumayer Olymp**	**77.26**	**176**	*e*	**P**	**09 28 29.5**	**+1.0**
VNA3				*e*	pP	09 28 38.6	-0.9
VNA2	**Neumayer--Watz**	**77.70**	**176**	*e*	**P**	**09 28 32.1**	**+1.1**
	baz=177,slow=4.3						
VNA2				*e*	pP	09 28 42.0	0.0
VNA1	**Neumayer--Stat**	**77.93**	**176**	*e*	**P**	**09 28 27.8**	**-4.5**
NVAR	**Mina Array Bea**	**88.29**	**42**	P	**P**	**09 29 24.8**	**-1.3**
	1.4nm,0.8s,mb4.3,baz=217,slow=6.7,SNR=9.3						
NVAR	**Mina Array Bea**	**88.29**	**42**	P	**P**	**09 29 24.8**	**-1.3**
TXAR	**Lajitas Array**	**92.08**	**57**	P	**P**	**09 29 42.4**	**-1.7**
	1.3nm,1.1s,mb4.2,baz=201,slow=6.6,SNR=6.9						
TXAR	**Lajitas Array**	**92.08**	**57**	P	**P**	**09 29 42.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**94.66**	**289**	P	**P**	**09 29 57.9**	**+1.7**
	0.7nm,0.5s,mb4.4,baz=120,slow=3.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**94.66**	**289**	P	**P**	**09 29 57.9**	**+1.7**
ARCES	**ARCESS Array B**	**139.76**	**348**	PKP	PKPdf	09 36 00.7	-0.9
	2.7nm,0.9s,baz=0.0,slow=0.6,SNR=3.8						
ARCES	**ARCESS Array B**	**139.76**	**348**	PKP	PKPdf	09 36 00.7	-0.9
FINES	**FINESS Array B**	**146.41**	**340**	PKPbc	PKPbc	09 36 13.8	-1.1
	3.6nm,0.6s,baz=59,slow=3.9,SNR=14						
FINES	**FINESS Array B**	**146.41**	**340**	PKPbc	PKPbc	09 36 13.8	-1.1
NB2	**NORSAR Subarra**	**149.86**	**352**	PKP	PKPbc	09 36 23.5	-0.5
	comp=Z,7.8nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.86**	**352**	PKPbc	PKPbc	09 36 22.9	-1.1
	comp=Z,0.9nm,0.5s,baz=12,slow=4.2,SNR=5.7						
NOA	**NORSAR Array B**	**149.86**	**352**	PKPbc	PKPbc	09 36 22.9	-1.1
BRTR	**Keskin Array B**	**153.94**	**297**	PKPbc	PKPbc	09 36 37.2	+3.2
	comp=Z,1.8nm,1.0s,baz=20,slow=4.6,SNR=3.4						
BRTR	**Keskin Array B**	**153.94**	**297**	PKPbc	PKPbc	09 36 37.2	+3.2
DBIC	**Dimbokro**	**154.29**	**161**	PKPbc	PKPbc	09 36 35.8	+0.2
	comp=Z,1.9nm,0.8s,baz=150,slow=2.2,SNR=4.0						
DBIC	**Dimbokro**	**154.29**	**161**	PKPbc	PKPbc	09 36 35.8	+0.2
TORD	**Torodi Ar. Bea**	**161.80**	**175**	PKPab	PKPab	09 37 22.1	+0.4
	comp=Z,1.4nm,0.7s,baz=180,slow=3.8,SNR=8.5						
TORD	**Torodi Ar. Bea**	**161.80**	**175**	PKPab	PKPab	09 37 22.1	+0.4

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*IDC **09** 09:17:15.7±1.4, 51°.33N×178°.69E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/31, mbtmp3.9/15, ML3.8/2, Error ellipse: s-maj=40.8km s-min=12.8km az=4.0*
*NEIC **09** 09:17:17.9, 50°.83N×178°.61E, h29km, ML3.5(AEIC), After AEIC.*
ISC 09 09:17:16.5±2.5, 51°.4N±0°.2×178°.42E±0°.06, h2km±17km, n40, σ0s82/46, mb3.8/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**1.80**	**76**	P	**Pn**	**09 17 48.5**	**+0.1**
GANE	**Gareloi Northe**	**1.81**	**74**	P	**Pn**	**09 17 49.0**	**+0.5**
GANE				S	**Sn**	**09 18 12.3**	**+0.3**
GAEA	**Gareloi East**	**1.82**	**76**	P	**Pn**	**09 17 49.2**	**+0.5**
TASE	**Tanaga Southea**	**2.26**	**77**	P	**Pn**	**09 17 55.3**	**+0.5**
TAFP	**Tanaga Falls P**	**2.30**	**75**	P	**Pn**	**09 17 56.1**	**+0.7**
TAFP				S	**Sn**	**09 18 25.0**	**+0.8**
TAFL	**Tanaga Flats**	**2.33**	**79**	P	**Pn**	**09 17 55.3**	**-0.4**
KIMD	**Kanaga Island**	**2.74**	**80**	P	**Pn**	**09 18 01.1**	**-0.3**
KIKV	**Kanaga Island**	**2.80**	**78**	P	**Pn**	**09 18 02.2**	**0.0**
SMY	**Shemya**	**3.00**	**299**	P	**Pn**	**09 18 09.4**	**+4.5**
SMY				S	**Sn**	**09 18 51.0**	**+10**
ADK	**Adak**	**3.10**	**79**	P	**Pn**	**09 18 06.1**	**-0.2**
ADK				S	**Sn**	**09 18 44.6**	**+0.9**
FX1	**Attu Island--F**	**3.58**	**297**	Pn	**Pn**	**09 18 14.0**	**+1.2**
	15nm,0.3s,baz=278,slow=23,SNR=70						
FX1				Sn	**Sn**	**09 19 04.0**	**+8.4**
	42nm,0.3s,baz=260,slow=22,SNR=10						
FX1	**Attu Island--F**	**3.58**	**297**	Pn	**Pn**	**09 18 14.0**	**+1.2**
FX1				Sn	**Sn**	**09 19 04.0**	**+8.4**
KDAK	**Kodiak Island**	**17.90**	**58**	P	**Pn**	**09 21 23.4**	**-2.7**
	1.0nm,0.3s,baz=186,slow=4.5,SNR=8.9						
KDAK	**Kodiak Island**	**17.90**	**58**	P	**Pn**	**09 21 23.4**	**-2.7**
ILAR	**Eielson Array**	**22.36**	**40**	P	**P**	**09 22 14.0**	**-1.3**
	0.4nm,0.5s,mb3.1,baz=238,slow=7.1,SNR=3.0						
ILAR	**Eielson Array**	**22.36**	**40**	P	**P**	**09 22 14.0**	**-1.3**
INK	**Inuvik**	**28.47**	**35**	P	**P**	**09 23 11.9**	**-0.5**
	0.6nm,0.5s,mb3.5,baz=234,slow=4.1,SNR=4.9						
INK	**Inuvik**	**28.47**	**35**	P	**P**	**09 23 11.9**	**-0.5**
YKA	**Yellowknife Ar**	**36.50**	**46**	P	**P**	**09 24 21.4**	**-1.1**
	0.5nm,0.5s,mb3.7,baz=282,slow=8.1,SNR=5.3						
YKA	**Yellowknife Ar**	**36.50**	**46**	P	**P**	**09 24 21.4**	**-1.1**
SONM	**Songino Array**	**45.08**	**295**	P	**P**	**09 25 34.5**	**+1.0**
	0.7nm,0.6s,mb3.7,baz=67,slow=6.8,SNR=6.9						
SONM				PcP	PcP	09 27 13.7	-0.4
	0.2nm,0.4s,baz=66,slow=3.4,SNR=2.7						
SONM	**Songino Array**	**45.08**	**295**	P	**P**	**09 25 34.5**	**+1.0**
SONM				PcP	PcP	09 27 13.7	-0.4
NVAR	**Mina Array Bea**	**45.28**	**81**	P	**P**	**09 25 34.3**	**-0.9**
	0.1nm,0.3s,mb3.1,baz=333,slow=9.5,SNR=2.4						
NVAR	**Mina Array Bea**	**45.28**	**81**	P	**P**	**09 25 34.3**	**-0.9**
PDAR	**Pinedale Array**	**47.97**	**71**	P	**P**	**09 25 56.3**	**+0.1**
	0.5nm,0.5s,mb3.8,baz=322,slow=3.0,SNR=5.6						
PDAR	**Pinedale Array**	**47.97**	**71**	P	**P**	**09 25 56.3**	**+0.1**
SPITS	**Spitsbergen Ar**	**50.25**	**355**	P	**P**	**09 26 12.7**	**-0.6**
	6.2nm,0.8s,mb4.7,baz=58,slow=5.1,SNR=3.9						
SPITS	**Spitsbergen Ar**	**50.25**	**355**	P	**P**	**09 26 12.7**	**-0.6**
KURK	**Kurchatov**	**57.75**	**312**	P	**P**	**09 27 09.2**	**+0.9**
	1.0nm,0.5s,mb4.1,baz=40,slow=6.6,SNR=7.8						
KURK	**Kurchatov**	**57.75**	**312**	P	**P**	**09 27 09.2**	**+0.9**
ARCES	**ARCESS Array B**	**57.79**	**349**	P	**P**	**09 27 08.3**	**-0.1**
	3.8nm,0.9s,mb4.4,baz=20,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**57.79**	**349**	P	**P**	**09 27 08.3**	**-0.1**
MKAR	**Makanchi Array**	**58.66**	**307**	P	**P**	**09 27 14.1**	**-0.7**
	0.4nm,0.4s,mb3.8,baz=53,slow=7.3,SNR=10						
MKAR	**Makanchi Array**	**58.66**	**307**	P	**P**	**09 27 14.1**	**-0.7**
TXAR	**Lajitas Array**	**60.37**	**79**	P	**P**	**09 27 25.5**	**-1.4**
	0.3nm,0.8s,mb3.4,baz=315,slow=3.8,SNR=4.1						
TXAR	**Lajitas Array**	**60.37**	**79**	P	**P**	**09 27 25.5**	**-1.4**
AKTO	**Aktyubinsk**	**66.67**	**323**	P	**P**	**09 28 08.5**	**+0.3**
	1.9nm,0.5s,mb4.4,baz=62,slow=7.9,SNR=11						
AKTO	**Aktyubinsk**	**66.67**	**323**	P	**P**	**09 28 08.5**	**+0.3**
BRTR	**Keskin Array B**	**84.20**	**333**	P	**P**	**09 29 49.6**	**+0.5**
	0.5nm,0.8s,mb3.7,baz=36,slow=4.0,SNR=2.5						
BRTR	**Keskin Array B**	**84.20**	**333**	P	**P**	**09 29 49.6**	**+0.5**

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*IDC **09** 09:19:18.2±1.8, 1°.23N×126°.69E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=185.5km s-min=20.6km az=66.0*
*ISCJB **09** 09:19:25.8±1.0, 1°.3N±0°.1×126°.94E±0°.06, h82km±8km, mb3.7/4, Error ellipse: s-maj=18.0km s-min=8.4km az=19.6*
*DJA **09** 09:19:28, 1°.23N×126°.83E, h37km, MLv4.1/6*
ISC 09 09:19:26.8±1.0, 1°.3N±0°.1×126°.95E±0°.06, h73km±9km, n11, σ0s79/13, mb3.7/4, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.69**	**143**	P	**Pn**	**09 19 41.8**	**-0.1**
TNTI				S	**Sn**	**09 19 53.3**	**+0.2**
LBMI	**Labuha**	**2.03**	**164**	P	**Pn**	**09 19 59.5**	**+0.5**
MNI	**Manado**	**2.11**	**273**	P	**Pn**	**09 19 58.7**	**-1.4**
MNI				S	**Sn**	**09 20 25.0**	**-0.4**
KMSI	**Cibinong**	**3.06**	**256**	P	**Pn**	**09 20 13.0**	**+0.1**
GTOI	**Gorontalo**	**4.00**	**260**	P	**Pn**	**09 20 26.8**	**+1.1**
NLAI	**Namlea**	**4.54**	**178**	P	**Pn**	**09 20 33.1**	**0.0**
LUWI	**Luwuk**	**4.79**	**241**	S	**Sn**	**09 21 31.3**	**+0.4**
WRA	**Warramunga Arr**	**22.35**	**161**	P	**P**	**09 24 16.8**	**-2.0**
	1.0nm,0.5s,mb3.4,baz=339,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.75**	**165**	P	**P**	**09 24 51.2**	**+0.5**
	0.8nm,0.4s,mb3.5,baz=344,slow=11,SNR=15						
MKAR	**Makanchi Array**	**59.65**	**326**	P	**P**	**09 29 24.2**	**+0.8**
	0.8nm,0.6s,mb4.0,baz=121,slow=8.2,SNR=11						
KURK	**Kurchatov**	**63.88**	**328**	P	**P**	**09 29 51.8**	**+0.1**
	1.1nm,0.5s,mb4.0,baz=127,slow=6.0,SNR=6.6						

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*ISCJB **09** 09:21:13.9±2.5, 6°.7N±0°.2×123°.7E±0°.3, h670km±40km, mb4.4/18, Error ellipse: s-maj=46.1km s-min=8.2km az=144.0*
*NEIC **09** 09:21:13.8±2.8, 6°.77N×123°.63E, h637km±39km, mb4.6/3, Error ellipse: s-maj=41.9km s-min=6.4km az=50.0*
*IDC **09** 09:21:14.3±1.4, 6°.68N×123°.49E, h645km±17km, mb3.3/11, mb1 3.5/11, mb1mx3.1/24, mbtmp3.3/11, Error ellipse: s-maj=39.5km s-min=8.1km az=61.0*
ISC 09 09:21:15.1±2.3, 6°.8N±0°.2×123°.7E±0°.3, h658km±38km, n50, σ0s51/52, mb4.4/18, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.80**	**176**	P	**P**	**09 25 48.2**	**-0.7**
	1.5nm,0.3s,mb4.0,baz=347,slow=7.2,SNR=9.9						
FITZ	**Fitzroy Crossi**	**24.80**	**176**	*eP*	**P**	**09 25 48.2**	**-0.7**
	2.7nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.80**	**176**	P	**P**	**09 25 48.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**26.76**	**298**	P	**P**	**09 26 06.2**	**+0.1**
	2.0nm,0.5s,mb3.9,baz=113,slow=7.1,SNR=10						
CMAR	**Chiang Mai Arr**	**26.76**	**298**	P	**P**	**09 26 06.2**	**+0.1**
WRAB	**Tennant Creek**	**28.54**	**159**	*eP*	**P**	**09 26 20.9**	**-0.5**
	3.9nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**28.54**	**159**	P	**P**	**09 26 20.7**	**-0.7**
	13nm,0.3s,mb4.9,baz=341,slow=9.3,SNR=88						
WRA				S	**S**	**09 30 21.2**	**-5.0**
	1.3nm,0.7s,baz=340,slow=15,SNR=8.3						
WRA				ScP	ScP	09 31 52.9	+2.1
	1.0nm,0.5s,baz=342,slow=3.1,SNR=9.2						
WRA	**Warramunga Arr**	**28.54**	**159**	P	**P**	**09 26 20.7**	**-0.7**
WRA				S	**S**	**09 30 21.2**	**-5.0**
WRA				ScP	ScP	09 31 52.9	+2.2
WB2	**Warramunga Arr**	**28.55**	**159**	*eP*	**P**	**09 26 20.8**	**-0.7**
AS31	**Alice Springs**	**31.86**	**162**	*eP*	**P**	**09 26 49.7**	**+0.1**
ASAR	**Alice Springs**	**31.86**	**162**	P	**P**	**09 26 49.7**	**+0.1**
	8.3nm,0.3s,mb4.7,baz=343,slow=6.9,SNR=157						
ASAR				PcP	PcP	09 29 19.5	+0.3
	0.8nm,0.8s,baz=339,slow=3.2,SNR=7.4						
ASAR				S	**S**	**09 31 16.4**	**-0.3**
	2.2nm,0.9s,baz=359,slow=24,SNR=15						
ASAR				ScP	ScP	09 32 03.5	+1.7
	0.4nm,0.5s,baz=344,slow=3.0,SNR=5.1						
ASAR	**Alice Springs**	**31.86**	**162**	P	**P**	**09 26 49.7**	**+0.1**
ASAR				PcP	PcP	09 29 19.5	+0.3
ASAR				S	**S**	**09 31 16.4**	**-0.3**
ASAR				ScP	ScP	09 32 03.5	+1.7
CTA	**Charters Tower**	**34.71**	**141**	P	**P**	**09 27 14.4**	**+1.0**
	4.2nm,0.5s,mb4.3,baz=332,slow=9.1,SNR=8.1						
CTA	**Charters Tower**	**34.71**	**141**	*eP*	**P**	**09 27 14.3**	**+0.8**
	3.2nm,0.5s,mb4.1						
CTA	**Charters Tower**	**34.71**	**141**	P	**P**	**09 27 14.4**	**+1.0**
**FORT

PMG	**Port Moresby**	**5.20 226**	P	**Pn**	**09 30 37.8**	**+2.6**
	112nm,0.3s,baz=34,slow=4.6,SNR=188					
PMG			S	**Sn**	**09 31 32.4**	**-1.6**
	87nm,0.3s,baz=36,slow=16,SNR=7.7					
PMG	**Port Moresby**	**5.20 226**	P	**Pn**	**09 30 37.8**	**+2.6**
PMG			S	**Sn**	**09 31 32.4**	**-1.6**
PMG	**Port Moresby**	**5.20 226**	P	**Pn**	**09 30 37.8**	**+2.6**
PMG			S	**Sn**	**09 31 32.4**	**-1.6**
HNR	**Honiara**	**9.64 113**	P	**Pn**	**09 31 35.8**	**-0.3**
	5.8nm,0.3s,baz=252,slow=3.2,SNR=1.7					
HNR			S	**Sn**	**09 33 25.2**	**+2.2**
	10nm,0.3s,baz=142,slow=16,SNR=2.1					
HNR	**Honiara**	**9.64 113**	*e*Pn	**Pn**	**09 31 35.6**	**-0.5**
HNR			*e*Sn	**Sn**	**09 33 23.1**	**0.0**
HNR			S	**Sn**	**09 33 25.2**	**+2.2**
HNR	**Honiara**	**9.64 113**	*e*P	**Pn**	**09 31 35.6**	**-0.5**
HNR			S	**Sn**	**09 33 25.2**	**+2.1**
COEN	**Coen**	**11.16 223**	*e*Pn	**Pn**	**09 31 58.2**	**+1.3**
COEN			*e*Sn	**Sn**	**09 33 59.4**	**-0.9**
CTA	**Charters Tower**	**14.94 197**	P	**Pn**	**09 32 50.8**	**+2.6**
	0.5nm,0.3s,baz=26,slow=14,SNR=11					
CTA	**Charters Tower**	**14.94 197**	*e*P	**Pn**	**09 32 50.7**	**+2.5**
	28nm,1.1s					
CTA	**Charters Tower**	**14.94 197**	P	**Pn**	**09 32 50.8**	**+2.6**
CTA	**Charters Tower**	**14.94 197**	P	**Pn**	**09 32 50.8**	**+2.6**
CTAO	**Charters Tower**	**14.94 197**	*e*Pn	**Pn**	**09 32 48.4**	**+0.2**
CTAO	**Charters Tower**	**14.94 197**	*e*P	**Pn**	**09 32 48.4**	**+0.2**
CTAO	**Charters Tower**	**14.94 197**	P	**Pn**	**09 32 51.0**	**+2.8**
	729nm61nm,1.3s					
EIDS	**Eidsvold**	**19.48 180**	*e*P	**Pn**	**09 33 44.1**	**-0.6**
	329nm,1.9s					
WRAB	**Tennant Creek**	**21.40 227**	*e*P	**P**	**09 34 04.0**	**0.0**
	206nm,0.6s,mb5.6					
WRAB	**Tennant Creek**	**21.40 227**	P	**P**	**09 34 04.0**	**0.0**
	631nm,0.9s,SNR=30					
WRAB	**Tennant Creek**	**21.40 227**	*e*P	**P**	**09 34 04.0**	**0.0**
WRAB			pmax	pmax		
	comp=Z,206nm,0.6s,mb5.6					
WRAB	**Tennant Creek**	**21.40 227**	P	**P**	**09 34 04.5**	**+0.5**
	comp=Z,293nm,0.9s,mb5.6					
WB2	**Warramunga Arr**	**21.41 227**	*e*P	**P**	**09 34 04.4**	**+0.3**
WB2			*e*S	**S**	**09 37 58.6**	**-0.7**
WRA	**Warramunga Arr**	**21.42 227**	P	**P**	**09 34 04.3**	**+0.1**
	comp=Z,34nm,0.6s,mb4.8,baz=52,slow=10,SNR=93					
WRA			pP		09 34 14.8	
	comp=Z,122nm,0.8s,baz=50,slow=10,SNR=26					
WRA			S	**S**	**09 37 58.7**	**-0.8**
	comp=Z,16nm,1.2s,baz=56,slow=18,SNR=9.1					
WRA			PcP	PcP	09 38 06.5	0.0
	comp=Z,3.3nm,0.5s,baz=43,slow=1.8,SNR=6.9					
WRA			ScP	ScP	09 41 39.5	-0.6
	comp=Z,0.6nm,0.5s,baz=110,slow=8.0,SNR=4.9					
WRA			LR	LR	09 42 17.4	
	comp=Z,551nm,19.0s,MS4.0,baz=115,slow=36					
WRA	**Warramunga Arr**	**21.42 227**	P	**P**	**09 34 04.3**	**+0.1**
WRA			pP		09 34 14.8	
WRA			S	**S**	**09 37 58.7**	**-0.8**
WRA			PcP	PcP	09 38 06.5	0.0
WRA			ScP	ScP	09 41 39.5	-0.6
WRA	**Warramunga Arr**	**21.42 227**	P	**P**	**09 34 04.3**	**+0.1**
WRA			S	**S**	**09 37 58.7**	**-0.8**
WRA					09 38 06.6	
DZM	**Mont Dzumac**	**22.07 139**	*e*P	**P**	**09 34 10.4**	**-0.8**
	comp=Z,31nm,0.9s,mb4.7					
AAI	**Ambon**	**22.76 274**	P	**P**	**09 34 18.6**	**0.0**
	comp=Z,31nm,0.7s,mb4.9					
AS31	**Alice Springs**	**24.19 221**	*e*P	**P**	**09 34 32.6**	**+0.4**
ASAR	**Alice Springs**	**24.19 221**	P	**P**	**09 34 32.4**	**+0.1**
	comp=Z,30nm,0.7s,mb4.8,baz=58,slow=8.5,SNR=429					
ASAR			pP		09 34 43.9	
	comp=Z,42nm,0.7s,baz=55,slow=8.7,SNR=27					
ASAR			ScP	ScP	09 41 46.5	-0.8
	comp=Z,1.0nm,0.5s,baz=42,slow=4.3,SNR=6.5					
ASAR	**Alice Springs**	**24.19 221**	P	**P**	**09 34 32.4**	**+0.1**
ASAR			pP		09 34 43.9	
ASAR			ScP	ScP	09 41 46.5	-0.8
ASAR	**Alice Springs**	**24.19 221**	P	**P**	**09 34 32.4**	**+0.1**
ASAR			*PP		09 34 43.9	
ARMA	**Armidale**	**24.52 179**	*e*P	**P**	**09 34 35.2**	**0.0**
ARMA	**Armidale**	**24.52 179**	*e*P	**P**	**09 34 35.9**	**+0.8**
	comp=Z,31nm,0.8s,mb4.9					
STKA	**Stephens Creek**	**27.40 197**	P	**P**	**09 35 00.7**	**-0.5**
	comp=Z,16nm,0.8s,mb4.6,baz=3.5,slow=9.4,SNR=24					
STKA			pP	pP	09 35 12.8	-0.4
	comp=Z,18nm,0.7s,baz=15,slow=9.9,SNR=10					
STKA			ScP	ScP	09 41 57.0	+0.6
	comp=Z,7.4nm,1.1s,baz=174,slow=4.2,SNR=4.1					
STKA	**Stephens Creek**	**27.40 197**	*e*P	**P**	**09 35 00.2**	**-1.0**
	comp=Z,19nm,0.7s,mb4.7					
STKA	**Stephens Creek**	**27.40 197**	*e*P	**P**	**09 35 00.4**	**-0.8**
	comp=Z,5.1nm,0.9s,mb4.0					
STKA			pP	pP	09 35 12.8	-0.4
STKA			ScP	ScP	09 41 57.0	+0.6
STKA	**Stephens Creek**	**27.40 197**	*e*P	**P**	**09 35 00.4**	**-0.8**
STKA			*PP	pP	09 35 12.8	-0.4
STKA			pmax	pmax		
	comp=Z,5.0nm,0.9s					
FITZ	**Fitzroy Crossi**	**27.57 241**	P	**P**	**09 35 02.7**	**-0.2**
	comp=Z,6.7nm,0.4s,mb4.6,baz=67,slow=6.3,SNR=23					
FITZ			pP	pP	09 35 13.4	-1.5
	comp=Z,120nm,1.0s,baz=69,slow=9.1,SNR=24					
FITZ	**Fitzroy Crossi**	**27.57 241**	*e*P	**P**	**09 35 02.6**	**-0.3**
	comp=Z,152nm,0.9s,mb5.6					
FITZ	**Fitzroy Crossi**	**27.57 241**	*e*P	**P**	**09 35 02.6**	**-0.4**
	comp=Z,27nm,0.8s,mb4.9					
FITZ			pP	pP	09 35 13.4	-1.5
FITZ	**Fitzroy Crossi**	**27.57 241**	P	**P**	**09 35 02.9**	**0.0**
	comp=Z,109nm,0.9s,mb5.5					
CNB	**Canberra Magne**	**29.43 183**	*e*P	**P**	**09 35 19.7**	**+0.4**
	comp=Z,58nm,0.9s,mb5.3					
TOO	**Toolangi**	**32.03 188**	*e*P	**P**	**09 35 42.4**	**+0.2**
	comp=Z,87nm,0.9s,mb5.6					
FORT	**Forrest**	**32.87 218**	*e*P	**P**	**09 35 49.5**	**-0.2**
	comp=Z,27nm,0.6s,mb5.4					
FORT	**Forrest**	**32.87 218**	*e*P	**P**	**09 35 49.6**	**-0.1**
	comp=Z,56nm,0.8s,mb5.5					
MBWA	**Marble Bar**	**33.88 240**	*e*P	**P**	**09 35 58.6**	**0.0**
	comp=Z,35nm,0.8s,mb5.3					
MBWA	**Marble Bar**	**33.88 240**	P	**P**	**09 35 59.8**	**+1.2**
MOO	**Moorlands**	**36.66 185**	*e*P	**P**	**09 36 23.8**	**+1.6**
	comp=Z,154nm,0.9s,mb5.8					
URZ	**Urewera**	**40.12 147**	P	**P**	**09 36 51.4**	**0.0**
	comp=Z,3.4nm,0.5s,mb4.3,baz=293,slow=15,SNR=3.2					
URZ	**Urewera**	**40.12 147**	P	**P**	**09 36 51.4**	**0.0**
KLBR	**Kellerberrin**	**40.29 226**	*e*P	**P**	**09 36 52.3**	**-0.6**
	comp=Z,65nm,1.2s,mb5.2					
NWAO	**Narrogin (SRO)**	**41.39 225**	P	**P**	**09 37 01.9**	**0.0**
	comp=Z,11nm,1.0s,mb4.4,baz=72,slow=9.2,SNR=5.6					
NWAO			pP	pP	09 37 12.4	-1.9
	comp=Z,16nm,1.0s,baz=46,slow=5.9,SNR=4.6					
NWAO	**Narrogin (SRO)**	**41.39 225**	P	**P**	**09 37 01.9**	**0.0**
NWAO			pP	pP	09 37 12.4	-1.9
NWAO	**Narrogin (SRO)**	**41.39 225**	P	**P**	**09 37 01.9**	**0.0**
NWAO			*PP	pP	09 37 12.4	-1.9
RPZ	**Rata Peaks**	**41.73 158**	P	**P**	**09 37 04.3**	**-0.2**
	comp=Z,6.5nm,0.4s,mb4.6,baz=210,slow=2.6,SNR=9.6					
RPZ	**Rata Peaks**	**41.73 158**	*e*P	**P**	**09 37 03.3**	**-1.2**
	comp=Z,12nm,0.6s,mb4.7					
JNU	**Nakatsue**	**43.12 335**	*e*P	**P**	**09 37 16.2**	**+0.3**
QIZ	**Qiongzhong**	**47.40 302**	P	**P**	**09 37 50.1**	**0.0**
QIZ			S	**S**	**09 44 39.5**	**-1.8**
QIZ			pmax	pmax		
	comp=Z,15nm,1.6s,mb4.7					
KSRS	**Korea Array**	**48.07 335**	P	**P**	**09 37 55.5**	**+0.5**
	comp=Z,9.9nm,0.7s,mb4.9,baz=154,slow=8.3,SNR=31					
KSRS			pP	pP	09 38 07.6	+0.1
	comp=Z,7.1nm,0.8s,baz=155,slow=7.7,SNR=8.8					
KSRS			LR	LR	09 57 12.9	
	comp=Z,222nm,19.5s,MS4.2,baz=135,slow=35					
KSAR	**Wonju Array Be**	**48.07 335**	P	**P**	**09 37 55.5**	**+0.4**
KSAR			pP	pP	09 38 07.6	0.0
KSAR	**Wonju Array Be**	**48.07 335**	P	**P**	**09 37 55.5**	**+0.5**
KSAR			*PP	pP	09 38 07.6	0.0
GYA	**Guiyang**	**53.54 309**	P	**P**	**09 38 38.4**	**+2.0**
GYA			pP	pP	09 38 57.6	+8.5
GYA			sP	sP	09 39 05.4	+11
GYA			PcP	PcP	09 39 44.3	+1.5
GYA			PP	PP	09 40 41.5	+4.1
GYA			ScP	ScP	09 43 34.0	-3.1
GYA			PcS	PcS	09 43 42.5	+0.5
GYA			S	**S**	**09 46 05.9**	**-0.6**
GYA			pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0					
GYA			pmax	pmax		
	comp=Z,130nm,5.4s					
GYA			LR	LR		
	comp=N,680nm,19.9s,MS4.8					
GYA			LR	LR		
	comp=E,480nm,20.1s,MS4.8					
GYA			LR	LR		
	comp=Z,570nm,18.9s,MS4.7					
MDJ	**Mudanjiang**	**53.71 341**	P	**P**	**09 38 39.4**	**+2.1**
MDJ			pP	pP	09 38 57.3	+7.3
MDJ			sP	sP	09 39 05.5	+10
MDJ			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4					
MDJ			pmax	pmax		
	comp=Z,400nm,9.9s					
CN2	**Changchun**	**54.45 337**	*e*P	**P**	**09 38 46.0**	**+3.3**
CN2			*e*S	**S**	**09 46 17.6**	**-0.7**
CN2			SS	SS	09 50 02.3	+0.9
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9					
CN2			pmax	pmax		
	comp=Z,200nm,8.0s					
CN2			LR	LR		
	comp=N,300nm,20.0s,MS4.5					
CN2			LR	LR		
	comp=E,300nm,20.0s,MS4.5					
CN2			LR	LR		
	comp=Z,200nm,19.0s,MS4.2					
BJI	**Beijing**	**55.70 328**	P	**P**	**09 38 53.3**	**+1.5**
BJI			S	**S**	**09 46 36.2**	**+1.1**
BJI			SS	SS	09 50 23.9	+2.6
BJI			pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1					
BJI			pmax	pmax		
	comp=Z,340nm,10.8s					
BJI			LR	LR		
	comp=N,310nm,16.6s,MS4.6					
BJI			LR	LR		
	comp=E,250nm,13.2s,MS4.6					
BJI			LR	LR		
	comp=Z,280nm,21.1s					
HABR	**Khabarovsk**	**55.79 347**	*e*P	**P**	**09 38 50.6**	**-1.7**
HABR			*e*SP	sP	09 39 04.7	-5.6
HABR			*e*S	**S**	**09 46 35.1**	**-0.9**
HABR			*e*SS	sS	09 46 52.2	-5.1
HABR			*e*		09 48 37.0	
HABR			*e*SS	SS	09 50 21.8	-0.5
HABR			pmax	pmax		
	comp=N,34nm,2.3s					
HABR			pmax	pmax		
	comp=E,83nm,3.0s					
HABR			pmax	pmax		
	comp=Z,38nm,1.8s,mb5.1					
KMI	**Kunming**	**56.02 305**	P	**P**	**09 38 56.5**	**+2.1**
KMI			S	**S**	**09 46 40.7**	**+0.9**
KMI			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9					
KMI			pmax	pmax		
	comp=Z,340nm,13.3s					
KMI			LR	LR		
	comp=N,310nm,15.9s,MS4.6					
KMI			LR	LR		
	comp=E,250nm,18.3s,MS4.6					
KMI			LR	LR		
	comp=Z,320nm,15.9s,MS4.5					
KMI	**Kunming**	**56.02 305**	P	**P**	**09 38 56.5**	**+2.1**
	comp=Z,10.0nm,0.8s,mb4.9					
KMI			S	**S**	**09 46 40.7**	**+0.9**
KMI			LR	LR		
	comp=Z,320nm,15.9s,MS4.5					
KMI	**Kunming**	**56.02 305**	P	**P**	**09 38 56.5**	**+2.1**
KMI			S	**S**	**09 46 40.7**	**+0.9**
KMI			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9					
KMI			MLR	MLR		
	comp=Z,320nm,15.9s,MS4.5					
CMAR	**Chiang Mai Arr**	**56.63 296**	P	**P**	**09 38 59.2**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.1,baz=124,slow=5.7,SNR=3.0					
CMAR			pP	pP	09 39 08.8	-2.9
	comp=Z,0.8nm,0.4s,baz=64,slow=4.9,SNR=1.5					
CMAR			sP	sP	09 39 15.9	-1.0
	comp=Z,1.1nm,0.4s,baz=112,slow=6.8,SNR=1.7					
CMAR	**Chiang Mai Arr**	**56.63 296**	P	**P**	**09 38 59.2**	**+0.3**
CMAR			pP	pP	09 39 08.8	-2.9
CMAR			sP	sP	09 39 15.9	-1.0
CMAR	**Chiang Mai Arr**	**56.63 296**	P	**P**	**09 38 59.2**	**+0.3**
CMAR			*SP	sP	09 39 15.9	-1.0
KLR	**Kul'dur**	**57.28 345**	*e*P	**P**	**09 39 01.4**	**-1.5**
CD2	**Chengdu**	**57.98 312**	*e*P	**P**	**09 39 10.7**	**+2.5**
CD2			pP	pP	09 39 30.0	+8.9
CD2			sP	sP	09 39 38.0	+12
CD2			PP	PP	09 41 21.6	+4.4
CD2			S	**S**	**09 47 13.5**	**+7.9**
CD2			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1					
CD2			pmax	pmax		
	comp=Z,120nm,5.2s					
CD2			LR	LR		
	comp=N,430nm,18.0s,MS4.7					
CD2			LR	LR		
	comp=E,420nm,20.4s,MS4.7					
CD2			LR	LR		
	comp=Z,480nm,19.2s,MS4.6					
HHC	**Hu-ho-hao-te**	**58.78 326**	*e*P	**P**	**09 39 15.6**	**+2.1**
HHC			pP	pP	09 39 34.3	+7.9
HHC			sP	sP	09 39 42.9	+11
HHC			PcP	PcP	09 40 04.0	+1.2
HHC			PP	PP	09 41 28.6	+4.6
HHC			ScP	ScP	09 43 56.0	-3.8
HHC			PcS	PcS	09 44 04.4	-0.1
HHC			S	**S**	**09 47 14.2**	**-1.4**
HHC			sS	sS	09 47 47.5	+10
HHC			ScS	ScS	09 48 54.8	-5.0
HHC			pmax	pmax		
	comp=Z,15nm,0.6s,mb5.2					
HHC			pmax	pmax		
	comp=Z,450nm,7.1s					
HHC			LR	LR		
	comp=N,340nm,16.7s,MS4.7					
HHC			LR	LR		
	comp=E,290nm,16.2s,MS4.7					
HHC			LR	LR		
	comp=Z,380nm,16.0s,MS4.6					
PETK	**Petropavlovsk-**	**58.94 5**	P	**P**	**09 39 15.5**	**+1.1**
	comp=Z,4.1nm,0.5s,mb4.7,baz=182,slow=12,SNR=4.3					
PETK			LR	LR	10 02 28.9	
	comp=Z,286nm,18.1s,MS4.4,baz=192,slow=34					
PETK	**Petropavlovsk-**	**58.94 5**	P	**P**	**09 39 15.5**	**+1.1**
PETK	**Petropavlovsk-**	**58.94 5**	P	**P**	**09 39 15.5**	**+1.1**
LZH	**Lanzhou**	**60.66 317**	*e*P	**P**	**09 39 27.5**	**+0.9**
LZH			pP	pP	09 39 45.8	+6.3
LZH			sP	sP	09 39 53.9	+9.2
LZH			pmax	pmax		
	comp=Z,19nm,1.0s,mb5.2					
LZH	**Lanzhou**	**60.66 317**	*e*P	**P**	**09 39 27.5**	**+0.9**
	comp=Z,19nm,1.0s,mb5.2					
LZH			pP	pP	09 39 45.8	+6.3
LZH			sP	sP	09 39 53.9	+9.2
LZH	**Lanzhou**	**60.66 317**	*e*P	**P**	**09 39 27.5**	**+0.9**
LZH			*PP	pP	09 39 45.8	+6.3
LZH			pmax	pmax		
	comp=Z,19nm,1.0s,mb5.2					
GTA	**Gaotai**	**65.13 318**	*e*P	**P**	**09 39 56.1**	**-0.1**
GTA			pP	pP	09 40 15.8	+6.5
GTA			sP	sP	09 40 24.2	+10
GTA			S	S	09 48 31.5	-4.3
GTA			pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2					
GTA			pmax	pmax		
	comp=Z,290nm,6.4s					
GTA			LR	LR		
	comp=N,200nm,15.2s,MS4.7					
GTA			LR	LR		
	comp=E,290nm,16.9s,MS4.7					
GTA			LR	LR		
	comp=Z,220nm,14.2s,MS4.5					
SONM	**Songino Array**	**66.18 329**	P	**P**	**09 40 02.4**	**-0.4**
	comp=Z,4.4nm,0.7s,mb4.6,baz=149,slow=5.0,SNR=22					
SONM			pP	pP	09 40 16.6	+0.7
	comp=Z,3.9nm,0.9s,baz=131,slow=5.5,SNR=6.6					
SONM	**Songino Array**	**66.18 329**	P	**P**	**09 40 02.4**	**-0.4**
SONM			pP	pP	09 40 16.6	+0.7
SONM	**Songino Array**	**66.18 329**	P	**P**	**09 40 02.4**	**-0.4**
SONM			*PP	pP	09 40 16.6	+0.7
ZAK	**Zakamensk**	**69.38 330**	*e*P	**P**	**09 40 21.0**	**-1.9**
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4					
BOD	**Bodaibo**	**70.05 340**	*e*P	**P**	**09 40 24.8**	**-2.1**
BOD			pmax	pmax		
	comp=Z,6.0nm,2.8s,mb4.0					
BILL	**Bilibino**	**74.44 6**	*i* P	**P**	**09 40 53.5**	**+0.6**
BILL			*e*		09 43 39.5	
BILL			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0					
HVS	**Khovu-Aksy**	**74.83 327**	*i* P	**P**	**09 40 55.4**	**-0.1**
HVS			pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0					
WMQ	**Urumqi**	**75.21 318**	*e*P	**P**	**09 40 59.1**	**+1.2**
MKAR	**Makanchi Array**	**79.85 319**	P	**P**	**09 41 22.4**	**-1.3**
	comp=Z,1.1nm,0.4s,mb4.1,baz=103,slow=6.7,SNR=19					
MKAR			pP	pP	09 41 34.8	-2.3
	comp=Z,1.6nm,0.8s,baz=111,slow=6.7,SNR=5.0					
MKAR	**Makanchi Array**	**79.85 319**	P	**P**	**09 41 22.4**	**-1.3**
MKAR			pP	pP	09 41 34.8	-2.3
MKAR	**Makanchi Array**	**79.85 319**	P	**P**	**09 41 22.4**	**-1.3**
MKAR			*PP	pP	09 41 34.8	-2.3
ZALV	**Zalesovo Beam**	**80.94 327**	P	**P**	**09 41 26.9**	**-2.5**
	comp=Z,2.7nm,0.6s,mb4.4,baz=112,slow=5.4,SNR=4.5					
ZALV	**Zalesovo Beam**	**80.94 327**	P	**P**	**09 41 26.9**	**-2.5**
ZALV	**Zalesovo Beam**	**80.94 327**	P	**P**	**09 41 26.9**	**-2.5**
KSH	**Kashi**	**82.17 311**	P	**P**	**09 41 36.4**	**+0.2**
KSH			pP	pP	09 41 56.4	+6.7
KSH			sP	sP	09 42 05.5	+11
KSH			PP	PP	09 44 47.8	+2.7
KSH			S	S	09 51 42.7	-5.4
KSH			SKS		09 51 45.6	
KSH			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
KSH			pmax	pmax		
	comp=Z,140nm,5.4s					
KSH			LR	LR		
	comp=N,160nm,7.4s					
KSH			LR	LR		
	comp=E,180nm,5.7s					
KSH			LR	LR		
	comp=Z,250nm,7.9s					
TKM2	**Tokmak 2**	**83.28 314**	P	**P**	**09 41 42.1**	**+0.2**
	SNR=5.3					
TKM2			P		09 41 42.1	
	SNR=5.3					
TKM2	**Tokmak 2**	**83.28 314**	*e*P	**P**	**09 41 41.6**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.5					
TKM2	**Tokmak 2**	**83.28 314**	*e*P	**P**	**09 41 41.6**	**-0.3**
TKM2			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4					
KZA	**Kyzart**	**83.32 313**	P	**P**	**09 41 43.3**	**+1.1**
	SNR=5.8					
KZA			P		09 41 43.3	
	SNR=5.8					
KURK	**Kurchatov**	**83.40 322**	*e*P	**P**	**09 41 41.6**	**-0.7**
	comp=Z,12nm,1.3s,mb4.8					
KURK	**Kurchatov**	**83.40 322**	*i* P	**P**	**09 41 42.8**	**+0.4**
KURK			pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5					
ILAR	**Eielson Array**	**83.76 22**	P	**P**	**09 41 40.1**	**-3.8**
	comp=Z,2.0nm,0.6s,mb4.4,baz=250,slow=4.8,SNR=35					
ILAR	**Eielson Array**	**83.76 22**	P	**P**	**09 41 40.1**	**-3.8**
ILAR	**Eielson Array**	**83.76 22**	P	**P**	**09 41 40.1**	**-3.8**
MAW	**Mawson**	**83.96 203**	P	**P**	**09 41 43.8**	**-1.2**
	comp=Z,1.8nm,0.5s,mb4.5,baz=87,slow=14,SNR=8.5					
MAW	**Mawson**	**83.96 203**	P	**P**	**09 41 43.8**	**-1.2**
MAW	**Mawson**	**83.96 203**	P	**P**	**09 41 43.8**	**-1.2**
AAK	**Ala-Archa**	**84.00 314**	*e*P	**P**	**09 41 46.0**	**+0.4**
	comp=Z,16nm,0.7s,mb5.3					
AAK	**Ala-Archa**	**84.00 314**	*e*P	**P**	**09 41 46.0**	**+0.4**
AAK			pmax	pmax		
	comp=Z,16nm,0.7s,mb5.3					
USP	**Ospenovka**	**84.14 314**	P	**P**	**09 41 46.9**	**+0.6**
	SNR=8.6					
USP			P		09 41 46.9	
	SNR=8.6					
AML	**Almayashu**	**84.46 313**	P	**P**	**09 41 48.2**	**+0.2**
	SNR=9.0					
AML			P		09 41 48.2	
	SNR=9.0					
EKS2	**Erkin-Say**	**84.52 314**	P	**P**	**09 41 47.8**	**-0.4**
	SNR=6.7					
EKS2			P		09 41 47.8	
	SNR=6.7					
EKS2	**Erkin-Say**	**84.52 314**	*e*P	**P**	**09 41 48.1**	**-0.1**
	comp=Z,16nm,1.3s,mb5.0					
EKS2	**Erkin-Say**	**84.52 314**	*e*P	**P**	**09 41 48.1**	**-0.2**
EKS2			pmax	pmax		
	comp=Z,17nm,1.3s,mb5.0					
KKAR	**Karatay Array**	**86.96 314**	*e*P	**P**	**09 41 58.9**	**-1.5**
KKAR	**Karatay Array**	**86.96 314**	*e*P	**P**	**09 41 58.9**	**-1.5**
BVAR	**Borovoye Array**	**88.91 323**	P	**P**	**09 42 07.2**	**-2.3**
	comp=Z,1.4nm,0.5s,mb4.5,baz=117,slow=5.1,SNR=6.0					
BVAR			pP	pP	09 42 20.3	-2.7
	comp=Z,1.1nm,0.6s,baz=111,slow=8.1,SNR=3.3					
BVAR	**Borovoye Array**	**88.91 323**	P	**P**	**09 42 07.2**	**-2.3**
BVAR			pP	pP	09 42 20.3	-2.7
BVAR	**Borovoye Array**	**88.91 323**	P	**P**	**09 42 07.2**	**-2.2**
BVAR			*PP	pP	09 42 20.3	-2.7
INK	**Inuvik**	**90.03 21**	P	**P**	**09 42 13.0**	**-1.3**
	comp=Z,2.6nm,0.9s,mb4.5,baz=144,slow=1.5,SNR=5.2					
INK	**Inuvik**	**90.03 21**	P	**P**	**09 42 13.0**	**-1.3**
INK	**Inuvik**	**90.03 21**	P	**P**	**09 42 13.0**	**-1.3**
HUMO	**Hull Mountain**	**91.00 47**	*e*P	**P**	**09 42 18.8**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.8					
HUMO			*e*pP	pP	09 42 31.8	-1.3
SYO	**Syowa Base**	**92.13 200**	‖ *e*pP	pP	09 42 44.4	+6.6
NVAR	**Mina Array Bea**	**94.14 52**	P	**P**	**09 42 33.5**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.9,baz=254,slow=6.3,SNR=17					
NVAR			pP	pP	09 42 46.5	-1.2
	comp=Z,2.4nm,0.8s,baz=263,slow=7.1,SNR=5.4					
NVAR			LR	LR	10 15 13.7	
	comp=Z,499nm,21.0s,MS5.0,baz=283,slow=29					
NVAR	**Mina Array Bea**	**94.14 52**	P	**P**	**09 42 33.5**	**-0.6**
NVAR			pP	pP	09 42 46.5	-1.2
YKA	**Yellowknife Ar**	**97.15 28**	P	**P**	**09 42 45.1**	**-2.1**
	comp=Z,0.4nm,0.6s,mb4.0,baz=271,slow=4.6,SNR=7.3					
YKA	**Yellowknife Ar**	**97.15 28**	P	**P**	**09 42 45.1**	**-2.1**
YKA	**Yellowknife Ar**	**97.15 28**	P	**P**	**09 42 45.1**	**-2.1**
PDAR	**Pinedale Array**	**100.87 48**	P	Pdif	09 43 02.5	-1.5
	comp=Z,0.8nm,0.6s,baz=242,slow=2.0,SNR=7.9					
PDAR	**Pinedale Array**	**100.87 48**	P	Pdif	09 43 02.5	-1.5
TXAR	**Lajitas Array**	**106.22 61**	PP	PP	09 47 55.3	+2.3
	comp

*ISCJB **09** 09:34:23.2±0.8, 54°.70N±0°.07×19°.5E±0°.1, h0km, Error ellipse: s-maj=11.5km s-min=10.3km az=16.2*
*IDC **09** 09:34:27.3±1.0, 54°.57N×19°.23E, h0km, mb3.0/1, mb1 3.4/6, mb1mx3.2/26, mbtmp3.3/6, ML3.3/5, MS3.2/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=16.5km s-min=10.1km az=58.0*
*BER **09** 09:34:43.6±2.8, 55°.97N×19°.16E, h0km, ML2.9(NAO), Suspected explosion*
*NAO **09** 09:34:45.2±5.3, 56°.14N×19°.37E, ML2.9*
*CSEM **09** 09:34:57.6±1.4, 57°.36N×19°.03E, h1km, ML2.9, Error ellipse: s-maj=46.4km s-min=13.8km az=10.0, Suspected Mining explosion.*

ISC 09 09:34:25.5±0.8, 54°.64N±0°.07×19°.4E±0°.1, h0km, n22, σ1°18/27, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSD	**Bornholm Skovb**	**2.63**	**282**	*i* P	**Pn**	**09 35 09.6**	**+0.5**
BSD				*e*S	**Sg**	**09 36 02.2**	**+12**
SLIT	**Slitere, Latvi**	**3.41**	**27**	*e*P	**Pn**	**09 35 29.7**	**+10**
SLIT	SNR=50			*e*S	**Sn**	**09 35 51.7**	**-9.2**
VRAC	**Vranov**	**5.61**	**199**	LR	LR	09 37 41.6	
	comp=Z,265nm,21.8s,baz=304,slow=35						
MEF	**Metsahovi**	**6.21**	**24**	*e*P	**Pn**	**09 36 00.9**	**+2.6**
	SNR=49						
HFS	**Hagfors**	**6.31**	**333**	Pn	**Pn**	**09 36 00.3**	**+0.7**
	baz=141,slow=16						
HFS	**Hagfors**	**6.31**	**333**	Pn	**Pn**	**09 36 00.6**	**+1.0**
	0.8nm,0.3s,baz=146,slow=14,SNR=42						
HFS	**Hagfors**	**6.31**	**333**	Pn	**Pn**	**09 36 00.3**	**+0.7**
	SNR=50						
RAF	**Rauma**	**6.53**	**10**	*e*P	**Pn**	**09 36 03.9**	**+1.3**
	SNR=49						
AKASG	**Malin Array Be**	**7.16**	**119**	Pn	**Pn**	**09 36 11.5**	**+0.2**
	2.9nm,0.3s,baz=313,slow=12,SNR=9.1						
FIA0	**FINESS Array S**	**7.69**	**25**	Pn	**Pn**	**09 36 19.6**	**+1.1**
	baz=227,slow=12						
FIA0				Sn	**Sn**	**09 37 30.7**	**-15**
FIA0	**FINESS Array S**	**7.69**	**25**	Pn	**Pn**	**09 36 19.6**	**+1.1**
	SNR=50						
FIA0				Sn	**Sn**	**09 37 30.7**	**-15**
	SNR=50						
FINES	**FINESS Array B**	**7.69**	**25**	Pn	**Pn**	**09 36 19.8**	**+1.3**
	0.9nm,0.3s,baz=207,slow=11,SNR=24						
FINES				Sn	**Sn**	**09 37 44.7**	**-1.4**
	1.0nm,0.3s,baz=248,slow=24,SNR=2.2						
NB2	**NORSAR Subarra**	**7.76**	**329**	Pn	**Pn**	**09 36 18.9**	**-0.6**
	baz=146,slow=16						
NB2	**NORSAR Subarra**	**7.76**	**329**	Pn	**Pn**	**09 36 18.9**	**-0.6**
	SNR=50						
NOA	**NORSAR Array B**	**7.76**	**329**	Pn	**Pn**	**09 36 18.7**	**-0.8**
	0.3nm,0.3s,baz=154,slow=13,SNR=5.8						
NOA				Sn	**Sn**	**09 37 42.0**	**-5.8**
	baz=164,slow=17,SNR=1.1						
NOA				Lg		09 38 31.6	
	0.6nm,0.3s,baz=343,slow=17,SNR=2.0						
KAF	**Kangasniemi**	**8.32**	**23**	*e*p	**Pn**	**09 36 27.8**	**+0.6**
	1.2nm,0.3s						
JOF	**Joensuu**	**10.34**	**32**	*e*p	**Pn**	**09 36 53.9**	**-0.9**
	0.7nm,0.3s						
APA0	**Apatity Array**	**14.52**	**21**	Pn	**Pn**	**09 37 45.1**	**-6.7**
ARA0	**ARCESS Array S**	**15.21**	**8**	Pn	**Pn**	**09 37 57.2**	**-3.9**
	baz=187,slow=16						
ARA0	**ARCESS Array S**	**15.21**	**8**	P	**Pn**	**09 37 57.2**	**-4.0**
	SNR=47						
ARCES	**ARCESS Array B**	**15.21**	**8**	Pn	**Pn**	**09 37 57.9**	**-3.3**
	0.2nm,0.3s,baz=187,slow=14,SNR=14						
TORD	**Torodi Ar. Bea**	**43.66**	**205**	P	**P**	**09 42 31.1**	**-0.7**
	0.1nm,0.4s,baz=5.6,slow=8.7,SNR=2.5						

IDC 09 09:34:30.9±49.0, 15°.54S×171°.41W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/18, mbtmp4.3/3, Error ellipse: s-maj=957.4km s-min=197.7km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.64**	**240**	P	P	09 42 53.6	+0.2
	0.8nm,0.4s,baz=78,slow=9.3,SNR=3.0						
WRA	**Warramunga Arr**	**51.68**	**257**	P	P	09 43 40.0	-0.1
	0.9nm,0.5s,baz=94,slow=6.9,SNR=8.1						
ASAR	**Alice Springs**	**51.90**	**252**	P	P	09 43 41.5	-0.2
	8.0nm,0.6s,baz=89,slow=8.1,SNR=78						

IDC 09 09:34:36.8±0.8, 54°.61N×19°.27E, h0km, mb3.1/1, mb1 3.4/7, mb1mx3.2/27, mbtmp3.3/7, ML3.3/6, Error ellipse: s-maj=15.3km s-min=10.4km az=84.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.31**	**334**	Pn	Pn	09 36 09.2	-1.8
	0.9nm,0.3s,baz=145,slow=14,SNR=16						
GERES	**GERESS Array B**	**6.72**	**213**	Pn	Pn	09 36 15.3	-1.4
	0.2nm,0.3s,baz=40,slow=15,SNR=2.4						
AKASG	**Malin Array Be**	**7.21**	**119**	Pn	Pn	09 36 20.8	-2.6
	2.7nm,0.3s,baz=316,slow=12,SNR=7.5						
NOA	**NORSAR Array B**	**7.75**	**330**	Pn	Pn	09 36 27.8	-2.9
	0.4nm,0.3s,baz=143,slow=11,SNR=6.2						
FINES	**FINESS Array B**	**7.75**	**25**	Pn	Pn	09 36 28.9	-1.8
	1.0nm,0.3s,baz=216,slow=11,SNR=14						
ARCES	**ARCESS Array B**	**15.25**	**8**	Pn	Pn	09 38 06.1	-7.1
	0.2nm,0.3s,baz=189,slow=13,SNR=9.8						
TORD	**Torodi Ar. Bea**	**43.60**	**205**	P	P	09 42 43.7	+1.1
	0.1nm,0.3s,baz=13,slow=9.7,SNR=2.6						

IDC 09 09:34:46.9±1.0, 54°.61N×19°.39E, h0km, mb1 3.5/6, mb1mx3.3/27, mbtmp3.4/6, ML3.4/6, Error ellipse: s-maj=15.3km s-min=11.4km az=80.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.33**	**333**	Pn	Pn	09 36 19.1	-2.2
	1.2nm,0.3s,baz=147,slow=14,SNR=10						
GERES	**GERESS Array B**	**6.77**	**214**	Pn	Pn	09 36 26.7	-0.6
	0.2nm,0.3s,baz=35,slow=16,SNR=3.4						
AKASG	**Malin Array Be**	**7.15**	**119**	Pn	Pn	09 36 29.8	-2.8
	4.0nm,0.3s,baz=337,slow=6.5,SNR=7.1						
FINES	**FINESS Array B**	**7.71**	**25**	Pn	Pn	09 36 38.8	-1.5
	0.9nm,0.3s,baz=212,slow=11,SNR=8.1						
FINES				Sn	Sn	09 38 03.6	-4.5
	0.9nm,0.3s,baz=228,slow=20,SNR=1.8						
NOA	**NORSAR Array B**	**7.78**	**329**	Pn	Pn	09 36 38.3	-2.8
	0.5nm,0.3s,baz=154,slow=13,SNR=5.5						
ARCES	**ARCESS Array B**	**15.24**	**8**	Pn	Pn	09 38 16.6	-6.3
	0.4nm,0.3s,baz=188,slow=14,SNR=9.7						

IDC 09 09:34:55.9±1.9, 54°.63N×19°.41E, h0km, mb1 3.6/5, mb1mx3.3/26, mbtmp3.5/5, ML3.5/5, Error ellipse: s-maj=34.1km s-min=13.7km az=46.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.32**	**333**	Pn	Pn	09 36 28.2	-2.1
	1.2nm,0.3s,baz=154,slow=14,SNR=8.3						
AKASG	**Malin Array Be**	**7.14**	**119**	Pn	Pn	09 36 38.8	-2.7
	3.2nm,0.3s,baz=294,slow=20,SNR=5.4						
FINES	**FINESS Array B**	**7.69**	**25**	Pn	Pn	09 36 47.3	-1.7
	1.1nm,0.3s,baz=199,slow=11,SNR=6.3						
NOA	**NORSAR Array B**	**7.77**	**329**	Pn	Pn	09 36 47.0	-3.1
	0.6nm,0.3s,baz=143,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**15.21**	**8**	Pn	Pn	09 38 26.0	-5.7
	0.4nm,0.3s,baz=191,slow=12,SNR=4.5						

*ISCJB **09** 09:35:40.8±1.3, 36°.39N±0°.07×141°.12E±0°.09, h42km±10km, mb3.9/5, Error ellipse: s-maj=14.6km s-min=6.9km az=43.3*
*IDC **09** 09:35:40.4±5.7, 36°.16N×141°.15E, h35km±45km, mb3.7/5, mb1 3.7/7, mb1mx3.5/26, mbtmp3.7/7, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/46, Error ellipse: s-maj=31.0km s-min=26.8km az=122.0*
*JMA **09** 09:35:41.5±0.1, 36°.39N×141°.03E, h47km±1km, M3.4 JMA Felt I J1.*
*NEIC **09** 09:35:41.6, 36°.39N×141°.03E, h47km, MG3.4(JMA), After JMA.*

ISC 09 09:35:41.3±1.3, 36°.40N±0°.05×141°.12E±0°.07, h33km±6km, n25, σ0°83/35, mb3.9/5, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.49**	**296**	P	**Pb**	**09 35 51.6**	**-0.2**
JHO				S	**Sb**	**09 35 58.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.75**	**340**	↓P	**Pn**	**09 35 55.2**	**-0.4**
ONAJ				S	**Sn**	**09 36 04.9**	**-0.9**
JYT	**Yasato**	**0.77**	**258**	↓P	**Pn**	**09 35 55.1**	**-0.7**
JYT				S	**Sn**	**09 36 04.5**	**-1.7**
JFK	**Kawauchi**	**0.99**	**349**	↓P	**Pn**	**09 35 58.5**	**-0.3**
JFT	**Otama**	**1.28**	**331**	↓P	**Pn**	**09 36 03.9**	**+1.0**
JFT				*e*S	**Sn**	**09 36 19.6**	**+0.7**
JAG	**Ashikaga**	**1.35**	**272**	↓P	**Pn**	**09 36 03.4**	**-0.3**
JMM	**Marumori**	**1.49**	**350**	↓P	**Pn**	**09 36 06.1**	**+0.4**
JMM				*e*S	**Sn**	**09 36 23.8**	**-0.2**
JFY	**Yanaizu**	**1.52**	**312**	P	**Pn**	**09 36 06.7**	**+0.6**
JKT	**Katashina**	**1.55**	**284**	↓P	**Pn**	**09 36 07.0**	**+0.4**
JKT				*e*S	**Sn**	**09 36 26.0**	**+0.5**
MJAR	**Matsushiro Arr**	**2.35**	**274**	**Pn**	**Pn**	**09 36 17.8**	**+0.2**
	16nm,0.3s,baz=111,slow=8.7,SNR=157						
MJAR				LR	LR	09 37 11.5	
	comp=Z,491nm,18.1s,baz=340,slow=38						
MJAR	**Matsushiro Arr**	**2.35**	**274**	**Pn**	**Pn**	**09 36 17.8**	**+0.2**
MAJO	**Matsushiro**	**2.35**	**274**	*e*Pn	**Pn**	**09 36 18.6**	**+1.0**
MAJO				*e*Sn	**Sn**	**09 36 45.2**	**-0.1**
MAT	**Matsushiro**	**2.35**	**274**	P	**Pn**	**09 36 18.3**	**+0.7**
MAT				S	**Sn**	**09 36 45.8**	**+0.5**
ASAJ	**Asahikawa**	**7.79**	**8**	Pn	**Pn**	**09 37 32.8**	**+0.5**
	0.9nm,0.3s,baz=224,slow=9.1,SNR=9.4						
ASAJ				Sn	**Sn**	**09 38 56.5**	**-2.9**
	0.3nm,0.3s,baz=128,slow=17,SNR=3.0						
ASAJ	**Asahikawa**	**7.79**	**8**	Pn	**Pn**	**09 37 32.8**	**+0.5**
ASAJ				Sn	**Sn**	**09 38 56.5**	**-2.9**
ZALV	**Zalesovo Beam**	**42.17**	**313**	P	**P**	**09 43 30.2**	**-0.3**
	1.4nm,0.5s,mb3.8,baz=100,slow=6.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**42.17**	**313**	P	**P**	**09 43 30.2**	**-0.3**
MKAR	**Makanchi Array**	**44.26**	**303**	P	**P**	**09 43 48.0**	**+0.5**
	0.7nm,0.7s,mb3.5,baz=81,slow=9.7,SNR=3.4						
MKAR	**Makanchi Array**	**44.26**	**303**	P	**P**	**09 43 48.0**	**+0.5**
KURK	**Kurchatov**	**46.14**	**309**	P	**P**	**09 44 02.5**	**+0.1**
	3.4nm,0.5s,mb4.5,baz=82,slow=7.7,SNR=12						
KURK	**Kurchatov**	**46.14**	**309**	P	**P**	**09 44 02.5**	**+0.1**
ILAR	**Eielson Array**	**50.16**	**32**	P	**P**	**09 44 34.1**	**+1.0**
	0.7nm,0.8s,mb3.7,baz=278,slow=6.1,SNR=3.0						
ILAR	**Eielson Array**	**50.16**	**32**	P	**P**	**09 44 34.1**	**+1.0**
ASAR	**Alice Springs**	**60.12**	**188**	P	**P**	**09 45 42.4**	**-3.1**
	0.5nm,0.7s,mb3.6,baz=355,slow=4.6,SNR=4.9						
ASAR	**Alice Springs**	**60.12**	**188**	P	**P**	**09 45 42.4**	**-3.1**

*IDC **09** 09:36:54.9±2.7, 5°.59S×147°.40E, h165km±28km, mb3.4/2, mb1 3.5/4, mb1mx3.2/16, mbtmp3.4/4, Error ellipse: s-maj=80.1km s-min=23.6km az=101.0*

NEIC 09 09:36:56.1±4.2, 5°.66S×147°.55E, h192km±44km, mb4.0/1, Error ellipse: s-maj=93.7km s-min=33.3km az=133.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.75**	**186**	P	Pn	09 37 54.9	+0.3
	7.0nm,0.3s,baz=9.9,slow=6.0,SNR=19						
PMG				S	Sn	09 38 38.0	-2.3
	5.0nm,0.3s,baz=269,slow=23,SNR=6.8						
PMG	**Port Moresby**	**3.75**	**186**	*e*Pn	Pn	09 37 54.6	+0.1
PMG				*e*Sn	Sn	09 38 36.7	-3.7
PMG				S	Sn	09 38 38.0	-2.3
WRAB	**Tennant Creek**	**19.14**	**221**	*e*P	P	09 41 04.7	-0.2
	3.5nm,0.6s						
WB2	**Warramunga Arr**	**19.14**	**221**	*e*P	P	09 41 04.8	-0.2
WRA	**Warramunga Arr**	**19.15**	**221**	P	P	09 41 04.7	-0.3
	0.6nm,0.3s,baz=41,slow=12,SNR=12						
WRA	**Warramunga Arr**	**19.15**	**221**	P	P	09 41 04.7	-0.3
ASAR	**Alice Springs**	**22.21**	**215**	P	P	09 41 37.6	+0.5
	1.9nm,0.6s,baz=49,slow=8.1,SNR=9.1						
ASAR				S	S	09 45 31.3	+3.9
	1.4nm,0.9s,baz=32,slow=22,SNR=7.4						
ASAR	**Alice Springs**	**22.21**	**215**	P	P	09 41 37.6	+0.5
ASAR				S	S	09 45 31.3	+3.9
FITZ	**Fitzroy Crossi**	**24.72**	**238**	P	P	09 42 00.5	+0.6
	2.5nm,0.7s,baz=54,slow=9.6,SNR=2.9						
FITZ	**Fitzroy Crossi**	**24.72**	**238**	P	P	09 42 00.5	+0.6
TORD	**Torodi Ar. Bea**	**145.54**	**285**	PKPbc	PKPbc	09 56 13.1	+0.2
	0.3nm,0.8s,baz=68,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**145.54**	**285**	PKPbc	PKPbc	09 56 13.1	+0.2

KRSC 09 09:38:37.3±0.7, 53°.41N×159°.00E, h165km±25km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**0.15**	**208**	*e*P	Pn	09 39 00.0	+0.7
SMAR	**Somma**	**0.19**	**219**	*e*P	Pn	09 39 00.4	+1.1
AVH	**Avacha**	**0.21**	**227**	*e*P	Pn	09 39 00.1	+0.7
UGLR	**Uglovaya**	**0.23**	**208**	*e*P	Pn	09 39 00.4	+1.0
KOK	**Koryaka**	**0.25**	**242**	*e*P	Pn	09 39 00.2	+0.8
NLC	**Nalytchevo**	**0.32**	**139**	*e*P	Pn	09 39 00.6	+1.0
NLC				*e*S	Sn	09 39 17.6	+1.0
PET	**Petropavlovsk**	**0.44**	**208**	*e*P	Pn	09 39 00.5	+0.4
PET				*e*S	Sn	09 39 17.8	+0.4
KII	**Karymskiy**	**0.68**	**23**	*e*P	Pn	09 39 02.1	+0.9
SPN	**Mys Shipunski**	**0.69**	**117**	*e*P	Pn	09 39 02.3	+1.0
SPN				*e*S	Sn	09 39 20.8	+1.2
RUS	**Russkaya**	**1.02**	**197**	*e*P	Pn	09 39 03.8	+0.1
RUS				*e*S	Sn	09 39 23.5	-0.3
GRL	**Gorelyy**	**1.03**	**213**	*e*P	Pn	09 39 04.7	+1.0
MKZ	**Mys Kozlova**	**1.98**	**53**	*e*P	Pn	09 39 14.3	+1.3
MKZ				*e*S	Sn	09 39 40.7	+0.1
KBTR	**Krutoberegovo**	**3.57**	**37**	*e*P	Pn	09 39 33.2	+0.9
BKI	**Bering**	**4.46**	**63**	*e*S	Sn	09 40 34.8	-0.9

*IDC **09** 09:41:14.1±1.7, 54°.64N×19°.38E, h0km, mb1 3.5/5, mb1mx3.2/26, mbtmp3.4/5, ML3.3/5, Error ellipse: s-maj=29.5km s-min=12.2km az=46.0*
*ISCJB **09** 09:41:22.8±1.6, 55°.9N±0°.1×19°.8E±0°.1, h0km, Error ellipse: s-maj=16.4km s-min=7.5km az=26.8*
*BER **09** 09:41:23.7±3.4, 55°.51N×19°.52E, h0km, ML2.9(NAO), Suspected explosion*
*CSEM **09** 09:41:25.3±1.4, 55°.72N×19°.27E, h1km, ML2.9, Error ellipse: s-maj=47.3km s-min=17.2km az=31.0, Suspected Mining explosion.*
*NAO **09** 09:41:34.1±4.0, 56°.35N×19°.32E, ML2.9*

ISC 09 09:41:25.6±1.5, 55°.87N±0°.10×19°.8E±0°.1, h0km, n23, σ1°73/31, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISAL	**Salakas**	**3.61**	**92**	*e*P	**Pn**	**09 42 26.5**	**+3.9**
ISAL				*e*S	**Sn**	**09 43 04.0**	**-2.0**
ISAL	**Salakas**	**3.61**	**92**	*e*P	**Pn**	**09 42 26.5**	**+3.8**
	SNR=153						
ISAL				*e*S	**Sn**	**09 43 04.0**	**-1.9**
	SNR=153						
IZAR	**Zarasai**	**3.66**	**89**	*e*P	**Pn**	**09 42 27.6**	**+4.3**
IZAR				*e*S	**Sn**	**09 43 05.2**	**-1.9**
IZAR	**Zarasai**	**3.66**	**89**	*e*P	**Pn**	**09 42 27.6**	**+4.2**
	SNR=151						
IZAR				*e*S	**Sn**	**09 43 05.2**	**-1.9**
	SNR=151						
IIGN	**Ignalina**	**3.70**	**95**	*e*P	**Pn**	**09 42 26.3**	**+2.4**
IIGN				*e*S	**Sn**	**09 43 03.9**	**-4.2**
IIGN	**Ignalina**	**3.70**	**95**	*e*P	**Pn**	**09 42 26.3**	**+2.4**
	SNR=154						
IIGN				*e*S	**Sn**	**09 43 03.9**	**-4.2**
	SNR=154						
MEF	**Metsahovi**	**5.00**	**28**	*e*P	**Pn**	**09 42 46.6**	**+4.8**
	SNR=49						
MEF				*e*S	**Sn**	**09 43 41.1**	**+0.8**
	SNR=49						
RAF	**Rauma**	**5.28**	**11**	*e*P	**Pn**	**09 42 50.1**	**+4.6**
	SNR=49						
RAF				*e*S	**Sn**	**09 43 44.0**	**-2.9**
	3.5nm,0.2s,SNR=49						
HFS	**Hagfors**	**5.36**	**325**	Pn	**Pn**	**09 42 46.8**	**+0.2**
	baz=155,slow=11						
HFS	**Hagfors**	**5.36**	**325**	Pn	**Pn**	**09 42 46.5**	**-0.2**
	0.8nm,0.3s,baz=146,slow=14,SNR=27						
HFS	**Hagfors**	**5.36**	**325**	Pn	**Pn**	**09 42 46.8**	**+0.1**
	SNR=50						
FIA0	**FINESS Array S**	**6.49**	**28**	Pn	**Pn**	**09 43 05.8**	**+3.7**
	baz=202,slow=12						
FIA0	**FINESS Array S**	**6.49**	**28**	Pn	**Pn**	**09 43 05.8**	**+3.7**
	SNR=50						
FINES	**FINESS Array B**	**6.49**	**28**	Pn	**Pn**	**09 43 05.7**	**+3.6**
	0.9nm,0.3s,baz=204,slow=11,SNR=23						
NB2	**NORSAR Subarra**	**6.85**	**323**	Pn	**Pn**	**09 43 05.7**	**-1.5**
	baz=146,slow=14						
NB2	**NORSAR Subarra**	**6.85**	**323**	Pn	**Pn**	**09 43 05.7**	**-1.5**
	SNR=50						
NOA	**NORSAR Array B**	**6.85**	**323**	Pn	**Pn**	**09 43 04.6**	**-2.6**
	0.3nm,0.3s,baz=118,slow=16,SNR=5.1						
KAF	**Kangasniemi**	**7.11**	**26**	*e*p	**Pn**	**09 43 13.6**	**+2.9**
	1.3nm,0.3s						
JOF	**Joensuu**	**9.19**	**35**	*e*p	**Pn**	**09 43 39.9**	**+0.7**
	0.6nm,0.3s						
APA0	**Apatity Array**	**13.29**	**22**	Pn	**Pn**	**09 44 36.4**	**+1.1**
	baz=216,slow=16						
APA0	**Apatity Array**	**13.29**	**22**	Pn	**Pn**	**09 44 36.3**	**+1.0**
	SNR=50						
ARA0	**ARCESS Array S**	**13.96**	**8**	Pn	**Pn**	**09 44 42.8**	**-1.5**
	baz=194,slow=12						
ARCES	**ARCESS Array B**	**13.96**	**8**	Pn	**Pn**	**09 44 43.0**	**-1.3**
	0.1nm,0.3s,baz=190,slow=14,SNR=8.1						

IDC 09 09:42:08.3±1.9, 54°.61N×19°.36E, h0km, mb1 3.6/5, mb1mx3.3/26, mbtmp3.5/5, ML3.3/5, Error ellipse: s-maj=33.4km s-min=13.5km az=47.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.33**	**333**	Pn	Pn	09 43 40.8	-1.9
	0.8nm,0.3s,baz=148,slow=14,SNR=10						
AKASG	**Malin Array Be**	**7.16**	**119**	Pn	Pn	09 43 51.4	-2.8
	2.4nm,0.3s,baz=308,slow=12,SNR=5.9						
FINES	**FINESS Array B**	**7.72**	**25**	Pn	Pn	09 44 00.3	-1.5
	0.9nm,0.3s,baz=211,slow=13,SNR=7.4						
NOA	**NORSAR Array B**	**7.77**	**329**	Pn	Pn	09 43 59.0	-3.5
	0.4nm,0.3s,baz=179,slow=19,SNR=4.0						
ARCES	**ARCESS Array B**	**15.24**	**8**	Pn	Pn	09 45 38.2	-6.2
	0.2nm,0.3s,baz=191,slow=14,SNR=2.8						

IDC 09 09:42:41.7±1.9, 54°.74N×19°.20E, h0km, mb1 3.6/5, mb1mx3.3/26, mbtmp3.6/5, ML3.5/5, Error ellipse: s-maj=35.6km s-min=14.2km az=46.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.17**	**333**	Pn	Pn	09 44 13.6	-0.3
	1.2nm,0.3s,baz=148,slow=15,SNR=6.4						
AKASG	**Malin Array Be**	**7.31**	**120**	Pn	Pn	09 44 26.8	-2.8
	3.1nm,0.3s,baz=312,slow=12,SNR=4.7						
NOA	**NORSAR Array B**	**7.61**	**329**	Pn	Pn	09 44 28.6	-5.1
	0.6nm,0.3s,baz=135,slow=18,SNR=4.5						
FINES	**FINESS Array B**	**7.64**	**26**	Pn	Pn	09 44 32.3	-1.8
	1.0nm,0.3s,baz=204,slow=17,SNR=4.6						
ARCES	**ARCESS Array B**	**15.12**	**9**	Pn	Pn	09 46 10.8	-5.5
	0.4nm,0.3s,baz=189,slow=14,SNR=5.2						

*IDC **09** 09:48:32.8±0.8, 31°.06S×176°.78W, h0km, mb4.4/9, mb1 4.6/9, mb1mx4.3/18, mbtmp4.4/9, Error ellipse: s-maj=31.9km s-min=21.9km az=176.0*
*NEIC **09** 09:48:33.5±0.7, 31°.51S×176°.74W, h10km, mb4.5/3, Error ellipse: s-maj=20.8km s-min=13.9km az=137.0*
*ISCJB **09** 09:48:37.4±2.2, 31°.85S±0°.09×176°.7W±0°.1, h59km±19km, mb4.4/10, Error ellipse: s-maj=19.0km s-min=14.6km az=174.4*

ISC 09 09:48:38.6±2.1, 31°.8S±0°.1×176°.7W±0°.1, h54km±19km, n44, σ0°84/43, mb4.4/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**7.55**	**212**	PN	**Pn**	**09 50 26.2**	**+0.2**
PUZ				SN	**Sn**	**09 51 57.5**	**+7.5**
CNGZ	**Carnagh Statio**	**7.91**	**211**	PN	**Pn**	**09 50 31.5**	**+0.6**
MWZ	**Matawai**	**8.10**	**214**	PN	**Pn**	**09 50 33.7**	**+0.2**
MWZ				SN	**Sn**	**09 52 09.8**	**+6.2**
URZ	**Urewera**	**8.25**	**217**	Pn	**Pn**	**09 50 35.9**	**+0.3**
	1.1nm,0.3s,baz=30,slow=14,SNR=14						
URZ				Sn	**Sn**	**09 52 11.1**	**+3.8**
	4.7nm,0.3s,baz=206,slow=18,SNR=2.3						
URZ	**Urewera**	**8.25**	**217**	Pn	**Pn**	**09 50 35.9**	**+0.3**
URZ				Sn	**Sn**	**09 52 11.1**	**+3.8**
URZ	**Urewera**	**8.25**	**217**	PN	**Pn**	**09 50 36.1**	**+0.5**
URZ				SN	**Sn**	**09 52 12.3**	**+5.0**
BFZ	**Birch Farm**	**10.57**	**211**	PN	**Pn**	**09 51 07.2**	**-0.1**
MRZ	**Mangatainoka R**	**10.86**	**213**	PN	**Pn**	**09 51 11.7**	**+0.4**
MRZ				SN	**Sn**	**09 53 11.5**	**+0.3**
CTZ	**Chatham Island**	**11.94**	**180**	*e*SN	**Sn**	**09 53 37.3**	**-0.3**
THZ	**Tophouse**	**13.01**	**217**	PN	**Pn**	**09 51 40.2**	**-0.3**
KHZ	**Kahutara**	**13.18**	**214**	PN	**Pn**	**09 51 42.4**	**-0.6**
LTZ	**Lake Taylor**	**14.07**	**216**	PN	**Pn**	**09 51 54.2**	**-0.9**
RPZ	**Rata Peaks**	**15.36**	**216**	Pn	**Pn**	**09 52 11.2**	**-0.7**
	3.5nm,0.3s,baz=44,slow=2.0,SNR=22						
RPZ				Sn	**Sn**	**09 54 54.2**	**-6.7**
	0.5nm,0.3s,baz=13,slow=17,SNR=2.1						
RPZ	**Rata Peaks**	**15.36**	**216**	*e*Pn	**Pn**	**09 52 11.3**	**-0.6**
	14nm,0.5s						
RPZ				Sn	**Sn**	**09 54 54.2**	**-6.7**
CTA	**Charters Tower**	**35.17**	**280**	P	**P**	**09 55 28.3**	**+0.9**
	5.2nm,0.6s,mb4.7,baz=97,slow=11,SNR=7.8						
CTA	**Charters Tower**	**35.17**	**280**	P	**P**	**

*ISCJB **09** 09:58:16.2±3.6, 14°.41N±0°.07×56°.52E±0°.05, h13km±23km, mb4.3/32, MS3.8/3, Error ellipse: s-maj=11.9km s-min=7.7km az=164.2*
*NEIC **09** 09:58:17.6±0.4, 14°.36N×56°.53E, h10km, mb4.8/12, Error ellipse: s-maj=11.3km s-min=7.5km az=136.0*
*CSEM **09** 09:58:21.0±0.2, 14°.44N×56°.48E, h30km, mb4.8/11, Error ellipse: s-maj=8.5km s-min=6.4km az=134.0*
*OMAN **09** 09:58:22.4±99.0, 14°.72N×56°.32E, h13km±21km, Error ellipse: s-maj=75.0km s-min=6.5km az=341.0*

ISC 09 09:58:18.6±3.8, 14°.37N±0°.07×56°.54E±0°.05, h17km±24km, n104, σ0°.88/94, mb4.3/32, MS3.8/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBK	**Rabkut**	**3.84**	**324**	P	**Pn**	**09 59 15.9**	**-1.1**
	SNR=12						
RBK	**Rabkut**	**3.84**	**324**	P	**Pn**	**09 59 15.9**	**-1.1**
	SNR=12						
ABTO	**Aybut**	**4.30**	**314**	P	**Pn**	**09 59 22.4**	**-1.0**
	SNR=9.4						
ABTO	**Aybut**	**4.30**	**314**	P	**Pn**	**09 59 22.4**	**-1.0**
	SNR=9.4						
MUKL	**Al Mukalla**	**7.27**	**272**	*e*P	**Pn**	**10 00 04.0**	**-0.2**
SMDO	**Samad**	**8.76**	**9**	P	**Pn**	**10 00 25.6**	**+1.0**
	SNR=20						
SMDO	**Samad**	**8.76**	**9**	P	**Pn**	**10 00 25.6**	**+1.0**
	SNR=20						
ARQ	**Araqi**	**8.92**	**360**	P	**Pn**	**10 00 26.9**	**+0.1**
	SNR=20						
ARQ	**Araqi**	**8.92**	**360**	P	**Pn**	**10 00 26.9**	**+0.2**
	SNR=20						
HOQ	**Hoqain**	**9.19**	**4**	P	**Pn**	**10 00 30.4**	**-0.1**
	SNR=13						
HOQ	**Hoqain**	**9.19**	**4**	P	**Pn**	**10 00 30.4**	**-0.1**
	SNR=13						
ATD	**Arta Tunnel**	**13.64**	**260**	LR	LR	10 05 16.1	
	comp=Z,694nm,20.4s,baz=124,slow=31						
POO	**Poona**	**17.11**	**74**	*e*PKP	**Pn**	**10 02 16.1**	**-1.0**
KAD	**Karad**	**17.22**	**78**	*e*PKP	**Pn**	**10 02 18.1**	**-0.5**
KAD				AMb	AMB	10 02 25.5	
	comp=Z,46nm,1.6s						
HYB	**Hyderabad**	**21.38**	**79**	*i* P	**P**	**10 03 05.0**	**-0.6**
BHPL	**Bhopal**	**21.63**	**63**	*e*PKP	**P**	**10 03 09.0**	**+0.8**
BHPL				AMb	AMB	10 03 15.0	
	comp=Z,94nm,1.2s,mb5.1						
KHET	**Khetri**	**22.50**	**50**	*e*PKP	**P**	**10 03 17.9**	**+0.4**
KHET				AMb	AMB	10 03 21.2	
	comp=Z,32nm,1.1s,mb4.7						
KBL	**Kabul**	**23.04**	**27**	*e*P	**P**	**10 03 25.4**	**+2.3**
	comp=Z,8.0nm,0.8s,mb4.2						
KBL	**Kabul**	**23.04**	**27**	*e*P	**P**	**10 03 25.4**	**+2.3**
	comp=Z,8.0nm,0.8s,mb4.2						
AGRA	**Agra**	**23.70**	**54**	*e*PKP	**P**	**10 03 29.8**	**0.0**
AGRA				AMb	AMB	10 03 33.3	
	comp=Z,42nm,0.5s,mb5.1						
AYAN	**Aya Nagar**	**23.70**	**50**	*e*PKP	**P**	**10 03 29.1**	**-0.8**
AYAN				AMb	AMB	10 03 33.6	
	comp=Z,19nm,1.1s,mb4.4						
KMBO	**Kilima Mbogo**	**24.53**	**233**	*e*P	**P**	**10 03 39.2**	**+1.6**
	comp=Z,38nm,1.6s,mb4.7						
KMBO	**Kilima Mbogo**	**24.53**	**233**	*e*P	**P**	**10 03 39.2**	**+1.6**
	comp=Z,38nm,1.6s,mb4.7						
EIL	**Elat**	**25.08**	**311**	P	**P**	**10 03 42.9**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.0,baz=176,slow=14,SNR=3.9						
EIL	**Elat**	**25.08**	**311**	P	**P**	**10 03 42.9**	**+0.5**
EIL	**Elat**	**25.08**	**311**	P	**P**	**10 03 42.9**	**+0.5**
ASF	**Jabal al Asfar**	**25.21**	**318**	LR	LR	10 13 23.6	
	comp=Z,183nm,21.8s,MS3.5,baz=48,slow=36						
KKAR	**Karatay Array**	**31.05**	**20**	*e*P	**P**	**10 04 36.9**	**+1.2**
	comp=Z,1.7nm,0.8s,mb3.9						
KKAR	**Karatay Array**	**31.05**	**20**	*e*P	**P**	**10 04 36.9**	**+1.3**
	comp=Z,1.7nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**32.13**	**25**	*e*P	**P**	**10 04 47.6**	**+2.4**
	comp=Z,74nm,1.4s,mb5.3						
AAK	**Ala-Archa**	**32.13**	**25**	P	**P**	**10 04 48.3**	**+3.1**
	SNR=8.4						
AAK	**Ala-Archa**	**32.13**	**25**	*e*P	**P**	**10 04 47.6**	**+2.4**
	comp=Z,74nm,1.4s,mb5.3						
BRTR	**Keskin Array B**	**32.27**	**326**	P	**P**	**10 04 47.6**	**+1.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=133,slow=12,SNR=4.3						
BRTR				PP	PP	10 05 58.0	-1.5
	comp=Z,1.4nm,0.9s,baz=143,slow=17,SNR=4.4						
BRTR	**Keskin Array B**	**32.27**	**326**	P	**P**	**10 04 47.6**	**+1.1**
BRTR				PP	PP	10 05 58.0	-1.5
BRTR	**Keskin Array B**	**32.27**	**326**	P	**P**	**10 04 47.6**	**+1.1**
BRTR	**Keskin Array B**	**32.27**	**326**	PP	PP	10 05 58.0	-1.5
ABKAR	**Akbulak array**	**34.90**	**4**	*e*P	**P**	**10 05 09.3**	**+0.1**
	comp=Z,7.8nm,0.9s,mb4.6						
ABKAR	**Akbulak array**	**34.90**	**4**	*e*P	**P**	**10 05 09.3**	**+0.1**
	comp=Z,7.8nm,0.9s,mb4.6						
AKTO	**Aktyubinsk**	**35.98**	**2**	P	**P**	**10 05 18.9**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.4,baz=194,slow=8.8,SNR=12						
AKTO				LR	LR	10 22 01.0	
	comp=Z,212nm,21.7s,MS3.9,baz=181,slow=40						
AKTO	**Aktyubinsk**	**35.98**	**2**	P	**P**	**10 05 18.9**	**+0.4**
AKTO	**Aktyubinsk**	**35.98**	**2**	P	**P**	**10 05 18.9**	**+0.4**
MKAR	**Makanchi Array**	**38.84**	**28**	P	**P**	**10 05 43.3**	**+0.5**
	comp=Z,2.2nm,0.9s,mb3.9,baz=218,slow=7.7,SNR=15						
MKAR				PcP	PcP	10 07 55.5	+1.8
	comp=Z,0.6nm,0.9s,baz=226,slow=3.8,SNR=2.9						
MKAR				LR	LR	10 23 00.5	
	comp=Z,158nm,18.1s,MS3.9,baz=152,slow=38						
MKAR	**Makanchi Array**	**38.84**	**28**	P	**P**	**10 05 43.3**	**+0.5**
MKAR				PcP	PcP	10 07 55.5	+1.8
MKAR	**Makanchi Array**	**38.84**	**28**	P	**P**	**10 05 43.3**	**+0.5**
MKAR	**Makanchi Array**	**38.84**	**28**	PcP	PcP	10 07 55.5	+1.7
BVAR	**Borovoye Array**	**40.10**	**13**	P	**P**	**10 05 53.2**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=178,slow=7.4,SNR=5.1						
BVAR				PcP	PcP	10 07 59.4	+1.8
	comp=Z,1.4nm,1.0s,baz=251,slow=4.1,SNR=3.6						
BVAR	**Borovoye Array**	**40.10**	**13**	P	**P**	**10 05 53.2**	**+0.1**
BVAR				PcP	PcP	10 07 59.4	+1.8
BVAR	**Borovoye Array**	**40.10**	**13**	P	**P**	**10 05 53.2**	**0.0**
KURK	**Kurchatov**	**40.42**	**22**	P	**P**	**10 05 55.5**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.0,baz=220,slow=8.3,SNR=28						
KURK	**Kurchatov**	**40.42**	**22**	P	**P**	**10 05 55.5**	**-0.4**
KURK	**Kurchatov**	**40.42**	**22**	P	**P**	**10 05 55.5**	**-0.4**
LSZ	**Lusaka**	**40.67**	**225**	*e*P	**P**	**10 05 58.9**	**+0.5**
	comp=Z,11nm,1.2s,mb4.4						
LSZ	**Lusaka**	**40.67**	**225**	*e*P	**P**	**10 05 58.9**	**+0.6**
	comp=Z,11nm,1.2s,mb4.4						
CMAR	**Chiang Mai Arr**	**40.81**	**78**	P	**P**	**10 05 59.7**	**+0.2**
	comp=Z,2.0nm,0.7s,mb3.8,baz=278,slow=8.8,SNR=17						
CMAR	**Chiang Mai Arr**	**40.81**	**78**	P	**P**	**10 05 59.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**40.81**	**78**	P	**P**	**10 05 59.8**	**+0.2**
CEL	**Celeste**	**43.03**	**311**	*e*P	**P**	**10 06 16.8**	**-0.7**
	comp=Z,29nm,0.6s,mb5.2						
CEL	**Celeste**	**43.03**	**311**	*e*P	**P**	**10 06 16.8**	**-0.7**
	comp=Z,29nm,0.6s,mb5.2						
CUC	**Castrocucco**	**43.77**	**314**	*e*P	**P**	**10 06 15.8**	**-7.6**
	comp=Z,20nm,0.6s,mb5.0						
ZAA0	**Zalesovo Array**	**45.30**	**23**	*e*P	**P**	**10 06 35.2**	**-0.1**
ZAA0	**Zalesovo Array**	**45.30**	**23**	*e*P	**P**	**10 06 35.2**	**-0.2**
ZALV	**Zalesovo Beam**	**45.30**	**23**	P	**P**	**10 06 34.9**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.3,baz=226,slow=7.9,SNR=20						
ZALV	**Zalesovo Beam**	**45.30**	**23**	P	**P**	**10 06 34.9**	**-0.5**
ZALV	**Zalesovo Beam**	**45.30**	**23**	P	**P**	**10 06 34.9**	**-0.5**
TAM	**Tamanrasset**	**48.88**	**288**	*e*P	**P**	**10 07 04.4**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.5						
TAM	**Tamanrasset**	**48.88**	**288**	*e*P	**P**	**10 07 04.4**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.5						
LBTB	**Lobatse**	**49.43**	**218**	P	**P**	**10 07 08.3**	**+0.4**
	comp=Z,6.7nm,0.9s,mb4.7,baz=92,slow=7.1,SNR=10						
LBTB	**Lobatse**	**49.43**	**218**	*e*P	**P**	**10 07 08.4**	**+0.5**
	comp=Z,24nm,1.5s,mb5.0						
LBTB	**Lobatse**	**49.43**	**218**	*e*P	**P**	**10 07 08.4**	**+0.5**
	comp=Z,24nm,1.5s,mb5.0						
TSUM	**Tsumeb**	**50.84**	**230**	*e*P	**P**	**10 07 19.8**	**+1.1**
	comp=Z,13nm,1.0s,mb4.8						
TSUM	**Tsumeb**	**50.84**	**230**	*e*P	**P**	**10 07 19.8**	**+1.1**
	comp=Z,13nm,1.0s,mb4.8						
FINES	**FINESS Array B**	**51.85**	**342**	P	**P**	**10 07 25.3**	**-0.4**
	comp=Z,2.9nm,0.8s,mb4.2,baz=143,slow=6.9,SNR=6.0						
FINES	**FINESS Array B**	**51.85**	**342**	P	**P**	**10 07 25.3**	**-0.4**
FINES	**FINESS Array B**	**51.85**	**342**	P	**P**	**10 07 25.3**	**-0.4**
SONM	**Songino Array**	**52.90**	**40**	P	**P**	**10 07 34.5**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.1,baz=238,slow=7.7,SNR=16						
SONM	**Songino Array**	**52.90**	**40**	P	**P**	**10 07 34.5**	**+0.8**
SONM	**Songino Array**	**52.90**	**40**	P	**P**	**10 07 34.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**53.18**	**276**	P	**P**	**10 07 35.9**	**-0.4**
	comp=Z,0.9nm,0.9s,mb3.7,baz=99,slow=6.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**53.18**	**276**	P	**P**	**10 07 35.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**53.18**	**276**	P	**P**	**10 07 35.9**	**-0.4**
ESDC	**Sonseca Array**	**58.33**	**308**	P	**P**	**10 08 11.5**	**-1.4**
	comp=Z,0.2nm,0.3s,mb3.6,baz=87,slow=5.1,SNR=2.6						
ESDC	**Sonseca Array**	**58.33**	**308**	P	**P**	**10 08 11.5**	**-1.4**
ESDC	**Sonseca Array**	**58.33**	**308**	P	**P**	**10 08 11.5**	**-1.4**
ARCES	**ARCESS Array B**	**58.47**	**348**	P	**P**	**10 08 12.7**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=140,slow=6.3,SNR=12						
ARCES	**ARCESS Array B**	**58.47**	**348**	P	**P**	**10 08 12.7**	**-0.7**
ARCES	**ARCESS Array B**	**58.47**	**348**	P	**P**	**10 08 12.7**	**-0.7**
DBIC	**Dimbokro**	**60.70**	**270**	P	**P**	**10 08 28.5**	**-1.2**
	comp=Z,1.8nm,0.9s,mb4.2,baz=90,slow=6.1,SNR=2.7						
DBIC	**Dimbokro**	**60.70**	**270**	P	**P**	**10 08 28.5**	**-1.2**
DBIC	**Dimbokro**	**60.70**	**270**	P	**P**	**10 08 28.5**	**-1.3**
KSAR	**Wonju Array Be**	**66.67**	**55**	P	**P**	**10 09 07.5**	**-1.3**
KSAR	**Wonju Array Be**	**66.67**	**55**	P	**P**	**10 09 07.5**	**-1.2**
KSRS	**Korea Array**	**66.70**	**55**	P	**P**	**10 09 07.5**	**-1.5**
	comp=Z,1.7nm,0.7s,mb4.2,baz=267,slow=7.3,SNR=7.8						
WRA	**Warramunga Arr**	**83.74**	**112**	P	**P**	**10 10 46.9**	**-0.4**
	comp=Z,1.0nm,0.8s,mb4.0,baz=300,slow=4.0,SNR=6.4						
WRA	**Warramunga Arr**	**83.74**	**112**	P	**P**	**10 10 46.9**	**-0.4**
WRA	**Warramunga Arr**	**83.74**	**112**	P	**P**	**10 10 46.9**	**-0.4**
ASAR	**Alice Springs**	**84.50**	**116**	P	**P**	**10 10 50.7**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.7,baz=295,slow=4.6,SNR=11						
ASAR	**Alice Springs**	**84.50**	**116**	P	**P**	**10 10 50.7**	**-0.4**
ASAR	**Alice Springs**	**84.50**	**116**	P	**P**	**10 10 50.7**	**-0.4**
PDAR	**Pinedale Array**	**121.73**	**348**	PKP	PKPdf	10 17 12.3	+0.4
	comp=Z,0.4nm,0.7s,baz=77,slow=4.0,SNR=3.0						
PDAR	**Pinedale Array**	**121.73**	**348**	PKP	PKPdf	10 17 12.3	+0.4
PDAR	**Pinedale Array**	**121.73**	**348**	PKIKP	PKPdf	10 17 12.3	+0.3
NVAR	**Mina Array Bea**	**127.26**	**355**	PKP	PKPdf	10 17 23.2	+0.5
	comp=Z,0.1nm,0.4s,baz=338,slow=3.9,SNR=2.3						
NVAR	**Mina Array Bea**	**127.26**	**355**	PKP	PKPdf	10 17 23.2	+0.5
NVAR	**Mina Array Bea**	**127.26**	**355**	PKIKP	PKPdf	10 17 23.2	+0.5

*ISCJB **09** 10:09:09.1±0.4, 38°.74N±0°.02×140°.81E±0°.03, h10km, mb3.7/2, Error ellipse: s-maj=3.9km s-min=3.1km az=33.3*
*JMA **09** 10:09:09.4, 38°.75N×140°.79E, h4km±1km, M3.3*
Broadband fault plane solution: P waves. NP1: ϕ_s=345.00000°, δ68.00000°, λ46.00000°. NP2: ϕ_s=233.00000°, δ48.00000°, λ149.00000°. Principal axes: T Plg48.0000°, Azm208.0000°; N Plg40.0000°, Azm5.0000°; P Plg12.0000°, Azm105.0000°;
JMA Felt II J1.
*IDC **09** 10:09:09.2±1.7, 38°.53N×141°.03E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, ML3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36 Error ellipse: s-maj=39.5km s-min=19.9km az=136.0*
*NEIC **09** 10:09:09.5, 38°.75N×140°.79E, h4km, MG3.3(JMA), After JMA.*

ISC 09 10:09:09.7±0.4, 38°.74N±0°.02×140°.81E±0°.03, h10km, n23, σ0°.96/36, mb3.7/2, 3C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.38**	**57**	↓P	**Pg**	**10 09 17.0**	**-0.2**
JMK				S	**Sg**	**10 09 22.5**	**+0.2**
JOU	**Okura**	**0.39**	**197**	↑P	**Pg**	**10 09 17.2**	**-0.2**
JOU				S	**Sg**	**10 09 22.8**	**+0.2**
JYK	**Kaneyama**	**0.39**	**297**	↓P	**Pg**	**10 09 16.9**	**-0.5**
JYK				S	**Sg**	**10 09 22.0**	**-0.6**
JIO	**Ouri**	**0.51**	**124**	↓P	**Pg**	**10 09 19.4**	**-0.2**
JIO				S	**Sg**	**10 09 26.5**	**+0.2**
JRG	**Rokugo**	**0.67**	**348**	↓P	**Pg**	**10 09 22.3**	**-0.3**
JRG				*e*S	**Sg**	**10 09 31.7**	**+0.4**
JYS	**Shiratake**	**0.78**	**229**	↑P	**Pg**	**10 09 24.2**	**-0.5**
JYS				S	**Sg**	**10 09 34.6**	**-0.3**
JOM	**Ohasama**	**0.82**	**27**	P	**Pg**	**10 09 24.7**	**-0.8**
JOM				S	**Sg**	**10 09 35.9**	**-0.3**
JYA	**Atsumi**	**0.87**	**261**	↓P	**Pg**	**10 09 25.6**	**-0.8**
JYA				*e*S	**Sg**	**10 09 37.1**	**-0.6**
JMM	**Marumori**	**0.87**	**181**	↑P	**Pg**	**10 09 25.4**	**-1.1**
JMM				S	**Sg**	**10 09 37.0**	**-0.9**
MJAR	**Matsushiro Arr**	**3.01**	**224**	Pn	**Pn**	**10 09 58.5**	**+1.1**
	1.3nm,0.3s,baz=29,slow=15,SNR=13						
MJAR				Pg	**Pg**	**10 10 05.2**	**-2.2**
	2.5nm,0.3s,baz=27,slow=16,SNR=27						
MJAR				Lg		10 10 41.8	
	2.8nm,0.3s,baz=7.2,slow=17,SNR=9.1						
MJAR	**Matsushiro Arr**	**3.01**	**224**	Pn	**Pn**	**10 09 58.5**	**+1.1**
MJAR				Pg	**Pg**	**10 10 05.2**	**-2.2**
MJAR				Lg		10 10 41.8	
MAJO	**Matsushiro**	**3.01**	**224**	*e*P	**Pn**	**10 09 58.6**	**+1.2**
	24nm,0.6s						
MAJO	**Matsushiro**	**3.01**	**224**	*e*Pn	**Pn**	**10 09 58.6**	**+1.2**
MAJO				*e*Sn	**Sn**	**10 10 35.2**	**+1.6**
MAJO	**Matsushiro**	**3.01**	**224**	*e*P	**Pn**	**10 09 58.7**	**+1.3**
	24nm,0.6s						
MAT	**Matsushiro**	**3.01**	**224**	P	**Pn**	**10 09 58.3**	**+0.9**
MAT				S	**Sn**	**10 10 35.0**	**+1.4**
ASAJ	**Asahikawa**	**5.54**	**13**	Pn	**Pn**	**10 10 34.6**	**+2.5**
	0.6nm,0.3s,baz=211,slow=12,SNR=2.6						
ASAJ				LR	LR	10 13 27.0	
	comp=Z,284nm,18.7s,baz=327,slow=45						
ASAJ	**Asahikawa**	**5.54**	**13**	Pn	**Pn**	**10 10 34.6**	**+2.5**
KSRS	**Korea Array**	**10.24**	**267**	Pn	**Pn**	**10 11 40.4**	**+3.8**
	0.3nm,0.3s,baz=75,slow=14,SNR=5.8						
KSAR	**Wonju Array Be**	**10.27**	**267**	Pn	**Pn**	**10 11 40.4**	**+3.4**
WRA	**Warramunga Arr**	**58.69**	**187**	P	**P**	**10 19 06.9**	**-0.4**
	0.6nm,0.6s,mb3.8,baz=4.5,slow=6.7,SNR=6.5						
WRA	**Warramunga Arr**	**58.69**	**187**	P	**P**	**10 19 06.9**	**-0.4**
ASAR	**Alice Springs**	**62.41**	**187**	P	**P**	**10 19 32.7**	**0.0**
	0.3nm,0.7s,mb3.5,baz=1.0,slow=5.1,SNR=5.9						
ASAR	**Alice Springs**	**62.41**	**187**	P	**P**	**10 19 32.7**	**0.0**

*IDC **09** 10:18:58.9±3.6, 19°.10S×169°.46E, h246km±32km, mb3.7/10, mb1 3.9/10, mb1mx3.7/16, mbtmp3.7/10, Error ellipse: s-maj=24.9km s-min=16.3km az=122.0*
*ISCJB **09** 10:19:00.6±1.5, 19°.15±0°.2×169°.2E±0°.2, h271km±14km, mb3.8/11, Error ellipse: s-maj=30.2km s-min=19.7km az=142.9*
*NEIC **09** 10:19:00.9±1.8, 19°.09S×169°.36E, h265km±17km, mb3.5/2, Error ellipse: s-maj=25.1km s-min=16.7km az=144.0*

ISC 09 10:19:01.2±1.5, 19°.1S±0°.2×169°.3E±0°.2, h262km±15km, n31, σ0°.89/27, mb3.8/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.01**	**221**	*e*Pn	**Pn**	**10 20 05.6**	**0.0**
NOUC	**Port Laguerre**	**4.12**	**222**	*e*P	**Pn**	**10 20 06.9**	**0.0**
STKA	**Stephens Creek**	**27.98**	**237**	P	**P**	**10 24 29.2**	**+1.2**
	5.6nm,0.7s,mb4.1,baz=60,slow=8.6,SNR=20						
STKA	**Stephens Creek**	**27.98**	**237**	P	**P**	**10 24 29.2**	**+1.2**
WB2	**Warramunga Arr**	**32.91**	**263**	*e*P	**P**	**10 25 09.9**	**-1.5**
WRAB	**Tennant Creek**	**32.91**	**263**	*e*P	**P**	**10 25 10.7**	**-0.7**
	0.6nm,0.5s,mb3.4						
WRA	**Warramunga Arr**	**32.92**	**263**	P	**P**	**10 25 10.8**	**-0.7**
	0.6nm,0.3s,mb3.6,baz=85,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**32.92**	**263**	P	**P**	**10 25 10.8**	**-0.7**
AS31	**Alice Springs**	**33.22**	**256**	*e*P	**P**	**10 25 14.1**	**+0.2**
ASAR	**Alice Springs**	**33.22**	**256**	P	**P**	**10 25 13.9**	**0.0**
	11nm,0.6s,mb4.6,baz=83,slow=8.9,SNR=262						
ASAR				pP	pP	10 26 01.2	-4.8
	0.6nm,0.6s,baz=83,slow=8.7,SNR=2.3						
ASAR				ScP	ScP	10 31 11.4	+2.2
	0.5nm,0.8s,baz=99,slow=3.8,SNR=4.3						
ASAR	**Alice Springs**	**33.22**	**256**	P	**P**	**10 25 13.9**	**0.0**
ASAR				pP	pP	10 26 01.2	-4.8
ASAR				ScP	ScP	10 31 11.4	+2.2
FITZ	**Fitzroy Crossi**	**41.31**	**264**	P	**P**	**10 26 22.8**	**+1.0**
	1.0nm,0.4s,mb3.4,baz=92,slow=11,SNR=5.1						
FITZ	**Fitzroy Crossi**	**41.31**	**264**	*e*P	**P**	**10 26 22.8**	**+1.1**
	1.1nm,0.4s,mb3.4						
MJAR	**Matsushiro Arr**	**62.62**	**332**	P	**P**	**10 28 57.6**	**-0.3**
	0.4nm,0.4s,mb3.4,baz=152,slow=27,SNR=4.3						
MJAR	**Matsushiro Arr**	**62.62**	**332**	P	**P**	**10 28 57.6**	**-0.3**
ASAJ	**Asahikawa**	**67.46**	**339**	P	**P**	**10 29 30.2**	**+1.4**
	9.8nm,1.0s,mb4.5,baz=146,slow=13,SNR=5.0						
ASAJ	**Asahikawa**	**67.46**	**339**	P	**P**	**10 29 30.2**	**+1.4**
QSPA	**South Pole Qui**	**70.99**	**180**	P	**P**	**10 29 49.9**	**0.0**
	baz=292,slow=4.0						
QSPA	**South Pole Qui**	**70.99**	**180**	P	**P**	**10 29 49.9**	**0.0**
PETK	**Petropavlovsk-**	**72.57**	**353**	P	**P**	**10 30 00.0**	**+0.5**
	2.1nm,0.6s,mb3.9,baz=148,slow=8.5,SNR=3.0						
PETK	**Petropavlovsk-**	**72.57**	**353**	P	**P**	**10 30 00.0**	**+0.5**
SONM	**Songino Array**	**87.11**	**323**	P	**P**	**10 31 17.7**	**+0.4**
	1.2nm,0.7s,mb3.8,baz=147,slow=5.9,SNR=12						
SONM	**Songino Array**	**87.11**	**323**	P	**P**	**10 31 17.8**	**+0.4**
NVAR	**Mina Array Bea**	**88.65**	**48**	P	**P**	**10 31 25.1**	**+0.2**
	0.6nm,0.7s,mb3.5,baz=207,slow=6.7,SNR=4.2						
NVAR	**Mina Array Bea**	**88.65**	**48**	P	**P**	**10 31 25.1**	**+0.2**
ILAR	**Eielson Array**	**90.05**	**17**	P	**P**	**10 31 28.3**	**-2.4**
	0.4nm,0.5s,mb3.5,baz=241,slow=5.1,SNR=7.5						
ILAR	**Eielson Array**	**90.05**	**17**	P	**P**	**10 31 28.3**	**-2.4**
ARCES	**ARCESS Array B**	**124.91**	**345**	PKP	PKPdf	10 37 27.9	-1.4
	3.8nm,1.0s,baz=57,slow=2.2,SNR=16						
ARCES	**ARCESS Array B**	**124.91**	**345**	PKP	PKPdf	10 37 27.9	-1.4
GERES	**GERESS Array B**	**144.36**	**332**	PKP	PKPdf	10 38 03.7	-2.3
	0.4nm,0.4s,baz=20,slow=4.3,SNR=4.9						
GERES	**GERESS Array B**	**144.36**	**332**	PKP	PKPdf	10 38 03.7	-2.3

FUNV 09 10:20:48.1, 11°.89N×73°.38W, h35km, MW3.8, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**1.68**	**145**	*e*P	**Pn**	10 21 13.5	-1.5
VIRV				*e*S	Sn	10 21 33.9	-1.4
DABV	**Dabajuro**	**2.86**	**109**	*e*P	Pn	10 21 30.9	-0.4
MONV	**Montecano**	**3.34**	**89**	*e*P	Pn	10 21 36.5	-1.4
VIGV	**El Vigia**	**3.62**	**147**	*e*P	Pn	10 21 41.0	-0.7
SOCV	**Socops**	**4.36**	**145**	*e*P	Pn	10 21 50.8	-1.1
SANV	**Sanarito**	**4.46**	**122**	*e*P	Pn	10 21 52.3	-1.0
TURV	**Turiamo**	**5.62**	**104**	*e*P	Pn	10 22 07.3	-2.0
BAUV	**El Baul**	**6.01**	**119**	*e*P	Pn	10 22 11.9	-2.8

MEX 09 10:23:13.2±0.4, 16°.02N×97°.16W, h12km±4km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.00**	**292**	*i* P	Pb	10 23 29.1	-3.3
PNIG				*i* S	Sg	10 23 41.8	-3.7
HUIG	**Huatulco**	**1.05**	**104**	*i* P	Pb	10 23 30.1	-3.2
HUIG				*i* S	Sb	10 23 42.5	-4.4
VHO	**Vista Hermosa**	**1.13**	**21**	*i* P	Pb	10 23 31.2	-3.4
VHO				*i* S	Sb	10 23 44.6	-4.6
OXX	**Oaxaca**	**1.14**	**22**	*i* P	Pb	10 23 31.6	-3.2
OXX				*i* S	Sb	10 23 45.3	-4.2
UTMO	**Huajuapan**	**1.90**	**341**	*i* P	Pn	10 23 42.0	-3.5
UTMO				*i* S	Sn	10 24 05.2	-4.2
TPIG	**Tehuac#an**	**2.40**	**356**	*e*P	Pn	10 23 49.1	-3.1
TPIG				*i* S	Sn	10 24 17.9	-3.6
CMIG	**Matias Romero**	**2.43**	**64**	*e*P	Pn	10 23 49.3	-3.4
CMIG				*i* S	Sn	10 24 18.3	-4.2
ACX	**Acapulco**	**2.72**	**288**	*e*P	Pn	10 23 54.6	-2.1
ACX				*i* S	Sn	10 24 27.6	-1.9
MEIG	**Mezcala**	**3.02**	**309**	*e*P	Pn	10 23 58.5	-2.4
MEIG				*i* S	Sn	10 24 33.7	-3.3
CAIG	**El Cayaco**	**3.15**	**289**	*e*P	Pn	10 23 59.5	-3.0
CAIG				*i* S	Sn	10 24 41.5	+1.3
PLIG	**Platanillo**	**3.25**	**317**	*e*P	Pn

n24,σ0°95/37, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.67**	**66**	*e*PG	**Pg**	**11 04 02.2**	**-1.0**
BODT				*e*SG	**Sg**	**11 04 12.2**	**+0.2**
BODT	**Bodrum**	**0.67**	**66**	*e*Pg	**Pg**	**11 04 02.2**	**-1.0**
BODT				*e*Sg	**Sg**	**11 04 12.2**	**+0.2**
DAT	**Datca**	**0.83**	**94**	*e*PG	**Pg**	**11 04 06.4**	**+0.2**
DAT				*e*SG	**Sg**	**11 04 18.4**	**+1.3**
DAT	**Datca**	**0.83**	**94**	*e*Pg	**Pg**	**11 04 06.4**	**+0.2**
DAT				*e*Sg	**Sg**	**11 04 18.4**	**+1.3**
APE	**Apeiranthos**	**0.85**	**289**	*e*PG	**Pg**	**11 04 06.6**	**0.0**
APE				*e*SG	**Sg**	**11 04 18.7**	**+0.9**
APE	**Apeiranthos**	**0.85**	**289**	*e*PN	**Pg**	**11 04 06.2**	**-0.4**
APE				*e*SB	**Sb**	**11 04 19.9**	**+1.4**
APE	**Apeiranthos**	**0.85**	**289**	*e*Pn	**Pg**	**11 04 06.2**	**-0.4**
APE	**Apeiranthos**	**0.85**	**289**	*e*Pg	**Pg**	**11 04 06.6**	**0.0**
APE				*e*Sg	**Sg**	**11 04 18.7**	**+0.9**
APE				*e*Sb	**Sb**	**11 04 19.9**	**+1.4**
SMG	**Samos**	**0.94**	**14**	*e*PB	**Pg**	**11 04 06.1**	**-2.2**
SMG				*e*SB	**Sg**	**11 04 20.0**	**-0.6**
SMG	**Samos**	**0.94**	**14**	*e*Pb	**Pg**	**11 04 06.1**	**-2.2**
SMG				*e*Sb	**Sg**	**11 04 20.0**	**-0.6**
GCAM	**G?zelcaml?**	**1.06**	**31**	*i* P	**Pg**	**11 04 10.3**	**-0.2**
GCAM				*i* S	**Sg**	**11 04 25.0**	**+0.6**
GCAM	**G?zelcaml?**	**1.06**	**31**	*i* P	**Pg**	**11 04 10.4**	**-0.1**
GCAM				*i* S	**Sg**	**11 04 25.0**	**+0.6**
MLSB	**Milas**	**1.11**	**63**	*e*PG	**Pg**	**11 04 11.8**	**+0.3**
MLSB	**Milas**	**1.11**	**63**	*e*Pg	**Pg**	**11 04 11.8**	**+0.4**
KARP	**Karpathos**	**1.34**	**158**	*e*PB	**Pn**	**11 04 09.0**	**-5.8**
YER	**Yerkesik**	**1.44**	**76**	*e*PN	**Pn**	**11 04 17.1**	**+1.0**
YER	**Yerkesik**	**1.44**	**76**	*e*Pn	**Pn**	**11 04 17.2**	**+1.1**
URLA	**Izmir**	**1.56**	**2**	*i* P	**Pn**	**11 04 17.3**	**-0.6**
URLA				*i* S	**Sn**	**11 04 38.0**	**-0.1**
BLCB	**Balcova**	**1.64**	**14**	*e*PN	**Pn**	**11 04 19.2**	**+0.3**
BLCB	**Balcova**	**1.64**	**14**	*e*Pn	**Pn**	**11 04 19.2**	**+0.3**
IZM	**Izmir**	**1.70**	**19**	*e*PN	**Pn**	**11 04 19.9**	**+0.2**
IZM	**Izmir**	**1.70**	**19**	*e*Pn	**Pn**	**11 04 19.9**	**+0.1**
NPS	**Neapolis**	**1.70**	**207**	*e*PB	**Pn**	**11 04 17.5**	**-2.3**
NPS	**Neapolis**	**1.70**	**207**	*e*Pb	**Pn**	**11 04 17.5**	**-2.3**

*IDC **09** 11:21:59.4±2.9, 31°.43S×176°.72W, h0km, mb4.1/3, mb1 4.3/5, mb1mx4.0/18, mbtmp4.1/5, ML4.0/2, MS3.7/1, Ms1 3.7/1, ms1mx3.1/31, Error ellipse: s-maj=62.8km s-min=33.3km az=114.0*

*NEIC **09** 11:22:00.1±2.1, 31°.43S×176°.61W, h10km, mb4.3/1, Error ellipse: s-maj=43.4km s-min=18.3km az=99.0*

ISC 09 11:22:05.8±1.7, 31°.78S±0°.09×176°.3W±0°.2, h82km±18km, n29, σ1°13/41, mb4.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**8.07**	**213**	PN	**Pn**	**11 24 00.3**	**+0.1**
CNGZ				SN	**Sn**	**11 25 36.6**	**+6.7**
MWZ	**Matawai**	**8.28**	**216**	PN	**Pn**	**11 24 02.3**	**-0.8**
MWZ				SN	**Sn**	**11 25 38.1**	**+3.1**
URZ	**Urewera**	**8.44**	**218**	Pn	**Pn**	**11 24 04.5**	**-0.7**
0.9nm,0.3s,baz=25,slow=15,SNR=12							
URZ				Sn	**Sn**	**11 25 40.2**	**+1.4**
5.7nm,0.3s,baz=166,slow=16,SNR=12							
URZ	**Urewera**	**8.44**	**218**	Pn	**Pn**	**11 24 04.5**	**-0.7**
URZ				Sn	**Sn**	**11 25 40.2**	**+1.4**
URZ	**Urewera**	**8.44**	**218**	PN	**Pn**	**11 24 05.0**	**-0.2**
URZ				SN	**Sn**	**11 25 40.1**	**+1.3**
KNZ	**Kokohu**	**8.75**	**213**	SN	**Sn**	**11 25 48.6**	**+2.2**
KAHZ	**Kahuranaki**	**9.74**	**213**	PN	**Pn**	**11 24 23.4**	**+0.5**
KAHZ				SN	**Sn**	**11 26 13.5**	**+2.9**
PXZ	**Pawanui**	**9.94**	**212**	PN	**Pn**	**11 24 26.2**	**+0.6**
PXZ				SN	**Sn**	**11 26 15.8**	**+0.5**
TSZ	**Takapari Road**	**10.39**	**215**	SN	**Sn**	**11 26 25.6**	**-0.6**
BFZ	**Birch Farm**	**10.74**	**212**	PN	**Pn**	**11 24 37.7**	**+1.1**
BFZ				SN	**Sn**	**11 26 34.3**	**-0.6**
MRZ	**Mangatainoka R**	**11.04**	**214**	PN	**Pn**	**11 24 38.6**	**-1.9**
MRZ				SN	**Sn**	**11 26 39.5**	**-2.6**
HOWZ	**Holdsworth Sta**	**11.25**	**214**	SN	**Sn**	**11 26 44.6**	**-2.7**
KIW	**Kapiti Island**	**11.52**	**216**	PN	**Pn**	**11 24 47.1**	**0.0**
CTZ	**Chatham Island**	**11.94**	**181**	*e*PN	**Pn**	**11 24 58.6**	**+5.8**
CTZ				*e*SN	**Sn**	**11 27 04.2**	**+0.3**
THZ	**Tophouse**	**13.20**	**218**	PN	**Pn**	**11 25 09.4**	**-0.4**
THZ				*e*SN	**Sn**	**11 27 30.3**	**-4.4**
KHZ	**Kahutara**	**13.36**	**215**	PN	**Pn**	**11 25 11.3**	**-0.6**
KHZ				SN	**Sn**	**11 27 33.4**	**-5.3**
LTZ	**Lake Taylor**	**14.26**	**216**	PN	**Pn**	**11 25 24.0**	**+0.4**
RPZ	**Rata Peaks**	**15.55**	**216**	Pn	**Pn**	**11 25 40.5**	**+0.4**
1.1nm,0.3s,baz=314,slow=23,SNR=6.8							
RPZ				Sn	**Sn**	**11 28 22.8**	**-8.9**
0.6nm,0.3s,baz=286,slow=20,SNR=5.7							
RPZ	**Rata Peaks**	**15.55**	**216**	Pn	**Pn**	**11 25 40.5**	**+0.4**
RPZ				Sn	**Sn**	**11 28 22.8**	**-8.9**
CTA	**Charters Tower**	**35.49**	**280**	P	**P**	**11 28 56.0**	**+1.3**
2.6nm,0.6s,mb4.2,baz=78,slow=14,SNR=4.3							
CTA	**Charters Tower**	**35.49**	**280**	P	**P**	**11 28 56.0**	**+1.3**
ASAR	**Alice Springs**	**44.53**	**268**	P	**P**	**11 30 08.9**	**-0.6**
1.8nm,0.8s,mb3.9,baz=109,slow=7.4,SNR=13							
ASAR	**Alice Springs**	**44.53**	**268**	P	**P**	**11 30 08.9**	**-0.6**
WB2	**Warramunga Arr**	**45.63**	**273**	*e*P	**P**	**11 30 18.2**	**0.0**
WRAB	**Tennant Creek**	**45.63**	**273**	*e*P	**P**	**11 30 18.3**	**0.0**
2.4nm,0.6s,mb4.1							
WRA	**Warramunga Arr**	**45.64**	**273**	P	**P**	**11 30 18.0**	**-0.3**
2.5nm,0.7s,mb4.1,baz=112,slow=7.8,SNR=10							
WRA				LR	LR	11 49 25.0	
comp=Z,92nm,19.2s,baz=55,slow=36							
WRA	**Warramunga Arr**	**45.64**	**273**	P	**P**	**11 30 18.0**	**-0.3**
FINES	**FINESS Array B**	**146.94**	**340**	PKPbc	PKPbc	11 41 41.0	+2.9
5.1nm,0.8s,baz=48,slow=2.8,SNR=7.9							
FINES	**FINESS Array B**	**146.94**	**340**	PKPbc	PKPbc	11 41 41.0	+2.9

IDC 09 11:34:48.8±3.3, 31°.49S×176°.74W, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.8/17, mbtmp3.9/4, ML3.4/2, Error ellipse: s-maj=78.1km s-min=35.1km az=114.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.44**	**215**	Pn	Pn	11 36 52.7	+0.5
0.1nm,0.3s,baz=306,slow=19,SNR=5.7							
URZ				Sn	Sn	11 38 28.3	+0.1
0.3nm,0.3s,baz=164,slow=20,SNR=3.7							
RPZ	**Rata Peaks**	**15.56**	**215**	Pn	Pn	11 38 28.6	-0.7
0.8nm,0.3s,baz=31,slow=2.9,SNR=4.5							
ASAR	**Alice Springs**	**44.14**	**267**	P	P	11 42 59.5	+0.2
0.4nm,0.7s,baz=105,slow=6.8,SNR=6.2							
WRA	**Warramunga Arr**	**45.23**	**273**	P	P	11 43 07.8	-0.2
1.5nm,0.9s,baz=110,slow=8.1,SNR=8.2							
FINES	**FINESS Array B**	**146.53**	**340**	PKPbc	PKPbc	11 54 30.4	-0.9
1.4nm,0.6s,baz=46,slow=6.1,SNR=3.7							

MEX 09 11:38:05.4±0.8, 17°.22N×94°.40W, h50km±10km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.48**	**255**	*i* P	Pn	11 38 14.7	-1.7
CMIG				*i* S	Sn	11 38 22.6	-1.6
TGIG		**1.30**	**109**	*i* P	Pn	11 38 25.3	-1.9
TGIG				*i* S	Sn	11 38 41.8	-1.6
PCIG		**1.88**	**143**	*i* P	Pn	11 38 33.6	-1.6
PCIG				*i* S	Sn	11 38 56.4	-1.3
HUIG	**Huatulco**	**2.18**	**229**	*i* P	Pn	11 38 36.9	-2.3
HUIG				*i* S	Sn	11 39 02.6	-2.4
OXX	**Oaxaca**	**2.23**	**267**	*e*P	Pn	11 38 38.9	-1.0
OXX				*i* S	Sn	11 39 03.1	-3.0
VHO	**Vista Hermosa**	**2.23**	**267**	*i* P	Pn	11 38 40.1	+0.1
VHO				*i* S	Sn	11 39 05.5	-0.8
CCIG	**Comitan**	**2.36**	**113**	*i* P	Pn	11 38 40.0	-1.7
CCIG				*i* S	Sn	11 39 07.4	-2.0
UTMO	**Huajuapan**	**3.30**	**281**	*i* P	Pn	11 38 55.6	+1.0
UTMO				*i* S	Sn	11 39 29.9	-2.8
PNIG	**Pinotepa**	**3.66**	**258**	*i* P	Pn	11 38 57.8	-1.8
PNIG				*i* S	Sn	11 39 39.0	-2.5
PPM	**Popocatepetl**	**4.42**	**295**	*e*P	Pn	11 39 09.9	-0.1
PPM				*i* S	Sn	11 39 58.8	-1.4

*ISCJB **09** 11:51:09.6±2.4, 51°.96N±0°.08×168°.6W±0°.1, h30km±18km, mb3.8/8, Error ellipse: s-maj=16.3km s-min=8.4km az=140.6*

*IDC **09** 11:51:11.2±1.6, 52°.60N×168°.95W, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/29, mbtmp3.8/11, ML3.2/2, Error ellipse: s-maj=40.0km s-min=15.4km az=168.0*

*NEIC **09** 11:51:12.0, 52°.09N×168°.63W, h9km, ML3.5(PMR), ML3.0(AEIC), After AEIC.*

ISC 09 11:51:10.5±2.6, 52°.03N±0°.07×168°.6W±0°.1, h19km±16km, n32, σ0°76/35, mb3.8/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.96**	**352**	P	**Pb**	**11 51 27.6**	**-0.9**
NIKO				S	**Sb**	**11 51 41.4**	**+0.6**
OKSP	**Okmok Steeple**	**1.25**	**9**	P	**Pn**	**11 51 32.5**	**-0.4**
OKWR	**Okmok West Rim**	**1.44**	**10**	P	**Pn**	**11 51 35.5**	**0.0**
MSOM	**Makushin Julie**	**2.06**	**29**	P	**Pn**	**11 51 44.9**	**+0.8**
MREP	**Makushin Rep't**	**2.12**	**32**	P	**Pn**	**11 51 45.2**	**+0.3**
MSW	**Makushin Switc**	**2.20**	**30**	P	**Pn**	**11 51 46.5**	**+0.5**
MSW				S	**Sn**	**11 52 12.6**	**0.0**
UNV	**Unalaska Valle**	**2.23**	**34**	P	**Pn**	**11 51 46.7**	**+0.3**
UNV				S	**Sn**	**11 52 13.4**	**0.0**
CHGN	**Chignik**	**7.37**	**50**	*e*P	**Pn**	**11 52 59.0**	**+2.1**
KDAK	**Kodiak Island**	**10.88**	**52**	Pn	**Pn**	**11 53 44.6**	**-0.4**
0.7nm,0.3s,baz=87,slow=17,SNR=5.1							
KDAK	**Kodiak Island**	**10.88**	**52**	Pn	**Pn**	**11 53 44.6**	**-0.4**
FX1	**Attu Island--F**	**11.15**	**282**	Pn	**Pn**	**11 53 49.0**	**+0.3**
0.5nm,0.3s,baz=302,slow=19,SNR=9.7							
FX1	**Attu Island--F**	**11.15**	**282**	Pn	**Pn**	**11 53 49.0**	**+0.3**
ILAR	**Eielson Array**	**16.99**	**33**	Pn	**Pn**	**11 55 05.0**	**-1.7**
0.0nm,0.3s,baz=246,slow=8.8,SNR=4.4							
ILAR	**Eielson Array**	**16.99**	**33**	Pn	**Pn**	**11 55 05.0**	**-1.7**
PETK	**Petropavlovsk-**	**20.39**	**286**	P	**P**	**11 55 45.8**	**-0.2**
3.5nm,0.4s,baz=94,slow=13,SNR=20							
PETK	**Petropavlovsk-**	**20.39**	**286**	P	**P**	**11 55 45.8**	**-0.2**
INK	**Inuvik**	**23.39**	**33**	P	**P**	**11 56 15.8**	**-2.1**
1.6nm,0.8s,mb3.5,baz=261,slow=9.7,SNR=7.0							
INK	**Inuvik**	**23.39**	**33**	P	**P**	**11 56 15.8**	**-2.1**
KSRS	**Korea Array**	**45.90**	**278**	P	**P**	**11 59 32.0**	**+0.4**
0.7nm,0.7s,mb3.7,baz=48,slow=9.9,SNR=3.8							
KSAR	**Wonju Array Be**	**45.93**	**278**	P	**P**	**11 59 32.0**	**+0.2**
SONM	**Songino Array**	**51.87**	**301**	P	**P**	**12 00 17.3**	**+0.1**
0.1nm,0.3s,mb3.2,baz=65,slow=10,SNR=4.0							
SONM	**Songino Array**	**51.87**	**301**	P	**P**	**12 00 17.3**	**+0.1**
TXAR	**Lajitas Array**	**52.30**	**89**	P	**P**	**12 00 26.5**	**+5.9**
0.3nm,0.9s,mb3.2,baz=297,slow=8.0,SNR=3.0							
TXAR	**Lajitas Array**	**52.30**	**89**	P	**P**	**12 00 26.5**	**+5.9**
ARCES	**ARCESS Array B**	**58.31**	**354**	P	**P**	**12 01 03.1**	**-0.3**
1.5nm,0.8s,mb4.0,baz=1.9,slow=5.4,SNR=2.7							
ARCES	**ARCESS Array B**	**58.31**	**354**	P	**P**	**12 01 03.1**	**-0.3**
BVAR	**Borovoye Array**	**64.25**	**325**	P	**P**	**12 01 44.0**	**+0.1**
1.5nm,0.7s,mb4.2,baz=46,slow=8.7,SNR=3.7							
BVAR	**Borovoye Array**	**64.25**	**325**	P	**P**	**12 01 44.0**	**+0.1**
FINES	**FINESS Array B**	**66.27**	**352**	P	**P**	**12 01 56.4**	**-0.4**
2.1nm,0.7s,mb4.3,baz=10,slow=8.5,SNR=3.6							
FINES	**FINESS Array B**	**66.27**	**352**	P	**P**	**12 01 56.4**	**-0.4**
BRTR	**Keskin Array B**	**86.59**	**343**	P	**P**	**12 03 52.6**	**+0.4**
0.5nm,0.8s,mb3.8,baz=0.0,slow=7.2,SNR=3.0							
BRTR	**Keskin Array B**	**86.59**	**343**	P	**P**	**12 03 52.6**	**+0.4**

*NNC **09** 11:51:37.4±7.3, 36°.54N×70°.13E, h0km, mb4.5, mpv4.9, Error ellipse: s-maj=70.0km s-min=62.2km az=43.0*

*IDC **09** 11:51:43.9±4.6, 36°.31N×70°.88E, h170km±42km, mb3.8/14, mb1 3.9/18, mb1mx3.7/29, mbtmp3.8/18, Error ellipse: s-maj=20.1km s-min=12.7km az=15.0*

*BJI **09** 11:51:45.3, 36°.55N×70°.88E, h186km, mB4.6/8, mb4.4/15*

*MOS **09** 11:51:45.5±0.9, 36°.51N×70°.86E, h192km, mb4.5/8, Error ellipse: s-maj=10.8km s-min=5.4km az=90.7*

*ISCJB **09** 11:51:45.2±0.3, 36°.50N±0°.02×70°.87E±0°.04, h187km±3km, mb4.2/24, Error ellipse: s-maj=5.6km s-min=3.2km az=165.2*

*NEIC **09** 11:51:46.5±0.6, 36°.50N×70°.87E, h189km±6km, mb4.4/8, Error ellipse: s-maj=7.4km s-min=4.3km az=56.0*

ISC 09 11:51:46.2±0.3, 36°.51N±0°.02×70°.89E±0°.04, h182km±3km, h187km±4.2km; pP-P, n162, σ1°08/194, mb4.2/24, 10C-13D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.48**	**218**	*e*Pn	**Pn**	**11 52 30.0**	**+1.2**
KBL				*e*Sn	**Sn**	**11 53 02.1**	**+0.3**
KBL	**Kabul**	**2.48**	**218**	*e*PN	**Pn**	**11 52 30.0**	**+1.2**
KBL				*e*		11 53 02.1	
CEP	**Cherat**	**2.81**	**162**	⇑P	**Pn**	**11 52 34.5**	**+1.8**
CEP				S	**Sn**	**11 53 09.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.45**	**145**	⇓P	**Pn**	**11 52 42.3**	**+1.8**
THW	**Thamme Wali**	**3.77**	**169**	⇓P	**Pn**	**11 52 45.8**	**+1.2**
SARP	**Sargodha**	**4.81**	**162**	⇓P	**Pn**	**11 52 58.1**	**+0.3**
SARP				S	**Sn**	**11 53 51.0**	**-2.9**
KSH	**Kashi**	**5.01**	**52**	↑*i* P	**Pn**	**11 52 56.7**	**-3.5**
KSH				sP		11 53 36.2	
KSH				S	**Sn**	**11 53 49.1**	**-9.3**
KSH				smax			
comp=N,490nm,0.4s							
KSH				smax			
comp=E,280nm,0.5s							
AML	**Almayashu**	**6.01**	**20**	P	**Pn**	**11 53 13.6**	**+0.3**
SNR=127							
AML				P		11 53 13.6	
SNR=127							
UCH	**Uchtor**	**6.36**	**25**	P	**Pn**	**11 53 18.6**	**+0.8**
SNR=15							
UCH				P		11 53 18.6	
SNR=15							
KZA	**Kyzart**	**6.50**	**30**	P	**Pn**	**11 53 19.6**	**-0.1**
SNR=16							
KZA				P		11 53 19.6	
SNR=16							
EKS2	**Erkin-Say**	**6.53**	**19**	P	**Pn**	**11 53 20.5**	**+0.5**
SNR=117							
EKS2				P		11 53 20.5	
SNR=117							
EKS2	**Erkin-Say**	**6.53**	**19**	*e*Pn	**Pn**	**11 53 20.5**	**+0.4**
EKS2				*e*Sn	**Sn**	**11 54 34.0**	**-0.2**
EKS2	**Erkin-Say**	**6.53**	**19**	*e*PN	**Pn**	**11 53 20.5**	**+0.4**
EKS2				*e*		11 54 34.0	
KK31	**Karatay Array**	**6.59**	**358**	⇑P	**Pn**	**11 53 20.9**	**0.0**
comp=E,35nm,0.4s,baz=189,slow=14,SNR=200							
KK31				⇓S	**Sn**	**11 54 31.2**	**-4.3**
comp=E,219nm,0.6s,baz=188,slow=21,SNR=24							
KK31	**Karatay Array**	**6.59**	**358**	PN	**Pn**	**11 53 20.8**	**0.0**
KK31				pmax	pmax		
comp=Z,70nm,0.3s							
KKAR	**Karatay Array**	**6.59**	**358**	*e*Pn	**Pn**	**11 53 20.9**	**+0.1**
KKAR				*e*Sn	**Sn**	**11 54 31.4**	**-4.1**
KKAR	**Karatay Array**	**6.59**	**358**	*e*PN	**Pn**	**11 53 20.9**	**+0.1**
AAK	**Ala-Archa**	**6.71**	**23**	P	**Pn**	**11 53 22.6**	**+0.1**
SNR=40							
AAK				P		11 53 22.6	
SNR=40							
AAK	**Ala-Archa**	**6.71**	**23**	*e*Pn	**Pn**	**11 53 23.2**	**+0.7**
AAK				*e*Sn	**Sn**	**11 54 38.3**	**-0.2**
AAK	**Ala-Archa**	**6.71**	**23**	*e*PN	**Pn**	**11 53 23.2**	**+0.7**
AAK				*e*		11 54 38.3	
BHK	**Bhakra**	**6.85**	**136**	*e*S	**Sn**	**11 54 35.0**	**-6.8**
KBK	**Karagaybulak**	**6.89**	**26**	P	**Pn**	**11 53 25.5**	**+0.8**
SNR=31							
KBK				P		11 53 25.5	
SNR=31							
FRU	**Bishkek**	**6.93**	**23**	*e*PN	**Pn**	**11 53 24.0**	**-1.3**
FRU				*i* S	**Sn**	**11 54 44.0**	**+0.3**
FRU				smax			
comp=N,280nm,1.6s							
ULHL	**Ulahol**	**7.06**	**34**	P	**Pn**	**11 53 27.5**	**+0.4**
SNR=8.3							
ULHL				P		11 53 27.5	
SNR=8.3							
SDNR	**Sundarnagar**	**7.10**	**133**	*e*PKP	**Pn**	**11 53 26.9**	**-0.8**
SDNR				*ex*	**Sn**	**11 54 52.9**	**+5.0**
CHMS	**Chumysh**	**7.12**	**23**	P	**Pn**	**11 53 27.8**	**-0.1**
SNR=24							
CHMS				P		11 53 27.8	
SNR=24							
USP	**Ospenovka**	**7.29**	**21**	P	**Pn**	**11 53 29.5**	**-0.5**
SNR=38							
USP				P		11 53 29.5	
SNR=38							
TKM2	**Tokmak 2**	**7.35**	**28**	P	**Pn**	**11 53 31.4**	**+0.5**
SNR=73							
TKM2				P		11 53 31.4	
SNR=73							
TKM2	**Tokmak 2**	**7.35**	**28**	⇑P	**Pn**	**11 53 31.2**	**+0.4**
comp=N,49nm,0.6s							
TKM2	**Tokmak 2**	**7.35**	**28**	*e*Pn	**Pn**	**11 53 31.2**	**+0.4**
TKM2	**Tokmak 2**	**7.35**	**28**	*e*PN	**Pn**	**11 53 31.3**	**+0.4**
SMLA	**Simla**	**7.49**	**134**	*i* P	**Pn**	**11 53 31.4**	**-1.3**
SMLA				*i* S	**Sn**	**11 54 50.6**	**-6.5**
SMLA				⇓AML	AML	11 54 54.2	
comp=N,508nm,0.2s							
SMLA				⇓AML	AML	11 54 54.8	
comp=E,648nm,0.3s							
DDI	**Dehra Dun**	**8.60**	**134**	*e*PKP	**Pn**	**11 53 45.5**	**-1.8**
DDI				*ex*	**Sn**	**11 55 22.0**	**-1.5**
KHET	**Khetri**	**9.38**	**152**	*e*PKP	**Pn**	**11 53 55.5**	**-2.1**
KHET				*e*S	**Sn**	**11 55 32.6**	**-10**
KHET				AML	AML	11 55 36.9	
comp=N,198nm,0.4s							
KHET				AML	AML	11 55 38.0	
comp=E,211nm,0.3s							
NDI	**New Delhi**	**9.45**	**144**	*e*PKP	**Pn**	**11 53 55.6**	**-2.9**
NDI				*e*S	**Sn**	**11 55 33.5**	**-10**
NDI				AML	AML	11 55 37.3	
comp=E,153nm,0.5s							
NDI				AML	AML	11 55 40.0	
comp=N,147nm,1.2s							
AYAN	**Aya Nagar**	**9.58**	**145**	*e*PKP	**Pn**	**11 53 59.3**	**-0.9**
AYAN				*e*S	**Sn**	**11 55 38.2**	**-8.8**
AJM	**Ajmer**	**10.50**	**161**	*ex*	**Pn**	**11 54 10.0**	**-2.2**
AJM				*e*S	**Sn**	**11 56 01.0**	**-8.1**
AGRA	**Agra**	**11.02**	**145**	*e*PKP	**Pn**	**11 54 17.4**	**-1.6**
AGRA				*e*S	**Sn**	**11 56 11.0**	**-10**
AGRA				AML	AML	11 56 21.4	
comp=E,133nm,0.2s							
AGRA				AML	AML	11 56 22.0	
comp=N,45nm,0.2s							
MK31	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**11 54 48.2**	**-0.1**
comp=N,2.3nm,0.7s,baz=223,slow=12,SNR=25							
MK31	**Makanchi Array**	**13.33**	**36**	*e*Pn	**Pn**	**11 54 48.4**	**+0.2**
MK31	**Makanchi Array**	**13.33**	**36**	*e*P	**Pn**	**11 54 48.4**	**+0.1**
MKAR	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**11 54 48.4**	**+0.1**
comp=N,0.2nm,0.3s,baz=221,slow=13,SNR=16							
MKAR	**Makanchi Array**	**13.33**	**36**	*e*Pn	**Pn**	**11 54 48.4**	**+0.2**
MKAR	**Makanchi Array**	**13.33**	**36**	*e*P	**Pn**	**11 54 48.4**	**+0.1**
DANN	**Dangsing**	**13.57**	**123**	*e*P	**Pn**	**11 54 50.8**	**-0.6**
comp=N,62nm,0.4s							
DANN	**Dangsing**	**13.57**	**123**	*e*P	**Pn**	**11 54 50.8**	**-0.6**
comp=N,62nm,0.4s							
KOLN	**Koldanda**	**13.84**	**125**	*e*P	**Pn**	**11 54 54.7**	**-0.1**
comp=N,57nm,0.5s							
KOLN	**Koldanda**	**13.84**	**125**	*e*P	**Pn**	**11 54 54.7**	**-0.1**
comp=N,57nm,0.5s							
BHPL	**Bhopal**	**14.38**	**155**	*e*PKP	**Pn**	**11 55 05.0**	**+3.4**
GKN	**Gorkha**	**14.38**	**122**	*e*P	**Pn**	**11 55 02.7**	**+1.1**
comp=N,144nm,0.4s							
GKN	**Gorkha**	**14.38**	**122**	*e*P	**Pn**	**11 55 02.7**	**+1.1**
comp=N,144nm,0.4s							
WMQ	**Urumqi**	**14.76**	**55**	*e*P	**Pn**	**11 55 07.3**	**+1.2**
DMN	**Daman**	**14.95**	**122**	*e*P	**Pn**	**11 55 09.1**	**+0.5**
comp=N,64nm,0.4s							
DMN	**Daman**	**14.95**	**122**	*e*P	**Pn**	**11 55 09.1**	**+0.5**
comp=N,64nm,0.4s							
KKN	**Kakani**	**14.96**	**121**	*e*P	**Pn**	**11 55 08.1**	**-0.6**
comp=N,109nm,0.6s							
KKN	**Kakani**	**14.96**	**121**	*e*P	**Pn**	**11 55 08.1**	**-0.6**
comp=N,109nm,0.6s							
KKN	**Kakani**	**14.96**	**121**	*e*P	**Pn**	**11 55 08.1**	**-0.6**
KKN				pmax	pmax		
comp=Z,109nm,0.6s							
AB31	**Akbulak array**	**15.03**	**331**	⇑P	**Pn**	**11 55 08.0**	**-1.4**
comp=Z,12nm,0.5s,baz=145,slow=12,SNR=202							
AB31	**Akbulak array**	**15.03**	**331**	*i* P	**Pn**	**11 55 07.9**	**-1.5**
AB31				pmax	pmax		
comp=Z,9.0nm,0.3s							
ABKAR	**Akbulak array**	**15.03**	**331**	*e*Pn	**Pn**	**11 55 08.2**	**-1.2**
ABKAR				*e*Sn	**Sn**	**11 57 47.0**	**-10**
KURBB	**Kurchatov Arra**	**15.14**	**19**	⇓P	**Pn**	**11 55 10.9**	**+0.2**
comp=Z,0.7nm,0.5s							
PKI	**Pulchoki**	**15.18**	**122**	*e*P	**Pn**	**11 55 12.4**	**+1.0**
comp=Z,305nm,0.7s							
PKI	**Pulchoki**	**15.18**	**122**	*e*P	**Pn**	**11 55 12.4**	**+1.0**
comp=Z,305nm,0.7s							
PKI	**Pulchoki**	**15.18**	**122**	*e*P	**Pn**	**11 55 12.4**	**+1.0**
PKI				pmax	pmax		
comp=Z,305nm,0.7s							
KURK	**Kurchatov**	**15.25

SHL	**Shillong**	**20.99 115**	*ex*		**P**	**11 56 16.6 +1.2**
SHL			*ex*		**S**	**12 00 00.4 +1.5**
SVE	**Sverdlovsk**	**21.46 344**	⇑*iP*		**P**	**11 56 21.1 +1.1**
SVE			pmax	pmax		
	comp=Z,20nm,1.0s,mb4.4					
ARU	**Arti**	**21.59 341**	*eP*		**P**	**11 56 21.5 +0.1**
	comp=Z,20nm,1.1s,mb4.5					
ARU	**Arti**	**21.59 341**	*d iP*		**P**	**11 56 21.7 +0.3**
ARU			S		**S**	**12 00 07.6 -0.7**
ARU			pmax	pmax		
	comp=Z,23nm,1.1s,mb4.5					
ANN	**Anapa**	**26.55 299**	*eP*		**P**	**11 57 07.9 +0.9**
ANN			*e*PP*	pP		11 57 42.6 -1.6
ANN			*e*			11 57 58.8
ANN			*eS*		**S**	**12 01 27.9 +0.2**
ANN			*e*SS*	sS		12 02 35.1 +1.0
ANN			pmax	pmax		
	comp=Z,69nm,1.3s,mb5.1					
SONM	**Songino Array**	**28.40 55**	P		**P**	**11 57 24.5 +1.1**
	comp=Z,0.3nm,0.6s,mb3.2,baz=261,slow=9.7,SNR=6.4					
SONM	**Songino Array**	**28.40 55**	P		**P**	**11 57 24.5 +1.1**
SONM	**Songino Array**	**28.40 55**	P		**P**	**11 57 24.5 +1.1**
BRTR	**Keskin Array B**	**29.35 288**	P		**P**	**11 57 32.8 +0.9**
	comp=Z,0.5nm,0.7s,mb3.4,baz=92,slow=9.7,SNR=3.2					
BRTR	**Keskin Array B**	**29.35 288**	P		**P**	**11 57 32.8 +0.9**
BRTR	**Keskin Array B**	**29.35 288**	P		**P**	**11 57 32.8 +0.9**
KMI	**Kunming**	**29.48 104**	P		**P**	**11 57 35.3 +2.1**
KMI			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3					
KMI	**Kunming**	**29.48 104**	P		**P**	**11 57 35.3 +2.1**
	comp=Z,6.0nm,0.9s,mb4.3					
KMI	**Kunming**	**29.48 104**	P		**P**	**11 57 35.3 +2.1**
KMI			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3					
OBN	**Obninsk**	**29.87 319**	⇓*eP*		**P**	**11 57 36.7 +0.4**
OBN			*e*PP*	pP		11 58 15.0 +1.1
OBN			*e*			11 58 40.7
OBN			*e*			12 00 37.6
OBN			pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6					
CMAR	**Chiang Mai Arr**	**30.54 119**	P		**P**	**11 57 43.2 +0.7**
	comp=Z,3.1nm,0.8s,mb4.1,baz=300,slow=8.4,SNR=20					
CMAR	**Chiang Mai Arr**	**30.54 119**	P		**P**	**11 57 43.2 +0.7**
CMAR	**Chiang Mai Arr**	**30.54 119**	P		**P**	**11 57 43.3 +0.7**
HHC	**Hu-ho-hao-te**	**31.84 70**	*eP*		**P**	**11 57 54.2 +0.4**
HHC			pP	pP		11 58 33.7 +2.2
HHC			sP	sP		11 58 55.8 +3.3
HHC			PP	PP		11 59 07.7 -1.7
HHC			PcP	PcP		12 00 40.1 +0.1
HHC			S		**S**	**12 02 49.3 -1.3**
HHC			sS	sS		12 03 57.4 0.0
HHC			ScP	ScP		12 04 04.8 -1.3
HHC			PcS	PcS		12 04 24.5 -0.3
HHC			SS	SS		12 04 56.0 -19
HHC			ScS	ScS		12 08 01.6 -3.1
HHC			pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6					
HHC			pmax	pmax		
	comp=Z,150nm,5.9s					
GYA	**Guiyang**	**31.95 98**	*eP*		**P**	**11 57 57.0 +2.1**
GYA			pP	pP		11 58 36.8 +4.1
GYA			sP	sP		11 58 58.0 +4.4
GYA			PP	PP		11 59 10.4 -0.4
GYA			S		**S**	**12 02 53.2 +0.6**
GYA			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6					
AKASG	**Malin Array Be**	**32.87 309**	P		**P**	**11 58 03.0 +0.4**
	comp=Z,4.5nm,0.5s,mb4.5,baz=82,slow=7.6,SNR=16					
AKASG	**Malin Array Be**	**32.87 309**	P		**P**	**11 58 03.0 +0.4**
AKASG	**Malin Array Be**	**32.87 309**	P		**P**	**11 58 03.0 +0.4**
KIEV	**Kiev**	**32.88 309**	*eP*		**P**	**11 58 02.8 +0.1**
	comp=Z,5.6nm,0.7s,mb4.4					
KIEV	**Kiev**	**32.88 309**	*eP*		**P**	**11 58 02.8 +0.1**
KIEV			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4					
BJI	**Beijing**	**35.43 70**	P		**P**	**11 58 25.0 +0.2**
BJI			S		**S**	**12 03 46.4 +0.4**
BJI			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5					
BJI			pmax	pmax		
	comp=Z,130nm,5.6s					
BJI			LR	LR		
	comp=N,170nm,18.0s					
BJI			LR	LR		
	comp=E,210nm,16.1s					
BJI			LR	LR		
	comp=Z,62nm,18.5s					
FINES	**FINESS Array B**	**37.43 326**	P		**P**	**11 58 42.0 +0.6**
	comp=Z,7.7nm,0.7s,mb4.5,baz=121,slow=8.8,SNR=21					
FINES	**FINESS Array B**	**37.43 326**	P		**P**	**11 58 42.0 +0.6**
FINES	**FINESS Array B**	**37.43 326**	P		**P**	**11 58 42.0 +0.6**
ARCES	**ARCESS Array B**	**41.10 338**	P		**P**	**11 59 12.4 +0.7**
	comp=Z,6.2nm,0.6s,mb4.4,baz=113,slow=8.5,SNR=42					
ARCES	**ARCESS Array B**	**41.10 338**	P		**P**	**11 59 12.4 +0.7**
ARCES	**ARCESS Array B**	**41.10 338**	P		**P**	**11 59 12.4 +0.7**
CN2	**Changchun**	**41.68 63**	*eP*		**P**	**11 59 17.7 +1.0**
NB2	**NORSAR Subarra**	**44.32 323**	P		**P**	**11 59 37.4 -0.2**
	comp=Z,7.7nm,0.6s,mb4.5,baz=96,slow=7.9					
NB2	**NORSAR Subarra**	**44.32 323**	P		pP	12 00 19.0 +1.7
	comp=Z,4.1nm,0.9s,baz=95,slow=8.6					
NOA	**NORSAR Array B**	**44.32 323**	P		**P**	**11 59 37.7 +0.1**
	comp=Z,7.0nm,0.6s,mb4.5,baz=97,slow=7.8,SNR=26					
NOA	**NORSAR Array B**	**44.32 323**	P		**P**	**11 59 37.7 +0.1**
NOA	**NORSAR Array B**	**44.32 323**	P		**P**	**11 59 37.7 +0.1**
TORD	**Torodi Ar. Bea**	**65.63 269**	P		**P**	**12 02 08.2 -2.8**
	comp=Z,2.0nm,0.5s,mb4.2,baz=51,slow=6.1,SNR=40					
TORD	**Torodi Ar. Bea**	**65.63 269**	P		**P**	**12 02 08.2 -2.8**
ILAR	**Eielson Array**	**74.79 16**	P		**P**	**12 03 05.3 -0.5**
	comp=Z,0.2nm,0.4s,mb3.1,baz=312,slow=4.5,SNR=3.9					
ILAR	**Eielson Array**	**74.79 16**	P		**P**	**12 03 05.3 -0.5**
ILAR	**Eielson Array**	**74.79 16**	P		**P**	**12 03 05.3 -0.5**
FITZ	**Fitzroy Crossi**	**74.97 126**	P		**P**	**12 03 06.8 -0.7**
	comp=Z,2.1nm,0.7s,mb3.9,baz=0.1,slow=6.0,SNR=6.5					
FITZ	**Fitzroy Crossi**	**74.97 126**	P		**P**	**12 03 06.8 -0.7**
BOSA	**Boshof**	**77.70 220**	P		**P**	**12 03 21.9 -0.7**
	comp=Z,1.3nm,0.6s,mb3.7,baz=311,slow=2.9,SNR=3.6					
BOSA	**Boshof**	**77.70 220**	P		**P**	**12 03 21.9 -0.7**
BOSA	**Boshof**	**77.70 220**	P		**P**	**12 03 21.9 -0.8**
YKA	**Yellowknife Ar**	**81.24 3**	P		**P**	**12 03 41.5 +0.2**
	comp=Z,0.6nm,0.5s,mb3.5,baz=352,slow=5.4,SNR=14					
YKA	**Yellowknife Ar**	**81.24 3**	P		**P**	**12 03 41.5 +0.2**
YKA	**Yellowknife Ar**	**81.24 3**	P		**P**	**12 03 41.5 +0.2**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
WRA	**Warramunga Arr**	**82.07 122**	P		**P**	**12 03 44.7 -1.6**
	comp=Z,4.1nm,0.5s,mb4.3,baz=324,slow=4.9,SNR=63					
WRA	**Warramunga Arr**	**82.07 122**	P		**P**	**12 03 44.7 -1.6**
WRA	**Warramunga Arr**	**82.07 122**	P		**P**	**12 03 44.7 -1.6**
WRAB	**Tennant Creek**	**82.07 122**	*eP**		**P**	**12 03 44.8 -1.5**
	comp=Z,3.7nm,0.6s,mb4.2					
WRAB	**Tennant Creek**	**82.07 122**	*eP**		**P**	**12 03 44.8 -1.5**
WRAB			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2					
WB2	**Warramunga Arr**	**82.08 122**	*eP**		**P**	**12 03 44.6 -1.7**
ASAR	**Alice Springs**	**84.33 125**	P		**P**	**12 03 56.4 -1.5**
	comp=Z,4.0nm,0.6s,mb4.3,baz=310,slow=5.0,SNR=88					
ASAR	**Alice Springs**	**84.33 125**	P		**P**	**12 03 56.4 -1.5**
ASAR	**Alice Springs**	**84.33 125**	P		**P**	**12 03 56.4 -1.4**

IDC 09 12:02:42.6±39.0, 31°.00S×175°.89W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=709.7km s-min=62.6km az=92.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.25**	**217**	Pn	Pn	12 04 55.2	-2.0
	0.4nm,0.3s,baz=115,slow=14,SNR=4.5						
STKA	**Stephens Creek**	**36.11**	**257**	P		12 09 47.7	+1.4
	0.9nm,0.5s,baz=83,slow=8.1,SNR=3.2						
ASAR	**Alice Springs**	**44.89**	**267**	P		12 10 59.0	0.0
	0.3nm,0.6s,baz=108,slow=7.2,SNR=6.9						
WRA	**Warramunga Arr**	**45.93**	**272**	P		12 11 06.8	-0.5
	0.9nm,0.5s,baz=111,slow=7.8,SNR=12						

*IDC **09** 12:04:16.4±14.0, 36°.28N×70°.73E, h140km±131km, mb3.1/3, mb1 3.0/6, mb1mx2.9/28, mbtmp3.0/6, ML3.6/3, Error ellipse: s-maj=102.3km s-min=33.1km az=169.0*
*ISCJB **09** 12:04:23.2±1.0, 36°.70N±0°.08×70°.7E±0°.2, h213km±11km, mb3.2/2, Error ellipse: s-maj=21.1km s-min=11.8km az=19.4*

*NEIC **09** 12:04:23.7±1.1, 36°.64N×70°.80E, h205km±13km, mb4.0/2, Error ellipse: s-maj=32.4km s-min=13.4km az=123.0*
*NNC **09** 12:04:30.1±3.2, 37°.11N×71°.17E, h213km±29km, mb2.5, mpv3.6, Error ellipse: s-maj=29.2km s-min=17.4km az=6.0*

ISC 09 12:04:24.5±1.0, 36°.75N±0°.08×70°.9E±0°.2, h187km±13km, n22, σ1°.16/24, mb3.4/2, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.68**	**215**	*e*Pn	**Pn**	**12 05 08.9**	**-0.8**
KK31	**Karatay Array**	**6.36**	**357**	⇑P	**Pn**	**12 05 57.0**	**+0.9**
	0.7nm,0.3s,baz=176,slow=12,SNR=19						
KK31				⇑S	**Sn**	**12 07 07.9**	**-0.7**
	6.6nm,0.5s,baz=174,slow=21,SNR=3.6						
KKAR	**Karatay Array**	**6.36**	**357**	*e*Pn	**Pn**	**12 05 57.1**	**+1.0**
	2.5nm,0.3s						
AAK	**Ala-Archa**	**6.49**	**24**	*e*Pn	**Pn**	**12 05 59.5**	**+1.6**
	15nm,0.5s						
TKM2	**Tokmak 2**	**7.14**	**29**	⇑P	**Pn**	**12 06 07.5**	**+1.1**
	6.7nm,0.7s						
TKM2				⇑S	**Sn**	**12 07 24.4**	**-2.6**
	2.3nm,0.7s						
TKM2	**Tokmak 2**	**7.14**	**29**	*e*Pn	**Pn**	**12 06 07.5**	**+1.2**
	14nm,1.0s						
MK31	**Makanchi Array**	**13.13**	**37**	⇑P	**Pn**	**12 07 24.1**	**+0.3**
	1.6nm,0.8s,baz=215,slow=13,SNR=16						
MKAR	**Makanchi Array**	**13.13**	**37**	P	**Pn**	**12 07 23.9**	**0.0**
	0.2nm,0.3s,baz=209,slow=11,SNR=12						
MKAR	**Makanchi Array**	**13.13**	**37**	P	**Pn**	**12 07 23.9**	**0.0**
KURK	**Kurchatov**	**15.02**	**19**	P	**Pn**	**12 07 45.2**	**-2.1**
	0.1nm,0.3s,baz=209,slow=10,SNR=4.3						
KURK	**Kurchatov**	**15.02**	**19**	P	**Pn**	**12 07 45.2**	**-2.1**
VOSK	**Vostochnaya**	**15.98**	**0**	⇓P	**Pn**	**12 07 59.5**	**+0.6**
	1.1nm,0.8s						
ZRNK	**Zerenda**	**16.26**	**356**	⇑P	**Pn**	**12 08 02.7**	**+0.4**
	1.1nm,0.7s						
BVA0	**Borovoye Array**	**16.28**	**359**	⇑P	**Pn**	**12 08 00.4**	**-2.1**
	0.1nm,0.5s,baz=0.0,slow=0.1,SNR=5.8						
BVAR	**Borovoye Array**	**16.28**	**359**	P	**Pn**	**12 08 03.7**	**+1.1**
	0.4nm,0.3s,baz=167,slow=8.9,SNR=7.8						
BVAR	**Borovoye Array**	**16.28**	**359**	P	**Pn**	**12 08 03.7**	**+1.1**
ZALV	**Zalesovo Beam**	**19.72**	**25**	P	**P**	**12 08 39.2**	**-0.2**
	1.4nm,0.5s,baz=222,slow=11,SNR=9.3						
ZALV	**Zalesovo Beam**	**19.72**	**25**	P	**P**	**12 08 39.2**	**-0.2**
SONM	**Songino Array**	**28.25**	**56**	P	**P**	**12 10 00.0**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=259,slow=12,SNR=7.0						
SONM	**Songino Array**	**28.25**	**56**	P	**P**	**12 10 00.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**65.66**	**268**	P	**P**	**12 14 44.8**	**-4.2**
	0.2nm,0.4s,mb3.3,baz=48,slow=6.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**65.66**	**268**	P	**P**	**12 14 44.8**	**-4.2**

*IDC **09** 12:04:30.7±2.6, 31°.58S×176°.83W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/17, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=64.2km s-min=44.9km az=135.0*

NEIC 09 12:04:29.4±1.8, 31°.70S×176°.47W, h10km, mb4.1/2, Error ellipse: s-maj=37.4km s-min=19.4km az=107.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.40**	**217**	Pn	Pn	12 06 31.3	+0.1
	0.8nm,0.3s,baz=146,slow=22,SNR=5.7						
URZ				Sn	Sn	12 08 14.8	+8.6
	1.3nm,0.3s,baz=139,slow=19,SNR=5.0						
URZ	**Urewera**	**8.40**	**217**	Pn	Pn	12 06 31.3	+0.1
URZ				Sn	Sn	12 08 14.8	+8.6
CTA	**Charters Tower**	**35.31**	**280**	P	P	12 11 25.7	+0.8
	1.9nm,0.6s,baz=109,slow=11,SNR=5.6						
CTA	**Charters Tower**	**35.31**	**280**	P	P	12 11 25.7	+0.8
ASAR	**Alice Springs**	**44.36**	**268**	P	P	12 12 40.5	+0.3
	0.7nm,0.6s,baz=105,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**44.36**	**268**	P	P	12 12 40.5	+0.3
WB2	**Warramunga Arr**	**45.45**	**273**	*e*P	P	12 12 48.7	-0.2
WRAB	**Tennant Creek**	**45.46**	**273**	*e*P	P	12 12 48.7	-0.2
	3.1nm,1.1s						
WRA	**Warramunga Arr**	**45.47**	**273**	P	P	12 12 48.1	-0.8
	0.7nm,0.3s,baz=112,slow=8.0,SNR=17						
WRA				PcP	PcP	12 14 31.9	+4.0
	0.1nm,0.6s,baz=115,slow=3.4,SNR=2.8						
WRA	**Warramunga Arr**	**45.47**	**273**	P	P	12 12 48.1	-0.8
WRA				PcP	PcP	12 14 31.9	+4.0
FITZ	**Fitzroy Crossi**	**53.67**	**270**	*e*P	P	12 13 51.8	+0.2
	1.2nm,0.8s						
FINES	**FINESS Array B**	**146.81**	**340**	PKPbc	PKPbc	12 24 11.1	+0.1
	3.0nm,0.9s,baz=54,slow=3.3,SNR=5.8						
FINES	**FINESS Array B**	**146.81**	**340**	PKPbc	PKPbc	12 24 11.1	+0.1

*IDC **09** 12:41:05.3±1.8, 1°.19N×126°.70E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=172.1km s-min=22.2km az=66.0*
*ISCJB **09** 12:41:12.5±1.3, 1°.5N±0°.1×127°.17E±0°.08, h81km±11km, mb3.4/4, Error ellipse: s-maj=21.4km s-min=10.0km az=28.5*
*DJA **09** 12:41:13, 1°.54N×127°.12E, h45km, MLv3.8/5*

ISC 09 12:41:14.1±1.4, 1°.5N±0°.1×127°.19E±0°.09, h78km±11km, n10, σ0°.96/13, mb3.4/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.69**	**166**	P	**Pn**	**12 41 29.1**	**-0.5**
TNTI				S	**Sn**	**12 41 40.9**	**-0.2**
LBMI	**Labuha**	**2.10**	**172**	P	**Pn**	**12 41 47.1**	**-0.2**
LBMI				S	**Sn**	**12 42 14.4**	**+1.9**
MNI	**Manado**	**2.35**	**270**	P	**Pn**	**12 41 46.3**	**-4.4**
KMSI	**Cibinong**	**3.33**	**255**	P	**Pn**	**12 42 03.3**	**-0.6**
GTOI	**Gorontalo**	**4.26**	**259**	P	**Pn**	**12 42 16.1**	**-0.5**
GTOI				S	**Sn**	**12 43 04.7**	**-0.4**
LUWI	**Luwuk**	**5.07**	**241**	P	**Pn**	**12 42 29.0**	**+1.4**
WRA	**Warramunga Arr**	**22.38**	**162**	P	**P**	**12 46 04.5**	**-1.6**
	0.4nm,0.3s,mb3.2,baz=339,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**25.80**	**166**	P	**P**	**12 46 37.2**	**-0.9**
	0.3nm,0.3s,mb3.2,baz=344,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**59.69**	**326**	P	**P**	**12 51 11.5**	**+1.1**
	0.7nm,0.8s,mb3.7,baz=118,slow=7.8,SNR=4.8						
KURK	**Kurchatov**	**63.90**	**328**	P	**P**	**12 51 39.3**	**+0.7**
	0.7nm,0.7s,mb3.6,baz=129,slow=6.1,SNR=4.3						

*ISCJB **09** 12:51:28.1±2.5, 3°.0N±0°.1×125°.91E±0°.08, h6km±13km, mb3.5/4, Error ellipse: s-maj=19.9km s-min=13.2km az=1.0*
*IDC **09** 12:51:30.3±1.9, 2°.82N×125°.75E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=124.6km s-min=24.4km az=68.0*
*NEIC **09** 12:51:34.4±1.4, 2°.98N×126°.23E, h35km, mb3.6/1, Error ellipse: s-maj=86.8km s-min=19.7km az=68.0*
*DJA **09** 12:51:56, 1°.24N×127°.99E, h10km, MLv3.7/3*

ISC 09 12:51:31.1±2.7, 2°.9N±0°.1×125°.97E±0°.08, h13km±14km, n15, σ1°.16/17, mb3.5/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.86**	**217**	P	**Sn**	**12 52 46.9**	**+21**
TNTI	**Ternate**	**2.57**	**147**	P	**Pn**	**12 52 11.5**	**-0.9**
TNTI				S	**Pg**	**12 52 21.5**	**+1.2**
KMSI	**Cibinong**	**3.08**	**220**	P	**Sg**	**12 53 11.0**	**+1.0**
GTOI	**Gorontalo**	**3.74**	**232**	P	**Pg**	**12 52 40.7**	**-2.0**
LBMI	**Labuha**	**3.87**	**157**	P	**Pn**	**12 52 29.1**	**-1.2**
LBMI				S	**Pg**	**12 52 56.1**	**+11**
FITZ	**Fitzroy Crossi**	**20.91**	**181**	P	**P**	**12 56 14.2**	**+0.8**
	0.4nm,0.4s,baz=23,slow=8.0,SNR=2.2						
FITZ	**Fitzroy Crossi**	**20.91**	**181**	P	**P**	**12 56 14.2**	**+0.8**
WRAB	**Tennant Creek**	**24.18**	**160**	*e*P	**P**	**12 56 46.8**	**-0.4**
	1.5nm,0.8s,mb3.5						
WRA	**Warramunga Arr**	**24.18**	**160**	P	**P**	**12 56 46.5**	**-0.7**
	1.0nm,0.7s,mb3.4,baz=336,slow=10,SNR=9.8						
WRA	**Warramunga Arr**	**24.18**	**160**	P	**P**	**12 56 46.5**	**-0.7**
WB2	**Warramunga Arr**	**24.18**	**160**	*e*P	**P**	**12 56 46.7**	**-0.6**
ASAR	**Alice Springs**	**27.55**	**164**	P	**P**	**12 57 19.9**	**+2.1**
	0.6nm,0.4s,mb3.6,baz=347,slow=13,SNR=14						
ASAR	**Alice Springs**	**27.55**	**164**	P	**P**	**12 57 19.9**	**+2.1**
MKAR	**Makanchi Array**	**57.77**	**326**	P	**P**	**13 01 22.8**	**+0.9**
	0.2nm,0.4s,mb3.5,baz=114,slow=7.8,SNR=5.5						
MKAR	**Makanchi Array**	**57.77**	**326**	P	**P**	**13 01 22.8**	**+0.9**

*IDC **09** 12:55:24.3±1.3, 39°.12N×17°.13E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/26, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=32.9km s-min=20.6km az=87.0*
*CSEM **09** 12:55:25.9±0.2, 39°.12N×17°.08E, h5km, ML3.3, Error ellipse: s-maj=4.6km s-min=3.7km az=176.0*
*NEIC **09** 12:55:27.0, 39°.01N×17°.20E, h10km, ML3.3(ROM), After ROM.*
*ROM **09** 12:55:27.0±0.3, 39°.04N×17°.20E, h20km±3km, Md3.2/5, Ml3.3/21, Error ellipse: s-maj=4.7km s-min=2.5km az=99.0*
*ISCJB **09** 12:55:27.6±0.5, 39°.06N±0°.03×17°.19E±0°.03, h26km±5km, mb3.6/5, Error ellipse: s-maj=4.9km s-min=3.5km az=11.4*
*THE **09** 12:55:31.4, 38°.93N×17°.35E, h31km±43km, ML3.6/8, Error ellipse: s-maj=43.0km s-min=2.4km az=0.0*

ISC 09 12:55:27.1±0.5, 39°.08N±0°.03×17°.07E±0°.05, h17km±6km, n150, σ1°.17/161, mb3.6/5, 1C, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIP	**Timpagrande**	**0.26**	**292**	*e*Pg	**Pg**	**12 55 34.5**	**+1.6**
TIP				*e*Sg	**Sg**	**12 55 40.5**	**+3.7**
PIPA	**Pietrapaola**	**0.45**	**334**	Pg	**Pg**	**12 55 38.1**	**+1.9**
	6μm,0.9s						
PIPA	**Pietrapaola**	**0.45**	**334**	Pg	**Pg**	**12 55 38.1**	**+1.9**
	6μm,0.9s						
GRI	**Girifalco**	**0.57**	**243**	Pg	**Pg**	**12 55 38.8**	**+0.4**
	2μm,0.6s						
GRI	**Girifalco**	**0.57**	**243**	Pg	**Pg**	**12 55 38.8**	**+0.4**
	2μm,0.6s						
CARO	**Carolei**	**0.68**	**285**	Pg	**Pg**	**12 55 42.0**	**+1.5**
	2μm,0.5s						
CARO	**Carolei**	**0.68**	**285**	Pg	**Pg**	**12 55 42.0**	**+1.5**
	2μm,0.5s						
PLAC	**Placanica**	**0.80**	**218**	Pg	**Pg**	**12 55 43.1**	**+0.4**
	1μm,0.6s						
PLAC	**Placanica**	**0.80**	**218**	Pg	**Pg**	**12 55 43.1**	**+0.4**
	1μm,0.6s						
JOPP	**Joppolo**	**1.04**	**243**	Pg	**Pg**	**12 55 47.6**	**+0.4**
	682nm,0.8s						
JOPP	**Joppolo**	**1.04**	**243**	Pg	**Pg**	**12 55 47.6**	**+0.4**
	682nm,0.8s						
ORI	**Oriolo Calabro**	**1.09**	**334**	Pg	**Pg**	**12 55 48.8**	**+0.5**
	889nm,0.6s						
ORI	**Oriolo Calabro**	**1.09**	**334**	Pg	**Pg**	**12 55 48.8**	**+0.5**
	889nm,0.6s						
CEL	**Celeste**	**1.23**	**229**	*e*Pg	**Pg**	**12 55 50.4**	**-0.5**
CEL	**Celeste**	**1.23**	**229**	*e*Pg	**Pg**	**12 55 50.4**	**-0.5**
SOI	**Samo**	**1.28**	**219**	Pg	**Pg**	**12 55 50.9**	**-1.0**
	466nm,1.1s						
SOI	**Samo**	**1.28**	**219**	Pg	**Pg**	**12 55 50.9**	**-1.0**
	466nm,1.1s						
MSCL	**Scilla**	**1.31**	**230**	Pg	**Pg**	**12 55 51.7**	**-0.7**
MSCL	**Scilla**	**1.31**	**230**	Pg	**Pg**	**12 55 51.7**	**-0.7**
CUC	**Castrocucco**	**1.33**	**314**	*e*Pg	**Pg**	**12 55 52.7**	**-0.1**
CUC	**Castrocucco**	**1.33**	**314**	*e*Pg	**Pg**	**12 55 52.7**	**-0.1**
SCHR	**S. Chirico Rap**	**1.36**	**326**	Pg	**Pg**	**12 55 53.8**	**+0.5**
	453nm,1.4s						
SIRI	**Monte Sirino -**	**1.44**	**320**	Pg	**Pg**	**12 55 54.8**	**-0.1**
	839nm,1.5s						
SIRI	**Monte Sirino -**	**1.44**	**320**	Pg	**Pg**	**12 55 54.8**	**-0.1**
	839nm,1.5s						
TAR1	**Taranto**	**1.45**	**6**	*e*Pn	**Pn**	**12 55 51.8**	**-0.8**
SCTE	**Santa Cesarea**	**1.47**	**47**	Pg	**Pg**	**12 55 52.6**	**-2.8**
	871nm,0.8s						
SCTE	**Santa Cesarea**	**1.47**	**47**	Pg	**Pg**	**12 55 52.6**	**-2.8**
	871nm,0.8s						
MSRU	**Castanea**	**1.47**	**237**	Pg	**Pg**	**12 55 54.1**	**-1.3**
	1μm,1.0s						
MSRU	**Castanea**	**1.47**	**237**	Pg	**Pg**	**12 55 54.1**	**-1.3**
	1μm,1.0s						
MCEL	**Monticello**	**1.58**	**322**	Pg	**Pg**	**12 55 56.1**	**-1.5**
	371nm,0.9s						
MCEL	**Monticello**	**1.58**	**322**	Pg	**Pg**	**12 55 56.1**	**-1.5**
	371nm,0.9s						
PTRP	**Pietrapertosa**	**1.64**	**332**	Pg	**Pg**	**12 55 57.4**	**-1.2**
	2μm,3.8s						
PTRP	**Pietrapertosa**	**1.64**	**332**	Pg	**Pg**	**12 55 57.4**	**-1.2**
	2μm,3.8s						
BULG	**Bulgheria - Ca**	**1.65**	**308**	Pg	**Pg**	**12 55 56.4**	**-2.4**
	365nm,0.8s						
BULG	**Bulgheria - Ca**	**1.65**	**308**	Pg	**Pg**	**12 55 56.4**	**-2.4**
	365nm,0.8s						
NOCI	**Noci**	**1.71**	**360**	Pg	**Pg**	**12 55 56.4**	**-3.6**
	482nm,1.0s						
NOCI	**Noci**	**1.71**	**360**	Pg	**Pg**	**12 55 56.4**	**-3.6**
	482nm,1.0s						
PE1	**Pezze di Greco**	**1.75**	**9**	*e*Pn	**Pn**	**12 55 56.4**	**-0.2**
MMME	**Mongiuffi-Meli**	**1.83**	**232**	Pg	**Pg**	**12 55 58.8**	**-3.4**
	272nm,0.8s						
MMME	**Mongiuffi-Meli**	**1.83**	**232**	Pg	**Pg**	**12 55 58.8**	**-3.4**
	272nm,0.8s						
CMPR	**Campora**	**1.84**	**313**	Pg	**Pg**	**12 55 58.9**	**-3.6**
	163nm,0.9s						
CMPR	**Campora**	**1.84**

ITM	Ithomi	4.27	115	eP	Pn	12 56 31.0	-0.4
PYL	PYLOS	4.29	119	eP	Pn	12 56 26.2	-5.4
GUR	Goura	4.29	104	eP	Pn	12 56 33.0	+1.4
LIT	Litokhoron	4.31	75	eP	Pn	12 56 32.6	+0.7
LIT	Litokhoron	4.31	75	P	Pn	12 56 33.3	+1.4
LIT	Litokhoron	4.31	75	P	Pn	12 56 33.3	+1.4
DESF	Desfina	4.32	97	P	Pn	12 56 32.9	+0.8
DESF	Desfina	4.32	97	P	Pn	12 56 32.9	+0.8
VLX	Vlachokerasia	4.52	111	eP	Pn	12 56 37.8	+3.1
LKR	Lokris	4.65	93	eP	Pn	12 56 36.9	+0.4
LKR	Lokris	4.65	93	P	Pn	12 56 36.7	+0.2
LKR	Lokris	4.65	93	P	Pn	12 56 36.7	+0.2
ATAL	Atalanti	4.66	93	P	Pn	12 56 36.9	+0.2
ATAL	Atalanti	4.66	93	P	Pn	12 56 36.9	+0.2
SJES	Sjenica	4.72	27	eP	Pn	12 56 39.8	+2.3
LTK	Loutraki	4.74	101	eP	Pn	12 56 38.4	+0.6
VAY	Valandovo	4.77	60	eSn	Sn	12 57 30.2	-2.9
VAY	Valandovo	4.77	60	eSn	Sn	12 57 30.1	-3.0
VIL1	Vilia, Western	4.99	99	eP	Pn	12 56 41.7	+0.5
IVAS	Ivanjica	5.06	26	eP	Pn	12 56 42.8	+0.7
BBLS	Lazići	5.09	19⇑	iP	Pn	12 56 42.9	+0.2
MRKA	Markates	5.10	92	P	Pn	12 56 42.7	0.0
MRKA	Markates	5.10	92	P	Pn	12 56 42.7	0.0
BARS	Barje	5.18	42	eP	Pn	12 56 44.4	+0.5
VLI	Veliai	5.20	115	P	Pn	12 56 44.2	0.0
VLI	Veliai	5.20	115	P	Pn	12 56 44.2	0.0
VLY	Voula,Athens	5.42	101	P	Pn	12 56 47.0	-0.1
VLY	Voula,Athens	5.42	101	P	Pn	12 56 47.0	-0.1
DIVS	Divibare	5.47	23	eP	Pn	12 56 47.2	-0.6
GRUS	Gruza	5.53	28	eP	Pn	12 56 50.0	+1.4
GERES	GERESS Array B	10.06	347	Pn	Pn	12 57 50.6	-0.1
	0.1nm,0.3s,baz=158,slow=16,SNR=3.0						
GERES	GERESS Array B	10.06	347	Pn	Pn	12 57 50.6	-0.1
GERES	GERESS Array B	10.06	347	Pn	Pn	12 57 50.7	0.0
BRTR	Keskin Array B	12.84	82	Pn	Pn	12 58 30.0	+1.2
	0.0nm,0.3s,baz=310,slow=9.0,SNR=2.8						
BRTR	Keskin Array B	12.84	82	Pn	Pn	12 58 30.0	+1.2
BRTR	Keskin Array B	12.84	82	Pn	Pn	12 58 30.0	+1.2
MMAI	Mount Meron Ar	16.01	107	Pn	Pn	12 59 08.5	-3.0
	0.8nm,0.3s,baz=319,slow=12,SNR=4.0						
MMAI	Mount Meron Ar	16.01	107	Pn	Pn	12 59 08.5	-3.0
HFS	Hagfors	21.18	355	P	P	13 00 13.9	+2.5
	1.1nm,0.4s,mb3.5,baz=159,slow=12,SNR=9.2						
HFS	Hagfors	21.18	355	P	P	13 00 13.9	+2.5
HFS	Hagfors	21.18	355	P	P	13 00 13.9	+2.5
NOA	NORSAR Array B	22.29	352	P	P	13 00 22.6	-0.6
	1.4nm,0.8s,mb3.4,baz=167,slow=12,SNR=2.9						
NOA	NORSAR Array B	22.29	352	P	P	13 00 22.6	-0.6
NOA	NORSAR Array B	22.29	352	P	P	13 00 22.6	-0.6
TORD	Torodi Ar. Bea	29.19	212	P	P	13 01 28.0	+0.2
	0.1nm,0.4s,mb2.9,baz=16,slow=7.6,SNR=3.7						
TORD	Torodi Ar. Bea	29.19	212	P	P	13 01 28.1	+0.2
TORD	Torodi Ar. Bea	29.19	212	P	P	13 01 28.0	+0.2
ARCES	ARCESS Array B	30.85	6	P	P	13 01 41.3	-0.7
	2.0nm,0.8s,mb4.0,baz=186,slow=10,SNR=12						
ARCES	ARCESS Array B	30.85	6	P	P	13 01 41.3	-0.7
ARCES	ARCESS Array B	30.85	6	P	P	13 01 41.3	-0.7
MKAR	Makanchi Array	47.13	58	P	P	13 03 58.3	+0.1
	1.0nm,0.7s,mb3.8,baz=300,slow=5.5,SNR=1.9						
MKAR	Makanchi Array	47.13	58	P	P	13 03 58.3	+0.1
MKAR	Makanchi Array	47.13	58	P	P	13 03 58.3	+0.1

*ISCJB **09** 12:57:16.2±0.2,30°.23N±0°.03×67°.56E±0°.02,h10km, mb4.8/101,MS4.2/40,Error ellipse: s-maj=4.1km s-min=2.4km az=6.4*

*IDC **09** 12:57:16.6±0.6,30°.34N×67°.50E,h0km,mb4.4/31, mb1 4.5/31,mb1mx4.5/37,mbtmp4.4/31,MS4.1/22, Ms1 4.2/22,ms1mx3.9/41,Error ellipse: s-maj=15.8km s-min=11.0km az=11.0*

*NEIC **09** 12:57:18.0±0.2,30°.31N×67°.64E,h10km,mb5.2/43,Error ellipse: s-maj=6.4km s-min=3.3km az=194.0*

*MOS **09** 12:57:20.2±1.2,30°.39N×67°.65E,h33km,mb5.2/41, MS4.3/7,Error ellipse: s-maj=6.3km s-min=4.1km az=117.4*

*BJI **09** 12:57:20.6,30°.64N×67°.61E,h13km,mB4.9/33,mb4.7/42, Ms4.6/40,Ms7 4.4/37*

ISC 09 12:57:18.3±0.2,30°.28N±0°.03×67°.58E±0°.02,h10km, (h27km±2.0km:pP-P),n379,σ1§21/401,mb4.8/101, MS4.2/40,14C-11D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	Thamme Wali	4.35	54	P	Pn	12 58 25.4	+1.1
KBL	Kabul	4.42	16	ePn	Pn	12 58 26.9	+1.5
KBL	Kabul	4.42	16	eP	Pn	12 58 27.0	+1.6
SARP	Sargodha	4.66	68	P	Pn	12 58 29.2	+0.5
SARP				S	Sn	12 59 25.0	+2.2
CEP	Cherat	5.09	45	P	Pn	12 58 36.0	+1.4
CHCP	Chirah Chowk	5.88	54	P	Pn	12 58 46.9	+1.4
AJM	Ajmer	7.28	120	ePKP	Pn	12 59 05.0	+0.3
AJM				ex	x	13 00 30.0	
KHET	Khetri	7.52	105	ePKP	Pn	12 59 07.0	-0.9
KHET				eS	Sn	13 00 25.8	-7.4
BHK	Bhakra	7.68	79	ex	Pn	12 59 10.8	+0.7
BHK				ex	x	13 00 25.6	
SDNR	Sundarnagar	8.16	79	ex	Pn	12 59 20.0	+3.3
SMLA	Simla	8.29	82	i P	Pn	12 59 16.5	-2.1
SMLA				ex	x	13 00 51.5	
SMLA				i x	x	13 00 54.1	
SMLA				⇓AML	AML	13 00 57.4	
	comp=N,1μm,0.4s						
SMLA				⇓AML	AML	13 00 57.8	
	comp=E,1μm,0.3s						
AYAN	Aya Nagar	8.52	100	ePKP	Pn	12 59 20.7	-1.0
AYAN				eS	Sn	13 00 48.7	-9.1
NDI	New Delhi	8.54	98	ePKP	Pn	12 59 21.8	-0.2
NDI				ex	x	13 00 56.5	
DDI	Dehra Dun	9.05	87	ex	Pn	12 59 34.0	+5.0
DDI				ex	x	13 01 25.5	
BHV	Bhavnagar	9.43	153	ex	x	13 01 37.7	
AGRA	Agra	9.59	106	ePKP	Pn	12 59 36.5	+0.2
AGRA				ex	x	13 01 26.4	
BANOM	Banah	10.87	249	P	Pn	12 59 54.1	+0.2
	SNR=8.9						
PTH	Pithoragarh	10.99	91	ex	Pn	13 00 02.0	+6.5
PTH				ex	x	13 02 24.2	
SMDO	Samad	11.15	232	P	Pn	12 59 56.4	-1.4
	SNR=11						
BHPL	Bhopal	11.24	126	ePKP	Pn	12 59 58.9	-0.1
BHPL				ex	x	13 01 58.7	
HOQ	Hoqain	11.33	236	P	Pn	12 59 57.2	-3.0
	SNR=15						
KSH	Kashi	11.50	34	eP	Pn	12 59 57.2	-5.2
KSH				pP		13 00 03.0	
KSH				sP		13 00 06.3	
KSH				S	Sn	13 01 58.5	-12
KSH				sS		13 02 07.1	
KSH				SS		13 02 12.4	
KSH				pmax	pmax		
	comp=Z,23nm,0.7s						
KSH				LR	LR		
	comp=N,1μm,8.3s						
KSH				LR	LR		
	comp=E,2μm,7.4s						
KSH				LR	LR		
	comp=Z,2μm,12.0s						
JMDO	Jabal Madar	11.59	229	P	Pn	13 00 03.3	-0.4
	SNR=18						
ASHO	Ashiyiah	11.65	244	P	Pn	13 00 06.5	+1.9
	SNR=7.4						
BSY	Bisya	11.94	234	P	Pn	13 00 08.9	+0.2
	SNR=10						
ARQ	Araqi	12.05	238	P	Pn	13 00 10.8	+0.6
	SNR=11						
AML	Almayashu	12.81	21	P	Pn	13 00 19.3	-1.0
	SNR=106						
AML				P		13 00 19.3	
	SNR=106						
KK31	Karatay Array	13.01	10	P	Pn	13 00 21.2	-1.9
KK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KKAR	Karatay Array	13.01	10	ePn	Pn	13 00 21.5	-1.6
KKAR	Karatay Array	13.01	10	eP	Pn	13 00 21.5	-1.6
KZA	Kyzart	13.29	26	P	Pn	13 00 26.1	-0.9
	SNR=10.0						
KZA				P		13 00 26.1	
	SNR=10.0						
EKS2	Erkin-Say	13.32	20	P	Pn	13 00 26.2	-1.1
	SNR=52						
EKS2				P		13 00 26.2	
	SNR=52						
EKS2	Erkin-Say	13.32	20	ePn	Pn	13 00 26.2	-1.1
EKS2	Erkin-Say	13.32	20	eP	Pn	13 00 26.2	-1.1
AAK	Ala-Archa	13.52	22	P	Pn	13 00 29.2	-0.8
	SNR=33						
AAK				P		13 00 29.2	
	SNR=33						
AAK	Ala-Archa	13.52	22	ePn	Pn	13 00 28.8	-1.3
AAK	Ala-Archa	13.52	22	c iP	Pn	13 00 29.0	-1.0
AAK				pmax	pmax		
	comp=Z,209nm,1.6s						
AAK				MLR	MLR		
	comp=Z,3μm,30.0s						
AAK	Ala-Archa	13.52	22	P	Pn	13 00 29.1	-0.9
	SNR=39						
KBK	Karagaybulak	13.69	24	P	Pn	13 00 32.0	-0.4
	SNR=30						
KBK				P		13 00 32.0	
	SNR=30						
FRU	Bishkek	13.74	22	eP	Pn	13 00 30.0	-3.0
FRU				pmax	pmax		
	comp=Z,120nm,1.6s						
NGP	Nagpur	13.76	129	ePKP	Pn	13 00 30.7	-2.7
NGP				eS	Sn	13 03 03.4	-2.9
ULHL	Ulahol	13.82	28	P	Pn	13 00 31.7	-2.5
	SNR=7.7						
ULHL				P		13 00 31.7	
	SNR=7.7						
CHMS	Chumysh	13.93	22	P	Pn	13 00 33.1	-2.5
	SNR=23						
CHMS				P		13 00 33.1	
	SNR=23						
USP	Ospenovka	14.09	21	P	Pn	13 00 37.2	-0.6
	SNR=6.5						
USP				P		13 00 37.2	
	SNR=6.5						
TKM2	Tokmak 2	14.15	25	P	Pn	13 00 36.6	-2.1
	SNR=90						
TKM2				P		13 00 36.6	
	SNR=90						
TKM2	Tokmak 2	14.15	25	ePn	Pn	13 00 37.2	-1.5
TKM2	Tokmak 2	14.15	25	eP	Pn	13 00 37.2	-1.5
KOLN	Koldanda	14.23	96	eP	Pn	13 00 39.1	-0.8
	comp=Z,62nm,0.5s						
KOLN	Koldanda	14.23	96	eP	Pn	13 00 39.1	-0.8
	comp=Z,62nm,0.5s						
DANN	Dangsing	14.24	94	eP	Pn	13 00 39.3	-0.7
	comp=Z,133nm,0.8s						
DANN	Dangsing	14.24	94	eP	Pn	13 00 39.3	-0.7
	comp=Z,133nm,0.8s						
KAD	Karad	14.25	154	ex	Pn	13 00 40.1	-0.1
GKN	Gorkha	15.07	94	eP	Pn	13 00 48.9	-2.4
	comp=Z,90nm,0.8s						
GKN	Gorkha	15.07	94	eP	Pn	13 00 48.9	-2.4
	comp=Z,90nm,0.8s						
DMN	Daman	15.57	96	eP	Pn	13 00 56.4	-1.4
	comp=Z,61nm,0.8s						
DMN	Daman	15.57	96	eP	Pn	13 00 56.4	-1.4
	comp=Z,61nm,0.8s						
KKN	Kakani	15.68	95	eP	Pn	13 00 57.5	-1.7
	comp=Z,55nm,0.6s						
KKN	Kakani	15.68	95	eP	Pn	13 00 57.5	-1.7
	comp=Z,55nm,0.6s						
KKN	Kakani	15.68	95	eP	Pn	13 00 57.5	-1.7
KKN				pmax	pmax		
	comp=Z,55nm,0.6s						
PKI	Pulchoki	15.84	95	eP	Pn	13 00 59.8	-1.6
PKI	Pulchoki	15.84	95	eP	Pn	13 00 59.8	-1.6
PKI	Pulchoki	15.84	95	eP	Pn	13 00 59.8	-1.6
GUN	Gumba	16.17	94	eP	Pn	13 01 03.7	-1.9
GUN	Gumba	16.17	94	eP	Pn	13 01 03.7	-1.9
HYB	Hyderabad	16.25	140	i P	Pn	13 01 06.0	-0.7
JIRN	Jiri	16.49	95	eP	Pn	13 01 08.3	-1.4
	comp=Z,44nm,0.6s						
JIRN	Jiri	16.49	95	eP	Pn	13 01 08.3	-1.4
	comp=Z,44nm,0.6s						
RAMN	Ramite	17.02	97	eP	Pn	13 01 15.1	-1.4
	comp=Z,116nm,0.7s						
RAMN	Ramite	17.02	97	eP	Pn	13 01 15.1	-1.4
	comp=Z,116nm,0.7s						
KBD	Kabd	17.32	271	eP	Pn	13 01 17.4	-2.7
RDF	Al-Radifah	17.48	271	eP	Pn	13 01 19.3	-2.8
RDF				AMb	AMB	13 01 24.8	
	comp=Z,37nm,0.8s						
NAY	Al-Naaiem	17.69	272	eP	Pn	13 01 21.6	-3.3
NAY				AMb	AMB	13 01 26.5	
	comp=Z,34nm,1.4s						
ODAN	Odare	17.73	96	eP	Pn	13 01 25.8	+0.6
	comp=Z,222nm,0.9s						
ODAN	Odare	17.73	96	eP	Pn	13 01 25.8	+0.6
	comp=Z,222nm,0.9s						
TAPN	Taplejung	17.88	94	eP	Pn	13 01 25.9	-1.2
	comp=Z,47nm,0.5s						
TAPN	Taplejung	17.88	94	eP	Pn	13 01 25.9	-1.2
	comp=Z,47nm,0.5s						
AB31	Akbulak array	19.82	345	i P	Pn	13 01 48.8	-1.6
AB31				pmax	pmax		
	comp=Z,37nm,1.2s						
ABKAR	Akbulak array	19.82	345	eP	Pn	13 01 48.8	-1.7
BHD	Baghdad	19.95	285	i x	Pn	13 01 45.9	-6.2
BHD				i x	x	13 05 29.0	
BHD				i x	x	13 06 03.5	
BHD				i x	x	13 08 30.0	
BHD				i x	x	13 09 16.0	
MK31	Makanchi Array	20.05	31	eP	P	13 01 49.9	-1.5
MK31	Makanchi Array	20.05	31	i P	P	13 01 50.0	-1.4
MK31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MKAR	Makanchi Array	20.05	31	P	P	13 01 50.0	-1.4
	comp=Z,3.7nm,0.6s,baz=209,slow=9.8,SNR=44						
MKAR				LR	LR	13 10 42.4	
	comp=Z,1μm,21.1s,MS4.2,baz=218,slow=40						
MKAR	Makanchi Array	20.05	31	eP	P	13 01 50.3	-1.1
MKAR	Makanchi Array	20.05	31	eP	P	13 01 50.3	-1.1
LSA	Lhasa	20.42	86	P	P	13 01 58.9	+3.3
LSA				sS	sS	13 05 51.8	+3.0
LSA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LSA				LR	LR		
	comp=E,4μm,3.0s						
MAK	Makhachkala	20.43	314	eP	P	13 01 56.8	+1.2
MAK				i		13 02 15.7	
MAK				eS	S	13 05 43.0	-1.3
MAK				eSS		13 06 03.2	
MAK				pmax	pmax		
	comp=Z,20nm,0.3s						
MAK				MLR	MLR		
	comp=Z,497nm,11.0s,MS4.1						
RAYN	Ar Rayn	20.79	256	P	P	13 01 57.1	-2.6
	comp=Z,126nm,1.2s,SNR=13						
WMQ	Urumqi	20.91	44	P	P	13 02 03.0	+2.2
WMQ				pP		13 02 08.4	
WMQ				sP	sP	13 02 11.7	+6.8
WMQ				PP		13 02 25.2	
WMQ				S	S	13 05 49.4	-4.4
WMQ				ScP	ScP	13 09 45.9	+0.5
WMQ				pmax	pmax		
	comp=Z,56nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,360nm,3.5s						
WMQ				LR	LR		
	comp=N,750nm,14.6s,MS4.4						
WMQ				LR	LR		
	comp=E,760nm,14.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,530nm,22.0s						
GNI	Garni	21.05	304	i P	P	13 02 04.3	+2.0
GNI				MLR	MLR		
	comp=Z,261nm,17.0s						
AKTO	Aktyubinsk	21.38	343	P	P	13 02 06.4	+0.7
	comp=Z,20nm,1.0s,mb4.4,baz=152,slow=13,SNR=25						
AKTO				LR	LR	13 11 27.4	
	comp=Z,270nm,18.8s,MS3.7,baz=155,slow=40						
AKTO	Aktyubinsk	21.38	343	P	P	13 02 06.4	+0.7
AKTO	Aktyubinsk	21.38	343	P	P	13 02 05.2	-0.5
AKTO				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.0						
SHL	Shillong	21.96	96	ePKP	P	13 02 13.0	+0.7
SHL				ex	x	13 06 18.0	
KURK	Kurchatov	22.02	19	P	P	13 02 09.9	-2.8
	comp=Z,12nm,0.7s,mb4.4,baz=210,slow=9.0,SNR=20						
KURK				LR	LR	13 11 04.6	
	comp=Z,226nm,21.5s,MS3.5,baz=190,slow=38						
KURK	Kurchatov	22.02	19	eP	P	13 02 11.6	-1.0
	comp=Z,58nm,1.2s,mb4.9						
KURK	Kurchatov	22.02	19	⇓eP	P	13 02 11.9	-0.8
KURK				pmax	pmax		
	comp=Z,63nm,1.2s,mb4.9						
KURK	Kurchatov	22.02	19	P	P	13 02 15.6	+2.9
	SNR=26						
BVA0	Borovoye Array	22.82	4	i P	P	13 02 19.9	-1.2
BVA0				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.1						
BVAR	Borovoye Array	22.82	4	P	P	13 02 19.8	-1.3
	comp=Z,14nm,0.8s,mb4.4,baz=177,slow=10,SNR=42						
BVAR				LR	LR	13 12 26.9	
	comp=Z,1μm,18.0s,MS4.4,baz=190,slow=40						
BVAR	Borovoye Array	22.82	4	P	P	13 02 19.8	-1.3
BVAR	Borovoye Array	22.82	4	P	P	13 02 19.8	-1.3
BRVK	Borovoye	22.85	4	eP	P	13 02 20.6	-0.8
	comp=Z,117nm,1.5s,mb5.1						
BRVK	Borovoye	22.85	4	eP	P	13 02 20.6	-0.8
BRVK				pmax	pmax		
	comp=Z,117nm,1.5s,mb5.1						
BRVK	Borovoye	22.85	4	P	P	13 02 21.1	-0.3
	SNR=36						
TRD	Trivandrum	23.37	156⇑	ex	x	13 02 36.7	
KIV	Kislovodsk	23.98	312	eP	P	13 02 34.6	+1.8
KIV				e		13 03 03.3	
KIV				eS	S	13 06 47.9	-1.6
KIV				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.5						
KIV				MLR	MLR		
	comp=Z,131nm,14.0s,MS3.6						
KIV	Kislovodsk	23.98	312	P	P	13 02 35.5	+2.7
	SNR=7.5						
ASF	Jabal al Asfar	26.27	282	P	P	13 02 56.0	+2.3
	comp=Z,14nm,1.1s,mb4.4,baz=345,slow=5.9,SNR=8.5						
ASF				LR	LR	13 14 53.7	
	comp=Z,335nm,19.2s,MS3.9,baz=319,slow=40						
ASF	Jabal al Asfar	26.27	282	P	P	13 02 56.0	+2.3
ASF	Jabal al Asfar	26.27	282	P	P	13 02 56.0	+2.2
ZAA0	Zalesovo Array	26.74	23	eP	P	13 02 58.0	+0.2
ZALV	Zalesovo Beam	26.74	23	P	P	13 02 57.2	-0.6
	comp=Z,15nm,0.5s,mb4.8,baz=226,slow=11,SNR=59						
ZALV				PcP	PcP	13 06 21.9	+1.1
	comp=Z,1.1nm,0.6s,baz=184,slow=3.8,SNR=3.6						
ZALV				LR	LR	13 14 10.7	
	comp=Z,78nm,20.8s,MS3.2,baz=298,slow=38						
ZALV	Zalesovo Beam	26.74	23	P	P	13 02 57.2	-0.6
ZALV				PcP	PcP	13 06 21.9	+1.1
ZALV	Zalesovo Beam	26.74	23	P	P	13 02 57.2	-0.6
ZALV						13 06 21.9	
ARU	Arti	26.90	349	eP	P	13 03 00.5	+1.3
	comp=Z,36nm,1.5s,mb4.7						
ARU	Arti	26.90	349	c iP	P	13 03 00.4	+1.2
ARU				e		13 03 41.1	
ARU				S	S	13 07 36.3	+0.5
ARU				SS		13 08 38.5	
ARU				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.6						
SVE	Sverdlovsk	26.98	352⇓	eP	P	13 03 01.1	+1.2
SVE				eS	S	13 07 41.6	+4.6
SVE				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
SVE				MLR	MLR		
	comp=Z,789nm,11.0s,MS4.5						
NVS	Novosibirsk	26.99	20⇑	i P	P	13 03 00.6	+0.6
NVS				eS	S	13 07 35.8	-1.4
NVS				pmax	pmax		
	comp=N,15nm,1.8s						
NVS				pmax	pmax		
	comp=Z,34nm,1.8s,mb4.6						
NVS				pmax	pmax		
	comp=E,9.0nm,1.6s						
NVS				smax			
	comp=N,40nm,3.0s						
NVS				smax			
	comp=E,33nm,3.0s						
MMAI	Mount Meron Ar	27.48	284	LR	LR	13 15 41.9	
	comp=E,394nm,19.3s,MS4.0,baz=45,slow=40						
ANN	Anapa	27.77	310	eP	P	13 03 03.0	-4.1
ANN				e*PP	pP	13 03 13.6	+3.4
ANN				eS	S	13 07 42.1	-7.6
ANN				eSS		13 09 02.2	
ANN				pmax	pmax		
	comp=Z,78nm,1.6s,mb5.1						
GTA	Gaotai	27.86	62	eP	P	13 03 11.2	+3.2
GTA				pP	pP	13 03 18.2	+7.2
GTA				sP	sP	13 03 21.8	+10
GTA				S	S	13 07 51.5	+0.3
GTA				sS	sS	13 08 02.2	+5.9
GTA				SS		13 09 11.3	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0						
GTA				pmax	pmax		
	comp=Z,180nm,5.2s						
GTA				LR	LR		
	comp=N,930nm,18.1s						
GTA				LR	LR		
	comp=E,420nm,13.1s						
GTA				LR	LR		
	comp=Z,450nm,12.4s						
EIL	Elat	28.23	277	P	P	13 03 10.7	-0.7
	comp=Z,4.8nm,1.0s,mb4.1,baz=84,slow=10,SNR=2.2						
EIL				LR	LR	13 16 25.4	
	comp=Z,488nm,19.7s,MS4.1,baz=246,slow=41						
EIL	Elat	28.23	277	P	P	13 03 10.7	-0.7
HVS	Khovu-Aksy	28.48	36	i P	P	13 03 15.5	+2.1
HVS				pmax	pmax		
	comp=Z,27nm,1.7s,mb4.6						
HVS				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.9						
BRTR	Keskin Array B	29.21	298	P	P	13 03 18.6	-1.4
	comp=Z,1.5nm,1.1s,baz=120,slow=7.3,SNR=4.7						
BRTR	Keskin Array B	29.21	298	P	P	13 03 18.6	-1.4
BRTR	Keskin Array B	29.21	298	P	P	13 03 18.7	-1.4
ATD	Arta Tunnel	29.58	236	LR	LR	13 16 54.0	
	comp=Z,206nm,21.1s,MS3.7,baz=62,slow=40						
SOKR	Solikamsk	30.19	349	⇑iP	P	13 03 30.3	+1.9
SOKR				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
CHTO	Chiang Mai	30.62	105	eP	P	13 03 32.1	-0.6
	comp=Z,9.3nm,0.7s,mb4.7						
CHTO	Chiang Mai	30.62	105	eP	P	13 03 32.1	-0.6
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
LZH	Lanzhou	30.77	69	eP	P	13 03 36.3	+2.4
LZH				pP	pP	13 03 45.9	+8.9
LZH				sP	sP	13 03 51.2	+13
LZH				PP	PP	13 04 38.1	-5.2
LZH				eS	S	13 08 39.7	+2.6
LZH				sS	sS	13 08 51.4	+9.2
LZH				SS	SS	13 10 16.3	-32
LZH				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.0						
LZH				pmax	pmax		
	comp=Z,140nm,4.2s						
LZH				LR	LR		
	comp=N,130nm,9.0s						
LZH				LR	LR		
	comp=E,590nm,13.8s						
LZH				LR	LR		
	comp=Z,650nm,14.4s,MS4.4						
LZH	Lanzhou	30.77	69	eP	P	13 03 36.3	+2.4
	comp=Z,28nm,1.2s,mb5.0						
LZH				pP	pP	13 03 45.9	+8.9
LZH				sP	sP	13 03 51.2	+13
LZH				PP	PP	13 04 38.1	-5.2
LZH				eS	S	13 08 39.7	+2.6
LZH				sS	sS	13 08 51.4	+9.2
LZH

comp=Z,272nm,21.4s,MS3.9,baz=281,slow=41
CMAR Chiang Mai Arr 30.79 105 P P 13 03 34.8 +0.5
CMAR PcP PcP 13 06 33.8 +2.2
CMAR Chiang Mai Arr 30.79 105 P P 13 03 34.8 +0.6
CMAR 13 06 33.8
CD2 Chengdu 31.06 79 *eP* **P 13 03 39.4 +2.9**
CD2 pP pP 13 03 46.6 +7.0
CD2 sP sP 13 03 50.2 +9.4
CD2 PP PP 13 04 41.8 -4.8
CD2 S **S 13 08 41.8 0.0**
CD2 sS sS 13 08 53.6 +6.8
CD2 SS SS 13 10 26.1 -28
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CD2 pmax pmax
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,810nm,13.2s
CD2 LR LR
comp=Z,670nm,12.0s,MS4.5
KMI Kunming 31.47 91 P **P 13 03 44.3 +4.2**
KMI pP pP 13 03 51.0 +7.8
KMI sP sP 13 03 54.0 +10
KMI PP PP 13 04 47.3 -3.8
KMI S **S 13 08 49.5 +1.3**
KMI sS sS 13 09 02.9 +10
KMI SS SS 13 10 37.4 -25
KMI pmax pmax
comp=Z,12nm,0.9s,mb4.7
KMI pmax pmax
comp=Z,180nm,4.9s
KMI LR LR
comp=N,310nm,17.1s,MS4.2
KMI LR LR
comp=E,320nm,16.3s,MS4.2
KMI LR LR
comp=Z,350nm,14.5s,MS4.2
KMI Kunming 31.47 91 P **P 13 03 44.3 +4.2**
comp=Z,12nm,0.9s,mb4.7
KMI pP pP 13 03 51.0 +7.8
KMI sP sP 13 03 54.0 +10
KMI PP PP 13 04 47.3 -3.8
KMI S **S 13 08 49.5 +1.3**
KMI sS sS 13 09 02.9 +10
KMI SS SS 13 10 37.4 -25
KMI LR LR
comp=Z,350nm,14.5s,MS4.2
KMI Kunming 31.47 91 P **P 13 03 44.3 +4.2**
KMI *SP sP 13 03 54.0 +10
KMI 13 04 47.3
KMI S **S 13 08 49.5 +1.3**
KMI *SS sS 13 09 02.9 +10
KMI SS SS 13 10 37.4 -25
KMI pmax pmax
comp=Z,12nm,0.9s,mb4.7
KMI MLR MLR
comp=Z,350nm,14.5s,MS4.2
MOS Moscow 33.11 329 *eP* **P 13 03 52.6 -1.6**
MOS pmax pmax
comp=Z,61nm,1.4s,mb5.3
OBN Obninsk 33.22 327⇑ *eP* **P 13 03 55.7 +0.6**
OBN *e* 13 05 01.6
OBN *eS* **S 13 09 10.0 -4.8**
OBN pmax pmax
comp=Z,31nm,1.2s,mb5.1
ZAK Zakamensk 33.37 43 *eP* **P 13 03 57.5 +1.0**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
TLY Talaya 34.11 41 *i P* **P 13 04 06.1 +3.2**
TLY pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
SONM Songino Array 34.42 48 P **P 13 04 05.6 -0.2**
comp=Z,0.4nm,0.4s,mb3.7,baz=231,slow=9.4,SNR=7.9
SONM LR LR 13 20 05.9
comp=Z,373nm,18.2s,MS4.2,baz=201,slow=40
SONM Songino Array 34.42 48 P **P 13 04 05.6 -0.2**
SONM Songino Array 34.42 48 P **P 13 04 05.6 -0.1**
GYA Guiyang 34.48 87 P **P 13 04 09.5 +3.0**
GYA pP pP 13 04 17.2 +7.6
GYA PP PP 13 05 25.6 +1.0
GYA PcP PcP 13 06 44.3 +2.6
GYA S **S 13 09 35.0 -0.1**
GYA ScP ScP 13 10 25.6 -1.4
GYA SS SS 13 11 46.3 -18
GYA pmax pmax
comp=Z,20nm,0.8s,mb5.1
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,510nm,17.9s,MS4.4
GYA LR LR
comp=E,480nm,18.1s,MS4.4
GYA LR LR
comp=Z,470nm,17.9s,MS4.3
XAN Xi'an 35.03 73 P **P 13 04 12.5 +1.4**
XAN pP pP 13 04 19.1 +4.9
XAN pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
XAN LR LR
comp=N,510nm,21.1s
XAN LR LR
comp=Z,180nm,21.1s,MS3.8
AKASG Malin Array Be 35.06 317 P **P 13 04 11.1 -0.1**
comp=Z,5.5nm,0.8s,mb4.5,baz=100,slow=7.4,SNR=17
AKASG Malin Array Be 35.06 317 P **P 13 04 11.1 -0.1**
AKASG Malin Array Be 35.06 317 P **P 13 04 11.1 -0.1**
KIEV Kiev 35.07 317 *eP* **P 13 04 11.5 +0.2**
comp=Z,16nm,1.1s,mb4.8
KIEV Kiev 35.07 317 *eP* **P 13 04 11.5 +0.3**
KIEV pmax pmax
comp=Z,15nm,1.1s,mb4.8
MLR Muntele Rosu 35.77 307 P **P 13 04 18.2 +0.9**
comp=Z,6.3nm,1.2s,mb4.4,baz=67,slow=5.8,SNR=12
MLR Muntele Rosu 35.77 307 P **P 13 04 18.2 +0.9**
MLR Muntele Rosu 35.77 307 P **P 13 04 18.2 +0.8**
BUR08 Bucovina Ar. S 36.71 310 *eP* **P 13 04 25.1 -0.2**
HHC Hu-ho-hao-te 36.96 61 *eP* **P 13 04 28.6 +1.0**
HHC sP sP 13 04 38.9 +7.0
HHC PP PP 13 05 53.7 +2.0
HHC PcP PcP 13 06 51.4 +2.7
HHC S **S 13 10 11.2 -1.5**
HHC sS sS 13 10 23.4 +5.6
HHC ScP ScP 13 10 35.4 -0.3
HHC PcS PcS 13 10 38.2 +1.4
HHC SS SS 13 12 39.1 -15
HHC ScS ScS 13 14 39.6 -3.3
HHC pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
HHC pmax pmax
comp=Z,140nm,5.5s
HHC LR LR
comp=N,320nm,14.0s,MS4.4
HHC LR LR
comp=E,270nm,13.4s,MS4.4
HHC LR LR
comp=Z,350nm,13.4s,MS4.3
LVV L'vov 37.97 313 *eP* **P 13 04 34.7 -1.3**
UZH Uzhgorod 38.82 311⇓ *iP* **P 13 04 44.2 +1.0**
UZH *e* 13 04 53.7
KOLS Kolonicke sedl 38.89 312 *eP* **P 13 04 44.3 +0.5**
KOLS pmax pmax
comp=Z,14nm,1.3s,mb4.5
KOLS Kolonicke sedl 38.89 312 *eP* **P 13 04 44.3 +0.5**
CRVS Cervenica-Dubn 39.41 311 *eP* **P 13 04 49.6 +1.5**
CRVS pmax pmax
comp=Z,21nm,1.3s,mb4.7
CRVS Cervenica-Dubn 39.41 311 *eP* **P 13 04 49.6 +1.5**
STHS Stebnicka Huta 39.65 312 *eP* **P 13 04 50.9 +0.8**
STHS Stebnicka Huta 39.65 312 *eP* **P 13 04 50.9 +0.8**
QIZ Qiongzhong 39.80 96 P **P 13 04 53.8 +2.1**
QIZ S **S 13 10 57.5 +1.4**
QIZ pmax pmax
comp=Z,20nm,2.1s,mb4.5
QIZ pmax pmax
comp=Z,180nm,5.5s
QIZ LR LR
comp=Z,430nm,16.8s,MS4.4
KULM Kulim 39.84 122 *eP* **P 13 04 52.3 +0.2**
comp=Z,5.9nm,0.6s,mb4.5
KECS Kecovo 39.97 311 *eP* **P 13 04 55.0 +2.2**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
KECS Kecovo 39.97 311 *eP* **P 13 04 55.0 +2.2**
WHN Wuhan 40.10 77 P **P 13 04 57.7 +3.6**
WHN S **S 13 11 01.1 +0.6**
WHN LR LR
comp=Z,880nm,14.4s,MS4.8
NIE Niedzica 40.25 312 *eP* **P 13 04 54.8 -0.3**
NIE Niedzica 40.25 312 *eP* **P 13 04 54.8 -0.3**
PSZ Piszkesteto 40.28 310 *eP* **P 13 04 55.8 +0.5**
comp=Z,40nm,1.2s,mb5.0
PSZ Piszkesteto 40.28 310 *eP* **P 13 04 55.8 +0.5**
PSZ pmax pmax
comp=Z,40nm,1.2s,mb5.0
PSZ Piszkesteto 40.28 310⇓ *eP* **P 13 04 55.8 +0.5**
BJI Beijing 40.47 63 P **P 13 04 57.6 +0.5**
BJI S **S 13 11 04.6 -1.1**
BJI pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
BJI pmax pmax
comp=Z,96nm,5.0s
BJI LR LR
comp=N,410nm,20.8s,MS4.4
BJI LR LR
comp=E,290nm,18.6s,MS4.4
BJI LR LR
comp=Z,190nm,22.0s,MS3.9
FINES FINESS Array B 41.30 331 P **P 13 05 03.7 +0.1**
comp=Z,8.4nm,1.0s,mb4.3,baz=96,slow=3.8,SNR=5.4
FINES LR LR 13 24 43.0
comp=Z,421nm,18.8s,MS4.3,baz=138,slow=40
FINES FINESS Array B 41.30 331 P **P 13 05 03.7 +0.1**
FINES FINESS Array B 41.30 331 P **P 13 05 03.7 +0.1**
OKC Ostrava-Krasne 41.71 312 *eP* **P 13 05 08.6 +1.5**
OKC Ostrava-Krasne 41.71 312 *eP* **P 13 05 08.6 +1.5**
BOD Bodaibo 42.02 35 *eP* **P 13 05 10.7 +1.2**
BOD pmax pmax
comp=Z,9.0nm,1.2s,mb4.3
MORC Moravsky Berou 42.09 312 *eP* **P 13 05 10.0 -0.2**
comp=Z,14nm,1.3s,mb4.4
MORC Moravsky Berou 42.09 312 *eP* **P 13 05 10.0 -0.2**
MORC pmax pmax
comp=Z,14nm,1.3s,mb4.4
ZST Bratislava 42.17 310 *eP* **P 13 05 11.8 +0.9**
ZST pmax pmax
comp=Z,27nm,1.3s,mb4.7
ZST Bratislava 42.17 310 *eP* **P 13 05 11.8 +0.9**
APA Apatity 42.45 341⇓ *eP* **P 13 05 13.0 +0.1**
APA MLR MLR
comp=Z,1μm,20.0s,MS4.8
VRAC Vranov 42.63 311 P **P 13 05 12.0 -2.7**
comp=Z,2.6nm,0.5s,mb4.2,baz=155,slow=6.8,SNR=2.4
VRAC Vranov 42.63 311 P **P 13 05 12.0 -2.7**
VRAC Vranov 42.63 311 P **P 13 05 12.0 -2.7**
DPC Dobruska-Polom 42.95 313 *eP* **P 13 05 18.1 +0.9**
comp=Z,27nm,1.3s,mb4.8
DPC Dobruska-Polom 42.95 313 *eP* **P 13 05 18.1 +0.9**
DPC pmax pmax
comp=Z,27nm,1.3s,mb4.8
DPC Dobruska-Polom 42.95 313 *eP* **P 13 05 18.5 +1.3**
KSP Ksiaz 43.03 314 *eP* **P 13 05 18.5 +0.6**
KSP Ksiaz 43.03 314 *eP* **P 13 05 18.5 +0.6**
ARSA Arzberg 43.15 308⇑ *iP* **P 13 05 18.8 0.0**
comp=Z,27nm,1.6s,mb4.7
UPC Upice 43.16 313 *eP* **P 13 05 20.3 +1.4**
UPC Upice 43.16 313 *eP* **P 13 05 20.3 +1.4**
BOJS Bojanci 43.25 306 *i P* **P 13 05 18.5 -1.2**
TREC Trest 43.35 311 *eP* **P 13 05 20.9 +0.4**
TREC Trest 43.35 311 *eP* **P 13 05 20.9 +0.4**
SOKA Soboth 43.45 307⇑ *iP* **P 13 05 21.4 +0.1**
comp=Z,15nm,1.3s,mb4.6
CEY Cerknica 43.83 306 *i P* **P 13 05 23.7 -0.7**
MOA Molln 44.04 309⇑ *iP* **P 13 05 25.3 -0.7**
comp=Z,22nm,1.5s,mb4.7
SKDS Skadanscina 44.12 306 *i P* **P 13 05 26.9 +0.2**
CADS Cadrg 44.33 307 *i P* **P 13 05 27.2 -1.1**
GERES GERESS Array B 44.48 310 P **P 13 05 29.0 -0.6**
comp=Z,1.1nm,0.7s,mb3.7,baz=106,slow=9.8,SNR=12
GERES GERESS Array B 44.48 310 P **P 13 05 29.0 -0.6**
GERES GERESS Array B 44.48 310 P **P 13 05 29.0 -0.6**
BRG Berggiesshubel 44.52 313 *eP* **P 13 05 31.1 +1.3**
comp=Z,48nm,2.1s,mb5.0
BRG Berggiesshubel 44.52 313 *eP* **P 13 05 31.1 +1.3**
BRG pmax pmax
comp=Z,48nm,2.1s,mb5.0
KHC Kasperske Hory 44.58 311 *eP* **P 13 05 31.1 +0.7**
KHC Kasperske Hory 44.58 311 *eP* **P 13 05 31.1 +0.7**
KBA Koelnbreinsper 44.62 308⇓ *iP* **P 13 05 31.5 +0.8**
comp=Z,18nm,1.0s,mb4.9,SNR=7.6
CLL Collm 45.15 314 *eP* **P 13 05 36.0 +1.1**
CLL Collm 45.15 314 *eP* **P 13 05 36.0 +1.1**
CLL *e* 13 05 57.0
CLL LmH 13 27 00.0
comp=N,300nm,18.6s
CLL LmH 13 27 00.0
comp=E,200nm,18.9s
ABTA Abfaltersbach 45.18 307⇓ *iP* **P 13 05 34.4 -0.8**
comp=E,22nm,1.3s,mb4.8
WTTA Wattenberg 45.79 308⇓ *iP* **P 13 05 38.6 -1.4**
comp=E,27nm,1.2s,mb5.0
ARCES ARCESS Array B 45.94 341 P **P 13 05 38.8 -2.0**
comp=E,4.4nm,0.8s,mb4.5,baz=121,slow=4.7,SNR=17
ARCES LR LR 13 26 51.2
comp=E,217nm,19.0s,MS4.1,baz=317,slow=39
ARCES ARCESS Array B 45.94 341 P **P 13 05 38.8 -2.0**
ARCES ARCESS Array B 45.94 341 P **P 13 05 38.8 -2.0**
FETA Feichten 46.41 308⇑ *iP* **P 13 05 43.1 -1.8**
comp=E,27nm,1.1s,mb5.1,SNR=9.1
HFS Hagfors 46.41 326 P **P 13 05 44.7 0.0**
comp=E,12nm,1.1s,mb4.8,baz=58,slow=5.6,SNR=6.9
HFS Hagfors 46.41 326 P **P 13 05 44.7 0.0**
HFS Hagfors 46.41 326 P **P 13 05 44.7 0.0**
DAVA Damuels 46.99 308⇓ *iP* **P 13 05 47.8 -1.6**
comp=E,35nm,1.3s,mb5.1,SNR=6.2
DAVOX Davos/Dischmat 46.99 307 P **P 13 05 49.7 +0.2**
comp=E,16nm,1.3s,mb4.8,baz=104,slow=4.2,SNR=6.8
DAVOX Davos/Dischmat 46.99 307 P **P 13 05 49.7 +0.2**
DAVOX Davos/Dischmat 46.99 307 P **P 13 05 49.7 +0.2**
CN2 Changchun 47.22 57 *eP* **P 13 05 53.1 +1.8**
CN2 *ep*P pP 13 06 00.7 +6.3
CN2 *eS* **S 13 12 42.3 -1.8**
CN2 SS SS 13 16 02.2 -9.0
CN2 pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,11.0s,MS4.6
CN2 LR LR
comp=E,200nm,11.0s,MS4.6
CN2 LR LR
comp=Z,200nm,14.0s,MS4.2
NB2 NORSAR Subarra 47.82 327 P **P 13 05 51.7 -4.0**
comp=Z,20nm,1.4s,mb5.0,baz=103,slow=7.9
NOA NORSAR Array B 47.82 327 P **P 13 05 55.1 -0.5**
comp=Z,6.9nm,1.0s,mb4.6,baz=104,slow=7.8,SNR=5.7
NOA LR LR 13 28 34.2
comp=Z,246nm,18.4s,MS4.2,baz=265,slow=39
NOA NORSAR Array B 47.82 327 P **P 13 05 55.1 -0.5**
NOA NORSAR Array B 47.82 327 P **P 13 05 55.2 -0.5**
PGF Pioggiola 47.84 302 *eP* **P 13 05 55.3 -0.8**
comp=Z,88nm,1.4s,mb5.3
PGF Pioggiola 47.84 302 *eP* **P 13 05 55.3 -0.8**
comp=Z,88nm,1.4s,mb5.6
PGF Pioggiola 47.84 302 *eP* **P 13 05 55.3 -0.8**
PGF pmax pmax
comp=Z,88nm,1.4s,mb5.6
KEST Kesra 48.53 293 P **P 13 06 01.4 -0.2**
comp=Z,2.4nm,0.8s,mb4.3,baz=119,slow=2.9,SNR=5.2
KEST Kesra 48.53 293 P **P 13 06 01.4 -0.2**
CDF Champ du Feu 48.73 310 *eP* **P 13 06 02.3 -0.6**
CDF Champ du Feu 48.73 310 *eP* **P 13 06 02.3 -0.6**
CDF Champ du Feu 48.73 310 *eP* **P 13 06 02.3 -0.6**
SENIN Lac Senin/Sane 48.79 307 *eP* **P 13 06 03.5 +0.1**
comp=Z,13nm,1.0s,mb4.9
SBF Sospel 48.86 304 *eP* **P 13 06 03.8 -0.2**
comp=Z,77nm,1.0s,mb5.4
SBF Sospel 48.86 304 *eP* **P 13 06 03.8 -0.2**
comp=Z,77nm,1.0s,mb5.7
SBF Sospel 48.86 304 *eP* **P 13 06 03.8 -0.2**
SBF pmax pmax
comp=Z,77nm,1.0s,mb5.7
LPG La Plagne 49.22 306 *eP* **P 13 06 06.8 +0.1**
comp=Z,41nm,1.1s,mb5.1
LPG La Plagne 49.22 306 *eP* **P 13 06 06.8 +0.1**
comp=Z,41nm,1.1s,mb5.4
LPG La Plagne 49.22 306 *eP* **P 13 06 06.8 +0.1**
LPG pmax pmax
comp=Z,41nm,1.1s,mb5.4
LPL La Plagne 49.23 306 *eP* **P 13 06 06.8 0.0**
comp=Z,61nm,1.3s,mb5.2
LPL La Plagne 49.23 306 *eP* **P 13 06 06.8 0.0**
comp=Z,61nm,1.3s,mb5.5
LPL La Plagne 49.23 306 *eP* **P 13 06 06.8 0.0**
LPL pmax pmax
comp=Z,61nm,1.3s,mb5.5
MBDF Montbardon 49.27 305 *eP* **P 13 06 06.6 -0.5**
comp=Z,47nm,1.1s,mb5.1
MBDF Montbardon 49.27 305 *eP* **P 13 06 06.6 -0.5**
comp=Z,47nm,1.1s,mb5.4
MBDF Montbardon 49.27 305 *eP* **P 13 06 06.6 -0.5**
MBDF pmax pmax
comp=Z,47nm,1.1s,mb5.4
BNI Bardonecchia 49.30 305 *eP* **P 13 06 08.0 +0.7**
comp=Z,29nm,1.4s,mb5.1
BNI Bardonecchia 49.30 305 *eP* **P 13 06 08.0 +0.6**
BNI pmax pmax
comp=Z,29nm,1.4s,mb5.1
HAU Haudompre 49.36 309 *eP* **P 13 06 07.6 -0.1**
HAU *eR*
comp=Z,136nm,20.8s
HAU Haudompre 49.36 309 *eP* **P 13 06 07.6 -0.1**
HAU Haudompre 49.36 309 *eP* **P 13 06 07.6 -0.1**
CABF La Chapelle 49.61 307 *eP* **P 13 06 10.2 +0.6**
comp=Z,104nm,1.3s,mb5.4
CABF La Chapelle 49.61 307 *eP* **P 13 06 10.2 +0.6**
comp=Z,104nm,1.3s,mb5.7
CABF La Chapelle 49.61 307 *eP* **P 13 06 10.2 +0.6**
CABF pmax pmax
comp=Z,104nm,1.3s,mb5.7
PAGF Fort de Pagny 49.76 310 *eP* **P 13 06 10.5 -0.2**
KSAR Wonju Array Be 49.85 65 P **P 13 06 12.4 +0.8**
KSAR Wonju Array Be 49.85 65 P **P 13 06 12.4 +0.8**
KSRS Korea Array 49.87 65 P **P 13 06 12.4 +0.6**
comp=Z,2.9nm,0.9s,mb4.3,baz=267,slow=7.7,SNR=7.3
KSRS LR LR 13 27 35.1
comp=Z,189nm,18.1s,MS4.1,baz=138,slow=36
KSRS Korea Array 49.87 65 P **P 13 06 12.4 +0.6**
KSRS pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KSRS MLR MLR
comp=Z,189nm,18.1s,MS4.1
MDJ Mudanjiang 50.12 55 P **P 13 06 16.0 +2.4**
MDJ pP pP 13 06 22.0 +5.2
MDJ sP sP 13 06 25.0 +7.0
MDJ PP PP 13 08 11.1 +2.5
MDJ S **S 13 13 24.8 -0.3**
MDJ pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MDJ pmax pmax
comp=Z,62nm,3.5s
MDJ LR LR
comp=N,180nm,16.1s,MS4.6
MDJ LR LR
comp=E,430nm,16.5s,MS4.6
MDJ LR LR
comp=Z,330nm,16.5s,MS4.4
SFTF Sexfontaines 50.23 309 *eP* **P 13 06 14.6 +0.3**
SFTF Sexfontaines 50.23 309 *eP* **P 13 06 14.6 +0.3**
GIVF Givet 50.30 312 *eP* **P 13 06 15.7 +0.9**
GIVF Givet 50.30 312 *eP* **P 13 06 15.7 +0.9**
GIVF Givet 50.30 312 *eP* **P 13 06 15.7 +0.9**
BAIF Baives 50.70 312 *eP* **P 13 06 18.7 +0.9**
BAIF Baives 50.70 312 *eP* **P 13 06 18.7 +0.9**
BAIF Baives 50.70 312 *eP* **P 13 06 18.7 +0.9**
YAK Yakutsk 50.71 33 *eP* **P 13 06 18.5 +0.8**
comp=Z,130nm,1.8s,mb5.6
YAK Yakutsk 50.71 33 *eP* **P 13 06 17.7 0.0**
YAK pmax pmax
comp=Z,28nm,1.2s,mb5.1
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,21nm,1.1s
VIVF Saint-Julien-l 50.74 305 *eP* **P 13 06 18.0 -0.3**
comp=E,105nm,1.4s,mb5.3
VIVF Saint-Julien-l 50.74 305 *eP* **P 13 06 18.0 -0.3**
comp=E,105nm,1.4s,mb5.6
VIVF Saint-Julien-l 50.74 305 *eP* **P 13 06 18.0 -0.3**
VIVF pmax pmax
comp=Z,105nm,1.4s,mb5.6
LOR Lormes 51.09 308 *eP* **P 13 06 20.6 -0.2**
comp=Z,25nm,1.1s,mb4.8
LOR *eR*
comp=Z,195nm,17.8s
LOR Lormes 51.09 308 *eP* **P 13 06 20.6 -0.2**
comp=Z,25nm,1.1s,mb5.0
LOR Lormes 51.09 308 *eP* **P 13 06 20.6 -0.2**
LOR pmax pmax
comp=Z,25nm,1.1s,mb5.1
SMF Signal de Mont 51.15 307 *eP* **P 13 06 21.4 +0.1**
comp=Z,66nm,1.2s,mb5.2
SMF Signal de Mont 51.15 307 *eP* **P 13 06 21.4 +0.1**
comp=Z,66nm,1.2s,mb5.4
SMF Signal de Mont 51.15 307 *eP* **P 13 06 21.4 +0.1**
SMF pmax pmax
comp=Z,66nm,1.2s,mb5.4
SSF Saint Saulge 51.34 308 *eP* **P 13 06 22.7 -0.1**
comp=Z,48nm,1.2s,mb5.0
SSF Saint Saulge 51.34 308 *eP* **P 13 06 22.7 -0.1**
comp=Z,48nm,1.2s,mb5.3
SSF Saint Saulge 51.34 308 *eP* **P 13 06 22.7 -0.1**
SSF pmax pmax
comp=Z,48nm,1.2s,mb5.3
LASF Ste Croix 51.41 304 *eP* **P 13 06 23.4 +0.1**
comp=Z,240nm,1.7s,mb5.6
LASF Ste Croix 51.41 304 *eP* **P 13 06 23.4 +0.1**
comp=Z,240nm,1.7s,mb5.8
AVF Avril sur Loir 51.47 308 *eP* **P 13 06 24.6 +0.9**
comp=Z,23nm,1.0s,mb4.8
AVF Avril sur Loir 51.47 308 *eP* **P 13 06 24.6 +0.9**
comp=Z,23nm,1.0s,mb5.1
AVF Avril sur Loir 51.47 308 *eP* **P 13 06 24.6 +0.9**
AVF pmax pmax
comp=Z,23nm,1.0s,mb5.1
BGF Bois d'Agland 51.84 307 *eP* **P 13 06 26.5 0.0**
comp=Z,59nm,1.4s,mb5.0
BGF Bois d'Agland 51.84 307 *eP* **P 13 06 26.5 0.0**
comp=Z,59nm,1.4s,mb5.3
BGF Bois d'Agland 51.84 307 *eP* **P 13 06 26.5 0.0**
BGF pmax pmax
comp=Z,59nm,1.4s,mb5.3
TCF Toulx Ste Croi 52.31 307 *eP* **P 13 06 30.3 +0.3**
comp=Z,34nm,1.1s,mb4.9
TCF Toulx Ste Croi 52.31 307 *eP* **P 13 06 30.3 +0.3**
comp=Z,34nm,1.0s,mb5.2
TCF Toulx Ste Croi 52.31 307 *eP* **P 13 06 30.3 +0.3**
TCF pmax pmax
comp=Z,34nm,1.0s,mb5.2
CAF Calviac 52.57 305 *eP* **P 13 06 32.3 +0.3**
comp=Z,114nm,1.3s,mb5.3
CAF Calviac 52.57 305 *eP* **P 13 06 32.3 +0.3**
comp=Z,114nm,1.3s,mb5.6
CAF Calviac 52.57 305 *eP* **P 13 06 32.3 +0.3**
CAF pmax pmax
comp=Z,114nm,1.3s,mb5.6
MTLF Montolieu 52.69 304 *eP* **P 13 06 32.8 0.0**
comp=Z,114nm,1.6s,mb5.3
MTLF Montolieu 52.69 304 *eP* **P 13 06 32.8 0.0**
comp=Z,114nm,1.6s,mb5.5
MTLF Montolieu 52.69 304 *eP* **P 13 06 32.8 0.0**
MTLF pmax pmax
comp=Z,114nm,1.6s,mb5.5
JOW Kunigami 52.87 78 P **P 13 06 35.1 +0.6**
comp=Z,21nm,0.9s,mb5.1,baz=45,slow=1.4,SNR=3.9
JOW LR LR 13 31 52.3
comp=Z,276nm,21.0s,MS4.3,baz=343,slow=39
JOW Kunigami 52.87 78 P **P 13 06 35.1 +0.7**
RJF Les Rejaudoux 52.91 306 *eP* **P 13 06 35.0 +0.6**
RJF *eR*
comp=Z,105nm,18.2s
RJF Les Rejaudoux 52.91 306 *eP* **P 13 06 35.0 +0.6**
RJF Les Rejaudoux 52.91 306 *eP* **P 13 06 35.0 +0.6**
LFF La Frestale 53.50 306 *eP* **P 13 06 39.1 +0.3**
LFF La Frestale 53.50 306 *eP* **P 13 06 39.1 +0.3**
LFF La Frestale 53.50 306 *eP* **P 13 06 39.1 +0.3**
LDF La Druitiere 53.63 310 *eP* **P 13 06 39.2 -0.5**
LDF La Druitiere 53.63 310 *eP* **P 13 06 39.2 -0.5**
LDF La Druitiere 53.63 310 *eP* **P 13 06 39.2 -0.5**
MFF Saint Martin d 53.88 308 *eP* **P 13 06 41.4 -0.2**
MFF Saint Martin d 53.88 308 *eP* **P 13 06 41.4 -0.2**
MFF Saint Martin d 53.88 308 *eP* **P 13 06 41.4 -0.2**
GRR Gorron 54.14 310 *eP* **P 13 06 44.2 +0.8**
GRR Gorron 54.14 310 *eP* **P 13 06 44.2 +0.8**
GRR Gorron 54.14 310 *eP* **P 13 06 44.2 +0.8**

ETSF	**Etsaut**	**54.77**	**303**	*e*P	**P**	**13 06 48.4**	**+0.3**
	comp=Z,60nm,1.1s,mb5.2						
ETSF	**Etsaut**	**54.77**	**303**	*e*P	**P**	**13 06 48.4**	**+0.3**
	comp=Z,60nm,1.1s,mb5.5						
ETSF	**Etsaut**	**54.77**	**303**	*e*P	**P**	**13 06 48.4**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.5						
SJPF	**Ste Jean**	**55.21**	**304**	*e*P	**P**	**13 06 51.5**	**+0.3**
	comp=Z,16nm,0.9s,mb4.8						
SJPF	**Ste Jean**	**55.21**	**304**	*e*P	**P**	**13 06 51.5**	**+0.3**
	comp=Z,16nm,0.9s,mb5.1						
SJPF	**Ste Jean**	**55.21**	**304**	*e*P	**P**	**13 06 51.5**	**+0.3**
SJPF				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SGMF	**Saint Gilles**	**55.28**	**310**	*e*P	**P**	**13 06 51.9**	**+0.2**
	comp=Z,177nm,1.4s,mb5.6						
SGMF	**Saint Gilles**	**55.28**	**310**	*e*P	**P**	**13 06 51.9**	**+0.2**
	comp=Z,177nm,1.4s,mb5.9						
SGMF	**Saint Gilles**	**55.28**	**310**	*e*P	**P**	**13 06 51.9**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,177nm,1.4s,mb5.9						
QUIF	**Quistinic**	**55.73**	**310**	*e*P	**P**	**13 06 54.2**	**-0.7**
QUIF	**Quistinic**	**55.73**	**310**	*e*P	**P**	**13 06 54.2**	**-0.7**
QUIF	**Quistinic**	**55.73**	**310**	*e*P	**P**	**13 06 54.2**	**-0.7**
ESDC	**Sonseca Array**	**57.97**	**300**	P	**P**	**13 07 09.9**	**-1.1**
	comp=Z,7.7nm,1.1s,mb4.7,baz=67,slow=8.2,SNR=14						
ESDC	**Sonseca Array**	**57.97**	**300**	P	**P**	**13 07 09.9**	**-1.1**
PAB	**San Pablo**	**58.29**	**300**	*e*P	**P**	**13 07 13.5**	**+0.3**
	comp=Z,20nm,1.2s,mb5.0						
PAB	**San Pablo**	**58.29**	**300**	*e*P	**P**	**13 07 13.5**	**+0.3**
PAB				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
YSS	**Yuzh-Sakhalins**	**58.86**	**51**	*i*P	**P**	**13 07 17.9**	**+0.8**
YSS				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
DAV	**Davao City (W)**	**58.91**	**101**	*e*P	**P**	**13 07 20.9**	**+3.0**
	comp=Z,371nm,0.4s						
EVO	**Evora**	**61.31**	**300⇑**	*i*P	**P**	**13 07 35.4**	**+1.3**
	comp=Z,157nm,1.5s,mb5.6						
EVOP	**Sao Brissos**	**61.40**	**300⇑**	*i*P	**P**	**13 07 35.4**	**+0.8**
	comp=Z,157nm,1.5s,mb5.9						
EVOP	**Sao Brissos**	**61.40**	**300⇑**	*i*P	**P**	**13 07 35.4**	**+0.8**
EVOP				pmax	pmax		
	comp=Z,157nm,1.5s,mb5.9						
TORD	**Torodi Ar. Bea**	**62.77**	**270**	P	**P**	**13 07 42.3**	**-1.8**
	comp=Z,10nm,1.0s,mb4.9,baz=57,slow=5.7,SNR=48						
TORD				LR	LR	13 37 29.8	
	comp=Z,225nm,20.2s,MS4.3,baz=40,slow=38						
TORD	**Torodi Ar. Bea**	**62.77**	**270**	P	**P**	**13 07 42.3**	**-1.8**
BILL	**Bilibino**	**65.44**	**24⇑**	*e*P	**P**	**13 08 03.0**	**+2.2**
BILL				*e*PP	pP	13 08 11.2	+7.1
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
PETK	**Petropavlovsk-**	**66.47**	**41**	P	**P**	**13 08 06.0**	**-1.7**
	comp=Z,2.0nm,0.8s,mb4.2,baz=258,slow=5.3,SNR=3.6						
PETK				LR	LR	13 39 00.5	
	comp=Z,131nm,20.5s,MS4.1,baz=18,slow=38						
PETK	**Petropavlovsk-**	**66.47**	**41**	P	**P**	**13 08 06.0**	**-1.7**
PETK	**Petropavlovsk-**	**66.47**	**41**	P	**P**	**13 08 06.0**	**-1.7**
BOSA	**Boshof**	**71.14**	**219**	P	**P**	**13 08 36.9**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=356,slow=3.6,SNR=3.2						
BOSA	**Boshof**	**71.14**	**219**	P	**P**	**13 08 36.9**	**-0.1**
BOSA	**Boshof**	**71.14**	**219**	P	**P**	**13 08 36.9**	**-0.1**
DBIC	**Dimbokro**	**71.51**	**267**	P	**P**	**13 08 38.3**	**-1.4**
	comp=Z,6.6nm,0.9s,mb4.6,baz=32,slow=9.5,SNR=8.1						
DBIC				LR	LR	13 42 29.7	
	comp=Z,208nm,19.7s,MS4.4,baz=131,slow=38						
DBIC	**Dimbokro**	**71.51**	**267**	*e*P	**P**	**13 08 38.9**	**-0.9**
	comp=Z,14nm,1.1s,mb4.8						
DBIC	**Dimbokro**	**71.51**	**267**	*e*P	**P**	**13 08 38.9**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**81.31**	**119**	P	**P**	**13 09 35.6**	**+0.5**
	comp=Z,3.7nm,0.7s,mb4.4,baz=320,slow=4.7,SNR=6.0						
WRA	**Warramunga Arr**	**81.31**	**119**	P	**P**	**13 09 35.6**	**+0.5**
WRA	**Warramunga Arr**	**81.31**	**119**	P	**P**	**13 09 35.6**	**+0.5**
ILAR	**Eielson Array**	**81.51**	**14**	P	**P**	**13 09 36.2**	**+0.7**
	comp=Z,4.1nm,1.2s,mb4.2,baz=322,slow=4.3,SNR=14						
ILAR				PP	PP	13 12 43.9	+2.9
	comp=Z,0.8nm,1.1s,baz=291,slow=5.5,SNR=4.9						
ILAR				LR	LR	13 52 21.3	
	comp=Z,206nm,18.6s,MS4.5,baz=313,slow=41						
ILAR	**Eielson Array**	**81.51**	**14**	P	**P**	**13 09 36.2**	**+0.7**
ILAR				PP	PP	13 12 43.9	+2.9
ILAR	**Eielson Array**	**81.51**	**14**	P	**P**	**13 09 36.2**	**+0.7**
ILAR						13 12 43.9	
ASAR	**Alice Springs**	**83.21**	**122**	P	**P**	**13 09 45.9**	**+0.9**
	comp=Z,3.9nm,0.7s,mb4.6,baz=309,slow=5.3,SNR=8.7						
ASAR	**Alice Springs**	**83.21**	**122**	P	**P**	**13 09 45.9**	**+0.9**
ASAR	**Alice Springs**	**83.21**	**122**	P	**P**	**13 09 45.9**	**+0.9**
PMG	**Port Moresby**	**85.81**	**103**	P	**P**	**13 09 58.6**	**+0.2**
	comp=Z,2.5nm,0.5s,mb4.7,baz=285,slow=5.1,SNR=4.1						
PMG	**Port Moresby**	**85.81**	**103**	P	**P**	**13 09 58.6**	**+0.2**
PMG	**Port Moresby**	**85.81**	**103**	P	**P**	**13 09 58.6**	**+0.2**
SCHQ	**Schefferville**	**86.62**	**336**	LR	LR	13 54 46.0	
	comp=Z,223nm,19.0s,MS4.6,baz=48,slow=40						
YKA	**Yellowknife Ar**	**87.54**	**1**	P	**P**	**13 10 06.3**	**+0.3**
	comp=Z,4.4nm,0.9s,mb4.7,baz=349,slow=5.0,SNR=36						
YKA	**Yellowknife Ar**	**87.54**	**1**	P	**P**	**13 10 06.3**	**+0.3**
YKA	**Yellowknife Ar**	**87.54**	**1**	P	**P**	**13 10 06.3**	**+0.3**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULM	**Lac du Bonnet**	**98.49**	**349**	LR	LR	13 59 40.6	
	comp=Z,135nm,18.1s,MS4.5,baz=3.0,slow=38						

ISC 09 12:59:35.3±0.8, 46°.03N±0°.06×13°.64E±0°.06, h0km, n6, σ0§65/8, 5C, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABO	**M.te Sabotino**	**0.06**	**208⇑**	*e*Pg	**Pg**	**12 59 36.3**	**0.0**
DRE	**Drenchia**	**0.14**	**1⇑**	*e*Pg	**Pg**	**12 59 37.0**	**-1.0**
VOY	**Vojsko**	**0.18**	**90**	*e*Pg	**Pg**	**12 59 38.6**	**0.0**
VOY				*e*Sg	**Sg**	**12 59 41.5**	**+0.6**
COLI	**Coloredo**	**0.21**	**300⇑**	*e*Pg	**Pg**	**12 59 38.6**	**-0.6**
TRI	**Trieste**	**0.33**	**165⇑**	*e*Pg	**Pg**	**12 59 41.6**	**0.0**
VINO	**Villanova**	**0.34**	**312⇑**	*e*Pg	**Pg**	**12 59 41.5**	**-0.2**
VINO				*e*Sg	**Sg**	**12 59 47.3**	**+1.3**

*ISCJB **09** 13:00:06.5±0.4, 8°.07S±0°.05×122°.74E±0°.04, h225km±5km, mb4.0/6, Error ellipse: s-maj=8.4km s-min=6.1km az=41.1*
*NEIC **09** 13:00:06.7±1.1, 7°.88S×122°.99E, h203km±14km, mb4.4/4, Error ellipse: s-maj=19.8km s-min=7.9km az=56.0*
*DJA **09** 13:00:07, 8°.08S×122°.69E, h224km, MLv4.1/8*
*IDC **09** 13:00:07.2±1.6, 7°.99S×122°.76E, h214km±17km, mb3.5/4, mb1 3.8/8, mb1mx3.5/20, mbtmp3.6/8, Error ellipse: s-maj=35.9km s-min=10.7km az=58.0*

ISC 09 13:00:07.5±0.4, 8°.08S±0°.05×122°.72E±0°.05, h219km±5km, n41, σ0§99/53, mb4.0/6, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.73**	**220**	P	**Pn**	**13 00 38.4**	**+0.7**
MMRI				S	**S**	**13 01 01.2**	**-0.2**
BBSI	**Bau Bau**	**2.58**	**357**	P	**Pn**	**13 00 53.7**	**+0.3**
WSI	**Waingapu**	**2.87**	**236**	P	**Pn**	**13 00 57.0**	**+0.3**
WSI				S	**S**	**13 01 35.7**	**+0.4**
BKSI	**Bulukumba**	**3.76**	**317**	P	**Pn**	**13 01 07.3**	**+0.2**
BMNI	**Bima**	**4.01**	**263**	P	**Pn**	**13 01 10.6**	**+0.5**
BMNI				S	**S**	**13 02 00.3**	**+0.8**
KDI	**Kendari**	**4.09**	**359**	P	**Pn**	**13 01 09.9**	**-1.3**
KAPI	**Kappang**	**4.24**	**316**	P	**Pn**	**13 01 11.9**	**-0.9**
	1.3nm,0.3s,baz=148,slow=10,SNR=14						
KAPI	**Kappang**	**4.24**	**316**	*e*P	**Pn**	**13 01 12.7**	**-0.2**
KAPI	**Kappang**	**4.24**	**316**	P	**Pn**	**13 01 12.9**	**0.0**
SPSI	**Sidrap Palu**	**5.03**	**324**	P	**Pn**	**13 01 23.4**	**+0.6**
	0.1nm30nm,0.9s						
TTSI	**Tana Toraja**	**5.77**	**330**	P	**Pn**	**13 01 23.5**	**-8.7**
MTNI	**Mataram**	**6.50**	**265**	S	**S**	**13 02 55.5**	**-0.9**
KHKI	**Kahang-Kahang**	**7.04**	**267**	P	**Pn**	**13 01 47.5**	**-1.0**
	19nm,1.8s						
KHKI				S	**S**	**13 03 07.2**	**-1.8**
	19nm,1.8s						
IGBI	**Denpasar**	**7.53**	**264**	P	**Pn**	**13 01 54.8**	**+0.1**
	294nm,1.5s						
LBMI	**Labuha**	**8.79**	**33**	P	**Pn**	**13 02 14.1**	**+3.1**
FITZ	**Fitzroy Crossi**	**10.36**	**164**	P	**Pn**	**13 02 29.8**	**-1.3**
	0.5nm,0.3s,baz=11,slow=10,SNR=35						
FITZ				S	**S**	**13 04 22.5**	**-4.8**
	2.5nm,0.3s,baz=172,slow=8.2,SNR=12						
FITZ	**Fitzroy Crossi**	**10.36**	**164**	*e*P	**Pn**	**13 02 29.5**	**-1.6**
	5.8nm,0.3s						
FITZ				*e*S	**S**	**13 04 21.1**	**-6.2**
FITZ	**Fitzroy Crossi**	**10.36**	**164**	*e*P	**Pn**	**13 02 30.1**	**-1.0**
FITZ				*e*S	**S**	**13 04 22.5**	**-4.8**
FITZ	**Fitzroy Crossi**	**10.36**	**164**	P	**Pn**	**13 02 41.0**	**+10**
MBWA	**Marble Bar**	**13.32**	**192**	*e*P	**Pn**	**13 03 12.7**	**+4.3**
	12nm,0.7s						
WRA	**Warramunga Arr**	**16.30**	**138**	P	**P**	**13 03 43.6**	**0.0**
	1.7nm,0.3s,baz=316,slow=12,SNR=71						
WRA				S	**S**	**13 06 39.8**	**-3.5**
	0.8nm,0.3s,baz=318,slow=21,SNR=8.4						
WRA	**Warramunga Arr**	**16.30**	**138**	P	**P**	**13 03 43.6**	**0.0**
WRA				S	**S**	**13 06 39.8**	**-3.5**
WRAB	**Tennant Creek**	**16.31**	**137**	*e*P	**P**	**13 03 43.4**	**-0.2**
	21nm,1.2s						
WRAB				*e*S	**S**	**13 06 41.5**	**-1.8**
WRAB	**Tennant Creek**	**16.31**	**137**	P	**P**	**13 03 43.8**	**+0.2**
WB2	**Warramunga Arr**	**16.31**	**138**	*e*P	**P**	**13 03 43.4**	**-0.3**
AS31	**Alice Springs**	**18.85**	**147**	*e*P	**P**	**13 04 12.1**	**+0.8**
ASAR	**Alice Springs**	**18.85**	**147**	P	**P**	**13 04 12.2**	**+0.9**
	2.4nm,0.3s,baz=320,slow=9.4,SNR=165						
ASAR				S	**S**	**13 07 37.1**	**+3.2**
	baz=340,slow=28,SNR=5.2						
ASAR				ScP	ScP	13 11 40.9	-2.2
	0.1nm,0.3s,baz=331,slow=2.1,SNR=5.0						
ASAR	**Alice Springs**	**18.85**	**147**	P	**P**	**13 04 12.2**	**+0.9**
ASAR				S	**S**	**13 07 37.1**	**+3.2**
ASAR				ScP	ScP	13 11 40.9	-2.2
COEN	**Coen**	**20.91**	**108**	*e*P	**P**	**13 04 31.6**	**-1.8**
	43nm,0.7s						
FORT	**Forrest**	**23.13**	**168**	*e*P	**P**	**13 04 55.3**	**+0.9**
	18nm,0.8s,mb4.7						
KLBR	**Kellerberrin**	**23.85**	**191**	*e*P	**P**	**13 05 01.9**	**+1.0**
	14nm,1.1s,mb4.5						
PMG	**Port Moresby**	**24.19**	**95**	P	**P**	**13 05 03.4**	**-0.8**
	4.8nm,0.6s,mb4.3,baz=288,slow=4.7,SNR=3.7						
PMG	**Port Moresby**	**24.19**	**95**	P	**P**	**13 05 03.4**	**-0.8**
STKA	**Stephens Creek**	**29.49**	**146**	P	**P**	**13 05 52.1**	**+0.8**
	3.6nm,0.3s,mb4.4,baz=328,slow=10,SNR=20						
STKA	**Stephens Creek**	**29.49**	**146**	*e*P	**P**	**13 05 51.9**	**+0.6**
	3.3nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**29.49**	**146**	*e*P	**P**	**13 05 52.0**	**+0.7**
	0.9nm,0.4s,mb3.8						
SONM	**Songino Array**	**57.51**	**347**	P	**P**	**13 09 34.1**	**+0.4**
	0.3nm,0.7s,mb3.0,baz=170,slow=8.8,SNR=3.0						
SONM	**Songino Array**	**57.51**	**347**	P	**P**	**13 09 34.1**	**+0.4**
MK31	**Makanchi Array**	**65.39**	**331**	*e*P	**P**	**13 10 27.1**	**+0.6**
MKAR	**Makanchi Array**	**65.39**	**331**	P	**P**	**13 10 26.4**	**-0.1**
	0.6nm,0.7s,mb3.4,baz=131,slow=7.5,SNR=6.8						
MKAR	**Makanchi Array**	**65.39**	**331**	P	**P**	**13 10 26.4**	**-0.1**

*ISCJB **09** 13:16:30.9±0.6, 55°.3S±0°.1×127°.1W±0°.2, h10km, mb4.2/11, MS4.3/11, Error ellipse: s-maj=19.2km s-min=14.7km az=179.0*
*IDC **09** 13:16:30.7±0.6, 55°.08S×127°.34W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.3/15, mbtmp4.2/9, MS4.2/11, Ms1 4.3/11, ms1mx4.1/17, Error ellipse: s-maj=26.6km s-min=18.0km az=168.0*
*NEIC **09** 13:16:32.0±0.4, 55°.09S×127°.29W, h10km, mb4.8/3, Error ellipse: s-maj=17.8km s-min=10.8km az=174.0*

ISC 09 13:16:32.5±0.6, 55°.3S±0°.1×127°.2W±0°.2, h10km, n45, σ0§90/22, mb4.2/11, MS4.3/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**31.59**	**133**	LR	LR	13 32 39.8	
	comp=Z,178nm,20.2s,MS3.7,baz=181,slow=30						
RKT	**Rikitea**	**32.65**	**347**	*e*LR	LR	13 31 27.5	
	900nm,27.8s,baz=171						
USHA	**Ushuaia**	**32.80**	**114**	LR	LR	13 32 21.2	
	comp=Z,394nm,19.2s,MS4.1,baz=240,slow=29						
QSPA	**South Pole Qui**	**34.88**	**180**	P	**P**	**13 23 26.8**	**+3.5**
	6.4nm,0.9s,mb4.6,baz=93,slow=3.0,SNR=12						
QSPA	**South Pole Qui**	**34.88**	**180**	*e*P	**P**	**13 23 26.5**	**+3.1**
	16nm,1.2s,mb4.8						
PLCA	**Paso Flores**	**39.46**	**93**	P	**P**	**13 24 02.9**	**+0.3**
	1.4nm,0.9s,mb3.7,baz=213,slow=18,SNR=3.0						
PLCA				LR	LR	13 36 38.4	
	comp=Z,200nm,18.9s,MS4.0,baz=244,slow=30						
PLCA	**Paso Flores**	**39.46**	**93**	P	**P**	**13 24 02.9**	**+0.3**
RPZ	**Rata Peaks**	**40.42**	**260**	LR	LR	13 35 46.1	
	comp=Z,734nm,18.7s,MS4.6,baz=192,slow=29						
PPT	**Papeete**	**41.35**	**327**	*e*S	**S**	**13 30 34.4**	**+1.5**
	69nm,24.8s						
PPT				*e*LR	LR	13 35 37.1	
	860nm,23.5s,baz=162						
TRQA	**Tornquist**	**46.16**	**96**	P	**P**	**13 24 56.1**	**-0.9**
	10nm,1.2s,mb4.6						
CFAA	**Coronel Fontan**	**47.21**	**85**	P	**P**	**13 25 05.3**	**0.0**
	0.3nm,0.7s,mb3.3,baz=231,slow=12,SNR=4.2						
CFAA	**Coronel Fontan**	**47.21**	**85**	P	**P**	**13 25 05.3**	**0.0**
TAOE	**Nuku Hiva Isla**	**47.45**	**343**	*e*LR	LR	13 38 18.4	
	611nm,26.9s						
SNAA	**Sanae**	**47.47**	**159**	P	**P**	**13 25 07.6**	**+0.8**
	0.7nm,0.9s,mb3.6,baz=208,slow=15,SNR=3.1						
SNAA	**Sanae**	**47.47**	**159**	P	**P**	**13 25 07.6**	**+0.8**
CPUP	**Villa Florida**	**57.42**	**90**	P	**P**	**13 26 21.0**	**-0.2**
	0.7nm,0.5s,mb4.0,baz=194,slow=6.5,SNR=2.9						
CPUP				LR	LR	13 47 34.9	
	comp=Z,477nm,18.1s,MS4.6,baz=206,slow=32						
CPUP	**Villa Florida**	**57.42**	**90**	P	**P**	**13 26 21.0**	**-0.2**
DZM	**Mont Dzumac**	**58.71**	**276**	*e*LR	LR	13 43 52.7	
	258nm,23.6s						
LPAZ	**La Paz**	**59.28**	**73**	P	**P**	**13 26 34.0**	**-0.2**
	6.1nm,1.0s,mb4.6,baz=226,slow=4.3,SNR=16						
LPAZ				LR	LR	13 45 54.2	
	comp=Z,127nm,20.1s,MS4.0,baz=269,slow=30						
LPAZ	**La Paz**	**59.28**	**73**	*e*P	**P**	**13 26 33.3**	**-1.0**
	22nm,1.3s,mb5.0						
STKA	**Stephens Creek**	**65.11**	**250**	P	**P**	**13 27 11.7**	**-1.5**
	4.1nm,1.0s,mb4.4,baz=353,slow=16,SNR=3.5						
STKA				LR	LR	13 50 23.8	
	comp=Z,157nm,18.1s,MS4.2,baz=206,slow=31						
STKA	**Stephens Creek**	**65.11**	**250**	P	**P**	**13 27 11.7**	**-1.5**
ROSC	**El Rosal**	**74.04**	**56**	LR	LR	13 54 10.1	
	comp=Z,114nm,20.6s,MS4.2,baz=218,slow=30						
WRA	**Warramunga Arr**	**78.52**	**252**	P	**P**	**13 28 33.5**	**-0.4**
	5.0nm,1.0s,mb4.4,baz=143,slow=4.8,SNR=5.7						
WRA	**Warramunga Arr**	**78.52**	**252**	P	**P**	**13 28 33.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**84.67**	**246**	P	**P**	**13 29 06.2**	**-0.3**
	2.8nm,0.9s,mb4.4,baz=121,slow=5.9,SNR=2.7						
FITZ	**Fitzroy Crossi**	**84.67**	**246**	P	**P**	**13 29 06.2**	**-0.3**
TXAR	**Lajitas Array**	**86.67**	**20**	P	**P**	**13 29 16.6**	**+0.7**
	1.7nm,0.9s,mb4.2,baz=187,slow=6.5,SNR=9.3						
TXAR	**Lajitas Array**	**86.67**	**20**	P	**P**	**13 29 16.6**	**+0.7**
BOSA	**Boshof**	**93.16**	**156**	LR	LR	14 07 34.1	
	comp=Z,138nm,20.1s,MS4.4,baz=178,slow=33						
NVAR	**Mina Array Bea**	**93.67**	**7**	LR	LR	14 01 30.1	
	comp=Z,176nm,20.4s,MS4.5,baz=115,slow=29						
PDAR	**Pinedale Array**	**96.84**	**13**	LR	LR	14 05 57.4	
	comp=Z,233nm,19.3s,MS4.7,baz=287,slow=30						
ILAR	**Eielson Array**	**120.69**	**350**	PKP	PKPdf	13 35 21.9	-1.1
	0.9nm,0.8s,baz=167,slow=2.6,SNR=5.9						
ILAR	**Eielson Array**	**120.69**	**350**	PKP	PKPdf	13 35 21.9	-1.1
ULN	**Ulaanbaatar**	**146.24**	**280**	*e*PKPbc	PKPbc	13 36 12.1	0.0
SONM	**Songino Array**	**146.59**	**280**	PKPbc	PKPbc	13 36 12.7	-0.5
	3.3nm,0.9s,baz=144,slow=3.2,SNR=16						
SONM	**Songino Array**	**146.59**	**280**	PKPbc	PKPbc	13 36 12.7	-0.5
GERES	**GERESS Array B**	**155.38**	**89**	PKPbc	PKPdf	13 36 33.9	+8.8
	0.5nm,0.6s,baz=173,slow=1.1,SNR=4.0						
GERES	**GERESS Array B**	**155.38**	**89**	PKPbc	PKPdf	13 36 33.9	+8.8
MKAR	**Makanchi Array**	**159.72**	**258**	PKPab	PKPab	13 37 08.3	-1.1
	0.8nm,0.8s,baz=112,slow=5.9,SNR=5.6						
MKAR	**Makanchi Array**	**159.72**	**258**	PKPab	PKPab	13 37 08.3	-1.1
BRTR	**Keskin Array B**	**159.86**	**133**	PKPab	PKPab	13 37 11.1	+0.9
	0.8nm,0.9s,baz=138,slow=7.5,SNR=4.9						
BRTR	**Keskin Array B**	**159.86**	**133**	PKPab	PKPab	13 37 11.1	+0.9
ZALV	**Zalesovo Beam**	**161.49**	**279**	PKPab	PKPab	13 37 16.5	-0.4
	1.8nm,0.6s,baz=108,slow=4.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**161.49**	**279**	PKPab	PKPab	13 37 16.5	-0.4

*ISCJB **09** 13:23:37.1±2.8, 4°.25S±0°.06×136°.9E±0°.1, h11km±19km, mb3.3/5, Error ellipse: s-maj=17.1km s-min=10.5km az=0.4*
*IDC **09** 13:23:37.6±1.2, 4°.15S×136°.91E, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.7/15, mbtmp3.6/8, ML3.6/4, Error ellipse: s-maj=41.5km s-min=21.4km az=81.0*
*NEIC **09** 13:23:38.9±0.7, 4°.22S×136°.93E, h10km, mb3.4/2, Error ellipse: s-maj=15.2km s-min=10.2km az=74.0*

ISC 09 13:23:42.7±1.7, 4°.37S±0°.07×136°.9E±0°.1, h35km±18km, n22, σ1§18/28, mb3.3/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**11.34**	**117**	*e*P	**Pn**	**13 26 21.4**	**-1.0**
COEN	**Coen**	**11.36**	**147**	*e*P	**Pn**	**13 26 21.9**	**-0.6**
	87nm,1.3s						
WRAB	**Tennant Creek**	**15.67**	**189**	*e*P	**Pn**	**13 27 20.9**	**0.0**
	13nm,1.1s						
WB2	**Warramunga Arr**	**15.68**	**189**	*e*P	**Pn**	**13 27 20.7**	**-0.3**
WRA	**Warramunga Arr**	**15.68**	**189**	Pn	**Pn**	**13 27 20.9**	**-0.1**
	0.2nm,0.3s,baz=11,slow=13,SNR=8.8						
WRA				Sn	**Sn**	**13 30 11.9**	**-1.8**
	0.1nm,0.3s,baz=9.9,slow=22,SNR=4.6						
WRA	**Warramunga Arr**	**15.68**	**189**	Pn	**Pn**	**13 27 20.9**	**-0.1**
WRA				Sn	**Sn**	**13 30 11.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**17.54**	**218**	P	**Pn**	**13 27 45.7**	**+1.1**
	0.1nm,0.3s,baz=52,slow=16,SNR=4.2						
FITZ				S	**S**	**13 30 57.6**	**-8.3**
	0.2nm,0.3s,baz=143,slow=20,SNR=6.0						
FITZ	**Fitzroy Crossi**	**17.54**	**218**	P	**Pn**	**13 27 45.7**	**+1.1**
FITZ				S	**S**	**13 30 57.6**	**-8.3**
CTA	**Charters Tower**	**18.09**	**151**	P	**Pn**	**13 27 53.0**	**+1.8**
	0.3nm,0.3s,baz=320,slow=7.9,SNR=5.8						
CTA	**Charters Tower**	**18.09**	**151**	P	**Pn**	**13 27 53.0**	**+1.8**
AS31	**Alice Springs**	**19.40**	**188**	*e*P	**Pn**	**13 28 08.6**	**+1.5**
ASAR	**Alice Springs**	**19.40**	**188**	P	**Pn**	**13 28 08.1**	**+1.0**
	0.3nm,0.3s,baz=14,slow=10,SNR=28						
ASAR				S	**S**	**13 31 42.3**	**-1.2**
	0.0nm,0.3s,baz=15,slow=26,SNR=4.0						
ASAR	**Alice Springs**	**19.40**	**188**	P	**Pn**	**13 28 08.1**	**+1.0**
ASAR				S	**S**	**13 31 42.3**	**-1.2**
STKA	**Stephens Creek**	**27.71**	**171**	*e*P	**P**	**13 29 29.7**	**+2.0**
	0.1nm,0.4s,mb2.8						
CMAR	**Chiang Mai Arr**	**43.74**	**302**	P	**P**	**13 31 45.4**	**+0.4**
	0.3nm,0.7s,mb3.1,baz=108,slow=5.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**43.74**	**302**	P	**P**	**13 31 45.4**	**+0.4**
SONM	**Songino Array**	**58.47**	**336**	P	**P**	**13 33 32.7**	**-2.4**
	0.2nm,0.5s,mb3.4,baz=134,slow=4.2,SNR=3.2						
SONM	**Songino Array**	**58.47**	**336**	P	**P**	**13 33 32.7**	**-2.4**
MKAR	**Makanchi Array**	**70.02**	**323**	P	**P**	**13 34 50.0**	**-0.8**
	0.4nm,0.7s,mb3.4,baz=101,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**70.02**	**323**	P	**P**	**13 34 50.0**	**-0.8**
ILAR	**Eielson Array**	**88.08**	**25**	P	**P**	**13 36 29.6**	**+0.3**
	0.6nm,1.0s,mb3.8,baz=236,slow=6.4,SNR=2.6						
ILAR	**Eielson Array**	**88.08**	**25**	P	**P**	**13 36 29.6**	**+0.3**

*ISCJB **09** 13:31:35.6±0.3, 34°.75N±0°.04×137°.00E±0°.05, h320km±2km, mb3.9/41, Error ellipse: s-maj=7.5km s-min=5.8km az=148.0*
*MOS **09** 13:31:35.2±0.8, 34°.75N×137°.01E, h318km, mb4.0/11, Error ellipse: s-maj=10.9km s-min=7.8km az=107.9*
*JMA **09** 13:31:36.1±0.2, 34°.83N×136°.99E, h320km±2km, M3.9*
*IDC **09** 13:31:36.4±0.7, 34°.72N×136°.94E, h31km±6km, mb3.6/20, mb1 3.8/23, mb1mx3.7/29, mbtmp3.6/23, Error ellipse: s-maj=11.8km s-min=9.0km az=96.0*
*NEIC **09** 13:31:36.2±0.4, 34°.74N×136°.98E, h311km±3km, mb4.3/17, Error ellipse: s-maj=5.7km s-min=4.6km az=

MKAR	Makanchi Array	42.34 304	P	P	13 39 00.6	+0.3
TAPN	Taplejung	42.52 274	eP	P	13 39 01.8	-0.3
	comp=Z,8.4nm,0.4s,mb4.3					
TAPN	Taplejung	42.52 274	eP	P	13 39 01.8	-0.3
	comp=Z,8.4nm,0.4s,mb4.3					
ODAN	Odare	42.97 273	eP	P	13 39 05.3	-0.4
	comp=Z,8.2nm,0.4s,mb4.3					
ODAN	Odare	42.97 273	eP	P	13 39 05.3	-0.4
	comp=Z,8.2nm,0.4s,mb4.3					
RAMN	Ramite	43.59 274	eP	P	13 39 10.3	-0.3
	comp=Z,28nm,0.6s,mb4.6					
RAMN	Ramite	43.59 274	eP	P	13 39 10.3	-0.3
	comp=Z,28nm,0.6s,mb4.7					
JIRN	Jiri	43.65 275	eP	P	13 39 11.4	+0.4
	comp=Z,16nm,0.6s,mb4.4					
JIRN	Jiri	43.65 275	eP	P	13 39 11.4	+0.4
	comp=Z,16nm,0.6s,mb4.4					
GUN	Gumba	43.81 276	eP	P	13 39 12.4	+0.1
GUN	Gumba	43.81 276	eP	P	13 39 12.4	+0.1
PKI	Pulchoki	44.32 275	eP	P	13 39 16.0	-0.4
PKI	Pulchoki	44.32 275	eP	P	13 39 16.0	-0.4
PKI	Pulchoki	44.32 275	eP	P	13 39 16.0	-0.4
KKN	Kakani	44.34 276	eP	P	13 39 16.2	-0.3
	comp=Z,14nm,0.7s,mb4.3					
KKN	Kakani	44.34 276	eP	P	13 39 16.2	-0.3
	comp=Z,14nm,0.7s,mb4.3					
KKN	Kakani	44.34 276	eP	P	13 39 16.2	-0.3
KKN			pmax	pmax		
	comp=Z,14nm,0.7s,mb4.3					
KURK	Kurchatov	44.56 310	eP	P	13 39 17.6	-0.2
	comp=Z,4.5nm,0.6s,mb3.9					
KURK	Kurchatov	44.56 310	eP	P	13 39 17.7	-0.2
KURK			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.8					
GKN	Gorkha	44.79 276	eP	P	13 39 19.8	-0.2
GKN	Gorkha	44.79 276	eP	P	13 39 19.8	-0.2
DANN	Dangsing	45.38 277	eP	P	13 39 25.0	+0.4
	comp=Z,46nm,0.5s,mb5.0					
DANN	Dangsing	45.38 277	eP	P	13 39 25.0	+0.4
	comp=Z,46nm,0.5s,mb5.0					
KOLN	Koldanda	45.73 277	eP	P	13 39 27.3	0.0
KOLN	Koldanda	45.73 277	eP	P	13 39 27.3	0.0
TKM2	Tokmak 2	47.58 299	eP	P	13 39 41.8	+0.5
	comp=Z,3.5nm,0.8s,mb3.7					
TKM2	Tokmak 2	47.58 299	eP	P	13 39 41.8	+0.5
TKM2			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8					
AAK	Ala-Archa	48.43 299	eP	P	13 39 47.9	+0.1
AAK			pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.7					
BVA0	Borovoye Array	49.48 313	eP	P	13 39 55.3	-0.3
BRVK	Borovoye	49.54 313	eP	P	13 39 55.8	-0.2
	comp=Z,2.2nm,0.4s,mb3.8					
BRVK	Borovoye	49.54 313	eP	P	13 39 55.8	-0.2
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8					
KDAK	Kodiak Island	51.17 40	P	P	13 40 08.3	+0.3
	comp=Z,19nm,1.0s,mb4.4,baz=290,slow=12,SNR=5.8					
KDAK	Kodiak Island	51.17 40	P	P	13 40 08.3	+0.3
KDAK	Kodiak Island	51.17 40	i P	P	13 40 09.3	+1.2
KK31	Karatay Array	51.17 300	i P	P	13 40 08.4	+0.1
KK31			pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.1					
KKAR	Karatay Array	51.17 300	eP	P	13 40 08.4	+0.1
	comp=Z,6.3nm,0.5s,mb4.2					
KKAR	Karatay Array	51.17 300	eP	P	13 40 08.4	+0.1
KKAR			pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.2					
ILAR	Eielson Array	53.32 31	P	P	13 40 23.8	+0.2
	comp=Z,1.3nm,0.6s,mb3.4,baz=265,slow=5.1,SNR=13					
ILAR	Eielson Array	53.32 31	P	P	13 40 23.8	+0.2
ILAR	Eielson Array	53.32 31	P	P	13 40 23.8	+0.2
FITZ	Fitzroy Crossi	53.66 193	P	P	13 40 26.3	-0.4
	comp=Z,3.9nm,0.7s,mb3.8,baz=27,slow=7.1,SNR=24					
FITZ	Fitzroy Crossi	53.66 193	P	P	13 40 26.3	-0.4
WRAB	Tennant Creek	54.44 183	eP	P	13 40 31.6	-0.6
	comp=Z,4.8nm,0.4s,mb4.2					
WRAB	Tennant Creek	54.44 183	eP	P	13 40 31.6	-0.6
WRAB			pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.2					
WB2	Warramunga Arr	54.45 183	eP	P	13 40 31.8	-0.4
WRA	Warramunga Arr	54.45 183	P	P	13 40 31.9	-0.4
	comp=Z,5.1nm,0.3s,mb4.3,baz=358,slow=7.7,SNR=108					
WRA	Warramunga Arr	54.45 183	P	P	13 40 31.9	-0.4
WRA	Warramunga Arr	54.45 183	P	P	13 40 31.9	-0.4
AB31	Akbulak array	56.66 310	P	P	13 40 47.3	-0.3
AB31			pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.0					
ABKAR	Akbulak array	56.66 310	eP	P	13 40 47.2	-0.4
	comp=Z,3.5nm,0.4s,mb4.1					
MBWA	Marble Bar	57.98 199	eP	P	13 40 56.2	-0.8
	comp=Z,3.5nm,0.5s,mb4.0					
INK	Inuvik	58.02 26	eP	P	13 40 57.5	+0.8
	comp=Z,88nm,2.5s,mb4.8					
INK	Inuvik	58.02 26	eP	P	13 40 57.6	+0.8
INK			pmax	pmax		
	comp=Z,88nm,2.5s					
AS31	Alice Springs	58.17 183	eP	P	13 40 58.0	-0.3
ASAR	Alice Springs	58.17 183	P	P	13 40 58.3	0.0
	comp=Z,1.9nm,0.3s,mb4.0,baz=1.1,slow=6.7,SNR=64					
ASAR	Alice Springs	58.17 183	P	P	13 40 58.3	0.0
ASAR	Alice Springs	58.17 183	P	P	13 40 58.3	0.0
KEV	Kevo	64.28 339	eP	P	13 41 38.1	-0.3
KEV	Kevo	64.28 339	ep	P	13 41 38.1	-0.3
ARCES	ARCESS Array B	64.84 339	P	P	13 41 41.7	-0.3
	comp=Z,4.0nm,0.9s,mb4.0,baz=66,slow=8.3,SNR=7.8					
ARCES	ARCESS Array B	64.84 339	P	P	13 41 41.7	-0.3
ARCES	ARCESS Array B	64.84 339	P	P	13 41 41.7	-0.3
JOF	Joensuu	66.25 331	eP	P	13 41 48.8	-2.3
JOF			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9					
JOF	Joensuu	66.25 331	ep	P	13 41 48.8	-2.3
	comp=Z,2.3nm,0.8s,mb4.0					
STKA	Stephens Creek	66.42 176	P	P	13 41 52.2	-0.3
	comp=Z,0.7nm,0.4s,mb3.8,baz=0.0,slow=5.1,SNR=2.7					
STKA	Stephens Creek	66.42 176	P	P	13 41 52.2	-0.3
STKA	Stephens Creek	66.42 176	P	P	13 41 52.2	-0.3
KAF	Kangasniemi	68.65 332	eP	P	13 42 04.7	-1.3
KAF			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9					
KAF	Kangasniemi	68.65 332	ep	P	13 42 04.7	-1.3
	comp=Z,1.4nm,0.4s,mb4.0					
FINES	FINESS Array B	69.12 331	P	P	13 42 08.8	-0.1
	comp=Z,2.1nm,0.3s,mb4.3,baz=55,slow=6.2,SNR=22					
FINES	FINESS Array B	69.12 331	P	P	13 42 08.8	-0.1
FINES	FINESS Array B	69.12 331	P	P	13 42 08.8	-0.1
AKASG	Malin Array Be	73.85 321	P	P	13 42 36.7	-0.4
	comp=Z,1.5nm,0.4s,mb4.0,baz=49,slow=6.1,SNR=6.5					
AKASG	Malin Array Be	73.85 321	P	P	13 42 36.7	-0.4
AKASG	Malin Array Be	73.85 321	P	P	13 42 36.7	-0.5
NOA	NORSAR Array B	74.84 336	P	P	13 42 42.7	+0.1
	comp=Z,0.8nm,0.6s,mb3.5,baz=42,slow=5.6,SNR=3.3					
NOA	NORSAR Array B	74.84 336	P	P	13 42 42.7	+0.1
NOA	NORSAR Array B	74.84 336	P	P	13 42 42.7	0.0
BRTR	Keskin Array B	77.61 310	P	P	13 42 58.9	+0.3
	comp=Z,1.5nm,0.9s,mb3.7,baz=46,slow=3.6,SNR=5.6					
BRTR	Keskin Array B	77.61 310	P	P	13 42 58.9	+0.3
BRTR	Keskin Array B	77.61 310	P	P	13 42 58.9	+0.3
HLID	Hailey	78.53 45	eP	P	13 43 04.2	+0.7
	comp=Z,1.0nm,0.6s,mb3.7					
NVAR	Mina Array Bea	79.21 51	P	P	13 43 09.1	+1.8
	comp=Z,1.0nm,0.6s,mb3.7,baz=291,slow=5.1,SNR=9.3					
NVAR	Mina Array Bea	79.21 51	P	P	13 43 09.1	+1.8
PDAR	Pinedale Array	81.80 43	P	P	13 43 22.2	+1.4
	comp=Z,1.4nm,0.7s,mb3.8,baz=264,slow=2.5,SNR=11					
PDAR	Pinedale Array	81.80 43	P	P	13 43 22.2	+1.4
GERES	GERESS Array B	82.68 326	P	P	13 43 25.4	+0.1
	comp=Z,0.8nm,0.6s,mb3.7,baz=52,slow=5.2,SNR=5.4					
GERES	GERESS Array B	82.68 326	P	P	13 43 25.4	+0.1
GERES	GERESS Array B	82.68 326	P	P	13 43 25.4	+0.1
TXAR	Lajitas Array	94.34 50	P	P	13 44 22.4	+1.3
	comp=Z,1.1nm,0.7s,mb4.0,baz=305,slow=3.0,SNR=14					
TXAR	Lajitas Array	94.34 50	P	P	13 44 22.4	+1.3
TXAR	Lajitas Array	94.34 50	P	P	13 44 22.4	+1.3
TORD	Torodi Ar. Bea	116.22 310	PKP	PKPdf	13 49 42.4	-0.9
	comp=Z,0.3nm,0.4s,baz=40,slow=1.0,SNR=4.9					
TORD	Torodi Ar. Bea	116.22 310	PKP	PKPdf	13 49 42.4	-0.9

IDC 09 13:34:18.6±1.1, 56°.77S×126°.10W, h0^{km}, mb4.1/4, mb1 4.3/4, mb1mx4.0/12, mbtmp4.1/4, MS3.9/2, Ms1 3.9/2, ms1mx3.4/20, Error ellipse: s-maj=180.9km s-min=28.6km az=161.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	Tubuai	37.49	323	eLR	LR	13 50 53.6	
	306nm,26.0s						
TBI				eT		14 18 44.8	
	19nm,0.3s						
RPZ	Rata Peaks	40.79	261	LR	LR	13 55 58.2	
	comp=Z,119nm,19.8s,baz=259,slow=32						
PPT	Papeete	42.93	326	eLR	LR	13 53 35.5	
	227nm,23.5s						
TAOE	Nuku Hiva Isla	49.05	341	eLR	LR	13 56 32.1	
	251nm,24.5s						
CPUP	Villa Florida	56.83	88	LR	LR	14 05 48.4	
	comp=Z,134nm,18.1s,baz=274,slow=33						
LPAZ	La Paz	59.13	72	P	P	13 44 21.6	+0.8
	5.7nm,1.2s,baz=180,slow=4.0,SNR=8.0						
ASAR	Alice Springs	75.78	249	P	P	13 46 06.6	+0.4
	0.6nm,0.7s,baz=140,slow=8.1,SNR=3.6						
WRA	Warramunga Arr	78.64	251	P	P	13 46 22.1	-0.1
	1.2nm,0.9s,baz=151,slow=5.0,SNR=5.0						
FITZ	Fitzroy Crossi	84.62	245	P	P	13 46 54.1	+0.3
	5.0nm,1.1s,baz=173,slow=7.7,SNR=4.1						
SONM	Songino Array	147.43	277	PKPbc	PKPbc	13 54 01.9	-1.4
	2.0nm,1.1s,baz=134,slow=3.1,SNR=7.9						
MKAR	Makanchi Array	159.94	252	PKPab	PKPab	13 54 57.3	-0.7
	0.7nm,0.7s,baz=103,slow=4.6,SNR=4.1						
ZALV	Zalesovo Beam	162.28	274	PKPab	PKPab	13 55 08.8	+0.7
	0.7nm,0.6s,baz=108,slow=4.7,SNR=3.9						

IDC 09 13:48:13.2±8.5, 30°.43S×177°.19W, h0^{km}, mb3.2/2, mb1 3.4/2, mb1mx3.4/15, mbtmp3.2/2, Error ellipse: s-maj=362.4km s-min=60.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.81	267	P	P	13 56 21.1	+0.1
	0.1nm,0.4s,baz=105,slow=7.0,SNR=4.3						
WRA	Warramunga Arr	44.80	272	P	P	13 56 28.8	-0.2
	0.1nm,0.3s,baz=111,slow=8.1,SNR=5.6						
FINES	FINESS Array B	145.41	340	PKPbc	PKPbc	14 07 51.5	-0.8
	5.0nm,1.1s,baz=57,slow=7.0,SNR=4.3						

*IDC **09** 13:56:06.2±11.0, 18°.04S×174°.86W, h193^{km}±97^{km}, mb3.6/6, mb1 3.9/6, mb1mx3.6/16, mbtmp3.6/6, Error ellipse: s-maj=66.3km s-min=24.8km az=136.0*

*NEIC **09** 13:56:09.9±3.9, 18°.12S×174°.93W, h229^{km}±27^{km}, mb3.6/2, Error ellipse: s-maj=62.0km s-min=15.9km az=138.0*

*ISCJB **09** 13:56:10.8±4.8, 18°.0S±0°.4×175°.0W±0°.4, h249^{km}±33^{km}, mb3.6/6, Error ellipse: s-maj=86.4km s-min=22.7km az=138.3*

ISC 09 13:56:10.9±4.8, 18°.0S±0°.4×175°.0W±0°.4, h236^{km}±33^{km}, n24, σ0°.68/16, mb3.6/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.63	272	eP	Pn	13 57 47.2	+0.4
	23nm,0.7s						
DZM	Mont Dzumac	17.89	254	eP	P	14 00 01.6	-1.7
STKA	Stephens Creek	41.43	242	P	P	14 03 36.0	+1.3
	1.7nm,0.8s,mb3.5,baz=60,slow=8.1,SNR=4.2						
STKA	Stephens Creek	41.43	242	eP	P	14 03 35.0	+0.4
	0.2nm,0.6s,mb2.7						
WB2	Warramunga Arr	47.80	259	eP	P	14 04 25.1	+0.1
WRA	Warramunga Arr	47.81	259	P	P	14 04 25.6	+0.5
	2.4nm,0.3s,mb3.9,baz=98,slow=6.6,SNR=59						
WRA	Warramunga Arr	47.81	259	P	P	14 04 25.6	+0.5
AS31	Alice Springs	47.88	254	eP	P	14 04 26.1	+0.4
ASAR	Alice Springs	47.89	254	P	P	14 04 25.1	-0.5
	11nm,0.6s,mb4.3,baz=91,slow=7.9,SNR=165						
ASAR				PcP	PcP	14 05 49.4	-0.9
	0.5nm,0.7s,baz=112,slow=4.8,SNR=2.9						
ASAR	Alice Springs	47.89	254	P	P	14 04 25.1	-0.5
ASAR				PcP	PcP	14 05 49.4	-0.9
PETK	Petropavlovsk-	74.69	343	P	P	14 07 24.4	+0.1
	1.5nm,0.7s,mb3.8,baz=142,slow=7.2,SNR=3.7						
PETK	Petropavlovsk-	74.69	343	P	P	14 07 24.4	+0.1
NVAR	Mina Array Bea	77.30	42	P	P	14 07 39.2	-0.1
	0.5nm,0.6s,mb3.3,baz=232,slow=8.8,SNR=4.6						
NVAR	Mina Array Bea	77.30	42	P	P	14 07 39.2	-0.1
ILAR	Eielson Array	85.32	12	P	P	14 08 20.6	-0.2
	0.3nm,0.5s,mb3.3,baz=227,slow=6.0,SNR=7.0						
ILAR	Eielson Array	85.32	12	P	P	14 08 20.6	-0.2
BVAR	Borovoye Array	119.00	321	PKP	PKPdf	14 14 31.6	+0.5
	0.2nm,0.3s,baz=78,slow=2.3,SNR=4.3						
BVAR	Borovoye Array	119.00	321	PKP	PKPdf	14 14 31.6	+0.5
ARCES	ARCESS Array B	126.98	351	PKP	PKPdf	14 14 46.8	+0.7
	1.9nm,0.8s,baz=338,slow=2.6,SNR=3.8						
ARCES	ARCESS Array B	126.98	351	PKP	PKPdf	14 14 46.8	+0.7
BRTR	Keskin Array B	147.14	317	PKPbc	PKPbc	14 15 27.8	+1.4
	1.1nm,1.0s,baz=127,slow=3.4,SNR=4.3						
BRTR	Keskin Array B	147.14	317	PKPbc	PKPbc	14 15 27.8	+1.4
GERES	GERESS Array B	148.47	349	PKPbc	PKPbc	14 15 28.7	-0.8
	0.2nm,0.3s,baz=2.9,slow=7.9,SNR=2.6						
GERES	GERESS Array B	148.47	349	PKPbc	PKPbc	14 15 28.7	-0.8

*ISK **09** 14:04:57.7, 40°.20N×41°.95E, h10^{km}, MD2.6*

*ISCJB **09** 14:04:58.6±0.5, 40°.12N±0°.03×41°.96E±0°.04, h5^{km}±6^{km}, Error ellipse: s-maj=5.6km s-min=4.6km az=150.7*

*CSEM **09** 14:04:58.0±0.3, 40°.11N×41°.93E, h10^{km}, MD2.9, Error ellipse: s-maj=6.0km s-min=5.7km az=38.0*

*DDA **09** 14:04:58.1, 40°.09N×41°.96E, h10^{km}±1^{km}, Md2.9*

ISC 09 14:04:59.0±0.5, 40°.11N±0°.03×41°.95E±0°.04, h11^{km}±5^{km}, n21, σ1°.15/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	Horasan	0.07	207	i P	Pg	14 05 00.3	-1.0
HOMI				i S	Sg	14 05 02.1	-0.9
ERZM	Erzurum	0.49	246	i P	Pg	14 05 07.3	-1.2
ERZM				i S	Sg	14 05 15.6	+0.5
ERZM	Erzurum	0.49	246	i P	Pg	14 05 07.3	-1.2
ERZM				i S	Sg	14 05 15.6	+0.6
EZM	Erzurum	0.49	246	ePG	Pg	14 05 08.5	-0.1
EZM				eSG	Sg	14 05 16.6	+1.5
DDEM	Demirkent	0.80	349	i P	Pg	14 05 14.2	-0.2
DDEM				i S	Sg	14 05 26.2	+1.4
DDEM	Demirkent	0.80	349	i P	Pg	14 05 14.2	-0.2
DDEM				i S	Sg	14 05 26.2	+1.4
AGRB	Hanur-Agry	0.96	123	ePG	Pg	14 05 17.0	-0.5
AGRB				eSG	Sg	14 05 32.2	+2.1
AGRB	Hanur-Agry	0.96	123	ePg	Pg	14 05 17.0	-0.5
AGRB				eSg	Sg	14 05 32.2	+2.1
DAGI	Agillar	0.97	359	i P	Pg	14 05 17.0	-0.7
DAGI				i S	Sg	14 05 31.4	+1.2
TUTA	Tutak	0.97	136	i P	Pg	14 05 16.4	-1.2
TUTA				i S	Sg	14 05 32.0	+1.7
TUTA	Tutak	0.97	136	i P	Pg	14 05 16.5	-1.2
TUTA				i S	Sg	14 05 32.0	+1.7
KARS	Kars	1.01	59	ePG	Pg	14 05 16.8	-1.6
KARS	Kars	1.01	59	ePg	Pg	14 05 16.8	-1.6
VRTB	Varto-Mus	1.02	202	ePN	Pg	14 05 19.6	+1.0
VRTB	Varto-Mus	1.02	202	ePn	Pg	14 05 19.6	+1.0
DBOC	Borcka	1.25	350	i P	Pn	14 05 21.8	-0.6
DBOC				i S	Sb	14 05 40.0	+1.3
DBOC	Borcka	1.25	350	i P	Pn	14 05 21.8	-0.6
DBOC				i S	Sb	14 05 40.0	+1.3
BCA	Borcka	1.36	350	ePN	Pn	14 05 22.2	-1.6
BCA	Borcka	1.36	350	ePn	Pn	14 05 22.2	-1.6
BAYT	Ayd¨–ntepe-Bay	1.41	282	ePN	Pn	14 05 23.9	-0.7
BAYT	Ayd¨–ntepe-Bay	1.41	282	ePn	Pn	14 05 23.9	-0.6

MEX 09 14:08:16.6±0.5, 16°.60N×99°.72W, h5^{km}±3^{km}, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.30	334	i P	Pg	14 08 22.5	+0.1
ACX				i S	Sg	14 08 27.4	+1.0
CAIG	El Cayaco	0.69	311	i P	Pg	14 08 29.0	-0.8
CAIG				i S	Sg	14 08 38.5	-0.3
PNIG	Pinotepa	1.54	97	eP	Pn	14 08 40.8	-4.0
PNIG				i S	Sn	14 09 01.0	-4.2
ZIIG	Zihuatanejo	1.94	301	eP	Pn	14 08 46.8	-3.5
ZIIG				i S	Sn	14 09 08.6	-6.5
UTMO	Huajuapan	2.21	56	i P	Pn	14 08 51.0	-2.9
UTMO				i S	Sn	14 09 17.6	-4.0
PPM	Popocatepetl	2.67	23	eP	Pn	14 08 57.2	-3.0
PPM				i S	Sn	14 09 29.4	-3.6

IDC 09 14:08:49.6±5.0, 31°.00S×176°.72W, h0^{km}, mb3.9/3, mb1 4.0/3, mb1mx3.8/16, mbtmp3.9/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/29, Error ellipse: s-maj=194.5km s-min=56.5km az=159.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.98	279	P	P	14 15 45.2	+1.6
	2.4nm,0.8s,baz=98,slow=8.7,SNR=3.9						
ASAR	Alice Springs	44.17	267	P	P	14 16 59.9	-0.4
	0.5nm,0.6s,baz=104,slow=7.3,SNR=7.9						
WRA	Warramunga Arr	45.22	272	P	P	14 17 07.8	-0.9
	0.4nm,0.3s,baz=112,slow=7.6,SNR=6.6						
NWAO	Narrogin (SRO)	55.22	249	LR	LR	14 41 06.6	
	comp=Z,88nm,19.6s,baz=114,slow=35						
FINES	FINESS Array B	146.08	341	PKPbc	PKPbc	14 28 30.0	-0.7
	1.9nm,0.7s,baz=74,slow=6.9,SNR=5.1						

KRSC 09 14:12:28.8±0.3, 54°.23N×161°.89E, h27^{km}±17^{km}, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.34	344	eP	Pb	14 12 36.2	-0.3
MKZ				i S	Sb	14 12 41.5	-0.3
KII	Karymskiy	1.45	263	eP	Pn	14 12 54.2	+1.0
TUMR	Tumrok	1.46	317	eP	Pn	14 12 53.6	+0.3
TUMR				i S	Sn	14 13 12.0	+0.4
SPN	Mys Shipunski	1.59	225	eP	Pn	14 12 54.5	-0.6
SPN				i S	Sn	14 13 12.7	-2.0
KMNR	Kamenistaya	1.80	329	eP	Pn	14 13 00.4	+2.4
KMNR				i S	Sn	14 13 24.2	+4.2
NLC	Nalytchevo	1.85	236	eP	Pn	14 12 59.1	+0.4
NLC				i S	Sn	14 13 20.6	-0.5
SDLR	Sedlovina	2.02	243	eP	Pn	14 13 02.1	+1.0
KBTR	Krutoberegovo	2.05	15	eP	Pn	14 13 02.0	+0.5
KBTR				i S	Sn	14 13 26.3	+0.1
UGLR	Uglovaya	2.09	242	eP	Pn	14 13 03.7	+1.7
UGLR				i S	Sn	14 13 29.2	+2.1
AVH	Avacha	2.11	244	eP	Pn	14 13 03.7	+1.5
KOK	Koryaka	2.15	245	eP	Pn	14 13 04.5	+1.7
PET	Petropavlovsk	2.27	239	eP	Pn	14 13 06.1	+1.6
PET				i S	Sn	14 13 33.8	+2.2
SMKR	Semkarok	2.37	354	P	Pn	14 13 07.9	+2.1
SRDR	Sredinnyy	2.43	330	eP	Pn	14 13 07.8	+1.1
ESO	Esso	2.50	314	eP	Pn	14 13 09.0	+1.4
ESO				i S	Sn	14 13 38.1	+0.9
BKI	Bering	2.56	66	eP	Pn	14 13 08.5	0.0
BKI				i S	Sn	14 13 38.0	-0.7
RUS	Russkaya	2.71	230	eP	Pn	14 13 12.2	+1.7
RUS				i S	Sn	14 13 44.5	+2.2

*ISCJB **09** 14:38:57.8±0.8, 55°.0S±0°.2×127°.3W±0°.3, h10^{km}, mb4.0/6, MS3.6/6, Error ellipse: s-maj=33.3km s-min=22.0km az=145.1*

*IDC **09** 14:38:57.8±0.8, 54°.96S×127°.25W, h0^{km}, mb3.9/6, mb1 4.2/6, mb1mx4.0/14, mbtmp3.9/6, MS3.6/6, Ms1 3.6/6, ms1mx3.5/25, Error ellipse: s-maj=37.2km s-min=26.2km az=147.0*

*NEIC **09** 14:38:59.2±0.5, 54°.97S×127°.28W, h10^{km}, mb4.6/2, Error ellipse: s-maj=22.5km s-min=15.7km az=145.0*

ISC 09 14:38:59.6±0.8, 54°.9S±0°.2×127°.4W±0°.3, h10^{km}, n29, σ0°.49/13, mb4.0/6, MS3.6/6, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	31.92	134	LR	LR	14 56 24.4	
	comp=Z,12nm,18.2s,MS2.6,baz=252,slow=33						
RKT	Rikitea	32.28	347	eLR	LR	14 53 56.0	
	318nm,26.0s						
RKT				eT		15 19 23.7	
	1.6nm,0.2s						
QSPA	South Pole Qui	35.24	180	P	P	14 45 54.0	+0.5
	3.6nm,0.7s,mb4.4,baz=124,slow=4.2,SNR=9.3						
QSPA				LR	LR	14 58 38.9	
	comp=Z,190nm,19.2s,MS3.9,baz=104,slow=34						
QSPA	South Pole Qui	35.24	180	P	P	14 45 53.8	+0.4
	7.1nm,1.0s,mb4.5						
TBI	Tubuai	35.57	324	eLR	LR	14 55 19.6	
	190nm,27.0s						
TBI				eT		15 23 26.7	
	28nm,0.4s						
PLCA	Paso Flores	39.59	93	LR	LR	14 58 37.5	
	comp=Z,92nm,20.1s,MS3.6,baz=263,slow=30						
PPT	Papeete	40.99	327	eLR	LR	14 58 15.5	
	196nm,24.0s						
MAW	Mawson	57.53	185	LR	LR	15 10 17.3	
	comp=Z,95nm,19.8s,MS3.9,baz=353,slow=33						
CPUP	Villa Florida	57.54	90	LR	LR	15 10 02.0	
	comp=Z,158nm,19.2s,MS4.1,baz=177,slow=32						
LPAZ	La Paz	59.29	74	P	P	14 49 00.7	-0.7
	1.5nm,0.7s,mb4.1,baz=172,slow=6.0,SNR=6.1						
LPAZ				LR	LR	15 08 29.0	
	comp=Z,27nm,19.5s,MS3.4,baz=220,slow=30						
LPAZ	La Paz	59.29	74	eP	P	14 49 00.6	-0.7
	8.8nm,1.3s,mb4.6						
ASAR	Alice Spring

KAPI Kappang 10.27 290 LR LR 15 02 45.2
comp=Z,280nm,19.6s,baz=103,slow=39
WRAB Tennant Creek 12.16 157 *e*P **Pn 14 59 08.9 -0.1**
28nm,0.9s
WRAB *e*S **Sn 15 01 21.5 -1.5**
WRA Warramunga Arr 12.16 158 Pn **Pn 14 59 09.6 +0.5**
1.5nm,0.3s,baz=339,slow=12,SNR=75
WRA Sn **Sn 15 01 21.9 -1.2**
2.2nm,0.3s,baz=328,slow=23,SNR=8.2
WRA Warramunga Arr 12.16 158 Pn **Pn 14 59 09.6 +0.5**
WRA Sn **Sn 15 01 21.9 -1.2**
WB2 Warramunga Arr 12.17 157 *e*P **Pn 14 59 09.5 +0.4**
WB2 *e*S **Sn 15 01 21.1 -2.2**
COEN Coen 14.46 112 *e*P **Pn 14 59 40.0 -0.1**
48nm,0.6s
AS31 Alice Springs 15.50 164 *e*P **Pn 14 59 54.5 +0.8**
ASAR Alice Springs 15.51 164 Pn **Pn 14 59 54.5 +0.9**
0.4nm,0.3s,baz=335,slow=9.5,SNR=42
ASAR Sn **Sn 15 02 48.1 +3.6**
0.6nm,0.3s,baz=353,slow=28,SNR=5.2
ASAR Alice Springs 15.51 164 Pn **Pn 14 59 54.5 +0.9**
ASAR Sn **Sn 15 02 48.1 +3.6**
MBWA Marble Bar 15.53 216 *e*P **Pn 14 59 53.8 -0.2**
15nm,0.9s
PMG Port Moresby 17.53 94 P **Pn 15 00 19.6 +0.4**
0.2nm,0.3s,baz=311,slow=18,SNR=2.0
PMG Port Moresby 17.53 94 P **Pn 15 00 19.6 +0.4**
CTA Charters Tower 19.83 127 P **Pn 15 00 48.4 +1.5**
5.9nm,1.1s,baz=275,slow=12,SNR=2.9
CTA LR LR 15 09 21.3
comp=Z,430nm,18.7s,baz=307,slow=39
CTA Charters Tower 19.83 127 P **Pn 15 00 48.4 +1.5**
KSM Kuching 21.56 297 *e*P **P 15 01 01.4 -2.1**
FORT Forrest 22.02 183 *e*P **P 15 01 14.6 +6.3**
18nm,0.8s,mb4.6
FORT Forrest 22.02 183 *e*P **P 15 01 14.4 +6.1**
28nm,0.9s,mb4.7
STKA Stephens Creek 25.70 156 P **P 15 01 48.9 +5.4**
3.4nm,0.7s,mb4.0,baz=336,slow=12,SNR=6.3
STKA Stephens Creek 25.70 156 *e*P **P 15 01 49.5 +5.9**
4.0nm,0.6s,mb4.1
STKA Stephens Creek 25.70 156 *e*P **P 15 01 49.1 +5.5**
NWAO Narrogin (SRO) 26.63 203 LR LR 15 14 15.5
comp=Z,268nm,18.9s,MS3.8,baz=215,slow=40
HNR Honiara 30.15 94 LR LR 15 12 44.6
comp=Z,754nm,20.4s,MS4.3,baz=152,slow=33
CMAR Chiang Mai Arr 40.40 312 P **P 15 03 50.4 -1.1**
0.7nm,0.9s,mb3.4,baz=145,slow=7.9,SNR=6.9
CMAR Chiang Mai Arr 40.40 312 P **P 15 03 50.4 -1.1**
MJAR Matsushiro Arr 45.73 10 P **P 15 04 32.7 -1.6**
1.0nm,0.5s,mb4.0,baz=171,slow=7.7,SNR=6.1
MJAR Matsushiro Arr 45.73 10 P **P 15 04 32.7 -1.6**
KSAR Wonju Array Be 45.90 358 P **P 15 04 35.1 -0.5**
KSRS Korea Array 45.91 358 P **P 15 04 35.1 -0.6**
1.1nm,0.8s,mb3.8,baz=168,slow=13,SNR=3.9
SONM Songino Array 59.85 342 P **P 15 06 19.6 +1.3**
0.6nm,0.7s,mb3.8,baz=159,slow=6.1,SNR=5.3
SONM Songino Array 59.85 342 P **P 15 06 19.6 +1.3**
MK31 Makanchi Array 69.32 327 *e*P **P 15 07 19.7 -0.4**
MKAR Makanchi Array 69.32 327 P **P 15 07 20.4 +0.3**
3.1nm,0.9s,mb4.2,baz=127,slow=8.0,SNR=22
MKAR Makanchi Array 69.32 327 P **P 15 07 20.4 +0.3**
AAK Ala-Archa 71.46 320 *e*P **P 15 07 34.1 +0.9**
29nm,1.3s,mb5.0
EKS2 Erkin-Say 71.92 320 *e*P **P 15 07 36.7 +0.7**
5.0nm,1.2s,mb4.3
ZALV Zalesovo Beam 72.83 334 P **P 15 07 40.9 -0.3**
0.5nm,0.5s,mb3.8,baz=108,slow=4.8,SNR=5.4
ZALV Zalesovo Beam 72.83 334 P **P 15 07 40.9 -0.3**
KURK Kurchatov 73.65 329 *e*P **P 15 07 46.3 +0.2**
7.3nm,1.3s,mb4.5
BRVK Borovoye 79.25 328 P **P 15 08 18.0 +0.3**
3.6nm,1.1s,mb4.2
ABKAR Akbulak array 83.47 322 *e*P **P 15 08 40.2 +0.1**
4.4nm,1.0s,mb4.4
AKTO Aktyubinsk 85.05 323 P **P 15 08 49.2 +1.1**
2.8nm,0.8s,mb4.4,baz=132,slow=4.7
AKTO Aktyubinsk 85.05 323 P **P 15 08 49.2 +1.1**
ILAR Eielson Array 95.10 25 P **P 15 09 34.5 -0.7**
0.5nm,0.9s,mb4.0,baz=284,slow=3.6,SNR=3.6
ILAR Eielson Array 95.10 25 P **P 15 09 34.5 -0.7**
TORD Torodi Ar. Bea 128.56 280 PKP PKPdf 15 15 22.9 +2.6
0.5nm,1.1s,baz=90,slow=3.1,SNR=2.5
TORD Torodi Ar. Bea 128.56 280 PKP PKPdf 15 15 22.9 +2.6
CPUP Villa Florida 144.59 170 PKP PKPdf 15 15 53.1 +3.4
0.3nm,0.3s,baz=171,slow=9.0,SNR=3.0
CPUP Villa Florida 144.59 170 PKP PKPdf 15 15 53.1 +3.4
LPAZ La Paz 149.71 145 PKPbc PKPbc 15 16 08.9 +5.8
0.5nm,0.4s,baz=245,slow=3.5,SNR=3.1
LPAZ La Paz 149.71 145 PKPbc PKPbc 15 16 08.9 +5.8

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*BJI **09** 15:09:18.7,26°.90N×55°.02E,h14km,mB5.1/34,mb4.8/47, Ms4.8/35,MS7 4.5/31*
*SGS **09** 15:09:22.4,26°.96N×56°.29E,h12km*
*ISCJB **09** 15:09:23.1±0.1,26°.81N±0°.02×55°.80E±0°.02,h10km, mb4.9/163,MS4.3/37,Error ellipse: s-maj=2.3km s-min=2.2km az=30.2*
*NEIC **09** 15:09:23.9,26°.80N×55°.68E,h14km,mb5.2/79, ML5.0(THR),After THR.*
NEIC Felt at Dubai, United Arab Emirates.
*IDC **09** 15:09:23.2±0.5,26°.88N×55°.92E,h0km,mb4.6/25, mb1 4.7/29,mb1mx4.7/35,mbtmp4.6/29,ML4.4/4,MS4.2/20, Ms1 4.2/20,ms1mx4.1/42,Error ellipse: s-maj=13.6km s-min=10.7km az=4.0*
*TEH **09** 15:09:24.5,26°.75N×55°.70E,h27km*
*CSEM **09** 15:09:26.2±0.1,26°.94N×55°.86E,h15km,mb5.0/96,Ms4.1, Mw5.0,Error ellipse: s-maj=3.7km s-min=3.2km az=28.0*
*THR **09** 15:09:27.4±0.8,27°.08N×55°.80E,h15km,ML5.0*
*GCMT **09** 15:09:27.4±0.3,26°.75N×55°.80E,h14km,MW5.0,Moment Tensor Solution. s31,c39; s74,c109; Moment tensor: Scale 10^{16}Nm; M_{rr}3.69±.20; $M_{\theta\theta}$-3.55±.14; $M_{\phi\phi}$-0.14±.14; $M_{r\theta}$1.98±.30; $M_{\theta\phi}$-1.28±.10; $M_{\phi r}$-0.06±.36; Best double couple: M_0=4.30000×10^{16} NP1:ϕ_s241.00000°,δ33.00000°, λ73.00000°. NP2:ϕ_s81.00000°,δ59.00000°,λ101.00000°. Principal axes: T 4.2300, Plg74.0000°, Azm19.0000°; N 0.1800, Plg9.0000°, Azm256.0000°; P -4.4100, Plg13.0000°, Azm164.0000°; Data Used: II IU G CN IC.*
*MOS **09** 15:09:29.0±0.8,26°.99N×55°.84E,h52km,mb5.3/80, MS4.2/11 Error ellipse: s-maj=5.8km s-min=3.4km az=122.2*
*OMAN **09** 15:09:30.7±9.6,26°.83N×55°.98E,h46km±1km,Error ellipse: s-maj=4.1km s-min=2.5km az=333.0*
*SZGRF **09** 15:09:48.6,27°.72N×52°.85E,h33km,mb4.7,MS3.9, Southern Iran*
*DJA **09** 15:09:49,27°.23N×56°.72E,h164km,mb4.8/8*
ISC 09 15:09:24.9±0.1,26°.82N±0°.01×55°.83E±0°.02,h10km, (h21km±2.9km:pP-P),n915,σ1§22/946,mb4.9/163, MS4.3/37,90C-26D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.66**	**28**	*e*Pg	**Pg**	**15 09 37.0**	**-0.6**
BNDS				*e*Sg	**Sg**	**15 09 48.0**	**+1.8**
BNDS	**Bandar-Abbas**	**0.66**	**28**	*e*Pg	**Pg**	**15 09 36.3**	**-1.4**
BNDS	**Bandar-Abbas**	**0.66**	**28**	*e*Pg	**Pg**	**15 09 37.7**	**+0.1**
BNDS				*e*Sg	**Sg**	**15 09 48.0**	**+1.8**
IBND	**Bandar-abas**	**0.89**	**45**	*e*Pg	**Pg**	**15 09 39.5**	**-2.6**
IBND				*e*Sg	**Sg**	**15 10 00.2**	**+6.4**
IBND				*e*		15 10 18.4	
comp=Z,53μm,0.3s							
IBND	**Bandar-abas**	**0.89**	**45**	*e*Pg	**Pg**	**15 09 39.5**	**-2.6**
IBND				*e*Sg	**Sg**	**15 10 00.2**	**+6.4**
BANOM	**Banah**	**0.98**	**154**	P	**Pg**	**15 09 45.5**	**+1.6**
SNR=1223							
BANOM				P		15 09 46.3	
SNR=2426							
BANOM				P		15 09 46.5	
SNR=926							
BANOM	**Banah**	**0.98**	**154**	P	**Pg**	**15 09 46.5**	**+2.6**
SNR=926							
NAZ	**Nazwa, Dubai**	**1.83**	**185**	P	**Pg**	**15 10 00.7**	**+0.7**
SNR=1095							
NAZ				P		15 10 00.8	
SNR=576							
NAZ				P		15 10 01.2	
SNR=9.7							
NAZ	**Nazwa, Dubai**	**1.83**	**185**	P	**Pg**	**15 10 00.7**	**+0.7**
SNR=1000							
HATD	**Hatta, Dubai**	**2.00**	**172**	P	**Pg**	**15 10 02.3**	**-1.0**
SNR=4029							
HATD				P		15 10 02.5	
SNR=49							
HATD				P		15 10 02.5	
SNR=1356							
HATD	**Hatta, Dubai**	**2.00**	**172**	P	**Pg**	**15 10 02.5**	**-0.8**
SNR=49							
ASHO	**Ashiyiah**	**2.13**	**174**	P	**Pg**	**15 10 04.5**	**-1.3**
SNR=498							
ASHO				P		15 10 04.6	
SNR=1324							
ASHO				P		15 10 04.8	
SNR=931							
ASHO	**Ashiyiah**	**2.13**	**174**	P	**Pg**	**15 10 04.5**	**-1.3**
SNR=498							
ASUD	**Al Ashush, Dub**	**2.23**	**192**	P	**Pg**	**15 10 06.9**	**-0.7**
SNR=270							
ASUD				P		15 10 07.0	
SNR=235							
ASUD				P		15 10 07.3	
SNR=316							
ASUD	**Al Ashush, Dub**	**2.23**	**192**	P	**Pg**	**15 10 06.9**	**-0.7**
SNR=270							
KRBR	**Kerman**	**3.26**	**14**	*e*Pn	**Pn**	**15 10 17.0**	**+0.9**
KRBR	**Kerman**	**3.26**	**14**	*e*Pn	**Pn**	**15 10 17.4**	**+1.3**
KRBR				*e*Sg	**Sb**	**15 11 01.6**	**-1.0**
KRBR	**Kerman**	**3.26**	**14**	*e*Pn	**Pn**	**15 10 17.2**	**+1.1**
HOQ	**Hoqain**	**3.49**	**157**	P	**Pn**	**15 10 20.1**	**+0.9**
SNR=72							
HOQ				P		15 10 20.5	
SNR=129							
HOQ	**Hoqain**	**3.49**	**157**	P	**Pn**	**15 10 20.5**	**+1.3**
SNR=129							
ISRV	**Sarvestan**	**3.50**	**317**	*e*Pn	**Pn**	**15 10 21.9**	**+2.4**
ISRV				*e*		15 11 59.2	
comp=Z,52μm,0.6s							
ISRV	**Sarvestan**	**3.50**	**317**	*e*Pn	**Pn**	**15 10 21.9**	**+2.4**
ARQ	**Araqi**	**3.52**	**170**	P	**Pn**	**15 10 22.3**	**+2.6**
SNR=168							
ARQ				P		15 10 22.5	
SNR=49							
ARQ				P		15 10 22.5	
SNR=234							
ARQ	**Araqi**	**3.52**	**170**	P	**Pn**	**15 10 22.5**	**+2.8**
SNR=49							
IPAR	**Pars**	**3.88**	**322**	*e*Pn	**Pn**	**15 10 27.5**	**+2.8**
IPAR	**Pars**	**3.88**	**322**	*e*Pn	**Pn**	**15 10 27.5**	**+2.8**
BSY	**Bisya**	**4.24**	**163**	P	**Pn**	**15 10 33.0**	**+3.4**
SNR=94							
SMDO	**Samad**	**4.25**	**151**	P	**Pn**	**15 10 32.3**	**+2.5**
SNR=153							
SMDO				P		15 10 32.8	
SNR=25							
SMDO	**Samad**	**4.25**	**151**	P	**Pn**	**15 10 32.8**	**+3.1**
SNR=25							
BSYO	**Bisya**	**4.26**	**162**	P	**Pn**	**15 10 33.0**	**+3.1**
SNR=94							
IMEH	**Mehriz**	**4.68**	**347**	*e*Pn	**Pn**	**15 10 37.5**	**+1.9**
IMEH	**Mehriz**	**4.68**	**347**	*e*Pn	**Pn**	**15 10 37.5**	**+1.9**
IBAF	**Bafgh**	**4.76**	**357**	*e*Pn	**Pn**	**15 10 37.6**	**+0.9**
IBAF	**Bafgh**	**4.76**	**357**	*e*Pn	**Pn**	**15 10 37.6**	**+0.9**
JMDO	**Jabal Madar**	**4.89**	**154**	P	**Pn**	**15 10 41.4**	**+2.9**
SNR=60							
JMDO				P		15 10 42.4	
SNR=14							
JMDO	**Jabal Madar**	**4.89**	**154**	P	**Pn**	**15 10 41.4**	**+2.9**
SNR=60							
SLWS		**5.09**	**248**	P	**Pn**	**15 10 43.6**	**+2.4**
SLWS		**5.09**	**248**	P	**Pn**	**15 10 43.7**	**+2.5**
SLWS				S	**Sn**	**15 11 43.6**	**+3.6**
ZHSF	**Zahedan**	**5.18**	**56**	*e*Sg	**Sg**	**15 12 08.0**	**-3.2**
ZHSF	**Zahedan**	**5.18**	**56**	*e*Sg	**Sg**	**15 12 08.1**	**-3.1**
BTHS		**5.28**	**240**	P	**Pn**	**15 10 45.7**	**+1.8**
BTHS		**5.28**	**240**	P	**Pn**	**15 10 45.7**	**+1.8**
BTHS				S	**Sn**	**15 11 47.9**	**+3.0**
ISAD	**Sadrabad**	**5.41**	**340**	*e*Pn	**Pn**	**15 10 48.3**	**+2.6**
ISAD	**Sadrabad**	**5.41**	**340**	*e*Pn	**Pn**	**15 10 48.3**	**+2.6**
ICHK	**Chekchek**	**5.55**	**347**	*e*Pn	**Pn**	**15 10 49.0**	**+1.5**
ICHK	**Chekchek**	**5.55**	**347**	*e*Pn	**Pn**	**15 10 49.0**	**+1.5**
BOQSS		**5.87**	**262**	P	**Pn**	**15 10 53.7**	**+1.8**
IKOO	**Kooshah**	**6.23**	**26**	*e*Pn	**Pn**	**15 10 58.6**	**+1.6**
IKOO				*e*		15 11 43.4	
comp=Z,3μm,0.3s							
IKOO	**Kooshah**	**6.23**	**26**	*e*Pn	**Pn**	**15 10 58.6**	**+1.6**
IGAR	**Gharneh**	**6.47**	**330**	*e*Pn	**Pn**	**15 11 01.9**	**+1.7**
IGAR				*e*Sn	**Sn**	**15 12 10.8**	**-3.3**
NASN	**Na'in**	**6.51**	**337**	*e*Pn	**Pn**	**15 11 01.0**	**+0.2**
NASN	**Na'in**	**6.51**	**337**	*e*Pn	**Pn**	**15 11 02.0**	**+1.2**
NASN	**Na'in**	**6.51**	**337**	*e*Pn	**Pn**	**15 11 01.9**	**+1.1**
ITEG	**Tejag**	**6.57**	**22**	*e*Pn	**Pn**	**15 11 04.2**	**+2.7**
ITEG				*e*		15 13 34.0	
comp=Z,4μm,0.5s							
ITEG	**Tejag**	**6.57**	**22**	*e*Pn	**Pn**	**15 11 04.2**	**+2.7**
IZEF	**Zefreh**	**6.78**	**334**	*e*	**Pn**	**15 11 06.1**	**+1.7**
comp=Z,3μm,0.3s							
IZEF				*e*Pn	**Pn**	**15 11 05.0**	**+0.6**
IDAH	**Dahanechah**	**6.87**	**30**	*e*Pn	**Pn**	**15 11 05.8**	**+0.2**
IDAH				*e*		15 13 40.7	
comp=Z,5μm,0.8s							
IDAH	**Dahanechah**	**6.87**	**30**	*e*Pn	**Pn**	**15 11 05.8**	**+0.2**
TABS	**Tabas**	**6.90**	**9**	*e*Pn	**Pn**	**15 11 07.3**	**+1.2**
TABS	**Tabas**	**6.90**	**9**	*e*Pn	**Pn**	**15 11 07.4**	**+1.3**
HRDDS		**6.96**	**238**	P	**Pn**	**15 11 08.4**	**+1.5**
IMON	**Monand**	**7.17**	**27**	*e*Pn	**Pn**	**15 11 07.3**	**-2.5**
IMON				*e*		15 13 29.4	
comp=E,8μm,0.4s							
IMON	**Monand**	**7.17**	**27**	*e*Pn	**Pn**	**15 11 07.3**	**-2.5**
IPIR	**Pirpir**	**7.25**	**325**	*e*Pn	**Pn**	**15 11 12.4**	**+1.5**
IPIR				*e*		15 11 17.8	
comp=Z,5μm,0.3s							
IPIR	**Pirpir**	**7.25**	**325**	*e*Pn	**Pn**	**15 11 12.4**	**+1.5**
QRN	**Al-Qurain**	**7.27**	**287**	*e*P	**Pn**	**15 11 12.1**	**+1.0**
IKLH	**Kolahrood**	**7.45**	**331**	*e*Pn	**Pn**	**15 11 13.8**	**+0.1**
IKLH				*e*Sn	**Sn**	**15 12 35.6**	**-2.7**
IKLH	**Kolahrood**	**7.45**	**331**	*e*Pn	**Pn**	**15 11 13.8**	**+0.1**
IKLH				*e*Sn	**Sn**	**15 12 35.6**	**-2.7**
KBD	**Kabd**	**7.57**	**290**	*e*P	**Pn**	**15 11 16.8**	**+1.5**
RDF	**Al-Radifah**	**7.62**	**288**	*e*P	**Pn**	**15 11 17.4**	**+1.4**
UMR	**Umm Al-Rimmam**	**7.66**	**293**	*e*P	**Pn**	**15 11 17.9**	**+1.3**
NAY	**Al-Naaiem**	**7.96**	**290**	*e*P	**Pn**	**15 11 21.9**	**+1.1**
MIB	**Mutribah**	**8.05**	**294**	*e*P	**Pn**	**15 11 23.9**	**+1.9**
SHGR	**Shooshtar-Gavs**	**8.08**	**312**	*e*Pn	**Pn**	**15 11 23.4**	**+1.1**
GHVR	**GHOM**	**8.58**	**334**	*e*Pn	**Pn**	**15 11 30.0**	**+0.9**
GHVR	**GHOM**	**8.58**	**334**	*e*Pn	**Pn**	**15 11 30.0**	**+0.9**
GHVR				AML	AML	15 12 06.5	
comp=E,91nm,0.3s							
GHVR	**GHOM**	**8.58**	**334**	*e*Pn	**Pn**	**15 11 30.1**	**+1.0**
IANJ	**Anjilo**	**8.78**	**350**	*e*Pn	**Pn**	**15 11 33.0**	**+1.1**
IANJ				*e*		15 12 14.1	
comp=Z,1μm,0.4s							
IANJ	**Anjilo**	**8.78**	**350**	*e*Pn	**Pn**	**15 11 33.0**	**+1.1**
IVRN	**Varamin**	**8.88**	**338**	*e*Pn	**Pn**	**15 11 34.3**	**+1.0**
IVRN				*e*		15 11 52.8	
comp=Z,3μm,0.5s							
IVRN	**Varamin**	**8.88**	**338**	*e*Pn	**Pn**	**15 11 34.3**	**+1.0**
ILAS	**Lasjerd**	**8.88**	**345**	*e*Pn	**Pn**	**15 11 34.9**	**+1.6**
ILAS	**Lasjerd**	**8.88**	**345**	*e*Pn	**Pn**	**15 11 34.9**	**+1.6**
ASAO	**Ashtian**	**9.18**	**328**	*e*Pn	**Pn**	**15 11 37.0**	**-0.4**
ASAO	**Ashtian**	**9.18**	**328**	*e*Pn	**Pn**	**15 11 38.1**	**+0.7**
ASAO	**Ashtian**	**9.18**	**328**	*e*Pn	**Pn**	**15 11 37.8**	**+0.4**
IFIR	**Firoozkooh**	**9.18**	**344**	*e*Pn	**Pn**	**15 11 38.7**	**+1.3**
IFIR				*e*		15 11 48.2	
comp=Z,440nm,0.2s							
IFIR	**Firoozkooh**	**9.18**	**344**	*e*Pn	**Pn**	**15 11 38.7**	**+1.3**
ISHM	**Shahmirzad**	**9.22**	**347**	*e*Pn	**Pn**	**15 11 39.1**	**+1.2**
ISHM				*e*		15 11 45.3	
comp=Z,3μm,0.4s							
ISHM	**Shahmirzad**	**9.22**	**347**	*e*Pn	**Pn**	**15 11 39.1**	**+1.2**
IDMV	**Damavand**	**9.32**	**341**	*e*Pn	**Pn**	**15 11 40.9**	**+1.6**
IDMV				*e*		15 11 42.1	
comp=Z,1μm,0.3s							
IDMV	**Damavand**	**9.32**	**341**	*e*Pn	**Pn**	**15 11 40.9**	**+1.6**
DAMV	**Damavand**	**9.38**	**340**	*e*Pn	**Pn**	**15 11 41.0**	**+0.8**
DAMV	**Damavand**	**9.38**	**340**	*e*Pn	**Pn**	**15 11 41.9**	**+1.7**
DAMV				AML	AML	15 11 45.6	
comp=E,70nm,0.8s							
DAMV	**Damavand**	**9.38**	**340**	*e*Pn	**Pn**	**15 11 41.1**	**+0.9**
RBK	**Rabkut**	**9.39**	**190**	P	**Pn**	**15 11 40.5**	**+0.1**
SNR=13							
RBK				P		15 11 41.2	
SNR=23							
IKIA	**Kiasar**	**9.54**	**349**	*e*Pn	**Pn**	**15 11 44.1**	**+1.8**
IKIA	**Kiasar**	**9.54**	**349**	*e*Pn	**Pn**	**15 11 44.1**	**+1.8**
IR3	**Iran Long-Peri**	**9.56**	**336**	*e*Pn	**Pn**	**15 11 42.9**	**+0.3**
IR3	**Iran Long-Peri**	**9.56**	**336**	*e*Pn	**Pn**	**15 11 42.9**	**+0.3**
IALA	**Alasht**	**9.59**	**345**	*e*Pn	**Pn**	**15 11 44.2**	**+1.2**
IALA				*e*		15 11 51.9	
comp=Z,2μm,0.3s							
IALA	**Alasht**	**9.59**	**345**	*e*Pn	**Pn**	**15 11 44.2**	**+1.2**
ABTO	**Aybut**	**9.71**	**194**	P	**Pn**	**15 11 45.5**	**+0.8**
SNR=39							
ABTO				P		15 11 46.0	
SNR=28							
IGLO	**Ghaloghah**	**9.80**	**351**	*e*Pn	**Pn**	**15 11 48.5**	**+2.5**
IPRN	**Peran**	**9.86**	**343**	*e*Pn	**Pn**	**15 11 49.1**	**+2.5**
IPRN				*e*		15 11 53.8	
comp=Z,3μm,0.2s							
IMHD	**Mahdasht**	**9.88**	**335**	*e*Pn	**Pn**	**15 11 47.3**	**+0.3**
IMHD				*e*		15 11 59.9	
comp=Z,633nm,0.2s							
IMHD	**Mahdasht**	**9.88**	**335**	*e*Pn	**Pn**	**15 11 47.3**	**+0.3**
RAYN	**Ar Rayn**	**9.91**	**253**	Pn	**Pn**	**15 11 46.5**	**-1.0**
comp=Z,520nm,0.7s,SNR=52							
IMYA	**Miami**	**10.17**	**20**	*e*Pn	**Pn**	**15 11 53.1**	**+2.2**
IMYA	**Miami**	**10.17**	**20**	*e*Pn	**Pn**	**15 11 53.1**	**+2.2**
IKRD	**Kardeh**	**10.19**	**12**	*e*Pn	**Pn**	**15 11 56.7**	**+5.5**
IKRD	**Kardeh**	**10.19**	**12**	*e*Pn	**Pn**	**15 11 56.7**	**+5.5**
IKOM	**Komasi**	**10.26**	**318**	*e*Pn	**Pn**	**15 11 52.4**	**+0.3**
IKOM				*e*		15 11 54.2	
comp=Z,6μm,0.4s							
IKOM	**Komasi**	**10.26**	**318**	*e*Pn	**Pn**	**15 11 52.4**	**+0.3**
IVIS	**Veis**	**10.89**	**317**	*e*Pn	**Pn**	**15 12 00.5**	**-0.4**
IVIS				*e*		15 12 14.2	
comp=Z,2μm,0.2s							
IVIS	**Veis**	**10.89**	**317**	*e*Pn	**Pn**	**15 12 00.5**	**-0.4**
IGHG	**Ghaleghazi**	**10.94**	**315**	*e*Pn	**Pn**	**15 12 01.5**	**0.0**
IGHG				*e*		15 15 03.0	
comp=Z,4μm,0.5s							
IGHG	**Ghaleghazi**	**10.94**	**315**	*e*Pn	**Pn**	**15 12 01.5**	**0.0**
IDHR	**Dehrash**	**11.29**	**316**	*e*	Px	15 12 18.8	
comp=Z,3μm,0.2s							
IDHR				*e*Pn	**Pn**	**15 12 05.0**	**-1.4**
BHD	**Baghdad**	**11.82**	**306**	*ex*	**Pn**	**15 12 11.8**	**-1.7**
BHD				*ex*	x	15 14 18.5	
KBL	**Kabul**	**13.72**	**53**	*e*Pn	**Pn**	**15 12 42.4**	**+2.9**
comp=Z,23nm,0.8s							
KBL	**Kabul**	**13.72**	**53**	*e*P	**Pn**	**15 12 42.4**	**+2.8**
KBL				pmax	pmax		
comp=Z,23nm,0.8s							
KBL	**Kabul**	**13.72**	**53**	*e*P	**Pn**	**15 12 42.4**	**+2.8**
comp=Z,23nm,0.8s							
MUKL	**Al Mukalla**	**13.82**	**209**	*e*P	**Pn**	**15 12 39.6**	**-1.4**
MUKL				*i* S	**Sn**	**15 15 13.4**	**-1.1**
CUKT	**Cukurca**	**14.67**	**318**	*e*P	**Pn**	**15 12 48.0**	**-4.5**
HAKT	**HAKKARI**	**14.82**	**319**	*i* P	**Pn**	**15 12 46.5**	**-7.9**
THW	**Thamme Wali**	**15.04**	**63**	P	**Pn**	**15 12 56.4**	**-1.1**
CEP	**Cherat**	**15.53**	**59**	P	**Pn**	**15 13 06.2**	**+2.2**
SARP	**Sargodha**	**15.54**	**67**	P	**Pn**	**15 13 00.3**	**-3.8**
SARR	**Saratov**	**15.54**	**67**	pmax	pmax		
comp=Z,51nm,0.5s							
SARR				MLR	MLR		
comp=N,556nm,4.0s							
TVAN	**Van**	**15.66**	**321**	*i* P	**Pn**	**15 13 06.8**	**+1.2**
GEVA	**Gevas**	**15.71**	**320**	*i* P	**Pn**	**15 13 01.5**	**-4.7**
VANB	**Van**	**15.71**	**321**	*e*P	**Pn**	**15 13 03.9**	**-2.5**
CLDR	**Caldiran**	**15.82**	**324**	*e*P	**Pn**	**15 13 07.0**	**-0.8**
HAJJ	**Hajjah**	**15.87**	**228‖**	*e*P	**Pn**	**15 13 06.7**	**-1.8**
BDHA	**Al Bayda'**	**15.98**	**219‖**	*e*P	**Pn**	**15 13 08.3**	**-1.6**
BDHA				AMb	AMB	15 13 09.2	
comp=Z,80nm,1.2s							
BDHA				*i* S	**Sn**	**15 16 05.5**	**-1.7**
GNI	**Garni**	**16.18**	**328**	*e*P	**Pn**	**15 13 14.9**	**+2.6**
GNI	**Garni**	**16.18**	**328**	*e*P	**Pn**	**15 13 14.2**	**+1.9**
comp=Z,152nm,1.0s							
GNI	**Garni**	**16.18**	**328**	*e*P	**Pn**	**15 13 14.2**	**+1.9**
GNI				pmax	pmax		
comp=Z,152nm,1.0s							
GNI	**Garni**	**16.18**	**328**	*e*P	**Pn**	**15 13 14.2**	**+1.9**
comp=Z,152nm,1.0s							
DHBB	**Dhamar BB**	**16.20**	**223‖**	*e*P	**Pn**	**15 13 11.1**	**-1.6**
DHBB				AMb	AMB	15 13 12.1	
comp=Z,235nm,1.3s							
DHBB				*i* S	**Sn**	**15 16 10.8**	**-1.8**
LBOS		**16.24**	**220‖**	*e*P	**Pn**	**15 13 11.8**	**-1.5**
LBOS				AMb	AMB	15 13 13.1	
comp=Z,195nm,2.2s							
LBOS				*i* S	**Sn**	**15 16 12.0**	**-1.6**
MARD	**Mardin**	**16.48**	**313**	*i* P	**Pn**	**15 13 14.3**	**-1.9**
TUTA	**Tutak**	**16.60**	**322**	*i* P	**Pn**	**15 13 19.6**	**+1.9**
AGRB	**Hanur-Agry**	**16.63**	**323**	*e*P	**Pn**	**15 13 20.2**	**+2.1**
UDYN	**Al 'Udayn**	**16.93**	**223**	*e*P	**Pn**	**15 13 20.1**	**-1.9**
UDYN	**Al 'Udayn**	**16.93**	**223**	*e*P	**Pn**	**15 13 20.1**	**-1.9**
UDYN				*i* S	**Sn**	**15 16 24.9**	**-5.3**
DGRG	**David-gareji**	**16.95**	**332**	P	**Pn**	**15 13 24.0**	**+1.9**
VRTB	**Varto-Mus**	**17.20**	**319**	*e*P	**Pn**	**15 13 24.9**	**-0.4**
ASF	**Jabal al Asfar**	**17.32**	**292**	P	**Pn**	**15 13 28.0**	**+1.2**
comp=Z,1.9nm,0.3s,baz=319,slow=5.4,SNR=14							
ASF				S	**Sn**	**15 16 43.9**	**+4.4**
comp=Z,0.5nm,0.3s,baz=321,slow=22,SNR=4.1							
ASF				LR	LR	15 20 54.6	
com

KTUT Trabzon 19.38 321 *e*P **Pn** **15 13 52.5 +0.5**
ATD Arta Tunnel 19.51 221 P **Pn** **15 13 55.0 +1.4**
comp=Z,1.8nm,0.3s,baz=359,slow=11,SNR=12
ATD LR LR 15 21 54.6
comp=Z,773nm,18.5s,baz=40,slow=38
ATD Arta Tunnel 19.51 221 P **Pn** **15 13 55.0 +1.4**
ATD Arta Tunnel 19.51 221 P **Pn** **15 13 55.0 +1.4**
ANDN Andirin 19.64 308 *i* P **Pn** **15 13 55.9 +0.9**
CEYT Ceyhan 19.81 306 *e*P **Pn** **15 13 51.8 -5.3**
SUSE Susehri 19.81 317 *i* P **Pn** **15 13 48.5 -8.6**
ESPY Espiye-Giresun 19.93 319 *e*P **Pn** **15 13 59.0 +0.5**
KOZT Kozan 19.96 307 *e*P **Pn** **15 14 01.1 +2.3**
PINB Pinarbasi 20.12 311 *i* P **P** **15 13 58.1 -0.9**
KIV Kislovodsk 20.14 332 *e*P **P** **15 14 00.5 +1.4**
comp=Z,340nm,1.0s
KIV Kislovodsk 20.14 332*c i*P **P** **15 14 00.8 +1.8**
KIV *e*S **S** **15 17 41.2 -3.9**
KIV pmax pmax
comp=Z,352nm,0.9s
KIV MLR MLR
comp=Z,119nm,12.0s,MS3.5
KIV Kislovodsk 20.14 332 Pn **P** **15 14 00.0 +1.0**
comp=Z,2μm,1.0s,SNR=43
KIV Kislovodsk 20.14 332 *e*P **P** **15 14 00.5 +1.5**
comp=Z,340nm,1.0s
KK31 Karatay Array 20.17 33 *i* P **P** **15 13 58.3 -1.1**
KK31 pmax pmax
comp=Z,12nm,0.6s
KK31 Karatay Array 20.17 33 *i* P **P** **15 13 58.3 -1.1**
comp=Z,12nm,0.6s
KKAR Karatay Array 20.17 33 *e*P **P** **15 13 58.0 -1.4**
comp=Z,10nm,0.6s
KKAR Karatay Array 20.17 33 *e*P **P** **15 13 58.0 -1.4**
KKAR pmax pmax
comp=Z,10.0nm,0.6s
KKAR Karatay Array 20.17 33 *e*P **P** **15 13 58.0 -1.4**
comp=Z,10nm,0.6s
GRSN GIRESUNGRSN 20.21 319 *i* P **P** **15 13 58.1 -1.8**
SCER sogukcermik 20.28 315 *i* P **P** **15 13 57.0 -3.6**
RSDY Resadiye-TOKAT 20.46 316 *e*P **P** **15 14 03.2 +0.6**
RSDY Resadiye-TOKAT 20.46 316 *e*P **P** **15 14 03.2 +0.6**
BNN Bunyan 20.59 311 *e*P **P** **15 14 02.5 -1.5**
BNN Bunyan 20.59 311 *e*P **P** **15 14 02.5 -1.5**
CSS Prodhromos 20.91 298 *e*P **P** **15 14 09.1 +1.5**
comp=Z,223nm,1.4s
CSS Prodhromos 20.91 298 *e*P **P** **15 14 09.1 +1.5**
comp=Z,223nm,1.4s
TOKA Tokat 20.95 315 *i* P **P** **15 14 03.4 -4.5**
ERBA Erbaa 20.98 316 *i* P **P** **15 14 04.5 -3.8**
KSH Kashi 21.03 48 P **P** **15 14 00.8 -8.0**
KSH PcP PcP 15 18 15.2 -0.4
KSH pmax pmax
comp=Z,49nm,0.7s,mb5.0
KSH pmax pmax
comp=Z,330nm,5.8s
KSH LR LR
comp=N,1μm,9.1s
KSH LR LR
comp=E,830nm,12.4s
KSH LR LR
comp=Z,1μm,11.7s,MS4.5
AML Almayashu 21.16 39 P **P** **15 14 09.1 -1.0**
SNR=24
AML P 15 14 09.1
SNR=24
SOC Sochi 21.23 326 *e*P **P** **15 14 09.7 -1.1**
SOC *e**PP 15 14 24.9
SOC *e**SP sP 15 14 34.7 +20
SOC *e*S **S** **15 17 58.0 -8.7**
SOC pmax pmax
comp=Z,183nm,0.9s,mb5.4
SOC MLR MLR
comp=Z,623nm,11.0s,MS4.3
SOC Sochi 21.23 326 *e*P **P** **15 14 09.7 -1.1**
comp=Z,183nm,0.9s,mb5.4
AVNT Avonos 21.23 309 *i* P **P** **15 14 10.9 -0.1**
AVNT Avonos 21.23 309 *i* P **P** **15 14 10.9 -0.1**
EKS2 Erkin-Say 21.55 38 P **P** **15 14 13.9 -0.5**
SNR=29
EKS2 P 15 14 13.9
SNR=29
EKS2 Erkin-Say 21.55 38 *e*P **P** **15 14 13.6 -0.8**
comp=Z,66nm,1.0s,mb5.0
EKS2 Erkin-Say 21.55 38 *e*P **P** **15 14 13.6 -0.8**
EKS2 pmax pmax
comp=Z,66nm,1.0s,mb5.0
EKS2 Erkin-Say 21.55 38 *e*P **P** **15 14 13.6 -0.8**
comp=Z,66nm,1.0s,mb5.0
SULT Sultanhani-AKS 21.92 307 *e*P **P** **15 14 21.5 +3.1**
SULT Sultanhani-AKS 21.92 307 *e*P **P** **15 14 21.5 +3.1**
AAK Ala-Archa 21.93 39 P **P** **15 14 22.5 +4.0**
SNR=21
AAK P 15 14 22.5
SNR=21
AAK Ala-Archa 21.93 39 P **P** **15 14 18.0 -0.5**
comp=Z,152nm,0.7s,mb5.5,SNR=9.8
AAK Ala-Archa 21.93 39 *e*P **P** **15 14 17.7 -0.8**
comp=Z,180nm,1.0s,mb5.5
AAK Ala-Archa 21.93 39 *e*P **P** **15 14 17.7 -0.8**
AAK pmax pmax
comp=Z,180nm,1.0s,mb5.5
AAK Ala-Archa 21.93 39 P **P** **15 14 18.9 +0.4**
comp=Z,3μmcomp=Z,171nm,2.0s,mb5.1
AAK Ala-Archa 21.93 39 P **P** **15 14 19.6 +1.1**
SNR=36
AAK Ala-Archa 21.93 39 *e*P **P** **15 14 17.7 -0.8**
comp=Z,180nm,1.0s,mb5.5
NGP Nagpur 21.94 100 *e*PKP **P** **15 14 21.4 +2.7**
NGP *e*x x 15 18 53.2
KZA Kyzart 22.02 41 P **P** **15 14 22.9 +3.5**
SNR=28
KZA P 15 14 22.9
SNR=28
CORM Corum 22.07 312 *e*P **P** **15 14 21.5 +1.5**
CORM Corum 22.07 312 *e*P **P** **15 14 21.5 +1.6**
FRU Bishkek 22.13 39 *e*P **P** **15 14 24.0 +3.4**
FRU *e* 15 14 54.0
FRU pmax pmax
comp=Z,100nm,2.0s,mb4.9
CTKT Corum 22.19 314 *i* P **P** **15 14 22.6 +1.3**
CTKT Corum 22.19 314 *i* P **P** **15 14 22.6 +1.3**
HDMB Hadim 22.20 303 *e*P **P** **15 14 26.6 +5.3**
KBK Karagaybulak 22.20 40 P **P** **15 14 21.7 +0.3**
SNR=19
KBK P 15 14 21.7
SNR=19
CHMS Chumysh 22.31 39 P **P** **15 14 27.7 +5.1**
SNR=7.5
CHMS P 15 14 27.7
SNR=7.5
USP Ospenovka 22.35 38 P **P** **15 14 24.4 +1.5**
SNR=16
USP P 15 14 24.4
SNR=16
BR131 Keskin Array S 22.51 310 *e*P **P** **15 14 24.5 -0.1**
comp=Z,34nm,0.7s,mb4.9
BR131 Keskin Array S 22.51 310 *e*P **P** **15 14 24.5 -0.2**
comp=Z,34nm,0.7s,mb4.9
BRTR Keskin Array B 22.51 310 P **P** **15 14 25.2 +0.6**
comp=Z,20nm,0.8s,mb4.6,baz=130,slow=13,SNR=35
BRTR LR LR 15 24 30.0
comp=Z,784nm,21.1s,MS4.1,baz=114,slow=40
BRTR Keskin Array B 22.51 310 P **P** **15 14 25.2 +0.6**
BRTR Keskin Array B 22.51 310 P **P** **15 14 25.2 +0.6**
BRTR Keskin Array B 22.51 310 P **P** **15 14 25.2 +0.6**
BOYT Boyabat 22.55 316 *i* P **P** **15 14 20.5 -4.6**
AB31 Akbulak array 22.63 7 P **P** **15 14 24.4 -1.4**
AB31 pmax pmax
comp=Z,93nm,1.2s,mb5.1
AB31 Akbulak array 22.63 7 P **P** **15 14 24.4 -1.4**
comp=Z,93nm,1.2s,mb5.1
ABKAR Akbulak array 22.63 7 *e*P **P** **15 14 23.9 -2.0**
comp=Z,27nm,0.8s,mb4.7
ABKAR Akbulak array 22.63 7 *e*P **P** **15 14 23.9 -1.9**
comp=Z,27nm,0.8s,mb4.7
KONT Konya--Tatoy 22.65 305 *e*P **P** **15 14 27.7 +1.5**
KONT Konya--Tatoy 22.65 305 *e*P **P** **15 14 27.7 +1.5**
TKM2 Tokmak 2 22.74 40 P **P** **15 14 28.5 +1.4**
SNR=11
TKM2 P 15 14 28.5
SNR=11
TKM2 Tokmak 2 22.74 40 *e*P **P** **15 14 26.0 -1.0**
comp=Z,56nm,1.4s,mb4.8
TKM2 Tokmak 2 22.74 40 *e*P **P** **15 14 26.0 -1.1**
TKM2 pmax pmax
comp=Z,56nm,1.4s,mb4.8
TKM2 Tokmak 2 22.74 40 *e*P **P** **15 14 26.0 -1.0**
comp=Z,56nm,1.4s,mb4.8
LADK Ladik-KONYA 22.75 306 *e*P **P** **15 14 30.1 +2.9**
LADK Ladik-KONYA 22.75 306 *e*P **P** **15 14 30.1 +2.9**
AFSR Af´ar-Bala (A 22.77 309 *e*P **P** **15 14 30.4 +3.0**
AFSR Af´ar-Bala (A 22.77 309 *e*P **P** **15 14 30.4 +3.0**
BBAL Bala 22.78 310 *i* P **P** **15 14 30.1 +2.6**
BBAL Bala 22.78 310 *i* P **P** **15 14 30.1 +2.6**
TOS Tosya 22.91 314 *e*P **P** **15 14 30.1 +1.3**
TOS Tosya 22.91 314 *e*P **P** **15 14 30.1 +1.3**
CANT Cankiri 22.95 312 *e*P **P** **15 14 27.0 -2.3**
HYB Hyderabad 23.00 109 *i* P **P** **15 14 32.0 +1.9**
LOD Lodumlu 23.18 310 *e*P **P** **15 14 31.1 -0.6**
LOD Lodumlu 23.18 310 *e*P **P** **15 14 31.1 -0.7**
ANN Anapa 23.24 325 *e*P **P** **15 14 27.8 -4.6**
ANN *e**PP 15 14 43.8
ANN *e*S **S** **15 18 31.7 -13**
ANN pmax pmax
comp=Z,53nm,1.1s,mb4.9
KIZT Kizilcal 23.37 307 *e*P **P** **15 14 33.9 +0.2**
KIZT Kizilcal 23.37 307 *e*P **P** **15 14 33.9 +0.2**
BALT Daday 23.57 314 *i* P **P** **15 14 37.6 +1.7**
BALT Daday 23.57 314 *i* P **P** **15 14 37.6 +1.8**
AKTO Aktyubinsk 23.64 3 P **P** **15 14 35.7 -0.7**
comp=Z,13nm,0.6s,mb4.5,baz=184,slow=9.4,SNR=46
AKTO LR LR 15 24 58.1
comp=Z,942nm,18.9s,MS4.3,baz=171,slow=40
AKTO Aktyubinsk 23.64 3 P **P** **15 14 35.7 -0.7**
AKTO Aktyubinsk 23.64 3 P **P** **15 14 35.7 -0.6**
AKTO Aktyubinsk 23.64 3 P **P** **15 14 35.7 -0.6**
SVRH Sivrihisar-ESK 23.85 308 *e*P **P** **15 14 37.0 -1.4**
SVRH Sivrihisar-ESK 23.85 308 *e*P **P** **15 14 37.0 -1.4**
SAFT Safranbolu 23.88 313 *e*P **P** **15 14 35.6 -3.0**
FURI Furi 24.11 225 *i* P **P** **15 14 45.3 +4.3**
KOLN Koldanda 24.68 81 *e*P **P** **15 14 48.6 +2.5**
comp=Z,29nm,0.8s,mb4.9
KOLN Koldanda 24.68 81 *e*P **P** **15 14 48.6 +2.5**
comp=Z,29nm,0.8s,mb4.9
KOLN Koldanda 24.68 81 *e*P **P** **15 14 48.6 +2.5**
comp=Z,29nm,0.8s,mb4.9
DANN Dangsing 24.79 80 *e*P **P** **15 14 48.8 +1.8**
comp=Z,134nm,0.9s,mb5.5
DANN Dangsing 24.79 80 *e*P **P** **15 14 48.8 +1.8**
comp=Z,134nm,0.9s,mb5.5
DANN Dangsing 24.79 80 *e*P **P** **15 14 48.8 +1.8**
comp=Z,134nm,0.9s,mb5.5
SIM Simferopol' 25.11 322*ce*P **P** **15 14 49.9 +0.1**
SIM pmax pmax
comp=Z,41nm,0.8s,mb5.0
GKN Gorkha 25.58 81 *e*P **P** **15 14 55.4 +1.1**
comp=Z,71nm,1.2s,mb5.1
GKN Gorkha 25.58 81 *e*P **P** **15 14 55.4 +1.1**
comp=Z,71nm,1.2s,mb5.1
GKN Gorkha 25.58 81 *e*P **P** **15 14 55.4 +1.1**
comp=Z,71nm,1.2s,mb5.1
SARR Saratov 25.81 345*ce*P **P** **15 14 55.6 -0.5**
SARR pmax pmax
comp=Z,51nm,0.5s,mb5.3
SARR MLR MLR
comp=N,556nm,4.0s
DMN Daman 26.02 82 *e*P **P** **15 14 59.0 +0.7**
DMN Daman 26.02 82 *e*P **P** **15 14 59.0 +0.7**
DMN Daman 26.02 82 *e*P **P** **15 14 59.0 +0.7**
KKN Kakani 26.16 81 *e*P **P** **15 15 01.2 +1.6**
KKN Kakani 26.16 81 *e*P **P** **15 15 01.2 +1.6**
KKN Kakani 26.16 81 *e*P **P** **15 15 01.2 +1.6**
KKN Kakani 26.16 81 *e*P **P** **15 15 01.2 +1.6**
PKI Pulchoki 26.30 82 *e*P **P** **15 15 02.4 +1.6**
PKI Pulchoki 26.30 82 *e*P **P** **15 15 02.4 +1.6**
PKI Pulchoki 26.30 82 *e*P **P** **15 15 02.4 +1.6**
PKI Pulchoki 26.30 82 *e*P **P** **15 15 02.4 +1.6**
GUN Gumba 26.68 81 *e*P **P** **15 15 05.4 +1.2**
comp=N,98nm,1.0s,mb5.3
GUN Gumba 26.68 81 *e*P **P** **15 15 05.4 +1.2**
comp=N,98nm,1.0s,mb5.3
GUN Gumba 26.68 81 *e*P **P** **15 15 05.4 +1.2**
comp=N,98nm,1.0s,mb5.3
JIRN Jiri 26.98 81 *e*P **P** **15 15 08.5 +1.6**
JIRN Jiri 26.98 81 *e*P **P** **15 15 08.5 +1.6**
JIRN Jiri 26.98 81 *e*P **P** **15 15 08.5 +1.6**
RAMN Ramite 27.42 83 *e*P **P** **15 15 11.2 +0.3**
RAMN Ramite 27.42 83 *e*P **P** **15 15 11.2 +0.3**
RAMN Ramite 27.42 83 *e*P **P** **15 15 11.2 +0.3**
VSR Storozhevoye 27.46 337 *e*P **P** **15 15 10.3 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.5s,mb4.6
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,10.0nm,0.8s
APE Apeiranthos 27.56 299 ⇓P **P** **15 15 20.9 +8.8**
APE Apeiranthos 27.56 299 ⇓*i*P **P** **15 15 20.9 +8.8**
ODAN Odare 28.13 83 *e*P **P** **15 15 17.0 -0.2**
ODAN Odare 28.13 83 *e*P **P** **15 15 17.0 -0.2**
ODAN Odare 28.13 83 *e*P **P** **15 15 17.0 -0.2**
TIRR Tirgusor 28.20 316 ⇑P **P** **15 15 17.0 -0.7**
TIRR Tirgusor 28.20 316 ⇑*i*P **P** **15 15 17.0 -0.7**
TIRR Tirgusor 28.20 316 ⇑*i*P **P** **15 15 17.0 -0.7**
BRVK Borovoye 28.34 19 P **P** **15 15 18.9 +0.1**
comp=E,88nm,0.5s,mb5.6,SNR=12
BRVK Borovoye 28.34 19 *e*P **P** **15 15 17.3 -1.6**
comp=E,9.9nm,0.6s,mb4.6
BRVK Borovoye 28.34 19*c i*P **P** **15 15 17.9 -0.9**
BRVK pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
BRVK Borovoye 28.34 19 P **P** **15 15 18.2 -0.7**
SNR=19
BRVK Borovoye 28.34 19 *e*P **P** **15 15 17.3 -1.5**
comp=Z,9.9nm,0.6s,mb4.6
BVA0 Borovoye Array 28.35 19 P **P** **15 15 17.8 -1.1**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
BVAR Borovoye Array 28.35 19 P **P** **15 15 18.0 -0.8**
comp=Z,13nm,0.7s,mb4.7,baz=201,slow=8.6,SNR=81
BVAR PcP PcP 15 18 30.0 -1.4
comp=Z,4.4nm,0.9s,baz=207,slow=9.0,SNR=4.4
BVAR LR LR 15 27 28.1
comp=Z,720nm,18.2s,MS4.3,baz=20,slow=38
BVAR Borovoye Array 28.35 19 P **P** **15 15 18.0 -0.8**
BVAR PcP PcP 15 18 30.0 -1.4
BVAR Borovoye Array 28.35 19 P **P** **15 15 18.0 -0.9**
BVAR 15 18 30.0
BVAR Borovoye Array 28.35 19 P **P** **15 15 18.0 -0.9**
TAPN Taplejung 28.35 82 *e*P **P** **15 15 19.4 +0.2**
TAPN Taplejung 28.35 82 *e*P **P** **15 15 19.4 +0.2**
TAPN Taplejung 28.35 82 *e*P **P** **15 15 19.4 +0.2**
MK31 Makanchi Array 28.87 39 *e*P **P** **15 15 21.2 -2.3**
MK31 Makanchi Array 28.87 39 P **P** **15 15 22.6 -1.0**
MK31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
MK31 Makanchi Array 28.87 39 *e*P **P** **15 15 21.2 -2.4**
MKAR Makanchi Array 28.87 39 P **P** **15 15 23.2 -0.4**
comp=Z,3.6nm,0.7s,mb4.2,baz=226,slow=8.2,SNR=24
MKAR LR LR 15 28 46.7
comp=Z,330nm,20.6s,MS3.9,baz=244,slow=40
MKAR Makanchi Array 28.87 39 P **P** **15 15 23.2 -0.4**
MKAR Makanchi Array 28.87 39 P **P** **15 15 23.2 -0.4**
MKAR Makanchi Array 28.87 39 P **P** **15 15 23.2 -0.4**
KURK Kurchatov 29.52 30 P **P** **15 15 27.6 -1.7**
comp=Z,3.9nm,0.7s,mb4.3,baz=229,slow=8.6,SNR=26
KURK LR LR 15 28 21.6
comp=Z,344nm,19.8s,MS4.0,baz=240,slow=39
KURK Kurchatov 29.52 30 *e*P **P** **15 15 28.0 -1.4**
comp=Z,6.3nm,0.8s,mb4.4
KURK Kurchatov 29.52 30 *e*P **P** **15 15 28.0 -1.4**
KURK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
KURK Kurchatov 29.52 30 *e*P **P** **15 15 28.0 -1.4**
comp=Z,6.3nm,0.8s,mb4.4
ARU Arti 29.66 3 *e*P **P** **15 15 28.8 -1.7**
comp=Z,20nm,1.3s,mb4.7
ARU Arti 29.66 3*c i*P **P** **15 15 30.0 -0.4**
ARU 15 16 25.8
ARU S **S** **15 20 19.4 -6.4**
ARU SS SS 15 21 54.4 -37
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
ARU Arti 29.66 3 *e*P **P** **15 15 28.8 -1.6**
comp=Z,20nm,1.3s,mb4.7
VRI Vrincioaia 29.93 317 ⇑P **P** **15 15 34.1 +1.1**
VRI Vrincioaia 29.93 317 ⇑*i*P **P** **15 15 34.1 +1.1**
VRI Vrincioaia 29.93 317 ⇑*i*P **P** **15 15 34.1 +1.1**
PLOR Plostina 29.97 317 ⇓P **P** **15 15 33.2 -0.2**
PLOR Plostina 29.97 317 ⇓*i*P **P** **15 15 33.2 -0.2**
PLOR Plostina 29.97 317 ⇓*i*P **P** **15 15 33.2 -0.2**
SVE Sverdlovsk 30.19 5 *e*P **P** **15 15 33.6 -1.5**
SVE *e*S **S** **15 20 29.9 -4.2**
SVE pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SVE MLR MLR
comp=Z,615nm,15.0s,MS4.4
MLR Muntele Rosu 30.23 316 P **P** **15 15 37.2 +1.5**
comp=Z,3.2nm,0.9s,mb4.1,baz=20,slow=6.9,SNR=13
MLR Muntele Rosu 30.23 316 P **P** **15 15 37.2 +1.5**
MLR Muntele Rosu 30.23 316 P **P** **15 15 37.2 +1.5**
MLR Muntele Rosu 30.23 316 ⇑*i*P **P** **15 15 37.5 +1.8**
MLR Muntele Rosu 30.23 316 ⇑*i*P **P** **15 15 37.5 +1.8**
TESR 30.30 318 ⇑*i*P **P** **15 15 36.2 -0.1**
TESR 30.30 318 ⇑*i*P **P** **15 15 36.2 -0.1**
VOIR 30.77 315 ⇑P **P** **15 15 41.8 +1.4**
VOIR 30.77 315 ⇑*i*P **P** **15 15 41.8 +1.4**
VOIR 30.77 315 ⇑*i*P **P** **15 15 41.8 +1.4**
WMQ Urumqi 30.80 48 P **P** **15 15 41.0 +0.3**
WMQ pP pP 15 15 50.5 +6.7
WMQ sP sP 15 15 54.5 +9.5
WMQ PP PP 15 16 43.0 -7.2
WMQ S **S** **15 20 41.6 -2.4**
WMQ ScS ScS 15 26 11.5 -5.7
WMQ pmax pmax
comp=Z,14nm,1.0s,mb4.8
WMQ pmax pmax
comp=Z,230nm,4.6s
WMQ LR LR
comp=N,830nm,30.0s,MS4.3
WMQ LR LR
comp=E,550nm,32.0s,MS4.3
WMQ LR LR
comp=Z,620nm,25.4s
VTS Vitosha 30.86 309 ⇑P **P** **15 15 41.6 +0.3**
VTS Vitosha 30.86 309 ⇑*i*P **P** **15 15 41.6 +0.3**
VTS Vitosha 30.86 309 ⇑*i*P **P** **15 15 41.6 +0.3**
AKASG Malin Array Be 31.30 327 P **P** **15 15 44.0 -1.1**
comp=Z,6.8nm,0.6s,mb4.7,baz=133,slow=8.3,SNR=22
AKASG PcP PcP 15 18 38.3 -0.7
comp=Z,2.9nm,0.7s,baz=101,slow=2.1,SNR=5.4
AKASG Malin Array Be 31.30 327 P **P** **15 15 44.0 -1.1**
AKASG PcP PcP 15 18 38.3 -0.7
AKASG Malin Array Be 31.30 327 P **P** **15 15 44.0 -1.1**
AKASG 15 18 38.3
AKASG Malin Array Be 31.30 327 P **P** **15 15 44.0 -1.1**
AKASG Malin Array Be 31.30 327 PcP PcP 15 18 38.3 -0.8
AKBB Malin Array Si 31.30 327 *e*P **P** **15 15 43.1 -2.0**
AKBB Malin Array Si 31.30 327 *e*P **P** **15 15 43.1 -2.0**
AKBB Malin Array Si 31.30 327 *e*P **P** **15 15 43.1 -2.0**
KIEV Kiev 31.31 327 *e*P **P** **15 15 43.1 -1.9**
comp=Z,25nm,0.9s,mb5.0
KIEV Kiev 31.31 327 *e*P **P** **15 15 43.2 -1.9**
KIEV pmax pmax
comp=Z,25nm,0.9s,mb5.0
KIEV Kiev 31.31 327 *e*P **P** **15 15 43.2 -1.9**
comp=Z,25nm,0.9s,mb5.0
OBN Obninsk 31.57 339 *e*P **P** **15 15 46.7 -0.6**
comp=Z,18nm,0.5s,mb5.2
OBN Obninsk 31.57 339⇑*e*P **P** **15 15 47.1 -0.3**
OBN *e* 15 15 57.0
OBN *e* 15 16 50.4
OBN pmax pmax
comp=Z,44nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,200nm,15.0s,MS3.9
OBN Obninsk 31.57 339 *e*P **P** **15 15 46.7 -0.7**
comp=Z,18nm,0.5s,mb5.2
BURAR Bucovina Array 31.70 319 ⇑P **P** **15 15 48.9 +0.3**
BURAR Bucovina Array 31.70 319 ⇑*i*P **P** **15 15 48.9 +0.3**
BURAR Bucovina Array 31.70 319 ⇑*i*P **P** **15 15 48.9 +0.3**
BUR08 Bucovina Ar. S 31.73 319 *e*P **P** **15 15 48.7 -0.1**
BUR08 Bucovina Ar. S 31.73 319 *e*P **P** **15 15 48.7 -0.1**
BARS Barje 31.90 309 *e*P **P** **15 15 50.6 +0.1**
GZR Gura Zlata 32.20 314 ⇓P **P** **15 15 52.9 -0.1**
GZR Gura Zlata 32.20 314 ⇓*i*P **P** **15 15 52.9 -0.1**
GZR Gura Zlata 32.20 314 ⇓*i*P **P** **15 15 52.9 -0.1**
SOKR Solikamsk 32.74 1 ⇓*i*P **P** **15 15 58.1 +0.5**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.0
SOKR MLR MLR
comp=Z,390nm,16.0s,MS4.2
DRGR 32.83 316 ⇓P **P** **15 15 59.3 +0.8**
DRGR 32.83 316 ⇓*i*P **P** **15 15 59.3 +0.8**
DRGR 32.83 316 ⇓*i*P **P** **15 15 59.3 +0.8**
BZS Buzias 33.04 314 ⇑P **P** **15 16 01.1 +0.7**
BZS Buzias 33.04 314 ⇑*i*P **P** **15 16 01.1 +0.7**
BZS Buzias 33.04 314 ⇑*i*P **P** **15 16 01.1 +0.7**
KMBO Kilima Mbogo 33.05 216 *e*P **P** **15 16 04.0 +3.2**
comp=Z,15nm,0.9s,mb4.9
KMBO Kilima Mbogo 33.05 216 *e*P **P** **15 16 04.0 +3.2**
KMBO pmax pmax
comp=Z,15nm,0.9s
KMBO Kilima Mbogo 33.05 216 P **P** **15 16 04.4 +3.6**
SNR=13
KMBO Kilima Mbogo 33.05 216 *e*P **P** **15 16 04.0 +3.2**
comp=Z,15nm,0.9s,mb4.9
IVAS Ivanjica 33.30 309 ⇑*i*P **P** **15 16 02.7 0.0**
TRPA Tarpa 33.53 318 ⇓*i*P **P** **15 16 04.8 +0.2**
TRPA Tarpa 33.53 318 ⇓*i*P **P** **15 16 04.8 +0.2**
DIVS Divibare 33.58 310 *e*P **P** **15 16 04.6 -0.5**
UZH Uzhgorod 33.91 319 *e*P **P** **15 16 08.0 +0.1**
KOLS Kolonicke sedl 34.06 319 *e*P **P** **15 16 10.2 +1.0**
comp=Z,34nm,1.1s,mb5.2
KOLS Kolonicke sedl 34.06 319 *e*P **P** **15 16 10.2 +1.0**
KOLS Kolonicke sedl 34.06 319 *e*P **P** **15 16 10.2 +1.0**
comp=Z,34nm,1.1s,mb5.2
KWP Kalwaria Pacla 34.15 321 *e*P **P** **15 16 08.0 -2.0**
KWP Kalwaria Pacla 34.15 321 *e*P **P** **15 16 09.9 -0.1**
comp=Z,18nm,0.9s,mb5.0
KWP Kalwaria Pacla 34.15 321 *e*P **P** **15 16 09.9 -0.1**
KWP pmax pmax
comp=Z,18nm,0.9s,mb5.0
KWP Kalwaria Pacla 34.15 321 *e*P **P** **15 16 08.0 -2.0**
NVS Novosibirsk 34.42 28 ⇑*i*P **P** **15 16 11.0 -1.2**
NVS *e* 15 18 44.0
NVS *e*S **S** **15 21 36.8 -3.3**
NVS pmax pmax
comp=Z,57nm,2.0s,mb5.2
NVS pmax pmax
comp=N,23nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS smax
comp=N,28nm,2.0s
NVS smax
comp=E,17nm,1.9s
ZAA0 Zalesovo Array 34.51 30 *e*P **P** **15 16 11.6 -1.5**
ZAA0 Zalesovo Array 34.51 30 *e*P **P** **15 16 11.6 -1.5**
ZALV Zalesovo Beam 34.51 30 P **P** **15 16 11.8 -1.3**
comp=E,9.5nm,0.5s,mb5.0,baz=240,slow=9.6,SNR=26
ZALV LR LR 15 31 13.3
comp=E,216nm,18.3s,MS3.9,baz=186,slow=38
ZALV Zalesovo Beam 34.51 30 P **P** **15 16 11.8 -1.3**
ZALV Zalesovo Beam 34.51 30 P **P** **15 16 11.8 -1.3**
ZALV Zalesovo Beam 34.51 30 P **P** **15 16 11.8 -1.3**
CRVS Cervenica-Dubn 34.52 319 *e*P **P** **15 16 13.6 +0.4**
CRVS pmax pmax
comp=Z,16nm,1.0s,mb4.9
CRVS Cervenica-Dubn 34.52 319 *e*P **P** **15 16 13.5 +0.3**
CRVS Cervenica-Dubn 34.52 319 *e*P **P** **15 16 13.6 +0.4**
comp=Z,16nm,1.0s,mb4.9
TIP Timpagrande 34.75 301 *e*P **P** **15 16 15.8 +0.4**
comp=Z,74nm,1.3s,mb5.5
TIP Timpagrande 34.75 301 *e*P **P** **15 16 15.8 +0.4**
comp=Z,74nm,1.3s,mb5.5
KECS Kecovo 34.91 318 *e*P **P** **15 16 17.0 +0.4**
KECS pmax pmax
comp=Z,13nm,1.0s,mb4.8
KECS Kecovo 34.91 318 *e*P **P** **15 16 17.0 +0.4**
KECS Kecovo 34.91 318 *e*P **P** **15 16 17.0 +0.4**
comp=Z,13nm,1.0s,mb4.8
PSZ Piszkesteto 35.04 317 *e*P **P** **15 16 16.4 -1.3**
comp=Z,29nm,1.3s,mb5.0
PSZ Piszkesteto 35.04 317 *e*P **P** **15 16 16.4 -1.3**
PSZ pmax pmax
comp=Z,29nm,1.3s,mb5.0
PSZ Piszkesteto 35.04 317⇑*e*P **P** **15 16 17.8 +0.1**
PSZ Piszkesteto 35.04 317 ⇓*i*P **P** **15 16 18.4 +0.7**
PSZ Piszkesteto 35.04 317⇑*e*P **P** **15 16 17.8 +0.1**
PKSM Moragy 35.19 313 ⇓P **P** **15 16 19.6 +0.6**
PKSM Moragy 35.19 313 ⇓*i*P **P** **15 16 19.6 +0.6**
PKSM Moragy 35.19 313⇑*e*P **P** **15 16 18.9 -0.1**

BUD Budapest 35.41 315⇓ eP P 15 16 21.6 +0.7
BUD Budapest 35.41 315⇓ eP P 15 16 21.6 +0.7
CUC Castrocucco 35.60 302 eP P 15 16 23.8 +1.1
comp=Z,35nm,0.8s,mb5.3
CUC Castrocucco 35.60 302 eP P 15 16 23.8 +1.1
comp=Z,35nm,0.8s,mb5.3
IIGN Ignalina 35.70 331 eP P 15 16 23.2 -0.1
IIGN AMB AMB 15 16 23.9
comp=Z,19nm,0.8s,mb5.1
ISAL Salakas 35.88 331 eP P 15 16 24.6 -0.3
ISAL AMB AMB 15 16 30.1
comp=Z,15nm,1.1s,mb4.8
IZAR Zarasai 35.95 332 eP P 15 16 25.1 -0.4
IZAR AMB AMB 15 16 25.9
comp=Z,15nm,1.0s,mb4.9
LIKS Likavka 35.98 318 eP P 15 16 25.5 -0.3
LIKS pmax pmax
comp=Z,41nm,0.5s,mb5.6
LIKS Likavka 35.98 318 eP P 15 16 25.5 -0.3
LIKS Likavka 35.98 318 eP P 15 16 25.5 -0.3
comp=Z,41nm,0.5s,mb5.6
OJC Ojcow 36.08 320 eP P 15 16 26.3 -0.4
OJC Ojcow 36.08 320 eP P 15 16 26.3 -0.4
OJC Ojcow 36.08 320 eP P 15 16 26.3 -0.4
KOLL Kolacno 36.22 317 eP P 15 16 27.8 0.0
KOLL Kolacno 36.22 317 eP P 15 16 27.8 0.0
KOLL Kolacno 36.22 317 eP P 15 16 27.8 0.0
SUW Suwalki 36.26 327 eP P 15 16 27.5 -0.6
SUW Suwalki 36.26 327 eP P 15 16 27.4 -0.7
comp=Z,36nm,0.9s,mb5.3
SUW Suwalki 36.26 327 eP P 15 16 27.4 -0.7
SUW pmax pmax
comp=Z,36nm,0.9s,mb5.3
SUW Suwalki 36.26 327 eP P 15 16 27.5 -0.6
ZST Bratislava 36.87 316 eP P 15 16 33.3 -0.1
ZST pmax pmax
comp=Z,12nm,1.0s,mb4.7
ZST Bratislava 36.87 316 eP P 15 16 33.3 -0.1
ZST Bratislava 36.87 316 eP P 15 16 33.3 -0.1
comp=Z,12nm,1.0s,mb4.7
OKC Ostrava-Krasne 36.88 319 eP P 15 16 32.9 -0.6
OKC Ostrava-Krasne 36.88 319 eP P 15 16 32.9 -0.6
OKC Ostrava-Krasne 36.88 319 P P 15 16 32.9 -0.6
SOP Sopron 37.03 315⇓ eP P 15 16 27.4 -7.4
MORC Moravsky Berou 37.21 318 eP P 15 16 35.7 -0.6
comp=Z,19nm,0.9s,mb4.9
MORC Moravsky Berou 37.21 318 eP P 15 16 35.7 -0.6
MORC pmax pmax
comp=Z,19nm,0.9s,mb4.9
MORC Moravsky Berou 37.21 318⇑ iP P 15 16 35.9 -0.4
MORC Moravsky Berou 37.21 318⇑ iP P 15 16 35.9 -0.4
BOJS Bojanci 37.22 311 i P P 15 16 36.7 +0.3
BOJS Bojanci 37.22 311 i P P 15 16 36.7 +0.3
HVS Khovu-Aksy 37.54 39 i P P 15 16 39.2 +0.1
HVS pmax pmax
comp=Z,49nm,1.3s,mb5.1
VISS Visnje 37.58 311 eP P 15 16 39.6 +0.2
VISS Visnje 37.58 311 eP P 15 16 39.6 +0.2
VRAC Vranov 37.60 317 ⇓ iP P 15 16 39.9 +0.3
VRAC Vranov 37.60 317 ⇓ iP P 15 16 39.8 +0.2
VRAC Vranov 37.60 317 ⇓ iP P 15 16 39.8 +0.2
VSU Vasula 37.61 335 i P P 15 16 38.5 -1.0
VSU pmax pmax
comp=Z,38nm,1.1s,mb5.0
KRLC Kraliky 37.78 319 eP P 15 16 40.0 -1.1
KRLC Kraliky 37.78 319 P P 15 16 40.0 -1.1
AQU L'Aquila 37.80 305 eP P 15 16 42.5 +1.1
comp=Z,55nm,0.9s,mb5.3
AQU L'Aquila 37.80 305 eP P 15 16 42.5 +1.1
AQU pmax pmax
comp=Z,55nm,0.9s,mb5.3
AQU L'Aquila 37.80 305 eP P 15 16 42.5 +1.1
comp=Z,55nm,0.9s,mb5.3
LJU Ljubljana 37.85 311 eP P 15 16 42.3 +0.5
LJU Ljubljana 37.85 311 eP P 15 16 42.3 +0.5
JAVS Javornik 38.12 311 i P P 15 16 44.0 -0.1
JAVS Javornik 38.12 311 i P P 15 16 44.0 -0.1
DPC Dobruska-Polom 38.16 319 eP P 15 16 44.0 -0.3
DPC Dobruska-Polom 38.16 319 eP P 15 16 44.0 -0.3
DPC Dobruska-Polom 38.16 319 P P 15 16 44.0 -0.3
TREC Trest 38.27 317 eP P 15 16 45.6 +0.4
TREC Trest 38.27 317 eP P 15 16 45.6 +0.4
TREC Trest 38.27 317 P P 15 16 45.6 +0.4
VOY Vojsko 38.27 311 eP P 15 16 45.1 -0.2
VOY e 15 16 55.2
VOY e 15 17 00.1
VOY Vojsko 38.27 311 eP P 15 16 45.1 -0.2
KSP Ksiaz 38.37 319 eP P 15 16 45.8 -0.3
KSP Ksiaz 38.37 319 eP P 15 16 45.8 -0.3
KSP Ksiaz 38.37 319⇑ eP P 15 16 45.8 -0.3
KSP Ksiaz 38.37 319⇑ eP P 15 16 45.8 -0.3
UPC Upice 38.41 319 eP P 15 16 45.9 -0.5
UPC Upice 38.41 319 eP P 15 16 45.9 -0.5
UPC Upice 38.41 319 P P 15 16 45.9 -0.5
MOA Molln 38.55 314⇑ iP P 15 16 47.4 -0.2
comp=Z,14nm,1.1s,mb4.6
MOA Molln 38.55 314 P P 15 16 47.4 -0.2
comp=Z,14nm,1.1s,mb4.6
GTA Gaotai 38.57 60 eP P 15 16 48.0 +0.1
GTA pP pP 15 16 52.7 +1.7
GTA sP sP 15 16 55.5 +3.3
GTA S S **15 22 44.0 +0.1**
GTA pmax pmax
comp=Z,6.0nm,1.5s,mb4.1
GTA pmax pmax
comp=Z,210nm,5.2s
GTA LR LR
comp=N,580nm,17.3s,MS4.6
GTA LR LR
comp=E,300nm,13.8s,MS4.6
GTA LR LR
comp=Z,520nm,14.7s,MS4.5
KBA Koelnbreinsper 38.92 313 *i* pP **P 15 16 50.7 -0.1**
comp=Z,15nm,0.9s,mb4.7,SNR=6.8
KBA Koelnbreinsper 38.92 313 P P 15 16 50.7 -0.1
comp=Z,15nm,0.9s,mb4.7,SNR=6.8
PRU Pruhonice 39.09 318 eP P 15 16 51.8 -0.3
PRU Pruhonice 39.09 318 eP P 15 16 51.8 -0.3
PRU AMS AMS 15 34 50.0
PRU Pruhonice 39.09 318 P P 15 16 51.8 -0.3
GEC2 GERESS Array S 39.22 316 eP P 15 16 52.7 -0.5
comp=Z,8.0nm,1.2s,mb4.3
GEC2 GERESS Array S 39.22 316 eP P 15 16 52.7 -0.5
GEC2 pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
GERES GERESS Array B 39.22 316 P P 15 16 52.5 -0.7
comp=Z,3.4nm,0.8s,mb4.2,baz=113,slow=7.7,SNR=19
GERES LR LR 15 35 30.2
comp=Z,278nm,19.2s,MS4.1,baz=110,slow=40
GERES GERESS Array B 39.22 316 P P 15 16 52.5 -0.7
GERES GERESS Array B 39.22 316 P P 15 16 52.5 -0.7
GERES GERESS Array B 39.22 316 P P 15 16 52.5 -0.7
PVCC Panska Ves 39.27 318 eP P 15 16 53.4 -0.2
PVCC Panska Ves 39.27 318 eP P 15 16 53.4 -0.2
PVCC Panska Ves 39.27 318 P P 15 16 53.4 -0.2
ABTA Abfaltersbach 39.38 312 ⇓ *i*pP **P 15 16 54.5 -0.1**
comp=Z,17nm,1.0s,mb4.7
ABTA Abfaltersbach 39.38 312 P P 15 16 54.5 -0.1
comp=Z,17nm,1.0s,mb4.7
KHC Kasperske Hory 39.39 316 eP P 15 16 53.0 -1.6
comp=Z,14nm,0.8s,mb4.8
KHC Kasperske Hory 39.39 316 eP P 15 16 53.5 -1.1
KHC *e* 15 17 04.5
KHC Kasperske Hory 39.39 316 eP P 15 16 53.5 -1.1
KHC *ex* x 15 17 04.5
KHC *ex* x 15 17 26.0
KHC Kasperske Hory 39.39 316 eP P 15 16 53.0 -1.6
comp=Z,14nm,0.8s,mb4.8
JOF Joensuu 39.55 343 eP P 15 16 53.4 -2.3
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
JOF Joensuu 39.55 343 *ep* **P 15 16 53.4 -2.3**
comp=Z,7.2nm,0.7s,mb4.5
JOF Joensuu 39.55 343 eP P 15 16 53.4 -2.3
comp=Z,7.2nm,0.7s,mb4.5
BRG Berggiesshubel 39.76 319 eP P 15 16 57.2 -0.5
comp=Z,20nm,1.2s,mb4.7
BRG Berggiesshubel 39.76 319 eP P 15 16 57.3 -0.4
comp=Z,20nm,1.2s,mb4.7
BRG Berggiesshubel 39.76 319 eP P 15 16 57.2 -0.5
BRG pmax pmax
comp=Z,20nm,1.2s,mb4.7
WET Wettzell 39.83 316 eP P 15 16 57.4 -0.9
comp=Z,6.0nm,1.0s,mb4.3
WET Wettzell 39.83 316 eP P 15 16 57.4 -0.9
WET pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
FINES FINESS Array B 39.97 338 P P 15 16 58.6 -0.7
comp=Z,10nm,0.7s,mb4.7,baz=141,slow=10,SNR=21
FINES LR LR 15 36 29.5
comp=Z,330nm,18.4s,MS4.2,baz=147,slow=41
FINES FINESS Array B 39.97 338 P P 15 16 58.6 -0.7
FINES FINESS Array B 39.97 338 P P 15 16 58.6 -0.7
FINES FINESS Array B 39.97 338 P P 15 16 58.6 -0.7
WTTA Wattenberg 40.10 313⇑ *i*pP **P 15 17 00.0 -0.5**
comp=Z,39nm,1.1s,mb5.0,SNR=8.1
WTTA Wattenberg 40.10 313 P P 15 17 00.0 -0.5
comp=Z,39nm,1.1s,mb5.0,SNR=8.1
CHTO Chiang Mai 40.38 92 eP P 15 17 03.2 0.0
comp=Z,46nm,1.6s,mb5.0
CHTO Chiang Mai 40.38 92 eP P 15 17 03.2 0.0
CHTO pmax pmax
comp=Z,46nm,1.6s,mb5.0
CHTO Chiang Mai 40.38 92 P P 15 17 05.8 +2.6
comp=Z,314nmcomp=Z,18nm,1.6s,mb4.6
CHTO Chiang Mai 40.38 92 P P 15 17 05.3 +2.0
SNR=12
CHTO Chiang Mai 40.38 92 eP P 15 17 03.2 0.0
comp=Z,46nm,1.6s,mb5.0
KAF Kangasniemi 40.39 339 eP P 15 17 01.3 -1.4
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
KAF Kangasniemi 40.39 339 *ep* **P 15 17 01.3 -1.4**
comp=Z,4.9nm,0.7s,mb4.3
KAF Kangasniemi 40.39 339 eP P 15 17 01.3 -1.4
comp=Z,4.9nm,0.7s,mb4.3
KEST Kesra 40.40 294 P P 15 17 04.8 +1.6
comp=Z,3.1nm,0.9s,mb4.0,baz=21,slow=3.8,SNR=6.3
KEST LR LR 15 37 30.4
comp=Z,112nm,18.0s,MS3.8,baz=328,slow=42
KEST Kesra 40.40 294 *eP* **P 15 17 04.5 +1.3**
KEST Kesra 40.40 294 *eP* **P 15 17 04.5 +1.3**
ROTZ Rotzenmuhle 40.44 316 *eP* **P 15 17 03.4 0.0**
comp=Z,17nm,1.1s,mb4.7
NKC Novy Kostel 40.44 317 *eP* **P 15 17 02.9 -0.4**
NKC Novy Kostel 40.44 317 *eP* **P 15 17 02.9 -0.4**
NKC Novy Kostel 40.44 317 P P 15 17 02.9 -0.4
MOTA Moosalm 40.47 312⇑ *iP* **P 15 17 02.7 -1.0**
comp=Z,15nm,0.7s,mb4.8,SNR=7.4
MOTA Moosalm 40.47 312 P P 15 17 02.7 -0.9
comp=Z,15nm,0.7s,mb4.8,SNR=7.4
CLL Collm 40.47 319 *eP* **P 15 17 03.4 -0.2**
comp=Z,17nm,1.2s,mb4.7
CLL Collm 40.47 319⇑ *iP* **P 15 17 03.3 -0.3**
CLL pmax pmax
comp=Z,17nm,1.2s,mb4.7
CLL MLR MLR
comp=Z,300nm,18.9s,MS4.2
CLL Collm 40.47 319⇑ *iP* **P 15 17 03.3 -0.3**
comp=Z,17nm,1.2s,mb4.7
CLL *i* sP sP 15 17 08.1 +0.2
CLL *e*(PP) 15 18 52.0
CLL *e*S **S 15 23 24.0 +12**
CLL *e*SS SS 15 26 18.0 +6.7
CLL LmV 15 35 00.0
comp=Z,300nm,18.9s
CM31 Chiang Mai Arr 40.50 93 *eP* **P 15 17 06.6 +2.3**
comp=Z,12nm,1.3s,mb4.5
CM31 Chiang Mai Arr 40.50 93 *eP* **P 15 17 06.6 +2.4**
comp=Z,12nm,1.3s,mb4.5
CMAR Chiang Mai Arr 40.50 93 P P 15 17 05.3 +1.1
comp=Z,2.3nm,0.8s,mb4.0,baz=289,slow=8.2,SNR=16
CMAR ScP ScP 15 22 55.8 -0.7
comp=Z,0.7nm,0.9s,baz=283,slow=4.5,SNR=4.3
CMAR LR LR 15 36 42.4
comp=Z,104nm,20.7s,MS3.7,baz=320,slow=41
CMAR Chiang Mai Arr 40.50 93 P P 15 17 05.3 +1.1
CMAR ScP ScP 15 22 55.8 -0.6
CMAR Chiang Mai Arr 40.50 93 P P 15 17 05.3 +1.1
CMAR Chiang Mai Arr 40.50 93 P P 15 17 05.3 +1.1
FETA Feichten 40.64 312 *i* pP **P 15 17 04.5 -0.5**
comp=Z,33nm,1.1s,mb4.9,SNR=22
FETA Feichten 40.64 312 P P 15 17 04.5 -0.5
comp=Z,33nm,1.1s,mb4.9,SNR=22
BSD Bornholm Skovb 40.95 325 *i* P **P 15 17 05.7 -1.8**
BSD pmax pmax
comp=Z,36nm,0.8s,mb5.0
BSD Bornholm Skovb 40.95 325 *i* P **P 15 17 05.7 -1.8**
comp=Z,36nm,0.8s,mb5.0
BSD Bornholm Skovb 40.95 325 *i* P **P 15 17 05.7 -1.8**
comp=Z,36nm,0.8s,mb5.0
GRF Grafenberg Arr 41.03 316 *eP* **P 15 17 07.9 -0.3**
comp=Z,34nm,1.2s,mb4.8
GRF *e*L 15 35 15.2
comp=Z,202nm,21.7s
GRF Grafenberg Arr 41.03 316 *eP* **P 15 17 07.9 -0.3**
GRF pmax pmax
comp=Z,34nm,1.2s,mb4.8
GRF MLR MLR
comp=Z,200nm,21.7s,MS3.9
GRFO Grafenberg 41.03 316 *eP* **P 15 17 07.8 -0.4**
comp=Z,19nm,0.7s,mb4.8
GRFO Grafenberg 41.03 316 *eP* **P 15 17 07.8 -0.4**
GRFO pmax pmax
comp=Z,19nm,0.7s,mb4.8
GRFO Grafenberg 41.03 316 *eP* **P 15 17 07.8 -0.4**
comp=Z,19nm,0.7s,mb4.8
PGF Pioggiola 41.05 305 *eP* **P 15 17 07.9 -0.6**
PGF Pioggiola 41.05 305 *eP* **P 15 17 07.9 -0.6**
PGF Pioggiola 41.05 305 *eP* **P 15 17 07.9 -0.6**
PGF Pioggiola 41.05 305 *eP* **P 15 17 07.9 -0.6**
DAVA Damuels 41.26 312 *i* pP **P 15 17 09.5 -0.6**
comp=Z,41nm,0.6s,mb5.2,SNR=23
DAVA Damuels 41.26 312 P P 15 17 09.5 -0.7
comp=Z,41nm,0.6s,mb5.2,SNR=23
TUE Stuetta 41.44 311 *eP* **P 15 17 10.6 -1.1**
comp=Z,18nm,0.8s,mb4.8
TUE Stuetta 41.44 311 *eP* **P 15 17 10.6 -1.1**
comp=Z,18nm,0.8s,mb4.8
LZH Lanzhou 41.64 65 *eP* **P 15 17 14.1 +0.7**
LZH pP pP 15 17 18.4 +1.9
LZH sP sP 15 17 20.9 +3.1
LZH *e*S **S 15 23 29.2 -0.7**
LZH sS sS 15 23 43.4 +8.3
LZH pmax pmax
comp=Z,30nm,1.1s,mb4.8
LZH pmax pmax
comp=Z,100nm,4.2s
LZH LR LR
comp=N,420nm,11.0s
LZH LR LR
comp=E,170nm,7.9s
LZH LR LR
comp=Z,610nm,14.7s,MS4.6
LZH Lanzhou 41.64 65 *eP* **P 15 17 14.1 +0.7**
comp=Z,30nm,1.1s,mb4.8
LZH pP pP 15 17 18.4 +1.9
LZH sP sP 15 17 20.9 +3.1
LZH PP PP 15 18 48.2 -1.4
LZH *e*S **S 15 23 29.2 -0.7**
LZH sS sS 15 23 43.4 +8.3
LZH SS SS 15 26 29.5 -5.5
LZH LR LR
comp=Z,610nm,14.7s,MS4.6
LZH Lanzhou 41.64 65 *eP* **P 15 17 14.1 +0.7**
LZH 15 18 48.2
LZH *e*S **S 15 23 29.2 -0.7**
LZH SS SS 15 26 29.5 -5.5
LZH pmax pmax
comp=Z,30nm,1.1s,mb4.8
LZH MLR MLR
comp=Z,610nm,14.7s,MS4.6
LZH Lanzhou 41.64 65 *eP* **P 15 17 14.1 +0.7**
comp=Z,30nm,1.1s,mb4.8
LZH pP pP 15 17 18.4 +1.9
LZH *e*S **S 15 23 29.2 -0.7**
CD2 Chengdu 41.92 73 P P 15 17 16.0 +0.2
CD2 pP pP 15 17 20.5 +1.5
CD2 sP sP 15 17 23.2 +3.0
CD2 PP PP 15 18 56.7 +3.9
CD2 S **S 15 23 34.7 +0.4**
CD2 SS SS 15 26 37.7 -3.1
CD2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
CD2 pmax pmax
comp=Z,220nm,8.4s
CD2 LR LR
comp=N,740nm,22.8s,MS4.7
CD2 LR LR
comp=E,680nm,18.0s,MS4.7
CD2 LR LR
comp=Z,310nm,16.8s,MS4.3
KMI Kunming 42.02 81 P P 15 17 16.7 0.0
KMI pP pP 15 17 21.3 +1.5
KMI PP PP 15 18 57.8 +3.9
KMI S **S 15 23 35.3 -0.6**
KMI ScS ScS 15 27 17.2 -2.7
KMI pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
KMI pmax pmax
comp=Z,56nm,3.8s
KMI LR LR
comp=N,220nm,16.4s,MS4.3
KMI LR LR
comp=E,310nm,17.3s,MS4.3
KMI LR LR
comp=Z,350nm,16.8s,MS4.3
KMI Kunming 42.02 81 P P 15 17 16.7 0.0
comp=Z,6.0nm,0.8s,mb4.3
KMI pP pP 15 17 21.3 +1.5
KMI PP PP 15 18 57.8 +3.9
KMI S **S 15 23 35.3 -0.6**
KMI SS SS 15 26 37.3 -5.6
KMI ScS ScS 15 27 17.2 -2.7
KMI LR LR
comp=Z,350nm,16.8s,MS4.3
KMI Kunming 42.02 81 P P 15 17 16.7 0.0
KMI 15 18 57.8
KMI S **S 15 23 35.3 -0.6**
KMI SS SS 15 26 37.3 -5.6
KMI 15 27 17.2
KMI pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
KMI MLR MLR
comp=Z,350nm,16.8s,MS4.3
KMI Kunming 42.02 81 P P 15 17 16.7 0.0
comp=Z,6.0nm,0.8s,mb4.3
KMI pP pP 15 17 21.3 +1.5
CLZ Clausthal 42.20 319 *eP* **P 15 17 18.2 +0.4**
comp=Z,35nm,1.0s,mb4.9
CLZ Clausthal 42.20 319 *eP* **P 15 17 18.2 +0.4**
CLZ pmax pmax
comp=Z,35nm,1.0s,mb4.9
SBF Sospel 42.35 307⇑ *iP* **P 15 17 18.6 -0.5**
comp=Z,131nm,1.1s,mb5.2
SBF Sospel 42.35 307⇑ *iP* **P 15 17 18.6 -0.5**
comp=Z,131nm,1.1s,mb5.5
SBF Sospel 42.35 307⇑ *iP* **P 15 17 18.6 -0.5**
SBF pmax pmax
comp=Z,131nm,1.1s,mb5.5
SBF Sospel 42.35 307⇑ *iP* **P 15 17 18.6 -0.5**
comp=Z,65nm,1.1s,mb5.2
COP Copenhagen 42.48 325 *i P* **P 15 17 20.4 +0.4**
COP pmax pmax
comp=Z,28nm,0.9s,mb4.9
COP Copenhagen 42.48 325 *i P* **P 15 17 20.4 +0.4**
comp=Z,28nm,0.9s,mb4.9
COP Copenhagen 42.48 325 *i P* **P 15 17 20.4 +0.4**
comp=Z,28nm,0.9s,mb4.9
BFO Black Forest 42.52 313 *eP* **P 15 17 20.2 -0.2**
comp=Z,9.3nm,0.9s,mb4.5
BFO Black Forest 42.52 313 *eP* **P 15 17 20.2 -0.2**
BFO pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
BFO Black Forest 42.52 313 *eP* **P 15 17 20.2 -0.2**
comp=Z,9.3nm,0.9s,mb4.5
NRDL Niedersach Rie 42.56 320 *eP* **P 15 17 21.0 +0.3**
comp=Z,27nm,1.0s,mb4.9
FELD Feldberg im Sc 42.63 313 *eP* **P 15 17 20.3 -1.1**
BBS Basel-Blauen 42.88 312 *eP* **P 15 17 19.8 -3.5**
FRF La Foret Royal 42.88 306 *eP* **P 15 17 22.8 -0.6**
FRF La Foret Royal 42.88 306 *eP* **P 15 17 22.8 -0.6**
FRF La Foret Royal 42.88 306 *eP* **P 15 17 22.8 -0.6**
FRF La Foret Royal 42.88 306 *eP* **P 15 17 22.8 -0.6**
TNS Taunus Mts 42.90 316 *eP* **P 15 17 23.5 0.0**
comp=Z,28nm,1.4s,mb4.8
TNS Taunus Mts 42.90 316 *eP* **P 15 17 23.5 0.0**
TNS pmax pmax
comp=Z,28nm,1.4s,mb4.8
MBDF Montbardon 42.93 308⇑ *iP* **P 15 17 23.7 -0.2**
comp=Z,46nm,0.8s,mb5.0
MBDF Montbardon 42.93 308⇑ *iP* **P 15 17 23.7 -0.2**
comp=Z,46nm,0.8s,mb5.3
MBDF Montbardon 42.93 308⇑ *iP* **P 15 17 23.7 -0.2**
MBDF pmax pmax
comp=Z,46nm,0.8s,mb5.3
MBDF Montbardon 42.93 308⇑ *iP* **P 15 17 23.7 -0.2**
comp=Z,23nm,0.8s,mb5.0
ZAK Zakamensk 42.98 44 *eP* **P 15 17 23.2 -0.9**
ZAK *e* 15 19 08.0
ZAK pmax pmax
comp=Z,5.0nm,1.8s,mb3.9
APA Apatity 43.00 348⇑ *iP* **P 15 17 24.0 0.0**
APA *i* S **S 15 23 46.0 -3.1**
APA *i* SS SS 15 26 50.0 -11
APA pmax pmax
comp=Z,24nm,0.8s,mb5.0
APA MLR MLR
comp=Z,2μm,14.0s,MS5.0
BNI Bardonecchia 43.04 308 *eP* **P 15 17 23.5 -1.3**
comp=Z,21nm,0.9s,mb4.9
BNI Bardonecchia 43.04 308 *eP* **P 15 17 23.5 -1.2**
BNI pmax pmax
comp=Z,21nm,0.9s,mb4.9
BNI Bardonecchia 43.04 308 *eP* **P 15 17 23.5 -1.2**
comp=Z,21nm,0.9s,mb4.9
LPG La Plagne 43.05 309 *eP* **P 15 17 24.0 -0.8**
comp=Z,32nm,0.8s,mb4.8
LPG La Plagne 43.05 309 *eP* **P 15 17 24.0 -0.8**
comp=Z,32nm,0.8s,mb5.1
LPG La Plagne 43.05 309 *eP* **P 15 17 24.0 -0.8**
LPG pmax pmax
comp=Z,32nm,0.8s,mb5.1
LPG La Plagne 43.05 309 *eP* **P 15 17 24.0 -0.8**
comp=Z,16nm,0.8s,mb4.8
LPL La Plagne 43.07 309 *eP* **P 15 17 24.2 -0.8**
comp=Z,80nm,1.1s,mb5.1
LPL La Plagne 43.07 309 *eP* **P 15 17 24.2 -0.8**
comp=Z,80nm,1.1s,mb5.4
LPL La Plagne 43.07 309 *eP* **P 15 17 24.2 -0.8**
LPL pmax pmax
comp=Z,80nm,1.1s,mb5.4
LPL La Plagne 43.07 309 *eP* **P 15 17 24.2 -0.8**
comp=Z,40nm,1.1s,mb5.1
MOF Molkenrain 43.20 312 *eP* **P 15 17 21.3 -4.7**
CDF Champ du Feu 43.22 313⇑ *iP* **P 15 17 24.7 -1.4**
comp=Z,31nm,1.0s,mb4.7
CDF Champ du Feu 43.22 313⇑ *iP* **P 15 17 24.7 -1.4**
comp=Z,31nm,1.0s,mb5.0
CDF Champ du Feu 43.22 313⇑ *iP* **P 15 17 24.7 -1.4**
CDF pmax pmax
comp=Z,31nm,1.0s,mb5.0
CDF Champ du Feu 43.22 313⇑ *iP* **P 15 17 24.7 -1.4**
comp=Z,15nm,1.0s,mb4.7
ECH Echery 43.26 313 *eP* **P 15 17 24.5 -1.9**
comp=Z,18nm,0.8s,mb4.8
ECH Echery 43.26 313 *eP* **P 15 17 24.5 -1.9**
ECH pmax pmax
comp=Z,18nm,0.8s,mb4.8
ECH Echery 43.26 313 *eP* **P 15 17 25.5 -0.9**
ECH Echery 43.26 313 *eP* **P 15 17 25.5 -0.9**
LOMF Lomont 43.31 312 *eP* **P 15 17 23.8 -3.1**
HINF Hinteralfeld 43.38 312 *eP* **P 15 17 26.1 -1.3**
comp=Z,27nm,0.9s,mb4.7
HINF Hinteralfeld 43.38 312 *eP* **P 15 17 26.1 -1.3**
comp=Z,27nm,0.9s,mb5.0
HINF Hinteralfeld 43.38 312 *eP* **P 15 17 26.1 -1.3**
HINF pmax pmax
comp=Z,27nm,0.9s,mb5.0
HINF Hinteralfeld 43.38 312 *eP* **P 15 17 26.1 -1.3**
comp=Z,14nm,0.9s,mb4.7
CABF La Chapelle 43.68 310 *eP* **P 15 17 29.4 -0.5**
comp=Z,85nm,1.2s,mb5.1
CABF La Chapelle 43.68 310 *eP* **P 15 17 29.4 -0.5**
comp=Z,85nm,1.2s,mb5.3
CABF La Chapelle 43.68 310 *eP* **P 15 17 29.4 -0.5**
CABF pmax pmax
comp=Z,85nm,1.2s,mb5.3
CABF La Chapelle 43.68 310 *eP* **P 15 17 29.4 -0.5**
comp=Z,42nm,1.2s,mb5.1
SMRF Simiane la Rot 43.70 307 *eP* **P 15 17 29.5 -0.5**
SMRF Simiane la Rot 43.70 307 *eP* **P 15 17 29.5 -0.5**
SMRF Simiane la Rot 43.70 307 *eP* **P 15 17 29.5 -0.5**
HAU Haudompre 43.75 312 *eP* **P 15 17 29.0 -1.4**
comp=Z,36nm,1.0s,mb4.7
HAU *e*R

comp=Z,344nm,21.8s
HAU Haudompre 43.75 312 *e*P **P 15 17 29.0 -1.4**
comp=Z,36nm,1.0s,mb5.0
HAU Haudompre 43.75 312 *e*P **P 15 17 29.0 -1.4**
HAU pmax pmax
comp=Z,36nm,1.0s,mb5.1
HAU Haudompre 43.75 312 *e*P **P 15 17 29.0 -1.4**
comp=Z,18nm,1.0s,mb4.7
IBBN Ibbenburen 43.88 319 *e*P **P 15 17 31.8 +0.4**
comp=Z,33nm,1.0s,mb5.0
BUG Bochum--Univer 43.93 317 *e*P **P 15 17 32.4 +0.6**
comp=Z,42nm,1.3s,mb5.0
WLF Walferdange 44.20 315 P **P 15 17 33.8 -0.2**
comp=Z,18nm,2.0s,mb4.5
WLF Walferdange 44.20 315 P **P 15 17 33.7 -0.3**
comp=Z,18nm,2.0s,mb4.5
PAGF Fort de Pagny 44.26 313 *e*P **P 15 17 33.9 -0.6**
PAGF Fort de Pagny 44.26 313 *e*P **P 15 17 33.9 -0.6**
VIVF Saint-Julien-l 44.43 308 *e*P **P 15 17 34.8 -1.1**
comp=Z,34nm,1.1s,mb4.7
VIVF Saint-Julien-l 44.43 308 *e*P **P 15 17 34.8 -1.1**
comp=Z,34nm,1.1s,mb5.0
VIVF Saint-Julien-l 44.43 308 *e*P **P 15 17 34.8 -1.1**
VIVF pmax pmax
comp=Z,34nm,1.1s,mb5.0
VIVF Saint-Julien-l 44.43 308 *e*P **P 15 17 34.8 -1.1**
comp=Z,17nm,1.1s,mb4.7
SONM Songino Array 44.44 48 P **P 15 17 35.9 0.0**
comp=Z,3.8nm,0.8s,mb4.2,baz=259,slow=8.6,SNR=22
SONM LR LR 15 38 01.2
comp=Z,663nm,18.4s,MS4.6,baz=245,slow=39
SONM Songino Array 44.44 48 P **P 15 17 35.9 0.0**
SONM Songino Array 44.44 48 P **P 15 17 35.9 0.0**
SONM Songino Array 44.44 48 P **P 15 17 35.9 0.0**
MUD Monsted U'grnd 44.46 325 *i* P **P 15 17 35.0 -1.0**
MUD pmax pmax
comp=Z,16nm,0.8s,mb4.8
MUD Monsted U'grnd 44.46 325 *i* P **P 15 17 35.0 -1.0**
comp=Z,16nm,0.8s,mb4.8
MUD Monsted U'grnd 44.46 325 *i* P **P 15 17 35.0 -1.0**
comp=Z,16nm,0.8s,mb4.8
MEM Membach 44.50 316 P **P 15 17 36.8 +0.4**
comp=Z,22nm,2.4s,mb4.6
MEM Membach 44.50 316 P **P 15 17 36.7 +0.3**
comp=Z,22nm,2.4s,mb4.6
SSB Saint Sauveur 44.57 308 P **P 15 17 35.7 -1.3**
SSB Saint Sauveur 44.57 308 P **P 15 17 35.7 -1.3**
SSB Saint Sauveur 44.57 308 P **P 15 17 35.7 -1.3**
SFTF Sexfontaines 44.65 312 *e*P **P 15 17 36.9 -0.7**
comp=Z,58nm,0.9s,mb5.1
SFTF Sexfontaines 44.65 312 *e*P **P 15 17 36.9 -0.7**
comp=Z,58nm,0.9s,mb5.4
SFTF Sexfontaines 44.65 312 *e*P **P 15 17 36.9 -0.7**
comp=Z,29nm,0.9s,mb5.1
MEZF Maizieres J'vi 44.69 313 *e*P **P 15 17 37.6 -0.3**
MEZF Maizieres J'vi 44.69 313 *e*P **P 15 17 37.6 -0.3**
MEZF Maizieres J'vi 44.69 313 *e*P **P 15 17 37.6 -0.3**
ULN Ulaanbaatar 44.88 48 *e*P **P 15 17 38.9 -0.5**
comp=Z,8.5nm,0.8s,mb4.6
ULN Ulaanbaatar 44.88 48 *e*P **P 15 17 38.9 -0.5**
ULN pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
ULN Ulaanbaatar 44.88 48 P **P 15 17 40.0 +0.6**
comp=Z,13nm,1.6s,mb4.5
ULN Ulaanbaatar 44.88 48 *e*P **P 15 17 38.9 -0.5**
comp=Z,8.5nm,0.8s,mb4.6
BCLA Clavier 44.90 316 P **P 15 17 40.0 +0.4**
comp=Z,14nm,1.6s,mb4.5
BCLA Clavier 44.90 316 P **P 15 17 39.9 +0.3**
comp=Z,14nm,1.6s,mb4.5
LASF Ste Croix 44.94 307 *e*P **P 15 17 39.5 -0.5**
LASF Ste Croix 44.94 307 *e*P **P 15 17 39.5 -0.5**
LASF Ste Croix 44.94 307 *e*P **P 15 17 39.5 -0.5**
GIVF Givet 45.14 315⇑*i*P **P 15 17 41.8 +0.3**
comp=Z,70nm,1.0s,mb5.1
GIVF Givet 45.14 315⇑*i*P **P 15 17 41.8 +0.3**
comp=Z,70nm,1.0s,mb5.5
GIVF Givet 45.14 315⇑*i*P **P 15 17 41.8 +0.3**
GIVF pmax pmax
comp=Z,70nm,1.0s,mb5.5
GIVF Givet 45.14 315⇑*i*P **P 15 17 41.8 +0.3**
comp=Z,35nm,1.0s,mb5.1
GYA Guiyang 45.19 78 P **P 15 17 42.0 -0.2**
GYA pP pP 15 17 46.8 +1.5
GYA PcP PcP 15 19 23.5 +1.0
GYA PP PP 15 19 30.2 +2.4
GYA ScP ScP 15 23 13.6 -1.6
GYA S **S 15 24 21.5 -0.6**
GYA SS SS 15 27 36.9 -7.8
GYA pmax pmax
comp=Z,30nm,1.0s,mb5.1
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,610nm,18.9s,MS4.7
GYA LR LR
comp=E,580nm,19.1s,MS4.7
GYA LR LR
comp=Z,670nm,18.9s,MS4.6
SMF Signal de Mont 45.22 310⇑*i*P **P 15 17 41.2 -1.0**
comp=Z,58nm,0.9s,mb5.1
SMF Signal de Mont 45.22 310⇑*i*P **P 15 17 41.2 -1.0**
comp=Z,58nm,0.9s,mb5.4
SMF Signal de Mont 45.22 310⇑*i*P **P 15 17 41.2 -1.0**
SMF pmax pmax
comp=Z,58nm,0.9s,mb5.4
SMF Signal de Mont 45.22 310⇑*i*P **P 15 17 41.2 -1.0**
comp=Z,29nm,0.9s,mb5.1
DOU Dourbes 45.28 315 P **P 15 17 43.0 +0.4**
comp=Z,28nm,2.0s,mb4.8
DOU Dourbes 45.28 315 P **P 15 17 43.0 +0.4**
comp=Z,28nm,2.0s,mb4.8
LOR Lormes 45.29 311 *e*P **P 15 17 41.7 -1.0**
comp=Z,19nm,0.7s,mb4.7
LOR *e*R
comp=Z,467nm,21.5s
LOR Lormes 45.29 311 *e*P **P 15 17 41.7 -1.0**
comp=Z,19nm,0.7s,mb5.0
LOR Lormes 45.29 311 *e*P **P 15 17 41.7 -1.0**
LOR pmax pmax
comp=Z,19nm,0.7s,mb5.0
LOR Lormes 45.29 311 *e*P **P 15 17 41.7 -1.0**
comp=Z,9.5nm,0.7s,mb4.7
NB2 NORSAR Subarra 45.44 331 P **P 15 17 42.3 -1.4**
comp=Z,3.7nm,0.7s,mb4.3,baz=116,slow=7.9
NB2 NORSAR Subarra 45.44 331 P **P 15 17 42.3 -1.4**
comp=Z,3.7nm,0.7s,mb4.3,SNR=6.5
NOA NORSAR Array B 45.44 331 P **P 15 17 42.5 -1.2**
comp=Z,6.7nm,0.8s,mb4.5,baz=116,slow=7.9,SNR=18
NOA PP PP 15 19 35.6 +5.7
comp=Z,4.7nm,0.9s,baz=112,slow=9.3,SNR=3.4
NOA LR LR 15 37 44.9
comp=Z,253nm,21.8s,MS4.1,baz=180,slow=38
NOA NORSAR Array B 45.44 331 P **P 15 17 42.5 -1.2**
NOA PP PP 15 19 35.6 +5.7
NOA NORSAR Array B 45.44 331 P **P 15 17 42.6 -1.1**
NOA 15 19 35.6
NOA NORSAR Array B 45.44 331 P **P 15 17 42.5 -1.2**
SSF Saint Saulge 45.50 311⇑*i*P **P 15 17 43.6 -0.8**
comp=Z,43nm,0.9s,mb5.1
SSF Saint Saulge 45.50 311⇑*i*P **P 15 17 43.6 -0.8**
comp=Z,43nm,0.9s,mb5.4
SSF Saint Saulge 45.50 311⇑*i*P **P 15 17 43.6 -0.8**
SSF pmax pmax
comp=Z,43nm,0.9s,mb5.4
SSF Saint Saulge 45.50 311⇑*i*P **P 15 17 43.6 -0.8**
comp=Z,21nm,0.9s,mb5.1
BAIF Baives 45.52 315⇑*i*P **P 15 17 44.8 +0.3**
comp=Z,60nm,0.9s,mb5.2
BAIF Baives 45.52 315⇑*i*P **P 15 17 44.8 +0.3**
comp=Z,60nm,0.9s,mb5.5
BAIF Baives 45.52 315⇑*i*P **P 15 17 44.8 +0.3**
BAIF pmax pmax
comp=Z,60nm,0.9s,mb5.5
BAIF Baives 45.52 315⇑*i*P **P 15 17 44.8 +0.3**
comp=Z,30nm,0.9s,mb5.2
SNF Seneffe 45.56 316 P **P 15 17 44.8 0.0**
comp=Z,33nm,2.4s,mb4.8
SNF Seneffe 45.56 316 P **P 15 17 44.7 -0.1**
comp=Z,33nm,2.4s,mb4.8
AVF Avril sur Loir 45.57 310 *e*P **P 15 17 43.8 -1.2**
AVF Avril sur Loir 45.57 310 *e*P **P 15 17 43.8 -1.2**
AVF Avril sur Loir 45.57 310 *e*P **P 15 17 43.8 -1.2**
AVF Avril sur Loir 45.57 310 *e*P **P 15 17 43.8 -1.2**
TAM Tamanrasset 45.61 276 *e*P **P 15 17 47.0 +1.4**
comp=Z,21nm,0.9s,mb5.1
TAM Tamanrasset 45.61 276 *e*P **P 15 17 47.0 +1.4**
TAM pmax pmax
comp=Z,21nm,0.9s,mb5.1
TAM Tamanrasset 45.61 276 *e*P **P 15 17 47.0 +1.4**
comp=Z,21nm,0.9s,mb5.1
BGF Bois d'Agland 45.89 310 *e*P **P 15 17 46.7 -0.8**
BGF Bois d'Agland 45.89 310 *e*P **P 15 17 46.7 -0.8**
BGF Bois d'Agland 45.89 310 *e*P **P 15 17 46.7 -0.8**
BGF Bois d'Agland 45.89 310 *e*P **P 15 17 46.7 -0.8**
XAN Xi'an 45.92 68 P **P 15 17 51.6 +3.7**
XAN pP pP 15 18 00.0 +8.9
XAN pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
XAN pmax pmax
comp=Z,34nm,6.2s
XAN LR LR
comp=N,280nm,22.4s
XAN LR LR
comp=Z,140nm,17.1s
MTLF Montolieu 46.08 305⇑*i*P **P 15 17 49.1 +0.1**
comp=Z,152nm,1.3s,mb5.5
MTLF Montolieu 46.08 305⇑*i*P **P 15 17 49.1 +0.1**
comp=Z,152nm,1.3s,mb5.8
MTLF Montolieu 46.08 305⇑*i*P **P 15 17 49.1 +0.1**
MTLF pmax pmax
comp=Z,152nm,1.3s,mb5.8
MTLF Montolieu 46.08 305⇑*i*P **P 15 17 49.1 +0.1**
comp=Z,76nm,1.3s,mb5.5
KEV Kevo 46.12 347 *e*P **P 15 17 48.4 -0.5**
comp=Z,15nm,0.8s,mb5.0
KEV Kevo 46.12 347 *e*P **P 15 17 48.4 -0.5**
KEV pmax pmax
comp=Z,15nm,0.6s,mb5.1
KEV Kevo 46.12 347 *e*p **P 15 17 48.4 -0.5**
comp=Z,15nm,0.6s,mb5.1
KEV Kevo 46.12 347 *e*P **P 15 17 48.4 -0.5**
comp=Z,15nm,0.6s,mb5.1
ARCES ARCESS Array B 46.26 346 P **P 15 17 49.8 -0.3**
comp=Z,6.7nm,0.8s,mb4.7,baz=145,slow=8.6,SNR=20
ARCES ARCESS Array B 46.26 346 P **P 15 17 49.8 -0.3**
ARCES ARCESS Array B 46.26 346 P **P 15 17 49.8 -0.3**
ARCES ARCESS Array B 46.26 346 P **P 15 17 49.8 -0.3**
CAF Calviac 46.28 308 *e*P **P 15 17 50.2 -0.4**
comp=Z,50nm,1.0s,mb5.1
CAF Calviac 46.28 308 *e*P **P 15 17 50.2 -0.4**
comp=Z,50nm,1.0s,mb5.4
CAF Calviac 46.28 308 *e*P **P 15 17 50.2 -0.4**
CAF pmax pmax
comp=Z,50nm,1.0s,mb5.4
CAF Calviac 46.28 308 *e*P **P 15 17 50.2 -0.4**
comp=Z,25nm,1.0s,mb5.1
TCF Toulx Ste Croi 46.30 309 *e*P **P 15 17 50.1 -0.6**
comp=Z,32nm,0.8s,mb5.0
TCF Toulx Ste Croi 46.30 309 *e*P **P 15 17 50.1 -0.6**
comp=Z,32nm,0.8s,mb5.3
TCF Toulx Ste Croi 46.30 309 *e*P **P 15 17 50.1 -0.6**
TCF pmax pmax
comp=Z,32nm,0.8s,mb5.3
TCF Toulx Ste Croi 46.30 309 *e*P **P 15 17 50.1 -0.6**
comp=Z,16nm,0.8s,mb5.0
RJF Les Rejaudoux 46.70 308⇑*i*P **P 15 17 53.7 -0.2**
comp=Z,128nm,1.3s,mb5.4
RJF *e*R
comp=Z,316nm,17.0s
RJF Les Rejaudoux 46.70 308⇑*i*P **P 15 17 53.7 -0.2**
comp=Z,128nm,1.3s,mb5.7
RJF Les Rejaudoux 46.70 308⇑*i*P **P 15 17 53.7 -0.2**
RJF pmax pmax
comp=Z,128nm,1.3s,mb5.7
RJF Les Rejaudoux 46.70 308⇑*i*P **P 15 17 53.7 -0.2**
comp=Z,64nm,1.3s,mb5.4
MRIV Mauritius Mete 46.86 178 P **P 15 17 57.2 +1.9**
MRIV Mauritius Mete 46.86 178 P **P 15 17 57.2 +1.9**
LFF La Frestale 47.22 307⇑*i*P **P 15 17 57.8 -0.2**
comp=Z,64nm,1.0s,mb5.2
LFF La Frestale 47.22 307⇑*i*P **P 15 17 57.8 -0.2**
comp=Z,64nm,1.0s,mb5.5
LFF La Frestale 47.22 307⇑*i*P **P 15 17 57.8 -0.2**
LFF pmax pmax
comp=Z,65nm,1.0s,mb5.5
LFF La Frestale 47.22 307⇑*i*P **P 15 17 57.8 -0.2**
comp=Z,32nm,1.0s,mb5.2
EPF Esparros 47.44 305 *e*P **P 15 18 00.0 +0.3**
EPF Esparros 47.44 305 *e*P **P 15 18 00.0 +0.3**
EPF Esparros 47.44 305 *e*P **P 15 18 00.0 +0.3**
EPF Esparros 47.44 305 *e*P **P 15 18 00.0 +0.3**
HHC Hu-ho-hao-te 47.62 58 *e*P **P 15 18 00.3 -0.8**
HHC sP sP 15 18 06.3 +0.8
HHC PcP PcP 15 19 29.4 -1.4
HHC PP PP 15 19 51.1 -1.5
HHC ScP ScP 15 23 22.0 -3.1
HHC PcS PcS 15 23 24.3 -1.8
HHC S **S 15 24 54.8 -1.9**
HHC ScS ScS 15 27 50.4 -4.7
HHC SS SS 15 28 18.9 -5.7
HHC pmax pmax
comp=Z,15nm,0.7s,mb5.1
HHC pmax pmax
comp=Z,150nm,6.4s
HHC LR LR
comp=N,260nm,15.8s,MS4.6
HHC LR LR
comp=E,440nm,15.4s,MS4.6
HHC LR LR
comp=Z,420nm,15.2s,MS4.5
ETSF Etsaut 48.10 305⇑*i*P **P 15 18 05.0 +0.2**
comp=Z,57nm,0.9s,mb5.3
ETSF Etsaut 48.10 305⇑*i*P **P 15 18 05.0 +0.2**
comp=Z,57nm,0.9s,mb5.6
ETSF Etsaut 48.10 305⇑*i*P **P 15 18 05.0 +0.2**
ETSF pmax pmax
comp=Z,57nm,0.9s,mb5.6
ETSF Etsaut 48.10 305⇑*i*P **P 15 18 05.0 +0.2**
comp=Z,28nm,0.9s,mb5.3
LDF La Druitiere 48.11 312 *e*P **P 15 18 03.3 -1.5**
comp=Z,14nm,0.5s,mb4.9
LDF La Druitiere 48.11 312 *e*P **P 15 18 03.3 -1.5**
comp=Z,14nm,0.5s,mb5.2
LDF La Druitiere 48.11 312 *e*P **P 15 18 03.3 -1.5**
LDF pmax pmax
comp=Z,14nm,0.5s,mb5.2
LDF La Druitiere 48.11 312 *e*P **P 15 18 03.3 -1.5**
comp=Z,6.9nm,0.5s,mb4.9
FLN La Foliniere 48.36 313 *e*P **P 15 18 05.6 -1.1**
comp=Z,128nm,1.3s,mb5.5
FLN *e*R
comp=Z,319nm,20.8s
FLN La Foliniere 48.36 313 *e*P **P 15 18 05.6 -1.1**
comp=Z,128nm,1.3s,mb5.8
FLN La Foliniere 48.36 313 *e*P **P 15 18 05.6 -1.1**
FLN pmax pmax
comp=Z,129nm,1.3s,mb5.8
FLN La Foliniere 48.36 313 *e*P **P 15 18 05.6 -1.1**
comp=Z,64nm,1.3s,mb5.5
GRR Gorron 48.57 312 *e*P **P 15 18 08.3 -0.1**
comp=Z,107nm,1.4s,mb5.4
GRR Gorron 48.57 312 *e*P **P 15 18 08.3 -0.1**
comp=Z,107nm,1.4s,mb5.7
GRR Gorron 48.57 312 *e*P **P 15 18 08.3 -0.1**
GRR pmax pmax
comp=Z,107nm,1.4s,mb5.7
GRR Gorron 48.57 312 *e*P **P 15 18 08.3 -0.1**
comp=Z,53nm,1.4s,mb5.4
SJPF Ste Jean 48.59 305 *e*P **P 15 18 08.6 0.0**
comp=Z,25nm,0.7s,mb5.1
SJPF Ste Jean 48.59 305 *e*P **P 15 18 08.6 0.0**
comp=Z,25nm,0.7s,mb5.3
SJPF Ste Jean 48.59 305 *e*P **P 15 18 08.6 0.0**
SJPF pmax pmax
comp=Z,25nm,0.7s,mb5.3
SJPF Ste Jean 48.59 305 *e*P **P 15 18 08.6 0.0**
comp=Z,13nm,0.7s,mb5.1
SGMF Saint Gilles 49.69 312 *e*P **P 15 18 16.2 -0.8**
comp=Z,63nm,0.9s,mb5.3
SGMF Saint Gilles 49.69 312 *e*P **P 15 18 16.2 -0.8**
comp=Z,63nm,0.9s,mb5.6
SGMF Saint Gilles 49.69 312 *e*P **P 15 18 16.2 -0.8**
SGMF pmax pmax
comp=Z,63nm,0.9s,mb5.7
SGMF Saint Gilles 49.69 312 *e*P **P 15 18 16.2 -0.8**
comp=Z,32nm,0.9s,mb5.3
QIZ Qiongzhong 50.05 87 P **P 15 18 19.1 -0.9**
QIZ S **S 15 25 31.8 +0.5**
QIZ pmax pmax
comp=Z,7.0nm,1.6s,mb4.4
QIZ pmax pmax
comp=Z,150nm,3.8s
ESDC Sonseca Array 50.77 301 P **P 15 18 25.2 -0.1**
comp=Z,3.9nm,0.8s,mb4.4,baz=72,slow=7.5,SNR=11
ESDC Sonseca Array 50.77 301 P **P 15 18 25.2 -0.1**
ESDC Sonseca Array 50.77 301 P **P 15 18 25.2 -0.1**
BOD Bodaibo 50.86 36 *e*P **P 15 18 24.2 -1.4**
BOD pmax pmax
comp=Z,16nm,1.9s,mb4.6
WHN Wuhan 50.99 71 P **P 15 18 31.2 +4.2**
BJI Beijing 51.17 59 P **P 15 18 27.3 -1.0**
BJI S **S 15 25 46.5 0.0**
BJI pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BJI pmax pmax
comp=Z,150nm,5.4s
BJI LR LR
comp=N,210nm,18.9s,MS4.4
BJI LR LR
comp=E,260nm,19.0s,MS4.4
TORD Torodi Ar. Bea 52.30 266 P **P 15 18 37.3 +0.2**
comp=E,30nm,0.7s,mb5.4,baz=60,slow=6.8,SNR=310
TORD Torodi Ar. Bea 52.30 266 P **P 15 18 37.3 +0.2**
TORD Torodi Ar. Bea 52.30 266 P **P 15 18 37.3 +0.2**
EVO Evora 54.03 300 *e*P **P 15 18 50.3 +0.8**
comp=E,97nm,1.5s,mb5.2
EVO *e*R
comp=E,215nm,21.8s
EVOP Sao Brissos 54.12 300 *e*P **P 15 18 50.3 +0.2**
comp=E,97nm,1.5s,mb5.5
EVOP Sao Brissos 54.12 300 *e*P **P 15 18 50.3 +0.2**
EVOP pmax pmax
comp=Z,97nm,1.5s,mb5.5
EVOP Sao Brissos 54.12 300 *e*P **P 15 18 50.3 +0.2**
comp=Z,48nm,1.5s,mb5.2
SPB4 Spitsbergen Ar 54.46 351 P **P 15 18 51.6 -0.4**
SPB4 Spitsbergen Ar 54.46 351 P **P 15 18 51.6 -0.4**
COCO West Island 55.58 129 *i* P **P 15 19 01.5 +0.6**
CN2 Changchun 57.67 53 *e*P **P 15 19 15.4 -0.1**
CN2 *e*pP pP 15 19 23.1 +4.4
CN2 *e*S **S 15 27 13.1 -0.8**
CN2 SS SS 15 31 02.6 -1.3
CN2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,22.0s,MS4.7
CN2 LR LR
comp=E,300nm,22.0s,MS4.7
CN2 LR LR
comp=Z,200nm,21.0s,MS4.2
TSUM Tsumeb 58.90 223 *e*P **P 15 19 25.4 +1.2**
comp=Z,12nm,1.0s,mb4.9
TSUM Tsumeb 58.90 223 *e*P **P 15 19 25.4 +1.1**
comp=Z,12nm,1.0s,mb4.9
YAK Yakutsk 59.14 32 *e*P **P 15 19 22.6 -2.9**
YAK pmax pmax
comp=Z,13nm,1.3s,mb4.8
LBTB Lobatse 59.21 212 *e*P **P 15 19 28.0 +1.6**
comp=Z,42nm,0.7s,mb5.6
LBTB Lobatse 59.21 212 *e*P **P 15 19 28.0 +1.6**
LBTB pmax pmax
comp=Z,42nm,0.7s,mb5.6
LBTB Lobatse 59.21 212 *e*P **P 15 19 28.0 +1.6**
comp=Z,42nm,0.7s,mb5.6
MDJ Mudanjiang 60.49 52 P **P 15 19 34.0 -1.1**
MDJ pmax pmax
comp=Z,9.0nm,2.1s,mb4.4
MDJ pmax pmax
comp=Z,100nm,4.0s
KSAR Wonju Array Be 60.61 60 P **P 15 19 35.2 -0.8**
KSAR Wonju Array Be 60.61 60 P **P 15 19 35.2 -0.8**
KSAR Wonju Array Be 60.61 60 P **P 15 19 35.2 -0.8**
KSRS Korea Array 60.63 60 P **P 15 19 35.2 -1.0**
comp=Z,6.2nm,0.8s,mb4.8,baz=272,slow=7.3,SNR=18
KSRS Korea Array 60.63 60 P **P 15 19 35.2 -1.0**
KSRS pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
DBIC Dimbokro 60.90 262 P **P 15 19 38.5 +0.2**
comp=Z,11nm,0.7s,mb5.1,baz=42,slow=7.0,SNR=28
DBIC Dimbokro 60.90 262 *e*P **P 15 19 38.1 -0.2**
comp=Z,20nm,0.8s,mb5.3
DBIC Dimbokro 60.90 262 *e*P **P 15 19 38.1 -0.2**
DBIC pmax pmax
comp=Z,19nm,0.8s
DBIC Dimbokro 60.90 262 *e*P **P 15 19 38.1 -0.2**
comp=Z,20nm,0.8s,mb5.3
SCO Scoresbysund 60.91 338 *i* P **P 15 19 38.1 +0.6**
SCO pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
SCO Scoresbysund 60.91 338 *i* P **P 15 19 38.1 +0.6**
comp=Z,4.9nm,0.9s,mb4.6
SCO Scoresbysund 60.91 338 *i* P **P 15 19 38.1 +0.6**
comp=Z,4.9nm,0.9s,mb4.6
KLR Kul'dur 61.23 47 *e*P **P 15 19 33.2 -6.8**
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.4
BOSA Boshof 62.44 210 P **P 15 19 48.7 +0.4**
comp=Z,8.2nm,0.7s,mb5.0,baz=27,slow=8.0,SNR=13
BOSA LR LR 15 46 22.1
comp=Z,150nm,18.8s,MS4.2,baz=166,slow=36
BOSA Boshof 62.44 210 *e*P **P 15 19 49.4 +1.1**
comp=Z,25nm,0.7s,mb5.5
BOSA Boshof 62.44 210 P **P 15 19 48.7 +0.4**
BOSA pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
BOSA Boshof 62.44 210 *e*P **P 15 19 49.3 +1.0**
comp=Z,25nm,0.7s,mb5.5
HABR Khabarovsk 63.50 47 *e*P **P 15 19 56.5 +1.3**
HABR *PP pP 15 20 13.0 +15
HABR *e*S **S 15 28 22.7 -5.8**
HABR *e*SS sS 15 28 54.8 +21
HABR *e* 15 29 38.1
HABR *e*SS SS 15 32 27.4 -7.7
HABR pmax pmax
comp=Z,168nm,2.4s,mb5.7
HABR pmax pmax
comp=E,58nm,1.7s
HABR pmax pmax
comp=N,53nm,1.7s
HABR MLR MLR
comp=Z,628nm,20.0s,MS4.8
SUMG Summit 65.94 341 *e*P **P 15 20 11.0 +0.3**
comp=Z,20nm,0.9s,mb5.1
SUMG Summit 65.94 341 *e*P **P 15 20 11.0 +0.3**
SUMG pmax pmax
comp=Z,20nm,0.9s
SUMG Summit 65.94 341 *i* P **P 15 20 11.5 +0.8**
comp=Z,18nm,0.9s,mb5.1
SUMG Summit 65.94 341 *i* P **P 15 20 11.5 +0.8**
comp=Z,18nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 68.92 47 *e*P **P 15 20 28.5 -1.5**
comp=Z,24nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 68.92 47 *e*P **P 15 20 28.2 -1.8**
YSS pmax pmax
comp=Z,30nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 68.92 47 *e*P **P 15 20 28.5 -1.5**
comp=Z,24nm,0.8s,mb5.2
BILL Bilibino 72.64 22 *e*P **P 15 20 52.0 -0.3**
comp=Z,21nm,1.5s,mb4.8
BILL Bilibino 72.64 22⇑*e*P **P 15 20 51.9 -0.4**
BILL *e* 15 21 06.6
BILL pmax pmax
comp=Z,17nm,1.7s,mb4.7
BILL MLR MLR
comp=Z,200nm,13.0s,MS4.6
BILL Bilibino 72.64 22 *e*P **P 15 20 52.0 -0.3**
comp=Z,21nm,1.5s,mb4.8
FITZ Fitzroy Crossi 81.10 115 *e*P **P 15 21 40.7 -0.1**
comp=Z,11nm,0.4s,mb5.2
FITZ Fitzroy Crossi 81.10 115 *e*P **P 15 21 40.7 0.0**
comp=Z,11nm,0.4s,mb5.1
NWAO Narrogin (SRO) 83.28 132 P **P 15 21 51.1 -0.7**
comp=Z,16nm,1.1s,mb5.0,baz=253,slow=5.4,SNR=4.2
NWAO Narrogin (SRO) 83.28 132 P **P 15 21 51.1 -0.7**
NWAO Narrogin (SRO) 83.28 132 P **P 15 21 51.2 -0.7**
NWAO Narrogin (SRO) 83.28 132 P **P 15 21 51.2 -0.7**
COLD Coldfoot 84.22 10 *e*P **P 15 21 55.8 -0.5**
comp=Z,15nm,0.9s,mb5.1
COLD Coldfoot 84.22 10 *e*P **P 15 21 55.8 -0.4**
comp=Z,15nm,0.9s,mb5.1
INK Inuvik 84.91 3 LR LR 16 00 45.1
comp=Z,292nm,19.5s,MS4.7,baz=140,slow=36
SCHQ Schefferville 85.01 331 LR LR 16 02 49.4

comp=Z,415nm,18.9s,MS4.8,baz=70,slow=38
COLA College 86.77 10 *eP* **P 15 22 08.2 -0.8**
comp=Z,23nm,1.4s,mb5.2
COLA College 86.77 10 *eP* **P 15 22 08.2 -0.8**
COLA pmax pmax
comp=Z,23nm,1.4s,mb5.2
COLA College 86.77 10 *eP* **P 15 22 08.2 -0.8**
comp=Z,23nm,1.4s,mb5.2
ILAR Eielson Array 87.01 10 P **P 15 22 08.8 -1.3**
comp=Z,6.2nm,0.7s,mb5.0,baz=320,slow=4.2,SNR=72
ILAR Eielson Array 87.01 10 P **P 15 22 08.8 -1.3**
ILAR Eielson Array 87.01 10 P **P 15 22 08.9 -1.3**
ILAR Eielson Array 87.01 10 P **P 15 22 08.9 -1.3**
MCK McKinley 87.66 11 *eP* **P 15 22 12.5 -0.8**
comp=Z,48nm,1.3s,mb5.6
MCK McKinley 87.66 11 *eP* **P 15 22 12.5 -0.8**
MCK pmax pmax
comp=Z,48nm,1.3s,mb5.6
MCK McKinley 87.66 11 *eP* **P 15 22 12.5 -0.8**
comp=Z,48nm,1.3s,mb5.6
EGAK Eagle 87.75 7 *eP* **P 15 22 13.1 -0.7**
comp=Z,22nm,0.9s,mb5.4
EGAK Eagle 87.75 7 *eP* **P 15 22 13.1 -0.6**
comp=Z,22nm,0.9s,mb5.4
WRA Warramunga Arr 89.12 113 P **P 15 22 20.8 -0.2**
comp=Z,3.0nm,0.6s,mb4.8,baz=315,slow=3.9,SNR=32
WRA Warramunga Arr 89.12 113 P **P 15 22 20.8 -0.2**
WRA Warramunga Arr 89.12 113 P **P 15 22 20.8 -0.1**
WRA Warramunga Arr 89.12 113 P **P 15 22 20.8 -0.1**
WRAB Tennant Creek 89.13 113 *eP* **P 15 22 20.6 -0.3**
comp=Z,14nm,0.4s,mb5.7
WRAB Tennant Creek 89.13 113 P **P 15 22 21.0 0.0**
comp=Z,69nm,0.9s,mb6.0,SNR=6.5
WRAB Tennant Creek 89.13 113 *eP* **P 15 22 20.6 -0.4**
WRAB pmax pmax
comp=Z,14nm,0.4s,mb5.6
WRAB Tennant Creek 89.13 113 *eP* **P 15 22 20.6 -0.4**
comp=Z,14nm,0.4s,mb5.7
WB2 Warramunga Arr 89.13 113 *eP* **P 15 22 19.9 -1.1**
WB2 Warramunga Arr 89.13 113 *eP* **P 15 22 19.9 -1.1**
ASAR Alice Springs 90.56 116 P **P 15 22 27.6 0.0**
comp=Z,1.3nm,0.7s,mb4.4,baz=309,slow=5.1,SNR=21
ASAR Alice Springs 90.56 116 P **P 15 22 27.6 0.0**
ASAR Alice Springs 90.56 116 P **P 15 22 27.6 0.0**
ASAR Alice Springs 90.56 116 P **P 15 22 27.6 0.0**
YKA Yellowknife Ar 90.67 356 P **P 15 22 27.3 -0.2**
comp=Z,2.1nm,0.8s,mb4.5,baz=6.7,slow=5.7,SNR=23
YKA Yellowknife Ar 90.67 356 P **P 15 22 27.3 -0.2**
YKA Yellowknife Ar 90.67 356 P **P 15 22 27.3 -0.2**
YKA Yellowknife Ar 90.67 356 P **P 15 22 27.3 -0.2**
SADO Sadowa 97.76 329 LR LR 16 11 30.2
comp=Z,263nm,19.0s,MS4.7,baz=189,slow=38
NVAR Mina Array Bea 114.86 355 PKP PKiKP 15 28 06.4 +0.3
comp=Z,0.8nm,0.7s,baz=299,slow=0.1,SNR=5.7
NVAR Mina Array Bea 114.86 355 PKP PKiKP 15 28 06.4 +0.3
TXAR Lajitas Array 120.81 339 PKP PKPdf 15 28 17.0 -0.8
comp=Z,0.9nm,0.8s,baz=118,slow=1.8,SNR=9.2
TXAR Lajitas Array 120.81 339 PKP PKPdf 15 28 17.0 -0.8
TXAR Lajitas Array 120.81 339 PKIKP PKPdf 15 28 17.0 -0.8
TXAR Lajitas Array 120.81 339 PKIKP PKPdf 15 28 17.0 -0.8
LPAZ La Paz 127.19 269 PKP PKPdf 15 28 30.7 +0.5
comp=Z,0.8nm,0.6s,baz=14,slow=3.2,SNR=4.7
LPAZ La Paz 127.19 269 PKP PKPdf 15 28 30.7 +0.5
LPAZ La Paz 127.19 269 PKIKP PKPdf 15 28 30.7 +0.5
LPAZ La Paz 127.19 269 PKIKP PKPdf 15 28 30.7 +0.5

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*ISCJB **09** 15:10:39.7±0.9, 13°.62N±0°.08×91°.16W±0°.06, h55km±12km, Error ellipse: s-maj=14.7km s-min=6.5km az=28.9*
*CASC **09** 15:10:41.1±2.3, 13°.64N×91°.00W, h23km±12km, MD3.7, mb3.6(NEIC)*
*NEIC **09** 15:10:41.1±1.6, 13°.61N×91°.17W, h51km±19km, mb3.6/1, Error ellipse: s-maj=28.3km s-min=11.2km az=222.0*
*IDC **09** 15:10:42.2±3.3, 13°.70N×91°.08W, h58km±30km, mb3.6/1, mb1 4.0/5, mb1mx3.5/23, mbtmp3.8/5, ML4.0/4, MS2.7/2, Ms1 2.7/2, ms1mx2.5/33, Error ellipse: s-maj=59.0km s-min=26.0km az=39.0*

ISC 09 15:10:40.5±0.9, 13°.63N±0°.07×91°.17W±0°.05, h36km±19km, n28, σ0°.73/35, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSG	**Pto de San Jos**	**0.48**	**49**	*eP*	**Pn**	**15 10 51.9**	**+0.9**
JAT	**Jato**	**0.82**	**326**	*eP*	**Pn**	**15 10 56.5**	**+0.8**
FUG	**Fuego 3**	**0.88**	**21**	*eP*	**Pn**	**15 10 56.1**	**-0.2**
PCG	**Pacaya**	**0.94**	**35**	*eP*	**Pn**	**15 10 57.2**	**0.0**
NBG	**Las Nubes**	**1.24**	**40**	*eP*	**Pn**	**15 11 02.3**	**+0.9**
NBG				*eS*	**Sn**	**15 11 17.9**	**+0.9**
RTR	**El Retiro**	**1.50**	**80**	*eP*	**Pn**	**15 11 04.7**	**-0.3**
RTR				*eS*	**Sn**	**15 11 22.1**	**-1.2**
SBLS	**San Blas**	**1.52**	**82**	*eP*	**Pn**	**15 11 04.4**	**-0.7**
RBDL	**Robledal**	**1.52**	**71**	*eP*	**Pn**	**15 11 04.9**	**-0.3**
SNJE	**San Jose**	**1.54**	**81**	*eP*	**Pn**	**15 11 04.9**	**-0.6**
SNJE				*eS*	**Sn**	**15 11 23.4**	**-0.8**
SNET	**Serv Nac Est T**	**1.88**	**88**	*eP*	**Pn**	**15 11 09.5**	**-0.8**
SNET				*eS*	**Sn**	**15 11 32.3**	**-0.4**
LFRS	**El Faro**	**2.05**	**90**	*eP*	**Pn**	**15 11 12.4**	**-0.1**
LBRS	**Las Brisas**	**2.07**	**87**	*eP*	**Pn**	**15 11 12.9**	**+0.1**
VSM	**San Miguel**	**2.82**	**94**	*eP*	**Pn**	**15 11 22.9**	**-0.2**
VSM				*eS*	**Sn**	**15 11 56.7**	**+0.8**
CAHU	**Cacacuatique**	**2.88**	**87**	*eP*	**Pn**	**15 11 24.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.81**	**83**	P	**Pn**	**15 11 38.4**	**+1.7**
CMIG	**Matias Romero**	**4.97**	**314**	P	**Pn**	**15 11 53.0**	**+0.3**
	2.0nm,0.3s,baz=106,slow=10.0,SNR=18						
CMIG				S	**Sn**	**15 12 47.6**	**-1.4**
	16nm,0.3s,baz=40,slow=13,SNR=10						
CMIG				LR	LR	15 13 53.1	
	comp=Z,92nm,21.6s,baz=193,slow=38						
CMIG	**Matias Romero**	**4.97**	**314**	P	**Pn**	**15 11 53.0**	**+0.3**
CMIG				S	**Sn**	**15 12 47.6**	**-1.4**
JTS	**JuntasAbangare**	**6.93**	**118**	P	**Pn**	**15 12 21.1**	**+1.5**
	2.1nm,0.3s,baz=310,slow=21,SNR=6.6						
JTS				S	**Sn**	**15 13 28.2**	**-9.0**
	baz=269,slow=18,SNR=2.2						
JTS	**JuntasAbangare**	**6.93**	**118**	*eP*	**Pn**	**15 12 19.2**	**-0.4**
JTS				S	**Sn**	**15 13 28.2**	**-9.0**
TEIG	**Tepich**	**7.12**	**22**	P	**Pn**	**15 12 22.4**	**+0.1**
	6.5nm,0.3s,baz=192,slow=2.0,SNR=26						
TEIG				LR	LR	15 14 46.5	
	comp=Z,55nm,19.2s,baz=34,slow=35						
TEIG	**Tepich**	**7.12**	**22**	*eP*	**Pn**	**15 12 22.3**	**+0.1**
	43nm,0.7s						
OTAV	**Otavalo**	**18.32**	**136**	*eP*	**Pn**	**15 14 52.3**	**+0.3**
	2.1nm,0.4s						
TXAR	**Lajitas Array**	**19.46**	**325**	P	**Pn**	**15 15 04.8**	**-0.8**
	0.1nm,0.3s,baz=150,slow=13,SNR=12						
TXAR	**Lajitas Array**	**19.46**	**325**	P	**Pn**	**15 15 04.8**	**-0.7**
NVAR	**Mina Array Bea**	**34.47**	**321**	P	**P**	**15 17 25.5**	**+0.5**
	1.1nm,0.7s,baz=131,slow=7.6,SNR=8.0						
NVAR	**Mina Array Bea**	**34.47**	**321**	P	**P**	**15 17 25.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**146.60**	**342**	PKPbc	PKPbc	15 30 16.2	-2.9
	0.7nm,0.6s,baz=340,slow=3.0,SNR=6.6						
CMAR	**Chiang Mai Arr**	**146.60**	**342**	PKPbc	PKPbc	15 30 16.2	-2.9

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*DJA **09** 15:19:34, 8°.24S×131°.16E, h10km, mb4.9/7*
*IDC **09** 15:19:51.7±4.5, 6°.85S×129°.70E, h90km±40km, mb3.7/10, mb1 4.0/13, mb1mx3.9/20, mbtmp3.9/13, Error ellipse: s-maj=51.9km s-min=15.4km az=62.0*
*NEIC **09** 15:19:53.6±1.6, 6°.94S×129°.53E, h109km±15km, mb4.8/9, Error ellipse: s-maj=14.5km s-min=7.0km az=50.0*
*ISCJB **09** 15:19:56.3±0.7, 7°.12S±0°.06×129°.6E±0°.1, h158km±8km, mb4.1/20, Error ellipse: s-maj=20.1km s-min=6.8km az=157.8*

ISC 09 15:19:56.8±0.7, 7°.19S±0°.06×129°.6E±0°.1, h149km±7km, n67, σ0°.86/66, mb4.1/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.74**	**338**	P	**Pn**	**15 20 52.6**	**-1.2**
	0.7nm3μm199nm,0.7s						
MSAI	**Masohi**	**3.87**	**350**	P	**Pn**	**15 20 55.2**	**-0.3**
	0.2nm442nm65nm,1.0s						
NLAI	**Namlea**	**4.64**	**328**	P	**Pn**	**15 21 06.8**	**+1.3**
	0.6nm2μm148nm,0.6s						
LBMI	**Labuha**	**6.83**	**342**	P	**Pn**	**15 21 34.7**	**0.0**
	0.3nm72nm,0.8s						
KMSI	**Cibinong**	**9.52**	**324**	P	**Pn**	**15 22 19.1**	**+8.5**
	64nm,1.1s						
GTOI	**Gorontalo**	**10.17**	**320**	P	**Pn**	**15 22 23.5**	**+4.4**
	30nm,1.3s						
FITZ	**Fitzroy Crossi**	**11.50**	**199**	P	**Pn**	**15 22 36.6**	**-0.1**
	4.9nm,0.3s,baz=34,slow=12,SNR=53						
FITZ				S	**Sn**	**15 24 38.8**	**-5.1**
	6.1nm,0.3s,baz=130,slow=19,SNR=7.1						
FITZ	**Fitzroy Crossi**	**11.50**	**199**	*eP*	**Pn**	**15 22 36.6**	**-0.1**
	19nm,0.3s						
FITZ				*eS*	**Sn**	**15 24 33.7**	**-10**
FITZ	**Fitzroy Crossi**	**11.50**	**199**	*eP*	**Pn**	**15 22 36.5**	**-0.2**
FITZ				S	**Sn**	**15 24 38.8**	**-5.1**
WRAB	**Tennant Creek**	**13.49**	**160**	*eP*	**Pn**	**15 23 02.4**	**+0.1**
WRA	**Warramunga Arr**	**13.49**	**160**	P	**Pn**	**15 23 02.1**	**-0.2**
	5.4nm,0.3s,baz=346,slow=13,SNR=55						
WRA				S	**Sn**	**15 25 25.6**	**-6.1**
	4.5nm,0.3s,baz=333,slow=22,SNR=7.1						
WRA	**Warramunga Arr**	**13.49**	**160**	P	**Pn**	**15 23 02.1**	**-0.2**
WRA				S	**Sn**	**15 25 25.6**	**-6.1**
WB2	**Warramunga Arr**	**13.49**	**160**	*eP*	**Pn**	**15 23 02.3**	**-0.1**
COEN	**Coen**	**14.96**	**118**	*eP*	**Pn**	**15 23 21.4**	**+0.6**
	64nm,0.7s						
ASAR	**Alice Springs**	**16.90**	**166**	P	**Pn**	**15 23 47.5**	**+2.9**
	1.7nm,0.3s,baz=339,slow=8.5,SNR=50						
ASAR				S	**S**	**15 26 50.7**	**-1.8**
	1.1nm,0.3s,baz=355,slow=26,SNR=6.3						
ASAR	**Alice Springs**	**16.90**	**166**	P	**Pn**	**15 23 47.5**	**+2.9**
ASAR				S	**S**	**15 26 50.7**	**-1.8**
FORT	**Forrest**	**23.51**	**183**	*eP*	**P**	**15 24 58.2**	**+4.9**
	18nm,0.5s,mb4.9						
KLBR	**Kellerberrin**	**26.67**	**203**	*eP*	**P**	**15 25 25.0**	**+3.1**
	5.7nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**27.00**	**157**	P	**P**	**15 25 28.9**	**+4.1**
	2.5nm,0.7s,mb4.0,baz=0.1,slow=7.6,SNR=5.3						
STKA	**Stephens Creek**	**27.00**	**157**	*eP*	**P**	**15 25 28.5**	**+3.7**
	1.8nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.00**	**157**	*eP*	**P**	**15 25 28.6**	**+3.8**
	0.6nm,0.5s,mb3.5						
CM31	**Chiang Mai Arr**	**39.53**	**311**	*eP*	**P**	**15 27 13.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**39.53**	**311**	P	**P**	**15 27 13.6**	**+0.2**
	1.6nm,0.6s,mb3.9,baz=138,slow=7.2,SNR=21						
CMAR				PcP	PcP	15 29 20.2	+2.1
	0.4nm,0.9s,baz=159,slow=2.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**39.53**	**311**	P	**P**	**15 27 13.6**	**+0.2**
CMAR				PcP	PcP	15 29 20.2	+2.1
CHTO	**Chiang Mai**	**39.75**	**311**	*eP*	**P**	**15 27 14.7**	**-0.5**
	1.7nm,0.9s,mb3.7						
ODAN	**Odare**	**53.06**	**311**	*eP*	**P**	**15 28 59.1**	**+0.2**
	4.3nm,0.4s,mb4.5						
ODAN	**Odare**	**53.06**	**311**	*eP*	**P**	**15 28 59.1**	**+0.2**
	4.3nm,0.4s,mb4.5						
TAPN	**Taplejung**	**53.10**	**312**	*eP*	**P**	**15 28 58.9**	**-0.3**
	4.9nm,0.4s,mb4.6						
TAPN	**Taplejung**	**53.10**	**312**	*eP*	**P**	**15 28 58.9**	**-0.3**
	4.9nm,0.4s,mb4.6						
RAMN	**Ramite**	**53.70**	**311**	*eP*	**P**	**15 29 03.7**	**+0.1**
	12nm,0.7s,mb4.7						
RAMN	**Ramite**	**53.70**	**311**	*eP*	**P**	**15 29 03.7**	**+0.1**
	12nm,0.7s,mb4.7						
JIRN	**Jiri**	**54.40**	**311**	*eP*	**P**	**15 29 08.6**	**0.0**
	1.0nm,0.3s,mb4.0						
JIRN	**Jiri**	**54.40**	**311**	*eP*	**P**	**15 29 08.6**	**0.0**
	1.0nm,0.3s,mb4.0						
GUN	**Gumba**	**54.76**	**312**	*eP*	**P**	**15 29 11.3**	**+0.1**
	6.0nm,0.4s,mb4.7						
GUN	**Gumba**	**54.76**	**312**	*eP*	**P**	**15 29 11.3**	**+0.1**
	6.0nm,0.4s,mb4.7						
KKN	**Kakani**	**55.14**	**311**	*eP*	**P**	**15 29 13.7**	**-0.3**
KKN	**Kakani**	**55.14**	**311**	*eP*	**P**	**15 29 13.7**	**-0.3**
GKN	**Gorkha**	**55.74**	**311**	*eP*	**P**	**15 29 18.0**	**-0.2**
	5.0nm,0.3s,mb4.8						
GKN	**Gorkha**	**55.74**	**311**	*eP*	**P**	**15 29 18.0**	**-0.2**
	5.0nm,0.3s,mb4.8						
KOLN	**Koldanda**	**56.40**	**310**	*eP*	**P**	**15 29 22.0**	**-0.9**
KOLN	**Koldanda**	**56.40**	**310**	*eP*	**P**	**15 29 22.0**	**-0.9**
SONM	**Songino Array**	**58.49**	**342**	P	**P**	**15 29 37.9**	**+0.7**
	0.5nm,0.3s,baz=154,slow=6.0,SNR=4.1						
SONM	**Songino Array**	**58.49**	**342**	P	**P**	**15 29 37.9**	**+0.7**
MK31	**Makanchi Array**	**68.16**	**327**	*eP*	**P**	**15 30 41.5**	**+0.7**
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**15 30 41.1**	**+0.3**
	2.4nm,0.4s,mb4.2,baz=113,slow=8.8,SNR=72						
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**15 30 41.1**	**+0.3**
ZALV	**Zalesovo Beam**	**71.57**	**334**	P	**P**	**15 31 01.0**	**-0.5**
	1.2nm,0.7s,mb3.8,baz=125,slow=5.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**71.57**	**334**	P	**P**	**15 31 01.0**	**-0.5**
KURK	**Kurchatov**	**72.46**	**329**	P	**P**	**15 31 07.0**	**+0.2**
	0.9nm,0.5s,mb3.8,baz=128,slow=5.2,SNR=8.2						
KURK	**Kurchatov**	**72.46**	**329**	P	**P**	**15 31 07.0**	**+0.2**
BVAR	**Borovoye Array**	**78.00**	**328**	P	**P**	**15 31 38.4**	**-0.1**
	0.4nm,0.5s,mb3.3,baz=134,slow=8.5,SNR=5.3						
BVAR	**Borovoye Array**	**78.00**	**328**	P	**P**	**15 31 38.4**	**-0.1**
ABKAR	**Akbulak array**	**82.40**	**322**	*eP*	**P**	**15 32 02.1**	**0.0**
	1.1nm,0.4s,mb3.8						
QSPA	**South Pole Qui**	**82.79**	**180**	P	**P**	**15 32 06.7**	**+3.0**
	0.9nm,0.3s,mb4.0,baz=260,slow=6.8,SNR=3.9						
QSPA	**South Pole Qui**	**82.79**	**180**	P	**P**	**15 32 06.7**	**+3.0**
AKTO	**Aktyubinsk**	**83.97**	**322**	P	**P**	**15 32 10.3**	**+0.1**
	0.9nm,0.4s,mb3.9,baz=107,slow=4.1,SNR=5.7						
AKTO	**Aktyubinsk**	**83.97**	**322**	P	**P**	**15 32 10.3**	**+0.1**
ILAR	**Eielson Array**	**93.70**	**25**	P	**P**	**15 32 54.9**	**-1.2**
	0.5nm,0.9s,mb3.6,baz=246,slow=7.9,SNR=4.5						
ILAR	**Eielson Array**	**93.70**	**25**	P	**P**	**15 32 54.9**	**-1.2**
TXAR	**Lajitas Array**	**125.39**	**59**	PKP	PKPdf	15 38 42.2	+1.5
	0.3nm,0.7s,baz=76,slow=3.8,SNR=3.6						
TXAR	**Lajitas Array**	**125.39**	**59**	PKP	PKPdf	15 38 42.2	+1.5
TORD	**Torodi Ar. Bea**	**128.43**	**281**	PKP	PKPdf	15 38 48.4	+1.5
	0.4nm,0.6s,baz=91,slow=2.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**128.43**	**281**	PKP	PKPdf	15 38 48.4	+1.5
CPUP	**Villa Florida**	**146.01**	**169**	PKPbc	PKPbc	15 39 22.1	+2.2
	1.9nm,0.6s,baz=302,slow=0.9,SNR=6.6						
CPUP	**Villa Florida**	**146.01**	**169**	PKPbc	PKPbc	15 39 22.1	+2.2
LPAZ	**La Paz**	**150.82**	**143**	PKPbc	PKPbc	15 39 36.3	+3.7
	1.4nm,0.4s,baz=44,slow=3.6,SNR=8.3						
LPAZ	**La Paz**	**150.82**	**143**	PKPbc	PKPbc	15 39 36.3	+3.7

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*IDC **09** 15:25:24.9±0.8, 15°.16S×173°.26W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, Error ellipse: s-maj=37.3km s-min=18.5km az=132.0*
*NEIC **09** 15:25:26.5±0.6, 15°.15S×173°.24W, h10km, Error ellipse: s-maj=28.0km s-min=12.5km az=134.0*
*ISCJB **09** 15:25:28.1±0.7, 15°.1S±0°.2×173°.3W±0°.2, h33km, mb3.9/6, Error ellipse: s-maj=32.5km s-min=13.5km az=136.4*

ISC 09 15:25:29.8±0.7, 15°.1S±0°.2×173°.2W±0°.2, h35km, n17, σ0°.92/16, mb3.9/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.82**	**51**	Pn	**Pn**	**15 25 57.8**	**-0.9**
	226nm,0.3s,baz=195,slow=3.0,SNR=254						
AFI				Sn	**Sn**	**15 26 15.8**	**-4.6**
	505nm,0.3s,baz=135,slow=13,SNR=8.6						
AFI	**Afiamalu**	**1.82**	**51**	Pn	**Pn**	**15 25 57.8**	**-0.9**
AFI				Sn	**Sn**	**15 26 15.8**	**-4.6**
URZ	**Urewera**	**24.63**	**198**	P	**P**	**15 30 47.2**	**+0.2**
	6.8nm,0.3s,mb4.6,baz=46,slow=4.1,SNR=21						
URZ	**Urewera**	**24.63**	**198**	*eP*	**P**	**15 30 47.0**	**+0.1**
WRA	**Warramunga Arr**	**50.08**	**256**	P	**P**	**15 34 21.2**	**-0.5**
	0.6nm,0.8s,mb3.7,baz=90,slow=7.0,SNR=8.5						
WRA	**Warramunga Arr**	**50.08**	**256**	P	**P**	**15 34 21.2**	**-0.5**
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**15 34 22.9**	**-1.0**
	1.3nm,0.7s,mb4.1,baz=94,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**15 34 22.9**	**-1.0**
NVAR	**Mina Array Bea**	**73.97**	**42**	P	**P**	**15 37 03.1**	**+1.3**
	0.3nm,0.6s,mb3.4,baz=215,slow=7.7,SNR=2.2						
NVAR	**Mina Array Bea**	**73.97**	**42**	P	**P**	**15 37 03.1**	**+1.3**
QSPA	**South Pole Qui**	**74.97**	**180**	P	**P**	**15 37 07.1**	**+0.1**
	2.1nm,0.5s,mb4.3,baz=79,slow=3.3,SNR=6.9						
QSPA	**South Pole Qui**	**74.97**	**180**	P	**P**	**15 37 07.1**	**+0.1**
ILAR	**Eielson Array**	**82.09**	**11**	P	**P**	**15 37 47.7**	**+1.4**
	0.4nm,0.9s,mb3.4,baz=198,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**82.09**	**11**	P	**P**	**15 37 47.6**	**+1.4**
BR131	**Keskin Array S**	**146.00**	**321**	*e*PKPbc	PKPbc	15 45 08.2	+2.0
BRTR	**Keskin Array B**	**146.00**	**321**	PKPbc	PKPbc	15 45 08.2	+2.0
	1.7nm,0.7s,baz=42,slow=2.5,SNR=7.9						
BRTR	**Keskin Array B**	**146.00**	**321**	PKPbc	PKPbc	15 45 08.2	+2.0

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*BJI **09** 15:31:43.2, 3°.38S×139°.78E, h47km, mB5.4/47, mb5.1/62, Ms5.1/58, Ms7 4.9/51*
*MOS **09** 15:31:46.9±1.1, 2°.81S×139°.28E, h32km, mb5.6/40, MS4.9/24, Error ellipse: s-maj=10.0km s-min=5.4km az=110.5*
*ISCJB **09** 15:31:49.6±0.5, 2°.79S±0°.02×139°.39E±0°.02, h54km±4km, mb5.5/168, MS5.2/171, Error ellipse: s-maj=4.3km s-min=3.3km az=40.2*
*NEIC **09** 15:31:50.2±0.2, 2°.81S×139°.32E, mb5.6/68, MS5.4/140, MW5.6, Error ellipse: s-maj=6.1km s-min=3.9km az=66.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.15; $M_{\theta\theta}$-1.18; $M_{\phi\phi}$1.33; $M_{r\theta}$-1.64; $M_{r\phi}$0.42; $M_{\theta\phi}$2.37; Best double couple: $M_0$3.2000×10^{17} NP1: ϕ_s=146.00000°, δ89.00000°, λ-115.00000°. NP2: ϕ_s=53.00000°, δ25.00000°, λ-4.00000°. Principal axes: T 3.1800, Plg38.0000°, Azm258.0000°; N -0.0100, Plg24.0000°, Azm146.0000°; P -3.1700, Plg41.0000°, Azm32.0000°;*
NEIC Felt [IV] at Genyem, Jayapura and Sentani; [III] at Sarmi.
*DJA **09** 15:31:51.7±0.2, 3°.5S×139°.9E±°, h51km±3km, M5.7/1, mB6.0/69, mb5.8/81, MLv5.8/3, Mw(mB)5.7/69, Mwp4.3/1*
*GCMT **09** 15:31:53.2±0.1, 2°.82S×139°.39E, h23km, MW5.7, Moment Tensor Solution. s82,c148; s1,c1; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.30±.04; $M_{\theta\theta}$-0.65±.03; $M_{\phi\phi}$0.95±.03; $M_{r\theta}$-3.04±.05; $M_{\theta\phi}$0.06±.02; $M_{r\phi}$3.72±.06; Best double couple: $M_0$4.90000×10^{17} NP1:ϕ_s41.00000°, δ9.00000°, λ-10.00000°. NP2:ϕ_s141.00000°, δ88.00000°, λ-99.00000°. Principal axes: T 4.8600, Plg43.0000°, Azm240.0000°; N 0.0400, Plg9.0000°, Azm141.0000°; P -4.9000, Plg46.0000°, Azm42.0000°; Data Used: II IU IC G CN. Surface waves: sta=105, comp=204, per= 50.*
*IDC **09** 15:31:55.5±3.5, 2°.92S×139°.07E, h89km±31km, mb4.6/23, mb1 4.6/24, mb1mx4.6/24, mbtmp4.6/24, MS4.9/12, Ms1 5.0/12, ms1mx4.8/20 Error ellipse: s-maj=15.7km s-min=8.1km az=84.0*

ISC 09 15:31:52.4±0.5, 2°.80S±0°.02×139°.36E±0°.03, h62km±4km, h48km±2.2km; pP-P, n581, σ1°.07/463, mb5.5/167, 14C-9D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.03**	**321**	P	**Pn**	**15 32 08.8**	**-2.1**
SMPI				S	**Sn**	**15 32 26.6**	**+2.7**
JAY	**Jayapura**	**1.38**	**78**	P	**Pn**	**15 32 10.4**	**-5.1**
JAY				S	**Sn**	**15 32 28.5**	**-3.9**
BAKI	**Biak**	**3.62**	**296**	P	**Pn**	**15 32 45.0**	**-1.0**
BAKI				S	**Sn**	**15 33 27.8**	**+0.3**
PMG	**Port Moresby**	**10.16**	**131**	P	**Pn**	**15 34 16.1**	**+0.5**
	5.7nm,0.3s,baz=316,slow=10,SNR=35						
PMG				S	**Sn**	**15 36 10.1**	**+2.1**
	2.9nm,0.3s,baz=258,slow=23,SNR=2.0						
PMG	**Port Moresby**	**10.16**	**131**	*eP*	**Pn**	**15 34 14.7**	**-0.9**
	531nm,0.9s						
PMG				S	**Sn**	**15 36 10.1**	**+2.1**
PMG	**Port Moresby**	**10.16**	**131**	*eP*	**Pn**	**15 34 14.7**	**-0.9**
PMG				S	**Sn**	**15 36 10.1**	**+2.1**
PMG				pmax	pmax		
	comp=Z,531nm,0.9s						
PMG	**Port Moresby**	**10.16**	**131**	P	**Pn**	**15 34 16.3**	**+0.7**
	comp=Z,5μmcomp=Z,622nm,1.0s						
MSAI	**Masohi**	**10.43**	**267**	P	**Pn**	**15 34 19.7**	**+0.4**
	comp=Z,4μmcomp=Z,274nm,1.4s						
AAI	**Ambon**	**11.18**	**265**	P	**Pn**	**15 34 29.1**	**-0.4**
	comp=Z,8μmcomp=Z,676nm,1.3s						
COEN	**Coen**	**11.71**	**161**	*eP*	**Pn**	**15 34 33.3**	**-3.5**
	comp=Z,76nm,1.1s						
COEN	**Coen**	**11.71**	**161**	P	**Pn**	**15 34 34.6**	**-2.2**
	comp=Z,3μmcomp=Z,349nm,1.0s						
LBMI	**Labuha**	**12.04**	**280**	P	**Pn**	**15 34 41.8**	**+0.5**
	comp=Z,829nm,1.4s						
NLAI	**Namlea**	**12.25**	**268**	P	**Pn**	**15 34 43.7**	**-0.4**
	comp=Z,6μmcomp=Z,636nm,1.3s						
TNTI	**Ternate**	**12.50**	**286**	P	**Pn**	**15 34 48.5**	**+0.9**
	comp=Z,10μmcomp=Z,551nm,1.6s						
MNI	**Manado**	**15.11**	**286**	P	**Pn**	**15 35 21.7**	**-0.6**
	comp=Z,8μmcomp=Z,405nm,1.6s						
SGSI	**Sangihe**	**15.25**	**295**	P	**Pn**	**15 35 29.8**	**+5.7**
	comp=Z,2μm,0.5s						
KMSI	**Cibinong**	**15.73**	**282**	P	**Pn**	**15 35 29.7**	**-0.6**
	comp=Z,1μm,1.0s						
LUWI	**Luwuk**	**16.67**	**276**	P	**Pn**	**15 35 40.9**	**-1.1**
	comp=Z,1μm,1.3s						
GTOI	**Gorontalo**	**16.69**	**282**	P	**Pn**	**15 35 43.1**	**+0.7**
	comp=Z,7μmcomp=Z,676nm,0

CNP	**Catarman**	**21.08 316**	*e*P		**P**	**15 36 34.2 +2.4**
CNP			*e*S			15 36 46.0
GUIM	**Jordan**	**21.36 309**	*e*P		**P**	**15 36 35.8 +1.0**
ASAR	**Alice Springs**	**21.41 194**	P		**P**	**15 36 33.1 -2.0**
	comp=Z,23nm,0.5s,mb4.8,baz=25,slow=9.6,SNR=187					
ASAR			S		**S**	**15 40 23.1 -6.2**
	comp=Z,16nm,0.7s,baz=19,slow=26,SNR=2.6					
ASAR	**Alice Springs**	**21.41 194**	P		**P**	**15 36 33.1 -2.0**
ASAR			S		**S**	**15 40 23.1 -6.2**
ASAR	**Alice Springs**	**21.41 194**	P		**P**	**15 36 33.2 -2.0**
ASAR			S		**S**	**15 40 23.1 -6.2**
HNR	**Honiara**	**21.50 109**	P		**P**	**15 36 35.3 -0.9**
	comp=Z,163nm,0.7s,mb5.5,baz=216,slow=3.5,SNR=13					
HNR	**Honiara**	**21.50 109**	*e*P		**P**	**15 36 34.8 -1.5**
	comp=Z,458nm,0.9s,mb5.8					
HNR			LR	LR		
	comp=Z,3μm,20.0s					
HNR	**Honiara**	**21.50 109**	*e*P		**P**	**15 36 34.8 -1.5**
HNR			pmax	pmax		
	comp=Z,458nm,0.9s,mb5.8					
HNR			MLR	MLR		
	comp=Z,3μm,20.0s					
RCP	**Roxas**	**21.82 311**⇑	*e*P		**P**	**15 36 40.2 +0.5**
PVCP	**Virac**	**22.20 318**	*e*P		**P**	**15 36 42.8 -0.9**
PVCP			*e*S			15 36 57.8
SMKI	**Samarinda**	**22.26 276**	P		**P**	**15 36 47.6 +3.2**
	comp=Z,832nm,1.4s,mb6.0					
MYLDM	**Lahad Datu**	**22.29 291**	P		**P**	**15 36 49.1 +4.4**
MYLDM	**Lahad Datu**	**22.29 291**	P		**P**	**15 36 47.9 +3.2**
	comp=Z,8μmcomp=Z,561nm,1.2s,mb5.9					
TSM	**Tawau**	**22.59 288**	P		**P**	**15 36 50.1 +2.1**
CUYO	**Cuyo Island**	**22.73 307**	*e*P		**P**	**15 36 49.9 +0.5**
OTRP	**Odiongan**	**22.88 312**	*e*P		**P**	**15 36 50.7 -0.2**
AUQP	**San Andres**	**23.04 314**	*e*P		**P**	**15 36 52.1 -0.4**
KBKI	**Kotabaru**	**23.16 268**	P		**P**	**15 36 54.4 +0.5**
	comp=Z,7μmcomp=Z,642nm,1.4s,mb5.9					
SDKM	**Sandakan**	**23.67 291**	P		**P**	**15 36 59.9 +1.4**
BOAC	**Boac**	**23.72 313**	*e*P		**P**	**15 36 58.8 -0.2**
MTNI	**Mataram**	**23.78 255**	P		**P**	**15 36 57.9 -1.6**
	comp=Z,9μmcomp=Z,810nm,1.0s,mb6.1					
BUSP	**Coron**	**24.06 308**	*e*P		**P**	**15 37 02.6 +0.6**
ENPP	**El Nido**	**24.22 305**	*e*P		**P**	**15 37 05.1 +1.6**
KHKI	**Kahang-Kahang**	**24.27 256**	P		**P**	**15 37 02.3 -1.7**
	comp=Z,7μmcomp=Z,442nm,1.6s,mb5.7					
BATP	**Bataraza**	**24.38 298**	*e*P		**P**	**15 37 06.1 +1.1**
KDM	**Kudat**	**24.47 293**	P		**P**	**15 37 09.3 +3.6**
BBKI	**Banjar Baru**	**24.49 268**	P		**P**	**15 37 07.7 +1.7**
	comp=Z,1μm,1.2s,mb6.2					
POLP	**Polillo Island**	**24.51 316**	*e*P		**P**	**15 37 08.1 +2.0**
SRBI	**Singaraja**	**24.59 257**	P		**P**	**15 37 06.1 -0.9**
	comp=Z,7μmcomp=Z,496nm,1.1s,mb6.0					
KKM	**Kota Kinabalu**	**24.72 291**	P		**P**	**15 37 09.5 +1.3**
KKM	**Kota Kinabalu**	**24.72 291**	*e*P		**P**	**15 37 06.8 -1.3**
	comp=Z,491nm,1.4s,mb5.8					
KKM			LR	LR		
	comp=Z,2μm,20.0s					
KKM	**Kota Kinabalu**	**24.72 291**	P		**P**	**15 37 08.6 +0.5**
	comp=Z,4μmcomp=Z,209nm,1.4s,mb5.5					
IGBI	**Denpasar**	**24.81 255**	P		**P**	**15 37 08.4 -0.5**
	comp=Z,432nm,1.0s,mb5.9					
TGY	**Tagaytay City**	**24.81 313**	P		**P**	**15 37 08.5 -0.3**
	comp=Z,115nm,0.4s,mb5.7,baz=132,slow=7.8,SNR=7.6					
TGY	**Tagaytay City**	**24.81 313**	P		**P**	**15 37 08.5 -0.3**
TGY	**Tagaytay City**	**24.81 313**	P		**P**	**15 37 08.5 -0.4**
LUBP	**Lubang**	**25.08 311**	*e*P		**P**	**15 37 11.2 -0.2**
EIDS	**Eidsvold**	**25.12 154**	*e*P		**P**	**15 37 12.4 +0.8**
	comp=Z,886nm,1.4s,mb6.1					
NBBI	**Negara**	**25.23 256**	P		**P**	**15 37 13.7 +1.0**
	comp=Z,10μmcomp=Z,938nm,1.4s,mb6.1					
KMMI	**Kalianget**	**25.64 260**	P		**P**	**15 37 18.2 +1.7**
	comp=Z,1μm,1.3s,mb6.2					
BLJI	**Banyuglugur**	**26.11 258**	P		**P**	**15 37 20.4 -0.3**
	comp=Z,3μmcomp=Z,192nm,0.9s,mb5.6					
CAUP	**Cauayan**	**26.16 319**	*e*P		**P**	**15 37 28.6 +7.5**
GMJI	**Gumukmas**	**26.35 257**	P		**P**	**15 37 21.9 -1.0**
	comp=Z,2μmcomp=Z,134nm,1.1s,mb5.4					
MBWA	**Marble Bar**	**26.42 225**	*e*P		**P**	**15 37 22.0 -1.5**
	comp=Z,217nm,1.0s,mb5.6					
MBWA			LR	LR		
	comp=Z,6μm,20.0s					
MBWA	**Marble Bar**	**26.42 225**	P		**P**	**15 37 23.4 0.0**
	comp=Z,4μmcomp=Z,353nm,1.3s,mb5.7					
MBWA	**Marble Bar**	**26.42 225**	P		pP	15 37 36.6 -2.0
	SNR=10					
SCZP	**Santa Cruz**	**26.66 314**	*e*P		**P**	**15 37 35.5 +10**
BTM	**Bintulu**	**26.93 283**	P		**P**	**15 37 30.1 +2.0**
APYP	**Conner**	**27.21 320**	*e*P		**P**	**15 37 32.7 +2.2**
SBUM	**Sibu**	**27.62 281**	P		**P**	**15 37 36.4 +2.1**
SBUM	**Sibu**	**27.62 281**	P		**P**	**15 37 36.5 +2.1**
	comp=Z,1μmcomp=Z,62nm,1.4s,mb5.0					
PBKI	**Pangkalan Bun**	**27.66 270**	P		**P**	**15 37 39.6 +5.0**
	comp=Z,4μmcomp=Z,372nm,1.1s,mb5.9					
SJI	**Sawahan**	**27.90 259**	P		**P**	**15 37 37.5 +0.7**
	comp=Z,86nm,0.8s,mb5.4					
PWJI	**Pagerwojo**	**27.91 258**	P		**P**	**15 37 35.3 -1.6**
	comp=Z,2μmcomp=Z,100nm,0.8s,mb5.5					
STKI	**Sintang**	**28.01 275**	P		pP	15 37 50.2 -2.9
PCJI	**Pacitan**	**28.55 258**	P		**P**	**15 37 41.4 -1.2**
	comp=Z,2μmcomp=Z,190nm,1.1s,mb5.8					
STKA	**Stephens Creek**	**29.00 176**	P		**P**	**15 37 45.9 -0.4**
	comp=Z,12nm,0.4s,mb5.0,baz=350,slow=8.3,SNR=21					
STKA			LR	LR		15 50 19.1
	comp=Z,6μm,19.4s,baz=347,slow=38					
STKA	**Stephens Creek**	**29.00 176**	*e*P		**P**	**15 37 45.6 -0.8**
	comp=Z,22nm,0.9s,mb4.9					
STKA	**Stephens Creek**	**29.00 176**	*e*P		**P**	**15 37 45.9 -0.4**
	comp=Z,0.2nm,1.0s					
STKA	**Stephens Creek**	**29.00 176**	*e*P		**P**	**15 37 45.9 -0.5**
SMRI	**Semarang**	**29.11 261**	P		pP	15 38 00.7 -2.1
KSM	**Kuching**	**29.35 278**	P		**P**	**15 37 50.8 +1.1**
KSM	**Kuching**	**29.35 278**	PFAKE			15 38 00.0 +10
KSM			LR	LR		
	comp=Z,1μm,21.0s					
KSM	**Kuching**	**29.35 278**	P		**P**	**15 37 51.8 +2.1**
	comp=Z,51nm,1.3s,mb5.1					
FORT	**Forrest**	**29.81 200**	*e*P		**P**	**15 37 52.3 -1.2**
	comp=Z,95nm,0.7s,mb5.6					
FORT	**Forrest**	**29.81 200**	*e*P		**P**	**15 37 51.3 -2.2**
	comp=Z,405nm,0.8s,mb6.2					
ARMA	**Armidale**	**29.83 158**	*e*P		**P**	**15 37 54.8 +1.1**
ARMA	**Armidale**	**29.83 158**	*e*P		**P**	**15 37 53.6 -0.1**
	comp=Z,321nm,1.8s,mb5.8					
CBIJ	**Chichi jima**	**29.84 5**	LR		LR	15 47 24.8
	comp=Z,1μm,20.5s,baz=169,slow=31					
BJII	**Banjamegara**	**29.86 260**	P		**P**	**15 37 58.6 +4.3**
	comp=Z,2μmcomp=Z,141nm,1.4s,mb5.5					
BBOO	**Buckleboo**	**30.02 186**	*e*P		**P**	**15 37 54.8 -0.5**
	comp=Z,5μm,1.4s					
YULB	**Yu-li**	**31.42 327**	*e*P		**P**	**15 38 05.7 -2.1**
	comp=Z,40nm,1.0s,mb5.2					
TPI	**Tanjungpandan**	**31.67 269**	P		**P**	**15 38 11.4 +1.2**
	comp=Z,2μmcomp=Z,124nm,1.2s,mb5.6					
TPUB	**Ta-pu**	**31.72 326**	*e*P		**P**	**15 38 09.7 -0.8**
	comp=Z,234nm,1.6s,mb5.8					
CISI	**Cisompet, Garu**	**31.76 260**	P		**P**	**15 38 09.4 -1.6**
	comp=Z,2μmcomp=Z,208nm,1.5s,mb5.7					
LEM	**Lembang**	**31.87 262**	P		**P**	**15 38 17.0 +5.0**
	comp=Z,3μmcomp=Z,113nm,1.3s,mb5.5					
NACB	**Ninganchiao**	**31.89 328**	P		**P**	**15 38 11.9 -0.1**
	comp=Z,42nm,0.9s,mb5.3					
SSLB	**Suanglung**	**31.93 327**	*e*P		**P**	**15 38 12.6 +0.4**
	comp=Z,48nm,0.9s,mb5.3					
YHNB	**Yeheng**	**32.41 328**	*e*P		**P**	**15 38 16.3 -0.2**
	comp=Z,31nm,0.7s,mb5.2					
DZM	**Mont Dzumac**	**32.54 128**	*e*P		**P**	**15 38 17.7 0.0**
	comp=Z,103nm,1.1s,mb5.7					
DZM			*e*S		**S**	**15 43 35.4 +6.6**
	comp=Z,2μm,28.6s					
DZM			*e*LR		LR	15 47 03.0
	comp=Z,10μm,28.6s					
CBJI	**Citeko**	**32.59 262**	P		**P**	**15 38 21.4 +3.1**
	comp=Z,212nm,0.9s,mb6.0					
DBJI	**Dramaga**	**32.70 262**	P		**P**	**15 38 18.8 -0.5**
	comp=Z,2μmcomp=Z,74nm,1.5s,mb5.4					
RIV	**Riverview**	**32.78 162**	*e*P		**P**	**15 38 21.2 +1.5**
PPBI	**Pangkal Pinang**	**33.20 270**	P		**P**	**15 38 24.8 +1.2**
	comp=Z,2μmcomp=Z,108nm,1.4s,mb5.6					
CAN	**Canberra**	**33.58 166**	*e*P		**P**	**15 38 27.4 +0.8**
	comp=Z,236nm,1.4s,mb5.9					
CAN			LR	LR		
	comp=Z,6μm,19.0s					
CAN	**Canberra**	**33.58 166**	*e*P		**P**	**15 38 27.4 +0.8**
CAN			pmax	pmax		
	comp=Z,236nm,1.4s,mb5.9					
CAN			MLR	MLR		
	comp=Z,6μm,19.0s					
CNB	**Canberra Magne**	**33.66 165**	*e*P		**P**	**15 38 28.6 +1.3**
	comp=Z,625nm,0.9s,mb6.5					
CGJI	**Cibinong**	**33.76 262**	P		**P**	**15 38 26.5 -2.0**
	comp=Z,1μmcomp=Z,97nm,0.9s,mb5.8					
QZH	**Quanzhou**	**34.16 325**	P		**P**	**15 38 25.0 -6.7**
QZH			S		**S**	**15 43 50.0 -3.7**
QZH			LR	LR		
	comp=N,4μm,22.7s					
QZH			LR	LR		
	comp=E,4μm,22.9s					
QZH			LR	LR		
	comp=Z,4μm,29.7s					
KLSI		**34.60 266**	P		**P**	**15 38 45.5 +10**
TOO	**Toolangi**	**35.06 172**	*e*P		**P**	**15 38 40.4 +1.0**
	comp=Z,204nm,0.9s,mb6.1					
KLBR	**Kellerberrin**	**35.14 213**	*e*P		**P**	**15 38 39.5 -0.6**
	comp=Z,101nm,1.1s,mb5.7					
MDSI	**Maura Dua**	**35.15 266**	P		**P**	**15 38 39.8 -0.7**
	comp=Z,3μmcomp=Z,236nm,1.3s,mb6.0					
LWLI	**Liwa**	**35.28 265**	P		**P**	**15 38 40.9 -0.7**
	comp=Z,3μmcomp=Z,283nm,1.1s,mb6.1					
MYKOM	**Kota Tinggi**	**35.79 277**	P		**P**	**15 38 47.2 +1.2**
MYKOM	**Kota Tinggi**	**35.79 277**	P		**P**	**15 38 46.8 +0.8**
	comp=Z,95nm,1.1s,mb5.7					
QIZ	**Qiongzhong**	**36.24 308**	P		**P**	**15 38 48.3 -1.4**
QIZ			pP		pP	15 39 00.9 -4.3
QIZ			PP		PP	15 40 16.1 +2.9
QIZ			S		**S**	**15 44 25.4 -0.5**
QIZ			pmax	pmax		
	comp=Z,29nm,1.7s,mb4.9					
QIZ			pmax	pmax		
	comp=Z,180nm,4.2s					
QIZ			LR	LR		
	comp=N,650nm,19.1s					
QIZ			LR	LR		
	comp=E,380nm,21.1s					
QIZ			LR	LR		
	comp=Z,2μm,20.4s					
KGM	**Kluang**	**36.34 277**	P		**P**	**15 38 51.7 +1.0**
MNAI	**Manna**	**36.36 266**	P		**P**	**15 38 51.1 +0.2**
	comp=Z,231nm,1.0s,mb6.0					
NWAO	**Narrogin (SRO)**	**36.45 212**	P		**P**	**15 38 51.2 -0.1**
	comp=Z,17nm,0.6s,mb5.2,baz=46,slow=8.2,SNR=19					
NWAO	**Narrogin (SRO)**	**36.45 212**	*e*P		**P**	**15 38 51.0 -0.3**
	comp=Z,59nm,0.9s,mb5.5					
NWAO			LR	LR		
	comp=Z,12μm,19.0s					
NWAO	**Narrogin (SRO)**	**36.45 212**	*e*P		**P**	**15 38 51.0 -0.3**
NWAO			pmax	pmax		
	comp=Z,59nm,0.9s					
NWAO			MLR	MLR		
	comp=Z,12μm,19.0s					
JNU	**Nakatsue**	**36.61 348**	*e*P		**P**	**15 38 52.1 -0.6**
	comp=Z,32nm,1.0s,mb5.1					
KSI	**Kapahiang**	**36.71 268**	P		**P**	**15 38 53.3 -0.6**
	comp=Z,5μmcomp=Z,126nm,1.2s,mb5.6					
SSE	**Sheshan**	**37.89 334**	*e*P		**P**	**15 39 04.0 +0.4**
SSE			pP		pP	15 39 15.2 -4.0
SSE			sP		sP	15 39 19.5 -6.9
SSE			S		**S**	**15 44 52.4 +1.7**
SSE			pmax	pmax		
	comp=Z,29nm,1.5s,mb4.8					
SSE			pmax	pmax		
	comp=Z,130nm,3.9s					
SSE			LR	LR		
	comp=N,830nm,18.2s					
SSE			LR	LR		
	comp=E,200nm,18.2s					
SSE			LR	LR		
	comp=Z,940nm,23.3s					
SSE	**Sheshan**	**37.89 334**	*e*P		**P**	**15 39 04.0 +0.4**
	comp=Z,29nm,1.5s,mb4.8					
SSE			pP		pP	15 39 15.2 -4.0
SSE			sP		sP	15 39 19.5 -6.9
SSE			S		**S**	**15 44 52.4 +1.7**
SSE			sS		sS	15 45 10.9 -6.3
SSE			LR	LR		
	comp=Z,950nm,23.3s					
BKNI	**Bangkinang**	**38.43 274**	P		**P**	**15 39 08.9 +0.5**
	comp=Z,3μmcomp=Z,228nm,1.4s,mb5.7					
PDSI	**Padang**	**38.92 272**	P		**P**	**15 39 11.3 -1.2**
	comp=Z,3μmcomp=Z,221nm,0.8s,mb6.0					
IPM	**Ipoh**	**38.98 281**	P		**P**	**15 39 13.5 +0.5**
IPM	**Ipoh**	**38.98 281**	*e*P		**P**	**15 39 12.0 -1.0**
	comp=Z,170nm,1.3s,mb5.6					
IPM	**Ipoh**	**38.98 281**	P		**P**	**15 39 12.1 -0.9**
	comp=Z,2μmcomp=Z,114nm,1.2s,mb5.5					
PPI	**Padang Panjang**	**39.01 273**	P		**P**	**15 39 12.9 -0.4**
	comp=Z,2μmcomp=Z,181nm,0.8s,mb5.8					
MJAR	**Matsushiro Arr**	**39.15 359**	P		**P**	**15 39 14.9 +0.9**
	comp=Z,8.2nm,1.2s,mb4.3,baz=179,slow=11,SNR=6.0					
MJAR	**Matsushiro Arr**	**39.15 359**	P		**P**	**15 39 14.9 +0.9**
MJAR	**Matsushiro Arr**	**39.15 359**	P		**P**	**15 39 14.9 +0.9**
MAJO	**Matsushiro**	**39.15 359**	PFAKE			15 39 30.0 +16
MAJO			LR	LR		
	comp=Z,2μm,21.0s					
MAT	**Matsushiro**	**39.15 359**	P		**P**	**15 39 12.9 -1.1**
MAT			S		**S**	**15 45 08.0 -1.5**
KULM	**Kulim**	**39.49 282**	P		**P**	**15 39 17.9 +0.6**
KULM	**Kulim**	**39.49 282**	*e*P		**P**	**15 39 16.8 -0.5**
	comp=Z,198nm,1.2s,mb5.7					
KULM			LR	LR		
	comp=Z,827nm,19.0s					
KULM	**Kulim**	**39.49 282**	P		**P**	**15 39 16.7 -0.6**
	comp=Z,2μmcomp=Z,138nm,1.3s,mb5.5					
NJ2	**Nanjing**	**39.75 332**	*e*P		**P**	**15 39 21.6 +2.5**
NJ2			pP		pP	15 39 33.3 -1.5
NJ2			sP		sP	15 39 38.2 -3.9
NJ2			S		**S**	**15 45 19.0 +0.3**
NJ2			pmax	pmax		
	comp=Z,60nm,1.4s,mb5.1					
NJ2			pmax	pmax		
	comp=Z,380nm,5.5s					
NJ2			LR	LR		
	comp=N,2μm,25.6s					
NJ2			LR	LR		
	comp=E,3μm,28.6s					
NJ2			LR	LR		
	comp=Z,1μm,21.2s					
SNG	**Songkhla**	**39.91 285**	P		**P**	**15 39 20.0 -0.8**
	comp=Z,320nm,1.0s,mb6.0					
MNSI	**Mandailing Nat**	**39.92 275**	P		**P**	**15 39 20.2 -0.7**
	comp=Z,1μmcomp=Z,82nm,1.5s,mb5.2					
FUNA	**Funafuti**	**40.03 100**	*e*P		**P**	**15 39 21.4 -0.4**
	comp=Z,255nm,0.9s,mb6.0					
FUNA			LR	LR		
	comp=Z,11μm,19.0s					
MOO	**Moorlands**	**40.09 171**	*e*P		**P**	**15 39 23.3 +1.5**
	comp=Z,410nm,0.9s,mb6.2					
TAU	**Tasmania Unive**	**40.57 171**	*e*P		**P**	**15 39 26.6 +0.9**
	comp=Z,105nm,1.0s,mb5.4					
TAU			LR	LR		
	comp=Z,4μm,20.0s					
TAU	**Tasmania Unive**	**40.57 171**	P		**P**	**15 39 26.9 +1.2**
	comp=Z,396nm,0.8s,mb6.1,SNR=9.1					
TAU	**Tasmania Unive**	**40.57 171**	*e*P		**P**	**15 39 26.6 +0.9**
TAU			pmax	pmax		
	comp=Z,105nm,1.0s,mb5.4					
TAU			MLR	MLR		
	comp=Z,4μm,20.0s					
MSVF	**Nonsavu**	**40.74 114**	*e*P		**P**	**15 39 27.9 +0.3**
	comp=Z,105nm,1.3s,mb5.3					
MSVF			LR	LR		
	comp=Z,2μm,22.0s					
MSVF	**Nonsavu**	**40.74 114**	*e*P		**P**	**15 39 27.9 +0.4**
MSVF			pmax	pmax		
	comp=Z,105nm,1.3s,mb5.3					
MSVF			MLR	MLR		
	comp=Z,2μm,22.0s					
PSI	**Prapat**	**40.80 278**	P		**P**	**15 39 27.3 -0.8**
	comp=Z,2μmcomp=Z,204nm,0.9s,mb5.7					
TSI	**Tuntungan**	**41.25 278**	P		**P**	**15 39 31.8 0.0**
	comp=Z,277nm,1.0s,mb5.8					
KSAR	**Wonju Array Be**	**41.43 346**	P		**P**	**15 39 32.9 0.0**
KSAR	**Wonju Array Be**	**41.43 346**	P		**P**	**15 39 32.9 0.0**
KSRS	**Korea Array**	**41.43 346**	P		**P**	**15 39 32.9 0.0**
	comp=Z,4.3nm,0.9s,baz=159,slow=8.7,SNR=9.9					
INCN	**Inchon**	**41.78 345**	PFAKE			15 39 50.0 +14
INCN			LR	LR		
	comp=Z,1μm,21.0s					
NNT	**Nongplab**	**42.22 292**	P		**P**	**15 39 40.5 +0.8**
TPTI		**42.58 278**	P		**P**	**15 39 41.1 -1.6**
	comp=Z,126nm,1.2s,mb5.5					
NST	**Nakhon Sawan**	**42.92 297**	P		**P**	**15 39 42.7 -2.6**
	comp=Z,107nm,1.1s,mb5.5					
GYA	**Guiyang**	**42.94 315**⇑	*i*P		**P**	**15 39 45.7 +0.3**
GYA			pP		pP	15 39 59.4 -1.8
GYA			sP		sP	15 40 05.3 -3.1
GYA			PP		PP	15 41 29.7 +3.5
GYA			ScP		ScP	15 45 21.3 +0.2
GYA			S		**S**	**15 46 07.8 +1.6**
GYA			sS		sS	15 46 30.9 -2.1
GYA			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.1					
GYA			pmax	pmax		
	comp=Z,180nm,5.0s					
GYA			LR	LR		
	comp=N,5μm,17.9s					
GYA			LR	LR		
	comp=E,3μm,18.1s					
GYA			LR	LR		
	comp=Z,4μm,17.9s					
LHMI	**Lhok Sumawe**	**43.11 281**	P		**P**	**15 39 46.6 -0.4**
	comp=Z,4μmcomp=Z,469nm,1.1s,mb6.2					
COCO	**West Island**	**43.12 255**	P		**P**	**15 39 48.5 +1.5**
	comp=Z,2μm,1.0s,mb6.7,SNR=6.0					
COCO	**West Island**	**43.12 255**	*e*P		**P**	**15 39 47.9 +0.8**
	comp=Z,573nm,1.4s,mb6.1					
COCO			LR	LR		
	comp=Z,1μm,21.0s					
COCO	**West Island**	**43.12 255**	*e*P		**P**	**15 39 47.9 +0.9**
COCO			pmax	pmax		
	comp=Z,573nm,1.4s,mb6.1					
COCO			MLR	MLR		
	comp=Z,1μm,21.0s					
COCO	**West Island**	**43.12 255**	P		**P**	**15 39 49.0 +2.0**
	comp=Z,324nm,1.5s,mb5.8					
COCO	**West Island**	**43.12 255**	P		**P**	**15 39 49.0 +2.0**
	SNR=6.1					
DL2	**Dalian**	**44.60 340**	P		**P**	**15 40 01.5 +3.0**
DL2			pmax	pmax		
	comp=Z,50nm,1.7s,mb5.1					
DL2			pmax	pmax		
	comp=Z,200nm,6.1s					
DL2			LR	LR		
	comp=N,500nm,22.3s					
DL2			LR	LR		
	comp=Z,700nm,21.8s					
ERM	**Erimo**	**44.73 4**	PFAKE			15 40 10.0 +11
ERM			LR	LR		
	comp=Z,1μm,22.0s					
BSI	**Banda Aceh**	**44.77 281**	P		**P**	**15 39 58.4 -1.9**
	comp=Z,1μmcomp=Z,137nm,1.2s,mb5.7					
CHRT	**Chiangrai**	**44.91 302**	⇑P		**P**	**15 40 00.0 -1.3**
	comp=Z,210nm,0.9s,mb6.0					
CM31	**Chiang Mai Arr**	**45.04 300**	*e*P		**P**	**15 40 01.7 -0.6**
	comp=Z,24nm,0.8s,mb5.1					
CM31			LR	LR		
	comp=Z,879nm,19.0s					
CMAR	**Chiang Mai Arr**	**45.04 300**	P		**P**	**15 40 01.9 -0.5**
	comp=Z,9.7nm,0.7s,mb4.8,baz=120,slow=6.4,SNR=72					
CMAR			LR	LR		15 59 23.0
	comp=Z,594nm,21.9s,baz=120,slow=37					
CMAR	**Chiang Mai Arr**	**45.04 300**	P		**P**	**15 40 01.9 -0.5**
CMAR	**Chiang Mai Arr**	**45.04 300**	P		**P**	**15 40 01.9 -0.4**
KMI	**Kunming**	**45.07 310**	P		**P**	**15 40 03.4 +0.9**
KMI			pP		pP	15 40 16.3 -2.1
KMI			sP		sP	15 40 22.2 -3.4
KMI			PP		PP	15 41 51.2 +2.3
KMI			S		**S**	**15 46 37.7 +0.5**
KMI			sS		sS	15 47 01.4 -2.8
KMI			pmax	pmax		
	comp=Z,19nm,1.4s,mb4.7					
KMI			pmax	pmax		
	comp=Z,180nm,4.4s					
KMI			LR	LR		
	comp=N,790nm,18.2s					
KMI			LR	LR		
	comp=E,800nm,22.5s					
KMI			LR	LR		
	comp=Z,1μm,20.4s					
KMI	**Kunming**	**45.07 310**	P		**P**	**15 40 03.4 +0.9**
	comp=Z,19nm,1.4s,mb4.7					
KMI			pP		pP	15 40 16.3 -2.1
KMI			sP		sP	15 40 22.2 -3.4
KMI			PP		PP	15 41 51.2 +2.3
KMI			S		**S**	**15 46 37.7 +0.5**
KMI			sS		sS	15 47 01.4 -2.8
KMI			SS		SS	15 49 50.9 -10
KMI			SSS			15 50 53.5
KMI			LR	LR		
	comp=Z,1μm,20.4s					
KMI	**Kunming**	**45.07 310**	P		**P**	**15 40 03.4 +0.9**
KMI			*PP		pP	15 40 16.3 -2.1
KMI						15 41 51.2
KMI			S		**S**	**15 46 37.7 +0.5**
KMI			SS		SS	15 49 50.9 -10
KMI			SSS			15 50 53.5
KMI			pmax	pmax		
	comp=Z,19nm,1.4s,mb4.7					
KMI			MLR	MLR		
	comp=Z,1μm,20.4s					
CHTO	**Chiang Mai**	**45.19 300**	*e*P		**P**	**15 40 01.6 -1.9**
	comp=Z,45nm,1.1s,mb5.2					
CHTO			LR	LR		
	comp=Z,782nm,21.0s					
CHTO	**Chiang Mai**	**45.19 300**	*e*P		**P**	**15 40 01.6 -1.9**
CHTO			pmax	pmax		
	comp=Z,45nm,1.1s,mb5.2					
CHTO			MLR	MLR		
	comp=Z,782nm,21.0s					
CHTO	**Chiang Mai**	**45.19 300**	P		**P**	**15 40 02.6 -0.9**
	comp=Z,662nmcomp=Z,48nm,1.2s,mb5.2					
CHTO	**Chiang Mai**	**45.19 300**	P		**P**	**15 40 03.2 -0.2**
	SNR=8.5					
OUZ	**Omahuta**	**45.26 140**	P		**P**	**15 40 02.9 -0.9**
	comp=Z,80nm,1.2s,mb5.4					
VLA	**Vladivostok**	**46.20 352**	*d i*P		**P**	**15 40 11.9 +0.8**
VLA			pmax	pmax		
	comp=Z,69nm,1.2s,mb5.5					
XAN	**Xi'an**	**46.52 325**	P		**P**	**15 40 12.8 -0.9**
XAN			PP		PP	15 42 05.8 +1.7
XAN			S		**S**	**15 46 55.5 -2.3**
XAN			pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4					
XAN			pmax	pmax		
	comp=Z,98nm,13.5s					
XAN			LR	LR		
	comp=N,590nm,29.0s					
XAN			LR	LR		
	comp=E,190nm,21.1s					
XAN			LR	LR		
	comp=Z,310nm,22.4s					
SNY	**Shenyang**	**46.67 344**	⇑P		**P**	**15 40 18.3 +3.5**

CD2 SS SS 15 50 39.2 -4.4
CD2 pmax pmax
comp=Z,40nm,1.8s,mb5.2
CD2 pmax pmax
comp=Z,320nm,4.8s
CD2 LR LR
comp=N,850nm,16.2s
CD2 LR LR
comp=E,1μm,18.0s
CD2 LR LR
comp=Z,1μm,18.6s
MDJ Mudanjiang 48.00 351 P **P 15 40 25.1 0.0**
MDJ pP pP 15 40 35.7 -5.5
MDJ sP sP 15 40 40.8 -7.5
MDJ PP PP 15 42 17.9 +0.1
MDJ S **S 15 47 16.7 -1.8**
MDJ sS sS 15 47 40.2 -5.5
MDJ ScS ScS 15 50 07.4 -5.1
MDJ pmax pmax
comp=Z,22nm,1.6s,mb4.9
MDJ pmax pmax
comp=Z,130nm,5.2s
MDJ LR LR
comp=N,1μm,23.1s
MDJ LR LR
comp=E,570nm,23.9s
MDJ LR LR
comp=Z,1μm,23.5s
CN2 Changchun 48.04 346 *e*P **P 15 40 25.3 -0.1**
CN2 *e*pP pP 15 40 37.8 -3.7
CN2 *e*S **S 15 47 18.9 -0.2**
CN2 SS SS 15 50 44.9 -4.1
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,23.0s
CN2 LR LR
comp=E,500nm,23.0s
CN2 LR LR
comp=Z,1μm,22.0s
RAO Raoul Island 48.34 127 PFAKE 15 40 40.0 +12
RAO LR LR
comp=Z,1μm,22.0s
JCZ Jackson Bay 48.64 152 *e*PN **P 15 40 30.1 +0.1**
URZ Urewera 49.34 141 P **P 15 40 36.6 +1.1**
comp=Z,12nm,1.0s,mb4.9,baz=281,slow=10,SNR=3.8
URZ Urewera 49.34 141 *e*P **P 15 40 36.6 +1.1**
URZ Urewera 49.34 141 *e*PN **P 15 40 36.5 +1.0**
LTZ Lake Taylor 49.45 148 *e*PN **P 15 40 38.1 +1.9**
AFI Afiamalu 49.49 106 P **P 15 40 37.6 +0.6**
comp=Z,46nm,0.9s,mb5.5,baz=73,slow=22,SNR=4.6
AFI LR LR 15 59 58.8
comp=Z,2μm,21.3s,baz=82,slow=34
AFI Afiamalu 49.49 106 P **P 15 40 37.6 +0.6**
AFI Afiamalu 49.49 106 P **P 15 40 37.6 +0.6**
RPZ Rata Peaks 49.49 150 P **P 15 40 38.6 +2.1**
comp=Z,92nm,1.0s,mb5.8,baz=339,slow=4.2,SNR=21
RPZ Rata Peaks 49.49 150 *e*P **P 15 40 37.1 +0.6**
comp=Z,239nm,0.9s,mb6.2
RPZ Rata Peaks 49.49 150 *e*PN **P 15 40 38.0 +1.5**
YSS Yuzh-Sakhalins 49.63 3 *e*P **P 15 40 36.9 -0.6**
comp=Z,36nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 49.63 3 *e* **P 15 40 42.5 +5.0**
YSS *e*SSS SS 15 51 13.0 -1.5
YSS MLR MLR
comp=Z,500nm,18.0s
MWZ Matawai 49.65 140 *e*PN **P 15 40 38.7 +0.8**
SNZO South Karori 49.79 145 *e*P **P 15 40 38.9 +0.1**
comp=Z,131nm,1.1s,mb5.9
KHZ Kahutara 49.88 147 *e*P **P 15 40 38.4 -1.1**
comp=Z,41nm,0.6s,mb5.6
HHC Hu-ho-hao-te 50.30 333 ⇓P **P 15 40 43.2 +0.5**
HHC sP sP 15 40 57.7 -8.4
HHC PcP PcP 15 42 02.1 +1.3
HHC PP PP 15 42 39.5 +0.7
HHC ScP ScP 15 45 53.4 +1.9
HHC PcS PcS 15 45 57.4 -0.5
HHC S **S 15 47 52.5 +1.6**
HHC ScS ScS 15 50 28.6 +0.4
HHC SS SS 15 51 23.7 -1.7
HHC pmax pmax
comp=Z,28nm,1.0s,mb5.2
HHC pmax pmax
comp=Z,320nm,6.4s
HHC LR LR
comp=N,780nm,16.4s
HHC LR LR
comp=E,760nm,16.1s
HHC LR LR
comp=Z,1μm,16.1s
APZ The Paps 50.42 155 *e*PN **P 15 40 44.1 +0.6**
APZ sP sP 15 40 57.1 -10
TUZ Tuapeka 50.47 153 *e*PN **P 15 40 44.7 +0.8**
BTO Baotou 50.84 331 *e*P **P 15 40 46.2 -0.6**
LZH Lanzhou 50.94 323 *e*P **P 15 40 48.5 +0.9**
LZH pP pP 15 41 01.7 -2.1
LZH sP sP 15 41 06.1 -4.9
LZH PcP PcP 15 42 04.4 +1.1
LZH PP PP 15 42 43.4 -1.3
LZH *e*S **S 15 48 03.2 +3.3**
LZH sS sS 15 48 20.5 -6.8
LZH SS SS 15 51 35.0 -0.7
LZH LR LR
comp=Z,980nm,18.4s
LZH Lanzhou 50.94 323 *e*P **P 15 40 48.5 +0.9**
LZH *PP pP 15 41 01.7 -2.1
LZH 15 42 04.4
LZH 15 42 43.4
LZH *e*S **S 15 48 03.2 +3.3**
LZH *SS sS 15 48 20.5 -6.8
LZH SS SS 15 51 35.0 -0.7
LZH pmax pmax
comp=Z,30nm,1.1s,mb5.1
LZH MLR MLR
comp=Z,980nm,18.4s
HABR Khabarovsk 51.20 356 *ce*P **P 15 40 48.1 -1.2**
HABR *e*PP pP 15 41 01.9 -3.6
HABR S **S 15 48 04.2 +1.2**
HABR 15 50 33.6
HABR *e*SS SS 15 51 41.0 +1.7
HABR *e*SSS 15 53 19.9
HABR pmax pmax
comp=Z,32nm,1.0s,mb5.2
HABR pmax pmax
comp=E,17nm,0.9s
HABR pmax pmax
comp=N,35nm,1.7s
HABR MLR MLR
comp=Z,463nm,18.0s
MIDW Midway 51.76 50 PFAKE 15 41 10.0 +16
MIDW LR LR
comp=Z,4μm,22.0s
IMP Imphal 51.90 305 *ex* **P 15 40 55.0 0.0**
KLR Kul'dur 52.24 354 *e*P **P 15 40 52.8 -4.2**
KLR pmax pmax
comp=Z,170nm,1.8s,mb5.7
SHL Shillong 53.91 305⇑ *i*P **P 15 41 10.0 +0.1**
SHL *e*S **S 15 48 40.0 -0.9**
GTA Gaotai 55.52 323 P **P 15 41 21.5 +0.3**
GTA pP pP 15 41 33.9 -3.8
GTA sP sP 15 41 39.8 -4.9
GTA S **S 15 49 04.3 +2.2**
GTA sS sS 15 49 24.1 -5.7
GTA SS SS 15 52 47.9 -0.1

GTA pmax pmax
comp=Z,13nm,1.1s,mb4.9
GTA pmax pmax
comp=Z,220nm,6.4s
GTA LR LR
comp=N,340nm,13.5s
GTA LR LR
comp=E,570nm,19.7s
GTA LR LR
comp=Z,580nm,19.7s
LSA Lhasa 56.27 309 P **P 15 41 26.5 -0.3**
LSA pP pP 15 41 44.5 +1.3
LSA pmax pmax
comp=Z,20nm,0.8s,mb5.2
PEA0B Petropavlovsk- 57.80 13 *e*P **P 15 41 38.1 +1.0**
PETK Petropavlovsk- 57.80 13 P **P 15 41 37.4 +0.3**
comp=Z,9.7nm,0.7s,mb5.0,baz=182,slow=7.4,SNR=25
PETK LR LR 16 03 10.6
comp=Z,1μm,22.0s,baz=206,slow=32
PETK Petropavlovsk- 57.80 13 P **P 15 41 37.4 +0.3**
PETK Petropavlovsk- 57.80 13 P **P 15 41 37.4 +0.3**
ULN Ulaanbaatar 57.82 335 *e*P **P 15 41 37.6 +0.3**
comp=Z,28nm,0.9s,mb5.3
ULN LR LR
comp=Z,1μm,21.0s
ULN Ulaanbaatar 57.82 335 *e*P **P 15 41 37.6 +0.3**
ULN pmax pmax
comp=Z,28nm,0.9s,mb5.3
ULN MLR MLR
comp=Z,1μm,21.0s
ULN Ulaanbaatar 57.82 335 P **P 15 41 38.7 +1.4**
comp=Z,625nmcomp=Z,22nm,1.6s,mb4.9
ULN Ulaanbaatar 57.82 335 P **P 15 41 38.8 +1.5**
SNR=13
PET Petropavlovsk 57.94 14 PFAKE 15 41 50.0 +12
PET LR LR
comp=Z,1μm,22.0s
PET Petropavlovsk 57.94 14 *e*P **P 15 41 34.7 -3.4**
PET *e*S **S 15 49 34.0 +0.6**
PET *e*SS SS 15 53 24.2 -1.3
PET pmax pmax
comp=Z,37nm,1.2s,mb5.3
PET pmax pmax
comp=Z,700nm,5.3s
PET MLR MLR
comp=Z,600nm,20.0s
TAPN Taplejung 58.05 305 *e*P **P 15 41 39.3 -0.1**
TAPN Taplejung 58.05 305 *e*P **P 15 41 39.3 -0.1**
SONM Songino Array 58.07 334 P **P 15 41 39.4 +0.2**
comp=Z,3.6nm,0.5s,mb4.7,baz=151,slow=6.9,SNR=22
SONM LR LR 16 06 48.0
comp=Z,992nm,21.3s,baz=145,slow=36
SONM Songino Array 58.07 334 P **P 15 41 39.4 +0.2**
SONM Songino Array 58.07 334 P **P 15 41 39.4 +0.3**
ODAN Odare 58.13 304 *e*P **P 15 41 39.8 -0.2**
comp=Z,122nm,0.9s,mb5.9
ODAN Odare 58.13 304 *e*P **P 15 41 39.8 -0.2**
comp=Z,122nm,0.9s,mb5.9
RAMN Ramite 58.82 304 *e*P **P 15 41 44.7 -0.1**
comp=Z,42nm,0.7s,mb5.6
RAMN Ramite 58.82 304 *e*P **P 15 41 44.7 -0.1**
comp=Z,42nm,0.7s,mb5.6
CIT Chita 58.83 342 *e*P **P 15 41 44.8 +0.5**
JIRN Jiri 59.42 304 *e*P **P 15 41 50.0 +1.1**
JIRN Jiri 59.42 304 *e*P **P 15 41 50.0 +1.1**
GUN Gumba 59.77 305 *e*P **P 15 41 51.4 +0.1**
comp=Z,72nm,0.8s,mb5.8
GUN Gumba 59.77 305 *e*P **P 15 41 51.4 +0.1**
comp=Z,72nm,0.8s,mb5.8
PKI Pulchoki 60.03 304 *e*P **P 15 41 52.8 -0.3**
PKI Pulchoki 60.03 304 *e*P **P 15 41 52.8 -0.3**
PKI Pulchoki 60.03 304 *e*P **P 15 41 52.8 -0.3**
KKN Kakani 60.22 304 *e*P **P 15 41 54.1 -0.3**
comp=Z,70nm,0.8s,mb5.7
KKN Kakani 60.22 304 *e*P **P 15 41 54.1 -0.3**
comp=Z,70nm,0.8s,mb5.7
KKN Kakani 60.22 304 *e*P **P 15 41 54.1 -0.3**
KKN pmax pmax
comp=Z,70nm,0.8s,mb5.7
DMN Daman 60.30 304 *e*P **P 15 41 54.7 -0.2**
comp=Z,94nm,0.8s,mb5.9
DMN Daman 60.30 304 *e*P **P 15 41 54.7 -0.2**
comp=Z,94nm,0.8s,mb5.9
CLNS Chul'man 60.59 351 *e*P **P 15 41 56.7 +0.4**
CLNS *e**PP pP 15 42 11.5 -1.4
CLNS *e* 15 42 40.8
CLNS *e* 15 44 08.3
CLNS *e*PPP 15 45 34.1
CLNS *e*S **S 15 50 06.6 -0.9**
CLNS pmax pmax
comp=Z,18nm,1.3s,mb5.0
CLNS pmax pmax
comp=N,12nm,1.4s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
CLNS smax
comp=N,302nm,14.4s
CLNS smax
comp=E,553nm,13.1s
CLNS MLR MLR
comp=N,528nm,16.0s
CLNS MLR MLR
comp=E,249nm,14.0s
GKN Gorkha 60.83 304 *e*P **P 15 41 58.1 -0.4**
comp=E,100nm,0.8s,mb6.0
GKN Gorkha 60.83 304 *e*P **P 15 41 58.1 -0.4**
comp=E,100nm,0.8s,mb6.0
ZAK Zakamensk 61.34 335 *e*P **P 15 42 01.7 +0.2**
ZAK *e* pP 15 42 19.1 +0.9
ZAK pmax pmax
comp=Z,25nm,1.6s,mb5.1
KOLN Koldanda 61.60 304 *e*P **P 15 42 03.5 -0.3**
KOLN Koldanda 61.60 304 *e*P **P 15 42 03.5 -0.3**
DANN Dangsing 61.67 304 *e*P **P 15 42 03.9 -0.3**
DANN Dangsing 61.67 304 *e*P **P 15 42 03.9 -0.3**
RAR Rarotonga 61.89 112 LR LR 16 05 27.6
comp=Z,941nm,21.8s,baz=39,slow=32
TLY Talaya 62.16 336 *e*P **P 15 42 06.9 -0.2**
comp=Z,51nm,1.1s,mb5.6
TLY LR LR
comp=Z,1μm,19.0s
TLY Talaya 62.16 336 *e*P **P 15 42 07.2 +0.2**
TLY *e*S **S 15 50 32.4 +4.7**
TLY *e* 15 50 55.4
TLY pmax pmax
comp=Z,25nm,0.7s,mb5.5
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 62.16 336 P **P 15 42 08.5 +1.4**
SNR=7.8
IRK Irkutsk 62.33 336 *e*P **P 15 42 07.7 -0.5**
IRK pmax pmax
comp=Z,94nm,1.7s,mb5.6
HYB Hyderabad 63.21 291 *i*P **P 15 42 13.5 -1.2**
MOY Mondy 63.27 334 *e*P **P 15 42 14.7 +0.3**
MOY pmax pmax
comp=Z,81nm,2.0s,mb5.5
DRV Dumont d'Urvil 63.75 180 P pP 15 42 31.0 -3.1
DRV S **S 15 50 49.0 +1.9**
DRV L 15 57 00.0
DRV R 16 02 00.0
BOD Bodaibo 63.76 345 *e*P **P 15 42 17.3 -0.2**
BOD pmax pmax
comp=Z,89nm,2.0s,mb5.5
YAK Yakutsk 65.07 355 *e*P **P 15 42 25.4 -0.6**
comp=Z,66nm,0.8s,mb5.7
YAK Yakutsk 65.07 355 *c*P **P 15 42 25.9 -0.1**
YAK *e**PP pP 15 42 36.5 -6.3
YAK *e* 15 42 58.5
YAK *e* 15 44 48.2
YAK *e*S S 15 51 06.1 +2.6
YAK *e**SS sS 15 51 24.9 -7.0
YAK *e* 15 52 14.0
YAK *e*SS SS 15 55 17.3 +0.5
YAK pmax pmax
comp=Z,52nm,0.8s,mb5.6
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax

comp=N,20nm,0.9s
YAK pmax pmax
comp=Z,143nm,4.8s
YAK smax
comp=N,334nm,3.9s
YAK smax
comp=E,755nm,3.3s
WMQ Urumqi 65.48 321 P **P 15 42 29.2 +0.2**
WMQ pP pP 15 42 39.5 -6.3
WMQ sP sP 15 42 43.4 -9.4
WMQ PP PP 15 44 55.3 +1.4
WMQ S S 15 51 09.6 +0.4
WMQ SS SS 15 55 26.5 +2.6
WMQ pmax pmax
comp=Z,120nm,1.0s,mb5.9
WMQ pmax pmax
comp=Z,410nm,4.2s
WMQ LR LR
comp=N,1μm,38.0s
WMQ LR LR
comp=E,390nm,36.0s
WMQ LR LR
comp=Z,390nm,26.6s
KIP Kipapa 65.78 65 *i*P **P 15 42 32.1 +0.7**
ADK Adak 65.94 28 PFAKE 15 42 40.0 +8.2
ADK LR LR
comp=Z,2μm,21.0s
HVS Khovu-Aksy 66.28 331 *c i*P **P 15 42 34.5 +0.5**
CASY Casey 66.52 192 *e*P **P 15 42 35.9 +0.6**
CASY Casey 66.52 192 *e*P **P 15 42 35.2 -0.1**
comp=Z,280nm,1.4s,mb6.1
CASY LR LR
comp=Z,2μm,19.0s
DGAR Diego Garcia 66.75 263 PFAKE 15 42 50.0 +12
DGAR LR LR
comp=Z,1μm,22.0s
DDI Dehra Dun 67.02 305 *ex* **P 15 42 38.0 -1.2**
KRAR Krasnoyarsk 69.75 334 *i*P **P 15 42 55.7 0.0**
KRAR pmax pmax
comp=Z,21nm,0.5s,mb5.3
MK31 Makanchi Array 70.25 322 *e*P **P 15 42 58.7 -0.3**
MK31 Makanchi Array 70.25 322 *e*P **P 15 42 58.7 -0.3**
MKAR Makanchi Array 70.25 322 P **P 15 42 58.8 -0.2**
comp=Z,10nm,0.6s,mb5.0,baz=98,slow=7.8,SNR=113
MKAR Makanchi Array 70.25 322 P **P 15 42 58.8 -0.2**
MKAR Makanchi Array 70.25 322 P **P 15 42 58.8 -0.2**
PPT Papeete 71.11 108 *e*S S 15 52 24.1 +6.9
comp=Z,1μm,32.5s
PPT *e*LQ 16 01 51.8
comp=Z,4μm,35.8s
PPT *e*LR LR 16 04 56.6
comp=Z,2μm,23.0s
PPT2 Papeete2 71.11 108 *e*P **P 15 43 09.3 +4.5**
comp=Z,49nm,1.2s,mb5.3
PAE Paea 71.11 108 *e*P **P 15 43 09.8 +5.0**
comp=Z,9.7nm,1.1s,mb4.6
TIAR Tiarei 71.33 107 *e*P **P 15 43 09.5 +3.4**
comp=Z,239nm,1.5s,mb5.9
KSH Kashi 71.61 313⇑ *i*P **P 15 43 08.6 +1.2**
KSH pP pP 15 43 23.1 -1.3
KSH sP sP 15 43 28.6 -2.7
KSH PP PP 15 45 50.7 +3.6
KSH S S 15 52 23.3 +1.1
KSH sS sS 15 52 45.4 -5.6
KSH SKS 15 53 03.1
KSH ScS ScS 15 53 06.6 -0.9
KSH SS SS 15 57 01.5 +2.7
KSH pmax pmax
comp=Z,44nm,1.3s,mb5.2
KSH pmax pmax
comp=Z,220nm,6.1s
KSH LR LR
comp=N,210nm,6.8s
KSH LR LR
comp=E,190nm,7.8s
KSH LR LR
comp=Z,400nm,20.4s
TBI Tubuai 71.63 114 *e*P **P 15 43 11.9 +4.1**
comp=Z,212nm,1.3s,mb5.9
TBI *e*S S 15 52 28.2 +5.3
comp=Z,756nm,29.3s
TBI *e*LQ 16 02 08.2
comp=Z,2μm,39.0s
TBI *e*LR LR 16 05 10.6
comp=Z,2μm,29.2s
NIL Nilore 71.90 307 PFAKE 15 43 20.0 +11
NIL LR LR
comp=Z,113nm,19.0s
ZAA0 Zalesovo Array 72.34 330 *e*P **P 15 43 09.9 -1.5**
ZALV Zalesovo Beam 72.34 330 P **P 15 43 10.2 -1.1**
comp=Z,6.6nm,0.6s,mb4.8,baz=114,slow=6.4,SNR=26
ZALV Zalesovo Beam 72.34 330 P **P 15 43 10.2 -1.1**
ZALV Zalesovo Beam 72.34 330 P **P 15 43 10.3 -1.1**
MEH Mehetia 72.57 108 *e*P **P 15 43 17.9 +4.4**
comp=Z,81nm,1.1s,mb5.5
PMOR Pomariorio Ree 72.62 105 *e*P **P 15 43 18.3 +4.4**
comp=Z,187nm,1.2s,mb5.9
KZA Kyzart 73.00 316 P **P 15 43 16.9 +1.3**
SNR=25
KZA P 15 43 16.9
SNR=25
TKM2 Tokmak 2 73.05 316 P **P 15 43 15.9 0.0**
SNR=16
TKM2 P 15 43 15.9
SNR=16
TKM2 Tokmak 2 73.05 316 *e*P **P 15 43 15.6 -0.3**
comp=Z,30nm,0.8s,mb5.3
TKM2 LR LR
comp=Z,544nm,20.0s
TKM2 Tokmak 2 73.05 316 *e*P **P 15 43 15.6 -0.3**
TKM2 pmax pmax
comp=Z,31nm,0.8s,mb5.3
TKM2 MLR MLR
comp=Z,544nm,20.0s
BILL Bilibino 73.14 10 *e*P **P 15 43 15.3 -0.6**
comp=Z,58nm,1.5s,mb5.3
BILL LR LR
comp=Z,873nm,22.0s
BILL Bilibino 73.14 10 *d i*P **P 15 43 16.0 +0.1**
BILL *e* 15 43 20.9
BILL *e* pP 15 43 30.4 -2.5
BILL *e*S S 15 52 45.2 +6.7
BILL *e*SS SS 15 57 29.1 +8.2
BILL pmax pmax
comp=Z,28nm,1.7s,mb4.9
BILL MLR MLR
comp=Z,400nm,18.0s
NVS Novosibirsk 73.59 330⇑ *i*P **P 15 43 17.2 -1.6**
NVS *e*S S 15 52 42.4 -1.7
NVS pmax pmax
comp=N,46nm,1.8s
NVS pmax pmax
comp=Z,143nm,1.8s,mb5.6
NVS pmax pmax
comp=E,49nm,1.5s
NVS pmax pmax
comp=Z,23nm,1.6s,mb4.9
NVS pmax pmax
comp=N,11nm,1.8s
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS smax
comp=N,13nm,2.0s
NVS smax
comp=E,40nm,2.2s
CHMS Chumysh 73.66 316 P **P 15 43 19.4 -0.1**
SNR=7.2
CHMS P 15 43 19.4
SNR=7.2
AAK Ala-Archa 73.72 316 P **P 15 43 20.2 +0.4**
SNR=7.7
AAK P 15 43 20.2
SNR=7.7
AAK Ala-Archa 73.72 316 P **P 15 43 19.6 -0.2**
comp=E,89nm,1.1s,mb5.6,SNR=5.9
AAK Ala-Archa 73.72 316 *e*P **P 15 43 19.2 -0.6**
comp=E,254nm,1.3s,mb6.0
AAK LR LR
comp=Z,722nm,20.0s
AAK Ala-Archa 73.72 316⇑ *e*P **P 15 43 19.7 -0.1**
AAK pmax pmax
comp=Z,49nm,1.6s,mb5.2
AAK MLR MLR
comp=Z,992nm,20.0s
AAK Ala-Archa 73.72 316 P **P 15 43 20.3 +0.5**
comp=Z,83nm,2.0s,mb5.3

AAK Ala-Archa 73.72 316 P **P 15 43 20.4 +0.6**
SNR=11
USP Ospenovka 73.92 317 P **P 15 43 20.9 -0.1**
SNR=25
USP P 15 43 20.9
SNR=25
AML Almayashu 74.11 315 P **P 15 43 22.6 +0.4**
SNR=31
AML P 15 43 22.6
SNR=31
KURK Kurchatov 74.16 325 P **P 15 43 21.6 -0.6**
comp=Z,4.8nm,0.6s,mb4.6,baz=114,slow=4.9,SNR=40
KURK Kurchatov 74.16 325 *e*P **P 15 43 21.4 -0.8**
comp=Z,50nm,0.9s,mb5.5
KURK LR LR
comp=Z,819nm,21.0s
KURK Kurchatov 74.16 325 P **P 15 43 21.1 -1.1**
comp=Z,125nm,1.5s,mb5.6,SNR=12
KURK Kurchatov 74.16 325 *e*P **P 15 43 21.4 -0.8**
KURK pmax pmax
comp=Z,50nm,0.9s,mb5.4
KURK MLR MLR
comp=Z,819nm,21.0s
KURK Kurchatov 74.16 325 P **P 15 43 21.8 -0.4**
SNR=16
EKS2 Erkin-Say 74.22 316 P **P 15 43 23.2 +0.5**
SNR=15
EKS2 P 15 43 23.2
SNR=15
EKS2 Erkin-Say 74.22 316 *e*P **P 15 43 22.9 +0.1**
comp=Z,60nm,1.2s,mb5.4
EKS2 LR LR
comp=Z,710nm,20.0s
EKS2 Erkin-Say 74.22 316 *e*P **P 15 43 22.9 +0.1**
EKS2 pmax pmax
comp=Z,60nm,1.2s,mb5.4
EKS2 MLR MLR
comp=Z,710nm,20.0s
PAF Port-aux-Franc 74.38 219 PFAKE 15 43 30.0 +6.4
PAF LR LR
comp=Z,1μm,19.0s
KBL Kabul 75.50 307 *e*P **P 15 43 29.3 -1.0**
comp=Z,28nm,0.9s,mb5.2
KBL Kabul 75.50 307 *e*P **P 15 43 29.3 -1.0**
KBL pmax pmax
comp=Z,29nm,0.9s,mb5.2
VNDA Vanda 75.64 175 *e*P **P 15 43 30.2 -0.1**
comp=Z,104nm,1.1s,mb5.7
VNDA *e* pP 15 43 42.3 -5.1
VNDA Vanda 75.64 175 *e*P **P 15 43 30.2 -0.1**
VNDA *e* pP 15 43 42.3 -5.1
VNDA pmax pmax
comp=Z,104nm,1.1s
SBA Scott Base 76.40 174 *e*P **P 15 43 36.0 +1.4**
comp=Z,277nm,1.5s,mb6.0
SBA Scott Base 76.40 174 *e*P **P 15 43 36.0 +1.4**
SBA pmax pmax
comp=Z,277nm,1.5s,mb6.0
KK31 Karatay Array 76.64 315 *i* P **P 15 43 36.5 -0.1**
KK31 pmax pmax
comp=Z,16nm,0.8s,mb5.0
KKAR Karatay Array 76.64 315 *e*P **P 15 43 35.9 -0.8**
comp=Z,14nm,0.8s,mb5.0
KKAR Karatay Array 76.64 315 *e*P **P 15 43 35.9 -0.7**
KKAR pmax pmax
comp=Z,14nm,0.8s,mb4.9
TNA Tin City 78.02 20 *e*P **P 15 43 43.2 -0.6**
comp=Z,45nm,1.3s,mb5.2
BVA0 Borovoye Array 79.75 325 P **P 15 43 52.9 -0.7**
BVA0 pmax pmax
comp=Z,13nm,0.9s,mb4.9
BVAR Borovoye Array 79.75 325 P **P 15 43 53.1 -0.5**
comp=Z,13nm,0.6s,mb5.0,baz=113,slow=7.4,SNR=52
BVAR Borovoye Array 79.75 325 P **P 15 43 53.1 -0.5**
BVAR Borovoye Array 79.75 325 P **P 15 43 53.1 -0.5**
BRVK Borovoye 79.82 325 P **P 15 43 53.4 -0.6**
comp=Z,146nm,0.8s,mb6.0,SNR=20
BRVK Borovoye 79.82 325 *e*P **P 15 43 53.2 -0.8**
comp=Z,92nm,1.0s,mb5.7
BRVK LR LR
comp=Z,728nm,19.0s
BRVK Borovoye 79.82 325‖ *e*P **P 15 43 54.0 0.0**
BRVK pmax pmax
comp=Z,47nm,1.7s,mb5.1
BRVK Borovoye 79.82 325 P **P 15 43 54.1 +0.1**
SNR=19
TAOE Nuku Hiva Isla 80.19 98 *e*S S 15 54 04.9 +7.3
comp=Z,346nm,29.3s
TAOE *e*LR LR 16 09 05.2
comp=Z,3μm,26.1s
KDAK Kodiak Island 80.85 30 P **P 15 44 02.2 +2.8**
comp=Z,13nm,0.6s,mb5.0,baz=195,slow=6.3,SNR=10.0
KDAK Kodiak Island 80.85 30 P **P 15 44 02.2 +2.8**
KDAK LR LR
comp=Z,3μm,20.0s
KDAK Kodiak Island 80.85 30 P **P 15 44 02.2 +2.8**
KDAK MLR MLR
comp=Z,3μm,20.0s
MRIV Mauritius Mete 81.40 250 *e*P **P 15 44 03.1 0.0**
MAW Mawson 82.29 202 P **P 15 44 07.1 +0.3**
comp=Z,11nm,0.7s,mb4.9,baz=84,slow=6.7,SNR=13
MAW LR LR 16 20 38.2
comp=Z,2μm,18.6s,baz=71,slow=36
MAW Mawson 82.29 202 *e*P **P 15 44 07.4 +0.6**
comp=Z,23nm,0.9s,mb5.1
MAW Mawson 82.29 202 *e*P **P 15 44 07.3 +0.5**
comp=Z,15nm,1.2s,mb4.8
MAW Mawson 82.29 202 *e*P **P 15 44 07.3 +0.5**
MAW pmax pmax
comp=Z,15nm,1.2s
PPLA Purkeypile 82.83 25 *e*P **P 15 44 09.5 -0.1**
comp=Z,249nm,1.8s,mb5.9
RER Riviere de l'E 83.04 249 *e*P **P 15 44 13.1 +1.4**
comp=Z,92nm,0.9s,mb5.8
SMDO Samad 83.10 293 P **P 15 44 12.8 +0.9**
SNR=5.7
MSEY Mahe Island 83.68 266 PFAKE 15 44 30.0 +15
MSEY LR LR
comp=Z,454nm,19.0s
PMR Palmer 83.75 27 *e*P **P 15 44 12.6 -1.9**
comp=Z,66nm,1.3s,mb5.6
PMR Palmer 83.75 27 *e*P **P 15 44 12.6 -1.8**
PMR pmax pmax
comp=Z,66nm,1.3s,mb5.6
HOQ Hoqain 83.83 294 P **P 15 44 15.8 +0.1**
SNR=16
BSY Bisya 83.85 293 P **P 15 44 14.9 -0.9**
SNR=6.5
SML Sawmill 84.18 27 *e*P **P 15 44 14.2 -2.4**
comp=Z,20nm,1.2s,mb5.1
SML Sawmill 84.18 27 *e*P **P 15 44 14.2 -2.4**
SML pmax pmax
comp=Z,20nm,1.2s,mb5.1
MCK McKinley 84.49 25 *e*P **P 15 44 17.0 -1.1**
comp=Z,163nm,1.6s,mb5.9
MCK McKinley 84.49 25 *e*P **P 15 44 17.0 -1.1**
MCK pmax pmax
comp=Z,163nm,1.6s,mb5.9
ARQ Araqi 84.53 294 P **P 15 44 18.8 -0.4**
SNR=15
ABKT Ailbek 84.80 308 P **P 15 44 20.3 0.0**
comp=Z,249nm,1.4s,mb6.2,SNR=11
RKT Rikitea 84.93 113 *e*LR LR 16 11 35.7
comp=Z,2μm,29.2s
BANOM Banah 84.97 296 P **P 15 44 21.6 +0.1**
SNR=11
HATD Hatta, Dubai 85.02 295 P **P 15 44 21.4 -0.3**
SNR=14
ASHO Ashiyiah 85.07 295 P **P 15 44 22.0 0.0**
SNR=16
COLD Coldfoot 85.09 22 *e*P **P 15 44 21.0 -0.1**
comp=Z,26nm,1.1s,mb5.3
DIV Divide 85.17 28 *e*P **P 15 44 22.8 +1.2**
comp=Z,74nm,0.9s,mb5.8
AB31 Akbulak array 85.20 320 P **P 15 44 20.8 -1.3**
AB31 pmax pmax
comp=Z,25nm,0.8s,mb5.4
ABKAR Akbulak array 85.20 320 *e*P **P 15 44 21.0 -1.1**
comp=Z,31nm,0.8s,mb5.5
COLA College 85.28 24 *e*P **P 15 44 19.9 -2.2**
comp=Z,28nm,1.1s,mb5.3
COLA LR LR
comp=Z,1μm,20.0s
COLA College 85.28 24 *e*P **P 15 44 19.9 -2.2**
COLA pmax pmax
comp=Z,28nm,1.1s,mb5.3
COLA MLR MLR
comp=Z,1μm,20.0s
NAZ Nazwa, Dubai 85.46 295 P **P 15 44 23.7 -0.2**
SNR=11
ILAR Eielson Array 85.64 24 P **P 15 44 22.2 -1.7**
comp=Z,5.1nm,0.7s,mb4.9,baz=262,slow=4.1,SNR=49
ILAR LR LR 16 22 51.9
comp=Z,682nm,20.6s,baz=251,slow=36
ILAR Eielson Array 85.64 24 P **P 15 44 22.2 -1.7**
ILAR Eielson Array 85.64 24 P **P 15 44 22.2 -1.7**
ASUD Al Ashush, Dub 85.73 295 P **P 15 44 25.6 +0.4**
SNR=11
SVE Sverdlovsk 86.16 327 *e*P **P 15 44 32.6 +5.9**
SVE *e*S S 15 55 00.3 +3.9
SVE pmax pmax
comp=Z,23nm,0.9s,mb5.4
SVE MLR MLR
comp=Z,812nm,20.0s
AKTO Aktyubinsk 86.62 321 P **P 15 44 28.8 -0.3**
comp=Z,3.5nm,0.7s,mb4.7,baz=99,slow=5.5,SNR=8.2
AKTO Aktyubinsk 86.62 321 P **P 15 44 28.8 -0.3**
AKTO Aktyubinsk 86.62 321 P **P 15 44 28.8 -0.3**
ABTO Aybut 87.07 287 P **P 15 44 31.6 -0.4**
SNR=5.9
QSPA South Pole Qui 87.15 180 P **P 15 44 31.2 +0.1**
comp=Z,47nm,0.8s,mb5.8,baz=335,slow=1.2,SNR=86
QSPA South Pole Qui 87.15 180 *e*P **P 15 44 30.7 -0.4**
QSPA comp=Z,216nm,1.2s,mb6.3 LR LR
comp=Z,3μm,19.0s
ARU Arti 87.22 327 *e*P **P 15 44 30.9 -0.9**
comp=Z,29nm,1.0s,mb5.5
ARU LR LR
comp=Z,374nm,19.0s
ARU Arti 87.22 327 *d i*P **P 15 44 31.6 -0.2**
ARU 15 47 55.2
ARU S SKSac 15 54 54.4 +0.6
ARU SS SS 16 00 52.5 +0.7
ARU pmax pmax
comp=Z,14nm,1.7s,mb4.9
EGAK Eagle 88.03 25 *e*P **P 15 44 35.6 +0.1**
comp=Z,40nm,1.0s,mb5.6
EGAK LR LR
comp=Z,1μm,19.0s
DAWY Dawson 88.67 26 *e*P **P 15 44 38.0 -0.5**
SYO Syowa Base 90.91 201⇑ *e*P **P 15 44 48.0 -1.0**
SYO Syowa Base 90.91 201‖ *e*sP sP 15 45 06.5 -6.8
INK Inuvik 91.51 22 P **P 15 44 53.2 +1.5**
comp=Z,0.8nm,0.5s,mb4.3,baz=290,slow=10,SNR=3.6
INK Inuvik 91.51 22 P **P 15 44 53.2 +1.5**
INK Inuvik 91.51 22 P **P 15 44 53.2 +1.5**
MAK Makhachkala 93.25 313 *e*P **P 15 44 58.0 -2.3**
MAK *e* 15 55 36.0
GNI Garni 95.32 310 PFAKE 15 45 20.0 +10
GNI LR LR
comp=Z,250nm,21.0s
NLWA Neilton Lookou 96.64 43 PFAKE 15 45 30.0 +14
NLWA LR LR
comp=Z,1μm,22.0s
KIV Kislovodsk 96.74 314 PFAKE 15 45 30.0 +14
KIV LR LR
comp=Z,474nm,22.0s
LVZ Lovozero 98.10 338 PFAKE 15 45 30.0 +8.2
LVZ LR LR
comp=Z,1μm,19.0s
APA Apatity 98.63 338⇑ *e*P **P 15 45 23.0 -1.3**
APA comp=Z,2μm,25.0s MLR MLR
KBS Kingsbay 99.49 351 PFAKE 15 45 40.0 +12
KBS LR LR
comp=Z,437nm,21.0s
OBN Obninsk 99.60 325 PFAKE 15 45 40.0 +11
OBN LR LR
comp=Z,972nm,21.0s
OBN Obninsk 99.60 325 *i* P Pdif 15 45 31.5 +2.7
OBN *e* 15 49 34.5
OBN *e* 15 56 09.5
OBN *e*PS PS 15 58 31.2 -1.0
OBN *e*SS SS 16 03 54.2 +5.7
OBN pmax pmax
comp=Z,11nm,1.6s,mb5.0
HAWA Hanford 99.68 44 PFAKE 15 45 40.0 +11
HAWA LR LR
comp=Z,1μm,21.0s
YKA Yellowknife Ar 99.85 27 P Pdif 15 45 32.0 +2.1
comp=Z,0.9nm,0.9s,baz=287,slow=4.6,SNR=4.3
YKA PKKPbc PKKPbc 16 02 03.2 +11
comp=Z,0.9nm,0.8s,baz=104,slow=2.7,SNR=6.6
YKA Yellowknife Ar 99.85 27 P Pdif 15 45 32.0 +2.1
YKA PKKPbc PKKPbc 16 02 03.2 +11
YKA Yellowknife Ar 99.85 27 P Pdif 15 45 32.0 +2.0
KEV Kevo 100.23 341 PFAKE 15 45 40.0 +8.3
KEV LR LR
comp=Z,1μm,20.0s
ARCES ARCESS Array B 100.80 341 P Pdif 15 45 31.5 -2.7
comp=Z,2.8nm,0.8s,baz=54,slow=2.1,SNR=7.9
ARCES PP PP 15 49 56.8 +15
comp=Z,3.1nm,0.9s,baz=1.0,slow=7.3,SNR=3.7
ARCES ARCESS Array B 100.80 341 P Pdif 15 45 31.5 -2.7
ARCES PP PP 15 49 56.8 +15
ARCES ARCESS Array B 100.80 341 P Pdif 15 45 31.5 -2.7
NEW Newport 101.08 41 PFAKE 15 45 50.0 +15
NEW LR LR
comp=Z,2μm,20.0s
NVAR Mina Array Bea 101.40 52 P Pdif 15 45 38.3 +1.4
comp=Z,0.5nm,0.7s,baz=248,slow=4.0,SNR=5.2
NVAR PP PP 15 50 18.8 +31
comp=Z,1.3nm,1.0s,baz=257,slow=5.9,SNR=4.9
NVAR PKKPbc PKKPbc 16 02 10.9 +24
comp=Z,0.9nm,0.8s,baz=100,slow=5.0,SNR=5.8
NVAR Mina Array Bea 101.40 52 P Pdif 15 45 38.3 +1.4
NVAR PP PP 15 50 18.8 +31
NVAR PKKPbc PKKPbc 16 02 10.9 +24
BMO Blue Mountains 101.42 45 PFAKE 15 45 50.0 +13
BMO LR LR
comp=Z,1μm,22.0s
BMN Battle Mountai 102.02 49 PFAKE 15 45 50.0 +10
BMN LR LR
comp=Z,2μm,21.0s
KMBO Kilima Mbogo 102.03 268 PFAKE 15 45 50.0 +10
KMBO LR LR
comp=Z,491nm,22.0s
TPH Tonopah 102.28 52 PFAKE 15 45 50.0 +9.2
TPH LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flat Ob 103.36 56 PFAKE 15 46 00.0 +14
PFO LR LR
comp=Z,2μm,20.0s
FINES FINESS Array B 103.43 333 Pdiff Pdif 15 45 51.1 +5.3
comp=Z,1.7nm,0.8s,baz=51,slow=7.6,SNR=4.5
FINES FINESS Array B 103.43 333 Pdif Pdif 15 45 51.1 +5.3
FINES FINESS Array B 103.43 333 P Pdif 15 45 51.2 +5.3
MSO Missoula 103.44 43 PFAKE 15 46 00.0 +14
MSO LR LR
comp=Z,940nm,19.0s
HLID Hailey 103.66 46 PFAKE 15 46 00.0 +13
HLID LR LR
comp=Z,2μm,20.0s
CSS Prodhromos 104.72 305 PFAKE 15 46 00.0 +8.4
CSS LR LR
comp=Z,412nm,20.0s
AKASG Malin Array Be 104.83 322 PP PP 15 50 17.2 +4.6
comp=Z,1.8nm,0.8s,baz=57,slow=9.4,SNR=4.6
AKASG Malin Array Be 104.83 322 PP PP 15 50 17.2 +4.5
KIEV Kiev 104.85 322 PFAKE 15 46 00.0 +7.8
KIEV LR LR
comp=Z,979nm,20.0s
BOZ Bozeman (W) 105.24 43 PFAKE 15 50 20.0 +12
BOZ LR LR
comp=Z,1μm,21.0s
DUG Dugway 105.39 49 PFAKE 15 50 20.0 +11
DUG LR LR
comp=Z,1μm,21.0s
HWUT Hardware Ranch 106.08 48 PFAKE 15 50 20.0 +10
HWUT LR LR
comp=Z,2μm,21.0s
MVU Marysvale 106.13 51 PFAKE 15 50 20.0 +10
MVU LR LR
comp=Z,2μm,21.0s
AHID Auburn Hatcher 106.19 46 PFAKE 15 50 20.0 +10
AHID LR LR
comp=Z,2μm,20.0s
LKWY Lake 106.32 44 PFAKE 15 50 20.0 +10
LKWY LR LR
comp=Z,2μm,21.0s
RLMT Red Lodge 106.98 44 PFAKE 15 50 20.0 +8.7
RLMT LR LR
comp=Z,1μm,21.0s
BW06 Boulder Array 107.30 46 PFAKE 15 50 20.0 +8.0
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 107.30 46 PP PP 15 50 30.6 -0.5
comp=Z,0.9nm,1.0s,baz=274,slow=4.3,SNR=3.7
PDAR PKKPbc PKKPbc 16 01 27.9 -1.5
comp=Z,0.7nm,0.8s,baz=118,slow=8.6,SNR=4.1
PDAR Pinedale Array 107.30 46 PP PP 15 50 30.6 -0.5
PDAR PKKPbc PKKPbc 16 01 27.9 -1.5
FFC Flin Flon 108.51 32 PFAKE 15 50 30.0 +16
FFC LR LR
comp=Z,1μm,19.0s
MBAR Mbarara 108.56 268 PFAKE 15 50 30.0 +15
MBAR LR LR
comp=Z,464nm,20.0s
MVCO Mesa Verde 109.25 52 PFAKE 15 50 30.0 +14
MVCO LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 109.40 39 PFAKE 15 50 30.0 +14
DGMT LR LR
comp=Z,2μm,22.0s
BOSA Boshof 109.60 238 PFAKE 15 50 30.0 +13
BOSA LR LR
comp=Z,737nm,22.0s
UZH Uzhgorod 109.74 321 *e*P Pdif 15 46 20.3 +6.4
NOA NORSAR Array B 110.03 336 PP PP 15 51 05.7 +15
comp=Z,2.0nm,0.9s,baz=46,slow=7.0,SNR=3.6
NOA NORSAR Array B 110.03 336 PP PP 15 51 05.7 +16
LBTB Lobatse 110.17 242 PFAKE 15 50 30.0 +12
LBTB LR LR
comp=Z,505nm,19.0s
ISCO Idaho Springs 110.88 48 PFAKE 15 50 30.0 +11
ISCO LR LR
comp=Z,2μm,20.0s
ANMO Albuquerque 111.33 54 PFAKE 15 50 30.0 +10
ANMO LR LR
comp=Z,2μm,20.0s
SDCO Great Sand Dun 111.47 50 PFAKE 15 50 30.0 +10
SDCO LR LR
comp=Z,878nm,20.0s
KONO Kongsberg 111.48 335 PFAKE 15 50 30.0 +11
KONO LR LR
comp=Z,979nm,19.0s
PSZ Piszkesteto 111.49 321 PFAKE 15 50 30.0 +10
PSZ LR LR
comp=Z,870nm,20.0s
SUR Sutherland 112.21 233 PFAKE 15 50 30.0 +8.4
SUR LR LR
comp=Z,838nm,20.0s
MNTX Cornudas Mount 112.87 57 PFAKE 15 50 30.0 +7.1
MNTX LR LR
comp=Z,1μm,21.0s
TIR Tirane 113.71 314 PFAKE 15 50 40.0 +16
TIR LR LR
comp=Z,495nm,21.0s
AGMN Agassiz Nation 114.62 37 PFAKE 15 50 40.0 +14
AGMN LR LR
comp=Z,3μm,20.0s
TXAR Lajitas Array 114.79 59 PKKPbc PKKPbc 16 01 07.1 +2.6
comp=Z,1.6nm,0.8s,baz=112,slow=4.3,SNR=5.5
TXAR Lajitas Array 114.79 59 PKKPbc PKKPbc 16 01 07.1 +2.6
GERES GERESS Array B 114.90 324 Pdiff Pdif 15 46 50.7 +14
comp=Z,0.2nm,0.3s,baz=57,slow=4.9,SNR=3.6
GERES PKP PKiKP 15 50 22.9 -3.3
comp=Z,0.1nm,0.3s,baz=119,slow=1.2,SNR=2.6
GERES GERESS Array B 114.90 324 Pdif Pdif 15 46 50.7 +14
GERES PKP PKiKP 15 50 22.9 -3.3
GERES GERESS Array B 114.90 324 P Pdif 15 46 50.7 +14
GERES 15 50 22.9
AMTX Amarillo 115.17 53 PFAKE 15 50 40.0 +13
AMTX LR LR
comp=Z,3μm,20.0s
CBKS Cedar Bluff 115.53 48 PFAKE 15 50 40.0 +12
CBKS LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 116.01 42 PFAKE 15 50 40.0 +11
ECSD LR LR
comp=Z,1μm,19.0s
TRI Trieste 116.23 321 PFAKE 15 50 40.0 +11
TRI LR LR
comp=Z,613nm,21.0s
TIP Timpagrande 116.66 313 PFAKE 15 50 40.0 +10
TIP LR LR
comp=Z,407nm,22.0s
CUC Castrocucco 117.07 314 PFAKE 15 50 40.0 +9.3
CUC LR LR
comp=Z,378nm,21.0s
EYMN Ely 117.38 36 PFAKE 15 50 40.0 +9.0
EYMN LR LR
comp=Z,3μm,21.0s
CEL Celeste 117.61 312 PFAKE 15 50 40.0 +8.2
CEL LR LR
comp=Z,257nm,22.0s
KSU1 Kansas State U 117.74 47 PFAKE 15 50 40.0 +8.0
KSU1 LR LR
comp=Z,2μm,21.0s
JCT Junction City 117.81 57 PFAKE 15 50 40.0 +7.6
JCT LR LR
comp=Z,744nm,20.0s
AQU L'Aquila 117.86 317 PFAKE 15 50 40.0 +7.9
AQU LR LR
comp=Z,523nm,20.0s
BFO Black Forest 118.27 325 PFAKE 15 50 40.0 +7.3
BFO LR LR
comp=Z,661nm,20.0s
TUE Stuetta 118.61 323 PFAKE 15 50 50.0 +17
TUE LR LR
comp=Z,743nm,21.0s
WLF Walferdange 118.76 327 PFAKE 15 50 50.0 +16
WLF LR LR
comp=Z,623nm,21.0s
ECH Echery 119.00 325 PFAKE 15 50 50.0 +16
ECH LR LR
comp=Z,599nm,22.0s
WDD Wield Dalam 119.45 310 PFAKE 15 50 50.0 +15
WDD LR LR
comp=Z,267nm,21.0s
KVTX Kingsville 120.14 60 PFAKE 15 50 50.0 +13
KVTX LR LR
comp=Z,1μm,19.0s
JFWS Jewell Farm 120.56 41 PFAKE 15 50 50.0 +13
JFWS LR LR
comp=Z,2μm,19.0s
BNI Bardonecchia 120.94 323 PFAKE 15 50 50.0 +12
BNI LR LR
comp=Z,931nm,21.0s
MIAR Mount Ida 121.62 51 PFAKE 15 50 50.0 +10
MIAR LR LR
comp=Z,3μm,20.0s
NATX Nacogdoches 121.69 54 PFAKE 15 50 50.0 +10
NATX LR LR
comp=Z,2μm,21.0s
VSL Villasalto 121.82 316 PFAKE 15 50 50.0 +10
VSL LR LR
comp=Z,501nm,21.0s
SSB Saint Sauveur 122.10 324 PFAKE 15 50 50.0 +10
SSB LR LR
comp=Z,602nm,21.0s
GLMI Grayling 123.06 36 PFAKE 15 50 50.0 +7.9
GLMI LR LR
comp=Z,3μm,19.0s
EFI East Falkland 123.75 167 PFAKE 15 50 50.0 +6.8
EFI LR LR
comp=Z,712nm,20.0s
OXF Oxford 124.82 49 PFAKE 15 51 00.0 +14
OXF LR LR
comp=Z,2μm,19.0s
VBMS Vicksburg 124.84 52 PFAKE 15 51 00.0 +14
VBMS LR LR
comp=Z,2μm,20.0s
AAM Ann Arbor 125.05 38 PFAKE 15 51 00.0 +14
AAM LR LR
comp=Z,3μm,22.0s
PLAL Pickwick Lake 125.62 48 PFAKE 15 51 00.0 +13
PLAL LR LR
comp=Z,1μm,19.0s
ACSO Alum Creek Sta 126.61 40 PFAKE 15 51 00.0 +11
ACSO LR LR
comp=Z,2μm,21.0s
ERPA Erie 127.38 36 PFAKE 15 51 00.0 +10
ERPA LR LR
comp=Z,2μm,19.0s
BRAL Brewton 128.03 52 PFAKE 15 51 00.0 +8.0

BRAL LR LR
comp=Z,2μm,21.0s
LONY Lake Ozonia 128.73 31 PFAKE 15 51 00.0 +7.1
LONY LR LR
comp=Z,2μm,19.0s
PLCA Paso Flores 128.79 151 PKP PKPdf 15 50 51.9 -1.3
comp=Z,1.7nm,0.9s,baz=175,slow=9.3,SNR=3.4
PLCA Paso Flores 128.79 151 PKP PKPdf 15 50 51.9 -1.3
PLCA LR LR
comp=Z,517nm,21.0s
PLCA Paso Flores 128.79 151 PKIKP PKPdf 15 50 51.9 -1.3
PLCA MLR MLR
comp=Z,517nm,21.0s
GOGA Godfrey 129.74 48 PFAKE 15 51 10.0 +15
GOGA LR LR
comp=Z,1μm,21.0s
BLA Blacksburg 129.94 42 PFAKE 15 51 10.0 +15
BLA LR LR
comp=Z,946nm,20.0s
LBNH Lisbon 130.34 29 PFAKE 15 51 10.0 +14
LBNH LR LR
comp=Z,2μm,22.0s
ESDC Sonseca Array 130.47 323 PP PP 15 53 30.7 +20
comp=Z,0.2nm,0.3s,baz=47,slow=6.9,SNR=4.8
ESDC Sonseca Array 130.47 323 PP PP 15 53 30.7 +20
ESLA Sonseca Array 130.47 323 PFAKE 15 51 10.0 +14
ESLA LR LR
comp=Z,4μm,22.0s
PAB San Pablo 130.78 323 PFAKE 15 51 10.0 +13
PAB LR LR
comp=Z,361nm,20.0s
PKME Peaks-Kenny Pk 130.79 27 PFAKE 15 51 10.0 +13
PKME LR LR
comp=Z,3μm,21.0s
TAM Tamanrasset 131.08 298 PFAKE 15 51 10.0 +12
TAM LR LR
comp=Z,367nm,22.0s
CBN Corbin 131.34 39 PFAKE 15 51 10.0 +12
CBN LR LR
comp=Z,1μm,19.0s
MTE Manteigas 132.09 326 PFAKE 15 51 10.0 +11
MTE LR LR
comp=Z,926nm,21.0s
NHSC New Hope 132.29 46 PFAKE 15 51 10.0 +10
NHSC LR LR
comp=Z,1μm,21.0s
CNNC Cliffs of the 132.74 42 PFAKE 15 51 10.0 +9.2
CNNC LR LR
comp=Z,2μm,21.0s
SFS San Fernando 133.85 321 PFAKE 15 51 10.0 +7.1
SFS LR LR
comp=Z,895nm,21.0s
JTS JuntasAbangare 135.40 78 PFAKE 15 51 20.0 +14
JTS LR LR
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 136.90 286 PKhKP PKPpre 15 50 57.9
comp=Z,0.8nm,0.7s,baz=91,slow=2.0,SNR=5.3
TORD PKP PKPdf 15 51 08.3 -0.8
comp=Z,0.9nm,0.6s,baz=75,slow=3.6,SNR=5.5
TORD Torodi Ar. Bea 136.90 286 PKPpre PKPpre 15 50 57.9
TORD PKP PKPdf 15 51 08.3 -0.8
LCO Las Campanas 137.21 140 PFAKE 15 51 20.0 +11
LCO LR LR
comp=Z,536nm,19.0s
BCIP Isla Barro Col 140.53 79 PFAKE 15 51 30.0 +14
BCIP LR LR
comp=Z,1μm,22.0s
MTDJ Mount Denham 140.74 64 PFAKE 15 51 30.0 +14
MTDJ LR LR
comp=Z,560nm,20.0s
SHEL Horse Pasture 140.79 241 PFAKE 15 51 30.0 +14
SHEL LR LR
comp=Z,756nm,20.0s
NNA Nana 141.14 113 PFAKE 15 51 30.0 +13
NNA LR LR
comp=Z,647nm,21.0s
OTAV Otavalo 142.12 93 PFAKE 15 51 30.0 +11
OTAV LR LR
comp=Z,616nm,22.0s
GTBY Guantanamo Bay 142.30 61 PFAKE 15 51 30.0 +11
GTBY LR LR
comp=Z,732nm,21.0s
BBSR BB Station 142.91 35 PFAKE 15 51 30.0 +10
BBSR LR LR
comp=Z,1μm,22.0s
DBIC Dimbokro 144.14 277 PKP PKPdf 15 51 19.6 -2.6
comp=Z,50nm,0.8s,baz=73,slow=3.9,SNR=74
DBIC Dimbokro 144.14 277 *e*PKPdf PKPdf 15 51 19.5 -2.8
DBIC PKP PKPdf 15 51 19.6 -2.6
DBIC *e* 15 51 35.4
DBIC LR LR
comp=Z,475nm,22.0s
DBIC Dimbokro 144.14 277 *e*PKIKP PKPdf 15 51 19.5 -2.7
DBIC *e* 15 51 35.4
DBIC MLR MLR
comp=Z,475nm,22.0s
ROSC El Rosal 146.33 85 PKPbc PKPbc 15 51 27.3 0.0
comp=Z,7.2nm,0.4s,baz=266,slow=23,SNR=5.0
ROSC El Rosal 146.33 85 *e*PKPdf PKPdf 15 51 25.7 -0.4
ROSC PKPbc PKPbc 15 51 27.3 0.0
CPUP Villa Florida 146.85 152 PKPbc PKPbc 15 51 27.5 -1.0
comp=Z,1.4nm,0.5s,baz=237,slow=3.7,SNR=7.6
CPUP Villa Florida 146.85 152 PKPbc PKPbc 15 51 27.5 -1.0
LPAZ La Paz 146.87 126 PKPbc PKPbc 15 51 29.9 +1.1
comp=Z,6.9nm,0.9s,baz=236,slow=1.7,SNR=19
LPAZ La Paz 146.87 126 *e*PKPdf PKPdf 15 51 28.0 +1.2
LPAZ PKPbc PKPbc 15 51 29.9 +1.1
LPAZ LR LR
comp=Z,409nm,21.0s
SDV Santo Domingo 149.57 77 *e*PKPdf PKPdf 15 51 31.0 -0.3
SDV *e*PKPbc PKPbc 15 51 36.0 0.0
STVI Saint Thomas 151.61 55 *e*PKPbc PKPbc 15 51 39.4 -1.3
SPB Sao Paulo 152.95 166 PFAKE 15 51 50.0 +14
SPB LR LR
comp=Z,523nm,20.0s
ANWB Willy Bob 154.53 53 PFAKE 15 51 50.0 +11
ANWB LR LR
comp=Z,629nm,20.0s
BBGH Gun Hill 158.66 60 PFAKE 15 51 50.0 +6.0
BBGH LR LR
comp=Z,904nm,20.0s

*IDC **09** 15:48:35.3±2.14.0, 31°.52S×177°.57W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, ML2.6/1, MS3.8/1, Ms1 3.8/1, ms1mx3.2/28, Error ellipse: s-maj=256.0km s-min=43.6km az=94.0*
ISC 09 15:48:43.3±2.9, 31°.73S±0°.10×178°.0W±0°.4, h35km, n14, σ0°77/17, mb3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**7.04**	**205**	*e*SN	**Sn**	**15 51 49.2**	**+6.5**
URZ	**Urewera**	**7.66**	**210**	Pn	**Pn**	**15 50 31.9**	**-0.4**
	0.1nm,0.3s,baz=254,slow=10.0,SNR=5.7						
URZ				Sn	**Sn**	**15 52 03.9**	**+6.0**
	1.7nm,0.3s,baz=307,slow=23,SNR=10						
URZ				LR	LR	15 52 53.2	
	comp=Z,647nm,19.2s,baz=182,slow=32						
URZ	**Urewera**	**7.66**	**210**	*e*PN	**Pn**	**15 50 32.1**	**-0.3**
URZ				*e*SN	**Sn**	**15 52 03.7**	**+5.8**
RAHZ	**Arahi**	**8.23**	**208**	*e*SN	**Sn**	**15 52 16.9**	**+5.1**
BFZ	**Birch Farm**	**10.08**	**206**	*e*SN	**Sn**	**15 52 58.0**	**+0.8**
TIWZ	**Tintock**	**10.30**	**207**	*e*SN	**Sn**	**15 53 03.0**	**+0.4**
MRZ	**Mangatainoka R**	**10.32**	**208**	*e*PN	**Pn**	**15 51 08.8**	**0.0**
MRZ				*e*SN	**Sn**	**15 53 02.8**	**-0.4**
KIW	**Kapiti Island**	**10.77**	**210**	*e*SN	**Sn**	**15 53 13.8**	**-0.3**
TCW	**Tory Channel**	**11.33**	**211**	*e*SN	**Sn**	**15 53 26.9**	**-1.0**
NNZ	**Nelson**	**11.74**	**214**	*e*SN	**Sn**	**15 53 38.5**	**+0.4**
MQZ	**McQueen's Vall**	**14.06**	**209**	*e*SN	**Sn**	**15 54 28.0**	**-6.5**
STKA	**Stephens Creek**	**34.22**	**259**	P	**P**	**15 55 27.6**	**+1.9**
	1.9nm,0.8s,mb4.1,baz=86,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**43.07**	**268**	P	**P**	**15 56 39.7**	**-0.3**
	0.3nm,0.6s,mb3.2,baz=111,slow=7.3,SNR=4.2						
WRA	**Warramunga Arr**	**44.18**	**273**	P	**P**	**15 56 48.0**	**-1.0**
	0.6nm,0.5s,mb3.6,baz=112,slow=7.9,SNR=8.6						

*IDC **09** 15:49:04.3±2.1, 1°.30N×126°.85E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=179.5km s-min=25.1km az=66.0*
*ISCJB **09** 15:49:11.8±1.4, 1°.4N±0°.1×126°.99E±0°.09, h82km±10km, mb3.5/3, Error ellipse: s-maj=24.3km s-min=8.4km az=31.1*
*DJA **09** 15:49:14, 1°.25N×126°.83E, h28km, MLv3.7/5*
ISC 09 15:49:13.1±1.4, 1°.4N±0°.1×126°.98E±0°.09, h76km±10km, n9, σ0°71/12, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.72**	**148**	P	**Pn**	**15 49 28.0**	**-0.7**
TNTI				S	**Sn**	**15 49 40.2**	**-0.1**
LBMI	**Labuha**	**2.08**	**165**	P	**Pn**	**15 49 46.4**	**+0.4**
LBMI				S	**Sn**	**15 50 12.1**	**+1.1**
MNI	**Manado**	**2.14**	**272**	P	**Pn**	**15 49 47.0**	**+0.2**
MNI				S	**Sn**	**15 50 11.8**	**-0.7**
KMSI	**Cibinong**	**3.10**	**255**	P	**Pn**	**15 50 00.2**	**+0.4**
GTOI	**Gorontalo**	**4.04**	**259**	P	**Pn**	**15 50 13.1**	**+0.6**
LUWI	**Luwuk**	**4.85**	**240**	P	**Pn**	**15 50 23.2**	**-0.4**
WRA	**Warramunga Arr**	**22.39**	**162**	P	**P**	**15 54 03.9**	**-1.5**
	0.9nm,0.5s,mb3.4,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.80**	**165**	P	**P**	**15 54 37.0**	**-0.2**
	0.4nm,0.3s,mb3.3,baz=344,slow=11,SNR=16						
MKAR	**Makanchi Array**	**59.62**	**326**	P	**P**	**15 59 10.2**	**+1.0**
	0.7nm,0.7s,mb3.8,baz=120,slow=7.2,SNR=6.3						

*IDC **09** 15:56:18.3±0.7, 31°.05S×176°.65W, h0km, mb4.4/9, mb1 4.6/9, mb1mx4.4/18, mbtmp4.4/9, MS4.1/5, Ms1 4.2/5, ms1mx3.8/28, Error ellipse: s-maj=29.4km s-min=20.5km az=172.0*
*NEIC **09** 15:56:19.9±0.7, 30°.74S×176°.72W, h10km, mb4.4/4, Error ellipse: s-maj=21.8km s-min=16.8km az=187.0*
*ISCJB **09** 15:56:22.2±0.7, 31°.1S±0°.2×176°.8W±0°.1, h33km, mb4.4/10, MS4.1/5, Error ellipse: s-maj=24.5km s-min=15.8km az=11.9*
ISC 09 15:56:24.1±0.7, 31°.0S±0°.2×176°.8W±0°.1, h35km, n60, σ0°92/28, mb4.4/10, MS4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.05**	**330**	P	**Pn**	**15 56 48.3**	**-7.7**
MWZ	**Matawai**	**8.66**	**211**	*e*PN	**Pn**	**15 58 20.8**	**-6.0**
MWZ				*e*SN	Sx	15 59 56.6	
URZ	**Urewera**	**8.79**	**213**	Pn	**Pn**	**15 58 22.7**	**-5.9**
	1.0nm,0.3s,baz=259,slow=14,SNR=15						
URZ	**Urewera**	**8.79**	**213**	Pn	**Pn**	**15 58 22.7**	**-5.9**
URZ	**Urewera**	**8.79**	**213**	*e*PN	Px	15 58 22.8	
URZ				*e*SN	Sx	15 59 59.3	
TSZ	**Takapari Road**	**10.77**	**211**	*e*PN	Px	15 58 47.8	
TSZ				*e*SN	Sx	16 00 45.3	
BFZ	**Birch Farm**	**11.16**	**209**	*e*SN	Sx	16 00 54.0	
MRZ	**Mangatainoka R**	**11.43**	**211**	*e*PN	Px	15 58 57.3	
MRZ				*e*SN	Sx	16 00 59.1	
THZ	**Tophouse**	**13.54**	**215**	*e*PN	Px	15 59 27.8	
THZ				*e*SN	Sx	16 01 51.6	
KHZ	**Kahutara**	**13.75**	**212**	*e*PN	Px	15 59 30.2	
LTZ	**Lake Taylor**	**14.62**	**214**	*e*PN	Px	15 59 42.9	
RPZ	**Rata Peaks**	**15.91**	**214**	Pn	Px	15 59 58.5	
RPZ	**Rata Peaks**	**15.91**	**214**	Pn	Px	15 59 58.5	
DZM	**Mont Dzumac**	**17.46**	**297**	*e*P	**Pn**	**16 00 28.4**	**+3.5**
	27nm,1.3s						
HNR	**Honiara**	**30.53**	**310**	LR	LR	16 10 40.4	
	comp=Z,234nm,21.4s,MS3.8,baz=54,slow=28						
CTA	**Charters Tower**	**34.95**	**279**	P	**P**	**16 03 14.3**	**+1.4**
	6.1nm,0.7s,mb4.7,baz=102,slow=11,SNR=7.9						
CTA				LR	LR	16 15 06.9	
	comp=Z,288nm,19.2s,MS4.0,baz=2.1,slow=32						
CTA	**Charters Tower**	**34.95**	**279**	P	**P**	**16 03 14.3**	**+1.4**
CTAO	**Charters Tower**	**34.95**	**279**	*e*P	**P**	**16 03 14.2**	**+1.3**
	5.3nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**35.38**	**258**	P	**P**	**16 03 17.0**	**+0.6**
	6.6nm,1.1s,mb4.5,baz=110,slow=9.0,SNR=7.4						
STKA	**Stephens Creek**	**35.38**	**258**	*e*P	**P**	**16 03 16.1**	**-0.3**
	3.5nm,1.3s,mb4.1						
ASAR	**Alice Springs**	**44.14**	**267**	P	**P**	**16 04 28.5**	**-0.9**
	2.7nm,0.8s,mb4.1,baz=104,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**44.14**	**267**	P	**P**	**16 04 28.5**	**-0.9**
WB2	**Warramunga Arr**	**45.18**	**272**	*e*P	**P**	**16 04 36.9**	**-0.8**
WRAB	**Tennant Creek**	**45.18**	**272**	*e*P	**P**	**16 04 36.9**	**-0.8**
	9.1nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**45.19**	**272**	P	**P**	**16 04 36.8**	**-1.0**
	1.8nm,0.3s,mb4.3,baz=110,slow=8.1,SNR=20						
WRA				LR	LR	16 22 03.3	
	comp=Z,170nm,18.6s,MS4.0,baz=35,slow=34						
WRA	**Warramunga Arr**	**45.19**	**272**	P	**P**	**16 04 36.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**53.42**	**270**	P	**P**	**16 05 40.6**	**-0.1**
	3.7nm,0.8s,mb4.4,baz=116,slow=5.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**53.42**	**270**	P	**P**	**16 05 40.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**55.17**	**249**	LR	LR	16 28 16.4	
	comp=Z,173nm,18.6s,MS4.2,baz=323,slow=35						
QSPA	**South Pole Qui**	**59.07**	**180**	P	**P**	**16 06 20.4**	**+0.3**
	5.6nm,0.9s,mb4.6,baz=32,slow=3.2,SNR=14						
QSPA	**South Pole Qui**	**59.07**	**180**	*e*P	**P**	**16 06 21.3**	**+1.2**
VNA3	**Neumayer Olymp**	**77.59**	**176**	*e*	**P**	**16 08 15.8**	**-0.2**
VNA3				*e*	pP	16 08 26.3	-0.7
VNA2	**Neumayer--Watz**	**78.04**	**176**	*e*	**P**	**16 08 18.7**	**+0.2**
	baz=171,slow=3.8						
VNA2				*e*	pP	16 08 29.3	-0.2
NVAR	**Mina Array Bea**	**87.99**	**42**	P	**P**	**16 09 10.2**	**-0.1**
	1.6nm,0.9s,mb4.3,baz=218,slow=7.2,SNR=8.4						
NVAR	**Mina Array Bea**	**87.99**	**42**	P	**P**	**16 09 10.2**	**-0.1**
TXAR	**Lajitas Array**	**91.84**	**57**	P	**P**	**16 09 28.0**	**-0.6**
	1.3nm,1.1s,mb4.3,baz=210,slow=7.2,SNR=5.9						
TXAR	**Lajitas Array**	**91.84**	**57**	P	**P**	**16 09 28.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**94.62**	**289**	P	**P**	**16 09 43.3**	**+1.7**
	0.9nm,0.9s,mb4.2,baz=160,slow=3.8,SNR=6.5						
CMAR	**Chiang Mai Arr**	**94.62**	**289**	P	**P**	**16 09 43.3**	**+1.7**
LPAZ	**La Paz**	**96.91**	**114**	LR	LR	16 46 45.4	
	comp=Z,207nm,20.1s,MS4.6,baz=194,slow=31						
MKAR	**Makanchi Array**	**119.00**	**310**	PKP	PKPdf	16 15 08.0	-0.6
	0.7nm,1.0s,baz=47,slow=3.0,SNR=3.4						
MKAR	**Makanchi Array**	**119.00**	**310**	PKP	PKPdf	16 15 08.0	-0.6
SCHQ	**Schefferville**	**126.00**	**42**	PKP	PKPdf	16 15 20.3	-1.5
	4.4nm,0.8s,baz=270,slow=3.0,SNR=3.3						
SCHQ	**Schefferville**	**126.00**	**42**	PKP	PKPdf	16 15 20.3	-1.5
KEV	**Kevo**	**138.98**	**348**	*e*pkp	PKPdf	16 15 55.7	+10
ARCES	**ARCESS Array B**	**139.44**	**348**	PKP	PKPdf	16 15 45.0	-1.7
	1.9nm,0.8s,baz=9.9,slow=2.8,SNR=4.5						
ARCES	**ARCESS Array B**	**139.44**	**348**	PKP	PKPdf	16 15 45.0	-1.7
JOF	**Joensuu**	**143.40**	**339**	*e*pkp	PKPdf	16 15 51.4	-2.6
KAF	**Kangasniemi**	**145.51**	**341**	*e*pkp	PKPdf	16 15 56.2	-1.4
FINES	**FINESS Array B**	**146.11**	**340**	PKPbc	PKPbc	16 15 59.5	-0.1
	5.5nm,0.7s,baz=54,slow=3.1,SNR=16						
FINES	**FINESS Array B**	**146.11**	**340**	PKPbc	PKPbc	16 15 59.5	-0.1
NB2	**NORSAR Subarra**	**149.54**	**352**	PKP	PKPbc	16 16 08.4	-0.5
	comp=Z,5.4nm,0.8s,baz=14,slow=4.3						
NOA	**NORSAR Array B**	**149.54**	**352**	PKPbc	PKPbc	16 16 08.3	-0.6
	comp=Z,1.9nm,0.8s,baz=14,slow=4.3,SNR=3.8						
NOA	**NORSAR Array B**	**149.54**	**352**	PKPbc	PKPbc	16 16 08.3	-0.6
AKASG	**Malin Array Be**	**152.46**	**323**	PKP	PKPdf	16 16 10.5	+1.3
	comp=Z,0.2nm,0.3s,baz=45,slow=1.4,SNR=3.8						
AKASG				PKPbc	PKPbc	16 16 16.5	+0.4
	comp=Z,0.4nm,0.4s,baz=30,slow=2.5,SNR=4.2						
AKASG	**Malin Array Be**	**152.46**	**323**	PKP	PKPdf	16 16 10.5	+1.3
AKASG				PKPbc	PKPbc	16 16 16.5	+0.4
BRTR	**Keskin Array B**	**153.84**	**298**	PKPab	PKPab	16 16 32.5	-0.1
	comp=Z,0.8nm,0.8s,baz=41,slow=4.6,SNR=3.5						
BRTR	**Keskin Array B**	**153.84**	**298**	PKPab	PKPab	16 16 32.5	-0.1
TORD	**Torodi Ar. Bea**	**162.13**	**175**	PKPab	PKPab	16 17 08.1	-0.8
	comp=Z,1.8nm,0.8s,baz=182,slow=3.9,SNR=9.4						
TORD	**Torodi Ar. Bea**	**162.13**	**175**	PKPab	PKPab	16 17 08.1	-0.8

IDC 09 15:59:50.0±2.1, 8°.38S×129°.73E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/16, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=76.4km s-min=28.6km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.45**	**202**	Pn	Pn	16 02 20.1	-1.1
	0.3nm,0.3s,baz=30,slow=13,SNR=11						
FITZ				Sn	Sn	16 04 06.5	-12
	0.1nm,0.3s,baz=346,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**12.33**	**159**	Pn	Pn	16 02 48.0	+1.2
	0.2nm,0.3s,baz=343,slow=13,SNR=11						
ASAR	**Alice Springs**	**15.71**	**166**	Pn	Pn	16 03 32.8	-0.1
	0.1nm,0.3s,baz=338,slow=9.9,SNR=6.9						
MKAR	**Makanchi Array**	**69.23**	**327**	P	P	16 10 58.9	+0.2
	0.3nm,0.5s,baz=116,slow=7.6,SNR=5.6						

*ISCJB **09** 16:06:59.4±0.3, 3°.41S±0°.03×127°.18E±0°.03, h93km±4km, mb4.6/32, Error ellipse: s-maj=5.8km s-min=4.5km az=40.4*

*IDC **09** 16:07:01.6±2.1, 3°.53S×127°.06E, h97km±19km, mb4.0/15, mb1 4.2/18, mb1mx4.1/24, mbtmp4.1/18, MS3.2/1, Ms1 3.2/1, ms1mx2.6/40, Error ellipse: s-maj=18.3km s-min=8.9km az=70.0*
*DJA **09** 16:07:01.6±0.2, 3°.5±3°.×12°.7E±°., h78km±5km, M4.8/8, mb5.0/28, mB5.3/16, MLv5.0/18, Mw(mB)4.8/16*
*NEIC **09** 16:07:02.1±1.1, 3°.53S×127°.11E, h104km±11km, mb4.9/8, Error ellipse: s-maj=10.4km s-min=4.4km az=57.0*
ISC 09 16:07:00.7±0.3, 3°.41S±0°.03×127°.20E±0°.03, h87km±3km, n120, σ1°15/113, mb4.6/32, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.20**	**329**	P	**Pn**	**16 07 10.5**	**-2.8**
AAI	**Ambon**	**1.03**	**106**	P	**Pn**	**16 07 20.3**	**-0.2**
AAI				S	**Sn**	**16 07 36.4**	**+1.1**
MSAI	**Masohi**	**1.72**	**88**	P	**Pn**	**16 07 29.5**	**+0.3**
MSAI				S	**Sn**	**16 07 52.2**	**+1.4**
LBMI	**Labuha**	**2.77**	**6**	P	**Pn**	**16 07 43.0**	**-0.1**
TNTI	**Ternate**	**4.16**	**2**	P	**Pn**	**16 08 01.3**	**-0.6**
KDI	**Kendari**	**4.61**	**263**	P	**Pn**	**16 08 06.5**	**-1.5**
LUWI	**Luwuk**	**5.01**	**298**	P	**Pn**	**16 08 11.7**	**-1.8**
	2.8nm8μm954nm,0.7s						
BBSI	**Bau Bau**	**5.06**	**246**	P	**Pn**	**16 08 15.8**	**+1.7**
	0.6nm2μm126nm,1.1s						
KMSI	**Cibinong**	**5.10**	**321**	P	**Pn**	**16 08 13.1**	**-1.6**
	4.5nm1μm,0.6s						
MNI	**Manado**	**5.37**	**334**	P	**Pn**	**16 08 17.2**	**-1.2**
	1.2nm4μm324nm,0.6s						
GTOI	**Gorontalo**	**5.81**	**314**	P	**Pn**	**16 08 24.8**	**+0.5**
	1.3nm3μm248nm,0.8s						
APSI	**Ampana**	**6.08**	**294**	P	**Pn**	**16 08 27.9**	**-0.2**
MRSI	**Marisa**	**6.53**	**306**	P	**Pn**	**16 08 32.9**	**-1.2**
	2μm234nm,0.7s						
MSSI	**Masamba**	**6.92**	**277**	P	**Pn**	**16 08 41.3**	**+1.8**
	1.0nm7μm183nm,0.8s						
MMRI	**Maumere**	**7.16**	**223**	P	**Pn**	**16 08 43.5**	**+0.7**
	0.3nm787nm81nm,1.3s						
SGSI	**Sangihe**	**7.25**	**347**	P	**Pn**	**16 08 45.3**	**+1.4**
	9.9nm964nm,0.4s						
BKSI	**Bulukumba**	**7.31**	**255**	P	**Pn**	**16 08 45.9**	**+1.1**
	0.5nm1μm154nm,0.7s						
SPSI	**Sidrap Palu**	**7.44**	**266**	P	**Pn**	**16 08 47.5**	**+0.9**
	868nm77nm,0.8s						
KAPI	**Kappang**	**7.60**	**258**	P	**Pn**	**16 08 48.9**	**+0.1**
	8.0nm,0.3s,baz=113,slow=5.6,SNR=20						
KAPI				S	**Sn**	**16 10 10.0**	**-3.5**
	1.3nm,0.3s,baz=277,slow=18,SNR=2.5						
KAPI				LR	LR	16 11 23.3	
	comp=Z,184nm,18.6s,baz=360,slow=35						
KAPI	**Kappang**	**7.60**	**258**	*e*P	**Pn**	**16 08 48.2**	**-0.6**
	52nm,0.8s						
KAPI				S	**Sn**	**16 10 09.9**	**-3.5**
KAPI	**Kappang**	**7.60**	**258**	P	**Pn**	**16 08 47.1**	**-1.7**
	0.2nm663nm72nm,1.3s						
PCI	**Palu**	**7.77**	**289**	P	**Pn**	**16 08 51.5**	**+0.4**
	2.0nm8μm78nm,1.2s						
WSI	**Waingapu**	**9.26**	**227**	P	**Pn**	**16 09 12.6**	**+1.2**
	118nm,0.8s						
DAV	**Davao City (W)**	**10.54**	**351**	S	**Sn**	**16 11 23.3**	**-1.8**
	84nm,0.3s,baz=219,slow=2.0,SNR=4.8						
MYLDM	**Lahad Datu**	**12.18**	**314**	P	**Pn**	**16 09 51.0**	**-0.2**
	61nm,0.9s						
KHKI	**Kahang-Kahang**	**12.54**	**246**	P	**Pn**	**16 09 57.2**	**+1.2**
	26nm,1.0s						
KMMI	**Kalianget**	**13.67**	**254**	P	**Pn**	**16 10 20.6**	**+10**
	3μm80nm,1.2s						
KKM	**Kota Kinabalu**	**14.44**	**311**	*e*P	**Pn**	**16 10 21.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.68**	**186**	P	**Pn**	**16 10 21.8**	**-2.2**
	0.3nm,0.3s,baz=14,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**14.68**	**186**	*e*P	**Pn**	**16 10 21.7**	**-2.3**
	25nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.68**	**186**	P	**Pn**	**16 10 21.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**14.68**	**186**	P	**Pn**	**16 10 22.3**	**-1.7**
	25nm,1.3s						
SJI	**Sawahan**	**15.95**	**254**	P	**Pn**	**16 10 46.9**	**+6.8**
	41nm,1.0s						
KSM	**Kuching**	**17.57**	**286**	*e*P	**Pn**	**16 11 01.1**	**+1.0**
WRAB	**Tennant Creek**	**17.84**	**158**	*e*P	**Pn**	**16 11 02.7**	**-0.7**
	59nm,0.8s						
WRAB	**Tennant Creek**	**17.84**	**158**	P	**Pn**	**16 11 03.6**	**+0.3**
	106nm,1.0s						
BJII	**Banjamegara**	**17.84**	**257**	P	**Pn**	**16 11 05.4**	**+1.9**
	74nm,1.6s						
WRA	**Warramunga Arr**	**17.85**	**158**	P	**Pn**	**16 11 02.7**	**-0.7**
	7.9nm,0.3s,baz=340,slow=11,SNR=130						
WRA	**Warramunga Arr**	**17.85**	**158**	P	**Pn**	**16 11 02.7**	**-0.7**
WB2	**Warramunga Arr**	**17.85**	**158**	*e*P	**Pn**	**16 11 02.6**	**-0.8**
COEN	**Coen**	**18.93**	**125**	*e*P	**Pn**	**16 11 14.7**	**-1.8**
	271nm,0.9s						
COEN	**Coen**	**18.93**	**125**	P	**Pn**	**16 11 14.9**	**-1.6**
	51nm,0.8s						
MBWA	**Marble Bar**	**19.08**	**202**	*e*P	**Pn**	**16 11 15.5**	**-2.7**
CISI	**Cisompet, Garu**	**19.73**	**257**	P	**Pn**	**16 11 22.1**	**-3.8**
	2μm127nm,1.2s						
ASAR	**Alice Springs**	**21.15**	**163**	P	**P**	**16 11 38.1**	**-0.8**
	21nm,0.6s,mb4.6,baz=342,slow=11,SNR=174						
ASAR				S	**S**	**16 15 29.1**	**-0.2**
	4.7nm,1.1s,baz=344,slow=23,SNR=6.5						
ASAR	**Alice Springs**	**21.15**	**163**	P	**P**	**16 11 38.1**	**-0.8**
ASAR				S	**S**	**16 15 29.1**	**-0.2**
MDSI	**Maura Dua**	**23.00**	**267**	P	**P**	**16 11 58.8**	**+0.4**
	18nm,0.9s,mb4.4						
CTA	**Charters Tower**	**24.90**	**133**	P	**P**	**16 12 16.1**	**+0.4**
	5.0nm,0.9s,mb4.0,baz=327,slow=13,SNR=5.2						
CTA	**Charters Tower**	**24.90**	**133**	*e*P	**P**	**16 12 16.6**	**+0.9**
	3.7nm,0.9s,mb3.8						
CTA	**Charters Tower**	**24.90**	**133**	P	**P**	**16 12 16.1**	**+0.4**
FORT	**Forrest**	**27.23**	**178**	*e*P	**P**	**16 12 35.2**	**-1.4**
	37nm,0.5s,mb5.2						
FORT	**Forrest**	**27.23**	**178**	*e*P	**P**	**16 12 35.1**	**-1.5**
	61nm,0.8s,mb5.2						
MNSI	**Mandailing Nat**	**27.93**	**278**	P	**P**	**16 12 43.2**	**+0.1**
	606nm17nm,0.7s,mb4.7						
PSI	**Prapat**	**28.93**	**282**	P	**P**	**16 12 53.9**	**+1.9**
NWAO	**Narrogin (SRO)**	**30.81**

KKN	Kakani	50.90	310	eP	P	16 15 53.2	-0.1
	22nm,0.8s,mb5.2						
GKN	Gorkha	51.50	310	eP	P	16 15 57.7	-0.1
	24nm,0.7s,mb5.3						
GKN	Gorkha	51.50	310	eP	P	16 15 57.7	-0.1
	24nm,0.7s,mb5.3						
KOLN	Koldanda	52.18	309	eP	P	16 16 03.1	+0.3
	27nm,0.7s,mb5.4						
KOLN	Koldanda	52.18	309	eP	P	16 16 03.1	+0.3
	27nm,0.7s,mb5.4						
DANN	Dangsing	52.34	310	eP	P	16 16 04.2	+0.2
	42nm,0.7s,mb5.6						
DANN	Dangsing	52.34	310	eP	P	16 16 04.2	+0.2
	42nm,0.7s,mb5.6						
ULN	Ulaanbaatar	54.03	343	eP	P	16 16 16.9	+0.9
SONM	Songino Array	54.19	343	P	P	16 16 18.2	+1.0
	2.1nm,1.1s,mb4.1,baz=126,slow=7.2,SNR=8.2						
SONM	Songino Array	54.19	343	P	P	16 16 18.2	+1.0
RPZ	Rata Peaks	55.76	143	P	P	16 16 28.8	+0.2
	6.4nm,0.5s,mb5.0,baz=6.7,slow=13,SNR=6.1						
RPZ	Rata Peaks	55.76	143	P	P	16 16 28.9	+0.3
PETK	Petropavlovsk-	61.87	20	P	P	16 17 12.3	+1.5
	1.0nm,0.4s,mb4.2,baz=289,slow=4.4,SNR=3.7						
PETK	Petropavlovsk-	61.87	20	P	P	16 17 12.2	+1.5
MK31	Makanchi Array	63.72	327	eP	P	16 17 21.4	-1.8
MKAR	Makanchi Array	63.72	327	P	P	16 17 22.8	-0.3
	3.8nm,0.7s,mb4.3,baz=117,slow=8.8,SNR=26						
MKAR	Makanchi Array	63.72	327	P	P	16 17 22.8	-0.3
YAK	Yakutsk	65.29	1	eP	P	16 17 32.4	-0.6
	11nm,0.6s,mb4.9						
ZALV	Zalesovo Beam	67.16	334	P	P	16 17 44.1	-1.0
	2.0nm,0.8s,mb4.0,baz=123,slow=5.5,SNR=8.7						
ZALV	Zalesovo Beam	67.16	334	P	P	16 17 44.1	-1.0
KURK	Kurchatov	68.03	329	eP	P	16 17 49.8	-0.9
	5.3nm,0.8s,mb4.4						
ABKAR	Akbulak array	77.98	322	eP	P	16 18 47.6	-1.9
	0.6nm,0.6s,mb3.5						
QSPA	South Pole Qui	86.54	180	P	P	16 19 31.7	-2.0
	2.0nm,0.7s,mb4.1,baz=316,slow=1.4,SNR=9.2						
QSPA	South Pole Qui	86.54	180	P	P	16 19 31.7	-2.0
ILAR	Eielson Array	91.31	25	P	P	16 19 55.6	-0.8
	0.7nm,1.0s,mb3.7,baz=277,slow=7.2,SNR=2.7						
ILAR	Eielson Array	91.31	25	P	P	16 19 55.6	-0.7
ARCES	ARCESS Array B	97.27	340	P	P	16 20 21.5	-2.0
	2.0nm,0.8s,mb4.6,baz=85,slow=5.5,SNR=3.3						
ARCES	ARCESS Array B	97.27	340	P	P	16 20 21.5	-2.0
PDAR	Pinedale Array	116.29	43	PKP	PKPdf	16 25 34.4	0.0
	0.3nm,0.6s,baz=200,slow=3.9,SNR=3.8						
PDAR	Pinedale Array	116.29	43	PKP	PKPdf	16 25 34.4	0.0
ULM	Lac du Bonnet	120.89	31	PFAKE		16 25 50.0	+7.0
ULM				LR	LR		
	comp=Z,2μm,22.0s						
TORD	Torodi Ar. Bea	125.32	284	PKP	PKPdf	16 25 51.5	-1.0
	comp=Z,1.8nm,0.7s,baz=75,slow=1.9,SNR=15						
TORD	Torodi Ar. Bea	125.32	284	PKP	PKPdf	16 25 51.5	-1.0
TXAR	Lajitas Array	125.37	56	PKP	PKPdf	16 25 52.2	0.0
	comp=Z,0.4nm,0.6s,baz=172,slow=2.5,SNR=5.0						
TXAR	Lajitas Array	125.37	56	PKP	PKPdf	16 25 52.2	-0.1
DBIC	Dimbokro	132.15	276	PKP	PKPdf	16 26 05.2	-0.4
	comp=Z,1.5nm,0.6s,baz=43,slow=4.3,SNR=4.3						
DBIC	Dimbokro	132.15	276	PKP	PKPdf	16 26 05.2	-0.4
CPUP	Villa Florida	150.11	172	PKPbc	PKPbc	16 26 41.1	-1.1
	comp=Z,2.3nm,0.7s,baz=30,slow=1.8,SNR=7.0						
CPUP	Villa Florida	150.11	172	PKPbc	PKPbc	16 26 41.1	-1.1
LPAZ	La Paz	155.24	143	PKPab	PKPab	16 27 10.6	+0.5
	comp=Z,1.5nm,0.8s,baz=197,slow=5.5,SNR=5.6						
LPAZ	La Paz	155.24	143	PKPab	PKPab	16 27 10.6	+0.5

IDC 09 16:11:12.8±3.1, 31°.43S×176°.77W, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, ML3.8/2, Error ellipse: s-maj=75.5km s-min=34.2km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.47	215	Pn	Pn	16 13 17.6	+0.9
	0.4nm,0.3s,baz=146,slow=7.3,SNR=3.9						
URZ				Sn	Sn	16 14 54.0	+1.0
	0.4nm,0.3s,baz=168,slow=20,SNR=4.4						
RPZ	Rata Peaks	15.59	215	Pn	Pn	16 14 51.6	-2.1
	1.0nm,0.3s,baz=57,slow=4.5,SNR=4.6						
ASAR	Alice Springs	44.12	267	P	P	16 19 23.2	+0.1
	0.7nm,0.8s,baz=106,slow=7.1,SNR=5.0						
WRA	Warramunga Arr	45.20	273	P	P	16 19 31.6	-0.1
	0.6nm,0.4s,baz=110,slow=8.1,SNR=8.0						
FINES	FINESS Array B	146.47	340	PKPbc	PKPbc	16 30 54.3	-0.8
	2.5nm,0.8s,baz=63,slow=6.4,SNR=5.9						

IDC 09 16:22:01.2±9.5, 30°.72S×179°.56W, h342km±96km, mb2.5/2, mb1 2.8/2, mb1mx2.7/14, mbtmp2.5/2, Error ellipse: s-maj=99.5km s-min=51.3km az=12.0

ISC 09 16:22:00.4±1.6, 30°.9S±0°.2×178°.9W±0°.5, h379km±24km, n23, σ0°80/22, mb2.5/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.99	198	ePN	Pn	16 23 43.8	+0.5
MXZ				eSN	S	16 25 07.4	+0.2
PUZ	Puketiti	7.48	197	ePN	Pn	16 23 49.2	+0.3
PUZ				SN	S	16 25 16.7	-0.8
MWZ	Matawai	7.93	201	ePN	Pn	16 23 54.1	0.0
MWZ				eSN	S	16 25 25.9	-1.1
URZ	Urewera	8.00	203	P	Pn	16 23 55.5	+0.7
	12nm,0.3s,baz=316,slow=2.9,SNR=48						
URZ				S	S	16 25 28.0	-0.4
	2.8nm,0.3s,baz=101,slow=20,SNR=6.9						
URZ	Urewera	8.00	203	ePN	Pn	16 23 54.0	-0.8
URZ				SN	S	16 25 28.1	-0.3
KNZ	Kokohu	8.53	198	ePN	Pn	16 24 00.7	-0.3
BKZ	Black Stump Fm	9.02	203	eSN	S	16 25 49.7	-0.7
HIZ	Hauiti	9.12	212	ePN	Pn	16 24 09.1	+1.2
VRZ	Vera Road	9.67	211	ePN	Pn	16 24 16.4	+2.1
PXZ	Pawanui	9.70	200	ePN	Px	16 24 12.9	
PXZ				eSN	Sx	16 26 02.1	
TSZ	Takapari Road	10.00	203	ePN	Px	16 24 16.2	
TSZ				SN	Sx	16 26 09.1	
WAZ	Wanganui	10.10	208	ePN	Pn	16 24 19.6	+0.3
WAZ				eSN	S	16 26 14.7	+1.1
BFZ	Birch Farm	10.48	201	ePN	Px	16 24 23.8	
BFZ				eSN	Sx	16 26 18.7	
MRZ	Mangatainoka R	10.67	203	ePN	Px	16 24 23.3	
MRZ				eSN	Sx	16 26 22.9	
TCW	Tory Channel	11.63	206	ePN	Px	16 24 35.4	
NNZ	Nelson	11.99	209	SN	Px	16 26 51.4	
QRZ	Quartz Range	12.05	213	ePN	Pn	16 24 41.2	-1.0
QRZ				eSN	S	16 26 54.2	0.0
THZ	Tophouse	12.64	209	ePN	Px	16 24 47.2	
THZ				eSN	Sx	16 27 05.2	
KHZ	Kahutara	12.94	206	ePN	Px	16 24 51.2	
DSZ	Denniston Nort	13.11	212	ePN	Pn	16 24 53.7	-0.8
DSZ				eSN	S	16 27 16.4	+0.8
ASAR	Alice Springs	42.29	268	P	P	16 29 18.5	-0.1
	0.1nm,0.4s,mb2.3,baz=106,slow=7.5,SNR=9.0						
WRA	Warramunga Arr	43.33	273	P	P	16 29 26.0	-0.9
	0.2nm,0.3s,mb2.7,baz=110,slow=8.1,SNR=6.4						
FINES	FINESS Array B	145.38	339	PKP	PKPdf	16 40 56.5	+3.7
	2.6nm,1.0s,baz=67,slow=5.0,SNR=6.7						

NEIC 09 16:25:46.6, 37°.48N×121°.81W, h6km, ML3.5(NCEDC), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAC	San Andreas	0.49	282	ePg	Pg	16 25 56.1	0.0
SAO	San Andreas Ge	0.78	158	ePg	Pg	16 26 01.9	+0.4
MCCM	Marconi Confer	1.07	308	ePg	Pg	16 26 05.7	-1.5
MCCM				eSn	Sn	16 26 21.9	-1.6
CMB	Columbia Colle	1.25	64	eP	Pn	16 26 09.6	-1.1
CMB				eS	Sg	16 26 26.5	-0.5
HOPS	Hopland	1.81	327	ePn	Pn	16 26 16.9	-1.4
WCN	Washoe City	2.43	41	ePn	Pn	16 26 28.5	+1.6
KCPM	Cahto Peak	2.60	328	ePn	Pn	16 26 28.6	-0.6
ISA	Isabella	3.24	123	ePn	Pn	16 26 37.3	-0.7
ISA				ePg	Pg	16 26 47.4	-1.4
ISA				eSg	Sg	16 27 31.0	+0.2

IDC 09 16:27:30.6±2.1, 1°.22S×127°.73E, h0km, mb3.0/2, mb1 3.2/3, mb1mx3.0/17, mbtmp3.0/3, ML3.0/1, Error ellipse: s-maj=177.8km s-min=25.5km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.70	161	P	Pn	16 32 02.0	-1.1
	0.1nm,0.3s,baz=340,slow=12,SNR=3.3						
ASAR	Alice Springs	23.10	165	P	P	16 32 38.2	0.0
	0.2nm,0.5s,baz=343,slow=11,SNR=7.8						
MKAR	Makanchi Array	62.18	326	P	P	16 37 53.9	0.0
	0.3nm,0.7s,baz=117,slow=8.9,SNR=3.0						

IDC 09 16:48:36.0±0.7, 1°.04N×127°.89E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.2/21, mbtmp4.2/15, ML4.0/2, Error ellipse: s-maj=32.4km s-min=12.9km az=80.0
NEIC 09 16:48:41.1±0.4, 1°.01N×127°.91E, h35km, mb4.4/7, Error ellipse: s-maj=13.6km s-min=6.2km az=74.0
NEIC Felt [II] on Pulau Ternate.
ISCJB 09 16:48:42.9±0.9, 0°.88N±0°.05×127°.66E±0°.05, h66km±8km, mb4.2/19, Error ellipse: s-maj=9.8km s-min=6.7km az=144.1
DJA 09 16:48:42, 0°.76N×127°.62E, h5km, MLv4.5/9

ISC 09 16:48:44.9±0.8, 0°.88N±0°.05×127°.67E±0°.06, h67km±8km, n61, σ0°86/63, mb4.2/19, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.32	250	P	Pn	16 48 48.0	-7.9
LBMI	Labuha	1.52	186	P	Pn	16 49 06.4	-3.6
MNI	Manado	2.88	281	P	Pn	16 49 27.2	-1.2
KMSI	Cibinong	3.70	265	P	Pn	16 49 38.9	-0.7
MSAI	Masohi	4.38	163	P	Pn	16 49 49.0	0.0
AAI	Ambon	4.57	173	P	Pn	16 49 51.0	-0.5
GTOI	Gorontalo	4.66	267	P	Pn	16 49 54.0	+1.2
LUWI	Luwuk	5.25	249	P	Pn	16 50 00.6	-0.3
	0.6nm2μm90nm,0.6s						
MRSI	Marisa	5.74	266	P	Pn	16 50 07.2	-0.3
	879nm76nm,0.5s						
KDI	Kendari	6.97	226	P	Pn	16 50 24.0	-0.3
	41nm,0.9s						
PCI	Palu	8.03	257	P	Pn	16 50 33.9	-5.0
MSSI	Masamba	8.10	245	P	Pn	16 50 40.0	+0.2
	1μm72nm,0.8s						
BAKI	Biak	8.69	104	P	Pn	16 50 49.0	+1.1
	212nm,0.8s						
SPSI	Sidrap Palu	9.24	239	P	Pn	16 50 53.8	-1.7
	1μm70nm,0.6s						
BKSI	Bulukumba	9.73	231	P	Pn	16 51 03.0	+0.8
	291nm24nm,0.6s						
KAPI	Kappang	9.84	233	Pn	Pn	16 51 03.2	-0.4
	4.0nm,0.3s,baz=233,slow=15,SNR=14						
KAPI				Sn	Sn	16 52 53.2	+0.7
	1.1nm,0.3s,baz=285,slow=10,SNR=3.0						
KAPI	Kappang	9.84	233	eP	Pn	16 51 03.4	-0.3
KAPI				Sn	Sn	16 52 53.2	+0.7
MYLDM	Lahad Datu	10.10	295	P	Pn	16 51 09.2	+2.0
	25nm,0.8s						
KKM	Kota Kinabalu	12.53	294	eP	Pn	16 51 41.3	+1.0
FITZ	Fitzroy Crossi	18.97	186	P	Pn	16 53 00.2	-2.0
	0.2nm,0.3s,baz=38,slow=10,SNR=7.4						
FITZ	Fitzroy Crossi	18.97	186	eP	Pn	16 53 01.1	-1.1
	4.1nm,0.6s						
FITZ	Fitzroy Crossi	18.97	186	eP	Pn	16 53 00.3	-1.9
WRAB	Tennant Creek	21.70	163	eP	P	16 53 30.4	+0.1
	16nm,0.8s,mb4.4						
WRA	Warramunga Arr	21.70	163	P	P	16 53 30.5	+0.1
	9.7nm,0.7s,mb4.2,baz=343,slow=11,SNR=54						
WRA	Warramunga Arr	21.70	163	P	P	16 53 30.5	+0.1
WB2	Warramunga Arr	21.71	163	eP	P	16 53 30.6	+0.1
MBWA	Marble Bar	23.24	199	eP	P	16 53 46.0	-0.4
AS31	Alice Springs	25.14	166	eP	P	16 54 04.5	+0.7
ASAR	Alice Springs	25.14	166	P	P	16 54 04.5	+0.8
	14nm,0.9s,mb4.4,baz=347,slow=12,SNR=69						
ASAR	Alice Springs	25.14	166	P	P	16 54 04.5	+0.8
FORT	Forrest	31.49	179	eP	P	16 55 00.9	+0.6
	7.8nm,0.6s,mb4.6						
CMAR	Chiang Mai Arr	33.16	304	P	P	16 55 16.1	+0.9
	0.2nm,0.4s,mb3.3,baz=101,slow=4.7,SNR=3.4						
CMAR	Chiang Mai Arr	33.16	304	P	P	16 55 16.1	+0.9
NWAO	Narrogin (SRO)	35.04	195	P	P	16 55 31.5	+0.3
	3.8nm,0.7s,mb4.3,baz=41,slow=7.4,SNR=7.8						
NWAO	Narrogin (SRO)	35.04	195	P	P	16 55 31.5	+0.3
STKA	Stephens Creek	35.15	159	P	P	16 55 32.6	+0.4
	4.6nm,0.8s,mb4.3,baz=335,slow=9.9,SNR=5.9						
STKA	Stephens Creek	35.15	159	eP	P	16 55 33.3	+1.1
	2.6nm,0.6s,mb4.2						
STKA	Stephens Creek	35.15	159	eP	P	16 55 32.7	+0.5
	0.9nm,0.9s,mb3.6						
KSAR	Wonju Array Be	36.38	0	P	P	16 55 42.0	-0.6
KSRS	Korea Array	36.39	0	P	P	16 55 42.0	-0.7
	2.2nm,0.7s,mb4.2,baz=176,slow=9.6,SNR=9.7						
MJAR	Matsushiro Arr	36.80	14	P	P	16 55 42.7	-3.6
	4.0nm,0.8s,mb4.4,baz=188,slow=10,SNR=9.5						
MJAR	Matsushiro Arr	36.80	14	P	P	16 55 42.7	-3.6
LZH	Lanzhou	41.42	330	eP	P	16 56 26.0	+1.2
	2μm,1.2s						
LZH				pP	pP	16 56 33.5	-8.1
LZH				sP	sP	16 56 35.5	-14
ULN	Ulaanbaatar	50.10	342	eP	P	16 57 33.3	+0.3
	7.2nm,1.1s,mb4.5						
SONM	Songino Array	50.28	341	P	P	16 57 34.4	+0.1
	1.5nm,0.8s,mb4.0,baz=155,slow=8.3,SNR=11						
SONM	Songino Array	50.28	341	P	P	16 57 34.5	+0.1
MK31	Makanchi Array	60.42	326	eP	P	16 58 47.5	+0.2
MKAR	Makanchi Array	60.42	326	P	P	16 58 47.6	+0.3
	1.6nm,0.6s,mb4.2,baz=113,slow=7.8,SNR=22						
MKAR	Makanchi Array	60.42	326	P	P	16 58 47.6	+0.3
ZALV	Zalesovo Beam	63.54	333	P	P	16 59 06.9	-1.1
	0.8nm,0.6s,mb3.7,baz=138,slow=8.9,SNR=3.3						
ZALV	Zalesovo Beam	63.54	333	P	P	16 59 06.9	-1.1
KBL	Kabul	64.00	308	eP	P	16 59 12.2	+0.6
	2.1nm,0.6s,mb4.1						
KURK	Kurchatov	64.63	328	P	P	16 59 15.1	-0.2
	3.0nm,0.5s,mb4.3,baz=122,slow=6.2,SNR=12						
KURK	Kurchatov	64.63	328	P	P	16 59 13.9	-1.4
	6.5nm,0.8s,mb4.5						
KKAR	Karatay Array	65.95	318	eP	P	16 59 23.8	-0.2
BRVK	Borovoye	70.28	327	eP	P	16 59 50.8	-0.1
	2.6nm,0.8s,mb4.1						
ABKAR	Akbulak array	74.94	321	eP	P	17 00 17.8	-0.9
	1.8nm,0.8s,mb3.9						
BRTR	Keskin Array B	92.55	310	P	P	17 01 49.9	+0.8
	0.7nm,0.9s,mb4.0,baz=46,slow=4.2,SNR=2.4						
BRTR	Keskin Array B	92.55	310	P	P	17 01 49.9	+0.8
ARCES	ARCESS Array B	93.43	340	P	P	17 01 51.1	-1.3
	1.8nm,0.9s,mb4.4,baz=100,slow=5.0,SNR=2.4						
ARCES	ARCESS Array B	93.43	340	P	P	17 01 51.1	-1.3

IDC 09 16:50:37.9±2.3, 33°.38S×178°.37W, h0km, mb4.3/4, mb1 4.5/5, mb1mx4. 1/17, mbtmp4.4/5, ML4.2/1, Error ellipse: s-maj=56.6km s-min=41.9km az=140.0
NEIC 09 16:50:43.0±1.3, 33°.55S×178°.40W, h35km, mb4.4/2, Error ellipse: s-maj=26.9km s-min=17.8km az=107.0

ISC 09 16:50:42.0±4.8, 33°.5S±0°.2×178°.3W±0°.7, h35km, n18, σ0°48/16, mb4.3/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.04	217	Pn	Pn	16 52 09.2	+0.5
	6.3nm,0.3s,baz=324,slow=4.1,SNR=35						
URZ				Sn	Sn	16 53 16.5	-0.1
	8.2nm,0.3s,baz=169,slow=19,SNR=10.0						
URZ	Urewera	6.04	217	eP	Pn	16 52 08.8	+0.1
	78nm,1.2s						
URZ				Sn	Sn	16 53 16.4	-0.1
CTA	Charters Tower	34.21	284	P	P	16 57 25.6	+1.2
	2.4nm,0.5s,mb4.4,baz=99,slow=12,SNR=7.1						
CTA	Charters Tower	34.21	284	P	P	16 57 25.6	+1.2
CTAO	Charters Tower	34.21	284	eP	P	16 57 25.4	+1.0
	2.7nm,0.6s,mb4.3						
AS31	Alice Springs	42.82	270	eP	P	16 58 36.6	0.0
ASAR	Alice Springs	42.82	270	P	P	16 58 36.6	+0.1
	3.9nm,0.7s,mb4.3,baz=111,slow=7.3,SNR=43						
ASAR	Alice Springs	42.82	270	P	P	16 58 36.6	+0.1
WB2	Warramunga Arr	44.08	276	eP	P	16 58 46.3	-0.5
WRAB	Tennant Creek	44.08	276	eP	P	16 58 46.3	-0.6
	4.0nm,0.6s,mb4.3						
WRA	Warramunga Arr	44.09	276	P	P	16 58 46.5	-0.3
	3.4nm,0.5s,mb4.3,baz=116,slow=7.7,SNR=26						
WRA	Warramunga Arr	44.09	276	P	P	16 58 46.5	-0.3
FITZ	Fitzroy Crossi	52.20	272	P	P	16 59 49.5	-0.1
	2.2nm,0.7s,mb4.2,baz=132,slow=7.7,SNR=6.5						
FITZ	Fitzroy Crossi	52.20	272	P	P	16 59 49.5	-0.1
FINES	FINESS Array B	147.98	338	PKPbc	PKPbc	17 10 23.8	+1.0
	1.6nm,0.7s,baz=43,slow=3.4,SNR=5.2						
FINES	FINESS Array B	147.98	338	PKPbc	PKPbc	17 10 23.8	+1.0
BRTR	Keskin Array B	153.75	293	PKPbc	PKPbc	17 10 38.4	+1.2
	0.3nm,0.5s,baz=130,slow=4.8,SNR=5.3						
BRTR	Keskin Array B	153.75	293	PKPbc	PKPbc	17 10 38.4	+1.2

IDC 09 17:05:50.9±0.8, 52°.59N×167°.45W, h0km, mb4.0/18, mb1 4.2/20, mb1mx4. 1/29, mbtmp4.0/20, ML3.7/2, MS3.6/2, Ms1 3.6/2, ms1mx3.1/53, Error ellipse: s-maj=22.2km s-min=13.2km az=176.0
ISCJB 09 17:05:51.4±1.8, 52°.30N±0°.06×167°.16W±0°.06, h28km±12km, mb4.0/29, Error ellipse: s-maj=10.5km s-min=6.0km az=164.8
NEIC 09 17:05:52.9, 52°.24N×167°.20W, h28km, mb4.2/16, ML3.5(AEIC), After AEIC.

ISC 09 17:05:51.9±1.8, 52°.40N±0°.06×167°.23W±0°.06, h13km±11km, n85, σ1°13/88, mb4.0/29, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	Okmok Steeple	1.07	323	P	Pb	17 06 12.2	0.0
OKTU	Okmok Mt. Tuli	1.10	334	P	Pb	17 06 12.7	-0.1
NIKO	Nikolski	1.14	301	P	Pb	17 06 13.3	-0.2
NIKO				S	Sb	17 06 27.5	-0.7
OKWE	Okmok W'ng Wal	1.23	331	P	Pn	17 06 15.5	+0.7
OKRE	Okmok R'deer P	1.25	334	P	Pn	17 06 16.3	+1.2
MSOM	Makushin Julie	1.43	7	P	Pn	17 06 17.8	+0.3
MREP	Makushin Rep't	1.44	12	P	Pn	17 06 17.9	+0.2
UNV	Unalaska Valle	1.51	17	P	Pn	17 06 19.4	+0.7
UNV				S	Sn	17 06 38.9	+0.7
MCIR	Makushin Cirqu	1.56	7	P	Pn	17 06 19.3	-0.1
AKUT	Akutan	1.94	26	P	Pn	17 06 25.4	+0.8
AKUT				S	Sn	17 06 50.6	+1.7
FALS	False Pass	3.35	41	ePn	Pn	17 06 44.0	+0.1
SDPT	Sand Point	4.97	51	ePn	Pn	17 07 06.4	+0.2
ADK	Adak	5.84	269	ePn	Pn	17 07 18.2	+0.1
CHGN	Chignik	6.46	49	ePn	Pn	17 07 29.8	+3.1
KDAK	Kodiak Island	9.97	52	Pn	Pn	17 08 14.9	+0.2
	1.2nm,0.3s,baz=170,slow=6.9,SNR=11						
KDAK	Kodiak Island	9.97	52	ePn	Pn	17 08 14.1	-0.6
FX1	Attu Island--F	11.92	280	Pn	Pn	17 08 43.4	+2.0
	1.1nm,0.3s,baz=284,slow=24,SNR=9.1						
FX1				LR	LR	17 12 57.5	
	comp=Z,216nm,19.6s,baz=282,slow=36						
FX1	Attu Island--F	11.92	280	Pn	Pn	17 08 43.4	+2.0
SLKM	Skilak Lake	12.39	42	P	Pn	17 08 50.5	+2.7
PMR	Palmer	13.44	40	P	Pn	17 09 01.6	-0.5
SML	Sawmill	13.88	40	P	Pn	17 09 05.9	-2.2
	1.3nm,0.4s						
MCK	McKinley	14.85	33	P	Pn	17 09 25.6	+4.4
	28nm,1.4s						
PAX	Paxson	15.64	39	P	Pn	17 09 30.3	-1.4
	3.1nm,0.5s						
ILAR	Eielson Array	16.20	32	Pn	Pn	17 09 37.6	-1.4
	0.2nm,0.3s,baz=235,slow=10,SNR=22						
ILAR	Eielson Array	16.20	32	Pn	Pn	17 09 37.6	-1.4
COLD	Coldfoot	17.05	23	ePn	Pn	17 09 49.3	-0.4
	12nm,0.8s						
EGAK	Eagle	18.21	37	P	Pn	17 10 02.4	-1.7
	5.3nm,0.6s						
SKAG	Skagway	19.07	56	eP	Pn	17 10 12.7	-1.9
	30nm,1.1s						
CRAG	Craig	20.19	68	P	P	17 10 26.7	+0.6
	80nm,1.2s						
BILL	Bilibino	20.19	331	eP	P	17 10 28.5	+2.5
	6.0nm,1.0s						
PEA0B	Petropavlovsk-	21.11	286	eP	P	17 10 37.4	+1.3
PETK	Petropavlovsk-	21.11	286	P	P	17 10 35.3	-0.7
	2.5nm,0.6s,mb3.8,baz=83,slow=12,SNR=2.0						
PETK	Petropavlovsk-	21.11	286	P	P	17 10 35.3	-0.7
INK	Inuvik	22.61	32	P	P	17 10 50.2	-1.7
	8.7nm,1.0s,mb4.2,baz=4.8,slow=3.7,SNR=9.2						
INK				LR	LR	17 20 46.4	
	comp=Z,191nm,18.1s,baz=294,slow=40						
INK	Inuvik	22.61	32	P	P	17 10 50.2	-1.7
YKA	Yellowknife Ar	29.23	49	P	P	17 11 57.0	+4.0
	0.6nm,0.7s,mb3.5,baz=273,slow=9.5,SNR=7.3						
YKA	Yellowknife Ar	29.23	49	P	P	17 11 57.0	+4.0
RES	Resolute Bay	35.77	26	P	P	17 12 47.5	-2.6
	0.8nm,0.5s,mb4.0,baz=252,slow=9.6,SNR=6.5						
RES	Resolute Bay	35.77	26	P	P	17 12 47.5	-2.6
	0.6nm,0.5s,mb3.8						
NVAR	Mina Array Bea	36.36	93	P	P	17 12 59.2	+3.7
	1.9nm,0.7s,mb4.2,baz=305,slow=9.0,SNR=12						
NVAR	Mina Array Bea	36.36	93	P	P	17 12 59.2	+3.7
PDAR	Pinedale Array	39.11	81	P	P	17 13 19.9	+1.3
	1.3nm,0.9s,mb3.6,baz=294,slow=5.5,S

ISC 09 17:16:25.1±0.8, 6°.9S±0°.1×154°.70E±0°.08, h35km, n14, σ0°68/15, mb3.4/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.78**	**116**	*e*Pn	**Pn**	**17 17 48.8**	**+0.4**
HNR				*e*Sn	**Sn**	**17 18 53.4**	**-0.1**
WRAB	**Tennant Creek**	**23.63**	**235**	*e*P	**P**	**17 21 32.5**	**-0.9**
	4.8nm,1.2s,mb3.8						
WRA	**Warramunga Arr**	**23.65**	**235**	P	**P**	**17 21 34.0**	**+0.5**
	1.6nm,0.8s,mb3.5,baz=59,slow=10,SNR=11						
WRA	**Warramunga Arr**	**23.65**	**235**	P	**P**	**17 21 34.0**	**+0.5**
ASAR	**Alice Springs**	**26.04**	**228**	P	**P**	**17 21 54.5**	**-0.7**
	0.2nm,0.4s,mb3.0,baz=57,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**26.04**	**228**	P	**P**	**17 21 54.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.44**	**246**	P	**P**	**17 22 35.5**	**+0.9**
	1.9nm,0.7s,mb3.9,baz=98,slow=10,SNR=8.2						
FITZ	**Fitzroy Crossi**	**30.44**	**246**	P	**P**	**17 22 35.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**60.47**	**296**	P	**P**	**17 26 33.0**	**+1.0**
	0.4nm,0.7s,mb3.6,baz=119,slow=5.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**60.47**	**296**	P	**P**	**17 26 33.0**	**+1.0**
SONM	**Songino Array**	**69.08**	**327**	P	**P**	**17 27 26.8**	**-0.7**
	0.2nm,0.7s,mb3.1,baz=140,slow=7.6,SNR=1.4						
SONM	**Songino Array**	**69.08**	**327**	P	**P**	**17 27 26.8**	**-0.7**
MKAR	**Makanchi Array**	**83.13**	**319**	P	**P**	**17 28 47.1**	**-0.4**
	0.1nm,0.7s,mb3.0,baz=129,slow=3.9,SNR=2.5						
MKAR	**Makanchi Array**	**83.13**	**319**	P	**P**	**17 28 47.1**	**-0.4**

*NOU **09** 17:28:48.3±0.6, 14°.98S×167°.11E, h30km, MD4.1, ML4.6*
*ISCJB **09** 17:28:57.9±0.1, 15°.98S±0°.02×168°.14E±0°.02, h225km, mb5.4/192, Error ellipse: s-maj=2.9km s-min=2.5km az=139.3*
*MOS **09** 17:28:58.6±1.4, 15°.92S×168°.20E, h230km, mb5.6/41, MS5.0/6, Error ellipse: s-maj=7.4km s-min=7.1km az=146.2*
*LDG **09** 17:28:58.4±0.2, 15°.80S×167°.62E, h210km, Mb5.3/3, Ms4.9/10, Error ellipse: s-maj=22.7km s-min=6.5km az=91.0*
*NEIC **09** 17:28:58.6±0.1, 15°.93S×168°.17E, mb5.5/147, MW6.0, MW5.9, Error ellipse: s-maj=5.7km s-min=4.3km az=149.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^{18}Nm; M_{rr}0.56; $M_{\theta\theta}$-0.61; $M_{\phi\phi}$0.05; $M_{r\theta}$-1.03; $M_{r\phi}$0.34; $M_{\theta r}$-0.45; Best double couple: $M_0$1.30000×10^{18} NP1: ϕ_s139.00000°, δ25.00000°, λ150.00000°. NP2: ϕ_s256.00000°, δ78.00000°, λ68.00000°. Principal axes: T 1.4000, Plg52.0000°, Azm140.0000°; N -0.1800, Plg21.0000°, Azm261.0000°; P -1.2100, Plg29.0000°, Azm3.0000°;*
*BJI **09** 17:28:59.6, 15°.30S×168°.16E, h223km, mB5.6/36, mb5.4/65*
*IDC **09** 17:28:59.3±0.3, 15°.92S×168°.22E, h229km±2km, mb4.8/21, mb1 5.0/23, mbtmp4.9/23, Error ellipse: s-maj=9.1km s-min=7.2km az=165.0*
*DJA **09** 17:29:00, 16°.09S×168°.22E, h232km, mb5.4/27*
*GCMT **09** 17:29:01.9±0.1, 15°.98S×168°.04E, h237km, MW6.1, Moment Tensor Solution. s112,c267; s78,c116; Moment tensor: Scale 10^{18}Nm; M_{rr}0.56±.01; $M_{\theta\theta}$-0.80±.01; $M_{\phi\phi}$0.24±.01; $M_{r\theta}$-1.01±.01; $M_{\theta\phi}$0.60±.01; $M_{\theta r}$-0.46±.01; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s148.00000°, δ36.00000°, λ156.00000°. NP2: ϕ_s258.00000°, δ76.00000°, λ57.00000°. Principal axes: T 1.4900, Plg48.0000°, Azm133.0000°; N -0.0800, Plg32.0000°, Azm267.0000°; P -1.4100, Plg24.0000°, Azm13.0000°; Data Used: II IU IC G CN. Surface waves: sta=121, comp=288, per= 50.*

ISC 09 17:28:59.5±0.1, 15°.98S±0°.02×168°.18E±0°.02, h227km, h227km±.7km; pP-P, n1002, σ0°91/646, mb5.4/192, 157C-164D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**6.26**	**191**	*e*P	**Pn**	**17 30 29.2**	**-1.3**
BAYA				*e*S	**S**	**17 31 44.8**	**+1.7**
DZM	**Mont Dzumac**	**6.28**	**195**	*e*Pn	**Pn**	**17 30 31.0**	**+0.3**
	521nm,0.3s						
DZM	**Mont Dzumac**	**6.28**	**195**	*e*P	**Pn**	**17 30 29.0**	**-1.7**
DZM				*e*S	**S**	**17 31 43.1**	**-0.4**
DZM				AMP		17 31 47.5	
	comp=Z,39μm,0.9s						
DZM	**Mont Dzumac**	**6.28**	**195**	⇓*i*Pn	**Pn**	**17 30 30.6**	**-0.1**
	comp=Z,28μm,1.6s						
NOUC	**Port Laguerre**	**6.34**	**196**	*e*P	**Pn**	**17 30 29.3**	**-2.3**
NOUC				AMP		17 32 31.2	
	comp=Z,287nm,1.7s						
MVNO	**Noumea**	**6.47**	**194**	AMP		17 32 10.6	
	comp=Z,72nm,2.6s						
MSVF	**Nonsavu**	**9.61**	**102**	⇑*i*Pn	**Pn**	**17 31 15.8**	**+2.3**
	comp=Z,7μm,1.5s						
MSVF				*e*		17 31 33.3	
MSVF	**Nonsavu**	**9.61**	**102**	⇑*i*P	**Pn**	**17 31 15.8**	**+2.3**
MSVF				pmax	pmax		
	comp=Z,7μm,1.5s						
HNR	**Honiara**	**10.33**	**308**	P	**Pn**	**17 31 23.5**	**+0.8**
	comp=Z,16nm,0.3s,baz=272,slow=1.3,SNR=33						
HNR				S	**S**	**17 33 26.3**	**+7.6**
	comp=Z,21nm,0.3s,baz=236,slow=16,SNR=4.5						
HNR	**Honiara**	**10.33**	**308**	*e*Pn	**Pn**	**17 31 22.9**	**+0.2**
	comp=Z,3μm,1.0s						
HNR				*e*S	**S**	**17 33 23.2**	**+4.6**
HNR				S	**S**	**17 33 26.3**	**+7.6**
HNR	**Honiara**	**10.33**	**308**	*e*P	**Pn**	**17 31 23.0**	**+0.3**
HNR				*e*S	**S**	**17 33 23.3**	**+4.6**
HNR				pmax	pmax		
	comp=Z,3μm,1.0s						
FUNA	**Funafuti**	**13.06**	**57**	⇓*i*Pn	**Pn**	**17 31 56.9**	**-0.2**
	comp=Z,5μm,1.4s						
FUNA				*e*S	**S**	**17 34 17.0**	**-5.6**
RAO	**Raoul Island**	**18.39**	**138**	*e*P	**P**	**17 32 56.3**	**-1.5**
	comp=Z,9μm,1.2s						
RAO	**Raoul Island**	**18.39**	**138**	*e*P	**P**	**17 32 56.3**	**-1.6**
RAO				pmax	pmax		
	comp=Z,9μm,1.2s						
EIDS	**Eidsvold**	**18.51**	**237**	⇑*e*P	**P**	**17 33 00.7**	**+1.5**
	comp=Z,1μm,1.4s						
EIDS				*e*S	**S**	**17 36 19.2**	**+0.9**
AFI	**Afiamalu**	**19.48**	**87**	P	**P**	**17 33 09.7**	**0.0**
	comp=Z,27nm,0.3s,baz=291,slow=3.8,SNR=29						
AFI	**Afiamalu**	**19.48**	**87**	P	**P**	**17 33 09.7**	**0.0**
AFI	**Afiamalu**	**19.48**	**87**	P	**P**	**17 33 09.7**	**0.0**
OUZ	**Omahuta**	**19.77**	**167**	⇓*i*P	**P**	**17 33 13.7**	**+1.2**
	comp=Z,2μm,1.1s						
OUZ				*e*S	**S**	**17 36 44.8**	**+2.1**
OUZ	**Omahuta**	**19.77**	**167**	⇑*e*PN	**P**	**17 33 14.0**	**+1.5**
WCZ	**Waipu Caves**	**20.63**	**166**	⇑PN	**P**	**17 33 23.5**	**+1.8**
WCZ				pP		17 33 55.4	
ARMA	**Armidale**	**20.89**	**224**	⇑*i*P	**P**	**17 33 25.8**	**+1.3**
ARMA				*e*S	**S**	**17 37 06.4**	**+2.9**
ARMA				*e*SCP	ScP	17 40 39.2	+1.2
ARMA				*e*SCS	ScS	17 44 23.7	+1.9
ARMA	**Armidale**	**20.89**	**224**	⇑*e*P	**P**	**17 33 25.5**	**+1.0**
	comp=Z,853nm,1.6s						
ARMA				*e*pP		17 34 01.7	
ARMA				*e*S	**S**	**17 37 07.8**	**+4.2**
CTA	**Charters Tower**	**21.24**	**256**	P	**P**	**17 33 28.8**	**+0.5**
	comp=Z,79nm,0.7s,mb5.4,baz=81,slow=11,SNR=64						
CTA				ScP	ScP	17 40 38.3	-0.8
	comp=Z,13nm,0.9s,baz=91,slow=3.9,SNR=4.2						
CTA	**Charters Tower**	**21.24**	**256**	*e*P	**P**	**17 33 28.7**	**+0.4**
	comp=Z,69nm,0.8s,mb5.2						
CTA				*e*pP		17 34 06.6	
CTA				*e*S	**S**	**17 37 10.7**	**+1.2**
CTA				*e*SCP	ScP	17 40 37.7	-1.4
CTA				*e*SCS	ScS	17 44 22.2	-1.1
CTA	**Charters Tower**	**21.24**	**256**	P	**P**	**17 33 28.8**	**+0.5**
CTA				ScP	ScP	17 40 38.3	-0.8
CTA	**Charters Tower**	**21.24**	**256**	P	**P**	**17 33 28.8**	**+0.5**
CTAO	**Charters Tower**	**21.24**	**256**	*e*P	**P**	**17 33 28.6**	**+0.3**
	comp=Z,568nm,1.3s,mb5.9						
CTAO				*e*pP		17 34 06.0	
CTAO				*e*S	**S**	**17 37 08.9**	**-0.6**
CTAO	**Charters Tower**	**21.24**	**256**	*e*P	**P**	**17 33 28.6**	**+0.3**
CTAO				*e*S	**S**	**17 37 08.9**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,568nm,1.3s,mb5.9						
CTAO	**Charters Tower**	**21.24**	**256**	P	**P**	**17 33 29.1**	**+0.8**
	comp=Z,6μmcomp=Z,183nm,1.6s,mb5.4						
CTAO	**Charters Tower**	**21.24**	**256**	P	**P**	**17 33 29.1**	**+0.8**
	comp=Z,6μmcomp=Z,183nm,1.6s,mb5.4						
PMG	**Port Moresby**	**21.51**	**285**	P	**P**	**17 33 31.4**	**+0.3**
	comp=Z,490nm,1.0s,mb6.0,baz=94,slow=6.1,SNR=140						
PMG				ScP	ScP	17 40 40.1	+0.3
	comp=Z,29nm,1.0s,baz=190,slow=2.7,SNR=5.6						
PMG	**Port Moresby**	**21.51**	**285**	⇓*i*P	**P**	**17 33 31.1**	**0.0**
	comp=Z,817nm,1.1s,mb6.2						
PMG				*e*pP		17 34 10.7	
PMG				ScP	ScP	17 40 40.1	+0.3
PMG	**Port Moresby**	**21.51**	**285**	⇓*i*P	**P**	**17 33 31.1**	**0.0**
PMG				pmax	pmax		
	comp=Z,817nm,1.1s						
PMG	**Port Moresby**	**21.51**	**285**	P	**P**	**17 33 31.5**	**+0.4**
PMG	**Port Moresby**	**21.51**	**285**	P	**P**	**17 33 31.5**	**+0.4**
	comp=Z,712nm,1.4s,mb6.0						
PMG	**Port Moresby**	**21.51**	**285**	P	**P**	**17 33 31.5**	**+0.4**
	comp=Z,712nm,1.4s,mb6.0						
KUZ	**Kuaotunu**	**21.74**	**163**	PN	**P**	**17 33 33.6**	**+0.6**
MKAZ	**Moumakai**	**21.94**	**165**	PN	**P**	**17 33 35.6**	**+0.8**
TOZ	**Tahuroa Road**	**22.61**	**165**	PN	**P**	**17 33 41.8**	**+0.8**
TOZ				pP		17 34 23.2	
HIZ	**Hauiti**	**23.21**	**167**	PN	**P**	**17 33 47.5**	**+1.2**
MXZ	**Matakaoa Point**	**23.29**	**159**	PN	**P**	**17 33 46.9**	**-0.2**
MXZ				*e*SN	**S**	**17 37 39.8**	**-2.6**
RIV	**Riverview**	**23.48**	**218**	*e*P	**P**	**17 33 49.6**	**+0.7**
RIV				*e*pP		17 34 29.3	
URZ	**Urewera**	**23.55**	**162**	P	**P**	**17 33 49.5**	**0.0**
	comp=Z,915nm,1.0s,mb6.4,baz=2.0,slow=4.3,SNR=99						
URZ				S	**S**	**17 37 48.4**	**+2.0**
	comp=Z,103nm,0.9s,baz=172,slow=20,SNR=8.2						
URZ	**Urewera**	**23.55**	**162**	⇑*i*P	**P**	**17 33 49.0**	**-0.5**
	comp=Z,3μm,1.3s,mb6.7						
URZ				*e*pP		17 34 31.6	
URZ				*e*S	**S**	**17 37 46.3**	**-0.1**
URZ				S	**S**	**17 37 48.4**	**+2.0**
URZ	**Urewera**	**23.55**	**162**	PN	**P**	**17 33 49.4**	**0.0**
URZ				*e*SN	**S**	**17 37 45.1**	**-1.4**
PUZ	**Puketiti**	**23.74**	**160**	PN	**P**	**17 33 50.5**	**-0.7**
PUZ				*e*SN	**S**	**17 37 46.4**	**-3.0**
MWZ	**Matawai**	**23.74**	**162**	PN	**P**	**17 33 50.9**	**-0.4**
MWZ				*e*SN	**S**	**17 37 47.2**	**-2.4**
VRZ	**Vera Road**	**23.77**	**167**	PN	**P**	**17 33 52.4**	**+1.0**
COEN	**Coen**	**24.23**	**271**	⇓*e*P	**P**	**17 33 56.0**	**+0.1**
	comp=Z,2μm,1.3s,mb6.5						
COEN				*e*pP		17 34 37.3	
COEN				*e*ScP	ScP	17 40 44.9	-2.1
COEN	**Coen**	**24.23**	**271**	P	**P**	**17 33 56.4**	**+0.4**
	comp=Z,1.0nmcomp=Z,6μmcomp=Z,112nm,1.6s,mb5.2						
COEN	**Coen**	**24.23**	**271**	P	**P**	**17 33 56.4**	**+0.4**
	comp=Z,6μmcomp=Z,112nm,1.6s,mb5.2						
KNZ	**Kokohu**	**24.42**	**162**	*e*SN	**S**	**17 37 56.9**	**-3.3**
TSZ	**Takapari Road**	**24.93**	**166**	PN	**P**	**17 34 01.6**	**-0.4**
TSZ				*e*SN	**S**	**17 38 08.3**	**0.0**
QRZ	**Quartz Range**	**25.05**	**172**	PN	**P**	**17 34 03.5**	**+0.5**
PXZ	**Pawanui**	**25.13**	**164**	PN	**P**	**17 34 02.9**	**-0.9**
PXZ				*e*SN	**S**	**17 38 07.3**	**-4.2**
MRZ	**Mangatainoka R**	**25.42**	**167**	PN	**P**	**17 34 05.1**	**-1.2**
MRZ				pP	pP	17 34 52.3	+1.7
MRZ				*e*SN	**S**	**17 38 14.1**	**-1.9**
CNB	**Canberra Magne**	**25.57**	**218**	⇑*i*P	**P**	**17 34 08.6**	**+0.8**
	comp=Z,1μm,1.6s,mb6.3						
CNB				*e*pP	pP	17 34 50.4	-2.0
CNB				*e*S	**S**	**17 38 18.4**	**-0.2**
BFZ	**Birch Farm**	**25.59**	**166**	PN	**P**	**17 34 06.4**	**-1.5**
BFZ				*e*SN	**S**	**17 38 14.2**	**-4.5**
CAN	**Canberra**	**25.79**	**218**	*e*P	**P**	**17 34 10.2**	**+0.3**
	comp=Z,539nm,1.5s,mb6.0						
CAN				*e*pP	pP	17 34 49.8	-4.8
CAN	**Canberra**	**25.79**	**218**	*e*P	**P**	**17 34 10.2**	**+0.4**
CAN				*e**PP	pP	17 34 49.8	-4.8
CAN				pmax	pmax		
	comp=Z,539nm,1.5s,mb6.0						
SNZO	**South Karori**	**25.87**	**169**	⇑*i*P	**P**	**17 34 08.7**	**-1.6**
	comp=Z,1μm,1.5s,mb6.3						
SNZO				*e*pP	pP	17 34 55.3	+0.1
SNZO				*e*S	**S**	**17 38 17.4**	**-5.6**
DSZ	**Denniston Nort**	**25.87**	**174**	PN	**P**	**17 34 10.9**	**+0.5**
DSZ				pP	pP	17 34 59.4	+4.3
THZ	**Tophouse**	**26.02**	**172**	PN	**P**	**17 34 11.3**	**-0.4**
THZ				pP	pP	17 35 00.3	+3.8
THZ				*e*SN	**S**	**17 38 27.3**	**+2.0**
KHZ	**Kahutara**	**26.75**	**171**	⇓*i*P	**P**	**17 34 16.2**	**-2.0**
	comp=Z,1μm,1.8s,mb6.2						
KHZ				*e*pP	pP	17 35 00.2	-3.0
LTZ	**Lake Taylor**	**26.94**	**173**	PN	**P**	**17 34 19.5**	**-0.5**
LTZ				pP	pP	17 35 06.6	+1.6
FOZ	**Fox Glacier**	**27.52**	**178**	PN	**P**	**17 34 25.1**	**0.0**
RPZ	**Rata Peaks**	**27.75**	**176**	P	**P**	**17 34 26.3**	**-0.9**
	comp=Z,106nm,0.7s,mb5.6,baz=12,slow=1.8,SNR=38						
RPZ				pP	pP	17 35 14.3	+2.0
	comp=Z,138nm,1.0s,baz=360,slow=17,SNR=3.3						
RPZ	**Rata Peaks**	**27.75**	**176**	P	**P**	**17 34 26.3**	**-0.9**
RPZ				pP	pP	17 35 14.3	+2.0
JCZ	**Jackson Bay**	**28.01**	**179**	PN	**P**	**17 34 30.3**	**+0.9**
STKA	**Stephens Creek**	**28.89**	**232**	P	**P**	**17 34 38.0**	**+0.6**
	comp=Z,160nm,1.0s,mb5.6,baz=55,slow=8.1,SNR=84						
STKA				pP	pP	17 35 24.0	+1.3
	comp=Z,144nm,1.0s,baz=65,slow=8.5,SNR=6.9						
STKA				PcP	PcP	17 37 40.5	-0.2
	comp=Z,20nm,0.7s,baz=254,slow=3.4,SNR=3.2						
STKA				ScP	ScP	17 41 01.6	+1.1
	comp=Z,21nm,0.8s,baz=51,slow=3.4,SNR=7.6						
STKA	**Stephens Creek**	**28.89**	**232**	*e*P	**P**	**17 34 37.9**	**+0.5**
	comp=Z,101nm,0.9s,mb5.5						
STKA				*e*pP	pP	17 35 22.5	-0.2
STKA				*e*PCP	PcP	17 37 40.0	-0.7
STKA				*e*S	**S**	**17 39 08.2**	**-2.5**
STKA				*e*SCP	ScP	17 41 00.2	-0.4
STKA				*e*SCS	ScS	17 44 51.9	-2.9
STKA	**Stephens Creek**	**28.89**	**232**	⇑*i*P	**P**	**17 34 37.8**	**+0.4**
	comp=Z,272nm,1.7s,mb5.6						
STKA				*e*pP	pP	17 35 18.8	-4.0
STKA				pP	pP	17 35 24.0	+1.3
STKA				PcP	PcP	17 37 40.5	-0.2
STKA				*e*SCP	ScP	17 40 59.1	-1.5
STKA				ScP	ScP	17 41 01.6	+1.1
STKA	**Stephens Creek**	**28.89**	**232**	⇑*i*P	**P**	**17 34 37.8**	**+0.4**
STKA				*PP	pP	17 35 24.0	+1.3
STKA						17 37 40.5	
STKA				pmax	pmax		
	comp=Z,272nm,1.7s						
ODZ	**Otahua Downs**	**29.05**	**176**	⇑*i*P	**P**	**17 34 37.7**	**-0.9**
	comp=Z,2μm,1.4s,mb6.6						
ODZ	**Otahua Downs**	**29.05**	**176**	PN	**P**	**17 34 37.7**	**-0.9**
TOO	**Toolangi**	**29.40**	**219**	⇑*i*P	**P**	**17 34 42.3**	**+0.5**
	comp=Z,551nm,1.0s,mb6.1						
TOO				*e*pP	pP	17 35 30.4	+3.2
TOO				*e*S	**S**	**17 39 18.7**	**+0.1**
TUZ	**Tuapeka**	**29.91**	**178**	PN	**P**	**17 34 46.3**	**+0.2**
JAY	**Jayapura**	**30.18**	**294**	P	**P**	**17 34 49.4**	**+0.5**
	comp=Z,125nm,1.3s,mb5.4						
SYZ	**Scrubby Hill**	**30.48**	**179**	PN	**P**	**17 34 51.1**	**0.0**
RAR	**Rarotonga**	**30.79**	**105**	P	**P**	**17 34 53.1**	**-1.1**
	comp=Z,81nm,0.9s,mb5.3,baz=265,slow=8.4,SNR=10						
RAR	**Rarotonga**	**30.79**	**105**	P	**P**	**17 34 53.1**	**-1.1**
RAR	**Rarotonga**	**30.79**	**105**	P	**P**	**17 34 53.2**	**-1.0**
MOO	**Moorlands**	**31.93**	**210**	⇑*i*P	**P**	**17 35 04.5**	**+0.6**
	comp=Z,1μm,1.5s,mb6.3						
MOO				*e*pP	pP	17 35 48.0	-1.7
MOO				*e*PCP	PcP	17 37 49.3	+0.8
MOO				*e*S	**S**	**17 39 58.0**	**0.0**
SMPI	**Sarmi**	**32.18**	**293**	P	pP	17 35 55.4	+3.1
	comp=Z,565nm,1.4s						
SMPI	**Sarmi**	**32.18**	**293**	P	**P**	**17 35 07.5**	**+1.0**
	comp=Z,674nm,1.4s,mb6.0						
TAU	**Tasmania Unive**	**32.23**	**209**	⇑*e*P	**P**	**17 35 06.5**	**0.0**
	comp=Z,343nm,1.5s,mb5.7						
TAU	**Tasmania Unive**	**32.23**	**209**	⇑*e*P	**P**	**17 35 06.5**	**0.0**
TAU				pmax	pmax		
	comp=Z,343nm,1.5s,mb5.7						
WB2	**Warramunga Arr**	**32.39**	**258**	⇑P	**P**	**17 35 06.7**	**-1.5**
WB2				*e*pP	pP	17 35 50.7	-3.4
WB2				*e*S	**S**	**17 40 00.2**	**-5.4**
WB2				*e*ScP	ScP	17 41 13.2	+0.8
WRAB	**Tennant Creek**	**32.39**	**258**	⇑*i*P	**P**	**17 35 06.9**	**-1.4**
	comp=Z,235nm,1.4s,mb5.5						
WRAB				*e*pP	pP	17 35 50.8	-3.3
WRAB	**Tennant Creek**	**32.39**	**258**	⇑*i*P	**P**	**17 35 06.9**	**-1.3**
WRAB				*e**PP	pP	17 35 50.8	-3.2
WRAB				pmax	pmax		
	comp=Z,235nm,1.4s,mb5.5						
WRAB	**Tennant Creek**	**32.39**	**258**	P	pP	17 35 53.1	-0.9
	comp=Z,248nm,0.9s,comp=Z,3μm						
WRAB	**Tennant Creek**	**32.39**	**258**	P	**P**	**17 35 07.0**	**-1.2**
	comp=Z,3μmcomp=Z,136nm,1.4s,mb5.3						
WRA	**Warramunga Arr**	**32.40**	**258**	P	**P**	**17 35 07.1**	**-1.2**
	comp=Z,46nm,1.0s,mb5.0,baz=90,slow=9.3,SNR=124						
WRA				pP	pP	17 35 55.7	+1.6
	comp=Z,103nm,1.1s,baz=87,slow=9.3,SNR=7.8						
WRA				S	**S**	**17 40 01.2**	**-4.6**
	comp=Z,28nm,1.3s,baz=86,slow=14,SNR=7.1						
WRA				ScP	ScP	17 41 12.9	+0.5
	comp=Z,17nm,0.9s,baz=83,slow=3.6,SNR=9.5						
WRA				P3KPbc		18 06 30.1	
	comp=Z,6.3nm,1.3s,baz=283,slow=3.3,SNR=8.4						
WRA				P3KP		18 07 31.3	
	comp=Z,2.0nm,1.0s,baz=272,slow=2.9,SNR=6.0						
WRA				P4KP		18 16 03.7	
	comp=Z,1.1nm,0.9s,baz=102,slow=4.1,SNR=6.3						
WRA	**Warramunga Arr**	**32.40**	**258**	P	**P**	**17 35 07.1**	**-1.2**
WRA				pP	pP	17 35 55.7	+1.6
WRA				S	**S**	**17 40 01.2**	**-4.6**
WRA				ScP	ScP	17 41 12.9	+0.5
WRA				*e*		18 06 30.1	
WRA				PKKKP		18 07 31.3	
WRA				P4KP		18 16 03.7	
WRA	**Warramunga Arr**	**32.40**	**258**	P	**P**	**17 35 07.1**	**-1.2**
WRA				*PP	pP	17 35 55.7	+1.6
WRA				S	**S**	**17 40 01.2**	**-4.6**
AS31	**Alice Springs**	**33.07**	**251**	⇑*i*P	**P**	**17 35 13.4**	**-0.7**
AS31				*e*pP	pP	17 35 57.9	-2.2
ASAR	**Alice Springs**	**33.07**	**251**	P	**P**	**17 35 13.7**	**-0.5**
	comp=Z,148nm,0.6s,mb5.7,baz=77,slow=9.1,SNR=1700						
ASAR				pP	pP	17 36 01.0	+0.9
	comp=Z,118nm,1.1s,baz=79,slow=8.9,SNR=1.6						
ASAR				PcP	PcP	17 37 51.5	-0.6
	comp=Z,10.0nm,0.7s,baz=98,slow=2.5,SNR=5.6						
ASAR				S	**S**	**17 40 15.8**	**-0.3**
	comp=Z,7.9nm,0.9s,baz=77,slow=17,SNR=4.9						
ASAR				ScP	ScP	17 41 12.9	-1.8
	comp=Z,11nm,0.9s,baz=92,slow=4.0,SNR=8.1						
ASAR				P3KPbc		18 06 26.0	
	comp=Z,1.4nm,0.9s,baz=308,slow=4.2,SNR=6.2						
ASAR				P3KP		18 07 26.6	
	comp=Z,1.8nm,1.0s,baz=264,slow=3.8,SNR=5.3						
ASAR	**Alice Springs**	**33.07**	**251**	P	**P**	**17 35 13.7**	**-0.5**
ASAR				pP	pP	17 36 01.0	+0.9
ASAR				PcP	PcP	17 37 51.5	-0.6
ASAR				S	**S**	**17 40 15.8**	**-0.3**
ASAR				ScP	ScP	17 41 12.9	-1.8
ASAR				*e*		18 06 26.0	
ASAR				PKKKP		18 07 26.6	
ASAR	**Alice Springs**	**33.07**	**251**	P	**P**	**17 35 13.7**	**-0.4**
ASAR				*PP	pP	17 36 01.0	+0.9
ASAR						17 37 51.5	
ASAR				S	**S**	**17 40 15.9**	**-0.3**
BBOO	**Buckleboo**	**33.53**	**234**	⇑*i*P	**P**	**17 35 18.1**	**+0.1**
	comp=Z,6μm,1.1s						
BBOO				*e*pP	pP	17 35 59.1	-4.9
BAKI	**Biak**	**34.86**	**292**	P	**P**	**17 35 31.3**	**+1.7**
	comp=Z,764nm,1.4s,mb6.0						
XMAS	**Kiritimati**	**38.40**	**65**	*e*P	**P**	**17 35 59.8**	**+0.3**
MCQ	**Macquarie Isla**	**39.10**	**189**	*e*P	**P**	**17 36 04.9**	**+0.2**
	comp=Z,24μm,1.3s						
MCQ	**Macquarie Isla**	**39.10**	**189**	⇑*i*P	**P**	**17 36 04.8**	**+0.1**
MCQ	**Macquarie Isla**	**39.10**	**189**	⇑*i*P	**P**	**17 36 04.8**	**+0.1**
FORT	**Forrest**	**39.44**	**241**	⇑*i*P	**P**	**17 36 07.9**	**+0.1**
	comp=Z,239nm,0.7s,mb5.8						
FORT				*e*pP	pP	17 36 57.4	+2.4
FORT				*e*S	**S**	**17 41 50.9**	**-1.6**
FORT				*e*SCS	ScS	17 45 48.2	-2.8
FORT	**Forrest**	**39.44**	**241**	⇑*i*P	**P**	**17 36 07.7**	**-0.1**
	comp=Z,274nm,0.8s,mb5.8						
FORT				*e*pP	pP	17 36 54.8	-0.2
PAE	**Paea**	**40.41**	**99**	⇑*i*P	**P**	**17 36 13.8**	**-2.2**
	comp=Z,80nm,1.2s,mb5.0						
PPT2	**Papeete2**	**40.42**	**98**	⇑*i*P	**P**	**17 36 15.3**	**-0.8**
	comp=Z,343nm,1.2s,mb5.6						
PPT	**Papeete**	**40.42**	**98**	*e*S	**S**	**17 42 01.8**	**-5.6**
	comp=Z,3μm,23.6s						
TBI	**Tubuai**	**40.45**	**107**	⇑*i*P	**P**	**17 36 14.8**	**-1.4**
	comp=Z,272nm,1.2s,mb5.6						
TBI				*e*pP	pP	17 37 04.4	+0.8
	comp=Z,353nm,1.3s						
TIAR	**Tiarei**	**40.64**	**98**	⇑*i*P	**P**	**17 36 16.

comp=Z,444nm,1.3s
NWAO Narrogin (SRO) 48.88 240 P **P** **17 37 22.2 -0.3**
SNR=15
MSSI Masamba 48.94 281 P Px 17 38 24.3
comp=Z,137nm,1.4s
SPSI Sidrap Palu 49.02 279 P pP 17 38 13.2 0.0
comp=Z,89nm,1.5s,comp=Z,1μm
CTBH Cotabato--PC H 49.22 295⇓*i*P **P** **17 37 24.7 -0.8**
KIP Kipapa 49.81 43 *e*P **P** **17 37 29.6 -0.1**
comp=Z,34nm,0.8s,mb4.7
KIP *e*pP pP 17 38 19.1 0.0
KIP Kipapa 49.81 43 *e*P **P** **17 37 29.6 -0.1**
KIP *e**PP pP 17 38 19.1 0.0
KIP pmax pmax
comp=Z,33nm,0.8s,mb4.7
KHU Kahuku 49.94 47 *e*P **P** **17 37 31.0 +0.3**
KHU *e*pP pP 17 38 20.4 +0.3
KHU Kahuku 49.94 47 *e*P **P** **17 37 31.0 +0.3**
KHU *e**PP pP 17 38 20.4 +0.3
MSLP Maasin 50.12 298 *e*P **P** **17 37 32.0 -0.1**
PAGZ Pagadian 50.27 295 *e*P **P** **17 37 33.7 +0.4**
PUH Pauahi 50.30 47 *e*P **P** **17 37 32.5 -0.9**
PUH *e*pP pP 17 38 23.4 +0.5
STCH Steam Cracks 50.37 47 *e*P **P** **17 37 32.5 -1.5**
STCH *e*pP pP 17 38 22.7 -0.7
TAOE Nuku Hiva Isla 50.85 88⇑*i*P **P** **17 37 38.0 +0.3**
comp=Z,2μm,1.2s,mb6.5
TAOE ⇑*i*S **S** **17 44 30.9 -5.6**
comp=Z,5μm,26.3s
MTNI Mataram 51.23 272 P **P** **17 37 42.9 +2.4**
comp=Z,2μmcomp=Z,80nm,1.1s,mb5.1
KHKI Kahang-Kahang 51.83 272 P **P** **17 37 45.0 0.0**
comp=Z,1μmcomp=Z,54nm,1.1s,mb4.9
KHKI Kahang-Kahang 51.83 272 P pP 17 38 37.4 +2.7
IGBI Denpasar 52.17 271 P pP 17 38 40.4 +3.1
comp=Z,212nm,1.0s
SRBI Singaraja 52.28 272 P **P** **17 37 50.9 +2.7**
comp=Z,2μmcomp=Z,64nm,1.8s,mb4.8
SRBI Singaraja 52.28 272 P pP 17 38 43.4 +5.3
comp=Z,116nm,1.8s
PVCP Virac 52.51 302 *e*P **P** **17 37 49.5 -0.3**
KBKI Kotabaru 52.65 278 P pP 17 38 42.7 +1.8
MYLDM Lahad Datu 53.46 289 P **P** **17 37 58.3 +1.4**
comp=Z,4μmcomp=Z,181nm,1.5s,mb5.3
OTRP Odiongan 53.64 299 *e*P **P** **17 37 57.2 -0.9**
TSM Tawau 53.68 288 P **P** **17 37 58.8 +0.3**
CUYO Cuyo Island 53.75 297 *e*P **P** **17 37 58.8 -0.1**
RKT Rikitea 53.77 107⇑*i*P **P** **17 37 57.2 -1.8**
comp=Z,145nm,1.2s,mb5.4
RKT *e*pP pP 17 38 49.7 +0.6
comp=Z,124nm,1.1s
BLJI Banyuglugur 53.91 272 P pP 17 38 55.7 +5.4
comp=Z,146nm,1.4s,comp=Z,2μm
GMJI Gumukmas 53.93 271 P pP 17 38 54.8 +4.4
comp=Z,92nm,1.2s
DRV Dumont d'Urvil 53.94 193 P **P** **17 37 55.0 -4.4**
DRV S **S** **17 45 21.0 +4.3**
DRV SS SS 17 49 01.0 -0.1
DRV L 17 51 00.0
SDKM Sandakan 54.84 289 P **P** **17 38 07.2 +0.4**
ENPP El Nido 55.29 296 *e*P **P** **17 38 10.2 +0.2**
PWJI Pagerwojo 55.57 271 P **P** **17 38 14.5 +2.5**
comp=Z,61nm,1.3s,mb5.0
PWJI Pagerwojo 55.57 271 P pP 17 39 05.6 +3.1
comp=Z,100nm,0.9s
SJI Sawahan 55.67 271 P **P** **17 38 13.6 +0.8**
comp=Z,69nm,0.8s,comp=Z,4μm,mb5.3
SJI Sawahan 55.67 271 P pP 17 39 08.2 +5.0
comp=Z,202nm,1.5s,comp=Z,4μm
KDM Kudat 55.68 290 P **P** **17 38 13.4 +0.6**
KKM Kota Kinabalu 55.89 289 P **P** **17 38 14.7 +0.4**
KKM Kota Kinabalu 55.89 289 *e*P **P** **17 38 13.2 -1.1**
comp=Z,390nm,1.4s,mb5.7
KKM *e*pP pP 17 39 04.8 -0.1
KKM Kota Kinabalu 55.89 289 P **P** **17 38 14.9 +0.6**
comp=Z,3μmcomp=Z,233nm,1.1s,mb5.6
PCJI Pacitan 56.13 271 P **P** **17 38 16.6 +0.6**
comp=Z,316nm,1.3s,comp=Z,5μm,mb5.7
PCJI Pacitan 56.13 271 P pP 17 39 08.0 +1.4
comp=Z,358nm,1.8s,comp=Z,5μm
UGM Wanagama 56.83 271 P pP 17 39 15.0 +3.4
comp=Z,255nm,1.2s
YOGI Yogyakarta 57.07 271 P pP 17 39 19.0 +5.7
comp=Z,586nm,1.0s
SMRI Semarang 57.12 272 P pP 17 39 18.6 +4.9
comp=Z,270nm,1.1s
JOW Kunigami 57.55 317 *e*P **P** **17 38 25.8 +0.1**
comp=Z,97nm,1.1s,mb5.3
JOW *e*pP pP 17 39 15.9 -0.6
BTM Bintulu 57.70 284 P **P** **17 38 28.3 +1.3**
BJII Banjamegara 57.75 271 P **P** **17 38 36.2 +8.8**
comp=Z,72nm,1.4s,comp=Z,3μm,mb5.1
BJII Banjamegara 57.75 271 P Px 17 39 28.4
STKI Sintang 58.15 280 P pP 17 39 22.9 +1.9
SBUM Sibu 58.24 283 P **P** **17 38 30.9 +0.1**
MJAR Matsushiro Arr 59.41 332 P **P** **17 38 37.0 -1.4**
comp=Z,18nm,1.0s,mb4.6,baz=164,slow=7.3,SNR=26
MJAR pP pP 17 39 27.8 -1.7
comp=Z,60nm,1.0s,baz=166,slow=6.8,SNR=15
MJAR Matsushiro Arr 59.41 332 P **P** **17 38 37.0 -1.4**
MJAR pP pP 17 39 27.8 -1.7
MJAR Matsushiro Arr 59.41 332 P **P** **17 38 37.0 -1.3**
MJAR *PP pP 17 39 27.8 -1.7
MAJO Matsushiro 59.41 332⇓*i*P **P** **17 38 36.8 -1.5**
comp=Z,245nm,1.8s,mb5.5
MAJO *e*pP pP 17 39 25.3 -4.2
MAJO Matsushiro 59.41 332⇓*i*P **P** **17 38 36.8 -1.5**
MAJO *e**PP pP 17 39 25.3 -4.2
MAJO pmax pmax
comp=Z,245nm,1.8s,mb5.5
MAT Matsushiro 59.41 332 P **P** **17 38 36.8 -1.5**
MAT S **S** **17 46 27.0 -2.2**
CISI Cisompet, Garu 59.52 271 P **P** **17 38 39.5 -0.1**
CISI Cisompet, Garu 59.52 271 P pP 17 39 30.4 -0.3
comp=Z,215nm,1.4s,comp=Z,2μm
KSM Kuching 59.71 281 P **P** **17 38 41.8 +1.0**
KSM Kuching 59.71 281 *e*P **P** **17 38 40.9 0.0**
comp=Z,87nm,1.1s,mb5.3
KSM *e*pP pP 17 39 30.1 -2.0
KSM Kuching 59.71 281 P **P** **17 38 41.9 +1.0**
comp=Z,84nm,1.3s,mb5.2
LEM Lembang 59.88 271 P pP 17 39 37.7 +4.4
YULB Yu-li 60.26 309 *e*P **P** **17 38 39.5 -4.9**
comp=Z,95nm,1.1s,mb5.3
YULB *e*pP pP 17 39 36.9 +1.2
JNU Nakatsue 60.44 324⇓*i*P **P** **17 38 44.7 -0.7**
comp=Z,145nm,1.5s,mb5.4
JNU *e*pP pP 17 39 34.1 -2.6
NACB Ninganchiao 60.50 310 *e*P **P** **17 38 43.6 -2.4**
comp=Z,246nm,1.4s,mb5.7
NACB *e*pP pP 17 39 30.6 -6.8
TPUB Ta-pu 60.70 309 *e*P **P** **17 38 46.0 -1.4**
comp=Z,145nm,1.0s,mb5.6
TPUB *e*pP pP 17 39 35.9 -2.9
SSLB Suanglung 60.75 310⇑*i*P **P** **17 38 44.1 -3.6**
comp=Z,181nm,1.6s,mb5.5
SSLB *e*pP pP 17 39 36.5 -2.5
XMIS Christmas Isla 60.93 267 P pP 17 39 42.2 +1.7
YHNB Yeheng 60.96 311 *e*P **P** **17 38 48.3 -0.8**
comp=Z,226nm,1.4s,mb5.6
YHNB *e*pP pP 17 39 37.6 -2.8
TATO Taipei 61.06 311 *e*P **P** **17 38 48.5 -1.2**
comp=Z,198nm,1.1s,mb5.7
TATO *e*pP pP 17 39 40.2 -1.0
VNDA Vanda 61.64 182⇑*i*P **P** **17 38 52.5 -0.3**
comp=Z,783nm,1.6s,mb6.1
VNDA Vanda 61.64 182⇑*i*P **P** **17 38 52.5 -0.3**
VNDA pmax pmax
comp=Z,783nm,1.6s
SBA Scott Base 61.90 180⇑*i*P **P** **17 38 55.2 +0.7**
comp=Z,2μm,1.5s,mb6.5
SBA Scott Base 61.90 180⇑*i*P **P** **17 38 55.3 +0.8**
SBA pmax pmax
comp=Z,2μm,1.5s,mb6.5
ERM Erimo 62.15 339 *e*P **P** **17 38 50.1 -6.6**
comp=Z,179nm,1.4s,mb5.5
ERM *e*pP pP 17 39 46.1 -2.2
ERM Erimo 62.15 339 *e*P **P** **17 38 50.1 -6.6**
ERM *e**PP pP 17 39 46.1 -2.2
ERM pmax pmax
comp=Z,179nm,1.4s,mb5.5
CASY Casey 62.71 203⇑*i*P **P** **17 39 00.0 -0.1**
CASY *e*sP sP 17 40 12.6 -3.9
CASY *e*S **S** **17 47 10.4 +0.4**
CASY Casey 62.71 203⇑*i*P **P** **17 38 59.8 -0.3**
comp=Z,207nm,1.0s,mb5.7
YUK Yuzh-Kuril'sk 63.11 342 *i* PP 17 41 33.1 +8.1
YUK *i* S **S** **17 47 12.0 -3.4**
YUK *i* *SS sS 17 48 23.7 -22
YUK *e*SS SS 17 51 20.0 -6.2
YUK pmax pmax
comp=N,66nm,0.8s
YUK pmax pmax
comp=E,219nm,1.6s
YUK pmax pmax
comp=Z,372nm,1.6s,mb5.8
YUK pmax pmax
comp=Z,723nm,2.1s,mb5.9
YUK smax
comp=E,986nm,3.0s
YUK smax
comp=N,313nm,1.5s
YUK MLR MLR
comp=N,352nm,18.0s
YUK MLR MLR
comp=Z,670nm,18.0s
QZH Quanzhou 63.17 309⇓*i*P **P** **17 39 01.2 -2.5**
QZH pP pP 17 39 55.1 -0.4
QZH sP sP 17 40 23.4 +3.3
QZH S **S** **17 47 15.0 -1.9**
QZH pmax pmax
comp=Z,450nm,1.8s,mb5.8
QZH pmax pmax
comp=Z,2μm,3.4s
QZH LR LR
comp=N,1μm,13.4s
QZH LR LR
comp=E,2μm,21.6s
QZH LR LR
comp=Z,2μm,24.8s
ASAJ Asahikawa 64.21 340⇓*i*P **P** **17 39 09.9 -0.2**
comp=Z,170nm,1.8s,mb5.4
ASAJ *e*pP pP 17 39 59.8 -2.3
SSE Sheshan 65.03 316 ⇓P **P** **17 39 14.7 -1.0**
SSE PcP PcP 17 39 45.0 -1.6
SSE pP pP 17 40 06.1 -1.7
SSE sP sP 17 40 33.3 +1.0
SSE S S 17 47 39.3 -0.2
SSE ScS ScS 17 48 47.3 -1.1
SSE pmax pmax
comp=Z,46nm,1.7s,mb4.8
SSE pmax pmax
comp=Z,430nm,7.8s
SSE LR LR
comp=N,1μm,25.1s
SSE LR LR
comp=E,700nm,25.1s
SSE LR LR
comp=Z,760nm,30.0s
SSE Sheshan 65.03 316 ⇓P **P** **17 39 14.7 -1.0**
comp=Z,46nm,1.7s,mb4.8
SSE PcP PcP 17 39 45.0 -1.6
SSE pP pP 17 40 06.1 -1.7
SSE sP sP 17 40 33.3 +1.0
SSE S S 17 47 39.3 -0.2
SSE ScS ScS 17 48 47.3 -1.1
SSE sS sS 17 49 12.4 +1.7
SSE LR LR
comp=Z,760nm,30.0s
KSRS Korea Array 65.26 326 P **P** **17 39 16.6 -0.4**
comp=Z,13nm,1.0s,mb4.5,baz=151,slow=6.4,SNR=32
KSRS pP pP 17 40 07.4 -1.7
comp=Z,37nm,1.0s,baz=144,slow=6.4,SNR=8.4
KSAR Wonju Array Be 65.27 325 P **P** **17 39 16.6 -0.5**
KSAR pP pP 17 40 07.4 -1.8
KSAR Wonju Array Be 65.27 325 P **P** **17 39 16.7 -0.4**
KSAR *PP pP 17 40 07.4 -1.8
INCN Inchon 65.99 325⇓*i*P **P** **17 39 21.4 -0.3**
comp=Z,428nm,1.7s,mb5.8
INCN *e*pP pP 17 40 12.4 -1.5
INCN Inchon 65.99 325 P **P** **17 39 21.8 +0.1**
SNR=7.6
GZH Guangzhou 66.20 305 P **P** **17 39 23.6 +0.2**
GZH S S 17 47 55.7 +1.6
GZH pmax pmax
comp=Z,1μm,3.2s
KGM Kluang 66.50 279 P **P** **17 39 26.3 +0.9**
YSS Yuzh-Sakhalins 66.68 341⇓*i*P **P** **17 39 26.0 +0.1**
comp=Z,226nm,1.5s,mb5.6
YSS *e*pP pP 17 40 17.1 -1.2
YSS Yuzh-Sakhalins 66.68 341α*e*P **P** **17 39 24.8 -1.1**
YSS *e**PP pP 17 40 16.0 -2.2
YSS *e*S S 17 47 57.0 -1.9
YSS *e* 17 49 02.0
YSS pmax pmax
comp=Z,410nm,1.8s,mb5.8
YSS pmax pmax
comp=Z,2μm,4.0s
YSS smax
comp=E,2μm,8.0s
YSS MLR MLR
comp=Z,600nm,19.0s
QIZ Qiongzhong 67.11 299 P **P** **17 39 29.7 +0.6**
QIZ pP pP 17 40 22.1 +0.6
QIZ sP sP 17 40 49.4 +3.4
QIZ S S 17 48 07.2 +2.2
QIZ pmax pmax
comp=Z,71nm,1.8s,mb5.0
QIZ LR LR
comp=N,550nm,23.9s
QIZ LR LR
comp=E,250nm,20.1s
QIZ LR LR
comp=Z,790nm,27.3s
NJ2 Nanjing 67.18 316 *e*P **P** **17 39 29.3 0.0**
NJ2 pP pP 17 40 21.0 -0.8
NJ2 sP sP 17 40 40.8 -5.4
NJ2 S S 17 48 02.0 -3.4
NJ2 ScS ScS 17 48 59.5 -5.6
NJ2 pmax pmax
comp=Z,410nm,1.0s,mb6.0
NJ2 pmax pmax
comp=Z,540nm,10.4s
NJ2 LR LR
comp=N,3μm,39.8s
NJ2 LR LR
comp=E,1μm,20.9s
NJ2 LR LR
comp=Z,990nm,27.1s
VLA Vladivostok 67.58 332⇓*i*P **P** **17 39 31.8 +0.2**
VLA *e* 17 39 57.5
VLA *e*S S 17 48 08.8 -0.9
VLA pmax pmax
comp=Z,132nm,1.7s,mb5.3
ADK Adak 68.85 10 *e*pP pP 17 40 31.5 -0.4
comp=Z,486nm,1.4s
PET Petropavlovsk 69.21 354 *e*P **P** **17 39 40.3 -1.1**
comp=Z,102nm,1.2s,mb5.3
PET *e*pP pP 17 40 32.6 -1.6
PET Petropavlovsk 69.21 354⇓*i*P **P** **17 39 40.0 -1.4**
PET *i* *PP pP 17 40 32.8 -1.4
PET *e**SP sP 17 40 56.8 -1.7
PET *i* S S 17 48 28.2 -0.3
PET *e*SP 17 48 52.1
PET *e*SPP 17 49 01.0
PET pmax pmax
comp=Z,14nm,0.6s,mb4.8
PET pmax pmax
comp=Z,1μm,6.8s
PET pmax pmax
comp=Z,800nm,15.6s
PET MLR MLR
comp=Z,600nm,17.0s
PEA0B Petropavlovsk- 69.39 353⇓*i*P **P** **17 39 42.1 -0.5**
PEA0B *e*pP pP 17 40 33.9 -1.4
PETK Petropavlovsk- 69.39 353 P **P** **17 39 42.1 -0.4**
comp=Z,15nm,0.7s,mb4.8,baz=181,slow=7.6,SNR=37
PETK pP pP 17 40 34.2 -1.2
comp=Z,49nm,0.9s,baz=130,slow=5.2,SNR=11
PETK Petropavlovsk- 69.39 353 P **P** **17 39 42.1 -0.4**
PETK pP pP 17 40 34.2 -1.2
PETK Petropavlovsk- 69.39 353 P **P** **17 39 42.1 -0.5**
PETK *PP pP 17 40 34.2 -1.1
WHN Wuhan 69.42 312 P **P** **17 39 42.8 -0.5**
WHN pP pP 17 40 33.0 -3.1
WHN S S 17 48 28.7 -3.3
WHN pmax pmax
comp=Z,640nm,1.8s,mb6.0
WHN pmax pmax
comp=Z,1μm,10.8s
WHN LR LR
comp=Z,2μm,23.4s
IPM Ipoh 69.44 281 P **P** **17 39 43.8 0.0**
IPM Ipoh 69.44 281 *e*P **P** **17 39 42.8 -1.0**
comp=Z,99nm,1.4s,mb5.2
IPM *e*pP pP 17 40 35.3 -1.3
IPM Ipoh 69.44 281 P **P** **17 39 44.4 +0.6**
comp=Z,1μmcomp=Z,42nm,1.4s,mb4.9
UBT Ubonrachathani 69.65 293⇓P **P** **17 39 45.9 +0.9**
MDJ Mudanjiang 69.79 332 P **P** **17 39 45.2 0.0**
MDJ pP pP 17 40 36.5 -1.5
MDJ sP sP 17 41 00.4 -1.9
MDJ PP PP 17 42 20.3 -2.7
MDJ S S 17 48 33.4 -2.2
MDJ ScS ScS 17 49 24.4 -0.6
MDJ sS sS 17 50 03.9 -4.2
MDJ SS SS 17 53 08.5 -1.1
MDJ pmax pmax
comp=Z,82nm,1.7s,mb5.1
MDJ pmax pmax
comp=Z,750nm,5.9s
MDJ LR LR
comp=N,2μm,42.2s
MDJ LR LR
comp=E,2μm,40.5s
MDJ LR LR
comp=Z,850nm,22.8s
DL2 Dalian 69.82 323 P **P** **17 39 45.4 -0.1**
DL2 pP pP 17 40 39.1 +0.8
DL2 S S 17 48 31.8 -4.4
DL2 pmax pmax
comp=Z,100nm,1.4s,mb5.2
KULM Kulim 70.06 282 P **P** **17 39 48.1 +0.5**
KULM Kulim 70.06 282⇓*i*P **P** **17 39 46.9 -0.7**
comp=Z,70nm,1.4s,mb5.1
KULM *e*pP pP 17 40 39.5 -0.9
KULM *e*PP PP 17 42 20.1 -5.7
KULM Kulim 70.06 282 P **P** **17 39 48.3 +0.8**
comp=Z,1μmcomp=Z,48nm,1.6s,mb4.9
PSI Prapat 70.91 279 P **P** **17 39 52.2 -0.5**
comp=Z,1μmcomp=Z,36nm,0.9s,mb5.0
CN2 Changchun 71.16 329 *e*P **P** **17 39 52.8 -0.7**
CN2 *e*pP pP 17 40 45.4 -1.1
CN2 *e*sP sP 17 41 09.0 -1.8
CN2 *e*S S 17 48 51.4 -0.1
CN2 pmax pmax
comp=Z,90nm,1.0s,mb5.3
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,22.0s
CN2 LR LR
comp=E,400nm,22.0s
CN2 LR LR
comp=Z,600nm,25.0s
NIKO Nikolski 71.47 14 P **P** **17 39 53.2 -2.0**
comp=Z,1μm,1.3s,mb6.4
NIKO *e*pP pP 17 40 46.0 -2.3
KLR Kul'dur 72.50 336⇑*i*P **P** **17 39 57.3 -4.0**
KLR *e* pP 17 40 52.2 -2.3
KLR *e*S S 17 49 04.0 -2.5
KLR pmax pmax
comp=Z,700nm,2.0s,mb5.9
KLR pmax pmax
comp=Z,2μm,8.0s
GYA Guiyang 73.14 305⇑*i*P **P** **17 40 05.5 -0.1**
GYA pP pP 17 41 02.0 +3.1
GYA sP sP 17 41 26.4 +3.2
GYA PP PP 17 42 56.7 +4.7
GYA S S 17 49 15.0 +0.3
GYA SKS 17 49 47.5
GYA SS SS 17 54 04.0 +2.5
GYA pmax pmax
comp=Z,80nm,1.0s,mb5.3
GYA pmax pmax
comp=Z,280nm,6.2s
GYA LR LR
comp=N,3μm,19.9s
GYA LR LR
comp=E,2μm,20.1s
GYA LR LR
comp=Z,4μm,18.9s
BJI Beijing 73.78 321 P **P** **17 40 11.4 +2.4**
BJI S S 17 49 25.7 +4.3
BJI pmax pmax
comp=Z,22nm,1.4s,mb4.6
BJI pmax pmax
comp=Z,500nm,3.5s
BJI LR LR
comp=N,460nm,16.8s
BJI LR LR
comp=E,780nm,18.9s
BJI LR LR
comp=Z,800nm,27.9s
QSPA South Pole Qui 74.06 180 S S 17 49 22.9 -0.4
comp=Z,3.2nm,1.1s,baz=26,slow=6.3,SNR=3.4
QSPA South Pole Qui 74.06 180⇓*i*P **P** **17 40 09.9 -0.1**
comp=Z,1μm,1.3s,mb6.3
QSPA *e*pP pP 17 40 58.9 -4.5
QSPA *e*S S 17 49 22.4 -0.9
QSPA S S 17 49 22.9 -0.4
NST Nakhon Sawan 74.16 292⇑P **P** **17 40 12.7 +1.0**
comp=Z,132nm,1.6s,mb5.3
TIY Taiyuan 74.77 317 *e*P **P** **17 40 15.1 +0.3**
TIY pP pP 17 41 07.6 -0.7
TIY S S 17 49 33.8 +1.4
TIY pmax pmax
comp=Z,780nm,3.5s
XAN Xi'an 75.17 312 P **P** **17 40 16.9 -0.3**
XAN pP pP 17 41 09.7 -1.1
XAN sP sP 17 41 34.4 -0.5
XAN S S 17 49 35.2 -1.9
XAN ScS ScS 17 50 06.8 -1.8
XAN SS SS 17 54 32.7 +0.6
XAN pmax pmax
comp=Z,22nm,1.5s,mb4.6
XAN pmax pmax
comp=Z,150nm,9.2s
XAN LR LR
comp=N,440nm,21.1s
XAN LR LR
comp=E,210nm,19.7s
XAN LR LR
comp=Z,300nm,21.1s
KMI Kunming 75.70 302⇓P **P** **17 40 21.8 +1.4**
KMI PcP PcP 17 40 34.6 +2.5
KMI pP pP 17 41 15.0 +0.9
KMI PP PP 17 43 15.2 +1.5
KMI S S 17 49 43.8 +0.6
KMI SKS 17 50 04.9
KMI ScS ScS 17 50 09.7 -3.5
KMI sS sS 17 51 17.4 +0.2
KMI pmax pmax
comp=Z,130nm,1.5s,mb5.3
KMI pmax pmax
comp=Z,820nm,3.1s
KMI LR LR
comp=N,550nm,20.6s
KMI LR LR
comp=E,400nm,15.9s
KMI LR LR
comp=Z,880nm,30.0s
KMI Kunming 75.70 302⇓P **P** **17 40 21.8 +1.4**
comp=Z,131nm,1.5s,mb5.3
KMI PcP PcP 17 40 34.6 +2.5
KMI pP pP 17 41 15.0 +0.9
KMI sP sP 17 41 43.1 +4.9
KMI PP PP 17 43 15.2 +1.5
KMI PPP 17 45 02.1
KMI S S 17 49 43.8 +0.6
KMI SKS 17 50 04.9
KMI ScS ScS 17 50 09.7 -3.5
KMI PS 17 50 56.7
KMI sS sS 17 51 17.4 +0.2
KMI SS SS 17 54 43.9 +3.5
KMI SSS 17 57 54.9
KMI LR LR
comp=Z,880nm,30.0s
KMI Kunming 75.70 302⇓P **P** **17 40 21.8 +1.4**
KMI 17 40 34.6
KMI *PP pP 17 41 15.0 +0.9
KMI *SP sP 17 41 43.1 +4.9
KMI 17 43 15.2
KMI PPP 17 45 02.1

KMI S S 17 49 43.8 +0.6
KMI 17 50 04.9
KMI 17 50 09.7
KMI PS 17 50 56.7
KMI SS SS 17 54 43.9 +3.5
KMI SSS 17 57 54.9
KMI pmax pmax
comp=Z,131nm,1.5s,mb5.3
KMI MLR MLR
comp=Z,880nm,30.0s
SDPT Sand Point 75.84 18 *e*pP pP 17 41 09.8 -4.4
comp=Z,398nm,1.4s
CHRT Chiangrai 76.06 296 ⇓P **P 17 40 22.0 -0.5**
comp=Z,697nm,1.1s,mb6.2
CMAR Chiang Mai Arr 76.25 294 P **P 17 40 24.6 +1.0**
comp=Z,44nm,0.8s,mb5.1,baz=130,slow=4.4,SNR=199
CMAR pP pP 17 41 17.8 +0.4
comp=Z,52nm,1.1s,baz=119,slow=4.0,SNR=9.4
CMAR PKKPbc PKKPbc 17 59 35.0 -0.8
comp=Z,0.4nm,0.8s,baz=303,slow=4.5,SNR=4.1
CMAR PKPPKP 18 07 32.4
comp=Z,0.3nm,0.7s,baz=313,slow=4.2,SNR=4.9
CMAR Chiang Mai Arr 76.25 294 P **P 17 40 24.6 +1.0**
CMAR pP pP 17 41 17.8 +0.4
CMAR PKKPbc PKKPbc 17 59 35.0 -0.8
CMAR P'P' 18 07 32.4
CMAR Chiang Mai Arr 76.25 294 P **P 17 40 24.6 +1.0**
CMAR *PP pP 17 41 17.8 +0.4
CHTO Chiang Mai 76.39 294 ⇓*i*P **P 17 40 24.8 +0.4**
comp=Z,203nm,1.3s,mb5.6
CHTO *e*pP pP 17 41 17.8 -0.4
CHTO Chiang Mai 76.39 294 ⇓*i*P **P 17 40 24.8 +0.4**
CHTO *e*PP pP 17 41 17.8 -0.3
CHTO pmax pmax
comp=Z,203nm,1.3s,mb5.6
CHTO Chiang Mai 76.39 294 P **P 17 40 24.7 +0.3**
comp=Z,2μmcomp=Z,164nm,1.4s,mb5.5
CHTO Chiang Mai 76.39 294 P **P 17 40 25.5 +1.1**
SNR=60
HHC Hu-ho-hao-te 77.10 319 ⇓P **P 17 40 28.2 +0.3**
HHC PcP PcP 17 40 37.3 -0.4
HHC pP pP 17 41 22.9 +1.2
HHC sP sP 17 41 45.2 -0.6
HHC PP PP 17 43 26.9 +1.8
HHC S S 17 49 57.1 -0.6
HHC SKS 17 50 14.3
HHC ScS ScS 17 50 21.5 -2.3
HHC pmax pmax
comp=Z,71nm,1.1s,mb5.2
HHC pmax pmax
comp=Z,860nm,7.7s
CHGN Chignik 77.27 18 *e*pP pP 17 41 19.9 -2.5
CD2 Chengdu 77.46 307 ⇓*i*P **P 17 40 30.5 +0.4**
CD2 pP pP 17 41 23.9 -0.1
CD2 sP sP 17 41 47.4 -0.7
CD2 PP PP 17 43 29.6 +1.3
CD2 S S 17 50 01.9 -0.2
CD2 sS sS 17 51 35.2 -1.3
CD2 pmax pmax
comp=Z,90nm,1.2s,mb5.3
CD2 pmax pmax
comp=Z,1μm,4.8s
CD2 LR LR
comp=N,890nm,18.0s
CD2 LR LR
comp=E,690nm,21.6s
CD2 LR LR
comp=Z,1μm,21.6s
BTO Baotou 77.94 319 *e*P **P 17 40 32.0 -0.5**
OHAK Old Harbor 79.65 20 *e*P **P 17 40 39.4 -2.0**
comp=Z,192nm,1.1s,mb5.6
OHAK *e*pP pP 17 41 34.5 -1.1
LZH Lanzhou 79.80 312 *e*P **P 17 40 44.1 +1.3**
LZH pP pP 17 41 38.6 +1.6
LZH sP sP 17 42 01.1 +0.1
LZH PP PP 17 43 49.0 +1.3
LZH *e*S S 17 50 27.5 +0.8
LZH sS sS 17 51 58.1 -3.5
LZH SS SS 17 55 39.7 -1.9
LZH pmax pmax
comp=Z,110nm,1.1s,mb5.4
LZH pmax pmax
comp=Z,500nm,5.8s
LZH LR LR
comp=N,340nm,14.2s
LZH LR LR
comp=E,780nm,17.7s
LZH LR LR
comp=Z,1μm,18.0s
LZH Lanzhou 79.80 312 *e*P **P 17 40 44.1 +1.3**
comp=Z,111nm,1.1s,mb5.4
LZH pP pP 17 41 38.6 +1.6
LZH sP sP 17 42 01.1 +0.1
LZH PP PP 17 43 49.0 +1.3
LZH *e*S S 17 50 27.5 +0.8
LZH SKS 17 50 38.0
LZH sS sS 17 51 58.1 -3.5
LZH SS SS 17 55 39.7 -1.9
LZH LR LR
comp=Z,1μm,18.0s
LZH Lanzhou 79.80 312 *e*P **P 17 40 44.1 +1.3**
LZH *PP pP 17 41 38.6 +1.6
LZH *SP sP 17 42 01.1 +0.1
LZH 17 43 49.0
LZH *e*S S 17 50 27.5 +0.8
LZH 17 50 38.0
LZH SS SS 17 55 39.7 -1.9
LZH pmax pmax
comp=Z,111nm,1.1s,mb5.4
LZH MLR MLR
comp=Z,1μm,18.0s
KDAK Kodiak Island 80.32 20 pP pP 17 41 40.1 +0.8
comp=Z,74nm,1.0s,baz=72,slow=3.1,SNR=8.1
KDAK Kodiak Island 80.32 20 pP pP 17 41 40.1 +0.8
CLNS Chul'man 81.01 338 *e*P **P 17 40 48.8 +0.1**
CLNS *e*PP pP 17 41 43.1 0.0
CLNS *e* 17 43 56.5
CLNS *e*PPP 17 45 49.8
CLNS *e*S S 17 50 40.3 +2.0
CLNS pmax pmax
comp=Z,53nm,1.4s,mb5.0
CLNS pmax pmax
comp=E,10.0nm,1.5s
CLNS pmax pmax
comp=N,33nm,1.4s
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,1.2s
CLNS pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
CLNS smax
comp=E,378nm,10.9s
CLNS smax
comp=N,290nm,10.5s
GAMB Gambell 81.02 9 P **P 17 40 46.5 -2.1**
comp=N,79nm,1.0s,mb5.3
GAMB *e*pP pP 17 41 41.5 -1.5
MAW Mawson 81.06 202 P **P 17 40 48.8 -0.1**
comp=N,49nm,0.8s,mb5.2,baz=102,slow=6.8,SNR=52
MAW Mawson 81.06 202 ⇑*i*P **P 17 40 48.8 -0.1**
comp=N,79nm,1.4s,mb5.2
MAW *e*pP pP 17 41 47.1 +3.8
MAW Mawson 81.06 202 ⇑*i*P **P 17 40 48.4 -0.5**
comp=N,119nm,1.6s,mb5.3
MAW *e*pP pP 17 41 42.7 -0.6
MAW Mawson 81.06 202 ⇑*i*P **P 17 40 48.4 -0.5**
MAW *e*PP pP 17 41 42.7 -0.6
MAW pmax pmax
comp=Z,119nm,1.6s
RSO Redoubt South 82.39 18 *e*P **P 17 40 51.4 -4.4**
comp=Z,140nm,1.0s,mb5.5
RSO *e*pP pP 17 41 48.6 -1.8
CIT Chita 82.59 329 *e*P **P 17 40 57.1 +0.1**
CIT *e* 17 42 18.6
CIT pmax pmax
comp=Z,484nm,2.1s,mb5.9
IMP Imphal 82.91 298 *e*PKP **P 17 40 58.0 -1.3**
IMP *e*S pP 17 41 54.0 0.0
SEW Seward 83.15 20 *e*pP pP 17 41 53.5 -0.9
comp=Z,600nm,1.7s
SLKM Skilak Lake 83.21 19 *e*P **P 17 40 59.1 -0.9**
SLKM *e*pP pP 17 41 53.4 -1.3
SLKM Skilak Lake 83.21 19 *e*P **P 17 40 59.1 -0.9**
SLKM *e*PP pP 17 41 53.4 -1.3
TNA Tin City 83.28 10 *e*P **P 17 40 58.0 -2.2**
comp=Z,148nm,2.0s,mb5.4
TNA *e*pP pP 17 41 54.1 -0.9
YAK Yakutsk 83.47 343 *e*P **P 17 41 00.2 -1.1**
comp=Z,482nm,1.5s,mb6.0
YAK *e*pP pP 17 41 53.1 -2.9
YAK Yakutsk 83.47 343 *d*/P **P 17 41 00.4 -0.9**
YAK *e*PP pP 17 41 53.8 -2.2
YAK *e* 17 44 16.5
YAK *e*PPP 17 46 06.7
YAK *e*S S 17 50 56.5 -6.6
YAK *e*SS SS 17 56 37.6 +2.7
YAK pmax pmax
comp=Z,45nm,1.3s,mb5.0
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=Z,160nm,3.5s
YAK pmax pmax
comp=E,90nm,2.8s
YAK pmax pmax
comp=N,169nm,3.2s
YAK smax
comp=N,4μm,15.6s
YAK smax
comp=E,2μm,13.1s
ULN Ulaanbaatar 83.66 324 *e*P **P 17 41 02.3 -0.2**
comp=E,216nm,1.4s,mb5.7
ULN *e*pP pP 17 41 55.5 -1.8
ULN Ulaanbaatar 83.66 324 *e*P **P 17 41 02.3 -0.3**
ULN *e*PP pP 17 41 55.5 -1.8
ULN pmax pmax
comp=Z,216nm,1.4s,mb5.7
ULN Ulaanbaatar 83.66 324 P **P 17 41 02.9 +0.4**
SNR=50
BILL Bilibino 83.79 359 *e*P **P 17 41 00.7 -2.2**
comp=Z,232nm,1.4s,mb5.7
BILL *e*pP pP 17 41 55.1 -2.4
BILL *e*PP PP 17 44 15.2 -4.4
BILL Bilibino 83.79 359 *d*/P **P 17 41 01.6 -1.2**
BILL *e*PP pP 17 41 56.2 -1.4
BILL *e* 17 44 16.2
BILL *e*S S 17 51 03.3 -2.8
BILL pmax pmax
comp=Z,127nm,1.6s,mb5.4
SONM Songino Array 84.02 323 P **P 17 41 04.2 -0.2**
comp=Z,24nm,1.0s,mb4.9,baz=141,slow=3.9,SNR=89
SONM pP pP 17 41 58.2 -1.0
comp=Z,76nm,1.2s,baz=129,slow=4.0,SNR=12
SONM PKKP PKKPdf 17 59 03.6 -8.1
comp=Z,0.5nm,0.9s,baz=20,slow=9.5,SNR=3.7
SONM PKKPbc PKKPbc 17 59 17.0 -3.0
comp=Z,0.5nm,0.7s,baz=209,slow=2.7,SNR=4.1
SONM PKPPKP 18 07 23.1
comp=Z,0.3nm,0.8s,baz=209,slow=2.7,SNR=4.3
SONM Songino Array 84.02 323 P **P 17 41 04.2 -0.2**
SONM pP pP 17 41 58.2 -1.0
SONM PKKP PKKPdf 17 59 03.6 -8.1
SONM PKKPbc PKKPbc 17 59 17.0 -3.0
SONM P'P' 18 07 23.1
SONM Songino Array 84.02 323 P **P 17 41 04.2 -0.2**
SONM *PP pP 17 41 58.2 -1.0
GTA Gaotai 84.16 314 ⇓P **P 17 41 05.8 +0.5**
GTA pP pP 17 42 00.2 +0.1
GTA sP sP 17 42 23.2 -0.8
GTA SKS 17 51 05.7
GTA S S 17 51 12.1 +1.2
GTA sS sS 17 52 47.8 +0.9
GTA pmax pmax
comp=Z,100nm,1.6s,mb5.3
GTA pmax pmax
comp=Z,660nm,4.8s
GTA LR LR
comp=N,310nm,18.5s
GTA LR LR
comp=E,640nm,19.7s
GTA LR LR
comp=Z,680nm,20.7s
KCPM Cahto Peak 84.19 46 *e*P **P 17 41 06.1 +0.6**
comp=Z,34nm,1.3s,mb4.9
KCPM *e*pP pP 17 42 00.6 +0.3
HOPS Hopland 84.25 47 *e*P **P 17 41 05.7 -0.1**
comp=Z,414nm,1.4s,mb6.0
HOPS *e*pP pP 17 41 58.4 -2.2
KIPM Iron Peak 84.32 46 *e*P **P 17 41 07.2 +1.0**
comp=Z,72nm,1.4s,mb5.2
KIPM *e*pP pP 17 42 01.5 +0.6
PMR Palmer 84.39 19 *e*P **P 17 41 04.3 -1.6**
comp=Z,15nm,1.1s,mb4.6
PMR *e*pP pP 17 41 57.6 -3.1
PMR Palmer 84.39 19 *e*P **P 17 41 04.3 -1.6**
PMR *e*PP pP 17 41 57.6 -3.1
PMR pmax pmax
comp=Z,15nm,1.1s,mb4.6
SAO San Andreas Ge 84.47 49 *e*P **P 17 41 05.9 -1.1**
comp=Z,124nm,1.3s,mb5.5
SAO *e*pP pP 17 42 00.9 -0.9
SAO San Andreas Ge 84.47 49 *e*P **P 17 41 05.9 -1.0**
SAO *e*PP pP 17 42 00.9 -0.9
SAO pmax pmax
comp=Z,124nm,1.3s,mb5.5
PPLA Purkeypile 84.48 17 *e*P **P 17 41 04.8 -1.5**
comp=Z,45nm,1.6s,mb5.0
PPLA *e*pP pP 17 42 00.7 -0.6
KHMM Horse Mountain 84.62 45 *e*P **P 17 41 08.4 +0.8**
comp=Z,20nm,1.0s,mb4.8
KHMM *e*pP pP 17 42 02.6 +0.2
KRMB Red Mountain 84.78 44 *e*P **P 17 41 07.9 -0.5**
KRMB *e*pP pP 17 42 02.8 -0.5
SML Sawmill 84.80 19 *e*P **P 17 41 07.0 -0.9**
comp=Z,80nm,1.4s,mb5.3
SML *e*pP pP 17 42 00.6 -2.2
SML Sawmill 84.80 19 *e*P **P 17 41 07.1 -0.9**
SML *e*PP pP 17 42 00.6 -2.3
SML pmax pmax
comp=Z,80nm,1.4s,mb5.3
SBC Santa Barbara 84.82 52 ⇓P **P 17 41 09.7 +1.0**
baz=85
KBO Bosley Butte 84.88 44 *e*P **P 17 41 05.1 -3.8**
comp=Z,638nm,1.7s,mb6.1
KBO *e*pP pP 17 42 01.9 -1.8
PKM Peak Mountain 84.92 52 ⇓P **P 17 41 10.5 +1.2**
baz=85
SHL Shillong 84.93 298 ⇑*ix* **P 17 41 10.5 +1.0**
SHL *ex* SKSac 17 51 08.0 -4.4
SMMC Simmler 84.95 51 ⇑P **P 17 41 10.3 +0.9**
baz=85
KEBM Edson Butte 85.11 43 P **P 17 41 05.6 -4.3**
comp=Z,193nm,1.1s,mb5.7
KEBM *e*pP pP 17 42 04.7 -0.2
DIV Divide 85.14 21 *e*P **P 17 41 05.5 -4.2**
comp=Z,351nm,1.6s,mb5.8
DIV *e*pP pP 17 42 03.5 -1.1
SCI San Clemente I 85.16 54 ⇑P **P 17 41 10.5 +0.1**
baz=85
BLG Laguna Peak 85.19 53 ⇑P **P 17 41 10.6 0.0**
baz=85
WDC Whiskeytown Da 85.30 46 *e*P **P 17 41 10.7 -0.2**
comp=Z,46nm,1.4s,mb5.0
WDC *e*pP pP 17 42 04.3 -1.7
WDC Whiskeytown Da 85.30 46 *e*P **P 17 41 10.7 -0.3**
WDC *e*PP pP 17 42 04.3 -1.6
WDC pmax pmax
comp=Z,46nm,1.4s,mb5.0
BMRM Bremner River 85.42 21 *e*P **P 17 41 10.1 -0.9**
comp=Z,474nm,1.8s,mb5.9
BMRM *e*pP pP 17 42 04.8 -1.3
CIS Catalina Islan 85.43 54 ⇓P **P 17 41 12.0 +0.2**
baz=86
TRF Thorofare Moun 85.46 17 *e*P **P 17 41 08.9 -2.4**
comp=Z,160nm,1.0s,mb5.7
TRF *e*pP pP 17 42 05.1 -1.1
FMP Fort Macarthur 85.63 53 ⇓P **P 17 41 13.0 +0.2**
baz=86
OSI Osito Adit 85.64 52 ⇑P **P 17 41 13.3 +0.4**
baz=86
OSI Osito Adit 85.64 52 *e*P **P 17 41 12.8 0.0**
comp=Z,214nm,1.4s,mb5.7
OSI *e*pP pP 17 42 06.7 -1.1
YBH Yreka Blue Hor 85.68 45 *e*P **P 17 41 13.3 +0.4**
comp=Z,44nm,1.4s,mb5.0
YBH *e*pP pP 17 42 06.1 -1.7
YBH Yreka Blue Hor 85.68 45 *e*P **P 17 41 13.3 +0.5**
YBH *e*PP pP 17 42 06.1 -1.7
YBH pmax pmax
comp=Z,44nm,1.4s
CMB Columbia Colle 85.76 49 *e*P **P 17 41 12.9 -0.4**
comp=Z,39nm,1.3s,mb5.0
CMB *e*pP pP 17 42 08.1 -0.2
CMB Columbia Colle 85.76 49 *e*P **P 17 41 12.9 -0.4**
CMB *e*PP pP 17 42 08.1 -0.2
CMB pmax pmax
comp=Z,39nm,1.3s,mb5.0
ARVC Arvin 85.76 52 ⇓P **P 17 41 14.0 +0.6**
baz=86
BPAW Bear Paw Mtn. 85.77 17 *e*P **P 17 41 15.1 +2.3**
comp=Z,165nm,1.6s,mb5.5
BPAW *e*pP pP 17 42 05.5 -2.2
DECC Green Verdugo 85.81 53 ⇓P **P 17 41 13.6 -0.1**
baz=86
VES Vestal, Richgr 85.85 51 ⇑P **P 17 41 13.9 +0.1**
baz=86
PASC Pasadena Art C 85.89 53 *e*P **P 17 41 13.1 -0.9**
comp=Z,72nm,1.0s,mb5.4
PASC *e*pP pP 17 42 05.3 -3.7
HUMO Hull Mountain 85.90 44 *e*P **P 17 41 14.6 +0.7**
comp=Z,536nm,1.6s,mb6.0
HUMO *e*pP pP 17 42 08.1 -0.8
RCTC Rector, Farmer 85.91 51 ⇓P **P 17 41 14.0 -0.1**
baz=86
BOD Bodaibo 85.97 334 *e*P **P 17 41 12.9 -1.0**
BOD *e* pP 17 42 07.2 -1.7
BOD pmax pmax
comp=Z,42nm,0.8s,mb5.2
BOD pmax pmax
comp=Z,67nm,1.7s,mb5.1
MWC Mount Wilson 86.00 53 *e*P **P 17 41 14.0 -0.6**
comp=Z,119nm,1.5s,mb5.4
MWC *e*pP pP 17 42 08.8 -0.9
MWC Mount Wilson 86.00 53 *e*P **P 17 41 14.0 -0.6**
MWC *e*PP pP 17 42 08.8 -0.8
MWC pmax pmax
comp=Z,119nm,1.5s,mb5.4
MCK McKinley 86.07 18 *e*P **P 17 41 12.7 -1.5**
comp=Z,214nm,1.3s,mb5.7
MCK *e*pP pP 17 42 07.6 -1.6
MCK McKinley 86.07 18 *e*P **P 17 41 12.7 -1.5**
MCK *e*PP pP 17 42 07.6 -1.6
MCK pmax pmax
comp=Z,214nm,1.3s,mb5.7
ISA Isabella 86.23 51 ⇓P **P 17 41 16.1 +0.4**
baz=86,SNR=17
ISA Isabella 86.23 51 *e*P **P 17 41 15.9 +0.2**
comp=Z,70nm,1.5s,mb5.2
ISA *e*pP pP 17 42 09.1 -1.6
ISA Isabella 86.23 51 *e*P **P 17 41 15.9 +0.2**
ISA *e*PP pP 17 42 09.1 -1.6
ISA pmax pmax
comp=Z,70nm,1.5s,mb5.2
109C Camp Elliot, M 86.25 54 ⇑P **P 17 41 15.9 +0.1**
baz=86
EDW2 Edwards Air Fo 86.30 52 ⇓P **P 17 41 16.4 +0.3**
baz=86,SNR=11
BFSC Mount Baldy Ra 86.32 53 ⇓P **P 17 41 16.2 +0.1**
baz=86
MURC Murrieta 86.43 54 ⇑P **P 17 41 16.6 -0.1**
baz=87
BAR Barrett 86.51 55 *e*P **P 17 41 15.3 -1.8**
comp=Z,72nm,1.8s,mb5.1
BAR *e*pP pP 17 42 12.1 -0.1
HEBO Mount Hebo 86.53 41 *e*P **P 17 41 16.2 -0.7**
comp=Z,102nm,1.3s,mb5.4
HEBO *e*pP pP 17 42 12.5 +0.5
COR Corvallis 86.54 42 *e*P **P 17 41 14.4 -2.5**
comp=Z,358nm,1.5s,mb5.9
COR *e*pP pP 17 42 12.0 -0.1
COR Corvallis 86.54 42 *e*P **P 17 41 14.4 -2.6**
COR *e*PP pP 17 42 12.0 -0.1
COR pmax pmax
comp=Z,358nm,1.5s,mb5.9
PAX Paxson 86.56 19 *e*P **P 17 41 10.8 -5.8**
comp=Z,58nm,1.4s,mb5.1
PAX *e*pP pP 17 42 12.3 +0.6
PAX Paxson 86.56 19 *e*P **P 17 41 10.8 -5.8**
PAX pmax pmax
comp=Z,58nm,1.4s,mb5.1
WCN Washoe City 86.72 48 ⇑P **P 17 41 18.7 +0.7**
baz=87
WCN Washoe City 86.72 48 *e*P **P 17 41 17.2 -0.8**
WCN *e*pP pP 17 42 12.7 -0.4
WCN Washoe City 86.72 48 *e*P **P 17 41 17.2 -0.8**
WCN *e*PP pP 17 42 12.7 -0.4
MLAC Mammoth Lakes 86.72 50 ⇓P **P 17 41 18.4 +0.4**
baz=87
LRMC Laurel Mountai 86.76 52 ⇓P **P 17 41 18.4 +0.1**
baz=87,SNR=5.9
MONP Monument Peak 86.78 55 ⇓P **P 17 41 18.9 +0.5**
baz=87
CWC Cottonwood Cre 86.83 51 ⇓P **P 17 41 18.8 +0.2**
baz=87,SNR=12
BBRC Big Bear Solar 86.89 53 ⇓P **P 17 41 19.3 +0.4**
baz=87
DVTC Desert V Tower 86.95 55 ⇓P **P 17 41 19.5 +0.3**
baz=87
TIN Tinemaha 86.95 50 ⇑P **P 17 41 19.8 +0.6**
baz=87
PFO Pinyon Flat Ob 87.02 54 ⇓P **P 17 41 19.6 +0.1**
baz=87
PFO Pinyon Flat Ob 87.02 54 *e*P **P 17 41 18.3 -1.2**
comp=Z,119nm,2.0s,mb5.3
PFO *e*pP pP 17 42 12.8 -1.9
PFO Pinyon Flat Ob 87.02 54 *e*P **P 17 41 18.3 -1.2**
PFO *e*PP pP 17 42 12.8 -1.9
PFO pmax pmax
comp=Z,119nm,2.0s,mb5.3
RRX Edison Barstow 87.06 53 ⇓P **P 17 41 19.8 +0.1**
baz=87
ZAK Zakamensk 87.07 325 ⇓*i*P **P 17 41 18.7 -0.7**
ZAK *e* pP 17 42 12.5 -2.0
ZAK *e* 17 51 24.5
ZAK pmax pmax
comp=Z,22nm,1.6s,mb4.6
MENT Mentasta 87.10 20 *e*pP pP 17 42 10.9 -3.5
MPMC Manual Prospec 87.12 51 ⇓P **P 17 41 20.3 +0.3**
baz=87,SNR=14
COLA College 87.24 17 *e*P **P 17 41 17.1 -2.7**
comp=Z,68nm,0.8s,mb5.4
COLA *e*pP pP 17 42 13.1 -2.0
COLA College 87.24 17 *e*P **P 17 41 17.1 -2.7**
COLA *e*PP pP 17 42 13.1 -1.9
COLA pmax pmax
comp=Z,68nm,0.8s,mb5.4
E03A Lebam 87.25 40 ⇓P **P 17 41 21.3 +1.0**
baz=88
SWSC Sam W. Stewart 87.29 55 ⇓P **P 17 41 20.7 -0.2**
baz=88
K05A Summer Lake 87.33 44 ⇑P **P 17 41 21.5 +0.7**
baz=88
GSC Goldstone 87.36 52 ⇑P **P 17 41 21.4 +0.3**
baz=88,SNR=9.5
GSC Goldstone 87.36 52 *e*P **P 17 41 20.7 -0.4**
comp=Z,98nm,1.7s,mb5.3
GSC *e*pP pP 17 42 14.7 -1.7
GSC Goldstone 87.36 52 *e*P **P 17 41 20.7 -0.4**
GSC *e*PP pP 17 42 14.7 -1.6
GSC pmax pmax
comp=Z,99nm,1.7s,mb5.3
MOD Modoc 87.39 45 *e*P **P 17 41 20.8 -0.3**
comp=Z,456nm,1.7s,mb5.9
MOD *e*pP pP 17 42 16.0 -0.3
NVAR Mina Array Bea 87.42 49 P **P 17 41 21.7 +0.4**
comp=Z,8.2nm,0.9s,mb4.5,baz=227,slow=5.5,SNR=55
NVAR pP pP 17 42 15.1 -1.5
comp=Z,49nm,0.8s,baz=230,slow=8.2,SNR=6.4
NVAR PKKP PKKPbc 17 59 10.9 -0.4
comp=Z,1.8nm,0.7s,baz=77,slow=3.1,SNR=12
NVAR Mina Array Bea 87.42 49 P **P 17 41 21.7 +0.4**
NVAR pP pP 17 42 15.1 -1.5
NVAR PKKP PKKPbc 17 59 10.9 -0.4
ILAR Eielson Array 87.44 18 P **P 17 41 18.4 -2.3**
comp=Z,2.6nm,0.6s,baz=238,slow=5.0,SNR=46
ILAR pP pP 17 42 14.2 -1.8
comp=Z,21nm,0.9s,baz=232,slow=5.7,SNR=11
ILAR PKKP PKKPbc 17 59 05.0 -7.6
comp=Z,0.8nm,1.0s,baz=226,slow=3.1,SNR=4.3
ILAR PKPPKP 18 07 23.6
comp=Z,0.5nm,1.0s,baz=56,slow=1.2,SNR=4.0
ILAR Eielson Array 87.44 18 P **P 17 41 18.4 -2.3**

ILAR pP pP 17 42 14.2 -1.8
ILAR PKKP PKKPbc 17 59 05.0 -7.6
ILAR P'P' 18 07 23.6
ILAR Eielson Array 87.44 18 P P 17 41 18.5 -2.3
ILAR *PP pP 17 42 14.3 -1.7
NLWA Neilton Lookou 87.44 39 *eP* **P 17 41 21.5 +0.3**
comp=Z,150nm,1.2s,mb5.6
NLWA *ep*P pP 17 42 14.6 -1.9
IRK Irkutsk 87.46 326 *eP* **P 17 41 20.0 -1.1**
IRK *e* pP 17 42 13.2 -3.2
IRK *e*S S 17 51 37.1 -5.2
IRK *e* 17 53 15.5
IRK pmax pmax
comp=Z,45nm,1.7s,mb4.9
DOT Dot Lake 87.49 19 *ep*P pP 17 42 14.1 -2.2
comp=Z,25nm,1.0s
BELC Belle Mtn. Jos 87.51 54 ⇓P **P 17 41 22.1 +0.2**
baz=88,SNR=11
TLY Talaya 87.51 326 *eP* **P 17 41 19.1 -2.3**
comp=Z,69nm,1.8s,mb5.2
TLY *ep*P pP 17 42 11.3 -5.3
TLY Talaya 87.51 326 *d iP* **P 17 41 20.3 -1.1**
TLY *e* pP 17 42 16.0 -0.7
TLY *e*S SKSac 17 51 26.2 -1.0
TLY *e* 17 51 36.4
TLY *e* 17 52 47.2
TLY *e* 17 53 18.4
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.7
TLY Talaya 87.51 326 P **P 17 41 20.9 -0.5**
SNR=6.7
TLY Talaya 87.51 326 P **P 17 41 20.8 -0.6**
comp=Z,75nm,1.9s,mb5.2,SNR=5.4
HEC Hector,Ludlow 87.55 53 ⇑P **P 17 41 21.9 -0.1**
baz=88,SNR=12
GRAC Grapevine Rang 87.57 51 ⇓P **P 17 41 22.3 +0.2**
baz=88
FURC Furnace Creek, 87.75 51 ⇑P **P 17 41 23.1 +0.2**
baz=88
SYO Syowa Base 87.76 196 ⇑*eP* **P 17 41 18.8 -3.6**
SYO Syowa Base 87.76 196 ⇓*iP* **P 17 41 20.2 -2.2**
BC3 Big Chuckawall 87.81 54 ⇓P **P 17 41 24.0 +0.7**
baz=88
HOOD Mount Hood Mea 87.92 42 *eP* **P 17 41 23.1 -0.4**
comp=Z,260nm,1.1s,mb6.0
HOOD *ep*P pP 17 42 18.2 -0.6
GMRC Granite Mounta 88.05 53 ⇓P **P 17 41 24.5 +0.1**
baz=88,SNR=7.7
TUQ Turquoise Moun 88.08 52 ⇓P **P 17 41 24.7 +0.2**
baz=88,SNR=13
GLA Glamis 88.09 55 ⇑P **P 17 41 25.3 +0.7**
baz=88,SNR=8.1
GLA Glamis 88.09 55 *eP* **P 17 41 24.2 -0.5**
comp=Z,187nm,1.8s,mb5.6
GLA *ep*P pP 17 42 19.5 -0.4
GLA Glamis 88.09 55 *eP* **P 17 41 24.2 -0.4**
GLA *e**PP pP 17 42 19.5 -0.5
GLA pmax pmax
comp=Z,187nm,1.8s,mb5.6
GNW Green Mountain 88.16 39 *eP* **P 17 41 23.9 -0.7**
comp=Z,77nm,1.0s,mb5.5
GNW *ep*P pP 17 42 19.6 -0.3
IRM Iron Mountain 88.23 54 ⇓P **P 17 41 25.7 +0.5**
baz=88,SNR=13
PGC Sidney 88.26 38 *eP* **P 17 41 26.2 +1.1**
comp=Z,20nm,1.2s,mb4.8
PGC *ep*P pP 17 42 20.4 0.0
COLD Coldfoot 88.40 15 *ep*P pP 17 42 19.9 -0.7
comp=Z,62nm,1.2s
LON Longmire 88.43 40 *eP* **P 17 41 24.9 -1.0**
comp=Z,30nm,1.7s,mb4.8
LON *ep*P pP 17 42 21.0 -0.2
LON Longmire 88.43 40 *eP* **P 17 41 24.9 -1.0**
LON *e**PP pP 17 42 21.0 -0.2
LON pmax pmax
comp=Z,30nm,1.7s,mb4.8
G06A Carlson Farm, 88.53 42 ⇑P **P 17 41 27.1 +0.7**
baz=89
Y12C Blythe 88.57 54 ⇑P **P 17 41 27.2 +0.3**
baz=89
LDFC Landfair 88.58 53 *eP* **P 17 41 26.9 +0.1**
comp=Z,426nm,1.2s,mb6.2
LDFC *ep*P pP 17 42 24.0 +1.8
WVOR Wild Horse Val 88.73 45 *eP* **P 17 41 27.4 -0.1**
comp=Z,34nm,1.3s,mb5.0
WVOR *ep*P pP 17 42 20.1 -2.7
WVOR *e*PP PP 17 44 56.1 -3.9
WVOR Wild Horse Val 88.73 45 *eP* **P 17 41 27.4 0.0**
WVOR *e**PP pP 17 42 20.1 -2.7
WVOR *e* 17 44 56.2
WVOR pmax pmax
comp=Z,34nm,1.3s,mb5.0
I07A Izee 88.80 43 ⇓P **P 17 41 27.9 +0.2**
baz=89,SNR=21
113A Mohawk Valley, 88.83 56 ⇑P **P 17 41 28.2 0.0**
baz=89,SNR=7.7
NEE2 Needles Airpor 88.85 53 ⇓P **P 17 41 28.6 +0.4**
baz=89
BMN Battle Mountai 88.95 47 *eP* **P 17 41 27.0 -1.5**
comp=Z,65nm,1.5s,mb5.2
BMN *ep*P pP 17 42 21.7 -2.2
BMN Battle Mountai 88.95 47 *eP* **P 17 41 27.0 -1.5**
BMN *e**PP pP 17 42 21.7 -2.2
BMN pmax pmax
comp=Z,65nm,1.5s,mb5.2
JCW Jim Creek 88.97 39 *eP* **P 17 41 24.5 -3.9**
comp=Z,82nm,1.6s,mb5.3
JCW *ep*P pP 17 42 22.8 -1.0
Z13A Yuma Proving G 89.07 55 ⇓P **P 17 41 29.3 +0.1**
baz=89,SNR=10
EGAK Eagle 89.19 19 *eP* **P 17 41 27.9 -1.1**
comp=Z,50nm,1.1s,mb5.2
EGAK *ep*P pP 17 42 22.3 -2.1
J08A Circle Bar Ran 89.20 44 ⇑P **P 17 41 29.6 0.0**
baz=89,SNR=19
A05A Maple Falls 89.22 38 ⇑P **P 17 41 30.5 +1.0**
baz=89
214A Organ Pipe Nat 89.33 57 ⇑P **P 17 41 30.9 +0.4**
baz=90
RPW Rockport 89.33 39 *eP* **P 17 41 29.2 -0.8**
comp=Z,378nm,1.9s,mb5.9
RPW *ep*P pP 17 42 23.2 -2.3
R11A Troy Canyon, C 89.38 50 ⇓P **P 17 41 30.8 +0.2**
baz=90,SNR=17
W13A Hualapai Mount 89.53 53 ⇑P **P 17 41 31.5 +0.2**
baz=90,SNR=15
114A Black Gap (USA 89.53 56 ⇑P **P 17 41 31.7 +0.3**
baz=90,SNR=6.1
RSW Rattlesnake Hi 89.67 41 *eP* **P 17 41 32.7 +1.0**
comp=Z,104nm,1.5s,mb5.4
RSW *ep*P pP 17 42 27.1 0.0
Z14A Wintersburg 89.68 55 ⇑P **P 17 41 32.6 +0.5**
baz=90,SNR=7.3
ETW Entiat 89.70 40 *eP* **P 17 41 31.6 -0.2**
comp=Z,41nm,1.3s,mb5.1
ETW *ep*P pP 17 42 25.9 -1.3
HAWA Hanford 89.71 41 *eP* **P 17 41 31.8 -0.1**
comp=Z,78nm,1.5s,mb5.3
HAWA *ep*P pP 17 42 25.8 -1.5
Y14A Wickenburg 89.83 55 ⇓P **P 17 41 33.4 +0.6**
baz=90
LNOR Lincton Mounta 90.30 42 *ep*P pP 17 42 29.6 -0.5
comp=Z,82nm,1.2s
R13A O'Grain Ranch, 90.51 50 ⇓P **P 17 41 36.7 +0.9**
baz=91,SNR=7.2
BMO Blue Mountains 90.55 43 *eP* **P 17 41 35.2 -0.7**
comp=Z,50nm,1.2s,mb5.3
BMO *ep*P pP 17 42 29.5 -1.8
BMO Blue Mountains 90.55 43 *eP* **P 17 41 35.2 -0.6**
BMO *e**PP pP 17 42 29.5 -1.8
BMO pmax pmax
comp=Z,49nm,1.2s,mb5.3
OD2 Odessa Site #2 90.62 41 *ep*P pP 17 42 32.0 +0.5
comp=Z,378nm,1.2s
E09A Wood Farm, Sta 90.64 42 ⇑P **P 17 41 38.3 +2.1**
baz=91
CCUT Cedar City 90.75 51 *eP* **P 17 41 37.0 +0.1**
comp=Z,56nm,1.7s,mb5.2
CCUT *ep*P pP 17 42 33.2 +0.8
ARUT Antelope Range 90.77 51 *eP* **P 17 41 37.1 +0.1**
comp=Z,19nm,1.3s,mb4.9
ARUT *ep*P pP 17 42 33.7 +1.2
ARUT Antelope Range 90.77 51 *eP* **P 17 41 37.1 +0.1**
ARUT *e**PP pP 17 42 33.7 +1.2
ARUT pmax pmax
comp=Z,19nm,1.3s,mb4.9

MFID Camas Ranch 91.02 45 ⇑P **P 17 41 38.5 +0.5**
baz=91
MFID Camas Ranch 91.02 45 *eP* **P 17 41 37.9 -0.1**
comp=Z,34nm,1.7s,mb5.0
MFID *ep*P pP 17 42 32.0 -1.5
F10A Beach Ranch, E 91.02 42 ⇓P **P 17 41 38.2 +0.2**
baz=91
C09A Chrisman Ranch 91.05 40 ⇓P **P 17 41 38.7 +0.6**
baz=91
TUC Tucson 91.07 57 *eP* **P 17 41 38.1 -0.4**
comp=Z,81nm,1.8s,mb5.3
TUC *ep*P pP 17 42 34.9 +0.9
TUC Tucson 91.07 57 *eP* **P 17 41 38.1 -0.4**
TUC *e**PP pP 17 42 34.9 +0.9
TUC pmax pmax
comp=Z,81nm,1.8s,mb5.3
U15A North Rim 91.19 52 ⇑P **P 17 41 39.6 +0.6**
baz=91
X16A Lo Mia Camp, P 91.21 55 ⇓P **P 17 41 39.7 +0.5**
baz=91,SNR=5.4
318A Bisbee 91.44 58 ⇑P **P 17 41 40.5 +0.2**
baz=92,SNR=10
Y17A Roosevelt 91.45 55 ⇑P **P 17 41 40.7 +0.4**
baz=92,SNR=5.8
218A Dragoon 91.56 57 ⇑P **P 17 41 41.3 +0.4**
baz=92,SNR=12
WUAZ Wupatki 91.61 54 ⇑P **P 17 41 41.6 +0.7**
baz=92
WUAZ Wupatki 91.61 54 *eP* **P 17 41 40.4 -0.5**
comp=Z,13nm,0.9s,mb4.9
WUAZ *ep*P pP 17 42 37.5 +1.1
I12A Atlanta 91.62 45 ⇓P **P 17 41 41.8 +1.0**
baz=92
Z17A San Carlos Hig 91.62 56 ⇓P **P 17 41 41.9 +0.8**
baz=92
X17A Forest Lakes 91.68 55 ⇑P **P 17 41 42.5 +1.1**
baz=92
118A Homack Ranch, 91.82 57 ⇓P **P 17 41 42.4 +0.3**
baz=92,SNR=8.6
Z18A Geronimo 91.91 56 ⇓P **P 17 41 42.9 +0.5**
baz=92
NVL N'lazarevskaya 91.94 188 ⇓*iP* **P 17 41 40.7 -1.2**
NVL pmax pmax
comp=Z,111nm,0.7s,mb5.9
MAIT Maitri 91.94 188 *eP* **P 17 41 41.1 -0.8**
NEW Newport 91.94 40 ⇑P **P 17 41 43.2 +1.0**
baz=92
NEW Newport 91.94 40 *ep*P pP 17 42 36.6 -1.1
comp=Z,143nm,1.0s
MSU Marysvale 91.95 51 *eP* **P 17 41 43.1 +0.6**
comp=Z,38nm,1.9s,mb5.0
MSU *ep*P pP 17 42 39.4 +1.4
MSU Marysvale 91.95 51 *eP* **P 17 41 43.1 +0.6**
MSU *e**PP pP 17 42 39.4 +1.4
MSU pmax pmax
comp=Z,38nm,1.9s,mb5.0
G12A Big Creek, Yel 91.96 44 ⇑P **P 17 41 43.4 +1.0**
baz=92,SNR=64
W17A Winslow 91.98 54 ⇓P **P 17 41 42.7 0.0**
baz=92,SNR=14
U16A Tuba City 91.99 53 ⇑P **P 17 41 43.3 +0.6**
baz=92,SNR=45
319A Douglas 92.00 58 ⇓P **P 17 41 43.4 +0.5**
baz=92
DUG Dugway 92.03 49 ⇑P **P 17 41 42.9 +0.1**
baz=92,SNR=25
DUG Dugway 92.03 49 *eP* **P 17 41 42.5 -0.3**
comp=Z,7.9nm,1.3s,mb4.5
DUG *ep*P pP 17 42 38.7 +0.4
DUG Dugway 92.03 49 *eP* **P 17 41 42.5 -0.3**
DUG *e**PP pP 17 42 38.7 +0.4
DUG pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
HLID Hailey 92.03 45 ⇑P **P 17 41 43.7 +1.0**
baz=92,SNR=28
HLID Hailey 92.03 45 *eP* **P 17 41 43.8 +1.1**
comp=Z,184nm,0.7s,mb6.1
HLID *ep*P pP 17 42 38.2 0.0
H12A Diamond D Ranc 92.07 44 ⇑P **P 17 41 43.7 +0.9**
baz=92,SNR=43
V17A Tonalea, Kykot 92.09 54 ⇓P **P 17 41 43.6 +0.4**
baz=92,SNR=32
Y18A Canyon Day Jun 92.12 56 ⇑P **P 17 41 43.9 +0.6**
baz=92
S16A Weppner Ranch, 92.13 51 ⇓P **P 17 41 43.7 +0.4**
baz=92
J13A Cove Ranch, Pi 92.14 45 ⇑P **P 17 41 44.4 +1.2**
baz=92,SNR=29
219A White Tail Can 92.20 57 ⇑P **P 17 41 44.2 +0.4**
baz=92
O15A The Old Anders 92.31 49 ⇑P **P 17 41 45.3 +1.2**
baz=92,SNR=10
L14A Malta 92.33 47 ⇓P **P 17 41 45.4 +1.2**
baz=92
C11A Tepee Creek (N 92.33 41 ⇓P **P 17 41 45.1 +1.1**
baz=92,SNR=64
I13A Wildhorse Cree 92.35 45 ⇓P **P 17 41 45.6 +1.5**
baz=92,SNR=29
119A Ashpeak Ranch, 92.40 57 ⇑P **P 17 41 45.6 +0.9**
baz=93
X18A Snowflake 92.41 55 ⇓P **P 17 41 45.1 +0.4**
baz=93
H13A Challis 92.48 44 ⇓P **P 17 41 45.6 +0.8**
baz=93
U17A Shonto 92.49 53 ⇓P **P 17 41 45.7 +0.7**
baz=93
T17A Navajo Res., N 92.50 52 ⇓P **P 17 41 45.8 +0.7**
baz=93
K14A Jones Ranch, D 92.54 46 ⇓P **P 17 41 45.8 +0.7**
baz=93
J14A Carey 92.56 46 ⇓P **P 17 41 45.5 +0.3**
baz=93
HVU Hansel Valley 92.57 47 *eP* **P 17 41 42.1 -3.1**
comp=Z,8.8nm,1.1s,mb4.7
HVU *ep*P pP 17 42 39.5 -1.3
HVU Hansel Valley 92.57 47 *eP* **P 17 41 42.1 -3.2**
HVU *e**PP pP 17 42 39.5 -1.3
HVU pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
320A Kipp Ranch, An 92.61 58 ⇓P **P 17 41 46.1 +0.5**
baz=93
G13A Cobalt 92.67 44 ⇑P **P 17 41 45.9 +0.2**
baz=93,SNR=28
NOQ North Oquirrh 92.68 49 *ep*P pP 17 42 42.0 +0.7
comp=Z,190nm,1.7s
M15A Larsen Ranch, 92.70 48 ⇓P **P 17 41 47.6 +1.7**
baz=93,SNR=14
W18A Petrified Fore 92.76 54 ⇑P **P 17 41 46.9 +0.6**
baz=93,SNR=16
220A Playas Peak, P 92.77 58 ⇓P **P 17 41 46.7 +0.3**
baz=93,SNR=7.5
V18A Ganado 92.78 54 ⇑P **P 17 41 46.9 +0.5**
baz=93,SNR=12
Y19A Nutrioso 92.79 56 ⇑P **P 17 41 47.1 +0.7**
baz=93
I14A Mackay 92.81 45 ⇑P **P 17 41 46.5 +0.2**
baz=93
MPU Maple Canyon 92.83 49 *eP* **P 17 41 46.5 0.0**
MPU *ep*P pP 17 42 42.8 +0.8
F13A Darby 92.85 43 ⇑P **P 17 41 47.3 +0.9**
baz=93
120A U Bar Ranch, L 92.87 57 ⇑P **P 17 41 46.6 -0.3**
baz=93
HVS Khovu-Aksy 92.88 323 *d iP* **P 17 41 46.0 -0.4**
HVS pmax pmax
comp=Z,518nm,1.8s,mb6.3
X19A St. Johns 92.90 55 ⇑P **P 17 41 47.2 +0.2**
baz=93,SNR=7.9
TMUT Trail Mountain 92.91 50 *ep*P pP 17 42 43.0 +0.5
comp=Z,65nm,1.2s
O16A Springville 92.98 49 ⇑P **P 17 41 47.4 +0.2**
baz=93
VNA3 Neumayer Olymp 92.99 181 *e* **P 17 41 45.3 -1.4**
VNA3 *e* pP 17 42 42.2 0.0
VNA3 *e* 17 45 07.8
VNA3 *e* 17 48 17.1
R17A Hanksville Air 93.01 51 ⇓P **P 17 41 48.1 +0.7**
baz=93
W19A Sanders 93.03 54 ⇓P **P 17 41 48.1 +0.6**
baz=93
U18A Rough Rock, Ch 93.04 53 ⇓P **P 17 41 48.2 +0.6**
baz=93
Z20A Nine Sixteen R 93.07 57 ⇑P **P 17 41 47.8 +0.1**
baz=93
JLU Jordanelle 93.14 49 *ep*P pP 17 42 43.2 -0.3
comp=Z,66nm,1.4s
DAU Daniels Canyon 93.23 49 *ep*P pP 17 42 44.3 +0.5

comp=Z,66nm,1.4s
N16A Rees Ranch, Co 93.24 48 ⇓P **P 17 41 48.4 +0.1**
baz=93
T18A Mexican Hat 93.25 52 ⇓P **P 17 41 48.8 +0.3**
baz=93
BSMT Bassoo Peak 93.26 41 *ep*P pP 17 42 43.4 -0.4
comp=Z,51nm,1.1s
VNA2 Neumayer--Watz 93.26 181 *e* **P 17 41 46.9 -1.1**
baz=196,slow=5.6
VNA2 *e* pP 17 42 44.1 +0.6
VNA2 *e* 17 45 10.6
VNA2 *e* 17 48 19.7
HWUT Hardware Ranch 93.38 48 P **P 17 41 48.2 -0.8**
comp=Z,25nm,1.0s,mb5.2
HWUT *ep*P pP 17 42 44.5 0.0
Y20A Horse Springs, 93.47 56 ⇑P **P 17 41 49.8 +0.2**
baz=94,SNR=7.3
MCMT McKenzie Canyo 93.51 44 *ep*P pP 17 42 45.8 +0.7
comp=Z,31nm,1.6s
U19A Dine' College, 93.52 53 ⇓P **P 17 41 49.9 +0.1**
baz=94
O17A Robinson Place 93.54 49 ⇓P **P 17 41 49.9 +0.2**
baz=94
JTMT Jette 93.54 41 *ep*P pP 17 42 44.5 -0.7
comp=Z,25nm,1.2s
121A Cookes Peak, D 93.56 57 ⇑P **P 17 41 50.2 +0.2**
baz=94
VNA1 Neumayer--Stat 93.56 181 *e* **P 17 41 48.4 -0.9**
X20A Quemado 93.56 55 ⇑P **P 17 41 49.9 -0.1**
baz=94
H15A Lima 93.58 45 ⇑P **P 17 41 50.4 +0.6**
baz=94
E14A Clinton 93.61 43 ⇑P **P 17 41 50.5 +0.6**
baz=94
R18A Canyonlands Na 93.61 51 ⇑P **P 17 41 50.4 +0.3**
baz=94
B13A Whitefish 93.64 41 ⇓P **P 17 41 51.0 +1.0**
baz=94
SWMT Swartz Lake 93.64 42 *ep*P pP 17 42 45.6 +0.1
comp=Z,24nm,1.1s
Q18A Rafter H Ranch 93.65 50 ⇓P **P 17 41 50.2 -0.1**
baz=94
W20A Ramah 93.73 55 ⇑P **P 17 41 51.2 +0.4**
baz=94
K16A Soda Springs 93.74 47 ⇑P **P 17 41 51.6 +1.0**
baz=94
YBMT Yellow Bay 93.75 41 *ep*P pP 17 42 43.3 -2.8
comp=Z,12nm,1.1s
INK Inuvik 93.79 18 *ep*P pP 17 42 45.8 0.0
comp=Z,22nm,1.3s
T19A Beclabito 93.81 53 ⇑P **P 17 41 51.7 +0.7**
baz=94
DLMT Dillon 93.86 44 *ep*P pP 17 42 47.1 +0.5
comp=Z,169nm,1.7s
A13A Flathead Natio 93.86 40 ⇓P **P 17 41 51.8 +0.8**
baz=94
J16A Bone 93.86 46 ⇓P **P 17 41 51.9 +0.7**
baz=94
Z21A St. Cloud Mine 93.87 57 ⇑P **P 17 41 51.6 +0.2**
baz=94
SLMT Seeley Lake 93.88 42 *ep*P pP 17 42 46.9 +0.2
comp=Z,42nm,1.4s
CHMT Chamberlain Mo 93.93 42 *eP* **P 17 41 51.9 +0.5**
comp=Z,7.8nm,1.8s,mb4.4
CHMT *ep*P pP 17 42 46.8 -0.2
CHMT *e*PKPdf PKiKP 17 46 28.0 -6.8
M17A Scullys Gap (B 93.98 48 ⇓P **P 17 41 51.8 +0.1**
baz=94
S19A Harvey Farm, M 94.00 52 ⇑P **P 17 41 52.4 +0.5**
baz=94
R19A Curley Farm, L 94.06 51 ⇓P **P 17 41 52.4 +0.2**
baz=94
Y21A Point of Rocks 94.06 56 ⇑P **P 17 41 52.5 +0.2**
baz=94
U20A Newcomb 94.07 53 ⇓P **P 17 41 52.5 +0.2**
baz=94
F15A Butte 94.08 44 ⇑P **P 17 41 52.5 +0.4**
baz=94
RRI2 Red Ridge 94.09 46 *eP* **P 17 41 53.0 +0.9**
comp=Z,3.6nm,0.7s,mb4.5
RRI2 *ep*P pP 17 42 47.0 -0.8
RRI2 *e*PKPdf PKiKP 17 46 28.4 -6.7
X21A Alamocita Cree 94.10 55 ⇑P **P 17 41 52.8 +0.4**
baz=94
LRM Limekiln Ridge 94.10 44 *ep*P pP 17 42 48.1 +0.3
comp=Z,1μm,1.8s
WMQ Urumqi 94.22 314 P **P 17 41 52.7 -0.1**
WMQ pP pP 17 42 47.6 -0.8
WMQ sP sP 17 43 10.8 -1.2
WMQ PP PP 17 45 45.2 +2.1
WMQ SKS 17 52 04.5
WMQ S S 17 52 41.0 -3.0
WMQ pmax pmax
comp=Z,63nm,1.2s,mb5.5
WMQ pmax pmax
comp=Z,300nm,6.0s
WMQ LR LR
comp=N,690nm,28.0s
WMQ LR LR
comp=E,540nm,25.6s
WMQ LR LR
comp=Z,580nm,24.4s
HYB Hyderabad 94.32 287 *i* P **P 17 41 52.0 -1.8**
HYB *ep*P pP 17 42 48.0 -1.4
HYB *e*S S 17 52 44.0 -2.0
M18A Lyman 94.39 48 ⇓P **P 17 41 54.5 +0.9**
baz=95
REDW Red Top Meadow 94.42 46 *ep*P pP 17 42 49.7 +0.4
comp=Z,65nm,1.3s
QLMT Earthquake Lak 94.47 45 P **P 17 41 52.5 -1.4**
comp=Z,0.7nm,0.3s,mb4.2
QLMT *ep*P pP 17 42 49.1 -0.4
A14A Double T Ranch 94.49 40 ⇑P **P 17 41 54.3 +0.4**
baz=95
IMW Indian Meadow 94.52 46 *ep*P pP 17 42 49.4 -0.3
comp=Z,39nm,1.1s
PV01 Paradox Valley 94.54 52 *ep*P pP 17 42 50.5 +0.6
comp=Z,4μm,1.3s
H16A Russell Place, 94.56 45 ⇓P **P 17 41 55.4 +1.1**
baz=95
LAZ Ladron 94.60 56 P **P 17 41 50.5 -4.2**
comp=Z,15nm,1.5s,mb4.9
LAZ *ep*P pP 17 42 49.8 -0.5
S20A Disappointment 94.61 52 ⇓P **P 17 41 55.6 +0.9**
baz=95
C15A Salmond Ranch, 94.62 42 ⇓P **P 17 41 55.5 +1.0**
baz=95
LOHW Long Hollow 94.67 46 *ep*P pP 17 42 50.9 +0.5
comp=Z,42nm,1.4s
R20A Redvale 94.70 52 ⇓P **P 17 41 55.6 +0.5**
baz=95
YMR Madison River 94.74 45 *ep*P pP 17 42 50.1 -0.6
comp=Z,29nm,1.0s
U21A Nageezi 94.75 54 ⇓P **P 17 41 55.9 +0.5**
baz=95
HRY Holter Researc 94.79 43 P **P 17 41 53.1 -2.2**
comp=Z,79nm,1.4s,mb5.7
HRY *ep*P pP 17 42 50.0 -0.9
B15A Bradely Ranch, 94.82 41 ⇓P **P 17 41 56.7 +1.3**
baz=95
BNM Barren Site 94.94 56 *eP* **P 17 41 55.5 -0.8**
comp=Z,37nm,1.6s,mb5.3
BNM *ep*P pP 17 42 51.6 -0.3
YNR Norris Junctio 94.95 45 *ep*P pP 17 42 51.0 -0.7
comp=Z,44nm,1.3s
J18A Kendall Valley 94.95 47 ⇓P **P 17 41 56.5 +0.3**
baz=95
Q20A Ridgley Place, 94.98 51 ⇓P **P 17 41 56.0 -0.3**
baz=95
S21A Coal Bank Pass 94.99 52 ⇑P **P 17 41 56.9 +0.4**
baz=95
L19A Farson 95.10 48 ⇑P **P 17 41 56.7 -0.1**
baz=95
BW06 Boulder Array 95.15 47 ⇓P **P 17 41 57.3 +0.3**
baz=95
PDAR Pinedale Array 95.15 47 P **P 17 41 56.9 -0.1**
comp=Z,0.7nm,0.8s,baz=194,slow=0.6,SNR=5.5
PDAR pP pP 17 42 52.5 -0.1
comp=Z,3.4nm,0.8s,baz=222,slow=2.0,SNR=7.4
PDAR PKKP PKKPbc 17 58 49.3 -2.5
comp=Z,1.3nm,0.8s,baz=83,slow=4.8,SNR=9.4
PDAR PKPPKP 18 07 04.0
comp=Z,0.6nm,0.8s,baz=104,slow=5.4,SNR=3.9
PDAR Pinedale Array 95.15 47 P **P 17 41 56.9 -0.1**
PDAR pP pP 17 42 52.5 -0.1
PDAR PKKP PKKPbc 17 58 49.3 -2.5
PDAR P'P' 18 07 04.0

I18A	Diamond G Ranc	95.24	46	⇑P	P	17 41 57.5	+0.1
	baz=95							
224A	Cornudas Mount	95.27	58	⇓P	P	17 41 57.7	-0.1
	baz=95							
ANMO	Albuquerque	95.28	55	P	P	17 41 57.1	-0.8
	comp=Z,1.2nm,0.7s,mb4.2,baz=279,slow=2.1,SNR=4.1							
ANMO				pP	pP	17 42 54.0	+0.5
	comp=Z,16nm,1.0s,baz=234,slow=5.2,SNR=10							
ANMO				PKiKP	PKiKP	17 46 39.4	+1.9
	comp=Z,1.7nm,0.7s,baz=242,slow=6.6,SNR=3.0							
ANMO	Albuquerque	95.28	55	P	P	17 41 57.1	-0.8
ANMO				pP	pP	17 42 54.0	+0.5
ANMO				PKiKP	PKiKP	17 46 39.4	+1.9
ANMO	Albuquerque	95.28	55	P	P	17 41 57.1	-0.8
ANMO				*PP	pP	17 42 54.0	+0.5
MNTX	Cornudas Mount	95.29	59	⇓P	P	17 41 57.3	-0.7
	baz=95							
425A	Indio Mountain	95.37	60	⇑P	P	17 41 57.4	-1.0
	baz=96,SNR=10							
124A	Stringfield Ra	95.49	58	⇑P	P	17 41 58.9	0.0
	baz=96							
N20A	Spence Gulch,	95.53	49	⇓P	P	17 41 58.2	-0.7
	baz=96							
325A	Bean Ranch, Si	95.54	59	⇓P	P	17 41 58.7	-0.4
	baz=96							
J19A	Crowheart	95.65	47	⇑P	P	17 41 58.7	-0.6
	baz=96							
K19A	Absolon Red Bu	95.67	47	⇓P	P	17 41 59.0	-0.4
	baz=96							
D17A	Six Diamond Ra	95.67	43	⇓P	P	17 42 00.6	+1.3
	baz=96							
S22A	4UR Ranch, Cre	95.75	53	⇑P	P	17 42 00.2	+0.3
	baz=96							
626A	Big Bend Ranch	95.77	61	⇓P	P	17 42 00.1	-0.1
	baz=96							
Y24A	Capitan	95.83	57	⇑P	P	17 42 00.1	-0.2
	baz=96							
I19A	Meeteetse	95.91	46	⇑P	P	17 42 01.1	+0.7
	baz=96							
K20A	Yellowstone Ra	95.98	47	⇓P	P	17 42 01.4	+0.6
	baz=96							
Q22A	Crested Butte,	95.99	51	⇓P	P	17 42 01.0	+0.1
	baz=96							
RLMT	Red Lodge	96.03	45	*e*pP	pP	17 42 55.9	-0.7
	comp=Z,51nm,1.5s							
SMCO	Snowmass	96.03	51	*e*pP	pP	17 42 57.8	+1.0
	comp=Z,29nm,1.1s							
N21A	Black Mountain	96.05	49	⇓P	P	17 42 01.7	+0.5
	baz=96							
H19A	Powell	96.09	45	⇑P	P	17 42 01.6	+0.3
	baz=96							
TXAR	Lajitas Array	96.10	61	P	P	17 42 01.3	-0.4
	comp=Z,0.9nm,0.6s,mb4.2,baz=252,slow=3.6,SNR=16							
TXAR				pP	pP	17 42 58.8	+1.5
	comp=Z,7.9nm,0.8s,baz=227,slow=4.3,SNR=12							
TXAR				PKKP	PKKPbc	17 58 48.5	-0.1
	comp=Z,0.6nm,0.7s,baz=120,slow=7.4,SNR=3.9							
TXAR	Lajitas Array	96.10	61	P	P	17 42 01.3	-0.4
TXAR				pP	pP	17 42 58.8	+1.5
TXAR				PKKP	PKKPbc	17 58 48.5	-0.1
TXAR	Lajitas Array	96.10	61	P	P	17 42 01.3	-0.4
TXAR				*PP	pP	17 42 58.8	+1.5
426A	McDonald Obser	96.14	60	⇑P	P	17 42 02.1	+0.3
	baz=96							
527A	Woodward Ranch	96.35	61	⇑P	P	17 42 02.1	-0.8
	baz=96							
627A	Terlingua Ranc	96.37	61	⇑P	P	17 42 02.4	-0.5
	baz=96							
M21A	Separation Pea	96.39	49	⇓P	P	17 42 03.0	+0.3
	baz=97							
RWWY	Rawlins	96.52	49	*e*P	P	17 42 03.3	0.0
	comp=Z,52nm,1.2s,mb5.6							
RWWY				*e*pP	pP	17 42 58.7	-0.3
O22A	Kremmling	96.61	50	⇓P	P	17 42 04.0	+0.2
	baz=97							
628A	Black Gap, Mar	96.80	61	⇓P	P	17 42 04.7	-0.2
	baz=97							
N22A	Wattenberg Ran	96.84	50	⇓P	P	17 42 04.5	-0.2
	baz=97							
W25A	X Bar L Ranch,	96.94	55	⇑P	P	17 42 04.9	-0.5
	baz=97							
L22A	Ellis Ranch, M	97.17	48	⇑P	P	17 42 05.8	-0.5
	baz=97							
ISCO	Idaho Springs	97.20	51	⇓P	P	17 42 06.3	-0.2
	baz=97							
N23A	Red Feather La	97.24	50	⇓P	P	17 42 06.9	+0.4
	baz=97							
428A	Kincaid Ranch,	97.27	60	⇑P	P	17 42 06.7	-0.3
	baz=97							
PHWY	Pilot Hill	97.70	49	*e*pP	pP	17 43 04.0	-0.2
	comp=Z,37nm,1.3s							
YKA	Yellowknife Ar	98.25	27	P	P	17 42 09.1	-1.5
	comp=Z,1.9nm,0.8s,mb4.5,baz=253,slow=4.5,SNR=12							
YKA				pP	pP	17 43 05.3	-0.9
	comp=Z,14nm,0.8s,baz=253,slow=4.6,SNR=16							
YKA				PP	PP	17 46 17.3	+3.8
	comp=Z,5.3nm,1.1s,baz=254,slow=7.2,SNR=6.0							
YKA				PKiKP	PKiKP	17 46 40.1	-1.7
	comp=Z,0.6nm,0.7s,baz=247,slow=1.2,SNR=5.4							
YKA				PKKP	PKKPbc	17 58 39.6	-4.5
	comp=Z,0.8nm,0.8s,baz=66,slow=2.3,SNR=5.9							
YKA				PKPPKP		18 06 56.2	
	comp=Z,0.1nm,0.4s,baz=60,slow=7.4,SNR=3.5							
YKA	Yellowknife Ar	98.25	27	P	P	17 42 09.1	-1.5
YKA				pP	pP	17 43 05.3	-0.9
YKA				PP	PP	17 46 17.3	+3.8
YKA				PKiKP	PKiKP	17 46 40.1	-1.7
YKA				PKKP	PKKPbc	17 58 39.6	-4.5
YKA				P'P'		18 06 56.2	
YKA	Yellowknife Ar	98.25	27	P	P	17 42 09.1	-1.5
YKA				*PP	pP	17 43 05.4	-0.9
YKA						17 46 17.3	
MK31	Makanchi Array	98.71	316	*e*P	P	17 42 11.7	-1.3
MK31				*e*pP	pP	17 43 06.6	-2.1
MK31				*e*PP	PP	17 46 19.7	+2.3
MK31	Makanchi Array	98.71	316	*e*P	P	17 42 11.7	-1.3
MK31				*e*PP	pP	17 43 06.6	-2.1
MK31				*e*		17 46 19.7	
MKAR	Makanchi Array	98.71	316	P	P	17 42 12.3	-0.6
	comp=Z,3.9nm,0.7s,mb4.8,baz=97,slow=6.2,SNR=33							
MKAR				pP	pP	17 43 07.5	-1.3
	comp=Z,17nm,0.9s,baz=99,slow=6.5,SNR=14							
MKAR				PP	PP	17 46 22.0	+4.5
	comp=Z,7.4nm,1.2s,baz=101,slow=5.1,SNR=4.7							
MKAR				PKKP	PKKPbc	17 58 39.0	-3.2
	comp=Z,0.8nm,0.6s,baz=263,slow=3.3,SNR=9.9							
MKAR	Makanchi Array	98.71	316	P	P	17 42 12.3	-0.6
MKAR				pP	pP	17 43 07.5	-1.3
MKAR				PP	PP	17 46 22.0	+4.5
MKAR				PKKP	PKKPbc	17 58 39.0	-3.2
MKAR	Makanchi Array	98.71	316	P	P	17 42 12.4	-0.6
MKAR				*PP	pP	17 43 07.5	-1.2
MKAR						17 46 22.0	
ZAA0	Zalesovo Array	98.91	324	*e*P	P	17 42 11.9	-1.8
ZAA0				*e*pP	pP	17 43 04.2	-5.2
ZAA0				*e*PP	PP	17 46 10.6	-8.2
ZALV	Zalesovo Beam	98.91	324	P	P	17 42 12.2	-1.5
	comp=Z,9.4nm,1.1s,mb5.0,baz=111,slow=3.7,SNR=23							
ZALV				pP	pP	17 43 07.0	-2.5
	comp=Z,20nm,0.9s,baz=107,slow=3.6,SNR=12							
ZALV				PP	PP	17 46 14.1	-4.7
	comp=Z,4.9nm,1.2s,baz=97,slow=7.6,SNR=3.9							
ZALV	Zalesovo Beam	98.91	324	P	P	17 42 12.2	-1.5
ZALV				pP	pP	17 43 07.0	-2.5
ZALV				PP	PP	17 46 14.1	-4.7
ZALV	Zalesovo Beam	98.91	324	P	P	17 42 12.2	-1.5
ZALV				*PP	pP	17 43 07.0	-2.5
ZALV						17 46 14.1	
RSSD	Black Hills	99.38	47	*e*pP	pP	17 43 11.0	-0.8
	comp=Z,17nm,1.1s							
JCT	Junction City	99.63	61	*e*Pdif	Pdif	17 42 15.2	-1.9
JCT				*e*pP	pP	17 43 12.7	-0.6
JCT	Junction City	99.63	61	*e*P	Pdif	17 42 15.2	-1.9
JCT				*e*PP	pP	17 43 12.7	-0.6
NVS	Novosibirsk	100.03	324	⇑*i*P	Pdif	17 42 17.8	-1.1
NVS				*i* *PP	pP	17 43 13.0	-1.4
NVS				*i*		17 46 22.8	
NVS				*i*		17 52 33.2	
NVS				*e*		17 56 22.8	
NVS				pmax	pmax		
	comp=N,15nm,2.0s						
NVS				pmax	pmax		
	comp=E,40nm,2.0s						
NVS				pmax	pmax		
	comp=N,18nm,2.5s						
NVS				pmax	pmax		
	comp=E,56nm,2.5s						
NVS				pmax	pmax		
	comp=Z,110nm,2.5s						
CMIG	Matias Romero	101.01	75	PP	PP	17 46 33.1	-2.5
	comp=Z,1.7nm,0.9s,baz=219,slow=6.5,SNR=4.0						
CMIG	Matias Romero	101.01	75	PP	PP	17 46 33.1	-2.5
PLCA	Paso Flores	101.63	138	Pdiff	Pdif	17 42 26.0	0.0
	comp=Z,2.9nm,0.9s,baz=240,slow=3.2,SNR=5.2						
PLCA				PP	PP	17 46 36.6	-2.4
	comp=Z,19nm,1.3s,baz=231,slow=7.3,SNR=7.2						
PLCA	Paso Flores	101.63	138	Pdif	Pdif	17 42 26.0	0.0
PLCA				PP	PP	17 46 36.6	-2.3
PLCA	Paso Flores	101.63	138	P	Pdif	17 42 26.0	0.0
PLCA						17 46 36.6	
KSH	Kashi	101.65	308	P	Pdif	17 42 27.5	+1.4
KSH				PP	PP	17 46 42.1	+2.2
KSH				SKS		17 52 45.3	
KSH				S	Sdif	17 53 43.8	-3.1
KSH				sS		17 55 21.7	
KSH				SS	SS	18 00 53.8	-1.7
KSH				pmax	pmax		
	comp=Z,13nm,1.7s						
KSH				pmax	pmax		
	comp=Z,220nm,6.2s						
KSH				LR	LR		
	comp=N,270nm,7.2s						
KSH				LR	LR		
	comp=E,170nm,9.0s						
KSH				LR	LR		
	comp=Z,130nm,7.7s						
KURK	Kurchatov	101.91	319	Pdiff	Pdif	17 42 26.5	-0.8
	comp=Z,0.6nm,0.8s,baz=128,slow=3.4,SNR=6.9						
KURK				pPdiff		17 43 22.9	
	comp=Z,6.5nm,1.1s,baz=105,slow=3.1,SNR=8.4						
KURK				PP	PP	17 46 39.5	-2.0
	comp=Z,16nm,1.4s,baz=105,slow=7.3,SNR=11						
KURK				PKKP	PKKPbc	17 58 30.3	-2.9
	comp=Z,1.7nm,0.6s,baz=282,slow=3.3,SNR=11						
KURK	Kurchatov	101.91	319	*e*Pdif	Pdif	17 42 25.8	-1.5
	comp=Z,3.8nm,1.3s						
KURK				*e*pP		17 43 21.4	
KURK				*e*		17 43 22.9	
KURK				*e*PP	PP	17 46 36.9	-4.6
KURK				PP	PP	17 46 39.5	-2.0
KURK				PKKP	PKKPbc	17 58 30.3	-2.9
KURK	Kurchatov	101.91	319	*e*P	Pdif	17 42 25.8	-1.4
KURK						17 46 39.5	
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
RFTA	Plano	102.75	59	*e*Pdif	Pdif	17 42 32.2	+1.2
BVAR	Borovoye Array	107.26	321	pPdiff		17 43 45.6	
	comp=Z,1.4nm,0.6s,baz=241,slow=40,SNR=1.9						
BVAR				PKiKP	PKiKP	17 46 57.3	-1.3
	comp=Z,0.5nm,0.4s,baz=136,slow=2.0,SNR=6.8						
BVAR				PP	PP	17 47 18.5	-2.4
	comp=Z,2.3nm,0.9s,baz=82,slow=11,SNR=5.6						
BVAR				PKKP	PKKPbc	17 58 14.6	-2.5
	comp=Z,1.0nm,0.7s,baz=302,slow=2.1,SNR=6.9						
BVAR	Borovoye Array	107.26	321	*e*P		17 43 45.6	
BVAR				PKiKP	PKiKP	17 46 57.3	-1.3
ARU	Arti	114.01	325	*i* PKIKP	PKiKP	17 47 12.7	+1.5
AKTO	Aktyubinsk	114.98	319	PKP	PKiKP	17 47 11.8	-1.4
	comp=Z,1.2nm,0.5s,baz=103,slow=5.8,SNR=6.3						
AKTO				pPKP		17 48 13.0	
	comp=Z,4.1nm,0.8s,baz=66,slow=2.7,SNR=5.9						
AKTO	Aktyubinsk	114.98	319	PKP	PKiKP	17 47 11.8	-1.4
AKTO				pPKP		17 48 13.0	
AKTO	Aktyubinsk	114.98	319	PKIKP	PKiKP	17 47 11.8	-1.5
AKTO						17 48 13.0	
LPAZ	La Paz	115.86	117	PKP	PKPdf	17 47 15.7	-0.3
	comp=Z,1.6nm,0.6s,baz=307,slow=3.1,SNR=7.2						
LPAZ				pPKP	pPKPdf	17 48 14.8	+0.5
	comp=Z,2.0nm,0.9s,baz=7.9,slow=9.1,SNR=2.8						
LPAZ				SKP		17 50 28.4	
	comp=Z,1.9nm,0.3s,baz=240,slow=10,SNR=6.8						
LPAZ	La Paz	115.86	117	PKP	PKPdf	17 47 15.7	-0.3
LPAZ				pPKP	pPKPdf	17 48 14.8	+0.5
LPAZ				SKP		17 50 28.4	
LPAZ	La Paz	115.86	117	PKIKP	PKPdf	17 47 15.7	-0.3
LPAZ						17 48 14.8	
CPUP	Villa Florida	118.96	133	PKP	PKPdf	17 47 21.1	-0.7
	comp=Z,0.7nm,0.4s,baz=320,slow=4.3,SNR=5.6						
CPUP	Villa Florida	118.96	133	PKP	PKPdf	17 47 21.1	-0.7
CPUP	Villa Florida	118.96	133	PKIKP	PKPdf	17 47 21.1	-0.7
APA	Apatity	120.84	342	⇓*i*PKIKP	PKPdf	17 47 33.6	+10
APA				MLR	MLR		
	comp=Z,1μm,23.0s						
KEV	Kevo	121.15	345	*e*PKIKP	PKPdf	17 47 23.1	-1.5
KEV	Kevo	121.15	345	*e*pkp	PKPdf	17 47 23.1	-1.5
ARCES	ARCESS Array B	121.67	345	PKP	PKPdf	17 47 24.3	-1.3
	comp=Z,5.9nm,0.6s,baz=66,slow=1.9,SNR=56						
ARCES				pPKP	pPKPdf	17 48 23.3	-0.6
	comp=Z,8.2nm,0.8s,baz=357,slow=2.4,SNR=4.4						
ARCES				PKKPab	PKKPab	17 57 24.0	-1.8
	comp=Z,3.2nm,0.6s,baz=222,slow=3.1,SNR=12						
ARCES	ARCESS Array B	121.67	345	PKP	PKPdf	17 47 24.3	-1.4
ARCES				pPKP	pPKPdf	17 48 23.3	-0.6
ARCES				PKKPab	PKKPab	17 57 24.0	-1.8
ARCES	ARCESS Array B	121.67	345	PKIKP	PKPdf	17 47 24.3	-1.3
ARCES						17 48 23.3	
ARE0	ARCESS Array S	121.67	345	*e*PKPdf	PKPdf	17 47 24.1	-1.5
SDV	Santo Domingo	122.29	89	*e*PKPdf	PKPdf	17 47 26.2	-2.2
SDV				*ep*PKPdf	pPKPdf	17 48 24.0	-2.6
SCHQ	Schefferville	122.84	34	PKP	PKPdf	17 47 27.7	-0.5
	comp=Z,5.7nm,0.9s,baz=126,slow=9.9,SNR=4.4						
SCHQ	Schefferville	122.84	34	PKP	PKPdf	17 47 27.7	-0.5
BOSA	Boshof	122.98	219	PKP	PKPdf	17 47 28.5	-0.9
	comp=Z,15nm,1.1s,baz=107,slow=1.2,SNR=11						
BOSA				pPKP	pPKPdf	17 48 28.9	+1.3
	comp=Z,7.4nm,1.0s,baz=100,slow=6.9,SNR=4.0						
BOSA	Boshof	122.98	219	PKP	PKPdf	17 47 28.5	-0.9
BOSA				pPKP	pPKPdf	17 48 28.9	+1.2
BOSA	Boshof	122.98	219	PKIKP	PKPdf	17 47 28.5	-1.0
BOSA						17 48 28.9	
JOF	Joensuu	124.37	338	*e*PKIKP	PKPdf	17 47 29.8	-1.1
JOF	Joensuu	124.37	338	*e*pkp	PKPdf	17 47 29.8	-1.1
DGRG	David-gareji	124.90	310	P	pPKPdf	17 48 25.9	-5.0
SCO	Scoresbysund	125.16	4	*i* P	pPKPdf	17 48 32.9	+2.4
	comp=Z,9.1nm,0.9s						
MTA	Mtatsminda	125.29	310	P	pPKPdf	17 48 31.1	-0.6
LBTB	Lobatse	125.31	223	*e*PKPdf	PKPdf	17 47 33.0	-1.1
LBTB	Lobatse	125.31	223	*e*PKIKP	PKPdf	17 47 33.0	-1.0
TBLG	Delisi	125.32	310	P	pPKPdf	17 48 28.5	-3.2
GOR	Gori	125.73	310	P	pPKPdf	17 48 31.3	-1.2
ONI	Oni	126.09	311	P	pPKPdf	17 48 30.8	-2.3
OBN	Obninsk	126.22	328	⇑*i*PKIKP	PKPdf	17 47 35.3	+0.6
OBN				*e*		17 54 22.0	
OBN				pmax	pmax		
	comp=Z,14nm,1.2s						
AKH	Akhalkalaki	126.30	310	P	pPKPdf	17 48 30.0	-3.6
KIV	Kislovodsk	126.34	313	*i* PKIKP	PKPdf	17 47 36.4	+1.1
KIV				*e*PP		17 48 31.9	
KIV				*e*		17 49 32.3	
KIV				*e*PS	PS	17 59 44.6	+4.8
KIV				*e*SSS		18 11 04.8	
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KAF	Kangasniemi	126.67	339	*e*PKIKP	PKPdf	17 47 33.6	-1.8
KAF	Kangasniemi	126.67	339	*e*pkp	PKPdf	17 47 33.6	-1.8
BHD	Baghdad	126.70	300	*ex*	x	17 48 21.5	
FINES	FINESS Array B	127.20	338	PKhKP	PKPpre	17 47 29.6	
	comp=Z,4.3nm,1.1s,baz=311,slow=17,SNR=4.1						
FINES				PKP	PKPdf	17 47 35.6	-0.8
	comp=Z,1.6nm,0.5s,baz=17,slow=1.4,SNR=2.8						
FINES				pPKP	pPKPdf	17 48 35.4	+0.8
	comp=Z,22nm,1.0s,baz=112,slow=5.1,SNR=6.5						
FINES				SKPbc		17 50 31.8	
	comp=Z,5.7nm,0.9s,baz=39,slow=3.9,SNR=6.1						
FINES	FINESS Array B	127.20	338	PKPpre	PKPpre	17 47 29.6	
FINES				PKP	PKPdf	17 47 35.6	-0.8
FINES				pPKP	pPKPdf	17 48 35.4	+0.8
FINES				SKPbc		17 50 31.8	
FINES	FINESS Array B	127.20	338	PKIKP	PKPpre	17 47 29.6	
LRS	Lares	127.53	79	*e*PKPdf	PKPdf	17 47 35.9	-2.4
KMBO	Kilima Mbogo	128.66	255	*e*PKPdf	PKPdf	17 47 40.9	+0.2
KMBO				*ep*PKPdf	pPKPdf	17 48 38.6	-0.3
KMBO				*e*SKP		17 50 40.5	
KMBO	Kilima Mbogo	128.66	255	*e*PKIKP	PKPdf	17 47 40.9	+0.2
KMBO				*e*		17 48 38.7	
ANN	Anapa	129.72	315	*i* PKIKP	PKPdf	17 47 35.9	-5.8
ANN				pmax	pmax		
	comp=Z,34nm,1.1s						
LSZ	Lusaka	129.75	234	*e*PKPdf	PKPdf	17 47 41.5	-1.2
LSZ				*e*pPKPdf	pPKPdf	17 48 40.6	-0.3
LSZ				*e*PP	PP	17 49 54.2	-1.7
LSZ				*e*SKP		17 50 42.5	
LSZ	Lusaka	129.75	234	*e*PKIKP	PKPdf	17 47 41.5	-1.2
LSZ				*e*		17 48 40.6	
LSZ				*e*		17 49 54.2	
FURI	Furi	130.28	268	*i* P	SKPbc	17 50 46.4	+0.9
IZAR	Zarasai	130.83	333	*e*P	SKPbc	17 50 45.2	-1.0
IZAR				AMB	AMB	17 50 46.7	
	comp=Z,36nm,1.0s						
MICGM	Minsk	130.83	330	*e*	pPKPdf	17 48 40.0	-1.8
MICGM	Minsk	130.83	330	*e*	SKPbc	17 50 44.0	-2.3
ISAL	Salakas	130.99	332	*e*P	SKPbc	17 50 45.6	-1.2
ISAL				AMB	AMB	17 50 47.3	
	comp=Z,23nm,1.3s						
IIGN	Ignalina	131.09	332	*e*P	SKPbc	17 50 46.3	-0.9
IIGN				AMB	AMB	17 50 47.7	
	comp=Z,21nm,0.8s						
NACGM	Naroch	131.11	331	*e*	SKPbc	17 50 43.0	-4.3
NB2	NORSAR Subarra	132.05	345	PKPdf	PKPdf	17 47 45.2	-0.4
	comp=Z,1.5nm,0.6s,baz=31,slow=1.9						
NOA	NORSAR Array B	132.05	345	PKP	PKPdf	17 47 45.9	+0.2
	comp=Z,1.7nm,0.6s,baz=31,slow=2.0,SNR=6.2						
NOA				pPKP	pPKPdf	17 48 43.6	-0.2
	comp=Z,5.2nm,0.9s,baz=31,slow=1.9,SNR=6.0						
NOA				SKPbc	SKPbc	17 50 49.2	-1.2
	comp=Z,9.3nm,0.8s,baz=34,slow=2.9,SNR=15						
NOA	NORSAR Array B	132.05	345	PKP	PKPdf	17 47 45.9	+0.2
NOA				pPKP	pPKPdf	17 48 43.6	-0.2
NOA				SKPbc	SKPbc	17 50 49.2	-1.2
NOA	NORSAR Array B	132.05	345	PKIKP	PKPdf	17 47 45.9	+0.3
NOA						17 48 43.7	
HFS	Hagfors	132.17	343	PKP	PKPdf	17 47 45.9	0.0
	comp=Z,4.1nm,0.8s,baz=108,slow=4.8,SNR=8.4						
HFS				pPKP	pPKPdf	17 48 44.9	+0.7
	comp=Z,3.0nm,0.7s,baz=77,slow=3.2,SNR=3.3						
HFS				SKPbc	SKPbc	17 50 49.4	-1.5
	comp=Z,12nm,0.8s,baz=68,slow=4.0,SNR=10						
HFS	Hagfors	132.17	343	PKP	PKPdf	17 47 45.9	0.0
HFS				pPKP	pPKPdf	17 48 44.9	+0.7
HFS				SKPbc	SKPbc	17 50 49.4	-1.5
HFS	Hagfors	132.17	343	PKIKP	PKPdf	17 47 45.9	0.0
HFS						17 48 44.9	
AKASG	Malin Array Be	132.25	326	PKP	PKPdf	17 47 47.1	+0.8
	comp=Z,0.7nm,0.4s,baz=70,slow=2.7,SNR=6.9						
AKASG				pPKP	pPKPdf	17 48 44.3	-0.3
	comp=Z,5.9nm,0.9s,baz=55,slow=2.1,SNR=3.7						
AKASG				SKPbc	SKPbc	17 50 50.4	-1.1
	comp=Z,6.9nm,0.7s,baz=51,slow=4.6,SNR=13						
AKASG	Malin Array Be	132.25	326	PKP	PKPdf	17 47 47.1	+0.8
AKASG				pPKP	pPKPdf	17 48 44.3	-0.3
AKASG				SKPbc	SKPbc	17 50 50.4	-1.1
AKASG	Malin Array Be	132.25	326	PKIKP	PKPdf	17 47 47.1	+0.8
AKASG						17 48 44.3	
KIEV	Kiev	132.27	326	*e*PKPdf	PKPdf	17 47 45.4	-1.0
KIEV				*ep*PKPdf	pPKPdf	17 48 42.3	-2.4
KIEV				*e*PP	PP	17 50 10.3	-1.2
KIEV				*e*SKP		17 50 49.9	
KIEV	Kiev	132.27	326	*e*PKIKP	PKPdf	17 47 45.4	-1.0
KIEV				*e*		17 48 42.3	
KIEV				*e*		17 50 10.3	
ASF	Jabal al Asfar	133.09	299	SKPbc	SKPbc	17 50 56.0	+1.0
	comp=Z,6.2nm,0.9s,baz=327,slow=3.7,SNR=5.6						
ASF	Jabal al Asfar	133.09	299	SKPbc	SKPbc	17 50 56.0	+1.0
BRTR	Keskin Array B	133.98	310	PKP	PKPdf	17 47 50.4	+0.4
	comp=Z,2.1nm,1.0s,baz=168,slow=7.1,SNR=5.7						
BRTR				pPKP	pPKPdf	17 48 45.8	-2.5
	comp=Z,1.4nm,0.9s,baz=28,slow=3.4,SNR=2.2						
BRTR				PP	PP	17 50 22.8	-0.2
	comp=Z,6.2nm,1.2s,baz=90,slow=6.2,SNR=4.8						
BRTR				SKPbc	SKPbc	17 50 56.2	-1.5
	comp=Z,1.9nm,0.9s,baz=98,slow=1.0,SNR=2.5						
BRTR	Keskin Array B	133.98	310	PKP	PKPdf	17 47 50.4	+0.4
BRTR				pPKP	pPKPdf	17 48 45.8	-2.5
BRTR				PP	PP	17 50 22.8	-0.2
BRTR				SKPbc	SKPbc	17 50 56.2	-1.5
BRTR	Keskin Array B	133.98	310	PKIKP	PKPdf	17 47 50.4	+0.4
BRTR						17 48 45.8	
BRTR						17 50 22.8	
MMAI	Mount Meron Ar	134.20	301	SKPbc	SKPbc	17 50 58.0	-0.7
	comp=Z,16nm,0.8s,baz=69,slow=5.4,SNR=7.7						
MMAI	Mount Meron Ar	134.20	301	SKPbc	SKPbc	17 50 58.0	-0.7
KIS	Kishinev	134.35	321	*e*P	pPKPdf	17 48 47.0	-1.7
TSUM	Tsumeb	134.62	221	*e*PKPpre	PKPpre	17 47 37.5	
TSUM				*e*PKPdf	PKPdf	17 47 51.4	-0.4
TSUM				*ep*PKPdf	pPKPdf	17 48 46.3	-3.7
TSUM				*e*PP

CLL			*e*pPKiKP		17 49 00.0		
CLL			*es*PKPdf		17 49 18.0		
CLL			*e*PP	PP	17 50 50.0	-6.7	
CLL			*e*SKPdf	SKPdf	17 51 13.0	0.0	
CLL			*e*PKSdf		17 51 38.0		
CLL			*e*pPP		17 51 51.0		
CLL			*e*		17 53 02.0		
CLL			*e*		17 55 29.0		
CLL			*e*SKKSac	SKKSac	17 57 21.0	-7.0	
CLL			*e*SKSP		18 00 38.0		
CLL			*e*(PPS)		18 04 00.0		
CLL			*e*SKKSdf	SKKSdf	18 04 06.0	-13	
CLL			*e*SS	SS	18 09 10.0	+13	
CLL			*es*SS		18 10 28.0		
CLL			*e*		18 13 18.0		
CLL			*e*SSS		18 14 06.0		
CLL			*e*SSSS		18 18 36.0		
CLL			*e*		18 19 54.0		
CLL			LmV		18 52 00.0		
comp=Z,500nm,20.9s							
BUD	**Budapest**	**139.56 328**⇑	*e*pPKP/A	pPKPdf	17 48 58.1	-0.2	
PRU	**Pruhonice**	**139.93 334**	*e*PKIKP	PKPdf	17 48 01.1	+0.5	
PRU			*e*		17 49 00.4		
PRU	**Pruhonice**	**139.93 334**	*e*PKPDF	PKPdf	17 48 01.1	+0.5	
PRU			*e*pPKP	pPKPdf	17 49 00.4	+1.5	
VTS	**Vitosha**	**140.00 319**⇑	*i*P	pPKPdf	17 49 00.6	+1.3	
VTS	**Vitosha**	**140.00 319**⇓	*i*P		17 51 26.7		
TREC	**Trest**	**140.03 332**	*e*pPKP	pPKPdf	17 49 00.2	+1.1	
ZST	**Bratislava**	**140.05 330**	*e*PKIKP	PKPdf	17 48 01.6	+0.7	
ZST			*e*		17 48 59.5		
ZST	**Bratislava**	**140.05 330**	*e*PKP	PKPdf	17 48 01.6	+0.7	
ZST			*e*		17 48 59.5		
PKSM	**Moragy**	**140.59 326**⇓	*i*P	pPKPdf	17 49 01.1	+0.9	
PKSM	**Moragy**	**140.59 326**⇑	*i*P	SKPdf	17 51 15.9	+0.9	
NKC	**Novy Kostel**	**140.61 335**	*e*pPKP	pPKPdf	17 48 54.4	-5.7	
SOP	**Sopron**	**140.67 330**⇑	*e*pPKP	pPKPdf	17 49 00.1	-0.2	
KHC	**Kasperske Hory**	**140.99 333**	*e*PKPpre	PKPpre	17 47 53.7		
KHC			*e*PKPdf	PKPdf	17 47 58.0	-4.6	
KHC	**Kasperske Hory**	**140.99 333**	*e*PKIKP	PKPpre	17 47 57.7		
KHC			*e*		17 51 12.0		
KHC	**Kasperske Hory**	**140.99 333**	*e*PKPpre	PKPpre	17 47 57.7		
KHC			*e*PKPDF	PKPdf	17 48 03.0	+0.5	
KHC			*e*pPKP	pPKPdf	17 49 01.8	+1.0	
KHC			*e*SKP		17 51 12.0		
GERES	**GERESS Array B**	**141.15 333**	PKhKP	PKPpre	17 47 55.6		
comp=Z,2.1nm,0.6s,baz=37,slow=2.8,SNR=14							
GERES			pPKP	pPKPdf	17 48 58.4	-2.8	
comp=Z,3.0nm,0.8s,baz=47,slow=2.4,SNR=3.4							
GERES	**GERESS Array B**	**141.15 333**	PKPpre	PKPpre	17 47 55.6		
GERES			pPKP	pPKPdf	17 48 58.4	-2.8	
GERES	**GERESS Array B**	**141.15 333**	PKHKP	PKPpre	17 47 55.6		
GRF	**Grafenberg Arr**	**141.52 336**	*e*pPKPdf	pPKPdf	17 48 57.4	-4.4	
GRFO	**Grafenberg**	**141.52 336**	*e*pPKPdf	pPKPdf	17 49 00.8	-0.9	
GRFO			*e*SKP		17 51 14.8		
MOA	**Molln**	**141.63 331**⇑	*i*PKPdf	PKPdf	17 47 59.9	-3.9	
comp=Z,13nm,1.4s							
GRB5	**Grafenberg Arr**	**141.80 335**	*e*PKPdf	PKPdf	17 48 00.0	-4.0	
SOKA	**Soboth**	**142.12 330**⇑	*i*PKPdf	PKPdf	17 48 00.0	-4.6	
comp=Z,22nm,1.6s							
OBKA	**Obir**	**142.47 330**⇓	*i*PKPdf	PKPdf	17 48 00.7	-4.6	
comp=Z,10.0nm,0.9s							
KBA	**Koelnbreinsper**	**142.62 331**⇓	*i*PKPdf	PKPdf	17 48 00.8	-4.7	
comp=Z,38nm,1.5s							
LJU	**Ljubljana**	**142.81 329**	*i* PKPdf	PKPdf	17 48 02.4	-3.5	
MYKA	**Terra Mystica**	**142.82 331**⇓	*i*PKPdf	PKPdf	17 48 01.5	-4.4	
comp=Z,29nm,1.5s							
BOJS	**Bojanci**	**142.82 328**	*e*PKPdf	PKPdf	17 48 02.6	-3.4	
BOJS			*e*pPKPdf	pPKPdf	17 48 59.8	-4.5	
BOJS			*e*		17 49 44.3		
BOJS			*e*		17 51 20.4		
BOJS			*e*		17 52 10.9		
CADS	**Cadrg**	**143.06 330**	*e*PKPdf	PKPdf	17 48 02.6	-3.7	
VOY	**Vojsko**	**143.13 330**	*e*PKPdf	PKPdf	17 48 02.8	-3.7	
VOY			*e*		17 48 28.2		
VOY			*e*		17 49 00.4		
WTTA	**Wattenberg**	**143.25 333**⇓	*i*PKPdf	PKPdf	17 48 03.2	-3.4	
comp=Z,40nm,1.0s,SNR=14							
WLF	**Walferdange**	**143.36 340**	PKP	PKPdf	17 48 04.4	-2.3	
LANF	**Langenberg**	**143.39 338**	PKP	PKPdf	17 48 04.1	-2.7	
GIVF	**Givet**	**143.39 342**	*e*PKP1	PKPdf	17 48 05.8	-1.0	
GIVF	**Givet**	**143.39 342**	*e*P	PKPdf	17 48 05.8	-1.0	
GIVF	**Givet**	**143.39 342**	*e*PKIKP	PKPdf	17 48 05.8	-1.0	
MOTA	**Moosalm**	**143.42 334**⇓	*i*PKPdf	PKPdf	17 48 03.1	-3.8	
comp=Z,19nm,0.8s							
RETA	**Reutte**	**143.45 334**⇑	*i*PKPdf	PKPdf	17 48 04.1	-2.9	
comp=Z,38nm,1.5s							
DOU	**Dourbes**	**143.47 342**	PKP	PKPdf	17 48 05.3	-1.6	
BAIF	**Baives**	**143.61 343**	*e*PKP1	PKPdf	17 48 07.5	+0.3	
BAIF	**Baives**	**143.61 343**	*e*P	PKPdf	17 48 07.5	+0.3	
BAIF	**Baives**	**143.61 343**	*e*PKIKP	PKPdf	17 48 07.5	+0.3	
BFO	**Black Forest**	**143.74 337**	*e*PKPdf	PKPdf	17 48 04.8	-2.7	
BFO			*e*pPKPdf	pPKPdf	17 49 03.1	-2.6	
BFO	**Black Forest**	**143.74 337**	*e*PKIKP	PKPdf	17 48 04.8	-2.7	
BFO			*e*		17 49 03.2		
FETA	**Feichten**	**143.83 334**⇓	*i*PKPdf	PKPdf	17 48 05.5	-2.2	
comp=Z,74nm,1.5s,SNR=15							
DAVA	**Damuels**	**143.98 335**⇓	*i*PKPdf	PKPdf	17 48 05.7	-2.2	
comp=Z,115nm,1.7s,SNR=21							
CDF	**Champ du Feu**	**144.06 338**⇓	*i*PKP1	PKPdf	17 48 05.9	-2.1	
comp=Z,155nm,1.1s							
CDF	**Champ du Feu**	**144.06 338**	*i* P	PKPdf	17 48 05.9	-2.1	
CDF	**Champ du Feu**	**144.06 338**	*i* PKIKP	PKPdf	17 48 05.9	-2.1	
ECH	**Echery**	**144.26 338**	*e*PKPdf	PKPdf	17 48 06.3	-2.1	
ECH			*e*pPKPdf	pPKPdf	17 49 03.3	-3.4	
ECH	**Echery**	**144.26 338**	*e*PKIKP	PKPdf	17 48 06.3	-2.1	
ECH			*e*		17 49 03.3		
ECH	**Echery**	**144.26 338**	PKP	PKPdf	17 48 06.7	-1.7	
DAVOX	**Davos/Dischmat**	**144.38 334**	PKP	PKPdf	17 48 08.0	-0.6	
comp=Z,51nm,0.6s,baz=70,slow=1.0,SNR=80							
DAVOX			pPKP	pPKPdf	17 49 05.7	-1.2	
comp=Z,12nm,0.6s,baz=3.1,slow=9.3,SNR=1.7							
DAVOX	**Davos/Dischmat**	**144.38 334**	PKP	PKPdf	17 48 08.0	-0.6	
DAVOX			pPKP	pPKPdf	17 49 05.7	-1.2	
DAVOX	**Davos/Dischmat**	**144.38 334**	PKIKP	PKPdf	17 48 08.0	-0.6	
DAVOX					17 49 05.7		
PAGF	**Fort de Pagny**	**144.47 340**⇓	*i*PKP1	PKPdf	17 48 07.7	-1.0	
comp=Z,251nm,1.8s							
MOF	**Molkenrain**	**144.58 338**	PKP	PKPdf	17 48 07.6	-1.3	
THEF	**They Montfort**	**144.66 339**	PKP	PKPdf	17 48 07.8	-1.3	
HINF	**Hinteralfeld**	**144.71 338**⇓	*i*PKP1	PKPdf	17 48 07.9	-1.3	
comp=Z,92nm,0.9s							
HINF	**Hinteralfeld**	**144.71 338**	*i* P	PKPdf	17 48 07.9	-1.3	
HINF	**Hinteralfeld**	**144.71 338**	*i* PKIKP	PKPdf	17 48 07.9	-1.3	
HAU	**Haudompre**	**144.73 339**⇓	*i*PKP1	PKPdf	17 48 08.2	-1.0	
comp=Z,321nm,1.1s							
HAU			*e*R				
comp=Z,402nm,20.5s							
HAU	**Haudompre**	**144.73 339**	*i* P	PKPdf	17 48 08.2	-1.0	
HAU	**Haudompre**	**144.73 339**	*i* PKIKP	PKPdf	17 48 08.2	-1.0	
MEZF	**Maizieres J'vi**	**144.73 340**⇓	*i*PKP1	PKPdf	17 48 08.5	-0.7	
comp=Z,401nm,1.2s							
MEZF	**Maizieres J'vi**	**144.73 340**	*i* P	PKPdf	17 48 08.5	-0.7	
TUE	**Stuetta**	**144.85 334**	*e*PKPdf	PKPdf	17 48 09.0	-0.4	
TUE			*e*pPKPdf	pPKPdf	17 49 06.7	-1.1	
SFTF	**Sexfontaines**	**145.00 340**⇓	*i*PKP1	PKPdf	17 48 09.4	-0.2	
comp=Z,301nm,1.0s							
SFTF	**Sexfontaines**	**145.00 340**	*i* P	PKPdf	17 48 09.4	-0.2	
LOMF	**Lomont**	**145.11 338**	PKP	PKPdf	17 48 09.7	-0.2	
AQU	**L'Aquila**	**145.96 326**	*e*PKPdf	PKPdf	17 48 11.1	-0.4	
AQU			*e*pPKPdf	pPKPdf	17 49 08.8	-1.0	
AQU	**L'Aquila**	**145.96 326**	*e*PKIKP	PKPdf	17 48 11.1	-0.4	
AQU			*e*		17 49 08.8		
TIP	**Timpagrande**	**145.96 318**	*e*PKPdf	PKPdf	17 48 12.3	+0.7	
TIP			*e*pPKPdf	pPKPdf	17 49 09.8	-0.1	
CABF	**La Chapelle**	**146.01 338**	*e*PKP1	PKPbc	17 48 12.7	+0.1	
comp=Z,227nm,1.3s							
CABF	**La Chapelle**	**146.01 338**	*e*P	PKPbc	17 48 12.7	+0.1	
CABF	**La Chapelle**	**146.01 338**	*e*PKP2	PKPbc	17 48 12.7	+0.1	
FLN	**La Foliniere**	**146.01 347**⇓	*i*PKP1	PKPbc	17 48 11.7	-0.8	
comp=Z,122nm,0.8s							
FLN			*e*R				
comp=Z,439nm,21.5s							
FLN	**La Foliniere**	**146.01 347**	*i* P	PKPbc	17 48 11.7	-0.8	
FLN	**La Foliniere**	**146.01 347**	*i* PKP2	PKPbc	17 48 11.7	-0.8	
OG01	**Vacheresse**	**146.03 337**	PKP	PKPbc	17 48 13.2	+0.5	
CUC	**Castrocucco**	**146.07 320**	*e*PKPdf	PKPdf	17 48 10.5	-1.3	
CUC			*e*pPKPdf	pPKPdf	17 49 08.2	-1.9	
LDF	**La Druitiere**	**146.09 346**	*e*PKP1	PKPbc	17 48 11.8	-1.0	
comp=Z,49nm,0.7s							
LDF	**La Druitiere**	**146.09 346**	*e*P	PKPbc	17 48 11.8	-1.0	
LDF	**La Druitiere**	**146.09 346**	*e*PKP2	PKPbc	17 48 11.8	-1.0	
LOR	**Lormes**	**146.20 341**⇓	*i*PKP1	PKPbc	17 48 13.7	+0.5	
comp=Z,173nm,1.3s							
LOR			*e*R				
comp=Z,583nm,21.5s							
LOR	**Lormes**	**146.20 341**	*i* P	PKPbc	17 48 13.7	+0.5	
LOR	**Lormes**	**146.20 341**	*i* PKP2	PKPbc	17 48 13.7	+0.5	
GRR	**Gorron**	**146.45 347**	*e*PKP1	PKPbc	17 48 13.2	-0.6	
comp=Z,47nm,0.7s							
GRR	**Gorron**	**146.45 347**	*e*P	PKPbc	17 48 13.2	-0.6	
GRR	**Gorron**	**146.45 347**	*e*PKP2	PKPbc	17 48 13.2	-0.6	
SSF	**Saint Saulge**	**146.50 341**⇓	*i*PKP1	PKPbc	17 48 13.6	-0.4	
comp=Z,147nm,1.1s							
SSF	**Saint Saulge**	**146.50 341**	*i* P	PKPbc	17 48 13.6	-0.4	
SSF	**Saint Saulge**	**146.50 341**	*i* PKP2	PKPbc	17 48 13.6	-0.4	
HYF	**Humbligny**	**146.58 342**	*e*PKP1	PKPbc	17 48 14.1	-0.1	
HYF	**Humbligny**	**146.58 342**	*e*P	PKPbc	17 48 14.1	-0.1	
RSL	**Roselend**	**146.58 336**	PKP	PKPbc	17 48 14.4	+0.1	
LPL	**La Plagne**	**146.69 336**	*e*PKP1	PKPbc	17 48 14.6	0.0	
comp=Z,57nm,0.9s							
LPL	**La Plagne**	**146.69 336**	*e*P	PKPbc	17 48 14.6	0.0	
LPL	**La Plagne**	**146.69 336**	*e*PKP2	PKPbc	17 48 14.6	0.0	
LPG	**La Plagne**	**146.69 336**	*e*PKP1	PKPbc	17 48 14.7	+0.1	
comp=Z,75nm,1.0s							
LPG	**La Plagne**	**146.69 336**	*e*P	PKPbc	17 48 14.7	+0.1	
LPG	**La Plagne**	**146.69 336**	*e*PKP2	PKPbc	17 48 14.7	+0.1	
SMF	**Signal de Mont**	**146.76 340**	*e*PKP1	PKPbc	17 48 14.1	-0.7	
SMF	**Signal de Mont**	**146.76 340**	*e*P	PKPbc	17 48 14.1	-0.7	
SMF	**Signal de Mont**	**146.76 340**	*e*PKP2	PKPbc	17 48 14.1	-0.7	
AVF	**Avril sur Loir**	**146.78 341**	*e*PKP1	PKPbc	17 48 14.1	-0.7	
AVF	**Avril sur Loir**	**146.78 341**	*e*P	PKPbc	17 48 14.1	-0.7	
AVF	**Avril sur Loir**	**146.78 341**	*e*PKP2	PKPbc	17 48 14.1	-0.7	
SGMF	**Saint Gilles**	**146.92 349**	*e*PKP1	PKPbc	17 48 14.3	-0.9	
comp=Z,217nm,1.2s							
SGMF	**Saint Gilles**	**146.92 349**	*e*P	PKPbc	17 48 14.3	-0.9	
SGMF	**Saint Gilles**	**146.92 349**	*e*PKP2	PKPbc	17 48 14.3	-0.9	
ROSF	**Rostrenen**	**146.97 350**	*e*PKP1	PKPbc	17 48 14.6	-0.7	
ROSF	**Rostrenen**	**146.97 350**	*e*P	PKPbc	17 48 14.6	-0.7	
ROSF	**Rostrenen**	**146.97 350**	*e*PKP2	PKPbc	17 48 14.6	-0.7	
CEL	**Celeste**	**147.04 318**	*e*PKPdf	PKPdf	17 48 13.4	-0.1	
CEL			*e*PKPbc	PKPbc	17 48 16.8	+0.9	
CEL			*ep*PKPdf	pPKPdf	17 49 13.0	+1.2	
BNI	**Bardonecchia**	**147.09 336**	*e*PKPbc	PKPbc	17 48 16.4	+0.7	
BNI			*ep*PKPdf	pPKPdf	17 49 13.4	+1.7	
BNI	**Bardonecchia**	**147.09 336**	*e*PKP2	PKPbc	17 48 16.4	+0.7	
BGF	**Bois d'Agland**	**147.15 341**	*e*PKP1	PKPbc	17 48 15.2	-0.7	
comp=Z,47nm,0.8s							
BGF	**Bois d'Agland**	**147.15 341**	*e*P	PKPbc	17 48 15.2	-0.7	
BGF	**Bois d'Agland**	**147.15 341**	*e*PKP2	PKPbc	17 48 15.2	-0.7	
MBDF	**Montbardon**	**147.32 335**	*e*PKP1	PKPbc	17 48 15.7	-0.7	
comp=Z,28nm,0.6s							
MBDF	**Montbardon**	**147.32 335**	*e*P	PKPbc	17 48 15.7	-0.7	
MBDF	**Montbardon**	**147.32 335**	*e*PKP2	PKPbc	17 48 15.7	-0.7	
QUIF	**Quistinic**	**147.36 349**	*e*PKP1	PKPbc	17 48 15.4	-1.0	
QUIF	**Quistinic**	**147.36 349**	*e*P	PKPbc	17 48 15.4	-1.0	
QUIF	**Quistinic**	**147.36 349**	*e*PKP2	PKPbc	17 48 15.4	-1.0	
PLDF	**La Plantade**	**147.42 340**	PKP	PKPbc	17 48 16.7	+0.1	
AGO	**Saint Agoulin**	**147.51 340**	PKP	PKPbc	17 48 16.9	0.0	
TCF	**Toulx Ste Croi**	**147.59 342**⇓	*i*PKP1	PKPbc	17 48 16.4	-0.7	
comp=Z,126nm,1.3s							
TCF	**Toulx Ste Croi**	**147.59 342**	*i* P	PKPbc	17 48 16.4	-0.7	
TCF	**Toulx Ste Croi**	**147.59 342**	*i* PKP2	PKPbc	17 48 16.4	-0.7	
AUTN	**L'Aution**	**147.65 334**	PKP	PKPbc	17 48 17.4	+0.1	
SHEL	**Horse Pasture**	**147.71 191**	*e*PKPdf	PKPdf	17 48 15.2	0.0	
SHEL			*e*PKPbc	PKPbc	17 48 18.4	+0.2	
SHEL			*ep*PKPdf	pPKPdf	17 49 07.9	-5.6	
SHEL	**Horse Pasture**	**147.71 191**	*e*PKIKP	PKPdf	17 48 15.2	0.0	
SHEL			*e*		17 48 18.4		
TOUF	**Mont Tournerai**	**147.71 334**	PKP	PKPbc	17 48 17.4	0.0	
SSB	**Saint Sauveur**	**147.71 338**	*e*PKPbc	PKPbc	17 48 16.3	-1.1	
SSB			pPKPdf	pPKPdf	17 49 14.6	+1.9	
SSB	**Saint Sauveur**	**147.71 338**	*e*PKP2	PKPbc	17 48 16.3	-1.1	
SBF	**Sospel**	**147.75 333**	*e*PKP1	PKPbc	17 48 16.6	-1.0	
SBF	**Sospel**	**147.75 333**	*e*P	PKPbc	17 48 16.6	-1.0	
SBF	**Sospel**	**147.75 333**	*e*PKP2	PKPbc	17 48 16.6	-1.0	
LUCF	**Luceram**	**147.76 334**	PKP	PKPdf	17 48 14.8	+0.4	
RCBR	**Riachuelo**	**147.79 130**	*e*PKPdf	PKPdf	17 48 14.1	-1.3	
RCBR			*ep*PKPdf	pPKPdf	17 49 11.4	-2.3	
PYM	**Petit Puy Mans**	**147.82 340**	PKP	PKPbc	17 48 17.8	+0.1	
MVIF	**Mont Vial**	**147.84 334**	PKP	PKPbc	17 48 17.6	-0.2	
MFF	**Saint Martin d**	**147.95 345**	*e*PKP1	PKPbc	17 48 17.2	-0.8	
comp=Z,62nm,0.8s							
MFF	**Saint Martin d**	**147.95 345**	*e*P	PKPbc	17 48 17.2	-0.8	
MFF	**Saint Martin d**	**147.95 345**	*e*PKP2	PKPbc	17 48 17.2	-0.8	
VIVF	**Saint-Julien-l**	**148.02 338**	*e*PKP1	PKPbc	17 48 17.9	-0.4	
VIVF	**Saint-Julien-l**	**148.02 338**	*e*P	PKPbc	17 48 17.9	-0.4	
VIVF	**Saint-Julien-l**	**148.02 338**	*e*PKP2	PKPbc	17 48 17.9	-0.4	
PGF	**Pioggiola**	**148.07 330**	*e*PKP1	PKPbc	17 48 17.7	-0.7	
comp=Z,121nm,1.0s							
PGF	**Pioggiola**	**148.07 330**	*e*P	PKPbc	17 48 17.7	-0.7	
PGF	**Pioggiola**	**148.07 330**	*e*PKP2	PKPbc	17 48 17.7	-0.7	
CALN	**Calern**	**148.07 334**	PKP	PKPdf	17 48 15.9	+0.9	
LBL	**Lubilhac**	**148.20 340**	PKP	PKPbc	17 48 19.5	+0.8	
FRF	**La Foret Royal**	**148.33 334**	*e*PKP1	PKPbc	17 48 18.1	-1.0	
comp=Z,65nm,1.1s							
FRF	**La Foret Royal**	**148.33 334**	*e*P	PKPbc	17 48 18.1	-1.0	
FRF	**La Foret Royal**	**148.33 334**	*e*PKP2	PKPbc	17 48 18.1	-1.0	
SMRF	**Simiane la Rot**	**148.42 336**	*e*PKP1	PKPbc	17 48 19.0	-0.3	
SMRF	**Simiane la Rot**	**148.42 336**	*e*P	PKPbc	17 48 19.0	-0.3	
LMR	**La Mourre**	**148.57 334**	*e*PKP1	PKPbc	17 48 18.8	-0.9	
comp=Z,21nm,0.7s							
LMR	**La Mourre**	**148.57 334**	*e*P	PKPbc	17 48 18.8	-0.9	
LMR	**La Mourre**	**148.57 334**	*e*PKP2	PKPbc	17 48 18.8	-0.9	
RJF	**Les Rejaudoux**	**148.68 342**	*e*PKP1	PKPbc	17 48 19.4	-0.5	
comp=Z,217nm,1.7s							
RJF			*e*R				
comp=Z,645nm,22.8s							
RJF	**Les Rejaudoux**	**148.68 342**	*e*P	PKPbc	17 48 19.4	-0.5	
RJF	**Les Rejaudoux**	**148.68 342**	*e*PKP2	PKPbc	17 48 19.4	-0.5	
CAF	**Calviac**	**148.86 341**	*e*PKP1	PKPbc	17 48 20.0	-0.4	
comp=Z,12nm,0.8s							
CAF	**Calviac**	**148.86 341**	*e*P	PKPbc	17 48 20.0	-0.4	
CAF	**Calviac**	**148.86 341**	*e*PKP2	PKPbc	17 48 20.0	-0.4	
LASF	**Ste Croix**	**148.99 338**	*e*PKP1	PKPbc	17 48 20.2	-0.5	
comp=Z,44nm,0.9s							
LASF	**Ste Croix**	**148.99 338**	*e*P	PKPbc	17 48 20.2	-0.5	
LFF	**La Frestale**	**149.25 342**	*e*PKP1	PKPbc	17 48 20.8	-0.5	
LFF	**La Frestale**	**149.25 342**	*e*P	PKPbc	17 48 20.8	-0.5	
LFF	**La Frestale**	**149.25 342**	*e*PKP2	PKPbc	17 48 20.8	-0.5	
MTLF	**Montolieu**	**150.21 339**	*e*PKP1	PKPbc	17 48 23.2	-0.5	
comp=Z,27nm,0.8s							
MTLF	**Montolieu**	**150.21 339**	*e*P	PKPbc	17 48 23.2	-0.5	
MTLF	**Montolieu**	**150.21 339**	*e*PKIKP	PKPbc	17 48 23.2	-0.5	
EPF	**Esparros**	**151.10 341**	*e*PKP1	PKPbc	17 48 25.5	-0.3	
comp=Z,24nm,0.9s							
EPF	**Esparros**	**151.10 341**	*e*P	PKPbc	17 48 25.5	-0.3	
EPF	**Esparros**	**151.10 341**	*e*PKIKP	PKPbc	17 48 25.5	-0.3	
SJPF	**Ste Jean**	**151.48 344**	*e*PKP1	PKPbc	17 48 26.2	-0.5	
comp=Z,19nm,0.7s							
SJPF	**Ste Jean**	**151.48 344**	*e*P	PKPbc	17 48 26.2	-0.5	
SJPF	**Ste Jean**	**151.48 344**	*e*PKIKP	PKPbc	17 48 26.2	-0.5	
ETSF	**Etsaut**	**151.49 342**	*e*PKP1	PKPbc	17 48 26.5	-0.2	
comp=Z,26nm,0.6s							
ETSF	**Etsaut**	**151.49 342**	*e*P	PKPbc	17 48 26.5	-0.2	
ETSF	**Etsaut**	**151.49 342**	*e*PKIKP	PKPbc	17 48 26.5	-0.2	
KEST	**Kesra**	**152.73 320**	PKPbc	PKPbc	17 48 29.7	0.0	
comp=Z,2.5nm,0.7s,baz=330,slow=22,SNR=11							
KEST			PKPab	PKPab	17 48 42.3	+0.9	
comp=Z,10nm,1.2s,baz=96,slow=2.8,SNR=5.2							
KEST			pPKPbc	pPKPbc	17 49 29.1	+1.3	
comp=Z,16nm,0.9s,baz=308,slow=2.1,SNR=7.9							
KEST	**Kesra**	**152.73 320**	*e*PKPdf	PKPdf	17 48 20.1	-2.4	
KEST			*e*PKPbc	PKPbc	17 48 29.6	-0.2	
KEST			PKPbc	PKPbc	17 48 29.7	0.0	
KEST			*e*PKPab	PKPab	17 48 41.6	+0.2	
KEST			PKPab	PKPab	17 48 42.3	+0.9	
KEST			*ep*PKPbc	pPKPbc	17 49 26.7	-1.1	
KEST			pPKPbc	pPKPbc	17 49 29.1	+1.3	
CMAH	**Djebel Manchou**	**153.26 324**	P	PKPbc	17 48 30.8	-0.1	
ABSA	**Djebel Ababsia**	**153.47 323**	P	PKPbc	17 48 36.5	+5.2	
CKFL	**Kef-Lekhel**	**153.81 324**	P	PKPab	17 48 39.3	-6.7	
CASM	**Ain Smara**	**154.04 325**	P	PKPab	17 48 41.0	-5.9	
SET	**Setif**	**154.69 326**	P	PKPbc	17 48 31.0	-2.9	
ESDC	**Sonseca Array**	**155.41 345**	PKPab	PKPab	17 48 52.3	-0.3	
comp=Z,1.7nm,0.7s,baz=17,slow=3.7,SNR=7.6							
ESDC			pPKPab	pPKPab	17 49 49.0	+0.4	
comp=Z,8.7nm,1.0s,baz=8.6,slow=2.7,SNR=4.1							
ESDC	**Sonseca Array**	**155.41 345**	PKPab	PKPab	17 48 52.3	-0.3	
ESDC			pPKPab	pPKPab	17 49 49.0	+0.4	
TAM	**Tamanrasset**	**162.30 295**	*e*PKPdf	PKPdf	17 48 32.3	-2.4	
TAM			*e*PKPab	PKPab	17 49 22.7	-0.5	
TAM			*e*PP	PP	17 53 07.9	-0.2	
TAM	**Tamanrasset**	**162.30 295**	*e*PKIKP	PKPdf	17 48 32.3	-2.4	
TAM			*e*		17 49 22.7		
TAM			*e*		17 53 07.9		
TORD	**Torodi Ar. Bea**	**166.62 260**	PKP	PKPdf	17 48 37.0	-1.7	
comp=Z,6.4nm,1.2s,baz=17,slow=0.3,SNR=26							
TORD			pPKP	pPKPdf	17 49 35.6	-1.7	
comp=Z,4.5nm,1.1s,baz=82,slow=0.6,SNR=4.6							
TORD			PKPab	PKPab	17 49 41.6	-0.8	
comp=Z,14nm,0.8s,baz=100,slow=3.9,SNR=26							
TORD			pPKPab	pPKPab	17 50 36.2	-2.0	
comp=Z,10nm,1.2s,baz=92,slow=1.4,SNR=2.7							
TORD	**Torodi Ar. Bea**	**166.62 260**	PKP	PKPdf	17 48 37.0	-1.7	
TORD			pPKP	pPKPdf	17 49 35.6	-1.7	
TORD			PKPab	PKPab	17 49 41.6	-0.8	
TORD			pPKPab	pPKPab	17 50 36.2	-2.0	
DBIC	**Dimbokro**	**168.50 217**	PKP	PKPdf	17 48 38.2	-1.9	
comp=Z,15nm,1.2s,baz=72,slow=3.2,SNR=9.3							
DBIC			pPKP	pPKPdf	17 49 37.5	-1.3	
comp=Z,11nm,1.3s,baz=112,slow=3.7,SNR=2.2							
DBIC			PKPab	PKPab	17 49 50.1	-0.4	
comp=Z,36nm,1.2s,baz=137,slow=4.4,SNR=17							
DBIC			PP	PP	17 53 38.5	-0.6	
comp=Z,14nm,1.2s,baz=159,slow=4.9,SNR=3.7							
DBIC	**Dimbokro**	**168.50 217**	*e*PKPdf	PKPdf	17 48 37.6	-2.4	
DBIC			PKP	PKPdf	17 48 38.2	-1.9	
DBIC			*ep*PKPd

UCH P 17 49 25.6
SNR=22
KZA Kyzart 2.75 30 P **Pn 17 49 25.3 +0.5**
SNR=21
KZA P 17 49 25.3
SNR=21
EKS2 Erkin-Say 2.95 6 P **Pn 17 49 29.2 +1.5**
SNR=15
EKS2 P 17 49 29.2
SNR=15
EKS2 Erkin-Say 2.95 6 *e*Pn **Pn 17 49 28.8 +1.1**
AAK Ala-Archa 3.03 16 P **Pn 17 49 30.1 +1.4**
SNR=36
AAK P 17 49 30.1
SNR=36
AAK Ala-Archa 3.03 16 *e*Pn **Pn 17 49 29.4 +0.7**
KBK Karagaybulak 3.16 21 P **Pn 17 49 32.6 +2.1**
SNR=18
KBK P 17 49 32.6
SNR=18
ULHL Ulahol 3.32 40 P **Pn 17 49 32.5 -0.2**
SNR=13
ULHL P 17 49 32.5
SNR=13
CHMS Chumysh 3.43 17 P **Pn 17 49 35.2 +1.0**
SNR=20
CHMS P 17 49 35.2
SNR=20
TKM2 Tokmak 2 3.60 27 P **Pn 17 49 37.8 +1.3**
SNR=15
TKM2 P 17 49 37.8
SNR=15
TKM2 Tokmak 2 3.60 27 ⇑Pn **Pn 17 49 36.9 +0.3**
22nm,0.6s
TKM2 ⇑Lg 17 50 33.5
52nm,0.8s
TKM2 Tokmak 2 3.60 27 *e*Pn **Pn 17 49 36.4 -0.2**
USP Ospenovka 3.64 13 P **Pn 17 49 38.2 +1.1**
SNR=6.0
USP P 17 49 38.2
SNR=6.0
KK31 Karatay Array 4.02 328 ⇓Pn **Pn 17 49 45.0 +2.8**
6.0nm,0.4s,baz=124,slow=12,SNR=82
KK31 ⇓Pg **Pn 17 49 54.8 +13**
26nm,0.6s,baz=145,slow=15,SNR=4.2
KK31 ⇑Lg 17 50 51.0
17nm,0.3s,baz=145,slow=26,SNR=4.3
KKAR Karatay Array 4.02 328 *e*Pn **Pn 17 49 44.6 +2.4**
KKAR *e*Sn **Sn 17 50 23.3 -4.7**
KBL Kabul 6.23 215 *e*Pn **Pn 17 50 11.8 -0.8**
9.1nm,0.6s
KBL *e*Sn **Sn 17 51 28.3 +5.9**
MK31 Makanchi Array 9.59 40 Pn **Pn 17 50 48.8 -10**
MKAR Makanchi Array 9.59 40 Pn **Pn 17 50 58.9 +0.3**
0.0nm,0.3s,baz=205,slow=13,SNR=3.6
MKAR Makanchi Array 9.59 40 Pn **Pn 17 50 58.9 +0.3**
KURK Kurchatov 11.59 17 Pn **Pn 17 51 25.3 -0.7**
0.0nm,0.3s,baz=190,slow=12,SNR=6.6
KURK Lg 17 54 44.5
0.0nm,0.3s,baz=55,slow=23,SNR=4.2
KURK LR LR 17 55 50.8
comp=Z,478nm,21.1s,baz=95,slow=37
KURK Kurchatov 11.59 17 Pn **Pn 17 51 25.3 -0.7**
KURK Lg 17 54 44.5
VOSK Vostochnaya 13.11 354 ⇑P **Pn 17 51 43.9 -2.7**
4.4nm,1.1s
BVA0 Borovoye Array 13.47 352 ⇑P **Pn 17 51 49.5 -2.0**
0.8nm,0.8s,baz=164,slow=11,SNR=4.6
BVAR Borovoye Array 13.47 352 Pn **Pn 17 51 49.5 -2.0**
0.3nm,0.3s,baz=163,slow=14,SNR=12
BVAR Lg 17 55 49.7
0.1nm,0.3s,baz=167,slow=21,SNR=4.0
BVAR LR LR 17 56 42.8
comp=Z,718nm,19.8s,baz=277,slow=35
BVAR Borovoye Array 13.47 352 Pn **Pn 17 51 49.5 -2.0**
BVAR Lg 17 55 49.7
AB31 Akbulak array 13.51 319 ⇓P **Pn 17 51 51.4 -0.7**
3.6nm,0.8s
ABKAR Akbulak array 13.51 319 *e*Pn **Pn 17 51 51.1 -1.0**
1.6nm,0.4s
ABKAR *e*Sn **Sn 17 54 20.4 -0.2**
BRVK Borovoye 13.51 352 *e*Pn **Pn 17 51 50.2 -1.8**
3.6nm,0.7s
ZRNK Zerenda 13.57 349 ⇑P **Pn 17 51 51.1 -1.9**
2.2nm,0.8s
AKTO Aktyubinsk 15.22 320 Pn **Pn 17 52 14.8 -0.1**
0.4nm,0.3s,baz=123,slow=14,SNR=8.7
AKTO Aktyubinsk 15.22 320 Pn **Pn 17 52 14.8 0.0**
ZAA0 Zalesovo Array 16.21 25 P **Pn 17 52 25.3 -2.1**
ZALV Zalesovo Beam 16.21 25 Pn **Pn 17 52 25.6 -1.8**
0.2nm,0.3s,baz=212,slow=12,SNR=5.2
ZALV Zalesovo Beam 16.21 25 Pn **Pn 17 52 25.6 -1.9**
ARU Arti 19.36 335 Pn **Pn 17 53 04.0 -2.1**
SONM Songino Array 25.02 60 P **P 17 54 01.7 -0.8**
0.7nm,0.8s,mb3.2,baz=264,slow=9.4,SNR=5.0
SONM Songino Array 25.02 60 P **P 17 54 01.7 -0.8**
BRTR Keskin Array B 30.41 283 P **P 17 54 52.5 +1.8**
0.5nm,0.7s,mb3.4,baz=85,slow=7.0,SNR=1.8
BRTR Keskin Array B 30.41 283 P **P 17 54 52.5 +1.8**
JOF Joensuu 34.12 327 *e*p **P 17 55 24.7 +1.8**
1.5nm,0.6s,mb4.1
FINES FINESS Array B 35.96 323 P **P 17 55 40.0 +1.2**
1.6nm,0.4s,mb4.3,baz=111,slow=8.3,SNR=13
FINES FINESS Array B 35.96 323 P **P 17 55 40.0 +1.2**
ARCES ARCESS Array B 38.95 335 P **P 17 56 05.3 +1.4**
2.1nm,0.5s,mb4.2,baz=111,slow=8.8,SNR=20
ARCES ARCESS Array B 38.95 335 P **P 17 56 05.3 +1.4**
HFS Hagfors 41.77 320 P **P 17 56 28.6 +1.2**
3.3nm,0.6s,mb4.1,baz=104,slow=9.9,SNR=8.9
HFS Hagfors 41.77 320 P **P 17 56 28.6 +1.2**
GERES GERESS Array B 42.70 303 P **P 17 56 36.5 +1.4**
0.4nm,0.6s,mb3.3,baz=60,slow=10,SNR=3.2
GERES GERESS Array B 42.70 303 P **P 17 56 36.5 +1.4**
NB2 NORSAR Subarra 43.01 321 P **P 17 56 38.3 +0.8**
comp=Z,1.3nm,0.6s,mb3.8,baz=90,slow=8.6
NOA NORSAR Array B 43.01 321 P **P 17 56 38.4 +0.8**
comp=Z,1.6nm,0.6s,mb3.9,baz=92,slow=8.0,SNR=6.4
NOA NORSAR Array B 43.01 321 P **P 17 56 38.4 +0.8**
ESDC Sonseca Array 57.66 297 P **P 17 58 29.1 +0.6**
comp=Z,0.2nm,0.3s,mb3.6,baz=44,slow=39,SNR=1.8
ESDC Sonseca Array 57.66 297 P **P 17 58 29.1 +0.6**
KAPI Kappang 61.64 125 LR LR 18 26 50.4
comp=Z,275nm,18.5s,baz=120,slow=38
TORD Torodi Ar. Bea 67.68 269 P **P 17 59 35.0 -0.6**
comp=Z,1.1nm,0.6s,mb4.1,baz=53,slow=5.3,SNR=6.3
TORD Torodi Ar. Bea 67.68 269 P **P 17 59 35.0 -0.6**
INK Inuvik 70.42 10 P **P 17 59 51.8 +0.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=341,slow=7.9,SNR=4.4
INK Inuvik 70.42 10 P **P 17 59 51.8 +0.1**
ILAR Eielson Array 71.16 17 P **P 17 59 55.2 -1.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=336,slow=4.4,SNR=6.4
ILAR Eielson Array 71.16 17 P **P 17 59 55.2 -1.1**
DBIC Dimbokro 76.73 268 P **P 18 00 28.1 -1.6**
comp=Z,3.4nm,1.0s,mb4.2,baz=56,slow=5.3,SNR=3.8
DBIC Dimbokro 76.73 268 P **P 18 00 28.1 -1.6**
YKA Yellowknife Ar 77.93 4 P **P 18 00 35.0 -0.5**
comp=Z,0.6nm,0.6s,mb3.7,baz=352,slow=5.6,SNR=7.8
YKA Yellowknife Ar 77.93 4 P **P 18 00 35.0 -0.5**

*NEIC **09** 17:51:11.1±0.5,31°.27S×176°.62W,h10km,mb4.6/7,Error ellipse: s-maj=14.5km s-min=10.2km az=127.0*
*ISCJB **09** 17:51:14.2±0.5,31°.19S±0°.07×176°.72W±0°.09,h33km, mb4.4/13,MS4.3/2,Error ellipse: s-maj=11.9km s-min=8.7km az=32.2*
*IDC **09** 17:51:16.0±0.6,30°.95S×176°.68W,h32km±3km,mb4.2/10, mb1 4.4/11,mb1mx4.2/18,mbtmp4.2/11,ML4.1/1,MS4.2/3, Ms1 4.2/3,ms1mx3.7/28,Error ellipse: s-maj=23.2km s-min=17.2km az=159.0*
ISC 09 17:51:15.9±0.5,31°.13S±0°.07×176°.64W±0°.09,h35km,n83, σ1§33/47,mb4.4/13,MS4.3/2,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.17**	**329**	*e*Pn		**Pn**	**17 51 43.8**	**-5.7**
URZ	**Urewera**	**8.78**	**214**	Pn		**Pn**	**17 53 20.4**	**+0.2**
2.2nm,0.3s,baz=224,slow=1.8,SNR=8.3								
URZ				Sn		**Sn**	**17 54 58.2**	**+0.3**
5.2nm,0.3s,baz=339,slow=21,SNR=7.5								
URZ	**Urewera**	**8.78**	**214**	*e*Pn		**Pn**	**17 53 18.6**	**-1.6**
66nm,0.9s								
URZ				Pn		**Pn**	**17 53 20.4**	**+0.2**
URZ				Sn		**Sn**	**17 54 58.2**	**+0.3**
SNZO	**South Karori**	**12.32**	**212**	*e*Pn		**Pn**	**17 54 03.4**	**-5.4**
SNZO				*e*Sn		**Sn**	**17 56 16.1**	**-8.7**
KHZ	**Kahutara**	**13.73**	**212**	*e*Pn		**Pn**	**17 54 22.7**	**-5.2**
20nm,0.5s								
KHZ				*e*Sn		**Sn**	**17 56 48.5**	**-11**
RPZ	**Rata Peaks**	**15.90**	**214**	Pn		**Pn**	**17 54 52.3**	**-4.5**
4.1nm,0.3s,baz=16,slow=3.5,SNR=15								
RPZ	**Rata Peaks**	**15.90**	**214**	*e*Pn		**Pn**	**17 54 51.8**	**-5.0**
20nm,0.6s								
DZM	**Mont Dzumac**	**17.59**	**297**	*e*Pn		**Pn**	**17 55 19.8**	**+1.5**
15nm,0.8s								
AFI	**Afiamalu**	**17.71**	**16**	LR		LR	17 59 49.7	
comp=Z,370nm,20.4s,baz=43,slow=29								
RAR	**Rarotonga**	**18.06**	**61**	*e*P		**Pn**	**17 55 22.7**	**-1.3**
CTA	**Charters Tower**	**35.07**	**279**	P		**P**	**17 58 06.5**	**+0.8**
17nm,0.8s,mb5.0,baz=104,slow=10,SNR=20								
CTA	**Charters Tower**	**35.07**	**279**	P		**P**	**17 58 06.5**	**+0.8**
CTAO	**Charters Tower**	**35.07**	**279**	*e*P		**P**	**17 58 05.8**	**+0.1**
19nm,0.8s,mb5.1								
STKA	**Stephens Creek**	**35.46**	**258**	P		**P**	**17 58 10.7**	**+1.7**
6.6nm,0.8s,mb4.6,baz=98,slow=11,SNR=9.9								
STKA				LR		LR	18 10 10.7	
comp=Z,588nm,18.1s,MS4.4,baz=146,slow=32								
STKA	**Stephens Creek**	**35.46**	**258**	*e*P		**P**	**17 58 10.3**	**+1.3**
1.3nm,0.8s,mb3.9								
AS31	**Alice Springs**	**44.24**	**267**	*e*P		**P**	**17 59 20.4**	**-1.5**
ASAR	**Alice Springs**	**44.24**	**267**	P		**P**	**17 59 21.1**	**-0.9**
3.9nm,0.7s,mb4.2,baz=108,slow=7.7,SNR=39								
ASAR	**Alice Springs**	**44.24**	**267**	P		**P**	**17 59 21.1**	**-0.9**
WB2	**Warramunga Arr**	**45.28**	**272**	*e*P		**P**	**17 59 29.1**	**-1.2**
WRAB	**Tennant Creek**	**45.29**	**272**	*e*P		**P**	**17 59 29.1**	**-1.2**
17nm,1.4s,mb4.7								
WRA	**Warramunga Arr**	**45.29**	**272**	P		**P**	**17 59 29.4**	**-1.0**
2.7nm,0.5s,mb4.3,baz=111,slow=8.0,SNR=28								
WRA				LR		LR	18 19 27.0	
comp=Z,288nm,18.6s,MS4.2,baz=35,slow=37								
WRA	**Warramunga Arr**	**45.29**	**272**	P		**P**	**17 59 29.4**	**-1.0**
VNDA	**Vanda**	**47.50**	**186**	*e*P		**P**	**17 59 49.1**	**+2.2**
FITZ	**Fitzroy Crossi**	**53.53**	**270**	P		**P**	**18 00 34.3**	**+1.0**
3.8nm,0.8s,mb4.4,baz=163,slow=6.9,SNR=8.7								
FITZ	**Fitzroy Crossi**	**53.53**	**270**	P		**P**	**18 00 34.3**	**+1.0**
QSPA	**South Pole Qui**	**58.99**	**180**	P		**P**	**18 01 14.1**	**+2.8**
9.2nm,0.7s,mb4.9,baz=50,slow=2.3,SNR=35								
QSPA	**South Pole Qui**	**58.99**	**180**	*e*P		**P**	**18 01 13.5**	**+2.1**
22nm,1.1s,mb5.1								
MAW	**Mawson**	**72.04**	**200**	*e*P		**P**	**18 02 32.8**	**-3.0**
5.9nm,1.4s,mb4.3								
SYO	**Syowa Base**	**76.67**	**193**	⇑*e*P		**P**	**18 03 02.8**	**+0.1**
SNAA	**Sanae**	**77.39**	**178**	*e*P		**P**	**18 03 04.6**	**-2.1**
VNA3	**Neumayer Olymp**	**77.50**	**176**	*e*		**P**	**18 03 08.0**	**+0.7**
VNA3				*e*			18 04 33.4	
VNA2	**Neumayer--Watz**	**77.95**	**176**	*e*		**P**	**18 03 11.1**	**+1.3**
baz=178,slow=4.1								
VNA2				*e*			18 04 36.1	
VNA1	**Neumayer--Stat**	**78.17**	**176**	*e*		**P**	**18 03 13.0**	**+1.9**
PETK	**Petropavlovsk-**	**86.81**	**345**	P		**P**	**18 03 56.6**	**+0.6**
3.0nm,1.0s,mb4.5,baz=137,slow=16,SNR=2.1								
PETK	**Petropavlovsk-**	**86.81**	**345**	P		**P**	**18 03 56.6**	**+0.6**
NVAR	**Mina Array Bea**	**87.99**	**42**	P		**P**	**18 04 02.5**	**+0.4**
1.2nm,0.7s,mb4.2,baz=224,slow=8.4,SNR=8.1								
NVAR				pP		pP	18 04 13.0	-0.2
3.2nm,1.0s,baz=220,slow=8.6,SNR=7.8								
NVAR	**Mina Array Bea**	**87.99**	**42**	P		**P**	**18 04 02.5**	**+0.4**
NVAR				pP		pP	18 04 13.0	-0.2
TXAR	**Lajitas Array**	**91.80**	**57**	P		**P**	**18 04 20.5**	**+0.3**
0.3nm,0.6s,mb3.8,baz=20,slow=19,SNR=2.2								
TXAR				pP		pP	18 04 30.3	-1.0
1.3nm,0.9s,baz=207,slow=5.2,SNR=5.4								
TXAR	**Lajitas Array**	**91.80**	**57**	P		**P**	**18 04 20.5**	**+0.3**
TXAR				pP		pP	18 04 30.3	-1.0
CMAR	**Chiang Mai Arr**	**94.74**	**289**	P		**P**	**18 04 37.0**	**+3.1**
0.7nm,0.8s,mb4.1,baz=144,slow=3.9,SNR=6.0								
CMAR	**Chiang Mai Arr**	**94.74**	**289**	P		**P**	**18 04 37.0**	**+3.1**
ILAR	**Eielson Array**	**98.38**	**12**	P		**P**	**18 04 48.7**	**-0.7**
0.4nm,0.8s,mb4.0,baz=222,slow=4.7,SNR=2.5								
ILAR	**Eielson Array**	**98.38**	**12**	P		**P**	**18 04 48.7**	**-0.7**
WCI	**Wyandotte Cave**	**108.73**	**56**	*e*PKPdf		PKiKP	18 09 39.1	-2.0
MK31	**Makanchi Array**	**119.13**	**309**	*e*PKPdf		PKPdf	18 10 00.3	-0.4
MKAR	**Makanchi Array**	**119.13**	**309**	PKP		PKPdf	18 10 00.3	-0.3
0.4nm,0.8s,baz=96,slow=3.7,SNR=3.8								
MKAR	**Makanchi Array**	**119.13**	**309**	PKP		PKPdf	18 10 00.3	-0.3
ZALV	**Zalesovo Beam**	**119.35**	**318**	PKP		PKPdf	18 09 59.3	-1.5
1.0nm,0.7s,baz=120,slow=0.5,SNR=3.8								
ZALV	**Zalesovo Beam**	**119.35**	**318**	PKP		PKPdf	18 09 59.3	-1.6
KURK	**Kurchatov**	**122.39**	**313**	PKP		PKPdf	18 10 06.7	-0.2
1.2nm,0.7s,baz=99,slow=1.8,SNR=16								
KURK	**Kurchatov**	**122.39**	**313**	*e*PKPdf		PKPdf	18 10 05.4	-1.4
KURK				PKP		PKPdf	18 10 06.7	-0.2
KBL	**Kabul**	**125.58**	**292**	*e*PKPdf		PKPdf	18 10 14.4	+0.9
BVAR	**Borovoye Array**	**127.74**	**315**	PKP		PKPdf	18 10 17.2	+0.2
1.4nm,0.6s,baz=109,slow=6.7,SNR=4.1								
BVAR	**Borovoye Array**	**127.74**	**315**	PKP		PKPdf	18 10 17.2	+0.2
AKTO	**Aktyubinsk**	**135.45**	**312**	PKP		PKPdf	18 10 30.4	-1.2
0.7nm,0.6s,baz=323,slow=1.8,SNR=4.2								
AKTO	**Aktyubinsk**	**135.45**	**312**	PKP		PKPdf	18 10 30.4	-1.2
KEV	**Kevo**	**139.08**	**348**	*e*pkp		PKPdf	18 10 47.8	+10
ARCES	**ARCESS Array B**	**139.54**	**348**	PKP		PKPdf	18 10 39.5	+0.9
2.8nm,0.9s,baz=45,slow=1.9,SNR=4.5								
ARCES	**ARCESS Array B**	**139.54**	**348**	PKP		PKPdf	18 10 39.5	+0.9
JOF	**Joensuu**	**143.52**	**339**	*e*pkp		PKPdf	18 10 43.7	-2.3
DGRG	**David-gareji**	**144.90**	**299**	P		PKPdf	18 10 47.4	-1.7
MTA	**Mtatsminda**	**145.32**	**299**	P		PKPbc	18 10 50.7	+1.0
TBLG	**Delisi**	**145.36**	**299**	P		PKPbc	18 10 50.3	+0.5
KAF	**Kangasniemi**	**145.62**	**341**	*e*pkp		PKPdf	18 10 48.6	-1.0
GOR	**Gori**	**145.81**	**300**	P		PKPdf	18 10 51.5	+0.9
FINES	**FINESS Array B**	**146.22**	**340**	PKPbc		PKPbc	18 10 51.3	-0.5
7.9nm,0.6s,baz=48,slow=2.8,SNR=25								
FINES				pPKPbc		pPKPbc	18 11 01.9	-1.2
11nm,0.5s,baz=46,slow=5.5,SNR=9.8								
FINES	**FINESS Array B**	**146.22**	**340**	PKPbc		PKPbc	18 10 51.3	-0.5
FINES				pPKPbc		pPKPbc	18 11 01.9	-1.2
ONI	**Oni**	**146.23**	**301**	P		PKPbc	18 10 54.8	+2.3
AKH	**Akhalkalaki**	**146.32**	**299**	P		PKPbc	18 10 55.2	+2.5
OBN	**Obninsk**	**146.43**	**325**	*e*PKPdf		PKPdf	18 10 52.6	+1.4
NB2	**NORSAR Subarra**	**149.63**	**352**	PKP		PKPbc	18 11 00.5	-0.4
comp=Z,2.2nm,0.7s,baz=14,slow=2.6								
NOA	**NORSAR Array B**	**149.63**	**352**	PKPbc		PKPbc	18 11 00.8	-0.1
comp=Z,2.2nm,0.6s,baz=14,slow=4.2,SNR=11								
NOA				pPKPbc		pPKPbc	18 11 11.4	-0.9
comp=Z,2.6nm,0.7s,baz=13,slow=4.2,SNR=5.9								
NOA	**NORSAR Array B**	**149.63**	**352**	PKPbc		PKPbc	18 11 00.8	-0.1
NOA				pPKPbc		pPKPbc	18 11 11.4	-0.9
HFS	**Hagfors**	**150.18**	**350**	PKPbc		PKPbc	18 11 01.4	-0.9
comp=Z,4.2nm,0.7s,baz=152,slow=6.6,SNR=8.2								
HFS				pPKPbc		pPKPbc	18 11 12.6	-1.1
comp=Z,5.8nm,0.7s,baz=77,slow=3.2,SNR=5.4								
HFS	**Hagfors**	**150.18**	**350**	PKPbc		PKPbc	18 11 01.4	-0.9
HFS				pPKPbc		pPKPbc	18 11 12.6	-1.1
NACGM	**Naroch**	**150.98**	**332**	*e*		PKPbc	18 11 03.0	-1.3
AKASG	**Malin Array Be**	**152.58**	**323**	PKPbc		PKPbc	18 11 08.1	-0.1
comp=Z,3.6nm,0.7s,baz=49,slow=2.6,SNR=11								
AKASG				pPKPbc		pPKPbc	18 11 18.6	-1.0
comp=Z,6.9nm,0.7s,baz=47,slow=3.3,SNR=12								
AKASG	**Malin Array Be**	**152.58**	**323**	PKPbc		PKPbc	18 11 08.1	-0.1
AKASG				pPKPbc		pPKPbc	18 11 18.6	-1.0
KIEV	**Kiev**	**152.60**	**323**	*e*PKPbc		PKPbc	18 11 07.5	-0.7
KIEV				*e*PKPab		PKPab	18 11 18.1	-0.7
DBIC	**Dimbokro**	**154.48**	**161**	PKPbc		PKPbc	18 11 14.5	+1.0
comp=Z,2.2nm,0.7s,baz=155,slow=2.4,SNR=5.5								
DBIC	**Dimbokro**	**154.48**	**161**	PKPbc		PKPbc	18 11 14.5	+1.0
TORD	**Torodi Ar. Bea**	**162.04**	**175**	PKP		PKPdf	18 11 15.1	+1.0
comp=Z,0.3nm,0.7s,baz=247,slow=1.4,SNR=3.8								
TORD				PKPab		PKPab	18 12 00.6	+0.4
comp=Z,3.2nm,0.7s,baz=172,slow=3.9,SNR=18								
TORD	**Torodi Ar. Bea**	**162.04**	**175**	PKP		PKPdf	18 11 15.1	+1.0
TORD				PKPab		PKPab	18 12 00.6	+0.4

*IDC **09** 17:52:35.7±1.1,30°.97S×176°.61W,h0km,mb4.2/4, mb1 4.3/4,mb1mx4.0/16,mbtmp4.2/4,MS4.4/1,Ms1 4.4/1, ms1mx3.5/29,Error ellipse: s-maj=57.7km s-min=32.1km az=175.0*
*NEIC **09** 17:52:38.4±0.8,30°.63S×176°.90W,h10km,mb4.7/2,Error ellipse: s-maj=22.5km s-min=18.9km az=62.0*
*ISCJB **09** 17:52:41.9±2.0,30°.7S±0°.1×177°.2W±0°.3,h33km,mb4.3/5, MS3.4/2,Error ellipse: s-maj=41.3km s-min=18.0km az=172.6*
ISC 09 17:52:43.3±2.3,30°.6S±0°.1×177°.1W±0°.4,h35km,n30, σ1§05/13,mb4.3/5,MS3.4/2,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.52**	**331**	*e*Pn		**Pn**	**17 53 07.9**	**-0.1**
URZ	**Urewera**	**9.03**	**211**	Sn		**Sn**	**17 56 20.1**	**-11**
1.9nm,0.3s,baz=165,slow=18,SNR=3.9								
CTA	**Charters Tower**	**34.62**	**279**	P		**P**	**17 59 32.0**	**+2.8**
2.3nm,0.4s,mb4.5,baz=89,slow=10,SNR=2.1								
CTA	**Charters Tower**	**34.62**	**279**	P		**P**	**17 59 32.0**	**+2.8**
CTAO	**Charters Tower**	**34.62**	**279**	*e*P		**P**	**17 59 31.4**	**+2.2**
37nm,1.7s,mb5.0								
STKA	**Stephens Creek**	**35.21**	**257**	P		**P**	**17 59 35.6**	**+1.4**
2.5nm,0.7s,mb4.3,baz=56,slow=3.6,SNR=1.5								
STKA	**Stephens Creek**	**35.21**	**257**	P		**P**	**17 59 32.5**	**-1.8**
ASAR	**Alice Springs**	**43.90**	**267**	P		**P**	**18 00 46.2**	**-0.4**
1.1nm,0.6s,mb3.8,baz=105,slow=7.2,SNR=2.0								
ASAR	**Alice Springs**	**43.90**	**267**	P		**P**	**18 00 46.2**	**-0.4**
WRAB	**Tennant Creek**	**44.90**	**272**	*e*P		**P**	**18 00 53.9**	**-0.8**
WRA	**Warramunga Arr**	**44.90**	**272**	P		**P**	**18 00 54.5**	**-0.3**
1.5nm,0.3s,mb4.3,baz=111,slow=8.1,SNR=14								
WRA	**Warramunga Arr**	**44.90**	**272**	P		**P**	**18 00 54.5**	**-0.3**
VNDA	**Vanda**	**47.99**	**186**	*e*P		**P**	**18 01 18.3**	**+0.1**
3.6nm,1.1s,mb4.3								
GUMO	**Guam**	**57.18**	**314**	LR		LR	18 21 08.0	
comp=Z,334nm,21.9s,MS4.4,baz=128,slow=30								
TGY	**Tagaytay City**	**74.31**	**297**	LR		LR	18 35 37.6	
comp=Z,2.2nm,18.8s,MS2.5,baz=5.8,slow=34								
ZALV	**Zalesovo Beam**	**118.70**	**318**	PKP		PKPdf	18 11 26.6	-0.5
0.5nm,0.5s,baz=93,slow=2.9,SNR=2.4								
ZALV	**Zalesovo Beam**	**118.70**	**318**	PKP		PKPdf	18 11 26.6	-0.5
KURK	**Kurchatov**	**121.76**	**314**	PKP		PKPdf	18 11 31.2	-1.9
0.5nm,0.7s,baz=121,slow=2.1,SNR=2.8								
KURK	**Kurchatov**	**121.76**	**314**	PKP		PKPdf	18 11 31.2	-1.9
BVAR	**Borovoye Array**	**127.10**	**316**	PKP		PKPdf	18 11 42.1	-1.1
0.5nm,0.5s,baz=159,slow=2.9,SNR=3.2								
BVAR	**Borovoye Array**	**127.10**	**316**	PKP		PKPdf	18 11 42.1	-1.1
SPITS	**Spitsbergen Ar**	**131.94**	**356**	PKP		PKPdf	18 11 50.8	-1.0
5.7nm,0.9s,baz=13,slow=7.7,SNR=1.6								
SPITS	**Spitsbergen Ar**	**131.94**	**356**	PKP		PKPdf	18 11 50.8	-1.0
ARCES	**ARCESS Array B**	**138.94**	**348**	PKP		PKPdf	18 12 04.8	-0.2
3.6nm,1.0s,baz=67,slow=3.2,SNR=3.8								
ARCES	**ARCESS Array B**	**138.94**	**348**	PKP		PKPdf	18 12 04.8	-0.2
JOF	**Joensuu**	**142.88**	**339**	*e*p		PKPdf	18 12 13.9	+1.6
1.5nm,0.6s								
KAF	**Kangasniemi**	**144.99**	**341**	*e*p		PKPdf	18 12 13.1	-2.9
2.0nm,0.5s								
FINES	**FINESS Array B**	**145.59**	**340**	PKPbc		PKPbc	18 12 16.3	-1.0
4.9nm,0.6s,baz=47,slow=3.2,SNR=9.6								
FINES	**FINESS Array B**	**145.59**	**340**	PKPbc		PKPbc	18 12 16.3	-1.0
TORD	**Torodi Ar. Bea**	**162.60**	**176**	PKPab		PKPab	18 13 26.0	-4.1
1.1nm,0.7s,baz=176,slow=3.2,SNR=3.6								

*IDC **09** 18:00:39.6±4.9,2°.72N×128°.55E,h242km±52km,mb3.5/13, mb1 3.6/13,mb1mx3.5/21,mbtmp3.5/13,Error ellipse: s-maj=27.9km s-min=11.3km az=74.0*
*ISCJB **09** 18:00:41.8±4.2,2°.71N±0°.08×128°.6E±0°.1,h285km±47km, mb4.0/29,Error ellipse: s-maj=20.2km s-min=11.0km az=158.0*
*NEIC **09** 18:00:41.0±2.6,2°.71N×128°.56E,h260km±28km,mb4.2/14, Error ellipse: s-maj=14.2km s-min=6.6km az=67.0*
ISC 09 18:00:41.8±4.3,2°.70N±0°.08×128°.6E±0°.1,h267km±47km, n57,σ0§65/55,mb4.0/29,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.88**	**188**	P		**P**	**18 05 02.5**	**-1.5**
1.0nm,0.4s,baz=30,slow=8.6,SNR=8.9								
FITZ	**Fitzroy Crossi**	**20.88**	**188**	P		**P**	**18 05 02.5**	**-1.5**
YHNB	**Yeheng**	**22.92**	**343**	*e*P		**P**	**18 05 22.4**	**-0.5**
WRAB	**Tennant Creek**	**23.19**	**166**	*e*P		**P**	**18 05 25.6**	**+0.2**
6.1nm,0.6s,mb4.1								
WRA	**Warramunga Arr**	**23.20**	**166**	P		**P**	**18 05 25.5**	**0.0**
3.7nm,0.3s,mb4.1,baz=345,slow=11,SNR=68								
WRA	**Warramunga Arr**	**23.20**	**166**	P		**P**	**18 05 25.5**	**0.0**
AS31	**Alice Springs**	**26.71**	**169**	*e*P		**P**	**18 05 57.0**	**0.0**
ASAR	**Alice Springs**	**26.71**	**169**	P		**P**	**18 05 57.2**	**+0.2**
2.0nm,0.5s,mb3.9,baz=354,slow=7.7,SNR=132								
ASAR	**Alice Springs**	**26.71**	**169**	P		**P**	**18 05 57.2**	**+0.2**
CM31	**Chiang Mai Arr**	**32.99**	**300**	*e*P		**P**	**18 06 52.1**	**-0.1**
1.4nm,0.5s,mb3.8								
CMAR	**Chiang Mai Arr**	**32.99**	**300**	P		**P**	**18 06 52.9**	**+0.6**
1.1nm,0.6s,mb3.6,baz=123,slow=7.7,SNR=14								
CMAR	**Chiang Mai Arr**	**32.99**	**300**	P		**P**	**18 06 52.9**	**+0.6**
**CHT

ISC 09 18:04:19.0±0.9,24°.4S±0°.3×179°.1E±0°.1,h600km,n24,
σ0°75/20,mb4.0/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**13.49**	**41**	P	**P**	**18 07 12.0**	**-0.8**
	5.0nm,0.3s,baz=127,slow=13,SNR=2.1						
AFI	**Afiamalu**	**13.49**	**41**	P	**P**	**18 07 12.0**	**-0.8**
RAR	**Rarotonga**	**19.70**	**85**	P	**P**	**18 08 10.7**	**+0.7**
	33nm,0.9s						
EIDS	**Eidsvold**	**25.46**	**262**	P	**P**	**18 09 00.7**	**-0.6**
	2.3nm,0.7s,mb3.9						
CTA	**Charters Tower**	**30.69**	**271**	*e*P	**P**	**18 09 47.8**	**+1.0**
	7.9nm,0.5s,mb4.6,baz=98,slow=11,SNR=18						
CTA	**Charters Tower**	**30.69**	**271**	*e*P	**P**	**18 09 47.6**	**+0.9**
	5.3nm,0.4s,mb4.5						
CTA	**Charters Tower**	**30.69**	**271**	P	**P**	**18 09 47.8**	**+1.0**
CTAO	**Charters Tower**	**30.69**	**271**	*e*P	**P**	**18 09 47.2**	**+0.5**
	10.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**33.81**	**249**	P	**P**	**18 10 12.2**	**-0.7**
	0.9nm,0.3s,mb3.8,baz=328,slow=23,SNR=5.6						
STKA	**Stephens Creek**	**33.81**	**249**	*e*P	**P**	**18 10 12.5**	**-0.5**
	1.0nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**33.81**	**249**	*e*P	**P**	**18 10 11.8**	**-1.2**
	0.4nm,0.6s,mb3.2						
PMG	**Port Moresby**	**33.91**	**291**	P	**P**	**18 10 14.8**	**+0.8**
ASAR	**Alice Springs**	**41.18**	**261**	P	**P**	**18 11 12.8**	**-0.1**
	1.0nm,0.4s,mb3.7,baz=88,slow=6.6,SNR=48						
ASAR	**Alice Springs**	**41.18**	**261**	P	**P**	**18 11 12.8**	**-0.1**
WRAB	**Tennant Creek**	**41.58**	**267**	*e*P	**P**	**18 11 15.4**	**-0.7**
	2.8nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**41.59**	**267**	P	**P**	**18 11 15.7**	**-0.4**
	3.2nm,0.5s,mb4.1,baz=100,slow=8.1,SNR=6.6						
WRA	**Warramunga Arr**	**41.59**	**267**	P	**P**	**18 11 15.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**50.01**	**266**	P	**P**	**18 12 21.1**	**+1.2**
	2.5nm,0.7s,mb3.8,baz=153,slow=8.7,SNR=8.1						
FITZ	**Fitzroy Crossi**	**50.01**	**266**	*e*P	**P**	**18 12 21.0**	**+1.1**
	5.2nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**50.01**	**266**	P	**P**	**18 12 21.1**	**+1.2**
BVAR	**Borovoye Array**	**120.27**	**319**	PKP	PKPdf	18 22 01.7	-0.7
	0.3nm,0.4s,baz=113,slow=3.9,SNR=2.6						
BVAR	**Borovoye Array**	**120.27**	**319**	PKP	PKPdf	18 22 01.7	-0.7
BRTR	**Keskin Array B**	**147.23**	**306**	PKPbc	PKPbc	18 22 55.8	-0.2
	0.5nm,0.7s,baz=148,slow=3.7,SNR=1.8						
BRTR	**Keskin Array B**	**147.23**	**306**	PKPbc	PKPbc	18 22 55.8	-0.2

*ISCJB **09** 18:15:19.5±0.6,7°.59S±0°.04×109°.87E±0°.03,h3km±6km,*
mb3.4/3,Error ellipse: s-maj=7.7km s-min=4.0km az=17.6
*DJA **09** 18:15:20,7°.57S×109°.87E,h10km,MLv3.3/11*
*IDC **09** 18:15:45.3±7.9,9°.97S×111°.89E,h0km,mb3.5/3,*
mb1 3.7/3,mb1mx3.3/17,mbtmp3.6/3,Error ellipse:
s-maj=128.4km s-min=110.5km az=156.0

ISC 09 18:15:20.1±0.6,7°.58S±0°.05×109°.88E±0°.03,h3km±6km,
n14,σ0°98/21,mb3.4/3,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**0.30**	**326**	P	**Pg**	**18 15 23.9**	**-2.0**
BJII				S	**Sg**	**18 15 30.1**	**+0.3**
YOGI	**Yogyakarta**	**0.48**	**119**	P	**Pg**	**18 15 29.0**	**-0.3**
YOGI				S	**Sg**	**18 15 36.0**	**+0.5**
UGM	**Wanagama**	**0.72**	**117**	P	**Pg**	**18 15 33.0**	**-1.0**
UGM				S	**Sg**	**18 15 44.3**	**+1.0**
SMRI	**Semarang**	**0.77**	**47**	P	**Pg**	**18 15 34.4**	**-0.5**
SMRI				S	**Sg**	**18 15 46.2**	**+1.3**
CLJI	**Cilicap**	**0.86**	**261**	P	**Pg**	**18 15 35.8**	**-0.9**
CLJI				S	**Sg**	**18 15 49.3**	**+1.3**
PCJI	**Pacitan**	**1.43**	**115**	P	**Pn**	**18 15 46.7**	**-0.2**
PCJI				S	**Sb**	**18 16 06.1**	**+0.2**
SJI	**Sawahan**	**1.88**	**95**	P	**Pn**	**18 15 53.2**	**0.0**
PWJI	**Pagerwojo**	**1.96**	**103**	P	**Pn**	**18 15 56.2**	**+1.9**
CISI	**Cisompet, Garu**	**2.04**	**271**	P	**Pn**	**18 15 54.7**	**-0.7**
CISI				S	**Sn**	**18 16 22.8**	**+1.3**
LEM	**Lembang**	**2.36**	**288**	P	**Pn**	**18 16 00.7**	**+0.9**
KRKI	**Karangkates**	**2.62**	**103**	P	**Pn**	**18 16 02.8**	**-0.5**
WRA	**Warramunga Arr**	**26.70**	**120**	P	**P**	**18 21 00.8**	**-0.1**
	0.5nm,0.6s,mb3.2,baz=290,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**28.05**	**127**	P	**P**	**18 21 11.3**	**-1.6**
	0.5nm,0.7s,mb3.3,baz=304,slow=8.8,SNR=11						
STKA	**Stephens Creek**	**38.16**	**134**	P	**P**	**18 22 39.9**	**-1.0**
	0.7nm,0.4s,mb3.8,baz=310,slow=12,SNR=3.4						

*IDC **09** 18:17:05.2±1.3,31°.29S×176°.66W,h0km,mb4.2/6,*
mb1 4.4/8,mb1mx4.2/19,mbtmp4.2/8,ML4.0/2,Error
ellipse: s-maj=51.0km s-min=23.3km az=151.0
*NEIC **09** 18:17:06.6±1.0,31°.20S×176°.77W,h10km,mb4.3/3,Error*
ellipse: s-maj=23.4km s-min=12.8km az=108.0
*ISCJB **09** 18:17:10.2±1.0,31°.3S±0°.1×177°.0W±0°.2,h33km,mb4.2/7,*
Error ellipse: s-maj=20.0km s-min=15.5km az=1.7

ISC 09 18:17:12.2±1.0,31°.4S±0°.1×177°.0W±0°.2,h35km,n33,
σ1°18/24,mb4.2/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.27**	**338**	*e*Pn	**Pn**	**18 17 40.0**	**-7.2**
RAO				*e*Sn	**Sn**	**18 18 00.8**	**-13**
URZ	**Urewera**	**8.42**	**214**	Pn	**Pn**	**18 19 12.0**	**+0.2**
	1.3nm,0.3s,baz=143,slow=20,SNR=6.4						
URZ	**Urewera**	**8.42**	**214**	Pn	**Pn**	**18 19 12.0**	**+0.2**
SNZO	**South Karori**	**11.97**	**212**	P	**Pn**	**18 19 58.3**	**-2.0**
	14nm,0.9s						
RPZ	**Rata Peaks**	**15.54**	**214**	Pn	**Pn**	**18 20 48.2**	**-0.3**
	0.7nm,0.3s,baz=63,slow=15,SNR=2.1						
RPZ	**Rata Peaks**	**15.54**	**214**	Pn	**Pn**	**18 20 48.2**	**-0.3**
HNR	**Honiara**	**30.61**	**311**	P	**P**	**18 23 24.3**	**+1.3**
CTA	**Charters Tower**	**34.84**	**280**	P	**P**	**18 24 01.3**	**+1.2**
	4.5nm,0.7s,mb4.5,baz=99,slow=12,SNR=12						
CTA	**Charters Tower**	**34.84**	**280**	P	**P**	**18 24 01.3**	**+1.2**
CTAO	**Charters Tower**	**34.84**	**280**	*e*P	**P**	**18 24 00.8**	**+0.7**
	5.1nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**35.14**	**258**	P	**P**	**18 24 03.7**	**+1.2**
	2.9nm,0.9s,mb4.2,baz=60,slow=12,SNR=2.4						
STKA	**Stephens Creek**	**35.14**	**258**	P	**P**	**18 24 03.7**	**+1.2**
ASAR	**Alice Springs**	**43.95**	**267**	P	**P**	**18 25 15.8**	**-0.3**
	1.3nm,0.6s,mb3.8,baz=106,slow=7.1,SNR=20						
ASAR	**Alice Springs**	**43.95**	**267**	P	**P**	**18 25 15.8**	**-0.3**
WRAB	**Tennant Creek**	**45.02**	**273**	*e*P	**P**	**18 25 23.1**	**-1.5**
	3.1nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**45.03**	**273**	P	**P**	**18 25 24.1**	**-0.6**
	2.1nm,0.4s,mb4.3,baz=111,slow=8.0,SNR=47						
WRA	**Warramunga Arr**	**45.03**	**273**	P	**P**	**18 25 24.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.25**	**270**	P	**P**	**18 26 27.9**	**+0.2**
	1.3nm,0.8s,mb3.9,baz=92,slow=8.0,SNR=1.9						
FITZ	**Fitzroy Crossi**	**53.25**	**270**	P	**P**	**18 26 26.7**	**-0.9**
	1.2nm,0.6s,mb4.0						
VNA3	**Neumayer Olymp**	**77.28**	**176**	*e*	**P**	**18 29 04.6**	**+2.1**
VNA3				*e*		18 30 25.9	
VNA2	**Neumayer--Watz**	**77.72**	**177**	*e*	**P**	**18 29 05.4**	**+0.4**
	baz=50,slow=3.4						
NVAR	**Mina Array Bea**	**88.35**	**42**	P	**P**	**18 29 58.5**	**-1.7**
	1.4nm,0.9s,mb4.2,baz=223,slow=8.7,SNR=6.2						
NVAR	**Mina Array Bea**	**88.35**	**42**	P	**P**	**18 29 58.5**	**-1.7**
JOF	**Joensuu**	**143.65**	**339**	*e*pkp	PKPdf	18 36 42.1	-0.4
KAF	**Kangasniemi**	**145.76**	**341**	*e*pkp	PKPdf	18 36 43.3	-2.9
FINES	**FINESS Array B**	**146.36**	**340**	PKPbc	PKPbc	18 36 46.4	-2.1
	3.3nm,0.5s,baz=58,slow=3.0,SNR=18						
FINES	**FINESS Array B**	**146.36**	**340**	PKPbc	PKPbc	18 36 46.4	-2.1
NOA	**NORSAR Array B**	**149.84**	**352**	PKPbc	PKPbc	18 36 56.4	-1.5
	1.3nm,0.8s,baz=75,slow=11,SNR=3.3						
NOA	**NORSAR Array B**	**149.84**	**352**	PKPbc	PKPbc	18 36 56.4	-1.5
HFS	**Hagfors**	**150.37**	**349**	PKPbc	PKPbc	18 36 57.2	-1.9
	1.2nm,0.6s,baz=85,slow=3.1,SNR=2.0						
HFS	**Hagfors**	**150.37**	**349**	PKPbc	PKPbc	18 36 57.2	-1.9
AKASG	**Malin Array Be**	**152.61**	**322**	PKPbc	PKPbc	18 37 02.6	-2.0
	1.2nm,0.6s,baz=43,slow=2.7,SNR=6.5						
AKASG	**Malin Array Be**	**152.61**	**322**	PKPbc	PKPbc	18 37 02.6	-2.0

*IDC **09** 18:18:30.5±1.0,31°.00S×176°.75W,h0km,mb4.3/5,*
mb1 4.5/6,mb1mx4.2/17,mbtmp4.3/6,ML3.8/1,Error
ellipse: s-maj=43.0km s-min=23.1km az=156.0
*NEIC **09** 18:18:31.8±0.7,31°.11S×176°.89W,h10km,mb5.0/3,Error*
ellipse: s-maj=18.2km s-min=11.1km az=112.0
*ISCJB **09** 18:18:33.3±1.2,31°.3S±0°.1×176°.9W±0°.2,h33km,mb4.5/8,*
Error ellipse: s-maj=25.4km s-min=13.9km az=17.2

ISC 09 18:18:35.3±1.2,31°.3S±0°.1×176°.8W±0°.2,h35km,n44,
σ1°10/24,mb4.5/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.22**	**334**	*e*Pn	**Pn**	**18 19 04.2**	**-5.4**
URZ	**Urewera**	**8.58**	**214**	Pn	**Pn**	**18 20 39.0**	**+2.0**
	1.1nm,0.3s,baz=186,slow=3.1,SNR=1.8						
URZ	**Urewera**	**8.58**	**214**	Pn	**Pn**	**18 20 39.0**	**+2.0**
SNZO	**South Karori**	**12.13**	**212**	Pn	**Pn**	**18 21 24.8**	**-0.7**
	26nm,1.1s						
RPZ	**Rata Peaks**	**15.70**	**214**	Pn	**Pn**	**18 22 11.5**	**-2.2**
	1.3nm,0.3s,baz=127,slow=4.1,SNR=2.0						
RPZ	**Rata Peaks**	**15.70**	**214**	Pn	**Pn**	**18 22 11.5**	**-2.2**
EIDS	**Eidsvold**	**28.80**	**274**	P	**P**	**18 24 30.2**	**+0.1**
	2.5nm,0.6s,mb4.1						
HNR	**Honiara**	**30.64**	**310**	P	**P**	**18 24 41.0**	**-5.3**
CTA	**Charters Tower**	**34.95**	**280**	P	**P**	**18 25 25.7**	**+1.6**
	6.9nm,0.6s,mb4.8,baz=102,slow=9.6,SNR=16						
CTA	**Charters Tower**	**34.95**	**280**	P	**P**	**18 25 25.7**	**+1.6**
CTAO	**Charters Tower**	**34.95**	**280**	*e*P	**P**	**18 25 25.2**	**+1.2**
STKA	**Stephens Creek**	**35.29**	**258**	P	**P**	**18 25 29.2**	**+2.3**
	2.4nm,0.8s,mb4.2,baz=94,slow=14,SNR=5.4						
STKA	**Stephens Creek**	**35.29**	**258**	P	**P**	**18 25 28.1**	**+1.3**
	0.6nm,0.8s,mb3.6						
AS31	**Alice Springs**	**44.09**	**267**	*e*P	**P**	**18 26 39.9**	**-0.2**
ASAR	**Alice Springs**	**44.09**	**267**	P	**P**	**18 26 40.0**	**-0.1**
	2.1nm,0.6s,mb4.0,baz=105,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**44.09**	**267**	P	**P**	**18 26 40.0**	**-0.1**
WB2	**Warramunga Arr**	**45.14**	**272**	*e*P	**P**	**18 26 47.9**	**-0.7**
WRAB	**Tennant Creek**	**45.15**	**272**	*e*P	**P**	**18 26 48.0**	**-0.7**
WRA	**Warramunga Arr**	**45.15**	**272**	P	**P**	**18 26 48.5**	**-0.2**
	3.4nm,0.4s,mb4.5,baz=111,slow=8.1,SNR=35						
WRA	**Warramunga Arr**	**45.15**	**272**	P	**P**	**18 26 48.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**55.05**	**250**	*e*P	**P**	**18 28 02.0**	**-1.6**
	30nm,1.4s,mb5.1						
YSS	**Yuzh-Sakhalins**	**85.97**	**334**	*e*P	**P**	**18 31 11.5**	**+0.1**
	13nm,0.9s,mb5.2						
NVAR	**Mina Array Bea**	**88.19**	**42**	P	**P**	**18 31 22.8**	**+0.3**
	1.5nm,1.0s,mb4.2,baz=227,slow=8.5,SNR=5.6						
NVAR	**Mina Array Bea**	**88.19**	**42**	P	**P**	**18 31 22.8**	**+0.3**
KURK	**Kurchatov**	**122.38**	**313**	PKP	PKPdf	18 37 26.0	-0.2
	0.5nm,0.7s,baz=100,slow=1.8,SNR=4.9						
KURK	**Kurchatov**	**122.38**	**313**	PKP	PKPdf	18 37 26.0	-0.3
BVAR	**Borovoye Array**	**127.73**	**315**	PKP	PKPdf	18 37 36.9	+0.5
	0.4nm,0.6s,baz=204,slow=3.3,SNR=2.2						
BVAR	**Borovoye Array**	**127.73**	**315**	PKP	PKPdf	18 37 36.9	+0.5
ARCES	**ARCESS Array B**	**139.65**	**348**	PKP	PKPdf	18 38 00.5	+2.2
	2.0nm,0.9s,baz=130,slow=1.9,SNR=5.0						
ARCES	**ARCESS Array B**	**139.65**	**348**	PKP	PKPdf	18 38 00.5	+2.2
JOF	**Joensuu**	**143.59**	**339**	*e*pkp	PKPdf	18 38 02.0	-3.5
	1.2nm,0.6s						
KAF	**Kangasniemi**	**145.70**	**341**	*e*pkp	PKPdf	18 38 08.0	-1.2
FINES	**FINESS Array B**	**146.30**	**340**	PKPbc	PKPbc	18 38 11.1	-0.3
	5.9nm,0.6s,baz=48,slow=3.4,SNR=24						
FINES	**FINESS Array B**	**146.30**	**340**	PKPbc	PKPbc	18 38 11.1	-0.3
NOA	**NORSAR Array B**	**149.75**	**352**	PKPbc	PKPbc	18 38 19.6	-1.0
	1.1nm,0.6s,baz=14,slow=4.2,SNR=1.5						
NOA	**NORSAR Array B**	**149.75**	**352**	PKPbc	PKPbc	18 38 19.6	-1.0
HFS	**Hagfors**	**150.28**	**349**	PKPbc	PKPbc	18 38 21.4	-0.5
	2.2nm,0.6s,baz=64,slow=6.8,SNR=9.2						
HFS	**Hagfors**	**150.28**	**349**	PKPbc	PKPbc	18 38 21.4	-0.5
AKASG	**Malin Array Be**	**152.60**	**323**	PKPbc	PKPbc	18 38 27.8	+0.2
	2.0nm,0.7s,baz=48,slow=2.6,SNR=6.1						
AKASG	**Malin Array Be**	**152.60**	**323**	PKPbc	PKPbc	18 38 27.8	+0.2
GERES	**GERESS Array B**	**160.72**	**339**	PKPab	PKPab	18 39 13.6	+0.5
	0.3nm,0.6s,baz=23,slow=10,SNR=4.1						
GERES	**GERESS Array B**	**160.72**	**339**	PKPab	PKPab	18 39 13.6	+0.5
TORD	**Torodi Ar. Bea**	**161.92**	**175**	PKPab	PKPab	18 39 21.4	+2.3
	0.2nm,0.4s,baz=116,slow=36,SNR=2.5						
TORD	**Torodi Ar. Bea**	**161.92**	**175**	PKPab	PKPab	18 39 21.4	+2.3

*DJA **09** 18:23:49,2°.46S×129°.73E,h10km,MLv4.0/7*
*IDC **09** 18:23:51.9±1.0,2°.92S×129°.30E,h0km,mb3.8/7,*
mb1 4.0/9,mb1mx3.8/19,mbtmp3.9/9,ML4.0/2,Error
ellipse: s-maj=50.9km s-min=17.8km az=71.0
*ISCJB **09** 18:23:52.9±0.5,2°.68S±0°.05×129°.71E±0°.05,h33km,*
mb3.8/9,Error ellipse: s-maj=9.2km s-min=5.2km
az=137.0
*NEIC **09** 18:23:56.2±0.6,2°.96S×129°.39E,h35km,mb4.0/5,Error*
ellipse: s-maj=27.1km s-min=10.1km az=69.0

ISC 09 18:23:55.6±0.6,2°.80S±0°.06×129°.57E±0°.07,h35km,n34,
σ1°31/41,mb3.9/9,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.84**	**230**	P	**Pn**	**18 24 10.6**	**-0.4**
MSAI				S	**Sn**	**18 24 29.1**	**+6.9**
AAI	**Ambon**	**1.64**	**237**	P	**Pn**	**18 24 23.3**	**+1.4**
AAI				S	**Sn**	**18 24 51.3**	**+10**
NLAI	**Namlea**	**2.51**	**260**	P	**Pn**	**18 24 34.7**	**+0.8**
NLAI				S	**Sn**	**18 25 08.2**	**+4.9**
LBMI	**Labuha**	**2.98**	**316**	P	**Pn**	**18 24 36.8**	**-3.6**
LBMI				S	**Sn**	**18 25 12.9**	**-2.1**
TNTI	**Ternate**	**4.17**	**328**	P	**Pn**	**18 24 52.6**	**-4.3**
KMSI	**Cibinong**	**6.52**	**301**	P	**Pn**	**18 25 28.8**	**-0.3**
KMSI				S	**Sn**	**18 26 41.3**	**-0.9**
LUWI	**Luwuk**	**7.02**	**284**	P	**Pn**	**18 25 35.1**	**-0.8**
	0.1nm33nm,1.2s						
GTOI	**Gorontalo**	**7.39**	**297**	P	**Pn**	**18 25 43.9**	**+2.8**
GTOI				S	**Sn**	**18 27 07.8**	**+4.0**
MRSI	**Marisa**	**8.29**	**293**	P	**Pn**	**18 25 51.4**	**-2.1**
FITZ	**Fitzroy Crossi**	**15.69**	**194**	Pn	**Pn**	**18 27 33.5**	**-0.7**
	0.4nm,0.3s,baz=42,slow=4.4,SNR=12						
FITZ	**Fitzroy Crossi**	**15.69**	**194**	Pn	**Pn**	**18 27 33.5**	**-0.7**
COEN	**Coen**	**17.42**	**130**	*e*Pn	**Pn**	**18 27 56.2**	**+0.2**
	169nm,1.5s						
WRAB	**Tennant Creek**	**17.66**	**165**	*e*Pn	**Pn**	**18 27 56.7**	**-2.2**
	3.5nm,0.5s						
WRA	**Warramunga Arr**	**17.66**	**165**	P	**Pn**	**18 27 59.1**	**+0.1**
	0.6nm,0.3s,baz=347,slow=13,SNR=11						
WRA	**Warramunga Arr**	**17.66**	**165**	P	**Pn**	**18 27 59.1**	**+0.1**
AS31	**Alice Springs**	**21.16**	**169**	*e*P	**P**	**18 28 37.6**	**-0.3**
AS31				*e*S	**S**	**18 32 28.4**	**-3.1**
ASAR	**Alice Springs**	**21.17**	**169**	P	**P**	**18 28 38.0**	**0.0**
	2.9nm,0.4s,mb3.9,baz=355,slow=10,SNR=52						
ASAR	**Alice Springs**	**21.17**	**169**	P	**P**	**18 28 38.0**	**0.0**
STKA	**Stephens Creek**	**31.06**	**160**	P	**P**	**18 30 11.5**	**+1.1**
	3.2nm,1.1s,mb4.1,baz=327,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**31.06**	**160**	P	**P**	**18 30 11.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**36.82**	**306**	P	**P**	**18 31 01.6**	**+1.1**
	0.4nm,0.8s,mb3.3,baz=137,slow=8.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**36.82**	**306**	P	**P**	**18 31 01.6**	**+1.1**
PETK	**Petropavlovsk-**	**60.50**	**19**	P	**P**	**18 34 05.9**	**+4.0**
	3.4nm,0.8s,mb4.5,baz=187,slow=7.5,SNR=3.7						
PETK	**Petropavlovsk-**	**60.50**	**19**	P	**P**	**18 34 05.9**	**+4.0**
MK31	**Makanchi Array**	**64.51**	**326**	*e*P	**P**	**18 34 28.9**	**0.0**
MKAR	**Makanchi Array**	**64.51**	**326**	P	**P**	**18 34 30.1**	**+1.2**
	0.4nm,0.6s,mb3.6,baz=120,slow=7.4,SNR=6.0						
MKAR	**Makanchi Array**	**64.51**	**326**	P	**P**	**18 34 30.1**	**+1.2**
ZALV	**Zalesovo Beam**	**67.66**	**333**	P	**P**	**18 34 50.4**	**+1.5**
	0.5nm,0.6s,mb3.8,baz=87,slow=7.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**67.66**	**333**	P	**P**	**18 34 50.4**	**+1.5**
KURK	**Kurchatov**	**68.74**	**328**	P	**P**	**18 34 56.7**	**+0.9**
	0.8nm,0.5s,mb3.9,baz=126,slow=5.9,SNR=15						
KURK	**Kurchatov**	**68.74**	**328**	P	**P**	**18 34 54.8**	**-1.0**
	1.5nm,0.8s,mb4.0						
BILL	**Biiibino**	**75.15**	**13**	P	**P**	**18 35 32.4**	**-1.5**
MAW	**Mawson**	**78.69**	**201**	*e*P	**P**	**18 35 50.5**	**-3.4**
	1.7nm,1.1s,mb3.9						
ABKAR	**Akbulak array**	**78.98**	**321**	P	**P**	**18 35 57.1**	**+1.3**
	0.5nm,0.6s,mb3.6						

*CSEM **09** 18:42:51.0,39°.17N×29°.50E,h12km,MD2.4,After ISK*

ISK 09 18:42:51.0,39°.17N×29°.50E,h12km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.49**	**103**	*e*PG	Pg	18 43 01.3	+0.8
ALT				*e*SG	Sg	18 43 08.1	+1.1
ALT	**Altintas**	**0.49**	**103**	*e*Pg	Pg	18 43 01.3	+0.8
ALT				*e*Sg	Sg	18 43 08.1	+1.1
KULA	**Kula-Manisa**	**0.93**	**225**	*e*PG	Pg	18 43 09.4	+0.6
KULA				*e*SG	Sg	18 43 22.4	+1.5
KULA	**Kula-Manisa**	**0.93**	**225**	*e*Pg	Pg	18 43 09.4	+0.6
KULA				*e*Sg	Sg	18 43 22.4	+1.5
CAVI	**Cavuskoy**	**1.07**	**14**	*e*PG	Pg	18 43 11.8	+0.3
CAVI	**Cavuskoy**	**1.07**	**14**	*e*Pg	Pg	18 43 11.8	+0.3
ESKT	**Eskisehir**	**1.10**	**71**	*e*PN	Pn	18 43 12.5	+0.3
ESKT	**Eskisehir**	**1.10**	**71**	*e*Pn	Pn	18 43 12.5	+0.3
GULT	**Gulveren**	**1.48**	**31**	*e*PN	Pn	18 43 18.1	+0.6
GULT	**Gulveren**	**1.48**	**31**	*e*Pn	Pn	18 43 18.1	+0.6
GONE	**Gonen-Balikesi**	**1.66**	**303**	*e*PN	Pn	18 43 20.5	+0.7
GONE	**Gonen-Balikesi**	**1.66**	**303**	*e*Pn	Pn	18 43 20.5	+0.7

*DJA **09** 18:49:58,20°.50S×175°.31W,h10km,mb5.8/11*

*ISCJB **09** 18:51:13.7±0.1,20°.99S±0°.03×178°.88W±0°.03,h597km,*
mb5.0/138,Error ellipse: s-maj=4.2km s-min=2.6km
az=42.5
*MOS **09** 18:51:14.7±1.4,20°.73S×178°.89W,h603km,mb5.2/33,*
Error ellipse: s-maj=9.4km s-min=8.2km az=56.8
*NEIC **09** 18:51:14.3±0.5,20°.89S×178°.86W,h597km±5km,mb5.1/99,*
Error ellipse: s-maj=6.6km s-min=4.8km az=140.0
*GCMT **09** 18:51:15.9±0.3,20°.89S×178°.62W,h607km±2km,MW5.7,*
Moment Tensor Solution. s85,c130; Moment tensor:
Scale 10^{17}Nm; M_{rr}-3.20±.10; $M_{\theta\theta}$2.35±.17; $M_{\phi\phi}$0.86±.19;
$M_{r\theta}$-3.07±.19; $M_{\theta\phi}$-0.62±.16; $M_{\phi r}$-1.51±.18; Best double
couple: M_0=4.40000×10^{17} NP1:ϕ_s=296.00000°,δ24.00000°,
λ-55.00000°. NP2:ϕ_s78.00000°,δ70.00000°,
λ-105.00000°. Principal axes: T 3.7100, Plg24.0000°,
Azm179.0000°; N 1.3100, Plg14.0000°, Azm83.0000°; P
-5.0200, Plg62.0000°, Azm326.0000°; Data Used: II IU IC
G CN.
*BGS **09** 18:51:15.1±3.3,20°.89S×178°.86W,h597km,mb5.1(NEIC)*
*IDC **09** 18:51:16.4±0.7,20°.84S×178°.85W,h615km±7km,mb4.5/30,*
mb1 4.5/31,mb1mx4.5/31,mbtmp4.4/31,Error ellipse:
s-maj=11.2km s-min=8.1km az=147.0
*BJI **09** 18:51:16.0,19°.96S×178°.86W,h592km,mB5.1/17,*
mb4.9/22

ISC 09 18:51:15.1±0.1,21°.00S±0°.03×178°.87W±0°.03,h599km,
h599km±4.5km:pP-P,n1042,σ0°76/655,mb5.0/138,
204C-183D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.36**	**318⇑**	*i*P	**P**	**18 52 42.2**	**-0.9**
MSVF				*e*S	**S**	**18 53 52.7**	**-2.1**
MSVF	**Nonsavu**	**4.36**	**318**	P	**P**	**18 52 42.0**	**-1.1**
	12μm,1.0s						
MSVF	**Nonsavu**	**4.36**	**318⇑**	*i*P	**P**	**18 52 42.2**	**-0.9**
MSVF				*e*S	**S**	**18 53 52.7**	**-2.1**
RAO	**Raoul Island**	**8.26**	**174**	*e*P	**P**	**18 53 15.0**	**-1.7**
	1μm,0.3s						
RAO				*e*S	**S**	**18 54 55.9**	**-0.5**
RAO	**Raoul Island**	**8.26**	**174**	*e*P	**P**	**18 53 15.0**	**-1.7**
RAO				*e*S	**S**	**18 54 55.9**	**-0.5**
RAO				pmax	pmax		
	comp=Z,1μm,0.3s						
AFI	**Afiamalu**	**9.77**	**45**	P	**P**	**18 53 25.0**	**-6.7**
	comp=Z,56nm,0.3s,baz=59,slow=2.0,SNR=21						
AFI				S	**S**	**18 55 14.0**	**-10**
	comp=Z,52nm,0.3s,baz=178,slow=18,SNR=6.2						
AFI	**Afiamalu**	**9.77**	**45**	P	**P**	**18 53 25.0**	**-6.7**
AFI				S	**S**	**18 55 14.0**	**-10**
AFI	**Afiamalu**	**9.77**	**45**	P	**P**	**18 53 25.0**	**-6.6**
AFI				S	**S**	**18 55 14.0**	**-10**
**F

CTA eS S 19 01 34.4 -0.1
CTA Charters Tower 32.64 265 P P 18 57 00.0 +0.7
CTA PcP PcP 18 59 27.3 +0.3
CTA Charters Tower 32.64 265 P P 18 57 00.0 +0.6
CTA 18 59 27.3
CTAO Charters Tower 32.64 265 eP P 18 56 59.6 +0.3
comp=Z,135nm,0.9s,mb5.6
CTAO ePcP PcP 18 59 27.1 +0.1
CTAO eS S 19 01 34.6 +0.2
CTAO Charters Tower 32.64 265 eP P 18 56 59.6 +0.2
CTAO e 18 59 27.1
CTAO eS S 19 01 34.6 +0.1
CTAO pmax pmax
comp=Z,135nm,0.9s,mb5.6
CTAO Charters Tower 32.64 265 P P 18 56 59.9 +0.5
comp=Z,2µmcomp=Z,178nm,1.4s,mb5.5
PMG Port Moresby 34.67 284 P P 18 57 16.5 0.0
comp=Z,390nm,1.0s,mb6.0,baz=93,slow=5.2,SNR=99
PMG Port Moresby 34.67 284 eP P 18 57 16.1 -0.4
comp=Z,398nm,0.9s,mb6.0
PMG Port Moresby 34.67 284 eP P 18 57 16.1 -0.4
PMG pmax pmax
comp=Z,398nm,0.9s
PMG Port Moresby 34.67 284 P P 18 57 16.2 -0.3
comp=Z,3µmcomp=Z,459nm,1.0s,mb6.1
TOO Toolangi 34.95 234 eP P 18 57 19.9 +1.5
comp=Z,191nm,0.7s,mb5.8
TAU Tasmania Unive 35.70 224 eP P 18 57 25.9 +1.3
comp=Z,12nm,0.7s,mb4.5
TAU Tasmania Unive 35.70 224 eP P 18 57 25.9 +1.3
TAU pmax pmax
comp=Z,12nm,0.7s,mb4.5
COEN Coen 36.81 275 eP P 18 57 34.1 +0.1
comp=Z,1µm,1.0s
COEN Coen 36.81 275 P P 18 57 34.5 +0.4
comp=Z,2µmcomp=Z,245nm,1.0s,mb5.7
STKA Stephens Creek 36.84 245 P P 18 57 35.4 +1.3
comp=Z,49nm,0.6s,mb5.2,baz=90,slow=8.8,SNR=148
STKA Stephens Creek 36.84 245 ⇓ iP P 18 57 35.3 +1.2
comp=Z,57nm,1.1s,mb5.0
STKA Stephens Creek 36.84 245 P P 18 57 35.4 +1.3
STKA Stephens Creek 36.84 245 P P 18 57 35.4 +1.3
BBOO Buckleboo 41.60 244 eP P 18 58 12.8 +0.7
comp=Z,696nm,0.6s
ASAR Alice Springs 43.62 257 P P 18 58 28.4 +0.4
comp=Z,171nm,0.9s,mb5.6,baz=86,slow=8.6,SNR=329
ASAR PcP PcP 19 00 02.0 +0.2
comp=Z,9.9nm,0.6s,baz=105,slow=3.7,SNR=6.1
ASAR Alice Springs 43.62 257 P P 18 58 28.4 +0.4
ASAR PcP PcP 19 00 02.0 +0.2
ASAR Alice Springs 43.62 257 P P 18 58 28.5 +0.5
ASAR 19 00 02.0
WRAB Tennant Creek 43.72 263 eP P 18 58 28.1 -0.9
WRAB Tennant Creek 43.72 263 P P 18 58 28.6 -0.3
comp=Z,806nm,1.0s,mb6.2,SNR=15
WRAB Tennant Creek 43.72 263 eP P 18 58 28.1 -0.8
WRAB Tennant Creek 43.72 263 P P 18 58 28.5 -0.4
comp=Z,3µmcomp=Z,293nm,1.1s,mb5.7
WRA Warramunga Arr 43.73 263 P P 18 58 28.6 -0.3
comp=Z,115nm,1.1s,mb5.3,baz=98,slow=7.7,SNR=145
WRA PcP PcP 19 00 03.0 +0.8
comp=Z,4.1nm,0.4s,baz=90,slow=3.8,SNR=5.5
WRA Warramunga Arr 43.73 263 P P 18 58 28.6 -0.3
WRA PcP PcP 19 00 03.0 +0.8
WRA Warramunga Arr 43.73 263 P P 18 58 28.7 -0.3
WRA 19 00 03.1
FORT Forrest 48.35 247 eP P 18 59 03.7 0.0
comp=Z,97nm,0.5s,mb5.6
FORT Forrest 48.35 247 eP P 18 59 03.9 +0.2
comp=Z,286nm,1.0s,mb5.8
FITZ Fitzroy Crossi 52.16 263 P P 18 59 32.1 +0.5
comp=Z,24nm,0.5s,mb4.8,baz=90,slow=8.4,SNR=13
FITZ Fitzroy Crossi 52.16 263 eP P 18 59 32.2 +0.6
comp=Z,94nm,1.4s,mb4.9
FITZ Fitzroy Crossi 52.16 263 P P 18 59 32.1 +0.5
FITZ Fitzroy Crossi 52.16 263 eS S 19 06 13.7 +1.1
MBWA Marble Bar 56.95 258 eP P 19 00 04.4 -0.6
comp=Z,189nm,1.0s,mb5.3
MBWA Marble Bar 56.95 258 P P 19 00 04.8 -0.2
comp=Z,2µmcomp=Z,167nm,1.3s,mb5.1
KLBR Kellerberrin 57.11 245 eP P 19 00 06.0 +0.1
comp=Z,242nm,1.0s,mb5.4
SBA Scott Base 57.32 184 eP P 19 00 09.3 +2.7
comp=Z,25nm,0.7s,mb4.5
SBA Scott Base 57.32 184 eP P 19 00 09.3 +2.8
SBA pmax pmax
comp=Z,25nm,0.7s,mb4.5
VNDA Vanda 57.34 185 eP P 19 00 08.7 +2.1
comp=Z,20nm,0.9s,mb4.3
VNDA Vanda 57.34 185 eP P 19 00 08.7 +2.0
VNDA pmax pmax
comp=Z,20nm,0.9s
NWAO Narrogin (SRO) 57.42 244 P P 19 00 08.8 +0.9
comp=Z,59nm,0.9s,mb4.8,baz=114,slow=6.3,SNR=16
NWAO Narrogin (SRO) 57.42 244 eP P 19 00 07.7 -0.3
comp=Z,74nm,1.0s,mb4.9
NWAO Narrogin (SRO) 57.42 244 eP P 19 00 07.7 -0.3
NWAO pmax pmax
comp=Z,74nm,1.0s
CBIJ Chichi jima 60.90 320 P P 19 00 30.7 -0.4
comp=Z,48nm,0.4s,mb5.0,baz=264,slow=21,SNR=5.8
CBIJ Chichi jima 60.90 320 P P 19 00 30.7 -0.4
KAPI Kappang 61.52 276 P P 19 00 35.2 -0.3
comp=Z,135nm,0.9s,mb5.2,baz=61,slow=4.8,SNR=4.1
KAPI Kappang 61.52 276 P P 19 00 35.2 -0.3
CTBH Cotabato--PC H 62.49 290 ⇓ iP P 19 00 41.4 -0.3
CASY Casey 63.17 205 eP P 19 00 46.4 +1.2
comp=Z,30nm,0.8s,mb4.7
MYLDM Lahad Datu 66.68 286 P P 19 01 11.3 +3.2
TSM Tawau 66.88 284 P P 19 01 10.2 +0.9
SDKM Sandakan 68.05 285 P P 19 01 16.4 -0.1
KDM Kudat 68.92 287 P P 19 01 22.0 +0.3
QSPA South Pole Qui 69.07 180 eP P 19 01 22.9 +1.4
comp=Z,35nm,0.6s,mb5.0
KKM Kota Kinabalu 69.11 285 P P 19 01 23.6 +0.8
KKM Kota Kinabalu 69.11 285 eP P 19 01 22.7 -0.1
comp=Z,43nm,0.8s,mb4.9
JOW Kunigami 69.87 311 P P 19 01 26.9 -0.1
comp=Z,30nm,0.8s,mb4.8,baz=175,slow=9.5,SNR=4.2
JOW Kunigami 69.87 311 eP P 19 01 26.4 -0.6
comp=Z,22nm,1.0s,mb4.5
MJAR Matsushiro Arr 70.14 324 P P 19 01 27.1 -1.3
comp=Z,18nm,0.5s,mb4.8,baz=158,slow=6.3,SNR=65
MJAR Matsushiro Arr 70.14 324 P P 19 01 27.1 -1.3
MJAR Matsushiro Arr 70.14 324 P P 19 01 27.1 -1.3
MAJO Matsushiro 70.14 324 eP P 19 01 27.0 -1.5
comp=Z,20nm,0.6s,mb4.7
MAJO Matsushiro 70.14 324 eP P 19 01 27.0 -1.4
MAJO pmax pmax
comp=Z,20nm,0.6s,mb4.7
MAT Matsushiro 70.14 324 P P 19 01 27.1 -1.3
BTM Bintulu 70.79 281 P P 19 01 33.7 +0.9
SBUM Sibu 71.29 280 P P 19 01 36.6 +0.9
JNU Nakatsue 72.09 317 eP P 19 01 39.0 -0.9
YUK Yuzh-Kuril'sk 72.34 334 d iP P 19 01 37.1 -4.0
YUK i 19 04 34.9
YUK S S 19 10 09.9 -7.4
YUK pmax pmax
comp=E,104nm,1.1s
YUK pmax pmax
comp=Z,273nm,1.1s,mb5.7
YUK pmax pmax
comp=N,129nm,1.1s
YUK pmax pmax
comp=Z,433nm,1.5s,mb5.8
KSM Kuching 72.68 278 P P 19 01 44.6 +0.8
KSM Kuching 72.68 278 eP P 19 01 43.8 0.0
comp=Z,106nm,1.0s,mb5.3
KSM Kuching 72.68 278 P P 19 01 44.5 +0.7
comp=Z,2µmcomp=Z,111nm,1.2s,mb5.3
TWG Pinlang 72.97 303 eP P 19 01 42.1 -3.1
comp=Z,57nm,0.5s,mb5.4
NACB Ninganchiao 73.29 305 eP P 19 01 47.0 0.0
comp=Z,33nm,0.6s,mb5.0
TPUB Ta-pu 73.57 303 eP P 19 01 45.7 -2.9
comp=Z,78nm,0.6s,mb5.4
SSLB Suanglung 73.58 304 eP P 19 01 46.5 -2.2
ASAJ Asahikawa 73.78 332 P P 19 01 49.7 +0.4
comp=Z,21nm,0.4s,mb5.0,baz=208,slow=4.4,SNR=40
ASAJ Asahikawa 73.78 332 eP P 19 01 49.5 +0.1
comp=Z,19nm,0.9s,mb4.6
TATO Taipei 73.80 305 P P 19 01 46.9 -3.0
comp=Z,415nm,1.5s,mb5.7
FX1 Attu Island--F 73.89 355 P P 19 01 47.8 -1.9
comp=Z,26nm,0.5s,mb5.0,baz=146,slow=3.1,SNR=26
FX1 Attu Island--F 73.89 355 P P 19 01 47.8 -1.9

FX1 Attu Island--F 73.89 355 P P 19 01 47.8 -1.9
YSS Yuzh-Sakhalins 75.98 334 eP P 19 02 01.1 -0.3
comp=Z,27nm,0.6s,mb4.8
YSS Yuzh-Sakhalins 75.98 334 i P P 19 02 01.4 -0.1
YSS pmax pmax
comp=Z,93nm,1.6s,mb5.0
PET Petropavlovsk 76.26 346 eP P 19 02 01.8 -1.0
PET e*SP sP 19 05 04.4 -3.6
PET eS S 19 11 00.8 +1.4
PET pmax pmax
comp=Z,28nm,0.5s,mb5.0
PET pmax pmax
comp=Z,200nm,12.2s
PEA0B Petropavlovsk- 76.55 346 eP P 19 02 03.0 -1.5
PETK Petropavlovsk- 76.55 346 P P 19 02 03.2 -1.3
comp=Z,28nm,0.6s,mb4.9,baz=133,slow=5.5,SNR=51
PETK Petropavlovsk- 76.55 346 P P 19 02 03.2 -1.3
PETK Petropavlovsk- 76.55 346 P P 19 02 03.2 -1.2
KSRS Korea Array 76.73 319 P P 19 02 05.8 0.0
comp=Z,5.7nm,0.6s,mb4.2,baz=128,slow=6.1,SNR=19
KSAR Wonju Array Be 76.75 319 P P 19 02 05.8 -0.1
KSAR Wonju Array Be 76.75 319 P P 19 02 05.8 -0.1
MYKOM Kota Tinggi 78.78 276 P P 19 02 18.4 +1.0
comp=Z,1µmcomp=Z,78nm,1.2s,mb4.9
CHGN Chignik 78.92 11 eP P 19 02 15.1 -2.0
PKM Peak Mountain 78.92 46 ⇑ P P 19 02 18.7 +1.0
baz=79
KCPM Cahto Peak 79.40 40 eP P 19 02 20.4 +0.4
comp=Z,24nm,1.1s,mb4.5
KIPM Iron Peak 79.53 40 eP P 19 02 20.5 -0.3
comp=Z,86nm,1.2s,mb5.0
MURC Murrieta 79.99 48 ⇑ P P 19 02 24.0 +0.7
baz=80
BFSC Mount Baldy Ra 80.02 47 ⇓ P P 19 02 24.0 +0.6
baz=80
KHMM Horse Mountain 80.05 39 eP P 19 02 23.3 -0.1
comp=Z,73nm,1.2s,mb4.9
MONP Monument Peak 80.15 49 ⇓ P P 19 02 24.4 +0.3
baz=80
EDW2 Edwards Air Fo 80.15 47 ⇑ P P 19 02 23.9 -0.1
baz=80
DVTC Desert V Tower 80.25 50 ⇑ P P 19 02 25.2 +0.5
baz=80
ISA Isabella 80.26 46 ⇓ P P 19 02 24.6 -0.1
baz=80
ISA Isabella 80.26 46 eP P 19 02 24.2 -0.5
comp=Z,79nm,1.4s,mb4.8
ISA Isabella 80.26 46 eP P 19 02 24.2 -0.5
ISA pmax pmax
comp=Z,79nm,1.4s,mb4.8
CMB Columbia Colle 80.38 43 eP P 19 02 24.7 -0.5
comp=Z,71nm,1.3s,mb4.8
CMB Columbia Colle 80.38 43 eP P 19 02 24.7 -0.5
CMB pmax pmax
comp=Z,71nm,1.3s,mb4.8
MDJ Mudanjiang 80.47 325 P P 19 02 24.7 -0.8
MDJ pP pP 19 04 24.5 -6.9
MDJ S S 19 11 41.2 -2.3
MDJ sS sS 19 15 18.7 -9.1
MDJ SS SS 19 17 11.8 -2.4
MDJ pmax pmax
comp=Z,31nm,1.2s,mb4.5
MDJ pmax pmax
comp=Z,180nm,3.8s
HABR Khabarovsk 80.48 331 eP P 19 02 24.8 -0.7
HABR e*SP sP 19 05 28.5 -3.5
HABR e 19 05 38.0
HABR ePPP 19 07 32.7
HABR eS S 19 11 43.2 -0.3
HABR SS SS 19 17 12.6 -1.7
HABR eSSS 19 20 46.1
HABR pmax pmax
comp=E,87nm,2.2s
HABR pmax pmax
comp=N,58nm,2.2s
HABR pmax pmax
comp=Z,236nm,2.2s,mb5.1
HABR MLR MLR
comp=Z,195nm,19.0s
PFO Pinyon Flat Ob 80.51 49 ⇓ P P 19 02 25.9 -0.1
baz=81
PFO Pinyon Flat Ob 80.51 49 eP P 19 02 25.6 -0.4
comp=Z,8.4nm,1.1s,mb4.1
PFO Pinyon Flat Ob 80.51 49 eP P 19 02 25.6 -0.4
PFO pmax pmax
comp=Z,8.0nm,1.1s,mb4.1
WDC Whiskeytown Da 80.58 40 eP P 19 02 25.5 -0.6
comp=Z,118nm,1.4s,mb5.1
WDC Whiskeytown Da 80.58 40 eP P 19 02 25.5 -0.7
WDC pmax pmax
comp=Z,118nm,1.4s,mb5.1
SWSC Sam W. Stewart 80.62 49 ⇑ P P 19 02 26.5 -0.1
baz=81
LRMC Laurel Mountai 80.69 46 ⇓ P P 19 02 27.0 +0.2
baz=81
MAW Mawson 80.82 200 P P 19 02 28.1 +1.1
comp=Z,6.6nm,0.5s,mb4.3,baz=130,slow=6.1,SNR=4.6
MAW Mawson 80.82 200 P P 19 02 28.1 +1.1
MAW Mawson 80.82 200 P P 19 02 28.1 +1.1
CWC Cottonwood Cre 80.97 45 ⇑ P P 19 02 28.2 -0.1
baz=81
BELC Belle Mtn. Jos 81.04 48 ⇑ P P 19 02 28.9 +0.2
baz=81
MLAC Mammoth Lakes 81.14 44 ⇓ P P 19 02 29.6 +0.4
baz=81
MPMC Manual Prospec 81.15 46 ⇓ P P 19 02 29.3 +0.1
baz=81
PMSA Palmer Station 81.15 157 eP P 19 02 28.5 -0.2
YBH Yreka Blue Hor 81.19 39 eP P 19 02 29.1 -0.2
comp=Z,92nm,1.3s,mb5.0
YBH Yreka Blue Hor 81.19 39 eP P 19 02 29.1 -0.2
YBH pmax pmax
comp=Z,92nm,1.3s
GSC Goldstone 81.19 47 ⇑ P P 19 02 29.6 +0.1
baz=81
GSC Goldstone 81.19 47 eP P 19 02 28.7 -0.7
comp=Z,43nm,1.3s,mb4.7
GSC Goldstone 81.19 47 eP P 19 02 28.7 -0.8
GSC pmax pmax
comp=Z,43nm,1.3s,mb4.7
TIN Tinemaha 81.21 45 ⇑ P P 19 02 30.2 +0.7
baz=81
BC3 Big Chuckawall 81.24 49 ⇓ P P 19 02 30.4 +0.7
baz=81
HEC Hector,Ludlow 81.26 48 ⇓ P P 19 02 29.4 -0.4
baz=81
GLA Glamis 81.37 50 ⇑ P P 19 02 30.9 +0.5
baz=81
GLA Glamis 81.37 50 eP P 19 02 30.9 +0.5
comp=Z,89nm,1.2s,mb5.1
GLA Glamis 81.37 50 eP P 19 02 30.9 +0.5
GLA pmax pmax
comp=Z,89nm,1.2s,mb5.1
KDAK Kodiak Island 81.49 14 P P 19 02 29.9 -0.5
comp=Z,22nm,0.6s,mb4.8,baz=208,slow=4.2,SNR=18
KDAK Kodiak Island 81.49 14 P P 19 02 29.9 -0.5
KDAK Kodiak Island 81.49 14 i P P 19 02 29.7 -0.7
WCN Washoe City 81.52 42 ⇑ P P 19 02 31.3 +0.2
baz=82
WCN Washoe City 81.52 42 eP P 19 02 31.4 +0.4
comp=Z,56nm,1.2s,mb5.0
WCN Washoe City 81.52 42 eP P 19 02 31.4 +0.4
WCN pmax pmax
comp=Z,56nm,1.2s,mb5.0
HUMO Hull Mountain 81.58 38 eP P 19 02 31.1 -0.2
comp=Z,97nm,1.3s,mb5.2
GMRC Granite Mounta 81.70 48 ⇓ P P 19 02 32.0 0.0
baz=82
IRM Iron Mountain 81.72 49 ⇑ P P 19 02 32.4 +0.2
baz=82
GRAC Grapevine Rang 81.75 45 ⇑ P P 19 02 32.2 -0.1
baz=82
TUQ Turquoise Moun 81.87 47 ⇑ P P 19 02 33.1 +0.2
baz=82
NVAR Mina Array Bea 81.94 44 P P 19 02 33.1 -0.1
comp=Z,16nm,0.6s,mb4.8,baz=227,slow=7.5,SNR=138
NVAR pP pP 19 04 42.7 +3.0
comp=Z,1.4nm,0.8s,baz=234,slow=9.8,SNR=4.7
NVAR Mina Array Bea 81.94 44 P P 19 02 33.1 -0.1
NVAR pP pP 19 04 42.7 +3.0
Y12C Blythe 81.95 49 ⇑ P P 19 02 33.5 +0.2
baz=82
113A Mohawk Valley, 81.98 51 ⇑ P P 19 02 33.3 -0.3
baz=82
CN2 Changchun 82.20 323 eP P 19 02 33.9 -0.5
CN2 pmax pmax

comp=Z,40nm,1.6s,mb4.7
CN2 pmax pmax
comp=Z,200nm,3.0s
LDFC Landfair 82.24 48 eP P 19 02 35.4 +0.7
comp=Z,176nm,1.2s,mb5.5
214A Organ Pipe Nat 82.26 52 ⇑ P P 19 02 35.4 +0.5
baz=82
Z13A Yuma Proving G 82.28 50 ⇑ P P 19 02 35.5 +0.5
baz=82
IPM Ipoh 82.39 278 eP P 19 02 36.1 +0.1
IPM Ipoh 82.39 278 P P 19 02 36.9 +0.8
comp=Z,1µmcomp=Z,80nm,1.4s,mb5.1
114A Black Gap (USA 82.61 51 ⇑ P P 19 02 36.7 0.0
baz=83
MOD Modoc 82.72 40 eP P 19 02 36.9 -0.1
comp=Z,34nm,0.7s,mb5.0
K05A Summer Lake 82.86 39 ⇑ P P 19 02 38.3 +0.6
baz=83,SNR=45
Z14A Wintersburg 82.88 50 ⇓ P P 19 02 38.5 +0.5
baz=83
KULM Kulim 83.04 278 eP P 19 02 39.4 +0.1
KULM Kulim 83.04 278 P P 19 02 40.5 +1.2
comp=Z,997nmcomp=Z,53nm,1.3s,mb4.9
W13A Hualapai Mount 83.10 48 ⇓ P P 19 02 39.5 +0.4
baz=83
Y14A Wickenburg 83.13 50 ⇑ P P 19 02 39.3 0.0
baz=83
R11A Troy Canyon, C 83.67 45 ⇑ P P 19 02 41.5 -0.3
baz=84,SNR=13
E03A Lebam 83.72 35 ⇑ P P 19 02 41.7 -0.2
baz=84,SNR=6.2
PSI Prapat 83.73 275 P P 19 02 42.5 -0.2
comp=Z,887nmcomp=Z,64nm,1.3s,mb5.0
RSO Redoubt South 83.90 13 eP P 19 02 40.9 -1.5
comp=Z,115nm,1.0s,mb5.4
TUC Tucson 83.92 52 eP P 19 02 43.7 +0.5
comp=Z,50nm,1.2s,mb4.9
TUC ePP pP 19 04 49.9 -0.7
TUC Tucson 83.92 52 eP P 19 02 43.7 +0.5
TUC e*PP pP 19 04 49.9 -0.7
TUC pmax pmax
comp=Z,50nm,1.2s,mb4.9
HOOD Mount Hood Mea 84.00 37 eP P 19 02 40.9 -2.4
comp=Z,36nm,1.3s,mb4.7
WVOR Wild Horse Val 84.03 40 eP P 19 02 42.8 -0.7
comp=Z,79nm,1.4s,mb5.0
WVOR Wild Horse Val 84.03 40 eP P 19 02 42.8 -0.7
WVOR pmax pmax
comp=Z,79nm,1.4s,mb5.0
318A Bisbee 84.09 53 ⇑ P P 19 02 44.9 +0.8
baz=84,SNR=18
218A Dragoon 84.31 53 ⇓ P P 19 02 45.9 +0.8
baz=84,SNR=17
I07A Izee 84.48 39 ⇑ P P 19 02 45.8 +0.1
baz=85,SNR=28
SLKM Skilak Lake 84.48 14 eP P 19 02 43.8 -1.5
SLKM Skilak Lake 84.48 14 eP P 19 02 43.8 -1.5
X16A Lo Mia Camp, P 84.49 50 ⇑ P P 19 02 46.2 +0.3
baz=85,SNR=10
G06A Carlson Farm, 84.52 37 ⇓ P P 19 02 45.6 -0.2
baz=85,SNR=14
Y17A Roosevelt 84.56 51 ⇑ P P 19 02 46.5 +0.2
baz=85,SNR=9.4
319A Douglas 84.60 54 ⇑ P P 19 02 47.1 +0.5
baz=85,SNR=7.2
R13A O'Grain Ranch, 84.66 46 ⇑ P P 19 02 47.1 +0.4
baz=85,SNR=5.3
J08A Circle Bar Ran 84.67 40 ⇓ P P 19 02 46.3 -0.3
baz=85,SNR=24
118A Homack Ranch, 84.69 52 ⇓ P P 19 02 47.6 +0.7
baz=85,SNR=15
GNW Green Mountain 84.76 34 eP P 19 02 46.7 -0.2
comp=Z,24nm,1.2s,mb4.7
ARUT Antelope Range 84.81 46 eP P 19 02 47.7 +0.3
comp=Z,12nm,1.0s,mb4.5
ARUT Antelope Range 84.81 46 eP P 19 02 47.7 +0.3
ARUT pmax pmax
comp=Z,12nm,1.0s,mb4.5
U15A North Rim 84.90 48 ⇓ P P 19 02 48.3 +0.4
baz=85,SNR=35
219A White Tail Can 84.91 53 ⇓ P P 19 02 48.5 +0.4
baz=85,SNR=18
WUAZ Wupatki 85.08 49 ⇑ P P 19 02 49.4 +0.6
baz=85
320A Kipp Ranch, An 85.14 54 ⇓ P P 19 02 50.0 +0.8
baz=85,SNR=24
Y18A Canyon Day Jun 85.19 51 ⇑ P P 19 02 49.6 +0.2
baz=85,SNR=17
119A Ashpeak Ranch, 85.24 52 ⇑ P P 19 02 49.8 +0.2
baz=85,SNR=9.6
W17A Winslow 85.33 50 ⇑ P P 19 02 50.8 +0.7
baz=85
220A Playas Peak, P 85.41 53 ⇓ P P 19 02 50.9 +0.4
baz=86,SNR=19
V17A Tonalea, Kykot 85.54 49 ⇓ P P 19 02 50.8 -0.2
baz=86,SNR=18
U16A Tuba City 85.56 49 ⇑ P P 19 02 51.1 0.0
baz=86,SNR=11
X18A Snowflake 85.61 51 ⇓ P P 19 02 51.6 +0.2
baz=86,SNR=9.0
JCW Jim Creek 85.62 34 eP P 19 02 50.8 -0.3
comp=Z,20nm,1.0s,mb4.7
120A U Bar Ranch, L 85.63 53 ⇑ P P 19 02 52.3 +0.8
baz=86,SNR=9.1
BJI Beijing 85.68 316 P P 19 02 52.3 +0.8
BJI pmax pmax
comp=Z,6.0nm,1.2s,mb4.1
PMR Palmer 85.69 14 eP P 19 02 49.3 -1.8
comp=Z,108nm,1.3s,mb5.3
PMR Palmer 85.69 14 eP P 19 02 49.3 -1.8
PMR pmax pmax
comp=Z,108nm,1.3s,mb5.3
RSW Rattlesnake Hi 85.80 37 eP P 19 02 52.1 +0.2
comp=Z,158nm,1.4s,mb5.5
R15A Junction 85.81 46 ⇓ P P 19 02 52.8 +0.6
baz=86
Y19A Nutrioso 85.84 51 ⇓ P P 19 02 53.0 +0.6
baz=86,SNR=13
Z20A Nine Sixteen R 85.93 52 ⇑ P P 19 02 53.1 +0.2
baz=86,SNR=9.9
221A Mesquite Ranch 86.02 54 ⇑ P P 19 02 53.9 +0.5
baz=86
S16A Weppner Ranch, 86.03 47 ⇓ P P 19 02 53.5 +0.2
baz=86
MSU Marysvale 86.04 46 eP P 19 02 53.8 +0.5
comp=Z,25nm,1.3s,mb4.7
MSU Marysvale 86.04 46 eP P 19 02 53.8 +0.5
MSU pmax pmax
comp=Z,25nm,1.3s,mb4.7
A05A Maple Falls 86.04 34 ⇓ P P 19 02 53.5 +0.4
baz=86
X19A St. Johns 86.04 51 ⇓ P P 19 02 54.1 +0.7
baz=86
W18A Petrified Fore 86.05 50 ⇑ P P 19 02 53.3 -0.1
baz=86,SNR=6.5
SYO Syowa Base 86.06 193 ⇑ eP P 19 02 51.4 -1.5
SYO Syowa Base 86.06 193 ⇓ eP P 19 02 53.6 +0.7
ETW Entiat 86.12 35 eP P 19 02 52.9 -0.5
comp=Z,43nm,0.6s,mb5.3
U17A Shonto 86.12 48 ⇑ P P 19 02 54.4 +0.7
baz=86
GYA Guiyang 86.19 300 P P 19 02 55.0 +0.7
GYA pP pP 19 05 01.4 -1.2
GYA sP sP 19 05 59.6 -3.0
GYA PP PP 19 06 29.8 +3.0
GYA SKS 19 12 24.3
GYA S S 19 12 41.0 +0.7
GYA pmax pmax
comp=Z,20nm,1.0s,mb4.7
GYA pmax pmax
comp=Z,120nm,5.8s
V18A Ganado 86.20 50 ⇑ P P 19 02 54.0 -0.1
baz=86,SNR=6.6
BMO Blue Mountains 86.21 39 eP P 19 02 53.0 -0.9
comp=Z,90nm,1.6s,mb5.2
T17A Navajo Res., N 86.22 48 ⇓ P P 19 02 54.2 0.0
baz=86,SNR=7.2
LNOR Lincton Mounta 86.23 38 eP P 19 02 53.1 -0.9
comp=Z,5.3nm,0.6s,mb4.3
LNOR Lincton Mounta 86.23 38 eP P 19 02 53.1 -0.9
LNOR pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
BMRM Bremner River 86.23 16 eP P 19 02 52.1 -1.5
comp=Z,232nm,1.5s,mb5.6
121A Cookes Peak, D 86.26 53 ⇑ P P 19 02 54.7 +0.3
baz=86,SNR=13
MFID Camas Ranch 86.29 41 ⇓ P P 19 02 54.1 -0.2

baz=86,SNR=21
MFID Camas Ranch 86.29 41 *e*P **P 19 02 53.9 -0.4**
comp=Z,63nm,1.4s,mb5.0
W19A Sanders 86.30 50 ⇑P **P 19 02 54.9 +0.4**
baz=86
Y20A Horse Springs, 86.46 52 ⇑P **P 19 02 55.5 +0.1**
baz=86,SNR=16
DUG Dugway 86.48 45 ⇑P **P 19 02 55.8 +0.5**
baz=86
S17A Black Ridge (B 86.53 48 ⇑P **P 19 02 55.7 +0.1**
baz=87
U18A Rough Rock, Ch 86.59 49 ⇓P **P 19 02 55.9 0.0**
baz=87,SNR=7.0
X20A Quemado 86.67 51 ⇑P **P 19 02 56.8 +0.5**
baz=87,SNR=8.7
E09A Wood Farm, Sta 86.68 37 ⇑P **P 19 02 55.7 -0.4**
baz=87,SNR=21
TNA Tin City 86.69 5 *e*P **P 19 02 54.4 -1.3**
comp=Z,23nm,1.1s,mb4.8
Z21A St. Cloud Mine 86.70 53 ⇓P **P 19 02 56.8 +0.3**
baz=87,SNR=6.7
V19A Window Rock 86.83 50 ⇓P **P 19 02 57.7 +0.6**
baz=87
OD2 Odessa Site #2 86.87 36 *e*P **P 19 02 56.6 -0.4**
comp=Z,127nm,1.3s,mb5.5
F10A Beach Ranch, E 86.89 38 ⇓P **P 19 02 56.6 -0.5**
baz=87,SNR=53
Q16A Castle Valley 86.92 46 ⇓P **P 19 02 57.3 -0.2**
baz=87,SNR=7.1
I12A Atlanta 86.92 41 ⇓P **P 19 02 57.5 +0.3**
baz=87,SNR=40
T18A Mexican Hat 86.93 48 ⇑P **P 19 02 57.8 +0.3**
baz=87,SNR=30
P16A Fountain Green 86.94 45 ⇑P **P 19 02 58.1 +0.6**
baz=87
W20A Ramah 86.95 51 ⇓P **P 19 02 58.0 +0.3**
baz=87,SNR=23
R17A Hanksville Air 86.98 47 ⇑P **P 19 02 57.7 -0.1**
baz=87,SNR=6.8
U19A Dine' College, 86.99 49 ⇑P **P 19 02 58.0 +0.1**
baz=87,SNR=5.4
Y21A Point of Rocks 87.03 52 ⇓P **P 19 02 58.6 +0.6**
baz=87,SNR=19
TMUT Trail Mountain 87.08 46 *e*P **P 19 02 58.7 +0.5**
comp=Z,9.8nm,0.5s,mb4.8
TRF Thorofare Moun 87.11 12 *e*P **P 19 02 55.6 -2.1**
comp=Z,54nm,0.7s,mb5.4
X21A Alamocita Cree 87.15 52 ⇑P **P 19 02 58.9 +0.3**
baz=87,SNR=12
L14A Malta 87.16 43 ⇑P **P 19 02 58.6 +0.2**
baz=87,SNR=12
Z22A Elephant Butte 87.21 53 ⇑P **P 19 02 59.1 +0.1**
baz=87,SNR=8.2
HLID Hailey 87.23 41 ⇑P **P 19 02 58.8 0.0**
baz=87,SNR=32
V20A Brimhall 87.29 50 ⇑P **P 19 02 59.5 +0.2**
baz=87
J13A Cove Ranch, Pi 87.29 41 ⇑P **P 19 02 59.8 +0.7**
baz=87,SNR=24
HVU Hansel Valley 87.32 43 *e*P **P 19 02 58.2 -1.1**
comp=Z,74nm,1.5s,mb5.2
HVU Hansel Valley 87.32 43 *e*P **P 19 02 58.2 -1.0**
HVU pmax pmax
comp=Z,74nm,1.5s,mb5.2
O16A Springville 87.34 45 ⇓P **P 19 02 59.6 +0.2**
baz=87,SNR=5.7
C09A Chrisman Ranch 87.35 36 ⇓P **P 19 02 59.1 -0.1**
baz=87,SNR=15
M15A Larsen Ranch, 87.37 44 ⇑P **P 19 02 60.0 +0.5**
baz=87
T19A Beclabito 87.38 49 ⇑P **P 19 02 59.4 -0.2**
baz=87,SNR=6.9
SRU San Rafael 87.45 46 *e*P **P 19 02 59.6 -0.3**
comp=Z,72nm,1.2s,mb5.3
SRU *e*pP pP 19 05 08.2 -0.5
SRU San Rafael 87.45 46 *e*P **P 19 02 59.6 -0.3**
SRU *e**PP pP 19 05 08.2 -0.5
SRU pmax pmax
comp=Z,72nm,1.2s,mb5.3
K14A Jones Ranch, D 87.47 42 ⇓P **P 19 02 59.5 -0.4**
baz=88,SNR=13
P17A Butcher Ranch, 87.49 46 ⇓P **P 19 02 59.9 -0.2**
baz=88,SNR=6.8
H12A Diamond D Ranc 87.50 40 ⇑P **P 19 02 59.5 -0.5**
baz=88,SNR=59
324A Moseley Ranch, 87.51 55 ⇑P **P 19 03 00.6 +0.2**
baz=88,SNR=26
Y22A Socorro 87.52 52 ⇑P **P 19 02 59.9 -0.5**
baz=88,SNR=12
U20A Newcomb 87.52 50 ⇑P **P 19 03 00.1 -0.3**
baz=88
R18A Canyonlands Na 87.53 47 ⇓P **P 19 03 00.1 -0.2**
baz=88,SNR=23
G12A Big Creek, Yel 87.53 39 ⇓P **P 19 02 59.7 -0.5**
baz=88,SNR=46
LAZ Ladron 87.60 52 *e*P **P 19 03 00.5 -0.2**
comp=Z,13nm,1.3s,mb4.5
425A Indio Mountain 87.60 56 ⇓P **P 19 03 00.9 +0.1**
baz=88,SNR=30
I13A Wildhorse Cree 87.60 41 ⇑P **P 19 03 00.9 +0.4**
baz=88,SNR=18
DAU Daniels Canyon 87.61 45 *e*P **P 19 03 01.0 +0.3**
comp=Z,54nm,1.5s,mb5.1
DAU Daniels Canyon 87.61 45 *e*P **P 19 03 01.0 +0.4**
DAU pmax pmax
comp=Z,54nm,1.5s,mb5.1
LENM Lemitar 87.61 52 *e*P **P 19 03 01.1 +0.3**
comp=Z,13nm,1.1s,mb4.6
MCK McKinley 87.64 13 *e*P **P 19 02 58.1 -2.1**
comp=Z,26nm,0.6s,mb5.1
MCK *e*pP pP 19 05 10.0 +0.9
MCK McKinley 87.64 13 *e*P **P 19 02 58.1 -2.1**
MCK *e**PP pP 19 05 10.0 +1.0
MCK pmax pmax
comp=Z,26nm,0.6s,mb5.1
J14A Carey 87.66 42 ⇓P **P 19 03 01.0 +0.2**
baz=88,SNR=43
L15A Malad City 87.69 43 ⇓P **P 19 03 00.5 -0.4**
baz=88,SNR=16
VNA3 Neumayer Olymp 87.69 177 *e* **P 19 03 00.8 +0.3**
VNA3 *e* pP 19 05 12.1 +2.8
MNTX Cornudas Mount 87.70 55 ⇑P **P 19 03 01.0 -0.3**
baz=88,SNR=24
Q18A Rafter H Ranch 87.71 47 ⇓P **P 19 03 00.6 -0.5**
baz=88,SNR=16
N16A Rees Ranch, Co 87.73 44 ⇑P **P 19 03 01.4 +0.3**
baz=88,SNR=9.8
SKAG Skagway 87.73 21 *e*P **P 19 03 00.9 +0.2**
comp=Z,42nm,1.2s,mb5.0
626A Big Bend Ranch 87.73 57 ⇓P **P 19 03 01.5 0.0**
baz=88,SNR=17
PAX Paxson 87.74 15 *e*P **P 19 02 58.6 -2.0**
comp=Z,39nm,1.3s,mb5.0
PAX Paxson 87.74 15 *e*P **P 19 02 58.6 -2.0**
PAX pmax pmax
comp=Z,39nm,1.3s,mb5.0
S19A Harvey Farm, M 87.74 48 ⇓P **P 19 03 01.8 +0.5**
baz=88
Z23A Rita Site, Whi 87.75 53 ⇓P **P 19 03 02.1 +0.6**
baz=88
224A Cornudas Mount 87.76 54 ⇑P **P 19 03 02.0 +0.5**
baz=88,SNR=19
O17A Robinson Place 87.85 45 ⇓P **P 19 03 02.0 +0.2**
baz=88,SNR=27
BNM Barren Site 87.86 52 *e*P **P 19 03 02.2 +0.2**
comp=Z,28nm,1.5s,mb4.8
H13A Challis 87.87 40 ⇑P **P 19 03 01.5 -0.2**
baz=88,SNR=24
325A Bean Ranch, Si 87.87 55 ⇑P **P 19 03 02.4 +0.3**
baz=88,SNR=33
R19A Curley Farm, L 87.92 48 ⇑P **P 19 03 02.0 -0.1**
baz=88,SNR=6.5
MVCO Mesa Verde 87.93 49 ⇓P **P 19 03 02.1 -0.1**
baz=88
526A Mary Lane Ranc 87.99 57 ⇓P **P 19 03 02.7 0.0**
baz=88,SNR=24
TXAR Lajitas Array 88.01 58 P **P 19 03 03.1 +0.4**
comp=Z,17nm,0.9s,mb4.8,baz=223,slow=5.1,SNR=49
TXAR pP pP 19 05 14.1 +2.4
comp=Z,4.7nm,1.1s,baz=218,slow=7.9,SNR=7.2
TXAR Lajitas Array 88.01 58 P **P 19 03 03.1 +0.4**
TXAR pP pP 19 05 14.1 +2.4
TXAR Lajitas Array 88.01 58 P **P 19 03 03.1 +0.4**
TXAR *PP pP 19 05 14.1 +2.4
I14A Mackay 88.02 41 ⇑P **P 19 03 02.4 0.0**
baz=88,SNR=41
124A Stringfield Ra 88.09 54 ⇑P **P 19 03 02.9 -0.1**
baz=88,SNR=12

PV10 Paradox Valley 88.11 48 *e*P **P 19 03 02.4 -0.6**
comp=Z,154nm,0.5s,mb6.0
VNA2 Neumayer--Watz 88.13 177 *e* **P 19 03 03.7 +1.1**
VNA2 *e* pP 19 05 14.6 +3.1
N17A Moffit Pass 88.15 45 ⇑P **P 19 03 03.4 +0.3**
baz=88,SNR=7.7
U21A Nageezi 88.16 50 ⇑P **P 19 03 03.1 -0.1**
baz=88,SNR=27
G13A Cobalt 88.16 40 ⇓P **P 19 03 03.1 0.0**
baz=88,SNR=25
NVL N'lazarevskaya 88.17 184 *i* P **P 19 03 03.9 +1.1**
NVL *e*S SKSac 19 12 39.1 +4.6
NVL pmax pmax
comp=Z,24nm,0.6s,mb5.1
Y23A Lovelace Mesa, 88.19 53 ⇓P **P 19 03 03.4 -0.1**
baz=88,SNR=12
Q19A Hogan Spring (88.23 47 ⇓P **P 19 03 03.1 -0.4**
baz=88,SNR=14
NEW Newport 88.25 36 ⇑P **P 19 03 03.6 +0.2**
baz=88
NEW Newport 88.25 36 *e*P **P 19 03 02.0 -1.4**
comp=Z,33nm,1.6s,mb4.8
NEW Newport 88.25 36 *e*P **P 19 03 02.0 -1.4**
NEW pmax pmax
comp=Z,33nm,1.6s
627A Terlingua Ranc 88.28 58 ⇓P **P 19 03 04.1 +0.1**
baz=88,SNR=22
426A McDonald Obser 88.30 56 ⇓P **P 19 03 04.5 +0.4**
baz=88,SNR=36
L16A Fish Haven 88.30 44 ⇑P **P 19 03 03.2 -0.6**
baz=88,SNR=24
225A Deer Hill, Car 88.31 55 ⇓P **P 19 03 03.4 -0.7**
baz=88,SNR=8.7
PV01 Paradox Valley 88.32 48 *e*P **P 19 03 02.5 -1.5**
comp=Z,2μm,1.3s
S20A Disappointment 88.32 48 ⇑P **P 19 03 03.6 -0.3**
baz=88,SNR=9.7
ANMO Albuquerque 88.35 52 P **P 19 03 04.2 0.0**
comp=Z,19nm,1.1s,mb4.8,baz=222,slow=4.9,SNR=9.7
ANMO pP pP 19 05 16.8 +3.5
comp=Z,1.7nm,0.8s,baz=241,slow=5.3,SNR=3.1
ANMO Albuquerque 88.35 52 *e*P **P 19 03 03.9 -0.3**
comp=Z,32nm,1.2s,mb4.9
ANMO *e*pP pP 19 05 12.3 -0.9
ANMO pP pP 19 05 16.8 +3.5
ANMO Albuquerque 88.35 52 *e*P **P 19 03 03.9 -0.3**
ANMO *e**PP pP 19 05 12.3 -1.0
ANMO pmax pmax
comp=Z,32nm,1.2s
VNA1 Neumayer--Stat 88.36 177 *e* **P 19 03 05.1 +1.5**
O18A Roosevelt 88.37 46 ⇓P **P 19 03 05.0 +0.8**
baz=88
X23A Hourglass Bar 88.38 52 ⇑P **P 19 03 03.9 -0.5**
baz=88,SNR=8.8
527A Woodward Ranch 88.40 57 ⇓P **P 19 03 04.7 +0.2**
baz=88,SNR=20
V22A San Miguel Ran 88.46 51 ⇑P **P 19 03 05.0 +0.3**
baz=88
R20A Redvale 88.48 48 ⇓P **P 19 03 05.1 +0.4**
baz=88
F13A Darby 88.48 39 ⇓P **P 19 03 04.1 -0.5**
baz=88,SNR=26
T21A Navajo Lake 88.51 49 ⇓P **P 19 03 04.9 0.0**
baz=89,SNR=5.1
M17A Scullys Gap (B 88.53 44 ⇑P **P 19 03 04.8 -0.1**
baz=89,SNR=6.7
326A Caldwell Ranch 88.61 56 ⇑P **P 19 03 05.6 +0.1**
baz=89,SNR=6.8
K16A Soda Springs 88.62 43 ⇑P **P 19 03 05.7 +0.4**
baz=89,SNR=29
S21A Coal Bank Pass 88.64 49 ⇑P **P 19 03 06.0 +0.5**
baz=89,SNR=13
Y24A Capitan 88.64 53 ⇑P **P 19 03 05.9 +0.3**
baz=89,SNR=34
I15A Monteview 88.65 41 ⇓P **P 19 03 06.1 +0.7**
baz=89
W23A Werner Place, 88.67 51 ⇑P **P 19 03 05.5 -0.2**
baz=89,SNR=7.7
125A Gardner Draw, 88.67 54 ⇓P **P 19 03 05.6 -0.1**
baz=89,SNR=11
628A Black Gap, Mar 88.69 58 ⇑P **P 19 03 05.5 -0.4**
baz=89,SNR=12
L17A Cokeville 88.70 44 ⇓P **P 19 03 06.2 +0.5**
baz=89
U22A Llaves 88.71 50 ⇑P **P 19 03 06.3 +0.5**
baz=89
P19A Cripple Cowboy 88.75 46 ⇓P **P 19 03 05.9 -0.1**
baz=89,SNR=9.9
J16A Bone 88.83 42 ⇓P **P 19 03 06.8 +0.6**
baz=89,SNR=51
DLBC Dease Lake 88.83 23 P **P 19 03 05.2 -0.7**
comp=Z,5.0nm,0.5s,mb4.7,baz=188,slow=6.4,SNR=4.9
DLBC Dease Lake 88.83 23 P **P 19 03 05.2 -0.7**
KMI Kunming 88.86 297 P **P 19 03 08.6 +1.8**
KMI pP pP 19 05 14.7 -1.3
KMI S S 19 13 07.2 +2.2
KMI pmax pmax
comp=Z,33nm,1.3s,mb5.0
KMI pmax pmax
comp=Z,640nm,4.2s
KMI Kunming 88.86 297 P **P 19 03 08.6 +1.8**
comp=Z,33nm,1.3s,mb5.0
KMI pP pP 19 05 14.7 -1.3
KMI S S 19 13 07.2 +2.2
KMI Kunming 88.86 297 P **P 19 03 08.6 +1.8**
KMI *PP pP 19 05 14.7 -1.3
KMI S S 19 13 07.2 +2.2
KMI pmax pmax
comp=Z,33nm,1.3s,mb5.0
MCMT McKenzie Canyo 88.86 41 *e*P **P 19 03 06.4 +0.1**
comp=Z,24nm,1.2s,mb4.9
MCMT *e*pP pP 19 05 16.6 +1.1
427A Hayter Ranch, 88.86 56 ⇑P **P 19 03 07.5 +0.8**
baz=89,SNR=28
C12B Naegeli Ranch, 88.86 37 ⇓P **P 19 03 06.2 0.0**
baz=89,SNR=16
COLA College 88.87 13 *e*P **P 19 03 03.4 -2.5**
comp=Z,82nm,1.3s,mb5.4
COLA College 88.87 13 *e*P **P 19 03 03.4 -2.5**
COLA pmax pmax
comp=Z,82nm,1.3s,mb5.4
H15A Lima 88.87 41 ⇑P **P 19 03 07.1 +0.7**
baz=89,SNR=20
AHID Auburn Hatcher 88.89 43 *e*P **P 19 03 06.3 -0.2**
comp=Z,31nm,1.1s,mb5.1
M18A Lyman 88.90 45 ⇑P **P 19 03 07.2 +0.6**
baz=89,SNR=26
Q20A Ridgley Place, 88.90 47 ⇓P **P 19 03 06.9 +0.3**
baz=89,SNR=11
Z25A Roswell 88.90 54 ⇓P **P 19 03 07.0 +0.2**
baz=89,SNR=8.9
V23A Ortiz Mt. (NFS 88.91 51 ⇓P **P 19 03 07.2 +0.4**
baz=89,SNR=8.0
E13A Victor 88.91 39 ⇑P **P 19 03 05.9 -0.6**
baz=89,SNR=9.1
T22A Edith 88.97 50 ⇓P **P 19 03 07.1 +0.1**
baz=89
O19A Miners Draw (B 88.97 46 ⇓P **P 19 03 07.1 +0.1**
baz=89,SNR=8.9
ILAR Eielson Array 88.98 13 P **P 19 03 03.9 -2.5**
comp=Z,14nm,0.6s,mb5.0,baz=216,slow=5.4,SNR=152
ILAR pP pP 19 05 17.4 +1.6
comp=Z,7.8nm,1.1s,baz=220,slow=5.8,SNR=3.3
ILAR Eielson Array 88.98 13 P **P 19 03 03.9 -2.5**
ILAR pP pP 19 05 17.4 +1.6
ILAR Eielson Array 88.98 13 P **P 19 03 03.9 -2.5**
ILAR *PP pP 19 05 17.4 +1.7
K17A Gardner Place, 89.00 43 ⇑P **P 19 03 07.6 +0.5**
baz=89,SNR=21
RRI2 Red Ridge 89.05 42 *e*P **P 19 03 07.1 -0.1**
comp=Z,68nm,1.1s,mb5.4
RRI2 *e*pP pP 19 05 10.3 -6.2
528A Cox Ranch, San 89.05 57 ⇑P **P 19 03 07.2 -0.4**
baz=89,SNR=8.2
F14A Wisdom 89.06 40 ⇑P **P 19 03 06.6 -0.6**
baz=89
P20A De Beque 89.09 47 ⇓P **P 19 03 07.8 +0.3**
baz=89,SNR=7.1
D13A Huson 89.11 38 ⇑P **P 19 03 07.1 -0.3**
baz=89,SNR=7.8
HHC Hu-ho-hao-te 89.12 315 *e*P **P 19 03 08.3 +0.6**
HHC pP pP 19 05 15.3 -1.7
HHC sP sP 19 06 14.9 -1.8
HHC PP PP 19 06 52.7 +3.1
HHC SKS 19 12 42.2
HHC S S 19 13 06.8 +0.1
HHC sS sS 19 16 51.8 -5.6

HHC pmax pmax
comp=Z,38nm,0.9s,mb5.2
HHC pmax pmax
comp=Z,1μm,7.9s
R21A Cimarron 89.14 48 ⇓P **P 19 03 08.1 +0.3**
baz=89,SNR=12
126A Clayton Basin, 89.15 55 ⇑P **P 19 03 08.2 +0.2**
baz=89
L18A Fontenelle, Gr 89.16 44 ⇑P **P 19 03 07.9 +0.1**
baz=89,SNR=5.3
U23A El Rito 89.17 50 ⇓P **P 19 03 08.3 +0.3**
baz=89,SNR=13
Y25A Mesa, Roswell 89.20 53 ⇑P **P 19 03 08.3 +0.1**
baz=89,SNR=14
I16A Newdale 89.21 42 ⇑P **P 19 03 08.8 +0.8**
baz=89,SNR=29
B12A Libby 89.22 36 ⇑P **P 19 03 08.0 +0.1**
baz=89,SNR=6.4
N19A John Jarvie Ra 89.22 45 ⇑P **P 19 03 07.7 -0.4**
baz=89,SNR=5.8
W24A Lazy 6 Ranch, 89.24 52 ⇓P **P 19 03 08.2 -0.1**
baz=89,SNR=15
G15A Dillon 89.25 40 ⇓P **P 19 03 08.1 0.0**
baz=89,SNR=18
DCID1 Drake Creek 89.25 42 *e*P **P 19 03 07.8 -0.3**
comp=Z,28nm,1.0s,mb5.0
MSO Missoula 89.26 38 ⇑P **P 19 03 07.9 -0.2**
baz=89
DLMT Dillon 89.29 40 *e*P **P 19 03 07.6 -0.7**
comp=Z,43nm,1.3s,mb5.1
DLMT *e*pP pP 19 05 16.0 -1.7
E14A Clinton 89.31 39 ⇑P **P 19 03 08.0 -0.3**
baz=89,SNR=7.9
BSMT Bassoo Peak 89.33 37 *e*P **P 19 03 07.5 -0.9**
comp=Z,20nm,1.3s,mb4.8
Q21A Lamborn Mesa, 89.34 48 ⇓P **P 19 03 09.3 +0.7**
baz=89
C13A Hot Springs 89.36 38 ⇓P **P 19 03 08.4 -0.2**
baz=89
S22A 4UR Ranch, Cre 89.36 49 ⇓P **P 19 03 09.2 +0.4**
baz=89,SNR=21
428A Kincaid Ranch, 89.37 57 ⇑P **P 19 03 09.3 +0.3**
baz=89
A12A Yaak River Ran 89.44 36 ⇑P **P 19 03 09.1 +0.2**
baz=90,SNR=13
J17A Brown Place, J 89.44 43 ⇑P **P 19 03 09.5 +0.4**
baz=90,SNR=28
BILL Bilibino 89.45 354 *e*P **P 19 03 06.1 -2.4**
comp=Z,25nm,1.1s,mb5.0
BILL Bilibino 89.45 354 *i* P **P 19 03 09.2 +0.7**
BILL *e**PP pP 19 05 17.7 -0.2
BILL pmax pmax
comp=Z,22nm,1.0s,mb4.9
Z26A Caprock 89.45 54 ⇑P **P 19 03 09.6 +0.2**
baz=90,SNR=6.3
X25A Clemmons Ranch 89.48 53 ⇓P **P 19 03 09.9 +0.4**
baz=90,SNR=5.2
O20A White River Ci 89.49 46 ⇓P **P 19 03 09.9 +0.6**
baz=90,SNR=6.9
K18A Toltan Ranch, 89.51 43 ⇑P **P 19 03 09.9 +0.5**
baz=90,SNR=31
PLCA Paso Flores 89.52 134 P **P 19 03 12.1 +2.5**
comp=Z,3.3nm,1.0s,mb4.1,baz=251,slow=9.1,SNR=3.9
PLCA Paso Flores 89.52 134 *e*P **P 19 03 10.5 +0.9**
comp=Z,4.7nm,1.2s,mb4.2
PLCA Paso Flores 89.52 134 *e*P **P 19 03 10.5 +0.9**
PLCA pmax pmax
comp=Z,5.0nm,1.2s
CM31 Chiang Mai Arr 89.52 290 *e*P **P 19 03 10.9 +0.9**
CMAR Chiang Mai Arr 89.52 290 P **P 19 03 11.2 +1.3**
comp=Z,19nm,0.9s,mb4.9,baz=137,slow=3.7,SNR=24
CMAR PP PP 19 06 52.9 -0.2
comp=Z,4.3nm,1.0s,baz=132,slow=5.8,SNR=6.6
CMAR Chiang Mai Arr 89.52 290 P **P 19 03 11.2 +1.3**
CMAR PP PP 19 06 52.9 -0.2
CMAR Chiang Mai Arr 89.52 290 P **P 19 03 11.3 +1.3**
CMAR 19 06 52.9
M19A Rock Springs 89.53 45 ⇑P **P 19 03 09.8 +0.2**
baz=90,SNR=12
328A Wristen Ranch, 89.55 56 ⇓P **P 19 03 09.8 -0.1**
baz=90,SNR=7.2
IMW Indian Meadow 89.56 42 *e*P **P 19 03 09.7 +0.1**
comp=Z,46nm,1.2s,mb5.2
IMW *e*pP pP 19 05 18.5 -0.5
V24A Rampart Ranch, 89.56 51 ⇑P **P 19 03 09.9 +0.1**
baz=90,SNR=7.3
T23A Casias Ranch, 89.59 50 ⇑P **P 19 03 10.7 +0.7**
baz=90
F15A Butte 89.60 40 ⇑P **P 19 03 09.8 +0.1**
baz=90,SNR=8.2
LRM Limekiln Ridge 89.61 40 *e*P **P 19 03 09.6 -0.2**
comp=Z,30nm,0.7s,mb5.2
R22A Saguache, Gunn 89.63 49 ⇓P **P 19 03 11.1 +1.0**
baz=90,SNR=8.5
LOHW Long Hollow 89.63 42 *e*P **P 19 03 09.7 -0.2**
comp=Z,13nm,0.6s,mb4.9
D14A Greenough 89.65 38 ⇑P **P 19 03 09.7 -0.2**
baz=90,SNR=7.8
CHTO Chiang Mai 89.65 290 *e*P **P 19 03 11.2 +0.6**
CHTO Chiang Mai 89.65 290 *e*P **P 19 03 11.2 +0.6**
127A Arkansas Junct 89.67 55 ⇑P **P 19 03 10.6 +0.2**
baz=90
L19A Farson 89.69 44 ⇑P **P 19 03 10.4 +0.1**
baz=90,SNR=24
CHMT Chamberlain Mo 89.71 39 *e*P **P 19 03 09.2 -1.0**
comp=Z,23nm,1.3s,mb4.8
QLMT Earthquake Lak 89.73 41 *e*P **P 19 03 11.0 +0.6**
comp=Z,3.6nm,1.0s,mb4.2
QLMT *e*pP pP 19 05 19.2 -0.6
H16A Russell Place, 89.77 41 ⇓P **P 19 03 11.5 +1.0**
baz=90,SNR=18
B13A Whitefish 89.79 37 ⇑P **P 19 03 10.1 -0.4**
baz=90
I17A Pilgrim Ck. 89.80 42 ⇓P **P 19 03 11.4 +0.7**
baz=90,SNR=20
J18A Kendall Valley 89.80 43 ⇓P **P 19 03 11.0 +0.3**
baz=90,SNR=69
N20A Spence Gulch, 89.81 46 ⇓P **P 19 03 11.4 +0.6**
baz=90,SNR=21
Q22A Crested Butte, 89.81 48 ⇓P **P 19 03 11.3 +0.4**
baz=90,SNR=11
E15A Deer Lodge 89.81 39 ⇑P **P 19 03 10.8 +0.1**
baz=90
BW06 Boulder Array 89.88 44 ⇓P **P 19 03 10.9 -0.2**
baz=90,SNR=33
PDAR Pinedale Array 89.88 44 P **P 19 03 10.3 -0.8**
comp=Z,16nm,0.6s,mb5.0,baz=208,slow=3.1,SNR=96
PDAR PP PP 19 06 52.4 -3.0
comp=Z,0.9nm,0.8s,baz=259,slow=5.6,SNR=4.2
PDAR Pinedale Array 89.88 44 P **P 19 03 10.3 -0.8**
PDAR PP PP 19 06 52.4 -3.0
W25A X Bar L Ranch, 89.94 52 ⇑P **P 19 03 11.6 0.0**
baz=90,SNR=15
BOZ Bozeman (W) 90.02 40 ⇓P **P 19 03 12.1 +0.5**
baz=90,SNR=5.3
H17A Grant Village 90.04 42 ⇑P **P 19 03 13.2 +1.4**
baz=90
Z27A Tatum 90.05 54 ⇓P **P 19 03 11.9 -0.3**
baz=90,SNR=6.0
F16A Kennard Place, 90.09 40 ⇑P **P 19 03 12.6 +0.6**
baz=90,SNR=6.6
V25A Rancho No Teng 90.09 51 ⇓P **P 19 03 12.3 0.0**
baz=90,SNR=8.2
A13A Flathead Natio 90.12 37 ⇑P **P 19 03 12.1 +0.1**
baz=90
DAWY Dawson 90.16 16 *e*P **P 19 03 10.5 -1.4**
M20A Sweetwater, Wa 90.17 45 ⇑P **P 19 03 12.8 +0.3**
baz=90,SNR=10
I18A Diamond G Ranc 90.17 43 ⇓P **P 19 03 12.6 +0.2**
baz=90,SNR=7.2
D15A Lincoln 90.20 39 ⇑P **P 19 03 12.6 +0.1**
baz=90,SNR=7.2
P22A Eagle 90.25 47 ⇓P **P 19 03 13.2 +0.3**
baz=90
R23A Moffat 90.26 49 ⇓P **P 19 03 13.7 +0.7**
baz=90,SNR=7.2
N21A Black Mountain 90.27 46 ⇓P **P 19 03 13.4 +0.4**
baz=90,SNR=14
SDCO Great Sand Dun 90.29 49 ⇓P **P 19 03 13.4 +0.2**
baz=90,SNR=11
SDCO Great Sand Dun 90.29 49 *e*P **P 19 03 13.0 -0.1**
comp=Z,18nm,1.2s,mb4.8
EGAK Eagle 90.30 15 *e*P **P 19 03 11.0 -1.5**
comp=Z,41nm,1.0s,mb5.2
L20A Wamsutter 90.31 45 ⇓P **P 19 03 13.2 +0.1**
baz=90,SNR=10.0
Y27A Causey 90.33 54 ⇓P **P 19 03 13.6 +0.2**
baz=90

CD2 **Chengdu** 90.38 303 *e*P P 19 03 15.5 +1.8
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CD2 pmax pmax
comp=Z,30nm,4.8s
W26A **Owens Ranch, T** 90.39 52 ⇑P P 19 03 13.6 -0.1
baz=90
G17A **Pierce Place,** 90.39 41 ⇑P P 19 03 14.2 +0.8
baz=90
J19A **Crowheart** 90.45 43 ⇓P P 19 03 13.3 -0.4
baz=90,SNR=18
S24A **Houchin Ranch,** 90.45 50 ⇑P P 19 03 14.2 +0.3
baz=90,SNR=12
B14A **Marquette Ranc** 90.46 37 ⇑P P 19 03 13.1 -0.6
baz=90,SNR=5.1
U25A **Circle Dot Ran** 90.49 51 ⇑P P 19 03 14.5 +0.4
baz=90
C15A **Salmond Ranch,** 90.53 38 ⇓P P 19 03 14.1 +0.2
baz=91
Q23A **Hartsel** 90.58 48 ⇓P P 19 03 15.3 +0.9
baz=91
K20A **Yellowstone Ra** 90.61 44 ⇑P P 19 03 13.5 -1.0
baz=91,SNR=12
O22A **Kremmling** 90.65 47 ⇓P P 19 03 15.2 +0.4
baz=91,SNR=16
MSTX **Muleshoe** 90.66 54 ⇓P P 19 03 14.5 -0.4
baz=91,SNR=5.3
V26A **Tequesquite Ra** 90.68 52 ⇑P P 19 03 14.8 -0.2
baz=91
A14A **Double T Ranch** 90.69 37 ⇓P P 19 03 14.4 -0.3
baz=91
X27A **F and S Farms,** 90.70 53 ⇑P P 19 03 15.5 +0.4
baz=91
F17A **Fitzpatrick Pl** 90.73 40 ⇓P P 19 03 15.6 +0.6
baz=91,SNR=6.9
M21A **Separation Pea** 90.77 45 ⇑P P 19 03 15.2 0.0
baz=91,SNR=20
D16A **Dana Ranch, Ca** 90.77 39 ⇑P P 19 03 16.0 +0.9
baz=91
P23A **Jefferson** 90.78 48 ⇑P P 19 03 16.1 +0.8
baz=91
R24A **Sanders Place,** 90.79 49 ⇓P P 19 03 15.1 -0.3
baz=91,SNR=5.4
T25A **Trinidad** 90.81 50 ⇑P P 19 03 15.7 +0.2
baz=91
B15A **Bradely Ranch,** 90.84 38 ⇑P P 19 03 14.5 -0.8
baz=91
I19A **Meeteetse** 90.85 43 ⇑P P 19 03 15.6 0.0
baz=91,SNR=6.4
E17A **Martinsdale** 90.89 40 ⇑P P 19 03 16.0 +0.4
baz=91
W27A **Bowe Ranch, En** 90.90 53 ⇓P P 19 03 15.8 -0.2
baz=91
RWWY **Rawlins** 90.91 45 *e*P P 19 03 15.3 -0.6
comp=Z,69nm,1.3s,mb5.4
L21A **Rawlins** 90.93 45 ⇑P P 19 03 15.8 -0.2
baz=91,SNR=12
N22A **Wattenberg Ran** 91.01 46 ⇑P P 19 03 17.0 +0.7
baz=91,SNR=24
S25A **Robets Cordova** 91.02 50 ⇓P P 19 03 16.7 +0.2
baz=91,SNR=13
C16A **Fuhringer Ranc** 91.04 38 ⇓P P 19 03 16.7 +0.4
baz=91
Q24A **Divide** 91.08 48 ⇓P P 19 03 17.2 +0.5
baz=91,SNR=8.3
A15A **Johnson Ranch,** 91.08 37 ⇓P P 19 03 15.9 -0.6
baz=91
O23A **Lake Granby, G** 91.11 47 ⇑P P 19 03 17.0 +0.2
baz=91,SNR=6.5
J20A **Shoshoni** 91.11 44 ⇓P P 19 03 16.8 0.0
baz=91,SNR=18
G18A **Lazy EL Ranch,** 91.12 41 ⇑P P 19 03 17.2 +0.4
baz=91
ISCO **Idaho Springs** 91.13 48 ⇑P P 19 03 17.3 +0.4
baz=91
H19A **Powell** 91.16 42 ⇑P P 19 03 17.5 +0.5
baz=91
M22A **Cedar Creek Ra** 91.19 46 ⇑P P 19 03 17.2 +0.1
baz=91,SNR=14
RLMT **Red Lodge** 91.20 42 ⇑P P 19 03 17.7 +0.5
baz=91,SNR=6.7
RLMT **Red Lodge** 91.20 42 *e*P P 19 03 17.0 -0.1
comp=Z,8.6nm,1.1s,mb4.6
F18A **Big Timber** 91.31 41 ⇑P P 19 03 17.9 +0.3
baz=91
K21A **Alcova** 91.31 44 ⇓P P 19 03 18.1 +0.3
baz=91,SNR=19
R25A **Fountain Ranch** 91.34 49 ⇓P P 19 03 17.9 0.0
baz=91,SNR=6.0
D17A **Six Diamond Ra** 91.34 39 ⇓P P 19 03 17.9 +0.2
baz=91,SNR=11
I20A **Worland** 91.36 43 ⇑P P 19 03 17.9 0.0
baz=91,SNR=5.2
N23A **Red Feather La** 91.39 46 ⇓P P 19 03 18.3 +0.2
baz=92,SNR=11
E18A **Harlowton** 91.51 40 ⇑P P 19 03 19.5 +1.0
baz=92
J21A **Lysite** 91.52 44 ⇑P P 19 03 18.6 0.0
baz=92,SNR=23
C17A **Wharram Farm,** 91.53 39 ⇓P P 19 03 18.3 -0.3
baz=92
JCT **Junction City** 91.53 58 ⇓P P 19 03 19.0 0.0
baz=92
L22A **Ellis Ranch, M** 91.58 45 ⇑P P 19 03 19.3 +0.3
baz=92,SNR=21
Q25A **Bedland, Calha** 91.69 49 ⇓P P 19 03 18.8 -0.8
baz=92
F19A **Roth Farm, Mol** 91.76 41 ⇑P P 19 03 19.7 +0.1
baz=92,SNR=6.3
K22A **Casper** 91.80 45 ⇑P P 19 03 19.9 0.0
baz=92,SNR=6.1
M23A **Laramie** 91.80 46 ⇑P P 19 03 20.5 +0.5
baz=92
I21A **Big Trails, Te** 91.83 43 ⇑P P 19 03 19.6 -0.5
baz=92,SNR=9.4
B17A **L&G Farms, Che** 91.84 38 ⇑P P 19 03 19.9 -0.1
baz=92
D18A **Linhart Farms,** 91.89 40 ⇓P P 19 03 20.8 +0.6
baz=92
R26A **Arlington** 92.00 50 ⇓P P 19 03 20.8 -0.2
baz=92,SNR=11
P25A **Willow Gulch B** 92.01 48 ⇓P P 19 03 21.2 +0.2
baz=92,SNR=7.0
N24A **Carr** 92.09 47 ⇑P P 19 03 22.0 +0.6
baz=92,SNR=7.4
E19A **Rath Farm, Rou** 92.14 41 ⇑P P 19 03 21.7 +0.3
baz=92
J22A **Midwest** 92.17 44 ⇓P P 19 03 21.5 -0.2
baz=92,SNR=10
A17A **Triple J Farms** 92.22 38 ⇓P P 19 03 21.5 -0.2
baz=92
YAK **Yakutsk** 92.28 338 *e*P P 19 03 18.7 -3.0
YAK **Yakutsk** 92.28 338 *e*P P 19 03 18.2 -3.5
YAK *e**PP pP 19 05 26.3 -5.2
YAK *e*S SKSac 19 12 53.7 -3.8
YAK *e* 19 13 34.2
YAK *e*SS SS 19 19 54.8 -9.0
YAK *e*SSS 19 23 48.4
YAK pmax pmax
comp=Z,20nm,0.9s,mb5.2
YAK pmax pmax
comp=Z,213nm,4.7s
YAK smax
comp=N,414nm,4.8s
YAK smax
comp=E,125nm,2.2s
EGMT **Eagleton** 92.32 39 ⇓P P 19 03 21.9 -0.3
baz=92
I22A **9 Mile Ranch,** 92.39 44 ⇑P P 19 03 22.6 0.0
baz=92,SNR=5.3
D19A **Cripps Ranch,** 92.42 40 ⇓P P 19 03 22.8 +0.1
baz=92
K23A **Bowen Ranch, D** 92.44 45 ⇑P P 19 03 23.2 +0.3
baz=92
B18A **Beardsley Farm** 92.48 39 ⇑P P 19 03 23.0 +0.1
baz=92
E20A **Meyer Farm, Mu** 92.56 41 ⇑P P 19 03 23.0 -0.3
baz=93
C19A **Stack Wire Ran** 92.59 39 ⇓P P 19 03 23.3 -0.2
baz=93
A18A **Metzger Ranch,** 92.70 38 ⇓P P 19 03 23.5 -0.4
baz=93
D20A **Manuel Ranch,** 92.83 40 ⇑P P 19 03 25.3 +0.7
baz=93
M25A **Palm-Egli Farm** 92.91 47 ⇑P P 19 03 25.8 +0.7
baz=93
B19A **Brinkman Farms** 93.00 39 ⇑P P 19 03 25.8 +0.5
baz=93
E21A **Keefer Ranch,** 93.22 41 ⇓P P 19 03 26.8 +0.4
baz=93
D21A **La Casta Ranch** 93.51 41 ⇑P P 19 03 27.6 -0.1
baz=94
B20A **Solberg Farm,** 93.53 39 ⇑P P 19 03 27.7 -0.1
baz=94
K25A **Mack Ranch, Ha** 93.54 46 ⇑P P 19 03 28.4 +0.5
baz=94
G23A **Biddle** 93.67 43 ⇑P P 19 03 28.5 +0.1
baz=94
A20A **Cobblestone Ra** 93.80 39 ⇓P P 19 03 28.7 -0.2
baz=94
C21A **Desert Coulee** 93.80 40 ⇑P P 19 03 28.6 -0.3
baz=94
LAO **LASA Array** 93.81 41 ⇓P P 19 03 29.4 +0.4
baz=94
E22A **Miles City** 93.87 41 ⇓P P 19 03 29.6 +0.2
baz=94
F23A **Volborg** 93.89 42 ⇑P P 19 03 29.7 +0.2
baz=94
H24A **Dirks Ranch, A** 94.01 43 ⇓P P 19 03 29.3 -0.7
baz=94
K26A **Motz Farm, Whi** 94.04 46 ⇓P P 19 03 29.7 -0.5
baz=94
D22A **Cohagen** 94.05 41 ⇓P P 19 03 29.7 -0.4
baz=94
RSSD **Black Hills** 94.08 44 *e*P P 19 03 29.4 -0.9
RSSD **Black Hills** 94.08 44 *e*P P 19 03 29.4 -0.9
OGNE **Ogallala** 94.09 48 ⇓P P 19 03 31.0 +0.6
baz=94
B21A **Ellsworth Farm** 94.12 39 ⇓P P 19 03 30.9 +0.5
baz=94
L27A **T5 Ranch, Ells** 94.37 47 ⇓P P 19 03 31.7 0.0
baz=94
A21A **Bergtoll Ranch** 94.43 39 ⇑P P 19 03 31.3 -0.5
baz=94
C22A **Vida** 94.49 40 ⇑P P 19 03 32.4 +0.2
baz=94
F24A **Ekalaka** 94.55 42 ⇑P P 19 03 32.5 +0.1
baz=95
D23A **Lindsay** 94.65 41 ⇓P P 19 03 33.3 +0.5
baz=95
C23A **Lambert** 94.94 40 ⇓P P 19 03 34.2 +0.1
baz=95
INK **Inuvik** 94.97 15 P P 19 03 32.2 -1.6
comp=E,4.2nm,0.6s,mb4.7,baz=175,slow=8.6,SNR=12
INK **Inuvik** 94.97 15 *e*P P 19 03 30.8 -3.0
comp=E,13nm,1.1s,mb5.0
INK **Inuvik** 94.97 15 *e*P P 19 03 30.8 -3.0
INK pmax pmax
comp=Z,13nm,1.1s
A22A **Carney Farms,** 95.03 39 ⇓P P 19 03 35.0 +0.5
baz=95
SONM **Songino Array** 95.60 319 P P 19 03 37.1 -0.1
comp=Z,14nm,1.2s,mb5.1,baz=134,slow=9.6,SNR=2.1
SONM **Songino Array** 95.60 319 P P 19 03 37.1 -0.1
SONM **Songino Array** 95.60 319 P P 19 03 37.1 0.0
DGMT **Dagmar** 95.83 40 ⇓P P 19 03 38.1 -0.1
baz=96
YKA **Yellowknife Ar** 97.31 25 P P 19 03 43.0 -1.4
comp=Z,1.8nm,0.6s,mb4.5,baz=244,slow=4.5,SNR=27
YKA **Yellowknife Ar** 97.31 25 P P 19 03 43.0 -1.3
YKA **Yellowknife Ar** 97.31 25 P P 19 03 43.1 -1.3
TAPN **Taplejung** 102.27 295 *e*P PKiKP 19 08 27.2 +1.8
comp=Z,21nm,1.1s
RAMN **Ramite** 103.09 294 *e*P PKiKP 19 08 26.3 -0.7
comp=Z,6.9nm,0.6s
JIRN **Jiri** 103.65 295 *e*P PKiKP 19 08 27.6 -0.4
GUN **Gumba** 103.98 295 *e*P PKiKP 19 08 27.4 -1.2
PKI **Pulchoki** 104.29 294 *e*P PKiKP 19 08 28.3 -0.8
KKN **Kakani** 104.46 294 *e*P PKiKP 19 08 28.3 -1.2
comp=Z,8.5nm,0.7s
DMN **Daman** 104.56 294 *e*P PKiKP 19 08 28.8 -0.8
comp=Z,3.9nm,0.5s
GKN **Gorkha** 105.06 295 *e*P PKiKP 19 08 28.7 -1.9
GKN **Gorkha** 105.06 295 *e*P PKiKP 19 08 28.7 -1.9
KOLN **Koldanda** 105.88 294 *e*P PKiKP 19 08 30.9 -1.2
comp=Z,6.0nm,0.6s
KOLN **Koldanda** 105.88 294 *e*P PKiKP 19 08 30.9 -1.2
DANN **Dangsing** 105.90 295 *e*P PKiKP 19 08 31.5 -0.6
DANN **Dangsing** 105.90 295 *e*P PKiKP 19 08 31.5 -0.6
RES **Resolute Bay** 108.50 16 PKiKP PKiKP 19 08 35.7 +0.1
comp=Z,2.0nm,0.7s,baz=256,slow=6.2,SNR=5.4
RES **Resolute Bay** 108.50 16 *e*Pdif Pdif 19 04 33.5 -1.2
comp=Z,26nm,0.9s
RES *e*PKPdf PKiKP 19 08 32.5 -3.1
RES PKiKP PKiKP 19 08 35.7 +0.1
RES **Resolute Bay** 108.50 16 *e*P Pdif 19 04 33.6 -1.1
RES pmax pmax
comp=Z,26nm,0.9s
ZAA0 **Zalesovo Array** 110.37 321 *e*PKPdf PKiKP 19 08 37.5 -2.2
ZALV **Zalesovo Beam** 110.37 321 PKiKP PKiKP 19 08 38.2 -1.5
comp=Z,7.6nm,0.6s,baz=152,slow=0.7,SNR=24
ZALV **Zalesovo Beam** 110.37 321 PKiKP PKiKP 19 08 38.2 -1.5
ZALV **Zalesovo Beam** 110.37 321 PKiKP PKiKP 19 08 38.2 -1.5
MK31 **Makanchi Array** 110.95 313 *e*PKPdf PKiKP 19 08 39.2 -1.8
MK31 **Makanchi Array** 110.95 313 *e*PKIKP PKiKP 19 08 39.2 -1.8
MKAR **Makanchi Array** 110.95 313 PKiKP PKiKP 19 08 39.9 -1.2
comp=Z,2.7nm,0.4s,baz=142,slow=0.5,SNR=38
MKAR **Makanchi Array** 110.95 313 PKiKP PKiKP 19 08 39.9 -1.2
MKAR **Makanchi Array** 110.95 313 PKiKP PKiKP 19 08 39.9 -1.1
KURK **Kurchatov** 113.81 317 PKiKP PKiKP 19 08 44.5 -1.8
comp=Z,3.8nm,0.5s,baz=106,slow=2.0,SNR=7.3
KURK **Kurchatov** 113.81 317 PKiKP PKiKP 19 08 44.5 -1.8
KURK **Kurchatov** 113.81 317 PKIKP PKiKP 19 08 44.6 -1.7
KSH **Kashi** 114.51 305 PKP PKPdf 19 08 49.9 +1.8
KSH sPKP 19 12 05.2
KSH PKS 19 12 24.4
KSH SKS SKSdf 19 15 04.7 +0.7
KSH AMB AMB
comp=Z,390nm,6.3s
AAK **Ala-Archa** 115.97 308 *i* PKIKP PKPdf 19 08 49.7 -1.1
KKAR **Karatay Array** 118.92 308 *e*PKPdf PKPdf 19 08 54.8 -1.6
KKAR **Karatay Array** 118.92 308 *e*PKIKP PKPdf 19 08 54.8 -1.6
BVAR **Borovoye Array** 118.94 320 PKP PKPdf 19 08 54.7 -1.4
comp=Z,12nm,0.4s,baz=125,slow=2.1,SNR=97
BVAR **Borovoye Array** 118.94 320 PKP PKPdf 19 08 54.7 -1.4
BVAR **Borovoye Array** 118.94 320 PKIKP PKPdf 19 08 54.7 -1.4
BRVK **Borovoye** 119.00 320 *e*PKPdf PKPdf 19 08 54.5 -1.7
BRVK **Borovoye** 119.00 320 *d* PKIKP PKPdf 19 08 54.9 -1.4
KBL **Kabul** 119.42 299 *e*PKPdf PKPdf 19 08 57.0 -0.6
KBL **Kabul** 119.42 299 *e*PKIKP PKPdf 19 08 57.0 -0.7
SPA0 **Spitsbergen Ar** 122.31 356 *e*P PKPdf 19 09 01.6 -0.4
SPB4 **Spitsbergen Ar** 122.31 356 *e*PKPdf PKPdf 19 08 59.9 -2.1
SPITS **Spitsbergen Ar** 122.31 356 PKP PKPdf 19 09 01.0 -1.0
comp=Z,15nm,0.6s,baz=73,slow=2.8,SNR=8.5
SPITS **Spitsbergen Ar** 122.31 356 PKP PKPdf 19 09 01.0 -1.0
SPITS **Spitsbergen Ar** 122.31 356 PKIKP PKPdf 19 09 01.0 -1.0
SFJD **Kangerlussuaq** 123.71 22 *i* PKIKP PKPdf 19 09 03.6 -1.3
SFJD **Kangerlussuaq** 123.71 22 *i* P PKPdf 19 09 03.6 -1.3
SUMG **Summit** 123.83 13 *i* PKIKP PKPdf 19 09 01.2 -3.8
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG **Summit** 123.83 13 *i* P PKPdf 19 09 01.2 -3.8
comp=Z,11nm,1.0s
SVE **Sverdlovsk** 123.94 325 *e*PKIKP PKPdf 19 09 04.9 -0.7
SVE pmax pmax
comp=Z,56nm,1.5s
ARU **Arti** 125.15 325 *e*PKPdf PKPdf 19 09 06.8 -1.1
ARU *e*PP PP 19 11 01.3 -6.5
ARU **Arti** 125.15 325 *i* PKIKP PKPdf 19 09 06.5 -1.4
ARU 19 15 13.5
ARU SS SS 19 27 10.7 -8.4
BOSA **Boshof** 125.45 206 PKP PKPdf 19 09 10.1 +0.5
comp=Z,3.2nm,0.7s,baz=126,slow=1.7,SNR=10
BOSA **Boshof** 125.45 206 *e*PKPdf PKPdf 19 09 09.7 +0.2
BOSA PKP PKPdf 19 09 10.1 +0.5
BOSA **Boshof** 125.45 206 *e*PKIKP PKPdf 19 09 09.7 +0.2
ABKAR **Akbulak array** 125.89 316 *e*PKPdf PKPdf 19 09 08.0 -1.6
AKTO **Aktyubinsk** 126.90 318 PKP PKPdf 19 09 10.9 -0.6
comp=Z,7.7nm,0.6s,baz=104,slow=3.7,SNR=39
AKTO **Aktyubinsk** 126.90 318 PKP PKPdf 19 09 10.9 -0.6
AKTO **Aktyubinsk** 126.90 318 PKIKP PKPdf 19 09 10.9 -0.6
SCO **Scoresbysund** 128.64 10 *i* PKIKP PKPdf 19 09 13.9 -0.3
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO **Scoresbysund** 128.64 10 *i* P PKPdf 19 09 13.9 -0.3
comp=Z,4.7nm,0.9s
KEV **Kevo** 128.80 349 *e*PKPdf PKPdf 19 09 12.5 -2.1
KEV **Kevo** 128.80 349 *e*PKIKP PKPdf 19 09 13.4 -1.2
KEV **Kevo** 128.80 349 *e*pkp PKPdf 19 09 13.4 -1.2
ARCES **ARCESS Array B** 129.26 349 PKhKP PKPpre 19 09 03.1
comp=Z,1.9nm,0.8s,baz=14,slow=0.5,SNR=6.6
ARCES PKP PKPdf 19 09 14.7 -0.8
comp=Z,14nm,0.5s,baz=94,slow=1.0,SNR=55
ARCES **ARCESS Array B** 129.26 349 PKPpre PKPpre 19 09 03.1
ARCES PKP PKPdf 19 09 14.7 -0.8
ARCES **ARCESS Array B** 129.26 349 PKHKP PKPpre 19 09 03.1
ARCES 19 09 14.7
ARE0 **ARCESS Array S** 129.26 349 *e*P PKPdf 19 09 15.1 -0.4
ARE0 **ARCESS Array S** 129.26 349 *e*PKPdf PKPdf 19 09 14.3 -1.1
KTK1 **Kautokeino** 130.11 350 *e*P PKPdf 19 09 16.0 -1.0
TRO **Tromso** 130.18 352 *e*P PKPdf 19 09 16.6 -0.5
JOF **Joensuu** 133.35 342 *e*PKIKP PKPdf 19 09 22.0 -1.3
JOF **Joensuu** 133.35 342 *e*pkp PKPdf 19 09 22.0 -1.3
RCBR **Riachuelo** 134.92 122 SKPbc SKPbc 19 12 03.2 +0.2
comp=Z,5.8nm,0.7s,baz=207,slow=7.7,SNR=5.9
RCBR **Riachuelo** 134.92 122 SKPbc SKPbc 19 12 03.2 +0.2
LSZ **Lusaka** 135.22 219 *e*PKPdf PKPdf 19 09 28.4 +0.2
LSZ **Lusaka** 135.22 219 *e*PKIKP PKPdf 19 09 28.4 +0.1
KAF **Kangasniemi** 135.40 343 *e*PKIKP PKPdf 19 09 23.6 -3.6
KAF **Kangasniemi** 135.40 343 *e*pkp PKPdf 19 09 23.6 -3.6
FINES **FINESS Array B** 136.02 343 PKhKP PKPpre 19 09 18.8
comp=Z,3.5nm,0.5s,baz=36,slow=3.1,SNR=12
FINES PKP PKPdf 19 09 28.3 0.0
comp=Z,9.4nm,0.6s,baz=44,slow=3.0,SNR=16
FINES SKPbc SKPbc 19 12 06.0 +1.3
comp=Z,8.3nm,0.6s,baz=56,slow=3.4,SNR=13
FINES **FINESS Array B** 136.02 343 PKPpre PKPpre 19 09 18.8
FINES PKP PKPdf 19 09 28.3 0.0
FINES SKPbc SKPbc 19 12 06.0 +1.3
FINES **FINESS Array B** 136.02 343 PKHKP PKPpre 19 09 18.8
FINES 19 09 28.3
OBN **Obninsk** 136.81 331 *e*PKPdf PKPdf 19 09 28.9 -1.1
OBN **Obninsk** 136.81 331 *i* PKIKP PKPdf 19 09 29.1 -0.9
OBN *e* 19 12 19.0
OBN *e*SS SS 19 29 38.0 -0.9
OBN pmax pmax
comp=Z,48nm,1.4s
GNI **Garni** 138.37 307 *i* PKIKP PKPdf 19 09 34.6 +1.3
KMBO **Kilima Mbogo** 138.39 243 *e*PKPdf PKPdf 19 09 33.3 -0.9
KIV **Kislovodsk** 138.72 313 *e*PKIKP PKPdf 19 09 35.2 +1.3
KIV pmax pmax
comp=Z,7.0nm,0.9s
NB2 **NORSAR Subarra** 139.38 352 PKP PKPpre 19 09 26.0
baz=10,slow=3.2
NOA **NORSAR Array B** 139.38 352 PKhKP PKPpre 19 09 26.1
comp=Z,2.9nm,0.6s,baz=17,slow=2.8,SNR=19
NOA PKP PKPdf 19 09 34.1 -0.4
comp=Z,4.1nm,0.5s,baz=14,slow=3.9,SNR=6.0
NOA SKPbc SKPbc 19 12 16.0 +1.7
comp=Z,3.2nm,0.6s,baz=15,slow=4.2,SNR=7.8
NOA **NORSAR Array B** 139.38 352 PKPpre PKPpre 19 09 26.1
NOA PKP PKPdf 19 09 34.1 -0.4
NOA SKPbc SKPbc 19 12 16.0 +1.7
NOA **NORSAR Array B** 139.38 352 PKHKP PKPpre 19 09 26.1
NOA 19 09 34.1
NC602 **NORSAR Array S** 139.63 352 *e*P PKPpre 19 09 26.7
KONO **Kongsberg** 140.92 353 *e*P PKPpre 19 09 30.8
ODD1 **Odda** 140.93 356 *e*P PKPpre 19 09 31.1
ANN **Anapa** 141.84 317 *i* PKHKP PKPpre 19 09 33.0
ANN pmax pmax
comp=Z,58nm,1.5s
SNART **Snartemo** 142.45 355 *e*P PKPpre 19 09 35.7
SHEL **Horse Pasture** 142.66 169 *e*PKPdf PKPdf 19 09 40.7 -1.0
SHEL **Horse Pasture** 142.66 169 *e*PKIKP PKPdf 19 09 40.7 -1.1
SUW **Suwalki** 143.01 338 *e*PKP PKPpre 19 09 37.6
SUW **Suwalki** 143.01 338 *e*PKPdf PKPpre 19 09 37.8
SUW **Suwalki** 143.01 338 *e*PKHKP PKPpre 19 09 37.6
AKASG **Malin Array Be** 143.05 330 PKP PKPdf 19 09 38.2 -3.2
comp=Z,61nm,0.5s,baz=44,slow=4.3,SNR=17
AKASG SKPbc SKPbc 19 12 27.2 +3.3
comp=Z,0.6nm,0.4s,baz=56,slow=1.9,SNR=4.0
AKASG **Malin Array Be** 143.05 330 PKP PKPdf 19 09 38.2 -3.2
AKASG SKPbc SKPbc 19 12 27.2 +3.3
AKASG **Malin Array Be** 143.05 330 PKIKP PKPdf 19 09 38.2 -3.2
AKBB **Malin Array Si** 143.05 330 *e*PKPdf PKPpre 19 09 37.6
AKBB **Malin Array Si** 143.05 330 *e*PKHKP PKPpre 19 09 37.6
KIEV **Kiev** 143.06 330 *e*PKPdf PKPpre 19 09 37.6
KIEV **Kiev** 143.06 330 *e*PKHKP PKPpre 19 09 37.6
KAC **Achnashellach** 143.24 6 *e*P PKPdf 19 09 38.4 -3.1
MCD **Coleburn Disti** 143.32 4 *e*P PKPdf 19 09 38.7 -3.0
KPL **Plockton** 143.37 6 *e*P PKPdf 19 09 38.6 -3.1
MDO **Dochfour** 143.38 5 *e*P PKPdf 19 09 39.2 -2.6
KSB **Sheil Bridge** 143.52 6 *e*P PKPdf 19 09 39.0 -3.0
MALT **Malatya** 143.58 307 PKP PKPdf 19 09 41.4 -1.3
SIM **Simferopol'** 143.85 319 *i* PKIKP PKPdf 19 09 41.8 -1.2
MUD **Monsted U'grnd** 144.09 352 *i* PKIKP PKPdf 19 09 41.5 -1.5
MUD pmax pmax
comp=Z,44nm,1.0s
MUD **Monsted U'grnd** 144.09 352 *i* P PKPdf 19 09 41.5 -1.5
comp=Z,44nm,1.0s
COP **Copenhagen** 144.35 349 *i* PKIKP PKPdf 19 09 42.6 -0.9
COP pmax pmax
comp=Z,29nm,1.0s
COP **Copenhagen** 144.35 349 *i* P PKPdf 19 09 42.6 -0.9
comp=Z,29nm,1.0s
BSD **Bornholm Skovb** 144.39 346 *i* PKIKP PKPdf 19 09 42.0 -1.6
BSD pmax pmax
comp=Z,54nm,1.2s
BSD **Bornholm Skovb** 144.39 346 *i* P PKPdf 19 09 42.0 -1.6
comp=Z,54nm,1.2s
EAB **Aberfoyle** 144.63 5 *e*P PKPdf 19 09 42.7 -1.3
EBH **Black Hill** 144.63 4 *e*P PKPdf 19 09 43.2 -0.8
PGBU **Glenifferbraes** 144.99 6 *e*P PKPdf 19 09 43.5 -1.1
ESY **Stoneypath** 145.02 4 *e*P PKPdf 19 09 43.6 -1.0
EAU **Auchinoon** 145.04 5 *e*P PKPdf 19 09 44.3 -0.4
EBL **Broad Law** 145.14 4 *e*P PKPdf 19 09 44.3 -0.5
GKP **Gorka Klasztor** 145.49 343 *e*PKP PKPdf 19 09 46.2 +0.7
GKP **Gorka Klasztor** 145.49 343 *e*PKP2 PKPdf 19 09 46.2 +0.7
ESK **Eskdalemuir** 145.58 4 *e*P PKPdf 19 09 44.3 -1.3
ESK **Eskdalemuir** 145.58 4 *i* PKP2 PKPdf 19 09 48.0 +2.4
BEL **Belsk** 145.63 338 *e*PKP PKPdf 19 09 47.0 +1.2
BEL **Belsk** 145.63 338 *e*PKP2 PKPdf 19 09 47.0 +1.2
KIS **Kishinev** 145.70 326 *e*P PKPdf 19 09 47.0 +0.9
KIS **Kishinev** 145.70 326 *e*PKP2 PKPdf 19 09 47.0 +0.9
GAL1 **Galloway** 145.90 6 *e*P PKPdf 19 09 46.4 +0.3
GCD **Castle Douglas** 145.97 5 *e*P PKPdf 19 09 46.6 +0.3
LVV **L'vov** 146.00 333 *e*PKIKP PKPdf 19 09 45.8 -0.7
XAL **Allendale** 146.10 3 *e*P PKPdf 19 09 47.1 +0.6
ASF **Jabal al Asfar** 146.28 297 PKPbc PKPbc 19 09 50.1 +0.2
comp=Z,22nm,0.9s,baz=338,slow=1.8,SNR=40
ASF **Jabal al Asfar** 146.28 297 PKPbc PKPbc 19 09 50.1 +0.2
ASF **Jabal al Asfar** 146.28 297 PKP2 PKPbc 19 09 50.1 +0.2
KESW **Keswick, Cumbr** 146.31 4 *e*P PKPdf 19 09 47.9 +1.0
LEOM **Leova** 146.34 325 ⇑PKP2 PKPbc 19 09 49.2 -0.4
LEOM **Leova** 146.34 325 ⇑*i* P PKPdf 19 09 49.2 +2.0
XDE **Dent Fell** 146.37 5 *e*P PKPdf 19 09 47.9 +0.9
GMM **Mts of Mourne** 146.38 8 *e*P PKPdf 19 09 47.8 +0.8
GIM **North Isle of** 146.49 6 *e*P PKPdf 19 09 48.1 +0.9
BR131 **Keskin Array S** 146.57 311 *e*PKPdf PKPdf 19 09 47.6 -0.2
BR131 *e*PKPbc PKPbc 19 09 49.6 -0.9
BR131 *e*pPKPdf pPKPdf 19 12 09.1 +2.5
BRTR **Keskin Array B** 146.57 311 PKPbc PKPbc 19 09 49.6 -0.8
comp=Z,24nm,0.6s,baz=146,slow=4.5,SNR=144
BRTR **Keskin Array B** 146.57 311 PKPbc PKPbc 19 09 49.6 -0.8
BRTR **Keskin Array B** 146.57 311 PKIKP PKPdf 19 09 49.6 +1.8
KWP **Kalwaria Pacla** 146.69 334 *e*PKP PKPdf 19 09 49.8 +2.2
KWP **Kalwaria Pacla** 146.69 334 *e*PKPdf PKPdf 19 09 49.4 +1.8
KWP *e*pPKPdf pPKPdf 19 12 04.9 -1.6
KWP **Kalwaria Pacla** 146.69 334 ⇑PKP2 PKPbc 19 09 50.1 -0.3
KWP **Kalwaria Pacla** 146.69 334 ⇑*i* P PKPbc 19 09 50.1 -0.3
TLCR 146.83 323 ⇑PKP2 PKPbc 19 09 52.3 +1.3
TLCR 146.83 323 ⇑*i* P PKPbc 19 09 52.3 +1.3
BUR08 **Bucovina Ar. S** 147.08 330 *e*PKPbc PKPbc 19 09 50.9 -0.6
RUE **Ruedersdorf** 147.09 346 *e*PKPdf PKPdf 19 09 49.3 +1.1
BURAR **Bucovina Array** 147.09 329 ⇓PKP2 PKPbc 19 09 51.7 +0.1
BURAR **Bucovina Array** 147.09 329 ⇓*i* P PKPbc 19 09 51.7 +0.1
TESR 147.15 327 ⇑*i* P PKPbc 19 09 51.3 -0.4
CFR **Carcaliu** 147.22 324 PKP2 PKPbc 19 09 51.0 -1.0
DLF **Lyons Farm** 147.23 9 *e*P PKPdf 19 09 50.4 +2.0
OJC **Ojcow** 147.32 338 *e*PKPdf PKPdf 19 09 48.0 -0.7
OJC *e*PKPbc PKPbc 19 09 51.1 -1.0
OJC *e*PKPab PKPab 19 09 55.4 -0.6
OJC **Ojcow** 147.32 338 *e*PKIKP PKPdf 19 09 48.0 -0.7
MMAI **Mount Meron Ar** 147.35 299 PKPbc PKPbc 19 09 52.9 +0.1
comp=Z,29nm,0.5s,baz=75,slow=6.4,SNR=111
MMAI **Mount Meron Ar** 147.35 299 PKPbc PKPbc 19 09 52.9 +0.1
KOLS **Kolonicke sedl** 147.41 334 *e*PKIKP PKPdf 19 09 48.4 -0.5
KOLS *e* 19 09 52.6
KOLS **Kolonicke sedl** 147.41 334 *e*PKP PKPdf 19 09 48.4 -0.5
KOLS *e* 19 09 52.6
STHS **Stebnicka Huta** 147.44 335 *e*PKP2 PKPbc 19 09 52.4 0.0
STHS **Stebnicka Huta** 147.44 335 *e*PKP PKPbc 19 09 52.4 0.0
TIRR **Tirgusor** 147.50 322 *e*PKPbc PKPbc 19 09 51.8 -1.0
TIRR **Tirgusor** 147.50 322 *e*PKP2 PKPbc 19 09 51.8 -0.9
TIRR **Tirgusor** 147.50 322 ⇓*i* P PKPbc 19 09 52.3 -0.4

VRI	Vrincioaia	147.53	326	⇓PKP2	PKPbc	19 09 52.2 -0.6
VRI	Vrincioaia	147.53	326	⇓*i*P	PKPbc	19 09 52.2 -0.6
PLOR	Plostina	147.59	326	⇑PKP2	PKPbc	19 09 52.3 -0.6
PLOR	Plostina	147.59	326	⇑*i*P	PKPbc	19 09 52.3 -0.6
UZH	Uzhgorod	147.64	333	*e*PKIKP	PKPdf	19 09 50.0 +0.8
UZH				*e*		19 12 10.0
KBI1	Birley Grange	147.74	3	*e*P	PKPbc	19 09 51.7 -1.4
CRVS	Cervenica-Dubn	147.77	335	*e*PKIKP	PKPdf	19 09 49.1 -0.3
CRVS				*e*		19 09 53.2
CRVS	Cervenica-Dubn	147.77	335	*e*PKP	PKPdf	19 09 49.0 -0.4
CRVS				*e*		19 09 53.2
MANR	Mangalia	147.78	321	⇓*i*P	PKPbc	19 09 53.5 0.0
NIE	Niedzica	147.80	336	*e*PKPdf	PKPdf	19 09 49.6 +0.1
NIE				*e*PKPbc	PKPbc	19 09 53.2 -0.1
NIE				*e*PKPab	PKPab	19 09 57.8 -0.2
NIE	Niedzica	147.80	336	*e*PKIKP	PKPdf	19 09 49.6 +0.1
NRDL	Niedersach Rie	147.81	350	*e*PKPbc	PKPbc	19 09 52.4 -0.8
BMR	Baia Mare	147.84	331	PKP2	PKPbc	19 09 53.5 0.0
TRPA	Tarpa	147.92	333	⇓*i*P	PKPbc	19 09 53.2 -0.5
KSP	Ksiaz	147.92	342	*e*PKP	PKPbc	19 09 53.3 -0.3
KSP	Ksiaz	147.92	342	*i* PKPbcd	PKPbc	19 09 53.3 -0.3
KSP				*e*PKPab	PKPab	19 09 58.3 -0.2
KSP				*ep*PKP	pPKPdf	19 12 09.7 +1.2
KSP	Ksiaz	147.92	342	⇓*i*PKP2	PKPbc	19 09 53.3 -0.3
FOEL	Foel Wylfa	147.99	5	*e*P	PKPdf	19 09 51.0 +1.3
ISR	Istrita	148.12	325	⇓PKP2	PKPbc	19 09 53.8 -0.5
ISR	Istrita	148.12	325	⇓*i*P	PKPbc	19 09 53.8 -0.5
DOPR	Dopca	148.16	327	⇓*i*P	PKPbc	19 09 54.5 +0.2
MLR	Muntele Rosu	148.19	326	PKPbc	PKPbc	19 09 53.5 -1.0
	comp=Z,7.9nm,0.5s,baz=340,slow=2.0,SNR=67					
MLR	Muntele Rosu	148.19	326	PKPbc	PKPbc	19 09 53.5 -1.0
MLR	Muntele Rosu	148.19	326	PKHKP	PKPbc	19 09 53.5 -0.9
MLR	Muntele Rosu	148.19	326	⇑*i*P	PKPbc	19 09 54.0 -0.4
OKC	Ostrava-Krasne	148.22	339	*i* PKP2	PKPbc	19 09 53.8 -0.6
OKC	Ostrava-Krasne	148.22	339	⇑*i*PKP	PKPbc	19 09 53.8 -0.6
OKC				*e*PKPAB	PKPab	19 10 00.4 +0.7
UPC	Upice	148.30	342	*e*PKHKP	PKPdf	19 09 50.6 +0.3
UPC	Upice	148.30	342	*e*PKPDF	PKPdf	19 09 50.6 +0.3
UPC				⇑*i*PKP	PKPbc	19 09 54.1 -0.4
UPC				*ep*PKP	pPKPdf	19 12 10.2 +1.0
EIL	Elat	148.33	293	PKPbc	PKPbc	19 09 55.1 -0.2
	comp=Z,22nm,0.6s,baz=16,slow=3.0,SNR=37					
EIL	Elat	148.33	293	PKPbc	PKPbc	19 09 55.1 -0.2
IBBN	Ibbenburen	148.33	352	*e*PKPbc	PKPbc	19 09 53.8 -0.8
DPC	Dobruska-Polom	148.35	341	*e*PKHKP	PKPdf	19 09 51.0 +0.7
DPC				*e*		19 10 00.0
DPC	Dobruska-Polom	148.35	341	*e*PKPDF	PKPdf	19 09 51.0 +0.7
DPC				⇑*i*PKP	PKPbc	19 09 54.5 -0.2
DPC				*e*PKPAB	PKPab	19 10 00.0 -0.2
DPC				*ex*	x	19 12 14.9
CLL	Collm	148.36	346	*e*PKPbc	PKPbc	19 09 53.9 -0.8
CLL	Collm	148.36	346	⇓*e*PKHKP	PKPdf	19 09 50.0 -0.3
CLL				*i*		19 09 59.0
CLL				pmax	pmax	
	comp=Z,94nm,1.1s					
CLL				pmax	pmax	
	comp=Z,37nm,1.0s					
CLL	Collm	148.36	346	*e*PKPdf	PKPdf	19 09 50.0 -0.3
CLL				⇓*i*PKPbc	PKPbc	19 09 53.8 -0.9
	comp=Z,94nm,1.1s					
CLL				*i* PKiKP	PKiKP	19 09 56.0 +0.2
CLL				⇑*i*PKPab	PKPab	19 09 59.0 -1.2
	comp=Z,37nm,1.0s					
CLL				*ep*PKPbc	pPKPbc	19 12 11.0 -0.6
CLL				*e*		19 12 19.0
CLL				*e*PKSdf		19 13 25.0
CLZ	Clausthal	148.39	349	*e*PKPbc	PKPbc	19 09 54.3 -0.4
CLZ	Clausthal	148.39	349	*e*PKP2	PKPbc	19 09 54.3 -0.4
HLM1	Long Mynd	148.39	5	*e*P	PKPdf	19 09 48.9 -1.4
MORC	Moravsky Berou	148.47	340	*e*PKPbc	PKPbc	19 09 54.1 -0.9
MORC				*e*PKPab	PKPab	19 10 00.3 -0.4
MORC	Moravsky Berou	148.47	340	⇓PKP2	PKPbc	19 09 54.9 -0.1
MORC	Moravsky Berou	148.47	340	⇓*i*P	PKPbc	19 09 54.9 -0.1
KECS	Kecovo	148.49	335	*e*PKP2	PKPbc	19 09 54.9 -0.2
KECS	Kecovo	148.49	335	*e*PKP	PKPbc	19 09 54.9 -0.2
KECS				*e*		19 10 00.5
CSS	Prodhromos	148.50	303	P	PKPbc	19 09 54.8 -0.8
BRG	Berggiesshubel	148.53	344	*i* PKP	PKPdf	19 09 50.1 -0.5
	comp=Z,48nm,1.7s					
BRG				*i*		19 09 54.5
	comp=Z,125nm,1.4s					
BRG				*i* pPKP	pPKPdf	19 12 11.2 +1.7
	comp=Z,24nm,1.4s					
BRG	Berggiesshubel	148.53	344	*e*PKPbc	PKPbc	19 09 54.5 -0.6
BRG	Berggiesshubel	148.53	344	*i* PKHKP	PKPdf	19 09 50.1 -0.5
BRG				pmax	pmax	
	comp=Z,48nm,1.7s					
BRG				pmax	pmax	
	comp=Z,125nm,1.4s					
BRG				pmax	pmax	
	comp=Z,24nm,1.5s					
PVCC	Panska Ves	148.69	343	*i* PKP2	PKPbc	19 09 55.2 -0.3
PVCC	Panska Ves	148.69	343	⇑*i*PKP	PKPbc	19 09 55.2 -0.3
PVCC				*ep*PKP	pPKPdf	19 12 15.0 +5.2
VOIR		148.69	327	PKP2	PKPbc	19 09 56.1 +0.4
VOIR		148.69	327	⇑*i*P	PKPbc	19 09 55.3 -0.4
PRD	Provadia	148.84	321	*i* P	PKPbc	19 09 56.2 +0.1
DRGR		148.86	331	PKHKP	PKPbc	19 09 55.6 -0.4
DRGR		148.86	331	⇑*i*P	PKPbc	19 09 55.3 -0.7
MCH1	Michaelchurch	148.90	5	*e*P	PKPdf	19 09 51.9 +0.7
PCED	Cedros	148.91	49	*e*PKP	PKPbc	19 09 55.9 -0.5
CALA	Caldeira	148.93	49	*e*PKP	PKPbc	19 09 55.6 -0.9
PCAN	Candelaria	149.13	49	*e*PKP	PKPbc	19 09 57.3 +0.3
PICO	Pico	149.16	49	*e*PKP	PKPbc	19 09 57.3 +0.3
PSZ	Piszkesteto	149.18	335	*e*PKPdf	PKPdf	19 09 50.7 -1.0
PSZ				*e*PKPbc	PKPbc	19 09 55.9 -0.8
PSZ	Piszkesteto	149.18	335	*e*PKIKP	PKPdf	19 09 50.7 -1.0
PSZ	Piszkesteto	149.18	335	⇓*e*PKP	PKPbc	19 09 56.0 -0.8
PSZ	Piszkesteto	149.18	335	⇑*i*P	PKPbc	19 09 56.4 -0.4
VRAC	Vranov	149.18	340	PKPbc	PKPbc	19 09 56.7 0.0
	comp=Z,16nm,1.0s,baz=26,slow=3.3,SNR=20					
VRAC	Vranov	149.18	340	PKPbc	PKPbc	19 09 56.7 0.0
VRAC	Vranov	149.18	340	PKP2	PKPbc	19 09 56.7 0.0
VRAC	Vranov	149.18	340	⇓*i*P	PKPbc	19 09 56.6 -0.1
PRU	Pruhonice	149.18	343	*i* PKHKP	PKPbc	19 09 56.1 -0.6
PRU				*e*		19 10 02.8
PRU	Pruhonice	149.18	343	⇑*i*PKP	PKPbc	19 09 56.1 -0.6
PRU				*e*PKPAB	PKPab	19 10 02.8 -0.9
ROSA	Rosais	149.19	49	*e*PKP	PKPbc	19 09 56.8 -0.3
KOLL	Kolacno	149.20	337	*e*PKP2	PKPbc	19 09 56.8 0.0
KOLL	Kolacno	149.20	337	*e*PKP	PKPbc	19 09 56.8 0.0
BUG	Bochum--Univer	149.24	352	*e*PKPbc	PKPbc	19 09 55.9 -0.9
MOX	Moxa	149.28	347	*e*PKPbc	PKPbc	19 09 56.3 -0.6
MOX	Moxa	149.28	347	*e*PKHKP	PKPbc	19 09 56.3 -0.6
TANN	Tannenbergstha	149.31	346	*e*PKPbc	PKPbc	19 09 56.6 -0.4
LOT	Lotru	149.33	328	⇑*i*P	PKPbc	19 09 55.2 -2.0
PMAN	Manadas	149.34	49	*e*PKP	PKPbc	19 09 56.4 -1.1
HUMR	Humele	149.35	325	⇓*i*P	PKPbc	19 09 56.3 -1.0
UBBA	Unterbreizbach	149.44	349	*e*PKPbc	PKPbc	19 09 56.4 -0.9
NKC	Novy Kostel	149.49	346	*i* PKHKP	PKPbc	19 09 57.0 -0.4
NKC				*e*		19 10 04.2
NKC	Novy Kostel	149.49	346	⇑*i*PKP	PKPbc	19 09 57.0 -0.4
NKC				*e*PKPAB	PKPab	19 10 04.2 -0.7
TREC	Trest	149.54	341	*i* PKHKP	PKPbc	19 09 57.0 -0.6
TREC	Trest	149.54	341	⇑*i*PKP	PKPbc	19 09 57.0 -0.6
SMOL	Smolenice	149.59	338	*e*PKHKP	PKPbc	19 09 58.0 +0.3
SMOL				*e*		19 10 05.7
SMOL	Smolenice	149.59	338	*e*PKP	PKPbc	19 09 58.0 +0.3
SMOL				*e*		19 10 05.7
SZH	Strazhica	149.65	323	*i* P	PKPbc	19 09 57.3 -0.7
JMB	Yambol	149.76	321	P	PKPbc	19 09 58.1 -0.2
GZR	Gura Zlata	149.86	329	⇓PKIKP	PKPbc	19 09 57.8 -0.7
GZR	Gura Zlata	149.86	329	⇓*i*P	PKPbc	19 09 57.8 -0.7
BUD	Budapest	149.87	335	⇓*e*PKP	PKPbc	19 09 57.7 -0.7
ADH	Angra Heroismo	149.92	48	*e*PKP	PKPdf	19 09 55.6 +2.4
ROTZ	Rotzenmuhle	149.98	346	*e*PKPbc	PKPbc	19 09 58.2 -0.4
ZST	Bratislava	149.98	338	*e*PKHKP	PKPbc	19 09 58.4 -0.2
ZST	Bratislava	149.98	338	*e*PKP	PKPbc	19 09 58.4 -0.2
BEBN	Eben Emael	150.05	354	PKPbc	PKPbc	19 09 57.4 -1.3
BEBN				PKPab	PKPab	19 10 05.8 -1.5
MEM	Membach	150.20	354	PKPbc	PKPbc	19 09 58.3 -0.7
KHC	Kasperske Hory	150.22	343	*e*PKPdf	PKPdf	19 09 52.8 -0.6
KHC				*e*PKPbc	PKPbc	19 09 58.5 -0.7
KHC				*e*PKPab	PKPab	19 10 07.6 -0.4
KHC				*ep*PKPbc	pPKPbc	19 12 19.6 +3.0
KHC	Kasperske Hory	150.22	343	*e*PKIKP	PKPdf	19 09 52.9 -0.4
KHC				*e*		19 10 07.4
KHC	Kasperske Hory	150.22	343	*e*PKPDF	PKPdf	19 09 52.9 -0.4
KHC				⇑*i*PKP	PKPbc	19 09 58.6 -0.6
KHC				*e*PKPAB	PKPab	19 10 07.4 -0.7
KHC				*ex*	x	19 12 19.3
BZS	Buzias	150.24	330	⇓PKHKP	PKPbc	19 09 58.5 -0.8
BZS	Buzias	150.24	330	⇓*i*P	PKPbc	19 09 58.5 -0.8
GRF	Grafenberg Arr	150.27	347	*e*PKPbc	PKPbc	19 09 58.6 -0.7
GRF	Grafenberg Arr	150.27	347	*e*PKHKP	PKPbc	19 09 58.6 -0.7
GRFO	Grafenberg	150.27	347	*e*PKPbc	PKPbc	19 09 58.5 -0.8
GRFO				*e*PKPab	PKPab	19 10 07.3 -0.9
GRFO	Grafenberg	150.27	347	*e*PKHKP	PKPbc	19 09 58.5 -0.8
GRFO				*e*		19 10 07.3
TNS	Taunus Mts	150.27	351	*e*PKPbc	PKPbc	19 09 58.7 -0.6
TNS				*e*PKPab	PKPab	19 10 07.2 -1.0
TNS	Taunus Mts	150.27	351	*e*PKHKP	PKPbc	19 09 58.7 -0.6
WET	Wettzell	150.40	344	*e*PKPbc	PKPbc	19 09 59.0 -0.6
WET				*e*PKPab	PKPab	19 10 08.3 -0.5
WET	Wettzell	150.40	344	*e*PKIKP	PKPbc	19 09 59.0 -0.6
SNF	Seneffe	150.45	356	PKPbc	PKPbc	19 09 59.6 -0.1
SNF				PKPab	PKPab	19 10 07.8 -1.2
GEC2	GERESS Array S	150.45	343	*e*PKPbc	PKPbc	19 09 59.0 -0.7
GEC2				*e*PKPab	PKPab	19 10 08.6 -0.4
GEC2	GERESS Array S	150.45	343	*e*PKIKP	PKPbc	19 09 59.0 -0.7
GERES	GERESS Array B	150.45	343	PKPbc	PKPbc	19 09 59.0 -0.7
	comp=Z,9.2nm,0.5s,baz=164,slow=1.0,SNR=10.0					
GERES				PKPab	PKPab	19 10 09.0 0.0
	comp=Z,3.7nm,0.5s,baz=52,slow=3.8,SNR=6.8					
GERES	GERESS Array B	150.45	343	PKPbc	PKPbc	19 09 59.0 -0.7
GERES				PKPab	PKPab	19 10 09.0 0.0
GERES	GERESS Array B	150.45	343	PKIKP	PKPbc	19 09 59.0 -0.7
GERES						19 10 09.0
BCLA	Clavier	150.46	355	PKPbc	PKPbc	19 09 58.9 -0.8
BCLA				PKPab	PKPab	19 10 07.5 -1.5
SOP	Sopron	150.61	339	⇓*e*PKP	PKPbc	19 09 59.6 -0.5
CONA	Conrad Observa	150.63	340	⇑*i*PKPdf	PKPdf	19 09 53.6 -0.4
	comp=Z,4.2nm,1.0s					
CONA				*i* PKiKP	PKPbc	19 09 59.6 -0.5
	comp=Z,40nm,0.6s,SNR=20					
GIVF	Givet	150.81	355	*e*PKP1	PKPbc	19 09 59.5 -1.0
	comp=Z,102nm,0.8s					
GIVF	Givet	150.81	355	*e*P	PKPbc	19 09 59.5 -1.0
GIVF	Givet	150.81	355	*e*PKIKP	PKPbc	19 09 59.5 -1.0
DOU	Dourbes	150.84	355	PKPbc	PKPbc	19 09 59.8 -0.8
DOU				PKPab	PKPab	19 10 09.5 -1.1
BAIF	Baives	150.90	356	*e*PKP1	PKPbc	19 09 59.8 -0.9
	comp=Z,89nm,1.0s					
BAIF	Baives	150.90	356	*e*P	PKPbc	19 09 59.8 -0.9
BAIF	Baives	150.90	356	*e*PKIKP	PKPbc	19 09 59.8 -0.9
ALN	Alexandroupoli	151.02	319	P	PKPbc	19 09 59.7 -1.6
PKSM	Moragy	151.06	334	⇓PKIKP	PKPbc	19 10 00.6 -0.6
PKSM	Moragy	151.06	334	⇓*i*P	PKPbc	19 10 00.6 -0.6
WLF	Walferdange	151.12	353	PKPbc	PKPbc	19 10 00.9 -0.3
WLF				PKPab	PKPab	19 10 10.6 -1.2
WLF	Walferdange	151.12	353	*e*PKPbc	PKPbc	19 10 00.9 -0.3
WLF				*e*PKPab	PKPab	19 10 11.0 -0.8
WLF	Walferdange	151.12	353	*e*PKPbc	PKPbc	19 10 00.7 -0.5
WLF				*e*PKPab	PKPab	19 10 10.9 -0.9
WLF	Walferdange	151.12	353	*e*PKIKP	PKPbc	19 10 00.7 -0.5
WLF				*e*		19 10 10.9
MOA	Molln	151.19	341	*i* PKPbc	PKPbc	19 10 00.4 -1.1
	comp=Z,14nm,0.6s,SNR=15					
STU	Stuttgart	151.55	349	*e*PKPbc	PKPbc	19 10 01.6 -0.6
LANF	Langenberg	151.58	351	PKP	PKPbc	19 10 02.2 -0.1
VTS	Vitosha	151.60	324	P	PKPbc	19 10 01.9 -0.6
VTS	Vitosha	151.60	324	⇓PKIKP	PKPbc	19 10 02.2 -0.3
VTS	Vitosha	151.60	324	*i* P	PKPbc	19 10 01.6 -0.9
VTS	Vitosha	151.60	324	⇓*i*P	PKPbc	19 10 02.2 -0.3
FUR	Furstenfeldbru	151.69	346	*e*PKPbc	PKPbc	19 10 01.8 -0.8
FUR				*e*PKPab	PKPab	19 10 13.6 -0.7
FUR	Furstenfeldbru	151.69	346	*e*PKIKP	PKPbc	19 10 01.8 -0.8
RJOB	Jochberg	151.71	343	*e*PKPab	PKPab	19 10 14.4 0.0
BART	Pico Bartolome	151.77	48	*e*PKP	PKPdf	19 09 58.7 +2.6
MMB	Musomiste	151.97	322	*i* P	PKPbc	19 10 02.6 -0.8
SOKA	Soboth	152.00	339	⇑*i*PKPdf	PKPdf	19 09 55.4 -0.6
	comp=Z,10.0nm,1.4s					
SOKA				⇓*i*PKPbc	PKPbc	19 10 02.0 -1.3
	comp=Z,43nm,1.5s					
PERS	Pernice	152.00	339	*e*PKPdf	PKPdf	19 09 54.8 -1.3
PERS				*e*PKPbc	PKPbc	19 10 01.9 -1.3
PERS				*e*PKPab	PKPab	19 10 14.6 -1.1
NVR	Nevrokopi	152.05	322	P	PKPbc	19 10 02.2 -1.4
BFO	Black Forest	152.13	350	*e*PKPbc	PKPbc	19 10 02.4 -1.1
BFO				*e*PKPab	PKPab	19 10 14.9 -1.2
BFO	Black Forest	152.13	350	*e*PKPbc	PKPbc	19 10 02.4 -1.1
BFO				*e*PKPab	PKPab	19 10 14.7 -1.4
BFO	Black Forest	152.13	350	*e*PKIKP	PKPbc	19 10 02.4 -1.1
DIVS	Divibare	152.15	330	P	PKPbc	19 10 02.8 -0.9
KKB	Krupnik	152.16	323	*i* P	PKPbc	19 10 03.6 -0.2
PSMA	Santa Maria	152.17	49	*e*PKP	PKPbc	19 10 03.8 -0.2
CDF	Champ du Feu	152.21	351	*e*PKP1	PKPbc	19 10 02.6 -1.1
	comp=Z,33nm,0.7s					
CDF	Champ du Feu	152.21	351	*e*P	PKPbc	19 10 02.6 -1.1
CDF	Champ du Feu	152.21	351	*e*PKIKP	PKPbc	19 10 02.6 -1.1
PSMN	Pico do Norte,	152.21	49	*e*PKP	PKPdf	19 09 55.6 -1.1
PAGF	Fort de Pagny	152.26	353	*e*PKP1	PKPbc	19 10 03.0 -0.8
	comp=Z,17nm,0.6s					
FLN	La Foliniere	152.27	2	*e*PKP1	PKPbc	19 10 02.3 -1.5
	comp=Z,23nm,0.4s					
FLN	La Foliniere	152.27	2	*e*P	PKPbc	19 10 02.3 -1.5
FLN	La Foliniere	152.27	2	*e*PKIKP	PKPbc	19 10 02.3 -1.5
MEZF	Maizieres J'vi	152.38	354	*e*PKP1	PKPbc	19 10 03.2 -0.9
MEZF	Maizieres J'vi	152.38	354	*e*P	PKPbc	19 10 03.2 -0.9
WATA	Walderalm	152.40	345	⇓*i*PKPbc	PKPbc	19 10 03.0 -1.1
	comp=Z,17nm,0.5s,SNR=9.7					
WTTA	Wattenberg	152.45	344	*i* PKPbc	PKPbc	19 10 03.4 -0.8
	comp=Z,25nm,0.6s,SNR=14					
LDF	La Druitiere	152.45	2	*e*PKP1	PKPbc	19 10 02.5 -1.7
	comp=Z,14nm,0.5s					
LDF	La Druitiere	152.45	2	*e*P	PKPbc	19 10 02.5 -1.7
LDF	La Druitiere	152.45	2	*e*PKIKP	PKPbc	19 10 02.5 -1.7
MYKA	Terra Mystica	152.48	341	⇑*i*PKPbc	PKPbc	19 10 02.6 -1.7
	comp=Z,16nm,0.6s					
ROSF	Rostrenen	152.50	6	*e*PKP1	PKPbc	19 10 02.6 -1.7
	comp=Z,26nm,0.7s					
ROSF	Rostrenen	152.50	6	*e*P	PKPbc	19 10 02.6 -1.7
ROSF	Rostrenen	152.50	6	*e*PKIKP	PKPbc	19 10 02.6 -1.7
THEF	They Montfort	152.56	353	PKP	PKPbc	19 10 04.1 -0.3
CRES	Cresnjev	152.59	338	*e*PKPdf	PKPdf	19 09 56.1 -0.9
CRES				*e*PKPbc	PKPbc	19 10 03.5 -1.1
CRES				*e*PKPab	PKPab	19 10 17.6 -0.6
GRR	Gorron	152.63	3	*e*PKP1	PKPbc	19 10 03.3 -1.3
	comp=Z,40nm,0.6s					
GRR	Gorron	152.63	3	*e*P	PKPbc	19 10 03.3 -1.3
GRR	Gorron	152.63	3	*e*PKIKP	PKPbc	19 10 03.3 -1.3
SGMF	Saint Gilles	152.65	5	*e*PKP1	PKPbc	19 10 03.0 -1.6
	comp=Z,52nm,0.8s					
SGMF	Saint Gilles	152.65	5	*e*P	PKPbc	19 10 03.0 -1.6
SGMF	Saint Gilles	152.65	5	*e*PKIKP	PKPbc	19 10 03.0 -1.6
SFTF	Sexfontaines	152.68	354	*e*PKP1	PKPbc	19 10 03.7 -1.0
	comp=Z,72nm,0.7s					
SFTF	Sexfontaines	152.68	354	*e*P	PKPbc	19 10 03.7 -1.0
LJU	Ljubljana	152.72	339	*e*PKPdf	PKPdf	19 09 56.4 -0.8
LJU				*e*PKPbc	PKPbc	19 10 03.9 -0.9
HAU	Haudompre	152.73	352	*e*PKP1	PKPbc	19 10 03.5 -1.3
	comp=Z,20nm,0.6s					
HAU	Haudompre	152.73	352	*e*P	PKPbc	19 10 03.5 -1.3
HAU	Haudompre	152.73	352	*e*PKIKP	PKPbc	19 10 03.5 -1.3
MOF	Molkenrain	152.78	351	PKP	PKPbc	19 10 04.3 -0.6
CADS	Cadrg	152.81	341	*e*PKPdf	PKPdf	19 09 56.3 -1.0
HINF	Hinteralfeld	152.85	352	*e*PKP1	PKPbc	19 10 03.7 -1.4
	comp=Z,16nm,0.7s					
HINF	Hinteralfeld	152.85	352	*e*P	PKPbc	19 10 03.7 -1.4
HINF	Hinteralfeld	152.85	352	*e*PKIKP	PKPbc	19 10 03.7 -1.4
QUIF	Quistinic	152.93	6	*e*PKP1	PKPbc	19 10 04.1 -1.1
QUIF	Quistinic	152.93	6	*e*P	PKPbc	19 10 04.1 -1.1
QUIF	Quistinic	152.93	6	*e*PKIKP	PKPbc	19 10 04.1 -1.1
VOY	Vojsko	152.93	340	*e*PKPdf	PKPdf	19 09 56.5 -1.0
VOY				*e*PKPbc	PKPbc	19 10 03.7 -1.6
BOJS	Bojanci	152.94	338	*e*PKPdf	PKPdf	19 09 56.9 -0.6
BOJS				*e*PKPbc	PKPbc	19 10 04.7 -0.7
LOMF	Lomont	153.31	351	PKP	PKPbc	19 10 06.2 +0.1
DAVOX	Davos/Dischmat	153.32	347	PKP	PKPdf	19 09 57.1 -0.9
	comp=Z,3.6nm,0.6s,baz=308,slow=7.1,SNR=6.3					
DAVOX				PKPbc	PKPbc	19 10 05.6 -0.5
	comp=Z,22nm,0.5s,baz=285,slow=0.6,SNR=25					
DAVOX				PKPab	PKPab	19 10 20.9 -0.3
	comp=Z,16nm,0.6s,baz=23,slow=2.6,SNR=6.0					
DAVOX	Davos/Dischmat	153.32	347	PKP	PKPdf	19 09 57.1 -0.9
DAVOX				PKPbc	PKPbc	19 10 05.6 -0.5
DAVOX				PKPab	PKPab	19 10 20.9 -0.3
DAVOX	Davos/Dischmat	153.32	347	PKIKP	PKPdf	19 09 57.1 -0.9
DAVOX						19 10 05.6
DAVOX						19 10 20.9
LOR	Lormes	153.70	356	*e*PKP1	PKPbc	19 10 05.8 -1.1
	comp=Z,18nm,0.7s					
LOR	Lormes	153.70	356	*e*P	PKPbc	19 10 05.8 -1.1
LOR	Lormes	153.70	356	*e*PKIKP	PKPbc	19 10 05.8 -1.1
FNA	Florina	153.84	323	P	PKPbc	19 10 06.0 -1.4
SSF	Saint Saulge	153.93	356	*e*PKP1	PKPbc	19 10 06.3 -1.1
	comp=Z,13nm,0.7s					
SSF	Saint Saulge	153.93	356	*e*P	PKPbc	19 10 06.3 -1.1
SSF	Saint Saulge	153.93	356	*e*PKIKP	PKPbc	19 10 06.3 -1.1
CABF	La Chapelle	154.14	352	*e*PKP1	PKPbc	19 10 07.3 -0.6
	comp=Z,14nm,0.7s					
CABF	La Chapelle	154.14	352	*e*P	PKPbc	19 10 07.3 -0.6
CABF	La Chapelle	154.14	352	*e*PKIKP	PKPbc	19 10 07.3 -0.6
BGF	Bois d'Agland	154.47	357	*e*PKP1	PKPbc	19 10 07.4 -1.2
	comp=Z,14nm,0.6s					
BGF	Bois d'Agland	154.47	357	*e*P	PKPbc	19 10 07.4 -1.2
BGF	Bois d'Agland	154.47	357	*e*PKIKP	PKPbc	19 10 07.4 -1.2
LPL	La Plagne	155.12	351	*e*PKP1	PKPdf	19 10 09.5 +9.0
LPL	La Plagne	155.12	351	*e*P	PKPdf	19 10 09.5 +9.0
LPL	La Plagne	155.12	351	*e*PKIKP	PKPdf	19 10 09.5 +9.0
LPG	La Plagne	155.13	351	*e*PKP1	PKPdf	19 10 09.7 +9.2
LPG	La Plagne	155.13	351	*e*P	PKPdf	19 10 09.7 +9.2
LPG	La Plagne	155.13	351	*e*PKIKP	PKPdf	19 10 09.7 +9.2
BNI	Bardonecchia	155.58	350	*e*PKPdf	PKPdf	19 10 02.2 +1.1
BNI				*e*PKPab	PKPab	19 10 29.7 -1.3
BNI	Bardonecchia	155.58	350	*e*PKIKP	PKPdf	19 10 02.2 +1.1
BNI				*e*		19 10 29.7
MBDF	Montbardon	155.88	350	*e*PKP1	PKPdf	19 10 11.2 +10
	comp=Z,18nm,0.7s					
MBDF	Montbardon	155.88	350	*e*P	PKPdf	19 10 11.2 +10
MBDF	Montbardon	155.88	350	*e*PKIKP	PKPdf	19 10 11.2 +10
TIP	Timpagrande	157.46	327	*e*PKPdf	PKPdf	19 10 02.4 -1.3
ESDC	Sonseca Array	160.88	12	PKP	PKPdf	19 10 07.1 -0.6
	comp=Z,2.9nm,1.1s,baz=264,slow=31,SNR=4.1					
ESDC				PKPab	PKPab	19 10 53.7 -0.5
	comp=Z,7.3nm,0.9s,baz=346,slow=4.5,SNR=12					
ESDC	Sonseca Array	160.88	12	PKP	PKPdf

KMI LR LR
comp=E,12μm,7.4s
KMI Kunming 7.74 198 Pn Pn 18 55 02.3 +0.4
KMI Pg **Pg 18 55 37.1 -0.2**
KMI Sn **Sn 18 56 28.1 -1.6**
KMI Sg **Sg 18 57 16.9 -0.6**
KMI Kunming 7.74 198 P Pn 18 55 02.3 +0.4
KMI 18 56 28.1
WHN Wuhan 7.90 102 ⇓Pn Pn 18 55 02.2 -2.0
WHN Sn **Sn 18 56 27.4 -6.3**
WHN LR LR
comp=N,50μm,4.7s
WHN LR LR
comp=E,21μm,6.0s
WHN LR LR
comp=Z,19μm,5.6s
GTA Gaotai 8.22 328 eP Pn 18 55 09.2 +0.7
GTA pP 18 55 13.5
GTA sP 18 55 16.8
GTA S **Sn 18 56 46.6 +5.1**
GTA sS 18 56 53.1
GTA pmax pmax
comp=Z,59nm,1.0s
GTA pmax pmax
comp=Z,330nm,3.1s
GTA LR LR
comp=N,10μm,9.3s
GTA LR LR
comp=E,6μm,7.8s
GTA LR LR
comp=Z,12μm,8.3s
BTO Baotou 8.88 23 eP Pn 18 55 16.3 -1.2
BTO LR LR
comp=N,3μm,7.3s
BTO LR LR
comp=E,3μm,9.6s
HHC Hu-ho-hao-te 9.67 29 eP Pn 18 55 27.8 -0.6
HHC sP 18 55 33.8
HHC S **Sn 18 57 17.7 +0.6**
HHC sS 18 57 23.2
HHC PcS PcS 19 05 14.3 -2.6
HHC ScS ScS 19 08 45.2 -5.2
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,280nm,4.3s
HHC LR LR
comp=N,9μm,8.5s
HHC LR LR
comp=E,7μm,8.1s
HHC LR LR
comp=Z,5μm,8.1s
TIA Tai'an 10.37 66 eP Pn 18 55 40.0 +2.0
TIA S **Sn 18 57 29.4 -4.9**
TIA LR LR
comp=N,3μm,16.7s
TIA LR LR
comp=E,5μm,19.0s
NJ2 Nanjing 11.40 89 eP Pn 18 55 51.6 -0.6
NJ2 pP 18 55 58.0
NJ2 sP 18 56 04.0
NJ2 S **Sn 18 57 54.0 -5.8**
NJ2 pmax pmax
comp=Z,50nm,1.1s
NJ2 pmax pmax
comp=Z,140nm,3.5s
NJ2 LR LR
comp=N,8μm,9.3s
NJ2 LR LR
comp=E,4μm,14.6s
NJ2 LR LR
comp=Z,4μm,14.8s
BJI Beijing 11.48 46 P Pn 18 55 53.1 -0.1
BJI pmax pmax
comp=Z,37nm,0.7s
BJI pmax pmax
comp=Z,220nm,4.2s
BJI LR LR
comp=N,5μm,14.3s
BJI LR LR
comp=E,4μm,14.7s
BJI LR LR
comp=Z,1μm,14.7s
GZH Guangzhou 11.74 141 P Pn 18 55 51.8 -5.1
GZH S **Sn 18 57 53.5 -15**
GZH LR LR
comp=N,7μm,5.1s
GZH LR LR
comp=E,8μm,6.7s
GZH LR LR
comp=Z,13μm,7.7s
LSA Lhasa 12.53 261 P Pn 18 56 08.0 +0.5
LSA pP 18 56 16.4
LSA pmax pmax
comp=Z,10.0nm,0.9s
LSA LR LR
comp=E,24μm,5.8s
LSA LR LR
comp=Z,23μm,5.1s
IMP Imphal 12.67 235 ePKP Pn 18 56 08.0 -1.6
CHRT Chiangrai 13.57 203 P Pn 18 56 20.0 -1.8
comp=Z,224nm,0.8s
QZH Quanzhou 13.82 120 ⇓iP Pn 18 56 23.2 -2.1
QZH S **Sn 18 58 52.6 -6.3**
QZH LR LR
comp=N,16μm,9.8s
QZH LR LR
comp=E,13μm,9.8s
QZH LR LR
comp=Z,11μm,7.6s
QIZ Qiongzhong 14.02 162 P Pn 18 56 29.3 +1.2
QIZ S **Sn 18 59 07.4 +3.5**
QIZ pmax pmax
comp=Z,26nm,1.1s
QIZ LR LR
comp=N,4μm,9.7s
QIZ LR LR
comp=Z,7μm,9.2s
DL2 Dalian 14.64 60 P Pn 18 56 28.8 -7.5
DL2 S **Sn 18 59 09.0 -10**
DL2 LR LR
comp=N,1μm,14.8s
DL2 LR LR
comp=E,900nm,16.0s
DL2 LR LR
comp=Z,900nm,12.8s
CHTO Chiang Mai 14.84 205 ePn Pn 18 56 38.3 -0.9
comp=Z,40nm,0.8s
CHTO Chiang Mai 14.84 205 eP Pn 18 56 38.3 -0.8
CHTO pmax pmax
comp=Z,40nm,0.8s
CHTO Chiang Mai 14.84 205 P Pn 18 56 38.9 -0.2
comp=Z,862nmcomp=Z,67nm,1.3s
CHTO Chiang Mai 14.84 205 P Pn 18 56 39.7 +0.6
SNR=27
CM31 Chiang Mai Arr 15.16 204 ePn Pn 18 56 42.5 -1.0
comp=Z,41nm,0.7s
CMAR Chiang Mai Arr 15.16 204 Pn Pn 18 56 43.2 -0.4
comp=Z,1.0nm,0.3s,baz=14,slow=11,SNR=209
CMAR LR LR 19 03 37.2
comp=Z,133nm,18.5s,baz=202,slow=41
CMAR Chiang Mai Arr 15.16 204 Pn Pn 18 56 43.2 -0.4
CMAR Chiang Mai Arr 15.16 204 P Pn 18 56 43.2 -0.4
SONM Songino Array 15.31 3 Pn Pn 18 56 44.6 -0.6
comp=Z,0.6nm,0.3s,baz=186,slow=14,SNR=63
SONM Songino Array 15.31 3 Pn Pn 18 56 44.6 -0.6
SONM Songino Array 15.31 3 P Pn 18 56 44.6 -0.7
ULN Ulaanbaatar 15.37 4 ePn Pn 18 56 45.2 -0.9
comp=Z,107nm,0.9s
ULN Ulaanbaatar 15.37 4 eP Pn 18 56 45.2 -0.9
ULN pmax pmax
comp=Z,107nm,0.9s
ULN Ulaanbaatar 15.37 4 P Pn 18 56 46.0 -0.1
comp=Z,1μmcomp=Z,135nm,0.9s
ULN Ulaanbaatar 15.37 4 P Pn 18 56 46.7 +0.6
SNR=58
YHNB Yeheng 16.06 115 ePn Pn 18 56 56.2 +1.0
comp=Z,135nm,1.1s
SSLB Suanglung 16.24 118 ePn Pn 18 56 58.8 +1.2
comp=Z,112nm,1.1s
BDT Bhumibol Dam 16.28 202 P Pn 18 56 58.0 0.0
comp=Z,76nm,0.8s
NACB Ninganchiao 16.50 116 ePn Pn 18 57 01.3 +0.4
comp=Z,178nm,1.5s
YULB Yu-li 16.73 119 ePn Pn 18 57 02.1 -1.6
comp=Z,50nm,1.0s
TWG Pinlang 16.91 121 ePn Pn 18 57 08.2 +2.2
comp=Z,34nm,0.5s
SNY Shenyang 17.18 52 ⇓P Pn 18 57 10.9 +1.5
SNY S **Sn 19 00 22.5 +2.0**
SNY pmax pmax
comp=Z,480nm,6.7s
SNY LR LR
comp=N,1μm,10.2s
SNY LR LR
comp=E,1μm,9.1s
SNY LR LR
comp=Z,1μm,11.6s
UBT Ubonrachathani 17.21 181 P Pn 18 57 10.0 +0.2
NST Nakhon Sawan 17.45 197 P Pn 18 57 12.4 -0.4
comp=Z,70nm,1.0s
WMQ Urumqi 17.87 314 P Pn 18 57 18.6 +0.8
WMQ pP pP 18 57 22.2 +1.1
WMQ sP sP 18 57 25.6 +3.3
WMQ PP 18 57 33.4
WMQ S **Sn 19 00 35.7 -1.4**
WMQ PcP PcP 19 01 56.4 +2.2
WMQ pmax pmax
comp=Z,82nm,0.7s
WMQ pmax pmax
comp=Z,1μm,4.6s
WMQ LR LR
comp=N,1μm,18.2s
WMQ LR LR
comp=E,1μm,21.4s
WMQ LR LR
comp=Z,1μm,28.0s
ZAK Zakamensk 17.91 356 eP Pn 18 57 18.9 +0.6
ZAK pmax pmax
comp=Z,38nm,1.1s
INCN Inchon 18.08 68 ePn Pn 18 57 20.7 +0.2
comp=Z,50nm,0.8s
CAL Calcutta 18.09 241 ex Pn 18 57 25.2 +4.5
CAL ex x 19 02 40.4
KSAR Wonju Array Be 19.06 69 P Pn 18 57 32.0 -0.4
KSAR Wonju Array Be 19.06 69 P Pn 18 57 32.1 -0.3
KSRS Korea Array 19.09 69 P Pn 18 57 32.0 -0.8
comp=Z,6.7nm,0.3s,baz=252,slow=11,SNR=234
KSRS LR LR 19 04 44.5
comp=Z,423nm,21.6s,baz=263,slow=37
KSRS Korea Array 19.09 69 P Pn 18 57 32.1 -0.7
KSRS pmax pmax
comp=Z,7.0nm,0.3s
KSRS MLR MLR
comp=Z,423nm,21.6s
TLY Talaya 19.18 357 eP Pn 18 57 34.2 +0.4
comp=Z,52nm,1.0s
TLY Talaya 19.18 357 eP Pn 18 57 34.4 +0.6
TLY pmax pmax
comp=Z,49nm,1.0s
TLY MLR MLR
comp=Z,215nm,9.0s
CN2 Changchun 19.32 49 eP Pn 18 57 34.6 -1.0
CN2 epP pP 18 57 38.3 +1.2
CN2 esP sP 18 57 40.7 +2.4
CN2 eS **Sn 19 01 05.2 -7.0**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
MOY Mondy 19.39 352 eP Pn 18 57 36.9 +0.6
MOY pmax pmax
comp=Z,143nm,2.6s
IRK Irkutsk 19.72 358 ⇑iP Pn 18 57 40.9 +0.7
IRK pmax pmax
comp=Z,241nm,0.9s
CIT Chita 20.37 15 eP P 18 57 47.1 +1.3
CIT e 18 58 16.0
CIT pmax pmax
comp=Z,300nm,1.7s
HVS Khovu-Aksy 20.48 339 c iP P 18 57 49.0 +1.9
HVS MLR MLR
comp=Z,6μm,23.0s,MS4.9
NNT Nongplab 20.51 196 P P 18 57 49.3 +1.6
JOW Kunigami 20.66 100 P P 18 57 50.1 +0.9
comp=Z,101nm,0.8s,baz=322,slow=2.6,SNR=18
JOW LR LR 19 05 32.8
comp=Z,707nm,19.1s,MS4.0,baz=125,slow=36
JOW Kunigami 20.66 100 eP P 18 57 47.2 -2.1
comp=Z,56nm,0.9s
JNU Nakatsue 21.42 81 eP P 18 57 57.0 -0.3
comp=Z,22nm,0.9s,mb4.5
PTH Pithoragarh 21.76 269 ePKP P 18 58 01.2 +0.1
ALBI Allahabad 21.83 257 ex P 18 58 00.0 -1.9
MDJ Mudanjiang 22.35 50 P P 18 58 08.0 +0.8
MDJ S **S 19 02 03.2 -10**
MDJ ScP ScP 19 05 38.8 -1.3
MDJ pmax pmax
comp=Z,60nm,1.1s,mb4.9
MDJ pmax pmax
comp=Z,290nm,5.0s
MDJ LR LR
comp=N,790nm,11.8s
MDJ LR LR
comp=E,850nm,9.7s
MDJ LR LR
comp=Z,1μm,11.1s,MS4.6
MK31 Makanchi Array 22.68 316 eP P 18 58 11.0 +0.3
MK31 Makanchi Array 22.68 316 eP P 18 58 11.1 +0.4
MK31 pmax pmax
comp=Z,257nm,1.0s,mb5.6
MKAR Makanchi Array 22.68 316 P P 18 58 11.1 +0.5
comp=Z,86nm,0.7s,mb5.3,baz=114,slow=13,SNR=246
MKAR LR LR 19 08 28.5
comp=Z,398nm,19.0s,MS3.9,baz=127,slow=41
MKAR Makanchi Array 22.68 316 P P 18 58 11.1 +0.5
MKAR Makanchi Array 22.68 316 P P 18 58 11.1 +0.4
TGY Tagaytay City 23.19 139 P P 18 58 17.7 +1.4
comp=Z,85nm,0.3s,mb5.6,baz=150,slow=11,SNR=5.4
TGY Tagaytay City 23.19 139 P P 18 58 17.7 +1.4
TGY Tagaytay City 23.19 139 P P 18 58 17.7 +1.4
VLA Vladivostok 23.36 55 ⇓iP P 18 58 16.9 -1.1
VLA e 18 58 41.1
VLA e 19 02 03.2
VLA eS **S 19 02 28.7 -1.9**
VLA pmax pmax
comp=Z,58nm,1.0s,mb5.0
DDI Dehra Dun 23.41 272 ePKP P 18 58 17.5 -1.1
DDI ex x 19 00 21.5
ASOR Ausora 24.03 268 ePKP P 18 58 23.7 -0.8
ASOR AMb AMB 18 58 37.3
comp=Z,201nm,0.2s,mb6.2
SDNR Sundarnagar 24.09 275 ePKP P 18 58 26.3 +1.3
AGRA Agra 24.34 265 ePKP P 18 58 27.1 -0.3
AGRA AMb AMB 18 58 37.8
comp=Z,179nm,1.1s,mb5.4
NDI New Delhi 24.52 268 ex P 18 58 25.0 -3.9
NDI ex x 19 02 55.0
KKR Kurukshetra 24.53 272 ePKP P 18 58 29.4 +0.4
KKR AMb AMB 18 58 34.3
comp=Z,191nm,0.8s,mb5.7
BHK Bhakra 24.57 275 ePKP P 18 58 30.0 +0.6
AYAN Aya Nagar 24.65 268 ex P 18 58 26.8 -3.4
AYAN AMb AMB 18 58 40.4
comp=Z,73nm,0.8s,mb5.2
KSH Kashi 24.72 295 P P 18 58 34.6 +3.9
KSH pP 18 58 38.9
KSH sP sP 18 58 41.4 +6.8
KSH PP 18 59 12.5
KSH S **S 19 02 56.6 +3.9**
KSH SS 19 03 57.3
KSH ScP ScP 19 05 46.5 0.0
KSH PcS PcS 19 05 48.7 +1.2
KSH ScS ScS 19 09 34.7 +0.3
KSH pmax pmax
comp=Z,120nm,0.9s,mb5.4
KSH LR LR
comp=N,970nm,11.9s
KSH LR LR
comp=E,740nm,8.8s
KSH LR LR
comp=Z,1μm,14.3s,MS4.5
BHGR Bahadurgarh 24.75 269 ePKP P 18 58 31.2 +0.1
BHGR AMb AMB 18 58 34.8
comp=Z,213nm,0.3s,mb6.2
ULHL Ulahol 25.01 301 P P 18 58 34.9 +1.7
SNR=44
ULHL P 18 58 34.9
SNR=44
KUDL Kundal 25.29 268 ePKP P 18 58 35.6 -0.3
KUDL AMb AMB 18 58 51.0
comp=Z,98nm,1.1s,mb5.2
SNG Songkhla 25.61 191 P P 18 58 38.0 -0.9
comp=Z,180nm,0.7s,mb5.7
TKM2 Tokmak 2 25.63 302 P P 18 58 40.2 +1.3
SNR=71
TKM2 P 18 58 40.2
SNR=71
TKM2 Tokmak 2 25.63 302 ⇑eP P 18 58 39.9 +1.1
comp=Z,69nm,0.8s,mb5.2
TKM2 LR LR
comp=Z,879nm,20.0s,MS4.3
TKM2 Tokmak 2 25.63 302 ⇑eP P 18 58 39.9 +1.0
TKM2 pmax pmax
comp=Z,69nm,0.8s,mb5.2
TKM2 MLR MLR
comp=Z,879nm,20.0s,MS4.3
KZA Kyzart 25.69 300 P P 18 58 41.8 +2.3
SNR=127
KZA P 18 58 41.8
SNR=127
KLR Kul'dur 25.80 42 eP P 18 58 35.8 -4.6
KLR e 19 03 12.5
KLR pmax pmax
comp=E,90nm,1.6s
KLR pmax pmax
comp=Z,200nm,1.6s,mb5.4
KLR MLR MLR
comp=N,3μm,11.0s,MS5.1
KLR MLR MLR
comp=E,2μm,11.0s,MS5.1
KLR MLR MLR
comp=Z,8μm,11.0s,MS5.5
KHET Khetri 25.88 268 ePKP P 18 58 41.4 +0.1
KHET AMb AMB 18 58 48.2
comp=Z,103nm,1.0s,mb5.3
ZAA0 Zalesovo Array 25.95 332 ⇑iP P 18 58 41.5 -0.2
ZALV Zalesovo Beam 25.95 332 P P 18 58 41.8 +0.1
comp=Z,69nm,0.8s,mb5.2,baz=130,slow=9.3,SNR=161
ZALV LR LR 19 09 44.2
comp=Z,304nm,19.1s,MS3.9,baz=324,slow=38
ZALV Zalesovo Beam 25.95 332 P P 18 58 41.8 +0.1
ZALV Zalesovo Beam 25.95 332 P P 18 58 41.8 +0.1
NGP Nagpur 26.02 251 ePKP P 18 58 42.7 +0.1
NGP ex x 18 58 49.0
comp=Z,172nm,1.2s
NGP ex x 19 03 18.6
KBK Karagaybulak 26.03 302 P P 18 58 44.3 +1.7
SNR=67
KBK P 18 58 44.3
SNR=67
CHMS Chumysh 26.25 302 P P 18 58 45.2 +0.7
SNR=29
CHMS P 18 58 45.2
SNR=29
UCH Uchtor 26.26 300 P P 18 58 46.9 +2.3
SNR=11
UCH P 18 58 46.9
SNR=11
FRU Bishkek 26.31 302 eP P 18 58 44.0 -1.0
FRU e 18 59 39.0
FRU pmax pmax
comp=Z,100nm,1.6s,mb5.1
BHPL Bhopal 26.33 257 ePKP P 18 58 47.1 +1.7
BHPL AMb AMB 18 58 51.4
comp=Z,123nm,1.0s,mb5.4
AAK Ala-Archa 26.35 301 P P 18 58 46.8 +1.4
SNR=32
AAK P 18 58 46.8
SNR=32
AAK Ala-Archa 26.35 301 P P 18 58 46.0 +0.6
comp=Z,379nm,1.0s,mb5.9,SNR=31
AAK Ala-Archa 26.35 301 eP P 18 58 45.8 +0.3
comp=Z,283nm,1.0s,mb5.8
AAK LR LR
comp=Z,1μm,20.0s,MS4.5
AAK Ala-Archa 26.35 301 c iP P 18 58 46.6 +1.2
AAK pmax pmax
comp=Z,142nm,1.3s,mb5.3
AAK MLR MLR
comp=Z,2μm,16.0s,MS4.7
AAK Ala-Archa 26.35 301 P P 18 58 46.6 +1.2
comp=Z,4μmcomp=Z,210nm,1.2s,mb5.5
AAK Ala-Archa 26.35 301 P P 18 58 46.6 +1.2
SNR=45
USP Ospenovka 26.49 303 P P 18 58 47.6 +1.0
SNR=130
USP P 18 58 47.6
SNR=130
KURK Kurchatov 26.80 321 P P 18 58 49.6 +0.2
comp=Z,94nm,0.9s,mb5.3,baz=130,slow=8.8,SNR=389
KURK PcP PcP 19 02 11.2 -0.8
comp=Z,14nm,0.7s,baz=116,slow=2.2,SNR=11
KURK Kurchatov 26.80 321 P P 18 58 49.6 +0.2
KURK PcP PcP 19 02 11.2 -0.8
KURK LR LR
comp=Z,851nm,21.0s,MS4.3
KURK Kurchatov 26.80 321 P P 18 58 49.5 +0.1
comp=Z,646nm,1.4s,mb6.0
KURK Kurchatov 26.80 321 c iP P 18 58 49.6 +0.2
KURK pmax pmax
comp=Z,137nm,1.0s,mb5.4
KURK MLR MLR
comp=Z,341nm,19.0s,MS3.9
KURK Kurchatov 26.80 321 P P 18 58 49.9 +0.5
SNR=63
AML Almayashu 26.84 300 P P 18 58 51.9 +2.1
SNR=30
AML P 18 58 51.9
SNR=30
EKS2 Erkin-Say 26.88 301 P P 18 58 51.5 +1.4
SNR=29
EKS2 P 18 58 51.5
SNR=29
EKS2 Erkin-Say 26.88 301 eP P 18 58 51.2 +1.0
comp=Z,31nm,0.8s,mb4.9
EKS2 LR LR
comp=Z,827nm,20.0s,MS4.3
EKS2 Erkin-Say 26.88 301 eP P 18 58 51.2 +1.0
EKS2 pmax pmax
comp=Z,31nm,0.8s,mb4.9
EKS2 MLR MLR
comp=Z,827nm,20.0s,MS4.3
NIL Nilore 26.90 281 PFAKE 18 59 00.0 +10
NIL LR LR
comp=Z,163nm,21.0s,MS3.6
NVS Novosibirsk 27.24 332 ⇑iP P 18 58 52.8 -0.5
NVS pmax pmax
comp=Z,72nm,1.5s,mb5.0
NVS pmax pmax
comp=N,43nm,1.8s
NVS pmax pmax
comp=E,51nm,1.8s
MAJO Matsushiro 27.25 72 eP P 18 58 51.1 -2.5
comp=E,19nm,1.0s,mb4.6
MAJO LR LR
comp=Z,414nm,21.0s,MS4.0
MAJO Matsushiro 27.25 72 eP P 18 58 51.2 -2.4
MAJO pmax pmax
comp=Z,19nm,1.0s,mb4.6
MAJO MLR MLR
comp=Z,414nm,21.0s,MS4.0
MAT Matsushiro 27.25 72 P P 18 58 51.6 -2.0
MAT eS **S 19 03 34.0 +1.1**
MJAR Matsushiro Arr 27.25 72 P P 18 58 52.2 -1.5
comp=Z,4.4nm,0.6s,mb4.1,baz=272,slow=10,SNR=15
MJAR Matsushiro Arr 27.25 72 P P 18 58 52.2 -1.5
MJAR Matsushiro Arr 27.25 72 P P 18 58 52.2 -1.4
AJM Ajmer 27.37 265 ex P 18 58 53.0 -1.8
HABR Khabarovsk 27.38 46 eP P 18 58 56.6 +2.0
HABR ePPP 18 59 43.9
HABR eS **S 19 03 32.5 -2.2**
HABR eSS 19 04 41.4
HABR e 19 09 43.6
HABR pmax pmax
comp=E,33nm,1.0s
HABR pmax pmax
comp=Z,49nm,1.3s,mb4.9
HABR pmax pmax
comp=N,28nm,1.7s
HABR MLR MLR
comp=Z,449nm,14.0s,MS4.2
KULM Kulim 27.46 190 P P 18 58 55.7 +0.1
KULM Kulim 27.46 190 eP P 18 58 54.7 -0.9
comp=Z,36nm,1.0s,mb4.8
KULM Kulim 27.46 190 P P 18 58 55.8 +0.2
comp=Z,940nmcomp=Z,40nm,0.8s,mb5.0
KDM Kudat 27.62 155 P P 18 58 58.1 +1.1

CLNS Chul'man 27.78 23 *e*P **P** **18 58 58.8 +0.7**
CLNS *e**PP pP 18 59 08.9 +8.0
CLNS *e* 18 59 49.7
CLNS *e* 19 02 10.3
CLNS *e*S **S** **19 03 44.9 +4.1**
CLNS *e*SS 19 05 03.1
CLNS *e* 19 09 39.8
CLNS pmax pmax
comp=Z,13nm,0.9s,mb4.6
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS smax
comp=N,300nm,12.9s
CLNS smax
comp=E,157nm,13.1s
CLNS MLR MLR
comp=Z,878nm,12.0s,MS4.6
CLNS MLR MLR
comp=N,646nm,12.0s,MS4.5
CLNS MLR MLR
comp=E,665nm,14.0s,MS4.5
IPM Ipoh 28.20 189 P **P** **18 59 01.6 -0.6**
IPM Ipoh 28.20 189 *e*P **P** **18 59 00.8 -1.4**
comp=E,62nm,1.0s,mb5.2
IPM Ipoh 28.20 189 P **P** **18 59 01.3 -0.9**
comp=E,52nm,1.2s,mb5.0
KKM Kota Kinabalu 28.22 157 *e*P **P** **18 59 02.0 -0.4**
comp=E,102nm,1.2s,mb5.3
KKM LR LR
comp=Z,490nm,22.0s,MS4.1
KKM Kota Kinabalu 28.22 157 P **P** **18 59 03.2 +0.8**
comp=Z,106nm,1.1s,mb5.4
HYB Hyderabad 28.50 245 *i* P **P** **18 59 04.0 -0.9**
SDKM Sandakan 28.93 155 P **P** **18 59 09.4 +0.6**
KK31 Karatay Array 29.32 301 *i* P **P** **18 59 12.4 +0.5**
KK31 pmax pmax
comp=Z,54nm,1.1s,mb5.2
KKAR Karatay Array 29.32 301 *e*P **P** **18 59 12.1 +0.1**
comp=Z,0.5nm,0.4s
KKAR Karatay Array 29.32 301 *e*P **P** **18 59 12.1 +0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
TSI Tuntungan 29.58 194 P **P** **18 59 15.0 +0.5**
comp=Z,4µmcomp=Z,540nm,0.8s,mb6.3
MYLDM Lahad Datu 29.84 153 P **P** **18 59 18.9 +2.1**
MYLDM Lahad Datu 29.84 153 P **P** **18 59 18.7 +1.9**
comp=Z,171nm,1.1s,mb5.7
BTM Bintulu 30.05 165 P **P** **18 59 19.7 +1.1**
TPTI 30.12 197 P **P** **18 59 19.7 +0.5**
comp=Z,420nm,1.6s,mb5.9
PSI Prapat 30.19 193 P **P** **18 59 20.0 +0.1**
comp=Z,939nmcomp=Z,118nm,0.9s,mb5.6
KBL Kabul 30.27 284 *e*P **P** **18 59 20.5 +0.1**
comp=Z,49nm,1.0s,mb5.2
KBL *e*PcP PcP 19 02 20.7 -0.3
KBL Kabul 30.27 284 *e*P **P** **18 59 20.5 +0.1**
KBL *e* 19 02 20.7
KBL pmax pmax
comp=Z,49nm,1.0s,mb5.2
KGM Kluang 30.41 184 P **P** **18 59 22.3 +0.4**
TSM Tawau 30.42 155 P **P** **18 59 21.8 -0.1**
SBUM Sibu 30.60 167 P **P** **18 59 25.0 +1.5**
SBUM Sibu 30.60 167 P **P** **18 59 24.8 +1.3**
comp=Z,86nm,1.1s,mb5.5
MYKOM Kota Tinggi 30.61 183 P **P** **18 59 24.4 +0.8**
MYKOM Kota Tinggi 30.61 183 P **P** **18 59 24.2 +0.6**
comp=Z,69nm,0.9s,mb5.5
ASAJ Asahikawa 31.15 57 P **P** **18 59 27.4 -0.8**
comp=Z,7.0nm,0.5s,mb4.8,baz=75,slow=20,SNR=17
ASAJ Asahikawa 31.15 57 P **P** **18 59 27.4 -0.8**
ASAJ Asahikawa 31.15 57 P **P** **18 59 27.4 -0.7**
ASAJ pmax pmax
comp=Z,7.0nm,0.5s
KSM Kuching 31.23 170 PFAKE 18 59 40.0 +11
KSM LR LR
comp=Z,587nm,20.0s,MS4.2
ERM Erimo 31.30 61 PFAKE 18 59 40.0 +11
ERM LR LR
comp=Z,495nm,19.0s,MS4.2
DAV Davao City (W) 31.53 139 P **P** **18 59 33.3 +1.6**
comp=Z,92nm,0.4s,mb6.0,baz=60,slow=14,SNR=4.9
DAV Davao City (W) 31.53 139 P **P** **18 59 33.3 +1.6**
POO Poona 31.56 252 *ex* **P** **18 59 29.9 -2.1**
YSS Yuzh-Sakhalins 31.81 52 *e*P **P** **18 59 32.7 -1.2**
comp=Z,63nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 31.81 52 *e*P **P** **18 59 32.7 -1.2**
YSS *e* pP 18 59 36.0 -0.7
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.2
YSS MLR MLR
comp=Z,500nm,13.0s,MS4.4
YSS MLR MLR
comp=N,900nm,15.0s
KAD Karad 31.96 249 *e*PKP **P** **18 59 35.4 -0.1**
KAD AMb AMB 18 59 41.9
comp=Z,26nm,1.3s,mb4.9
MNSI Mandailing Nat 32.03 191 P **P** **18 59 33.6 -2.6**
comp=Z,50nm,0.8s,mb5.4
CBIJ Chichi jima 32.27 90 LR LR 19 12 24.4
comp=Z,272nm,19.6s,MS4.0,baz=158,slow=36
BKNI Bangkinang 32.29 188 P **P** **18 59 39.1 +0.7**
BKNI Bangkinang 32.29 188 P **P** **18 59 39.1 +0.7**
comp=Z,1µmcomp=Z,148nm,1.0s,mb5.8
BVAR Borovoye Array 32.39 320 P **P** **18 59 39.3 +0.4**
comp=Z,24nm,0.9s,mb5.0,baz=119,slow=9.6,SNR=104
BVAR PcP PcP 19 02 25.6 -0.7
comp=Z,13nm,0.7s,baz=134,slow=2.9,SNR=12
BVAR LR LR 19 14 14.5
comp=Z,529nm,19.4s,MS4.2,baz=209,slow=39
BVAR Borovoye Array 32.39 320 P **P** **18 59 39.3 +0.4**
BVAR PcP PcP 19 02 25.6 -0.7
BVAR Borovoye Array 32.39 320 P **P** **18 59 39.3 +0.4**
BVAR 19 02 25.6
BRVK Borovoye 32.46 320 P **P** **18 59 40.1 +0.6**
comp=Z,237nm,0.9s,mb6.0,SNR=41
BRVK Borovoye 32.46 320 *e*P **P** **18 59 39.9 +0.4**
comp=Z,24nm,0.6s,mb5.2
BRVK *e*PcP PcP 19 02 25.3 -1.1
BRVK LR LR
comp=Z,828nm,21.0s,MS4.4
BRVK Borovoye 32.46 320 *e*P **P** **18 59 39.9 +0.4**
BRVK *e* 19 02 25.3
BRVK pmax pmax
comp=Z,24nm,0.6s,mb5.2
BRVK MLR MLR
comp=Z,828nm,21.0s,MS4.4
BRVK Borovoye 32.46 320 P **P** **18 59 40.4 +0.9**
SNR=16
STKI Sintang 32.80 169 P **P** **18 59 44.4 +1.6**
comp=Z,66nm,1.2s,mb5.4
PPI Padang Panjang 33.14 189 P **P** **18 59 44.3 -1.6**
comp=Z,18nm,1.0s,mb5.0
YAK Yakutsk 33.39 21 *e*P **P** **18 59 46.9 -0.7**
comp=Z,62nm,0.7s,mb5.6
YAK *e*PcP PcP 19 02 27.9 -1.0
YAK Yakutsk 33.39 21 *e*P **P** **18 59 46.7 -0.9**
YAK *e**PP pP 18 59 56.6 +6.2
YAK *e* 19 00 53.6
YAK *e*PPP 19 01 09.6
YAK *e* 19 02 27.5
YAK *e*S **S** **19 05 07.4 -1.0**
YAK *e*SS SS 19 07 14.7 -17
YAK *e*SSS 19 07 30.5
YAK *e* 19 10 08.6
YAK pmax pmax
comp=Z,63nm,1.1s,mb5.5
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=E,18nm,1.4s
YAK pmax pmax
comp=E,88nm,2.0s
YAK pmax pmax
comp=Z,88nm,3.5s
YAK pmax pmax
comp=N,73nm,2.2s
YAK smax
comp=N,325nm,6.9s
YAK smax
comp=E,77nm,3.2s
YAK MLR MLR
comp=E,402nm,13.0s,MS4.7
YAK MLR MLR
comp=Z,1µm,13.0s,MS4.7
YAK MLR MLR
comp=N,745nm,12.0s,MS4.7
PDSI Padang 33.58 189 P **P** **18 59 47.6 -2.1**
comp=N,42nm,0.9s,mb5.3
PPBI Pangkal Pinang 34.51 179 P **P** **18 59 58.8 +1.1**
comp=N,900nmcomp=N,81nm,1.2s,mb5.5
SMKI Samarinda 34.64 159 P **P** **19 00 00.9 +2.0**
comp=N,4µmcomp=N,166nm,1.0s,mb5.9
MRSI Marisa 35.49 151 P **P** **19 00 07.1 +0.8**
comp=N,875nmcomp=N,100nm,0.8s,mb5.8
PBKI Pangkalan Bun 35.54 169 P **P** **19 00 08.7 +2.1**
comp=N,237nm,1.1s,mb6.0
GTOI Gorontalo 35.81 149 P **P** **19 00 09.1 +0.1**
comp=N,2µmcomp=N,141nm,0.9s,mb5.9
KSI Kapahiang 36.08 185 P **P** **19 00 11.1 -0.1**
comp=N,102nm,0.7s,mb5.8
MDSI Maura Dua 36.83 182 P **P** **19 00 17.3 -0.3**
comp=N,940nmcomp=N,94nm,0.8s,mb5.7
BBKI Banjar Baru 36.90 164 P **P** **19 00 19.2 +0.9**
comp=N,3µmcomp=N,144nm,1.2s,mb5.7
KBKI Kotabaru 37.07 162 P **P** **19 00 20.0 +0.3**
comp=N,1µmcomp=N,139nm,0.9s,mb5.8
KLI Kotabumi 37.19 181 P **P** **19 00 21.8 +1.1**
comp=N,2µmcomp=N,144nm,1.1s,mb5.7
LUWI Luwuk 37.21 150 P **P** **19 00 21.2 +0.3**
comp=N,3µmcomp=N,246nm,1.2s,mb5.9
LWLI Liwa 37.36 182 P **P** **19 00 21.6 -0.6**
comp=N,1µmcomp=N,132nm,0.9s,mb5.8
AB31 Akbulak array 37.57 310 P **P** **19 00 24.1 +0.4**
AB31 pmax pmax
comp=Z,72nm,1.0s,mb5.4
ABKAR Akbulak array 37.57 310 *e*P **P** **19 00 24.2 +0.6**
comp=Z,51nm,0.9s,mb5.2
ABKAR *e*PcP PcP 19 02 39.9 -1.6
BLSI Bandar Lampung 37.69 180 P **P** **19 00 25.4 +0.5**
comp=Z,1µmcomp=Z,94nm,1.0s,mb5.5
TTSI Tana Toraja 37.93 156 P **P** **19 00 27.7 +0.7**
comp=Z,1µmcomp=Z,122nm,1.2s,mb5.5
ABKT Ailbek 38.66 292 P **P** **19 00 34.1 +1.1**
comp=Z,502nm,1.1s,mb6.2,SNR=50
SPSI Sidrap Palu 38.77 157 P **P** **19 00 34.2 +0.1**
comp=Z,1µmcomp=Z,137nm,1.2s,mb5.5
AKTO Aktyubinsk 38.99 312 P **P** **19 00 36.2 +0.6**
comp=Z,38nm,0.7s,mb5.2,baz=92,slow=8.9,SNR=113
AKTO LR LR 19 17 55.3
comp=Z,738nm,20.9s,MS4.5,baz=103,slow=38
AKTO Aktyubinsk 38.99 312 P **P** **19 00 36.2 +0.6**
AKTO Aktyubinsk 38.99 312 P **P** **19 00 36.3 +0.7**
SVE Sverdlovsk 39.03 322 *d i*P **P** **19 00 36.7 +0.9**
SVE *e*S **S** **19 06 42.6 +7.8**
SVE pmax pmax
comp=Z,107nm,1.0s,mb5.5
LEM Lembang 39.19 176 P **P** **19 00 39.4 +1.8**
comp=Z,2µmcomp=Z,152nm,0.9s,mb5.7
KAPI Kappang 39.75 157 P **P** **19 00 41.6 -0.7**
comp=Z,135nm,0.9s,mb5.7,baz=345,slow=6.8,SNR=15
KAPI LR LR 19 16 57.4
comp=Z,251nm,21.5s,MS4.0,baz=66,slow=36
KAPI Kappang 39.75 157 P **P** **19 00 41.6 -0.7**
KAPI Kappang 39.75 157 P **P** **19 00 41.6 -0.7**
KAPI Kappang 39.75 157 P **P** **19 00 42.1 -0.2**
SNR=6.1
BJII Banjamegara 39.85 173 P **P** **19 00 45.1 +2.0**
ARU Arti 40.00 321 *e*P **P** **19 00 43.7 -0.2**
comp=Z,140nm,0.9s,mb5.7
ARU Arti 40.00 321 *c i*P **P** **19 00 44.2 +0.3**
ARU *e* 19 02 17.1
ARU *e*PPP 19 02 41.2
ARU S **S** **19 06 52.0 +2.7**
ARU SS SS 19 09 42.1 -3.9
ARU pmax pmax
comp=Z,162nm,1.0s,mb5.7
ARU Arti 40.00 321 P **P** **19 00 44.8 +0.9**
comp=Z,864nm,1.0s,mb6.4,SNR=71
SOKR Solikamsk 41.84 325 *c i*P **P** **19 00 59.7 +0.6**
SOKR pmax pmax
comp=Z,180nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,300nm,16.0s,MS4.3
PETK Petropavlovsk- 42.41 45 P **P** **19 01 03.1 -0.7**
comp=Z,10nm,0.9s,mb4.5,baz=224,slow=4.1,SNR=9.4
PETK Petropavlovsk- 42.41 45 P **P** **19 01 03.1 -0.7**
PETK Petropavlovsk- 42.41 45 P **P** **19 01 03.1 -0.7**
PET Petropavlovsk 42.97 45 PFAKE 19 01 20.0 +12
PET LR LR
comp=Z,447nm,19.0s,MS4.4
PET Petropavlovsk 42.97 45 *e*P **P** **19 01 05.6 -2.8**
PET *e*S **S** **19 07 24.2 -9.3**
PET MLR MLR
comp=Z,500nm,18.0s,MS4.5
BSY Bisya 43.48 270 P **P** **19 01 14.1 +1.3**
SNR=6.7
ASHO Ashiyiah 43.70 273 P **P** **19 01 16.0 +1.4**
SNR=14
ASUD Al Ashush, Dub 44.33 273 P **P** **19 01 21.6 +1.9**
SNR=6.4
COCO West Island 45.21 192 *e*P **P** **19 01 27.6 +0.9**
comp=Z,157nm,1.0s,mb5.8
COCO West Island 45.21 192 *e*P **P** **19 01 27.6 +0.9**
COCO pmax pmax
comp=Z,157nm,1.0s,mb5.8
MAK Makhachkala 46.13 300 *e*P **P** **19 01 31.2 -2.5**
MAK *e*S **S** **19 08 16.9 -2.7**
MAK *e*SS SS 19 11 33.1 -11
MAK *e*SSS 19 12 40.2
MAK pmax pmax
comp=Z,147nm,1.5s,mb5.7
DGRG David-gareji 47.91 299 P **P** **19 01 47.3 -0.4**
MTA Mtatsminda 48.30 299 P **P** **19 01 51.3 +0.6**
TBLG Delisi 48.34 299 *e*P **P** **19 01 52.3 +1.3**
TBLG Delisi 48.34 299 P **P** **19 01 52.3 +1.3**
GNI Garni 48.62 297 *e*P **P** **19 01 54.4 +1.2**
comp=Z,76nm,1.1s,mb5.6
GNI LR LR
comp=Z,310nm,20.0s,MS4.3
GNI Garni 48.62 297 *e*P **P** **19 01 54.4 +1.2**
GNI pmax pmax
comp=Z,76nm,1.1s
GNI MLR MLR
comp=Z,310nm,20.0s
GOR Gori 48.76 300 P **P** **19 01 53.4 -0.8**
UMR Umm Al-Rimmam 48.99 283 *e*P **P** **19 01 55.8 -0.4**
UMR AMb AMB 19 01 56.5
comp=Z,67nm,1.1s,mb5.6
KBD Kabd 49.13 282 *e*P **P** **19 01 56.9 -0.4**
KBD AMb AMB 19 01 58.1
comp=Z,37nm,0.9s,mb5.4
ONI Oni 49.13 300 P **P** **19 01 57.3 +0.2**
MIB Mutribah 49.22 283 *e*P **P** **19 01 57.5 -0.4**
MIB AMb AMB 19 02 01.2
comp=Z,108nm,1.7s,mb5.6
AKH Akhalkalaki 49.31 299 P **P** **19 02 00.1 +1.6**
BILL Bilibino 49.42 26 *e*P **P** **19 01 57.5 -1.4**
comp=Z,111nm,1.6s,mb5.6
BILL LR LR
comp=Z,293nm,22.0s,MS4.2
BILL Bilibino 49.42 26⇑ *e*P **P** **19 01 58.4 -0.5**
BILL pmax pmax
comp=Z,53nm,1.7s,mb5.3
BILL MLR MLR
comp=Z,700nm,15.0s,MS4.8
KIV Kislovodsk 49.47 302 *e*P **P** **19 01 59.3 -0.3**
comp=Z,109nm,1.3s,mb5.7
KIV LR LR
comp=Z,356nm,19.0s,MS4.4
KIV Kislovodsk 49.47 302 *c i*P **P** **19 02 00.0 +0.4**
KIV *e* 19 03 20.3
KIV *e*S **S** **19 09 08.1 +1.1**
KIV pmax pmax
comp=Z,54nm,1.0s,mb5.5
KIV pmax pmax
comp=Z,136nm,4.9s
KIV MLR MLR
comp=Z,263nm,17.0s,MS4.3
KIV Kislovodsk 49.47 302 P **P** **19 02 01.1 +1.5**
SNR=12
KIV Kislovodsk 49.47 302 P **P** **19 02 00.3 +0.7**
comp=Z,313nm,0.7s,mb6.5,SNR=9.9
NAY Al-Naaiem 49.48 282 *e*P **P** **19 01 59.4 -0.6**
NAY AMb AMB 19 02 00.6
comp=Z,94nm,0.9s,mb5.8
DGAR Diego Garcia 50.61 224 *e*P **P** **19 02 06.5 -2.1**
comp=Z,58nm,0.9s,mb5.5
DGAR Diego Garcia 50.61 224 *e*P **P** **19 02 06.5 -2.1**
DGAR pmax pmax
comp=Z,58nm,0.9s,mb5.5
VSR Storozhevoye 50.93 312 *c i*P **P** **19 02 10.3 -0.3**
VSR pmax pmax
comp=Z,110nm,1.2s,mb5.7
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,100nm,1.0s
MOS Moscow 51.53 318 *e*P **P** **19 02 14.1 -0.9**
MOS *e*S **S** **19 09 33.1 -2.2**
MOS pmax pmax
comp=Z,169nm,0.8s,mb6.0
SOC Sochi 51.65 302 *e*P **P** **19 02 17.6 +1.5**
SOC MLR MLR
comp=Z,200nm,11.0s,MS4.4
OBN Obninsk 52.17 317 *e*P **P** **19 02 19.1 -0.7**
comp=Z,88nm,1.0s,mb5.6
OBN Obninsk 52.17 317 *c i*P **P** **19 02 19.4 -0.4**
OBN *e**PP pP 19 02 23.0 +0.3
OBN *e* 19 04 19.2
OBN pmax pmax
comp=Z,91nm,1.0s,mb5.7
OBN MLR MLR
comp=Z,500nm,21.0s,MS4.5
OBN Obninsk 52.17 317 P **P** **19 02 19.4 -0.4**
comp=Z,449nm,1.1s,mb6.3,SNR=7.7
ANN Anapa 53.02 304 *e*P **P** **19 02 25.5 -0.8**
ANN *e**PP pP 19 02 28.6 -0.6
ANN *e* 19 03 33.7
ANN *e* 19 04 24.0
ANN *e*S **S** **19 09 57.1 +1.0**
ANN pmax pmax
comp=Z,84nm,1.2s,mb5.5
RAYN Ar Rayn 53.03 276 P **P** **19 02 25.5 -1.2**
comp=Z,48nm,1.6s,mb5.2,SNR=7.6
LVZ Lovozero 53.07 333 *e*P **P** **19 02 25.6 -0.7**
comp=Z,66nm,0.9s,mb5.6
LVZ Lovozero 53.07 333 *ce*P **P** **19 02 25.8 -0.5**
LVZ pmax pmax
comp=Z,73nm,1.0s,mb5.6
LVZ Lovozero 53.07 333 P **P** **19 02 26.5 +0.2**
comp=Z,418nm,1.1s,mb6.3,SNR=8.4
APA Apatity 53.53 333⇑ *i*P **P** **19 02 29.8 +0.1**
APA *i* 19 02 43.7
APA pmax pmax
comp=Z,33nm,0.9s,mb5.3
APA MLR MLR
comp=Z,1µm,20.0s,MS4.9
MALT Malatya 53.81 296 PFAKE 19 02 40.0 +7.8
MALT LR LR
comp=Z,635nm,19.0s,MS4.7
FITZ Fitzroy Crossi 53.95 156 P **P** **19 02 32.8 -0.5**
comp=Z,37nm,0.9s,mb5.3,baz=5.0,slow=7.2,SNR=8.0
FITZ Fitzroy Crossi 53.95 156 *e*P **P** **19 02 32.8 -0.4**
comp=Z,64nm,1.0s,mb5.5
FITZ Fitzroy Crossi 53.95 156 P **P** **19 02 32.8 -0.5**
JOF Joensuu 54.42 327 *e*P **P** **19 02 36.3 +0.1**
JOF pmax pmax
comp=Z,49nm,0.8s,mb5.5
JOF Joensuu 54.42 327 *ep* **P** **19 02 36.3 +0.1**
comp=Z,49nm,0.8s,mb5.5
MBWA Marble Bar 55.12 164 *e*P **P** **19 02 41.0 -0.8**
MBWA LR LR
comp=Z,511nm,19.0s,MS4.6
PUL Pulkovo 55.13 323⇑ *e*P **P** **19 02 42.3 +0.8**
PUL pmax pmax
comp=Z,235nm,1.0s,mb6.2
SIM Simferopol' 55.29 305 P **P** **19 02 42.4 -0.5**
SIM S **S** **19 10 18.0 -8.8**
SIM pmax pmax
comp=Z,43nm,0.8s,mb5.5
KEV Kevo 55.88 336 *e*P **P** **19 02 46.1 -0.6**
comp=Z,45nm,0.8s,mb5.5
KEV Kevo 55.88 336 *e*P **P** **19 02 46.1 -0.6**
KEV pmax pmax
comp=Z,45nm,0.8s,mb5.5
KEV Kevo 55.88 336 *ep* **P** **19 02 45.7 -1.0**
comp=Z,44nm,0.7s,mb5.6
ARCES ARCESS Array B 56.42 335 P **P** **19 02 50.0 -0.5**
comp=Z,46nm,0.9s,mb5.5,baz=67,slow=6.7,SNR=45
ARCES ARCESS Array B 56.42 335 P **P** **19 02 50.0 -0.5**
ARCES ARCESS Array B 56.42 335 P **P** **19 02 50.0 -0.5**
ARE0 ARCESS Array S 56.42 335 *e*P **P** **19 02 50.0 -0.5**
ARE0 ARCESS Array S 56.42 335 *e*P **P** **19 02 48.9 -1.6**
KAF Kangasniemi 56.80 327 *e*P **P** **19 02 51.5 -1.9**
KAF pmax pmax
comp=Z,18nm,0.7s,mb5.2
KAF Kangasniemi 56.80 327 *ep* **P** **19 02 51.5 -1.9**
comp=Z,18nm,0.7s,mb5.2
ASF Jabal al Asfar 56.89 290 P **P** **19 02 55.7 +1.2**
ASF Jabal al Asfar 56.89 290 P **P** **19 02 55.7 +1.2**
ASF Jabal al Asfar 56.89 290 P **P** **19 02 55.7 +1.2**
BR131 Keskin Array S 57.00 299 *e*P **P** **19 02 54.7 -0.4**
comp=Z,19nm,0.9s,mb5.1
BR131 *e*PP PP 19 04 59.4 -2.2
BRTR Keskin Array B 57.00 299 P **P** **19 02 55.0 -0.1**
comp=Z,21nm,0.9s,mb5.2,baz=99,slow=7.2,SNR=73
BRTR LR LR 19 29 52.8
comp=Z,141nm,20.8s,MS4.0,baz=229,slow=39
BRTR Keskin Array B 57.00 299 P **P** **19 02 55.0 -0.1**
BRTR Keskin Array B 57.00 299 P **P** **19 02 55.0 -0.1**
FINES FINESS Array B 57.00 326 P **P** **19 02 54.7 -0.1**
comp=Z,87nm,1.0s,mb5.8,baz=90,slow=9.5,SNR=66
FINES LR LR 19 29 25.2
comp=Z,378nm,18.6s,MS4.5,baz=324,slow=38
FINES FINESS Array B 57.00 326 P **P** **19 02 54.7 -0.1**
FINES FINESS Array B 57.00 326 P **P** **19 02 54.7 -0.1**
VSU Vasula 57.14 322 *c i*P **P** **19 02 55.8 0.0**
VSU pmax pmax
comp=Z,147nm,1.4s,mb5.8
AKASG Malin Array Be 57.22 313 P **P** **19 02 56.0 -0.5**
comp=Z,54nm,0.6s,mb5.8,baz=67,slow=7.4,SNR=82
AKASG LR LR 19 29 03.7
comp=Z,436nm,19.5s,MS4.6,baz=65,slow=38
AKASG Malin Array Be 57.22 313 P **P** **19 02 56.0 -0.5**
AKASG Malin Array Be 57.22 313 P **P** **19 02 56.0 -0.5**
AKBB Malin Array Si 57.22 313⇑ *i*P **P** **19 02 55.8 -0.7**
AKBB Malin Array Si 57.22 313⇑ *i*P **P** **19 02 55.8 -0.7**
KIEV Kiev 57.23 313 *e*P **P** **19 02 55.7 -0.9**
comp=Z,70nm,1.0s,mb5.6
KIEV Kiev 57.23 313 *e*P **P** **19 02 55.7 -0.9**
KIEV pmax pmax
comp=Z,70nm,1.0s,mb5.7
MICGM Minsk 57.23 317 *e* **P** **19 02 56.0 -0.5**
MNK Minsk 57.26 317 *e*P **P** **19 02 56.0 -0.7**
KTK1 Kautokeino 57.27 335 *e*P **P** **19 02 56.5 -0.1**
PMG Port Moresby 57.67 129 P **P** **19 03 00.1 0.0**
comp=Z,64nm,1.0s,mb5.6,baz=356,slow=5.9,SNR=15
PMG Port Moresby 57.67 129⇑ *e*P **P** **19 02 59.2 -0.9**
PMG LR LR
comp=Z,360nm,19.0s,MS4.5
PMG Port Moresby 57.67 129 P **P** **19 03 00.1 0.0**
PMG pmax pmax
comp=Z,64nm,1.0s
NACGM Naroch 57.78 318 *e*P **P** **19 02 58.0 -2.4**
MMAI Mount Meron Ar 57.79 291 P **P** **19 03 01.7 +0.9**
MMAI Mount Meron Ar 57.79 291 P **P** **19 03 01.7 +0.9**
IZAR Zarasai 57.90 319 *e*P **P** **19 03 01.5 +0.3**
IZAR AMB AMB 19 03 05.0
comp=Z,20nm,1.1s,mb5.1
IIGN Ignalina 58.00 319 *e*P **P** **19 03 02.1 +0.2**
IIGN AMB AMB 19 03 06.8
comp=Z,39nm,0.9s,mb5.4
ISAL Salakas 58.01 319 *e*P **P** **19 03 02.2 +0.2**
ISAL AMB AMB 19 03 06.8
comp=Z,25nm,0.9s,mb5.2
SPA0 Spitsbergen Ar 58.22 346 *e*P **P** **19 03 03.9 +0.8**
SPITS Spitsbergen Ar 58.22 346 P **P** **19 03 03.0 -0.2**
comp=Z,35nm,0.9s,mb5.4,baz=96,slow=7.0,SNR=4.3
SPITS Spitsbergen Ar 58.22 346 P **P** **19 03 03.0 -0.2**
SPITS Spitsbergen Ar 58.22 346 P **P** **19 03 03.0 -0.2**
SPB4 Spitsbergen Ar 58.23 346 *e*P **P** **19 03 02.9 -0.3**
KIS Kishinev 58.37 309 *e*P **P** **19 03 03.0 -1.7**
KIS Kishinev 58.37 309 *e*P **P** **19 03 03.0 -1.7**
COEN Coen 58.67 136⇑ *i*P **P** **19 03 06.7 -0.3**
comp=Z,440nm,0.9s,mb6.5
TRO Tromso 58.70 336 *e*P **P** **19 03 07.8 +1.2**
CSS Prodhromos 58.74 294 PFAKE 19 03 20.0 +13
CSS LR LR
comp=Z,346nm,20.0s,MS4.5
LEOM Leova 58.89 308 P **P** **19 03 08.5 +0.2**
WRAB Tennant Creek 59.07 148⇑ *i*P **P** **19 03 09.2 -0.5**
WRAB *e*S **S** **19 11 12.7 -4.1**
WRAB LR LR
comp=Z,289nm,19.0s,MS4.4
WRAB Tennant Creek 59.07 148 P **P** **19 03 09.0 -0.7**

comp=Z,1µm,0.7s,SNR=26
WRAB Tennant Creek 59.07 148⇑ *i*P P 19 03 09.2 -0.5
WRAB *e*S S 19 11 12.7 -4.1
WRAB MLR MLR
comp=Z,289nm,19.0s,MS4.4
WRA Warramunga Arr 59.07 148 P **P 19 03 09.4 -0.3**
comp=Z,101nm,0.8s,mb5.9,baz=340,slow=7.5,SNR=81
WRA Warramunga Arr 59.07 148 P **P 19 03 09.4 -0.3**
WRA Warramunga Arr 59.07 148 P **P 19 03 09.4 -0.3**
IAS Iasi 59.15 309 P **P 19 03 14.0 +0.1**
TIRR Tirgusor 59.35 306⇑ *i*P P 19 03 11.0 -0.5
comp=Z,24nm,0.9s,mb5.2
TIRR Tirgusor 59.35 306⇑ *i*P P 19 03 11.0 -0.5
TIRR pmax pmax
comp=Z,24nm,0.9s,mb5.2
TIRR Tirgusor 59.35 306⇓ *i*P P 19 03 11.7 +0.2
PSN Preselentsi 59.73 305 P **P 19 03 15.0 +0.8**
TESR 59.94 308⇑ *i*P P 19 03 15.3 -0.2
SUW Suwalki 60.03 318 *e*P **P 19 03 15.4 -0.6**
SUW Suwalki 60.03 318⇑ *e*P P 19 03 14.8 -1.2
comp=Z,102nm,0.9s,mb5.9
SUW *e*PP PP 19 05 22.4 -5.7
SUW Suwalki 60.03 318⇑ *e*P P 19 03 14.8 -1.2
SUW pmax pmax
comp=Z,102nm,0.9s,mb5.8
AMRR Amara 60.04 306 P **P 19 03 17.4 +1.1**
VRI Vrincioaia 60.08 308 P **P 19 03 17.5 +1.0**
VRI Vrincioaia 60.08 308⇑ *i*P P 19 03 17.3 +0.8
PLOR Plostina 60.13 308 P **P 19 03 17.9 +1.0**
PLOR Plostina 60.13 308⇓ *i*P P 19 03 17.8 +0.9
STEI Steigen 60.35 334 *e*P **P 19 03 17.9 -0.2**
ISR Istrita 60.42 307⇓ P **P 19 03 20.6 +1.7**
ISR Istrita 60.42 307⇓ *i*P P 19 03 20.6 +1.7
BURAR Bucovina Array 60.55 310⇓ P **P 19 03 19.8 +0.1**
BURAR Bucovina Array 60.55 310⇓ *i*P P 19 03 19.8 +0.1
BUR08 Bucovina Ar. S 60.56 310⇑ *i*P P 19 03 19.6 -0.1
BUR08 *e*PP PP 19 05 25.6 -7.3
LVV L'vov 60.67 313 *e*P **P 19 03 20.2 -0.3**
MLR Muntele Rosu 60.71 308 P **P 19 03 21.1 +0.2**
comp=Z,6.8nm,0.8s,mb4.8,baz=20,slow=4.5,SNR=27
MLR Muntele Rosu 60.71 308 P **P 19 03 21.1 +0.2**
MLR Muntele Rosu 60.71 308⇑ P **P 19 03 21.6 +0.8**
MLR Muntele Rosu 60.71 308⇑ *i*P P 19 03 21.6 +0.8
ATD Arta Tunnel 60.79 265 P **P 19 03 23.1 +1.3**
comp=Z,25nm,0.9s,mb5.3,baz=306,slow=6.7,SNR=7.7
ATD Arta Tunnel 60.79 265 P **P 19 03 23.1 +1.3**
DOPR Dopca 60.94 308⇑ *i*P P 19 03 22.9 +0.5
JMB Yambol 61.23 304 P **P 19 03 25.3 +0.9**
JMB Yambol 61.23 304 *i* P **P 19 03 25.0 +0.6**
VOIR 61.33 308⇑ P **P 19 03 25.5 +0.5**
VOIR 61.33 308⇑ *i*P P 19 03 25.5 +0.5
KWP Kalwaria Pacla 61.54 313 *e*P **P 19 03 27.0 +0.6**
KWP Kalwaria Pacla 61.54 313⇑ *i*P P 19 03 26.7 +0.3
comp=Z,228nm,0.9s,mb6.3
KWP Kalwaria Pacla 61.54 313⇑ *i*P P 19 03 26.7 +0.3
KWP pmax pmax
comp=Z,228nm,0.9s,mb6.3
KWP Kalwaria Pacla 61.54 313 *i*P **P 19 03 26.9 +0.5**
BMR Baia Mare 61.65 311 P **P 19 03 28.2 +1.1**
HUMR Humele 61.66 307⇓ *i*P P 19 03 27.3 0.0
KOLS Kolonicke sedl 62.03 312 *e*P **P 19 03 29.8 +0.1**
KOLS pmax pmax
comp=Z,19nm,1.0s,mb5.2
KOLS Kolonicke sedl 62.03 312 *e*P **P 19 03 29.8 +0.1**
BEL Belsk 62.03 316 *e*P **P 19 03 29.7 +0.1**
BEL Belsk 62.03 316 *e*P **P 19 03 29.7 0.0**
UZH Uzhgorod 62.11 312⇓ *i*P P 19 03 29.5 -0.8
UZH *e* 19 03 36.3
UZH *i* 19 04 11.1
TRPA Tarpa 62.11 311⇓ *i*P P 19 03 30.9 +0.6
ALN Alexandroupoli 62.13 303 P **P 19 03 30.3 -0.2**
ASAR Alice Springs 62.16 150 P **P 19 03 30.8 0.0**
comp=Z,62nm,0.8s,mb5.8,baz=331,slow=6.2,SNR=76
ASAR PKP2ab 19 32 58.7
comp=Z,0.7nm,0.9s,baz=143,slow=4.6,SNR=4.0
ASAR Alice Springs 62.16 150 P **P 19 03 30.8 0.0**
ASAR P'P'ab 19 32 58.7
ASAR Alice Springs 62.16 150 P **P 19 03 30.8 0.0**
LOT Lotru 62.18 308⇑ *i*P P 19 03 31.2 +0.4
KDZ Kurdzhali 62.32 304 P **P 19 03 32.0 +0.2**
DRGR 62.43 310 P **P 19 03 33.2 +0.7**
DRGR 62.43 310⇑ *i*P P 19 03 33.1 +0.6
STHS Stebnicka Huta 62.52 313 *e*P **P 19 03 33.6 +0.7**
STHS pmax pmax
comp=Z,19nm,0.8s,mb5.3
STHS Stebnicka Huta 62.52 313 *e*P **P 19 03 33.6 +0.7**
CRVS Cervenica-Dubn 62.55 312 *e*P **P 19 03 33.1 -0.1**
CRVS pmax pmax
comp=Z,11nm,1.1s,mb4.9
CRVS Cervenica-Dubn 62.55 312 *e*P **P 19 03 33.1 -0.1**
GZR Gura Zlata 62.86 308⇑ *i*P P 19 03 35.8 +0.5
NIE Niedzica 63.09 313 *e*P **P 19 03 37.5 +0.7**
NIE Niedzica 63.09 313 *e*P **P 19 03 37.5 +0.7**
OJC Ojcow 63.14 314 *e*P **P 19 03 37.2 +0.1**
OJC Ojcow 63.14 314 *e*P **P 19 03 37.2 +0.1**
KECS Kecovo 63.29 312 *e*P **P 19 03 38.5 +0.4**
KECS pmax pmax
comp=Z,12nm,0.9s,mb5.0
KECS Kecovo 63.29 312 *e*P **P 19 03 38.5 +0.4**
VTS Vitosha 63.53 305 P **P 19 03 40.3 +0.5**
VTS Vitosha 63.53 305⇑ P **P 19 03 40.4 +0.6**
VTS Vitosha 63.53 305 *i* P **P 19 03 40.3 +0.5**
VTS Vitosha 63.53 305⇑ *i*P P 19 03 40.4 +0.6
BZS Buzias 63.55 309 P **P 19 03 40.0 +0.1**
BZS Buzias 63.55 309⇓ *i*P P 19 03 39.8 -0.1
GKP Gorka Klasztor 63.63 318 *e*P **P 19 03 40.2 -0.1**
GKP Gorka Klasztor 63.63 318 *e*P **P 19 03 40.2 -0.1**
PSZ Piszkesteto 63.86 312 *e*P **P 19 03 41.7 -0.2**
comp=Z,35nm,1.3s,mb5.2
PSZ Piszkesteto 63.86 312 *e*P **P 19 03 41.7 -0.2**
PSZ pmax pmax
comp=Z,35nm,1.3s,mb5.2
PSZ Piszkesteto 63.86 312⇓ *e*P **P 19 03 42.4 +0.5**
PSZ Piszkesteto 63.86 312⇓ *i*P P 19 03 42.4 +0.5
KKB Krupnik 63.88 304 P **P 19 03 41.9 -0.2**
LIKS Likavka 63.96 313 *e*P **P 19 03 43.5 +1.0**
LIKS Likavka 63.96 313 *e*P **P 19 03 43.5 +1.0**
NC602 NORSAR Array S 64.01 327 *e*P **P 19 03 39.6 -3.1**
NB2 NORSAR Subarra 64.05 327 P **P 19 03 41.8 -1.1**
comp=Z,28nm,0.8s,mb5.3,baz=71,slow=6.9
NOA NORSAR Array B 64.05 327 P **P 19 03 41.7 -1.2**
comp=Z,26nm,0.8s,mb5.3,baz=70,slow=6.6,SNR=41
NOA PP PP 19 06 02.9 -0.5
comp=Z,4.7nm,0.9s,baz=74,slow=8.3,SNR=4.3
NOA LR LR 19 33 10.6
comp=Z,219nm,18.5s,MS4.4,baz=300,slow=38
NOA NORSAR Array B 64.05 327 P **P 19 03 41.7 -1.2**
NOA PP PP 19 06 02.9 -0.5
PLG Polygyros 64.17 303 P **P 19 03 43.5 -0.6**
KNT Kendrikon 64.27 304 P **P 19 03 44.0 -0.7**
OKC Ostrava-Krasne 64.27 314⇑ *i*P P 19 03 44.7 +0.1
OKC Ostrava-Krasne 64.27 314⇑ *i*P P 19 03 44.7 +0.1
NAO01 NORSAR Array S 64.27 327 *e*P **P 19 03 42.5 -1.9**
comp=Z,13nm,0.8s,mb5.0
BSD Bornholm Skovb 64.28 320 *i* P **P 19 03 43.1 -1.4**
BSD pmax pmax
comp=Z,28nm,0.8s,mb5.3
BSD Bornholm Skovb 64.28 320 *i* P **P 19 03 43.1 -1.4**
comp=Z,28nm,0.8s,mb5.3
KOLL Kolacno 64.56 313 *e*P **P 19 03 47.1 +0.6**
KOLL Kolacno 64.56 313 *e*P **P 19 03 47.0 +0.5**
BUD Budapest 64.56 311⇑ *e*P P 19 03 45.9 -0.6
MORC Moravsky Berou 64.66 314⇑ *e*P P 19 03 47.0 -0.1
comp=Z,33nm,0.8s,mb5.4
MORC Moravsky Berou 64.66 314⇑ *e*P P 19 03 47.0 -0.1
MORC pmax pmax
comp=Z,33nm,0.8s,mb5.4
MORC Moravsky Berou 64.66 314⇑ *i*P P 19 03 47.7 +0.6
OSL Oslo 64.68 326 *e*P **P 19 03 50.8 +3.8**
GRG Griva 64.69 304 P **P 19 03 46.6 -0.9**
KLBR Kellerberrin 64.83 168 *e*P **P 19 03 48.2 -0.1**
comp=Z,32nm,0.8s,mb5.4
KSP Ksiaz 65.02 316 *e*P **P 19 03 49.8 +0.3**
KSP Ksiaz 65.02 316 *e*P **P 19 03 49.5 +0.1**
KSP Ksiaz 65.02 316⇑ *e*P P 19 03 49.5 +0.1
IDI Anoyia 65.05 297 *e*P **P 19 03 48.6 -1.3**
comp=Z,53nm,0.9s,mb5.6
DIVS Divibare 65.17 308 P **P 19 03 50.3 -0.2**
DPC Dobruska-Polom 65.19 315⇑ *i*P P 19 03 51.1 +0.6
DPC Dobruska-Polom 65.19 315⇑ *i*P P 19 03 51.1 +0.6
PKSM Moragy 65.27 310⇑ P **P 19 03 51.0 -0.2**
PKSM Moragy 65.27 310⇑ *i*P P 19 03 51.0 -0.2

CTA Charters Tower 65.31 137 P **P 19 03 51.2 -0.4**
comp=Z,20nm,0.9s,mb5.1,baz=323,slow=7.7,SNR=11
CTA Charters Tower 65.31 137 *e*P **P 19 03 51.2 -0.4**
comp=Z,16nm,0.9s,mb5.1
CTA Charters Tower 65.31 137 P **P 19 03 51.2 -0.4**
CTA Charters Tower 65.31 137 P **P 19 03 51.3 -0.3**
CTAO Charters Tower 65.31 137⇑ *e*P P 19 03 51.0 -0.6
comp=Z,74nm,1.5s,mb5.5
CTAO LR LR
comp=Z,268nm,19.0s,MS4.5
CTAO Charters Tower 65.31 137⇑ *e*P P 19 03 51.0 -0.6
CTAO pmax pmax
comp=Z,74nm,1.5s,mb5.5
CTAO MLR MLR
comp=Z,268nm,19.0s,MS4.5
UPC Upice 65.31 315⇑ *i*P P 19 03 51.6 +0.3
UPC Upice 65.31 315⇑ *i*P P 19 03 51.6 +0.3
COP Copenhagen 65.39 322 *e*P **P 19 03 51.8 0.0**
COP pmax pmax
comp=Z,55nm,0.9s,mb5.6
COP Copenhagen 65.39 322 *i* P **P 19 03 51.8 0.0**
comp=Z,55nm,0.9s,mb5.6
VRAC Vranov 65.41 314 P **P 19 03 52.3 +0.3**
comp=Z,14nm,0.6s,mb5.2,baz=109,slow=21,SNR=3.8
VRAC LR LR 19 34 18.6
comp=Z,235nm,19.5s,MS4.4,baz=50,slow=38
VRAC Vranov 65.41 314 P **P 19 03 52.3 +0.3**
VRAC Vranov 65.41 314⇓ P **P 19 03 52.9 +0.9**
VRAC Vranov 65.41 314⇓ *i*P P 19 03 52.9 +0.9
FNA Florina 65.47 304 P **P 19 03 50.5 -2.1**
AGG Agios Georgios 65.48 302 P **P 19 03 51.1 -1.5**
THL Klokotos Trika 65.49 302 P **P 19 03 50.9 -1.8**
ZST Bratislava 65.51 313 *e*P **P 19 03 52.9 +0.3**
ZST pmax pmax
comp=Z,18nm,1.2s,mb5.0
ZST Bratislava 65.51 313 *e*P **P 19 03 52.9 +0.3**
NEST Nestorio 65.85 304 P **P 19 03 53.8 -1.2**
RUE Ruedersdorf 65.87 318 *e*P **P 19 03 55.2 +0.3**
comp=Z,57nm,1.0s,mb5.6
EVR Evrytania 65.89 302 P **P 19 03 54.6 -0.7**
VLI Velíai 65.94 299 P **P 19 03 52.9 -2.7**
SOP Sopron 66.04 312⇓ *e*P **P 19 03 56.8 +0.7**
NWAO Narrogin (SRO) 66.06 169 P **P 19 03 56.8 +0.6**
comp=Z,42nm,0.8s,mb5.5,baz=357,slow=5.9,SNR=15
NWAO Narrogin (SRO) 66.06 169⇑ *e*P **P 19 03 55.7 -0.4**
comp=Z,68nm,1.2s,mb5.5
NWAO LR LR
comp=Z,471nm,20.0s,MS4.7
NWAO Narrogin (SRO) 66.06 169⇑ *e*P **P 19 03 55.7 -0.5**
NWAO pmax pmax
comp=Z,68nm,1.2s
NWAO MLR MLR
comp=Z,471nm,20.0s
TREC Trest 66.08 314⇑ *i*P P 19 03 56.6 +0.3
TREC Trest 66.08 314⇑ *i*P P 19 03 56.6 +0.3
PVCC Panska Ves 66.16 316⇑ *i*P P 19 03 57.1 +0.3
PVCC Panska Ves 66.16 316⇑ *i*P P 19 03 57.1 +0.3
TIR Tirane 66.31 305 PFAKE 19 04 10.0 +12
TIR LR LR
comp=Z,418nm,19.0s,MS4.7
CONA Conrad Observa 66.38 313 *i* P **P 19 03 58.7 +0.5**
comp=Z,36nm,1.3s,mb5.2,SNR=12
PRU Pruhonice 66.38 315⇑ *i*P P 19 03 58.4 +0.2
PRU Pruhonice 66.38 315⇑ *i*P P 19 03 58.4 +0.2
BRG Berggiesshubel 66.39 316 *e*P **P 19 03 58.1 -0.2**
comp=Z,25nm,1.0s,mb5.2
BRG *e* 19 06 18.6
BRG Berggiesshubel 66.39 316 *e*P **P 19 03 58.3 0.0**
comp=Z,25nm,1.0s,mb5.2
BRG Berggiesshubel 66.39 316 *e*P **P 19 03 58.1 -0.2**
BRG pmax pmax
comp=Z,25nm,1.0s,mb5.2
FORT Forrest 66.52 159 *e*P **P 19 03 59.3 +0.1**
comp=Z,47nm,0.7s,mb5.6
FORT Forrest 66.52 159⇑ *i*P P 19 03 59.0 -0.2
comp=Z,116nm,1.1s,mb5.8
KOGS Kog 66.71 311 *i* P **P 19 04 00.1 -0.3**
CLL Collm 66.77 317 *e*P **P 19 04 00.5 -0.2**
comp=Z,37nm,1.2s,mb5.3
CLL Collm 66.77 317 *i* P **P 19 04 00.4 -0.3**
CLL *i* pP 19 04 02.9 -0.7
CLL pmax pmax
comp=Z,37nm,1.2s,mb5.3
CLL Collm 66.77 317 *i* P **P 19 04 00.4 -0.3**
comp=Z,37nm,1.2s,mb5.3
CLL *e*PP PP 19 06 22.0 -5.3
MUD Monsted U'grnd 66.78 323 *i* P **P 19 04 00.4 -0.3**
MUD pmax pmax
comp=Z,49nm,1.0s,mb5.5
MUD Monsted U'grnd 66.78 323 *i* P **P 19 04 00.4 -0.3**
comp=Z,49nm,1.0s,mb5.5
ARSA Arzberg 66.85 312⇓ *i*P **P 19 04 01.1 -0.2**
comp=Z,18nm,1.1s,mb5.0,SNR=6.2
PPLA Purkeypile 66.89 29 *e*P **P 19 04 01.4 +0.1**
comp=Z,40nm,0.8s,mb5.5
SNART Snartemo 66.97 325 *e*P **P 19 04 01.7 -0.1**
KHC Kasperske Hory 67.30 315⇑ *e*P **P 19 04 04.0 -0.1**
comp=Z,8.6nm,0.8s,mb4.8
KHC Kasperske Hory 67.30 315⇑ *i*P P 19 04 04.0 -0.1
KHC *e* 19 04 29.0
KHC Kasperske Hory 67.30 315⇑ *i*P P 19 04 04.0 -0.1
KHC *ex* x 19 04 29.0
GEC2 GERESS Array S 67.34 314 *e*P **P 19 04 04.5 +0.1**
comp=Z,35nm,1.1s,mb5.3
GEC2 GERESS Array S 67.34 314 *e*P **P 19 04 04.5 +0.1**
GEC2 pmax pmax
comp=Z,35nm,1.1s,mb5.3
GERES GERESS Array B 67.34 314 P **P 19 04 04.5 +0.1**
comp=Z,29nm,1.1s,mb5.2,baz=72,slow=5.7,SNR=78
GERES GERESS Array B 67.34 314 P **P 19 04 04.5 +0.1**
GERES GERESS Array B 67.34 314 P **P 19 04 04.5 +0.1**
PERS Pernice 67.36 312 *i* P **P 19 04 04.4 -0.1**
SOKA Soboth 67.39 312⇓ *i*P **P 19 04 04.6 -0.1**
comp=Z,40nm,1.1s,mb5.4
MOA Molln 67.40 313 *i* P **P 19 04 05.0 +0.3**
comp=Z,28nm,1.0s,mb5.2,SNR=22
TANN Tannenbergstha 67.44 316 *e*P **P 19 04 05.1 +0.1**
comp=Z,36nm,1.2s,mb5.3
NKC Novy Kostel 67.52 316⇑ *i*P P 19 04 05.6 +0.1
NKC Novy Kostel 67.52 316⇑ *i*P P 19 04 05.6 +0.1
COLA College 67.67 26⇑ *e*P **P 19 04 05.2 -1.0**
comp=Z,53nm,1.1s,mb5.5
COLA College 67.67 26⇑ *e*P **P 19 04 05.2 -1.0**
COLA pmax pmax
comp=Z,53nm,1.1s,mb5.5
WET Wettzell 67.71 315 *e*P **P 19 04 06.9 +0.2**
comp=Z,23nm,1.2s,mb5.1
WET Wettzell 67.71 315 *e*P **P 19 04 06.9 +0.2**
WET pmax pmax
comp=Z,23nm,1.2s,mb5.1
BOJS Bojanci 67.73 311 *i* P **P 19 04 07.0 +0.1**
RSO Redoubt South 67.74 32 *e*P **P 19 04 07.0 +0.4**
comp=Z,58nm,0.8s,mb5.7
OBKA Obir 67.77 312⇑ *i*P P 19 04 06.9 -0.2
comp=Z,20nm,1.0s,mb5.1,SNR=6.6
MCK McKinley 67.81 28 *e*P **P 19 04 06.5 -0.6**
comp=Z,12nm,0.8s,mb5.0
MCK McKinley 67.81 28 *e*P **P 19 04 06.5 -0.6**
MCK pmax pmax
comp=Z,12nm,0.8s,mb5.0
MOX Moxa 67.84 317 *e*P **P 19 04 07.4 -0.1**
comp=Z,23nm,1.2s,mb5.1
MOX Moxa 67.84 317 *e*P **P 19 04 07.4 -0.1**
MOX pmax pmax
comp=Z,23nm,1.2s,mb5.1
ROTZ Rotzenmuhle 67.86 316 *e*P **P 19 04 08.0 +0.4**
comp=Z,50nm,1.2s,mb5.4
NRDL Niedersach Rie 67.92 319 *e*P **P 19 04 08.4 +0.4**
comp=Z,58nm,1.1s,mb5.5
LJU Ljubljana 67.97 311 *i* P **P 19 04 08.2 -0.2**
CLZ Clausthal 68.05 318 *e*P **P 19 04 09.1 +0.3**
comp=Z,56nm,1.0s,mb5.5
CLZ Clausthal 68.05 318 *e*P **P 19 04 09.1 +0.3**
CLZ pmax pmax
comp=Z,56nm,1.0s,mb5.5
ILAR Eielson Array 68.08 26 P **P 19 04 07.7 -1.1**
comp=Z,7.6nm,1.0s,mb4.7,baz=287,slow=6.0,SNR=13
ILAR Eielson Array 68.08 26 P **P 19 04 07.7 -1.1**
ILAR Eielson Array 68.08 26 P **P 19 04 07.7 -1.1**
CEY Cerknica 68.16 311⇑ *e*P **P 19 04 09.3 -0.3**
KBA Koelnbreinsper 68.28 313 *i* P **P 19 04 10.5 +0.2**
comp=Z,18nm,1.0s,mb5.0,SNR=12
RJOB Jochberg 68.35 313 *e*P **P 19 04 10.5 -0.2**
comp=Z,32nm,1.5s,mb5.1
VOY Vojsko 68.38 311 *e*P **P 19 04 10.1 -0.8**

VOY *e* 19 04 24.3
CADS Cadrg 68.39 312 *i* P **P 19 04 10.2 -0.9**
GRF Grafenberg Arr 68.47 316 *e*P **P 19 04 11.6 +0.2**
comp=Z,62nm,1.1s,mb5.5
GRF *e*L 19 34 57.4
comp=Z,200nm,21.3s
GRF Grafenberg Arr 68.47 316 *e*P **P 19 04 11.6 +0.2**
GRF pmax pmax
comp=Z,62nm,1.1s,mb5.5
GRF MLR MLR
comp=Z,200nm,21.3s,MS4.3
GRFO Grafenberg 68.47 316 *e*P **P 19 04 11.5 0.0**
comp=Z,48nm,1.0s,mb5.5
GRFO Grafenberg 68.47 316 *e*P **P 19 04 11.5 0.0**
GRFO pmax pmax
comp=Z,48nm,1.0s,mb5.5
TRI Trieste 68.59 311 PFAKE 19 04 20.0 +7.7
TRI LR LR
comp=Z,224nm,20.0s,MS4.4
PMR Palmer 68.77 30 *e*P **P 19 04 11.6 -1.5**
comp=Z,18nm,0.8s,mb5.0
PMR Palmer 68.77 30 *e*P **P 19 04 11.6 -1.5**
PMR pmax pmax
comp=Z,18nm,0.8s,mb5.0
SML Sawmill 68.99 29 *e*P **P 19 04 13.8 -0.7**
comp=Z,6.7nm,0.8s,mb4.6
SML Sawmill 68.99 29 *e*P **P 19 04 13.8 -0.7**
SML pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KDAK Kodiak Island 69.05 34 P **P 19 04 14.8 -0.1**
comp=Z,33nm,0.9s,mb5.3,baz=343,slow=4.8,SNR=6.7
KDAK Kodiak Island 69.05 34 P **P 19 04 14.8 -0.1**
KDAK Kodiak Island 69.05 34 *i* P **P 19 04 14.6 -0.3**
FUR Furstenfeldbru 69.09 314 *e*P **P 19 04 16.1 +0.8**
comp=Z,130nm,1.1s,mb5.8
FUR Furstenfeldbru 69.09 314 *e*P **P 19 04 16.1 +0.8**
FUR pmax pmax
comp=Z,130nm,1.1s,mb5.8
WTTA Wattenberg 69.26 313⇑ *i*P P 19 04 16.3 -0.1
comp=Z,63nm,1.1s,mb5.5,SNR=16
WATA Walderalm 69.26 313⇑ *i*P P 19 04 16.1 -0.3
comp=Z,33nm,1.1s,mb5.2,SNR=11
IBBN Ibbenburen 69.30 319 *e*P **P 19 04 16.6 0.0**
comp=Z,45nm,1.1s,mb5.3
TIP Timpagrande 69.37 304⇑ *i*P P 19 04 16.6 -0.6
comp=Z,31nm,0.9s,mb5.2
TIP LR LR
comp=Z,313nm,19.0s,MS4.6
MOTA Moosalm 69.55 314⇑ *i*P P 19 04 17.9 -0.3
comp=Z,42nm,1.1s,mb5.3,SNR=14
CUC Castrocucco 69.67 305 *e*P **P 19 04 18.2 -0.9**
comp=Z,22nm,0.8s,mb5.1
CUC LR LR
comp=Z,231nm,22.0s,MS4.4
MRIV Mauritius Mete 69.69 228 *e*P **P 19 04 16.8 -2.5**
TNS Taunus Mts 69.85 317 *e*P **P 19 04 19.9 -0.1**
comp=Z,17nm,1.1s,mb4.9
TNS Taunus Mts 69.85 317 *e*P **P 19 04 19.9 -0.1**
TNS pmax pmax
comp=Z,17nm,1.1s,mb4.9
FETA Feichten 69.92 313 *i* P **P 19 04 20.2 -0.3**
comp=Z,42nm,1.0s,mb5.3,SNR=24
BUG Bochum--Univer 69.96 319 *e*P **P 19 04 20.8 +0.1**
comp=Z,46nm,1.1s,mb5.3
AQU L'Aquila 70.28 308 *e*P **P 19 04 23.0 +0.2**
comp=Z,54nm,0.9s,mb5.5
AQU LR LR
comp=Z,340nm,20.0s,MS4.6
AQU L'Aquila 70.28 308 *e*P **P 19 04 23.0 +0.2**
AQU pmax pmax
comp=Z,54nm,0.9s,mb5.5
AQU MLR MLR
comp=Z,340nm,20.0s,MS4.6
CEL Celeste 70.38 303 P **P 19 04 22.8 -0.7**
comp=Z,47nm,0.8s,mb5.5
CEL LR LR
comp=Z,254nm,20.0s,MS4.5
TARA Tarawa 70.41 101 PFAKE 19 04 40.0 +16
TARA LR LR
comp=Z,731nm,22.0s,MS4.9
INK Inuvik 70.45 20 P **P 19 04 22.8 -0.6**
comp=Z,13nm,0.8s,mb4.9,baz=328,slow=7.3,SNR=20
INK Inuvik 70.45 20 *e*P **P 19 04 22.0 -1.4**
comp=Z,19nm,1.0s,mb5.0
INK Inuvik 70.45 20 P **P 19 04 22.8 -0.6**
INK pmax pmax
comp=Z,13nm,0.8s
DAVOX Davos/Dischmat 70.55 313 P **P 19 04 24.4 0.0**
comp=Z,33nm,0.8s,mb5.3,baz=86,slow=5.3,SNR=25
DAVOX LR LR 19 38 34.2
comp=Z,400nm,21.3s,MS4.6,baz=257,slow=39
DAVOX Davos/Dischmat 70.55 313 P **P 19 04 24.4 0.0**
DAVOX Davos/Dischmat 70.55 313 P **P 19 04 24.4 0.0**
SCO Scoresbysund 70.62 344 *i* P **P 19 04 24.1 -0.3**
SCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SCO Scoresbysund 70.62 344 *i* P **P 19 04 24.1 -0.3**
comp=Z,5.1nm,0.8s,mb4.5
BFO Black Forest 70.78 315 *e*P **P 19 04 25.4 -0.3**
comp=Z,40nm,1.3s,mb5.2
BFO Black Forest 70.78 315 P **P 19 04 25.8 +0.1**
comp=Z,119nm,1.1s,mb5.7,SNR=7.5
BFO Black Forest 70.78 315 *e*P **P 19 04 24.4 -1.3**
comp=Z,23nm,1.0s,mb5.1
BFO Black Forest 70.78 315 *e*P **P 19 04 25.4 -0.3**
BFO pmax pmax
comp=Z,40nm,1.3s,mb5.2
BMRM Bremner River 70.96 29 *e*P **P 19 04 26.1 -0.5**
comp=Z,50nm,0.9s,mb5.5
TUE Stuetta 71.02 313 *e*P **P 19 04 26.6 -0.6**
comp=Z,30nm,0.7s,mb5.3
TUE LR LR
comp=Z,382nm,21.0s,MS4.6
MEM Membach 71.05 318 P **P 19 04 27.6 +0.2**
BBOO Buckleboo 71.14 153 *e*P **P 19 04 26.7 -1.2**
comp=Z,1µm,1.2s,mb6.7
DAWY Dawson 71.19 25 *e*P **P 19 04 27.0 -1.0**
CDF Champ du Feu 71.36 316⇑ *i*P P 19 04 29.0 -0.3
comp=Z,107nm,1.3s,mb5.3
CDF Champ du Feu 71.36 316⇑ *i*P P 19 04 29.0 -0.3
comp=Z,107nm,1.3s,mb5.6
CDF Champ du Feu 71.36 316⇑ *i*P P 19 04 29.0 -0.3
CDF pmax pmax
comp=Z,107nm,1.3s,mb5.6
WLF Walferdange 71.42 317 P **P 19 04 30.0 +0.4**
comp=Z,62nm,1.3s,mb5.4
WLF Walferdange 71.42 317 *e*P **P 19 04 30.2 +0.6**
comp=Z,84nm,1.1s,mb5.6
WLF Walferdange 71.42 317 *e*P **P 19 04 30.0 +0.4**
comp=Z,79nm,1.0s,mb5.6
WLF LR LR
comp=Z,421nm,20.0s,MS4.7
WLF Walferdange 71.42 317 *e*P **P 19 04 30.0 +0.4**
WLF pmax pmax
comp=Z,79nm,1.0s,mb5.6
WLF MLR MLR
comp=Z,421nm,20.0s,MS4.7
ECH Echery 71.52 316 *e*P **P 19 04 29.1 -1.1**
comp=Z,23nm,1.0s,mb5.1
ECH Echery 71.52 316 *e*P **P 19 04 29.1 -1.1**
ECH pmax pmax
comp=Z,23nm,1.0s,mb5.1
ECH Echery 71.52 316 *e*P **P 19 04 30.0 -0.2**
BCLA Clavier 71.54 318 P **P 19 04 30.2 -0.1**
comp=Z,17nm,1.3s,mb4.8
MOF Molkenrain 71.71 315 *e*P **P 19 04 31.4 0.0**
HINF Hinteralfeld 71.89 315⇑ *i*P P 19 04 31.8 -0.7
comp=Z,76nm,1.2s,mb5.2
HINF Hinteralfeld 71.89 315⇑ *i*P P 19 04 31.8 -0.7
comp=Z,76nm,1.2s,mb5.5
HINF Hinteralfeld 71.89 315⇑ *i*P P 19 04 31.8 -0.7
HINF pmax pmax
comp=Z,76nm,1.2s,mb5.5
GIVF Givet 71.96 318 *e*P **P 19 04 32.7 -0.2**
comp=Z,63nm,1.0s,mb5.2
GIVF Givet 71.96 318 *e*P **P 19 04 32.7 -0.2**
comp=Z,63nm,1.0s,mb5.5
GIVF Givet 71.96 318 *e*P **P 19 04 32.7 -0.2**
GIVF pmax pmax
comp=Z,63nm,1.0s,mb5.5
SNF Seneffe 72.07 319 P **P 19 04 33.4 -0.1**
comp=Z,30nm,2.3s,mb4.8
DOU Dourbes 72.09 318 P **P 19 04 33.6 0.0**
comp=Z,19nm,2.7s,mb4.5
HAU Haudompre 72.10 316 *e*P **P 19 04 33.2 -0.5**
comp=Z,28nm,0.9s,mb4.9
HAU *e*R

comp=Z,418nm,21.0s
HAU Haudompre 72.10 316 *e*P **P 19 04 33.2 -0.5**
comp=Z,28nm,0.9s,mb5.2
HAU Haudompre 72.10 316 *e*P **P 19 04 33.2 -0.5**
HAU pmax pmax
comp=Z,28nm,0.9s,mb5.2
LOMF Lomont 72.13 315 *e*P **P 19 04 33.5 -0.4**
EIDS Eidsvold 72.19 137 *e*P **P 19 04 34.1 -0.3**
comp=Z,46nm,1.3s,mb5.2
PAGF Fort de Pagny 72.20 317⇑*i*P **P 19 04 34.3 0.0**
comp=Z,18nm,0.9s,mb4.7
THEF They Montfort 72.21 316 *e*P **P 19 04 34.2 -0.2**
RES Resolute Bay 72.22 6 P **P 19 04 34.2 +0.2**
comp=Z,22nm,0.9s,mb5.1,baz=348,slow=6.3,SNR=36
RES PKP2ab 19 32 09.7
comp=Z,2.4nm,0.8s,baz=145,slow=4.2,SNR=6.1
RES Resolute Bay 72.22 6 P **P 19 04 34.2 +0.2**
RES P'P'ab 19 32 09.7
RES Resolute Bay 72.22 6 P **P 19 04 34.2 +0.2**
SUMG Summit 72.25 349 *e*P **P 19 04 33.9 -0.3**
comp=Z,30nm,1.0s,mb5.2
SUMG Summit 72.25 349 *e*P **P 19 04 33.9 -0.3**
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG Summit 72.25 349 *i* P **P 19 04 34.4 +0.2**
comp=Z,21nm,0.9s,mb5.1
KMBO Kilima Mbogo 72.30 257 *e*P **P 19 04 35.7 +0.3**
comp=Z,17nm,0.9s,mb5.0
KMBO LR LR
comp=Z,176nm,21.0s,MS4.3
KMBO Kilima Mbogo 72.30 257 *e*P **P 19 04 35.7 +0.3**
KMBO pmax pmax
comp=Z,17nm,0.9s
KMBO MLR MLR
comp=Z,176nm,21.0s
KMBO Kilima Mbogo 72.30 257 P **P 19 04 36.4 +0.9**
SNR=7.4
BAIF Baives 72.33 318⇑*i*P **P 19 04 35.0 -0.1**
comp=Z,38nm,0.9s,mb5.0
BAIF Baives 72.33 318⇑*i*P **P 19 04 35.0 -0.1**
comp=Z,38nm,0.9s,mb5.3
BAIF Baives 72.33 318⇑*i*P **P 19 04 35.0 -0.1**
BAIF pmax pmax
comp=Z,38nm,0.9s,mb5.3
WDD Wield Dalam 72.44 302 PFAKE 19 04 50.0 +14
WDD LR LR
comp=Z,241nm,19.0s,MS4.5
MEZF Maizieres J'vi 72.62 317⇑*i*P **P 19 04 36.6 -0.2**
comp=Z,54nm,1.1s,mb5.1
MEZF Maizieres J'vi 72.62 317⇑*i*P **P 19 04 36.6 -0.2**
comp=Z,54nm,1.1s,mb5.4
STKA Stephens Creek 72.62 148 P **P 19 04 36.4 -0.5**
comp=Z,38nm,0.8s,mb5.4,baz=327,slow=6.8,SNR=30
STKA Stephens Creek 72.62 148 *e*P **P 19 04 36.2 -0.7**
comp=Z,28nm,0.8s,mb5.2
STKA Stephens Creek 72.62 148 P **P 19 04 36.4 -0.5**
STKA Stephens Creek 72.62 148 P **P 19 04 36.4 -0.5**
SFTF Sexfontaines 72.77 316⇑*i*P **P 19 04 37.2 -0.5**
comp=Z,62nm,0.8s,mb5.3
SFTF Sexfontaines 72.77 316⇑*i*P **P 19 04 37.2 -0.5**
comp=Z,62nm,0.8s,mb5.6
CABF La Chapelle 72.93 315 *e*P **P 19 04 38.3 -0.4**
comp=Z,79nm,1.1s,mb5.2
CABF La Chapelle 72.93 315 *e*P **P 19 04 38.3 -0.4**
comp=Z,79nm,1.1s,mb5.5
CABF La Chapelle 72.93 315 *e*P **P 19 04 38.3 -0.4**
CABF pmax pmax
comp=Z,79nm,1.1s,mb5.6
RSL Roselend 73.06 314 *e*P **P 19 04 39.5 0.0**
LPG La Plagne 73.07 313⇑*i*P **P 19 04 40.1 +0.5**
comp=Z,216nm,0.9s,mb5.8
LPG La Plagne 73.07 313⇑*i*P **P 19 04 40.1 +0.5**
comp=Z,216nm,0.9s,mb6.1
LPG La Plagne 73.07 313⇑*i*P **P 19 04 40.1 +0.5**
LPG pmax pmax
comp=Z,216nm,0.9s,mb6.1
LPL La Plagne 73.08 313⇑*i*P **P 19 04 40.1 +0.5**
comp=Z,193nm,0.9s,mb5.7
LPL La Plagne 73.08 313⇑*i*P **P 19 04 40.1 +0.5**
comp=Z,193nm,0.9s,mb6.0
LPL La Plagne 73.08 313⇑*i*P **P 19 04 40.1 +0.5**
LPL pmax pmax
comp=Z,193nm,0.9s,mb6.0
PGF Pioggiola 73.08 310⇑*i*P **P 19 04 39.8 +0.1**
comp=Z,194nm,1.1s,mb5.7
PGF Pioggiola 73.08 310⇑*i*P **P 19 04 39.8 +0.1**
comp=Z,194nm,1.1s,mb6.0
PGF Pioggiola 73.08 310⇑*i*P **P 19 04 39.8 +0.1**
PGF pmax pmax
comp=Z,194nm,1.1s,mb6.0
BNI Bardonecchia 73.34 313 *e*P **P 19 04 40.6 -0.5**
comp=Z,58nm,0.9s,mb5.5
BNI Bardonecchia 73.34 313 *e*P **P 19 04 40.6 -0.5**
BNI pmax pmax
comp=Z,58nm,0.9s,mb5.5
AUTN L'Aution 73.39 312 *e*P **P 19 04 41.7 +0.3**
MBDF Montbardon 73.44 313⇑*i*P **P 19 04 40.9 -0.8**
comp=Z,55nm,0.9s,mb5.2
MBDF Montbardon 73.44 313⇑*i*P **P 19 04 40.9 -0.8**
comp=Z,55nm,0.9s,mb5.5
MBDF Montbardon 73.44 313⇑*i*P **P 19 04 40.9 -0.8**
MBDF pmax pmax
comp=Z,55nm,0.9s,mb5.5
SBF Sospel 73.44 312⇑*i*P **P 19 04 41.5 -0.3**
comp=Z,133nm,0.8s,mb5.6
SBF Sospel 73.44 312⇑*i*P **P 19 04 41.5 -0.3**
comp=Z,133nm,0.8s,mb5.9
SBF Sospel 73.44 312⇑*i*P **P 19 04 41.5 -0.3**
SBF pmax pmax
comp=Z,133nm,0.8s,mb5.9
LUCF Luceram 73.49 312 *e*P **P 19 04 42.0 0.0**
TOUF Mont Tournerai 73.49 312 *e*P **P 19 04 42.0 -0.1**
LOR Lormes 73.93 316⇑*i*P **P 19 04 43.5 -1.1**
comp=Z,85nm,1.5s,mb5.2
LOR *e*R
comp=Z,226nm,20.5s
LOR Lormes 73.93 316⇑*i*P **P 19 04 43.5 -1.1**
comp=Z,85nm,1.5s,mb5.5
LOR Lormes 73.93 316⇑*i*P **P 19 04 43.5 -1.1**
LOR pmax pmax
comp=Z,85nm,1.5s,mb5.5
FRF La Foret Royal 74.09 312 *e*P **P 19 04 45.0 -0.6**
comp=Z,86nm,1.2s,mb5.2
FRF La Foret Royal 74.09 312 *e*P **P 19 04 45.0 -0.6**
comp=Z,86nm,1.2s,mb5.5
FRF La Foret Royal 74.09 312 *e*P **P 19 04 45.0 -0.6**
FRF pmax pmax
comp=Z,86nm,1.2s,mb5.6
SSF Saint Saulge 74.24 316⇑*i*P **P 19 04 45.7 -0.7**
comp=Z,33nm,1.0s,mb4.9
SSF Saint Saulge 74.24 316⇑*i*P **P 19 04 45.7 -0.7**
comp=Z,33nm,1.0s,mb5.2
SSF Saint Saulge 74.24 316⇑*i*P **P 19 04 45.7 -0.7**
SSF pmax pmax
comp=Z,33nm,1.0s,mb5.2
SMF Signal de Mont 74.26 315⇑*i*P **P 19 04 45.9 -0.6**
comp=Z,66nm,0.8s,mb5.3
SMF Signal de Mont 74.26 315⇑*i*P **P 19 04 45.9 -0.6**
comp=Z,66nm,0.8s,mb5.6
SMF Signal de Mont 74.26 315⇑*i*P **P 19 04 45.9 -0.6**
SMF pmax pmax
comp=Z,66nm,0.8s,mb5.6
LMR La Mourre 74.29 312⇑*i*P **P 19 04 46.4 -0.4**
LMR La Mourre 74.29 312⇑*i*P **P 19 04 46.4 -0.4**
LMR La Mourre 74.29 312⇑*i*P **P 19 04 46.4 -0.4**
AVF Avril sur Loir 74.47 316⇑*i*P **P 19 04 47.3 -0.4**
comp=Z,68nm,1.0s,mb5.2
AVF Avril sur Loir 74.47 316⇑*i*P **P 19 04 47.3 -0.4**
comp=Z,68nm,1.0s,mb5.5
AVF Avril sur Loir 74.47 316⇑*i*P **P 19 04 47.3 -0.4**
AVF pmax pmax
comp=Z,68nm,1.0s,mb5.5
SMRF Simiane la Rot 74.56 312⇑*i*P **P 19 04 48.4 +0.1**
comp=Z,53nm,1.2s,mb5.0
SMRF Simiane la Rot 74.56 312⇑*i*P **P 19 04 48.4 +0.1**
comp=Z,53nm,1.2s,mb5.3
HYF Humbligny 74.64 316 *e*P **P 19 04 48.6 -0.1**
HYF Humbligny 74.64 316 *e*P **P 19 04 48.6 -0.1**
VIVF Saint-Julien-l 74.67 314⇑*i*P **P 19 04 48.6 -0.3**
comp=Z,78nm,1.1s,mb5.2
VIVF Saint-Julien-l 74.67 314⇑*i*P **P 19 04 48.6 -0.3**
comp=Z,78nm,1.1s,mb5.5
VIVF Saint-Julien-l 74.67 314⇑*i*P **P 19 04 48.6 -0.3**
VIVF pmax pmax
comp=Z,78nm,1.1s,mb5.5
PLDF La Plantade 74.73 315 *e*P **P 19 04 49.3 0.0**
BGF Bois d'Agland 74.89 316 *e*P **P 19 04 49.7 -0.5**
comp=Z,59nm,1.2s,mb5.1
BGF Bois d'Agland 74.89 316 *e*P **P 19 04 49.7 -0.5**
comp=Z,59nm,1.2s,mb5.4
BGF Bois d'Agland 74.89 316 *e*P **P 19 04 49.7 -0.5**
BGF pmax pmax
comp=Z,59nm,1.2s,mb5.4
AGO Saint Agoulin 74.98 315 *e*P **P 19 04 50.9 +0.2**
PYM Petit Puy Mans 75.21 315 *e*P **P 19 04 52.4 +0.3**
TCF Toulx Ste Croi 75.41 316⇑*i*P **P 19 04 52.9 -0.3**
comp=Z,56nm,1.1s,mb5.1
TCF Toulx Ste Croi 75.41 316⇑*i*P **P 19 04 52.9 -0.3**
comp=Z,56nm,1.1s,mb5.4
TCF Toulx Ste Croi 75.41 316⇑*i*P **P 19 04 52.9 -0.3**
TCF pmax pmax
comp=Z,56nm,1.1s,mb5.4
LDF La Druitiere 75.51 319⇑*i*P **P 19 04 54.1 +0.4**
comp=Z,13nm,0.7s,mb4.7
LDF La Druitiere 75.51 319⇑*i*P **P 19 04 54.1 +0.4**
comp=Z,13nm,0.7s,mb5.0
LDF La Druitiere 75.51 319⇑*i*P **P 19 04 54.1 +0.4**
LDF pmax pmax
comp=Z,13nm,0.7s,mb5.0
LASF Ste Croix 75.57 313⇑*i*P **P 19 04 54.1 0.0**
comp=Z,68nm,0.9s,mb5.3
LASF Ste Croix 75.57 313⇑*i*P **P 19 04 54.1 0.0**
comp=Z,68nm,0.9s,mb5.6
SKAG Skagway 75.58 27 *e*P **P 19 04 52.7 -1.1**
comp=Z,34nm,0.9s,mb5.3
FLN La Foliniere 75.62 319 *e*P **P 19 04 53.9 -0.4**
comp=Z,92nm,1.2s,mb5.3
FLN *e*R
comp=Z,455nm,20.8s
FLN La Foliniere 75.62 319 *e*P **P 19 04 53.9 -0.4**
comp=Z,92nm,1.2s,mb5.6
FLN La Foliniere 75.62 319 *e*P **P 19 04 53.9 -0.4**
FLN pmax pmax
comp=Z,93nm,1.2s,mb5.6
ABPO Ambohimpanom 75.62 236 *e*P **P 19 04 53.3 -1.4**
ABPO Ambohimpanom 75.62 236 *e*P **P 19 04 53.3 -1.4**
GRR Gorron 76.03 319⇑*i*P **P 19 04 56.4 -0.3**
comp=Z,50nm,0.9s,mb5.1
GRR Gorron 76.03 319⇑*i*P **P 19 04 56.4 -0.3**
comp=Z,50nm,0.9s,mb5.4
GRR Gorron 76.03 319⇑*i*P **P 19 04 56.4 -0.3**
GRR pmax pmax
comp=Z,50nm,0.9s,mb5.4
KEST Kesra 76.19 304 P **P 19 04 57.9 +0.1**
comp=Z,9.1nm,1.0s,mb4.7,baz=76,slow=1.5,SNR=15
KEST Kesra 76.19 304 *e*P **P 19 04 57.5 -0.4**
DLF Lyons Farm 76.19 325 *e*P **P 19 04 56.7 -0.8**
CAF Calviac 76.21 315⇑*i*P **P 19 04 58.0 +0.2**
comp=Z,49nm,1.0s,mb5.1
CAF Calviac 76.21 315⇑*i*P **P 19 04 58.0 +0.2**
comp=Z,49nm,1.0s,mb5.4
CAF Calviac 76.21 315⇑*i*P **P 19 04 58.0 +0.2**
CAF pmax pmax
comp=Z,49nm,1.0s,mb5.4
RJF Les Rejaudoux 76.34 315⇑*i*P **P 19 04 58.8 +0.3**
comp=Z,75nm,1.2s,mb5.2
RJF *e*R
comp=Z,294nm,22.2s
RJF Les Rejaudoux 76.34 315⇑*i*P **P 19 04 58.8 +0.3**
comp=Z,75nm,1.2s,mb5.5
RJF Les Rejaudoux 76.34 315⇑*i*P **P 19 04 58.8 +0.3**
RJF pmax pmax
comp=Z,75nm,1.2s,mb5.5
ARMA Armidale 76.40 140 *e*P **P 19 04 59.7 +0.8**
ARMA Armidale 76.40 140 *e*P **P 19 04 59.3 +0.5**
comp=Z,38nm,1.5s,mb5.1
MFF Saint Martin d 76.61 317⇑*i*P **P 19 04 59.9 -0.1**
comp=Z,104nm,1.2s,mb5.3
MFF Saint Martin d 76.61 317⇑*i*P **P 19 04 59.9 -0.1**
comp=Z,104nm,1.2s,mb5.6
MFF Saint Martin d 76.61 317⇑*i*P **P 19 04 59.9 -0.1**
MFF pmax pmax
comp=Z,104nm,1.2s,mb5.6
MTLF Montolieu 76.97 313⇑*i*P **P 19 05 02.0 -0.1**
MTLF Montolieu 76.97 313⇑*i*P **P 19 05 02.0 -0.1**
MTLF Montolieu 76.97 313⇑*i*P **P 19 05 02.0 -0.1**
LFF La Frestale 77.00 315 *e*P **P 19 05 01.6 -0.6**
comp=Z,46nm,1.0s,mb5.0
LFF La Frestale 77.00 315 *e*P **P 19 05 01.6 -0.6**
comp=Z,46nm,1.0s,mb5.4
LFF La Frestale 77.00 315 *e*P **P 19 05 01.6 -0.6**
LFF pmax pmax
comp=Z,46nm,1.0s,mb5.4
SGMF Saint Gilles 77.05 319⇑*i*P **P 19 05 02.4 -0.1**
comp=Z,128nm,1.2s,mb5.4
SGMF Saint Gilles 77.05 319⇑*i*P **P 19 05 02.4 -0.1**
comp=Z,128nm,1.2s,mb5.7
SGMF Saint Gilles 77.05 319⇑*i*P **P 19 05 02.4 -0.1**
SGMF pmax pmax
comp=Z,128nm,1.2s,mb5.7
ROSF Rostrenen 77.40 320 *e*P **P 19 05 03.5 -0.9**
ROSF Rostrenen 77.40 320 *e*P **P 19 05 03.5 -0.9**
ROSF Rostrenen 77.40 320 *e*P **P 19 05 03.5 -0.9**
MBAR Mbarara 77.41 261 PFAKE 19 05 20.0 +15
MBAR LR LR
comp=Z,617nm,22.0s,MS4.9
QUIF Quistinic 77.58 319 *e*P **P 19 05 05.3 -0.1**
comp=Z,130nm,1.4s,mb5.4
QUIF Quistinic 77.58 319 *e*P **P 19 05 05.3 -0.1**
comp=Z,130nm,1.4s,mb5.7
QUIF Quistinic 77.58 319 *e*P **P 19 05 05.3 -0.1**
QUIF pmax pmax
comp=Z,130nm,1.4s,mb5.7
EPF Esparros 78.29 314 *e*P **P 19 05 07.9 -1.6**
EPF Esparros 78.29 314 *e*P **P 19 05 07.9 -1.6**
EPF Esparros 78.29 314 *e*P **P 19 05 07.9 -1.6**
DLBC Dease Lake 78.29 26 P **P 19 05 08.4 -0.8**
comp=Z,10nm,1.1s,mb4.7,baz=251,slow=22,SNR=4.1
DLBC Dease Lake 78.29 26 P **P 19 05 08.4 -0.8**
SET Setif 78.69 306 P **P 19 05 13.0 +1.2**
CKHR Kef el Ahmar 78.71 305 P **P 19 05 13.0 +1.1**
ETSF Etsaut 78.91 314⇑*i*P **P 19 05 13.2 +0.3**
comp=Z,42nm,1.0s,mb5.0
ETSF Etsaut 78.91 314⇑*i*P **P 19 05 13.2 +0.3**
comp=Z,42nm,1.0s,mb5.3
ETSF Etsaut 78.91 314⇑*i*P **P 19 05 13.2 +0.3**
ETSF pmax pmax
comp=Z,42nm,1.0s,mb5.3
CNB Canberra Magne 79.09 145 *e*P **P 19 05 14.0 +0.2**
comp=Z,136nm,0.9s,mb5.9
SFJD Kangerlussuaq 79.12 351 *i* P **P 19 05 13.1 -0.5**
SFJD pmax pmax
comp=Z,21nm,0.9s,mb5.1
SFJD Kangerlussuaq 79.12 351 *i* P **P 19 05 13.1 -0.5**
comp=Z,21nm,0.9s,mb5.1
TOO Toolangi 79.13 149 *e*P **P 19 05 14.1 +0.2**
comp=Z,119nm,1.1s,mb5.7
SJPF Ste Jean 79.19 314 *e*P **P 19 05 13.6 -0.9**
comp=Z,144nm,1.6s,mb5.4
SJPF Ste Jean 79.19 314 *e*P **P 19 05 13.6 -0.9**
comp=Z,144nm,1.6s,mb5.7
SJPF Ste Jean 79.19 314 *e*P **P 19 05 13.6 -0.9**
SJPF pmax pmax
comp=Z,144nm,1.6s,mb5.7
DZM Mont Dzumac 79.67 124 *e*P **P 19 05 18.1 +0.8**
comp=Z,46nm,1.0s,mb5.4
YKA Yellowknife Ar 80.01 18 P **P 19 05 17.8 -0.7**
comp=Z,14nm,0.8s,mb4.9,baz=328,slow=5.0,SNR=85
YKA Yellowknife Ar 80.01 18 P **P 19 05 17.8 -0.7**
YKA Yellowknife Ar 80.01 18 P **P 19 05 17.8 -0.7**
ESDC Sonseca Array 82.86 313 P **P 19 05 34.4 +0.3**
comp=Z,6.2nm,0.8s,mb4.7,baz=43,slow=5.4,SNR=20
ESDC Sonseca Array 82.86 313 P **P 19 05 34.4 +0.3**
ESLA Sonseca Array 82.86 313 *e*P **P 19 05 33.9 -0.2**
MVO Moncorvo 83.82 315 *e*P **P 19 05 39.5 +0.5**
MTE Manteigas 84.60 315 *e*P **P 19 05 44.3 +1.3**
PVIS Viseu 84.61 315 *e*P **P 19 05 43.7 +0.7**
comp=Z,76nm,1.4s,mb5.6
PMRV Marv??o 85.12 314 *e*P **P 19 05 46.2 +0.6**
MSVF Nonsavu 85.53 114 *e*P **P 19 05 49.4 +1.5**
comp=Z,30nm,1.1s,mb5.4
MSVF Nonsavu 85.53 114 *e*P **P 19 05 49.4 +1.5**
MSVF pmax pmax
comp=Z,30nm,1.1s,mb5.4
PTOM Tomar 85.61 315 *e*P **P 19 05 48.9 +0.8**
PBAR Barrancos 85.68 313 *e*P **P 19 05 48.7 +0.3**
comp=Z,55nm,1.5s,mb5.6
TAM Tamanrasset 85.84 294 *e*P **P 19 05 49.9 +0.4**
comp=Z,7.3nm,1.0s,mb4.9
TAM LR LR
comp=Z,243nm,20.0s,MS4.6
TAM Tamanrasset 85.84 294 *e*P **P 19 05 49.9 +0.4**
TAM pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
TAM MLR MLR
comp=Z,243nm,20.0s,MS4.6
SFS San Fernando 86.22 311 PFAKE 19 06 00.0 +8.9
SFS LR LR
comp=Z,713nm,21.0s,MS5.0
PBEJ Beja 86.28 313 *e*P **P 19 05 52.0 +0.6**
PNCL Nicolau / Gran 86.63 314 *e*P **P 19 05 52.3 -0.9**
PCVE Castro Verde 86.64 313 *e*P **P 19 05 53.2 0.0**
PTEO Sao Teotonio 87.11 313 *e*P **P 19 05 58.3 +2.8**
comp=Z,174nm,1.4s,mb6.1
LSZ Lusaka 87.68 250 *e*P **P 19 05 58.1 -0.4**
comp=Z,32nm,1.4s,mb5.4
LSZ LR LR
comp=Z,200nm,20.0s,MS4.5
LSZ Lusaka 87.68 250 *e*P **P 19 05 58.1 -0.4**
LSZ pmax pmax
comp=Z,32nm,1.4s,mb5.4
LSZ MLR MLR
comp=Z,200nm,20.0s,MS4.5
A05A Maple Falls 88.47 29⇑P **P 19 06 01.7 -0.1**
baz=88
JCW Jim Creek 89.17 29 *e*P **P 19 06 05.3 +0.3**
comp=Z,41nm,0.8s,mb5.8
GNW Green Mountain 89.28 30 *e*P **P 19 06 06.4 +0.8**
comp=Z,14nm,1.4s,mb5.1
E03A Lebam 89.75 31⇓P **P 19 06 08.2 +0.4**
baz=90,SNR=7.2
FFC Flin Flon 89.96 15 *e*P **P 19 06 07.8 -0.8**
comp=Z,74nm,1.2s,mb5.9
FFC Flin Flon 89.96 15 P **P 19 06 08.4 -0.2**
comp=Z,284nm,0.8s,mb6.7,SNR=15
FFC Flin Flon 89.96 15 *e*P **P 19 06 07.8 -0.8**
FFC pmax pmax
comp=Z,74nm,1.2s,mb5.9
ETW Entiat 90.29 29 *e*P **P 19 06 10.3 0.0**
comp=Z,81nm,1.0s,mb6.0
HEBO Mount Hebo 91.69 32 *e*P **P 19 06 13.4 +1.1**
comp=Z,51nm,1.0s,mb5.8
C09A Chrisman Ranch 90.96 28⇑P **P 19 06 13.9 +0.5**
baz=91
A12A Yaak River Ran 91.02 26⇓P **P 19 06 14.2 +0.5**
baz=91
NEW Newport 91.03 27⇑P **P 19 06 14.2 +0.5**
baz=91
NEW Newport 91.03 27 *e*P **P 19 06 14.0 +0.3**
comp=Z,37nm,1.0s,mb5.7
NEW Newport 91.03 27 *e*P **P 19 06 14.0 +0.3**
NEW pmax pmax
comp=Z,37nm,1.0s
OD2 Odessa Site #2 91.12 28 *e*P **P 19 06 13.9 -0.3**
comp=Z,57nm,1.0s,mb5.8
COR Corvallis 91.38 32 *e*P **P 19 06 16.6 +1.1**
comp=Z,92nm,0.9s,mb6.1
COR Corvallis 91.38 32 *e*P **P 19 06 16.6 +1.1**
COR pmax pmax
comp=Z,92nm,0.9s,mb6.1
B12A Libby 91.43 26⇓P **P 19 06 16.1 +0.5**
baz=91
A13A Flathead Natio 91.47 25⇓P **P 19 06 16.2 +0.5**
baz=91
HOOD Mount Hood Mea 91.54 31 *e*P **P 19 06 17.0 +0.8**
comp=Z,52nm,0.8s,mb5.9
RSW Rattlesnake Hi 91.56 29 *e*P **P 19 06 16.9 +0.6**
comp=Z,65nm,1.0s,mb5.9
HAWA Hanford 91.59 29 *e*P **P 19 06 16.4 0.0**
comp=Z,40nm,1.0s,mb5.7
A14A Double T Ranch 91.79 24⇓P **P 19 06 17.7 +0.4**
baz=92
B13A Whitefish 91.92 25⇓P **P 19 06 18.6 +0.7**
baz=92
A15A Johnson Ranch, 92.02 24⇑P **P 19 06 18.4 +0.1**
baz=92
G06A Carlson Farm, 92.05 31⇓P **P 19 06 19.5 +0.9**
baz=92,SNR=14
E09A Wood Farm, Sta 92.06 28⇑P **P 19 06 19.2 +0.7**
baz=92,SNR=19
C12B Naegeli Ranch, 92.11 26⇓P **P 19 06 18.9 +0.2**
baz=92
BSMT Bassoo Peak 92.25 26 *e*P **P 19 06 20.1 +0.8**
comp=Z,31nm,1.2s,mb5.5
B14A Marquette Ranc 92.36 25⇑P **P 19 06 20.1 +0.2**
baz=92
C13A Hot Springs 92.47 26⇑P **P 19 06 21.2 +0.8**
baz=92,SNR=11
JTMT Jette 92.52 26 *e*P **P 19 06 21.2 +0.6**
comp=Z,9.1nm,0.9s,mb5.2
LNOR Lincton Mounta 92.52 29 *e*P **P 19 06 21.1 +0.4**
comp=Z,14nm,0.8s,mb5.4
LNOR Lincton Mounta 92.52 29 *e*P **P 19 06 21.1 +0.4**
LNOR pmax pmax
comp=Z,13nm,0.8s,mb5.4
B15A Bradely Ranch, 92.65 24⇓P **P 19 06 20.5 -0.7**
baz=92,SNR=8.9
A17A Triple J Farms 92.73 23⇑P **P 19 06 21.5 -0.1**
baz=92,SNR=11
SCHQ Schefferville 92.74 356 P **P 19 06 21.2 -0.3**
comp=Z,15nm,0.9s,mb5.4,baz=39,slow=4.9,SNR=6.8
SCHQ Schefferville 92.74 356 P **P 19 06 21.2 -0.3**
SCHQ LR LR
comp=Z,3µm,19.0s
SWMT Swartz Lake 92.82 26 *e*P **P 19 06 22.2 +0.2**
comp=Z,11nm,1.1s,mb5.2
B16A M & M Farms, S 92.86 24⇓P **P 19 06 22.0 -0.2**
baz=93
F10A Beach Ranch, E 92.87 28⇓P **P 19 06 23.0 +0.7**
baz=93,SNR=11
D13A Huson 93.00 26⇑P **P 19 06 22.9 0.0**
baz=93,SNR=7.2
A18A Metzger Ranch, 93.03 22⇑P **P 19 06 23.0 0.0**
baz=93,SNR=9.8
HUMO Hull Mountain 93.07 34 *e*P **P 19 06 24.0 +0.7**
comp=Z,21nm,0.9s,mb5.6
C15A Salmond Ranch, 93.09 25⇑P **P 19 06 23.1 -0.2**
baz=93
SLMT Seeley Lake 93.23 25 *e*P **P 19 06 23.6 -0.3**
comp=Z,50nm,1.3s,mb5.8
B17A L&G Farms, Che 93.27 23⇓P **P 19 06 24.0 -0.1**
baz=93,SNR=15
D14A Greenough 93.36 25⇓P **P 19 06 24.3 -0.2**
baz=93,SNR=8.0
C16A Fuhringer Ranc 93.37 24⇑P **P 19 06 24.4 -0.2**
baz=93
MSO Missoula 93.42 26⇓P **P 19 06 25.1 +0.3**
baz=93,SNR=9.1
I07A Izee 93.46 31⇓P **P 19 06 25.8 +0.8**
baz=93
B18A Beardsley Farm 93.52 23⇑P **P 19 06 25.0 -0.2**
baz=93
E13A Victor 93.65 26⇑P **P 19 06 25.9 0.0**
baz=93,SNR=14
A20A Cobblestone Ra 93.67 21⇓P **P 19 06 25.7 -0.2**
baz=93,SNR=12
B19A Brinkman Farms 93.73 22⇓P **P 19 06 26.1 -0.1**
baz=93
D15A Lincoln 93.75 25⇓P **P 19 06 26.1 -0.2**
baz=94
BMO Blue Mountains 93.75 29 *e*P **P 19 06 26.1 -0.3**
comp=Z,8.4nm,1.1s,mb5.1
BMO LR LR
comp=Z,457nm,21.0s,MS4.9
EGMT Eagleton 93.85 23⇓P **P 19 06 26.5 -0.2**
baz=94,SNR=8.9
C17A Wharram Farm, 93.85 24⇓P **P 19 06 26.5 -0.2**
baz=94
YBH Yreka Blue Hor 93.86 34 *e*P **P 19 06 26.5 -0.5**
comp=Z,7.6nm,1.1s,mb5.0
YBH Yreka Blue Hor 93.86 34 *e*P **P 19 06 26.5 -0.5**
YBH pmax pmax
comp=Z,8.0nm,1.1s
A21A Bergtoll Ranch 93.88 21⇓P **P 19 06 26.6 -0.2**
baz=94,SNR=8.2
K05A Summer Lake 93.92 32⇓P **P 19 06 28.4 +1.1**
baz=94
E14A Clinton 93.93 26⇓P **P 19 06 26.9 -0.2**
baz=94,SNR=6.1
B20A Solberg Farm, 94.03 22⇓P **P 19 06 27.5 -0.1**
baz=94,SNR=6.0
D16A Dana Ranch, Ca 94.10 24⇓P **P 19 06 27.8 -0.1**
baz=94
F13A Darby 94.15 27⇓P **P 19 06 27.6 -0.6**
baz=94,SNR=6.7
A22A Carney Farms, 94.17 20⇓P **P 19 06 27.5 -0.8**
baz=94
E15A Deer Lodge 94.23 25⇓P **P 19 06 28.6 0.0**
baz=94,SNR=8.3
TORD Torodi Ar. Bea 94.24 288 P **P 19 06 28.4 -0.8**

comp=Z,2.2nm,0.7s,mb4.7,baz=52,slow=4.2,SNR=20
TORD ScS ScS 19 17 44.2 +1.8
comp=Z,0.7nm,0.8s,baz=4.9,slow=8.2,SNR=4.5
TORD Torodi Ar. Bea 94.24 288 P P 19 06 28.4 -0.8
TORD ScS ScS 19 17 44.2 +1.8
D17A Six Diamond Ra 94.29 24 ⇑P P 19 06 28.6 -0.3
baz=94,SNR=5.9
C19A Slack Wire Ran 94.33 23 ⇓P P 19 06 28.7 -0.3
baz=94,SNR=10
B21A Ellsworth Farm 94.35 21 ⇑P P 19 06 29.1 0.0
baz=94
J08A Circle Bar Ran 94.48 30 ⇑P P 19 06 30.4 +0.6
baz=94
F14A Wisdom 94.49 26 ⇑P P 19 06 29.7 0.0
baz=94,SNR=7.3
A23A Redstone 94.50 19 ⇓P P 19 06 29.6 -0.1
baz=94
D18A Linhart Farms, 94.55 23 ⇑P P 19 06 30.0 0.0
baz=94
B22A Reddig Ranch S 94.77 20 ⇑P P 19 06 31.0 0.0
baz=94
G13A Cobalt 94.77 27 ⇑P P 19 06 30.5 -0.5
baz=94,SNR=5.2
A24A Westby 94.78 19 ⇑P P 19 06 30.8 -0.2
baz=94
F15A Butte 94.79 26 ⇑P P 19 06 31.0 -0.2
baz=94,SNR=6.3
LRM Limekiln Ridge 94.82 26 *eP* **P 19 06 31.0 -0.2**
comp=Z,94nm,1.1s,mb6.1
E17A Martinsdale 94.83 24 ⇑P P 19 06 31.0 -0.3
baz=94
C21A Desert Coulee 94.86 21 ⇑P P 19 06 31.3 -0.2
baz=95,SNR=5.0
D19A Cripps Ranch, 94.89 23 ⇓P P 19 06 31.4 -0.2
baz=95,SNR=10
H12A Diamond D Ranc 94.99 28 ⇓P P 19 06 32.1 +0.1
baz=95
E18A Harlowton 95.07 24 ⇑P P 19 06 32.6 +0.2
baz=95
LBTB Lobatse 95.12 244 *eP* **P 19 06 31.2 -1.7**
LBTB LR LR
comp=Z,147nm,19.0s,MS4.5
LBTB Lobatse 95.12 244 *eP* **P 19 06 31.2 -1.7**
LBTB MLR MLR
comp=Z,147nm,19.0s,MS4.5
DGMT Dagmar 95.13 19 ⇑P P 19 06 32.2 -0.4
baz=95,SNR=7.5
DGMT Dagmar 95.13 19 *eP* **P 19 06 32.2 -0.4**
comp=Z,33nm,1.0s,mb5.7
F16A Kennard Place, 95.15 25 ⇓P P 19 06 32.6 -0.2
baz=95
DLMT Dillon 95.16 26 *eP* **P 19 06 32.8 0.0**
comp=Z,17nm,1.3s,mb5.3
RAO Raoul Island 95.18 121 PFAKE 19 06 40.0 +7.0
RAO LR LR
comp=Z,598nm,22.0s,MS5.0
D20A Manuel Ranch, 95.19 22 ⇑P P 19 06 32.1 -0.8
baz=95
H13A Challis 95.21 27 ⇑P P 19 06 32.7 -0.4
baz=95
BOZ Bozeman (W) 95.26 25 ⇓P P 19 06 33.3 0.0
baz=95
BOZ Bozeman (W) 95.26 25 PFAKE 19 06 40.0 +6.7
BOZ LR LR
comp=Z,416nm,20.0s,MS4.9
C22A Vida 95.30 21 ⇑P P 19 06 33.1 -0.3
baz=95
G15A Dillon 95.36 26 ⇑P P 19 06 33.8 +0.1
baz=95,SNR=14
F17A Fitzpatrick Pl 95.38 24 ⇓P P 19 06 34.3 +0.4
baz=95,SNR=9.6
C23A Lambert 95.46 20 ⇑P P 19 06 34.5 +0.3
baz=95,SNR=7.0
ULM Lac du Bonnet 95.46 14 P P 19 06 32.9 -1.2
comp=Z,6.3nm,0.9s,mb5.1,baz=315,slow=2.4,SNR=6.0
ULM LR LR 19 50 59.9
comp=Z,275nm,19.9s,MS4.7,baz=342,slow=36
ULM Lac du Bonnet 95.46 14 P P 19 06 32.9 -1.2
ULM Lac du Bonnet 95.46 14 P P 19 06 32.9 -1.2
I12A Atlanta 95.51 28 ⇑P P 19 06 35.0 +0.6
baz=95,SNR=7.2
MCMT McKenzie Canyo 95.52 26 *eP* **P 19 06 34.9 +0.4**
comp=Z,5.7nm,1.0s,mb5.0
E19A Rath Farm, Rou 95.53 23 ⇓P P 19 06 34.5 -0.1
baz=95
MFID Camas Ranch 95.54 29 ⇓P P 19 06 34.8 +0.2
baz=95
D21A La Casta Ranch 95.57 22 ⇓P P 19 06 34.4 -0.3
baz=95,SNR=6.6
F18A Big Timber 95.71 24 ⇑P P 19 06 35.6 +0.3
baz=95,SNR=5.9
E20A Meyer Farm, Mu 95.71 23 ⇓P P 19 06 35.1 -0.2
baz=95,SNR=6.1
D22A Cohagen 95.75 21 ⇑P P 19 06 35.4 -0.1
baz=95,SNR=6.0
H15A Lima 95.78 26 ⇑P P 19 06 36.1 +0.4
baz=96
I13A Wildhorse Cree 95.81 28 ⇑P P 19 06 36.0 +0.2
baz=96
C24A Savage 95.92 20 ⇑P P 19 06 36.1 -0.2
baz=96
HLID Hailey 95.99 28 ⇓P P 19 06 37.2 +0.5
baz=96
F19A Roth Farm, Mol 96.02 23 ⇑P P 19 06 36.9 +0.2
baz=96,SNR=6.1
D23A Lindsay 96.02 20 ⇑P P 19 06 36.9 +0.2
baz=96
I14A Mackay 96.05 27 ⇑P P 19 06 37.6 +0.7
baz=96
LAO LASA Array 96.15 21 ⇓P P 19 06 37.8 +0.5
baz=96
H16A Russell Place, 96.21 25 ⇓P P 19 06 38.3 +0.7
baz=96
J13A Cove Ranch, Pi 96.22 28 ⇑P P 19 06 38.4 +0.7
baz=96
G18A Lazy EL Ranch, 96.28 24 ⇑P P 19 06 38.3 +0.4
baz=96
F20A Billings 96.33 23 ⇓P P 19 06 38.3 +0.2
baz=96
D24A Glendive 96.33 20 ⇓P P 19 06 38.0 -0.1
baz=96
E22A Miles City 96.46 21 ⇓P P 19 06 39.0 +0.3
baz=96
RLMT Red Lodge 96.55 24 ⇓P P 19 06 39.4 +0.3
baz=96
E23A Ismay 96.60 21 ⇓P P 19 06 39.6 +0.3
baz=96
H18A Shoshone NF, C 96.80 24 ⇓P P 19 06 40.6 +0.3
baz=96
G20A Bridger 96.82 23 ⇓P P 19 06 40.3 -0.1
baz=96
E24A Baker 96.84 20 ⇑P P 19 06 39.9 -0.5
baz=96
F22A Rosebud 96.95 22 ⇓P P 19 06 40.7 -0.2
baz=97
H19A Powell 97.04 24 ⇓P P 19 06 41.0 -0.4
baz=97
G21A Lodge Grass 97.14 23 ⇑P P 19 06 41.8 0.0
baz=97,SNR=5.6
F23A Volborg 97.27 21 ⇓P P 19 06 42.3 -0.1
baz=97
J16A Bone 97.31 26 ⇓P P 19 06 43.3 +0.6
baz=97
K14A Jones Ranch, D 97.33 28 ⇓P P 19 06 42.9 +0.1
baz=97
BOSA Boshof 97.34 241 P **P 19 06 41.9 -1.0**
comp=Z,2.4nm,0.6s,mb4.8,baz=346,slow=4.8,SNR=7.5
BOSA Boshof 97.34 241 P **P 19 06 41.9 -1.0**
BOSA LR LR
comp=Z,154nm,20.0s,MS4.5
BOSA Boshof 97.34 241 P **P 19 06 41.9 -1.0**
BOSA MLR MLR
comp=Z,154nm,20.0s,MS4.5
BMN Battle Mountai 97.40 31 PFAKE 19 06 50.0 +6.9
BMN LR LR
comp=Z,461nm,20.0s,MS5.0
G22A Birney 97.44 22 ⇑P P 19 06 42.8 -0.4
baz=97
F24A Ekalaka 97.44 21 ⇓P P 19 06 42.9 -0.3
baz=97
I19A Meeteetse 97.59 24 ⇓P P 19 06 44.1 +0.2
baz=97
K16A Soda Springs 97.70 27 ⇑P P 19 06 44.6 +0.2
baz=97
H21A Big Horn, Sher 97.73 23 ⇑P P 19 06 44.8 +0.3
baz=97
G23A Biddle 97.74 21 ⇓P P 19 06 43.9 -0.7
baz=97

G24A Alzada 97.92 21 ⇓P P 19 06 45.3 0.0
baz=98
I20A Worland 97.97 24 ⇑P P 19 06 45.7 +0.1
baz=98
H22A Clearmont 97.98 22 ⇑P P 19 06 45.6 0.0
baz=98
L15A Malad City 98.10 27 ⇓P P 19 06 46.1 -0.2
baz=98
J19A Crowheart 98.25 25 ⇓P P 19 06 46.9 +0.1
baz=98
TSUM Tsumeb 98.30 253 PFAKE 19 07 00.0 +13
TSUM LR LR
comp=Z,152nm,20.0s,MS4.5
PDAR Pinedale Array 98.50 25 P **P 19 06 48.5 +0.5**
comp=Z,0.8nm,0.8s,mb4.3,baz=226,slow=3.9,SNR=3.4
PDAR Pinedale Array 98.50 25 P **P 19 06 48.5 +0.5**
NVAR Mina Array Bea 98.54 33 P **P 19 06 46.7 -1.6**
comp=Z,1.6nm,0.8s,mb4.6,baz=296,slow=4.5,SNR=8.3
NVAR Mina Array Bea 98.54 33 P **P 19 06 46.7 -1.6**
I22A 9 Mile Ranch, 98.56 23 ⇓P P 19 06 48.0 -0.3
baz=98
CASY Casey 98.57 178 PFAKE 19 07 00.0 +13
CASY LR LR
comp=Z,123nm,21.0s,MS4.4
J22A Midwest 99.00 23 ⇓PKiKP P 19 06 50.0 -0.2
baz=99
M17A Scullys Gap (B 99.22 27 ⇑PKiKP P 19 06 50.8 -0.5
baz=99
DUG Dugway 99.47 29 ⇓PKiKP P 19 06 52.3 -0.1
baz=99
M18A Lyman 99.48 26 ⇑PKiKP P 19 06 52.4 0.0
baz=99
N17A Moffit Pass 99.61 27 ⇓PKiKP P 19 06 53.0 0.0
baz=99
R11A Troy Canyon, C 99.84 32 ⇓PKiKP Pdif 19 06 53.7 -0.2
baz=100
DAC Darwin (Calif) 100.61 34 PFAKE 19 07 10.0 +13
DAC LR LR
comp=Z,732nm,22.0s,MS5.2
N23A Red Feather La 101.42 24 ⇑PKiKP Pdif 19 07 01.0 0.0
baz=101
P19A Cripple Cowboy 101.45 26 ⇑PKiKP Pdif 19 07 00.8 -0.3
baz=101
O23A Lake Granby, G 102.04 24 ⇓PKiKP Pdif 19 07 03.9 +0.2
baz=102
DBIC Dimbokro 103.22 287 PFAKE 19 07 20.0 +11
DBIC LR LR
comp=Z,177nm,21.0s,MS4.6
114A Black Gap (USA 105.71 33 ⇓PKiKP PKiKP 19 11 32.4 -0.8
baz=105
Y22A Socorro 107.21 28 ⇑PKiKP PKiKP 19 11 35.3 -0.7
baz=107
Y23A Lovelace Mesa, 107.57 27 ⇑PKiKP PKiKP 19 11 36.5 -0.2
baz=107
Z27A Tatum 109.18 25 ⇑PKiKP PKiKP 19 11 38.5 -1.2
baz=109
125A Gardner Draw, 109.23 27 ⇓PKiKP PKiKP 19 11 38.7 -1.1
baz=109
427A Hayter Ranch, 111.33 26 ⇑PKiKP PKiKP 19 11 42.8 -1.0
baz=111
428A Kincaid Ranch, 111.70 26 ⇑PKiKP PKiKP 19 11 43.5 -1.1
baz=111
526A Mary Lane Ranc 111.77 27 ⇑PKiKP PKiKP 19 11 43.9 -0.8
baz=112
CNNC Cliffs of the 112.52 3 PFAKE 19 12 00.0 +14
CNNC LR LR
comp=Z,942nm,19.0s,MS5.4
NATX Nacogdoches 113.31 19 PFAKE 19 12 00.0 +12
NATX LR LR
comp=Z,773nm,19.0s,MS5.3
VBMS Vicksburg 113.87 15 PFAKE 19 12 00.0 +11
VBMS LR LR
comp=Z,1μm,19.0s,MS5.5
VNDA Vanda 114.88 168 PFAKE 19 12 00.0 +11
VNDA LR LR
comp=Z,149nm,19.0s,MS4.6
SBA Scott Base 115.93 168 PFAKE 19 12 00.0 +8.9
SBA LR LR
comp=Z,150nm,20.0s,MS4.6
QSPA South Pole Qui 122.30 180 *e*PKPdf PKPdf 19 12 02.4 -0.9
QSPA LR LR
comp=Z,137nm,19.0s,MS4.6
TEIG Tepich 125.94 16 PFAKE 19 12 20.0 +7.9
TEIG LR LR
comp=Z,171nm,19.0s,MS4.7
SNAA Sanae 126.25 202 PKP PKPdf 19 12 10.5 -0.5
comp=Z,2.6nm,0.9s
SNAA Sanae 126.25 202 PKP PKPdf 19 12 10.5 -0.5
SNAA Sanae 126.25 202 PKIKP PKPdf 19 12 10.5 -0.5
SNAA pmax pmax
comp=Z,3.0nm,0.9s
VNA2 Neumayer--Watz 127.80 203 *e* PKPdf 19 12 14.8 +0.8
baz=185,slow=5.1
VNA2 Neumayer--Watz 127.80 203 *e* PKPdf 19 12 14.8 +0.8
baz=71,slow=2.2
VNA1 Neumayer--Stat 128.13 203 *e* PKPdf 19 12 15.9 +1.2
VNA1 Neumayer--Stat 128.13 203 *e* PKPdf 19 12 15.9 +1.2
VNA3 Neumayer Olymp 128.47 202 *e* PKPdf 19 12 15.5 +0.2
VNA3 Neumayer Olymp 128.47 202 *e* PKPdf 19 12 15.5 +0.2
TGUH Tegucigalpa,Un 132.12 17 PFAKE 19 12 30.0 +6.0
TGUH LR LR
comp=Z,154nm,19.0s,MS4.7
JTS JuntasAbangare 136.29 15 PFAKE 19 12 40.0 +8.2
JTS LR LR
comp=Z,90nm,19.0s,MS4.5
SDV Santo Domingo 138.65 354 *e*PKPpre PKPpre 19 12 25.4
SDV *e*PKPdf PKPdf 19 12 34.1 -2.0
SDV LR LR
comp=Z,112nm,19.0s,MS4.6
ROSC El Rosal 142.82 360 PKP PKPdf 19 12 42.5 -1.3
comp=Z,6.3nm,0.5s,baz=272,slow=23,SNR=1.9
ROSC El Rosal 142.82 360 PKP PKPdf 19 12 42.5 -1.3
OTAV Otavalo 147.21 7 *e*PKPdf PKPdf 19 12 52.0 +0.7
OTAV LR LR
comp=Z,119nm,22.0s,MS4.6
CAM4 Nova Friburgo 149.91 282 ⇑*iP* PKPdf 19 12 57.2 +1.8
CAM4 *i* 19 12 58.7
CAM4 *i* 19 13 02.3
CAM4 *i* 19 13 06.4
CAM4 *i* 19 13 12.9
CAM4 *i* 19 13 27.3
CAM4 *i* 19 13 37.1
CAM4 *i* 19 14 23.7
ATAH Atahualpa 154.49 9 PKPbc PKPbc 19 13 13.2 +2.4
comp=Z,6.5nm,0.7s,baz=296,slow=12,SNR=4.7
ATAH PKPab PKPab 19 13 26.2 +1.2
comp=Z,22nm,1.0s,baz=318,slow=3.1,SNR=7.8
ATAH Atahualpa 154.49 9 PKPbc PKPbc 19 13 13.2 +2.4
ATAH PKPab PKPab 19 13 26.2 +1.2
USHA Ushuaia 157.28 189 PKPab PKPab 19 13 35.8 -0.1
comp=Z,17nm,0.9s,baz=342,slow=2.1,SNR=4.4
USHA Ushuaia 157.28 189 PKPab PKPab 19 13 35.8 -0.1
LPAZ La Paz 162.80 339 PKP PKPdf 19 13 12.7 +0.4
comp=Z,3.9nm,0.8s,baz=13,slow=1.2,SNR=15
LPAZ La Paz 162.80 339 PKP PKPdf 19 13 12.7 +0.5
LPAZ LR LR
comp=Z,70nm,20.0s
LPAZ La Paz 162.80 339 PKIKP PKPdf 19 13 12.7 +0.5
LPAZ MLR MLR
comp=Z,70nm,20.0s
CPUP Villa Florida 163.74 288 PKP PKPdf 19 13 10.6 -2.3
comp=Z,0.5nm,0.3s,baz=171,slow=6.8,SNR=3.1
CPUP Villa Florida 163.74 288 PKP PKPdf 19 13 10.6 -2.3
CPUP Villa Florida 163.74 288 PKIKP PKPdf 19 13 10.6 -2.3
TRQA Tornquist 168.30 238 PFAKE 19 13 30.0 +14
TRQA LR LR
comp=Z,141nm,19.0s
PLCA Paso Flores 171.19 201 PFAKE 19 13 30.0 +12
PLCA LR LR
comp=Z,101nm,20.0s
CFAA Coronel Fontan 174.51 278 PKP PKPdf 19 13 19.4 0.0
comp=Z,0.8nm,1.0s,baz=193,slow=0.8,SNR=8.1
CFAA PKPab PKPab 19 14 52.2 -0.4
comp=Z,0.2nm,0.4s,baz=278,slow=6.3,SNR=1.6
CFAA Coronel Fontan 174.51 278 PKP PKPdf 19 13 19.4 0.0
CFAA PKPab PKPab 19 14 52.2 -0.4

DDA ***09*** *18:53:18.7, 40°.00N×27°.65E, h16km±2km, Md3.0*
ISCJB ***09*** *18:53:19.5±0.3, 39°.98N±0°.02×27°.64E±0°.03, h7km±3km, Error ellipse: s-maj=3.9km s-min=3.0km az=156.6*
CSEM ***09*** *18:53:19.7±0.1, 39°.96N×27°.64E, h10km, MD2.9, Error ellipse: s-maj=2.6km s-min=1.9km az=56.0*
ISK ***09*** *18:53:19.3, 39°.96N×27°.64E, h9km, MD2.9*

ISC 09 18:53:19.9±0.3, 39°.98N±0°.02×27°.64E±0°.03, h10km±3km, n77, σ0°.70/98, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.07**	**27**	*i* Pg	**Pg**	**18 53 22.5**	**+0.4**
GONE				*e*Sg	**Sg**	**18 53 24.5**	**+0.8**
GONE	**Gonen-Balikesi**	**0.07**	**27**	PG	**Pg**	**18 53 22.5**	**+0.4**
GONE				*e*SG	**Sg**	**18 53 24.4**	**+0.7**
BALY	**Balya**	**0.24**	**184**	*i* P	**Pg**	**18 53 24.6**	**-0.2**
BALY				*i* S	**Sg**	**18 53 29.5**	**+1.3**
BALY	**Balya**	**0.24**	**184**	*i* P	**Pg**	**18 53 24.6**	**-0.2**
BALY				*i* S	**Sg**	**18 53 29.5**	**+1.4**
BALB	**Balikesir**	**0.39**	**152**	PG	**Pg**	**18 53 27.2**	**-0.3**
BALB				*e*SG	**Sg**	**18 53 32.6**	**-0.1**
BALB	**Balikesir**	**0.39**	**152**	*i* Pg	**Pg**	**18 53 27.2**	**-0.3**
BALB				*e*Sg	**Sg**	**18 53 32.6**	**0.0**
EDC	**Edincik**	**0.40**	**25**	PG	**Pg**	**18 53 27.8**	**-0.1**
EDC	**Edincik**	**0.40**	**25**	*i* Pg	**Pg**	**18 53 27.8**	**0.0**
KRBG	**Karabiga-Canak**	**0.49**	**327**	*e*PG	**Pg**	**18 53 29.6**	**+0.2**
KRBG	**Karabiga-Canak**	**0.49**	**327**	*e*Pg	**Pg**	**18 53 29.6**	**+0.1**
DURS	**Dursunbey**	**0.74**	**120**	*i* P	**Pg**	**18 53 33.6**	**-0.7**
DURS				*i* S	**Sg**	**18 53 43.9**	**-0.1**
DURS	**Dursunbey**	**0.74**	**120**	*i* P	**Pg**	**18 53 33.6**	**-0.7**
DURS				*i* S	**Sg**	**18 53 43.9**	**-0.1**
LPK	**Lapseki**	**0.78**	**300**	*e*PG	**Pg**	**18 53 34.1**	**-0.9**
LPK	**Lapseki**	**0.78**	**300**	*e*Pg	**Pg**	**18 53 34.1**	**-0.9**
RKY	**Sarkoy-Tekirda**	**0.79**	**333**	*e*PG	**Pg**	**18 53 35.4**	**+0.2**
RKY	**Sarkoy-Tekirda**	**0.79**	**333**	*e*Pg	**Pg**	**18 53 35.4**	**+0.2**
DST	**Dursunbey**	**0.84**	**116**	*e*PG	**Pg**	**18 53 35.7**	**-0.4**
DST				*e*SG	**Sg**	**18 53 47.2**	**+0.1**
DST	**Dursunbey**	**0.84**	**116**	*e*Pg	**Pg**	**18 53 35.7**	**-0.4**
DST				*e*Sg	**Sg**	**18 53 47.2**	**+0.1**
MFT	**Murefte**	**0.85**	**341**	*e*PG	**Pg**	**18 53 36.9**	**+0.6**
MFT	**Murefte**	**0.85**	**341**	*e*Pg	**Pg**	**18 53 36.9**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.99**	**295**	*e*PG	**Pg**	**18 53 38.7**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.99**	**295**	*e*Pg	**Pg**	**18 53 38.7**	**-0.2**
TKR	**Tekirdag**	**1.01**	**355**	*e*PG	**Pg**	**18 53 39.2**	**-0.2**
TKR	**Tekirdag**	**1.01**	**355**	*e*Pg	**Pg**	**18 53 39.2**	**-0.2**
EZN	**Ezine**	**1.03**	**262**	*e*PG	**Pg**	**18 53 39.4**	**-0.3**
EZN	**Ezine**	**1.03**	**262**	*e*Pg	**Pg**	**18 53 39.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.03**	**67**	*e*PG	**Pg**	**18 53 39.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.03**	**67**	*e*Pg	**Pg**	**18 53 39.5**	**-0.2**
ARMT	**Armutlu**	**1.10**	**58**	*e*PN	**Pg**	**18 53 41.0**	**0.0**
ARMT	**Armutlu**	**1.10**	**58**	*e*Pn	**Pg**	**18 53 41.0**	**-0.1**
ERIK	**Erikli-Kesan**	**1.10**	**309**	*e*PN	**Pg**	**18 53 40.8**	**-0.3**
ERIK	**Erikli-Kesan**	**1.10**	**309**	*e*Pn	**Pg**	**18 53 40.8**	**-0.4**
AKS	**Akhisar**	**1.11**	**173**	*e*PN	**Pg**	**18 53 40.9**	**-0.4**
AKS	**Akhisar**	**1.11**	**173**	*e*Pn	**Pg**	**18 53 40.9**	**-0.3**
AKHS	**Akhisar**	**1.11**	**173**	*i* P	**Pg**	**18 53 39.8**	**-1.4**
AKHS				*i* S	**Sg**	**18 53 57.0**	**+1.4**
AKHS	**Akhisar**	**1.11**	**173**	*i* P	**Pg**	**18 53 39.8**	**-1.4**
AKHS				*i* S	**Sg**	**18 53 57.0**	**+1.4**
CRLT	**Corlu**	**1.15**	**3**	*e*PN	**Pg**	**18 53 42.0**	**0.0**
CRLT	**Corlu**	**1.15**	**3**	*e*Pn	**Pg**	**18 53 42.0**	**0.0**
BOZC	**Bozcaada**	**1.23**	**264**	*i* P	**Pn**	**18 53 42.9**	**-0.3**
BOZC				*i* S	**Sb**	**18 53 59.7**	**+0.5**
DEMI	**Demirci**	**1.25**	**138**	*i* P	**Pn**	**18 53 42.9**	**-0.6**
DEMI				*i* S	**Sb**	**18 53 59.4**	**-0.4**
DEMI	**Demirci**	**1.25**	**138**	*i* P	**Pn**	**18 53 42.9**	**-0.6**
DEMI				*i* S	**Sb**	**18 53 59.4**	**-0.4**
GEMT	**Gemlik**	**1.27**	**69**	*e*PN	**Pn**	**18 53 43.5**	**-0.3**
GEMT	**Gemlik**	**1.27**	**69**	*e*Pn	**Pn**	**18 53 43.5**	**-0.2**
ELBA	**Catalca**	**1.31**	**27**	*i* P	**Pn**	**18 53 41.9**	**-2.5**
ELBA				*i* S	**Sb**	**18 54 00.8**	**-0.8**
ELBA	**Catalca**	**1.31**	**27**	*i* P	**Pn**	**18 53 41.8**	**-2.5**
ELBA				*i* S	**Sb**	**18 54 00.8**	**-0.7**
SLVT	**Silivri**	**1.32**	**19**	*e*PN	**Pn**	**18 53 45.0**	**+0.5**
SLVT	**Silivri**	**1.32**	**19**	*e*Pn	**Pn**	**18 53 45.0**	**+0.5**
ENEZ	**Enez**	**1.37**	**304**	*e*PN	**Pn**	**18 53 45.3**	**+0.3**
ENEZ	**Enez**	**1.37**	**304**	*e*Pn	**Pn**	**18 53 45.3**	**+0.2**
CTKS	**Kestanelik-??a**	**1.42**	**27**	*e*PN	**Pn**	**18 53 45.5**	**-0.3**
CTKS	**Kestanelik-??a**	**1.42**	**27**	*e*Pn	**Pn**	**18 53 45.5**	**-0.3**
BUY	**Buyukada**	**1.42**	**52**	*i* P	**Pn**	**18 53 45.6**	**-0.2**
BUY				*i* S	**Sn**	**18 54 05.6**	**+0.9**
BUY	**Buyukada**	**1.42**	**52**	*i* P	**Pn**	**18 53 45.6**	**-0.3**
BUY				*i* S	**Sn**	**18 54 05.6**	**+0.9**
YLV	**Yalova**	**1.45**	**66**	*e*PN	**Pn**	**18 53 45.6**	**-0.6**
YLV	**Yalova**	**1.45**	**66**	*e*Pn	**Pn**	**18 53 45.6**	**-0.6**
BGKT	**Bogazkoy**	**1.48**	**35**	*e*PN	**Pn**	**18 53 47.0**	**+0.4**
BGKT	**Bogazkoy**	**1.48**	**35**	*e*Pn	**Pn**	**18 53 47.0**	**+0.4**
ISK	**Istanbul-Kandi**	**1.53**	**44**	*e*PN	**Pn**	**18 53 47.7**	**+0.4**
ISK	**Istanbul-Kandi**	**1.53**	**44**	*e*Pn	**Pn**	**18 53 47.7**	**+0.4**
CTYL	**Yal??k??y-??at**	**1.57**	**18**	*e*PN	**Pn**	**18 53 48.8**	**+0.9**
CTYL	**Yal??k??y-??at**	**1.57**	**18**	*e*Pn	**Pn**	**18 53 48.8**	**+0.9**
BLCB	**Balcova**	**1.66**	**197**	*e*PN	**Pn**	**18 53 49.0**	**-0.1**
BLCB	**Balcova**	**1.66**	**197**	*e*Pn	**Pn**	**18 53 49.1**	**0.0**
KULA	**Kula-Manisa**	**1.66**	**151**	*e*PN	**Pn**	**18 53 49.3**	**+0.1**
KULA	**Kula-Manisa**	**1.66**	**151**	*e*Pn	**Pn**	**18 53 49.3**	**+0.1**
ADVT	**Abdulvahap**	**1.67**	**74**	*e*PN	**Pn**	**18 53 49.8**	**+0.6**
ADVT	**Abdulvahap**	**1.67**	**74**	*e*Pn	**Pn**	**18 53 49.8**	**+0.6**
GDZ	**Gediz**	**1.68**	**122**	*i* P	**Pn**	**18 53 47.7**	**-1.7**
GDZ				*i* S	**Sn**	**18 54 12.5**	**+1.5**
GDZ	**Gediz**	**1.68**	**122**	*i* P	**Pn**	**18 53 47.7**	**-1.7**
GDZ				*i* S	**Sn**	**18 54 12.5**	**+1.6**
CAVI	**Cavuskoy**	**1.70**	**82**	*e*PN	**Pn**	**18 53 49.7**	**0.0**
CAVI	**Cavuskoy**	**1.70**	**82**	*e*Pn	**Pn**	**18 53 49.7**	**0.0**
EDRB	**Edirne**	**1.98**	**340**	*e*PN	**Pn**	**18 53 54.7**	**+1.1**
EDRB	**Edirne**	**1.98**	**340**	*e*Pn	**Pn**	**18 53 54.7**	**+1.1**
ALT	**Altintas**	**2.12**	**115**	*e*PN	**Pn**	**18 53 55.6**	**+0.2**
ALT	**Altintas**	**2.12**	**115**	*e*Pn	**Pn**	**18 53 55.6**	**+0.1**
GULT	**Gulveren**	**2.25**	**77**	*e*PN	**Pn**	**18 53 57.8**	**+0.6**
GULT	**Gulveren**	**2.25**	**77**	*e*Pn	**Pn**	**18 53 57.8**	**+0.6**

IDC ***09*** *18:53:29.2±1.6, 7°.19S×127°.72E, h0km, mb4.1/4, mb1 4.5/7, mb1mx4.2/18, mbtmp4.4/7, ML4.8/3, MS4.3/2, Ms1 4.4/2, ms1mx3.4/25, Error ellipse: s-maj=99.9km s-min=24.0km az=73.0*
NEIC ***09*** *18:53:38.1±2.7, 7°.49S×127°.99E, h87km±29km, mb4.4/3, Error ellipse: s-maj=23.4km s-min=13.0km az=212.0*
ISCJB ***09*** *18:53:43.6±0.7, 7°.84S±0°.05×127°.91E±0°.09, h166km±10km, mb3.8/4, Error ellipse: s-maj=16.3km s-min=5.9km az=158.8*
DJA ***09*** *18:53:43, 7°.84S×127°.78E, h10km, mb5.4/8*

ISC 09 18:53:44.0±0.7, 7°.89S±0°.05×127°.93E±0°.10, h154km±10km, n33, σ1°.27/38, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.19**	**4**	P	**Pn**	**18 54 45.5**	**-1.3**
MSAI	**Masohi**	**4.63**	**12**	P	**Pn**	**18 54 52.4**	**-0.1**
NLAI	**Namlea**	**4.70**	**350**	P	**Pn**	**18 54 58.0**	**+4.5**
LBMI	**Labuha**	**7.22**	**357**	P	**Pn**	**18 55 27.5**	**+0.5**
	0.1nm46nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.39**	**192**	Pn	**Pn**	**18 56 09.0**	**0.0**
	6.2nm,0.3s,baz=26,slow=10,SNR=119						
FITZ				Sn	**Sn**	**18 58 00.7**	**-3.4**
	2.6nm,0.3s,baz=285,slow=19,SNR=3.9						
FITZ	**Fitzroy Crossi**	**10.39**	**192**	*e*P	**Pn**	**18 56 08.3**	**-0.8**
	29nm,0.3s						
FITZ				*e*S	**Sn**	**18 58 00.1**	**-4.0**
FITZ	**Fitzroy Crossi**	**10.39**	**192**	Pn	**Pn**	**18 56 09.0**	**0.0**
FITZ				Sn	**Sn**	**18 58 00.7**	**-3.4**
FITZ	**Fitzroy Crossi**	**10.39**	**192**	P	**Pn**	**18 56 09.8**	**+0.7**
	26nm,0.6s						
PCI	**Palu**	**10.64**	**310**	P	**Pn**	**18 56 12.4**	**0.0**
	7μm689nm,1.0s						
SGSI	**Sangihe**	**11.75**	**348**	P	**Pn**	**18 56 29.7**	**+2.7**
	1μm,0.5s						
WRAB	**Tennant Creek**	**13.49**	**153**	*e*Pn	**Pn**	**18 56 50.0**	**+0.7**
	25nm,0.8s						
WRAB				*e*Sn	**Sn**	**18 59 16.1**	**-2.7**
WRAB	**Tennant Creek**	**13.49**	**153**	P	**Pn**	**18 56 51.9**	**+2.6**
	59nm,0.9s						
WRA	**Warramunga Arr**	**13.49**	**153**	Pn	**Pn**	**18 56 50.6**	**+1.2**
	6.1nm,0.3s,baz=325,slow=14,SNR=97						
WRA				Sn	**Sn**	**18 59 18.0**	**-0.9**
	4.6nm,0.3s,baz=334,slow=22,SNR=6.9						
WRA	**Warramunga Arr**	**13.49**	**153**	Pn	**Pn**	**18 56 50.6**	**+1.3**
WRA				Sn	**Sn**	**18 59 18.0**	**-0.9**
WB2	**Warramunga Arr**	**13.50**	**153**	*e*Pn	**Pn**	**18 56 50.0**	**+0.6**
WB2				*e*Sn	**Sn**	**18 59 15.4**	**-3.6**
MBWA	**Marble Bar**	**15.38**	**210**	*e*P	**Pn**	**18 57 14.7**	**+1.7**
	8.0nm,0.7s						
AS31	**Alice Springs**	**16.70**	**161**	*e*Pn	**Pn**	**18 57 33.8**	**+4.8**
ASAR	**Alice Springs**	**16.70**	**161**	P	**Pn**	**18 57 34.2**	**+5.2**
	1.9nm,0.3s,baz=340,slow=11,SNR=45						
ASAR	**Alice Springs**	**16.70**	**161**	P	**Pn**	**18 57 34.2**	**+5.2**
KSM	**Kuching**	**19.89**	**297**	*e*P	**P**	**18 58 02.3**	**-1.2**
	21nm,1.0s						

CTA	**Charters Tower**	**21.49 126**	LR	LR	19 07 24.5	
	comp=Z,480nm,18.3s,baz=9.4,slow=38					
CTAO	**Charters Tower**	**21.49 126**	*e*P	**P**	**18 58 21.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**26.81 200**	P	**P**	**18 59 13.5**	**+3.6**
MKAR	**Makanchi Array**	**67.87 328**	P	**P**	**19 04 25.2**	**-0.5**
	1.2nm,0.7s,mb3.8,baz=120,slow=8.0,SNR=4.3					
MKAR	**Makanchi Array**	**67.87 328**	P	**P**	**19 04 25.2**	**-0.5**
ZAA0	**Zalesovo Array**	**71.49 335**	*e*P	**P**	**19 04 46.2**	**-1.5**
ZALV	**Zalesovo Beam**	**71.49 335**	P	**P**	**19 04 47.7**	**0.0**
	1.2nm,0.5s,mb3.9,baz=142,slow=6.0,SNR=2.7					
ZALV	**Zalesovo Beam**	**71.49 335**	P	**P**	**19 04 47.7**	**0.0**
KURK	**Kurchatov**	**72.22 330**	P	**P**	**19 04 51.4**	**-0.7**
	0.8nm,0.6s,mb3.6,baz=196,slow=3.1,SNR=7.4					
KURK	**Kurchatov**	**72.22 330**	*e*P	**P**	**19 04 51.2**	**-0.9**
	8.0nm,1.1s,mb4.4					
BVAR	**Borovoye Array**	**77.73 329**	P	**P**	**19 05 24.2**	**+0.5**
	0.8nm,0.6s,mb3.5,baz=118,slow=12,SNR=1.4					
BVAR	**Borovoye Array**	**77.73 329**	P	**P**	**19 05 24.2**	**+0.5**
ILAR	**Eielson Array**	**95.03 25**	LR	LR	19 49 38.9	
	comp=Z,176nm,18.2s,baz=113,slow=36					

*ISCJB **09** 19:04:06.7±0.4,23°.82N±0°.02×122°.20E±0°.02,h27km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=144.4*
*JMA **09** 19:04:07.9±0.2,23°.94N×122°.22E,h70km,M2.8*
*TAP **09** 19:04:07.5,23°.83N×122°.16E,h24km,ML3.6,D*
ISC 09 19:04:06.8±0.4,23°.83N±0°.02×122°.19E±0°.02,h24km±3km, n56,σ1.9 76/109,6C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.56**	**286**	P	**Pb**	**19 04 18.0**	**0.0**
	baz=286						
HWA				*e*S	**Sb**	**19 04 25.6**	**+0.1**
	baz=286						
TWD	**Chiawan**	**0.60**	**295**	⇑*i*P	**Pb**	**19 04 18.6**	**0.0**
	baz=296						
TWD				*i* S	**Sb**	**19 04 26.8**	**+0.1**
	baz=296						
ESL	**Shilin**	**0.69**	**269**	⇑*i*P	**Pb**	**19 04 19.8**	**-0.4**
	baz=268						
ESL				S	**Sb**	**19 04 29.1**	**-0.4**
	baz=268						
ENA	**Nanau**	**0.72**	**325**	⇑*i*P	**Pb**	**19 04 20.9**	**+0.1**
	baz=327						
ENA				S	**Sb**	**19 04 31.1**	**+0.8**
	baz=327						
TWC	**Suao**	**0.84**	**338**	P	**Pb**	**19 04 22.7**	**+0.1**
	baz=340						
TWC				*e*S	**Sb**	**19 04 33.4**	**-0.1**
	baz=340						
EHY	**Hungye**	**0.86**	**248**	*i* P	**Pb**	**19 04 22.7**	**-0.3**
	baz=247						
EHY				S	**Sb**	**19 04 33.8**	**-0.3**
	baz=247						
WHF	**Hehuan Shan**	**0.90**	**291**	⇑*i*P	**Pb**	**19 04 23.4**	**-0.4**
	baz=291						
WHF				S	**Sb**	**19 04 34.9**	**-0.5**
	baz=291						
TWF1	**Yuli**	**0.95**	**240**	⇑*i*P	**Pb**	**19 04 24.1**	**-0.4**
	baz=239						
TWF1				S	**Sb**	**19 04 36.6**	**-0.1**
	baz=239						
NNS	**Nan Shan**	**0.96**	**309**	P	**Pb**	**19 04 24.6**	**-0.3**
	baz=310						
NNS				*e*S	**Sb**	**19 04 37.2**	**0.0**
	baz=310						
YOJ	**Yonaguni jima**	**0.98**	**50**	P	**Pn**	**19 04 25.2**	**+0.1**
YOJ				*e*S	**Sb**	**19 04 37.8**	**+0.2**
ENTT	**Nioudou**	**0.99**	**325**	*i* P	**Pn**	**19 04 24.9**	**-0.3**
	baz=326						
ENTT				*e*S	**Sb**	**19 04 37.9**	**0.0**
	baz=326						
TWE	**Neicheng**	**1.01**	**332**	*e*P	**Pn**	**19 04 25.4**	**-0.1**
	baz=333						
TWE				*e*S	**Sb**	**19 04 38.4**	**-0.1**
	baz=333						
ILA	**Ilan**	**1.02**	**337**	*e*P	**Pn**	**19 04 25.6**	**0.0**
	baz=338						
ILA				*e*S	**Sb**	**19 04 39.3**	**+0.6**
	baz=338						
TWT	**Tachien**	**1.02**	**295**	P	**Pn**	**19 04 25.5**	**-0.1**
	baz=294						
TWT				*e*S	**Sb**	**19 04 38.6**	**-0.2**
	baz=294						
CHKT	**Chengkung**	**1.05**	**226**	*e*P	**Pn**	**19 04 25.0**	**-1.1**
	baz=225						
CHKT				*e*S	**Sb**	**19 04 37.7**	**-1.9**
	baz=225						
NSK	**Sanguang**	**1.14**	**318**	*e*P	**Pn**	**19 04 27.1**	**-0.2**
	baz=319						
NSK				*e*S	**Sn**	**19 04 40.7**	**-1.4**
	baz=319						
SMLT	**Sun Moon Lake**	**1.18**	**273**	*e*P	**Pn**	**19 04 28.0**	**+0.1**
	baz=272						
SMLT				*e*S	**Sn**	**19 04 42.8**	**-0.5**
	baz=272						
YUS	**Yu-Shan**	**1.19**	**254**	*e*P	**Pn**	**19 04 28.5**	**+0.5**
	baz=253						
YUS				*e*S	**Sn**	**19 04 42.7**	**-0.6**
	baz=253						
TWB1	**Santiao Chiao**	**1.19**	**351**	*e*P	**Pn**	**19 04 27.9**	**-0.1**
	baz=352						
TWB1				*e*S	**Sn**	**19 04 42.2**	**-1.2**
	baz=352						
TYC	**Yuchr**	**1.22**	**274**	*e*P	**Pn**	**19 04 28.4**	**-0.1**
	baz=273						
TYC				*e*S	**Sn**	**19 04 43.7**	**-0.6**
	baz=273						
ELDTW	**Lidau**	**1.25**	**240**	*e*P	**Pn**	**19 04 28.2**	**-0.6**
	baz=238						
ELDTW				*e*S	**Sn**	**19 04 43.7**	**-1.2**
	baz=238						
TWA	**Mucha**	**1.27**	**334**	P	**Pn**	**19 04 29.7**	**+0.5**
	baz=335						
TWA				*e*S	**Sn**	**19 04 45.6**	**+0.1**
	baz=335						
NWF	**Wu-fen Shan**	**1.29**	**343**	*e*P	**Pn**	**19 04 29.9**	**+0.5**
	baz=344						
NWF				*e*S	**Sn**	**19 04 45.0**	**-1.0**
	baz=344						
ALS	**Alishan**	**1.31**	**256**	⇑*i*P	**Pn**	**19 04 30.4**	**+0.8**
	baz=255						
ALS				S	**Sn**	**19 04 46.5**	**+0.1**
	baz=255						
NSTT	**Nanjuang**	**1.35**	**307**	*e*P	**Pn**	**19 04 31.3**	**+1.1**
	baz=307						
NSTT				*e*S	**Sn**	**19 04 47.2**	**-0.1**
	baz=307						
TAP1	**Taipei**	**1.35**	**333**	*e*P	**Pn**	**19 04 30.4**	**+0.2**
	baz=333						
TAP1				*e*S	**Sn**	**19 04 47.3**	**-0.1**
	baz=333						
WNT	**Mingjian**	**1.38**	**272**	P	**Pn**	**19 04 31.8**	**+1.2**
	baz=272						
WNT				*e*S	**Sn**	**19 04 49.0**	**+0.9**
	baz=272						
TWQ1	**Liyutan**	**1.40**	**292**	*e*P	**Pn**	**19 04 32.0**	**+1.1**
	baz=292						
CHN5	**Tsauling**	**1.41**	**261**	P	**Pn**	**19 04 32.1**	**+1.1**
	baz=260						
CHN5				*e*S	**Sn**	**19 04 48.9**	**+0.2**
	baz=260						
TCU	**Taichung**	**1.42**	**283**	*e*P	**Pn**	**19 04 31.2**	**0.0**
	baz=283						
TCU				*e*S	**Sn**	**19 04 48.3**	**-0.8**
	baz=283						
NSY	**Sanyi**	**1.43**	**294**	*e*P	**Pn**	**19 04 31.6**	**+0.3**
	baz=294						
NSY				*e*S	**Sn**	**19 04 48.5**	**-0.9**
	baz=294						
TWG	**Pinlang**	**1.44**	**226**	*e*P	**Pn**	**19 04 30.6**	**-0.8**
	baz=224						
TWG				*e*S	**Sn**	**19 04 48.5**	**-1.1**
	baz=224						
TWS1	**Kuangyinshan**	**1.45**	**331**	*e*P	**Pn**	**19 04 32.0**	**+0.4**
	baz=332						
TWS1				*e*S	**Sn**	**19 04 50.2**	**+0.3**
	baz=332						
NCU	**National Centr**	**1.46**	**321**	*e*P	**Pn**	**19 04 31.3**	**-0.4**
	baz=322						
NCU				*e*S	**Sn**	**19 04 49.6**	**-0.5**
	baz=322						
STYT	**Tauyuan**	**1.47**	**244**	*e*P	**Pn**	**19 04 32.3**	**+0.4**
	baz=242						
STYT				*e*S	**Sn**	**19 04 50.2**	**-0.3**
	baz=242						

HSN	**Hsinchu**	**1.48**	**311**	*e*P	**Pn**	**19 04 31.1**	**-0.8**
	baz=313						
HSN				*e*S	**Sn**	**19 04 50.4**	**-0.1**
	baz=313						
HATJ	**Hateruma jima**	**1.49**	**81**	P	**Pn**	**19 04 32.4**	**+0.3**
HATJ				*e*S	**Sn**	**19 04 50.8**	**-0.1**
IRIF	**Iriomote-Funau**	**1.49**	**70**	P	**Pn**	**19 04 32.4**	**+0.2**
IRIF				*e*S	**Sn**	**19 04 51.2**	**+0.3**
WGK	**Gukeng**	**1.50**	**265**	P	**Pn**	**19 04 33.2**	**+0.9**
	baz=264						
WGK				*e*S	**Sn**	**19 04 52.6**	**+1.5**
	baz=264						
CHY	**Chiayi**	**1.65**	**259**	*e*P	**Pn**	**19 04 35.4**	**+1.0**
	baz=258						
CHY				*e*S	**Sn**	**19 04 54.4**	**-0.5**
	baz=258						
SGST	**Jiashian**	**1.65**	**244**	P	**Pn**	**19 04 36.1**	**+1.8**
	baz=242						
SGST				S	**Sn**	**19 04 56.6**	**+1.7**
	baz=242						
CHN1	**Nanshi**	**1.66**	**248**	P	**Pn**	**19 04 35.7**	**+1.3**
	baz=246						
CHN1				S	**Sn**	**19 04 56.8**	**+1.8**
	baz=246						
ECL	**Taimali**	**1.67**	**223**	*e*P	**Pn**	**19 04 34.0**	**-0.7**
	baz=222						
ECL				*e*S	**Sn**	**19 04 53.5**	**-1.9**
	baz=222						
JKRS	**Kuro-shima**	**1.71**	**76**	P	**Pn**	**19 04 35.7**	**+0.6**
JKRS				*e*S	**Sn**	**19 04 56.5**	**+0.2**
WTCT	**Ta-ch'eng**	**1.75**	**272**	*e*P	**Pn**	**19 04 37.1**	**+1.4**
	baz=271						
WTCT				*e*S	**Sn**	**19 04 59.8**	**+2.6**
	baz=271						
SSD	**Sandimen**	**1.79**	**233**	*e*P	**Pn**	**19 04 37.5**	**+1.2**
	baz=232						
SSD				*e*S	**Sn**	**19 04 58.6**	**+0.3**
	baz=232						
CHN3	**Shinhua**	**1.84**	**246**	*e*P	**Pn**	**19 04 36.5**	**-0.4**
	baz=245						
CHN3				*e*S	**Sn**	**19 04 58.6**	**-0.8**
	baz=245						
JIJ	**Ishigaki jima**	**1.86**	**73**	P	**Pn**	**19 04 37.0**	**-0.2**
JIJ				*e*S	**Sn**	**19 04 58.6**	**-1.4**
LAY	**Lan-yu**	**1.88**	**198**	*e*P	**Pn**	**19 04 36.6**	**-0.8**
	baz=197						
CHN8	**Yiju**	**1.88**	**256**	*e*P	**Pn**	**19 04 37.9**	**+0.5**
	baz=255						
CHN8				*e*S	**Sn**	**19 04 59.8**	**-0.6**
	baz=255						
EAST	**Anshuo**	**1.90**	**221**	*e*P	**Pn**	**19 04 37.8**	**+0.1**
	baz=219						
EAST				*e*S	**Sn**	**19 05 00.7**	**-0.1**
	baz=219						
TWM1	**Shoushan**	**1.91**	**239**	*e*P	**Pn**	**19 04 37.3**	**-0.6**
	baz=237						
SCLT	**Jiali**	**1.95**	**251**	*e*P	**Pn**	**19 04 38.1**	**-0.2**
	baz=250						
SCLT				*e*S	**Sn**	**19 05 01.7**	**-0.4**
	baz=250						
SCZT	**Fangliau**	**2.05**	**225**	*e*P	**Pn**	**19 04 41.3**	**+1.5**
	baz=224						
SCZT				*e*S	**Sn**	**19 05 05.8**	**+1.2**
	baz=224						
JTJ	**Tarama**	**2.43**	**70**	P	**Pn**	**19 04 45.1**	**+0.1**
JTJ				*e*S	**Sn**	**19 05 13.2**	**-0.8**
PNG	**Penghu**	**2.43**	**264**	*e*P	**Pn**	**19 04 45.0**	**0.0**
	baz=263						
PNG				*e*S	**Sn**	**19 05 13.2**	**-0.9**
	baz=263						

*ISCJB **09** 19:12:26.3±1.2,34°.00N±0°.07×26°.23E±0°.06,h17km±9km, mb3.8/8,Error ellipse: s-maj=12.5km s-min=7.4km az=17.9*
*ATH **09** 19:12:26.8,34°.09N×26°.18E,h11km±1km,MD3.6/9*
*IDC **09** 19:12:26.4±1.1,34°.32N×26°.13E,h0km,mb3.9/8, mb1 3.8/11,mb1mx3.6/26,mbtmp3.7/11,ML3.4/3,MS3.7/1, Ms1 3.7/1,ms1mx2.7/39,Error ellipse: s-maj=26.3km s-min=19.0km az=177.0*
*CSEM **09** 19:12:28.9±0.5,34°.15N×26°.22E,h20km,MD3.6,Error ellipse: s-maj=16.3km s-min=8.6km az=20.0*
*NEIC **09** 19:12:28.7±5.2,34°.25N×26°.24E,h18km±36km,Error ellipse: s-maj=20.2km s-min=10.1km az=201.0*
ISC 09 19:12:27.3±1.5,34°.10N±0°.06×26°.19E±0°.04,h12km±9km, n55,σ1.9 26/69,mb3.8/8,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.25**	**338**	*e*PN	**Pn**	**19 12 49.9**	**-0.7**
NPS				*e*SB	**Sb**	**19 13 07.2**	**+0.2**
NPS	**Neapolis**	**1.25**	**338**	*e*Pn	**Pn**	**19 12 49.9**	**-0.7**
NPS				*e*Sb	**Sb**	**19 13 07.2**	**+0.2**
SIVA	**Sivas**	**1.46**	**309**	*e*PG	**Pb**	**19 12 54.2**	**-0.2**
SIVA	**Sivas**	**1.46**	**309**	*e*Pb	**Pb**	**19 12 54.2**	**-0.2**
IDI	**Anoyia**	**1.60**	**318**	*e*PB	**Pb**	**19 12 57.2**	**+0.5**
IDI	**Anoyia**	**1.60**	**318**	*e*Pn	**Pg**	**19 12 57.4**	**-0.6**
IDI	**Anoyia**	**1.60**	**318**	*e*Pb	**Pb**	**19 12 57.2**	**+0.5**
KARP	**Karpathos**	**1.65**	**29**	*e*PB	**Pb**	**19 12 58.2**	**+0.5**
KARP				*e*SB	**Sg**	**19 13 20.7**	**+0.2**
KARP	**Karpathos**	**1.65**	**29**	*e*Pb	**Pb**	**19 12 58.2**	**+0.5**
KARP				*e*Sb	**Sg**	**19 13 20.7**	**+0.2**
VAM	**Vamos**	**2.09**	**309**	*e*PN	**Pb**	**19 13 03.8**	**-1.4**
VAM				*e*SN	**Sb**	**19 13 31.8**	**+0.6**
VAM	**Vamos**	**2.09**	**309**	*e*Pn	**Pb**	**19 13 03.5**	**-1.7**
VAM				*e*Sn	**Sb**	**19 13 31.8**	**+0.6**
KARN	**Karanos**	**2.28**	**305**	*e*PN	**Pb**	**19 13 07.2**	**-1.1**
KARN	**Karanos**	**2.28**	**305**	*e*Pn	**Pb**	**19 13 07.2**	**-1.1**
ARG	**Arkhangelos**	**2.64**	**36**	*e*PN	**Pn**	**19 13 11.9**	**+2.2**
ARG	**Arkhangelos**	**2.64**	**36**	*e*Pn	**Pn**	**19 13 11.9**	**+2.2**
APE	**Apeiranthos**	**3.01**	**350**	*e*PN	**Pn**	**19 13 17.1**	**+2.3**
APE	**Apeiranthos**	**3.01**	**350**	*e*Pn	**Pn**	**19 13 16.1**	**+1.3**
VLI	**Veliai**	**3.73**	**315**	*e*PN	**Pn**	**19 13 26.6**	**+2.0**
VLI	**Veliai**	**3.73**	**315**	*e*Pn	**Pn**	**19 13 26.4**	**+1.8**
CSS	**Prodhromos**	**5.96**	**80**	*e*Pn	**Pn**	**19 13 53.2**	**-2.1**
CSS				*e*Sn	**Sn**	**19 14 57.7**	**-5.7**
CSS	**Prodhromos**	**5.96**	**80**	*e*Pn	**Pn**	**19 13 53.2**	**-2.1**
CSS				*e*Sn	**Sn**	**19 14 57.7**	**-5.7**
MMAI	**Mount Meron Ar**	**7.77**	**95**	Pn	**Pn**	**19 14 21.3**	**+1.2**
	1.0nm,0.3s,baz=296,slow=11,SNR=7.7						
MMAI				Sn	**Sn**	**19 15 45.2**	**-2.8**
	1.4nm,0.3s,baz=338,slow=19,SNR=7.4						
MMAI	**Mount Meron Ar**	**7.77**	**95**	Pn	**Pn**	**19 14 21.3**	**+1.2**
MMAI				Sn	**Sn**	**19 15 45.2**	**-2.8**
MMAI	**Mount Meron Ar**	**7.77**	**95**	Pn	**Pn**	**19 14 21.3**	**+1.2**
MMAI				Sn	**Sn**	**19 15 45.2**	**-2.8**
EIL	**Elat**	**8.66**	**118**	Pn	**Pn**	**19 14 33.9**	**+1.5**
	0.6nm,0.3s,baz=303,slow=6.3,SNR=6.6						
EIL				Sn	**Sn**	**19 16 05.7**	**-4.3**
	0.3nm,0.3s,baz=47,slow=19,SNR=2.4						
EIL	**Elat**	**8.66**	**118**	Pn	**Pn**	**19 14 33.9**	**+1.5**
EIL				Sn	**Sn**	**19 16 05.7**	**-4.3**
EIL	**Elat**	**8.66**	**118**	Pn	**Pn**	**19 14 33.8**	**+1.4**
EIL				Sn	**Sn**	**19 16 05.7**	**-4.3**
TIP	**Timpagrande**	**9.12**	**306**	*e*Pn	**Pn**	**19 14 37.0**	**-1.6**
TIP	**Timpagrande**	**9.12**	**306**	*e*Pn	**Pn**	**19 14 37.0**	**-1.6**
GERES	**GERESS Array B**	**17.42**	**331**	P	**Pn**	**19 16 29.9**	**-0.1**
	0.0nm,0.3s,baz=142,slow=11,SNR=2.9						
GERES	**GERESS Array B**	**17.42**	**331**	P	**Pn**	**19 16 29.9**	**-0.1**
GERES	**GERESS Array B**	**17.42**	**331**	P	**Pn**	**19 16 29.9**	**-0.1**
ESDC	**Sonseca Array**	**24.68**	**292**	P	**P**	**19 17 48.2**	**+0.2**
	0.9nm,0.5s,mb3.5,baz=82,slow=9.7,SNR=7.7						
ESDC	**Sonseca Array**	**24.68**	**292**	P	**P**	**19 17 48.2**	**+0.2**
ESDC	**Sonseca Array**	**24.68**	**292**	P	**P**	**19 17 48.2**	**+0.2**
FINES	**FINESS Array B**	**27.36**	**360**	P	**P**	**19 18 10.1**	**-1.9**
	1.5nm,0.8s,mb3.6,baz=165,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**27.36**	**360**	P	**P**	**19 18 10.1**	**-1.9**
FINES	**FINESS Array B**	**27.36**	**360**	P	**P**	**19 18 10.1**	**-1.9**
TORD	**Torodi Ar. Bea**	**30.49**	**233**	P	**P**	**19 18 41.6**	**+1.3**
	0.4nm,0.6s,mb3.3,baz=37,slow=7.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**30.49**	**233**	P	**P**	**19 18 41.6**	**+1.3**
TORD	**Torodi Ar. Bea**	**30.49**	**233**	P	**P**	**19 18 41.6**	**+1.4**
ARCES	**ARCESS Array B**	**35.49**	**360**	P	**P**	**19 19 20.4**	**-3.0**
	3.4nm,1.1s,mb4.2,baz=188,slow=5.4,SNR=5.2						
ARCES	**ARCESS Array B**	**35.49**	**360**	P	**P**	**19 19 20.4**	**-3.0**
KURK	**Kurchatov**	**41.20**	**50**	P	**P**	**19 20 12.1**	**+0.4**
	0.9nm,0.6s,mb3.5,baz=276,slow=8.8,SNR=6.9						
KURK	**Kurchatov**	**41.20**	**50**	P	**P**	**19 20 12.1**	**+0.4**
KURK	**Kurchatov**	**41.20**	**50**	P	**P**	**19 20 12.1**	**+0.5**
MKAR	**Makanchi Array**	**43.66**	**56**	P	**P**	**19 20 32.9**	**+1.1**
	0.6nm,0.6s,mb3.5,baz=262,slow=7.8,SNR=5.6						
MKAR				LR	LR	19 41 22.1	
	comp=Z,94nm,18.2s,baz=257,slow=40						

MKAR	**Makanchi Array**	**43.66**	**56**	P	**P**	**19 20 32.9**	**+1.1**
MKAR	**Makanchi Array**	**43.66**	**56**	P	**P**	**19 20 32.8**	**+1.1**
ZALV	**Zalesovo Beam**	**45.13**	**45**	P	**P**	**19 20 43.2**	**-0.2**
	0.7nm,0.4s,mb3.8,baz=261,slow=7.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**45.13**	**45**	P	**P**	**19 20 43.2**	**-0.2**
ZALV	**Zalesovo Beam**	**45.13**	**45**	P	**P**	**19 20 43.2**	**-0.2**
SCHQ	**Schefferville**	**64.54**	**320**	P	**P**	**19 23 04.3**	**+0.4**
	3.5nm,0.8s,mb4.5,baz=67,slow=7.7,SNR=2.9						
SCHQ	**Schefferville**	**64.54**	**320**	P	**P**	**19 23 04.3**	**+0.4**
SCHQ	**Schefferville**	**64.54**	**320**	P	**P**	**19 23 04.3**	**+0.4**

IDC 09 19:19:21.9±2.7,5°.50S×151°.58E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/15,mbtmp3.8/4,ML2.9/1,Error ellipse: s-maj=127.2km s-min=23.8km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.85**	**228**	Pn	Pn	19 20 52.0	+2.1
	2.0nm,0.3s,baz=59,slow=12,SNR=9.5						
PMG				Sn	Sn	19 21 59.4	+1.6
	1.0nm,0.3s,baz=339,slow=17,SNR=2.5						
WRA	**Warramunga Arr**	**22.07**	**228**	P	P	19 24 17.3	-1.3
	0.3nm,0.5s,baz=54,slow=10,SNR=5.3						
WRA				S	S	19 28 11.0	-12
	0.2nm,0.3s,baz=46,slow=29,SNR=7.6						
ASAR	**Alice Springs**	**24.82**	**222**	P	P	19 24 45.4	-0.5
	0.8nm,0.7s,baz=54,slow=9.2,SNR=12						
PETK	**Petropavlovsk-**	**58.61**	**4**	P	P	19 29 19.7	-0.8
	7.4nm,1.1s,baz=129,slow=5.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**149.35**	**286**	PKPbc	PKPbc	19 39 14.9	+1.0
	0.4nm,0.7s,baz=74,slow=2.4,SNR=4.2						

GUC 09 19:25:51.2±0.6,30°.37S×66°.82W,h146km±181km,ML4.5, 1C-2D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**3.46**	**272**	⇓*i*P	Pn	19 26 45.9	+1.6
TLL				*i* S	Sn	19 27 26.9	+1.6
TLL				AML	AML	19 27 30.7	
	comp=N,451nm,0.4s						
LCO	**Las Campanas**	**3.64**	**291**	⇓*i*P	Pn	19 26 47.8	+1.2
LCO				*i* S	Sn	19 27 31.1	+1.4
LCO				AML	AML	19 27 32.1	
	comp=E,208nm,0.4s						
CMCH	**Combarbala**	**3.69**	**256**	*i* S	Sn	19 27 31.4	+0.7
CMCH				AML	AML	19 27 39.7	
	comp=N,1μm,0.7s						
PEL	**Peldehue**	**4.30**	**229**	⇑*i*P	Pn	19 26 56.1	+0.8
PEL				*i* S	Sn	19 27 45.7	+0.6
PEL				AML	AML	19 28 06.6	
	comp=E,149nm,0.6s						

*ISCJB **09** 19:38:29.4±2.0,10°.66S±0°.07×164°.77E±0°.10,h82km±17km, mb4.2/23,Error ellipse: s-maj=18.0km s-min=8.0km az=149.5*
*IDC **09** 19:38:31.4±3.3,10°.73S×164°.72E,h87km±27km,mb3.9/15, mb1 4.0/16,mb1mx4.0/20,mbtmp3.9/16,MS3.7/3, Ms1 3.7/3,ms1mx3.4/25,Error ellipse: s-maj=20.8km s-min=14.8km az=75.0*
*NEIC **09** 19:38:31.9±1.5,10°.63S×164°.69E,h90km±12km,mb4.5/9, Error ellipse: s-maj=12.8km s-min=8.8km az=61.0*
ISC 09 19:38:32.0±1.6,10°.67S±0°.07×164°.72E±0°.09,h90km±13km, n74,σ1.9 00/68,mb4.2/23,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.86**	**284**	P	**Pn**	**19 39 42.3**	**-0.5**
	391nm,0.3s,baz=149,slow=3.4,SNR=112						
HNR				S	**Sn**	**19 40 38.8**	**+0.9**
	75nm,0.3s,baz=221,slow=20,SNR=2.3						
HNR	**Honiara**	**4.86**	**284**	P	**Pn**	**19 39 42.3**	**-0.5**
HNR				S	**Sn**	**19 40 38.8**	**+0.9**
HNR				*e*Sn	**Sn**	**19 40 40.2**	**+2.3**
DZM	**Mont Dzumac**	**11.46**	**172**	*e*Pn	**Pn**	**19 41 14.0**	**+1.4**
	22nm,1.0s						
DZM				*e*Sn	**Sn**	**19 43 18.0**	**-0.8**
PMG	**Port Moresby**	**17.34**	**273**	P	**Pn**	**19 42 27.3**	**-1.1**
	0.3nm,0.3s,baz=57,slow=7.1,SNR=6.7						
PMG	**Port Moresby**	**17.34**	**273**	P	**Pn**	**19 42 27.3**	**-1.2**
CTA	**Charters Tower**	**20.10**	**240**	P	**P**	**19 42 59.5**	**+0.8**
	5.8nm,0.7s,baz=65,slow=12,SNR=6.6						
CTA				LR	LR	19 49 51.9	
	comp=Z,149nm,18.3s,baz=54,slow=34						
CTA	**Charters Tower**	**20.10**	**240**	P	**P**	**19 42 59.5**	**+0.8**
CTAO	**Charters Tower**	**20.10**	**240**	*e*P	**P**	**19 42 58.1**	**-0.6**
	10.0nm,0.8s						
AFI	**Afiamalu**	**23.18**	**100**	LR	LR	19 50 36.5	
	comp=Z,244nm,18.6s,baz=252,slow=31						
URZ	**Urewera**	**29.64**	**160**	P	**P**	**19 44 28.5**	**-0.4**
	6.5nm,0.7s,mb4.3,baz=117,slow=4.5,SNR=3.8						
URZ	**Urewera**	**29.64**	**160**	P	**P**	**19 44 28.5**	**-0.4**
STKA	**Stephens Creek**	**30.04**	**222**	LR	LR	19 56 50.8	
	comp=Z,177nm,18.8s,baz=26,slow=37						
WRA	**Warramunga Arr**	**30.68**	**249**	P	**P**	**19 44 36.6**	**-1.8**
	1.0nm,0.6s,mb3.7,baz=75,slow=9.3,SNR=18						
WRA				PcP	PcP	19 47 34.3	-0.2
	1.0nm,1.0s,baz=60,slow=3.7,SNR=4.7						
WRA	**Warramunga Arr**	**30.68**	**249**	P	**P**	**19 44 36.6**	**-1.8**
WRA				PcP	PcP	19 47 34.3	-0.2
ASAR	**Alice Springs**	**32.07**	**242**	P	**P**	**19 44 48.6**	**-2.0**
	0.8nm,0.7s,mb3.5,baz=65,slow=9.9,SNR=19						
ASAR				PcP	PcP	19 47 37.5	-0.7
	0.8nm,0.8s,baz=53,slow=3.6,SNR=6.5						
ASAR	**Alice Springs**	**32.07**	**242**	P	**P**	**19 44 48.6**

DMN	Daman	85.85 299	*e*P	P	19 51 02.9	+0.8
DMN	Daman	85.85 299	*e*P	P	19 51 02.9	+0.8
GKN	Gorkha	86.34 299	*e*P	P	19 51 04.4	-0.1
GKN	Gorkha	86.34 299	*e*P	P	19 51 04.4	-0.1
NVAR	Mina Array Bea	86.55 50	P	P	19 51 05.2	-0.1
	0.4nm,0.8s,mb3.4,baz=240,slow=7.2,SNR=3.3					
NVAR	Mina Array Bea	86.55 50	P	P	19 51 05.2	-0.1
MK31	Makanchi Array	92.56 317	*e*P	P	19 51 33.3	-0.1
MKAR	Makanchi Array	92.56 317	P	P	19 51 33.6	+0.3
	3.8nm,0.8s,mb4.8,baz=98,slow=6.5,SNR=33					
MKAR	Makanchi Array	92.56 317	P	P	19 51 33.6	+0.3
ZAA0	Zalesovo Array	92.66 324	*e*P	P	19 51 33.0	-0.6
ZALV	Zalesovo Beam	92.66 324	P	P	19 51 33.4	-0.3
	2.5nm,0.8s,mb4.6,baz=119,slow=5.1,SNR=11					
ZALV	Zalesovo Beam	92.66 324	P	P	19 51 33.4	-0.3
YKA	Yellowknife Ar	95.10 27	P	P	19 51 41.7	-2.9
	0.3nm,0.9s,mb3.7,baz=260,slow=4.4,SNR=2.5					
YKA	Yellowknife Ar	95.10 27	P	P	19 51 41.7	-2.9
BVAR	Borovoye Array	101.04 322	P	Pdif	19 52 10.1	-1.5
	0.1nm,0.3s,baz=104,slow=4.6,SNR=3.6					
BVAR	Borovoye Array	101.04 322	P	Pdif	19 52 10.1	-1.5
KEST	Kesra	146.51 322	PKPbc	PKPbc	19 58 03.8	+0.4
	4.5nm,1.0s,baz=180,slow=3.0,SNR=6.4					
KEST	Kesra	146.51 322	PKPbc	PKPbc	19 58 03.8	+0.4
ESDC	Sonseca Array	149.41 343	PKPab	PKPab	19 58 16.5	+0.7
	2.0nm,0.7s,baz=20,slow=4.1,SNR=8.1					
ESDC	Sonseca Array	149.41 343	PKPab	PKPab	19 58 16.5	+0.7
TORD	Torodi Ar. Bea	163.21 280	PKP	PKPdf	19 58 24.4	-0.7
	0.8nm,0.9s,baz=59,slow=1.6,SNR=4.7					
TORD	Torodi Ar. Bea	163.21 280	PKP	PKPdf	19 58 24.4	-0.7

IDC 09 19:55:10.9±3.2, 7°.29N×125°.42E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/20, mbtmp3.9/4, Error ellipse: s-maj=336.6km s-min=23.0km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.45	162	P	P	20 01 07.7	0.0
	0.1nm,0.4s,baz=343,slow=8.0,SNR=7.0						
ASAR	Alice Springs	31.87	165	P	P	20 01 38.2	+0.4
	0.7nm,0.3s,baz=339,slow=6.9,SNR=24						
STKA	Stephens Creek	41.90	159	P	P	20 03 02.7	-0.5
	2.5nm,1.1s,baz=348,slow=9.3,SNR=3.2						
MKAR	Makanchi Array	53.91	324	P	P	20 04 36.2	+0.1
	0.9nm,0.5s,baz=124,slow=8.0,SNR=18						

*BJI **09** 20:08:46.7, 19°.99S×177°.96W, h618km, mB4.9/25, mb5.1/41*
*NEIC **09** 20:08:47.9±0.1, 20°.24S×178°.66W, mb5.1/113, Error ellipse: s-maj=7.3km s-min=4.6km az=147.0*
*ISCJB **09** 20:08:48.0±0.1, 20°.25S±0°.04×178°.74W±0°.03, h613km, mb5.0/185, Error ellipse: s-maj=5.5km s-min=2.6km az=156.5*
*IDC **09** 20:08:48.9±0.5, 20°.23S×178°.62W, h616km±5km, mb4.5/21, mb1 4.6/22, mb1mx4.6/22, mbtmp4.5/22, Error ellipse: s-maj=10.0km s-min=8.7km az=144.0*
*BGS **09** 20:08:48.9±6.0, 20°.24S×178°.66W, h606km, mb5.1(NEIC)*
*MOS **09** 20:08:49.2±1.0, 20°.05S×178°.72W, h622km, mb5.1/40, Error ellipse: s-maj=10.0km s-min=7.9km az=65.1*
*GCMT **09** 20:08:52.5±0.7, 19°.92S×178°.45W, h623km±4km, MW5.4, Moment Tensor Solution. s38,c50; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.08±.07; $M_{\theta\theta}$-0.48±.11; $M_{\phi\phi}$0.56±.09; $M_{r\theta}$-1.19±.10; $M_{\theta\phi}$0.83±.10; $M_{\phi r}$-0.52±.11; Best double couple: $M_0$1.60000×10^{17} NP1:ϕ_s163.00000°, δ37.00000°, λ-177.00000°. NP2:ϕ_s71.00000°, δ88.00000°, λ-53.00000°. Principal axes: T 1.7100, Plg33.0000°, Azm130.0000°; N -0.1700, Plg37.0000°, Azm249.0000°; P -1.5400, Plg36.0000°, Azm12.0000°; Data Used: II IU IC CN G.*
*DJA **09** 20:08:58, 20°.40S×179°.75W, h650km, mb5.1/25*

ISC 09 20:08:49.5±0.1, 20°.24S±0°.04×178°.70W±0°.03, h614km, h614km±3.3km; pP-P, n1127, σ0.67/710, mb5.0/185, 246C-221D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.96	309	⇑*i*P	P	20 10 16.0	+0.2
MSVF				*e*S	S	20 11 27.3	+1.2
MSVF	Nonsavu	3.96	309	P	P	20 10 16.0	+0.2
	13μm,1.1s						
MSVF	Nonsavu	3.96	309	⇑*i*P	P	20 10 16.0	+0.2
MSVF				*e*S	S	20 11 27.3	+1.3
AFI	Afiamalu	9.14	48	S	S	20 12 37.2	-10
	21nm,0.3s,baz=0.0,slow=20,SNR=7.6						
FUNA	Funafuti	11.82	350	*e*P	P	20 11 21.4	-5.3
DZM	Mont Dzumac	13.98	260	*e*P	P	20 11 48.0	+0.3
	84nm,0.9s						
DZM	Mont Dzumac	13.98	260	*e*S	P	20 11 50.3	+2.6
OUZ	Omahuta	16.39	203	*e*P	P	20 12 11.7	+2.1
	58nm,0.7s						
RAR	Rarotonga	17.73	96	P	P	20 12 19.0	-3.1
	2.1nm,0.3s,baz=268,slow=6.6,SNR=9.8						
RAR	Rarotonga	17.73	96	P	P	20 12 19.0	-3.1
RAR	Rarotonga	17.73	96	P	P	20 12 19.0	-3.1
URZ	Urewera	18.32	191	P	P	20 12 24.5	-2.6
	13nm,0.3s,baz=31,slow=5.5,SNR=25						
URZ				S	S	20 15 18.7	-4.9
	0.8nm,0.3s,baz=216,slow=19,SNR=6.3						
URZ	Urewera	18.32	191	*e*P	P	20 12 23.7	-3.5
	89nm,0.6s						
URZ				S	S	20 15 18.7	-4.9
URZ				*e*S	S	20 15 20.2	-3.5
SNZO	South Karori	21.74	194	*e*P	P	20 12 55.5	-2.3
	63nm,0.6s,mb5.4						
SNZO				*e*S	S	20 16 14.6	-3.1
TCW	Tory Channel	21.74	194	*e*PN	P	20 12 56.3	-1.6
QRZ	Quartz Range	21.84	198	*e*PN	P	20 12 58.5	-0.3
KHZ	Kahutara	23.06	195	*e*P	P	20 13 07.4	-2.2
	35nm,0.7s,mb5.1						
LTZ	Lake Taylor	23.72	197	*e*PN	P	20 13 13.3	-2.2
RPZ	Rata Peaks	24.92	198	P	P	20 13 25.7	-0.4
	13nm,0.5s,mb4.8,baz=12,slow=9.3,SNR=9.8						
RPZ				ScP	ScP	20 19 21.3	0.0
	20nm,1.0s,baz=43,slow=2.3,SNR=6.2						
RPZ	Rata Peaks	24.92	198	P	P	20 13 25.7	-0.4
RPZ				ScP	ScP	20 19 21.4	0.0
JCZ	Jackson Bay	25.96	201	*e*PN	P	20 13 34.5	-0.7
TBI	Tubuai	27.30	102	*e*LR	LR	20 20 40.0	
	280nm,26.8s						
PPT	Papeete	27.67	89	*e*LR	LR	20 20 44.3	
	422nm,25.9s						
EIDS	Eidsvold	28.28	254	*e*P	P	20 13 55.8	+0.1
	48nm,1.4s,mb4.9						
ARMA	Armidale	28.59	243	*e*P	P	20 13 59.8	+1.5
CNB	Canberra Magne	31.83	235	*e*P	P	20 14 27.8	+1.9
	51nm,0.7s,mb5.3						
CTA	Charters Tower	32.86	264	P	P	20 14 35.5	+0.6
	42nm,0.5s,mb5.4,baz=90,slow=12,SNR=100						
CTA				ScP	ScP	20 19 49.8	+2.4
	12nm,0.9s,baz=16,slow=1.4,SNR=8.2						
CTA	Charters Tower	32.86	264	⇓*i*P	P	20 14 35.7	+0.8
	37nm,0.6s,mb5.2						
CTA				*e*PCP	PcP	20 17 00.3	-0.3
CTA				*e*S	S	20 19 11.5	+0.8
CTA				*e*		20 19 50.3	
CTA	Charters Tower	32.86	264	P	P	20 14 35.5	+0.6
CTA				ScP	ScP	20 19 49.8	+2.4
CTA	Charters Tower	32.86	264	P	P	20 14 35.5	+0.6
CTAO	Charters Tower	32.86	264	*e*P	P	20 14 35.2	+0.4
	47nm,0.6s,mb5.3						
CTAO				*e*ScP	ScP	20 19 49.8	+2.4
CTAO	Charters Tower	32.86	264	*e*P	P	20 14 35.3	+0.4
CTAO				pmax	pmax		
	comp=Z,47nm,0.6s,mb5.3						
CTAO	Charters Tower	32.86	264	P	P	20 14 35.4	+0.5
	comp=Z,980nmcomp=Z,96nm,1.0s,mb5.4						
PMG	Port Moresby	34.64	283	P	P	20 14 50.4	+0.6
	comp=Z,115nm,0.8s,mb5.5,baz=102,slow=6.6,SNR=43						
PMG	Port Moresby	34.64	283	⇓*i*P	P	20 14 50.3	+0.5
	comp=Z,137nm,0.9s,mb5.6						
PMG				*e*pP		20 16 29.3	
PMG	Port Moresby	34.64	283	⇓*i*P	P	20 14 50.3	+0.5
PMG				pmax	pmax		
	comp=Z,137nm,0.9s						
PMG	Port Moresby	34.64	283	P	P	20 14 50.2	+0.4
	comp=Z,156nm,1.0s,mb5.6						
TOO	Toolangi	35.52	233	*e*P	P	20 14 57.9	+1.2
	comp=Z,47nm,0.6s,mb5.2						
COEN	Coen	36.91	274	⇓*i*P	P	20 15 09.1	+0.7
	comp=Z,496nm,0.9s,mb6.0						
COEN				*e*pP		20 16 50.5	
STKA	Stephens Creek	37.31	244	P	P	20 15 12.4	+0.9
	comp=Z,15nm,0.8s,mb4.6,baz=85,slow=7.0,SNR=3.1						
STKA				ScP	ScP	20 20 06.2	+2.6
	comp=Z,3.7nm,0.9s,baz=32,slow=6.2,SNR=3.5						
STKA	Stephens Creek	37.31	244	*e*P	P	20 15 12.3	+0.9
	comp=Z,9.1nm,0.6s,mb4.5						
STKA	Stephens Creek	37.31	244	*e*P	P	20 15 12.3	+0.8
	comp=Z,3.8nm,1.0s,mb3.9						
STKA				*e*PcP	PcP	20 17 14.2	+0.5
STKA				ScP	ScP	20 20 06.2	+2.6
STKA	Stephens Creek	37.31	244	*e*P	P	20 15 12.3	+0.9
STKA				*e*		20 17 14.2	
STKA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BBOO	Buckleboo	42.07	243	⇓*i*P	P	20 15 49.8	+0.4
	comp=Z,595nm,0.9s,mb6.1						
AS31	Alice Springs	43.94	257	*e*P	P	20 16 03.9	-0.1
AS31				*e*PcP	PcP	20 17 35.1	-0.8
AS31				*e*S	S	20 21 51.2	-1.4
ASAR	Alice Springs	43.94	257	P	P	20 16 04.0	0.0
	comp=Z,52nm,0.6s,mb5.2,baz=92,slow=7.6,SNR=60						
ASAR				PcP	PcP	20 17 35.7	-0.2
	comp=Z,13nm,0.7s,baz=105,slow=3.7,SNR=13						
ASAR				ScP	ScP	20 20 31.8	+1.7
	comp=Z,2.3nm,0.8s,baz=109,slow=3.8,SNR=4.4						
ASAR				S	S	20 21 52.0	-0.6
	comp=Z,6.0nm,1.0s,baz=91,slow=15,SNR=18						
ASAR	Alice Springs	43.94	257	P	P	20 16 04.0	0.0
ASAR				PcP	PcP	20 17 35.7	-0.2
ASAR				ScP	ScP	20 20 31.8	+1.7
ASAR				S	S	20 21 52.0	-0.6
ASAR	Alice Springs	43.94	257	P	P	20 16 04.0	0.0
ASAR						20 17 35.7	
ASAR				S	S	20 21 52.0	-0.5
WB2	Warramunga Arr	43.97	262	⇓*i*P	P	20 16 03.8	-0.5
WB2				*e*S	S	20 21 49.9	-3.3
WRAB	Tennant Creek	43.98	262	⇓*i*P	P	20 16 03.9	-0.4
	comp=Z,79nm,0.9s,mb5.2						
WRAB				*e*PcP	PcP	20 17 36.0	-0.1
WRAB				*e*S	S	20 21 50.3	-2.8
WRAB	Tennant Creek	43.98	262	P	P	20 16 04.0	-0.3
	comp=Z,441nm,0.9s,mb6.0						
WRAB	Tennant Creek	43.98	262	⇓*i*P	P	20 16 03.9	-0.4
WRAB				*e*		20 17 36.0	
WRAB				*e*S	S	20 21 50.3	-2.9
WRAB				pmax	pmax		
	comp=Z,79nm,0.9s,mb5.2						
WRAB	Tennant Creek	43.98	262	P	P	20 16 03.7	-0.6
	comp=Z,2μcomp=Z,144nm,1.0s,mb5.4						
WRA	Warramunga Arr	43.98	262	P	P	20 16 03.8	-0.6
	comp=Z,29nm,0.3s,mb5.3,baz=97,slow=7.5,SNR=194						
WRA				PcP	PcP	20 17 36.0	-0.2
	comp=Z,11nm,0.9s,baz=94,slow=3.7,SNR=7.8						
WRA				S	S	20 21 51.8	-1.5
	comp=Z,11nm,1.0s,baz=95,slow=13,SNR=16						
WRA	Warramunga Arr	43.98	262	P	P	20 16 03.8	-0.6
WRA				PcP	PcP	20 17 36.0	-0.2
WRA				S	S	20 21 51.8	-1.5
WRA	Warramunga Arr	43.98	262	P	P	20 16 03.8	-0.6
WRA						20 17 36.0	
WRA				S	S	20 21 51.8	-1.5
HON	Honolulu	46.00	27	*e*P	P	20 16 18.6	-1.0
HON	Honolulu	46.00	27	*e*P	P	20 16 18.6	-1.0
KIP	Kipapa	46.09	27	*e*P	P	20 16 18.7	-1.6
	comp=Z,86nm,0.8s,mb5.3						
KIP	Kipapa	46.09	27	⇑*e*P	P	20 16 19.6	-0.7
KIP				pmax	pmax		
	comp=Z,193nm,1.7s,mb5.4						
FORT	Forrest	48.79	246	*e*P	P	20 16 40.4	0.0
	comp=Z,48nm,0.6s,mb5.1						
GUMO	Guam	49.13	310	P	P	20 16 42.5	-0.6
	comp=Z,149nm,0.8s,mb5.5,baz=135,slow=4.3,SNR=4.2						
GUMO	Guam	49.13	310	P	P	20 16 42.5	-0.6
GUMO	Guam	49.13	310	P	P	20 16 42.5	-0.5
FITZ	Fitzroy Crossi	52.41	262	⇓*i*P	P	20 17 07.0	+0.3
	comp=Z,28nm,0.5s,mb5.8						
FITZ	Fitzroy Crossi	52.41	262	⇓*i*P	P	20 17 06.8	0.0
	comp=Z,16nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	52.41	262	P	P	20 17 06.9	+0.2
	comp=Z,34nm,1.3s,mb4.5						
MSAI	Masohi	53.68	281	P	P	20 17 16.2	+0.4
	comp=Z,399nmcomp=Z,15nm,1.0s,mb4.2						
AAI	Ambon	54.23	280	P	P	20 17 19.0	-0.6
	comp=Z,1μcomp=Z,94nm,1.2s,mb5.0						
AAI	Ambon	54.23	280	P	P	20 17 19.0	-0.6
	comp=Z,1μcomp=Z,94nm,1.2s,mb5.0						
NLAI	Namlea	55.41	280	P	P	20 17 27.9	+0.1
LBMI	Labuha	56.06	283	P	P	20 17 32.7	+0.4
	comp=Z,1μcomp=Z,128nm,1.0s,mb5.1						
MBWA	Marble Bar	57.27	257	*e*P	P	20 17 40.0	-0.4
	comp=Z,44nm,0.8s,mb4.8						
MBWA	Marble Bar	57.27	257	P	P	20 17 40.4	0.0
	comp=Z,64nm,1.2s,mb4.7						
MBWA	Marble Bar	57.27	257	P	P	20 17 40.4	0.0
	comp=Z,64nm,1.2s,mb4.7						
KLBR	Kellerberrin	57.57	245	*e*P	P	20 17 41.6	-0.7
	comp=Z,27nm,0.8s,mb4.4						
NWAO	Narrogin (SRO)	57.90	243	*e*P	P	20 17 44.4	-0.1
	comp=Z,11nm,0.8s,mb4.0						
NWAO	Narrogin (SRO)	57.90	243	*e*P	P	20 17 44.4	-0.1
NWAO				pmax	pmax		
	comp=Z,11nm,0.8s						
SBA	Scott Base	58.08	184	*e*P	P	20 17 46.8	+1.8
	comp=Z,61nm,0.9s,mb4.7						
SBA	Scott Base	58.08	184	*e*P	P	20 17 46.8	+1.8
SBA				pmax	pmax		
	comp=Z,61nm,0.9s,mb4.7						
MMRI	Maumere	58.08	272	P	P	20 17 45.6	-0.5
	comp=Z,1μcomp=Z,118nm,0.9s,mb5.0						
VNDA	Vanda	58.11	185	⇑*i*P	P	20 17 46.1	+0.9
	comp=Z,15nm,0.8s,mb4.2						
VNDA				*e*ScP	ScP	20 21 29.7	-0.5
VNDA	Vanda	58.11	185	⇑*i*P	P	20 17 46.1	+1.0
VNDA				pmax	pmax		
	comp=Z,15nm,0.8s						
WSI	Waingapu	59.59	271	P	P	20 17 56.3	+0.2
	comp=Z,3μcomp=Z,303nm,0.9s,mb5.5						
SGSI	Sangihe	59.66	287	P	P	20 17 57.1	+0.5
	comp=Z,426nm,0.5s,mb6.0						
KMSI	Cibinong	59.76	283	P	P	20 17 57.4	+0.1
	comp=Z,3μcomp=Z,170nm,0.9s,mb5.3						
LUWI	Luwuk	60.24	281	P	P	20 18 00.9	+0.5
LUWI	Luwuk	60.24	281	P	P	20 18 00.8	+0.4
	comp=Z,2μcomp=Z,166nm,1.2s,mb5.1						
GTOI	Gorontalo	60.67	283	P	P	20 18 04.8	+1.5
	comp=Z,1μcomp=Z,120nm,1.0s,mb5.1						
GTOI	Gorontalo	60.67	283	P	P	20 18 04.5	+1.2
	comp=Z,1μcomp=Z,120nm,1.0s,mb5.1						
DAV	Davao City (W)	61.13	291	P	P	20 18 07.0	+0.8
	comp=Z,159nm,0.6s,mb5.5						
BKSI	Bulukumba	61.15	275	P	P	20 18 06.5	+0.1
	comp=Z,22nm,0.9s,mb4.4						
MRSI	Marisa	61.59	282	P	P	20 18 08.5	-0.8
	comp=Z,43nm,1.1s,mb4.6						
MRSI	Marisa	61.59	282	P	P	20 18 09.8	+0.5
	comp=Z,43nm,1.1s,mb4.6						
KAPI	Kappang	61.60	275	P	P	20 18 07.7	-1.6
	comp=Z,33nm,1.3s,mb4.4						
MSSI	Masamba	61.94	278	P	P	20 18 11.4	-0.1
	comp=Z,4μcomp=Z,30nm,0.8s,mb4.6						
CTBH	Cotabato--PC H	62.37	290	⇓*i*P	P	20 18 14.5	+0.3
MTNI	Mataram	63.78	270	P	P	20 18 23.4	+0.1
	comp=Z,86nm,0.8s,mb5.1						
CASY	Casey	63.91	205	*e*P	P	20 18 23.0	-0.2
CASY	Casey	63.91	205	*e*P	P	20 18 22.0	-1.2
	comp=Z,23nm,0.9s,mb4.5						
KHKI	Kahang-Kahang	64.39	270	P	P	20 18 26.8	-0.4
	comp=Z,64nm,1.7s,mb4.7						
IGBI	Denpasar	64.69	270	P	P	20 18 29.7	+0.7
	comp=Z,103nm,1.0s,mb5.2						
SRBI	Singaraja	64.85	270	P	P	20 18 29.9	-0.1
	comp=Z,92nm,0.9s,mb5.2						
NBBI	Negara	65.32	270	P	P	20 18 33.8	+0.8
	comp=Z,182nm,1.0s,mb5.5						
KBKI	Kotabaru	65.55	276	P	P	20 18 35.2	+0.8
MYLDM	Lahad Datu	66.63	285	P	P	20 18 43.9	+2.8
	comp=Z,51nm,1.8s,mb4.7						
TSM	Tawau	66.84	284	P	P	20 18 43.4	+1.1
SDKM	Sandakan	68.00	285	P	P	20 18 50.5	+1.0
KDM	Kudat	68.86	286	P	P	20 18 55.7	+1.1
KKM	Kota Kinabalu	69.06	285	P	P	20 18 56.5	+0.7
KKM	Kota Kinabalu	69.06	285	*e*P	P	20 18 55.9	+0.1
	comp=Z,172nm,1.6s,mb5.2						
MJAR	Matsushiro Arr	69.61	324	P	P	20 18 57.8	-0.8
	comp=Z,34nm,0.6s,mb4.9,baz=155,slow=6.1,SNR=93						
MJAR				pP	pP	20 21 01.4	-0.5
	comp=Z,5.2nm,1.1s,baz=157,slow=5.6,SNR=5.4						
MJAR	Matsushiro Arr	69.61	324	P	P	20 18 57.8	-0.8
MJAR				pP	pP	20 21 01.4	-0.5
MJAR	Matsushiro Arr	69.61	324	P	P	20 18 57.8	-0.8
MJAR				*PP	pP	20 21 01.4	-0.5
MAJO	Matsushiro	69.62	324	*e*P	P	20 18 57.4	-1.2
	comp=Z,39nm,0.7s,mb4.9						
MAJO	Matsushiro	69.62	324	*e*P	P	20 18 57.4	-1.2
MAJO				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.0						
MAT	Matsushiro	69.62	324	P	P	20 18 57.8	-0.8
QSPA	South Pole Qui	69.82	180	P	P	20 18 59.8	+0.7
	comp=Z,53nm,0.7s,mb5.1,baz=28,slow=2.3,SNR=74						
QSPA	South Pole Qui	69.82	180	⇑*i*P	P	20 18 59.7	+0.6
	comp=Z,74nm,0.9s,mb5.1						
QSPA				*e*pP	pP	20 21 02.0	-0.4
STKI	Sintang	71.12	277	P	P	20 19 09.2	+1.2
	comp=Z,79nm,0.9s,mb5.3						
SBUM	Sibu	71.31	280	P	P	20 19 09.9	+0.8
YUK	Yuzh-Kuril'sk	71.73	334	P	P	20 19 11.7	+0.9
YUK				*i *PP	pP	20 21 14.6	-0.6
YUK				*e*PPP		20 23 49.6	
YUK				*e*S	S	20 27 38.7	-4.1
YUK				*i* SS	SS	20 32 35.1	-1.7
YUK				*e*SSS		20 35 55.7	
YUK				pmax	pmax		
	comp=N,296nm,1.4s						
YUK				pmax	pmax		
	comp=Z,442nm,1.7s,mb5.7						
ADK	Adak	71.84	1	*e*P	P	20 19 09.2	-2.0
	comp=Z,97nm,0.6s,mb5.5						
ADK	Adak	71.84	1	*e*P	P	20 19 09.2	-2.0
ADK				pmax	pmax		
	comp=Z,97nm,0.6s,mb5.5						
KSM	Kuching	72.72	278	*e*P	P	20 19 17.5	+0.3
	comp=Z,119nm,1.3s,mb5.3						
KSM	Kuching	72.72	278	P	P	20 19 17.8	+0.6
KSM	Kuching	72.72	278	P	P	20 19 17.8	+0.6
	comp=Z,1μcomp=Z,116nm,1.1s,mb5.3						
YULB	Yu-li	72.81	304	*e*P	P	20 19 15.4	-2.1
	comp=Z,15nm,0.8s,mb4.6						
NACB	Ninganchiao	72.99	304	*e*P	P	20 19 17.4	-1.1
	comp=Z,120nm,1.1s,mb5.3						
ASAJ	Asahikawa	73.19	332	*e*P	P	20 19 20.2	+1.1
	comp=Z,63nm,0.9s,mb5.1						
SSLB	Suanglung	73.28	304	*e*P	P	20 19 18.6	-1.6
	comp=Z,57nm,0.9s,mb5.1						
TPUB	Ta-pu	73.28	303	*e*P	P	20 19 18.5	-1.6
	comp=Z,144nm,0.8s,mb5.6						
DBJI	Dramaga	73.29	269	P	P	20 19 20.3	-0.1
YHNB	Yeheng	73.42	305	*e*P	P	20 19 20.2	-0.6
	comp=Z,38nm,0.8s,mb5.0						
BLSI	Bandar Lampung	75.09	270	P	P	20 19 29.3	-1.3
	comp=Z,2μcomp=Z,109nm,1.0s,mb5.3						
PPBI	Pangkal Pinang	75.33	273	P	P	20 19 32.9	+1.0
	comp=Z,68nm,1.3s,mb5.0						
YSS	Yuzh-Sakhalins	75.37	334	*e*P	P	20 19 31.5	+0.2
	comp=Z,119nm,0.9s,mb5.4						
YSS	Yuzh-Sakhalins	75.37	334	⇓*i*P	P	20 19 31.6	+0.3
YSS				pmax	pmax		
	comp=Z,120nm,0.9s,mb5.4						
PET	Petropavlovsk	75.56	346	⇓*i*P	P	20 19 31.5	-0.7
PET				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.0						
PEA0B	Petropavlovsk-	75.86	346	*e*P	P	20 19 32.8	-1.1
PETK	Petropavlovsk-	75.86	346	P	P	20 19 33.0	-0.9
	comp=Z,83nm,0.8s,mb5.2,baz=136,slow=7.4,SNR=78						
PETK	Petropavlovsk-	75.86	346	P	P	20 19 33.0	-0.9
PETK	Petropavlovsk-	75.86	346	P	P	20 19 33.0	-0.8
KSRS	Korea Array	76.26	319	P	P	20 19 36.6	+0.2
	comp=Z,17nm,0.7s,mb4.6,baz=134,slow=6.1,SNR=60						
KSAR	Wonju Array Be	76.28	319	P	P	20 19 36.6	+0.1
KSAR	Wonju Array Be	76.28	319	P	P	20 19 36.6	+0.1
LWLI	Liwa	76.32	270	P	P	20 19 36.6	-0.7
INCN	Inchon	77.08	318	*e*P	P	20 19 41.2	+0.3
	comp=Z,73nm,1.1s,mb5.0						
BSC	Santa Cruz Isl	77.90	47	⇑P	P	20 19 46.0	+0.6
	baz=78						
SCI	San Clemente I	78.09	48	⇑P	P	20 19 46.4	0.0
	baz=78						
SAC	San Andreas	78.16	42	*e*P	P	20 19 46.5	-0.2
SAC	San Andreas	78.16	42	*e*P	P	20 19 46.5	-0.2
PKM	Peak Mountain	78.29	46	⇑P	P	20 19 48.3	+0.9
	baz=78						
SAO	San Andreas Ge	78.29	44	*e*P	P	20 19 47.7	+0.2
	comp=Z,68nm,1.0s,mb5.0						
SAO	San Andreas Ge	78.29	44	*e*P	P	20 19 47.7	+0.3
SAO				pmax	pmax		
	comp=Z,68nm,1.0s,mb5.0						
SMMC	Simmler	78.40	46	⇑P	P	20 19 48.8	+0.8
	baz=79						
CIS

baz=80
LRMC Laurel Mountai 80.06 46 ⇑P P 20 19 57.2 +0.5
baz=80
KEBM Edson Butte 80.27 37 eP P 20 19 57.7 +0.1
comp=Z,24nm,0.8s,mb4.6
CWC Cottonwood Cre 80.33 45 ⇑P P 20 19 58.4 +0.2
baz=80
BELC Belle Mtn. Jos 80.43 48 ⇑P P 20 19 59.2 +0.5
baz=81
MLAC Mammoth Lakes 80.49 44 ⇓P P 20 19 59.5 +0.6
baz=81
YBH Yreka Blue Hor 80.50 39 eP P 20 19 59.0 +0.1
comp=Z,55nm,0.8s,mb5.0
YBH epP pP 20 22 13.0 +5.6
YBH Yreka Blue Hor 80.50 39 eP P 20 19 59.0 +0.1
YBH e*PP pP 20 22 13.0 +5.6
YBH pmax pmax
comp=Z,55nm,0.8s
MPMC Manual Prospec 80.51 46 ⇑P P 20 19 59.2 +0.1
baz=81
GSC Goldstone 80.56 47 ⇓P P 20 19 59.7 +0.3
baz=81
GSC Goldstone 80.56 47 eP P 20 19 58.6 -0.7
comp=Z,34nm,1.3s,mb4.6
GSC Goldstone 80.56 47 eP P 20 19 58.7 -0.7
GSC pmax pmax
comp=Z,34nm,1.3s,mb4.6
TIN Tinemaha 80.57 45 ⇓P P 20 19 59.4 +0.1
baz=81
BC3 Big Chuckawall 80.63 49 ⇓P P 20 19 60.0 +0.2
baz=81
HEC Hector,Ludlow 80.64 48 ⇓P P 20 19 59.9 +0.2
baz=81
KDAK Kodiak Island 80.72 14 P P 20 19 58.9 -0.7
comp=Z,38nm,0.8s,mb4.9,baz=252,slow=6.4,SNR=11
KDAK Kodiak Island 80.72 14 P P 20 19 58.9 -0.7
KDAK Kodiak Island 80.72 14 P P 20 19 59.0 -0.6
comp=Z,343nm,0.9s,mb5.8,SNR=5.8
KDAK Kodiak Island 80.72 14 P P 20 19 58.9 -0.7
GLA Glamis 80.76 50 ⇓P P 20 20 01.1 +0.7
baz=81
WCN Washoe City 80.86 42 ⇓P P 20 20 01.0 +0.2
baz=81
WCN Washoe City 80.86 42 eP P 20 20 00.8 0.0
comp=Z,48nm,1.0s,mb4.9
WCN Washoe City 80.86 42 eP P 20 20 00.8 0.0
WCN pmax pmax
comp=Z,48nm,1.0s,mb4.9
HUMO Hull Mountain 80.90 38 eP P 20 20 01.0 +0.1
comp=Z,56nm,1.0s,mb5.0
GMRC Granite Mounta 81.08 48 ⇑P P 20 20 02.3 +0.3
baz=81
PDSI Padang 81.09 272 P P 20 20 01.7 -0.9
comp=Z,0.2nmcomp=Z,54nm,1.1s,mb4.9
IRM Iron Mountain 81.11 49 ⇓P P 20 20 02.6 +0.4
baz=81
GRAC Grapevine Rang 81.11 45 ⇓P P 20 20 02.4 +0.3
baz=81
FURC Furnace Creek, 81.16 46 ⇑P P 20 20 03.0 +0.6
baz=81
TUQ Turquoise Moun 81.24 47 ⇓P P 20 20 03.2 +0.4
baz=81
SHOC Shoshone 81.25 47 ⇓P P 20 20 03.1 +0.2
baz=81
NVAR Mina Array Bea 81.29 44 P P 20 20 02.9 -0.2
comp=Z,30nm,0.8s,mb4.8,baz=228,slow=7.0,SNR=150
NVAR Mina Array Bea 81.29 44 P P 20 20 02.9 -0.2
PPI Padang Panjang 81.30 273 P P 20 20 04.5 +0.8
comp=Z,0.0nmcomp=Z,279nmcomp=Z,15nm,0.8s,mb4.4
Y12C Blythe 81.34 49 ⇑P P 20 20 03.7 +0.3
baz=82
113A Mohawk Valley, 81.38 51 ⇓P P 20 20 03.7 +0.1
baz=82
MAW Mawson 81.58 200 P P 20 20 03.3 -0.7
comp=Z,12nm,0.7s,mb4.6,baz=316,slow=18,SNR=24
MAW Mawson 81.58 200 P P 20 20 03.3 -0.7
MAW Mawson 81.58 200 P P 20 20 03.3 -0.7
LDFC Landfair 81.62 48 eP P 20 20 05.6 +0.8
comp=Z,205nm,1.1s,mb5.6
214A Organ Pipe Nat 81.67 52 ⇓P P 20 20 05.8 +0.7
baz=82
Z13A Yuma Proving G 81.68 50 ⇑P P 20 20 05.5 +0.4
baz=82
CN2 Changchun 81.70 323 eP P 20 20 04.8 -0.1
CN2 epP pP 20 22 12.8 -1.2
CN2 esP sP 20 23 12.3 -3.5
CN2 eS S 20 29 33.3 +5.3
CN2 SS SS 20 35 10.4 +5.3
CN2 pmax pmax
comp=Z,70nm,1.0s,mb5.2
CN2 pmax pmax
comp=Z,200nm,3.0s
WHN Wuhan 81.76 307 P P 20 20 05.8 +0.2
WHN pmax pmax
comp=Z,100nm,1.1s,mb5.3
PMSA Palmer Station 81.78 157 P P 20 20 05.0 -0.1
NEE2 Needles Airpor 81.80 48 ⇑P P 20 20 06.2 +0.5
baz=82
COR Corvallis 81.93 36 eP P 20 20 06.1 0.0
comp=Z,13nm,0.6s,mb4.6
COR Corvallis 81.93 36 eP P 20 20 06.1 0.0
COR pmax pmax
comp=Z,13nm,0.6s,mb4.6
KLR Kul'dur 81.97 330 eP P 20 20 01.8 -4.4
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,62nm,1.4s,mb5.0
114A Black Gap (USA 82.01 51 ⇓P P 20 20 07.3 +0.5
baz=82
MOD Modoc 82.04 40 eP P 20 20 06.7 -0.1
comp=Z,63nm,0.8s,mb5.2
HEBO Mount Hebo 82.07 36 eP P 20 20 07.2 +0.4
comp=Z,48nm,0.8s,mb5.1
K05A Summer Lake 82.18 39 ⇑P P 20 20 07.8 +0.4
baz=82
Z14A Wintersburg 82.28 50 ⇓P P 20 20 08.9 +0.7
baz=82
IPM Ipoh 82.44 278 eP P 20 20 09.7 +0.2
comp=Z,73nm,0.8s,mb5.3
IPM Ipoh 82.44 278 P P 20 20 09.8 +0.3
comp=Z,927nmcomp=Z,110nm,1.0s,mb5.3
W13A Hualapai Mount 82.49 48 ⇓P P 20 20 09.5 +0.3
baz=83
MNSI Mandailing Nat 82.50 274 P P 20 20 08.5 -1.3
comp=Z,0.2nmcomp=Z,791nmcomp=Z,45nm,0.8s,mb5.0
UBT Ubonrachathani 82.81 289 ⇑P P 20 20 12.3 +1.1
E03A Lebam 83.02 35 ⇓P P 20 20 11.7 +0.2
baz=83,SNR=13
R11A Troy Canyon, C 83.03 45 ⇑P P 20 20 11.7 -0.1
baz=83
KULM Kulim 83.08 278 eP P 20 20 13.0 +0.4
comp=Z,22nm,0.7s,mb4.8
KULM Kulim 83.08 278 P P 20 20 13.3 +0.7
comp=Z,857nmcomp=Z,66nm,0.8s,mb5.2
BMN Battle Mountai 83.11 42 eP P 20 20 12.0 -0.1
comp=Z,55nm,1.0s,mb5.0
BMN Battle Mountai 83.11 42 eP P 20 20 12.0 -0.1
BMN pmax pmax
comp=Z,55nm,1.0s,mb5.0
RSO Redoubt South 83.13 13 eP P 20 20 09.6 -2.1
comp=Z,136nm,0.9s,mb5.5
HOOD Mount Hood Mea 83.31 37 eP P 20 20 12.8 -0.2
comp=Z,22nm,0.7s,mb4.8
TUC Tucson 83.34 52 eP P 20 20 13.6 +0.1
comp=Z,92nm,1.6s,mb5.1
TUC Tucson 83.34 52 eP P 20 20 13.6 +0.1
TUC pmax pmax
comp=Z,92nm,1.6s,mb5.1
WVOR Wild Horse Val 83.36 40 eP P 20 20 13.2 -0.1
comp=Z,49nm,1.0s,mb5.0
WVOR Wild Horse Val 83.36 40 eP P 20 20 13.2 -0.1
WVOR pmax pmax
comp=Z,49nm,1.0s,mb5.0
NLWA Neilton Lookou 83.39 34 eP P 20 20 13.1 -0.3
comp=Z,86nm,1.2s,mb5.2
318A Bisbee 83.52 53 ⇓P P 20 20 15.0 +0.7
baz=84,SNR=21
SEW Seward 83.53 14 eP P 20 20 12.3 -1.4
comp=Z,70nm,1.0s,mb5.1
SLKM Skilak Lake 83.71 14 eP P 20 20 13.2 -1.4
SLKM Skilak Lake 83.71 14 eP P 20 20 13.2 -1.4
218A Dragoon 83.73 53 ⇓P P 20 20 16.3 +0.9
baz=84,SNR=22
I07A Izee 83.80 39 ⇑P P 20 20 15.7 +0.3
baz=84,SNR=43
PSI Prapat 83.81 275 P P 20 20 15.6 -0.7
comp=Z,0.2nmcomp=Z,465nmcomp=Z,45nm,1.1s,mb4.9
G06A Carlson Farm, 83.83 37 ⇑P P 20 20 15.2 -0.3
baz=84,SNR=13
X16A Lo Mia Camp, P 83.89 50 ⇓P P 20 20 16.6 +0.5
baz=84,SNR=11
Y17A Roosevelt 83.97 51 ⇑P P 20 20 16.7 +0.2
baz=84,SNR=6.2
J08A Circle Bar Ran 83.99 40 ⇑P P 20 20 16.6 +0.2
baz=84,SNR=29
R13A O'Grain Ranch, 84.02 46 ⇓P P 20 20 17.0 +0.3
baz=84
319A Douglas 84.03 54 ⇓P P 20 20 17.7 +0.9
baz=84
GNW Green Mountain 84.05 34 eP P 20 20 16.5 -0.1
comp=Z,19nm,0.9s,mb4.6
LON Longmire 84.09 35 eP P 20 20 15.6 -1.2
comp=Z,9.5nm,1.0s,mb4.3
LON Longmire 84.09 35 eP P 20 20 15.6 -1.2
LON pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
118A Homack Ranch, 84.10 52 ⇓P P 20 20 17.8 +0.6
baz=84,SNR=12
CCUT Cedar City 84.11 47 eP P 20 20 17.2 +0.1
comp=Z,6.2nm,0.6s,mb4.3
ARUT Antelope Range 84.18 46 eP P 20 20 16.8 -0.6
comp=Z,13nm,0.9s,mb4.5
ARUT Antelope Range 84.18 46 eP P 20 20 16.8 -0.7
ARUT pmax pmax
comp=Z,13nm,0.9s,mb4.5
Z18A Geronimo 84.27 52 ⇑P P 20 20 18.8 +0.8
baz=84
X17A Forest Lakes 84.30 50 ⇓P P 20 20 18.6 +0.4
baz=84
219A White Tail Can 84.33 53 ⇑P P 20 20 18.7 +0.3
baz=84,SNR=18
WUAZ Wupatki 84.47 49 ⇑P P 20 20 19.2 +0.2
baz=85
320A Kipp Ranch, An 84.58 54 ⇓P P 20 20 20.5 +0.9
baz=85,SNR=26
Y18A Canyon Day Jun 84.60 51 ⇑P P 20 20 19.9 +0.3
baz=85,SNR=19
119A Ashpeak Ranch, 84.66 52 ⇑P P 20 20 20.3 +0.4
baz=85,SNR=11
W17A Winslow 84.73 50 ⇓P P 20 20 20.7 +0.5
baz=85
220A Playas Peak, P 84.84 53 ⇓P P 20 20 21.3 +0.5
baz=85,SNR=14
PMR Palmer 84.92 14 eP P 20 20 18.6 -1.9
comp=Z,112nm,1.4s,mb5.3
PMR Palmer 84.92 14 eP P 20 20 18.6 -1.9
PMR pmax pmax
comp=Z,112nm,1.4s,mb5.3
V17A Tonalea, Kykot 84.94 49 ⇑P P 20 20 21.6 +0.4
baz=85,SNR=6.4
U16A Tuba City 84.95 49 ⇑P P 20 20 21.8 +0.5
baz=85,SNR=11
X18A Snowflake 85.02 51 ⇓P P 20 20 22.3 +0.7
baz=85,SNR=7.2
120A U Bar Ranch, L 85.06 53 ⇑P P 20 20 22.5 +0.6
baz=85,SNR=11
RSW Rattlesnake Hi 85.10 37 eP P 20 20 21.5 -0.2
comp=Z,102nm,1.2s,mb5.3
HAWA Hanford 85.13 37 eP P 20 20 21.5 -0.4
comp=Z,85nm,1.3s,mb5.2
R15A Junction 85.18 46 ⇑P P 20 20 23.2 +0.8
baz=85
BJI Beijing 85.25 316 P P 20 20 23.1 +0.5
BJI pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
Y19A Nutrioso 85.25 51 ⇑P P 20 20 23.6 +0.8
baz=85,SNR=20
DIV Divide 85.31 15 eP P 20 20 20.9 -1.5
comp=Z,99nm,0.9s,mb5.4
A05A Maple Falls 85.33 33 ⇓P P 20 20 22.1 -0.6
baz=86
Z20A Nine Sixteen R 85.35 52 ⇑P P 20 20 23.9 +0.7
baz=86,SNR=15
MSU Marysvale 85.40 46 eP P 20 20 23.4 0.0
comp=Z,8.6nm,1.0s,mb4.3
MSU Marysvale 85.40 46 eP P 20 20 23.4 0.0
MSU pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
S16A Weppner Ranch, 85.41 47 ⇑P P 20 20 23.2 -0.2
baz=86
ETW Entiat 85.41 35 eP P 20 20 22.6 -0.6
comp=Z,51nm,0.8s,mb5.2
X19A St. Johns 85.45 51 ⇓P P 20 20 23.9 +0.2
baz=86,SNR=5.4
W18A Petrified Fore 85.45 50 ⇑P P 20 20 23.7 0.0
baz=86
221A Mesquite Ranch 85.45 54 ⇑P P 20 20 24.3 +0.6
baz=86,SNR=5.2
BMRM Bremner River 85.47 16 eP P 20 20 21.7 -1.4
comp=Z,96nm,1.2s,mb5.3
U17A Shonto 85.50 48 ⇑P P 20 20 24.4 +0.5
baz=86,SNR=7.5
BMO Blue Mountains 85.53 39 eP P 20 20 23.1 -0.7
comp=Z,21nm,0.8s,mb4.8
V18A Ganado 85.59 50 ⇓P P 20 20 24.7 +0.4
baz=86,SNR=6.0
T17A Navajo Res., N 85.60 48 ⇑P P 20 20 24.7 +0.4
baz=86,SNR=9.0
MFID Camas Ranch 85.62 41 ⇓P P 20 20 24.1 -0.2
baz=86,SNR=26
MFID Camas Ranch 85.62 41 eP P 20 20 23.9 -0.3
comp=Z,35nm,1.0s,mb5.0
121A Cookes Peak, D 85.69 53 ⇓P P 20 20 25.3 +0.4
baz=86,SNR=10
W19A Sanders 85.70 50 ⇑P P 20 20 24.8 -0.1
baz=86,SNR=5.6
DUG Dugway 85.83 45 ⇑P P 20 20 25.3 0.0
baz=86
DUG Dugway 85.83 45 eP P 20 20 24.5 -0.9
comp=Z,4.2nm,0.9s,mb4.1
DUG Dugway 85.83 45 eP P 20 20 24.5 -0.9
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
Y20A Horse Springs, 85.88 52 ⇑P P 20 20 26.5 +0.8
baz=86,SNR=10
S17A Black Ridge (B 85.91 48 ⇑P P 20 20 25.8 0.0
baz=86
TNA Tin City 85.93 4 eP P 20 20 23.8 -1.4
comp=Z,21nm,0.8s,mb4.8
GYA Guiyang 85.95 300 ⇓iP P 20 20 26.6 +0.3
GYA pP pP 20 22 38.4 +1.3
GYA sP sP 20 23 38.9 +0.4
GYA PP PP 20 24 01.2 +2.8
GYA SKS 20 29 53.6
GYA S S 20 30 10.0 -0.1
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.8
GYA pmax pmax
comp=Z,120nm,5.6s
U18A Rough Rock, Ch 85.98 49 ⇑P P 20 20 26.3 +0.1
baz=86,SNR=6.8
E09A Wood Farm, Sta 85.98 37 ⇑P P 20 20 25.6 -0.3
baz=86,SNR=23
222A Williams Famil 86.01 54 ⇑P P 20 20 27.2 +0.8
baz=86
X20A Quemado 86.08 51 ⇑P P 20 20 26.9 +0.3
baz=86,SNR=11
O15A The Old Anders 86.10 45 ⇓P P 20 20 26.7 +0.1
baz=86
Z21A St. Cloud Mine 86.12 53 ⇑P P 20 20 27.9 +1.0
baz=86
OD2 Odessa Site #2 86.17 36 eP P 20 20 26.2 -0.6
comp=Z,49nm,1.0s,mb5.1
F10A Beach Ranch, E 86.20 38 ⇓P P 20 20 26.6 -0.4
baz=86,SNR=84
V19A Window Rock 86.23 50 ⇓P P 20 20 28.0 +0.6
baz=86
I12A Atlanta 86.25 41 ⇓P P 20 20 27.5 +0.3
baz=86,SNR=47
Q16A Castle Valley 86.29 46 ⇑P P 20 20 28.2 +0.6
baz=86
T18A Mexican Hat 86.32 48 ⇑P P 20 20 27.9 +0.2
baz=86,SNR=30
TRF Thorofare Moun 86.34 12 eP P 20 20 25.4 -1.7
comp=Z,80nm,0.8s,mb5.4
W20A Ramah 86.35 51 ⇑P P 20 20 28.3 +0.4
baz=86,SNR=16
122A Conniff Cattle 86.35 53 ⇑P P 20 20 28.7 +0.7
baz=86
R17A Hanksville Air 86.36 47 ⇑P P 20 27.9 0.0
baz=86,SNR=5.1
U19A Dine' College, 86.39 49 ⇑P P 20 20 28.3 +0.2
baz=86,SNR=8.2
Y21A Point of Rocks 86.44 52 ⇓P P 20 20 29.1 +0.8
baz=87,SNR=13
TMUT Trail Mountain 86.45 46 eP P 20 20 28.6 +0.3
comp=Z,12nm,0.6s,mb4.7
S18A Hurst Farm, Bl 86.50 48 ⇓P P 20 20 28.5 -0.1
baz=87
L14A Malta 86.50 43 ⇓P P 20 20 28.4 -0.1
baz=87,SNR=6.5
LHMI Lhok Sumawe 86.51 277 P P 20 20 30.7 +1.5
X21A Alamocita Cree 86.56 51 ⇓P P 20 20 29.2 +0.3
baz=87,SNR=8.7
HLID Hailey 86.56 41 ⇓P P 20 20 29.3 +0.5
baz=87,SNR=53
HLID Hailey 86.56 41 ⇓iP P 20 20 29.1 +0.4
comp=Z,37nm,0.9s,mb5.1
HLID ePP PP 20 23 59.0 -3.9
J13A Cove Ranch, Pi 86.62 41 ⇓P P 20 20 29.6 +0.6
baz=87,SNR=52
Z22A Elephant Butte 86.63 53 ⇑P P 20 20 29.6 +0.3
baz=87,SNR=5.8
C09A Chrisman Ranch 86.65 36 ⇓P P 20 20 28.8 -0.3
baz=87,SNR=13
V20A Brimhall 86.69 50 ⇓P P 20 20 29.4 -0.1
baz=87
O16A Springville 86.70 45 ⇑P P 20 20 29.2 -0.3
baz=87
M15A Larsen Ranch, 86.72 44 ⇓P P 20 20 29.8 +0.3
baz=87
T19A Beclabito 86.77 49 ⇑P P 20 20 30.4 +0.6
baz=87,SNR=5.7
K14A Jones Ranch, D 86.80 42 ⇓P P 20 20 30.1 +0.2
baz=87,SNR=11
H12A Diamond D Ranc 86.82 40 ⇑P P 20 20 30.1 +0.2
baz=87,SNR=91
SRU San Rafael 86.82 46 eP P 20 20 29.6 -0.4
comp=Z,20nm,0.8s,mb4.9
SRU San Rafael 86.82 46 eP P 20 20 29.6 -0.4
SRU pmax pmax
comp=Z,20nm,0.8s,mb4.9
SYO Syowa Base 86.83 193 ⇓iP P 20 20 27.0 -2.6
G12A Big Creek, Yel 86.85 39 ⇓P P 20 20 30.2 +0.2
baz=87,SNR=55
P17A Butcher Ranch, 86.85 46 ⇑P P 20 20 30.3 +0.1
baz=87
MCK McKinley 86.87 13 eP P 20 20 28.0 -1.7
comp=Z,55nm,0.8s,mb5.3
MCK McKinley 86.87 13 eP P 20 20 28.0 -1.7
MCK pmax pmax
comp=Z,55nm,0.8s,mb5.3
R18A Canyonlands Na 86.90 47 ⇓P P 20 20 30.2 -0.2
baz=87,SNR=14
U20A Newcomb 86.92 49 ⇑P P 20 20 31.0 +0.5
baz=87
I13A Wildhorse Cree 86.93 41 ⇑P P 20 20 30.5 0.0
baz=87,SNR=29
Y22A Socorro 86.93 52 ⇑P P 20 20 30.8 +0.1
baz=87,SNR=9.0
DAU Daniels Canyon 86.97 45 eP P 20 20 31.0 +0.3
comp=Z,20nm,1.2s,mb4.7
DAU Daniels Canyon 86.97 45 eP P 20 20 31.0 +0.3
DAU pmax pmax
comp=Z,21nm,1.2s,mb4.7
PAX Paxson 86.97 15 eP P 20 20 28.5 -1.7
comp=Z,115nm,1.9s,mb5.3
PAX Paxson 86.97 15 eP P 20 20 28.5 -1.6
PAX pmax pmax
comp=Z,115nm,1.9s,mb5.3
SKAG Skagway 86.97 21 eP P 20 20 30.1 -0.1
comp=Z,46nm,1.1s,mb5.1
J14A Carey 86.99 42 ⇓P P 20 20 31.4 +0.7
baz=87,SNR=57
LAZ Ladron 87.01 52 eP P 20 20 31.3 +0.3
comp=Z,2.1nm,0.6s,mb4.0
L15A Malad City 87.03 43 ⇑P P 20 20 31.0 0.0
baz=87,SNR=10
425A Indio Mountain 87.05 56 ⇓P P 20 20 31.9 +0.5
baz=87,SNR=18
Q18A Rafter H Ranch 87.08 46 ⇓P P 20 20 31.0 -0.2
baz=87,SNR=7.5
N16A Rees Ranch, Co 87.08 44 ⇑P P 20 20 31.4 +0.2
baz=87
S19A Harvey Farm, M 87.12 48 ⇑P P 20 20 31.4 -0.1
baz=87
MNTX Cornudas Mount 87.14 55 ⇑P P 20 20 31.5 -0.2
baz=87,SNR=17
MNTX Cornudas Mount 87.14 55 eP P 20 20 31.0 -0.8
comp=Z,23nm,1.1s,mb4.8
H13A Challis 87.19 40 ⇓P P 20 20 31.9 +0.2
baz=87,SNR=25
224A Cornudas Mount 87.20 54 ⇓P P 20 20 32.4 +0.4
baz=87,SNR=14
626A Big Bend Ranch 87.20 57 ⇓P P 20 20 32.4 +0.4
baz=87,SNR=27
O17A Robinson Place 87.21 45 ⇓P P 20 20 32.3 +0.5
baz=87,SNR=18
BNM Barren Site 87.28 52 eP P 20 20 32.6 +0.3
comp=Z,4.7nm,0.7s,mb4.3
V21A Milan 87.29 50 ⇓P P 20 20 32.3 0.0
baz=87
R19A Curley Farm, L 87.29 48 ⇓P P 20 20 32.2 -0.1
baz=88,SNR=11
325A Bean Ranch, Si 87.32 55 ⇑P P 20 20 32.8 +0.2
baz=88,SNR=20
LPM Los Pinos Moun 87.35 52 eP P 20 20 31.0 -1.6
comp=Z,11nm,1.1s,mb4.5
I14A Mackay 87.35 41 ⇑P P 20 20 33.0 +0.6
baz=88,SNR=6.1
MENT Mentasta 87.36 15 eP P 20 20 31.4 -0.6
526A Mary Lane Ranc 87.44 57 ⇑P P 20 20 33.7 +0.5
baz=88,SNR=27
XAN Xi'an 87.45 308 P P 20 20 33.9 +0.8
XAN pmax pmax
comp=Z,21nm,1.1s,mb4.8
TXAR Lajitas Array 87.47 58 P P 20 20 33.6 +0.2
comp=Z,18nm,0.8s,mb4.8,baz=215,slow=6.1,SNR=61
TXAR pP pP 20 22 45.3 +0.5
comp=Z,3.3nm,1.1s,baz=217,slow=10.0,SNR=3.2
TXAR Lajitas Array 87.47 58 P P 20 20 33.6 +0.2
TXAR pP pP 20 22 45.3 +0.5
TXAR Lajitas Array 87.47 58 P P 20 20 33.6 +0.3
TXAR *PP pP 20 22 45.3 +0.5
G13A Cobalt 87.48 40 ⇓P P 20 20 32.8 -0.2
baz=88,SNR=34
PV10 Paradox Valley 87.49 48 eP P 20 20 32.4 -0.8
comp=Z,338nm,0.8s,mb6.1
N17A Moffit Pass 87.51 45 ⇑P P 20 20 33.3 +0.1
baz=88,SNR=7.6
124A Stringfield Ra 87.52 54 ⇑P P 20 20 34.0 +0.5
baz=88,SNR=9.2
NEW Newport 87.55 36 ⇓P P 20 20 32.6 -0.6
baz=88,SNR=7.5
NEW Newport 87.55 36 eP P 20 20 31.8 -1.4
comp=Z,14nm,1.1s,mb4.6
NEW Newport 87.55 36 eP P 20 20 31.8 -1.4
NEW pmax pmax
comp=Z,14nm,1.1s
U21A Nageezi 87.56 50 ⇑P P 20 20 33.9 +0.3
baz=88,SNR=28
Q19A Hogan Spring (87.61 47 ⇑P P 20 20 33.6 -0.1
baz=88,SNR=11
Y23A Lovelace Mesa, 87.61 53 ⇓P P 20 20 33.6 -0.3
baz=88,SNR=9.5
L16A Fish Haven 87.65 43 ⇑P P 20 20 33.6 -0.2
baz=88,SNR=8.4
PV01 Paradox Valley 87.70 48 eP P 20 20 33.6 -0.5
comp=Z,2µm,1.2s
S20A Disappointment 87.70 48 ⇓P P 20 20 34.4 +0.2
baz=88,SNR=5.7
O18A Roosevelt 87.73 46 ⇑P P 20 20 34.7 +0.4
baz=88
627A Terlingua Ranc 87.74 58 ⇑P P 20 20 35.2 +0.6
baz=88,SNR=15
225A Deer Hill, Car 87.75 55 ⇑P P 20 20 35.0 +0.5
baz=88
426A McDonald Obser 87.75 56 ⇑P P 20 20 35.2 +0.6
baz=88,SNR=23
ANMO Albuquerque 87.76 52 eP P 20 20 34.1 -0.5
comp=Z,25nm,1.2s,mb4.8
ANMO Albuquerque 87.76 52 eP P 20 20 34.1 -0.4
ANMO pmax pmax
comp=Z,25nm,1.2s
F13A Darby 87.80 39 ⇓P P 20 20 34.2 -0.2
baz=88,SNR=36
527A Woodward Ranch 87.86 57 ⇑P P 20 20 35.2 +0.1
baz=88,SNR=21
R20A Redvale 87.86 48 ⇑P P 20 20 34.7 -0.2
baz=88
V22A San Miguel Ran 87.86 51 ⇑P P 20 20 35.3 +0.3
baz=88

D12A **Red Ives Fores** 87.88 38 ⇓P P 20 20 34.5 -0.3
baz=88
M17A **Scullys Gap (B** 87.88 44 ⇓P P 20 20 34.6 -0.3
baz=88,SNR=5.9
DOT **Dot Lake** 87.88 15 *e*P P 20 20 33.0 -1.4
comp=Z,19nm,0.9s,mb4.8
T21A **Navajo Lake** 87.90 49 ⇑P P 20 20 35.2 0.0
baz=88,SNR=5.1
K16A **Soda Springs** 87.96 43 ⇑P P 20 20 35.6 +0.3
baz=88,SNR=31
I15A **Monteview** 87.98 41 ⇑P P 20 20 35.6 +0.3
baz=88,SNR=11
S21A **Coal Bank Pass** 88.03 49 ⇑P P 20 20 35.9 +0.2
baz=88,SNR=11
L17A **Cokeville** 88.05 44 ⇑P P 20 20 35.1 -0.6
baz=88,SNR=5.1
326A **Caldwell Ranch** 88.06 56 ⇑P P 20 20 35.9 -0.2
baz=88,SNR=5.4
Y24A **Capitan** 88.07 53 ⇓P P 20 20 36.5 +0.5
baz=88,SNR=41
W23A **Werner Place,** 88.08 51 ⇓P P 20 20 36.4 +0.3
baz=88
COLA **College** 88.10 13 *e*P P 20 20 33.5 -1.9
comp=Z,101nm,0.9s,mb5.5
COLA **College** 88.10 13 *e*P P 20 20 33.5 -1.9
COLA pmax pmax
comp=Z,101nm,0.9s,mb5.5
125A **Gardner Draw,** 88.11 54 ⇑P P 20 20 36.2 0.0
baz=88,SNR=7.9
P19A **Cripple Cowboy** 88.12 46 ⇑P P 20 20 36.1 0.0
baz=88
BSI **Banda Aceh** 88.14 277 P P 20 20 37.5 +0.7
comp=Z,0.3nmcomp=Z,741nmcomp=Z,96nm,1.1s,mb5.5
628A **Black Gap, Mar** 88.16 58 ⇓P P 20 20 36.7 +0.2
baz=88,SNR=6.0
J16A **Bone** 88.16 42 ⇓P P 20 20 36.9 +0.7
baz=88,SNR=39
C12B **Naegeli Ranch,** 88.17 37 ⇑P P 20 20 35.9 -0.2
baz=88,SNR=21
MCMT **McKenzie Canyo** 88.19 41 *e*P P 20 20 36.4 +0.1
comp=Z,28nm,1.1s,mb4.9
H15A **Lima** 88.20 41 ⇑P P 20 20 36.7 +0.4
baz=88,SNR=33
ILAR **Eielson Array** 88.21 13 P P 20 20 34.0 -1.9
comp=Z,31nm,0.8s,mb5.1,baz=220,slow=5.7,SNR=294
ILAR pP pP 20 22 47.0 -0.6
comp=Z,3.2nm,1.1s,baz=228,slow=5.6,SNR=6.3
ILAR **Eielson Array** 88.21 13 P P 20 20 34.0 -1.9
ILAR pP pP 20 22 47.0 -0.6
ILAR **Eielson Array** 88.21 13 P P 20 20 34.0 -1.9
ILAR *PP pP 20 22 47.0 -0.7
E13A **Victor** 88.23 39 ⇑P P 20 20 35.9 -0.5
baz=88,SNR=5.5
M18A **Lyman** 88.25 44 ⇑P P 20 20 36.7 0.0
baz=88,SNR=7.5
Q20A **Ridgley Place,** 88.27 47 ⇑P P 20 20 36.8 0.0
baz=88,SNR=6.8
226A **Malaga, Loving** 88.28 55 ⇓P P 20 20 37.5 +0.5
baz=88,SNR=5.5
SNAA **Sanae** 88.28 179 P P 20 20 34.3 -2.0
comp=Z,1.4nm,0.8s,mb3.8,baz=188,slow=8.7,SNR=7.4
427A **Hayter Ranch,** 88.31 56 ⇓P P 20 20 37.6 +0.3
baz=88,SNR=30
V23A **Ortiz Mt. (NFS** 88.31 51 ⇓P P 20 20 37.7 +0.6
baz=88,SNR=5.3
Z25A **Roswell** 88.33 54 ⇓P P 20 20 37.7 +0.5
baz=88,SNR=8.1
O19A **Miners Draw (B** 88.34 46 ⇑P P 20 20 36.9 -0.2
baz=88,SNR=9.3
K17A **Gardner Place,** 88.34 43 ⇑P P 20 20 37.8 +0.7
baz=88,SNR=11
X24A **Lazy VL Ranch,** 88.35 52 ⇑P P 20 20 37.4 +0.1
baz=88
T22A **Edith** 88.36 50 ⇑P P 20 20 37.3 0.0
baz=88
F14A **Wisdom** 88.38 39 ⇓P P 20 20 37.2 0.0
baz=89,SNR=8.7
RRI2 **Red Ridge** 88.39 42 *e*P P 20 20 37.2 0.0
comp=Z,52nm,0.9s,mb5.3
D13A **Huson** 88.42 38 ⇑P P 20 20 36.7 -0.6
baz=89,SNR=9.1
VNA3 **Neumayer Olymp** 88.44 176 *e* P 20 20 36.4 -0.7
VNA3 **Neumayer Olymp** 88.44 176 *e* P 20 20 36.4 -0.7
VNA3 *e* pP 20 22 47.2 -1.6
P20A **De Beque** 88.46 47 ⇑P P 20 20 37.7 0.0
baz=89,SNR=10
528A **Cox Ranch, San** 88.51 57 ⇑P P 20 20 38.4 +0.2
baz=89,SNR=9.8
L18A **Fontenelle, Gr** 88.51 44 ⇑P P 20 20 37.6 -0.3
baz=89
B12A **Libby** 88.52 36 ⇑P P 20 20 37.4 -0.3
baz=89
R21A **Cimarron** 88.52 48 ⇓P P 20 20 38.4 +0.4
baz=89,SNR=19
I16A **Newdale** 88.54 42 ⇑P P 20 20 38.6 +0.6
baz=89,SNR=30
U23A **El Rito** 88.57 50 ⇑P P 20 20 38.3 0.0
baz=89,SNR=8.1
MSO **Missoula** 88.58 38 ⇑P P 20 20 37.4 -0.7
baz=89,SNR=5.4
G15A **Dillon** 88.58 40 ⇓P P 20 20 38.3 +0.2
baz=89,SNR=13
N19A **John Jarvie Ra** 88.58 45 ⇑P P 20 20 37.8 -0.5
baz=89
126A **Clayton Basin,** 88.59 54 ⇓P P 20 20 38.3 -0.2
baz=89
DLMT **Dillon** 88.61 40 *e*P P 20 20 38.0 -0.2
comp=Z,49nm,1.3s,mb5.2
E14A **Clinton** 88.62 39 ⇓P P 20 20 38.0 -0.3
baz=89,SNR=16
Y25A **Mesa, Roswell** 88.62 53 ⇓P P 20 20 38.8 +0.2
baz=89,SNR=6.2
BSMT **Bassoo Peak** 88.63 37 *e*P P 20 20 37.2 -1.1
comp=Z,14nm,0.8s,mb4.9
KMI **Kunming** 88.65 297 ⇑P P 20 20 40.8 +1.9
KMI pP pP 20 22 50.8 +0.1
KMI S S 20 30 33.8 -1.3
KMI pmax pmax
comp=Z,45nm,0.9s,mb5.3
KMI pmax pmax
comp=Z,160nm,4.6s
KMI **Kunming** 88.65 297 ⇑P P 20 20 40.8 +1.9
comp=Z,45nm,0.9s,mb5.3
KMI pP pP 20 22 50.8 +0.1
KMI S S 20 30 33.8 -1.3
KMI LR LR
comp=Z,70nm,18.8s
KMI **Kunming** 88.65 297 ⇑P P 20 20 40.8 +1.9
KMI *PP pP 20 22 50.8 +0.1
KMI S S 20 30 33.8 -1.3
KMI pmax pmax
comp=Z,45nm,0.9s,mb5.3
KMI MLR MLR
comp=Z,70nm,18.8s
W24A **Lazy 6 Ranch,** 88.65 52 ⇓P P 20 20 38.6 -0.1
baz=89,SNR=14
C13A **Hot Springs** 88.66 37 ⇑P P 20 20 37.8 -0.6
baz=89,SNR=6.1
REDW **Red Top Meadow** 88.69 43 *e*P P 20 20 38.4 -0.2
comp=Z,59nm,1.1s,mb5.3
HHC **Hu-ho-hao-te** 88.70 315 ⇓P P 20 20 39.2 +0.4
HHC pP pP 20 22 54.1 +3.4
HHC sP sP 20 23 54.9 +3.1
HHC PP PP 20 24 21.9 +2.2
HHC SKS 20 30 11.0
HHC S S 20 30 34.4 -0.5
HHC sS sS 20 34 29.2 -0.9
HHC SS SS 20 36 50.4 +3.8
HHC pmax pmax
comp=Z,36nm,0.8s,mb5.2
HHC pmax pmax
comp=Z,180nm,7.6s
BILL **Bilibino** 88.72 354 *e*P P 20 20 36.9 -1.3
comp=Z,12nm,0.6s,mb4.9
BILL **Bilibino** 88.72 354 *d i*P P 20 20 37.1 -1.1
BILL *e**PP pP 20 22 49.9 -0.2
BILL *e* 20 24 17.1
BILL *e*S SKSac 20 30 08.7 -0.3
BILL pmax pmax
comp=Z,29nm,1.2s,mb5.0
Q21A **Lamborn Mesa,** 88.72 48 ⇓P P 20 20 39.4 +0.5
baz=89,SNR=7.3
A12A **Yaak River Ran** 88.74 36 ⇑P P 20 20 39.0 +0.3
baz=89,SNR=8.3
S22A **4UR Ranch, Cre** 88.74 49 ⇓P P 20 20 39.1 0.0
baz=89,SNR=10
J17A **Brown Place, J** 88.78 43 ⇑P P 20 20 39.5 +0.4
baz=89,SNR=20
SNOW **Snow King Moun** 88.80 42 *e*P P 20 20 39.8 +0.6
comp=Z,58nm,1.0s,mb5.4
428A **Kincaid Ranch,** 88.83 57 ⇓P P 20 20 39.6 -0.1
baz=89
K18A **Toltan Ranch,** 88.85 43 ⇓P P 20 20 39.5 +0.1
baz=89,SNR=41
O20A **White River Ci** 88.86 46 ⇓P P 20 20 39.5 -0.1
baz=89,SNR=5.9
VNA2 **Neumayer--Watz** 88.87 177 *e* P 20 20 38.8 -0.3
baz=189,slow=5.1
VNA2 **Neumayer--Watz** 88.87 177 *e* P 20 20 38.8 -0.3
baz=189,slow=3.0
VNA2 *e* pP 20 22 50.3 -0.6
227A **Bennet, Jal** 88.88 55 ⇑P P 20 20 40.0 +0.2
baz=89
Z26A **Caprock** 88.88 54 ⇓P P 20 20 39.8 -0.1
baz=89,SNR=7.8
M19A **Rock Springs** 88.89 45 ⇑P P 20 20 39.4 -0.2
baz=89,SNR=9.4
IMW **Indian Meadow** 88.90 42 *e*P P 20 20 39.8 +0.2
comp=Z,37nm,0.9s,mb5.2
IMW *e*PP PP 20 24 17.6 -3.6
SWMT **Swartz Lake** 88.90 38 *e*P P 20 20 38.0 -1.6
comp=Z,2.9nm,0.7s,mb4.2
X25A **Clemmons Ranch** 88.91 53 ⇑P P 20 20 39.8 -0.1
baz=89
F15A **Butte** 88.92 40 ⇓P P 20 20 39.6 -0.1
baz=89,SNR=17
NVL **N'lazarevskaya** 88.94 183 *i* P P 20 20 39.4 0.0
NVL pmax pmax
comp=Z,22nm,0.7s,mb5.1
LRM **Limekiln Ridge** 88.94 40 *e*P P 20 20 39.3 -0.4
comp=Z,136nm,1.0s,mb5.7
D14A **Greenough** 88.96 38 ⇓P P 20 20 39.0 -0.8
baz=89,SNR=13
V24A **Rampart Ranch,** 88.97 51 ⇑P P 20 20 40.6 +0.4
baz=89
T23A **Casias Ranch,** 88.99 50 ⇓P P 20 20 40.6 +0.4
baz=89
328A **Wristen Ranch,** 89.00 56 ⇓P P 20 20 40.2 -0.2
baz=89
R22A **Saguache, Gunn** 89.01 48 ⇓P P 20 20 40.9 +0.6
baz=89,SNR=7.7
CHMT **Chamberlain Mo** 89.02 39 *e*P P 20 20 39.4 -0.7
comp=Z,24nm,1.4s,mb4.8
L19A **Farson** 89.04 44 ⇓P P 20 20 40.6 +0.2
baz=89,SNR=23
QLMT **Earthquake Lak** 89.06 41 *e*P P 20 20 41.0 +0.7
comp=Z,6.8nm,1.2s,mb4.3
B13A **Whitefish** 89.09 37 ⇓P P 20 20 39.5 -0.9
baz=89,SNR=7.0
VNA1 **Neumayer--Stat** 89.10 177 *e* P 20 20 40.5 +0.3
VNA1 **Neumayer--Stat** 89.10 177 *e* P 20 20 40.5 +0.3
H16A **Russell Place,** 89.11 41 ⇓P P 20 20 41.2 +0.6
baz=89,SNR=30
127A **Arkansas Junct** 89.11 55 ⇑P P 20 20 40.7 -0.2
baz=89,SNR=5.7
P21A **Newcastle** 89.12 47 ⇓P P 20 20 41.0 +0.2
baz=89,SNR=5.2
E15A **Deer Lodge** 89.13 39 ⇑P P 20 20 40.4 -0.3
baz=89,SNR=5.0
I17A **Pilgrim Ck.** 89.14 42 ⇑P P 20 20 41.9 +1.1
baz=89,SNR=22
FLWY **Flagg Ranch** 89.14 42 *e*P P 20 20 41.0 +0.3
comp=Z,40nm,1.0s,mb5.2
FLWY *e*PP PP 20 24 20.1 -3.0
J18A **Kendall Valley** 89.14 43 ⇓P P 20 20 41.1 +0.3
baz=89,SNR=96
N20A **Spence Gulch,** 89.17 46 ⇓P P 20 20 41.4 +0.4
baz=89,SNR=27
CHRT **Chiangrai** 89.19 291 ⇓P P 20 20 42.0 +0.5
comp=Z,329nm,0.9s,mb6.2
Q22A **Crested Butte,** 89.19 48 ⇓P P 20 20 41.5 +0.3
baz=89,SNR=2.2
BW06 **Boulder Array** 89.23 43 ⇑P P 20 20 41.1 -0.1
baz=89,SNR=29
PDAR **Pinedale Array** 89.23 43 P P 20 20 40.5 -0.7
comp=Z,28nm,0.9s,mb5.1,baz=212,slow=3.2,SNR=138
PDAR PP PP 20 24 19.6 -4.2
comp=Z,1.4nm,1.0s,baz=237,slow=5.1,SNR=4.4
PDAR **Pinedale Array** 89.23 43 P P 20 20 40.5 -0.7
PDAR PP PP 20 24 19.6 -4.2
YMR **Madison River** 89.26 41 *e*P P 20 20 40.7 -0.6
comp=Z,26nm,0.4s,mb5.4
Y26A **Elida** 89.28 53 ⇑P P 20 20 41.7 +0.1
baz=89
SMCO **Snowmass** 89.29 48 *e*P P 20 20 41.7 +0.2
comp=Z,30nm,1.1s,mb5.0
BOZ **Bozeman (W)** 89.34 40 ⇓P P 20 20 41.5 -0.1
baz=90,SNR=14
BOZ **Bozeman (W)** 89.34 40 *e*P P 20 20 40.6 -1.1
comp=Z,21nm,1.1s,mb4.9
BOZ **Bozeman (W)** 89.34 40 *e*P P 20 20 40.6 -1.0
BOZ pmax pmax
comp=Z,21nm,1.1s,mb4.9
W25A **X Bar L Ranch,** 89.35 52 ⇓P P 20 20 41.5 -0.5
baz=90,SNR=19
H17A **Grant Village** 89.37 42 ⇓P P 20 20 43.1 +1.4
baz=90,SNR=6.3
DAWY **Dawson** 89.40 16 *e*P P 20 20 40.7 -0.7
CM31 **Chiang Mai Arr** 89.41 290 *e*P P 20 20 43.5 +0.9
comp=Z,50nm,1.0s,mb5.3
CMAR **Chiang Mai Arr** 89.41 290 P P 20 20 44.0 +1.4
comp=Z,31nm,0.9s,mb5.1,baz=119,slow=2.9,SNR=184
CMAR pP pP 20 22 54.4 -0.2
comp=Z,1.0nm,0.9s,baz=106,slow=4.8,SNR=1.9
CMAR **Chiang Mai Arr** 89.41 290 P P 20 20 44.0 +1.4
CMAR pP pP 20 22 54.4 -0.2
CMAR **Chiang Mai Arr** 89.41 290 P P 20 20 44.0 +1.4
CMAR *PP pP 20 22 54.4 -0.2
F16A **Kennard Place,** 89.41 40 ⇑P P 20 20 42.5 +0.5
baz=90,SNR=8.9
O21A **Pagoda** 89.42 46 ⇓P P 20 20 42.3 +0.2
baz=90
Z27A **Tatum** 89.48 54 ⇓P P 20 20 41.9 -0.7
baz=90,SNR=5.8
V25A **Rancho No Teng** 89.50 51 ⇓P P 20 20 42.6 0.0
baz=90,SNR=9.9
I18A **Diamond G Ranc** 89.51 43 ⇓P P 20 20 42.6 +0.1
baz=90,SNR=7.9
D15A **Lincoln** 89.52 39 ⇓P P 20 20 42.2 -0.2
baz=90,SNR=8.7
M20A **Sweetwater, Wa** 89.53 45 ⇑P P 20 20 42.5 -0.1
baz=90,SNR=14
EGAK **Eagle** 89.53 15 *e*P P 20 20 41.0 -1.0
comp=Z,61nm,1.0s,mb5.4
CHG **Chiang Mai** 89.54 290 P P 20 20 44.2 +1.0
CHTO **Chiang Mai** 89.54 290 *e*P P 20 20 43.9 +0.7
comp=Z,39nm,0.8s,mb5.3
CHTO **Chiang Mai** 89.54 290 *e*P P 20 20 43.9 +0.7
CHTO pmax pmax
comp=Z,39nm,0.8s,mb5.3
CHTO **Chiang Mai** 89.54 290 P P 20 20 43.9 +0.7
P22A **Eagle** 89.63 47 ⇓P P 20 20 43.2 +0.1
baz=90
N21A **Black Mountain** 89.64 46 ⇑P P 20 20 43.4 +0.3
baz=90,SNR=24
R23A **Moffat** 89.65 49 ⇓P P 20 20 43.4 +0.1
baz=90
L20A **Wamsutter** 89.66 45 ⇓P P 20 20 43.6 +0.4
baz=90,SNR=7.3
SDCO **Great Sand Dun** 89.69 49 ⇓P P 20 20 43.3 -0.1
baz=90,SNR=7.8
SDCO **Great Sand Dun** 89.69 49 *e*P P 20 20 42.0 -1.4
comp=Z,18nm,1.3s,mb4.7
K19A **Absolon Red Bu** 89.72 44 ⇓P P 20 20 43.0 -0.4
baz=90,SNR=14
G17A **Pierce Place,** 89.72 41 ⇑P P 20 20 44.2 +0.8
baz=90,SNR=6.1
COLD **Coldfoot** 89.75 11 *e*P P 20 20 42.3 -0.7
comp=Z,38nm,0.8s,mb5.3
Y27A **Causey** 89.76 54 ⇑P P 20 20 43.7 -0.2
baz=90
B14A **Marquette Ranc** 89.76 37 ⇑P P 20 20 43.1 -0.4
baz=90,SNR=22
WALA **Waterton Lakes** 89.77 37 *e*P P 20 20 42.9 -0.6
comp=Z,2.4nm,1.6s,mb3.8
J19A **Crowheart** 89.79 43 ⇑P P 20 20 43.8 0.0
baz=90,SNR=15
W26A **Owens Ranch, T** 89.81 52 ⇑P P 20 20 44.1 0.0
baz=90
C15A **Salmond Ranch,** 89.84 38 ⇑P P 20 20 43.4 -0.5
baz=90,SNR=5.1
S24A **Houchin Ranch,** 89.85 50 ⇑P P 20 20 44.7 +0.5
baz=90,SNR=13
U25A **Circle Dot Ran** 89.89 51 ⇓P P 20 20 44.4 0.0
baz=90
PLCA **Paso Flores** 89.93 134 P P 20 20 44.7 +0.1
comp=Z,7.6nm,0.8s,mb4.6,baz=223,slow=7.2,SNR=15
PLCA **Paso Flores** 89.93 134 P P 20 20 44.7 +0.1
PLCA **Paso Flores** 89.93 134 P P 20 20 44.7 +0.1
Q23A **Hartsel** 89.96 48 ⇓P P 20 20 44.6 0.0
baz=90
K20A **Yellowstone Ra** 89.97 44 ⇓P P 20 20 44.3 -0.3
baz=90,SNR=20
A14A **Double T Ranch** 90.00 37 ⇑P P 20 20 44.3 -0.3
baz=90,SNR=12
O22A **Kremmling** 90.03 47 ⇓P P 20 20 45.1 +0.2
baz=90,SNR=18
F17A **Fitzpatrick Pl** 90.06 40 ⇓P P 20 20 45.5 +0.5
baz=90,SNR=9.4
H18A **Shoshone NF, C** 90.08 42 ⇓P P 20 20 44.5 -0.5
baz=90
D16A **Dana Ranch, Ca** 90.09 39 ⇓P P 20 20 44.9 -0.2
baz=90,SNR=10
MSTX **Muleshoe** 90.09 54 ⇑P P 20 20 44.9 -0.5
baz=90,SNR=6.2
V26A **Tequesquite Ra** 90.09 52 ⇑P P 20 20 44.9 -0.5
baz=90
CD2 **Chengdu** 90.10 303 ⇓*i*P P 20 20 46.2 +0.7
CD2 pP pP 20 22 56.8 -0.9
CD2 sP sP 20 23 55.5 -3.1
CD2 PP PP 20 24 33.5 +2.7
CD2 SKS 20 30 19.6
CD2 S S 20 30 47.2 -0.7
CD2 sS sS 20 34 39.3 -4.8
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
CD2 pmax pmax
comp=Z,30nm,5.8s
X27A **F and S Farms,** 90.13 53 ⇑P P 20 20 45.6 0.0
baz=90
M21A **Separation Pea** 90.13 45 ⇓P P 20 20 45.4 0.0
baz=90,SNR=25
B15A **Bradely Ranch,** 90.15 38 ⇓P P 20 20 44.4 -0.9
baz=90,SNR=5.7
P23A **Jefferson** 90.16 48 ⇑P P 20 20 46.0 +0.4
baz=90
R24A **Sanders Place,** 90.18 49 ⇓P P 20 20 45.9 +0.2
baz=90
I19A **Meeteetse** 90.19 43 ⇑P P 20 20 45.9 +0.2
baz=90,SNR=12
T25A **Trinidad** 90.21 50 ⇓P P 20 20 45.8 0.0
baz=90,SNR=6.6
E17A **Martinsdale** 90.22 40 ⇑P P 20 20 45.6 0.0
baz=90
L21A **Rawlins** 90.29 45 ⇓P P 20 20 45.6 -0.5
baz=90,SNR=10.0
W27A **Bowe Ranch, En** 90.32 53 ⇓P P 20 20 46.1 -0.4
baz=90
C16A **Fuhringer Ranc** 90.36 38 ⇑P P 20 20 45.8 -0.5
baz=90,SNR=7.4
N22A **Wattenberg Ran** 90.38 46 ⇑P P 20 20 47.2 +0.6
baz=90,SNR=28
U26A **Atchley Ranch,** 90.38 51 ⇓P P 20 20 46.6 0.0
baz=90
A15A **Johnson Ranch,** 90.39 37 ⇓P P 20 20 45.8 -0.6
baz=91,SNR=7.8
S25A **Robets Cordova** 90.41 50 ⇑P P 20 20 47.0 +0.2
baz=91,SNR=15
G18A **Lazy EL Ranch,** 90.45 41 ⇓P P 20 20 47.1 +0.3
baz=91,SNR=5.3
J20A **Shoshoni** 90.46 43 ⇑P P 20 20 47.0 +0.2
baz=91,SNR=20
Q24A **Divide** 90.47 48 ⇓P P 20 20 47.1 +0.1
baz=91
O23A **Lake Granby, G** 90.48 47 ⇑P P 20 20 47.1 0.0
baz=91,SNR=9.0
H19A **Powell** 90.50 42 ⇑P P 20 20 47.1 +0.1
baz=91
ISCO **Idaho Springs** 90.51 47 ⇑P P 20 20 47.5 +0.3
baz=91
RLMT **Red Lodge** 90.54 42 ⇓P P 20 20 47.2 +0.1
baz=91,SNR=7.3
RLMT **Red Lodge** 90.54 42 *e*P P 20 20 47.3 +0.1
comp=Z,7.3nm,0.9s,mb4.6
M22A **Cedar Creek Ra** 90.55 46 ⇓P P 20 20 47.4 +0.1
baz=91,SNR=14
F18A **Big Timber** 90.64 41 ⇓P P 20 20 47.7 +0.1
baz=91,SNR=6.5
D17A **Six Diamond Ra** 90.66 39 ⇑P P 20 20 47.6 -0.1
baz=91,SNR=22
K21A **Alcova** 90.67 44 ⇑P P 20 20 47.8 -0.1
baz=91,SNR=15
B16A **M & M Farms, S** 90.69 38 ⇓P P 20 20 47.1 -0.6
baz=91,SNR=14
I20A **Worland** 90.70 43 ⇑P P 20 20 47.7 -0.3
baz=91,SNR=6.8
R25A **Fountain Ranch** 90.73 49 ⇓P P 20 20 47.8 -0.4
baz=91,SNR=5.4
N23A **Red Feather La** 90.76 46 ⇑P P 20 20 48.6 +0.2
baz=91,SNR=17
E18A **Harlowton** 90.83 40 ⇑P P 20 20 48.5 0.0
baz=91
C17A **Wharram Farm,** 90.85 39 ⇑P P 20 20 48.2 -0.3
baz=91,SNR=13
J21A **Lysite** 90.87 44 ⇑P P 20 20 49.0 +0.3
baz=91,SNR=19
L22A **Ellis Ranch, M** 90.94 45 ⇑P P 20 20 49.4 +0.3
baz=91,SNR=14
JCT **Junction City** 91.00 58 ⇑P P 20 20 49.4 -0.3
baz=91
H20A **Greybull** 91.04 43 ⇑P P 20 20 49.0 -0.5
baz=91
F19A **Roth Farm, Mol** 91.09 41 ⇑P P 20 20 49.6 -0.1
baz=91
B17A **L&G Farms, Che** 91.15 38 ⇑P P 20 20 49.7 -0.3
baz=91,SNR=8.1
K22A **Casper** 91.16 45 ⇑P P 20 20 49.9 -0.2
baz=91,SNR=6.8
M23A **Laramie** 91.17 46 ⇑P P 20 20 50.3 +0.1
baz=91,SNR=11
I21A **Big Trails, Te** 91.18 43 ⇓P P 20 20 49.7 -0.5
baz=91,SNR=13
P25A **Willow Gulch B** 91.39 48 ⇑P P 20 20 51.3 0.0
baz=92,SNR=7.8
R26A **Arlington** 91.39 50 ⇑P P 20 20 51.0 -0.3
baz=92,SNR=12
E19A **Rath Farm, Rou** 91.47 41 ⇑P P 20 20 51.6 +0.2
baz=92,SNR=5.6
J22A **Midwest** 91.53 44 ⇓P P 20 20 51.3 -0.5
baz=92
A17A **Triple J Farms** 91.53 38 ⇓P P 20 20 51.6 -0.1
baz=92,SNR=18
YAK **Yakutsk** 91.63 338 *e*P P 20 20 50.2 -1.6
comp=Z,69nm,0.8s,mb5.7
YAK **Yakutsk** 91.63 338 *d i*P P 20 20 50.3 -1.5
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=Z,54nm,0.8s,mb5.6
YAK pmax pmax
comp=N,6.0nm,1.4s
EFI **East Falkland** 91.65 148 P P 20 20 53.7 +1.4
EFI **East Falkland** 91.65 148 P P 20 20 53.7 +1.4
H21A **Big Horn, Sher** 91.71 43 ⇓P P 20 20 52.3 -0.3
baz=92
I22A **9 Mile Ranch,** 91.74 44 ⇑P P 20 20 52.6 -0.2
baz=92
D19A **Cripps Ranch,** 91.74 40 ⇑P P 20 20 52.6 -0.1
baz=92,SNR=9.8
M24A **Cheyenne** 91.77 46 ⇑P P 20 20 53.4 +0.4
baz=92
K23A **Bowen Ranch, D** 91.80 45 ⇑P P 20 20 52.8 -0.2
baz=92
B18A **Beardsley Farm** 91.80 38 ⇓P P 20 20 52.6 -0.3
baz=92
E20A **Meyer Farm, Mu** 91.89 41 ⇓P P 20 20 53.3 0.0
baz=92
C19A **Slack Wire Ran** 91.91 39 ⇑P P 20 20 53.7 +0.3
baz=92
L24A **Wheatland** 91.95 46 ⇓P P 20 20 53.9 +0.2
baz=92
A18A **Metzger Ranch,** 92.01 38 ⇑P P 20 20 53.5 -0.3
baz=92
LZH **Lanzhou** 92.09 308 *e*P P 20 20 55.9 +1.3
LZH pP pP 20 23 11.1 +4.1
LZH sP sP 20 24 06.8 -1.1
LZH PP PP 20 24 48.2 +2.0
LZH *e*S S 20 31 04.7 -0.6
LZH pmax pmax
comp=Z,34nm,1.0s,mb5.3
LZH pmax pmax
comp=Z,69nm,4.1s

LZH Lanzhou 92.09 308 *eP* **P 20 20 55.9 +1.3**
comp=Z,34nm,1.0s,mb5.3
LZH pP pP 20 23 11.1 +4.1
LZH sP sP 20 24 06.8 -1.1
LZH PP PP 20 24 48.2 +2.0
LZH *e*S S 20 31 04.7 -0.6
LZH sS sS 20 34 54.5 -8.3
LZH Lanzhou 92.09 308 *eP* **P 20 20 55.9 +1.3**
LZH *PP pP 20 23 11.1 +4.1
LZH *SP sP 20 24 06.8 -1.1
LZH 20 24 48.2
LZH *e*S S 20 31 04.7 -0.6
LZH pmax pmax
comp=Z,34nm,1.0s,mb5.3
D20A Manuel Ranch, 92.16 40 ⇑P **P 20 20 54.9 +0.3**
baz=92
M25A Palm-Egli Farm 92.28 47 ⇓P **P 20 20 55.5 +0.2**
baz=92
B19A Brinkman Farms 92.31 39 ⇑P **P 20 20 55.3 +0.1**
baz=92
K24A Anderson Ranch 92.32 45 ⇑P **P 20 20 55.3 -0.1**
baz=92
G22A Birney 92.45 42 ⇑P **P 20 20 55.9 -0.1**
baz=93
E21A Keefer Ranch, 92.55 41 ⇓P **P 20 20 56.5 +0.1**
baz=93
L25A Engebretsen Ra 92.65 46 ⇑P **P 20 20 57.2 +0.3**
baz=93
J24A Dixon Ranch, L 92.68 45 ⇑P **P 20 20 57.4 +0.3**
baz=93
F22A Rosebud 92.72 42 ⇓P **P 20 20 57.8 +0.6**
baz=93
K25A Mack Ranch, Ha 92.90 46 ⇑P **P 20 20 58.5 +0.3**
baz=93
G23A Biddle 93.02 43 ⇑P **P 20 20 58.3 -0.3**
baz=93
A20A Cobblestone Ra 93.11 39 ⇓P **P 20 20 58.3 -0.6**
baz=93
C21A Desert Coulee 93.12 40 ⇑P **P 20 20 59.1 +0.1**
baz=93
LAO LASA Array 93.15 41 ⇑P **P 20 20 59.1 0.0**
baz=93
E22A Miles City 93.20 41 ⇑P **P 20 20 59.3 -0.1**
baz=93
F23A Volborg 93.23 42 ⇑P **P 20 20 59.1 -0.4**
baz=93
H24A Dirks Ranch, A 93.36 43 ⇓P **P 20 20 59.6 -0.5**
baz=94
D22A Cohagen 93.38 41 ⇓P **P 20 20 59.9 -0.3**
baz=94
K26A Motz Farm, Whi 93.40 46 ⇑P **P 20 21 00.3 -0.1**
baz=94
RSSD Black Hills 93.43 44 *eP* **P 20 20 59.2 -1.2**
comp=Z,7.1nm,0.8s,mb4.8
RSSD Black Hills 93.43 44 *eP* **P 20 20 59.2 -1.3**
RSSD pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
E23A Ismay 93.63 42 ⇑P **P 20 21 01.2 -0.1**
baz=94
G24A Alzada 93.69 43 ⇑P **P 20 21 01.3 -0.3**
baz=94
L27A T5 Ranch, Ells 93.74 46 ⇑P **P 20 21 01.6 -0.3**
baz=94
A21A Bergtoll Ranch 93.75 39 ⇑P **P 20 21 01.5 -0.3**
baz=94
C22A Vida 93.82 40 ⇑P **P 20 21 02.0 -0.2**
baz=94
F24A Ekalaka 93.89 42 ⇓P **P 20 21 02.2 -0.3**
baz=94
D23A Lindsay 93.98 41 ⇓P **P 20 21 02.9 0.0**
baz=94
B22A Reddig Ranch S 94.00 40 ⇑P **P 20 21 02.8 -0.1**
baz=94
K27A Flueckinger Fa 94.04 46 ⇓P **P 20 21 03.4 +0.2**
baz=94
INK Inuvik 94.20 15 *eP* **P 20 21 01.4 -2.1**
comp=Z,23nm,1.3s,mb5.2
INK Inuvik 94.20 15 *eP* **P 20 21 01.4 -2.0**
INK pmax pmax
comp=Z,23nm,1.3s
C23A Lambert 94.27 40 ⇓P **P 20 21 04.1 -0.1**
baz=94
E24A Baker 94.28 42 ⇓P **P 20 21 04.1 -0.2**
baz=94
A22A Carney Farms, 94.35 39 ⇑P **P 20 21 04.2 -0.3**
baz=94
D24A Glendive 94.50 41 ⇓P **P 20 21 05.5 +0.2**
baz=95
C24A Savage 94.62 41 ⇑P **P 20 21 05.7 -0.1**
baz=95
B23A Brockton 94.67 40 ⇑P **P 20 21 05.5 -0.5**
baz=95
ULN Ulaanbaatar 94.74 319 *eP* **P 20 21 05.5 -0.8**
comp=Z,7.5nm,0.8s,mb4.9
ULN Ulaanbaatar 94.74 319 *eP* **P 20 21 05.5 -0.8**
ULN pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
SONM Songino Array 95.13 319 P **P 20 21 07.4 -0.7**
comp=Z,3.0nm,0.8s,mb4.5,baz=130,slow=4.2,SNR=17
SONM pP pP 20 23 21.9 +1.0
comp=Z,1.1nm,1.0s,baz=113,slow=3.3,SNR=3.8
SONM PP PP 20 25 06.8 -2.4
comp=Z,2.0nm,1.0s,baz=108,slow=7.3,SNR=5.2
SONM Songino Array 95.13 319 P **P 20 21 07.4 -0.7**
SONM pP pP 20 23 21.9 +1.0
SONM PP PP 20 25 06.8 -2.4
SONM Songino Array 95.13 319 P **P 20 21 07.4 -0.7**
SONM *PP pP 20 23 21.9 +1.1
SONM 20 25 06.8
DGMT Dagmar 95.15 40 ⇓P **P 20 21 08.2 +0.1**
baz=95
CFAA Coronel Fontan 95.78 127 P **P 20 21 10.7 -0.9**
comp=Z,0.2nm,0.2s,mb3.9,baz=252,slow=7.9,SNR=5.1
CFAA Coronel Fontan 95.78 127 P **P 20 21 10.7 -0.9**
GTA Gaotai 96.30 310 *eP* **P 20 21 13.9 +0.3**
GTA pP pP 20 23 26.4 -0.1
GTA sP sP 20 24 23.0 -4.2
GTA SKS 20 30 54.9
GTA S S 20 31 40.9 -0.4
GTA SS SS 20 38 39.5 +5.6
GTA pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
GTA pmax pmax
comp=Z,66nm,6.2s
YKA Yellowknife Ar 96.56 25 P **P 20 21 12.7 -1.4**
comp=Z,3.1nm,0.7s,mb4.7,baz=245,slow=4.4,SNR=40
YKA pP pP 20 23 26.5 -0.6
comp=Z,0.6nm,0.8s,baz=244,slow=4.4,SNR=3.2
YKA PP PP 20 25 17.3 -2.2
comp=Z,1.5nm,1.0s,baz=245,slow=7.6,SNR=5.3
YKA Yellowknife Ar 96.56 25 P **P 20 21 12.7 -1.4**
YKA pP pP 20 23 26.5 -0.6
YKA PP PP 20 25 17.3 -2.2
YKA Yellowknife Ar 96.56 25 P **P 20 21 12.7 -1.4**
YKA *PP pP 20 23 26.5 -0.6
YKA 20 25 17.3
ZAK Zakamensk 98.01 321 *eP* Pdif 20 21 17.2 -3.9
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.5
TAPN Taplejung 102.09 295 *eP* PKiKP 20 25 58.0 -0.1
ODAN Odare 102.22 294 *eP* PKiKP 20 25 57.9 -0.4
comp=Z,17nm,0.9s
RAMN Ramite 102.93 294 *eP* PKiKP 20 25 59.0 -0.6
comp=Z,16nm,0.8s
JIRN Jiri 103.47 295 *eP* PKiKP 20 25 59.8 -0.8
GUN Gumba 103.81 295 *eP* PKiKP 20 26 00.0 -1.2
PKI Pulchoki 104.12 294 *eP* PKiKP 20 26 00.5 -1.3
KKN Kakani 104.28 295 *eP* PKiKP 20 26 00.8 -1.3
comp=Z,6.2nm,0.6s
GKN Gorkha 104.89 295 *eP* PKiKP 20 26 01.5 -1.7
KOLN Koldanda 105.72 294 *eP* PKiKP 20 26 03.0 -1.7
comp=Z,5.1nm,0.5s
KOLN Koldanda 105.72 294 *eP* PKiKP 20 26 03.0 -1.7
DANN Dangsing 105.73 295 *eP* PKiKP 20 26 03.8 -0.9
DANN Dangsing 105.73 295 *eP* PKiKP 20 26 03.8 -0.9
RES Resolute Bay 107.74 16 PKiKP PKiKP 20 26 04.1 -3.1
comp=Z,2.1nm,0.9s,baz=250,slow=3.6,SNR=4.2
RES Resolute Bay 107.74 16 PKiKP PKiKP 20 26 04.1 -3.0
ZAA0 Zalesovo Array 109.88 321 *e*PKPdf PKiKP 20 26 09.6 -2.1
ZALV Zalesovo Beam 109.88 321 Pdiff Pdif 20 22 12.7 -1.1
comp=Z,0.4nm,0.4s,baz=117,slow=5.5,SNR=2.4
ZALV PKiKP PKiKP 20 26 09.4 -2.3
comp=Z,5.4nm,0.6s,baz=135,slow=0.8,SNR=28
ZALV Zalesovo Beam 109.88 321 Pdif Pdif 20 22 12.7 -1.1
ZALV PKiKP PKiKP 20 26 09.4 -2.3
ZALV Zalesovo Beam 109.88 321 P Pdif 20 22 12.7 -1.2

MK31 Makanchi Array 110.54 314 *e*PKPdf PKiKP 20 26 11.3 -1.9
MK31 Makanchi Array 110.54 314 *e*PKIKP PKiKP 20 26 11.3 -1.9
MKAR Makanchi Array 110.54 314 Pdiff Pdif 20 22 16.5 -0.3
comp=Z,1.1nm,0.8s,baz=106,slow=3.7,SNR=8.0
MKAR PKiKP PKiKP 20 26 11.6 -1.6
comp=Z,5.0nm,0.7s,baz=62,slow=1.3,SNR=41
MKAR SKP 20 28 49.5
comp=Z,1.4nm,0.9s,baz=98,slow=2.9,SNR=4.1
MKAR PKKPbc PKKPbc 20 37 10.7 -4.6
comp=Z,0.4nm,0.5s,baz=289,slow=4.7,SNR=9.5
MKAR Makanchi Array 110.54 314 Pdif Pdif 20 22 16.5 -0.3
MKAR PKiKP PKiKP 20 26 11.6 -1.6
MKAR SKP 20 28 49.5
MKAR PKKPbc PKKPbc 20 37 10.7 -4.6
MKAR Makanchi Array 110.54 314 P Pdif 20 22 16.5 -0.3
MKAR *i* 20 26 11.6
NVS Novosibirsk 110.90 322 *i* PKIKP PKiKP 20 26 11.9 -1.7
NVS *e* 20 26 59.7
NVS pmax pmax
comp=Z,10.0nm,1.2s
NVS pmax pmax
comp=N,4.0nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
KURK Kurchatov 113.36 317 Pdiff Pdif 20 22 29.7 +0.3
comp=E,0.1nm,0.3s,baz=89,slow=5.7,SNR=2.9
KURK PKiKP PKiKP 20 26 16.8 -1.7
comp=E,7.6nm,0.7s,baz=94,slow=1.9,SNR=74
KURK SKP 20 28 55.8
comp=E,3.0nm,0.9s,baz=89,slow=2.2,SNR=7.4
KURK PKKPbc PKKPbc 20 37 04.7 -1.6
comp=E,0.3nm,0.8s,baz=268,slow=4.2,SNR=6.6
KURK Kurchatov 113.36 317 Pdif Pdif 20 22 29.7 +0.3
KURK PKiKP PKiKP 20 26 16.8 -1.7
KURK SKP 20 28 55.8
KURK PKKPbc PKKPbc 20 37 04.7 -1.6
KURK Kurchatov 113.36 317 *c i* PKIKP PKiKP 20 26 16.3 -2.1
KSH Kashi 114.20 305 *e*PKP PKiKP 20 26 20.5 +0.1
KSH PP PP 20 27 32.7 +4.7
KSH sPKP 20 29 36.4
KSH PKS 20 29 56.3
KSH SKS SKSdf 20 32 36.4 +1.3
KSH SKKS SKKSac 20 33 22.2 -3.4
KSH SS SS 20 42 36.5 +2.2
KSH AMB AMB
comp=Z,200nm,5.1s
TKM2 Tokmak 2 114.84 309 P PKPdf 20 26 20.2 -1.3
SNR=10.0
TKM2 P 20 26 20.2
SNR=10.0
TKM2 Tokmak 2 114.84 309 *e*PKPdf PKPdf 20 26 19.9 -1.6
TKM2 *e*PP PP 20 27 29.6 -2.7
TKM2 *e*SKP 20 28 59.0
TKM2 Tokmak 2 114.84 309 *e*PKIKP PKPdf 20 26 19.9 -1.6
TKM2 *e* 20 27 29.6
KBK Karagaybulak 115.29 308 P PKPdf 20 26 21.5 -0.9
SNR=6.5
KBK P 20 26 21.5
SNR=6.5
AAK Ala-Archa 115.62 308 ⇑ *i* PKIKP PKPdf 20 26 22.3 -0.8
USP Ospenovka 115.67 309 P PKPdf 20 26 21.9 -1.2
SNR=11
USP P 20 26 21.9
SNR=11
EKS2 Erkin-Say 116.15 308 P PKPdf 20 26 23.3 -0.8
SNR=6.1
EKS2 P 20 26 23.3
SNR=6.1
AML Almayashu 116.17 308 P PKPdf 20 26 23.8 -0.3
SNR=15
AML P 20 26 23.8
SNR=15
BVAR Borovoye Array 118.46 320 PKP PKPdf 20 26 26.6 -1.5
comp=Z,15nm,0.6s,baz=98,slow=2.0,SNR=94
BVAR SKP 20 29 05.4
comp=Z,3.3nm,0.9s,baz=106,slow=3.1,SNR=6.0
BVAR Borovoye Array 118.46 320 PKP PKPdf 20 26 26.6 -1.5
BVAR SKP 20 29 05.4
BVAR Borovoye Array 118.46 320 PKIKP PKPdf 20 26 26.6 -1.6
BRVK Borovoye 118.52 320 *e*PKPdf PKPdf 20 26 26.8 -1.5
BRVK *e*SKP 20 29 06.1
BRVK Borovoye 118.52 320 *e*PKIKP PKPdf 20 26 26.8 -1.5
KKAR Karatay Array 118.57 309 *e*PKPdf PKPdf 20 26 26.8 -1.9
KKAR *e*PP PP 20 27 54.0 -3.8
KKAR *e*SKP 20 28 50.8
KKAR Karatay Array 118.57 309 *e*PKIKP PKPdf 20 26 26.8 -1.9
KKAR *e* 20 27 54.0
KBL Kabul 119.19 299 *e*PKPdf PKPdf 20 26 29.6 -0.6
KBL *e*SKP 20 29 08.9
KBL Kabul 119.19 299 *e*PKIKP PKPdf 20 26 29.6 -0.6
SPB4 Spitsbergen Ar 121.57 356 *e*PKPdf PKPdf 20 26 31.8 -1.8
SPITS Spitsbergen Ar 121.57 356 PKP PKPdf 20 26 31.7 -1.9
comp=Z,16nm,0.7s,baz=82,slow=4.3,SNR=15
SPITS Spitsbergen Ar 121.57 356 PKP PKPdf 20 26 31.7 -1.9
SPITS Spitsbergen Ar 121.57 356 PKIKP PKPdf 20 26 31.7 -1.8
SVE Sverdlovsk 123.41 325 *e*PKIKP PKPdf 20 26 36.8 -0.8
SVE pmax pmax
comp=Z,28nm,0.9s
ARU Arti 124.62 325 *e*PKPdf PKPdf 20 26 38.7 -1.2
ARU *e*PP PP 20 28 31.3 -6.2
ARU Arti 124.62 325 *i* PKIKP PKPdf 20 26 38.3 -1.6
ARU 20 28 35.8
ARU 20 32 43.3
ARU SS SS 20 44 43.0 -1.9
ABKAR Akbulak array 125.45 317 PKPdf PKPdf 20 26 40.4 -1.3
ABKAR *e*PP PP 20 28 40.3 -3.0
BOSA Boshof 126.20 206 PKP PKPdf 20 26 43.6 -0.3
comp=Z,3.8nm,0.8s,baz=177,slow=3.3,SNR=5.5
BOSA Boshof 126.20 206 PKP PKPdf 20 26 43.6 -0.3
BOSA Boshof 126.20 206 PKIKP PKPdf 20 26 43.6 -0.3
AKTO Aktyubinsk 126.44 318 PKP PKPdf 20 26 43.0 -0.6
comp=Z,12nm,0.8s,baz=51,slow=3.3,SNR=50
AKTO Aktyubinsk 126.44 318 PKP PKPdf 20 26 43.0 -0.6
AKTO Aktyubinsk 126.44 318 PKIKP PKPdf 20 26 43.0 -0.6
KEV Kevo 128.09 349 *e*PKIKP PKPdf 20 26 44.0 -2.2
KEV Kevo 128.09 349 *e*pkp PKPdf 20 26 44.0 -2.2
ARCES ARCESS Array B 128.55 349 PKP PKPdf 20 26 45.9 -1.1
comp=Z,11nm,0.6s,baz=67,slow=0.8,SNR=52
ARCES PP PP 20 29 10.1 +7.6
comp=Z,11nm,0.9s,baz=66,slow=4.4,SNR=8.6
ARCES ARCESS Array B 128.55 349 PKP PKPdf 20 26 45.9 -1.1
ARCES PP PP 20 29 10.1 +7.6
ARCES ARCESS Array B 128.55 349 PKIKP PKPdf 20 26 45.9 -1.1
ARCES 20 29 10.1
JOF Joensuu 132.68 342 *e*PKIKP PKPdf 20 26 52.1 -2.9
JOF Joensuu 132.68 342 *e*pkp PKPdf 20 26 52.1 -2.9
KAF Kangasniemi 134.72 344 *e*PKIKP PKPdf 20 26 55.9 -3.0
KAF Kangasniemi 134.72 344 *e*pkp PKPdf 20 26 55.9 -3.0
FINES FINESS Array B 135.34 343 PKhKP PKPpre 20 26 47.7
comp=Z,2.9nm,0.9s,baz=28,slow=3.3,SNR=7.5
FINES PKP PKPdf 20 26 58.5 -1.5
comp=Z,11nm,0.7s,baz=62,slow=3.3,SNR=16
FINES SKPbc SKPbc 20 29 34.4 0.0
comp=Z,7.2nm,0.9s,baz=38,slow=2.5,SNR=6.2
FINES FINESS Array B 135.34 343 PKPpre PKPpre 20 26 47.7
FINES PKP PKPdf 20 26 58.5 -1.5
FINES SKPbc SKPbc 20 29 34.4 0.0
FINES FINESS Array B 135.34 343 PKHKP PKPpre 20 26 47.7
FINES 20 26 58.6
LSZ Lusaka 135.91 219 *e*PKPdf PKPdf 20 27 02.4 -0.1
LSZ *e*SKP 20 29 38.4
LSZ *e*PP PP 20 29 45.9 -3.3
LSZ Lusaka 135.91 219 *e*PKIKP PKPdf 20 27 02.4 -0.1
LSZ *e* 20 29 45.9
OBN Obninsk 136.22 331 *i* PKIKP PKPdf 20 27 01.4 -0.5
OBN pmax pmax
comp=Z,19nm,1.1s
NB2 NORSAR Subarra 138.65 353 PKP PKPpre 20 26 55.7
comp=Z,4.0nm,0.7s,baz=16,slow=3.2
NOA NORSAR Array B 138.65 353 PKhKP PKPpre 20 26 55.9
comp=Z,6.5nm,0.7s,baz=19,slow=2.8,SNR=21
NOA PKP PKPdf 20 27 07.1 +1.0
comp=Z,3.5nm,0.7s,baz=14,slow=4.0,SNR=7.1
NOA SKPbc SKPbc 20 29 44.1 +0.1
comp=Z,9.1nm,1.0s,baz=1.8,slow=2.2,SNR=8.0
NOA NORSAR Array B 138.65 353 PKPpre PKPpre 20 26 55.9
NOA PKP PKPdf 20 27 07.1 +0.9
NOA SKPbc SKPbc 20 29 44.1 +0.1
NOA NORSAR Array B 138.65 353 PKHKP PKPpre 20 26 55.9
NOA 20 27 07.1
KMBO Kilima Mbogo 138.87 243 *e*PKPpre PKPpre 20 27 01.2
KMBO Kilima Mbogo 138.87 243 *e*PKHKP PKPpre 20 27 01.2
NAO01 NORSAR Array S 138.88 353 *e*PKPpre PKPpre 20 26 54.9

HFS Hagfors 139.18 351 PKhKP PKPpre 20 26 57.2
comp=Z,9.9nm,0.5s,baz=64,slow=4.0,SNR=39
HFS PKP PKPdf 20 27 05.3 -1.9
comp=Z,4.5nm,0.7s,baz=104,slow=0.6,SNR=5.3
HFS SKPbc SKPbc 20 29 44.9 -0.6
comp=Z,14nm,0.9s,baz=66,slow=3.6,SNR=11
HFS Hagfors 139.18 351 PKPpre PKPpre 20 26 57.2
HFS PKP PKPdf 20 27 05.3 -1.9
HFS SKPbc SKPbc 20 29 44.9 -0.6
HFS Hagfors 139.18 351 PKHKP PKPpre 20 26 57.2
HFS 20 27 05.3
IZAR Zarasai 139.91 338 *eP* SKPdf 20 29 47.7 +1.8
IZAR AMB AMB 20 29 49.6
comp=Z,22nm,1.1s
ISAL Salakas 140.10 338 *eP* SKPdf 20 29 48.3 +2.0
ISAL AMB AMB 20 29 51.2
comp=Z,15nm,1.0s
IIGN Ignalina 140.24 338 *eP* SKPdf 20 29 48.5 +2.0
IIGN AMB AMB 20 29 51.6
comp=Z,17nm,1.0s
NACGM Naroch 140.39 337 *e* PKPpre 20 27 00.0
NACGM Naroch 140.39 337 *e* SKPdf 20 29 47.0 +0.2
SUW Suwalki 142.37 339 *e*PKP PKPdf 20 27 09.5 -3.5
SUW Suwalki 142.37 339 *e*PKPdf PKPpre 20 27 09.3
SUW *e*SKP 20 29 53.0
SUW Suwalki 142.37 339 *e*PKHKP PKPpre 20 27 09.3
AKASG Malin Array Be 142.47 331 PKhKP PKPpre 20 27 08.8
comp=Z,83nm,0.7s,baz=43,slow=4.2,SNR=294
AKASG SKPbc SKPbc 20 29 54.0 -0.2
comp=Z,8.8nm,0.8s,baz=40,slow=2.8,SNR=14
AKASG Malin Array Be 142.47 331 PKPpre PKPpre 20 27 08.8
AKASG SKPbc SKPbc 20 29 54.0 -0.2
AKASG Malin Array Be 142.47 331 PKHKP PKPpre 20 27 08.9
AKBB Malin Array Si 142.47 331 *e*PKPdf PKPpre 20 27 08.8
AKBB *e*SKP 20 29 54.3
AKBB Malin Array Si 142.47 331 *e*PKHKP PKPpre 20 27 08.8
KAC Achnashellach 142.48 6 *eP* PKPdf 20 27 09.5 -3.6
KIEV Kiev 142.48 331 *e*PKPdf PKPpre 20 27 08.8
KIEV *e*SKP 20 29 53.9
KIEV Kiev 142.48 331 *e*PKHKP PKPpre 20 27 08.8
MCD Coleburn Disti 142.56 4 *eP* PKPdf 20 27 08.9 -4.4
KPL Plockton 142.60 6 *eP* PKPdf 20 27 09.5 -3.9
KSB Sheil Bridge 142.75 6 *eP* PKPdf 20 27 10.1 -3.5
MUD Monsted U'grnd 143.37 353 *i* PKIKP PKPdf 20 27 12.4 -2.3
MUD pmax pmax
comp=Z,120nm,0.9s
MUD Monsted U'grnd 143.37 353 *i* P PKPdf 20 27 12.4 -2.3
comp=Z,116nm,0.9s
SIM Simferopol' 143.37 320 *i* PKIKP PKPdf 20 27 13.6 -1.5
SIM pmax pmax
comp=Z,188nm,0.8s
COP Copenhagen 143.63 349 *i* PKIKP PKPdf 20 27 13.5 -1.7
COP pmax pmax
comp=Z,89nm,0.8s
COP Copenhagen 143.63 349 *i* P PKPdf 20 27 13.5 -1.7
comp=Z,89nm,0.8s
BSD Bornholm Skovb 143.69 347 *i* PKIKP PKPdf 20 27 13.3 -2.0
BSD pmax pmax
comp=Z,180nm,0.8s
BSD Bornholm Skovb 143.69 347 *i* P PKPdf 20 27 13.3 -2.0
comp=Z,179nm,0.8s
EAB Aberfoyle 143.86 5 *eP* PKPdf 20 27 13.6 -2.0
EBH Black Hill 143.87 5 *eP* PKPdf 20 27 13.9 -1.7
PGBU Glenifferbraes 144.22 6 *eP* PKPdf 20 27 14.6 -1.7
PGBU Glenifferbraes 144.22 6 P PKPdf 20 27 14.6 -1.7
ESY Stoneypath 144.26 4 *eP* PKPdf 20 27 14.7 -1.6
EAU Auchinoon 144.27 5 *eP* PKPdf 20 27 15.2 -1.1
EBL Broad Law 144.38 4 *eP* PKPdf 20 27 15.4 -1.0
GKP Gorka Klasztor 144.82 343 *e*PKP PKPdf 20 27 16.7 -0.6
GKP Gorka Klasztor 144.82 343 *e*PKIKP PKPdf 20 27 16.7 -0.6
ESK Eskdalemuir 144.82 4 *eP* PKPdf 20 27 15.6 -1.7
ESK Eskdalemuir 144.82 4 *i* PKIKP PKPdf 20 27 17.7 +0.5
BEL Belsk 144.98 339 *e*PKP PKPdf 20 27 17.4 -0.3
BEL Belsk 144.98 339 *e*PKIKP PKPdf 20 27 17.4 -0.2
GAL1 Galloway 145.13 6 *eP* PKPdf 20 27 16.7 -1.1
GAL1 Galloway 145.13 6 P PKPdf 20 27 16.7 -1.1
KIS Kishinev 145.16 326 ⇓ *i* P PKPdf 20 27 18.0 -0.1
comp=Z,400nm,1.0s
KIS Kishinev 145.16 326 ⇓ *i* PKIKP PKPdf 20 27 18.0 -0.1
KIS pmax pmax
comp=Z,400nm,1.0s
XAL Allendale 145.34 4 *eP* PKPdf 20 27 18.2 0.0
LVV L'vov 145.39 334 *e*PKIKP PKPdf 20 27 18.3 -0.1
KESW Keswick, Cumbr 145.55 5 *eP* PKPdf 20 27 18.8 +0.3
XDE Dent Fell 145.60 5 *eP* PKPdf 20 27 18.8 +0.2
IAS Iasi 145.67 328 PKP2 PKPab 20 27 20.1 -2.5
GIM North Isle of 145.72 6 *eP* PKPdf 20 27 19.3 +0.5
LEOM Leova 145.80 326 PKP2 PKPbc 20 27 20.8 -0.3
LEOM Leova 145.80 326 ⇓ *i* P PKPdf 20 27 20.6 +1.4
KWP Kalwaria Pacla 146.07 335 *e*PKP PKPdf 20 27 21.3 +1.8
KWP Kalwaria Pacla 146.07 335 *e*PKPbc PKPbc 20 27 20.7 -1.0
KWP Kalwaria Pacla 146.07 335 *e*PKP2 PKPbc 20 27 21.3 -0.4
KWP Kalwaria Pacla 146.07 335 ⇑ *i* P PKPdf 20 27 21.5 +1.9
BR131 Keskin Array S 146.18 312 *e*PKPdf PKPdf 20 27 18.6 -1.5
BR131 *e*PKPbc PKPbc 20 27 21.6 -0.7
BR131 *e*SKP 20 30 02.4
BRTR Keskin Array B 146.18 312 PKP PKPdf 20 27 18.9 -1.1
comp=Z,23nm,0.7s,baz=83,slow=1.5,SNR=106
BRTR PKPbc PKPbc 20 27 21.6 -0.8
comp=Z,24nm,0.7s,baz=133,slow=3.7,SNR=104
BRTR SKPbc SKPbc 20 30 02.7 -0.5
comp=Z,1.9nm,0.8s,baz=52,slow=1.8,SNR=4.0
BRTR Keskin Array B 146.18 312 PKP PKPdf 20 27 18.9 -1.1
BRTR PKPbc PKPbc 20 27 21.6 -0.8
BRTR SKPbc SKPbc 20 30 02.7 -0.5
BRTR Keskin Array B 146.18 312 PKIKP PKPdf 20 27 19.0 -1.1
BRTR 20 27 21.6
TLCR 146.32 324 ⇓ PKP2 PKPbc 20 27 22.1 -0.5
TLCR 146.32 324 ⇓ *i* P PKPbc 20 27 22.1 -0.5
RUE Ruedersdorf 146.39 346 *e*PKPbc PKPbc 20 27 21.5 -1.0
DLF Lyons Farm 146.46 9 ⇓ *i* P PKPdf 20 27 21.6 +1.5
BUR08 Bucovina Ar. S 146.50 330 *e*PKPbc PKPbc 20 27 22.7 -0.2
GHRR 146.51 326 ⇑ *i* P PKPbc 20 27 23.5 +0.4
BURAR Bucovina Array 146.51 330 ⇑ PKP2 PKPbc 20 27 22.8 -0.2
BURAR Bucovina Array 146.51 330 ⇑ *i* P PKPdf 20 27 22.8 +2.4
DSB Dublin 146.53 8 *e*PKPbc PKPbc 20 27 21.3 -1.6
TESR 146.59 328 ⇓ *i* P PKPbc 20 27 22.7 -0.6
RCY Rachaya 146.65 300 *eP* PKPbc 20 27 23.9 0.0
OJC Ojcow 146.68 338 *e*PKPdf PKPdf 20 27 20.0 -0.6
OJC Ojcow 146.68 338 *e*PKIKP PKPdf 20 27 20.0 -0.6
CFR Carcaliu 146.69 324 PKP2 PKPbc 20 27 23.5 -0.1
KOLS Kolonicke sedl 146.80 334 *e*PKIKP PKPdf 20 27 20.6 -0.2
KOLS *e* 20 27 23.6
KOLS Kolonicke sedl 146.80 334 *e*PKP PKPdf 20 27 20.5 -0.3
KOLS *e* 20 27 23.6
STHS Stebnicka Huta 146.82 336 *e*PKP2 PKPbc 20 27 23.9 +0.1
STHS Stebnicka Huta 146.82 336 *e*PKP PKPbc 20 27 23.9 +0.1
STHS *e* 20 27 27.3
PETR 146.83 326 ⇑ *i* P PKPbc 20 27 24.3 +0.4
KBI1 Birley Grange 146.98 3 *eP* PKPbc 20 27 22.8 -1.2
TIRR Tirgusor 146.99 323 ⇑ PKP2 PKPbc 20 27 24.0 -0.4
TIRR Tirgusor 146.99 323 ⇑ *i* P PKPbc 20 27 24.0 -0.4
VRI Vrincioaia 146.99 327 ⇓ PKP2 PKPbc 20 27 23.9 -0.4
VRI Vrincioaia 146.99 327 ⇓ *i* P PKPbc 20 27 23.9 -0.4
UZH Uzhgorod 147.03 334 ⇑ *i* PKP2 PKPbc 20 27 23.5 -0.8
PLOR Plostina 147.04 327 ⇑ PKP2 PKPbc 20 27 23.9 -0.6
PLOR Plostina 147.04 327 ⇑ *i* P PKPbc 20 27 23.9 -0.6
NRDL Niedersach Rie 147.09 350 *e*PKPbc PKPbc 20 27 23.8 -0.6
STNC Stoke 147.10 4 *eP* PKPbc 20 27 23.4 -1.0
CRVS Cervenica-Dubn 147.15 335 *e*PKIKP PKPdf 20 27 20.9 -0.5
CRVS Cervenica-Dubn 147.15 335 *e*PKP PKPdf 20 27 20.9 -0.5
CRVS *e* 20 27 24.4
NIE Niedzica 147.16 337 *e*PKPdf PKPdf 20 27 21.5 +0.1
NIE *e*PKPbc PKPbc 20 27 24.3 -0.4
NIE *e*PKPab PKPab 20 27 28.7 +0.2
NIE Niedzica 147.16 337 *e*PKIKP PKPdf 20 27 21.5 +0.1
KWE Weaver Farm 147.20 4 *eP* PKPbc 20 27 23.8 -0.8
FOEL Foel Wylfa 147.23 5 *eP* PKPdf 20 27 22.7 +1.4
KSP Ksiaz 147.25 342 *e*PKP PKPbc 20 27 24.7 -0.1
KSP Ksiaz 147.25 342 *e*PKPdf PKPdf 20 27 21.0 -0.5
KSP *i* PKPbc PKPbc 20 27 24.7 -0.1
KSP *e*PKPab PKPab 20 27 28.1 -0.7
KSP *e*PKP pPKPdf 20 29 44.6 +1.3
KSP Ksiaz 147.25 342 *e*PKIKP PKPdf 20 27 21.0 -0.5
BMR Baia Mare 147.25 332 ⇓ PKP2 PKPbc 20 27 25.0 0.0
BMR Baia Mare 147.25 332 ⇓ *i* P PKPbc 20 27 25.0 0.0
MANR Mangalia 147.28 322 ⇑ *i* P PKPbc 20 27 25.1 -0.1
TRPA Tarpa 147.32 333 ⇓ *i* P PKPbc 20 27 24.8 -0.3
AMRR Amara 147.50 324 ⇓ PKP2 PKPbc 20 27 26.3 +0.6
AMRR Amara 147.50 324 ⇓ *i* P PKPbc 20 27 26.3 +0.6
OKC Ostrava-Krasne 147.57 340 *i* PKP2 PKPbc 20 27 24.9 -0.8

OKC	Ostrava-Krasne	147.57 340	⇑iPKP	PKPbc	20 27 24.9	-0.8
OKC			ePKPAB	PKPab	20 27 29.5	-0.6
ISR	Istrita	147.59 326	⇑PKP2	PKPbc	20 27 25.7	-0.2
ISR	Istrita	147.59 326	⇑iP	PKPbc	20 27 25.7	-0.2
DOPR	Dopca	147.60 328	⇑iP	PKPbc	20 27 26.1	+0.2
IBBN	Ibbenburen	147.60 353	ePKPbc	PKPbc	20 27 25.2	-0.5
HLM1	Long Mynd	147.62 5	ePKPdf	PKPdf	20 27 23.6	+1.5
UPC	Upice	147.63 342	ePKIKP	PKPdf	20 27 21.1	-1.0
UPC	Upice	147.63 342	ePKPDF	PKPdf	20 27 21.1	-1.0
UPC			⇑iPKP	PKPbc	20 27 25.6	-0.2
MLR	Muntele Rosu	147.65 327	PKPbc	PKPbc	20 27 25.3	-0.7
comp=Z,13nm,0.9s,baz=256,slow=2.2,SNR=52						
MLR	Muntele Rosu	147.65 327	PKPbc	PKPbc	20 27 25.3	-0.7
MLR	Muntele Rosu	147.65 327	PKP2	PKPbc	20 27 25.3	-0.8
MLR	Muntele Rosu	147.65 327	⇓iP	PKPbc	20 27 25.5	-0.6
CLL	Collm	147.66 346	ePKPbc	PKPbc	20 27 25.5	-0.4
CLL	Collm	147.66 346	⇓ePKIKP	PKPdf	20 27 22.0	-0.1
CLL			i		20 27 29.5	
CLL			e		20 29 45.0	
CLL			pmax	pmax		
comp=Z,142nm,0.9s						
CLL			pmax	pmax		
comp=Z,65nm,0.8s						
CLL	Collm	147.66 346	ePKPdf	PKPdf	20 27 22.0	-0.1
CLL			⇓iPKPbc	PKPbc	20 27 25.4	-0.5
comp=Z,142nm,0.9s						
CLL			i PKPab	PKPab	20 27 29.5	-0.9
comp=Z,65nm,0.8s						
CLL			epPKPbc	pPKPbc	20 29 45.0	-0.5
CLL			eSKPdf	SKPdf	20 29 58.0	-0.8
CLL			eSKPbc	SKPbc	20 30 06.0	0.0
CLL			ePKSdf		20 30 52.0	
CLZ	Clausthal	147.68 349	ePKPbc	PKPbc	20 27 25.8	-0.1
CLZ	Clausthal	147.68 349	ePKP2	PKPbc	20 27 25.8	-0.1
DPC	Dobruska-Polom	147.68 342	ePKIKP	PKPdf	20 27 22.1	-0.1
DPC			e		20 27 30.9	
DPC	Dobruska-Polom	147.68 342	ePKPDF	PKPdf	20 27 22.1	-0.1
DPC			⇑iPKP	PKPbc	20 27 25.9	-0.1
DPC			ePKPAB	PKPab	20 27 30.9	+0.4
MORC	Moravsky Berou	147.81 340	ePKPdf	PKPdf	20 27 21.5	-0.9
MORC			ePKPbc	PKPbc	20 27 25.7	-0.6
MORC			ePKPab	PKPab	20 27 30.7	-0.4
MORC	Moravsky Berou	147.81 340	ePKIKP	PKPdf	20 27 21.5	-0.9
MORC			e		20 27 30.7	
MORC	Moravsky Berou	147.81 340	⇓iP	PKPbc	20 27 25.9	-0.4
BRG	Berggiesshubel	147.85 345	i PKP	PKPdf	20 27 21.8	-0.6
comp=Z,9.8nm,1.1s						
BRG			e		20 27 25.9	
comp=Z,66nm,0.7s						
BRG			i		20 27 30.4	
comp=Z,72nm,0.9s						
BRG			epPKP	pPKPdf	20 29 45.8	+1.4
comp=Z,24nm,1.6s						
BRG			i SKP		20 30 08.0	
comp=Z,14nm,1.2s						
BRG			e		20 30 55.4	
comp=Z,19nm,1.7s						
BRG	Berggiesshubel	147.85 345	ePKPbc	PKPbc	20 27 26.0	-0.4
BRG	Berggiesshubel	147.85 345	i PKIKP	PKPdf	20 27 21.8	-0.7
BRG			i		20 27 30.4	
BRG			e		20 29 45.8	
BRG			e		20 30 55.4	
BRG			pmax	pmax		
comp=Z,10.0nm,1.1s						
BRG			pmax	pmax		
comp=Z,66nm,0.7s						
BRG			pmax	pmax		
comp=Z,72nm,0.9s						
BRG			pmax	pmax		
comp=Z,24nm,1.6s						
BRG			pmax	pmax		
comp=N,14nm,1.2s						
BRG			pmax	pmax		
comp=Z,19nm,1.7s						
KECS	Kecovo	147.87 336	ePKP2	PKPbc	20 27 26.4	-0.1
KECS	Kecovo	147.87 336	ePKP	PKPbc	20 27 26.4	-0.1
KECS			e		20 27 30.9	
PVCC	Panska Ves	148.00 344	i PKP2	PKPbc	20 27 26.6	-0.2
PVCC	Panska Ves	148.00 344	⇑iPKP	PKPbc	20 27 26.6	-0.2
SULR		148.03 325	⇑iP	PKPdf	20 27 24.3	+1.3
MCH1	Michaelchurch	148.13 5	eP	PKPbc	20 27 25.6	-1.4
VOIR		148.14 327	⇓PKP2	PKPbc	20 27 27.0	-0.3
VOIR		148.14 327	⇓iP	PKPbc	20 27 27.0	-0.3
EIL	Elat	148.17 294	PKPbc	PKPbc	20 27 27.5	-0.4
comp=Z,31nm,0.7s,baz=355,slow=1.0,SNR=7.8						
EIL	Elat	148.17 294	PKPbc	PKPbc	20 27 27.5	-0.4
CSS	Prodhromos	148.21 304	ePKPdf	PKPdf	20 27 21.0	-2.6
CSS			ePKPbc	PKPbc	20 27 26.5	-1.3
SSW	Stow on the Wo	148.24 4	eP	PKPbc	20 27 26.3	-1.0
DRGR		148.27 332	⇑PKHKP	PKPdf	20 27 22.8	-0.5
DRGR		148.27 332	⇑iP	PKPdf	20 27 22.8	-0.5
PCED	Cedros	148.30 48	ePKP	PKPbc	20 27 27.3	-0.6
CALA	Caldeira	148.32 48	ePKP	PKPbc	20 27 28.4	+0.4
PRD	Provadia	148.35 322	i P	PKPbc	20 27 27.0	-0.9
HGH	Gray Hill	148.50 5	eP	PKPbc	20 27 26.6	-1.4
PRU	Pruhonice	148.50 344	i PKP2	PKPbc	20 27 27.6	-0.4
PRU	Pruhonice	148.50 344	⇑iPKP	PKPbc	20 27 27.6	-0.4
PRU			ePKPAB	PKPab	20 27 33.7	-0.2
BUG	Bochum--Univer	148.51 353	ePKPbc	PKPbc	20 27 27.3	-0.7
PCAN	Candelaria	148.52 48	ePKP	PKPbc	20 27 27.5	-1.0
VRAC	Vranov	148.52 341	PKPbc	PKPbc	20 27 27.5	-0.6
comp=Z,23nm,0.9s,baz=23,slow=1.7,SNR=19						
VRAC	Vranov	148.52 341	PKPbc	PKPbc	20 27 27.5	-0.6
VRAC	Vranov	148.52 341	PKHKP	PKPbc	20 27 27.5	-0.6
VRAC	Vranov	148.52 341	⇓iP	PKPbc	20 27 28.1	0.0
SKP1	Kophill	148.54 3	eP	PKPbc	20 27 26.7	-1.4
PICO	Pico	148.55 48	ePKP	PKPbc	20 27 28.4	-0.1
KOLL	Kolacno	148.56 338	ePKP2	PKPbc	20 27 28.5	+0.3
KOLL	Kolacno	148.56 338	ePKP	PKPbc	20 27 28.5	+0.3
KOLL			e		20 27 34.5	
PSZ	Piszkesteto	148.56 336	ePKPbc	PKPbc	20 27 27.2	-1.1
PSZ	Piszkesteto	148.56 336	ePKHKP	PKPbc	20 27 27.2	-1.0
PSZ	Piszkesteto	148.56 336	⇓ePKP	PKPbc	20 27 27.7	-0.5
PSZ	Piszkesteto	148.56 336	⇑iP	PKPbc	20 27 27.6	-0.6
ROSA	Rosais	148.58 48	ePKP	PKPbc	20 27 28.4	-0.2
ROSA	Rosais	148.58 48	ePKP	PKPbc	20 27 28.1	-0.5
MOX	Moxa	148.58 347	ePKPbc	PKPbc	20 27 27.7	-0.5
MOX	Moxa	148.58 347	ePKHKP	PKPbc	20 27 27.7	-0.5
TANN	Tannenbergstha	148.62 346	ePKPbc	PKPbc	20 27 28.0	-0.3
SWN1	Swindon	148.70 4	eP	PKPbc	20 27 26.2	-2.3
PMAN	Manadas	148.72 48	ePKP	PKPbc	20 27 29.0	+0.1
PMAN	Manadas	148.72 48	ePKP	PKPbc	20 27 27.5	-1.4
UBBA	Unterbreizbach	148.72 349	ePKPbc	PKPbc	20 27 27.8	-0.7
PID	Ribeirinha	148.79 48	eP	PKPbc	20 27 28.7	-0.4
NKC	Novy Kostel	148.79 346	ePKIKP	PKPdf	20 27 23.1	-0.9
NKC			e		20 27 34.4	
NKC	Novy Kostel	148.79 346	ePKPDF	PKPdf	20 27 23.1	-0.9
NKC			⇑iPKP	PKPbc	20 27 28.4	-0.3
NKC			ePKPAB	PKPab	20 27 34.4	-0.7
TREC	Trest	148.87 342	i PKHKP	PKPbc	20 27 28.5	-0.4
TREC			e		20 27 35.0	
TREC	Trest	148.87 342	⇑iPKP	PKPbc	20 27 28.5	-0.4
TREC			ePKPAB	PKPab	20 27 35.0	-0.5
SMOL	Smolenice	148.95 339	ePKP2	PKPbc	20 27 29.5	+0.3
SMOL	Smolenice	148.95 339	ePKP	PKPbc	20 27 29.5	+0.3
SMOL			e		20 27 36.4	
BUD	Budapest	149.25 336	⇓ePKP	PKPbc	20 27 29.4	-0.5
ROTZ	Rotzenmuhle	149.28 346	ePKPbc	PKPbc	20 27 29.7	-0.2
GZR	Gura Zlata	149.29 330	⇓PKIKP	PKPbc	20 27 29.3	-0.8
GZR	Gura Zlata	149.29 330	⇓iP	PKPbc	20 27 29.3	-0.8
BEBN	Eben Emael	149.31 355	PKPbc	PKPbc	20 27 29.6	-0.3
BEBN			PKPab	PKPab	20 27 36.3	-1.0
ZST	Bratislava	149.33 339	ePKHKP	PKPbc	20 27 30.1	0.0
ZST			e		20 27 37.7	
ZST	Bratislava	149.33 339	ePKP	PKPbc	20 27 30.1	0.0
ZST			e		20 27 37.6	
MEM	Membach	149.47 354	PKPdf	PKPdf	20 27 24.7	-0.4
MEM			PKPbc	PKPbc	20 27 29.7	-0.6
MEM			PKPab	PKPab	20 27 37.1	-0.8
KHC	Kasperske Hory	149.54 344	ePKPdf	PKPdf	20 27 24.1	-1.1
KHC			ePKPbc	PKPbc	20 27 30.1	-0.5
KHC			ePKPab	PKPab	20 27 38.2	-0.1
KHC			epPKPbc	pPKPbc	20 29 50.2	-0.6
KHC	Kasperske Hory	149.54 344	ePKIKP	PKPdf	20 27 24.3	-0.9
KHC			e		20 27 37.9	
KHC	Kasperske Hory	149.54 344	ePKPDF	PKPdf	20 27 24.3	-0.9
KHC			⇑iPKP	PKPbc	20 27 30.3	-0.3
KHC			ePKPAB	PKPab	20 27 37.9	-0.4
TNS	Taunus Mts	149.55 351	ePKPbc	PKPbc	20 27 30.2	-0.3
TNS			ePKPab	PKPab	20 27 37.6	-0.7
TNS	Taunus Mts	149.55 351	ePKHKP	PKPbc	20 27 30.2	-0.3
GRF	Grafenberg Arr	149.57 347	ePKPbc	PKPbc	20 27 30.3	-0.3
GRF			ePKPab	PKPab	20 27 38.3	-0.1
GRF	Grafenberg Arr	149.57 347	ePKHKP	PKPbc	20 27 30.3	-0.3
GRFO	Grafenberg	149.57 347	ePKPdf	PKPdf	20 27 22.6	-2.7
GRFO			ePKPbc	PKPbc	20 27 29.8	-0.8
GRFO			ePKPab	PKPab	20 27 36.8	-1.5
GRFO	Grafenberg	149.57 347	ePKIKP	PKPdf	20 27 22.6	-2.6
GRFO			e		20 27 36.8	
BZS	Buzias	149.66 331	PKHKP	PKPbc	20 27 30.4	-0.6
BZS	Buzias	149.66 331	⇓iP	PKPbc	20 27 30.1	-0.9
SNF	Seneffe	149.71 356	PKPbc	PKPbc	20 27 30.3	-0.6
SNF			PKPab	PKPab	20 27 37.9	-1.0
WET	Wettzell	149.71 345	ePKPbc	PKPbc	20 27 30.4	-0.5
WET			ePKPab	PKPab	20 27 39.0	0.0
WET	Wettzell	149.71 345	ePKHKP	PKPbc	20 27 30.4	-0.5
BCLA	Clavier	149.72 355	PKPbc	PKPbc	20 27 30.1	-0.8
BCLA			PKPab	PKPab	20 27 38.0	-1.0
GEC2	GERESS Array S	149.77 344	ePKPbc	PKPbc	20 27 30.7	-0.4
GEC2			ePKPab	PKPab	20 27 39.0	-0.2
GEC2	GERESS Array S	149.77 344	ePKHKP	PKPbc	20 27 30.7	-0.4
GERES	GERESS Array B	149.77 344	PKP	PKPdf	20 27 24.4	-1.1
comp=Z,1.8nm,0.8s,baz=48,slow=1.5,SNR=15						
GERES			PKPbc	PKPbc	20 27 30.1	-1.0
comp=Z,28nm,0.8s,baz=29,slow=2.2,SNR=114						
GERES			PKPab	PKPab	20 27 38.5	-0.8
comp=Z,9.9nm,0.8s,baz=34,slow=3.7,SNR=11						
GERES			pPKPbc	pPKPbc	20 29 51.3	-0.1
comp=Z,1.9nm,0.9s,baz=76,slow=4.1,SNR=3.1						
GERES	GERESS Array B	149.77 344	PKP	PKPdf	20 27 24.4	-1.1
GERES			PKPbc	PKPbc	20 27 30.1	-1.0
GERES			PKPab	PKPab	20 27 38.5	-0.8
GERES			pPKPbc	pPKPbc	20 29 51.3	-0.1
GERES	GERESS Array B	149.77 344	PKIKP	PKPdf	20 27 24.5	-1.1
GERES					20 27 38.5	
SOP	Sopron	149.96 339	⇓ePKP	PKPbc	20 27 31.1	-0.5
CONA	Conrad Observa	149.97 340	⇑iPKPdf	PKPdf	20 27 25.4	-0.6
comp=Z,4.9nm,1.0s						
CONA			i PKiKP	PKiKP	20 27 31.3	-0.8
comp=Z,47nm,0.7s,SNR=23						
DOU	Dourbes	150.10 356	PKPbc	PKPbc	20 27 31.3	-0.6
DOU			PKPab	PKPab	20 27 39.4	-1.1
WLF	Walferdange	150.39 354	PKPbc	PKPbc	20 27 32.5	-0.1
WLF			PKPab	PKPab	20 27 41.1	-0.7
WLF	Walferdange	150.39 354	ePKPbc	PKPbc	20 27 32.6	+0.1
WLF			ePKPab	PKPab	20 27 41.4	-0.4
WLF	Walferdange	150.39 354	ePKPbc	PKPbc	20 27 32.0	-0.5
WLF			ePKPab	PKPab	20 27 41.1	-0.7
WLF	Walferdange	150.39 354	ePKIKP	PKPbc	20 27 32.0	-0.5
WLF			e		20 27 41.1	
PKSM	Moragy	150.45 335	⇑PKIKP	PKPdf	20 27 25.4	-1.3
PKSM	Moragy	150.45 335	⇑iP	PKPdf	20 27 25.4	-1.3
KDZ	Kurdzhali	150.46 322	i P	PKPdf	20 27 31.5	+4.6
MOA	Molln	150.53 342	⇑iPKPdf	PKPdf	20 27 25.7	-1.0
comp=Z,9.0nm,2.0s						
MOA			⇓iPKPbc	PKPbc	20 27 32.0	-0.9
comp=Z,15nm,0.6s,SNR=7.1						
MOA			⇑iPKPab	PKPab	20 27 42.5	+0.1
comp=Z,33nm,1.1s						
ALN	Alexandroupoli	150.55 320	P	PKPbc	20 27 31.7	-1.5
PLD	Plovdiv	150.58 323	P	PKPbc	20 27 31.6	-1.6
RDO	Rodhopi	150.70 321	P	PKPbc	20 27 32.4	-1.1
STU	Stuttgart	150.84 349	ePKPbc	PKPbc	20 27 33.1	-0.5
STU			ePKPab	PKPab	20 27 43.0	-0.7
STU	Stuttgart	150.84 349	ePKPdf	PKPdf	20 27 26.4	-0.9
STU			ePKPbc	PKPbc	20 27 32.9	-0.7
STU			ePKPab	PKPab	20 27 42.4	-1.3
STU	Stuttgart	150.84 349	ePKIKP	PKPdf	20 27 26.4	-0.8
STU			e		20 27 42.4	
LANF	Langenberg	150.86 351	PKP	PKPab	20 27 42.9	-0.9
FUR	Furstenfeldbru	151.00 346	ePKPbc	PKPbc	20 27 33.3	-0.7
FUR			ePKPab	PKPab	20 27 44.3	-0.1
FUR	Furstenfeldbru	151.00 346	ePKIKP	PKPbc	20 27 33.3	-0.7
RJOB	Jochberg	151.03 344	ePKPbc	PKPbc	20 27 33.2	-0.8
RJOB			ePKPab	PKPab	20 27 44.6	0.0
VTS	Vitosha	151.07 325	P	PKPbc	20 27 33.8	-0.5
VTS	Vitosha	151.07 325	⇓PKIKP	PKPbc	20 27 34.2	-0.1
VTS	Vitosha	151.07 325	i P	PKPbc	20 27 33.4	-0.9
VTS	Vitosha	151.07 325	⇓iP	PKPbc	20 27 34.2	-0.1
KOGS	Kog	151.13 338	ePKPbc	PKPbc	20 27 33.0	-1.3
KOGS			ePKPab	PKPab	20 27 44.5	-0.6
BART	Pico Bartolome	151.15 47	ePKP	PKPdf	20 27 27.9	-0.2
SOKA	Soboth	151.34 340	⇑iPKPdf	PKPdf	20 27 26.1	-1.9
comp=Z,4.7nm,1.1s						
SOKA			⇓iPKPbc	PKPbc	20 27 33.4	-1.4
comp=Z,26nm,1.0s						
SOKA			⇑iPKPab	PKPab	20 27 45.5	-0.4
comp=Z,41nm,1.8s						
KAVA	Kavala	151.40 321	P	PKPbc	20 27 33.9	-1.2
BFO	Black Forest	151.41 350	ePKPbc	PKPbc	20 27 34.1	-0.8
BFO			ePKPab	PKPab	20 27 45.3	-0.8
BFO	Black Forest	151.41 350	ePKPbc	PKPbc	20 27 33.8	-1.1
BFO			ePKPab	PKPab	20 27 44.9	-1.2
BFO	Black Forest	151.41 350	ePKIKP	PKPbc	20 27 33.8	-1.1
BFO			e		20 27 44.9	
MMB	Musomiste	151.47 323	i P	PKPbc	20 27 34.5	-0.7
CDF	Champ du Feu	151.49 352	ePKIKP	PKPdf	20 27 28.6	+0.4
CDF	Champ du Feu	151.49 352	ePKPdf	PKPdf	20 27 28.6	+0.4
CDF	Champ du Feu	151.49 352	ePKIKP	PKPdf	20 27 28.6	+0.4
KBA	Koelnbreinsper	151.49 343	i PKPbc	PKPbc	20 27 33.7	-1.4
SNR=13						
FLN	La Foliniere	151.51 2	ePKIKP	PKPdf	20 27 27.5	-0.7
comp=Z,56nm,1.0s						
FLN	La Foliniere	151.51 2	ePKPdf	PKPdf	20 27 27.5	-0.7
FLN	La Foliniere	151.51 2	ePKIKP	PKPdf	20 27 27.5	-0.7
PAGF	Fort de Pagny	151.53 354	ePKIKP	PKPdf	20 27 28.2	-0.1
NVR	Nevrokopi	151.55 323	P	PKPbc	20 27 34.2	-1.2
PSMA	Santa Maria	151.56 48	ePKP	PKPdf	20 27 29.4	+0.7
DIVS	Divibare	151.57 331	P	PKPbc	20 27 34.6	-0.8
PSMN	Pico do Norte,	151.60 48	ePKP	PKPdf	20 27 30.1	+1.3
KKB	Krupnik	151.64 324	i P	PKPdf	20 27 32.5	+3.8
MEZF	Maizieres J'vi	151.65 355	ePKIKP	PKPdf	20 27 28.2	-0.3
MEZF	Maizieres J'vi	151.65 355	ePKPdf	PKPdf	20 27 28.2	-0.3
LDF	La Druitiere	151.69 2	ePKIKP	PKPdf	20 27 27.6	-0.9
comp=Z,16nm,0.9s						
LDF	La Druitiere	151.69 2	ePKPdf	PKPdf	20 27 27.6	-0.9
LDF	La Druitiere	151.69 2	ePKIKP	PKPdf	20 27 27.6	-0.9
ECH	Echery	151.69 352	PKP	PKPab	20 27 46.0	-1.3
WATA	Walderalm	151.71 345	⇑iPKPdf	PKPdf	20 27 27.6	-1.0
comp=Z,3.5nm,0.7s,SNR=8.2						
WATA			⇓iPKPbc	PKPbc	20 27 34.6	-1.0
comp=Z,17nm,0.5s						
WATA			⇓iPKPab	PKPab	20 27 47.2	-0.2
comp=Z,27nm,0.9s						
WTTA	Wattenberg	151.76 345	⇑iPKPdf	PKPdf	20 27 28.0	-0.7
comp=Z,18nm,1.4s						
WTTA			⇓iPKIKP	PKiKP	20 27 35.0	-0.9
comp=Z,43nm,0.6s						
WTTA			⇓iPKPab	PKPab	20 27 46.9	-0.7
comp=Z,52nm,0.9s						
MYKA	Terra Mystica	151.81 342	⇑iPKPdf	PKPdf	20 27 27.5	-1.3
comp=Z,2.5nm,0.5s						
MYKA			⇑iPKPbc	PKPbc	20 27 34.3	-1.5
comp=Z,18nm,0.6s						
MYKA			⇑iPKPab	PKPab	20 27 46.5	-1.4
comp=Z,16nm,0.6s						
MOTA	Moosalm	151.81 346	⇑iPKPdf	PKPdf	20 27 27.7	-1.1
comp=Z,7.1nm,0.8s						
MOTA			⇑iPKPbc	PKPbc	20 27 34.7	-1.1
comp=Z,22nm,0.7s						
MOTA			⇓iPKPab	PKPab	20 27 47.3	-0.6
comp=Z,26nm,0.8s						
THEF	They Montfort	151.83 353	PKP	PKPab	20 27 46.9	-1.0
GRR	Gorron	151.87 3	ePKIKP	PKPdf	20 27 28.1	-0.7
comp=Z,80nm,1.2s						
GRR	Gorron	151.87 3	ePKPdf	PKPdf	20 27 28.1	-0.7
GRR	Gorron	151.87 3	ePKIKP	PKPdf	20 27 28.1	-0.7
SFTF	Sexfontaines	151.94 355	ePKIKP	PKPdf	20 27 28.6	-0.3
SFTF	Sexfontaines	151.94 355	ePKPdf	PKPdf	20 27 28.6	-0.3
HAU	Haudompre	152.00 353	ePKIKP	PKPdf	20 27 28.6	-0.4
HAU	Haudompre	152.00 353	ePKPdf	PKPdf	20 27 28.6	-0.4
HAU	Haudompre	152.00 353	ePKIKP	PKPdf	20 27 28.6	-0.4
MOF	Molkenrain	152.06 352	PKP	PKPab	20 27 47.8	-1.1
LJU	Ljubljana	152.06 340	ePKPdf	PKPdf	20 27 28.5	-0.6
LJU			i PKPbc	PKPbc	20 27 35.5	-0.9
CRNS	Crni Vrh	152.12 340	i PKPdf	PKPdf	20 27 28.2	-1.1
CRNS			i PKPbc	PKPbc	20 27 35.3	-1.2
CRNS			i PKPab	PKPab	20 27 48.0	-1.3
HINF	Hinteralfeld	152.13 352	ePKIKP	PKPdf	20 27 28.7	-0.5
comp=Z,16nm,1.0s						
HINF	Hinteralfeld	152.13 352	ePKPdf	PKPdf	20 27 28.7	-0.5
HINF	Hinteralfeld	152.13 352	ePKIKP	PKPdf	20 27 28.7	-0.5
DAVA	Damuels	152.13 347	⇑iPKPdf	PKPdf	20 27 28.8	-0.4
comp=Z,4.7nm,0.8s						
DAVA			⇓iPKPbc	PKPbc	20 27 34.6	-2.0
comp=Z,14nm,0.7s						
DAVA			⇓iPKPab	PKPab	20 27 48.7	-0.6
comp=Z,34nm,1.1s						
FETA	Feichten	152.20 346	⇓iPKPdf	PKPdf	20 27 27.4	-1.9
comp=Z,21nm,1.0s						
FETA			⇑iPKPbc	PKPbc	20 27 35.8	-0.9
comp=Z,19nm,0.7s						
FETA			⇑iPKPab	PKPab	20 27 49.3	-0.3
comp=Z,30nm,1.0s						
VOY	Vojsko	152.27 341	ePKPdf	PKPdf	20 27 26.8	-2.7
VOY			ePKPbc	PKPbc	20 27 35.5	-1.4
VOY			ePKPab	PKPab	20 27 48.4	-1.5
LOMF	Lomont	152.59 352	PKP	PKPab	20 27 50.2	-0.9
DAVOX	Davos/Dischmat	152.62 347	PKP	PKPdf	20 27 29.6	-0.4
comp=Z,7.9nm,0.8s,baz=18,slow=3.2,SNR=8.1						
DAVOX			PKPbc	PKPbc	20 27 37.2	-0.4
comp=Z,33nm,0.6s,baz=292,slow=5.4,SNR=54						
DAVOX			PKPab	PKPab	20 27 50.9	-0.4
comp=Z,21nm,0.8s,baz=117,slow=2.3,SNR=8.1						
DAVOX	Davos/Dischmat	152.62 347	PKP	PKPdf	20 27 29.6	-0.4
DAVOX			PKPbc	PKPbc	20 27 37.2	-0.4
DAVOX			PKPab	PKPab	20 27 50.9	-0.4
DAVOX	Davos/Dischmat	152.62 347	PKIKP	PKPdf	20 27 29.6	-0.3
DAVOX					20 27 50.9	
LOR	Lormes	152.96 356	ePKIKP	PKPdf	20 27 30.6	+0.2
LOR	Lormes	152.96 356	ePKPdf	PKPdf	20 27 30.6	+0.2
LOR	Lormes	152.96 356	ePKIKP	PKPdf	20 27 30.6	+0.2
TUE	Stuetta	153.02 348	ePKPdf	PKPdf	20 27 29.3	-1.3
TUE			ePKPbc	PKPbc	20 27 37.9	-0.6
TUE			ePKPab	PKPab	20 27 52.6	-0.4
TUE			eSKP		20 30 02.8	
APE	Apeiranthos	153.04 314	⇑PKIKP	PKPbc	20 27 38.7	-0.1
APE	Apeiranthos	153.04 314	⇑iP	PKPbc	20 27 38.7	-0.1
SSF	Saint Saulge	153.19 357	ePKIKP	PKPdf	20 27 30.5	-0.2
SSF	Saint Saulge	153.19 357	ePKPdf	PKPdf	20 27 30.5	-0.2
SSF	Saint Saulge	153.19 357	ePKIKP	PKPdf	20 27 30.5	-0.2
FNA	Florina	153.32 325	P	PKPbc	20 27 37.9	-1.4
CABF	La Chapelle	153.41 353	ePKIKP	PKPdf	20 27 31.2	+0.1
comp=Z,42nm,1.0s						
CABF	La Chapelle	153.41 353	ePKPdf	PKPdf	20 27 31.2	+0.1
CABF	La Chapelle	153.41 353	ePKIKP	PKPdf	20 27 31.2	+0.1
AVF	Avril sur Loir	153.47 357	ePKIKP	PKPdf	20 27 30.5	-0.6
AVF	Avril sur Loir	153.47 357	ePKPdf	PKPdf	20 27 30.5	-0.6
AVF	Avril sur Loir	153.47 357	ePKIKP	PKPdf	20 27 30.5	-0.6
SMF	Signal de Mont	153.58 356	ePKIKP	PKPdf	20 27 31.0	-0.3
SMF	Signal de Mont	153.58 356	ePKPdf	PKPdf	20 27 31.0	-0.3
SMF	Signal de Mont	153.58 356	ePKIKP	PKPdf	20 27 31.0	-0.3
MFF	Saint Martin d	153.68 2	ePKIKP	PKPdf	20 27 30.8	-0.7
MFF	Saint Martin d	153.68 2	ePKPdf	PKPdf	20 27 30.8	-0.7
MFF	Saint Martin d	153.68 2	ePKIKP	PKPdf	20 27 30.8	-0.7
BGF	Bois d'Agland	153.72 358	ePKIKP	PKPdf	20 27 31.0	-0.5
BGF	Bois d'Agland	153.72 358	ePKPdf	PKPdf	20 27 31.0	-0.5
BGF	Bois d'Agland	153.72 358	ePKIKP	PKPdf	20 27 31.0	-0.5
NEST	Nestorio	153.75 324	P	PKPbc	20 27 39.1	-1.1
TCF	Toulx Ste Croi	154.01 359	ePKIKP	PKPdf	20 27 31.5	-0.4
TCF	Toulx Ste Croi	154.01 359	ePKPdf	PKPdf	20 27 31.5	-0.4
TCF	Toulx Ste Croi	154.01 359	ePKIKP	PKPdf	20 27 31.5	-0.4
BNI	Bardonecchia	154.86 351	ePKPdf	PKPdf	20 27 33.9	+0.7
BNI			ePKPab	PKPab	20 28 00.8	-0.1
BNI	Bardonecchia	154.86 351	ePKIKP	PKPdf	20 27 33.9	+0.8
BNI			e		20 28 00.9	
RJF	Les Rejaudoux	155.01 360	ePKIKP	PKPdf	20 27 32.8	-0.5
comp=Z,53nm,1.2s				

1.1nm3µm146nm,0.7s
PSI Prapat 8.22 125 P **Pn 21 02 48.3 -0.1**
0.6nm2µm133nm,0.6s
SNG Songkhla 8.35 92 P **Pn 21 02 52.0 +1.8**
160nm,0.7s
KULM Kulim 8.70 105 P **Pn 21 02 55.0 0.0**
KULM Kulim 8.70 105 P **Pn 21 02 55.0 0.0**
KULM Kulim 8.70 105 *e*Pn **Pn 21 02 54.8 -0.2**
KULM Kulim 8.70 105 P **Pn 21 02 54.9 -0.1**
953nm62nm,0.7s
NNT Nongplab 8.90 56 P **Pn 21 02 58.3 +0.6**
IPM Ipoh 9.31 109 P **Pn 21 03 02.8 -0.5**
IPM Ipoh 9.31 109 *e*Pn **Pn 21 03 01.8 -1.5**
IPM *e*Sn **Sn 21 04 42.2 -4.7**
IPM Ipoh 9.31 109 P **Pn 21 03 02.5 -0.8**
956nm61nm,0.6s
IPM S **Sn 21 04 42.5 -4.4**
956nm61nm,0.6s
MNSI Mandailing Nat 10.00 132 P **Pn 21 03 10.5 -2.2**
86nm,0.4s
MNSI S **Sn 21 04 57.2 -6.7**
86nm,0.4s
BKNI Bangkinang 11.40 129 P **Pn 21 03 30.0 -2.0**
47nm,1.1s
PPI Padang Panjang 11.45 134 P **Pn 21 03 31.2 -1.4**
443nm22nm,1.1s
PDSI Padang 11.81 135 P **Pn 21 03 36.0 -1.7**
1µm48nm,0.6s
KGM Kluang 12.39 116 P **Pn 21 03 45.2 -0.3**
CM31 Chiang Mai Arr 12.61 31 *e*Pn **Pn 21 03 49.2 +0.7**
23nm,0.6s
CM31 *e*Sn **Sn 21 06 05.8 -2.0**
CMAR Chiang Mai Arr 12.61 31 Pn **Pn 21 03 48.8 +0.3**
1.6nm,0.3s,baz=232,slow=13,SNR=180
CMAR LR LR 21 09 07.0
comp=Z,835nm,18.7s,baz=212,slow=40
CMAR Chiang Mai Arr 12.61 31 Pn **Pn 21 03 48.8 +0.3**
CMAR Chiang Mai Arr 12.61 31 P **Pn 21 03 48.8 +0.3**
CHTO Chiang Mai 12.91 30 *e*Pn **Pn 21 03 52.4 -0.3**
CHTO *e*Sn **Sn 21 06 14.1 -1.2**
CHTO Chiang Mai 12.91 30 *e*P **Pn 21 03 52.4 -0.2**
CHTO *e* 21 06 14.1
CHTO Chiang Mai 12.91 30 P **Pn 21 03 52.1 -0.5**
MYKOM Kota Tinggi 12.96 116 P **Pn 21 03 53.6 +0.2**
MYKOM Kota Tinggi 12.96 116 P **Pn 21 03 52.5 -0.9**
CAL Calcutta 15.30 346 *e*PKP **Pn 21 04 24.6 -0.4**
CAL *ex* x 21 07 39.6
HYB Hyderabad 16.50 307 *i* P **Pn 21 04 39.0 -1.4**
IMP Imphal 17.15 5 *ex* **Pn 21 04 50.0 +1.5**
IMP *ex* **Sn 21 08 02.0 +3.7**
SHL Shillong 17.85 359 *e*PKP **Pn 21 04 57.0 -0.2**
SHL AMb AMB 21 05 02.2
comp=Z,45nm,1.7s
SHL *ex* x 21 08 16.0
NGP Nagpur 18.51 318 *e*PKP **Pn 21 05 04.6 -0.7**
NGP *ex* x 21 05 16.6
comp=Z,150nm,1.2s
NGP *ex* x 21 08 17.8
LATR Latur 18.63 307 *ex* **Pn 21 05 03.5 -3.3**
KSM Kuching 19.04 108 P **Pn 21 05 12.1 +0.3**
GOA Goa 19.62 295 ⇑ *i* P **Pn 21 05 18.9 +0.1**
GOA *ex* x 21 08 40.1
ODAN Odare 19.68 347 *e*P **Pn 21 05 18.2 -1.1**
comp=Z,31nm,0.4s
RAMN Ramite 19.95 345 *e*P **Pn 21 05 22.0 -0.5**
comp=Z,131nm,0.5s
RAMN Ramite 19.95 345 *e*P **Pn 21 05 22.0 -0.5**
comp=Z,131nm,0.5s
KAD Karad 20.04 300 *e*PKP **P 21 05 22.5 +0.7**
KAD *e*PKP 21 05 22.8
KAD *ex* x 21 08 45.0
TAPN Taplejung 20.08 348 *e*P **P 21 05 23.2 +1.1**
TAPN Taplejung 20.08 348 *e*P **P 21 05 23.2 +1.1**
KMI Kunming 20.11 29 P **P 21 05 23.1 +0.7**
KMI pP 21 05 29.8
KMI sP sP 21 05 34.0 -1.3
KMI PP 21 05 42.7
KMI pmax pmax
comp=Z,56nm,1.3s
KMI pmax pmax
comp=Z,230nm,3.5s
KMI LR LR
comp=N,770nm,13.5s,MS4.4
KMI LR LR
comp=E,920nm,15.8s,MS4.4
KMI LR LR
comp=Z,1µm,16.8s,MS4.3
KMI Kunming 20.11 29 P **P 21 05 23.1 +0.7**
comp=Z,56nm,1.3s
KMI pP 21 05 29.8
KMI sP sP 21 05 34.0 -1.3
KMI PP 21 05 42.7
KMI S **S 21 09 05.0 -1.6**
KMI sS sS 21 09 18.1 -2.3
KMI SS 21 09 27.9
KMI LR LR
comp=Z,1µm,16.8s,MS4.3
KMI Kunming 20.11 29 P **P 21 05 23.1 +0.7**
KMI *SP sP 21 05 34.0 -1.3
KMI 21 05 42.7
KMI S **S 21 09 05.0 -1.6**
KMI *SS sS 21 09 18.1 -2.3
KMI SS 21 09 27.9
KMI pmax pmax
comp=Z,56nm,1.3s
KMI MLR MLR
comp=Z,1µm,16.8s,MS4.3
QIZ Qiongzhong 20.55 55 P **P 21 05 27.8 +0.6**
QIZ S **S 21 09 15.8 +0.3**
QIZ pmax pmax
comp=Z,55nm,1.4s
QIZ LR LR
comp=N,3µm,14.4s,MS4.8
QIZ LR LR
comp=E,560nm,16.1s,MS4.8
QIZ LR LR
comp=Z,2µm,13.6s,MS4.6
SBUM Sibu 20.58 103 P **P 21 05 28.9 +1.3**
JIRN Jiri 20.73 345 *e*P **P 21 05 29.5 +0.3**
JIRN Jiri 20.73 345 *e*P **P 21 05 29.5 +0.3**
PKI Pulchoki 20.86 343 *e*P **P 21 05 31.1 +0.5**
comp=Z,56nm,0.8s
PKI Pulchoki 20.86 343 *e*P **P 21 05 31.1 +0.5**
comp=Z,56nm,0.8s
PKI Pulchoki 20.86 343 *e*P **P 21 05 31.1 +0.5**
PKI pmax pmax
comp=Z,56nm,0.8s
POO Poona 20.89 303 *e*PKP **P 21 05 31.0 0.0**
DMN Daman 20.99 342 *e*P **P 21 05 32.3 +0.3**
DMN Daman 20.99 342 *e*P **P 21 05 32.3 +0.3**
BHPL Bhopal 21.05 319 *e*PKP **P 21 05 34.0 +1.3**
GUN Gumba 21.05 344 *e*P **P 21 05 32.9 +0.3**
comp=Z,92nm,0.7s,mb5.2
GUN Gumba 21.05 344 *e*P **P 21 05 32.9 +0.3**
comp=Z,92nm,0.7s,mb5.2
KKN Kakani 21.11 343 *e*P **P 21 05 33.4 +0.2**
KKN Kakani 21.11 343 *e*P **P 21 05 33.4 +0.2**
KKN Kakani 21.11 343 *e*P **P 21 05 33.4 +0.2**
BTM Bintulu 21.24 101 P **P 21 05 35.8 +1.0**
GKN Gorkha 21.50 341 *e*P **P 21 05 37.5 0.0**
comp=Z,118nm,0.7s,mb5.4
GKN Gorkha 21.50 341 *e*P **P 21 05 37.5 0.0**
comp=Z,118nm,0.7s,mb5.4
KOLN Koldanda 21.64 339 *e*P **P 21 05 39.3 +0.4**
comp=Z,106nm,0.7s,mb5.4
KOLN Koldanda 21.64 339 *e*P **P 21 05 39.3 +0.4**
comp=Z,106nm,0.7s,mb5.4
LSA Lhasa 21.99 358 P **P 21 05 45.4 +2.7**
LSA S **S 21 09 33.1 -11**
DANN Dangsing 22.11 340 *e*P **P 21 05 44.5 +0.5**
DANN Dangsing 22.11 340 *e*P **P 21 05 44.5 +0.5**
GYA Guiyang 23.24 35 ⇑ *i* P **P 21 05 54.9 -1.1**
GYA pmax pmax
comp=Z,50nm,0.9s,mb4.9
KKM Kota Kinabalu 23.89 92 P **P 21 06 03.7 +1.4**
KDM Kudat 24.44 90 P **P 21 06 09.2 +1.9**
SDKM Sandakan 24.90 93 P **P 21 06 12.8 +1.3**
NDI New Delhi 25.28 328 *e*PKP **P 21 06 13.8 -1.0**
TSM Tawau 25.73 96 P **P 21 06 20.0 +0.9**
DDI Dehra Dun 26.20 331 *e*PKP **P 21 06 23.8 +0.7**
DDI *ex* x 21 11 25.0
MYLDM Lahad Datu 26.24 94 P **P 21 06 25.2 +1.5**
TGY Tagaytay City 28.92 75 P **P 21 06 49.1 +1.4**
comp=Z,138nm,0.3s,mb6.1,baz=149,slow=5.9,SNR=3.0
TGY Tagaytay City 28.92 75 P **P 21 06 49.1 +1.4**
TGY Tagaytay City 28.92 75 P **P 21 06 49.1 +1.4**
KAPI Kappang 30.21 114 P **P 21 06 58.0 -1.1**
comp=Z,6.2nm,0.4s,mb4.7,baz=294,slow=10.0,SNR=3.6
KAPI LR LR 21 20 19.6
comp=Z,1µm,18.9s,MS4.5,baz=294,slow=39
KAPI Kappang 30.21 114 P **P 21 06 58.0 -1.1**
XAN Xi'an 30.48 28 P **P 21 06 59.8 -1.5**
XAN pP pP 21 07 05.0 -5.8
XAN sP sP 21 07 08.3 -6.5
XAN S **S 21 12 04.6 +4.1**
XAN pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
XAN pmax pmax
comp=Z,33nm,5.6s
XAN LR LR
comp=N,600nm,16.5s,MS4.4
XAN LR LR
comp=E,240nm,16.5s,MS4.4
XAN LR LR
comp=Z,300nm,16.9s,MS4.0
WHN Wuhan 30.82 39 P **P 21 07 04.5 +0.1**
WHN pP pP 21 07 10.5 -3.3
WHN sP sP 21 07 14.7 -3.1
WHN S **S 21 12 00.2 -5.8**
WHN LR LR
comp=N,2µm,12.0s
WHN LR LR
comp=E,530nm,4.6s
WHN LR LR
comp=Z,2µm,11.1s,MS5.0
YULB Yu-li 32.02 57 *e*P **P 21 07 15.0 0.0**
comp=Z,28nm,0.8s,mb5.1
GTA Gaotai 32.38 11 *e*P **P 21 07 18.6 +0.7**
GTA pP pP 21 07 22.7 -4.7
GTA sP sP 21 07 26.5 -4.9
GTA pmax pmax
comp=Z,20nm,1.1s,mb4.9
GTA pmax pmax
comp=Z,120nm,5.9s
GTA LR LR
comp=N,370nm,14.3s,MS4.3
GTA LR LR
comp=E,330nm,15.2s,MS4.3
GTA LR LR
comp=Z,390nm,18.8s,MS4.1
DAV Davao City (W) 33.10 89 LR LR 21 22 02.3
comp=Z,513nm,19.9s,MS4.2,baz=231,slow=38
KBL Kabul 34.24 325 *e*P **P 21 07 34.4 +0.2**
comp=Z,29nm,1.4s,mb5.0
KBL *e*PcP PcP 21 10 11.0 +0.6
KBL Kabul 34.24 325 *e*P **P 21 07 34.4 +0.2**
KBL *e* 21 10 11.0
KBL pmax pmax
comp=Z,29nm,1.4s,mb5.0
WMQ Urumqi 36.28 354 P **P 21 07 52.2 +0.6**
WMQ pP pP 21 08 04.5 +3.3
WMQ pmax pmax
comp=Z,27nm,1.0s,mb5.1
WMQ pmax pmax
comp=Z,230nm,5.2s
WMQ LR LR
comp=N,420nm,26.0s,MS4.4
WMQ LR LR
comp=E,740nm,28.0s,MS4.4
WMQ LR LR
comp=Z,470nm,25.6s,MS4.2
ULHL Ulahol 37.26 340 P **P 21 08 01.3 +1.2**
SNR=5.9
ULHL P 21 08 01.3
SNR=5.9
KZA Kyzart 37.45 339 P **P 21 08 03.3 +1.7**
SNR=12
KZA P 21 08 03.3
SNR=12
KBK Karagaybulak 38.07 339 P **P 21 08 08.2 +1.4**
SNR=36
KBK P 21 08 08.2
SNR=36
AML Almayashu 38.07 337 P **P 21 08 08.3 +1.4**
SNR=106
AML P 21 08 08.3
SNR=106
TKM2 Tokmak 2 38.08 340 P **P 21 08 08.3 +1.4**
SNR=20
TKM2 P 21 08 08.3
SNR=20
TKM2 Tokmak 2 38.08 340 *e*P **P 21 08 07.8 +0.9**
comp=Z,66nm,1.6s,mb5.1
TKM2 *e*PcP PcP 21 10 21.0 -0.7
TKM2 Tokmak 2 38.08 340 *e*P **P 21 08 07.8 +0.9**
TKM2 *e* 21 10 21.0
TKM2 pmax pmax
comp=Z,66nm,1.6s,mb5.1
AAK Ala-Archa 38.21 339 P **P 21 08 09.8 +1.8**
SNR=21
AAK P 21 08 09.8
SNR=21
AAK Ala-Archa 38.21 339 P **P 21 08 09.0 +1.0**
comp=Z,235nm,1.1s,mb5.8,SNR=22
AAK Ala-Archa 38.21 339 *e*P **P 21 08 08.8 +0.7**
comp=Z,287nm,1.2s,mb5.9
AAK *e*PcP PcP 21 10 22.4 +0.3
AAK Ala-Archa 38.21 339 *e*P **P 21 08 08.8 +0.8**
AAK *e* 21 10 22.4
AAK pmax pmax
comp=Z,287nm,1.2s,mb5.9
FRU Bishkek 38.34 339 *e*P **P 21 08 09.0 -0.1**
FRU *e* pP 21 08 18.0 -0.7
FRU pmax pmax
comp=Z,80nm,1.6s,mb5.2
CHMS Chumysh 38.44 339 P **P 21 08 10.6 +0.6**
SNR=12
CHMS P 21 08 10.6
SNR=12
EKS2 Erkin-Say 38.50 338 P **P 21 08 11.8 +1.4**
SNR=31
EKS2 P 21 08 11.8
SNR=31
EKS2 Erkin-Say 38.50 338 *e*P **P 21 08 11.8 +1.3**
comp=Z,20nm,0.8s,mb4.9
EKS2 *e*PcP PcP 21 10 23.1 +0.1
EKS2 Erkin-Say 38.50 338 *e*P **P 21 08 11.8 +1.3**
EKS2 *e* 21 10 23.1
EKS2 pmax pmax
comp=Z,20nm,0.8s,mb4.9
USP Ospenovka 38.76 339 P **P 21 08 13.2 +0.5**
SNR=46
USP P 21 08 13.2
SNR=46
JOW Kunigami 39.18 56 P **P 21 08 18.3 +1.8**
comp=Z,7.5nm,0.4s,mb4.8,baz=214,slow=8.8,SNR=5.7
JOW Kunigami 39.18 56 P **P 21 08 18.3 +1.8**
MK31 Makanchi Array 39.95 349 *e*P **P 21 08 21.9 -0.6**
MK31 *e*PcP PcP 21 10 27.0 -0.5
MK31 Makanchi Array 39.95 349 *e*P **P 21 08 21.9 -0.6**
MK31 *e* 21 10 27.0
MKAR Makanchi Array 39.95 349 P **P 21 08 21.9 -0.6**
comp=Z,8.6nm,0.4s,mb4.8,baz=167,slow=8.8,SNR=301
MKAR PcP PcP 21 10 27.2 -0.2
comp=Z,2.5nm,0.6s,baz=206,slow=2.3,SNR=3.6
MKAR LR LR 21 28 57.6
comp=Z,413nm,18.4s,MS4.3,baz=168,slow=42
MKAR Makanchi Array 39.95 349 *e*P **P 21 08 22.1 -0.4**
MKAR PcP PcP 21 10 27.2 -0.2
MKAR Makanchi Array 39.95 349 *i* P **P 21 08 21.8 -0.7**
MKAR pmax pmax
comp=Z,9.0nm,0.4s
KK31 Karatay Array 40.16 335 *i* P **P 21 08 24.7 +0.4**
KK31 pmax pmax
comp=Z,17nm,0.5s,mb5.0
KKAR Karatay Array 40.16 335 *e*P **P 21 08 24.7 +0.4**
KKAR Karatay Array 40.16 335 *e*P **P 21 08 24.7 +0.4**
FITZ Fitzroy Crossi 41.74 128 P **P 21 08 37.6 -0.1**
comp=Z,20nm,0.8s,mb4.8,baz=306,slow=6.0,SNR=26
FITZ LR LR 21 26 32.4
comp=Z,611nm,19.3s,MS4.5,baz=306,slow=37
FITZ Fitzroy Crossi 41.74 128 *e*P **P 21 08 37.4 -0.3**
comp=Z,60nm,0.9s,mb5.2
FITZ Fitzroy Crossi 41.74 128 *e*P **P 21 08 37.6 -0.1**
comp=Z,45nm,1.0s,mb5.0
FITZ *e*PcP PcP 21 10 34.4 +0.5
SONM Songino Array 41.85 14 P **P 21 08 38.7 +0.5**
comp=Z,7.3nm,0.7s,mb4.4,baz=195,slow=8.7,SNR=60
SONM PcP PcP 21 10 33.9 +0.3
comp=Z,1.8nm,0.5s,baz=207,slow=4.4,SNR=4.3
SONM LR LR 21 28 22.2
comp=Z,650nm,19.7s,MS4.5,baz=348,slow=40
SONM Songino Array 41.85 14 P **P 21 08 38.7 +0.5**
SONM PcP PcP 21 10 33.9 +0.3
SONM Songino Array 41.85 14 P **P 21 08 38.7 +0.5**
SONM 21 10 33.9
ULN Ulaanbaatar 42.05 15 *e*P **P 21 08 39.3 -0.5**
comp=Z,8.2nm,0.9s,mb4.4
ULN *e*PcP PcP 21 10 34.3 0.0
ULN Ulaanbaatar 42.05 15 *e*P **P 21 08 39.3 -0.5**
ULN *e* 21 10 34.3
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
ABKT Ailbek 43.13 320 P **P 21 08 50.2 +1.4**
comp=Z,407nm,0.9s,mb6.2,SNR=16
HVS Khovu-Aksy 43.40 1 ⇑ *e*P **P 21 08 50.8 +0.1**
HVS pmax pmax
comp=Z,30nm,1.3s,mb4.9
HVS MLR MLR
comp=Z,1µm,16.0s,MS4.9
ZAK Zakamensk 43.61 10 ⇓ *i* P **P 21 08 53.1 +0.7**
ZAK *e* 21 10 39.0
ZAK pmax pmax
comp=Z,11nm,1.7s,mb4.3
KSAR Wonju Array Be 43.89 42 P **P 21 08 55.2 +0.4**
KSAR Wonju Array Be 43.89 42 P **P 21 08 55.3 +0.4**
KSRS Korea Array 43.92 42 P **P 21 08 55.2 +0.1**
comp=Z,1.1nm,0.7s,baz=242,slow=7.9,SNR=3.1
KSRS LR LR 21 28 19.5
comp=Z,134nm,18.2s,baz=230,slow=38
MRIV Mauritius Mete 43.99 230 *e*P **P 21 08 56.5 +0.6**
MRIV *e*PP PP 21 10 40.3 +1.5
KURK Kurchatov 44.42 348 P **P 21 08 57.9 -1.0**
comp=Z,21nm,0.8s,mb4.9,baz=170,slow=7.1,SNR=77
KURK PcP PcP 21 10 42.9 +0.7
comp=Z,5.9nm,0.6s,baz=157,slow=2.5,SNR=9.7
KURK LR LR 21 30 58.5
comp=Z,462nm,20.2s,MS4.4,baz=165,slow=41
KURK Kurchatov 44.42 348 *e*P **P 21 08 58.9 0.0**
KURK *e*PcP PcP 21 10 42.2 0.0
KURK PcP PcP 21 10 42.9 +0.7
KURK Kurchatov 44.42 348 P **P 21 08 58.2 -0.7**
comp=Z,138nm,1.2s,mb5.6,SNR=15
KURK Kurchatov 44.42 348 *e*P **P 21 08 58.9 0.0**
KURK *e* 21 10 42.2
KURK 21 10 42.9
MOY Mondy 44.51 8 *e*P **P 21 09 09.3 +10**
TLY Talaya 44.93 10 *e*P **P 21 09 03.0 +0.1**
comp=Z,130nm,2.2s,mb5.4
TLY Talaya 44.93 10 *e*P **P 21 09 03.2 +0.3**
TLY pmax pmax
comp=Z,15nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,252nm,18.0s,MS4.2
RER Riviere de l'E 45.82 231 *e*P **P 21 09 11.1 +0.7**
comp=Z,64nm,1.0s,mb5.5
KLBR Kellerberrin 46.01 149 *e*P **P 21 09 13.1 +1.3**
comp=Z,59nm,1.8s,mb5.2
ZAA0 Zalesovo Array 46.58 354 *e*P **P 21 09 15.6 -0.4**
ZAA0 *e*PcP PcP 21 10 49.4 -0.3
ZALV Zalesovo Beam 46.58 354 P **P 21 09 15.8 -0.1**
comp=Z,6.7nm,0.3s,mb5.0,baz=169,slow=9.1,SNR=43
ZALV LR LR 21 31 43.6
comp=Z,349nm,21.6s,MS4.3,baz=190,slow=40
ZALV Zalesovo Beam 46.58 354 P **P 21 09 15.8 -0.1**
ZALV Zalesovo Beam 46.58 354 P **P 21 09 15.8 -0.1**
NWAO Narrogin (SRO) 46.83 151 P **P 21 09 18.8 +0.6**
comp=Z,7.2nm,0.7s,mb4.7,baz=310,slow=10,SNR=8.3
NWAO LR LR 21 30 17.6
comp=Z,410nm,18.6s,MS4.4,baz=64,slow=38
NWAO Narrogin (SRO) 46.83 151 P **P 21 09 18.8 +0.6**
NWAO Narrogin (SRO) 46.83 151 P **P 21 09 18.8 +0.6**
RDF Al-Radifah 47.04 303 *e*P **P 21 09 20.7 +0.7**
RDF AMb AMB 21 09 21.7
comp=Z,64nm,1.4s,mb5.4
UMR Umm Al-Rimmam 47.10 304 *e*P **P 21 09 20.7 +0.3**
UMR AMb AMB 21 09 27.2
comp=Z,56nm,1.3s,mb5.3
NAY Al-Naaiem 47.40 303 *e*P **P 21 09 22.9 +0.2**
NAY AMb AMB 21 09 24.3
comp=Z,27nm,1.1s,mb5.1
RAYN Ar Rayn 47.45 295 P **P 21 09 24.8 +1.5**
comp=Z,30nm,0.5s,mb5.5,SNR=11
MIB Mutribah 47.49 304 *e*P **P 21 09 24.4 +0.9**
MIB AMb AMB 21 09 25.2
comp=Z,86nm,0.9s,mb5.7
NVS Novosibirsk 47.64 353 *e*P **P 21 09 23.7 -0.5**
NVS *i* S **S 21 16 14.4 -3.1**
NVS pmax pmax
comp=N,38nm,1.7s
NVS pmax pmax
comp=Z,52nm,1.7s,mb5.3
NVS pmax pmax
comp=E,22nm,1.5s
NVS smax
comp=N,18nm,2.5s
NVS smax
comp=E,27nm,2.5s
BRVK Borovoye 48.70 343 P **P 21 09 31.4 -1.0**
comp=E,120nm,0.5s,mb6.2,SNR=11
BRVK Borovoye 48.70 343 *e*P **P 21 09 31.6 -0.8**
comp=E,13nm,0.7s,mb5.1
BRVK Borovoye 48.70 343 *e*P **P 21 09 31.6 -0.8**
BRVK pmax pmax
comp=Z,13nm,0.7s,mb5.1
ATD Arta Tunnel 48.78 279 LR LR 21 26 17.9
comp=Z,314nm,21.2s,MS4.3,baz=192,slow=31
AB31 Akbulak array 49.56 333 *i* P **P 21 09 39.1 +0.1**
AB31 pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
ABKAR Akbulak array 49.56 333 *e*P **P 21 09 39.1 +0.1**
WRA Warramunga Arr 49.69 124 P **P 21 09 40.0 -0.4**
comp=Z,10nm,0.5s,mb5.1,baz=302,slow=8.7,SNR=71
WRA LR LR 21 32 53.1
comp=Z,506nm,18.4s,MS4.5,baz=300,slow=39
WRA Warramunga Arr 49.69 124 P **P 21 09 40.0 -0.4**
WRA Warramunga Arr 49.69 124 P **P 21 09 40.1 -0.4**
WRAB Tennant Creek 49.69 124 *e*P **P 21 09 40.2 -0.3**
comp=Z,35nm,0.6s,mb5.6
WRAB Tennant Creek 49.69 124 P **P 21 09 40.0 -0.5**
comp=Z,191nm,0.5s,SNR=26
WRAB Tennant Creek 49.69 124 *e*P **P 21 09 40.3 -0.2**
WRAB pmax pmax
comp=Z,35nm,0.6s,mb5.6
WB2 Warramunga Arr 49.70 124 *e*P **P 21 09 40.0 -0.6**
WB2 *e*PcP PcP 21 11 02.2 +0.7
MJAR Matsushiro Arr 50.76 48 P **P 21 09 50.5 +2.1**
comp=Z,1.6nm,0.7s,mb4.1,baz=237,slow=7.6,SNR=7.1
MJAR PcP PcP 21 11 05.6 +0.4
comp=Z,3.5nm,0.7s,baz=242,slow=4.9,SNR=7.5
MJAR LR LR 21 33 56.5
comp=Z,201nm,18.3s,MS4.2,baz=215,slow=39
MJAR Matsushiro Arr 50.76 48 P **P 21 09 50.5 +2.1**
MJAR PcP PcP 21 11 05.6 +0.4
MJAR Matsushiro Arr 50.76 48 P **P 21 09 50.5 +2.1**
MJAR 21 11 05.6
ASAR Alice Springs 51.24 129 P **P 21 09 52.1 -0.1**
comp=Z,6.1nm,0.5s,mb4.8,baz=302,slow=7.6,SNR=47
ASAR PcP PcP 21 11 08.3 +1.2
comp=Z,3.7nm,0.7s,baz=305,slow=4.2,SNR=5.7
ASAR Alice Springs 51.24 129 P **P 21 09 52.1 -0.1**
ASAR PcP PcP 21 11 08.3 +1.2
ASAR Alice Springs 51.24 129 P **P 21 09 52.1 -0.1**
ASAR 21 11 08.3
AS31 Alice Springs 51.24 129 *e*P **P 21 09 51.5 -0.7**
AS31 *e*PcP PcP 21 11 07.0 -0.1
FORT Forrest 51.36 140 *e*P **P 21 09 54.4 +1.5**
comp=Z,30nm,0.6s,mb5.4
FORT Forrest 51.36 140 *e*P **P 21 09 54.5 +1.6**
comp=Z,55nm,0.9s,mb5.5
ABPO Ambohimpanom 51.63 239 *e*P **P 21 09 56.5 +1.3**
comp=Z,42nm,1.1s,mb5.3
ABPO *e*PcP PcP 21 11 09.7 +1.0
ABPO Ambohimpanom 51.63 239 *e*P **P 21 09 56.5 +1.3**
ABPO *e* 21 11 09.7
ABPO pmax pmax
comp=Z,42nm,1.1s,mb5.3
GUMO Guam 52.02 79 LR LR 21 32 14.9
comp=Z,290nm,19.7s,MS4.3,baz=290,slow=36
MAK Makhachkala 52.65 319 *e*P **P 21 10 00.2 -2.2**
MAK MLR MLR
comp=Z,535nm,16.0s,MS4.7
BOD Bodaibo 52.85 14 *e*P **P 21 10 04.0 +0.4**
BOD pmax pmax
comp=Z,27nm,1.0s,mb5.1

FURI Furi 52.95 275 *eP* **P 21 10 09.8 +4.7**
comp=Z,15nm,0.9s,mb4.9
KLR Kul'dur 53.09 31 *eP* **P 21 10 06.6 +1.1**
KLR pmax pmax
comp=Z,70nm,2.2s,mb5.2
GNI Garni 53.26 315⇓*eP* **P 21 10 08.3 +1.4**
GNI pmax pmax
comp=Z,32nm,1.2s
GNI MLR MLR
comp=Z,214nm,23.0s
HABR Khabarovsk 54.41 34 *eP* **P 21 10 22.1 +6.9**
HABR *e* 21 11 16.3
HABR *e* 21 12 15.5
HABR *e*PPP 21 13 24.9
HABR S **S 21 17 51.9 +0.4**
HABR *e**SS sS 21 18 02.9 -4.9
HABR 21 20 01.3
HABR *e*SS SS 21 21 36.0 +1.9
HABR pmax pmax
comp=E,69nm,2.8s
HABR pmax pmax
comp=Z,113nm,3.7s
HABR pmax pmax
comp=N,19nm,1.9s
HABR MLR MLR
comp=Z,404nm,17.0s,MS4.6
SVE Sverdlovsk 54.95 339⇓*iP* **P 21 10 19.3 +0.4**
SVE pmax pmax
comp=Z,63nm,0.9s,mb5.7
ARU Arti 55.39 338 *eP* **P 21 10 21.6 -0.6**
ARU *e*PcP PcP 21 11 22.3 +0.1
ARU Arti 55.39 338*c iP* **P 21 10 22.1 -0.1**
ARU 21 12 24.9
ARU S **S 21 18 06.5 +2.1**
ARU SS SS 21 21 46.8 -2.5
ARU pmax pmax
comp=Z,53nm,1.7s,mb5.3
ARU Arti 55.39 338 P **P 21 10 22.8 +0.6**
comp=Z,219nm,1.1s,mb6.1,SNR=6.2
KMBO Kilima Mbogo 55.49 263 *eP* **P 21 10 25.4 +1.8**
comp=Z,13nm,0.9s,mb5.0
KMBO Kilima Mbogo 55.49 263 *eP* **P 21 10 25.5 +1.9**
KMBO pmax pmax
comp=Z,13nm,0.9s
KIV Kislovodsk 56.23 319 *eP* **P 21 10 28.4 0.0**
comp=Z,36nm,1.1s,mb5.3
KIV Kislovodsk 56.23 319 *eP* **P 21 10 27.9 -0.5**
KIV pmax pmax
comp=Z,30nm,1.1s,mb5.2
KIV Kislovodsk 56.23 319 P **P 21 10 28.3 -0.1**
comp=Z,152nm,0.9s,mb6.0,SNR=5.4
ASF Jabal al Asfar 56.75 304 P **P 21 10 34.3 +1.9**
comp=Z,8.7nm,0.7s,mb4.9,baz=335,slow=5.1,SNR=14
ASF Jabal al Asfar 56.75 304 P **P 21 10 34.3 +1.9**
ASF Jabal al Asfar 56.75 304 P **P 21 10 34.3 +1.9**
PMG Port Moresby 57.29 106 P **P 21 10 36.3 -0.1**
comp=Z,6.9nm,0.5s,mb4.9,baz=132,slow=15,SNR=5.3
PMG Port Moresby 57.29 106 P **P 21 10 36.3 -0.1**
PMG Port Moresby 57.29 106 P **P 21 10 36.3 -0.2**
YSS Yuzh-Sakhalins 58.17 39 *eP* **P 21 10 41.1 -0.9**
comp=Z,33nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 58.17 39 *eP* **P 21 10 40.2 -1.8**
YSS *e* 21 10 47.0
SOKR Solikamsk 58.36 340*c iP* **P 21 10 43.6 +0.5**
SOKR pmax pmax
comp=Z,50nm,1.5s,mb5.3
YUK Yuzh-Kuril'sk 59.01 43*deP* **P 21 10 50.0 +2.1**
YUK S **S 21 19 00.6 +8.2**
YUK MLR MLR
comp=Z,361nm,20.0s,MS4.5
CTA Charters Tower 59.86 118 P **P 21 10 54.4 +0.1**
comp=Z,2.7nm,0.6s,mb4.5,baz=331,slow=6.7,SNR=4.1
CTA Charters Tower 59.86 118 *eP* **P 21 10 54.6 +0.4**
comp=Z,7.2nm,1.1s,mb4.6
CTA Charters Tower 59.86 118 P **P 21 10 54.4 +0.1**
CTA Charters Tower 59.86 118 P **P 21 10 54.4 +0.2**
CTAO Charters Tower 59.86 118 *eP* **P 21 10 56.2 +1.9**
comp=Z,18nm,1.2s,mb5.0
CTAO *e*PcP PcP 21 11 41.4 +0.9
CTAO Charters Tower 59.86 118 *eP* **P 21 10 56.2 +2.0**
CTAO *e* 21 11 41.4
CTAO pmax pmax
comp=Z,18nm,1.2s,mb5.0
ANN Anapa 60.03 318 *e**PP **P 21 10 53.7 -1.3**
ANN *e* 21 11 34.8
ANN pmax pmax
comp=Z,56nm,1.4s,mb5.4
YAK Yakutsk 60.85 19 *eP* **P 21 11 00.1 -0.2**
comp=Z,37nm,0.8s,mb5.6
YAK Yakutsk 60.85 19 *eP* **P 21 10 59.7 -0.6**
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.1
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,11nm,1.2s
BR131 Keskin Array S 61.15 311 *eP* **P 21 11 01.6 -1.1**
comp=E,4.8nm,0.6s,mb4.8
BRTR Keskin Array B 61.15 311 P **P 21 11 01.6 -1.1**
comp=E,7.3nm,0.7s,mb4.9,baz=134,slow=6.3,SNR=47
BRTR LR LR 21 38 11.1
comp=E,165nm,21.2s,MS4.2,baz=98,slow=37
BRTR Keskin Array B 61.15 311 P **P 21 11 01.6 -1.1**
BRTR Keskin Array B 61.15 311 P **P 21 11 01.6 -1.1**
STKA Stephens Creek 61.33 133 P **P 21 11 04.9 +0.9**
comp=E,2.7nm,0.5s,mb4.7,baz=320,slow=4.7,SNR=7.3
STKA LR LR 21 37 17.8
comp=E,362nm,18.4s,MS4.6,baz=128,slow=36
STKA Stephens Creek 61.33 133 *eP* **P 21 11 05.4 +1.4**
comp=E,11nm,0.9s,mb5.0
STKA Stephens Creek 61.33 133 P **P 21 11 04.9 +0.9**
STKA Stephens Creek 61.33 133 P **P 21 11 04.9 +0.9**
VSR Storozhevoye 61.49 325 *eP* **P 21 11 02.7 -2.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.9s
MOS Moscow 64.31 329 *eP* **P 21 11 21.5 -2.0**
MOS pmax pmax
comp=Z,64nm,1.0s,mb5.6
OBN Obninsk 64.58 328 *eP* **P 21 11 24.1 -1.1**
OBN Obninsk 64.58 328⇑*eP* **P 21 11 24.5 -0.8**
OBN *e* pP 21 11 35.3 -0.1
OBN *e* 21 11 59.5
OBN *e*SS SS 21 24 17.0 +3.6
OBN pmax pmax
comp=Z,41nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,300nm,21.0s,MS4.5
TLCR 65.98 316 ⇓P **P 21 11 34.0 -0.5**
TLCR 65.98 316 ⇓*iP* **P 21 11 34.0 -0.5**
TIRR Tirgusor 66.08 315 *eP* **P 21 11 34.0 -1.3**
comp=Z,14nm,0.9s,mb5.0
TIRR Tirgusor 66.08 315 *eP* **P 21 11 34.0 -1.2**
TIRR pmax pmax
comp=Z,14nm,0.9s,mb5.0
TIRR Tirgusor 66.08 315⇑*iP* **P 21 11 34.5 -0.7**
LEOM Leova 66.68 317 ⇓P **P 21 11 38.6 -0.4**
LEOM Leova 66.68 317 ⇓*iP* **P 21 11 38.6 -0.4**
IDI Anoyia 67.14 305 *eP* **P 21 11 42.6 +0.4**
comp=Z,39nm,0.6s,mb5.6
AKASG Malin Array Be 67.17 322 P **P 21 11 39.0 -3.1**
comp=Z,0.5nm,0.3s,mb4.1,baz=82,slow=4.8,SNR=11
AKASG LR LR 21 45 24.9
comp=Z,190nm,18.2s,MS4.3,baz=75,slow=40
AKASG Malin Array Be 67.17 322 P **P 21 11 39.0 -3.1**
AKASG Malin Array Be 67.17 322 *iP* **P 21 11 40.5 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
LSZ Lusaka 67.38 250 *eP* **P 21 11 44.4 +0.4**
comp=Z,5.2nm,1.0s,mb4.5
LSZ Lusaka 67.38 250 *eP* **P 21 11 44.4 +0.4**
LSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
VRI Vrincioaia 67.56 317⇑P **P 21 11 44.9 +0.3**
VRI Vrincioaia 67.56 317⇑*iP* **P 21 11 44.9 +0.3**
PLOR Plostina 67.61 317⇑P **P 21 11 45.5 +0.6**
PLOR Plostina 67.61 317⇑*iP* **P 21 11 45.5 +0.6**
KDZ Kurdzhali 67.67 312 *iP* **P 21 11 45.7 +0.3**
TESR 67.76 317⇑*iP* **P 21 11 45.5 -0.3**
MLR Muntele Rosu 68.02 316 ⇓P **P 21 11 48.8 +1.3**
MLR Muntele Rosu 68.02 316 ⇓*iP* **P 21 11 48.8 +1.3**
VOIR 68.63 316 ⇓P **P 21 11 50.7 -0.6**
VOIR 68.63 316 ⇓*iP* **P 21 11 50.7 -0.6**
BURAR Bucovina Array 68.95 318 ⇓P **P 21 11 53.3 0.0**
BURAR Bucovina Array 68.95 318 ⇓*iP* **P 21 11 53.3 0.0**
BUR08 Bucovina Ar. S 68.97 318 *eP* **P 21 11 53.1 -0.3**
PETK Petropavlovsk- 69.33 36 P **P 21 11 54.4 -1.1**
comp=Z,9.0nm,1.2s,mb4.6,baz=226,slow=12,SNR=2.5
PETK LR LR 21 46 20.0
comp=Z,122nm,19.2s,MS4.2,baz=68,slow=39
PETK Petropavlovsk- 69.33 36 P **P 21 11 54.4 -1.1**
PETK Petropavlovsk- 69.33 36 P **P 21 11 54.4 -1.1**
KKB Krupnik 69.43 312 *iP* **P 21 11 55.7 -0.6**
VTS Vitosha 69.44 313⇑P **P 21 11 55.8 -0.6**
VTS Vitosha 69.44 313 *iP* **P 21 11 55.7 -0.7**
VTS Vitosha 69.44 313⇑*iP* **P 21 11 55.8 -0.6**
GZR Gura Zlata 70.19 315⇑*iP* **P 21 12 00.9 -0.1**
JOF Joensuu 70.26 335 *eP* **P 21 11 59.6 -1.4**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
JOF Joensuu 70.26 335 *ep* **P 21 11 59.6 -1.4**
comp=Z,8.1nm,0.7s,mb4.8
DRGR 70.47 317⇑P **P 21 12 02.6 -0.1**
DRGR 70.47 317⇑*iP* **P 21 12 02.6 -0.1**
TRPA Tarpa 70.82 318⇑*iP* **P 21 12 05.3 +0.5**
VSU Vasula 70.83 330 *iP* **P 21 12 04.2 -0.4**
KWP Kalwaria Pacla 70.99 320 *eP* **P 21 12 04.9 -0.8**
comp=Z,9.3nm,0.7s,mb4.8
KWP Kalwaria Pacla 70.99 320 *eP* **P 21 12 04.9 -0.8**
KWP pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KWP Kalwaria Pacla 70.99 320⇑*iP* **P 21 12 05.3 -0.4**
BZS Buzias 71.03 316⇑P **P 21 12 05.6 -0.5**
BZS Buzias 71.03 316⇑*iP* **P 21 12 05.6 -0.5**
UZH Uzhgorod 71.07 319 *eP* **P 21 12 06.0 -0.3**
UZH *e* pP 21 12 14.7 -1.8
KOLS Kolonicke sedl 71.14 319 *eP* **P 21 12 06.9 +0.2**
KOLS pmax pmax
comp=Z,17nm,1.4s,mb4.8
KOLS Kolonicke sedl 71.14 319 *eP* **P 21 12 06.9 +0.2**
KOLS *e*pP pP 21 12 17.6 +0.7
KOLS *e* 21 44 43.9
SUW Suwalki 71.59 324 *eP* **P 21 12 08.3 -1.0**
SUW Suwalki 71.59 324 *eP* **P 21 12 07.9 -1.4**
SUW Suwalki 71.59 324 *eP* **P 21 12 08.3 -1.0**
CRVS Cervenica-Dubn 71.66 319 *eP* **P 21 12 10.1 +0.3**
CRVS pmax pmax
comp=Z,18nm,1.3s,mb4.8
CRVS Cervenica-Dubn 71.66 319 *eP* **P 21 12 10.1 +0.3**
CRVS *e*pP pP 21 12 21.3 +1.3
STHS Stebnicka Huta 71.89 319 *eP* **P 21 12 12.7 +1.5**
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 71.89 319 *eP* **P 21 12 12.7 +1.5**
FINES FINESS Array B 72.05 332 P **P 21 12 11.1 -0.8**
comp=Z,6.1nm,0.7s,mb4.7,baz=105,slow=6.8,SNR=30
FINES LR LR 21 49 31.7
comp=Z,343nm,18.1s,MS4.7,baz=123,slow=41
FINES FINESS Array B 72.05 332 P **P 21 12 11.1 -0.8**
FINES FINESS Array B 72.05 332 P **P 21 12 11.1 -0.8**
KAF Kangasniemi 72.15 333 *eP* **P 21 12 10.9 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KAF Kangasniemi 72.15 333 *ep* **P 21 12 10.9 -1.6**
comp=Z,2.8nm,0.5s,mb4.5
KECS Kecovo 72.23 318 *eP* **P 21 12 13.3 0.0**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KECS Kecovo 72.23 318 *eP* **P 21 12 13.3 0.0**
KECS *e*pP pP 21 12 22.9 -0.6
LBTB Lobatse 72.44 241 P **P 21 12 15.9 +0.9**
comp=Z,8.5nm,0.6s,mb4.9,baz=98,slow=6.1,SNR=26
LBTB Lobatse 72.44 241 *eP* **P 21 12 16.1 +1.1**
LBTB Lobatse 72.44 241 *eP* **P 21 12 16.1 +1.1**
NIE Niedzica 72.49 319 *eP* **P 21 12 14.9 +0.1**
NIE Niedzica 72.49 319 *eP* **P 21 12 14.9 +0.1**
PSZ Piszkesteto 72.54 318 *eP* **P 21 12 14.8 -0.3**
PSZ Piszkesteto 72.54 318 ⇓P **P 21 12 15.4 +0.3**
PSZ Piszkesteto 72.54 318⇓*eP* **P 21 12 14.9 -0.2**
PSZ Piszkesteto 72.54 318 ⇓*iP* **P 21 12 15.4 +0.3**
OJC Ojcow 72.94 320 *eP* **P 21 12 16.7 -0.7**
OJC Ojcow 72.94 320 *eP* **P 21 12 17.1 -0.3**
comp=Z,19nm,0.8s,mb5.1
OJC Ojcow 72.94 320 *eP* **P 21 12 17.1 -0.3**
OJC pmax pmax
comp=Z,19nm,0.8s,mb5.1
BUD Budapest 73.06 317⇑*eP* **P 21 12 17.9 -0.3**
PKSM Moragy 73.17 316⇑P **P 21 12 18.5 -0.4**
PKSM Moragy 73.17 316⇑*iP* **P 21 12 18.5 -0.4**
KOLL Kolacno 73.62 318 *eP* **P 21 12 21.5 0.0**
KOLL Kolacno 73.62 318 *eP* **P 21 12 21.5 0.0**
BOSA Boshof 73.83 237 P **P 21 12 24.0 +0.9**
comp=Z,17nm,0.6s,mb5.2,baz=86,slow=4.9,SNR=62
BOSA LR LR 21 38 42.8
comp=Z,216nm,20.7s,MS4.4,baz=80,slow=31
BOSA Boshof 73.83 237 *eP* **P 21 12 24.1 +1.0**
comp=Z,20nm,0.8s,mb5.1
BOSA Boshof 73.83 237 *eP* **P 21 12 24.1 +1.0**
BOSA pmax pmax
comp=Z,20nm,0.8s,mb5.1
OKC Ostrava-Krasne 73.94 320 *eP* **P 21 12 23.3 0.0**
OKC *e**PP pP 21 12 33.9 +0.3
OKC Ostrava-Krasne 73.94 320 *eP* **P 21 12 23.3 0.0**
OKC *e*pP pP 21 12 33.9 +0.3
TIP Timpagrande 73.95 308 *eP* **P 21 12 23.4 -0.3**
MORC Moravsky Berou 74.32 320 *eP* **P 21 12 25.3 -0.3**
comp=Z,22nm,1.2s,mb5.0
MORC Moravsky Berou 74.32 320 *eP* **P 21 12 25.3 -0.3**
MORC pmax pmax
comp=Z,22nm,1.2s,mb5.0
MORC Moravsky Berou 74.32 320⇑*iP* **P 21 12 25.9 +0.3**
ZST Bratislava 74.43 318 *eP* **P 21 12 26.8 +0.6**
ZST pmax pmax
comp=Z,26nm,1.0s,mb5.1
ZST Bratislava 74.43 318 *eP* **P 21 12 26.8 +0.6**
ZST *e*pP pP 21 12 36.8 +0.3
KEV Kevo 74.44 341 *eP* **P 21 12 23.6 -2.3**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KEV Kevo 74.44 341 *ep* **P 21 12 23.6 -2.3**
comp=Z,7.8nm,0.7s,mb4.8
CUC Castrocucco 74.72 309 *eP* **P 21 12 27.5 -0.6**
comp=Z,11nm,0.8s,mb4.8
SOP Sopron 74.75 317⇑*eP* **P 21 12 28.1 0.0**
KOGS Kog 74.84 316 *eP* **P 21 12 28.5 -0.2**
KOGS *e*pP pP 21 12 39.0 +0.1
ARCES ARCESS Array B 74.86 340 P **P 21 12 28.1 -0.2**
comp=Z,5.3nm,0.7s,mb4.6,baz=100,slow=6.3,SNR=23
ARCES LR LR 21 46 26.7
comp=Z,352nm,20.9s,MS4.6,baz=118,slow=37
ARCES ARCESS Array B 74.86 340 P **P 21 12 28.1 -0.2**
ARCES ARCESS Array B 74.86 340 P **P 21 12 28.1 -0.2**
VRAC Vranov 74.88 319 ⇓P **P 21 12 29.0 +0.2**
VRAC Vranov 74.88 319 ⇓*iP* **P 21 12 29.0 +0.2**
DPC Dobruska-Polom 75.17 320 *eP* **P 21 12 30.7 +0.2**
DPC *e**PP pP 21 12 40.6 -0.1
DPC Dobruska-Polom 75.17 320 *eP* **P 21 12 30.7 +0.2**
DPC *e*pP pP 21 12 40.6 -0.1
CONA Conrad Observa 75.24 317 ⇓*iP* **P 21 12 31.2 +0.3**
comp=Z,11nm,1.1s,mb4.7
KSP Ksiaz 75.24 321 *eP* **P 21 12 31.5 +0.6**
KSP Ksiaz 75.24 321 *eP* **P 21 12 30.7 -0.1**
KSP *e*pP pP 21 12 41.2 +0.1
KSP Ksiaz 75.24 321⇓*eP* **P 21 12 30.7 -0.1**
KSP *e**PP pP 21 12 41.2 +0.1
UPC Upice 75.38 320 *eP* **P 21 12 32.4 +0.7**
UPC *e**PP pP 21 12 41.7 -0.2
UPC Upice 75.38 320 *eP* **P 21 12 32.4 +0.7**
UPC *e*pP pP 21 12 41.7 -0.2
ARSA Arzberg 75.41 317⇑*iP* **P 21 12 32.6 +0.7**
comp=Z,20nm,1.1s,mb5.0
BOJS Bojanci 75.47 315 *iP* **P 21 12 31.9 -0.4**
TREC Trest 75.60 319 *eP* **P 21 12 33.0 0.0**
TREC *e**PP pP 21 12 43.3 0.0
TREC Trest 75.60 319 *eP* **P 21 12 33.0 0.0**
TREC *e*pP pP 21 12 43.3 0.0
PDKS Podkum 75.68 316 *eP* **P 21 12 32.4 -1.1**
SOKA Soboth 75.70 316⇑*iP* **P 21 12 33.6 0.0**
comp=Z,22nm,1.1s,mb5.0
LJU Ljubljana 76.01 315 *eP* **P 21 12 35.4 0.0**
LJU *e*pP pP 21 12 46.1 +0.5
CRNS Crni Vrh 76.19 315 *eP* **P 21 12 36.2 -0.2**
PRU Pruhonice 76.28 320 *eP* **P 21 12 37.0 +0.2**
PRU *e**PP pP 21 12 47.8 +0.7
PRU *e*pP pP 21 12 47.8 +0.7
MOA Molln 76.30 317⇑*iP* **P 21 12 36.9 -0.1**
comp=Z,12nm,1.2s,mb4.7
PVCC Panska Ves 76.30 320 *eP* **P 21 12 37.2 +0.3**
PVCC *e**PP pP 21 12 48.2 +1.0
PVCC Panska Ves 76.30 320 *eP* **P 21 12 37.2 +0.3**
PVCC *e*pP pP 21 12 48.2 +1.0
MYKA Terra Mystica 76.65 316⇑*iP* **P 21 12 39.4 +0.4**
comp=Z,10nm,0.8s,mb4.8
BRG Berggiesshubel 76.72 320 *eP* **P 21 12 39.5 +0.1**
comp=Z,22nm,1.2s,mb5.0
BRG *i* pP pP 21 12 50.2 +0.6
comp=Z,24nm,1.1s
BRG *e*PP PP 21 15 47.3 +15
comp=Z,4.7nm,1.2s
BRG *e* 21 31 28.2
comp=Z,1.6nm,0.7s
BRG Berggiesshubel 76.72 320 *eP* **P 21 12 39.5 +0.2**
BRG *i* *PP pP 21 12 50.2 +0.6
BRG pmax pmax
comp=Z,22nm,1.2s,mb5.0
BRG pmax pmax
comp=Z,24nm,1.1s,mb5.0
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
GERES GERESS Array B 76.74 318 P **P 21 12 39.5 +0.1**
comp=Z,7.2nm,0.8s,mb4.7,baz=92,slow=4.3,SNR=54
GERES GERESS Array B 76.74 318 P **P 21 12 39.5 +0.1**
GERES GERESS Array B 76.74 318 P **P 21 12 39.5 0.0**
KHC Kasperske Hory 76.84 319 *eP* **P 21 12 39.9 -0.1**
KHC *e**PP pP 21 12 46.0 -4.3
KHC *e* pP 21 12 50.5 +0.2
KHC Kasperske Hory 76.84 319 *eP* **P 21 12 39.9 -0.1**
KHC *ex* x 21 12 46.0
KHC *e*pP pP 21 12 50.5 +0.2
KBA Koelnbreinsper 76.88 316⇑*iP* **P 21 12 39.7 -0.6**
comp=Z,14nm,1.2s,mb4.8
BILL Bilibino 77.03 22 *eP* **P 21 12 41.1 +0.4**
comp=Z,10nm,1.3s,mb4.6
BILL Bilibino 77.03 22⇓*eP* **P 21 12 41.2 +0.5**
BILL *e* 21 12 53.6
BILL *e* 21 15 38.6
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
CLL Collm 77.35 321⇑*iP* **P 21 12 42.5 -0.3**
CLL *i* pP 21 12 51.8 -1.3
CLL *e*S S 21 22 36.0 +5.2
CLL pmax pmax
comp=Z,60nm,2.2s,mb5.1
CLL pmax pmax
comp=Z,21nm,1.3s,mb4.9
CLL Collm 77.35 321⇑*iP* **P 21 12 42.5 -0.3**
comp=Z,60nm,2.2s,mb5.1
CLL *i* PcP PcP 21 12 51.8 -1.5
comp=Z,21nm,1.3s
CLL *e*PP PP 21 15 45.0 +7.8
CLL *e*PPP 21 17 24.0
CLL *e*S S 21 22 36.0 +5.2
NKC Novy Kostel 77.64 320 *eP* **P 21 12 44.3 -0.1**
NKC *e**PP pP 21 12 53.1 -1.6
NKC Novy Kostel 77.64 320 *eP* **P 21 12 44.3 -0.1**
NKC *e*pP pP 21 12 53.1 -1.6
MAW Mawson 77.91 191 P **P 21 12 47.5 +2.0**
comp=Z,13nm,0.6s,mb5.0,baz=18,slow=5.3,SNR=34
MAW LR LR 21 43 08.4
comp=Z,123nm,19.3s,MS4.2,baz=262,slow=33
MAW Mawson 77.91 191 *eP* **P 21 12 47.6 +2.1**
MAW Mawson 77.91 191 *eP* **P 21 12 47.6 +2.1**
WTTA Wattenberg 78.05 317⇑*iP* **P 21 12 46.3 -0.6**
comp=Z,26nm,1.0s,mb5.1
TSUM Tsumeb 78.15 249 *eP* **P 21 12 48.9 +1.0**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.40 319 *eP* **P 21 12 48.9 +0.2**
comp=Z,37nm,1.3s,mb5.2
GRF *e*pP pP 21 12 59.4 +0.4
GRF Grafenberg Arr 78.40 319 *eP* **P 21 12 48.9 +0.2**
GRF *e**PP pP 21 12 59.4 +0.4
GRF pmax pmax
comp=Z,37nm,1.3s,mb5.2
GRFO Grafenberg 78.41 319 *eP* **P 21 12 48.7 0.0**
comp=Z,15nm,1.1s,mb4.8
GRFO Grafenberg 78.41 319 *eP* **P 21 12 48.7 0.0**
GRFO pmax pmax
comp=Z,15nm,1.1s,mb4.8
MOTA Moosalm 78.42 317⇑*iP* **P 21 12 47.8 -1.0**
comp=Z,17nm,1.0s,mb4.9
RETA Reutte 78.65 317⇑*iP* **P 21 12 49.6 -0.5**
comp=Z,33nm,1.2s,mb5.1
NB2 NORSAR Subarra 79.01 331 P **P 21 12 50.5 -1.3**
comp=Z,10nm,1.0s,mb4.7,baz=97,slow=5.1
NOA NORSAR Array B 79.01 331 P **P 21 12 50.5 -1.3**
comp=Z,3.8nm,0.8s,mb4.4,baz=94,slow=5.7,SNR=7.8
NOA LR LR 21 51 39.1
comp=Z,324nm,20.1s,MS4.7,baz=90,slow=39
NOA NORSAR Array B 79.01 331 P **P 21 12 50.5 -1.3**
NOA NORSAR Array B 79.01 331 P **P 21 12 50.6 -1.2**
DAVOX Davos/Dischmat 79.25 316 P **P 21 12 53.8 +0.4**
comp=Z,10.0nm,0.7s,mb4.9,baz=148,slow=3.7,SNR=13
DAVOX Davos/Dischmat 79.25 316 P **P 21 12 53.8 +0.4**
DAVOX Davos/Dischmat 79.25 316 P **P 21 12 53.8 +0.4**
DAVA Damuels 79.25 317⇑*iP* **P 21 12 53.4 0.0**
comp=Z,31nm,1.0s,mb5.2
TUE Stuetta 79.61 316 *eP* **P 21 12 55.5 +0.1**
comp=Z,80nm,1.8s,mb5.3
KEST Kesra 79.82 305 P **P 21 12 57.0 +0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=46,slow=2.7,SNR=12
KEST LR LR 21 52 21.1
comp=Z,57nm,20.2s,MS3.9,baz=348,slow=39
KEST Kesra 79.82 305 P **P 21 12 57.0 +0.2**
PGF Pioggiola 79.90 312 *eP* **P 21 12 56.5 -0.6**
PGF Pioggiola 79.90 312 *eP* **P 21 12 56.5 -0.6**
PGF Pioggiola 79.90 312 *eP* **P 21 12 56.5 -0.6**
BFO Black Forest 80.29 318 *eP* **P 21 12 58.4 -0.7**
comp=Z,4.5nm,1.1s,mb4.3
BFO Black Forest 80.29 318 *eP* **P 21 12 58.4 -0.7**
BFO pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
CDF Champ du Feu 80.99 318 *eP* **P 21 13 01.9 -0.9**
comp=Z,13nm,0.8s,mb4.6
CDF Champ du Feu 80.99 318 *eP* **P 21 13 01.9 -0.9**
comp=Z,13nm,0.8s,mb4.9
CDF Champ du Feu 80.99 318 *eP* **P 21 13 01.9 -0.9**
CDF pmax pmax
comp=Z,13nm,0.8s,mb4.9
SBF Sospel 81.01 313 *eP* **P 21 13 02.4 -0.6**
comp=Z,92nm,1.1s,mb5.3
SBF Sospel 81.01 313 *eP* **P 21 13 02.4 -0.6**
comp=Z,92nm,1.0s,mb5.7
SBF Sospel 81.01 313 *eP* **P 21 13 02.4 -0.6**
SBF pmax pmax
comp=Z,92nm,1.0s,mb5.7
HINF Hinteralfeld 81.29 317 *eP* **P 21 13 03.5 -0.9**
HINF Hinteralfeld 81.29 317 *eP* **P 21 13 03.5 -0.9**
HINF Hinteralfeld 81.29 317 *eP* **P 21 13 03.5 -0.9**
LPG La Plagne 81.44 315 *eP* **P 21 13 05.1 -0.1**
comp=Z,59nm,0.8s,mb5.2
LPG La Plagne 81.44 315 *eP* **P 21 13 05.1 -0.1**
comp=Z,59nm,0.8s,mb5.6
LPG La Plagne 81.44 315 *eP* **P 21 13 05.1 -0.1**
LPG pmax pmax
comp=Z,59nm,0.8s,mb5.6
LPL La Plagne 81.45 315 *eP* **P 21 13 05.2 -0.1**
comp=Z,76nm,0.8s,mb5.4
LPL La Plagne 81.45 315 *eP* **P 21 13 05.2 -0.1**
comp=Z,76nm,0.8s,mb5.7
LPL La Plagne 81.45 315 *eP* **P 21 13 05.2 -0.1**
LPL pmax pmax
comp=Z,76nm,0.8s,mb5.7
MBDF Montbardon 81.45 314 *eP* **P 21 13 04.3 -1.0**
comp=Z,38nm,0.9s,mb5.0
MBDF Montbardon 81.45 314 *eP* **P 21 13 04.3 -1.0**
comp=Z,38nm,0.9s,mb5.3
MBDF Montbardon 81.45 314 *eP* **P 21 13 04.3 -1.0**
MBDF pmax pmax
comp=Z,38nm,0.9s,mb5.3
BNI Bardonecchia 81.51 314 *eP* **P 21 13 05.6 0.0**
comp=Z,19nm,0.9s,mb5.0
BNI Bardonecchia 81.51 314 *eP* **P 21 13 05.6 0.0**
BNI pmax pmax
comp=Z,19nm,0.9s,mb5.0
FRF La Foret Royal 81.59 313 *eP* **P 21 13 05.7 -0.4**

comp=Z,26nm,0.7s,mb5.0
FRF La Foret Royal 81.59 313 *eP* **P 21 13 05.7 -0.4**
comp=Z,26nm,0.7s,mb5.3
FRF La Foret Royal 81.59 313 *eP* **P 21 13 05.7 -0.4**
FRF pmax pmax
comp=Z,26nm,0.7s,mb5.3
HAU Haudompre 81.62 317 *eP* **P 21 13 05.2 -1.0**
comp=Z,20nm,0.7s,mb4.8
HAU *eR*
comp=Z,185nm,17.5s
HAU Haudompre 81.62 317 *eP* **P 21 13 05.2 -1.0**
comp=Z,20nm,0.7s,mb5.2
HAU Haudompre 81.62 317 *eP* **P 21 13 05.2 -1.0**
HAU pmax pmax
comp=Z,20nm,0.7s,mb5.2
LMR La Mourre 81.70 313 *eP* **P 21 13 06.3 -0.4**
LMR La Mourre 81.70 313 *eP* **P 21 13 06.3 -0.4**
LMR La Mourre 81.70 313 *eP* **P 21 13 06.3 -0.4**
CABF La Chapelle 81.86 316 *eP* **P 21 13 07.0 -0.4**
CABF La Chapelle 81.86 316 *eP* **P 21 13 07.0 -0.4**
CABF La Chapelle 81.86 316 *eP* **P 21 13 07.0 -0.4**
PAGF Fort de Pagny 82.02 318 *eP* **P 21 13 07.4 -0.8**
MEZF Maizieres J'vi 82.47 318 *eP* **P 21 13 09.9 -0.7**
MEZF Maizieres J'vi 82.47 318 *eP* **P 21 13 09.9 -0.7**
SFTF Sexfontaines 82.49 318 *eP* **P 21 13 09.9 -0.8**
comp=Z,26nm,0.7s,mb5.0
SFTF Sexfontaines 82.49 318 *eP* **P 21 13 09.9 -0.8**
comp=Z,26nm,0.7s,mb5.3
BAIF Baives 82.94 320 *eP* **P 21 13 12.4 -0.6**
comp=Z,24nm,1.0s,mb4.9
BAIF Baives 82.94 320 *eP* **P 21 13 12.4 -0.6**
comp=Z,24nm,1.0s,mb5.2
BAIF Baives 82.94 320 *eP* **P 21 13 12.4 -0.6**
BAIF pmax pmax
comp=Z,24nm,1.0s,mb5.2
VIVF Saint-Julien-l 82.94 314 *eP* **P 21 13 12.8 -0.3**
comp=Z,27nm,0.9s,mb5.0
VIVF Saint-Julien-l 82.94 314 *eP* **P 21 13 12.8 -0.3**
comp=Z,27nm,0.9s,mb5.3
VIVF Saint-Julien-l 82.94 314 *eP* **P 21 13 12.8 -0.3**
VIVF pmax pmax
comp=Z,27nm,0.9s,mb5.3
LOR Lormes 83.34 317 *eP* **P 21 13 14.2 -1.0**
comp=Z,71nm,1.4s,mb5.2
LOR *eR*
comp=Z,175nm,19.0s
LOR Lormes 83.34 317 *eP* **P 21 13 14.2 -1.0**
comp=Z,71nm,1.4s,mb5.5
LOR Lormes 83.34 317 *eP* **P 21 13 14.2 -1.0**
LOR pmax pmax
comp=Z,71nm,1.4s,mb5.5
SMF Signal de Mont 83.40 316 *eP* **P 21 13 14.5 -1.0**
SMF Signal de Mont 83.40 316 *eP* **P 21 13 14.5 -1.0**
SMF Signal de Mont 83.40 316 *eP* **P 21 13 14.5 -1.0**
LASF Ste Croix 83.58 314 *eP* **P 21 13 15.7 -0.7**
LASF Ste Croix 83.58 314 *eP* **P 21 13 15.7 -0.7**
SSF Saint Saulge 83.60 317 *eP* **P 21 13 15.6 -0.9**
SSF Saint Saulge 83.60 317 *eP* **P 21 13 15.6 -0.9**
SSF Saint Saulge 83.60 317 *eP* **P 21 13 15.6 -0.9**
AVF Avril sur Loir 83.72 316 *eP* **P 21 13 16.3 -0.8**
AVF Avril sur Loir 83.72 316 *eP* **P 21 13 16.3 -0.8**
AVF Avril sur Loir 83.72 316 *eP* **P 21 13 16.3 -0.8**
TAM Tamanrasset 84.05 292 *eP* **P 21 13 20.5 +1.2**
comp=Z,24nm,1.3s,mb5.2
TAM Tamanrasset 84.05 292 *eP* **P 21 13 20.5 +1.2**
TAM pmax pmax
comp=Z,24nm,1.3s,mb5.2
SYO Syowa Base 84.61 197‖ *eP* **P 21 13 21.6 +0.6**
SYO Syowa Base 84.61 197‖ *eP*PcP PcP 21 13 24.0 -0.5
MTLF Montolieu 84.83 313 *eP* **P 21 13 22.5 -0.3**
MTLF Montolieu 84.83 313 *eP* **P 21 13 22.5 -0.3**
MTLF Montolieu 84.83 313 *eP* **P 21 13 22.5 -0.3**
LDF La Druitiere 85.89 318 *eP* **P 21 13 27.0 -1.0**
comp=Z,11nm,0.8s,mb4.8
LDF La Druitiere 85.89 318 *eP* **P 21 13 27.0 -1.0**
comp=Z,11nm,0.8s,mb5.1
LDF La Druitiere 85.89 318 *eP* **P 21 13 27.0 -1.0**
LDF pmax pmax
comp=Z,11nm,0.8s,mb5.1
FLN La Foliniere 86.10 319 *eP* **P 21 13 28.0 -1.0**
FLN *eR*
comp=Z,205nm,20.8s
FLN La Foliniere 86.10 319 *eP* **P 21 13 28.0 -1.0**
FLN La Foliniere 86.10 319 *eP* **P 21 13 28.0 -1.0**
MFF Saint Martin d 86.14 316 *eP* **P 21 13 28.5 -0.8**
MFF Saint Martin d 86.14 316 *eP* **P 21 13 28.5 -0.8**
MFF Saint Martin d 86.14 316 *eP* **P 21 13 28.5 -0.8**
EPF Esparros 86.22 313 *eP* **P 21 13 28.6 -1.2**
comp=Z,38nm,1.3s,mb5.2
EPF Esparros 86.22 313 *eP* **P 21 13 28.6 -1.2**
comp=Z,38nm,1.3s,mb5.5
EPF Esparros 86.22 313 *eP* **P 21 13 28.6 -1.2**
EPF pmax pmax
comp=Z,38nm,1.3s,mb5.5
GRR Gorron 86.40 318 *eP* **P 21 13 29.8 -0.7**
comp=Z,56nm,1.3s,mb5.3
GRR Gorron 86.40 318 *eP* **P 21 13 29.8 -0.7**
comp=Z,56nm,1.3s,mb5.6
GRR Gorron 86.40 318 *eP* **P 21 13 29.8 -0.7**
GRR pmax pmax
comp=Z,56nm,1.3s,mb5.6
RPZ Rata Peaks 87.23 135 P **P 21 13 35.2 +0.7**
comp=Z,18nm,0.7s,mb5.4,baz=355,slow=1.8,SNR=13
RPZ LR LR 21 50 59.8
comp=Z,173nm,19.1s,MS4.5,baz=180,slow=34
RPZ Rata Peaks 87.23 135 P **P 21 13 35.2 +0.7**
TORD Torodi Ar. Bea 88.79 283 P **P 21 13 43.9 +1.2**
comp=Z,2.9nm,0.9s,mb4.6,baz=95,slow=5.5,SNR=18
TORD PKKPbc PKKPbc 21 31 21.9 -0.3
comp=Z,0.4nm,0.5s,baz=295,slow=2.2,SNR=10
TORD LR LR 21 50 51.1
comp=Z,148nm,20.1s,MS4.4,baz=120,slow=34
TORD Torodi Ar. Bea 88.79 283 P **P 21 13 43.9 +1.2**
TORD PKKPbc PKKPbc 21 31 21.9 -0.3
ALE Alert 89.25 357 P **P 21 13 43.0 -0.6**
comp=Z,110nm,0.6s,SNR=5.8
ESDC Sonseca Array 89.91 310 P **P 21 13 47.8 +0.3**
comp=Z,2.0nm,0.6s,mb4.7,baz=63,slow=4.1,SNR=18
ESDC LR LR 21 56 52.2
comp=Z,83nm,19.1s,MS4.2,baz=60,slow=38
ESDC Sonseca Array 89.91 310 P **P 21 13 47.8 +0.3**
URZ Urewera 90.68 128 *eP* **P 21 13 51.2 +0.2**
ILAR Eielson Array 95.69 22 P **P 21 14 13.9 +0.3**
comp=Z,1.2nm,0.6s,mb4.5,baz=306,slow=4.6,SNR=14
ILAR PP PP 21 18 06.5 +1.8
comp=Z,0.6nm,0.8s,baz=304,slow=7.5,SNR=5.6
ILAR LR LR 21 59 22.7
comp=Z,305nm,20.4s,MS4.8,baz=320,slow=37
ILAR Eielson Array 95.69 22 P **P 21 14 13.9 +0.3**
ILAR PP PP 21 18 06.5 +1.8
ILAR Eielson Array 95.69 22 P **P 21 14 13.9 +0.3**
ILAR PP PP 21 18 06.6
DBIC Dimbokro 96.08 278 P **P 21 14 18.1 +1.7**
comp=Z,5.1nm,0.7s,mb5.1,baz=79,slow=5.2,SNR=11
DBIC LR LR 21 56 42.7
comp=Z,178nm,20.2s,MS4.5,baz=60,slow=35
DBIC Dimbokro 96.08 278 P **P 21 14 18.1 +1.7**
DBIC Dimbokro 96.08 278 P **P 21 14 18.1 +1.7**
YKA Yellowknife Ar 107.11 13 PP PP 21 19 27.8 -2.7
comp=Z,0.6nm,0.8s,baz=335,slow=7.0,SNR=4.9
YKA Yellowknife Ar 107.11 13 PP PP 21 19 27.8 -2.7
ULM Lac du Bonnet 121.94 6 PKP PKPdf 21 19 41.5 -1.0
comp=Z,2.8nm,0.5s,baz=326,slow=2.7,SNR=4.5
ULM Lac du Bonnet 121.94 6 PKP PKPdf 21 19 41.5 -1.0
ULM Lac du Bonnet 121.94 6 PKIKP PKPdf 21 19 41.5 -0.9
RRI2 Red Ridge 124.96 21 *e*PKPdf PKPdf 21 19 49.0 +0.6
PDAR Pinedale Array 126.08 20 PKhKP PKPpre 21 19 48.2
comp=Z,2.3nm,0.7s,baz=164,slow=0.3,SNR=17
PDAR Pinedale Array 126.08 20 PKPpre PKPpre 21 19 48.2
NVAR Mina Array Bea 126.10 30 PKP PKPdf 21 19 52.4 +1.6
comp=Z,3.5nm,0.7s,baz=307,slow=2.0,SNR=24
NVAR Mina Array Bea 126.10 30 PKP PKPdf 21 19 52.4 +1.6
RSSD Black Hills 126.45 15 *e*PKPdf PKPdf 21 19 51.7 +0.5
RSSD Black Hills 126.45 15 *e*PKIKP PKPdf 21 19 51.7 +0.5
ECSD EROS Data Cent 128.27 8 *e*PKPdf PKPdf 21 19 54.2 -0.5
MSU Marysvale 128.80 25 *eP* PKPdf 21 19 57.8 +1.9
MSU Marysvale 128.80 25 *e*PKIKP PKPdf 21 19 57.8 +1.9
TXAR Lajitas Array 140.21 22 PKP PKPdf 21 20 17.3 -0.2
comp=Z,1.6nm,0.6s,baz=326,slow=1.8,SNR=8.6
TXAR Lajitas Array 140.21 22 PKP PKPdf 21 20 17.3 -0.2
TXAR Lajitas Array 140.21 22 PKIKP PKPdf 21 20 17.3 -0.2
PLCA Paso Flores 143.62 202 PKhKP PKPpre 21 20 20.7
comp=Z,2.4nm,0.9s,baz=181,slow=4.7,SNR=5.8
PLCA Paso Flores 143.62 202 PKPpre PKPpre 21 20 20.7
CPUP Villa Florida 145.58 234 PKPbc PKPbc 21 20 27.2 0.0
comp=Z,8.8nm,0.6s,baz=84,slow=2.7,SNR=34
CPUP Villa Florida 145.58 234 PKPbc PKPbc 21 20 27.2 -0.1
LPAZ La Paz 158.94 244 PKP PKPdf 21 20 47.8 +0.9
comp=Z,1.8nm,0.8s,baz=24,slow=2.4,SNR=8.3
LPAZ PKPab PKPab 21 21 24.3 +1.1
comp=Z,7.3nm,0.8s,baz=172,slow=2.8,SNR=21
LPAZ La Paz 158.94 244 *e*PKPdf PKPdf 21 20 46.9 0.0
LPAZ PKP PKPdf 21 20 47.8 +0.9
LPAZ PKPab PKPab 21 21 24.3 +1.1
LPAZ La Paz 158.94 244 *e*PKIKP PKPdf 21 20 46.9 -0.1

*IDC **09** 21:02:01.6±1.0, 9°.10S×107°.69E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/21, mbtmp4.3/13, ML3.7/1, Error ellipse: s-maj=36.2km s-min=15.3km az=55.0*
*ISCJB **09** 21:02:05.9±0.6, 9°.18S±0°.05×107°.67E±0°.03, h47km±6km, mb4.3/17, Error ellipse: s-maj=8.5km s-min=5.1km az=22.6*
*NEIC **09** 21:02:06.8±0.2, 9°.13S×107°.70E, h35km, mb4.2/7, Error ellipse: s-maj=9.0km s-min=5.3km az=47.0*
*DJA **09** 21:02:06, 9°.24S×107°.67E, h59km, MLv4.6/16*
ISC 09 21:02:07.2±0.6, **9°.20S**±0°.05×**107°.68E**±0°.03, **h40**km±5km, **n69**, σ0°**92**/72, **mb4.3**/17, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.64**	**5**	P	**Pn**	**21 02 32.7**	**-0.9**
CLJI	**Cilicap**	**1.98**	**42**	P	**Pn**	**21 02 38.0**	**-0.2**
LEM	**Lembang**	**2.36**	**359**	P	**Pn**	**21 02 44.8**	**+1.3**
XMIS	**Christmas Isla**	**2.37**	**237**	P	**Pn**	**21 02 41.5**	**-2.1**
SKJI	**Sukabumi**	**2.45**	**333**	P	**Pn**	**21 02 44.3**	**-0.4**
BJII	**Banjamegara**	**2.73**	**47**	P	**Pn**	**21 02 48.9**	**+0.3**
DBJI	**Dramaga**	**2.78**	**341**	P	**Pn**	**21 02 50.0**	**+0.7**
CGJI	**Cibinong**	**3.23**	**322**	P	**Pn**	**21 02 54.9**	**-0.6**
SBJI	**Serang**	**3.42**	**333**	P	**Pn**	**21 02 58.7**	**+0.6**
PCJI	**Pacitan**	**3.60**	**74**	P	**Pn**	**21 03 01.2**	**+0.7**
PCJI				S	**Sn**	**21 03 40.2**	**-1.6**
NGJI	**Ngawi**	**4.16**	**64**	P	**Pn**	**21 03 09.8**	**+1.5**
PWJI	**Pagerwojo**	**4.24**	**74**	P	**Pn**	**21 03 09.4**	**0.0**
PWJI				S	**Sn**	**21 03 57.5**	**-0.2**
SJI	**Sawahan**	**4.30**	**71**	P	**Pn**	**21 03 10.5**	**+0.4**
LWLI	**Liwa**	**5.49**	**319**	P	**Pn**	**21 03 28.0**	**+1.4**
	1.0nm2μm126nm,0.8s						
LWLI				S	**Sn**	**21 04 29.3**	**+0.8**
	1.0nm2μm126nm,0.8s						
LWLI	**Liwa**	**5.49**	**319**	P	**Pn**	**21 03 26.4**	**-0.2**
MDSI	**Maura Dua**	**5.83**	**323**	P	**Pn**	**21 03 30.4**	**-0.8**
	0.3nm781nm40nm,0.8s						
MDSI	**Maura Dua**	**5.83**	**323**	P	**Pn**	**21 03 30.9**	**-0.3**
BLJI	**Banyuglugur**	**6.03**	**77**	P	**Pn**	**21 03 37.1**	**+3.2**
KSI	**Kapahiang**	**7.48**	**317**	P	**Pn**	**21 03 53.9**	**+0.1**
KSI	**Kapahiang**	**7.48**	**317**	P	**Pn**	**21 03 54.0**	**+0.2**
COCO	**West Island**	**11.06**	**253**	*e*Pn	**Pn**	**21 04 42.6**	**-0.4**
MBWA	**Marble Bar**	**16.62**	**137**	*e*Pn	**Pn**	**21 05 55.0**	**-2.4**
	8.1nm,0.7s						
KKM	**Kota Kinabalu**	**17.37**	**30**	*e*Pn	**Pn**	**21 06 03.4**	**-3.3**
FITZ	**Fitzroy Crossi**	**19.55**	**119**	P	**Pn**	**21 06 33.2**	**-0.1**
	0.2nm,0.3s,baz=265,slow=5.7,SNR=6.6						
FITZ	**Fitzroy Crossi**	**19.55**	**119**	*e*Pn	**Pn**	**21 06 33.1**	**-0.2**
	4.5nm,0.7s						
NWAO	**Narrogin (SRO)**	**25.21**	**161**	*e*P	**P**	**21 07 29.9**	**+0.6**
WRA	**Warramunga Arr**	**27.88**	**115**	P	**P**	**21 07 54.0**	**+0.5**
	1.0nm,0.6s,mb3.6,baz=286,slow=12,SNR=10						
WRA	**Warramunga Arr**	**27.88**	**115**	P	**P**	**21 07 54.0**	**+0.5**
WRAB	**Tennant Creek**	**27.89**	**115**	*e*P	**P**	**21 07 54.0**	**+0.4**
	1.4nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**28.90**	**123**	P	**P**	**21 08 02.9**	**+0.3**
	1.8nm,0.7s,mb3.9,baz=302,slow=8.1,SNR=9.9						
ASAR	**Alice Springs**	**28.90**	**123**	P	**P**	**21 08 02.9**	**+0.3**
COEN	**Coen**	**35.07**	**101**	*e*P	**P**	**21 08 58.0**	**+1.2**
STKA	**Stephens Creek**	**38.69**	**131**	P	**P**	**21 09 27.6**	**+0.2**
	5.8nm,0.7s,mb4.4,baz=284,slow=6.7,SNR=6.4						
STKA	**Stephens Creek**	**38.69**	**131**	*e*P	**P**	**21 09 27.1**	**-0.3**
CAN	**Canberra**	**45.75**	**131**	*e*P	**P**	**21 10 27.0**	**+2.1**
TAU	**Tasmania Unive**	**48.22**	**141**	*e*P	**P**	**21 10 44.0**	**-0.1**
KSAR	**Wonju Array Be**	**50.11**	**21**	P	**P**	**21 10 57.7**	**-0.8**
KSRS	**Korea Array**	**50.13**	**21**	P	**P**	**21 10 57.7**	**-0.9**
	0.6nm,0.5s,mb3.9,baz=203,slow=8.2,SNR=5.0						
HNR	**Honiara**	**51.54**	**95**	*e*P	**P**	**21 11 09.1**	**-0.6**
	40nm,0.5s						
MJAR	**Matsushiro Arr**	**53.79**	**30**	P	**P**	**21 11 23.7**	**-2.3**
	1.8nm,0.7s,mb4.1,baz=210,slow=8.0,SNR=4.3						
MJAR	**Matsushiro Arr**	**53.79**	**30**	P	**P**	**21 11 23.7**	**-2.3**
SONM	**Songino Array**	**56.79**	**359**	P	**P**	**21 11 48.4**	**+1.1**
	3.9nm,0.6s,mb4.6,baz=180,slow=9.1,SNR=8.2						
SONM	**Songino Array**	**56.79**	**359**	P	**P**	**21 11 48.4**	**+1.1**
ULN	**Ulaanbaatar**	**56.81**	**359**	*e*P	**P**	**21 11 47.9**	**+0.5**
KBL	**Kabul**	**56.84**	**322**	*e*P	**P**	**21 11 48.0**	**+0.1**
	2.7nm,0.7s,mb4.4						
TKM2	**Tokmak 2**	**59.55**	**333**	*e*P	**P**	**21 12 07.0**	**+0.2**
AAK	**Ala-Archa**	**59.83**	**332**	*e*P	**P**	**21 12 08.0**	**-0.7**
MK31	**Makanchi Array**	**60.17**	**340**	*e*P	**P**	**21 12 11.2**	**+0.3**
MKAR	**Makanchi Array**	**60.17**	**340**	P	**P**	**21 12 11.3**	**+0.4**
	9.8nm,0.6s,mb5.0,baz=148,slow=8.3,SNR=32						
MKAR	**Makanchi Array**	**60.17**	**340**	P	**P**	**21 12 11.3**	**+0.4**
EKS2	**Erkin-Say**	**60.18**	**332**	*e*P	**P**	**21 12 11.2**	**+0.2**
TLY	**Talaya**	**60.73**	**357**	*e*P	**P**	**21 12 14.2**	**-0.4**
KURK	**Kurchatov**	**64.78**	**340**	P	**P**	**21 12 40.2**	**-1.4**
	8.6nm,0.7s,mb4.9,baz=160,slow=5.9,SNR=21						
KURK	**Kurchatov**	**64.78**	**340**	*e*P	**P**	**21 12 41.7**	**+0.1**
ZALV	**Zalesovo Beam**	**65.81**	**345**	P	**P**	**21 12 48.1**	**-0.2**
	3.8nm,0.7s,mb4.5,baz=134,slow=4.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**65.81**	**345**	P	**P**	**21 12 48.1**	**-0.2**
BRVK	**Borovoye**	**69.71**	**337**	*e*P	**P**	**21 13 11.8**	**-1.0**
	5.8nm,0.7s,mb4.6						
ABKAR	**Akbulak array**	**71.63**	**329**	*e*P	**P**	**21 13 24.8**	**+0.2**
YAK	**Yakutsk**	**73.05**	**11**	*e*P	**P**	**21 13 31.8**	**-1.0**
	20nm,0.7s,mb5.2						
PETK	**Petropavlovsk-**	**75.18**	**29**	P	**P**	**21 13 45.0**	**-0.4**
	4.2nm,0.9s,mb4.4,baz=258,slow=6.8,SNR=3.4						
PETK	**Petropavlovsk-**	**75.18**	**29**	P	**P**	**21 13 45.0**	**-0.4**
ARU	**Arti**	**76.88**	**334**	*e*P	**P**	**21 13 54.0**	**-1.0**
KIV	**Kislovodsk**	**78.95**	**318**	*e*P	**P**	**21 14 07.4**	**+0.5**
LBTB	**Lobatse**	**79.04**	**246**	*e*P	**P**	**21 14 08.5**	**+0.7**
	1.8nm,0.7s,mb4.1						
QSPA	**South Pole Qui**	**80.81**	**180**	P	**P**	**21 14 17.1**	**+0.8**
	0.6nm,0.3s,mb4.0,baz=39,slow=2.7,SNR=4.1						
QSPA	**South Pole Qui**	**80.81**	**180**	P	**P**	**21 14 17.1**	**+0.8**
BRTR	**Keskin Array B**	**83.78**	**312**	P	**P**	**21 14 33.1**	**+0.6**
	1.5nm,0.9s,mb4.1,baz=134,slow=3.6,SNR=3.6						
BRTR	**Keskin Array B**	**83.78**	**312**	P	**P**	**21 14 33.1**	**+0.6**
OBN	**Obninsk**	**86.92**	**327**	*e*P	**P**	**21 14 48.4**	**+0.5**

*IDC **09** 21:20:23.3±2.0, 8°.65S×108°.26E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, Error ellipse: s-maj=77.0km s-min=20.3km az=49.0*
*ISCJB **09** 21:20:24.7±1.0, 9°.27S±0°.09×107°.65E±0°.06, h45km±11km, mb3.7/7, Error ellipse: s-maj=14.8km s-min=9.8km az=5.3*
*DJA **09** 21:20:24, 9°.32S×107°.69E, h30km, MLv3.9/8*
ISC 09 21:20:25.4±3.0, **9°.27S**±0°.09×**107°.63E**±0°.06, **h30**km±24km, **n14**, σ0°**69**/15, **mb3.7**/7, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.71**	**6**	P	**Pn**	**21 20 52.3**	**-0.8**
XMIS	**Christmas Isla**	**2.29**	**238**	P	**Pn**	**21 21 00.8**	**-0.3**
LEM	**Lembang**	**2.42**	**360**	P	**Pn**	**21 21 03.9**	**+1.0**
DBJI	**Dramaga**	**2.83**	**342**	P	**Pn**	**21 21 09.5**	**+0.9**
UGM	**Wanagama**	**3.16**	**65**	P	**Pn**	**21 21 12.3**	**-0.8**
CGJI	**Cibinong**	**3.26**	**324**	P	**Pn**	**21 21 14.1**	**-0.3**
PCJI	**Pacitan**	**3.67**	**73**	P	**Pn**	**21 21 20.2**	**+0.2**
PCJI				S	**Sn**	**21 22 02.2**	**0.0**
WRA	**Warramunga Arr**	**27.90**	**115**	P	**P**	**21 26 12.4**	**-0.5**
	0.1nm,0.4s,mb2.8,baz=286,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**28.91**	**123**	P	**P**	**21 26 23.2**	**+1.4**
	0.3nm,0.6s,mb3.2,baz=301,slow=8.4,SNR=3.5						
MJAR	**Matsushiro Arr**	**53.87**	**30**	P	**P**	**21 29 41.5**	**-4.4**
	2.3nm,0.7s,mb4.2,baz=200,slow=10.0,SNR=6.7						
SONM	**Songino Array**	**56.86**	**359**	P	**P**	**21 30 07.4**	**+0.3**
	0.5nm,0.5s,mb3.8,baz=179,slow=8.5,SNR=9.6						
MKAR	**Makanchi Array**	**60.22**	**340**	P	**P**	**21 30 30.8**	**+0.3**
	1.4nm,0.5s,mb4.2,baz=151,slow=8.4,SNR=31						
KURK	**Kurchatov**	**64.83**	**340**	P	**P**	**21 31 00.8**	**-0.4**
	1.1nm,0.5s,mb4.1,baz=160,slow=5.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**65.87**	**345**	P	**P**	**21 31 07.1**	**-0.7**
	0.4nm,0.4s,mb3.9,baz=177,slow=5.3,SNR=3.0						

*ISCJB **09** 21:43:55.8±0.6, 50°.17N±0°.04×18°.99E±0°.03, h0km, Error ellipse: s-maj=6.4km s-min=2.6km az=7.4*
*CSEM **09** 21:43:56.9±0.2, 50°.16N×19°.01E, h2km, ML2.6/5, Error ellipse: s-maj=6.4km s-min=2.5km az=4.0*
*IPEC **09** 21:43:56.9±0.2, 50°.17N×19°.05E, h2km±1km, ML1.8/3, Error ellipse: s-maj=2.8km s-min=1.1km az=167.0*
*PRU **09** 21:43:57.6, 50°.16N×19°.01E, h0km*
ISC 09 21:43:56.9±0.5, **50°.14N**±0°.04×**19°.01E**±0°.03, **h0**km, **n26**, σ0°**84**/45, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.51**	**81**	*e*Pg	**Pg**	**21 44 06.2**	**-0.5**
OJC				*e*Sg	**Sg**	**21 44 13.0**	**-0.3**
OJC	**Ojcow**	**0.51**	**81**	*e*Pg	**Pg**	**21 44 06.2**	**-0.5**
	baz=265						
OJC				*e*Sg	**Sg**	**21 44 13.0**	**-0.3**
OKC	**Ostrava-Krasne**	**0.64**	**242**	*e*PG	**Pg**	**21 44 09.2**	**+0.1**
OKC				*e*SG	**Sg**	**21 44 18.1**	**+0.8**
	18nm,0.4s						
OKC	**Ostrava-Krasne**	**0.64**	**242**	Pg	**Pg**	**21 44 09.2**	**+0.1**
OKC				Sg	**Sg**	**21 44 18.1**	**+0.8**
	18nm,0.4s						
MORC	**Moravsky Berou**	**1.02**	**250**	*e*Pg	**Pg**	**21 44 16.8**	**+0.4**
	baz=67						
MORC				*e*Sg	**Sg**	**21 44 30.0**	**+0.5**
	14nm,0.4s,baz=67						
NIE	**Niedzica**	**1.11**	**130**	*e*Pg	**Pg**	**21 44 16.9**	**-1.2**
NIE				*e*Sg	**Sg**	**21 44 32.1**	**-0.4**
NIE	**Niedzica**	**1.11**	**130**	*e*Pg	**Pg**	**21 44 16.9**	**-1.2**
NIE				*e*Sg	**Sg**	**21 44 32.1**	**-0.4**
KOLL	**Kolacno**	**1.61**	**195**	*e*PN	**Pn**	**21 44 26.2**	**-0.4**
KOLL				*e*SN	**Sn**	**21 44 46.3**	**-1.7**
KOLL	**Kolacno**	**1.61**	**195**	*e*Pn	**Pn**	**21 44 26.2**	**-0.4**
KOLL				*e*Sn	**Sn**	**21 44 46.3**	**-1.7**
STHS	**Stebnicka Huta**	**1.62**	**116**	*e*PN	**Pn**	**21 44 27.1**	**+0.5**
STHS				*e*SN	**Sn**	**21 44 48.7**	**+0.5**
STHS	**Stebnicka Huta**	**1.62**	**116**	*e*Pn	**Pn**	**21 44 27.1**	**+0.5**
STHS				*e*Sn	**Sn**	**21 44 48.7**	**+0.5**
DPC	**Dobruska-Polom**	**1.74**	**278**	*e*PG	**Pg**	**21 44 29.6**	**-0.6**
DPC				*e*SG	**Sg**	**21 44 52.2**	**-0.6**
	10nm,0.3s						
DPC	**Dobruska-Polom**	**1.74**	**278**	*e*Pn	**Pn**	**21 44 28.0**	**-0.3**
	baz=95						
DPC	**Dobruska-Polom**	**1.74**	**278**	Pg	**Pg**	**21 44 29.6**	**-0.6**
DPC				Sg	**Sg**	**21 44 52.2**	**-0.6**
	10nm,0.3s						
VRAC	**Vranov**	**1.78**	**243**	*e*Pn	**Pn**	**21 44 29.3**	**+0.5**
	baz=61						
VRAC				*e*Sg	**Sg**	**21 44 53.5**	**-0.4**
	6.1nm,0.3s,baz=61						
KECS	**Kecovo**	**1.92**	**149**	*e*PN	**Pn**	**21 44 31.3**	**+0.5**
KECS				*e*SN	**Sn**	**21 44 55.0**	**-0.6**
KECS	**Kecovo**	**1.92**	**149**	*e*Pn	**Pn**	**21 44 31.3**	**+0.5**
KECS				*e*Sn	**Sn**	**21 44 55.0**	**-0.6**
UPC	**Upice**	**1.96**	**282**	*e*SG	**Sg**	**21 44 59.5**	**-0.3**
UPC	**Upice**	**1.96**	**282**	Sg	**Sg**	**21 44 59.5**	**-0.3**
KRUC	**Moravsky**	**2.02**	**239**	*e*Pn	**Pn**	**21 44 32.7**	**+0.6**
	baz=56						
KRUC				*e*Sn	**Sn**	**21 44 59.5**	**+1.5**
	4.9nm,0.3s,baz=56						
CRVS	**Cervenica-Dubn**	**2.02**	**127**	*e*PN	**Pn**	**21 44 33.5**	**+1.3**
CRVS				*e*SN	**Sn**	**21 45 00.1**	**+2.0**
CRVS	**Cervenica-Dubn**	**2.02**	**127**	*e*Pn	**Pn**	**21 44 33.5**	**+1.3**
CRVS				*e*Sn	**Sn**	**21 45 00.1**	**+2.0**
KOLS	**Kolonicke sedl**	**2.44**	**118**	*e*SN	**Sn**	**21 45 07.7**	**-0.8**
KOLS	**Kolonicke sedl**	**2.44**	**118**	*e*Sn	**Sn**	**21 45 07.7**	**-0.8**
BRG	**Berggiesshubel**	**3.32**	**285**	SG	**Sg**	**21 45 44.0**	**+0.5**
	1.7nm,0.3s						
KHC	**Kasperske Hory**	**3.67**	**256**	*ex*	x	21 45 33.0	
KHC				*e*SG	**Sg**	**21 45 53.5**	**-1.4**
KHC				*ex*	x	21 46 05.5	

*IDC **09** 21:49:40.9±1.9, 1°.25N×126°.79E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=110.0km s-min=24.6km az=69.0*
*ISCJB **09** 21:49:48.6±1.0, 1°.26N±0°.08×126°.97E±0°.06, h84km±7km, mb3.6/3, Error ellipse: s-maj=15.7km s-min=7.3km az=31.9*
*DJA **09** 21:49:51, 1°.08N×126°.82E, h32km, MLv3.9/4*
ISC 09 21:49:49.6±1.1, **1°.27N**±0°.09×**126°.98E**±0°.06, **h76**km±8km, **n10**, σ0°**89**/15, **mb3.6**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.63**	**142**	P	**Pn**	**21 50 04.6**	**+0.4**
TNTI				S	**Sn**	**21 50 14.2**	**-0.8**
LBMI	**Labuha**	**1.96**	**165**	P	**Pn**	**21 50 22.4**	**+1.5**
LBMI				S	**Sn**	**21 50 45.0**	**+0.3**
MNI	**Manado**	**2.15**	**275**	P	**Pn**	**21 50 23.1**	**-0.2**
MNI				S	**Sn**	**21 50 48.8**	**-0.3**
KMSI	**Cibinong**	**3.08**	**257**	P	**Pn**	**21 50 34.7**	**-1.2**
KMSI				S	**Sn**	**21 51 12.2**	**+0.5**
NLAI	**Namlea**	**4.48**	**178**	P	**Pn**	**21 50 55.3**	**+0.3**
NLAI				S	**Sn**	**21 51 45

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GBS2	Las Lilas	3.15	137	i P	Pn	22 05 06.8	-0.2
GBS2				i S	Sn	22 05 44.4	-1.9
GBS3	Finca Las Im˜¡	3.19	137	i P	Pn	22 05 07.8	+0.3
GB1A	Borinquen Arri	3.20	136	i P	Pn	22 05 08.2	+0.5
LAPC	Finca la Perla	3.22	137	i P	Pn	22 05 07.7	-0.1
LAPC				i S	Sn	22 05 45.1	-2.6
AMAS	Alto Masis	3.63	134	i P	Pn	22 05 14.1	+1.1
JTS	JuntasAbangare	3.89	137	P	Pn	22 05 16.4	+0.2
	comp=Z,24nm,0.3s,baz=310,slow=8.1,SNR=48						
JTS				S	Sn	22 06 00.3	-2.5
	comp=Z,91nm,0.3s,baz=295,slow=11.8,SNR=17						
JTS	JuntasAbangare	3.89	137	P	Pn	22 05 16.4	+0.2
JTS				S	Sn	22 06 00.3	-2.5
JTS	JuntasAbangare	3.89	137	eP	Pn	22 05 16.6	+0.4
JCR	Jicaral	4.12	142	eP	Pn	22 05 20.2	+1.0
JCR				eS	Sn	22 06 05.6	-2.6
CGA2	Cerro Gallo 2	4.42	135	eP	Pn	22 05 24.4	+1.4
LAJ	Bijagual	4.76	133	⇓eP	Pn	22 05 26.0	-1.4
QCR	Quepos	5.04	137	eP	Pn	22 05 31.3	+0.2
BUS	Buena Vista	5.23	133	eP	Pn	22 05 36.0	+2.4
ACR	Cerro Adams	6.28	135	eP	Pn	22 05 47.7	+0.5
TEIG	Tepich	7.06	355	P	Pn	22 05 56.1	-1.4
	comp=Z,1.3nm,0.3s,baz=136,slow=6.5,SNR=3.5						
TEIG	Tepich	7.06	355	P	Pn	22 05 56.1	-1.4
CMIG	Matias Romero	8.00	300	P	Pn	22 06 09.7	-0.2
	comp=Z,2.5nm,0.3s,baz=142,slow=9.3,SNR=16						
CMIG	Matias Romero	8.00	300	P	Pn	22 06 09.7	-0.2
OTAV	Otavalo	15.74	144	ePn	Pn	22 07 49.2	+0.2
	comp=Z,2.9nm,0.8s						
SDV	Santo Domingo	17.24	102	eP	Pn	22 08 06.6	-0.4
	comp=Z,26nm,0.6s						
TXAR	Lajitas Array	21.91	320	P	P	22 08 55.5	-0.2
	comp=Z,2.7nm,0.6s,mb3.9,baz=138,slow=9.4,SNR=13						
TXAR	Lajitas Array	21.91	320	P	P	22 08 55.5	-0.2
ATAH	Atahualpa	22.16	155	P	P	22 09 00.4	+2.1
	comp=Z,8.0nm,0.6s,mb4.3,baz=32,slow=4.5,SNR=6.8						
ATAH	Atahualpa	22.16	155	P	P	22 09 00.4	+2.2
LPAZ	La Paz	35.05	146	P	P	22 10 53.3	+0.7
	comp=Z,1.8nm,0.4s,mb4.0,baz=330,slow=5.4,SNR=14						
LPAZ	La Paz	35.05	146	eP	P	22 10 53.3	+0.7
	comp=Z,1.8nm,0.4s,mb4.0						
PDAR	Pinedale Array	35.06	331	P	P	22 10 52.8	+0.3
	comp=Z,1.3nm,0.6s,mb3.8,baz=130,slow=10,SNR=14						
PDAR	Pinedale Array	35.06	331	P	P	22 10 52.8	+0.3
REDW	Red Top Meadow	36.13	331	eP	P	22 11 02.1	+0.6
	comp=Z,8.5nm,0.6s,mb4.5						
NVAR	Mina Array Bea	37.05	318	P	P	22 11 11.1	+1.7
	comp=Z,0.6nm,0.6s,mb3.4,baz=131,slow=7.9,SNR=6.8						
NVAR	Mina Array Bea	37.05	318	P	P	22 11 11.1	+1.7
ULM	Lac du Bonnet	37.60	351	P	P	22 11 11.9	-1.9
	comp=Z,3.1nm,0.4s,mb4.3,baz=166,slow=7.9,SNR=6.6						
ULM	Lac du Bonnet	37.60	351	P	P	22 11 11.9	-1.9
YKA	Yellowknife Ar	52.88	345	P	P	22 13 12.7	-1.1
	comp=Z,0.7nm,0.5s,mb3.6,baz=137,slow=7.8,SNR=15						
YKA	Yellowknife Ar	52.88	345	P	P	22 13 12.7	-1.1
ILAR	Eielson Array	65.30	336	P	P	22 14 37.9	-1.2
	comp=Z,0.4nm,0.5s,mb3.5,baz=176,slow=5.4,SNR=9.4						
ILAR	Eielson Array	65.30	336	P	P	22 14 37.9	-1.2
WRA	Warramunga Arr	139.26	255	PKP	PKPdf	22 23 23.4	+0.2
	comp=Z,0.7nm,0.6s,baz=89,slow=2.4,SNR=14						
WRA	Warramunga Arr	139.26	255	PKP	PKPdf	22 23 23.4	+0.2
ASAR	Alice Springs	139.34	249	PKP	PKPdf	22 23 22.9	-0.4
	comp=Z,0.3nm,0.6s,baz=101,slow=2.1,SNR=6.4						
ASAR	Alice Springs	139.34	249	PKP	PKPdf	22 23 22.9	-0.4

*NEIC **09** 22:13:35.4, 37°.97S×176°.13E, h176km, MG3.8(WEL), After WEL.*

WEL 09 22:13:35.3±0.4, **37°.98S×176°.14E, h178**km±3km, **ML3.8**/9, **Error ellipse: s-maj=3.8km s-min=2.5km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.82	110	PN	Pn	22 14 01.2	-0.3
URZ				SN	Sn	22 14 21.5	-0.1
URZ	Urewera	0.82	110	Pn	Pn	22 14 01.2	-0.3
URZ				Sn	Sn	22 14 21.5	-0.1
MWZ	Matawai	1.15	108	PN	Pn	22 14 03.9	0.0
MWZ				SN	Sn	22 14 26.3	+0.2
MWZ	Matawai	1.15	108	Pn	Pn	22 14 03.9	0.0
KRVZ	Karewarewa	1.18	199	PN	Pn	22 14 04.3	+0.1
KRVZ	Karewarewa	1.18	199	Pn	Pn	22 14 04.3	+0.1
RAHZ	Arahi	1.20	142	PN	Pn	22 14 04.7	+0.4
RAHZ	Arahi	1.20	142	Pn	Pn	22 14 04.8	+0.4
WTVZ	West Tongariro	1.21	201	PN	Pn	22 14 04.8	+0.3
WTVZ	West Tongariro	1.21	201	Pn	Pn	22 14 04.8	+0.3
BKZ	Black Stump Fm	1.22	167	PN	Pn	22 14 04.4	-0.1
BKZ				SN	Sn	22 14 26.9	-0.2
BKZ	Black Stump Fm	1.22	167	Pn	Pn	22 14 04.4	-0.1
TWVZ	Taurewa	1.22	206	PN	Pn	22 14 04.8	+0.3
TWVZ	Taurewa	1.22	206	Pn	Pn	22 14 04.8	+0.3
NMHZ	Naumai	1.23	155	PN	Pn	22 14 05.2	+0.5
OTVZ	Oturere	1.24	197	PN	Pn	22 14 05.1	+0.5
OTVZ	Oturere	1.24	197	Pn	Pn	22 14 05.1	+0.5
NGZ	Ngauruhoe	1.27	199	PN	Pn	22 14 05.3	+0.4
NGZ	Ngauruhoe	1.27	199	Pn	Pn	22 14 05.3	+0.4
WPVZ	Whakapapa	1.31	201	PN	Pn	22 14 05.5	+0.2
WPVZ	Whakapapa	1.31	201	Pn	Pn	22 14 05.5	+0.2
TUVZ	Tukino	1.34	196	PN	Pn	22 14 05.8	+0.3
TUVZ	Tukino	1.34	196	Pn	Pn	22 14 05.8	+0.3
FWVZ	Far West T-bar	1.35	200	PN	Pn	22 14 06.4	+0.7
FWVZ	Far West T-bar	1.35	200	Pn	Pn	22 14 06.4	+0.7
WNVZ	Wahianoa	1.41	197	PN	Pn	22 14 06.4	+0.2
WNVZ	Wahianoa	1.41	197	Pn	Pn	22 14 06.4	+0.2
PKVZ	Pokaka	1.45	205	PN	Pn	22 14 06.7	+0.2
PKVZ	Pokaka	1.45	205	Pn	Pn	22 14 06.7	+0.2
MOVZ	Moawhango	1.46	192	PN	Pn	22 14 06.3	-0.3
MOVZ	Moawhango	1.46	192	Pn	Pn	22 14 06.3	-0.3
MTVZ	Mangateitei	1.50	200	PN	Pn	22 14 07.1	0.0
MTVZ	Mangateitei	1.50	200	Pn	Pn	22 14 07.1	+0.1
BHHZ	Black Hill Sta	1.51	182	PN	Pn	22 14 06.8	-0.3
BHHZ	Black Hill Sta	1.51	182	Pn	Pn	22 14 06.8	-0.3
MCHZ	McNeill Hill	1.52	163	PN	Pn	22 14 07.9	+0.6
MCHZ	McNeill Hill	1.52	163	Pn	Pn	22 14 07.9	+0.6
VRZ	Vera Road	1.57	223	PN	Pn	22 14 08.2	+0.4
VRZ	Vera Road	1.57	223	Pn	Pn	22 14 08.2	+0.4
KNZ	Kokohu	1.59	131	PN	Pn	22 14 07.8	-0.1
KNZ	Kokohu	1.59	131	Pn	Pn	22 14 07.8	-0.1
PRGZ	Paritu Road	1.66	125	PN	Pn	22 14 08.8	+0.1
PRGZ	Paritu Road	1.66	125	Pn	Pn	22 14 08.8	+0.1
PUZ	Puketiti	1.68	94	PN	Pn	22 14 07.8	-1.0
CNGZ	Carnagh Statio	1.71	108	PN	Pn	22 14 09.4	+0.4
CNGZ	Carnagh Statio	1.71	108	Pn	Pn	22 14 09.4	+0.4
MXZ	Matakaoa Point	1.77	77	ePN	Pn	22 14 09.9	+0.1
MXZ				SN	Sn	22 14 36.8	+0.5
MXZ	Matakaoa Point	1.77	77	Pn	Pn	22 14 09.9	+0.2
MXZ				Sn	Sn	22 14 36.9	+0.5
MHGZ	Mahia Peninsul	1.82	131	PN	Pn	22 14 10.4	+0.2
MHGZ	Mahia Peninsul	1.82	131	Pn	Pn	22 14 10.4	+0.2
CKHZ	Cape Kidnapper	1.83	157	PN	Pn	22 14 10.5	+0.2
CKHZ	Cape Kidnapper	1.83	157	Pn	Pn	22 14 10.5	+0.2
KAHZ	Kahuranaki	1.90	163	PN	Pn	22 14 11.2	+0.1
KAHZ	Kahuranaki	1.90	163	Pn	Pn	22 14 11.2	+0.1
PNHZ	Pukenui	1.93	179	PN	Pn	22 14 10.8	-0.6
PNHZ	Pukenui	1.93	179	Pn	Pn	22 14 10.8	-0.6
WAZ	Wanganui	1.99	207	PN	Pn	22 14 11.6	-0.4
WAZ	Wanganui	1.99	207	Pn	Pn	22 14 11.6	-0.4
TSZ	Takapari Road	2.08	184	PN	Pn	22 14 12.1	-0.9
TSZ	Takapari Road	2.08	184	Pn	Pn	22 14 12.2	-0.9
WPHZ	Waipukurau	2.10	174	PN	Pn	22 14 12.6	-0.6
WPHZ	Waipukurau	2.10	174	Pn	Pn	22 14 12.6	-0.6
PXZ	Pawanui	2.12	165	PN	Pn	22 14 13.0	-0.5
PXZ	Pawanui	2.12	165	Pn	Pn	22 14 13.0	-0.5
DVHZ	Dannevirke	2.32	179	PN	Pn	22 14 14.4	-1.3
DVHZ	Dannevirke	2.32	179	Pn	Pn	22 14 14.4	-1.3
PRHZ	Porangahau	2.32	171	PN	Pn	22 14 14.8	-0.8
PRHZ	Porangahau	2.32	171	Pn	Pn	22 14 14.8	-0.8
POWZ	Post Office Ro	2.43	187	PN	Pn	22 14 15.6	-1.4
POWZ	Post Office Ro	2.43	187	Pn	Pn	22 14 15.6	-1.4
BFZ	Birch Farm	2.70	178	PN	Pn	22 14 18.4	-1.8
BFZ	Birch Farm	2.70	178	Pn	Pn	22 14 18.4	-1.8
MRZ	Mangatainoka R	2.71	189	PN	Pn	22 14 18.3	-2.0
MRZ	Mangatainoka R	2.71	189	Pn	Pn	22 14 18.3	-2.0
TIWZ	Tintock	2.80	184	PN	Pn	22 14 19.4	-2.0
TIWZ	Tintock	2.80	184	Pn	Pn	22 14 19.4	-2.0
OGWZ	Otaki Gorge	2.93	195	PN	Pn	22 14 20.8	-2.1
OGWZ	Otaki Gorge	2.93	195	Pn	Pn	22 14 20.8	-2.1
HOWZ	Holdsworth Sta	2.95	189	PN	Pn	22 14 20.8	-2.4
HOWZ	Holdsworth Sta	2.95	189	Pn	Pn	22 14 20.8	-2.4
KIW	Kapiti Island	3.03	198	PN	Pn	22 14 21.6	-2.6
KIW	Kapiti Island	3.03	198	Pn	Pn	22 14 21.6	-2.6
TMWZ	Te Maipa	3.13	183	PN	Pn	22 14 23.1	-2.3
TMWZ	Te Maipa	3.13	183	Pn	Pn	22 14 23.1	-2.3
MTW	Mount Morrison	3.21	189	PN	Pn	22 14 23.4	-2.9
MTW	Mount Morrison	3.21	189	Pn	Pn	22 14 23.4	-2.9
CAW	Cannon Point	3.23	194	PN	Pn	22 14 24.0	-2.6
CAW	Cannon Point	3.23	194	Pn	Pn	22 14 24.0	-2.6
DUWZ	D'Urville Isla	3.30	211	PN	Pn	22 14 24.6	-2.8
DUWZ	D'Urville Isla	3.30	211	Pn	Pn	22 14 24.6	-2.8
TRWZ	Traveller	3.43	186	PN	Pn	22 14 26.3	-2.7
TRWZ	Traveller	3.43	186	Pn	Pn	22 14 26.3	-2.7
PAWZ	Paruwai Farm	3.44	189	PN	Pn	22 14 26.2	-3.0
PAWZ	Paruwai Farm	3.44	189	Pn	Pn	22 14 26.2	-3.0
MSWZ	Moikau Station	3.50	191	PN	Pn	22 14 26.7	-3.2
MSWZ	Moikau Station	3.50	191	Pn	Pn	22 14 26.7	-3.2
SNZO	South Karori	3.50	198	PN	Pn	22 14 26.8	-3.2
SNZO	South Karori	3.50	198	Pn	Pn	22 14 26.8	-3.2
TCW	Tory Channel	3.53	203	PN	Pn	22 14 27.2	-3.1
TCW	Tory Channel	3.53	203	Pn	Pn	22 14 27.2	-3.1
BHW	Baring Head	3.56	196	Pn	Pn	22 14 27.3	-3.3
PLWZ	Palliser	3.65	190	PN	Pn	22 14 28.4	-3.4
PLWZ	Palliser	3.65	190	Pn	Pn	22 14 28.4	-3.4
TUWZ	Tuamarina	3.84	205	PN	Pn	22 14 30.9	-3.3
TUWZ	Tuamarina	3.84	205	Pn	Pn	22 14 30.9	-3.3
NNZ	Nelson	3.87	213	PN	Pn	22 14 31.1	-3.5
NNZ	Nelson	3.87	213	Pn	Pn	22 14 31.1	-3.5
QRZ	Quartz Range	3.99	223	PN	Pn	22 14 32.1	-4.0
QRZ	Quartz Range	3.99	223	Pn	Pn	22 14 32.1	-4.0
THZ	Tophouse	4.52	212	PN	Pn	22 14 39.8	-3.1
THZ	Tophouse	4.52	212	Pn	Pn	22 14 39.8	-3.1
KHZ	Kahutara	4.86	203	PN	Pn	22 14 43.4	-3.9
KHZ	Kahutara	4.86	203	Pn	Pn	22 14 43.4	-3.9
LTZ	Lake Taylor	5.63	210	PN	Pn	22 14 53.1	-4.2
LTZ	Lake Taylor	5.63	210	Pn	Pn	22 14 53.1	-4.2
MQZ	McQueen's Vall	6.30	204	Pn	Pn	22 15 00.3	-5.7

*ISCJB **09** 22:52:35.6±0.1, 30°.38N±0°.02×67°.43E±0°.01, h10km, mb5.5/301, MS5.6/218, Error ellipse: s-maj=2.4km s-min=1.7km az=11.4*

*IDC **09** 22:52:35.9±1.0, 30°.43N×67°.46E, h0km, mb5.2/43, mb1 5.2/44, mb1mx5.2/47, mbtmp5.2/44, ML5.4/1, MS5.5/38, Ms1 5.5/38, ms1mx5.4/43, Error ellipse: s-maj=9.2km s-min=8.4km az=24.0*

*MOS **09** 22:52:36.9±1.0, 30°.47N×67°.46E, h17km, mb5.8/102, MS5.5/45, Error ellipse: s-maj=5.3km s-min=3.1km az=123.6*

*BJI **09** 22:52:36.9, 30°.72N×67°.53E, h9km, mB5.6/34, mb5.5/69, Ms6.0/72, Ms7 5.8/64*

*NNC **09** 22:52:36.4±1.7, 30°.43N×67°.62E, h0km, mb5.4, Error ellipse: s-maj=23.3km s-min=15.9km az=155.0*

*SZGRF **09** 22:52:36.8, 29°.40N×67°.44E, h33km, mb5.6, MS5.3, Pakistan*

*BGS **09** 22:52:37.2±2.2, 29°.88N×66°.71E, h10km, mb5.3, MS5.7*

*NEIC **09** 22:52:37.6±0.1, 30°.44N×67°.40E, h10km, mb5.7/120, MS5.7/122, MW5.6, MW5.5, Error ellipse: s-maj=3.3km s-min=2.5km az=10.0, Moment Tensor Solution. s30 Moment tensor: Scale 10¹⁷Nm; Mrr0.20; Mθθ-1.77; Mφφ1.57; Mrθ-0.03; Mθφ1.00; Mφr0.24; Best double couple: M0 2.00000×10¹⁷ NP1:φs61.00000°, δ83.00000°, λ4.00000°. NP2:φs330.00000°, δ86.00000°, λ173.00000°. Principal axes: T 1.8800, Plg7.0000°, Azm285.0000°; N 0.1800, Plg82.0000°, Azm122.0000°; P -2.0500, Plg2.0000°, Azm15.0000°;*

NEIC Felt strongly at Quetta. Also felt in Pishin and Ziarat.

*GCMT **09** 22:52:39.3±0.1, 30°.35N×67°.51E, h16km, MW5.7, Moment Tensor Solution. s73,c139; s29,c30; Moment tensor: Scale 10¹⁷Nm; Mrr-0.40±.04; Mθθ-3.03±.05; Mφφ3.43±.05; Mrθ-0.35±.12; Mθφ2.10±.04; Mφr0.97±.13; Best double couple: M0 4.00000×10¹⁷ NP1:φs62.00000°, δ75.00000°, λ0.00000°. NP2:φs152.00000°, δ90.00000°, λ-165.00000°. Principal axes: T 4.2000, Plg10.0000°, Azm286.0000°; N -0.4400, Plg75.0000°, Azm152.0000°; P -3.7700, Plg11.0000°, Azm18.0000°; Data Used: II IU IC G CN. Surface waves: sta=101, comp=219, per= 50.*

*DJA **09** 22:52:55, 30°.00N×67°.66E, h136km, mb5.5/43*

ISC 09 22:52:37.6±0.1, **30°.39N**±0°.02×**67°.42E**±0°.01, **h10**km, **(h13**km±1.9km**:pP-P), n1224, σ1**.**06**/1197, **mb5.5**/301, **MS5.6**/218, **122C-43D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QUE	Quetta	0.46	244	eP	Pg	22 52 45.0	-1.5
QUE				eS	Sg	22 52 51.0	-1.5
QUE	Quetta	0.46	244	eP	Pg	22 52 45.0	-1.5
QUE				eS	Sg	22 52 51.0	-1.5
KBL	Kabul	4.36	18	ePn	Pn	22 53 45.7	+1.9
KBL	Kabul	4.36	18	eP	Pn	22 53 45.7	+1.9
THW	Thamme Wali	4.39	56	⇓P	Pn	22 53 44.5	+0.2
SARP	Sargodha	4.75	70	⇓P	Pn	22 53 48.1	-1.1
SARR	Saratov	4.75	70	pmax	pmax		
	comp=Z,158nm,1.2s						
CEP	Cherat	5.12	47	⇓P	Pn	22 53 54.0	-0.3
CHCP	Chirah Chowk	5.93	55	⇓P	Pn	22 54 06.7	+1.2
AJM	Ajmer	7.46	120	ePKP	Pn	22 54 25.0	-1.4
BHK	Bhakra	7.79	80	ePKP	Pn	22 54 29.0	-2.0
BHK				ex	Sn	22 55 56.2	-3.2
KKR	Kurukshetra	8.15	91	ePKP	Pn	22 54 34.8	-1.1
KUDL	Kundal	8.23	104	ePKP	Pn	22 54 35.3	-1.7
KUDL				eS	Sn	22 56 04.1	-6.0
SDNR	Sundarnagar	8.27	80	ePKP	Pn	22 54 37.4	-0.2
SDNR				ex	Sn	22 56 18.4	+7.3
SMLA	Simla	8.42	83	i P	Pn	22 54 38.4	-1.2
SMLA				i S	Sn	22 56 09.1	-5.6
SMLA				⇓AML	AML	22 56 14.8	
	comp=E,21µm,0.8s						
SMLA				⇓AML	AML	22 56 15.4	
	comp=N,21µm,0.7s						
BHGR	Bahadurgarh	8.46	99	ePKP	Pn	22 54 38.5	-1.7
AYAN	Aya Nagar	8.67	100	ePKP	Pn	22 54 41.6	-1.5
ASOR	Ausora	9.16	98	ePKP	Pn	22 54 47.8	-2.0
DDI	Dehra Dun	9.19	88	ex	Pn	22 54 46.0	-4.1
DDI				ex	Sn	22 56 32.5	-1.1
BHV	Bhavnagar	9.59	153	ePKP	Pn	22 54 54.5	-1.2
AGRA	Agra	9.75	106	ePKP	Pn	22 54 57.5	-0.4
AGRA				ex	Sn	22 56 44.4	-3.1
AGRA				AML	AML	22 57 07.5	
	comp=N,720nm,0.9s						
AGRA				AML	AML	22 57 07.6	
	comp=E,542nm,0.5s						
ABKT	Ailbek	10.76	317	Pn	Pn	22 55 13.0	+1.3
	comp=E,482nm,0.9s,SNR=16						
BANOM	Banah	10.78	248	P	Pn	22 55 10.5	-1.5
	SNR=42						
BANOM	Banah	10.78	248	mb		22 55 18.2	
	SNR=113						
BANOM	Banah	10.78	248	P	Pn	22 55 10.5	-1.4
	SNR=42						
BANOM	Banah	10.78	248	P	Pn	22 55 10.5	-1.4
	SNR=42						
BANOM	Banah	10.78	248	P	Pn	22 55 10.5	-1.4
	SNR=42						
BANOM	Banah	10.78	248	P	Pn	22 55 10.5	-1.4
	SNR=42						
BANOM	Banah	10.78	248	P	Pn	22 55 10.5	-1.4
	SNR=42						
BANOM	Banah	10.78	248	P	Pn	22 55 10.5	-1.4
	SNR=42						
BANOM	Banah	10.78	248	Pn	Pn	22 55 10.5	-1.4
	SNR=42						
BANOM				mb		22 55 18.2	
	SNR=113						
SMDO	Samad	11.11	231	P	Pn	22 55 14.9	-1.6
	SNR=37						
SMDO	Samad	11.11	231	P	Pn	22 55 14.9	-1.6
	SNR=37						
SMDO	Samad	11.11	231	P	Pn	22 55 14.9	-1.6
	SNR=37						
SMDO	Samad	11.11	231	P	Pn	22 55 14.9	-1.6
	SNR=37						
SMDO	Samad	11.11	231	P	Pn	22 55 14.9	-1.6
	SNR=37						
SMDO	Samad	11.11	231	P	Pn	22 55 14.9	-1.6
	SNR=37						
SMDO	Samad	11.11	231	P	Pn	22 55 14.9	-1.6
	SNR=37						
SMDO	Samad	11.11	231	Pn	Pn	22 55 14.9	-1.6
	SNR=37						
SMDO				mb		22 55 23.2	
	SNR=74						
PTH	Pithoragarh	11.13	91	ePKP	Pn	22 55 15.4	-1.3
PTH				ex	x	22 57 05.4	
HOQ	Hoqain	11.28	235	P	Pn	22 55 17.2	-1.6
	SNR=24						
HOQ	Hoqain	11.28	235	P	Pn	22 55 16.2	-2.6
	SNR=64						
HOQ	Hoqain	11.28	235	mb		22 55 19.6	
	SNR=70						
HOQ				ml		22 55 40.3	
	SNR=50						
HOQ	Hoqain	11.28	235	P	Pn	22 55 16.2	-2.6
	SNR=64						
HOQ	Hoqain	11.28	235	P	Pn	22 55 16.2	-2.6
	SNR=64						
HOQ	Hoqain	11.28	235	P	Pn	22 55 16.2	-2.6
	SNR=64						
HOQ	Hoqain	11.28	235	P	Pn	22 55 16.2	-2.6
	SNR=64						
HOQ	Hoqain	11.28	235	P	Pn	22 55 16.2	-2.6
	SNR=64						
HOQ	Hoqain	11.28	235	P	Pn	22 55 16.2	-2.6
	SNR=64						
HOQ	Hoqain	11.28	235	Pn	Pn	22 55 16.2	-2.6
	SNR=64						
HOQ	Hoqain	11.28	235	P	Pn	22 55 17.2	-1.6
	SNR=24						
HOQ	Hoqain	11.28	235	P	Pn	22 55 17.2	-1.6
	SNR=24						
HOQ	Hoqain	11.28	235	P	Pn	22 55 17.2	-1.6
	SNR=24						
HOQ				mb		22 55 19.6	
	SNR=70						
HOQ				ml		22 55 40.3	
	SNR=49						
BHPL	Bhopal	11.42	126	ePKP	Pn	22 55 20.1	-0.7
HATD	Hatta, Dubai	11.44	244	P	Pn	22 55 19.5	-1.5
	SNR=36						
HATD	Hatta, Dubai	11.44	244	mb		22 55 34.2	
	SNR=72						
HATD	Hatta, Dubai	11.44	244	P	Pn	22 55 19.5	-1.6
	SNR=36						
HATD	Hatta, Dubai	11.44	244	P	Pn	22 55 19.5	-1.6
	SNR=36						
HATD	Hatta, Dubai	11.44	244	P	Pn	22 55 19.5	-1.6
	SNR=36						
HATD	Hatta, Dubai	11.44	244	P	Pn	22 55 19.5	-1.6
	SNR=36						
HATD	Hatta, Dubai	11.44	244	P	Pn	22 55 19.5	-1.6
	SNR=36						
HATD	Hatta, Dubai	11.44	244	P	Pn	22 55 19.5	-1.6
	SNR=36						
HATD	Hatta, Dubai	11.44	244	Pn	Pn	22 55 19.5	-1.6
	SNR=36						
HATD				mb		22 55 34.2	
	SNR=71						
KSH	Kashi	11.48	35	P	Pn	22 55 15.8	-5.8
KSH				pP		22 55 19.6	
KSH				sP		22 55 22.7	
KSH				PP		22 55 24.6	
KSH				S	Sn	22 57 17.6	-12
KSH				sS		22 57 22.6	
KSH				SS		22 57 31.6	
KSH				pmax	pmax		
	comp=Z,410nm,0.9s						
KSH				LR	LR		
	comp=N,50µm,5.4s						
KSH				LR	LR		
	comp=E,90µm,6.5s						
KSH				LR	LR		
	comp=Z,67µm,11.2s						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 22.6	0.0
	SNR=16						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 21.2	-1.4
	SNR=38						
JMDO	Jabal Madar	11.55	228	mb		22 55 36.2	
	SNR=65						
JMDO				ml		22 55 42.3	
	SNR=47						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 21.2	-1.4
	SNR=38						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 21.2	-1.4
	SNR=38						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 21.2	-1.4
	SNR=38						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 21.2	-1.4
	SNR=38						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 21.2	-1.4
	SNR=38						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 21.2	-1.4
	SNR=38						
JMDO	Jabal Madar	11.55	228	Pn	Pn	22 55 21.2	-1.4
	SNR=38						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 22.6	0.0
	SNR=16						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 22.6	0.0
	SNR=16						
JMDO	Jabal Madar	11.55	228	P	Pn	22 55 22.6	0.0
	SNR=16						
JMDO				mb		22 55 36.2	
	SNR=64						
JMDO				ml		22 55 42.3	
	SNR=47						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 21.5	-1.4
	SNR=25						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 24.3	+1.4
	SNR=93						
ASHO	Ashiyiah	11.57	243	ml		22 55 28.7	
	SNR=111						
ASHO				mb		22 55 29.9	
	SNR=173						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 21.5	-1.4
	SNR=25						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 21.5	-1.4
	SNR=25						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 21.5	-1.4
	SNR=25						
ASHO	Ashiyiah	11.57	243	Pn	Pn	22 55 24.3	+1.4
	SNR=93						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 24.3	+1.4
	SNR=93						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 24.3	+1.4
	SNR=93						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 24.3	+1.4
	SNR=93						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 24.3	+1.4
	SNR=93						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 24.3	+1.4
	SNR=93						
ASHO	Ashiyiah	11.57	243	P	Pn	22 55 24.3	+1.4
	SNR=93						
ASHO				ml		22 55 28.7	
	SNR=111						
ASHO				mb		22 55 29.9	
	SNR=173						
NAZ	Nazwa, Dubai	11.73	246	P	Pn	22 55 25.6	+0.7
	SNR=102						
NAZ	Nazwa, Dubai	11.73	246	mb		22 55 40.3	
	SNR=129						
NAZ	Nazwa, Dubai	11.73	246	P	Pn	22 55 25.6	+0.6
	SNR=102						
NAZ	Nazwa, Dubai	11.73	246	P	Pn	22 55 25.6	+0.6
	SNR=102						
NAZ	Nazwa, Dubai	11.73	246	P	Pn	22 55 25.6	+0.6
	SNR=102						
NAZ	Nazwa, Dubai	11.73	246	P	Pn	22 55 25.6	+0.6
	SNR=102						
NAZ	Nazwa, Dubai	11.73	246	P	Pn	22 55 25.6	+0.6
	SNR=102						
NAZ	Nazwa, Dubai	11.73	246	P	Pn	22 55 25.6	+0.6
	SNR=102						
NAZ	Nazwa, Dubai	11.73	246	Pn	Pn	22 55 25.6	+0.6
	SNR=102						
NAZ				mb		22 55 40.3	
	SNR=129						
BSYO	Bisya	11.88	232	Pn	Pn	22 55 26.9	-0.2
	SNR=95						
BSYO	Bisya	11.88	232	P	Pn	22 55 26.9	-0.2
	SNR=95						
BSYO	Bisya	11.88	232	P	Pn	22 55 26.9	-0.2
	SNR=95						
BSYO	Bisya	11.88	232	P	Pn	22 55 26.9	-0.2
	SNR=95						
BSYO	Bisya	11.88	232	P	Pn	22 55 26.9	-0.2
	SNR=95						
BSYO	Bisya	11.88	232	P	Pn	22 55 26.9	-0.2
	SNR=95						

BSYO Bisya 11.88 232 P Pn 22 55 26.9 -0.2
SNR=95
BSYO mb 22 55 30.6
SNR=162
BSY Bisya 11.90 233 P Pn 22 55 26.9 -0.4
SNR=95
BSY Bisya 11.90 233 mb 22 55 30.6
SNR=162
ARQ Araqi 12.00 237 P Pn 22 55 29.2 +0.5
SNR=110
ARQ Araqi 12.00 237 mb 22 55 44.1
SNR=124
ARQ Araqi 12.00 237 P Pn 22 55 29.2 +0.5
SNR=110
ARQ Araqi 12.00 237 P Pn 22 55 29.2 +0.5
SNR=110
ARQ Araqi 12.00 237 P Pn 22 55 29.2 +0.5
SNR=110
ARQ Araqi 12.00 237 P Pn 22 55 29.2 +0.5
SNR=110
ARQ Araqi 12.00 237 P Pn 22 55 29.2 +0.5
SNR=110
ARQ Araqi 12.00 237 P Pn 22 55 29.2 +0.5
SNR=110
ARQ Araqi 12.00 237 Pn Pn 22 55 29.2 +0.5
SNR=110
ARQ mb 22 55 44.1
SNR=124
ASUD Al Ashush, Dub 12.17 245 P Pn 22 55 31.9 +0.9
SNR=19
ASUD Al Ashush, Dub 12.17 245 mb 22 55 47.9
SNR=33
ASUD Al Ashush, Dub 12.17 245 P Pn 22 55 31.9 +0.9
SNR=19
ASUD Al Ashush, Dub 12.17 245 P Pn 22 55 31.9 +0.9
SNR=19
ASUD Al Ashush, Dub 12.17 245 P Pn 22 55 31.9 +0.9
SNR=19
ASUD Al Ashush, Dub 12.17 245 P Pn 22 55 31.9 +0.9
SNR=19
ASUD Al Ashush, Dub 12.17 245 P Pn 22 55 31.9 +0.9
SNR=19
ASUD Al Ashush, Dub 12.17 245 P Pn 22 55 31.9 +0.9
SNR=19
ASUD Al Ashush, Dub 12.17 245 Pn Pn 22 55 31.9 +0.9
SNR=19
ASUD mb 22 55 47.9
SNR=33
AML Almayashu 12.76 22 P Pn 22 55 38.9 -0.1
SNR=105
AML P 22 55 38.9
SNR=105
KK31 Karatay Array 12.93 10 Pn Pn 22 55 39.2 -2.1
comp=Z,42nm,0.6s,baz=194,slow=12,SNR=392
KK31 ⇑Sn Sn 22 58 06.3 +1.2
comp=Z,129nm,0.9s,baz=194,slow=22
KKAR Karatay Array 12.93 10 ePn Pn 22 55 39.3 -1.9
KKAR Karatay Array 12.93 10 eP Pn 22 55 39.3 -1.9
UCH Uchtor 13.12 24 P Pn 22 55 43.8 0.0
SNR=42
UCH P 22 55 43.8
SNR=42
POO Poona 13.17 152 ePKP Pn 22 55 42.0 -2.8
KZA Kyzart 13.25 26 P Pn 22 55 43.8 -1.9
SNR=109
KZA P 22 55 43.8
SNR=109
EKS2 Erkin-Say 13.26 21 P Pn 22 55 47.5 +1.7
SNR=90
EKS2 P 22 55 47.5
SNR=90
EKS2 Erkin-Say 13.26 21 ePn Pn 22 55 44.8 -1.1
EKS2 Erkin-Say 13.26 21 eP Pn 22 55 44.8 -1.1
JBP Jabalpur 13.32 120 ex Pn 22 55 41.3 -5.5
JBP eS Sn 22 58 03.2 -12
AAK Ala-Archa 13.47 23 P Pn 22 55 48.3 -0.3
SNR=309
AAK P 22 55 48.3
SNR=309
AAK Ala-Archa 13.47 23 ePn Pn 22 55 47.3 -1.4
AAK Ala-Archa 13.47 23 d iP Pn 22 55 47.4 -1.3
AAK pmax pmax
comp=Z,2μm,1.7s
AAK MLR MLR
comp=Z,61μm,19.0s
AAK Ala-Archa 13.47 23 P Pn 22 55 47.8 -0.9
SNR=460
KBK Karagaybulak 13.64 24 P Pn 22 55 50.5 -0.5
SNR=244
KBK P 22 55 50.5
SNR=244
FRU Bishkek 13.69 23 ⇓iP Pn 22 55 49.0 -2.6
FRU iS Sn 22 58 26.0 +2.3
FRU pmax pmax
comp=Z,2μm,1.6s
ALBI Allahabad 13.69 108 ex Pn 22 55 46.0 -5.8
ULHL Ulahol 13.79 29 P Pn 22 55 51.2 -1.8
SNR=51
ULHL P 22 55 51.2
SNR=51
CHMS Chumysh 13.88 23 P Pn 22 55 53.7 -0.5
SNR=9.1
CHMS P 22 55 53.7
SNR=9.1
NGP Nagpur 13.93 129 ePKP Pn 22 55 50.2 -4.9
NGP ⇓eS Sn 22 58 25.8 -4.1
USP Ospenovka 14.04 22 P Pn 22 55 56.0 -0.4
SNR=29
USP P 22 55 56.0
SNR=29
TKM2 Tokmak 2 14.11 25 P Pn 22 55 55.3 -2.1
SNR=807
TKM2 P 22 55 55.3
SNR=807
TKM2 Tokmak 2 14.11 25 ⇓Pn Pn 22 55 55.9 -1.5
comp=Z,903nm,1.2s
TKM2 ⇑Sn Sn 22 58 34.0 -0.1
comp=Z,139nm,1.2s
TKM2 Tokmak 2 14.11 25 ePn Pn 22 55 55.3 -2.1
TKM2 Tokmak 2 14.11 25 eP Pn 22 55 55.3 -2.1
KOLN Koldanda 14.38 96 eP Pn 22 55 57.3 -4.0
comp=Z,780nm,0.7s
KOLN Koldanda 14.38 96 eP Pn 22 55 57.3 -4.0
comp=Z,780nm,0.7s
DANN Dangsing 14.39 94 eP Pn 22 55 57.5 -3.8
comp=Z,2μm,0.7s
DANN Dangsing 14.39 94 eP Pn 22 55 57.5 -3.8
comp=Z,2μm,0.7s
KAD Karad 14.41 153 ePKP Pn 22 55 59.8 -1.9
KAD ePKP 22 56 00.3
KAD ex x 22 58 58.6
LATR Latur 14.53 143 ePKP Pn 22 56 02.0 -1.3
KNDC Almaty 14.89 28 ⇑Pn Pn 22 56 05.9 -2.2
AAA Alma-Ata 14.93 28 eP Pn 22 56 05.4 -3.2
AAA eS Sn 22 58 54.8 +0.8
AAA pmax pmax
comp=Z,2μm,1.8s
AAA smax
comp=E,5μm,7.7s
AAA MLR MLR
comp=Z,56μm,11.0s
GKN Gorkha 15.22 95 eP Pn 22 56 07.2 -5.4
comp=Z,260nm,0.4s
GKN Gorkha 15.22 95 eP Pn 22 56 07.2 -5.4
comp=Z,260nm,0.4s
DMN Daman 15.72 96 eP Pn 22 56 13.3 -5.8
comp=Z,423nm,0.9s
DMN Daman 15.72 96 eP Pn 22 56 13.3 -5.8
comp=Z,423nm,0.9s
KKN Kakani 15.82 95 eP Pn 22 56 15.3 -5.2
comp=Z,342nm,0.5s
KKN Kakani 15.82 95 eP Pn 22 56 15.3 -5.2
comp=Z,342nm,0.5s
KKN Kakani 15.82 95 eP Pn 22 56 15.3 -5.2
KKN pmax pmax
comp=Z,342nm,0.5s
GOA Goa 15.95 157 ⇓iP Pn 22 56 22.0 -0.2
GOA ex x 22 59 31.1
PKI Pulchoki 15.99 96 eP Pn 22 56 17.3 -5.3
comp=Z,1μm,1.0s
PKI Pulchoki 15.99 96 eP Pn 22 56 17.3 -5.3
comp=Z,1μm,1.0s
PKI Pulchoki 15.99 96 eP Pn 22 56 17.3 -5.3
PKI pmax pmax
comp=Z,1μm,1.0s
GUN Gumba 16.31 94 eP Pn 22 56 21.8 -5.0
GUN Gumba 16.31 94 eP Pn 22 56 21.8 -5.0

HYB Hyderabad 16.43 139 iP Pn 22 56 25.5 -2.8
HYB eS Sn 22 59 44.0 +13
JIRN Jiri 16.64 95 eP Pn 22 56 26.8 -4.1
comp=Z,2μm,1.3s
JIRN Jiri 16.64 95 eP Pn 22 56 26.8 -4.1
comp=Z,2μm,1.3s
UMR Umm Al-Rimmam 17.10 272 eP Pn 22 56 35.0 -1.7
UMR AMb AMB 22 56 43.0
comp=Z,353nm,0.8s
KBD Kabd 17.17 271 eP Pn 22 56 36.1 -1.6
KBD AMb AMB 22 56 40.0
comp=Z,179nm,0.5s
RAMN Ramite 17.17 97 eP Pn 22 56 32.4 -5.3
comp=Z,868nm,0.7s
RAMN Ramite 17.17 97 eP Pn 22 56 32.4 -5.3
comp=Z,868nm,0.7s
RDF Al-Radifah 17.34 270 eP Pn 22 56 37.9 -1.8
RDF AMb AMB 22 56 58.5
comp=Z,319nm,1.9s
MIB Mutribah 17.39 273 eP Pn 22 56 38.1 -2.3
MIB AMb AMB 22 56 47.2
comp=Z,404nm,1.4s
NAY Al-Naaiem 17.55 271 eP Pn 22 56 40.8 -1.6
NAY AMb AMB 22 56 45.2
comp=Z,169nm,0.7s
RBK Rabkut 17.60 226 P Pn 22 56 50.0 +6.9
SNR=6.7
RBK Rabkut 17.60 226 P Pn 22 56 50.0 +7.0
SNR=6.7
RBK Rabkut 17.60 226 P Pn 22 56 50.0 +7.0
SNR=6.7
RBK Rabkut 17.60 226 P Pn 22 56 50.0 +7.0
SNR=6.7
RBK Rabkut 17.60 226 P Pn 22 56 50.0 +7.0
SNR=6.7
RBK Rabkut 17.60 226 Pn Pn 22 56 50.0 +7.0
SNR=6.7
BOK Bokaro 17.69 107 ex Pn 22 56 40.0 -4.1
BOK ex x 22 59 46.0
ODAN Odare 17.88 96 eP Pn 22 56 41.4 -5.0
comp=Z,3μm,1.1s
ODAN Odare 17.88 96 eP Pn 22 56 41.4 -5.0
comp=Z,3μm,1.1s
TAPN Taplejung 18.02 95 eP Pn 22 56 43.9 -4.3
comp=Z,3μm,1.3s
TAPN Taplejung 18.02 95 eP Pn 22 56 43.9 -4.3
comp=Z,3μm,1.3s
ABTO Aybut 18.29 228 P Pn 22 56 50.3 -1.2
SNR=22
ABTO Aybut 18.29 228 P Pn 22 56 50.3 -1.2
SNR=22
ABTO Aybut 18.29 228 P Pn 22 56 50.3 -1.2
SNR=22
ABTO Aybut 18.29 228 P Pn 22 56 50.3 -1.2
SNR=22
ABTO Aybut 18.29 228 P Pn 22 56 50.3 -1.2
SNR=22
ABTO Aybut 18.29 228 Pn Pn 22 56 50.3 -1.2
SNR=22
SLGI Shiliguri 18.80 96 ex Pn 22 57 00.0 +2.3
GTK Gangtok 18.81 94 ex Pn 22 56 54.0 -3.8
GTK ex x 23 00 13.5
AB31 Akbulak array 19.68 345 P Pn 22 57 07.3 -0.8
comp=Z,136nm,0.9s,baz=154,slow=13,SNR=791
ABKAR Akbulak array 19.68 345 ePn Pn 22 57 07.4 -0.7
BHD Baghdad 19.78 284 ix x 22 57 06.6
BHD ix x 23 00 48.2
BHD ix x 23 01 22.5
BHD ix x 23 03 45.0
BHD ix x 23 05 14.5
MK31 Makanchi Array 20.02 31 ⇑P P 22 57 09.6 -0.9
comp=Z,68nm,0.6s
MK31 Makanchi Array 20.02 31 ⇓iP P 22 57 08.6 -1.8
MK31 eS S 23 00 54.8 -0.7
MK31 Makanchi Array 20.02 31 ⇓iP P 22 57 08.6 -1.8
MK31 eS S 23 00 54.8 -0.6
MKAR Makanchi Array 20.02 31 P P 22 57 08.9 -1.5
comp=Z,9.8nm,0.3s,baz=211,slow=7.4,SNR=207
MKAR S S 23 00 53.0 -2.5
baz=169,slow=26,SNR=2.4
MKAR LR LR 23 06 02.5
comp=Z,37μm,21.7s,MS5.7,baz=217,slow=40
MKAR Makanchi Array 20.02 31 eP P 22 57 09.1 -1.3
MKAR S S 23 00 53.0 -2.5
MKAR Makanchi Array 20.02 31 eP P 22 57 09.1 -1.3
MKAR S S 23 00 53.0 -2.4
MAK Makhachkala 20.25 314 eP P 22 57 12.8 -0.2
MAK i 22 57 29.8
MAK eS S 23 01 01.2 +1.1
MAK eSS 23 01 25.3
MAK pmax pmax
comp=Z,324nm,1.4s
MAK MLR MLR
comp=Z,14μm,10.0s,MS5.6
CAL Calcutta 20.26 108 iP P 22 57 12.3 -0.9
CAL ex x 23 01 05.0
LSA Lhasa 20.55 86 P P 22 57 18.1 +1.8
LSA pP 22 57 22.2
LSA pmax pmax
comp=Z,80nm,1.4s
LSA LR LR
comp=E,73μm,9.0s
LSA LR LR
comp=Z,86μm,9.0s
RAYN Ar Rayn 20.68 256 P P 22 57 16.5 -1.3
comp=Z,924nm,1.1s
GNI Garni 20.87 304 eP P 22 57 20.4 +0.7
GNI Garni 20.87 304 ⇓iP P 22 57 21.0 +1.3
comp=Z,507nm,1.4s
GNI eS S 23 01 12.9 +0.5
GNI Garni 20.87 304 ⇓iP P 22 57 21.0 +1.3
GNI eS S 23 01 12.9 +0.4
GNI pmax pmax
comp=Z,507nm,1.4s
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 mb 22 57 28.3
baz=0.0,slow=0.0,SNR=29
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI Garni 20.87 304 P P 22 57 22.3 +2.6
SNR=26
GNI mb 22 57 28.3
SNR=29
GNI mb 22 57 28.3
SNR=29
HAKT HAKKARI 20.89 296 iP P 22 57 18.8 -1.2
CUKT Cukurca 20.91 295 eP P 22 57 17.7 -2.4
WMQ Urumqi 20.93 45 P P 22 57 21.7 +1.4
WMQ pP 22 57 27.1
WMQ sP sP 22 57 30.4 +5.9
WMQ PP 22 57 44.3
WMQ S S 23 01 09.0 -4.5
WMQ ScP ScP 23 05 03.8 -0.9
WMQ pmax pmax
comp=Z,720nm,2.0s
WMQ pmax pmax
comp=Z,4μm,3.2s
WMQ LR LR
comp=N,23μm,15.6s,MS5.9
WMQ LR LR
comp=E,32μm,16.0s,MS5.9
WMQ LR LR
comp=Z,17μm,21.0s,MS5.4
DGRG David-gareji 20.93 308 P P 22 57 20.7 +0.4
DGRG S S 23 01 22.2 +8.6
CLDR Caldiran 21.15 301 eP P 22 57 16.1 -6.6
AKTO Aktyubinsk 21.23 343 ⇓P P 22 57 24.1 +0.6
comp=Z,44nm,1.1s,mb4.7
AKTO Aktyubinsk 21.23 343 P P 22 57 23.7 +0.2

comp=Z,81nm,1.0s,mb5.0,baz=166,slow=8.2,SNR=50
AKTO LR LR 23 06 17.3
comp=Z,6μm,18.9s,MS5.0,baz=342,slow=39
AKTO Aktyubinsk 21.23 343 P P 22 57 23.7 +0.2
AKTO Aktyubinsk 21.23 343 P P 22 57 23.7 +0.2
VANB Van 21.39 299 eP P 22 57 15.6 -10
MTA Mtatsminda 21.43 308 P P 22 57 26.0 +0.3
MTA S S 23 01 30.8 +7.4
TBLG Delisi 21.48 308 eP P 22 57 26.3 0.0
TBLG Delisi 21.48 308 P P 22 57 26.3 0.0
GEVA Gevas 21.57 298 iP P 22 57 25.2 -2.1
SIRN S¨-rnak 21.89 296 iP P 22 57 26.3 -4.4
AGRB Hanur-Agry 21.96 301 eP P 22 57 29.1 -2.3
KURK Kurchatov 21.96 19 ⇑P P 22 57 30.5 -0.9
comp=Z,388nm,1.1s,mb5.8
KURK Kurchatov 21.96 19 P P 22 57 28.7 -2.7
comp=Z,91nm,0.7s,mb5.3,baz=210,slow=9.7,SNR=66
KURK S S 23 01 33.3 -0.4
comp=Z,5.5nm,0.9s,baz=208,slow=21,SNR=3.0
KURK LR LR 23 07 12.8
comp=Z,8μm,18.2s,MS5.2,baz=195,slow=40
KURK Kurchatov 21.96 19 eP P 22 57 29.9 -1.4
KURK S S 23 01 33.3 -0.4
KURK Kurchatov 21.96 19 P P 22 57 28.7 -2.6
KURK S S 23 01 33.3 -0.4
KURK pmax pmax
comp=Z,91nm,0.7s,mb5.3
KURK smax
comp=N,6.0nm,0.9s
KURK MLR MLR
comp=Z,8μm,18.2s,MS5.2
KURK Kurchatov 21.96 19 P P 22 57 30.1 -1.3
SNR=194
KURK Kurchatov 21.96 19 mb 22 57 39.8
baz=0.0,slow=0.0,SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK Kurchatov 21.96 19 P P 22 57 30.0 -1.3
SNR=194
KURK mb 22 57 39.8
SNR=194
KURK mb 22 57 39.8
SNR=194
GOR Gori 22.02 308 P P 22 57 33.7 +1.7
TUTA Tutak 22.04 301 iP P 22 57 27.3 -5.0
AKH Akhalkalaki 22.22 306 P P 22 57 35.5 +1.3
AKH S S 23 01 47.9 +9.2
KARS Kars 22.23 304 eP P 22 57 36.6 +2.3
VOSK Vostochnaya 22.47 6 ⇑P P 22 57 36.6 -0.1
comp=Z,245nm,1.0s,mb5.6
ZRNK Zerenda 22.57 2 ⇓P P 22 57 37.9 +0.1
comp=Z,426nm,1.2s,mb5.7
ONI Oni 22.71 309 P P 22 57 40.5 +1.1
ONI S S 23 01 54.9 +6.7
BVA0 Borovoye Array 22.72 5 ⇓P P 22 57 38.8 -0.5
comp=Z,65nm,1.2s,mb4.9,baz=167,slow=10,SNR=762
BVAR Borovoye Array 22.72 5 P P 22 57 38.9 -0.4
comp=Z,73nm,0.7s,mb5.2,baz=174,slow=7.4,SNR=214
BVAR S S 23 01 48.3 +0.2
comp=Z,26nm,1.2s,baz=186,slow=13,SNR=2.3
BVAR LR LR 23 07 46.4
comp=Z,20μm,18.9s,MS5.6,baz=190,slow=40
BVAR Borovoye Array 22.72 5 P P 22 57 38.9 -0.4
BVAR S S 23 01 48.3 +0.2
BVAR Borovoye Array 22.72 5 P P 22 57 38.9 -0.5
BVAR S S 23 01 48.3 +0.2
BRVK Borovoye 22.75 4 eP P 22 57 39.4 -0.2
comp=Z,360nm,1.0s,mb5.8
BRVK Borovoye 22.75 4 eP P 22 57 39.4 -0.2
BRVK pmax pmax
comp=Z,360nm,1.0s,mb5.8
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK Borovoye 22.75 4 mb 22 57 48.3
SNR=354
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK Borovoye 22.75 4 P P 22 57 39.6 0.0
SNR=264
BRVK mb 22 57 48.3
SNR=353
BRVK mb 22 57 48.3
SNR=353
VRTB Varto-Mus 23.00 299 eP P 22 57 40.0 -2.4
MARD Mardin 23.13 294 iP P 22 57 34.8 -9.1
BNGL BINGOL 23.18 299 iP P 22 57 39.1 -5.3
DAGI Agillar 23.21 304 iP P 22 57 38.0 -6.7
EZM Erzurum 23.26 301 eP P 22 57 46.7 +1.5
DDEM Demirkent 23.27 304 iP P 22 57 38.0 -7.3
DBAD Bademkaya 23.35 304 iP P 22 57 41.2 -5.0
DBOC Borcka 23.48 305 iP P 22 57 42.3 -5.2
BCA Borcka 23.54 305 eP P 22 57 54.4 +6.3
KIV Kislovodsk 23.80 312 eP P 22 57 51.1 +0.5
comp=Z,676nm,1.8s,mb5.8
KIV Kislovodsk 23.80 312 eP P 22 57 50.6 +0.1
KIV eS S 23 02 07.6 +1.6
KIV pmax pmax
comp=Z,117nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,4μm,15.0s,MS5.0
KIV Kislovodsk 23.80 312 P P 22 57 52.3 +1.8
SNR=37
KIV Kislovodsk 23.80 312 mb 22 57 56.9
baz=0.0,slow=0.0,SNR=45
KIV Kislovodsk 23.80 312 P P 22 57 52.3 +1.8
comp=Z,604nm,1.7s,mb5.8,SNR=26
KIV Kislovodsk 23.80 312 P P 22 57 52.3 +1.8
SNR=37
KIV Kislovodsk 23.80 312 P P 22 57 52.3 +1.8
SNR=37
KIV Kislovodsk 23.80 312 P P 22 57 52.3 +1.8
SNR=37
KIV Kislovodsk 23.80 312 P P 22 57 52.3 +1.8
SNR=37
KIV Kislovodsk 23.80 312 P P 22 57 52.3 +1.8
SNR=37
KIV Kislovodsk 23.80 312 P P 22 57 52.3 +1.8
SNR=37
KIV mb 22 57 56.9
SNR=44
KIV mb 22 57 56.9
SNR=44
KOPT Kop Dagi 23.93 301 iP P 22 57 46.5 -5.2
HMDM Hanimaadhoo 24.11 166 P P 22 57 56.3 +2.8
IMP Imphal 24.12 97 ePKP P 22 57 56.0 +2.4
IMP eS S 23 02 17.0 +5.5
BAYT Ayd¨-ntepe-Bay 24.29 302 eP P 22 57 55.2 +0.2
ERZN Erzincan 24.40 300 eP P 22 57 54.2 -1.9
SVRC Sivrice-ELAZID 24.47 297 eP P 22 57 55.0 -1.7
PTK Pertek 24.50 298 eP P 22 57 54.2 -2.8
URFA Urfa 24.70 294 eP P 22 57 58.2 -0.6
ELZG Elazig 24.74 297 iP P 22 57 58.3 -0.8
GUMT Gumushane 24.80 302 eP P 22 58 01.4 +1.7
KELT Kelkit 24.89 301 iP P 22 57 51.9 -8.6

ATAB Bozova 25.11 294 *i* P **P 22 57 58.3 -4.3**
MALT Malatya 25.14 296 *e*P **P 22 58 04.2 +1.4**
KEMA Kemaliye 25.26 298 *i* P **P 22 58 00.4 -3.4**
ESPY Espiye-Giresun 25.47 302 *e*P **P 22 58 11.2 +5.5**
AKCD Akcadag 25.53 296 *i* P **P 22 58 05.8 -0.5**
SOC Sochi 25.62 309 *d* iP **P 22 58 06.5 -0.5**
SOC *e*S **S 23 02 33.5 -1.6**
SOC *e**SS sS 23 02 41.2 +1.1
SOC *e*SS 23 03 30.5
SOC pmax pmax
comp=Z,170nm,1.0s,mb5.5
SOC MLR MLR
comp=Z,7μm,13.0s,MS5.4
GAZ Gaziantep 25.93 293 *e*P **P 22 58 12.0 +2.0**
ASF Jabal al Asfar 26.11 282 P **P 22 58 13.5 +1.9**
comp=Z,31nm,0.8s,mb4.9,baz=323,slow=5.1,SNR=36
ASF S **S 23 02 58.9 +16**
comp=Z,2.0nm,1.0s,baz=151,slow=19,SNR=1.6
ASF LR LR 23 10 31.1
comp=Z,11μm,18.1s,MS5.4,baz=135,slow=41
ASF Jabal al Asfar 26.11 282 P **P 22 58 13.5 +1.9**
ASF S **S 23 02 58.9 +16**
ASF Jabal al Asfar 26.11 282 P **P 22 58 13.5 +1.9**
KMRS Kahramanmaras 26.22 294 *e*P **P 22 58 14.4 +1.8**
LBOS 26.23 236 *e*P **P 22 58 15.0 +2.2**
SARR Saratov 26.64 328 *ce*P **P 22 58 15.8 -0.4**
SARR pmax pmax
comp=Z,158nm,1.2s,mb5.4
ANDN Andirin 26.67 294 *i* P **P 22 58 10.0 -6.6**
ZAA0 Zalesovo Array 26.70 23 *e*P **P 22 58 16.7 0.0**
ZAA0 *e*S **S 23 02 53.5 +1.7**
ZALV Zalesovo Beam 26.70 23 P **P 22 58 16.9 +0.2**
comp=Z,162nm,0.6s,mb5.7,baz=228,slow=9.9,SNR=126
ZALV LR LR 23 10 01.1
comp=Z,5μm,19.7s,MS5.1,baz=212,slow=39
ZALV Zalesovo Beam 26.70 23 P **P 22 58 16.9 +0.2**
ZALV Zalesovo Beam 26.70 23 P **P 22 58 16.9 +0.2**
ARU Arti 26.77 349 *e*P **P 22 58 18.0 +0.7**
comp=Z,136nm,1.3s,mb5.3
ARU Arti 26.77 349 *d* iP **P 22 58 18.4 +1.1**
ARU *e* 22 58 57.8
ARU *e*PPP 22 59 09.6
ARU S **S 23 02 55.8 +2.8**
ARU SS 23 04 00.3
ARU SSS 23 04 15.4
ARU pmax pmax
comp=Z,107nm,1.7s,mb5.1
ARU MLR MLR
comp=Z,11μm,20.0s,MS5.4
ARU Arti 26.77 349 P **P 22 58 18.7 +1.4**
comp=Z,383nm,1.4s,mb5.7,SNR=10
HWQ Hawqa 26.82 287 *e*P **P 22 58 18.9 +0.8**
SVE Sverdlovsk 26.85 352 ⇓*i*P **P 22 58 19.3 +1.2**
SVE *e*S **S 23 02 58.0 +3.7**
SVE pmax pmax
comp=Z,135nm,1.5s,mb5.2
SVE MLR MLR
comp=N,13μm,12.0s,MS5.8
SVE MLR MLR
comp=E,7μm,10.0s,MS5.8
SVE MLR MLR
comp=Z,25μm,11.0s,MS6.0
NVS Novosibirsk 26.93 20 ⇑*i*P **P 22 58 18.2 -0.6**
NVS *e*PPP 22 59 20.8
NVS *e*S **S 23 02 43.2 -12**
NVS pmax pmax
comp=N,230nm,1.6s
NVS pmax pmax
comp=Z,357nm,1.6s,mb5.7
NVS pmax pmax
comp=E,86nm,2.0s
NVS smax
comp=N,416nm,3.0s
NVS smax
comp=E,276nm,2.2s
BHL Bhannes 27.07 286 *e*P **P 22 58 22.3 +2.0**
MMAI Mount Meron Ar 27.31 284 P **P 22 58 22.7 +0.2**
comp=E,5.0nm,0.7s,mb4.1,baz=70,slow=12,SNR=4.3
MMAI LR LR 23 11 11.2
comp=E,17μm,18.8s,MS5.6,baz=70,slow=41
MMAI Mount Meron Ar 27.31 284 P **P 22 58 22.7 +0.2**
ANN Anapa 27.59 310 *d* iP **P 22 58 26.9 +2.1**
ANN *i* *PP pP 22 58 31.5 +3.6
ANN *i* 22 59 15.7
ANN *i* 23 01 38.0
ANN *e*S **S 23 03 10.0 +3.8**
ANN pmax pmax
comp=Z,102nm,1.1s,mb5.4
ANN pmax pmax
comp=N,70nm,1.2s
ANN pmax pmax
comp=E,35nm,1.2s
ANN MLR MLR
comp=N,5μm,17.0s,MS5.4
ANN MLR MLR
comp=E,8μm,17.0s,MS5.4
ANN MLR MLR
comp=Z,8μm,17.0s,MS5.4
GTA Gaotai 27.93 62 *e*P **P 22 58 29.0 +1.1**
GTA pP pP 22 58 33.4 +2.4
GTA sP sP 22 58 36.9 +4.7
GTA S **S 23 03 13.5 +1.9**
GTA sS sS 23 03 20.9 +4.2
GTA pmax pmax
comp=Z,25nm,1.0s,mb4.8
GTA pmax pmax
comp=Z,360nm,4.8s
GTA LR LR
comp=N,32μm,18.5s,MS6.0
GTA LR LR
comp=E,14μm,13.5s,MS6.0
GTA LR LR
comp=Z,18μm,13.3s,MS5.8
EIL Elat 28.07 277 P **P 22 58 30.0 +0.7**
comp=Z,22nm,0.9s,mb4.8,baz=106,slow=2.6,SNR=12
EIL LR LR 23 11 45.1
comp=Z,17μm,19.5s,MS5.6,baz=229,slow=41
EIL Elat 28.07 277 P **P 22 58 30.0 +0.7**
CSS Prodhromos 28.97 288 *e*P **P 22 58 37.4 +0.1**
comp=Z,49nm,1.0s,mb5.2
BR131 Keskin Array S 29.04 298 *e*P **P 22 58 37.6 -0.2**
comp=Z,13nm,1.0s,mb4.6
BR131 *e*PcP PcP 23 01 46.5 +0.4
BRTR Keskin Array B 29.04 298 P **P 22 58 37.5 -0.4**
comp=Z,5.0nm,0.7s,mb4.3,baz=117,slow=8.1,SNR=22
BRTR LR LR 23 12 49.7
comp=Z,6μm,18.9s,MS5.2,baz=94,slow=42
BRTR Keskin Array B 29.04 298 P **P 22 58 37.5 -0.4**
BRTR Keskin Array B 29.04 298 P **P 22 58 37.5 -0.3**
ATD Arta Tunnel 29.53 236 P **P 22 58 43.5 +1.2**
comp=Z,16nm,1.0s,mb4.7,baz=9.2,slow=7.9,SNR=8.4
ATD LR LR 23 12 13.7
comp=Z,6μm,20.5s,MS5.2,baz=55,slow=40
ATD Arta Tunnel 29.53 236 P **P 22 58 43.5 +1.2**
VSR Storozhevoye 29.54 323 *e*P **P 22 58 41.4 -0.7**
VSR *e**PP pP 22 58 45.0 -0.1
VSR pmax pmax
comp=N,40nm,1.3s
VSR pmax pmax
comp=Z,60nm,1.3s,mb5.2
VSR pmax pmax
comp=E,60nm,1.4s
VOR Voronezh 29.81 324 P **P 22 58 45.0 +0.5**
VOR pmax pmax
comp=Z,260nm,1.2s,mb5.8
SIM Simferopol' 29.86 308 *de*P **P 22 58 46.3 +1.2**
SIM *e*S **S 23 03 47.0 +5.0**
SIM pmax pmax
comp=Z,41nm,1.0s,mb5.1
SOKR Solikamsk 30.05 349 *d* iP **P 22 58 49.0 +2.5**
SOKR pmax pmax
comp=Z,90nm,1.3s,mb5.3
SOKR MLR MLR
comp=Z,6μm,15.0s,MS5.3
CHTO Chiang Mai 30.79 105 *e*P **P 22 58 53.1 -0.4**
CHTO Chiang Mai 30.79 105 *e*P **P 22 58 53.1 -0.4**
CHTO Chiang Mai 30.79 105 P **P 22 58 53.2 -0.3**
comp=Z,2μmcomp=Z,165nm,0.9s,mb5.8
CHTO Chiang Mai 30.79 105 P **P 22 58 54.0 +0.5**
SNR=35
CHTO Chiang Mai 30.79 105 mb 22 58 55.8
baz=0.0,slow=0.0,SNR=99
LZH Lanzhou 30.86 70 *e*P **P 22 58 55.2 +1.2**
LZH pP pP 22 59 02.7 +5.6
LZH sP sP 22 59 05.3 +7.0
LZH PP PP 22 59 54.7 -8.9
LZH PcP PcP 23 01 54.2 +3.4
LZH *e*S **S 23 03 53.0 -4.9**
LZH sS sS 23 04 05.5 +2.6
LZH SS SS 23 05 41.5 -28
LZH pmax pmax
comp=Z,76nm,1.0s,mb5.5
LZH pmax pmax
comp=Z,590nm,4.0s
LZH LR LR
comp=N,9μm,10.3s,MS5.9
LZH LR LR
comp=E,14μm,14.0s,MS5.9
LZH LR LR
comp=Z,15μm,15.2s,MS5.8
LZH Lanzhou 30.86 70 *e*P **P 22 58 55.2 +1.2**
comp=Z,76nm,1.0s,mb5.5
LZH pP pP 22 59 02.7 +5.6
LZH sP sP 22 59 05.3 +7.0
LZH PP PP 22 59 54.7 -8.9
LZH PcP PcP 23 01 54.2 +3.4
LZH *e*S **S 23 03 53.0 -4.9**
LZH sS sS 23 04 05.5 +2.6
LZH SS SS 23 05 41.5 -28
LZH LR LR
comp=Z,15μm,15.2s,MS5.8
LZH Lanzhou 30.86 70 *e*P **P 22 58 55.2 +1.2**
LZH *PP pP 22 59 02.7 +5.6
LZH *SP sP 22 59 05.3 +7.0
LZH 22 59 54.7
LZH 23 01 54.2
LZH *e*S **S 23 03 53.0 -4.9**
LZH *SS sS 23 04 05.5 +2.6
LZH SS SS 23 05 41.5 -28
LZH pmax pmax
comp=Z,76nm,1.0s,mb5.5
LZH MLR MLR
comp=Z,15μm,15.2s,MS5.8
CM31 Chiang Mai Arr 30.95 105 *e*P **P 22 58 54.9 0.0**
comp=Z,34nm,0.8s,mb5.2
CM31 *e*PcP PcP 23 01 51.5 +0.2
CMAR Chiang Mai Arr 30.95 105 P **P 22 58 55.0 0.0**
comp=Z,43nm,0.9s,mb5.3,baz=299,slow=8.1,SNR=98
CMAR PcP PcP 23 01 50.5 -0.8
comp=Z,18nm,0.8s,baz=287,slow=4.4,SNR=12
CMAR LR LR 23 13 38.5
comp=Z,6μm,21.7s,MS5.2,baz=295,slow=41
CMAR Chiang Mai Arr 30.95 105 P **P 22 58 55.0 0.0**
CMAR PcP PcP 23 01 50.5 -0.8
CMAR Chiang Mai Arr 30.95 105 P **P 22 58 55.0 0.0**
CMAR 23 01 50.6
CD2 Chengdu 31.18 80 ⇑*i*P **P 22 58 57.2 +0.4**
CD2 pP pP 22 59 01.6 +1.7
CD2 sP sP 22 59 04.8 +3.6
CD2 PP PP 23 00 00.2 -7.0
CD2 PcP PcP 23 01 51.9 +0.2
CD2 S **S 23 04 01.7 -1.2**
CD2 PcS PcS 23 05 34.9 -1.0
CD2 SS SS 23 05 47.3 -29
CD2 ScS ScS 23 09 28.9 -3.2
CD2 pmax pmax
comp=Z,50nm,0.7s,mb5.5
CD2 pmax pmax
comp=Z,230nm,6.0s
CD2 LR LR
comp=N,21μm,15.2s,MS6.1
CD2 LR LR
comp=E,21μm,14.4s,MS6.1
CD2 LR LR
comp=Z,26μm,14.4s,MS6.0
KORT Korkueli 31.40 292 *i* P **P 22 58 54.9 -3.8**
BDT Bhumibol Dam 31.60 107 P **P 22 59 02.0 +1.4**
comp=Z,22nm,0.8s,mb5.0
KMI Kunming 31.61 91 P **P 22 59 01.9 +1.2**
KMI pP pP 22 59 05.6 +1.9
KMI sP sP 22 59 07.4 +2.4
KMI PP PP 23 00 05.7 -6.3
KMI S **S 23 04 10.7 +1.0**
KMI sS sS 23 04 15.9 +1.2
KMI SS SS 23 05 59.6 -25
KMI pmax pmax
comp=Z,130nm,1.1s,mb5.7
KMI pmax pmax
comp=Z,300nm,3.1s
KMI LR LR
comp=N,10μm,13.0s,MS5.8
KMI LR LR
comp=E,9μm,13.8s,MS5.8
KMI LR LR
comp=Z,7μm,15.4s,MS5.4
KMI Kunming 31.61 91 P **P 22 59 01.9 +1.2**
comp=Z,131nm,1.1s,mb5.7
KMI pP pP 22 59 05.6 +1.9
KMI sP sP 22 59 07.4 +2.4
KMI PP PP 23 00 05.7 -6.3
KMI PPP 23 00 25.2
KMI S **S 23 04 10.7 +1.0**
KMI sS sS 23 04 15.9 +1.2
KMI SS SS 23 05 59.6 -25
KMI SSS 23 06 22.7
KMI LR LR
comp=Z,7μm,15.4s,MS5.4
KMI Kunming 31.61 91 P **P 22 59 01.9 +1.2**
KMI *PP pP 22 59 05.6 +1.9
KMI *SP sP 22 59 07.4 +2.4
KMI 23 00 05.7
KMI PPP 23 00 25.2
KMI S **S 23 04 10.7 +1.0**
KMI *SS sS 23 04 15.9 +1.2
KMI SS SS 23 05 59.6 -25
KMI SSS 23 06 22.7
KMI pmax pmax
comp=Z,131nm,1.1s,mb5.7
KMI MLR MLR
comp=Z,7μm,15.4s,MS5.4
MOS Moscow 32.94 329 *e*P **P 22 59 12.7 +0.7**
MOS *e* 23 00 26.9
MOS *e*SS SS 23 06 53.0 +1.5
MOS pmax pmax
comp=Z,900nm,2.7s,mb6.2
MOS pmax pmax
comp=Z,191nm,1.7s,mb5.8
OBN Obninsk 33.05 327 *e*P **P 22 59 12.8 -0.2**
comp=Z,100nm,1.1s,mb5.7
OBN Obninsk 33.05 327 *ce*P **P 22 59 13.1 +0.1**
OBN *e* 23 00 26.4
OBN *e*S **S 23 04 32.7 +1.1**
OBN pmax pmax
comp=Z,170nm,1.7s,mb5.7
OBN Obninsk 33.05 327 P **P 22 59 13.5 +0.5**
comp=Z,489nm,0.9s,mb6.4,SNR=13
NST Nakhon Sawan 33.33 109 P **P 22 59 15.0 -0.9**
ZAK Zakamensk 33.38 43 *e*P **P 22 59 17.4 +1.5**
ZAK *e* 23 00 22.2
ZAK pmax pmax
comp=Z,28nm,1.2s,mb5.1
TIRR Tirgusor 33.68 306 *e*P **P 22 59 18.4 -0.2**
comp=Z,31nm,1.1s,mb5.2
TIRR Tirgusor 33.68 306 *e*P **P 22 59 18.4 -0.2**
TIRR pmax pmax
comp=Z,31nm,1.1s,mb5.2
TIRR Tirgusor 33.68 306 ⇑*i*P **P 22 59 19.0 +0.4**
KIS Kishinev 33.99 310 *e*P **P 22 59 21.0 -0.3**
KIS LRM 23 20 40.0
comp=Z,6μm,16.0s
KIS Kishinev 33.99 310 *e*P **P 22 59 21.0 -0.3**
KIS *e* 23 04 50.0
TLY Talaya 34.11 41 *e*P **P 22 59 24.1 +1.8**
TLY *e*S **S 23 04 48.4 +0.3**
TLY pmax pmax
comp=Z,64nm,1.5s,mb5.3
TLY MLR MLR
comp=Z,10μm,17.0s,MS5.6
TLY Talaya 34.11 41 P **P 22 59 25.3 +3.0**
SNR=6.0
TLY Talaya 34.11 41 P **P 22 59 24.9 +2.6**
comp=Z,216nm,0.9s,mb6.1,SNR=5.1
TLY Talaya 34.11 41 P **P 22 59 25.3 +3.0**
SNR=6.0
TLY Talaya 34.11 41 P **P 22 59 25.3 +3.0**
SNR=6.0
TLY Talaya 34.11 41 P **P 22 59 25.3 +3.0**
SNR=6.0
TLY Talaya 34.11 41 P **P 22 59 25.3 +3.0**
SNR=6.0
LEOM Leova 34.23 309 P **P 22 59 24.1 +0.7**
LEOM Leova 34.23 309 ⇑*i*P **P 22 59 23.7 +0.3**
FURI Furi 34.32 237 *e*P **P 22 59 28.1 +3.6**
SONM Songino Array 34.45 49 P **P 22 59 25.7 +0.4**
comp=Z,13nm,0.8s,mb4.9,baz=254,slow=9.1,SNR=5.1
SONM LR LR 23 15 51.4
comp=Z,21μm,18.2s,MS5.9,baz=248,slow=41
SONM Songino Array 34.45 49 P **P 22 59 25.7 +0.4**
SONM Songino Array 34.45 49 P **P 22 59 25.7 +0.4**
AMRR Amara 34.47 306 P **P 22 59 27.5 +2.1**
GYA Guiyang 34.62 87 ⇓*i*P **P 22 59 26.6 -0.3**
GYA PP PP 23 00 45.0 -0.3
GYA PcP PcP 23 02 02.4 +1.0
GYA S **S 23 04 55.4 -1.0**
GYA SS SS 23 07 08.9 -17
GYA pmax pmax
comp=Z,90nm,1.0s,mb5.7
GYA pmax pmax
comp=Z,240nm,4.6s
GYA LR LR
comp=N,7μm,20.5s,MS5.6
GYA LR LR
comp=E,10μm,22.7s,MS5.6
GYA LR LR
comp=Z,6μm,20.4s,MS5.3
IRK Irkutsk 34.70 40 *e*P **P 22 59 28.4 +1.0**
IRK pmax pmax
comp=Z,188nm,1.6s,mb5.8
NNT Nongplab 34.72 114 P **P 22 59 29.0 +1.1**
IAS Iasi 34.87 310 P **P 22 59 29.0 +0.1**
AKASG Malin Array Be 34.89 317 P **P 22 59 28.6 -0.4**
comp=Z,28nm,0.9s,mb5.2,baz=102,slow=7.2,SNR=46
AKASG LR LR 23 16 17.3
comp=Z,7μm,19.1s,MS5.4,baz=95,slow=41
AKASG Malin Array Be 34.89 317 P **P 22 59 28.6 -0.4**
AKASG Malin Array Be 34.89 317 P **P 22 59 28.6 -0.4**
AKBB Malin Array Si 34.89 317 *e*P **P 22 59 28.2 -0.8**
AKBB *e*PP PP 23 00 47.2 -0.8
AKBB Malin Array Si 34.89 317 *e*P **P 22 59 28.2 -0.8**
AKBB *e* 23 00 47.2
ULN Ulaanbaatar 34.89 49 *e*P **P 22 59 28.9 -0.2**
ULN *e*S **S 23 04 55.9 -4.3**
ULN Ulaanbaatar 34.89 49 *e*P **P 22 59 28.9 -0.1**
ULN *e*S **S 23 04 55.9 -4.2**
KIEV Kiev 34.89 317 *e*P **P 22 59 28.4 -0.7**
comp=Z,67nm,1.0s,mb5.5
KIEV Kiev 34.89 317 *e*P **P 22 59 28.4 -0.6**
KIEV pmax pmax
comp=Z,67nm,1.0s,mb5.5
XAN Xi'an 35.13 73 P **P 22 59 31.2 -0.1**
XAN pP pP 22 59 37.1 +2.7
XAN sP sP 22 59 39.9 +4.3
XAN S **S 23 05 03.7 -0.5**
XAN SS SS 23 07 18.0 -19
XAN pmax pmax
comp=Z,19nm,0.9s,mb5.0
XAN pmax pmax
comp=Z,62nm,6.2s
XAN LR LR
comp=N,17μm,21.5s
XAN LR LR
comp=Z,4μm,19.2s,MS5.2
VRI Vrincioaia 35.13 308 P **P 22 59 32.8 +1.6**
VRI Vrincioaia 35.13 308 ⇓*i*P **P 22 59 32.6 +1.4**
PLOR Plostina 35.18 308 ⇓P **P 22 59 32.8 +1.2**
PLOR Plostina 35.18 308 ⇓*i*P **P 22 59 32.8 +1.2**
SULR 35.24 306 ⇓*i*P **P 22 59 31.4 -0.7**
TESR 35.32 309 ⇓*i*P **P 22 59 33.3 +0.5**
RDO Rodhopi 35.34 299 P **P 22 59 32.7 -0.3**
MLR Muntele Rosu 35.59 307 P **P 22 59 36.7 +1.5**
comp=Z,20nm,1.1s,mb4.9,baz=36,slow=3.7,SNR=37
MLR LR LR 23 17 45.2
comp=Z,1μm,20.1s,MS4.6,baz=304,slow=42
MLR Muntele Rosu 35.59 307 P **P 22 59 36.7 +1.5**
MLR Muntele Rosu 35.59 307 ⇓P **P 22 59 37.1 +1.9**
MLR Muntele Rosu 35.59 307 ⇓*i*P **P 22 59 37.1 +1.9**
BTO Baotou 35.84 62 *e*P **P 22 59 38.0 +0.6**
IDI Anoyia 35.87 289 *e*P **P 22 59 37.1 -0.5**
RZN Rozhen 35.99 300 P **P 22 59 38.5 -0.1**
BSI Banda Aceh 36.07 128 P **P 22 59 39.9 +0.3**
comp=Z,1μmcomp=Z,152nm,1.2s,mb5.8
BSI Banda Aceh 36.07 128 P **P 22 59 39.9 +0.3**
comp=Z,1μmcomp=Z,152nm,1.2s,mb5.8
VOIR 36.21 307 P **P 22 59 41.8 +1.4**
VOIR 36.21 307 ⇑*i*P **P 22 59 41.5 +1.1**
PGB Panagyurishte 36.47 302 P **P 22 59 45.1 +2.4**
BURAR Bucovina Array 36.52 310 ⇓P **P 22 59 43.8 +0.8**
BURAR Bucovina Array 36.52 310 ⇓*i*P **P 22 59 43.8 +0.8**
BUR08 Bucovina Ar. S 36.53 310 *e*P **P 22 59 43.0 -0.1**
PTL Penteli 36.55 294 P **P 22 59 42.7 -0.8**
NVR Nevrokopi 36.61 300 P **P 22 59 43.6 -0.3**
MSEY Mahe Island 36.69 200 PFAKE 23 00 00.0 +15
MSEY LR LR
comp=Z,5μm,19.0s,MS5.3
MMB Musomiste 36.73 300 P **P 22 59 44.1 -0.8**
SRS Serrai 36.80 299 P **P 22 59 45.1 -0.5**
HHC Hu-ho-hao-te 37.02 61 *e*P **P 22 59 48.8 +1.3**
HHC sP sP 22 59 54.9 +3.1
HHC PP PP 23 01 14.7 +3.0
HHC PcP PcP 23 02 09.8 +1.6
HHC S **S 23 05 33.2 +0.1**
HHC sS sS 23 05 39.4 +1.3
HHC ScP ScP 23 05 55.4 +0.1
HHC PcS PcS 23 05 56.8 +0.5
HHC SS SS 23 08 02.5 -12
HHC ScS ScS 23 10 01.2 -1.4
HHC pmax pmax
comp=Z,24nm,0.8s,mb5.1
HHC pmax pmax
comp=Z,400nm,6.0s
HHC LR LR
comp=N,8μm,13.0s,MS5.8
HHC LR LR
comp=E,6μm,12.4s,MS5.8
HHC LR LR
comp=Z,7μm,13.1s,MS5.7
LOT Lotru 37.10 306 ⇓*i*P **P 22 59 48.6 +0.6**
MICGM Minsk 37.11 322 *e*P **P 22 59 46.0 -1.9**
MNK Minsk 37.13 322 *e*P **P 22 59 46.0 -2.2**
MNK *e* 23 01 20.0
MNK *e*PPP 23 01 38.0
MNK *e*S **S 23 05 32.0 -2.3**
MNK *e*SSS 23 08 35.0
MNK MLR MLR
comp=N,27μm,14.0s,MS6.2
MNK MLR MLR
comp=E,9μm,12.0s,MS6.2
MNK MLR MLR
comp=Z,13μm,14.0s,MS5.9
VTS Vitosha 37.18 302 P **P 22 59 48.8 +0.1**
VTS Vitosha 37.18 302 ⇑P **P 22 59 49.3 +0.6**
VTS Vitosha 37.18 302 *i* P **P 22 59 48.5 -0.2**
VTS Vitosha 37.18 302 ⇑*i*P **P 22 59 49.3 +0.6**
KKB Krupnik 37.22 300 P **P 22 59 49.5 +0.4**
KNT Kendrikon 37.33 299 P **P 22 59 48.8 -1.2**
BMR Baia Mare 37.67 310 P **P 22 59 54.2 +1.4**
TIY Taiyuan 37.71 66 *e*P **P 22 59 53.2 -0.1**
TIY S **S 23 05 45.0 +1.4**
TIY LR LR
comp=N,5μm,9.6s
TIY LR LR
comp=E,12μm,13.0s
TIY LR LR
comp=Z,16μm,15.0s,MS6.0
GZR Gura Zlata 37.78 306 ⇑*i*P **P 22 59 53.8 0.0**
LVV L'vov 37.80 313 *e*P **P 22 59 53.8 -0.1**
LVV *e*S **S 23 05 40.1 -4.4**
NACGM Naroch 37.85 322 *e*P **P 22 59 51.0 -3.3**
DGAR Diego Garcia 37.89 172 PFAKE 23 00 10.0 +15
DGAR LR LR
comp=Z,6μm,21.0s,MS5.4
DRGR 38.03 308 P **P 22 59 56.9 +1.0**
DRGR 38.03 308 ⇑*i*P **P 22 59 56.8 +0.9**
IIGN Ignalina 38.33 323 *e*P **P 22 59 58.1 -0.1**
IIGN AMB AMB 23 00 01.5
comp=Z,26nm,1.1s,mb4.8
TRPA Tarpa 38.38 310 ⇓*i*P **P 22 59 59.6 +0.7**
ISAL Salakas 38.46 323 *e*P **P 22 59 59.3 -0.1**

ISAL AMB AMB 23 00 02.7
comp=Z,27nm,1.3s,mb4.8
FNA Florina 38.47 299 P **P 22 59 58.8 -0.9**
IZAR Zarasai 38.47 323 *e*P **P 22 59 59.4 -0.1**
IZAR AMB AMB 23 00 02.7
comp=Z,26nm,1.4s,mb4.8
PUL Pulkovo 38.48 331 *i* P **P 23 00 01.4 +2.0**
PUL pmax pmax
comp=Z,124nm,0.9s,mb5.6
PUL MLR MLR
comp=Z,16μm,22.0s,MS5.8
KWP Kalwaria Pacla 38.59 313 *e*P **P 23 00 00.6 +0.1**
KWP *e*pP pP 23 00 03.0 -0.6
KWP LMZ 23 19 09.4
comp=Z,4μm,19.2s
KWP Kalwaria Pacla 38.59 313 *e*P **P 23 00 00.8 +0.3**
comp=Z,113nm,1.2s,mb5.5
KWP Kalwaria Pacla 38.59 313 *e*P **P 23 00 00.6 +0.1**
KWP *e**PP pP 23 00 03.0 -0.6
KWP MLR MLR
comp=Z,4μm,19.2s,MS5.3
BZS Buzias 38.62 306 P **P 23 00 01.7 +0.8**
UZH Uzhgorod 38.64 311⇓ *i*P **P 23 00 01.5 +0.5**
UZH *e* 23 01 31.7
UZH *e*PPP 23 01 55.1
UZH *e* 23 02 12.7
UZH *e*S **S 23 05 57.1 -0.3**
UZH *e*SS SS 23 08 39.7 -7.6
UZH *e*SSS 23 09 14.7
KOLS Kolonicke sedl 38.72 312 *e*P **P 23 00 02.5 +0.9**
KOLS pmax pmax
comp=Z,65nm,1.4s,mb5.2
KOLS Kolonicke sedl 38.72 312 *e*P **P 23 00 02.5 +0.9**
NEST Nestorio 38.72 298 P **P 23 00 00.9 -0.9**
TPTI 38.98 128 P **P 23 00 04.9 +0.7**
comp=Z,145nm,1.1s,mb5.6
CRVS Cervenica-Dubn 39.23 311 *e*P **P 23 00 06.7 +0.7**
CRVS pmax pmax
comp=Z,88nm,1.3s,mb5.3
CRVS Cervenica-Dubn 39.23 311 *e*P **P 23 00 06.7 +0.7**
CRVS *e*S **S 23 06 07.2 +0.9**
VSU Vasula 39.41 327 *ce*P **P 23 00 07.5 +0.2**
VSU pmax pmax
comp=Z,116nm,1.4s,mb5.4
VSU MLR MLR
comp=Z,9μm,18.0s,MS5.6
STHS Stebnicka Huta 39.47 312 *e*P **P 23 00 08.3 +0.3**
STHS pmax pmax
comp=Z,11nm,1.0s,mb4.5
STHS Stebnicka Huta 39.47 312 *e*P **P 23 00 08.3 +0.3**
SUW Suwalki 39.49 320 *e*P **P 23 00 07.4 -0.7**
SUW *e*pP pP 23 00 09.4 -1.8
SUW *e*S **S 23 06 07.0 -3.1**
SUW LMZ 23 18 42.6
comp=Z,5μm,20.5s
SUW Suwalki 39.49 320 *e*P **P 23 00 07.2 -0.8**
SUW Suwalki 39.49 320 *e*P **P 23 00 07.4 -0.7**
SUW *e**PP pP 23 00 09.4 -1.8
SUW *e*S **S 23 06 06.9 -3.2**
SUW MLR MLR
comp=Z,5μm,20.5s,MS5.3
TIR Tirane 39.62 299 *e*P **P 23 00 08.7 -0.5**
TIR Tirane 39.62 299 *e*P **P 23 00 08.7 -0.6**
DIVS Divibare 39.63 304 P **P 23 00 09.3 0.0**
KECS Kecovo 39.80 311 *e*P **P 23 00 11.2 +0.5**
KECS pmax pmax
comp=Z,14nm,0.8s,mb4.7
KECS Kecovo 39.80 311 *e*P **P 23 00 11.2 +0.5**
JOF Joensuu 39.91 335 *e*P **P 23 00 11.0 -0.4**
JOF pmax pmax
comp=Z,47nm,0.7s,mb5.3
JOF Joensuu 39.91 335 *e*p **P 23 00 11.0 -0.4**
comp=Z,47nm,0.7s,mb5.3
QIZ Qiongzhong 39.95 96 P **P 23 00 11.2 -1.1**
QIZ sP sP 23 00 17.7 +1.1
QIZ S **S 23 06 18.2 +0.5**
QIZ sS sS 23 06 26.2 +3.4
QIZ SS SS 23 09 11.2 -3.2
QIZ pmax pmax
comp=Z,17nm,1.6s,mb4.5
QIZ pmax pmax
comp=Z,250nm,5.4s
QIZ LR LR
comp=N,4μm,15.0s,MS5.4
QIZ LR LR
comp=E,2μm,13.6s,MS5.4
QIZ LR LR
comp=Z,4μm,19.6s
KULM Kulim 40.02 122 P **P 23 00 14.0 +1.2**
KULM Kulim 40.02 122 *e*P **P 23 00 13.6 +0.7**
KULM Kulim 40.02 122 P **P 23 00 13.8 +0.9**
comp=Z,2μmcomp=Z,186nm,1.1s,mb5.7
NIE Niedzica 40.07 312 *e*P **P 23 00 14.1 +1.2**
NIE *e*pP pP 23 00 16.2 +0.2
NIE Niedzica 40.07 312 *e*P **P 23 00 14.1 +1.2**
NIE *e**PP pP 23 00 16.2 +0.2
PSZ Piszkesteto 40.10 310 *e*P **P 23 00 13.8 +0.6**
PSZ Piszkesteto 40.10 310⇑P **P 23 00 14.4 +1.2**
PSZ Piszkesteto 40.10 310⇑ *e*P **P 23 00 14.1 +0.9**
WHN Wuhan 40.21 77 P **P 23 00 14.9 +0.5**
WHN sP sP 23 00 27.0 +8.3
WHN S **S 23 06 22.2 +0.8**
WHN pmax pmax
comp=Z,79nm,1.0s,mb5.4
WHN LR LR
comp=N,9μm,10.9s,MS6.1
WHN LR LR
comp=E,13μm,12.8s,MS6.1
WHN LR LR
comp=Z,22μm,16.1s,MS6.1
PSI Prapat 40.51 127 P **P 23 00 16.8 -0.1**
comp=Z,630nmcomp=Z,58nm,1.2s,mb5.1
BJI Beijing 40.54 63 P **P 23 00 16.6 -0.4**
BJI S **S 23 06 21.5 -4.6**
BJI pmax pmax
comp=Z,85nm,0.8s,mb5.4
BJI pmax pmax
comp=Z,370nm,5.3s
BJI LR LR
comp=N,15μm,20.1s,MS6.0
BJI LR LR
comp=E,15μm,22.8s,MS6.0
BJI LR LR
comp=Z,13μm,26.2s,MS5.7
OJC Ojcow 40.55 313 *e*P **P 23 00 17.0 +0.1**
OJC *e*pP pP 23 00 19.7 -0.3
OJC Ojcow 40.55 313 *e*P **P 23 00 17.5 +0.6**
OJC Ojcow 40.55 313 *e*P **P 23 00 17.0 +0.1**
OJC *e**PP pP 23 00 19.7 -0.3
BUD Budapest 40.62 309⇓ *e*P **P 23 00 19.5 +2.0**
PKSM Moragy 40.75 307⇑P **P 23 00 19.0 +0.4**
LIKS Likavka 40.79 311 *e*P **P 23 00 19.0 +0.1**
LIKS Likavka 40.79 311 *e*P **P 23 00 19.0 +0.1**
IPM Ipoh 40.84 122 P **P 23 00 20.3 +0.6**
IPM Ipoh 40.84 122 *e*P **P 23 00 19.9 +0.3**
comp=Z,130nm,0.9s,mb5.6
IPM *e*PcP PcP 23 02 20.7 +0.1
IPM Ipoh 40.84 122 P **P 23 00 20.0 +0.3**
comp=Z,2μmcomp=Z,122nm,1.1s,mb5.5
FINES FINESS Array B 41.14 331 P **P 23 00 21.0 -0.5**
comp=Z,41nm,1.0s,mb5.0,baz=128,slow=7.8,SNR=50
FINES LR LR 23 20 02.5
comp=Z,8μm,19.4s,MS5.6,baz=115,slow=40
FINES FINESS Array B 41.14 331 P **P 23 00 21.0 -0.5**
FINES FINESS Array B 41.14 331 P **P 23 00 21.0 -0.6**
KOLL Kolacno 41.18 310 *e*P **P 23 00 22.5 +0.4**
KOLL Kolacno 41.18 310 *e*P **P 23 00 22.5 +0.4**
KAF Kangasniemi 41.38 332 *e*P **P 23 00 22.4 -1.2**
KAF pmax pmax
comp=Z,29nm,0.6s,mb5.1
KAF Kangasniemi 41.38 332 *e*p **P 23 00 22.4 -1.2**
comp=Z,29nm,0.6s,mb5.1
GZH Guangzhou 41.43 89 P **P 23 00 25.7 +1.2**
GZH S **S 23 06 38.1 -1.6**
GZH LR LR
comp=N,5μm,13.9s,MS5.8
GZH LR LR
comp=E,7μm,14.8s,MS5.8
GZH LR LR
comp=Z,14μm,15.1s,MS6.0
OKC Ostrava-Krasne 41.53 312 *e*P **P 23 00 25.2 +0.2**
OKC *e* 23 00 37.2
OKC *e*S **S 23 06 39.9 -0.6**
OKC MLR MLR
comp=Z,4μm,12.2s,MS5.5
OKC Ostrava-Krasne 41.53 312 *e*P **P 23 00 25.2 +0.2**
OKC *e*x x 23 00 37.2
OKC *e*S **S 23 06 39.9 -0.6**
OKC AMS AMS 23 22 40.0
comp=Z,4μm,12.2s
TIA Tai'an 41.58 68 *e*P **P 23 00 23.7 -1.9**
TIA S **S 23 06 43.4 +1.8**
TIA LR LR
comp=N,13μm,23.1s,MS5.8
TIA LR LR
comp=E,8μm,19.6s,MS5.8
TIA LR LR
comp=Z,4μm,20.8s,MS5.2
SMOL Smolenice 41.81 310 *e*P **P 23 00 27.8 +0.5**
SMOL Smolenice 41.81 310 *e*P **P 23 00 27.8 +0.5**
MORC Moravsky Berou 41.91 312 *e*P **P 23 00 28.4 +0.3**
MORC Moravsky Berou 41.91 312 P **P 23 00 28.8 +0.7**
ZST Bratislava 41.99 310 *e*P **P 23 00 29.6 +0.8**
ZST pmax pmax
comp=Z,111nm,1.4s,mb5.3
ZST Bratislava 41.99 310 *e*P **P 23 00 29.5 +0.7**
ZST *e*S **S 23 06 52.9 +5.5**
ZST *e*SS SS 23 10 00.5 +6.3
BOD Bodaibo 42.01 36 *e*P **P 23 00 28.5 -0.2**
BOD pmax pmax
comp=Z,86nm,1.5s,mb5.2
TIP Timpagrande 42.06 296 *e*P **P 23 00 30.2 +0.7**
LVZ Lovozero 42.19 342 *e*P **P 23 00 30.3 +0.2**
LVZ Lovozero 42.19 342 *ce*P **P 23 00 31.1 +1.0**
LVZ pmax pmax
comp=Z,61nm,1.0s,mb5.2
LVZ MLR MLR
comp=Z,5μm,17.0s,MS5.5
APA Apatity 42.30 341⇑ *i*P **P 23 00 32.2 +1.2**
APA *i* 23 02 15.0
APA *i* S **S 23 06 54.0 +2.6**
APA *i* SS SS 23 09 58.0 -1.6
APA *i* 23 10 34.0
APA pmax pmax
comp=Z,41nm,1.0s,mb5.0
APA MLR MLR
comp=Z,9μm,11.0s,MS5.9
SOP Sopron 42.31 309⇑ *e*P **P 23 00 31.6 +0.3**
MNSI Mandailing Nat 42.41 128 P **P 23 00 32.5 0.0**
comp=Z,113nm,1.0s,mb5.5
MNSI Mandailing Nat 42.41 128 P **P 23 00 32.8 +0.3**
KOGS Kog 42.42 307 *e*P **P 23 00 32.4 +0.1**
VRAC Vranov 42.46 311 P **P 23 00 32.8 +0.2**
comp=Z,9.7nm,0.9s,mb4.4,baz=106,slow=9.3,SNR=12
VRAC Vranov 42.46 311 P **P 23 00 32.8 +0.2**
VRAC Vranov 42.46 311⇑P **P 23 00 33.2 +0.7**
KMBO Kilima Mbogo 42.52 228 *e*P **P 23 00 35.8 +2.4**
KMBO Kilima Mbogo 42.52 228 *e*P **P 23 00 34.4 +1.0**
comp=Z,45nm,1.2s,mb5.1
KMBO *e*PcP PcP 23 02 25.7 -0.4
KMBO Kilima Mbogo 42.52 228 *e*P **P 23 00 34.4 +1.0**
KMBO *e* 23 02 25.7
KMBO pmax pmax
comp=Z,45nm,1.2s
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
KMBO Kilima Mbogo 42.52 228 P **P 23 00 35.9 +2.5**
SNR=22
CUC Castrocucco 42.74 297 *e*P **P 23 00 34.9 0.0**
comp=Z,40nm,0.6s,mb5.3
DPC Dobruska-Polom 42.77 313 *e*P **P 23 00 35.8 +0.8**
DPC Dobruska-Polom 42.77 313 *e*P **P 23 00 35.9 +0.8**
DPC *e* 23 00 47.0
DPC *e*S **S 23 06 57.2 -1.6**
DPC MLR MLR
comp=Z,4μm,15.1s,MS5.4
DPC Dobruska-Polom 42.77 313 *e*P **P 23 00 35.9 +0.8**
DPC *e*x x 23 00 47.0
DPC *e*S **S 23 06 57.2 -1.6**
DPC AMS AMS 23 23 00.0
comp=Z,4μm,15.1s
CONA Conrad Observa 42.80 309 *i* P **P 23 00 35.7 +0.4**
comp=Z,50nm,1.2s,mb5.1,SNR=20
CEL Celeste 42.81 295 PFAKE 23 00 50.0 +14
CEL LR LR
comp=Z,4μm,20.0s,MS5.3
KSP Ksiaz 42.86 313 *e*P **P 23 00 36.3 +0.5**
KSP *e*S **S 23 07 01.5 +1.4**
KSP LMZ 23 21 17.5
comp=Z,5μm,21.6s
KSP Ksiaz 42.86 313 *e*P **P 23 00 36.3 +0.5**
KSP *e*pP pP 23 00 38.1 -0.8
KSP e 23 00 57.8
KSP *e*S **S 23 06 59.7 -0.4**
KSP LM 23 21 21.0
comp=Z,10nm,21.6s
KSP Ksiaz 42.86 313⇑ *e*P **P 23 00 36.3 +0.5**
KSP *e**PP pP 23 00 38.1 -0.8
KSP *e*S **S 23 06 59.7 -0.4**
KSP MLR MLR
comp=Z,10μm,21.6s,MS5.7
ARSA Arzberg 42.97 308 *i* P **P 23 00 37.1 +0.4**
comp=Z,92nm,0.9s,mb5.5,SNR=35
UPC Upice 42.99 313 *e*P **P 23 00 37.6 +0.8**
UPC *e* 23 00 48.1
UPC Upice 42.99 313 *e*P **P 23 00 37.6 +0.8**
UPC *e*x x 23 00 48.1
BOJS Bojanci 43.07 306 *e*P **P 23 00 37.4 -0.1**
TREC Trest 43.17 311 *e*P **P 23 00 38.2 -0.2**
TREC MLR MLR
comp=Z,5μm,19.5s,MS5.4
TREC Trest 43.17 311 *e*P **P 23 00 38.2 -0.2**
TREC AMS AMS 23 21 40.0
comp=Z,5μm,19.5s
SOKA Soboth 43.27 307⇓ *i*P **P 23 00 39.3 +0.1**
comp=Z,80nm,1.5s,mb5.2
LJU Ljubljana 43.59 306 *e*P **P 23 00 42.2 +0.4**
OBKA Obir 43.60 307 *i* pP pP 23 00 42.3 -2.6
comp=Z,60nm,1.1s,SNR=15
CEY Cerknica 43.65 306 *e*P **P 23 00 42.5 +0.2**
NJ2 Nanjing 43.67 74 *e*P **P 23 00 42.9 +0.3**
NJ2 pP pP 23 00 48.3 +2.5
NJ2 sP sP 23 00 50.5 +3.5
NJ2 S **S 23 07 14.5 +1.9**
NJ2 ScS ScS 23 10 41.0 -1.5
NJ2 pmax pmax
comp=Z,170nm,0.8s,mb5.8
NJ2 pmax pmax
comp=Z,390nm,4.3s
NJ2 LR LR
comp=N,15μm,21.0s,MS6.0
NJ2 LR LR
comp=E,14μm,20.5s,MS6.0
NJ2 LR LR
comp=Z,17μm,18.3s,MS6.0
BKNI Bangkinang 43.75 127 P **P 23 00 43.8 +0.4**
comp=Z,3μmcomp=Z,387nm,1.1s,mb6.0
BKNI Bangkinang 43.75 127 P **P 23 00 43.6 +0.2**
comp=Z,3μmcomp=Z,387nm,1.1s,mb6.0
CRNS Crni Vrh 43.78 306⇑ *i*P **P 23 00 43.4 +0.1**
MOA Molln 43.86 309 *i* P **P 23 00 43.9 0.0**
comp=Z,93nm,1.1s,mb5.4,SNR=41
PRU Pruhonice 43.86 312 *e*P **P 23 00 42.3 -1.6**
PRU *e*S **S 23 07 08.6 -6.2**
PRU MLR MLR
comp=Z,4μm,13.7s,MS5.5
PRU Pruhonice 43.86 312 *e*P **P 23 00 42.3 -1.6**
PRU *e*x x 23 00 59.5
PRU *e*S **S 23 07 08.6 -6.2**
PRU AMS AMS 23 25 00.0
comp=Z,4μm,13.7s
PPI Padang Panjang 43.87 128 P **P 23 00 44.8 +0.4**
PPI Padang Panjang 43.87 128 P **P 23 00 44.7 +0.3**
comp=Z,935nmcomp=Z,76nm,1.2s,mb5.3
PVCC Panska Ves 43.90 313 *e*P **P 23 00 44.9 +0.7**
PVCC MLR MLR
comp=Z,5μm,11.8s,MS5.6
PVCC Panska Ves 43.90 313 *e*P **P 23 00 44.9 +0.7**
PVCC AMS AMS 23 24 10.0
comp=Z,5μm,11.8s
PRA Prague 43.94 312 P **P 23 00 45.0 +0.5**
PRA AMS AMS 23 23 30.0
VOY Vojsko 44.03 306 *e*P **P 23 00 45.1 -0.2**
VOY *e* 23 00 55.8
TRI Trieste 44.12 306 PFAKE 23 01 00.0 +14
TRI LR LR
comp=Z,3μm,20.0s,MS5.2
CADS Cadrg 44.15 307 *e*P **P 23 00 46.2 -0.1**
KGM Kluang 44.18 123 P **P 23 00 48.3 +1.5**
WDD Wield Dalam 44.20 292 PFAKE 23 01 00.0 +13
WDD LR LR
comp=Z,2μm,20.0s,MS5.0
MYKA Terra Mystica 44.23 307⇑ *i*P **P 23 00 47.0 +0.1**
comp=Z,50nm,1.1s,mb5.2
PDSI Padang 44.25 129 P **P 23 00 47.2 -0.2**
comp=Z,4μmcomp=Z,206nm,1.1s,mb5.8
GEC2 GERESS Array S 44.30 310 *e*P **P 23 00 47.5 0.0**
comp=Z,51nm,1.4s,mb5.1
GEC2 GERESS Array S 44.30 310 *e*P **P 23 00 47.5 0.0**
GEC2 pmax pmax
comp=Z,51nm,1.4s,mb5.1
GERES GERESS Array B 44.30 310 P **P 23 00 47.5 0.0**
comp=Z,11nm,0.7s,mb4.7,baz=93,slow=7.0,SNR=47
GERES LR LR 23 21 29.1
comp=Z,3μm,19.5s,MS5.2,baz=85,slow=39
GERES GERESS Array B 44.30 310 P **P 23 00 47.5 0.0**
GERES GERESS Array B 44.30 310 P **P 23 00 47.5 0.0**
BRG Berggiesshubel 44.34 313 *i* P **P 23 00 48.3 +0.6**
comp=Z,77nm,1.4s,mb5.3
BRG *i* 23 01 09.7
comp=Z,201nm,1.6s
BRG S **S 23 07 21.0 -0.8**
BRG SS SS 23 10 44.0 +4.0
BRG
comp=N,5μm,13.2s
BRG
comp=E,4μm,12.2s
BRG
comp=Z,8μm,14.3s
BRG Berggiesshubel 44.34 313 *e*P **P 23 00 48.4 +0.7**
comp=Z,215nm,2.0s,mb5.5
BRG Berggiesshubel 44.34 313 *i* P **P 23 00 48.3 +0.6**
BRG S **S 23 07 21.0 -0.8**
BRG SS SS 23 10 44.0 +4.0
BRG pmax pmax
comp=Z,77nm,1.4s,mb5.2
BRG MLR MLR
comp=N,5μm,13.2s,MS5.7
BRG MLR MLR
comp=E,4μm,12.2s,MS5.7
KHC Kasperske Hory 44.41 311 *e*P **P 23 00 47.6 -0.7**
comp=E,54nm,1.5s,mb5.0
KHC Kasperske Hory 44.41 311 *e*P **P 23 00 48.0 -0.3**
KHC *e* 23 00 58.5
KHC *e*S **S 23 07 16.5 -6.3**
KHC MLR MLR
comp=Z,7μm,12.2s,MS5.8
KHC Kasperske Hory 44.41 311 *e*P **P 23 00 48.0 -0.3**
KHC *e*x x 23 00 58.5
KHC *e*x x 23 01 05.0
KHC *e*S **S 23 07 16.5 -6.3**
KHC AMS AMS 23 24 30.0
comp=Z,7μm,12.2s
AQU L'Aquila 44.43 301 *e*P **P 23 00 48.9 +0.4**
comp=Z,116nm,1.3s,mb5.5
AQU L'Aquila 44.43 301 *e*P **P 23 00 48.9 +0.4**
AQU pmax pmax
comp=Z,116nm,1.3s,mb5.5
BSD Bornholm Skovb 44.43 319 *i* P **P 23 00 47.1 -1.2**
BSD pmax pmax
comp=Z,34nm,1.0s,mb5.0
BSD MLR MLR
comp=Z,5μm,17.0s,MS5.5
BSD Bornholm Skovb 44.43 319 *i* P **P 23 00 47.1 -1.2**
comp=Z,34nm,1.0s,mb5.0
BSD
comp=Z,5μm,17.0s
KBA Koelnbreinsper 44.45 308 *i* P **P 23 00 48.9 +0.3**
comp=Z,113nm,1.1s,mb5.5,SNR=49
RUE Ruedersdorf 44.64 315 *e*P **P 23 00 50.2 +0.1**
comp=Z,27nm,0.3s,mb5.5
RUE *e*PcP PcP 23 02 32.5 -0.2
MYKOM Kota Tinggi 44.72 122 P **P 23 00 53.0 +1.8**
MYKOM Kota Tinggi 44.72 122 P **P 23 00 52.4 +1.2**
comp=Z,2μmcomp=Z,198nm,1.1s,mb5.9
DL2 Dalian 44.83 64 P **P 23 00 54.0 +2.2**
DL2 S **S 23 07 33.5 +4.2**
DL2 pmax pmax
comp=Z,30nm,1.1s,mb5.0
DL2 pmax pmax
comp=Z,600nm,3.4s
DL2 LR LR
comp=N,7μm,22.1s
DL2 LR LR
comp=Z,4μm,15.5s
RJOB Jochberg 44.84 309 *e*P **P 23 00 51.7 -0.1**
comp=Z,88nm,1.7s,mb5.3
CLL Collm 44.98 314 *e*P **P 23 00 52.9 +0.1**
comp=Z,35nm,1.4s,mb5.0
CLL Collm 44.98 314 *e*P **P 23 00 53.0 +0.2**
CLL *i* pP 23 00 56.1 +0.2
CLL *e*S **S 23 07 33.0 +2.0**
CLL Collm 44.98 314 *e*P **P 23 00 53.0 +0.2**
CLL *i* pP pP 23 00 56.1 +0.2
comp=Z,33nm,1.1s
CLL *i* 23 00 59.1
CLL *i* 23 01 14.1
CLL *e*PP PP 23 02 41.0 +3.3
CLL *i* (PPP) 23 03 06.3
CLL *e*S **S 23 07 33.0 +2.0**
CLL *e* 23 08 18.0
CLL *e*SS SS 23 10 57.0 +4.6
CLL *e*SSSS 23 12 06.0
CLL LH 23 22 00.0
comp=N,9μm,19.0s
CLL LH 23 22 00.0
comp=E,4μm,19.5s
CLL Lmax 23 27 00.0
RGRI Rengat 45.13 126 P **P 23 00 56.8 +2.4**
comp=E,113nm,1.2s,mb5.6
RGRI Rengat 45.13 126 P **P 23 00 55.2 +0.8**
comp=E,113nm,1.2s,mb5.6
NKC Novy Kostel 45.23 312 *e*P **P 23 00 55.4 +0.6**
NKC MLR MLR
comp=Z,5μm,11.8s,MS5.7
NKC Novy Kostel 45.23 312 *e*P **P 23 00 55.4 +0.6**
NKC AMS AMS 23 25 00.0
comp=Z,5μm,11.8s
TANN Tannenbergstha 45.23 312 *e*P **P 23 00 55.4 +0.6**
comp=Z,64nm,1.4s,mb5.3
QZH Quanzhou 45.34 84 *e*P **P 23 01 03.9 +7.9**
QZH S **S 23 07 39.2 +2.3**
QZH SS SS 23 11 03.1 +2.9
QZH LR LR
comp=N,12μm,14.3s,MS6.1
QZH LR LR
comp=E,7μm,11.6s,MS6.1
QZH LR LR
comp=Z,17μm,16.0s,MS6.1
ROTZ Rotzenmuhle 45.34 312 *e*P **P 23 00 56.2 +0.5**
comp=Z,80nm,1.7s,mb5.3
KEV Kevo 45.50 342 *e*P **P 23 00 56.7 0.0**
comp=Z,80nm,1.4s,mb5.5
KEV *e*PcP PcP 23 02 35.5 +0.1
KEV Kevo 45.50 342 *e*P **P 23 00 56.7 0.0**
KEV *e* 23 02 35.5
KEV pmax pmax
comp=Z,80nm,1.4s,mb5.5
KEV Kevo 45.50 342 *ep* **P 23 00 55.6 -1.1**
comp=Z,13nm,0.8s,mb4.9
WTTA Wattenberg 45.62 308 *i* P **P 23 00 57.3 -0.6**
comp=Z,147nm,1.5s,mb5.7,SNR=22
WATA Walderalm 45.66 308 *i* P **P 23 00 57.4 -0.8**
comp=Z,39nm,1.0s,mb5.3,SNR=16
ARCES ARCESS Array B 45.79 341 P **P 23 00 58.5 -0.4**
comp=Z,39nm,1.0s,mb5.3,baz=131,slow=5.6,SNR=38

ARCES LR LR 23 22 12.1
comp=Z,6µm,19.9s,MS5.5,baz=126,slow=39
ARCES ARCESS Array B 45.79 341 P **P** **23 00 58.5 -0.4**
ARCES ARCESS Array B 45.79 341 P **P** **23 00 58.5 -0.4**
ARE0 ARCESS Array S 45.79 341 *e*P **P** **23 00 59.0 0.0**
ARE0 ARCESS Array S 45.79 341 *e*P **P** **23 00 59.0 +0.1**
ARE0 *e*PcP PcP 23 02 37.1 +0.7
MOX Moxa 45.79 313 *e*P **P** **23 01 00.1 +0.9**
comp=Z,141nm,1.5s,mb5.7
MOX Moxa 45.79 313 *e*P **P** **23 01 00.1 +0.9**
MOX pmax pmax
comp=Z,141nm,1.5s,mb5.7
SSE Sheshan 45.83 75 ⇓P **P** **23 01 00.5 +0.7**
SSE pP pP 23 01 03.7 +0.7
SSE sP sP 23 01 05.0 +0.8
SSE PP PP 23 02 45.4 -1.7
SSE S **S** **23 07 43.5 -0.3**
SSE sS sS 23 07 49.3 +0.3
SSE pmax pmax
comp=Z,74nm,1.0s,mb5.6
SSE pmax pmax
comp=Z,380nm,8.0s
SSE LR LR
comp=N,3µm,17.4s,MS5.9
SSE LR LR
comp=E,12µm,17.4s,MS5.9
SSE LR LR
comp=Z,16µm,19.4s,MS6.0
SSE Sheshan 45.83 75 ⇓P **P** **23 01 00.5 +0.7**
comp=Z,74nm,1.0s,mb5.6
SSE pP pP 23 01 03.7 +0.7
SSE sP sP 23 01 05.0 +0.8
SSE PP PP 23 02 45.4 -1.7
SSE S **S** **23 07 43.5 -0.3**
SSE sS sS 23 07 49.3 +0.3
SSE LR LR
comp=Z,16µm,19.4s,MS6.0
FUR Furstenfeldbru 45.88 309 *e*P **P** **23 00 59.8 -0.2**
comp=Z,70nm,1.3s,mb5.4
FUR Furstenfeldbru 45.88 309 *e*P **P** **23 00 59.8 -0.2**
FUR pmax pmax
comp=Z,70nm,1.3s,mb5.4
GRF Grafenberg Arr 45.98 311 *e*P **P** **23 01 01.6 +0.8**
comp=Z,137nm,1.5s,mb5.7
GRF *e*L 23 23 14.8
comp=Z,4µm,20.8s
GRF Grafenberg Arr 45.98 311 *e*P **P** **23 01 01.6 +0.8**
GRF pmax pmax
comp=Z,137nm,1.5s,mb5.7
GRF MLR MLR
comp=Z,4µm,20.8s,MS5.3
GRFO Grafenberg 45.98 311 *e*P **P** **23 01 01.0 +0.3**
GRFO *e*PcP PcP 23 02 37.1 -0.2
GRFO Grafenberg 45.98 311 *e*P **P** **23 01 01.0 +0.2**
GRFO *e* 23 02 37.1
MOTA Moosalm 45.98 308 *i* P **P** **23 00 59.8 -1.0**
comp=Z,32nm,0.8s,mb5.3,SNR=26
KTK1 Kautokeino 46.15 340 *e*P **P** **23 01 01.6 -0.2**
KTK1 *e*SS SS 23 11 12.0 -0.3
KTK1 AMS AMS 23 23 35.1
comp=Z,14µm,12.1s,MS6.1
RETA Reutte 46.21 308⇑*i*P **P** **23 01 01.9 -0.8**
comp=Z,56nm,1.2s,mb5.3,SNR=15
FETA Feichten 46.23 308 *i* P **P** **23 01 02.1 -0.7**
comp=Z,114nm,1.1s,mb5.7,SNR=49
HFS Hagfors 46.24 326 P **P** **23 01 01.8 -0.9**
comp=Z,43nm,1.0s,mb5.3,baz=106,slow=4.8,SNR=30
HFS LR LR 23 22 06.8
comp=Z,7µm,19.9s,MS5.6,baz=99,slow=38
HFS Hagfors 46.24 326 P **P** **23 01 01.8 -0.9**
HFS Hagfors 46.24 326 P **P** **23 01 01.8 -0.9**
CLZ Clausthal 46.66 314 *e*P **P** **23 01 06.5 +0.4**
comp=Z,74nm,1.2s,mb5.5
CLZ Clausthal 46.66 314 *e*P **P** **23 01 06.5 +0.4**
CLZ pmax pmax
comp=Z,74nm,1.2s,mb5.5
DAVA Damuels 46.81 308 *i* P **P** **23 01 06.7 -0.6**
comp=Z,158nm,1.5s,mb5.7,SNR=31
DAVOX Davos/Dischmat 46.82 307 P **P** **23 01 07.4 0.0**
comp=Z,15nm,0.6s,mb5.1,baz=118,slow=6.1,SNR=21
DAVOX LR LR 23 24 38.0
comp=Z,4µm,18.7s,MS5.4,baz=83,slow=41
DAVOX Davos/Dischmat 46.82 307 P **P** **23 01 07.4 0.0**
DAVOX Davos/Dischmat 46.82 307 P **P** **23 01 07.4 0.0**
NRDL Niedersach Rie 46.87 315 *e*P **P** **23 01 08.2 +0.5**
comp=Z,45nm,1.1s,mb5.3
TUE Stuetta 47.19 307 *e*P **P** **23 01 09.6 -0.7**
comp=Z,149nm,1.4s,mb5.7
TUE LR LR
comp=Z,4µm,21.0s,MS5.3
CN2 Changchun 47.27 57 *e*P **P** **23 01 09.4 -1.6**
CN2 *e*sP sP 23 01 16.5 +1.1
CN2 *e*S **S** **23 08 01.2 -3.0**
CN2 SS SS 23 11 21.4 -10
CN2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,5µm,16.0s,MS5.8
CN2 LR LR
comp=E,8µm,16.0s,MS5.8
CN2 LR LR
comp=Z,7µm,18.0s,MS5.7
STU Stuttgart 47.28 310 *e*P **P** **23 01 10.8 -0.1**
comp=Z,121nm,1.3s,mb5.7
STU Stuttgart 47.28 310 *e*P **P** **23 01 10.7 -0.2**
comp=Z,158nm,1.4s,mb5.8
STU *e*PcP PcP 23 02 38.6 -3.4
STU Stuttgart 47.28 310 *e*P **P** **23 01 10.7 -0.2**
STU *e* 23 02 38.6
STU pmax pmax
comp=Z,158nm,1.4s,mb5.8
NC602 NORSAR Array S 47.43 326 *e*P **P** **23 01 11.6 -0.4**
TPUB Ta-pu 47.64 85 *e*P **P** **23 01 16.4 +2.2**
comp=Z,75nm,1.1s,mb5.6
NB2 NORSAR Subarra 47.65 327 P **P** **23 01 12.4 -1.3**
comp=Z,51nm,1.0s,mb5.5,baz=106,slow=7.9
NOA NORSAR Array B 47.65 327 P **P** **23 01 12.8 -0.9**
comp=Z,27nm,1.0s,mb5.2,baz=105,slow=7.7,SNR=39
NOA LR LR 23 24 35.4
comp=Z,7µm,19.1s,MS5.6,baz=110,slow=40
NOA NORSAR Array B 47.65 327 P **P** **23 01 12.8 -0.9**
NOA NORSAR Array B 47.65 327 P **P** **23 01 12.8 -0.9**
PGF Pioggiola 47.66 302 *e*P **P** **23 01 13.2 -0.9**
comp=Z,351nm,1.8s,mb5.8
PGF Pioggiola 47.66 302 *e*P **P** **23 01 13.2 -0.9**
comp=Z,351nm,1.8s,mb6.1
PGF Pioggiola 47.66 302 *e*P **P** **23 01 13.2 -0.9**
PGF pmax pmax
comp=Z,351nm,1.8s,mb6.1
KSI Kapahiang 47.70 129 P **P** **23 01 15.9 +1.3**
comp=Z,186nm,0.8s,mb6.1
VSL Villasalto 47.72 297 *e*P **P** **23 01 14.3 -0.2**
comp=Z,32nm,0.8s,mb5.4
SSLB Suanglung 47.75 84 *e*P **P** **23 01 16.0 +1.0**
comp=Z,142nm,1.1s,mb5.9
NAO01 NORSAR Array S 47.76 327 *e*P **P** **23 01 14.6 +0.1**
NAO01 *e*PcP PcP 23 02 43.6 +0.2
TRO Tromso 47.78 339 *e*P **P** **23 01 15.8 +1.3**
TRO AMS AMS 23 23 45.7
comp=Z,6µm,11.4s,MS5.8
TATO Taipei 47.81 83 P **P** **23 01 16.1 +0.7**
comp=Z,58nm,0.9s,mb5.6
YHNB Yeheng 47.81 83 *e*P **P** **23 01 18.9 +3.4**
comp=Z,69nm,1.1s,mb5.6
MOR8 Moi Rana 47.83 334 *e*P **P** **23 01 14.3 -0.7**
MUD Monsted U'grnd 47.85 320 *e*P **P** **23 01 15.3 0.0**
MUD pmax pmax
comp=Z,17nm,1.0s,mb5.0
MUD MLR MLR
comp=Z,6µm,17.0s,MS5.6
MUD Monsted U'grnd 47.85 320 *i* P **P** **23 01 15.3 0.0**
comp=Z,17nm,1.0s,mb5.0
MUD
comp=Z,6µm,17.0s
BFO Black Forest 47.85 309 *e*P **P** **23 01 14.6 -0.8**
comp=Z,48nm,1.3s,mb5.4
BFO *e*PcP PcP 23 02 43.7 -0.3
BFO Black Forest 47.85 309 *e*P **P** **23 01 14.6 -0.8**
BFO *e* 23 02 43.7
BFO pmax pmax
comp=Z,48nm,1.3s,mb5.4
KONO Kongsberg 48.14 325 AMS AMS 23 25 08.6
comp=Z,7µm,19.8s,MS5.7
KONO Kongsberg 48.14 325 PFAKE 23 01 30.0 +13
KONO LR LR
comp=Z,8µm,19.0s,MS5.7
NACB Ninganchiao 48.17 84 *e*P **P** **23 01 20.8 +2.5**
comp=Z,125nm,1.2s,mb5.8
YULB Yu-li 48.18 85 *e*P **P** **23 01 19.3 +1.0**
comp=Z,77nm,1.1s,mb5.7
STEI Steigen 48.22 336 *e*P **P** **23 01 18.6 +0.6**
NSS Namsos 48.26 331 *e*P **P** **23 01 18.1 -0.3**
NSS AMS AMS 23 24 25.2
comp=Z,11µm,20.9s,MS5.8
FLOS Flostrand 48.30 334 *e*P **P** **23 01 20.2 +1.6**
IBBN Ibbenburen 48.30 315 *e*P **P** **23 01 19.0 +0.2**
comp=Z,102nm,1.2s,mb5.7
KEST Kesra 48.36 292 P **P** **23 01 20.0 +0.4**
comp=Z,11nm,0.6s,mb5.0,baz=120,slow=4.1,SNR=47
KEST LR LR 23 27 11.3
comp=Z,588nm,18.0s,MS4.6,baz=175,slow=43
KEST Kesra 48.36 292 P **P** **23 01 20.0 +0.4**
STOK Stokkvaagen 48.43 334 *e*P **P** **23 01 20.4 +0.8**
CDF Champ du Feu 48.55 310⇑*i*P **P** **23 01 20.0 -0.8**
comp=Z,99nm,1.5s,mb5.3
CDF Champ du Feu 48.55 310⇑*i*P **P** **23 01 20.0 -0.8**
comp=Z,99nm,1.5s,mb5.6
CDF Champ du Feu 48.55 310⇑*i*P **P** **23 01 20.0 -0.8**
CDF pmax pmax
comp=Z,99nm,1.5s,mb5.6
BUG Bochum--Univer 48.57 314 *e*P **P** **23 01 21.0 +0.1**
comp=Z,60nm,1.2s,mb5.5
ECH Echery 48.64 309 *e*P **P** **23 01 21.0 -0.5**
comp=Z,92nm,1.4s,mb5.6
ECH Echery 48.64 309 *e*P **P** **23 01 21.0 -0.5**
ECH pmax pmax
comp=Z,92nm,1.4s,mb5.6
ECH Echery 48.64 309 *e*P **P** **23 01 20.5 -1.0**
MOF Molkenrain 48.66 309 *e*P **P** **23 01 20.5 -1.2**
AUTN L'Aution 48.68 304 *e*P **P** **23 01 21.8 -0.1**
SBF Sospel 48.69 303⇑*i*P **P** **23 01 21.3 -0.6**
comp=Z,297nm,0.9s,mb6.0
SBF Sospel 48.69 303⇑*i*P **P** **23 01 21.3 -0.6**
comp=Z,297nm,0.9s,mb6.3
SBF Sospel 48.69 303⇑*i*P **P** **23 01 21.3 -0.6**
SBF pmax pmax
comp=Z,297nm,0.9s,mb6.3
REVF Revere 48.75 303 *e*P **P** **23 01 21.7 -0.7**
LUCF Luceram 48.75 304 *e*P **P** **23 01 22.1 -0.3**
TOUF Mont Tournerai 48.81 304 *e*P **P** **23 01 23.0 +0.1**
HINF Hinteralfeld 48.85 309⇑*i*P **P** **23 01 22.1 -1.0**
comp=Z,38nm,1.0s,mb5.1
HINF Hinteralfeld 48.85 309⇑*i*P **P** **23 01 22.1 -1.0**
comp=Z,38nm,1.0s,mb5.4
HINF Hinteralfeld 48.85 309⇑*i*P **P** **23 01 22.1 -1.0**
HINF pmax pmax
comp=Z,38nm,1.0s,mb5.4
MVIF Mont Vial 48.89 304 *e*P **P** **23 01 24.1 +0.6**
LOMF Lomont 48.89 308 *e*P **P** **23 01 22.5 -0.9**
INCN Inchon 48.94 65 *e*P **P** **23 01 24.3 +0.4**
comp=Z,142nm,1.3s,mb5.8
OG01 Vacheresse 49.04 307 *e*P **P** **23 01 24.3 -0.3**
LPG La Plagne 49.04 306⇑*i*P **P** **23 01 24.3 -0.4**
comp=Z,163nm,0.9s,mb5.8
LPG La Plagne 49.04 306⇑*i*P **P** **23 01 24.3 -0.4**
comp=Z,163nm,0.9s,mb6.1
LPG La Plagne 49.04 306⇑*i*P **P** **23 01 24.3 -0.4**
LPG pmax pmax
comp=Z,163nm,0.9s,mb6.1
LPL La Plagne 49.05 306⇑*i*P **P** **23 01 24.3 -0.4**
comp=Z,156nm,1.0s,mb5.7
LPL La Plagne 49.05 306⇑*i*P **P** **23 01 24.3 -0.4**
comp=Z,156nm,1.0s,mb6.0
LPL La Plagne 49.05 306⇑*i*P **P** **23 01 24.3 -0.4**
LPL pmax pmax
comp=Z,156nm,1.0s,mb6.0
SURF Saint Ours 49.08 304 *e*P **P** **23 01 25.4 +0.5**
MBDF Montbardon 49.09 305⇑*i*P **P** **23 01 24.0 -1.0**
comp=Z,178nm,1.0s,mb5.8
MBDF Montbardon 49.09 305⇑*i*P **P** **23 01 24.0 -1.0**
comp=Z,178nm,1.0s,mb6.0
MBDF Montbardon 49.09 305⇑*i*P **P** **23 01 24.0 -1.0**
MBDF pmax pmax
comp=Z,178nm,1.0s,mb6.0
PPBI Pangkal Pinang 49.09 124 P **P** **23 01 26.6 +1.2**
PPBI Pangkal Pinang 49.09 124 P **P** **23 01 26.5 +1.1**
comp=Z,2µmcomp=Z,74nm,1.2s,mb5.6
RSL Roselend 49.12 306 *e*P **P** **23 01 24.6 -0.6**
BNI Bardonecchia 49.13 305 *e*P **P** **23 01 24.9 -0.4**
comp=Z,103nm,1.2s,mb5.7
BNI Bardonecchia 49.13 305 *e*P **P** **23 01 24.9 -0.4**
BNI pmax pmax
comp=Z,103nm,1.2s,mb5.7
HAU Haudompre 49.19 309⇑*i*P **P** **23 01 25.2 -0.5**
comp=Z,196nm,1.3s,mb5.7
HAU *e*R
comp=Z,3µm,18.2s
HAU Haudompre 49.19 309⇑*i*P **P** **23 01 25.2 -0.5**
comp=Z,196nm,1.3s,mb6.0
HAU Haudompre 49.19 309⇑*i*P **P** **23 01 25.2 -0.5**
HAU pmax pmax
comp=Z,196nm,1.3s,mb6.0
WLF Walferdange 49.27 311 P sP 23 01 37.5 +6.8
comp=Z,74nm,2.0s
WLF Walferdange 49.27 311 *e*P **P** **23 01 27.2 +0.9**
comp=Z,76nm,1.3s,mb5.6
WLF Walferdange 49.27 311 *e*P **P** **23 01 27.0 +0.7**
comp=Z,67nm,1.2s,mb5.5
WLF PcP PcP 23 02 49.4 +0.3
WLF Walferdange 49.27 311 *e*P **P** **23 01 27.0 +0.7**
WLF 23 02 49.4
WLF pmax pmax
comp=Z,67nm,1.2s,mb5.5
FRF La Foret Royal 49.28 303 *e*P **P** **23 01 25.4 -1.1**
comp=Z,305nm,1.5s,mb5.8
FRF La Foret Royal 49.28 303 *e*P **P** **23 01 25.4 -1.1**
comp=Z,305nm,1.5s,mb6.1
FRF La Foret Royal 49.28 303 *e*P **P** **23 01 25.4 -1.1**
FRF pmax pmax
comp=Z,305nm,1.5s,mb6.1
MEM Membach 49.36 312 P **P** **23 01 27.6 +0.6**
comp=Z,21nm,1.3s,mb5.0
MDSI Maura Dua 49.38 128 P **P** **23 01 24.7 -2.8**
LMR La Mourre 49.41 303 *e*P **P** **23 01 26.3 -1.2**
LMR La Mourre 49.41 303 *e*P **P** **23 01 26.3 -1.2**
LMR La Mourre 49.41 303 *e*P **P** **23 01 26.3 -1.2**
THEF They Montfort 49.42 309 *e*P **P** **23 01 26.1 -1.4**
CABF La Chapelle 49.43 307⇑*i*P **P** **23 01 27.8 +0.2**
comp=Z,663nm,1.5s,mb6.2
CABF La Chapelle 49.43 307⇑*i*P **P** **23 01 27.8 +0.2**
comp=Z,663nm,1.5s,mb6.5
CABF La Chapelle 49.43 307⇑*i*P **P** **23 01 27.8 +0.2**
CABF pmax pmax
comp=Z,663nm,1.5s,mb6.5
PAGF Fort de Pagny 49.58 310⇑*i*P **P** **23 01 28.7 0.0**
comp=Z,104nm,1.6s,mb5.3
LWLI Liwa 49.68 129 P **P** **23 01 29.5 -0.4**
comp=Z,227nm,0.8s,mb6.2
CMAH Djebel Manchou 49.72 294 P **P** **23 01 31.2 +1.2**
KSM Kuching 49.78 117 P **P** **23 01 33.0 +2.3**
KSM Kuching 49.78 117 PFAKE 23 01 40.0 +9.4
KSM LR LR
comp=Z,3µm,20.0s,MS5.3
KSM Kuching 49.78 117 P **P** **23 01 32.2 +1.6**
comp=Z,71nm,1.1s,mb5.6
BCLA Clavier 49.81 312 P **P** **23 01 31.4 +1.0**
comp=Z,24nm,2.1s,mb4.9
KSAR Wonju Array Be 49.92 65 P **P** **23 01 30.9 -0.7**
KSAR Wonju Array Be 49.92 65 P **P** **23 01 30.9 -0.6**
KSRS Korea Array 49.95 65 P **P** **23 01 30.9 -0.9**
comp=Z,18nm,0.8s,mb5.1,baz=271,slow=6.9,SNR=46
KSRS LR LR 23 26 44.8
comp=Z,3µm,20.6s,MS5.3,baz=282,slow=41
KSRS Korea Array 49.95 65 P **P** **23 01 30.9 -0.8**
KSRS pmax pmax
comp=Z,18nm,0.8s,mb5.2
KSRS MLR MLR
comp=Z,3µm,20.6s,MS5.3
SMRF Simiane la Rot 50.01 304 *e*P **P** **23 01 31.8 -0.3**
SMRF Simiane la Rot 50.01 304 *e*P **P** **23 01 31.8 -0.3**
MEZF Maizieres J'vi 50.03 310⇑*i*P **P** **23 01 32.1 0.0**
comp=Z,271nm,1.5s,mb5.8
MEZF Maizieres J'vi 50.03 310⇑*i*P **P** **23 01 32.1 0.0**
comp=Z,271nm,1.5s,mb6.1
SFTF Sexfontaines 50.05 309⇑*i*P **P** **23 01 32.1 -0.2**
comp=Z,355nm,1.3s,mb5.9
SFTF Sexfontaines 50.05 309⇑*i*P **P** **23 01 32.1 -0.2**
comp=Z,355nm,1.3s,mb6.2
GIVF Givet 50.12 312⇑*i*P **P** **23 01 33.2 +0.4**
comp=Z,224nm,1.2s,mb5.8
GIVF Givet 50.12 312⇑*i*P **P** **23 01 33.2 +0.4**
comp=Z,224nm,1.2s,mb6.1
GIVF Givet 50.12 312⇑*i*P **P** **23 01 33.2 +0.4**
GIVF pmax pmax
comp=Z,224nm,1.2s,mb6.1
CAEH 'Ain El Ouahch 50.14 294 P **P** **23 01 32.2 -1.0**
MDJ Mudanjiang 50.17 55 P **P** **23 01 32.8 -0.5**
MDJ pP pP 23 01 35.9 -0.6
MDJ sP sP 23 01 37.2 -0.5
MDJ PP PP 23 03 29.6 +1.2
MDJ S **S** **23 08 39.4 -5.7**
MDJ ScS ScS 23 11 19.5 -5.2
MDJ pmax pmax
comp=Z,39nm,1.7s,mb5.2
MDJ pmax pmax
comp=Z,220nm,4.6s
MDJ LR LR
comp=N,3µm,15.5s,MS5.8
MDJ LR LR
comp=E,7µm,17.9s,MS5.8
MDJ LR LR
comp=Z,8µm,17.4s,MS5.8
DOU Dourbes 50.27 312 P **P** **23 01 34.6 +0.7**
comp=Z,37nm,1.6s,mb5.2
CKFL Kef-Lekhel 50.32 294 P **P** **23 01 33.0 -1.5**
SNF Seneffe 50.46 312 P **P** **23 01 35.8 +0.5**
BAIF Baives 50.52 312⇑*i*P **P** **23 01 36.2 +0.4**
comp=Z,109nm,0.9s,mb5.5
BAIF Baives 50.52 312⇑*i*P **P** **23 01 36.2 +0.4**
comp=Z,109nm,0.9s,mb5.8
BAIF Baives 50.52 312⇑*i*P **P** **23 01 36.2 +0.4**
BAIF pmax pmax
comp=Z,109nm,0.9s,mb5.8
CASM Ain Smara 50.53 294 P **P** **23 01 35.5 -0.6**
VIVF Saint-Julien-l 50.56 305⇑*i*P **P** **23 01 35.7 -0.5**
comp=Z,286nm,1.2s,mb5.8
VIVF Saint-Julien-l 50.56 305⇑*i*P **P** **23 01 35.7 -0.5**
comp=Z,286nm,1.2s,mb6.1
VIVF Saint-Julien-l 50.56 305⇑*i*P **P** **23 01 35.7 -0.5**
VIVF pmax pmax
comp=Z,286nm,1.2s,mb6.1
TPI Tanjungpandan 50.59 123 P **P** **23 01 38.4 +1.6**
TPI Tanjungpandan 50.59 123 P **P** **23 01 37.1 +0.3**
comp=Z,2µmcomp=Z,123nm,1.2s,mb5.7
SSB Saint Sauveur 50.61 306 *e*P **P** **23 01 36.5 -0.1**
comp=Z,115nm,1.3s,mb5.7
SSB *e*PcP PcP 23 02 54.1 0.0
SSB Saint Sauveur 50.61 306 *e*P **P** **23 01 36.5 -0.1**
SSB *e* 23 02 54.2
SSB pmax pmax
comp=Z,115nm,1.3s,mb5.7
CTEI Djebel Teioual 50.64 294 P **P** **23 01 36.3 -0.6**
SBUM Sibu 50.66 114 P **P** **23 01 38.9 +1.6**
SBUM Sibu 50.66 114 P **P** **23 01 39.1 +1.8**
comp=Z,60nm,1.1s,mb5.4
YAK Yakutsk 50.69 33 *e*P **P** **23 01 36.2 -0.7**
comp=Z,210nm,0.8s,mb6.1
YAK Yakutsk 50.69 33*d*iP **P** **23 01 36.1 -0.8**
YAK *e**PP pP 23 01 44.9 +4.8
YAK *e* 23 02 51.7
YAK *e* 23 03 32.5
YAK *e*S **S** **23 08 50.9 -0.8**
YAK *e**SS sS 23 09 04.8 +7.9
YAK *e* 23 11 26.0
YAK *e*SS SS 23 12 24.5 -1.2
YAK pmax pmax
comp=Z,196nm,1.0s,mb6.0
YAK pmax pmax
comp=E,74nm,1.1s
YAK pmax pmax
comp=N,34nm,1.2s
YAK pmax pmax
comp=E,238nm,3.5s
YAK pmax pmax
comp=Z,151nm,2.2s,mb5.5
YAK pmax pmax
comp=N,75nm,1.7s
YAK smax
comp=E,241nm,2.0s
YAK smax
comp=N,203nm,1.9s
YAK MLR MLR
comp=N,11µm,19.0s,MS6.0
YAK MLR MLR
comp=Z,16µm,20.0s,MS6.0
YAK MLR MLR
comp=E,11µm,22.0s,MS6.0
LOR Lormes 50.91 308⇑*i*P **P** **23 01 38.1 -0.7**
comp=E,125nm,1.2s,mb5.4
LOR *e*R
comp=E,4µm,17.8s
LOR Lormes 50.91 308⇑*i*P **P** **23 01 38.1 -0.7**
comp=E,125nm,1.2s,mb5.7
LOR Lormes 50.91 308⇑*i*P **P** **23 01 38.1 -0.7**
LOR pmax pmax
comp=Z,125nm,1.2s,mb5.7
COCO West Island 50.92 142 PFAKE 23 01 50.0 +11
COCO LR LR
comp=Z,7µm,22.0s,MS5.6
SMF Signal de Mont 50.97 307⇑*i*P **P** **23 01 38.9 -0.4**
comp=Z,236nm,1.0s,mb5.8
SMF Signal de Mont 50.97 307⇑*i*P **P** **23 01 38.9 -0.4**
comp=Z,236nm,1.0s,mb6.1
SMF Signal de Mont 50.97 307⇑*i*P **P** **23 01 38.9 -0.4**
SMF pmax pmax
comp=Z,236nm,1.0s,mb6.1
SSF Saint Saulge 51.16 308⇑*i*P **P** **23 01 40.3 -0.4**
comp=Z,258nm,1.3s,mb5.7
SSF Saint Saulge 51.16 308⇑*i*P **P** **23 01 40.3 -0.4**
comp=Z,258nm,1.3s,mb6.0
SSF Saint Saulge 51.16 308⇑*i*P **P** **23 01 40.3 -0.4**
SSF pmax pmax
comp=Z,258nm,1.3s,mb6.0
PLDF La Plantade 51.19 307 *e*P **P** **23 01 40.1 -0.8**
LASF Ste Croix 51.23 304⇑*i*P **P** **23 01 40.8 -0.5**
comp=Z,267nm,1.3s,mb5.7
LASF Ste Croix 51.23 304⇑*i*P **P** **23 01 40.8 -0.5**
comp=Z,267nm,1.3s,mb6.0
KLR Kul'dur 51.28 49 *e*P **P** **23 01 36.0 -5.5**
KLR *e*S **S** **23 08 58.0 -2.3**
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s,mb5.8
KLR MLR MLR
comp=Z,31µm,13.0s,MS6.5
AVF Avril sur Loir 51.29 308⇑*i*P **P** **23 01 41.2 -0.5**
comp=Z,206nm,1.4s,mb5.6
AVF Avril sur Loir 51.29 308⇑*i*P **P** **23 01 41.2 -0.5**
comp=Z,206nm,1.4s,mb5.9
AVF Avril sur Loir 51.29 308⇑*i*P **P** **23 01 41.2 -0.5**
AVF pmax pmax
comp=Z,207nm,1.4s,mb5.9
SET Setif 51.40 294 P **P** **23 01 44.0 +1.3**
AGO Saint Agoulin 51.52 307 *e*P **P** **23 01 41.1 -2.3**
LBL Lubilhac 51.53 306 *e*P **P** **23 01 41.6 -1.9**
STKI Sintang 51.57 117 P **P** **23 01 45.1 +0.9**
comp=Z,181nm,1.1s,mb5.9
BGF Bois d'Agland 51.66 307⇑*i*P **P** **23 01 44.0 -0.5**
comp=Z,88nm,1.1s,mb5.3
BGF Bois d'Agland 51.66 307⇑*i*P **P** **23 01 44.0 -0.5**
comp=Z,88nm,1.1s,mb5.6
BGF Bois d'Agland 51.66 307⇑*i*P **P** **23 01 44.0 -0.5**
BGF pmax pmax
comp=Z,89nm,1.1s,mb5.6
HYF Humbligny 51.74 308⇑*i*P **P** **23 01 45.0 0.0**
HYF Humbligny 51.74 308⇑*i*P **P** **23 01 45.0 0.0**
KKM Kota Kinabalu 51.77 108 P **P** **23 01 47.3 +1.6**
KKM Kota Kinabalu 51.77 108 *e*P **P** **23 01 45.9 +0.2**
comp=Z,129nm,1.3s,mb5.7
KKM Kota Kinabalu 51.77 108 P **P** **23 01 46.0 +0.3**
comp=Z,1µmcomp=Z,102nm,1.3s,mb5.6
KDM Kudat 51.80 106 P **P** **23 01 47.4 +1.4**
CGJI Cibinong 51.95 129 P **P** **23 01 45.0 -2.0**
comp=Z,1µmcomp=Z,176nm,1.0s,mb5.9
VLA Vladivostok 52.01 57 *e*P **P** **23 01 45.4 -1.7**
VLA pmax pmax
comp=Z,149nm,1.6s,mb5.7
TCF Toulx Ste Croi 52.13 307⇑*i*P **P** **23 01 47.8 -0.2**
comp=Z,442nm,1.8s,mb5.8
TCF Toulx Ste Croi 52.13 307⇑*i*P **P** **23 01 47.8 -0.2**
comp=Z,442nm,1.8s,mb6.1
TCF Toulx Ste Croi 52.13 307⇑*i*P **P** **23 01 47.8 -0.2**
TCF pmax pmax
comp=Z,442nm,1.8s,mb6.1
CAF Calviac 52.40 305⇑*i*P **P** **23 01 49.9 -0.1**

comp=Z,234nm,1.1s,mb5.7
CAF Calviac 52.40 305⇑ *iP* **P 23 01 49.9 -0.1**
comp=Z,234nm,1.1s,mb6.0
CAF Calviac 52.40 305⇑ *iP* **P 23 01 49.9 -0.1**
CAF pmax pmax
comp=Z,235nm,1.1s,mb6.0
RER Riviere de l'E 52.47 194 PFAKE 23 02 00.0 +9.4
RER LR LR
comp=Z,4μm,19.0s,MS5.4
MTLF Montolieu 52.51 303⇑ *iP* **P 23 01 50.5 -0.3**
comp=Z,199nm,1.3s,mb5.6
MTLF Montolieu 52.51 303⇑ *iP* **P 23 01 50.5 -0.3**
comp=Z,199nm,1.3s,mb5.9
MTLF Montolieu 52.51 303⇑ *iP* **P 23 01 50.5 -0.3**
MTLF pmax pmax
comp=Z,199nm,1.3s,mb5.9
RJF Les Rejaudoux 52.73 306⇑ *iP* **P 23 01 52.5 +0.1**
comp=Z,319nm,1.4s,mb5.7
RJF *e*R
comp=Z,3μm,22.2s
RJF Les Rejaudoux 52.73 306⇑ *iP* **P 23 01 52.5 +0.1**
comp=Z,319nm,1.4s,mb6.1
RJF Les Rejaudoux 52.73 306⇑ *iP* **P 23 01 52.5 +0.1**
RJF pmax pmax
comp=Z,319nm,1.4s,mb6.1
SDKM Sandakan 52.80 107 P **P 23 01 54.4 +1.1**
SPA0 Spitsbergen Ar 52.80 348 *eP* **P 23 01 54.6 +2.1**
SPITS Spitsbergen Ar 52.80 348 P **P 23 01 52.6 +0.1**
comp=Z,20nm,0.9s,mb5.0,baz=138,slow=12,SNR=9.0
SPITS Spitsbergen Ar 52.80 348 P **P 23 01 52.6 +0.1**
SPITS Spitsbergen Ar 52.80 348 P **P 23 01 52.6 +0.1**
SPB4 Spitsbergen Ar 52.81 348 *eP* **P 23 01 53.3 +0.8**
ABPO Ambohimpanom 52.83 204 *eP* **P 23 01 53.8 +0.5**
comp=Z,38nm,1.4s,mb5.1
ABPO Ambohimpanom 52.83 204 *eP* **P 23 01 53.8 +0.5**
ABPO pmax pmax
comp=Z,38nm,1.4s,mb5.1
JOW Kunigami 52.98 78 P **P 23 01 54.3 -0.3**
comp=Z,78nm,0.7s,mb5.8,baz=280,slow=9.4,SNR=23
JOW LR LR 23 27 11.8
comp=Z,6μm,20.7s,MS5.6,baz=167,slow=39
JOW Kunigami 52.98 78 P **P 23 01 54.3 -0.3**
JNU Nakatsue 53.29 69 *eP* **P 23 01 57.2 +0.5**
comp=Z,26nm,1.0s,mb5.1
LFF La Frestale 53.33 306⇑ *iP* **P 23 01 56.7 -0.1**
comp=Z,192nm,1.1s,mb5.7
LFF La Frestale 53.33 306⇑ *iP* **P 23 01 56.7 -0.1**
comp=Z,192nm,1.1s,mb5.9
LFF La Frestale 53.33 306⇑ *iP* **P 23 01 56.7 -0.1**
LFF pmax pmax
comp=Z,192nm,1.1s,mb5.9
MLS Moulis 53.38 303 *eP* **P 23 01 54.8 -2.5**
LDF La Druitiere 53.45 310 *eP* **P 23 01 56.7 -1.0**
comp=Z,40nm,0.6s,mb5.2
LDF La Druitiere 53.45 310 *eP* **P 23 01 56.7 -1.0**
comp=Z,40nm,0.6s,mb5.5
LDF La Druitiere 53.45 310 *eP* **P 23 01 56.7 -1.0**
LDF pmax pmax
comp=Z,40nm,0.6s,mb5.5
PBKI Pangkalan Bun 53.51 120 P **P 23 01 59.3 +0.8**
comp=Z,135nm,1.1s,mb5.8
HABR Khabarovsk 53.52 50 *eP* **P 23 01 58.6 +0.4**
HABR *PP pP 23 02 01.2 -0.1
HABR *e*SP sP 23 02 03.1 +0.5
HABR 23 03 03.5
HABR 23 03 56.8
HABR *e*SS sS 23 09 36.5 +0.3
HABR *i* 23 09 40.8
HABR *e* 23 11 45.6
HABR *e*SS SS 23 13 10.0 -0.9
HABR *e*SSS 23 15 01.4
HABR pmax pmax
comp=N,16nm,0.7s
HABR pmax pmax
comp=Z,80nm,1.1s,mb5.6
HABR pmax pmax
comp=E,45nm,0.7s
HABR MLR MLR
comp=E,17μm,15.0s,MS6.2
HABR MLR MLR
comp=N,6μm,14.0s,MS6.2
HABR MLR MLR
comp=Z,18μm,15.0s,MS6.2
FLN La Foliniere 53.67 310 *eP* **P 23 01 58.4 -0.9**
comp=Z,73nm,0.8s,mb5.4
FLN *e*R
comp=Z,6μm,21.2s
FLN La Foliniere 53.67 310 *eP* **P 23 01 58.4 -0.9**
comp=Z,73nm,0.8s,mb5.7
FLN La Foliniere 53.67 310 *eP* **P 23 01 58.4 -0.9**
FLN pmax pmax
comp=Z,73nm,0.8s,mb5.7
MFF Saint Martin d 53.71 308 *eP* **P 23 01 58.8 -0.8**
comp=Z,191nm,1.6s,mb5.5
MFF Saint Martin d 53.71 308 *eP* **P 23 01 58.8 -0.8**
comp=Z,191nm,1.6s,mb5.8
MFF Saint Martin d 53.71 308 *eP* **P 23 01 58.8 -0.8**
MFF pmax pmax
comp=Z,191nm,1.6s,mb5.8
WOL Wolverton 53.89 314 *eP* **P 23 02 00.6 -0.2**
WOL AMB AMB 23 02 11.3
comp=Z,117nm,2.4s,mb5.4
WOL AMS AMS 23 28 38.9
comp=Z,5μm,18.3s,MS5.6
EPF Esparros 53.92 303⇑ *iP* **P 23 01 59.5 -1.7**
comp=Z,76nm,1.2s,mb5.2
EPF Esparros 53.92 303⇑ *iP* **P 23 01 59.5 -1.7**
comp=Z,76nm,1.2s,mb5.5
EPF Esparros 53.92 303⇑ *iP* **P 23 01 59.5 -1.7**
EPF pmax pmax
comp=Z,76nm,1.2s,mb5.5
KBI1 Birley Grange 53.93 316 *eP* **P 23 02 00.5 -0.6**
KBS Kingsbay 53.95 349 *eP* **P 23 02 01.1 +0.2**
KBS AMS AMS 23 29 33.0
comp=Z,4μm,12.6s,MS5.6
KBS Kingsbay 53.95 349 *eP* **P 23 02 01.6 +0.7**
comp=Z,76nm,1.1s,mb5.5
KBS Kingsbay 53.95 349 *eP* **P 23 02 01.6 +0.7**
KBS pmax pmax
comp=Z,77nm,1.1s,mb5.5
GRR Gorron 53.96 310 *eP* **P 23 02 00.6 -0.8**
comp=Z,147nm,1.2s,mb5.5
GRR Gorron 53.96 310 *eP* **P 23 02 00.6 -0.8**
comp=Z,147nm,1.3s,mb5.8
GRR Gorron 53.96 310 *eP* **P 23 02 00.6 -0.8**
GRR pmax pmax
comp=Z,147nm,1.3s,mb5.8
TSM Tawau 54.12 108 P **P 23 02 03.7 +0.7**
MYLDM Lahad Datu 54.14 107 P **P 23 02 04.9 +1.7**
comp=Z,2μmcomp=Z,109nm,1.2s,mb5.7
XAL Allendale 54.23 318 *eP* **P 23 02 03.0 -0.2**
REYF Montagne du Re 54.44 303 *eP* **P 23 02 04.1 -0.9**
ECHA Ech Chlef 54.59 295 P **P 23 02 11.0 +4.8**
ETSF Etsaut 54.59 303⇑ *iP* **P 23 02 05.8 -0.3**
comp=Z,283nm,1.1s,mb5.9
ETSF Etsaut 54.59 303⇑ *iP* **P 23 02 05.8 -0.3**
comp=Z,283nm,1.1s,mb6.2
ETSF Etsaut 54.59 303⇑ *iP* **P 23 02 05.8 -0.3**
ETSF pmax pmax
comp=Z,283nm,1.1s,mb6.2
CMJI Cimerak 54.67 127 P **P 23 02 05.8 -1.2**
comp=Z,2μm,1.0s
JSA Saint Aubin 54.72 311 AMS AMS 23 32 44.3
comp=Z,3μm,14.4s,MS5.6
EDI Edinburgh 54.72 319 AMS AMS 23 32 35.9
comp=Z,8μm,13.6s,MS5.9
ESK Eskdalemuir 54.77 319 *eP* **P 23 02 06.8 -0.4**
ESK AMB AMB 23 02 07.9
comp=Z,114nm,4.9s
ESK AMS AMS 23 31 32.0
comp=Z,5μm,17.5s,MS5.7
ESK Eskdalemuir 54.77 319 PFAKE 23 02 20.0 +13
ESK LR LR
comp=Z,4μm,19.0s,MS5.5
ESK Eskdalemuir 54.77 319 *i* P **P 23 02 08.6 +1.4**
HLM1 Long Mynd 54.80 315 *eP* **P 23 02 06.3 -1.2**
HLM1 AMB AMB 23 02 09.1
comp=Z,83nm,1.8s,mb5.5
HGH Gray Hill 54.84 314 *eP* **P 23 02 06.8 -1.0**
EBH Black Hill 54.88 320 *eP* **P 23 02 07.3 -0.7**
MCH1 Michaelchurch 54.92 315 *eP* **P 23 02 07.0 -1.3**
MCH1 AMB AMB 23 02 12.4
comp=Z,105nm,2.3s,mb5.5
MCH1 AMS AMS 23 31 09.0
comp=Z,4μm,16.3s,MS5.6
FOEL Foel Wylfa 54.96 316 *eP* **P 23 02 07.0 -1.7**
FOEL AMB AMB 23 02 11.4
comp=Z,117nm,1.7s,mb5.6
XDE Dent Fell 54.99 318 *eP* **P 23 02 09.0 +0.2**
SJPF Ste Jean 55.03 304⇑ *iP* **P 23 02 09.0 -0.3**
comp=Z,200nm,1.4s,mb5.7
SJPF Ste Jean 55.03 304⇑ *iP* **P 23 02 09.0 -0.3**
comp=Z,200nm,1.4s,mb6.0
SJPF Ste Jean 55.03 304⇑ *iP* **P 23 02 09.0 -0.3**
SJPF pmax pmax
comp=Z,200nm,1.4s,mb6.0
SGMF Saint Gilles 55.10 310⇑ *iP* **P 23 02 09.4 -0.3**
comp=Z,254nm,1.1s,mb5.9
SGMF Saint Gilles 55.10 310⇑ *iP* **P 23 02 09.4 -0.3**
comp=Z,254nm,1.1s,mb6.2
SGMF Saint Gilles 55.10 310⇑ *iP* **P 23 02 09.4 -0.3**
SGMF pmax pmax
comp=Z,254nm,1.1s,mb6.2
TAM Tamanrasset 55.29 278 *eP* **P 23 02 09.9 -1.5**
comp=Z,24nm,1.4s,mb5.0
TAM Tamanrasset 55.29 278 *eP* **P 23 02 09.9 -1.5**
TAM pmax pmax
comp=Z,24nm,1.4s,mb5.0
EAB Aberfoyle 55.35 320 *eP* **P 23 02 10.6 -0.8**
PGBU Glenifferbraes 55.46 319 AMS AMS 23 33 05.8
comp=Z,7μm,14.4s,MS5.9
QUIF Quistinic 55.55 310 *eP* **P 23 02 12.2 -0.8**
comp=Z,110nm,1.0s,mb5.5
QUIF Quistinic 55.55 310 *eP* **P 23 02 12.2 -0.8**
comp=Z,110nm,1.0s,mb5.8
QUIF Quistinic 55.55 310 *eP* **P 23 02 12.2 -0.8**
QUIF pmax pmax
comp=Z,111nm,1.0s,mb5.8
ROSF Rostrenen 55.56 310⇑ *iP* **P 23 02 12.4 -0.6**
comp=Z,172nm,1.1s,mb5.7
ROSF Rostrenen 55.56 310⇑ *iP* **P 23 02 12.4 -0.6**
comp=Z,172nm,1.1s,mb6.0
ROSF Rostrenen 55.56 310⇑ *iP* **P 23 02 12.4 -0.6**
ROSF pmax pmax
comp=Z,172nm,1.1s,mb6.0
GAL1 Galloway 55.67 318 AMS AMS 23 30 54.6
comp=Z,4μm,16.7s,MS5.5
HTL Hartland 55.97 314 AMS AMS 23 33 52.1
comp=Z,4μm,12.2s,MS5.7
SMKI Samarinda 56.36 113 P **P 23 02 20.6 +1.4**
comp=Z,102nm,1.0s,mb5.8
BBKI Banjar Baru 56.40 118 P **P 23 02 19.9 +0.4**
comp=Z,171nm,1.0s,mb6.0
JMIC Jan Mayen 57.02 338 LR LR 23 28 24.6
comp=Z,4μm,18.8s,MS5.6,baz=235,slow=38
KBKI Kotabaru 57.31 117 P **P 23 02 26.8 +0.9**
comp=Z,1μmcomp=Z,88nm,1.2s,mb5.7
ESDC Sonseca Array 57.80 300 P **P 23 02 28.3 -0.8**
comp=Z,8.4nm,0.6s,mb4.9,baz=64,slow=6.9,SNR=57
ESDC Sonseca Array 57.80 300 P **P 23 02 28.3 -0.8**
ESLA Sonseca Array 57.80 300 *eP* **P 23 02 28.6 -0.5**
comp=Z,14nm,1.0s,mb4.9
ESLA LR LR
comp=Z,12μm,20.0s,MS6.0
PAB San Pablo 58.12 300 *eP* **P 23 02 30.3 -1.0**
comp=Z,68nm,1.0s,mb5.6
PAB LR LR
comp=Z,3μm,21.0s,MS5.3
PAB San Pablo 58.12 300 *eP* **P 23 02 30.3 -1.0**
PAB pmax pmax
comp=Z,68nm,1.0s,mb5.6
PAB MLR MLR
comp=Z,3μm,21.0s,MS5.3
MAJO Matsushiro 58.17 64 *eP* **P 23 02 31.6 -0.1**
comp=Z,61nm,1.2s,mb5.5
MAJO LR LR
comp=Z,4μm,21.0s,MS5.5
MAJO Matsushiro 58.17 64 *eP* **P 23 02 31.6 -0.1**
MAJO pmax pmax
comp=Z,61nm,1.2s,mb5.5
MAJO MLR MLR
comp=Z,4μm,21.0s,MS5.5
MAT Matsushiro 58.17 64 P **P 23 02 30.5 -1.2**
MAT S **S 23 10 32.0 -1.3**
MJAR Matsushiro Arr 58.17 64 P **P 23 02 31.9 +0.2**
comp=Z,11nm,0.9s,mb4.9,baz=285,slow=9.8,SNR=23
MJAR LR LR 23 29 58.4
comp=Z,3μm,20.8s,MS5.4,baz=290,slow=39
MJAR Matsushiro Arr 58.17 64 P **P 23 02 31.9 +0.2**
MJAR Matsushiro Arr 58.17 64 P **P 23 02 31.9 +0.2**
YSS Yuzh-Sakhalins 58.90 51 *eP* **P 23 02 36.1 -0.5**
comp=Z,119nm,0.8s,mb6.0
YSS LR LR
comp=Z,4μm,19.0s,MS5.6
YSS Yuzh-Sakhalins 58.90 51 *eP* **P 23 02 34.6 -2.0**
YSS *e* 23 02 43.0
YSS *e*S **S 23 10 34.0 -8.4**
YSS *e*PS 23 10 47.0
YSS pmax pmax
comp=Z,140nm,0.9s,mb6.0
YSS MLR MLR
comp=Z,13μm,17.0s,MS6.1
YSS MLR MLR
comp=N,6μm,14.0s,MS6.1
YSS MLR MLR
comp=E,11μm,19.0s,MS6.1
LSZ Lusaka 59.06 225 *eP* **P 23 02 39.2 +1.1**
LSZ Lusaka 59.06 225 *eP* **P 23 02 39.2 +1.1**
comp=E,58nm,1.4s,mb5.4
LSZ Lusaka 59.06 225 *eP* **P 23 02 39.2 +1.1**
LSZ pmax pmax
comp=Z,57nm,1.4s,mb5.4
DAV Davao City (W) 59.07 101 PFAKE 23 02 50.0 +12
DAV LR LR
comp=Z,5μm,21.0s,MS5.6
DAV Davao City (W) 59.07 101⇑ *eP* **P 23 02 40.7 +2.4**
PBRG Braganca 59.30 303 *eP* **P 23 02 40.0 +0.5**
comp=Z,120nm,1.8s,mb5.6
PBRG *e*S **S 23 10 51.7 +3.9**
PBRG *e*LR LR 23 26 27.6
comp=Z,1μm,18.0s
ASAJ Asahikawa 59.44 54 P **P 23 02 39.7 -0.7**
comp=Z,26nm,0.7s,mb5.3,baz=278,slow=12,SNR=15
ASAJ Asahikawa 59.44 54 *eP* **P 23 02 39.8 -0.6**
comp=Z,12nm,0.8s,mb5.0
ASAJ Asahikawa 59.44 54 P **P 23 02 39.7 -0.7**
ASAJ pmax pmax
comp=Z,26nm,0.7s
MRSI Marisa 59.62 109 P **P 23 02 41.7 -0.4**
comp=Z,994nmcomp=Z,97nm,1.1s,mb5.8
MVO Moncorvo 59.67 303 *eP* **P 23 02 42.1 0.0**
comp=Z,102nm,1.1s,mb5.8
MVO *e*S **S 23 10 54.1 +1.4**
MVO *e*LR LR 23 23 06.1
comp=Z,2μm,18.0s
SRBI Singaraja 59.70 122 P **P 23 02 43.4 +0.8**
DAG Danmarks Havn 59.77 345 *i* P **P 23 02 42.1 -0.1**
DAG pmax pmax
comp=Z,32nm,1.0s,mb5.3
DAG MLR MLR
comp=Z,4μm,21.0s,MS5.5
DAG Danmarks Havn 59.77 345 *i* P **P 23 02 42.1 -0.1**
comp=Z,32nm,1.0s,mb5.3
DAG
comp=Z,4μm,21.0s
TTSI Tana Toraja 60.00 114 P **P 23 02 45.0 +0.3**
comp=Z,27nm,1.5s,mb5.1
PVRL Vila Real 60.14 303 *eP* **P 23 02 43.7 -1.6**
comp=Z,170nm,1.7s,mb5.8
POLO Lamas de Olo 60.17 303 *eP* **P 23 02 46.0 +0.5**
comp=Z,60nm,1.4s,mb5.4
POLO *e*LR LR 23 22 41.0
comp=Z,587nm,16.0s
KHKI Kahang-Kahang 60.18 122 P **P 23 02 44.5 -1.4**
comp=Z,0.4nmcomp=Z,1μmcomp=Z,134nm,1.0s,mb5.9
KHKI Kahang-Kahang 60.18 122 P **P 23 02 43.4 -2.5**
comp=Z,1μmcomp=Z,134nm,1.0s,mb5.9
PCAB Cabril 60.25 303 *eP* **P 23 02 43.6 -2.5**
comp=Z,216nm,1.7s,mb5.9
MTE Manteigas 60.26 302 *eP* **P 23 02 46.7 +0.6**
comp=Z,262nm,1.3s,mb6.1
MTE *e*S **S 23 11 03.6 +3.4**
MTE *e*LR LR 23 23 46.0
comp=Z,2μm,18.0s
MTE Manteigas 60.26 302 *eP* **P 23 02 46.2 +0.1**
comp=Z,278nm,1.4s,mb6.1
MTE LR LR
comp=Z,2μm,19.0s,MS5.3
PGAV Gavieira, Arco 60.36 304 *eP* **P 23 02 47.3 +0.5**
comp=Z,159nm,1.6s,mb5.8
PGAV *e*S **S 23 11 02.5 +1.0**
PGAV *e*LR LR 23 26 55.3
comp=Z,2μm,18.0s
PCBR Castelo Branco 60.36 301 *eP* **P 23 02 47.1 +0.2**
comp=Z,234nm,1.7s,mb5.9
ERM Erimo 60.37 56 PFAKE 23 03 00.0 +13
ERM LR LR
comp=Z,7μm,20.0s,MS5.8
ERM Erimo 60.37 56 *i* P **P 23 02 47.5 +0.6**
SFS San Fernando 60.38 297 PFAKE 23 03 00.0 +13
SFS LR LR
comp=Z,4μm,21.0s,MS5.5
GTOI Gorontalo 60.41 108 P **P 23 02 46.7 -0.8**
comp=Z,1μmcomp=Z,95nm,1.0s,mb5.8
PMRV Marv??o 60.42 301 *eP* **P 23 02 46.9 -0.3**
comp=Z,183nm,1.8s,mb5.8
PMRV *e*S **S 23 11 04.1 +1.8**
PMRV *e*LR LR 23 23 01.2
comp=Z,2μm,18.0s
PVIS Viseu 60.43 302 *eP* **P 23 02 47.6 +0.3**
comp=Z,178nm,1.7s,mb5.8
PBAR Barrancos 60.51 299 *eP* **P 23 02 47.7 -0.2**
comp=Z,358nm,1.6s,mb6.2
PBAR *e*S **S 23 11 05.4 +1.8**
PBAR *e*LR LR 23 23 10.6
comp=Z,1μm,16.0s
PESTR Estremoz 60.73 300 *eP* **P 23 02 48.8 -0.6**
comp=Z,167nm,1.6s,mb5.9
PESTR *e*S **S 23 11 05.7 -0.6**
PESTR *e*LR LR 23 23 41.1
comp=Z,1μm,18.0s
PTOM Tomar 61.12 301 *eP* **P 23 02 52.0 0.0**
comp=Z,352nm,1.3s,mb6.3
EVO Evora 61.14 300⇑ *iP* **P 23 02 52.5 +0.3**
comp=Z,316nm,1.4s,mb6.0
EVO *e*R
comp=Z,2μm,19.5s
EVO Evora 61.14 300 *eP* **P 23 02 52.1 -0.1**
comp=Z,227nm,1.6s,mb6.0
PMTG Montargil 61.14 301 *eP* **P 23 02 51.6 -0.6**
comp=Z,199nm,1.5s,mb6.0
PMTG *e*S **S 23 11 13.7 +2.1**
PMTG *e*LR LR 23 23 52.2
comp=Z,2μm,20.0s
KAPI Kappang 61.16 116 P **P 23 02 51.1 -1.5**
comp=Z,31nm,1.1s,mb5.4,baz=329,slow=4.1,SNR=5.8
KAPI ScP ScP 23 07 37.6 +0.5
comp=Z,6.1nm,0.6s,baz=169,slow=5.6,SNR=6.2
KAPI Kappang 61.16 116 P **P 23 02 51.1 -1.5**
KAPI ScP ScP 23 07 37.6 +0.5
KAPI LR LR
comp=Z,3μm,20.0s,MS5.4
KAPI Kappang 61.16 116 P **P 23 02 52.3 -0.3**
comp=Z,633nmcomp=Z,43nm,1.3s,mb5.4
PBEJ Beja 61.18 299 *eP* **P 23 02 52.6 +0.1**
comp=Z,157nm,1.6s,mb5.9
EVOP Sao Brissos 61.22 300⇑ *iP* **P 23 02 52.5 -0.3**
comp=Z,316nm,1.4s,mb6.2
EVOP Sao Brissos 61.22 300⇑ *iP* **P 23 02 52.5 -0.3**
EVOP pmax pmax
comp=Z,316nm,1.4s,mb6.2
PVAQ Vaqueiros 61.26 299 *eP* **P 23 02 52.9 -0.1**
comp=Z,196nm,1.6s,mb6.0
PVAQ *e*S **S 23 11 09.6 -3.5**
PVAQ *e*LR LR 23 23 31.2
comp=Z,1μm,16.0s
PCVE Castro Verde 61.43 299 *eP* **P 23 02 54.4 +0.2**
comp=Z,240nm,1.7s,mb6.0
PCVE *e*S **S 23 11 16.5 +1.2**
PCVE *e*LR LR 23 23 39.5
comp=Z,2μm,18.0s
PBDV Barranco-do-Ve 61.47 298 *e*LR LR 23 23 36.0
comp=Z,1μm,18.0s
SCO Scoresbysund 61.49 338 *i* P **P 23 02 55.1 +1.1**
SCO pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
SCO Scoresbysund 61.49 338 *i* P **P 23 02 55.1 +1.1**
comp=Z,9.3nm,0.9s,mb4.9
MESJ Messejana 61.50 299 *eP* **P 23 02 54.6 0.0**
MESJ AMb AMB 23 03 00.4
comp=Z,165nm,1.4s,mb6.0
MESJ *e*S **S 23 11 16.3 +0.1**
MESJ Messejana 61.50 299 *eP* **P 23 02 54.6 -0.1**
comp=Z,165nm,1.4s,mb6.0
MESJ *e*S **S 23 11 16.3 +0.1**
MESJ Messejana 61.50 299 *eP* **P 23 02 54.6 -0.1**
MESJ *e*S **S 23 11 16.3 +0.1**
BKSI Bulukumba 61.64 116 P **P 23 02 55.9 +0.1**
PNCL Nicolau / Gran 61.65 300 *eP* **P 23 02 55.9 +0.2**
comp=Z,288nm,1.6s,mb6.2
PNCL *e*S **S 23 11 20.7 +2.6**
PNCL *e*LR LR 23 23 51.9
comp=Z,2μm,16.0s
LIS Lisbon 61.93 300 *eP* **P 23 02 57.3 -0.2**
LIS AMb AMB 23 03 00.5
comp=Z,348nm,1.3s,mb6.3
LIS *e*S **S 23 11 21.3 -0.3**
LIS Lisbon 61.93 300 *eP* **P 23 02 57.3 -0.2**
comp=Z,348nm,1.3s,mb6.3
LIS *e*S **S 23 11 21.3 -0.3**
LIS Lisbon 61.93 300 *eP* **P 23 02 57.3 -0.2**
LIS *e*S **S 23 11 21.3 -0.3**
PMAFR Mafra 61.96 301 *eP* **P 23 02 59.2 +1.5**
comp=Z,329nm,1.4s,mb6.3
PMAFR *e*S **S 23 11 24.6 +2.6**
PMAFR *e*LR LR 23 23 42.3
comp=Z,1μm,18.0s
PTEO Sao Teotonio 61.97 299 *eP* **P 23 02 59.0 +1.2**
comp=Z,269nm,1.8s,mb6.1
MORF Marmelete 61.99 299 *e*S **S 23 11 23.5 +1.1**
MORF *e*LR LR 23 24 06.3
comp=Z,2μm,18.0s
MORF Marmelete 61.99 299 *eP* **P 23 02 58.1 +0.1**
MORF *e*S **S 23 11 22.6 +0.2**
PFVI Vila Bisbo 62.18 299 *eP* **P 23 03 00.4 +1.2**
comp=Z,270nm,1.7s,mb6.1
PFVI *e*S **S 23 11 31.5 +6.7**
PFVI *e*LR LR 23 24 13.6
comp=Z,1μm,18.0s
BORG Borgarnes 62.43 331 LR LR 23 33 13.2
comp=Z,5μm,20.3s,MS5.7,baz=72,slow=39
TORD Torodi Ar. Bea 62.63 270 P **P 23 03 00.9 -1.6**
comp=Z,50nm,1.0s,mb5.6,baz=58,slow=6.1,SNR=240
TORD LR LR 23 32 59.3
comp=Z,6μm,19.1s,MS5.8,baz=45,slow=39
TORD Torodi Ar. Bea 62.63 270 P **P 23 03 00.9 -1.6**
KDI Kendari 62.77 113 P **P 23 03 04.0 +0.5**
comp=Z,736nmcomp=Z,52nm,1.1s,mb5.6
KDI Kendari 62.77 113 P **P 23 03 03.8 +0.3**
comp=Z,736nmcomp=Z,52nm,1.1s,mb5.6
TNTI Ternate 63.93 106 P **P 23 03 11.8 +0.6**
comp=Z,2μmcomp=Z,216nm,1.1s,mb6.1
LBMI Labuha 64.82 107 P **P 23 03 17.3 +0.3**
comp=Z,147nm,1.1s,mb5.9
MMRI Maumere 65.34 117 P **P 23 03 18.0 -2.3**
comp=Z,88nm,1.1s,mb5.7
BILL Bilibino 65.39 24 *eP* **P 23 03 19.8 0.0**
comp=Z,35nm,1.1s,mb5.3
BILL *e*PcP PcP 23 03 52.8 +1.0
BILL LR LR
comp=Z,3μm,19.0s,MS5.6
BILL Bilibino 65.39 24⇑ *eP* **P 23 03 20.5 +0.6**
BILL *e* 23 03 54.0
BILL *e* 23 05 43.5
BILL *e*S S 23 12 05.4 +1.6
BILL pmax pmax
comp=Z,48nm,1.7s,mb5.2
BILL MLR MLR
comp=Z,2μm,15.0s,MS5.5
SUMG Summit 65.87 341 *eP* **P 23 03 24.5 +1.6**
comp=Z,55nm,0.8s,mb5.6
SUMG *e*PcP PcP 23 03 54.5 +0.7
SUMG Summit 65.87 341 *i* P **P 23 03 24.5 +1.6**
SUMG Summit 65.87 341 *i* P **P 23 03 24.5 +1.6**
NLAI Namlea 65.96 109 P **P 23 03 25.6 +1.2**
comp=Z,84nm,0.9s,mb5.8
NLAI Namlea 65.96 109 P **P 23 03 24.4 0.0**
comp=Z,84nm,0.9s,mb5.8
SKR Severo-Kuril's 66.36 44 *eP* **P 23 03 23.2 -3.2**
SKR pmax pmax
comp=Z,80nm,0.9s,mb5.8
SKR MLR MLR
comp=Z,8μm,18.0s,MS6.0
SKR MLR MLR
comp=N,5μm,14.0s,MS6.1
SKR MLR MLR
comp=E,6μm,14.0s,MS6.1
PETK Petropavlovsk- 66.48 41 P **P 23 03 25.1 -2.0**
comp=E,9.5nm,0.7s,mb4.9,baz=243,slow=2.3,SNR=12

PETK LR LR 23 34 31.3
comp=E,4µm,21.0s,MS5.6,baz=287,slow=38
PETK Petropavlovsk- 66.48 41 P **P 23 03 25.1 -2.0**
PETK Petropavlovsk- 66.48 41 P **P 23 03 25.1 -2.0**
PET Petropavlovsk 67.05 41 PFAKE 23 03 40.0 +9.3
PET LR LR
comp=Z,5µm,22.0s,MS5.7
PET Petropavlovsk 67.05 41 *e*P **P 23 03 28.3 -2.4**
PET *e* 23 03 55.6
PET *e*S S 23 12 15.3 -9.1
PET pmax pmax
comp=Z,100nm,12.4s
PET MLR MLR
comp=Z,6µm,22.0s,MS5.8
PET MLR MLR
comp=Z,4µm,22.0s
AAI Ambon 67.11 109 P **P 23 03 36.0 +4.3**
AAI Ambon 67.11 109 P **P 23 03 32.4 +0.7**
comp=Z,69nm,1.2s,mb5.6
SLR Silverton 67.23 218 *e*P **P 23 03 33.7 +1.6**
SLR AMB AMB 23 03 45.6
comp=Z,58nm,1.8s,mb5.3
MSAI Masohi 67.52 108 P **P 23 03 35.5 +1.2**
comp=Z,580nmcomp=Z,22nm,1.1s,mb5.1
KSR Koster 68.07 219 *e*P **P 23 03 43.3 +5.9**
KSR AMB AMB 23 03 50.6
comp=Z,20nm,1.7s,mb4.9
KLOF Kloof 68.08 218 *e*P **P 23 03 37.9 +0.4**
LBTB Lobatse 68.13 221 *e*P **P 23 03 38.7 +0.9**
LBTB AMB AMB 23 03 52.2
comp=Z,62nm,1.6s,mb5.4
LBTB Lobatse 68.13 221 *e*P **P 23 03 38.6 +0.7**
comp=Z,125nm,1.5s,mb5.7
LBTB LR LR
comp=Z,2µm,19.0s,MS5.4
LBTB Lobatse 68.13 221 *e*P **P 23 03 38.6 +0.7**
LBTB pmax pmax
comp=Z,125nm,1.5s,mb5.7
LBTB MLR MLR
comp=Z,2µm,19.0s,MS5.4
PRYS Parys 68.67 218 *e*P **P 23 03 41.8 +0.6**
PRYS AMB AMB 23 03 54.0
comp=Z,49nm,1.9s,mb5.1
TSUM Tsumeb 68.77 231 *e*P **P 23 03 41.6 -0.4**
TSUM Tsumeb 68.77 231 *e*P **P 23 03 42.9 +0.9**
comp=Z,17nm,1.1s,mb4.9
TSUM LR LR
comp=Z,2µm,21.0s,MS5.3
SEK Senekal 69.65 217 *e*P **P 23 03 47.8 +0.5**
SEK AMB AMB 23 04 00.2
comp=Z,48nm,1.3s,mb5.3
SWZ Schweizer 69.97 219 *e*P **P 23 03 49.5 +0.2**
SWZ AMB AMB 23 04 01.1
comp=Z,49nm,2.4s,mb5.0
KSD Kokstad 70.56 214 *e*P **P 23 03 57.6 +4.8**
KSD AMB AMB 23 04 13.1
comp=Z,134nm,2.2s,mb5.5
BOSA Boshof 71.14 219 *e*P **P 23 03 56.3 -0.1**
BOSA AMB AMB 23 04 09.2
comp=Z,49nm,1.8s,mb5.1
BOSA Boshof 71.14 219 P **P 23 03 56.4 +0.1**
comp=Z,15nm,0.7s,mb5.0,baz=56,slow=6.9,SNR=21
BOSA LR LR 23 37 46.5
comp=Z,2µm,19.7s,MS5.3,baz=240,slow=38
BOSA Boshof 71.14 219 *e*P **P 23 03 56.4 0.0**
comp=Z,94nm,1.5s,mb5.5
BOSA Boshof 71.14 219 *e*P **P 23 03 56.4 0.0**
BOSA pmax pmax
comp=Z,94nm,1.5s,mb5.5
DBIC Dimbokro 71.38 267 *i*P **P 23 03 57.4 -0.8**
DBIC Dimbokro 71.38 267 P **P 23 03 57.4 -0.8**
comp=Z,37nm,1.0s,mb5.3,baz=38,slow=8.1,SNR=40
DBIC LR LR 23 37 59.2
comp=Z,8µm,19.5s,MS6.0,baz=40,slow=38
DBIC Dimbokro 71.38 267 P **P 23 03 57.4 -0.8**
DBIC Dimbokro 71.38 267 P **P 23 03 57.4 -0.8**
MBWA Marble Bar 71.79 129 *e*P **P 23 04 01.3 +0.9**
comp=Z,52nm,1.5s,mb5.2
MBWA LR LR
comp=Z,3µm,19.0s,MS5.5
GUMO Guam 72.53 84 PFAKE 23 04 20.0 +15
GUMO LR LR
comp=Z,2µm,21.0s,MS5.4
HVD Gariep Dam 72.58 217 *e*P **P 23 04 06.3 +1.3**
HVD AMB AMB 23 04 26.1
comp=Z,52nm,3.3s
PKA Prieska 73.33 220 *e*P **P 23 04 10.6 +1.2**
PKA AMB AMB 23 04 23.3
comp=Z,15nm,1.5s,mb4.7
FITZ Fitzroy Crossi 73.89 123 P **P 23 04 12.9 -0.1**
comp=Z,35nm,1.0s,mb5.3,baz=324,slow=6.2,SNR=34
FITZ Fitzroy Crossi 73.89 123 *e*P **P 23 04 14.2 +1.2**
comp=Z,57nm,1.0s,mb5.5
FITZ Fitzroy Crossi 73.89 123 P **P 23 04 12.9 -0.1**
FITZ Fitzroy Crossi 73.89 123 P **P 23 04 13.5 +0.5**
SOE Somerset East 74.23 216 *e*P **P 23 04 17.8 +3.2**
SOE AMB AMB 23 04 27.4
comp=Z,59nm,1.8s,mb5.2
GRM Grahamstown 74.24 215 *e*P **P 23 04 16.6 +1.9**
GRM AMB AMB 23 04 34.0
comp=Z,43nm,1.6s,mb5.1
RES Resolute Bay 74.55 355 *e*P **P 23 04 16.7 +0.7**
comp=Z,14nm,1.0s,mb4.8
RES Resolute Bay 74.55 355 *e*P **P 23 04 16.7 +0.7**
RES pmax pmax
comp=Z,14nm,1.0s,mb4.8
SUR Sutherland 76.47 219 *e*P **P 23 04 29.6 +2.0**
SUR LR LR
comp=Z,2µm,20.0s,MS5.4
KLBR Kellerberrin 77.98 138 *e*P **P 23 04 36.0 0.0**
comp=Z,31nm,0.9s,mb5.2
COLD Coldfoot 78.62 14 *e*P **P 23 04 39.9 +0.7**
comp=Z,48nm,1.1s,mb5.3
COLD PP PP 23 07 35.6 -0.7
NWAO Narrogin (SRO) 78.66 139 P **P 23 04 40.0 +0.3**
comp=Z,49nm,0.8s,mb5.5,baz=315,slow=5.9,SNR=18
NWAO Narrogin (SRO) 78.66 139 *e*P **P 23 04 40.1 +0.3**
comp=Z,60nm,1.0s,mb5.5
NWAO LR LR
comp=Z,2µm,22.0s,MS5.4
NWAO Narrogin (SRO) 78.66 139 *e*P **P 23 04 40.1 +0.3**
NWAO pmax pmax
comp=Z,61nm,1.0s
NWAO MLR MLR
comp=Z,2µm,22.0s
PAF Port-aux-Franc 79.42 178 PFAKE 23 05 00.0 +16
PAF LR LR
comp=Z,3µm,19.0s,MS5.6
INK Inuvik 80.37 8 *e*P **P 23 04 48.9 +0.2**
comp=Z,175nm,1.4s,mb5.8
INK Inuvik 80.37 8 *e*P **P 23 04 48.9 +0.2**
INK pmax pmax
comp=Z,175nm,1.4s
ADK Adak 80.73 34 PFAKE 23 05 00.0 +9.1
ADK LR LR
comp=Z,4µm,19.0s,MS5.8
BPAW Bear Paw Mtn. 81.09 16 *e*P **P 23 04 52.6 0.0**
comp=Z,79nm,1.3s,mb5.5
COLA College 81.14 14 *e*P **P 23 04 52.9 0.0**
comp=Z,35nm,1.0s,mb5.2
COLA LR LR
comp=Z,4µm,19.0s,MS5.8
COLA College 81.14 14 *e*P **P 23 04 52.9 0.0**
COLA pmax pmax
comp=Z,35nm,1.0s,mb5.2
COLA MLR MLR
comp=Z,4µm,19.0s,MS5.8
ILAR Eielson Array 81.44 14 P **P 23 04 53.9 -0.6**
comp=Z,7.9nm,0.8s,mb4.7,baz=319,slow=3.8,SNR=40
ILAR PKKPbc PKKPbc 23 23 29.0 0.0
comp=Z,0.9nm,0.9s,baz=171,slow=3.3,SNR=6.5
ILAR LR LR 23 47 39.2
comp=Z,4µm,18.5s,MS5.8,baz=332,slow=41
ILAR Eielson Array 81.44 14 P **P 23 04 53.9 -0.6**
ILAR PKKPbc PKKPbc 23 23 29.0 0.0
ILAR Eielson Array 81.44 14 P **P 23 04 53.9 -0.5**
WRA Warramunga Arr 81.48 119 P **P 23 04 55.2 -0.1**
comp=Z,56nm,1.0s,mb5.4,baz=318,slow=5.0,SNR=153
WRA PKKPbc PKKPbc 23 23 28.6 -0.2
comp=Z,0.7nm,1.0s,baz=130,slow=2.0,SNR=5.2
WRA LR LR 23 42 47.1
comp=Z,2µm,21.6s,MS5.3,baz=305,slow=37
WRA Warramunga Arr 81.48 119 P **P 23 04 55.2 -0.1**
WRA PKKPbc PKKPbc 23 23 28.6 -0.2
WRA Warramunga Arr 81.48 119 P **P 23 04 55.2 -0.1**
WRAB Tennant Creek 81.49 119 *e*P **P 23 04 54.8 -0.5**
comp=Z,68nm,1.0s,mb5.5
WRAB LR LR
comp=Z,2µm,20.0s,MS5.4
WRAB Tennant Creek 81.49 119 *e*P **P 23 04 54.8 -0.6**
WRAB pmax pmax
comp=Z,68nm,1.0s,mb5.5
WRAB MLR MLR
comp=Z,2µm,20.0s,MS5.4
WB2 Warramunga Arr 81.50 119 *e*P **P 23 04 54.9 -0.5**
PPLA Purkeypile 81.80 17 *e*P **P 23 04 57.1 +0.7**
comp=Z,38nm,1.2s,mb5.2
TRF Thorofare Moun 81.81 16 *e*P **P 23 04 56.5 +0.1**
comp=Z,92nm,1.6s,mb5.5
MCK McKinley 81.89 15 *e*P **P 23 04 56.6 -0.2**
comp=Z,92nm,1.5s,mb5.5
MCK McKinley 81.89 15 *e*P **P 23 04 56.6 -0.2**
MCK pmax pmax
comp=Z,92nm,1.5s,mb5.5
EGAK Eagle 82.55 12 *e*P **P 23 05 01.4 +1.1**
comp=Z,97nm,1.4s,mb5.6
EGAK LR LR
comp=Z,3µm,20.0s,MS5.6
PAX Paxson 83.32 14 *e*P **P 23 05 04.4 +0.1**
comp=Z,37nm,1.1s,mb5.3
PAX *e*PP PP 23 08 15.7 +0.5
PAX Paxson 83.32 14 *e*P **P 23 05 04.4 +0.1**
PAX *e* 23 08 15.7
PAX pmax pmax
comp=Z,37nm,1.1s,mb5.3
AS31 Alice Springs 83.38 122 *e*P **P 23 05 04.8 -0.3**
ASAR Alice Springs 83.38 122 P **P 23 05 04.6 -0.6**
comp=Z,62nm,0.9s,mb5.6,baz=310,slow=5.1,SNR=169
ASAR Alice Springs 83.38 122 P **P 23 05 04.6 -0.6**
ASAR Alice Springs 83.38 122 P **P 23 05 04.6 -0.6**
SACV Santiago Islan 83.44 283 PFAKE 23 05 20.0 +14
SACV LR LR
comp=Z,3µm,20.0s,MS5.7
DAWY Dawson 83.51 12 *e*P **P 23 05 05.5 +0.2**
RSO Redoubt South 83.68 19 *e*P **P 23 05 06.9 +0.7**
comp=Z,88nm,1.0s,mb5.8
SML Sawmill 83.69 16 *e*P **P 23 05 06.7 +0.5**
comp=Z,11nm,0.7s,mb5.1
SML Sawmill 83.69 16 *e*P **P 23 05 06.7 +0.5**
SML pmax pmax
comp=Z,11nm,0.7s,mb5.1
MENT Mentasta 83.72 14 *e*P **P 23 05 07.2 +0.8**
FORT Forrest 83.78 131 *e*P **P 23 05 08.3 +1.2**
comp=Z,64nm,0.7s,mb5.9
FORT Forrest 83.78 131 *e*P **P 23 05 07.5 +0.5**
comp=Z,99nm,0.8s,mb6.0
SHEL Horse Pasture 84.08 248 PFAKE 23 05 20.0 +11
SHEL LR LR
comp=Z,3µm,21.0s,MS5.6
SLKM Skilak Lake 84.33 18 *e*P **P 23 05 09.2 -0.3**
SLKM Skilak Lake 84.33 18 *e*P **P 23 05 09.2 -0.3**
COEN Coen 85.08 109 *e*P **P 23 05 15.1 +1.2**
comp=Z,247nm,1.1s,mb6.2
COEN Coen 85.08 109 P **P 23 05 15.2 +1.2**
comp=Z,45nm,1.2s,mb5.5
BMRM Bremner River 85.29 15 *e*P **P 23 05 15.1 +0.7**
comp=Z,174nm,1.6s,mb5.9
KDAK Kodiak Island 85.96 20 P **P 23 05 17.9 +0.2**
comp=Z,29nm,0.8s,mb5.5,baz=351,slow=3.7,SNR=16
KDAK Kodiak Island 85.96 20 *e*P **P 23 05 18.2 +0.4**
KDAK Kodiak Island 85.96 20 P **P 23 05 17.9 +0.2**
KDAK pmax pmax
comp=Z,29nm,0.8s,mb5.6
PMG Port Moresby 85.97 103 P **P 23 05 19.2 +0.7**
comp=Z,37nm,0.8s,mb5.7,baz=325,slow=3.5,SNR=18
PMG Port Moresby 85.97 103 *e*P **P 23 05 19.0 +0.5**
comp=Z,56nm,0.9s,mb5.8
PMG LR LR
comp=Z,880nm,19.0s,MS5.2
PMG Port Moresby 85.97 103 *d i*P **P 23 05 19.9 +1.4**
PMG pmax pmax
comp=Z,40nm,0.6s
OHAK Old Harbor 86.21 21 *e*P **P 23 05 19.2 +0.2**
comp=Z,57nm,1.0s,mb5.8
SCHQ Schefferville 86.47 335 LR LR 23 46 19.8
comp=Z,2µm,19.1s,MS5.5,baz=231,slow=37
YKA Yellowknife Ar 87.43 1 P **P 23 05 24.8 0.0**
comp=Z,30nm,0.9s,mb5.5,baz=350,slow=5.0,SNR=164
YKA PKKPbc PKKPbc 23 23 16.5 +1.4
comp=Z,0.2nm,0.6s,baz=165,slow=2.4,SNR=3.6
YKA Yellowknife Ar 87.43 1 P **P 23 05 24.8 0.0**
YKA PKKPbc PKKPbc 23 23 16.5 +1.4
YKA Yellowknife Ar 87.43 1 P **P 23 05 24.8 0.0**
CTA Charters Tower 90.83 113 P **P 23 05 42.8 +1.3**
comp=Z,25nm,1.0s,mb5.5,baz=296,slow=4.5,SNR=20
CTA LR LR 23 52 09.1
comp=Z,2µm,20.2s,MS5.5,baz=288,slow=39
CTA Charters Tower 90.83 113 *e*P **P 23 05 42.9 +1.4**
comp=Z,16nm,0.9s,mb5.3
CTA Charters Tower 90.83 113 P **P 23 05 42.8 +1.3**
CTA Charters Tower 90.83 113 P **P 23 05 42.8 +1.3**
CTAO Charters Tower 90.83 113 *e*P **P 23 05 41.8 +0.2**
comp=Z,25nm,1.0s,mb5.5
CTAO LR LR
comp=Z,2µm,21.0s,MS5.5
CTAO Charters Tower 90.83 113 *e*P **P 23 05 41.8 +0.3**
CTAO pmax pmax
comp=Z,25nm,1.0s,mb5.5
CTAO MLR MLR
comp=Z,2µm,21.0s,MS5.5
CTAO Charters Tower 90.83 113 P **P 23 05 43.2 +1.7**
comp=Z,27nm,1.0s,mb5.5
STKA Stephens Creek 93.67 125 P **P 23 05 55.4 +1.0**
comp=Z,10nm,0.8s,mb5.3,baz=316,slow=6.0,SNR=13
STKA LR LR 23 53 28.8
comp=Z,3µm,18.3s,MS5.8,baz=288,slow=39
STKA Stephens Creek 93.67 125 *e*P **P 23 05 55.2 +0.8**
comp=Z,8.2nm,0.9s,mb5.2
STKA Stephens Creek 93.67 125 P **P 23 05 55.4 +1.0**
STKA Stephens Creek 93.67 125 P **P 23 05 55.4 +1.0**
FFC Flin Flon 94.74 354 *e*P **P 23 05 59.5 +0.5**
comp=Z,37nm,1.1s,mb5.7
FFC LR LR
comp=Z,4µm,21.0s,MS5.8
FFC Flin Flon 94.74 354 *e*P **P 23 05 59.5 +0.5**
FFC pmax pmax
comp=Z,37nm,1.1s,mb5.7
FFC MLR MLR
comp=Z,4µm,21.0s,MS5.8
PKME Peaks-Kenny Pk 95.04 331 PFAKE 23 06 10.0 +9.4
PKME LR LR
comp=Z,3µm,19.0s,MS5.8
MIDW Midway 95.05 53 PFAKE 23 06 10.0 +9.0
MIDW LR LR
comp=Z,3µm,20.0s,MS5.8
HNR Honiara 96.86 97 LR LR 23 52 54.6
comp=Z,1µm,19.2s,MS5.4,baz=311,slow=37
LBNH Lisbon 96.96 332 PFAKE 23 06 20.0 +11
LBNH LR LR
comp=Z,958nm,20.0s,MS5.3
LONY Lake Ozonia 97.70 334 PFAKE 23 06 20.0 +7.3
LONY LR LR
comp=Z,2µm,19.0s,MS5.5
MAW Mawson 97.75 182 LR LR 23 46 48.0
comp=Z,1µm,18.2s,MS5.5,baz=357,slow=33
NCB Newcomb 98.11 333 PFAKE 23 06 30.0 +15
NCB LR LR
comp=Z,2µm,19.0s,MS5.7
ULM Lac du Bonnet 98.36 349 P **P 23 06 15.8 +0.2**
comp=Z,4.3nm,0.9s,mb5.0,baz=19,slow=8.1,SNR=3.8
ULM LR LR 23 55 27.4
comp=Z,3µm,19.7s,MS5.8,baz=220,slow=38
ULM Lac du Bonnet 98.36 349 P **P 23 06 15.8 +0.2**
ULM Lac du Bonnet 98.36 349 P **P 23 06 15.8 +0.3**
EYMN Ely 99.75 346 PFAKE 23 06 30.0 +8.2
EYMN LR LR
comp=Z,4µm,21.0s,MS5.9
BINY Binghamton 100.29 333 PFAKE 23 06 40.0 +16
BINY LR LR
comp=Z,3µm,21.0s,MS5.7
CAN Canberra 100.73 125 PFAKE 23 06 40.0 +14
CAN LR LR
comp=Z,3µm,20.0s,MS5.8
GLMI Grayling 100.92 340 PFAKE 23 06 40.0 +13
GLMI LR LR
comp=Z,4µm,20.0s,MS6.0
DGMT Dagmar 101.14 354 PFAKE 23 06 40.0 +12
DGMT LR LR
comp=Z,3µm,21.0s,MS5.8
NEW Newport 101.60 3 PFAKE 23 06 40.0 +10
NEW LR LR
comp=Z,4µm,20.0s,MS5.9
CASY Casey 101.84 164 PFAKE 23 06 40.0 +8.9
CASY LR LR
comp=Z,2µm,19.0s,MS5.6
ERPA Erie 101.85 336 PFAKE 23 06 40.0 +8.8
ERPA LR LR
comp=Z,2µm,20.0s,MS5.6
EGMT Eagleton 101.90 358 PFAKE 23 06 40.0 +8.6
EGMT LR LR
comp=Z,3µm,20.0s,MS5.8
NLWA Neilton Lookou 101.91 8 PFAKE 23 06 40.0 +8.6
NLWA LR LR
comp=Z,3µm,20.0s,MS5.8
BBSR BB Station 102.84 320 PFAKE 23 06 50.0 +14
BBSR LR LR
comp=Z,981nm,19.0s,MS5.3
AAM Ann Arbor 102.92 338 PFAKE 23 06 50.0 +14
AAM LR LR
comp=Z,2µm,19.0s,MS5.7
LAO LASA Array 103.07 356 PFAKE 23 06 50.0 +13
LAO LR LR
comp=Z,3µm,19.0s,MS5.8
MSO Missoula 103.13 1 PFAKE 23 06 50.0 +13
MSO LR LR
comp=Z,2µm,19.0s,MS5.6
TAU Tasmania Unive 103.30 132 PFAKE 23 06 50.0 +12
TAU LR LR
comp=Z,3µm,22.0s,MS5.7
HAWA Hanford 103.32 5 PFAKE 23 06 50.0 +12
HAWA LR LR
comp=Z,2µm,19.0s,MS5.6
JFWS Jewell Farm 104.22 343 PFAKE 23 06 50.0 +8.3
JFWS LR LR
comp=Z,3µm,19.0s,MS5.8
CBN Corbin 104.25 332 PFAKE 23 06 50.0 +8.2
CBN LR LR
comp=Z,3µm,20.0s,MS5.9
BOZ Bozeman (W) 104.32 359 PFAKE 23 06 50.0 +7.9
BOZ LR LR
comp=Z,2µm,19.0s,MS5.7
RCBR Riachuelo 104.41 272 PFAKE 23 06 50.0 +7.5
RCBR LR LR
comp=Z,3µm,19.0s,MS5.8
ACSO Alum Creek Sta 104.56 337 PFAKE 23 06 50.0 +6.8
ACSO LR LR
comp=Z,3µm,20.0s,MS5.9
RLMT Red Lodge 104.79 358 PFAKE 23 07 00.0 +16
RLMT LR LR
comp=Z,4µm,19.0s,MS5.9
ECSD EROS Data Cent 104.80 348 PFAKE 23 07 00.0 +16
ECSD LR LR
comp=Z,3µm,21.0s,MS5.9
BMO Blue Mountains 104.99 3 PFAKE 23 07 00.0 +15
BMO LR LR
comp=Z,3µm,20.0s,MS5.8
LKWY Lake 105.38 358 PFAKE 23 11 10.0 +9.4
LKWY LR LR
comp=Z,5µm,20.0s,MS6.0
SCIA State Center 105.88 345 PFAKE 23 11 10.0 +8.4
SCIA LR LR
comp=Z,4µm,20.0s,MS6.0
BLA Blacksburg 106.31 334 PFAKE 23 11 10.0 +7.4
BLA LR LR
comp=Z,2µm,20.0s,MS5.7
HLID Hailey 106.39 1 PFAKE 23 11 10.0 +7.5
HLID LR LR
comp=Z,2µm,20.0s,MS5.7
CNNC Cliffs of the 107.01 331 PFAKE 23 11 20.0 +16
CNNC LR LR
comp=Z,2µm,21.0s,MS5.7
BW06 Boulder Array 107.15 358 PFAKE 23 11 20.0 +16
BW06 LR LR
comp=Z,4µm,20.0s,MS6.0
AHID Auburn Hatcher 107.19 359 PFAKE 23 11 20.0 +16
AHID LR LR
comp=Z,2µm,19.0s,MS5.7
WVOR Wild Horse Val 107.32 5 PFAKE 23 11 20.0 +16
WVOR LR LR
comp=Z,3µm,20.0s,MS5.8
JOHN Johnston Islan 107.91 58 PFAKE 23 11 20.0 +14
JOHN LR LR
comp=Z,28µm,19.0s,MS6.8
OGNE Ogallala 108.36 352 PFAKE 23 11 20.0 +14
OGNE LR LR
comp=Z,3µm,21.0s,MS5.9
HWUT Hardware Ranch 108.36 359 PFAKE 23 11 20.0 +14
HWUT LR LR
comp=Z,2µm,20.0s,MS5.7
KSU1 Kansas State U 109.28 347 PFAKE 23 11 20.0 +12
KSU1 LR LR
comp=Z,3µm,20.0s,MS5.9
BMN Battle Mountai 109.41 4 PFAKE 23 11 20.0 +12
BMN LR LR
comp=Z,2µm,20.0s,MS5.6
DUG Dugway 109.77 0 PFAKE 23 11 20.0 +11
DUG LR LR
comp=Z,3µm,19.0s,MS5.9
ISCO Idaho Springs 109.87 354 PFAKE 23 11 20.0 +11
ISCO LR LR
comp=Z,4µm,19.0s,MS6.0
CBKS Cedar Bluff 110.12 349 PFAKE 23 11 20.0 +10
CBKS LR LR
comp=Z,4µm,22.0s,MS6.0
GOGA Godfrey 110.83 334 PFAKE 23 11 20.0 +8.9
GOGA LR LR
comp=Z,3µm,21.0s,MS5.8
PLAL Pickwick Lake 111.00 339 PFAKE 23 11 20.0 +8.6
PLAL LR LR
comp=Z,4µm,19.0s,MS6.0
NVAR Mina Array Bea 111.33 5 PKiKP PKiKP 23 11 11.9 -0.1
comp=Z,0.1nm,0.3s,baz=311,slow=1.5,SNR=6.3
NVAR Mina Array Bea 111.33 5 PKiKP PKiKP 23 11 11.9 -0.1
MVU Marysvale 111.46 360 PFAKE 23 11 20.0 +7.8
MVU LR LR
comp=Z,3µm,21.0s,MS5.8
ANWB Willy Bob 111.65 307 PFAKE 23 11 20.0 +7.0
ANWB LR LR
comp=Z,826nm,20.0s,MS5.3
TPH Tonopah 111.75 4 PFAKE 23 11 20.0 +7.2
TPH LR LR
comp=Z,3µm,20.0s,MS5.9
OXF Oxford 111.85 340 PFAKE 23 11 20.0 +7.0
OXF LR LR
comp=Z,3µm,20.0s,MS5.8
SDCO Great Sand Dun 111.90 354 PFAKE 23 11 20.0 +7.0
SDCO LR LR
comp=Z,4µm,20.0s,MS6.0
MVCO Mesa Verde 112.64 356 PFAKE 23 11 30.0 +16
MVCO LR LR
comp=Z,3µm,22.0s,MS5.8
MIAR Mount Ida 112.97 343 PFAKE 23 11 30.0 +15
MIAR LR LR
comp=Z,2µm,20.0s,MS5.8
BBGH Gun Hill 113.12 302 PFAKE 23 11 30.0 +14
BBGH LR LR
comp=Z,1µm,21.0s,MS5.5
FDF Fort de France 113.21 305 PFAKE 23 11 30.0 +14
FDF LR LR
comp=Z,838nm,20.0s,MS5.3
DAC Darwin (Calif) 113.52 4 PFAKE 23 11 30.0 +14
DAC LR LR
comp=Z,2µm,19.0s,MS5.8
SJG San Juan 114.26 311 PFAKE 23 11 30.0 +12
SJG LR LR
comp=Z,918nm,21.0s,MS5.4
AMTX Amarillo 114.27 350 PFAKE 23 11 30.0 +12
AMTX LR LR
comp=Z,3µm,20.0s,MS5.9
BRAL Brewton 114.30 336 PFAKE 23 11 30.0 +12
BRAL LR LR
comp=Z,4µm,19.0s,MS6.0
ANMO Albuquerque 114.75 354 PFAKE 23 11 30.0 +11
ANMO LR LR
comp=Z,3µm,21.0s,MS5.9
NATX Nacogdoches 115.89 343 PFAKE 23 11 30.0 +9.1
NATX LR LR
comp=Z,4µm,20.0s,MS6.0
PFO Pinyon Flat Ob 116.24 4 PFAKE 23 11 30.0 +8.5
PFO LR LR
comp=Z,2µm,20.0s,MS5.7
MSVF Nonsavu 116.26 96 PFAKE 23 11 30.0 +8.2
MSVF LR LR
comp=Z,1µm,20.0s,MS5.5
MNTX Cornudas Mount 117.88 353 PFAKE 23 11 40.0 +15
MNTX LR LR
comp=Z,2µm,19.0s,MS5.8

JCT	Junction City	118.26	347	PFAKE		23 11 40.0	+15
JCT				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
GTBY	Guantanamo Bay	118.34	319	PFAKE		23 11 40.0	+14
GTBY				LR	LR		
comp=Z,2μm,20.0s,MS5.7							
TXAR	Lajitas Array	120.00	351	PKP	PKPdf	23 11 30.3	+1.5
comp=Z,2.7nm,0.9s,baz=208,slow=1.7,SNR=5.1							
TXAR	Lajitas Array	120.00	351	PKP	PKPdf	23 11 30.3	+1.5
TXAR	Lajitas Array	120.00	351	PKIKP	PKPdf	23 11 30.3	+1.5
QSPA	South Pole Qui	120.21	180	eP	PKPdf	23 11 28.2	+0.6
QSPA				LR	LR		
comp=Z,3μm,22.0s,MS5.8							
KVTX	Kingsville	120.70	345	PFAKE		23 11 40.0	+10
KVTX				LR	LR		
comp=Z,3μm,19.0s,MS5.9							
MTDJ	Mount Denham	121.06	320	PFAKE		23 11 40.0	+8.9
MTDJ				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
SBA	Scott Base	121.44	166	PFAKE		23 11 40.0	+10
SBA				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
SDV	Santo Domingo	123.91	307	PFAKE		23 11 50.0	+13
SDV				LR	LR		
comp=Z,333nm,20.0s,MS5.0							
RAO	Raoul Island	124.04	107	PFAKE		23 11 50.0	+14
RAO				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
TGUH	Tegucigalpa,Un	129.54	327	eP	PKPdf	23 11 47.9	+0.5
TGUH				LR	LR		
comp=Z,993nm,21.0s,MS5.5							
BCIP	Isla Barro Col	129.64	316	PFAKE		23 12 00.0	+12
BCIP				LR	LR		
comp=Z,708nm,20.0s,MS5.4							
JTS	JuntasAbangare	131.61	322	PFAKE		23 12 00.0	+8.6
JTS				LR	LR		
comp=Z,1μm,22.0s,MS5.5							
CPUP	Villa Florida	131.61	260	PKP	PKPdf	23 11 51.9	+0.9
comp=Z,6.8nm,0.9s,baz=52,slow=3.1,SNR=9.6							
CPUP	Villa Florida	131.61	260	PKP	PKPdf	23 11 51.9	+0.9
CPUP				LR	LR		
comp=Z,179nm,19.0s,MS4.8							
CPUP	Villa Florida	131.61	260	PKIKP	PKPdf	23 11 51.9	+0.9
CPUP				MLR	MLR		
comp=Z,179nm,19.0s							
EFI	East Falkland	134.93	226	PFAKE		23 12 10.0	+14
EFI				LR	LR		
comp=Z,1μm,22.0s,MS5.5							
OTAV	Otavalo	135.50	307	PFAKE		23 12 10.0	+11
OTAV				LR	LR		
comp=Z,1μm,22.0s,MS5.5							
LPAZ	La Paz	137.12	279	PKP	PKPdf	23 12 03.6	+2.1
comp=Z,3.2nm,1.0s,baz=72,slow=2.8,SNR=9.3							
LPAZ	La Paz	137.12	279	PKP	PKPdf	23 12 03.6	+2.1
LPAZ				LR	LR		
comp=Z,3μm,20.0s,MS6.0							
LPAZ	La Paz	137.12	279	PKIKP	PKPdf	23 12 03.6	+2.1
LPAZ				MLR	MLR		
comp=Z,3μm,20.0s							
NNA	Nana	142.20	291	PFAKE		23 12 20.0	+9.2
NNA				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
LCO	Las Campanas	143.75	261	ePKPdf	PKPdf	23 12 12.3	-0.9
PPT	Papeete	144.03	78	eLR	LR	23 59 33.4	
comp=Z,2μm,22.8s							
PLCA	Paso Flores	144.58	241	PKP	PKPdf	23 12 14.4	+0.2
comp=Z,12nm,1.0s,baz=128,slow=2.2,SNR=8.0							
PLCA	Paso Flores	144.58	241	ePKPdf	PKPdf	23 12 14.2	-0.1
PLCA				PKP	PKPdf	23 12 14.4	+0.2
PLCA	Paso Flores	144.58	241	ePKIKP	PKPdf	23 12 14.2	-0.1
PLCA						23 12 14.4	
TBI	Tubuai	146.47	87	eLR	LR	00 00 41.0	
comp=Z,1μm,24.8s							
TAOE	Nuku Hiva Isla	146.50	56	eLR	LR	00 00 29.4	
comp=Z,3μm,22.3s							
RKT	Rikitea	158.75	75	eLR	LR	00 06 08.0	
comp=Z,2μm,29.5s							
RPN	Rapa Nui	175.68	318	PFAKE		23 13 00.0	+12
RPN				LR	LR		
comp=Z,1μm,21.0s							

*ISCJB **09** 22:52:37.6±0.5, 44°.33N±0°.04×102°.07E±0°.08, h10km, mb3.8/7, Error ellipse: s-maj=8.5km s-min=6.0km az=173.6*
*IDC **09** 22:52:37.7±0.9, 44°.29N×102°.10E, h0km, mb3.9/6, mb1 4.1/10, mb1mx4.0/28, mbtmp3.9/10, ML3.7/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/41, Error ellipse: s-maj=23.0km s-min=16.0km az=108.0*
*MOS **09** 22:52:38.8±1.3, 44°.29N×102°.01E, h23km, mb4.1/4, Error ellipse: s-maj=16.3km s-min=8.5km az=89.8*
*NEIC **09** 22:52:39.4±3.3, 44°.28N×102°.05E, h11km±23km, mb4.1/2, Error ellipse: s-maj=8.1km s-min=7.3km az=96.0*
ISC 09 22:52:39.7±0.4, 44°.32N±0°.04×102°.07E±0°.07, h10km, n54, σ0=92/67, mb3.8/7, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	4.62	39	Pn		Pn	22 53 50.5	+0.9
7.6nm,0.3s,baz=221,slow=15,SNR=271								
SONM					Pg	Pg	22 54 03.4	-4.9
18nm,0.3s,baz=224,slow=17,SNR=47								
SONM					Lg		22 55 03.3	
28nm,0.3s,baz=220,slow=29,SNR=15								
SONM					LR	LR	22 55 53.0	
comp=Z,580nm,19.5s,baz=172,slow=42								
SONM	Songino Array	4.62	39	Pn		Pn	22 53 50.5	+0.9
SONM					Pg	Pg	22 54 03.4	-4.9
SONM					Lg		22 55 03.3	
SONM	Songino Array	4.62	39	P		Pn	22 53 50.5	+0.9
ULN	Ulaanbaatar	4.96	43	ePn		Pn	22 53 55.0	+0.9
ULN				ePg		Pg	22 54 09.7	-5.0
ULN				eSg		Sg	22 55 17.4	-1.4
ULN	Ulaanbaatar	4.96	43	eP		Pn	22 53 55.0	+0.8
ULN	Ulaanbaatar	4.96	43	P		Pn	22 53 55.8	+1.6
SNR=9.2								
ULN	Ulaanbaatar	4.96	43	P		Pn	22 53 55.8	+1.6
SNR=9.0								
ULN	Ulaanbaatar	4.96	43	P		Pn	22 53 55.8	+1.6
SNR=9.0								
ULN	Ulaanbaatar	4.96	43	P		Pn	22 53 55.8	+1.6
SNR=9.2								
ULN	Ulaanbaatar	4.96	43	P		Pn	22 53 55.8	+1.6
SNR=9.2								
ULN	Ulaanbaatar	4.96	43	P		Pn	22 53 55.8	+1.6
SNR=9.2								
ULN	Ulaanbaatar	4.96	43	P		Pn	22 53 55.8	+1.6
SNR=9.2								
GTA	Gaotai	5.19	200	Pn		Pn	22 53 57.9	+0.5
GTA				Pg		Pg	22 54 14.6	-4.5
GTA				Sg		Sg	22 55 17.6	-8.7
GTA				smax				
comp=N,500nm,1.3s								
GTA				smax				
comp=E,540nm,1.2s								
ZAK	Zakamensk	6.12	7	eP		Pn	22 54 10.3	+0.2
ZAK				e			22 55 21.4	
ZAK				pmax		pmax		
comp=Z,32nm,1.0s								
ZAK				smax				
comp=E,418nm,1.1s								
BTO	Baotou	6.95	120	eP		Pn	22 54 24.3	+2.7
MOY	Mondy	7.38	355	eP		Pn	22 54 27.8	+0.3
MOY				pmax		pmax		
comp=Z,32nm,0.8s								
TLY	Talaya	7.44	8	ePn		Pn	22 54 27.9	-0.4
comp=Z,25nm,0.6s								
TLY				ePg		Pg	22 54 53.3	-8.8
TLY				eSn		Sn	22 55 52.9	+0.3
TLY	Talaya	7.44	8	eP		Pn	22 54 27.9	-0.3
TLY				e			22 55 52.9	
TLY				pmax		pmax		
comp=Z,25nm,0.6s								
HHC	Hu-ho-hao-te	7.82	113	eP		Pn	22 54 34.0	+0.5
HHC				S		Sn	22 56 18.9	+17
HHC				pmax		pmax		
comp=Z,16nm,0.8s								
HHC				pmax		pmax		
comp=Z,200nm,5.1s								
HHC				LR		LR		
comp=N,1μm,8.1s								
HHC				LR		LR		
comp=E,500nm,7.2s								
HHC				LR		LR		
comp=Z,270nm,7.7s								
LZH	Lanzhou	8.34	170	ePn		Pn	22 54 39.4	-1.2
LZH				Pg		Pn	22 54 53.5	+13
LZH				Sn		Sn	22 56 27.4	+13
LZH				Sg		Sn	22 56 47.4	+33
LZH				smax				
comp=N,120nm,1.0s								
LZH				smax				
comp=E,250nm,1.2s								
LZH				LR		LR		
comp=N,630nm,5.8s								
LZH				LR		LR		
comp=E,740nm,5.9s								
LZH				LR		LR		
comp=Z,730nm,7.5s								
LZH	Lanzhou	8.34	170	ePn		Pn	22 54 39.4	-1.2
LZH				Pg		Pn	22 54 53.5	+13
LZH				Sn		Sn	22 56 27.4	+13
LZH				Sg		Sn	22 56 47.4	+33
LZH	Lanzhou	8.34	170	eP		Pn	22 54 39.4	-1.2
MKAR	Makanchi Array	14.08	287	Pn		Pn	22 55 58.6	-0.5
comp=Z,0.0nm,0.3s,baz=85,slow=16,SNR=3.3								
MKAR	Makanchi Array	14.08	287	Pn		Pn	22 55 58.6	-0.5
MKAR	Makanchi Array	14.08	287	P		Pn	22 55 58.6	-0.5
ZALV	Zalesovo Beam	14.80	317	Pn		Pn	22 56 08.4	-0.5
comp=Z,0.5nm,0.3s,baz=123,slow=11,SNR=8.9								
ZALV	Zalesovo Beam	14.80	317	Pn		Pn	22 56 08.4	-0.5
ZALV	Zalesovo Beam	14.80	317	P		Pn	22 56 08.4	-0.5
KURK	Kurchatov	17.04	300	P		Pn	22 56 38.5	+0.5
comp=Z,0.2nm,0.3s,baz=104,slow=12,SNR=23								
KURK	Kurchatov	17.04	300	ePn		Pn	22 56 37.8	-0.1
comp=Z,6.8nm,0.6s								
KURK	Kurchatov	17.04	300	P		Pn	22 56 38.5	+0.6
KSAR	Wonju Array Be	20.64	101	P		P	22 57 18.4	-0.9
KSAR	Wonju Array Be	20.64	101	P		P	22 57 18.5	-0.8
KSRS	Korea Array	20.66	100	P		P	22 57 18.4	-1.1
comp=Z,4.0nm,1.0s,baz=285,slow=10,SNR=12								
KSRS	Korea Array	20.66	100	P		P	22 57 18.5	-1.1
KSRS				pmax		pmax		
comp=Z,4.0nm,1.0s								
CHTO	Chiang Mai	25.57	187	eP		P	22 58 08.7	-0.2
comp=Z,7.3nm,1.3s,mb4.0								
CHTO	Chiang Mai	25.57	187	eP		P	22 58 08.7	-0.1
CHTO				pmax		pmax		
comp=Z,7.0nm,1.3s,mb4.0								
CHTO	Chiang Mai	25.57	187	P		P	22 58 11.5	+2.7
CMAR	Chiang Mai Arr	25.92	187	P		P	22 58 11.9	-0.1
comp=Z,1.1nm,0.3s,mb3.8,baz=356,slow=9.2,SNR=14								
CMAR	Chiang Mai Arr	25.92	187	P		P	22 58 11.9	-0.1
CMAR	Chiang Mai Arr	25.92	187	P		P	22 58 12.0	0.0
BILL	Bilibino	40.30	32	eP		P	23 00 17.4	+0.8
BILL				pmax		pmax		
comp=Z,2.0nm,1.4s,mb3.6								
ILAR	Eielson Array	58.76	28	P		P	23 02 37.8	+0.4
comp=Z,0.9nm,0.8s,mb3.9,baz=291,slow=5.3,SNR=7.7								
ILAR	Eielson Array	58.76	28	P		P	23 02 37.8	+0.4
ILAR	Eielson Array	58.76	28	P		P	23 02 37.8	+0.4
YKA	Yellowknife Ar	69.55	17	P		P	23 03 47.6	-0.6
comp=Z,2.1nm,0.8s,mb4.1,baz=331,slow=6.1,SNR=18								
YKA	Yellowknife Ar	69.55	17	P		P	23 03 47.6	-0.6
YKA	Yellowknife Ar	69.55	17	P		P	23 03 47.6	-0.6
YKA				pmax		pmax		
comp=Z,2.0nm,0.8s								
WRA	Warramunga Arr	70.43	148	P		P	23 03 52.5	-1.6
comp=Z,1.0nm,0.9s,mb3.7,baz=347,slow=6.7,SNR=5.6								
WRA	Warramunga Arr	70.43	148	P		P	23 03 52.5	-1.6
WRA	Warramunga Arr	70.43	148	P		P	23 03 52.5	-1.6
ASAR	Alice Springs	73.67	150	P		P	23 04 13.1	-0.4
comp=Z,0.5nm,1.0s,mb3.4,baz=331,slow=4.7,SNR=6.7								
ASAR	Alice Springs	73.67	150	P		P	23 04 13.1	-0.4
ASAR	Alice Springs	73.67	150	P		P	23 04 13.1	-0.3

*CSEM **09** 22:58:50.2, 36°.45N×26°.89E, h13km, MD3.5, After ATH*
ATH 09 22:58:50.2, 36°.45N×26°.88E, h12km±3km, MD3.5/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.93	166	ePG		Pg	22 59 07.2	-0.9
KARP				eSB		Sb	22 59 21.0	+0.5
KARP	Karpathos	0.93	166	ePg		Pg	22 59 07.2	-0.9
KARP				eSb		Sb	22 59 21.0	+0.5
ARG	Arkhangelos	1.03	103	ePB		Pb	22 59 09.9	-0.1
ARG	Arkhangelos	1.03	103	ePb		Pb	22 59 09.9	-0.1
SMG	Samos	1.26	358	ePB		Pb	22 59 13.8	0.0
SMG	Samos	1.26	358	ePb		Pb	22 59 13.8	0.0
NPS	Neapolis	1.57	221	ePG		Pg	22 59 19.5	-0.8
NPS	Neapolis	1.57	221	ePg		Pg	22 59 20.5	+0.2
IDI	Anoyia	1.99	235	ePn		Pn	22 59 25.4	+1.8
IDI	Anoyia	1.99	235	ePn		Pn	22 59 25.2	+1.6
SIVA	Sivas	2.21	230	ePN		Pn	22 59 29.0	+2.3
SIVA	Sivas	2.21	230	ePn		Pn	22 59 29.0	+2.3
VAM	Vamos	2.41	245	ePN		Pn	22 59 32.1	+2.7
VAM	Vamos	2.41	245	ePn		Pn	22 59 32.1	+2.7
KARN	Karanos	2.62	247	ePN		Pn	22 59 35.0	+2.7
KARN	Karanos	2.62	247	ePn		Pn	22 59 35.0	+2.7

*DDA **09** 23:21:03.4, 36°.89N×27°.71E, h7km±3km, Md2.9*
*ISCJB **09** 23:21:04.8±0.5, 36°.93N±0°.03×27°.64E±0°.03, h10km±4km, Error ellipse: s-maj=4.7km s-min=4.4km az=35.1*
*ISK **09** 23:21:04.6, 36°.96N×27°.71E, h6km, MD2.9*
*ATH **09** 23:21:04.7, 36°.78N×27°.58E, h40km±9km, MD3.4/8*
*CSEM **09** 23:21:04.9±0.2, 36°.91N×27°.66E, h10km, MD2.9, Error ellipse: s-maj=4.4km s-min=3.9km az=14.0*
ISC 09 23:21:05.3±0.5, 36°.93N±0°.03×27°.65E±0°.03, h11km±4km, n57, σ0=91/71, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.20	197	PG		Pg	23 21 09.8	+0.1
DAT				SG		Sg	23 21 14.6	+2.0
DAT	Datca	0.20	197	iPg		Pg	23 21 09.8	+0.1
DAT				iSg		Sg	23 21 14.6	+2.0
BODT	Bodrum	0.30	297	ePG		Pg	23 21 11.2	-0.2
BODT	Bodrum	0.30	297	ePg		Pg	23 21 11.2	-0.3
MLSB	Milas	0.38	15	ePG		Pg	23 21 11.7	-1.2
MLSB				eSG		Sg	23 21 17.7	-0.3
MLSB	Milas	0.38	15	ePg		Pg	23 21 11.7	-1.2
MLSB				eSg		Sg	23 21 17.7	-0.4
YER	Yerkesik	0.55	67	ePG		Pg	23 21 13.9	-2.0
YER	Yerkesik	0.55	67	ePg		Pg	23 21 13.9	-2.1
TURN	Turunc	0.77	94	iP		Pg	23 21 12.1	-8.0
TURN				iS		Sg	23 21 19.3	-11
ARG	Arkhangelos	0.80	151	eP		Pg	23 21 19.4	-1.4
ARG	Arkhangelos	0.80	151	eP		Pg	23 21 19.4	-1.4
ARG				eS		Sg	23 21 32.3	+1.0
GCAM	G?zelcaml?	0.84	337	iP		Pg	23 21 21.1	-0.5
GCAM				iS		Sg	23 21 34.2	+1.6
GCAM	G?zelcaml?	0.84	337	iP		Pg	23 21 21.1	-0.5
GCAM				iS		Sg	23 21 34.2	+1.6
SMG	Samos	1.02	321	eP		Pg	23 21 25.4	+0.5
SMG	Samos	1.02	321	eP		Pg	23 21 25.2	+0.3
DNZL	Cakiroluk	1.35	55	iP		Pn	23 21 28.8	-1.2
DNZL				iS		Sb	23 21 48.0	+0.2
DNZL	Cakiroluk	1.35	55	iP		Pn	23 21 28.8	-1.2
DNZL				iS		Sb	23 21 48.0	+0.2
DENT	Denizli	1.38	53	ePN		Pn	23 21 30.0	-0.4
DENT	Denizli	1.38	53	ePn		Pn	23 21 30.0	-0.4
GLHS	Gihisar (BURDU	1.50	81	ePN		Pn	23 21 32.4	+0.3
GLHS	Gihisar (BURDU	1.50	81	ePn		Pn	23 21 32.4	+0.4
IZM	Izmir	1.50	348	ePN		Pn	23 21 32.4	+0.2
IZM	Izmir	1.50	348	ePn		Pn	23 21 32.4	+0.3
BLCB	Balcova	1.54	342	ePN		Pn	23 21 32.6	0.0
BLCB	Balcova	1.54	342	ePn		Pn	23 21 32.6	0.0
GOLH	Golhisar	1.56	78	iP		Pn	23 21 32.0	-0.9
GOLH				iS		Sn	23 21 54.2	+1.1
GOLH	Golhisar	1.56	78	iP		Pn	23 21 32.0	-0.9
GOLH				iS		Sn	23 21 54.2	+1.2
APE	Apeiranthos	1.70	275	ePN		Pn	23 21 36.0	+1.1
APE	Apeiranthos	1.70	275	eP		Pn	23 21 33.2	-1.7
APE	Apeiranthos	1.70	275	eP		Pn	23 21 34.5	-0.4
APE	Apeiranthos	1.70	275	ePn		Pn	23 21 36.0	+1.1
APE				eS		Sn	23 21 55.8	-0.8
KULA	Kula-Manisa	1.78	26	ePN		Pn	23 21 36.3	+0.4
KULA	Kula-Manisa	1.78	26	ePn		Pn	23 21 36.3	+0.4
ELL	Elmali	1.82	95	ePN		Pn	23 21 36.6	+0.1
ELL	Elmali	1.82	95	ePn		Pn	23 21 36.6	+0.1
CHOS	Chios island	1.93	320	eP		Pn	23 21 38.1	+0.1
CHOS	Chios island	1.93	320	eP		Pn	23 21 38.1	+0.1
AKS	Akhisar	1.96	4	ePN		Pn	23 21 39.0	+0.6
AKS	Akhisar	1.96	4	ePn		Pn	23 21 39.0	+0.7
BCK	Bucak	2.41	76	ePN		Pn	23 21 45.6	+1.1
BCK	Bucak	2.41	76	ePn		Pn	23 21 45.6	+1.1
PRK	Paraskevi	2.56	335	eP		Pn	23 21 47.1	+0.4
PRK	Paraskevi	2.56	335	eP		Pn	23 21 47.1	+0.4
PRK				eS		Sn	23 22 18.4	+0.6
BALB	Balikesir	2.72	4	ePN		Pn	23 21 49.6	+0.8
BALB	Balikesir	2.72	4	ePn		Pn	23 21 49.6	+0.8
DST	Dursunbey	2.78	16	ePN		Pn	23 21 49.3	-0.4
DST	Dursunbey	2.78	16	ePn		Pn	23 21 49.3	-0.4
ALT	Altintas	2.88	42	ePN		Pn	23 21 51.4	+0.4
ALT	Altintas	2.88	42	ePn		Pn	23 21 51.4	+0.4
KARN	Karanos	3.38	244	eP		Pn	23 21 55.6	-2.3
KARN	Karanos	3.38	244	eP		Pn	23 21 55.6	-2.3
LIA	Limnos Island	3.54	328	eP		Pn	23 22 00.6	+0.4
LIA	Limnos Island	3.54	328	eP		Pn	23 22 00.8	+0.6
LKR	Lokris	4.07	296	eP		Pn	23 22 06.9	-0.5
LKR	Lokris	4.07	296	eP		Pn	23 22 06.9	-0.5
AGG	Agios Georgios	4.70	298	eP		Pn	23 22 15.6	-0.4
AGG	Agios Georgios	4.70	298	eP		Pn	23 22 15.3	-0.7

*ISCJB **09** 23:23:05.9±0.6, 16°.52S±0°.09×69°.57W±0°.08, h195km±8km, mb4.2/4, Error ellipse: s-maj=16.6km s-min=9.8km az=35.3*
*IDC **09** 23:23:07.0±0.9, 16°.56S×69°.53W, h186km±7km, mb4.0/3, mb1 3.7/6, mb1mx3.5/20, mbtmp3.7/6, Error ellipse: s-maj=19.7km s-min=15.4km az=13.0*
*NEIC **09** 23:23:07.3±0.7, 16°.63S×69°.49W, h185km±5km, mb4.3/3, Error ellipse: s-maj=14.1km s-min=10.3km az=85.0*
ISC 09 23:23:07.6±0.8, 16°.59S±0°.10×69°.5W±0°.1, h191km±8km, n27, σ0=95/21, mb4.1/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.35	77	P		Pn	23 23 39.7	+0.5
54nm,0.3s,baz=294,slow=5.5,SNR=2051								
LPAZ				S		Sn	23 24 03.6	+12
baz=128,slow=19								
LPAZ	La Paz	1.35	77	P		Pn	23 23 39.7	+0.5
LPAZ				S		Sn	23 24 03.6	+12
NNA	Nana	8.46	302	P		Pn	23 25 06.5	-0.3
7.4nm,0.3s,baz=118,slow=8.7,SNR=10.0								
NNA				S		Sn	23 26 36.1	-5.6
9.1nm,0.3s,baz=232,slow=16,SNR=9.6								
NNA	Nana	8.46	302	P		Pn	23 25 06.5	-0.3
NNA				S		Sn	23 26 36.1	-5.6
LCO	Las Campanas	12.41	185	ePn		Pn	23 25 58.0	+0.1
CPUP	Villa Florida	14.90	133	P		Pn	23 26 28.4	-0.6
0.5nm,0.3s,baz=303,slow=11,SNR=5.3								
CFAA	Coronel Fontan	14.99	176	P		Pn	23 26 28.9	-1.1
0.2nm,0.3s,baz=349,slow=9.4,SNR=12								
CFAA	Coronel Fontan	14.99	176	P		Pn	23 26 28.9	-1.1
TRQA	Tornquist	22.39	164	eP		P	23 27 49.5	-0.5
3.9nm,0.6s,mb4.0								
PLCA	Paso Flores	24.07	182	P		P	23 28 05.5	+0.2
13nm,0.8s,mb4.5,baz=357,slow=8.7,SNR=14								
PLCA	Paso Flores	24.07	182	eP		P	23 28 05.7	+0.4
8.0nm,0.6s,mb4.4								
VNA2	Neumayer--Watz	65.45	161	e		P	23 33 32.1	+2.6
SNAA	Sanae	67.09	162	e		P	23 33 40.7	+0.8
DBIC	Dimbokro	67.97	76	P		P	23 33 45.8	-0.6
2.7nm,0.6s,mb4.2,baz=190,slow=6.4,SNR=9.7								
DBIC	Dimbokro	67.97	76	eP		P	23 33 46.1	-0.3
3.3nm,0.6s,mb4.2								
TORD	Torodi Ar. Bea	76.30	72	P		P	23 34 35.2	-0.6
1.6nm,0.5s,mb3.9,baz=268,slow=5.2,SNR=36								
TORD	Torodi Ar. Bea	76.30	72	P		P	23 34 35.2	-0.6
ASAR	Alice Springs	133.91	210	PKP		PKPdf	23 42 03.2	+0.6
0.5nm,0.6s,baz=131,slow=1.7,SNR=7.6								
ASAR	Alice Springs	133.91	210	PKP		PKPdf	23 42 03.2	+0.6
WRA	Warramunga Arr	136.79	214	PKP		PKPdf	23 42 08.9	+0.8
0.6nm,0.5s,baz=145,slow=2.0,SNR=7.1								
WRA	Warramunga Arr	136.79	214	PKP		PKPdf	23 42 08.9	+0.8
KURK	Kurchatov	137.45	30	SKPbc		SKPbc	23 45 25.6	+1.8
0.9nm,0.4s,baz=307,slow=9.5,SNR=5.0								
KURK	Kurchatov	137.45	30	SKPbc		SKPbc	23 45 25.6	+1.8
MKAR	Makanchi Array	141.89	32	SKPbc		SKPbc	23 45 37.3	+1.4
0.3nm,0.6s,baz=334,slow=3.7,SNR=4.0								
MKAR	Makanchi Array	141.89	32	SKPbc		SKPbc	23 45 37.3	+1.4
SONM	Songino Array	148.66	5	PKPbc		PKPbc	23 42 33.8	+1.9
0.7nm,0.3s,baz=319,slow=1.7,SNR=16								
SONM	Songino Array	148.66	5	PKPbc		PKPbc	23 42 33.8	+1.9

*ISCJB **09** 23:44:11.6±0.3, 17°.98N±0°.03×98°.36W±0°.03, h72km±2km, mb4.4/43, Error ellipse: s-maj=5.4km s-min=3.0km az=135.9*
*NEIC **09** 23:44:11.0, 18°.01N×98°.48W, h80km, mb4.5/38, MD4.6(MEX), After MEX.*
*IDC **09** 23:44:12.5±0.7, 18°.21N×98°.18W, h56km±5km, mb4.2/14, mb1 4.4/19, mb1mx4.2/25, mbtmp4.2/19, MS3.1/1, Ms1 3.1/1, ms1mx2.9/36, Error ellipse: s-maj=20.6km s-min=9.1km az=33.0*
*MEX **09** 23:44:13.8±0.5, 17°.95N×98°.48W, h36km±16km, MD4.6*
ISC 09 23:44:12.6±0.2, 17°.97N±0°.02×98°.39W±0°.03, h63km±2km, h58km±.7km: pP-P, n469, σ0=86/469, mb4.5/43, 179C-168D, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UTMO	Huajuapan	0.57	104	iP		Pn	23 44 24.9	-0.7
UTMO				iS		Sn	23 44 34.0	-1.0
PPM	Popocatepetl	1.11	348	eP		Pn	23 44 31.3	-0.9
PPM				iP			23 44 31.3	
PPM				iS	

626A	Big Bend Ranch baz=13	12.67 337	⇑P	Px	23 47 18.7
528A	Cox Ranch, San baz=13	12.78 343	⇑P	Px	23 47 20.7
527A	Woodward Ranch baz=13	13.02 339	⇓P	Px	23 47 23.1
526A	Mary Lane Ranc baz=13,SNR=6.7	13.11 338	⇓P	Px	23 47 23.9
428A	Kincaid Ranch, baz=13	13.29 344	⇑P	Px	23 47 26.5
427A	Hayter Ranch, baz=14,SNR=7.4	13.61 341	⇓P	Px	23 47 30.2
426A	McDonald Obser baz=14,SNR=10	13.64 339	⇑P	Px	23 47 30.3
328A	Wristen Ranch, baz=14	13.94 344	⇑P	Px	23 47 33.8
425A	Indio Mountain baz=14,SNR=9.8	14.10 336	⇓P	Px	23 47 35.4
326A	Caldwell Ranch baz=14,SNR=28	14.22 340	⇓P	Px	23 47 36.7
325A	Bean Ranch, Si baz=15,SNR=11	14.61 337	⇑P	Px	23 47 40.9
227A	Bennet, Jal baz=15,SNR=7.0	14.66 343	⇑P	Pn	23 47 41.4 +4.9
226A	Malaga, Loving baz=15	14.95 341	⇑P	Pn	23 47 45.1 +4.9
MNTX	Cornudas Mount baz=15,SNR=6.6	15.06 336	⇓P	Pn	23 47 45.5 +3.8
MNTX	Cornudas Mount 6.0nm,0.7s	15.06 336	ePn	Pn	23 47 42.2 +0.6
JTS	JuntasAbangare 1.6nm,0.3s,baz=332,slow=17,SNR=6.4	15.09 119	P	Pn	23 47 43.4 +1.2
JTS	JuntasAbangare	15.09 119	P	Pn	23 47 43.4 +1.2
225A	Deer Hill, Car baz=15,SNR=5.3	15.23 339	⇑P	Pn	23 47 48.0 +4.2
127A	Arkansas Junct baz=15	15.31 344	⇑P	Pn	23 47 48.4 +3.5
224A	Cornudas Mount baz=15,SNR=12	15.45 337	⇑P	Pn	23 47 50.2 +3.5
126A	Clayton Basin, baz=16,SNR=8.2	15.47 342	⇓P	Pn	23 47 50.5 +3.6
125A	Gardner Draw, baz=16,SNR=39	15.68 340	⇑P	Pn	23 47 52.9 +3.3
Z27A	Tatum baz=16,SNR=11	15.88 345	⇑P	Pn	23 47 54.2 +2.1
Z26A	Caprock baz=16	16.04 343	⇓P	Pn	23 47 56.4 +2.2
222A	Williams Famil baz=16	16.12 332	⇓P	Pn	23 47 56.9 +1.7
320A	Kipp Ranch, An baz=16,SNR=7.0	16.17 327	⇓P	Pn	23 47 58.1 +2.3
Z25A	Roswell baz=16,SNR=21	16.27 341	⇓P	Pn	23 47 59.0 +2.0
MSTX	Muleshoe baz=16	16.41 347	⇓P	Pn	23 48 01.0 +2.2
Y27A	Causey baz=16	16.41 346	⇓P	Pn	23 47 59.7 +0.9
Y26A	Elida baz=17	16.61 344	⇓P	Pn	23 48 03.1 +1.8
220A	Playas Peak, P baz=17,SNR=14	16.63 328	⇑P	Pn	23 48 03.4 +1.9
Z23A	Rita Site, Whi baz=17	16.78 337	⇓P	Pn	23 48 05.1 +1.8
121A	Cookes Peak, D baz=17,SNR=8.4	16.79 331	⇑P	Pn	23 48 05.6 +2.1
Y25A	Mesa, Roswell baz=17,SNR=10	16.86 342	⇓P	Pn	23 48 06.0 +1.7
318A	Bisbee baz=17	17.04 324	⇑P	Pn	23 48 09.2 +2.6
MIAR	Mount Ida 36nm,1.2s	17.05 14	ePn	Pn	23 48 04.9 -1.9
Z22A	Elephant Butte baz=17	17.06 335	⇑P	Pn	23 48 08.2 +1.3
219A	White Tail Can baz=17,SNR=12	17.07 327	⇑P	Pn	23 48 09.3 +2.2
Y24A	Capitan baz=17,SNR=34	17.09 340	⇓P	Pn	23 48 09.0 +1.7
AMTX	Amarillo baz=17	17.10 351	⇓P	Pn	23 48 08.4 +1.1
AMTX	Amarillo 22nm,0.6s	17.10 351	eP	Pn	23 48 07.9 +0.6
120A	U Bar Ranch, L baz=17,SNR=11	17.20 329	⇑P	Pn	23 48 10.9 +2.3
X26A	CR and CF Fran baz=17	17.21 345	⇓P	Pn	23 48 09.4 +0.7
Y23A	Lovelace Mesa, baz=17,SNR=14	17.31 338	⇑P	Pn	23 48 10.8 +0.9
Z21A	St. Cloud Mine baz=17,SNR=5.7	17.40 333	⇑P	Pn	23 48 12.6 +1.6
X25A	Clemmons Ranch baz=17	17.41 342	⇑P	Pn	23 48 12.0 +0.8
218A	Dragoon baz=17,SNR=8.7	17.48 325	⇑P	Pn	23 48 13.5 +1.5
W27A	Bowe Ranch, En baz=18,SNR=9.8	17.52 347	⇓P	Pn	23 48 13.1 +0.5
Z20A	Nine Sixteen R baz=18,SNR=5.8	17.65 331	⇑P	Pn	23 48 15.5 +1.4
Y22A	Socorro baz=18	17.66 336	⇑P	Pn	23 48 14.8 +0.6
X24A	Lazy VL Ranch, baz=18,SNR=13	17.68 341	⇑P	Pn	23 48 14.9 +0.4
119A	Ashpeak Ranch, baz=18,SNR=6.9	17.71 328	⇓P	Pn	23 48 16.1 +1.2
BNM	Barren Site 10nm,1.1s	17.72 337	eP	Pn	23 48 16.1 +1.1
LENM	Lemitar	17.86 336	ePn	Pn	23 48 18.8 +2.1
LPM	Los Pinos Moun	17.86 337	ePn	Pn	23 48 17.8 +1.1
X23A	Hourglass Bar baz=18,SNR=8.8	17.95 339	⇓P	Pn	23 48 18.4 +0.7
118A	Homack Ranch, baz=18,SNR=8.6	17.95 327	⇑P	Pn	23 48 19.1 +1.3
W25A	X Bar L Ranch, baz=18	18.01 344	⇓P	Pn	23 48 18.4 0.0
TUL1	Tulsa baz=18	18.01 7	⇓P	Pn	23 48 17.7 -0.8
LAZ	Ladron 1.9nm,0.7s	18.13 336	eP	Pn	23 48 19.9 -0.1
TUC	Tucson	18.14 324	eP	Pn	23 48 20.7 +0.7
Y20A	Horse Springs, baz=18	18.22 333	⇓P	Pn	23 48 21.1 +0.1
W24A	Lazy 6 Ranch, baz=18,SNR=13	18.27 341	⇓P	Pn	23 48 21.6 -0.1
ANMO	Albuquerque 0.3nm,0.3s,baz=149,slow=12,SNR=15	18.38 339	P	Pn	23 48 22.9 0.0
ANMO	Albuquerque 16nm,1.3s	18.38 339	ePn	Pn	23 48 22.9 0.0
V26A	Tequesquite Ra baz=18,SNR=19	18.39 346	⇑P	Pn	23 48 23.4 +0.3
X21A	Alamocita Cree baz=18	18.43 335	⇓P	Pn	23 48 23.5 -0.1
W23A	Werner Place, baz=18	18.46 340	⇑P	Pn	23 48 24.0 0.0
W22A	Albuquerque baz=19	18.63 338	⇓P	Pn	23 48 25.9 0.0
V25A	Rancho No Teng baz=19,SNR=6.8	18.63 344	⇑P	Pn	23 48 25.1 -0.9
Y19A	Nutrioso baz=19,SNR=7.6	18.66 331	⇓P	Pn	23 48 26.7 +0.4
V24A	Rampart Ranch, baz=19,SNR=13	18.71 342	⇑P	Pn	23 48 26.1 -0.8
Z17A	San Carlos Hig baz=19,SNR=6.1	18.73 327	⇑P	Pn	23 48 27.6 +0.4
X20A	Quemado baz=19	18.81 333	⇑P	Pn	23 48 28.0 -0.1
Y18A	Canyon Day Jun baz=19,SNR=14	18.88 329	⇑P	Pn	23 48 29.0 0.0
U26A	Atchley Ranch, baz=19,SNR=10	18.95 347	⇓P	Pn	23 48 29.3 -0.5
V23A	Ortiz Mt. (NFS baz=19,SNR=12	19.00 340	⇑P	Pn	23 48 30.0 -0.5
X19A	St. Johns baz=19	19.06 331	⇓P	Pn	23 48 30.8 -0.4
214A	Organ Pipe Nat baz=19	19.07 320	⇓P	Pn	23 48 32.3 +1.0
U25A	Circle Dot Ran baz=19	19.11 345	⇓P	Pn	23 48 30.9 -0.8
Y17A	Roosevelt baz=19,SNR=22	19.23 327	⇑P	Pn	23 48 33.0 -0.2
PLAL	Pickwick Lake 13nm,0.9s	19.27 26	eP	Pn	23 48 30.2 -3.4
W20A	Ramah baz=19	19.31 334	⇑P	Pn	23 48 32.9 -1.2
V22A	San Miguel Ran baz=19,SNR=11	19.40 339	⇑P	Pn	23 48 33.9 -1.3
X18A	Snowflake baz=19,SNR=12	19.45 330	⇓P	Pn	23 48 34.9 -0.9
U23A	El Rito baz=20,SNR=56	19.54 341	⇑P	Pn	23 48 35.4 -1.4
V21A	Milan baz=20	19.57 337	⇑P	Pn	23 48 36.0 -1.1
114A	Black Gap (USA baz=20,SNR=7.0	19.67 321	⇓P	Pn	23 48 38.2 -0.2
X17A	Forest Lakes baz=20	19.71 328	⇓P	Pn	23 48 38.3 -0.6
U22A	Llaves baz=20,SNR=9.4	19.80 339	⇑P	Pn	23 48 38.1 -1.8
T25A	Trinidad baz=20,SNR=36	19.82 346	⇑P	Pn	23 48 38.8 -1.3
V20A	Brimhall baz=20,SNR=7.4	19.88 335	⇑P	Pn	23 48 39.2 -1.6
T24A	Torres, Weston baz=20	19.91 344	⇑P	Pn	23 48 39.8 -1.4
V19A	Window Rock baz=20	20.04 334	⇑P	P	23 48 41.4 +0.9
X16A	Lo Mia Camp, P baz=20,SNR=49	20.10 327	⇑P	P	23 48 42.3 +1.2
U21A	Nagezi baz=20,SNR=15	20.13 338	⇓P	P	23 48 41.8 +0.4
Z14A	Wintersburg baz=20,SNR=8.9	20.14 322	⇓P	P	23 48 43.1 +1.6
T23A	Casias Ranch, baz=20	20.15 342	⇑P	P	23 48 42.0 +0.4
113A	Mohawk Valley, baz=20,SNR=6.2	20.22 320	⇓P	P	23 48 43.6 +1.2
W17A	Winslow baz=20	20.26 330	⇓P	P	23 48 43.7 +0.9
S25A	Robets Cordova baz=20,SNR=15	20.32 346	⇓P	P	23 48 43.9 +0.5
WVT	Waverly 19nm,1.0s	20.36 25	eP	P	23 48 41.2 -2.6
T22A	Edith baz=20,SNR=11	20.40 340	⇑P	P	23 48 44.6 +0.3
U20A	Newcomb baz=20,SNR=7.6	20.40 336	⇑P	P	23 48 44.5 +0.2
V18A	Ganado baz=20,SNR=6.1	20.42 332	⇓P	P	23 48 45.3 +0.7
Z13A	Yuma Proving G baz=20,SNR=12	20.45 321	⇑P	P	23 48 46.3 +1.5
S24A	Houchin Ranch, baz=20,SNR=7.3	20.49 344	⇑P	P	23 48 46.0 +0.7
T21A	Navajo Lake baz=21,SNR=5.4	20.59 339	⇓P	P	23 48 46.7 +0.4
Y14A	Wickenburg baz=20,SNR=11	20.59 323	⇑P	P	23 48 47.6 +1.2
R27A	Eads baz=21	20.60 350	⇓P	P	23 48 46.5 +0.1
U19A	Dine' College, baz=21,SNR=19	20.61 334	⇑P	P	23 48 46.9 +0.3
SDCO	Great Sand Dun baz=21,SNR=24	20.66 344	⇑P	P	23 48 47.6 +0.4
SDCO	Great Sand Dun 26nm,1.5s	20.66 344	eP	P	23 48 47.6 +0.4
R26A	Arlington baz=21,SNR=31	20.73 349	⇓P	P	23 48 48.7 +0.8
V17A	Tonalea, Kykot baz=21	20.74 330	⇓P	P	23 48 48.7 +0.7
R25A	Fountain Ranch baz=21,SNR=12	20.75 347	⇓P	P	23 48 48.6 +0.5
CBKS	Cedar Bluff baz=21	20.80 357	⇑P	P	23 48 50.6 +2.0
CBKS	Cedar Bluff 38nm,0.9s	20.80 357	eP	P	23 48 48.4 -0.2
WUAZ	Wupatki baz=21,SNR=39	20.93 329	⇑P	P	23 48 51.7 +1.6
WUAZ	Wupatki 57nm,0.9s	20.93 329	eP	P	23 48 51.6 +1.5
CCM	Cathedral Cave 8.6nm,0.6s	20.96 16	eP	P	23 48 48.1 -2.3
U18A	Rough Rock, Ch baz=21	20.99 333	⇑P	P	23 48 51.0 +0.3
T19A	Bedabito baz=21,SNR=5.7	21.00 336	⇓P	P	23 48 51.0 +0.2
R24A	Sanders Place, baz=21,SNR=19	21.02 345	⇑P	P	23 48 51.8 +0.8
S22A	4UR Ranch, Cre baz=21,SNR=7.5	21.05 341	⇑P	P	23 48 51.6 +0.3
GLA	Glamis baz=21	21.07 319	⇓P	P	23 48 53.4 +1.8
FVM	French Village 140nm,2.2s,mb4.9	21.12 18	eP	P	23 48 52.6 +0.5
MVCO	Mesa Verde baz=21,SNR=13	21.13 337	⇓P	P	23 48 52.2 +0.1
MVCO	Mesa Verde 84nm,1.8s,mb4.8	21.13 337	eP	P	23 48 52.2 0.0
R23A	Moffat baz=21	21.17 344	⇑P	P	23 48 53.0 +0.4
S21A	Coal Bank Pass baz=21,SNR=19	21.28 339	⇑P	P	23 48 53.8 0.0
KSCO	Kaye Shedlock' baz=21	21.29 351	⇓P	P	23 48 53.8 -0.1
U16A	Tuba City baz=21,SNR=8.4	21.32 331	⇓P	P	23 48 54.6 +0.4
Q26A	Hugo baz=21	21.35 349	⇓P	P	23 48 55.0 +0.5
Y12C	Blythe baz=21	21.35 320	⇓P	P	23 48 54.7 +0.1
R22A	Saguache, Gunn baz=22	21.47 342	⇑P	P	23 48 56.6 +0.8
Q25A	Bedland, Calha baz=22	21.48 347	⇓P	P	23 48 56.5 +0.6
U17A	Shonto baz=22	21.49 332	⇑P	P	23 48 56.8 +0.8
PDMCI	Parker Dam,Lak baz=22	21.50 322	⇓P	P	23 48 57.7 +1.5
T18A	Mexican Hat baz=22,SNR=8.5	21.60 334	⇓P	P	23 48 57.2 -0.1
S20A	Disappointment baz=22,SNR=9.0	21.63 338	⇑P	P	23 48 57.6 +0.1
Q24A	Divide baz=22	21.73 346	⇓P	P	23 48 59.1 +0.5
S19A	Harvey Farm, M baz=22,SNR=7.0	21.84 337	⇑P	P	23 48 59.5 -0.3
Q23A	Hartsel baz=22	21.84 344	⇑P	P	23 49 00.3 +0.5
R21A	Cimarron baz=22,SNR=12	21.84 340	⇑P	P	23 49 01.1 +1.3
BC3	Big Chuckawall baz=22	21.86 319	⇑P	P	23 49 00.2 +0.2
T17A	Navajo Res., N baz=22,SNR=7.9	21.88 332	⇑P	P	23 49 00.6 +0.4
W13A	Hualapai Mount baz=22	21.93 324	⇓P	P	23 49 02.2 +1.5
R20A	Redvale baz=22,SNR=8.0	21.96 339	⇑P	P	23 49 01.1 +0.1
PV01	Paradox Valley 1pm,1.0s	21.98 338	eP	P	23 49 01.2 0.0
IRM	Iron Mountain baz=22	22.01 320	⇑P	P	23 49 01.4 -0.2
P25A	Willow Gulch B baz=22,SNR=7.1	22.04 348	⇑P	P	23 49 02.1 +0.2
Q22A	Crested Butte, baz=22	22.10 342	⇓P	P	23 49 02.5 0.0
U15A	North Rim baz=22,SNR=8.5	22.11 329	⇓P	P	23 49 03.3 +0.6
S18A	Hurst Farm, Bl baz=22,SNR=9.3	22.13 335	⇑P	P	23 49 02.8 0.0
P24A	Kohler Place, baz=22	22.20 347	⇓P	P	23 49 03.8 +0.3
P23A	Jefferson baz=22,SNR=7.5	22.29 345	⇓P	P	23 49 05.1 +0.6
PV04	Paradox Valley	22.32 338	eP	P	23 49 05.5 +0.6
R19A	Curley Farm, L baz=22	22.36 337	⇓P	P	23 49 05.5 +0.1
SMCO	Snowmass 5.9nm,0.6s,mb4.2	22.41 342	eP	P	23 49 06.2 +0.4
S17A	Black Ridge (B baz=22	22.41 333	⇓P	P	23 49 05.9 0.0
O27A	Beecher Island baz=22	22.42 352	⇑P	P	23 49 05.7 -0.2
BELC	Belle Mtn. Jos baz=22	22.43 319	⇓P	P	23 49 07.3 +1.3
PFO	Pinyon Flat Ob baz=22	22.46 317	⇑P	P	23 49 05.6 -0.9
O26A	Horse Wrangler baz=23	22.60 350	⇑P	P	23 49 07.2 -0.6
Q20A	Ridgley Place, baz=23	22.62 340	⇓P	P	23 49 07.3 -0.7
ISCO	Idaho Springs baz=23,SNR=19	22.63 345	⇑P	P	23 49 08.3 +0.1
ISCO	Idaho Springs 16nm,0.8s,mb4.5	22.63 345	eP	P	23 49 08.2 0.0
R18A	Canyonlands Na baz=23	22.69 336	⇓P	P	23 49 08.5 -0.3
P22A	Eagle baz=23	22.74 343	⇑P	P	23 49 09.0 -0.3
GMRC	Granite Mounta	22.74 321	⇓P	P	23 49 10.2 +0.9
O24A	Longmont baz=23	22.82 347	⇑P	P	23 49 10.1 0.0
S16A	Weppner Ranch, baz=23,SNR=9.6	22.83 332	⇓P	P	23 49 10.2 -0.1
P21A	Newcastle baz=23	22.87 342	⇑P	P	23 49 10.7 0.0
MURC	Murrieta baz=23	22.94 316	⇓P	P	23 49 10.7 -0.8
N27A	Anderson Farm, baz=23	23.03 352	⇓P	P	23 49 11.1 -1.3
O23A	Lake Granby, G baz=23,SNR=8.8	23.10 345	⇓P	P	23 49 12.7 -0.4
OGNE	Ogallala baz=23	23.11 353	⇑P	P	23 49 13.1 -0.1
N26A	Koester Ranch, baz=23	23.16 351	⇓P	P	23 49 12.7 -0.9
HEC	Hector,Ludlow baz=23	23.18 320	⇑P	P	23 49 14.2 +0.3
O22A	Kremmling baz=23,SNR=15	23.21 344	⇓P	P	23 49 13.6 -0.5
R16A	Teasdale baz=23	23.25 333	⇓P	P	23 49 13.9 -0.6
N25A	Grover baz=23	23.29 349	⇑P	P	23 49 13.7 -1.1
TUQ	Turquoise Moun baz=23,SNR=9.3	23.34 322	⇓P	P	23 49 16.0 +0.6
Q18A	Rafter H Ranch baz=23	23.40 336	⇑P	P	23 49 15.6 -0.3
N24A	Carr baz=24	23.45 348	⇓P	P	23 49 16.2 -0.1
P19A	Cripple Cowboy baz=24,SNR=10.0	23.46 339	⇓P	P	23 49 15.9 -0.5
O21A	Pagoda baz=24,SNR=5.5	23.51 342	⇓P	P	23 49 17.0 +0.1
CCUT	Cedar City 7.7nm,1.0s,mb4.1	23.52 329	eP	P	23 49 18.4 +1.4
R15A	Junction baz=24	23.54 332	⇑P	P	23 49 17.2 0.0
SRU	San Rafael 6.4nm,0.9s,mb4.0	23.56 336	eP	P	23 49 17.4 0.0
Q16A	Castle Valley baz=24,SNR=10	23.65 335	⇓P	P	23 49 18.4 +0.2
O20A	White River Ci baz=24,SNR=7.7	23.67 341	⇑P	P	23 49 18.0 -0.4
MSU	Marysvale	23.74 332	eP	P	23 49 20.3 +1.3
ARUT	Antelope Range 21nm,1.0s,mb4.5	23.75 329	eP	P	23 49 19.9 +0.9
N23A	Red Feather La baz=24,SNR=6.8	23.75 346	⇑P	P	23 49 19.1 0.0
M26A	McRoberts Ranc baz=24	23.77 351	⇓P	P	23 49 18.6 -0.6
GSC	Goldstone baz=24	23.78 320	⇓P	P	23 49 20.6 +1.2
GSC	Goldstone 8.0nm,1.0s,mb4.1	23.78 320	eP	P	23 49 20.4 +0.9
M25A	Palm-Egli Farm baz=24,SNR=11	23.88 349	⇑P	P	23 49 20.6 +0.3
P18A	Preston Nutter baz=24	23.90 337	⇑P	P	23 49 20.1 -0.4
TMUT	Trail Mountain 23nm,1.3s,mb4.5	23.99 335	eP	P	23 49 22.2 +1.0
N21A	Black Mountain baz=24,SNR=13	24.03 343	⇑P	P	23 49 22.2 +0.6
M24A	Cheyenne baz=24	24.06 348	⇓P	P	23 49 22.3 +0.5
O19A	Miners Draw (B baz=24	24.10 340	⇑P	P	23 49 22.5 +0.2
M23A	Laramie baz=24,SNR=7.0	24.25 346	⇑P	P	23 49 23.6 +0.1
EDW2	Edwards Air Fo baz=24	24.25 318	⇑P	P	23 49 23.3 -0.4
L27A	T5 Ranch, Ells baz=24	24.27 353	⇑P	P	23 49 23.7 0.0
R13A	O'Grain Ranch, baz=24,SNR=20	24.31 329	⇑P	P	23 49 25.2 +1.0
L26A	Underwood Farm baz=24	24.32 351	⇓P	P	23 49 24.9 +0.7
N20A	Spence Gulch, baz=24,SNR=5.9	24.32 342	⇓P	P	23 49 24.3 0.0
O18A	Roosevelt baz=24	24.38 338	⇑P	P	23 49 24.7 -0.1
M22A	Cedar Creek Ra baz=24	24.39 345	⇑P	P	23 49 25.1 +0.2
P16A	Fountain Green baz=24	24.44 335	⇑P	P	23 49 25.5 +0.1
LRMC	Laurel Mountai baz=24	24.44 319	⇓P	P	23 49 26.2 +0.8
L25A	Engebretsen Ra baz=25	24.57 350	⇓P	P	23 49 26.6 +0.2
O17A	Robinson Place baz=25,SNR=12	24.58 337	⇓P	P	23 49 26.8 +0.1
L24A	Wheatland baz=25	24.64 348	⇑P	P	23 49 27.1 0.0
MPMC	Manual Prospec baz=25,SNR=9.2	24.70 321	⇓P	P	23 49 28.5 +0.7
MPU	Maple Canyon 5.5nm,0.9s,mb4.1	24.78 335	eP	P	23 49 29.4 +1.0
M21A	Separation Pea baz=25,SNR=12	24.78 344	⇓P	P	23 49 28.6 +0.1
RWWY	Rawlins 28nm,1.0s,mb4.8	24.82 344	eP	P	23 49 30.4 +1.6
L23A	Garrett baz=25,SNR=15	24.86 347	⇑P	P	23 49 28.6 -0.5
K27A	Flueckinger Fa baz=25	24.87 353	⇑P	P	23 49 29.9 +0.7
N18A	Larsen Ranch, baz=25	24.90 339	⇑P	P	23 49 29.2 -0.3
M20A	Sweetwater, Wa baz=25,SNR=5.2	24.90 342	⇓P	P	23 49 29.1 -0.4
L22A	Ellis Ranch, M baz=25,SNR=8.8	24.95 346	⇓P	P	23 49 29.4 -0.5
ISA	Isabella baz=25	25.05 319	⇓P	P	23 49 32.3 +1.3
ISA	Isabella 8.0nm,1.1s,mb4.2	25.05 319	eP	P	23 49 33.5 +2.5
L21A	Rawlins baz=25,SNR=8.3	25.11 344	⇑P	P	23 49 31.0 -0.5
M19A	Rock Springs baz=25	25.20 341	⇓P	P	23 49 31.9 -0.4
R11A	Troy Canyon, C baz=25,SNR=6.2	25.26 327	⇓P	P	23 49 32.6 -0.1
GRAC	Grapevine Rang baz=25,SNR=11	25.27 322	⇑P	P	23 49 33.6 +0.6
N17A	Moffit Pass baz=25	25.27 338	⇑P	P	23 49 32.2 -0.7
DUG	Dugway baz=25,SNR=6.1	25.41 334	⇓P	P	23 49 34.0 -0.1
DUG	Dugway 12nm,1.4s,mb4.2	25.41 334	eP	P	23 49 34.7 +0.5
L20A	Wamsutter baz=25	25.42 343	⇓P	P	23 49 34.5 +0.3
M18A	Lyman baz=25	25.43 339	⇑P	P	23 49 34.4 +0.1
PKM	Peak Mountain baz=25	25.45 316	⇓P	P	23 49 34.8 +0.2
K23A	Bowen Ranch, D baz=26	25.46 348	⇓P	P	23 49 34.6 +0.1
K22A	Casper baz=26,SNR=7.4	25.55 346	⇓P	P	23 49 35.1 -0.3
M17A	Scullys Gap (B baz=26,SNR=7.1	25.68 338	⇓P	P	23 49 36.0 -0.6
K21A	Alcova baz=26	25.71 345	⇑P	P	23 49 37.1 +0.2
ECSD	EROS Data Cent 13nm,1.0s,mb4.4	25.72 3	eP	P	23 49 35.0 -1.9
L19A	Farson baz=26	25.81 341	⇑P	P	23 49 37.5 -0.3
J24A	Dixon Ranch, L baz=26	25.83 349	⇓P	P	23 49 38.0 +0.1
L18A	Fontenelle, Gr baz=26,SNR=7.6	25.87 340	⇑P	P	23 49 37.8 -0.5
K20A	Yellowstone Ra baz=26	26.02 343	⇑P	P	23 49 39.1 -0.6
J22A	Midwest baz=26,SNR=11	26.27 347	⇓P	P	23 49 41.5 -0.4
K19A	Absolon Red Bu baz=26	26.32 342	⇓P	P	23 49 41.5 -0.8
J21A	Lysite baz=26,SNR=9.1	26.43 345	⇑P	P	23 49 42.9 -0.5
BW06	Boulder Array baz=26,SNR=17	26.48 341	⇑P	P	23 49 43.3 -0.4
PDAR	Pinedale Array 7.4nm,0.8s,mb4.3,baz=152,slow=10,SNR=37	26.48 341	P	P	23 49 43.4 -0.4
PDAR	Pinedale Array	26.48 341	P	P	23 49 43.4 -0.4
K18A	Toltan Ranch, baz=26,SNR=5.1	26.51 340	⇑P	P	23 49 43.6 -0.4
J20A	Shoshoni	26.60 344	⇑P	P	23 49 44.8 -0.1

baz=27,SNR=6.1
I22A 9 Mile Ranch, 26.73 347 ⇑P P 23 49 45.9 -0.1
baz=27
HVU Hansel Valley 26.73 336 *e*P P 23 49 47.2 +1.2
4.8nm,0.7s,mb4.1
L15A Malad City 26.77 336 ⇑P P 23 49 46.0 -0.4
baz=27
J19A Crowheart 26.78 343 ⇑P P 23 49 46.2 -0.3
baz=27
NVAR Mina Array Bea 26.79 324 P P 23 49 47.8 +1.2
9.1nm,0.7s,mb4.4,baz=144,slow=9.5,SNR=37
NVAR Mina Array Bea 26.79 324 P P 23 49 47.8 +1.2
I21A Big Trails, Te 26.83 346 ⇑P P 23 49 47.0 0.0
baz=27,SNR=16
K17A Gardner Place, 26.90 339 ⇑P P 23 49 47.5 -0.1
baz=27,SNR=6.9
J18A Kendall Valley 27.02 341 ⇑P P 23 49 48.5 -0.2
baz=27,SNR=18
L14A Malta 27.13 335 ⇓P P 23 49 49.7 0.0
baz=27
I20A Worland 27.17 344 ⇓P P 23 49 50.1 +0.1
baz=27,SNR=7.4
H24A Dirks Ranch, A 27.19 350 ⇑P P 23 49 50.4 +0.2
baz=27,SNR=6.2
K16A Soda Springs 27.20 338 ⇑P P 23 49 50.1 -0.2
baz=27
H22A Clearmont 27.37 348 ⇓P P 23 49 51.5 -0.3
baz=27,SNR=5.4
J17A Brown Place, J 27.38 340 ⇓P P 23 49 52.0 +0.2
baz=27,SNR=12
REDW Red Top Meadow 27.42 340 *e*P P 23 49 52.2 0.0
23nm,1.1s,mb4.6
I19A Meeteetse 27.48 343 ⇓P P 23 49 52.8 +0.1
baz=28
SNOW Snow King Moun 27.48 340 *e*P P 23 49 53.0 +0.2
K14A Jones Ranch, D 27.54 336 ⇑P P 23 49 52.8 -0.5
baz=28
H21A Big Horn, Sher 27.55 347 ⇑P P 23 49 53.0 -0.4
baz=28,SNR=7.7
RRI2 Red Ridge 27.56 339 *e*P P 23 49 53.4 -0.2
LOHW Long Hollow 27.57 341 *e*P P 23 49 53.4 -0.1
TPAW Teton Pass 27.57 340 *e*P P 23 49 53.9 +0.4
71nm,1.9s,mb5.0
SPMN St. Paul 27.57 9 ⇑P P 23 49 51.4 -2.2
baz=28
J16A Bone 27.60 339 ⇓P P 23 49 53.5 -0.3
baz=28,SNR=7.2
H20A Greybull 27.64 345 ⇑P P 23 49 53.5 -0.7
baz=28
MOOW Moose Ponds 27.73 341 *e*P P 23 49 54.7 -0.3
5.7nm,0.8s,mb4.2
G24A Alzada 27.74 351 ⇓P P 23 49 54.3 -0.7
baz=28
G23A Biddle 27.77 349 ⇓P P 23 49 54.5 -0.8
baz=28
I17A Pilgrim Ck. 27.84 341 ⇓P P 23 49 56.0 +0.1
baz=28,SNR=11
IMW Indian Meadow 27.93 340 *e*P P 23 49 57.0 +0.2
8.5nm,0.6s,mb4.5
G22A Birney 27.96 348 ⇑P P 23 49 56.2 -0.9
baz=28,SNR=16
FLWY Flagg Ranch 28.02 341 *e*P P 23 49 57.8 +0.3
23nm,1.5s,mb4.6
H19A Powell 28.06 344 ⇓P P 23 49 57.7 -0.3
baz=28,SNR=9.1
I16A Newdale 28.09 340 ⇓P P 23 49 57.9 -0.3
baz=28
G21A Lodge Grass 28.15 347 ⇓P P 23 49 58.2 -0.6
baz=28,SNR=6.3
F24A Ekalaka 28.25 351 ⇓P P 23 49 59.1 -0.4
baz=28
H18A Shoshone NF, C 28.25 343 ⇓P P 23 49 58.8 -0.8
baz=28
H17A Grant Village 28.26 341 ⇑P P 23 49 59.0 -0.8
baz=28
F23A Volborg 28.28 350 ⇑P P 23 49 59.2 -0.7
baz=28,SNR=10
J14A Carey 28.33 336 ⇓P P 23 49 59.1 -1.3
baz=28
F22A Rosebud 28.49 348 ⇑P P 23 50 00.3 -1.5
baz=28
RLMT Red Lodge 28.56 344 ⇓P P 23 50 02.1 -0.3
baz=29,SNR=18
RLMT Red Lodge 28.56 344 *e*P P 23 50 02.3 0.0
19nm,0.8s,mb4.9
H16A Russell Place, 28.75 341 ⇓P P 23 50 04.3 +0.3
baz=29
G18A Lazy EL Ranch, 28.82 344 ⇑P P 23 50 04.5 -0.1
baz=29
I14A Mackay 28.82 337 ⇓P P 23 50 04.9 +0.1
baz=29
HLID Hailey 28.88 335 ⇑P P 23 50 04.8 -0.4
baz=29
HLID Hailey 28.88 335 *e*P P 23 50 05.5 +0.2
4.0nm,0.8s,mb4.2
F20A Billings 28.91 346 ⇑P P 23 50 04.8 -0.6
baz=29,SNR=9.9
QLMT Earthquake Lak 28.92 341 *e*P P 23 50 06.8 +1.2
I13A Wildhorse Cree 29.06 336 ⇓P P 23 50 07.1 +0.3
baz=29
E22A Miles City 29.07 349 ⇑P P 23 50 05.8 -1.1
baz=29
H15A Lima 29.13 339 ⇓P P 23 50 07.7 +0.3
baz=29
G17A Pierce Place, 29.15 342 ⇓P P 23 50 08.1 +0.4
baz=29
F19A Roth Farm, Mol 29.15 345 ⇑P P 23 50 06.9 -0.7
baz=29,SNR=7.1
MFID Camas Ranch 29.34 334 ⇓P P 23 50 09.3 0.0
baz=29
LAO LASA Array 29.36 349 ⇑P P 23 50 09.1 -0.4
baz=29
I12A Atlanta 29.36 335 ⇑P P 23 50 09.6 +0.1
baz=29
E21A Keefer Ranch, 29.38 348 ⇑P P 23 50 08.9 -0.7
baz=29,SNR=9.6
H14A Leadore 29.39 338 ⇑P P 23 50 10.0 +0.3
baz=29,SNR=10
G16A Moss Hill, Enn 29.40 340 ⇓P P 23 50 10.0 +0.2
baz=29,SNR=12
F18A Big Timber 29.40 344 ⇓P P 23 50 09.4 -0.4
baz=29,SNR=6.2
D24A Glendive 29.47 352 ⇓P P 23 50 10.0 -0.4
baz=30
G15A Dillon 29.56 340 ⇑P P 23 50 11.5 +0.2
baz=30,SNR=9.0
E20A Meyer Farm, Mu 29.57 346 ⇑P P 23 50 11.0 -0.4
baz=30,SNR=11
D23A Lindsay 29.66 351 ⇓P P 23 50 11.6 -0.4
baz=30
F17A Fitzpatrick Pl 29.66 343 ⇓P P 23 50 12.3 +0.2
baz=30,SNR=5.7
H13A Challis 29.67 337 ⇓P P 23 50 11.9 -0.3
baz=30
E19A Rath Farm, Rou 29.68 345 ⇑P P 23 50 11.9 -0.4
baz=30,SNR=5.8
D22A Cohagen 29.80 349 ⇑P P 23 50 12.7 -0.6
baz=30,SNR=13
MDND Maddock 29.81 358 ⇑P P 23 50 11.9 -1.5
baz=30
F16A Kennard Place, 29.84 341 ⇑P P 23 50 13.9 +0.2
baz=30
WVOR Wild Horse Val 29.86 329 *e*P P 23 50 14.3 +0.3
17nm,0.9s,mb4.8
D21A La Casta Ranch 29.87 348 ⇑P P 23 50 14.0 +0.1
baz=30,SNR=10
H12A Diamond D Ranc 29.88 336 ⇓P P 23 50 14.8 +0.7
baz=30,SNR=12
C24A Savage 29.89 352 ⇓P P 23 50 14.0 -0.2
baz=30
E18A Harlowton 30.07 344 ⇑P P 23 50 15.4 -0.2
baz=30,SNR=6.0
G13A Cobalt 30.11 337 ⇓P P 23 50 15.8 -0.3
baz=30,SNR=11
D20A Manuel Ranch, 30.13 347 ⇑P P 23 50 15.8 -0.4
baz=30,SNR=10
LRM Limekiln Ridge 30.13 340 *e*P P 23 50 16.9 +0.6
F15A Butte 30.16 340 ⇑P P 23 50 16.9 +0.4
baz=30,SNR=21
E17A Martinsdale 30.23 343 ⇑P P 23 50 16.6 -0.5
baz=30
C23A Lambert 30.27 351 ⇓P P 23 50 17.4 0.0
baz=30
AGMN Agassiz Nation 30.32 3 *e*P P 23 50 15.9 -1.9
284nm,2.8s,mb5.5
MOD Modoc 30.32 326 *e*P P 23 50 17.5 -0.5
7.5nm,0.7s,mb4.5
C22A Vida 30.32 350 ⇑P P 23 50 17.8 -0.1
baz=30,SNR=5.6
D19A Cripps Ranch, 30.37 346 ⇓P P 23 50 18.1 -0.3
baz=30,SNR=18
F14A Wisdom 30.43 339 ⇑P P 23 50 18.9 0.0
baz=30,SNR=5.3
J08A Circle Bar Ran 30.48 330 ⇓P P 23 50 19.5 +0.1
baz=30,SNR=20
E16A East Helena 30.53 342 ⇓P P 23 50 19.6 -0.2
baz=30
G12A Big Creek, Yel 30.55 336 ⇓P P 23 50 19.8 -0.2
baz=30
C21A Desert Coulee 30.62 348 ⇓P P 23 50 20.1 -0.4
baz=31,SNR=9.6
D18A Linhart Farms, 30.62 345 ⇓P P 23 50 20.5 -0.1
baz=31,SNR=6.6
C20A Veseth Ranch, 30.69 347 ⇑P P 23 50 20.8 -0.4
baz=31
E15A Deer Lodge 30.73 341 ⇓P P 23 50 21.2 -0.4
baz=31,SNR=9.5
F13A Darby 30.74 338 ⇓P P 23 50 21.5 -0.2
baz=31,SNR=15
D17A Six Diamond Ra 30.81 344 ⇑P P 23 50 21.9 -0.4
baz=31,SNR=6.3
B23A Brockton 30.89 351 ⇑P P 23 50 22.7 -0.2
baz=31
D16A Dana Ranch, Ca 30.94 342 ⇑P P 23 50 22.9 -0.5
baz=31
C19A Slack Wire Ran 30.94 346 ⇑P P 23 50 23.2 -0.2
baz=31,SNR=9.8
E14A Clinton 31.00 340 ⇓P P 23 50 23.5 -0.5
baz=31
K05A Summer Lake 31.21 327 ⇓P P 23 50 25.8 0.0
baz=31
D15A Lincoln 31.24 341 ⇑P P 23 50 25.5 -0.6
baz=31
E13A Victor 31.26 339 ⇓P P 23 50 25.8 -0.4
baz=31,SNR=12
C17A Wharram Farm, 31.27 344 ⇑P P 23 50 26.1 -0.3
baz=31,SNR=13
CHMT Chamberlain Mo 31.36 340 *e*P P 23 50 26.9 -0.2
EGMT Eagleton 31.38 345 ⇑P P 23 50 26.8 -0.5
baz=31
EGMT Eagleton 31.38 345 *e*P P 23 50 27.1 -0.2
13nm,0.9s,mb4.8
B20A Solberg Farm, 31.39 348 ⇑P P 23 50 27.1 -0.2
baz=31
MSO Missoula 31.51 339 ⇓P P 23 50 28.0 -0.4
baz=32,SNR=7.9
I07A Izee 31.52 330 ⇑P P 23 50 28.1 -0.4
baz=32
A22A Carney Farms, 31.54 351 ⇓P P 23 50 28.3 -0.3
baz=32
D14A Greenough 31.59 340 ⇑P P 23 50 28.2 -0.9
baz=32,SNR=6.8
B19A Brinkman Farms 31.60 347 ⇑P P 23 50 29.0 -0.2
baz=32,SNR=28
C16A Fuhringer Ranc 31.70 343 ⇑P P 23 50 29.4 -0.6
baz=32
A21A Bergtoll Ranch 31.71 349 ⇓P P 23 50 29.7 -0.5
baz=32,SNR=7.8
SLMT Seeley Lake 31.72 340 *e*P P 23 50 29.9 -0.4
E12A Beaver Dam Sad 31.73 337 ⇑P P 23 50 29.4 -0.9
baz=32
B18A Beardsley Farm 31.73 346 ⇑P P 23 50 30.0 -0.4
baz=32
B17A L&G Farms, Che 31.89 344 ⇓P P 23 50 31.3 -0.4
baz=32
D13A Huson 31.91 339 ⇓P P 23 50 31.7 -0.3
baz=32,SNR=18
C15A Salmond Ranch, 31.92 342 ⇓P P 23 50 31.4 -0.7
baz=32
A19A Klindworth Far 32.00 347 ⇑P P 23 50 32.2 -0.5
baz=32
F10A Beach Ranch, E 32.00 335 ⇓P P 23 50 32.2 -0.5
baz=32
SWMT Swartz Lake 32.12 340 *e*P P 23 50 33.4 -0.4
D12A Red Ives Fores 32.19 338 ⇓P P 23 50 33.6 -0.8
baz=32
A18A Metzger Ranch, 32.24 346 ⇓P P 23 50 34.3 -0.5
baz=32
B16A M & M Farms, S 32.24 343 ⇓P P 23 50 34.4 -0.5
baz=32
ULM Lac du Bonnet 32.26 3 P P 23 50 32.1 -2.8
3.2nm,0.4s,mb4.5,baz=183,slow=8.9,SNR=6.5
ULM Lac du Bonnet 32.26 3 P P 23 50 32.1 -2.8
C14A Swan Lake 32.27 340 ⇓P P 23 50 34.4 -0.7
baz=32
B15A Bradely Ranch, 32.39 342 ⇑P P 23 50 35.4 -0.8
baz=32
YBMT Yellow Bay 32.44 340 *e*P P 23 50 36.5 -0.1
14nm,0.9s,mb4.8
C13A Hot Springs 32.46 339 ⇑P P 23 50 36.2 -0.6
baz=32
A17A Triple J Farms 32.47 345 ⇓P P 23 50 36.1 -0.7
baz=32,SNR=6.0
B14A Marquette Ranc 32.65 341 ⇑P P 23 50 37.8 -0.5
baz=33
A16A West Butte Ran 32.70 344 ⇑P P 23 50 38.3 -0.5
baz=33
C12B Naegeli Ranch, 32.79 339 ⇑P P 23 50 38.9 -0.8
baz=33,SNR=6.4
E09A Wood Farm, Sta 32.81 334 ⇑P P 23 50 38.8 -1.1
baz=33,SNR=8.5
G06A Carlson Farm, 32.91 331 ⇓P P 23 50 40.7 -0.1
baz=33
B13A Whitefish 33.03 340 ⇓P P 23 50 41.5 -0.3
baz=33,SNR=6.2
A15A Johnson Ranch, 33.04 343 ⇑P P 23 50 41.2 -0.6
baz=33
C11A Tepee Creek (N 33.18 338 ⇓P P 23 50 42.6 -0.4
baz=33
A14A Double T Ranch 33.24 342 ⇓P P 23 50 43.1 -0.4
baz=33
A13A Flathead Natio 33.51 341 ⇓P P 23 50 45.5 -0.3
baz=34
NEW Newport 33.85 337 ⇑P P 23 50 48.5 -0.4
baz=34
A12A Yaak River Ran 33.91 339 ⇓P P 23 50 49.1 -0.3
baz=34,SNR=12
C09A Chrisman Ranch 33.91 336 ⇓P P 23 50 48.9 -0.4
baz=34
ETW Entiat 34.59 334 *e*P P 23 50 55.5 +0.2
29nm,0.8s,mb5.3
LON Longmire 34.59 331 *e*P P 23 50 56.1 +0.8
12nm,0.8s,mb4.9
E03A Lebam 35.27 329 ⇑P P 23 51 01.2 +0.1
baz=35
A05A Maple Falls 36.41 334 ⇑P P 23 51 10.4 -0.5
baz=36
SCHQ Schefferville 43.99 26 P P 23 52 11.8 -1.7
9.9nm,0.4s,mb4.8,baz=227,slow=7.5,SNR=50
SCHQ Schefferville 43.99 26 P P 23 52 11.8 -1.7
LPAZ La Paz 45.24 137 P P 23 52 25.4 +1.5
0.5nm,0.6s,mb3.5,baz=325,slow=4.7,SNR=4.8
LPAZ pP pP 23 52 40.2 +0.2
1.5nm,0.6s,baz=333,slow=7.6,SNR=5.8
LPAZ La Paz 45.24 137 P P 23 52 25.4 +1.5
LPAZ pP pP 23 52 40.2 +0.2
YKA Yellowknife Ar 45.90 350 P P 23 52 26.3 -2.2
6.7nm,0.8s,mb4.6,baz=155,slow=7.3,SNR=44
YKA pP pP 23 52 40.7 -3.8
1.0nm,0.6s,baz=156,slow=7.7,SNR=4.0
YKA Yellowknife Ar 45.90 350 P P 23 52 26.3 -2.2
YKA pP pP 23 52 40.8 -3.8
ILAR Eielson Array 56.81 337 P P 23 53 49.7 -0.4
2.3nm,0.9s,mb4.2,baz=133,slow=4.1,SNR=21
ILAR pP pP 23 54 04.6 -2.0
0.6nm,0.5s,baz=127,slow=5.8,SNR=2.7
ILAR Eielson Array 56.81 337 P P 23 53 49.7 -0.4
ILAR pP pP 23 54 04.6 -2.0
ESDC Sonseca Array 82.05 51 P P 23 56 25.4 -0.9
0.3nm,0.5s,mb3.5,baz=300,slow=4.7,SNR=4.4
ESDC pP pP 23 56 41.0 -2.6
0.3nm,0.5s,baz=292,slow=5.4,SNR=2.4
ESDC Sonseca Array 82.05 51 P P 23 56 25.4 -0.9
ESDC pP pP 23 56 41.0 -2.6
NB2 NORSAR Subarra 83.54 27 P P 23 56 34.4 +0.9
comp=Z,2.4nm,0.7s,mb4.4,baz=298,slow=5.1
NOA NORSAR Array B 83.54 27 P P 23 56 34.7 +1.2
comp=Z,5.3nm,0.9s,mb4.7,baz=298,slow=5.1,SNR=10.0
NOA NORSAR Array B 83.54 27 P P 23 56 34.7 +1.2
PETK Petropavlovsk- 83.88 324 P P 23 56 36.5 +1.1
comp=Z,8.9nm,0.7s,mb5.0,baz=94,slow=8.3,SNR=9.5
PETK pP pP 23 56 52.9 0.0
comp=Z,3.3nm,0.8s,baz=106,slow=8.3,SNR=2.1
PETK Petropavlovsk- 83.88 324 P P 23 56 36.5 +1.1
PETK pP pP 23 56 52.9 0.0
ARCES ARCESS Array B 84.24 17 P P 23 56 37.2 +0.3
comp=Z,6.6nm,0.8s,mb4.8,baz=292,slow=3.3,SNR=14
ARCES pP pP 23 56 53.0 -1.4
comp=Z,2.9nm,0.9s,baz=280,slow=4.0,SNR=2.2
ARCES ARCESS Array B 84.24 17 P P 23 56 37.2 +0.3
ARCES pP pP 23 56 53.0 -1.4
FINES FINESS Array B 89.42 23 P P 23 57 01.4 -0.8
comp=Z,3.0nm,0.9s,mb4.6,baz=90,slow=5.7,SNR=4.5
FINES FINESS Array B 89.42 23 P P 23 57 01.4 -0.8
GERES GERESS Array B 90.35 38 P P 23 57 06.0 -0.8
comp=Z,0.5nm,0.7s,mb3.9,baz=309,slow=6.7,SNR=4.2
GERES GERESS Array B 90.35 38 P P 23 57 06.0 -0.8
DBIC Dimbokro 91.31 83 P P 23 57 11.3 -0.7
comp=Z,1.5nm,0.8s,mb4.4,baz=238,slow=12,SNR=3.5
DBIC Dimbokro 91.31 83 P P 23 57 11.3 -0.7
MKAR Makanchi Array 115.54 359 PKP PKPdf 00 02 46.3 -1.2
comp=Z,0.3nm,0.7s,baz=288,slow=2.0,SNR=2.9
MKAR Makanchi Array 115.54 359 PKP PKPdf 00 02 46.3 -1.2
WRA Warramunga Arr 130.26 259 PKP PKPdf 00 03 16.9 +0.5
comp=Z,1.6nm,0.8s,baz=81,slow=2.5,SNR=21
WRA pPKP pPKPdf 00 03 33.4 -1.4
comp=Z,1.5nm,0.8s,baz=67,slow=1.1,SNR=7.6
WRA Warramunga Arr 130.26 259 PKP PKPdf 00 03 16.9 +0.5
WRA pPKP pPKPdf 00 03 33.4 -1.4
ASAR Alice Springs 131.01 254 PKP PKPdf 00 03 17.6 -0.2
comp=Z,0.7nm,0.7s,baz=119,slow=1.8,SNR=7.6
ASAR pPKP pPKPdf 00 03 34.8 -1.3
comp=Z,1.0nm,0.9s,baz=138,slow=2.2,SNR=4.5
ASAR Alice Springs 131.01 254 PKP PKPdf 00 03 17.6 -0.2
ASAR pPKP pPKPdf 00 03 34.8 -1.3
CMAR Chiang Mai Arr 139.99 334 PKP PKPdf 00 03 34.5 -0.2
comp=Z,0.4nm,0.3s,baz=332,slow=2.3,SNR=6.1
CMAR Chiang Mai Arr 139.99 334 PKP PKPdf 00 03 34.5 -0.2

IDC 10 00:18:03.5±1.9, 31°.32S×176°.97W, h0km, mb3.7/1, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, ML4.1/2, MS4.0/2, Ms1 4.0/2, ms1mx3.4/30, Error ellipse: s-maj=53.0km s-min=34.3km az=112.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.46**	**213**	Pn	Pn	00 20 07.9	+0.5
1.1nm,0.3s,baz=302,slow=9.5,SNR=5.3							
URZ				Sn	Sn	00 21 43.4	-0.2
1.2nm,0.3s,baz=24,slow=20,SNR=4.4							
RPZ	**Rata Peaks**	**15.58**	**214**	Pn	Pn	00 21 42.8	-1.6
1.4nm,0.3s,baz=53,slow=15,SNR=6.7							
AFI	**Afiamalu**	**17.97**	**17**	LR	LR	00 27 25.6	
comp=Z,211nm,20.5s,baz=30,slow=31							
WRA	**Warramunga Arr**	**45.02**	**273**	P	P	00 26 21.4	+0.3
0.7nm,0.6s,baz=110,slow=8.1,SNR=8.0							
KDAK	**Kodiak Island**	**91.10**	**13**	LR	LR	01 09 36.9	
comp=Z,207nm,19.3s,baz=239,slow=34							
FINES	**FINESS Array B**	**146.31**	**340**	PKPbc	PKPbc	00 37 44.2	-1.2
1.0nm,0.6s,baz=29,slow=3.2,SNR=5.1							
TORD	**Torodi Ar. Bea**	**161.87**	**176**	PKPab	PKPab	00 38 52.8	0.0
0.9nm,0.9s,baz=180,slow=3.8,SNR=5.0							

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*ISK **10** 00:26:33.8, 39°.51N×33°.18E, h5km, MD3.1*
*ISCJB **10** 00:26:35.2±0.8, 39°.48N±0°.04×33°.18E±0°.05, h5km±6km, Error ellipse: s-maj=7.7km s-min=5.4km az=37.3*
*DDA **10** 00:26:35.9, 39°.49N×33°.10E, h4km, Md2.8*
*CSEM **10** 00:26:35.1±0.2, 39°.49N×33°.18E, h5km, MD2.8, Error ellipse: s-maj=4.6km s-min=3.6km az=120.0*
ISC 10 00:26:35.6±0.8, 39°.48N±0°.04×33°.17E±0°.05, h7km±6km, n33, σ0°70/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	**Bala**	**0.07**	**328**	*i* P	**Pg**	**00 26 37.3**	**-0.2**
BBAL				*i* S	**Sg**	**00 26 38.9**	**0.0**
BBAL	**Bala**	**0.07**	**328**	*i* P	**Pg**	**00 26 37.3**	**-0.2**
BBAL				*i* S	**Sg**	**00 26 38.9**	**0.0**
LOD	**Lodumlu**	**0.52**	**322**	*e*PG	**Pg**	**00 26 44.3**	**-1.3**
LOD				*e*SG	**Sg**	**00 26 52.5**	**+0.2**
LOD	**Lodumlu**	**0.52**	**322**	*e*Pg	**Pg**	**00 26 44.3**	**-1.3**
LOD				*e*Sg	**Sg**	**00 26 52.5**	**+0.2**
ELDT	**Eldivan**	**1.03**	**11**	*i* P	**Pg**	**00 26 55.3**	**0.0**
ELDT				*i* S	**Sg**	**00 27 10.5**	**+1.9**
ELDT	**Eldivan**	**1.03**	**11**	*i* P	**Pg**	**00 26 55.3**	**0.0**
ELDT				*i* S	**Sg**	**00 27 10.5**	**+1.8**
KIZT	**Kizilcal**	**1.17**	**240**	*e*PN	**Pn**	**00 26 57.7**	**-0.6**
KIZT				*e*SN	**Sn**	**00 27 14.9**	**+0.4**
KIZT	**Kizilcal**	**1.17**	**240**	*e*Pn	**Pn**	**00 26 57.7**	**-0.6**
KIZT				*e*Sn	**Sn**	**00 27 14.9**	**+0.4**
CANT	**Cankiri**	**1.18**	**17**	*e*PN	**Pn**	**00 26 57.2**	**-1.2**
KDHN	**Kadinhani**	**1.26**	**221**	*i* P	**Pn**	**00 26 59.0**	**-0.6**
KDHN				*i* S	**Sb**	**00 27 16.0**	**-0.1**
KDHN	**Kadinhani**	**1.26**	**221**	*i* P	**Pn**	**00 26 59.0**	**-0.6**
KDHN				*i* S	**Sb**	**00 27 16.0**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.28**	**269**	*e*PN	**Pn**	**00 26 59.5**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.28**	**269**	*e*Pn	**Pn**	**00 26 59.5**	**-0.3**
SULT	**Sultanhani-AKS**	**1.31**	**168**	*e*PN	**Pn**	**00 27 00.4**	**+0.2**
SULT	**Sultanhani-AKS**	**1.31**	**168**	*e*Pn	**Pn**	**00 27 00.4**	**+0.2**
CORM	**Corum**	**1.32**	**58**	*e*PN	**Pn**	**00 26 59.2**	**-1.2**
CORM	**Corum**	**1.32**	**58**	*e*Pn	**Pn**	**00 26 59.2**	**-1.2**
KONT	**Konya--Tatoy**	**1.66**	**203**	*e*PN	**Pn**	**00 27 05.9**	**+0.9**
KONT	**Konya--Tatoy**	**1.66**	**203**	*e*Pn	**Pn**	**00 27 05.9**	**+0.9**
YOZ	**Yozgat**	**1.67**	**84**	*e*PN	**Pn**	**00 27 05.4**	**+0.3**
YOZ	**Yozgat**	**1.67**	**84**	*e*Pn	**Pn**	**00 27 05.4**	**+0.3**
TOS	**Tosya**	**1.69**	**22**	*e*PN	**Pn**	**00 27 05.3**	**-0.1**
TOS	**Tosya**	**1.69**	**22**	*e*Pn	**Pn**	**00 27 05.3**	**-0.1**
SAFT	**Safranbolu**	**1.80**	**348**	*e*PN	**Pn**	**00 27 06.7**	**-0.2**
SAFT	**Safranbolu**	**1.80**	**348**	*e*Pn	**Pn**	**00 27 06.7**	**-0.2**
MDUB	**Mudurnu**	**1.81**	**304**	*e*PN	**Pn**	**00 27 07.2**	**+0.1**
MDUB	**Mudurnu**	**1.81**	**304**	*e*Pn	**Pn**	**00 27 07.3**	**+0.2**
BNN	**Bunyan**	**2.17**	**106**	*e*PN	**Pn**	**00 27 12.6**	**+0.5**
BNN	**Bunyan**	**2.17**	**106**	*e*Pn	**Pn**	**00 27 12.6**	**+0.5**
GULT	**Gulveren**	**2.25**	**296**	*e*PN	**Pn**	**00 27 13.8**	**+0.6**
GULT	**Gulveren**	**2.25**	**296**	*e*Pn	**Pn**	**00 27 13.8**	**+0.6**
ALT	**Altintas**	**2.42**	**261**	*e*PN	**Pn**	**00 27 16.3**	**+0.9**
ALT	**Altintas**	**2.42**	**261**	*e*Pn	**Pn**	**00 27 16.3**	**+0.9**

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*IDC **10** 00:26:50.7±1.0, 35°.75N×70°.72E, h0km, mb4.0/12, mb1 4.1/16, mb1mx3.9/30, mbtmp4.0/16, ML3.7/4, Error ellipse: s-maj=23.1km s-min=19.8km az=154.0*
*MOS **10** 00:27:01.8±1.4, 36°.13N×70°.93E, h92km, mb4.0/1, Error ellipse: s-maj=12.5km s-min=6.5km az=90.1*
*ISCJB **10** 00:27:02.7±0.4, 36°.13N±0°.02×71°.08E±0°.05, h108km±6km, mb3.9/13, Error ellipse: s-maj=6.2km s-min=3.8km az=169.4*
*NEIC **10** 00:27:02.5±0.7, 36°.03N×71°.01E, h92km±7km, mb4.3/8, Error ellipse: s-maj=8.4km s-min=4.7km az=57.0*
*NNC **10** 00:27:08.1±4.8, 36°.62N×70°.36E, h100km±70km, mb3.7, mpv4.3, Error ellipse: s-maj=36.1km s-min=25.3km az=22.0*
ISC 10 00:27:04.1±0.4, 36°.10N±0°.02×71°.07E±0°.05, h109km±5km, n118, σ1°10/140, mb3.9/13, 3C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.27**	**227**	*i*Pn	**Pn**	**00 27 39.5**	**-1.1**
KBL				*e*Sn	**Sn**	**00 28 09.4**	**+1.1**
KBL	**Kabul**	**2.27**	**227**	*i*PN	**Pn**	**00 27 39.5**	**-1.0**
KBL				*e*		00 28 09.5	
THW	**Thamme Wali**	**3.34**	**170**	P	**Pn**	**00 27 55.9**	**+1.3**
SARP	**Sargodha**	**4.37**	**162**	⇓P	**Pn**	**00 28 08.8**	**+0.3**
AML	**Almayashu**	**6.36**	**18**	P	**Pn**	**00 28 35.4**	**+0.2**
SNR=75							
AML				P		00 28 35.4	
SNR=75							
UCH	**Uchtor**	**6.68**	**23**	P	**Sn**	**00 29 54.6**	**+0.4**
SNR=10.0							
UCH				P	**Sn**	**00 29 54.6**	**+0.4**
SNR=10.0							
SDNR	**Sundarnagar**	**6.72**	**131**	*e*PKP	**Pn**	**00 28 43.0**	**+2.8**
SDNR				*ex*	**Sn**	**00 29 55.6**	**+0.4**
KZA	**Kyzart**	**6.80**	**27**	P	**Pn**	**00 28 41.6**	**+0.4**
SNR=22							
KZA				P		00 28 41.6	
SNR=22							
EKS2	**Erkin-Say**	**6.88**	**17**	P	**Pn**	**00 28 42.3**	**0.0**
SNR=13							
EKS2				P		00 28 42.3	
SNR=13							
EKS2	**Erkin-Say**	**6.88**	**17**	*e*Pn	**Pn**	**00 28 41.8**	**-0.5**
12nm,0.6s							
EKS2				*e*Sn	**Sn**	**00 29 58.1**	**-0.9**

EKS2	Erkin-Say	6.88	17	ePN		Pn	00 28 41.8 -0.5
EKS2				pmax	pmax		
comp=Z,13nm,0.6s							
KK31	Karatay Array	7.01	357	⇓P		Pn	00 28 41.7 -2.3
comp=Z,10nm,0.4s,baz=186,slow=20,SNR=88							
KK31				⇑S		Sn	00 29 54.8 -7.3
comp=Z,4.8nm,0.3s,baz=193,slow=23,SNR=5.6							
KK31	Karatay Array	7.01	357	ePN		Pn	00 28 41.6 -2.4
KK31				pmax	pmax		
comp=Z,11nm,0.3s							
KKAR	Karatay Array	7.01	357	ePn		Pn	00 28 42.0 -2.0
comp=Z,21nm,0.4s							
KKAR				eSn		Sn	00 29 57.5 -4.6
KKAR	Karatay Array	7.01	357	ePN		Pn	00 28 42.0 -2.0
KKAR				pmax	pmax		
comp=Z,21nm,0.4s							
AAK	Ala-Archa	7.04	21	P		Pn	00 28 45.0 +0.5
SNR=56							
AAK				P			00 28 45.0
SNR=56							
AAK	Ala-Archa	7.04	21	ePn		Pn	00 28 44.9 +0.4
comp=Z,163nm,0.4s							
AAK				eSn		Sn	00 30 02.9 -0.1
AAK	Ala-Archa	7.04	21	ePN		Pn	00 28 44.9 +0.4
AAK				pmax	pmax		
comp=Z,163nm,0.4s							
SMLA	Simla	7.10	133	i P		Pn	00 28 45.2 -0.2
SMLA				i S		Sn	00 30 03.6 -0.9
SMLA				i S		Sn	00 30 04.1 -0.4
SMLA				⇓AML		AML	00 30 07.0
comp=N,933nm,0.3s							
SMLA				⇓AML		AML	00 30 07.8
comp=E,894nm,0.3s							
KBK	Karagaybulak	7.20	23	P		Pn	00 28 47.7 +1.1
SNR=14							
KBK				P			00 28 47.7
SNR=14							
ULHL	Ulahol	7.33	32	P		Pn	00 28 49.0 +0.6
SNR=13							
ULHL				P			00 28 49.0
SNR=13							
CHMS	Chumysh	7.45	21	P		Pn	00 28 50.2 +0.1
SNR=34							
CHMS				P			00 28 50.2
SNR=34							
USP	Ospenovka	7.63	19	P		Pn	00 28 52.4 -0.1
SNR=11							
USP				P			00 28 52.4
SNR=11							
TKM2	Tokmak 2	7.66	26	P		Pn	00 28 53.6 +0.8
SNR=14							
TKM2				P			00 28 53.6
SNR=14							
TKM2	Tokmak 2	7.66	26	⇓P		Pn	00 28 53.3 +0.5
comp=E,8.7nm,0.5s							
TKM2				⇓S		Sn	00 30 18.4 +0.5
comp=E,7.1nm,0.7s							
TKM2	Tokmak 2	7.66	26	ePn		Pn	00 28 53.4 +0.6
comp=E,12nm,0.5s							
TKM2				eSn		Sn	00 30 18.7 +0.8
TKM2	Tokmak 2	7.66	26	ePN		Pn	00 28 53.4 +0.6
TKM2				pmax	pmax		
comp=Z,12nm,0.5s							
NDI	New Delhi	9.04	143	ePKP		Pn	00 29 11.0 -0.6
NDI				ex		x	00 30 44.0
AYAN	Aya Nagar	9.16	144	ePKP		Pn	00 29 14.6 +1.3
AYAN				eS		Sn	00 30 49.2 -5.3
KUDL	Kundal	9.16	148	ePKP		Pn	00 29 14.8 +1.5
KUDL				eS		Sn	00 30 48.0 -6.7
KUDL				AML		AML	00 30 54.8
comp=E,18nm,0.3s							
KUDL				AML		AML	00 30 55.2
comp=N,16nm,0.4s							
AGRA	Agra	10.60	145	eS		Sn	00 31 22.9 -6.7
AGRA				AML		AML	00 32 40.0
comp=E,68nm,0.8s							
AGRA				AML		AML	00 32 42.7
comp=N,78nm,0.0s							
DANN	Dangsing	13.22	122	eP		Pn	00 30 07.0 -0.6
comp=N,27nm,0.5s							
DANN	Dangsing	13.22	122	eP		Pn	00 30 07.0 -0.6
comp=N,27nm,0.5s							
KOLN	Koldanda	13.49	124	eP		Pn	00 30 10.0 -1.0
comp=N,11nm,0.4s							
KOLN				eS		Sn	00 32 33.5 -6.0
KOLN	Koldanda	13.49	124	eP		Pn	00 30 10.0 -1.0
comp=N,11nm,0.4s							
KOLN				eS		Sn	00 32 33.5 -6.0
MK31	Makanchi Array	13.59	35	⇑P		Pn	00 30 14.6 +2.5
comp=N,0.9nm,0.6s,baz=223,slow=37,SNR=4.1							
MK31	Makanchi Array	13.59	35	ePn		Pn	00 30 13.4 +1.3
MK31				eSn		Sn	00 32 45.3 +3.7
MK31	Makanchi Array	13.59	35	eP		Pn	00 30 13.5 +1.4
MK31				e			00 32 45.3
MKAR	Makanchi Array	13.59	35	Pn		Pn	00 30 12.3 +0.2
comp=N,0.1nm,0.3s,baz=227,slow=14,SNR=6.8							
MKAR	Makanchi Array	13.59	35	Pn		Pn	00 30 12.3 +0.2
MKAR	Makanchi Array	13.59	35	P		Pn	00 30 12.3 +0.2
GKN	Gorkha	14.04	121	eP		Pn	00 30 17.1 -1.1
comp=N,10nm,0.3s							
GKN				eS		Sn	00 32 44.5 -8.5
GKN	Gorkha	14.04	121	eP		Pn	00 30 17.1 -1.1
comp=N,10nm,0.3s							
GKN				eS		Sn	00 32 44.5 -8.5
DMN	Daman	14.61	121	eP		Pn	00 30 24.9 -0.6
comp=N,14nm,0.5s							
DMN	Daman	14.61	121	eP		Pn	00 30 24.9 -0.6
comp=N,14nm,0.5s							
KKN	Kakani	14.62	121	eP		Pn	00 30 24.9 -0.7
comp=N,18nm,0.4s							
KKN	Kakani	14.62	121	eP		Pn	00 30 24.9 -0.7
comp=N,18nm,0.4s							
KKN	Kakani	14.62	121	eP		Pn	00 30 24.9 -0.7
KKN				pmax	pmax		
comp=Z,19nm,0.4s							
PKI	Pulchoki	14.85	121	eP		Pn	00 30 28.1 -0.4
comp=Z,23nm,0.5s							
PKI	Pulchoki	14.85	121	eP		Pn	00 30 28.1 -0.4
comp=Z,23nm,0.5s							
PKI	Pulchoki	14.85	121	eP		Pn	00 30 28.1 -0.4
PKI				pmax	pmax		
comp=Z,23nm,0.5s							
GUN	Gumba	14.97	119	eP		Pn	00 30 28.9 -1.1
comp=Z,10nm,0.4s							
GUN	Gumba	14.97	119	eP		Pn	00 30 28.9 -1.1
comp=Z,10nm,0.4s							
JIRN	Jiri	15.34	119	eP		Pn	00 30 33.9 -0.8
comp=Z,5.3nm,0.4s							
JIRN	Jiri	15.34	119	eP		Pn	00 30 33.9 -0.8
comp=Z,5.3nm,0.4s							
AB31	Akbulak array	15.46	332	⇑P		Pn	00 30 31.8 -4.1
comp=Z,8.7nm,0.5s,baz=156,slow=12,SNR=201							
AB31				S		S	00 33 10.9 -24
comp=Z,3.9nm,0.5s,baz=154,slow=23,SNR=10							
AB31	Akbulak array	15.46	332	eP		Pn	00 30 31.7 -4.3
AB31				pmax	pmax		
comp=Z,21nm,0.6s							
ABKAR	Akbulak array	15.46	332	ePn		Pn	00 30 32.2 -3.8
comp=Z,16nm,0.6s							
ABKAR				eSn		Sn	00 33 09.1 -18
KURK	Kurchatov	15.59	18	Pn		Pn	00 30 32.9 -4.7
comp=Z,0.0nm,0.3s,baz=211,slow=11,SNR=4.2							
KURK	Kurchatov	15.59	18	Pn		Pn	00 30 32.9 -4.7
KURK	Kurchatov	15.59	18	P		Pn	00 30 32.9 -4.7
RAMN	Ramite	16.06	120	eP		Pn	00 30 42.6 -1.1
comp=Z,18nm,0.5s							
RAMN	Ramite	16.06	120	eP		Pn	00 30 42.6 -1.1
comp=Z,18nm,0.5s							
TAPN	Taplejung	16.61	117	eP		Pn	00 30 49.4 -1.0
comp=Z,14nm,0.4s							
TAPN	Taplejung	16.61	117	eP		Pn	00 30 49.4 -1.0
comp=Z,14nm,0.4s							
ODAN	Odare	16.67	119	eP		Pn	00 30 51.6 +0.4
comp=Z,14nm,0.6s							
ODAN	Odare	16.67	119	eP		Pn	00 30 51.6 +0.4
comp=Z,14nm,0.6s							
ZRNK	Zerenda	16.91	356	⇓P		Pn	00 30 51.3 -2.6
comp=Z,1.5nm,0.5s							
BVAR	Borovoye Array	16.93	359	P		Pn	00 30 52.4 -1.7
comp=Z,0.6nm,0.3s,baz=166,slow=12,SNR=8.5							
BVAR	Borovoye Array	16.93	359	P		Pn	00 30 52.4 -1.7
BVAR	Borovoye Array	16.93	359	P		Pn	00 30 52.4 -1.7
BRVK	Borovoye	16.97	358	ePn		Pn	00 30 54.3 -0.2
comp=Z,2.7nm,0.5s							
BRVK	Borovoye	16.97	358	eP		Pn	00 30 54.3 -0.2
BRVK				pmax	pmax		
comp=Z,3.0nm,0.5s							
AKTO	Aktyubinsk	17.16	331	⇓P		Pn	00 30 55.1 -1.7
comp=Z,1.7nm,0.8s							
AKTO				⇓S		S	00 33 52.8 -15
comp=Z,0.5nm,0.7s							
AKTO	Aktyubinsk	17.16	331	P		Pn	00 30 55.5 -1.4
comp=Z,1.1nm,0.3s,baz=144,slow=13,SNR=48							
AKTO				S		S	00 33 49.6 -18
comp=Z,0.2nm,0.3s,baz=346,slow=19,SNR=4.3							
AKTO	Aktyubinsk	17.16	331	P		Pn	00 30 55.5 -1.4
AKTO				S		S	00 33 49.6 -18
AKTO	Aktyubinsk	17.16	331	P		Pn	00 30 55.5 -1.4
ZAA0	Zalesovo Array	20.26	24	eP		P	00 31 31.2 +0.7
ZALV	Zalesovo Beam	20.26	24	P		P	00 31 31.5 +0.9
comp=Z,6.9nm,0.5s,baz=216,slow=12,SNR=27							
ZALV	Zalesovo Beam	20.26	24	P		P	00 31 31.5 +0.9
ZALV	Zalesovo Beam	20.26	24	P		P	00 31 31.5 +0.9
GNI	Garni	21.07	289	eP		P	00 31 41.1 +1.6
comp=Z,11nm,0.8s,mb4.2							
GNI	Garni	21.07	289	eP		P	00 31 41.1 +1.6
GNI				pmax	pmax		
comp=Z,11nm,0.8s							
ARU	Arti	22.03	341	eP		P	00 31 50.7 +1.3
comp=Z,2.9nm,0.5s,mb3.9							
ARU	Arti	22.03	341	P		P	00 31 51.4 +1.9
SONM	Songino Array	28.52	55	P		P	00 32 52.6 +3.5
comp=Z,0.2nm,0.6s,mb2.9,baz=263,slow=9.4,SNR=2.9							
SONM	Songino Array	28.52	55	P		P	00 32 52.6 +3.5
SONM	Songino Array	28.52	55	P		P	00 32 52.6 +3.5
AKASG	Malin Array Be	33.24	309	P		P	00 33 30.4 -0.2
comp=Z,1.2nm,0.5s,mb4.0,baz=77,slow=7.8,SNR=4.7							
AKASG	Malin Array Be	33.24	309	P		P	00 33 30.4 -0.2
AKASG	Malin Array Be	33.24	309	P		P	00 33 30.4 -0.2
FINES	FINESS Array B	37.85	326	P		P	00 34 09.7 -0.1
comp=Z,0.7nm,0.4s,mb3.8,baz=120,slow=10,SNR=8.4							
FINES	FINESS Array B	37.85	326	P		P	00 34 09.7 -0.1
FINES	FINESS Array B	37.85	326	P		P	00 34 09.7 -0.1
ARCES	ARCESS Array B	41.54	338	P		P	00 34 41.7 +1.4
comp=Z,1.5nm,0.6s,mb3.9,baz=108,slow=7.9,SNR=13							
ARCES	ARCESS Array B	41.54	338	P		P	00 34 41.7 +1.4
ARCES	ARCESS Array B	41.54	338	P		P	00 34 41.7 +1.4
HFS	Hagfors	43.42	322	P		P	00 34 55.9 +0.3
comp=Z,4.0nm,0.6s,mb4.4,baz=98,slow=11,SNR=16							
HFS	Hagfors	43.42	322	P		P	00 34 55.9 +0.3
HFS	Hagfors	43.42	322	P		P	00 34 55.9 +0.3
NB2	NORSAR Subarra	44.73	323	P		P	00 35 06.9 +0.8
comp=Z,3.7nm,0.7s,mb4.2,baz=98,slow=7.9							
NOA	NORSAR Array B	44.73	323	P		P	00 35 06.3 +0.2
comp=Z,2.1nm,0.6s,mb4.1,baz=97,slow=7.9,SNR=6.8							
NOA	NORSAR Array B	44.73	323	P		P	00 35 06.3 +0.2
NOA	NORSAR Array B	44.73	323	P		P	00 35 06.3 +0.2
TORD	Torodi Ar. Bea	65.77	269	P		P	00 37 35.7 -2.0
comp=Z,0.7nm,0.5s,mb3.8,baz=41,slow=7.2,SNR=17							
TORD	Torodi Ar. Bea	65.77	269	P		P	00 37 35.7 -2.0
DBIC	Dimbokro	74.73	267	P		P	00 38 31.1 -1.3
comp=Z,0.7nm,0.5s,mb3.7,baz=55,slow=5.3,SNR=3.3							
DBIC	Dimbokro	74.73	267	P		P	00 38 31.1 -1.3
DBIC	Dimbokro	74.73	267	P		P	00 38 31.1 -1.3
YKA	Yellowknife Ar	81.64	3	P		P	00 39 10.9 +1.2
comp=Z,0.4nm,0.6s,mb3.5,baz=350,slow=5.4,SNR=8.9							
YKA	Yellowknife Ar	81.64	3	P		P	00 39 10.9 +1.2
YKA	Yellowknife Ar	81.64	3	P		P	00 39 10.9 +1.2
WRA	Warramunga Arr	81.73	122	P		P	00 39 12.3 +1.6
comp=Z,0.3nm,0.4s,mb3.5,baz=325,slow=4.9,SNR=8.4							
WRA	Warramunga Arr	81.73	122	P		P	00 39 12.3 +1.6
WRA	Warramunga Arr	81.73	122	P		P	00 39 12.3 +1.6
ULM	Lac du Bonnet	93.25	352	P		P	00 40 07.1 +0.9
comp=Z,0.9nm,0.4s,mb4.5,baz=45,slow=5.7,SNR=2.9							
ULM	Lac du Bonnet	93.25	352	P		P	00 40 07.1 +0.9
ULM	Lac du Bonnet	93.25	352	P		P	00 40 07.1 +0.9

*ISCJB **10** 00:29:25.2±0.4, 34°.14N±0°.02×117°.37W±0°.01, h8km±3km, Error ellipse: s-maj=2.6km s-min=2.0km az=16.5*
*NEIC **10** 00:29:26.2, 34°.16N×117°.38W, h8km, ML3.6(PAS), After PAS.*
NEIC Felt [III] at Fontana, Riverside and San Bernardino; [II] at Chino, Corona, Diamond Bar, Los Angeles, Ontario, Pomona, Rancho Cucamonga, Redlands, Rialto and Tujunga. Also felt at Apple Valley, Azusa, Bloomington, Blue Jay, Burbank, Chino Hills, Claremont, Colton, Compton, Covina, Crestline, Fullerton, Highland, Lake Arrowhead, Loma Linda, Los Alamitos, Mira Loma, Monterey Park, Moreno Valley, Palm Springs, Pasadena, Placentia, Sherman Oaks, Stanton, Torrance, Upland, West Covina, Wrightwood and Yucaipa.

ISC 10 00:29:25.6±0.3, 34°.14N±0°.02×117°.38W±0°.01, h8km±2km, n62, σ0°.74/103, 28C-36D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSC	Mount Baldy Ra	0.25	294	P	Pg	00 29 30.8	+0.2
baz=0.2,SNR=457							
BFSC				⇓S	Sg	00 29 34.6	+0.7
baz=0.2							
BBRC	Big Bear Solar	0.40	72	P	Pg	00 29 33.7	+0.3
baz=0.4,SNR=83							
BBRC				⇑S	Sg	00 29 39.0	+0.3
baz=0.4							
MURC	Murrieta	0.56	164	P	Pg	00 29 36.7	+0.4
baz=0.6,SNR=510							
MURC				⇑S	Sg	00 29 44.5	+0.9
baz=0.6							
MWC	Mount Wilson	0.57	279	eP	Pg	00 29 36.5	0.0
MWC				eS	Sg	00 29 44.6	+0.7
PASC	Pasadena Art C	0.67	273	eP	Pg	00 29 38.3	-0.1
PASC				eS	Sg	00 29 48.5	+1.4
DECC	Green Verdugo	0.79	278	⇓P	Pg	00 29 40.8	-0.1
baz=0.8,SNR=124							
DECC				⇓S	Sg	00 29 51.8	+0.6
baz=0.8							
RRX	Edison Barstow	0.81	23	P	Pg	00 29 40.6	-0.5
baz=0.8,SNR=210							
RRX				⇑S	Sg	00 29 51.2	-0.4
baz=0.8							
FMP	Fort Macarthur	0.87	241	⇑P	Pg	00 29 42.4	+0.2
baz=0.9,SNR=24							
FMP				⇓S	Sg	00 29 54.0	+0.5
baz=0.9							
EDW2	Edwards Air Fo	0.89	326	P	Pg	00 29 42.2	-0.6
baz=0.9,SNR=392							
EDW2				⇑S	Sg	00 29 53.6	-0.8
baz=0.9							
PFO	Pinyon Flat Ob	0.94	124	P	Pg	00 29 43.3	-0.2
baz=0.9,SNR=172							
PFO				⇑S	Sg	00 29 55.7	0.0
baz=0.9							
PFO	Pinyon Flat Ob	0.94	124	eP	Pg	00 29 43.4	-0.2
PFO				eS	Sg	00 29 55.2	-0.5
HEC	Hector,Ludlow	1.11	51	P	Pg	00 29 46.2	-0.7
baz=1.1,SNR=103							
HEC				⇓S	Sg	00 30 00.8	-0.6
baz=1.1							
CIS	Catalina Islan	1.12	230	⇑P	Pg	00 29 46.5	-0.5
baz=1.1,SNR=113							
CIS				⇑S	Sg	00 30 02.3	+0.7
baz=1.1							
BELC	Belle Mtn. Jos	1.16	96	⇓P	Pg	00 29 47.4	-0.4
baz=1.2,SNR=75							
BELC				⇑S	Sg	00 30 03.4	+0.5
baz=1.2							
OSI	Osito Adit	1.21	294	⇓P	Pb	00 29 48.1	-0.6
baz=1.2,SNR=89							
OSI				⇑S	Sg	00 30 04.2	-0.2
baz=1.2							
OSI	Osito Adit	1.21	294	eP	Pb	00 29 48.0	-0.7
OSI				eS	Sg	00 30 04.3	-0.1
GSC	Goldstone	1.25	22	P	Pn	00 29 48.7	-0.7
baz=1.2,SNR=50							
GSC				⇓S	Sb	00 30 04.5	-1.3
baz=1.2							
GSC	Goldstone	1.25	22	eP	Pn	00 29 48.6	-0.8
GSC				eS	Sb	00 30 04.8	-1.1
109C	Camp Elliot, M	1.27	169	⇓P	Pn	00 29 48.4	-1.2
baz=1.3,SNR=50							
109C				⇑S	Sb	00 30 05.1	-1.1
baz=1.3							
LRMC	Laurel Mountai	1.36	349	⇓P	Pn	00 29 50.0	-0.9
baz=1.3,SNR=102							
LRMC				⇑S	Sb	00 30 08.6	-0.3
baz=1.3							
BLG	Laguna Peak	1.40	269	⇓P	Pn	00 29 50.2	-1.2
baz=1.4,SNR=35							
BLG				⇓S	Sb	00 30 09.6	-0.2
baz=1.4							
MONP	Monument Peak	1.48	147	Pb	Pb	00 29 52.6	-0.7
baz=1.5,SNR=83							
MONP				⇓S	Sn	00 30 12.0	-0.1
baz=1.5							
SCI	San Clemente I	1.51	220	⇓P	Pn	00 29 51.9	-1.0
baz=1.5,SNR=130							
ARVC	Arvin	1.55	310	⇓P	Pn	00 29 53.2	-0.3
baz=1.5,SNR=68							
ARVC				⇑Sb	Sb	00 30 14.8	+0.6
baz=1.5							
GMRC	Granite Mounta	1.56	65	⇓P	Pn	00 29 52.8	-0.9
baz=1.5,SNR=46							
GMRC				⇑Sb	Sb	00 30 15.3	+0.7
baz=1.5							
BAR	Barrett	1.57	158	ePn	Pn	00 29 53.4	-0.4
BAR				eSn	Sn	00 30 13.6	-0.7
BC3	Big Chuckawall	1.68	106	⇓P	Pn	00 29 54.8	-0.4
baz=1.7,SNR=16							
BC3				⇑S	Sn	00 30 16.6	-0.3
baz=1.7							
ISA	Isabella	1.77	330	⇓P	Pn	00 29 56.0	-0.5
baz=1.7,SNR=52							
ISA				⇑S	Sn	00 30 19.0	-0.1
baz=1.7							
ISA	Isabella	1.77	330	ePn	Pn	00 29 56.0	-0.5
ISA				eSn	Sn	00 30 19.8	+0.6
TUQ	Turquoise Moun	1.77	42	⇓P	Pn	00 29 56.0	-0.4
baz=1.7							
TUQ				⇑Sb	Sb	00 30 20.9	+0.3
baz=1.7							
SWSC	Sam W. Stewart	1.78	132	⇓P	Pn	00 29 56.1	-0.6
baz=1.8,SNR=14							
SWSC				⇓Sb	Sb	00 30 22.1	+1.1
baz=1.8							
DVTC	Desert V Tower	1.82	144	⇓Pb	Pb	00 29 59.0	-0.2
baz=1.8							
DVTC				⇑Sb	Sb	00 30 23.2	+1.0
baz=1.8							
IRM	Iron Mountain	1.85	89	⇓Pb	Pb	00 29 59.7	0.0
baz=1.8							
IRM				⇓Sb	Sb	00 30 24.5	+1.5
baz=1.8							
BSC	Santa Cruz Isl	1.87	266	⇑P	Pn	00 29 57.6	-0.3
baz=1.9							
BSC				⇑Sb	Sb	00 30 24.5	+0.8
baz=1.9							
MPMC	Manual Prospec	1.92	357	⇓Pb	Pb	00 30 00.3	-0.6
baz=1.9							
MPMC				⇓Sb	Sb	00 30 25.6	+0.7
baz=1.9							
SBC	Santa Barbara	1.95	280	⇑S	Sn	00 30 24.1	+0.4
baz=2.0							
SHOC	Shoshone	1.98	27	⇑Sb	Sb	00 30 27.7	+1.1
baz=2.0							
LDFC	Landfair	2.10	63	ePn	Pn	00 30 01.4	+0.3
LDFC				eS	Sn	00 30 30.4	+3.1
PKM	Peak Mountain	2.15	291	P	Pn	00 30 02.1	+0.4
baz=2.1,SNR=87							
VES	Vestal, Richgr	2.20	321	⇑P	Pn	00 30 02.4	-0.1
baz=2.2							
FURC	Furnace Creek,	2.37	10	⇓Pb	Pb	00 30 08.5	+0.1
baz=2.3							
NEE2	Needles Airpor	2.37	74	⇑P	Pn	00 30 04.2	-0.5
baz=2.4							
GLA	Glamis	2.39	116	⇓P	Pn	00 30 04.7	-0.4
baz=2.4							
GLA	Glamis	2.39	116	ePn	Pn	00 30 05.9	+0.8
GLA				eSg	Sg	00 30 42.4	-0.1
Y12C	Blythe	2.41	98	⇓P	Pn	00 30 04.1	-1.2
baz=2.4							
W13A	Hualapai Mount	3.04	71	⇑P	Pn	00 30 13.9	-0.1
baz=3.0,SNR=42							
Z13A	Yuma Proving G	3.25	106	⇓P	Pn	00 30 16.2	-0.6
baz=3.2,SNR=16							
113A	Mohawk Valley,	3.32	113	⇓P	Pn	00 30 17.2	-0.6
baz=3.3,SNR=10.0							
Y14A	Wickenburg	3.64	92	⇓P	Pn	00 30 22.0	-0.2
baz=3.6,SNR=7.3							
Z14A	Wintersburg	3.78	101	⇑P	Pn	00 30 23.6	-0.5
baz=3.8,SNR=6.3							
114A	Black Gap (USA	4.01	109	⇓P	Pn	00 30 26.6	-0.7
baz=4.0,SNR=9.9							
SAO	San Andreas Ge	4.23	309	ePn	Pn	00 30 30.4	+0.1
SAO				eSn	Sn	00 31 19.3	-0.5
CCUT	Cedar City	4.72	43	ePn	Pn	00 30 39.0	+2.0
CCUT				eSn	Sn	00 31 35.8	+3.8
U15A	North Rim	4.75	60	⇑P	Pn	00 30 38.2	+0.7
baz=4.7							
ARUT	Antelope Range	4.85	40	Pn	Pn	00 30 38.9	+0.1
X16A	Lo Mia Camp, P	4.93	85	⇓P	Pn	00 30 40.4	+0.5
baz=4.9							
WUAZ	Wupatki	5.13	73	ePn	Pn	00 30 43.1	+0.4
WUAZ				Sn	Sn	00 31 42.4	+0.3
Y17A	Roosevelt	5.45	93	P	Pn	00 30 47.6	+0.4
baz=5.4,SNR=17							
V17A	Tonalea, Kykot	5.62	73	⇓P	Pn	00 30 51.2	+1.8
baz=5.6							
MSU	Marysvale	6.06	42	Pn	Pn	00 30 56.7	+1.2
4.3nm,0.5s							
MSU				ePg	Pg	00 31 19.2	-2.4
MSU				eSn	Sn	00 32 05.2	+0.3
Y18A	Canyon Day Jun	6.12	91	⇑P	Pn	00 30 56.8	+0.5
baz=6.1							
Y19A	Nutrioso	6.75	89	⇓P	Pn	00 31 06.0	+1.0
baz=6.7							

*DDA **10** 00:30:59.3, 34°.99N×28°.43E, h28km, Md3.2*
*ISK **10** 00:31:04.9, 35°.71N×27°.34E, h14km, MD3.4*
*ISCJB **10** 00:31:07.7±0.6, 35°.80N±0°.04×27°.43E±0°.04, h24km±6km, Error ellipse: s-maj=8.4km s-min=4.2km az=148.5*
*CSEM **10** 00:31:07.5±0.1, 35°.83N×27°.40E, h12km, ML3.1/2, Error ellipse: s-maj=4.6km s-min=2.5km az=151.0*
*THE **10** 00:31:07.7, 35°.82N×27°.46E, h9km±5km, ML3.1/2, Error ellipse: s-maj=7.3km s-min=1.5km az=135.0*

ISC 10 00:31:07.8±0.6, 35°.83N±0°.04×27°.41E±0°.04, h14km±4km, n66, σ0°.73/82, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.34	216	P	Pg	00 31 14.8	0.0
KARP				S	Sg	00 31 19.7	+0.2
KARP	Karpathos	0.34	216	P	Pg	00 31 14.8	0.0
KARP				S	Sg	00 31 19.7	+0.2
ARG	Arkhangelos	0.70	56	P	Pg	00 31 20.5	-0.8
ARG				S	Sg	00 31 29.7	-0.8
ARG	Arkhangelos	0.70	56	P	Pg	00 31 20.5	-0.8
ARG				S	Sg	00 31 29

GLHS	Glhisar (BURDU	2.14	51	*e*Pn	Pn	00 31 43.1	0.0		
ELL	Elmali	2.22	65	*e*PN	Pn	00 31 43.9	-0.2		
ELL	Elmali	2.22	65	*e*Pn	Pn	00 31 43.9	-0.2		
GOLH	Golhisar	2.23	50	*i* P	Pn	00 31 44.1	-0.2		
GOLH				*i* S	Sg	00 32 17.3	-2.2		
GOLH	Golhisar	2.23	50	*i* P	Pn	00 31 44.1	-0.2		
SIVA	Sivas	2.27	250	P	Pn	00 31 45.7	+0.8		
SIVA	Sivas	2.27	250	P	Pn	00 31 45.7	+0.8		
DNZL	Cakiroluk	2.28	35	*i* P	Pn	00 31 45.9	+1.0		
DNZL				*i* S	Sn	00 32 20.5	+7.7		
DNZL	Cakiroluk	2.28	35	*i* P	Pn	00 31 45.9	+1.0		
DENT	Denizli	2.32	34	*e*PN	Pn	00 31 46.5	+0.9		
DENT	Denizli	2.32	34	*e*Pn	Pn	00 31 46.5	+0.9		
IZM	Izmir	2.57	357	*e*PN	Pn	00 31 48.9	-0.1		
IZM	Izmir	2.57	357	*e*Pn	Pn	00 31 48.9	-0.1		
BLCB	Balcova	2.57	354	*e*PN	Pn	00 31 48.9	-0.1		
BLCB	Balcova	2.57	354	*e*Pn	Pn	00 31 48.9	-0.1		
KULA	Kula-Manisa	2.86	20	*e*PN	Pn	00 31 53.1	+0.1		
KULA	Kula-Manisa	2.86	20	*e*Pn	Pn	00 31 53.1	+0.1		
BCK	Bucak	3.03	57	*e*PN	Pn	00 31 55.2	-0.1		
BCK	Bucak	3.03	57	*e*Pn	Pn	00 31 55.2	-0.1		
AKS	Akhisar	3.06	6	*e*PN	Pn	00 31 55.8	0.0		
AKS	Akhisar	3.06	6	*e*Pn	Pn	00 31 55.8	0.0		
DEMI	Demirci	3.37	18	*i* P	Pn	00 31 59.0	-1.0		
DEMI				*i* S	Sn	00 32 39.7	-0.2		
DEMI	Demirci	3.37	18	*i* P	Pn	00 31 59.0	-1.0		
DEMI				*i* S	Sn	00 32 39.7	-0.2		
SHUT	Suhut-Afyon	3.70	42	*e*PN	Pn	00 32 05.0	+0.5		
SHUT	Suhut-Afyon	3.70	42	*e*Pn	Pn	00 32 05.0	+0.5		
ALT	Altintas	3.87	33	*e*PN	Pn	00 32 07.8	+0.9		
ALT	Altintas	3.87	33	*e*Pn	Pn	00 32 07.8	+0.9		
GONE	Gonen-Balikesi	4.22	3	*e*PN	Pn	00 32 12.4	+0.8		
GONE	Gonen-Balikesi	4.22	3	*e*Pn	Pn	00 32 12.4	+0.8		
HDMB	Hadim	4.25	73	*e*PN	Pn	00 32 12.7	+0.6		
HDMB	Hadim	4.25	73	*e*Pn	Pn	00 32 12.7	+0.7		
KONT	Konya--Tatoy	4.50	60	*e*PN	Pn	00 32 16.1	+0.7		
KONT	Konya--Tatoy	4.50	60	*e*Pn	Pn	00 32 16.1	+0.7		
KIZT	Kizilcal	4.69	48	*e*PN	Pn	00 32 18.9	+0.8		
KIZT	Kizilcal	4.69	48	*e*Pn	Pn	00 32 18.9	+0.8		

*CSEM **10** 00:31:11.4±0.4, 39.°94N×40.°05E, h20km, MD2.8, Error ellipse: s-maj=9.8km s-min=6.7km az=164.0*
*ISCJB **10** 00:31:12.1±1.1, 39.°98N±0.°05×40.°06E±0.°06, h28km±12km, Error ellipse: s-maj=9.0km s-min=7.8km az=151.2*
*DDA **10** 00:31:12.8, 40.°04N×40.°03E, h7km±3km, Md2.8*
ISC 10 00:31:12.2±1.0, 39.°98N±0.°05×40.°05E±0.°06, h27km±13km, n12, σ0.°87/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	Kop Dagi	0.34	84	*i* P	Pb	00 31 19.8	-0.2
KOPT				*i* S	Sb	00 31 26.3	+1.0
KOPT	Kop Dagi	0.34	84	*i* P	Pb	00 31 19.8	-0.2
KOPT				*i* S	Sb	00 31 26.3	+1.0
BAYT	Ayd¯–ntepe-Bay	0.42	10	*e*PG	Pb	00 31 20.4	-0.8
BAYT				*e*SG	Sb	00 31 25.8	-1.4
BAYT	Ayd¯–ntepe-Bay	0.42	10	*e*Pg	Pb	00 31 20.4	-0.7
BAYT				*e*Sg	Sb	00 31 25.8	-1.4
ERZN	Erzincan	0.47	213	*e*PG	Pb	00 31 22.3	+0.4
EZC	Erzincan	0.58	247	*e*Pg	Pb	00 31 22.3	-1.5
KELT	Kelkit	0.63	286	*i* P	Pb	00 31 24.4	-0.2
KELT				*i* S	Sb	00 31 33.8	+0.7
KELT	Kelkit	0.63	286	*i* P	Pb	00 31 24.4	-0.2
KELT				*i* S	Sb	00 31 33.8	+0.7
GUMT	Gumushane	0.65	318	*e*PG	Pb	00 31 25.9	+1.1
GUMT	Gumushane	0.65	318	*e*Pg	Pb	00 31 26.0	+1.1
MACK	Trabzon	0.98	347	*i* P	Pb	00 31 30.0	-0.1
MACK				*i* S	Sb	00 31 44.1	+0.9
MACK	Trabzon	0.98	347	*i* P	Pn	00 31 30.0	-0.2
MACK				*i* S	Sb	00 31 44.1	+0.9

*NEIC **10** 00:43:30.6, 38.°36S×177.°01E, h56km, ML3.9(WEL), After WEL*
WEL 10 00:43:29.7±0.2, 38.°35S×177.°04E, h66km±1km, ML3.9/14, 3C-2D, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.10	33	⇑P*	Pn	00 43 39.0	-0.4
URZ				S*	Sn	00 43 45.8	-0.7
URZ	Urewera	0.10	33	P*	Pn	00 43 38.5	-0.9
URZ				P*	Pn	00 43 39.0	-0.4
URZ				S*	Sn	00 43 46.0	-0.4
EDRZ	Edgecumbe	0.34	315	P*	Pn	00 43 40.5	-0.1
EDRZ				S*	Sn	00 43 49.2	+0.6
EDRZ	Edgecumbe	0.34	315	P*	Pn	00 43 39.8	-0.8
MWZ	Matawai	0.38	89	⇑P*	Pn	00 43 41.1	+0.1
MWZ				S*	Sn	00 43 49.4	+0.1
MWZ	Matawai	0.38	89	P*	Pn	00 43 41.0	0.0
MWZ				P*	Pn	00 43 41.1	+0.1
MWZ				S*	Sn	00 43 49.5	+0.2
RRRZ	Republican Roa	0.41	270	P*	Pn	00 43 41.2	-0.1
RRRZ	Republican Roa	0.41	270	P*	Pn	00 43 41.2	-0.1
TARZ	Mount Tarawera	0.43	284	P*	Pn	00 43 41.6	+0.2
TARZ	Mount Tarawera	0.43	284	P*	Pn	00 43 41.6	+0.2
MARZ	Manawahe	0.46	321	P*	Pn	00 43 42.2	+0.5
MARZ	Manawahe	0.46	321	P*	Pn	00 43 42.2	+0.5
MKRZ	Makatiti	0.50	294	P*	Pn	00 43 43.2	+1.1
MKRZ	Makatiti	0.50	294	P*	Pn	00 43 43.2	+1.1
PRRZ	Plateau Road	0.53	253	⇓P*	Pn	00 43 42.1	-0.4
PRRZ				S*	Sn	00 43 51.0	-0.8
PRRZ	Plateau Road	0.53	253	P*	Pn	00 43 42.1	-0.4
RAHZ	Arahi	0.57	176	⇑PN	Pn	00 43 43.0	+0.1
RAHZ				SN	Sn	00 43 53.0	+0.4
RAHZ	Arahi	0.57	176	Pn	Pn	00 43 43.0	+0.1
ALRZ	Allen Road	0.59	248	⇓P*	Pn	00 43 42.7	-0.3
ALRZ	Allen Road	0.59	248	P*	Pn	00 43 42.8	-0.3
HRRZ	Handcock Road	0.60	265	P*	Pn	00 43 43.0	-0.1
HRRZ	Handcock Road	0.60	265	P*	Pn	00 43 43.0	-0.1
OPRZ	Ohinepanea	0.63	322	P*	Pn	00 43 43.2	-0.3
OPRZ	Ohinepanea	0.63	322	P*	Pn	00 43 43.2	-0.3
KARZ	Kaharoa	0.71	297	P*	Pn	00 43 44.2	-0.1
KARZ	Kaharoa	0.71	297	P*	Pn	00 43 44.2	-0.1
KARZ				S*	Sn	00 43 45.5	-1.0
NMHZ	Naumai	0.77	194	PN	Pn	00 43 45.7	+0.5
NMHZ				SN	Sn	00 43 58.0	+1.5
NMHZ	Naumai	0.77	194	Pn	Pn	00 43 45.7	+0.5
WIZ	White Island	0.82	8	P*	Pn	00 43 45.8	+0.1
WIZ	White Island	0.82	8	P*	Pn	00 43 45.8	+0.1
KNZ	Kokohu	0.84	144	PN	Pn	00 43 45.6	-0.3
KNZ	Kokohu	0.84	144	Pn	Pn	00 43 45.6	-0.3
PRGZ	Paritu Road	0.88	131	PN	Pn	00 43 46.4	0.0
PRGZ	Paritu Road	0.88	131	Pn	Pn	00 43 46.4	0.0
WHTZ	Whakaora	0.91	249	P*	Pn	00 43 47.0	+0.2
WHTZ	Whakaora	0.91	249	P*	Pn	00 43 47.0	+0.2
HATZ	Hinemaiaia	0.92	233	P*	Pn	00 43 46.5	-0.4
HATZ	Hinemaiaia	0.92	233	P*	Pn	00 43 46.5	-0.4
BKZ	Black Stump Fm	0.93	207	P*	Pn	00 43 46.7	-0.3
BKZ	Black Stump Fm	0.93	207	P*	Pn	00 43 46.7	-0.3
CNGZ	Carnagh Statio	0.93	99	PN	Pn	00 43 48.2	+1.2
CNGZ	Carnagh Statio	0.93	99	Pn	Pn	00 43 48.2	+1.2
MHGZ	Mahia Peninsul	1.05	140	PN	Pn	00 43 48.6	0.0
MHGZ	Mahia Peninsul	1.05	140	Pn	Pn	00 43 48.6	0.0
WATZ	Wairara	1.09	250	P*	Pn	00 43 49.0	0.0
WATZ	Wairara	1.09	250	P*	Pn	00 43 49.0	0.0
RITZ	Rihia Road	1.12	235	P*	Pn	00 43 49.7	+0.2
RITZ	Rihia Road	1.12	235	P*	Pn	00 43 49.7	+0.2
RATZ	Rangitukua	1.12	242	P*	Pn	00 43 49.5	0.0
RATZ	Rangitukua	1.12	242	P*	Pn	00 43 49.5	0.0
MCHZ	McNeill Hill	1.13	194	PN	Pn	00 43 49.8	+0.2
MCHZ	McNeill Hill	1.13	194	Pn	Pn	00 43 49.8	+0.2
KATZ	Kakaramea	1.23	239	P*	Pn	00 43 51.1	+0.2
KATZ	Kakaramea	1.23	239	P*	Pn	00 43 51.1	+0.2
MXZ	Matakaoa Point	1.27	52	P*	Pn	00 43 53.0	+1.6
MXZ	Matakaoa Point	1.27	52	P*	Pn	00 43 53.0	+1.6
CKHZ	Cape Kidnapper	1.31	179	PN	Pn	00 43 51.3	-0.7
CKHZ	Cape Kidnapper	1.31	179	Pn	Pn	00 43 51.3	-0.7
KRVZ	Karewarewa	1.33	235	P*	Pn	00 43 52.3	+0.1
KRVZ	Karewarewa	1.33	235	P*	Pn	00 43 52.3	+0.1
OTVZ	Oturere	1.35	232	P*	Pn	00 43 52.6	+0.1
OTVZ	Oturere	1.35	232	P*	Pn	00 43 52.6	+0.1
TOZ	Tahuroa Road	1.36	296	P*	Pn	00 43 52.9	+0.3
TOZ	Tahuroa Road	1.36	296	P*	Pn	00 43 52.9	+0.3
WTVZ	West Tongariro	1.37	235	P*	Pn	00 43 53.0	+0.2
WTVZ	West Tongariro	1.37	235	P*	Pn	00 43 53.0	+0.2
BHHZ	Black Hill Sta	1.37	213	P*	Pn	00 43 52.7	-0.1
BHHZ	Black Hill Sta	1.37	213	P*	Pn	00 43 52.7	-0.1
NGZ	Ngauruhoe	1.40	233	P*	Pn	00 43 53.3	+0.2
NGZ	Ngauruhoe	1.40	233	P*	Pn	00 43 53.3	+0.2
TUVZ	Tukino	1.42	229	P*	Pn	00 43 53.5	+0.1
TUVZ	Tukino	1.42	229	P*	Pn	00 43 53.5	+0.1
TWVZ	Taurewa	1.45	239	P*	Pn	00 43 53.7	-0.1
TWVZ	Taurewa	1.45	239	P*	Pn	00 43 53.7	-0.1
WPVZ	Whakapapa	1.45	233	P*	Pn	00 43 54.0	+0.2
WPVZ	Whakapapa	1.45	233	P*	Pn	00 43 54.0	+0.2
KAHZ	Kahuranaki	1.45	185	PN	Pn	00 43 53.1	-0.7
KAHZ	Kahuranaki	1.45	185	Pn	Pn	00 43 53.1	-0.7
MOVZ	Moawhango	1.46	223	P*	Pn	00 43 53.7	-0.3
MOVZ	Moawhango	1.46	223	P*	Pn	00 43 53.7	-0.3
FWVZ	Far West T-bar	1.48	232	P*	Pn	00 43 54.3	+0.1
FWVZ	Far West T-bar	1.48	232	P*	Pn	00 43 54.3	+0.1
WNVZ	Wahianoa	1.50	228	P*	Pn	00 43 54.4	0.0
WNVZ	Wahianoa	1.50	228	P*	Pn	00 43 54.4	0.0
TRVZ	Turoa	1.51	230	P*	Pn	00 43 54.6	+0.1
TRVZ	Turoa	1.51	230	P*	Pn	00 43 54.6	+0.1
MTVZ	Mangateitei	1.61	229	P*	Pn	00 43 55.9	0.0
MTVZ	Mangateitei	1.61	229	P*	Pn	00 43 56.0	+0.1
PKVZ	Pokaka	1.63	234	P*	Pn	00 43 56.4	+0.2
PKVZ	Pokaka	1.63	234	P*	Pn	00 43 56.4	+0.2
PXZ	Pawanui	1.69	185	PN	Pn	00 43 55.4	-1.7
PXZ	Pawanui	1.69	185	Pn	Pn	00 43 55.4	-1.7
PNHZ	Pukenui	1.70	202	PN	Pn	00 43 55.8	-1.3
PNHZ	Pukenui	1.70	202	Pn	Pn	00 43 55.8	-1.3
HIZ	Hauiti	1.73	264	PN	Pn	00 43 58.1	+0.6
HIZ	Hauiti	1.73	264	Pn	Pn	00 43 58.1	+0.6
WPHZ	Waipukurau	1.78	195	PN	Pn	00 43 56.7	-1.5
WPHZ	Waipukurau	1.78	195	Pn	Pn	00 43 56.7	-1.5
TSZ	Takapari Road	1.91	206	PN	Pn	00 43 58.3	-1.6
TSZ	Takapari Road	1.91	206	Pn	Pn	00 43 58.3	-1.6
MKAZ	Moumakai	1.93	309	PN	Pn	00 44 00.9	+0.6
MKAZ	Moumakai	1.93	309	Pn	Pn	00 44 00.9	+0.6
PRHZ	Porangahau	1.95	189	PN	Pn	00 43 58.5	-1.9
PRHZ	Porangahau	1.95	189	Pn	Pn	00 43 58.5	-1.9
VRZ	Vera Road	1.95	246	PN	Pn	00 44 01.0	+0.6
VRZ	Vera Road	1.95	246	P*	Pn	00 44 01.0	+0.6
DVHZ	Dannevirke	2.07	199	PN	Pn	00 43 59.8	-2.3
DVHZ	Dannevirke	2.07	199	Pn	Pn	00 43 59.8	-2.3
WAZ	Wanganui	2.13	228	PN	Pn	00 44 03.5	+0.5
WAZ	Wanganui	2.13	228	Pn	Pn	00 44 03.5	+0.5
MHEZ	Mangahewa	2.25	250	PN	Pn	00 44 06.9	+2.3
MHEZ	Mangahewa	2.25	250	Pn	Pn	00 44 06.9	+2.3
RAEZ	Rainy Point	2.27	245	PN	Pn	00 44 06.4	+1.5
RAEZ	Rainy Point	2.27	245	Pn	Pn	00 44 06.4	+1.5
BFZ	Birch Farm	2.41	195	PN	Pn	00 44 04.0	-2.8
BFZ	Birch Farm	2.41	195	Pn	Pn	00 44 04.0	-2.8
NEZ	North Egmont	2.48	247	PN	Pn	00 44 09.7	+2.0
NEZ	North Egmont	2.48	247	Pn	Pn	00 44 09.7	+2.0
DFE	Dawson Falls	2.50	246	PN	Pn	00 44 10.3	+2.4
DFE	Dawson Falls	2.50	246	Pn	Pn	00 44 10.3	+2.4
PKE	Pukeiti	2.53	249	PN	Pn	00 44 10.3	+1.9
PKE	Pukeiti	2.53	249	Pn	Pn	00 44 10.3	+1.9
MRZ	Mangatainoka R	2.58	206	PN	Pn	00 44 06.3	-2.6
MRZ	Mangatainoka R	2.58	206	Pn	Pn	00 44 06.3	-2.6
TIWZ	Tintock	2.59	200	PN	Pn	00 44 06.5	-2.6
TIWZ	Tintock	2.59	200	Pn	Pn	00 44 06.5	-2.6
NRZ	Ngariki Road	2.62	247	PN	Pn	00 44 11.6	+2.0
NRZ	Ngariki Road	2.62	247	Pn	Pn	00 44 11.6	+2.0
HOWZ	Holdsworth Sta	2.81	204	PN	Pn	00 44 08.9	-3.2
HOWZ	Holdsworth Sta	2.81	204	Pn	Pn	00 44 08.9	-3.2
OGWZ	Otaki Gorge	2.86	210	PN	Pn	00 44 10.1	-2.8
OGWZ	Otaki Gorge	2.86	210	Pn	Pn	00 44 10.1	-2.8
TMWZ	Te Maipa	2.90	197	PN	Pn	00 44 10.4	-3.0
TMWZ	Te Maipa	2.90	197	Pn	Pn	00 44 10.4	-3.0
KIWZ	Kapiti Island	3.00	213	PN	Pn	00 44 12.2	-2.6
KIWZ	Kapiti Island	3.00	213	Pn	Pn	00 44 12.2	-2.6
MTWZ	Mount Morrison	3.05	202	PN	Pn	00 44 12.0	-3.4
MTWZ	Mount Morrison	3.05	202	Pn	Pn	00 44 12.1	-3.4
CAWZ	Cannon Point	3.15	208	PN	Pn	00 44 13.4	-3.4
CAWZ	Cannon Point	3.15	208	Pn	Pn	00 44 13.4	-3.4
TRWZ	Traveller	3.22	198	PN	Pn	00 44 14.2	-3.7
TRWZ	Traveller	3.22	198	Pn	Pn	00 44 14.2	-3.7
PAWZ	Paruwai Farm	3.28	202	PN	Pn	00 44 14.8	-3.7
PAWZ	Paruwai Farm	3.28	202	Pn	Pn	00 44 14.8	-3.7
MSWZ	Moikau Station	3.36	204	PN	Pn	00 44 15.7	-4.0
MSWZ	Moikau Station	3.36	204	Pn	Pn	00 44 15.7	-4.0
DUWZ	D'Urville Isla	3.44	223	PN	Pn	00 44 18.3	-2.4
DUWZ	D'Urville Isla	3.44	223	Pn	Pn	00 44 18.4	-2.4
SNZO	South Karori	3.46	211	PN	Pn	00 44 17.3	-3.8
SNZO	South Karori	3.46	211	Pn	Pn	00 44 17.3	-3.8
BHW	Baring Head	3.49	208	PN	Pn	00 44 17.5	-3.9
BHW	Baring Head	3.49	208	Pn	Pn	00 44 17.5	-3.9
PLWZ	Palliser	3.50	203	PN	Pn	00 44 17.2	-4.5
PLWZ	Palliser	3.50	203	Pn	Pn	00 44 17.2	-4.5
TCW	Tory Channel	3.57	216	PN	Pn	00 44 19.1	-3.4
TCW	Tory Channel	3.57	216	Pn	Pn	00 44 19.1	-3.4
TUWZ	Tuamarina	3.90	217	PN	Pn	00 44 23.1	-3.9
TUWZ	Tuamarina	3.90	217	Pn	Pn	00 44 23.1	-3.9
BSWZ	Blackbirch Sta	4.15	215	PN	Pn	00 44 26.5	-4.0
BSWZ	Blackbirch Sta	4.15	215	Pn	Pn	00 44 26.5	-4.0
QRZ	Quartz Range	4.28	233	PN	Pn	00 44 29.8	-2.4
QRZ	Quartz Range	4.28	233	Pn	Pn	00 44 29.8	-2.4
THZ	Tophouse	4.66	222	PN	Pn	00 44 34.2	-3.3
THZ	Tophouse	4.66	222	Pn	Pn	00 44 34.2	-3.3
KHZ	Kahutara	4.87	212	PN	Pn	00 44 36.2	-4.1
KHZ	Kahutara	4.87	212	Pn	Pn	00 44 36.2	-4.1
LTZ	Lake Taylor	5.73	218	PN	Pn	00 44 47.3	-4.8
LTZ	Lake Taylor	5.73	218	Pn	Pn	00 44 47.3	-4.8
MQZ	McQueen's Vall	6.30	210	PN	Pn	00 44 54.3	-5.6
MQZ	McQueen's Vall	6.30	210	Pn	Pn	00 44 54.3	-5.6
ODZ	Otahua Downs	8.23	214	PN	Pn	00 45 20.4	-5.8
ODZ	Otahua Downs	8.23	214	Pn	Pn	00 45 20.4	-5.8

IDC 10 01:01:10.3±8.1, 5.°78S×156.°11E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.7/3, Error ellipse: s-maj=246.4km s-min=40.3km az=110.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.42	234	P	P	01 06 40.0	+1.0
	0.2nm,0.3s,baz=60,slow=8.9,SNR=7.0						
ASAR	Alice Springs	27.81	228	P	P	01 07 01.4	0.0
	0.7nm,0.5s,baz=66,slow=9.2,SNR=6.6						
MKAR	Makanchi Array	83.23	318	P	P	01 13 38.8	+0.1
	0.8nm,0.7s,baz=102,slow=6.6,SNR=7.3						

IDC 10 01:12:14.7±8.6, 10.°78S×123.°84E, h113km±99km, mb3.7/2, mb1 3.6/5, mb1mx3.3/16, mbtmp3.5/5, ML3.7/3, Error ellipse: s-maj=72.8km s-min=47.3km az=27.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	7.49	167	P	Pn	01 14 00.4	-0.8
	0.8nm,0.3s,baz=1.8,slow=11,SNR=22						
FITZ				S	Sn	01 15 27.0	+2.4
	1.1nm,0.3s,baz=155,slow=5.5,SNR=6.7						
WRA	Warramunga Arr	13.61	133	P	Pn	01 15 21.8	-1.4
	0.3nm,0.3s,baz=305,slow=14,SNR=25						
WRA				S	Sn	01 17 50.8	-2.4
	0.3nm,0.3s,baz=307,slow=24,SNR=3.9						
ASAR	Alice Springs	16.01	144	P	Pn	01 15 55.2	+1.8
	0.4nm,0.3s,baz=315,slow=12,SNR=19						
ASAR				S	S	01 18 51.1	-5.8
	0.2nm,0.3s,baz=319,slow=24,SNR=4.9						
MKAR	Makanchi Array	68.27	331	P	P	01 23 03.5	+0.1
	1.0nm,0.5s,baz=135,slow=7.5,SNR=11						
ZALV	Zalesovo Beam	72.46	337	P	P	01 23 28.8	+0.1
	0.6nm,0.4s,baz=127,slow=7.6,SNR=2.9						

*ISCJB **10** 01:18:01.4±4.1, 30.°4N±0.°1×67.°6E±0.°1, h0km±26km, mb3.6/10, Error ellipse: s-maj=25.6km s-min=7.7km az=141.5*
*IDC **10** 01:18:02.7±1.4, 30.°32N×67.°45E, h0km, mb3.5/10, mb1 3.7/10, mb1mx3.5/30, mbtmp3.6/10, MS3.2/1, Ms1 3.2/1, ms1mx2.6/35, Error ellipse: s-maj=33.5km s-min=26.1km az=133.0*
*NEIC **10** 01:18:04.2±0.8, 30.°36N×67.°51E, h10km, mb3.6/3, Error ellipse: s-maj=17.9km s-min=7.7km az=139.0*
ISC 10 01:18:04.0±2.1, 30.°4N±0.°1×67.°6E±0.°1, h8km±13km, n29, σ0.°99/29, mb3.6/10, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUE	Quetta	0.58	252	*e*P	Pg	01 18 14.0	-1.2
QUE				*e*S	Sg	01 18 24.0	+1.1
KBL	Kabul	4.33	16	*e*Pn	Pn	01 19 12.4	+2.2
EKS2	Erkin-Say	13.23	20	*e*Pn	Pn	01 21 12.4	+0.3
	1.8nm,0.6s						
AAK	Ala-Archa	13.43	22	*e*Pn	Pn	01 21 14.2	-0.7
	6.7nm,0.4s						
TKM2	Tokmak 2	14.07	25	*e*Pn	Pn	01 21 23.4	-0.1
	6.0nm,0.9s						
ABKAR	Akbulak array	19.73	345	*e*P	Pn	01 22 34.2	-1.2
	0.5nm,0.5s						
MK31	Makanchi Array	19.97	31	*e*P	Pn	01 22 38.1	-0.1
MKAR	Makanchi Array	19.97	31	P	Pn	01 22 36.5	-1.7
	0.3nm,0.5s,baz=212,slow=12,SNR=4.8						
MKAR	Makanchi Array	19.97	31	P	Pn	01 22 36.5	-1.7
AKTO	Aktyubinsk	21.29	343	P	P	01 22 51.8	+1.0
	0.4nm,0.5s,mb3.0,baz=162,slow=4.7,SNR=3.9						
AKTO	Aktyubinsk	21.29	343	P	P	01 22 51.8	+1.0
KURK	Kurchatov	21.94	19	P	P	01 22 57.3	-0.4
	1.0nm,0.8s,mb3.3,baz=214,slow=8.6,SNR=4.8						
KURK	Kurchatov	21.94	19	*e*P	P	01 22 56.5	-1.3
	3.2nm,1.1s,mb3.7						
BVAR	Borovoye Array	22.73	4	P	P	01 23 06.5	+0.4
	0.7nm,0.4s,mb3.4,baz=181,slow=7.2,SNR=4.5						
BVAR	Borovoye Array	22.73	4	P	P	01 23 06.5	+0.4
BRVK	Borovoye	22.75	4	*e*P	P	01 23 07.1	+0.6
	2.9nm,0.8s,mb3.8						
ZALV	Zalesovo Beam	26.66	23	P	P	01 23 44.2	+1.2
	1.2nm,0.5s,mb3.7,baz=227,slow=10,SNR=4.1						
ZALV	Zalesovo Beam	26.66	23	P	P	01 23 44.2	+1.2
EIL	Elat	28.22	277	LR	LR	01 36 57.0	
	comp=Z,54nm,20.8s,baz=74,slow=40						
FINES	FINESS Array B	41.22	331	P	P	01 25 48.3	-0.6
	2.8nm,1.0s,mb3.9,baz=131,slow=12,SNR=3.3						
FINES	FINESS Array B	41.22	331	P	P	01 25 48.4	-0.6
ESDC	Sonseca Array	57.93	300	P	P	01 27 56.4	-0.3
	0.2nm,0.4s,mb3.5,baz=67,slow=7.6,SNR=3.7						
ESDC	Sonseca Array	57.93	300	P	P	01 27 56.4	-0.3
TORD	Torodi Ar. Bea	62.77	270	P	P	01 28 29.0	-1.2
	0.3nm,0.7s,mb3.5,baz=58,slow=5.0,SNR=4.2						
TORD	Torodi Ar. Bea	62.77	270	P	P	01 28 29.0	-1.2
ASAR	Alice Springs	83.25	122	P	P	01 30 32.0	+0.8
	0.2nm,0.3s,mb3.7,baz=312,slow=5.4,SNR=2.7						
ASAR	Alice Springs	83.25	122	P	P	01 30 32.0	+0.8
YKA	Yellowknife Ar	87.44	1	P	P	01 30 52.3	+0.7
	0.5nm,0.7s,mb3.9,baz=350,slow=4.9,SNR=10.0						
YKA	Yellowknife Ar	87.44	1	P	P	01 30 52.4	+0.7

*BJI **10** 01:51:21.6, 18.°68S×178.°22W, h572km, mB4.8/7, mb4.5/13*
*IDC **10** 01:51:24.4±1.4, 17.°91S×178.°58W, h545km±16km, mb3.8/14, mb1 4.0/15, mb1mx3.9/19, mbtmp3.8/15, Error ellipse: s-maj=16.9km s-min=10.9km az=139.0*
*ISCJB **10** 01:51:25.5±0.8, 17.°91S±0.°07×178.°72W±0.°06

CMB	Columbia Colle	78.01	43	eP		P	02 02 27.1 +0.1
	comp=Z,6.4nm,1.0s,mb3.9						
NVAR	Mina Array Bea	79.60	44	P		P	02 02 35.9 +0.5
	comp=Z,3.6nm,0.7s,mb3.8,baz=225,slow=8.6,SNR=31						
NVAR	Mina Array Bea	79.60	44	P		P	02 02 35.9 +0.5
CN2	Changchun	79.84	322	eP		P	02 02 39.6 +3.1
CN2				pmax		pmax	
	comp=Z,10.0nm,0.6s,mb4.3						
MOD	Modoc	80.24	40	eP		P	02 02 39.1 +0.4
	comp=Z,6.2nm,0.7s,mb4.0						
WVOR	Wild Horse Val	81.57	40	eP		P	02 02 45.5 -0.1
	comp=Z,7.3nm,1.0s,mb4.1						
IPM	Ipoh	82.15	277	eP		P	02 02 49.3 +0.1
	comp=Z,6.9nm,0.6s,mb4.3						
CCUT	Cedar City	82.50	47	eP		P	02 02 51.6 +1.3
	comp=Z,26nm,2.2s,mb4.3						
PMR	Palmer	82.65	14	eP		P	02 02 49.0 -1.5
	comp=Z,4.6nm,0.5s,mb4.3						
WUAZ	Wupatki	82.94	49	eP		P	02 02 54.3 +1.7
	comp=Z,20nm,1.8s,mb4.3						
HAWA	Hanford	83.25	37	eP		P	02 02 53.7 -0.2
	comp=Z,98nm,2.9s,mb4.8						
MAW	Mawson	83.79	200	P		P	02 02 56.6 +0.3
	comp=Z,4.3nm,0.5s,mb4.2,baz=124,slow=2.3,SNR=4.2						
MAW	Mawson	83.79	200	P		P	02 02 56.6 +0.3
TRF	Thorofare Moun	84.05	12	eP		P	02 02 56.5 -0.9
	comp=Z,12nm,0.8s,mb4.5						
MCK	McKinley	84.58	13	eP		P	02 02 58.6 -1.4
	comp=Z,13nm,0.9s,mb4.5						
GYA	Guiyang	84.79	300	eP		P	02 03 03.4 +1.4
GYA				pP		pP	02 05 07.0 +3.5
GYA				sP		sP	02 06 03.9 +3.4
GYA				PP		PP	02 06 32.5 +3.5
GYA				SKS			02 12 31.0
GYA				S		S	02 12 43.6 -0.2
GYA				pmax		pmax	
	comp=Z,10.0nm,1.0s,mb4.3						
HLID	Hailey	84.79	41	eP		P	02 03 01.9 +0.4
	comp=Z,0.4nm,0.5s						
HWUT	Hardware Ranch	85.66	44	eP		P	02 03 05.4 -0.4
	comp=Z,1.3nm,0.6s,mb3.7						
ILAR	Eielson Array	85.93	13	P		P	02 03 05.1 -1.4
	comp=Z,1.9nm,0.4s,mb4.0,baz=222,slow=5.1,SNR=56						
ILAR	Eielson Array	85.93	13	P		P	02 03 05.1 -1.4
TXAR	Lajitas Array	86.21	58	P		P	02 03 09.9 +1.2
	comp=Z,2.7nm,0.7s,mb4.0,baz=215,slow=5.9,SNR=19						
TXAR	Lajitas Array	86.21	58	P		P	02 03 09.9 +1.2
ANMO	Albuquerque	86.30	52	eP		P	02 03 08.8 -0.2
	comp=Z,1.4nm,0.8s,mb3.6						
BILL	Bilibino	86.38	354	eP		P	02 03 08.3 -0.3
	comp=Z,2.4nm,0.7s,mb3.9						
RRI2	Red Ridge	86.65	42	eP		P	02 03 11.5 +1.0
	comp=Z,6.5nm,0.8s,mb4.3						
HHC	Hu-ho-hao-te	87.06	315	eP		P	02 03 13.1 +0.7
HHC				pP		pP	02 05 12.7 -2.1
HHC				PP		PP	02 06 50.7 +3.9
HHC				SKS			02 12 47.0
HHC				S		S	02 13 05.8 +1.1
HHC				pmax		pmax	
	comp=Z,15nm,0.8s,mb4.7						
HHC				pmax		pmax	
	comp=Z,110nm,4.5s						
IMW	Indian Meadow	87.15	42	eP		P	02 03 13.9 +1.1
	comp=Z,43nm,2.8s,mb4.6						
BW06	Boulder Array	87.52	44	eP		P	02 03 14.7 +0.2
	comp=Z,12nm,1.5s,mb4.4						
PDAR	Pinedale Array	87.52	44	P		P	02 03 14.7 +0.1
	comp=Z,2.3nm,0.5s,mb4.1,baz=220,slow=3.5,SNR=24						
PDAR	Pinedale Array	87.52	44	P		P	02 03 14.7 +0.1
KMI	Kunming	87.58	297	P		P	02 03 17.9 +2.7
KMI				pmax		pmax	
	comp=Z,4.0nm,0.5s,mb4.4						
CMAR	Chiang Mai Arr	88.62	290	P		P	02 03 21.4 +1.1
	comp=Z,0.7nm,0.3s,mb4.0,baz=121,slow=3.7,SNR=5.6						
CMAR	Chiang Mai Arr	88.62	290	P		P	02 03 21.4 +1.1
CD2	Chengdu	88.83	303	eP		P	02 03 21.1 +0.2
CD2				pmax		pmax	
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				pmax		pmax	
	comp=Z,30nm,4.8s						
SNAA	Sanae	90.62	179	e		P	02 03 27.9 -0.6
SNAA	Sanae	90.62	179	eP		P	02 03 27.5 -1.0
	comp=Z,1.7nm,0.5s,mb4.2						
VNA3	Neumayer Olymp	90.78	176	e		P	02 03 29.3 +0.1
VNA2	Neumayer--Watz	91.21	177	e		P	02 03 30.9 -0.3
	baz=201,slow=4.5						
VNA1	Neumayer--Stat	91.44	177	e		P	02 03 33.1 +0.8
INK	Inuvik	91.94	15	eP		P	02 03 33.1 -1.3
	comp=Z,3.9nm,0.9s,mb4.4						
YKA	Yellowknife Ar	94.43	25	P		P	02 03 44.9 -0.9
	comp=Z,1.0nm,0.8s,mb4.0,baz=245,slow=4.5,SNR=9.9						
YKA	Yellowknife Ar	94.43	25	P		P	02 03 45.0 -0.9
WMQ	Urumqi	104.72	312	eP		Pdif	02 04 31.9 -0.4
FINES	FINESS Array B	133.09	344	SKPbc		SKPbc	02 12 14.8 +1.5
	comp=Z,1.1nm,0.6s,baz=2.9,slow=3.8,SNR=8.9						
FINES	FINESS Array B	133.09	344	SKPbc		SKPbc	02 12 14.8 +1.5
BUR08	Bucovina Ar. S	144.45	332	ePKPdf		PKPdf	02 09 59.5 +0.8
BR131	Keskin Array S	144.57	315	ePKPdf		PKPdf	02 09 59.2 0.0
BRTR	Keskin Array B	144.57	315	PKP		PKPdf	02 09 59.4 +0.2
	comp=Z,0.9nm,0.8s,baz=72,slow=1.7,SNR=5.7						
BRTR	Keskin Array B	144.57	315	PKP		PKPdf	02 09 59.4 +0.2
KSP	Ksiaz	145.01	343	ePKP		PKPdf	02 10 00.6 +1.0
CLL	Collm	145.38	347	i PKPbc		PKPbc	02 10 01.2 -0.2
	comp=Z,7.0nm,0.8s						
BRG	Berggiesshubel	145.58	346	eP		PKPdf	02 10 01.9 +1.4
	comp=Z,3.2nm,1.1s						
MORC	Moravsky Berou	145.60	341	ePKPbc		PKPbc	02 10 01.5 -0.6
KHC	Kasperske Hory	147.29	345	ePKP		PKPbc	02 10 06.5 -0.2
KHC				ePKPAB		PKPab	02 10 10.0 -0.4
GERES	GERESS Array B	147.52	345	PKPbc		PKPbc	02 10 06.8 -0.5
	comp=Z,1.2nm,0.6s,baz=20,slow=3.1,SNR=16						
GERES	GERESS Array B	147.52	345	PKPbc		PKPbc	02 10 06.8 -0.5
DAVOX	Davos/Dischmat	150.33	348	PKPbc		PKPbc	02 10 14.6 +0.4
	comp=Z,3.2nm,0.7s,baz=304,slow=3.4,SNR=7.5						
DAVOX	Davos/Dischmat	150.33	348	PKPbc		PKPbc	02 10 14.6 +0.4
TORD	Torodi Ar. Bea	175.27	185	PKP		PKPdf	02 10 31.2 -1.5
	comp=Z,0.5nm,0.9s,baz=345,slow=1.5,SNR=3.1						
TORD				PKPab		PKPab	02 12 12.2 -0.6
	comp=Z,0.5nm,0.6s,baz=172,slow=4.4,SNR=5.3						
TORD	Torodi Ar. Bea	175.27	185	PKP		PKPdf	02 10 31.2 -1.5
TORD				PKPab		PKPab	02 12 12.2 -0.6

*ISK **10** 01:52:04.4, 35°.83N×27°.92E, h22km, MD3.3*
*ATH **10** 01:52:06.4, 35°.86N×27°.87E, h54km±1km, MD3.5/9*
*ISCJB **10** 01:52:06.2±0.5, 35°.86N±0°.03×27°.92E±0°.03, h60km±7km, Error ellipse: s-maj=6.3km s-min=3.7km az=148.4*
*CSEM **10** 01:52:07.5±0.2, 35°.89N×27°.91E, h40km, MD3.5, Error ellipse: s-maj=4.6km s-min=2.7km az=152.0*
*THE **10** 01:52:08.9, 35°.91N×27°.81E, h39km±3km, ML3.5/2, Error ellipse: s-maj=4.1km s-min=0.9km az=125.0*
*DDA **10** 01:52:13.3, 36°.48N×27°.60E, h28km, Md3.2*

ISC 10 01:52:07.3±0.5, 35°.86N±0°.03×27°.91E±0°.03, h49km±10km, n87, σ0°68/119, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.40	26	eP	Pn	01 52 17.6	+0.3
ARG	Arkhangelos	0.40	26	P	Pn	01 52 17.5	+0.2
ARG				S	Sn	01 52 25.0	+0.5
ARG	Arkhangelos	0.40	26	P	Pn	01 52 17.5	+0.2
ARG				eS	Sn	01 52 24.9	+0.4
KARP	Karpathos	0.68	243	eP	Pn	01 52 20.7	-0.1
KARP				eS	Sn	01 52 30.6	0.0
KARP	Karpathos	0.68	243	P	Pn	01 52 20.6	-0.2
KARP				S	Sn	01 52 30.7	+0.1
KARP	Karpathos	0.68	243	eP	Pn	01 52 20.7	-0.1
KARP				eS	Sn	01 52 30.6	0.0
DAT	Datca	0.91	343	PG	Pn	01 52 23.5	-0.3
DAT				SG	Sn	01 52 36.6	+0.7
DAT	Datca	0.91	343	i Pg	Pn	01 52 23.5	-0.3
DAT				i Sg	Sn	01 52 36.6	+0.7
NIS1	Nisyros Isl.	0.95	322	P	Pn	01 52 24.2	-0.1
NIS1	Nisyros Isl.	0.95	322	P	Pn	01 52 24.2	-0.1
TURN	Turunc	1.16	29	i P	Pn	01 52 25.6	-1.5
TURN				i S	Sn	01 52 39.0	-2.8
TURN	Turunc	1.16	29	i P	Pn	01 52 25.6	-1.5
TURN				i S	Sn	01 52 39.0	-2.8
BODT	Bodrum	1.29	338	PN	Pn	01 52 27.9	-1.1
BODT				SN	Sn	01 52 45.0	-0.2
BODT	Bodrum	1.29	338	i Pn	Pn	01 52 27.9	-1.1
BODT				i Sn	Sn	01 52 45.0	-0.2
YER	Yerkesik	1.31	13	ePn	Pn	01 52 28.9	-0.2
YER	Yerkesik	1.31	13	ePn	Pn	01 52 28.9	-0.3
KSL	Kastellorizon	1.39	77	eP	Pn	01 52 30.9	+0.7
KSL	Kastellorizon	1.39	77	eP	Pn	01 52 30.9	+0.7
MLSB	Milas	1.44	356	ePN	Pn	01 52 31.1	+0.1
MLSB	Milas	1.44	356	ePn	Pn	01 52 31.1	+0.2
GLHS	Glhisar (BURDU	1.82	44	ePN	Pn	01 52 35.3	-0.9
GLHS	Glhisar (BURDU	1.82	44	ePn	Pn	01 52 35.3	-0.9
ELL	Elmali	1.84	61	ePN	Pn	01 52 35.3	-1.2
ELL	Elmali	1.84	61	ePn	Pn	01 52 35.3	-1.2
GCAM	G?zelcaml?	1.92	344	i P	Pn	01 52 37.6	+0.2
GCAM				i S	Sn	01 53 01.7	+1.3
GCAM	G?zelcaml?	1.92	344	i P	Pn	01 52 37.6	+0.1
GCAM				i S	Sn	01 53 01.7	+1.3
NPS	Neapolis	1.97	253	eP	Pn	01 52 38.4	+0.3
NPS				eS	Sn	01 53 01.2	-0.4
NPS	Neapolis	1.97	253	P	Pn	01 52 38.5	+0.4
NPS				S	Sn	01 53 01.4	-0.2
NPS	Neapolis	1.97	253	eP	Pn	01 52 38.5	+0.4
NPS				eS	Sn	01 53 01.4	-0.2
SMG	Samos	2.04	335	eP	Pn	01 52 39.2	+0.1
SMG				eS	Sn	01 53 03.9	+0.5
SMG	Samos	2.04	335	eP	Pn	01 52 39.2	+0.1
SMG				eS	Sn	01 53 03.9	+0.5
THR1	Thera Island	2.05	285	P	Pn	01 52 39.0	-0.3
THR1				S	Sn	01 53 02.5	-1.2
THR1	Thera Island	2.05	285	P	Pn	01 52 39.0	-0.3
THR1				S	Sn	01 53 02.5	-1.2
THR2	Thira island,	2.09	287	P	Pn	01 52 39.5	-0.3
THR2	Thira island,	2.09	287	P	Pn	01 52 39.5	-0.3
DENT	Denizli	2.10	25	ePN	Pn	01 52 40.5	+0.6
DENT	Denizli	2.10	25	ePn	Pn	01 52 40.5	+0.6
THR3	Thira Island,	2.10	286	P	Pn	01 52 39.7	-0.3
THR3	Thira Island,	2.10	286	P	Pn	01 52 39.7	-0.3
APE	Apeiranthos	2.27	303	ePN	Pn	01 52 42.1	-0.1
APE	Apeiranthos	2.27	303	eP	Pn	01 52 42.3	0.0
APE				eS	Sn	01 53 08.8	-0.2
APE	Apeiranthos	2.27	303	eP	Pn	01 52 42.2	-0.1
APE				eS	Sn	01 53 08.5	-0.5
IDI	Anoyia	2.53	258	eP	Pn	01 52 46.2	+0.4
IDI				eS	Sn	01 53 15.0	-0.4
IDI	Anoyia	2.53	258	P	Pn	01 52 45.5	-0.3
IDI	Anoyia	2.53	258	eP	Pn	01 52 46.2	+0.4
IDI				eS	Sn	01 53 14.6	-0.8
IZM	Izmir	2.59	349	ePN	Pn	01 52 46.5	-0.2
IZM	Izmir	2.59	349	ePn	Pn	01 52 46.5	-0.2
BLCB	Balcova	2.62	345	ePN	Pn	01 52 46.9	-0.2
BLCB	Balcova	2.62	345	ePn	Pn	01 52 46.9	-0.2
SIVA	Sivas	2.67	253	eP	Pn	01 52 47.9	+0.1
SIVA	Sivas	2.67	253	eP	Pn	01 52 47.9	+0.1
BCK	Bucak	2.68	53	ePN	Pn	01 52 47.7	-0.3
BCK	Bucak	2.68	53	ePn	Pn	01 52 47.7	-0.3
KULA	Kula-Manisa	2.72	13	ePN	Pn	01 52 48.5	0.0
KULA	Kula-Manisa	2.72	13	ePn	Pn	01 52 48.5	0.0
AKHS	Akhisar	3.02	359	i P	Pn	01 52 52.1	-0.5
AKHS				i S	Sn	01 53 27.2	-0.2
AKHS	Akhisar	3.02	359	i P	Pn	01 52 52.1	-0.4
AKHS				i S	Sn	01 53 27.2	-0.2
AKS	Akhisar	3.02	359	ePN	Pn	01 52 52.4	-0.1
AKS	Akhisar	3.02	359	ePn	Pn	01 52 52.4	-0.1
VAM	Vamos	3.06	263	eP	Pn	01 52 54.2	+1.1
VAM				eS	Sn	01 53 28.7	+0.3
VAM	Vamos	3.06	263	eP	Pn	01 52 54.3	+1.2
VAM				eS	Sn	01 53 28.7	+0.3
KARN	Karanos	3.28	263	eP	Pn	01 52 57.4	+1.2
KARN	Karanos	3.28	263	eP	Pn	01 52 57.7	+1.5
SHUT	Suhut-Afyon	3.42	37	ePN	Pn	01 52 57.9	-0.1
SHUT	Suhut-Afyon	3.42	37	ePn	Pn	01 52 57.9	-0.1
PRK	Paraskevi	3.62	339	P	Pn	01 53 01.2	+0.3
PRK	Paraskevi	3.62	339	P	Pn	01 53 01.2	+0.3
BALB	Balikesir	3.77	360	ePN	Pn	01 53 03.2	+0.3
BALB	Balikesir	3.77	360	ePn	Pn	01 53 03.2	+0.2
DST	Dursunbey	3.78	8	ePN	Pn	01 53 03.7	+0.7
DST	Dursunbey	3.78	8	ePn	Pn	01 53 03.7	+0.7
HDMB	Hadim	3.85	72	ePN	Pn	01 53 04.0	0.0
HDMB	Hadim	3.85	72	ePn	Pn	01 53 04.0	0.0
BALY	Balya	3.88	357	i P	Pn	01 53 04.1	-0.3
BALY				i S	Sn	01 53 49.2	+0.5
BALY	Balya	3.88	357	i P	Pn	01 53 04.1	-0.3
BALY				i S	Sn	01 53 49.2	+0.5
KYTH	Kithira	3.97	278	P	Pn	01 53 06.1	+0.5
KYTH	Kithira	3.97	278	P	Pn	01 53 06.1	+0.5
VLI	Veliai	4.11	284	P	Pn	01 53 08.4	+0.9
VLI				S	Sn	01 53 52.6	-1.7
VLI	Veliai	4.11	284	P	Pn	01 53 08.4	+0.9
VLI				S	Sn	01 53 52.6	-1.7
KONT	Konya--Tatoy	4.13	58	ePN	Pn	01 53 08.5	+0.7
KONT	Konya--Tatoy	4.13	58	ePn	Pn	01 53 08.5	+0.7
EZN	Ezine	4.15	343	ePN	Pn	01 53 09.0	+0.9
EZN	Ezine	4.15	343	ePn	Pn	01 53 09.0	+0.8
GONE	Gonen-Balikesi	4.18	358	ePN	Pn	01 53 09.3	+0.7
GONE	Gonen-Balikesi	4.18	358	ePn	Pn	01 53 09.3	+0.7
KIZT	Kizilcal	4.37	45	ePN	Pn	01 53 11.4	+0.3
KIZT	Kizilcal	4.37	45	ePn	Pn	01 53 11.4	+0.3

*ATH **10** 01:54:56.4, 34°.02N×26°.15E, h14km±1km, ML3.4*
*IDC **10** 01:54:56.3±0.8, 34°.25N×26°.14E, h0km, mb4.2/13, mb1 4.1/23, mb1mx4.0/34, mbtmp4.0/23, ML3.5/8, MS3.0/2, Ms1 3.0/2, ms1mx2.5/38, Error ellipse: s-maj=16.7km s-min=13.8km az=165.0*
*NEIC **10** 01:54:58.1±2.2, 34°.19N×26°.11E, h12km±15km, mb4.3/15, Error ellipse: s-maj=7.1km s-min=3.9km az=192.0*
*CSEM **10** 01:54:58.9±0.1, 34°.15N×26°.18E, h20km, mb4.3/21, Ms3.2, Error ellipse: s-maj=4.9km s-min=2.8km az=44.0*
*ISCJB **10** 01:54:59.1±0.3, 34°.07N±0°.02×26°.21E±0°.02, h48km±4km, mb4.2/37, Error ellipse: s-maj=4.2km s-min=2.5km az=135.0*
*SGS **10** 01:54:59.5, 33°.99N×25°.77E, h61km*
*HLW **10** 01:55:00.2, 34°.27N×26°.14E, h26km±12km, Md3.3, Ml3.9*
*MOS **10** 01:55:00.3±1.2, 34°.35N×26°.04E, h33km, mb4.5/20, Error ellipse: s-maj=8.5km s-min=4.4km az=110.1*
*THE **10** 01:55:04.9, 34°.62N×26°.05E, h1km±2km, ML3.5/2, Error ellipse: s-maj=7.0km s-min=1.5km az=171.0*

ISC 10 01:55:00.8±0.2, 34°.10N±0°.02×26°.17E±0°.02, h40km±3km, n433, σ1°12/462, mb4.2/36, 26C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	Neapolis	1.25	339	ePN	Pn	01 55 20.3	-1.5
NPS				eSB	Sn	01 55 39.2	+1.8
NPS	Neapolis	1.25	339	P	Pn	01 55 20.1	-1.7
NPS	Neapolis	1.25	339	P	Pn	01 55 20.1	-1.7
NPS				eSb	Sn	01 55 39.2	+1.8
SIVA	Sivas	1.45	310	ePB	Pn	01 55 24.9	+0.4
SIVA	Sivas	1.45	310	P	Pn	01 55 24.8	+0.3
SIVA				S	Sn	01 55 42.3	0.0
SIVA	Sivas	1.45	310	ePb	Pn	01 55 24.9	+0.4
SIVA				S	Sn	01 55 42.3	0.0
IDI	Anoyia	1.59	319	ePB	Pn	01 55 26.5	+0.1
IDI	Anoyia	1.59	319	P	Pn	01 55 26.6	+0.2
IDI				S	Sn	01 55 42.1	-3.6
IDI	Anoyia	1.59	319	ePn	Pn	01 55 26.6	+0.2
IDI	Anoyia	1.59	319	P	Pn	01 55 26.6	+0.2
IDI				S	Sn	01 55 42.1	-3.6
KARP	Karpathos	1.66	29	ePG	Pn	01 55 28.5	+1.1
KARP				eSN	Sn	01 55 51.5	+4.0
KARP	Karpathos	1.66	29	P	Pn	01 55 28.6	+1.2
KARP				S	Sn	01 55 47.1	-0.4
KARP	Karpathos	1.66	29	P	Pn	01 55 28.6	+1.2
KARP				S	Sn	01 55 47.1	-0.4
VAM	Vamos	2.08	309	ePN	Pn	01 55 34.3	+1.1
VAM	Vamos	2.08	309	P	Pn	01 55 34.5	+1.3
VAM	Vamos	2.08	309	ePn	Pn	01 55 34.3	+1.1
KARN	Karanos	2.26	306	ePN	Pn	01 55 36.8	+1.1
KARN				eSN	Sn	01 56 05.8	+3.4
KARN	Karanos	2.26	306	P	Pn	01 55 37.1	+1.4
KARN				S	Sn	01 56 04.4	+2.0
KARN	Karanos	2.26	306	ePn	Pn	01 55 36.8	+1.1
KARN	Karanos	2.26	306	P	Pn	01 55 37.1	+1.4
KARN				S	Sn	01 56 04.4	+2.0
KARN				eSn	Sn	01 56 05.8	+3.4
THR1	Thera Island	2.34	346	P	Pn	01 55 36.3	-0.5
THR1	Thera Island	2.34	346	P	Pn	01 55 36.3	-0.5
THR3	Thira Island,	2.39	345	P	Pn	01 55 36.7	-0.7
THR3	Thira Island,	2.39	345	P	Pn	01 55 36.7	-0.7
THR2	Thira island,	2.42	346	P	Pn	01 55 37.5	-0.3
THR2	Thira island,	2.42	346	P	Pn	01 55 37.5	-0.3
ARG	Arkhangelos	2.65	37	ePB	Pn	01 55 42.5	+1.5
ARG	Arkhangelos	2.65	37	P	Pn	01 55 42.5	+1.5
ARG				S	Sn	01 56 12.5	+0.5
ARG	Arkhangelos	2.65	37	ePb	Pn	01 55 42.5	+1.5
ARG				S	Sn	01 56 12.5	+0.5
SLUM		2.72	197	P	Pn	01 55 43.2	+1.2
	baz=197						
SLUM		2.72	197	P	Pn	01 55 43.2	+1.2
DAT	Datca	2.87	23	eP	Pn	01 55 43.7	-0.3
DAT	Datca	2.87	23	eP	Pn	01 55 43.7	-0.3
APE	Apeiranthos	3.01	350	eP	Pn	01 55 44.9	-1.1
APE	Apeiranthos	3.01	350	ePN	Pn	01 55 47.1	+1.2
APE	Apeiranthos	3.01	350	eP	Pn	01 55 44.9	-1.0
APE	Apeiranthos	3.01	350	ePn	Pn	01 55 46.1	+0.2
HMAT	Matruh	3.10	165	P	Pn	01 55 48.4	+1.2
	baz=165						
HMAT				S	Sn	01 56 25.3	+2.4
	baz=165						
HMAT	Matruh	3.10	165	P	Pn	01 55 48.4	+1.2
HMAT				S	Sn	01 56 25.3	+2.4
KYTH	Kithira	3.37	311	ePN	Pn	01 55 51.5	+0.7
KYTH	Kithira	3.37	311	P	Pn	01 55 51.3	+0.5
KYTH	Kithira	3.37	311	P	Pn	01 55 51.3	+0.5
MLSB	Milas	3.45	22	eP	Pn	01 55 52.5	+0.5
MLSB	Milas	3.45	22	eP	Pn	01 55 52.5	+0.5
YER	Yerkesik	3.48	29	eP	Pn	01 55 52.8	+0.3
YER	Yerkesik	3.48	29	eP	Pn	01 55 52.8	+0.3
SMG	Samos	3.64	8	ePN	Pn	01 55 55.7	+1.0
SMG	Samos	3.64	8	ePn	Pn	01 55 54.7	0.0
VLI	Veliai	3.71	316	ePN	Pn	01 55 56.5	+0.9
VLI	Veliai	3.71	316	P	Pn	01 55 55.0	-0.6
VLI				S	Sn	01 56 34.9	-3.2
VLI	Veliai	3.71	316	P	Pn	01 55 55.0	-0.6
VLI	Veliai	3.71	316	ePn	Pn	01 55 55.5	-0.1
VLI				S	Sn	01 56 34.9	-3.2
ELL	Elmali	4.04	48	eP	Pn	01 56 01.2	+1.1
ELL	Elmali	4.04	48	eP	Pn	01 56 01.2	+1.1
GLHS	Glhisar (BURDU	4.08	41	eP	Pn	01 56 01.3	+0.6
GLHS	Glhisar (BURDU	4.08	41	eP	Pn	01 56 01.3	+0.6
VLY	Voula,Athens	4.21	333	ePN	Pn	01 56 03.5	+1.0
VLY	Voula,Athens	4.21	333	P	Pn	01 56 02.0	-0.5
VLY	Voula,Athens	4.21	333	P	Pn	01 56 02.0	-0.5
VLY	Voula,Athens	4.21	333	ePn	Pn	01 56 03.2	+0.7
NAIG	Nisos Aigina	4.25	330	ePN	Pn	01 56 04.1	+1.1
NAIG	Nisos Aigina	4.25	330	ePn	Pn	01 56 04.0	+1.0
DENT	Denizli	4.33	32	eP	Pn	01 56 04.6	+0.6
DENT	Denizli	4.33	32	eP	Pn	01 56 04.6	+0.6
BLCB	Balcova	4.34	9	eP	Pn	01 56 04.1	-0.1
BLCB	Balcova	4.34	9	eP	Pn	01 56 04.1	-0.1
ATH	Athens Observa	4.35	334	ePN	Pn	01 56 05.7	+1.4
ATH	Athens Observa	4.35	334	ePn	Pn	01 56 04.7	+0.4
PTL	Penteli	4.36	335	ePN	Pn	01 56 05.7	+1.2
PTL	Penteli	4.36	335	P	Pn	01 56 04.5	0.0
PTL	Penteli	4.36	335	P	Pn	01 56 04.5	0.0
IZM	Izmir	4.38	11	eP	Pn	01 56 04.9	+0.1
IZM	Izmir	4.38	11	eP	Pn	01 56 04.9	+0.1
ITM	Ithomi	4.62	313	ePN	Pn	01 56 09.1	+1.0
ITM	Ithomi	4.62	313	ePn	Pn	01 56 08.1	0.0
VIL1	Vilia, Western	4.66	331	ePN	Pn	01 56 10.0	+1.3
HBRG	Burj al 'Arab	4.69	138	P	Pn	01 56 09.6	+0.6
	baz=138						
HBRG				AMP		01 57 00.0	
	comp=E,250μm,0.7s,logA/T=5.5,baz=138						
HBRG	Burj al 'Arab	4.69	138	P	Pn	01 56 09.6	+0.5
KULA	Kula-Manisa	4.84	24	eP	Pn	01 56 11.8	+0.6
KULA	Kula-Manisa	4.84	24	eP	Pn	01 56 11.8	+0.6
SWA2		4.88	187	P	Pn	01 56 12.7	+1.0
	baz=187						
SWA2		4.88	187	P	Pn	01 56 12.7	+1.0
BCK	Bucak	4.92	46	eP	Pn	01 56 13.2	+1.0
BCK	Bucak	4.92	46	eP	Pn	01 56 13.2	+1.1
PRK	Paraskevi	5.14	1	ePN	Pn	01 56 17.3	+2.1
PRK	Paraskevi	5.14	1	ePn	Pn	01 56 17.3	+2.1
LEF	Lefka	5.64	78	eP	Pn	01 56 22.6	+0.5
SHUT	Suhut-Afyon	5.68	37	eP	Pn	01 56 23.4	+0.7

BRTR						01 58 27.2	
BRTR	**Keskin Array B**	**8.20**	**45**	P	**Pn**	**01 56 57.4**	**+0.2**
BRTR				S	**Sn**	**01 58 27.2**	**-1.4**
BR131	**Keskin Array S**	**8.20**	**45**	*e*Pn	**Pn**	**01 56 58.3**	**+1.0**
	comp=E,10nm,0.3s						
TR2		**8.62**	**129**	P	**Pn**	**01 57 02.0**	**-0.9**
	baz=130						
TR2		**8.62**	**129**	P	**Pn**	**01 57 02.1**	**-0.8**
EIL	**Elat**	**8.67**	**118**	Pn	**Pn**	**01 57 04.2**	**+0.5**
	comp=E,1.7nm,0.3s,baz=273,slow=16,SNR=11						
EIL				Sn	**Sn**	**01 58 40.6**	**+0.4**
	comp=E,1.7nm,0.3s,baz=248,slow=20,SNR=3.7						
EIL	**Elat**	**8.67**	**118**	Pn	**Pn**	**01 57 04.2**	**+0.5**
EIL				Sn	**Sn**	**01 58 40.6**	**+0.4**
EIL	**Elat**	**8.67**	**118**	Pn	**Pn**	**01 57 04.2**	**+0.5**
EIL				Sn	**Sn**	**01 58 40.6**	**+0.4**
HKAT	**Jabal Katrina**	**8.70**	**128**	P	**Pn**	**01 57 03.7**	**-0.4**
	baz=128						
HKAT	**Jabal Katrina**	**8.70**	**128**	P	**Pn**	**01 57 03.7**	**-0.4**
HBST	**Basata**	**8.77**	**121**	P	**Pn**	**01 57 04.5**	**-0.6**
	baz=122						
HBST	**Basata**	**8.77**	**121**	P	**Pn**	**01 57 04.4**	**-0.7**
HQLS		**8.96**	**120**	P	**Pn**	**01 57 05.2**	**-2.4**
HQLS		**8.96**	**120**	P	**Pn**	**01 57 05.2**	**-2.4**
HAQS	**Haql**	**9.00**	**122**	P	**Pn**	**01 57 07.3**	**-0.9**
HAQS	**Haql**	**9.00**	**122**	P	**Pn**	**01 57 07.3**	**-0.9**
TIP	**Timpagrande**	**9.10**	**307**	*e*Pn	**Pn**	**01 57 07.5**	**-2.1**
TIP	**Timpagrande**	**9.10**	**307**	*e*Pn	**Pn**	**01 57 07.5**	**-2.1**
ASF	**Jabal al Asfar**	**9.20**	**99**	Pn	**Pn**	**01 57 10.1**	**-0.8**
	comp=E,0.5nm,0.3s,baz=199,slow=6.1,SNR=5.9						
ASF				Sn	**Sn**	**01 58 51.2**	**-2.0**
	comp=E,0.4nm,0.3s,baz=198,slow=20,SNR=3.6						
ASF	**Jabal al Asfar**	**9.20**	**99**	Pn	**Pn**	**01 57 10.1**	**-0.8**
ASF				Sn	**Sn**	**01 58 51.1**	**-2.0**
ASF	**Jabal al Asfar**	**9.20**	**99**	P	**Pn**	**01 57 10.1**	**-0.8**
ASF						01 58 51.2	
JLOS		**9.59**	**121**	P	**Pn**	**01 57 14.6**	**-1.8**
JLOS		**9.59**	**121**	P	**Pn**	**01 57 14.6**	**-1.7**
CUC	**Castrocucco**	**10.15**	**308**	*e*Pn	**Pn**	**01 57 23.1**	**-0.8**
CUC	**Castrocucco**	**10.15**	**308**	*e*Pn	**Pn**	**01 57 23.1**	**-0.8**
MLR	**Muntele Rosu**	**11.38**	**359**	Pn	**Pn**	**01 57 38.4**	**-2.3**
	comp=E,0.0nm,0.3s,baz=150,slow=18,SNR=2.0						
MLR				LR	LR	02 02 39.6	
	comp=E,22nm,20.0s,baz=175,slow=41						
MLR	**Muntele Rosu**	**11.38**	**359**	Pn	**Pn**	**01 57 38.4**	**-2.3**
MLR	**Muntele Rosu**	**11.38**	**359**	P	**Pn**	**01 57 38.4**	**-2.3**
MLR	**Muntele Rosu**	**11.38**	**359**	⇑*i*P	Px	01 57 54.5	
MLR	**Muntele Rosu**	**11.38**	**359**	P	**Pn**	**01 57 38.4**	**-2.3**
PLOR	**Plostina**	**11.74**	**2**	⇓*i*P	Px	01 58 00.9	
VRI	**Vrincioaia**	**11.76**	**2**	⇑*i*P	Px	01 58 02.2	
BZS	**Buzias**	**12.02**	**344**	⇓P	**Pn**	**01 57 47.9**	**-1.5**
BZS	**Buzias**	**12.02**	**344**	⇓*i*P	**Pn**	**01 57 47.9**	**-1.5**
BZS	**Buzias**	**12.02**	**344**	P	**Pn**	**01 57 47.9**	**-1.5**
BURAR	**Bucovina Array**	**13.52**	**357**	⇓*i*P	Px	01 58 21.0	
KEST	**Kesra**	**13.90**	**281**	Pn	**Pn**	**01 58 14.1**	**-1.1**
	comp=E,0.0nm,0.3s,baz=105,slow=20,SNR=1.9						
KEST				Sn	**Sn**	**02 00 43.4**	**-4.8**
	comp=E,0.0nm,0.3s,baz=234,slow=19,SNR=3.1						
KEST	**Kesra**	**13.90**	**281**	Pn	**Pn**	**01 58 14.1**	**-1.1**
KEST				Sn	**Sn**	**02 00 43.4**	**-4.8**
KEST	**Kesra**	**13.90**	**281**	Pn	**Pn**	**01 58 14.1**	**-1.1**
KOLS	**Kolonicke sedl**	**15.10**	**350**	*e*P	**Pn**	**01 58 31.9**	**+0.7**
KOLS	**Kolonicke sedl**	**15.10**	**350**	*e*PN	**Pn**	**01 58 31.9**	**+0.7**
SOKA	**Soboth**	**15.14**	**329**	⇑*i*P	**Pn**	**01 58 36.7**	**+5.0**
	comp=E,4.7nm,0.6s						
SOKA	**Soboth**	**15.14**	**329**	P	**Pn**	**01 58 36.7**	**+5.0**
	comp=E,4.7nm,0.6s						
CRVS	**Cervenica-Dubn**	**15.20**	**348**	*e*P	**Pn**	**01 58 36.6**	**+4.1**
CRVS	**Cervenica-Dubn**	**15.20**	**348**	*e*P	**Pn**	**01 58 36.6**	**+4.1**
CRVS	**Cervenica-Dubn**	**15.20**	**348**	*e*P	**Pn**	**01 58 36.6**	**+4.1**
KIV	**Kislovodsk**	**16.15**	**48**	*e*Pn	**Pn**	**01 58 49.0**	**+4.3**
KIV	**Kislovodsk**	**16.15**	**48**	*e*P	**Pn**	**01 58 49.4**	**+4.7**
KIV				pmax	pmax		
	comp=Z,13nm,0.9s						
KIV				MLR	MLR		
	comp=Z,68nm,12.0s						
KIEV	**Kiev**	**16.73**	**7**	*e*Pn	**Pn**	**01 58 51.6**	**-0.5**
	comp=Z,5.7nm,0.8s						
KIEV	**Kiev**	**16.73**	**7**	*e*P	**Pn**	**01 58 51.6**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIEV	**Kiev**	**16.73**	**7**	*e*P	**Pn**	**01 58 51.6**	**-0.5**
	comp=Z,6.0nm,0.8s						
AKASG	**Malin Array Be**	**16.74**	**7**	Pn	**Pn**	**01 58 50.9**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=196,slow=11,SNR=7.5						
AKASG	**Malin Array Be**	**16.74**	**7**	Pn	**Pn**	**01 58 50.9**	**-1.2**
AKASG	**Malin Array Be**	**16.74**	**7**	P	**Pn**	**01 58 50.9**	**-1.3**
AKASG	**Malin Array Be**	**16.74**	**7**	P	**Pn**	**01 58 50.9**	**-1.3**
AKBB	**Malin Array Si**	**16.74**	**7**	*e*Pn	**Pn**	**01 58 53.1**	**+1.0**
AKBB	**Malin Array Si**	**16.74**	**7**	*e*P	**Pn**	**01 58 53.2**	**+1.0**
AKBB	**Malin Array Si**	**16.74**	**7**	*e*P	**Pn**	**01 58 53.2**	**+1.0**
VRAC	**Vranov**	**16.77**	**338**	Pn	**Pn**	**01 58 52.7**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=134,slow=15,SNR=3.9						
VRAC	**Vranov**	**16.77**	**338**	Pn	**Pn**	**01 58 52.7**	**+0.2**
VRAC	**Vranov**	**16.77**	**338**	P	**Pn**	**01 58 52.7**	**+0.2**
VRAC	**Vranov**	**16.77**	**338**	P	**Pn**	**01 58 52.7**	**+0.2**
MORC	**Moravsky Berou**	**16.91**	**340**	*e*Pn	**Pn**	**01 58 52.5**	**-1.8**
MORC	**Moravsky Berou**	**16.91**	**340**	*e*P	**Pn**	**01 58 52.5**	**-1.8**
MORC	**Moravsky Berou**	**16.91**	**340**	*e*Pn	**Pn**	**01 58 52.5**	**-1.8**
FETA	**Feichten**	**17.40**	**322**	⇑*i*P	**Pn**	**01 59 02.2**	**+1.8**
	comp=Z,7.5nm,0.7s						
FETA	**Feichten**	**17.40**	**322**	P	**Pn**	**01 59 02.2**	**+1.8**
	comp=Z,7.5nm,0.7s						
GERES	**GERESS Array B**	**17.41**	**332**	P	**Pn**	**01 59 00.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=145,slow=12,SNR=12						
GERES	**GERESS Array B**	**17.41**	**332**	P	**Pn**	**01 59 00.1**	**-0.4**
GERES	**GERESS Array B**	**17.41**	**332**	P	**Pn**	**01 59 00.1**	**-0.4**
GERES	**GERESS Array B**	**17.41**	**332**	P	**Pn**	**01 59 00.1**	**-0.4**
SBF	**Sospel**	**17.49**	**309**	*e*P	**Pn**	**01 58 58.4**	**-3.2**
SBF	**Sospel**	**17.49**	**309**	*e*P	**Pn**	**01 58 58.4**	**-3.2**
SBF	**Sospel**	**17.49**	**309**	*e*P	**Pn**	**01 58 58.4**	**-3.2**
DAVOX	**Davos/Dischmat**	**17.68**	**321**	P	**Pn**	**01 59 03.0**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=130,slow=13,SNR=15						
DAVOX	**Davos/Dischmat**	**17.68**	**321**	P	**Pn**	**01 59 03.0**	**-0.9**
DAVOX	**Davos/Dischmat**	**17.68**	**321**	P	**Pn**	**01 59 03.0**	**-0.8**
DAVOX	**Davos/Dischmat**	**17.68**	**321**	P	**Pn**	**01 59 03.0**	**-0.8**
KHC	**Kasperske Hory**	**17.69**	**332**	*e*P	**Pn**	**01 59 04.0**	**+0.1**
KHC	**Kasperske Hory**	**17.69**	**332**	*e*P	**Pn**	**01 59 04.0**	**+0.1**
KHC	**Kasperske Hory**	**17.69**	**332**	*e*P	**Pn**	**01 59 04.0**	**+0.1**
RETA	**Reutte**	**17.70**	**324**	⇑*i*P	**Pn**	**01 59 03.5**	**-0.6**
	comp=Z,3.1nm,0.6s						
RETA	**Reutte**	**17.70**	**324**	P	**Pn**	**01 59 03.5**	**-0.6**
	comp=Z,3.1nm,0.6s						
DPC	**Dobruska-Polom**	**17.77**	**339**	*e*P	**Pn**	**01 59 04.2**	**-0.8**
	comp=Z,7.8nm,0.7s						
DPC	**Dobruska-Polom**	**17.77**	**339**	*e*P	**Pn**	**01 59 04.2**	**-0.8**
DPC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
DPC	**Dobruska-Polom**	**17.77**	**339**	*e*P	**Pn**	**01 59 04.2**	**-0.8**
	comp=Z,7.8nm,0.7s						
DAVA	**Damuels**	**18.01**	**322**	⇓*i*P	**Pn**	**01 59 07.7**	**-0.2**
	comp=Z,3.1nm,0.5s						
DAVA	**Damuels**	**18.01**	**322**	P	**Pn**	**01 59 07.7**	**-0.2**
	comp=Z,3.1nm,0.5s						
MBDF	**Montbardon**	**18.32**	**311**	*e*P	**Pn**	**01 59 09.1**	**-2.6**
	comp=Z,26nm,0.9s						
MBDF	**Montbardon**	**18.32**	**311**	*e*P	**Pn**	**01 59 09.1**	**-2.6**
	comp=Z,26nm,0.9s						
MBDF	**Montbardon**	**18.32**	**311**	*e*P	**Pn**	**01 59 09.1**	**-2.6**
MBDF				pmax	pmax		
	comp=Z,26nm,0.9s						
LPG	**La Plagne**	**18.71**	**313**	*e*P	**Pn**	**01 59 16.5**	**0.0**
LPG	**La Plagne**	**18.71**	**313**	*e*P	**Pn**	**01 59 16.5**	**0.0**
LPG	**La Plagne**	**18.71**	**313**	*e*P	**Pn**	**01 59 16.5**	**0.0**
LPG	**La Plagne**	**18.71**	**313**	*e*P	**Pn**	**01 59 16.5**	**0.0**
LPL	**La Plagne**	**18.74**	**313**	*e*P	**Pn**	**01 59 16.9**	**+0.2**
LPL	**La Plagne**	**18.74**	**313**	*e*P	**Pn**	**01 59 16.9**	**+0.2**
LPL	**La Plagne**	**18.74**	**313**	*e*P	**Pn**	**01 59 16.9**	**+0.2**
LPL	**La Plagne**	**18.74**	**313**	*e*P	**Pn**	**01 59 16.9**	**+0.2**
CLL	**Collm**	**19.68**	**335**	*e*P	**Pn**	**01 59 24.0**	**-4.0**
CLL	**Collm**	**19.68**	**335**	*e*P	**Pn**	**01 59 24.0**	**-4.0**
CLL	**Collm**	**19.68**	**335**	*e*P	**Pn**	**01 59 24.0**	**-4.0**
CABF	**La Chapelle**	**19.69**	**315**	*e*P	**Pn**	**01 59 24.9**	**-3.2**
	comp=Z,27nm,1.0s						
CABF	**La Chapelle**	**19.69**	**315**	*e*P	**Pn**	**01 59 24.9**	**-3.2**
	comp=Z,27nm,1.0s						
CABF	**La Chapelle**	**19.69**	**315**	*e*P	**Pn**	**01 59 24.9**	**-3.2**
CABF				pmax	pmax		
	comp=Z,27nm,1.0s						
CABF	**La Chapelle**	**19.69**	**315**	*e*P	**Pn**	**01 59 24.9**	**-3.2**
	comp=Z,14nm,1.0s						
HINF	**Hinteralfeld**	**19.94**	**319**	*e*P	**Pn**	**01 59 28.4**	**-2.7**
HINF	**Hinteralfeld**	**19.94**	**319**	*e*P	**Pn**	**01 59 28.4**	**-2.7**
HINF	**Hinteralfeld**	**19.94**	**319**	*e*P	**Pn**	**01 59 28.4**	**-2.7**
SUW	**Suwalki**	**20.02**	**355**	*e*P	**P**	**01 59 28.2**	**-1.8**
	comp=Z,19nm,0.8s						
SUW	**Suwalki**	**20.02**	**355**	*e*P	**P**	**01 59 28.2**	**-1.8**
SUW				pmax	pmax		
	comp=Z,19nm,0.8s						
SUW	**Suwalki**	**20.02**	**355**	*e*P	**P**	**01 59 28.2**	**-1.8**
	comp=Z,19nm,0.8s						
CDF	**Champ du Feu**	**20.08**	**321**	⇑*i*P	**P**	**01 59 31.0**	**+0.4**
	comp=Z,22nm,0.7s						
CDF	**Champ du Feu**	**20.08**	**321**	⇑*i*P	**P**	**01 59 31.0**	**+0.4**
	comp=Z,22nm,0.7s						
CDF	**Champ du Feu**	**20.08**	**321**	⇑*i*P	**P**	**01 59 31.0**	**+0.4**
CDF				pmax	pmax		
	comp=Z,22nm,0.7s						
CDF	**Champ du Feu**	**20.08**	**321**	⇑*i*P	**P**	**01 59 31.0**	**+0.4**
	comp=Z,11nm,0.7s						
HAU	**Haudompre**	**20.33**	**319**	*e*P	**P**	**01 59 33.2**	**-0.1**
	comp=Z,9.3nm,0.5s						
HAU	**Haudompre**	**20.33**	**319**	*e*P	**P**	**01 59 33.2**	**-0.1**
	comp=Z,9.3nm,0.5s						
HAU	**Haudompre**	**20.33**	**319**	*e*P	**P**	**01 59 33.2**	**-0.1**
HAU				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HAU	**Haudompre**	**20.33**	**319**	*e*P	**P**	**01 59 33.2**	**-0.1**
	comp=Z,4.7nm,0.5s						
PAGF	**Fort de Pagny**	**20.99**	**320**	*e*P	**P**	**01 59 40.6**	**+0.1**
	comp=Z,6.3nm,0.7s						
PAGF	**Fort de Pagny**	**20.99**	**320**	*e*P	**P**	**01 59 40.6**	**+0.1**
	comp=Z,3.2nm,0.7s						
SMF	**Signal de Mont**	**21.04**	**313**	*e*P	**P**	**01 59 41.1**	**0.0**
SMF	**Signal de Mont**	**21.04**	**313**	*e*P	**P**	**01 59 41.1**	**0.0**
SMF	**Signal de Mont**	**21.04**	**313**	*e*P	**P**	**01 59 41.1**	**0.0**
SMF	**Signal de Mont**	**21.04**	**313**	*e*P	**P**	**01 59 41.1**	**0.0**
SFTF	**Sexfontaines**	**21.16**	**318**	*e*P	**P**	**01 59 42.1**	**-0.3**
	comp=Z,46nm,0.9s,mb4.5						
SFTF	**Sexfontaines**	**21.16**	**318**	*e*P	**P**	**01 59 42.1**	**-0.3**
	comp=Z,46nm,0.9s,mb4.8						
SFTF	**Sexfontaines**	**21.16**	**318**	*e*P	**P**	**01 59 42.1**	**-0.3**
	comp=Z,23nm,0.9s,mb4.5						
MEZF	**Maizieres J'vi**	**21.32**	**319**	*e*P	**P**	**01 59 43.2**	**-0.9**
	comp=Z,32nm,0.8s,mb4.4						
MEZF	**Maizieres J'vi**	**21.32**	**319**	*e*P	**P**	**01 59 43.2**	**-0.9**
	comp=Z,32nm,0.8s,mb4.7						
MEZF	**Maizieres J'vi**	**21.32**	**319**	*e*P	**P**	**01 59 43.2**	**-0.9**
	comp=Z,16nm,0.8s,mb4.4						
TAM	**Tamanrasset**	**21.32**	**243**	*e*P	**P**	**01 59 47.2**	**+2.9**
	comp=Z,5.4nm,0.9s,mb3.9						
TAM	**Tamanrasset**	**21.32**	**243**	*e*P	**P**	**01 59 47.2**	**+2.9**
TAM				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
TAM	**Tamanrasset**	**21.32**	**243**	*e*P	**P**	**01 59 47.2**	**+2.9**
	comp=Z,5.4nm,0.9s,mb3.9						
LOR	**Lormes**	**21.34**	**315**	*e*P	**P**	**01 59 43.0**	**-1.3**
	comp=Z,9.9nm,0.7s,mb4.0						
LOR				*e*R			
	comp=Z,195nm,17.2s						
LOR	**Lormes**	**21.34**	**315**	*e*P	**P**	**01 59 43.0**	**-1.3**
	comp=Z,9.9nm,0.7s,mb4.2						
LOR	**Lormes**	**21.34**	**315**	*e*P	**P**	**01 59 43.0**	**-1.3**
LOR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
LOR	**Lormes**	**21.34**	**315**	*e*P	**P**	**01 59 43.0**	**-1.3**
	comp=Z,4.9nm,0.7s,mb4.0						
AVF	**Avril sur Loir**	**21.41**	**313**	*e*P	**P**	**01 59 45.1**	**+0.1**
AVF	**Avril sur Loir**	**21.41**	**313**	*e*P	**P**	**01 59 45.1**	**+0.1**
AVF	**Avril sur Loir**	**21.41**	**313**	*e*P	**P**	**01 59 45.1**	**+0.1**
AVF	**Avril sur Loir**	**21.41**	**313**	*e*P	**P**	**01 59 45.1**	**+0.1**
WLF	**Walferdange**	**21.44**	**323**	P	**P**	**01 59 45.5**	**+0.1**
WLF	**Walferdange**	**21.44**	**323**	*e*P	**P**	**01 59 45.0**	**-0.4**
	comp=Z,9.2nm,0.7s,mb4.2						
WLF	**Walferdange**	**21.44**	**323**	*e*P	**P**	**01 59 45.0**	**-0.3**
WLF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.2						
WLF	**Walferdange**	**21.44**	**323**	*e*P	**P**	**01 59 45.0**	**-0.3**
	comp=Z,9.2nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**21.45**	**314**	*e*P	**P**	**01 59 45.3**	**-0.1**
	comp=Z,12nm,0.8s,mb4.0						
SSF	**Saint Saulge**	**21.45**	**314**	*e*P	**P**	**01 59 45.3**	**-0.1**
	comp=Z,12nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**21.45**	**314**	*e*P	**P**	**01 59 45.3**	**-0.1**
SSF				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**21.45**	**314**	*e*P	**P**	**01 59 45.3**	**-0.1**
	comp=Z,6.1nm,0.8s,mb4.0						
BGF	**Bois d'Agland**	**21.61**	**312**	⇑*i*P	**P**	**01 59 46.1**	**-1.1**
	comp=Z,26nm,0.6s,mb4.5						
BGF	**Bois d'Agland**	**21.61**	**312**	⇑*i*P	**P**	**01 59 46.1**	**-1.1**
	comp=Z,26nm,0.6s,mb4.8						
BGF	**Bois d'Agland**	**21.61**	**312**	⇑*i*P	**P**	**01 59 46.1**	**-1.1**
BGF				pmax	pmax		
	comp=Z,26nm,0.6s,mb4.8						
BGF	**Bois d'Agland**	**21.61**	**312**	⇑*i*P	**P**	**01 59 46.1**	**-1.1**
	comp=Z,13nm,0.6s,mb4.5						
TCF	**Toulx Ste Croi**	**21.89**	**311**	*e*P	**P**	**01 59 49.6**	**-0.6**
TCF	**Toulx Ste Croi**	**21.89**	**311**	*e*P	**P**	**01 59 49.6**	**-0.6**
TCF	**Toulx Ste Croi**	**21.89**	**311**	*e*P	**P**	**01 59 49.6**	**-0.6**
TCF	**Toulx Ste Croi**	**21.89**	**311**	*e*P	**P**	**01 59 49.6**	**-0.6**
RJF	**Les Rejaudoux**	**21.93**	**308**	⇑*i*P	**P**	**01 59 50.8**	**+0.1**
	comp=Z,23nm,0.8s,mb4.4						
RJF	**Les Rejaudoux**	**21.93**	**308**	⇑*i*P	**P**	**01 59 50.8**	**+0.1**
	comp=Z,23nm,0.8s,mb4.7						
RJF	**Les Rejaudoux**	**21.93**	**308**	⇑*i*P	**P**	**01 59 50.8**	**+0.1**
RJF				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.7						
RJF	**Les Rejaudoux**	**21.93**	**308**	⇑*i*P	**P**	**01 59 50.8**	**+0.1**
	comp=Z,12nm,0.8s,mb4.4						
MEM	**Membach**	**22.12**	**324**	P	**P**	**01 59 53.0**	**+0.5**
MEM	**Membach**	**22.12**	**324**	P	**P**	**01 59 53.0**	**+0.4**
OBN	**Obninsk**	**22.23**	**16**	⇑*e*P	**P**	**01 59 56.5**	**+2.8**
OBN				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.0						
LFF	**La Frestale**	**22.32**	**307**	*e*P	**P**	**01 59 54.2**	**-0.5**
LFF	**La Frestale**	**22.32**	**307**	*e*P	**P**	**01 59 54.2**	**-0.5**
LFF	**La Frestale**	**22.32**	**307**	*e*P	**P**	**01 59 54.2**	**-0.5**
LFF	**La Frestale**	**22.32**	**307**	*e*P	**P**	**01 59 54.2**	**-0.5**
GIVF	**Givet**	**22.39**	**322**	*e*P	**P**	**01 59 54.6**	**-0.8**
GIVF	**Givet**	**22.39**	**322**	*e*P	**P**	**01 59 54.6**	**-0.8**
GIVF	**Givet**	**22.39**	**322**	*e*P	**P**	**01 59 54.6**	**-0.8**
GIVF	**Givet**	**22.39**	**322**	*e*P	**P**	**01 59 54.6**	**-0.8**
DOU	**Dourbes**	**22.50**	**322**	P	**P**	**01 59 56.4**	**-0.3**
DOU	**Dourbes**	**22.50**	**322**	P	**P**	**01 59 56.3**	**-0.3**
BAIF	**Baives**	**22.68**	**321**	*e*P	**P**	**01 59 57.3**	**-1.2**
	comp=Z,14nm,0.6s,mb4.2						
BAIF	**Baives**	**22.68**	**321**	*e*P	**P**	**01 59 57.3**	**-1.2**
	comp=Z,14nm,0.6s,mb4.6						
BAIF	**Baives**	**22.68**	**321**	*e*P	**P**	**01 59 57.3**	**-1.2**
BAIF				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
BAIF	**Baives**	**22.68**	**321**	*e*P	**P**	**01 59 57.3**	**-1.2**
	comp=Z,6.8nm,0.6s,mb4.2						
MFF	**Saint Martin d**	**23.50**	**310**	*e*P	**P**	**02 00 05.1**	**-1.9**
MFF	**Saint Martin d**	**23.50**	**310**	*e*P	**P**	**02 00 05.1**	**-1.9**
MFF	**Saint Martin d**	**23.50**	**310**	*e*P	**P**	**02 00 05.1**	**-1.9**
MFF	**Saint Martin d**	**23.50**	**310**	*e*P	**P**	**02 00 05.1**	**-1.9**
LDF	**La Druitiere**	**24.32**	**314**	⇑*i*P	**P**	**02 00 14.0**	**-0.5**
	comp=Z,18nm,0.6s,mb4.4						
LDF	**La Druitiere**	**24.32**	**314**	⇑*i*P	**P**	**02 00 14.0**	**-0.5**
	comp=Z,18nm,0.6s,mb4.7						
LDF	**La Druitiere**	**24.32**	**314**	⇑*i*P	**P**	**02 00 14.0**	**-0.5**
LDF				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.7						
LDF	**La Druitiere**	**24.32**	**314**	⇑*i*P	**P**	**02 00 14.0**	**-0.5**
	comp=Z,9.1nm,0.6s,mb4.4						
FLN	**La Foliniere**	**24.61**	**315**	⇑*i*P	**P**	**02 00 16.5**	**-0.6**
	comp=Z,25nm,0.8s,mb4.5						
FLN	**La Foliniere**	**24.61**	**315**	⇑*i*P	**P**	**02 00 16.5**	**-0.6**
	comp=Z,25nm,0.8s,mb4.8						
FLN	**La Foliniere**	**24.61**	**315**	⇑*i*P	**P**	**02 00 16.5**	**-0.6**
FLN				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.8						
FLN	**La Foliniere**	**24.61**	**315**	⇑*i*P	**P**	**02 00 16.5**	**-0.6**
	comp=Z,12nm,0.8s,mb4.5						
ESDC	**Sonseca Array**	**24.67**	**292**	P	**P**	**02 00 18.6**	**+0.9**
	comp=Z,5.9nm,0.7s,mb4.3,baz=80,slow=9.2,SNR=39						
ESDC	**Sonseca Array**	**24.67**	**292**	P	**P**	**02 00 18.6**	**+0.9**
ESDC	**Sonseca Array**	**24.67**	**292**	P	**P**	**02 00 18.6**	**+0.9**
GRR	**Gorron**	**24.67**	**313**	*e*P	**P**	**02 00 16.9**	**-0.8**
	comp=Z,44nm,0.9s,mb4.7						
GRR	**Gorron**	**24.67**	**313**	*e*P	**P**	**02 00 16.9**	**-0.8**
	comp=Z,44nm,0.9s,mb5.0						
GRR	**Gorron**	**24.67**	**313**	*e*P	**P**	**02 00 16.9**	**-0.8**
GRR				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.0						
GRR	**Gorron**	**24.67**	**313**	*e*P	**P**	**02 00 16.9**	**-0.8**
	comp=Z,22nm,0.9s,mb4.7						
SGMF	**Saint Gilles**	**25.65**	**312**	*e*P	**P**	**02 00 27.0**	**+0.4**
SGMF	**Saint Gilles**	**25.65**	**312**	*e*P	**P**	**02 00 27.0**	**+0.4**
SGMF	**Saint Gilles**	**25.65**	**312**	*e*P	**P**	**02 00 27.0**	**+0.4**
SGMF	**Saint Gilles**	**25.65**	**312**	*e*P	**P**	**02 00 27.0**	**+0.4**
QUIF	**Quistinic**	**25.90**	**311**	*e*P	**P**	**02 00 28.8**	**-0.1**
QUIF	**Quistinic**	**25.90**	**311**	*e*P	**P**	**02 00 28.8**	**-0.1**
QUIF	**Quistinic**	**25.90**	**311**	*e*P	**P**	**02 00 28.8**	**-0.1**
QUIF	**Quistinic**	**25.90**	**311**	*e*P	**P**	**02 00 28.8**	**-0.1**
HFS	**Hagfors**	**27.30**	**346**	P	**P**	**02 00 40.6**	**-0.6**
	comp=Z,1.8nm,0.6s,mb3.8,baz=127,slow=9.8,SNR=11						
HFS	**Hagfors**	**27.30**	**346**	P	**P**	**02 00 40.6**	**-0.6**
HFS	**Hagfors**	**27.30**	**346**	P	**P**	**02 00 40.6**	**-0.7**
HFS	**Hagfors**	**27.30**	**346**	P	**P**	**02 00 40.6**	**-0.7**
FINES	**FINESS Array B**	**27.36**	**360**	P	**P**	**02 00 40.8**	**-1.1**
	comp=Z,1.3nm,0.3s,mb4.0,baz=167,slow=11,SNR=17						
FINES				LR	LR	02 10 52.5	
	comp=Z,121nm,18.5s,baz=228,slow=35						
FINES	**FINESS Array B**	**27.36**	**360**	P	**P**	**02 00 40.8**	**-1.1**
FINES	**FINESS Array B**	**27.36**	**360**	P	**P**	**02 00 40.8**	**-1.0**
FINES	**FINESS Array B**	**27.36**	**360**	P	**P**	**02 00 40.8**	**-1.0**
KAF	**Kangasniemi**	**28.03**	**0**	*e*P	**P**	**02 00 45.4**	**-2.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
KAF	**Kangasniemi**	**28.03**	**0**	*e*p	**P**	**02 00 45.4**	**-2.4**
	comp=Z,2.1nm,0.6s,mb3.9						
KAF	**Kangasniemi**	**28.03**	**0**	*e*P	**P**	**02 00 45.4**	**-2.4**
	comp=Z,2.0nm,0.6s,mb3.9						
AKTK	**Aktyubinsk**	**28.38**	**45**	P	**P**	**02 00 51.0**	**-0.1**
AKTO	**Aktyubinsk**	**28.38**	**45**	P	**P**	**02 00 51.0**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.7,baz=253,slow=6.5,SNR=5.3						
AKTO	**Aktyubinsk**	**28.38**	**45**	P	**P**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.44**	**202**	P	Pn	02 03 58.0	-0.7
	1.3nm,0.3s,baz=342,slow=20,SNR=5.0						
CTA	**Charters Tower**	**37.50**	**263**	P	P	02 06 47.0	+1.6
	2.8nm,0.3s,baz=91,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**48.44**	**256**	P	P	02 08 12.1	-1.9
	0.4nm,0.3s,baz=92,slow=6.4,SNR=7.5						
WRA	**Warramunga Arr**	**48.59**	**261**	P	P	02 08 15.5	+0.3
	1.2nm,0.3s,baz=99,slow=7.1,SNR=40						
FITZ	**Fitzroy Crossi**	**57.02**	**261**	P	P	02 09 17.4	-0.2
	1.0nm,0.5s,baz=93,slow=8.8,SNR=5.6						
ILAR	**Eielson Array**	**87.44**	**11**	P	P	02 12 18.5	+0.2
	0.5nm,1.0s,baz=224,slow=7.1,SNR=3.4						

*ISCJB **10** 02:02:19.2±0.8, 25°.06S±0°.06×179°.75E±0°.08, h508km±9km, mb4.1/16, Error ellipse: s-maj=11.4km s-min=9.9km az=3.0*
*NEIC **10** 02:02:19.6±0.5, 25°.08S×179°.85E, h506km±5km, mb4.4/11, Error ellipse: s-maj=8.5km s-min=8.0km az=133.0*
*IDC **10** 02:02:20.2±1.4, 25°.09S×179°.77E, h510km±14km, mb3.6/12, mb1 3.8/14, mb1mx3.6/20, mbtmp3.6/14, Error ellipse: s-maj=15.8km s-min=11.0km az=169.0*

ISC 10 02:02:19.8±0.7, 25°.11S±0°.06×179°.79E±0°.08, h505km±9km, n67, σ0°.79/52, mb4.0/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.61**	**154**	*e*Pn	**P**	**02 03 44.2**	**+0.7**
MSVF	**Nonsavu**	**7.51**	**347**	*e*P	**P**	**02 04 10.9**	**-0.6**
	83nm,0.8s						
DZM	**Mont Dzumac**	**12.60**	**281**	*e*P	**P**	**02 05 06.6**	**+1.9**
	18nm,1.0s						
URZ	**Urewera**	**13.31**	**189**	P	**P**	**02 05 09.3**	**-2.6**
	4.4nm,0.3s,baz=12,slow=2.6,SNR=16						
URZ				S	**S**	**02 07 33.3**	**-0.7**
	1.7nm,0.3s,baz=54,slow=19,SNR=7.7						
URZ	**Urewera**	**13.31**	**189**	*e*P	**P**	**02 05 11.1**	**-0.9**
	13nm,0.4s						
URZ				S	**S**	**02 07 33.3**	**-0.7**
AFI	**Afiamalu**	**13.68**	**37**	P	**P**	**02 05 15.1**	**-1.1**
	1.9nm,0.3s,baz=223,slow=14,SNR=2.6						
AFI				S	**S**	**02 07 30.5**	**-11**
	5.2nm,0.3s,baz=269,slow=23,SNR=4.5						
AFI	**Afiamalu**	**13.68**	**37**	P	**P**	**02 05 15.1**	**-1.1**
AFI				S	**S**	**02 07 30.5**	**-11**
RPZ	**Rata Peaks**	**19.89**	**199**	P	**P**	**02 06 16.3**	**-0.7**
	0.5nm,0.3s,baz=333,slow=2.3,SNR=3.0						
RPZ	**Rata Peaks**	**19.89**	**199**	P	**P**	**02 06 16.3**	**-0.7**
CTA	**Charters Tower**	**31.31**	**272**	P	**P**	**02 07 59.2**	**+1.0**
	12nm,0.4s,mb4.7,baz=97,slow=11,SNR=17						
CTA	**Charters Tower**	**31.31**	**272**	*e*P	**P**	**02 07 59.1**	**+0.8**
	8.3nm,0.4s,mb4.5						
CTA	**Charters Tower**	**31.31**	**272**	P	**P**	**02 07 59.2**	**+1.0**
CTAO	**Charters Tower**	**31.31**	**272**	*e*P	**P**	**02 07 58.8**	**+0.5**
	10nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**34.11**	**250**	P	**P**	**02 08 22.6**	**+0.7**
	2.0nm,0.5s,mb3.8,baz=92,slow=12,SNR=6.2						
STKA	**Stephens Creek**	**34.11**	**250**	P	**P**	**02 08 22.6**	**+0.7**
PMG	**Port Moresby**	**34.72**	**291**	P	**P**	**02 08 27.0**	**-0.3**
	4.9nm,0.5s,mb4.2,baz=127,slow=10,SNR=3.8						
PMG	**Port Moresby**	**34.72**	**291**	*e*P	**P**	**02 08 27.0**	**-0.2**
	5.0nm,0.6s,mb4.1						
COEN	**Coen**	**36.13**	**281**	*e*P	**P**	**02 08 39.3**	**+0.3**
	31nm,0.7s,mb4.8						
AS31	**Alice Springs**	**41.66**	**262**	*e*P	**P**	**02 09 23.5**	**-0.2**
ASAR	**Alice Springs**	**41.66**	**262**	P	**P**	**02 09 23.8**	**+0.1**
	1.7nm,0.3s,mb3.9,baz=90,slow=6.6,SNR=22						
ASAR				ScP	ScP	02 14 12.4	+1.5
	0.6nm,0.7s,baz=99,slow=4.8,SNR=4.5						
ASAR				S	**S**	**02 15 02.6**	**-1.0**
	0.7nm,0.6s,baz=96,slow=14,SNR=6.6						
ASAR	**Alice Springs**	**41.66**	**262**	P	**P**	**02 09 23.8**	**+0.1**
ASAR				ScP	ScP	02 14 12.4	+1.5
ASAR				S	**S**	**02 15 02.6**	**-1.0**
WRAB	**Tennant Creek**	**42.14**	**268**	*e*P	**P**	**02 09 26.6**	**-0.9**
	7.3nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**42.15**	**268**	P	**P**	**02 09 27.3**	**-0.4**
	6.2nm,0.4s,mb4.3,baz=103,slow=8.0,SNR=47						
WRA				ScP	ScP	02 14 14.5	+1.7
	2.1nm,0.8s,baz=103,slow=3.6,SNR=9.9						
WRA				S	**S**	**02 15 09.2**	**-1.5**
	1.7nm,0.9s,baz=99,slow=14,SNR=8.1						
WRA	**Warramunga Arr**	**42.15**	**268**	P	**P**	**02 09 27.2**	**-0.4**
WRA				ScP	ScP	02 14 14.5	+1.7
WRA				S	**S**	**02 15 09.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**50.55**	**267**	P	**P**	**02 10 31.7**	**+0.1**
	5.3nm,0.7s,mb4.0,baz=110,slow=8.7,SNR=14						
FITZ	**Fitzroy Crossi**	**50.55**	**267**	*e*P	**P**	**02 10 32.1**	**+0.5**
	6.4nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**50.55**	**267**	*e*P	**P**	**02 10 32.1**	**+0.6**
	5.5nm,0.9s,mb3.9						
VNDA	**Vanda**	**53.17**	**185**	*e*P	**P**	**02 10 50.5**	**+1.0**
	1.9nm,0.4s,mb3.8						
QSPA	**South Pole Qui**	**64.98**	**180**	P	**P**	**02 12 09.3**	**+0.5**
	5.7nm,0.7s,mb4.3,baz=28,slow=1.5,SNR=13						
QSPA	**South Pole Qui**	**64.98**	**180**	*e*P	**P**	**02 12 10.2**	**+1.4**
	12nm,1.1s,mb4.4						
MAW	**Mawson**	**76.56**	**201**	P	**P**	**02 13 17.6**	**+0.3**
	3.2nm,0.6s,mb4.0,baz=134,slow=4.7,SNR=6.7						
MAW	**Mawson**	**76.56**	**201**	P	**P**	**02 13 17.6**	**+0.3**
SNAA	**Sanae**	**83.47**	**179**	*e*	**P**	**02 13 53.1**	**-0.4**
SNAA	**Sanae**	**83.47**	**179**	*e*P	**P**	**02 13 52.8**	**-0.7**
	1.5nm,0.5s,mb3.8						
VNA3	**Neumayer Olymp**	**83.69**	**177**	*e*	**P**	**02 13 54.9**	**+0.3**
VNA2	**Neumayer--Watz**	**84.10**	**178**	*e*	**P**	**02 13 56.8**	**+0.2**
	baz=189,slow=4.6						
NVAR	**Mina Array Bea**	**85.75**	**44**	P	**P**	**02 14 05.8**	**+0.7**
	1.7nm,0.7s,mb3.8,baz=224,slow=8.5,SNR=17						
NVAR	**Mina Array Bea**	**85.75**	**44**	P	**P**	**02 14 05.8**	**+0.7**
TXAR	**Lajitas Array**	**91.23**	**58**	P	**P**	**02 14 31.5**	**+0.6**
	2.5nm,0.8s,mb4.2,baz=215,slow=6.0,SNR=14						
TXAR	**Lajitas Array**	**91.23**	**58**	P	**P**	**02 14 31.5**	**+0.6**
ILAR	**Eielson Array**	**93.24**	**14**	P	**P**	**02 14 38.6**	**-0.8**
	0.4nm,0.8s,mb3.5,baz=215,slow=5.6,SNR=4.6						
ILAR	**Eielson Array**	**93.24**	**14**	P	**P**	**02 14 38.6**	**-0.8**
PDAR	**Pinedale Array**	**93.69**	**44**	P	**P**	**02 14 41.8**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=194,slow=6.5,SNR=3.9						
PDAR	**Pinedale Array**	**93.69**	**44**	P	**P**	**02 14 41.8**	**-0.1**
MKAR	**Makanchi Array**	**112.82**	**312**	PKKPbc	PKKPbc	02 30 48.2	-0.3
	0.4nm,0.6s,baz=300,slow=2.2,SNR=4.5						
MKAR	**Makanchi Array**	**112.82**	**312**	PKKPbc	PKKPbc	02 30 48.2	-0.3
KBL	**Kabul**	**120.21**	**297**	*e*PKPdf	PKPdf	02 20 13.5	+0.2
BRVK	**Borovoye**	**121.27**	**318**	*e*PKPdf	PKPdf	02 20 15.0	+0.3
LSZ	**Lusaka**	**131.24**	**218**	*e*PKPdf	PKPdf	02 20 35.1	+0.2
ARCES	**ARCESS Array B**	**133.02**	**348**	PKP	PKPdf	02 20 35.9	-0.8
	3.4nm,1.0s,baz=75,slow=1.4,SNR=10						
ARCES				SKPab		02 23 17.5	
	2.4nm,0.7s,baz=20,slow=2.9,SNR=12						
ARCES	**ARCESS Array B**	**133.02**	**348**	PKP	PKPdf	02 20 35.9	-0.8
ARCES				SKPab		02 23 17.5	
FINES	**FINESS Array B**	**139.52**	**341**	SKPbc	SKPbc	02 23 37.4	+0.7
	3.9nm,0.8s,baz=129,slow=8.5,SNR=5.9						
FINES	**FINESS Array B**	**139.52**	**341**	SKPbc	SKPbc	02 23 37.4	+0.7
NB2	**NORSAR Subarra**	**143.24**	**351**	PKP	PKPdf	02 20 52.7	-2.8
	comp=Z,1.0nm,0.6s,baz=18,slow=3.3						
NOA	**NORSAR Array B**	**143.24**	**351**	PKP	PKPdf	02 20 53.1	-2.4
	comp=Z,2.8nm,0.8s,baz=16,slow=4.9,SNR=6.4						
NOA				SKPbc	SKPbc	02 23 44.2	-1.8
	comp=Z,0.5nm,0.6s,baz=13,slow=4.2,SNR=3.3						
NOA	**NORSAR Array B**	**143.24**	**351**	PKP	PKPdf	02 20 53.1	-2.4
NOA				SKPbc	SKPbc	02 23 44.2	-1.8
HFS	**Hagfors**	**143.68**	**348**	PKP	PKPdf	02 20 54.4	-2.0
	comp=Z,5.2nm,0.6s,baz=62,slow=3.8,SNR=23						
HFS	**Hagfors**	**143.68**	**348**	PKP	PKPdf	02 20 54.4	-2.0
AKASG	**Malin Array Be**	**145.87**	**326**	PKPbc	PKPbc	02 21 01.3	-0.8
	comp=Z,1.1nm,0.5s,baz=39,slow=3.8,SNR=5.5						
AKASG	**Malin Array Be**	**145.87**	**326**	PKPbc	PKPbc	02 21 01.3	-0.8
BR131	**Keskin Array S**	**148.13**	**306**	*e*PKPbc	PKPbc	02 21 08.3	-0.1
BRTR	**Keskin Array B**	**148.13**	**306**	PKPbc	PKPbc	02 21 08.3	-0.2
	comp=Z,0.5nm,0.5s,baz=79,slow=1.5,SNR=8.8						
BRTR	**Keskin Array B**	**148.13**	**306**	PKPbc	PKPbc	02 21 08.3	-0.2
BUR08	**Bucovina Ar. S**	**149.84**	**325**	*e*PKPbc	PKPbc	02 21 13.2	+0.9
CLL	**Collm**	**151.94**	**342**	*e*PKPbc	PKPbc	02 21 17.0	0.0
TORD	**Torodi Ar. Bea**	**167.97**	**189**	PKP	PKPdf	02 21 27.2	-1.4
	comp=Z,0.8nm,1.1s,baz=65,slow=0.4,SNR=5.5						
TORD				PKPab	PKPab	02 22 39.1	-0.2
	comp=Z,1.2nm,0.6s,baz=180,slow=3.4,SNR=11						
TORD	**Torodi Ar. Bea**	**167.97**	**189**	PKP	PKPdf	02 21 27.2	-1.4
TORD				PKPab	PKPab	02 22 39.1	-0.2

*ISCJB **10** 02:38:03.3±1.7, 24°.46S±0°.09×67°.3W±0°.2, h179km±21km, mb3.4/2, Error ellipse: s-maj=30.9km s-min=14.0km az=179.9*
*GUC **10** 02:38:05.3±0.6, 24°.14S×67°.50W, h203km±55km, ML4.4*
*IDC **10** 02:38:18.9±2.8, 23°.11S×66°.54W, h257km±31km, mb3.3/2, mb1 3.5/4, mb1mx3.2/15, mbtmp3.2/4, Error ellipse: s-maj=48.9km s-min=22.6km az=97.0*

ISC 10 02:38:04.1±1.6, 24°.46S±0°.09×67°.3W±0°.2, h174km±21km, n10, σ0°.57/11, mb3.4/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**2.96**	**285**	*e*P	**Pn**	**02 38 53.0**	**+1.0**
ANCH				*e*S	**Sn**	**02 39 29.2**	**+0.1**
MECH	**Mejillones**	**3.20**	**294**	*e*P	**Pn**	**02 38 55.7**	**+0.8**
MECH				*e*S	**Sn**	**02 39 34.0**	**-0.4**
MECH				AML	AML	02 39 36.6	
	comp=N,520nm,0.4s						
MACH	**Maria Elena**	**3.20**	**314**	*e*P	**Pn**	**02 38 55.4**	**+0.4**
MACH				*e*S	**Sn**	**02 39 33.5**	**-1.0**
CPCH	**Copiapo**	**3.99**	**223**	*e*P	**Pn**	**02 39 04.4**	**-0.6**
CDCH	**Caldera**	**4.11**	**230**	*e*P	**Pn**	**02 39 06.3**	**-0.1**
LPAZ	**La Paz**	**8.17**	**354**	P	**Pn**	**02 39 59.9**	**+0.1**
	comp=N,0.8nm,0.3s,baz=179,slow=9.3,SNR=25						
PLCA	**Paso Flores**	**16.45**	**189**	P	pP	02 42 09.9	-3.6
	comp=N,0.7nm,0.3s,baz=104,slow=8.7,SNR=8.9						
TORD	**Torodi Ar. Bea**	**76.98**	**69**	P	**P**	**02 49 37.5**	**-0.5**
	comp=N,0.5nm,0.6s,mb3.3,baz=254,slow=6.1,SNR=13						
YKA	**Yellowknife Ar**	**94.47**	**340**	P	**P**	**02 51 04.1**	**+0.3**
	comp=N,0.2nm,0.4s,mb3.6,baz=136,slow=4.5,SNR=5.7						
MKAR	**Makanchi Array**	**147.04**	**40**	PKPbc	PKPbc	02 57 26.9	+0.7
	comp=N,0.6nm,0.4s,baz=308,slow=3.8,SNR=5.1						

*IDC **10** 02:45:55.8±0.6, 7°.79S×108°.22E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.2/20, mbtmp4.3/16, ML3.8/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/34, Error ellipse: s-maj=27.3km s-min=13.4km az=53.0*
*NEIC **10** 02:46:02.3±2.4, 7°.89S×108°.22E, h48km±22km, mb4.5/11, Error ellipse: s-maj=18.1km s-min=7.6km az=52.0*
NEIC Felt [III] at Cilacap and Pangandaran and [II] at Ciamis and Tasikmalaya.
*DJA **10** 02:46:04, 8°.26S×108°.25E, h34km, MLv4.9/13*
*ISCJB **10** 02:46:05.6±0.5, 7°.95S±0°.06×108°.35E±0°.03, h92km±3km, mb4.5/38, Error ellipse: s-maj=11.2km s-min=3.5km az=21.6*
*BJI **10** 02:46:05.8, 8°.01S×108°.12E, h96km, mB4.9/9, mb4.7/16*

ISC 10 02:46:06.5±0.5, 8°.02S±0°.06×108°.32E±0°.03, h87km±3km, n130, σ1°.34/130, mb4.5/38, 1C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.68**	**312**	P	**Pn**	**02 46 19.1**	**-3.4**
CISI				S	**Sn**	**02 46 29.5**	**-4.9**
CLJI	**Cilicap**	**0.75**	**67**	P	**Pn**	**02 46 21.2**	**-2.0**
CLJI				S	**Sn**	**02 46 33.8**	**-1.9**
LEM	**Lembang**	**1.37**	**329**	P	**Pn**	**02 46 30.2**	**-0.3**
LEM				S	**Sn**	**02 46 51.6**	**+3.0**
BJII	**Banjamegara**	**1.54**	**64**	P	**Pn**	**02 46 31.5**	**-1.1**
BJII				S	**Sn**	**02 46 55.0**	**+2.7**
YOGI	**Yogyakarta**	**1.97**	**84**	P	**Pn**	**02 46 37.0**	**-1.2**
YOGI				S	**Sn**	**02 47 01.2**	**-1.1**
SKJI	**Sukabumi**	**2.02**	**300**	P	**Pn**	**02 46 37.8**	**-1.0**
SKJI				S	**Sn**	**02 47 02.5**	**-1.0**
DBJI	**Dramaga**	**2.13**	**313**	P	**Pn**	**02 46 40.0**	**-0.3**
DBJI				S	**Sn**	**02 47 07.3**	**+1.1**
UGM	**Wanagama**	**2.19**	**87**	P	**Pn**	**02 46 40.2**	**-0.8**
UGM				S	**Sn**	**02 47 05.9**	**-1.6**
SMRI	**Semarang**	**2.31**	**66**	P	**Pn**	**02 46 43.6**	**+0.9**
SMRI				S	**Sn**	**02 47 14.1**	**+3.6**
PCJI	**Pacitan**	**2.83**	**94**	P	**Pn**	**02 46 48.8**	**-0.9**
PCJI				S	**Sn**	**02 47 21.1**	**-1.9**
SBJI	**Serang**	**2.88**	**311**	P	**Pn**	**02 46 49.4**	**-0.9**
CGJI	**Cibinong**	**2.96**	**298**	P	**Pn**	**02 46 49.3**	**-2.1**
RBSI	**Rajabasa**	**3.35**	**310**	P	**Pn**	**02 46 59.5**	**+2.8**
SJI	**Sawahan**	**3.43**	**86**	P	**Pn**	**02 46 58.4**	**+0.7**
SJI				S	**Sn**	**02 47 41.2**	**+3.8**
PWJI	**Pagerwojo**	**3.45**	**90**	P	**Pn**	**02 46 57.3**	**-0.8**
PWJI				S	**Sn**	**02 47 36.8**	**-1.1**
XMIS	**Christmas Isla**	**3.59**	**227**	P	**Pn**	**02 46 52.5**	**-7.5**
BLSI	**Bandar Lampung**	**4.03**	**311**	P	**Pn**	**02 47 08.0**	**+2.1**
KRKI	**Karangkates**	**4.09**	**92**	P	**Pn**	**02 47 08.8**	**+2.0**
GMJI	**Gumukmas**	**5.08**	**93**	P	**Pn**	**02 47 22.0**	**+1.8**
	0.5nm2μm85nm,0.8s						
LWLI	**Liwa**	**5.18**	**305**	P	**Pn**	**02 47 22.3**	**+0.8**
	8μm152nm,0.9s						
BLJI	**Banyuglugur**	**5.23**	**87**	P	**Pn**	**02 47 25.9**	**+3.6**
MDSI	**Maura Dua**	**5.41**	**310**	P	**Pn**	**02 47 25.8**	**+1.1**
	711nm80nm,1.0s						
JAGI	**Jajag, Banyuwa**	**5.79**	**95**	P	**Pn**	**02 47 32.5**	**+2.6**
PPBI	**Pangkal Pinang**	**6.21**	**339**	P	**Pn**	**02 47 37.7**	**+2.1**
MNAI	**Manna**	**6.45**	**304**	P	**Pn**	**02 47 39.7**	**+0.8**
KSI	**Kapahiang**	**7.16**	**307**	P	**Pn**	**02 47 49.4**	**+0.8**
	1.5nm122nm,0.6s						
MTNI	**Mataram**	**7.79**	**95**	P	**Pn**	**02 47 57.7**	**+0.5**
	111nm,0.8s						
BMNI	**Bima**	**10.28**	**94**	P	**Pn**	**02 48 31.8**	**+0.7**
KAPI	**Kappang**	**11.74**	**76**	LR	LR	02 55 20.6	
	comp=Z,132nm,18.3s,baz=133,slow=48						
GTOI	**Gorontalo**	**16.98**	**60**	P	**Pn**	**02 50 02.3**	**+3.6**
MBWA	**Marble Bar**	**17.09**	**141**	*e*P	**Pn**	**02 49 58.0**	**-2.0**
MBWA	**Marble Bar**	**17.09**	**141**	P	**Pn**	**02 49 58.6**	**-1.4**
	16nm,1.8s						
NLAI	**Namlea**	**19.28**	**77**	P	**Pn**	**02 50 27.6**	**+1.2**
FITZ	**Fitzroy Crossi**	**19.61**	**122**	P	**Pn**	**02 50 30.1**	**0.0**
	0.2nm,0.3s,baz=270,slow=5.8,SNR=9.0						
FITZ				LR	LR	02 57 22.9	
	comp=Z,108nm,18.8s,baz=187,slow=35						
FITZ	**Fitzroy Crossi**	**19.61**	**122**	*e*P	**Pn**	**02 50 29.9**	**-0.3**
	4.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.61**	**122**	P	**Pn**	**02 50 30.2**	**0.0**
	433nm8.6nm,1.6s						
NWAO	**Narrogin (SRO)**	**26.13**	**163**	LR	LR	03 03 29.0	
	comp=Z,64nm,18.1s,baz=93,slow=40						
QIZ	**Qiongzhong**	**26.92**	**3**	P	**P**	**02 51 38.6**	**-1.0**
QIZ				S	**S**	**02 56 16.3**	**+5.9**
QIZ				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.4						
QIZ				pmax	pmax		
	comp=Z,160nm,5.6s						
QIZ	**Qiongzhong**	**26.92**	**3**	P	**P**	**02 51 38.6**	**-1.0**
QIZ				S	**S**	**02 56 16.3**	**+5.9**
QIZ				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.4						
QIZ				pmax	pmax		
	comp=Z,160nm,5.6s						
WRA	**Warramunga Arr**	**27.84**	**118**	P	**P**	**02 51 48.9**	**+0.9**
	comp=Z,1.0nm,0.4s,mb3.7,baz=294,slow=10,SNR=24						
WRA				PcP	PcP	02 55 03.1	+0.9
	comp=Z,0.4nm,0.4s,baz=296,slow=2.6,SNR=4.6						
WRA	**Warramunga Arr**	**27.84**	**118**	P	**P**	**02 51 48.9**	**+0.9**
WRA				PcP	PcP	02 55 03.1	+0.9
CMAR	**Chiang Mai Arr**	**27.89**	**341**	P	**P**	**02 51 48.3**	**0.0**
	comp=Z,1.4nm,0.4s,mb3.8,baz=174,slow=8.8,SNR=4.4						
CMAR				LR	LR	03 05 15.1	
	comp=Z,45nm,18.9s,baz=165,slow=42						
CMAR	**Chiang Mai Arr**	**27.89**	**341**	P	**P**	**02 51 48.3**	**0.0**
ASAR	**Alice Springs**	**29.04**	**125**	P	**P**	**02 51 59.8**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.6,baz=301,slow=9.0,SNR=11						
ASAR				PcP	PcP	02 55 06.5	+1.3
	comp=Z,0.7nm,0.4s,baz=305,slow=2.4,SNR=6.6						
ASAR	**Alice Springs**	**29.04**	**125**	P	**P**	**02 51 59.8**	**+1.2**
ASAR				PcP	PcP	02 55 06.5	+1.3
KMI	**Kunming**	**33.38**	**351**	P	**P**	**02 52 38.4**	**+1.7**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
KMI	**Kunming**	**33.38**	**351**	P	**P**	**02 52 38.4**	**+1.7**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
KMI	**Kunming**	**33.38**	**351**	P	**P**	**02 52 38.4**	**+1.7**
	comp=Z,6.0nm,0.5s,mb4.7						
GYA	**Guiyang**	**34.31**	**357**	*e*P	**P**	**02 52 46.0**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA	**Guiyang**	**34.31**	**357**	*e*P	**P**	**02 52 46.0**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
COEN	**Coen**	**34.69**	**103**	*e*P	**P**	**02 52 48.5**	**+0.3**
	comp=Z,23nm,0.5s,mb5.3						
CTA	**Charters Tower**	**38.60**	**112**	P	**P**	**02 53 21.4**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.3,baz=268,slow=9.1,SNR=6.2						
CTA	**Charters Tower**	**38.60**	**112**	P	**P**	**02 53 21.4**	**0.0**
CTAO	**Charters Tower**	**38.60**	**112**	*e*P	**P**	**02 53 23.3**	**+1.8**
	comp=Z,2.9nm,0.6s,mb4.3						
CD2	**Chengdu**	**38.95**	**354**	*e*P	**P**	**02 53 32.2**	**+8.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**38.99**	**132**	P	**P**	**02 53 26.4**	**+1.8**
	comp=Z,3.9nm,0.5s,mb4.5,baz=317,slow=7.8,SNR=17						
STKA				PcP	PcP	02 55 34.7	+1.4
	comp=Z,2.6nm,0.5s,baz=316,slow=3.4,SNR=4.5						
STKA				LR	LR	03 08 34.2	
	comp=Z,128nm,20.1s,baz=25,slow=35						
STKA	**Stephens Creek**	**38.99**	**132**	*e*P	**P**	**02 53 26.0**	**+1.5**
	comp=Z,0.8nm,0.6s,mb3.7						
STKA				*e*PcP	PcP	02 55 34.4	+1.1
STKA				PcP	PcP	02 55 34.7	+1.4
TAPN	**Taplejung**	**40.43**	**331**	*e*P	**P**	**02 53 34.9**	**-1.5**
	comp=Z,4.0nm,0.3s,mb4.7						
TAPN	**Taplejung**	**40.43**	**331**	*e*P	**P**	**02 53 34.9**	**-1.5**
	comp=Z,4.0nm,0.3s,mb4.7						
NJ2	**Nanjing**	**41.09**	**14**	*e*P	**P**	**02 53 42.1**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2	**Nanjing**	**41.09**	**14**	*e*P	**P**	**02 53 42.1**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
GUN	**Gumba**	**41.79**	**330**	*e*P	**P**	**02 53 45.9**	**-1.7**
	comp=Z,7.3nm,0.3s,mb4.9						
GUN	**Gumba**	**41.79**	**330**	*e*P	**P**	**02 53 45.9**	**-1.7**
	comp=Z,7.3nm,0.3s,mb4.9						
KOLN	**Koldanda**	**42.87**	**327**	*e*P	**P**	**02 53 56.2**	**-0.2**
	comp=Z,16nm,0.6s,mb5.0						
KOLN	**Koldanda**	**42.87**	**327**	*e*P	**P**	**02 53 56.2**	**-0.2**
	comp=Z,16nm,0.6s,mb4.9						
DANN	**Dangsing**	**43.24**	**328**	*e*P	**P**	**02 53 57.6**	**-1.8**
	comp=Z,25nm,0.5s,mb5.2						
DANN	**Dangsing**	**43.24**	**328**	*e*P	**P**	**02 53 57.6**	**-1.8**
	comp=Z,25nm,0.5s,mb5.2						
BJI	**Beijing**	**48.36**	**8**	P	**P**	**02 54 39.0**	**-0.5**
BJI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
BJI	**Beijing**	**48.36**	**8**	P	**P**	**02 54 39.0**	**-0.5**
BJI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
HHC	**Hu-ho-hao-te**	**48.71**	**3**	*e*P	**P**	**02 54 44.9**	**+2.8**
HHC				pP	pP	02 54 50.6	-13
HHC				sP	sP	02 54 54.4	-19
HHC				PP	PP	02 56 37.0	+0.9
HHC				S	**S**	**03 01 45.9**	**+7.7**
HHC				SS	SS	03 05 11.6	+1.7
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
HHC				pmax	pmax		
	comp=Z,110nm,4.6s						
HHC				LR	LR		
	comp=N,90nm,15.5s						
HHC				LR	LR		
	comp=E,330nm,15.5s						
HHC				LR	LR		
	comp=Z,94nm,14.3s						
HHC	**Hu-ho-hao-te**	**48.71**	**3**	*e*P	**P**	**02 54 44.9**	**+2.8**
HHC				PP	PP	02 56 37.0	+0.9
HHC				S	**S**	**03 01 45.9**	**+7.7**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
HHC				pmax	pmax		
	comp=Z,110nm,4.6s						
HHC				LR	LR		
	comp=N,90nm,15.5s						
HHC				LR	LR		
	comp=E,330nm,15.5s						
HHC				LR	LR		
	comp=Z,94nm,14.3s						
MJAR	**Matsushiro

ARCES	ARCESS Array B	94.94	339	P	P	02 59 17.9	-0.7
TORD	Torodi Ar. Bea	107.90	281	PKiKP	PKiKP	03 04 25.1	+0.1
	comp=Z,0.2nm,0.6s,baz=90,slow=1.4,SNR=4.3						
TORD	Torodi Ar. Bea	107.90	281	PKiKP	PKiKP	03 04 25.1	+0.1
YKA	Yellowknife Ar	117.35	21	PKP	PKPdf	03 04 42.0	+0.4
	comp=Z,0.5nm,0.4s,baz=332,slow=1.0,SNR=17						
YKA	Yellowknife Ar	117.35	21	PKP	PKPdf	03 04 42.0	+0.4
NVAR	Mina Array Bea	128.31	47	PKP	PKPdf	03 05 06.0	+2.7
	comp=Z,0.3nm,0.6s,baz=287,slow=3.7,SNR=3.9						
NVAR	Mina Array Bea	128.31	47	PKP	PKPdf	03 05 06.0	+2.7
PDAR	Pinedale Array	132.02	37	PKP	PKPdf	03 05 12.1	+1.9
	comp=Z,0.3nm,0.6s,baz=335,slow=4.0,SNR=3.2						
PDAR	Pinedale Array	132.02	37	PKP	PKPdf	03 05 12.1	+1.9
TXAR	Lajitas Array	143.22	51	PKP	PKPdf	03 05 29.9	-1.4
	comp=Z,0.4nm,0.5s,baz=238,slow=3.1,SNR=10						
TXAR	Lajitas Array	143.22	51	PKP	PKPdf	03 05 29.9	-1.4
WMOK	Wichita Mounta	143.58	39	*e*PKPdf	PKPdf	03 05 30.2	-1.5
CCM	Cathedral Cave	145.26	28	*e*PKPbc	PKPbc	03 05 34.8	+0.4
JCT	Junction City	145.48	46	*e*PKPbc	PKPbc	03 05 36.8	+1.5
MIAR	Mount Ida	146.80	34	*e*PKPbc	PKPbc	03 05 40.4	+1.2
WCI	Wyandotte Cave	147.15	21	*e*PKPbc	PKPbc	03 05 40.7	+0.7
WVT	Waverly	148.37	25	*e*PKPbc	PKPbc	03 05 44.0	+0.7

*IDC **10** 02:56:59.5±4.2, 32.°05S×177.°80W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/14, mbtmp3.7/2, Error ellipse: s-maj=225.1km s-min=49.2km az=163.0*

ISC 10 02:57:58.3±1.1, 31.°7S±0.°2×180.°0E±0.°4, h458km±30km, n36, σ0§75/43, mb3.2/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	6.51	192	PN	P	02 59 38.5	+0.6
PUZ				SN	S	03 00 58.3	-1.2
MWZ	Matawai	6.91	196	PN	P	02 59 41.6	-0.5
MWZ				SN	S	03 01 07.3	+0.1
CNGZ	Carnagh Statio	6.92	192	PN	P	02 59 41.9	-0.3
URZ	Urewera	6.95	199	PN	P	02 59 41.4	-1.1
URZ				SN	S	03 01 07.9	0.0
KNZ	Kokohu	7.54	194	*e*PN	P	02 59 49.0	+0.3
KNZ				SN	S	03 01 17.4	-1.9
RAHZ	Arahi	7.58	197	PN	P	02 59 49.9	+0.8
RAHZ				SN	S	03 01 20.9	+0.9
MHGZ	Mahia Peninsul	7.62	192	PN	P	02 59 50.7	+1.1
NMHZ	Naumai	7.82	199	PN	P	02 59 52.1	+0.5
NMHZ				SN	S	03 01 26.6	+1.8
BKZ	Black Stump Fm	7.97	200	PN	P	02 59 53.3	0.0
BKZ				*e*SN	S	03 01 28.2	+0.4
MCHZ	McNeill Hill	8.17	198	PN	P	02 59 56.5	+1.0
TUVZ	Tukino	8.33	204	PN	P	02 59 57.4	+0.2
WNVZ	Wahianoa	8.40	204	PN	P	02 59 57.8	-0.2
PXZ	Pawanui	8.69	196	*e*SN	S	03 01 40.8	-1.1
PNHZ	Pukenui	8.75	200	SN	S	03 01 43.1	0.0
TSZ	Takapari Road	8.95	200	*e*SN	S	03 01 47.6	+0.5
PRHZ	Porangahau	8.96	197	PN	P	03 00 04.6	+0.7
PRHZ				SN	S	03 01 47.4	0.0
BFZ	Birch Farm	9.45	198	PN	P	03 00 09.0	-0.3
MRZ	Mangatainoka R	9.62	200	PN	P	03 00 09.0	-2.1
MRZ				SN	S	03 02 00.5	+0.1
TIWZ	Tintock	9.64	199	PN	P	03 00 11.5	+0.3
HOWZ	Holdsworth Sta	9.86	200	PN	P	03 00 12.7	-0.9
OGWZ	Otaki Gorge	9.89	202	PN	P	03 00 13.8	-0.1
TMWZ	Te Maipa	9.94	198	PN	P	03 00 14.5	-0.1
KIW	Kapiti Island	10.01	203	PN	P	03 00 15.0	-0.3
CAW	Cannon Point	10.18	202	PN	P	03 00 16.4	-0.8
TRWZ	Traveller	10.27	198	PN	P	03 00 19.2	+1.1
MSWZ	Moikau Station	10.41	200	PN	P	03 00 19.4	-0.3
TCW	Tory Channel	10.54	204	PN	P	03 00 20.6	-0.4
PLWZ	Palliser	10.55	200	PN	P	03 00 22.1	+1.0
NNZ	Nelson	10.88	207	*e*PN	P	03 00 24.3	-0.4
QRZ	Quartz Range	10.91	211	PN	P	03 00 25.0	-0.1
THZ	Tophouse	11.53	207	PN	P	03 00 32.2	+0.5
KHZ	Kahutara	11.86	204	PN	P	03 00 35.6	+0.3
ASAR	Alice Springs	41.34	269	P	P	03 05 03.0	+0.1
	0.2nm,0.3s,mb3.0,baz=116,slow=7.7,SNR=5.0						
WRA	Warramunga Arr	42.45	275	P	P	03 05 11.4	-0.4
	0.5nm,0.3s,mb3.4,baz=110,slow=8.1,SNR=25						
FINES	FINESS Array B	145.74	338	PKPbc	PKPbc	03 16 43.0	-1.4
	1.1nm,0.3s,baz=66,slow=3.8,SNR=17						
BRTR	Keskin Array B	151.66	296	PKPbc	PKPbc	03 16 58.2	-1.7
	0.4nm,0.8s,baz=96,slow=4.7,SNR=4.9						

GUC 10 02:58:28.1±0.7, 32.°64S×71.°63W, h10km±5km, MD3.6, ML2.8, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.38	182	⇓*i*P	Pg	02 58 36.2	+0.6
IHA				*e*S	Sg	02 58 41.8	+1.0
ROCH	El Roble	0.61	122	⇓*i*P	Pg	02 58 40.6	+0.7
ROCH				*i*S	Sg	02 58 49.8	+1.8
ROCH				AML	AML	02 58 50.0	
	comp=E,574nm,0.2s						
CHNG	Los Chungos	0.77	8	*e*P	Pg	02 58 42.7	-0.1
CHNG				*e*S	Sg	02 58 53.2	+0.3
JACH	Jahuel	0.87	93	*e*P	Pg	02 58 44.3	-0.6
PEL	Peldehue	0.94	122	*e*P	Pg	02 58 45.5	-0.6
PEL				*i*S	Sg	02 58 58.9	+0.6
PEL				AML	AML	02 59 00.2	
	comp=E,1μm,0.2s						
CLCH	Cerro Calan	1.18	130	AML	AML	02 59 07.0	
	comp=N,624nm,0.5s						
ANTU	Antumapu	1.24	138	*e*P	Pn	02 58 50.5	-1.0
ANTU				*i*S	Sb	02 59 07.1	-0.6
ANTU				AML	AML	02 59 10.7	
	comp=E,199nm,0.4s						
LNV	Longovilo	1.32	172	*e*P	Pn	02 58 50.1	-2.5
PCH	Pirque	1.35	137	*e*P	Pn	02 58 51.9	-1.1
PCH				*i*S	Sb	02 59 10.3	-0.4
CHCH	Chadas Angostu	1.52	148	*e*P	Pn	02 58 54.6	-0.7
CACH	El Canelo	1.70	150	*e*P	Pn	02 58 57.8	0.0

GUC 10 03:06:19.7±0.8, 32.°17S×71.°78W, h24km±3km, MD4.1, ML3.2, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.37	39	⇓*i*P	Pb	03 06 27.6	-0.1
CHNG				*i*S	Sb	03 06 33.2	0.0
PTCH	Petorca	0.72	97	*e*P	Pb	03 06 33.4	-0.2
PTCH				*e*S	Sb	03 06 43.0	-0.1
IHA	Instituto Hidr	0.86	172	*e*P	Pb	03 06 35.1	-0.8
IHA				*e*S	Sb	03 06 46.5	-0.5
ROCH	El Roble	1.03	141	⇓*e*P	Pn	03 06 38.4	-0.3
ROCH				*e*S	Sb	03 06 52.5	+0.6
ROCH				AML	AML	03 06 56.5	
	comp=N,806nm,0.5s						
JACH	Jahuel	1.12	117	*e*P	Pn	03 06 39.7	-0.3
CMCH	Combarbala	1.20	34	⇑*i*P	Pn	03 06 39.8	-1.1
CMCH				*e*S	Sn	03 06 55.3	-1.1
CMCH				AML	AML	03 07 02.1	
	comp=E,2μm,0.6s						
PEL	Peldehue	1.34	137	*e*P	Pn	03 06 43.2	+0.3
PEL				*e*S	Sn	03 07 00.6	+0.7
PEL				AML	AML	03 07 03.1	
	comp=E,1μm,0.4s						
RCDM	Rinconada Maip	1.55	148	*e*P	Pn	03 06 46.4	+0.6
RCDM				*i*S	Sn	03 07 06.0	+1.0
RCDM				AML	AML	03 07 11.2	
	comp=E,259nm,0.2s						
CLCH	Cerro Calan	1.61	140	*e*P	Pn	03 06 47.4	+0.8
CLCH				*e*S	Sn	03 07 08.0	+1.4
CLCH				AML	AML	03 07 20.0	
	comp=E,526nm,0.7s						
TACH	Talagante	1.64	155	*e*P	Pn	03 06 47.6	+0.6
FCH	Farellones	1.70	133	*e*P	Pn	03 06 48.5	+0.6
FCH				*i*S	Sn	03 07 11.1	+2.2
FCH				AML	AML	03 07 14.4	
	comp=E,349nm,0.2s						
PCH	Pirque	1.79	144	*e*P	Pn	03 06 50.2	+1.1
LNV	Longovilo	1.81	170	*e*P	Pn	03 06 50.1	+0.8
CHCH	Chadas Angostu	1.99	152	*e*P	Pn	03 06 53.2	+1.3
TLL	Tololo Astrono	2.17	23	*e*P	Pn	03 06 55.6	+1.3
TLL				*e*S	Sn	03 07 24.0	+3.7
TLL				AML	AML	03 07 30.6	
	comp=N,260nm,0.6s						
CACH	El Canelo	2.18	153	*e*P	Pn	03 06 56.3	+1.9
LCO	Las Campanas	3.28	17	*e*P	Pn	03 07 09.0	-0.6

MEX 10 03:10:14.5±1.1, 17.°76N×101.°94W, h20km±55km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.47	109	*i*P	Pb	03 10 22.1	-2.1
ZIIG				*i*S	Sb	03 10 29.4	-1.3
MMIG	Aquila	1.44	292	*i*P	Pn	03 10 37.3	-2.2
MMIG				*i*S	Sn	03 10 52.4	-5.4
CAIG	El Cayaco	1.74	114	*e*P	Pn	03 10 40.9	-2.7
CAIG				*i*S	Sn	03 11 00.7	-4.6
MEIG	Mezcala	2.21	85	*e*P	Pn	03 10 47.8	-2.3
MEIG				*i*S	Sn	03 11 11.5	-5.3
PPM	Popocatepetl	3.40	67	*e*P	Pn	03 11 05.0	-1.4
PPM				*i*S	Sn	03 11 44.1	-2.0
PNIG	Pinotepa	3.89	110	*e*P	Pn	03 11 11.0	-2.2
PNIG				*i*S	Sn	03 11 54.2	-4.0

*IDC **10** 03:23:57.9±0.8, 30.°84S×176.°94W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.1/15, mbtmp4.2/5, MS4.5/3, Ms1 4.5/3, ms1mx3.4/28, Error ellipse: s-maj=31.5km s-min=26.1km az=162.0*

*NEIC **10** 03:23:58.8±0.5, 31.°01S×176.°90W, h10km, mb4.5/5, Error ellipse: s-maj=12.8km s-min=10.9km az=86.0*

*ISCJB **10** 03:24:01.9±0.8, 31.°23S±0.°08×177.°1W±0.°1, h33km, mb4.4/8, MS4.5/3, Error ellipse: s-maj=15.5km s-min=10.7km az=11.5*

ISC 10 03:24:03.6±0.8, 31.°13S±0.°08×177.°1W±0.°1, h35km, n42, σ1§21/25, mb4.4/8, MS4.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.01	338	*e*Pn	Pn	03 24 30.8	-4.2
URZ	Urewera	8.57	212	Pn	Pn	03 26 04.0	-1.2
	1.1nm,0.3s,baz=308,slow=12,SNR=7.1						
URZ				Sn	Sn	03 27 40.3	-0.3
	1.1nm,0.3s,baz=187,slow=19,SNR=5.0						
URZ	Urewera	8.57	212	Pn	Pn	03 26 04.0	-1.2
URZ				Sn	Sn	03 27 40.3	-0.3
RPZ	Rata Peaks	15.69	213	Pn	Pn	03 27 37.1	-4.8
	2.8nm,0.3s,baz=57,slow=6.0,SNR=6.1						
RPZ	Rata Peaks	15.69	213	Pn	Pn	03 27 37.1	-4.8
DZM	Mont Dzumac	17.27	298	*e*P	Pn	03 28 01.6	-0.5
	5.4nm,0.7s						
CTAO	Charters Tower	34.71	280	*e*P	P	03 30 52.1	+1.8
	5.8nm,0.5s,mb4.8						
STKA	Stephens Creek	35.10	258	P	P	03 30 55.3	+1.7
	5.7nm,1.0s,mb4.5,baz=100,slow=6.1,SNR=5.0						
STKA	Stephens Creek	35.10	258	P	P	03 30 55.3	+1.7
AS31	Alice Springs	43.87	267	*e*P	P	03 32 06.3	-0.4
ASAR	Alice Springs	43.87	267	P	P	03 32 06.8	0.0
	1.9nm,0.5s,mb4.1,baz=106,slow=7.2,SNR=26						
ASAR				PcP	PcP	03 33 52.6	-0.1
	0.5nm,0.4s,baz=120,slow=3.6,SNR=5.4						
ASAR	Alice Springs	43.87	267	P	P	03 32 06.8	0.0
ASAR				PcP	PcP	03 33 52.6	-0.1
WRAB	Tennant Creek	44.92	272	*e*P	P	03 32 14.4	-0.8
	2.3nm,0.4s,mb4.4						
WRA	Warramunga Arr	44.92	272	P	P	03 32 15.2	0.0
	2.7nm,0.3s,mb4.5,baz=111,slow=8.0,SNR=122						
WRA	Warramunga Arr	44.92	272	P	P	03 32 15.2	0.0
FITZ	Fitzroy Crossi	53.16	270	LR	LR	03 56 28.5	
	comp=Z,63nm,20.4s,MS3.7,baz=197,slow=37						
QSPA	South Pole Qui	58.98	180	P	P	03 34 01.4	+2.4
	0.8nm,0.3s,mb4.2,baz=63,slow=2.3,SNR=2.7						
QSPA	South Pole Qui	58.98	180	*e*P	P	03 33 59.8	+0.7
	3.1nm,0.9s,mb4.3						
CBIJ	Chichi jima	69.75	322	LR	LR	03 58 52.5	
	comp=Z,612nm,21.3s,MS4.8,baz=307,slow=30						
SNAA	Sanae	77.41	178	*e*	P	03 35 56.9	+2.4
SNAA	Sanae	77.41	178	LR	LR	04 03 20.7	
	comp=Z,876nm,21.2s,MS5.0,baz=138,slow=30						
VNA3	Neumayer Olymp	77.53	176	*e*	P	03 35 53.0	-2.2
VNA2	Neumayer--Watz	77.97	177	*e*	P	03 35 58.2	+0.5
	baz=192,slow=3.2						
KULM	Kulim	86.12	278	*e*P	P	03 36 41.0	-0.5
	13nm,1.0s,mb5.1						
NVAR	Mina Array Bea	88.23	42	P	P	03 36 49.9	-1.1
	0.5nm,0.9s,mb3.8,baz=220,slow=6.8,SNR=3.5						
NVAR	Mina Array Bea	88.23	42	P	P	03 36 49.9	-1.1
KBL	Kabul	125.24	292	*e*PKPdf	PKPdf	03 43 00.8	+0.2
ABKAR	Akbulak array	133.99	310	*e*PKPdf	PKPdf	03 43 15.7	-1.0
JOF	Joensuu	143.39	339	*ep*	PKPdf	03 43 29.0	-4.5
KAF	Kangasniemi	145.50	341	*ep*	PKPdf	03 43 34.9	-2.3
FINES	FINESS Array B	146.10	340	PKPbc	PKPbc	03 43 38.0	-1.2
	4.4nm,0.5s,baz=57,slow=3.1,SNR=46						
FINES	FINESS Array B	146.10	340	PKPbc	PKPbc	03 43 38.0	-1.2
NOA	NORSAR Array B	149.59	352	PKPbc	PKPbc	03 43 48.0	-0.6
	0.6nm,0.6s,baz=13,slow=4.3,SNR=2.9						
NOA	NORSAR Array B	149.59	352	PKPbc	PKPbc	03 43 48.0	-0.6
HFS	Hagfors	150.11	349	PKPbc	PKPbc	03 43 48.4	-1.5
	2.2nm,0.8s,baz=72,slow=4.7,SNR=7.7						
HFS	Hagfors	150.11	349	PKPbc	PKPbc	03 43 48.4	-1.5
AKASG	Malin Array Be	152.36	323	PKPbc	PKPbc	03 43 54.5	-0.9
	0.3nm,0.3s,baz=35,slow=2.3,SNR=4.1						
AKASG	Malin Array Be	152.36	323	PKPbc	PKPbc	03 43 54.5	-0.9
BRTR	Keskin Array B	153.65	297	PKPab	PKPab	03 44 11.4	+0.1
	0.4nm,0.5s,baz=29,slow=3.3,SNR=8.5						
BRTR	Keskin Array B	153.65	297	PKPab	PKPab	03 44 11.4	+0.1
TORD	Torodi Ar. Bea	162.07	176	PKPab	PKPab	03 44 48.3	+0.2
	0.3nm,0.5s,baz=182,slow=4.4,SNR=7.3						
TORD	Torodi Ar. Bea	162.07	176	PKPab	PKPab	03 44 48.3	+0.2

*ISCJB **10** 03:28:01.7±0.3, 51.°43N±0.°02×6.°32E±0.°03, h0km, Error ellipse: s-maj=3.1km s-min=2.0km az=30.2*

*NEIC **10** 03:28:01.1±4.8, 51.°65N×6.°56E, h10km, ML3.3(LDG), Error ellipse: s-maj=54.1km s-min=10.3km az=208.0*

*CSEM **10** 03:28:03.3±0.2, 51.°48N×6.°42E, h1km, ML3.4/21, Error ellipse: s-maj=4.6km s-min=3.1km az=128.0*

*STR **10** 03:28:03.1±1.0, 51.°47N×7.°21E, h10km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*LDG **10** 03:28:04.1±0.1, 51.°53N×6.°57E, h11km, Ml3.3/22, Error ellipse: s-maj=1.5km s-min=1.2km az=149.0*

*BUG **10** 03:28:04.5, 51.°50N×6.°61E, h1km, ML2.6*

*BNS **10** 03:28:05.5±1.3, 51.°46N×6.°58E, h1km±8km, ML2.6*

*BGR **10** 03:28:05.8±0.2, 51.°47N×6.°63E, h1km, ML2.8/5, Error ellipse: s-maj=3.3km s-min=2.2km az=113.0*

ISC 10 03:28:03.6±0.3, 51.°47N±0.°02×6.°47E±0.°03, h0km, n143, σ1§37/274, 4C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	Rheinberg	0.08	56	Pg	Pg	03 28 05.0	-0.1
BRHE				Sg	Sg	03 28 05.6	-0.5
BRHE	Rheinberg	0.08	56	Pg	Pg	03 28 05.0	-0.1
BRHE				Sg	Sg	03 28 05.6	-0.5
LAUG	Laupendahl	0.32	112	*i*Pg	Pg	03 28 10.2	+0.5
LAUG	Laupendahl	0.32	112	Pg	Pg	03 28 10.2	+0.4
RODG	Roetgen-Dahlhe	0.37	209	*e*Pg	Pg	03 28 13.4	+2.7
RODG				*e*Sg	Sg	03 28 19.8	+4.3
	1μm,0.5s						
RODG	Roetgen-Dahlhe	0.37	209	Pg	Pg	03 28 13.4	+2.7
RODG				Sg	Sg	03 28 19.8	+4.3
	1μm,0.5s						
OPLO	Oploo	0.42	286	*e*Pg	Pg	03 28 14.6	+2.9
OPLO	Oploo	0.42	286	Pg	Pg	03 28 14.6	+2.9
BUG	Bochum--Univer	0.50	93	⇓*e*Pg	Pg	03 28 13.3	+0.1
BUG				Sg	Sg	03 28 19.7	0.0
WTSB	Winterswijk	0.54	23	*e*Pg	Pg	03 28 14.4	+0.5
WTSB				*e*Sg	Sg	03 28 21.3	+0.4
WTSB	Winterswijk	0.54	23	Pg	Pg	03 28 14.4	+0.5
WTSB				Sg	Sg	03 28 21.3	+0.5
BNS	Bensberg	0.68	138	*e*Pg	Pg	03 28 17.8	+1.3
BNS				*e*Sg	Sg	03 28 26.6	+1.4
	325nm,0.5s						
BNS	Bensberg	0.68	138	Pg	Pg	03 28 17.8	+1.3
BNS				Sg	Sg	03 28 26.6	+1.3
	325nm,0.5s						
HOBG	Hohbusch	0.73	132	*e*Pg	Pg	03 28 18.4	+0.8
HOBG	Hohbusch	0.73	132	Pg	Pg	03 28 18.5	+0.9
HGN	Heimansgroeve	0.79	206	*e*Pg	Pg	03 28 20.6	+2.0
HGN				*e*Sg	Sg	03 28 32.2	+3.5
HGN	Heimansgroeve	0.79	206	Pg	Pg	03 28 20.6	+2.0
HGN				Sg	Sg	03 28 32.2	+3.4
DREG	Dreilaegerbach	0.82	190	*e*Pg	Pg	03 28 21.2	+1.8
DREG				*e*Sg	Sg	03 28 33.5	+3.5
	268nm,0.2s						
DREG	Dreilaegerbach	0.82	190	Pg	Pg	03 28 21.2	+1.9
DREG				Sg	Sg	03 28 33.5	+3.5
	268nm,0.2s						
KLL	Kalltalsperre	0.83	187	*e*Pg	Pg	03 28 21.2	+1.7
KLL				*e*Sg	Sg	03 28 33.2	+2.9
	282nm,0.6s						
KLL	Kalltalsperre	0.83	187	Pg	Pg	03 28 21.2	+1.7
KLL				Sg	Sg	03 28 33.2	+2.9
	282nm,0.6s						
BEBN	Eben Emael	0.84	217	P	Pg	03 28 22.4	+2.8
BEBN	Eben Emael	0.84	217	P	Pg	03 28 22.4	+2.8
STB	Steinbach	0.91	165	*e*Pg	Pg	03 28 22.6	+1.6
STB				*e*Sg	Sg	03 28 34.4	+1.6
	255nm,0.3s						
STB	Steinbach	0.91	165	Pg	Pg	03 28 22.6	+1.6
STB				Sg	Sg	03 28 34.4	+1.6
	255nm,0.3s						
MEM	Membach	0.91	199	P	Pg	03 28 22.8	+1.8
MEM	Membach	0.91	199	*e*Pg	Pg	03 28 22.8	+1.8
MEM				*e*Sg	Sg	03 28 36.0	+3.2
MEM	Membach	0.91	199	Pg	Pg	03 28 22.8	+1.8
MEM				Sg	Sg	03 28 36.0	+3.2
IBBN	Ibbenburen	1.16	43	*e*Pg	Pg	03 28 25.9	+0.1
IBBN				*e*Sg	Sg	03 28 41.1	+0.3
IBBN	Ibbenburen	1.16	43	Pg	Pg	03 28 25.9	+0.1
IBBN				Sg	Sg	03 28 41.1	+0.3
HILG	Hillesheim	1.19	173	*e*Pg	Pg	03 28 27.8	+1.5
HILG				*e*Sg	Sg	03 28 43.9	+2.2
	268nm,0.4s						
HILG	Hillesheim	1.19	173	Pg	Pg	03 28 27.8	+1.4
HILG				Sg	Sg	03 28 43.9	+2.2
	268nm,0.4s						
BCLA	Clavier	1.28	215	P	Pg	03 28 29.4	+1.2
BCLA	Clavier	1.28	215	P	Pg	03 28 29.3	+1.1
KOE	Koeppel	1.32	142	*e*Pg	Pg	03 28 28.8	-0.1
KOE	Koeppel	1.32	142	Pg	Pg	03 28 28.8	0.0
WIT	Witteveen	1.35	5	*e*Pg	Pg	03 28 31.0	+1.6
WIT				*e*Sg	Sg	03 28 48.9	+2.0
WIT	Witteveen	1.35	5	Pg	Pg	03 28 31.0	+1.6
WIT				Sg	Sg	03 28 48.9	+2.0
BGG	Burgeitz	1.38	156	*e*Pg	Pg	03 28 29.8	-0.2
BGG				*e*Sg	Sg	03 28 49.0	+1.0
	83nm,0.2s						
BGG	Burgeitz	1.38	156	Pg	Pg	03 28 29.8	-0.3
BGG				Sg	Sg	03 28 49.0	+1.0
	83nm,0.2s						
UCC	Uccle	1.49	244	P	Pn	03 28 33.2	+1.7
UCC	Uccle	1.49	244	P	Pn	03 28 33.2	+1.6
SNF	Seneffe	1.68	236	P	Pn	03 28 35.4	+1.1
SNF	Seneffe	1.68	236	P	Pn	03 28 35.3	+1.1
GIVF	Givet	1.72	218	*e*Pn	Pn	03 28 33.4	-1.4
GIVF	Givet	1.72	218	*e*Pg	Pg	03 28 37.4	+0.8
GIVF				*e*Sg	Sg	03 29 01.0	+2.1
	110nm,0.3s						
GIVF	Givet	1.72	218	*e*Pn	Pn	03 28 33.4	-1.4
GIVF				*e*Pg	Pg	03 28 37.4	+0.8
GIVF				*e*Sg	Sg	03 29 01.0	+2.1
GIVF	Givet	1.72	218	*e*Pn	Pn	03 28 33.4	-1.4
GIVF	Givet	1.72	218	*e*Pg	Pg	03 28 37.4	+0.8
GIVF				*e*Sg	Sg	03 29 01.0	+2.1
	55nm,0.3s						
ABH	Alteburg	1.73	156	Pg	Pg	03 28 34.1	-2.7
ABH				Sg	Sg	03 28 56.7	-2.6
TNS	Taunus Mts	1.77	134	*e*Pn	Pn	03 28 35.2	-0.2
TNS				*e*Pg	Pg	03 28 37.7	+0.2
TNS				*e*Sg	Sg	03 28 59.9	-0.6
TNS	Taunus Mts	1.77	134	Pn	Pn	03 28 35.2	-0.2
RUP	Ruppelstein	1.81	168	Pg	Pg	03 28 36.0	-2.3
RUP				Sg	Sg	03 29 00.8	-1.0
DOU	Dourbes	1.82	222	P	Pn	03 28 37.2	+1.1
DOU	Dourbes	1.82	222	P	Pn	03 28 37.2	+1.1
WLF	Walferdange	1.82	186	P	Pn	03 28 38.9	+2.8
WLF	Walferdange	1.82	186	*e*Pg	Pg	03 28 39.3	+0.8
WLF				*e*Sg	Sg	03 29 02.5	+0.5
WLF	Walferdange	1.82	186	P	Pn	03 28 38.8	+2.7
WLF	Walferdange	1.82	186	Pg	Pg	03 28 39.3	+0.9
WLF				Sg	Sg	03 29 02.5	+0.5
BAIF	Baives	2.01	226	*e*Pn	Pn	03 28 37.5	-1.3
BAIF				*e*Sg	Sg	03 29 09.5	+1.3
	58nm,0.4s						
BAIF	Baives	2.01	226	*e*Pn	Pn	03 28 37.5	-1.3
BAIF				*e*Sg	Sg	03 29 09.5	+1.3
BAIF	Baives	2.01	226	*e*Pn	Pn	03 28 37.5	-1.3
BAIF				*e*Sg	Sg	03 29 09.5	+1.3
	29nm,0.4s						
CLZ	Clausthal	2.46	80	*e*Pn	Pn	03 28 43.9	-1.0
CLZ				*e*Pg	Pg	03 28 48.6	-2.2
CLZ				*e*Sg	Sg	03 29 19.9	-2.7
CLZ	Clausthal	2.46	80	Pn	Pn	03 28 43.9	-1.0
HROE	Hohe Rhon--Fla	2

comp=Z,28nm,0.5s
LOR Lormes 4.54 203 *e*Pn **Pn 03 29 13.8 +0.3**
LOR *e*Sn **Sn 03 30 03.4 -3.5**
LOR *e*Sg **Sg 03 30 28.0 -1.3**
LOR Lormes 4.54 203 *e*Pn **Pn 03 29 13.8 +0.3**
LOR *e*Sn **Sn 03 30 03.4 -3.5**
LOR *e*Sg **Sg 03 30 28.0 -1.3**
comp=Z,14nm,0.5s
BRG Berggiesshubel 4.74 94 PG **Pg 03 29 30.2 -4.2**
BRG SG **Sg 03 30 33.7 -2.1**
comp=Z,2.2nm,0.8s
DAVA Damuels 4.75 151 ⇑*i*Pn **Pn 03 29 17.9 +1.6**
DAVA Damuels 4.75 151 Pn **Pn 03 29 17.9 +1.6**
SSF Saint Saulge 4.82 205 *e*Pn **Pn 03 29 17.3 0.0**
SSF *e*Sn **Sn 03 30 09.1 -4.7**
SSF *e*Sg **Sg 03 30 37.7 -0.7**
comp=Z,20nm,0.5s
SSF Saint Saulge 4.82 205 *e*Pn **Pn 03 29 17.3 0.0**
SSF *e*Sn **Sn 03 30 09.1 -4.7**
SSF *e*Sg **Sg 03 30 37.7 -0.7**
comp=Z,9.8nm,0.5s
CABF La Chapelle 4.87 183 *e*Pn **Pn 03 29 17.0 -1.0**
CABF *e*Sg **Sg 03 30 39.1 -0.9**
comp=Z,7.4nm,0.5s
CABF La Chapelle 4.87 183 *e*Pn **Pn 03 29 17.0 -1.0**
CABF *e*Sg **Sg 03 30 39.1 -0.9**
CABF La Chapelle 4.87 183 *e*Pn **Pn 03 29 17.0 -1.0**
CABF *e*Sg **Sg 03 30 39.1 -0.9**
comp=Z,3.7nm,0.5s
HYF Humbligny 4.89 212 *e*Pn **Pn 03 29 16.6 -1.7**
HYF *e*Sn **Sn 03 30 11.2 -4.4**
HYF *e*Sg **Sg 03 30 40.2 -0.5**
HYF Humbligny 4.89 212 *e*Pn **Pn 03 29 16.6 -1.7**
HYF *e*Sn **Sn 03 30 11.2 -4.4**
HYF *e*Sg **Sg 03 30 40.2 -0.5**
HYF Humbligny 4.89 212 *e*Pn **Pn 03 29 16.6 -1.7**
HYF *e*Sn **Sn 03 30 11.2 -4.4**
HYF *e*Sg **Sg 03 30 40.2 -0.5**
AVF Avril sur Loir 5.11 205 *e*Pn **Pn 03 29 20.0 -1.3**
AVF *e*Sg **Sg 03 30 46.9 -0.8**
comp=Z,6.2nm,0.4s
AVF Avril sur Loir 5.11 205 *e*Pn **Pn 03 29 20.0 -1.3**
AVF *e*Sg **Sg 03 30 46.9 -0.8**
AVF Avril sur Loir 5.11 205 *e*Pn **Pn 03 29 20.0 -1.3**
AVF *e*Sg **Sg 03 30 46.9 -0.8**
comp=Z,3.1nm,0.4s
MOTA Moosalm 5.12 142 ⇓*i*Pn **Pn 03 29 22.3 +0.9**
MOTA Moosalm 5.12 142 Pn **Pn 03 29 22.3 +0.8**
SMF Signal de Mont 5.13 201 *e*Pn **Pn 03 29 21.5 -0.1**
SMF *e*Sn **Sn 03 30 16.5 -4.9**
SMF *e*Sg **Sg 03 30 47.3 -1.0**
comp=Z,19nm,0.6s
SMF Signal de Mont 5.13 201 *e*Pn **Pn 03 29 21.5 -0.1**
SMF *e*Sn **Sn 03 30 16.5 -4.9**
SMF *e*Sg **Sg 03 30 47.3 -1.0**
SMF Signal de Mont 5.13 201 *e*Pn **Pn 03 29 21.5 -0.1**
SMF *e*Sn **Sn 03 30 16.5 -4.9**
SMF *e*Sg **Sg 03 30 47.3 -1.0**
comp=Z,9.4nm,0.6s
LDF La Druitiere 5.13 238 *e*Pn **Pn 03 29 19.9 -1.7**
LDF *e*Sn **Sn 03 30 16.7 -4.8**
LDF *e*Sg **Sg 03 30 47.3 -1.0**
comp=Z,9.4nm,0.5s
LDF La Druitiere 5.13 238 *e*Pn **Pn 03 29 19.9 -1.7**
LDF *e*Sn **Sn 03 30 16.7 -4.8**
LDF *e*Sg **Sg 03 30 47.3 -1.0**
LDF La Druitiere 5.13 238 *e*Pn **Pn 03 29 19.9 -1.7**
LDF *e*Sn **Sn 03 30 16.7 -4.8**
LDF *e*Sg **Sg 03 30 47.3 -1.0**
comp=Z,4.7nm,0.5s
FLN La Foliniere 5.23 241 *e*Pn **Pn 03 29 21.5 -1.4**
FLN *e*Sn **Sn 03 30 17.9 -6.0**
FLN *e*Sg **Sg 03 30 50.3 -1.1**
comp=Z,8.5nm,0.5s
FLN La Foliniere 5.23 241 *e*Pn **Pn 03 29 21.5 -1.4**
FLN *e*Sn **Sn 03 30 17.9 -6.0**
FLN *e*Sg **Sg 03 30 50.3 -1.1**
FLN La Foliniere 5.23 241 *e*Pn **Pn 03 29 21.5 -1.4**
FLN *e*Sn **Sn 03 30 17.9 -6.0**
FLN *e*Sg **Sg 03 30 50.3 -1.1**
comp=Z,4.2nm,0.5s
FETA Feichten 5.26 146 ⇓*i*Pn **Pn 03 29 24.6 +1.3**
FETA Feichten 5.26 146 Pn **Pn 03 29 24.6 +1.3**
WATA Walderalm 5.32 139 ⇑*i*Pn **Pn 03 29 25.0 +0.8**
WATA Walderalm 5.32 139 Pn **Pn 03 29 25.0 +0.9**
WTTA Wattenberg 5.40 139 ⇑*i*Pn **Pn 03 29 26.3 +1.1**
WTTA Wattenberg 5.40 139 Pn **Pn 03 29 26.3 +1.0**
BGF Bois d'Agland 5.46 207 *e*Pn **Pn 03 29 26.0 -0.2**
BGF *e*Sn **Sn 03 30 24.4 -5.3**
BGF *e*Sg **Sg 03 30 58.0 -1.0**
comp=Z,23nm,0.4s
BGF Bois d'Agland 5.46 207 *e*Pn **Pn 03 29 26.0 -0.2**
BGF *e*Sn **Sn 03 30 24.4 -5.3**
BGF *e*Sg **Sg 03 30 58.0 -1.0**
BGF Bois d'Agland 5.46 207 *e*Pn **Pn 03 29 26.0 -0.2**
BGF *e*Sn **Sn 03 30 24.4 -5.3**
BGF *e*Sg **Sg 03 30 58.0 -1.0**
comp=Z,11nm,0.4s
GRR Gorron 5.65 240 *e*Pn **Pn 03 29 26.9 -1.8**
GRR *e*Sn **Sn 03 30 29.0 -5.2**
comp=Z,17nm,0.4s
GRR Gorron 5.65 240 *e*Pn **Pn 03 29 26.9 -1.8**
GRR *e*Sn **Sn 03 30 29.0 -5.2**
GRR Gorron 5.65 240 *e*Pn **Pn 03 29 26.9 -1.8**
GRR *e*Sn **Sn 03 30 29.0 -5.2**
comp=Z,8.6nm,0.4s
TCF Toulx Ste Croi 5.90 210 *e*Pn **Pn 03 29 30.2 -1.9**
TCF *e*Sn **Sn 03 30 34.9 -5.5**
TCF *e*Sg **Sg 03 31 11.5 -1.4**
comp=Z,3.4nm,0.3s
TCF Toulx Ste Croi 5.90 210 *e*Pn **Pn 03 29 30.2 -1.9**
TCF *e*Sn **Sn 03 30 34.9 -5.5**
TCF *e*Sg **Sg 03 31 11.5 -1.4**
TCF Toulx Ste Croi 5.90 210 *e*Pn **Pn 03 29 30.2 -1.9**
TCF *e*Sn **Sn 03 30 34.9 -5.5**
TCF *e*Sg **Sg 03 31 11.5 -1.4**
comp=Z,1.7nm,0.3s
KBA Koelnbreinsper 6.29 132 ⇓*i*Pn **Pn 03 29 39.7 +2.2**
MFF Saint Martin d 6.53 224 *e*Pn **Pn 03 29 38.9 -1.9**
MFF *e*Sn **Sn 03 30 50.2 -5.7**
comp=Z,3.0nm,0.3s
MFF Saint Martin d 6.53 224 *e*Pn **Pn 03 29 38.9 -1.9**
MFF *e*Sn **Sn 03 30 50.2 -5.7**
MFF Saint Martin d 6.53 224 *e*Pn **Pn 03 29 38.9 -1.9**

*IDC **10** 03:40:59.8±1.8, 31°.20S×176°.93W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/16, mbtmp4.1/4, ML3.6/1, Error ellipse: s-maj=40.3km s-min=35.8km az=113.0*
*NEIC **10** 03:41:00.6±1.1, 31°.08S×176°.90W, h10km, mb4.0/2, Error ellipse: s-maj=25.9km s-min=15.0km az=90.0*
ISC 10 03:41:00.6±3.5, 31°.4S±0°.1×176°.3W±0°.5, h35km, n17, σ0s83/14, mb4.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.51**	**326**	*e*Pn	**Pn**	**03 41 33.8**	**-5.0**
URZ	**Urewera**	**8.76**	**216**	Pn	**Pn**	**03 43 05.8**	**+1.1**
0.6nm,0.3s,baz=24,slow=19,SNR=8.6							
URZ				Sn	**Sn**	**03 44 41.7**	**-0.4**
1.9nm,0.3s,baz=165,slow=20,SNR=10							
URZ	**Urewera**	**8.76**	**216**	Pn	**Pn**	**03 43 05.8**	**+1.1**
URZ				Sn	**Sn**	**03 44 41.7**	**-0.4**
DZM	**Mont Dzumac**	**17.94**	**297**	*e*P	**Pn**	**03 45 07.9**	**+0.6**
3.0nm,0.5s							
CTA	**Charters Tower**	**35.38**	**279**	P	**P**	**03 47 54.4**	**+1.3**
1.1nm,0.3s,mb4.3,baz=101,slow=11,SNR=4.6							
CTA	**Charters Tower**	**35.38**	**279**	P	**P**	**03 47 54.4**	**+1.4**
ASAR	**Alice Springs**	**44.51**	**267**	P	**P**	**03 49 08.4**	**-0.4**
1.0nm,0.6s,mb3.8,baz=104,slow=7.1,SNR=12							
ASAR	**Alice Springs**	**44.51**	**267**	P	**P**	**03 49 08.4**	**-0.4**
WB2	**Warramunga Arr**	**45.57**	**272**	*e*P	**P**	**03 49 16.7**	**-0.6**
WRAB	**Tennant Creek**	**45.58**	**272**	*e*P	**P**	**03 49 16.2**	**-1.2**
1.8nm,0.4s,mb4.3							
WRA	**Warramunga Arr**	**45.58**	**272**	P	**P**	**03 49 17.0**	**-0.4**
1.4nm,0.3s,mb4.3,baz=111,slow=8.1,SNR=25							
WRA	**Warramunga Arr**	**45.58**	**272**	P	**P**	**03 49 17.0**	**-0.4**
KBL	**Kabul**	**125.92**	**292**	*e*PKPdf	PKPdf	04 00 02.5	+3.7
FINES	**FINESS Array B**	**146.53**	**341**	PKPbc	PKPbc	04 00 40.1	+2.7
2.1nm,0.5s,baz=29,slow=4.4,SNR=11							
FINES	**FINESS Array B**	**146.53**	**341**	PKPbc	PKPbc	04 00 40.1	+2.7
TORD	**Torodi Ar. Bea**	**161.79**	**174**	PKPab	PKPab	04 01 49.6	+5.8
0.6nm,0.7s,baz=179,slow=4.0,SNR=5.0							
TORD	**Torodi Ar. Bea**	**161.79**	**174**	PKPab	PKPab	04 01 49.6	+5.8

DJA 10 03:41:59, 2°.24N×121°.55E, h30km, MLv4.2/4, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.79**	**167**	P	Pn	03 42 27.8	-0.1
MRSI				S	Sn	03 42 49.0	-0.7
GTOI	**Gorontalo**	**2.16**	**137**	P	Pn	03 42 33.1	+0.1
GTOI				S	Sn	03 42 57.9	-0.9
MNI	**Manado**	**3.38**	**103**	S	Sn	03 43 32.5	+3.6
LUWI	**Luwuk**	**3.48**	**159**	P	Pn	03 42 54.0	+2.8
LUWI				S	Sn	03 43 37.8	+6.4
TSM	**Tawau**	**4.20**	**299**	P	Pn	03 42 57.7	-3.4
MYLDM	**Lahad Datu**	**4.22**	**314**	P	Pn	03 43 02.0	+0.7
MYLDM	**Lahad Datu**	**4.22**	**314**	P	Pn	03 43 02.1	+0.8
SDKM	**Sandakan**	**5.50**	**308**	P	Pn	03 43 17.7	-1.3
KKM	**Kota Kinabalu**	**6.53**	**306**	P	Pn	03 43 30.8	-2.3
KKM	**Kota Kinabalu**	**6.53**	**306**	P	Pn	03 43 32.5	-0.5

*ISK **10** 04:07:03.8, 38°.34N×38°.92E, h4km, MD3.3*
*ISCJB **10** 04:07:04.7±0.5, 38°.33N±0°.03×38°.92E±0°.03, h6km±4km, Error ellipse: s-maj=4.6km s-min=3.3km az=155.2*
*CSEM **10** 04:07:04.8±0.1, 38°.34N×38°.91E, h2km, ML3.5, Error ellipse: s-maj=4.2km s-min=2.8km az=149.0*
*DDA **10** 04:07:05.0, 38°.34N×38°.94E, h15km, Md3.3, Ml3.5*
ISC 10 04:07:05.3±0.4, 38°.33N±0°.02×38°.93E±0°.03, h7km±4km, n46, σ0s80/64, 1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.17**	**16**	⇓*i*P	**Pg**	**04 07 09.2**	**+0.3**
ELZG				*i*S	**Sg**	**04 07 11.9**	**+0.7**
ELZG	**Elazig**	**0.17**	**16**	*i*P	**Pg**	**04 07 09.1**	**+0.3**
ELZG				*i*S	**Sg**	**04 07 11.9**	**+0.7**
SVRC	**Sivrice-ELAZID**	**0.30**	**81**	*e*PG	**Pg**	**04 07 10.8**	**-0.5**
SVRC				*e*SG	**Sg**	**04 07 15.8**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.30**	**81**	*e*Pg	**Pg**	**04 07 10.8**	**-0.4**
SVRC				*e*Sg	**Sg**	**04 07 15.8**	**+0.6**
MALT	**Malatya**	**0.39**	**268**	*e*PG	**Pg**	**04 07 12.2**	**-0.7**
MALT				*e*SG	**Sg**	**04 07 18.3**	**+0.3**
MALT	**Malatya**	**0.39**	**268**	*e*Pg	**Pg**	**04 07 12.2**	**-0.7**
MALT				*e*Sg	**Sg**	**04 07 18.3**	**+0.3**
PTK	**Pertek**	**0.67**	**33**	*e*PG	**Pg**	**04 07 16.7**	**-1.5**
PTK				*e*SG	**Sg**	**04 07 26.7**	**-0.2**
PTK	**Pertek**	**0.67**	**33**	*e*Pg	**Pg**	**04 07 16.7**	**-1.5**
PTK				*e*Sg	**Sg**	**04 07 26.7**	**-0.2**
AKCD	**Akcadag**	**0.79**	**268**	*i*P	**Pg**	**04 07 19.7**	**-0.8**
AKCD				*i*S	**Sg**	**04 07 31.0**	**+0.3**
AKCD	**Akcadag**	**0.79**	**268**	*i*P	**Pg**	**04 07 19.7**	**-0.7**
AKCD				*i*S	**Sg**	**04 07 31.0**	**+0.3**
URFA	**Urfa**	**0.89**	**185**	*e*PG	**Pg**	**04 07 21.5**	**-0.9**
URFA				*e*SG	**Sg**	**04 07 34.5**	**+0.6**
URFA	**Urfa**	**0.89**	**185**	*e*Pg	**Pg**	**04 07 21.5**	**-0.9**
URFA				*e*Sg	**Sg**	**04 07 34.5**	**+0.6**
ATAB	**Bozova**	**0.99**	**210**	⇓*i*P	**Pg**	**04 07 23.2**	**-1.1**
ATAB				*i*S	**Sg**	**04 07 38.2**	**+1.1**
ATAB	**Bozova**	**0.99**	**210**	*i*P	**Pg**	**04 07 23.2**	**-1.1**
ATAB				*i*S	**Sg**	**04 07 38.2**	**+1.0**
DIYA	**Diyarbakir**	**1.03**	**113**	⇑*i*P	**Pg**	**04 07 25.1**	**+0.1**
DIYA				*i*S	**Sg**	**04 07 39.1**	**+0.9**
DIYA	**Diyarbakir**	**1.03**	**113**	*i*P	**Pg**	**04 07 25.1**	**+0.1**
DIYA				*i*S	**Sg**	**04 07 39.2**	**+0.9**
ERZN	**Erzincan**	**1.40**	**26**	*e*PN	**Pn**	**04 07 30.5**	**-0.7**
EZC	**Erzincan**	**1.46**	**13**	*e*Pn	**Pn**	**04 07 30.5**	**-1.5**
SARI	**SarD1z-Kayseri**	**1.78**	**282**	*e*PN	**Pn**	**04 07 38.3**	**+1.8**
SARI	**SarD1z-Kayseri**	**1.78**	**282**	*e*Pn	**Pn**	**04 07 38.3**	**+1.8**
GAZ	**Gaziantep**	**1.78**	**230**	*e*PN	**Pn**	**04 07 36.0**	**-0.5**
GAZ	**Gaziantep**	**1.78**	**230**	*e*Pn	**Pn**	**04 07 36.0**	**-0.5**
MARD	**Mardin**	**1.78**	**124**	⇓*i*P	**Pn**	**04 07 35.6**	**-0.9**
MARD				*i*S	**Sn**	**04 07 58.0**	**-1.4**
KMRS	**Kahramanmaras**	**1.80**	**243**	*e*PN	**Pn**	**04 07 36.5**	**-0.2**
KMRS	**Kahramanmaras**	**1.80**	**243**	*e*Pn	**Pn**	**04 07 36.5**	**-0.2**
BEST	**Besiri**	**1.90**	**103**	*i*P	**Pn**	**04 07 38.1**	**0.0**
BEST				*i*S	**Sn**	**04 08 05.5**	**+3.2**
GUMT	**Gumushane**	**2.17**	**11**	*e*PN	**Pn**	**04 07 42.1**	**+0.3**
GUMT	**Gumushane**	**2.17**	**11**	*e*Pn	**Pn**	**04 07 42.1**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**2.27**	**24**	*e*PN	**Pn**	**04 07 43.3**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**2.27**	**24**	*e*Pn	**Pn**	**04 07 43.3**	**+0.2**
EZM	**Erzurum**	**2.46**	**50**	*e*PN	**Pn**	**04 07 46.3**	**+0.5**
BNN	**Bunyan**	**2.47**	**283**	*e*PN	**Pn**	**04 07 45.7**	**-0.2**
BNN	**Bunyan**	**2.47**	**283**	*e*Pn	**Pn**	**04 07 45.7**	**-0.2**
KOZT	**Kozan**	**2.59**	**252**	*e*PN	**Pn**	**04 07 47.8**	**+0.1**
KTUT	**Trabzon**	**2.73**	**13**	*e*PN	**Pn**	**04 07 49.7**	**+0.2**
KTUT	**Trabzon**	**2.73**	**13**	*e*Pn	**Pn**	**04 07 49.7**	**+0.2**
CEYT	**Ceyhan**	**2.84**	**243**	*e*PN	**Pn**	**04 07 51.2**	**+0.2**
CEYT	**Ceyhan**	**2.84**	**243**	*e*Pn	**Pn**	**04 07 51.2**	**+0.1**
YOZ	**Yozgat**	**3.10**	**296**	*e*PN	**Pn**	**04 07 55.2**	**+0.7**
YOZ	**Yozgat**	**3.10**	**296**	*e*Pn	**Pn**	**04 07 55.2**	**+0.6**
HTY	**Hatay**	**3.13**	**226**	*e*PN	**Pn**	**04 07 55.0**	**-0.1**
HTY	**Hatay**	**3.13**	**226**	*e*Pn	**Pn**	**04 07 55.0**	**0.0**
AGRB	**Hanur-Agry**	**3.41**	**67**	*e*PN	**Pn**	**04 07 59.9**	**+1.1**
AGRB	**Hanur-Agry**	**3.41**	**67**	*e*Pn	**Pn**	**04 07 59.9**	**+1.1**
CORM	**Corum**	**3.81**	**300**	*e*PN	**Pn**	**04 08 04.8**	**+0.4**
CORM	**Corum**	**3.81**	**300**	*e*Pn	**Pn**	**04 08 04.8**	**+0.4**

IDC 10 04:14:24.2±2.7, 22°.77S×148°.39E, h0km, mb1 3.4/3, mb1mx3.3/11, mbtmp3.2/3, ML3.3/3, Error ellipse: s-maj=55.1km s-min=32.6km az=9.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**10.90**	**212**	Pn	Pn	04 17 00.8	-0.6
0.3nm,0.3s,baz=44,slow=14,SNR=5.5							
ASAR	**Alice Springs**	**13.35**	**263**	Pn	Pn	04 17 35.6	+0.5
0.1nm,0.3s,baz=86,slow=15,SNR=5.9							
ASAR				Lg		04 21 30.2	
0.1nm,0.3s,baz=85,slow=33,SNR=4.6							
WRA	**Warramunga Arr**	**13.39**	**279**	Pn	Pn	04 17 33.9	-1.7
0.1nm,0.3s,baz=97,slow=12,SNR=7.0							
WRA				Sn	Sn	04 20 07.3	+2.0
0.1nm,0.3s,baz=106,slow=22,SNR=2.9							
WRA				Lg		04 21 29.8	
0.1nm,0.3s,baz=119,slow=27,SNR=4.6							
TORD	**Torodi Ar. Bea**	**146.97**	**259**	PKPbc	PKPbc	04 34 09.1	-0.5
0.3nm,0.9s,baz=104,slow=3.6,SNR=3.0							

*ISCJB **10** 04:19:51.7±0.7, 38°.34N±0°.04×38°.92E±0°.03, h1km±6km, Error ellipse: s-maj=7.5km s-min=3.7km az=154.4*
*CSEM **10** 04:19:51.7±0.3, 38°.33N×38°.93E, h2km, ML3.1, Error ellipse: s-maj=10.7km s-min=4.9km az=149.0*
*ISK **10** 04:19:51.4, 38°.38N×38°.91E, h5km, MD2.9*
*DDA **10** 04:19:51.7, 38°.33N×38°.94E, h11km, Md3.0, Ml3.1*
ISC 10 04:19:52.2±0.6, 38°.35N±0°.04×38°.92E±0°.03, h1km±5km, n29, σ0s85/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.16**	**19**	*i*P	**Pg**	**04 19 55.6**	**+0.4**
ELZG				*i*S	**Sg**	**04 19 58.7**	**+1.4**
ELZG	**Elazig**	**0.16**	**19**	*i*P	**Pg**	**04 19 55.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.31**	**84**	PG	**Pg**	**04 19 58.0**	**-0.1**
SVRC				*e*SG	**Sg**	**04 20 02.8**	**+0.7**
SVRC	**Sivrice-ELAZID**	**0.31**	**84**	*i*Pg	**Pg**	**04 19 58.0**	**-0.1**
SVRC				*e*Sg	**Sg**	**04 20 02.8**	**+0.7**
MALT	**Malatya**	**0.39**	**265**	PG	**Pg**	**04 19 59.6**	**0.0**
MALT				*e*SG	**Sg**	**04 20 05.2**	**+0.6**
MALT	**Malatya**	**0.39**	**265**	*i*Pg	**Pg**	**04 19 59.6**	**0.0**
MALT				*e*Sg	**Sg**	**04 20 05.2**	**+0.5**
PTK	**Pertek**	**0.66**	**34**	*e*PG	**Pg**	**04 20 03.3**	**-1.5**
PTK				*e*SG	**Sg**	**04 20 13.1**	**-0.3**
PTK	**Pertek**	**0.66**	**34**	*e*Pg	**Pg**	**04 20 03.3**	**-1.5**
PTK				*e*Sg	**Sg**	**04 20 13.1**	**-0.3**
AKCD	**Akcadag**	**0.79**	**266**	*i*P	**Pg**	**04 20 06.3**	**-1.0**
AKCD				*i*S	**Sg**	**04 20 17.9**	**+0.5**
AKCD	**Akcadag**	**0.79**	**266**	*i*P	**Pg**	**04 20 06.3**	**-1.0**
ATAB	**Bozova**	**1.01**	**210**	*i*P	**Pg**	**04 20 09.7**	**-1.8**
ATAB				*i*S	**Sg**	**04 20 25.5**	**+1.0**
ATAB	**Bozova**	**1.01**	**210**	*i*P	**Pg**	**04 20 09.7**	**-1.8**
ERZN	**Erzincan**	**1.39**	**27**	*e*PN	**Pn**	**04 20 18.1**	**-0.6**
EZC	**Erzincan**	**1.44**	**13**	*e*Pn	**Pn**	**04 20 18.1**	**-1.3**
SARI	**SarD1z-Kayseri**	**1.77**	**281**	*e*PN	**Pn**	**04 20 26.0**	**+2.0**
SARI	**SarD1z-Kayseri**	**1.77**	**281**	*e*Pn	**Pn**	**04 20 26.0**	**+2.1**
GAZ	**Gaziantep**	**1.79**	**230**	*e*PN	**Pn**	**04 20 24.1**	**0.0**
GAZ	**Gaziantep**	**1.79**	**230**	*e*Pn	**Pn**	**04 20 24.1**	**-0.1**
KMRS	**Kahramanmaras**	**1.80**	**243**	*e*PN	**Pn**	**04 20 24.1**	**-0.2**
KMRS	**Kahramanmaras**	**1.80**	**243**	*e*Pn	**Pn**	**04 20 24.1**	**-0.3**
BEST	**Besiri**	**1.91**	**103**	*i*P	**Pn**	**04 20 25.5**	**-0.4**
BEST				*i*S	**Sn**	**04 20 51.5**	**+1.0**
GUMT	**Gumushane**	**2.15**	**11**	*e*PN	**Pn**	**04 20 29.4**	**+0.3**
GUMT	**Gumushane**	**2.15**	**11**	*e*Pn	**Pn**	**04 20 29.4**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**2.25**	**25**	*e*PN	**Pn**	**04 20 30.5**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**2.25**	**25**	*e*Pn	**Pn**	**04 20 30.5**	**0.0**
EZM	**Erzurum**	**2.46**	**50**	*e*PN	**Pn**	**04 20 33.4**	**+0.1**
BNN	**Bunyan**	**2.46**	**283**	*e*PN	**Pn**	**04 20 33.4**	**0.0**
BNN	**Bunyan**	**2.46**	**283**	*e*Pn	**Pn**	**04 20 33.4**	**0.0**
KOZT	**Kozan**	**2.59**	**251**	*e*PN	**Pn**	**04 20 34.7**	**-0.5**

MEX 10 04:28:42.4±0.6, 19°.51N×102°.48W, h5km±7km, MD3.6, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**1.10**	**332**	*i*P	Pg	04 29 01.0	-2.6
SFJM				*i*S	Sg	04 29 15.0	-3.0
MOIG	**Morelia**	**1.23**	**82**	*i*P	Pg	04 29 02.2	-3.8
MOIG				*i*S	Sg	04 29 18.4	-3.5
MMIG	**Aquila**	**1.47**	**214**	*i*P	Pn	04 29 05.6	-3.8
MMIG				*i*S	Sn	04 29 23.7	-5.3
ZIIG	**Zihuatanejo**	**2.12**	**153**	*i*P	Pn	04 29 15.8	-2.7
ZIIG				*i*S	Sn	04 29 40.7	-4.6
CAIG	**El Cayaco**	**3.23**	**139**	*e*P	Pn	04 29 31.0	-2.7
CAIG				*i*S	Sn	04 30 09.4	-3.2
PPM	**Popocatepetl**	**3.67**	**96**	*e*P	Pn	04 29 36.8	-2.9
PPM				*i*S	Sn	04 30 20.6	-2.8
PNIG	**Pinotepa**	**5.17**	**126**	*e*P	Pn	04 30 00.9	+0.4

MEX 10 04:37:47.7±0.4, 16°.34N×98°.44W, h20km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**79**	*i*P	Pb	04 37 53.4	-1.2
PNIG				*i*S	Sb	04 37 58.2	-1.0
MEIG	**Mezcala**	**1.94**	**325**	*e*P	Pn	04 38 17.5	-2.1
MEIG				*i*S	Sn	04 38 38.9	-4.5
PPM	**Popocatepetl**	**2.72**	**356**	*e*P	Pn	04 38 28.1	-2.2
PPM				*i*S	Sn	04 38 59.9	-2.8
ZIIG	**Zihuatanejo**	**3.16**	**294**	*e*P	Pn	04 38 34.2	-2.1
ZIIG				*i*S	Sn	04 39 10.2	-3.2
CMIG	**Matias Romero**	**3.49**	**77**	*e*P	Pn	04 38 38.2	-2.7
CMIG				*i*S	Sn	04 39 18.8	-2.9

IDC 10 04:50:31.2±2.0, 0°.55N×126°.25E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=166.4km s-min=26.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**159**	P	P	04 55 24.6	-1.0
1.3nm,0.4s,baz=338,slow=10,SNR=18							
ASAR	**Alice Springs**	**25.20**	**163**	P	P	04 55 59.6	+0.9
0.8nm,0.4s,baz=332,slow=11,SNR=10							
MKAR	**Makanchi Array**	**59.90**	**327**	P	P	05 00 39.0	0.0
0.2nm,0.4s,baz=122,slow=8.3,SNR=4.4							

*ISK **10** 05:08:35.1, 38°.46N×39°.02E, h5km, MD2.7*
*DDA **10** 05:08:35.6, 38°.38N×39°.10E, h7km±2km, Md2.9*
*CSEM **10** 05:08:35.7±0.2, 38°.44N×39°.05E, h8km±2km, MD2.9, Error ellipse: s-maj=6.5km s-min=4.7km az=157.0*
*ISCJB **10** 05:08:36.2±0.6, 38°.42N±0°.04×39°.02E±0°.04, h10km, Error ellipse: s-maj=6.4km s-min=4.4km az=166.7*
ISC 10 05:08:36.5±0.6, 38°.39N±0°.04×39°.03E±0°.04, h1km±8km, n17, σ0s77/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.12**	**344**	*i*P	**Pg**	**05 08 38.8**	**+0.1**
ELZG				*i*S	**Sg**	**05 08 41.6**	**+1.3**
ELZG	**Elazig**	**0.12**	**344**	*i*P	**Pg**	**05 08 38.8**	**+0.1**
ELZG				*i*S	**Sg**	**05 08 41.6**	**+1.3**
SVRC	**Sivrice-ELAZID**	**0.22**	**92**	PG	**Pg**	**05 08 40.1**	**-0.5**
SVRC				SG	**Sg**	**05 08 44.2**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.22**	**92**	*i*Pg	**Pg**	**05 08 40.2**	**-0.5**
SVRC				*i*Sg	**Sg**	**05 08 44.2**	**+0.7**
MALT	**Malatya**	**0.48**	**262**	*e*PG	**Pg**	**05 08 45.4**	**-0.2**
MALT				*e*SG	**Sg**	**05 08 52.1**	**+0.4**
MALT	**Malatya**	**0.48**	**262**	*e*Pg	**Pg**	**05 08 45.4**	**-0.2**
MALT				*e*Sg	**Sg**	**05 08 52.1**	**+0.3**
PTK	**Pertek**	**0.58**	**29**	*e*PG	**Pg**	**05 08 45.6**	**-2.0**
PTK	**Pertek**	**0.58**	**29**	*e*Pg	**Pg**	**05 08 45.6**	**-2.0**
URFA	**Urfa**	**0.96**	**190**	*e*PG	**Pg**	**05 08 55.0**	**+0.2**
URFA	**Urfa**	**0.96**	**190**	*e*Pg	**Pg**	**05 08 55.0**	**+0.2

comp=E,0.0nm,0.3s,baz=213,slow=20,SNR=2.9
CFAA Coronel Fontan 12.24 175 P **Pn 05 53 58.6 -3.6**
CFAA S **Sn 05 56 05.0 -12**
TRQA Tornquist 19.72 162 *e*Pn **Pn 05 55 31.4 -3.4**
comp=E,22nm,0.7s
PLCA Paso Flores 21.33 182 P **P 05 55 50.9 +1.3**
comp=E,7.2nm,0.8s,mb4.0,baz=356,slow=12,SNR=11
PLCA LR LR 06 05 28.1
comp=E,37nm,21.6s,baz=8.1,slow=40
PLCA Paso Flores 21.33 182 P **P 05 55 50.9 +1.3**
RCBR Riachuelo 35.25 72 P **P 05 57 55.2 -0.5**
comp=E,2.9nm,0.5s,mb4.4,baz=337,slow=14,SNR=2.0
RCBR Riachuelo 35.25 72 P **P 05 57 55.2 -0.5**
SNAA Sanae 64.44 161 P **P 06 01 34.6 -1.1**
comp=E,0.7nm,0.6s,mb3.6,baz=279,slow=8.1,SNR=6.8
SNAA Sanae 64.44 161 P **P 06 01 34.6 -1.1**
DBIC Dimbokro 68.57 74 P **P 06 02 01.5 -1.4**
comp=E,1.4nm,0.6s,mb4.0,baz=230,slow=4.6,SNR=8.7
DBIC Dimbokro 68.57 74 P **P 06 02 01.5 -1.4**
ULM Lac du Bonnet 73.14 343 P **P 06 02 32.9 +3.2**
comp=E,1.0nm,0.4s,mb4.0,baz=146,slow=7.0,SNR=5.0
ULM pP pP 06 02 56.6 -1.4
comp=E,2.2nm,0.6s,baz=155,slow=7.0,SNR=2.6
ULM Lac du Bonnet 73.14 343 P **P 06 02 32.9 +3.2**
ULM pP pP 06 02 56.6 -1.4
TORD Torodi Ar. Bea 77.07 71 P **P 06 02 51.4 -1.7**
comp=E,1.0nm,0.3s,mb4.0,baz=253,slow=5.6,SNR=22
TORD Torodi Ar. Bea 77.07 71 P **P 06 02 51.4 -1.7**
ESDC Sonseca Array 84.63 45 P **P 06 03 34.0 +1.3**
comp=E,0.6nm,0.6s,mb3.7,baz=262,slow=6.4,SNR=3.5
ESDC Sonseca Array 84.63 45 P **P 06 03 34.0 +1.3**
YKA Yellowknife Ar 89.02 341 P **P 06 03 54.3 +0.8**
comp=E,0.4nm,0.6s,mb3.6,baz=133,slow=4.5,SNR=8.2
YKA pP pP 06 04 22.1 -0.6
comp=E,0.9nm,0.6s,baz=132,slow=4.8,SNR=7.5
YKA sP sP 06 04 34.1 -0.5
comp=E,0.7nm,0.6s,baz=133,slow=4.8,SNR=4.2
YKA Yellowknife Ar 89.02 341 P **P 06 03 54.3 +0.8**
YKA pP pP 06 04 22.1 -0.6
YKA sP sP 06 04 34.1 -0.5
WRA Warramunga Arr 134.55 212 PKP PKPdf 06 10 18.4 +0.9
comp=E,0.4nm,0.4s,baz=146,slow=1.6,SNR=5.6
WRA pPKP pPKPdf 06 10 48.5 +0.3
comp=E,0.3nm,0.6s,baz=154,slow=1.6,SNR=2.5
WRA sPKP 06 11 00.8
comp=E,0.2nm,0.5s,baz=138,slow=1.9,SNR=3.2
WRA Warramunga Arr 134.55 212 PKP PKPdf 06 10 18.4 +0.9
WRA pPKP pPKPdf 06 10 48.5 +0.3
WRA sPKP 06 11 00.8
SONM Songino Array 151.38 6 PKPbc PKPbc 06 10 53.3 +1.1
comp=E,0.5nm,0.7s,baz=315,slow=0.4,SNR=2.2
SONM pPKPbc pPKPbc 06 11 23.2 +0.6
comp=E,0.4nm,0.5s,baz=321,slow=1.8,SNR=3.3
SONM Songino Array 151.38 6 PKPbc PKPbc 06 10 53.3 +1.1
SONM pPKPbc pPKPbc 06 11 23.2 +0.6

*IDC **10** 05:56:53.3±3.3, 24°.25S×67°.00W, h140km±30km, mb3.9/14, mb1 4.0/15, mb1mx3.9/17, mbtmp3.8/15, Error ellipse: s-maj=24.4km s-min=13.4km az=65.0*
*ISCJB **10** 05:56:55.1±0.7, 24°.37S±0°.03×67°.21W±0°.09, h172km±7km, mb4.0/16, Error ellipse: s-maj=13.9km s-min=5.1km az=173.0*
*NEIC **10** 05:56:55.1±0.9, 24°.29S×67°.05W, h157km±8km, mb4.4/4, Error ellipse: s-maj=14.8km s-min=6.6km az=81.0*
*GUC **10** 05:56:57.4±0.6, 24°.09S×67°.48W, h208km±7km, ML5.0*

ISC 10 05:56:55.7±0.7, 24°.36S±0°.03×67°.15W±0°.09, h160km±7km, n66, σ1.9±0.2/67, mb4.0/16, 7C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.74**	**326**	*e*P	**Pn**	**05 57 31.9**	**+3.3**
SPCH				*i* S	**Sn**	**05 57 58.5**	**+4.7**
SPCH				AML	AML	05 58 00.0	
	comp=N,4μm,0.6s						
ANCH	**Antofagasta**	**3.06**	**282⇑**	*e*P	**Pn**	**05 57 45.7**	**+1.5**
ANCH				*e*S	**Sn**	**05 58 22.4**	**+0.6**
ANCH				AML	AML	05 58 23.5	
	comp=E,2μm,0.5s						
PB09	**Plate Boundary**	**3.20**	**323⇑**	*i*P	**Pn**	**05 57 47.4**	**+1.5**
PB09				*e*S	**Sn**	**05 58 25.5**	**+0.5**
PB09				AML	AML	05 58 29.2	
	comp=E,5μm,0.5s						
MACH	**Maria Elena**	**3.23**	**311**	*e*P	**Pn**	**05 57 47.5**	**+1.2**
MACH				*e*S	**Sn**	**05 58 25.0**	**-0.5**
MECH	**Mejillones**	**3.27**	**292⇑**	*i*P	**Pn**	**05 57 48.4**	**+1.5**
MECH				*e*S	**Sn**	**05 58 26.1**	**-0.5**
MECH				AML	AML	05 58 29.4	
	comp=N,4μm,0.5s						
PB07	**Plate Boundary**	**3.64**	**316⇑**	*i*P	**Pn**	**05 57 52.2**	**+0.7**
PB07				*e*S	**Sn**	**05 58 33.2**	**-1.7**
PB07				AML	AML	05 58 36.5	
	comp=N,3μm,0.3s						
PB01	**Plate Boundary**	**3.94**	**326⇑**	*i*P	**Pn**	**05 57 55.6**	**+0.1**
PB01				AML	AML	05 58 47.1	
	comp=E,1μm,0.7s						
CPCH	**Copiapo**	**4.15**	**223**	*e*P	**Pn**	**05 57 56.7**	**-1.5**
CDCH	**Caldera**	**4.27**	**230**	*e*P	**Pn**	**05 57 59.6**	**-0.1**
HMBC	**Humberston**	**4.79**	**327⇑**	*i*P	**Pn**	**05 58 05.1**	**-1.5**
VACH	**Vallenar**	**5.30**	**217**	*e*P	**Pn**	**05 58 12.6**	**-0.6**
PSGC	**Pisagua**	**5.49**	**329⇑**	*e*P	**Pn**	**05 58 13.0**	**-2.7**
LCO	**Las Campanas**	**5.62**	**214**	*e*Pn	**Pn**	**05 58 17.0**	**-0.4**
	comp=E,22nm,0.4s						
LCO				*e*Sn	**Sn**	**05 59 20.4**	**-1.0**
LCO	**Las Campanas**	**5.62**	**214**	*e*P	**Pn**	**05 58 16.8**	**-0.6**
CFAA	**Coronel Fontan**	**7.28**	**187**	P	**Pn**	**05 58 40.6**	**+1.2**
CFAA				S	**Sn**	**05 59 59.2**	**-1.8**
	comp=E,0.4nm,0.3s,baz=282,slow=22,SNR=6.8						
CFAA	**Coronel Fontan**	**7.28**	**187**	P	**Pn**	**05 58 40.6**	**+1.2**
CFAA				S	**Sn**	**05 59 59.2**	**-1.8**
LPAZ	**La Paz**	**8.08**	**353**	P	**Pn**	**05 58 50.5**	**+0.3**
	comp=E,4.4nm,0.3s,baz=169,slow=10,SNR=122						
LPAZ				S	**Sn**	**06 00 13.7**	**-6.8**
	comp=E,0.2nm,0.3s,baz=189,slow=12,SNR=2.2						
LPAZ	**La Paz**	**8.08**	**353**	*e*Pn	**Pn**	**05 58 50.1**	**-0.2**
LPAZ				S	**Sn**	**06 00 13.7**	**-6.8**
TRQA	**Tornquist**	**14.35**	**163**	*e*P	**Pn**	**06 00 11.1**	**-0.4**
	comp=E,7.9nm,0.6s						
PLCA	**Paso Flores**	**16.57**	**189**	P	**Pn**	**06 00 39.7**	**+1.0**
	comp=E,0.2nm,0.3s,baz=358,slow=13,SNR=4.6						
PLCA	**Paso Flores**	**16.57**	**189**	P	**Pn**	**06 00 39.7**	**+1.0**
USHA	**Ushuaia**	**30.45**	**181**	P	**P**	**06 02 54.8**	**+1.9**
	comp=E,10nm,1.0s,mb4.5,baz=37,slow=5.1,SNR=2.8						
USHA	**Ushuaia**	**30.45**	**181**	P	**P**	**06 02 54.8**	**+1.9**
TEIG	**Tepich**	**48.86**	**333**	P	**P**	**06 05 24.4**	**-0.8**
	comp=E,7.0nm,0.6s,mb4.5,baz=168,slow=4.0,SNR=8.3						
TEIG	**Tepich**	**48.86**	**333**	P	**P**	**06 05 24.4**	**-0.8**
VNA3	**Neumayer Olymp**	**56.86**	**161**	*e*	**P**	**06 06 23.7**	**+0.6**
VNA1	**Neumayer--Stat**	**57.06**	**160**	*e*	**P**	**06 06 25.7**	**+1.2**
VNA2	**Neumayer--Watz**	**57.42**	**160**	*e*	**P**	**06 06 27.9**	**+0.8**
	baz=289,slow=6.3						
SNAA	**Sanae**	**59.06**	**161**	*e*	**P**	**06 06 38.8**	**+0.4**
SNAA	**Sanae**	**59.06**	**161**	P	**P**	**06 06 38.6**	**+0.1**
	comp=E,0.7nm,0.5s,mb3.7,baz=278,slow=10,SNR=13						
SNAA	**Sanae**	**59.06**	**161**	P	**P**	**06 06 38.6**	**+0.1**
TXAR	**Lajitas Array**	**63.89**	**325**	P	**P**	**06 07 10.8**	**-0.6**
	comp=E,0.3nm,0.5s,mb3.4,baz=142,slow=5.7,SNR=7.9						
TXAR	**Lajitas Array**	**63.89**	**325**	P	**P**	**06 07 10.8**	**-0.6**
QSPA	**South Pole Qui**	**65.85**	**180**	*e*P	**P**	**06 07 23.8**	**+0.5**
	comp=E,3.6nm,0.5s,mb4.5						
DBIC	**Dimbokro**	**68.04**	**71**	P	**P**	**06 07 36.8**	**-1.5**
	comp=E,1.1nm,0.6s,mb3.8,baz=237,slow=7.6,SNR=3.8						
DBIC	**Dimbokro**	**68.04**	**71**	P	**P**	**06 07 36.8**	**-1.5**
MSU	**Marysvale**	**75.44**	**325**	*e*P	**P**	**06 08 22.3**	**+0.4**
	comp=E,3.5nm,0.9s,mb4.0						
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P	**P**	**06 08 28.9**	**-1.3**
	comp=E,3.2nm,0.6s,mb4.1,baz=256,slow=5.8,SNR=40						
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P	**P**	**06 08 28.9**	**-1.3**
PDAR	**Pinedale Array**	**77.39**	**329**	P	**P**	**06 08 33.0**	**+0.2**
	comp=E,0.5nm,0.5s,mb3.4,baz=137,slow=7.8,SNR=6.6						
PDAR	**Pinedale Array**	**77.39**	**329**	P	**P**	**06 08 33.0**	**+0.2**
ULM	**Lac du Bonnet**	**78.52**	**342**	P	**P**	**06 08 38.1**	**-0.8**
	comp=E,3.3nm,0.6s,mb4.1,baz=153,slow=6.9,SNR=4.8						
ULM	**Lac du Bonnet**	**78.52**	**342**	P	**P**	**06 08 38.1**	**-0.8**
NVAR	**Mina Array Bea**	**78.73**	**321**	P	**P**	**06 08 41.2**	**+0.9**
	comp=E,0.8nm,0.7s,mb3.5,baz=158,slow=6.4,SNR=8.5						
NVAR	**Mina Array Bea**	**78.73**	**321**	P	**P**	**06 08 41.2**	**+0.9**
SCHQ	**Schefferville**	**78.87**	**0**	P	**P**	**06 08 39.8**	**-0.8**
	comp=E,4.0nm,0.9s,mb4.1,baz=166,slow=8.3,SNR=3.2						
SCHQ	**Schefferville**	**78.87**	**0**	P	**P**	**06 08 39.8**	**-0.8**
RLMT	**Red Lodge**	**79.09**	**331**	*e*P	**P**	**06 08 42.3**	**+0.3**
BOSA	**Boshof**	**80.69**	**117**	P	**P**	**06 08 50.9**	**-0.4**
	comp=E,3.1nm,0.4s,mb4.3,baz=260,slow=6.1,SNR=8.0						
BOSA	**Boshof**	**80.69**	**117**	P	**P**	**06 08 50.9**	**-0.4**
MAW	**Mawson**	**81.13**	**163**	P	**P**	**06 08 53.3**	**+0.5**
	comp=E,3.5nm,0.5s,mb4.2,baz=225,slow=5.0,SNR=8.3						
MAW	**Mawson**	**81.13**	**163**	P	**P**	**06 08 53.3**	**+0.5**
ESDC	**Sonseca Array**	**86.75**	**44**	P	**P**	**06 09 21.8**	**+0.1**
	comp=E,0.3nm,0.4s,mb3.5,baz=237,slow=3.0,SNR=2.9						
ESDC	**Sonseca Array**	**86.75**	**44**	P	**P**	**06 09 21.8**	**+0.1**
YKA	**Yellowknife Ar**	**94.41**	**340**	P	**P**	**06 09 56.0**	**-0.8**
	comp=E,1.0nm,0.5s,mb4.2,baz=130,slow=4.5,SNR=20						
YKA	**Yellowknife Ar**	**94.41**	**340**	P	**P**	**06 09 56.0**	**-0.8**
ASAR	**Alice Springs**	**128.07**	**205**	PKP	PKPdf	06 15 42.5	-0.9
	comp=E,1.1nm,0.5s,baz=138,slow=1.9,SNR=17						
ASAR	**Alice Springs**	**128.07**	**205**	PKP	PKPdf	06 15 42.5	-0.9
WRA	**Warramunga Arr**	**131.25**	**207**	PKP	PKPdf	06 15 49.0	-0.5
	comp=E,1.0nm,0.5s,baz=157,slow=1.5,SNR=20						
WRA	**Warramunga Arr**	**131.25**	**207**	PKP	PKPdf	06 15 49.0	-0.5
ZALV	**Zalesovo Beam**	**143.77**	**28**	PKP	PKPdf	06 16 09.1	-2.2
	comp=E,3.2nm,0.4s,baz=303,slow=4.4,SNR=14						
ZALV	**Zalesovo Beam**	**143.77**	**28**	PKP	PKPdf	06 16 09.1	-2.2
MKAR	**Makanchi Array**	**146.89**	**40**	PKP	PKPdf	06 16 16.6	-0.2
	comp=E,5.6nm,0.6s,baz=303,slow=1.0,SNR=72						
MKAR				PKPbc	PKPbc	06 16 18.8	-0.3
	comp=E,5.9nm,0.6s,baz=296,slow=3.4,SNR=73						
MKAR	**Makanchi Array**	**146.89**	**40**	PKP	PKPdf	06 16 16.6	-0.2
MKAR				PKPbc	PKPbc	06 16 18.8	-0.3
SONM	**Songino Array**	**156.02**	**11**	PKP	PKPdf	06 16 31.1	+0.5
	comp=E,0.3nm,0.8s,baz=278,slow=2.2,SNR=2.7						
SONM				PKPab	PKPab	06 16 57.6	-1.0
	comp=E,0.7nm,0.6s,baz=317,slow=4.8,SNR=5.0						
SONM	**Songino Array**	**156.02**	**11**	PKP	PKPdf	06 16 31.1	+0.5
SONM				PKPab	PKPab	06 16 57.6	-1.0

*ISCJB **10** 05:59:29.0±0.5, 27°.58N±0°.05×140°.1E±0°.1, h461km±6km, mb3.4/15, Error ellipse: s-maj=16.6km s-min=7.7km az=174.0*
*JMA **10** 05:59:28.6±0.2, 27°.64N×140°.65E, h490km, M4.1*
*NEIC **10** 05:59:28.6, 27°.64N×140°.65E, h490km, mb4.2/2, After JMA.*
*IDC **10** 05:59:29.3±0.6, 27°.55N×140°.16E, h450km±7km, mb3.1/12, mb1 3.3/13, mb1mx3.2/22, mbtmp3.1/13, Error ellipse: s-maj=18.3km s-min=13.5km az=82.0*

ISC 10 05:59:30.1±0.5, 27°.60N±0°.05×140°.2E±0°.1, h457km±5km, n48, σ0.88/53, mb3.4/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.87**	**105**	P	**P**	**06 00 30.6**	**0.0**
	34nm,0.3s,baz=307,slow=8.2,SNR=15						
CBIJ				S	**S**	**06 01 17.2**	**-2.4**
	67nm,0.3s,baz=284,slow=22,SNR=9.6						
CBIJ	**Chichi jima**	**1.87**	**105**	P	**P**	**06 00 30.6**	**0.0**
CBIJ				S	**S**	**06 01 17.2**	**-2.4**
CBIJ	**Chichi jima**	**1.87**	**105**	P	**P**	**06 00 30.4**	**-0.2**
CBIJ				*e*S	**S**	**06 01 20.4**	**+0.8**
JHHJ	**Haha-jima-NKT**	**2.04**	**118**	P	**P**	**06 00 32.1**	**+0.6**
JHHJ				S	**S**	**06 01 21.4**	**+0.1**
BSO1	**Boso 1**	**7.06**	**5**	P	**P**	**06 01 16.2**	**+0.7**
BSO1				*e*S	**S**	**06 02 41.0**	**-0.9**
BSO3	**Boso 3**	**7.18**	**2**	P	**P**	**06 01 17.1**	**+0.4**
BSO3				*e*S	**S**	**06 02 42.3**	**-1.9**
BSO4	**Boso 4**	**7.36**	**1**	P	**P**	**06 01 19.1**	**+0.4**
BSO4				*e*S	**S**	**06 02 48.0**	**+0.3**
JIE	**Ise**	**7.39**	**337**	P	**P**	**06 01 21.8**	**+2.9**
JOD2	**Odawara 2**	**7.69**	**353**	P	**P**	**06 01 23.3**	**+1.2**
JHU	**Hanno**	**8.26**	**355**	P	**P**	**06 01 27.5**	**-0.7**
JRY	**Ryogami san**	**8.46**	**353**	P	**P**	**06 01 30.5**	**+0.2**
JYT	**Yasato**	**8.60**	**0**	P	**P**	**06 01 32.3**	**+0.4**
JAG	**Ashikaga**	**8.81**	**356**	P	**P**	**06 01 33.5**	**-0.7**
JHO	**Hitachi**	**8.99**	**2**	P	**P**	**06 01 36.9**	**+0.8**
MAJO	**Matsushiro**	**9.06**	**350**	P	**P**	**06 01 35.9**	**-1.0**
	24nm,0.4s						
JOW	**Kunigami**	**10.61**	**269**	P	**P**	**06 01 54.9**	**+1.1**
	3.5nm,0.3s,baz=94,slow=14,SNR=3.8						
JOW	**Kunigami**	**10.61**	**269**	P	**P**	**06 01 54.9**	**+1.1**
SONM	**Songino Array**	**33.11**	**317**	P	**P**	**06 05 27.0**	**+0.5**
	0.6nm,0.6s,mb3.2,baz=129,slow=8.7,SNR=4.2						
SONM	**Songino Array**	**33.11**	**317**	P	**P**	**06 05 27.0**	**+0.5**
IPM	**Ipoh**	**43.78**	**245**	*e*P	**P**	**06 06 53.0**	**-1.1**
	37nm,0.8s						
WRA	**Warramunga Arr**	**47.60**	**187**	P	**P**	**06 07 22.9**	**-0.4**
	0.2nm,0.3s,mb3.0,baz=6.7,slow=8.9,SNR=14						
WRA				PcP	PcP	06 08 43.0	-1.4
	0.1nm,0.3s,baz=352,slow=3.6,SNR=4.8						
WRA	**Warramunga Arr**	**47.60**	**187**	P	**P**	**06 07 22.9**	**-0.4**
WRA				PcP	PcP	06 08 43.0	-1.4
ZALV	**Zalesovo Beam**	**47.93**	**319**	P	**P**	**06 07 25.2**	**-0.2**
	1.5nm,0.3s,mb3.8,baz=89,slow=6.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**47.93**	**319**	P	**P**	**06 07 25.2**	**-0.2**
MKAR	**Makanchi Array**	**48.76**	**309**	P	**P**	**06 07 32.0**	**+0.3**
	0.6nm,0.3s,mb3.4,baz=94,slow=9.3,SNR=20						
MKAR	**Makanchi Array**	**48.76**	**309**	P	**P**	**06 07 32.0**	**+0.3**
ASAR	**Alice Springs**	**51.33**	**187**	P	**P**	**06 07 50.3**	**-0.6**
	0.2nm,0.3s,mb2.9,baz=355,slow=4.3,SNR=4.5						
ASAR	**Alice Springs**	**51.33**	**187**	P	**P**	**06 07 50.3**	**-0.6**
KURK	**Kurchatov**	**51.34**	**314**	*e*P	**P**	**06 07 50.4**	**-0.3**
	3.2nm,0.5s,mb3.9						
KKAR	**Karatay Array**	**57.33**	**305**	P	**P**	**06 08 32.9**	**-0.2**
	0.8nm,0.3s,mb3.5						
ILAR	**Eielson Array**	**58.13**	**29**	P	**P**	**06 08 38.4**	**+0.1**
	0.2nm,0.3s,mb2.9,baz=252,slow=5.5,SNR=7.4						
ILAR	**Eielson Array**	**58.13**	**29**	P	**P**	**06 08 38.4**	**+0.1**
ARCES	**ARCESS Array B**	**72.47**	**340**	P	**P**	**06 10 09.2**	**+0.5**
	3.4nm,0.9s,mb3.9,baz=73,slow=7.6,SNR=7.9						
ARCES	**ARCESS Array B**	**72.47**	**340**	P	**P**	**06 10 09.2**	**+0.6**
YKA	**Yellowknife Ar**	**72.55**	**28**	P	**P**	**06 10 09.9**	**+0.7**
	0.7nm,0.5s,mb3.4,baz=297,slow=6.1,SNR=7.0						
YKA	**Yellowknife Ar**	**72.55**	**28**	P	**P**	**06 10 09.9**	**+0.7**
JOF	**Joensuu**	**73.83**	**333**	*e*p	**P**	**06 10 15.4**	**-1.1**
	1.3nm,0.5s,mb3.7						
FINES	**FINESS Array B**	**76.69**	**333**	P	**P**	**06 10 32.5**	**-0.2**
	2.4nm,0.4s,mb4.1,baz=64,slow=5.2,SNR=17						
FINES	**FINESS Array B**	**76.69**	**333**	P	**P**	**06 10 32.5**	**-0.2**
AKASG	**Malin Array Be**	**81.14**	**323**	P	**P**	**06 10 56.0**	**-0.6**
	0.2nm,0.3s,mb3.2,baz=45,slow=6.9,SNR=4.4						
AKASG	**Malin Array Be**	**81.14**	**323**	P	**P**	**06 10 56.0**	**-0.6**
NVAR	**Mina Array Bea**	**81.61**	**51**	P	**P**	**06 11 01.3**	**+2.0**
	0.4nm,0.7s,mb3.1,baz=286,slow=6.1,SNR=4.1						
NVAR	**Mina Array Bea**	**81.61**	**51**	P	**P**	**06 11 01.3**	**+2.0**
NB2	**NORSAR Subarra**	**82.47**	**338**	P	**P**	**06 11 02.5**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.4,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**82.47**	**338**	P	**P**	**06 11 02.6**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.5,baz=44,slow=4.8,SNR=4.4						
NOA	**NORSAR Array B**	**82.47**	**338**	P	**P**	**06 11 02.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**122.89**	**310**	PKP	PKPdf	06 17 33.8	-0.3
	comp=Z,0.3nm,0.8s,baz=19,slow=4.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**122.89**	**310**	PKP	PKPdf	06 17 33.8	-0.4

NNC 10 06:02:45.8±5.8, 37°.24N×70°.79E, h0km, mb3.8, mpv3.5, 3C, Error ellipse: s-maj=99.7km s-min=45.6km az=80.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.86**	**358**	⇑Pn	Pn	06 04 17.2	+3.3
	1.5nm,0.6s,baz=166,slow=12,SNR=9.3						
KK31				Sn	Sn	06 05 28.2	+6.5
	6.3nm,0.5s,baz=177,slow=15,SNR=15						
TKM2	**Tokmak 2**	**6.76**	**31**	⇑Pn	Pn	06 04 25.5	-0.7
	3.2nm,0.5s						
AB31	**Akbulak array**	**14.36**	**330**	⇑Pn	Pn	06 06 06.7	-3.4
	0.8nm,0.7s,baz=140,slow=12,SNR=6.9						

*ISK **10** 06:24:30.6, 38°.12N×38°.66E, h2km, MD2.9*
*ISCJB **10** 06:24:31.9±0.4, 38°.13N±0°.03×38°.66E±0°.03, h10km, Error ellipse: s-maj=4.2km s-min=3.7km az=157.8*
*DDA **10** 06:24:31.8, 38°.13N×38°.63E, h7km±3km, Md3.0*
*CSEM **10** 06:24:31.7±0.1, 38°.12N×38°.66E, h2km, MD2.9, Error ellipse: s-maj=3.2km s-min=2.8km az=152.0*

ISC 10 06:24:32.2±0.5, 38°.12N±0°.03×38°.64E±0°.03, h4km±6km, n29, σ0.77/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.26**	**318**	PG	**Pg**	**06 24 36.7**	**-0.5**
MALT				SG	**Sg**	**06 24 41.5**	**+0.9**
MALT	**Malatya**	**0.26**	**318**	*i* Pg	**Pg**	**06 24 36.7**	**-0.5**
MALT				*i* Sg	**Sg**	**06 24 41.5**	**+0.9**
MYA	**Malataya**	**0.27**	**320**	PG	**Pg**	**06 24 37.0**	**-0.4**
MYA	**Malataya**	**0.27**	**320**	*i* Pg	**Pg**	**06 24 37.0**	**-0.4**
ELZG	**Elazig**	**0.46**	**35**	*i* P	**Pg**	**06 24 40.5**	**-0.6**
ELZG				*i* S	**Sg**	**06 24 47.7**	**+0.6**
ELZG	**Elazig**	**0.46**	**35**	*i* P	**Pg**	**06 24 40.5**	**-0.6**
ELZG				*i* S	**Sg**	**06 24 47.7**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.58**	**64**	*e*PG	**Pg**	**06 24 42.6**	**-0.8**
SVRC				*e*SG	**Sg**	**06 24 51.3**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.58**	**64**	*e*Pg	**Pg**	**06 24 42.6**	**-0.8**
SVRC				*e*Sg	**Sg**	**06 24 51.3**	**+0.4**
AKCD	**Akcadag**	**0.59**	**287**	*i* P	**Pg**	**06 24 43.2**	**-0.4**
AKCD				*i* S	**Sg**	**06 24 52.0**	**+0.6**
AKCD	**Akcadag**	**0.59**	**287**	*i* P	**Pg**	**06 24 43.2**	**-0.4**
AKCD				*i* S	**Sg**	**06 24 52.0**	**+0.6**
URFA	**Urfa**	**0.69**	**168**	*e*PG	**Pg**	**06 24 44.8**	**-0.7**
URFA				*e*SG	**Sg**	**06 24 55.0**	**+0.5**
URFA	**Urfa**	**0.69**	**168**	*e*Pg	**Pg**	**06 24 44.8**	**-0.7**
URFA				*e*Sg	**Sg**	**06 24 55.0**	**+0.5**
ATAB	**Bozova**	**0.71**	**203**	*i* P	**Pg**	**06 24 44.9**	**-0.9**
ATAB				*i* S	**Sg**	**06 24 58.9**	**+4.0**
ATAB	**Bozova**	**0.71**	**203**	*i* P	**Pg**	**06 24 44.9**	**-0.9**
ATAB				*i* S	**Sg**	**06 24 58.9**	**+3.9**
PTK	**Pertek**	**0.97**	**37**	*e*PG	**Pg**	**06 24 50.0**	**-0.7**
PTK	**Pertek**	**0.97**	**37**	*e*Pg	**Pg**	**06 24 50.1**	**-0.7**
DIYA	**Diyarbakir**	**1.18**	**99**	*i* P	**Pg**	**06 24 54.7**	**-0.2**
DIYA				*i* S	**Sg**	**06 25 12.2**	**+2.0**
DIYA	**Diyarbakir**	**1.18**	**99**	*i* P	**Pg**	**06 24 54.7**	**-0.2**
DIYA				*i* S	**Sg**	**06 25 12.2**	**+2.0**
GAZ	**Gaziantep**	**1.48**	**231**	*e*PN	**Pn**	**06 24 59.5**	**-0.2**
GAZ	**Gaziantep**	**1.48**	**231**	*e*Pn	**Pn**	**06 24 59.5**	**-0.1**
KMRS	**Kahramanmaras**	**1.51**	**247**	*e*PN	**Pn**	**06 24 59.8**	**-0.3**
KMRS	**Kahramanmaras**	**1.51**	**247**	*e*Pn	**Pn**	**06 24 59.8**	**-0.3**
ERZN	**Erzincan**	**1.69**	**30**	*e*PN	**Pn**	**06 25 01.9**	**-0.5**
EZC	**Erzincan**	**1.72**	**19**	*e*PN	**Pn**	**06 25 01.9**	**-1.0**
BNN	**Bunyan**	**2.31**	**289**	*e*PN	**Pn**	**06 25 11.9**	**+0.8**
BNN	**Bunyan**	**2.31**	**289**	*e*Pn	**Pn**	**06 25 11.9**	**+0.8**
KOZT	**Kozan**	**2.32**	**255**	*e*PN	**Pn**	**06 25 11.5**	**+0.3**
YOZ	**Yozgat**	**3.00**	**301**	*e*PN	**Pn**	**06 25 21.7**	**+1.1**
YOZ	**Yozgat**	**3.00**	**301**	*e*Pn	**Pn**	**06 25 21.7**	**+1.1**

*ISCJB **10** 06:32:08.7±0.8, 16°.48S±0°.08×177°.49W±0°.07, h392km±9km, mb4.2/25, Error ellipse: s-maj=14.7km s-min=9.2km az=144.3*
*IDC **10** 06:32:08.8±1.4, 16°.40S×177°.47W, h382km±15km, mb3.6/15, mb1 3.9/16, mb1mx3.9/18, mbtmp3.6/16, Error ellipse: s-maj=20.1km s-min=10.6km az=137.0*
*NEIC **10** 06:32:09.6±0.8, 16°.46S×177°.44W, h392km±8km, mb4.5/7, Error ellipse: s-maj=10.8km s-min=7.5km az=140.0*
*DJA **10** 06:32:16, 16°.44S×177°.86W, h452km, mb4.7/9*

ISC 10 06:32:09.2±0.8, 16°.47S±0°.08×177°.44W±0°.08, h386km±9km, n74, σ0.87/64, mb4.2/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**253**	Pn	**Pn**	**06 33 31.6**	**+6.2**
AFI	**Afiamalu**	**6.03**	**66**	P	**Pn**	**06 33 41.5**	**-0.2**
	117nm,0.3s,baz=67,slow=1.4,SNR=112						
AFI				S	**S**	**06 34 56.4**	**-0.5**
	4.9nm,0.3s,baz=23,slow=20,SNR=2.1						
AFI	**Afiamalu**	**6.03**	**66**	P	**Pn**	**06 33

0.2nm,0.5s,mb3.3,baz=108,slow=4.7,SNR=2.8
SONM Songino Array 93.08 319 P **P 06 44 41.1 +1.0**
MKAR Makanchi Array 108.81 314 PKiKP PKiKP 06 49 51.6 -1.6
0.2nm,0.4s,baz=73,slow=1.8,SNR=5.1
MKAR Makanchi Array 108.81 314 PKiKP PKiKP 06 49 51.6 -1.5
ARCES ARCESS Array B 125.07 350 PKP PKPdf 06 50 22.9 -0.8
0.7nm,0.4s,baz=25,slow=4.0,SNR=14
ARCES ARCESS Array B 125.07 350 PKP PKPdf 06 50 22.9 -0.8
NIE Niedzica 144.11 340 *e*PX PKPdf 06 50 58.5 -1.1
BR131 Keskin Array S 144.41 317 *e*PKPbc PKPdf 06 50 59.1 -1.3
BRTR Keskin Array B 144.41 317 PKP PKPdf 06 50 59.5 -0.8
1.7nm,0.4s,baz=89,slow=2.1,SNR=26
BRTR Keskin Array B 144.41 317 PKP PKPdf 06 50 59.5 -0.8
GERES GERESS Array B 146.46 347 PKPbc PKPbc 06 51 04.0 -1.6
0.5nm,0.5s,baz=19,slow=3.5,SNR=5.0
GERES GERESS Array B 146.46 347 PKPbc PKPbc 06 51 04.0 -1.6
TORD Torodi Ar. Bea 176.59 166 PKPab PKPab 06 53 19.4 +0.6
0.6nm,0.7s,baz=215,slow=4.6,SNR=4.6
TORD Torodi Ar. Bea 176.59 166 PKPab PKPab 06 53 19.4 +0.6

*JMA **10** 06:51:05.9±0.3,23°.97N×122°.53E,h42km,M1.9*
*ISCJB **10** 06:51:06.7±0.8,23°.98N±0°.05×122°.58E±0°.02,h30km±6km, Error ellipse: s-maj=7.7km s-min=3.3km az=169.4*
*TAP **10** 06:51:08.3,24°.00N×122°.46E,h59km±1km,ML3.0,D*
ISC 10 06:51:06.9±0.9,23°.99N±0°.05×122°.58E±0°.02,h28km±7km, n20,σ0s88/36,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.61**	**40**	P	**Pb**	**06 51 18.8**	**-0.3**
YOJ				*e*S	**Sb**	**06 51 28.2**	**+0.8**
ENA	**Nanau**	**0.88**	**300**	*e*P	**Pn**	**06 51 23.6**	**+0.2**
baz=308							
ENA				*e*S	**Sb**	**06 51 34.7**	**-0.5**
baz=308							
TWD	**Chiawan**	**0.91**	**276**	*e*P	**Pn**	**06 51 23.5**	**-0.2**
baz=276							
TWD				S	**Sb**	**06 51 34.5**	**-1.3**
baz=276							
TWC	**Suao**	**0.91**	**313**	*e*P	**Pn**	**06 51 24.3**	**+0.5**
baz=318							
TWC				*e*S	**Sb**	**06 51 36.1**	**+0.3**
baz=318							
ESL	**Shilin**	**1.07**	**261**	*e*P	**Pn**	**06 51 25.1**	**-0.9**
baz=251							
ESL				*e*S	**Sn**	**06 51 38.0**	**-1.9**
baz=251							
IRIF	**Iriomote-Funau**	**1.10**	**72**	P	**Pn**	**06 51 26.1**	**-0.4**
IRIF				*e*S	**Sn**	**06 51 40.6**	**-0.2**
TWE	**Neicheng**	**1.11**	**311**	*e*P	**Pn**	**06 51 26.3**	**-0.2**
baz=308							
TWE				*e*S	**Sn**	**06 51 41.7**	**+0.9**
baz=308							
HATJ	**Hateruma jima**	**1.12**	**86**	*e*S	**Sn**	**06 51 40.9**	**-0.3**
ENTT	**Nioudou**	**1.13**	**305**	*e*P	**Pn**	**06 51 27.3**	**+0.5**
baz=308							
ENTT				*e*S	**Sn**	**06 51 40.7**	**-0.7**
baz=308							
WHF	**Hehuan Shan**	**1.21**	**278**	*i* P	**Pn**	**06 51 28.1**	**+0.1**
baz=278							
WHF				S	**Sn**	**06 51 42.8**	**-0.7**
baz=278							
EHY	**Hungye**	**1.25**	**248**	P	**Pn**	**06 51 28.2**	**-0.3**
baz=241							
EHY				S	**Sn**	**06 51 43.4**	**-1.0**
baz=241							
TWT	**Tachien**	**1.31**	**282**	*e*S	**Sn**	**06 51 45.9**	**-0.1**
baz=275							
JKRS	**Kuro-shima**	**1.33**	**79**	*e*S	**Sn**	**06 51 47.1**	**+0.8**
TWF1	**Yuli**	**1.34**	**242**	⇑*i*P	**Pn**	**06 51 29.6**	**-0.1**
baz=233							
TWF1				*e*S	**Sn**	**06 51 45.5**	**-1.1**
baz=233							
JIJ	**Ishigaki jima**	**1.47**	**75**	P	**Pn**	**06 51 30.9**	**-0.7**
JIJ				*e*S	**Sn**	**06 51 48.5**	**-1.4**
SMLT	**Sun Moon Lake**	**1.54**	**266**	*e*P	**Pn**	**06 51 33.3**	**+0.8**
baz=258							
YUS	**Yu-Shan**	**1.57**	**252**	P	**Pn**	**06 51 33.6**	**+0.7**
baz=250							
YUS				*e*S	**Sn**	**06 51 51.9**	**-0.5**
baz=250							
ALS	**Alishan**	**1.70**	**254**	P	**Pn**	**06 51 35.8**	**+1.1**
baz=252							
ALS				*e*S	**Sn**	**06 51 56.3**	**+0.9**
baz=252							
CHN5	**Tsauling**	**1.79**	**258**	*e*P	**Pn**	**06 51 38.0**	**+2.1**
baz=256							
CHN5				*e*S	**Sn**	**06 51 58.4**	**+0.7**
baz=256							
CHN1	**Nanshi**	**2.05**	**247**	*e*P	**Pn**	**06 51 40.7**	**+1.2**
baz=256							
CHN1				*e*S	**Sn**	**06 52 06.9**	**+2.8**
baz=256							

*CSEM **10** 07:27:28.7±0.2,32°.12N×56°.10E,h2km,ML3.5,Error ellipse: s-maj=5.2km s-min=3.3km az=159.0*
TEH 10 07:27:29.3,32°.12N×56°.11E,h2km,4D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.70**	**221**	⇓*e*Pg	Pg	07 27 42.0	-0.8
IBAF				*e*Sg	Sg	07 27 51.2	-0.7
IBAF				*e*		07 27 54.4	
comp=Z,19μm,0.1s							
IBAF	**Bafgh**	**0.70**	**221**	⇓*e*Pg	Pg	07 27 42.0	-0.8
IBAF				*e*Sg	Sg	07 27 51.2	-0.7
ICHK	**Chekchek**	**1.45**	**275**	*e*Pn	Pn	07 27 55.1	-1.4
ICHK				*e*Sg	Sg	07 28 14.0	-1.8
ICHK				*e*		07 28 19.5	
comp=Z,11μm,0.1s							
ICHK	**Chekchek**	**1.45**	**275**	*e*Pn	Pn	07 27 55.1	-1.4
ICHK				*e*Sg	Sg	07 28 14.0	-1.8
IMEH	**Mehriz**	**1.47**	**241**	*e*Pn	Pn	07 27 56.8	0.0
IMEH				*e*Sg	Sg	07 28 15.1	-1.4
IMEH				*e*		07 28 17.1	
comp=Z,7μm,0.1s							
IMEH	**Mehriz**	**1.47**	**241**	*e*Pn	Pn	07 27 56.8	0.0
IMEH				*e*Sg	Sg	07 28 15.1	-1.4
ISAD	**Sadrabad**	**2.07**	**265**	*e*	Sg	07 28 39.0	+3.2
comp=Z,4μm,0.2s							
ISAD				*e*Pn	Pn	07 28 05.0	0.0
KRBR	**Kerman**	**2.21**	**165**	*e*Pn	Pn	07 28 07.9	+1.0
KRBR				*e*Sg	Sg	07 28 40.1	-0.1
ITEG	**Tejag**	**2.36**	**70**	*e*Sg	Sg	07 28 43.0	-2.2
ITEG				*e*Pn	Pn	07 28 08.8	-0.2
ITEG				*e*		07 28 48.5	
comp=Z,3μm,0.2s							
IKOO	**Kooshah**	**2.47**	**82**	⇓*e*Pn	Pn	07 28 10.1	-0.5
IKOO				*e*		07 28 52.6	
comp=Z,5μm,0.3s							
IKOO	**Kooshah**	**2.47**	**82**	⇓*e*Pn	Pn	07 28 10.1	-0.5
NASN	**Na'in**	**2.87**	**284**	*e*Pn	Pn	07 28 16.6	+0.6
NASN				*e*Sg	Sg	07 28 59.0	-2.6
IMON	**Monand**	**3.19**	**69**	*e*Pn	Pn	07 28 20.0	-0.4
IMON				*e*		07 29 15.9	
comp=Z,980nm,0.1s							
IMON	**Monand**	**3.19**	**69**	*e*Pn	Pn	07 28 20.0	-0.4
IDAH	**Dahanechah**	**3.24**	**78**	*e*Pn	Pn	07 28 20.9	-0.2
IDAH				*e*		07 28 34.2	
comp=Z,1μm,0.2s							
IDAH	**Dahanechah**	**3.24**	**78**	*e*Pn	Pn	07 28 20.9	-0.2
IZEF	**Zefreh**	**3.29**	**285**	*e*Pn	Pn	07 28 21.6	-0.1
IZEF				*e*		07 29 12.5	
comp=Z,460nm,0.2s							
IZEF	**Zefreh**	**3.29**	**285**	*e*Pn	Pn	07 28 21.6	-0.1
IGAR	**Gharneh**	**3.46**	**276**	*e*Pn	Pn	07 28 24.0	-0.1
IGAR				*e*		07 30 18.4	
comp=Z,406nm,0.0s							
IPAR	**Pars**	**3.48**	**230**	*e*Pn	Pn	07 28 24.1	-0.3
IPAR				*e*		07 29 30.3	
comp=Z,613nm,0.5s							
IPAR	**Pars**	**3.48**	**230**	*e*Pn	Pn	07 28 24.1	-0.3
ISRV	**Sarvestan**	**3.76**	**224**	*e*Pn	Pn	07 28 27.7	-0.5
ISRV	**Sarvestan**	**3.76**	**224**	*e*Pn	Pn	07 28 27.7	-0.5
SHRT	**Shahrakht**	**3.83**	**66**	*e*Pn	Pn	07 28 29.0	-0.3
IKLH	**Kolahrood**	**4.00**	**289**	*e*Pn	Pn	07 28 31.3	-0.3
IKLH				*e*		07 29 42.0	
comp=N,409nm,0.2s							
IKLH	**Kolahrood**	**4.00**	**289**	*e*Pn	Pn	07 28 31.3	-0.3
IVRN	**Varamin**	**4.65**	**309**	*e*Pn	Pn	07 28 39.9	-0.6
IVRN				*e*Pn	Pn	07 28 40.0	-0.5
IVRN	**Varamin**	**4.65**	**309**	*e*Pn	Pn	07 28 40.0	-0.5

IDMV	**Damavand**	**4.83**	**317**	*e*Pn	Pn	07 28 42.5	-0.6
IDMV				*e*		07 30 29.1	
comp=Z,329nm,0.3s							
IDMV	**Damavand**	**4.83**	**317**	*e*Pn	Pn	07 28 42.5	-0.6
IPAY	**Payeh**	**4.93**	**28**	*e*Pn	Pn	07 28 44.2	-0.2
IPAY	**Payeh**	**4.93**	**28**	*e*Pn	Pn	07 28 44.2	-0.2
ISFR	**Sfrayin**	**5.16**	**17**	*e*Pn	Pn	07 28 46.9	-0.6
ISFR	**Sfrayin**	**5.16**	**17**	*e*Pn	Pn	07 28 46.9	-0.6
IMYA	**Miami**	**5.35**	**37**	*e*Pn	Pn	07 28 49.2	-1.0
IMYA	**Miami**	**5.35**	**37**	*e*Pn	Pn	07 28 49.2	-1.0

*ISCJB **10** 07:30:55.5±1.4,23°.56S±0°.05×71°.10W±0°.06,h14km±10km, mb4.0/3,Error ellipse: s-maj=11.1km s-min=7.5km az=40.9*
*GUC **10** 07:30:57.9±0.4,23°.29S×71°.12W,h1km±8km,ML4.1*
*IDC **10** 07:31:04.9±11.0,23°.20S×70°.79W,h61km±83km,mb3.7/3, mb1 3.8/4,mb1mx3.5/14,mbtmp3.7/4,ML3.8/1,MS3.3/1, Ms1 3.3/1,ms1mx2.6/23,Error ellipse: s-maj=105.6km s-min=48.6km az=11.0*
*NEIC **10** 07:31:04.3±0.9,23°.22S×70°.85W,h60km±9km,Error ellipse: s-maj=20.0km s-min=9.8km az=87.0*
ISC 10 07:30:56.3±1.4,23°.54S±0°.05×71°.07W±0°.07,h8km±8km, n28,σ1s18/26,mb4.0/3,1C-2D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.62**	**103**	⇓*i*P	**Pg**	**07 31 09.3**	**+1.1**
ANCH				*i* S	**Sg**	**07 31 17.0**	**+0.6**
ANCH				AML	AML	07 31 19.2	
comp=N,6μm,0.6s							
MECH	**Mejillones**	**0.72**	**53**	⇓*i*P	**Pg**	**07 31 09.3**	**-0.8**
MECH				*i* S	**Sg**	**07 31 18.5**	**-1.0**
MECH				AML	AML	07 31 24.0	
comp=N,16μm,0.3s							
MACH	**Maria Elena**	**1.80**	**42**	*e*P	**Pn**	**07 31 27.0**	**-0.7**
MACH				*i* S	**Sn**	**07 31 49.3**	**-1.5**
PB07	**Plate Boundary**	**2.11**	**31**	⇑*i*P	**Pn**	**07 31 29.6**	**-2.2**
PB07				AML	AML	07 32 05.6	
comp=N,3μm,0.5s							
PB09	**Plate Boundary**	**2.42**	**45**	*e*P	**Pn**	**07 31 37.6**	**+1.4**
PB09				*e*S	**Sn**	**07 32 07.0**	**+1.1**
PB09				AML	AML	07 32 15.7	
comp=E,9μm,0.6s							
SPCH	**San Pedro de A**	**2.71**	**77**	*e*P	**Pn**	**07 31 45.1**	**+4.9**
PB01	**Plate Boundary**	**2.88**	**31**	*e*P	**Pn**	**07 31 44.4**	**+1.9**
PB01				*e*S	**Sn**	**07 32 18.9**	**+1.5**
PB01				AML	AML	07 32 27.4	
comp=E,1μm,0.3s							
HMBC	**Humberston**	**3.43**	**19**	*e*P	**Pn**	**07 31 50.0**	**-0.1**
CDCH	**Caldera**	**3.52**	**176**	*e*P	**Pn**	**07 31 50.8**	**-0.5**
CPCH	**Copiapo**	**3.86**	**170**	*e*P	**Pn**	**07 31 55.9**	**0.0**
MNMC	**Miaee Miæ**	**4.60**	**18**	*e*P	**Pn**	**07 32 04.2**	**-1.9**
LCO	**Las Campanas**	**5.46**	**177**	*e*Pn	**Pn**	**07 32 27.6**	**+10**
comp=E,17nm,0.4s							
LPAZ	**La Paz**	**7.73**	**21**	P	**Pn**	**07 32 50.0**	**+0.8**
comp=E,0.8nm,0.3s,baz=226,slow=2.4,SNR=23							
LPAZ	**La Paz**	**7.73**	**21**	*e*Pn	**Pn**	**07 32 49.7**	**+0.6**
comp=E,4.5nm,0.6s							
NNA	**Nana**	**12.73**	**333**	Pn	**Pn**	**07 34 00.0**	**+2.2**
CPUP	**Villa Florida**	**12.77**	**105**	LR	LR	07 39 39.4	
comp=E,117nm,18.9s,baz=180,slow=41							
DBIC	**Dimbokro**	**71.22**	**74**	P	**P**	**07 42 16.0**	**-0.4**
comp=E,0.8nm,0.4s,mb4.0,baz=243,slow=6.8,SNR=3.7							
DBIC	**Dimbokro**	**71.22**	**74**	P	**P**	**07 42 16.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**79.91**	**71**	P	**P**	**07 43 05.5**	**-0.7**
comp=E,2.0nm,0.5s,mb4.3,baz=258,slow=5.4,SNR=15							
TORD	**Torodi Ar. Bea**	**79.91**	**71**	P	**P**	**07 43 05.5**	**-0.7**
YKA	**Yellowknife Ar**	**92.45**	**341**	P	**P**	**07 44 06.7**	**-0.6**
comp=E,0.2nm,0.6s,mb3.6,baz=133,slow=5.9,SNR=3.3							
YKA	**Yellowknife Ar**	**92.45**	**341**	P	**P**	**07 44 06.7**	**-0.5**
WRA	**Warramunga Arr**	**130.18**	**212**	PKP	PKPdf	07 50 09.2	+1.4
comp=E,0.3nm,0.5s,baz=180,slow=1.8,SNR=2.7							
WRA	**Warramunga Arr**	**130.18**	**212**	PKP	PKPdf	07 50 09.2	+1.4
ZALV	**Zalesovo Beam**	**144.64**	**25**	PKP	PKPdf	07 50 33.5	+0.4
comp=E,0.4nm,0.3s,baz=318,slow=1.9,SNR=3.3							
ZALV	**Zalesovo Beam**	**144.64**	**25**	PKP	PKPdf	07 50 33.5	+0.4
MKAR	**Makanchi Array**	**148.45**	**36**	PKPbc	PKPbc	07 50 43.6	+0.3
comp=E,1.0nm,0.8s,baz=306,slow=2.8,SNR=6.8							
MKAR	**Makanchi Array**	**148.45**	**36**	PKPbc	PKPbc	07 50 43.6	+0.3

*ISCJB **10** 07:31:50.7±1.7,18°.6S±0°.3×176°.5W±0°.3,h290km±19km, mb4.1/10,Error ellipse: s-maj=59.3km s-min=14.3km az=140.8*
*IDC **10** 07:31:51.4±2.8,18°.73S×176°.40W,h286km±23km, mb3.9/10,mb1 4.0/11,mb1mx3.7/20,mbtmp3.8/11,Error ellipse: s-maj=43.6km s-min=13.5km az=144.0*
*NEIC **10** 07:31:52.0±1.3,18°.90S×176°.22W,h301km±9km,Error ellipse: s-maj=30.2km s-min=8.1km az=147.0*
ISC 10 07:31:51.7±1.8,18°.7S±0°.3×176°.4W±0°.2,h289km±18km, n50,σ0s46/35,mb4.1/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.35**	**279**	*e*Pn	**Pn**	**07 33 18.1**	**+5.1**
AFI	**Afiamalu**	**6.50**	**44**	P	**Pn**	**07 33 26.7**	**-0.2**
1.5nm,0.3s,baz=214,slow=18,SNR=3.1							
AFI				S	**S**	**07 34 37.3**	**-6.3**
6.4nm,0.3s,baz=9.7,slow=23,SNR=4.7							
AFI	**Afiamalu**	**6.50**	**44**	P	**Pn**	**07 33 26.7**	**-0.2**
AFI				S	**S**	**07 34 37.3**	**-6.3**
ARMA	**Armidale**	**31.23**	**242**	*e*P	**P**	**07 37 45.9**	**+1.1**
ARMA	**Armidale**	**31.23**	**242**	*e*P	**P**	**07 37 45.2**	**+0.4**
CTA	**Charters Tower**	**35.20**	**261**	P	**P**	**07 38 19.8**	**+0.6**
12nm,0.5s,mb4.6,baz=86,slow=10,SNR=28							
CTA	**Charters Tower**	**35.20**	**261**	*e*P	**P**	**07 38 19.7**	**+0.5**
13nm,0.8s,mb4.5							
CTA	**Charters Tower**	**35.20**	**261**	P	**P**	**07 38 19.8**	**+0.6**
CTAO	**Charters Tower**	**35.20**	**261**	*e*P	**P**	**07 38 19.5**	**+0.3**
PMG	**Port Moresby**	**36.46**	**280**	P	**P**	**07 38 30.2**	**+0.3**
3.7nm,0.3s,mb4.4,baz=131,slow=9.7,SNR=5.2							
PMG	**Port Moresby**	**36.46**	**280**	P	**P**	**07 38 30.2**	**+0.3**
STKA	**Stephens Creek**	**39.94**	**242**	P	**P**	**07 38 58.8**	**+0.2**
2.0nm,0.3s,mb3.9,baz=81,slow=11,SNR=10							
STKA	**Stephens Creek**	**39.94**	**242**	*e*P	**P**	**07 38 59.1**	**+0.6**
2.8nm,0.9s,mb3.6							
STKA	**Stephens Creek**	**39.94**	**242**	*e*P	**P**	**07 38 58.5**	**-0.1**
WB2	**Warramunga Arr**	**46.36**	**260**	*e*P	**P**	**07 39 49.0**	**-0.8**
WRAB	**Tennant Creek**	**46.36**	**260**	*e*P	**P**	**07 39 49.1**	**-0.6**
WRA	**Warramunga Arr**	**46.37**	**260**	P	**P**	**07 39 49.2**	**-0.6**
2.2nm,0.4s,mb3.9,baz=97,slow=6.9,SNR=50							
WRA				PcP	PcP	07 41 18.5	-1.2
0.6nm,0.3s,baz=94,slow=4.2,SNR=5.1							
WRA	**Warramunga Arr**	**46.37**	**260**	P	**P**	**07 39 49.2**	**-0.6**
WRA				PcP	PcP	07 41 18.5	-1.2
AS31	**Alice Springs**	**46.42**	**255**	*e*P	**P**	**07 39 50.1**	**-0.1**
ASAR	**Alice Springs**	**46.42**	**255**	P	**P**	**07 39 50.3**	**+0.1**
32nm,0.6s,mb4.8,baz=91,slow=8.2,SNR=421							
ASAR				PcP	PcP	07 41 19.1	-0.8
1.3nm,0.6s,baz=101,slow=3.9,SNR=4.5							
ASAR	**Alice Springs**	**46.42**	**255**	P	**P**	**07 39 50.3**	**+0.1**
ASAR				PcP	PcP	07 41 19.1	-0.8
FITZ	**Fitzroy Crossi**	**54.78**	**261**	P	**P**	**07 40 52.3**	**-0.2**
3.3nm,0.4s,mb4.1,baz=59,slow=2.6,SNR=26							
FITZ	**Fitzroy Crossi**	**54.78**	**261**	*e*P	**P**	**07 40 52.1**	**-0.3**
4.5nm,0.3s,mb4.4							
FITZ	**Fitzroy Crossi**	**54.78**	**261**	P	**P**	**07 40 52.3**	**-0.2**
MJAR	**Matsushiro Arr**	**69.67**	**322**	P	**P**	**07 42 30.1**	**-0.2**
1.4nm,0.4s,mb4.0,baz=177,slow=5.4,SNR=5.5							
MJAR	**Matsushiro Arr**	**69.67**	**322**	P	**P**	**07 42 30.1**	**-0.2**
PETK	**Petropavlovsk-**	**74.93**	**344**	P	**P**	**07 43 01.5**	**+0.6**
2.6nm,0.6s,mb4.0,baz=120,slow=8.9,SNR=3.9							
PETK	**Petropavlovsk-**	**74.93**	**344**	P	**P**	**07 43 01.5**	**+0.6**
TRF	**Thorofare Moun**	**84.38**	**11**	P	**P**	**07 43 50.9**	**-0.3**
ILAR	**Eielson Array**	**86.23**	**12**	P	**P**	**07 44 00.2**	**0.0**
0.7nm,0.7s,mb3.6,baz=224,slow=5.3,SNR=17							
ILAR	**Eielson Array**	**86.23**	**12**	P	**P**	**07 44 00.2**	**0.0**
YKA	**Yellowknife Ar**	**94.25**	**24**	P	**P**	**07 44 38.1**	**+0.4**
0.3nm,0.7s,mb3.4,baz=237,slow=4.4,SNR=3.2							
YKA	**Yellowknife Ar**	**94.25**	**24**	P	**P**	**07 44 38.1**	**+0.4**
MKAR	**Makanchi Array**	**111.04**	**314**	PKiKP	PKiKP	07 49 50.1	-0.6
0.7nm,0.4s,baz=152,slow=0.9,SNR=21							
MKAR	**Makanchi Array**	**111.04**	**314**	PKiKP	PKiKP	07 49 50.1	-0.6
ARCES	**ARCESS Array B**	**127.40**	**350**	PKP	PKPdf	07 50 21.3	-0.1
0.9nm,0.8s,baz=343,slow=1.6,SNR=5.3							
ARCES	**ARCESS Array B**	**127.40**	**350**	PKP	PKPdf	07 50 21.3	-0.1
AKASG	**Malin Array Be**	**142.12**	**333**	PKhKP	PKPpre	07 50 40.3	
0.7nm,0.3s,baz=46,slow=4.4,SNR=4.1							
AKASG	**Malin Array Be**	**142.12**	**333**	PKPpre	PKPpre	07 50 40.3	
BUR08	**Bucovina Ar. S**	**146.16**	**333**	*e*PKPbc	PKPbc	07 50 58.8	+0.8

BRTR	**Keskin Array B**	**146.68**	**315**	PKPbc	PKPbc	07 50 59.9	+0.2
2.1nm,0.8s,baz=139,slow=4.5,SNR=9.0							
BRTR	**Keskin Array B**	**146.68**	**315**	PKPbc	PKPbc	07 50 59.9	+0.2
MLR	**Muntele Rosu**	**147.47**	**330**	PKPbc	PKPbc	07 51 01.8	+0.1
0.3nm,0.3s,baz=116,slow=9.0,SNR=4.2							
MLR	**Muntele Rosu**	**147.47**	**330**	PKPbc	PKPbc	07 51 01.8	+0.1
MMAI	**Mount Meron Ar**	**148.16**	**303**	PKPbc	PKPbc	07 51 04.0	+0.1
5.1nm,0.7s,baz=59,slow=7.0,SNR=3.3							
MMAI	**Mount Meron Ar**	**148.16**	**303**	PKPbc	PKPbc	07 51 04.0	+0.1
GERES	**GERESS Array B**	**148.82**	**347**	PKPbc	PKPbc	07 51 05.5	+0.4
0.9nm,0.5s,baz=25,slow=4.4,SNR=6.0							
GERES	**GERESS Array B**	**148.82**	**347**	PKPbc	PKPbc	07 51 05.5	+0.4
DAVOX	**Davos/Dischmat**	**151.51**	**351**	PKPbc	PKPbc	07 51 12.4	+0.9
1.6nm,0.5s,baz=164,slow=19,SNR=6.5							
DAVOX	**Davos/Dischmat**	**151.51**	**351**	PKPbc	PKPbc	07 51 12.4	+0.9

*FUNV **10** 07:32:49.9,6°.70N×73°.17W,h178km,MW4.0*
*ISCJB **10** 07:32:50.5±0.5,6°.76N±0°.06×72°.95W±0°.05,h173km±6km, mb3.7/7,Error ellipse: s-maj=11.4km s-min=6.5km az=145.6*
*IDC **10** 07:32:51.9±2.5,6°.72N×73°.02W,h170km±21km,mb3.5/7, mb1 3.8/9,mb1mx3.5/22,mbtmp3.5/9,Error ellipse: s-maj=42.4km s-min=21.8km az=85.0*
*NEIC **10** 07:32:51.8±0.7,6°.71N×72°.99W,h170km±5km,Error ellipse: s-maj=11.6km s-min=9.3km az=132.0*
ISC 10 07:32:51.5±0.5,6°.78N±0°.06×72°.96W±0°.05,h164km±6km, n41,σ0s95/44,mb3.7/7,3C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.35**	**216**	P	**Pn**	**07 33 32.4**	**+0.8**
107nm,0.3s,baz=82,slow=19,SNR=378							
ROSC				S	**Sn**	**07 34 02.9**	**+0.4**
89nm,0.3s,baz=82,slow=14,SNR=10							
ROSC	**El Rosal**	**2.35**	**216**	*e*Pn	**Pn**	**07 33 32.1**	**+0.5**
ROSC				*e*Sn	**Sn**	**07 34 01.1**	**-1.4**
SOCV	**Socops**	**2.57**	**54**	⇑*e*P	**Pn**	**07 33 34.7**	**+0.5**
SOCV				*e*S	**Sn**	**07 34 08.7**	**+1.5**
VIGV	**El Vigia**	**2.59**	**38**	⇑*i*P	**Pn**	**07 33 35.0**	**+0.6**
VIGV				*e*S	**Sn**	**07 34 07.9**	**+0.3**
SDV	**Santo Domingo**	**3.11**	**48**	*e*Pn	**Pn**	**07 33 42.0**	**+1.1**
SDV				*e*Sn	**Sn**	**07 34 21.5**	**+2.3**
ELOV	**Elorza**	**3.46**	**86**	*e*P	**Pn**	**07 33 46.4**	**+1.1**
ELOV				*e*S	**Sn**	**07 34 26.1**	**-0.9**
VIRV	**Villa del Rosa**	**3.74**	**8**	⇑*i*P	**Pn**	**07 33 47.0**	**-1.8**
VIRV				*e*S	**Sn**	**07 34 30.8**	**-2.8**
SANV	**Sanarito**	**4.34**	**51**	*e*P	**Pn**	**07 33 56.9**	**+0.3**
DABV	**Dabajuro**	**4.71**	**29**	*e*P	**Pn**	**07 34 00.8**	**-0.6**
TEPV	**Terepaima**	**4.89**	**49**	*e*P	**Pn**	**07 34 04.2**	**+0.4**
SIQV	**Siquisique**	**4.95**	**39**	*e*P	**Pn**	**07 34 04.3**	**-0.2**
BAUV	**El Baul**	**5.33**	**66**	*e*P	**Pn**	**07 34 08.8**	**-0.7**
MAPV	**Macapo**	**5.39**	**55**	*e*P	**Pn**	**07 34 10.3**	**-0.1**
MONV	**Montecano**	**5.93**	**30**	*e*P	**Pn**	**07 34 16.5**	**-0.9**
TURV	**Turiamo**	**6.24**	**54**	*e*P	**Pn**	**07 34 21.3**	**-0.2**
MERV	**Las Mercedes**	**7.04**	**69**	*e*P	**Pn**	**07 34 31.6**	**-0.6**
BCIP	**Isla Barro Col**	**7.21**	**290**	*e*Pn	**Pn**	**07 34 34.2**	**-0.3**
BIRV	**Birongo**	**7.57**	**61**	*e*P	**Pn**	**07 34 38.2**	**-1.0**
GUNV	**Guanoco**	**10.46**	**71**	*e*P	**Pn**	**07 35 15.2**	**-2.2**
MTDJ	**Mount Denham**	**12.22**	**339**	*e*Pn	**Pn**	**07 35 41.4**	**+1.2**
TEIG	**Tepich**	**19.98**	**313**	P	**P**	**07 37 11.8**	**+0.4**
1.3nm,0.3s,baz=100,slow=12,SNR=9.4							
TEIG	**Tepich**	**19.98**	**313**	P	**P**	**07 37 11.8**	**+0.4**
TXAR	**Lajitas Array**	**36.61**	**312**	P	**P**	**07 39 41.8**	**-0.2**
0.8nm,0.6s,mb3.5,baz=124,slow=8.9,SNR=15							
TXAR	**Lajitas Array**	**36.61**	**312**	P	**P**	**07 39 41.8**	**-0.2**
ULM	**Lac du Bonnet**	**47.38**	**340**	P	**P**	**07 41 08.3**	**-0.6**
2.7nm,0.4s,mb4.3,baz=133,slow=7.1,SNR=7.6							
ULM	**Lac du Bonnet**	**47.38**	**340**	P	**P**	**07 41 08.3**	**-0.6**
**S

ISC 10 07:52:04.0±0.6, 39°.05N±0°.03×17°.14E±0°.03, h19km±4km, n110, σ1°.02/129, mb3.7/9, 2C-3D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIPA	Pietrapaola	0.51	330	Pg	Pg	07 52 14.7	+0.5
PIPA				Sg	Sg	07 52 20.6	-0.4
	6μm,0.6s						
PIPA	Pietrapaola	0.51	330	Pg	Pg	07 52 14.7	+0.5
PIPA				Sg	Sg	07 52 20.6	-0.4
	6μm,0.6s						
GRI	Girifalco	0.61	248	Pg	Pg	07 52 15.3	-0.7
GRI				Sg	Sg	07 52 24.7	+0.5
	3μm,0.6s						
GRI	Girifalco	0.61	248	Pg	Pg	07 52 15.3	-0.7
GRI				Sg	Sg	07 52 24.7	+0.5
	3μm,0.6s						
CARO	Carolei	0.75	286	Pg	Pg	07 52 18.7	+0.1
	3μm,0.6s						
CARO	Carolei	0.75	286	Pg	Pg	07 52 18.7	+0.1
	3μm,0.6s						
PLAC	Placanica	0.81	223	Pg	Pg	07 52 19.7	-0.2
	2μm,0.7s						
PLAC	Placanica	0.81	223	Pg	Pg	07 52 19.7	-0.2
	2μm,0.7s						
JOPP	Joppolo	1.08	246	Pg	Pg	07 52 24.2	-0.7
	644nm,0.7s						
JOPP	Joppolo	1.08	246	Pg	Pg	07 52 24.2	-0.7
	644nm,0.7s						
ORI	Oriolo Calabro	1.15	332	Pg	Pg	07 52 25.6	-0.6
	1μm,0.5s						
ORI	Oriolo Calabro	1.15	332	Pg	Pg	07 52 25.6	-0.6
	1μm,0.5s						
SOI	Samo	1.30	222	Pg	Pg	07 52 27.3	-1.7
	389nm,0.9s						
SOI	Samo	1.30	222	Pg	Pg	07 52 27.3	-1.7
	389nm,0.9s						
CUC	Castrocucco	1.40	313	Pg	Pn	07 52 28.9	+0.5
	673nm,0.9s						
CUC	Castrocucco	1.40	313	Pg	Pn	07 52 28.9	+0.5
	673nm,0.9s						
MPAZ	Palizzi	1.41	220	Pg	Pn	07 52 29.1	+0.5
	761nm,0.8s						
MPAZ	Palizzi	1.41	220	Pg	Pn	07 52 29.1	+0.5
	761nm,0.8s						
SCHR	S. Chirico Rap	1.41	325	Pg	Pn	07 52 29.7	+1.0
	270nm,0.8s						
SCTE	Santa Cesarea	1.45	45	Pg	Pn	07 52 29.2	+0.1
	1μm,0.8s						
SCTE	Santa Cesarea	1.45	45	Pg	Pn	07 52 29.2	+0.1
	1μm,0.8s						
TAR1	Taranto	1.48	4	*e*Pg	Pn	07 52 28.2	-1.4
MSRU	Castanea	1.50	239	Pg	Pn	07 52 29.9	0.0
	881nm,0.8s						
MSRU	Castanea	1.50	239	Pg	Pn	07 52 29.9	0.0
	881nm,0.8s						
SIRI	Monte Sirino -	1.50	319	Pg	Pn	07 52 31.1	+1.2
	993nm,1.4s						
SIRI	Monte Sirino -	1.50	319	Pg	Pn	07 52 31.1	+1.2
	993nm,1.4s						
MATE	Matera	1.63	348	Pg	Pn	07 52 33.5	+1.8
	451nm,0.7s						
MATE	Matera	1.63	348	Pg	Pn	07 52 33.5	+1.8
	451nm,0.7s						
MCEL	Monticello	1.64	321	Pg	Pn	07 52 33.1	+1.3
MCEL	Monticello	1.64	321	Pg	Pn	07 52 33.1	+1.3
MILZ	Milazzo	1.69	243	Pg	Pn	07 52 32.0	-0.4
	455nm,0.7s						
BULG	Bulgheria - Ca	1.71	308	Pg	Pn	07 52 33.2	+0.5
	322nm,0.7s						
BULG	Bulgheria - Ca	1.71	308	Pg	Pn	07 52 33.2	+0.5
	322nm,0.7s						
NOCI	Noci	1.74	358	Pg	Pn	07 52 32.7	-0.5
	485nm,0.8s						
PE1	Pezze di Greco	1.77	7	⅊*i*Pn	Pn	07 52 32.5	-1.0
SG1	Sgolgore (BA)	1.82	349	*e*Pn	Pn	07 52 36.9	+2.6
MMME	Mongiuffi-Meli	1.85	234	Pg	Pn	07 52 35.5	+0.8
	299nm,0.8s						
AMUR	Altamura	1.90	348	Pg	Pn	07 52 36.1	+0.7
	243nm,0.6s						
CMPR	Campora	1.90	312	Pg	Pn	07 52 36.0	+0.6
CDRU	Civita di Ruta	2.02	316	Pg	Pn	07 52 37.6	+0.6
KEK	Kerkira	2.16	71	P	Pn	07 52 39.0	0.0
KEK				S	Sn	07 53 04.8	-0.4
KEK	Kerkira	2.16	71	Pg	Pn	07 52 38.9	-0.1
KEK				Sg	Sn	07 53 05.1	-0.1
	391nm,0.4s						
KEK	Kerkira	2.16	71	P	Pn	07 52 39.0	0.0
KEK				S	Sn	07 53 04.8	-0.4
MCRV	Calabrutti - M	2.30	319	Pg	Pn	07 52 43.2	+2.3
	280nm,1.2s						
IGT	Igoumenitsa	2.52	78	P	Pn	07 52 44.3	+0.4
IGT				S	Sn	07 53 13.7	-0.4
IGT	Igoumenitsa	2.52	78	P	Pn	07 52 44.3	+0.4
IGT				S	Sn	07 53 13.7	-0.4
VLS	Valsamata	2.84	107	P	Pn	07 52 47.8	-0.4
VLS	Valsamata	2.84	107	P	Pn	07 52 47.8	-0.4
RLS	Riolos of Patr	3.53	105	P	Pn	07 52 58.4	+0.6
RLS				S	Sn	07 53 38.3	-0.7
RLS	Riolos of Patr	3.53	105	P	Pn	07 52 58.4	+0.6
RLS				S	Sn	07 53 38.3	-0.7
FNA	Florina	3.69	61	P	Pn	07 53 01.0	+1.1
FNA				S	Sn	07 53 43.8	+0.9
FNA	Florina	3.69	61	P	Pn	07 53 01.0	+1.1
FNA				S	Sn	07 53 43.8	+0.9
BIA	Bitola	3.76	57	*e*Sn	Sn	07 53 45.1	+0.3
BIA	Bitola	3.76	57	*e*Sn	Sn	07 53 45.0	+0.2
THL	Klokotos Trika	3.81	81	P	Pn	07 53 03.1	+1.4
THL				S	Sn	07 53 45.3	-0.7
THL	Klokotos Trika	3.81	81	P	Pn	07 53 03.1	+1.4
THL				S	Sn	07 53 45.3	-0.7
STON	Ston	3.84	6	*e*Pn	Pn	07 53 00.3	-1.8
STON				Sn	Sn	07 53 43.7	-3.0
STON	Ston	3.84	6	*e*Pn	Pn	07 53 00.2	-1.9
STON				Sn	Sn	07 53 43.6	-3.1
KRUS	Krusevo	3.91	52	*e*Pn	Pn	07 53 03.0	+0.1
KRUS	Krusevo	3.91	52	*e*Pn	Pn	07 53 02.9	0.0
LIT	Litokhoron	4.26	74	P	Pn	07 53 08.7	+0.9
LIT	Litokhoron	4.26	74	P	Pn	07 53 08.7	+0.9
SJES	Sjenica	4.72	26	⅊*i*Pn	Pn	07 53 15.0	+0.9
VAY	Valandovo	4.74	60	*e*Pn	Pn	07 53 13.8	-0.5
VAY				*e*Sn	Sn	07 54 06.6	-2.1
VAY	Valandovo	4.74	60	*e*Pn	Pn	07 53 13.8	-0.5
VAY				*e*Sn	Sn	07 54 06.6	-2.1
IVAS	Ivanjica	5.06	26	*e*Pn	Pn	07 53 18.4	-0.4
BARS	Barje	5.17	42	⅊*i*Pn	Pn	07 53 21.1	+0.9
AOS	Alonnisos	5.24	87	P	Pn	07 53 21.6	+0.3
AOS	Alonnisos	5.24	87	P	Pn	07 53 21.6	+0.3
KYTH	Kithira	5.43	119	P	Pn	07 53 24.8	+0.9
KYTH	Kithira	5.43	119	P	Pn	07 53 24.8	+0.9
DIVS	Divibare	5.48	22	⅊*i*Pn	Pn	07 53 23.9	-0.6
ZAPS	Zavoj	5.91	43	⅊*i*Pn	Pn	07 53 31.4	+0.9
GERES	GERESS Array B	10.10	347	Pn	Pn	07 54 27.1	-0.8
	0.2nm,0.3s,baz=157,slow=14,SNR=4.1						
GERES	GERESS Array B	10.10	347	Pn	Pn	07 54 27.1	-0.8
GERES	GERESS Array B	10.10	347	Pn	Pn	07 54 27.1	-0.8
CLL	Collm	12.60	348	*e*P	Pn	07 55 01.0	-1.1
BRTR	Keskin Array B	12.78	82	Pn	Pn	07 55 06.8	+2.1
	0.0nm,0.3s,baz=263,slow=12,SNR=3.2						
BRTR	Keskin Array B	12.78	82	Pn	Pn	07 55 06.8	+2.1
BRTR	Keskin Array B	12.78	82	Pn	Pn	07 55 06.8	+2.2
MMAI	Mount Meron Ar	15.94	107	Pn	Pn	07 55 43.5	-3.8
	1.3nm,0.3s,baz=322,slow=11,SNR=4.3						
MMAI	Mount Meron Ar	15.94	107	Pn	Pn	07 55 43.5	-3.8
HFS	Hagfors	21.22	355	P	P	07 56 47.5	-0.8
	2.0nm,0.4s,mb3.8,baz=171,slow=10,SNR=13						
HFS	Hagfors	21.22	355	P	P	07 56 47.5	-0.8
HFS	Hagfors	21.22	355	P	P	07 56 47.5	-0.9
NB2	NORSAR Subarra	22.32	352	P	P	07 57 00.6	+0.4
	comp=Z,1.1nm,0.6s,mb3.5,baz=151,slow=11						
NOA	NORSAR Array B	22.32	352	P	P	07 56 58.5	-1.6
	comp=Z,1.3nm,0.7s,mb3.5,baz=166,slow=9.6,SNR=4.1						
NOA	NORSAR Array B	22.32	352	P	P	07 56 58.5	-1.6
NOA	NORSAR Array B	22.32	352	P	P	07 56 58.5	-1.7
FINES	FINESS Array B	23.09	11	P	P	07 57 07.0	-1.4
	comp=Z,1.1nm,0.7s,mb3.4,baz=208,slow=7.6,SNR=3.7						
FINES	FINESS Array B	23.09	11	P	P	07 57 07.0	-1.4
FINES	FINESS Array B	23.09	11	P	P	07 57 06.9	-1.4
TORD	Torodi Ar. Bea	29.20	212	P	P	07 58 03.1	-1.3
	comp=Z,0.5nm,0.8s,mb3.3,baz=16,slow=8.9,SNR=3.0						
TORD	Torodi Ar. Bea	29.20	212	P	P	07 58 03.1	-1.3
TORD	Torodi Ar. Bea	29.20	212	P	P	07 58 03.1	-1.3
ARCES	ARCESS Array B	30.88	6	P	P	07 58 17.9	-0.9
	comp=Z,1.2nm,0.5s,mb4.0,baz=182,slow=9.9,SNR=24						
ARCES	ARCESS Array B	30.88	6	P	P	07 58 17.9	-0.9
ARCES	ARCESS Array B	30.88	6	P	P	07 58 17.9	-0.8
ZALV	Zalesovo Beam	47.09	48	P	P	08 00 34.9	+0.6
	comp=Z,0.5nm,0.4s,mb3.8,baz=290,slow=9.3,SNR=4.7						
ZALV	Zalesovo Beam	47.09	48	P	P	08 00 34.9	+0.6
ZALV	Zalesovo Beam	47.09	48	P	P	08 00 34.8	+0.5
MKAR	Makanchi Array	47.10	58	P	P	08 00 34.7	+0.2
	comp=Z,1.1nm,0.7s,mb3.9,baz=291,slow=6.2,SNR=9.2						
MKAR	Makanchi Array	47.10	58	P	P	08 00 34.7	+0.2
MKAR	Makanchi Array	47.10	58	P	P	08 00 34.7	+0.2
SCHQ	Schefferville	56.01	316	P	P	08 01 38.1	-2.9
	comp=Z,3.4nm,0.9s,mb4.4,baz=75,slow=12,SNR=2.4						
SCHQ	Schefferville	56.01	316	P	P	08 01 38.1	-2.9
SCHQ	Schefferville	56.01	316	P	P	08 01 38.2	-2.8
YKA	Yellowknife Ar	71.64	339	P	P	08 03 23.2	-0.7
	comp=Z,0.1nm,0.4s,mb3.1,baz=38,slow=6.0,SNR=3.1						
YKA	Yellowknife Ar	71.64	339	P	P	08 03 23.2	-0.7
YKA	Yellowknife Ar	71.64	339	P	P	08 03 23.2	-0.7

*ISCJB **10** 08:32:53.9±1.7, 31°.41S±0°.06×176°.7W±0°.1, h6km±12km, mb4.3/9, MS3.8/4, Error ellipse: s-maj=20.9km s-min=7.4km az=18.5*

*IDC **10** 08:32:55.0±0.7, 30°.86S×176°.64W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.3/18, mbtmp4.3/9, MS3.8/4, Ms1 3.7/4, ms1mx3.3/26, Error ellipse: s-maj=28.4km s-min=21.2km az=5.0*

*NEIC **10** 08:32:56.2±0.6, 31°.02S×176°.72W, h10km, Error ellipse: s-maj=14.9km s-min=11.9km az=105.0*

ISC 10 08:32:56.5±2.0, 31°.35S±0°.06×176°.7W±0°.1, h12km±13km, n70, σ1°.45/58, mb4.3/9, MS3.8/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.34	333	*e*Pn	Pn	08 33 29.0	-5.9
PUZ	Puketiti	7.89	210	PN	Pn	08 34 51.6	+0.5
PUZ				SN	Sn	08 36 24.7	+4.3
MWZ	Matawai	8.44	213	PN	Pn	08 34 59.5	+0.9
MWZ				SN	Sn	08 36 37.4	+3.6
URZ	Urewera	8.57	215	Pn	Pn	08 35 01.5	+1.0
	4.0nm,0.3s,baz=264,slow=7.1,SNR=27						
URZ				Sn	Sn	08 36 39.6	+2.5
	6.4nm,0.3s,baz=180,slow=20,SNR=9.1						
URZ	Urewera	8.57	215	Pn	Pn	08 35 01.5	+1.0
URZ				Sn	Sn	08 36 39.6	+2.5
URZ	Urewera	8.57	215	PN	Pn	08 35 01.7	+1.2
URZ				SN	Sn	08 36 39.6	+2.4
KNZ	Kokohu	8.94	210	PN	Pn	08 35 06.8	+1.3
NMHZ	Naumai	9.38	213	PN	Pn	08 35 14.1	+2.5
MCHZ	McNeill Hill	9.71	212	PN	Pn	08 35 18.3	+2.2
KAHZ	Kahuranaki	9.92	210	PN	Pn	08 35 20.5	+1.6
BHHZ	Black Hill Sta	10.04	214	PN	Pn	08 35 22.2	+1.6
PXZ	Pawanui	10.13	209	PN	Pn	08 35 23.5	+1.7
PXZ				SN	Sn	08 37 14.1	-1.1
TSZ	Takapari Road	10.54	212	PN	Pn	08 35 26.4	-1.1
TSZ				SN	Sn	08 37 24.9	-0.6
BFZ	Birch Farm	10.93	210	PN	Pn	08 35 32.9	+0.2
BFZ				SN	Sn	08 37 34.6	-0.3
MRZ	Mangatainoka R	11.20	212	PN	Pn	08 35 35.4	-1.1
MRZ				SN	Sn	08 37 38.9	-2.7
OGWZ	Otaki Gorge	11.51	213	PN	Pn	08 35 42.0	+1.3
KIW	Kapiti Island	11.67	213	PN	Pn	08 35 41.1	-1.8
TCW	Tory Channel	12.24	214	PN	Pn	08 35 48.8	-1.9
CTZ	Chatham Island	12.37	180	PN	Pn	08 35 51.2	-1.2
NNZ	Nelson	12.69	216	PN	Pn	08 35 54.4	-2.4
THZ	Tophouse	13.33	216	PN	Pn	08 36 03.0	-2.6
KHZ	Kahutara	13.53	213	*e*Pn	Pn	08 36 10.8	+2.6
	12nm,0.5s						
KHZ	Kahutara	13.53	213	PN	Pn	08 36 06.4	-1.8
LTZ	Lake Taylor	14.41	215	PN	Pn	08 36 18.6	-1.6
RPZ	Rata Peaks	15.69	215	Pn	Pn	08 36 36.4	-1.0
	3.4nm,0.3s,baz=61,slow=2.6,SNR=9.0						
RPZ	Rata Peaks	15.69	215	*e*Pn	Pn	08 36 36.7	-0.7
FOZ	Fox Glacier	16.27	218	PN	Pn	08 36 43.0	-2.0
ODZ	Otahua Downs	16.89	212	PN	Pn	08 36 53.0	+0.3
JCZ	Jackson Bay	17.11	218	PN	Pn	08 36 54.0	-1.6
CTA	Charters Tower	35.06	280	P	P	08 39 51.0	+1.4
	7.9nm,0.6s,mb4.8,baz=108,slow=11,SNR=10						
CTA				LR	LR	08 50 47.0	
	comp=Z,135nm,18.8s,MS3.7,baz=50,slow=31						
CTA	Charters Tower	35.06	280	P	P	08 39 51.0	+1.4
CTAO	Charters Tower	35.06	280	*e*P	P	08 39 49.4	-0.2
STKA	Stephens Creek	35.37	258	P	P	08 39 53.8	+1.6
	5.4nm,0.9s,mb4.5,baz=105,slow=10,SNR=6.0						
STKA	Stephens Creek	35.37	258	P	P	08 39 53.8	+1.6
ASAR	Alice Springs	44.19	267	P	P	08 41 06.2	+0.6
	2.7nm,0.6s,mb4.2,baz=107,slow=7.5,SNR=28						
ASAR				PcP	PcP	08 42 50.6	+0.3
	0.4nm,0.4s,baz=112,slow=3.6,SNR=4.1						
ASAR	Alice Springs	44.19	267	P	P	08 41 06.2	+0.6
ASAR				PcP	PcP	08 42 50.6	+0.3
WRAB	Tennant Creek	45.26	272	*e*P	P	08 41 13.9	-0.2
WRA	Warramunga Arr	45.26	272	P	P	08 41 13.6	-0.5
	3.0nm,0.4s,mb4.5,baz=113,slow=7.7,SNR=34						
WRA				LR	LR	09 00 21.0	
	comp=Z,65nm,18.2s,MS3.6,baz=135,slow=36						
WRA	Warramunga Arr	45.26	272	P	P	08 41 13.6	-0.5
FITZ	Fitzroy Crossi	53.48	270	P	P	08 42 17.7	+0.6
	3.1nm,0.8s,mb4.3,baz=140,slow=4.2,SNR=5.0						
FITZ	Fitzroy Crossi	53.48	270	P	P	08 42 17.7	+0.6
GUMO	Guam	57.94	314	LR	LR	09 04 03.2	
	comp=Z,123nm,18.7s,MS4.0,baz=113,slow=32						
QSPA	South Pole Qui	58.77	180	P	P	08 42 58.8	+4.9
	1.1nm,0.3s,mb4.3,baz=249,slow=1.6,SNR=5.5						
QSPA	South Pole Qui	58.77	180	P	P	08 42 58.8	+4.9
MAW	Mawson	71.82	200	LR	LR	09 16 18.6	
	comp=Z,39nm,18.2s,MS3.7,baz=292,slow=36						
PLCA	Paso Flores	81.04	132	P	P	08 45 13.4	+1.9
	2.0nm,1.0s,mb4.0,baz=248,slow=4.0,SNR=3.1						
PLCA	Paso Flores	81.04	132	P	P	08 45 13.4	+1.9
KSRS	Korea Array	85.80	319	P	P	08 45 34.5	-1.2
	0.9nm,0.7s,mb4.1,baz=130,slow=4.9,SNR=3.8						
KSAR	Wonju Array Be	85.81	319	P	P	08 45 34.5	-1.3
NVAR	Mina Array Bea	88.17	42	P	P	08 45 47.0	-0.3
	1.1nm,0.9s,mb4.1,baz=222,slow=8.1,SNR=4.6						
NVAR	Mina Array Bea	88.17	42	P	P	08 45 47.0	-0.3
MKAR	Makanchi Array	119.24	309	PKP	PKPdf	08 51 43.9	-1.5
	0.3nm,0.6s,baz=132,slow=2.1,SNR=3.1						
MKAR	Makanchi Array	119.24	309	PKP	PKPdf	08 51 43.9	-1.5
BVAR	Borovoye Array	127.87	315	PKP	PKPdf	08 52 00.5	-1.2
	1.5nm,0.8s,baz=77,slow=1.9,SNR=6.4						
BVAR	Borovoye Array	127.87	315	PKP	PKPdf	08 52 00.5	-1.1
ARCES	ARCESS Array B	139.75	348	PKP	PKPdf	08 52 22.9	-0.6
	0.9nm,0.7s,baz=45,slow=2.7,SNR=6.8						
ARCES	ARCESS Array B	139.75	348	PKP	PKPdf	08 52 22.9	-0.6
JOF	Joensuu	143.71	339	*e*pkp	PKPdf	08 52 29.5	-1.2
KAF	Kangasniemi	145.81	341	*e*pkp	PKPdf	08 52 32.8	-1.6
FINES	FINESS Array B	146.41	340	PKPbc	PKPbc	08 52 35.8	-0.9
	6.0nm,0.6s,baz=59,slow=2.7,SNR=24						
FINES	FINESS Array B	146.41	340	PKPbc	PKPbc	08 52 35.8	-0.9
NB2	NORSAR Subarra	149.84	352	PKP	PKPbc	08 52 44.8	-1.0
	comp=Z,0.3nm,0.7s,baz=26,slow=3.0						
NOA	NORSAR Array B	149.84	352	PKPbc	PKPbc	08 52 45.1	-0.7
	comp=Z,2.2nm,0.7s,baz=14,slow=4.2,SNR=7.1						
NOA	NORSAR Array B	149.84	352	PKPbc	PKPbc	08 52 45.1	-0.7
HFS	Hagfors	150.38	349	PKPbc	PKPbc	08 52 46.0	-1.1
	comp=Z,4.4nm,0.7s,baz=80,slow=3.2,SNR=6.1						
HFS	Hagfors	150.38	349	PKPbc	PKPbc	08 52 46.0	-1.1
AKASG	Malin Array Be	152.73	323	PKPbc	PKPbc	08 52 51.3	-1.5
	comp=Z,3.2nm,0.7s,baz=42,slow=3.8,SNR=7.4						
AKASG				PKPab	PKPab	08 53 02.6	-1.0
	comp=Z,2.0nm,0.7s,baz=43,slow=3.8,SNR=3.6						
AKASG	Malin Array Be	152.73	323	PKPbc	PKPbc	08 52 51.3	-1.5
AKASG				PKPab	PKPab	08 53 02.6	-1.0
TORD	Torodi Ar. Bea	161.83	175	PKP	PKPdf	08 52 58.1	-0.2
	comp=Z,0.4nm,0.7s,baz=179,slow=2.8,SNR=4.4						
TORD				PKPab	PKPab	08 53 45.5	+1.9
	comp=Z,2.1nm,0.9s,baz=182,slow=3.3,SNR=10						
TORD	Torodi Ar. Bea	161.83	175	PKP	PKPdf	08 52 58.1	-0.2
TORD				PKPab	PKPab	08 53 45.5	+1.9

*NEIC **10** 08:33:17.6±5.0, 4°.82S×143°.74E, h85km±26km, mb3.9/2, Error ellipse: s-maj=58.0km s-min=19.2km az=175.0*

*IDC **10** 08:33:18.5±6.6, 4°.88S×143°.72E, h86km±58km, mb3.6/3, mb1 3.8/5, mb1mx3.4/16, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=50.1km s-min=27.0km az=171.0*

ISC 10 08:33:18.2±2.9, 4°.9S±0°.2×143°.7E±0°.1, h85km±24km, n15, σ0°.41/19, mb4.4/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.68	143	P	Pn	08 34 39.3	-0.9
	2.1nm,0.3s,baz=319,slow=11,SNR=4.4						
PMG				S	Sn	08 35 44.5	+0.5
	2.0nm,0.3s,baz=351,slow=19,SNR=3.2						
PMG	Port Moresby	5.68	143	P	Pn	08 34 39.3	-0.8
PMG				S	Sn	08 35 44.5	+0.5
COEN	Coen	9.05	183	*e*Pn	Pn	08 35 26.6	+0.5
WRAB	Tennant Creek	17.52	210	*e*P	Pn	08 37 16.8	-0.3
	6.0nm,0.9s						
WB2	Warramunga Arr	17.52	210	*e*P	Pn	08 37 17.3	+0.1
WRA	Warramunga Arr	17.53	210	P	Pn	08 37 17.5	+0.2
	0.8nm,0.3s,baz=29,slow=12,SNR=30						
WRA				S	S	08 40 32.9	-0.3
	0.1nm,0.3s,baz=32,slow=24,SNR=4.2						
WRA	Warramunga Arr	17.53	210	P	Pn	08 37 17.5	+0.2
WRA				S	S	08 40 32.9	-0.3
AS31	Alice Springs	20.93	206	*e*P	P	08 37 54.0	-0.2
ASAR	Alice Springs	20.93	206	P	P	08 37 54.2	0.0
	1.5nm,0.4s,baz=35,slow=7.8,SNR=22						
ASAR	Alice Springs	20.93	206	P	P	08 37 54.2	0.0
FITZ	Fitzroy Crossi	22.00	232	P	P	08 38 06.6	+0.9
	6.4nm,0.5s,mb4.2,baz=50,slow=9.3,SNR=37						
FITZ	Fitzroy Crossi	22.00	232	*e*P	P	08 38 05.8	+0.1
	3.3nm,0.4s,mb4.0						
STKA	Stephens Creek	26.94	184	P	P	08 38 51.4	-0.3
	1.6nm,0.7s,mb3.6,baz=0.7,slow=12,SNR=3.2						
STKA	Stephens Creek	26.94	184	P	P	08 38 51.4	-0.3
CASY	Casey	65.51	194	P	P	08 43 52.5	+0.2
	37nm,0.6s,mb5.4						

CASC 10 08:46:02.0±1.4, 11°.87N×86°.43W, h109km±7km, MD3.7, ML3.1, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	Ticuantepe	0.26	50	*e*P	Pn	08 46 17.9	+0.4
XAVN	Gruta Xavier	0.30	21	*e*P	Pn	08 46 17.7	0.0
CSAN		0.32	2	*e*P	Pn	08 46 17.8	0.0
TISN	Laguna Tiscapa	0.32	30	*e*P	Pn	08 46 17.9	+0.1
MGAN	Managua	0.33	33	*e*P	Pn	08 46 17.9	0.0
MGAN				*e*S	Sn	08 46 30.2	+0.4
MGAN				AML	AML	08 46 30.9	
	comp=N,466nm,0.4s						
COPN	Copaltepe	0.35	334	*e*P	Pn	08 46 18.0	+0.1
HUEN		0.53	29	*e*P	Pn	08 46 19.1	+0.1
MIRN	Miramar	0.63	335	*e*P	Pn	08 46 19.9	+0.1
CNGN	Cerro Negro	0.68	338	*e*P	Pn	08 46 20.1	-0.1
LEON	Leon	0.71	321	*e*P	Pn	08 46 20.4	0.0
TEL3	Telica 3	0.81	330	*e*P	Pn	08 46 21.6	+0.3
CRIN	San Cristobal	1.02	324	*e*P	Pn	08 46 23.7	+0.3
GBS2	Las Lilas	1.40	137	*i* P	Pn	08 46 27.7	+0.1
LAPC	Finca la Perla	1.47	138	*i* P	Pn	08 46 28.2	-0.2
LAPC				*i* S	Sn	08 46 49.2	+0.8
NY14	Universidad de	1.50	144	*i* P	Pn	08 46 29.1	+0.3
NY14				*i* S	Sn	08 46 50.9	+1.8
LIM1	Limonal	1.64	135	*i* P	Pn	08 46 30.7	+0.2
AMAS	Alto Masis	1.89	131	*i* P	Pn	08 46 34.9	+1.4
CNCH	Conchagua	1.96	316	*e*P	Pn	08 46 34.7	+0.3
CHPA	Chiripa	2.06	133	*i* S	Sn	08 47 02.2	+0.7
JTS	JuntasAbangare	2.14	137	*e*P	Pn	08 46 37.0	+0.3
TGUH	Tegucigalpa,Un	2.33	340	*e*P	Pn	08 46 39.5	+0.3
JCR	Jicaral	2.39	147	*e*P	Pn	08 46 41.0	+1.0
JCR				*e*S	Sn	08 47 08.6	-0.5
CGA2	Cerro Gallo 2	2.67	133	*e*P	Pn	08 46 45.6	+2.0
CGA2				*e*S	Sn	08 47 16.5	+0.9
QCR	Quepos	3.30	137	*e*P	Pn	08 46 52.9	+0.9

**IDC 10 08:59:06.9±2.8, 30°.97S×176°.69W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/17, mbtmp4.0/4, ML3.6/1

TOO	Toolangi	32.15 212	*e*P	P	09 21 27.3	+0.4
	39nm,0.6s,mb5.3					
AS31	Alice Springs	33.18 244	*e*P	P	09 21 35.1	-1.0
ASAR	Alice Springs	33.18 244	P	P	09 21 35.2	-1.0
	6.5nm,0.7s,mb4.5,baz=70,slow=9.6,SNR=79					
ASAR			PcP	PcP	09 24 16.7	-0.5
	1.1nm,0.9s,baz=76,slow=2.0,SNR=6.3					
ASAR			ScP	ScP	09 27 56.5	+2.8
	0.7nm,0.9s,baz=63,slow=2.3,SNR=5.3					
ASAR	Alice Springs	33.18 244	P	P	09 21 35.2	-1.0
ASAR			PcP	PcP	09 24 16.7	-0.5
ASAR			ScP	ScP	09 27 56.5	+2.8
FITZ	Fitzroy Crossi	39.86 255	*e*P	P	09 22 32.5	-0.5
	8.2nm,0.6s,mb4.7					
FITZ	Fitzroy Crossi	39.86 255	*e*P	P	09 22 32.6	-0.4
	5.7nm,1.0s,mb4.4					
MBWA	Marble Bar	45.65 251	*e*P	P	09 23 20.2	+0.4
	12nm,0.8s,mb4.7					
KLBR	Kellerberrin	49.04 238	*e*P	P	09 23 45.5	-0.6
	123nm,2.0s,mb5.5					
NWAO	Narrogin (SRO)	49.78 236	P	P	09 23 51.3	-0.4
	9.5nm,0.6s,mb4.9,baz=90,slow=8.5,SNR=9.0					
NWAO	Narrogin (SRO)	49.78 236	P	P	09 23 51.3	-0.4
CMAR	Chiang Mai Arr	72.73 293	P	P	09 26 28.2	+1.3
	1.0nm,0.4s,mb4.0,baz=115,slow=4.4,SNR=6.3					
CMAR	Chiang Mai Arr	72.73 293	P	P	09 26 28.2	+1.3
SONM	Songino Array	79.21 324	P	P	09 27 04.2	+1.1
	0.5nm,0.6s,mb3.5,baz=142,slow=2.8,SNR=4.2					
SONM	Songino Array	79.21 324	P	P	09 27 04.2	+1.1
ILAR	Eielson Array	83.58 18	P	P	09 27 24.6	-1.2
	1.4nm,0.6s,mb4.0,baz=231,slow=5.7,SNR=30					
ILAR	Eielson Array	83.58 18	P	P	09 27 24.6	-1.2
MAW	Mawson	84.69 202	LR	LR	09 59 36.3	
	comp=Z,49nm,18.7s,baz=138,slow=32					
NVAR	Mina Array Bea	85.76 50	P	P	09 27 38.6	+1.2
	1.3nm,0.8s,mb3.9,baz=227,slow=9.2,SNR=9.8					
NVAR	Mina Array Bea	85.76 50	P	P	09 27 38.6	+1.2
PDAR	Pinedale Array	93.32 47	P	P	09 28 13.8	+0.9
	0.3nm,0.7s,mb3.7,baz=225,slow=6.0,SNR=2.7					
PDAR	Pinedale Array	93.32 47	P	P	09 28 13.8	+0.9
ZALV	Zalesovo Beam	94.10 324	P	P	09 28 15.6	-0.6
	1.0nm,0.6s,mb4.3,baz=119,slow=3.2,SNR=4.5					
ZALV	Zalesovo Beam	94.10 324	P	P	09 28 15.6	-0.6
MKAR	Makanchi Array	94.10 317	P	P	09 28 16.4	0.0
	1.6nm,0.6s,mb4.5,baz=90,slow=6.2,SNR=13					
MKAR	Makanchi Array	94.10 317	P	P	09 28 16.4	0.0
YKA	Yellowknife Ar	94.95 27	P	P	09 28 18.1	-1.7
	0.4nm,0.6s,mb4.0,baz=259,slow=4.5,SNR=9.4					
YKA	Yellowknife Ar	94.95 27	P	P	09 28 18.1	-1.7
ARCES	ARCESS Array B	116.73 346	PKP	PKPdf	09 33 40.4	-0.8
	0.9nm,0.6s,baz=41,slow=1.7,SNR=6.5					
ARCES	ARCESS Array B	116.73 346	PKP	PKPdf	09 33 40.4	-0.8

CRAAG ***10*** *09:20:20.6, 36°.88N×4°.15E, Ml3.5*
CSEM ***10*** *09:20:21.4±0.3, 36°.86N×4°.08E, h10km, ML3.5, Error ellipse: s-maj=9.6km s-min=6.6km az=43.0*
MDD 10 09:20:22.8±1.1, 36°.85N×4°.09E, h15km±12km, mb4.0/5, Error ellipse: s-maj=10.3km s-min=5.8km az=35.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.85	267	P	Pb	09 20 37.9	-1.3
ABA	Alger-Bouzarea	0.85	267	P	Pb	09 20 37.9	-1.3
ABA	Alger-Bouzarea	0.85	267	P	Pb	09 20 37.9	-1.3
ATAF	Djebel Tarf	0.98	171	P	Pb	09 20 40.9	-0.6
ATAF	Djebel Tarf	0.98	171	P	Pb	09 20 40.9	-0.6
ATAF	Djebel Tarf	0.98	171	P	Pb	09 20 40.9	-0.6
EMHD	Djebel Mahouad	1.12	235	P	Pb	09 20 43.4	-0.5
EMHD	Djebel Mahouad	1.12	235	P	Pb	09 20 43.4	-0.5
EMHD	Djebel Mahouad	1.12	235	P	Pb	09 20 43.4	-0.5
SET	Setif	1.24	121	P	Pn	09 20 44.0	-1.6
SET	Setif	1.24	121	P	Pn	09 20 44.0	-1.6
SET	Setif	1.24	121	P	Pn	09 20 44.0	-1.6
CKHR	Kef el Ahmar	1.42	125	P	Pn	09 20 46.6	-1.4
CKHR	Kef el Ahmar	1.42	125	P	Pn	09 20 46.6	-1.4
CKHR	Kef el Ahmar	1.42	125	P	Pn	09 20 46.6	-1.4
CASM	Ain Smara	2.02	106	P	Pn	09 20 56.0	-0.3
CASM	Ain Smara	2.02	106	P	Pn	09 20 56.0	-0.3
CASM	Ain Smara	2.02	106	P	Pn	09 20 56.0	-0.3
CTEI	Djebel Teioual	2.03	112	P	Pn	09 20 58.0	+1.6
CTEI	Djebel Teioual	2.03	112	P	Pn	09 20 58.0	+1.6
CTEI	Djebel Teioual	2.03	112	P	Pn	09 20 58.0	+1.6
EANR	'Ain N'Sour	2.57	251	P	Pn	09 21 09.8	+5.9
EANR	'Ain N'Sour	2.57	251	P	Pn	09 21 09.8	+5.9
EANR	'Ain N'Sour	2.57	251	P	Pn	09 21 09.8	+5.9
CMAH	Djebel Manchou	2.69	94	P	Pn	09 21 01.4	-4.1
CMAH	Djebel Manchou	2.69	94	P	Pn	09 21 01.4	-4.1
CMAH	Djebel Manchou	2.69	94	P	Pn	09 21 01.4	-4.1
ETRT	Tiaret	2.69	238	P	Pn	09 21 02.9	-2.6
ETRT	Tiaret	2.69	238	P	Pn	09 21 02.9	-2.6
ETRT	Tiaret	2.69	238	P	Pn	09 21 02.9	-2.6
EIBI	Ibiza	3.07	316	P	Pn	09 21 10.7	-0.1
	0.4nm,0.2s,SNR=7.9						
EIBI				S	Sn	09 21 44.1	-3.3
	8.5nm,0.3s,SNR=7.9						
EIBI	Ibiza	3.07	316	P	Pn	09 21 10.7	-0.1
	0.4nm,0.2s,SNR=7.9						
EIBI				S	Sn	09 21 44.1	-3.2
	8.5nm,0.3s,SNR=7.9						
ETOS	Mallorca	3.08	341	P	Pn	09 21 09.5	-1.4
	0.4nm,0.1s,SNR=7.9						
ETOS				S	Sn	09 21 42.3	-5.3
	1.4nm,0.2s,SNR=7.9						
ETOS	Mallorca	3.08	341	P	Pn	09 21 09.5	-1.4
	0.4nm,0.1s,SNR=7.9						
ETOS				S	Sn	09 21 42.3	-5.3
	1.4nm,0.2s,SNR=7.9						
EBEN	Beniarda	3.89	300	P	Pn	09 21 21.0	-1.0
	0.7nm,0.2s,SNR=7.9						
EBEN				S	Sn	09 22 03.4	-4.1
	1.2nm,0.1s,SNR=7.9						
EBEN	Beniarda	3.89	300	P	Pn	09 21 21.0	-1.0
	0.7nm,0.2s,SNR=7.9						
EBEN				S	Sn	09 22 03.4	-4.0
	1.2nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.81	294	P	Pn	09 21 34.2	-0.5
	0.9nm,0.2s,SNR=7.9						
ETOB				S	Sn	09 22 27.5	-2.8
	0.4nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.81	294	P	Pn	09 21 34.2	-0.5
	0.9nm,0.2s,SNR=7.9						
ETOB				S	Sn	09 22 27.5	-2.7
	0.4nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.01	316	P	Pn	09 21 35.4	-2.0
	0.0nm,0.1s,SNR=7.9						
EMOS				S	Sn	09 22 31.9	-3.1
	2.2nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	5.01	316	P	Pn	09 21 35.4	-2.0
	SNR=7.9						
EMOS				S	Sn	09 22 31.9	-3.1
	2.2nm,0.3s,SNR=7.9						
EPOB	Poblet	5.07	333	P	Pn	09 21 36.8	-1.5
	0.2nm,0.1s,SNR=7.9						
EPOB				S	Sn	09 22 31.3	-5.3
	1.1nm,0.4s,SNR=7.9						
EPOB	Poblet	5.07	333	P	Pn	09 21 36.8	-1.5
	0.2nm,0.1s,SNR=7.9						
EPOB				S	Sn	09 22 31.3	-5.3
	1.1nm,0.4s,SNR=7.9						
CFON	Fontmartina	5.07	346	P	Pn	09 21 36.9	-1.4
	0.9nm,0.1s,SNR=8.1						
CFON				S	Sn	09 22 31.7	-4.9
	5.9nm,0.4s,SNR=7.9						
CFON	Fontmartina	5.07	346	P	Pn	09 21 36.9	-1.4
	0.9nm,0.1s,SNR=8.1						
CFON				S	Sn	09 22 31.7	-4.9
	5.9nm,0.4s,SNR=7.9						
EMIR	Miracle	5.43	339	P	Pn	09 21 43.4	+0.1
	1.8nm,0.1s,SNR=7.9						
EMIR				S	Sn	09 22 41.3	-4.2
	1.7nm,0.2s,SNR=7.9						
EMIR	Miracle	5.43	339	P	Pn	09 21 43.4	+0.1
	1.8nm,0.1s,SNR=7.9						
EMIR				S	Sn	09 22 41.3	-4.2
	1.7nm,0.2s,SNR=7.9						
EJON	La Jonquera	5.67	351	P	Pn	09 21 45.2	-1.3
	1.0nm,0.1s,SNR=7.9						
EJON	La Jonquera	5.67	351	P	Pn	09 21 45.2	-1.3
	1.0nm,0.1s,SNR=7.9						
EQES	Quesada	5.79	282	P	Pn	09 21 49.5	+1.4
	0.7nm,0.2s,SNR=7.9						
EQES				S	Sn	09 22 54.0	-0.2
	0.1nm,0.1s,SNR=7.9						
EQES	Quesada	5.79	282	P	Pn	09 21 49.5	+1.4
	0.7nm,0.2s,SNR=7.9						
EQES				S	Sn	09 22 54.0	-0.2
	0.1nm,0.1s,SNR=7.9						
CLLI	Llivia	5.86	344	P	Pn	09 21 49.0	0.0
	2.1nm,0.2s,SNR=7.9						
CLLI	Llivia	5.86	344	P	Pn	09 21 49.0	0.0
	2.1nm,0.2s,SNR=7.9						

IDC 10 09:27:56.5±8.3, 2°.07N×125°.64E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.7/3, Error ellipse: s-maj=186.9km s-min=129.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.48	159	P	P	09 33 07.7	-0.4
	1.1nm,0.5s,baz=337,slow=10,SNR=9.8						
ASAR	Alice Springs	26.81	163	P	P	09 33 39.8	+1.2
	0.2nm,0.3s,baz=353,slow=6.5,SNR=4.0						
STKA	Stephens Creek	37.00	157	P	P	09 35 07.2	-0.7
	1.3nm,0.7s,baz=328,slow=9.5,SNR=4.8						

MEX 10 09:31:07.3±0.7, 16°.40N×94°.03W, h113km±10km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		0.95	67	*i* P	Pn	09 31 27.1	-1.0
TGIG				*i* S	Sn	09 31 41.6	-2.4
PCIG		1.04	131	*i* P	Pn	09 31 28.5	-0.7
PCIG				*i* S	Sn	09 31 44.3	-1.4
CMIG	Matias Romero	1.07	310	*i* P	Pn	09 31 28.9	-0.5
CMIG				*i* S	Sn	09 31 44.5	-1.6
CCIG	Comitan	1.82	93	*i* P	Pn	09 31 37.2	-1.0
CCIG				*i* S	Sn	09 32 00.0	-1.7
HUIG	Huatulco	2.09	253	*i* P	Pn	09 31 39.4	-2.2
HUIG				*i* S	Sn	09 32 05.8	-2.0
THIG		2.26	131	*e*P	Pn	09 31 42.5	-1.2
THIG				*i* S	Sn	09 32 10.1	-1.5
VHO	Vista Hermosa	2.67	285	*i* P	Pn	09 31 48.2	-0.9
VHO				*i* S	Sn	09 32 19.3	-1.9
UTMO	Huajuapan	3.88	292	*e*P	Pn	09 32 04.7	-0.4
UTMO				*i* S	Sn	09 32 48.0	-1.8
PNIG	Pinotepa	3.93	270	*i* P	Pn	09 32 04.2	-1.6
PNIG				*i* S	Sn	09 32 49.1	-2.0
PPM	Popocatepetl	5.12	302	*e*P	Pn	09 32 20.7	-1.1
PPM				*i* S	Sn	09 33 18.4	-1.4

ISCJB ***10*** *09:57:27.0±0.9, 36°.89N±0°.06×33°.33E±0°.04, h3km±9km, Error ellipse: s-maj=10.9km s-min=4.7km az=174.7*
ISK ***10*** *09:57:26.9, 36°.91N×33°.33E, h7km, MD3.0*
CSEM ***10*** *09:57:27.3±0.2, 36°.91N×33°.33E, h5km, MD3.0, Error ellipse: s-maj=8.2km s-min=3.9km az=176.0*
ISC 10 09:57:27.9±0.7, 36°.87N±0°.08×33°.32E±0°.04, h11km±9km, n19, σ0°72/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	Hadim	0.68	278	*e*PG	Pg	09 57 40.5	-0.4
HDMB				*e*SG	Sg	09 57 50.4	+0.6
HDMB	Hadim	0.68	278	*e*Pg	Pg	09 57 40.5	-0.4
HDMB				*e*Sg	Sg	09 57 50.4	+0.6
MERS	Mersin	0.96	90	*e*PG	Pg	09 57 45.7	-0.7
MERS				*e*SG	Sg	09 57 59.2	+0.3
MERS	Mersin	0.96	90	*e*Pg	Pg	09 57 45.7	-0.7
MERS				*e*Sg	Sg	09 57 59.2	+0.3
GAZI	Gazipasa	1.03	232	*i* P	Pg	09 57 47.4	-0.3
GAZI	Gazipasa	1.03	232	*i* P	Pg	09 57 47.4	-0.3
GAZI				*i* S	Sg	09 58 01.6	+0.5
GULE	Gulek	1.23	70	*i* P	Pn	09 57 49.0	-2.0
GULE	Gulek	1.23	70	*i* P	Pn	09 57 49.0	-2.0
GULE				*i* S	Sb	09 58 08.5	+1.4
KONT	Konya--Tatoy	1.31	325	*e*PN	Pn	09 57 51.9	-0.3
KONT	Konya--Tatoy	1.31	325	*e*Pn	Pn	09 57 51.9	-0.3
LADK	Ladik-KONYA	1.53	330	*e*PN	Pn	09 57 55.2	+0.1
LADK	Ladik-KONYA	1.53	330	*e*Pn	Pn	09 57 55.2	+0.1
KRTS	Karatas	1.68	100	*e*PN	Pn	09 57 57.1	0.0
KRTS	Karatas	1.68	100	*e*Pn	Pn	09 57 57.1	0.0
CEYT	Ceyhan	1.95	85	*e*PN	Pn	09 58 01.2	+0.3
CEYT	Ceyhan	1.95	85	*e*Pn	Pn	09 58 01.2	+0.3
KOZT	Kozan	2.09	72	*e*PN	Pn	09 58 03.1	+0.3
KIZT	Kizilcal	2.31	331	*e*PN	Pn	09 58 05.7	0.0
KIZT	Kizilcal	2.31	331	*e*Pn	Pn	09 58 05.7	-0.1

ISCJB ***10*** *10:30:24.5±0.6, 27°.71N±0°.05×53°.69E±0°.04, h10km, mb3.5/12, Error ellipse: s-maj=7.1km s-min=4.6km az=12.1*
KISR ***10*** *10:30:25.4±0.5, 27°.82N×53°.52E, h8km±999km, ML2.8*
TEH ***10*** *10:30:28.6, 27°.93N×53°.83E, h26km*
IDC ***10*** *10:30:32.6±9.2, 27°.97N×53°.63E, h51km±76km, mb3.4/13, mb1 3.5/13, mb1mx3.4/29, mbtmp3.4/13, Error ellipse: s-maj=52.2km s-min=21.2km az=167.0*
ISC 10 10:30:26.3±0.6, 27°.71N±0°.05×53°.74E±0°.04, h10km, n24, σ0°83/29, mb3.5/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	Sarvestan	1.76	342	*e*Pn	Pn	10 30 57.9	+1.1
ISRV				*e*Sg	Sg	10 31 22.9	+0.1
ISRV				*e*		10 31 34.3	
	comp=Z,6μm,0.4s						
IPAR	Pars	2.21	344	*e*Sg	Sg	10 31 37.2	-0.2
IPAR				*e*Pn	Pn	10 31 04.2	+1.2
IPAR				*e*		10 31 45.8	
	comp=Z,1μm,0.4s						
IBND	Bandar-abas	2.50	95	*e*Sg	Sg	10 31 49.9	+3.2
IMEH	Mehriz	3.75	12	*e*Pn	Pn	10 31 24.6	+0.4
IMEH				*e*		10 32 22.2	
	comp=Z,323nm,0.2s						
IBAF	Bafgh	4.19	22	*e*Pn	Pn	10 31 30.0	-0.2
IBAF				*e*		10 31 45.6	
	comp=Z,252nm,0.2s						
ICHK	Chekchek	4.56	7	*e*Pn	Pn	10 31 36.1	+0.8
ICHK				*e*		10 31 52.2	
	comp=Z,355nm,0.2s						
IZEF	Zefreh	5.31	347	*e*Pn	Pn	10 31 45.5	-0.2
RDF	Al-Radifah	5.59	284	*e*P	Pn	10 31 50.1	+0.6
RDF				*e*S	Sn	10 32 53.6	-0.1
RDF				AML	AML	10 32 54.0	
	comp=Z,6.9nm,0.4s						
IKLH	Kolahrood	5.90	342	*e*Pn	Pn	10 31 54.8	+1.1
NAY	Al-Naaiem	5.92	287	*e*P	Pn	10 31 55.0	+1.0
NAY				*e*S	Sn	10 33 01.8	0.0
NAY				AML	AML	10 33 03.3	
	comp=Z,2.6nm,0.4s						
MIB	Mutribah	5.99	292	*e*P	Pn	10 31 55.6	+0.6
MIB				*e*S	Sn	10 33 03.6	-0.1
MIB				AML	AML	10 33 07.9	
	comp=Z,4.8nm,0.4s						
BRTR	Keskin Array B	20.52	311	P	P	10 35 04.8	+0.2
	comp=Z,0.4nm,0.6s,baz=129,slow=13,SNR=3.1						
AKTO	Aktyubinsk	22.93	7	P	P	10 35 29.6	-0.7
	comp=Z,0.5nm,0.3s,mb3.5,baz=197,slow=11,SNR=3.5						
BVAR	Borovoye Array	28.16	22	P	P	10 36 17.8	-0.7
	comp=Z,1.0nm,0.6s,mb3.6,baz=216,slow=8.9,SNR=5.0						
MKAR	Makanchi Array	29.41	42	P	P	10 36 29.3	-0.4
	comp=Z,0.2nm,0.6s,mb3.0,baz=231,slow=9.1,SNR=3.0						
KURK	Kurchatov	29.74	33	P	P	10 36 31.8	-0.8
	comp=Z,0.1nm,0.3s,mb3.0,baz=234,slow=9.1,SNR=4.5						
ZALV	Zalesovo Beam	34.73	32	P	P	10 37 15.5	-0.8
	comp=Z,1.3nm,0.6s,mb4.0,baz=238,slow=9.1,SNR=7.7						
FINES	FINESS Array B	38.47	339	P	P	10 37 46.6	-1.5
	comp=Z,3.4nm,0.9s,mb4.1,baz=150,slow=8.4,SNR=6.1						
NOA	NORSAR Array B	43.78	332	P	P	10 38 30.1	-1.6
	comp=Z,0.5nm,0.7s,mb3.4,baz=126,slow=7.7,SNR=2.5						
ARCES	ARCESS Array B	44.95	346	P	P	10 38 40.1	-1.0
	comp=Z,3.0nm,1.0s,mb4.1,baz=146,slow=8.7,SNR=3.4						
SONM	Songino Array	45.24	49	P	P	10 38 44.9	+1.2
	comp=Z,0.7nm,0.9s,mb3.5,baz=274,slow=9.6,SNR=3.8						
TORD	Torodi Ar. Bea	50.52	264	P	P	10 39 25.2	+0.1
	comp=Z,0.2nm,0.5s,mb3.3,baz=63,slow=7.0,SNR=3.8						
ILAR	Eielson Array	86.44	9	P	P	10 43 08.1	-0.6
	comp=Z,0.2nm,0.8s,mb3.4,baz=339,slow=4.8,SNR=3.7						
YKA	Yellowknife Ar	89.63	355	P	P	10 43 23.6	-0.4
	comp=Z,0.3nm,0.7s,mb3.7,baz=7.9,slow=5.0,SNR=5.3						

ISK ***10*** *10:31:40.8, 35°.78N×27°.29E, h8km, MD3.2*
CSEM ***10*** *10:31:41.0±0.4, 35°.74N×27°.36E, h5km, MD3.2, Error ellipse: s-maj=12.5km s-min=6.7km az=151.0*
ISCJB ***10*** *10:31:42.3±0.8, 35°.82N±0°.05×27°.44E±0°.08, h4km±7km, Error ellipse: s-maj=12.1km s-min=5.2km az=36.0*
ATH ***10*** *10:31:42.0, 35°.77N×27°.49E, h18km±1km, MD2.9/4*
DDA ***10*** *10:31:49.5, 36°.37N×27°.54E, h8km±5km, Md3.0*
ISC 10 10:31:42.7±0.8, 35°.82N±0°.05×27°.40E±0°.07, h5km±6km, n33, σ1°.02/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.34	215	*e*PB	Pg	10 31 49.4	+0.2
KARP				*e*SB	Sg	10 31 54.9	+1.2
ARG	Arkhangelos	0.71	56	*e*PN	Pg	10 31 55.3	-1.0
ARG	Arkhangelos	0.71	56	*e*Pb	Pg	10 31 55.3	-1.0
DAT	Datca	0.92	9	*e*PG	Pg	10 32 00.1	-0.1
DAT				*e*SG	Sg	10 32 13.9	+1.8
DAT	Datca	0.92	9	*e*Pg	Pg	10 32 00.2	-0.1
DAT				*e*Sg	Sg	10 32 13.9	+1.7
BODT	Bodrum	1.24	357	*e*PN	Pn	10 32 05.6	-1.0
BODT	Bodrum	1.24	357	*e*Pn	Pn	10 32 05.6	-1.0
TURN	Turunc	1.43	42	*i* P	Pn	10 32 03.4	-5.8
TURN				*i* S	Sb	10 32 18.8	-9.5
YER	Yerkesik	1.49	28	*e*PN	Pn	10 32 09.9	-0.2
YER				*e*SN	Sn	10 32 31.1	+1.2
YER	Yerkesik	1.49	28	*e*Pn	Pn	10 32 09.9	-0.2
YER				*e*Sn	Sn	10 32 31.1	+1.2
MLSB	Milas	1.50	12	*e*PN	Pn	10 32 09.3	-0.9
MLSB	Milas	1.50	12	*e*Pn	Pn	10 32 09.3	-0.9
NPS	Neapolis	1.56	250	*e*PN	Pn	10 32 11.2	+0.1
NPS	Neapolis	1.56	250	*e*Pg	Pg	10 32 10.0	-2.6
XRY	Khrisi	1.69	236	*e*PN	Pn	10 32 13.5	+0.7
XRY	Khrisi	1.69	236	*e*Pn	Pn	10 32 14.3	+1.5
AYDN	Tasoluk	1.87	12	*i* P	Pn	10 32 14.7	-0.7
AYDN				*i* S	Sn	10 32 32.7	-6.7
AYDN	Tasoluk	1.87	12	*i* P	Pn	10 32 14.6	-0.8
APE	Apeiranthos	1.95	310	*e*PN	Pn	10 32 14.7	-1.7
APE	Apeiranthos	1.95	310	*e*PN	Pn	10 32 18.0	+1.5
APE	Apeiranthos	1.95	310	*e*Pn	Pn	10 32 14.7	-1.8
GLHS	Ghisar (BURDU	2.15	51	*e*PN	Pn	10 32 19.5	+0.4
GLHS	Ghisar (BURDU	2.15	51	*e*Pn	Pn	10 32 19.5	+0.3
ELL	Elmali	2.23	65	*e*PN	Pn	10 32 20.1	-0.1
ELL	Elmali	2.23	65	*e*Pn	Pn	10 32 20.1	-0.1
GOLH	Golhisar	2.24	50	*i* P	Pn	10 32 18.8	-1.6
GOLH				*i* S	Sn	10 32 48.4	0.0
GOLH	Golhisar	2.24	50	*i* P	Pn	10 32 18.8	-1.6
GOLH				*i* S	Sn	10 32 48.4	0.0
DNZL	Cakiroluk	2.28	35	*i* P	Pn	10 32 22.4	+1.4
DNZL				*i* S	Sn	10 32 49.6	+0.2
DNZL	Cakiroluk	2.28	35	*i* P	Pn	10 32 22.4	+1.4
DNZL				*i* S	Sn	10 32 49.7	+0.2
DENT	Denizli	2.33	34	*e*PN	Pn	10 32 21.9	+0.3
DENT	Denizli	2.33	34	*e*Pn	Pn	10 32 21.9	+0.3
KULA	Kula-Manisa	2.87	20	*e*PN	Pn	10 32 29.2	+0.2
KULA	Kula-Manisa	2.87	20	*e*Pn	Pn	10 32 29.2	+0.2

BJI ***10*** *10:35:14.4, 32°.14S×177°.23W, h296km, mB5.1/5, mb5.0/12*
ISCJB ***10*** *10:35:23.6±0.7, 31°.57S±0°.06×179°.68W±0°.07, h249km±7km, mb4.6/36, Error ellipse: s-maj=10.1km s-min=8.2km az=140.6*
MOS ***10*** *10:35:28.4±1.7, 31°.37S×179°.82W, h287km, mb4.8/13, Error ellipse: s-maj=14.7km s-min=12.4km az=111.6*
IDC ***10*** *10:35:30.5±0.8, 31°.30S×179°.71W, h301km±6km, mb4.0/14, mb1 4.2/15, mb1mx4.2/17, mbtmp4.0/15, Error ellipse: s-maj=12.5km s-min=9.7km az=146.0*
NEIC ***10*** *10:35:30.7±0.3, 31°.34S×179°.71W, mb4.6/10, Error ellipse: s-maj=9.3km s-min=6.9km az=139.0*
ISC 10 10:35:24.9±0.7, 31°.61S±0°.06×179°.69W±0°.07, h247km±8km, h306km±1.7km: pP-P, n292, σ1°.27/137, mb4.6/35, 7C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.16	195	PN	Pn	10 36 55.3	+0.4
MXZ				SN	Sx	10 38 06.2	
WCZ	Waipu Caves	6.58	227	PN	Pn	10 37 07.0	+6.9
PUZ	Puketiti	6.67	194	PN	Pn	10 37 01.5	+0.3
PUZ				*e*SN	Sx	10 38 18.7	
OUZ	Omahuta	6.67	236	*e*Pn	Pn	10 37 07.7	+6.4
OUZ				*e*Sn	Sx	10 38 28.7	
OTAZ	Otara	6.94	218	PN	Pn	10 37 10.4	+5.7
OPRZ	Ohinepanea	6.95	205	PN	Pn	10 37 06.7	+2.0
OPRZ				SN	Sx	10 38 28.8	
CNGZ	Carnagh Statio	7.07	194	PN	Pn	10 37 06.7	+0.3
MWZ	Matawai	7.09	198	PN	Pn	10 37 06.9	+0.4
MWZ				SN	Sx	10 38 27.3	
URZ	Urewera	7.13	201	P	Pn	10 37 07.0	-0.1
	4.9nm,0.3s,baz=9.9,slow=14,SNR=77						
URZ				S	Sx	10 38 29.5	

THZ **Tophouse** **11.74 208** PN Px 10 38 02.1
KHZ **Kahutara** **12.06 205** PN Px 10 38 04.6
KHZ *e*SN Sx 10 40 15.6
DSZ **Denniston Nort** **12.20 212** PN Px 10 38 07.6
LTZ **Lake Taylor** **12.85 208** PN Px 10 38 15.2
MQZ **McQueen's Vall** **13.51 204** PN Px 10 38 22.9
WVZ **Waitaha Valley** **13.73 211** PN **Pn** **10 38 26.8 -2.9**
MSVF **Nonsavu** **13.97 351** *e*P **Pn** **10 38 32.5 -0.4**
MSVF **Nonsavu** **13.97 351** *e*P **Pn** **10 38 32.5 -0.3**
RPZ **Rata Peaks** **14.12 209** P **Pn** **10 38 32.0 -2.4**
5.8nm,0.3s,baz=30,slow=1.2,SNR=20
RPZ S Sx 10 41 00.6
3.7nm,0.3s,baz=328,slow=21,SNR=17
RPZ **Rata Peaks** **14.12 209** P **Pn** **10 38 32.0 -2.4**
RPZ S Sx 10 41 00.6
RPZ **Rata Peaks** **14.12 209** PN Px 10 38 31.0
FOZ **Fox Glacier** **14.59 212** PN **Pn** **10 38 36.8 -3.2**
LBZ **Lake Benmore** **15.03 209** PN **Pn** **10 38 42.1 -3.3**
ODZ **Otahua Downs** **15.39 207** *e*Pn **Pn** **10 38 47.1 -2.6**
165nm,0.9s
ODZ **Otahua Downs** **15.39 207** PN **Pn** **10 38 47.0 -2.7**
JCZ **Jackson Bay** **15.41 213** PN **Pn** **10 38 46.4 -3.6**
WKZ **Wanaka** **15.88 211** PN **Pn** **10 38 52.3 -3.2**
WHZ **Wether Hill Ro** **17.18 210** PN **Pn** **10 39 07.9 -2.9**
AFI **Afiamalu** **19.06 24** P **P** **10 39 29.2 0.0**
4.5nm,0.3s,baz=163,slow=14,SNR=6.2
AFI S **S** **10 42 42.8 -9.2**
1.9nm,0.3s,baz=204,slow=20,SNR=4.2
AFI **Afiamalu** **19.06 24** P **P** **10 39 29.2 0.0**
AFI S **S** **10 42 42.8 -9.2**
AFI **Afiamalu** **19.06 24** P **P** **10 39 29.2 0.0**
AFI S **S** **10 42 42.8 -9.2**
AFI pmax pmax
comp=Z,5.0nm,0.3s
AFI smax
comp=N,2.0nm,0.3s
ARMA **Armidale** **24.58 265** *e*P **P** **10 40 26.4 +3.9**
comp=N,18nm,1.1s,mb4.6
CNB **Canberra Magne** **26.02 253** *e*P **P** **10 40 38.7 +3.2**
comp=N,81nm,1.0s,mb5.3
CAN **Canberra** **26.32 253** P **P** **10 40 39.0 +0.9**
comp=N,21nm,0.9s,mb4.8
CAN **Canberra** **26.32 253** P **P** **10 40 39.0 +0.8**
CAN pmax pmax
comp=Z,21nm,0.9s,mb4.8
EIDS **Eidsvold** **26.38 276** *e*P **P** **10 40 40.4 +1.6**
comp=Z,3.5nm,0.8s,mb4.0
TBI **Tubuai** **27.99 80** *e*T 11 08 42.6
comp=Z,7.6nm,0.3s
TOO **Toolangi** **29.16 249** *e*P **P** **10 41 05.7 +2.4**
comp=Z,35nm,0.6s,mb5.2
PAE **Paea** **30.57 70** *e*P **P** **10 41 15.5 -0.4**
comp=Z,7.1nm,1.0s,mb4.2
PAE *e*T 11 12 13.7
comp=Z,1.8nm,0.2s
PPT2 **Papeete2** **30.61 70** *e*P **P** **10 41 16.5 +0.2**
comp=Z,30nm,1.1s,mb4.8
PPT2 *e*T 11 12 17.9
comp=Z,1.5nm,0.2s
TIAR **Tiarei** **30.82 70** *e*P **P** **10 41 18.0 -0.1**
comp=Z,93nm,0.8s,mb5.5
CTA **Charters Tower** **32.59 282** *e*P **P** **10 41 35.2 +1.7**
comp=Z,12nm,0.6s,mb4.6
CTA *e* 10 41 38.7
CTA *e*S **S** **10 46 29.5 -1.2**
CTA *e*SCP ScP 10 47 28.8 -4.9
CTAO **Charters Tower** **32.59 282** *e*P **P** **10 41 35.3 +1.8**
comp=Z,64nm,1.4s,mb5.0
CTAO **Charters Tower** **32.59 282** *e*P **P** **10 41 35.3 +1.8**
CTAO pmax pmax
comp=Z,64nm,1.4s,mb5.0
STKA **Stephens Creek** **32.81 259** P **P** **10 41 36.7 +1.5**
comp=Z,18nm,0.5s,mb4.9,baz=96,slow=9.9,SNR=70
STKA **Stephens Creek** **32.81 259** ⇑*i*P **P** **10 41 37.4 +2.1**
comp=Z,23nm,0.8s,mb4.8
STKA **Stephens Creek** **32.81 259** P **P** **10 41 36.7 +1.5**
STKA **Stephens Creek** **32.81 259** P **P** **10 41 36.7 +1.4**
STKA pmax pmax
comp=Z,19nm,0.5s
PMG **Port Moresby** **37.85 298** P **P** **10 42 18.0 -0.4**
comp=Z,2.8nm,0.4s,mb4.1,baz=185,slow=6.7,SNR=3.1
PMG **Port Moresby** **37.85 298** P **P** **10 42 18.0 -0.4**
PMG **Port Moresby** **37.85 298** P **P** **10 42 18.0 -0.3**
PMG pmax pmax
comp=Z,3.0nm,0.4s
COEN **Coen** **38.24 289** *e*P **P** **10 42 22.4 +0.8**
comp=Z,77nm,0.8s,mb5.3
AS31 **Alice Springs** **41.61 269** *e*P **P** **10 42 49.4 +0.3**
ASAR **Alice Springs** **41.61 269** P **P** **10 42 49.5 +0.3**
comp=Z,8.2nm,0.6s,mb4.3,baz=108,slow=7.6,SNR=165
ASAR pP pP 10 43 51.9 +11
comp=Z,6.4nm,0.8s,baz=109,slow=8.1,SNR=7.0
ASAR ScP ScP 10 48 01.4 -6.0
comp=Z,3.4nm,0.9s,baz=114,slow=4.1,SNR=12
ASAR S **S** **10 48 42.9 -3.7**
comp=Z,0.3nm,0.4s,baz=111,slow=15,SNR=5.9
ASAR **Alice Springs** **41.61 269** P **P** **10 42 49.5 +0.3**
ASAR pP pP 10 43 51.9 +11
ASAR ScP ScP 10 48 01.4 -6.0
ASAR S **S** **10 48 42.9 -3.7**
ASAR **Alice Springs** **41.61 269** P **P** **10 42 49.5 +0.4**
ASAR *PP pP 10 43 51.9 +11
ASAR S **S** **10 48 42.9 -3.7**
ASAR pmax pmax
comp=Z,8.0nm,0.6s
ASAR pmax pmax
comp=Z,6.0nm,0.8s
ASAR pmax pmax
comp=N,3.0nm,1.0s
WB2 **Warramunga Arr** **42.70 274** *e*P **P** **10 42 58.1 +0.1**
WRAB **Tennant Creek** **42.71 274** *e*P **P** **10 42 58.1 +0.1**
comp=N,15nm,0.6s,mb4.6
WRAB *e*pP pP 10 44 00.2 +11
WRAB **Tennant Creek** **42.71 274** *e*P **P** **10 42 58.1 +0.1**
WRAB *e*PP pP 10 44 00.2 +11
WRAB pmax pmax
comp=Z,15nm,0.6s,mb4.6
WRA **Warramunga Arr** **42.71 274** P **P** **10 42 58.1 +0.1**
comp=Z,12nm,0.3s,mb4.8,baz=112,slow=8.0,SNR=187
WRA pP pP 10 44 00.7 +11
comp=Z,11nm,1.1s,baz=112,slow=8.1,SNR=4.4
WRA ScP ScP 10 48 06.0 -5.9
comp=Z,1.9nm,0.9s,baz=116,slow=4.2,SNR=7.5
WRA S **S** **10 48 58.2 -4.5**
comp=Z,1.4nm,0.8s,baz=112,slow=14,SNR=4.9
WRA **Warramunga Arr** **42.71 274** P **P** **10 42 58.1 +0.1**
WRA pP pP 10 44 00.7 +11
WRA ScP ScP 10 48 06.0 -5.9
WRA S **S** **10 48 58.2 -4.5**
WRA **Warramunga Arr** **42.71 274** P **P** **10 42 58.2 +0.2**
WRA *PP pP 10 44 00.7 +11
WRA S **S** **10 48 58.3 -4.4**
WRA pmax pmax
comp=Z,12nm,0.3s
WRA pmax pmax
comp=Z,11nm,1.1s
WRA pmax pmax
comp=N,2.0nm,0.9s
WRA smax
comp=N,1.0nm,0.8s
SBA **Scott Base** **46.73 184** *e*P **P** **10 43 32.2 +3.3**
comp=N,8.7nm,0.8s,mb4.1
SBA **Scott Base** **46.73 184** *e*P **P** **10 43 32.2 +3.4**
SBA pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
FITZ **Fitzroy Crossi** **50.92 272** ScP ScP 10 48 40.3 -6.1
comp=Z,5.9nm,1.1s,baz=142,slow=5.7,SNR=4.1
FITZ **Fitzroy Crossi** **50.92 272** *e*P **P** **10 44 01.5 +0.1**
comp=Z,7.6nm,0.8s,mb4.2
FITZ *e*PCP PcP 10 45 06.3 -7.8
FITZ *e*SCP ScP 10 48 41.3 -5.1
FITZ **Fitzroy Crossi** **50.92 272** ScP ScP 10 48 40.3 -6.1
QSPA **South Pole Qui** **58.50 180** P **P** **10 44 57.7 +2.9**
comp=Z,99nm,0.7s,mb5.5,baz=14,slow=4.2,SNR=176
QSPA ScP ScP 10 49 15.0 -3.6
comp=Z,1.8nm,0.6s,baz=218,slow=1.3,SNR=5.4
QSPA **South Pole Qui** **58.50 180** P **P** **10 44 57.7 +2.9**
QSPA ScP ScP 10 49 15.0 -3.6
KAPI **Kappang** **62.41 282** P **P** **10 45 21.4 -0.8**
comp=Z,6.4nm,0.7s,mb4.4,baz=147,slow=7.2,SNR=4.7
KAPI **Kappang** **62.41 282** P **P** **10 45 21.4 -0.8**
MAW **Mawson** **70.66 201** P **P** **10 46 13.5 +0.1**
comp=Z,3.4nm,0.9s,mb4.0,baz=141,slow=6.5,SNR=3.2
MAW **Mawson** **70.66 201** P **P** **10 46 13.5 +0.2**
MAW **Mawson** **70.66 201** P **P** **10 46 13.5 +0.2**
MAW pmax pmax
comp=Z,3.0nm,0.9s
SYO **Syowa Base** **75.61 194** ⇑*e*PcP **P** **10 46 40.0 -2.2**
SNAA **Sanae** **76.98 179** *e* **P** **10 46 50.8 +1.0**
SNAA **Sanae** **76.98 179** *e*P **P** **10 46 50.6 +0.7**
comp=Z,7.5nm,0.8s,mb4.4
SNAA **Sanae** **76.98 179** *e*P **P** **10 46 50.6 +0.8**
SNAA pmax pmax
comp=Z,8.0nm,0.8s
VNA3 **Neumayer Olymp** **77.19 177** *e* **P** **10 46 52.3 +1.3**
VNA3 *e* 10 46 58.7
VNA3 *e* 10 47 59.8
VNA2 **Neumayer--Watz** **77.61 177** *e* **P** **10 46 54.9 +1.6**
baz=195,slow=4.4
VNA2 *e* 10 47 01.5
VNA2 *e* 10 48 02.1
MJAR **Matsushiro Arr** **78.42 327** P **P** **10 46 56.3 -1.9**
comp=Z,3.1nm,0.8s,mb4.0,baz=170,slow=5.6,SNR=9.4
MJAR **Matsushiro Arr** **78.42 327** P **P** **10 46 56.3 -1.9**
MJAR **Matsushiro Arr** **78.42 327** P **P** **10 46 56.3 -1.9**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
KSRS **Korea Array** **84.34 321** P **P** **10 47 28.5 -0.6**
comp=Z,3.2nm,0.7s,mb4.2,baz=143,slow=5.4,SNR=12
KSRS **Korea Array** **84.34 321** P **P** **10 47 28.5 -0.6**
KSRS pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
KSAR **Wonju Array Be** **84.35 321** P **P** **10 47 28.5 -0.7**
KSAR **Wonju Array Be** **84.35 321** P **P** **10 47 28.5 -0.7**
YSS **Yuzh-Sakhalins** **85.22 335** *e*P **P** **10 47 31.7 -1.5**
YSS pmax pmax
comp=Z,28nm,0.8s,mb5.0
NJ2 **Nanjing** **85.94 312** *e*P **P** **10 47 30.1 -7.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
PETK **Petropavlovsk-** **86.63 347** P **P** **10 47 39.5 -0.5**
comp=Z,21nm,0.9s,mb4.9,baz=138,slow=7.0,SNR=23
PETK **Petropavlovsk-** **86.63 347** P **P** **10 47 39.5 -0.5**
PETK **Petropavlovsk-** **86.63 347** P **P** **10 47 39.5 -0.5**
PETK pmax pmax
comp=Z,21nm,0.9s,mb4.9
HABR **Khabarovsk** **89.41 332** *e*P **P** **10 47 52.9 -0.3**
HABR *e**SP sP 10 49 33.4 +15
HABR PPP 10 53 25.2
HABR *e*S SKSac 10 57 50.5 -8.5
HABR *e* 10 58 18.4
HABR *e**SS sS 11 00 03.0 -3.8
HABR *e*SS SS 11 04 17.7 -6.1
HABR *e*SSS 11 07 55.6
HABR MLR MLR
comp=Z,107nm,16.0s
CFAA **Coronel Fontan** **89.67 127** P **P** **10 47 56.1 +1.0**
comp=Z,0.2nm,0.4s,baz=266,slow=6.2,SNR=5.1
CFAA **Coronel Fontan** **89.67 127** P **P** **10 47 56.1 +1.0**
NVAR **Mina Array Bea** **90.11 44** P **P** **10 47 57.3 +0.6**
comp=Z,2.2nm,0.8s,mb4.0,baz=224,slow=5.0,SNR=16
NVAR **Mina Array Bea** **90.11 44** P **P** **10 47 57.3 +0.6**
GYA **Guiyang** **90.90 301** P **P** **10 47 56.2 -4.5**
GYA PP PP 10 51 44.0 +3.2
GYA SKS 10 57 58.3
GYA S S 10 58 30.0 -6.2
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CMAR **Chiang Mai Arr** **92.44 290** P **P** **10 48 08.8 +0.8**
comp=Z,0.7nm,0.3s,mb4.0,baz=147,slow=3.8,SNR=5.7
CMAR **Chiang Mai Arr** **92.44 290** P **P** **10 48 08.8 +0.8**
CMAR **Chiang Mai Arr** **92.44 290** P **P** **10 48 08.9 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
KMI **Kunming** **93.08 298** P **P** **10 48 08.8 -2.0**
KMI pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KMI **Kunming** **93.08 298** P **P** **10 48 08.8 -2.0**
comp=Z,9.0nm,0.7s,mb4.9
KMI **Kunming** **93.08 298** P **P** **10 48 08.8 -2.0**
KMI pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
TXAR **Lajitas Array** **94.26 58** P **P** **10 48 16.5 +0.3**
comp=Z,1.2nm,1.0s,mb3.9,baz=212,slow=6.9,SNR=7.2
TXAR **Lajitas Array** **94.26 58** P **P** **10 48 16.5 +0.3**
TXAR **Lajitas Array** **94.26 58** P **P** **10 48 16.5 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,1.0s
CD2 **Chengdu** **95.51 303** *e*P **P** **10 48 14.9 -6.9**
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
HHC **Hu-ho-hao-te** **96.04 315** *e*P **P** **10 48 17.2 -6.8**
HHC PP PP 10 52 21.4 +0.8
HHC S S 10 59 09.5 -11
HHC SS SS 11 06 02.5 +3.7
HHC pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
HHC pmax pmax
comp=Z,130nm,3.8s
PDAR **Pinedale Array** **98.01 44** P **P** **10 48 32.5 -0.3**
comp=Z,0.3nm,0.7s,mb3.7,baz=226,slow=2.4,SNR=3.5
PDAR **Pinedale Array** **98.01 44** P **P** **10 48 32.5 -0.3**
ILAR **Eielson Array** **99.43 14** P Pdif 10 48 37.2 -2.1
comp=Z,0.4nm,0.7s,baz=212,slow=6.0,SNR=7.8
ILAR PKiKP PKiKP 10 53 04.5 -2.0
comp=Z,0.3nm,0.7s,baz=284,slow=3.1,SNR=4.4
ILAR **Eielson Array** **99.43 14** P Pdif 10 48 37.2 -2.1
ILAR PKiKP PKiKP 10 53 04.5 -2.0
ILAR **Eielson Array** **99.43 14** P Pdif 10 48 37.3 -2.0
BILL **Bilibino** **99.90 355** *e*P Pdif 10 48 39.0 -2.4
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
YKA **Yellowknife Ar** **107.16 26** PKiKP PKiKP 10 53 18.6 -2.0
comp=Z,0.2nm,0.5s,baz=251,slow=1.5,SNR=6.1
YKA **Yellowknife Ar** **107.16 26** PKiKP PKiKP 10 53 18.6 -2.0
WMQ **Urumqi** **112.83 308** *e*PKP PKiKP 10 53 21.0 -11
MK31 **Makanchi Array** **117.43 310** *e*PKPdf PKPdf 10 53 39.0 -1.7
MK31 **Makanchi Array** **117.43 310** *e*PKIKP PKPdf 10 53 39.0 -1.7
MKAR **Makanchi Array** **117.43 310** PKP PKPdf 10 53 38.8 -1.9
comp=Z,2.7nm,0.7s,baz=123,slow=0.8,SNR=16
MKAR **Makanchi Array** **117.43 310** PKP PKPdf 10 53 38.8 -1.9
MKAR **Makanchi Array** **117.43 310** PKIKP PKPdf 10 53 38.8 -1.9
MKAR pmax pmax
comp=Z,3.0nm,0.7s
ZALV **Zalesovo Beam** **117.97 318** PKP PKPdf 10 53 39.5 -2.0
comp=Z,1.9nm,0.7s,baz=169,slow=3.6,SNR=9.4
ZALV **Zalesovo Beam** **117.97 318** PKP PKPdf 10 53 39.5 -2.0
ZALV **Zalesovo Beam** **117.97 318** PKIKP PKPdf 10 53 39.6 -1.9
ULHL **Ulahol** **120.22 304** P PKPdf 10 53 45.8 -0.4
SNR=6.1
ULHL P 10 53 45.8
SNR=6.1
KURK **Kurchatov** **120.83 314** PKP PKPdf 10 53 45.6 -1.5
comp=Z,7.9nm,0.8s,baz=101,slow=1.8,SNR=47
KURK pPKP pPKPdf 10 54 58.9 +8.8
comp=Z,1.1nm,0.8s,baz=84,slow=2.3,SNR=3.5
KURK **Kurchatov** **120.83 314** *e*PKPdf PKPdf 10 53 45.4 -1.7
KURK PKP PKPdf 10 53 45.6 -1.5
KURK pPKP pPKPdf 10 54 58.9 +8.8
KURK **Kurchatov** **120.83 314** PKIKP PKPdf 10 53 45.7 -1.4
KURK 10 54 58.9
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.8s
TKM2 **Tokmak 2** **120.87 304** P PKPdf 10 53 46.4 -1.1
SNR=9.0
TKM2 P 10 53 46.4
SNR=9.0
KZA **Kyzart** **120.88 303** P PKPdf 10 53 47.5 0.0
SNR=6.9
KZA P 10 53 47.5
SNR=6.9
CHMS **Chumysh** **121.48 304** P PKPdf 10 53 47.2 -1.4
SNR=5.3
CHMS P 10 53 47.2
SNR=5.3
AAK **Ala-Archa** **121.57 304** *e*PKIKP PKPdf 10 53 46.8 -2.0
USP **Ospenovka** **121.73 304** P PKPdf 10 53 47.6 -1.5
SNR=8.7
USP P 10 53 47.6
SNR=8.7
AML **Almayashu** **122.01 303** P PKPdf 10 53 49.5 -0.2
SNR=17
AML P 10 53 49.5
SNR=17
BVAR **Borovoye Array** **126.25 315** PKP PKPdf 10 53 55.9 -1.5
comp=Z,7.2nm,0.7s,baz=114,slow=3.6,SNR=28
BVAR **Borovoye Array** **126.25 315** PKP PKPdf 10 53 55.9 -1.5
BVAR **Borovoye Array** **126.25 315** PKIKP PKPdf 10 53 55.9 -1.5
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BRVK **Borovoye** **126.31 315** *d i*PKIKP PKPdf 10 53 55.8 -1.8
SCHQ **Schefferville** **128.11 43** PKP PKPdf 10 53 58.8 -2.2
comp=Z,3.5nm,0.7s,baz=280,slow=6.1,SNR=2.9
SCHQ **Schefferville** **128.11 43** PKP PKPdf 10 53 58.8 -2.2
ARU **Arti** **133.08 320** *i* PKIKP PKPdf 10 54 09.5 -0.8
ARU 10 56 36.9
AKTO **Aktyubinsk** **133.82 311** PKP PKPdf 10 54 10.9 -1.0
comp=Z,6.5nm,0.8s,baz=102,slow=2.3,SNR=22
AKTO **Aktyubinsk** **133.82 311** PKP PKPdf 10 54 10.9 -1.0
AKTO **Aktyubinsk** **133.82 311** PKIKP PKPdf 10 54 10.9 -1.0
AKTO pmax pmax
comp=Z,7.0nm,0.8s
ARCES **ARCESS Array B** **139.44 347** PKhKP PKPpre 10 54 13.2
comp=Z,1.0nm,0.5s,baz=54,slow=1.6,SNR=13
ARCES **ARCESS Array B** **139.44 347** PKPpre PKPpre 10 54 13.2
ARCES **ARCESS Array B** **139.44 347** PKHKP PKPpre 10 54 13.2
ARCES pmax pmax
comp=Z,1.0nm,0.5s
JOF **Joensuu** **142.98 337** *e*PKIKP PKPdf 10 54 29.7 +1.4
JOF **Joensuu** **142.98 337** *e*pkp PKPdf 10 54 29.7 +1.4
MOS **Moscow** **144.48 324** *e*PKHKP PKPpre 10 54 25.0
MOS pmax pmax
comp=Z,69nm,0.7s
KIV **Kislovodsk** **144.68 303** *e*PKIKP PKPdf 10 54 34.4 +2.6
KIV pmax pmax
comp=Z,26nm,0.9s
KAF **Kangasniemi** **145.17 339** *e*PKIKP PKPdf 10 54 29.1 -3.0
KAF **Kangasniemi** **145.17 339** *e*pkp PKPdf 10 54 29.1 -3.0
OBN **Obninsk** **145.30 323** ⇑*i*PKP2 PKPbc 10 54 31.9 -1.0
OBN pmax pmax
comp=Z,87nm,0.7s
FINES **FINESS Array B** **145.75 338** PKPbc PKPbc 10 54 32.5 -1.6
comp=Z,36nm,0.6s,baz=57,slow=3.8,SNR=79
FINES **FINESS Array B** **145.75 338** PKPbc PKPbc 10 54 32.5 -1.6
FINES **FINESS Array B** **145.75 338** PKIKP PKPbc 10 54 32.5 -1.6
FINES pmax pmax
comp=Z,36nm,0.6s
ANN **Anapa** **148.28 305** *i* PKP2 PKPbc 10 54 40.6 -1.0
ANN pmax pmax
comp=Z,91nm,1.3s
NB2 **NORSAR Subarra** **149.70 349** PKP PKPbc 10 54 43.2 -1.4
comp=Z,11nm,0.9s,baz=17,slow=2.6
NOA **NORSAR Array B** **149.70 349** PKPbc PKPbc 10 54 43.1 -1.5
comp=Z,4.8nm,0.6s,baz=15,slow=4.2,SNR=21
NOA **NORSAR Array B** **149.70 349** PKPbc PKPbc 10 54 43.1 -1.5
NOA **NORSAR Array B** **149.70 349** PKHKP PKPbc 10 54 43.1 -1.5
NOA pmax pmax
comp=Z,5.0nm,0.6s
AKASG **Malin Array Be** **151.34 320** PKPbc PKPbc 10 54 48.0 -0.7
comp=Z,19nm,0.8s,baz=59,slow=2.8,SNR=26
AKASG pPKPbc pPKPbc 10 56 00.8 +9.3
comp=Z,3.0nm,0.7s,baz=54,slow=3.0,SNR=3.3
AKASG **Malin Array Be** **151.34 320** PKPbc PKPbc 10 54 48.0 -0.7
AKASG pPKPbc pPKPbc 10 56 00.8 +9.3
AKASG **Malin Array Be** **151.34 320** PKIKP PKPbc 10 54 48.0 -0.7
AKASG 10 56 00.8
AKASG pmax pmax
comp=Z,19nm,0.8s
AKASG pmax pmax
comp=Z,3.0nm,0.7s
BR131 **Keskin Array S** **151.86 296** *e*PKPbc PKPbc 10 54 48.9 -1.4
BRTR **Keskin Array B** **151.86 296** PKPbc PKPbc 10 54 49.2 -1.0
comp=Z,15nm,1.0s,baz=104,slow=0.6,SNR=39
BRTR PKPab PKPab 10 54 59.5 -0.9
comp=Z,5.3nm,0.8s,baz=115,slow=3.9,SNR=11
BRTR **Keskin Array B** **151.86 296** PKPbc PKPbc 10 54 49.2 -1.0
BRTR PKPab PKPab 10 54 59.5 -0.9
BRTR **Keskin Array B** **151.86 296** PKIKP PKPbc 10 54 49.3 -1.0
BRTR 10 54 59.6
BRTR pmax pmax
comp=Z,15nm,1.0s
BRTR pmax pmax
comp=Z,5.0nm,0.8s
SUW **Suwalki** **152.25 330** *e*PKP PKPbc 10 54 50.0 -0.7
SUW **Suwalki** **152.25 330** *e*PKIKP PKPbc 10 54 50.0 -0.7
KWP **Kalwaria Pacla** **155.39 323** *e*PKP PKPab 10 55 15.0 -0.1
KWP **Kalwaria Pacla** **155.39 323** *e*PKP2 PKPab 10 55 15.0 -0.1
MLR **Muntele Rosu** **155.75 312** *e*PKPab PKPab 10 55 15.8 -1.0
comp=Z,0.6nm,0.7s,baz=117,slow=4.5,SNR=4.3
MLR **Muntele Rosu** **155.75 312** PKPab PKPab 10 55 15.8 -1.0
MLR **Muntele Rosu** **155.75 312** PKP2 PKPab 10 55 15.8 -1.0
MLR pmax pmax
comp=Z,1.0nm,0.7s
KSP **Ksiaz** **157.42 333** *e*PKP PKPab 10 55 23.0 -0.8
KSP **Ksiaz** **157.42 333** *e*PKP PKPab 10 55 22.8 -1.0
KSP **Ksiaz** **157.42 333** *e*PKP2 PKPab 10 55 22.8 -1.0
CLL **Collm** **158.20 338** ⇑*i*PKP2 PKPab 10 55 26.0 -1.1
CLL pmax pmax
comp=Z,63nm,1.9s
CLL **Collm** **158.20 338** ⇑*i*PKPab PKPab 10 55 26.0 -1.1
comp=Z,63nm,1.9s
BRG **Berggiesshubel** **158.26 336** *e*PKP PKPab 10 55 26.2 -1.2
comp=Z,8.8nm,0.9s
GERES **GERESS Array B** **160.03 333** PKPab PKPab 10 55 34.5 -0.7
comp=Z,2.3nm,0.8s,baz=31,slow=3.1,SNR=9.7
GERES **GERESS Array B** **160.03 333** PKPab PKPab 10 55 34.5 -0.7
GERES **GERESS Array B** **160.03 333** PKP2 PKPab 10 55 34.5 -0.7
GERES pmax pmax
comp=Z,2.0nm,0.8s
GIVF **Givet** **161.22 351** *e*PKP2 PKPab 10 55 37.7 -2.6
GIVF **Givet** **161.22 351** *e*PKPab PKPab 10 55 37.7 -2.6
GIVF **Givet** **161.22 351** *e*PKP2 PKPab 10 55 37.7 -2.6
BAIF **Baives** **161.34 352** *e*PKP2 PKPab 10 55 38.6 -2.2
BAIF **Baives** **161.34 352** *e*PKPab PKPab 10 55 38.6 -2.2
BAIF **Baives** **161.34 352** *e*PKP2 PKPab 10 55 38.6 -2.2
TORD **Torodi Ar. Bea** **161.58 184** PKP PKPdf 10 54 56.0 -0.7
comp=Z,1.3nm,0.9s,baz=219,slow=1.1,SNR=7.2
TORD PKPab PKPab 10 55 42.1 -0.6
comp=Z,2.6nm,0.8s,baz=172,slow=3.8,SNR=19
TORD **Torodi Ar. Bea** **161.58 184** PKP PKPdf 10 54 56.0 -0.7
TORD PKPab PKPab 10 55 42.1 -0.6
RETA **Reutte** **162.24 336** ⇑*i*PKPab PKPab 10 55 44.3 -0.6
comp=Z,13nm,1.1s
CDF **Champ du Feu** **162.40 344** *e*PKP2 PKPab 10 55 43.3 -2.2
CDF **Champ du Feu** **162.40 344** *e*PKPab PKPab 10 55 43.3 -2.2
CDF **Champ du Feu** **162.40 344** *e*PKP2 PKPab 10 55 43.3 -2.2
PAGF **Fort de Pagny** **162.58 348** *e*PKP2 PKPab 10 55 44.3 -2.0
DAVA **Damuels** **162.71 338** ⇑*i*PKPab PKPab 10 55 44.5 -2.4
comp=Z,12nm,1.0s
MEZF **Maizieres J'vi** **162.75 349** *e*PKP2 PKPab 10 55 44.9 -2.1
MEZF **Maizieres J'vi** **162.75 349** *e*PKPab PKPab 10 55 44.9 -2.1
HAU **Haudompre** **162.99 346** *e*PKP2 PKPab 10 55 45.8 -2.3
HAU **Haudompre** **162.99 346** *e*PKPab PKPab 10 55 45.8 -2.3
HAU **Haudompre** **162.99 346** *e*PKP2 PKPab 10 55 45.8 -2.3
SFTF **Sexfontaines** **163.04 349** *e*PKP2 PKPab 10 55 46.1 -2.2
SFTF **Sexfontaines** **163.04 349** *e*PKPab PKPab 10 55 46.1 -2.2
GRR **Gorron** **163.22 3** *e*PKP2 PKPab 10 55 44.8 -4.3
GRR **Gorron** **163.22 3** *e*PKPab PKPab 10 55 44.8 -4.3
GRR **Gorron** **163.22 3** *e*PKP2 PKPab 10 55 44.8 -4.3
LOR **Lormes** **164.13 351** *e*PKP2 PKPab 10 55 50.8 -2.3
comp=Z,14nm,1.0s
LOR **Lormes** **164.13 351** *e*PKPab PKPab 10 55 50.8 -2.3
LOR **Lormes** **164.13 351** *e*PKP2 PKPab 10 55 50.8 -2.3
SSF **Saint Saulge** **164.37 352** *e*PKP2 PKPab 10 55 52.0 -2.2
comp=Z,25nm,1.0s
SSF **Saint Saulge** **164.37 352** *e*PKPab PKPab 10 55 52.0 -2.2
SSF **Saint Saulge** **164.37 352** *e*PKP2 PKPab 10 55 52.0 -2.2
AVF **Avril sur Loir** **164.66 352** *e*PKP2 PKPab 10 55 53.1 -2.4
comp=Z,18nm,0.9s
AVF **Avril sur Loir** **164.66 352** *e*PKPab PKPab 10 55 53.1 -2.4
AVF **Avril sur Loir** **164.66 352** *e*PKP2 PKPab 10 55 53.1 -2.4
SMF **Signal de Mont** **164.74 351** *e*PKP2 PKPab 10 55 53.6 -2.2
comp=Z,48nm,1.1s
SMF **Signal de Mont** **164.74 351** *e*PKPab PKPab 10 55 53.6 -2.2
SMF **Signal de Mont** **164.74 351** *e*PKP2 PKPab 10 55 53.6 -2.2
BGF **Bois d'Agland** **164.94 353** *e*PKP2 PKPab 10 55 53.4 -3.3
BGF **Bois d'Agland** **164.94 353** *e*PKPab PKPab 10 55 53.4 -3.3
BGF **Bois d'Agland** **164.94 353** *e*PKP2 PKPab 10 55 53.4 -3.3
LPL **La Plagne** **165.24 342** *e*PKP2 PKPab 10 55 57.0 -1.1
comp=Z,26nm,1.1s
LPL **La Plagne** **165.24 342** *e*PKPab PKPab 10 55 57.0 -1.1
LPL **La Plagne** **165.24 342** *e*PKP2 PKPab 10 55 57.0 -1.1
LPG **La Plagne** **165.25 342** *e*PKP2 PKPab 10 55 57.1 -1.1
comp=Z,37nm,1.0s
LPG **La Plagne** **165.25 342** *e*PKPab PKPab 10 55 57.1 -1.1
LPG **La Plagne** **165.25 342** *e*PKP2 PKPab 10 55 57.1 -1.1
FRF **La Foret Royal** **167.06 339** *e*PKP2 PKPab 10 56 04.1 -2.1
FRF **La Foret Royal** **167.06 339** *e*PKPab PKPab 10 56 04.1 -2.1

IDC ***10*** *10:43:03.6±1.4, 12°.70N×123°.98E, h0km, mb3.6/6,*

mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, Error ellipse: s-maj=160.4km s-min=18.2km az=68.0
*MAN **10** 10:43:05, 12.95N×124.36E, h3km, mb4.7, ML3.6, MS3.6*
*ISCJB **10** 10:43:06.2±0.9, 13.06N±0.04×124.46E±0.07, h27km±8km, mb3.6/6, Error ellipse: s-maj=12.0km s-min=6.5km az=160.6*
ISC 10 10:43:05.9±1.0, **13.03N**±0.05×**124.45E**±0.07, **h13**km±7km, **n18**, σ1¶**19**/22, **mb3.6**/6, **2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.55**	**158**	*eP*	**Pg**	**10 43 18.3**	**+1.6**
PVCP	**Virac**	**0.64**	**333**	*eP*	**Pg**	**10 43 16.6**	**-1.8**
PVCP				*eS*	**Sg**	**10 43 26.5**	**-0.2**
AUQP	**San Andres**	**1.76**	**280**	*eP*	**Pn**	**10 43 36.6**	**+0.5**
PLP	**Palo**	**1.92**	**164**	⇓*iP*	**Pn**	**10 43 38.7**	**+0.4**
PLP				*eS*	**Sn**	**10 44 02.6**	**+0.2**
GQP	**Guinayangan**	**2.14**	**294**	⇑*eP*	**Pn**	**10 43 41.9**	**+0.6**
GQP				*eS*	**Sn**	**10 44 10.7**	**+2.9**
RCP	**Roxas**	**2.22**	**229**	⇑*eP*	**Pn**	**10 43 41.8**	**-0.6**
RCP				*eS*	**Sn**	**10 44 08.8**	**-0.9**
OTRP	**Odiongan**	**2.46**	**255**	*eP*	**Pn**	**10 43 44.6**	**-1.2**
BOAC	**Boac**	**2.58**	**280**	*eP*	**Pn**	**10 43 50.5**	**+3.1**
MSLP	**Maasin**	**2.90**	**172**	*eP*	**Pn**	**10 43 57.0**	**+5.2**
POLP	**Polilio Island**	**2.97**	**305**	*eP*	**Pn**	**10 43 53.9**	**+1.1**
GUIM	**Jordan**	**3.00**	**218**	*eP*	**Pn**	**10 43 54.0**	**+0.8**
CUYO	**Cuyo Island**	**4.00**	**238**	*eP*	**Pn**	**10 44 06.2**	**-0.7**
WRA	**Warramunga Arr**	**34.18**	**163**	P	**P**	**10 49 48.2**	**-2.9**
	0.4nm,0.9s,mb3.4,baz=345,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**37.62**	**166**	P	**P**	**10 50 19.6**	**-1.0**
	0.5nm,0.6s,mb3.4,baz=344,slow=7.2,SNR=8.7						
SONM	**Songino Array**	**37.83**	**340**	P	**P**	**10 50 23.9**	**+1.7**
	0.5nm,0.6s,mb3.4,baz=158,slow=9.3,SNR=3.4						
MKAR	**Makanchi Array**	**48.77**	**322**	P	**P**	**10 51 50.0**	**-0.5**
	0.5nm,0.6s,mb3.7,baz=125,slow=7.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**51.37**	**331**	P	**P**	**10 52 09.5**	**-0.6**
	0.4nm,0.5s,mb3.6,baz=116,slow=6.6,SNR=2.4						
KURK	**Kurchatov**	**52.80**	**325**	P	**P**	**10 52 20.6**	**-0.3**
	1.5nm,0.7s,mb4.0,baz=124,slow=7.8,SNR=9.0						

*IDC **10** 10:47:53.6±1.4, 1.12N×126.58E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=108.5km s-min=22.6km az=74.0*
*NEIC **10** 10:47:55.0±0.8, 1.20N×126.91E, h10km, mb4.2/2, Error ellipse: s-maj=31.4km s-min=12.3km az=76.0*
*ISCJB **10** 10:47:56.4±1.1, 1.3N±0.1×127.36E±0.10, h33km, mb3.9/6, Error ellipse: s-maj=20.4km s-min=11.3km az=27.0*
*DJA **10** 10:48:00, 1.55N×127.16E, h57km, MLv4.3/4*
ISC 10 10:47:58.7±1.1, **1.3N**±0.1×**127.34E**±0.10, **h35**km, **n19**, σ1¶**04**/19, **mb3.9**/6, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.50**	**177**	P	**Pn**	**10 48 16.7**	**+7.3**
LBMI	**Labuha**	**1.91**	**175**	P	**Pn**	**10 48 34.4**	**+5.7**
KMSI	**Cibinong**	**3.43**	**258**	P	**Pn**	**10 48 49.1**	**-0.5**
GTOI	**Gorontalo**	**4.37**	**262**	P	**Pn**	**10 49 02.7**	**+0.1**
LUWI	**Luwuk**	**5.11**	**243**	P	**Pn**	**10 49 14.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**19.33**	**185**	P	**Pn**	**10 52 19.4**	**-2.9**
	0.2nm,0.3s,baz=3.0,slow=10,SNR=4.8						
FITZ	**Fitzroy Crossi**	**19.33**	**185**	P	**Pn**	**10 52 19.4**	**-2.9**
WRAB	**Tennant Creek**	**22.17**	**162**	*eP*	**P**	**10 52 51.9**	**+0.1**
	2.2nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**22.18**	**162**	P	**P**	**10 52 51.8**	**0.0**
	1.7nm,0.4s,mb3.8,baz=337,slow=11,SNR=22						
WRA	**Warramunga Arr**	**22.18**	**162**	P	**P**	**10 52 51.8**	**0.0**
WB2	**Warramunga Arr**	**22.18**	**162**	*eP*	**P**	**10 52 51.9**	**0.0**
MBWA	**Marble Bar**	**23.51**	**198**	*eP*	**P**	**10 53 03.3**	**-2.4**
	13nm,1.1s,mb4.3						
AS31	**Alice Springs**	**25.60**	**166**	*eP*	**P**	**10 53 25.2**	**+0.4**
ASAR	**Alice Springs**	**25.60**	**166**	P	**P**	**10 53 25.5**	**+0.7**
	1.5nm,0.4s,mb3.9,baz=345,slow=11,SNR=19						
ASAR	**Alice Springs**	**25.60**	**166**	P	**P**	**10 53 25.5**	**+0.7**
STKA	**Stephens Creek**	**35.64**	**159**	P	**P**	**10 54 54.1**	**+0.8**
	1.8nm,0.7s,mb4.1,baz=328,slow=8.1,SNR=5.4						
STKA	**Stephens Creek**	**35.64**	**159**	P	**P**	**10 54 54.1**	**+0.8**
SONM	**Songino Array**	**49.80**	**342**	P	**P**	**10 56 47.6**	**-0.3**
	0.5nm,0.9s,mb3.6,baz=138,slow=8.8,SNR=2.9						
SONM	**Songino Array**	**49.80**	**342**	P	**P**	**10 56 47.6**	**-0.3**

*CSEM **10** 10:52:51.1, 60.92N×29.28E, h0km, ML1.3, Mining explosion. After HEL*
HEL 10 10:52:51.1±0.4, **60.92N**×**29.28E, h0**km, **ML1.3, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.93**	**246**	PG	Pg	10 53 07.3	-1.6
VJF				SG	Sg	10 53 21.0	+0.1
VJF				RG		10 53 24.6	
VJF	**Virojoki**	**0.93**	**246**	Pg	Pg	10 53 07.3	-1.6
VJF				Sg	Sg	10 53 21.0	+0.1
VJF				Rg		10 53 24.6	
FIA0	**FINESS Array S**	**1.64**	**290**	PG	Pg	10 53 19.8	-2.6
	baz=108						
FIA0				SG	Sg	10 53 40.4	-3.2
FIA0				MSG		10 53 40.4	
	comp=Z,2.7nm,0.3s						
FIA0				RG		10 53 48.2	
FIA0	**FINESS Array S**	**1.64**	**290**	Pg	Pg	10 53 19.8	-2.6
FIA0				Sg	Sg	10 53 40.4	-3.2
FIA0				Rg		10 53 48.2	
PVF	**Pernaja**	**1.72**	**259**	PG	Pg	10 53 20.9	-3.1
PVF				SG	Sg	10 53 45.6	-0.7
PVF				MSG		10 53 45.6	
	comp=Z,1.1nm,0.1s						
PVF	**Pernaja**	**1.72**	**259**	Pg	Pg	10 53 20.9	-3.1
PVF				Sg	Sg	10 53 45.5	-0.8
KAF	**Kangasniemi**	**1.86**	**311**	PN	Pn	10 53 24.2	0.0
KAF				SG	Sg	10 53 48.2	-2.6
KAF				MSG		10 53 48.2	
	comp=Z,2.3nm,0.4s						
KAF	**Kangasniemi**	**1.86**	**311**	Pn	Pn	10 53 24.2	0.0
KAF				Sg	Sg	10 53 48.2	-2.6
JOF	**Joensuu**	**2.23**	**25**	PN	Pn	10 53 30.4	+1.3
JOF				SG	Sg	10 53 59.2	-3.3
JOF				MSG		10 53 59.2	
	comp=Z,1.6nm,0.2s						
JOF	**Joensuu**	**2.23**	**25**	Pn	Pn	10 53 30.4	+1.2
JOF				Sg	Sg	10 53 59.2	-3.3
SUF	**Sumiainen**	**2.34**	**322**	PN	Pn	10 53 32.3	+1.6
SUF				SG	Sg	10 54 02.5	-3.6
SUF				MSG		10 54 02.5	
	comp=Z,0.9nm,0.2s						
SUF	**Sumiainen**	**2.34**	**322**	Pn	Pn	10 53 32.3	+1.6
SUF				Sg	Sg	10 54 02.5	-3.6
KEF	**Keuruu**	**2.45**	**303**	PN	Pn	10 53 33.5	+1.2
KEF				SG	Sg	10 54 05.2	-4.7
KEF				MSG		10 54 05.2	
	comp=Z,0.9nm,0.2s						
KEF	**Keuruu**	**2.45**	**303**	Pn	Pn	10 53 33.4	+1.1
KEF				Sg	Sg	10 54 05.1	-4.8

*IDC **10** 10:53:49.9±0.8, 33.05S×69.10W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.2/14, mbtmp4.1/9, ML3.9/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/21, Error ellipse: s-maj=23.7km s-min=14.3km az=111.0*
*ISCJB **10** 10:53:50.9±0.7, 33.11S±0.03×69.12W±0.03, h13km±5km, mb4.1/8, MS3.7/6, Error ellipse: s-maj=6.3km s-min=4.2km az=147.1*
*NEIC **10** 10:53:50.0, 32.94S×69.26W, h10km, mb4.1/1, MD4.8(SJA), After SJA.*
NEIC Slight damage [VI] at Potrerillos. Felt [IV] at Mendoza.
*GUC **10** 10:53:51.3±0.8, 33.08S×69.28W, h0km±7km, ML3.8*
ISC 10 10:53:51.1±0.6, **33.11S**±0.04×**69.18W**±0.03, **h7**km±4km, **n51**, σ1¶**31**/57, **mb4.1**/8, **MS3.7**/6, **3C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**0.36**	**51**	*iP*	**Pg**	**10 53 56.7**	**-1.4**
MDZ				*iS*	**Sg**	**10 54 03.2**	**+0.4**
FCH	**Farellones**	**0.96**	**257**	⇓*eP*	**Pg**	**10 54 11.8**	**+2.3**
FCH				*iS*	**Sg**	**10 54 26.0**	**+4.1**
FCH				AML	AML	10 54 26.8	
	comp=E,2μm,0.3s						
SJCH	**San Jose de Ma**	**1.12**	**241**	*eP*	**Pg**	**10 54 12.6**	**0.0**
SJCH				*eS*	**Sg**	**10 54 28.2**	**+1.1**
CLCH	**Cerro Calan**	**1.17**	**255**	⇓*eP*	**Pg**	**10 54 12.7**	**-0.9**
CLCH				*eS*	**Sg**	**10 54 28.1**	**-0.8**
CLCH				AML	AML	10 54 40.9	
	comp=E,3μm,1.1s						
FSR	**Penalolen**	**1.19**	**252**	*eP*	**Pb**	**10 54 13.4**	**-0.6**
FSR				*eS*	**Sg**	**10 54 30.2**	**+0.9**
PCH	**Pirque**	**1.23**	**245**	*eP*	**Pb**	**10 54 14.1**	**-0.5**
JACH	**Jahuel**	**1.26**	**289**	*iP*	**Pn**	**10 54 12.6**	**-2.6**
PEL	**Peldehue**	**1.26**	**268**	⇑*iP*	**Pn**	**10 54 13.3**	**-1.9**
PEL				*iS*	**Sb**	**10 54 30.0**	**-1.7**
SAN	**Santiago**	**1.29**	**254**	*eP*	**Pn**	**10 54 14.2**	**-1.3**
SAN				*eS*	**Sb**	**10 54 30.6**	**-1.8**
ROCH	**El Roble**	**1.54**	**275**	⇓*eP*	**Pn**	**10 54 18.2**	**-0.9**
ROCH				*iS*	**Sn**	**10 54 38.9**	**-0.5**
ROCH				AML	AML	10 54 41.7	
	comp=N,2μm,0.4s						
CACH	**El Canelo**	**1.55**	**229**	*eP*	**Pn**	**10 54 21.4**	**+2.2**
TACH	**Talagante**	**1.57**	**249**	*eP*	**Pn**	**10 54 19.7**	**+0.3**
CFAA	**Coronel Fontan**	**1.70**	**28**	Pn	**Pn**	**10 54 19.9**	**-1.3**
	comp=N,12nm,0.3s,baz=210,slow=16,SNR=331						
CFAA				Lg		10 54 41.3	
	comp=N,77nm,0.3s,baz=204,slow=7.1,SNR=30						
CFAA	**Coronel Fontan**	**1.70**	**28**	Pn	**Pn**	**10 54 19.9**	**-1.3**
CFAA				Lg		10 54 41.3	
PTCH	**Petorca**	**1.70**	**299**	*eP*	**Pn**	**10 54 20.4**	**-0.8**
PTCH				*iS*	**Sn**	**10 54 42.5**	**-0.7**
PTCH				AML	AML	10 54 43.8	
	comp=E,2μm,0.4s						
LNV	**Longovilo**	**2.05**	**245**	*eP*	**Pn**	**10 54 28.0**	**+2.0**
IHA	**Instituto Hidr**	**2.07**	**272**	*eP*	**Pn**	**10 54 27.3**	**+1.0**
CMCH	**Combarbala**	**2.47**	**321**	*eP*	**Pn**	**10 54 32.7**	**+0.9**
CMCH				*eS*	**Sn**	**10 55 04.5**	**+2.2**
NICH	**Los Niches**	**2.54**	**221**	*eP*	**Pn**	**10 54 37.2**	**+4.4**
TLL	**Tololo Astrono**	**3.24**	**334**	⇑*eP*	**Pn**	**10 54 44.5**	**+2.1**
TLL				*eS*	**Sn**	**10 55 24.7**	**+3.4**
TLL				AML	AML	10 55 36.5	
	comp=E,1μm,0.6s						
LCO	**Las Campanas**	**4.29**	**342**	*ePn*	**Pn**	**10 54 57.9**	**+1.1**
LCO				*eSn*	**Sn**	**10 55 49.2**	**+2.1**
LCO	**Las Campanas**	**4.29**	**342**	⇑*iP*	**Pn**	**10 54 57.7**	**+0.9**
LCO				*iS*	**Sn**	**10 55 48.0**	**+1.0**
TRQA	**Tornquist**	**7.67**	**132**	*ePn*	**Pn**	**10 55 43.9**	**+0.7**
PLCA	**Paso Flores**	**7.69**	**188**	Pn	**Pn**	**10 55 48.4**	**+5.0**
	comp=E,0.2nm,0.3s,baz=6.3,slow=9.2,SNR=3.3						
PLCA				Lg		10 57 59.2	
	comp=E,1.0nm,0.3s,baz=9.4,slow=14,SNR=2.9						
PLCA				LR	LR	10 59 16.8	
	comp=E,159nm,20.9s,baz=194,slow=42						
PLCA	**Paso Flores**	**7.69**	**188**	Pn	**Pn**	**10 55 48.4**	**+5.0**
	comp=E,3.9nm,1.1s						
PLCA				Lg		10 57 59.2	
CPUP	**Villa Florida**	**12.31**	**60**	Pn	**Pn**	**10 56 44.0**	**-2.9**
	baz=233,slow=15						
CPUP				Lg		11 00 20.2	
	comp=E,0.8nm,0.3s,baz=311,slow=20,SNR=2.5						
CPUP	**Villa Florida**	**12.31**	**60**	Pn	**Pn**	**10 56 44.0**	**-2.9**
CPUP				Lg		11 00 20.2	
LPAZ	**La Paz**	**16.77**	**3**	Pn	**Pn**	**10 57 46.1**	**-0.5**
	comp=E,0.2nm,0.3s,baz=168,slow=12,SNR=41						
LPAZ				LR	LR	11 04 30.7	
	comp=E,123nm,20.3s,baz=206,slow=38						
LPAZ	**La Paz**	**16.77**	**3**	*ePn*	**Pn**	**10 57 43.8**	**-2.8**
	comp=E,16nm,1.0s						
USHA	**Ushuaia**	**21.72**	**179**	LR	LR	11 07 58.8	
	comp=E,178nm,19.1s,MS3.5,baz=183,slow=39						
ATAH	**Atahualpa**	**27.22**	**340**	LR	LR	11 08 09.0	
	comp=E,72nm,21.3s,MS3.2,baz=216,slow=32						
SNAA	**Sanae**	**51.52**	**158**	P	**P**	**11 02 57.4**	**+0.4**
	comp=E,1.1nm,1.0s,mb3.7,baz=270,slow=12,SNR=10						
SNAA	**Sanae**	**51.52**	**158**	P	**P**	**11 02 57.4**	**+0.4**
QSPA	**South Pole Qui**	**57.13**	**180**	*eP*	**P**	**11 03 39.6**	**+1.8**
	comp=E,14nm,1.5s,mb4.8						
TXAR	**Lajitas Array**	**70.18**	**328**	P	**P**	**11 05 04.3**	**-0.2**
	comp=E,0.8nm,0.8s,mb3.7,baz=148,slow=7.0,SNR=7.4						
TXAR	**Lajitas Array**	**70.18**	**328**	P	**P**	**11 05 04.3**	**-0.2**
DBIC	**Dimbokro**	**72.63**	**70**	P	**P**	**11 05 19.1**	**-0.6**
	comp=E,3.4nm,0.8s,mb4.3,baz=225,slow=8.9,SNR=4.1						
DBIC				LR	LR	11 32 35.0	
	comp=E,56nm,19.1s,MS3.9,baz=258,slow=32						
DBIC	**Dimbokro**	**72.63**	**70**	P	**P**	**11 05 19.1**	**-0.6**
MAW	**Mawson**	**73.34**	**163**	LR	LR	11 36 03.0	
	comp=E,48nm,19.0s,MS3.8,baz=315,slow=34						
BOSA	**Boshof**	**78.35**	**116**	P	**P**	**11 05 52.6**	**+0.1**
	comp=E,2.8nm,0.8s,mb4.2,baz=259,slow=5.2,SNR=4.5						
BOSA				LR	LR	11 40 30.2	
	comp=E,52nm,18.2s,MS3.9,baz=176,slow=36						
BOSA	**Boshof**	**78.35**	**116**	P	**P**	**11 05 52.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**81.66**	**68**	P	**P**	**11 06 09.5**	**-0.9**
	comp=E,3.2nm,0.8s,mb4.3,baz=239,slow=5.3,SNR=19						
TORD				LR	LR	11 38 20.1	
	comp=E,42nm,18.6s,MS3.8,baz=325,slow=33						
TORD	**Torodi Ar. Bea**	**81.66**	**68**	P	**P**	**11 06 09.5**	**-0.9**
PDAR	**Pinedale Array**	**84.09**	**331**	P	**P**	**11 06 22.0**	**-0.3**
	comp=E,0.6nm,1.0s,mb3.7,baz=129,slow=7.2,SNR=3.7						
PDAR	**Pinedale Array**	**84.09**	**331**	P	**P**	**11 06 22.0**	**-0.3**
NVAR	**Mina Array Bea**	**84.56**	**323**	P	**P**	**11 06 25.7**	**+0.9**
	comp=E,1.5nm,0.8s,mb4.2,baz=154,slow=4.9,SNR=9.9						
NVAR	**Mina Array Bea**	**84.56**	**323**	P	**P**	**11 06 25.7**	**+0.9**
ZALV	**Zalesovo Beam**	**152.18**	**34**	PKPbc	PKPbc	11 13 46.6	-0.2
	comp=E,2.9nm,0.4s,baz=293,slow=2.6,SNR=17						
ZALV	**Zalesovo Beam**	**152.18**	**34**	PKPbc	PKPbc	11 13 46.6	-0.2
MKAR	**Makanchi Array**	**154.38**	**49**	PKPbc	PKPbc	11 13 51.8	-0.1
	comp=E,0.2nm,0.4s,baz=298,slow=3.9,SNR=3.7						
MKAR				PKPab	PKPab	11 14 04.8	-1.4
	comp=E,1.5nm,0.9s,baz=290,slow=4.4,SNR=6.1						
MKAR	**Makanchi Array**	**154.38**	**49**	PKPbc	PKPbc	11 13 51.8	-0.1
MKAR				PKPab	PKPab	11 14 04.8	-1.4

*VIE **10** 10:58:57.7±0.4, 50.20N×12.20E, h0km, mb2.3/1, ML2.3/2, Error ellipse: s-maj=4.5km s-min=2.3km az=54.0 19 km W of Klingenthal Suspected Mining explosion.*
*ISCJB **10** 10:58:59.8±0.3, 50.23N±0.02×12.53E±0.03, h0km, Error ellipse: s-maj=2.8km s-min=2.1km az=143.2*
*CSEM **10** 10:59:00.5±0.1, 50.23N×12.49E, h1km, ML2.7/4, Error ellipse: s-maj=2.0km s-min=1.4km az=72.0, Suspected Mining explosion.*
*BGR **10** 10:59:00.5±0.2, 50.24N×12.44E, h10km±2km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=105.0*
*PRU **10** 10:59:01.3, 50.22N×12.50E, h0km, West Bohemia Swarm*
ISC 10 10:59:00.8±0.3, **50.24N**±0.02×**12.49E**±0.03, **h0**km, **n43**, σ0¶**65**/80, **2D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**253**	*ePG*	**Pg**	**10 59 02.2**	**+0.9**
NKC				*eSG*	**Sg**	**10 59 03.2**	**+1.6**
	1μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**253**	Pg	**Pg**	**10 59 02.2**	**+0.9**
NKC				Sg	**Sg**	**10 59 03.2**	**+1.6**
	1μm,0.2s						
WERN	**Wernitzgruen**	**0.09**	**303**	*ePg*	**Pg**	**10 59 02.8**	**+0.4**
WERN				*eSg*	**Sg**	**10 59 04.1**	**+0.6**
WERN	**Wernitzgruen**	**0.09**	**303**	Pg	**Pg**	**10 59 02.8**	**+0.4**
WERN				Sg	**Sg**	**10 59 04.1**	**+0.6**
ROHR	**Rohrbach**	**0.11**	**267**	*ePg*	**Pg**	**10 59 03.0**	**+0.1**
ROHR				*eSg*	**Sg**	**10 59 04.4**	**+0.1**
ROHR	**Rohrbach**	**0.11**	**267**	Pg	**Pg**	**10 59 03.0**	**+0.1**
ROHR				Sg	**Sg**	**10 59 04.4**	**+0.1**
GUNZ	**Gunzen**	**0.16**	**321**	*ePg*	**Pg**	**10 59 04.0**	**+0.2**
GUNZ				*eSg*	**Sg**	**10 59 06.0**	**+0.1**
GUNZ	**Gunzen**	**0.16**	**321**	Pg	**Pg**	**10 59 04.0**	**+0.2**
GUNZ				Sg	**Sg**	**10 59 06.0**	**+0.1**
TANN	**Tannenbergstha**	**0.17**	**355**	*ePg*	**Pg**	**10 59 04.4**	**+0.3**
TANN				*eSg*	**Sg**	**10 59 06.6**	**+0.2**
TANN	**Tannenbergstha**	**0.17**	**355**	Pg	**Pg**	**10 59 04.4**	**+0.3**
TANN				Sg	**Sg**	**10 59 06.6**	**+0.2**
MULD	**Muldenberg**	**0.18**	**343**	*ePg*	**Pg**	**10 59 04.4**	**+0.2**
MULD				*eSg*	**Sg**	**10 59 06.6**	**+0.1**
MULD	**Muldenberg**	**0.18**	**343**	Pg	**Pg**	**10 59 04.4**	**+0.2**
MULD				Sg	**Sg**	**10 59 06.6**	**+0.1**
WERD	**Werda**	**0.24**	**331**	*ePg*	**Pg**	**10 59 05.3**	**0.0**
WERD				*eSg*	**Sg**	**10 59 08.2**	**-0.2**
WERD	**Werda**	**0.24**	**331**	Pg	**Pg**	**10 59 05.3**	**0.0**
WERD				Sg	**Sg**	**10 59 08.2**	**-0.2**
TRIB	**Obertriebel**	**0.25**	**296**	*ePg*	**Pg**	**10 59 05.4**	**-0.2**
TRIB				*eSg*	**Sg**	**10 59 08.3**	**-0.5**
TRIB	**Obertriebel**	**0.25**	**296**	Pg	**Pg**	**10 59 05.4**	**-0.2**
TRIB				Sg	**Sg**	**10 59 08.3**	**-0.5**
PLN	**Plauen**	**0.32**	**319**	*ePg*	**Pg**	**10 59 06.9**	**-0.1**
PLN				*eSg*	**Sg**	**10 59 10.7**	**-0.4**
PLN	**Plauen**	**0.32**	**319**	Pg	**Pg**	**10 59 06.9**	**-0.1**
PLN				Sg	**Sg**	**10 59 10.7**	**-0.5**
SCHF	**Schoenfels**	**0.44**	**353**	*ePg*	**Pg**	**10 59 09.2**	**0.0**
SCHF				*eSg*	**Sg**	**10 59 15.0**	**+0.1**
SCHF	**Schoenfels**	**0.44**	**353**	Pg	**Pg**	**10 59 09.2**	**0.0**
SCHF				Sg	**Sg**	**10 59 15.0**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.51**	**201**	*ePg*	**Pg**	**10 59 10.5**	**0.0**
ROTZ				*eSg*	**Sg**	**10 59 17.0**	**0.0**
ROTZ	**Rotzenmuhle**	**0.51**	**201**	Pg	**Pg**	**10 59 10.5**	**0.0**
ROTZ				Sg	**Sg**	**10 59 17.0**	**0.0**
MOX	**Moxa**	**0.69**	**306**	*ePg*	**Pg**	**10 59 13.6**	**-0.4**
MOX				*eSg*	**Sg**	**10 59 21.9**	**-0.9**
MOX	**Moxa**	**0.69**	**306**	Pg	**Pg**	**10 59 13.6**	**-0.4**
MOX				Sg	**Sg**	**10 59 21.9**	**-1.0**
GRA1	**Grafenberg Arr**	**0.98**	**237**	Pg	**Pg**	**10 59 19.2**	**-0.4**
GRA1				Sg	**Sg**	**10 59 31.4**	**-1.0**
GRF	**Grafenberg Arr**	**0.98**	**237**	*ePg*	**Pg**	**10 59 19.2**	**-0.5**
GRF				*eSg*	**Sg**	**10 59 31.4**	**-0.9**
CLL	**Collm**	**1.12**	**17**	*ePg*	**Pg**	**10 59 21.9**	**-0.3**
CLL				*eSg*	**Sg**	**10 59 36.8**	**+0.2**
CLL	**Collm**	**1.12**	**17**	*iPg*	**Pg**	**10 59 21.8**	**-0.4**
CLL				*e*		10 59 24.0	
CLL				*iSg*	**Sg**	**10 59 36.7**	**0.0**
	comp=Z,9.0nm,0.5s						
CLL				*i*		10 59 40.2	
CLL	**Collm**	**1.12**	**17**	Pg	**Pg**	**10 59 21.9**	**-0.3**
CLL				Sg	**Sg**	**10 59 36.8**	**+0.1**
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pg**	**10 59 24.9**	**+2.6**
BRG				SG	**Sg**	**10 59 36.9**	**0.0**
	comp=Z,19nm,0.2s						
BRG	**Berggiesshubel**	**1.12**	**55**	*ePg*	**Pg**	**10 59 22.3**	**0.0**
BRG				*eSg*	**Sg**	**10 59 37.0**	**+0.2**
BRG	**Berggiesshubel**	**1.12**	**55**	Pg	**Pg**	**10 59 22.3**	**0.0**
BRG				Sg	**Sg**	**10 59 37.0**	**+0.1**
WET	**Wettzell**	**1.13**	**167**	*ePg*	**Pg**	**10 59 21.9**	**-0.4**
WET				*eSg*	**Sg**	**10 59 36.5**	**-0.4**
WET	**Wettzell**	**1.13**	**167**	Pg	**Pg**	**10 59 21.9**	**-0.4**
WET				Sg	**Sg**	**10 59 36.5**	**-0.4**
KHC	**Kasperske Hory**	**1.32**	**147**	*ePG*	**Pg**	**10 59 24.5**	**-1.5**
KHC				*eSG*	**Sg**	**10 59 42.7**	**-0.4**
	comp=Z,6.0nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	Pg	**Pg**	**10 59 24.5**	**-1.5**
KHC				Sg	**Sg**	**10 59 42.7**	**-0.4**
	comp=Z,6.0nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	*eSG*	**Sg**	**10 59 44.4**	**+0.4**
	comp=Z,11nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	Sg	**Sg**	**10 59 44.4**	**+0.4**
	comp=Z,11nm,0.2s						
KSP	**Ksiaz**	**2.50**	**75**	*ePg*	**Sn**	**11 00 06.7**	**-7.1**
KSP				*eSg*	**Sg**	**11 00 20.3**	**-0.8**
MOA	**Molln**	**2.66**	**153**	⇓*iSg*	**Sg**	**11 00 27.2**	**+0.9**
	comp=Z,2.8nm,0.3s						
MOA	**Molln**	**2.66**	**153**	Sg	**Sg**	**11 00 27.2**	**+0.9**
	comp=Z,2.8nm,0.3s						
CONA	**Conrad Observa**	**3.21**	**135**	⇓*iSg*	**Sg**	**11 00 46.9**	**+3.2**
	comp=Z,2.2nm,0.3s						
CONA	**Conrad Observa**	**3.21**	**135**	Sg	**Sg**	**11 00 46.9**	**+3.2**
	comp=Z,2.2nm,0.3s						

MEX 10 11:29:15.8±0.8, **16.62N**×**99.08W, h20**km±98km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.94**	**104**	*iP*	Pb	11 29 31.3	-2.2
PNIG				*iS*	Sb	11 29 41.5	-4.0
CAIG	**El Cayaco**	**1.21**	**291**	*eP*	Pn	11 29 34.1	-3.5
CAIG				*iS*	Sb	11 29 49.2	-4.1
MEIG	**Mezcala**	**1.39**	**338**	*eP*	Pn	11 29 37.0	-3.1
MEIG				*iS*	Sn	11 29 54.2	-3.7
VHO	**Vista Hermosa**	**2.29**	**78**	*eP*	Pn	11 29 49.9	-2.6
VHO				*iS*	Sn	11 30 16.6	-3.5
PPM	**Popocatepetl**	**2.47**	**10**	*iP*

CONA	**Conrad Observa**	**3.21 135**	⇑*i*Sn	**Sn**	**12 01 35.2**	**-0.6**
CONA			⇑*i*Sg	**Sg**	**12 01 48.7**	**+0.3**
	10nm,0.6s					

*VIE **10** 12:03:35.5±0.3,50°.16N×12°.37E,h0km,ML2.3/2,Error ellipse: s-maj=3.1km s-min=1.4km az=65.0 10 km SW of Klingenthal Suspected Mining explosion.*
*ISCJB **10** 12:03:35.4±0.3,50°.23N±0°.02×12°.53E±0°.03,h0km,Error ellipse: s-maj=3.0km s-min=2.1km az=146.9*
*PRU **10** 12:03:36.5,50°.24N×12°.47E,h0km,West Bohemia Swarm*
*CSEM **10** 12:03:36.3±0.1,50°.24N×12°.49E,h1km,ML2.8/5,Error ellipse: s-maj=1.6km s-min=1.2km az=69.0,Suspected Mining explosion.*
*BGR **10** 12:03:36.2±0.2,50°.25N×12°.45E,h10km±2km,ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=106.0*
ISC 10 12:03:36.4±0.3,50°.25N±0°.02×12°.49E±0°.03,h0km,n42, σ0=47/77,1C-1D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03 245**		*e*Pg	**Pg**	**12 03 37.9**	**+0.9**
NKC				*e*SG	**Sg**	**12 03 38.9**	**+1.5**
	1μm,0.2s						
NKC	**Novy Kostel**	**0.03 245**		Pg	**Pg**	**12 03 37.9**	**+0.9**
NKC				Sg	**Sg**	**12 03 38.9**	**+1.5**
	1μm,0.2s						
WERN	**Wernitzgruen**	**0.08 300**		*e*Pg	**Pg**	**12 03 38.5**	**+0.4**
WERN				*e*Sg	**Sg**	**12 03 39.7**	**+0.6**
WERN	**Wernitzgruen**	**0.08 300**		Pg	**Pg**	**12 03 38.5**	**+0.5**
WERN				Sg	**Sg**	**12 03 39.7**	**+0.6**
ROHR	**Rohrbach**	**0.11 264**		*e*Pg	**Pg**	**12 03 38.7**	**+0.1**
ROHR				*e*Sg	**Sg**	**12 03 40.1**	**+0.1**
ROHR	**Rohrbach**	**0.11 264**		Pg	**Pg**	**12 03 38.7**	**+0.1**
ROHR				Sg	**Sg**	**12 03 40.1**	**+0.1**
GUNZ	**Gunzen**	**0.15 319**		*e*Pg	**Pg**	**12 03 39.6**	**+0.2**
GUNZ				*e*Sg	**Sg**	**12 03 41.6**	**+0.1**
GUNZ	**Gunzen**	**0.15 319**		Pg	**Pg**	**12 03 39.6**	**+0.2**
GUNZ				Sg	**Sg**	**12 03 41.6**	**+0.2**
TANN	**Tannenbergstha**	**0.17 354**		*e*Pg	**Pg**	**12 03 40.0**	**+0.3**
TANN				*e*Sg	**Sg**	**12 03 42.2**	**+0.2**
TANN	**Tannenbergstha**	**0.17 354**		Pg	**Pg**	**12 03 40.0**	**+0.3**
TANN				Sg	**Sg**	**12 03 42.2**	**+0.3**
MULD	**Muldenberg**	**0.17 342**		*e*Pg	**Pg**	**12 03 40.0**	**+0.2**
MULD				*e*Sg	**Sg**	**12 03 42.2**	**+0.2**
MULD	**Muldenberg**	**0.17 342**		Pg	**Pg**	**12 03 40.0**	**+0.2**
MULD				Sg	**Sg**	**12 03 42.2**	**+0.1**
WERD	**Werda**	**0.23 330**		*e*Pg	**Pg**	**12 03 41.0**	**+0.1**
WERD				*e*Sg	**Sg**	**12 03 43.7**	**-0.3**
WERD	**Werda**	**0.23 330**		Pg	**Pg**	**12 03 41.0**	**+0.1**
WERD				Sg	**Sg**	**12 03 43.7**	**-0.3**
TRIB	**Obertriebel**	**0.25 295**		*e*Pg	**Pg**	**12 03 41.0**	**-0.2**
TRIB				*e*Sg	**Sg**	**12 03 44.0**	**-0.5**
TRIB	**Obertriebel**	**0.25 295**		Pg	**Pg**	**12 03 41.0**	**-0.2**
TRIB				Sg	**Sg**	**12 03 44.0**	**-0.5**
PLN	**Plauen**	**0.32 319**		*e*Pg	**Pg**	**12 03 42.5**	**-0.1**
PLN				*e*Sg	**Sg**	**12 03 46.3**	**-0.5**
PLN	**Plauen**	**0.32 319**		Pg	**Pg**	**12 03 42.5**	**-0.1**
PLN				Sg	**Sg**	**12 03 46.3**	**-0.4**
SCHF	**Schoenfels**	**0.43 353**		*e*Pg	**Pg**	**12 03 44.8**	**0.0**
SCHF				*e*Sg	**Sg**	**12 03 50.2**	**-0.2**
SCHF	**Schoenfels**	**0.43 353**		Pg	**Pg**	**12 03 44.8**	**0.0**
SCHF				Sg	**Sg**	**12 03 50.2**	**-0.2**
ROTZ	**Rotzenmuhle**	**0.51 201**		*e*Pg	**Pg**	**12 03 46.2**	**0.0**
ROTZ				*e*Sg	**Sg**	**12 03 52.8**	**-0.1**
ROTZ	**Rotzenmuhle**	**0.51 201**		Pg	**Pg**	**12 03 46.2**	**0.0**
ROTZ				Sg	**Sg**	**12 03 52.8**	**-0.1**
MOX	**Moxa**	**0.69 306**		*e*Pg	**Pg**	**12 03 49.2**	**-0.4**
MOX				*e*Sg	**Sg**	**12 03 57.8**	**-0.7**
MOX	**Moxa**	**0.69 306**		Pg	**Pg**	**12 03 49.2**	**-0.4**
MOX				Sg	**Sg**	**12 03 57.8**	**-0.7**
GRA1	**Grafenberg Arr**	**0.99 236**		Pg	**Pg**	**12 03 54.9**	**-0.5**
GRA1				Sg	**Sg**	**12 04 07.5**	**-0.7**
GRF	**Grafenberg Arr**	**0.99 236**		*e*Pg	**Pg**	**12 03 54.9**	**-0.4**
GRF				*e*Sg	**Sg**	**12 04 07.5**	**-0.7**
CLL	**Collm**	**1.11 17**		*e*Pg	**Pg**	**12 03 57.5**	**-0.2**
CLL				*e*Sg	**Sg**	**12 04 12.0**	**-0.2**
CLL	**Collm**	**1.11 17**		*i* Pg	**Pg**	**12 03 57.4**	**-0.3**
CLL				*i*		12 04 00.3	
CLL				*i* Sg	**Sg**	**12 04 12.0**	**-0.2**
	comp=Z,12nm,0.4s						
CLL				*i*		12 04 15.6	
CLL	**Collm**	**1.11 17**		Pg	**Pg**	**12 03 57.5**	**-0.2**
CLL				Sg	**Sg**	**12 04 12.0**	**-0.2**
BRG	**Berggiesshubel**	**1.12 55**		SG	**Sg**	**12 04 12.6**	**+0.2**
	comp=Z,21nm,0.2s						
BRG	**Berggiesshubel**	**1.12 55**		*e*Pg	**Pg**	**12 03 58.1**	**+0.2**
BRG				*e*Sg	**Sg**	**12 04 12.3**	**-0.1**
BRG	**Berggiesshubel**	**1.12 55**		Pg	**Pg**	**12 03 58.1**	**+0.2**
BRG				Sg	**Sg**	**12 04 12.3**	**-0.1**
WET	**Wettzell**	**1.13 167**		*e*Pg	**Pg**	**12 03 57.7**	**-0.4**
WET				*e*Sg	**Sg**	**12 04 12.5**	**-0.3**
WET	**Wettzell**	**1.13 167**		Pg	**Pg**	**12 03 57.7**	**-0.4**
WET				Sg	**Sg**	**12 04 12.5**	**-0.2**
KHC	**Kasperske Hory**	**1.32 147**		*e*PG	**Pg**	**12 04 00.9**	**-0.8**
KHC				*e*SG	**Sg**	**12 04 18.4**	**-0.4**
	comp=Z,9.2nm,0.4s						
KHC	**Kasperske Hory**	**1.32 147**		Pg	**Pg**	**12 04 00.9**	**-0.8**
KHC				Sg	**Sg**	**12 04 18.4**	**-0.4**
	comp=Z,9.2nm,0.4s						
PRU	**Pruhonice**	**1.35 100**		*e*SG	**Sg**	**12 04 20.2**	**+0.6**
	comp=Z,19nm,0.2s						
PRU	**Pruhonice**	**1.35 100**		Sg	**Sg**	**12 04 20.2**	**+0.6**
	comp=Z,19nm,0.2s						
MOA	**Molln**	**2.67 153**		⇓*i*Sg	**Sg**	**12 05 01.9**	**-0.2**
	comp=Z,2.2nm,0.2s						
MOA	**Molln**	**2.67 153**		Sg	**Sg**	**12 05 01.9**	**-0.2**
	comp=Z,2.2nm,0.2s						
CONA	**Conrad Observa**	**3.21 135**		⇑*i*Sg	**Sg**	**12 05 20.3**	**+0.8**
	comp=Z,2.6nm,0.3s						
CONA	**Conrad Observa**	**3.21 135**		Sg	**Sg**	**12 05 20.3**	**+0.9**
	comp=Z,2.6nm,0.3s						

*ISCJB **10** 12:04:36.7±0.5,50°.24N±0°.02×12°.49E±0°.04,h13km±5km, Error ellipse: s-maj=3.9km s-min=3.3km az=176.4*
*CSEM **10** 12:04:37.7±0.1,50°.24N×12°.48E,h8km,ML2.8/4,Error ellipse: s-maj=1.0km s-min=0.8km az=79.0*
*BGR **10** 12:04:37.8±0.2,50°.25N×12°.44E,h10km±2km,ML2.0/6, Error ellipse: s-maj=2.2km s-min=1.1km az=108.0*
*PRU **10** 12:04:38.6,50°.24N×12°.52E,h0km,West Bohemia Swarm*
ISC 10 12:04:37.7±0.5,50°.24N±0°.02×12°.47E±0°.04,h9km±5km, n39,σ0=24/72,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02 233**		*e*PG	**Pg**	**12 04 39.6**	**+0.3**
NKC				*e*SG	**Sg**	**12 04 40.3**	**-0.1**
	720nm,0.2s						
NKC	**Novy Kostel**	**0.02 233**		Pg	**Pg**	**12 04 39.6**	**+0.3**
NKC				Sg	**Sg**	**12 04 40.3**	**-0.1**
	720nm,0.2s						
WERN	**Wernitzgruen**	**0.07 307**		*e*Pg	**Pg**	**12 04 40.1**	**+0.2**
WERN				*e*Sg	**Sg**	**12 04 41.3**	**0.0**
WERN	**Wernitzgruen**	**0.07 307**		Pg	**Pg**	**12 04 40.1**	**+0.2**
WERN				Sg	**Sg**	**12 04 41.3**	**-0.1**
ROHR	**Rohrbach**	**0.10 265**		*e*Pg	**Pg**	**12 04 40.3**	**+0.1**
ROHR				*e*Sg	**Sg**	**12 04 41.7**	**-0.2**
ROHR	**Rohrbach**	**0.10 265**		Pg	**Pg**	**12 04 40.3**	**+0.1**
ROHR				Sg	**Sg**	**12 04 41.7**	**-0.2**
GUNZ	**Gunzen**	**0.15 324**		*e*Pg	**Pg**	**12 04 41.2**	**+0.2**
GUNZ				*e*Sg	**Sg**	**12 04 43.1**	**-0.1**
GUNZ	**Gunzen**	**0.15 324**		Pg	**Pg**	**12 04 41.2**	**+0.2**
GUNZ				Sg	**Sg**	**12 04 43.1**	**-0.1**
TANN	**Tannenbergstha**	**0.17 358**		*e*Pg	**Pg**	**12 04 41.6**	**+0.2**
TANN				*e*Sg	**Sg**	**12 04 43.8**	**-0.1**
TANN	**Tannenbergstha**	**0.17 358**		Pg	**Pg**	**12 04 41.6**	**+0.2**
TANN				Sg	**Sg**	**12 04 43.8**	**-0.1**
MULD	**Muldenberg**	**0.17 346**		*e*Pg	**Pg**	**12 04 41.6**	**+0.2**
MULD				*e*Sg	**Sg**	**12 04 43.8**	**-0.1**
MULD	**Muldenberg**	**0.17 346**		Pg	**Pg**	**12 04 41.6**	**+0.2**
MULD				Sg	**Sg**	**12 04 43.8**	**-0.1**
WERD	**Werda**	**0.23 333**		*e*Pg	**Pg**	**12 04 42.6**	**+0.1**
WERD				*e*Sg	**Sg**	**12 04 45.2**	**-0.3**
WERD	**Werda**	**0.23 333**		Pg	**Pg**	**12 04 42.6**	**+0.2**
WERD				Sg	**Sg**	**12 04 45.2**	**-0.3**
TRIB	**Obertriebel**	**0.24 297**		*e*Pg	**Pg**	**12 04 42.6**	**0.0**
TRIB				*e*Sg	**Sg**	**12 04 45.6**	**-0.3**
TRIB	**Obertriebel**	**0.24 297**		Pg	**Pg**	**12 04 42.6**	**0.0**
TRIB				Sg	**Sg**	**12 04 45.6**	**-0.2**
PLN	**Plauen**	**0.31 321**		*e*Pg	**Pg**	**12 04 44.1**	**+0.1**
PLN				*e*Sg	**Sg**	**12 04 48.0**	**-0.2**
PLN	**Plauen**	**0.31 321**		Pg	**Pg**	**12 04 44.1**	**+0.2**
PLN				Sg	**Sg**	**12 04 48.0**	**-0.2**
SCHF	**Schoenfels**	**0.44 354**		*e*Pg	**Pg**	**12 04 46.4**	**+0.2**
SCHF				*e*Sg	**Sg**	**12 04 52.1**	**+0.1**
SCHF	**Schoenfels**	**0.44 354**		Pg	**Pg**	**12 04 46.4**	**+0.1**
SCHF				Sg	**Sg**	**12 04 52.1**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.51 200**		*e*Pg	**Pg**	**12 04 47.9**	**+0.4**
ROTZ				*e*Sg	**Sg**	**12 04 54.5**	**+0.3**
ROTZ	**Rotzenmuhle**	**0.51 200**		Pg	**Pg**	**12 04 47.9**	**+0.4**
ROTZ				Sg	**Sg**	**12 04 54.5**	**+0.3**
MOX	**Moxa**	**0.68 307**		*e*Pg	**Pg**	**12 04 50.8**	**0.0**
MOX				*e*Sg	**Sg**	**12 04 59.5**	**-0.1**
MOX	**Moxa**	**0.68 307**		Pg	**Pg**	**12 04 50.8**	**0.0**
MOX				Sg	**Sg**	**12 04 59.5**	**-0.2**
GRA1	**Grafenberg Arr**	**0.98 236**		Pg	**Pg**	**12 04 56.6**	**+0.1**
GRA1				Sg	**Sg**	**12 05 08.8**	**-0.4**
GRF	**Grafenberg Arr**	**0.98 236**		*e*Pg	**Pg**	**12 04 56.6**	**+0.1**
GRF				*e*Sg	**Sg**	**12 05 08.8**	**-0.3**
CLL	**Collm**	**1.12 17**		*e*Pg	**Pg**	**12 04 59.1**	**-0.1**
CLL				*e*Sg	**Sg**	**12 05 13.9**	**+0.2**
CLL	**Collm**	**1.12 17**		*i* Pg	**Pg**	**12 04 59.0**	**-0.2**
CLL				*i*		12 05 02.0	
CLL				*i* Sg	**Sg**	**12 05 13.8**	**+0.1**
CLL				*i*		12 05 17.3	
CLL	**Collm**	**1.12 17**		Pg	**Pg**	**12 04 59.1**	**-0.1**
CLL				Sg	**Sg**	**12 05 13.9**	**+0.2**
BRG	**Berggiesshubel**	**1.13 56**		*e*Pg	**Pg**	**12 04 59.7**	**+0.2**
BRG				*e*Sg	**Sg**	**12 05 13.9**	**-0.2**
BRG	**Berggiesshubel**	**1.13 56**		Pg	**Pg**	**12 04 59.7**	**+0.2**
BRG				Sg	**Sg**	**12 05 13.9**	**-0.3**
WET	**Wettzell**	**1.13 166**		*e*Sg	**Sg**	**12 05 14.3**	**+0.2**
WET	**Wettzell**	**1.13 166**		Sg	**Sg**	**12 05 14.3**	**+0.2**
KHC	**Kasperske Hory**	**1.33 147**		*e*PG	**Pg**	**12 05 02.5**	**-0.7**
KHC				*e*SG	**Sg**	**12 05 20.1**	**-0.2**
	5.3nm,0.3s						
KHC	**Kasperske Hory**	**1.33 147**		Pg	**Pg**	**12 05 02.5**	**-0.7**
KHC				Sg	**Sg**	**12 05 20.1**	**-0.2**
	5.3nm,0.3s						
PRU	**Pruhonice**	**1.36 100**		*e*SG	**Sg**	**12 05 21.0**	**-0.4**
	8.6nm,0.2s						
PRU	**Pruhonice**	**1.36 100**		Sg	**Sg**	**12 05 21.0**	**-0.4**
	8.6nm,0.2s						
PVCC	**Panska Ves**	**1.37 77**		*e*SG	**Sg**	**12 05 22.2**	**+0.3**
	20nm,0.2s						
PVCC	**Panska Ves**	**1.37 77**		Sg	**Sg**	**12 05 22.2**	**+0.3**
	20nm,0.2s						

*BJI **10** 12:22:30.9,27°.17N×140°.32E,h500km,mB4.7/16, mb4.7/35*
*IDC **10** 12:22:32.8±0.4,27°.19N×140°.17E,h500km±5km,mb3.6/28, mb1 3.7/32,mb1mx3.7/33,mbtmp3.6/32,Error ellipse: s-maj=10.1km s-min=6.7km az=82.0*
*ISCJB **10** 12:22:32.5±0.3,27°.22N±0°.03×140°.24E±0°.04, h508km±3km,mb4.3/83,Error ellipse: s-maj=5.4km s-min=4.5km az=178.0*
*MOS **10** 12:22:32.1±0.9,27°.22N×140°.19E,h505km,mb4.4/18, Error ellipse: s-maj=10.4km s-min=6.3km az=115.8*
*NEIC **10** 12:22:33.2±0.4,27°.21N×140°.17E,h500km±4km,mb4.6/39, Error ellipse: s-maj=4.8km s-min=4.3km az=128.0*
*JMA **10** 12:22:34.0±0.2,27°.41N×140°.45E,h501km,M4.6*
ISC 10 12:22:33.4±0.3,27°.24N±0°.03×140°.22E±0°.04,h500km±3km, n239,σ0=97/269,mb4.3/83,1C-1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.75 94**		P	**P**	**12 23 37.6**	**+0.3**
	220nm,0.3s,baz=286,slow=21,SNR=186						
CBIJ				S	**S**	**12 24 28.2**	**-1.0**
	346nm,0.3s,baz=287,slow=19,SNR=12						
CBIJ	**Chichi jima**	**1.75 94**		P	**P**	**12 23 37.6**	**+0.3**
CBIJ				S	**S**	**12 24 28.2**	**-1.0**
CBIJ	**Chichi jima**	**1.75 94**		P	**P**	**12 23 37.6**	**+0.3**
CBIJ				*e*S	**S**	**12 24 26.8**	**-2.4**
JHHJ	**Haha-jima-NKT**	**1.85 109**		P	**P**	**12 23 38.7**	**+0.9**
JHHJ				S	**S**	**12 24 29.5**	**-0.5**
JHJ2	**Mitsune**	**5.86 357**		P	**P**	**12 24 08.0**	**-0.2**
JHJ2				*e*S	**S**	**12 25 24.4**	**-1.4**
TK02	**Tokai 2**	**7.01 343**		P	**P**	**12 24 21.5**	**+2.0**
TTO1	**TONANKAI O.B.S**	**7.02 336**		P	**P**	**12 24 22.5**	**+2.9**
JWZ	**Kozaga**	**7.38 329**		P	**P**	**12 24 25.3**	**+2.1**
BRG1	**Boso 1**	**7.42 5**		P	**P**	**12 24 24.0**	**+0.4**
BSO1				S	**S**	**12 25 52.9**	**-1.1**
JIE	**Ise**	**7.74 338**		P	**P**	**12 24 28.4**	**+1.5**
JIE				*e*S	**S**	**12 26 00.4**	**+0.3**
JOD2	**Odawara 2**	**8.05 353**		P	**P**	**12 24 31.8**	**+1.6**
JOD2				*e*S	**S**	**12 26 03.9**	**-2.2**
JTO	**Tosashimizu**	**8.52 313**		P	**P**	**12 24 37.0**	**+1.9**
JRY	**Ryogami san**	**8.82 353**		P	**P**	**12 24 37.6**	**-0.5**
JRY				*e*S	**S**	**12 26 17.4**	**-3.2**
MJAR	**Matsushiro Arr**	**9.43 350**		P	**P**	**12 24 43.4**	**-1.1**
	12nm,0.3s,baz=173,slow=10.0,SNR=73						
MJAR				S	**S**	**12 26 31.5**	**-0.9**
	1.3nm,0.3s,baz=178,slow=17,SNR=5.6						
MJAR	**Matsushiro Arr**	**9.43 350**		P	**P**	**12 24 43.4**	**-1.1**
MJAR				S	**S**	**12 26 31.5**	**-0.9**
MJAR	**Matsushiro Arr**	**9.43 350**		P	**P**	**12 24 43.4**	**-1.1**
MJAR				S	**S**	**12 26 31.5**	**-0.9**
MAJO	**Matsushiro**	**9.43 350**		*e*P	**P**	**12 24 43.8**	**-0.8**
MAJO				*e*S	**S**	**12 26 30.1**	**-2.3**
MAJO	**Matsushiro**	**9.43 350**		*e*P	**P**	**12 24 43.8**	**-0.7**
MAJO				*e*S	**S**	**12 26 30.1**	**-2.3**
MAT	**Matsushiro**	**9.43 350**		P	**P**	**12 24 43.8**	**-0.7**
MAT				S	**S**	**12 26 29.2**	**-3.2**
MAT	**Matsushiro**	**9.43 350**		P	**P**	**12 24 43.8**	**-0.7**
MAT				*e*S	**S**	**12 26 27.8**	**-4.6**
JAM	**Amami Oshima**	**9.47 280**		P	**P**	**12 24 46.6**	**+1.5**
JHS	**Saijyo**	**9.84 324**		P	**P**	**12 24 50.5**	**+1.6**
JHS				*e*S	**S**	**12 26 41.1**	**+0.7**
JNU	**Nakatsue**	**9.98 308**		*e*P	**P**	**12 24 51.7**	**+1.2**
JNU				*e*S	**S**	**12 26 43.2**	**0.0**
JSJ	**Shimokoshiki**	**10.17 298**		P	**P**	**12 24 53.2**	**+0.8**
JOW	**Kunigami**	**10.66 271**		P	**P**	**12 24 58.6**	**+0.9**
	22nm,0.3s,baz=106,slow=9.4,SNR=65						
JOW	**Kunigami**	**10.66 271**		*e*P	**P**	**12 24 58.4**	**+0.7**
JOW	**Kunigami**	**10.66 271**		P	**P**	**12 24 58.6**	**+0.9**
JMK	**Ichinoseki**	**11.71 4**		P	**P**	**12 25 09.4**	**+0.8**
JMK				*e*S	**S**	**12 27 13.5**	**-3.0**
JOT	**Ohata**	**14.12 3**		P	**P**	**12 25 34.6**	**+0.5**
GUMO	**Guam**	**14.26 161**		P	**P**	**12 25 34.0**	**-2.0**
GUMO	**Guam**	**14.26 161**		P	**P**	**12 25 34.0**	**-2.0**
KSRS	**Korea Array**	**14.54 318**		P	**P**	**12 25 37.1**	**-1.4**
	2.9nm,0.3s,baz=134,slow=9.4,SNR=9.0						
KSRS	**Korea Array**	**14.54 318**		P	**P**	**12 25 37.2**	**-1.3**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KSAR	**Wonju Array Be**	**14.55 317**		P	**P**	**12 25 37.1**	**-1.6**
KSAR	**Wonju Array Be**	**14.55 317**		P	**P**	**12 25 37.2**	**-1.5**
JKB	**Kayabe**	**14.62 2**		P	**P**	**12 25 39.3**	**-0.1**
JOSM	**Okushiri--Mats**	**14.82 358**		P	**P**	**12 25 41.4**	**0.0**
INCN	**Inchon**	**15.35 315**		*e*P	**P**	**12 25 48.3**	**+1.2**
	comp=Z,19nm,0.6s						
NEM2	**Nemuro 2**	**16.70 14**		P	**P**	**12 26 00.7**	**-0.3**
ASAJ	**Asahikawa**	**16.95 6**		P	**P**	**12 26 04.0**	**+0.5**
	comp=Z,5.1nm,0.3s,baz=227,slow=20,SNR=36						
ASAJ	**Asahikawa**	**16.95 6**		*e*P	**P**	**12 26 03.9**	**+0.4**
	comp=Z,30nm,1.5s						
ASAJ	**Asahikawa**	**16.95 6**		P	**P**	**12 26 04.0**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JTKR	**Abashiri--Toko**	**16.95 9**		P	**P**	**12 26 04.0**	**+0.4**
YHNB	**Yeheng**	**17.14 266**		*e*P	**P**	**12 26 03.1**	**-2.8**
	comp=Z,22nm,0.7s						
YULB	**Yu-li**	**17.54 262**		*e*P	**P**	**12 26 07.6**	**-1.9**
	comp=Z,18nm,0.7s						
SSLB	**Suanglung**	**17.73 263**		*e*P	**P**	**12 26 10.6**	**-0.7**
	comp=Z,48nm,0.8s						
JWK2	**Keihoku**	**18.09 4**		P	**P**	**12 26 15.1**	**+0.9**
TPUB	**Ta-pu**	**18.15 262**		*e*P	**P**	**12 26 14.8**	**-0.3**
	comp=Z,18nm,0.6s						
NJ2	**Nanjing**	**19.17 290**		*e*P	**P**	**12 26 26.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**19.78 5**		*e*P	**P**	**12 26 30.3**	**+0.7**
	comp=Z,13nm,0.5s						
YSS	**Yuzh-Sakhalins**	**19.78 5**		*e*P	**P**	**12 26 30.3**	**+0.7**
YSS				pmax	pmax		
	comp=Z,13nm,0.5s						
CN2	**Changchun**	**20.38 328**		*e*P	**P**	**12 26 31.3**	**-3.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WHN	**Wuhan**	**22.88 284**		P	**P**	**12 26 57.5**	**-0.4**
BJI	**Beijing**	**23.66 309**		P	**P**	**12 27 04.4**	**-0.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
HHC	**Hu-ho-hao-te**	**27.21 307**		*e*P	**P**	**12 27 36.4**	**+0.2**
HHC				sP	sP	12 29 58.9	0.0
HHC				S	**S**	**12 31 39.5**	**+0.2**
HHC				PcS	PcS	12 34 21.5	-0.9
HHC				ScS	ScS	12 37 23.4	-1.9
HHC				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
HHC				pmax	pmax		
	comp=Z,130nm,4.5s						
XAN	**Xi'an**	**27.70 292**		P	**P**	**12 27 40.0**	**-0.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
PETK	**Petropavlovsk-**	**28.92 22**		P	**P**	**12 27 52.6**	**+1.6**
	comp=Z,4.5nm,0.8s,mb3.9,baz=202,slow=5.0,SNR=6.6						
PETK	**Petropavlovsk-**	**28.92 22**		P	**P**	**12 27 52.6**	**+1.6**
PETK	**Petropavlovsk-**	**28.92 22**		P	**P**	**12 27 52.6**	**+1.6**
PET	**Petropavlovsk**	**29.18 23**		*e*P	**P**	**12 27 54.2**	**+1.0**
	comp=Z,9.1nm,0.5s,mb4.5						
PET	**Petropavlovsk**	**29.18 23**		*e*P	**P**	**12 27 54.2**	**+1.0**
PET				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.5						
GYA	**Guiyang**	**29.90 276**		*e*P	**P**	**12 28 00.4**	**+0.5**
GYA				pP		12 29 24.8	
GYA				sP	sP	12 30 23.2	-0.1
GYA				PcP	PcP	12 30 49.6	+2.2
GYA				S	**S**	**12 32 21.0**	**-0.6**
GYA				ScP	ScP	12 33 42.5	+0.7
GYA				PcS	PcS	12 34 31.8	+0.3
GYA				ScS	ScS	12 37 37.2	-1.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
GYA				pmax	pmax		
	comp=Z,80nm,4.6s						
KKM	**Kota Kinabalu**	**31.08 232**		*e*P	**P**	**12 28 10.8**	**+0.6**
	comp=Z,22nm,1.2s,mb4.5						
CD2	**Chengdu**	**31.99 285**		*e*P	**P**	**12 28 18.2**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
LZH	**Lanzhou**	**32.05 295**		*e*P	**P**	**12 28 17.7**	**-0.5**
LZH				pP		12 29 45.8	
LZH				sP	sP	12 30 40.4	-1.9
LZH				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.6						
LZH	**Lanzhou**	**32.05 295**		*e*P	**P**	**12 28 17.7**	**-0.5**
	comp=Z,27nm,1.0s,mb4.6						
LZH				pP		12 29 45.8	
LZH				sP	sP	12 30 40.4	-1.9
LZH	**Lanzhou**	**32.05 295**		*e*P	**P**	**12 28 17.7**	**-0.5**
LZH				*PP		12 29 45.8	
LZH				*SP	sP	12 30 40.4	-1.9
LZH				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**33.02 317**		*e*P	**P**	**12 28 25.8**	**-0.6**
	comp=Z,4.1nm,0.7s,mb4.0						
ULN				*e*pP		12 29 33.0	
ULN	**Ulaanbaatar**	**33.02 317**		*e*P	**P**	**12 28 25.8**	**-0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**33.41 317**		P	**P**	**12 28 29.6**	**0.0**
	comp=Z,3.2nm,0.5s,mb4.0,baz=126,slow=8.3,SNR=24						
SONM				ScP	ScP	12 33 51.4	-2.0
	comp=Z,0.5nm,0.7s,baz=129,slow=2.5,SNR=2.9						
SONM	**Songino Array**	**33.41 317**		P	**P**	**12 28 29.6**	**0.0**
SONM				ScP	ScP	12 33 51.4	-2.0
SONM	**Songino Array**	**33.41 317**		P	**P**	**12 28 29.6**	**0.0**
KMI	**Kunming**	**33.62 275**		P	**P**	**12 28 32.3**	**+0.5**
KMI				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
KMI	**Kunming**	**33.62 275**		P	**P**	**12 28 32.3**	**+0.5**
	comp=Z,13nm,0.8s,mb4.4						
KMI	**Kunming**	**33.62 275**		P	**P**	**12 28 32.3**	**+0.5**
KMI				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
YAK	**Yakutsk**

comp=Z,23nm,0.5s,mb4.8
GUN Gumba 47.83 284 *e*P **P 12 30 26.1 +0.9**
comp=Z,104nm,0.7s,mb5.3
GUN Gumba 47.83 284 *e*P **P 12 30 26.1 +0.9**
comp=Z,104nm,0.7s,mb5.3
ZALV Zalesovo Beam 48.24 319 P **P 12 30 27.1 -0.6**
comp=Z,4.3nm,0.5s,mb4.0,baz=108,slow=7.8,SNR=25
ZALV PcP PcP 12 31 44.4 -1.0
comp=Z,2.6nm,0.5s,baz=106,slow=3.7,SNR=7.4
ZALV ScP ScP 12 34 50.3 -1.6
comp=Z,0.7nm,0.5s,baz=108,slow=4.7,SNR=3.4
ZALV Zalesovo Beam 48.24 319 P **P 12 30 27.1 -0.6**
ZALV PcP PcP 12 31 44.4 -1.0
ZALV ScP ScP 12 34 50.3 -1.6
ZALV Zalesovo Beam 48.24 319 P **P 12 30 27.1 -0.6**
ZALV 12 31 44.4
PKI Pulchoki 48.31 284 *e*P **P 12 30 29.0 +0.2**
comp=Z,22nm,0.5s,mb4.7
PKI Pulchoki 48.31 284 *e*P **P 12 30 29.0 +0.2**
comp=Z,22nm,0.5s,mb4.7
PKI Pulchoki 48.31 284 *e*P **P 12 30 29.0 +0.2**
PKI pmax pmax
comp=Z,22nm,0.5s,mb4.7
KKN Kakani 48.38 284 *e*P **P 12 30 29.7 +0.4**
comp=Z,14nm,0.4s,mb4.7
KKN Kakani 48.38 284 *e*P **P 12 30 29.7 +0.4**
comp=Z,14nm,0.4s,mb4.7
KKN Kakani 48.38 284 *e*P **P 12 30 29.7 +0.4**
KKN pmax pmax
comp=Z,14nm,0.4s,mb4.6
DMN Daman 48.57 284 *e*P **P 12 30 31.0 +0.3**
comp=Z,26nm,0.5s,mb4.8
DMN Daman 48.57 284 *e*P **P 12 30 31.0 +0.3**
comp=Z,26nm,0.5s,mb4.8
GKN Gorkha 48.88 284 *e*P **P 12 30 33.2 +0.2**
comp=Z,93nm,1.1s,mb5.0
GKN Gorkha 48.88 284 *e*P **P 12 30 33.2 +0.2**
comp=Z,93nm,1.1s,mb5.0
MK31 Makanchi Array 49.03 310 *e*P **P 12 30 33.8 -0.1**
MK31 *e*PcP PcP 12 31 48.0 -0.5
MK31 *e*ScP ScP 12 34 54.9 -0.6
MK31 Makanchi Array 49.03 310 *e*P **P 12 30 33.8 0.0**
MK31 *e* 12 31 48.0
MKAR Makanchi Array 49.03 310 P **P 12 30 33.7 -0.1**
comp=Z,3.9nm,0.5s,mb4.0,baz=87,slow=10,SNR=63
MKAR PcP PcP 12 31 47.9 -0.6
comp=Z,1.1nm,0.5s,baz=86,slow=5.9,SNR=4.5
MKAR ScP ScP 12 34 53.5 -1.9
comp=Z,0.5nm,0.5s,baz=77,slow=4.8,SNR=7.2
MKAR Makanchi Array 49.03 310 P **P 12 30 33.7 -0.1**
MKAR PcP PcP 12 31 47.9 -0.6
MKAR ScP ScP 12 34 53.5 -1.9
MKAR Makanchi Array 49.03 310 P **P 12 30 33.7 -0.1**
MKAR 12 31 47.9
DANN Dangsing 49.56 285 *e*P **P 12 30 38.9 +0.8**
comp=Z,62nm,0.6s,mb5.2
DANN Dangsing 49.56 285 *e*P **P 12 30 38.9 +0.8**
comp=Z,62nm,0.6s,mb5.1
KOLN Koldanda 49.83 284 *e*P **P 12 30 40.0 0.0**
comp=Z,13nm,0.3s,mb4.7
KOLN Koldanda 49.83 284 *e*P **P 12 30 40.0 0.0**
comp=Z,13nm,0.3s,mb4.8
SDPT Sand Point 50.70 39 *e*P **P 12 30 45.9 -0.1**
comp=Z,36nm,0.5s,mb5.0
ASAR Alice Springs 50.98 187 P **P 12 30 47.6 -0.7**
comp=Z,1.7nm,0.3s,mb3.8,baz=358,slow=4.1,SNR=80
ASAR PcP PcP 12 31 55.1 -0.7
comp=Z,0.2nm,0.7s,baz=18,slow=3.8,SNR=4.4
ASAR ScP ScP 12 35 02.9 -1.1
comp=Z,0.4nm,0.8s,baz=9.2,slow=5.2,SNR=3.4
ASAR S **S 12 37 25.4 -2.2**
comp=Z,0.2nm,0.6s,baz=15,slow=19,SNR=4.5
ASAR Alice Springs 50.98 187 P **P 12 30 47.6 -0.7**
ASAR PcP PcP 12 31 55.1 -0.7
ASAR ScP ScP 12 35 02.9 -1.1
ASAR S **S 12 37 25.4 -2.2**
ASAR Alice Springs 50.98 187 P **P 12 30 47.6 -0.7**
ASAR 12 31 55.2
ASAR S **S 12 37 25.4 -2.2**
KURK Kurchatov 51.64 315 P **P 12 30 52.8 -0.1**
comp=Z,12nm,0.7s,mb4.3,baz=92,slow=7.9,SNR=81
KURK S **S 12 37 34.4 -1.5**
comp=Z,0.6nm,0.4s,baz=83,slow=9.6,SNR=5.7
KURK Kurchatov 51.64 315 P **P 12 30 52.8 -0.1**
comp=Z,1.4nm,0.9s,mb3.3
KURK *e*PcP PcP 12 31 56.2 -1.9
KURK S **S 12 37 34.4 -1.5**
KURK Kurchatov 51.64 315 P **P 12 30 52.8 0.0**
KURK *e* 12 31 56.2
KURK S **S 12 37 34.4 -1.5**
KURK pmax pmax
comp=Z,1.0nm,0.9s
ULHL Ulahol 53.49 304 P **P 12 31 07.1 +0.8**
SNR=8.3
ULHL P 12 31 07.1
SNR=8.3
TKM2 Tokmak 2 53.90 305 P **P 12 31 10.1 +0.9**
SNR=15
TKM2 P 12 31 10.1
SNR=15
TKM2 Tokmak 2 53.90 305 *e*P **P 12 31 10.0 +0.8**
comp=Z,8.0nm,0.6s,mb4.2
TKM2 Tokmak 2 53.90 305 *e*P **P 12 31 10.0 +0.8**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
KSH Kashi 54.00 301 P **P 12 31 13.4 +3.4**
KSH PcP PcP 12 32 09.3 +1.9
KSH pP pP 12 32 53.3 +5.6
KSH PP PP 12 33 24.3 +6.2
KSH sP sP 12 33 47.7 +5.4
KSH ScP ScP 12 35 18.4 +1.2
KSH PcS PcS 12 36 08.6 +1.1
KSH S **S 12 38 13.0 +5.3**
KSH ScS ScS 12 40 07.3 +0.5
KSH sS sS 12 41 09.5 +6.1
KSH SS SS 12 42 06.1 +7.9
KSH pmax pmax
comp=Z,18nm,0.6s,mb4.6
KSH pmax pmax
comp=Z,54nm,5.5s
KZA Kyzart 54.24 304 P **P 12 31 13.4 +1.8**
SNR=16
KZA P 12 31 13.4
SNR=16
KBK Karagaybulak 54.40 305 P **P 12 31 13.4 +0.7**
SNR=13
KBK P 12 31 13.4
SNR=13
USP Ospenovka 54.67 305 P **P 12 31 14.7 +0.1**
SNR=6.9
USP P 12 31 14.7
SNR=6.9
AAK Ala-Archa 54.74 305 P **P 12 31 15.5 +0.4**
SNR=8.2
AAK P 12 31 15.5
SNR=8.2
AAK Ala-Archa 54.74 305 *e*P **P 12 31 15.3 +0.3**
comp=Z,28nm,0.7s,mb4.7
AAK Ala-Archa 54.74 305 *e*P **P 12 31 15.4 +0.3**
AAK pmax pmax
comp=Z,28nm,0.7s,mb4.7
EKS2 Erkin-Say 55.26 305 P **P 12 31 19.1 +0.4**
SNR=8.0
EKS2 P 12 31 19.1
SNR=8.0
EKS2 Erkin-Say 55.26 305 *e*P **P 12 31 19.1 +0.4**
comp=Z,6.8nm,1.0s,mb3.9
EKS2 Erkin-Say 55.26 305 *e*P **P 12 31 19.1 +0.4**
EKS2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
KDAK Kodiak Island 55.29 37 P **P 12 31 18.8 +0.1**
comp=Z,4.4nm,0.4s,mb4.2,baz=243,slow=2.3,SNR=19
KDAK Kodiak Island 55.29 37 P **P 12 31 18.8 +0.1**
KDAK Kodiak Island 55.29 37 P **P 12 31 18.8 +0.1**
AML Almayashu 55.38 304 P **P 12 31 21.0 +1.3**
SNR=8.5
AML P 12 31 21.0
SNR=8.5
PPLA Purkeypile 55.93 31 *e*P **P 12 31 24.4 +1.4**
comp=Z,3.0nm,0.5s,mb3.9
VOSK Vostochnaya 56.40 317 P **P 12 31 25.6 -0.9**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
BPAW Bear Paw Mtn. 56.60 29 *e*P **P 12 31 28.3 +0.7**
comp=Z,7.7nm,0.4s,mb4.4
BVA0 Borovoye Array 56.75 317 *i*P **P 12 31 28.4 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
BVAR Borovoye Array 56.75 317 P **P 12 31 28.7 -0.2**
comp=Z,12nm,0.4s,mb4.6,baz=91,slow=7.0,SNR=75
BVAR Borovoye Array 56.75 317 P **P 12 31 28.7 -0.2**
BVAR Borovoye Array 56.75 317 P **P 12 31 28.7 -0.2**
BRVK Borovoye 56.81 317 *e*P **P 12 31 29.2 -0.1**
comp=Z,9.8nm,0.8s,mb4.2
BRVK Borovoye 56.81 317 *e*P **P 12 31 29.3 0.0**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
TRF Thorofare Moun 56.84 30 *e*P **P 12 31 29.9 +0.6**
comp=Z,39nm,1.6s,mb4.5
RC01 Rabbit Creek A 56.93 33 *e*P **P 12 31 30.1 +0.1**
comp=Z,5.4nm,0.4s,mb4.2
COLD Coldfoot 57.29 26 *e*P **P 12 31 33.6 +1.2**
comp=Z,6.2nm,0.7s,mb4.0
MCK McKinley 57.47 30 *e*P **P 12 31 34.1 +0.5**
comp=Z,14nm,0.8s,mb4.4
MCK McKinley 57.47 30 *e*P **P 12 31 34.1 +0.5**
MCK pmax pmax
comp=Z,14nm,0.8s,mb4.3
KK31 Karatay Array 57.58 306 *i*P **P 12 31 34.7 -0.1**
KK31 pmax pmax
comp=Z,8.0nm,0.4s,mb4.4
KKAR Karatay Array 57.58 306 *e*P **P 12 31 34.7 0.0**
comp=Z,16nm,0.6s,mb4.5
KKAR Karatay Array 57.58 306 *e*P **P 12 31 34.7 -0.1**
KKAR pmax pmax
comp=Z,16nm,0.6s,mb4.5
ILAR Eielson Array 58.42 29 P **P 12 31 39.4 -0.7**
comp=Z,1.7nm,0.3s,mb3.8,baz=250,slow=5.6,SNR=56
ILAR Eielson Array 58.42 29 P **P 12 31 39.4 -0.7**
ILAR Eielson Array 58.42 29 P **P 12 31 39.4 -0.7**
STKA Stephens Creek 58.80 179 P **P 12 31 43.1 0.0**
comp=Z,2.8nm,0.7s,mb3.7,baz=7.1,slow=7.0,SNR=5.3
STKA Stephens Creek 58.80 179 P **P 12 31 43.1 0.0**
STKA Stephens Creek 58.80 179 P **P 12 31 43.1 0.0**
BMRM Bremner River 59.43 33 *e*P **P 12 31 47.7 +0.8**
comp=Z,67nm,1.6s,mb4.7
MENT Mentasta 59.80 31 *e*P **P 12 31 50.3 +0.9**
KBL Kabul 60.39 296 *e*P **P 12 31 53.9 0.0**
comp=Z,23nm,1.0s,mb4.6
KBL Kabul 60.39 296 *e*P **P 12 31 53.9 +0.1**
KBL pmax pmax
comp=Z,23nm,1.0s,mb4.6
ARU Arti 63.23 322 *e*P **P 12 32 11.4 -0.6**
comp=Z,7.7nm,0.7s,mb4.3
ARU Arti 63.23 322 *d i*P **P 12 32 11.3 -0.7**
ARU *e* 12 34 35.5
ARU S **S 12 40 05.2 +1.1**
ARU SS SS 12 44 21.3 -0.2
ARU pmax pmax
comp=Z,13nm,1.0s,mb4.4
AB31 Akbulak array 63.74 314 *i*P **P 12 32 14.2 -1.2**
AB31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.4
ABKAR Akbulak array 63.74 314 *e*P **P 12 32 14.7 -0.6**
comp=Z,8.2nm,0.6s,mb4.4
AKTO Aktyubinsk 64.71 316 P **P 12 32 20.9 -0.6**
comp=Z,3.0nm,0.6s,mb4.1,baz=83,slow=14,SNR=11
AKTO Aktyubinsk 64.71 316 P **P 12 32 20.9 -0.6**
AKTO Aktyubinsk 64.71 316 P **P 12 32 20.8 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
KEV Kevo 72.26 340 *e*P **P 12 33 05.6 -1.4**
KEV pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
KEV Kevo 72.26 340 *e*p **P 12 33 05.6 -1.4**
comp=Z,3.1nm,0.9s,mb3.8
ARCES ARCESS Array B 72.83 340 P **P 12 33 10.6 +0.4**
comp=Z,2.1nm,0.9s,mb3.7,baz=58,slow=8.6,SNR=7.0
ARCES ARCESS Array B 72.83 340 P **P 12 33 10.6 +0.4**
ARCES ARCESS Array B 72.83 340 P **P 12 33 10.6 +0.4**
YKA Yellowknife Ar 72.84 28 P **P 12 33 10.3 -0.1**
comp=Z,5.5nm,0.7s,mb4.2,baz=297,slow=5.8,SNR=56
YKA Yellowknife Ar 72.84 28 P **P 12 33 10.3 -0.1**
YKA Yellowknife Ar 72.84 28 P **P 12 33 10.3 -0.1**
JOF Joensuu 74.17 333 *e*P **P 12 33 16.2 -1.8**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
JOF Joensuu 74.17 333 *e*p **P 12 33 16.2 -1.8**
comp=Z,3.2nm,0.4s,mb4.2
KAF Kangasniemi 76.58 334 *e*P **P 12 33 29.6 -1.9**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.3
KAF Kangasniemi 76.58 334 *e*p **P 12 33 29.6 -1.9**
comp=Z,4.9nm,0.5s,mb4.3
FINES FINESS Array B 77.04 333 P **P 12 33 33.4 -0.6**
comp=Z,6.1nm,0.3s,mb4.5,baz=67,slow=4.7,SNR=38
FINES FINESS Array B 77.04 333 P **P 12 33 33.4 -0.6**
FINES FINESS Array B 77.04 333 P **P 12 33 33.4 -0.6**
MIB Mutribah 79.27 298 *e*P **P 12 33 45.8 -0.8**
MIB AMb AMB 12 33 46.6
comp=Z,45nm,0.6s,mb5.2
RDF Al-Radifah 79.47 297 *e*P **P 12 33 46.6 -1.1**
RDF AMb AMB 12 33 48.0
comp=Z,53nm,0.7s,mb5.2
NAY Al-Naaiem 79.58 297 *e*P **P 12 33 47.6 -0.7**
NAY AMb AMB 12 33 48.3
comp=Z,26nm,0.6s,mb5.0
AKASG Malin Array Be 81.46 323 P **P 12 33 56.7 -0.9**
comp=Z,2.9nm,0.4s,mb4.2,baz=52,slow=5.1,SNR=17
AKASG Malin Array Be 81.46 323 P **P 12 33 56.7 -1.0**
AKASG Malin Array Be 81.46 323 P **P 12 33 56.7 -1.0**
NVAR Mina Array Bea 81.79 51 P **P 12 34 00.9 +1.3**
comp=Z,1.2nm,0.6s,mb3.6,baz=296,slow=6.2,SNR=13
NVAR Mina Array Bea 81.79 51 P **P 12 34 00.9 +1.3**
NOA NORSAR Array B 82.82 338 P **P 12 34 03.2 -1.1**
comp=Z,1.6nm,0.6s,mb3.7,baz=46,slow=4.9,SNR=7.6
NOA NORSAR Array B 82.82 338 P **P 12 34 03.2 -1.1**
NOA NORSAR Array B 82.82 338 P **P 12 34 03.2 -1.2**
BR131 Keskin Array S 84.61 312 *e*P **P 12 34 12.6 -1.1**
comp=Z,0.9nm,0.5s,mb3.7
BRTR Keskin Array B 84.61 312 P **P 12 34 12.8 -0.9**
comp=Z,1.6nm,0.6s,mb3.9,baz=85,slow=3.3,SNR=8.7
BRTR Keskin Array B 84.61 312 P **P 12 34 12.8 -0.9**
BRTR Keskin Array B 84.61 312 P **P 12 34 12.9 -0.8**
PDAR Pinedale Array 85.33 44 P **P 12 34 17.9 +0.7**
comp=Z,0.3nm,0.7s,baz=323,slow=0.7,SNR=4.0
PDAR Pinedale Array 85.33 44 P **P 12 34 17.9 +0.7**
MMAI Mount Meron Ar 86.81 306 P **P 12 34 24.2 -0.3**
comp=Z,2.4nm,0.6s,mb4.1,baz=67,slow=11,SNR=3.4
MMAI Mount Meron Ar 86.81 306 P **P 12 34 24.2 -0.2**
ULM Lac du Bonnet 88.26 32 P **P 12 34 31.7 +0.9**
comp=Z,1.4nm,0.5s,mb4.0,baz=272,slow=4.1,SNR=3.6
ULM Lac du Bonnet 88.26 32 P **P 12 34 31.7 +0.9**
ULM Lac du Bonnet 88.26 32 P **P 12 34 31.7 +0.8**
GERES GERESS Array B 90.47 328 P **P 12 34 39.9 -1.3**
comp=Z,0.3nm,0.3s,mb3.6,baz=64,slow=3.1,SNR=4.9
GERES GERESS Array B 90.47 328 P **P 12 34 39.9 -1.3**
GERES GERESS Array B 90.47 328 P **P 12 34 39.9 -1.2**
TXAR Lajitas Array 96.90 52 P **P 12 35 12.1 +1.2**
comp=Z,0.3nm,0.5s,mb3.8,baz=280,slow=2.7,SNR=6.4
TXAR Lajitas Array 96.90 52 P **P 12 35 12.1 +1.2**
TXAR Lajitas Array 96.90 52 P **P 12 35 12.1 +1.2**
TORD Torodi Ar. Bea 123.16 310 PKP PKPdf 12 40 32.1 -1.4
comp=Z,0.7nm,0.6s,baz=39,slow=1.4,SNR=9.8
TORD Torodi Ar. Bea 123.16 310 PKP PKPdf 12 40 32.1 -1.4

*ATH **10** 12:29:56.2, 40°.62N×21°.67E, h5km, MD3.2/7*
*CSEM **10** 12:29:59.6±0.3, 40°.46N×21°.89E, h2km, ML2.2/4, Error ellipse: s-maj=6.5km s-min=5.8km az=148.0*
*ISCJB **10** 12:30:00.0±0.7, 40°.48N±0°.03×21°.81E±0°.05, h10km, Error ellipse: s-maj=5.4km s-min=4.8km az=32.9*
*THE **10** 12:30:00.9, 40°.44N×21°.91E, h0km±5km, ML2.2/4, Error ellipse: s-maj=5.9km s-min=1.7km az=33.0*
ISC 10 12:29:59.9±0.7, 40°.50N±0°.04×21°.87E±0°.05, h0km±8km, n29, σ1º01/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.21**	**202**	*e*PB	**Pg**	**12 30 03.1**	**-0.8**
KZN				*e*SB	**Sg**	**12 30 07.6**	**+1.0**
KZN	**Kozani**	**0.21**	**202**	P	**Pg**	**12 30 02.8**	**-1.1**
KZN				S	**Sg**	**12 30 07.0**	**+0.4**
KZN	**Kozani**	**0.21**	**202**	P	**Pg**	**12 30 02.8**	**-1.1**
KZN	**Kozani**	**0.21**	**202**	*e*Pb	**Pg**	**12 30 03.1**	**-0.8**
KZN				S	**Sg**	**12 30 07.0**	**+0.4**
KZN				*e*Sb	**Sg**	**12 30 07.6**	**+1.0**
FNA	**Florina**	**0.47**	**307**	P	**Pg**	**12 30 10.3**	**+1.4**
FNA				S	**Sg**	**12 30 20.4**	**+5.4**
FNA	**Florina**	**0.47**	**307**	P	**Pg**	**12 30 10.3**	**+1.4**
LIT	**Litokhoron**	**0.62**	**130**	*e*PB	**Pg**	**12 30 11.7**	**-0.1**
LIT				*e*SB	**Sg**	**12 30 23.1**	**+3.3**
LIT	**Litokhoron**	**0.62**	**130**	P	**Pg**	**12 30 11.2**	**-0.6**
LIT	**Litokhoron**	**0.62**	**130**	P	**Pg**	**12 30 11.2**	**-0.6**
LIT	**Litokhoron**	**0.62**	**130**	*e*Pb	**Pg**	**12 30 11.7**	**-0.1**
NEST	**Nestorio**	**0.63**	**262**	P	**Pg**	**12 30 12.0**	**0.0**
NEST	**Nestorio**	**0.63**	**262**	P	**Pg**	**12 30 12.0**	**0.0**
THL	**Klokotos Trika**	**0.94**	**173**	*e*PB	**Pg**	**12 30 17.1**	**-0.9**
THL				*e*SB	**Sg**	**12 30 32.5**	**+2.3**
THL	**Klokotos Trika**	**0.94**	**173**	P	**Pg**	**12 30 16.4**	**-1.6**
THL				S	**Sg**	**12 30 30.8**	**+0.6**
THL	**Klokotos Trika**	**0.94**	**173**	P	**Pg**	**12 30 16.4**	**-1.6**
THL	**Klokotos Trika**	**0.94**	**173**	*e*Pb	**Pg**	**12 30 17.1**	**-0.9**
THL				S	**Sg**	**12 30 30.8**	**+0.6**
THL				*e*Sb	**Sg**	**12 30 32.5**	**+2.3**
KNT	**Kendrikon**	**1.02**	**49**	P	**Pg**	**12 30 20.3**	**+0.9**
KNT	**Kendrikon**	**1.02**	**49**	P	**Pg**	**12 30 20.3**	**+0.9**
SOH	**Sokhos**	**1.17**	**74**	*e*PB	**Pg**	**12 30 21.2**	**-1.1**
SOH				*e*SB	**Sb**	**12 30 39.0**	**+0.3**
SOH	**Sokhos**	**1.17**	**74**	*e*Pb	**Pg**	**12 30 21.2**	**-1.1**
SOH				*e*Sb	**Sb**	**12 30 39.0**	**+0.3**
PLG	**Polygyros**	**1.21**	**96**	*e*PG	**Pg**	**12 30 21.5**	**-1.5**
PLG				*e*SB	**Sb**	**12 30 40.9**	**+1.2**
PLG	**Polygyros**	**1.21**	**96**	*e*Pg	**Pg**	**12 30 21.5**	**-1.5**
PLG				*e*Sb	**Sb**	**12 30 40.9**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.50**	**172**	P	**Pn**	**12 30 27.9**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.50**	**172**	P	**Pn**	**12 30 27.9**	**-0.1**
AGG	**Agios Georgios**	**1.52**	**166**	*e*PB	**Pb**	**12 30 28.4**	**-0.5**
AGG	**Agios Georgios**	**1.52**	**166**	P	**Pn**	**12 30 28.3**	**0.0**
AGG				S	**Sg**	**12 30 49.3**	**+0.6**
AGG	**Agios Georgios**	**1.52**	**166**	*e*Pb	**Pb**	**12 30 28.4**	**-0.5**
AGG				S	**Sg**	**12 30 49.3**	**+0.6**
EVR	**Evrytania**	**1.58**	**182**	*e*PG	**Pn**	**12 30 28.1**	**-1.1**
EVR	**Evrytania**	**1.58**	**182**	*e*Pg	**Pn**	**12 30 28.1**	**-1.1**

*ISK **10** 12:45:39.8, 40°.15N×31°.71E, h5km, MD3.0*
*ISCJB **10** 12:45:40.4±0.4, 40°.17N±0°.03×31°.64E±0°.03, h10km, Error ellipse: s-maj=3.9km s-min=3.5km az=11.8*
*DDA **10** 12:45:40.3, 40°.19N×31°.63E, h7km±6km, Md3.0*
*CSEM **10** 12:45:40.9±0.2, 40°.16N×31°.68E, h2km, MD3.0, Error ellipse: s-maj=5.1km s-min=4.1km az=18.0*
ISC 10 12:45:40.9±0.5, 40°.16N±0°.03×31°.67E±0°.03, h1km±8km, n36, σ1º05/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDUB	**Mudurnu**	**0.48**	**311**	*e*PG	**Pg**	**12 45 50.3**	**+0.2**
MDUB				*e*SG	**Sg**	**12 45 59.1**	**+2.9**
MDUB	**Mudurnu**	**0.48**	**311**	*e*Pg	**Pg**	**12 45 50.3**	**+0.3**
MDUB				*e*Sg	**Sg**	**12 45 59.1**	**+2.9**
SGKT	**Sivrigoynuk**	**0.51**	**36**	*i*P	**Pg**	**12 45 49.3**	**-1.4**
SGKT				*i*S	**Sg**	**12 45 58.2**	**+0.9**
SGKT	**Sivrigoynuk**	**0.51**	**36**	*i*P	**Pg**	**12 45 49.3**	**-1.4**
SGKT				*i*S	**Sg**	**12 45 58.2**	**+0.9**
SVRH	**Sivrihisar-ESK**	**0.72**	**189**	*e*PG	**Pg**	**12 45 54.6**	**-0.1**
SVRH				*e*SG	**Sg**	**12 46 06.0**	**+2.0**
SVRH	**Sivrihisar-ESK**	**0.72**	**189**	*e*Pg	**Pg**	**12 45 54.6**	**0.0**
SVRH				*e*Sg	**Sg**	**12 46 06.0**	**+2.1**
HENT	**Hendek**	**0.89**	**319**	*i*P	**Pg**	**12 45 57.1**	**-0.8**
HENT				*i*S	**Sg**	**12 46 16.1**	**+6.8**
HENT	**Hendek**	**0.89**	**319**	*i*P	**Pg**	**12 45 57.1**	**-0.8**
LOD	**Lodumlu**	**0.89**	**107**	*e*PG	**Pg**	**12 45 57.3**	**-0.5**
LOD				*e*SG	**Sg**	**12 46 10.3**	**+1.0**
LOD	**Lodumlu**	**0.89**	**107**	*e*Pg	**Pg**	**12 45 57.3**	**-0.6**
LOD				*e*Sg	**Sg**	**12 46 10.3**	**+1.0**
ESKT	**Eskisehir**	**0.90**	**225**	*i*P	**Pg**	**12 45 57.0**	**-1.0**
ESKT				*i*S	**Sg**	**12 46 10.6**	**+0.9**
SEYT	**Eskypehyr**	**0.90**	**225**	*i*P	**Pg**	**12 45 57.0**	**-1.0**
SEYT				*i*S	**Sg**	**12 46 10.6**	**+1.0**
GULT	**Gulveren**	**0.92**	**288**	*e*PG	**Pg**	**12 45 59.4**	**+0.8**
GULT	**Gulveren**	**0.92**	**288**	*e*Pg	**Pg**	**12 45 59.4**	**+0.8**
BORA	**Eskisehir**	**0.97**	**254**	*i*P	**Pg**	**12 45 58.6**	**-0.9**
BORA				*i*S	**Sg**	**12 46 16.5**	**+4.4**
BORA	**Eskisehir**	**0.97**	**254**	*i*P	**Pg**	**12 45 58.7**	**-0.8**
BBAL	**Bala**	**1.28**	**118**	*i*P	**Pg**	**12 46 05.5**	**+0.1**
BBAL				*i*S	**Sg**	**12 46 21.9**	**-0.1**
BBAL	**Bala**	**1.28**	**118**	*i*P	**Pg**	**12 46 05.5**	**+0.1**
KIZT	**Kizilcal**	**1.29**	**173**	*e*PN	**Pn**	**12 46 05.2**	**-0.8**
KIZT	**Kizilcal**	**1.29**	**173**	*e*Pn	**Pn**	**12 46 05.2**	**-0.8**
CAVI	**Cavuskoy**	**1.40**	**272**	*e*PN	**Pn**	**12 46 07.9**	**+0.4**
CAVI	**Cavuskoy**	**1.40**	**272**	*e*Pn	**Pn**	**12 46 07.9**	**+0.4**
ADVT	**Abdulvahap**	**1.50**	**281**	*e*PN	**Pg**	**12 46 09.8**	**+0.1**
ADVT	**Abdulvahap**	**1.50**	**281**	*e*Pn	**Pg**	**12 46 09.8**	**+0.2**
ALT	**Altintas**	**1.63**	**228**	*e*PN	**Pg**	**12 46 11.3**	**-0.8**
ALT	**Altintas**	**1.63**	**228**	*e*Pn	**Pg**	**12 46 11.4**	**-0.7**
KDHN	**Kadinhani**	**1.67**	**168**	*i*P	**Pg**	**12 46 12.4**	**-0.5**
KDHN				*i*S	**Sg**	**12 46 37.9**	**+3.3**
KDHN	**Kadinhani**	**1.67**	**168**	*i*P	**Pg**	**12 46 12.4**	**-0.5**
YLV	**Yalova**	**1.80**	**284**	*e*PN	**Pg**	**12 46 14.0**	**-1.3**
YLV	**Yalova**	**1.80**	**284**	*e*Pn	**Pg**	**12 46 14.0**	**-1.4**
LADK	**Ladik-KONYA**	**2.03**	**164**	*e*PN	**Pg**	**12 46 16.6**	**-3.1**
LADK	**Ladik-KONYA**	**2.03**	**164**	*e*Pn	**Pg**	**12 46 16.6**	**-3.2**
CORM	**Corum**	**2.27**	**89**	*e*PN	**Pn**	**12 46 20.1**	**+0.5**
CORM	**Corum**	**2.27**	**89**	*e*Pn	**Pn**	**12 46 20.1**	**+0.6**
YOZ	**Yozgat**	**2.86**	**99**	*e*PN	**Pn**	**12 46 27.7**	**+0.2**
YOZ	**Yozgat**	**2.86**	**99**	*e*Pn	**Pn**	**12 46 27.7**	**+0.1**

*IDC **10** 13:04:33.2±1.2, 30°.97S×176°.66W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.1/17, mbtmp4.1/6, ML3.6/1, MS3.9/1, Ms1 3.9/1, ms1mx3.4/25, Error ellipse: s-maj=42.3km s-min=26.8km az=161.0*
*NEIC **10** 13:04:34.1±1.1, 30°.95S×176°.51W, h10km, mb4.2/2, Error ellipse: s-maj=26.6km s-min=18.6km az=138.0*
*ISCJB **10** 13:04:36.2±1.3, 31°.25S±0°.10×176°.7W±0°.2, h33km, mb4.1/6, Error ellipse: s-maj=27.8km s-min=11.0km az=20.8*
ISC 10 13:04:38.3±1.4, 31°.1S±0°.1×176°.7W±0°.2, h35km, n24, σ0º90/21, mb4.1/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.76**	**214**	Pn	**Pn**	**13 06 42.8**	**+0.3**
0.6nm,0.3s,baz=82,slow=19,SNR=7.0							
URZ				Sn	**Sn**	**13 08 20.6**	**+0.6**
1.7nm,0.3s,baz=158,slow=19,SNR=14							
URZ				LR	LR	13 09 13.7	
comp=Z,104nm,18.5s,baz=308,slow=32							
URZ	**Urewera**	**8.76**	**214**	Pn	**Pn**	**13 06 42.8**	**+0.3**
URZ				Sn	**Sn**	**13 08 20.6**	**+0.6**
OUZ	**Omahuta**	**9.13**	**241**	P	**Pn**	**13 06 51.2**	**+3.7**
KHZ	**Kahutara**	**13.72**	**212**	*e*P	**Pn**	**13 07 48.8**	**-1.4**
RPZ	**Rata Peaks**	**15.88**	**214**	Pn	**Pn**	**13 08 14.9**	**-4.1**
0.5nm,0.3s,baz=32,slow=9.5,SNR=2.5							
RPZ	**Rata Peaks**	**15.88**	**214**	Pn	**Pn**	**13 08 14.9**	**-4.1**
CTA	**Charters Tower**	**35.05**	**279**	P	**P**	**13 11 28.5**	**+0.5**
3.0nm,0.7s,mb4.4,baz=110,slow=13,SNR=4.1							
CTA	**Charters Tower**	**35.05**	**279**	P	**P**	**13 11 28.5**	**+0.5**
CTAO	**Charters Tower**	**35.05**	**279**	*e*P	**P**	**13 11 29.5**	**+1.5**
2.1nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**35.44**	**258**	P	**P**	**13 11 32.3**	**+1.1**
2.9nm,0.8s,mb4.2,baz=100,slow=6.1,SNR=2.9							
STKA	**Stephens Creek**	**35.44**	**258**	P	**P**	**13 11 32.3**	**+1.1**
ASAR	**Alice Springs**	**44.22**	**267**	P	**P**	**13 12 43.9**	**-0.4**
1.1nm,0.6s,mb3.8,baz=107,slow=7.5,SNR=21							
ASAR	**Alice Springs**	**44.22**	**267**	P	**P**	**13 12 43.9**	**-0.4**
WB2	**Warramunga Arr**	**45.27**	**272**	P	**P**	**13 12 52.3**	**-0.3**
WRAB	**Tennant Creek**	**45.27**	**272**	*e*P	**P**	**13 12 51.9**	**-0.8**
1.6nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**45.28**	**272**	P	**P**	**13 12 52.0**	**-0.7**
1.2nm,0.4s,mb4.1,baz=112,slow=7.8,SNR=9.7							
WRA	**Warramunga Arr**	**45.28**	**272**	P	**P**	**13 12 52.0**	**-0.7**
**CF

*NEIC **10** 13:11:48.5±2.2, 31°.36S×176°.69W, h10km, Error ellipse: s-maj=54.1km s-min=20.1km az=105.0*
ISC 10 13:11:49.1±3.7, 31°.5S±0°.2×176°.2W±0°.6, h35km, n10, σ0.47/10, mb3.5/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.70**	**217**	Pn		**Pn**	**Pn**	**13 13 52.6**	**+0.3**
	0.9nm,0.3s,baz=117,slow=14,SNR=10								
URZ				Sn		**Sn**	**Sn**	**13 15 29.1**	**-0.1**
	2.3nm,0.3s,baz=177,slow=21,SNR=10.0								
URZ	**Urewera**	**8.70**	**217**	*e*P		**Pn**	**Pn**	**13 13 53.5**	**+1.1**
URZ				Sn		**Sn**	**Sn**	**13 15 29.1**	**-0.1**
RPZ	**Rata Peaks**	**15.81**	**216**	Pn		**Pn**	**Pn**	**13 15 28.4**	**-0.6**
	1.4nm,0.3s,baz=56,slow=7.6,SNR=7.3								
RPZ	**Rata Peaks**	**15.81**	**216**	Pn		**Pn**	**Pn**	**13 15 28.4**	**-0.6**
ASAR	**Alice Springs**	**44.57**	**267**	P		**P**	**P**	**13 19 57.5**	**-0.3**
	0.3nm,0.7s,mb3.2,baz=104,slow=6.9,SNR=3.4								
ASAR	**Alice Springs**	**44.57**	**267**	P		**P**	**P**	**13 19 57.5**	**-0.3**
WRA	**Warramunga Arr**	**45.65**	**272**	P		**P**	**P**	**13 20 06.7**	**+0.2**
	0.7nm,0.5s,mb3.8,baz=111,slow=7.9,SNR=2.8								
WRA	**Warramunga Arr**	**45.65**	**272**	P		**P**	**P**	**13 20 06.7**	**+0.2**
FINES	**FINESS Array B**	**146.66**	**341**	PKPbc		PKPbc	PKPbc	13 31 29.1	+2.8
	1.6nm,0.6s,baz=34,slow=4.8,SNR=4.6								
FINES	**FINESS Array B**	**146.66**	**341**	PKPbc		PKPbc	PKPbc	13 31 29.1	+2.8

*NOU **10** 13:15:29.9±0.8, 11°.83S×167°.43E, h30km, MD4.6, ML4.9*
*IDC **10** 13:15:32.9±1.2, 12°.38S×166°.64E, h37km±8km, mb5.3/24, mb1 5.4/25, mb1mx5.4/25, mbtmp5.3/25, ML4.1/1, MS5.4/18, Ms1 5.4/18, ms1mx5.4/18, Error ellipse: s-maj=9.9km s-min=9.4km az=151.0*
*MOS **10** 13:15:34.1±1.3, 12°.30S×166°.49E, h54km, mb5.8/40, MS5.6/20, Error ellipse: s-maj=7.1km s-min=6.6km az=94.6*
*ISCJB **10** 13:15:34.7±0.1, 12°.39S±0°.02×166°.49E±0°.02, h62km, mb5.9/229, Error ellipse: s-maj=2.7km s-min=2.5km az=144.4*
*NEIC **10** 13:15:34.4±0.1, 12°.34S×166°.57E, h51km, mb5.7/104, ME5.6, MW6.0, MW5.9, Error ellipse: s-maj=4.4km s-min=3.6km az=130.0, Moment Tensor Solution. s76 Moment tensor: Scale 10^18Nm; Mrr1.18; Mθθ-1.16; Mφφ-0.02; Mrθ-0.54; Mθφ0.10; Mφr-0.13; Best double couple: M0 1.30000×10^18 NP1:φs102.00000°, δ33.00000°, λ103.00000°. NP2:φs267.00000°, δ58.00000°, λ82.00000°. Principal axes: T 1.3200, Plg75.0000°, Azm152.0000°; N -0.0300, Plg7.0000°, Azm271.0000°; P -1.2800, Plg12.0000°, Azm3.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*BJI **10** 13:15:35.2, 11°.96S×166°.68E, h62km, mB6.0/39, mb5.9/70, Ms5.7/68, MS7 5.4/63*
*GCMT **10** 13:15:39.2±0.1, 12°.33S×166°.32E, h67km, MW6.0, Moment Tensor Solution. s118,c269; s77,c97; Moment tensor: Scale 10^18Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mφr0.00; Mθr0.00; Best double couple: M0 1.20000×10^18 NP1:φs125.00000°, δ32.00000°, λ118.00000°. NP2:φs273.00000°, δ62.00000°, λ74.00000°. Principal axes: T 1.1900, Plg68.0000°, Azm150.0000°; N 0.0200, Plg14.0000°, Azm280.0000°; P -1.2100, Plg16.0000°, Azm14.0000°; Data Used: II IU CN IC G. Surface waves: sta=118, comp=265, per= 50.*
*DJA **10** 13:15:40, 12°.41S×166°.48E, h85km, Mw6.3/75*
ISC 10 13:15:36.7±0.1, 12°.37S±0°.02×166°.54E±0°.02, h65km, h65km±2.4km: pP-P, n1150, σ0.87/665, mb5.8/229, 135C-126D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.10**	**294**	*e*Pn		**Pn**	**Pn**	**13 17 16.2**	**-1.8**
HNR	**Honiara**	**7.10**	**294**	*e*P		**Pn**	**Pn**	**13 17 16.2**	**-1.8**
DZM	**Mont Dzumac**	**9.65**	**181**	*e*Pn		**Pn**	**Pn**	**13 17 53.1**	**+0.3**
	564nm,0.2s								
DZM				*e*Sn		**Sn**	**Sn**	**13 19 40.8**	**+1.2**
	266nm,0.3s								
DZM				*e*LR		LR	LR	13 20 09.2	
	126μm,25.9s								
DZM	**Mont Dzumac**	**9.65**	**181**	*e*P		**Pn**	**Pn**	**13 17 53.0**	**+0.2**
DZM				*e*S		**Sn**	**Sn**	**13 19 40.2**	**+0.6**
DZM				AMP				13 19 52.2	
	comp=Z,3μm,4.3s								
DZM	**Mont Dzumac**	**9.65**	**181**	*e*Pn		**Pn**	**Pn**	**13 17 52.8**	**0.0**
	comp=Z,885nm,0.7s								
NOUC	**Port Laguerre**	**9.68**	**181**	*e*P		**Pn**	**Pn**	**13 17 54.0**	**+0.8**
NOUC				*e*S		**Sn**	**Sn**	**13 19 40.2**	**-0.2**
NOUC				AMP				13 19 44.3	
	comp=Z,167nm,8.2s								
BAYA	**Yate Dam**	**9.74**	**178**	*e*P		**Pn**	**Pn**	**13 17 54.3**	**+0.3**
NORM	**Noumea**	**9.80**	**180**	*e*P		**Pn**	**Pn**	**13 17 56.1**	**+1.1**
NORM				AMP				13 19 54.0	
	comp=Z,282nm,3.0s								
PLUM	**Mont Dore**	**9.85**	**179**	*e*P		**Pn**	**Pn**	**13 17 56.3**	**+0.7**
PLUM				AMP				13 19 50.4	
	comp=Z,316nm,1.2s								
MSVF	**Nonsavu**	**12.33**	**117**	*e*Pn		**Pn**	**Pn**	**13 18 34.4**	**+5.0**
MSVF	**Nonsavu**	**12.33**	**117**	Pn		**Pn**	**Pn**	**13 18 35.0**	**+5.6**
	comp=Z,4μm,1.0s,SNR=36								
MSVF	**Nonsavu**	**12.33**	**117**	*e*P		**Pn**	**Pn**	**13 18 34.4**	**+5.0**
FUNA	**Funafuti**	**13.02**	**74**	*e*P		**Pn**	**Pn**	**13 18 40.7**	**+1.8**
TARA	**Tarawa**	**15.04**	**25**	*e*Pn		**Pn**	**Pn**	**13 19 05.0**	**-0.5**
PMG	**Port Moresby**	**19.25**	**277**	P		**Pn**	**Pn**	**13 19 56.9**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=88,slow=7.1,SNR=55								
PMG				S		**S**	**S**	**13 23 32.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=249,slow=18,SNR=1.8								
PMG				LR		LR	LR	13 26 24.3	
	comp=Z,13μm,20.5s,baz=110,slow=34								
PMG	**Port Moresby**	**19.25**	**277**	*e*P		**Pn**	**Pn**	**13 19 56.9**	**-0.8**
	comp=Z,466nm,1.1s								
PMG				S		**S**	**S**	**13 23 32.7**	**+1.9**
PMG	**Port Moresby**	**19.25**	**277**	*e*P		**Pn**	**Pn**	**13 19 56.9**	**-0.7**
PMG				S		**S**	**S**	**13 23 32.7**	**+1.9**
PMG				pmax		pmax	pmax		
	comp=Z,466nm,1.1s								
PMG	**Port Moresby**	**19.25**	**277**	P		**Pn**	**Pn**	**13 19 57.8**	**+0.2**
PMG	**Port Moresby**	**19.25**	**277**	P		**Pn**	**Pn**	**13 19 57.1**	**-0.5**
	comp=Z,8μmcomp=Z,442nm,1.2s								
EIDS	**Eidsvold**	**19.49**	**226**	*e*P		**Pn**	**Pn**	**13 19 59.9**	**-0.4**
	comp=Z,420nm,0.9s								
CTA	**Charters Tower**	**20.92**	**246**	P		**P**	**P**	**13 20 14.9**	**+0.9**
	comp=Z,103nm,0.8s,baz=74,slow=12,SNR=47								
CTA				S		**S**	**S**	**13 24 06.1**	**+2.4**
	comp=Z,22nm,0.9s,baz=45,slow=19,SNR=2.9								
CTA				LR		LR	LR	13 27 04.2	
	comp=Z,12μm,20.5s,baz=67,slow=33								
CTA	**Charters Tower**	**20.92**	**246**	*e*P		**P**	**P**	**13 20 14.2**	**+0.2**
	comp=Z,74nm,0.8s								
CTA				*e*sP		sP	sP	13 20 40.8	+4.6
CTA				*e*S		**S**	**S**	**13 24 02.9**	**-0.8**
CTA				*e*SCP		ScP	ScP	13 27 53.1	+2.0
CTA				*e*SCS		ScS	ScS	13 31 37.1	+2.2
CTA	**Charters Tower**	**20.92**	**246**	P		**P**	**P**	**13 20 14.9**	**+0.9**
CTA				S		**S**	**S**	**13 24 06.1**	**+2.4**
CTA	**Charters Tower**	**20.92**	**246**	P		**P**	**P**	**13 20 14.9**	**+0.9**
CTA				S		**S**	**S**	**13 24 06.1**	**+2.4**
CTAO	**Charters Tower**	**20.92**	**246**	*e*P		**P**	**P**	**13 20 13.9**	**-0.1**
	comp=Z,146nm,0.9s								
CTAO	**Charters Tower**	**20.92**	**246**	*e*P		**P**	**P**	**13 20 13.9**	**-0.1**
CTAO				pmax		pmax	pmax		
	comp=Z,146nm,0.9s								
CTAO	**Charters Tower**	**20.92**	**246**	P		**P**	**P**	**13 20 14.8**	**+0.8**
	comp=Z,6μmcomp=Z,158nm,1.3s								
KWAJ	**Kwajalein Atol**	**21.06**	**3**	P		**P**	**P**	**13 20 15.6**	**0.0**
	comp=Z,322nm,0.9s,mb5.7								
KWAJ	**Kwajalein Atol**	**21.06**	**3**	P		**P**	**P**	**13 20 15.6**	**+0.1**
KWAJ				pmax		pmax	pmax		
	comp=Z,323nm,0.9s,mb5.7								
AFI	**Afiamalu**	**21.17**	**97**	P		**P**	**P**	**13 20 19.2**	**+2.4**
	comp=Z,255nm,0.9s,mb5.5,baz=267,slow=17,SNR=32								
AFI	**Afiamalu**	**21.17**	**97**	P		**P**	**P**	**13 20 19.2**	**+2.4**
AFI	**Afiamalu**	**21.17**	**97**	P		**P**	**P**	**13 20 19.2**	**+2.4**
ARMA	**Armidale**	**22.65**	**215**	*e*P		**P**	**P**	**13 20 32.5**	**+0.1**
ARMA				*e*S		**S**	**S**	**13 24 40.5**	**+4.6**
ARMA				*e*SCP		ScP	ScP	13 27 57.0	+1.7
ARMA	**Armidale**	**22.65**	**215**	*e*P		**P**	**P**	**13 20 32.9**	**+0.5**
	comp=Z,455nm,0.9s,mb5.8								
COEN	**Coen**	**22.80**	**263**	*e*P		**P**	**P**	**13 20 33.8**	**-0.4**
	comp=Z,1μm,0.8s,mb6.4								
COEN	**Coen**	**22.80**	**263**	P		**P**	**P**	**13 20 33.7**	**-0.4**
	comp=Z,1.5nmcomp=Z,6μmcomp=Z,552nm,0.9s,mb5.9								
COEN	**Coen**	**22.80**	**263**	P		**P**	**P**	**13 20 34.0**	**-0.1**
	comp=Z,6μmcomp=Z,351nm,0.9s,mb5.7								
OUZ	**Omahuta**	**23.63**	**165**	*e*P		**P**	**P**	**13 20 42.3**	**+0.4**
WCZ	**Waipu Caves**	**24.50**	**165**	PN		**P**	**P**	**13 20 49.4**	**-0.5**
WCZ				PcP		PcP	PcP	13 24 27.2	+0.3
RIV	**Riverview**	**25.55**	**211**	*e*P		**P**	**P**	**13 21 00.4**	**+0.9**
JAY	**Jayapura**	**27.39**	**289**	P		**P**	**P**	**13 21 15.3**	**-0.9**
	comp=Z,7μmcomp=Z,96nm,1.1s,mb5.2								
URZ	**Urewera**	**27.45**	**162**	P		**P**	**P**	**13 21 16.1**	**-0.4**
	comp=Z,20nm,0.3s,mb5.1,baz=352,slow=14,SNR=34								
URZ				S		**S**	**S**	**13 25 51.9**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=0.0,slow=20,SNR=3.9								
URZ				LR		LR	LR	13 30 29.6	
	comp=Z,20μm,21.8s,baz=340,slow=33								
URZ	**Urewera**	**27.45**	**162**	*e*P		**P**	**P**	**13 21 15.8**	**-0.7**
URZ				S		**S**	**S**	**13 25 51.9**	**-0.5**
URZ	**Urewera**	**27.45**	**162**	*e*PN		**P**	**P**	**13 21 15.5**	**-1.0**
URZ				PcP		PcP	PcP	13 24 31.2	-2.5
CNB	**Canberra Magne**	**27.63**	**211**	*e*P		**P**	**P**	**13 21 18.7**	**+0.6**
	comp=Z,1μm,0.7s,mb6.5								
CNB				*e*				13 21 58.2	
CNB				*e*S		**S**	**S**	**13 25 56.4**	**+1.1**
CNB				*e*SCP		ScP	ScP	13 28 11.1	+1.8
MWZ	**Matawai**	**27.65**	**161**	PN		**P**	**P**	**13 21 17.3**	**-1.0**
MWZ				PcP		PcP	PcP	13 24 32.5	-1.7
CAN	**Canberra**	**27.82**	**212**	*e*P		**P**	**P**	**13 21 20.2**	**+0.4**
	comp=Z,125nm,1.0s,mb5.4								
CAN	**Canberra**	**27.82**	**212**	*e*P		**P**	**P**	**13 21 20.2**	**+0.3**
CAN				pmax		pmax	pmax		
	comp=Z,125nm,1.0s,mb5.4								
BKZ	**Black Stump Fm**	**28.11**	**163**	PN		**P**	**P**	**13 21 20.8**	**-1.6**
BKZ				*e*SN		**S**	**S**	**13 26 02.1**	**-0.6**
NMHZ	**Naumai**	**28.14**	**163**	PN		**P**	**P**	**13 21 21.8**	**-0.7**
NMHZ				*e*SN		**S**	**S**	**13 26 04.6**	**+1.5**
BHHZ	**Black Hill Sta**	**28.30**	**164**	PN		**P**	**P**	**13 21 23.2**	**-0.8**
KNZ	**Kokohu**	**28.32**	**162**	PN		**P**	**P**	**13 21 23.5**	**-0.8**
KAHZ	**Kahuranaki**	**28.80**	**163**	*e*PN		**P**	**P**	**13 21 26.9**	**-1.6**
TSZ	**Takapari Road**	**28.81**	**165**	PN		**P**	**P**	**13 21 27.0**	**-1.5**
TSZ				*e*SN		**S**	**S**	**13 26 14.0**	**+0.3**
QRZ	**Quartz Range**	**28.83**	**171**	PN		**P**	**P**	**13 21 30.1**	**+1.4**
NNZ	**Nelson**	**29.36**	**169**	PN		**P**	**P**	**13 21 33.3**	**-0.1**
BFZ	**Birch Farm**	**29.47**	**165**	PN		**P**	**P**	**13 21 32.8**	**-1.6**
CAW	**Cannon Point**	**29.59**	**167**	PN		**P**	**P**	**13 21 34.5**	**-1.0**
DSZ	**Denniston Nort**	**29.62**	**172**	*e*PN		**P**	**P**	**13 21 35.9**	**+0.2**
DSZ				PcP		PcP	PcP	13 24 37.4	-1.6
DSZ				ScP		ScP	ScP	13 28 14.6	-0.8
TUWZ	**Tuamarina**	**29.67**	**169**	PN		**P**	**P**	**13 21 35.2**	**-0.9**
SNZO	**South Karori**	**29.70**	**168**	*e*P		**P**	**P**	**13 21 34.2**	**-2.2**
	comp=Z,73nm,0.6s,mb5.5								
THZ	**Tophouse**	**29.81**	**170**	PN		**P**	**P**	**13 21 36.5**	**-0.9**
THZ				*e*SN		**S**	**S**	**13 26 33.8**	**+4.5**
PAWZ	**Paruwai Farm**	**29.93**	**167**	*e*PN		**P**	**P**	**13 21 36.5**	**-1.9**
STKA	**Stephens Creek**	**30.05**	**226**	P		**P**	**P**	**13 21 39.8**	**+0.1**
	comp=Z,259nm,0.8s,mb5.9,baz=34,slow=8.6,SNR=208								
STKA				ScP		ScP	ScP	13 28 18.1	+1.0
	comp=Z,31nm,1.1s,baz=42,slow=2.3,SNR=6.4								
STKA				LR		LR	LR	13 33 17.4	
	comp=Z,17μm,18.9s,baz=56,slow=35								
STKA	**Stephens Creek**	**30.05**	**226**	*e*P		**P**	**P**	**13 21 39.4**	**-0.2**
	comp=Z,311nm,0.9s,mb5.9								
STKA				*e*S		**S**	**S**	**13 26 34.3**	**+0.9**
STKA				*e*SCP		ScP	ScP	13 28 18.1	+1.1
STKA				*e*SCS		ScS	ScS	13 32 10.6	-2.0
STKA	**Stephens Creek**	**30.05**	**226**	*e*P		**P**	**P**	**13 21 39.6**	**0.0**
	comp=Z,54nm,0.8s,mb5.2								
STKA				ScP		ScP	ScP	13 28 18.1	+1.0
STKA	**Stephens Creek**	**30.05**	**226**	*e*P		**P**	**P**	**13 21 39.6**	**-0.1**
STKA								13 28 18.1	
STKA				pmax		pmax	pmax		
	comp=Z,54nm,0.8s								
KHZ	**Kahutara**	**30.55**	**170**	*e*P		**P**	**P**	**13 21 42.6**	**-1.3**
	comp=Z,97nm,0.8s,mb5.6								
KHZ	**Kahutara**	**30.55**	**170**	PN		**P**	**P**	**13 21 42.9**	**-1.0**
LTZ	**Lake Taylor**	**30.71**	**172**	PN		**P**	**P**	**13 21 44.3**	**-1.0**
WVZ	**Waitaha Valley**	**30.81**	**174**	PN		**P**	**P**	**13 21 47.3**	**+1.1**
WVZ				PcP		PcP	PcP	13 24 39.9	-2.1
WVZ				ScP		ScP	ScP	13 28 19.7	+0.4
FOZ	**Fox Glacier**	**31.20**	**176**	PN		**P**	**P**	**13 21 49.4**	**-0.3**
FOZ				PcP		PcP	PcP	13 24 42.5	-0.6
TOO	**Toolangi**	**31.37**	**213**	*e*P		**P**	**P**	**13 21 51.4**	**+0.2**
	comp=Z,1μm,0.7s,mb6.7								
TOO				*e*S		**S**	**S**	**13 26 54.6**	**+0.6**
TOO				*e*SCP		ScP	ScP	13 28 22.0	+0.7
RPZ	**Rata Peaks**	**31.48**	**174**	P		**P**	**P**	**13 21 52.0**	**0.0**
	comp=Z,177nm,0.7s,mb5.9,baz=317,slow=2.5,SNR=78								
RPZ				ScP		ScP	ScP	13 28 21.5	0.0
	comp=Z,27nm,1.0s,baz=206,slow=0.8,SNR=4.1								
RPZ	**Rata Peaks**	**31.48**	**174**	*e*P		**P**	**P**	**13 21 51.9**	**-0.1**
	comp=Z,164nm,0.7s,mb5.9								
RPZ				ScP		ScP	ScP	13 28 21.5	0.0
RPZ	**Rata Peaks**	**31.48**	**174**	PN		**P**	**P**	**13 21 51.8**	**-0.3**
RPZ				PcP		PcP	PcP	13 24 43.4	-0.4
RPZ				ScP		ScP	ScP	13 28 21.8	+0.3
JCZ	**Jackson Bay**	**31.65**	**177**	PN		**P**	**P**	**13 21 55.1**	**+1.5**
JCZ				PcP		PcP	PcP	13 24 45.0	+0.7
JCZ				ScP		ScP	ScP	13 28 23.3	+1.2
WRAB	**Tennant Creek**	**31.78**	**252**	*e*P		**P**	**P**	**13 21 53.1**	**-2.0**
	comp=Z,117nm,0.9s,mb5.6								
WRAB	**Tennant Creek**	**31.78**	**252**	P		**P**	**P**	**13 21 54.0**	**-1.0**
	comp=Z,684nm,1.3s,mb6.2,SNR=48								
WRAB	**Tennant Creek**	**31.78**	**252**	*e*P		**P**	**P**	**13 21 53.1**	**-1.9**
WRAB				pmax		pmax	pmax		
	comp=Z,117nm,0.9s,mb5.6								
WRAB	**Tennant Creek**	**31.78**	**252**	P		**P**	**P**	**13 21 53.8**	**-1.2**
	comp=Z,5μmcomp=Z,266nm,1.7s,mb5.7								
WRA	**Warramunga Arr**	**31.79**	**252**	P		**P**	**P**	**13 21 53.8**	**-1.3**
	comp=Z,69nm,0.8s,mb5.4,baz=80,slow=9.1,SNR=168								
WRA				PcP		PcP	PcP	13 24 45.5	+0.3
	comp=Z,9.7nm,0.8s,baz=71,slow=2.9,SNR=5.5								
WRA				ScP		ScP	ScP	13 28 24.6	+1.6
	comp=Z,19nm,1.0s,baz=75,slow=3.7,SNR=12								
WRA				LR		LR	LR	13 33 18.2	
	comp=Z,5μm,21.6s,baz=80,slow=33								
WRA	**Warramunga Arr**	**31.79**	**252**	P		**P**	**P**	**13 21 53.8**	**-1.3**
WRA				PcP		PcP	PcP	13 24 45.5	+0.3
WRA				ScP		ScP	ScP	13 28 24.6	+1.6
WRA	**Warramunga Arr**	**31.79**	**252**	P		**P**	**P**	**13 21 53.8**	**-1.3**
WRA								13 24 45.5	
LBZ	**Lake Benmore**	**32.06**	**175**	PN		**P**	**P**	**13 21 56.7**	**-0.5**
LBZ				PcP		PcP	PcP	13 24 45.9	+0.4
LBZ				ScP		ScP	ScP	13 28 23.8	+0.4
BAKI	**Biak**	**32.15**	**288**	P		**P**	**P**	**13 21 59.3**	**+1.0**
	comp=Z,6μmcomp=Z,382nm,1.4s,mb5.9								
WKZ	**Wanaka**	**32.42**	**177**	PN		**P**	**P**	**13 22 00.4**	**+0.1**
ODZ	**Otahua Downs**	**32.75**	**175**	*e*P		**P**	**P**	**13 22 02.9**	**-0.4**
	comp=Z,193nm,0.9s,mb5.9								
ODZ	**Otahua Downs**	**32.75**	**175**	PN		**P**	**P**	**13 22 02.6**	**-0.6**
ODZ				ScP		ScP	ScP	13 28 26.7	+0.9
ASAR	**Alice Springs**	**32.92**	**245**	P		**P**	**P**	**13 22 03.0**	**-2.1**
	comp=Z,127nm,0.7s,mb5.8,baz=73,slow=9.4,SNR=449								
ASAR				ScP		ScP	ScP	13 28 28.4	+1.5
	comp=Z,20nm,1.0s,baz=79,slow=3.6,SNR=14								
ASAR	**Alice Springs**	**32.92**	**245**	P		**P**	**P**	**13 22 03.0**	**-2.1**
ASAR				ScP		ScP	ScP	13 28 28.4	+1.5
ASAR	**Alice Springs**	**32.92**	**245**	P		**P**	**P**	**13 22 03.0**	**-2.0**
RAR	**Rarotonga**	**33.37**	**110**	P		**P**	**P**	**13 22 06.2**	**-2.8**
	comp=Z,32nm,0.9s,mb5.1,baz=2.0,slow=17,SNR=2.2								
RAR	**Rarotonga**	**33.37**	**110**	*e*P		**P**	**P**	**13 22 07.4**	**-1.5**
RAR				*e*pP		pP	pP	13 22 25.4	+0.4
RAR	**Rarotonga**	**33.37**	**110**	*e*P		**P**	**P**	**13 22 07.4**	**-1.6**
RAR				*e**PP		pP	pP	13 22 25.4	+0.5
GUMO	**Guam**	**33.57**	**320**	P		**P**	**P**	**13 22 09.7**	**-1.0**
	comp=Z,197nm,0.8s,mb6.0,baz=7.1,slow=16,SNR=4.0								
GUMO				LR		LR	LR	13 35 32.0	
	comp=Z,3μm,18.4s,baz=127,slow=36								
GUMO	**Guam**	**33.57**	**320**	P		**P**	**P**	**13 22 09.7**	**-1.0**
GUMO	**Guam**	**33.57**	**320**	P		**P**	**P**	**13 22 09.7**	**-1.0**
TUZ	**Tuapeka**	**33.58**	**176**	PN		**P**	**P**	**13 22 10.1**	**-0.3**
TUZ				ScP		ScP	ScP	13 28 30.9	+2.3
MOO	**Moorlands**	**34.36**	**206**	*e*P		**P**	**P**	**13 22 18.0**	**+0.8**
	comp=Z,1μm,0.8s,mb6.9								
MOO				*e*SCP		ScP	ScP	13 28 33.4	+1.9
BBOO	**Buckleboo**	**34.52**	**229**	*e*P		**P**	**P**	**13 22 18.2**	**-0.6**
	comp=Z,5μm,0.9s,mb7.3								
TAU	**Tasmania Unive**	**34.69**	**205**	*e*P		**P**	**P**	**13 22 20.4**	**+0.3**
	comp=Z,620nm,1.2s,mb6.3								
TAU	**Tasmania Unive**	**34.69**	**205**	P		**P**	**P**	**13 22 21.0**	**+0.9**
	comp=Z,2μm,1.4s,mb6.8,SNR=30								
TAU	**Tasmania Unive**	**34.69**	**205**	*e*P		**P**	**P**	**13 22 20.4**	**+0.3**
TAU				pmax		pmax	pmax		
	comp=Z,619nm,1.2s,mb6.3								
FAKI	**Fak Fak**	**35.21**	**283**	P		**P**	**P**	**13 22 24.5**	**-0.5**
	comp=Z,4μmcomp=Z,260nm,1.6s,mb5.8								
MSAI	**Masohi**	**38.27**	**280**	P		**P**	**P**	**13 22 51.7**	**+0.7**
	comp=Z,1μmcomp=Z,72nm,0.9s,mb5.5								
AAI	**Ambon**	**38.89**	**280**	P		**P**	**P**	**13 22 55.9**	**-0.3**
	comp=Z,6μmcomp=Z,479nm,0.8s,mb6.4								
FITZ	**Fitzroy Crossi**	**39.81**	**257**	P		**P**	**P**	**13 23 03.5**	**-0.3**
	comp=Z,139nm,1.0s,mb5.8,baz=97,slow=8.7,SNR=81								
FITZ				PcP		PcP	PcP	13 25 09.5	+0.5
	comp=Z,37nm,0.9s,baz=88,slow=2.4,SNR=4.1								
FITZ				ScP		ScP	ScP	13 28 54.8	+2.4
	comp=Z,19nm,1.1s,baz=76,slow=4.2,SNR=4.2								
FITZ	**Fitzroy Crossi**	**39.81**	**257**	*e*P		**P**	**P**	**13 23 02.6**	**-1.2**
	comp=Z,551nm,1.6s,mb6.1								
FITZ				*e*PCP		PcP	PcP	13 25 09.3	+0.3
FITZ				*e*PCS		PcS	PcS	13 28 54.4	-5.0
FITZ				*e*SCS		ScS	ScS	13 33 08.2	+2.6
FITZ	**Fitzroy Crossi**	**39.81**	**257**	*e*P		**P**	**P**	**13 23 03.2**	**-0.6**
	comp=Z,985nm,1.7s,mb6.4								
FITZ				PcP		PcP	PcP	13 25 09.5	+0.5
FITZ				ScP		ScP	ScP	13 28 54.8	+2.4
FITZ	**Fitzroy Crossi**	**39.81**	**257**	P		**P**	**P**	**13 23 03.2**	**-0.6**
FORT	**Forrest**	**39.94**	**237**	*e*P		**P**	**P**	**13 23 03.9**	**-0.9**
	comp=Z,684nm,0.7s,mb6.6								
FORT				*e*S		**S**	**S**	**13 29 04.8**	**-0.6**
FORT	**Forrest**	**39.94**	**237**	*e*P		**P**	**P**	**13 23 03.8**	**-0.9**
	comp=Z,711nm,0.8s,mb6.5								
NLAI	**Namlea**	**40.06**	**280**	P		**P**	**P**	**13 23 06.7**	**+0.7**
	comp=Z,1μm,1.3s,mb6.7								
LBMI	**Labuha**	**40.42**	**284**	P		**P**	**P**	**13 23 10.6**	**+1.6**
	comp=Z,835nm,1.3s,mb6.4								
TNTI	**Ternate**	**41.01**	**286**	P		**P**	**P**	**13 23 15.0**	**+1.2**
	comp=Z,6μmcomp=Z,461nm,1.3s,mb6.2								
MCQ	**Macquarie Isla**	**42.45**	**187**	P		**P**	**P**	**13 23 25.2**	**+0.2**
	comp=Z,38μm,1.5s								
MCQ	**Macquarie Isla**	**42.45**	**187**	P		**P**	**P**	**13 23 25.2**	**+0.3**
PAE	**Paea**	**42.64**	**103**	*e*P		**P**	**P**	**13 23 27.9**	**+0.9**
	comp=Z,38nm,1.3s,mb5.0								
PPT	**Papeete**	**42.64**	**103**	*e*S		**S**	**S**	**13 29 57.1**	**+11**
	comp=Z,1μm,26.8s								
PPT				*e*LQ				13 33 55.5	
	comp=Z,15μm,29.2s								
PPT				*e*LR		LR	LR	13 35 51.1	
	comp=Z,23μm,29.5s								
PPT2	**Papeete2**	**42.64**	**103**	*e*P		**P**	**P**	**13 23 28.1**	**+1.0**
	comp=Z,134nm,1.3s,mb5.5								
**

KRKI Karangkates 53.31 269 P P 13 24 50.3 +0.7
JOW Kunigami 53.85 317 *e*P **P 13 24 52.8 -0.4**
comp=Z,211nm,1.1s,mb6.1
PWJI Pagerwojo 53.97 269 P P 13 24 54.7 +0.3
comp=Z,7μcomp=Z,379nm,1.1s,mb6.3
SJI Sawahan 54.05 269 P P 13 24 55.4 +0.4
comp=Z,664nm,1.8s,mb6.4
PCJI Pacitan 54.55 269 P P 13 24 59.1 +0.4
comp=Z,1μm,1.4s,mb6.8
UGM Wanagama 55.24 269 P P 13 25 05.0 +1.4
comp=Z,7μcomp=Z,461nm,1.2s,mb6.4
BTM Bintulu 55.31 283 P P 13 25 05.0 +0.9
SMRI Semarang 55.47 270 P P 13 25 06.5 +1.3
comp=Z,10μcomp=Z,614nm,1.7s,mb6.4
YOGI Yogyakarta 55.48 269 P P 13 25 06.8 +1.5
comp=Z,1μm,1.4s,mb6.7
MJAR Matsushiro Arr 55.50 332 P P 13 25 03.5 -1.5
comp=Z,16nm,0.8s,mb5.1,baz=166,slow=7.4,SNR=34
MJAR ScP ScP 13 30 00.6 +2.9
comp=Z,3.9nm,1.0s,baz=175,slow=4.2,SNR=4.7
MJAR Matsushiro Arr 55.50 332 P P 13 25 03.5 -1.5
MJAR ScP ScP 13 30 00.6 +2.9
MJAR Matsushiro Arr 55.50 332 P P 13 25 03.5 -1.5
MAJO Matsushiro 55.50 332 *e*P **P 13 25 03.2 -1.8**
comp=Z,56nm,1.0s,mb5.5
MAJO Matsushiro 55.50 332 *e*P **P 13 25 03.2 -1.8**
MAJO pmax pmax
comp=Z,56nm,1.0s,mb5.5
MAT Matsushiro 55.50 332 P P 13 25 03.5 -1.5
MAT S **S 13 32 44.6 -0.8**
SBUM Sibu 55.92 282 P P 13 25 09.6 +1.1
comp=Z,3μcomp=Z,163nm,1.6s,mb5.8
BJII Banjamegara 56.13 269 P P 13 25 11.7 +1.7
comp=Z,9μcomp=Z,277nm,2.5s,mb5.8
RKT Rikitea 56.41 110 *e*S **S 13 33 10.2 +12**
comp=Z,2μm,28.5s
RKT *e*LR LR 13 42 11.1
comp=Z,14μm,30.0s
JNU Nakatsue 56.60 324 *e*P **P 13 25 11.2 -1.7**
comp=Z,172nm,1.3s,mb5.9
TWG Pinlang 56.62 308 *e*P **P 13 25 11.4 -1.9**
comp=Z,87nm,0.9s,mb5.8
YULB Yu-li 56.76 309 *e*P **P 13 25 13.0 -1.3**
comp=Z,226nm,1.3s,mb6.0
NACB Ninganchiao 56.98 310 *e*P **P 13 25 15.6 -0.1**
comp=Z,431nm,1.4s,mb6.3
DRV Dumont d'Urvil 57.08 192 P P 13 25 12.0 -3.8
DRV S **S 13 33 12.0 +6.5**
DRV SS SS 13 37 00.0 +5.0
DRV L 13 39 00.0
DRV R 13 42 00.0
TPUB Ta-pu 57.22 308 *e*P **P 13 25 16.6 -0.9**
comp=Z,596nm,1.1s,mb6.5
SSLB Suanglung 57.24 309 *e*P **P 13 25 17.0 -0.6**
comp=Z,321nm,1.4s,mb6.2
YHNB Yeheng 57.42 310 *e*P **P 13 25 18.1 -0.8**
comp=Z,413nm,1.1s,mb6.4
KSM Kuching 57.48 280 *e*P **P 13 25 19.1 -0.5**
comp=Z,364nm,1.4s,mb6.2
KSM Kuching 57.48 280 P P 13 25 20.4 +0.8
comp=Z,3μcomp=Z,234nm,1.4s,mb6.0
TATO Taipei 57.51 310 *e*P **P 13 25 19.5 0.0**
comp=Z,337nm,1.3s,mb6.2
CISI Cisompet, Garu 57.94 269 P P 13 25 22.4 -0.4
comp=Z,8μcomp=Z,723nm,0.9s,mb6.7
LEM Lembang 58.26 270 P P 13 25 25.7 +0.6
comp=Z,1μm,0.8s,mb7.0
CBJI Citeko 59.09 270 P P 13 25 29.8 -1.0
DBJI Dramaga 59.16 270 P P 13 25 31.1 -0.2
comp=Z,477nm,1.9s,mb6.2
YUK Yuzh-Kuril'sk 59.21 343 *d*i*P* **P 13 25 31.2 +0.2**
YUK *e* 13 27 40.5
YUK pmax pmax
comp=Z,933nm,1.7s,mb6.5
SKJI Sukabumi 59.27 269 P P 13 25 31.9 -0.1
comp=Z,9μcomp=Z,930nm,0.8s,mb6.9
XMIS Christmas Isla 59.60 265 *e*P **P 13 25 34.7 +0.4**
comp=Z,1μm,1.0s,mb7.0
QZH Quanzhou 59.68 309⇑*i*P **P 13 25 33.9 -0.7**
QZH pP pP 13 25 47.2 -4.6
QZH S **S 13 33 39.7 -0.9**
QZH pmax pmax
comp=Z,700nm,1.3s,mb6.5
QZH pmax pmax
comp=Z,2μm,2.0s,mb6.9
QZH LR LR
comp=N,4μm,20.4s
QZH LR LR
comp=E,1μm,13.4s
QZH LR LR
comp=Z,3μm,19.9s
SBJI Serang 59.84 270 P P 13 25 36.7 +0.7
comp=Z,7μcomp=Z,350nm,1.8s,mb6.1
ASAJ Asahikawa 60.29 340 *e*P **P 13 25 37.8 -0.7**
comp=Z,14nm,0.8s,mb5.0
KLI Kotabumi 61.33 271 P P 13 25 47.4 +1.3
comp=Z,4μcomp=Z,146nm,1.6s,mb5.8
SSE Sheshan 61.34 316⇓P **P 13 25 45.7 -0.1**
SSE PcP PcP 13 26 28.7 +1.1
SSE PP PP 13 28 00.1 -1.6
SSE S **S 13 33 58.5 -3.1**
SSE pmax pmax
comp=Z,260nm,1.2s,mb6.1
SSE pmax pmax
comp=Z,340nm,6.8s
SSE LR LR
comp=N,1μm,19.4s
SSE LR LR
comp=E,1μm,19.4s
SSE LR LR
comp=Z,1μm,18.6s
SSE Sheshan 61.34 316⇓P **P 13 25 45.7 -0.1**
comp=Z,256nm,1.2s,mb6.1
SSE pP pP 13 26 07.7 +4.6
SSE sP sP 13 26 17.0 +6.6
SSE PcP PcP 13 26 28.7 +1.1
SSE PP PP 13 28 00.1 -1.6
SSE S **S 13 33 58.5 -3.1**
SSE sS sS 13 34 34.1 +3.3
SSE LR LR
comp=Z,1μm,18.6s
KSRS Korea Array 61.40 326 P P 13 25 46.1 +0.1
comp=Z,20nm,1.0s,mb5.1,baz=148,slow=6.4,SNR=46
KSRS PKP2bc 13 55 10.2
comp=Z,3.9nm,1.1s,baz=341,slow=2.6,SNR=4.5
KSAR Wonju Array Be 61.41 326 P P 13 25 46.1 0.0
KSAR ⇑*e* 13 55 10.2
KSAR Wonju Array Be 61.41 326 P P 13 25 46.2 0.0
MDSI Maura Dua 62.06 271 P P 13 25 50.0 -1.1
comp=Z,4μcomp=Z,218nm,1.7s,mb5.9
LWLI Liwa 62.08 271 P P 13 25 50.9 -0.3
comp=Z,5μcomp=Z,268nm,1.3s,mb6.1
INCN Inchon 62.14 325 *e*P **P 13 25 51.2 +0.1**
comp=Z,525nm,1.8s,mb6.3
INCN *e* pP 13 26 08.1 -0.3
INCN Inchon 62.14 325 P P 13 25 52.7 +1.6
SNR=7.1
YSS Yuzh-Sakhalins 62.78 342 *e*P **P 13 25 54.7 -0.4**
comp=Z,168nm,1.4s,mb5.8
YSS Yuzh-Sakhalins 62.78 342 *oe*P **P 13 25 55.0 -0.1**
YSS *e**PP pP 13 26 12.9 +0.5
YSS *e*S **S 13 34 18.0 -1.1**
YSS *e*SS SS 13 38 22.0 -3.4
YSS pmax pmax
comp=Z,110nm,1.3s,mb5.6
GZH Guangzhou 62.87 304 P P 13 25 57.7 +1.5
GZH S **S 13 34 22.2 +1.1**
GZH LR LR
comp=Z,2μm,23.9s
NJ2 Nanjing 63.50 315 *e*P **P 13 26 01.0 +0.8**
NJ2 pP pP 13 26 16.1 -1.5
NJ2 S **S 13 34 25.0 -3.8**
NJ2 sS sS 13 34 55.0 -3.2
NJ2 ScS ScS 13 35 46.0 -2.0
NJ2 pmax pmax
comp=Z,350nm,1.0s,mb6.1
NJ2 pmax pmax
comp=Z,1μm,7.0s
NJ2 LR LR
comp=N,2μm,25.2s
NJ2 LR LR
comp=E,2μm,26.6s
NJ2 LR LR
comp=Z,8μm,25.8s
VLA Vladivostok 63.66 332⇑*i*P **P 13 26 02.0 +0.9**
VLA *e*S **S 13 34 31.3 +1.0**
VLA pmax pmax
comp=Z,85nm,1.6s,mb5.3
KSI Kapahiang 63.78 272 P P 13 26 01.9 -0.6
comp=Z,7μcomp=Z,318nm,1.2s,mb6.0
MYKOM Kota Tinggi 63.80 278 P P 13 26 03.7 +1.1
comp=Z,4μcomp=Z,174nm,2.0s,mb5.5
QIZ Qiongzhong 63.99 298 P P 13 26 04.6 +0.9
QIZ pP pP 13 26 21.1 0.0
QIZ sP sP 13 26 32.6 +4.2
QIZ S **S 13 34 34.4 -0.8**
QIZ pmax pmax
comp=Z,180nm,1.5s,mb5.7
QIZ pmax pmax
comp=Z,1μm,7.3s
QIZ LR LR
comp=Z,2μm,20.5s
VNDA Vanda 65.19 181 *e*P **P 13 26 10.4 -0.2**
comp=Z,187nm,0.9s,mb5.9
VNDA Vanda 65.19 181 *e*P **P 13 26 10.4 -0.2**
VNDA pmax pmax
comp=Z,187nm,0.9s
FX1 Attu Island--F 65.23 4 P P 13 26 10.3 -0.7
comp=Z,31nm,0.9s,mb5.1,baz=236,slow=12,SNR=7.5
FX1 LR LR 13 48 52.4
comp=Z,3μm,21.9s,baz=19,slow=31
FX1 Attu Island--F 65.23 4 P P 13 26 10.3 -0.7
FX1 Attu Island--F 65.23 4 P P 13 26 10.4 -0.7
CASY Casey 65.44 202 *e*P **P 13 26 11.5 -0.8**
CASY Casey 65.44 202 *e*P **P 13 26 11.6 -0.7**
comp=Z,583nm,1.5s,mb6.2
PET Petropavlovsk 65.48 355 *e*P **P 13 26 18.6 +5.9**
PET *e*S S 13 34 52.2 -0.1
PET *e*PS 13 35 11.9
PET *e*SS SS 13 39 02.5 -4.8
PET pmax pmax
comp=Z,54nm,1.3s,mb5.2
PET pmax pmax
comp=Z,500nm,3.4s
PET pmax pmax
comp=Z,700nm,11.8s
SBA Scott Base 65.48 180 *e*P **P 13 26 13.7 +1.3**
comp=Z,426nm,0.8s,mb6.3
SBA Scott Base 65.48 180 *e*P **P 13 26 13.7 +1.2**
SBA pmax pmax
comp=Z,426nm,0.8s,mb6.3
PEA0B Petropavlovsk- 65.65 354 P P 13 26 14.6 +0.9
PETK Petropavlovsk- 65.65 354 P P 13 26 13.4 -0.3
comp=Z,4.9nm,0.7s,mb4.5,baz=159,slow=7.6,SNR=10
PETK LR LR 13 49 14.4
comp=Z,4μm,21.9s,baz=168,slow=31
PETK Petropavlovsk- 65.65 354 P P 13 26 13.4 -0.3
PETK Petropavlovsk- 65.65 354 P P 13 26 13.5 -0.3
WHN Wuhan 65.85 312⇑P **P 13 26 15.8 +0.3**
WHN pP pP 13 26 29.6 -3.4
WHN S S 13 34 55.8 -1.9
WHN pmax pmax
comp=Z,1μm,1.8s,mb6.4
WHN pmax pmax
comp=Z,2μm,4.6s
WHN LR LR
comp=N,2μm,14.5s
WHN LR LR
comp=E,1μm,13.1s
WHN LR LR
comp=Z,6μm,21.7s
MDJ Mudanjiang 65.88 332 P P 13 26 15.6 +0.2
MDJ pP pP 13 26 31.7 -1.2
MDJ sP sP 13 26 38.1 -2.1
MDJ PP PP 13 28 45.8 +4.5
MDJ S S 13 34 55.4 -2.1
MDJ ScS ScS 13 36 05.2 -0.4
MDJ pmax pmax
comp=Z,62nm,1.7s,mb5.2
MDJ pmax pmax
comp=Z,780nm,4.2s
MDJ LR LR
comp=N,3μm,26.4s
MDJ LR LR
comp=E,2μm,29.2s
MDJ LR LR
comp=Z,4μm,26.4s
DL2 Dalian 66.00 323 P P 13 26 16.3 0.0
DL2 pP pP 13 26 32.6 -1.2
DL2 S S 13 34 57.5 -1.7
DL2 ScS ScS 13 36 05.9 -0.9
DL2 pmax pmax
comp=Z,100nm,1.3s,mb5.5
DL2 pmax pmax
comp=Z,360nm,6.8s
DL2 LR LR
comp=N,870nm,24.6s
DL2 LR LR
comp=E,950nm,27.8s
DL2 LR LR
comp=Z,2μm,28.6s
BKNI Bangkinang 66.17 276 P P 13 26 18.6 +0.6
comp=Z,894nm,1.2s,mb6.5
PDSI Padang 66.45 274 P P 13 26 18.5 -1.3
comp=Z,3μcomp=Z,144nm,1.0s,mb5.7
PPI Padang Panjang 66.61 275 P P 13 26 20.3 -0.6
comp=Z,5μcomp=Z,299nm,1.0s,mb6.1
HABR Khabarovsk 66.70 338 *de*P **P 13 26 18.4 -2.2**
HABR *e**PP pP 13 26 39.2 +1.1
HABR *e**SP sP 13 26 48.3 +3.0
HABR *e* 13 28 46.0
HABR *e*PPP 13 30 22.7
HABR *e*S S 13 35 04.7 -2.6
HABR *e**SS sS 13 35 40.7 +3.8
HABR *e* 13 36 07.6
HABR *e*SS SS 13 39 24.7 -1.7
HABR pmax pmax
comp=Z,201nm,1.8s,mb5.7
HABR pmax pmax
comp=N,55nm,1.8s
HABR pmax pmax
comp=E,36nm,1.1s
HABR MLR MLR
comp=Z,1μm,19.0s
UBT Ubonrachathani 66.79 293⇓P **P 13 26 23.8 +2.0**
SNY Shenyang 66.86 326⇑P **P 13 26 22.2 +0.4**
SNY S S 13 35 09.6 +0.1
SNY pmax pmax
comp=Z,49nm,1.4s,mb5.1
SNY LR LR
comp=N,1μm,20.1s
SNY LR LR
comp=E,2μm,22.5s
SNY LR LR
comp=Z,2μm,22.8s
TIA Tai'an 67.11 318 P P 13 26 23.1 -0.4
TIA S S 13 35 08.0 -4.8
TIA pmax pmax
comp=Z,160nm,1.2s,mb5.7
TIA pmax pmax
comp=Z,830nm,10.3s
TIA LR LR
comp=N,4μm,26.0s
TIA LR LR
comp=E,4μm,23.0s
TIA LR LR
comp=Z,6μm,24.0s
IPM Ipoh 67.22 280 *e*P **P 13 26 23.5 -1.2**
comp=Z,858nm,1.4s,mb6.4
IPM Ipoh 67.22 280 P P 13 26 24.5 -0.1
comp=Z,7μcomp=Z,521nm,1.4s,mb6.2
CN2 Changchun 67.27 329 *e*P **P 13 26 24.1 -0.2**
CN2 *e*pP pP 13 26 44.1 +2.3
CN2 PP PP 13 28 51.3 -2.2
CN2 *e*S S 13 35 11.3 -3.1
CN2 pmax pmax
comp=Z,60nm,1.1s,mb5.3
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,21.0s
CN2 LR LR
comp=E,2μm,21.0s
CN2 LR LR
comp=Z,3μm,23.0s
MNSI Mandailing Nat 67.70 276 P P 13 26 26.4 -1.3
comp=Z,4μcomp=Z,361nm,1.6s,mb6.0
KULM Kulim 67.79 281 *e*P **P 13 26 27.6 -0.7**
comp=Z,544nm,1.5s,mb6.2
KULM Kulim 67.79 281 P P 13 26 28.6 +0.3
comp=Z,4μcomp=Z,242nm,1.6s,mb5.8
COCO West Island 67.91 262 P P 13 26 31.6 +2.6
comp=Z,6μcomp=Z,285nm,1.3s,mb5.9
SNG Songkhla 68.34 283 P P 13 26 32.0 +0.3
comp=Z,160nm,0.6s,mb6.0
KLR Kul'dur 68.57 336 *e*P **P 13 26 28.8 -3.6**
KLR *e*S S 13 35 21.5 -8.2
KLR MLR MLR
comp=N,500nm,15.0s
KLR MLR MLR
comp=E,2μm,15.0s
KLR MLR MLR
comp=Z,2μm,15.0s
PSI Prapat 68.82 278 P P 13 26 33.6 -1.1
comp=Z,4μcomp=Z,305nm,1.2s,mb6.0
KKTK Khon Kaen 69.15 293⇓P **P 13 26 37.9 +1.3**
TSI Tuntungan 69.34 279 P P 13 26 38.0 +0.1
comp=Z,7μcomp=Z,653nm,1.1s,mb6.4
GYA Guiyang 69.80 304⇑*i*P **P 13 26 39.7 -0.8**
GYA pP pP 13 27 01.4 +3.3
GYA sP sP 13 27 09.0 +3.6
GYA PP PP 13 29 20.3 +4.5
GYA S S 13 35 44.8 -0.3
GYA SS SS 13 40 16.0 +0.8
GYA pmax pmax
comp=Z,240nm,1.1s,mb5.9
GYA pmax pmax
comp=Z,600nm,8.1s
GYA LR LR
comp=N,650nm,20.0s
GYA LR LR
comp=E,780nm,20.2s
GYA LR LR
comp=Z,1μm,19.6s
BJI Beijing 69.99 321 P P 13 26 41.9 +0.5
BJI pP pP 13 26 57.1 -1.9
BJI sP sP 13 27 08.5 +2.3
BJI S S 13 35 47.4 +0.6
BJI SS SS 13 40 17.4 -0.3
BJI pmax pmax
comp=Z,110nm,1.4s,mb5.5
BJI pmax pmax
comp=Z,910nm,6.2s
BJI LR LR
comp=N,3μm,26.3s
BJI LR LR
comp=E,3μm,23.5s
BJI LR LR
comp=Z,8μm,30.6s
TPTI 70.62 278 P P 13 26 45.7 -0.1
comp=Z,118nm,1.3s,mb5.6
NNT Nongplab 70.75 288 P P 13 26 43.8 -2.7
TIY Taiyuan 71.05 317⇑*i*P **P 13 26 49.2 +1.3**
TIY pP pP 13 27 09.5 +3.9
TIY PP PP 13 29 21.8 -4.6
TIY S S 13 35 59.8 +0.5
TIY LR LR
comp=N,2μm,16.1s
TIY LR LR
comp=E,2μm,18.2s
TIY LR LR
comp=Z,4μm,22.4s
NST Nakhon Sawan 71.36 291⇓P **P 13 26 51.0 +0.8**
comp=Z,205nm,1.0s,mb5.9
XAN Xi'an 71.58 312 P P 13 26 51.8 +0.6
XAN pP pP 13 27 06.3 -2.5
XAN S S 13 35 57.7 -7.8
XAN sS sS 13 36 30.4 -5.1
XAN SS SS 13 40 37.4 -4.9
XAN pmax pmax
comp=Z,76nm,1.3s,mb5.4
XAN pmax pmax
comp=Z,200nm,4.6s
XAN LR LR
comp=N,640nm,28.4s
XAN LR LR
comp=E,860nm,29.8s
XAN LR LR
comp=Z,900nm,25.6s
MIR Mirnyy 72.18 204⇑*i*P **P 13 26 55.0 +0.8**
MIR *e* 13 29 34.0
MIR *e*S S 13 36 13.0 +1.6
MIR pmax pmax
comp=Z,680nm,1.0s,mb6.4
MIR pmax pmax
comp=Z,3μm,4.0s
MIR pmax pmax
comp=N,404nm,3.0s
MIR pmax pmax
comp=E,1μm,4.0s
MIR smax
comp=N,707nm,4.0s
MIR smax
comp=E,400nm,5.0s
MIR MLR MLR
comp=N,700nm,18.0s
MIR MLR MLR
comp=E,600nm,18.0s
MIR MLR MLR
comp=Z,1μm,18.0s
KMI Kunming 72.47 301 P P 13 26 58.2 +1.5
KMI pP pP 13 27 17.8 +3.4
KMI sP sP 13 27 25.1 +3.5
KMI PP PP 13 29 42.1 +3.4
KMI S S 13 36 16.9 +0.8
KMI sS sS 13 36 48.9 +2.8
KMI SKS 13 36 51.5
KMI SS SS 13 40 57.8 +1.6
KMI pmax pmax
comp=Z,480nm,1.3s,mb6.2
KMI pmax pmax
comp=Z,2μm,3.1s
KMI LR LR
comp=N,790nm,17.7s
KMI LR LR
comp=E,1μm,20.9s
KMI LR LR
comp=Z,1μm,20.4s
KMI Kunming 72.47 301 P P 13 26 58.2 +1.5
comp=Z,477nm,1.3s,mb6.2
KMI pP pP 13 27 17.8 +3.4
KMI sP sP 13 27 25.1 +3.5
KMI PP PP 13 29 42.1 +3.4
KMI PPP 13 31 24.5
KMI S S 13 36 16.9 +0.8
KMI sS sS 13 36 48.9 +2.8
KMI SKS 13 36 51.5
KMI PS 13 36 56.0
KMI SS SS 13 40 57.8 +1.6
KMI SSS 13 44 08.7
KMI LR LR
comp=Z,1μm,20.4s
KMI Kunming 72.47 301 P P 13 26 58.2 +1.5
KMI *PP pP 13 27 17.8 +3.4
KMI 13 29 42.1
KMI PPP 13 31 24.5
KMI S S 13 36 16.9 +0.8
KMI *SS sS 13 36 48.9 +2.8
KMI 13 36 51.5
KMI PS 13 36 56.0
KMI SS SS 13 40 57.8 +1.6
KMI SSS 13 44 08.7
KMI pmax pmax
comp=Z,477nm,1.3s,mb6.2
KMI MLR MLR
comp=Z,1μm,20.4s
BDT Bhumibol Dam 72.90 292 P P 13 27 01.0 +1.7
comp=Z,49nm,0.9s,mb5.3
BSI Banda Aceh 72.99 280 P P 13 26 59.9 -0.1
comp=Z,6μcomp=Z,314nm,1.8s,mb5.8
CHRT Chiangrai 73.08 295⇑P **P 13 27 00.0 -0.4**
comp=Z,2μm,1.0s,mb6.8
CHRT Chiangrai 73.08 295⇓P **P 13 27 02.4 +2.0**
comp=Z,3μm,1.1s,mb7.0
HHC Hu-ho-hao-te 73.34 320 *e*P **P 13 27 02.7 +1.2**
HHC pP pP 13 27 23.3 +4.1
HHC PP PP 13 29 49.2 +3.4
HHC S S 13 36 24.2 -1.1
HHC SKS 13 36 57.1
HHC SS SS 13 41 09.4 +0.5
HHC pmax pmax
comp=Z,110nm,1.4s,mb5.5
HHC pmax pmax
comp=Z,1μm,4.6s
HHC LR LR
comp=N,2μm,21.2s
HHC LR LR

comp=E,3µm,22.0s
HHC LR LR
comp=Z,6µm,24.5s
CM31 Chiang Mai Arr 73.35 294 *e*P **P 13 27 02.1 +0.1**
comp=Z,334nm,1.0s,mb6.1
CMAR Chiang Mai Arr 73.35 294 P **P 13 27 02.1 +0.1**
comp=Z,166nm,0.9s,mb5.8,baz=123,slow=4.4,SNR=382
CMAR PKiKP PKiKP 13 32 59.7 +0.2
comp=Z,1.1nm,0.8s,baz=126,slow=1.5,SNR=3.9
CMAR Chiang Mai Arr 73.35 294 P **P 13 27 02.1 +0.1**
CMAR PKiKP PKiKP 13 32 59.8 +0.2
CMAR Chiang Mai Arr 73.35 294 P **P 13 27 02.1 +0.1**
CHTO Chiang Mai 73.47 294 *e*P **P 13 27 01.9 -0.8**
comp=Z,206nm,1.1s,mb5.9
CHTO Chiang Mai 73.47 294 *e*P **P 13 27 01.9 -0.8**
CHTO pmax pmax
comp=Z,205nm,1.1s,mb5.9
CHTO Chiang Mai 73.47 294 P **P 13 27 02.7 0.0**
comp=Z,4µmcomp=Z,285nm,1.6s,mb5.8
CHTO Chiang Mai 73.47 294 P **P 13 27 03.7 +1.0**
SNR=189
CD2 Chengdu 74.02 307⇑ *i*P **P 13 27 06.0 +0.3**
CD2 PP PP 13 29 53.5 +1.7
CD2 S S 13 36 31.0 -2.4
CD2 sS sS 13 37 05.5 +2.0
CD2 SS SS 13 41 19.2 -0.5
CD2 pmax pmax
comp=Z,420nm,1.2s,mb6.0
CD2 pmax pmax
comp=Z,2µm,4.2s
CD2 LR LR
comp=N,1µm,22.8s
CD2 LR LR
comp=E,2µm,19.2s
CD2 LR LR
comp=Z,2µm,22.8s
BTO Baotou 74.19 319 *e*P **P 13 27 07.2 +0.7**
LZH Lanzhou 76.22 312 *e*P **P 13 27 20.2 +2.0**
LZH PcP PcP 13 27 33.7 +3.7
LZH pP pP 13 27 38.4 +2.3
LZH sP sP 13 27 46.5 +3.2
LZH *e*S S 13 37 00.2 +2.6
LZH pmax pmax
comp=Z,300nm,1.2s,mb5.9
LZH pmax pmax
comp=Z,970nm,5.2s
LZH LR LR
comp=N,440nm,12.4s
LZH LR LR
comp=E,580nm,13.2s
LZH LR LR
comp=Z,1µm,18.6s
LZH Lanzhou 76.22 312 *e*P **P 13 27 20.2 +2.0**
comp=Z,297nm,1.2s,mb5.9
LZH PcP PcP 13 27 33.7 +3.7
LZH pP pP 13 27 38.4 +2.3
LZH sP sP 13 27 46.5 +3.2
LZH PP PP 13 30 18.4 +8.1
LZH *e*S S 13 37 00.2 +2.6
LZH sS sS 13 37 32.0 +4.2
LZH SS 13 44 54.3
LZH LR LR
comp=Z,1µm,18.6s
LZH Lanzhou 76.22 312 *e*P **P 13 27 20.2 +2.0**
LZH pP 13 27 33.7 -2.4
LZH *PP pP 13 27 38.4 +2.3
LZH 13 30 18.4
LZH *e*S S 13 37 00.2 +2.6
LZH *SS sS 13 37 32.0 +4.2
LZH pmax pmax
comp=Z,297nm,1.2s,mb5.9
LZH MLR MLR
comp=Z,1µm,18.6s
CLNS Chul'man 77.09 338 *e*P **P 13 27 23.5 +0.9**
CLNS *e* 13 27 35.8
CLNS *e* 13 30 19.2
CLNS *e*PPP 13 32 07.0
CLNS *e*S S 13 37 10.6 +4.4
CLNS pmax pmax
comp=Z,35nm,1.5s,mb4.9
CLNS pmax pmax
comp=E,11nm,1.7s
CLNS pmax pmax
comp=N,31nm,1.7s
CLNS pmax pmax
comp=Z,18nm,1.7s,mb4.5
CLNS pmax pmax
comp=N,22nm,1.7s
CLNS pmax pmax
comp=E,19nm,1.6s
CLNS smax
comp=N,1µm,11.1s
CLNS MLR MLR
comp=N,215nm,16.0s
CLNS MLR MLR
comp=E,295nm,17.0s
CLNS MLR MLR
comp=Z,382nm,16.0s
KDAK Kodiak Island 77.52 21 LR LR 13 55 03.3
comp=Z,6µm,21.7s,baz=227,slow=31
QSPA South Pole Qui 77.64 180 P **P 13 27 25.8 +0.3**
comp=Z,91nm,0.9s,mb5.5,baz=15,slow=1.8,SNR=82
QSPA South Pole Qui 77.64 180 *e*P **P 13 27 25.1 -0.5**
comp=Z,433nm,1.4s,mb6.0
CIT Chita 78.69 330 *e*P **P 13 27 32.5 +0.9**
CIT *e* pP 13 27 49.3 -0.3
CIT *e* 13 27 57.1
CIT pmax pmax
comp=Z,482nm,1.8s,mb6.0
RSO Redoubt South 79.51 19 *e*P **P 13 27 36.1 +0.2**
comp=Z,49nm,0.9s,mb5.3
YAK Yakutsk 79.58 343 *e*P **P 13 27 36.0 -0.2**
comp=Z,60nm,1.1s,mb5.3
YAK Yakutsk 79.58 343 *e*P **P 13 27 38.1 +1.8**
YAK *e* pP 13 27 51.5 -2.7
YAK *e* 13 30 41.2
YAK *e*S S 13 37 35.1 +2.4
YAK *e* 13 37 48.5
YAK *e*SS sS 13 38 16.3 +13
YAK *e*SS SS 13 42 39.0 -3.4
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=E,12nm,1.2s
YAK pmax pmax
comp=Z,43nm,1.5s,mb5.1
YAK pmax pmax
comp=N,758nm,3.5s
YAK pmax pmax
comp=Z,456nm,3.6s
YAK pmax pmax
comp=E,377nm,3.6s
YAK smax
comp=E,344nm,3.0s
YAK smax
comp=N,612nm,3.4s
YAK MLR MLR
comp=Z,3µm,19.0s
YAK MLR MLR
comp=N,1µm,17.0s
YAK MLR MLR
comp=E,1µm,22.0s
IMP Imphal 79.82 298 *e*PKP **P 13 27 38.0 -0.4**
ULN Ulaanbaatar 79.82 324 *e*P **P 13 27 36.2 -1.7**
comp=E,162nm,1.2s,mb5.7
ULN Ulaanbaatar 79.82 324 *e*P **P 13 27 36.2 -1.7**
ULN pmax pmax
comp=Z,162nm,1.2s,mb5.7
ULN Ulaanbaatar 79.82 324 P **P 13 27 38.2 +0.3**
comp=Z,2µmcomp=Z,129nm,1.4s,mb5.6
ULN Ulaanbaatar 79.82 324 P **P 13 27 39.1 +1.2**
SNR=22
SONM Songino Array 80.19 324 P **P 13 27 40.3 +0.4**
comp=Z,11nm,0.4s,mb5.1,baz=129,slow=4.0,SNR=105
SONM PKiKP PKiKP 13 33 09.4 +0.3
comp=Z,1.0nm,0.8s,baz=88,slow=3.5,SNR=2.4
SONM PKKPbc PKKPbc 13 46 21.8 -3.6
comp=Z,1.3nm,0.8s,baz=278,slow=1.0,SNR=6.9
SONM LR LR 14 02 40.2
comp=Z,2µm,20.2s,baz=116,slow=35
SONM Songino Array 80.19 324 P **P 13 27 40.3 +0.4**
SONM PKiKP PKiKP 13 33 09.3 +0.3
SONM PKKPbc PKKPbc 13 46 21.8 -3.6
SONM Songino Array 80.19 324 P **P 13 27 40.3 +0.4**
BILL Bilibino 80.19 360 *e*P **P 13 27 38.0 -1.5**
comp=Z,39nm,0.9s,mb5.2
BILL Bilibino 80.19 360 *e*P **P 13 27 38.9 -0.6**
BILL *i* pP 13 27 52.0 -5.5
BILL *i* S S 13 37 37.4 -1.6
BILL pmax pmax
comp=Z,32nm,1.2s,mb5.0
GTA Gaotai 80.53 314⇑ P **P 13 27 43.3 +1.4**
GTA pP pP 13 28 03.5 +3.6
GTA S S 13 37 45.8 +2.1
GTA pmax pmax
comp=Z,180nm,1.6s,mb5.7
GTA pmax pmax
comp=Z,1µm,7.1s
GTA LR LR
comp=N,860nm,20.7s
GTA LR LR
comp=E,2µm,23.0s
GTA LR LR
comp=Z,3µm,24.0s
PMR Palmer 81.53 20 *e*P **P 13 27 46.1 -0.6**
comp=Z,106nm,1.5s,mb5.5
PMR Palmer 81.53 20 *e*P **P 13 27 46.1 -0.6**
PMR pmax pmax
comp=Z,106nm,1.5s,mb5.5
SHL Shillong 81.83 298 *e*x pP 13 28 08.0 +0.8
SHL *e*S S 13 37 59.0 +1.3
AGT Agartala 81.87 297 *e*PKP **P 13 27 48.0 -1.4**
AGT *e*x pP 13 28 03.0 -4.4
SML Sawmill 81.95 20 *e*P **P 13 27 46.1 -2.9**
comp=Z,8.9nm,0.9s,mb4.6
SML Sawmill 81.95 20 *e*P **P 13 27 46.1 -2.8**
SML pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
BOD Bodaibo 82.05 335 *e*P **P 13 27 49.1 -0.5**
BOD pmax pmax
comp=Z,34nm,1.7s,mb4.9
TRF Thorofare Moun 82.53 18 *e*P **P 13 27 50.5 -1.4**
comp=Z,24nm,0.9s,mb5.0
BPAW Bear Paw Mtn. 82.80 17 P **P 13 27 52.0 -1.3**
comp=Z,22nm,1.2s,mb4.9
KCPM Cahto Peak 82.88 47 *e*P **P 13 27 55.7 +1.4**
comp=Z,33nm,1.0s,mb5.1
KIPM Iron Peak 83.00 47 *e*P **P 13 27 55.5 +0.6**
comp=Z,98nm,1.1s,mb5.5
MCK McKinley 83.15 18 *e*P **P 13 27 54.1 -1.0**
comp=Z,64nm,1.2s,mb5.3
MCK McKinley 83.15 18 *e*P **P 13 27 54.1 -1.0**
MCK pmax pmax
comp=Z,64nm,1.2s,mb5.3
ZAK Zakamensk 83.22 325 *e*P **P 13 27 55.6 -0.2**
ZAK *e* 13 38 11.1
ZAK pmax pmax
comp=Z,62nm,1.4s,mb5.2
SAO San Andreas Ge 83.37 50 *e*P **P 13 27 56.4 -0.5**
comp=Z,36nm,1.2s,mb5.1
SAO San Andreas Ge 83.37 50 *e*P **P 13 27 56.4 -0.5**
SAO pmax pmax
comp=Z,36nm,1.2s,mb5.1
IRK Irkutsk 83.58 327 *e*P **P 13 27 55.6 -2.0**
IRK *e* pP 13 28 13.8 -1.9
IRK *e*S S 13 38 13.4 -1.1
IRK pmax pmax
comp=Z,154nm,1.9s,mb5.5
TLY Talaya 83.65 326 *e*P **P 13 27 57.5 -0.5**
comp=Z,158nm,1.4s,mb5.7
TLY Talaya 83.65 326*c i*P **P 13 27 57.8 -0.2**
TLY *e* pP 13 28 14.2 -1.9
TLY *e*S S 13 38 14.2 -0.9
TLY *e*PPS 13 39 08.1
TLY pmax pmax
comp=Z,99nm,1.3s,mb5.5
TLY MLR MLR
comp=Z,1µm,22.0s
TLY Talaya 83.65 326 P **P 13 27 58.4 +0.5**
SNR=20
TLY Talaya 83.65 326 P **P 13 27 58.1 +0.1**
comp=Z,388nm,1.1s,mb6.2,SNR=13
LSA Lhasa 83.71 302 P **P 13 27 58.3 -0.5**
LSA S S 13 38 18.7 +2.0
LSA LR LR
comp=E,3µm,14.3s
LSA LR LR
comp=Z,570nm,9.5s
PAX Paxson 83.72 20 P **P 13 27 56.8 -1.3**
comp=Z,94nm,1.6s,mb5.4
PAX Paxson 83.72 20 P **P 13 27 56.8 -1.3**
PAX pmax pmax
comp=Z,94nm,1.6s,mb5.4
MAW Mawson 83.79 202 P **P 13 27 58.0 -0.6**
comp=Z,134nm,0.9s,mb5.8,baz=106,slow=6.3,SNR=134
MAW LR LR 14 01 30.5
comp=Z,2µm,20.0s,baz=94,slow=33
MAW Mawson 83.79 202 *e*P **P 13 27 56.7 -1.8**
comp=Z,94nm,1.1s,mb5.5
MAW Mawson 83.79 202 *e*P **P 13 27 56.8 -1.8**
comp=Z,99nm,1.5s,mb5.4
MAW Mawson 83.79 202 *e*P **P 13 27 56.8 -1.7**
MAW pmax pmax
comp=Z,99nm,1.5s
PKM Peak Mountain 83.97 52⇑ P **P 13 27 59.7 -0.3**
baz=84
CAL Calcutta 84.06 295 *e*PKP **P 13 28 00.0 -0.7**
YBH Yreka Blue Hor 84.26 45 *e*P **P 13 28 01.7 +0.3**
comp=Z,41nm,1.0s,mb5.2
YBH Yreka Blue Hor 84.26 45 *e*P **P 13 28 01.7 +0.3**
YBH pmax pmax
comp=Z,41nm,1.0s
MENT Mentasta 84.29 21 *e*P **P 13 28 00.8 -0.2**
COLA College 84.30 18 *e*P **P 13 27 59.7 -1.3**
comp=Z,90nm,1.3s,mb5.4
COLA College 84.30 18 *e*P **P 13 27 59.7 -1.3**
COLA pmax pmax
comp=Z,90nm,1.3s,mb5.4
BLG Laguna Peak 84.31 53⇑ P **P 13 28 01.5 -0.3**
baz=84
HUMO Hull Mountain 84.42 44 *e*P **P 13 28 02.5 +0.4**
comp=Z,58nm,1.2s,mb5.3
ILAR Eielson Array 84.52 18 P **P 13 28 00.0 -2.1**
comp=Z,11nm,0.9s,mb4.8,baz=238,slow=4.1,SNR=129
ILAR PKiKP PKiKP 13 33 14.6 -0.8
comp=Z,0.4nm,0.6s,baz=243,slow=5.9,SNR=4.7
ILAR PKKPbc PKKPbc 13 46 10.3 -5.8
comp=Z,1.1nm,0.7s,baz=346,slow=2.2,SNR=20
ILAR PKPPKP 13 54 13.2
comp=Z,0.2nm,0.5s,baz=345,slow=3.2,SNR=6.6
ILAR LR LR 14 00 24.5
comp=Z,2µm,21.5s,baz=233,slow=32
ILAR Eielson Array 84.52 18 P **P 13 28 00.0 -2.1**
ILAR PKiKP PKiKP 13 33 14.6 -0.8
ILAR PKKPbc PKKPbc 13 46 10.3 -5.8
ILAR P'P' 13 54 13.2
ILAR Eielson Array 84.52 18 P **P 13 28 00.0 -2.1**
ILAR *i* 13 33 14.6
CMB Columbia Colle 84.61 49 *e*P **P 13 28 01.8 -1.4**
comp=Z,34nm,1.1s,mb5.2
CMB Columbia Colle 84.61 49 *e*P **P 13 28 01.8 -1.4**
CMB pmax pmax
comp=Z,34nm,1.1s,mb5.2
FMP Fort Macarthur 84.78 54⇓ P **P 13 28 03.8 -0.4**
baz=85
ARVC Arvin 84.82 53⇑ P **P 13 28 04.5 +0.1**
baz=85
VES Vestal, Richgr 84.85 52⇓ P **P 13 28 04.1 -0.3**
baz=85
MOY Mondy 85.10 325 *e*P **P 13 28 09.0 +3.7**
MOY pmax pmax
comp=Z,188nm,3.1s
MWC Mount Wilson 85.13 54 *e*P **P 13 28 05.0 -0.9**
comp=Z,57nm,1.2s,mb5.4
MWC Mount Wilson 85.13 54 *e*P **P 13 28 05.0 -0.9**
MWC pmax pmax
comp=Z,57nm,1.2s,mb5.4
ISA Isabella 85.27 52⇓ P **P 13 28 06.3 -0.2**
baz=85,SNR=5.7
ISA Isabella 85.27 52 *e*P **P 13 28 05.2 -1.3**
comp=Z,62nm,1.4s,mb5.3
ISA Isabella 85.27 52 *e*P **P 13 28 05.2 -1.3**
ISA pmax pmax
comp=Z,62nm,1.4s,mb5.3
COLD Coldfoot 85.36 16 P **P 13 28 05.9 -0.4**
comp=Z,213nm,2.1s,mb5.7
EDW2 Edwards Air Fo 85.39 53⇓ P **P 13 28 06.9 -0.3**
baz=86,SNR=7.2
BFSC Mount Baldy Ra 85.45 54⇓ P **P 13 28 07.1 -0.4**
baz=86,SNR=8.3
109C Camp Elliot, M 85.48 55⇑ P **P 13 28 07.7 0.0**
baz=86
WCN Washoe City 85.50 48⇑ P **P 13 28 07.9 +0.2**
baz=86
WCN Washoe City 85.50 48 *e*P **P 13 28 07.5 -0.1**
comp=Z,46nm,1.3s,mb5.2
WCN Washoe City 85.50 48 *e*P **P 13 28 07.6 0.0**
WCN pmax pmax
comp=Z,46nm,1.3s,mb5.2
LRMC Laurel Mountai 85.81 52⇑ P **P 13 28 09.2 -0.1**
baz=86
CWC Cottonwood Cre 85.82 51⇑ P **P 13 28 09.2 -0.1**
baz=86,SNR=5.3
K05A Summer Lake 85.88 45⇓ P **P 13 28 09.6 +0.2**
baz=86
MOD Modoc 86.00 46 *e*P **P 13 28 09.8 -0.3**
comp=Z,44nm,1.2s,mb5.3
MONP Monument Peak 86.03 55⇓ P **P 13 28 10.7 +0.3**
baz=86
BBRC Big Bear Solar 86.04 54⇑ P **P 13 28 10.5 +0.1**
baz=86
MPMC Manual Prospec 86.15 52⇑ P **P 13 28 10.8 -0.1**
baz=86,SNR=7.6
PFO Pinyon Flat Ob 86.21 55⇓ P **P 13 28 11.2 -0.1**
baz=86
PFO Pinyon Flat Ob 86.21 55 P **P 13 28 10.6 -0.7**
comp=Z,29nm,1.1s,mb5.1
PFO Pinyon Flat Ob 86.21 55 P **P 13 28 10.6 -0.7**
PFO pmax pmax
comp=Z,29nm,1.1s,mb5.1
DVTC Desert V Tower 86.22 56⇑ P **P 13 28 11.3 0.0**
baz=86
NVAR Mina Array Bea 86.28 50 P **P 13 28 10.8 -0.7**
comp=Z,3.8nm,0.8s,mb4.4,baz=234,slow=7.9,SNR=29
NVAR PKKPbc PKKPbc 13 46 10.4 -0.2
comp=Z,0.6nm,0.8s,baz=78,slow=4.7,SNR=3.6
NVAR PKPPKP 13 54 17.9
comp=Z,1.0nm,1.1s,baz=130,slow=2.1,SNR=4.7
NVAR LR LR 13 58 20.6
comp=Z,4µm,21.9s,baz=105,slow=30
NVAR Mina Array Bea 86.28 50 P **P 13 28 10.8 -0.7**
NVAR PKKPbc PKKPbc 13 46 10.4 -0.2
NVAR P'P' 13 54 17.9
HOOD Mount Hood Mea 86.31 42 P **P 13 28 09.9 -1.6**
comp=Z,121nm,1.4s,mb5.6
EGAK Eagle 86.35 20 *e*P **P 13 28 10.7 -0.5**
comp=Z,39nm,0.9s,mb5.3
GNW Green Mountain 86.40 40 P **P 13 28 11.9 0.0**
comp=Z,18nm,1.1s,mb4.9
GSC Goldstone 86.45 53⇓ P **P 13 28 12.6 +0.2**
baz=86
GSC Goldstone 86.45 53 *e*P **P 13 28 12.0 -0.4**
comp=Z,34nm,1.3s,mb5.1
GSC Goldstone 86.45 53 *e*P **P 13 28 12.0 -0.4**
GSC pmax pmax
comp=Z,34nm,1.3s,mb5.1
GRAC Grapevine Rang 86.53 51⇑ P **P 13 28 12.9 +0.1**
baz=87
SWSC Sam W. Stewart 86.54 55⇑ P **P 13 28 13.2 +0.3**
baz=87
HEC Hector,Ludlow 86.68 53⇑ P **P 13 28 13.6 0.0**
baz=87
BELC Belle Mtn. Jos 86.69 54⇑ P **P 13 28 13.5 -0.1**
baz=87,SNR=6.2
FURC Furnace Creek, 86.76 52⇓ P **P 13 28 13.5 -0.4**
baz=87,SNR=7.8
G06A Carlson Farm, 86.95 43⇑ P **P 13 28 14.8 +0.2**
baz=87
BC3 Big Chuckawall 87.03 55⇑ P **P 13 28 15.3 0.0**
baz=87
TUQ Turquoise Moun 87.17 53⇑ P **P 13 28 15.7 -0.2**
baz=87,SNR=8.1
GMRC Granite Mounta 87.19 54⇑ P **P 13 28 15.7 -0.3**
baz=87,SNR=6.1
DLBC Dease Lake 87.20 28 LR LR 14 00 39.1
comp=Z,2µm,20.9s,baz=249,slow=31
I07A Izee 87.31 44⇑⇑ P **P 13 28 16.4 0.0**
baz=87
WVOR Wild Horse Val 87.35 46 *e*P **P 13 28 16.6 0.0**
comp=Z,50nm,1.2s,mb5.3
WVOR Wild Horse Val 87.35 46 *e*P **P 13 28 16.6 0.0**
WVOR pmax pmax
comp=Z,50nm,1.2s,mb5.3
GLA Glamis 87.35 56⇓ P **P 13 28 16.6 -0.3**
baz=87
IRM Iron Mountain 87.41 54⇑ P **P 13 28 16.7 -0.4**
baz=88,SNR=9.7
LDFC Landfair 87.71 54 *e*P **P 13 28 18.6 +0.1**
comp=Z,124nm,1.1s,mb5.8
BMN Battle Mountai 87.71 48 *e*P **P 13 28 17.1 -1.4**
comp=Z,31nm,1.5s,mb5.1
BMN Battle Mountai 87.71 48 *e*P **P 13 28 17.1 -1.3**
BMN pmax pmax
comp=Z,31nm,1.5s,mb5.1
J08A Circle Bar Ran 87.77 45⇓ P **P 13 28 18.4 -0.1**
baz=88
Y12C Blythe 87.79 55⇓ P **P 13 28 18.9 0.0**
baz=88
ETW Entiat 87.98 40 P **P 13 28 19.0 -0.5**
comp=Z,63nm,1.2s,mb5.5
HAWA Hanford 88.08 42 *e*P **P 13 28 19.8 -0.2**
comp=Z,29nm,1.1s,mb5.2
113A Mohawk Valley, 88.13 56⇓ P **P 13 28 20.3 -0.3**
baz=88
PDMCI Parker Dam,Lak 88.25 54⇑ P **P 13 28 21.1 0.0**
baz=88
R11A Troy Canyon, C 88.29 50⇑ P **P 13 28 20.6 -0.6**
baz=88,SNR=11
Z13A Yuma Proving G 88.34 56⇓ P **P 13 28 21.6 0.0**
baz=88
W13A Hualapai Mount 88.68 54⇑ P **P 13 28 23.1 0.0**
baz=89
214A Organ Pipe Nat 88.69 57⇑ P **P 13 28 23.2 0.0**
baz=89
OD2 Odessa Site #2 88.94 41 *e*P **P 13 28 22.8 -1.2**
comp=Z,56nm,1.3s,mb5.4
Z14A Wintersburg 88.96 56⇓ P **P 13 28 24.5 0.0**
baz=89
E09A Wood Farm, Sta 89.02 42⇓ P **P 13 28 24.3 -0.1**
baz=89
BMO Blue Mountains 89.04 44 *e*P **P 13 28 23.7 -0.8**
comp=Z,62nm,1.6s,mb5.4
BMO Blue Mountains 89.04 44 *e*P **P 13 28 23.7 -0.9**
BMO pmax pmax
comp=Z,62nm,1.6s,mb5.4
HVS Khovu-Aksy 89.06 323*c i*P **P 13 28 24.1 -0.4**
HVS pmax pmax
comp=Z,178nm,1.2s,mb6.0
Y14A Wickenburg 89.06 55⇓ P **P 13 28 24.2 -0.7**
baz=89
F10A Beach Ranch, E 89.45 43⇑ P **P 13 28 26.2 -0.2**
baz=90
R13A O'Grain Ranch, 89.46 51⇑ P **P 13 28 26.7 0.0**
baz=90,SNR=8.9
MFID Camas Ranch 89.62 45⇑ P **P 13 28 27.1 -0.2**
baz=90,SNR=7.0
MFID Camas Ranch 89.62 45 *e*P **P 13 28 27.1 -0.2**
comp=Z,44nm,1.3s,mb5.4
CCUT Cedar City 89.75 52 *e*P **P 13 28 27.8 -0.3**
comp=Z,54nm,1.3s,mb5.5
ARUT Antelope Range 89.76 51 *e*P **P 13 28 27.9 -0.2**
comp=Z,54nm,1.3s,mb5.5
ARUT Antelope Range 89.76 51 *e*P **P 13 28 27.9 -0.2**
ARUT pmax pmax
comp=Z,54nm,1.3s,mb5.5
I12A Atlanta 90.21 45⇑ P **P 13 28 30.0 -0.1**
baz=90
NEW Newport 90.24 40⇓ P **P 13 28 30.0 -0.1**
baz=90
NEW Newport 90.24 40 *e*P **P 13 28 28.6 -1.5**
comp=Z,31nm,1.3s,mb5.3
NEW Newport 90.24 40 *e*P **P 13 28 28.6 -1.5**
NEW pmax pmax
comp=Z,31nm,1.3s
U15A North Rim 90.28 53⇓ P **P 13 28 30.7 +0.1**
baz=90
X16A Lo Mia Camp, P 90.44 55⇓ P **P 13 28 31.0 -0.3**
baz=90
TUC Tucson 90.44 57 *e*P **P 13 28 32.1 +0.7**
comp=Z,5.3nm,1.0s,mb4.6
TUC Tucson 90.44 57 *e*P **P 13 28 32.1 +0.7**
TUC pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
WMQ Urumqi 90.57 315 P **P 13 28 31.8 0.0**
WMQ PP PP 13 32 09.6 +2.0
WMQ S S 13 39 16.3 -5.8
WMQ SS SS 13 45 24.5 -0.5
WMQ pmax pmax
comp=Z,120nm,1.2s,mb5.9

WMQ pmax pmax
comp=Z,1µm,3.8s
WMQ LR LR
comp=N,1µm,20.0s
WMQ LR LR
comp=E,2µm,20.0s
WMQ LR LR
comp=Z,2µm,28.0s
H12A Diamond D Ranc 90.62 45 ⇑P P 13 28 31.9 -0.1
baz=91,SNR=7.2
HLID Hailey 90.64 46 ⇑P P 13 28 31.7 -0.4
baz=91,SNR=10
HLID Hailey 90.64 46 eP P 13 28 31.5 -0.6
comp=Z,21nm,1.0s,mb5.2
Y17A Roosevelt 90.74 56 ⇓P P 13 28 32.5 -0.3
baz=91
SYO Syowa Base 90.75 197⇑eP P 13 28 29.0 -3.2
SYO Syowa Base 90.75 197⇓PcP PcP 13 28 34.9 +1.7
SYO Syowa Base 90.75 197 eSH S 13 39 45.0 +22
R15A Junction 90.75 51 ⇑P P 13 28 33.2 +0.5
baz=91
J13A Cove Ranch, Pi 90.77 46 ⇑P P 13 28 32.4 -0.2
baz=91,SNR=8.8
WUAZ Wupatki 90.77 54 ⇑P P 13 28 33.0 +0.2
baz=91
WUAZ Wupatki 90.77 54 eP P 13 28 32.3 -0.6
comp=Z,37nm,1.1s,mb5.4
DUG Dugway 90.87 49 ⇓P P 13 28 33.0 -0.2
baz=91,SNR=5.4
DUG Dugway 90.87 49 eP P 13 28 32.1 -1.1
comp=Z,24nm,1.2s,mb5.2
DUG Dugway 90.87 49 eP P 13 28 32.1 -1.1
DUG pmax pmax
comp=Z,24nm,1.2s,mb5.2
INK Inuvik 90.90 19 P P 13 28 32.5 -0.2
comp=Z,1.1nm,0.6s,baz=251,slow=1.9,SNR=5.4
INK PKKPbc PKKPbc 13 45 56.6 -3.9
comp=Z,2.9nm,0.8s,baz=83,slow=1.2,SNR=10
INK Inuvik 90.90 19 P P 13 28 32.5 -0.2
INK PKKPbc PKKPbc 13 45 56.6 -3.9
INK Inuvik 90.90 19 P P 13 28 32.5 -0.2
MSU Marysvale 90.91 51 eP P 13 28 34.2 +0.8
comp=Z,54nm,1.2s,mb5.5
MSU Marysvale 90.91 51 eP P 13 28 34.2 +0.8
MSU pmax pmax
comp=Z,54nm,1.2s,mb5.5
X17A Forest Lakes 90.93 55 ⇑P P 13 28 33.6 0.0
baz=91
I13A Wildhorse Cree 90.95 45 ⇓P P 13 28 33.5 0.0
baz=91,SNR=9.1
218A Dragoon 90.97 58 ⇑P P 13 28 34.2 +0.3
baz=91
H13A Challis 91.03 45 ⇑P P 13 28 33.5 -0.3
baz=91,SNR=11
L14A Malta 91.05 47 ⇓P P 13 28 33.7 -0.3
baz=91,SNR=11
U16A Tuba City 91.12 53 ⇓P P 13 28 34.5 +0.1
baz=91
S16A Weppner Ranch, 91.15 52 ⇓P P 13 28 34.8 +0.2
baz=91
118A Homack Ranch, 91.19 57 ⇑P P 13 28 34.6 -0.3
baz=91
G13A Cobalt 91.20 44 ⇓P P 13 28 34.8 +0.2
baz=91,SNR=6.4
J14A Carey 91.20 46 ⇓P P 13 28 35.4 +0.7
baz=91
K14A Jones Ranch, D 91.24 47 ⇓P P 13 28 35.7 +0.8
baz=91
V17A Tonalea, Kykot 91.25 54 ⇑P P 13 28 35.5 +0.4
baz=91
B12A Libby 91.28 41 ⇑P P 13 28 35.3 +0.4
baz=91
HVU Hansel Valley 91.32 48 eP P 13 28 33.6 -1.6
comp=Z,62nm,1.1s,mb5.7
HVU Hansel Valley 91.32 48 eP P 13 28 33.7 -1.6
HVU pmax pmax
comp=Z,62nm,1.1s,mb5.7
F13A Darby 91.33 43 ⇓P P 13 28 34.8 -0.4
baz=91,SNR=8.2
R16A Teasdale 91.38 51 ⇓P P 13 28 36.1 +0.5
baz=92
TRD Trivandrum 91.39 278⇑ex P 13 28 39.0 +2.8
TRD ex x 13 32 25.0
Y18A Canyon Day Jun 91.41 56 ⇑P P 13 28 36.5 +0.6
baz=92
I14A Mackay 91.42 45 ⇓P P 13 28 35.9 +0.3
baz=92,SNR=7.4
319A Douglas 91.46 58 ⇓P P 13 28 36.5 +0.3
baz=92
M15A Larsen Ranch, 91.47 48 ⇑P P 13 28 36.4 +0.4
baz=92,SNR=6.0
T17A Navajo Res., N 91.58 53 ⇓P P 13 28 36.9 +0.3
baz=92
U17A Shonto 91.59 53 ⇑P P 13 28 37.5 +0.8
baz=92
E13A Victor 91.61 43 ⇓P P 13 28 36.8 +0.3
baz=92
D13A Huson 91.61 42 ⇑P P 13 28 37.2 +0.7
baz=92
BSMT Bassoo Peak 91.61 41 eP P 13 28 35.2 -1.3
comp=Z,34nm,1.2s,mb5.5
219A White Tail Can 91.63 58 ⇓P P 13 28 37.1 +0.2
baz=92
L15A Malad City 91.66 47 ⇑P P 13 28 37.0 +0.2
baz=92
H14A Leadore 91.66 45 ⇑P P 13 28 37.0 +0.3
baz=92
X18A Snowflake 91.66 55 ⇑P P 13 28 37.1 +0.1
baz=92
C13A Hot Springs 91.70 42 ⇑P P 13 28 37.2 +0.3
baz=92
MPU Maple Canyon 91.70 50 eP P 13 28 37.5 +0.4
comp=Z,35nm,1.8s,mb5.3
S17A Black Ridge (B 91.74 52 ⇑P P 13 28 37.5 +0.2
baz=92
HYB Hyderabad 91.75 287 *i* P **P 13 28 36.0 -1.8**
comp=Z,220nm,1.0s,mb6.3
HYB epP pP 13 28 52.0 -4.1
HYB eSKS 13 39 04.0
HYB eS S 13 39 36.0 +2.1
Q16A Castle Valley 91.77 51 ⇑P P 13 28 38.4 +1.0
baz=92
O16A Springville 91.84 49 ⇑P P 13 28 37.9 +0.1
baz=92
B13A Whitefish 91.96 41 ⇓P P 13 28 38.6 +0.5
baz=92
JLU Jordanelle 91.98 49 eP P 13 28 38.2 -0.2
comp=Z,14nm,1.0s,mb5.2
R17A Hanksville Air 92.00 51 ⇑P P 13 28 38.3 -0.2
baz=92
E14A Clinton 92.06 43 ⇑P P 13 28 38.4 -0.2
baz=92
N16A Rees Ranch, Co 92.06 49 ⇓P P 13 28 39.3 +0.5
baz=92
MCMT McKenzie Canyo 92.07 45 eP P 13 28 37.1 -1.5
comp=Z,1.1nm,0.8s
320A Kipp Ranch, An 92.08 59 ⇓P P 13 28 40.0 +0.9
baz=92
NGP Nagpur 92.08 291 ePKP **P 13 28 37.0 -2.3**
NGP ex x 13 39 36.4
Y19A Nutrioso 92.08 56 ⇑P P 13 28 39.6 +0.6
baz=92
I15A Monteview 92.11 45 ⇑P P 13 28 39.3 +0.5
baz=92
HWUT Hardware Ranch 92.15 48 P P 13 28 38.8 -0.4
comp=Z,6.1nm,1.2s,mb4.7
H15A Lima 92.16 45 ⇑P P 13 28 39.3 +0.2
baz=92,SNR=6.8
X19A St. Johns 92.17 55 ⇓P P 13 28 39.5 +0.1
baz=92
U18A Rough Rock, Ch 92.17 53 ⇓P P 13 28 39.6 +0.3
baz=92
220A Playas Peak, P 92.21 58 ⇑P P 13 28 39.6 -0.1
baz=92
D14A Greenough 92.23 42 ⇓P P 13 28 39.7 +0.3
baz=92
120A U Bar Ranch, L 92.27 57 ⇓P P 13 28 40.1 +0.2
baz=92
T18A Mexican Hat 92.34 53 ⇓P P 13 28 40.3 +0.2
baz=92
L16A Fish Haven 92.35 48 ⇑P P 13 28 40.6 +0.5
baz=92
CHMT Chamberlain Mo 92.35 43 P P 13 28 39.1 -0.8
comp=Z,23nm,1.3s,mb5.2
S18A Hurst Farm, Bl 92.37 52 ⇑P P 13 28 40.4 +0.2
baz=92
DLMT Dillon 92.38 44 eP P 13 28 40.2 +0.1
comp=Z,30nm,1.0s,mb5.5

DGAR Diego Garcia 92.39 262 eP P 13 28 39.8 -1.1
comp=Z,621nm,1.8s,mb6.5
DGAR Diego Garcia 92.39 262 eP P 13 28 39.8 -1.1
DGAR pmax pmax
comp=Z,621nm,1.8s,mb6.5
G15A Dillon 92.41 44 ⇓P P 13 28 40.7 +0.5
baz=92,SNR=5.4
O17A Robinson Place 92.41 50 ⇓P P 13 28 41.0 +0.6
baz=92
Z20A Nine Sixteen R 92.43 57 ⇑P P 13 28 41.1 +0.4
baz=92
K16A Soda Springs 92.44 47 ⇓P P 13 28 41.1 +0.7
baz=92
J16A Bone 92.53 46 ⇓P P 13 28 40.9 +0.1
baz=93
F15A Butte 92.58 44 ⇓P P 13 28 41.4 +0.4
baz=93
LRM Limestone Ridge 92.60 44 P P 13 28 40.3 -0.8
comp=Z,157nm,1.1s,mb6.3
Q18A Rafter H Ranch 92.60 51 ⇓P P 13 28 41.2 0.0
baz=93
R18A Canyonlands Na 92.61 51 ⇓P P 13 28 41.5 +0.2
baz=93
E15A Deer Lodge 92.63 43 ⇑P P 13 28 41.4 +0.2
baz=93
P18A Preston Nutter 92.64 50 ⇓P P 13 28 41.7 +0.2
baz=93
U19A Dine' College, 92.66 54 ⇓P P 13 28 42.1 +0.5
baz=93
B14A Marquette Ranc 92.73 41 ⇓P P 13 28 42.4 +0.8
baz=93
RRI2 Red Ridge 92.76 46 *eP* **P 13 28 40.7 -1.2**
comp=Z,38nm,1.4s,mb5.5
I16A Newdale 92.77 46 ⇓P P 13 28 42.5 +0.6
baz=93
Y20A Horse Springs, 92.78 56 ⇓P P 13 28 42.6 +0.3
baz=93
X20A Quemado 92.83 55 ⇓P P 13 28 42.9 +0.5
baz=93
G16A Moss Hill, Enn 92.89 44 ⇑P P 13 28 43.3 +0.9
baz=93
W20A Ramah 92.96 55 ⇑P P 13 28 43.7 +0.7
baz=93
121A Cookes Peak, D 92.96 58 ⇑P P 13 28 43.3 +0.1
baz=93
C15A Salmond Ranch, 93.00 42 ⇑P P 13 28 43.5 +0.5
baz=93
S19A Harvey Farm, M 93.05 52 ⇓P P 13 28 43.3 -0.1
baz=93
R19A Curley Farm, L 93.08 52 ⇓P P 13 28 43.8 +0.3
baz=93
H16A Russell Place, 93.14 45 ⇑P P 13 28 44.2 +0.6
baz=93
F16A Kennard Place, 93.15 44 ⇓P P 13 28 44.3 +0.6
baz=93
U20A Newcomb 93.22 54 ⇑P P 13 28 44.8 +0.6
baz=93
Z21A St. Cloud Mine 93.23 57 ⇑P P 13 28 45.1 +0.8
baz=93
A15A Johnson Ranch, 93.23 41 ⇓P P 13 28 44.9 +0.9
baz=93
Y21A Point of Rocks 93.38 56 ⇓P P 13 28 45.9 +0.9
baz=94
MVCO Mesa Verde 93.42 53 ⇓P P 13 28 45.6 +0.5
baz=94
C16A Fuhringer Ranc 93.57 42 ⇑P P 13 28 45.4 -0.1
baz=94
PV01 Paradox Valley 93.57 52 *eP* **P 13 28 45.2 -0.6**
comp=Z,1µm,1.1s,mb7.1
P19A Cripple Cowboy 93.59 50 ⇑P P 13 28 46.4 +0.6
baz=94
J18A Kendall Valley 93.65 47 ⇑P P 13 28 46.6 +0.7
baz=94
S20A Disappointment 93.67 52 ⇓P P 13 28 46.7 +0.5
baz=94
R20A Redvale 93.73 52 ⇓P P 13 28 46.5 0.0
baz=94
Z22A Elephant Butte 93.79 57 ⇑P P 13 28 47.3 +0.4
baz=94
PD01 Pinedale Array 93.86 47 P P 13 28 46.2 -0.7
PDAR Pinedale Array 93.88 47 P P 13 28 47.8 +0.7
comp=Z,0.6nm,0.7s,baz=191,slow=3.1,SNR=4.6
PDAR PKiKP PKiKP 13 33 33.5 +1.8
comp=Z,0.6nm,0.6s,baz=193,slow=3.7,SNR=4.2
PDAR PKKPbc PKKPbc 13 45 48.9 -2.9
comp=Z,1.1nm,0.7s,baz=89,slow=5.7,SNR=7.9
PDAR PKPPKP 13 54 00.7
comp=Z,0.8nm,1.0s,baz=77,slow=4.0,SNR=3.8
PDAR LR LR 14 05 32.4
comp=Z,2µm,21.8s,baz=268,slow=32
PDAR Pinedale Array 93.88 47 P P 13 28 47.8 +0.7
PDAR PKiKP PKiKP 13 33 33.5 +1.8
PDAR PKKPbc PKKPbc 13 45 48.9 -2.9
PDAR P'P' 13 54 00.7
U21A Nageezi 93.91 54 ⇑P P 13 28 47.5 +0.1
baz=94
Y22A Socorro 93.94 56 ⇑P P 13 28 47.3 -0.2
baz=94
A16A West Butte Ran 93.95 41 ⇑P P 13 28 48.0 +0.8
baz=94
Q20A Ridgley Place, 93.96 51 ⇓P P 13 28 48.1 +0.5
baz=94
BHPL Bhopal 93.99 293 *e*PKP **P 13 28 47.9 -0.1**
BHPL AMb AMB 13 28 50.2
comp=Z,78nm,1.8s,mb5.8
P20A De Beque 94.01 51 ⇓P P 13 28 48.3 +0.5
baz=94
S21A Coal Bank Pass 94.07 52 ⇓P P 13 28 48.3 +0.2
baz=94
PMSA Palmer Station 94.22 161 P P 13 28 48.8 +0.5
comp=Z,36nm,0.9s,mb5.7,baz=104,slow=2.1,SNR=4.3
PMSA Palmer Station 94.22 161 P P 13 28 48.8 +0.5
O20A White River Ci 94.26 50 ⇓P P 13 28 49.2 +0.3
baz=94
B17A L&G Farms, Che 94.31 42 ⇑P P 13 28 49.5 +0.6
baz=94
K19A Absolon Red Bu 94.40 47 ⇓P P 13 28 50.2 +0.7
baz=94
R21A Cimarron 94.41 52 ⇓P P 13 28 49.9 +0.2
baz=94
A17A Triple J Farms 94.53 41 ⇑P P 13 28 50.4 +0.5
baz=95
U22A Llaves 94.53 54 ⇓P P 13 28 50.8 +0.6
baz=95
ANMO Albuquerque 94.56 55 P P 13 28 51.0 +0.6
comp=Z,1.7nm,0.8s,mb4.5,baz=278,slow=3.1,SNR=4.9
ANMO Albuquerque 94.56 55 P P 13 28 51.0 +0.6
ANMO Albuquerque 94.56 55 P P 13 28 51.0 +0.6
224A Cornudas Mount 94.74 58 ⇑P P 13 28 51.7 +0.4
baz=95
MNTX Cornudas Mount 94.78 59 ⇓P P 13 28 51.9 +0.4
baz=95
S22A 4UR Ranch, Cre 94.83 53 ⇓P P 13 28 52.4 +0.8
baz=95
DDI Dehra Dun 94.85 300⇓*i*P **P 13 28 50.5 -1.3**
DDI ex x 13 31 55.0
425A Indio Mountain 94.94 60 ⇓P P 13 28 52.7 +0.5
baz=95
R22A Saguache, Gunn 94.99 52 ⇓P P 13 28 53.0 +0.7
baz=95
Q22A Crested Butte, 95.00 51 ⇑P P 13 28 53.2 +0.9
baz=95
MK31 Makanchi Array 95.01 317 *eP* **P 13 28 50.5 -1.7**
MK31 Makanchi Array 95.01 317 *eP* **P 13 28 50.5 -1.7**
MKAR Makanchi Array 95.01 317 P P 13 28 50.8 -1.4
comp=Z,45nm,0.8s,mb6.0,baz=92,slow=5.3,SNR=222
MKAR PKiKP PKiKP 13 33 33.4 -0.2
comp=Z,1.5nm,0.5s,baz=90,slow=1.4,SNR=9.6
MKAR PKKPbc PKKPbc 13 45 45.7 -3.2
comp=Z,5.4nm,0.6s,baz=260,slow=3.5,SNR=34
MKAR LR LR 14 10 26.6
comp=Z,999nm,21.6s,baz=99,slow=35
MKAR Makanchi Array 95.01 317 P P 13 28 50.8 -1.4
MKAR PKiKP PKiKP 13 33 33.4 -0.2
MKAR PKKPbc PKKPbc 13 45 45.7 -3.2
MKAR Makanchi Array 95.01 317 P P 13 28 50.8 -1.4
ZAA0 Zalesovo Array 95.08 324 *eP* **P 13 28 50.6 -1.6**
ZALV Zalesovo Beam 95.08 324 P P 13 28 50.9 -1.4
comp=Z,35nm,1.0s,mb5.7,baz=107,slow=3.6,SNR=85
ZALV PKiKP PKiKP 13 33 34.6 +1.2
comp=Z,1.1nm,0.6s,baz=128,slow=2.1,SNR=2.8
ZALV PKKPbc PKKPbc 13 45 45.8 -3.3
comp=Z,2.8nm,0.5s,baz=295,slow=3.1,SNR=13
ZALV LR LR 14 09 57.7
comp=Z,1µm,21.4s,baz=357,slow=34
ZALV Zalesovo Beam 95.08 324 P P 13 28 50.9 -1.4
ZALV PKiKP PKiKP 13 33 34.6 +1.2

ZALV PKKPbc PKKPbc 13 45 45.8 -3.3
ZALV Zalesovo Beam 95.08 324 P P 13 28 50.9 -1.4
P22A Eagle 95.26 51 ⇓P P 13 28 54.1 +0.6
baz=95
NVL N'lazarevskaya 95.28 188⇓*i*P **P 13 28 53.3 +0.3**
NVL *e**SP sP 13 29 11.1 -7.3
NVL pmax pmax
comp=Z,80nm,0.9s,mb6.2
MAIT Maitri 95.28 188 *eP* **P 13 28 51.5 -1.6**
MAIT *e* 13 28 53.1
D19A Cripps Ranch, 95.32 43 ⇓P P 13 28 54.1 +0.5
baz=95
626A Big Bend Ranch 95.42 61 ⇓P P 13 28 53.9 -0.5
baz=96
W24A Lazy 6 Ranch, 95.45 55 ⇓P P 13 28 54.2 -0.3
baz=96
O22A Kremmling 95.53 50 ⇓P P 13 28 55.1 +0.4
baz=96
TXAR Lajitas Array 95.78 61 P P 13 28 55.2 -0.9
comp=Z,1.4nm,0.7s,mb4.5,baz=238,slow=4.1,SNR=11
TXAR PKKPbc PKKPbc 13 45 46.2 +0.1
comp=Z,0.5nm,0.7s,baz=116,slow=5.4,SNR=4.6
TXAR LR LR 14 04 36.1
comp=Z,1µm,19.1s,baz=315,slow=31
TXAR Lajitas Array 95.78 61 P P 13 28 55.2 -0.9
TXAR PKKPbc PKKPbc 13 45 46.2 +0.1
TXAR Lajitas Array 95.78 61 P P 13 28 55.3 -0.8
YKA Yellowknife Ar 95.79 27 P P 13 28 52.9 -2.4
comp=Z,1.6nm,0.6s,mb4.6,baz=258,slow=4.6,SNR=16
YKA PKiKP PKiKP 13 33 32.8 -1.5
comp=Z,0.5nm,0.6s,baz=245,slow=1.3,SNR=6.2
YKA PKKPbc PKKPbc 13 45 40.4 -7.0
comp=Z,0.4nm,0.7s,baz=84,slow=2.3,SNR=4.4
YKA Yellowknife Ar 95.79 27 P P 13 28 52.9 -2.4
YKA PKiKP PKiKP 13 33 32.9 -1.5
YKA PKKPbc PKKPbc 13 45 40.4 -7.0
YKA Yellowknife Ar 95.79 27 P P 13 28 52.9 -2.4
KAD Karad 95.81 286 *e*PKP **P 13 28 56.4 -0.1**
SNAA Sanae 95.85 183 *e* **P 13 28 54.9 -0.7**
SNAA Sanae 95.85 183 *eP* **P 13 28 53.2 -2.3**
comp=Z,116nm,1.1s,mb6.2
SNAA Sanae 95.85 183 *eP* **P 13 28 53.3 -2.3**
SNAA pmax pmax
comp=Z,116nm,1.1s
627A Terlingua Ranc 96.04 61 ⇑P P 13 28 57.4 +0.1
baz=96
S24A Houchin Ranch, 96.07 53 ⇑P P 13 28 57.4 +0.1
baz=96
NVS Novosibirsk 96.18 325⇑*i*P **P 13 28 55.6 -1.7**
NVS *e* pP 13 29 15.3 -0.3
NVS *e* 13 39 27.2
NVS pmax pmax
comp=E,58nm,1.9s
NVS pmax pmax
comp=E,58nm,1.9s
NVS pmax pmax
comp=Z,101nm,1.9s,mb5.9
J22A Midwest 96.22 47 ⇑P P 13 28 58.4 +0.7
baz=96
R24A Sanders Place, 96.26 52 ⇓P P 13 28 58.7 +0.6
baz=96
POO Poona 96.36 288 *e*PKP **P 13 28 59.2 +0.3**
628A Black Gap, Mar 96.47 61 ⇑P P 13 28 59.4 +0.2
baz=96
VNA3 Neumayer Olymp 96.55 181 *e* **P 13 28 58.3 -0.5**
S25A Robets Cordova 96.68 53 ⇓P P 13 29 00.2 +0.2
baz=97
528A Cox Ranch, San 96.68 61 ⇓P P 13 29 00.9 +0.7
baz=97
VNA2 Neumayer--Watz 96.80 182 *e* **P 13 28 59.8 -0.1**
baz=185,slow=3.9
Y27A Causey 97.03 57 ⇑P P 13 29 02.2 +0.5
baz=97
VNA1 Neumayer--Stat 97.10 182 *e* **P 13 29 01.5 +0.2**
KSH Kashi 98.18 309 *eP* **P 13 29 08.6 +1.9**
KSH pP pP 13 29 28.8 +3.7
KSH PP PP 13 33 11.4 +4.3
KSH SKS 13 39 37.1
KSH S S 13 40 25.3 -3.8
KSH sS sS 13 41 01.7 +1.3
KSH SS SS 13 47 15.7 +2.1
KSH pmax pmax
comp=Z,12nm,1.1s,mb5.3
KSH pmax pmax
comp=Z,280nm,6.5s
KSH LR LR
comp=N,450nm,13.9s
KSH LR LR
comp=E,510nm,13.9s
KSH LR LR
comp=Z,2µm,22.1s
TKM2 Tokmak 2 98.99 312 *eP* **P 13 29 09.5 -0.8**
comp=Z,6.5nm,1.0s,mb5.1
TKM2 Tokmak 2 98.99 312 *eP* **P 13 29 09.5 -0.7**
TKM2 pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
FRU Bishkek 99.69 312 *eP* Pdif 13 29 13.0 -0.2
FRU *e* 13 29 29.0
FRU *e* 13 29 37.0
FRU *e* 13 39 45.0
FRU *e*PS PS 13 42 16.0 -1.8
FRU pmax pmax
comp=Z,70nm,2.2s,mb5.9
FRU MLR MLR
comp=Z,1µm,23.0s
AAK Ala-Archa 99.75 312 *e*Pdif Pdif 13 29 13.8 +0.3
comp=Z,47nm,1.3s
AAK Ala-Archa 99.75 312 *eP* Pdif 13 29 13.8 +0.4
AAK pmax pmax
comp=Z,47nm,1.3s,mb6.0
AAK Ala-Archa 99.75 312 P Pdif 13 29 14.1 +0.7
comp=Z,1µmcomp=Z,60nm,1.4s
AAK Ala-Archa 99.75 312 P Pdif 13 29 14.4 +0.9
SNR=5.1
KKAR Karatay Array 102.71 312 *e*Pdif Pdif 13 29 26.7 +0.1
comp=Z,5.1nm,0.9s
KKAR Karatay Array 102.71 312 *eP* Pdif 13 29 26.7 +0.1
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 103.02 303 *e*Pdif Pdif 13 29 27.9 -0.1
comp=Z,6.1nm,1.0s
KBL Kabul 103.02 303 *eP* Pdif 13 29 27.9 -0.1
KBL pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 103.53 322 *e*Pdif Pdif 13 29 29.6 -0.7
comp=Z,4.5nm,1.0s
BRVK Borovoye 103.53 322 *eP* Pdif 13 29 29.6 -0.7
BRVK pmax pmax
comp=Z,5.0nm,1.0s
ULM Lac du Bonnet 104.24 41 PKiKP PKiKP 13 33 48.3 -1.6
comp=Z,3.3nm,0.6s,baz=285,slow=2.2,SNR=5.0
ULM PKKPbc PKKPbc 13 45 19.6 -3.1
comp=Z,0.8nm,0.6s,baz=45,slow=2.9,SNR=2.9
ULM Lac du Bonnet 104.24 41 PKiKP PKiKP 13 33 48.3 -1.6
ULM PKKPbc PKKPbc 13 45 19.6 -3.1
ABKAR Akbulak array 110.10 318 *e*PKiKP PKiKP 13 34 00.4 -0.4
ARU Arti 110.15 326 *e*PKiKP PKiKP 13 34 00.9 +0.2
ARU Arti 110.15 326 *i* PKiKP PKiKP 13 34 00.6 -0.1
ARU 13 34 41.9
ARU PPP 13 36 58.0
ARU 13 40 33.8
ARU SP SP 13 43 59.1 +2.1
ARU SS SS 13 49 54.9 -1.7
ARU MLR MLR
comp=Z,2µm,23.0s
BSY Bisya 112.36 290 P PKiKP 13 34 05.6 -0.4
SNR=5.9
SPA0 Spitsbergen Ar 112.52 354 *eP* PKiKP 13 34 05.2 +0.5
HATD Hatta, Dubai 113.48 292 P PKiKP 13 34 08.3 +0.3
SNR=7.7
ASHO Ashiyiah 113.54 292 P PKiKP 13 34 08.3 +0.1
SNR=6.5
NAZ Nazwa, Dubai 113.92 292 P PKiKP 13 34 09.0 +0.1
SNR=7.6
APA Apatity 116.93 342⇑*i*PKIKP PKPdf 13 34 16.0 +2.6
APA *e*SS SS 13 51 24.0 -1.2
KEV Kevo 117.28 345 *e*PKIKP PKPdf 13 34 12.6 -1.4
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 117.28 345 *ep* PKPdf 13 34 12.6 -1.4
comp=Z,6.5nm,0.7s
ARCES ARCESS Array B 117.80 346 PKP PKPdf 13 34 13.2 -1.9
comp=Z,7.8nm,0.5s,baz=60,slow=2.4,SNR=87
ARCES SKP 13 37 47.4
comp=Z,9.6nm,0.8s,baz=79,slow=1.9,SNR=9.4

ARCES PKKPbc PKKPbc 13 44 34.7 -4.0
comp=Z,11nm,0.8s,baz=250,slow=2.5,SNR=31
ARCES ARCESS Array B 117.80 346 PKP PKPdf 13 34 13.2 -1.9
ARCES SKP 13 37 47.4
ARCES PKKPbc PKKPbc 13 44 34.7 -4.0
ARCES ARCESS Array B 117.80 346 PKIKP PKPdf 13 34 13.2 -1.8
ARE0 ARCESS Array S 117.80 346 *e*P PKPdf 13 34 13.0 -2.0
ARE0 ARCESS Array S 117.80 346 *e*PKPdf PKPdf 13 34 14.1 -0.9
KTK1 Kautokeino 118.74 346 *e*P PKPdf 13 34 16.2 -0.7
KTK1 AMS AMS 14 18 07.4
comp=Z,4μm,17.7s
LPAZ La Paz 118.90 116 PKP PKPdf 13 34 18.6 -0.1
comp=Z,3.7nm,0.9s,baz=219,slow=6.5,SNR=8.5
LPAZ PKKPbc PKKPbc 13 44 29.9 -3.5
comp=Z,0.9nm,0.8s,baz=78,slow=1.9,SNR=3.8
LPAZ La Paz 118.90 116 *e*PKPdf PKPdf 13 34 18.4 -0.3
LPAZ PKP PKPdf 13 34 18.6 -0.1
LPAZ PKKPbc PKKPbc 13 44 29.9 -3.5
LPAZ La Paz 118.90 116 *e*PKIKP PKPdf 13 34 18.4 -0.3
TRO Tromso 119.22 348 *e*P PKPdf 13 34 17.2 -0.6
TRO AMS AMS 14 16 13.5
comp=Z,2μm,30.0s
NCB Newcomb 119.46 46 *e*PKPdf PKPdf 13 34 17.4 -1.6
MAK Makhachkala 119.51 312 *i* PKIKP PKPdf 13 34 30.0 +11
MAK *e* 13 35 48.6
MAK *e* 13 41 06.2
MAK *e* 13 41 19.8
MAK pmax pmax
comp=Z,265nm,1.3s
JOF Joensuu 120.44 338 *e*PKIKP PKPdf 13 34 18.3 -2.0
JOF pmax pmax
comp=Z,11nm,0.6s
JOF Joensuu 120.44 338 *e*p PKPdf 13 34 18.3 -2.0
comp=Z,11nm,0.6s
SCHQ Schefferville 120.72 33 PKP PKPdf 13 34 19.5 -1.5
comp=Z,5.6nm,0.6s,baz=279,slow=1.1,SNR=12
SCHQ PKKPbc PKKPbc 13 44 26.0 -1.7
comp=Z,4.6nm,0.6s,baz=72,slow=11,SNR=8.0
SCHQ Schefferville 120.72 33 PKP PKPdf 13 34 19.5 -1.5
SCHQ PKKPbc PKKPbc 13 44 26.0 -1.7
QRN Al-Qurain 120.85 296 *e*P PKPdf 13 34 21.3 -0.8
QRN AMb AMB 13 34 23.3
comp=Z,255nm,1.1s
UMR Umm Al-Rimmam 120.99 297 *e*P PKPdf 13 34 21.3 -1.1
UMR AMb AMB 13 34 25.6
comp=Z,196nm,1.6s
RDF Al-Radifah 121.17 296 *e*P PKPdf 13 34 21.9 -0.8
RDF AMb AMB 13 34 24.5
comp=Z,236nm,1.4s
MIB Mutribah 121.30 297 *e*P PKPdf 13 34 22.1 -0.8
MIB AMb AMB 13 34 24.6
comp=Z,124nm,1.0s
DGRG David-gareji 121.36 311 P PKPdf 13 34 21.5 -1.2
STEI Steigen 121.40 348 *e*P PKPdf 13 34 20.8 -1.1
NAY Al-Naaiem 121.42 297 *e*P PKPdf 13 34 22.4 -0.8
NAY AMb AMB 13 34 24.7
comp=Z,66nm,1.4s
MOS Moscow 121.51 329 *e*PKIKP PKPdf 13 34 20.0 -2.5
MOS *e* 13 35 54.3
MOS pmax pmax
comp=Z,48nm,1.1s
SCO Scoresbysund 121.69 3 *i* P SKPdf 13 37 53.0 +0.6
SCO *i* 13 44 19.3
TBLG Delisi 121.77 312 PKIKP PKPdf 13 34 24.3 +0.8
TBLG Delisi 121.77 312 P PKPdf 13 34 24.3 +0.9
GNI Garni 122.09 310 *e*PKPdf PKPdf 13 34 25.1 +0.9
GNI Garni 122.09 310 *e*PKIKP PKPdf 13 34 25.1 +1.0
GNI Garni 122.09 310 P PKPdf 13 34 25.6 +1.5
SNR=5.8
OBN Obninsk 122.33 329 ⇓*i*PKIKP PKPdf 13 34 23.9 -0.2
OBN *e* 13 36 01.8
OBN *e* 13 41 18.4
OBN *e*PS PS 13 45 48.2 -7.9
OBN *e*SS SS 13 52 49.3 +14
OBN pmax pmax
comp=Z,35nm,0.9s
OBN MLR MLR
comp=Z,2μm,23.0s
ONI Oni 122.51 313 P PKPdf 13 34 24.7 -0.2
CPUP Villa Florida 122.57 132 PKP PKPdf 13 34 24.1 -1.5
comp=Z,6.7nm,0.7s,baz=281,slow=5.2,SNR=3.6
CPUP PKKPbc PKKPbc 13 44 19.4 -0.6
comp=Z,3.7nm,0.9s,baz=56,slow=1.7,SNR=5.3
CPUP Villa Florida 122.57 132 PKP PKPdf 13 34 24.1 -1.5
CPUP PKKPbc PKKPbc 13 44 19.4 -0.6
CPUP Villa Florida 122.57 132 PKIKP PKPdf 13 34 24.1 -1.4
VSR Storozhevoye 122.58 324 *e*PKIKP PKPdf 13 34 24.8 +0.1
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.8s
VSR pmax pmax
comp=E,20nm,1.8s
KIV Kislovodsk 122.70 315 *e*PKPdf PKPdf 13 34 25.2 0.0
KIV Kislovodsk 122.70 315 *i* P Pdif 13 30 54.3 -1.2
KIV *i* 13 34 23.4
KIV *e* 13 36 01.8
KIV *e* 13 41 16.0
KIV *e*PS PS 13 45 58.5 -1.4
KIV *e*SS SS 13 52 39.3 -1.7
KIV pmax pmax
comp=Z,29nm,1.1s
KAF Kangasniemi 122.75 339 *e*PKIKP PKPdf 13 34 23.1 -1.6
KAF pmax pmax
comp=Z,9.0nm,0.5s
KAF Kangasniemi 122.75 339 *e*p PKPdf 13 34 23.1 -1.6
comp=Z,9.3nm,0.5s
STOK Stokkvaagen 123.22 348 *e*P PKPdf 13 34 24.9 -0.6
FINES FINESS Array B 123.28 339 PKP PKPdf 13 34 25.6 -0.2
comp=Z,11nm,0.7s,baz=36,slow=1.7,SNR=30
FINES PKKPbc PKKPbc 13 44 15.9 -2.1
comp=Z,11nm,0.7s,baz=186,slow=2.5,SNR=22
FINES FINESS Array B 123.28 339 PKP PKPdf 13 34 25.6 -0.2
FINES PKKPbc PKKPbc 13 44 15.9 -2.1
FINES FINESS Array B 123.28 339 PKIKP PKPdf 13 34 25.6 -0.2
BHD Baghdad 123.50 302 *i* x PKPdf 13 34 25.8 -1.3
BHD *i* x x 13 35 23.0
BHD *i* x x 13 40 59.0
BHD *i* x x 13 41 24.0
SDV Santo Domingo 123.79 88 *e*PKPdf PKPdf 13 34 26.3 -1.9
BOSA Boshof 124.67 222 PKP PKPdf 13 34 29.4 -0.2
comp=Z,16nm,0.9s,baz=138,slow=4.1,SNR=13
BOSA Boshof 124.67 222 *e*PKPdf PKPdf 13 34 29.1 -0.4
BOSA PKP PKPdf 13 34 29.4 -0.2
BOSA Boshof 124.67 222 *e*PKIKP PKPdf 13 34 29.1 -0.4
SUR Sutherland 124.73 215 *e*PKPdf PKPdf 13 34 29.6 +0.1
ANN Anapa 126.03 317 *i* PKIKP PKPdf 13 34 30.6 -0.9
ANN *e* 13 34 50.4
ANN pmax pmax
comp=Z,52nm,1.0s
MICGM Minsk 126.93 331 *e*PKP PKPdf 13 34 31.0 -1.9
MNK Minsk 126.95 331 *e*PKIKP PKPdf 13 34 31.0 -2.0
MNK *e* 13 34 52.0
MNK *e* 13 36 35.0
KMBO Kilima Mbogo 127.91 259 *e*PKPdf PKPdf 13 34 36.0 -0.1
KMBO Kilima Mbogo 127.91 259 *e*PKIKP PKPdf 13 34 36.0 -0.1
KMBO Kilima Mbogo 127.91 259 P PKPdf 13 34 37.2 +1.1
SNR=8.1
SIM Simferopol' 128.16 318 *e*PKIKP PKPdf 13 34 32.0 -3.6
SIM *e*PS PS 13 46 38.0 -10
SIM pmax pmax
comp=Z,18nm,0.7s
SIM MLR MLR
comp=Z,4μm,26.0s
NB2 NORSAR Subarra 128.18 345 PKPdf PKPdf 13 34 34.9 -0.2
comp=Z,25nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 128.18 345 PKPdf PKPdf 13 34 34.9 -0.2
baz=31,slow=1.9
NOA NORSAR Array B 128.18 345 PKP PKPdf 13 34 34.6 -0.6
comp=Z,5.6nm,0.9s,baz=34,slow=2.0,SNR=14
NOA SKPbc 13 37 51.5
comp=Z,10nm,1.0s,baz=31,slow=3.1,SNR=8.5
NOA SKP 13 38 07.5
comp=Z,3.3nm,0.9s,baz=36,slow=2.0,SNR=4.4
NOA NORSAR Array B 128.18 345 PKP PKPdf 13 34 34.6 -0.6
NOA SKPbc 13 37 51.5
NOA SKP 13 38 07.5
NOA NORSAR Array B 128.18 345 PKIKP PKPdf 13 34 34.6 -0.5
HFS Hagfors 128.27 343 PKKPab 13 43 55.1
comp=Z,1.3nm,0.6s,baz=151,slow=3.4,SNR=6.2
NC602 NORSAR Array S 128.35 345 *e*P PKPdf 13 34 34.5 -1.0
AKASG Malin Array Be 128.39 327 PKP PKPdf 13 34 35.7 -0.2
comp=Z,12nm,1.0s,baz=61,slow=1.7,SNR=37
AKASG PP PP 13 36 40.1 -0.8
comp=Z,0.5nm,0.3s,baz=53,slow=7.3,SNR=9.2
AKASG SKPbc 13 37 52.6
comp=Z,7.7nm,0.8s,baz=46,slow=4.4,SNR=9.0
AKASG Malin Array Be 128.39 327 PKP PKPdf 13 34 35.7 -0.2
AKASG PP PP 13 36 40.1 -0.8
AKASG SKPbc 13 37 52.6
AKASG Malin Array Be 128.39 327 PKIKP PKPdf 13 34 35.7 -0.2
AKASG 13 36 40.1
AKBB Malin Array Si 128.39 327 *e*PKPdf PKPdf 13 34 35.7 -0.2
AKBB Malin Array Si 128.39 327 *e*PKIKP PKPdf 13 34 35.7 -0.2
KIEV Kiev 128.40 327 *e*PKPdf PKPdf 13 34 35.5 -0.4
KIEV Kiev 128.40 327 *e*PKIKP PKPdf 13 34 35.5 -0.4
SUW Suwalki 129.38 333 *e*PKPdf PKPdf 13 34 37.8 +0.1
SUW *e* 13 37 57.5
SUW Suwalki 129.38 333 *e*PKIKP PKPdf 13 34 37.8 +0.2
TOS Tosya 129.69 314 *e*P PKPdf 13 34 39.8 +1.2
BR131 Keskin Array S 130.42 312 *e*PKPdf PKPdf 13 34 40.2 +0.1
BRTR Keskin Array B 130.42 312 PKhKP PKPpre 13 34 27.9
comp=Z,0.3nm,0.4s,baz=144,slow=5.5,SNR=4.4
BRTR PKP PKPdf 13 34 40.0 -0.1
comp=Z,4.5nm,0.5s,baz=104,slow=0.6,SNR=32
BRTR PP PP 13 36 55.7 +1.0
comp=Z,6.3nm,0.9s,baz=90,slow=6.2,SNR=7.8
BRTR SKPbc SKPbc 13 38 00.5 +2.6
comp=Z,40nm,0.9s,baz=85,slow=3.0,SNR=27
BRTR Keskin Array B 130.42 312 PKPpre PKPpre 13 34 27.9
BRTR PKP PKPdf 13 34 40.0 -0.1
BRTR PP PP 13 36 55.7 +1.0
BRTR SKPbc SKPbc 13 38 00.5 +2.6
BRTR Keskin Array B 130.42 312 PKHKP PKPpre 13 34 28.0
BRTR 13 34 40.0
BRTR 13 36 55.7
KIS Kishinev 130.54 323 *e*PKP PKPdf 13 34 40.0 -0.1
KIS Kishinev 130.54 323 *e*PP PP 13 36 56.0 +1.0
KIS *e*SKP 13 38 00.0
KIS *e*SKS SKSdf 13 41 25.0 -21
KIS *e*SKKS SKKSac 13 43 22.0 -24
KIS LRM 14 29 55.0
comp=Z,2μm,24.0s
KIS Kishinev 130.54 323 *e*PKIKP PKPdf 13 34 40.0 -0.1
KIS *e* PP 13 36 56.0 +1.0
KIS MLR MLR
KIS comp=N,2μm,24.0s MLR MLR
comp=Z,2μm,24.0s
SAFT Safranbolu 130.56 314 *e*P PKPdf 13 34 39.0 -1.3
MERS Mersin 130.66 308 *e*P PKPdf 13 34 40.6 0.0
KSDI Kefar Szold 130.71 303 *e*P PKPdf 13 34 41.1 +0.3
LOD Lodumlu 131.00 313 *e*P PKPdf 13 34 40.6 -0.5
LEOM Leova 131.14 322 PKIKP PKPdf 13 34 41.6 +0.4
TLCR 131.43 321 ⇓PKIKP PKPdf 13 34 42.8 +1.0
TLCR 131.43 321 ⇓*i*P PKPdf 13 34 42.8 +1.0
LVV L'vov 131.63 328 *e*PKIKP PKPdf 13 34 42.3 +0.3
GHRR 131.85 322 ⇓*i*P SKPbc 13 38 07.8 +4.8
CFR Carcaliu 131.86 321 ⇓PKIKP PKPdf 13 34 43.9 +1.3
CFR Carcaliu 131.86 321 ⇓*i*P PKPdf 13 34 43.9 +1.3
LADK Ladik-KONYA 131.88 311 *e*P PKPdf 13 34 41.7 -1.2
MDUB Mudurnu 131.90 314 *e*P PKPdf 13 34 40.6 -2.2
BEL Belsk 131.91 332 *e*PKPdf PKPdf 13 34 43.4 +0.9
BEL *e* 13 38 05.8
BEL Belsk 131.91 332 *e*PKIKP PKPdf 13 34 43.4 +0.9
BSD Bornholm Skovb 131.92 338 ⇑*i*P 13 38 03.9
comp=Z,52nm,1.0s
BSD
comp=Z,2μm,26.0s
KONT Konya--Tatoy 131.96 310 *e*P PKPdf 13 34 43.6 +0.5
KIZT Kizilcal 132.00 312 *e*P PKPdf 13 34 43.7 +0.6
EIL Elat 132.01 299 *e*P PKPdf 13 34 43.4 0.0
TIRR Tirgusor 132.03 320 ⇓PKIKP PKPdf 13 34 43.6 +0.6
TIRR Tirgusor 132.03 320 ⇓*i*P PKPdf 13 34 43.6 +0.6
TIRR Tirgusor 132.03 320 ⇓*i*P SKPbc 13 38 06.2 +2.5
SVRH Sivrihisar-ESK 132.05 313 *e*P PKPdf 13 34 42.5 -0.7
TESR 132.07 323 ⇓*i*P PKPdf 13 34 43.3 +0.3
CSS Prodhromos 132.13 306 *e*P PKPdf 13 34 44.3 +0.8
CSS Prodhromos 132.13 306 P PKPdf 13 34 44.6 +1.1
CSS Prodhromos 132.13 306 *e*PKPdf PKPdf 13 34 43.0 -0.5
PETR 132.13 322 ⇓*i*P SKPbc 13 38 08.9 +4.9
HDMB Hadim 132.19 309 *e*P PKPdf 13 34 41.2 -2.3
BUR08 Bucovina Ar. S 132.28 325 *e*PKPdf PKPdf 13 34 44.1 +0.8
BURAR Bucovina Array 132.28 325 ⇑PKIKP PKPdf 13 34 44.2 +0.8
BURAR Bucovina Array 132.28 325 ⇑*i*P PKPdf 13 34 44.2 +0.8
BURAR Bucovina Array 132.28 325 ⇑*i*P SKPbc 13 38 07.6 +3.2
COP Copenhagen 132.32 340 ⇑*i*P 13 38 06.2
comp=Z,31nm,1.0s
COP
comp=Z,1μm,29.0s
VRI Vrincioaia 132.36 322 ⇓PKIKP PKPdf 13 34 43.8 +0.2
VRI Vrincioaia 132.36 322 ⇓*i*P PKPdf 13 34 43.8 +0.2
VRI Vrincioaia 132.36 322 ⇓*i*P SKPbc 13 38 07.3 +2.5
GULT Gulveren 132.39 314 *e*P PKPdf 13 34 44.4 +0.6
PLOR Plostina 132.42 322 ⇑*i*P SKPbc 13 38 07.9 +2.9
KWP Kalwaria Pacla 132.42 329 *e*PKPdf PKPdf 13 34 44.2 +0.6
KWP *e* SKPbc 13 38 07.2 +2.4
KWP Kalwaria Pacla 132.42 329 *e*PKPdf PKPdf 13 34 43.5 -0.1
KWP Kalwaria Pacla 132.42 329 *e*PKIKP PKPdf 13 34 44.2 +0.7
KWP Kalwaria Pacla 132.42 329 ⇓*i*P PKPdf 13 34 44.0 +0.5
KWP Kalwaria Pacla 132.42 329 ⇓*i*P SKPbc 13 38 07.5 +2.7
GKP Gorka Klasztor 132.44 335 *e*PKPdf PKPdf 13 34 43.8 +0.3
GKP *e* 13 38 07.3
GKP Gorka Klasztor 132.44 335 *e*PKIKP PKPdf 13 34 43.8 +0.3
GPA Golpazari 132.59 314 *e*P PKPdf 13 34 42.5 -1.7
MUD Monsted U'grnd 132.66 343 *i* P 13 38 08.3
MUD
comp=Z,3μm,27.0s
SILT Sile 132.71 315 *e*P PKPdf 13 34 43.0 -1.3
ADVT Abdulvahap 132.94 314 *e*P PKPdf 13 34 43.9 -1.0
MLR Muntele Rosu 133.03 322 ⇑PKIKP PKPdf 13 34 45.2 +0.4
MLR Muntele Rosu 133.03 322 ⇑*i*P PKPdf 13 34 45.2 +0.4
MLR Muntele Rosu 133.03 322 ⇑*i*P SKPbc 13 38 10.0 +2.9
KOLS Kolonicke sedl 133.08 328 *e*PKIKP PKPdf 13 34 45.3 +0.5
KOLS Kolonicke sedl 133.08 328 *e*PKP PKPdf 13 34 45.3 +0.5
KOLS *e*SKP SKPdf 13 38 11.1 -3.4
SHUT Suhut-Afyon 133.08 312 *e*P PKPdf 13 34 43.6 -1.6
YLV Yalova 133.13 315 *e*P PKPdf 13 34 44.8 -0.4
UZH Uzhgorod 133.26 328 *i* PKHKP PKPpre 13 34 30.4
UZH *i* 13 34 45.2
UZH *e* 13 35 09.8
UZH *e* 13 37 08.6
UZH *e*SS SS 13 54 58.0 +7.1
UZH MLR MLR
comp=N,1μm,21.0s
UZH MLR MLR
comp=E,1μm,21.0s
UZH MLR MLR
comp=Z,810nm,21.0s
SULR 133.26 321 ⇓*i*P SKPbc 13 38 08.9 +1.0
STHS Stebnicka Huta 133.30 329 *e*PKIKP PKPdf 13 34 46.6 +1.4
STHS Stebnicka Huta 133.30 329 *e*PKP PKPdf 13 34 46.5 +1.3
STHS *e*SKP 13 38 12.3
GEMT Gemlik 133.32 315 *e*P PKPdf 13 34 44.6 -0.9
TRPA Tarpa 133.44 327 ⇓*i*P PKPdf 13 34 46.1 +0.6
TRPA Tarpa 133.44 327 ⇓*i*P SKPbc 13 38 11.0 +2.6
CTKS Kestanelik-??a 133.45 316 *e*P PKPdf 13 34 44.9 -0.8
BCK Bucak 133.45 310 *e*P PKPdf 13 34 42.5 -3.4
OJC Ojcow 133.47 331 *e*PKPdf PKPdf 13 34 45.3 -0.2
OJC *e*PP PP 13 37 15.1 +1.6
OJC *e*SS SS 13 54 51.6 -1.7
OJC L 14 32 36.5
comp=Z,4.1nm,23.7s
OJC Ojcow 133.47 331 *e*PKIKP PKPdf 13 34 45.3 -0.2
OJC *e* 13 37 15.1
OJC *e*SS SS 13 54 51.6 -1.7
OJC MLR MLR
comp=Z,4μm,23.7s
ARMT Armutlu 133.49 315 *e*P PKPdf 13 34 45.5 -0.4
CRVS Cervenica-Dubn 133.52 329 *e*PKIKP PKPdf 13 34 45.6 0.0
CRVS Cervenica-Dubn 133.52 329 *e*PKP PKPdf 13 34 45.6 0.0
CRVS *e*SKP 13 38 11.4
VOIR 133.59 323 ⇑*i*P SKPbc 13 38 11.3 +2.3
NIE Niedzica 133.76 330 *e*PKPdf PKPdf 13 34 47.3 +1.2
NIE Niedzica 133.76 330 *e*PKIKP PKPdf 13 34 47.3 +1.2
KCTX Karacabey (Bur 133.97 315 *e*P PKPdf 13 34 44.6 -2.1
HUMR Humele 134.12 322 ⇑*i*P SKPbc 13 38 13.2 +2.4
DRGR 134.15 326 PKIKP PKPdf 13 34 47.6 +0.7
DRGR 134.15 326 ⇓*i*P PKPdf 13 34 47.4 +0.5
DRGR 134.15 326 ⇑*i*P 13 38 13.6
JMB Yambol 134.16 318 P PKPdf 13 34 46.5 -0.5
SZH Strazhica 134.18 320 *e*P PP 13 37 38.8 +20
ELL Elmali 134.21 310 *e*P PKPdf 13 34 48.4 +1.1
KECS Kecovo 134.28 329 *e*PKIKP PKPdf 13 34 50.2 +3.1
KECS Kecovo 134.28 329 *e*PKP PKPdf 13 34 50.2 +3.1
KECS *e*SKP 13 38 15.2
LOT Lotru 134.33 323 ⇓*i*P PKPdf 13 34 47.3 0.0
EDRB Edirne 134.35 318 *e*P PKPdf 13 34 45.7 -1.7
GLHS Glhisar (BURDU 134.37 310 *e*P PKPdf 13 34 46.5 -1.1
KULA Kula-Manisa 134.47 312 *e*P PKPdf 13 34 47.9 +0.1
OKC Ostrava-Krasne 134.51 332 *e*PKIKP PKPdf 13 34 48.4 +0.9
OKC MLR MLR
comp=Z,4μm,21.9s
OKC Ostrava-Krasne 134.51 332 *e*PKPDF PKPdf 13 34 48.4 +0.9
OKC *e*SKP 13 38 15.0
OKC AMS AMS 14 30 00.0
comp=Z,4μm,21.9s
GONE Gonen-Balikesi 134.52 315 *e*P PKPdf 13 34 46.8 -1.0
LIKS Likavka 134.59 330 *e*SKP SKPdf 13 38 16.3 -0.9
KSP Ksiaz 134.62 334 *e*PKPdf PKPdf 13 34 47.1 -0.5
KSP *e* 13 38 15.0
KSP Ksiaz 134.62 334 *e*PKP PKPdf 13 34 47.1 -0.5
KSP *e*PP PP 13 37 26.4 +5.6
KSP *e*PKS 13 38 14.5
KSP *e*PPS 13 49 12.5
KSP LM 14 33 13.0
comp=Z,7.5nm,23.3s
KSP Ksiaz 134.62 334 *e*PKIKP PKPdf 13 34 47.1 -0.5
KSP *e* 13 37 26.4
KSP *e*PPS 13 49 12.5
KSP MLR MLR
comp=Z,8μm,23.3s
KRBG Karabiga-Canak 134.64 316 *e*P SKPbc 13 38 15.4 +2.8
MORC Moravsky Berou 134.83 332 PKPdf PKPdf 13 34 48.5 +0.4
MORC Moravsky Berou 134.83 332 ⇓PKIKP PKPdf 13 34 49.1 +1.0
MORC Moravsky Berou 134.83 332 ⇓*i*P PKPdf 13 34 49.1 +1.0
MORC Moravsky Berou 134.83 332 ⇑*i*P 13 38 15.5
GZR Gura Zlata 134.94 324 ⇑PKIKP PKPdf 13 34 49.1 +0.7
GZR Gura Zlata 134.94 324 ⇑*i*P PKPdf 13 34 49.1 +0.7
GZR Gura Zlata 134.94 324 ⇑*i*P 13 38 15.8
PSZ Piszkesteto 134.95 328 *e*PKPdf PKPdf 13 34 47.7 -0.6
PSZ Piszkesteto 134.95 328 ⇑PKIKP PKPdf 13 34 49.8 +1.5
PSZ Piszkesteto 134.95 328 ⇓*e*PKP PKPdf 13 34 49.2 +0.9
PSZ Piszkesteto 134.95 328 ⇑*i*P PKPdf 13 34 49.8 +1.5
PSZ Piszkesteto 134.95 328 ⇑*i*P 13 38 15.9
KRLC Kraliky 134.96 333 *e*SKP SKPdf 13 38 16.8 -1.1
DPC Dobruska-Polom 134.97 333 *e*PKIKP PKPdf 13 34 49.0 +0.7
DPC MLR MLR
comp=Z,4μm,21.4s
DPC Dobruska-Polom 134.97 333 *e*PKPDF PKPdf 13 34 49.0 +0.7
DPC *e*SKP 13 38 16.8
DPC AMS AMS 14 34 10.0
comp=Z,4μm,21.4s
UPC Upice 134.99 334 *e*PKIKP PKPdf 13 34 48.4 +0.1
UPC Upice 134.99 334 *e*PKPDF PKPdf 13 34 48.4 +0.1
UPC *e*SKP 13 38 16.9
GELI Tayfur-Gelibol 135.20 316 *e*P PKPdf 13 34 48.4 -0.7
KOLL Kolacno 135.25 330 *e*PKIKP PKPdf 13 34 49.7 +0.8
KOLL Kolacno 135.25 330 *e*PKP PKPdf 13 34 49.7 +0.8
KOLL *e*SKP 13 38 18.4
ALN Alexandroupoli 135.26 317 *e*P PKPdf 13 34 47.3 -1.9
ALN Alexandroupoli 135.26 317 P PKPdf 13 34 44.2 -5.0
BZS Buzias 135.47 325 PKIKP PKPdf 13 34 50.0 +0.6
BZS Buzias 135.47 325 ⇑*i*P PKPdf 13 34 49.1 -0.3
BZS Buzias 135.47 325 ⇑*i*P SKPdf 13 38 17.5 -1.4
MPEP Malo Peshtene 135.50 321 *e*P PP 13 37 19.1 -7.7
IZM Izmir 135.52 313 *e*P SKPbc 13 38 19.4 +3.9
EZN Ezine 135.56 315 *e*P PKPdf 13 34 46.8 -3.0
BRG Berggiesshubel 135.58 335 *e*PKP PKPdf 13 34 50.1 +0.6
comp=Z,22nm,1.3s
BRG *e* 13 37 41.4
comp=Z,39nm,1.8s
BRG *e* 13 37 48.0
BRG *i* SKP 13 38 18.6
comp=Z,153nm,1.3s
BRG
comp=N,3μm,30.8s
BRG
comp=E,1μm,24.5s
BRG
comp=Z,3μm,31.3s
PVCC Panska Ves 135.59 335 *e*SKP SKPdf 13 38 18.8 -0.2
PVCC AMS AMS 14 28 30.0
comp=Z,3μm,24.6s
VRAC Vranov 135.60 332 ⇓PKIKP PKPdf 13 34 43.2 -6.3
VRAC Vranov 135.60 332 ⇓*i*P PKPdf 13 34 43.2 -6.3
VRAC Vranov 135.60 332 ⇑*i*P SKPdf 13 38 18.1 -1.0
CLL Collm 135.62 336 *e*PKIKP PKPdf 13 34 48.0 -1.5
CLL pmax pmax
comp=Z,141nm,1.8s
CLL MLR MLR
comp=Z,2μm,21.3s
CLL Collm 135.62 336 *e*PKPdf PKPdf 13 34 48.0 -1.5
CLL *i* PKIKP PKiKP 13 34 51.3 +0.2
comp=Z,18nm,1.0s
CLL *e*PP PP 13 37 26.0 -1.0
CLL *e*sPP 13 37 46.0
CLL *i* SKPdf SKPdf 13 38 16.9 -2.1
comp=Z,138nm,1.3s
CLL *i* PKSbc 13 38 22.5
comp=Z,141nm,1.8s
CLL *e* 13 38 53.0
CLL *e* 13 39 59.0
CLL *e*SKKSac SKKSac 13 44 15.0 -1.7
CLL *e*PSKS 13 47 38.0
CLL *e*SPP 13 49 26.0
CLL *e*(PPPrev) 13 50 36.0
CLL *e*SS SS 13 55 12.0 -6.8
CLL *e*PSPS 13 56 18.0
CLL *e*SSS 14 00 24.0
CLL *e*SSSS 14 04 24.0
CLL Lm 14 35 00.0
comp=N,2μm,21.7s
CLL Lm 14 35 00.0
comp=E,300nm,21.3s
CLL Lm 14 35 00.0
comp=Z,2μm,21.3s
PGB Panagyurishte 135.66 320 *e*P PP 13 37 28.0 +0.1
BUD Budapest 135.68 329 ⇓*e*PKP PKPdf 13 34 49.6 -0.1
ARG Arkhangelos 135.74 310 *e*P PKPdf 13 34 51.1 +0.9
ARG Arkhangelos 135.74 310 P PKPdf 13 34 51.6 +1.4
RZN Rozhen 135.75 318 *e*P PP 13 37 28.5 0.0
SMOL Smolenice 135.77 331 *e*SKP 13 38 21.3
PRK Paraskevi 135.86 315 *e*P PKPdf 13 34 49.1 -1.2
PRK Paraskevi 135.86 315 P PKPdf 13 34 49.3 -1.0
DAT Datca 135.96 311 *e*P PKPdf 13 34 51.6 +1.0
PRA Prague 135.99 334 SKP SKPdf 13 38 20.0 +0.3
PRU Pruhonice 136.01 334 *e*PKIKP PKPdf 13 34 50.6 +0.3
PRU MLR MLR
comp=Z,2μm,22.6s
PRU Pruhonice 136.01 334 *e*PKPDF PKPdf 13 34 50.6 +0.3
PRU *e*SKP 13 38 19.7
PRU AMS AMS 14 33 30.0
comp=Z,2μm,22.6s
BODT Bodrum 136.03 311 *e*P PKPdf 13 34 49.5 -1.2
TREC Trest 136.11 333 *e*PKIKP PKPdf 13 34 50.7 +0.2
TREC MLR MLR
comp=Z,4μm,21.2s
TREC Trest 136.11 333 *e*PKPDF PKPdf 13 34 50.7 +0.2
TREC *e*SKP 13 38 20.2
TREC AMS AMS 14 34 30.0
comp=Z,4μm,21.2s
SMG Samos 136.11 312 *e*P PKPdf 13 34 49.6 -1.2
ZST Bratislava 136.15 331 *e*PKIKP PKPdf 13 34 51.4 +0.8
ZST Bratislava 136.15 331 *e*PKP PKPdf 13 34 51.4 +0.8
ZST *e*SKP 13 38 20.9
KAVA Kavala 136.23 318 P PKPdf 13 34 49.6 -1.4
VTS Vitosha 136.24 320 P PKPdf 13 34 49.5 -1.4
VTS Vitosha 136.24 320 ⇑PKIKP PKPdf 13 34 51.4 +0.5
VTS Vitosha 136.24 320 *e*P PP 13 37 30.5 -1.0
VTS Vitosha 136.24 320 ⇑*i*P PKPdf 13 34 51.4 +0.5
VTS Vitosha 136.24 320 ⇑*i*P 13 38 20.5
LIA Limnos Island 136.31 316 *e*P PKPdf 13 34 49.9 -1.2
LIA Limnos Island 136.31 316 P PKPdf 13 34 50.0 -1.1
CHOS Chios island 136.38 314 *e*P PKPdf 13 34 50.4 -0.9
CHOS Chios island 136.38 314 P PKPdf 13 34 50.0 -1.3
MMB Musomiste 136.44 319 *e*P PP 13 37 21.8 -11
NVR Nevrokopi 136.47 318 *e*P PKPdf 13 34 50.2 -1.2
NVR Nevrokopi 136.47 318 P PKPdf 13 34 50.0 -1.4
NKC Novy Kostel 136.68 336 *e*PKIKP PKPdf 13 34 52.1 +0.6
NKC MLR MLR
comp=Z,2μm,22.4s
NKC Novy Kostel 136.68 336 *e*PKPDF PKPdf 13 34 52.1 +0.6
NKC *e*SKP 13 38 21.4
NKC AMS AMS 14 35 50.0
comp=Z,2μm,22.4s
KKB Krupnik 136.71 320 *e*P PP 13 37 33.2 -1.2

PKSM	Moragy	136.71 327	‖PKIKP	PKPdf	13 34 52.0	+0.3
PKSM	Moragy	136.71 327	‖ iP	PKPdf	13 34 52.0	+0.3
PKSM	Moragy	136.71 327	⇑ iP	SKPdf	13 38 21.4	+0.2
KARP	Karpathos	136.72 309	eP	PKPdf	13 34 51.1	-0.9
KARP	Karpathos	136.72 309	P	PKPdf	13 34 50.6	-1.4
SOP	Sopron	136.76 330	‖ ePKP	PKPdf	13 34 52.4	+0.7
SRS	Serrai	136.77 318	P	PKPdf	13 34 46.4	-5.6
OUR	Ouranopolis	136.91 317	P	PKPdf	13 34 50.4	-1.8
CONA	Conrad Observa	136.92 331	⇑ iPKPdf	PKPdf	13 34 47.6	-4.4
	comp=Z,12nm,0.9s					
CONA	Conrad Observa	136.92 331	P		13 38 23.5	
	comp=Z,237nm,1.5s					
KHC	Kasperske Hory	137.07 334	ePKPdf	PKPdf	13 34 51.8	-0.5
KHC	Kasperske Hory	137.07 334	ePKIKP	PKPdf	13 34 52.7	+0.5
KHC			MLR	MLR		
	comp=Z,3μm,23.6s					
KHC	Kasperske Hory	137.07 334	ePKPDF	PKPdf	13 34 52.7	+0.5
KHC			ex	x	13 34 57.0	
KHC			eSKP		13 38 23.2	
KHC			ex	x	13 38 51.5	
KHC			ex	x	13 45 38.0	
KHC			AMS	AMS	14 34 40.0	
	comp=Z,3μm,23.6s					
SOH	Sokhos	137.07 318	eP	PKPdf	13 34 50.9	-1.6
KNT	Kendrikon	137.19 319	P	PKPdf	13 34 51.0	-1.7
GERES	GERESS Array B	137.23 334	PKhKP	PKPpre	13 34 41.9	
	comp=Z,0.7nm,0.7s,baz=212,slow=6.3,SNR=4.8					
GERES			PKP	PKPdf	13 34 53.8	+1.2
	comp=Z,7.0nm,0.8s,baz=31,slow=0.8,SNR=7.1					
GERES			SKPbc	SKPbc	13 38 23.6	+3.4
	comp=Z,42nm,1.0s,baz=45,slow=2.5,SNR=36					
GERES	GERESS Array B	137.23 334	PKPpre	PKPpre	13 34 41.9	
GERES			PKP	PKPdf	13 34 53.8	+1.2
GERES			SKPbc	SKPbc	13 38 23.6	+3.4
GERES	GERESS Array B	137.23 334	PKHKP	PKPpre	13 34 41.9	
GERES					13 34 53.8	
PLG	Polygyros	137.24 317	eP	PKPdf	13 34 50.7	-2.2
DIVS	Divibare	137.30 324	P	PKPdf	13 34 53.0	+0.1
APE	Apeiranthos	137.32 312	eP	PKPdf	13 34 48.9	-4.2
APE	Apeiranthos	137.32 312	eP	PKPdf	13 34 51.5	-1.6
APE	Apeiranthos	137.32 312	P	PKPdf	13 34 52.3	-0.8
APE	Apeiranthos	137.32 312	⇑PKIKP	PKPdf	13 34 51.6	-1.5
APE	Apeiranthos	137.32 312	⇑ iP	PKPdf	13 34 51.6	-1.5
APE	Apeiranthos	137.32 312	⇑ iP	SKPdf	13 38 22.1	-0.5
HORT	Hortiatis	137.35 318	P	PKPdf	13 34 52.0	-1.1
AOS	Alonnisos	137.54 316	P	PKPdf	13 34 51.6	-1.9
ARSA	Arzberg	137.57 331	P	SKPdf	13 38 24.3	+1.6
	comp=Z,87nm,1.5s,SNR=14					
GRF	Grafenberg Arr	137.60 336	ePKPdf	PKPdf	13 34 53.5	+0.3
GRF			ePKS		13 38 24.1	
GRF	Grafenberg Arr	137.60 336	ePKIKP	PKPdf	13 34 53.5	+0.3
MOA	Molln	137.72 332	P	SKPdf	13 38 24.4	+1.5
	comp=Z,141nm,1.6s,SNR=17					
KOGS	Kog	137.78 329	eP	SKPdf	13 38 24.3	+1.2
SKIA	Skiathos	137.82 316	P	PKPdf	13 34 53.3	-0.7
NEO	Neokhori	137.92 316	eP	PKPdf	13 34 52.3	-1.8
NPS	Neapolis	137.99 310	eP	PKPdf	13 34 53.8	-0.6
NPS	Neapolis	137.99 310	P	PKPdf	13 34 53.0	-1.4
LIT	Litokhoron	138.01 318	eP	PKPdf	13 34 52.7	-1.6
LIT	Litokhoron	138.01 318	P	PKPdf	13 34 52.5	-1.8
PTL	Penteli	138.08 314	eP	PKPdf	13 34 53.1	-1.4
XRY	Khrisi	138.08 309	eP	PKPdf	13 34 52.1	-2.5
ATHU	Athens Univers	138.17 314	P	PKPdf	13 34 57.7	+3.0
SOKA	Soboth	138.21 330	P	SKPdf	13 38 25.8	+2.0
	comp=Z,115nm,1.5s					
ATH	Athens Observa	138.22 314	eP	PKPdf	13 34 53.2	-1.5
ATH	Athens Observa	138.22 314	P	PKPdf	13 34 53.5	-1.2
VLY	Voula,Athens	138.22 314	eP	PKPdf	13 34 52.7	-2.0
VLY	Voula,Athens	138.22 314	P	PKPdf	13 34 52.9	-1.8
ATAL	Atalanti	138.36 316	P	PKPdf	13 34 51.3	-3.7
FNA	Florina	138.37 319	P	PKPdf	13 34 53.3	-1.6
KZN	Kozani	138.37 318	eP	PKPdf	13 34 48.6	-6.3
KZN	Kozani	138.37 318	P	PKPdf	13 34 49.1	-5.8
LKR	Lokris	138.39 316	eP	PKPdf	13 34 53.0	-2.0
LKR	Lokris	138.39 316	P	PKPdf	13 34 52.9	-2.1
VIL1	Vilia, Western	138.40 315	eP	PKPdf	13 34 53.4	-1.7
PHP	Peshkopia	138.46 321	P	PKPdf	13 34 53.3	-1.8
NAIG	Nisos Aigina	138.47 314	eP	PKPdf	13 34 53.1	-2.1
IDI	Anoyia	138.53 310	eP	PKPdf	13 34 54.7	-0.7
IDI	Anoyia	138.53 310	P	PKPdf	13 34 53.9	-1.5
IDI	Anoyia	138.53 310	ePKPpre	PKPpre	13 34 49.9	
AXAR	Agios Charalam	138.57 316	P	PKPdf	13 34 53.9	-1.5
THL	Klokotos Trika	138.60 317	eP	PKPdf	13 34 53.9	-1.5
BEBN	Eben Emael	138.62 342	PKS		13 38 26.6	
AGG	Agios Georgios	138.66 316	eP	PKPdf	13 34 53.9	-1.6
MEM	Membach	138.68 341	PKP	PKPdf	13 34 55.5	+0.3
MEM			PKS		13 38 26.8	
KBA	Koelnbreinsper	138.71 332	P	SKPdf	13 38 25.6	+0.9
	comp=Z,64nm,1.2s					
LTK	Loutraki	138.72 315	eP	PKPdf	13 34 53.2	-2.4
LTK	Loutraki	138.72 315	P	PKPdf	13 34 53.3	-2.3
DID	Didima	138.77 314	P	PKPdf	13 34 53.3	-2.5
NEST	Nestorio	138.78 319	P	PKPdf	13 34 54.5	-1.2
DIDY	Didyma	138.80 314	P	PKPdf	13 34 54.6	-1.2
MAKR	Makrakomi, Fth	138.80 316	P	PKPdf	13 34 52.4	-3.4
DESF	Desfina	138.83 315	P	PKPdf	13 34 53.9	-1.9
DSF	Desfina	138.83 315	P	PKPdf	13 34 53.9	-1.9
MYKA	Terra Mystica	138.91 331	P	SKPbc	13 38 27.2	+2.0
	comp=Z,80nm,1.7s					
VAM	Vamos	138.99 310	eP	PKPdf	13 34 55.9	-0.3
UCC	Uccle	139.01 343	PKS	SKPdf	13 38 26.9	+1.8
BCLA	Clavier	139.06 342	PKP	PKPdf	13 34 56.2	+0.3
BCLA			PKS		13 38 28.6	
EVR	Evrytania	139.07 317	eP	PKPdf	13 35 00.0	+3.7
KALE	Kalíthea	139.11 316	P	PKPdf	13 34 55.2	-1.2
TRIZ	Trizonia	139.16 316	P	PKPdf	13 34 54.6	-1.9
GUR	Goura	139.19 315	eP	PKPdf	13 34 51.7	-4.8
GUR	Goura	139.19 315	P	PKPdf	13 34 52.1	-4.4
SNF	Seneffe	139.29 343	PKS	SKPdf	13 38 29.6	+3.9
LAKA	Lakka	139.29 316	P	PKPdf	13 34 56.4	-0.3
JAN	Janina	139.32 318	eP	PKPdf	13 34 56.2	-0.5
WTTA	Wattenberg	139.33 334	⇑ iPKPdf	PKPdf	13 34 53.8	-2.7
	comp=Z,40nm,1.1s					
WTTA	Wattenberg	139.33 334	P	SKPdf	13 38 29.6	+3.8
	comp=Z,157nm,1.4s					
ABTA	Abfaltersbach	139.34 332	P	SKPbc	13 38 28.5	+2.2
	comp=Z,89nm,1.2s					
VLI	Veliai	139.34 313	eP	PKPdf	13 34 55.0	-1.8
UPR	University Cam	139.40 316	eP	PKPdf	13 34 59.2	+2.3
DSL	Palaion Diasel	139.43 317	P	PKPdf	13 34 57.7	+0.8
VLX	Vlachokerasia	139.44 314	eP	PKPdf	13 34 52.9	-4.1
VLX	Vlachokerasia	139.44 314	P	PKPdf	13 34 56.2	-0.8
WLF	Walferdange	139.45 340	PKP	PKPdf	13 34 57.6	+1.0
WLF			PKS		13 38 30.4	
GIVF	Givet	139.49 342	ePKP1	PKPdf	13 34 56.3	-0.4
GIVF	Givet	139.49 342	eP	PKPdf	13 34 56.3	-0.4
GIVF	Givet	139.49 342	ePKIKP	PKPdf	13 34 56.3	-0.4
MOTA	Moosalm	139.50 334	P	SKPdf	13 38 29.0	+2.9
	comp=Z,75nm,1.0s					
RETA	Reutte	139.53 335	P	SKPbc	13 38 29.2	+2.4
	comp=Z,99nm,1.6s					
DOU	Dourbes	139.56 342	PKS	SKPdf	13 38 29.6	+3.5
BAIF	Baives	139.71 342	ePKP1	PKPdf	13 34 56.8	-0.3
BAIF	Baives	139.71 342	eP	PKPdf	13 34 56.8	-0.3
BAIF	Baives	139.71 342	ePKIKP	PKPdf	13 34 56.8	-0.3
RLS	Riolos of Patr	139.73 316	eP	PKPdf	13 34 57.5	0.0
ITM	Ithomi	139.84 314	eP	PKPdf	13 34 59.8	+2.1
FETA	Feichten	139.91 334	P	PKPdf	13 34 48.1	-9.5
	comp=Z,28nm,1.0s					
FETA	Feichten	139.91 334	P	SKPbc	13 38 30.7	+2.8
	comp=Z,83nm,1.0s,SNR=8.0					
DAVA	Damuels	140.06 335	⇑ iPKPdf	PKPdf	13 34 52.8	-5.0
	comp=Z,15nm,0.8s					
DAVA	Damuels	140.06 335	P	SKPbc	13 38 30.9	+2.7
	comp=Z,113nm,1.3s					
PYL	PYLOS	140.11 314	eP	PKPdf	13 34 57.0	-1.2
VLS	Valsamata	140.27 316	eP	PKPdf	13 34 54.1	-4.4
DAVOX	Davos/Dischmat	140.46 335	SKPbc	SKPbc	13 38 32.5	+3.2
	baz=14,slow=5.5					
DAVOX	Davos/Dischmat	140.46 335	SKPbc	SKPbc	13 38 32.5	+3.2
MOF	Molkenrain	140.66 338	PKP	PKPdf	13 34 59.1	+0.2
THEF	They Montfort	140.75 339	PKP	PKPdf	13 34 59.3	+0.3
HINF	Hinteralfeld	140.79 338	ePKP1	PKPdf	13 34 58.5	-0.6
HINF	Hinteralfeld	140.79 338	eP	PKPdf	13 34 58.5	-0.6
HINF	Hinteralfeld	140.79 338	ePKIKP	PKPdf	13 34 58.5	-0.6
MEZF	Maizieres J'vi	140.82 340	ePKP1	PKPdf	13 34 59.1	0.0
MEZF	Maizieres J'vi	140.82 340	eP	PKPdf	13 34 59.1	0.0
TUE	Stuetta	140.93 335	ePKPpre	PKPpre	13 34 54.8	
SFTF	Sexfontaines	141.08 340	ePKP1	PKPdf	13 34 59.4	-0.2
SFTF	Sexfontaines	141.08 340	eP	PKPdf	13 34 59.4	-0.2
TIP	Timpagrande	142.20 320	ePKPpre	PKPpre	13 34 59.6	
GRR	Gorron	142.59 346	ePKP1	PKPdf	13 34 59.7	-2.6
GRR	Gorron	142.59 346	eP	PKPdf	13 34 59.7	-2.6
GRR	Gorron	142.59 346	ePKIKP	PKPdf	13 34 59.7	-2.6
LPL	La Plagne	142.76 336	ePKP1	PKPdf	13 34 58.8	-3.9
LPL	La Plagne	142.76 336	eP	PKPdf	13 34 58.8	-3.9
LPL	La Plagne	142.76 336	ePKIKP	PKPdf	13 34 58.8	-3.9
LPG	La Plagne	142.77 336	ePKP1	PKPdf	13 34 58.6	-4.1
LPG	La Plagne	142.77 336	eP	PKPdf	13 34 58.6	-4.1
LPG	La Plagne	142.77 336	ePKIKP	PKPdf	13 34 58.6	-4.1
SGMF	Saint Gilles	143.09 348	ePKP1	PKPdf	13 34 59.0	-4.2
SGMF	Saint Gilles	143.09 348	eP	PKPdf	13 34 59.0	-4.2
SGMF	Saint Gilles	143.09 348	ePKIKP	PKPdf	13 34 59.0	-4.2
BNI	Bardonecchia	143.17 336	ePKPpre	PKPpre	13 35 00.4	
BNI	Bardonecchia	143.17 336	ePKIKP	PKPpre	13 35 00.4	
CEL	Celeste	143.29 320	eP	PKPdf	13 35 00.2	-3.7
CEL	Celeste	143.29 320	ePKPdf	PKPdf	13 35 00.6	-3.3
MBDF	Montbardon	143.40 336	ePKP1	PKPdf	13 35 00.4	-3.5
MBDF	Montbardon	143.40 336	eP	PKPdf	13 35 00.4	-3.5
MBDF	Montbardon	143.40 336	ePKIKP	PKPdf	13 35 00.4	-3.5
PLDF	La Plantade	143.51 340	PKP	PKPdf	13 35 01.8	-2.2
AGO	Saint Agoulin	143.60 340	PKP	PKPdf	13 35 02.4	-1.8
TCF	Toulx Ste Croi	143.68 342	ePKP1	PKPdf	13 35 01.4	-2.9
	comp=Z,74nm,1.1s					
TCF	Toulx Ste Croi	143.68 342	eP	PKPdf	13 35 01.4	-2.9
TCF	Toulx Ste Croi	143.68 342	ePKIKP	PKPdf	13 35 01.4	-2.9
AUTN	L'Aution	143.72 334	PKP	PKPdf	13 35 02.6	-1.9
SSB	Saint Sauveur	143.79 338	ePKPpre	PKPpre	13 35 01.5	
SSB	Saint Sauveur	143.79 338	ePKIKP	PKPpre	13 35 01.5	
SSB	Saint Sauveur	143.79 338	PKP	PKPdf	13 35 02.6	-1.9
LUCF	Luceram	143.84 334	PKP	PKPdf	13 34 59.1	-5.6
MFF	Saint Martin d	144.07 344	ePKP1	PKPdf	13 35 02.5	-2.5
	comp=Z,64nm,0.7s					
MFF	Saint Martin d	144.07 344	eP	PKPdf	13 35 02.5	-2.5
MFF	Saint Martin d	144.07 344	ePKIKP	PKPdf	13 35 02.5	-2.5
VIVF	Saint-Julien-l	144.10 338	ePKP1	PKPdf	13 35 03.2	-1.9
	comp=Z,162nm,1.1s					
VIVF	Saint-Julien-l	144.10 338	eP	PKPdf	13 35 03.2	-1.9
VIVF	Saint-Julien-l	144.10 338	ePKIKP	PKPdf	13 35 03.2	-1.9
PGF	Pioggiola	144.16 331	ePKP1	PKPdf	13 35 03.6	-1.7
	comp=Z,536nm,1.3s					
PGF	Pioggiola	144.16 331	eP	PKPdf	13 35 03.6	-1.7
PGF	Pioggiola	144.16 331	ePKIKP	PKPdf	13 35 03.6	-1.7
LBL	Lubilhac	144.28 340	PKP	PKPdf	13 35 04.1	-1.3
FRF	La Foret Royal	144.41 335	ePKP1	PKPdf	13 35 03.7	-2.0
	comp=Z,311nm,1.1s					
FRF	La Foret Royal	144.41 335	eP	PKPdf	13 35 03.7	-2.0
FRF	La Foret Royal	144.41 335	ePKIKP	PKPdf	13 35 03.7	-2.0
SMRF	Simiane la Rot	144.50 336	ePKP1	PKPdf	13 35 04.7	-1.1
	comp=Z,108nm,0.9s					
SMRF	Simiane la Rot	144.50 336	eP	PKPdf	13 35 04.7	-1.1
LMR	La Mourre	144.65 334	ePKP1	PKPdf	13 35 04.7	-1.4
	comp=Z,142nm,0.6s					
LMR	La Mourre	144.65 334	eP	PKPdf	13 35 04.7	-1.4
LMR	La Mourre	144.65 334	ePKIKP	PKPdf	13 35 04.7	-1.4
OSPF	L'Ospedale	144.75 330	PKP	PKPdf	13 35 05.2	-1.1
RJF	Les Rejaudoux	144.78 342	ePKP1	PKPdf	13 35 05.3	-0.9
	comp=Z,352nm,1.5s					
RJF	Les Rejaudoux	144.78 342	eP	PKPdf	13 35 05.3	-0.9
RJF	Les Rejaudoux	144.78 342	ePKIKP	PKPdf	13 35 05.3	-0.9
TREF	Trevaresse	144.87 336	PKP	PKPdf	13 35 06.1	-0.4
CAF	Calviac	144.94 341	ePKP1	PKPdf	13 35 06.1	-0.4
	comp=Z,121nm,1.1s					
CAF	Calviac	144.94 341	eP	PKPdf	13 35 06.1	-0.4
CAF	Calviac	144.94 341	ePKIKP	PKPdf	13 35 06.1	-0.4
LASF	Ste Croix	145.07 338	ePKP1	PKPbc	13 35 06.5	+0.2
	comp=Z,202nm,1.0s					
LASF	Ste Croix	145.07 338	eP	PKPbc	13 35 06.5	+0.2
LFF	La Frestale	145.34 342	ePKP1	PKPbc	13 35 07.1	-0.1
	comp=Z,330nm,1.3s					
LFF	La Frestale	145.34 342	eP	PKPbc	13 35 07.1	-0.1
LFF	La Frestale	145.34 342	ePKIKP	PKPdf	13 35 07.1	-0.1
VSL	Villasalto	146.26 327	ePKPbc	PKPbc	13 35 09.6	-0.6
MTLF	Montolieu	146.29 339	ePKP1	PKPdf	13 35 08.3	-0.6
	comp=Z,176nm,1.0s					
MTLF	Montolieu	146.29 339	eP	PKPdf	13 35 08.3	-0.6
MTLF	Montolieu	146.29 339	ePKIKP	PKPdf	13 35 08.3	-0.6
EPF	Esparros	147.19 341	ePKP1	PKPbc	13 35 12.0	-0.7
	comp=Z,26nm,0.8s					
EPF	Esparros	147.19 341	eP	PKPbc	13 35 12.0	-0.7
EPF	Esparros	147.19 341	ePKP2	PKPbc	13 35 12.0	-0.7
ETSF	Etsaut	147.59 342	ePKP1	PKPdf	13 35 11.7	+0.6
	comp=Z,160nm,1.4s					
ETSF	Etsaut	147.59 342	eP	PKPdf	13 35 11.7	+0.6
ETSF	Etsaut	147.59 342	ePKIKP	PKPdf	13 35 11.7	+0.6
KEST	Kesra	148.93 322	PKPbc	PKPbc	13 35 17.9	+0.4
	comp=Z,31nm,0.8s,baz=134,slow=3.0,SNR=55					
KEST	Kesra	148.93 322	ePKPdf	PKPdf	13 35 13.9	+0.3
KEST			PKPbc	PKPbc	13 35 17.9	+0.4
KEST			ePKPbc	PKPbc	13 35 18.3	+0.7
PBRG	Braganca	150.09 350	ePKPbc	PKPbc	13 35 19.8	-0.4
PGAV	Gavieira, Arco	150.17 352	ePKPdf	PKPdf	13 35 15.7	+0.4
PGAV	Gavieira, Arco	150.17 352	ePKPbc	PKPbc	13 35 20.6	+0.2
PGAV			eLR	LR	14 26 56.7	
	comp=Z,1μm,20.0s					
PCAB	Cabril	150.39 352	ePKPbc	PKPbc	13 35 20.8	-0.1
POLO	Lamas de Olo	150.68 351	ePKPbc	PKPbc	13 35 21.1	-0.5
POLO			eLR	LR	14 27 54.8	
	comp=Z,949nm,22.0s					
MVO	Moncorvo	150.77 350	ePKPbc	PKPbc	13 35 21.7	-0.1
MVO			eLR	LR	14 27 44.4	
	comp=Z,2μm,20.0s					
PVRL	Vila Real	150.77 351	ePKPbc	PKPbc	13 35 21.5	-0.3
SHEL	Horse Pasture	150.84 195	ePKPdf	PKPdf	13 35 16.5	-0.6
SHEL	Horse Pasture	150.84 195	ePKIKP	PKPdf	13 35 16.5	-0.6
RCBR	Riachuelo	151.29 128	ePKPbc	PKPbc	13 35 22.5	-1.4
PVIS	Viseu	151.34 351	ePKPbc	PKPbc	13 35 23.7	+0.5
ESDC	Sonseca Array	151.54 344	PKP	PKPdf	13 35 18.0	+0.5
	comp=Z,1.7nm,0.7s,baz=12,slow=2.3,SNR=8.8					
ESDC			PKPbc	PKPbc	13 35 23.9	+0.2
	comp=Z,8.0nm,0.6s,baz=8.0,slow=2.3,SNR=34					
ESDC	Sonseca Array	151.54 344	PKP	PKPdf	13 35 18.0	+0.5
ESDC			PKPbc	PKPbc	13 35 23.9	+0.2
ESLA	Sonseca Array	151.54 344	PKPdf	PKPdf	13 35 17.4	0.0
ESLA			ePKPbc	PKPbc	13 35 23.3	-0.4
MTE	Manteigas	151.60 350	ePKPbc	PKPbc	13 35 24.4	+0.6
MTE			eLR	LR	14 28 27.1	
	comp=Z,2μm,20.0s					
MTE	Manteigas	151.60 350	ePKPbc	PKPbc	13 35 24.0	+0.2
PAB	San Pablo	151.76 345	ePKPbc	PKPbc	13 35 24.2	0.0
PAB	San Pablo	151.76 345	ePKIKP	PKPbc	13 35 24.2	0.0
PCBR	Castelo Branco	152.13 350	ePKPdf	PKPdf	13 35 18.9	+0.5
PCBR	Castelo Branco	152.13 350	ePKPbc	PKPbc	13 35 24.9	-0.1
PTOM	Tomar	152.50 352	ePKPbc	PKPbc	13 35 25.9	0.0
PMRV	Marv??o	152.52 350	ePKPbc	PKPbc	13 35 26.1	+0.2
PMRV			eLR	LR	14 28 00.6	
	comp=Z,2μm,20.0s					
PMTG	Montargil	153.01 351	ePKPbc	PKPbc	13 35 27.2	+0.2
PMTG			eLR	LR	14 28 01.4	
	comp=Z,2μm,20.0s					
PESTR	Estremoz	153.10 350	ePKPbc	PKPbc	13 35 26.5	-0.7
PESTR			eLR	LR	14 29 14.8	
	comp=Z,2μm,20.0s					
PMAFR	Mafra	153.26 353	eLR	LR	14 27 58.0	
	comp=Z,2μm,20.0s					
LIS	Lisbon	153.48 352	eP	PKPdf	13 35 19.6	-0.7
LIS			AMS	AMS	14 44 59.9	
	comp=Z,2μm,25.3s					
LIS	Lisbon	153.48 352	ePKIKP	PKPdf	13 35 19.6	-0.8
EVO	Evora	153.50 350	ePKIKP	PKPdf	13 35 18.5	-1.9
	comp=Z,90nm,1.2s					
EVOP	Sao Brissos	153.52 351	ePKPdf	PKPdf	13 35 18.5	-1.9
EVOP	Sao Brissos	153.52 351	ePKIKP	PKPdf	13 35 18.5	-1.9
PBAR	Barrancos	153.67 349	eLR	LR	14 29 22.0	
	comp=Z,3μm,22.0s					
PNCL	Nicolau / Gran	153.99 351	eLR	LR	14 28 16.4	
	comp=Z,1μm,22.0s					
MESJ	Messejana	154.21 350	eP	PKPdf	13 35 19.3	-2.1
MESJ			AMS	AMS	14 46 29.8	
	comp=Z,1μm,20.2s					
MESJ	Messejana	154.21 350	ePKIKP	PKPdf	13 35 19.3	-2.1
PCVE	Castro Verde	154.38 350	ePKPdf	PKPdf	13 35 21.4	-0.3
PCVE			eLR	LR	14 29 50.7	
	comp=Z,1μm,20.0s					
PVAQ	Vaqueiros	154.55 349	eLR	LR	14 30 09.0	
	comp=Z,2μm,20.0s					
PBDV	Barranco-do-Ve	154.74 350	eLR	LR	14 30 20.9	
	comp=Z,2μm,22.0s					
MORF	Marmelete	154.80 351	eLR	LR	14 29 11.6	
	comp=Z,1μm,22.0s					
MORF	Marmelete	154.80 351	ePKIKP	PKPdf	13 35 19.7	-2.6
TAM	Tamanrasset	159.17 302	ePKPdf	PKPdf	13 35 28.0	-0.3
TAM	Tamanrasset	159.17 302	ePKIKP	PKPdf	13 35 28.0	-0.3
PMOZ	Porto Moniz, M	159.36 9	eLR	LR	14 30 25.2	
	comp=Z,2μm,24.0s					
TORD	Torodi Ar. Bea	165.19 275	PKP	PKPdf	13 35 33.9	-0.6
	comp=Z,15nm,1.2s,baz=117,slow=0.3,SNR=29					
TORD			PKPab	PKPab	13 36 32.4	+0.3
	comp=Z,56nm,1.0s,baz=93,slow=2.2,SNR=38					
TORD			PP	PP	13 40 15.6	-3.6
	comp=Z,4.8nm,1.0s,baz=98,slow=4.4,SNR=4.8					
TORD	Torodi Ar. Bea	165.19 275	PKP	PKPdf	13 35 33.9	-0.6
TORD			PKPab	PKPab	13 36 32.4	+0.3
TORD			PP	PP	13 40 15.6	-3.6
DBIC	Dimbokro	169.80 237	PKP	PKPdf	13 35 37.0	-0.9
	comp=Z,6.3nm,1.1s,baz=74,slow=0.8,SNR=7.5					
DBIC			PKPab	PKPab	13 36 52.0	-0.4
	comp=Z,60nm,1.0s,baz=112,slow=5.2,SNR=23					
DBIC			PP	PP	13 40 39.0	-3.0
	comp=Z,10nm,1.2s,baz=92,slow=6.6,SNR=6.9					
DBIC	Dimbokro	169.80 237	ePKPdf	PKPdf	13 35 36.8	-1.1
DBIC			PKP	PKPdf	13 35 37.0	-0.9
DBIC			PKPab	PKPab	13 36 52.0	-0.4
DBIC			PP	PP	13 40 39.0	-3.0
DBIC	Dimbokro	169.80 237	ePKIKP	PKPdf	13 35 36.8	-1.1
DBIC					13 36 52.0	
DBIC					13 40 39.1	

*ISK **10** 13:20:18.8, 38°.52N×39°.43E, h5km, MD3.0*
*ISCJB **10** 13:20:19.4±0.5, 38°.48N±0°.03×39°.48E±0°.03, h2km±5km,*
Error ellipse: s-maj=4.5km s-min=3.7km az=177.9
*DDA **10** 13:20:19.0, 38°.48N×39°.48E, h7km±5km, Md3.0*
*CSEM **10** 13:20:20.0±0.2, 38°.49N×39°.43E, h2km, MD3.0, Error ellipse: s-maj=5.6km s-min=4.4km az=149.0*

ISC 10 13:20:19.9±0.5, 38°.48N±0°.03×39°.47E±0°.03, h3km±5km, n36, σ1§01/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.17	233	PG	Pg	13 20 23.2	+0.2
SVRC				eSG	Sg	13 20 25.9	+0.7
SVRC	Sivrice-ELAZID	0.17	233	i Pg	Pg	13 20 23.2	+0.2
SVRC				eSg	Sg	13 20 25.9	+0.7
ELZG	Elazig	0.38	273	i P	Pg	13 20 27.1	-0.2
ELZG				i S	Sg	13 20 33.0	+0.8
ELZG	Elazig	0.38	273	i P	Pg	13 20 27.1	-0.1
ELZG				i S	Sg	13 20 33.0	+0.8
PTK	Pertek	0.42	351	ePG	Pg	13 20 27.1	-0.8
PTK				eSG	Sg	13 20 33.7	+0.3
PTK	Pertek	0.42	351	ePg	Pg	13 20 27.1	-0.8
PTK				eSg	Sg	13 20 33.7	+0.3
DIYA	Diyarbakir	0.75	137	i P	Pg	13 20 34.9	+0.6
DIYA				i S	Sg	13 20 45.2	+1.2
DIYA	Diyarbakir	0.75	137	i P	Pg	13 20 34.9	+0.6
DIYA				i S	Sg	13 20 45.2	+1.2
MYA	Malataya	0.84	260	ePG	Pg	13 20 35.0	-0.9
MYA	Malataya	0.84	260	ePg	Pg	13 20 35.0	-0.9
MALT	Malatya	0.84	259	ePG	Pg	13 20 34.7	-1.3
MALT				eSG	Sg	13 20 48.1	+1.3
MALT	Malatya	0.84	259	ePg	Pg	13 20 34.7	-1.2
MALT				eSg	Sg	13 20 48.1	+1.3
BINT	Bingol	0.89	63	ePn	Pn	13 20 40.7	+1.5
BNGB	Bing¶‖	1.07	61	ePN	Pg	13 20 40.7	+0.3
KEMA	Kemaliye	1.10	316	i P	Pg	13 20 39.6	-1.4
KEMA				i S	Sg	13 20 55.9	+0.7
KEMA	Kemaliye	1.10	316	i P	Pg

OKGL	Djebel Kef Gue	4.63	40	P	Pn	13 22 42.0	-11
EQUE	Quentar	4.67	356	P	Pn	13 22 54.9	+1.4
	0.5nm,0.1s,SNR=7.9						
EQUE	Quentar	4.67	356	P	Pn	13 22 54.9	+1.4
	0.5nm,0.1s,SNR=7.9						
ECOG	Cogollos-Vega	4.75	355	P	Pn	13 22 58.0	+3.4
	15nm,0.4s,SNR=7.9						
ECOG	Cogollos-Vega	4.75	355	P	Pn	13 22 58.0	+3.4
	15nm,0.4s,SNR=7.9						
EANR	'Ain N'Sour	4.83	44	P	Pn	13 22 57.3	+1.6
EANR	'Ain N'Sour	4.83	44	P	Pn	13 22 57.3	+1.6
EQES	Quesada	5.25	360	P	Pn	13 23 01.8	+0.2
	0.7nm,0.1s,SNR=6.3						
EQES				S	Sn	13 23 60.0	-2.1
	11nm,0.3s,SNR=6.0						
EQES	Quesada	5.25	360	P	Pn	13 23 04.2	+2.7
	0.7nm,0.1s,SNR=6.3						
EQES				S	Sn	13 24 04.5	+2.4
	11nm,0.3s,SNR=6.0						
EHUE	Huescar	5.28	4	P	Pn	13 23 05.2	+3.4
	2.1nm,0.2s,SNR=7.9						
EHUE	Huescar	5.28	4	P	Pn	13 23 05.2	+3.3
	2.1nm,0.2s,SNR=7.9						
CART	Cartagena	5.31	18	*e*P	Pn	13 23 01.6	-0.6
EMUR	La Murta	5.49	15	P	Pn	13 23 05.7	+0.9
	13nm,0.6s,SNR=31						
EADA	Adamuz	5.76	348	P	Pn	13 23 09.8	+1.4
	0.5nm,0.2s,SNR=7.9						
EADA	Adamuz	5.76	348	P	Pn	13 23 09.8	+1.4
	0.5nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	6.01	331	P	Pn	13 23 12.1	+0.2
	0.7nm,0.1s,SNR=15						
EMIN				S	Sn	13 24 17.0	-3.7
	0.3nm,0.2s,SNR=5.5						
EMIN	Mina Concepcio	6.01	331	P	Pn	13 23 12.1	+0.2
	0.7nm,0.1s,SNR=15						
EMIN				S	Sn	13 24 17.0	-3.7
	0.3nm,0.2s,SNR=5.5						
EGRO	El Granado	6.18	325	P	Pn	13 23 12.9	-1.3
	1.2nm,0.2s,SNR=6.0						
EGRO				S	Sn	13 24 22.1	-2.7
	3.1nm,0.2s,SNR=7.9						
EGRO	El Granado	6.18	325	P	Pn	13 23 12.9	-1.3
	1.2nm,0.2s,SNR=6.0						
EGRO				S	Sn	13 24 22.1	-2.8
	3.1nm,0.2s,SNR=7.9						
PBDV	Barranco-do-Ve	6.18	321	*e*Pn	Pn	13 23 13.4	-0.9
PBDV				*e*Sn	Sn	13 24 21.2	-3.8
PBDV				A		13 24 42.2	
	7.6nm,0.7s						
PBDV	Barranco-do-Ve	6.18	321	P	Pn	13 23 13.4	-0.9
PBDV				S	Sn	13 24 21.2	-3.8
	7.6nm,0.7s						
PBDV	Barranco-do-Ve	6.18	321	*e*Pn	Pn	13 23 13.4	-0.9
PBDV				*e*Sn	Sn	13 24 21.2	-3.8
	7.6nm,0.7s						
PVAQ	Vaqueiros	6.19	323	*e*Pn	Pn	13 23 12.9	-1.5
PVAQ				*e*Sn	Sn	13 24 19.7	-5.5
PVAQ				A		13 24 43.0	
	7.7nm,0.5s						
PVAQ	Vaqueiros	6.19	323	P	Pn	13 23 12.9	-1.5
PVAQ				S	Sn	13 24 19.7	-5.5
	7.7nm,0.5s						
PVAQ	Vaqueiros	6.19	323	*e*Pn	Pn	13 23 12.9	-1.5
PVAQ				*e*Sn	Sn	13 24 19.7	-5.5
	7.7nm,0.5s						
ETOB	Tobarra	6.21	11	P	Pn	13 23 16.2	+1.5
	7.3nm,0.5s,SNR=7.9						
ETOB	Tobarra	6.21	11	P	Pn	13 23 18.0	+3.3
	7.3nm,0.5s,SNR=7.9						
PBAR	Barrancos	6.51	331	*e*Sn	Sn	13 24 29.4	-3.6
PBAR				A		13 24 43.5	
	5.2nm,0.7s						
PBAR	Barrancos	6.51	331	S	Sn	13 24 29.4	-3.6
	5.2nm,0.7s						
PBAR	Barrancos	6.51	331	*e*Sn	Sn	13 24 29.4	-3.6
	5.2nm,0.7s						
PCVE	Castro Verde	6.53	322	*e*Pn	Pn	13 23 18.3	-0.8
PCVE				*e*Sn	Sn	13 24 28.8	-4.8
PCVE				A		13 24 42.9	
	5.2nm,0.2s						
PCVE	Castro Verde	6.53	322	P	Pn	13 23 18.3	-0.8
PCVE				S	Sn	13 24 28.8	-4.8
	5.2nm,0.2s						
PCVE	Castro Verde	6.53	322	*e*Pn	Pn	13 23 18.3	-0.8
PCVE				*e*Sn	Sn	13 24 28.8	-4.8
	5.2nm,0.2s						
EBEN	Beniarda	6.56	20	P	Pn	13 23 20.0	+0.5
	0.3nm,0.2s,SNR=4.0						
EBEN	Beniarda	6.56	20	P	Pn	13 23 23.4	+3.9
	0.3nm,0.2s,SNR=4.0						
EBAD	Badajoz	7.00	334	P	Pn	13 23 25.3	-0.2
	0.5nm,0.1s,SNR=8.5						
EBAD	Badajoz	7.00	334	P	Pn	13 23 25.3	-0.2
	0.5nm,0.1s,SNR=8.5						
PNCL	Nicolau / Gran	7.15	323	*e*Pn	Pn	13 23 26.7	-0.8
PNCL				*e*Sn	Sn	13 24 43.9	-4.8
PNCL	Nicolau / Gran	7.15	323	*e*Pn	Pn	13 23 26.7	-0.8
PNCL				*e*Sn	Sn	13 24 43.9	-4.8
ESDC	Sonseca Array	7.16	354	Pn	Pn	13 23 31.5	+3.8
	0.5nm,0.3s,baz=172,slow=13,SNR=4.2						
ESDC				Sn	Sn	13 24 59.5	+10
	0.2nm,0.3s,baz=160,slow=27,SNR=2.7						
ESDC	Sonseca Array	7.16	354	Pn	Pn	13 23 31.5	+3.8
ESDC				Sn	Sn	13 24 59.5	+10
ESDC	Sonseca Array	7.16	354	Pn	Pn	13 23 31.5	+3.8
PMRV	Marv??o	7.73	334	*e*Pn	Pn	13 23 35.4	-0.1
PMRV	Marv??o	7.73	334	Pn	Pn	13 23 35.4	-0.1
PMRV	Marv??o	7.73	334	*e*Pn	Pn	13 23 35.4	-0.1
PMTG	Montargil	7.76	329	*e*Pn	Pn	13 23 34.8	-1.1
PMTG	Montargil	7.76	329	*e*Pn	Pn	13 23 34.8	-1.1
KEST	Kesra	10.74	69	Pn	Pn	13 24 17.2	+0.4
	0.2nm,0.3s,baz=255,slow=4.0,SNR=6.9						
KEST				LR	LR	13 28 33.0	
	comp=Z,45nm,18.8s,baz=147,slow=39						
KEST	Kesra	10.74	69	*e*P	Pn	13 24 17.9	+1.1
TAM	Tamanrasset	12.31	140	*e*P	Pn	13 24 37.5	-0.9
	2.3nm,0.6s						
TORD	Torodi Ar. Bea	19.78	166	P	Pn	13 26 14.9	+0.1
	0.2nm,0.3s,baz=342,slow=11,SNR=7.6						
TORD				S	Sn	13 29 55.8	-1.5
	0.1nm,0.3s,baz=345,slow=21,SNR=5.2						
TORD	Torodi Ar. Bea	19.78	166	P	Pn	13 26 14.9	+0.1
TORD				S	Sn	13 29 55.8	-1.5
TORD	Torodi Ar. Bea	19.78	166	P	Pn	13 26 14.9	0.0
TORD				S	Sn	13 29 55.8	-1.4
GERES	GERESS Array B	20.57	33	P	P	13 26 21.9	0.0
	0.3nm,0.4s,baz=236,slow=10,SNR=4.7						
GERES	GERESS Array B	20.57	33	P	P	13 26 21.9	0.0
GERES	GERESS Array B	20.57	33	P	P	13 26 21.9	+0.1
CLL	Collm	22.14	27	*e*(P)	P	13 26 39.2	+0.6
DBIC	Dimbokro	25.79	184	P	P	13 27 14.5	+0.2
	2.3nm,0.8s,baz=359,slow=11,SNR=3.2						
DBIC	Dimbokro	25.79	184	P	P	13 27 14.5	+0.2
DBIC	Dimbokro	25.79	184	P	P	13 27 14.5	+0.3
SJG	San Juan	58.08	272	LR	LR	13 51 32.8	
	comp=Z,197nm,19.2s,baz=83,slow=31						

GUC 10 13:27:46.2±0.7, 33°.15S×69°.25W, h5km±8km, MD3.7, ML3.3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.90	258	*e*P	Pg	13 27 53.4	-10
FCH				*i* S	Sg	13 28 07.1	-7.9
FCH				AML	AML	13 28 08.4	
	comp=N,776nm,0.5s						
LMEL	Las Melosas	1.06	229	*e*P	Pg	13 28 08.5	+1.8
CLCH	Cerro Calan	1.11	257	*e*P	Pg	13 28 07.0	-0.5
CLCH				*e*S	Sg	13 28 22.9	+1.0
CLCH				AML	AML	13 28 28.0	
	comp=E,549nm,1.0s						
PCH	Pirque	1.16	246	*e*P	Pg	13 28 09.6	+1.1
PEL	Peldehue	1.21	270	*e*P	Pg	13 28 08.5	-0.9
PEL				*e*S	Sg	13 28 25.3	+0.3
PEL				AML	AML	13 28 29.5	
	comp=E,686nm,0.5s						
JACH	Jahuel	1.22	292	*e*P	Pg	13 28 07.7	-2.0
SAN	Santiago	1.23	255	*e*P	Pg	13 28 08.2	-1.5
CHCH	Chadas Angostu	1.41	236	*e*P	Pn	13 28 14.4	+1.8
CACH	El Canelo	1.49	229	*e*P	Pn	13 28 16.4	+2.8
ROCH	El Roble	1.49	276	*e*P	Pn	13 28 13.5	-0.2
ROCH				*e*S	Sn	13 28 33.9	+0.4
ROCH				AML	AML	13 28 38.4	
	comp=N,784nm,0.4s						

TACH	Talagante	1.50	250	*e*P	Pn	13 28 15.2	+1.4
LNV	Longovilo	1.98	245	*e*P	Pn	13 28 23.2	+2.9
CHNG	Los Chungos	2.28	303	*e*P	Pn	13 28 25.9	+1.4
CHNG				*e*S	Sn	13 28 54.9	+1.8
CMCH	Combarbala	2.47	322	*e*P	Pn	13 28 28.0	+1.0
CMCH				*e*S	Sn	13 29 00.4	+2.9
CMCH				AML	AML	13 29 04.5	
	comp=N,2μm,0.6s						

IDC 10 14:06:47.8±7.6, 30°.52S×176°.97W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/15, mbtmp3.6/2, MS4.2/1, Ms1 4.2/1, ms1mx3.7/13, Error ellipse: s-maj=316.5km s-min=61.2km az=155.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.99	267	P	P	14 14 57.0	-0.1
	0.1nm,0.3s,baz=108,slow=7.4,SNR=4.8						
WRA	Warramunga Arr	44.99	272	P	P	14 15 05.0	-0.1
	0.5nm,0.4s,baz=111,slow=8.0,SNR=14						
GUMO	Guam	57.20	314	LR	LR	14 37 22.4	
	comp=Z,222nm,21.6s,baz=324,slow=32						
FINES	FINESS Array B	145.56	341	PKPbc	PKPbc	14 26 26.6	-0.8
	1.1nm,0.7s,baz=66,slow=1.7,SNR=3.7						

*ISCJB **10** 14:22:26.6±0.6, 38°.91N±0°.03×27°.99E±0°.04, h2km±7km, Error ellipse: s-maj=5.2km s-min=4.6km az=164.0*
*DDA **10** 14:22:26.4, 38°.93N×27°.98E, h7km±3km, Md2.7*
*CSEM **10** 14:22:26.8±0.2, 38°.90N×27°.99E, h5km, MD2.8, Error ellipse: s-maj=3.6km s-min=3.5km az=101.0*
*ISK **10** 14:22:26.5, 38°.86N×27°.98E, h8km, MD2.8*
ISC 10 14:22:27.0±0.5, 38°.91N±0°.03×27°.99E±0°.04, h6km±6km, n28, σ0°.69/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	Akhisar	0.14	258	*e*PG	Pg	14 22 29.5	-0.4
AKS				*e*SG	Sg	14 22 32.5	+0.5
AKS	Akhisar	0.14	258	*e*Pg	Pg	14 22 29.5	-0.5
AKS				*e*Sg	Sg	14 22 32.5	+0.6
KULA	Kula-Manisa	0.66	127	*e*PG	Pg	14 22 39.1	-0.5
KULA				*e*SG	Sg	14 22 48.4	+0.2
KULA	Kula-Manisa	0.66	127	*e*Pg	Pg	14 22 39.1	-0.5
KULA				*e*Sg	Sg	14 22 48.4	+0.2
BALB	Balikesir	0.74	353	*e*PG	Pg	14 22 42.3	+1.1
BALB	Balikesir	0.74	353	*e*Pg	Pg	14 22 42.3	+1.1
IZM	Izmir	0.76	228	*e*PG	Pg	14 22 41.5	-0.2
IZM				*e*SG	Sg	14 22 51.5	-0.1
IZM	Izmir	0.76	228	*e*Pg	Pg	14 22 41.5	-0.2
IZM				*e*Sg	Sg	14 22 51.6	0.0
DST	Dursunbey	0.85	35	*e*PG	Pg	14 22 44.7	+1.3
DST	Dursunbey	0.85	35	*e*Pg	Pg	14 22 44.7	+1.3
BALY	Balya	0.88	341	*i* P	Pg	14 22 42.9	-1.0
BALY				*i* S	Sg	14 22 55.5	+0.1
BALY	Balya	0.88	341	*i* P	Pg	14 22 42.9	-1.0
BALY				*i* S	Sg	14 22 55.5	+0.1
BLCB	Balcova	0.91	235	*e*PG	Pg	14 22 43.6	-0.9
BLCB	Balcova	0.91	235	*e*Pg	Pg	14 22 43.6	-0.9
GONE	Gonen-Balikesi	1.16	348	*e*PN	Pn	14 22 49.5	-0.3
GONE	Gonen-Balikesi	1.16	348	*e*Pn	Pn	14 22 49.5	-0.3
GDZ	Gediz	1.18	81	*i* P	Pg	14 22 48.5	-1.1
GDZ				*i* S	Sg	14 23 04.4	-0.5
GDZ	Gediz	1.18	81	*i* P	Pg	14 22 48.5	-1.1
GDZ				*i* S	Sg	14 23 04.4	-0.5
AYDN	Tasoluk	1.25	184	*i* P	Pb	14 22 50.3	-0.7
AYDN				*i* S	Sg	14 23 08.6	+1.5
AYDN	Tasoluk	1.25	184	*i* P	Pb	14 22 50.3	-0.7
AYDN				*i* S	Sg	14 23 08.6	+1.4
KHAL	Karahalli	1.29	114	*i* P	Pn	14 22 51.5	0.0
KHAL				*i* S	Sb	14 23 09.0	+0.5
KHAL	Karahalli	1.29	114	*i* P	Pn	14 22 51.5	-0.1
KHAL				*i* S	Sb	14 23 09.0	+0.5
KCTX	Karacabey (Bur	1.39	12	*e*PN	Pn	14 22 53.4	+0.5
KCTX	Karacabey (Bur	1.39	12	*e*Pn	Pn	14 22 53.4	+0.5
EDC	Edincik	1.44	356	*e*PN	Pn	14 22 53.9	+0.3
EDC	Edincik	1.44	356	*e*Pn	Pn	14 22 53.9	+0.3
KRBG	Karabiga-Canak	1.58	340	*e*PN	Pn	14 22 55.3	-0.2
KRBG	Karabiga-Canak	1.58	340	*e*Pn	Pn	14 22 55.3	-0.2

*ISCJB **10** 14:43:53.2±0.8, 35°.37N±0°.07×81°.0E±0°.1, h10km, mb3.3/5, Error ellipse: s-maj=12.8km s-min=10.8km az=0.6*
*IDC **10** 14:43:53.5±1.2, 35°.41N×81°.17E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.6/27, mbtmp3.6/9, ML3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx3.0/27, Error ellipse: s-maj=29.9km s-min=23.1km az=71.0*
*NEIC **10** 14:43:55.2±6.7, 35°.36N×81°.10E, h12km±44km, mb3.3/2, Error ellipse: s-maj=17.5km s-min=16.0km az=148.0*
*BJI **10** 14:44:01.5, 35°.78N×81°.64E, h28km, ML3.5/5*
ISC 10 14:43:55.0±0.8, 35°.36N±0°.08×81°.1E±0°.1, h10km, n28, σ19°.27/31, mb3.3/5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	Dehra Dun	5.64	208	*ex*	Pn	14 45 25.5	+6.6
KSH	Kashi	5.82	317	*e*Pn	Pn	14 45 28.9	+7.6
KSH				Sn	Sn	14 46 39.5	+12
KSH				smax			
	comp=N,43nm,0.8s						
KSH				smax			
	comp=E,40nm,0.9s						
TKM2	Tokmak 2	8.67	332	*e*P	Pn	14 45 59.1	-1.4
	comp=E,5.0nm,0.6s						
AAK	Ala-Archa	8.89	327	P	Pn	14 46 05.5	+2.0
KBL	Kabul	9.93	269	*e*P	Pn	14 46 16.9	-0.9
	comp=E,2.4nm,0.7s						
MK31	Makanchi Array	11.45	4	*e*P	Pn	14 46 39.3	+0.7
MKAR	Makanchi Array	11.45	4	Pn	Pn	14 46 39.0	+0.5
	comp=E,0.3nm,0.3s,baz=184,slow=13,SNR=14						
MKAR				Sn	Sn	14 48 51.3	+4.9
	comp=E,0.1nm,0.3s,baz=192,slow=25,SNR=3.9						
MKAR				LR	LR	14 51 13.9	
	comp=E,205nm,20.5s,baz=286,slow=39						
MKAR	Makanchi Array	11.45	4	Pn	Pn	14 46 39.0	+0.5
MKAR				Sn	Sn	14 48 51.3	+4.9
GTA	Gaotai	15.41	69	*e*P	Pn	14 47 37.3	+4.9
GTA				pP	pP	14 47 42.0	+2.1
GTA				sP	sP	14 47 45.3	+4.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KURK	Kurchatov	15.45	354	Pn	Pn	14 47 30.1	-2.7
	comp=Z,0.1nm,0.3s,baz=175,slow=12,SNR=3.1						
KURK	Kurchatov	15.45	354	Pn	Pn	14 47 30.1	-2.7
ZAA0	Zalesovo Array	18.76	7	*e*P	Pn	14 48 15.7	+1.3
ZALV	Zalesovo Beam	18.76	7	P	Pn	14 48 12.7	-1.7
	comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=9.4						
ZALV	Zalesovo Beam	18.76	7	P	Pn	14 48 12.7	-1.7
BVAR	Borovoye Array	19.22	340	P	Pn	14 48 19.7	-0.2
	comp=Z,0.2nm,0.3s,baz=141,slow=9.6,SNR=7.9						
BVAR	Borovoye Array	19.22	340	P	Pn	14 48 19.7	-0.2
BRVK	Borovoye	19.27	340	*e*P	Pn	14 48 20.5	-0.2
	comp=Z,2.0nm,0.8s						
ABKAR	Akbulak array	20.82	318	*e*P	P	14 48 38.4	+1.9
	comp=Z,0.8nm,0.6s						
SONM	Songino Array	22.53	49	P	P	14 48 55.8	+0.9
	comp=Z,0.5nm,0.7s,mb3.1,baz=230,slow=15,SNR=5.6						
SONM	Songino Array	22.53	49	P	P	14 48 55.8	+0.9
CMAR	Chiang Mai Arr	23.10	132	P	P	14 49 01.4	+0.3
	comp=Z,1.5nm,0.8s,mb3.5,baz=313,slow=11,SNR=14						
CMAR	Chiang Mai Arr	23.10	132	P	P	14 49 01.4	+0.3
ILAR	Eielson Array	73.37	19	P	P	14 55 25.6	-1.1
	comp=Z,0.4nm,0.9s,mb3.4,baz=316,slow=5.0,SNR=4.0						
ILAR	Eielson Array	73.37	19	P	P	14 55 25.6	-1.1
TORD	Torodi Ar. Bea	73.94	275	P	P	14 55 31.8	+1.0
	comp=Z,0.2nm,0.5s,mb3.4,baz=45,slow=5.9,SNR=2.8						
TORD	Torodi Ar. Bea	73.94	275	P	P	14 55 31.8	+1.0
YKA	Yellowknife Ar	81.66	7	P	P	14 56 11.3	-1.7
	comp=Z,0.3nm,0.5s,mb3.5,baz=344,slow=5.1,SNR=5.5						
YKA	Yellowknife Ar	81.66	7	P	P	14 56 11.3	-1.7

*IDC **10** 14:46:07.1±0.7, 4°.14N×126°.55E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/22, mbtmp4.1/14, Error ellipse: s-maj=45.9km s-min=13.4km az=69.0*
*ISCJB **10** 14:46:12.6±1.0, 4°.19N±0°.05×126°.76E±0°.07, h60km±10km, mb4.1/17, Error ellipse: s-maj=12.4km s-min=7.2km az=158.9*
*NEIC **10** 14:46:13.8±1.1, 4°.04N×126°.48E, h50km±10km, mb4.2/6, Error ellipse: s-maj=16.9km s-min=5.7km az=68.0*
*DJA **10** 14:46:14.3°.98N×126°.68E, h10km, MLv4.6/7*
ISC 10 14:46:14.1±1.0, 4°.20N±0°.05×126°.77E±0°.07, h55km±10km, n50, σ0°.87/53, mb4.1/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.34	248	P	Pn	14 46 34.6	-1.9
DAV	Davao City (W)	3.09	338	Pn	Pn	14 47 00.8	+0.4
	baz=243,slow=11,SNR=1.5						
DAV				Lg		14 47 48.5	
	19nm,0.3s,baz=242,slow=22,SNR=4.0						
DAV	Davao City (W)	3.09	338	Pn	Pn	14 47 00.8	+0.4
DAV				Lg		14 47 48.5	
MNI	Manado	3.34	215	P	Pn	14 47 03.4	-0.6
MNI				S	Sn	14 47 43.0	+0.5
TNTI	Ternate	3.46	170	P	Pn	14 47 05.6	+0.1
TNTI				S	Sn	14 47 46.1	+0.9
KMSI	Cibinong	4.55	218	P	Pn	14 47 20.1	-0.4
LBMI	Labuha	4.86	171	P	Pn	14 47 24.1	-0.6
GTOI	Gorontalo	5.16	227	P	Pn	14 47 29.3	+0.5
GTOI				S	Sn	14 48 28.2	+1.1
MRSI	Marisa	6.08	233	P	Pn	14 47 41.2	-0.2
	990nm94nm,0.7s						
LUWI	Luwuk	6.56	218	P	Pn	14 47 50.7	+2.6
	0.8nm2μm233nm,1.3s						
NLAI	Namlea	7.39	177	P	Pn	14 48 00.0	+0.5
	0.2nm4μm28nm,0.6s						
KDI	Kendari	9.10	207	P	Pn	14 48 21.9	-1.0
KKM	Kota Kinabalu	10.67	280	*e*P	Pn	14 48 40.3	-4.0
FITZ	Fitzroy Crossi	22.19	183	P	P	14 51 05.5	-0.3
	4.9nm,0.8s,mb4.0,baz=22,slow=10,SNR=6.9						
FITZ	Fitzroy Crossi	22.19	183	*e*P	P	14 51 05.5	-0.3
	11nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	22.19	183	*e*P	P	14 51 05.5	-0.2
	6.8nm,0.9s,mb4.1						
WRAB	Tennant Creek	25.11	163	*e*P	P	14 51 32.9	-1.0
	6.9nm,0.6s,mb4.4						
WRA	Warramunga Arr	25.12	163	P	P	14 51 32.6	-1.3
	5.9nm,0.6s,mb4.3,baz=343,slow=10,SNR=43						
WRA	Warramunga Arr	25.12	163	P	P	14 51 32.6	-1.3
WB2	Warramunga Arr	25.12	163	*e*P	P	14 51 33.4	-0.6
AS31	Alice Springs	28.55	166	*e*P	P	14 52 03.9	-1.0
ASAR	Alice Springs	28.55	166	P	P	14 52 04.5	-0.4
	1.4nm,0.6s,mb3.9,baz=348,slow=7.1,SNR=26						
ASAR	Alice Springs	28.55	166	P	P	14 52 04.5	-0.4
CMAR	Chiang Mai Arr	30.67	300	P	P	14 52 23.4	-0.4
	0.7nm,0.7s,mb3.6,baz=118,slow=6.8,SNR=7.4						
CMAR	Chiang Mai Arr	30.67	300	P	P	14 52 23.4	-0.4
STKA	Stephens Creek	38.55	160	P	P	14 53 32.6	+1.1
	6.5nm,0.7s,mb4.5,baz=328,slow=6.5,SNR=10						
STKA	Stephens Creek	38.55	160	*e*P	P	14 53 32.0	+0.5
	5.5nm,0.8s,mb4.3						
STKA	Stephens Creek	38.55	160	*e*P	P	14 53 32.2	+0.7
	1.5nm,0.8s,mb3.8						
ARMA	Armidale	41.83	147	*e*P	P	14 53 59.7	+1.0
SONM	Songino Array	46.87	341	P	P	14 54 39.8	+1.1
	0.4nm,0.5s,mb3.6,baz=164,slow=7.3,SNR=4.7						
SONM	Songino Array	46.87	341	P	P	14 54 39.8	+1.1
MK31	Makanchi Array	57.20	325	*e*P	P	14 55 55.4	-0.1
MKAR	Makanchi Array	57.20	325	P	P	14 55 55.5	0.0
	1.4nm,0.5s,mb4.2,baz=124,slow=8.4,SNR=11						
MKAR	Makanchi Array	57.20	325	P	P	14 55 55.5	0.0
ZALV	Zalesovo Beam	60.19	333	P	P	14 56 15.6	-0.6
	0.6nm,0.5s,mb3.9,baz=122,slow=8.6,SNR=4.8						
ZALV	Zalesovo Beam	60.19	333	P	P	14 56 15.6	-0.6
KURK	Kurchatov	61.37	327	P	P	14 56 24.2	0.0
	4.9nm,0.8s,mb4.7,baz=125,slow=6.0,SNR=19						
KURK	Kurchatov	61.37	327	*e*P	P	14 56 24.4	+0.1
	7.4nm,0.8s,mb4.9						
BVAR	Borovoye Array	66.95	327	P	P	14 57 01.0	+0.2
	1.0nm,0.7s,mb4.0,baz=132,slow=9.5,SNR=9.3						
BVAR	Borovoye Array	66.95	327	P	P	14 57 01.0	+0.2
BRVK	Borovoye	67.02	327	*e*P	P	14 57 00.7	-0.5
	2.4nm,0.7s,mb4.3						
ABKAR	Akbulak array	71.81	321	*e*P	P	14 57 30.5	-0.4
	1.1nm,0.7s,mb3.9						
AKTO	Aktyubinsk	73.32	322	P	P	14 57 39.7	-0.1
	0.9nm,0.5s,mb3.9,baz=94,slow=10,SNR=7.0						
AKTO	Aktyubinsk	73.32	322	P	P	14 57 39.7	-0.1
ILAR	Eielson Array	84.67	25	P	P	14 58 44.3	+2.7
	0.2nm,0.6s,mb3.4,baz=246,slow=5.2,SNR=2.9						
ILAR	Eielson Array	84.67	25	P	P	14 58 44.3	+2.7
ARCES	ARCESS Array B	90.03	340	P	P	14 59 07.8	+0.5
	2.7nm,0.9s,mb4.5,baz=48,slow=1.8,SNR=3.2						
ARCES	ARCESS Array B	90.03	340	P	P	14 59 07.8	+0.5
FINES	FINESS Array B	91.44	332	P	P	14 59 14.8	+0.7
	2.1nm,0.8s,mb4.5,baz=116,slow=6.3,SNR=2.9						
FINES	FINESS Array B	91.44	332	P	P	14 59 14.8	+0.7

**IDC 10 14:53:21.6±3.1, 31°.37S×176°.70W, h

s-maj=25.8km s-min=13.8km az=73.0
*ISCJB **10** 15:17:06.5±0.3, 0.41N±0.04×124.00E±0.05, h203km±3km, mb4.2/29, Error ellipse: s-maj=8.3km s-min=6.2km az=140.7*
*DJA **10** 15:17:09, 0.17N×124.08E, h171km, MLv4.5/10*
*NEIC **10** 15:17:15.5±1.8, 0.30N×123.98E, h287km±20km, mb4.2/13, Error ellipse: s-maj=16.7km s-min=6.4km az=59.0*

ISC 10 15:17:07.6±0.3, 0.39N±0.04×124.00E±0.05, h197km±3km, n68, σ0=96/73, mb4.2/29, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.19**	**354**	P	**Pn**	**15 17 33.9**	**+0.4**
KMSI				S	**Sn**	**15 17 52.4**	**-1.2**
GTOI	**Gorontalo**	**1.02**	**284**	P	**Pn**	**15 17 38.0**	**+0.9**
GTOI				S	**Sn**	**15 18 01.3**	**+1.4**
MNI	**Manado**	**1.34**	**39**	P	**Pn**	**15 17 40.1**	**+0.5**
MNI				S	**Sn**	**15 18 06.1**	**+1.6**
LUWI	**Luwuk**	**1.88**	**221**	P	**Pn**	**15 17 43.7**	**-0.9**
LUWI				S	**Sn**	**15 18 09.9**	**-3.5**
MRSI	**Marisa**	**2.06**	**272**	P	**Pn**	**15 17 46.1**	**-0.4**
APSI	**Ampana**	**2.68**	**241**	P	**Pn**	**15 17 53.5**	**+0.2**
TNTI	**Ternate**	**3.39**	**84**	P	**Pn**	**15 18 01.6**	**-0.1**
LBMI	**Labuha**	**3.64**	**106**	P	**Pn**	**15 18 03.6**	**-1.2**
LBMI				S	**Sn**	**15 18 46.8**	**-2.9**
MSSI	**Masamba**	**4.70**	**232**	P	**Pn**	**15 18 18.4**	**+0.3**
NLAI	**Namlea**	**4.75**	**139**	P	**Pn**	**15 18 19.0**	**+0.3**
KKM	**Kota Kinabalu**	**9.59**	**306**	*e*P	**Pn**	**15 19 30.5**	**+8.9**
FITZ	**Fitzroy Crossi**	**18.44**	**175**	P	**P**	**15 21 08.6**	**+0.1**
	0.9nm,0.3s,baz=42,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**18.44**	**175**	*e*P	**P**	**15 21 08.5**	**0.0**
	15nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.44**	**175**	*e*P	**P**	**15 21 08.1**	**-0.4**
	4.0nm,0.5s						
MBWA	**Marble Bar**	**21.82**	**191**	*e*P	**P**	**15 21 42.9**	**-1.6**
	5.4nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**22.60**	**154**	*e*P	**P**	**15 21 51.2**	**-0.5**
	20nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**22.60**	**154**	P	**P**	**15 21 52.0**	**+0.4**
	16nm,0.4s,mb4.9,baz=337,slow=10,SNR=121						
WRA	**Warramunga Arr**	**22.60**	**154**	P	**P**	**15 21 52.0**	**+0.4**
WB2	**Warramunga Arr**	**22.61**	**154**	*e*P	**P**	**15 21 51.4**	**-0.3**
COEN	**Coen**	**23.74**	**128**	*e*P	**P**	**15 22 02.0**	**-0.2**
	26nm,0.7s,mb5.0						
PMG	**Port Moresby**	**25.03**	**113**	P	**P**	**15 22 14.2**	**+0.4**
	8.4nm,0.8s,mb4.4,baz=330,slow=8.4,SNR=4.0						
PMG	**Port Moresby**	**25.03**	**113**	P	**P**	**15 22 14.7**	**+0.9**
AS31	**Alice Springs**	**25.77**	**159**	*e*P	**P**	**15 22 20.7**	**+0.3**
ASAR	**Alice Springs**	**25.77**	**159**	P	**P**	**15 22 20.8**	**+0.4**
	3.2nm,0.7s,mb4.1,baz=341,slow=7.7,SNR=51						
ASAR	**Alice Springs**	**25.77**	**159**	P	**P**	**15 22 20.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.46**	**308**	P	**P**	**15 22 59.9**	**-2.2**
	0.3nm,0.7s,mb3.1,baz=134,slow=8.9,SNR=3.9						
CMAR	**Chiang Mai Arr**	**30.46**	**308**	P	**P**	**15 22 59.9**	**-2.2**
FORT	**Forrest**	**31.23**	**173**	*e*P	**P**	**15 23 08.8**	**+0.1**
	23nm,0.6s,mb5.0						
KLBR	**Kellerberrin**	**32.35**	**190**	*e*P	**P**	**15 23 18.0**	**-0.5**
	33nm,1.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**33.74**	**190**	P	**P**	**15 23 30.1**	**-0.4**
	9.6nm,0.9s,mb4.3,baz=352,slow=11,SNR=6.0						
NWAO	**Narrogin (SRO)**	**33.74**	**190**	P	**P**	**15 23 30.1**	**-0.4**
STKA	**Stephens Creek**	**36.15**	**154**	P	**P**	**15 23 51.7**	**+0.5**
	3.8nm,0.5s,mb4.2,baz=329,slow=11,SNR=15						
STKA	**Stephens Creek**	**36.15**	**154**	*e*P	**P**	**15 23 51.6**	**+0.4**
	3.9nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**36.15**	**154**	*e*P	**P**	**15 23 51.5**	**+0.3**
	0.8nm,0.5s,mb3.5						
KSAR	**Wonju Array Be**	**37.05**	**5**	P	**P**	**15 23 58.5**	**-0.2**
KSRS	**Korea Array**	**37.06**	**5**	P	**P**	**15 23 58.5**	**-0.3**
	1.2nm,0.7s,mb3.5,baz=181,slow=9.9,SNR=5.4						
MJAR	**Matsushiro Arr**	**38.31**	**19**	P	**P**	**15 24 08.4**	**-0.8**
	3.0nm,0.8s,mb3.9,baz=196,slow=9.9,SNR=7.1						
MJAR	**Matsushiro Arr**	**38.31**	**19**	P	**P**	**15 24 08.4**	**-0.8**
ARMA	**Armidale**	**40.36**	**142**	*e*P	**P**	**15 24 28.4**	**+2.1**
TOO	**Toolangi**	**42.67**	**155**	*e*P	**P**	**15 24 46.8**	**+1.9**
	24nm,1.1s,mb4.5						
CNB	**Canberra Magne**	**42.68**	**149**	*e*P	**P**	**15 24 47.4**	**+2.3**
	53nm,1.2s,mb4.8						
TAPN	**Taplejung**	**43.95**	**311**	*e*P	**P**	**15 24 55.4**	**+0.1**
	4.8nm,0.4s,mb4.2						
TAPN	**Taplejung**	**43.95**	**311**	*e*P	**P**	**15 24 55.4**	**+0.1**
	4.8nm,0.4s,mb4.2						
RAMN	**Ramite**	**44.59**	**309**	*e*P	**P**	**15 25 01.0**	**+0.5**
	8.8nm,0.6s,mb4.3						
RAMN	**Ramite**	**44.59**	**309**	*e*P	**P**	**15 25 01.0**	**+0.5**
	8.8nm,0.6s,mb4.3						
JIRN	**Jiri**	**45.26**	**310**	*e*P	**P**	**15 25 05.9**	**+0.2**
	2.4nm,0.4s,mb3.9						
JIRN	**Jiri**	**45.26**	**310**	*e*P	**P**	**15 25 05.9**	**+0.2**
	2.4nm,0.4s,mb3.9						
GUN	**Gumba**	**45.63**	**310**	*e*P	**P**	**15 25 08.5**	**-0.1**
	12nm,0.4s,mb4.5						
GUN	**Gumba**	**45.63**	**310**	*e*P	**P**	**15 25 08.5**	**-0.1**
	12nm,0.4s,mb4.6						
GKN	**Gorkha**	**46.63**	**310**	*e*P	**P**	**15 25 16.6**	**+0.2**
	5.6nm,0.5s,mb4.2						
GKN	**Gorkha**	**46.63**	**310**	*e*P	**P**	**15 25 16.6**	**+0.2**
	5.6nm,0.5s,mb4.2						
KOLN	**Koldanda**	**47.32**	**309**	*e*P	**P**	**15 25 22.3**	**+0.5**
	8.7nm,0.5s,mb4.3						
KOLN	**Koldanda**	**47.32**	**309**	*e*P	**P**	**15 25 22.3**	**+0.5**
	8.7nm,0.5s,mb4.3						
DANN	**Dangsing**	**47.47**	**309**	*e*P	**P**	**15 25 23.3**	**+0.4**
	11nm,0.5s,mb4.4						
DANN	**Dangsing**	**47.47**	**309**	*e*P	**P**	**15 25 23.3**	**+0.4**
	11nm,0.5s,mb4.5						
ULN	**Ulaanbaatar**	**49.53**	**345**	*e*P	**P**	**15 25 38.9**	**+0.6**
	2.3nm,0.6s,mb3.7						
SONM	**Songino Array**	**49.67**	**344**	P	**P**	**15 25 38.9**	**-0.4**
	3.1nm,0.7s,mb3.7,baz=158,slow=8.7,SNR=19						
SONM	**Songino Array**	**49.67**	**344**	P	**P**	**15 25 38.9**	**-0.4**
MKAR	**Makanchi Array**	**58.82**	**328**	P	**P**	**15 26 44.4**	**-0.9**
	1.7nm,0.5s,mb4.0,baz=121,slow=5.6,SNR=13						
MKAR	**Makanchi Array**	**58.82**	**328**	P	**P**	**15 26 44.4**	**-0.9**
ZALV	**Zalesovo Beam**	**62.38**	**335**	P	**P**	**15 27 07.3**	**-1.9**
	0.9nm,0.3s,mb3.8,baz=123,slow=5.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**62.38**	**335**	P	**P**	**15 27 07.3**	**-1.9**
KURK	**Kurchatov**	**63.15**	**330**	P	**P**	**15 27 13.3**	**-1.0**
	3.5nm,0.6s,mb4.2,baz=131,slow=5.9,SNR=29						
KURK	**Kurchatov**	**63.15**	**330**	*e*P	**P**	**15 27 12.9**	**-1.4**
BVAR	**Borovoye Array**	**68.67**	**329**	P	**P**	**15 27 49.9**	**+0.4**
	1.1nm,0.3s,mb3.9,baz=134,slow=11,SNR=3.7						
BVAR	**Borovoye Array**	**68.67**	**329**	P	**P**	**15 27 49.9**	**+0.4**
AKTO	**Aktyubinsk**	**74.61**	**323**	P	**P**	**15 28 25.9**	**+0.9**
	3.2nm,0.7s,mb4.1,baz=76,slow=5.6,SNR=4.1						
AKTO	**Aktyubinsk**	**74.61**	**323**	P	**P**	**15 28 25.9**	**+0.9**

IDC 10 15:19:55.7±15.0, 1.19N×127.08E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.7/17, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=240.4km s-min=102.4km az=152.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.23**	**184**	P	Pn	15 24 21.8	-0.6
	0.3nm,0.3s,baz=4.2,slow=9.2,SNR=10						
WRA	**Warramunga Arr**	**22.18**	**162**	P	P	15 24 53.4	-0.2
	4.5nm,0.6s,baz=340,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.58**	**165**	P	P	15 25 26.9	+0.2
	2.4nm,0.4s,baz=347,slow=13,SNR=24						
STKA	**Stephens Creek**	**35.65**	**159**	P	P	15 26 55.5	-0.1
	1.4nm,0.4s,baz=351,slow=8.3,SNR=4.9						

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*IDC **10** 15:23:48.7±1.1, 39.69N×73.42E, h0km, mb3.7/9, mb1 3.9/14, mb1mx3.7/28, mbtmp3.7/14, ML3.7/5, Error ellipse: s-maj=20.8km s-min=15.2km az=147.0*
*ISCJB **10** 15:23:52.4±0.9, 40.15N±0.08×73.08E±0.07, h10km, mb3.6/10, Error ellipse: s-maj=13.0km s-min=6.7km az=157.0*
*MOS **10** 15:23:58.0±1.6, 40.39N×72.80E, h33km, mb4.1/5, Error ellipse: s-maj=12.9km s-min=6.4km az=82.0*
*NEIC **10** 15:24:00.4±1.2, 40.43N×72.87E, h45km±11km, Error ellipse: s-maj=15.0km s-min=10.4km az=149.0*
*NNC **10** 15:24:02.1±3.7, 40.87N×72.83E, h0km, mb3.8, mpv4.0, Error ellipse: s-maj=39.1km s-min=16.5km az=171.0*

ISC 10 15:23:54.2±0.9, 40.18N±0.08×73.01E±0.07, h10km, n82, σ1=47/88, mb3.6/10, 5C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.02**	**15**	P	**Pn**	**15 24 29.9**	**+1.6**
	SNR=1740						
UCH	**Uchtor**	**2.34**	**28**	P	**Pb**	**15 24 35.9**	**-0.6**
	SNR=17						
UCH				P		15 24 35.9	
	SNR=17						
KZA	**Kyzart**	**2.54**	**41**	P	**Pb**	**15 24 38.8**	**-1.1**
	SNR=176						
KZA				P		15 24 38.8	
	SNR=176						
EKS2	**Erkin-Say**	**2.55**	**13**	P	**Pn**	**15 24 38.3**	**+2.7**
	SNR=66						
EKS2				P		15 24 38.3	
	SNR=66						
EKS2	**Erkin-Say**	**2.55**	**13**	*e*P	**Pn**	**15 24 38.1**	**+2.5**
EKS2	**Erkin-Say**	**2.55**	**13**	*e*PN	**Pn**	**15 24 38.1**	**+2.5**
AAK	**Ala-Archa**	**2.70**	**24**	P	**Pn**	**15 24 40.1**	**+2.5**
	SNR=211						
AAK				P		15 24 40.1	
	SNR=211						
AAK	**Ala-Archa**	**2.70**	**24**	*e*P	**Pn**	**15 24 40.6**	**+3.0**
AAK	**Ala-Archa**	**2.70**	**24**	*e*PN	**Pn**	**15 24 40.6**	**+3.0**
KBK	**Karagaybulak**	**2.88**	**30**	P	**Pb**	**15 24 43.7**	**-1.9**
	SNR=75						
KBK				P		15 24 43.7	
	SNR=75						
FRU	**Bishkek**	**2.92**	**24**	*e*PN	**Pn**	**15 24 44.0**	**+3.4**
FRU				pmax	pmax		
	comp=Z,120nm,1.6s						
CHMS	**Chumysh**	**3.11**	**24**	P	**Pn**	**15 24 46.5**	**+3.3**
	SNR=48						
CHMS				P		15 24 46.5	
	SNR=48						
ULHL	**Ulahol**	**3.20**	**49**	P	**Pb**	**15 24 47.9**	**-3.1**
	SNR=57						
ULHL				P		15 24 47.9	
	SNR=57						
USP	**Ospenovka**	**3.28**	**19**	P	**Pn**	**15 24 48.2**	**+2.5**
	SNR=22						
USP				P		15 24 48.2	
	SNR=22						
TKM2	**Tokmak 2**	**3.36**	**34**	P	**Pb**	**15 24 50.0**	**-3.8**
	SNR=55						
TKM2				P		15 24 50.0	
	SNR=55						
TKM2	**Tokmak 2**	**3.36**	**34**	⇑Pn	**Pb**	**15 24 50.3**	**-3.5**
	comp=Z,14nm,0.4s						
TKM2				⇑Lg		15 25 38.5	
	comp=Z,83nm,0.4s						
TKM2	**Tokmak 2**	**3.36**	**34**	*e*P	**Pb**	**15 24 49.8**	**-4.0**
TKM2	**Tokmak 2**	**3.36**	**34**	*e*PN	**Pb**	**15 24 49.8**	**-4.0**
KK31	**Karatay Array**	**3.47**	**328**	⇑Pn	**Pn**	**15 24 49.7**	**+1.4**
	comp=Z,35nm,0.6s,baz=131,slow=13						
KK31				Pg	**Pb**	**15 24 55.2**	**-0.5**
	baz=136,slow=17						
KK31				⇓Lg		15 25 34.7	
	comp=Z,45nm,0.3s,baz=139,slow=31						
KK31	**Karatay Array**	**3.47**	**328**	PN	**Pn**	**15 24 49.7**	**+1.4**
KK31						15 25 38.4	
KK31				pmax	pmax		
	comp=Z,21nm,0.2s						
KK31				pmax	pmax		
	comp=Z,51nm,0.2s						
KKAR	**Karatay Array**	**3.47**	**328**	*e*P	**Pn**	**15 24 49.5**	**+1.2**
KKAR	**Karatay Array**	**3.47**	**328**	*e*PN	**Pn**	**15 24 49.5**	**+1.2**
KNDC	**Almaty**	**4.24**	**43**	⇑Pg	**Pg**	**15 25 14.4**	**-1.0**
	comp=Z,50nm,0.7s						
KNDC				⇓Lg		15 26 05.9	
	comp=Z,100nm,0.6s						
AAA	**Alma-Ata**	**4.27**	**42**	*i* PN	**Pb**	**15 25 03.2**	**-6.2**
AAA				*i* S	**Sg**	**15 26 06.7**	**-4.6**
AAA				pmax	pmax		
	comp=Z,52nm,0.4s						
AAA				smax			
	comp=N,386nm,0.7s						
KBL	**Kabul**	**6.45**	**211**	*e*P	**Pn**	**15 25 35.6**	**+6.4**
	comp=N,28nm,0.5s						
KBL	**Kabul**	**6.45**	**211**	*e*PN	**Pn**	**15 25 35.6**	**+6.4**
KBL				pmax	pmax		
	comp=Z,28nm,0.5s						
MK31	**Makanchi Array**	**9.44**	**42**	P	**Pn**	**15 26 12.9**	**+2.7**
	comp=Z,2.1nm,0.6s,baz=229,slow=13,SNR=13						
MK31	**Makanchi Array**	**9.44**	**42**	*e*P	**Pn**	**15 26 13.3**	**+3.1**
MK31	**Makanchi Array**	**9.44**	**42**	*e*P	**Pn**	**15 26 13.3**	**+3.1**
MKAR	**Makanchi Array**	**9.44**	**42**	Pn	**Pn**	**15 26 09.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=223,slow=15,SNR=15						
MKAR				Lg		15 28 51.3	
	comp=Z,0.5nm,0.3s,baz=236,slow=26,SNR=5.7						
MKAR	**Makanchi Array**	**9.44**	**42**	Pn	**Pn**	**15 26 09.6**	**-0.6**
MKAR				Lg		15 28 51.3	
MKAR	**Makanchi Array**	**9.44**	**42**	P	**Pn**	**15 26 09.6**	**-0.6**
KURBB	**Kurchatov Arra**	**11.14**	**18**	⇓P	**Pn**	**15 26 33.3**	**-0.1**
	comp=Z,0.2nm,0.4s						
KURK	**Kurchatov**	**11.25**	**19**	Pn	**Pn**	**15 26 32.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=10						
KURK				Sn	**Sn**	**15 28 42.6**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=358,slow=17,SNR=3.2						
KURK				Lg		15 29 40.3	
	comp=Z,0.3nm,0.3s,baz=359,slow=16,SNR=5.0						
KURK	**Kurchatov**	**11.25**	**19**	*e*P	**Pn**	**15 26 34.9**	**0.0**
KURK				Sn	**Sn**	**15 28 42.6**	**+2.0**
KURK				Lg		15 29 40.3	
KURK	**Kurchatov**	**11.25**	**19**	*e*P	**Pn**	**15 26 34.9**	**0.0**
KURK						15 28 42.6	
AB31	**Akbulak array**	**12.97**	**319**	⇑P	**Pn**	**15 26 56.4**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=136,slow=11,SNR=24						
AB31	**Akbulak array**	**12.97**	**319**	P	**Pn**	**15 26 56.4**	**-2.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ABKAR	**Akbulak array**	**12.97**	**319**	*e*P	**Pn**	**15 26 56.0**	**-2.5**
	comp=Z,1.5nm,0.5s						
BVA0	**Borovoye Array**	**12.98**	**353**	P	**Pn**	**15 26 56.7**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=267,slow=45,SNR=14						
BVAR	**Borovoye Array**	**12.98**	**353**	Pn	**Pn**	**15 26 57.1**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=152,slow=13,SNR=11						
BVAR				Lg		15 30 45.3	
	comp=Z,0.5nm,0.3s,baz=157,slow=27,SNR=6.5						
BVAR	**Borovoye Array**	**12.98**	**353**	Pn	**Pn**	**15 26 57.1**	**-1.4**
BVAR				Lg		15 30 45.3	
BVAR	**Borovoye Array**	**12.98**	**353**	P	**Pn**	**15 26 57.1**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**13.02**	**353**	*e*P	**Pn**	**15 26 57.3**	**-1.8**
BRVK	**Borovoye**	**13.02**	**353**	*e*P	**Pn**	**15 26 57.3**	**-1.8**
AKTO	**Aktyubinsk**	**14.69**	**319**	⇓P	**Pn**	**15 27 20.4**	**-1.5**
	comp=Z,0.5nm,0.7s						
AKTO	**Aktyubinsk**	**14.69**	**319**	Pn	**Pn**	**15 27 22.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=123,slow=12,SNR=5.5						
AKTO	**Aktyubinsk**	**14.69**	**319**	Pn	**Pn**	**15 27 22.1**	**+0.3**
AKTO	**Aktyubinsk**	**14.69**	**319**	P	**Pn**	**15 27 22.1**	**+0.3**
ZAA0	**Zalesovo Array**	**15.92**	**26**	*e*P	**Pn**	**15 27 38.5**	**+0.4**
ZALV	**Zalesovo Beam**	**15.92**	**26**	Pn	**Pn**	**15 27 38.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=221,slow=11,SNR=9.0						
ZALV				Sn	**Sn**	**15 30 53.8**	**+19**
	comp=Z,0.1nm,0.3s,baz=232,slow=16,SNR=3.9						
ZALV	**Zalesovo Beam**	**15.92**	**26**	Pn	**Pn**	**15 27 38.3**	**+0.2**
ZALV				Sn	**Sn**	**15 30 53.9**	**+19**
ZALV	**Zalesovo Beam**	**15.92**	**26**	P	**Pn**	**15 27 38.3**	**+0.2**
SONM	**Songino Array**	**25.05**	**61**	P	**P**	**15 29 19.5**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.1,baz=280,slow=8.6,SNR=2.7						
SONM	**Songino Array**	**25.05**	**61**	P	**P**	**15 29 19.5**	**+1.0**
SONM	**Songino Array**	**25.05**	**61**	P	**P**	**15 29 19.5**	**+1.0**
BRTR	**Keskin Array B**	**30.02**	**282**	P	**P**	**15 30 04.0**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.6,baz=82,slow=8.6,SNR=4.7						
BRTR	**Keskin Array B**	**30.02**	**282**	P	**P**	**15 30 04.0**	**+0.9**
BRTR	**Keskin Array B**	**30.02**	**282**	P	**P**	**15 30 04.0**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**35.42**	**323**	P	**P**	**15 30 50.4**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=104,slow=5.9,SNR=4.8						
FINES	**FINESS Array B**	**35.42**	**323**	P	**P**	**15 30 50.4**	**+0.4**
FINES	**FINESS Array B**	**35.42**	**323**	P	**P**	**15 30 50.4**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**38.41**	**335**	P	**P**	**15 31 15.9**	**+0.6**
	comp=Z,1.4nm,0.6s,mb3.8,baz=105,slow=8.9,SNR=7.5						
ARCES	**ARCESS Array B**	**38.41**	**335**	P	**P**	**15 31 15.9**	**+0.6**
ARCES	**ARCESS Array B**	**38.41**	**335**	P	**P**	**15 31 15.9**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**42.20**	**302**	P	**P**	**15 31 48.5**	**+1.5**
	comp=Z,0.2nm,0.4s,mb3.1,baz=116,slow=12,SNR=3.8						
GERES	**GERESS Array B**	**42.20**	**302**	P	**P**	**15 31 48.5**	**+1.5**
GERES	**GERESS Array B**	**42.20**	**302**	P	**P**	**15 31 48.5**	**+1.5**
NB2	**NORSAR Subarra**	**42.47**	**321**	P	**P**	**15 31 48.8**	**-0.3**
	comp=Z,3.9nm,1.1s,mb4.0,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**42.47**	**321**	P	**P**	**15 31 48.7**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.6,baz=91,slow=8.2,SNR=4.3						
NOA	**NORSAR Array B**	**42.47**	**321**	P	**P**	**15 31 48.7**	**-0.4**
NOA	**NORSAR Array B**	**42.47**	**321**	P	**P**	**15 31 48.7**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**67.40**	**268**	P	**P**	**15 34 48.5**	**-1.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=44,slow=5.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**67.40**	**268**	P	**P**	**15 34 48.5**	**-1.5**
ILAR	**Eielson Array**	**70.81**	**17**	P	**P**	**15 35 10.7**	**+0.2**
	comp=Z,0.3nm,0.9s,mb3.2,baz=296,slow=4.6,SNR=4.6						
ILAR	**Eielson Array**	**70.81**	**17**	P	**P**	**15 35 10.7**	**+0.2**
ILAR	**Eielson Array**	**70.81**	**17**	P	**P**	**15 35 10.7**	**+0.2**
YKA	**Yellowknife Ar**	**77.50**	**4**	P	**P**	**15 35 49.0**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=351,slow=5.5,SNR=10.0						
YKA	**Yellowknife Ar**	**77.50**	**4**	P	**P**	**15 35 49.0**	**-0.5**
YKA	**Yellowknife Ar**	**77.50**	**4**	P	**P**	**15 35 49.0**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**85.11**	**126**	P	**P**	**15 36 21.9**	**-8.5**
	comp=Z,0.3nm,0.5s,mb3.7,baz=351,slow=12,SNR=11						
ASAR	**Alice Springs**	**85.11**	**126**	P	**P**	**15 36 21.9**	**-8.5**

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*DDA **10** 15:24:43.0, 38.02N×43.28E, h7km±2km, Md2.8*
*ISCJB **10** 15:24:43.9±0.6, 38.03N±0.03×43.26E±0.07, h9km±7km, Error ellipse: s-maj=9.0km s-min=4.3km az=166.0*
*ISK **10** 15:24:43.6, 38.05N×43.33E, h8km, MD3.0*
*CSEM **10** 15:24:43.6±0.2, 38.05N×43.27E, h8km, MD2.8, Error ellipse: s-maj=9.1km s-min=4.0km az=71.0*

ISC 10 15:24:44.4±0.6, 38.04N±0.03×43.26E±0.07, h8km±7km, n19, σ1=12/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.32**	**330**	*i* P	**Pg**	**15 24 49.5**	**-1.1**
GEVA				*i* S	**Sg**	**15 24 55.4**	**+0.6**
GEVA	**Gevas**	**0.32**	**330**	*i* P	**Pg**	**15 24 49.5**	**-1.1**
GEVA				*i* S	**Sg**	**15 24 55.4**	**+0.6**
TVAN	**Van**	**0.50**	**13**	*i* P	**Pg**	**15 24 53.0**	**-1.2**
TVAN				*i* S	**Sg**	**15 25 03.2**	**+2.4**
TVAN	**Van**	**0.50**	**13**	*i* P	**Pg**	**15 24 53.0**	**-1.2**
VANB	**Van**	**0.57**	**11**	*e*PG	**Pg**	**15 24 54.7**	**-0.7**
VANB				*e*SG	**Sg**	**15 25 02.8**	**0.0**
VANB	**Van**	**0.57**	**11**	*e*Pg	**Pg**	**15 24 54.7**	**-0.7**
VANB				*e*Sg	**Sg**	**15 25 02.8**	**0.0**
HAKT	**HAKKARI**	**0.60**	**143**	*i* P	**Pg**	**15 24 54.5**	**-1.5**
HAKT				*i* S	**Sg**	**15 25 05.8**	**+2.1**
HAKT	**HAKKARI**	**0.60**	**143**	*i* P	**Pg**	**15 24 54.5**	**-1.4**
HAKT				*i* S	**Sg**	**15 25 05.8**	**+2.1**
CUKT	**Cukurca**	**0.84**	**160**	*e*PG	**Pg**	**15 24 59.9**	**-0.6**
CUKT				*e*SG	**Sg**	**15 25 11.8**	**+0.5**
CUKT	**Cukurca**	**0.84**	**160**	*e*Pg	**Pg**	**15 24 59.9**	**-0.6**
CUKT				*e*Sg	**Sg**	**15 25 11.8**	**+0.4**
CLDR	**Caldiran**	**1.22**	**25**	*e*PN	**Pn**	**15 25 07.0**	**-0.8**
CLDR	**Caldiran**	**1.22**	**25**	*e*Pn	**Pn**	**15 25 07.0**	**-0.7**
AGRB	**Hanur-Agry**	**1.55**	**352**	*e*PN	**Pn**	**15 25 12.0**	**-0.3**
AGRB	**Hanur-Agry**	**1.55**	**352**	*e*Pn	**Pn**	**15 25 12.0**	**-0.3**
BEST	**Besiri**	**1.58**	**265**	*i* P	**Pn**	**15 25 12.9**	**+0.3**
BEST				*i* S	**Sn**	**15 25 35.6**	**+2.4**
MARD	**Mardin**	**2.09**	**251**	*i* P	**Pn**	**15 25 19.5**	**-0.3**
MARD				*i* S	**Sn**	**15 25 44.2**	**-1.8**
BNGB	**Bing¨¶l**	**2.23**	**296**	*e*PN	**Pn**	**15 25 22.5**	**+0.8**
BINT	**Bingol**	**2.33**	**292**	*e*Pn	**Pn**	**15 25 22.5**	**-0.5**
EZM	**Erzurum**	**2.38**	**322**	*e*PN	**Pn**	**15 25 24.4**	**+0.7**

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*IDC **10** 15:26:52.1±2.9, 8.99S×108.01E, h0km, mb3.7/7, mb1 3.8/7, mb

0.4nm,0.3s,baz=291,slow=13,SNR=4.8
CPUP Villa Florida 10.40 127 P **Pn 15 54 09.7 -0.1**
CFAA Coronel Fontan 11.39 187 P **Pn 15 54 22.8 +0.6**
0.1nm,0.3s,baz=352,slow=13,SNR=12
CFAA Coronel Fontan 11.39 187 P **Pn 15 54 22.8 +0.6**
PLCA Paso Flores 20.68 189 P **P 15 56 06.7 -0.9**
4.5nm,0.7s,baz=3.6,slow=12,SNR=14
PLCA Paso Flores 20.68 189 *eP* **P 15 56 06.9 -0.7**
3.7nm,0.6s
RCBR Riachuelo 33.04 68 P **P 15 58 00.3 +1.2**
8.2nm,0.7s,mb4.4,baz=253,slow=10.0,SNR=7.9
RCBR Riachuelo 33.04 68 *eP* **P 15 58 00.5 +1.4**
9.9nm,0.8s,mb4.4
TXAR Lajitas Array 60.93 323 P **P 16 01 33.2 -0.5**
0.5nm,0.6s,mb3.3,baz=151,slow=8.0,SNR=3.5
TXAR Lajitas Array 60.93 323 P **P 16 01 33.2 -0.5**
DBIC Dimbokro 66.27 73 P **P 16 02 08.1 -0.7**
1.5nm,0.8s,mb3.7
PDAR Pinedale Array 74.18 329 P **P 16 02 56.1 +0.1**
0.8nm,0.5s,mb3.6,baz=122,slow=9.0,SNR=9.0
PDAR Pinedale Array 74.18 329 P **P 16 02 56.1 +0.1**
TORD Torodi Ar. Bea 74.86 70 P **P 16 02 59.8 -0.8**
2.5nm,0.4s,mb4.2,baz=251,slow=5.8,SNR=48
TORD Torodi Ar. Bea 74.86 70 P **P 16 02 59.8 -0.8**
NVAR Mina Array Bea 75.92 321 P **P 16 03 07.3 +1.3**
1.0nm,0.8s,mb3.5,baz=168,slow=7.0,SNR=7.4
NVAR Mina Array Bea 75.92 321 P **P 16 03 07.3 +1.3**
YKA Yellowknife Ar 90.78 340 P **P 16 04 20.9 -0.2**
0.7nm,0.7s,mb3.7,baz=131,slow=4.6,SNR=9.0
YKA Yellowknife Ar 90.78 340 P **P 16 04 20.9 -0.2**
ASAR Alice Springs 132.00 206 PKP PKPdf 16 10 30.4 -1.0
0.3nm,0.6s,baz=142,slow=1.8,SNR=6.3
ASAR SKPbc SKPbc 16 13 33.6 -0.7
0.3nm,0.5s,baz=144,slow=3.6,SNR=5.5
ASAR Alice Springs 132.00 206 PKP PKPdf 16 10 30.4 -1.0
ASAR SKPbc SKPbc 16 13 33.6 -0.7
WRA Warramunga Arr 135.10 208 PKP PKPdf 16 10 37.7 +0.5
0.3nm,0.4s,baz=161,slow=1.4,SNR=4.6
WRA SKPbc SKPbc 16 13 45.4 +0.6
0.3nm,0.7s,baz=146,slow=2.5,SNR=3.1
WRA Warramunga Arr 135.10 208 PKP PKPdf 16 10 37.7 +0.5
WRA SKPbc SKPbc 16 13 45.4 +0.6
ZALV Zalesovo Beam 139.90 26 PKP PKPdf 16 10 45.9 +0.9
1.1nm,0.5s,baz=286,slow=2.2,SNR=6.7
ZALV Zalesovo Beam 139.90 26 PKP PKPdf 16 10 45.9 +0.9
MKAR Makanchi Array 143.34 37 PKP PKPdf 16 10 49.6 -1.8
0.2nm,0.6s,baz=4.5,slow=2.5,SNR=4.9
MKAR Makanchi Array 143.34 37 PKP PKPdf 16 10 49.6 -1.8
SONM Songino Array 151.91 10 PKPbc PKPbc 16 11 12.6 +0.6
0.6nm,0.4s,baz=294,slow=1.3,SNR=7.4
SONM PKPab PKPab 16 11 20.0 -2.2
0.2nm,0.3s,baz=282,slow=0.8,SNR=3.1
SONM Songino Array 151.91 10 PKPbc PKPbc 16 11 12.6 +0.6
SONM PKPab PKPab 16 11 20.0 -2.2

*JMA **10** 16:00:15.7±0.2,30.°15N×138.°98E,h482km,M3.5*
*ISCJB **10** 16:00:17.4±0.6,30.°18N±0.°06×138.°9E±0.°1,h444km±7km, mb3.2/9, Error ellipse: s-maj=17.9km s-min=8.7km az=161.6*
*IDC **10** 16:00:17.5±1.0,30.°13N×138.°73E,h426km±13km,mb2.9/7, mb1 3.0/10,mb1mx2.9/25,mbtmp3.0/10, Error ellipse: s-maj=29.3km s-min=15.7km az=58.0*
*NEIC **10** 16:00:18.1±0.7,30.°12N×138.°74E,h433km±8km,mb3.4/3, Error ellipse: s-maj=19.0km s-min=11.6km az=51.0*
ISC 10 16:00:18.4±0.6,30.°19N±0.°06×138.°9E±0.°1,h439km±7km, **n39,**σ1°**01/49,mb3.2/9,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.02**	**15**	P	**P**	**16 01 27.1**	**+2.5**
CBIJ	**Chichi jima**	**4.22**	**136**	P	**P**	**16 01 34.7**	**-0.2**
	26nm,0.3s,baz=231,slow=19,SNR=24						
CBIJ				S	**S**	**16 02 35.5**	**-1.6**
	17nm,0.3s,baz=284,slow=23,SNR=10						
CBIJ	**Chichi jima**	**4.22**	**136**	P	**P**	**16 01 34.7**	**-0.2**
CBIJ				S	**S**	**16 02 35.5**	**-1.6**
CBIJ	**Chichi jima**	**4.22**	**136**	P	**P**	**16 01 34.8**	**-0.1**
CBIJ				*eS*	**S**	**16 02 35.3**	**-1.7**
JWZ	**Kozaga**	**4.30**	**322**	P	**P**	**16 01 36.2**	**+0.7**
JIE	**Ise**	**4.59**	**337**	P	**P**	**16 01 39.5**	**+1.4**
BSO1	**Boso 1**	**4.78**	**21**	P	**P**	**16 01 40.3**	**+0.3**
BSO1				*eS*	**S**	**16 02 46.2**	**-0.4**
BSO3	**Boso 3**	**4.79**	**16**	*eS*	**S**	**16 02 45.3**	**-1.5**
BSO4	**Boso 4**	**4.94**	**14**	*eS*	**S**	**16 02 51.7**	**+2.4**
JOD2	**Odawara 2**	**5.06**	**2**	*eS*	**S**	**16 02 51.7**	**+0.2**
JNY	**Yasuok**	**5.23**	**351**	P	**P**	**16 01 46.1**	**+1.7**
JHU	**Hanno**	**5.66**	**3**	P	**P**	**16 01 48.6**	**-0.1**
JHU				*eS*	**S**	**16 02 57.0**	**-5.4**
JRY	**Ryogami san**	**5.81**	**360**	P	**P**	**16 01 50.7**	**+0.5**
JYT	**Yasato**	**6.12**	**10**	P	**P**	**16 01 54.1**	**+0.7**
JYT				S	**S**	**16 03 06.8**	**-4.3**
JAG	**Ashikaga**	**6.24**	**4**	P	**P**	**16 01 53.7**	**-0.9**
JAG				S	**S**	**16 03 07.4**	**-5.9**
MJAR	**Matsushiro Arr**	**6.36**	**355**	P	**P**	**16 01 55.7**	**-0.2**
	1.2nm,0.3s,baz=174,slow=11,SNR=12						
MJAR				S	**S**	**16 03 14.0**	**-1.7**
	0.3nm,0.3s,baz=158,slow=18,SNR=3.8						
MJAR	**Matsushiro Arr**	**6.36**	**355**	P	**P**	**16 01 55.7**	**-0.2**
MJAR				S	**S**	**16 03 14.0**	**-1.7**
MAJO	**Matsushiro**	**6.37**	**355**	*eP*	**P**	**16 01 55.9**	**-0.1**
	5.2nm,0.5s						
MAT	**Matsushiro**	**6.37**	**355**	P	**P**	**16 01 55.9**	**-0.1**
MAT				*eS*	**S**	**16 03 13.0**	**-2.8**
JHO	**Hitachi**	**6.55**	**12**	P	**P**	**16 01 58.6**	**+0.6**
KSRS	**Korea Array**	**11.65**	**311**	P	**P**	**16 02 53.5**	**0.0**
	0.5nm,0.3s,baz=127,slow=10,SNR=13						
KSAR	**Wonju Array Be**	**11.67**	**311**	P	**P**	**16 02 53.5**	**-0.2**
ULN	**Ulaanbaatar**	**30.11**	**315**	*eP*	**P**	**16 05 50.0**	**-0.2**
	0.6nm,0.4s,mb3.3						
SONM	**Songino Array**	**30.50**	**314**	P	**P**	**16 05 53.4**	**-0.2**
	0.3nm,0.4s,mb3.0,baz=122,slow=7.0,SNR=5.7						
SONM	**Songino Array**	**30.50**	**314**	P	**P**	**16 05 53.4**	**-0.2**
ZALV	**Zalesovo Beam**	**45.27**	**318**	P	**P**	**16 07 54.4**	**-0.5**
	0.4nm,0.3s,mb3.2,baz=78,slow=8.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**45.27**	**318**	P	**P**	**16 07 54.4**	**-0.5**
MK31	**Makanchi Array**	**46.30**	**307**	*eP*	**P**	**16 08 02.2**	**-0.6**
MKAR	**Makanchi Array**	**46.30**	**307**	P	**P**	**16 08 02.1**	**-0.8**
	0.5nm,0.6s,mb3.0,baz=83,slow=9.9,SNR=5.7						
MKAR	**Makanchi Array**	**46.30**	**307**	P	**P**	**16 08 02.1**	**-0.8**
BRVK	**Borovoye**	**53.89**	**316**	P	**P**	**16 08 58.9**	**+0.1**
	0.6nm,0.4s,mb3.2						
ILAR	**Eielson Array**	**56.42**	**30**	P	**P**	**16 09 18.3**	**+1.9**
	0.1nm,0.5s,mb2.4,baz=260,slow=5.3,SNR=4.7						
ILAR	**Eielson Array**	**56.42**	**30**	P	**P**	**16 09 18.3**	**+1.9**
ARCES	**ARCESS Array B**	**69.67**	**340**	P	**P**	**16 10 42.1**	**0.0**
	0.7nm,0.4s,mb3.5,baz=72,slow=9.1,SNR=7.9						
ARCES	**ARCESS Array B**	**69.67**	**340**	P	**P**	**16 10 42.1**	**0.0**
FINES	**FINESS Array B**	**73.90**	**333**	P	**P**	**16 11 06.7**	**-0.3**
	5.5nm,1.1s,mb4.1,baz=82,slow=5.1,SNR=7.7						
FINES	**FINESS Array B**	**73.90**	**333**	P	**P**	**16 11 06.7**	**-0.3**
BRTR	**Keskin Array B**	**81.80**	**311**	P	**P**	**16 11 50.5**	**+0.2**
	0.5nm,0.7s,mb3.3,baz=83,slow=5.1,SNR=2.8						
BRTR	**Keskin Array B**	**81.80**	**311**	P	**P**	**16 11 50.5**	**+0.2**

IDC 10 16:02:28.2±1.9,1.°82N×128.°17E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.5/17,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=104.6km s-min=22.8km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.95**	**187**	P	Pn	16 07 03.6	0.0
	0.1nm,0.3s,baz=4.4,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**22.46**	**165**	P	P	16 07 29.1	0.0
	1.6nm,0.4s,baz=343,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.94**	**168**	P	P	16 08 01.4	-1.0
	0.2nm,0.4s,baz=343,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**59.93**	**325**	P	P	16 12 36.4	+0.2
	0.3nm,0.3s,baz=108,slow=7.6,SNR=12						

*IDC **10** 16:05:30.1±2.8,22.°97S×171.°55E,h0km,mb4.1/6, mb1 4.4/6,mb1mx4.1/15,mbtmp4.1/6,MS4.3/1,Ms1 4.3/1, ms1mx3.4/20, Error ellipse: s-maj=136.6km s-min=27.5km az=160.0*
*ISCJB **10** 16:05:32.3±3.7,22.°8S±0.°3×171.°48E±0.°09,h23km±24km, mb4.2/9, Error ellipse: s-maj=45.0km s-min=11.0km az=169.9*
*NEIC **10** 16:05:35.4±1.2,22.°89S×171.°52E,h35km,mb4.4/3, Error ellipse: s-maj=47.4km s-min=10.3km az=160.0*

ISC 10 16:05:34.8±3.8,22.°9S±0.°3×171.°49E±0.°09,h28km±26km, **n26,**σ0°**78/22,mb4.2/9,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUM	**Mont Dore**	**4.53**	**277**	*eP*	**Pn**	**16 06 42.1**	**+0.7**
DZM	**Mont Dzumac**	**4.74**	**279**	*eP*	**Pn**	**16 06 44.3**	**-0.1**
NOUC	**Port Laguerre**	**4.86**	**278**	*eP*	**Pn**	**16 06 46.8**	**+0.7**
NOUC				*eS*	**Sn**	**16 07 40.8**	**-0.7**
MSVF	**Nonsavu**	**8.00**	**51**	P	**Pn**	**16 07 28.5**	**-0.7**
	24nm,1.0s						
PMG	**Port Moresby**	**26.88**	**296**	LR	LR	16 18 48.5	
	comp=Z,559nm,18.5s,baz=300,slow=30						
COEN	**Coen**	**28.25**	**283**	*eP*	**P**	**16 11 26.7**	**+0.9**
	35nm,0.9s,mb5.0						
AS31	**Alice Springs**	**34.48**	**261**	*eP*	**P**	**16 12 20.9**	**+0.4**
ASAR	**Alice Springs**	**34.48**	**261**	P	**P**	**16 12 20.4**	**0.0**
	1.1nm,0.7s,mb3.9,baz=93,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**34.48**	**261**	P	**P**	**16 12 20.4**	**0.0**
WB2	**Warramunga Arr**	**34.65**	**268**	*eP*	**P**	**16 12 21.0**	**-1.0**
WRAB	**Tennant Creek**	**34.65**	**268**	*eP*	**P**	**16 12 20.8**	**-1.2**
	0.7nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**34.66**	**268**	P	**P**	**16 12 21.1**	**-0.9**
	0.6nm,0.5s,mb3.8,baz=98,slow=8.2,SNR=9.2						
WRA	**Warramunga Arr**	**34.66**	**268**	P	**P**	**16 12 21.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**43.09**	**268**	P	**P**	**16 13 32.4**	**-0.3**
	4.0nm,0.9s,mb4.2,baz=124,slow=9.8,SNR=6.9						
FITZ	**Fitzroy Crossi**	**43.09**	**268**	*eP*	**P**	**16 13 32.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**81.90**	**294**	P	**P**	**16 17 53.8**	**+1.7**
	2.2nm,0.7s,mb4.2,baz=134,slow=4.0,SNR=22						
CMAR	**Chiang Mai Arr**	**81.90**	**294**	P	**P**	**16 17 53.8**	**+1.7**
CHTO	**Chiang Mai**	**82.06**	**294**	*eP*	**P**	**16 17 53.7**	**+0.7**
	2.9nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**89.65**	**48**	P	**P**	**16 18 30.4**	**+0.3**
	1.4nm,0.7s,mb4.4,baz=227,slow=8.6,SNR=15						
NVAR	**Mina Array Bea**	**89.65**	**48**	P	**P**	**16 18 30.4**	**+0.2**
SONM	**Songino Array**	**91.37**	**322**	P	**P**	**16 18 37.4**	**-0.5**
	0.9nm,0.8s,mb4.2,baz=151,slow=3.5,SNR=7.1						
SONM	**Songino Array**	**91.37**	**322**	P	**P**	**16 18 37.4**	**-0.5**
CLL	**Collm**	**147.08**	**335**	*e*PKPbc	PKPbc	16 25 15.0	+0.2
KHC	**Kasperske Hory**	**148.51**	**332**	*e*PKP	PKPdf	16 25 17.5	+2.4
GERES	**GERESS Array B**	**148.67**	**331**	PKPbc	PKPbc	16 25 18.8	-0.4
	1.3nm,0.7s,baz=17,slow=1.4,SNR=8.3						
GERES	**GERESS Array B**	**148.67**	**331**	PKPbc	PKPbc	16 25 18.8	-0.4

*ISCJB **10** 16:30:59.2±0.8,36.°4S±0.°1×99.°7W±0.°2,h10km,mb4.2/13, MS4.0/11, Error ellipse: s-maj=19.2km s-min=14.6km az=150.9*
*IDC **10** 16:30:59.3±1.0,36.°3S×99.°75W,h0km,mb4.2/11, mb1 4.5/11,mb1mx4.4/18,mbtmp4.2/11,MS4.0/12, Ms1 3.9/12,ms1mx3.9/19, Error ellipse: s-maj=27.0km s-min=19.7km az=60.0*
*NEIC **10** 16:31:01.4±0.9,36.°32S×99.°56W,h10km,mb4.6/5, Error ellipse: s-maj=22.8km s-min=15.6km az=50.0*
ISC 10 16:31:01.3±0.8,36.°4S±0.°1×99.°7W±0.°2,h10km, **n32,** σ1°**09/25,mb4.2/13,MS4.0/11,1D,Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**12.37**	**316**	LR	LR	16 37 10.4	
	comp=Z,812nm,21.0s,baz=146,slow=30						
PLCA	**Paso Flores**	**23.11**	**110**	P	**P**	**16 36 08.1**	**+0.8**
	6.0nm,0.8s,mb4.0,baz=266,slow=9.9,SNR=7.7						
PLCA				LR	LR	16 42 56.2	
	comp=Z,195nm,19.0s,MS3.6,baz=289,slow=31						
PLCA	**Paso Flores**	**23.11**	**110**	*eP*	**P**	**16 36 06.1**	**-1.3**
	16nm,1.1s,mb4.4						
LCO	**Las Campanas**	**25.39**	**81**	*eP*	**P**	**16 36 28.2**	**-0.6**
	24nm,1.1s,mb4.6						
CFAA	**Coronel Fontan**	**26.42**	**89**	P	**P**	**16 36 37.8**	**-0.3**
	0.6nm,0.6s,mb3.3,baz=246,slow=9.0,SNR=8.8						
CFAA				LR	LR	16 44 33.9	
	comp=Z,16nm,21.5s,baz=68,slow=31						
CFAA	**Coronel Fontan**	**26.42**	**89**	P	**P**	**16 36 37.8**	**-0.3**
USHA	**Ushuaia**	**28.23**	**141**	P	**P**	**16 36 55.1**	**+1.0**
	19nm,1.1s,mb4.6,baz=264,slow=9.5,SNR=3.0						
USHA				LR	LR	16 45 26.5	
	comp=Z,602nm,18.9s,MS4.2,baz=205,slow=31						
USHA	**Ushuaia**	**28.23**	**141**	P	**P**	**16 36 55.1**	**+1.0**
LPAZ	**La Paz**	**34.40**	**63**	P	**P**	**16 37 48.8**	**+0.1**
	12nm,1.1s,mb4.7,baz=220,slow=7.2,SNR=20						
LPAZ				LR	LR	16 48 25.2	
	comp=Z,148nm,18.6s,MS3.8,baz=213,slow=30						
LPAZ	**La Paz**	**34.40**	**63**	*eP*	**P**	**16 37 48.8**	**0.0**
	19nm,1.2s,mb4.9						
ATAH	**Atahualpa**	**35.01**	**39**	P	**P**	**16 37 54.2**	**+0.1**
	15nm,0.8s,mb5.0,baz=220,slow=4.5,SNR=11						
ATAH				LR	LR	16 47 23.3	
	comp=Z,46nm,21.7s,MS3.2,baz=188,slow=28						
ATAH	**Atahualpa**	**35.01**	**39**	P	**P**	**16 37 54.2**	**+0.1**
PMSA	**Palmer Station**	**35.42**	**154**	LR	LR	16 48 32.8	
	comp=Z,340nm,18.1s,MS4.1,baz=264,slow=30						
CPUP	**Villa Florida**	**37.26**	**87**	P	**P**	**16 38 13.9**	**+0.7**
	2.5nm,0.8s,mb4.1,baz=226,slow=11,SNR=3.4						
CPUP				LR	LR	16 50 28.8	
	comp=Z,79nm,21.6s,MS3.5,baz=54,slow=31						
CPUP	**Villa Florida**	**37.26**	**87**	P	**P**	**16 38 13.9**	**+0.7**
ROSC	**El Rosal**	**47.39**	**35**	LR	LR	16 56 00.5	
	comp=Z,129nm,20.3s,MS3.9,baz=209,slow=32						
QSPA	**South Pole Qui**	**53.81**	**180**	P	**P**	**16 40 24.2**	**+0.7**
	3.5nm,0.9s,mb4.3,baz=119,slow=3.9,SNR=9.5						
QSPA	**South Pole Qui**	**53.81**	**180**	*eP*	**P**	**16 40 24.3**	**+0.7**
	8.9nm,1.3s,mb4.5						
TXAR	**Lajitas Array**	**65.49**	**356**	P	**P**	**16 41 45.1**	**+0.6**
	0.4nm,0.6s,mb3.6,baz=187,slow=8.8,SNR=5.0						
TXAR	**Lajitas Array**	**65.49**	**356**	P	**P**	**16 41 45.1**	**+0.6**
SYO	**Syowa Base**	**70.67**	**166**	*eP*	**P**	**16 42 14.8**	**-1.9**
MAW	**Mawson**	**75.47**	**173**	LR	LR	17 12 28.1	
	comp=Z,73nm,18.1s,MS4.0,baz=329,slow=33						
NVAR	**Mina Array Bea**	**76.43**	**345**	P	**P**	**16 42 50.1**	**-0.6**
	0.8nm,0.7s,mb3.8,baz=172,slow=7.0,SNR=8.9						
NVAR	**Mina Array Bea**	**76.43**	**345**	P	**P**	**16 42 50.1**	**-0.6**
PDAR	**Pinedale Array**	**79.31**	**353**	P	**P**	**16 43 04.3**	**-2.3**
	1.7nm,0.9s,mb4.0,baz=160,slow=4.7,SNR=6.1						
PDAR	**Pinedale Array**	**79.31**	**353**	P	**P**	**16 43 04.3**	**-2.3**
HLID	**Hailey**	**80.71**	**349**	*eP*	**P**	**16 43 16.7**	**+2.5**
	5.5nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**91.13**	**228**	LR	LR	17 17 00.8	
	comp=Z,124nm,21.0s,MS4.3,baz=79,slow=30						
SCHQ	**Schefferville**	**95.14**	**18**	LR	LR	17 27 03.1	
	comp=Z,204nm,18.0s,MS4.6,baz=217,slow=35						
BOSA	**Boshof**	**97.15**	**133**	LR	LR	17 18 27.6	
	comp=Z,92nm,21.4s,MS4.2,baz=74,slow=29						
YKA	**Yellowknife Ar**	**99.29**	**353**	P	**P**	**16 44 42.9**	**+0.3**
	0.3nm,0.8s,mb3.9,baz=173,slow=4.4,SNR=3.8						
YKA	**Yellowknife Ar**	**99.29**	**353**	P	**P**	**16 44 42.9**	**+0.3**

*IDC **10** 16:38:00.8±2.2,19.°09S×175.°59W,h177km±20km, mb4.0/13,mb1 4.1/14,mb1mx3.9/21,mbtmp3.9/14, Error ellipse: s-maj=20.6km s-min=13.0km az=132.0*
*NEIC **10** 16:38:08.8±1.9,19.°24S×175.°71W,h252km±15km, mb4.5/4, Error ellipse: s-maj=16.9km s-min=13.3km az=114.0*
ISC 10 16:38:07.7±1.9,19.°22S±0.°08×175.°7W±0.°1,h242km±15km, **n46,**σ0°**93/45,mb4.1/15,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.16**	**283**	*eP*	**Pn**	**16 39 38.9**	**+1.2**
	39nm,1.0s						
AFI	**Afiamalu**	**6.45**	**36**	P	**Pn**	**16 39 31.2**	**-10**
	5.9nm,0.3s,baz=221,slow=21,SNR=7.7						
AFI				S	Sx	16 40 36.1	
	7.0nm,0.3s,baz=241,slow=20,SNR=5.6						
AFI	**Afiamalu**	**6.45**	**36**	P	**Pn**	**16 39 31.2**	**-10**
AFI				S	Sx	16 40 36.1	
URZ	**Urewera**	**20.00**	**197**	P	**P**	**16 42 21.4**	**-0.7**
	4.6nm,0.3s,baz=303,slow=3.1,SNR=16						
URZ				S	**S**	**16 45 53.6**	**+0.2**
	6.8nm,0.9s,baz=291,slow=23,SNR=3.8						
URZ	**Urewera**	**20.00**	**197**	P	**P**	**16 42 21.4**	**-0.7**
URZ				S	**S**	**16 45 53.6**	**+0.2**
ARMA	**Armidale**	**31.61**	**243**	*eP*	**P**	**16 44 08.9**	**+0.7**
CTA	**Charters Tower**	**35.83**	**262**	P	**P**	**16 44 44.6**	**-0.1**
	20nm,0.6s,mb4.8,baz=96,slow=9.9,SNR=32						
CTA	**Charters Tower**	**35.83**	**262**	*eP*	**P**	**16 44 44.4**	**-0.3**
	15nm,0.9s,mb4.5						
CTA	**Charters Tower**	**35.83**	**262**	P	**P**	**16 44 44.6**	**0.0**
CTAO	**Charters Tower**	**35.83**	**262**	*eP*	**P**	**16 44 44.7**	**0.0**
	9.3nm,0.4s,mb4.7						
PMG	**Port Moresby**	**37.26**	**280**	P	**P**	**16 44 57.2**	**+0.4**
	9.9nm,0.8s,mb4.4,baz=100,slow=5.1,SNR=3.9						
PMG	**Port Moresby**	**37.26**	**280**	P	**P**	**16 44 57.2**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**39.74**	**271**	*eP*	**P**	**16 45 16.6**	**-0.7**
	28nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**40.33**	**243**	P	**P**	**16 45 22.4**	**+0.3**
	1.7nm,0.4s,mb3.9,baz=71,slow=8.3,SNR=8.2						
STKA	**Stephens Creek**	**40.33**	**243**	*eP*	**P**	**16 45 22.4**	**+0.4**
	1.5nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**40.33**	**243**	*eP*	**P**	**16 45 22.4**	**+0.4**
WB2	**Warramunga Arr**	**46.97**	**260**	*eP*	**P**	**16 46 13.8**	**-1.2**
AS31	**Alice Springs**	**46.97**	**255**	*eP*	**P**	**16 46 14.2**	**-0.7**
WRAB	**Tennant Creek**	**46.97**	**260**	*eP*	**P**	**16 46 13.0**	**-1.9**
	6.5nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**46.97**	**255**	P	**P**	**16 46 14.2**	**-0.6**
	20nm,0.6s,mb4.6,baz=93,slow=8.4,SNR=303						
ASAR				PcP	PcP	16 47 43.4	+0.1
	1.2nm,0.8s,baz=96,slow=3.6,SNR=5.8						
ASAR				S	**S**	**16 52 49.2**	**+1.5**
	0.6nm,1.0s,baz=184,slow=28,SNR=4.1						
ASAR	**Alice Springs**	**46.97**	**255**	P	**P**	**16 46 14.2**	**-0.6**
ASAR				PcP	PcP	16 47 43.4	+0.1
ASAR				S	**S**	**16 52 49.2**	**+1.5**
WRA	**Warramunga Arr**	**46.98**	**260**	P	**P**	**16 46 14.1**	**-0.9**
	6.8nm,0.4s,mb4.3,baz=97,slow=5.8,SNR=175						
WRA				S	**S**	**16 52 53.3**	**+5.5**
	0.6nm,1.0s,baz=101,slow=21,SNR=2.8						
WRA	**Warramunga Arr**	**46.98**	**260**	P	**P**	**16 46 14.1**	**-0.9**
WRA				S	**S**	**16 52 53.3**	**+5.5**
FITZ	**Fitzroy Crossi**	**55.40**	**261**	*eP*	**P**	**16 47 17.2**	**-0.2**
	3.9nm,0.3s,mb4.4						
MJAR	**Matsushiro Arr**	**70.53**	**322**	P	**P**	**16 48 56.0**	**-0.4**
	4.3nm,0.6s,mb4.3,baz=167,slow=6.3,SNR=18						
MJAR	**Matsushiro Arr**	**70.53**	**322**	P	**P**	**16 48 56.0**	**-0.4**
MAT	**Matsushiro**	**70.53**	**322**	P	**P**	**16 48 56.1**	**-0.3**
QSPA	**South Pole Qui**	**70.85**	**180**	P	**P**	**16 48 59.3**	**+1.6**
	1.0nm,0.8s,mb3.5,baz=70,slow=2.2,SNR=6.3						
QSPA	**South Pole Qui**	**70.85**	**180**	P	**P**	**16 48 59.3**	**+1.6**
PETK	**Petropavlovsk-**	**75.63**	**344**	P	**P**	**16 49 25.3**	**-0.5**
	4.2nm,0.7s,mb4.2,baz=152,slow=9.4,SNR=4.4						
PETK	**Petropavlovsk-**	**75.63**	**344**	P	**P**	**16 49 25.3**	**-0.5**
KSRS	**Korea Array**	**77.42**	**317**	P	**P**	**16 49 37.5**	**+1.2**
	2.5nm,0.7s,mb4.0,baz=123,slow=6.2,SNR=8.0						
KSAR	**Wonju Array Be**	**77.44**	**317**	P	**P**	**16 49 37.5**	**+1.1**
NVAR	**Mina Array Bea**	**78.58**	**42**	P	**P**	**16 49 42.9**	**+0.2**
	0.6nm,0.7s,mb3.3,baz=198,slow=5.6,SNR=3.6						
NVAR	**Mina Array Bea**	**78.58**	**42**	P	**P**	**16 49 42.9**	**+0.2**
ILAR	**Eielson Array**	**86.59**	**12**	P	**P**	**16 50 22.1**	**-1.1**
	0.4nm,0.6s,mb3.3,baz=220,slow=5.4,SNR=6.0						
ILAR	**Eielson Array**	**86.59**	**12**	P	**P**	**16 50 22.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**91.78**	**289**	P	**P**	**16 50 50.1**	**+1.5**
	1.2nm,0.9s,mb3.8,baz=116,slow=3.0,SNR=9.6						
CMAR	**Chiang Mai Arr**	**91.78**	**289**	P	**P**	**16 50 50.1**	**+1.5**
ARCES	**ARCESS Array B**	**128.04**	**351**	PKP	PKPdf	16 56 44.1	0.0
	4.2nm,1.1s,baz=22,slow=1.3,SNR=9.6						
ARCES	**ARCESS Array B**	**128.04**	**351**	PKP	PKPdf	16 56 44.1	0.0
CLL	**Collm**	**147.25**	**350**	*e*PKPbc	PKPbc	16 57 22.0	-0.4
BRTR	**Keskin Array B**	**147.55**	**315**	PKPbc	PKPbc	16 57 23.8	+0.2
	1.9nm,0.9s,baz=140,slow=4.9,SNR=8.8						
BRTR	**Keskin Array B**	**147.55**	**315**	PKPbc	PKPbc	16 57 23.8	+0.2
GERES	**GERESS Array B**	**149.49**	**348**	PKPbc	PKPbc	16 57 28.5	+0.4
	0.9nm,0.9s,baz=171,slow=10,SNR=4.0						
GERES	**GERESS Array B**	**149.49**	**348**	PKPbc	PKPbc	16 57 28.6	+0.4

*IDC **10** 17:01:31.1±1.3,3.°75N×95.°86E,h0km,mb3.9/8,mb1 3.9/8, mb1mx3.7/21,mbtmp3.9/8, Error ellipse: s-maj=59.3km s-min=19.0km az=54.0*
*NEI

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	Tophouse	13.52	218	PN	Pn	17 41 14.0	-0.5
THZ				eSN	Sn	17 43 35.9	-7.4
MQZ	McQueen's Vall	15.08	213	eSN	Sn	17 44 10.6	-11
RPZ	Rata Peaks	15.87	216	Pn	Pn	17 41 46.0	+0.2
	1.1nm,0.3s,baz=61,slow=5.2,SNR=5.2						
RPZ	Rata Peaks	15.87	216	Pn	Pn	17 41 46.0	+0.2
STKA	Stephens Creek	35.89	258	P	P	17 45 02.5	+0.5
	1.8nm,0.8s,mb4.0,baz=117,slow=11,SNR=2.2						
STKA	Stephens Creek	35.89	258	P	P	17 45 02.5	+0.5
AS31	Alice Springs	44.75	267	eP	P	17 46 17.4	+1.9
ASAR	Alice Springs	44.75	267	P	P	17 46 15.1	-0.4
	0.5nm,0.6s,mb3.5,baz=106,slow=7.2,SNR=12						
ASAR	Alice Springs	44.75	267	P	P	17 46 15.1	-0.4
WB2	Warramunga Arr	45.83	272	eP	P	17 46 23.8	-0.3
WRAB	Tennant Creek	45.84	272	P	P	17 46 21.0	-3.1
	1.1nm,0.8s,mb3.8						
WRA	Warramunga Arr	45.84	272	P	P	17 46 23.4	-0.8
	0.4nm,0.3s,mb3.8,baz=111,slow=8.1,SNR=5.5						
WRA	Warramunga Arr	45.84	272	P	P	17 46 23.4	-0.8
FINES	FINESS Array B	146.79	341	PKPbc	PKPbc	17 57 46.7	+3.8
	2.7nm,0.7s,baz=46,slow=4.0,SNR=6.2						
FINES	FINESS Array B	146.79	341	PKPbc	PKPbc	17 57 46.7	+3.8
TORD	Torodi Ar. Bea	161.57	173	PKPab	PKPab	17 58 55.7	+8.1
	0.3nm,0.6s,baz=173,slow=3.1,SNR=3.6						
TORD	Torodi Ar. Bea	161.57	173	PKPab	PKPab	17 58 55.7	+8.1

*ATH **10** 17:43:40.9, 37.°93N×20.°09E, h7km±1km, MD3.5/14, ML3.4*
*CSEM **10** 17:43:42.7±0.3, 38.°00N×20.°14E, h2km, ML3.5/11, Error ellipse: s-maj=6.2km s-min=3.7km az=41.0*
*BEO **10** 17:43:43.8±1.2, 38.°07N×20.°12E, h0km, ML3.6/3*
*THE **10** 17:43:43.8, 37.°96N×20.°19E, h0km±2km, ML3.5/11, Error ellipse: s-maj=3.5km s-min=1.5km az=227.0*
*NEIC **10** 17:43:46.5±0.8, 38.°00N×20.°31E, h35km, Error ellipse: s-maj=15.1km s-min=13.4km az=173.0*
*IDC **10** 17:43:50.7±4.3, 38.°15N×20.°19E, h73km±41km, mb3.4/7, mb1 3.4/9, mb1mx3.3/26, mbtmp3.3/9, ML3.2/2, Error ellipse: s-maj=31.8km s-min=21.2km az=126.0*
ISC 10 17:43:41.6±0.7, 37.°92N±0.°02×20.°09E±0.°03, h6km±3km, n165, σ1°14/219, mb3.6/7, 2C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.47	56	ePB	Pg	17 43 50.4	-0.3
VLS				eSB	Sg	17 43 56.5	-0.3
VLS	Valsamata	0.47	56	P	Pg	17 43 50.3	-0.4
VLS				S	Sg	17 43 55.5	-1.3
VLS	Valsamata	0.47	56	P	Pg	17 43 50.3	-0.4
VLS				S	Sg	17 43 55.5	-1.3
KFL	Anninata	0.58	70	P	Pg	17 43 52.4	-0.4
KFL				S	Sg	17 43 59.3	-1.1
KFL	Anninata	0.58	70	P	Pg	17 43 52.4	-0.4
KFL				S	Sg	17 43 59.3	-1.1
LKD2	Lefkada island	0.98	27	P	Pg	17 43 59.7	-0.7
LKD2				S	Sg	17 44 14.8	+1.7
LKD2	Lefkada island	0.98	27	P	Pg	17 43 59.7	-0.7
RLS	Riolos of Patr	1.09	82	ePG	Pg	17 44 01.5	-1.1
RLS				eSB	Sg	17 44 16.8	0.0
RLS	Riolos of Patr	1.09	82	P	Pg	17 44 01.4	-1.2
RLS	Riolos of Patr	1.09	82	ePb	Pg	17 44 01.5	-1.1
RLS				eSb	Sg	17 44 16.8	0.0
UPR	University Cam	1.39	74	ePG	Pn	17 44 06.6	-0.8
UPR	University Cam	1.39	74	P	Pg	17 44 09.5	+1.3
UPR				S	Sg	17 44 28.6	+2.5
UPR	University Cam	1.39	74	ePg	Pn	17 44 06.4	-1.0
UPR	University Cam	1.39	74	P	Pg	17 44 09.5	+1.3
RGA	Parga	1.42	8	P	Pn	17 44 08.8	+0.9
RGA	Parga	1.42	8	P	Pn	17 44 08.8	+0.9
DSL	Palaion Diasel	1.45	33	P	Pn	17 44 08.7	+0.4
DSL				S	Sg	17 44 29.0	+0.8
DSL	Palaion Diasel	1.45	33	P	Pn	17 44 08.7	+0.4
LAKA	Lakka	1.52	77	P	Pn	17 44 09.0	-0.3
LAKA				S	Sg	17 44 32.3	+1.8
LAKA	Lakka	1.52	77	P	Pn	17 44 09.0	-0.3
TRIZ	Trizonia	1.62	73	P	Pn	17 44 09.5	-1.2
TRIZ	Trizonia	1.62	73	P	Pn	17 44 09.5	-1.2
IGT	Igoumenitsa	1.63	7	P	Pn	17 44 11.0	+0.2
IGT				S	Sg	17 44 35.5	+1.6
IGT	Igoumenitsa	1.63	7	P	Pn	17 44 11.0	+0.2
ITM	Ithomi	1.63	116	ePB	Pb	17 44 11.8	-0.3
ITM				eSB	Sg	17 44 34.1	+0.1
ITM	Ithomi	1.63	116	P	Pg	17 44 12.9	0.0
ITM	Ithomi	1.63	116	ePb	Pb	17 44 11.8	-0.3
ITM	Ithomi	1.63	116	P	Pg	17 44 12.9	0.0
ITM				eSb	Sg	17 44 34.1	+0.1
PYL	PYLOS	1.66	127	ePG	Pb	17 44 12.0	-0.6
PYL				eSB	Sg	17 44 34.8	-0.2
PYL	PYLOS	1.66	127	P	Pg	17 44 13.5	+0.1
PYL	PYLOS	1.66	127	ePg	Pb	17 44 12.0	-0.6
PYL	PYLOS	1.66	127	P	Pg	17 44 13.5	+0.1
PYL				eSb	Sg	17 44 34.4	-0.6
EVR	Evrytania	1.68	53	ePB	Pb	17 44 12.7	-0.2
EVR				eSB	Sg	17 44 35.6	+0.1
EVR	Evrytania	1.68	53	P	Pg	17 44 13.5	-0.3
EVR				S	Sg	17 44 35.0	-0.5
EVR	Evrytania	1.68	53	ePb	Pb	17 44 12.9	0.0
EVR	Evrytania	1.68	53	P	Pg	17 44 13.5	-0.3
EVR				S	Sg	17 44 35.0	-0.5
EVR				eSb	Sg	17 44 35.6	+0.1
KALE	Kalithea	1.68	73	P	Pb	17 44 11.7	-1.2
KALE				S	Sg	17 44 36.3	+0.7
KALE	Kalithea	1.68	73	P	Pb	17 44 11.7	-1.2
GUR	Goura	1.78	89	ePG	Pb	17 44 13.9	-0.7
GUR				eSN	Sg	17 44 38.9	+0.2
GUR	Goura	1.78	89	P	Pb	17 44 13.6	-1.0
GUR				S	Sg	17 44 38.3	-0.4
GUR	Goura	1.78	89	P	Pb	17 44 13.6	-1.0
GUR	Goura	1.78	89	ePg	Pb	17 44 13.9	-0.7
GUR				S	Sg	17 44 38.3	-0.4
GUR				eSn	Sn	17 44 39.4	+3.7
KEK	Kerkira	1.81	353	ePN	Pb	17 44 14.4	-0.7
KEK	Kerkira	1.81	353	P	Pb	17 44 14.2	-0.9
KEK				S	Sg	17 44 39.3	-0.5
KEK	Kerkira	1.81	353	P	Pb	17 44 14.2	-0.9
JAN	Janina	1.84	19	ePG	Pb	17 44 14.8	-0.8
JAN				eSN	Sb	17 44 38.6	-0.2
JAN	Janina	1.84	19	P	Pg	17 44 16.6	-0.2
JAN				S	Sg	17 44 40.7	+0.1
JAN	Janina	1.84	19	ePg	Pb	17 44 14.8	-0.8
JAN				eSn	Sb	17 44 38.3	-0.5
VLX	Vlachokerasia	1.89	106	ePG	Pb	17 44 16.1	-0.4
VLX				eSN	Sg	17 44 41.6	-0.8
VLX	Vlachokerasia	1.89	106	P	Pb	17 44 15.9	-0.6
VLX	Vlachokerasia	1.89	106	P	Pb	17 44 15.9	-0.6
VLX				eSn	Sg	17 44 42.0	-0.4
MAKR	Makrakomi, Fth	1.94	55	P	Pg	17 44 17.3	-1.5
MAKR				S	Sg	17 44 43.4	-0.5
MAKR	Makrakomi, Fth	1.94	55	P	Pg	17 44 17.3	-1.5
SRN	Sarande	1.96	358	ePN	Pg	17 44 19.8	+0.6
SRN				eSN	Sg	17 44 46.5	+1.8
SRN	Sarande	1.96	358	P	Pn	17 44 16.1	+0.7
SRN	Sarande	1.96	358	P	Pn	17 44 16.1	+0.7
SRN	Sarande	1.96	358	ePn	Pg	17 44 19.8	+0.6
DSF	Desfina	1.98	75	P	Pn	17 44 17.0	+1.4
DSF	Desfina	1.98	75	P	Pn	17 44 17.0	+1.4
DESF	Desfina	1.98	75	P	Pn	17 44 16.9	+1.2
DESF	Desfina	1.98	75	P	Pn	17 44 16.9	+1.2
AGG	Agios Georgios	2.07	57	P	Pb	17 44 18.4	-1.2
AGG				S	Sb	17 44 44.8	-0.8
AGG	Agios Georgios	2.07	57	P	Pb	17 44 18.4	-1.2
AGG				S	Sb	17 44 44.8	-0.8
AXAR	Agios Charalam	2.19	66	P	Pn	17 44 19.8	+1.3
AXAR				S	Sn	17 44 46.8	+0.9
AXAR	Agios Charalam	2.19	66	P	Pn	17 44 19.8	+1.3
AXAR				S	Sn	17 44 46.8	+0.9
THL	Klokotos Trika	2.23	42	ePN	Pb	17 44 20.7	-1.6
THL				eSN	Sb	17 44 48.7	-1.4
THL	Klokotos Trika	2.23	42	P	Pb	17 44 20.4	-1.9
THL				S	Sb	17 44 48.2	-1.9
THL	Klokotos Trika	2.23	42	P	Pb	17 44 20.4	-1.9
THL	Klokotos Trika	2.23	42	ePn	Pb	17 44 20.9	-1.4
THL				S	Sb	17 44 48.2	-1.9
THL				eSn	Sb	17 44 48.7	-1.4
LTK	Loutraki	2.27	86	ePN	Pn	17 44 20.7	+1.1
LTK	Loutraki	2.27	86	P	Pn	17 44 20.3	+0.7
LTK	Loutraki	2.27	86	ePn	Pn	17 44 20.5	+0.9
LKR	Lokris	2.40	71	ePN	Pn	17 44 22.3	+0.9
LKR	Lokris	2.40	71	P	Pn	17 44 22.2	+0.8
LKR	Lokris	2.40	71	P	Pn	17 44 22.2	+0.8
ATAL	Atalanti	2.43	70	P	Pn	17 44 22.5	+0.7
ATAL	Atalanti	2.43	70	P	Pn	17 44 22.5	+0.7
DID	Didima	2.52	98	ePN	Pn	17 44 24.2	+1.1
DID				eSN	Sb	17 44 57.2	-1.4
DID	Didima	2.52	98	P	Pn	17 44 24.2	+1.1
DID				S	Sb	17 44 56.8	-1.8
DID	Didima	2.52	98	ePb	Pn	17 44 24.2	+1.1
DID				S	Sb	17 44 56.8	-1.8
DID				eSn	Sb	17 44 57.2	-1.4
VLI	Veliai	2.56	117	P	Pb	17 44 26.8	-1.1
VLI	Veliai	2.56	117	P	Pb	17 44 26.8	-1.1
NEST	Nestorio	2.60	16	P	Pb	17 44 26.5	-2.2
NEST	Nestorio	2.60	16	P	Pb	17 44 26.5	-2.2
KZN	Kozani	2.72	28	P	Pb	17 44 29.4	-1.2
KBN	Korca	2.76	11	ePN	Pb	17 44 29.8	-1.5
KBN	Korca	2.76	11	P	Pb	17 44 29.5	-1.8
KBN	Korca	2.76	11	ePn	Pb	17 44 29.8	-1.5
NEO	Neokhori	2.82	59	ePB	Pn	17 44 27.8	+0.7
NEO	Neokhori	2.82	59	P	Pn	17 44 27.5	+0.4
NEO	Neokhori	2.82	59	P	Pn	17 44 27.5	+0.4
NEO	Neokhori	2.82	59	ePb	Pn	17 44 27.8	+0.7
XOR	Xorichti	2.83	58	P	Pn	17 44 28.0	+0.8
XOR	Xorichti	2.83	58	P	Pn	17 44 28.0	+0.8
MRKA	Markates	2.86	73	P	Pn	17 44 28.1	+0.4
MRKA	Markates	2.86	73	P	Pn	17 44 28.1	+0.4
KYTH	Kithira	2.86	124	P	Pb	17 44 30.7	-2.4
KYTH	Kithira	2.86	124	P	Pb	17 44 30.7	-2.4
ATH	Athens Observa	2.86	88	ePN	Pn	17 44 29.6	+1.8
ATH	Athens Observa	2.86	88	ePn	Pn	17 44 29.9	+2.1
LIT	Litokhoron	2.87	40	P	Pn	17 44 29.6	+1.7
LIT	Litokhoron	2.87	40	P	Pn	17 44 29.6	+1.7
TIP	Timpagrande	2.90	297	eP	Pb	17 44 30.7	-3.1
TIP	Timpagrande	2.90	297	eP	Pb	17 44 30.7	-3.1
VLY	Voula,Athens	2.93	90	P	Pn	17 44 29.9	+1.2
VLY	Voula,Athens	2.93	90	P	Pn	17 44 29.9	+1.2
PTL	Penteli	2.98	86	P	Pn	17 44 30.7	+1.3
PTL	Penteli	2.98	86	P	Pn	17 44 30.7	+1.3
FNA	Florina	3.03	19	P	Pn	17 44 31.4	+1.3
FNA	Florina	3.03	19	P	Pn	17 44 31.4	+1.3
AOS	Alonnisos	3.22	66	P	Pn	17 44 33.2	+0.5
AOS	Alonnisos	3.22	66	P	Pn	17 44 33.2	+0.5
BIA	Bitola	3.24	17	eP	Pn	17 44 33.9	+0.9
BIA	Bitola	3.24	17	eP	Pn	17 44 33.8	+0.8
MRMA	Marmari	3.39	86	P	Pn	17 44 37.5	+2.5
MRMA	Marmari	3.39	86	P	Pn	17 44 37.5	+2.5
TIR	Tirane	3.43	357	ePn	Pn	17 44 36.9	+1.3
TIR				eSn	Sn	17 45 16.6	0.0
KRUS	Krusevo	3.56	14	eP	Pn	17 44 37.7	+0.3
KRUS	Krusevo	3.56	14	eP	Pn	17 44 37.7	+0.3
PHP	Peshkopia	3.77	4	ePN	Pn	17 44 40.9	+0.6
PHP	Peshkopia	3.77	4	ePn	Pn	17 44 40.9	+0.6
VAY	Valandovo	3.90	29	eP	Pb	17 44 51.1	+0.3
PUK	Puka	4.12	358	ePN	Pn	17 44 47.5	+2.4
PUK	Puka	4.12	358	ePn	Pn	17 44 47.5	+2.4
BCI	Bajram Curri	4.45	360	ePN	Pn	17 44 49.7	+0.2
BCI	Bajram Curri	4.45	360	ePn	Pn	17 44 49.7	+0.2
PDG	Podgorica	4.55	352	eSn	Sn	17 45 42.2	-2.0
PDG	Podgorica	4.55	352	eSn	Sn	17 45 42.2	-2.0
BARS	Barje	5.07	14	ePn	Pn	17 44 58.3	+0.2
BARS				eSn	Sn	17 45 55.1	-1.8
BARS	Barje	5.07	14	ePn	Pn	17 44 58.3	+0.2
BARS				eSn	Sn	17 45 55.1	-1.8
STON	Ston	5.28	340	ePn	Pn	17 44 59.5	-1.5
STON				Sn	Sn	17 45 54.5	-7.6
STON	Ston	5.28	340	ePn	Pn	17 44 59.4	-1.5
SJES	Sjenica	5.34	359	ePn	Pn	17 45 02.2	+0.4
SJES				eSn	Sn	17 46 01.3	-2.3
SJES	Sjenica	5.34	359	ePn	Pn	17 45 02.2	+0.4
SJES				eSn	Sn	17 46 01.3	-2.3
SELS	Selova	5.36	8	ePn	Pn	17 45 01.7	-0.3
GRUS	Gruza	5.99	4	eSn	Sn	17 46 15.3	-4.2
DIVS	Divibare	6.18	359	ePn	Pn	17 45 13.2	-0.1
DIVS				eSn	Sn	17 46 19.9	-4.3
DIVS	Divibare	6.18	359	ePn	Pn	17 45 13.2	-0.1
MLR	Muntele Rosu	8.74	28	P	Pn	17 45 52.6	+4.1
	0.0nm,0.3s,baz=287,slow=20,SNR=4.7						
MLR	Muntele Rosu	8.74	28	P	Pn	17 45 52.6	+4.1
ABTA	Abfaltersbach	10.45	330	∥iPn	Pn	17 46 10.0	-1.9
MOA	Molln	10.81	339	∥iPn	Pn	17 46 16.9	+0.1
MOA	Molln	10.81	339	Pn	Pn	17 46 16.9	+0.2
GERES	GERESS Array B	11.87	339	P	Pn	17 46 33.7	+2.5
	0.1nm,0.3s,baz=160,slow=14,SNR=4.2						
GERES				S	Sn	17 48 38.7	-5.2
	0.3nm,0.3s,baz=156,slow=23,SNR=6.7						
GERES	GERESS Array B	11.87	339	P	Pn	17 46 33.7	+2.4
GERES				S	Sn	17 48 38.7	-5.2
GERES	GERESS Array B	11.87	339	P	Pn	17 46 33.7	+2.5
HFS	Hagfors	22.61	352	P	P	17 48 43.6	+0.9
	2.6nm,0.7s,mb3.8,baz=147,slow=12,SNR=7.8						
HFS	Hagfors	22.61	352	P	P	17 48 43.6	+0.9
HFS	Hagfors	22.61	352	P	P	17 48 43.6	+0.9
NOA	NORSAR Array B	23.81	349	P	P	17 48 55.3	+0.3
	1.5nm,1.1s,mb3.3,baz=278,slow=9.9,SNR=3.4						
NOA	NORSAR Array B	23.81	349	P	P	17 48 55.3	+0.3
NOA	NORSAR Array B	23.81	349	P	P	17 48 55.3	+0.3
FINES	FINESS Array B	23.85	7	P	P	17 48 55.3	0.0
	5.7nm,1.1s,mb3.9,baz=168,slow=7.1,SNR=3.5						
FINES	FINESS Array B	23.85	7	P	P	17 48 55.3	0.0
FINES	FINESS Array B	23.85	7	P	P	17 48 55.3	0.0
TORD	Torodi Ar. Bea	29.61	218	P	P	17 49 51.0	+3.3
	0.2nm,0.6s,mb3.0,baz=33,slow=11,SNR=3.1						
TORD	Torodi Ar. Bea	29.61	218	P	P	17 49 51.0	+3.3
TORD	Torodi Ar. Bea	29.61	218	P	P	17 49 51.0	+3.3
MKAR	Makanchi Array	45.73	58	P	P	17 52 02.0	-1.4
	0.3nm,0.5s,mb3.5,baz=268,slow=7.4,SNR=7.3						
MKAR	Makanchi Array	45.73	58	P	P	17 52 02.0	-1.3
ZALV	Zalesovo Beam	46.12	48	P	P	17 52 04.7	-1.7
	1.7nm,0.5s,mb4.2,baz=280,slow=8.5,SNR=8.6						
ZALV	Zalesovo Beam	46.12	48	P	P	17 52 04.7	-1.7
SONM	Songino Array	60.88	50	P	P	17 53 54.9	0.0
	0.3nm,0.8s,mb3.5,baz=282,slow=7.2,SNR=3.3						
SONM	Songino Array	60.88	50	P	P	17 53 54.9	0.0
SONM	Songino Array	60.88	50	P	P	17 53 54.8	-0.1

*IDC **10** 18:39:40.6±2.9, 10.°31N×84.°34W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.5/3, MS3.2/1, Ms1 3.4/1, ms1mx2.9/15, Error ellipse: s-maj=160.2km s-min=58.3km az=45.0*
*ISCJB **10** 18:39:46.6±1.2, 9.°85N±0.°06×85.°61W±0.°06, h26km±6km, mb3.3/3, Error ellipse: s-maj=12.7km s-min=6.0km az=138.4*
*CASC **10** 18:39:46.8±2.8, 9.°89N×85.°70W, h34km±7km, MD4.1*
*NEIC **10** 18:39:50.9±1.5, 10.°11N×85.°07W, h67km±11km, Error ellipse: s-maj=46.8km s-min=12.1km az=218.0*
ISC 10 18:39:46.9±0.9, 9.°87N±0.°04×85.°57W±0.°05, h18km±4km, n43, σ1°04/44, mb3.3/3, 2C-8D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A492	Arado	0.35	356	∥iP	Pg	18 39 53.9	-0.3
A492				i S	Sg	18 40 00.3	+1.1
JCR	Jicaral	0.46	92	∥iP	Pg	18 39 57.6	+1.4
JCR				eS	Sg	18 40 11.7	+9.3
A494	Palo Verde	0.53	25	∥iP	Pg	18 39 56.7	-0.7
A495	El Viejo	0.54	12	∥iP	Pg	18 39 56.5	-1.1
A495				i S	Sg	18 40 05.7	+0.8
JTS	JuntasAbangare	0.74	55	eP	Pb	18 40 00.9	-0.4
JTS	JuntasAbangare	0.74	55	eP	Pb	18 40 01.6	+0.3
NY14	Universidad de	0.78	3	i P	Pb	18 40 01.3	-0.6
COLC	Colonia	0.87	25	i P	Pb	18 40 04.1	+0.6
CUI	Cuipilapa	0.88	27	∥iP	Pb	18 40 03.4	-0.3
CUI				i S	Sb	18 40 17.0	+1.8
LIM1	Limonal	0.89	21	i P	Pb	18 40 04.2	+0.4
GUAB	Guayabo de Bag	0.90	22	i P	Pb	18 40 03.4	-0.6
LAPC	Finca la Perla	0.91	9	i P	Pb	18 40 03.0	-1.1
LAPC				i S	Sb	18 40 15.5	-0.4
GPS2	Hotel Rinc¨‡n	0.91	14	i P	Pb	18 40 03.3	-0.8
GBS3	Finca Las Im¨¡	0.92	7	i P	Pb	18 40 03.2	-1.1
GBS3				i S	Sb	18 40 15.5	-0.6
GPS1	Guardaparques	0.93	14	i P	Pb	18 40 03.6	-0.9
AMAS	Alto Masis	0.94	38	i P	Pb	18 40 04.3	-0.3
BUEV	Buena Vista	0.94	10	i P	Pb	18 40 03.7	-0.9
MESS	Mesas	0.95	23	∥iP	Pb	18 40 04.2	-0.5
MESS				i S	Sb	18 40 18.1	+1.1
GBS2	Las Lilas	0.97	7	i P	Pb	18 40 03.9	-1.3
CGA2	Cerro Gallo 2	1.10	82	∥eP	Pn	18 40 07.4	0.0
LAJ	Bijagual	1.43	90	∥iP	Pn	18 40 05.3	-6.6
QCR	Quepos	1.46	107	∥eP	Pn	18 40 11.1	-1.2
SJS	Escuela Geolog	1.50	87	∥eP	Pn	18 40 13.7	+0.8
BUS	Buena Vista	1.81	100	eP	Pn	18 40 17.7	+0.5
TICN	Ticuantepe	2.25	343	eP	Pn	18 40 24.7	+1.5
ACR	Cerro Adams	2.66	117	eP	Pn	18 40 29.1	+0.2
ACR				eS	Sn	18 41 01.1	+0.4
MIRN	Miramar	2.79	337	eP	Pn	18 40 33.6	+2.9
CRIN	San Cristobal	3.17	333	eP	Pn	18 40 36.4	+0.6
TGUH	Tegucigalpa,Un	4.49	338	eP	Pn	18 40 56.2	+2.2
BCIP	Isla Barro Col	5.70	97	eP	Pn	18 41 07.3	-3.3
TXAR	Lajitas Array	25.73	321	P	P	18 45 17.2	+0.9
	0.4nm,0.5s,mb3.2,baz=148,slow=9.5,SNR=7.0						
TXAR	Lajitas Array	25.73	321	P	P	18 45 17.2	+0.9
LPAZ	La Paz	31.20	146	LR	LR	18 59 20.0	
	comp=2,44nm,18.3s,baz=288,slow=38						
NVAR	Mina Array Bea	40.85	320	P	P	18 47 28.2	+0.5
	0.5nm,0.5s,mb3.4,baz=130,slow=7.3,SNR=6.2						
NVAR	Mina Array Bea	40.85	320	P	P	18 47 28.2	+0.5
ILAR	Eielson Array	69.11	336	P	P	18 50 48.9	-2.8
	0.2nm,0.6s,mb3.2,baz=139,slow=4.8,SNR=7.2						
ILAR	Eielson Array	69.11	336	P	P	18 50 48.9	-2.8
ASAR	Alice Springs	139.94	245	PKP	PKPdf	18 59 13.3	-1.6
	0.6nm,1.0s,baz=99,slow=2.3,SNR=4.3						
ASAR	Alice Springs	139.94	245	PKP	PKPdf	18 59 13.3	-1.6
WRA	Warramunga Arr	140.25	251	PKP	PKPdf	18 59 14.2	-1.3
	0.4nm,0.7s,baz=91,slow=1.8,SNR=4.1						
WRA	Warramunga Arr	140.25	251	PKP	PKPdf	18 59 14.2	-1.3
CMAR	Chiang Mai Arr	151.51	351	PKPbc	PKPbc	18 59 37.0	-3.8
	0.2nm,0.4s,baz=12,slow=5.1,SNR=3.2						
CMAR	Chiang Mai Arr	151.51	351	PKPbc	PKPbc	18 59 37.0	-3.8

*TIR **10** 18:44:32.0, 39.°49N×19.°68E, h0km, ML3.3*
*ROM **10** 18:44:32.6±0.8, 39.°35N×19.°09E, h10km, MI3.3/2, Error ellipse: s-maj=12.1km s-min=4.0km az=6.0*
*ISCJB **10** 18:44:34.8±0.5, 39.°51N±0.°03×19.°11E±0.°03, h25km±5km, Error ellipse: s-maj=5.1km s-min=3.4km az=19.2*
*ATH **10** 18:44:34.2, 39.°51N×19.°12E, h35km±2km, MD3.4/5*
*THE **10** 18:44:35.0, 39.°60N×19.°13E, h2km±2km, ML3.3/3, Error ellipse: s-maj=3.3km s-min=2.0km az=66.0*
*CSEM **10** 18:44:35.3±0.1, 39.°58N×19.°12E, h20km, ML3.3, Error ellipse: s-maj=4.2km s-min=3.0km az=29.0*
*SKO **10** 18:44:36.1, 43.°08N×19.°06E, h41km*
*BEO **10** 18:44:48.3±0.8, 39.°90N×19.°71E, h0km, ML3.1/3*
ISC 10 18:44:35.3±0.5, 39.°58N±0.°02×19.°14E±0.°03, h19km±3km, n132, σ1°09/178, 3C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.53	75	ePN	Pg	18 44 45.7	-0.2
KEK				eSN	Sg	18 44 54.5	+1.5
KEK	Kerkira	0.53	75	P	Pg	18 44 45.4	-0.5
KEK	Kerkira	0.53	75	Pg	Pg	18 44 45.2	-0.7
KEK				Sg	Sg	18 44 55.1	+2.1
KEK	Kerkira	0.53	75	P	Pg	18 44 45.4	-0.5
KEK				Sg	Sg	18 44 55.1	+2.1
SCTE	Santa Cesarea	0.71	314	ePN	Pg	18 44 49.6	+0.3
SCTE				eSN	Sg	18 45 00.2	+1.4
SCTE	Santa Cesarea	0.71	314	Pn	Pg	18 44 49.9	+0.6
SCTE				Sn	Sg	18 45 00.5	+1.7
	771nm,0.2s						
SCTE	Santa Cesarea	0.71	314	Pn	Pg	18 44 49.9	+0.6
SCTE				Sn	Sg	18 45 00.5	+1.7
	771nm,0.2s						
SRN	Sarande	0.73	65	ePN	Pg	18 44 48.9	-0.7
SRN				eSN	Sg	18 44 59.6	+0.2
SRN	Sarande	0.73	65	P	Pg	18 44 48.4	-1.2
SRN				S	Sg	18 44 59.4	0.0
SRN	Sarande	0.73	65	P	Pg	18 44 48.4	-1.2
SRN	Sarande	0.73	65	ePn	Pg	18 44 48.9	-0.7
SRN				S	Sg	18 44 59.4

AGG	Agios Georgios	2.54	102	*e*Pn	Pn	18 45 17.1 +1.7
AGG	Agios Georgios	2.54	102	*e*Pn	Pn	18 45 15.3 -0.1
AGG	Agios Georgios	2.54	102	P	Pn	18 45 17.1 +1.7
LIT	Litokhoron	2.63	78	*e*PN	Pn	18 45 16.5 -0.2
LIT	Litokhoron	2.63	78	P	Pn	18 45 17.9 +1.2
LIT	Litokhoron	2.63	78	*e*Pn	Pn	18 45 16.4 -0.3
LIT	Litokhoron	2.63	78	P	Pn	18 45 17.9 +1.2
PDG	Podgorica	2.85	2	*e*Pn	Pg	18 45 30.8 +0.9
PDG				*e*Sn	Sg	18 46 03.1 -3.7
CEL	Celeste	2.85	243	*e*Pn	Pn	18 45 19.3 -0.4
CEL				*e*Sn	Sn	18 45 53.0 -0.5
GUR	Goura	3.00	122	*e*PN	Pn	18 45 21.0 -0.7
GUR				*e*SN	Sn	18 45 55.7 -1.4
GUR	Goura	3.00	122	*e*Pn	Pn	18 45 21.0 -0.7
GUR				*e*Sn	Sn	18 45 56.7 -0.4
LKR	Lokris	3.15	106	*e*PN	Pn	18 45 24.2 +0.4
LKR	Lokris	3.15	106	*e*Pn	Pn	18 45 24.4 +0.6
VAY	Valandovo	3.15	55	*e*Pn	Pn	18 45 23.0 -0.8
VAY				*e*Pg	Pg	18 45 32.5 -3.1
VAY				*e*Sn	Sn	18 45 58.3 -2.5
VAY	Valandovo	3.15	55	*e*Pn	Pn	18 45 22.9 -0.9
VAY	Valandovo	3.15	55	*e*Pg	Pg	18 45 32.4 -3.1
VAY				*e*Sn	Sn	18 45 58.2 -2.5
ITM	Ithomi	3.25	137	*e*PN	Pn	18 45 24.1 -1.1
ITM	Ithomi	3.25	137	*e*Pn	Pn	18 45 23.9 -1.3
VLX	Vlachokerasia	3.37	130	*e*PN	Pn	18 45 26.5 -0.3
VLX	Vlachokerasia	3.37	130	*e*Pn	Pn	18 45 26.5 -0.3
LTK	Loutraki	3.37	116	*e*PN	Pn	18 45 26.3 -0.6
LTK	Loutraki	3.37	116	*e*Pn	Pn	18 45 26.3 -0.6
PYL	PYLOS	3.38	142	*e*PN	Pn	18 45 26.1 -0.8
PYL	PYLOS	3.38	142	*e*Pn	Pn	18 45 26.1 -0.8
PLG	Polygyros	3.41	75	*e*PN	Pn	18 45 27.0 -0.3
PLG				*e*SN	Sn	18 46 05.8 -1.4
PLG	Polygyros	3.41	75	*e*Pn	Pn	18 45 27.0 -0.3
PLG				*e*Sn	Sn	18 46 05.6 -1.6
SOH	Sokhos	3.46	68	*e*PN	Pn	18 45 28.6 +0.5
SOH	Sokhos	3.46	68	*e*Pn	Pn	18 45 28.6 +0.5
SJES	Sjenica	3.73	9	*e*Pn	Pg	18 45 42.0 -4.7
SJES				*e*Sg	Sg	18 46 34.5 -0.6
BARS	Barje	3.81	31	*e*Pn	Pb	18 45 40.3 -1.6
BARS				*e*Sg	Sg	18 46 33.8 -3.9
DID	Didima	3.82	121	*e*PN	Pn	18 45 33.4 +0.3
DID				*e*SN	Sn	18 46 16.2 -1.3
DID	Didima	3.82	121	*e*Pn	Pn	18 45 33.6 +0.5
DID				*e*Sn	Sn	18 46 16.2 -1.3
NVR	Nevrokopi	4.01	62	*e*PN	Pn	18 45 36.0 +0.3
NVR	Nevrokopi	4.01	62	*e*Pn	Pn	18 45 36.0 +0.3
VLY	Voula,Athens	4.03	114	*e*PN	Pn	18 45 36.5 +0.6
VLY	Voula,Athens	4.03	114	*e*Pn	Pn	18 45 36.5 +0.6
VLI	Veliai	4.14	132	*e*PN	Pn	18 45 37.6 +0.2
VLI	Veliai	4.14	132	*e*Pn	Pn	18 45 37.6 +0.2
VTS	Vitosha	4.30	44	*e*Pn	Pb	18 45 47.7 -2.6
GRUS	Gruza	4.46	15	*e*Pn	Pb	18 45 51.7 -1.3
KYTH	Kithira	4.51	136	*e*PN	Pn	18 45 41.8 -0.7
KYTH	Kithira	4.51	136	P	Pn	18 45 43.8 +1.3
KYTH	Kithira	4.51	136	*e*Pn	Pn	18 45 41.8 -0.7
KYTH	Kithira	4.51	136	P	Pn	18 45 43.8 +1.3
DIVS	Divibare	4.56	8	*e*Pn	Pb	18 45 53.2 -1.4
DIVS				*e*Sn	Sn	18 46 42.4 +6.8
ALN	Alexandroupoli	5.45	74	*e*PN	Pn	18 45 55.9 +0.5
ALN	Alexandroupoli	5.45	74	*e*Pn	Pn	18 45 54.9 -0.5
CHOS	Chios island	5.52	100	*e*PN	Pn	18 45 57.5 +1.1
CHOS	Chios island	5.52	100	*e*Pn	Pn	18 45 57.5 +1.1
OBKA	Obir	7.70	336	ⅡiPn	Pn	18 46 25.5 -0.7
OBKA	Obir	7.70	336	Pn	Pn	18 46 25.5 -0.7
SOKA	Soboth	7.70	338	ⅡiPn	Pn	18 46 25.6 -0.7
SOKA	Soboth	7.70	338	Pn	Pn	18 46 25.6 -0.7
MOA	Molln	8.98	339	ⅡiPn	Pn	18 46 43.8 -0.1
MOA	Molln	8.98	339	Pn	Pn	18 46 43.8 -0.1

*IDC **10** 19:19:47.2±4.8, 31°.07S×179°.67W, h371km±68km, mb2.4/2, mb1 2.9/3, mb1mx2.8/15, mbtmp2.7/3, Error ellipse: s-maj=77.9km s-min=17.5km az=161.0*

ISC 10 19:19:48.9±1.1, 31°.3S±0°.1×179°.6W±0°.2, h401km±13km, n14, σ1°10/20, mb2.7/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	6.99	194	PN	Pn	19 21 32.2	-0.1
PUZ				SN	S	19 22 55.6	-1.3
MWZ	Matawai	7.42	198	PN	Pn	19 21 37.4	+0.4
MWZ				SN	S	19 23 07.5	+1.9
URZ	Urewera	7.46	200	P	Pn	19 21 37.4	-0.2
	1.6nm,0.3s,baz=305,slow=1.7,SNR=35						
URZ				S	S	19 23 07.7	+1.1
	4.0nm,0.3s,baz=136,slow=22,SNR=12						
URZ	Urewera	7.46	200	PN	Pn	19 21 36.9	-0.7
URZ				SN	S	19 23 06.7	+0.1
PXZ	Pawanui	9.19	197	PN	Pn	19 21 58.6	+1.3
PXZ				*e*SN	S	19 23 42.2	-0.7
MRZ	Mangatainoka R	10.14	201	PN	Pn	19 22 07.8	-0.5
MRZ				SN	S	19 23 59.8	-2.5
NNZ	Nelson	11.41	208	*e*PN	Pn	19 22 23.6	+0.5
NNZ				SN	S	19 24 27.5	-0.7
THZ	Tophouse	12.06	208	*e*PN	Pn	19 22 28.5	-2.0
MQZ	McQueen's Vall	13.83	204	SN	S	19 25 18.7	+1.7
RPZ	Rata Peaks	14.44	208	S	S	19 25 34.2	+5.1
	0.4nm,0.3s,baz=46,slow=17,SNR=3.4						
RAR	Rarotonga	20.38	65	P	P	19 23 56.9	+0.1
	15nm,0.3s,baz=311,slow=21,SNR=9.0						
ASAR	Alice Springs	41.72	269	P	P	19 27 01.2	+0.5
	0.2nm,0.8s,mb2.5,baz=108,slow=7.5,SNR=4.2						
WRA	Warramunga Arr	42.79	274	P	P	19 27 09.0	-0.3
	0.2nm,0.4s,mb2.8,baz=111,slow=8.0,SNR=7.7						
FINES	FINESS Array B	145.49	338	PKPbc	PKPbc	19 38 40.0	-0.1
	1.1nm,0.5s,baz=56,slow=4.0,SNR=12						

CASC 10 19:32:01.2±3.5, 11°.04N×87°.26W, h25km±48km, MD3.7, ML3.2, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.31	30	*e*P	Pn	19 32 24.4	+0.4
COPN				*e*S	Sn	19 32 44.3	+3.6
COPN				AML	AML	19 32 47.2	
	comp=Z,454nm,0.4s						
CSAN		1.41	36	*e*P	Pn	19 32 24.2	-1.0
TICN	Ticuantepe	1.41	46	*e*P	Pn	19 32 24.5	-0.9
TICN				*e*S	Sn	19 32 44.4	+1.1
TISN	Laguna Tiscapa	1.47	42	*e*P	Pn	19 32 24.9	-1.2
APYN	Apoyeque	1.49	37	*e*P	Pn	19 32 24.4	-1.9
APYN				*e*S	Sn	19 32 45.2	+0.2
MIRN	Miramar	1.49	21	*e*P	Pn	19 32 25.8	-0.6
CNGN	Cerro Negro	1.55	21	*e*P	Pn	19 32 25.4	-2.0
CNGN				AML	AML	19 32 58.2	
	comp=N,233nm,0.3s						
TEL3	Telica 3	1.58	15	*e*P	Pn	19 32 26.9	-0.7
CRIN	San Cristobal	1.66	7	*e*P	Pn	19 32 28.6	-0.2
CRIN				*e*S	Sn	19 32 51.4	+2.0
NY14	Universidad de	1.74	103	*i* P	Pn	19 32 32.5	+2.6
NY14				*i* S	Sn	19 32 55.6	+4.2
GBS2	Las Lilas	1.79	96	*i* P	Pn	19 32 30.8	+0.3
GBS3	Finca Las Im¨¡	1.79	98	*i* P	Pn	19 32 31.2	+0.6
GBS3				*i* S	Sn	19 32 54.0	+1.4
LAPC	Finca la Perla	1.82	98	*i* P	Pn	19 32 31.4	+0.5
LAPC				*i* S	Sn	19 32 54.1	+0.9
BUEV	Buena Vista	1.84	97	*i* P	Pn	19 32 32.0	+0.7
GB1A	Borinquen Arri	1.84	97	*i* P	Pn	19 32 31.8	+0.5
LIM1	Limonal	2.00	100	*i* P	Pn	19 32 33.4	-0.1
LIM1				*i* S	Sn	19 32 57.7	-0.1
CUI	Cuipilapa	2.10	100	*i* P	Pn	19 32 34.2	-0.6
JCR	Jicaral	2.42	119	*e*P	Pn	19 32 41.9	+2.6
JCR				*e*S	Sn	19 33 06.4	-1.8
CGA2	Cerro Gallo 2	2.93	110	*e*P	Pn	19 32 46.0	-0.3
LAJ	Bijagual	3.30	110	*e*P	Pn	19 32 47.6	-3.8

*ISK **10** 19:34:49.9, 39°.51N×33°.14E, h5km, MD2.8*
*DDA **10** 19:34:49.5, 39°.48N×33°.13E, h14km±2km, Md2.8*
*ISCJB **10** 19:34:50.5±0.6, 39°.49N±0°.03×33°.13E±0°.05, h6km±4km, Error ellipse: s-maj=6.6km s-min=4.3km az=31.3*
*CSEM **10** 19:34:50.2±0.1, 39°.49N×33°.13E, h5km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.4km az=109.0*

ISC 10 19:34:50.9±0.6, 39°.49N±0°.03×33°.13E±0°.05, h8km±4km, n31, σ0°59/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	Bala	0.06	358	*i* P	Pg	19 34 52.4	-0.3
BBAL				*i* S	Sg	19 34 53.9	-0.1
BBAL	Bala	0.06	358	*i* P	Pg	19 34 52.4	-0.3
BBAL				*i* S	Sg	19 34 53.9	-0.1
LOD	Lodumlu	0.49	325	*e*PG	Pg	19 34 59.3	-1.1
LOD				*e*SG	Sg	19 35 07.1	+0.3
LOD	Lodumlu	0.49	325	*e*Pg	Pg	19 34 59.3	-1.1
LOD				*e*Sg	Sg	19 35 07.1	+0.3
CDAG	Cicekdag	0.97	82	*i* P	Pg	19 35 16.1	+6.5
CDAG				*i* S	Sg	19 35 28.8	+6.6
ELDT	Eldivan	1.03	13	*i* P	Pg	19 35 10.5	-0.1
ELDT				*i* S	Sg	19 35 25.0	+1.0
ELDT	Eldivan	1.03	13	*i* P	Pg	19 35 10.5	-0.1
ELDT				*i* S	Sg	19 35 25.0	+1.0
KIZT	Kizilcal	1.14	238	*e*PN	Pg	19 35 12.7	0.0
KIZT				*e*SN	Sg	19 35 28.7	+1.1
KIZT	Kizilcal	1.14	238	*e*Pn	Pg	19 35 12.7	-0.1
KIZT				*e*Sn	Sg	19 35 28.7	+1.1
SVRH	Sivrihisar-ESK	1.24	269	*e*PN	Pn	19 35 14.5	+0.1
SVRH	Sivrihisar-ESK	1.24	269	*e*Pn	Pn	19 35 14.5	+0.1
KDHN	Kadinhani	1.24	220	*i* P	Pn	19 35 13.5	-1.0
KDHN				*i* S	Sb	19 35 30.4	-0.3
KDHN	Kadinhani	1.24	220	*i* P	Pn	19 35 13.5	-1.0
KDHN				*i* S	Sb	19 35 30.4	-0.3
SULT	Sultanhani-AKS	1.32	167	*e*PN	Pn	19 35 15.9	+0.4
SULT	Sultanhani-AKS	1.32	167	*e*Pn	Pn	19 35 15.9	+0.3
CORM	Corum	1.35	59	*e*PN	Pn	19 35 15.1	-0.8
CORM	Corum	1.35	59	*e*Pn	Pn	19 35 15.1	-0.8
SGKT	Sivrigoynuk	1.36	323	*i* P	Pn	19 35 15.8	-0.3
SGKT				*i* S	Sb	19 35 33.8	-0.3
SGKT	Sivrigoynuk	1.36	323	*i* P	Pn	19 35 15.8	-0.3
SGKT				*i* S	Sb	19 35 33.8	-0.3
LADK	Ladik-KONYA	1.42	205	*e*PN	Pn	19 35 17.2	+0.4
LADK	Ladik-KONYA	1.42	205	*e*Pn	Pn	19 35 17.3	+0.5
AVNT	Avonos	1.52	117	*i* P	Pn	19 35 17.9	-0.3
AVNT				*e*S	Sn	19 35 33.5	-4.8
AVNT	Avonos	1.52	117	*i* P	Pn	19 35 17.9	-0.4
KONT	Konya--Tatoy	1.65	201	*e*PN	Pn	19 35 20.7	+0.6
KONT	Konya--Tatoy	1.65	201	*e*Pn	Pn	19 35 20.7	+0.6
YOZ	Yozgat	1.70	84	*e*PN	Pn	19 35 20.7	-0.1
YOZ	Yozgat	1.70	84	*e*Pn	Pn	19 35 20.7	-0.1
CTKT	Corum	1.71	48	*i* P	Pn	19 35 20.6	-0.3
CTKT				*i* S	Sn	19 35 44.0	+1.1
CTKT	Corum	1.71	48	*i* P	Pn	19 35 20.6	-0.3
CTKT				*i* S	Sn	19 35 44.0	+1.1
SAFT	Safranbolu	1.78	349	*e*PN	Pn	19 35 22.0	+0.1
SAFT	Safranbolu	1.78	349	*e*Pn	Pn	19 35 22.0	+0.1

IDC 10 19:52:29.4±1.5, 4°.13N×124°.89E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=108.7km s-min=21.3km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.10	178	P	P	19 57 25.3	-1.1
	0.9nm,0.4s,baz=32,slow=12,SNR=13						
WRA	Warramunga Arr	25.66	159	P	P	19 58 02.0	+0.9
	1.2nm,0.3s,baz=341,slow=9.4,SNR=48						
ASAR	Alice Springs	28.99	163	P	P	19 58 30.8	-0.2
	0.6nm,0.4s,baz=337,slow=7.1,SNR=28						
STKA	Stephens Creek	39.17	157	P	P	19 59 59.3	+0.2
	0.7nm,0.3s,baz=345,slow=17,SNR=5.5						
MKAR	Makanchi Array	56.20	326	P	P	20 02 11.2	0.0
	0.4nm,0.4s,baz=125,slow=7.6,SNR=16						

MAN 10 19:52:42, 16°.40N×120°.89E, h33km, mb3.7, ML2.4, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.29	267	ⅡiP	Pb	19 52 51.9	+2.2
BCPH				*i* S	Sb	19 52 57.8	+3.0
BALP	Baler	0.93	134	*e*P	Pn	19 52 60.0	+1.3
BALP				*e*S	Sn	19 53 08.0	-2.9
CAUP	Cauayan	1.05	59	*e*P	Pn	19 53 01.6	+1.2
CAUP				*e*S	Sn	19 53 12.2	-1.8

*ISCJB **10** 19:59:29.3±1.1, 23°.88S±0°.07×180°.0E±0°.1, h512km±13km, mb4.4/19, Error ellipse: s-maj=15.6km s-min=11.3km az=175.5*
*IDC **10** 19:59:29.7±1.7, 23°.84S×180°.00W, h506km±16km, mb3.8/12, mb1 3.9/13, mb1mx3.7/20, mbtmp3.8/13, Error ellipse: s-maj=17.0km s-min=14.3km az=14.0*
*NEIC **10** 19:59:29.8±0.9, 23°.86S×179°.98W, h511km±9km, mb4.4/6, Error ellipse: s-maj=11.7km s-min=9.7km az=111.0*

ISC 10 19:59:29.7±1.1, 23°.95S±0°.08×180°.0W±0°.1, h505km±13km, n54, σ1°00/49, mb4.4/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.45	343	*e*P	P	20 01 10.4	-0.3
	12nm,0.8s						
URZ	Urewera	14.48	189	P	P	20 02 35.0	+0.8
	4.7nm,0.3s,baz=293,slow=3.3,SNR=14						
URZ				S	S	20 05 04.3	-2.1
	1.1nm,0.3s,baz=82,slow=22,SNR=13						
URZ	Urewera	14.48	189	P	P	20 02 35.0	+0.8
URZ				S	S	20 05 04.3	-2.1
KHZ	Kahutara	19.19	195	*e*P	P	20 03 18.0	-2.5
	13nm,0.5s						
RPZ	Rata Peaks	21.05	198	P	P	20 03 37.8	+0.5
	12nm,0.5s,mb4.7,baz=6.9,slow=4.4,SNR=11						
RPZ	Rata Peaks	21.05	198	*e*P	P	20 03 37.1	-0.3
ARMA	Armidale	26.02	249	*e*P	P	20 04 23.9	+2.0
CNB	Canberra Magne	28.84	240	*e*P	P	20 04 48.6	+2.0
	67nm,0.8s,mb5.1						
CTA	Charters Tower	31.49	270	*e*P	P	20 05 10.4	+0.7
	20nm,0.4s,mb4.9						
CTAO	Charters Tower	31.49	270	*e*P	P	20 05 09.8	0.0
	26nm,0.5s,mb4.9						
TOO	Toolangi	32.44	237	*e*P	P	20 05 18.8	+1.2
	57nm,0.5s,mb5.3						
TAU	Tasmania Unive	32.91	227	*e*P	P	20 05 22.5	+0.9
PMG	Port Moresby	34.52	289	P	P	20 05 35.2	-0.4
	13nm,1.0s,mb4.3,baz=114,slow=6.0,SNR=5.0						
PMG	Port Moresby	34.52	289	P	P	20 05 35.2	-0.3
STKA	Stephens Creek	34.72	248	P	P	20 05 37.8	+0.8
	4.7nm,0.5s,mb4.2,baz=86,slow=8.5,SNR=19						
STKA	Stephens Creek	34.72	248	*e*P	P	20 05 37.7	+0.7
	4.9nm,0.8s,mb4.0						
STKA	Stephens Creek	34.72	248	*e*P	P	20 05 37.2	+0.2
AS31	Alice Springs	42.04	261	*e*P	P	20 06 36.5	-0.2
ASAR	Alice Springs	42.04	261	P	P	20 06 36.6	0.0
	13nm,0.8s,mb4.5,baz=96,slow=7.5,SNR=163						
ASAR				ScP	ScP	20 11 23.4	+1.1
	2.6nm,0.8s,baz=109,slow=4.3,SNR=18						
ASAR				S	S	20 12 18.2	-0.8
	0.3nm,0.9s,baz=101,slow=15,SNR=4.1						
ASAR	Alice Springs	42.04	261	P	P	20 06 36.6	0.0
ASAR				ScP	ScP	20 11 23.4	+1.1
ASAR				S	S	20 12 18.2	-0.8
WB2	Warramunga Arr	42.41	266	*e*P	P	20 06 38.6	-1.0
WRAB	Tennant Creek	42.41	266	*e*P	P	20 06 38.8	-0.9
	11nm,0.8s,mb4.3						
WRA	Warramunga Arr	42.42	266	P	P	20 06 39.0	-0.7
	11nm,0.3s,mb4.7,baz=96,slow=8.5,SNR=472						
WRA				ScP	ScP	20 11 25.4	+1.4
	1.9nm,0.9s,baz=97,slow=4.0,SNR=9.6						
WRA				S	S	20 12 20.6	-4.0
	0.6nm,0.8s,baz=101,slow=14,SNR=3.1						
WRA	Warramunga Arr	42.42	266	P	P	20 06 39.0	-0.7
WRA				ScP	ScP	20 11 25.4	+1.4
WRA				S	S	20 12 20.6	-4.0
FORT	Forrest	46.31	250	*e*P	P	20 07 08.9	-0.8
	69nm,0.6s,mb5.3						
FITZ	Fitzroy Crossi	50.84	266	P	P	20 07 43.6	+0.1
	5.5nm,0.4s,mb4.3,baz=114,slow=6.7,SNR=42						
FITZ	Fitzroy Crossi	50.84	266	*e*P	P	20 07 43.5	-0.1
	13nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	50.84	266	P	P	20 07 43.6	+0.1
KLBR	Kellerberrin	54.98	247	*e*P	P	20 08 12.4	-0.6
	8.7nm,0.6s,mb4.3						
NWAO	Narrogin (SRO)	55.23	246	P	P	20 08 14.1	-0.6
	9.8nm,1.0s,mb4.1,baz=140,slow=7.8,SNR=8.3						
NWAO	Narrogin (SRO)	55.23	246	*e*P	P	20 08 14.3	-0.4
MBWA	Marble Bar	55.38	260	*e*P	P	20 08 15.0	-1.0
QSPA	South Pole Qui	66.14	180	*e*P	P	20 09 27.3	+1.4
	5.7nm,0.6s,mb4.3,baz=26,slow=0.9,SNR=17						
QSPA	South Pole Qui	66.14	180	*e*P	P	20 09 27.1	+1.2
	6.5nm,0.8s,mb4.3						
MAW	Mawson	77.71	200	P	P	20 10 34.2	+0.7
	4.2nm,0.6s,mb4.0,baz=101,slow=5.7,SNR=8.3						
MAW	Mawson	77.71	200	P	P	20 10 34.2	+0.7
CMAR	Chiang Mai Arr	89.56	290	P	P	20 11 34.4	+1.0
	1.2nm,0.8s,mb3.8,baz=143,slow=3.3,SNR=10						
CMAR	Chiang Mai Arr	89.56	290	P	P	20 11 34.4	+1.0
CHTO	Chiang Mai	89.71	291	*e*P	P	20 11 34.6	+0.5
	1.6nm,1.0s,mb3.8						
TXAR	Lajitas Array	90.44	58	P	P	20 11 37.1	-0.1
	1.3nm,0.7s,mb3.9,baz=213,slow=6.4,SNR=16						
TXAR	Lajitas Array	90.44	58	P	P	20 11 37.1	-0.1
PDAR	Pinedale Array	92.71	44	P	P	20 11 46.6	-0.8
	0.5nm,0.8s,mb3.6,baz=248,slow=4.8,SNR=1.8						
PDAR	Pinedale Array	92.71	44	P	P	20 11 46.6	-0.8
MKAR	Makanchi Array	112.20	313	PKiKP	PKiKP	20 17 05.6	-1.8
	0.2nm,0.6s,baz=90,slow=1.7,SNR=2.7						
MKAR	Makanchi Array	112.20	313	PKiKP	PKiKP	20 17 05.6	-1.8
ARCES	ARCESS Array B	131.94	348	PKP	PKPdf	20 17 43.6	-0.9
	6.0nm,1.1s,baz=70,slow=1.9,SNR=6.3						
ARCES	ARCESS Array B	131.94	348	PKP	PKPdf	20 17 43.6	-0.9
FINES	FINESS Array B	138.50	341	PKP	PKPdf	20 17 56.6	-0.3
	4.7nm,1.1s,baz=64,slow=3.2,SNR=4.0						
FINES				SKPbc	SKPbc	20 20 40.9	-2.9
	1.9nm,0.7s,baz=48,slow=2.8,SNR=8.5						
FINES	FINESS Array B	138.50	341	PKP	PKPdf	20 17 56.6	-0.3
FINES				SKPbc	SKPbc	20 20 40.9	-2.9
AKASG	Malin Array Be	145.02	327	PKP	PKPdf	20 18 07.4	-1.4
	1.2nm,0.3s,baz=45,slow=4.2,SNR=8.8						
AKASG	Malin Array Be	145.02	327	PKP	PKPdf	20 18 07.4	-1.4
BRTR	Keskin Array B	147.62	307	PKPbc	PKPbc	20 18 15.6	-1.6
	0.8nm,0.6s,baz=143,slow=5.6,SNR=8.2						
BRTR				PKPab	PKPab	20 18 20.7	-0.4
	1.1nm,0.3s,baz=107,slow=4.3,SNR=20						
BRTR	Keskin Array B	147.62	307	PKPbc	PKPbc	20 18 15.6	-1.6
BRTR				PKPab	PKPab	20 18 20.7	-0.4
CLL	Collm	150.91	343	*e*PKPbc	PKPbc	20 18 23.0	-1.6

MEX 10 20:49:10.4±0.8, 16°.58N×98°.10W, h46km±13km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.19	188	*i* P	Pn	20 49 16.9	-1.4
PNIG				*i* S	Sn	20 49 22.1	-1.6
UTMO	Huajuapan	1.27	13	*i* P	Pn	20 49 30.1	-1.7
UTMO				*i* S	Sn	20 49 46.1	-1.6
ACX	Acapulco	1.71	280	*e*P	Pn	20 49 37.3	-0.4
ACX				*i* S	Sn	20 49 56.2	-2.2
CAIG	El Cayaco	2.13	283	*e*P	Pn	20 49 42.2	-1.2
CAIG				*i* S	Sn	20 50 07.5	-1.2

*NAO **10** 21:07:05.1±0.8, 67°.15N×20°.83E, ML2.5*
*HEL **10** 21:07:05.3, 67°.11N×20°.75E, h0km, ML2.5, Explosion*
*ISCJB **10** 21:07:05.2±0.3, 67°.06N±0°.02×21°.14E±0°.07, h0km, Error ellipse: s-maj=4.1km s-min=3.1km az=17.6*
*UPP **10** 21:07:06.4, 67°.07N×20°.89E, h0km, ML2.6, Mining explosion.*
*IDC **10** 21:07:07.0±0.7, 67°.05N×21°.27E, h0km, mb1 3.6/5, mb1mx3.3/26, mbtmp3.6/5, ML3.2/5, Error ellipse: s-maj=13.4km s-min=5.9km az=112.0*
*CSEM **10** 21:07:06.4±0.2, 67°.07N×21°.00E, h2km, ML3.8/6, Error ellipse: s-maj=4.6km s-min=3.4km az=105.0, Mining explosion.*
*BER **10** 21:07:08.4±3.2, 67°.07N×21°.05E, h0km, ML2.6, ML2.5(NAO), Suspected explosion*

ISC 10 21:07:06.1±0.3, 67°.05N±0°.02×21°.08E±0°.06, h0km, n75, σ1°07/110, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.66	138	*i* S	Sg	21 07 35.0	+7.6
HARU	Harads	0.89	183	*e*P	Pg	21 07 23.2	0.0
HARU	Harads	0.89	183	P	Pg	21 07 23.2	0.0
SALU	Saltoluokta	1.06	289	*e*P	Pg	21 07 25.0	-1.3
SALU	Saltoluokta	1.06	289	P	Pg	21 07 25.0	-1.3
LANU	Lannavaara	1.06	19	*e*P	Pg	21 07 25.3	-1.1
LANU				*e*S	Sg	21 07 35.8	-4.3
LANU				*e*RG		21 07 40.3	
LANU	Lannavaara	1.06	19	P	Pg	21 07 25.8	-0.6
KALU	Kalix	1.51	142	*e*P	Pn	21 07 34.5	+0.2
KALU	Kalix	1.51	142	P	Pn	21 07 34.5	+0.2
SJUU	Sjulsmark	1.56	172	*e*P	Pn	21 07 35.1	0.0
SJUU	Sjulsmark	1.56	172	P	Pn	21 07 35.1	0.

BREU	Bredtraesk	3.34	199	eP		Pn	21 07 59.9 +0.4
BREU	Bredtraesk	3.34	199	P		Pn	21 07 59.9 +0.4
VRF	Varrio	3.37	74	eP		Pn	21 08 00.9 +1.1
VRF				eSG		Sg	21 08 50.5 -3.6
VRF				MSG			21 08 50.5
	comp=Z,8.2nm,0.2s						
VRF	Varrio	3.37	74	P		Pn	21 08 00.9 +1.1
MSF	Maaselka	3.39	106	eP		Pn	21 08 01.4 +1.3
MSF	Maaselka	3.39	106	P		Pn	21 08 01.4 +1.3
KEV	Kevo	3.49	36	eP		Pn	21 08 01.7 +0.2
	baz=217						
KEV	Kevo	3.49	36	P		Pn	21 08 01.6 +0.1
KU6	Riekki	3.67	102	eP		Pn	21 08 05.3 +1.3
	baz=288						
KU6				eSG		Sg	21 09 03.8 -0.1
KU6				MSG			21 09 03.8
	comp=Z,14nm,0.4s						
KU6	Riekki	3.67	102	P		Pn	21 08 05.2 +1.2
KU6				Sg		Sg	21 09 03.8 -0.1
	comp=Z,14nm,0.4s						
VAF	Ylistaro	4.08	170	eP		Pn	21 08 10.5 +0.9
	baz=346						
VAF				eSG		Sg	21 09 14.9 -2.2
VAF				MSG			21 09 14.9
	comp=Z,9.2nm,0.4s						
VAF	Ylistaro	4.08	170	P		Pn	21 08 10.5 +0.8
SOLU	Sollefteaa	4.15	205	eP		Pn	21 08 10.7 +0.1
SOLU	Sollefteaa	4.15	205	P		Pn	21 08 10.7 +0.1
APA0	Apatity Array	4.64	78	Pn		Pn	21 08 17.0 -0.3
	baz=262,slow=11						
APA0				Sn		Sn	21 09 10.7 -1.1
	baz=272,slow=28						
APA0				Lg			21 09 28.7
	baz=274,slow=28						
APA0	Apatity Array	4.64	78	eP		Pn	21 08 17.0 -0.3
APA0				eS		Sn	21 09 10.7 -1.1
APA0				eSG		Sg	21 09 28.7 -6.3
APA0	Apatity Array	4.64	78	P		Pn	21 08 17.0 -0.3
APA0				S		Sn	21 09 10.7 -1.1
FIA0	FINESS Array S	6.04	157	Pn		Pn	21 08 37.9 +1.4
	baz=346,slow=14						
FIA0				Sn		Sn	21 09 45.0 -1.2
	baz=348,slow=28						
FIA0				Lg			21 10 15.7
	baz=342,slow=37						
FIA0	FINESS Array S	6.04	157	eP		Pn	21 08 37.9 +1.4
FIA0				eS		Sn	21 09 45.0 -1.2
FIA0				eSG		Sg	21 10 15.7 -4.0
FIA0	FINESS Array S	6.04	157	P		Pn	21 08 37.9 +1.4
FINES	FINESS Array B	6.04	157	Pn		Pn	21 08 37.9 +1.4
	comp=Z,0.8nm,0.3s,baz=349,slow=12,SNR=26						
FINES				Sn		Sn	21 09 45.6 -0.5
	comp=Z,1.9nm,0.3s,baz=351,slow=23,SNR=13						
FINES				Lg			21 10 15.7
	comp=Z,1.5nm,0.3s,baz=343,slow=27,SNR=6.9						
NB2	NORSAR Subarra	7.42	220	Pn		Pn	21 08 53.7 -1.7
	baz=28,slow=12						
NB2				Lg			21 10 57.3
	baz=29,slow=28						
NB2	NORSAR Subarra	7.42	220	eP		Pn	21 08 53.7 -1.7
NB2				eSG		Sg	21 10 57.3 -6.8
NB2	NORSAR Subarra	7.42	220	P		Pn	21 08 53.7 -1.7
NOA	NORSAR Array B	7.42	220	Pn		Pn	21 08 55.6 +0.2
	comp=Z,0.4nm,0.3s,baz=26,slow=11,SNR=11						
NOA				Sn		Sn	21 10 16.8 -3.4
	comp=Z,0.3nm,0.3s,baz=32,slow=17,SNR=2.9						
NOA				Lg			21 10 54.9
	comp=Z,0.8nm,0.3s,baz=137,slow=23,SNR=4.5						
NC602	NORSAR Array S	7.60	218	eP		Pn	21 08 57.4 -0.5
NC602	NORSAR Array S	7.60	218	eP		Pn	21 08 57.4 -0.5
	SNR=47						
HFS	Hagfors	7.68	209	Pn		Pn	21 08 57.7 -1.3
	baz=23,slow=12						
HFS				Sn		Sn	21 10 22.3 -4.2
	baz=32,slow=28						
HFS				Lg			21 11 03.2
	baz=36,slow=28						
HFS	Hagfors	7.68	209	Pn		Pn	21 08 58.6 -0.4
	comp=Z,0.5nm,0.3s,baz=29,slow=13,SNR=26						
HFS				Sn		Sn	21 10 22.2 -4.4
	comp=Z,0.3nm,0.3s,baz=47,slow=24,SNR=3.5						
HFS				Lg			21 11 04.1
	comp=Z,0.4nm,0.3s,baz=43,slow=30,SNR=3.1						
HFS	Hagfors	7.68	209	eP		Pn	21 08 57.7 -1.3
HFS				eS		Sn	21 10 22.3 -4.2
HFS				eSG		Sg	21 11 03.2 -9.3
HFS	Hagfors	7.68	209	P		Pn	21 08 57.7 -1.3
	baz=23,slow=12,SNR=47						
SPITS	Spitsbergen Ar	11.27	355	Pn		Pn	21 09 47.7 -0.4
	baz=178,slow=17,SNR=2.4						

IDC 10 21:13:57.1±1.1, 1°.28N×126°.93E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/18, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=111.2km s-min=15.8km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.30	184		P	21 18 24.8	+0.1
	0.2nm,0.3s,baz=325,slow=19,SNR=7.6						
WRA	Warramunga Arr	22.30	161	P	P	21 18 56.1	-0.2
	2.4nm,0.6s,baz=340,slow=11,SNR=34						
ASAR	Alice Springs	25.70	165	P	P	21 19 28.8	-0.4
	1.2nm,0.4s,baz=346,slow=12,SNR=15						
STKA	Stephens Creek	35.78	158	P	P	21 20 58.4	+0.2
	1.4nm,0.7s,baz=5.7,slow=10,SNR=3.3						
SONM	Songino Array	49.67	342	P	P	21 22 51.7	+1.1
	0.4nm,0.8s,baz=148,slow=8.5,SNR=2.8						
MKAR	Makanchi Array	59.68	326	P	P	21 24 03.1	-0.2
	0.6nm,0.7s,baz=119,slow=7.8,SNR=7.7						
ZALV	Zalesovo Beam	62.85	334	P	P	21 24 24.0	-0.7
	0.3nm,0.4s,baz=86,slow=5.9,SNR=1.9						
BVAR	Borovoye Array	69.48	327	P	P	21 25 07.2	-0.1
	0.3nm,0.5s,baz=110,slow=8.5,SNR=3.6						

*LDG **10** 21:33:23.8±0.3, 16°.28N×61°.51W, h10km, Mb4.8/13, Ms3.6/5, Error ellipse: s-maj=18.2km s-min=11.4km az=102.0*

*IDC **10** 21:33:26.7±0.5, 16°.11N×60°.75W, h0km, mb4.3/24, mb1 4.5/25, mb1mx4.4/27, mbtmp4.3/25, ML6.2/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/33, Error ellipse: s-maj=12.1km s-min=10.2km az=38.0*

*ISCJB **10** 21:33:29.0±0.6, 16°.07N±0°.02×60°.67W±0°.02, h23km±4km, mb4.5/62, MS3.7/6, Error ellipse: s-maj=3.9km s-min=2.5km az=161.8*

*TRN **10** 21:33:28.8, 16°.04N×60°.81W, h21km, MD4.2, M4.3(FDD), M4.2(FDD)*

TRN Felt III in Guadeloupea nd II in Martinique.

*NEIC **10** 21:33:29.1±2.3, 15°.99N×60°.57W, h11km±14km, mb4.8/37, Error ellipse: s-maj=5.7km s-min=4.4km az=214.0*

ISC 10 21:33:29.2±0.5, 16°.03N±0°.01×60°.68W±0°.02, h11km±3km, n204, σ1§14/228, mb4.5/62, MS3.7/6, 13C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	La Desirade	0.46	308	⇓iP	Pg	21 33 37.1	-1.1
SFG	Saint Francois	0.54	294	⇓iP	Pg	21 33 39.2	-0.6
MGG	Marie-Galante	0.62	260	⇑iP	Pg	21 33 41.3	+0.1
DWS	Wesley	0.76	233	⇓iP	Pg	21 33 44.8	+0.8
DWS				eS	Sg	21 33 55.8	+1.9
DLPL	La Plaine	0.88	218	⇑iP	Pg	21 33 45.6	-0.6
DLPL				eS	Sg	21 33 58.5	+0.7
DOG	Dongo Capester	0.90	270	⇑iP	Pg	21 33 45.8	-0.8
BCG	Bois Riant Cap	0.90	274	⇑iP	Pg	21 33 45.8	-0.9
PHG	Guadaloupe-2	0.92	269	⇑iP	Pg	21 33 46.2	-0.8
TBG	Guadaloupe-3	0.94	259	iP	Pg	21 33 46.3	-1.1
SCG	Saint Claude	0.96	270	⇑iP	Pg	21 33 46.7	-1.0
HMG	Houelmont	0.98	267	⇑iP	Pg	21 33 47.0	-1.1
LZG	Guadaloupe-1	1.05	276	⇑iP	Pb	21 33 47.7	-1.8
FDF	Fort de France	1.37	199	ePn	Pn	21 33 53.0	-1.2
FDF				eSn	Sn	21 34 12.6	+0.3
FDF	Fort de France	1.37	199	⇑eP	Pn	21 33 52.9	-1.3
MVM	Montagne Vaucl	1.48	188	⇑eP	Pn	21 33 55.4	-0.4
BPA	Boggy Peak	1.51	312	⇑eP	Pn	21 33 55.5	-0.7
BPA				eS	Sn	21 34 14.2	-1.7
BIM	Bigot	1.55	194	⇑eP	Pn	21 33 56.1	-0.6
BIM				⇑eS	Sn	21 34 16.2	-0.6
ANWB	Willy Bob	1.94	327	ePn	Pn	21 33 59.8	-2.3
ANWB				eSn	Sn	21 34 28.1	+1.6
SLW	Petit Monier	2.01	187	⇓eP	Pn	21 34 02.9	-0.2
SLW				⇓eS	Sn	21 34 29.7	+1.4
SLB	Belfond	2.22	189	eP	Pn	21 34 06.9	+0.9
MCLT	Moule a Chique	2.32	186	eP	Pn	21 34 07.3	-0.1
MCLT				eS	Sn	21 34 35.2	-0.7
SKI	Saint Kitts	2.36	304	eP	Pn	21 34 07.1	-0.7
SKI				eS	Sn	21 34 35.5	-1.3
SVV	Soufriere Volc	2.75	191	eP	Pn	21 34 14.7	+1.5
SVV				eS	Sn	21 34 46.7	+0.4
BHS	Barnard House	2.75	189	eP	Pn	21 34 14.7	+1.4
BHS				eS	Sn	21 34 45.8	-0.7
SVB	Belmont	2.80	191	eP	Pn	21 34 14.1	+0.2
SVB				eS	Sn	21 34 47.3	-0.3
FCV	Fort Charlotte	2.91	191	eP	Pn	21 34 16.0	+0.5
FCV				eS	Sn	21 34 50.3	-0.1
BBGH	Gun Hill	3.07	159	ePn	Pn	21 34 17.0	-0.7
BBGH				eSn	Sn	21 34 52.8	-1.6
GRSS	Sisters	3.82	194	⇑iP	Pn	21 34 28.1	+0.2
GRSS				eS	Sn	21 35 10.6	-2.2
GRIC	Isle de Caille	3.82	193	⇓iP	Pn	21 34 28.3	+0.3
GRIC				eS	Sn	21 35 13.0	0.0
GRW	Mount Saint Ca	3.96	194	⇓iP	Pn	21 34 30.3	+0.4
GRW				eS	Sn	21 35 16.3	-0.1
GRGR	Grenville	3.99	194	ePn	Pn	21 34 30.7	+0.4
GRGR				eSn	Sn	21 35 18.2	+1.1
CDVI	St. Croix	4.27	294	ePn	Pn	21 34 35.2	+1.1
STVI	Saint Thomas	4.69	300	ePn	Pn	21 34 41.9	+2.0
STVI				eSn	Sn	21 35 34.7	+0.4
TOSP	Speyside	4.71	178	eP	Pn	21 34 42.4	+2.2
TOSP				eS	Sn	21 35 33.1	-1.7
MTP	Monte Pirata	5.09	295	ePn	Pn	21 34 46.8	+1.4
	93nm,0.6s						
MTP				eSn	Sn	21 35 42.9	-1.3
HUMP	Col San Antoni	5.37	294	ePn	Pn	21 34 50.1	+0.8
HUMP				eSn	Sn	21 35 51.2	+0.1
CBYP	Canovanas	5.42	295	ePn	Pn	21 34 50.5	+0.5
	180nm,0.7s						
CBYP				eSn	Sn	21 35 51.2	-1.3
SJG	San Juan	5.62	292	Pn	Pn	21 34 52.5	-0.2
	16nm,0.3s,baz=134,slow=13,SNR=16						
SJG				Sn	Sn	21 35 55.8	-1.6
	1.0nm,0.3s,baz=77,slow=23,SNR=1.2						
SJG	San Juan	5.62	292	ePn	Pn	21 34 54.2	+1.4
SJG				eSn	Sn	21 35 57.5	+0.2
ICM	Isla Caja Muer	5.88	289	ePn	Pn	21 34 57.0	+0.6
CELP	Cerrillos	5.99	291	ePn	Pn	21 34 57.9	0.0
CELP				eSn	Sn	21 36 05.4	-1.1
OBIP	Obispado Ponce	6.01	290	ePn	Pn	21 34 57.9	-0.2
AOPR	Arecibo Observ	6.24	293	ePn	Pn	21 35 02.3	+1.0
LRS	Lares	6.30	292	ePn	Pn	21 35 04.4	+2.2
LRS				eSn	Sn	21 36 12.8	-1.4
CRPR	Cabo Rojo, PR	6.45	289	ePn	Pn	21 35 04.0	-0.2
CRPR				eSn	Sn	21 36 17.0	-0.9
LSP	Las Mesas	6.48	290	ePn	Pn	21 35 06.5	+1.9
LSP				eSn	Sn	21 36 18.0	-0.6
SDDR	Presa de Saban	10.53	288	ePn	Pn	21 36 02.2	+2.0
SDDR				eSn	Sn	21 37 57.0	-1.2
SDV	Santo Domingo	12.03	235	ePn	Pn	21 36 18.2	-2.5
SDV				eSn	Sn	21 38 32.6	-2.3
ROSC	El Rosal	17.40	232	P	Pn	21 37 34.9	+2.7
	2.1nm,0.3s,baz=97,slow=21,SNR=6.6						
ROSC				LR	LR	21 44 41.0	
	comp=Z,103nm,20.6s,baz=9.8,slow=39						
ROSC	El Rosal	17.40	232	P	Pn	21 37 34.9	+2.7
BCIP	Isla Barro Col	19.89	252	ePn	Pn	21 38 01.2	-1.2
	232nm,1.7s						
OTAV	Otavalo	23.53	230	eP	P	21 38 38.1	-1.7
	8.2nm,1.0s,mb4.1						
JTS	JuntasAbangare	24.30	259	P	P	21 38 49.6	+2.7
	8.8nm,1.0s,mb4.1,baz=37,slow=15,SNR=3.2						
JTS	JuntasAbangare	24.30	259	P	P	21 38 49.6	+2.7
SAML	Samuel	24.94	186	eP	P	21 38 54.3	+1.6
	10nm,0.8s,mb4.4						
TEIG	Tepich	26.54	283	P	P	21 39 07.3	+0.1
	4.7nm,0.4s,mb4.3,baz=63,slow=18,SNR=4.3						
TEIG	Tepich	26.54	283	P	P	21 39 07.3	+0.1
TKL	Tuckaleechee C	28.40	318	P	P	21 39 22.6	-1.1
	11nm,0.5s,mb4.7,baz=305,slow=22,SNR=9.6						
TKL	Tuckaleechee C	28.40	318	eP	P	21 39 22.6	-1.1
ATAH	Atahualpa	28.93	219	P	P	21 39 27.5	-1.1
	3.3nm,0.5s,mb4.3,baz=5.7,slow=10,SNR=2.6						
ATAH	Atahualpa	28.93	219	P	P	21 39 27.5	-1.1
PLAL	Pickwick Lake	30.94	313	eP	P	21 39 46.5	+0.2
	11nm,0.8s,mb4.7						
LPAZ	La Paz	32.94	193	P	P	21 40 04.7	+0.7
	1.5nm,0.8s,mb4.0,baz=17,slow=8.3,SNR=6.4						
LPAZ				LR	LR	21 54 45.5	
	comp=Z,84nm,19.2s,MS3.5,baz=2.8,slow=39						
LPAZ	La Paz	32.94	193	eP	P	21 40 04.0	0.0
	4.8nm,1.0s,mb4.4						
CCM	Cathedral Cave	34.70	315	eP	P	21 40 20.1	+1.0
	180nm,2.9s,mb5.5						
JCT	Junction City	38.50	299	eP	P	21 40 52.0	+0.3
	19nm,1.0s,mb4.8						
WMOK	Wichita Mounta	38.84	306	eP	P	21 40 55.5	+1.0
	5.1nm,0.8s,mb4.3						
SCHQ	Schefferville	39.01	354	P	P	21 40 55.1	-0.5
	6.6nm,0.8s,mb4.4,baz=111,slow=6.9,SNR=4.4						
SCHQ	Schefferville	39.01	354	P	P	21 40 55.1	-0.5
CBKS	Cedar Bluff	41.00	311	eP	P	21 41 16.1	+3.8
ECSD	EROS Data Cent	41.11	320	eP	P	21 41 16.5	+3.4
AMTX	Amarillo	41.16	305	eP	P	21 41 15.8	+2.2
TXAR	Lajitas Array	41.58	296	P	P	21 41 16.4	-0.8
	0.7nm,0.5s,mb3.5,baz=126,slow=6.4,SNR=11						
TXAR	Lajitas Array	41.58	296	P	P	21 41 16.4	-0.8
CPUP	Villa Florida	42.23	176	P	P	21 41 22.1	-0.4
	3.7nm,0.8s,mb4.0,baz=339,slow=7.9,SNR=7.4						
CPUP	Villa Florida	42.23	176	P	P	21 41 22.1	-0.4
MNTX	Cornudas Mount	43.44	299	eP	P	21 41 31.6	-0.7
ULM	Lac du Bonnet	44.36	328	P	P	21 41 37.3	-2.1
	4.3nm,0.5s,mb4.4,baz=128,slow=9.7,SNR=8.0						
ULM	Lac du Bonnet	44.36	328	P	P	21 41 37.3	-2.1
BNM	Barren Site	44.94	302	eP	P	21 41 45.2	+0.9
	11nm,1.2s,mb4.6						
ANMO	Albuquerque	44.97	304	P	P	21 41 44.4	-0.2
	1.8nm,0.8s,mb4.0,baz=124,slow=11						
ANMO	Albuquerque	44.97	304	P	P	21 41 44.4	-0.2
ISCO	Idaho Springs	45.62	310	eP	P	21 41 52.6	+3.0
PHWY	Pilot Hill	45.99	312	eP	P	21 41 55.0	+2.4
	4.8nm,0.8s,mb4.5						
RSSD	Black Hills	46.05	317	eP	P	21 41 53.5	+0.5
SMCO	Snowmass	46.44	309	eP	P	21 42 00.2	+4.1
	4.8nm,1.0s,mb4.4						
PV01	Paradox Valley	47.37	307	eP	P	21 42 04.0	+0.6
	603nm,1.2s						
CFAA	Coronel Fontan	47.91	189	P	P	21 42 07.6	0.0
	0.5nm,0.9s,mb3.6,baz=1.0,slow=8.3,SNR=3.3						
CFAA	Coronel Fontan	47.91	189	P	P	21 42 07.6	0.0
FRB	Frobisher Bay	47.98	355	P	P	21 42 06.7	-1.0
	5.9nm,0.8s,mb4.7,baz=155,slow=8.4,SNR=6.1						
FRB	Frobisher Bay	47.98	355	P	P	21 42 06.7	-1.0
WUAZ	Wupatki	49.03	303	eP	P	21 42 17.5	+1.2
PDAR	Pinedale Array	49.35	313	P	P	21 42 18.0	-0.6
	11nm,0.8s,mb4.9,baz=121,slow=9.7,SNR=35						
PDAR	Pinedale Array	49.35	313	P	P	21 42 18.0	-0.6
PD01	Pinedale Array	49.37	313	eP	P	21 42 17.9	-0.9
RLMT	Red Lodge	49.90	316	eP	P	21 42 23.6	+0.9
	15nm,0.9s,mb5.0						
DAU	Daniels Canyon	49.94	310	eP	P	21 42 26.1	+2.8
JLU	Jordanelle	50.13	310	eP	P	21 42 27.4	+2.8
	8.7nm,0.9s,mb4.8						
LOHW	Long Hollow	50.33	314	eP	P	21 42 27.3	+1.2
	4.8nm,0.8s,mb4.6						
AHID	Auburn Hatcher	50.44	313	eP	P	21 42 29.1	+2.2
	12nm,0.9s,mb4.9						
HWUT	Hardware Ranch	50.47	311	eP	P	21 42 28.6	+1.5
	4.4nm,0.6s,mb4.7						
FLWY	Flagg Ranch	50.54	314	eP	P	21 42 29.9	+2.3
IMW	Indian Meadow	50.65	314	eP	P	21 42 32.4	+3.9
	4.2nm,0.8s,mb4.4						
RRI2	Red Ridge	50.76	313	eP	P	21 42 29.1	-0.2
	11nm,0.9s,mb4.8						
CCUT	Cedar City	50.96	306	eP	P	21 42 32.6	+1.7
	4.0nm,1.0s,mb4.3						
EVOP	Sao Brissos	51.04	53	eP	P	21 42 31.2	-0.3
	21nm,1.0s,mb5.0						
ARUT	Antelope Range	51.06	306	eP	P	21 42 33.2	+1.5
	5.1nm,0.8s,mb4.5						
EVO	Evora	51.13	53	eP	P	21 42 31.2	-1.0
	21nm,1.0s,mb4.7						
QLMT	Earthquake Lak	51.26	315	eP	P	21 42 34.0	+1.0
HVU	Hansel Valley	51.39	311	eP	P	21 42 37.7	+3.7
	7.4nm,0.9s,mb4.6						
HRY	Holter Researc	52.10	317	eP	P	21 42 41.9	+2.5
DLMT	Dillon	52.21	315	eP	P	21 42 44.8	+4.7
	6.2nm,0.9s,mb4.5						
SLMT	Seeley Lake	53.35	317	eP	P	21 42 51.0	+2.5
SWMT	Swartz Lake	53.76	318	eP	P	21 42 53.8	+2.3
ESDC	Sonseca Array	54.43	52	P	P	21 42 56.0	-0.6
	2.8nm,0.8s,mb4.3,baz=253,slow=7.8,SNR=13						
ESDC	Sonseca Array	54.43	52	P	P	21 42 56.0	-0.6
NVAR	Mina Array Bea	54.95	306	P	P	21 43 01.1	+0.8
	2.8nm,0.8s,mb4.3,baz=98,slow=6.3,SNR=11						
NVAR	Mina Array Bea	54.95	306	P	P	21 43 01.1	+0.8
DBIC	Dimbokro	55.38	93	P	P	21 43 03.1	-0.7
	6.5nm,0.8s,mb4.7,baz=280,slow=9.0,SNR=12						
DBIC	Dimbokro	55.38	93	eP	P	21 43 03.5	-0.3
NEW	Newport	55.99	318	eP	P	21 43 11.2	+3.5
	15nm,0.7s,mb5.1						
LNOR	Lincton Mounta	56.20	315	eP	P	21 43 10.8	+1.6
	5.8nm,0.9s,mb4.6						
QUIF	Quistinic	56.60	43	eP	P	21 43 11.3	-0.8
QUIF	Quistinic	56.60	43	eP	P	21 43 11.3	-0.8
OD2	Odessa Site #2	56.82	316	eP	P	21 43 15.2	+1.6
SJPF	Ste Jean	56.99	49	eP	P	21 43 14.6	-0.4
	24nm,0.9s,mb4.9						
SJPF	Ste Jean	56.99	49	eP	P	21 43 14.6	-0.4
	24nm,0.9s,mb5.2						
SGMF	Saint Gilles	57.08	43	eP	P	21 43 15.3	-0.1
SGMF	Saint Gilles	57.08	43	eP	P	21 43 15.3	-0.1
PLCA	Paso Flores	57.21	189	P	P	21 43 16.7	+0.4
	3.1nm,1.0s,mb4.3,baz=8.3,slow=7.0,SNR=3.8						
PLCA				LR	LR	22 09 55.7	
	comp=Z,59nm,18.9s,MS3.7,baz=300,slow=38						
PLCA	Paso Flores	57.21	189	P	P	21 43 16.7	+0.4
ETSF	Etsaut	57.45	49	eP	P	21 43 18.3	+0.2
ETSF	Etsaut	57.45	49	eP	P	21 43 18.3	+0.2
SUMG	Summit	58.00	8	iP	P	21 43 20.9	-0.7
	7.4nm,1.0s,mb4.7						
EPF	Esparros	58.12	49	eP	P	21 43 22.4	-0.5
	13nm,1.0s,mb4.6						
EPF	Esparros	58.12	49	eP	P	21 43 22.4	-0.5
	13nm,1.0s,mb4.9						
GRR	Gorron	58.21	43	eP	P	21 43 23.2	-0.2
	34nm,1.2s,mb5.0						
GRR	Gorron	58.21	43	eP	P	21 43 23.2	-0.2
	34nm,1.2s,mb5.2						
MFF	Saint Martin d	58.34	45	eP	P	21 43 24.5	+0.1
	24nm,1.1s,mb4.8						
MFF	Saint Martin d	58.34	45	eP	P	21 43 24.5	+0.1
	24nm,1.0s,mb5.2						
FLN	La Foliniere	58.54	42	eP	P	21 43 25.7	0.0
	16nm,0.9s,mb4.8						
FLN				eR			
	93nm,18.2s						
FLN	La Foliniere	58.54	42	eP	P	21 43 25.7	0.0
	16nm,0.9s,mb5.1						
LFF	La Frestale	58.68	47	eP	P	21 43 26.7	0.0
	151nm,1.8s,mb5.4						
LFF	La Frestale	58.68	47	eP	P	21 43 26.7	0.0
	151nm,1.8s						
RJF	Les Rejaudoux	59.27	47	eP	P	21 43 30.6	-0.3
	17nm,1.0s,mb4.7						
RJF				eR			
	106nm,21.5s						
RJF	Les Rejaudoux	59.27	47	eP	P	21 43 30.6	-0.3
	17nm,1.0s,mb5.0						
MTLF	Montolieu	59.52	49	eP	P	21 43 32.4	-0.2
MTLF	Montolieu	59.52	49	eP	P	21 43 32.4	-0.2
YKA	Yellowknife Ar	59.60	334	P	P	21 43 30.8	-2.0
	2.6nm,0.7s,mb4.4,baz=107,slow=7.6,SNR=19						
YKA	Yellowknife Ar	59.60	334	P	P	21 43 30.8	-2.0
CAF	Calviac	59.61	47	eP	P	21 43 33.2	0.0
CAF	Calviac	59.61	47	eP	P	21 43 33.2	0.0
TCF	Toulx Ste Croi	59.90	46	eP	P	21 43 34.0	-1.2
TCF	Toulx Ste Croi	59.90	46	eP	P	21 43 34.0	-1.2
TORD	Torodi Ar. Bea	60.24	84	P	P	21 43 36.7	-1.3
	1.5nm,0.7s,mb4.1,baz=293,slow=6.1,SNR=11						
TORD				LR	LR	22 06 17.9	
	comp=Z,70nm,18.5s,MS3.8,baz=285,slow=33						
TORD	Torodi Ar. Bea	60.24	84	P	P	21 43 36.7	-1.3
BGF	Bois d'Agland	60.37	45	eP	P	21 43 37.4	-1.0
BGF	Bois d'Agland	60.37	45	eP	P	21 43 37.4	-1.0
AVF	Avril sur Loir	60.75	45	eP	P	21 43 40.6	-0.4
	30nm,1.4s,mb4.9						
AVF	Avril sur Loir	60.75	45	eP	P	21 43 40.6	-0.4
	30nm,1.4s,mb5.2						
SMF	Signal de Mont	61.06	45	eP	P	21 43 42.8	-0.3
	34nm,1.3s,mb5.0						
SMF	Signal de Mont	61.06	45	eP	P	21 43 42.8	-0.3
	34nm,1.3s,mb5.3						
LOR	Lormes	61.16	45	eP	P	21 43 43.2	-0.5
	12nm,0.9s,mb4.7						
LOR				eR			
	76nm,17.9s						
LOR	Lormes	61.16	45	eP	P	21 43 43.2	-0.5

JGM	**Miyama**	**0.43**	**40**	⇓P	Pg	21 33 40.8	+0.1
JGM				S	Sg	21 33 46.6	+0.1
TSUJ	**Tsu 2**	**0.66**	**177**	⇑P	Pg	21 33 44.6	-0.4
TSUJ				S	Sg	21 33 53.1	-0.6
JWT	**Wachi**	**0.81**	**264**	⇓P	Pg	21 33 47.0	-0.7
JWT				S	Sg	21 33 57.8	-0.5
JKG	**Kaga**	**0.91**	**358**	P	Pb	21 33 49.3	-0.2
JKG				S	Sb	21 34 01.2	-0.2
JHE	**Heguri**	**0.92**	**219**	⇓P	Pb	21 33 49.1	-0.5
JHE				S	Sb	21 34 01.0	-0.6
JIE	**Ise**	**1.01**	**165**	P	Pb	21 33 50.5	-0.8
JIE				S	Sb	21 34 03.6	-0.8
JKY	**Yasaka**	**1.07**	**284**	⇓P	Pb	21 33 52.1	-0.2
JKY				S	Sb	21 34 06.0	-0.2
MAT	**Matsushiro**	**1.89**	**51**	P	Pn	21 34 05.0	+1.2
MAT				S	Sn	21 34 31.3	+4.0

MEX 10 21:36:26.3±1.1, 16°.14N×98°.13W, h6km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.26**	**1**	*i* P	Pg	21 36 30.1	-1.2
PNIG				*i* S	Sg	21 36 35.7	+0.9
VHO	**Vista Hermosa**	**1.63**	**55**	*i* P	Pn	21 36 52.3	-3.2
VHO				*i* S	Sn	21 37 12.1	-4.8
UTMO	**Huajuapan**	**1.71**	**11**	*i* P	Pn	21 36 53.7	-3.0
UTMO				*i* S	Sn	21 37 14.5	-4.4
ACX	**Acapulco**	**1.81**	**294**	*e*P	Pn	21 36 55.3	-2.6
ACX				*i* S	Sn	21 37 15.9	-5.3
HUIG	**Huatulco**	**1.98**	**100**	*i* P	Pn	21 36 57.1	-3.3
HUIG				*i* S	Sn	21 37 21.0	-4.5
CAIG	**El Cayaco**	**2.24**	**294**	*i* P	Pn	21 37 02.0	-1.8
CAIG				*i* S	Sn	21 37 26.0	-5.8
MEIG	**Mezcala**	**2.28**	**322**	*i* P	Pn	21 37 02.2	-2.2
MEIG				*i* S	Sn	21 37 28.7	-4.1
TPIG	**Tehuac#an**	**2.39**	**18**	*i* P	Pn	21 37 02.4	-3.5
TPIG				*i* S	Sn	21 37 30.3	-5.2
PPM	**Popocatepetl**	**2.95**	**351**	*i* P	Pn	21 37 11.9	-1.8
PPM				*i* S	Sn	21 37 46.9	-2.6

*IDC **10** 21:45:15.7±16.0, 1°.09N×98°.42E, h69km±137km, mb3.3/5, mb1 3.4/6, mb1mx3.2/22, mbtmp3.2/6, ML3.6/1, Error ellipse: s-maj=156.8km s-min=19.6km az=59.0*
*ISCJB **10** 21:45:21.3±0.9, 1°.5N±0°.1×98°.8E±0°.2, h118km±8km, mb3.5/5, Error ellipse: s-maj=37.5km s-min=10.4km az=148.1*
*DJA **10** 21:45:23, 1°.54N×98°.81E, h68km, MLv3.5/7*
ISC 10 21:45:22.3±0.9, 1°.5N±0°.1×98°.9E±0°.2, h110km±8km, n12, σ1°18/13, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.03**	**136**	P	**Pn**	**21 45 43.1**	**-0.7**
MNSI				S	**Sn**	**21 45 53.5**	**-6.5**
PSI	**Prapat**	**1.26**	**3**	P	**Pn**	**21 45 45.0**	**-1.3**
TPTI		**2.40**	**316**	P	**Pn**	**21 46 00.0**	**-0.4**
BKNI	**Bangkinang**	**2.49**	**119**	P	**Pn**	**21 46 01.8**	**+0.2**
PPI	**Padang Panjang**	**2.51**	**142**	P	**Pn**	**21 46 03.6**	**+1.7**
PDSI	**Padang**	**2.91**	**147**	P	**Pn**	**21 46 08.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**16.82**	**0**	P	**Pn**	**21 49 12.2**	**+1.0**
	0.1nm,0.3s,baz=194,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**40.82**	**123**	P	**P**	**21 52 51.8**	**-1.6**
	0.7nm,0.6s,mb3.7,baz=302,slow=9.1,SNR=16						
ASAR	**Alice Springs**	**42.29**	**129**	P	**P**	**21 53 03.5**	**-1.8**
	0.2nm,0.4s,mb3.2,baz=298,slow=7.3,SNR=3.0						
SONM	**Songino Array**	**46.58**	**7**	P	**P**	**21 53 40.8**	**+1.7**
	0.4nm,0.8s,mb3.2,baz=175,slow=6.7,SNR=3.1						
MKAR	**Makanchi Array**	**47.34**	**345**	P	**P**	**21 53 45.8**	**+0.7**
	0.3nm,0.4s,mb3.3,baz=160,slow=8.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.51**	**350**	P	**P**	**21 54 30.8**	**-0.6**
	0.9nm,0.4s,mb4.2,baz=168,slow=6.0,SNR=5.5						

GUC 10 22:03:02.6±0.6, 32°.65S×71°.13W, h10km±4km, MD3.7, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.57**	**229**	*e*P	Pg	22 03 14.1	+0.4
CHNG	**Los Chungos**	**0.82**	**337**	*e*P	Pg	22 03 18.0	-0.5
CHNG				*e*S	Sg	22 03 29.3	0.0
RCDM	**Rinconada Maip**	**0.88**	**162**	*e*P	Pg	22 03 19.2	-0.4
CLCH	**Cerro Calan**	**0.90**	**147**	*e*P	Pg	22 03 19.4	-0.5
CLCH				*e*S	Sg	22 03 31.8	+0.2
FCH	**Farellones**	**0.98**	**134**	*e*P	Pg	22 03 20.9	-0.6
FCH				*e*S	Sg	22 03 35.2	+1.1
LNV	**Longovilo**	**1.33**	**190**	*e*P	Pn	22 03 26.1	-1.1
CHCH	**Chadas Angostu**	**1.34**	**163**	*e*P	Pn	22 03 26.3	-1.1
CMCH	**Combarbala**	**1.47**	**4**	*e*P	Pn	22 03 28.2	-0.9
CMCH				*i* S	Sn	22 03 48.6	+0.1
CMCH				AML	AML	22 03 58.7	
	comp=E,1μm,0.9s						
CACH	**El Canelo**	**1.53**	**163**	*e*P	Pn	22 03 30.1	+0.1
CACH				*i* S	Sn	22 03 51.1	+1.1

IDC 10 22:24:18.9±6.1, 30°.08S×177°.46W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/15, mbtmp3.8/2, Error ellipse: s-maj=245.2km s-min=54.4km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.59**	**266**	P	P	22 32 24.8	-0.1
	1.0nm,0.7s,baz=106,slow=7.5,SNR=9.4						
WRA	**Warramunga Arr**	**44.55**	**272**	P	P	22 32 32.6	-0.1
	0.6nm,0.4s,baz=111,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	22 43 55.0	-1.6
	1.8nm,0.6s,baz=55,slow=5.3,SNR=9.9						

MEX 10 22:26:56.1±1.1, 16°.65N×99°.59W, h7km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.34**	**311**	*i* P	Pg	22 27 03.3	+0.7
ACX				*i* S	Sg	22 27 07.6	+0.5
CAIG	**El Cayaco**	**0.76**	**302**	*i* P	Pg	22 27 09.8	-0.9
CAIG				*i* S	Sg	22 27 19.8	-0.8
PNIG	**Pinotepa**	**1.43**	**100**	*i* P	Pn	22 27 18.5	-4.0
PNIG				*i* S	Sb	22 27 35.7	-5.8
ZIIG	**Zihuatanejo**	**2.03**	**298**	*e*P	Pn	22 27 26.8	-4.0
ZIIG				*i* S	Sn	22 27 50.2	-6.2
UTMO	**Huajuapan**	**2.08**	**55**	*i* P	Pn	22 27 29.4	-1.9
UTMO				*i* S	Sn	22 27 53.0	-4.5

*ISCJB **10** 22:27:17.2±0.9, 40°.57N±0°.06×22°.84E±0°.06, h24km±13km, Error ellipse: s-maj=10.1km s-min=7.0km az=0.3*
*ATH **10** 22:27:17.0, 40°.58N×22°.84E, h30km, MD3.1/8*
*CSEM **10** 22:27:17.3±0.3, 40°.64N×22°.78E, h30km, MD3.1, Error ellipse: s-maj=9.6km s-min=8.6km az=114.0*
ISC 10 22:27:17.7±0.7, 40°.60N±0°.04×22°.82E±0°.06, h24km±9km, n22, σ0°96/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.46**	**62**	*e*PB	**Pb**	**22 27 26.8**	**-0.4**
SOH				*e*SB	**Sb**	**22 27 34.2**	**+0.6**
SOH	**Sokhos**	**0.46**	**62**	*e*Pb	**Pb**	**22 27 26.8**	**-0.4**
SOH				*e*Sb	**Sb**	**22 27 34.2**	**+0.6**
PLG	**Polygyros**	**0.53**	**115**	*e*PN	**Pn**	**22 27 27.5**	**-2.2**
PLG				*e*SN	**Sb**	**22 27 35.4**	**-0.1**
PLG	**Polygyros**	**0.53**	**115**	*e*Pn	**Pn**	**22 27 27.5**	**-2.2**
PLG				*e*Sn	**Sb**	**22 27 35.7**	**+0.2**
LIT	**Litokhoron**	**0.56**	**207**	*e*PN	**Pn**	**22 27 28.0**	**-2.2**
LIT				*e*SN	**Sb**	**22 27 37.1**	**+0.7**
LIT	**Litokhoron**	**0.56**	**207**	*e*Pn	**Pn**	**22 27 27.9**	**-2.3**
LIT				*e*Sn	**Sb**	**22 27 37.1**	**+0.7**
VAY	**Valandovo**	**0.74**	**345**	*e*Pg	**Pb**	**22 27 31.1**	**-0.8**
VAY				*e*Sg	**Sb**	**22 27 41.2**	**-0.4**
VAY	**Valandovo**	**0.74**	**345**	*e*Pg	**Pb**	**22 27 31.1**	**-0.8**
VAY				*e*Sg	**Sb**	**22 27 41.2**	**-0.4**
KZN	**Kozani**	**0.85**	**250**	*e*PN	**Pn**	**22 27 34.3**	**+0.1**
KZN	**Kozani**	**0.85**	**250**	*e*Pn	**Pn**	**22 27 34.3**	**+0.1**
NVR	**Nevrokopi**	**1.08**	**46**	*e*PN	**Pn**	**22 27 37.7**	**+0.3**
NVR	**Nevrokopi**	**1.08**	**46**	*e*Pn	**Pn**	**22 27 37.7**	**+0.3**
THL	**Klokotos Trika**	**1.21**	**211**	*e*PN	**Pn**	**22 27 39.3**	**+0.3**
THL	**Klokotos Trika**	**1.21**	**211**	*e*Pn	**Pn**	**22 27 39.3**	**+0.3**
NEO	**Neokhori**	**1.33**	**166**	*e*PN	**Pn**	**22 27 40.7**	**0.0**
NEO	**Neokhori**	**1.33**	**166**	*e*Pn	**Pn**	**22 27 40.7**	**0.0**
KRUS	**Krusevo**	**1.42**	**303**	*e*Pg	**Pn**	**22 27 43.2**	**+1.3**
KRUS	**Krusevo**	**1.42**	**303**	*e*Pg	**Pn**	**22 27 43.1**	**+1.2**
AGG	**Agios Georgios**	**1.62**	**194**	*e*PN	**Pn**	**22 27 45.3**	**+0.5**
AGG	**Agios Georgios**	**1.62**	**194**	*e*Pn	**Pn**	**22 27 45.3**	**+0.5**
ALN	**Alexandroupoli**	**2.47**	**82**	*e*PN	**Pn**	**22 27 57.8**	**+1.4**
ALN	**Alexandroupoli**	**2.47**	**82**	*e*Pn	**Pn**	**22 27 57.8**	**+1.4**

IDC 10 22:29:11.8±1.9, 4°.88S×153°.18E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/17, mbtmp3.7/9, Error ellipse: s-maj=60.9km s-min=23.3km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**229**	P	P	22 34 25.4	0.0
	1.4nm,0.5s,baz=54,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**26.35**	**223**	P	P	22 34 51.4	+1.7
	0.1nm,0.3s,baz=53,slow=8.5,SNR=2.9						
FITZ	**Fitzroy Crossi**	**29.95**	**242**	P	P	22 35 20.6	-1.4
	0.9nm,0.5s,baz=52,slow=12,SNR=5.2						
CMAR	**Chiang Mai Arr**	**58.25**	**295**	P	P	22 39 08.8	+0.2
	0.6nm,0.6s,baz=117,slow=5.2,SNR=5.7						
SONM	**Songino Array**	**66.59**	**328**	P	P	22 40 05.3	+1.5
	0.1nm,0.4s,baz=134,slow=8.2,SNR=3.2						
MKAR	**Makanchi Array**	**80.63**	**319**	P	P	22 41 27.5	+1.0
	0.2nm,0.5s,baz=96,slow=7.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	P	22 41 29.8	-0.8
	0.4nm,0.5s,baz=101,slow=7.5,SNR=2.6						
ILAR	**Eielson Array**	**82.09**	**22**	P	P	22 41 33.9	0.0
	0.3nm,0.6s,baz=256,slow=5.4,SNR=5.6						
BVAR	**Borovoye Array**	**89.52**	**323**	P	P	22 42 09.6	-1.4
	0.8nm,0.6s,baz=101,slow=7.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**150.69**	**288**	PKPbc	PKPbc	22 49 06.7	-0.3
	1.2nm,0.6s,baz=80,slow=2.1,SNR=10						

*ISCJB **10** 22:30:07.6±0.7, 37°.50N±0°.03×27°.22E±0°.07, h4km±6km, Error ellipse: s-maj=9.3km s-min=4.6km az=171.1*
*ISK **10** 22:30:07.2, 37°.51N×27°.27E, h6km, MD2.4*
*CSEM **10** 22:30:07.8±0.2, 37°.50N×27°.23E, h5km, MD2.7, Error ellipse: s-maj=4.9km s-min=2.7km az=80.0*
*DDA **10** 22:30:08.8, 37°.55N×27°.28E, h7km±2km, Md2.7*
ISC 10 22:30:08.1±0.8, 37°.50N±0°.03×27°.22E±0°.07, h7km±5km, n20, σ0°52/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.20**	**2**	*i* P	**Pg**	**22 30 12.3**	**+0.2**
GCAM				*i* S	**Sg**	**22 30 15.4**	**+0.5**
GCAM	**G?zelcaml?**	**0.20**	**2**	*i* P	**Pg**	**22 30 12.3**	**+0.2**
GCAM				*i* S	**Sg**	**22 30 15.4**	**+0.6**
BODT	**Bodrum**	**0.44**	**171**	PG	**Pg**	**22 30 16.2**	**-0.4**
BODT				SG	**Sg**	**22 30 23.1**	**+0.6**
BODT	**Bodrum**	**0.44**	**171**	*i* Pg	**Pg**	**22 30 16.2**	**-0.4**
BODT				*i* Sg	**Sg**	**22 30 23.1**	**+0.7**
AYDN	**Tasoluk**	**0.55**	**73**	*i* P	**Pg**	**22 30 18.4**	**-0.2**
AYDN				*i* S	**Sg**	**22 30 25.9**	**+0.2**
AYDN	**Tasoluk**	**0.55**	**73**	*i* P	**Pg**	**22 30 18.4**	**-0.2**
AYDN				*i* S	**Sg**	**22 30 25.9**	**+0.2**
DAT	**Datca**	**0.82**	**160**	*e*PG	**Pg**	**22 30 23.8**	**0.0**
DAT	**Datca**	**0.82**	**160**	*e*Pg	**Pg**	**22 30 23.8**	**0.0**
BLCB	**Balcova**	**0.90**	**351**	*e*PG	**Pg**	**22 30 24.9**	**-0.3**
BLCB	**Balcova**	**0.90**	**351**	*e*Pg	**Pg**	**22 30 24.9**	**-0.4**
IZM	**Izmir**	**0.90**	**2**	*e*PG	**Pg**	**22 30 24.8**	**-0.5**
IZM				*e*SG	**Sg**	**22 30 37.2**	**+0.2**
IZM	**Izmir**	**0.90**	**2**	*e*Pg	**Pg**	**22 30 24.8**	**-0.5**
IZM				*e*Sg	**Sg**	**22 30 37.2**	**+0.2**
YER	**Yerkesik**	**0.92**	**113**	*e*PG	**Pg**	**22 30 24.7**	**-1.1**
YER	**Yerkesik**	**0.92**	**113**	*e*Pg	**Pg**	**22 30 24.7**	**-1.0**
AKHS	**Akhisar**	**1.45**	**19**	*e*P	**Pn**	**22 30 35.4**	**+0.8**
AKHS				*i* S	**Sn**	**22 30 53.2**	**-0.8**
AKHS	**Akhisar**	**1.45**	**19**	*e*P	**Pn**	**22 30 35.4**	**+0.7**
AKHS				*i* S	**Sn**	**22 30 53.2**	**-0.8**
DNZL	**Cakiroluk**	**1.46**	**82**	*i* P	**Pn**	**22 30 35.7**	**+0.9**
DNZL				*i* S	**Sn**	**22 30 54.4**	**+0.2**
DNZL	**Cakiroluk**	**1.46**	**82**	*i* P	**Pn**	**22 30 35.7**	**+0.9**
DNZL				*i* S	**Sn**	**22 30 54.3**	**+0.2**
KULA	**Kula-Manisa**	**1.52**	**48**	*e*PN	**Pn**	**22 30 35.2**	**-0.4**
KULA				*e*SN	**Sn**	**22 30 55.8**	**+0.1**
KULA	**Kula-Manisa**	**1.52**	**48**	*e*Pn	**Pn**	**22 30 35.2**	**-0.4**
KULA				*e*Sn	**Sn**	**22 30 55.8**	**+0.2**

*IDC **10** 22:35:44.0±1.2, 9°.65N×122°.88E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, Error ellipse: s-maj=188.6km s-min=18.6km az=67.0*
*MAN **10** 22:35:49, 9°.49N×122°.25E, h35km, mb4.6, ML3.5, MS3.4*
ISC 10 22:35:48.6±1.3, 9°.45N±0°.04×122°.27E±0°.04, h23km±10km, n19, σ0°79/25, mb3.8/7, 3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.96**	**96**	⇓*i*P	**Pb**	**22 36 05.4**	**-1.1**
SNPH				*i* S	**Sb**	**22 36 19.3**	**+0.6**
GUIM	**Jordan**	**1.21**	**15**	*e*P	**Pn**	**22 36 08.8**	**-1.3**
GUIM				*e*S	**Sn**	**22 36 21.2**	**-4.6**
TBP	**Tagbilaran**	**1.59**	**81**	*e*P	**Pn**	**22 36 15.0**	**-0.3**
TBP				*e*S	**Sn**	**22 36 34.9**	**-0.2**
IPIL	**Ipil**	**1.68**	**170**	*e*P	**Pn**	**22 36 17.1**	**+0.6**
IPIL				*e*S	**Sn**	**22 36 37.2**	**-0.1**
CUYO	**Cuyo Island**	**1.86**	**319**	*e*P	**Pn**	**22 36 18.9**	**-0.2**
LLP	**Lapu-Lapu**	**1.88**	**63**	⇓*i*P	**Pn**	**22 36 18.8**	**-0.5**
LLP				*i* S	**Sn**	**22 36 41.7**	**-0.6**
PAGZ	**Pagadian**	**1.93**	**145**	*e*P	**Pn**	**22 36 22.0**	**+1.9**
RCP	**Roxas**	**2.15**	**12**	⇓*e*P	**Pn**	**22 36 23.7**	**+0.7**
RCP				*e*S	**Sn**	**22 36 50.7**	**+1.7**
MSLP	**Maasin**	**2.64**	**75**	*e*P	**Pn**	**22 36 30.6**	**+0.8**
OTRP	**Odiongan**	**2.91**	**355**	*e*P	**Pn**	**22 36 33.6**	**+0.2**
BUSP	**Coron**	**3.25**	**321**	*e*P	**Pn**	**22 36 37.9**	**-0.3**
ENPP	**El Nido**	**3.30**	**302**	*e*P	**Pn**	**22 36 38.9**	**0.0**
WRA	**Warramunga Arr**	**31.53**	**158**	P	**P**	**22 42 08.2**	**-0.9**
	0.5nm,0.5s,mb3.6,baz=339,slow=9.6,SNR=3.4						
ASAR	**Alice Springs**	**34.82**	**161**	P	**P**	**22 42 37.6**	**-0.3**
	1.3nm,0.6s,mb4.1,baz=342,slow=7.4,SNR=26						
ASAR				PcP	PcP	22 45 08.1	-2.9
	0.5nm,0.7s,baz=340,slow=2.6,SNR=5.1						
SONM	**Songino Array**	**40.55**	**344**	P	**P**	**22 43 26.0**	**0.0**
	0.6nm,0.8s,mb3.2,baz=160,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**50.36**	**325**	P	**P**	**22 44 44.5**	**+0.7**
	0.5nm,0.8s,mb3.6,baz=130,slow=8.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**53.52**	**333**	P	**P**	**22 45 06.6**	**-0.6**
	0.4nm,0.5s,mb3.6,baz=132,slow=6.4,SNR=3.1						
KURK	**Kurchatov**	**54.57**	**327**	P	**P**	**22 45 15.5**	**+0.6**
	0.4nm,0.3s,mb4.0,baz=120,slow=9.7,SNR=5.5						
FINES	**FINESS Array B**	**84.73**	**331**	P	**P**	**22 48 19.6**	**-1.0**
	1.5nm,0.8s,mb4.2,baz=131,slow=3.8,SNR=3.7						

*ISCJB **10** 22:57:10.5±0.4, 0°.62N±0°.04×121°.63E±0°.04, h110km±5km, mb4.6/22, Error ellipse: s-maj=6.6km s-min=5.7km az=34.2*
*DJA **10** 22:57:11, 0°.71N×121°.59E, h90km, mb4.8/24*
*NEIC **10** 22:57:11.8±2.1, 0°.54N×121°.58E, h110km±20km, mb4.8/10, Error ellipse: s-maj=21.8km s-min=5.3km az=54.0*
*IDC **10** 22:57:13.9±3.0, 0°.51N×121°.49E, h131km±27km, mb3.8/8, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, Error ellipse: s-maj=41.9km s-min=10.2km az=70.0*
ISC 10 22:57:11.7±0.4, 0°.62N±0°.04×121°.63E±0°.04, h106km±5km, n76, σ0°97/80, mb4.6/22, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.34**	**114**	P	**Pn**	**22 57 26.0**	**-1.2**
GTOI	**Gorontalo**	**1.38**	**89**	P	**Pn**	**22 57 35.0**	**-1.9**
LUWI	**Luwuk**	**2.00**	**145**	P	**Pn**	**22 57 46.0**	**+1.4**
KMSI	**Cibinong**	**2.35**	**91**	P	**Pn**	**22 57 47.8**	**-1.3**
MNI	**Manado**	**3.31**	**76**	P	**Pn**	**22 58 00.0**	**-1.8**
MSSI	**Masamba**	**3.41**	**202**	P	**Pn**	**22 58 03.5**	**+0.4**
TTSI	**Tana Toraja**	**4.06**	**206**	P	**Pn**	**22 58 12.1**	**+0.2**
SMKI	**Samarinda**	**4.54**	**257**	P	**Pn**	**22 58 18.5**	**+0.1**
KDI	**Kendari**	**4.65**	**168**	P	**Pn**	**22 58 20.3**	**+0.5**
SPSI	**Sidrap Palu**	**4.92**	**202**	P	**Pn**	**22 58 23.4**	**0.0**
MYLDM	**Lahad Datu**	**5.51**	**325**	P	**Pn**	**22 58 32.3**	**+0.9**
TNTI	**Ternate**	**5.74**	**88**	P	**Pn**	**22 58 34.1**	**-0.5**
	0.9nm278nm,0.8s						
KAPI	**Kappang**	**5.90**	**199**	P	**Pn**	**22 58 35.6**	**-1.1**
	4.4nm,0.3s,baz=9.0,slow=15,SNR=17						
KAPI				S	**Sn**	**22 59 43.3**	**+0.3**
	1.9nm,0.3s,baz=162,slow=20,SNR=2.4						
KAPI	**Kappang**	**5.90**	**199**	P	**Pn**	**22 58 35.6**	**-1.1**
KAPI				S	**Sn**	**22 59 43.3**	**+0.3**
KAPI	**Kappang**	**5.90**	**199**	P	**Pn**	**22 58 35.6**	**-1.1**
	0.3nm715nm52nm,1.0s						
LBMI	**Labuha**	**6.00**	**102**	P	**Pn**	**22 58 37.7**	**-0.4**
	1.6nm4μm293nm,0.7s						
BKSI	**Bulukumba**	**6.09**	**194**	P	**Pn**	**22 58 38.8**	**-0.5**
	0.2nm599nm60nm,0.7s						
BBSI	**Bau Bau**	**6.13**	**171**	P	**Pn**	**22 58 40.8**	**+0.9**
	0.5nm2μm173nm,0.9s						
NLAI	**Namlea**	**6.68**	**125**	P	**Pn**	**22 58 48.4**	**+1.1**
	0.9nm3μm76nm,0.8s						
KBKI	**Kotabaru**	**6.70**	**235**	P	**Pn**	**22 58 46.6**	**-1.0**
	3μm38nm,0.8s						
AAI	**Ambon**	**7.83**	**123**	P	**Pn**	**22 59 05.3**	**+2.3**
	0.4nm98nm,0.8s						
MSAI	**Masohi**	**8.29**	**118**	P	**Pn**	**22 59 11.3**	**+2.1**
	14nm,0.7s						
SBUM	**Sibu**	**9.58**	**281**	P	**Pn**	**22 59 26.3**	**-0.5**
	854nm60nm,1.5s						
FAKI	**Fak Fak**	**11.18**	**108**	P	**Pn**	**22 59 50.8**	**+2.4**
	95nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.01**	**168**	P	**P**	**23 01 25.5**	**+0.1**
	2.7nm,0.3s,baz=3.5,slow=10,SNR=67						
FITZ	**Fitzroy Crossi**	**19.01**	**168**	*e*P	**P**	**23 01 25.5**	**+0.2**
	34nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.01**	**168**	P	**P**	**23 01 25.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.01**	**168**	P	**P**	**23 01 25.8**	**+0.5**
	25nm,1.1s						
KSI	**Kapahiang**	**19.49**	**257**	P	**P**	**23 01 32.3**	**+1.7**
	61nm,0.2s						
BKNI	**Bangkinang**	**20.59**	**269**	P	**P**	**23 01 43.2**	**+0.7**
	41nm,0.8s						
IPM	**Ipoh**	**20.93**	**281**	*e*P	**P**	**23 01 44.9**	**-1.3**
	25nm,1.0s						
IPM	**Ipoh**	**20.93**	**281**	P	**P**	**23 01 46.2**	**0.0**
	48nm,1.1s						
PDSI	**Padang**	**21.22**	**266**	P	**P**	**23 01 49.0**	**-0.3**
	39nm,1.1s,mb4.7						
MBWA	**Marble Bar**	**21.72**	**185**	*e*P	**P**	**23 01 53.0**	**-1.5**
	5.9nm,0.5s,mb4.2						
MNSI	**Mandailing Nat**	**22.05**	**271**	P	**P**	**23 01 57.7**	**-0.4**
	24nm,0.8s,mb4.5						
PSI	**Prapat**	**22.80**	**276**	P	**P**	**23 02 05.1**	**-0.8**
	13nm,1.2s,mb4.2						
TSI	**Tuntungan**	**23.23**	**277**	P	**P**	**23 02 10.2**	**+0.4**
	107nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**23.93**	**149**	*e*P	**P**	**23 02 15.3**	**-0.7**
	29nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**23.93**	**149**	P	**P**	**23 02 16.2**	**+0.1**
	83nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**23.93**	**149**	P	**P**	**23 02 15.8**	**-0.3**
	51nm,0.6s,mb5.0,baz=325,slow=11,SNR=226						
WRA	**Warramunga Arr**	**23.93**	**149**	P	**P**	**23 02 15.8**	**-0.3**
WB2	**Warramunga Arr**	**23.94**	**149**	*e*P	**P**	**23 02 15.0**	**-1.2**
AS31	**Alice Springs**	**26.92**	**154**	*e*P	**P**	**23 02 42.5**	**-0.7**
ASAR	**Alice Springs**	**26.92**	**154**	P	**P**	**23 02 43.0**	**-0.2**
	6.6nm,0.5s,mb4.4,baz=343,slow=14,SNR=100						
ASAR				S	**S**	**23 07 10.4**	**-2.1**
	1.4nm,0.9s,baz=333,slow=18,SNR=6.5						
ASAR	**Alice Springs**	**26.92**	**154**	P	**P**	**23 02 43.0**	**-0.2**
ASAR				S	**S**	**23 07 10.4**	**-2.1**
NWAO	**Narrogin (SRO)**	**33.62**	**187**	P	**P**	**23 03 41.3**	**-0.8**
	5.9nm,0.8s,mb4.5,baz=17,slow=14,SNR=4.0						
NWAO	**Narrogin (SRO)**	**33.62**	**187**	P	**P**	**23 03 41.3**	**-0.8**
STKA	**Stephens Creek**	**37.44**	**151**	P	**P**	**23 04 14.3**	**-0.5**
	13nm,0.7s,mb4.9,baz=332,slow=8.4,SNR=18						
STKA	**Stephens Creek**	**37.44**	**151**	*e*P	**P**	**23 04 14.6**	**-0.2**
	6.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**37.44**	**151**	P	**P**	**23 04 14.3**	**-0.5**
ODAN	**Odare**	**41.99**	**311**	*e*P	**P**	**23 04 53.4**	**+0.8**
	11nm,0.7s,mb4.7						
ODAN	**Odare**	**41.99**	**311**	*e*P	**P**	**23 04 53

TBP	Tagbilaran	2.41 281	eP	Pn	23 25 35.7	+0.1
TBP			eS	Sn	23 26 06.3	+1.1
PAGZ	Pagadian	3.16 244	eP	Pn	23 25 48.9	+2.9

*ISCJB **10** 23:31:46.0±0.5, 38°.23N±0°.04×38°.81E±0°.03, h5km±9km, Error ellipse: s-maj=6.7km s-min=3.9km az=170.0*
*CSEM **10** 23:31:46.5±0.3, 38°.29N×38°.80E, h2km, MD2.5, Error ellipse: s-maj=7.9km s-min=4.4km az=165.0*
*ISK **10** 23:31:46.1, 38°.37N×38°.79E, h14km, MD2.5*
*DDA **10** 23:31:46.0, 38°.26N×38°.80E, h14km±2km, Md2.7*
ISC 10 23:31:46.5±0.5, 38°.26N±0°.04×38°.81E±0°.03, h8km±8km, n21, σ1°00/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.28	29	iP	Pg	23 31 52.2	+0.3
ELZG				iS	Sg	23 31 56.4	+0.8
ELZG	Elazig	0.28	29	iP	Pg	23 31 52.2	+0.2
ELZG				iS	Sg	23 31 56.4	+0.7
MALT	Malatya	0.31	281	PG	Pg	23 31 52.3	-0.3
MALT				SG	Sg	23 31 57.5	+0.8
MALT	Malatya	0.31	281	iPg	Pg	23 31 52.3	-0.3
MALT				iSg	Sg	23 31 57.5	+0.8
MYA	Malataya	0.31	283	PG	Pg	23 31 52.5	-0.1
MYA	Malataya	0.31	283	iPg	Pg	23 31 52.5	-0.2
SVRC	Sivrice-ELAZID	0.41	72	ePG	Pg	23 31 54.4	0.0
SVRC				eSG	Sg	23 32 01.1	+1.4
SVRC	Sivrice-ELAZID	0.41	72	ePg	Pg	23 31 54.4	0.0
SVRC				eSg	Sg	23 32 01.1	+1.3
AKCD	Akcadag	0.70	273	iP	Pg	23 31 59.6	-0.4
AKCD				iS	Sg	23 32 09.4	+0.2
AKCD	Akcadag	0.70	273	iP	Pg	23 31 59.6	-0.4
AKCD				iS	Sg	23 32 09.4	+0.2
PTK	Pertek	0.78	35	ePG	Pg	23 32 00.2	-1.3
PTK	Pertek	0.78	35	ePg	Pg	23 32 00.2	-1.3
ATAB	Bozova	0.89	208	iP	Pg	23 32 02.7	-0.9
ATAB				iS	Sg	23 32 16.2	+1.1
ATAB	Bozova	0.89	208	iP	Pg	23 32 02.7	-0.8
ATAB				iS	Sg	23 32 16.2	+1.1
DIYA	Diyarbakir	1.08	107	iP	Pg	23 32 07.5	+0.2
DIYA				iS	Sg	23 32 23.5	+2.1
DIYA	Diyarbakir	1.08	107	iP	Pg	23 32 07.5	+0.2
DIYA				iS	Sg	23 32 23.5	+2.1
KMRS	Kahramanmaras	1.69	244	ePN	Pn	23 32 16.5	+0.2
KMRS	Kahramanmaras	1.69	244	ePn	Pn	23 32 16.5	+0.2
BEST	Besiri	1.97	100	iP	Pg	23 32 22.0	-2.3
BEST				iS	Sg	23 32 48.5	-1.4
KUZU	Kuzuini	2.03	224	eP	Pg	23 32 24.1	-1.2
KUZU				eS	Sn	23 32 47.1	+0.8
KUZU	Kuzuini	2.03	224	eP	Pg	23 32 24.1	-1.2
KUZU				eS	Sn	23 32 47.1	+0.7

TAP 10 23:44:21.4, 22°.16N×121°.77E, h167km, ML3.5, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.23	239	iP	Pn	23 44 43.6	-0.2
	baz=238						
LAY				iS	Sn	23 44 59.9	-1.0
	baz=238						
TTN	Taitung	0.82	316	eP	Pn	23 44 46.9	+0.4
	baz=312						
TTN				eS	Sn	23 45 05.3	-0.5
	baz=312						
ECL	Taimali	0.87	300	P	Pn	23 44 46.9	+0.1
	baz=301						
ECL				S	Sn	23 45 05.2	-1.1
	baz=301						
EAST	Anshuo	0.88	285	P	Pn	23 44 46.9	0.0
	baz=279						
EAST				S	Sn	23 45 05.3	-1.1
	baz=279						
TWK1	Hengchun	0.92	257	P	Pn	23 44 47.8	+0.6
	baz=262						
TWK1				S	Sn	23 45 06.5	-0.4
	baz=262						
TWG	Pinlang	0.92	316	P	Pn	23 44 47.2	0.0
	baz=317						
TWG				S	Sn	23 45 05.5	-1.6
	baz=317						
SCZT	Fangliau	1.08	282	eP	Pn	23 44 48.3	-0.2
	baz=279						
SCZT				eS	Sn	23 45 07.9	-1.3
	baz=279						
SSD	Sandimen	1.20	299	eP	Pn	23 44 50.0	+0.5
	baz=306						
SSD				eS	Sn	23 45 10.0	-1.1
	baz=306						
ELDTW	Lidau	1.24	326	eP	Pn	23 44 50.8	+1.0
	baz=320						
ELDTW				eS	Sn	23 45 10.4	-1.3
	baz=320						
TWF1	Yuli	1.27	340	eP	Pn	23 44 49.7	-0.4
	baz=334						
TWF1				eS	Sn	23 45 11.3	-0.9
	baz=334						
STYT	Tauyuan	1.37	317	eP	Pn	23 44 50.5	-0.6
	baz=318						
STYT				eS	Sn	23 45 12.3	-1.5
	baz=318						
EHY	Hungye	1.40	343	eP	Pn	23 44 51.9	+0.6
	baz=338						
EHY				eS	Sn	23 45 12.9	-1.5
	baz=338						
TWM1	Shoushan	1.41	298	eP	Pn	23 44 50.8	-0.6
	baz=303						
TWM1				eS	Sn	23 45 13.3	-1.1
	baz=303						
SGST	Jiashian	1.43	310	eP	Pn	23 44 51.9	+0.3
	baz=317						
SGST				eS	Sn	23 45 14.0	-0.9
	baz=317						
YUS	Yu-Shan	1.52	331	eP	Pn	23 44 53.0	+0.5
	baz=322						
YUS				eS	Sn	23 45 14.8	-1.8
	baz=322						
CHN1	Nanshi	1.53	312	eP	Pn	23 44 52.5	-0.1
	baz=313						
CHN1				eS	Sn	23 45 16.4	-0.3
	baz=313						
ALS	Alishan	1.61	327	eP	Pn	23 44 53.8	+0.3
	baz=320						
ALS				eS	Sn	23 45 17.1	-1.1
	baz=320						
CHN5	Tsauling	1.75	325	eP	Pn	23 44 55.2	+0.3
	baz=321						
CHN5				eS	Sn	23 45 20.5	-0.2
	baz=321						
SMLT	Sun Moon Lake	1.89	335	eP	Pn	23 44 56.4	0.0
	baz=329						
SMLT				eS	Sn	23 45 21.7	-1.8
	baz=329						
TYC	Yuchr	1.93	334	eP	Pn	23 44 57.3	+0.5
	baz=328						
TYC				eS	Sn	23 45 22.3	-1.9
	baz=328						
WHF	Hehuan Shan	2.03	347	eP	Pn	23 44 58.3	+0.4
	baz=351						
WHF				eS	Sn	23 45 25.0	-1.2
	baz=351						

GUC 10 23:47:21.2±0.4, 34°.07S×71°.49W, h42km±1km, MD3.8, ML3.3, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.13	29	⇓iP	Pn	23 47 28.2	0.0
TACH	Talagante	0.62	48	⇑iP	Pn	23 47 33.9	+0.3
TACH				iS	Sn	23 47 43.4	+1.0
CHCH	Chadas Angostu	0.71	79	⇑iP	Pn	23 47 35.4	+0.6
CACH	El Canelo	0.74	94	⇓iP	Pn	23 47 36.3	+1.2
CACH				iS	Sn	23 47 47.7	+2.4
RCDM	Rinconada Maip	0.81	45	eP	Pn	23 47 36.3	+0.1
RCDM				iS	Sn	23 47 47.9	+0.9
RCDM				AML	AML	23 47 51.8	
	comp=N,2μm,0.1s						
ANTU	Antumapu	0.87	55	eP	Pn	23 47 37.5	+0.6
ANTU				iS	Sn	23 47 50.1	+1.7
ANTU				AML	AML	23 47 50.8	
	comp=E,1μm,0.5s						
SAN	Santiago	0.92	48	eP	Pn	23 47 38.3	+0.6
SAN				iS	Sn	23 47 51.2	+1.5
PCH	Pirque	0.93	61	⇑iP	Pn	23 47 38.4	+0.6
PCH				iS	Sn	23 47 51.4	+1.6
NICH	Los Niches	0.95	167	eP	Pn	23 47 38.6	+0.5
FSR	Penalolen	0.99	54	eP	Pn	23 47 39.4	+0.7
FSR				eS	Sn	23 47 53.3	+1.8
SJCH	San Jose de Ma	1.03	66	⇑iP	Pn	23 47 40.0	+0.8
SJCH				iS	Sn	23 47 54.5	+2.0
CLCH	Cerro Calan	1.04	50	eP	Pn	23 47 40.0	+0.8
CLCH				iS	Sn	23 47 54.8	+2.2
IHA	Instituto Hidr	1.05	353	eP	Pn	23 47 38.9	-0.5
LMEL	Las Melosas	1.09	79	⇓iP	Pn	23 47 40.9	+0.9
LMEL				iS	Sn	23 47 56.2	+2.3
LMEL				AML	AML	23 47 59.1	
	comp=N,2μm,0.1s						
PEL	Peldehue	1.14	36	eP	Pn	23 47 41.6	+0.9
PEL				eS	Sn	23 47 57.4	+2.3
PEL				AML	AML	23 48 00.5	
	comp=N,1μm,0.4s						
ROCH	El Roble	1.17	20	eP	Pn	23 47 41.7	+0.7
ROCH				eS	Sn	23 47 58.4	+2.7
ROCH				AML	AML	23 48 00.3	
	comp=N,1μm,0.3s						
FCH	Farellones	1.24	54	⇓iP	Pn	23 47 40.5	-1.6
FCH				iS	Sn	23 47 57.3	-0.3
FCH				AML	AML	23 48 03.1	
	comp=E,748nm,0.2s						
TALC	Talca	1.33	185	eP	Pn	23 47 45.3	+2.0
JACH	Jahuel	1.57	29	eP	Pn	23 47 48.0	+1.4
PTCH	Petorca	1.86	15	eP	Pn	23 47 51.6	+1.0

*ISCJB **10** 23:51:56.1±1.5, 42°.20N±0°.04×123°.0E±0°.1, h11km±10km, mb3.8/10, Error ellipse: s-maj=13.4km s-min=6.5km az=8.0*
*IDC **10** 23:51:56.5±0.8, 42°.19N×122°.95E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.8/25, mbtmp3.7/12, ML3.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.1/35, Error ellipse: s-maj=27.4km s-min=14.5km az=56.0*
*BJI **10** 23:51:57.4, 42°.28N×122°.91E, h11km, ML3.9/11*
ISC 10 23:51:57.6±1.5, 42°.16N±0°.04×123°.0E±0°.1, h8km±10km, n17, σ0°77/22, mb3.8/10, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	Shenyang	0.57	125	Pg	Pg	23 52 08.7	+0.1
SNY				Sg	Sg	23 52 16.2	+0.1
CN2	Changchun	2.46	47	ePn	Pn	23 52 38.4	+0.4
CN2				ePg	Pg	23 52 44.1	-0.6
CN2				eSg	Sg	23 53 16.3	-0.3
CN2				smax			
	comp=N,100nm,0.6s						
CN2				smax			
	comp=E,100nm,0.6s						
DL2	Dalian	3.40	198	Pn	Pn	23 52 51.1	+0.2
DL2				Pg	Pb	23 52 59.2	+1.1
DL2				Sn	Sn	23 53 30.1	-1.4
DL2				smax			
	comp=N,140nm,0.6s						
DL2				smax			
	comp=E,150nm,0.7s						
KSRS	Korea Array	6.06	139	Pn	Pn	23 53 27.4	-0.1
	comp=E,0.5nm,0.3s,baz=320,slow=13,SNR=4.3						
KSRS				Pg	Pg	23 53 48.2	-5.4
	comp=E,4.2nm,0.3s,baz=324,slow=18,SNR=16						
KSRS				Lg		23 55 08.2	
	comp=E,9.0nm,0.3s,baz=320,slow=30,SNR=9.4						
SONM	Songino Array	13.01	301	Pn	Pn	23 55 02.0	-0.6
	comp=E,0.1nm,0.3s,baz=114,slow=13,SNR=4.1						
SONM				Lg		23 58 49.5	
	comp=E,0.2nm,0.3s,baz=102,slow=27,SNR=3.6						
CBIJ	Chichi jima	21.75	128	LR	LR	00 05 27.2	
	comp=E,37nm,20.2s,baz=96,slow=37						
ILAR	Eielson Array	52.90	33	P	P	00 01 13.8	+0.3
	comp=E,0.3nm,0.5s,mb3.5,baz=280,slow=5.4,SNR=7.3						
INK	Inuvik	56.21	26	P	P	00 01 38.2	+0.7
	comp=E,0.5nm,0.4s,mb3.9,baz=318,slow=6.0,SNR=4.1						
FINES	FINESS Array B	57.06	325	P	P	00 01 44.4	+0.6
	comp=E,1.3nm,0.4s,mb4.3,baz=71,slow=6.3,SNR=12						
WRA	Warramunga Arr	62.68	168	P	P	00 02 21.6	-1.1
	comp=E,0.5nm,0.8s,mb3.7,baz=352,slow=7.4,SNR=4.1						
NB2	NORSAR Subarra	63.25	330	P	P	00 02 26.4	+0.3
	comp=Z,0.7nm,0.5s,mb4.0,baz=59,slow=7.9						
NOA	NORSAR Array B	63.25	330	P	P	00 02 26.2	+0.1
	comp=Z,0.9nm,0.7s,mb4.0,baz=59,slow=7.9,SNR=6.8						
BRTR	Keskin Array B	64.37	301	P	P	00 02 33.2	-0.7
	comp=Z,0.3nm,0.7s,mb3.4,baz=73,slow=4.8,SNR=2.5						
YKA	Yellowknife Ar	65.98	25	P	P	00 02 43.4	-0.5
	comp=Z,0.5nm,0.8s,mb3.6,baz=315,slow=6.1,SNR=7.6						
GERES	GERESS Array B	70.12	318	P	P	00 03 10.9	+0.8
	comp=Z,0.5nm,0.8s,mb3.5,baz=60,slow=6.9,SNR=2.6						
STKA	Stephens Creek	75.64	164	P	P	00 03 44.9	+1.9
	comp=Z,1.1nm,0.4s,mb4.2,baz=0.0,slow=5.1,SNR=3.1						
ULM	Lac du Bonnet	81.90	24	P	P	00 04 16.3	-1.0
	comp=Z,1.2nm,0.5s,mb4.0,baz=339,slow=4.8,SNR=3.0						

*ISCJB **11** 00:02:50.6±0.7, 8°.60S±0°.06×128°.1E±0°.1, h33km, mb4.0/4, Error ellipse: s-maj=14.7km s-min=7.8km az=161.6*
*IDC **11** 00:02:50.0±1.0, 8°.30S×127°.77E, h0km, mb4.1/3, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=79.6km s-min=22.6km az=68.0*
*NEIC **11** 00:02:52.7±0.6, 8°.53S×128°.20E, h35km, mb4.2/3, Error ellipse: s-maj=14.5km s-min=7.9km az=64.0*
ISC 11 00:02:52.9±0.7, 8°.58S±0°.06×128°.15E±0°.10, h35km, n26, σ0°95/33, mb4.0/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.77	194	Pn	Pn	00 05 13.4	+2.4
	0.4nm,0.3s,baz=17,slow=13,SNR=14						
FITZ				Sn	Sn	00 06 57.6	-1.9
	2.6nm,0.3s,baz=111,slow=23,SNR=7.0						
FITZ	Fitzroy Crossi	9.77	194	eP	Pn	00 05 13.1	+2.1
	6.8nm,0.3s						
FITZ				eS	Sn	00 06 57.4	-2.2
FITZ	Fitzroy Crossi	9.77	194	ePn	Pn	00 05 12.5	+1.5
FITZ				eSn	Sn	00 06 57.2	-2.4
WRAB	Tennant Creek	12.78	153	ePn	Pn	00 05 51.9	-0.3
WRAB				eSn	Sn	00 08 07.1	-6.2
WRA	Warramunga Arr	12.79	153	Pn	Pn	00 05 51.4	-0.8
	1.6nm,0.3s,baz=321,slow=12,SNR=67						
WRA				Sn	Sn	00 08 07.7	-5.7
	2.9nm,0.3s,baz=334,slow=22,SNR=14						
WRA	Warramunga Arr	12.79	153	Pn	Pn	00 05 51.4	-0.8
WRA				Sn	Sn	00 08 07.7	-5.7
WB2	Warramunga Arr	12.79	153	ePn	Pn	00 05 52.2	-0.1
WB2				eSn	Sn	00 08 05.7	-7.9
MBWA	Marble Bar	14.91	212	ePn	Pn	00 06 22.2	+1.0
COEN	Coen	15.67	111	ePn	Pn	00 06 31.5	+0.3
	27nm,0.6s						
COEN				eSn	Sn	00 09 13.4	-10
AS31	Alice Springs	15.98	160	ePn	Pn	00 06 34.8	-0.3
AS31				eSn	Sn	00 09 24.3	-6.9
ASAR	Alice Springs	15.98	160	Pn	Pn	00 06 35.4	+0.2
	0.9nm,0.3s,baz=332,slow=9.1,SNR=48						
ASAR				Sn	Sn	00 09 31.3	0.0
	1.0nm,0.3s,baz=66,slow=19,SNR=8.3						
ASAR	Alice Springs	15.98	160	Pn	Pn	00 06 35.4	+0.2
ASAR				Sn	Sn	00 09 31.3	0.0
MTSU	Mount Surprise	18.36	123	eP	Pn	00 07 10.4	+5.5
	3.4nm,0.2s						
STKA	Stephens Creek	26.34	154	P	P	00 08 30.9	+5.3
	2.5nm,0.7s,mb3.9,baz=330,slow=11,SNR=5.8						
STKA	Stephens Creek	26.34	154	eP	P	00 08 27.7	+2.1
	4.0nm,0.9s,mb4.0						
STKA	Stephens Creek	26.34	154	eP	P	00 08 27.5	+1.9
	0.6nm,0.6s,mb3.3						
MKAR	Makanchi Array	68.56	328	P	P	00 13 52.2	+0.2
	0.6nm,0.5s,mb3.8,baz=127,slow=8.0,SNR=19						
MKAR	Makanchi Array	68.56	328	P	P	00 13 52.2	+0.3
TKM2	Tokmak 2	70.05	322	P	P	00 14 01.0	-0.3
ZALV	Zalesovo Beam	72.20	335	P	P	00 14 13.0	-1.1
	1.2nm,0.5s,mb4.0,baz=128,slow=5.7,SNR=6.4						
ZALV	Zalesovo Beam	72.20	335	P	P	00 14 13.0	-1.1
KURK	Kurchatov	72.92	330	eP	P	00 14 18.3	-0.2
	2.5nm,0.6s,mb4.3						
TORD	Torodi Ar. Bea	127.29	280	PKP	PKPdf	00 21 57.9	+3.1
	0.9nm,0.6s,baz=84,slow=1.5,SNR=6.7						
TORD	Torodi Ar. Bea	127.29	280	PKP	PKPdf	00 21 57.9	+3.1
LPAZ	La Paz	150.50	147	PKPbc	PKPbc	00 22 46.0	+4.1
	0.5nm,0.5s,baz=225,slow=4.3,SNR=4.3						
LPAZ				PKPab	PKPab	00 22 54.4	+6.0
	1.4nm,0.8s,baz=198,slow=6.4,SNR=4.9						
LPAZ	La Paz	150.50	147	PKPbc	PKPbc	00 22 46.0	+4.1
LPAZ				PKPab	PKPab	00 22 54.4	+6.0

*STR **11** 00:22:36.5±0.2, 44°.56N×6°.89E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **11** 00:22:36.5, 44°.54N×6°.86E, h8km, ML2.4*
*NEIC **11** 00:22:36.9, 44°.57N×6°.93E, h2km, ML2.7(LDG), After LDG.*
*ROM **11** 00:22:36.6±0.3, 44°.55N×6°.92E, h10km, Md2.4/9, Ml2.3/4, Error ellipse: s-maj=4.2km s-min=1.6km az=62.0*
*CSEM **11** 00:22:36.2±0.1, 44°.57N×6°.88E, h12km, ML2.8/28, Error ellipse: s-maj=2.4km s-min=1.4km az=54.0*
*LDG **11** 00:22:36.9±0.1, 44°.57N×6°.93E, h2km, Md2.7/3, Ml2.7/28, Error ellipse: s-maj=1.5km s-min=0.7km az=65.0*
*ISCJB **11** 00:22:36.4±0.2, 44°.59N±0°.01×6°.92E±0°.03, h26km±2km, Error ellipse: s-maj=3.9km s-min=2.2km az=158.8*
ISC 11 00:22:36.2±0.2, 44°.57N±0°.01×6°.88E±0°.02, h16km±2km, n138, σ0°91/268, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.10	208	Pg	Pg	00 22 38.8	-0.8
SURF	Saint Ours	0.10	208	Pg	Pg	00 22 38.8	-0.8
MBDF	Montbardon	0.17	333	ePg	Pg	00 22 40.8	+0.3
MBDF				eSg	Sg	00 22 43.6	+0.2
	2μm,0.3s						
MBDF	Montbardon	0.17	333	ePg	Pg	00 22 40.8	+0.3
MBDF				eSg	Sg	00 22 43.6	+0.2
MBDF	Montbardon	0.17	333	ePg	Pg	00 22 40.8	+0.3
MBDF				eSg	Sg	00 22 43.6	+0.2
	865nm,0.3s						
PZZ	Stroppo	0.18	112	⇑iPg	Pg	00 22 40.6	0.0
PZZ				Sg	Sg	00 22 43.3	-0.3
PZZ	Stroppo	0.18	112	P	Pg	00 22 40.5	-0.1
PZZ				Sg	Sg	00 22 43.3	-0.3
STV	Sant Anna di V	0.46	136	Pg	Pg	00 22 45.2	-0.2
STV				Sg	Sg	00 22 51.4	-0.1
STV	Sant Anna di V	0.46	136	P	Pg	00 22 45.1	-0.3
STV				S	Sg	00 22 51.0	-0.5
STV				Sg	Sg	00 22 51.4	-0.1
BNI	Bardonecchia	0.50	343	Pg	Pg	00 22 47.4	+1.2
BNI				Sg	Sg	00 22 53.9	+1.0
	70nm,0.6s						
BNI	Bardonecchia	0.50	343	Pg	Pg	00 22 47.4	+1.2
BNI				Sg	Sg	00 22 53.9	+1.0
	70nm,0.6s						
TOUF	Mont Tournerai	0.62	155	Pg	Pg	00 22 48.2	-0.2
TOUF				Sg	Sg	00 22 56.2	-0.4
TOUF	Mont Tournerai	0.62	155	Pg	Pg	00 22 48.2	-0.2
TOUF				Sg	Sg	00 22 56.2	-0.4
AUTN	L'Aution	0.70	146	Pg	Pg	00 22 49.8	-0.1
AUTN				Sg	Sg	00 22 58.7	-0.4
AUTN	L'Aution	0.70	146	Pg	Pg	00 22 49.8	-0.1
AUTN				Sg	Sg	00 22 58.7	-0.4
MVIF	Mont Vial	0.70	164	Pg	Pg	00 22 50.1	+0.1
MVIF				Sg	Sg	00 22 59.2	-0.1
MVIF	Mont Vial	0.70	164	Pg	Pg	00 22 50.1	+0.1
MVIF				Sg	Sg	00 22 59.2	-0.1
LUCF	Luceram	0.76	154	Pg	Pg	00 22 50.9	-0.1
LUCF				Sg	Sg	00 23 00.2	-0.8
LUCF	Luceram	0.76	154	Pg	Pg	00 22 50.9	-0.1
LUCF				Sg	Sg	00 23 00.2	-0.8
MONE	Monesi	0.80	128	P	Pb	00 22 51.2	-0.5
SBF	Sospel	0.81	151	ePg	Pg	00 22 51.7	-0.3
SBF				eSg	Sg	00 23 02.3	-0.5
	108nm,0.3s						
SBF	Sospel	0.81	151	ePg	Pg	00 22 51.7	-0.3
SBF				eSg	Sg	00 23 02.3	-0.5
SBF	Sospel	0.81	151	ePg	Pg	00 22 51.7	-0.3
SBF				eSg	Sg	00 23 02.3	-0.5
	54nm,0.3s						
CALN	Calern	0.82	180	Pg	Pg	00 22 52.5	+0.3
CALN	Calern	0.82	180	Pg	Pg	00 22 52.5	+0.3
GDM	Grand'Maison	0.83	319	Pg	Pg	00 22 52.8	+0.4
GDM				Sg	Sg	00 23 03.5	+0.2
GDM	Grand'Maison	0.83	319	Pg	Pg	00 22 52.8	+0.4
GDM				Sg	Sg	00 23 03.5	+0.2
RONM	Roccetta Nervi	0.87	143	P	Pb	00 22 52.4	-0.4
MONC	Moncucco Torin	0.90	56	Pg	Pg	00 22 54.4	+0.8
MONC	Moncucco Torin	0.90	56	Pg	Pg	00 22 54.4	+0.8
LSD	Lago del Serru	0.90	11	Pg	Pg	00 22 54.1	+0.4
LSD				Sg	Sg	00 23 07.3	+1.7
	67nm,0.4s						
LSD	Lago del Serru	0.90	11	Pg	Pg	00 22 54.1	+0.4
LSD				Sg	Sg	00 23 07.3	+1.7
	67nm,0.4s						
REVF	Revere	0.90	157	Pg	Pg	00 22 53.6	-0.1
REVF				Sg	Sg	00 23 05.7	+0.1
REVF	Revere	0.90	157	Pg	Pg	00 22 53.6	-0.1
REVF				Sg	Sg	00 23 05.7	+0.1
LPG	La Plagne	0.93	354	ePg	Pg	00 22 55.0	+0.8
LPG				eSg	Sg	00 23 06.5	+0.1
	53nm,0.5s						
LPG	La Plagne	0.93	354	ePg	Pg	00 22 55.0	+0.8
LPG				eSg	Sg	00 23 06.5	+0.1
LPG	La Plagne	0.93	354	ePg	Pg	00 22 55.0	+0.8
LPG				eSg	Sg	00 23 06.5	+0.1
	27nm,0.5s						
NEGI	Seborga	0.94	141	P	Pb	00 22 53.8	-0.2
LPL	La Plagne	0.95	354	ePg	Pg	00 22 55.0	+0.4
LPL				eSg	Sg	00 23 07.2	+0.2
	48nm,0.3s						
LPL	La Plagne	0.95	354	ePg	Pg	00 22 55.0	+0.4
LPL				eSg	Sg	00 23 07.2	+0.2
LPL	La Plagne	0.95	354	ePg	Pg	00 22 55.0	+0.4
LPL				eSg	Sg	00 23 07.2	+0.2
	24nm,0.3s						
RORO	Rocca Rossa	0.97	118	Pg	Pg	00 22 54.2	-0.7
RORO				Sg	Sg	00 23 06.6	-1.0
	88nm,0.5s						
RORO	Rocca Rossa	0.97	118	Pg	Pg	00 22 54.2	-0.7
RORO				Sg	Sg	00 23 06.6	-1.0
	88nm,0.5s						
IMI	Imperia	0.98	132	Pg	Pg	00 22 54.9	-0.3
	140nm,0.5s						
IMI	Imperia	0.98	132	P	Pb	00 22 54.3	-0.5
IMI	Imperia	0.98	132	Pg	Pg	00 22 54.9	-0.3
	140nm,0.5s						
FIN	Finale Ligure	1.02	111	P	Pb	00 22 56.7	+1.3
FRF	La Foret Royal	1.03	190	ePg	Pg	00 22 55.6	-0.5
FRF				eSg	Sg	00 23 09.8	+0.3
	96nm,0.4s						
FRF	La Foret Royal	1.03	190	ePg	Pg	00 22 55.6	-0.5
FRF				eSg	Sg	00 23 09.8	+0.3
FRF	La Foret Royal	1.03	190	ePg	Pg	00 22 55.6	-0.5
FRF				eSg	Sg	00 23 09.8	+0.3
	48nm,0.4s						
GRN	Grenoble	1.05	310	Pg	Pg	00 22 57.2	+0.7

VIVF			eSg	Sg	00 23 28.7	+1.0
	12nm,0.3s					
CABF	**La Chapelle**	**2.11 345**	ePn	Pn	00 23 13.1	+2.3
CABF			eSn	Sn	00 23 37.1	+0.4
	7.8nm,0.4s					
CABF	**La Chapelle**	**2.11 345**	ePn	Pn	00 23 13.1	+2.3
CABF			eSn	Sn	00 23 37.1	+0.4
CABF	**La Chapelle**	**2.11 345**	ePn	Pn	00 23 13.1	+2.3
CABF			eSn	Sn	00 23 37.1	+0.4
	3.9nm,0.4s					
LASF	**Ste Croix**	**2.23 258**	ePn	Pn	00 23 13.3	+0.9
LASF			eSn	Sn	00 23 40.5	+1.0
	8.1nm,0.4s					
LASF	**Ste Croix**	**2.23 258**	ePn	Pn	00 23 13.3	+0.9
LASF			eSn	Sn	00 23 40.5	+1.0
LASF	**Ste Croix**	**2.23 258**	ePn	Pn	00 23 13.3	+0.9
LASF			eSn	Sn	00 23 40.5	+1.0
	4.1nm,0.4s					
PGF	**Pioggiola**	**2.54 142**	ePn	Pn	00 23 17.7	+0.9
PGF			eSn	Sn	00 23 46.4	-1.0
	19nm,0.4s					
PGF	**Pioggiola**	**2.54 142**	ePn	Pn	00 23 17.7	+0.9
PGF			eSn	Sn	00 23 46.4	-1.0
PGF	**Pioggiola**	**2.54 142**	ePn	Pn	00 23 17.7	+0.9
PGF			eSn	Sn	00 23 46.4	-1.0
	9.7nm,0.4s					
SMF	**Signal de Mont**	**2.97 315**	ePn	Pn	00 23 25.0	+2.3
SMF	**Signal de Mont**	**2.97 315**	ePg	Pg	00 23 32.7	-0.5
SMF			eSg	Sg	00 24 10.8	-0.9
	10.0nm,0.4s					
SMF	**Signal de Mont**	**2.97 315**	ePn	Pn	00 23 25.0	+2.3
SMF			ePg	Pg	00 23 32.7	-0.5
SMF			eSg	Sg	00 24 10.8	-0.9
SMF	**Signal de Mont**	**2.97 315**	ePn	Pn	00 23 25.0	+2.3
SMF	**Signal de Mont**	**2.97 315**	ePg	Pg	00 23 32.7	-0.5
SMF			eSg	Sg	00 24 10.8	-0.9
	5.0nm,0.4s					
HINF	**Hinteralfeld**	**3.24 360**	ePn	Pn	00 23 27.0	+0.6
HINF			eSn	Sn	00 23 03.4	-1.2
	1.8nm,0.4s					
HINF	**Hinteralfeld**	**3.24 360**	ePn	Pn	00 23 27.0	+0.6
HINF			eSn	Sn	00 24 03.4	-1.2
HINF	**Hinteralfeld**	**3.24 360**	ePn	Pn	00 23 27.0	+0.6
HINF			eSn	Sn	00 24 03.4	-1.2
	0.9nm,0.4s					
AVF	**Avril sur Loir**	**3.32 313**	ePn	Pn	00 23 30.0	+2.6
AVF	**Avril sur Loir**	**3.32 313**	ePg	Pg	00 23 39.4	-0.4
AVF			eSn	Sn	00 24 06.4	-0.1
AVF			eSg	Sg	00 24 21.7	-1.1
	5.5nm,0.4s					
AVF	**Avril sur Loir**	**3.32 313**	ePn	Pn	00 23 30.0	+2.6
AVF			ePg	Pg	00 23 39.4	-0.4
AVF			eSn	Sn	00 24 06.4	-0.1
AVF			eSg	Sg	00 24 21.7	-1.1
AVF	**Avril sur Loir**	**3.32 313**	ePn	Pn	00 23 30.0	+2.6
AVF	**Avril sur Loir**	**3.32 313**	ePg	Pg	00 23 39.4	-0.4
AVF			eSn	Sn	00 24 06.4	-0.1
AVF			eSg	Sg	00 24 21.7	-1.1
	2.8nm,0.4s					
LOR	**Lormes**	**3.42 323**	ePn	Pn	00 23 29.5	+0.7
LOR			eSn	Sn	00 24 08.6	-0.4
LOR			eSg	Sg	00 24 24.7	-1.4
	6.7nm,0.5s					
LOR	**Lormes**	**3.42 323**	ePn	Pn	00 23 29.5	+0.7
LOR			eSn	Sn	00 24 08.6	-0.4
LOR			eSg	Sg	00 24 24.7	-1.4
LOR	**Lormes**	**3.42 323**	ePn	Pn	00 23 29.5	+0.7
LOR			eSn	Sn	00 24 08.6	-0.4
LOR			eSg	Sg	00 24 24.7	-1.4
	3.3nm,0.5s					
SSF	**Saint Saulge**	**3.43 318**	ePn	Pn	00 23 29.6	+0.7
SSF			eSn	Sn	00 24 09.0	-0.2
SSF			eSg	Sg	00 24 25.3	-1.0
	3.2nm,0.3s					
SSF	**Saint Saulge**	**3.43 318**	ePn	Pn	00 23 29.6	+0.7
SSF			eSn	Sn	00 24 09.0	-0.2
SSF			eSg	Sg	00 24 25.3	-1.0
SSF	**Saint Saulge**	**3.43 318**	ePn	Pn	00 23 29.6	+0.7
SSF			eSn	Sn	00 24 09.0	-0.2
SSF			eSg	Sg	00 24 25.3	-1.0
	1.6nm,0.3s					
CAF	**Calviac**	**3.45 278**	ePn	Pn	00 23 30.3	+1.1
CAF			eSg	Sg	00 24 26.5	-0.4
	2.8nm,0.4s					
CAF	**Calviac**	**3.45 278**	ePn	Pn	00 23 30.3	+1.1
CAF			eSg	Sg	00 24 26.5	-0.4
CAF	**Calviac**	**3.45 278**	ePn	Pn	00 23 30.3	+1.1
CAF			eSg	Sg	00 24 26.5	-0.4
	1.4nm,0.4s					
HAU	**Haudompre**	**3.45 354**	ePn	Pn	00 23 29.4	+0.2
HAU			eSn	Sn	00 24 08.5	-1.3
	4.1nm,0.3s					
HAU	**Haudompre**	**3.45 354**	ePn	Pn	00 23 29.4	+0.2
HAU			eSn	Sn	00 24 08.5	-1.3
HAU	**Haudompre**	**3.45 354**	ePn	Pn	00 23 29.4	+0.2
HAU			eSn	Sn	00 24 08.5	-1.3
	2.0nm,0.3s					
BGF	**Bois d'Agland**	**3.46 306**	ePn	Pn	00 23 31.9	+2.6
BGF	**Bois d'Agland**	**3.46 306**	ePg	Pg	00 23 41.6	-0.8
BGF			eSg	Sg	00 24 26.3	-0.9
	19nm,0.4s					
BGF	**Bois d'Agland**	**3.46 306**	ePn	Pn	00 23 31.9	+2.6
BGF			ePg	Pg	00 23 41.6	-0.8
BGF			eSg	Sg	00 24 26.3	-0.9
BGF	**Bois d'Agland**	**3.46 306**	ePn	Pn	00 23 31.9	+2.6
BGF	**Bois d'Agland**	**3.46 306**	ePg	Pg	00 23 41.6	-0.8
BGF			eSg	Sg	00 24 26.3	-0.9
	9.7nm,0.4s					
MTLF	**Montolieu**	**3.59 252**	ePn	Pn	00 23 32.2	+1.1
MTLF			eSn	Sn	00 24 12.9	-0.2
	2.3nm,0.3s					
MTLF	**Montolieu**	**3.59 252**	ePn	Pn	00 23 32.2	+1.1
MTLF			eSn	Sn	00 24 12.9	-0.2
MTLF	**Montolieu**	**3.59 252**	ePn	Pn	00 23 32.2	+1.1
MTLF			eSn	Sn	00 24 12.9	-0.2
	1.1nm,0.3s					
TCF	**Toulx Ste Croi**	**3.71 299**	ePn	Pn	00 23 33.3	+0.5
TCF			eSn	Sn	00 24 15.5	-0.6
TCF			eSg	Sg	00 24 34.4	-0.8
	2.6nm,0.4s					
TCF	**Toulx Ste Croi**	**3.71 299**	ePn	Pn	00 23 33.3	+0.5
TCF			eSn	Sn	00 24 15.5	-0.6
TCF			eSg	Sg	00 24 34.4	-0.8
TCF	**Toulx Ste Croi**	**3.71 299**	ePn	Pn	00 23 33.3	+0.5
TCF			eSn	Sn	00 24 15.5	-0.6
TCF			eSg	Sg	00 24 34.4	-0.8
	1.3nm,0.4s					
CDF	**Champ du Feu**	**3.85 4**	ePn	Pn	00 23 34.8	+0.1
CDF			eSn	Sn	00 24 17.9	-1.6
	2.8nm,0.4s					
CDF	**Champ du Feu**	**3.85 4**	ePn	Pn	00 23 34.8	+0.1
CDF			eSn	Sn	00 24 17.9	-1.6
CDF	**Champ du Feu**	**3.85 4**	ePn	Pn	00 23 34.8	+0.1
CDF			eSn	Sn	00 24 17.9	-1.6
	1.4nm,0.4s					
SFTF	**Sexfontaines**	**3.85 341**	ePn	Pn	00 23 35.1	+0.4
SFTF			eSn	Sn	00 24 18.3	-1.2
	6.3nm,0.4s					
SFTF	**Sexfontaines**	**3.85 341**	ePn	Pn	00 23 35.1	+0.4
SFTF			eSn	Sn	00 24 18.3	-1.2
SFTF	**Sexfontaines**	**3.85 341**	ePn	Pn	00 23 35.1	+0.4
SFTF			eSn	Sn	00 24 18.3	-1.2
	3.2nm,0.4s					
RJF	**Les Rejaudoux**	**3.88 283**	ePn	Pn	00 23 36.1	+1.0
RJF			eSg	Sg	00 24 39.8	-0.9
	8.1nm,0.6s					
RJF	**Les Rejaudoux**	**3.88 283**	ePn	Pn	00 23 36.1	+1.0
RJF			eSg	Sg	00 24 39.8	-0.9
RJF	**Les Rejaudoux**	**3.88 283**	ePn	Pn	00 23 36.1	+1.0
RJF			eSg	Sg	00 24 39.8	-0.9
	4.1nm,0.6s					
HYF	**Humbligny**	**4.00 314**	ePn	Pn	00 23 38.3	+1.5
HYF	**Humbligny**	**4.00 314**	ePn	Pn	00 23 38.3	+1.5
HYF			ePg	Pg	00 23 51.9	-0.9
HYF			eSn	Sn	00 24 22.5	-0.8
HYF			eSg	Sg	00 24 43.1	-1.6
HYF	**Humbligny**	**4.00 314**	ePn	Pn	00 23 38.3	+1.5
PAGF	**Fort de Pagny**	**4.06 349**	ePn	Pn	00 23 38.3	+0.7
PAGF			eSn	Sn	00 24 23.2	-1.6
	0.5nm,0.4s					
PAGF	**Fort de Pagny**	**4.06 349**	ePn	Pn	00 23 38.3	+0.7
PAGF			eSn	Sn	00 24 23.2	-1.6
PAGF	**Fort de Pagny**	**4.06 349**	ePn	Pn	00 23 38.3	+0.7
PAGF			eSn	Sn	00 24 23.2	-1.6
	0.2nm,0.4s					
MEZF	**Maizieres J'vi**	**4.13 343**	ePn	Pn	00 23 38.8	+0.3
MEZF			eSn	Sn	00 24 24.7	-1.7
MEZF	**Maizieres J'vi**	**4.13 343**	ePn	Pn	00 23 38.8	+0.3
MEZF			eSn	Sn	00 24 24.7	-1.7
MEZF	**Maizieres J'vi**	**4.13 343**	ePn	Pn	00 23 38.8	+0.3
MEZF			eSn	Sn	00 24 24.7	-1.7
LFF	**La Frestale**	**4.39 277**	ePn	Pn	00 23 42.7	+0.6
LFF			eSg	Sg	00 24 55.9	-1.2
	6.4nm,0.6s					
LFF	**La Frestale**	**4.39 277**	ePn	Pn	00 23 42.7	+0.6
LFF			eSg	Sg	00 24 55.9	-1.2
LFF	**La Frestale**	**4.39 277**	ePn	Pn	00 23 42.7	+0.6
LFF			eSg	Sg	00 24 55.9	-1.2
	3.2nm,0.6s					
MFF	**Saint Martin d**	**5.33 295**	ePn	Pn	00 23 55.7	+0.6
MFF			eSn	Sn	00 24 54.4	-1.7
	0.2nm,0.2s					
MFF	**Saint Martin d**	**5.33 295**	ePn	Pn	00 23 55.7	+0.6
MFF			eSn	Sn	00 24 54.4	-1.7
MFF	**Saint Martin d**	**5.33 295**	ePn	Pn	00 23 55.7	+0.6
MFF			eSn	Sn	00 24 54.4	-1.7
	0.1nm,0.2s					
LDF	**La Druitiere**	**6.28 312**	ePn	Pn	00 24 08.3	+0.2
LDF			eSn	Sn	00 25 17.0	-2.4
	0.7nm,0.3s					
LDF	**La Druitiere**	**6.28 312**	ePn	Pn	00 24 08.3	+0.2
LDF			eSn	Sn	00 25 17.0	-2.4
LDF	**La Druitiere**	**6.28 312**	ePn	Pn	00 24 08.3	+0.2

IDC 11 00:32:44.3±7.7, 30°51'S×177°08'W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/15, mbtmp3.6/2, Error ellipse: s-maj=324.2km s-min=58.6km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.89**	**267**	P	P	00 40 52.8	0.0
	0.9nm,0.9s,baz=110,slow=7.2,SNR=6.4						
WRA	**Warramunga Arr**	**44.89**	**272**	P	P	00 41 00.7	-0.1
	0.5nm,0.5s,baz=111,slow=8.0,SNR=8.4						
FINES	**FINESS Array B**	**145.52**	**340**	PKPbc	PKPbc	00 52 22.9	-0.8
	2.2nm,1.0s,baz=44,slow=4.6,SNR=5.3						

MAN 11 01:09:09, 9°62N×122°33E, h31km, mb4.3, ML3.2, MS3.0, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.93**	**107**	⇑iP	Pn	01 09 25.8	-0.1
SNPH				iS	Sn	01 09 39.5	+1.2
GUIM	**Jordan**	**1.03**	**14**	eP	Pn	01 09 28.6	+1.2
GUIM				eS	Sn	01 09 40.1	-0.7
TBP	**Tagbilaran**	**1.51**	**87**	eP	Pn	01 09 35.7	+1.8
PAGZ	**Pagadian**	**2.04**	**149**	eP	Pn	01 09 43.0	+1.8
PAGZ				eS	Sn	01 10 06.9	+1.2

*ISCJB **11** 01:25:11.4±0.6, 33°7S±0°1×77°4E±0°1, h10km, mb4.2/16, MS3.8/8, Error ellipse: s-maj=20.8km s-min=14.6km az=26.1*
*IDC **11** 01:25:11.5±0.8, 33°66S×77°32E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, MS3.8/8, Ms1 3.8/8, ms1mx3.5/19, Error ellipse: s-maj=30.0km s-min=24.1km az=54.0*
*NEIC **11** 01:25:12.9±0.4, 33°71S×77°33E, h10km, mb4.4/7, Error ellipse: s-maj=13.3km s-min=9.2km az=206.0*

ISC 11 01:25:13.2±0.6, 33°7S±0°1×77°4E±0°1, h10km, n37, σ0=46/30, mb4.1/16, MS3.8/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**33.19**	**100**	LR	LR	01 41 57.8	
	comp=Z,162nm,18.8s,MS3.8,baz=338,slow=30						
MAW	**Mawson**	**34.99**	**190**	LR	LR	01 42 28.4	
	comp=Z,86nm,18.5s,MS3.5,baz=112,slow=30						
BOSA	**Boshof**	**44.50**	**262**	LR	LR	01 47 31.4	
	comp=Z,103nm,21.8s,MS3.7,baz=166,slow=30						
LSZ	**Lusaka**	**47.88**	**280**	eP	**P**	**01 33 51.8**	**+0.1**
	1.9nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**50.07**	**94**	P	**P**	**01 34 08.6**	**+0.1**
	1.3nm,0.7s,mb4.1,baz=246,slow=6.6,SNR=8.4						
ASAR	**Alice Springs**	**50.07**	**94**	P	**P**	**01 34 08.6**	**+0.1**
WRA	**Warramunga Arr**	**52.07**	**90**	P	**P**	**01 34 23.6**	**+0.1**
	2.5nm,0.8s,mb4.2,baz=245,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**52.07**	**90**	P	**P**	**01 34 23.6**	**+0.1**
WB2	**Warramunga Arr**	**52.08**	**90**	eP	**P**	**01 34 23.3**	**-0.3**
WRAB	**Tennant Creek**	**52.08**	**90**	eP	**P**	**01 34 23.5**	**-0.1**
	5.0nm,0.9s,mb4.4						
CMAR	**Chiang Mai Arr**	**55.78**	**25**	P	**P**	**01 34 50.8**	**+0.4**
	0.7nm,0.4s,mb4.0,baz=210,slow=7.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**55.78**	**25**	P	**P**	**01 34 50.9**	**+0.4**
QSPA	**South Pole Qui**	**56.47**	**180**	P	**P**	**01 34 55.2**	**+0.5**
	2.8nm,0.2s,mb4.9,baz=292,slow=1.3,SNR=7.4						
QSPA	**South Pole Qui**	**56.47**	**180**	eP	**P**	**01 34 54.9**	**+0.1**
	6.6nm,1.1s,mb4.6						
KBL	**Kabul**	**68.31**	**353**	eP	**P**	**01 36 14.6**	**+0.2**
	1.8nm,0.7s,mb4.2						
EKS2	**Erkin-Say**	**76.04**	**357**	eP	**P**	**01 37 01.0**	**+0.6**
	3.4nm,0.9s,mb4.3						
EKS2				e		01 37 06.7	
KKAR	**Karatay Array**	**76.67**	**355**	eP	**P**	**01 37 04.4**	**+0.4**
	6.2nm,0.8s,mb4.6						
KKAR				e		01 37 10.5	
MKAR	**Makanchi Array**	**80.22**	**3**	P	**P**	**01 37 22.9**	**-0.7**
	1.0nm,0.7s,mb3.9,baz=180,slow=6.8,SNR=10						
MKAR	**Makanchi Array**	**80.22**	**3**	P	**P**	**01 37 22.9**	**-0.7**
BRTR	**Keskin Array B**	**83.49**	**328**	P	**P**	**01 37 41.4**	**+0.4**
	0.7nm,0.9s,mb3.7,baz=169,slow=8.8,SNR=5.5						
BRTR	**Keskin Array B**	**83.49**	**328**	P	**P**	**01 37 41.4**	**+0.4**
BR131	**Keskin Array S**	**83.49**	**328**	eP	**P**	**01 37 40.0**	**-1.0**
	1.4nm,0.8s,mb4.0						
BR131				e		01 37 47.3	
SONM	**Songino Array**	**85.22**	**19**	P	**P**	**01 37 49.8**	**+0.3**
	0.7nm,0.7s,mb3.9,baz=206,slow=5.1,SNR=5.0						
SONM				LR	LR	02 11 03.8	
	comp=Z,54nm,20.1s,MS3.9,baz=144,slow=32						
SONM	**Songino Array**	**85.22**	**19**	P	**P**	**01 37 49.8**	**+0.3**
AKTO	**Aktyubinsk**	**85.48**	**348**	P	**P**	**01 37 50.9**	**+0.1**
	0.6nm,0.5s,mb4.0,baz=192,slow=4.9,SNR=4.8						
AKTO	**Aktyubinsk**	**85.48**	**348**	P	**P**	**01 37 50.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**85.62**	**289**	P	**P**	**01 37 51.9**	**-0.5**
	0.8nm,0.8s,mb4.0,baz=100,slow=4.6,SNR=6.0						
TORD				LR	LR	02 15 14.7	
	comp=Z,67nm,18.5s,MS4.1,baz=120,slow=35						
TORD	**Torodi Ar. Bea**	**85.62**	**289**	P	**P**	**01 37 51.9**	**-0.5**
BVAR	**Borovoye Array**	**86.55**	**356**	P	**P**	**01 37 56.6**	**+0.6**
	0.2nm,0.4s,mb3.7,baz=153,slow=4.5,SNR=3.8						
BVAR	**Borovoye Array**	**86.55**	**356**	P	**P**	**01 37 56.6**	**+0.6**
DBIC	**Dimbokro**	**87.22**	**280**	LR	LR	02 12 13.4	
	comp=Z,74nm,18.3s,MS4.1,baz=50,slow=32						
ZAA0	**Zalesovo Array**	**87.50**	**4**	eP	**P**	**01 37 59.7**	**-0.9**
ZALV	**Zalesovo Beam**	**87.50**	**4**	P	**P**	**01 37 59.9**	**-0.7**
	1.2nm,0.7s,mb4.3,baz=198,slow=3.1,SNR=6.7						
ZALV				LR	LR	02 14 34.5	
	comp=Z,27nm,20.6s,MS3.6,baz=59,slow=34						
ZALV	**Zalesovo Beam**	**87.50**	**4**	P	**P**	**01 37 59.9**	**-0.7**
MJAR	**Matsushiro Arr**	**90.00**	**45**	LR	LR	02 15 01.8	
	comp=Z,49nm,18.5s,MS4.0,baz=35,slow=33						
YKA	**Yellowknife Ar**	**150.18**	**11**	PKPbc	PKPbc	01 45 03.0	-0.5
	1.3nm,0.9s,baz=315,slow=3.9,SNR=8.4						
YKA				PKPab	PKPab	01 45 08.9	-0.7
	1.0nm,0.8s,baz=321,slow=3.3,SNR=8.1						
YKA	**Yellowknife Ar**	**150.18**	**11**	PKPbc	PKPbc	01 45 03.0	-0.5
YKA				PKPab	PKPab	01 45 08.9	-0.7

*ISK **11** 01:45:51.1, 35°83N×29°37E, h14km, MD3.1*
*ISCJB **11** 01:45:53.6±0.9, 35°88N±0°05×29°41E±0°04, h26km±7km, Error ellipse: s-maj=8.7km s-min=4.5km az=160.1*
*ATH **11** 01:45:53.5, 36°08N×29°41E, h36km, MD3.4/4*
*DDA **11** 01:45:54.7, 36°07N×29°29E, h26km±1km, Md3.3*
*CSEM **11** 01:45:54.3±0.3, 35°94N×29°39E, h20km, MD3.4, Error ellipse: s-maj=7.3km s-min=3.7km az=162.0*

ISC 11 01:45:54.1±0.8, 35°93N±0°05×29°36E±0°03, h17km±4km, n53, σ0=80/77, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.28**	**39**	ePB	**Pg**	**01 46 00.3**	**0.0**
ELL	**Elmali**	**0.93**	**28**	PG	**Pg**	**01 46 10.5**	**-1.7**
ELL				SG	**Sg**	**01 46 25.8**	**+1.4**
ELL	**Elmali**	**0.93**	**28**	iPg	**Pg**	**01 46 10.5**	**-1.6**
ELL				iSg	**Sg**	**01 46 25.8**	**+1.4**
ARG	**Arkhangelos**	**1.04**	**286**	ePN	**Pg**	**01 46 13.6**	**-0.6**
ARG				eSN	**Sg**	**01 46 28.0**	**+0.1**
ARG	**Arkhangelos**	**1.04**	**286**	ePn	**Pg**	**01 46 13.6**	**-0.6**
ARG				eSn	**Sg**	**01 46 28.0**	**+0.1**
TURN	**Turunc**	**1.12**	**327**	iP	**Pg**	**01 46 15.6**	**-0.2**
TURN				iS	**Sg**	**01 46 31.5**	**+1.0**
TURN	**Turunc**	**1.12**	**327**	iP	**Pg**	**01 46 15.6**	**-0.2**
TURN				iS	**Sg**	**01 46 31.5**	**+1.0**
GLHS	**Glhisar (BURDU**	**1.23**	**5**	ePN	**Pn**	**01 46 15.5**	**-0.9**
GLHS				eSN	**Sn**	**01 46 33.7**	**+1.1**
GLHS	**Glhisar (BURDU**	**1.23**	**5**	ePn	**Pn**	**01 46 15.5**	**-0.9**
GLHS				eSn	**Sn**	**01 46 33.7**	**+1.1**
GOLH	**Golhisar**	**1.32**	**7**	iP	**Pn**	**01 46 16.5**	**-1.1**
GOLH				iS	**Sn**	**01 46 34.5**	**-0.3**
GOLH	**Golhisar**	**1.32**	**7**	iP	**Pn**	**01 46 16.5**	**-1.1**
GOLH				iS	**Sn**	**01 46 34.5**	**-0.2**
KORT	**Korkueli**	**1.33**	**36**	iP	**Pn**	**01 46 17.9**	**+0.1**
KORT				iS	**Sn**	**01 46 36.0**	**+0.8**
KORT	**Korkueli**	**1.33**	**36**	iP	**Pn**	**01 46 17.9**	**+0.1**
KORT				iS	**Sn**	**01 46 36.0**	**+0.8**
YER	**Yerkesik**	**1.48**	**325**	ePN	**Pn**	**01 46 19.5**	**-0.4**
YER	**Yerkesik**	**1.48**	**325**	ePn	**Pn**	**01 46 19.5**	**-0.4**
DAT	**Datca**	**1.65**	**300**	ePN	**Pn**	**01 46 21.7**	**-0.4**
DAT				eSN	**Sn**	**01 46 42.9**	**0.0**
DAT	**Datca**	**1.65**	**300**	ePn	**Pn**	**01 46 21.7**	**-0.4**
DAT				eSn	**Sn**	**01 46 42.9**	**0.0**
DNZL	**Cakiroluk**	**1.78**	**352**	iP	**Pn**	**01 46 24.8**	**+0.9**
DNZL				iS	**Sn**	**01 46 46.7**	**+0.6**
DNZL	**Cakiroluk**	**1.78**	**352**	iP	**Pn**	**01 46 24.8**	**+0.9**
DNZL				iS	**Sn**	**01 46 46.7**	**+0.6**
BCK	**Bucak**	**1.82**	**32**	ePN	**Pn**	**01 46 24.0**	**-0.5**
BCK	**Bucak**	**1.82**	**32**	ePn	**Pn**	**01 46 24.0**	**-0.5**
KARP	**Karpathos**	**1.83**	**259**	ePN	**Pn**	**01 46 25.7**	**+1.1**
KARP				eSN	**Sn**	**01 46 48.7**	**+1.3**
KARP	**Karpathos**	**1.83**	**259**	ePn	**Pn**	**01 46 25.8**	**+1.2**
KARP				eSn	**Sn**	**01 46 48.7**	**+1.3**
DENT	**Denizli**	**1.84**	**352**	ePN	**Pn**	**01 46 25.1**	**+0.3**
DENT	**Denizli**	**1.84**	**352**	ePn	**Pn**	**01 46 25.1**	**+0.3**
BODT	**Bodrum**	**2.00**	**305**	ePN	**Pn**	**01 46 26.3**	**-0.7**
BODT	**Bodrum**	**2.00**	**305**	ePn	**Pn**	**01 46 26.3**	**-0.7**
SUTC	**Sutluce-Ispart**	**2.03**	**40**	ePN	**Pn**	**01 46 27.3**	**-0.1**
SUTC	**Sutluce-Ispart**	**2.03**	**40**	ePn	**Pn**	**01 46 27.3**	**-0.1**
AYDN	**Tasoluk**	**2.10**	**326**	iP	**Pn**	**01 46 29.9**	**+1.6**
AYDN				iS	**Sn**	**01 46 53.0**	**-1.0**
AYDN	**Tasoluk**	**2.10**	**326**	iP	**Pn**	**01 46 29.9**	**+1.5**
AYDN				iS	**Sn**	**01 46 53.0**	**-1.0**
KULA	**Kula-Manisa**	**2.64**	**348**	ePN	**Pn**	**01 46 35.9**	**+0.1**
KULA	**Kula-Manisa**	**2.64**	**348**	ePn	**Pn**	**01 46 35.9**	**+0.1**
SMG	**Samos**	**2.69**	**312**	ePN	**Pn**	**01 46 35.7**	**-0.8**
SMG				eSN	**Sn**	**01 47 06.3**	**-2.4**
SMG	**Samos**	**2.69**	**312**	ePn	**Pn**	**01 46 35.7**	**-0.8**
SMG				eSn	**Sn**	**01 47 06.3**	**-2.4**
HDMB	**Hadim**	**2.72**	**67**	ePN	**Pn**	**01 46 36.7**	**-0.2**
HDMB	**Hadim**	**2.72**	**67**	ePn	**Pn**	**01 46 36.7**	**-0.2**
SHUT	**Suhut-Afyon**	**2.79**	**20**	ePN	**Pn**	**01 46 37.5**	**-0.3**
SHUT	**Suhut-Afyon**	**2.79**	**20**	ePn	**Pn**	**01 46 37.5**	**-0.3**
BLCB	**Balcova**	**3.07**	**324**	ePN	**Pn**	**01 46 41.8**	**0.0**
BLCB	**Balcova**	**3.07**	**324**	ePn	**Pn**	**01 46 41.8**	**+0.1**
NPS	**Neapolis**	**3.13**	**259**	ePN	**Pn**	**01 46 43.2**	**+0.7**
NPS	**Neapolis**	**3.13**	**259**	ePn	**Pn**	**01 46 43.2**	**+0.7**
KONT	**Konya--Tatoy**	**3.13**	**49**	ePN	**Pn**	**01 46 42.3**	**-0.3**
KONT	**Konya--Tatoy**	**3.13**	**49**	ePn	**Pn**	**01 46 42.3**	**-0.3**
ALT	**Altintas**	**3.18**	**11**	ePN	**Pn**	**01 46 43.4**	**+0.2**
ALT	**Altintas**	**3.18**	**11**	ePn	**Pn**	**01 46 43.4**	**+0.2**
LADK	**Ladik-KONYA**	**3.30**	**46**	ePN	**Pn**	**01 46 44.4**	**-0.5**
LADK	**Ladik-KONYA**	**3.30**	**46**	ePn	**Pn**	**01 46 44.4**	**-0.5**
KDHN	**Kadinhani**	**3.40**	**40**	iP	**Pn**	**01 46 46.7**	**+0.5**
KDHN				iS	**Sn**	**01 47 25.9**	**-0.2**
KDHN	**Kadinhani**	**3.40**	**40**	iP	**Pn**	**01 46 46.7**	**+0.5**
KDHN				iS	**Sn**	**01 47 25.9**	**-0.1**
KIZT	**Kizilcal**	**3.56**	**33**	ePN	**Pn**	**01 46 48.7**	**+0.2**
KIZT	**Kizilcal**	**3.56**	**33**	ePn	**Pn**	**01 46 48.7**	**+0.2**

*CSEM **11** 01:58:22.7±0.3, 43°30N×46°21E, h2km, mb4.2, Error ellipse: s-maj=6.9km s-min=2.6km az=23.0*
*ISCJB **11** 01:58:23.0±0.5, 43°23N±0°03×46°18E±0°02, h1km±4km, Error ellipse: s-maj=5.3km s-min=2.3km az=23.1*
*MOS **11** 01:58:24.0±1.8, 43°20N×46°14E, h16km, mb4.2/1, Error ellipse: s-maj=9.8km s-min

KMSR	**Komsomolskaya**	**1.39 276**	⇑*i*PG	**Pn**	**01 58 49.2**	**-0.5**
KMSR			*e*S	**Sg**	**01 59 09.4**	**+0.9**
KMSR	**Komsomolskaya**	**1.39 276**	*i* Pg	**Pn**	**01 58 49.2**	**-0.5**
KMSR			*e*Sg	**Sg**	**01 59 09.4**	**+0.9**
ARNR	**Ardon**	**1.39 269**	⇓*i*PG	**Pn**	**01 58 49.2**	**-0.6**
ARNR			*i* S	**Sg**	**01 59 09.2**	**+0.6**
ARNR	**Ardon**	**1.39 269**	*i* Pg	**Pn**	**01 58 49.2**	**-0.6**
ARNR			*i* Sg	**Sg**	**01 59 09.2**	**+0.6**
LACR	**Lac**	**1.44 254**	⇑*i*PG	**Pn**	**01 58 48.5**	**-2.0**
LACR			*i* S	**Sn**	**01 59 08.2**	**-1.4**
PRTR	**Priterechnaya**	**1.48 291**	⇓*i*PG	**Pn**	**01 58 50.8**	**-0.2**
PRTR			*i* S	**Sg**	**01 59 12.4**	**+1.0**
PRTR	**Priterechnaya**	**1.48 291**	*i* Pg	**Pn**	**01 58 50.8**	**-0.2**
PRTR			*i* Sg	**Sg**	**01 59 12.4**	**+1.0**
URKR	**Urkarakh**	**1.51 134**	*e*PG	**Pn**	**01 58 51.5**	**+0.1**
URKR			*e*S	**Sg**	**01 59 13.0**	**+0.6**
URKR			pmax	pmax		
	comp=Z,67nm,0.2s					
URKR	**Urkarakh**	**1.51 134**	*e*Pg	**Pn**	**01 58 51.5**	**+0.1**
	comp=Z,67nm,0.2s					
URKR			*e*Sg	**Sg**	**01 59 13.0**	**+0.6**
KORR	**Kora**	**1.55 265**	⇓*i*PG	**Pn**	**01 58 51.1**	**-0.9**
KORR			*i* S	**Sg**	**01 59 13.3**	**-0.5**
KORR	**Kora**	**1.55 265**	*i* Pg	**Pn**	**01 58 51.1**	**-0.9**
KORR			*i* Sg	**Sg**	**01 59 13.3**	**-0.5**
LSNR	**Lesken**	**1.73 272**	⇑*i*PN	**Pn**	**01 58 53.3**	**-1.1**
LSNR			*i* S	**Sn**	**01 59 17.8**	**+1.1**
LSNR	**Lesken**	**1.73 272**	*i* Pn	**Pn**	**01 58 53.3**	**-1.1**
LSNR			*i* Sg	**Sn**	**01 59 17.8**	**+1.1**
TBLG	**Delisi**	**1.84 216**	*e*PN	**Pn**	**01 58 57.0**	**+1.1**
TBLG			*e*S	**Sn**	**01 59 21.6**	**+2.1**
TBLG	**Delisi**	**1.84 216**	P	**Pn**	**01 58 57.1**	**+1.1**
TBLG			S	**Sn**	**01 59 21.6**	**+2.2**
TBLG	**Delisi**	**1.84 216**	*e*Pn	**Pn**	**01 58 57.0**	**+1.1**
TBLG			S	**Sn**	**01 59 21.6**	**+2.1**
MTA	**Mtatsminda**	**1.85 214**	P	**Pn**	**01 58 56.8**	**+0.8**
MTA			S	**Sg**	**01 59 22.4**	**-0.8**
MTA	**Mtatsminda**	**1.85 214**	P	**Pn**	**01 58 56.8**	**+0.8**
MTA			S	**Sg**	**01 59 22.4**	**-0.9**
DGRG	**David-gareji**	**1.88 199**	P	**Pn**	**01 58 57.8**	**+1.4**
DGRG			S	**Sg**	**01 59 25.2**	**+0.9**
DGRG	**David-gareji**	**1.88 199**	P	**Pn**	**01 58 57.8**	**+1.4**
DGRG			S	**Sg**	**01 59 25.2**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.93 261**	⇓*i*PN	**Pn**	**01 58 55.4**	**-1.8**
DIGR	**Digorskoe uzhe**	**1.93 261**	*i* Pn	**Pn**	**01 58 55.4**	**-1.8**
GOR	**Gori**	**1.97 232**	P	**Pn**	**01 58 59.3**	**+1.5**
GOR			S	**Sg**	**01 59 25.5**	**-1.7**
GOR	**Gori**	**1.97 232**	P	**Pn**	**01 58 59.3**	**+1.5**
GOR			S	**Sg**	**01 59 25.5**	**-1.8**
AKT	**Akhty**	**2.09 146**	*e*PN	**Pn**	**01 59 01.0**	**+1.6**
AKT			*e*S	**Sg**	**01 59 31.0**	**-0.1**
AKT			pmax	pmax		
	comp=Z,45nm,0.3s					
AKT	**Akhty**	**2.09 146**	*e*Pn	**Pn**	**01 59 01.0**	**+1.6**
	comp=Z,45nm,0.3s					
AKT			*e*Sb	**Sg**	**01 59 31.0**	**-0.1**
ONI	**Oni**	**2.10 253**	P	**Pn**	**01 58 59.0**	**-0.6**
ONI			S	**Sg**	**01 59 29.4**	**-2.1**
ONI	**Oni**	**2.10 253**	P	**Pn**	**01 58 59.0**	**-0.6**
ONI			S	**Sg**	**01 59 29.4**	**-2.1**
KSMR	**Kasumkent**	**2.17 138**	*e*PN	**Pg**	**01 59 03.0**	**-2.6**
KSMR			*e*S	**Sg**	**01 59 32.0**	**-1.7**
KSMR			pmax	pmax		
	comp=Z,64nm,0.2s					
AKH	**Akhalkalaki**	**2.70 229**	S	**Sn**	**01 59 45.5**	**+4.8**
AKH	**Akhalkalaki**	**2.70 229**	S	**Sn**	**01 59 45.5**	**+4.8**
AKTO	**Aktyubinsk**	**10.84 44**	⇓Pn	**Pn**	**02 01 00.7**	**+1.3**
	comp=Z,0.5nm,1.1s					
AKTO			⇓Sn	**Sn**	**02 02 52.0**	**-8.9**
	comp=Z,0.2nm,0.4s					
AB31	**Akbulak array**	**11.27 53**	⇓Pn	**Pn**	**02 01 03.9**	**-1.4**
	comp=Z,0.1nm,0.2s,baz=244,slow=12,SNR=13					
AB31			⇓Sn	**Sn**	**02 03 00.9**	**-11**
	comp=Z,0.6nm,0.3s,baz=236,slow=21,SNR=11					
AB31	**Akbulak array**	**11.27 53**	Pn	**Pn**	**02 01 03.9**	**-1.4**
	comp=Z,0.1nm,0.2s,baz=244,SNR=13					

NIED ***11*** *02:02:00,46°.60N×153°.20E,h65km,Mw4.3 Best double couple: M0=2.92000×10^15 NP1:φs=257.00000°,δ86.00000°, λ89.00000°. NP2:φs=87.00000°,δ4.00000°,λ99.00000°.*
ISCJB ***11*** *02:02:24.8±2.5,46°.5N±0°.2×153°.0E±0°.2,h34km±22km, mb3.5/6,Error ellipse: s-maj=48.0km s-min=11.9km az=147.4*
MOS ***11*** *02:02:25.9±0.2,46°.58N×152°.80E,h47km,mb3.7/1,Error ellipse: s-maj=42.6km s-min=21.1km az=50.0*
IDC ***11*** *02:02:27.8±3.9,46°.47N×152°.97E,h46km±34km,mb3.2/6, mb1 3.7/8,mb1mx3.4/25,mbtmp3.4/8,ML3.6/2,MS2.7/3, Ms1 2.7/3,ms1mx2.5/13,Error ellipse: s-maj=59.4km s-min=23.6km az=160.0*

ISC 11 02:02:27.4±2.2,46°.5N±0°.3×153°.0E±0°.2,h41km±20km,n16, σ0°45/16,mb3.5/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76 253**		PN	**Pn**	**02 03 22.0**	**-0.8**
KUR				*e*S	**Sn**	**02 04 06.0**	**+0.2**
KUR				smax			
	comp=N,340nm,0.9s						
KUR				smax			
	comp=E,100nm,0.7s						
PETK	**Petropavlovsk-**	**7.33**	**23**	P	**Pn**	**02 04 12.0**	**+0.2**
	comp=E,1.1nm,0.3s,baz=184,slow=14,SNR=7.9						
PETK				LR	LR	02 07 00.8	
	comp=E,46nm,20.8s,baz=66,slow=37						
PETK	**Petropavlovsk-**	**7.33**	**23**	*e*Pn	**Pn**	**02 04 12.0**	**+0.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.67**	**256**	P	**Pn**	**02 04 16.9**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=122,slow=18,SNR=4.4						
ASAJ				LR	LR	02 07 06.3	
	comp=Z,40nm,19.8s,baz=22,slow=36						
ASAJ	**Asahikawa**	**7.67**	**256**	PN	**Pn**	**02 04 16.9**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,40nm,19.8s						
FX1	**Attu Island--F**	**14.56**	**56**	LR	LR	02 10 29.2	
	comp=Z,43nm,21.1s,baz=127,slow=33						
ILAR	**Eielson Array**	**36.85**	**38**	P	**P**	**02 09 30.4**	**-0.7**
	comp=Z,0.8nm,1.1s,mb3.5,baz=261,slow=9.0,SNR=5.4						
ILAR	**Eielson Array**	**36.85**	**38**	P	**P**	**02 09 30.5**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR	**Makanchi Array**	**46.98**	**298**	P	**P**	**02 10 54.0**	**0.0**
	comp=Z,0.2nm,0.6s,mb3.2,baz=63,slow=7.5,SNR=2.3						
MKAR	**Makanchi Array**	**46.98**	**298**	P	**P**	**02 10 54.0**	**0.0**
YKA	**Yellowknife Ar**	**51.23**	**37**	P	**P**	**02 11 26.2**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=295,slow=6.7,SNR=3.8						
YKA	**Yellowknife Ar**	**51.23**	**37**	P	**P**	**02 11 26.2**	**-0.1**
NVAR	**Mina Array Bea**	**62.67**	**62**	P	**P**	**02 12 48.2**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.8,baz=303,slow=6.4,SNR=4.7						
PDAR	**Pinedale Array**	**65.01**	**54**	P	**P**	**02 13 03.4**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.6,baz=149,slow=0.9,SNR=3.5						
TXAR	**Lajitas Array**	**77.73**	**60**	P	**P**	**02 14 19.6**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=297,slow=4.1,SNR=8.2						
TXAR	**Lajitas Array**	**77.73**	**60**	P	**P**	**02 14 19.6**	**-0.3**

DJA ***11*** *02:06:57,7°.90S×129°.91E,h10km,MLv4.6/4*

IDC 11 02:08:23.1±2.0,2°.87S×129°.57E,h0km,mb3.7/2, mb1 4.0/4,mb1mx3.7/17,mbtmp3.8/4,ML3.7/2,Error ellipse: s-maj=105.0km s-min=17.5km az=72.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.80**	**234**	P	Pg	02 08 51.3	+13
MSAI				S	Sg	02 09 01.4	+13
AAI	**Ambon**	**1.60**	**239**	P	Pn	02 09 04.6	+12
AAI				S	Sn	02 09 01.6	-12
NLAI	**Namlea**	**2.50**	**261**	P	Pn	02 09 18.8	+14
	29nm,0.5s,2μm0.4nm						
FAKI	**Fak Fak**	**2.67**	**91**	P	Pn	02 09 20.4	+13
FITZ	**Fitzroy Crossi**	**15.62**	**194**	Pn	Pn	02 12 05.0	+0.3
	0.1nm,0.3s,baz=20,slow=15,SNR=3.5						
WRA	**Warramunga Arr**	**17.60**	**165**	P	Pn	02 12 28.3	-1.6
	0.4nm,0.3s,baz=348,slow=12,SNR=11						
WRA				S	Sn	02 15 48.0	+1.4
	0.1nm,0.3s,baz=343,slow=21,SNR=3.0						
ASAR	**Alice Springs**	**21.10**	**169**	P	P	02 13 10.0	+0.7
	1.8nm,0.4s,baz=348,slow=11,SNR=13						
MKAR	**Makanchi Array**	**64.57**	**326**	P	P	02 19 02.2	+0.1
	0.4nm,0.5s,baz=116,slow=8.0,SNR=10						

ATH ***11*** *02:13:32.3,35°.83N×29°.95E,h58km±1km,MD3.0/3*
CSEM ***11*** *02:13:40.4±0.5,35°.98N×29°.31E,h2km,MD3.1,Error ellipse: s-maj=10.7km s-min=5.5km az=172.0*
DDA ***11*** *02:13:40.9,36°.14N×29°.11E,h7km±6km,Md3.1*
ISK ***11*** *02:13:41.1,36°.05N×29°.31E,h7km,MD3.0*

ISC 11 02:13:40.8±1.1,36°.00N±0°.05×29°.30E±0°.05,h4km±6km, n35,σ1°08/51,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.28**	**57**	*e*P	**Pg**	**02 13 43.9**	**-2.3**
ELL	**Elmali**	**0.90**	**33**	*e*PG	**Pg**	**02 13 57.3**	**-0.7**
ELL				*e*SG	**Sg**	**02 14 10.4**	**+0.8**
ELL	**Elmali**	**0.90**	**33**	*e*Pg	**Pg**	**02 13 57.3**	**-0.7**
ELL				*e*Sg	**Sg**	**02 14 10.4**	**+0.8**
ARG	**Arkhangelos**	**0.97**	**283**	*e*P	**Pg**	**02 13 58.6**	**-0.9**
ARG				*e*S	**Sg**	**02 14 17.7**	**+5.6**
ARG	**Arkhangelos**	**0.97**	**283**	*e*P	**Pg**	**02 13 58.6**	**-0.9**
TURN	**Turunc**	**1.04**	**327**	*i* P	**Pg**	**02 14 02.5**	**+1.8**
TURN				*i* S	**Sg**	**02 14 18.2**	**+4.0**
TURN	**Turunc**	**1.04**	**327**	*i* P	**Pg**	**02 14 02.5**	**+1.8**
GLHS	**Gihisar (BURDU**	**1.17**	**8**	*e*PN	**Pn**	**02 14 02.8**	**-1.1**
GLHS	**Gihisar (BURDU**	**1.17**	**8**	*e*Pn	**Pn**	**02 14 02.8**	**-1.1**
GOLH	**Golhisar**	**1.25**	**10**	*i* P	**Pg**	**02 14 01.4**	**-3.4**
GOLH				*i* S	**Sg**	**02 14 20.6**	**-0.5**
KORT	**Korkueli**	**1.31**	**40**	*i* P	**Pn**	**02 14 03.0**	**-2.8**
KORT				*i* S	**Sg**	**02 14 24.3**	**+1.3**
YER	**Yerkesik**	**1.40**	**325**	*e*PN	**Pn**	**02 14 07.0**	**0.0**
YER				*e*SN	**Sn**	**02 14 25.9**	**0.0**
YER	**Yerkesik**	**1.40**	**325**	*e*Pn	**Pn**	**02 14 07.0**	**0.0**
YER				*e*Sn	**Sn**	**02 14 25.9**	**0.0**
DAT	**Datca**	**1.57**	**298**	*e*PN	**Pn**	**02 14 10.2**	**+0.8**
DAT				*e*SN	**Sn**	**02 14 30.6**	**+0.5**
DAT	**Datca**	**1.57**	**298**	*e*Pn	**Pn**	**02 14 10.2**	**+0.8**
DAT				*e*Sn	**Sn**	**02 14 30.7**	**+0.6**
DNZL	**Cakiroluk**	**1.70**	**353**	*i* P	**Pn**	**02 14 11.0**	**-0.2**
DNZL				*i* S	**Sn**	**02 14 32.2**	**-1.1**
DNZL	**Cakiroluk**	**1.70**	**353**	*i* P	**Pn**	**02 14 11.0**	**-0.2**
DNZL				*i* S	**Sn**	**02 14 32.2**	**-1.2**
DENT	**Denizli**	**1.76**	**353**	*e*PN	**Pn**	**02 14 12.7**	**+0.6**
DENT	**Denizli**	**1.76**	**353**	*e*Pn	**Pn**	**02 14 12.7**	**+0.6**
BCK	**Bucak**	**1.79**	**35**	*e*PN	**Pn**	**02 14 12.6**	**+0.2**
BCK	**Bucak**	**1.79**	**35**	*e*Pn	**Pn**	**02 14 12.6**	**+0.2**
KARP	**Karpathos**	**1.79**	**256**	*e*P	**Pn**	**02 14 09.1**	**-3.4**
KARP				*e*S	**Sn**	**02 14 36.0**	**+0.3**
KARP	**Karpathos**	**1.79**	**256**	*e*P	**Pn**	**02 14 09.1**	**-3.4**
KARP				*e*S	**Sn**	**02 14 36.0**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.01**	**42**	*e*PN	**Pn**	**02 14 15.5**	**0.0**
SUTC	**Sutluce-Ispart**	**2.01**	**42**	*e*Pn	**Pn**	**02 14 15.5**	**0.0**
AYDN	**Tasoluk**	**2.01**	**326**	*e*P	**Pn**	**02 14 16.2**	**+0.7**
AYDN				*e*S	**Sn**	**02 14 39.8**	**-1.2**
AYDN	**Tasoluk**	**2.01**	**326**	*e*P	**Pn**	**02 14 16.2**	**+0.7**
AYDN				*e*S	**Sn**	**02 14 39.8**	**-1.3**
KULA	**Kula-Manisa**	**2.56**	**349**	*e*PN	**Pn**	**02 14 23.6**	**+0.5**
KULA	**Kula-Manisa**	**2.56**	**349**	*e*Pn	**Pn**	**02 14 23.6**	**+0.6**
SHUT	**Suhut-Afyon**	**2.74**	**21**	*e*PN	**Pn**	**02 14 26.2**	**+0.7**
SHUT	**Suhut-Afyon**	**2.74**	**21**	*e*Pn	**Pn**	**02 14 26.2**	**+0.7**
HDMB	**Hadim**	**2.74**	**69**	*e*PN	**Pn**	**02 14 26.4**	**+0.8**
HDMB	**Hadim**	**2.74**	**69**	*e*Pn	**Pn**	**02 14 26.4**	**+0.8**
KONT	**Konya--Tatoy**	**3.13**	**51**	*e*PN	**Pn**	**02 14 32.0**	**+1.1**
KONT	**Konya--Tatoy**	**3.13**	**51**	*e*Pn	**Pn**	**02 14 32.0**	**+1.2**

IDC 11 02:39:14.5±10.0,6°.96S×127°.48E,h250km±116km, mb2.7/1,mb1 3.2/4,mb1mx3.0/15,mbtmp3.0/4,Error ellipse: s-maj=92.7km s-min=35.7km az=47.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.21**	**189**	P	Pn	02 41 48.9	+0.6
	0.2nm,0.3s,baz=29,slow=10,SNR=4.9						
FITZ				S	S	02 43 52.8	-0.9
	0.2nm,0.3s,baz=258,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**14.52**	**153**	P	Pn	02 42 28.1	-0.9
	0.6nm,0.3s,baz=329,slow=12,SNR=30						
WRA				S	S	02 45 10.9	+1.4
	0.1nm,0.3s,baz=45,slow=16,SNR=2.7						
ASAR	**Alice Springs**	**17.72**	**160**	P	P	02 43 04.3	+0.2
	0.5nm,0.3s,baz=345,slow=12,SNR=29						
MKAR	**Makanchi Array**	**66.84**	**328**	P	P	02 49 39.6	+0.1
	0.2nm,0.5s,baz=115,slow=6.9,SNR=2.4						

GUC 11 02:49:45.9±0.4,32°.71S×71°.79W,h21km±6km,MD3.7, ML3.6,5C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.34**	**159**	*i* P	Pb	02 49 53.2	0.0
IHA				*i* S	Sb	02 49 58.6	+0.4
ROCH	**El Roble**	**0.70**	**112**	⇑*i*P	Pb	02 49 59.4	-0.1
ROCH				*i* S	Sb	02 50 09.4	+0.7
ROCH				AML	AML	02 50 10.3	
	comp=N,4μm,0.4s						
LCCH	**Las Cruces**	**0.79**	**167**	⇑*i*P	Pb	02 50 00.0	-0.8
LCCH				*i* S	Sb	02 50 10.9	-0.2
PTCH	**Petorca**	**0.85**	**59**	*i* P	Pb	02 50 01.7	-0.2
PTCH				*i* S	Sb	02 50 13.2	+0.2
PTCH				AML	AML	02 50 18.6	
	comp=N,1μm,0.2s						
CHNG	**Los Chungos**	**0.86**	**16**	⇓*i*P	Pb	02 50 01.2	-0.9
CHNG				*i* S	Sb	02 50 12.8	-0.4
JACH	**Jahuel**	**1.01**	**89**	⇑*i*P	Pb	02 50 03.9	-0.8
JACH				*i* S	Sb	02 50 17.6	+0.2
PEL	**Peldehue**	**1.02**	**115**	⇑*i*P	Pb	02 50 04.5	-0.4
PEL				*i* S	Sb	02 50 18.3	+0.4
PEL				AML	AML	02 50 20.7	
	comp=E,5μm,0.3s						
RCDM	**Rinconada Maip**	**1.13**	**134**	*e*P	Pn	02 50 05.7	-0.9
RCDM				*i* S	Sb	02 50 20.7	-0.4
RCDM				AML	AML	02 50 23.0	
	comp=E,2μm,0.2s						
TACH	**Talagante**	**1.18**	**143**	*e*P	Pn	02 50 06.4	-0.8
TACH				*i* S	Sb	02 50 22.0	-0.4
SAN	**Santiago**	**1.20**	**128**	⇑*i*P	Pn	02 50 06.8	-0.7
SAN				*i* S	Sb	02 50 22.7	-0.3
SAN				AML	AML	02 50 26.5	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**1.25**	**123**	*e*P	Pn	02 50 07.9	-0.3
CLCH				*i* S	Sn	02 50 24.4	-0.1
CLCH				AML	AML	02 50 31.4	
	comp=E,1μm,0.4s						
ANTU	**Antumapu**	**1.29**	**132**	*e*P	Pn	02 50 09.0	+0.3
ANTU				*i* S	Sn	02 50 26.1	+0.7
ANTU				AML	AML	02 50 31.7	
	comp=N,1μm,0.2s						
FCH	**Farellones**	**1.40**	**117**	AML	AML	02 50 28.5	
	comp=N,2μm,0.2s						
SJCH	**San Jose de Ma**	**1.52**	**128**	*e*P	Pn	02 50 12.1	+0.2
SJCH				*e*S	Sn	02 50 31.9	+1.0
SJCH				AML	AML	02 50 36.6	
	comp=N,599nm,0.8s						
CMCH	**Combarbala**	**1.67**	**24**	*e*P	Pn	02 50 13.3	-0.6
CMCH				*e*S	Sn	02 50 34.8	0.0
CMCH				AML	AML	02 50 40.3	
	comp=E,51μm,0.5s						
CACH	**El Canelo**	**1.72**	**145**	*i* P	Pn	02 50 15.9	+1.4
CACH				*i* S	Sn	02 50 38.9	+3.0
LMEL	**Las Melosas**	**1.75**	**131**	*i* P	Pn	02 50 15.8	+0.8
LMEL				*i* S	Sn	02 50 38.5	+1.9
LMEL				AML	AML	02 50 44.0	
	comp=N,1μm,0.2s						

IDC 11 02:50:23.6±2.2,1°.39N×127°.16E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/16,mbtmp3.6/3,Error ellipse: s-maj=177.7km s-min=25.3km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.34**	**162**	P	P	02 55 22.8	-0.4
	1.0nm,0.6s,baz=341,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**25.76**	**166**	P	P	02 55 56.6	+0.5
	0.5nm,0.3s,baz=345,slow=12,SNR=7.6						
MKAR	**Makanchi Array**	**59.71**	**326**	P	P	03 00 30.1	0.0
	0.4nm,0.5s,baz=125,slow=7.7,SNR=6.9						

IDC 11 03:39:42.3±2.0,6°.71S×129°.55E,h0km,mb4.0/1, mb1 3.9/3,mb1mx3.6/14,mbtmp3.7/3,ML3.8/2,Error ellipse: s-maj=113.2km s-min=30.6km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.95**	**161**	Pn	Pn	03 43 00.3	-1.1
	0.6nm,0.3s,baz=340,slow=13,SNR=25						
WRA				Sn	Sn	03 45 26.3	-11
	0.3nm,0.3s,baz=336,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**17.37**	**167**	P	Pn	03 43 47.3	+1.0
	0.2nm,0.3s,baz=346,slow=8.9,SNR=9.9						
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	03 50 41.8	+0.1
	0.7nm,0.5s,baz=119,slow=7.4,SNR=14						

IDC ***11*** *03:41:53.0±3.4,29°.98N×113°.55W,h0km,mb3.7/1, mb1 3.6/4,mb1mx3.5/22,mbtmp3.2/4,ML3.2/3,MS3.3/4, Ms1 3.3/4,ms1mx2.9/38,Error ellipse: s-maj=38.4km s-min=27.5km az=175.0*
ISCJB ***11*** *03:41:55.2±1.2,30°.43N±0°.09×113°.67W±0°.05,h10km, MS3.2/2,Error ellipse: s-maj=13.8km s-min=5.5km az=10.2*
NEIC ***11*** *03:41:55.7±2.2,30°.34N×113°.80W,h10km,ML3.7,Error ellipse: s-maj=28.6km s-min=8.8km az=11.0*

ISC 11 03:41:57.8±1.1,30°.47N±0°.08×113°.71W±0°.05,h10km,n28, σ1°24/36,MS3.2/2,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**2.74**	**340**	*e*Pn	**Pn**	**03 42 40.9**	**-1.0**
GLA				*e*S	**Sn**	**03 43 19.3**	**+4.3**
TUC	**Tucson**	**3.10**	**53**	*e*Pn	**Pn**	**03 42 45.8**	**-1.0**
TUC				*e*S	**Sg**	**03 43 38.0**	**+0.7**
BAR	**Barrett**	**3.35**	**312**	*e*Pn	**Pn**	**03 42 47.9**	**-2.3**
BAR				*e*S	**Sn**	**03 43 36.8**	**+6.7**
GVA	**Apache Junctio**	**3.45**	**31**	Pn	**Pn**	**03 42 50.8**	**-0.8**
PFO	**Pinyon Flat Ob**	**3.90**	**324**	Pn	**Pn**	**03 42 55.5**	**-2.2**
LDFC	**Landfair**	**4.74**	**346**	Pn	**Pn**	**03 43 11.2**	**+1.9**
LDFC				*e*S	**Sg**	**03 44 41.0**	**+11**
MWC	**Mount Wilson**	**5.25**	**317**	Pn	**Pn**	**03 43 15.2**	**-1.0**
MWC				*e*Pg	**Pg**	**03 43 36.6**	**-1.7**
MWC				*e*S	**Sn**	**03 44 18.2**	**+1.4**
WUAZ	**Wupatki**	**5.40**	**21**	*e*Pn	**Pn**	**03 43 18.5**	**+0.2**
	39nm,0.8s						
WUAZ				*e*S	**Sg**	**03 44 48.2**	**-3.0**
LAZ	**Ladron**	**6.79**	**53**	*e*Pn	**Pn**	**03 43 36.6**	**-1.0**
BNM	**Barren Site**	**7.03**	**57**	*e*Pn	**Pn**	**03 43 41.2**	**+0.5**
BNM				*e*Sg	**Sg**	**03 45 37.7**	**-5.6**
CCUT	**Cedar City**	**7.07**	**2**	*e*Pn	**Pn**	**03 43 42.0**	**+0.8**
MNTX	**Cornudas Mount**	**7.25**	**78**	*e*Pn	**Pn**	**03 43 44.8**	**+1.0**
ARUT	**Antelope Range**	**7.30**	**2**	*e*Pn	**Pn**	**03 43 46.0**	**+1.5**
ANMO	**Albuquerque**	**7.56**	**52**	Pn	**Pn**	**03 43 48.8**	**+0.6**
	0.1nm,0.3s,baz=231,slow=14,SNR=3.9						
ANMO				Lg		03 45 59.4	
	0.6nm,0.3s,baz=6.6,slow=18,SNR=4.2						
ANMO				LR	LR	03 47 19.9	
	comp=Z,85nm,20.2s,baz=230,slow=42						
ANMO	**Albuquerque**	**7.56**	**52**	*e*Pn	**Pn**	**03 43 47.8**	**-0.3**
ANMO				*e*Sg	**Sg**	**03 45 50.2**	**-10**
MVCO	**Mesa Verde**	**7.99**	**31**	*e*Pn	**Pn**	**03 43 54.9**	**+0.9**
PV01	**Paradox Valley**	**8.74**	**28**	*e*Pn	**Pn**	**03 44 04.1**	**-0.2**
TXAR	**Lajitas Array**	**8.79**	**95**	Pg	**Pn**	**03 44 09.4**	**+4.5**
	0.5nm,0.3s,baz=272,slow=14,SNR=33						
TXAR				Sn	**Sn**	**03 45 43.7**	**-0.4**
	baz=329,slow=22,SNR=2.6						
TXAR				Lg		03 46 34.5	
	0.2nm,0.3s,baz=270,slow=30,SNR=5.3						
TXAR				LR	LR	03 47 53.2	
	comp=Z,268nm,18.2s,baz=35,slow=42						
TXAR	**Lajitas Array**	**8.79**	**95**	Pg	**Pn**	**03 44 09.4**	**+4.5**
NVAR	**Mina Array Bea**	**8.79**	**336**	Pn	**Pn**	**03 44 09.3**	**+4.3**
	0.1nm,0.3s,baz=163,slow=16,SNR=4.9						
NVAR				Lg		03 46 48.3	
	baz=29,slow=19,SNR=2.5						
NVAR	**Mina Array Bea**	**8.79**	**336**	Pn	**Pn**	**03 44 09.3**	**+4.3**
PV04	**Paradox Valley**	**8.84**	**25**	*e*Pn	**Pn**	**03 44 04.6**	**-1.0**
PDAR	**Pinedale Array**	**12.71**	**14**	Pn	**Pn**	**03 45 05.0**	**+6.4**
	0.0nm,0.3s,baz=220,slow=9.5,SNR=3.1						
PDAR				Lg		03 48 48.1	
	0.0nm,0.3s,baz=202,slow=27,SNR=3.2						
PDAR	**Pinedale Array**	**12.71**	**14**	Pn	**Pn**	**03 45 05.0**	**+6.4**
CMIG	**Matias Romero**	**21.73**	**124**	LR	LR	03 54 14.1	
	comp=Z,74nm,20.8s

IGAR	**Gharneh**	**6.31 329**	*e*Pn	**Pn**	**05 07 04.7**	**-1.2**
IGAR			*e*		05 12 27.2	
	comp=Z,278nm,0.0s					
IZEF	**Zefreh**	**6.61 333**	*e*	**Pb**	**05 07 21.3**	**-6.5**
	comp=Z,119nm,0.3s					
IZEF			*e*Pn	**Pn**	**05 07 08.9**	**-1.1**
IPIR	**Pirpir**	**7.10 324**	*e*Pn	**Pn**	**05 07 17.4**	**+0.6**
IPIR			*e*		05 07 33.0	
	comp=Z,159nm,0.2s					
IPIR	**Pirpir**	**7.10 324**	*e*Pn	**Pn**	**05 07 17.4**	**+0.6**
NAY	**Al-Naaiem**	**7.92 288**	*e*P	**Pn**	**05 07 26.7**	**-1.3**
NAY			*e*S	**Sn**	**05 08 51.9**	**-5.8**
NAY			AML	AML	05 08 56.7	
	comp=Z,6.8nm,0.6s					
NAY	**Al-Naaiem**	**7.92 288**	*e*P	**Pn**	**05 07 26.7**	**-1.3**
NAY			*e*S	**Sn**	**05 08 51.8**	**-5.9**
MIB	**Mutribah**	**8.00 292**	*e*P	**Pn**	**05 07 28.1**	**-0.9**
MIB			*e*S	**Sn**	**05 08 55.1**	**-4.4**
MIB	**Mutribah**	**8.00 292**	*e*P	**Pn**	**05 07 28.1**	**-0.9**
MIB			*e*S	**Sn**	**05 08 55.1**	**-4.4**
BRTR	**Keskin Array B**	**22.40 310**	P	**P**	**05 10 34.2**	**+2.9**
	comp=Z,6.0nm,1.0s,mb4.0,baz=125,slow=12,SNR=17					
MKAR	**Makanchi Array**	**28.70 40**	P	**P**	**05 11 46.1**	**+16**
	comp=Z,0.2nm,0.5s,mb3.1,baz=226,slow=9.1,SNR=3.5					
TORD	**Torodi Ar. Bea**	**52.34 266**	P	**P**	**05 14 45.1**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=66,slow=7.0,SNR=12					

ISCJB ***11*** *05:17:39.3±0.3, 36°.09N±0°.02×27°.98E±0°.03, h88km±5km, Error ellipse: s-maj=4.3km s-min=3.8km az=21.2*
CSEM ***11*** *05:17:40.8±0.1, 36°.10N×28°.00E, h80km, ML3.4/2, Error ellipse: s-maj=3.2km s-min=2.5km az=75.0*
DDA ***11*** *05:17:41.1, 36°.26N×27°.96E, h40km±2km, Md3.3*
ATH ***11*** *05:17:41.5, 36°.19N×27°.85E, h69km±2km*
ISK ***11*** *05:17:42.4, 36°.41N×27°.97E, h81km, MD3.4*
THE ***11*** *05:17:43.2, 36°.13N×27°.88E, h68km±4km, ML3.4/2, Error ellipse: s-maj=5.3km s-min=1.7km az=102.0*
HLW ***11*** *05:17:44.8, 35°.91N×28°.06E, h33km±17km, Md4.0, Ml3.3*
ISC 11 05:17:40.7±0.3, 36°.11N±0°.02×27°.96E±0°.03, h79km±6km, n126, σ0°89/157, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.17**	**52**	*e*P	**Pn**	**05 17 52.7**	**+0.5**
ARG				*e*S	**Sn**	**05 18 00.9**	**+0.2**
ARG	**Arkhangelos**	**0.17**	**52**	*e*P	**Pn**	**05 17 52.8**	**+0.6**
ARG				*e*S	**Sn**	**05 18 00.7**	**0.0**
ARG	**Arkhangelos**	**0.17**	**52**	P	**Pn**	**05 17 52.7**	**+0.5**
ARG				S	**Sn**	**05 18 00.8**	**+0.1**
ARG	**Arkhangelos**	**0.17**	**52**	*e*P	**Pn**	**05 17 52.8**	**+0.6**
ARG				*e*S	**Sn**	**05 18 00.7**	**0.0**
DAT	**Datca**	**0.69**	**334**	*e*PG	**Pn**	**05 17 56.3**	**+0.2**
DAT				*e*SG	**Sn**	**05 18 07.1**	**-0.5**
DAT	**Datca**	**0.69**	**334**	*e*Pg	**Pn**	**05 17 56.3**	**+0.2**
DAT				*e*Sg	**Sn**	**05 18 07.1**	**-0.5**
NIS1	**Nisyros Isl.**	**0.80**	**308**	P	**Pn**	**05 17 57.8**	**+0.5**
NIS1				S	**Sn**	**05 18 08.9**	**-0.8**
NIS1	**Nisyros Isl.**	**0.80**	**308**	P	**Pn**	**05 17 57.8**	**+0.5**
NIS1				S	**Sn**	**05 18 08.9**	**-0.8**
KARP	**Karpathos**	**0.86**	**229**	*e*P	**Pn**	**05 17 58.9**	**+0.9**
KARP				*e*S	**Sn**	**05 18 11.4**	**+0.6**
KARP	**Karpathos**	**0.86**	**229**	P	**Pn**	**05 17 58.9**	**+0.9**
KARP				S	**Sn**	**05 18 11.4**	**+0.6**
KARP	**Karpathos**	**0.86**	**229**	P	**Pn**	**05 17 58.9**	**+0.9**
KARP				S	**Sn**	**05 18 11.4**	**+0.6**
BODT	**Bodrum**	**1.08**	**331**	*e*PG	**Pn**	**05 17 59.7**	**-0.9**
BODT				*e*SG	**Sn**	**05 18 13.1**	**-2.5**
BODT	**Bodrum**	**1.08**	**331**	*e*Pg	**Pn**	**05 17 59.7**	**-1.0**
AYDN	**Tasoluk**	**1.55**	**358**	*i* P	**Pn**	**05 18 07.0**	**+0.5**
AYDN				*i* S	**Sn**	**05 18 25.7**	**-0.4**
AYDN	**Tasoluk**	**1.55**	**358**	*i* P	**Pn**	**05 18 07.1**	**+0.5**
AYDN				*i* S	**Sn**	**05 18 25.7**	**-0.4**
GLHS	**Glhisar (BURDU**	**1.62**	**49**	*e*PN	**Pn**	**05 18 08.6**	**+1.1**
GLHS	**Glhisar (BURDU**	**1.62**	**49**	*e*Pn	**Pn**	**05 18 08.6**	**+1.1**
ELL	**Elmali**	**1.70**	**67**	*e*PN	**Pn**	**05 18 10.0**	**+1.5**
ELL	**Elmali**	**1.70**	**67**	*e*Pn	**Pn**	**05 18 10.0**	**+1.5**
DNZL	**Cakiroluk**	**1.80**	**29**	*i* P	**Pn**	**05 18 10.5**	**+0.6**
DNZL	**Cakiroluk**	**1.80**	**29**	*i* P	**Pn**	**05 18 10.5**	**+0.6**
SMG	**Samos**	**1.83**	**331**	*e*P	**Pn**	**05 18 10.2**	**-0.1**
SMG				*e*S	**Sn**	**05 18 31.9**	**-0.9**
SMG	**Samos**	**1.83**	**331**	*e*P	**Pn**	**05 18 10.2**	**-0.1**
SMG				*e*S	**Sn**	**05 18 32.6**	**-0.2**
DENT	**Denizli**	**1.85**	**27**	*e*PN	**Pn**	**05 18 09.9**	**-0.7**
DENT	**Denizli**	**1.85**	**27**	*e*Pn	**Pn**	**05 18 09.9**	**-0.7**
THR3	**Thira Island,**	**2.09**	**279**	P	**Pn**	**05 18 14.9**	**+1.2**
THR3	**Thira Island,**	**2.09**	**279**	P	**Pn**	**05 18 14.9**	**+1.2**
NPS	**Neapolis**	**2.09**	**247**	*e*P	**Pn**	**05 18 14.5**	**+0.8**
NPS				*e*S	**Sn**	**05 18 38.8**	**-0.1**
NPS	**Neapolis**	**2.09**	**247**	*e*P	**Pn**	**05 18 14.6**	**+0.9**
NPS				*e*S	**Sn**	**05 18 38.8**	**-0.1**
NPS	**Neapolis**	**2.09**	**247**	P	**Pn**	**05 18 14.5**	**+0.8**
NPS				S	**Sn**	**05 18 38.4**	**-0.5**
NPS	**Neapolis**	**2.09**	**247**	*e*P	**Pn**	**05 18 14.6**	**+0.9**
NPS				*e*S	**Sn**	**05 18 38.9**	**0.0**
THR5	**Thira Island,**	**2.13**	**279**	P	**Pn**	**05 18 15.9**	**+1.6**
THR5	**Thira Island,**	**2.13**	**279**	P	**Pn**	**05 18 15.9**	**+1.6**
APE	**Apeiranthos**	**2.17**	**297**	*e*PN	**Pn**	**05 18 16.3**	**+1.4**
APE	**Apeiranthos**	**2.17**	**297**	*e*P	**Pn**	**05 18 15.6**	**+0.7**
APE				*e*S	**Sn**	**05 18 39.8**	**-1.2**
APE	**Apeiranthos**	**2.17**	**297**	*e*P	**Pn**	**05 18 15.7**	**+0.8**
APE	**Apeiranthos**	**2.17**	**297**	*e*P	**Pn**	**05 18 15.7**	**+0.8**
APE	**Apeiranthos**	**2.17**	**297**	*e*Pn	**Pn**	**05 18 16.3**	**+1.4**
APE				*e*S	**Sn**	**05 18 39.2**	**-1.8**
IZM	**Izmir**	**2.35**	**347**	*e*PN	**Pn**	**05 18 16.6**	**-0.6**
IZM	**Izmir**	**2.35**	**347**	*e*Pn	**Pn**	**05 18 16.6**	**-0.6**
BLCB	**Balcova**	**2.38**	**342**	*e*PN	**Pn**	**05 18 17.3**	**-0.4**
BLCB	**Balcova**	**2.38**	**342**	*e*Pn	**Pn**	**05 18 17.3**	**-0.4**
KULA	**Kula-Manisa**	**2.46**	**13**	*e*PN	**Pn**	**05 18 17.9**	**-0.8**
KULA	**Kula-Manisa**	**2.46**	**13**	*e*Pn	**Pn**	**05 18 17.9**	**-0.8**
BCK	**Bucak**	**2.50**	**57**	*e*PN	**Pn**	**05 18 20.7**	**+1.4**
BCK	**Bucak**	**2.50**	**57**	*e*Pn	**Pn**	**05 18 20.7**	**+1.4**
KHAL	**Karahalli**	**2.57**	**28**	*i* P	**Pn**	**05 18 20.4**	**+0.3**
KHAL				*i* S	**Sn**	**05 18 49.0**	**-1.4**
KHAL	**Karahalli**	**2.57**	**28**	*i* P	**Pn**	**05 18 20.4**	**+0.3**
KHAL				*i* S	**Sn**	**05 18 49.0**	**-1.4**
IDI	**Anoyia**	**2.63**	**253**	*e*P	**Pn**	**05 18 22.0**	**+1.0**
IDI	**Anoyia**	**2.63**	**253**	*e*P	**Pn**	**05 18 22.0**	**+1.0**
IDI	**Anoyia**	**2.63**	**253**	P	**Pn**	**05 18 21.7**	**+0.7**
IDI				S	**Sn**	**05 18 50.8**	**-1.1**
IDI	**Anoyia**	**2.63**	**253**	*e*P	**Pn**	**05 18 21.7**	**+0.7**
IDI				*e*S	**Sn**	**05 18 51.2**	**-0.7**
CHOS	**Chios island**	**2.73**	**327**	*e*P	**Pn**	**05 18 22.8**	**+0.4**
CHOS	**Chios island**	**2.73**	**327**	P	**Pn**	**05 18 22.8**	**+0.4**
CHOS	**Chios island**	**2.73**	**327**	*e*P	**Pn**	**05 18 22.8**	**+0.4**
SIVA	**Sivas**	**2.79**	**248**	*e*P	**Pn**	**05 18 25.2**	**+2.1**
SIVA	**Sivas**	**2.79**	**248**	*e*P	**Pn**	**05 18 25.1**	**+2.0**
SIVA	**Sivas**	**2.79**	**248**	*e*P	**Pn**	**05 18 25.4**	**+2.3**
SUTC	**Sutluce-Ispart**	**2.80**	**60**	*e*PN	**Pn**	**05 18 24.4**	**+1.2**
SUTC	**Sutluce-Ispart**	**2.80**	**60**	*e*Pn	**Pn**	**05 18 24.4**	**+1.2**
VAM	**Vamos**	**3.14**	**258**	*e*P	**Pn**	**05 18 29.5**	**+1.7**
VAM	**Vamos**	**3.14**	**258**	*e*P	**Pn**	**05 18 29.8**	**+2.0**
VAM	**Vamos**	**3.14**	**258**	*e*P	**Pn**	**05 18 29.8**	**+2.0**
SHUT	**Suhut-Afyon**	**3.19**	**40**	*e*PN	**Pn**	**05 18 28.8**	**+0.2**
SHUT	**Suhut-Afyon**	**3.19**	**40**	*e*Pn	**Pn**	**05 18 28.8**	**+0.2**
ALT	**Altintas**	**3.40**	**30**	*e*PN	**Pn**	**05 18 31.6**	**+0.2**
ALT	**Altintas**	**3.40**	**30**	*e*Pn	**Pn**	**05 18 31.6**	**+0.2**
BALB	**Balikesir**	**3.52**	**359**	*e*PN	**Pn**	**05 18 32.5**	**-0.6**
BALB	**Balikesir**	**3.52**	**359**	*e*Pn	**Pn**	**05 18 32.5**	**-0.6**
GONE	**Gonen-Balikesi**	**3.94**	**357**	*e*PN	**Pn**	**05 18 38.1**	**-0.6**
GONE	**Gonen-Balikesi**	**3.94**	**357**	*e*Pn	**Pn**	**05 18 38.1**	**-0.6**
KONT	**Konya--Tatoy**	**3.97**	**61**	*e*PN	**Pn**	**05 18 40.5**	**+1.4**
KONT	**Konya--Tatoy**	**3.97**	**61**	*e*Pn	**Pn**	**05 18 40.5**	**+1.3**
LADK	**Ladik-KONYA**	**4.09**	**58**	*e*PN	**Pn**	**05 18 41.2**	**+0.4**
LADK	**Ladik-KONYA**	**4.09**	**58**	*e*Pn	**Pn**	**05 18 41.3**	**+0.5**
VLI	**Veliai**	**4.09**	**280**	*e*P	**Pn**	**05 18 42.5**	**+1.6**
VLI				*e*S	**Sn**	**05 19 25.8**	**-1.8**
VLI	**Veliai**	**4.09**	**280**	*e*P	**Pn**	**05 18 42.4**	**+1.5**
VLI	**Veliai**	**4.09**	**280**	*e*P	**Pn**	**05 18 42.4**	**+1.5**
KCTX	**Karacabey (Bur**	**4.16**	**4**	*e*PN	**Pn**	**05 18 41.4**	**-0.4**
KCTX	**Karacabey (Bur**	**4.16**	**4**	*e*Pn	**Pn**	**05 18 41.4**	**-0.3**
KIZT	**Kizilcal**	**4.17**	**47**	*e*PN	**Pn**	**05 18 42.7**	**+0.8**
KIZT	**Kizilcal**	**4.17**	**47**	*e*Pn	**Pn**	**05 18 42.7**	**+0.9**
HMAT	**Matruh**	**5.05**	**188**	P	**Pn**	**05 18 54.6**	**+0.6**
	baz=190						
HMAT				S	**Sn**	**05 19 47.3**	**-3.8**
	baz=190						
HMAT	**Matruh**	**5.05**	**188**	P	**Pn**	**05 18 54.6**	**+0.6**
HMAT				S	**Sn**	**05 19 47.3**	**-3.8**
SLUM		**5.14**	**207**	P	**Pn**	**05 18 55.7**	**+0.5**
	baz=210						
SLUM		**5.14**	**207**	P	**Pn**	**05 18 55.7**	**+0.5**
HBRG	**Burj al 'Arab**	**5.74**	**164**	P	**Pn**	**05 19 03.4**	**0.0**
	baz=163						
HBRG				AMP		05 20 00.0	
	comp=E,50μm,0.4s,logA/T=5.1,baz=163						
HBRG	**Burj al 'Arab**	**5.74**	**164**	P	**Pn**	**05 19 03.4**	**0.0**
SQR		**6.78**	**155**	P	**Pn**	**05 19 17.2**	**-0.3**
	baz=155						
SQR		**6.78**	**155**	P	**Pn**	**05 19 17.2**	**-0.4**
HNAT	**Natroun**	**6.84**	**160**	P	**Pn**	**05 19 17.9**	**-0.4**
	baz=160						
HNAT	**Natroun**	**6.84**	**160**	P	**Pn**	**05 19 17.9**	**-0.4**
AYT	**Al 'Ayyat**	**6.93**	**156**	P	**Pn**	**05 19 19.2**	**-0.4**
	baz=156						
AYT	**Al 'Ayyat**	**6.93**	**156**	P	**Pn**	**05 19 19.2**	**-0.4**
HRSH	**Kfar Ka'horesh**	**6.94**	**117**	P	**Pn**	**05 19 20.6**	**+0.9**
	baz=134						
KOT	**Kottamia**	**6.97**	**151**	P	**Pn**	**05 19 19.3**	**-0.8**
	baz=150						
KOT	**Kottamia**	**6.97**	**151**	P	**Pn**	**05 19 19.3**	**-0.8**
AMAG	**Maghara**	**7.00**	**140**	P	**Pn**	**05 19 19.9**	**-0.7**
	baz=139						
AMAG	**Maghara**	**7.00**	**140**	P	**Pn**	**05 19 19.9**	**-0.6**
RSH		**7.04**	**135**	P	**Pn**	**05 19 20.6**	**-0.4**
HHAG	**Hagoal**	**7.06**	**149**	P	**Pn**	**05 19 21.1**	**-0.2**
	baz=149						
HHAG				S	**Sn**	**05 20 33.6**	**-6.4**
	baz=149						
HHAG	**Hagoal**	**7.06**	**149**	P	**Pn**	**05 19 21.1**	**-0.2**
HSAF	**As Saff**	**7.14**	**154**	P	**Pn**	**05 19 21.9**	**-0.6**
	baz=153						
HSAF	**As Saff**	**7.14**	**154**	P	**Pn**	**05 19 21.9**	**-0.6**
SWA2		**7.17**	**198**	P	**Pn**	**05 19 23.0**	**+0.2**
	baz=199						
SWA2				S	**Sn**	**05 20 37.2**	**-5.5**
	baz=199						
SWA2		**7.17**	**198**	P	**Pn**	**05 19 23.0**	**+0.2**
GLL	**Jalalah**	**7.24**	**153**	P	**Pn**	**05 19 22.9**	**-0.9**
	baz=153						
GLL	**Jalalah**	**7.24**	**153**	P	**Pn**	**05 19 22.9**	**-0.9**
SUZ		**7.47**	**145**	P	**Pn**	**05 19 26.7**	**-0.3**
	baz=145						
SUZ		**7.47**	**145**	P	**Pn**	**05 19 26.7**	**-0.3**
AWBH		**7.81**	**174**	P	**Pn**	**05 19 30.8**	**-0.8**
	baz=174						
AWBH		**7.81**	**174**	P	**Pn**	**05 19 30.8**	**-0.8**
ZAF		**7.83**	**149**	P	**Pn**	**05 19 31.4**	**-0.5**
	baz=148						
ZAF		**7.83**	**149**	P	**Pn**	**05 19 31.4**	**-0.5**
ZNM		**7.89**	**147**	P	**Pn**	**05 19 32.4**	**-0.3**
	baz=146						
ZNM		**7.89**	**147**	P	**Pn**	**05 19 32.4**	**-0.3**
HNKL	**Nakhl**	**7.97**	**139**	P	**Pn**	**05 19 33.1**	**-0.7**
	baz=138						
HNKL	**Nakhl**	**7.97**	**139**	P	**Pn**	**05 19 33.1**	**-0.7**
GRB	**Gharib**	**8.82**	**151**	P	**Pn**	**05 19 44.8**	**-0.7**
	baz=151						
GRB	**Gharib**	**8.82**	**151**	P	**Pn**	**05 19 44.8**	**-0.6**
HFRF	**Wahat Farafira**	**8.94**	**178**	P	**Pn**	**05 19 46.5**	**-0.6**
	baz=178						
HFRF	**Wahat Farafira**	**8.94**	**178**	P	**Pn**	**05 19 46.5**	**-0.5**
TR2		**9.12**	**146**	P	**Pn**	**05 19 48.6**	**-0.8**
	baz=145						
TR2		**9.12**	**146**	P	**Pn**	**05 19 48.6**	**-0.8**
HKAT	**Jabal Katrina**	**9.12**	**144**	P	**Pn**	**05 19 48.6**	**-1.0**
	baz=144						
HKAT	**Jabal Katrina**	**9.12**	**144**	P	**Pn**	**05 19 48.6**	**-0.9**

NIED ***11*** *05:35:00, 27°.40N×128°.10E, h71km, Mw4.9 Best double couple: M≥2.24000×10^16 NP1:φs78.00000°, δ85.00000°, λ114.00000°. NP2:φs179.00000°, δ25.00000°, λ11.00000°.*
MOS ***11*** *05:35:12.1±1.0, 27°.41N×128°.07E, h33km, mb5.1/63, Error ellipse: s-maj=8.3km s-min=5.0km az=104.7*
BJI ***11*** *05:35:13.9, 27°.14N×128°.33E, h66km, mB4.8/32, mb4.6/33, Ms4.2/35, Ms7 4.0/32*
IDC ***11*** *05:35:15.5±0.5, 27°.45N×128°.12E, h51km±4km, mb4.4/27, mb1 4.5/28, mb1mx4.5/31, mbtmp4.4/28, MS3.8/24, Ms1 3.8/24, ms1mx3.7/34, Error ellipse: s-maj=15.1km s-min=6.9km az=71.0*
ISCJB ***11*** *05:35:16.8±0.2, 27°.46N±0°.02×128°.01E±0°.02, h66km±2km, mb4.8/131, Error ellipse: s-maj=4.0km s-min=2.4km az=139.7*
JMA ***11*** *05:35:17.8±0.1, 27°.43N×128°.16E, h65km±1km, M4.8*
JMA Felt III J1.
NEIC ***11*** *05:35:17.4±0.2, 27°.42N×128°.08E, mb5.0/73, MW4.8(NIED), Error ellipse: s-maj=5.3km s-min=4.1km az=141.0*
NEIC Felt [II] at Chatan, Okinawa. Also felt at Haebaru and Okinawa. Recorded [3 JMA] on Okinawa and [2 JMA] on Okino-erabu-shima, Tokuno-shima and Yoron-jima.
SZGRF ***11*** *05:35:20.7, 28°.08N×126°.83E, h33km, mb5.4, MS4.4, Northwest of Ryukyu Islands, Japan*
ISC 11 05:35:18.0±0.2, 27°.45N±0°.02×128°.04E±0°.02, h66km±2km, h65km±2.9km: pP-P, n582, σ0°87/608, mb4.8/131, 98C-102D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.41**	**189**	P	**Pn**	**05 35 29.6**	**-0.1**
JIH				S	**Sn**	**05 35 38.2**	**+0.1**
JOW	**Kunigami**	**0.65**	**161**	P	**Pn**	**05 35 31.1**	**-1.0**
	10μm,0.3s,baz=17,slow=7.3						
JOW				S	**Sn**	**05 35 38.9**	**-3.4**
	26μm,0.3s,baz=150,slow=24,SNR=58						
JOW	**Kunigami**	**0.65**	**161**	P	**Pn**	**05 35 31.1**	**-1.0**
JOW				S	**Sn**	**05 35 38.9**	**-3.4**
JOW				*e*Sn	**Sn**	**05 35 42.0**	**-0.3**
JOW	**Kunigami**	**0.65**	**161**	P	**Pn**	**05 35 31.3**	**-0.7**
JOW				S	**Sn**	**05 35 41.1**	**-1.2**
JTK	**Tokunoshima**	**0.88**	**67**	P	**Pn**	**05 35 33.5**	**-1.3**
JTK				S	**Sn**	**05 35 44.9**	**-2.3**
JAGN	**Aguni-jima**	**1.11**	**220**	P	**Pn**	**05 35 38.2**	**+0.5**
JAGN				S	**Sn**	**05 35 54.1**	**+1.7**
NAH1	**Naha**	**1.28**	**194**	P	**Pn**	**05 35 40.4**	**+0.5**
NAH1				S	**Sn**	**05 35 57.1**	**+0.8**
JJT2	**Tamagusuku 2**	**1.33**	**191**	P	**Pn**	**05 35 41.2**	**+0.6**
JJT2				S	**Sn**	**05 35 58.6**	**+1.1**
JKE	**Kume jima 2**	**1.58**	**225**	P	**Pn**	**05 35 44.8**	**+0.9**
JKE				S	**Sn**	**05 36 05.6**	**+2.1**
JAM	**Amami Oshima**	**1.69**	**55**	P	**Pn**	**05 35 44.3**	**-1.1**
JAM				S	**Sn**	**05 36 04.3**	**-1.8**
JZK	**Kikaishima**	**1.92**	**63**	P	**Pn**	**05 35 48.1**	**-0.4**
JZK				S	**Sn**	**05 36 10.6**	**-1.0**
JNN	**Nakanoshima**	**2.88**	**34**	P	**Pn**	**05 36 01.5**	**-0.1**
JNN				S	**Sn**	**05 36 35.3**	**+0.2**
JMZ	**Minamidaito 2**	**3.28**	**119**	P	**Pn**	**05 36 03.2**	**-3.8**
JMZ				S	**Sn**	**05 36 36.7**	**-8.1**
JKC	**Kuchinoerabu**	**3.55**	**32**	P	**Pn**	**05 36 11.2**	**+0.5**
JKC				S	**Sn**	**05 36 51.5**	**+0.1**
JOGS	**Gusukube**	**3.57**	**222**	P	**Pn**	**05 36 11.5**	**+0.5**
JOGS				S	**Sn**	**05 36 52.9**	**+0.9**
JMJ	**Miyako jima 2**	**3.60**	**224**	P	**Pn**	**05 36 10.1**	**-1.3**
JMJ				S	**Sn**	**05 36 54.7**	**+2.0**
JTJ	**Tarama**	**4.10**	**228**	P	**Pn**	**05 36 18.0**	**-0.2**
JTJ				S	**Sn**	**05 37 03.6**	**-1.3**
JTN	**Tanegashima 3**	**4.11**	**38**	P	**Pn**	**05 36 18.6**	**+0.3**
JTSR	**Tashiro 2**	**4.48**	**34**	P	**Pn**	**05 36 23.8**	**+0.4**
JTSR				S	**Sn**	**05 37 14.4**	**+0.1**
JSU	**Suzuyama**	**4.56**	**27**	P	**Pn**	**05 36 26.6**	**+2.1**
JIJ	**Ishigaki jima**	**4.66**	**230**	P	**Pn**	**05 36 24.9**	**-1.0**
JIJ				S	**Sn**	**05 37 18.6**	**-0.1**
IRIF	**Iriomote-Funau**	**4.96**	**232**	P	**Pn**	**05 36 29.4**	**-0.7**
IRIF				S	**Sn**	**05 37 24.3**	**-1.9**
JNU	**Nakatsue**	**6.17**	**23**	*e*Pn	**Pn**	**05 36 48.1**	**+1.7**
JNU				*e*Sn	**Sn**	**05 37 59.9**	**+4.3**
TATO	**Taipei**	**6.38**	**249**	*e*Pn	**Pn**	**05 36 51.5**	**+2.1**
YHNB	**Yeheng**	**6.60**	**247**	*e*Pn	**Pn**	**05 36 54.9**	**+2.5**
NACB	**Ninganchiao**	**6.66**	**242**	*e*Pn	**Pn**	**05 36 52.8**	**-0.5**
SSE	**Sheshan**	**7.00**	**303**	P	**Pn**	**05 37 00.5**	**+2.6**
SSE				pmax	pmax		
	comp=Z,30nm,0.9s						
SSE				pmax	pmax		
	comp=Z,78nm,3.2s						
SSE				LR	LR		
	comp=Z,720nm,30.9s						
SSE	**Sheshan**	**7.00**	**303**	P	**Pn**	**05 37 00.5**	**+2.6**
	comp=Z,30nm,0.9s						
YULB	**Yu-li**	**7.31**	**238**	*e*Pn	**Pn**	**05 36 59.7**	**-2.4**
YULB				*e*Sn	**Sn**	**05 38 21.1**	**-2.5**
SSLB	**Suanglung**	**7.36**	**242**	*e*Pn	**Pn**	**05 37 01.9**	**-1.0**
TPUB	**Ta-pu**	**7.87**	**240**	*e*Pn	**Pn**	**05 37 09.6**	**-0.2**
NJ2	**Nanjing**	**9.21**	**302**	*e*P	**Pn**	**05 37 31.4**	**+3.4**
NJ2				sP		05 37 56.2	
NJ2				S	**Sn**	**05 39 21.5**	**+11**
NJ2				pmax	pmax		
	comp=Z,50nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,160nm,7.7s						
NJ2				LR	LR		
	comp=N,730nm,10.0s						
NJ2				LR	LR		
	comp=E,640nm,15.1s						
NJ2				LR	LR		
	comp=Z,510nm,15.0s						
KSAR	**Wonju Array Be**	**9.97**	**359**	P	**Pn**	**05 37 39.5**	**+1.1**
KSAR	**Wonju Array Be**	**9.97**	**359**	P	**Pn**	**05 37 39.6**	**+1.2**
KSRS	**Korea Array**	**9.98**	**359**	P	**Pn**	**05 37 39.5**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=176,slow=14,SNR=40						
KSRS				LR	LR	05 41 48.6	
	comp=Z,572nm,18.2s,baz=164,slow=39						
KSRS	**Korea Array**	**9.98**	**359**	P	**Pn**	**05 37 39.6**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,572nm,18.2s						
INCN	**Inchon**	**10.08**	**354**	*e*Pn	**Pn**	**05 37 44.5**	**+4.6**
MAJO	**Matsushiro**	**12.51**	**41**	*e*Pn	**Pn**	**05 38 12.0**	**-1.2**
MAJO	**Matsushiro**	**12.51**	**41**	*e*P	**Pn**	**05 38 12.0**	**-1.1**
MAT	**Matsushiro**	**12.51**	**41**	P	**Pn**	**05 38 12.0**	**-1.1**
MAT				*e*S	**Sn**	**05 40 33.2**	**+2.5**
MJAR	**Matsushiro Arr**	**12.51**	**41**	P	**Pn**	**05 38 11.2**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=241,slow=13,SNR=12						
MJAR	**Matsushiro Arr**	**12.51**	**41**	P	**Pn**	**05 38 11.2**	**-1.9**
MJAR	**Matsushiro Arr**	**12.51**	**41**	P	**Pn**	**05 38 11.2**	**-1.9**
CBIJ	**Chichi jima**	**12.59**	**88**	LR	LR	05 42 32.7	
	comp=Z,104nm,21.0s,baz=130,slow=35						
SNY	**Shenyang**	**14.80**	**347**	⇑P	**Pn**	**05 38 50.6**	**+7.0**
SNY				S	**Sn**	**05 41 26.6**	**+0.2**
SNY				pmax	pmax		
	comp=Z,40nm,1.0s						
SNY				pmax	pmax		
	comp=Z,350nm,8.5s						
SNY				LR	LR		
	comp=N,530nm,5.7s						
SNY				LR	LR		
	comp=E,740nm,4.7s						
SNY				LR	LR		
	comp=Z,870nm,20.1s						
BJI	**Beijing**	**15.95**	**325**	P	**Pn**	**05 39 00.8**	**+2.5**
BJI				S	**S**	**05 42 03.5**	**-1.2**
BJI				pmax	pmax		
	comp=Z,300nm,4.6s						
BJI				LR	LR		
	comp=N,370nm,18.4s						
BJI				LR	LR		
	comp=E,460nm,16.9s						
BJI				LR	LR		
	comp=Z,540nm,29.4s						
CN2	**Changchun**	**16.45**	**353**	*e*P	**Pn**	**05 39 06.8**	**+2.2**
CN2				*es*P	sP	05 39 26.3	-1.9
CN2				*e*SS		05 42 29.0	
CN2				pmax	pmax		
	comp=Z,500nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,16.0s						
CN2				LR	LR		
	comp=E,500nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,17.0s						
MDJ	**Mudanjiang**	**17.18**	**4**	P	**Pn**	**05 39 14.7**	**+1.1**
MDJ				pP	pP	05 39 28.3	+0.4
MDJ				sP	sP	05 39 34.8	-1.4
MDJ				S	**S**	**05 42 27.7**	**-2.0**
MDJ				PcP	PcP	05 43 48.7	-5.4
MDJ				ScP	ScP

comp=E,660nm,8.4s
CD2 LR LR
comp=Z,330nm,13.2s
HABR Khabarovsk 21.69 13 *eP* **P 05 40 01.5 -1.8**
HABR *PP 05 40 16.8
HABR *eS* **S 05 43 59.1 -0.4**
HABR MLR MLR
comp=Z,153nm,16.0s
KLR Kul'dur 21.94 7 *eP* **P 05 40 03.0 -2.9**
LZH Lanzhou 22.26 299 *eP* **P 05 40 11.7 +2.2**
LZH pP 05 40 25.0
LZH sP sP 05 40 32.7 +0.9
LZH PP 05 40 41.0
LZH *eS* **S 05 44 03.2 -7.4**
LZH *e*SS 05 44 50.4
LZH pmax pmax
comp=Z,27nm,1.1s,mb4.5
LZH pmax pmax
comp=Z,140nm,4.1s
LZH LR LR
comp=N,450nm,10.2s
LZH LR LR
comp=E,350nm,8.3s
LZH LR LR
comp=Z,480nm,12.8s
LZH Lanzhou 22.26 299 *eP* **P 05 40 11.7 +2.2**
comp=Z,27nm,1.1s,mb4.5
LZH pP 05 40 25.0
LZH sP sP 05 40 32.7 +0.9
LZH PP 05 40 41.0
LZH *eS* **S 05 44 03.2 -7.4**
LZH sS sS 05 44 25.5 -8.6
LZH *e*SS 05 44 50.4
LZH LR LR
comp=Z,480nm,12.8s
LZH Lanzhou 22.26 299 *eP* **P 05 40 11.7 +2.2**
LZH *PP 05 40 25.0
LZH *SP sP 05 40 32.7 +0.9
LZH 05 40 41.0
LZH *eS* **S 05 44 03.2 -7.4**
LZH *e*SS 05 44 50.4
LZH pmax pmax
comp=Z,27nm,1.1s,mb4.5
LZH MLR MLR
comp=Z,480nm,12.8s
YSS Yuzh-Sakhalins 22.66 27 *eP* **P 05 40 13.1 -0.5**
comp=Z,47nm,1.1s,mb4.7
YSS Yuzh-Sakhalins 22.66 27 *eP* **P 05 40 12.2 -1.4**
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.6
KMI Kunming 22.79 270 P **P 05 40 17.1 +1.9**
KMI S **S 05 44 14.7 -4.8**
KMI pmax pmax
comp=Z,62nm,4.9s
KMI LR LR
comp=N,160nm,22.9s
KMI LR LR
comp=E,160nm,17.6s
KMI LR LR
comp=Z,97nm,19.7s
KMI Kunming 22.79 270 P **P 05 40 17.1 +1.9**
comp=Z,7.0nm,1.0s,mb4.0
KMI pP 05 40 37.5
KMI sP sP 05 40 50.8 +13
KMI S **S 05 44 14.7 -4.8**
KMI sS sS 05 44 53.1 +8.4
KMI LR LR
comp=Z,100nm,19.7s
KMI Kunming 22.79 270 P **P 05 40 17.1 +1.9**
KMI *PP 05 40 37.5
KMI *SP sP 05 40 50.8 +13
KMI S **S 05 44 14.7 -4.8**
KMI *SS sS 05 44 53.1 +8.4
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
KMI MLR MLR
comp=Z,100nm,19.7s
ULN Ulaanbaatar 26.14 327 *eP* **P 05 40 47.4 +1.5**
comp=Z,22nm,1.1s,mb4.5
ULN Ulaanbaatar 26.14 327 *eP* **P 05 40 47.4 +1.5**
ULN pmax pmax
comp=Z,22nm,1.1s,mb4.5
GTA Gaotai 26.29 304 *eP* **P 05 40 48.1 +0.7**
GTA pP pP 05 41 03.1 0.0
GTA sP sP 05 41 09.9 -0.9
GTA S **S 05 45 14.5 -0.9**
GTA pmax pmax
comp=Z,26nm,1.0s,mb4.6
GTA pmax pmax
comp=Z,110nm,5.0s
GTA LR LR
comp=N,250nm,10.5s
GTA LR LR
comp=E,200nm,7.1s
GTA LR LR
comp=Z,320nm,11.2s
SONM Songino Array 26.45 326 P **P 05 40 49.8 +1.1**
comp=Z,12nm,0.7s,mb4.4,baz=135,slow=11,SNR=25
SONM ScP ScP 05 47 46.0 -0.6
comp=Z,0.6nm,0.6s,baz=154,slow=11,SNR=3.6
SONM LR LR 05 52 35.8
comp=Z,186nm,18.7s,baz=175,slow=39
SONM Songino Array 26.45 326 P **P 05 40 49.8 +1.1**
SONM ScP ScP 05 47 46.0 -0.6
SONM Songino Array 26.45 326 P **P 05 40 49.8 +1.2**
SONM pmax pmax
comp=Z,12nm,0.7s
SONM pmax pmax
comp=N,1.0nm,0.6s
SONM MLR MLR
comp=Z,186nm,18.7s
CHTO Chiang Mai 28.05 258 P pP 05 41 23.6 +4.5
comp=Z,6.9nm,0.7s
CMAR Chiang Mai Arr 28.19 258 P **P 05 41 05.4 +0.8**
comp=Z,0.8nm,0.4s,mb3.6,baz=67,slow=6.9,SNR=3.0
CMAR ScP ScP 05 47 51.9 -0.5
comp=Z,0.7nm,0.3s,baz=67,slow=0.6,SNR=8.1
CMAR LR LR 05 52 33.6
comp=Z,69nm,20.3s,baz=90,slow=37
CMAR Chiang Mai Arr 28.19 258 P **P 05 41 05.4 +0.8**
CMAR ScP ScP 05 47 51.9 -0.5
CMAR Chiang Mai Arr 28.19 258 P **P 05 41 05.4 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CMAR MLR MLR
comp=Z,69nm,20.3s
SHL Shillong 32.34 275 *e*PKP **P 05 41 44.4 +3.2**
KAPI Kappang 33.25 195 LR LR 05 54 43.5
comp=Z,135nm,21.0s,baz=28,slow=35
PETK Petropavlovsk- 33.76 32 P **P 05 41 51.9 -1.3**
comp=Z,23nm,0.8s,mb5.0,baz=204,slow=6.6,SNR=12
PETK LR LR 05 56 42.8
comp=Z,7.1nm,20.6s,baz=302,slow=38
PETK Petropavlovsk- 33.76 32 P **P 05 41 51.9 -1.3**
PETK Petropavlovsk- 33.76 32 P **P 05 41 51.9 -1.3**
PETK pmax pmax
comp=Z,23nm,0.8s,mb5.1
PETK MLR MLR
comp=Z,7.0nm,20.6s
YAK Yakutsk 34.60 1 *eP* **P 05 42 00.8 +0.4**
YAK pmax pmax
comp=Z,16nm,0.9s,mb4.8
HVS Khovu-Aksy 35.08 322 *eP* **P 05 42 05.6 +1.0**
WMQ Urumqi 36.23 308 P **P 05 42 15.3 +0.7**
WMQ pP pP 05 42 33.5 +2.8
WMQ sP sP 05 42 42.5 +4.1
WMQ PP PP 05 43 40.0 +2.0
WMQ S **S 05 47 49.2 -1.0**
WMQ sS sS 05 48 20.4 +2.8
WMQ pmax pmax
comp=Z,21nm,0.6s,mb5.2
WMQ pmax pmax
comp=Z,180nm,3.8s
WMQ LR LR
comp=N,180nm,25.0s
WMQ LR LR
comp=E,110nm,21.6s
WMQ LR LR
comp=Z,200nm,25.2s
BMNI Bima 36.90 196 P **P 05 42 20.4 -0.1**
MK31 Makanchi Array 40.60 311 *eP* **P 05 42 50.4 -0.9**
MK31 *e*PcP PcP 05 44 51.8 -0.4
MK31 Makanchi Array 40.60 311 *eP* **P 05 42 50.4 -0.9**
MK31 *e* 05 44 51.8
MKAR Makanchi Array 40.60 311 P **P 05 42 50.6 -0.7**
comp=Z,2.7nm,0.6s,mb4.2,baz=94,slow=11,SNR=27
MKAR PcP PcP 05 44 51.6 -0.5
comp=Z,3.4nm,0.9s,baz=93,slow=4.1,SNR=5.2
MKAR ScP ScP 05 48 36.1 +0.2
comp=Z,0.6nm,0.8s,baz=108,slow=4.7,SNR=3.9
MKAR Makanchi Array 40.60 311 *eP* **P 05 42 51.2 -0.1**
MKAR PcP PcP 05 44 51.6 -0.5
MKAR ScP ScP 05 48 36.1 +0.2
MKAR Makanchi Array 40.60 311 *eP* **P 05 42 51.2 -0.1**
MKAR 05 44 51.7
PMG Port Moresby 41.05 151 P **P 05 42 54.1 -1.2**
comp=Z,43nm,0.8s,mb5.4,baz=3.6,slow=5.4,SNR=21
PMG Port Moresby 41.05 151 P **P 05 42 54.1 -1.2**
PMG Port Moresby 41.05 151 P **P 05 42 54.1 -1.2**
PMG pmax pmax
comp=Z,43nm,0.8s
ZAA0 Zalesovo Array 41.18 322 *eP* **P 05 42 52.8 -3.2**
ZALV Zalesovo Beam 41.18 322 P **P 05 42 54.1 -1.8**
comp=Z,1.9nm,0.5s,mb4.2,baz=104,slow=8.1,SNR=13
ZALV pP pP 05 43 08.2 -4.0
comp=Z,2.1nm,0.4s,baz=109,slow=8.4,SNR=6.2
ZALV PcP PcP 05 44 52.2 -1.7
comp=Z,3.5nm,0.8s,baz=108,slow=4.8,SNR=3.8
ZALV ScP ScP 05 48 36.0 -2.1
comp=Z,2.1nm,0.8s,baz=127,slow=3.9,SNR=7.0
ZALV LR LR 06 01 57.4
comp=Z,138nm,19.5s,baz=70,slow=39
ZALV Zalesovo Beam 41.18 322 P **P 05 42 54.1 -1.8**
ZALV pP pP 05 43 08.2 -4.0
ZALV PcP PcP 05 44 52.2 -1.7
ZALV ScP ScP 05 48 36.0 -2.1
ZALV Zalesovo Beam 41.18 322 P **P 05 42 54.1 -1.8**
ZALV *PP pP 05 43 08.3 -4.0
ZALV 05 44 52.2
ZALV pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ZALV pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
ZALV pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ZALV pmax pmax
comp=N,2.0nm,0.9s
ZALV MLR MLR
comp=Z,138nm,19.5s
NVS Novosibirsk 42.38 323 *eP* **P 05 43 04.9 -0.7**
COEN Coen 43.70 158 *eP* **P 05 43 16.2 -0.5**
comp=Z,390nm,1.4s,mb6.0
KURK Kurchatov 43.83 316 P **P 05 43 16.6 -0.8**
comp=Z,7.0nm,0.3s,mb4.8,baz=103,slow=8.8,SNR=44
KURK Kurchatov 43.83 316 *eP* **P 05 43 16.8 -0.7**
KURK Kurchatov 43.83 316 P **P 05 43 17.3 -0.1**
comp=Z,94nm,0.4s,mb5.9,SNR=12
KURK Kurchatov 43.83 316 *de*P **P 05 43 17.7 +0.3**
KURK pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
KSH Kashi 44.51 300 *eP* **P 05 43 27.5 +4.5**
KSH S **S 05 49 58.7 +5.1**
KSH pmax pmax
comp=Z,140nm,4.5s
KSH LR LR
comp=N,170nm,5.0s
KSH LR LR
comp=E,150nm,5.9s
KSH LR LR
comp=Z,150nm,6.5s
TKM2 Tokmak 2 44.84 304 *eP* **P 05 43 26.2 +0.5**
comp=Z,8.1nm,0.8s,mb4.5
TKM2 Tokmak 2 44.84 304 *eP* **P 05 43 26.2 +0.5**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
FITZ Fitzroy Crossi 45.34 183 P **P 05 43 28.9 -0.9**
comp=Z,11nm,0.7s,mb4.7,baz=18,slow=7.0,SNR=20
FITZ LR LR 06 03 13.7
comp=Z,71nm,18.4s,baz=3.2,slow=37
FITZ Fitzroy Crossi 45.34 183 *eP* **P 05 43 28.6 -1.1**
comp=Z,21nm,0.7s,mb5.0
FITZ Fitzroy Crossi 45.34 183 P **P 05 43 28.9 -0.9**
comp=Z,4.5nm,0.6s,mb4.4
AAK Ala-Archa 45.64 304 *eP* **P 05 43 32.8 +0.8**
comp=Z,9.2nm,0.6s,mb4.7
AAK *e*PP pP 05 43 46.6 -2.0
AAK *e*PcP PcP 05 45 10.2 +1.0
AAK Ala-Archa 45.64 304 *eP* **P 05 43 32.8 +0.8**
AAK *e* pP 05 43 46.6 -2.0
AAK *e* 05 45 10.2
AAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
HYB Hyderabad 46.56 268 *i* P **P 05 43 39.0 -0.5**
BILL Bilibino 46.58 19 *eP* **P 05 43 40.8 +1.9**
BILL *i* 05 45 11.4
BILL pmax pmax
comp=Z,15nm,1.6s,mb4.5
WRAB Tennant Creek 47.49 172 *eP* **P 05 43 45.4 -1.3**
comp=Z,28nm,0.8s,mb5.0
WRAB Tennant Creek 47.49 172 P **P 05 43 45.3 -1.3**
comp=Z,212nm,0.8s,mb5.9,SNR=17
WRAB Tennant Creek 47.49 172 *eP* **P 05 43 45.4 -1.2**
WRAB pmax pmax
comp=Z,28nm,0.8s,mb5.0
WRA Warramunga Arr 47.50 172 P **P 05 43 45.4 -1.3**
comp=Z,22nm,0.7s,mb5.1,baz=353,slow=8.3,SNR=170
WRA PcP PcP 05 45 14.6 -1.3
comp=Z,1.4nm,0.8s,baz=354,slow=4.7,SNR=2.4
WRA LR LR 06 01 55.6
comp=Z,92nm,21.3s,baz=40,slow=34
WRA Warramunga Arr 47.50 172 P **P 05 43 45.4 -1.3**
WRA PcP PcP 05 45 14.6 -1.3
WRA Warramunga Arr 47.50 172 P **P 05 43 45.4 -1.3**
WRA 05 45 14.6
WRA pmax pmax
comp=Z,22nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.8s
WB2 Warramunga Arr 47.50 172 *eP* **P 05 43 45.5 -1.1**
HNR Honiara 47.96 135 LR LR 05 59 55.7
comp=Z,156nm,21.7s,baz=317,slow=31
KK31 Karatay Array 48.58 305 *i* P **P 05 43 55.1 +0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KKAR Karatay Array 48.58 305 *eP* **P 05 43 55.5 +0.7**
KKAR Karatay Array 48.58 305 *eP* **P 05 43 55.5 +0.7**
VOSK Vostochnaya 48.86 317 P **P 05 43 55.9 -1.0**
VOSK pmax pmax
comp=Z,12nm,1.1s,mb4.7
BVA0 Borovoye Array 49.26 318 *i* P **P 05 43 59.5 -0.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BVAR Borovoye Array 49.26 318 P **P 05 43 59.2 -0.6**
comp=Z,7.3nm,0.7s,mb4.7,baz=82,slow=11,SNR=31
BVAR PcP PcP 05 45 21.5 -0.4
comp=Z,2.4nm,0.4s,baz=112,slow=2.1,SNR=7.1
BVAR LR LR 06 06 41.5
comp=Z,338nm,20.2s,baz=284,slow=38
BVAR Borovoye Array 49.26 318 P **P 05 43 59.2 -0.6**
BVAR PcP PcP 05 45 21.5 -0.4
BVAR Borovoye Array 49.26 318 P **P 05 43 59.2 -0.7**
BVAR 05 45 21.5
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 49.33 318 P **P 05 44 00.4 0.0**
comp=Z,126nm,1.0s,mb5.8,SNR=8.6
BRVK Borovoye 49.33 318 *eP* **P 05 43 59.3 -1.1**
comp=Z,22nm,1.0s,mb5.0
BRVK Borovoye 49.33 318 *de*P **P 05 44 00.7 +0.3**
BRVK pmax pmax
comp=Z,18nm,0.9s,mb5.0
BRVK Borovoye 49.33 318 P **P 05 44 01.1 +0.7**
SNR=7.5
ZRNK Zerenda 50.08 317 P **P 05 44 06.0 -0.1**
CTA Charters Tower 50.44 158 P **P 05 44 08.6 -0.5**
comp=Z,10nm,0.8s,mb4.8,baz=331,slow=8.8,SNR=13
CTA LR LR 06 05 04.9
comp=Z,92nm,18.4s,baz=48,slow=36
CTA Charters Tower 50.44 158 *eP* **P 05 44 08.2 -0.9**
comp=Z,11nm,1.1s,mb4.7
CTA Charters Tower 50.44 158 P **P 05 44 08.6 -0.5**
CTA Charters Tower 50.44 158 P **P 05 44 08.6 -0.5**
CTA pmax pmax
comp=Z,10.0nm,0.8s
CTA MLR MLR
comp=Z,92nm,18.4s
CTAO Charters Tower 50.44 158 *eP* **P 05 44 08.5 -0.7**
comp=Z,28nm,1.2s,mb5.1
CTAO Charters Tower 50.44 158 *eP* **P 05 44 08.5 -0.6**
CTAO pmax pmax
comp=Z,28nm,1.2s,mb5.1
KBL Kabul 50.45 293 *eP* **P 05 44 10.5 +1.3**
comp=Z,26nm,1.5s,mb4.9
KBL Kabul 50.45 293 *eP* **P 05 44 10.5 +1.2**
KBL pmax pmax
comp=Z,26nm,1.5s,mb4.9
AS31 Alice Springs 51.13 173 *eP* **P 05 44 13.4 -0.9**
ASAR Alice Springs 51.13 173 P **P 05 44 13.8 -0.4**
comp=Z,9.9nm,0.9s,mb4.8,baz=359,slow=7.3,SNR=56
ASAR Alice Springs 51.13 173 P **P 05 44 13.8 -0.4**
ASAR Alice Springs 51.13 173 P **P 05 44 13.9 -0.4**
ASAR pmax pmax
comp=Z,10.0nm,0.9s
TNA Tin City 54.64 27 *eP* **P 05 44 39.0 -0.6**
comp=Z,52nm,1.0s,mb5.5
AB31 Akbulak array 55.70 313 *i* P **P 05 44 47.5 0.0**
AB31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.5
ABKAR Akbulak array 55.70 313 *eP* **P 05 44 46.6 -0.9**
ARU Arti 56.34 321 *eP* **P 05 44 50.6 -1.4**
comp=Z,10nm,1.0s,mb4.8
ARU Arti 56.34 321 *d i*P **P 05 44 51.4 -0.6**
ARU *PP pP 05 45 09.8 +0.7
ARU 05 46 57.1
ARU S **S 05 52 38.7 +1.5**
ARU SS SS 05 56 30.7 +6.2
ARU pmax pmax
comp=Z,18nm,1.7s,mb4.8
AKTO Aktyubinsk 56.86 314 P **P 05 44 55.8 -0.1**
comp=Z,2.2nm,0.8s,mb4.3,baz=82,slow=11,SNR=5.9
AKTO pP pP 05 45 09.7 -3.3
comp=Z,1.6nm,0.7s,baz=77,slow=9.6,SNR=2.7
AKTO Aktyubinsk 56.86 314 P **P 05 44 55.8 -0.1**
AKTO pP pP 05 45 09.7 -3.3
AKTO Aktyubinsk 56.86 314 P **P 05 44 55.8 0.0**
AKTO *PP pP 05 45 09.7 -3.2
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
STKA Stephens Creek 60.39 167 P **P 05 45 19.1 -1.3**
comp=Z,6.0nm,0.8s,mb4.7,baz=344,slow=7.3,SNR=12
STKA LR LR 06 08 44.1
comp=Z,81nm,20.4s,baz=25,slow=33
STKA Stephens Creek 60.39 167 *eP* **P 05 45 19.5 -0.9**
comp=Z,4.9nm,0.7s,mb4.7
STKA Stephens Creek 60.39 167 P **P 05 45 19.1 -1.3**
comp=Z,1.5nm,0.8s,mb4.1
STKA Stephens Creek 60.39 167 P **P 05 45 19.1 -1.3**
STKA pmax pmax
comp=Z,6.0nm,0.8s
NWAO Narrogin (SRO) 60.91 190 LR LR 06 08 49.8
comp=Z,109nm,21.9s,baz=6.7,slow=33
RSO Redoubt South 61.27 34 *eP* **P 05 45 26.5 +0.3**
PPLA Purkeypile 61.33 31 *eP* **P 05 45 26.1 -0.4**
comp=Z,50nm,1.4s,mb5.3
KDAK Kodiak Island 61.65 37 *ceP* **P 05 45 27.8 -0.9**
BPAW Bear Paw Mtn. 61.76 29 *eP* **P 05 45 29.2 -0.2**
comp=Z,35nm,1.1s,mb5.3
COLD Coldfoot 61.84 26 *eP* **P 05 45 29.7 -0.2**
comp=Z,70nm,1.9s,mb5.4
MCK McKinley 62.70 30 *eP* **P 05 45 35.2 -0.5**
comp=Z,37nm,1.1s,mb5.2
MCK McKinley 62.70 30 *eP* **P 05 45 35.2 -0.5**
MCK pmax pmax
comp=Z,37nm,1.1s,mb5.2
PMR Palmer 62.89 32 *eP* **P 05 45 35.9 -1.0**
comp=Z,55nm,1.5s,mb5.3
PMR Palmer 62.89 32 *eP* **P 05 45 35.9 -1.1**
PMR pmax pmax
comp=Z,55nm,1.5s,mb5.3
SEW Seward 62.95 34 *eP* **P 05 45 36.2 -1.2**
COLA College 63.03 28 *eP* **P 05 45 36.2 -1.6**
comp=Z,12nm,1.1s,mb4.7
COLA College 63.03 28 *eP* **P 05 45 36.2 -1.7**
COLA pmax pmax
comp=Z,12nm,1.1s,mb4.7
SML Sawmill 63.24 32 *eP* **P 05 45 37.6 -1.7**
SML Sawmill 63.24 32 *eP* **P 05 45 37.6 -1.7**
ILAR Eielson Array 63.45 29 P **P 05 45 38.4 -2.3**
comp=Z,2.7nm,0.9s,mb4.2,baz=269,slow=4.9,SNR=28
ILAR LR LR 06 13 06.5
comp=Z,68nm,18.4s,baz=226,slow=36
ILAR Eielson Array 63.45 29 P **P 05 45 38.4 -2.3**
ILAR Eielson Array 63.45 29 P **P 05 45 38.4 -2.3**
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR MLR MLR
comp=Z,68nm,18.5s
PAX Paxson 64.36 30 *eP* **P 05 45 45.8 -0.8**
comp=Z,73nm,1.9s,mb5.2
PAX Paxson 64.36 30 *eP* **P 05 45 45.8 -0.9**
PAX pmax pmax
comp=Z,73nm,1.9s,mb5.2
DIV Divide 64.56 32 *eP* **P 05 45 47.5 -0.5**
comp=Z,26nm,1.0s,mb5.0
DOT Dot Lake 64.86 30 *eP* **P 05 45 49.0 -0.9**
comp=Z,11nm,1.2s,mb4.6
CNB Canberra Magne 65.59 161 *eP* **P 05 45 55.4 +0.5**
comp=Z,65nm,1.0s,mb5.4
KLMR Klimovskoe 65.73 328 *eP* **P 05 45 52.8 -2.8**
KLMR pmax pmax
comp=Z,14nm,1.4s,mb4.6
EGAK Eagle 65.86 28 *eP* **P 05 45 55.5 -0.8**
comp=Z,11nm,0.9s,mb4.7
INK Inuvik 67.85 23 *eP* **P 05 46 06.5 -2.4**
comp=Z,36nm,1.0s,mb5.2
INK Inuvik 67.85 23 *eP* **P 05 46 06.5 -2.4**
INK pmax pmax
comp=Z,36nm,1.0s
KEV Kevo 68.25 338 *eP* **P 05 46 09.9 -1.5**
KEV Kevo 68.25 338 *ep* **P 05 46 09.9 -1.5**
KIV Kislovodsk 68.34 309 *eP* **P 05 46 13.0 +0.6**
KIV pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
KIV MLR MLR
comp=Z,55nm,18.0s
VSR Storozhevoye 68.44 317 *eP* **P 05 46 11.7 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
OBN Obninsk 68.77 322 *eP* **P 05 46 13.8 -1.1**
OBN *i* 05 46 43.0
OBN pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
OBN MLR MLR
comp=Z,200nm,18.0s
ARCES ARCESS Array B 68.82 338 P **P 05 46 14.3 -0.6**
comp=Z,0.5nm,0.3s,mb3.8,baz=53,slow=8.0,SNR=14
ARCES LR LR 06 19 35.3
comp=Z,78nm,18.4s,baz=8.2,slow=39
ARCES ARCESS Array B 68.82 338 P **P 05 46 14.3 -0.6**
ARCES ARCESS Array B 68.82 338 P **P 05 46 14.3 -0.6**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES MLR MLR
comp=Z,78nm,18.4s
JOF Joensuu 68.90 331 *eP* **P 05 46 14.7 -0.8**
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
JOF Joensuu 68.90 331 *ep* **P 05 46 14.7 -0.8**
comp=Z,5.1nm,0.8s,mb4.4
ALE Alert 70.14 1 P **P 05 46 22.0 -1.0**
comp=Z,50nm,1.0s,mb5.3,SNR=5.3
KAF Kangasniemi 71.36 331 *eP* **P 05 46 28.5 -2.1**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
KAF Kangasniemi 71.36 331 *ep* **P 05 46 28.5 -2.1**
comp=Z,4.7nm,0.8s,mb4.4
FINES FINESS Array B 71.72 330 P **P 05 46 31.4 -1.5**
comp=Z,3.2nm,0.5s,mb4.4,baz=65,slow=5.4,SNR=14
FINES pP pP 05 46 45.9 -4.6
comp=Z,1.6nm,0.4s,baz=62,slow=5.4,SNR=2.6
FINES LR LR 06 19 55.0
comp=Z,125nm,21.7s,baz=50,slow=37
FINES FINESS Array B 71.72 330 P **P 05 46 31.4 -1.5**
FINES pP pP 05 46 45.9 -4.6
FINES FINESS Array B 71.72 330 P **P 05 46 31.4 -1.4**
FINES *PP pP 05 46 45.9 -4.6
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES pmax pmax

comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,125nm,21.7s
RES Resolute Bay 74.39 11 *e*P **P 05 46 47.4 -1.0**
comp=Z,33nm,0.8s,mb5.1
RES Resolute Bay 74.39 11 *e*P **P 05 46 47.4 -1.0**
RES pmax pmax
comp=Z,33nm,0.8s,mb5.1
AKASG Malin Array Be 74.50 319 P **P 05 46 48.3 -1.1**
comp=Z,3.8nm,0.4s,mb4.5,baz=55,slow=6.1,SNR=15
AKASG LR LR 06 22 03.8
comp=Z,246nm,20.6s,baz=55,slow=38
AKASG Malin Array Be 74.50 319 P **P 05 46 48.3 -1.1**
AKASG Malin Array Be 74.50 319 P **P 05 46 48.3 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG MLR MLR
comp=Z,246nm,20.6s
KIEV Kiev 74.51 319 *e*P **P 05 46 47.9 -1.5**
comp=Z,8.7nm,0.6s,mb4.7
KIEV Kiev 74.51 319 *d i*P **P 05 46 48.4 -1.1**
BR131 Keskin Array S 76.16 308 *e*P **P 05 46 58.6 -0.5**
comp=Z,8.5nm,0.8s,mb4.5
BRTR Keskin Array B 76.16 308 P **P 05 46 59.0 -0.1**
comp=Z,10nm,0.8s,mb4.6,baz=93,slow=5.7,SNR=67
BRTR LR LR 06 24 29.6
comp=Z,38nm,18.1s,baz=218,slow=39
BRTR Keskin Array B 76.16 308 P **P 05 46 59.0 -0.1**
BRTR Keskin Array B 76.16 308 P **P 05 46 59.1 0.0**
BRTR pmax pmax
comp=Z,10.0nm,0.9s
BRTR MLR MLR
comp=Z,38nm,18.1s
ASF Jabal al Asfar 76.82 299 P **P 05 47 03.8 +0.8**
comp=Z,8.9nm,0.8s,mb4.5,baz=268,slow=2.5,SNR=7.5
ASF Jabal al Asfar 76.82 299 P **P 05 47 03.8 +0.8**
ASF Jabal al Asfar 76.82 299 P **P 05 47 03.8 +0.8**
ASF pmax pmax
comp=Z,9.0nm,0.8s
YKA Yellowknife Ar 77.50 25 P **P 05 47 05.6 -0.6**
comp=Z,7.0nm,0.8s,mb4.4,baz=300,slow=5.5,SNR=58
YKA Yellowknife Ar 77.50 25 P **P 05 47 05.7 -0.6**
YKA Yellowknife Ar 77.50 25 P **P 05 47 05.7 -0.5**
TESR 77.86 316 ⇓ *i*P **P 05 47 08.3 -0.2**
VRI Vrincioaia 78.10 316 ⇑ *i*P **P 05 47 10.9 +1.0**
NB2 NORSAR Subarra 78.15 334 P **P 05 47 08.5 -1.4**
comp=Z,18nm,0.8s,mb4.8,baz=52,slow=5.6
NOA NORSAR Array B 78.15 334 P **P 05 47 08.8 -1.1**
comp=Z,14nm,0.8s,mb4.8,baz=51,slow=5.5,SNR=41
NOA LR LR 06 22 20.1
comp=Z,66nm,21.2s,baz=70,slow=36
NOA NORSAR Array B 78.15 334 P **P 05 47 08.8 -1.1**
NOA NORSAR Array B 78.15 334 P **P 05 47 08.8 -1.1**
NOA pmax pmax
comp=Z,14nm,0.8s
NOA MLR MLR
comp=Z,66nm,21.2s
PLOR Plostina 78.16 316 ⇓ *i*P **P 05 47 11.7 +1.5**
BUR08 Bucovina Ar. S 78.22 318 *e*P **P 05 47 10.2 -0.3**
BURAR Bucovina Array 78.22 318 ⇑ *i*P **P 05 47 10.6 +0.1**
MLR Muntele Rosu 78.76 315 ⇓ *i*P **P 05 47 13.6 +0.1**
TRPA Tarpa 79.55 319 ⇓ *i*P **P 05 47 18.0 +0.2**
CRVS Cervenica-Dubn 79.79 320 *e*P **P 05 47 19.1 0.0**
CRVS pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CRVS Cervenica-Dubn 79.79 320 *e*P **P 05 47 19.1 0.0**
SUMG Summit 79.81 356 *e*P **P 05 47 19.0 +0.2**
comp=Z,25nm,0.8s,mb5.1
SUMG Summit 79.81 356 *i* P **P 05 47 19.0 +0.2**
SUMG pmax pmax
comp=Z,24nm,0.9s
SUMG Summit 79.81 356 *i* P **P 05 47 19.0 +0.2**
comp=Z,24nm,0.9s,mb5.0
SCO Scoresbysund 80.03 350 *i* P **P 05 47 19.8 -0.2**
SCO pmax pmax
comp=Z,11nm,1.1s,mb4.6
SCO Scoresbysund 80.03 350 *i* P **P 05 47 19.8 -0.2**
comp=Z,11nm,1.1s,mb4.6
OJC Ojcow 80.06 322 *e*P **P 05 47 20.6 +0.1**
OJC Ojcow 80.06 322 *e*P **P 05 47 20.5 0.0**
comp=Z,15nm,0.8s,mb4.9
OJC Ojcow 80.06 322 *e*P **P 05 47 20.6 +0.1**
NIE Niedzica 80.18 321 *e*P **P 05 47 21.8 +0.6**
NIE Niedzica 80.18 321 *e*P **P 05 47 21.8 +0.6**
KECS Kecovo 80.56 320 *e*P **P 05 47 23.1 -0.2**
KECS pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
KECS Kecovo 80.56 320 *e*P **P 05 47 23.1 -0.2**
GZR Gura Zlata 80.76 316 ⇑ *i*P **P 05 47 24.9 +0.5**
OKC Ostrava-Krasne 81.16 322 *e*P **P 05 47 26.4 0.0**
OKC Ostrava-Krasne 81.16 322 *e*P **P 05 47 26.4 0.0**
BZS Buzias 81.36 317 ⇓ *i*P **P 05 47 26.8 -0.7**
MORC Moravsky Berou 81.53 322 *e*P **P 05 47 28.3 -0.1**
comp=Z,34nm,1.8s,mb4.9
MORC Moravsky Berou 81.53 322 *e*P **P 05 47 28.3 0.0**
MORC pmax pmax
comp=Z,35nm,1.8s,mb4.9
MORC Moravsky Berou 81.53 322 ⇓ *i*P **P 05 47 28.0 -0.3**
A05A Maple Falls 81.61 39 ⇓P **P 05 47 28.3 -0.5**
baz=81
KSP Ksiaz 81.61 323 *e*P **P 05 47 28.5 -0.3**
KSP Ksiaz 81.61 323 *e*P **P 05 47 28.5 -0.3**
DPC Dobruska-Polom 81.87 323 *e*P **P 05 47 30.8 +0.6**
comp=Z,13nm,1.1s,mb4.7
DPC Dobruska-Polom 81.87 323 *e*P **P 05 47 30.8 +0.6**
DPC pmax pmax
comp=Z,13nm,1.1s,mb4.7
DPC Dobruska-Polom 81.87 323 *e*P **P 05 47 30.6 +0.4**
VTS Vitosha 81.88 314 ⇓ *i*P **P 05 47 30.9 +0.5**
UPC Upice 81.95 323 *e*P **P 05 47 30.6 0.0**
UPC Upice 81.95 323 *e*P **P 05 47 30.6 0.0**
E03A Lebam 82.06 41 ⇓P **P 05 47 31.5 +0.2**
baz=82
VRAC Vranov 82.30 322 ⇓ *i*P **P 05 47 32.9 +0.5**
BSEG Bad Segeberg 82.80 328 *e*P **P 05 47 35.0 +0.1**
comp=Z,76nm,1.1s,mb5.4
BSEG Bad Segeberg 82.80 328 *e*P **P 05 47 35.0 +0.1**
BSEG pmax pmax
comp=Z,76nm,1.1s,mb5.4
PKSM Moragy 82.82 319 ⇓ *i*P **P 05 47 36.1 +0.9**
BRG Berggiesshubel 82.83 324 *e*P **P 05 47 34.8 -0.3**
comp=Z,5.8nm,1.2s,mb4.3
BRG Berggiesshubel 82.83 324 *e*P **P 05 47 34.9 -0.2**
comp=Z,42nm,2.1s,mb4.9
LON Longmire 82.97 41 *e*P **P 05 47 36.3 +0.3**
comp=Z,5.9nm,1.1s,mb4.3
LON Longmire 82.97 41 *e*P **P 05 47 36.3 +0.3**
LON pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
PRU Pruhonice 83.02 323 *e*P **P 05 47 36.2 0.0**
PRU Pruhonice 83.02 323 *e*P **P 05 47 36.2 0.0**
CLL Collm 83.06 325 *e*P **P 05 47 35.9 -0.4**
comp=Z,24nm,1.1s,mb4.9
CLL Collm 83.06 325 ⇑ *i*P **P 05 47 35.7 -0.6**
CLL pmax pmax
comp=Z,24nm,1.1s,mb4.9
CLL Collm 83.06 325 ⇑ *i*P **P 05 47 35.7 -0.6**
comp=Z,24nm,1.1s,mb4.9
CLL *e* 05 47 45.0
CLL LmV 06 28 00.0
comp=Z,100nm,21.6s
ETW Entiat 83.35 39 *e*P **P 05 47 38.0 +0.1**
CONA Conrad Observa 83.47 321 ⇑ *i*P **P 05 47 38.8 +0.3**
comp=Z,16nm,1.1s,mb4.8
NRDL Niedersach Rie 83.78 327 *e*P **P 05 47 40.0 0.0**
comp=Z,24nm,1.0s,mb5.0
HOOD Mount Hood Mea 83.84 42 *e*P **P 05 47 41.1 +0.6**
comp=Z,15nm,1.0s,mb4.8
TANN Tannenbergstha 83.86 325 *e*P **P 05 47 40.2 -0.3**
comp=Z,11nm,1.0s,mb4.6
NKC Novy Kostel 83.98 324 *e*P **P 05 47 41.2 +0.2**
NKC Novy Kostel 83.98 324 *e*P **P 05 47 41.2 +0.2**
KHC Kasperske Hory 84.03 323 *e*P **P 05 47 41.5 +0.1**
comp=Z,17nm,1.3s,mb4.7
KHC Kasperske Hory 84.03 323 *e*P **P 05 47 41.4 +0.1**
KHC Kasperske Hory 84.03 323 *e*P **P 05 47 41.4 +0.1**
KHC *ex* x 05 49 55.0
CLZ Clausthal 84.06 326 *e*P **P 05 47 41.8 +0.4**
comp=Z,64nm,1.0s,mb5.4
CLZ Clausthal 84.06 326 *e*P **P 05 47 41.8 +0.4**
CLZ pmax pmax
comp=Z,64nm,1.0s,mb5.4
GEC2 GERESS Array S 84.13 323 *e*P **P 05 47 41.6 -0.3**
comp=Z,17nm,1.3s,mb4.7
GEC2 GERESS Array S 84.13 323 *e*P **P 05 47 41.6 -0.3**
GEC2 pmax pmax
comp=Z,17nm,1.3s,mb4.7
GERES GERESS Array B 84.13 323 P **P 05 47 41.4 -0.5**
comp=Z,5.6nm,0.9s,mb4.4,baz=58,slow=3.5,SNR=25
GERES LR LR 06 28 29.5
comp=Z,101nm,18.2s,baz=311,slow=38
GERES GERESS Array B 84.13 323 P **P 05 47 41.4 -0.5**
GERES GERESS Array B 84.13 323 P **P 05 47 41.4 -0.5**
GERES pmax pmax
comp=Z,6.0nm,0.9s
GERES MLR MLR
comp=Z,101nm,18.2s
MOX Moxa 84.16 325 *e*P **P 05 47 41.7 -0.3**
comp=Z,16nm,1.0s,mb4.8
MOX Moxa 84.16 325 *e*P **P 05 47 41.7 -0.3**
MOX pmax pmax
comp=Z,16nm,1.0s,mb4.8
OD2 Odessa Site #2 84.38 39 *e*P **P 05 47 43.0 -0.2**
ROTZ Rotzenmuhle 84.38 324 *e*P **P 05 47 43.4 +0.3**
comp=Z,34nm,1.1s,mb5.1
C09A Chrisman Ranch 84.38 38 ⇑P **P 05 47 43.4 +0.2**
baz=84
WET Wettzell 84.39 323 *e*P **P 05 47 42.6 -0.6**
comp=Z,24nm,1.5s,mb4.8
WET Wettzell 84.39 323 *e*P **P 05 47 42.6 -0.6**
WET pmax pmax
comp=Z,24nm,1.5s,mb4.8
RSW Rattlesnake Hi 84.44 40 *e*P **P 05 47 44.1 +0.6**
HAWA Hanford 84.48 40 *e*P **P 05 47 44.0 +0.3**
comp=Z,11nm,0.9s,mb4.7
HAWA *e*pP pP 05 48 02.5 +0.7
G06A Carlson Farm, 84.49 41 ⇓P **P 05 47 43.7 -0.1**
baz=84
HUMO Hull Mountain 84.52 45 *e*P **P 05 47 44.6 +0.7**
comp=Z,12nm,1.4s,mb4.6
NEW Newport 84.74 38 ⇓P **P 05 47 44.9 0.0**
baz=84
NEW Newport 84.74 38 *e*P **P 05 47 45.1 +0.1**
comp=Z,12nm,0.8s,mb4.9
NEW *e*pP pP 05 48 03.1 0.0
NEW Newport 84.74 38 *e*P **P 05 47 45.1 +0.1**
NEW *e**PP pP 05 48 03.1 0.0
NEW pmax pmax
comp=Z,12nm,0.8s
GRF Grafenberg Arr 84.94 324 *e*P **P 05 47 45.9 0.0**
comp=Z,37nm,1.1s,mb5.2
GRF *e*L 06 29 43.9
comp=Z,157nm,19.4s
GRF Grafenberg Arr 84.94 324 *e*P **P 05 47 45.9 0.0**
GRF pmax pmax
comp=Z,37nm,1.1s,mb5.2
GRF MLR MLR
comp=Z,200nm,19.4s
GRFO Grafenberg 84.94 324 *e*P **P 05 47 46.2 +0.3**
comp=Z,24nm,1.0s,mb5.1
GRFO *e*pP pP 05 47 58.4 -5.7
GRFO Grafenberg 84.94 324 *e*P **P 05 47 46.2 +0.3**
GRFO *e**PP pP 05 47 58.4 -5.6
GRFO pmax pmax
comp=Z,24nm,1.0s,mb5.1
IBBN Ibbenburen 85.02 328 *e*P **P 05 47 45.9 -0.4**
comp=Z,51nm,0.9s,mb5.5
A12A Yaak River Ran 85.13 36 ⇑P **P 05 47 47.2 +0.3**
baz=85
YBH Yreka Blue Hor 85.14 45 *e*P **P 05 47 47.8 +0.7**
comp=Z,11nm,1.1s,mb4.7
YBH Yreka Blue Hor 85.14 45 *e*P **P 05 47 47.8 +0.7**
YBH pmax pmax
comp=Z,11nm,1.1s
E09A Wood Farm, Sta 85.20 39 ⇑P **P 05 47 47.3 0.0**
baz=85
B12A Libby 85.44 37 ⇓P **P 05 47 48.8 +0.3**
baz=85
C11A Tepee Creek (N 85.46 38 ⇓P **P 05 47 48.7 +0.2**
baz=85
K05A Summer Lake 85.73 44 ⇑P **P 05 47 50.5 +0.5**
baz=86,SNR=5.4
A13A Flathead Natio 85.78 36 ⇑P **P 05 47 50.8 +0.7**
baz=86
I07A Izee 85.80 42 ⇑P **P 05 47 50.6 +0.3**
baz=86
SFJD Kangerlussuaq 85.85 359 *e*P **P 05 47 49.2 -0.9**
comp=Z,359nm,2.4s,mb5.9
SFJD Kangerlussuaq 85.85 359 *e*P **P 05 47 49.2 -0.9**
SFJD pmax pmax
comp=Z,359nm,2.4s,mb5.9
SFJD Kangerlussuaq 85.85 359 *i* P **P 05 47 49.0 -1.1**
comp=Z,22nm,0.9s,mb5.1
WDC Whiskeytown Da 85.87 46 *e*P **P 05 47 51.0 +0.2**
comp=Z,8.5nm,1.0s,mb4.6
WDC Whiskeytown Da 85.87 46 *e*P **P 05 47 51.0 +0.2**
WDC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
C12B Naegeli Ranch, 85.96 37 ⇓P **P 05 47 51.5 +0.4**
baz=86
F10A Beach Ranch, E 86.03 39 ⇑P **P 05 47 51.6 +0.2**
baz=86
B13A Whitefish 86.09 36 ⇓P **P 05 47 52.0 +0.3**
baz=86
WTTA Wattenberg 86.18 322 ⇑ *i*P **P 05 47 51.3 -0.8**
comp=Z,26nm,1.1s,mb5.1
BSMT Bassoo Peak 86.25 37 *e*P **P 05 47 53.2 +0.8**
A14A Double T Ranch 86.27 35 ⇑P **P 05 47 52.8 +0.3**
baz=86,SNR=15
MOTA Moosalm 86.42 323 ⇑ *i*P **P 05 47 52.9 -0.5**
comp=Z,9.4nm,0.7s,mb4.8
D12A Red Ives Fores 86.42 38 ⇓P **P 05 47 53.0 -0.3**
baz=86
C13A Hot Springs 86.46 37 ⇓P **P 05 47 54.0 +0.5**
baz=86
MOD Modoc 86.55 44 *e*P **P 05 47 54.3 +0.2**
comp=Z,14nm,1.0s,mb4.8
A15A Johnson Ranch, 86.62 35 ⇓P **P 05 47 53.9 -0.3**
baz=86,SNR=6.7
BMO Blue Mountains 86.64 40 *e*P **P 05 47 54.6 +0.2**
comp=Z,5.4nm,0.9s,mb4.5
BMO Blue Mountains 86.64 40 *e*P **P 05 47 54.6 +0.1**
BMO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
E12A Beaver Dam Sad 86.69 38 ⇓P **P 05 47 54.9 +0.3**
baz=86,SNR=16
B14A Marquette Ranc 86.73 36 ⇓P **P 05 47 55.5 +0.7**
baz=86,SNR=5.6
FETA Feichten 86.82 322 ⇑ *i*P **P 05 47 54.5 -0.8**
comp=Z,8.5nm,1.0s,mb4.6
J08A Circle Bar Ran 86.83 42 ⇑P **P 05 47 55.8 +0.4**
baz=87,SNR=8.6
SWMT Swartz Lake 86.88 37 *e*P **P 05 47 55.7 +0.1**
D13A Huson 86.88 37 ⇓P **P 05 47 55.2 -0.4**
baz=87
DAVA Damuels 87.12 323 ⇓ *i*PcP **P 05 47 56.4 -0.3**
comp=Z,11nm,0.6s,mb4.9
B15A Bradely Ranch, 87.13 36 ⇓P **P 05 47 56.5 -0.2**
baz=87,SNR=5.2
A16A West Butte Ran 87.22 35 ⇑P **P 05 47 57.1 -0.1**
baz=87
OHCM Honcut 87.23 47 *e*P **P 05 47 57.2 -0.3**
BFO Black Forest 87.28 325 *e*P **P 05 47 56.8 -0.7**
BFO Black Forest 87.28 325 *e*P **P 05 47 56.8 -0.7**
SLMT Seeley Lake 87.31 37 *e*P **P 05 47 57.7 +0.1**
FUORN Ofenpass-Fuorn 87.32 322 *e*P **P 05 47 57.8 0.0**
comp=Z,19nm,0.8s,mb5.1
MSO Missoula 87.33 37 ⇑P **P 05 47 57.4 -0.4**
baz=87
MSO Missoula 87.33 37 *e*P **P 05 47 57.5 -0.2**
comp=Z,3.2nm,0.9s,mb4.2
MSO *e*pP pP 05 48 16.5 +0.6
D14A Greenough 87.40 37 ⇓P **P 05 47 57.4 -0.7**
baz=87,SNR=7.6
E13A Victor 87.43 38 ⇑P **P 05 47 57.6 -0.6**
baz=87
C15A Salmond Ranch, 87.44 36 ⇑P **P 05 47 58.5 +0.3**
baz=87,SNR=7.0
FFC Flin Flon 87.58 26 *e*P **P 05 47 58.1 -0.6**
comp=Z,24nm,0.8s,mb5.3
FFC Flin Flon 87.58 26 P **P 05 47 58.2 -0.6**
comp=Z,177nm,0.8s,SNR=9.9
FFC Flin Flon 87.58 26 *ce*P **P 05 47 58.3 -0.5**
G12A Big Creek, Yel 87.61 39 ⇓P **P 05 47 58.9 -0.3**
baz=87,SNR=9.7
A17A Triple J Farms 87.67 34 ⇓P **P 05 47 59.2 -0.1**
baz=87,SNR=6.8
F13A Darby 87.76 38 ⇓P **P 05 47 58.8 -1.0**
baz=88
CDF Champ du Feu 87.76 325 *e*P **P 05 47 58.5 -1.3**
comp=Z,24nm,1.1s,mb4.8
CDF Champ du Feu 87.76 325 *e*P **P 05 47 58.5 -1.3**
comp=Z,24nm,1.1s,mb5.1
CDF Champ du Feu 87.76 325 *e*P **P 05 47 58.5 -1.3**
CDF pmax pmax
comp=Z,24nm,1.1s,mb5.1
E14A Clinton 87.83 37 ⇑P **P 05 47 59.6 -0.5**
baz=88
GIVF Givet 87.86 327 *e*P **P 05 47 58.9 -1.3**
comp=Z,22nm,0.9s,mb4.9
GIVF Givet 87.86 327 *e*P **P 05 47 58.9 -1.3**
comp=Z,22nm,0.9s,mb5.2
GIVF Givet 87.86 327 *e*P **P 05 47 58.9 -1.3**
GIVF pmax pmax
comp=Z,22nm,0.9s,mb5.2
C16A Fuhringer Ranc 87.88 36 ⇓P **P 05 48 00.1 -0.2**
baz=88,SNR=7.3
TUE Stuetta 87.91 323 *e*P **P 05 48 00.1 -0.4**
comp=Z,14nm,0.9s,mb5.0
B17A L&G Farms, Che 88.05 35 ⇓P **P 05 48 01.4 +0.2**
baz=88,SNR=12
A18A Metzger Ranch, 88.11 34 ⇑P **P 05 48 01.4 0.0**
baz=88,SNR=11
H12A Diamond D Ranc 88.22 40 ⇓P **P 05 48 02.3 +0.2**
baz=88,SNR=12
G13A Cobalt 88.24 39 ⇓P **P 05 48 01.7 -0.4**
baz=88
F14A Wisdom 88.27 38 ⇓P **P 05 48 02.7 +0.5**
baz=88,SNR=5.9
E15A Deer Lodge 88.28 37 ⇑P **P 05 48 02.6 +0.4**
baz=88,SNR=6.8
MFID Camas Ranch 88.36 41 ⇑P **P 05 48 02.9 +0.2**
baz=88
WCN Washoe City 88.36 46 ⇑P **P 05 48 03.0 +0.2**
baz=88
HINF Hinteralfeld 88.36 325 *e*P **P 05 48 00.8 -1.8**
comp=Z,26nm,1.3s,mb4.8
HINF Hinteralfeld 88.36 325 *e*P **P 05 48 00.8 -1.8**
comp=Z,26nm,1.3s,mb5.1
HINF Hinteralfeld 88.36 325 *e*P **P 05 48 00.8 -1.8**
HINF pmax pmax
comp=Z,26nm,1.3s,mb5.1
PAGF Fort de Pagny 88.45 326 *e*P **P 05 48 01.9 -1.1**
D16A Dana Ranch, Ca 88.47 36 ⇑P **P 05 48 03.4 +0.2**
baz=88,SNR=8.3
C17A Wharram Farm, 88.49 35 ⇓P **P 05 48 02.9 -0.4**
baz=88
B18A Beardsley Farm 88.49 34 ⇓P **P 05 48 03.0 -0.3**
baz=88,SNR=8.1
HAU Haudompre 88.50 325 *e*P **P 05 48 01.5 -1.8**
comp=Z,13nm,1.0s,mb4.6
HAU *e*R
comp=Z,132nm,21.0s
HAU Haudompre 88.50 325 *e*P **P 05 48 01.5 -1.8**
HAU Haudompre 88.50 325 *e*P **P 05 48 01.5 -1.8**
I12A Atlanta 88.53 40 ⇓P **P 05 48 03.8 +0.3**
baz=88
HRY Holter Researc 88.53 37 *e*P **P 05 48 04.0 +0.6**
H13A Challis 88.55 39 ⇑P **P 05 48 03.6 0.0**
baz=88,SNR=7.8
A19A Klindworth Far 88.65 33 ⇑P **P 05 48 04.1 +0.1**
baz=88,SNR=7.9
CMB Columbia Colle 88.67 47 *e*P **P 05 48 04.3 0.0**
comp=Z,8.4nm,1.1s,mb4.7
CMB Columbia Colle 88.67 47 *e*P **P 05 48 04.3 0.0**
CMB pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
E16A East Helena 88.72 37 ⇑P **P 05 48 04.9 +0.5**
baz=88
F15A Butte 88.73 38 ⇓P **P 05 48 04.8 +0.3**
baz=88
EGMT Eagleton 88.75 35 ⇑P **P 05 48 04.3 -0.1**
baz=88,SNR=6.4
EGMT Eagleton 88.75 35 *e*P **P 05 48 04.7 +0.2**
comp=Z,12nm,0.8s,mb5.0
D17A Six Diamond Ra 88.84 36 ⇑P **P 05 48 04.8 -0.1**
baz=89,SNR=7.3
B19A Brinkman Farms 88.87 34 ⇑P **P 05 48 05.0 0.0**
baz=89,SNR=7.7
DLMT Dillon 88.97 38 *e*P **P 05 48 05.9 +0.3**
comp=Z,12nm,0.8s,mb5.0
DLMT *e*pP pP 05 48 24.4 +0.6
H14A Leadore 89.02 39 ⇑P **P 05 48 05.9 +0.1**
baz=89
SFTF Sexfontaines 89.03 326 *e*P **P 05 48 04.2 -1.6**
SFTF Sexfontaines 89.03 326 *e*P **P 05 48 04.2 -1.6**
I13A Wildhorse Cree 89.03 40 ⇑P **P 05 48 06.8 +1.0**
baz=89,SNR=13
HLID Hailey 89.08 40 ⇑P **P 05 48 06.8 +0.7**
baz=89,SNR=16
HLID Hailey 89.08 40 *e*P **P 05 48 06.9 +0.8**
comp=Z,8.9nm,0.9s,mb4.8
A20A Cobblestone Ra 89.08 33 ⇓P **P 05 48 05.5 -0.5**
baz=89,SNR=5.5
G15A Dillon 89.16 38 ⇑P **P 05 48 06.5 +0.1**
baz=89,SNR=18
E17A Martinsdale 89.20 36 ⇑P **P 05 48 07.1 +0.5**
baz=89,SNR=8.2
F16A Kennard Place, 89.23 37 ⇑P **P 05 48 07.4 +0.6**
baz=89,SNR=6.2
D18A Linhart Farms, 89.27 35 ⇑P **P 05 48 07.4 +0.5**
baz=89
C19A Slack Wire Ran 89.30 35 ⇓P **P 05 48 07.4 +0.3**
baz=89,SNR=5.9
BOZ Bozeman (W) 89.32 37 ⇑P **P 05 48 07.5 +0.3**
baz=89
BOZ Bozeman (W) 89.32 37 *e*P **P 05 48 07.8 +0.6**
comp=Z,3.4nm,0.9s,mb4.4
BOZ Bozeman (W) 89.32 37 *e*P **P 05 48 07.8 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
J13A Cove Ranch, Pi 89.32 40 ⇑P **P 05 48 08.2 +0.9**
baz=89,SNR=10
B20A Solberg Farm, 89.34 34 ⇓P **P 05 48 07.2 0.0**
baz=89
I14A Mackay 89.40 39 ⇓P **P 05 48 08.4 +0.8**
baz=89,SNR=15
H15A Lima 89.42 39 ⇓P **P 05 48 07.9 +0.2**
baz=89
A21A Bergtoll Ranch 89.49 33 ⇓P **P 05 48 08.1 +0.2**
baz=89,SNR=10
G16A Moss Hill, Enn 89.49 38 ⇑P **P 05 48 08.2 +0.2**
baz=89,SNR=6.1
E18A Harlowton 89.63 36 ⇑P **P 05 48 09.4 +0.8**
baz=89,SNR=8.1
F17A Fitzpatrick Pl 89.67 37 ⇑P **P 05 48 09.3 +0.5**
baz=89
J14A Carey 89.74 40 ⇑P **P 05 48 10.2 +0.9**
baz=90,SNR=5.5
NVAR Mina Array Bea 89.79 46 P **P 05 48 09.7 +0.2**
comp=Z,1.2nm,0.8s,mb4.1,baz=298,slow=4.6,SNR=11
NVAR Mina Array Bea 89.79 46 P **P 05 48 09.7 +0.2**
B21A Ellsworth Farm 89.83 33 ⇑P **P 05 48 09.6 +0.1**
baz=90
C20A Veseth Ranch, 89.83 34 ⇓P **P 05 48 09.9 +0.3**
baz=90,SNR=9.4
LPG La Plagne 89.92 323 *e*P **P 05 48 08.2 -1.8**
LPG La Plagne 89.92 323 *e*P **P 05 48 08.2 -1.8**
LPG La Plagne 89.92 323 *e*P **P 05 48 08.2 -1.8**
A22A Carney Farms, 89.97 32 ⇓P **P 05 48 10.1 0.0**
baz=90,SNR=13
G17A Pierce Place, 90.01 37 ⇓P **P 05 48 11.5 +1.1**
baz=90
H16A Russell Place, 90.13 38 ⇑P **P 05 48 12.1 +1.1**
baz=90
F18A Big Timber 90.17 36 ⇑P **P 05 48 11.6 +0.4**
baz=90
D20A Manuel Ranch, 90.19 35 ⇑P **P 05 48 11.7 +0.4**
baz=90,SNR=6.6
C21A Desert Coulee 90.21 34 ⇑P **P 05 48 11.7 +0.4**
baz=90
E19A Rath Farm, Rou 90.28 35 ⇑P **P 05 48 12.0 +0.3**
baz=90,SNR=7.3
K14A Jones Ranch, D 90.42 40 ⇑P **P 05 48 13.3 +0.9**
baz=90,SNR=5.6
A23A Redstone 90.48 32 ⇑P **P 05 48 12.7 +0.2**
baz=90
YFT Old Faithful 90.52 38 *e*P **P 05 48 16.1 +3.2**
comp=Z,15nm,1.1s,mb5.0
E20A Meyer Farm, Mu 90.59 35 ⇓P **P 05 48 13.3 +0.2**
baz=90,SNR=5.3
F19A Roth Farm, Mol 90.61 36 ⇑P **P 05 48 13.4 +0.2**
baz=90
SMF Signal de Mont 90.68 325 *e*P **P 05 48 11.6 -1.9**
SMF Signal de Mont 90.68 325 *e*P **P 05 48 11.6 -1.9**
SMF Signal de Mont 90.68 325 *e*P **P 05 48 11.6 -1.9**
B23A Brockton 90.78 32 ⇓P **P 05 48 14.0 +0.1**
baz=90,SNR=5.5
D21A La Casta Ranch 90.78 34 ⇓P **P 05 48 14.3 +0.3**

baz=90,SNR=12
IMW Indian Meadow 90.82 38 *e*P **P 05 48 15.8 +1.5**
comp=Z,7.5nm,1.1s,mb4.7
AVF Avril sur Loir 90.82 326 *e*P **P 05 48 12.2 -2.0**
AVF Avril sur Loir 90.82 326 *e*P **P 05 48 12.2 -2.0**
AVF Avril sur Loir 90.82 326 *e*P **P 05 48 12.2 -2.0**
FLWY Flagg Ranch 90.83 38 *e*P **P 05 48 16.0 +1.7**
comp=Z,15nm,1.3s,mb5.0
J16A Bone 90.85 39 ⇑P **P 05 48 14.9 +0.5**
baz=91
A24A Westby 90.92 31 ⇓P **P 05 48 14.6 +0.1**
baz=91
RLMT Red Lodge 90.92 37 ⇓P **P 05 48 15.3 +0.7**
baz=91,SNR=5.2
RLMT Red Lodge 90.92 37 *e*P **P 05 48 15.6 +0.9**
comp=Z,6.1nm,0.8s,mb4.8
RLMT *e*pP pP 05 48 34.5 +1.5
RRI2 Red Ridge 90.97 39 *e*P **P 05 48 16.0 +1.1**
comp=Z,91nm,2.8s,mb5.4
H18A Shoshone NF, C 91.00 37 ⇑P **P 05 48 15.7 +0.7**
baz=91
I17A Pilgrim Ck. 91.01 38 ⇓P **P 05 48 15.9 +0.8**
baz=91
TPAW Teton Pass 91.08 39 *e*P **P 05 48 16.8 +1.3**
comp=Z,3.2nm,0.8s,mb4.5
D22A Cohagen 91.12 34 ⇑P **P 05 48 15.9 +0.3**
baz=91,SNR=6.8
K16A Soda Springs 91.15 39 ⇑P **P 05 48 16.9 +1.2**
baz=91
DGMT Dagmar 91.15 32 ⇑P **P 05 48 16.1 +0.4**
baz=91
DGMT Dagmar 91.15 32 *e*P **P 05 48 15.9 +0.2**
comp=Z,18nm,0.8s,mb5.2
DGMT *e*pP pP 05 48 34.3 +0.4
C23A Lambert 91.15 33 ⇑P **P 05 48 16.2 +0.5**
baz=91
LOHW Long Hollow 91.19 38 *e*P **P 05 48 16.9 +0.9**
comp=Z,7.5nm,1.6s,mb4.6
SNOW Snow King Moun 91.20 39 *e*P **P 05 48 17.3 +1.3**
comp=Z,53nm,2.5s,mb5.2
L15A Malad City 91.22 40 ⇓P **P 05 48 16.5 +0.4**
baz=91
LDF La Druitiere 91.24 329 *e*P **P 05 48 14.3 -1.8**
comp=Z,11nm,1.1s,mb4.6
LDF La Druitiere 91.24 329 *e*P **P 05 48 14.3 -1.8**
comp=Z,11nm,1.1s,mb4.9
LDF La Druitiere 91.24 329 *e*P **P 05 48 14.3 -1.8**
LDF pmax pmax
comp=Z,11nm,1.1s,mb4.9
ISA Isabella 91.28 48 ⇓P **P 05 48 17.3 +0.8**
baz=91
J17A Brown Place, J 91.29 39 ⇓P **P 05 48 17.0 +0.5**
baz=91
G20A Bridger 91.41 36 ⇓P **P 05 48 16.5 -0.5**
baz=91
LAO LASA Array 91.42 34 ⇑P **P 05 48 17.4 +0.4**
baz=91,SNR=8.1
M15A Larsen Ranch, 91.53 41 ⇓P **P 05 48 18.1 +0.5**
baz=91,SNR=6.3
R11A Troy Canyon, C 91.56 45 ⇑P **P 05 48 18.2 +0.4**
baz=91,SNR=5.9
I18A Diamond G Ranc 91.56 38 ⇓P **P 05 48 18.7 +1.0**
baz=91
D23A Lindsay 91.58 33 ⇓P **P 05 48 18.1 +0.4**
baz=91
MPMC Manual Prospec 91.70 48 ⇓P **P 05 48 18.5 0.0**
baz=92
GRR Gorron 91.73 329 *e*P **P 05 48 16.9 -1.4**
GRR Gorron 91.73 329 *e*P **P 05 48 16.9 -1.4**
GRR Gorron 91.73 329 *e*P **P 05 48 16.9 -1.4**
L16A Fish Haven 91.76 40 ⇑P **P 05 48 19.3 +0.6**
baz=92
J18A Kendall Valley 91.78 38 ⇓P **P 05 48 19.4 +0.8**
baz=92,SNR=8.3
FURC Furnace Creek, 91.87 47 ⇓P **P 05 48 19.5 +0.3**
baz=92,SNR=6.0
LRMC Laurel Mountai 91.91 48 ⇓P **P 05 48 20.0 +0.5**
baz=92
HWUT Hardware Ranch 91.95 40 *e*P **P 05 48 20.4 +0.9**
comp=Z,12nm,1.1s,mb5.0
HWUT *e*pP pP 05 48 39.0 +1.2
H20A Greybull 92.02 36 ⇓P **P 05 48 20.1 +0.4**
baz=92
L17A Cokeville 92.02 40 ⇓P **P 05 48 19.9 0.0**
baz=92
F22A Rosebud 92.03 35 ⇑P **P 05 48 20.2 +0.4**
baz=92
D24A Glendive 92.05 33 ⇑P **P 05 48 20.2 +0.4**
baz=92
EDW2 Edwards Air Fo 92.06 49 ⇑P **P 05 48 20.3 +0.1**
baz=92
M16A Huntsville 92.10 41 ⇓P **P 05 48 20.2 0.0**
baz=92
DUG Dugway 92.11 42 ⇓P **P 05 48 20.9 +0.6**
baz=92,SNR=6.1
DUG Dugway 92.11 42 *e*P **P 05 48 21.2 +0.9**
comp=Z,6.2nm,1.0s,mb4.8
DUG *e*pP pP 05 48 39.7 +1.1
DUG Dugway 92.11 42 *e*P **P 05 48 21.2 +0.9**
DUG *e**PP pP 05 48 39.7 +1.1
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
J19A Crowheart 92.27 38 ⇓P **P 05 48 21.2 +0.3**
baz=92
BW06 Boulder Array 92.32 38 ⇑P **P 05 48 21.1 -0.1**
baz=92
PDAR Pinedale Array 92.32 38 P **P 05 48 21.1 -0.2**
comp=Z,3.1nm,0.8s,mb4.6,baz=316,slow=0.7,SNR=23
PDAR Pinedale Array 92.32 38 P **P 05 48 21.1 -0.2**
G22A Birney 92.40 35 ⇑P **P 05 48 21.8 +0.3**
baz=92
F23A Volborg 92.50 34 ⇑P **P 05 48 22.1 +0.1**
baz=92
M17A Scullys Gap (B 92.55 40 ⇑P **P 05 48 22.8 +0.5**
baz=92
SHOC Shoshone 92.58 47 ⇓P **P 05 48 22.8 +0.3**
baz=92
GSC Goldstone 92.59 48 ⇓P **P 05 48 23.1 +0.5**
baz=92,SNR=6.7
GSC Goldstone 92.59 48 *e*P **P 05 48 23.0 +0.4**
comp=Z,8.7nm,1.0s,mb5.0
GSC Goldstone 92.59 48 *e*P **P 05 48 23.0 +0.4**
GSC pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
L18A Fontenelle, Gr 92.61 39 ⇑P **P 05 48 23.0 +0.5**
baz=92
BFSC Mount Baldy Ra 92.65 49 ⇑P **P 05 48 23.5 +0.6**
baz=92
N17A Moffit Pass 92.80 40 ⇑P **P 05 48 23.9 +0.5**
baz=93
G23A Biddle 92.87 35 ⇑P **P 05 48 23.4 -0.3**
baz=93
L19A Farson 92.87 39 ⇓P **P 05 48 23.9 +0.1**
baz=93
K20A Yellowstone Ra 93.06 38 ⇓P **P 05 48 24.7 +0.1**
baz=93
J21A Lysite 93.08 37 ⇓P **P 05 48 24.9 +0.2**
baz=93
TUQ Turquoise Moun 93.09 47 ⇓P **P 05 48 25.0 +0.1**
baz=93,SNR=6.4
HEC Hector,Ludlow 93.19 48 ⇑P **P 05 48 25.3 0.0**
baz=93
I22A 9 Mile Ranch, 93.22 36 ⇓P **P 05 48 25.2 -0.1**
baz=93
O17A Robinson Place 93.33 41 ⇑P **P 05 48 26.0 +0.1**
baz=93
ULM Lac du Bonnet 93.41 26 P **P 05 48 25.1 -0.9**
comp=Z,8.9nm,0.8s,mb5.1,baz=329,slow=3.7,SNR=12
ULM LR LR 06 32 50.8
comp=Z,92nm,19.1s,baz=265,slow=37
ULM Lac du Bonnet 93.41 26 *e*P **P 05 48 25.2 -0.8**
ULM Lac du Bonnet 93.41 26 *e*P **P 05 48 25.3 -0.8**
N18A Larsen Ranch, 93.44 40 ⇓P **P 05 48 26.2 -0.2**
baz=93
J22A Midwest 93.55 36 ⇑P **P 05 48 26.7 -0.2**
baz=93
H24A Dirks Ranch, A 93.62 35 ⇓P **P 05 48 27.0 -0.2**
baz=93
GMRC Granite Mounta 93.66 48 ⇑P **P 05 48 27.7 +0.2**
baz=93
K21A Alcova 93.67 37 ⇓P **P 05 48 27.4 0.0**
baz=93
O18A Roosevelt 93.71 41 ⇓P **P 05 48 28.0 +0.3**
baz=94
N19A John Jarvie Ra 93.78 40 ⇑P **P 05 48 28.0 +0.1**
baz=94
PFO Pinyon Flat Ob 93.83 49 ⇑P **P 05 48 28.4 +0.1**
baz=94,SNR=5.7
PFO Pinyon Flat Ob 93.83 49 *e*P **P 05 48 28.4 0.0**
comp=Z,7.6nm,0.9s,mb5.0
PFO Pinyon Flat Ob 93.83 49 *e*P **P 05 48 28.4 +0.1**
PFO pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
BELC Belle Mtn. Jos 93.90 48 ⇓P **P 05 48 28.7 +0.1**
baz=94
P18A Preston Nutter 93.99 41 ⇑P **P 05 48 29.4 +0.4**
baz=94
K22A Casper 94.05 37 ⇓P **P 05 48 28.8 -0.4**
baz=94
R16A Teasdale 94.12 43 ⇑P **P 05 48 30.2 +0.6**
baz=94
MONP Monument Peak 94.28 50 ⇓P **P 05 48 30.7 +0.3**
baz=94
RSSD Black Hills 94.32 35 *e*P **P 05 48 30.6 +0.2**
comp=Z,55nm,2.6s,mb5.4
RSSD Black Hills 94.32 35 *e*P **P 05 48 30.6 +0.2**
RSSD pmax pmax
comp=Z,55nm,2.6s,mb5.4
N20A Spence Gulch, 94.33 39 ⇓P **P 05 48 30.9 +0.4**
baz=94
IRM Iron Mountain 94.37 48 ⇓P **P 05 48 31.1 +0.3**
baz=94
BC3 Big Chuckawall 94.47 48 ⇑P **P 05 48 32.0 +0.7**
baz=94
R17A Hanksville Air 94.50 42 ⇑P **P 05 48 31.6 +0.3**
baz=94
W13A Hualapai Mount 94.62 47 ⇓P **P 05 48 32.1 +0.2**
baz=94
DVTC Desert V Tower 94.63 50 ⇓P **P 05 48 32.5 +0.4**
baz=94
P19A Cripple Cowboy 94.72 41 ⇓P **P 05 48 32.7 +0.4**
baz=94
N21A Black Mountain 94.80 39 ⇑P **P 05 48 32.8 +0.2**
baz=95
U15A North Rim 94.80 45 ⇓P **P 05 48 33.8 +1.0**
baz=95
O20A White River Ci 94.81 40 ⇓P **P 05 48 33.0 +0.3**
baz=95
L23A Garrett 94.86 37 ⇓P **P 05 48 32.8 -0.1**
baz=95
S17A Black Ridge (B 94.95 43 ⇑P **P 05 48 33.7 +0.3**
baz=95
R18A Canyonlands Na 95.01 42 ⇑P **P 05 48 33.4 -0.2**
baz=95
GLA Glamis 95.25 49 ⇓P **P 05 48 35.0 +0.2**
baz=95
R19A Curley Farm, L 95.45 42 ⇓P **P 05 48 35.5 -0.1**
baz=95
Q20A Ridgley Place, 95.57 41 ⇓P **P 05 48 36.2 0.0**
baz=95
WUAZ Wupatki 95.96 45 ⇑P **P 05 48 38.2 +0.1**
baz=96
P22A Eagle 96.02 39 ⇓P **P 05 48 38.3 +0.1**
baz=96
R20A Redvale 96.03 41 ⇓P **P 05 48 38.2 -0.1**
baz=96
V17A Tonalea, Kykot 96.25 45 ⇑P **P 05 48 39.4 0.0**
baz=96
U18A Rough Rock, Ch 96.31 43 ⇑P **P 05 48 40.1 +0.5**
baz=96
Q22A Crested Butte, 96.43 40 ⇑P **P 05 48 40.5 +0.3**
baz=96
V18A Ganado 96.73 44 ⇓P **P 05 48 41.9 +0.3**
baz=96
Y17A Roosevelt 97.46 46 ⇑P **P 05 48 45.4 +0.6**
baz=97
R23A Moffat 97.51 40 ⇑P **P 05 48 45.7 +0.7**
baz=97
TXAR Lajitas Array 104.92 45 Pdiff Pdif 05 49 17.7 -0.1
comp=Z,0.4nm,0.8s,baz=318,slow=1.7,SNR=4.0
TXAR Lajitas Array 104.92 45 Pdif Pdif 05 49 17.7 -0.1
TXAR Lajitas Array 104.92 45 P Pdif 05 49 17.7 -0.1
TORD Torodi Ar. Bea 114.17 301 PKP PKiKP 05 53 48.9 -1.8
comp=Z,0.2nm,0.4s,baz=21,slow=5.5,SNR=3.7
TORD Torodi Ar. Bea 114.17 301 PKP PKiKP 05 53 48.9 -1.8
DBIC Dimbokro 123.23 300 PKP PKPdf 05 54 07.4 -0.8
comp=Z,2.7nm,0.9s,baz=56,slow=7.3,SNR=3.3
DBIC Dimbokro 123.23 300 PKP PKPdf 05 54 07.4 -0.8
DBIC Dimbokro 123.23 300 PKIKP PKPdf 05 54 07.4 -0.8
DBIC pmax pmax
comp=Z,3.0nm,0.9s
SNAA Sanae 128.24 198 *e* PKPdf 05 54 08.6 -7.4
VNA2 Neumayer--Watz 129.88 197 *e* PKPdf 05 54 16.0 -3.1
baz=42,slow=1.9
VNA3 Neumayer Olymp 130.28 197 *e* PKPdf 05 54 20.4 +0.5

THR ***11*** *05:42:07.3±0.7,26°.84N×55°.82E,h6km±5km,ML4.1*
NEIC ***11*** *05:42:07.6,26°.85N×55°.82E,h7km,mb3.9/1,ML3.9(THR), After THR.*
ISCJB ***11*** *05:42:11.9±0.9,27°.04N±0°.04×55°.72E±0°.06,h10km±8km, mb3.9/8,MS3.9/3,Error ellipse: s-maj=9.0km s-min=5.5km az=22.8*
TEH ***11*** *05:42:12.5,26°.94N×55°.63E,h26km*
IDC ***11*** *05:42:12.4±2.7,27°.34N×55°.95E,h0km,mb3.9/6, mb1 4.0/8,mb1mx3.8/26,mbtmp3.9/8,ML3.9/2,MS3.7/4, Ms1 3.7/4,ms1mx3.0/36,Error ellipse: s-maj=58.9km s-min=28.2km az=154.0*
CSEM ***11*** *05:42:14.3±0.7,27°.09N×55°.71E,h10km,mb3.9/1,Error ellipse: s-maj=17.7km s-min=9.3km az=154.0*
ISC 11 05:42:13.8±0.9,27°.01N±0°.04×55°.82E±0°.06,h16km±7km, n78,σ1°29/83,mb3.9/8,MS3.9/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.50**	**38**	*e*Pg		**Pg**		**05 42 19.0**	**-4.7**
BNDS				*e*Sg		**Sg**		**05 42 29.0**	**-1.5**
BNDS	**Bandar-Abbas**	**0.50**	**38**	*e*Pg		**Pg**		**05 42 19.7**	**-4.1**
BNDS				*e*Sg		**Sg**		**05 42 29.5**	**-1.0**
BNDS				AML		AML		05 42 34.5	
	comp=N,26μm,0.7s								
BNDS	**Bandar-Abbas**	**0.50**	**38**	*e*Pg		**Pg**		**05 42 19.7**	**-4.0**
BNDS				*e*Sg		**Sg**		**05 42 29.5**	**-1.0**
NAZ	**Nazwa, Dubai**	**2.02**	**184**	P		**Pg**		**05 42 55.1**	**+2.6**
	SNR=9.3								
HATD	**Hatta, Dubai**	**2.19**	**173**	P		**Pn**		**05 42 48.0**	**-1.6**
	SNR=35								
ASHO	**Ashiyiah**	**2.32**	**175**	P		**Pn**		**05 42 50.5**	**-0.9**
	SNR=26								
ASUD	**Al Ashush, Dub**	**2.41**	**191**	P		**Pg**		**05 43 00.5**	**+0.4**
	SNR=7.6								
KRBR	**Kerman**	**3.08**	**15**	*e*Pn		**Pn**		**05 43 01.0**	**-0.8**
KRBR				Sn		**Sn**		**05 43 40.0**	**+1.7**
KRBR	**Kerman**	**3.08**	**15**	*e*Pn		**Pn**		**05 43 01.3**	**-0.5**
KRBR				Sn		**Sn**		**05 43 40.0**	**+1.7**
KRBR				AML		AML		05 43 54.6	
	comp=E,302nm,0.6s								
KRBR				AML		AML		05 43 59.3	
	comp=N,344nm,0.6s								
KRBR	**Kerman**	**3.08**	**15**	*e*Pn		**Pn**		**05 43 01.3**	**-0.5**
ISRV	**Sarvestan**	**3.36**	**315**	*e*Pn		**Pn**		**05 43 05.6**	**-0.1**
ISRV				*e*				05 44 54.2	
	comp=Z,6μm,0.7s								
ISRV	**Sarvestan**	**3.36**	**315**	*e*Pn		**Pn**		**05 43 05.6**	**-0.1**
IPAR	**Pars**	**3.73**	**320**	*e*Pn		**Pn**		**05 43 11.2**	**+0.4**
IPAR				*e*				05 44 39.0	
	comp=Z,2μm,0.5s								
IPAR	**Pars**	**3.73**	**320**	*e*Pn		**Pn**		**05 43 11.2**	**+0.4**
IMEH	**Mehriz**	**4.49**	**347**	*e*Pn		**Pn**		**05 43 22.4**	**+1.1**
IMEH				*e*Sn		**Sn**		**05 44 13.4**	**+0.2**
IMEH				*e*				05 44 18.9	
	comp=Z,978nm,0.2s								
IMEH	**Mehriz**	**4.49**	**347**	*e*Pn		**Pn**		**05 43 22.4**	**+1.1**
IMEH				*e*Sn		**Sn**		**05 44 13.4**	**+0.2**
IBAF	**Bafgh**	**4.57**	**357**	*e*Pn		**Pn**		**05 43 22.0**	**-0.3**
IBAF				*e*				05 43 24.8	
	comp=Z,784nm,0.1s								
IBAF	**Bafgh**	**4.57**	**357**	*e*Pn		**Pn**		**05 43 22.0**	**-0.3**
ISAD	**Sadrabad**	**5.23**	**340**	*e*Pn		**Pn**		**05 43 32.5**	**+1.1**
ISAD				*e*				05 44 37.8	
	comp=Z,761nm,0.3s								
ISAD	**Sadrabad**	**5.23**	**340**	*e*Pn		**Pn**		**05 43 32.5**	**+1.1**
ICHK	**Chekchek**	**5.36**	**347**	*e*Pn		**Pn**		**05 43 33.4**	**+0.2**
ICHK				*e*				05 44 38.2	
	comp=Z,925nm,0.3s								
ICHK	**Chekchek**	**5.36**	**347**	*e*Pn		**Pn**		**05 43 33.4**	**+0.2**
IKOO	**Kooshah**	**6.07**	**26**	*e*Pn		**Pn**		**05 43 45.0**	**+2.1**
IKOO				*e*				05 45 55.7	
	comp=Z,384nm,0.3s								
IKOO	**Kooshah**	**6.07**	**26**	*e*Pn		**Pn**		**05 43 45.0**	**+2.1**
IGAR	**Gharneh**	**6.30**	**329**	*e*Pn		**Pn**		**05 43 46.4**	**+0.3**
IGAR				*e*				05 43 56.7	
	comp=Z,388nm,0.1s								
NASN	**Na'in**	**6.34**	**336**	*e*Pn		**Pn**		**05 43 45.0**	**-1.6**
NASN				Sn		**Sn**		**05 44 57.0**	**-1.7**
NASN	**Na'in**	**6.34**	**336**	*e*Pn		**Pn**		**05 43 46.0**	**-0.6**
NASN				Sn		**Sn**		**05 44 57.7**	**-0.9**
NASN	**Na'in**	**6.34**	**336**	*e*Pn		**Pn**		**05 43 46.0**	**-0.6**
NASN				Sn		**Sn**		**05 44 57.0**	**-1.7**
ITEG	**Tejag**	**6.39**	**23**	*e*Pn		**Pn**		**05 43 49.8**	**+2.4**
ITEG				*e*				05 46 11.3	
	comp=Z,470nm,0.5s								
ITEG	**Tejag**	**6.39**	**23**	*e*Pn		**Pn**		**05 43 49.8**	**+2.4**
IZEF	**Zefreh**	**6.60**	**334**	*e*Pn		**Pn**		**05 43 49.1**	**-1.1**
IZEF				*e*				05 44 00.2	
	comp=Z,163nm,0.2s								
IZEF	**Zefreh**	**6.60**	**334**	*e*Pn		**Pn**		**05 43 49.1**	**-1.1**
IDAH	**Dahanechah**	**6.71**	**31**	*e*Pn		**Pn**		**05 43 54.6**	**+3.0**
IDAH				*e*				05 46 42.8	
	comp=Z,388nm,0.6s								
IDAH	**Dahanechah**	**6.71**	**31**	*e*Pn		**Pn**		**05 43 54.6**	**+3.0**
IPIR	**Pirpir**	**7.09**	**324**	*e*Pn		**Pn**		**05 43 56.7**	**-0.3**
IPIR				*e*				05 45 22.7	
	comp=Z,417nm,0.2s								
IPIR	**Pirpir**	**7.09**	**324**	*e*Pn		**Pn**		**05 43 56.7**	**-0.3**
IKLH	**Kolahrood**	**7.28**	**331**	*e*Pn		**Pn**		**05 43 59.8**	**+0.2**
IKLH				*e*				05 45 35.1	
	comp=Z,278nm,0.3s								
IKLH	**Kolahrood**	**7.28**	**331**	*e*Pn		**Pn**		**05 43 59.8**	**+0.2**
UMR	**Umm Al-Rimmam**	**7.58**	**291**	*e*P		**Pn**		**05 44 03.1**	**-0.6**
UMR	**Umm Al-Rimmam**	**7.58**	**291**	*e*P		**Pn**		**05 44 03.2**	**-0.5**
NAY	**Al-Naaiem**	**7.90**	**288**	*e*P		**Pn**		**05 44 07.0**	**-1.0**
NAY				AML		AML		05 45 38.7	
	comp=Z,15nm,0.5s								
NAY	**Al-Naaiem**	**7.90**	**288**	*e*P		**Pn**		**05 44 07.0**	**-1.0**
MIB	**Mutribah**	**7.97**	**292**	*e*P		**Pn**		**05 44 08.3**	**-0.7**
MIB				AML		AML		05 45 37.6	
	comp=Z,19nm,0.8s								
MIB	**Mutribah**	**7.97**	**292**	*e*P		**Pn**		**05 44 08.3**	**-0.7**
ASAO	**Ashtian**	**9.02**	**328**	*e*Pn		**Pn**		**05 44 23.0**	**-0.4**
ASAO	**Ashtian**	**9.02**	**328**	*e*Pn		**Pn**		**05 44 23.1**	**-0.3**
ASAO	**Ashtian**	**9.02**	**328**	*e*Pn		**Pn**		**05 44 23.1**	**-0.3**
BHD	**Baghdad**	**11.70**	**305**	*ex*		x		05 44 51.0	
BHD				*ex*		x		05 46 56.0	
ASF	**Jabal al Asfar**	**17.24**	**292**	P		**Pn**		**05 46 16.2**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=339,slow=5.8,SNR=6.3								
ASF	**Jabal al Asfar**	**17.24**	**292**	P		**Pn**		**05 46 16.2**	**+2.3**
MMAI	**Mount Meron Ar**	**18.66**	**294**	P		**Pn**		**05 46 32.8**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=108,slow=18,SNR=3.1								
MMAI	**Mount Meron Ar**	**18.66**	**294**	P		**Pn**		**05 46 32.8**	**+1.4**
MMAI	**Mount Meron Ar**	**18.66**	**294**	P		**Pn**		**05 46 32.8**	**+1.4**
ATD	**Arta Tunnel**	**19.65**	**221**	LR		LR		05 54 47.3	
	comp=Z,61nm,18.4s,baz=16,slow=38								
KIV	**Kislovodsk**	**19.97**	**331**	P		**Pn**		**05 46 39.3**	**-7.7**
	comp=Z,33nm,0.9s								
EKS2	**Erkin-Say**	**21.41**	**39**	*e*P		**P**		**05 46 57.5**	**-3.3**
	comp=Z,4.5nm,0.8s,mb3.9								
BRTR	**Keskin Array B**	**22.38**	**310**	P		**P**		**05 47 15.9**	**+4.6**
	comp=Z,10nm,0.9s,mb4.3,baz=129,slow=12,SNR=12								
BRTR	**Keskin Array B**	**22.38**	**310**	P		**P**		**05 47 15.9**	**+4.6**
ZALV	**Zalesovo Beam**	**34.35**	**31**	P		**P**		**05 48 57.3**	**-2.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=240,slow=9.6,SNR=4.3								
ZALV	**Zalesovo Beam**	**34.35**	**31**	P		**P**		**05 48 57.3**	**-2.4**
GERES	**GERESS Array B**	**39.08**	**315**	P		**P**		**05 49 39.6**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.5,baz=88,slow=6.0,SNR=2.9								
GERES	**GERESS Array B**	**39.08**	**315**	P		**P**		**05 49 39.6**	**-0.5**
GERES	**GERESS Array B**	**39.08**	**315**	P		**P**		**05 49 39.6**	**-0.5**
FINES	**FINESS Array B**	**39.80**	**338**	P		**P**		**05 49 44.2**	**-1.6**
	comp=Z,3.4nm,0.9s,mb4.0,baz=168,slow=9.2,SNR=3.4								
FINES	**FINESS Array B**	**39.80**	**338**	P		**P**		**05 49 44.2**	**-1.6**
FINES	**FINESS Array B**	**39.80**	**338**	P		**P**		**05 49 44.2**	**-1.6**
ARCES	**ARCESS Array B**	**46.08**	**346**	P		**P**		**05 50 34.9**	**-1.7**
	comp=Z,3.8nm,1.1s,mb4.2,baz=126,slow=9.1,SNR=2.8								
ARCES	**ARCESS Array B**	**46.08**	**346**	P		**P**		**05 50 34.9**	**-1.7**
ARCES	**ARCESS Array B**	**46.08**	**346**	P		**P**		**05 50 34.9**	**-1.7**
TORD	**Torodi Ar. Bea**	**52.31**	**266**	P		**P**		**05 51 26.5**	**+1.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=62,slow=6.7,SNR=9.0								
TORD	**Torodi Ar. Bea**	**52.31**	**266**	P		**P**		**05 51 26.5**	**+1.4**
TORD	**Torodi Ar. Bea**	**52.31**	**266**	P		**P**		**05 51 26.5**	**+1.4**
DBIC	**Dimbokro**	**60.91**	**262**	LR		LR		06 18 29.4	
	comp=Z,38nm,20.2s,MS3.5,baz=291,slow=36								
MJAR	**Matsushiro Arr**	**68.72**	**59**	LR		LR		06 25 33.1	
	comp=Z,89nm,19.4s,MS4.0,baz=145,slow=38								
ASAJ	**Asahikawa**	**69.55**	**50**	LR		LR		06 27 01.3	
	comp=Z,108nm,18.3s,MS4.1,baz=190,slow=39								
ILAR	**Eielson Array**	**86.83**	**10**	P		**P**		**05 54 58.4**	**+1.2**
	comp=Z,0.2nm,0.6s,mb3.5,baz=316,slow=3.7,SNR=4.2								
ILAR	**Eielson Array**	**86.83**	**10**	P		**P**		**05 54 58.4**	**+1.2**
ILAR	**Eielson Array**	**86.83**	**10**	P		**P**		**05 54 58.3**	**+1.1**

IDC 11 05:48:09.2±1.9,5°.48S×141°.50E,h0km,mb3.5/1, mb1 4.1/4,mb1mx3.7/13,mbtmp3.8/4,ML4.1/2,Error ellipse: s-maj=118.0km s-min=30.7km az=120.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.97**	**205**	Pn		Pn		05 51 57.6	+2.2
	1.2nm,0.3s,baz=23,slow=12,SNR=38								
ASAR	**Alice Springs**	**19.50**	**201**	P		Pn		05 52 37.5	-1.8
	0.3nm,0.3s,baz=34,slow=12,SNR=15								
FITZ	**Fitzroy Crossi**	**19.93**	**230**	P		Pn		05 52 42.7	-1.7
	0.2nm,0.3s,baz=63,slow=15,SNR=4.4								
ILAR	**Eielson Array**	**87.20**	**24**	P		P		06 00 57.2	+0.1
	0.3nm,1.0s,baz=269,slow=4.7,SNR=4.3								

JMA ***11*** *05:48:14.5±0.3,29°.73N×139°.24E,h480km±5km,M4.0*
ISCJB ***11*** *05:48:15.6±0.3,29°.71N±0°.03×138°.99E±0°.07, h452km±4km,mb3.8/24,Error ellipse: s-maj=10.1km s-min=4.9km az=164.9*
IDC ***11*** *05:48:15.8±0.8,29°.71N×138°.77E,h430km±9km,mb3.4/18, mb1 3.5/21,mb1mx3.4/29,mbtmp3.4/21,Error ellipse: s-maj=14.0km s-min=7.5km az=75.0*
NEIC ***11*** *05:48:16.9±0.5,29°.72N×138°.87E,h444km±6km,mb3.9/4, Error ellipse: s-maj=10.6km s-min=6.6km az=74.0*
ISC 11 05:48:16.6±0.3,29°.74N±0°.03×139°.05E±0°.07,h445km±4km, n86,σ0°96/98,mb3.8/24,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.42**	**11**	P		**P**		**05 49 27.7**	**+1.3**
JHJ2				*e*S		**S**		**05 50 24.6**	**+1.3**
CBIJ	**Chichi jima**	**3.82**	**133**	P		**P**		**05 49 29.9**	**-0.1**
	20nm,0.3s,baz=276,slow=21,SNR=28								
CBIJ				S		**S**		**05 50 28.0**	**-1.5**
	114nm,0.3s,baz=293,slow=22,SNR=24								
CBIJ	**Chichi jima**	**3.82**	**133**	P		**P**		**05 49 29.9**	**-0.1**
CBIJ				S		**S**		**05 50 28.0**	**-1.5**
CBIJ	**Chichi jima**	**3.82**	**133**	P		**P**		**05 49 29.5**	**-0.5**
CBIJ				S		**S**		**05 50 29.0**	**-0.5**
JHHJ	**Haha-jima-NKT**	**4.15**	**138**	P		**P**		**05 49 31.9**	**-1.0**
JHHJ				*e*S		**S**		**05 50 33.4**	**-1.4**
TK02	**Tokai 2**	**4.33**	**346**	P		**P**		**05 49 36.7**	**+2.4**
JIE	**Ise**	**5.04**	**337**	P		**P**		**05 49 42.6**	**+1.6**
JIE				S		**S**		**05 50 50.2**	**+0.3**
JKN2	**Miekihoku**	**5.07**	**333**	P		**P**		**05 49 42.6**	**+1.4**
BSO1	**Boso 1**	**5.16**	**18**	P		**P**		**05 49 42.7**	**+0.5**
BSO1				S		**S**		**05 50 52.4**	**+0.4**
BSO3	**Boso 3**	**5.19**	**13**	P		**P**		**05 49 42.7**	**+0.2**
BSO3				S		**S**		**05 50 52.3**	**-0.3**
HMMJ	**Hamamatsu 2**	**5.22**	**348**	S		**S**		**05 50 52.7**	**-0.4**
BSO4	**Boso 4**	**5.34**	**11**	P		**P**		**05 49 44.2**	**+0.2**
BSO4				S		**S**		**05 50 54.6**	**-0.7**
JOD2	**Odawara 2**	**5.50**	**0**	P		**P**		**05 49 46.2**	**+0.6**
JOD2				S		**S**		**05 50 57.7**	**-0.6**
JNY	**Yasuok**	**5.69**	**350**	P		**P**		**05 49 48.9**

MAT			S	S	05 51 22.3	-0.8
JHS	**Saijyo**	**7.25 318**	P	P	05 50 04.9	+1.1
JNU	**Nakatsue**	**7.75 298**	*e*P	P	05 50 09.6	+0.4
16nm,0.9s						
JMK	**Ichinoseki**	**9.36 10**	P	P	05 50 29.0	+2.4
JMK			*e*S	S	05 52 12.9	-0.6
JOW	**Kunigami**	**9.93 256**	P	P	05 50 33.4	+0.3
3.2nm,0.3s,baz=102,slow=7.5,SNR=7.0						
JOW	**Kunigami**	**9.93 256**	P	P	05 50 33.4	+0.3
JOW	**Kunigami**	**9.93 256**	P	P	05 50 33.4	+0.4
KSRS	**Korea Array**	**12.04 313**	P	P	05 50 55.6	-0.2
0.5nm,0.3s,baz=127,slow=12,SNR=8.2						
KSAR	**Wonju Array Be**	**12.06 312**	P	P	05 50 55.6	-0.4
SONM	**Songino Array**	**30.90 315**	P	P	05 53 54.2	-0.7
1.3nm,0.5s,mb3.6,baz=128,slow=9.3,SNR=4.8						
SONM	**Songino Array**	**30.90 315**	P	P	05 53 54.2	-0.7
ZALV	**Zalesovo Beam**	**45.68 318**	P	P	05 55 55.0	-0.8
0.6nm,0.3s,mb3.5,baz=90,slow=7.2,SNR=2.3						
ZALV			PcP	PcP	05 57 24.4	-0.5
0.9nm,0.4s,baz=112,slow=3.8,SNR=3.9						
ZALV			ScP	ScP	06 00 33.3	-1.4
0.9nm,0.7s,baz=98,slow=4.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**45.68 318**	P	P	05 55 55.0	-0.8
ZALV			PcP	PcP	05 57 24.4	-0.5
ZALV			ScP	ScP	06 00 33.3	-1.4
MKAR	**Makanchi Array**	**46.67 308**	P	P	05 56 02.7	-0.7
0.5nm,0.3s,mb3.4,baz=83,slow=10.0,SNR=14						
MKAR			PcP	PcP	05 57 28.4	-0.2
0.4nm,0.3s,baz=75,slow=4.9,SNR=7.6						
MKAR			ScP	ScP	06 00 37.6	-1.4
0.4nm,0.7s,baz=78,slow=6.7,SNR=3.8						
MKAR	**Makanchi Array**	**46.67 308**	P	P	05 56 02.7	-0.7
MKAR			PcP	PcP	05 57 28.4	-0.2
MKAR			ScP	ScP	06 00 37.6	-1.4
KURK	**Kurchatov**	**49.17 313**	P	P	05 56 21.7	-0.5
1.1nm,0.3s,mb3.7,baz=103,slow=7.8,SNR=16						
KURK	**Kurchatov**	**49.17 313**	P	P	05 56 21.7	-0.5
FITZ	**Fitzroy Crossi**	**49.29 197**	P	P	05 56 23.4	-0.1
5.7nm,0.7s,mb4.0,baz=20,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**49.29 197**	*e*P	P	05 56 23.4	-0.1
11nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**49.29 197**	P	P	05 56 23.4	-0.1
WRAB	**Tennant Creek**	**49.59 186**	*e*P	P	05 56 25.4	-0.2
14nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**49.60 186**	*e*P	P	05 56 25.4	-0.3
WRA	**Warramunga Arr**	**49.60 186**	P	P	05 56 25.6	-0.2
9.3nm,0.3s,mb4.5,baz=2.4,slow=8.1,SNR=99						
WRA	**Warramunga Arr**	**49.60 186**	P	P	05 56 25.6	-0.2
CTA	**Charters Tower**	**50.02 171**	P	P	05 56 29.9	+1.0
0.8nm,0.3s,mb3.5,baz=357,slow=7.1,SNR=4.3						
CTA	**Charters Tower**	**50.02 171**	P	P	05 56 29.9	+1.0
AS31	**Alice Springs**	**53.33 186**	*e*P	P	05 56 52.8	-0.1
ASAR	**Alice Springs**	**53.33 186**	P	P	05 56 52.9	0.0
7.4nm,0.7s,mb4.2,baz=18,slow=10,SNR=60						
ASAR	**Alice Springs**	**53.33 186**	P	P	05 56 52.9	0.0
BVAR	**Borovoye Array**	**54.23 316**	P	P	05 56 58.3	-0.6
2.8nm,0.4s,mb3.9,baz=91,slow=7.3,SNR=13						
BVAR			PcP	PcP	05 57 56.4	-0.2
1.4nm,0.6s,baz=73,slow=5.1,SNR=4.2						
BVAR	**Borovoye Array**	**54.23 316**	P	P	05 56 58.3	-0.6
BVAR			PcP	PcP	05 57 56.4	-0.2
KKAR	**Karatay Array**	**55.31 304**	*e*P	P	05 57 06.1	-0.6
1.3nm,0.6s,mb3.4						
ILAR	**Eielson Array**	**56.75 30**	P	P	05 57 17.8	+1.5
0.5nm,0.7s,mb3.0,baz=266,slow=5.9,SNR=12						
ILAR	**Eielson Array**	**56.75 30**	P	P	05 57 17.8	+1.5
FORT	**Forrest**	**61.09 191**	*e*P	P	05 57 46.6	+0.5
55nm,0.5s						
ABKAR	**Akbulak array**	**61.28 313**	*e*P	P	05 57 46.4	-0.9
0.7nm,0.4s,mb3.4						
STKA	**Stephens Creek**	**61.33 178**	P	P	05 57 48.3	+0.6
7.4nm,0.6s,mb4.3,baz=338,slow=8.1,SNR=19						
STKA	**Stephens Creek**	**61.33 178**	*e*P	P	05 57 48.3	+0.6
6.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**61.33 178**	P	P	05 57 48.3	+0.6
INK	**Inuvik**	**61.79 25**	P	P	05 57 52.1	+1.9
1.0nm,0.4s,mb3.6,baz=291,slow=5.2,SNR=10						
INK	**Inuvik**	**61.79 25**	P	P	05 57 52.1	+1.9
KLBR	**Kellerberrin**	**64.27 200**	*e*P	P	05 58 06.4	-0.3
18nm,0.9s,mb4.6						
ARCES	**ARCESS Array B**	**70.13 340**	P	P	05 58 43.2	+0.7
6.4nm,1.1s,mb4.1,baz=68,slow=8.9,SNR=12						
ARCES	**ARCESS Array B**	**70.13 340**	P	P	05 58 43.2	+0.7
YKA	**Yellowknife Ar**	**71.12 28**	P	P	05 58 50.0	+1.5
0.4nm,0.5s,mb3.2,baz=294,slow=5.7,SNR=4.7						
YKA	**Yellowknife Ar**	**71.12 28**	P	P	05 58 50.0	+1.5
JOF	**Joensuu**	**71.48 333**	*e*p	P	05 58 49.8	-0.8
1.7nm,0.5s,mb3.8						
KAF	**Kangasniemi**	**73.89 333**	*e*p	P	05 59 03.2	-1.4
FINES	**FINESS Array B**	**74.35 333**	P	P	05 59 07.2	0.0
1.3nm,0.4s,mb3.8,baz=67,slow=3.6,SNR=7.5						
FINES	**FINESS Array B**	**74.35 333**	P	P	05 59 07.2	0.0
AKASG	**Malin Array Be**	**78.85 322**	P	P	05 59 30.9	-1.4
1.1nm,0.4s,mb3.8,baz=54,slow=5.3,SNR=4.2						
AKASG	**Malin Array Be**	**78.85 322**	P	P	05 59 30.9	-1.4
NB2	**NORSAR Subarra**	**80.12 337**	P	P	05 59 38.3	-0.5
comp=Z,0.7nm,0.3s,mb3.7,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**80.12 337**	P	P	05 59 38.7	-0.1
comp=Z,1.0nm,0.4s,mb3.7,baz=45,slow=5.0,SNR=8.0						
NOA	**NORSAR Array B**	**80.12 337**	P	P	05 59 38.7	-0.1
NVAR	**Mina Array Bea**	**81.03 51**	P	P	05 59 47.2	+3.2
comp=Z,0.5nm,0.6s,mb3.2,baz=288,slow=5.8,SNR=5.8						
NVAR	**Mina Array Bea**	**81.03 51**	P	P	05 59 47.2	+3.2
BRTR	**Keskin Array B**	**82.19 311**	P	P	05 59 49.9	0.0
comp=Z,1.7nm,0.6s,mb3.7,baz=103,slow=3.8,SNR=15						
BRTR	**Keskin Array B**	**82.19 311**	P	P	05 59 49.9	0.0
TORD	**Torodi Ar. Bea**	**120.77 310**	PKP	PKPdf	06 06 16.4	-1.4
comp=Z,0.2nm,0.3s,baz=43,slow=1.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**120.77 310**	PKP	PKPdf	06 06 16.4	-1.4
LPAZ	**La Paz**	**151.71 68**	PKPbc	PKPbc	06 07 23.1	+2.7
comp=Z,1.1nm,0.4s,baz=358,slow=1.4,SNR=9.1						
LPAZ	**La Paz**	**151.71 68**	PKPbc	PKPbc	06 07 23.1	+2.7
PLCA	**Paso Flores**	**153.57 123**	PKPbc	PKPbc	06 07 25.4	+1.6
comp=Z,1.5nm,0.8s,baz=180,slow=5.5,SNR=3.5						
PLCA	**Paso Flores**	**153.57 123**	PKPbc	PKPbc	06 07 25.4	+1.6

*ISCJB **11** 05:58:41.4±0.5, 37.°12N±0.°04×36.°25E±0.°04, h10km, Error ellipse: s-maj=5.6km s-min=3.7km az=152.6*
*ISK **11** 05:58:41.2, 37.°16N×36.°24E, h6km, MD2.7*
*DDA **11** 05:58:41.6, 37.°10N×36.°33E, h7km±5km, Md3.1*
*CSEM **11** 05:58:41.7±0.1, 37.°10N×36.°26E, h2km, MD2.7, Error ellipse: s-maj=3.7km s-min=2.6km az=161.0*
ISC 11 05:58:41.9±0.6, 37.°13N±0.°04×36.°25E±0.°04, h2km±7km, n20, σ0°49/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.42**	**254**	*e*PG	**Pg**	**05 58 49.9**	**0.0**
CEYT				*e*SG	**Sg**	**05 58 56.1**	**+0.8**
CEYT	**Ceyhan**	**0.42**	**254**	*e*Pg	**Pg**	**05 58 49.9**	**0.0**
CEYT				*e*Sg	**Sg**	**05 58 56.2**	**+0.9**
KOZT	**Kozan**	**0.49**	**316**	*e*PG	**Pg**	**05 58 50.9**	**-0.3**
KMRS	**Kahramanmaras**	**0.64**	**54**	*e*PG	**Pg**	**05 58 53.9**	**-0.2**
KMRS				*e*SG	**Sg**	**05 59 02.1**	**-0.4**
KMRS	**Kahramanmaras**	**0.64**	**54**	*e*Pg	**Pg**	**05 58 53.9**	**-0.2**
KMRS				*e*Sg	**Sg**	**05 59 02.1**	**-0.3**
KUZU	**Kuzuini**	**0.75**	**118**	*i* P	**Pg**	**05 58 55.9**	**-0.3**
KUZU				*i* S	**Sg**	**05 59 05.9**	**0.0**
KUZU	**Kuzuini**	**0.75**	**118**	*i* P	**Pg**	**05 58 55.9**	**-0.3**
KUZU				*i* S	**Sg**	**05 59 05.9**	**0.0**
GAZ	**Gaziantep**	**0.77**	**86**	*e*PG	**Pg**	**05 58 56.5**	**0.0**
GAZ				*e*SG	**Sg**	**05 59 07.8**	**+1.3**
GAZ	**Gaziantep**	**0.77**	**86**	*e*Pg	**Pg**	**05 58 56.6**	**0.0**
GAZ				*e*Sg	**Sg**	**05 59 07.8**	**+1.2**
YAYL	**Yayladag**	**1.10**	**186**	*i* P	**Pg**	**05 59 01.8**	**-1.1**
YAYL				*i* S	**Sg**	**05 59 17.3**	**+0.2**
YAYL	**Yayladag**	**1.10**	**186**	*i* P	**Pg**	**05 59 01.8**	**-1.1**
YAYL				*i* S	**Sg**	**05 59 17.3**	**+0.2**
SARI	**SarD1z-Kayseri**	**1.59**	**13**	*e*PN	**Pn**	**05 59 05.5**	**-5.4**
ATAB	**Bozova**	**1.67**	**78**	*i* P	**Pn**	**05 59 12.2**	**+0.2**
ATAB				*i* S	**Sn**	**05 59 33.8**	**-0.1**
ATAB	**Bozova**	**1.67**	**78**	*i* P	**Pn**	**05 59 12.2**	**+0.2**
ATAB				*i* S	**Sn**	**05 59 33.8**	**-0.1**
AKCD	**Akcadag**	**1.77**	**48**	*e*P	**Pn**	**05 59 13.4**	**+0.1**
AKCD				*i* S	**Sg**	**05 59 38.6**	**0.0**
AKCD	**Akcadag**	**1.77**	**48**	*e*P	**Pn**	**05 59 13.4**	**0.0**
AKCD				*i* S	**Sg**	**05 59 38.6**	**0.0**
URFA	**Urfa**	**2.07**	**81**	*e*PN	**Pn**	**05 59 17.4**	**-0.2**
URFA	**Urfa**	**2.07**	**81**	*e*Pn	**Pn**	**05 59 17.4**	**-0.2**
MALT	**Malatya**	**2.09**	**55**	*e*PN	**Pn**	**05 59 18.1**	**+0.2**
MALT	**Malatya**	**2.09**	**55**	*e*Pn	**Pn**	**05 59 18.1**	**+0.2**

*ISCJB **11** 06:01:16.0±1.9, 4.°8N±0.°2×123.°2E±0.°3, h596km±27km, mb3.8/10, Error ellipse: s-maj=54.0km s-min=11.1km az=147.2*
*NEIC **11** 06:01:16.1±1.6, 4.°90N×123.°32E, h571km±21km, mb4.5/1, Error ellipse: s-maj=41.2km s-min=7.5km az=55.0*
*IDC **11** 06:01:18.2±1.8, 4.°78N×123.°26E, h604km±21km, mb3.1/8, mb1 3.3/8, mb1mx3.0/23, mbtmp3.1/8, Error ellipse: s-maj=64.2km s-min=8.7km az=63.0*
ISC 11 06:01:16.9±1.8, 4.°8N±0.°2×123.°2E±0.°3, h583km±24km, n21, σ0°52/25, mb3.8/10, 1C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.08**	**280**	*e*P	**P**	**06 03 06.6**	**-0.4**
59nm,0.6s							
FITZ	**Fitzroy Crossi**	**22.89**	**174**	P	**P**	**06 05 37.5**	**+0.1**
1.2nm,0.7s,mb3.6,baz=12,slow=9.3,SNR=5.7							
FITZ	**Fitzroy Crossi**	**22.89**	**174**	P	**P**	**06 05 37.5**	**+0.1**
WRAB	**Tennant Creek**	**26.91**	**156**	*e*P	**P**	**06 06 12.8**	**-0.1**
5.1nm,0.4s,mb4.5							
WRA	**Warramunga Arr**	**26.92**	**156**	P	**P**	**06 06 12.8**	**-0.1**
5.9nm,0.4s,mb4.5,baz=337,slow=9.5,SNR=101							
WRA				S	**S**	**06 10 05.8**	**-4.2**
0.8nm,0.7s,baz=338,slow=16,SNR=4.8							
WRA				ScP	ScP	06 11 59.1	-1.9
0.2nm,0.5s,baz=351,slow=2.8,SNR=3.3							
WRA	**Warramunga Arr**	**26.92**	**156**	P	**P**	**06 06 12.8**	**-0.1**
WRA				S	**S**	**06 10 05.8**	**-4.2**
WRA				ScP	ScP	06 11 59.1	-1.9
COEN	**Coen**	**27.20**	**134**	*e*P	**P**	**06 06 15.2**	**-0.3**
72nm,1.4s							
CMAR	**Chiang Mai Arr**	**27.32**	**302**	P	**P**	**06 06 17.1**	**+0.6**
0.6nm,0.3s,mb3.7,baz=120,slow=8.4,SNR=4.5							
CMAR	**Chiang Mai Arr**	**27.32**	**302**	P	**P**	**06 06 17.1**	**+0.6**
ASAR	**Alice Springs**	**30.16**	**160**	P	**P**	**06 06 41.3**	**+0.3**
2.4nm,0.4s,mb4.2,baz=339,slow=7.0,SNR=43							
ASAR				S	**S**	**06 10 59.0**	**-1.1**
0.3nm,0.6s,baz=318,slow=12,SNR=5.4							
ASAR				ScP	ScP	06 12 10.0	-1.3
0.6nm,0.5s,baz=343,slow=3.1,SNR=8.6							
ASAR	**Alice Springs**	**30.16**	**160**	P	**P**	**06 06 41.3**	**+0.3**
ASAR				S	**S**	**06 10 59.0**	**-1.2**
ASAR				ScP	ScP	06 12 10.0	-1.3
STKA	**Stephens Creek**	**40.46**	**156**	P	**P**	**06 08 07.2**	**+1.1**
1.9nm,0.4s,mb4.0,baz=342,slow=9.5,SNR=8.4							
STKA	**Stephens Creek**	**40.46**	**156**	P	**P**	**06 08 07.2**	**+1.1**
MK31	**Makanchi Array**	**54.70**	**327**	⇑Pn	**P**	**06 09 56.6**	**+4.4**
0.3nm,0.3s,mb3.1,baz=181,slow=16,SNR=35							
MK31				⇓Lg		06 10 48.6	
6.8nm,0.9s,baz=181,slow=25,SNR=4.9							
MK31	**Makanchi Array**	**54.70**	**327**	*e*P	**P**	**06 09 52.2**	**+0.1**
MKAR	**Makanchi Array**	**54.70**	**327**	P	**P**	**06 09 52.3**	**+0.2**
0.5nm,0.3s,mb3.3,baz=121,slow=8.4,SNR=32							
MKAR	**Makanchi Array**	**54.70**	**327**	P	**P**	**06 09 52.3**	**+0.2**
KURK	**Kurchatov**	**58.98**	**329**	P	**P**	**06 10 20.7**	**-0.6**
1.4nm,0.6s,mb3.2,baz=122,slow=6.2,SNR=11							
KURK	**Kurchatov**	**58.98**	**329**	P	**P**	**06 10 20.7**	**-0.6**
BVAR	**Borovoye Array**	**64.53**	**328**	P	**P**	**06 10 57.0**	**-0.3**
0.8nm,0.7s,mb3.2,baz=133,slow=8.1,SNR=5.3							
BVAR	**Borovoye Array**	**64.53**	**328**	P	**P**	**06 10 57.0**	**-0.3**

IDC 11 06:07:60.0±3.3, 4.°66S×152.°97E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/25, Error ellipse: s-maj=124.8km s-min=46.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.66**	**228**	P	P	06 13 13.5	0.0
4.5nm,0.5s,baz=54,slow=10.0,SNR=59							
ASAR	**Alice Springs**	**26.36**	**222**	P	P	06 13 38.4	+0.3
0.3nm,0.3s,baz=56,slow=8.9,SNR=5.7							
FITZ	**Fitzroy Crossi**	**29.87**	**241**	P	P	06 14 09.3	-0.2
0.9nm,0.3s,baz=58,slow=7.9,SNR=21							
AFI	**Afiamalu**	**35.94**	**107**	LR	LR	06 25 19.3	
comp=Z,133nm,21.8s,baz=126,slow=29							
TORD	**Torodi Ar. Bea**	**150.42**	**288**	PKPbc	PKPbc	06 27 54.2	-0.4
0.6nm,0.6s,baz=86,slow=2.3,SNR=6.4							

*ISCJB **11** 06:19:43.0±0.5, 42.°68N±0.°02×23.°88E±0.°03, h3km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=143.0*
*CSEM **11** 06:19:43.6±0.1, 42.°66N×23.°90E, h2km, MD2.6, Error ellipse: s-maj=3.0km s-min=1.7km az=47.0*
*SOF **11** 06:19:44.1, 42.°58N×23.°89E, h10km, MD2.6*
*BEO **11** 06:19:44.6±1.1, 42.°68N×23.°89E, h0km±6km, ML2.1/3*
*THE **11** 06:19:44.7, 42.°59N×23.°91E, h1km±3km, ML2.6/5, Error ellipse: s-maj=4.0km s-min=1.3km az=12.0*
ISC 11 06:19:43.7±0.4, 42.°66N±0.°02×23.°90E±0.°03, h2km±4km, n55, σ0°88/87, 11C-2D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGB	**Panagyurishte**	**0.22**	**118**	*i* P	**Pg**	**06 19 49.0**	**+1.0**
PGB	**Panagyurishte**	**0.22**	**118**	*i* Pg	**Pg**	**06 19 49.5**	**+1.5**
VTS	**Vitosha**	**0.51**	**263**	*e*Pg	**Pg**	**06 19 54.2**	**+0.6**
VTS				*e*Sg	**Sg**	**06 20 00.2**	**0.0**
VTS	**Vitosha**	**0.51**	**263**	P	**Pg**	**06 19 54.3**	**+0.7**
VTS				S	**Sg**	**06 20 00.7**	**+0.5**
VTS	**Vitosha**	**0.51**	**263**	*i* P	**Pg**	**06 19 54.0**	**+0.4**
VTS	**Vitosha**	**0.51**	**263**	*i* Pg	**Pg**	**06 19 54.2**	**+0.6**
VTS	**Vitosha**	**0.51**	**263**	⇑*i*P	**Pg**	**06 19 54.4**	**+0.8**
VTS				S	**Sg**	**06 19 59.8**	**-0.4**
VTS	**Vitosha**	**0.51**	**263**	S	**Sg**	**06 19 59.8**	**-0.4**
VTS				*e*Sg	**Sg**	**06 20 00.2**	**0.0**
VTS				S	**Sg**	**06 20 00.7**	**+0.5**
MPEP	**Malo Peshtene**	**0.71**	**351**	*i* Pg	**Pg**	**06 19 59.4**	**+2.1**
PLD	**Plovdiv**	**0.81**	**132**	P	**Pg**	**06 19 59.2**	**0.0**
PLD				S	**Sg**	**06 20 09.2**	**-0.5**
PLD	**Plovdiv**	**0.81**	**132**	*i* Pg	**Pg**	**06 19 59.0**	**-0.2**
PLD	**Plovdiv**	**0.81**	**132**	P	**Pg**	**06 19 59.2**	**0.0**
PLD				S	**Sg**	**06 20 09.2**	**-0.5**
KKB	**Krupnik**	**0.99**	**218**	*i* P	**Pg**	**06 20 03.0**	**+0.2**
KKB	**Krupnik**	**0.99**	**218**	*i* Pg	**Pg**	**06 20 02.9**	**+0.1**
MMB	**Musomiste**	**1.07**	**187**	*i* P	**Pg**	**06 20 04.6**	**+0.3**
ZAPS	**Zavoj**	**1.12**	**304**	*e*Pg	**Pg**	**06 20 04.9**	**-0.2**
ZAPS				*e*Sg	**Sg**	**06 20 20.3**	**+0.7**
RZN	**Rozhen**	**1.14**	**148**	*i* P	**Pg**	**06 20 05.1**	**-0.5**
PVL	**Pavlikeni**	**1.19**	**61**	*i* P	**Pg**	**06 20 04.0**	**-2.6**
PVL	**Pavlikeni**	**1.19**	**61**	*i* P	**Pg**	**06 20 05.9**	**-0.7**
NVR	**Nevrokopi**	**1.30**	**181**	P	**Pg**	**06 20 08.3**	**-0.4**
NVR				S	**Sg**	**06 20 25.3**	**-0.3**
NVR	**Nevrokopi**	**1.30**	**181**	P	**Pg**	**06 20 08.3**	**-0.4**
NVR				S	**Sg**	**06 20 25.3**	**-0.3**
KDZ	**Kurdzhali**	**1.51**	**131**	*i* P	**Pn**	**06 20 11.6**	**-0.2**
BARS	**Barje**	**1.54**	**277**	*i* Pg	**Pg**	**06 20 12.9**	**-0.4**
BARS				*e*Sg	**Sg**	**06 20 33.2**	**-0.1**
BARS	**Barje**	**1.54**	**277**	*i* Pg	**Pg**	**06 20 12.9**	**-0.4**
BARS				*e*Sg	**Sg**	**06 20 33.2**	**-0.1**
SRS	**Serrai**	**1.55**	**189**	P	**Pn**	**06 20 13.0**	**+0.6**
SRS				S	**Sn**	**06 20 33.2**	**+0.1**
SRS	**Serrai**	**1.55**	**189**	P	**Pn**	**06 20 13.0**	**+0.6**
SRS				S	**Sn**	**06 20 33.2**	**+0.1**
SZH	**Strazhica**	**1.61**	**67**	*i* P	**Pg**	**06 20 16.6**	**+2.0**
KNT	**Kendrikon**	**1.67**	**207**	P	**Pn**	**06 20 14.0**	**0.0**
KNT				S	**Sn**	**06 20 35.8**	**-0.1**
KNT	**Kendrikon**	**1.67**	**207**	P	**Pn**	**06 20 14.0**	**0.0**
KNT				S	**Sn**	**06 20 35.8**	**-0.1**
KAVA	**Kavala**	**1.72**	**164**	P	**Pn**	**06 20 14.8**	**+0.1**
KAVA				S	**Sn**	**06 20 37.1**	**-0.1**
KAVA	**Kavala**	**1.72**	**164**	P	**Pn**	**06 20 14.8**	**+0.1**
KAVA				S	**Sn**	**06 20 37.1**	**-0.1**
BOLS	**Boljevac**	**1.84**	**310**	*e*Pg	**Pn**	**06 20 16.6**	**+0.2**
BOLS				*e*Sg	**Sg**	**06 20 42.1**	**-0.9**
BOLS	**Boljevac**	**1.84**	**310**	*e*Pg	**Pn**	**06 20 16.6**	**+0.2**
RDO	**Rodhopi**	**1.94**	**140**	P	**Pn**	**06 20 16.9**	**-0.8**
RDO				S	**Sn**	**06 20 41.8**	**-0.9**
RDO	**Rodhopi**	**1.94**	**140**	P	**Pn**	**06 20 16.9**	**-0.8**
RDO				S	**Sn**	**06 20 41.8**	**-0.9**
HUMR	**Humele**	**2.03**	**22**	⇑*i*P	**Pg**	**06 20 24.1**	**+1.5**
HUMR	**Humele**	**2.03**	**22**	⇑*i*P	**Pg**	**06 20 24.1**	**+1.5**
HUMR				S	**Sg**	**06 20 51.7**	**+2.8**
SELS	**Selova**	**2.12**	**286**	*e*Pn	**Pn**	**06 20 21.0**	**+0.8**
SELS				*e*Sg	**Sg**	**06 20 52.1**	**+0.3**
SELS	**Selova**	**2.12**	**286**	*e*Pn	**Pn**	**06 20 21.0**	**+0.8**
SELS				*e*Sg	**Sg**	**06 20 52.1**	**+0.3**
ALN	**Alexandroupoli**	**2.38**	**137**	P	**Pn**	**06 20 23.9**	**+0.2**
ALN				S	**Sn**	**06 20 54.2**	**+0.7**
ALN	**Alexandroupoli**	**2.38**	**137**	P	**Pn**	**06 20 23.9**	**+0.2**
ALN				S	**Sn**	**06 20 54.2**	**+0.7**
GRUS	**Gruza**	**2.63**	**299**	*e*Pn	**Pn**	**06 20 27.3**	**+0.1**
GRUS				*e*Sg	**Sg**	**06 21 07.1**	**-1.2**
GRUS	**Gruza**	**2.63**	**299**	*e*Pn	**Pn**	**06 20 27.3**	**+0.1**
GRUS				*e*Sg	**Sg**	**06 21 07.1**	**-1.2**
GZR	**Gura Zlata**	**2.85**	**344**	⇑*i*P	**Pn**	**06 20 30.9**	**+0.6**
GZR	**Gura Zlata**	**2.85**	**344**	⇑*i*P	**Pn**	**06 20 30.9**	**+0.6**
GZR				S	**Sn**	**06 21 05.0**	**-0.2**
ISR	**Istrita**	**3.12**	**37**	⇑*i*P	**Pg**	**06 20 42.1**	**-1.3**
ISR	**Istrita**	**3.12**	**37**	⇑*i*P	**Pg**	**06 20 42.1**	**-1.3**
ISR				S	**Sg**	**06 21 20.5**	**-3.3**
MLR	**Muntele Rosu**	**3.19**	**27**	⇓*i*P	**Pg**	**06 20 41.3**	**-3.6**
MLR	**Muntele Rosu**	**3.19**	**27**	⇓*i*P	**Pg**	**06 20 41.3**	**-3.6**
MLR				S	**Sg**	**06 21 21.5**	**-4.8**
BZS	**Buzias**	**3.39**	**332**	*e*Sg	**Sg**	**06 21 31.5**	**-1.0**
BZS	**Buzias**	**3.39**	**332**	*e*Sg	**Sg**	**06 21 31.5**	**-1.0**
VRI	**Vrincioaia**	**3.80**	**31**	⇑*i*P	**Pg**	**06 20 50.2**	**-6.3**
VRI	**Vrincioaia**	**3.80**	**31**	⇑*i*P	**Pg**	**06 20 50.2**	**-6.3**
DRGR		**4.22**	**349**	⇑*i*P	**Pn**	**06 20 48.8**	**-0.3**
DRGR		**4.22**	**349**	⇑*i*P	**Pn**	**06 20 48.8**	**-0.3**
DRGR				S	**Sn**	**06 21 38.7**	**-0.2**

*NIED **11** 06:22:00, 38.°60N×143.°20E, h17km, Mw3.8 Best double couple: M0=4.86000×10^14 NP1:φ=11.00000°, δ=68.00000°, λ=83.00000°. NP2:φ=210.00000°, δ=23.00000°, λ=108.00000°.*
*JMA **11** 06:22:33.8±0.1, 38.°59N×143.°19E, h28km±4km, M4.0*
*ISCJB **11** 06:22:34.2±1.3, 38.°59N±0.°04×143.°21E±0.°07, h31km±11km, mb3.7/7, Error ellipse: s-maj=9.0km s-min=6.8km az=29.7*
*NEIC **11** 06:22:36.9±1.2, 38.°63N×143.°25E, h40km, MG4.0(JMA), Error ellipse: s-maj=25.6km s-min=13.9km az=106.0*
*IDC **11** 06:22:46.5±2.8, 38.°31N×142.°40E, h101km±25km, mb3.3/7, mb1 3.4/9, mb1mx3.2/26, mbtmp3.3/9, Error ellipse: s-maj=27.8km s-min=19.2km az=94.0*
ISC 11 06:22:34.9±1.4, 38.°65N±0.°04×143.°15E±0.°06, h20km±10km, n33, σ0°91/43, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.23**	**291**	P	**Pn**	**06 22 56.4**	**-0.5**
OFUJ				*e*S	**Sb**	**06 23 12.9**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.39**	**312**	P	**Pn**	**06 22 58.7**	**-0.4**
MIYJ				*e*S	**Sn**	**06 23 16.4**	**-0.4**
JIO	**Ouri**	**1.43**	**263**	P	**Pn**	**06 22 58.9**	**-0.7**
JIO				*e*S	**Sn**	**06 23 17.0**	**-0.7**
JMK	**Ichinoseki**	**1.54**	**282**	P	**Pn**	**06 23 01.1**	**0.0**
JOM	**Ohasama**	**1.66**	**300**	P	**Pn**	**06 23 03.0**	**+0.2**
JOM				*e*S	**Sn**	**06 23 24.1**	**+0.5**
JOU	**Okura**	**1.97**	**262**	P	**Pn**	**06 23 07.1**	**0.0**
JMM	**Marumori**	**2.02**	**248**	P	**Pn**	**06

RPZ	Rata Peaks	16.25	210	Pn	Pn	06 38 16.4	+0.3
RPZ				Sn	Sn	06 41 00.5	-16
TBI	Tubuai	26.07	82	eLR	LR	06 46 31.1	
165nm,26.8s							
TBI				eT		07 07 15.8	
8.5nm,0.4s							
PAE	Paea	28.47	71	eT		07 10 12.3	
2.5nm,0.3s							
PPT2	Papeete2	28.51	70	eT		07 10 16.8	
1.6nm,0.3s							
PPT	Papeete	28.52	70	eLR	LR	06 47 33.8	
184nm,26.0s							
CTAO	Charters Tower	34.00	279	eP	P	06 41 13.4	+1.7
13nm,0.8s,mb4.9							
STKA	Stephens Creek	34.79	256	P	P	06 41 20.3	+1.8
3.0nm,0.4s,mb4.6,baz=90,slow=11,SNR=7.6							
STKA	Stephens Creek	34.79	256	P	P	06 41 20.3	+1.8
RKT	Rikitea	38.67	90	eLR	LR	06 52 36.1	
154nm,33.7s							
AS31	Alice Springs	43.37	267	eP	P	06 42 31.2	+0.8
ASAR	Alice Springs	43.38	267	P	P	06 42 30.0	-0.4
0.9nm,0.3s,mb4.0,baz=107,slow=7.7,SNR=16							
ASAR				PcP	PcP	06 44 18.6	-0.3
0.7nm,0.6s,baz=118,slow=3.5,SNR=4.4							
ASAR	Alice Springs	43.38	267	P	P	06 42 30.0	-0.4
ASAR				PcP	PcP	06 44 18.6	-0.3
WB2	Warramunga Arr	44.33	272	eP	P	06 42 37.5	-0.6
WRAB	Tennant Creek	44.33	272	eP	P	06 42 37.4	-0.7
6.9nm,0.7s,mb4.5							
WRA	Warramunga Arr	44.34	272	P	P	06 42 37.4	-0.8
4.5nm,0.4s,mb4.5,baz=110,slow=8.0,SNR=77							
WRA				LR	LR	06 59 13.1	
comp=Z,58nm,20.1s,baz=335,slow=34							
WRA	Warramunga Arr	44.34	272	P	P	06 42 37.4	-0.8
QSPA	South Pole Qui	59.99	180	P	P	06 44 34.8	+1.1
3.3nm,0.9s,mb4.4,baz=23,slow=5.7,SNR=7.6							
QSPA	South Pole Qui	59.99	180	P	P	06 44 34.8	+1.1
SNAA	Sanae	78.43	178	e	P	06 46 35.4	+7.4
VNA3	Neumayer Olymp	78.57	176	e	P	06 46 28.7	-0.1
VNA2	Neumayer--Watz	79.01	177	e	P	06 46 39.5	+8.3
baz=185,slow=4.2							
PETK	Petropavlovsk-	85.60	345	P	P	06 47 05.1	-0.6
4.7nm,0.8s,mb4.8,baz=159,slow=8.5,SNR=3.3							
PETK	Petropavlovsk-	85.60	345	P	P	06 47 05.1	-0.6
NVAR	Mina Array Bea	87.86	43	P	P	06 47 16.5	-0.6
0.8nm,0.8s,mb4.0,baz=227,slow=8.2,SNR=6.7							
NVAR	Mina Array Bea	87.86	43	P	P	06 47 16.5	-0.6
BOSA	Boshof	117.62	203	PKP	PKPdf	06 53 13.5	-0.7
2.0nm,0.9s,baz=45,slow=1.4,SNR=2.3							
BOSA	Boshof	117.62	203	PKP	PKPdf	06 53 13.5	-0.7
MKAR	Makanchi Array	117.78	310	PKP	PKPdf	06 53 12.4	-1.4
0.2nm,0.3s,baz=119,slow=1.8,SNR=4.0							
MKAR	Makanchi Array	117.78	310	PKP	PKPdf	06 53 12.4	-1.4
KKAR	Karatay Array	125.13	304	ePKPdf	PKPdf	06 53 26.2	-1.8
KAF	Kangasniemi	144.37	341	ep	PKPdf	06 53 58.0	-5.2
FINES	FINESS Array B	144.97	340	PKP	PKPdf	06 54 01.4	-2.8
16nm,0.7s,baz=60,slow=3.4,SNR=32							
FINES	FINESS Array B	144.97	340	PKP	PKPdf	06 54 01.4	-2.8
NB2	NORSAR Subarra	148.51	352	PKP	PKPdf	06 54 11.8	+1.6
comp=Z,1.6nm,0.6s,baz=13,slow=2.8							
NOA	NORSAR Array B	148.51	352	PKPbc	PKPbc	06 54 11.9	-1.9
comp=Z,1.7nm,0.6s,baz=14,slow=4.3,SNR=8.5							
NOA	NORSAR Array B	148.51	352	PKPbc	PKPbc	06 54 11.9	-1.9
HFS	Hagfors	149.02	349	PKPbc	PKPbc	06 54 13.0	-2.1
comp=Z,2.3nm,0.6s,baz=56,slow=3.6,SNR=5.9							
HFS	Hagfors	149.02	349	PKPbc	PKPbc	06 54 13.1	-2.1
AKASG	Malin Array Be	151.23	323	PKPbc	PKPbc	06 54 18.8	-2.0
comp=Z,1.1nm,0.4s,baz=48,slow=3.2,SNR=6.0							
AKASG	Malin Array Be	151.23	323	PKPbc	PKPbc	06 54 18.8	-2.0
MMAI	Mount Meron Ar	151.70	284	PKPbc	PKPbc	06 54 21.9	-0.5
comp=Z,5.2nm,0.5s,baz=93,slow=5.8,SNR=7.0							
MMAI	Mount Meron Ar	151.70	284	PKPbc	PKPbc	06 54 21.9	-0.5
BR131	Keskin Array S	152.68	299	ePKPbc	PKPbc	06 54 22.9	-1.6
BRTR	Keskin Array B	152.68	299	PKPbc	PKPbc	06 54 22.8	-1.6
comp=Z,1.1nm,0.6s,baz=145,slow=3.0,SNR=8.5							
BRTR	Keskin Array B	152.68	299	PKPbc	PKPbc	06 54 22.8	-1.6
GERES	GERESS Array B	159.37	338	PKPab	PKPab	06 55 02.2	-1.2
comp=Z,0.5nm,0.6s,baz=34,slow=5.9,SNR=4.2							
GERES	GERESS Array B	159.37	338	PKPab	PKPab	06 55 02.2	-1.2
TORD	Torodi Ar. Bea	163.10	178	PKPab	PKPab	06 55 20.5	0.0
comp=Z,0.7nm,0.7s,baz=183,slow=4.2,SNR=4.4							
TORD	Torodi Ar. Bea	163.10	178	PKPab	PKPab	06 55 20.5	0.0

IDC 11 06:49:55.0±3.0, 31°.23S×176°.50W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, ML3.6/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/27, Error ellipse: s-maj=67.4km s-min=36.3km az=122.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.77	215	Pn	Pn	06 52 02.8	-0.3
0.7nm,0.3s,baz=47,slow=19,SNR=3.9							
URZ				Sn	Sn	06 53 41.9	-0.7
0.4nm,0.3s,baz=120,slow=20,SNR=2.6							
CTA	Charters Tower	35.20	279	P	P	06 56 52.0	+0.9
2.3nm,0.5s,baz=107,slow=11							
STKA	Stephens Creek	35.56	258	P	P	06 56 55.6	+1.6
1.8nm,0.8s,baz=97,slow=16,SNR=2.6							
ASAR	Alice Springs	44.36	267	P	P	06 58 06.9	-0.4
0.7nm,0.6s,baz=104,slow=7.4,SNR=15							
WRA	Warramunga Arr	45.42	272	P	P	06 58 14.1	-1.7
1.2nm,0.5s,baz=111,slow=8.0,SNR=22							
WRA				LR	LR	07 17 55.5	
comp=Z,47nm,18.2s,baz=15,slow=37							
JTS	JuntasAbangare	96.56	82	LR	LR	07 36 53.1	
comp=Z,79nm,18.6s,baz=304,slow=29							
FINES	FINESS Array B	146.36	341	PKPbc	PKPbc	07 09 36.3	-0.7
1.0nm,0.7s,baz=64,slow=6.3,SNR=7.0							

IDC 11 06:53:11.0±1.1, 46°.77N×152°.61E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/24, mbtmp3.6/9, Error ellipse: s-maj=31.2km s-min=25.7km az=150.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	36.75	39	P	P	07 00 19.7	+0.1
0.5nm,0.9s,baz=273,slow=7.1,SNR=3.6							
INK	Inuvik	41.82	32	P	P	07 01 02.1	+0.2
0.7nm,0.6s,baz=271,slow=6.3,SNR=4.6							
MKAR	Makanchi Array	46.62	297	P	P	07 01 40.7	0.0
0.2nm,0.6s,baz=64,slow=6.6,SNR=2.3							
FINES	FINESS Array B	63.87	335	P	P	07 03 44.6	-0.3
1.0nm,0.4s,baz=38,slow=7.9,SNR=6.9							
NB2	NORSAR Subarra	68.09	341	P	P	07 04 11.9	-0.1
comp=Z,0.9nm,0.6s,baz=27,slow=6.5							
NOA	NORSAR Array B	68.09	341	P	P	07 04 12.2	+0.2
comp=Z,1.0nm,0.7s,baz=27,slow=6.2,SNR=4.3							
AKASG	Malin Array Be	71.33	326	P	P	07 04 31.9	-0.3
comp=Z,0.6nm,0.3s,baz=37,slow=6.3,SNR=3.8							
ASAR	Alice Springs	72.12	196	P	P	07 04 37.2	+0.2
comp=Z,0.5nm,0.7s,baz=19,slow=4.7,SNR=5.3							
TXAR	Lajitas Array	77.78	60	P	P	07 05 10.0	-0.1
comp=Z,0.1nm,0.4s,baz=322,slow=5.7,SNR=4.5							
BRTR	Keskin Array B	78.14	316	P	P	07 05 12.6	+0.8
comp=Z,0.4nm,0.8s,baz=40,slow=4.7,SNR=2.4							

*THR **11** 07:19:23.6±0.8, 31°.86N×47°.13E, h38km±10km, ML3.7*
*IDC **11** 07:19:25.6±1.9, 32°.56N×47°.15E, h0km, mb4.0/7, mb1 4.0/9, mb1mx3.8/28, mbtmp3.9/9, ML3.4/3, Error ellipse: s-maj=46.6km s-min=18.3km az=163.0*
*ISCJB **11** 07:19:26.1±0.3, 32°.29N±0°.03×47°.41E±0°.03, h10km, mb3.8/9, Error ellipse: s-maj=4.5km s-min=3.5km az=136.7*
*TEH **11** 07:19:27.4, 32°.20N×47°.38E, h6km*
*NEIC **11** 07:19:27.9, 32°.22N×47°.39E, h8km, mb3.9/2, ML3.7(THR), ML3.7(ISN), MN3.7(TEH), After TEH.*
*CSEM **11** 07:19:28.6±0.2, 32°.26N×47°.43E, h20km, ML3.7, Error ellipse: s-maj=5.8km s-min=5.2km az=45.0*

ISC 11 07:19:27.5±0.3, 32°.26N±0°.03×47°.41E±0°.03, h10km, n98, σ1§22/114, mb3.8/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.19	97	ePg	Pg	07 19 49.0	-1.4
SHGR				eSg	Sg	07 20 09.0	+3.2
SHGR	Shooshtar-Gavs	1.19	97	ePg	Pg	07 19 49.9	-0.5
SHGR				eSg	Sg	07 20 09.3	+3.5
SHGR				AML	AML	07 20 10.9	
comp=N,3μm,0.7s							
SHGR	Shooshtar-Gavs	1.19	97	ePg	Pg	07 19 49.9	-0.5
SHGR				eSg	Sg	07 20 09.0	+3.2
IKOM	Komasi	1.91	2	Pn	Pn	07 20 01.2	+1.0
IKOM				Sg	Sg	07 20 28.5	-0.6
IKOM	Komasi	1.91	2	ePn	Pn	07 20 01.4	+1.2
IKOM				eSg	Sg	07 20 28.6	-0.5
IKOM				e		07 20 42.6	
comp=Z,9μm,0.3s							
IKOM	Komasi	1.91	2	ePn	Pn	07 20 01.4	+1.2
IKOM				eSg	Sg	07 20 28.6	-0.5
IGHG	Ghaleghazi	2.18	341	Pn	Pn	07 20 05.0	+1.1
IGHG	Ghaleghazi	2.18	341	ePn	Pn	07 20 04.9	+1.0
IGHG				e		07 20 54.4	
comp=Z,13μm,0.3s							
IGHG	Ghaleghazi	2.18	341	ePn	Pn	07 20 04.9	+1.0
IVIS	Veis	2.31	348	Pn	Pn	07 20 06.3	+0.6
IVIS				Sg	Sg	07 20 41.2	-0.6
IVIS	Veis	2.31	348	eSg	Sg	07 20 41.2	-0.6
IVIS				ePn	Pn	07 20 06.5	+0.8
IVIS				e		07 20 50.5	
comp=Z,4μm,0.4s							
MIB	Mutribah	2.45	181	eP	Pn	07 20 07.7	+0.2
MIB	Mutribah	2.45	181	eP	Pn	07 20 07.7	+0.2
IDHR	Dehrash	2.58	341	Pn	Pn	07 20 09.8	+0.4
IDHR	Dehrash	2.58	341	ePn	Pn	07 20 10.0	+0.6
IDHR				e		07 20 55.1	
comp=Z,4μm,0.3s							
IDHR	Dehrash	2.58	341	ePn	Pn	07 20 10.0	+0.6
ILIN	Lien	2.68	352	Pn	Pn	07 20 12.3	+1.6
ILIN	Lien	2.68	352	ePn	Pn	07 20 11.8	+1.1
ILIN				e		07 21 00.0	
comp=Z,2μm,0.2s							
ILIN	Lien	2.68	352	ePn	Pn	07 20 11.8	+1.1
UMR	Umm Al-Rimmam	2.71	174	eP	Pn	07 20 11.9	+0.8
UMR	Umm Al-Rimmam	2.71	174	eP	Pn	07 20 11.9	+0.8
BHD	Baghdad	2.75	292	ex	Pn	07 20 13.8	+2.2
BHD				ex	x	07 20 22.5	
BHD				ex	x	07 20 47.8	
BHD				i x	x	07 20 58.3	
BHD	Baghdad	2.75	292	P	Pn	07 20 10.0	-1.6
BHD				S	Sn	07 20 45.0	+0.1
BHD	Baghdad	2.75	292	P	Pn	07 20 10.0	-1.6
BHD	Baghdad	2.75	292	ePn	Pn	07 20 13.8	+2.2
BHD	Baghdad	2.75	292	ePg	Pg	07 20 22.5	+2.3
BHD				S	Sn	07 20 45.0	+0.1
BHD				eSn	Sn	07 20 47.8	+2.9
BHD				i Sg	Sg	07 20 58.3	+2.5
SNGE	Sanandaj	2.83	359	ePn	Pn	07 20 14.0	+1.2
SNGE	Sanandaj	2.83	359	ePn	Pn	07 20 14.1	+1.3
SNGE				AML	AML	07 21 07.9	
comp=E,169nm,0.6s							
SNGE	Sanandaj	2.83	359	ePn	Pn	07 20 14.1	+1.3
IPIR	Pirpir	2.97	81	ePn	Pn	07 20 15.6	+0.9
IPIR				e		07 21 08.7	
comp=Z,1μm,0.3s							
IPIR	Pirpir	2.97	81	ePn	Pn	07 20 15.6	+0.9
NAY	Al-Naaiem	3.00	183	eP	Pn	07 20 15.5	+0.3
NAY				AML	AML	07 21 11.4	
comp=Z,26nm,0.9s							
NAY	Al-Naaiem	3.00	183	eP	Pn	07 20 15.5	+0.3
KBD	Kabd	3.08	175	eP	Pn	07 20 16.6	+0.4
KBD	Kabd	3.08	175	eP	Pn	07 20 16.6	+0.3
ASAO	Ashtian	3.16	43	ePn	Pn	07 20 19.0	+1.6
ASAO	Ashtian	3.16	43	ePn	Pn	07 20 19.3	+1.9
ASAO				AML	AML	07 21 21.9	
comp=N,119nm,0.6s							
ASAO	Ashtian	3.16	43	ePn	Pn	07 20 19.3	+1.9
RDF	Al-Radifah	3.32	178	eP	Pn	07 20 19.6	+0.1
RDF				AML	AML	07 21 02.3	
comp=Z,33nm,0.3s							
RDF	Al-Radifah	3.32	178	eP	Pn	07 20 19.6	0.0
QRN	Al-Qurain	3.53	173	eP	Pn	07 20 22.7	+0.3
QRN				AML	AML	07 21 08.8	
comp=Z,72nm,0.3s							
IKLH	Kolahrood	3.67	72	Pn	Pn	07 20 25.0	+0.7
IKLH	Kolahrood	3.67	72	ePn	Pn	07 20 25.0	+0.7
IKLH				e		07 21 31.1	
comp=Z,941nm,0.2s							
IKLH	Kolahrood	3.67	72	ePn	Pn	07 20 25.0	+0.7
IGAR	Gharneh	3.92	87	ePn	Pn	07 20 28.4	+0.6
IGAR				e		07 21 17.0	
comp=Z,952nm,0.1s							
GHVR	GHOM	3.93	55	ePn	Pn	07 20 29.0	+1.0
GHVR	GHOM	3.93	55	ePn	Pn	07 20 29.2	+1.3
GHVR				AML	AML	07 21 42.6	
comp=E,50nm,0.6s							
GHVR				AML	AML	07 21 48.0	
comp=N,51nm,0.6s							
GHVR	GHOM	3.93	55	ePn	Pn	07 20 29.2	+1.2
IZEF	Zefreh	4.20	80	ePn	Pn	07 20 32.3	+0.7
IZEF				e		07 20 56.4	
comp=Z,423nm,0.3s							
IZEF	Zefreh	4.20	80	ePn	Pn	07 20 32.3	+0.7
NASN	Na'in	4.59	82	ePn	Pn	07 20 37.0	0.0
NASN	Na'in	4.59	82	ePn	Pn	07 20 37.1	+0.1
NASN	Na'in	4.59	82	ePn	Pn	07 20 37.1	+0.1
CHTH	Charan	4.77	39	ePn	Pn	07 20 40.0	+0.5
CHTH	Charan	4.77	39	ePn	Pn	07 20 40.9	+1.4
CHTH	Charan	4.77	39	ePn	Pn	07 20 40.9	+1.4
IPAR	Pars	5.40	115	Pn	Pn	07 20 47.5	-0.7
IPAR	Pars	5.40	115	ePn	Pn	07 20 47.6	-0.6
IPAR				e		07 22 14.1	
comp=Z,293nm,0.4s							
IPAR	Pars	5.40	115	ePn	Pn	07 20 47.6	-0.6
ICHK	Chekchek	5.93	88	ePn	Pn	07 20 54.9	-0.5
ICHK				e		07 21 27.2	
comp=Z,179nm,0.2s							
ICHK	Chekchek	5.93	88	ePn	Pn	07 20 54.9	-0.5
ASF	Jabal al Asfar	8.91	272	Pn	Pn	07 21 34.3	-2.0
comp=Z,0.5nm,0.3s,baz=158,slow=12,SNR=5.0							
ASF				Sn	Sn	07 23 11.4	-5.3
comp=Z,0.7nm,0.3s,baz=356,slow=19,SNR=3.4							
ASF	Jabal al Asfar	8.91	272	Pn	Pn	07 21 34.3	-2.0
ASF				Sn	Sn	07 23 11.4	-5.3
BRTR	Keskin Array B	13.40	308	Pn	Pn	07 22 32.2	-5.6
comp=Z,0.1nm,0.3s,baz=133,slow=14,SNR=2.3							
BRTR				Sn	Sn	07 25 06.4	-0.4
comp=Z,0.1nm,0.3s,baz=116,slow=16,SNR=3.9							
BRTR	Keskin Array B	13.40	308	Pn	Pn	07 22 32.2	-5.6
BRTR				Sn	Sn	07 25 06.4	-0.4
ABKAR	Akbulak array	19.41	25	eP	Pn	07 23 52.7	-2.1
comp=Z,3.1nm,0.6s							
ABKAR	Akbulak array	19.41	25	eP	Pn	07 23 52.7	-2.1
comp=Z,3.1nm,0.6s							
AKTO	Aktyubinsk	19.79	20	P	Pn	07 23 55.8	-3.6
comp=Z,0.4nm,0.3s,baz=205,slow=12,SNR=7.0							
AKTO	Aktyubinsk	19.79	20	P	Pn	07 23 55.8	-3.6
AKTO	Aktyubinsk	19.79	20	P	Pn	07 23 55.8	-3.6
KKAR	Karatay Array	21.18	53	eP	P	07 24 12.0	-1.0
KKAR	Karatay Array	21.18	53	eP	P	07 24 12.0	-1.0
MLR	Muntele Rosu	21.22	315	P	P	07 24 09.5	-3.9
comp=Z,0.3nm,0.7s,mb2.7,baz=114,slow=20,SNR=2.2							
MLR	Muntele Rosu	21.22	315	P	P	07 24 09.5	-3.9
MLR	Muntele Rosu	21.22	315	P	P	07 24 09.5	-3.9
BRVK	Borovoye	26.53	32	eP	P	07 25 03.8	-1.4
comp=Z,3.3nm,0.8s,mb3.9							
BRVK	Borovoye	26.53	32	eP	P	07 25 03.8	-1.4
comp=Z,3.3nm,0.8s,mb3.9							
BVAR	Borovoye Array	26.56	32	P	P	07 25 04.3	-1.1
comp=Z,4.6nm,0.9s,mb4.0,baz=224,slow=8.3,SNR=18							
BVAR	Borovoye Array	26.56	32	P	P	07 25 04.3	-1.1
BVAR	Borovoye Array	26.56	32	P	P	07 25 04.3	-1.1
KURK	Kurchatov	29.46	42	P	P	07 25 29.7	-1.6
comp=Z,1.2nm,0.7s,mb3.7,baz=246,slow=9.4,SNR=6.2							
KURK	Kurchatov	29.46	42	P	P	07 25 29.8	-1.6
KURK	Kurchatov	29.46	42	P	P	07 25 29.8	-1.6
MK31	Makanchi Array	30.29	51	eP	P	07 25 37.8	-0.9
MK31	Makanchi Array	30.29	51	eP	P	07 25 37.8	-1.0
MKAR	Makanchi Array	30.29	51	P	P	07 25 38.0	-0.7
comp=Z,1.0nm,0.6s,mb3.7,baz=245,slow=7.4,SNR=17							
MKAR	Makanchi Array	30.29	51	P	P	07 25 38.0	-0.7
MKAR	Makanchi Array	30.29	51	P	P	07 25 38.0	-0.8
ZALV	Zalesovo Beam	34.28	40	P	P	07 26 12.2	-1.5
comp=Z,1.1nm,0.4s,mb4.2,baz=247,slow=8.3,SNR=7.2							
ZALV	Zalesovo Beam	34.28	40	P	P	07 26 12.2	-1.5
ZALV	Zalesovo Beam	34.28	40	P	P	07 26 12.2	-1.5
ARCES	ARCESS Array B	39.31	348	P	P	07 26 52.0	-4.3
comp=Z,5.5nm,1.0s,mb4.2,baz=170,slow=10,SNR=3.5							
ARCES	ARCESS Array B	39.31	348	P	P	07 26 52.0	-4.3
TORD	Torodi Ar. Bea	45.87	256	P	P	07 27 48.2	-2.0
comp=Z,0.4nm,0.6s,mb3.6,baz=66,slow=6.8,SNR=3.7							
TORD	Torodi Ar. Bea	45.87	256	P	P	07 27 48.2	-2.0
TORD	Torodi Ar. Bea	45.87	256	P	P	07 27 48.2	-2.1
YKA	Yellowknife Ar	84.48	352	P	P	07 31 58.6	-1.5
comp=Z,0.4nm,0.6s,mb3.7,baz=18,slow=5.2,SNR=6.4							
YKA	Yellowknife Ar	84.48	352	P	P	07 31 58.6	-1.5

*ISCJB **11** 07:21:39.6±0.6, 25°.63N±0°.04×109°.76W±0°.07, h10km, mb3.8/5, MS3.4/4, Error ellipse: s-maj=9.0km s-min=5.5km az=15.6*
*IDC **11** 07:21:40.6±3.4, 25°.63N×109°.81W, h0km, mb3.5/2, mb1 3.9/6, mb1mx3.7/23, mbtmp3.5/6, ML3.6/4, MS3.5/5, Ms1 3.5/5, ms1mx3.2/25, Error ellipse: s-maj=47.7km s-min=21.2km az=165.0*
*NEIC **11** 07:21:42.9±2.4, 25°.72N×109°.81W, h10km, mb3.9/6, Error ellipse: s-maj=29.3km s-min=11.5km az=179.0*
*MEX **11** 07:21:45.4±0.7, 25°.51N×110°.98W, h10km, MD4.1*

ISC 11 07:21:41.3±0.6, 25°.57N±0°.04×109°.78W±0°.07, h10km, n38, σ0§98/41, mb3.8/5, MS3.4/4, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.54	198	i P	Pn	07 22 08.9	+0.1
LPIG				i S	Sn	07 22 28.4	-0.4
SRIG	Santa Rosalia	2.81	309	i P	Pn	07 22 17.4	-8.9
SRIG				i S	Sn	07 22 44.3	-16
HSIG		3.59	343	i P	Pn	07 22 35.9	-1.1
HSIG				i S	Sn	07 23 19.3	-0.2
CGIG		5.04	18	i P	Pn	07 23 05.8	+8.9
CGIG				i S	Sn	07 24 08.0	+13
TXAR	Lajitas Array	6.60	54	Pn	Pn	07 23 18.5	+0.1
0.2nm,0.3s,baz=232,slow=13,SNR=18							
TXAR				Sn	Sn	07 24 33.2	-0.5
0.7nm,0.3s,baz=234,slow=17,SNR=3.5							
TXAR				Lg		07 25 09.3	
0.7nm,0.3s,baz=234,slow=18,SNR=3.6							
TXAR	Lajitas Array	6.60	54	Pn	Pn	07 23 18.5	+0.1
TXAR				Sn	Sn	07 24 33.2	-0.5
TXAR				Lg		07 25 09.3	
TUC	Tucson	6.77	353	ePn	Pn	07 23 18.4	-2.3
TUC				eSg	Sg	07 25 08.4	-10
MNTX	Cornudas Mount	7.23	31	ePn	Pn	07 23 27.2	+0.3
GLA	Glamis	8.66	331	ePn	Pn	07 23 45.5	-1.2
BNM	Barren Site	8.98	17	ePn	Pn	07 23 50.2	-0.8
LAZ	Ladron	9.10	14	ePn	Pn	07 23 53.1	+0.5
BAR	Barrett	9.30	321	ePn	Pn	07 23 55.0	-0.4
ANMO	Albuquerque	9.78	16	Pn	Pn	07 24 03.3	+1.3
0.1nm,0.3s,baz=199,slow=13,SNR=4.5							
ANMO				Lg		07 26 48.8	
0.5nm,0.3s,baz=351,slow=13,SNR=6.2							
ANMO				LR	LR	07 27 25.5	
comp=Z,219nm,19.1s,baz=69,slow=35							
ANMO	Albuquerque	9.78	16	Pn	Pn	07 24 03.3	+1.3
ANMO				Lg		07 26 48.8	
WUAZ	Wupatki	10.01	353	ePn	Pn	07 24 04.6	-0.5
MWC	Mount Wilson	11.22	322	ePn	Pn	07 24 21.1	-0.6
MVCO	Mesa Verde	11.66	5	ePn	Pn	07 24 28.8	+1.1
SRU	San Rafael	13.52	358	ePn	Pn	07 24 51.6	-1.5
NVAR	Mina Array Bea	14.71	333	Pn	Pn	07 25 11.8	+2.5
0.4nm,0.3s,baz=152,slow=15,SNR=12							
NVAR	Mina Array Bea	14.71	333	Pn	Pn	07 25 11.8	+2.5
CMB	Columbia Colle	15.34	327	eP	Pn	07 25 13.1	-4.7
6.0nm,1.4s							
WCN	Washoe City	16.06	331	eP	Pn	07 25 29.2	+2.1
14nm,1.3s							
PDAR	Pinedale Array	17.16	1	P	Pn	07 25 42.0	+1.0
0.1nm,0.3s,baz=171,slow=12,SNR=11							
PDAR	Pinedale Array	17.16	1	P	Pn	07 25 42.0	+1.0
PD01	Pinedale Array	17.17	0	eP	Pn	07 25 40.9	-0.3
PD02	Pinedale Array	17.17	1	eP	Pn	07 25 41.3	+0.1
LOHW	Long Hollow	18.01	358	eP	Pn	07 25 50.9	-0.8
5.7nm,1.5s							
TEIG	Tepich	20.50	101	LR	LR	07 33 51.6	
comp=Z,124nm,21.1s,MS3.2,baz=332,slow=36							
LNOR	Lincton Mounta	21.38	344	eP	P	07 26 30.3	+1.4
6.4nm,1.0s,mb3.9							
CHMT	Chamberlain Mo	21.48	353	eP	P	07 26 30.4	+0.5
3.7nm,1.1s,mb3.6							
SLMT	Seeley Lake	21.83	353	eP	P	07 26 33.9	+0.2
7.6nm,1.2s,mb4.0							
TKL	Tuckaleechee C	24.47	60	LR	LR	07 37 18.8	
comp=Z,141nm,18.9s,MS3.5,baz=269,slow=38							
JTS	JuntasAbangare	28.01	118	LR	LR	07 38 11.1	
comp=Z

	baz=225						
CHN1				*e*S	Sn	07 33 25.2	-0.9
	baz=225						

CSEM ***11*** *07:43:43.7±0.2, 38°.34N×21°.99E, h10km, ML1.7/8, Error ellipse: s-maj=4.4km s-min=4.1km az=139.0*
ATH ***11*** *07:43:43.7, 38°.37N×21°.99E, h16km±1km, MD2.6/6*
ISCJB ***11*** *07:43:44.1±0.5, 38°.35N±0°.03×22°.00E±0°.03, h9km±3km, Error ellipse: s-maj=4.9km s-min=4.4km az=27.5*
THE ***11*** *07:43:45.0, 38°.36N×22°.03E, h4km±2km, ML1.7/8, Error ellipse: s-maj=2.4km s-min=0.7km az=176.0*

ISC 11 07:43:44.4±0.7, 38°.34N±0°.03×22°.00E±0°.03, h10km±6km, n34, σ0°79/59, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.06**	**69**	P	**Pg**	**07 43 45.3**	**-1.2**
TRIZ				S	**Sg**	**07 43 46.7**	**-1.3**
TRIZ	**Trizonia**	**0.06**	**69**	P	**Pg**	**07 43 45.3**	**-1.2**
TRIZ				S	**Sg**	**07 43 46.7**	**-1.3**
LAKA	**Lakka**	**0.10**	**189**	P	**Pg**	**07 43 47.7**	**+0.7**
LAKA				S	**Sg**	**07 43 50.1**	**+1.3**
LAKA	**Lakka**	**0.10**	**189**	P	**Pg**	**07 43 47.7**	**+0.7**
LAKA				S	**Sg**	**07 43 50.1**	**+1.3**
EFP	**Efpalio**	**0.11**	**319**	*e*PB	**Pg**	**07 43 47.3**	**+0.2**
EFP				*e*SB	**Sg**	**07 43 49.5**	**+0.5**
EFP	**Efpalio**	**0.11**	**319**	P	**Pg**	**07 43 47.2**	**+0.1**
EFP				S	**Sg**	**07 43 49.4**	**+0.4**
EFP	**Efpalio**	**0.11**	**319**	P	**Pg**	**07 43 47.2**	**+0.1**
EFP				S	**Sg**	**07 43 49.4**	**+0.4**
KALE	**Kalithea**	**0.12**	**67**	P	**Pg**	**07 43 47.1**	**-0.2**
KALE				S	**Sg**	**07 43 49.0**	**-0.3**
KALE	**Kalithea**	**0.12**	**67**	P	**Pg**	**07 43 47.1**	**-0.2**
KALE				S	**Sg**	**07 43 49.0**	**-0.3**
DSF	**Desfina**	**0.42**	**81**	P	**Pg**	**07 43 52.1**	**-0.6**
DSF				S	**Sg**	**07 43 58.4**	**+0.1**
DSF	**Desfina**	**0.42**	**81**	P	**Pg**	**07 43 52.1**	**-0.6**
DSF				S	**Sg**	**07 43 58.4**	**+0.1**
DESF	**Desfina**	**0.42**	**80**	P	**Pg**	**07 43 52.1**	**-0.7**
DESF				S	**Sg**	**07 43 58.6**	**+0.2**
DESF	**Desfina**	**0.42**	**80**	P	**Pg**	**07 43 52.1**	**-0.7**
DESF				S	**Sg**	**07 43 58.6**	**+0.2**
GUR	**Goura**	**0.49**	**146**	*e*PN	**Pg**	**07 43 53.8**	**-0.1**
GUR	**Goura**	**0.49**	**146**	P	**Pg**	**07 43 53.7**	**-0.2**
GUR				S	**Sg**	**07 44 01.3**	**+0.9**
GUR	**Goura**	**0.49**	**146**	P	**Pg**	**07 43 53.7**	**-0.2**
GUR				S	**Sg**	**07 44 01.3**	**+0.9**
RLS	**Riolos of Patr**	**0.51**	**236**	*e*PN	**Pg**	**07 43 54.0**	**-0.3**
RLS	**Riolos of Patr**	**0.51**	**236**	*e*Pn	**Pg**	**07 43 54.0**	**-0.3**
EVR	**Evrytania**	**0.59**	**346**	*e*PN	**Pg**	**07 43 55.5**	**-0.4**
EVR	**Evrytania**	**0.59**	**346**	P	**Pg**	**07 43 55.2**	**-0.7**
EVR				S	**Sg**	**07 44 05.3**	**+1.6**
EVR	**Evrytania**	**0.59**	**346**	P	**Pg**	**07 43 55.2**	**-0.7**
EVR	**Evrytania**	**0.59**	**346**	*e*Pn	**Pg**	**07 43 55.5**	**-0.4**
EVR				S	**Sg**	**07 44 05.3**	**+1.6**
AXAR	**Agios Charalam**	**0.67**	**51**	P	**Pg**	**07 43 56.6**	**-0.8**
AXAR				S	**Sg**	**07 44 07.3**	**+1.2**
AXAR	**Agios Charalam**	**0.67**	**51**	P	**Pg**	**07 43 56.6**	**-0.8**
AXAR				S	**Sg**	**07 44 07.3**	**+1.2**
MAKR	**Makrakomi, Fth**	**0.68**	**9**	P	**Pg**	**07 43 57.4**	**-0.1**
MAKR				S	**Sg**	**07 44 07.4**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.68**	**9**	P	**Pg**	**07 43 57.4**	**-0.1**
MAKR				S	**Sg**	**07 44 07.4**	**+1.0**
AGG	**Agios Georgios**	**0.73**	**21**	P	**Pg**	**07 43 57.7**	**-0.8**
AGG				S	**Sg**	**07 44 07.6**	**-0.4**
AGG	**Agios Georgios**	**0.73**	**21**	P	**Pg**	**07 43 57.7**	**-0.8**
AGG				S	**Sg**	**07 44 07.6**	**-0.4**
LKR	**Lokris**	**0.84**	**68**	*e*PN	**Pg**	**07 43 59.7**	**-1.0**
LKR	**Lokris**	**0.84**	**68**	P	**Pg**	**07 44 01.0**	**+0.3**
LKR				S	**Sg**	**07 44 12.8**	**+1.1**
LKR	**Lokris**	**0.84**	**68**	*e*Pn	**Pg**	**07 43 59.7**	**-1.0**
LKR	**Lokris**	**0.84**	**68**	P	**Pg**	**07 44 01.0**	**+0.3**
LKR				S	**Sg**	**07 44 12.8**	**+1.1**
VLS	**Valsamata**	**1.12**	**262**	*e*PN	**Pg**	**07 44 05.0**	**-1.0**
VLS	**Valsamata**	**1.12**	**262**	*e*Pn	**Pg**	**07 44 05.0**	**-1.0**

NEIC ***11*** *07:43:57.8, 39°.08S×175°.07E, h168km, MG3.5(WEL), After WEL.*

WEL 11 07:43:58.6±0.3, 39°.14S×175°.11E, h163km±2km, ML3.6/12, Error ellipse: s-maj=1.7km s-min=1.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.24**	**129**	PN	Pn	07 44 20.4	-0.1
PKVZ				SN	Sn	07 44 37.2	-0.1
TWVZ	**Taurewa**	**0.27**	**75**	PN	Pn	07 44 20.3	-0.3
TWVZ				SN	Sn	07 44 37.6	+0.3
VRZ	**Vera Road**	**0.27**	**273**	PN	Pn	07 44 20.2	-0.4
VRZ				SN	Sn	07 44 37.0	-0.4
VRZ	**Vera Road**	**0.27**	**273**	Pn	Pn	07 44 20.2	-0.4
WPVZ	**Whakapapa**	**0.35**	**101**	PN	Pn	07 44 20.9	+0.1
WPVZ				SN	Sn	07 44 37.5	-0.3
WPVZ	**Whakapapa**	**0.35**	**101**	Pn	Pn	07 44 20.9	+0.1
FWVZ	**Far West T-bar**	**0.36**	**109**	PN	Pn	07 44 21.0	+0.2
WTVZ	**West Tongariro**	**0.38**	**87**	PN	Pn	07 44 20.9	0.0
WTVZ				SN	Sn	07 44 37.7	-0.2
WTVZ	**West Tongariro**	**0.38**	**87**	Pn	Pn	07 44 20.9	0.0
NGZ	**Ngauruhoe**	**0.39**	**96**	PN	Pn	07 44 21.1	+0.1
NGZ	**Ngauruhoe**	**0.39**	**96**	Pn	Pn	07 44 21.1	+0.1
WNVZ	**Wahianoa**	**0.43**	**116**	PN	Pn	07 44 21.3	+0.2
OTVZ	**Oturere**	**0.43**	**93**	PN	Pn	07 44 21.5	+0.4
TUVZ	**Tukino**	**0.44**	**107**	PN	Pn	07 44 21.4	+0.2
MOVZ	**Moawhango**	**0.57**	**118**	PN	Pn	07 44 21.5	-0.2
MOVZ	**Moawhango**	**0.57**	**118**	Pn	Pn	07 44 21.5	-0.2
MHEZ	**Mangahewa**	**0.61**	**276**	PN	Pn	07 44 22.0	+0.1
MHEZ	**Mangahewa**	**0.61**	**276**	Pn	Pn	07 44 22.0	+0.1
WAZ	**Wanganui**	**0.62**	**189**	PN	Pn	07 44 22.5	+0.5
WAZ	**Wanganui**	**0.62**	**189**	Pn	Pn	07 44 22.5	+0.5
HIZ	**Hauiti**	**0.66**	**343**	PN	Pn	07 44 21.2	-1.0
HIZ	**Hauiti**	**0.66**	**343**	Pn	Pn	07 44 21.2	-1.0
NEZ	**North Egmont**	**0.80**	**260**	PN	Pn	07 44 23.3	+0.2
NEZ	**North Egmont**	**0.80**	**260**	Pn	Pn	07 44 23.3	+0.2
DFE	**Dawson Falls**	**0.80**	**256**	Pn	Pn	07 44 22.9	-0.2
PKE	**Pukeiti**	**0.87**	**266**	PN	Pn	07 44 23.2	-0.5
PKE	**Pukeiti**	**0.87**	**266**	Pn	Pn	07 44 21.6	-2.1
NWEZ	**Newall Road**	**0.97**	**262**	PN	Pn	07 44 24.3	0.0
NWEZ	**Newall Road**	**0.97**	**262**	Pn	Pn	07 44 24.4	0.0
BKZ	**Black Stump Fm**	**1.08**	**92**	PN	Pn	07 44 24.6	-0.7
BKZ				SN	Sn	07 44 43.8	-1.8
BKZ	**Black Stump Fm**	**1.08**	**92**	Pn	Pn	07 44 24.6	-0.7
TSZ	**Takapari Road**	**1.13**	**145**	PN	Pn	07 44 25.9	+0.2
TSZ	**Takapari Road**	**1.13**	**145**	Pn	Pn	07 44 25.9	+0.2
PNHZ	**Pukenui**	**1.15**	**133**	PN	Pn	07 44 26.0	+0.1
PNHZ	**Pukenui**	**1.15**	**133**	Pn	Pn	07 44 26.0	+0.1
MCHZ	**McNeill Hill**	**1.27**	**104**	PN	Pn	07 44 27.4	+0.5
NMHZ	**Naumai**	**1.32**	**89**	PN	Pn	07 44 27.9	+0.5
POWZ	**Post Office Ro**	**1.35**	**158**	PN	Pn	07 44 27.7	0.0
POWZ	**Post Office Ro**	**1.35**	**158**	Pn	Pn	07 44 27.7	0.0
WPHZ	**Waipukurau**	**1.39**	**132**	PN	Pn	07 44 28.1	+0.1
DVHZ	**Dannevirke**	**1.42**	**145**	PN	Pn	07 44 28.2	-0.1
DVHZ	**Dannevirke**	**1.42**	**145**	Pn	Pn	07 44 28.2	-0.1
KAHZ	**Kahuranaki**	**1.52**	**116**	PN	Pn	07 44 29.5	+0.2
MRZ	**Mangatainoka R**	**1.56**	**167**	PN	Pn	07 44 29.6	-0.2
MRZ	**Mangatainoka R**	**1.56**	**167**	Pn	Pn	07 44 29.6	-0.2
PXZ	**Pawanui**	**1.62**	**124**	PN	Pn	07 44 30.3	-0.1
PRHZ	**Porangahau**	**1.63**	**134**	PN	Pn	07 44 30.6	+0.1
PRHZ	**Porangahau**	**1.63**	**134**	Pn	Pn	07 44 30.6	+0.1
OGWZ	**Otaki Gorge**	**1.68**	**178**	PN	Pn	07 44 31.1	+0.1
OGWZ	**Otaki Gorge**	**1.68**	**178**	Pn	Pn	07 44 31.1	+0.1
KIW	**Kapiti Island**	**1.73**	**185**	PN	Pn	07 44 31.1	-0.3
KIW	**Kapiti Island**	**1.73**	**185**	Pn	Pn	07 44 31.1	-0.3
TIWZ	**Tintock**	**1.74**	**160**	PN	Pn	07 44 31.5	-0.2
TIWZ	**Tintock**	**1.74**	**160**	Pn	Pn	07 44 31.5	-0.2
BFZ	**Birch Farm**	**1.77**	**151**	PN	Pn	07 44 31.6	-0.3
HOWZ	**Holdsworth Sta**	**1.79**	**170**	PN	Pn	07 44 31.8	-0.3
URZ	**Urewera**	**1.80**	**61**	*e*Pn	Pn	07 44 30.0	-2.3
URZ				*e*Sn	Sn	07 44 54.4	-3.7
DUWZ	**D'Urville Isla**	**1.90**	**208**	PN	Pn	07 44 32.9	-0.4
CAW	**Cannon Point**	**1.97**	**181**	PN	Pn	07 44 33.8	-0.4
CAW	**Cannon Point**	**1.97**	**181**	Pn	Pn	07 44 33.8	-0.4
KNZ	**Kokohu**	**2.00**	**87**	PN	Pn	07 44 33.6	-1.0
KNZ	**Kokohu**	**2.00**	**87**	Pn	Pn	07 44 33.6	-1.0
MTW	**Mount Morrison**	**2.04**	**172**	PN	Pn	07 44 34.2	-0.7
MTW	**Mount Morrison**	**2.04**	**172**	Pn	Pn	07 44 34.2	-0.7
TMWZ	**Te Maipa**	**2.06**	**163**	PN	Pn	07 44 34.6	-0.5
MWZ	**Matawai**	**2.06**	**68**	PN	Pn	07 44 33.7	-1.4
MWZ	**Matawai**	**2.06**	**68**	Pn	Pn	07 44 33.8	-1.4
TCW	**Tory Channel**	**2.17**	**197**	PN	Pn	07 44 35.9	-0.5
TCW	**Tory Channel**	**2.17**	**197**	Pn	Pn	07 44 35.9	-0.5
PRGZ	**Paritu Road**	**2.17**	**85**	PN	Pn	07 44 35.6	-0.9
MHGZ	**Mahia Peninsul**	**2.18**	**91**	PN	Pn	07 44 35.9	-0.7
SNZO	**South Karori**	**2.19**	**188**	PN	Pn	07 44 35.9	-0.8
SNZO	**South Karori**	**2.19**	**188**	Pn	Pn	07 44 35.9	-0.8
PAWZ	**Paruwai Farm**	**2.25**	**174**	PN	Pn	07 44 36.6	-0.8
PAWZ	**Paruwai Farm**	**2.25**	**174**	Pn	Pn	07 44 36.6	-0.8
BHW	**Baring Head**	**2.27**	**184**	PN	Pn	07 44 36.8	-0.8
BHW	**Baring Head**	**2.27**	**184**	Pn	Pn	07 44 36.8	-0.8
MSWZ	**Moikau Station**	**2.28**	**177**	PN	Pn	07 44 36.8	-0.9
MSWZ	**Moikau Station**	**2.28**	**177**	Pn	Pn	07 44 36.8	-0.9
TRWZ	**Traveller**	**2.30**	**169**	PN	Pn	07 44 37.1	-0.8
PLWZ	**Palliser**	**2.43**	**177**	PN	Pn	07 44 38.3	-1.1
TUWZ	**Tuamarina**	**2.46**	**201**	PN	Pn	07 44 39.1	-0.7
NNZ	**Nelson**	**2.46**	**212**	PN	Pn	07 44 38.9	-1.0
NNZ	**Nelson**	**2.46**	**212**	Pn	Pn	07 44 38.9	-1.0
QRZ	**Quartz Range**	**2.60**	**229**	PN	Pn	07 44 39.6	-1.9
QRZ	**Quartz Range**	**2.60**	**229**	Pn	Pn	07 44 39.6	-1.9
BSWZ	**Blackbirch Sta**	**2.74**	**200**	PN	Pn	07 44 42.5	-0.7
BSWZ	**Blackbirch Sta**	**2.74**	**200**	Pn	Pn	07 44 42.5	-0.7
THZ	**Tophouse**	**3.11**	**212**	PN	Pn	07 44 46.4	-1.4
THZ	**Tophouse**	**3.11**	**212**	Pn	Pn	07 44 46.4	-1.4
KHZ	**Kahutara**	**3.48**	**199**	PN	Pn	07 44 51.4	-1.1
KHZ	**Kahutara**	**3.48**	**199**	Pn	Pn	07 44 51.4	-1.1
LTZ	**Lake Taylor**	**4.23**	**210**	PN	Pn	07 45 00.3	-1.8
LTZ	**Lake Taylor**	**4.23**	**210**	Pn	Pn	07 45 00.3	-1.8
MQZ	**McQueen's Vall**	**4.92**	**201**	PN	Pn	07 45 08.0	-3.2
MQZ	**McQueen's Vall**	**4.92**	**201**	Pn	Pn	07 45 08.0	-3.2
ODZ	**Otahua Downs**	**6.77**	**208**	PN	Pn	07 45 33.0	-2.5

WEL 11 07:50:50.4±0.8, 35°.78S×178°.24E, h214km±9km, ML3.5/7, Error ellipse: s-maj=15.2km s-min=10.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.78**	**178**	PN	Pn	07 51 27.9	+0.2
MXZ				SN	S	07 51 56.8	-0.3
PUZ	**Puketiti**	**2.29**	**180**	PN	Pn	07 51 33.0	+0.2
PUZ				SN	S	07 52 05.5	-0.7
MWZ	**Matawai**	**2.62**	**192**	PN	Pn	07 51 37.0	+0.7
URZ	**Urewera**	**2.64**	**200**	PN	Pn	07 51 37.0	+0.4
URZ				SN	S	07 52 12.7	-0.2
CNGZ	**Carnagh Statio**	**2.70**	**181**	PN	Pn	07 51 38.1	+0.9
KNZ	**Kokohu**	**3.27**	**188**	PN	Pn	07 51 43.5	-0.2
PXZ	**Pawanui**	**4.38**	**194**	PN	Pn	07 51 56.3	-1.0
TSZ	**Takapari Road**	**4.64**	**202**	PN	Pn	07 51 59.1	-1.3
MRZ	**Mangatainoka R**	**5.31**	**202**	PN	Pn	07 52 07.3	-1.6

MEX 11 08:33:10.8±0.5, 16°.86N×99°.75W, h27km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.11**	**273**	*i* P	Pb	08 33 15.1	-0.7
ACX				*i* S	Sb	08 33 18.8	-0.5
CAIG	**El Cayaco**	**0.53**	**290**	*i* P	Pb	08 33 19.9	-1.7
CAIG				*i* S	Sb	08 33 26.8	-2.2
MEIG	**Mezcala**	**1.06**	**6**	*i* P	Pn	08 33 27.7	-2.2
MEIG				*i* S	Sn	08 33 40.0	-3.8
PNIG	**Pinotepa**	**1.62**	**107**	*i* P	Pn	08 33 35.6	-2.0
PNIG				*i* S	Sn	08 33 54.0	-3.5
UTMO	**Huajuapan**	**2.09**	**62**	*i* P	Pn	08 33 42.0	-2.0
UTMO				*i* S	Sn	08 34 06.1	-3.1
PPM	**Popocatepetl**	**2.44**	**26**	*e*P	Pn	08 33 47.7	-1.1
PPM				*i* S	Sn	08 34 17.1	-0.6
VHO	**Vista Hermosa**	**2.89**	**85**	*e*P	Pn	08 33 54.2	-0.8
VHO				*i* S	Sn	08 34 27.4	-1.6

IDC 11 08:42:52.9±5.7, 1°.32S×100°.32E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=296.5km s-min=23.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.06**	**121**	P	P	08 50 13.4	0.0
	0.6nm,0.5s,baz=300,slow=9.2,SNR=6.6						
ASAR	**Alice Springs**	**39.39**	**127**	P	P	08 50 24.7	+0.1
	0.4nm,0.8s,baz=301,slow=8.2,SNR=4.7						
MKAR	**Makanchi Array**	**50.47**	**344**	P	P	08 51 52.6	+0.1
	0.9nm,0.7s,baz=151,slow=8.2,SNR=10						
ZALV	**Zalesovo Beam**	**56.57**	**349**	P	P	08 52 37.1	0.0
	1.6nm,0.7s,baz=145,slow=5.3,SNR=7.9						
TXAR	**Lajitas Array**	**143.97**	**37**	PKP	PKPdf	09 02 29.7	-1.4
	0.4nm,0.6s,baz=241,slow=1.9,SNR=8.0						

ISCJB ***11*** *09:05:48.3±1.6, 6°.97S±0°.09×155°.79E±0°.06, h103km±15km, mb3.9/15, Error ellipse: s-maj=15.7km s-min=10.3km az=166.4*
IDC ***11*** *09:05:49.2±2.5, 6°.97S×155°.78E, h97km±23km, mb3.8/13, mb1 3.9/16, mb1mx3.9/21, mbtmp3.8/16, MS3.3/5, Ms1 3.3/5, ms1mx2.9/26, Error ellipse: s-maj=17.9km s-min=16.1km az=139.0*
NEIC ***11*** *09:05:49.9±0.9, 6°.97S×155°.81E, h104km±9km, mb4.7/4, Error ellipse: s-maj=9.6km s-min=7.1km az=149.0*

ISC 11 09:05:49.7±1.4, 6°.96S±0°.09×155°.81E±0°.07, h102km±13km, n45, σ0°65/44, mb3.9/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.77**	**121**	P	**Pn**	**09 06 59.5**	**+0.2**
	14nm,0.3s,baz=326,slow=11,SNR=3.3						
HNR				S	**Sn**	**09 07 59.2**	**+5.7**
	33nm,0.3s,baz=69,slow=15,SNR=3.6						
HNR				LR	LR	09 08 38.7	
	comp=Z,137nm,18.2s,baz=101,slow=35						
HNR	**Honiara**	**4.77**	**121**	P	**Pn**	**09 06 59.5**	**+0.2**
HNR				S	**Sn**	**09 07 59.2**	**+5.7**
PMG	**Port Moresby**	**8.90**	**254**	P	**Pn**	**09 07 54.6**	**-0.9**
	6.1nm,0.3s,baz=63,slow=9.0,SNR=16						
PMG				S	**Sn**	**09 09 34.9**	**+0.9**
	1.2nm,0.3s,baz=13,slow=14,SNR=4.5						
PMG	**Port Moresby**	**8.90**	**254**	*e*Pn	**Pn**	**09 07 55.5**	**0.0**
	22nm,0.6s						
PMG				S	**Sn**	**09 09 34.9**	**+0.9**
COEN	**Coen**	**14.23**	**240**	*e*P	**Pn**	**09 09 05.6**	**-1.0**
	28nm,0.9s						
CTA	**Charters Tower**	**16.01**	**214**	P	**Pn**	**09 09 29.6**	**+0.6**
	0.3nm,0.3s,baz=34,slow=15,SNR=3.4						
CTA				LR	LR	09 14 31.4	
	comp=Z,96nm,21.4s,baz=44,slow=33						
CTA	**Charters Tower**	**16.01**	**214**	P	**Pn**	**09 09 29.6**	**+0.6**
WRAB	**Tennant Creek**	**24.49**	**236**	*e*P	**P**	**09 10 59.7**	**+0.1**
	2.3nm,0.6s,mb3.7						
WB2	**Warramunga Arr**	**24.50**	**236**	*e*P	**P**	**09 10 59.8**	**+0.2**
WRA	**Warramunga Arr**	**24.51**	**236**	P	**P**	**09 10 59.5**	**-0.2**
	1.8nm,0.5s,mb3.8,baz=63,slow=10,SNR=37						
WRA				PcP	PcP	09 14 37.1	+1.3
	0.5nm,0.3s,baz=65,slow=2.7,SNR=8.2						
WRA	**Warramunga Arr**	**24.51**	**236**	P	**P**	**09 10 59.5**	**-0.2**
WRA				PcP	PcP	09 14 37.1	+1.3
CMSA	**Cobar Meteorol**	**26.22**	**200**	*e*P	**P**	**09 11 16.3**	**+1.2**
	11nm,0.4s,mb4.7						
AS31	**Alice Springs**	**26.80**	**229**	*e*P	**P**	**09 11 19.7**	**-0.7**
ASAR	**Alice Springs**	**26.81**	**229**	P	**P**	**09 11 19.6**	**-0.9**
	0.6nm,0.5s,mb3.4,baz=59,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**26.81**	**229**	P	**P**	**09 11 19.6**	**-0.9**
STKA	**Stephens Creek**	**28.12**	**206**	P	**P**	**09 11 31.6**	**-0.5**
	3.0nm,0.9s,mb3.8,baz=328,slow=5.7,SNR=3.1						
STKA				LR	LR	09 22 03.8	
	comp=Z,98nm,19.7s,baz=25,slow=35						
STKA	**Stephens Creek**	**28.12**	**206**	*e*P	**P**	**09 11 32.2**	**+0.1**
	0.6nm,0.8s,mb3.2						
FITZ	**Fitzroy Crossi**	**31.41**	**247**	P	**P**	**09 12 00.3**	**-1.0**
	1.6nm,0.3s,mb4.2,baz=79,slow=9.2,SNR=14						
FITZ				LR	LR	09 23 26.7	
	comp=Z,79nm,18.7s,baz=142,slow=34						
FITZ	**Fitzroy Crossi**	**31.41**	**247**	*e*P	**P**	**09 11 59.7**	**-1.7**
	7.7nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**31.41**	**247**	*e*P	**P**	**09 12 00.4**	**-0.9**
	3.5nm,0.6s,mb4.3						
RPZ	**Rata Peaks**	**38.98**	**162**	P	**P**	**09 13 06.1**	**+0.2**
	6.9nm,0.9s,mb4.5,baz=339,slow=8.6,SNR=2.6						
RPZ	**Rata Peaks**	**38.98**	**162**	P	**P**	**09 13 06.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**44.12**	**229**	LR	LR	09 34 15.4	
	comp=Z,48nm,18.3s,baz=189,slow=39						
MJAR	**Matsushiro Arr**	**46.31**	**340**	P	**P**	**09 14 04.7**	**-0.6**
	2.2nm,0.8s,mb3.9,baz=165,slow=7.3,SNR=3.4						
MJAR	**Matsushiro Arr**	**46.31**	**340**	P	**P**	**09 14 04.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**61.50**	**295**	P	**P**	**09 15 57.2**	**+1.0**
	1.5nm,0.6s,mb4.2,baz=127,slow=5.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**61.50**	**295**	P	**P**	**09 15 57.2**	**+1.0**
SONM	**Songino Array**	**69.75**	**327**	P	**P**	**09 16 49.5**	**+0.8**
	0.7nm,0.4s,mb3.8,baz=149,slow=4.9,SNR=5.4						
SONM	**Songino Array**	**69.75**	**327**	P	**P**	**09 16 49.5**	**+0.8**
ILAR	**Eielson Array**	**83.04**	**21**	P	**P**	**09 18 03.3**	**-0.2**
	0.4nm,0.4s,mb3.6,baz=249,slow=4.9,SNR=14						
ILAR	**Eielson Array**	**83.04**	**21**	P	**P**	**09 18 03.3**	**-0.2**
MK31	**Makanchi Array**	**83.91**	**319**	*e*P	**P**	**09 18 08.7**	**+0.3**
MKAR	**Makanchi Array**	**83.91**	**319**	P	**P**	**09 18 08.2**	**-0.1**
	1.2nm,0.6s,mb3.9,baz=108,slow=5.1,SNR=14						
MKAR	**Makanchi Array**	**83.91**	**319**	P	**P**	**09 18 08.2**	**-0.1**
ZALV	**Zalesovo Beam**	**84.60**	**326**	P	**P**	**09 18 11.9**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=129,slow=5.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**84.60**	**326**	P	**P**	**09 18 11.9**	**+0.3**
CRAG	**Craig**	**85.15**	**33**	*e*P	**P**	**09 18 13.5**	**-0.8**
	17nm,0.4s						
KURK	**Kurchatov**	**87.31**	**322**	P	**P**	**09 18 25.3**	**+0.3**
	0.2nm,0.4s,mb3.4,baz=95,slow=5.4,SNR=4.9						
KURK	**Kurchatov**	**87.31**	**322**	P	**P**	**09 18 25.3**	**+0.3**
YKA	**Yellowknife Ar**	**95.93**	**28**	P	**P**	**09 19 04.9**	**+0.2**
	0.1nm,0.3s,mb3.7,baz=269,slow=4.4,SNR=6.1						
YKA	**Yellowknife Ar**	**95.93**	**28**	P	**P**	**09 19 04.9**	**+0.2**
FINES	**FINESS Array B**	**114.23**	**336**	PKP	PKiKP	09 24 17.4	+0.5
	3.9nm,0.9s,baz=186,slow=1.9,SNR=4.5						
FINES	**FINESS Array B**	**114.23**	**336**	PKP	PKiKP	09 24 17.4	+0.5
TORD	**Torodi Ar. Bea**	**153.80**	**286**	PKPbc	PKPbc	09 25 37.5	-0.5
	0.3nm,0.4s,baz=82,slow=1.7,SNR=7.2						
TORD				PKPab	PKPab	09 25 51.2	-0.1
	1.4nm,0.7s,baz=83,slow=3.7,SNR=8.8						
TORD	**Torodi Ar. Bea**	**153.80**	**286**	PKPbc	PKPbc	09 25 37.5	-0.5
TORD				PKPab	PKPab	09 25 51.2	-0.1

IDC 11 09:09:01.4±57.0, 13°.02S×164°.94E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=957.5km s-min=107.9km az=62.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**17.93**	**225**	*e*P	Pn	09 13 22.0	+10
	21nm,0.4s						
STKA	**Stephens Creek**	**28.48**	**225**	P	P	09 14 58.2	-0.3
	1.0nm,0.5s,baz=55,slow=8.1,SNR=4.2						
WRA	**Warramunga Arr**	**30.11**	**253**	P	P	09 15 13.2	+0.2
	0.2nm,0.4s,baz=83,slow=9.2,SNR=4.1						
ASAR	**Alice Springs**	**31.23**	**246**	P	P	09 15 23.1	+0.1
	0.7nm,0.5s,baz=70,slow=9.5,SNR=11						

MOS ***11*** *09:09:19.9±1.4, 43°.24N×46°.22E, h15km, mb4.0/1, Error ellipse: s-maj=10.3km s-min=7.2km az=27.8*
CSEM ***11*** *09:09:19.9±0.3, 43°.26N×46°.19E, h2km, mb4.0, Error ellipse: s-maj=8.1km s-min=2.9km az=24.0*

**ISC 11

AKT	**Akhty**	**2.07**	**145**	*e*Pn	**Pg**	**09 09 58.0**	**-2.2**
	comp=Z,23nm,0.3s						
AKT				*e*Sb	**Sg**	**09 10 27.0**	**-0.1**
ONI	**Oni**	**2.08**	**254**	P	**Pn**	**09 09 57.5**	**+1.9**
ONI				S	**Sg**	**09 10 26.2**	**-1.3**
ONI	**Oni**	**2.08**	**254**	P	**Pn**	**09 09 57.5**	**+1.9**
ONI				S	**Sg**	**09 10 26.2**	**-1.3**
AKH	**Akhalkalaki**	**2.67**	**229**	P	**Sg**	**09 10 43.0**	**-3.2**

MEX 11 09:14:59.0±0.7, 17°.38N×97°.19W, h71km±6km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.53**	**125**	*i* P	Pn	09 15 11.0	-1.1
VHO				*i* S	Sn	09 15 20.0	-1.9
OXX	**Oaxaca**	**0.53**	**123**	*i* P	Pn	09 15 11.5	-0.7
OXX				*i* S	Sn	09 15 20.3	-1.6
UTMO	**Huajuapan**	**0.74**	**308**	*i* P	Pn	09 15 13.9	-0.5
UTMO				*i* S	Sn	09 15 24.4	-1.4
TPIG	**Tehuac#an**	**1.05**	**351**	*e*P	Pn	09 15 16.9	-1.3
TPIG				*i* S	Sn	09 15 30.2	-2.3
PNIG	**Pinotepa**	**1.33**	**223**	*i* P	Pn	09 15 20.2	-1.5
PNIG				*i* S	Sn	09 15 37.4	-1.5
HUIG	**Huatulco**	**1.91**	**147**	*e*P	Pn	09 15 27.7	-1.7
HUIG				*i* S	Sn	09 15 49.9	-2.6
CMIG	**Matias Romero**	**2.22**	**97**	*i* P	Pn	09 15 32.5	-1.1
CMIG				*i* S	Sn	09 15 58.0	-2.1
MEIG	**Mezcala**	**2.38**	**284**	*e*P	Pn	09 15 34.5	-1.3
MEIG				*i* S	Sn	09 16 02.1	-2.0
ACX	**Acapulco**	**2.60**	**259**	*i* P	Pn	09 15 37.7	-1.1
ACX				*i* S	Sn	09 16 08.2	-1.2
CAIG	**El Cayaco**	**2.96**	**264**	*i* P	Pn	09 15 42.1	-1.6
CAIG				*i* S	Sn	09 16 15.6	-2.5
TGIG		**3.93**	**98**	*e*P	Pn	09 15 56.8	-0.1
TGIG				*i* S	Sn	09 16 39.1	-2.9
PCIG		**4.15**	**113**	*e*P	Pn	09 15 59.2	-0.7
PCIG				*i* S	Sn	09 16 45.8	-1.5
CCIG	**Comitan**	**4.96**	**102**	*e*P	Pn	09 16 12.7	+1.7
CCIG				*i* S	Sn	09 17 06.8	-0.2

*IDC **11** 09:28:06.1±2.0, 8°.32S×129°.63E, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/19, Error ellipse: s-maj=70.3km s-min=27.8km az=77.0*
*ISCJB **11** 09:28:09.9±1.3, 8°.61S±0°.08×129°.3E±0°.1, h33km, Error ellipse: s-maj=16.9km s-min=11.2km az=159.7*
*NEIC **11** 09:28:11.4±1.1, 8°.46S×129°.44E, h35km, Error ellipse: s-maj=27.9km s-min=12.8km az=66.0*
ISC 11 09:28:12.1±1.3, 8°.55S±0°.08×129°.4E±0°.1, h35km, n12, σ1º10/17, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.18**	**201**	Pn	**Pn**	**09 30 37.7**	**+1.9**
	0.5nm,0.3s,baz=30,slow=15,SNR=23						
FITZ				Sn	**Sn**	**09 32 28.0**	**-0.6**
	0.6nm,0.3s,baz=191,slow=19,SNR=4.7						
FITZ				LR	LR	09 35 08.7	
	comp=Z,48nm,21.5s,baz=14,slow=40						
FITZ	**Fitzroy Crossi**	**10.18**	**201**	*e*Pn	**Pn**	**09 30 36.3**	**+0.6**
FITZ				Sn	**Sn**	**09 32 28.0**	**-0.6**
KAPI	**Kappang**	**10.20**	**290**	LR	LR	09 35 05.7	
	comp=Z,54nm,18.4s,baz=139,slow=41						
WRAB	**Tennant Creek**	**12.29**	**158**	*e*Pn	**Pn**	**09 31 05.3**	**+0.6**
WRAB				*e*Sn	**Sn**	**09 33 19.6**	**-0.9**
WRA	**Warramunga Arr**	**12.29**	**158**	Pn	**Pn**	**09 31 04.5**	**-0.3**
	0.5nm,0.3s,baz=338,slow=12,SNR=25						
WRA				Sn	**Sn**	**09 33 17.9**	**-2.7**
	0.5nm,0.3s,baz=336,slow=22,SNR=8.9						
WRA	**Warramunga Arr**	**12.29**	**158**	Pn	**Pn**	**09 31 04.5**	**-0.3**
WRA				Sn	**Sn**	**09 33 17.9**	**-2.7**
WB2	**Warramunga Arr**	**12.30**	**158**	*e*Pn	**Pn**	**09 31 05.2**	**+0.4**
WB2				*e*Sn	**Sn**	**09 33 22.6**	**+1.9**
AS31	**Alice Springs**	**15.64**	**165**	*e*Pn	**Pn**	**09 31 50.8**	**+0.9**
ASAR	**Alice Springs**	**15.64**	**165**	Pn	**Pn**	**09 31 49.9**	**-0.1**
	0.2nm,0.3s,baz=346,slow=10,SNR=13						
ASAR	**Alice Springs**	**15.64**	**165**	Pn	**Pn**	**09 31 49.9**	**-0.1**
MKAR	**Makanchi Array**	**69.19**	**327**	P	**P**	**09 39 14.2**	**-0.9**
	0.9nm,0.9s,baz=111,slow=7.9,SNR=3.1						
MKAR	**Makanchi Array**	**69.19**	**327**	P	**P**	**09 39 14.2**	**-0.9**

MEX 11 09:35:07.8±1.2, 18°.66N×100°.93W, h67km±22km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**1.04**	**346**	*i* P	Pn	09 35 24.8	-1.9
MOIG				*i* S	Sn	09 35 39.6	-1.1
ZIIG	**Zihuatanejo**	**1.16**	**206**	*i* P	Pn	09 35 27.0	-1.3
ZIIG				*i* S	Sn	09 35 42.5	-1.0
MEIG	**Mezcala**	**1.44**	**120**	*i* P	Pn	09 35 30.4	-1.5
MEIG				*i* S	Sn	09 35 47.7	-2.3
CAIG	**El Cayaco**	**1.72**	**158**	*i* P	Pn	09 35 33.5	-2.1
CAIG				*i* S	Sn	09 35 54.0	-2.7
ACX	**Acapulco**	**2.05**	**150**	*i* P	Pn	09 35 38.5	-1.6
ACX				*i* S	Sn	09 36 02.4	-2.3
PPM	**Popocatepetl**	**2.22**	**79**	*i* P	Pn	09 35 42.9	+0.6
PPM				*i* S	Sn	09 36 08.1	-0.6
MMIG	**Aquila**	**2.32**	**261**	*i* P	Pn	09 35 43.0	-0.7
MMIG				*i* S	Sn	09 36 07.8	-3.4
UTMO	**Huajuapan**	**3.08**	**105**	*i* P	Pn	09 35 54.0	-0.1
UTMO				*i* S	Sn	09 36 29.1	-0.7
PNIG	**Pinotepa**	**3.50**	**130**	*i* P	Pn	09 35 58.4	-1.3
PNIG				*i* S	Sn	09 36 43.4	+3.4
VHO	**Vista Hermosa**	**4.30**	**111**	*i* P	Pn	09 36 11.3	+0.6
VHO				*i* S	Sn	09 36 58.0	-1.6

*ISCJB **11** 09:35:33.6±0.3, 44°.55N±0°.02×6°.89E±0°.03, h13km±3km, Error ellipse: s-maj=3.9km s-min=2.6km az=147.8*
*GEN **11** 09:35:34.6, 44°.54N×6°.91E, h12km, ML1.9*
*CSEM **11** 09:35:34.0±0.1, 44°.55N×6°.92E, h10km, ML2.5/6, Error ellipse: s-maj=1.7km s-min=1.2km az=57.0*
*LDG **11** 09:35:34.4±0.1, 44°.57N×6°.91E, h2km, Md2.4/3, Ml2.6/7, Error ellipse: s-maj=1.8km s-min=1.1km az=64.0*
*NEIC **11** 09:35:34.4, 44°.57N×6°.91E, h2km, ML2.6(LDG), After LDG.*
*STR **11** 09:35:35.4±0.3, 44°.49N×6°.87E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 11 09:35:34.1±0.3, 44°.56N±0°.02×6°.92E±0°.03, h12km±4km, n54, σ0º53/95, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.11**	**226**	Pg	**Pg**	**09 35 36.8**	**-0.2**
SURF				Sg	**Sg**	**09 35 38.5**	**-0.7**
SURF	**Saint Ours**	**0.11**	**226**	Pg	**Pg**	**09 35 36.8**	**-0.2**
SURF				Sg	**Sg**	**09 35 38.5**	**-0.7**
PZZ	**Stroppo**	**0.15**	**110**	P	**Pg**	**09 35 38.2**	**+0.6**
PZZ				S	**Sg**	**09 35 40.9**	**+0.8**
MBDF	**Montbardon**	**0.20**	**328**	*e*Pg	**Pg**	**09 35 38.5**	**0.0**
MBDF				*e*Sg	**Sg**	**09 35 41.3**	**-0.2**
	353nm,0.3s						
MBDF	**Montbardon**	**0.20**	**328**	*e*Pg	**Pg**	**09 35 38.5**	**0.0**
MBDF				*e*Sg	**Sg**	**09 35 41.3**	**-0.2**
MBDF	**Montbardon**	**0.20**	**328**	*e*Pg	**Pg**	**09 35 38.5**	**0.0**
MBDF				*e*Sg	**Sg**	**09 35 41.3**	**-0.2**
	177nm,0.3s						
STV	**Sant Anna di V**	**0.43**	**137**	P	**Pg**	**09 35 42.7**	**+0.2**
STV				S	**Sg**	**09 35 48.1**	**-0.1**
TOUF	**Mont Tournerai**	**0.59**	**157**	Pg	**Pg**	**09 35 46.0**	**+0.4**
TOUF	**Mont Tournerai**	**0.59**	**157**	Pg	**Pg**	**09 35 46.0**	**+0.4**
OG25	**Le Caire**	**0.64**	**253**	Pg	**Pg**	**09 35 46.4**	**0.0**
OG25				Sg	**Sg**	**09 35 54.1**	**-0.7**
OG25	**Le Caire**	**0.64**	**253**	Pg	**Pg**	**09 35 46.4**	**0.0**
OG25				Sg	**Sg**	**09 35 54.1**	**-0.7**
RSP	**Reno Superiore**	**0.64**	**22**	P	**Pg**	**09 35 47.0**	**+0.5**
AUTN	**L'Aution**	**0.67**	**147**	Pg	**Pg**	**09 35 47.5**	**+0.4**
AUTN				Sg	**Sg**	**09 35 56.4**	**+0.6**
AUTN	**L'Aution**	**0.67**	**147**	Pg	**Pg**	**09 35 47.5**	**+0.4**
AUTN				Sg	**Sg**	**09 35 56.4**	**+0.6**
MVIF	**Mont Vial**	**0.68**	**166**	Pg	**Pg**	**09 35 48.1**	**+0.8**
MVIF				Sg	**Sg**	**09 35 55.9**	**-0.3**
MVIF	**Mont Vial**	**0.68**	**166**	Pg	**Pg**	**09 35 48.1**	**+0.8**
MVIF				Sg	**Sg**	**09 35 55.9**	**-0.3**
SAOF	**Saorge**	**0.73**	**141**	Pg	**Pg**	**09 35 48.7**	**+0.5**
SAOF				Sg	**Sg**	**09 35 57.7**	**-0.1**
SAOF	**Saorge**	**0.73**	**141**	Pg	**Pg**	**09 35 48.7**	**+0.5**
SAOF				Sg	**Sg**	**09 35 57.7**	**-0.1**
LUCF	**Luceram**	**0.73**	**155**	Pg	**Pg**	**09 35 48.5**	**+0.3**
LUCF				Sg	**Sg**	**09 35 58.2**	**+0.4**
LUCF	**Luceram**	**0.73**	**155**	Pg	**Pg**	**09 35 48.5**	**+0.3**
LUCF				Sg	**Sg**	**09 35 58.2**	**+0.4**
MONE	**Monesi**	**0.77**	**128**	P	**Pg**	**09 35 48.8**	**-0.1**
MONE				S	**Sg**	**09 35 58.2**	**-0.7**
SBF	**Sospel**	**0.79**	**152**	*e*Pg	**Pg**	**09 35 49.4**	**+0.1**
SBF				*e*Sg	**Sg**	**09 36 00.1**	**+0.5**
	29nm,0.2s						
SBF	**Sospel**	**0.79**	**152**	*e*Pg	**Pg**	**09 35 49.4**	**+0.1**
SBF				*e*Sg	**Sg**	**09 36 00.1**	**+0.5**
SBF	**Sospel**	**0.79**	**152**	*e*Pg	**Pg**	**09 35 49.4**	**+0.1**
SBF				*e*Sg	**Sg**	**09 36 00.1**	**+0.5**
	14nm,0.2s						
RONM	**Roccetta Nervi**	**0.84**	**144**	P	**Pg**	**09 35 49.7**	**-0.5**
RONM				S	**Sg**	**09 35 59.8**	**-1.4**
NEGI	**Seborga**	**0.91**	**141**	P	**Pg**	**09 35 51.4**	**-0.1**
LSD	**Lago del Serru**	**0.92**	**9**	P	**Pg**	**09 35 52.2**	**+0.4**
RORO	**Rocca Rossa**	**0.93**	**118**	P	**Pg**	**09 35 51.4**	**-0.7**
LPG	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**09 35 52.7**	**+0.3**
LPG				*e*Sg	**Sg**	**09 36 04.3**	**-0.5**
	6.3nm,0.3s						
LPG	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**09 35 52.7**	**+0.3**
LPG				*e*Sg	**Sg**	**09 36 04.3**	**-0.5**
LPG	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**09 35 52.7**	**+0.3**
IMI	**Imperia**	**0.95**	**132**	P	**Pg**	**09 35 51.8**	**-0.6**
LPL	**La Plagne**	**0.97**	**352**	*e*Pg	**Pg**	**09 35 52.7**	**-0.1**
LPL				*e*Sg	**Sg**	**09 36 04.9**	**-0.5**
	5.2nm,0.2s						
LPL	**La Plagne**	**0.97**	**352**	*e*Pg	**Pg**	**09 35 52.7**	**-0.1**
LPL				*e*Sg	**Sg**	**09 36 04.9**	**-0.5**
LPL	**La Plagne**	**0.97**	**352**	*e*Pg	**Pg**	**09 35 52.7**	**-0.1**
FIN	**Finale Ligure**	**0.99**	**110**	P	**Pb**	**09 35 53.4**	**+0.3**
FRF	**La Foret Royal**	**1.02**	**191**	*e*Pg	**Pg**	**09 35 53.3**	**-0.3**
FRF				*e*Sg	**Sg**	**09 36 07.6**	**+0.7**
	23nm,0.3s						
FRF	**La Foret Royal**	**1.02**	**191**	*e*Pg	**Pg**	**09 35 53.3**	**-0.3**
FRF				*e*Sg	**Sg**	**09 36 07.6**	**+0.7**
FRF	**La Foret Royal**	**1.02**	**191**	*e*Pg	**Pg**	**09 35 53.3**	**-0.3**
FRF				*e*Sg	**Sg**	**09 36 07.6**	**+0.7**
	12nm,0.3s						
SMRF	**Simiane la Rot**	**1.13**	**239**	*e*Pg	**Pg**	**09 35 56.0**	**+0.2**
SMRF				*e*Sg	**Sg**	**09 36 11.2**	**+0.7**
	23nm,0.3s						
SMRF	**Simiane la Rot**	**1.13**	**239**	*e*Pg	**Pg**	**09 35 56.0**	**+0.2**
SMRF				*e*Sg	**Sg**	**09 36 11.2**	**+0.7**
SMRF	**Simiane la Rot**	**1.13**	**239**	*e*Pg	**Pg**	**09 35 56.0**	**+0.2**
PCP	**Piancastagn**	**1.16**	**90**	P	**Pb**	**09 35 55.6**	**-0.4**
LMR	**La Mourre**	**1.26**	**194**	*e*Pg	**Pg**	**09 35 57.7**	**-0.6**
LMR				*e*Sg	**Sg**	**09 36 14.3**	**-0.3**
	12nm,0.2s						
LMR	**La Mourre**	**1.26**	**194**	*e*Pg	**Pg**	**09 35 57.7**	**-0.6**
LMR				*e*Sg	**Sg**	**09 36 14.3**	**-0.3**
LMR	**La Mourre**	**1.26**	**194**	*e*Pg	**Pg**	**09 35 57.7**	**-0.6**
LMR				*e*Sg	**Sg**	**09 36 14.3**	**-0.3**
	5.8nm,0.2s						
VIVF	**Saint-Julien-l**	**1.63**	**281**	*e*Pn	**Pn**	**09 36 03.3**	**+0.7**
VIVF	**Saint-Julien-l**	**1.63**	**281**	*e*Pg	**Pg**	**09 36 05.5**	**+0.1**
VIVF				*e*Sg	**Sg**	**09 36 26.4**	**-0.2**
	10.0nm,0.4s						
VIVF	**Saint-Julien-l**	**1.63**	**281**	*e*Pn	**Pn**	**09 36 03.3**	**+0.7**
VIVF				*e*Pg	**Pg**	**09 36 05.5**	**+0.1**
VIVF				*e*Sg	**Sg**	**09 36 26.4**	**-0.2**
VIVF	**Saint-Julien-l**	**1.63**	**281**	*e*Pn	**Pn**	**09 36 03.3**	**+0.7**
VIVF	**Saint-Julien-l**	**1.63**	**281**	*e*Pg	**Pg**	**09 36 05.5**	**+0.1**
VIVF				*e*Sg	**Sg**	**09 36 26.4**	**-0.2**
	5.0nm,0.4s						
PGF	**Pioggiola**	**2.51**	**142**	*e*Pn	**Pn**	**09 36 15.5**	**+0.8**
PGF				*e*Sn	**Sn**	**09 36 44.1**	**-1.1**
	4.2nm,0.3s						
PGF	**Pioggiola**	**2.51**	**142**	*e*Pn	**Pn**	**09 36 15.5**	**+0.8**
PGF				*e*Sn	**Sn**	**09 36 44.1**	**-1.1**
PGF	**Pioggiola**	**2.51**	**142**	*e*Pn	**Pn**	**09 36 15.5**	**+0.8**
PGF				*e*Sn	**Sn**	**09 36 44.1**	**-1.1**
	2.1nm,0.3s						

*ISCJB **11** 10:22:42.8±0.5, 32°.30N±0°.03×47°.40E±0°.07, h10km, Error ellipse: s-maj=8.9km s-min=3.7km az=172.0*
*KISR **11** 10:22:43.5±0.9, 31°.94N×47°.34E, h34km±724km, ML2.9*
*TEH **11** 10:22:44.6, 32°.27N×47°.44E, h8km*
ISC 11 10:22:44.2±0.5, 32°.29N±0°.03×47°.40E±0°.07, h10km, n14, σ0º63/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.88**	**3**	*e*Pn	**Pn**	**10 23 17.4**	**+1.0**
IKOM				*e*Sg	**Sg**	**10 23 43.6**	**-1.1**
IKOM				*e*		10 23 58.7	
	comp=Z,3μm,0.2s						
IGHG	**Ghaleghazi**	**2.15**	**341**	*e*Pn	**Pn**	**10 23 21.1**	**+1.0**
IGHG				*e*Sg	**Sg**	**10 23 52.4**	**-0.9**
IGHG				*e*		10 24 10.4	
	comp=Z,4μm,0.4s						
IVIS	**Veis**	**2.28**	**349**	*e*Pn	**Pn**	**10 23 23.2**	**+1.4**
IVIS				*e*Sg	**Sg**	**10 23 56.8**	**-0.6**
IVIS				*e*		10 24 06.2	
	comp=E,2μm,0.3s						
IDHR	**Dehrash**	**2.55**	**341**	*e*Pn	**Pn**	**10 23 26.1**	**+0.6**
IDHR				*e*		10 24 14.2	
	comp=Z,2μm,0.2s						
IPIR	**Pirpir**	**2.98**	**81**	*e*Pn	**Pn**	**10 23 31.6**	**+0.1**
IPIR				*e*		10 24 26.1	
	comp=N,971nm,0.3s						
NAY	**Al-Naaiem**	**3.03**	**183**	*e*P	**Pn**	**10 23 31.9**	**-0.3**
RDF	**Al-Radifah**	**3.35**	**178**	*e*P	**Pn**	**10 23 36.7**	**+0.1**
RDF				*e*S	**Sn**	**10 24 15.7**	**-0.8**
QRN	**Al-Qurain**	**3.56**	**173**	*e*P	**Pn**	**10 23 39.0**	**-0.5**
QRN				*e*S	**Sn**	**10 24 21.7**	**+0.1**
QRN				AML	AML	10 24 23.4	
	comp=Z,31nm,0.7s						
IKLH	**Kolahrood**	**3.67**	**73**	*e*Pn	**Pn**	**10 23 40.8**	**-0.1**
IKLH				*e*		10 24 45.9	
	comp=N,578nm,0.3s						
IGAR	**Gharneh**	**3.93**	**87**	*e*Pn	**Pn**	**10 23 44.5**	**-0.1**
IGAR				*e*		10 24 33.1	
	comp=Z,425nm,0.1s						
IZEF	**Zefreh**	**4.21**	**80**	*e*Pn	**Pn**	**10 23 48.4**	**+0.1**
IZEF				*e*		10 23 54.0	
	comp=Z,185nm,0.1s						
IMHD	**Mahdasht**	**4.34**	**38**	*e*Pn	**Pn**	**10 23 50.4**	**+0.2**
IMHD				*e*		10 23 54.4	
	comp=E,365nm,0.1s						
IVRN	**Varamin**	**4.51**	**52**	*e*Pn	**Pn**	**10 23 52.4**	**-0.1**
IDMV	**Damavand**	**5.06**	**48**	*e*Pn	**Pn**	**10 24 00.0**	**-0.1**
IDMV				*e*		10 25 01.6	
	comp=Z,186nm,0.2s						

IDC 11 10:29:28.2±3.5, 15°.37S×173°.27W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.4/4, Error ellipse: s-maj=193.8km s-min=28.3km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	10 38 24.1	-0.4
	0.1nm,0.7s,baz=98,slow=7.0,SNR=3.1						
ASAR	**Alice Springs**	**50.24**	**252**	P	P	10 38 26.9	+0.4
	0.4nm,0.5s,baz=87,slow=7.9,SNR=8.6						
NVAR	**Mina Array Bea**	**74.22**	**42**	P	P	10 41 07.6	+0.6
	0.5nm,0.8s,baz=222,slow=10,SNR=3.6						
ILAR	**Eielson Array**	**82.39**	**11**	P	P	10 41 51.5	-0.2
	0.3nm,0.8s,baz=202,slow=6.8,SNR=4.9						

*ISK **11** 10:35:10.5, 35°.91N×29°.32E, h3km, MD3.4*
*ATH **11** 10:35:11.5, 36°.12N×29°.59E, h50km±6km, MD3.1/3*
*ISCJB **11** 10:35:12.7±0.9, 35°.85N±0°.02×29°.40E±0°.04, h28km±9km, Error ellipse: s-maj=5.3km s-min=4.0km az=163.2*
*CSEM **11** 10:35:13.5±0.3, 35°.96N×29°.34E, h15km, MD3.3, Error ellipse: s-maj=6.1km s-min=4.7km az=176.0*
*DDA **11** 10:35:14.4, 36°.04N×29°.21E, h18km, Md3.3*
*HLW **11** 10:35:18.8, 35°.74N×29°.49E, h26km±11km, Md3.6, Ml2.9*
ISC 11 10:35:13.1±0.9, 35°.92N±0°.02×29°.37E±0°.04, h15km±6km, n67, σ1º00/92, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.29**	**37**	*e*P	**Pg**	**10 35 19.5**	**+0.3**
ELL	**Elmali**	**0.93**	**28**	*e*PG	**Pg**	**10 35 29.3**	**-1.9**
TURN	**Turunc**	**1.13**	**327**	*i* P	**Pb**	**10 35 35.1**	**+0.8**
TURN				*i* S	**Sb**	**10 35 49.7**	**+0.8**
TURN	**Turunc**	**1.13**	**327**	*i* P	**Pb**	**10 35 35.1**	**+0.7**
TURN				*i* S	**Sb**	**10 35 49.7**	**+0.8**
GLHS	**Glhisar (BURDU**	**1.24**	**5**	*e*PN	**Pn**	**10 35 34.9**	**-0.9**
GLHS				*e*SN	**Sn**	**10 35 53.1**	**+0.9**
GLHS	**Glhisar (BURDU**	**1.24**	**5**	*e*Pn	**Pn**	**10 35 34.9**	**-0.9**
GLHS				*e*Sn	**Sn**	**10 35 53.2**	**+1.0**
GOLH	**Golhisar**	**1.32**	**7**	*i* P	**Pn**	**10 35 36.2**	**-0.8**
GOLH				*i* S	**Sn**	**10 35 53.4**	**-1.0**
GOLH	**Golhisar**	**1.32**	**7**	*i* P	**Pn**	**10 35 36.2**	**-0.8**
GOLH				*i* S	**Sn**	**10 35 53.4**	**-0.9**
KORT	**Korkueli**	**1.34**	**36**	*i* P	**Pn**	**10 35 37.5**	**+0.3**
KORT				*i* S	**Sn**	**10 35 54.9**	**+0.2**
KORT	**Korkueli**	**1.34**	**36**	*i* P	**Pn**	**10 35 37.5**	**+0.3**
KORT				*i* S	**Sn**	**10 35 54.9**	**+0.2**
YER	**Yerkesik**	**1.49**	**325**	*e*PN	**Pn**	**10 35 38.9**	**-0.4**
YER	**Yerkesik**	**1.49**	**325**	*e*Pn	**Pn**	**10 35 38.9**	**-0.4**
DAT	**Datca**	**1.66**	**300**	*e*PN	**Pn**	**10 35 40.6**	**-0.9**
DAT				*e*SN	**Sn**	**10 36 02.8**	**+0.2**
DAT	**Datca**	**1.66**	**300**	*e*Pn	**Pn**	**10 35 40.6**	**-1.0**
DAT				*e*Sn	**Sn**	**10 36 02.8**	**+0.3**
DNZL	**Cakiroluk**	**1.78**	**352**	*i* P	**Pn**	**10 35 44.3**	**+1.0**
DNZL				*i* S	**Sn**	**10 36 06.7**	**+0.9**
DNZL	**Cakiroluk**	**1.78**	**352**	*i* P	**Pn**	**10 35 44.3**	**+1.0**
DNZL				*i* S	**Sn**	**10 36 06.7**	**+1.0**
BCK	**Bucak**	**1.82**	**32**	*e*PN	**Pn**	**10 35 44.1**	**+0.2**
BCK	**Bucak**	**1.82**	**32**	*e*Pn	**Pn**	**10 35 44.1**	**+0.2**
KARP	**Karpathos**	**1.83**	**259**	*e*P	**Pn**	**10 35 44.8**	**+0.8**
KARP				*e*S	**Sn**	**10 36 09.6**	**+2.7**
KARP	**Karpathos**	**1.83**	**259**	*e*P	**Pn**	**10 35 44.8**	**+0.8**
KARP				*e*S	**Sn**	**10 36 09.6**	**+2.7**
DENT	**Denizli**	**1.85**	**352**	*e*PN	**Pn**	**10 35 44.3**	**0.0**
DENT	**Denizli**	**1.85**	**352**	*e*Pn	**Pn**	**10 35 44.3**	**+0.1**
BODT	**Bodrum**	**2.01**	**305**	*e*PN	**Pn**	**10 35 45.8**	**-0.7**
BODT	**Bodrum**	**2.01**	**305**	*e*Pn	**Pn**	**10 35 45.8**	**-0.7**
SUTC	**Sutluce-Ispart**	**2.03**	**40**	*e*PN	**Pn**	**10 35 47.1**	**+0.4**
SUTC	**Sutluce-Ispart**	**2.03**	**40**	*e*Pn	**Pn**	**10 35 47.1**	**+0.3**
AYDN	**Tasoluk**	**2.11**	**326**	*i* P	**Pn**	**10 35 47.8**	**0.0**
AYDN				*i* S	**Sn**	**10 36 11.2**	**-2.5**
AYDN	**Tasoluk**	**2.11**	**326**	*i* P	**Pn**	**10 35 47.8**	**0.0**
AYDN				*i* S	**Sn**	**10 36 11.2**	**-2.5**
GAZI	**Gazipasa**	**2.41**	**82**	*i* P	**Pn**	**10 35 51.5**	**-0.5**
GAZI				*i* S	**Sn**	**10 36 17.4**	**-3.7**
GAZI	**Gazipasa**	**2.41**	**82**	*i* P	**Pn**	**10 35 51.5**	**-0.4**
KHAL	**Karahalli**	**2.45**	**2**	*i* P	**Pn**	**10 35 50.4**	**-2.0**
KHAL				*i* S	**Sn**	**10 36 21.2**	**-0.8**
KHAL	**Karahalli**	**2.45**	**2**	*i* P	**Pn**	**10 35 50.4**	**-2.1**
KHAL				*i* S	**Sn**	**10 36 21.2**	**-0.9**
KULA	**Kula-Manisa**	**2.65**	**348**	*e*PN	**Pn**	**10 35 56.0**	**+0.7**
KULA	**Kula-Manisa**	**2.65**	**348**	*e*Pn	**Pn**	**10 35 56.0**	**+0.8**
SMG	**Samos**	**2.70**	**312**	*e*P	**Pn**	**10 35 54.7**	**-1.3**
SMG				*e*S	**Sn**	**10 36 25.5**	**-2.9**
SMG	**Samos**	**2.70**	**312**	*e*P	**Pn**	**10 35 54.7**	**-1.3**
SMG				*e*S	**Sn**	**10 36 25.5**	**-2.9**
HDMB	**Hadim**	**2.72**	**67**	*e*PN	**Pn**	**10 35 56.7**	**+0.5**
HDMB	**Hadim**	**2.72**	**67**	*e*Pn	**Pn**	**10 35 56.7**	**+0.5**
IZM	**Izmir**	**2.99**	**326**	*e*PN	**Pn**	**10 36 00.2**	**+0.3**
IZM	**Izmir**	**2.99**	**326**	*e*Pn	**Pn**	**10 36 00.2**	**+0.3**
BOLV	**Bolvadin**	**3.06**	**24**	*i* P	**Pn**	**10 36 01.9**	**+1.0**
BOLV				*i* S	**Sn**	**10 36 31.9**	**-5.4**
BOLV	**Bolvadin**	**3.06**	**24**	*i* P	**Pn**	**10 36 02.0**	**+1.1**
KONT	**Konya--Tatoy**	**3.13**	**49**	*e*PN	**Pn**	**10 36 02.9**	**+0.9**
KONT	**Konya--Tatoy**	**3.13**	**49**	*e*Pn	**Pn**	**10 36 02.9**	**+1.0**
ALT	**Altintas**	**3.18**	**10**	*e*PN	**Pn**	**10 36 03.6**	**+1.0**
ALT	**Altintas**	**3.18**	**10**	*e*Pn	**Pn**	**10 36 03.6**	**+1.0**
LADK	**Ladik-KONYA**	**3.30**	**46**	*e*PN	**Pn**	**10 36 05.3**	**+1.1**
LADK	**Ladik-KONYA**	**3.30**	**46**	*e

MAT	**Matsushiro**	**1.17**	**48**	P	**Pn**	**10 45 13.7**	**+0.4**
MAT				*e*S	**S**	**10 45 44.2**	**+0.5**
MJAR	**Matsushiro Arr**	**1.17**	**48**	P	**Pn**	**10 45 13.5**	**+0.2**
	18nm,0.3s,baz=242,slow=32,SNR=250						
MJAR				S	**S**	**10 45 44.2**	**+0.5**
	baz=251,slow=23,SNR=8.2						
MJAR	**Matsushiro Arr**	**1.17**	**48**	P	**Pn**	**10 45 13.5**	**+0.2**
MJAR				S	**S**	**10 45 44.2**	**+0.5**
JYN	**Shimob**	**1.18**	**102**	P	**Pn**	**10 45 13.8**	**+0.4**
JIE	**Ise**	**1.41**	**194**	P	**Pn**	**10 45 15.6**	**+0.7**
JIE				*e*S	**S**	**10 45 46.7**	**+0.1**
JRY	**Ryogami san**	**1.46**	**79**	P	**Pn**	**10 45 15.6**	**+0.4**
JWT	**Wachi**	**1.49**	**252**	P	**Pn**	**10 45 15.3**	**-0.1**
JWT				*e*S	**S**	**10 45 46.3**	**-1.1**
JOD2	**Odawara 2**	**1.67**	**107**	P	**Pn**	**10 45 17.4**	**+0.7**
JSZ	**Suzu**	**1.70**	**6**	P	**Pn**	**10 45 16.9**	**+0.1**
TK02	**Tokai 2**	**1.88**	**164**	P	**Pn**	**10 45 19.6**	**+1.2**
JAG	**Ashikaga**	**1.99**	**70**	P	**Pn**	**10 45 18.8**	**-0.5**
TTO1	**TONANKAI O.B.S**	**2.15**	**188**	P	**Pn**	**10 45 21.9**	**+1.1**
BSO1	**Boso 1**	**3.34**	**108**	P	**Pn**	**10 45 31.5**	**-0.9**
BSO1				*e*S	**S**	**10 46 16.4**	**-1.8**
MKAR	**Makanchi Array**	**41.88**	**303**	P	**P**	**10 51 58.2**	**-0.4**
	1.2nm,0.7s,mb3.2,baz=94,slow=10.0,SNR=12						
MKAR	**Makanchi Array**	**41.88**	**303**	P	**P**	**10 51 58.2**	**-0.4**
WRA	**Warramunga Arr**	**55.46**	**183**	P	**P**	**10 53 41.2**	**-0.4**
	0.6nm,0.3s,mb3.5,baz=360,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**55.46**	**183**	P	**P**	**10 53 41.2**	**-0.4**

NEIC ***11*** *10:44:38.3, 37°.59N×9°.40W, h20km, ML3.4(LDG), After LDG.*
MDD ***11*** *10:44:38.2±0.8, 37°.38N×9°.71W, h30km±18km, mbLg3.1/35, Error ellipse: s-maj=11.6km s-min=4.1km az=57.0, PRXIMO*
ISCJB ***11*** *10:44:38.2±0.6, 37°.61N±0°.03×9°.39W±0°.04, h10km, Error ellipse: s-maj=5.4km s-min=2.7km az=148.5*
INMG ***11*** *10:44:38.9±1.2, 37°.40N×9°.64W, h21km±4km, ML2.9, Error ellipse: s-maj=5.4km s-min=2.4km az=47.0*
LDG ***11*** *10:44:38.3±0.5, 37°.59N×9°.40W, h20km, Ml3.4/4, Error ellipse: s-maj=9.4km s-min=5.3km az=60.0*
IGIL ***11*** *10:44:38.7, 37°.39N×9°.64W, h21km, ML3.2*
CSEM ***11*** *10:44:39.2±0.3, 37°.54N×9°.48W, h20km, ML3.7/13, Error ellipse: s-maj=6.0km s-min=3.0km az=57.0*
ISC 11 10:44:38.1±0.6, 37°.55N±0°.02×9°.45W±0°.04, h10km, n145, σ1§21/270, 2C-3D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
PTEO	**Sao Teotonio**	**0.58**	**90**	*i*P	**Pg**	**10 44 52.8**	**+3.5**
PTEO				*e*S	**Sg**	**10 45 03.4**	**+6.5**
PTEO				A		10 45 03.9	
	138nm,0.3s						
PTEO	**Sao Teotonio**	**0.58**	**90**	⇑P	**Pg**	**10 44 52.8**	**+3.5**
PTEO				S	**Sg**	**10 45 03.4**	**+6.5**
	69nm,0.3s						
PFVI	**Vila Bisbo**	**0.65**	**130**	*i*P	**Pg**	**10 44 51.5**	**+0.8**
PFVI				*e*S	**Sg**	**10 45 01.1**	**+1.9**
PFVI				A		10 45 01.9	
	288nm,0.2s						
PFVI	**Vila Bisbo**	**0.65**	**130**	⇓P	**Pg**	**10 44 51.5**	**+0.8**
	30nm,0.1s,SNR=18						
PFVI				S	**Sg**	**10 45 00.8**	**+1.6**
	772nm,0.2s,SNR=33						
PFVI	**Vila Bisbo**	**0.65**	**130**	P	**Pg**	**10 44 51.5**	**+0.8**
	30nm,0.1s,SNR=18						
MORF	**Marmelete**	**0.68**	**111**	*e*P	**Pg**	**10 44 53.1**	**+1.8**
MORF				*e*S	**Sg**	**10 45 03.9**	**+3.6**
MORF				A		10 45 04.5	
	245nm,0.2s						
MORF	**Marmelete**	**0.68**	**111**	⇓P	**Pg**	**10 44 53.1**	**+1.8**
MORF				S	**Sg**	**10 45 03.9**	**+3.6**
	245nm,0.2s						
PNCL	**Nicolau / Gran**	**0.92**	**52**	*e*P	**Pg**	**10 44 58.4**	**+2.6**
PNCL				*e*S	**Sg**	**10 45 12.9**	**+5.1**
PNCL				A		10 45 15.1	
	136nm,0.3s						
PNCL	**Nicolau / Gran**	**0.92**	**52**	*e*P	**Pg**	**10 44 58.4**	**+2.6**
PNCL				*e*S	**Sg**	**10 45 12.9**	**+5.1**
	136nm,0.3s						
PLML	**Palmela**	**1.09**	**23**	*e*P	**Pb**	**10 45 00.7**	**+1.6**
PLML				*e*S	**Sb**	**10 45 15.3**	**+1.9**
PLML	**Palmela**	**1.09**	**23**	P	**Pb**	**10 45 00.7**	**+1.6**
PLML				S	**Sb**	**10 45 15.3**	**+1.9**
PLML	**Palmela**	**1.09**	**23**	*e*P	**Pb**	**10 45 00.7**	**+1.6**
PLML				*e*S	**Sb**	**10 45 15.3**	**+1.9**
PCVE	**Castro Verde**	**1.13**	**85**	*e*P	**Pb**	**10 45 00.3**	**+0.7**
PCVE				*e*S	**Sb**	**10 45 16.3**	**+2.0**
PCVE				A		10 45 18.8	
	56nm,0.2s						
PCVE	**Castro Verde**	**1.13**	**85**	P	**Pb**	**10 45 00.3**	**+0.7**
PCVE				S	**Sb**	**10 45 16.3**	**+2.0**
	56nm,0.2s						
PCVE	**Castro Verde**	**1.13**	**85**	*e*P	**Pb**	**10 45 00.3**	**+0.7**
PCVE				*e*S	**Sb**	**10 45 16.3**	**+2.0**
	56nm,0.2s						
LIS	**Lisbon**	**1.19**	**12**	*e*P	**Pn**	**10 45 00.6**	**-0.1**
LIS				*e*S	**Sb**	**10 45 17.6**	**+1.5**
LIS				AML	AML	10 45 20.1	
	comp=N,203nm,0.2s						
LIS	**Lisbon**	**1.19**	**12**	*e*P	**Pn**	**10 45 00.6**	**-0.2**
LIS				*e*S	**Sb**	**10 45 17.6**	**+1.5**
LIS	**Lisbon**	**1.19**	**12**	P	**Pn**	**10 45 00.6**	**-0.2**
LIS				S	**Sb**	**10 45 17.6**	**+1.5**
LIS	**Lisbon**	**1.19**	**12**	*e*P	**Pn**	**10 45 00.6**	**-0.2**
LIS				*e*S	**Sb**	**10 45 17.6**	**+1.5**
PBDV	**Barranco-do-Ve**	**1.25**	**104**	*e*P	**Pn**	**10 45 01.5**	**-0.1**
PBDV				*e*S	**Sb**	**10 45 18.2**	**+0.3**
PBDV				A		10 45 19.4	
	comp=N,104nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.25**	**104**	P	**Pn**	**10 45 01.5**	**-0.1**
PBDV				S	**Sb**	**10 45 18.2**	**+0.3**
	comp=N,104nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.25**	**104**	*e*P	**Pn**	**10 45 01.5**	**-0.1**
PBDV				*e*S	**Sb**	**10 45 18.2**	**+0.3**
	comp=N,104nm,0.3s						
MOE	**Montemor**	**1.30**	**42**	*e*S	**Sb**	**10 45 22.1**	**+2.7**
MOE	**Montemor**	**1.30**	**42**	S	**Sb**	**10 45 22.1**	**+2.7**
MOE	**Montemor**	**1.30**	**42**	*e*S	**Sb**	**10 45 22.1**	**+2.7**
PBEJ	**Beja**	**1.34**	**69**	*e*P	**Pn**	**10 45 03.8**	**+0.9**
PBEJ				*e*S	**Sb**	**10 45 22.1**	**+1.5**
PBEJ				A		10 45 24.2	
	comp=N,39nm,0.3s						
PBEJ	**Beja**	**1.34**	**69**	P	**Pn**	**10 45 03.8**	**+0.9**
PBEJ				S	**Sb**	**10 45 22.1**	**+1.5**
	comp=N,20nm,0.3s						
PBEJ	**Beja**	**1.34**	**69**	*e*P	**Pn**	**10 45 03.8**	**+0.9**
PBEJ				*e*S	**Sb**	**10 45 22.1**	**+1.5**
	comp=N,39nm,0.3s						
PVAQ	**Vaqueiros**	**1.39**	**96**	*e*P	**Pn**	**10 45 03.6**	**+0.1**
PVAQ				*e*S	**Sn**	**10 45 21.8**	**-0.1**
PVAQ				A		10 45 23.2	
	comp=N,121nm,0.2s						
PVAQ	**Vaqueiros**	**1.39**	**96**	P	**Pn**	**10 45 03.6**	**+0.1**
PVAQ				S	**Sn**	**10 45 21.8**	**-0.1**
	comp=N,121nm,0.2s						
PVAQ	**Vaqueiros**	**1.39**	**96**	*e*P	**Pn**	**10 45 03.6**	**+0.1**
PVAQ				*e*S	**Sn**	**10 45 21.8**	**-0.1**
	comp=N,121nm,0.2s						
PMAFR	**Mafra**	**1.41**	**5**	*i*P	**Pn**	**10 45 03.9**	**+0.1**
PMAFR				*e*S	**Sn**	**10 45 23.0**	**+0.6**
PMAFR				A		10 45 26.1	
	comp=N,198nm,0.2s						
PMAFR	**Mafra**	**1.41**	**5**	⇓P	**Pn**	**10 45 03.9**	**+0.1**
	comp=N,93nm,0.2s,SNR=18						
PMAFR				S	**Sn**	**10 45 23.0**	**+0.6**
	comp=N,160nm,0.2s,SNR=12						
PMAFR	**Mafra**	**1.41**	**5**	P	**Pn**	**10 45 03.9**	**+0.1**
	comp=N,93nm,0.2s,SNR=18						
PMAFR				S	**Sn**	**10 45 23.0**	**+0.6**
	comp=N,160nm,0.2s,SNR=12						
EVOP	**Sao Brissos**	**1.43**	**47**	*e*Pg	**Pg**	**10 45 05.2**	**-0.4**
EVOP				*e*Sg	**Sg**	**10 45 22.9**	**-1.3**
EVOP	**Sao Brissos**	**1.43**	**47**	*e*Pg	**Pg**	**10 45 05.2**	**-0.4**
EVO	**Evora**	**1.50**	**49**	*e*Pg	**Pg**	**10 45 05.2**	**-1.7**
EVO				*e*Sg	**Sg**	**10 45 22.9**	**-3.5**
	comp=N,139nm,0.3s						
EVO	**Evora**	**1.50**	**49**	*e*Pn	**Pn**	**10 45 05.6**	**+0.5**
EVO				*e*Sn	**Sn**	**10 45 26.6**	**+1.9**
EVO				A		10 45 28.2	
	comp=N,90nm,0.2s						
EVO	**Evora**	**1.50**	**49**	P	**Pn**	**10 45 05.6**	**+0.5**
EVO				S	**Sn**	**10 45 26.6**	**+1.9**
	comp=N,90nm,0.2s						
EVO	**Evora**	**1.50**	**49**	*e*Pn	**Pn**	**10 45 05.6**	**+0.5**
EVO				*e*Sn	**Sn**	**10 45 26.6**	**+1.9**
	comp=N,90nm,0.2s						
EGRO	**El Granado**	**1.57**	**90**	P	**Pn**	**10 45 06.0**	**0.0**
	comp=N,2.0nm,0.1s,SNR=18						
EGRO				S	**Sn**	**10 45 26.0**	**-0.3**
	comp=N,37nm,0.2s,SNR=18						
EGRO	**El Granado**	**1.57**	**90**	P	**Pn**	**10 45 06.0**	**0.0**
	comp=N,2.0nm,0.1s,SNR=18						
EGRO				S	**Sn**	**10 45 26.0**	**-0.3**
	comp=N,37nm,0.2s,SNR=18						
ALMR	**Almeirim**	**1.74**	**23**	*e*P	**Pn**	**10 45 09.1**	**+0.7**
ALMR				*e*S	**Sn**	**10 45 31.5**	**+0.8**
ALMR				AML	AML	10 45 34.0	
	comp=N,76nm,0.1s						
ALMR	**Almeirim**	**1.74**	**23**	*e*P	**Pn**	**10 45 09.1**	**+0.7**
ALMR				*e*S	**Sn**	**10 45 31.5**	**+0.8**
ALMR	**Almeirim**	**1.74**	**23**	P	**Pn**	**10 45 09.1**	**+0.7**
ALMR				S	**Sn**	**10 45 31.5**	**+0.8**
ALMR	**Almeirim**	**1.74**	**23**	*e*P	**Pn**	**10 45 09.1**	**+0.7**
ALMR				*e*S	**Sn**	**10 45 31.5**	**+0.8**
PMTG	**Montargil**	**1.80**	**32**	*e*Pn	**Pn**	**10 45 09.9**	**+0.8**
PMTG				*e*Sn	**Sn**	**10 45 32.9**	**+0.9**
PMTG				A		10 45 34.0	
	comp=N,52nm,0.2s						
PESTR	**Estremoz**	**1.97**	**48**	*e*Pn	**Pn**	**10 45 12.9**	**+1.4**
PESTR				*e*Sn	**Sn**	**10 45 38.0**	**+1.8**
PESTR				A		10 45 39.8	
	comp=N,25nm,0.4s						
PESTR	**Estremoz**	**1.97**	**48**	P	**Pn**	**10 45 12.9**	**+1.4**
PESTR				S	**Sn**	**10 45 38.0**	**+1.8**
	comp=N,13nm,0.4s						
PESTR	**Estremoz**	**1.97**	**48**	*e*Pn	**Pn**	**10 45 12.9**	**+1.4**
PESTR				*e*Sn	**Sn**	**10 45 38.0**	**+1.8**
	comp=N,25nm,0.4s						
PBAR	**Barrancos**	**2.01**	**71**	*e*Pn	**Pn**	**10 45 12.7**	**+0.6**
PBAR				*e*Sn	**Sn**	**10 45 38.2**	**+1.0**
PBAR				A		10 45 43.3	
	comp=N,40nm,0.4s						
PBAR	**Barrancos**	**2.01**	**71**	P	**Pn**	**10 45 12.7**	**+0.6**
PBAR				S	**Sn**	**10 45 38.2**	**+1.0**
	comp=N,40nm,0.4s						
PBAR	**Barrancos**	**2.01**	**71**	*e*Pn	**Pn**	**10 45 12.7**	**+0.6**
PBAR				*e*Sn	**Sn**	**10 45 38.2**	**+1.0**
	comp=N,40nm,0.4s						
EMIN	**Mina Concepcio**	**2.22**	**84**	P	**Pn**	**10 45 14.8**	**-0.1**
	comp=N,1.4nm,0.1s,SNR=51						
EMIN				S	**Sn**	**10 45 41.9**	**-0.4**
	comp=N,18nm,0.3s						
EMIN	**Mina Concepcio**	**2.22**	**84**	P	**Pn**	**10 45 14.8**	**-0.1**
	comp=N,1.4nm,0.1s,SNR=51						
PTOM	**Tomar**	**2.22**	**21**	*e*Pn	**Pn**	**10 45 15.6**	**+0.7**
PTOM				*e*Sn	**Sn**	**10 45 42.7**	**+0.3**
PTOM				A		10 45 49.0	
	comp=N,38nm,0.3s						
PTOM	**Tomar**	**2.22**	**21**	P	**Pn**	**10 45 15.6**	**+0.7**
PTOM				S	**Sn**	**10 45 42.7**	**+0.3**
	comp=N,19nm,0.3s						
PTOM	**Tomar**	**2.22**	**21**	*e*Pn	**Pn**	**10 45 15.6**	**+0.7**
PTOM				*e*Sn	**Sn**	**10 45 42.7**	**+0.3**
	comp=N,38nm,0.3s						
EBAD	**Badajoz**	**2.27**	**57**	P	**Pn**	**10 45 16.4**	**+0.8**
	comp=N,4.2nm,0.1s,SNR=24						
EBAD				S	**Sn**	**10 45 45.4**	**+1.8**
	comp=N,81nm,0.2s						
EBAD	**Badajoz**	**2.27**	**57**	P	**Pn**	**10 45 16.4**	**+0.8**
	comp=N,4.2nm,0.1s,SNR=24						
PMRV	**Marv??o**	**2.48**	**40**	*e*Pn	**Pn**	**10 45 19.5**	**+1.0**
PMRV				*e*Sn	**Sn**	**10 45 49.4**	**+0.7**
PMRV				A		10 45 51.1	
	comp=N,75nm,0.2s						
PMRV	**Marv??o**	**2.48**	**40**	P	**Pn**	**10 45 19.5**	**+1.0**
PMRV				S	**Sn**	**10 45 49.4**	**+0.7**
	comp=N,75nm,0.2s						
PMRV	**Marv??o**	**2.48**	**40**	*e*Pn	**Pn**	**10 45 19.5**	**+1.0**
PMRV				*e*Sn	**Sn**	**10 45 49.4**	**+0.7**
	comp=N,75nm,0.2s						
PCBR	**Castelo Branco**	**2.76**	**33**	*e*Pn	**Pn**	**10 45 23.7**	**+1.3**
PCBR				*e*Sn	**Sn**	**10 45 56.2**	**+0.5**
PCBR				A		10 45 58.0	
	comp=N,20nm,0.3s						
PCBR	**Castelo Branco**	**2.76**	**33**	P	**Pn**	**10 45 23.7**	**+1.3**
PCBR				S	**Sn**	**10 45 56.2**	**+0.5**
	comp=N,10nm,0.3s						
PCBR	**Castelo Branco**	**2.76**	**33**	*e*Pn	**Pn**	**10 45 23.7**	**+1.3**
PCBR				*e*Sn	**Sn**	**10 45 56.2**	**+0.5**
	comp=N,20nm,0.3s						
ESPR	**Espera**	**2.95**	**102**	P	**Pn**	**10 45 25.4**	**+0.3**
	comp=N,3.5nm,0.1s,SNR=11						
ESPR				S	**Sn**	**10 45 59.1**	**-1.3**
	comp=N,190nm,0.3s						
ESPR	**Espera**	**2.95**	**102**	P	**Pn**	**10 45 25.4**	**+0.4**
	comp=N,3.5nm,0.1s,SNR=11						
ESPR				S	**Sn**	**10 45 59.1**	**-1.4**
	comp=N,190nm,0.3s						
MTE	**Manteigas**	**3.21**	**27**	*e*Pn	**Pn**	**10 45 29.2**	**+0.6**
MTE				*e*Sn	**Sn**	**10 46 06.9**	**+0.1**
MTE				A		10 46 11.3	
	comp=N,25nm,0.3s						
MTE	**Manteigas**	**3.21**	**27**	P	**Pn**	**10 45 29.2**	**+0.6**
MTE				S	**Sn**	**10 46 06.9**	**+0.1**
	comp=N,13nm,0.3s						
MTE	**Manteigas**	**3.21**	**27**	*e*Pn	**Pn**	**10 45 29.2**	**+0.6**
MTE				*e*Sn	**Sn**	**10 46 06.9**	**+0.1**
	comp=N,25nm,0.3s						
EJIF	**Jimena Fronter**	**3.37**	**108**	P	**Pn**	**10 45 31.2**	**+0.3**
	comp=N,4.9nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**10 46 10.2**	**-0.6**
	comp=N,12nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.37**	**108**	P	**Pn**	**10 45 31.2**	**+0.4**
	comp=N,4.9nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**10 46 10.2**	**-0.7**
	comp=N,12nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**3.38**	**21**	*e*Pn	**Pn**	**10 45 31.4**	**+0.5**
PVIS				*e*Sn	**Sn**	**10 46 10.6**	**-0.5**
PVIS				A		10 46 13.4	
	comp=N,18nm,0.2s						
PVIS	**Viseu**	**3.38**	**21**	P	**Pn**	**10 45 31.4**	**+0.5**
PVIS				S	**Sn**	**10 46 10.6**	**-0.5**
	comp=N,9.1nm,0.2s						
PVIS	**Viseu**	**3.38**	**21**	*e*Pn	**Pn**	**10 45 31.4**	**+0.5**
PVIS				*e*Sn	**Sn**	**10 46 10.6**	**-0.5**
	comp=N,18nm,0.2s						
EPLA	**Plasencia**	**3.64**	**45**	P	**Pn**	**10 45 34.8**	**+0.4**
	comp=N,1.0nm,0.1s,SNR=6.4						
EPLA				S	**Sn**	**10 46 16.8**	**-0.6**
	comp=N,26nm,0.2s,SNR=12						
EPLA	**Plasencia**	**3.64**	**45**	P	**Pn**	**10 45 34.8**	**+0.4**
	comp=N,1.0nm,0.1s,SNR=6.4						
EPLA				S	**Sn**	**10 46 16.8**	**-0.6**
	comp=N,26nm,0.2s,SNR=12						
PTO	**Porto**	**3.64**	**10**	*e*Pn	**Pn**	**10 45 34.4**	**-0.1**
PTO				*e*Sn	**Sn**	**10 46 16.5**	**-1.0**
PTO	**Porto**	**3.64**	**10**	P	**Pn**	**10 45 34.4**	**-0.1**
PTO				S	**Sn**	**10 46 16.5**	**-1.0**
PTO	**Porto**	**3.64**	**10**	*e*Pn	**Pn**	**10 45 34.4**	**-0.1**
PTO				*e*Sn	**Sn**	**10 46 16.5**	**-1.0**
EMIJ	**Mijas**	**3.87**	**103**	S	**Sn**	**10 46 21.9**	**-1.3**
	comp=N,19nm,0.4s,SNR=9.7						
EMIJ	**Mijas**	**3.87**	**103**	S	**Sn**	**10 46 21.9**	**-1.3**
	comp=N,19nm,0.4s,SNR=9.7						
EADA	**Adamuz**	**3.91**	**79**	P	**Pn**	**10 45 38.3**	**+0.1**
	comp=N,9.5nm,0.2s,SNR=22						
EADA				S	**Sn**	**10 46 23.4**	**-0.7**
	comp=N,11nm,0.1s,SNR=15						
EADA	**Adamuz**	**3.91**	**79**	P	**Pn**	**10 45 38.3**	**+0.2**
	comp=N,9.5nm,0.2s,SNR=22						
EADA				S	**Sn**	**10 46 23.4**	**-0.7**
	comp=N,11nm,0.1s,SNR=15						
POLO	**Lamas de Olo**	**4.03**	**18**	*e*Pn	**Pn**	**10 45 40.1**	**+0.3**
POLO				*e*Sn	**Sn**	**10 46 25.1**	**-1.9**
POLO				A		10 46 29.8	
	comp=N,7.4nm,0.3s						
POLO	**Lamas de Olo**	**4.03**	**18**	*e*Pn	**Pn**	**10 45 40.1**	**+0.3**
POLO				*e*Sn	**Sn**	**10 46 25.1**	**-1.9**
	comp=N,7.4nm,0.3s						
MVO	**Moncorvo**	**4.07**	**27**	*e*Pn	**Pn**	**10 45 40.6**	**+0.3**
MVO				*e*Sn	**Sn**	**10 46 27.2**	**-0.8**
MVO				A		10 46 30.1	
	comp=N,19nm,0.5s						
MVO	**Moncorvo**	**4.07**	**27**	⇑P	**Pn**	**10 45 40.7**	**+0.3**
	comp=N,6.1nm,0.1s,SNR=18						
MVO				S	**Sn**	**10 46 27.5**	**-0.5**
	comp=N,9.9nm,0.1s,SNR=7.7						
MVO	**Moncorvo**	**4.07**	**27**	P	**Pn**	**10 45 40.7**	**+0.4**
	comp=N,6.1nm,0.1s,SNR=18						
MVO				*e*Sn	**Sn**	**10 46 27.2**	**-0.8**
	comp=N,19nm,0.5s						
MVO				S	**Sn**	**10 46 27.5**	**-0.5**
	comp=N,9.9nm,0.1s,SNR=7.7						
ELUQ	**Luque**	**4.12**	**88**	S	**Sn**	**10 46 28.5**	**-0.9**
	comp=N,12nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.12**	**88**	S	**Sn**	**10 46 28.5**	**-0.8**
	comp=N,12nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**4.30**	**14**	*e*Pn	**Pn**	**10 45 43.5**	**0.0**
PCAB				*e*Sn	**Sn**	**10 46 32.0**	**-1.6**
PCAB	**Cabril**	**4.30**	**14**	P	**Pn**	**10 45 43.5**	**0.0**
PCAB				S	**Sn**	**10 46 32.0**	**-1.6**
PCAB	**Cabril**	**4.30**	**14**	*e*Pn	**Pn**	**10 45 43.5**	**0.0**
PCAB				*e*Sn	**Sn**	**10 46 32.0**	**-1.6**
ELOB	**Lobios**	**4.44**	**14**	P	**Pn**	**10 45 45.6**	**+0.1**
	comp=N,2.1nm,0.1s,SNR=16						
ELOB				S	**Sn**	**10 46 34.9**	**-2.3**
	comp=N,8.5nm,0.3s,SNR=7.1						
ELOB	**Lobios**	**4.44**	**14**	P	**Pn**	**10 45 45.6**	**+0.1**
	comp=N,2.1nm,0.1s,SNR=16						
ELOB				S	**Sn**	**10 46 34.9**	**-2.3**
	comp=N,8.5nm,0.3s,SNR=7.1						
PGAV	**Gavieira, Arco**	**4.50**	**11**	*e*Pn	**Pn**	**10 45 46.3**	**0.0**
PGAV				*e*Sn	**Sn**	**10 46 36.0**	**-2.7**
PGAV				A		10 46 39.5	
	comp=N,11nm,0.6s						
PGAV	**Gavieira, Arco**	**4.50**	**11**	*e*Pn	**Pn**	**10 45 46.3**	**0.0**
PGAV				*e*Sn	**Sn**	**10 46 36.0**	**-2.7**
	comp=N,11nm,0.6s						
ERON	**Agron**	**4.54**	**95**	S	**Sn**	**10 46 37.4**	**-2.1**
	comp=N,5.8nm,0.3s,SNR=7.9						
ERON	**Agron**	**4.54**	**95**	S	**Sn**	**10 46 37.4**	**-2.1**
	comp=N,5.8nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**4.63**	**7**	P	**Pn**	**10 45 48.0**	**0.0**
	comp=N,6.0nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**10 46 38.8**	**-3.1**
	comp=N,6.8nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**4.63**	**7**	P	**Pn**	**10 45 48.0**	**0.0**
	comp=N,6.0nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**10 46 38.8**	**-3.0**
	comp=N,6.8nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**4.74**	**25**	*e*Pn	**Pn**	**10 45 49.7**	**+0.2**
PBRG				*e*Sn	**Sn**	**10 46 42.6**	**-1.8**
PBRG				A		10 46 45.0	
	comp=N,9.9nm,0.2s						
PBRG	**Braganca**	**4.74**	**25**	P	**Pn**	**10 45 49.7**	**+0.2**
PBRG				S	**Sn**	**10 46 42.6**	**-1.8**
	comp=N,4.9nm,0.2s						
PBRG	**Braganca**	**4.74**	**25**	*e*Pn	**Pn**	**10 45 49.7**	**+0.2**
PBRG				*e*Sn	**Sn**	**10 46 42.6**	**-1.8**
	comp=N,9.9nm,0.2s						
ESDC	**Sonseca Array**	**4.79**	**62**	P	**Pn**	**10 45 50.7**	**+0.4**
	comp=N,2.2nm,0.1s,baz=245,slow=13,SNR=10						
ESDC				S	**Sn**	**10 46 44.9**	**-1.0**
	comp=N,7.8nm,0.3s,baz=248,slow=23,SNR=16						
ESDC	**Sonseca Array**	**4.79**	**62**	P	**Pn**	**10 45 50.7**	**+0.4**
	comp=N,2.2nm,0.1s,baz=245,slow=13,SNR=10						
ESDC				S	**Sn**	**10 46 44.9**	**-1.0**
	comp=N,7.8nm,0.3s,slow=23,SNR=16						
ECAL	**Calabor**	**4.86**	**25**	P	**Pn**	**10 45 51.8**	**+0.6**
	comp=N,4.7nm,0.1s,SNR=19						
ECAL				S	**Sn**	**10 46 45.9**	**-1.5**
	comp=N,18nm,0.3s,SNR=5.7						
ECAL	**Calabor**	**4.86**	**25**	P	**Pn**	**10 45 51.8**	**+0.6**
	comp=N,4.7nm,0.1s,SNR=19						
ECAL				S	**Sn**	**10 46 45.9**	**-1.6**
	comp=N,18nm,0.3s,SNR=5.7						
EQES	**Quesada**	**5.07**	**85**	P	**Pn**	**10 45 53.9**	**-0.2**
	comp=N,0.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**10 46 51.4**	**-1.3**
	comp=N,13nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.07**	**85**	P	**Pn**	**10 45 53.9**	**-0.2**
	comp=N,0.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**10 46 51.4**	**-1.3**
	comp=N,13nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**5.15**	**52**	P	**Pn**	**10 45 56.0**	**+0.8**
	comp=N,2.2nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**10 46 53.8**	**-0.9**
	comp=N,11nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**5.15**	**52**	P	**Pn**	**10 45 56.0**	**+0.8**
	comp=N,2.2nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**10 46 53.8**	**-0.9**
	comp=N,11nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**5.15**	**19**	P	**Pn**	**10 45 55.6**	**+0.4**
	comp=N,7.9nm,0.1s,SNR=7.9					

EPF	Esparros	9.27	51	P	Pn	10 46 47.7	-4.0
EPF				S	Sn	10 48 24.8	-11
comp=N,1.1nm,0.3s							

IDC ***11*** *10:51:54.4±1.6, 6°.52S×102°.02E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=68.0km s-min=19.6km az=51.0*
ISCJB ***11*** *10:51:57.3±1.0, 6°.44S±0°.09×102°.13E±0°.09, h33km, mb3.9/7, Error ellipse: s-maj=16.2km s-min=8.5km az=40.9*
DJA ***11*** *10:51:58, 6°.38S×102°.08E, h36km, MLv4.8/7*
ISC 11 10:52:00.1±1.0, 6°.33S±0°.10×102°.20E±0°.09, h35km, n18, σ0°.84/17, mb3.9/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.10**	**21**	P	**Pn**	**10 52 32.3**	**-0.5**
LWLI	**Liwa**	**2.27**	**55**	P	**Pn**	**10 52 35.1**	**0.0**
KSI	**Kapahiang**	**2.69**	**8**	P	**Pn**	**10 52 40.7**	**-0.3**
MDSI	**Maura Dua**	**2.69**	**47**	P	**Pn**	**10 52 41.3**	**+0.3**
CGJI	**Cibinong**	**3.49**	**95**	P	**Pn**	**10 52 50.9**	**-1.0**
DBJI	**Dramaga**	**4.53**	**93**	P	**Pn**	**10 53 06.9**	**+0.6**
CBJI	**Citeko**	**4.63**	**91**	P	**Pn**	**10 53 09.5**	**+1.9**
PDSI	**Padang**	**5.65**	**342**	P	**Pn**	**10 53 20.3**	**-1.4**
0.9nm50nm,0.4s							
UGM	**Wanagama**	**8.41**	**101**	P	**Pn**	**10 53 58.9**	**-0.7**
109nm,2.3s							
PCJI	**Pacitan**	**9.10**	**102**	P	**Pn**	**10 54 08.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**24.84**	**353**	P	**P**	**10 57 19.6**	**+0.2**
3.8nm,0.8s,mb4.0,baz=188,slow=8.3,SNR=27							
WRA	**Warramunga Arr**	**34.01**	**117**	P	**P**	**10 58 41.4**	**+0.5**
0.2nm,0.6s,mb3.2,baz=288,slow=12,SNR=4.4							
ASAR	**Alice Springs**	**35.01**	**123**	P	**P**	**10 58 48.5**	**-1.1**
0.2nm,0.4s,mb3.4,baz=297,slow=8.1,SNR=2.9							
SONM	**Songino Array**	**54.06**	**3**	P	**P**	**11 01 22.3**	**+1.3**
1.5nm,0.6s,mb4.1,baz=185,slow=9.2,SNR=8.2							
SONM				PcP	PcP	11 02 26.7	+1.0
0.6nm,0.6s,baz=146,slow=3.1,SNR=2.6							
MKAR	**Makanchi Array**	**55.77**	**344**	P	**P**	**11 01 34.4**	**+0.9**
2.3nm,0.6s,mb4.4,baz=145,slow=8.4,SNR=20							
ZALV	**Zalesovo Beam**	**61.81**	**348**	P	**P**	**11 02 15.5**	**+0.1**
2.3nm,0.5s,mb4.6,baz=194,slow=5.6,SNR=11							
BRTR	**Keskin Array B**	**77.85**	**313**	P	**P**	**11 03 54.2**	**-0.1**
0.7nm,0.6s,mb3.8,baz=112,slow=9.4,SNR=5.7							
TXAR	**Lajitas Array**	**146.55**	**44**	PKPbc	PKPbc	11 11 39.4	+0.9
0.7nm,0.6s,baz=282,slow=1.7,SNR=9.8							

NNC 11 10:57:52.1±3.2, 39°.06N×71°.67E, h0km, mb3.9, mpv3.4, 2C-2D, Error ellipse: s-maj=31.4km s-min=21.7km az=48.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.13**	**348**	Pn	Pn	10 58 59.0	+2.7
6.9nm,0.4s,baz=161,slow=13,SNR=110							
KK31				⇑Sn	Sn	10 59 52.0	+6.6
7.5nm,0.6s							
TKM2	**Tokmak 2**	**4.87**	**36**	⇑Pn	Pn	10 59 06.7	+0.1
1.4nm,0.5s							
TKM2				⇓Lg		11 00 27.1	
7.8nm,0.7s							
AB31	**Akbulak array**	**13.20**	**324**	Pn	Pn	11 01 00.3	-0.3
0.8nm,0.3s,baz=129,slow=14,SNR=18							
AB31				⇓Sn	Sn	11 03 28.4	+0.4
0.6nm,0.6s,baz=136,slow=24							

ISCJB ***11*** *11:16:35.9±0.4, 17°.48N±0°.04×97°.40W±0°.03, h73km±5km, mb3.3/3, Error ellipse: s-maj=6.8km s-min=3.6km az=16.2*
MEX ***11*** *11:16:38.2±0.8, 17°.47N×97°.40W, h67km±7km, MD4.0*
NEIC ***11*** *11:16:38.0, 17°.47N×97°.40W, h67km, MD4.0(MEX), After MEX.*
IDC ***11*** *11:16:43.6±2.1, 17°.22N×96°.66W, h159km±29km, mb3.0/3, mb1 3.4/5, mb1mx3.2/21, mbtmp3.0/5, Error ellipse: s-maj=59.4km s-min=30.7km az=173.0*
ISC 11 11:16:37.1±0.4, 17°.47N±0°.04×97°.41W±0°.03, h63km±6km, n26, σ0°.86/44, mb3.4/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.52**	**313**	*i* P	**Pn**	**11 16 50.1**	**+0.7**
UTMO				*i* S	**Sn**	**11 16 59.3**	**+0.8**
VHO	**Vista Hermosa**	**0.76**	**122**	*i* P	**Pn**	**11 16 52.0**	**-0.2**
VHO				*i* S	**Sn**	**11 17 02.6**	**-0.7**
OXX	**Oaxaca**	**0.76**	**121**	*i* P	**Pn**	**11 16 52.6**	**+0.4**
OXX				*i* S	**Sn**	**11 17 03.0**	**-0.4**
TPIG	**Tehuac#an**	**0.94**	**3**	*i* P	**Pn**	**11 16 54.9**	**+0.4**
TPIG				*i* S	**Sn**	**11 17 07.1**	**-0.3**
PNIG	**Pinotepa**	**1.27**	**213**	*i* P	**Pn**	**11 16 57.9**	**-1.0**
PNIG				*i* S	**Sn**	**11 17 15.3**	**+0.2**
HUIG	**Huatulco**	**2.10**	**143**	*i* P	**Pn**	**11 17 10.0**	**0.0**
HUIG				*i* S	**Sn**	**11 17 35.5**	**+0.4**
MEIG	**Mezcala**	**2.15**	**282**	*i* P	**Pn**	**11 17 11.1**	**+0.4**
MEIG				*i* S	**Sn**	**11 17 36.4**	**+0.1**
PLIG	**Platanillo**	**2.19**	**295**	*e*P	**Pn**	**11 17 11.4**	**+0.2**
PLIG				*i* S	**Sn**	**11 17 36.8**	**-0.5**
ACX	**Acapulco**	**2.42**	**256**	*i* P	**Pn**	**11 17 14.3**	**+0.1**
ACX				*i* S	**Sn**	**11 17 44.2**	**+1.5**
CMIG	**Matias Romero**	**2.44**	**99**	P	**Pn**	**11 17 14.2**	**-0.4**
13nm,0.3s,baz=258,slow=11,SNR=236							
CMIG				S	**Sn**	**11 17 41.2**	**-2.1**
59nm,0.3s,baz=38,slow=17,SNR=26							
CMIG	**Matias Romero**	**2.44**	**99**	P	**Pn**	**11 17 14.2**	**-0.4**
CMIG				S	**Sn**	**11 17 41.2**	**-2.1**
CMIG	**Matias Romero**	**2.44**	**99**	*i* P	**Pn**	**11 17 14.1**	**-0.4**
CMIG				*i* S	**Sn**	**11 17 43.0**	**-0.4**
CAIG	**El Cayaco**	**2.76**	**262**	*i* P	**Pn**	**11 17 17.7**	**-1.3**
CAIG				*i* S	**Sn**	**11 17 50.2**	**-1.0**
TGIG		**4.16**	**99**	*i* P	**Pn**	**11 17 37.8**	**-0.2**
TGIG				*i* S	**Sn**	**11 18 28.2**	**+2.9**
PCIG		**4.38**	**113**	*e*P	**Pn**	**11 17 41.8**	**+0.6**
PCIG				*i* S	**Sn**	**11 18 31.6**	**+0.7**
CCIG	**Comitan**	**5.18**	**102**	*i* P	**Pn**	**11 17 51.4**	**-0.7**
CCIG				*i* S	**Sn**	**11 18 51.5**	**+0.9**
TEIG	**Tepich**	**9.07**	**71**	P	**Pn**	**11 18 44.4**	**-0.9**
1.4nm,0.3s,baz=277,slow=8.1,SNR=6.3							
TEIG				S	**Sn**	**11 20 17.1**	**-8.8**
3.8nm,0.3s,baz=335,slow=22,SNR=9.9							
TEIG	**Tepich**	**9.07**	**71**	P	**Pn**	**11 18 44.4**	**-0.9**
TEIG				S	**Sn**	**11 20 17.1**	**-8.8**
TXAR	**Lajitas Array**	**13.13**	**335**	P	**Pn**	**11 19 50.5**	**+10**
0.1nm,0.3s,baz=154,slow=13,SNR=6.5							
TXAR	**Lajitas Array**	**13.13**	**335**	P	**Pn**	**11 19 50.5**	**+10**
NVAR	**Mina Array Bea**	**27.75**	**323**	P	**P**	**11 22 23.4**	**+3.7**
0.4nm,0.8s,mb3.1,baz=126,slow=10,SNR=2.7							
NVAR	**Mina Array Bea**	**27.75**	**323**	P	**P**	**11 22 23.4**	**+3.7**
YKA	**Yellowknife Ar**	**46.56**	**349**	P	**P**	**11 24 56.9**	**-1.3**
0.2nm,0.3s,mb3.5,baz=155,slow=7.5,SNR=5.0							
YKA	**Yellowknife Ar**	**46.56**	**349**	P	**P**	**11 24 56.9**	**-1.3**
ILAR	**Eielson Array**	**57.63**	**337**	P	**P**	**11 26 21.4**	**+1.0**
0.4nm,0.7s,mb3.5,baz=139,slow=4.7,SNR=5.8							
ILAR	**Eielson Array**	**57.63**	**337**	P	**P**	**11 26 21.4**	**+1.0**

IDC 11 11:17:53.5±2.0, 4°.76S×152°.41E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=126.6km s-min=25.2km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.96**	**228**	Pn	Pn	11 19 36.3	-0.5
0.8nm,0.3s,baz=47,slow=19,SNR=3.1							
PMG				Sn	Sn	11 20 54.8	-1.9
2.5nm,0.3s,baz=140,slow=20,SNR=6.4							
WRA	**Warramunga Arr**	**23.18**	**228**	P	P	11 23 02.0	0.0
0.2nm,0.3s,baz=54,slow=10,SNR=3.8							
ASAR	**Alice Springs**	**25.91**	**222**	P	P	11 23 27.7	+0.2
0.2nm,0.4s,baz=56,slow=9.4,SNR=7.7							
ILAR	**Eielson Array**	**82.27**	**22**	P	P	11 30 15.8	-0.7
0.7nm,1.0s,baz=241,slow=4.7,SNR=5.6							
TORD	**Torodi Ar. Bea**	**149.92**	**288**	PKPbc	PKPbc	11 37 47.5	+0.5
0.4nm,0.9s,baz=51,slow=2.8,SNR=2.4							

ISCJB ***11*** *11:52:41.8±1.5, 23°.83S±0°.08×179°.70W±0°.10, h519km±20km, mb4.6/20, Error ellipse: s-maj=15.5km s-min=11.0km az=39.4*
IDC ***11*** *11:52:41.9±3.0, 23°.80S×179°.66W, h506km±37km, mb3.5/10, mb1 3.8/12, mb1mx3.6/19, mbtmp3.6/12, Error ellipse: s-maj=26.2km s-min=15.4km az=160.0*
NEIC ***11*** *11:52:42.0±1.1, 23°.84S×179°.62W, h514km±14km, Error ellipse: s-maj=18.3km s-min=11.1km az=144.0*
ISC 11 11:52:41.9±1.2, 23°.93S±0°.08×179°.59W±0°.10, h510km±17km, n43, σ0°.79/44, mb4.6/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.41**	**38**	P	**P**	**11 55 24.0**	**-0.8**
3.3nm,0.3s,baz=25,slow=20,SNR=6.2							
AFI				S	**S**	**11 57 28.8**	**-10**
2.8nm,0.3s,baz=10,slow=19,SNR=4.3							
AFI	**Afiamalu**	**12.41**	**38**	P	**P**	**11 55 24.0**	**-0.8**
AFI				S	**S**	**11 57 28.8**	**-10**
DZM	**Mont Dzumac**	**12.99**	**275**	P	**P**	**11 55 31.2**	**+0.3**
URZ	**Urewera**	**14.56**	**190**	P	**P**	**11 55 47.6**	**+0.5**
2.3nm,0.3s,baz=14,slow=2.6,SNR=16							
URZ				S	**S**	**11 58 18.6**	**-1.3**
0.8nm,0.3s,baz=174,slow=2.6,SNR=9.8							
URZ	**Urewera**	**14.56**	**190**	P	**P**	**11 55 47.6**	**+0.5**
URZ				S	**S**	**11 58 18.6**	**-1.3**
RPZ	**Rata Peaks**	**21.18**	**199**	P	**P**	**11 56 51.4**	**+1.0**
8.2nm,0.6s,mb4.5,baz=103,slow=17,SNR=9.0							
RPZ	**Rata Peaks**	**21.18**	**199**	P	**P**	**11 56 51.5**	**+1.0**
ARMA	**Armidale**	**26.36**	**249**	*e*P	**P**	**11 57 38.2**	**+1.3**
EIDS	**Eidsvold**	**26.67**	**261**	*e*P	**P**	**11 57 39.8**	**+0.1**
47nm,0.5s,mb5.4							
MGCD	**Mangrove Creek**	**27.27**	**244**	*e*P	**P**	**11 57 45.3**	**+0.5**
14nm,0.4s,mb4.9							
CNB	**Canberra Magne**	**29.16**	**240**	*e*P	**P**	**11 58 01.4**	**+0.1**
38nm,0.6s,mb5.2							
YNG	**Young**	**29.70**	**242**	*e*P	**P**	**11 58 07.1**	**+1.0**
5.4nm,1.2s,mb4.0							
CMSA	**Cobar Meteorol**	**31.55**	**248**	*e*P	**P**	**11 58 22.3**	**+0.3**
45nm,0.8s,mb5.0							
CTA	**Charters Tower**	**31.85**	**270**	P	**P**	**11 58 25.0**	**+0.3**
28nm,0.6s,mb5.0,baz=95,slow=10,SNR=52							
CTA	**Charters Tower**	**31.85**	**270**	*e*P	**P**	**11 58 24.1**	**-0.6**
17nm,0.4s,mb4.9							
CTA	**Charters Tower**	**31.85**	**270**	P	**P**	**11 58 25.0**	**+0.3**
TOO	**Toolangi**	**32.74**	**237**	*e*P	**P**	**11 58 32.9**	**+0.8**
27nm,0.6s,mb5.0							
MTSU	**Mount Surprise**	**34.11**	**273**	*e*P	**P**	**11 58 44.0**	**+0.1**
14nm,0.5s,mb4.8							
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**	**11 58 52.1**	**+0.5**
3.6nm,0.5s,mb4.1,baz=104,slow=8.0,SNR=13							
STKA	**Stephens Creek**	**35.06**	**248**	*e*P	**P**	**11 58 51.6**	**-0.1**
2.6nm,0.7s,mb3.9							
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**	**11 58 52.1**	**+0.5**
BBOO	**Buckleboo**	**39.77**	**247**	*e*P	**P**	**11 59 29.3**	**-1.0**
27nm,0.3s,mb5.2							
ASAR	**Alice Springs**	**42.40**	**261**	P	**P**	**11 59 51.1**	**-0.2**
7.1nm,0.6s,mb4.4,baz=95,slow=7.7,SNR=168							
ASAR	**Alice Springs**	**42.40**	**261**	P	**P**	**11 59 51.1**	**-0.2**
WRA	**Warramunga Arr**	**42.78**	**266**	P	**P**	**11 59 53.2**	**-1.2**
8.3nm,0.3s,mb4.7,baz=96,slow=8.5,SNR=161							
WRA	**Warramunga Arr**	**42.78**	**266**	P	**P**	**11 59 53.2**	**-1.2**
FORT	**Forrest**	**46.65**	**250**	*e*P	**P**	**12 00 22.9**	**-1.2**
46nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**51.20**	**265**	P	**P**	**12 00 58.0**	**0.0**
3.4nm,0.5s,mb3.9,baz=130,slow=4.7,SNR=18							
FITZ	**Fitzroy Crossi**	**51.20**	**265**	*e*P	**P**	**12 00 57.8**	**-0.2**
7.5nm,0.7s,mb4.1							
FITZ	**Fitzroy Crossi**	**51.20**	**265**	P	**P**	**12 00 58.0**	**0.0**
KLBR	**Kellerberrin**	**55.32**	**247**	*e*P	**P**	**12 01 26.4**	**-0.8**
21nm,0.8s,mb4.4							
MORW	**Morawa**	**57.21**	**250**	*e*P	**P**	**12 01 39.5**	**-0.8**
30nm,0.4s,mb4.9							
NVAR	**Mina Array Bea**	**84.52**	**44**	P	**P**	**12 04 20.9**	**+0.1**
0.3nm,0.5s,baz=224,slow=7.7,SNR=4.2							
NVAR	**Mina Array Bea**	**84.52**	**44**	P	**P**	**12 04 20.9**	**+0.1**
TXAR	**Lajitas Array**	**90.13**	**58**	P	**P**	**12 04 48.8**	**+1.2**
0.7nm,0.7s,mb3.6,baz=211,slow=6.8,SNR=11							
TXAR	**Lajitas Array**	**90.13**	**58**	P	**P**	**12 04 48.8**	**+1.2**
ILAR	**Eielson Array**	**91.97**	**13**	P	**P**	**12 04 54.0**	**-1.1**
0.3nm,0.6s,mb3.5,baz=222,slow=5.2,SNR=4.9							
ILAR	**Eielson Array**	**91.97**	**13**	P	**P**	**12 04 54.0**	**-1.1**
PDAR	**Pinedale Array**	**92.45**	**44**	P	**P**	**12 04 58.7**	**+0.8**
0.8nm,0.9s,mb3.8,baz=220,slow=5.8,SNR=4.5							
PDAR	**Pinedale Array**	**92.45**	**44**	P	**P**	**12 04 58.7**	**+0.8**
ARCES	**ARCESS Array B**	**131.99**	**348**	PKP	PKPdf	12 10 54.0	-2.4
10nm,1.2s,baz=5,2,slow=1.3,SNR=4.2							
ARCES	**ARCESS Array B**	**131.99**	**348**	PKP	PKPdf	12 10 54.0	-2.4
CLL	**Collm**	**150.99**	**344**	*i* PKPbc	PKPbc	12 11 36.7	+0.2

IDC ***11*** *12:31:02.8±0.5, 35°.17N×81°.40E, h0km, mb4.3/19, mb1 4.5/23, mb1mx4.4/28, mbtmp4.4/23, ML3.7/4, MS4.2/3, Ms1 4.3/3, ms1mx3.7/12, Error ellipse: s-maj=16.5km s-min=12.2km az=41.0*
ISCJB ***11*** *12:31:03.6±0.2, 35°.23N±0°.02×81°.40E±0°.03, h10km, mb4.6/56, MS4.5/23, Error ellipse: s-maj=3.1km s-min=2.6km az=159.3*
BJI ***11*** *12:31:03.4, 35°.31N×81°.33E, h10km, mB5.0/36, mb4.6/40, ML4.8/5, Ms4.9/43, Ms7 4.7/40*
NEIC ***11*** *12:31:05.4±0.2, 35°.31N×81°.41E, h10km, mb5.0/22, Error ellipse: s-maj=8.0km s-min=4.0km az=58.0*
MOS ***11*** *12:31:07.1±1.2, 35°.24N×81°.34E, h35km, mb4.7/29, MS4.5/15, Error ellipse: s-maj=9.9km s-min=4.8km az=119.5*
ISC 11 12:31:05.6±0.2, 35°.29N±0°.02×81°.47E±0°.03, h10km, (h100km±8.3km:pP-P), n248, σ1°.33/272, mb4.6/56, MS4.5/23, 4C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**5.34**	**226**	*e*PKP	**Pn**	**12 32 28.0**	**+2.7**
SDNR				*ex*	**Sg**	**12 33 58.0**	**+1.0**
SMLA	**Simla**	**5.50**	**222**	*i* P	**Pn**	**12 32 28.3**	**+0.7**
SMLA				*i* x	**Sg**	**12 34 01.3**	**-1.0**
SMLA				⇓AML	AML	12 34 05.5	
comp=N,3μm,0.7s							
SMLA				⇓AML	AML	12 34 08.3	
comp=E,2μm,0.8s							
BHK	**Bhakra**	**5.73**	**229**	*e*PKP	**Pn**	**12 32 32.8**	**+2.1**
BHK				*ex*	x	12 33 16.7	
DDI	**Dehra Dun**	**5.73**	**211**	*e*PKP	**Pn**	**12 32 32.0**	**+1.3**
DDI				*ex*	x	12 34 49.0	
PTH	**Pithoragarh**	**5.82**	**191**	*e*PKP	**Pn**	**12 32 33.1**	**+1.1**
LGTI	**Lohaghat**	**5.92**	**190**	*ex*	**Pb**	**12 32 44.0**	**-4.8**
LGTI				*ex*	x	12 34 28.1	
KSH	**Kashi**	**6.08**	**316**	P	**Pn**	**12 32 37.4**	**+1.9**
KSH				pP		12 32 40.5	
KSH				sP		12 32 43.6	
KSH				S	**Sn**	**12 33 47.2**	**+2.1**
KSH				sS		12 33 51.7	
KSH				pmax	pmax		
comp=Z,370nm,1.2s							
KSH				pmax	pmax		
comp=Z,1μm,2.7s							
KSH				smax			
comp=N,700nm,0.9s							
KSH				smax			
comp=E,350nm,0.7s							
KSH				LR	LR		
comp=N,10μm,7.7s							
KSH				LR	LR		
comp=E,8μm,5.7s							
KSH				LR	LR		
comp=Z,15μm,6.5s							
KKR	**Kurukshetra**	**6.61**	**218**	*e*PKP	**Pn**	**12 32 42.6**	**-0.2**
CHCP	**Chirah Chowk**	**6.97**	**259**	P	**Pn**	**12 32 48.5**	**+0.7**
DANN	**Dangsing**	**7.19**	**164**	*e*P	**Pn**	**12 32 51.3**	**+0.5**
comp=Z,53nm,0.4s							
DANN	**Dangsing**	**7.19**	**164**	*e*P	**Pn**	**12 32 51.3**	**+0.5**
comp=Z,53nm,0.4s							
ASOR	**Ausora**	**7.23**	**207**	*e*PKP	**Pn**	**12 32 51.7**	**+0.4**
NDI	**New Delhi**	**7.51**	**210**	*e*PKP	**Pn**	**12 32 55.5**	**+0.3**
NDI				*ex*	x	12 34 56.5	
BHGR	**Bahadurgarh**	**7.63**	**212**	*e*PKP	**Pn**	**12 32 55.9**	**-0.8**
KOLN	**Koldanda**	**7.71**	**166**	*e*P	**Pn**	**12 32 57.7**	**-0.3**
comp=Z,40nm,0.5s							
KOLN	**Koldanda**	**7.71**	**166**	*e*P	**Pn**	**12 32 57.7**	**-0.3**
comp=Z,40nm,0.5s							
AYAN	**Aya Nagar**	**7.73**	**210**	*e*PKP	**Pn**	**12 32 57.8**	**-0.4**
GKN	**Gorkha**	**7.75**	**159**	*e*P	**Pn**	**12 32 59.7**	**+1.2**
comp=Z,59nm,0.4s							
GKN	**Gorkha**	**7.75**	**159**	*e*P	**Pn**	**12 32 59.7**	**+1.2**
comp=Z,59nm,0.4s							
SONA	**Sohna**	**7.95**	**209**	*e*PKP	**Pn**	**12 33 00.0**	**-1.2**
CEP	**Cherat**	**8.03**	**262**	P	**Pn**	**12 33 01.4**	**-0.8**
CEP				S	**Sn**	**12 34 25.0**	**-8.0**
SARP	**Sargodha**	**8.07**	**248**	P	**Pn**	**12 33 05.8**	**+2.9**
KKN	**Kakani**	**8.15**	**155**	*e*P	**Pn**	**12 33 06.0**	**+2.0**
comp=Z,59nm,0.6s							
KKN	**Kakani**	**8.15**	**155**	*e*P	**Pn**	**12 33 06.0**	**+2.0**
comp=Z,59nm,0.6s							
KKN	**Kakani**	**8.15**	**155**	*e*P	**Pn**	**12 33 06.0**	**+2.0**
KKN				pmax	pmax		
comp=Z,59nm,0.6s							
GUN	**Gumba**	**8.26**	**152**	*e*P	**Pn**	**12 33 08.1**	**+2.6**
comp=Z,141nm,0.6s							
GUN	**Gumba**	**8.26**	**152**	*e*P	**Pn**	**12 33 08.1**	**+2.6**
comp=Z,141nm,0.6s							
DMN	**Daman**	**8.26**	**157**	*e*P	**Pn**	**12 33 07.1**	**+1.6**
comp=Z,53nm,0.5s							
DMN	**Daman**	**8.26**	**157**	*e*P	**Pn**	**12 33 07.1**	**+1.6**
comp=Z,53nm,0.5s							
KZA	**Kyzart**	**8.34**	**326**	P	**Pn**	**12 33 08.2**	**+1.7**
KZA				P		12 33 08.2	
SNR=20							
PKI	**Pulchoki**	**8.40**	**155**	*e*P	**Pn**	**12 33 09.2**	**+1.9**
comp=Z,96nm,0.6s							
PKI	**Pulchoki**	**8.40**	**155**	*e*P	**Pn**	**12 33 09.2**	**+1.9**
comp=Z,96nm,0.6s							
PKI	**Pulchoki**	**8.40**	**155**	*e*P	**Pn**	**12 33 09.2**	**+1.9**
PKI				pmax	pmax		
comp=Z,96nm,0.6s							
THW	**Thamme Wali**	**8.45**	**256**	P	**Pn**	**12 33 08.5**	**+0.4**
AGRA	**Agra**	**8.58**	**202**	*e*PKP	**Pn**	**12 33 09.4**	**-0.5**
JIRN	**Jiri**	**8.61**	**151**	*e*P	**Pn**	**12 33 12.8**	**+2.6**
comp=Z,68nm,0.5s							
JIRN	**Jiri**	**8.61**	**151**	*e*P	**Pn**	**12 33 12.8**	**+2.6**
comp=Z,68nm,0.5s							
KHET	**Khetri**	**8.66**	**215**	*ex*	**Pn**	**12 33 08.1**	**-2.9**
UCH	**Uchtor**	**8.80**	**324**	P	**Pn**	**12 33 17.0**	**+4.1**
SNR=19							
UCH				P		12 33 17.0	
SNR=19							
TKM2	**Tokmak 2**	**8.88**	**331**	P	**Pn**	**12 33 17.3**	**+3.4**
SNR=24							
TKM2				P		12 33 17.3	
SNR=24							
TKM2	**Tokmak 2**	**8.88**	**331**	*e*Pn	**Pn**	**12 33 15.2**	**+1.3**
comp=Z,48nm,0.8s							
TKM2	**Tokmak 2**	**8.88**	**331**	*e*P	**Pn**	**12 33 15.3**	**+1.4**
TKM2				pmax	pmax		
comp=Z,48nm,0.8s							
KBK	**Karagaybulak**	**8.94**	**327**	P	**Pn**	**12 33 18.3**	**+3.6**
KBK				P		12 33 18.3	
SNR=23							
AAK	**Ala-Archa**	**9.12**	**326**	P	**Pn**	**12 33 21.1**	**+3.8**
SNR=21							
AAK				P		12 33 21.1	
SNR=21							
AAK	**Ala-Archa**	**9.12**	**326**	*e*Pn	**Pn**	**12 33 18.8**	**+1.6**
comp=Z,339nm,0.9s							
AAK	**Ala-Archa**	**9.12**	**326**	*e*P	**Pn**	**12 33 18.8**	**+1.6**
AAK				pmax	pmax		
comp=Z,339nm,0.9s							
AML	**Almayashu**	**9.14**	**321**	P	**Pn**	**12 33 19.8**	**+2.3**
SNR=43							
AML				P		12 33 19.8	
SNR=43							
FRU	**Bishkek**	**9.22**	**327**	*i* P	**Pn**	**12 33 22.0**	**+3.4**
FRU				pmax	pmax		
comp=Z,240nm,2.0s							
CHMS	**Chumysh**	**9.30**	**328**	P	**Pn**	**12 33 24.1**	**+4.5**
SNR=14							
CHMS				P		12 33 24.1	
SNR=14							
RAMN	**Ramite**	**9.40**	**151**	*e*P	**Pn**	**12 33 21.9**	**+0.8**
comp=Z,260nm,0.7s							
RAMN	**Ramite**	**9.40**	**151**	*e*P	**Pn**	**12 33 21.9**	**+0.8**
comp=Z,260nm,0.7s							
EKS2	**Erkin-Say**	**9.49**	**323**	P	**Pn**	**12 33 23.9**	**+1.7**
SNR=43							
EKS2				P		12 33 23.9	
SNR=43							
EKS2	**Erkin-Say**	**9.49**	**323**	*e*Pn	**Pn**	**12 33 23.6**	**+1.4**
comp=Z,33nm,0.8s							
EKS2	**Erkin-Say**	**9.49**	**323**	*e*P	**Pn**	**12 33 23.7**	**+1.5**
EKS2				pmax	pmax		
comp=Z,33nm,0.8s							
TAPN	**Taplejung**	**9.54**	**144**	*e*P	**Pn**	**12 33 24.2**	**+1.1**
comp=Z,87nm,1.1s							
USP	**Ospenovka**	**9.62**	**328**	P	**Pn**	**12 33 26.6**	**+2.5**
SNR=6.6							
USP				P		12 33 26.6	
SNR=6.6							
WMQ	**Urumqi**	**9.78**	**28**	P	**Pn**	**12 33 31.0**	**+4.8**
WMQ				pP		12 33 34.2	
WMQ				sP		12 33 37.0	
WMQ				S	**Sn**	**12 35 23.2**	**+7.2**
WMQ				sS		12 35 28.2	
WMQ				pmax	pmax		
comp=Z,53nm,0.8s							
WMQ				pmax	pmax		
comp=Z,430nm,5.2s							
WMQ				LR	LR		
comp=N,5μm,11.0s							
WMQ				LR	LR		
comp=E,8μm,10.4s							
WMQ

comp=E,3μm,9.5s
GTA LR LR
comp=Z,2μm,10.0s
KURK Kurchatov 15.55 353 Pn **Pn 12 34 40.8 -4.0**
comp=Z,0.0nm,0.3s,baz=174,slow=12,SNR=40
KURK Kurchatov 15.55 353 *e*Pn **Pn 12 34 41.6 -3.2**
comp=Z,38nm,1.1s
KURK Kurchatov 15.55 353 *e*P **Pn 12 34 41.6 -3.2**
KURK pmax pmax
comp=Z,38nm,1.1s
HYB Hyderabad 17.99 189 *i* P **Pn 12 35 14.0 -1.8**
HYB *e*S **Sn 12 38 45.0 +8.4**
HVS Khovu-Aksy 18.13 25*d i*P **Pn 12 35 20.3 +3.0**
HVS pmax pmax
comp=Z,74nm,1.2s
HVS MLR MLR
comp=Z,3μm,20.0s
ZAA0 Zalesovo Array 18.80 6 *e*P **Pn 12 35 24.6 -0.9**
ZALV Zalesovo Beam 18.80 6 P **Pn 12 35 24.1 -1.4**
comp=Z,0.3nm,0.3s,baz=194,slow=12,SNR=26
ZALV Zalesovo Beam 18.80 6 P **Pn 12 35 24.1 -1.4**
ZALV Zalesovo Beam 18.80 6 P **Pn 12 35 24.1 -1.4**
CD2 Chengdu 19.16 97 *e*P **Pn 12 35 30.1 0.0**
CD2 pP pP 12 35 33.0 +1.0
CD2 sP sP 12 35 37.4 +4.1
CD2 PP 12 35 46.6
CD2 S **Sn 12 38 58.4 -6.4**
CD2 SS 12 39 25.7
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,500nm,8.4s
CD2 LR LR
comp=N,2μm,7.2s
CD2 LR LR
comp=E,3μm,10.8s
CD2 LR LR
comp=Z,3μm,9.6s
BVA0 Borovoye Array 19.39 340 *i* P **Pn 12 35 30.7 -1.9**
BVA0 pmax pmax
comp=Z,31nm,2.5s
BVAR Borovoye Array 19.39 340 P **Pn 12 35 31.1 -1.4**
comp=Z,0.4nm,0.3s,baz=141,slow=11,SNR=20
BVAR Borovoye Array 19.39 340 P **Pn 12 35 31.1 -1.4**
BVAR Borovoye Array 19.39 340 P **Pn 12 35 31.1 -1.5**
BRVK Borovoye 19.45 339 *e*P **Pn 12 35 32.6 -0.7**
comp=Z,24nm,0.8s
BRVK Borovoye 19.45 339⇑ *e*P **Pn 12 35 32.0 -1.3**
BRVK pmax pmax
comp=Z,18nm,1.2s
BRVK MLR MLR
comp=Z,2μm,19.0s
NVS Novosibirsk 19.59 3 *e*P **Pn 12 35 31.4 -3.5**
NVS *e* 12 39 16.4
NVS pmax pmax
comp=Z,101nm,2.3s
NVS pmax pmax
comp=N,485nm,4.0s
KMI Kunming 20.95 113 P **P 12 35 52.0 +3.3**
KMI S **S 12 39 42.7 +0.6**
KMI pmax pmax
comp=Z,33nm,0.9s
KMI pmax pmax
comp=Z,210nm,4.7s
KMI LR LR
comp=N,780nm,11.9s,MS4.6
KMI LR LR
comp=E,1μm,11.5s,MS4.6
KMI LR LR
comp=Z,1μm,11.3s,MS4.6
KMI Kunming 20.95 113 P **P 12 35 52.0 +3.3**
comp=Z,33nm,0.9s
KMI pP 12 36 13.8
KMI PP 12 36 22.3
KMI sP sP 12 36 25.2 +32
KMI S **S 12 39 42.7 +0.6**
KMI sS sS 12 40 17.7 +31
KMI SS 12 40 26.0
KMI SSS 12 40 45.1
KMI LR LR
comp=Z,1μm,11.3s,MS4.6
KMI Kunming 20.95 113 P **P 12 35 52.0 +3.3**
KMI *PP 12 36 13.8
KMI 12 36 22.3
KMI S **S 12 39 42.7 +0.6**
KMI *SS sS 12 40 17.7 +31
KMI SS 12 40 26.0
KMI pmax pmax
comp=Z,33nm,0.9s
KMI MLR MLR
comp=Z,1μm,11.3s,MS4.6
AB31 Akbulak array 21.08 318 *i* P **P 12 35 51.8 +1.9**
AB31 pmax pmax
comp=Z,14nm,0.7s,mb4.4
ABKAR Akbulak array 21.08 318 *e*P **P 12 35 49.1 -0.7**
ZAK Zakamensk 21.86 40 *e*P **P 12 35 59.9 +1.6**
ZAK *e* 12 36 22.5
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb3.8
SONM Songino Array 22.35 48 P **P 12 36 04.9 +1.4**
comp=Z,17nm,1.1s,mb4.4,baz=243,slow=8.1,SNR=37
SONM Songino Array 22.35 48 P **P 12 36 04.9 +1.4**
SONM Songino Array 22.35 48 P **P 12 36 04.9 +1.4**
SONM pmax pmax
comp=Z,17nm,1.1s
CHG Chiang Mai 22.56 132 ⇑P **P 12 36 06.2 +0.3**
comp=Z,12nm,0.8s,mb4.4
CHTO Chiang Mai 22.56 132 *e*P **P 12 36 06.4 +0.5**
comp=Z,18nm,0.9s,mb4.5
CHTO Chiang Mai 22.56 132 *e*P **P 12 36 06.4 +0.5**
CHTO pmax pmax
comp=Z,18nm,0.9s,mb4.5
XAN Xi'an 22.59 85 P **P 12 36 06.4 +0.2**
XAN pP 12 36 12.6
XAN PP 12 36 33.4
XAN S **S 12 40 18.7 +4.6**
XAN LR LR
comp=N,1μm,14.3s,MS4.5
XAN LR LR
comp=E,490nm,15.0s,MS4.5
XAN LR LR
comp=Z,560nm,12.6s,MS4.2
AKTO Aktyubinsk 22.77 319 P **P 12 36 08.0 +0.1**
comp=Z,4.9nm,0.7s,mb4.0,baz=122,slow=9.0,SNR=16
AKTO Aktyubinsk 22.77 319 P **P 12 36 08.0 +0.1**
AKTO Aktyubinsk 22.77 319 P **P 12 36 08.0 +0.1**
AKTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
ULN Ulaanbaatar 22.77 49 *e*P **P 12 36 10.1 +2.1**
comp=Z,29nm,1.0s,mb4.7
ULN Ulaanbaatar 22.77 49 *e*P **P 12 36 10.1 +2.1**
ULN pmax pmax
comp=Z,29nm,1.0s,mb4.7
TLY Talaya 22.82 37 *e*P **P 12 36 05.3 -3.1**
TLY *e* 12 36 34.7
TLY *e*S **S 12 40 08.4 -9.4**
TLY *e*SSS 12 40 54.0
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
TLY MLR MLR
comp=Z,594nm,20.0s,MS4.0
CMAR Chiang Mai Arr 22.83 133 P **P 12 36 08.2 -0.7**
comp=Z,3.0nm,0.8s,mb3.8,baz=316,slow=8.1,SNR=24
CMAR LR LR 12 45 57.5
comp=Z,916nm,20.3s,MS4.2,baz=318,slow=39
CMAR Chiang Mai Arr 22.83 133 P **P 12 36 08.2 -0.7**
CMAR Chiang Mai Arr 22.83 133 P **P 12 36 08.2 -0.6**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR MLR MLR
comp=Z,916nm,20.3s
BTO Baotou 23.07 68 *e*P **P 12 36 12.3 +1.0**
GYA Guiyang 23.30 105 P **P 12 36 13.2 -0.5**
GYA PP 12 36 44.8
GYA S **S 12 40 21.6 -4.4**
GYA SS 12 41 07.9
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.6
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,650nm,15.0s,MS4.3
GYA LR LR
comp=E,580nm,14.2s,MS4.3
GYA LR LR
comp=Z,460nm,16.6s,MS4.0
HHC Hu-ho-hao-te 24.26 68 *e*P **P 12 36 19.7 -3.0**
HHC pP 12 36 23.9
HHC sP sP 12 36 26.8 -0.2
HHC PP 12 36 55.3
HHC PcP PcP 12 39 59.8 -2.9
HHC S **S 12 40 36.9 -4.5**
HHC SS 12 41 27.0
HHC pmax pmax
comp=Z,14nm,1.0s,mb4.3
HHC pmax pmax
comp=Z,370nm,6.2s
HHC LR LR
comp=N,1μm,15.1s,MS4.6
HHC LR LR
comp=E,920nm,14.2s,MS4.6
HHC LR LR
comp=Z,1μm,15.3s,MS4.4
NST Nakhon Sawan 25.71 135 P **P 12 36 35.0 -1.1**
SVE Sverdlovsk 25.74 333‖ *e*P **P 12 36 38.1 +2.1**
SVE *e* 12 37 11.0
SVE pmax pmax
comp=Z,28nm,1.0s,mb4.8
SVE MLR MLR
comp=Z,727nm,14.0s,MS4.4
ARU Arti 26.25 331 *e*P **P 12 36 41.2 +0.5**
comp=Z,30nm,1.4s,mb4.6
ARU Arti 26.25 331*d i*P **P 12 36 41.5 +0.8**
ARU *e* 12 37 21.7
ARU *e*PPP 12 37 29.6
ARU *e* 12 40 05.6
ARU S **S 12 41 15.8 +2.9**
ARU SS 12 42 16.5
ARU SSS 12 42 37.7
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
ARU MLR MLR
comp=Z,789nm,16.0s,MS4.3
BJI Beijing 27.76 70 P **P 12 36 54.8 +0.3**
BJI pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
BJI LR LR
comp=N,2μm,17.9s,MS4.8
BJI LR LR
comp=E,680nm,15.9s,MS4.8
BJI LR LR
comp=Z,960nm,25.9s
WHN Wuhan 27.93 90 P **P 12 37 05.7 +10**
WHN S **S 12 41 49.0 +9.3**
WHN LR LR
comp=N,3μm,11.2s
WHN LR LR
comp=E,2μm,7.6s
WHN LR LR
comp=Z,5μm,25.9s
SOKR Solikamsk 29.14 334 *e*P **P 12 37 06.4 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
SOKR MLR MLR
comp=Z,1μm,22.0s,MS4.4
QIZ Qiongzhong 29.85 115 P **P 12 37 11.4 -1.7**
QIZ S **S 12 42 10.8 +0.7**
QIZ pmax pmax
comp=Z,15nm,1.9s,mb4.4
QIZ pmax pmax
comp=Z,78nm,6.1s
QIZ LR LR
comp=N,980nm,16.1s,MS4.6
QIZ LR LR
comp=E,400nm,15.4s,MS4.6
QIZ LR LR
comp=Z,790nm,26.7s
KIV Kislovodsk 30.87 298 *e*P **P 12 37 23.3 +1.3**
KIV *e* 12 40 19.3
KIV *e*S **S 12 42 25.5 -0.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,441nm,15.0s,MS4.2
NJ2 Nanjing 31.16 85 *e*P **P 12 37 28.4 +3.8**
NJ2 PP PP 12 38 24.6 -10
NJ2 S **S 12 42 33.0 +2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
NJ2 pmax pmax
comp=Z,140nm,4.2s
NJ2 LR LR
comp=N,960nm,24.4s,MS4.5
NJ2 LR LR
comp=E,730nm,26.2s,MS4.5
NJ2 LR LR
comp=Z,980nm,23.0s,MS4.4
SSE Sheshan 33.34 86 P **P 12 37 42.9 -0.9**
SSE S **S 12 43 03.4 -1.2**
SSE pmax pmax
comp=Z,40nm,0.6s,mb5.5
SSE pmax pmax
comp=Z,85nm,3.9s
SSE LR LR
comp=N,670nm,31.3s,MS4.3
SSE LR LR
comp=E,520nm,31.4s,MS4.3
SSE LR LR
comp=Z,420nm,20.4s
SSE Sheshan 33.34 86 P **P 12 37 42.9 -0.9**
comp=Z,40nm,0.6s,mb5.5
SSE S **S 12 43 03.4 -1.2**
SSE sS sS 12 43 22.8 +13
VSR Storozhevoye 34.14 311 *e*P **P 12 37 49.4 -1.1**
VSR pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.5s
VSR MLR MLR
comp=N,720nm,15.0s,MS4.8
VSR MLR MLR
comp=Z,2μm,15.0s,MS5.0
VSR MLR MLR
comp=E,1μm,18.0s,MS4.8
CN2 Changchun 34.62 62 *e*P **P 12 37 53.4 -1.4**
CN2 *es*P sP 12 38 00.4 +1.3
CN2 *e*S **S 12 43 20.4 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,2.0s,mb4.4
CN2 pmax pmax
comp=Z,400nm,6.0s
CN2 LR LR
comp=N,600nm,16.0s,MS4.7
CN2 LR LR
comp=E,1μm,16.0s,MS4.7
CN2 LR LR
comp=Z,1μm,17.0s,MS4.7
OBN Obninsk 36.52 317 *e*P **P 12 38 11.4 +0.4**
OBN *i* 12 39 37.0
OBN *i* 12 40 31.3
OBN *i* SS SS 12 46 21.5 -11
OBN pmax pmax
comp=Z,12nm,1.3s,mb4.6
KLMR Klimovskoe 36.93 327 *e*P **P 12 38 12.5 -1.9**
KLMR pmax pmax
comp=Z,38nm,1.6s,mb5.0
KLMR MLR MLR
comp=Z,1μm,14.0s,MS4.8
KSAR Wonju Array Be 37.14 73 P **P 12 38 17.3 +0.8**
KSAR Wonju Array Be 37.14 73 P **P 12 38 17.3 +0.8**
KSRS Korea Array 37.17 73 P **P 12 38 17.3 +0.6**
comp=Z,1.2nm,0.6s,mb3.9,baz=272,slow=6.5,SNR=4.4
KSRS Korea Array 37.17 73 P **P 12 38 17.3 +0.6**
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
MDJ Mudanjiang 37.57 61 P **P 12 38 19.0 -1.0**
MDJ pP pP 12 38 21.8 -1.3
MDJ PP PP 12 39 44.9 -0.7
MDJ PcP PcP 12 40 36.7 -1.1
MDJ S **S 12 44 09.7 +0.5**
MDJ ScP ScP 12 44 23.9 -1.2
MDJ PcS PcS 12 44 25.5 -0.7
MDJ ScS ScS 12 48 31.9 -1.5
MDJ pmax pmax
comp=Z,13nm,1.6s,mb4.4
MDJ pmax pmax
comp=Z,95nm,4.9s
MDJ LR LR
comp=N,160nm,22.8s,MS4.0
MDJ LR LR
comp=E,260nm,27.3s,MS4.0
MDJ LR LR
comp=Z,280nm,31.8s,MS3.9
BR131 Keskin Array S 37.85 291 *e*P **P 12 38 22.7 +0.2**
comp=Z,2.7nm,0.9s,mb4.0
BRTR Keskin Array B 37.85 291 P **P 12 38 22.8 +0.3**
comp=Z,1.8nm,0.9s,mb3.8,baz=94,slow=7.0,SNR=8.4
BRTR Keskin Array B 37.85 291 P **P 12 38 22.8 +0.3**
BRTR Keskin Array B 37.85 291 P **P 12 38 22.8 +0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 40.33 309 P **P 12 38 40.2 -2.8**
comp=Z,1.4nm,0.4s,mb4.0,baz=82,slow=7.4,SNR=7.2
AKASG Malin Array Be 40.33 309 P **P 12 38 40.2 -2.8**
AKASG Malin Array Be 40.33 309 P **P 12 38 40.3 -2.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 40.34 309 *e*P **P 12 38 43.0 -0.1**
comp=Z,13nm,1.3s,mb4.5
KIEV Kiev 40.34 309 *e*P **P 12 38 43.0 -0.1**
KIEV pmax pmax
comp=Z,13nm,1.3s,mb4.5
JOF Joensuu 41.30 328 *e*P **P 12 38 51.0 +0.1**
JOF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
JOF Joensuu 41.30 328 *e*p **P 12 38 51.0 +0.1**
comp=Z,8.6nm,0.8s,mb4.4
KKM Kota Kinabalu 43.22 124 *e*P **P 12 39 08.0 +0.9**
comp=Z,33nm,1.1s,mb5.0
FINES FINESS Array B 43.31 325 P **P 12 39 06.8 -0.5**
comp=Z,7.7nm,0.9s,mb4.5,baz=106,slow=6.8,SNR=7.5
FINES FINESS Array B 43.31 325 P **P 12 39 06.8 -0.5**
FINES FINESS Array B 43.31 325 P **P 12 39 06.8 -0.5**
FINES pmax pmax
comp=Z,8.0nm,0.9s
KAF Kangasniemi 43.34 326 *e*P **P 12 39 08.9 +1.4**
KAF pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
KAF Kangasniemi 43.34 326 *e*p **P 12 39 08.9 +1.4**
comp=Z,3.4nm,1.0s,mb4.0
MAT Matsushiro 45.38 71 P **P 12 39 22.1 -2.1**
MAT *e*S **S 12 46 03.2 -2.1**
MJAR Matsushiro Arr 45.39 71 P **P 12 39 23.5 -0.7**
comp=Z,4.2nm,0.8s,mb4.3,baz=284,slow=10,SNR=7.9
MJAR LR LR 12 59 16.2
comp=Z,206nm,20.8s,MS4.0,baz=200,slow=37
MJAR Matsushiro Arr 45.39 71 P **P 12 39 23.5 -0.7**
MJAR Matsushiro Arr 45.39 71 P **P 12 39 23.5 -0.8**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR MLR MLR
comp=Z,206nm,20.8s
ARCES ARCESS Array B 45.62 336 P **P 12 39 25.6 -0.1**
comp=Z,5.5nm,0.9s,mb4.5,baz=98,slow=8.7,SNR=7.8
ARCES ARCESS Array B 45.62 336 P **P 12 39 25.6 -0.1**
ARCES ARCESS Array B 45.62 336 P **P 12 39 25.6 0.0**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 47.86 308 *e*P **P 12 39 43.5 0.0**
comp=Z,9.7nm,1.1s,mb4.8
MORC Moravsky Berou 47.86 308 *e*P **P 12 39 43.5 +0.1**
MORC pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
DPC Dobruska-Polom 48.56 309 *e*P **P 12 39 48.9 0.0**
comp=Z,61nm,2.0s,mb5.3
DPC Dobruska-Polom 48.56 309 *e*P **P 12 39 48.3 -0.5**
DPC MLR MLR
comp=Z,1μm,17.3s,MS5.0
DPC Dobruska-Polom 48.56 309 *e*P **P 12 39 48.3 -0.5**
DPC AMS AMS 13 02 30.0
comp=Z,1μm,17.3s
UPC Upice 48.73 309 *e*P **P 12 39 50.4 +0.2**
UPC Upice 48.73 309 *e*P **P 12 39 50.4 +0.2**
UPC *ex* x 12 40 20.3
CONA Conrad Observa 49.25 306⇑ *i*pP pP 12 39 54.5 -2.8
comp=Z,14nm,1.0s
PRU Pruhonice 49.75 309 *e*P **P 12 40 00.0 +2.1**
PRU MLR MLR
comp=Z,1μm,19.3s,MS4.9
PRU Pruhonice 49.75 309 *e*P **P 12 40 00.0 +2.1**
PRU *ex* x 12 40 29.0
PRU AMS AMS 13 03 20.0
comp=Z,1μm,19.3s
BRG Berggiesshubel 49.98 310 *e*P **P 12 40 00.0 +0.3**
comp=Z,7.4nm,1.0s,mb4.7
BRG *e* 12 40 30.0
comp=Z,9.4nm,1.1s
BRG *e*PP PP 12 41 50.8 -3.6
comp=Z,8.8nm,1.4s
BRG
comp=N,521nm,16.0s
BRG
comp=E,1μm,17.7s
BRG
comp=Z,1μm,21.2s
SOKA Soboth 50.04 305⇑ *i*P **P 12 39 59.8 -0.4**
comp=Z,11nm,0.9s,mb4.9
NB2 NORSAR Subarra 50.44 324 P **P 12 40 02.1 -0.9**
comp=Z,7.6nm,0.8s,mb4.8,baz=88,slow=7.4
NOA NORSAR Array B 50.44 324 P **P 12 40 02.2 -0.8**
comp=Z,5.1nm,0.8s,mb4.6,baz=88,slow=7.5,SNR=11
NOA NORSAR Array B 50.44 324 P **P 12 40 02.2 -0.8**
NOA NORSAR Array B 50.44 324 P **P 12 40 02.2 -0.8**
NOA pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 50.49 308 P **P 12 40 03.7 +0.1**
comp=Z,2.0nm,0.8s,mb4.2,baz=64,slow=6.1,SNR=13
GERES GERESS Array B 50.49 308 P **P 12 40 03.7 +0.1**
GERES GERESS Array B 50.49 308 P **P 12 40 03.7 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.8s
CLL Collm 50.49 311 *e*P **P 12 40 04.0 +0.4**
CLL *e*S **S 12 47 31.0 +14**
CLL MLR MLR
comp=Z,1μm,19.9s,MS4.9
CLL Collm 50.49 311 *e*P **P 12 40 04.0 +0.4**
CLL *e* 12 40 35.0
CLL *e*(S) **S 12 47 26.0 +8.7**
KHC Kasperske Hory 50.52 308 *e*P **P 12 40 04.3 +0.6**
comp=Z,15nm,1.4s,mb4.7
KHC Kasperske Hory 50.52 308 *e*P **P 12 40 04.4 +0.6**
KHC pmax pmax
comp=Z,15nm,1.4s,mb4.7
KHC Kasperske Hory 50.52 308 *e*P **P 12 40 05.5 +1.7**
KHC *ex* x 12 40 33.7
KHC AMS AMS 13 04 30.0
comp=Z,700nm,16.9s
CDF Champ du Feu 54.74 308 *e*P **P 12 40 34.0 -1.1**
CDF Champ du Feu 54.74 308 *e*P **P 12 40 34.0 -1.1**
CDF Champ du Feu 54.74 308 *e*P **P 12 40 34.0 -1.1**
KMBO Kilima Mbogo 54.91 238 *e*P **P 12 40 35.8 -0.9**
KMBO Kilima Mbogo 54.91 238 *e*P **P 12 40 35.8 -0.9**
HINF Hinteralfeld 55.17 308 *e*P **P 12 40 37.0 -1.2**
HAU Haudompre 55.45 308 *e*P **P 12 40 38.9 -1.3**
BILL Bilibino 55.89 27 *e*P **P 12 40 44.6 +1.6**
BILL *i* 12 41 44.1
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
LPG La Plagne 55.91 305 *e*P **P 12 40 43.1 -0.5**
comp=Z,36nm,1.1s,mb5.0
LPG La Plagne 55.91 305 *e*P **P 12 40 43.1 -0.5**
comp=Z,36nm,1.1s,mb5.3
LPG La Plagne 55.91 305 *e*P **P 12 40 43.1 -0.5**
LPG pmax pmax
comp=Z,36nm,1.1s,mb5.3
LPL La Plagne 55.92 305 *e*P **P 12 40 43.1 -0.5**
comp=Z,60nm,1.4s,mb5.1
LPL La Plagne 55.92 305 *e*P **P 12 40 43.1 -0.5**
comp=Z,60nm,1.4s,mb5.4
LPL La Plagne 55.92 305 *e*P **P 12 40 43.1 -0.5**
LPL pmax pmax
comp=Z,60nm,1.4s,mb5.4
SBF Sospel 55.95 303 *e*P **P 12 40 41.7 -2.2**
comp=Z,68nm,1.1s,mb5.3
SBF Sospel 55.95 303 *e*P **P 12 40 41.7 -2.2**
comp=Z,68nm,1.1s,mb5.6
SBF Sospel 55.95 303 *e*P **P 12 40 41.7 -2.2**
SBF pmax pmax
comp=Z,68nm,1.1s,mb5.6
CABF La Chapelle 56.02 306 *e*P **P 12 40 43.5 -0.8**
FRF La Foret Royal 56.59 303 *e*P **P 12 40 46.8 -1.7**
FRF La Foret Royal 56.59 303 *e*P **P 12 40 46.8 -1.7**
FRF La Foret Royal 56.59 303 *e*P **P 12 40 46.8 -1.7**

LOR	**Lormes**	**57.27 308**	*e*P	**P**	**12 40 52.3**	**-0.9**
SMF	**Signal de Mont**	**57.48 307**	*e*P	**P**	**12 40 53.1**	**-1.6**
SSF	**Saint Saulge**	**57.57 308**	*e*P	**P**	**12 40 53.8**	**-1.5**
ILAR	**Eielson Array**	**73.34 20**	P	**P**	**12 42 36.6**	**-0.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=314,slow=5.3,SNR=19					
ILAR	**Eielson Array**	**73.34 20**	P	**P**	**12 42 36.6**	**-0.4**
ILAR	**Eielson Array**	**73.34 20**	P	**P**	**12 42 36.7**	**-0.4**
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
TORD	**Torodi Ar. Bea**	**74.25 275**	P	**P**	**12 42 41.8**	**-1.4**
	comp=Z,10nm,0.8s,mb4.8,baz=46,slow=5.5,SNR=28					
TORD	**Torodi Ar. Bea**	**74.25 275**	P	**P**	**12 42 41.8**	**-1.4**
WRA	**Warramunga Arr**	**74.36 129**	P	**P**	**12 42 42.3**	**-1.3**
	comp=Z,4.7nm,1.1s,mb4.3,baz=328,slow=5.6,SNR=8.5					
WRA	**Warramunga Arr**	**74.36 129**	P	**P**	**12 42 42.3**	**-1.3**
WRA	**Warramunga Arr**	**74.36 129**	P	**P**	**12 42 42.3**	**-1.3**
WRA			pmax	pmax		
	comp=Z,5.0nm,1.1s					
WRAB	**Tennant Creek**	**74.36 129**	*e*P	**P**	**12 42 43.0**	**-0.6**
	comp=Z,15nm,1.2s,mb4.8					
WRAB	**Tennant Creek**	**74.36 129**	*e*P	**P**	**12 42 43.0**	**-0.6**
WRAB			pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8					
WB2	**Warramunga Arr**	**74.37 129**	*e*P	**P**	**12 42 42.6**	**-1.0**
DOT	**Dot Lake**	**74.99 19**	*e*P	**P**	**12 42 47.7**	**+1.0**
	comp=Z,11nm,1.2s,mb4.7					
AS31	**Alice Springs**	**76.83 132**	*e*P	**P**	**12 42 56.0**	**-1.7**
ASAR	**Alice Springs**	**76.83 132**	P	**P**	**12 42 56.3**	**-1.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=322,slow=5.5,SNR=19					
ASAR	**Alice Springs**	**76.83 132**	P	**P**	**12 42 56.3**	**-1.4**
ASAR	**Alice Springs**	**76.83 132**	P	**P**	**12 42 56.3**	**-1.4**
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
LBTB	**Lobatse**	**79.95 230**	*e*P	**P**	**12 43 14.0**	**-0.9**
	comp=Z,46nm,1.4s,mb5.2					
LBTB			*e*pP	pP	12 43 43.5	+25
LBTB	**Lobatse**	**79.95 230**	*e*P	**P**	**12 43 14.0**	**-0.9**
LBTB			pmax	pmax		
	comp=Z,46nm,1.4s,mb5.2					
YKA	**Yellowknife Ar**	**81.70 7**	P	**P**	**12 43 22.8**	**-1.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=341,slow=5.2,SNR=17					
YKA	**Yellowknife Ar**	**81.70 7**	P	**P**	**12 43 22.8**	**-1.0**
YKA	**Yellowknife Ar**	**81.70 7**	P	**P**	**12 43 22.8**	**-1.0**
YKA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
BOSA	**Boshof**	**82.77 227**	P	**P**	**12 43 27.9**	**-2.0**
	comp=Z,15nm,0.9s,mb5.0,baz=47,slow=5.9,SNR=14					
BOSA	**Boshof**	**82.77 227**	*e*P	**P**	**12 43 28.3**	**-1.5**
	comp=Z,37nm,1.1s,mb5.3					
BOSA			*e*pP	pP	12 43 58.0	+25
BOSA	**Boshof**	**82.77 227**	*e*P	**P**	**12 43 28.3**	**-1.5**
BOSA			pmax	pmax		
	comp=Z,37nm,1.1s,mb5.3					
DBIC	**Dimbokro**	**83.20 273**	P	**P**	**12 43 30.9**	**-1.7**
	comp=Z,6.9nm,0.8s,mb4.7,baz=33,slow=6.8,SNR=9.0					
DBIC	**Dimbokro**	**83.20 273**	*e*P	**P**	**12 43 31.3**	**-1.2**
	comp=Z,16nm,1.1s,mb5.0					
DBIC			*e*pP	pP	12 44 01.4	+26
DBIC	**Dimbokro**	**83.20 273**	*e*P	**P**	**12 43 31.3**	**-1.2**
DBIC			pmax	pmax		
	comp=Z,16nm,1.1s					
SCHQ	**Schefferville**	**86.19 342**	LR	LR	13 30 30.0	
	comp=Z,115nm,18.8s,MS4.3,baz=102,slow=41					
STKA	**Stephens Creek**	**87.45 132**	P	**P**	**12 43 51.3**	**-1.9**
	comp=Z,2.1nm,0.5s,mb4.6,baz=325,slow=12,SNR=3.0					
STKA	**Stephens Creek**	**87.45 132**	P	**P**	**12 43 51.3**	**-1.9**
STKA	**Stephens Creek**	**87.45 132**	P	**P**	**12 43 51.3**	**-1.9**
STKA			pmax	pmax		
	comp=Z,2.0nm,0.5s					
FFC	**Flin Flon**	**90.30 2**	*e*P	**P**	**12 44 07.2**	**+0.8**
	comp=Z,33nm,1.5s,mb5.5					
FFC	**Flin Flon**	**90.30 2**	*e*P	**P**	**12 44 07.2**	**+0.7**
FFC			pmax	pmax		
	comp=Z,33nm,1.5s,mb5.4					
VNA2	**Neumayer–Watz**	**122.54 203**	*e*	PKPdf	12 49 58.9	-1.2
	baz=47,slow=3.4					
VNA2			*e*		12 50 28.2	
VNA3	**Neumayer Olymp**	**123.33 203**	*e*	PKPdf	12 50 00.1	-1.6
VNA3			*e*		12 50 28.0	
LPAZ	**La Paz**	**146.93 297**	PKPbc	PKPbc	12 50 47.8	-1.0
	comp=Z,2.9nm,0.8s,baz=44,slow=11,SNR=12					
LPAZ	**La Paz**	**146.93 297**	*e*PKPdf	PKPdf	12 50 46.8	-0.1
LPAZ			PKPbc	PKPbc	12 50 47.8	-1.0

*IDC **11** 12:31:32.8±0.6,35°.15N×81°.31E,h0km,mb4.5/18,*
mb1 4.6/22,mb1mx4.5/28,mbtmp4.5/22,ML4.2/4,MS3.6/1,
Ms1 3.6/1,ms1mx2.9/12,Error ellipse: s-maj=16.9km
s-min=12.6km az=37.0
*ISCJB **11** 12:31:33.6±0.4,35°.36N±0°.05×81°.47E±0°.05,h10km,*
mb4.5/26,MS4.6/4,Error ellipse: s-maj=7.5km
s-min=5.1km az=31.1
*NEIC **11** 12:31:34.5±0.4,35°.19N×81°.26E,h10km,mb4.7/3,Error*
ellipse: s-maj=8.6km s-min=5.9km az=38.0
*MOS **11** 12:31:37.0±1.7,35°.38N×81°.32E,h33km,mb4.7/18,Error*
ellipse: s-maj=11.0km s-min=6.1km az=117.6
ISC 11 12:31:35.1±0.3,**35°.25N**±0°.05×**81°.41E**±0°.05,**h10km**,**n125**,
σ1§**18**/125,**mb4.5**/26,**MS4.6**/4,**5C-5D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.07**	**316**	Pn	**Pn**	**12 33 07.4**	**+2.5**
KSH				Sn	**Sn**	**12 34 15.2**	**+0.8**
KSH				smax			
	comp=N,630nm,1.0s						
KSH				smax			
	comp=E,1μm,1.2s						
TKM2	**Tokmak 2**	**8.89**	**331**	*e*Pn	**Pn**	**12 33 43.4**	**-0.1**
TKM2	**Tokmak 2**	**8.89**	**331**	*e*P	**Pn**	**12 33 43.4**	**-0.2**
AAK	**Ala-Archa**	**9.13**	**326**	*e*Pn	**Pn**	**12 33 46.2**	**-0.6**
AAK	**Ala-Archa**	**9.13**	**326**	*e*P	**Pn**	**12 33 46.2**	**-0.6**
EKS2	**Erkin-Say**	**9.49**	**324**	*e*Pn	**Pn**	**12 33 50.4**	**-1.4**
EKS2	**Erkin-Say**	**9.49**	**324**	*e*P	**Pn**	**12 33 50.4**	**-1.4**
KBL	**Kabul**	**10.19**	**270**	*e*Pn	**Pn**	**12 33 59.7**	**-1.6**
KBL	**Kabul**	**10.19**	**270**	*e*P	**Pn**	**12 33 59.7**	**-1.6**
KKAR	**Karatay Array**	**11.53**	**316**	*e*Pn	**Pn**	**12 34 18.9**	**-0.7**
KKAR	**Karatay Array**	**11.53**	**316**	*e*P	**Pn**	**12 34 19.0**	**-0.7**
MK31	**Makanchi Array**	**11.55**	**3**	*e*Pn	**Pn**	**12 34 19.0**	**-0.9**
MK31	**Makanchi Array**	**11.55**	**3**	*e*P	**Pn**	**12 34 19.0**	**-1.0**
MKAR	**Makanchi Array**	**11.55**	**3**	Pn	**Pn**	**12 34 20.0**	**0.0**
	comp=E,2.4nm,0.3s,baz=182,slow=10,SNR=7.0						
MKAR				Sn	**Sn**	**12 36 28.5**	**-0.5**
	comp=E,1.8nm,0.3s,baz=188,slow=20,SNR=3.4						
MKAR				LR	LR	12 39 16.2	
	comp=E,298nm,19.6s,baz=178,slow=40						
MKAR	**Makanchi Array**	**11.55**	**3**	Pn	**Pn**	**12 34 20.0**	**0.0**
MKAR				Sn	**Sn**	**12 36 28.5**	**-0.5**
MKAR	**Makanchi Array**	**11.55**	**3**	P	**Pn**	**12 34 20.0**	**0.0**
MKAR						12 36 28.5	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				smax			
	comp=N,2.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,298nm,19.6s						
KURK	**Kurchatov**	**15.59**	**353**	Pn	**Pn**	**12 35 11.1**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=6.0						
KURK	**Kurchatov**	**15.59**	**353**	Pn	**Pn**	**12 35 11.1**	**-3.6**
KURK	**Kurchatov**	**15.59**	**353**	P	**Pn**	**12 35 11.1**	**-3.7**
LZH	**Lanzhou**	**18.24**	**81**	*e*P	**Pn**	**12 35 51.5**	**+3.1**
LZH				pP	pP	12 35 54.4	+3.0
LZH				sP	sP	12 35 56.8	+4.1
LZH				PP		12 36 04.0	
LZH				*e*S	**Sn**	**12 39 07.1**	**-4.9**
LZH				sS	sS	12 39 11.1	-11
LZH				SS		12 39 32.1	
LZH				pmax	pmax		
	comp=Z,69nm,1.0s						
LZH				pmax	pmax		
	comp=Z,650nm,5.9s						
LZH				LR	LR		
	comp=N,3μm,10.3s						
LZH				LR	LR		
	comp=E,1μm,9.0s						
LZH				LR	LR		
	comp=Z,2μm,12.0s						
LZH	**Lanzhou**	**18.24**	**81**	*e*P	**Pn**	**12 35 51.5**	**+3.1**
	comp=Z,69nm,1.0s						
LZH				pP	pP	12 35 54.4	+3.0
LZH				sP	sP	12 35 56.8	+4.1
LZH				PP		12 36 04.0	
LZH				*e*S	**Sn**	**12 39 07.1**	**-4.9**
LZH				sS	sS	12 39 11.1	-11
LZH				SS		12 39 32.1	
LZH	**Lanzhou**	**18.24**	**81**	*e*P	**Pn**	**12 35 51.5**	**+3.1**
LZH				*e*S	**Sn**	**12 39 07.1**	**-4.9**
LZH				pmax	pmax		
	comp=Z,69nm,1.0s						
ZAA0	**Zalesovo Array**	**18.85**	**6**	*e*P	**Pn**	**12 35 54.6**	**-1.0**
ZALV	**Zalesovo Beam**	**18.85**	**6**	P	**Pn**	**12 35 55.1**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=197,slow=11,SNR=7.0						
ZALV	**Zalesovo Beam**	**18.85**	**6**	P	**Pn**	**12 35 55.1**	**-0.5**
ZALV	**Zalesovo Beam**	**18.85**	**6**	P	**Pn**	**12 35 55.1**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**19.41**	**340**	P	**Pn**	**12 36 01.3**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=137,slow=12,SNR=8.6						
BVAR	**Borovoye Array**	**19.41**	**340**	P	**Pn**	**12 36 01.3**	**-1.0**
BVAR	**Borovoye Array**	**19.41**	**340**	P	**Pn**	**12 36 01.3**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**22.42**	**48**	P	**P**	**12 36 35.7**	**+1.9**
	comp=Z,23nm,0.9s,mb4.6,baz=240,slow=9.4,SNR=18						
SONM				PcP	PcP	12 40 27.7	-0.5
	comp=Z,1.0nm,0.7s,baz=242,slow=3.1,SNR=2.8						
SONM	**Songino Array**	**22.42**	**48**	P	**P**	**12 36 35.7**	**+1.9**
SONM				PcP	PcP	12 40 27.7	-0.5
SONM	**Songino Array**	**22.42**	**48**	P	**P**	**12 36 35.7**	**+2.0**
SONM						12 40 27.7	
SONM				pmax	pmax		
	comp=Z,23nm,0.9s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**22.77**	**319**	P	**P**	**12 36 37.9**	**+0.5**
	comp=Z,7.3nm,0.6s,mb4.3,baz=96,slow=10,SNR=6.2						
AKTO	**Aktyubinsk**	**22.77**	**319**	P	**P**	**12 36 37.9**	**+0.5**
AKTO	**Aktyubinsk**	**22.77**	**319**	P	**P**	**12 36 37.9**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
CM31	**Chiang Mai Arr**	**22.84**	**133**	*e*P	**P**	**12 36 38.7**	**+0.3**
	comp=Z,35nm,1.1s,mb4.7						
CMAR	**Chiang Mai Arr**	**22.84**	**133**	P	**P**	**12 36 39.1**	**+0.7**
	comp=Z,4.3nm,0.8s,mb3.9,baz=314,slow=11,SNR=6.2						
CMAR				PcP	PcP	12 40 28.6	-1.0
	comp=Z,1.4nm,0.8s,baz=291,slow=2.3,SNR=5.3						
CMAR	**Chiang Mai Arr**	**22.84**	**133**	P	**P**	**12 36 39.1**	**+0.7**
CMAR				PcP	PcP	12 40 28.6	-1.0
CMAR	**Chiang Mai Arr**	**22.84**	**133**	P	**P**	**12 36 39.1**	**+0.7**
CMAR						12 40 28.6	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MAK	**Makhachkala**	**27.28**	**297**	*e*P	**P**	**12 37 16.1**	**-3.4**
MAK				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.6						
BHD	**Baghdad**	**30.56**	**277**	*ex*	**P**	**12 37 46.5**	**-2.3**
BHD				*i* x	x	12 42 52.0	
DL2	**Dalian**	**32.11**	**71**	S	**S**	**12 43 19.3**	**+4.6**
DL2				LR	LR		
	comp=N,530nm,12.3s,MS4.5						
DL2				LR	LR		
	comp=E,360nm,12.6s,MS4.5						
DL2				LR	LR		
	comp=Z,520nm,17.6s,MS4.3						
SNY	**Shenyang**	**33.37**	**66**	⇑P	**P**	**12 38 11.8**	**-1.6**
SNY				S	**S**	**12 43 39.6**	**+5.3**
SNY				pmax	pmax		
	comp=Z,450nm,3.7s						
SNY				LR	LR		
	comp=N,950nm,14.5s						
SNY				LR	LR		
	comp=Z,890nm,13.5s,MS4.7						
MOS	**Moscow**	**36.10**	**318**	*e*P	**P**	**12 38 35.5**	**-1.3**
MOS				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.7						
KSAR	**Wonju Array Be**	**37.20**	**73**	P	**P**	**12 38 46.8**	**+0.2**
KSAR				PcP	PcP	12 41 06.0	-0.2
KSAR	**Wonju Array Be**	**37.20**	**73**	P	**P**	**12 38 46.8**	**+0.3**
KSAR						12 41 06.1	
KSRS	**Korea Array**	**37.23**	**73**	P	**P**	**12 38 46.8**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.2,baz=271,slow=8.4,SNR=6.8						
KSRS				PcP	PcP	12 41 06.0	-0.3
	comp=Z,0.8nm,0.7s,baz=245,slow=2.6,SNR=4.4						
KSRS	**Korea Array**	**37.23**	**73**	P	**P**	**12 38 46.8**	**+0.1**
KSRS						12 41 06.1	
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
MDJ	**Mudanjiang**	**37.63**	**61**	P	**P**	**12 38 51.5**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.8						
MDJ				pmax	pmax		
	comp=Z,110nm,3.3s						
BRTR	**Keskin Array B**	**37.82**	**291**	P	**P**	**12 38 52.0**	**+0.3**
	comp=Z,3.0nm,1.0s,mb4.0,baz=96,slow=5.0,SNR=4.9						
BRTR	**Keskin Array B**	**37.82**	**291**	P	**P**	**12 38 52.0**	**+0.3**
BRTR	**Keskin Array B**	**37.82**	**291**	P	**P**	**12 38 52.0**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**40.31**	**309**	P	**P**	**12 39 10.9**	**-1.5**
	comp=Z,5.8nm,0.6s,mb4.5,baz=78,slow=8.1,SNR=9.5						
AKASG	**Malin Array Be**	**40.31**	**309**	P	**P**	**12 39 10.9**	**-1.5**
AKASG	**Malin Array Be**	**40.31**	**309**	P	**P**	**12 39 10.9**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
JOF	**Joensuu**	**41.31**	**328**	*e*P	**P**	**12 39 21.1**	**+0.6**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
JOF	**Joensuu**	**41.31**	**328**	*ep*	**P**	**12 39 21.1**	**+0.6**
	comp=Z,5.8nm,0.7s,mb4.3						
TESR		**42.13**	**303**	⇓*i*P	**P**	**12 39 28.6**	**+1.2**
VRI	**Vrincioaia**	**42.13**	**302**	⇓P	**P**	**12 39 29.6**	**+2.2**
VRI	**Vrincioaia**	**42.13**	**302**	⇓*i*P	**P**	**12 39 29.6**	**+2.2**
PLOR	**Plostina**	**42.19**	**302**	⇑P	**P**	**12 39 29.1**	**+1.2**
PLOR	**Plostina**	**42.19**	**302**	⇑*i*P	**P**	**12 39 29.1**	**+1.2**
SULR		**42.59**	**300**	⇓*i*P	**P**	**12 39 33.6**	**+2.4**
MLR	**Muntele Rosu**	**42.72**	**301**	⇑P	**P**	**12 39 34.5**	**+2.3**
MLR	**Muntele Rosu**	**42.72**	**301**	⇑*i*P	**P**	**12 39 34.5**	**+2.3**
FINES	**FINESS Array B**	**43.32**	**325**	P	**P**	**12 39 36.4**	**-0.4**
	comp=Z,9.5nm,0.6s,mb4.7,baz=110,slow=10,SNR=10						
FINES	**FINESS Array B**	**43.32**	**325**	P	**P**	**12 39 36.4**	**-0.4**
FINES	**FINESS Array B**	**43.32**	**325**	P	**P**	**12 39 36.4**	**-0.4**
FINES				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KAF	**Kangasniemi**	**43.35**	**326**	*e*P	**P**	**12 39 33.8**	**-3.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
KAF	**Kangasniemi**	**43.35**	**326**	*ep*	**P**	**12 39 33.8**	**-3.2**
	comp=Z,2.6nm,0.7s,mb4.1						
TRPA	**Tarpa**	**44.77**	**305**	⇓*i*P	**P**	**12 39 48.7**	**+0.1**
MJAR	**Matsushiro Arr**	**45.45**	**71**	P	**P**	**12 39 53.8**	**-0.5**
	comp=Z,9.1nm,0.9s,mb4.6,baz=284,slow=9.9,SNR=11						
MJAR	**Matsushiro Arr**	**45.45**	**71**	P	**P**	**12 39 53.8**	**-0.5**
MJAR	**Matsushiro Arr**	**45.45**	**71**	P	**P**	**12 39 53.8**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARCES	**ARCESS Array B**	**45.64**	**336**	P	**P**	**12 39 56.5**	**+1.3**
	comp=Z,10nm,0.9s,mb4.8,baz=79,slow=6.3,SNR=5.4						
ARCES	**ARCESS Array B**	**45.64**	**336**	P	**P**	**12 39 56.5**	**+1.3**
ARCES	**ARCESS Array B**	**45.64**	**336**	P	**P**	**12 39 56.6**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OJC	**Ojcow**	**46.35**	**309**	*e*P	**P**	**12 40 02.0**	**+0.9**
OJC	**Ojcow**	**46.35**	**309**	*e*P	**P**	**12 40 02.0**	**+0.9**
MORC	**Moravsky Berou**	**47.84**	**308**	*e*pP	pP	12 40 14.1	-1.8
MORC	**Moravsky Berou**	**47.84**	**308**	*e*P	**P**	**12 40 14.1**	**+1.3**
DPC	**Dobruska-Polom**	**48.55**	**309**	*e*pP	**P**	**12 40 19.3**	**+1.0**
DPC	**Dobruska-Polom**	**48.55**	**309**	*e*P	**P**	**12 40 19.3**	**+1.1**
DPC	**Dobruska-Polom**	**48.55**	**309**	*ex*	**P**	**12 40 18.8**	**+0.6**
CONA	**Conrad Observa**	**49.23**	**306**	P	**P**	**12 40 24.3**	**+0.8**
	comp=Z,16nm,1.0s,mb5.0						
SOKA	**Soboth**	**50.02**	**305**	P	**P**	**12 40 29.5**	**-0.1**
	comp=Z,17nm,1.0s,mb5.0						
NB2	**NORSAR Subarra**	**50.44**	**324**	P	**P**	**12 40 31.9**	**-0.6**
	comp=Z,14nm,0.9s,mb5.0,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**50.44**	**324**	P	**P**	**12 40 32.5**	**0.0**
	comp=Z,8.8nm,0.8s,mb4.8,baz=88,slow=7.5,SNR=14						
NOA	**NORSAR Array B**	**50.44**	**324**	P	**P**	**12 40 32.5**	**0.0**
NOA	**NORSAR Array B**	**50.44**	**324**	P	**P**	**12 40 32.5**	**0.0**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GERES	**GERESS Array B**	**50.48**	**308**	P	**P**	**12 40 32.9**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.4,baz=75,slow=7.1,SNR=8.8						
GERES	**GERESS Array B**	**50.48**	**308**	P	**P**	**12 40 32.9**	**0.0**
GERES	**GERESS Array B**	**50.48**	**308**	P	**P**	**12 40 32.9**	**-0.1**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**50.48**	**311**	*e*P	**P**	**12 40 33.0**	**0.0**
	comp=Z,35nm,1.9s,mb5.1						
CLL				*e*S	**S**	**12 47 50.0**	**+3.4**
CLL				*e*SS	SS	12 51 24.0	+3.8
CLL				LmV		13 03 00.0	
	comp=Z,1μm,19.9s						
KHC	**Kasperske Hory**	**50.50**	**308**	*ep*P	pP	12 40 34.5	-1.8
KHC	**Kasperske Hory**	**50.50**	**308**	*e*P	**P**	**12 40 34.5**	**+1.3**
COLA	**College**	**73.05**	**20**	*e*P	**P**	**12 43 05.0**	**+0.2**
	comp=Z,2.7nm,0.6s,mb4.3						
COLA	**College**	**73.05**	**20**	*e*P	**P**	**12 43 05.0**	**+0.2**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**73.40**	**20**	P	**P**	**12 43 06.5**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.2,baz=321,slow=5.0,SNR=14						
ILAR	**Eielson Array**	**73.40**	**20**	P	**P**	**12 43 06.5**	**-0.4**
ILAR	**Eielson Array**	**73.40**	**20**	P	**P**	**12 43 06.5**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.21**	**275**	P	**P**	**12 43 11.3**	**-1.1**
	comp=Z,11nm,0.9s,mb4.8,baz=55,slow=4.3,SNR=14						
TORD	**Torodi Ar. Bea**	**74.21**	**275**	P	**P**	**12 43 11.3**	**-1.1**
WRA	**Warramunga Arr**	**74.37**	**129**	P	**P**	**12 43 12.8**	**-0.4**
	comp=Z,5.7nm,1.0s,mb4.5,baz=327,slow=6.0,SNR=10						
WRA	**Warramunga Arr**	**74.37**	**129**	P	**P**	**12 43 12.8**	**-0.4**
WRA	**Warramunga Arr**	**74.37**	**129**	P	**P**	**12 43 12.8**	**-0.4**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WB2	**Warramunga Arr**	**74.38**	**129**	*e*P	**P**	**12 43 12.6**	**-0.6**
ASAR	**Alice Springs**	**76.84**	**132**	P	**P**	**12 43 27.1**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=320,slow=5.5,SNR=8.7						
ASAR	**Alice Springs**	**76.84**	**132**	P	**P**	**12 43 27.1**	**-0.2**
ASAR	**Alice Springs**	**76.84**	**132**	P	**P**	**12 43 27.1**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**81.75 7**	P	**P**	**12 43 52.5**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=339,slow=5.4,SNR=8.7						
YKA	**Yellowknife Ar**	**81.75 7**	P	**P**	**12 43 52.5**	**-1.0**
YKA	**Yellowknife Ar**	**81.75 7**	P	**P**	**12 43 52.5**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BOSA	**Boshof**	**82.70 227**	P	**P**	**12 43 57.2**	**-1.8**
	comp=Z,15nm,0.9s,mb5.0,baz=41,slow=6.7,SNR=8.0						
BOSA	**Boshof**	**82.70 227**	P	**P**	**12 43 57.2**	**-1.8**
BOSA	**Boshof**	**82.70 227**	P	**P**	**12 43 57.2**	**-1.8**
BOSA				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
DBIC	**Dimbokro**	**83.15 273**	P	**P**	**12 44 00.4**	**-1.4**
	comp=Z,7.9nm,0.9s,mb4.7,baz=64,slow=4.7,SNR=6.3						
DBIC	**Dimbokro**	**83.15 273**	P	**P**	**12 44 00.4**	**-1.4**
DBIC	**Dimbokro**	**83.15 273**	P	**P**	**12 44 00.4**	**-1.4**
DBIC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DZM	**Mont Dzumac**	**98.56 111**	*e*LR	LR	13 16 50.7	
	comp=Z,362nm,29.8s						
SNAA	**Sanae**	**121.27 202**	*e*	PKPdf	12 50 26.4	-0.8
	baz=47,slow=3.4						
PPT	**Papeete**	**131.59 82**	*e*LR	LR	13 32 09.6	
	comp=Z,414nm,29.5s						
TBI	**Tubuai**	**134.52 89**	*e*LR	LR	13 33 30.1	
	comp=Z,196nm,28.0s						
LPAZ	**La Paz**	**146.90 297**	PKPbc	PKPbc	12 51 15.2	-2.9
	comp=Z,1.6nm,0.7s,baz=22,slow=6.6,SNR=5.3						
LPAZ	**La Paz**	**146.90 297**	PKPbc	PKPbc	12 51 15.2	-2.9

*BJI **11** 12:49:45.4,34°.87N×81°.93E,h10km,ML4.0/5*
*ISCJB **11** 12:49:50.6±0.7,35°.47N±0°.08×81°.28E±0°.09,h10km,*
mb3.6/10,Error ellipse: s-maj=11.7km s-min=10.4km
az=41.4
*IDC **11** 12:49:50.5±0.9,35°.42N×81°.12E,h0km,mb3.7/9,*
mb1 3.8/13,mb1mx3.7/28,mbtmp3.7/13,ML3.0/3,Error
ellipse: s-maj=25.9km s-min=16.8km az=59.0
*NEIC **11** 12:49:52.3±0.8,35°.41N×81°.31E,h10km,mb3.5/1,Error*
ellipse: s-maj=14.1km s-min=11.6km az=50.0
*MOS **11** 12:49:54.0±1.8,35°.54N×81°.31E,h33km,mb3.9/6,Error*
ellipse: s-maj=16.9km s-min=7.6km az=105.6
ISC 11 12:49:52.4±0.7,**35°.47N**±0°.07×**81°.37E**±0°.09,**h10km**,**n55**,
σ1§**31**/57,**mb3.6**/10,**Southern Xinjiang**

| Code

ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	NORSAR Array B	50.25	323	P	P	12 58 47.8	-0.6
	comp=Z,1.0nm,0.6s,mb4.0,baz=89,slow=7.5,SNR=3.6						
NOA	NORSAR Array B	50.25	323	P	P	12 58 47.8	-0.6
NOA	NORSAR Array B	50.25	323	P	P	12 58 47.8	-0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	73.21	20	P	P	13 01 21.7	-1.3
	comp=Z,0.3nm,0.8s,mb3.3,baz=302,slow=5.2,SNR=4.0						
ILAR	Eielson Array	73.21	20	P	P	13 01 21.7	-1.3
ILAR	Eielson Array	73.21	20	P	P	13 01 21.7	-1.4
TORD	Torodi Ar. Bea	74.15	275	P	P	13 01 27.0	-2.5
	comp=Z,1.5nm,0.8s,mb4.0,baz=44,slow=4.8,SNR=9.3						
TORD	Torodi Ar. Bea	74.15	275	P	P	13 01 27.0	-2.5
ASAR	Alice Springs	77.02	132	P	P	13 01 48.1	+2.5
	comp=Z,0.4nm,0.7s,mb3.5,baz=345,slow=6.7,SNR=3.8						
ASAR	Alice Springs	77.02	132	P	P	13 01 48.1	+2.5
ASAR	Alice Springs	77.02	132	P	P	13 01 48.1	+2.5

*ISCJB **11** 13:01:35.7±1.7, 8.°0S±0.°2×67.°7E±0.°3, h10km, mb4.0/11, Error ellipse: s-maj=47.8km s-min=19.7km az=139.0*
*IDC **11** 13:01:37.5±1.5, 7.°84S×67.°92E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, Error ellipse: s-maj=47.3km s-min=23.7km az=47.0*
*NEIC **11** 13:01:38.8±0.9, 7.°86S×67.°89E, h10km, mb4.2/2, Error ellipse: s-maj=27.3km s-min=13.9km az=48.0*
ISC 11 13:01:38.3±1.6, **7.°9S**±0.°2×**67.°8E**±0.°3, **h10km, n26, σ0.s31**/20, **mb4.0**/11, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	40.38	49	P	P	13 09 17.0	+0.3
	1.5nm,0.9s,mb3.7,baz=247,slow=9.7,SNR=13						
CMAR	Chiang Mai Arr	40.38	49	P	P	13 09 17.0	+0.3
MKAR	Makanchi Array	55.99	12	P	P	13 11 16.5	-0.4
	0.9nm,0.8s,mb3.9,baz=198,slow=7.3,SNR=5.7						
MKAR				PcP	PcP	13 12 15.9	+0.7
	0.4nm,0.8s,baz=213,slow=8.7,SNR=3.8						
MKAR	Makanchi Array	55.99	12	P	P	13 11 16.5	-0.4
MKAR				PcP	PcP	13 12 15.9	+0.7
BRTR	Keskin Array B	56.99	329	P	P	13 11 24.3	+0.1
	1.0nm,0.9s,mb3.9,baz=132,slow=8.5,SNR=5.8						
BRTR	Keskin Array B	56.99	329	P	P	13 11 24.3	+0.1
ABKAR	Akbulak array	57.36	354	eP	P	13 11 26.7	+0.1
	1.2nm,0.9s,mb3.9						
AKTO	Aktyubinsk	58.74	353	P	P	13 11 36.6	+0.3
	1.5nm,0.8s,mb4.1,baz=148,slow=5.2,SNR=5.2						
AKTO	Aktyubinsk	58.74	353	P	P	13 11 36.6	+0.3
KURK	Kurchatov	59.15	8	eP	P	13 11 39.1	+0.1
	4.3nm,0.9s,mb4.5						
BVAR	Borovoye Array	60.76	2	P	P	13 11 49.9	-0.2
	1.0nm,0.8s,mb4.0,baz=165,slow=6.2,SNR=5.0						
BVAR	Borovoye Array	60.76	2	P	P	13 11 49.9	-0.2
ZALV	Zalesovo Beam	63.30	11	P	P	13 12 06.5	-0.6
	1.1nm,0.8s,mb4.0,baz=243,slow=6.5,SNR=4.0						
ZALV	Zalesovo Beam	63.30	11	P	P	13 12 06.5	-0.6
ASAR	Alice Springs	64.99	112	P	P	13 12 18.6	-0.4
	0.7nm,1.1s,mb3.6,baz=294,slow=6.3,SNR=4.2						
ASAR	Alice Springs	64.99	112	P	P	13 12 18.6	-0.4
SONM	Songino Array	65.14	28	P	P	13 12 19.6	+0.3
	1.1nm,0.9s,mb3.9,baz=202,slow=7.5,SNR=3.8						
SONM	Songino Array	65.14	28	P	P	13 12 19.6	+0.3
WRA	Warramunga Arr	65.31	108	P	P	13 12 21.4	+0.3
	1.6nm,1.0s,mb4.0,baz=280,slow=6.4,SNR=7.5						
WRA	Warramunga Arr	65.31	108	P	P	13 12 21.4	+0.3
PDAR	Pinedale Array	145.23	357	PKPbc	PKPbc	13 21 17.6	+1.5
	0.9nm,0.8s,baz=223,slow=0.8,SNR=5.9						
PDAR	Pinedale Array	145.23	357	PKPbc	PKPbc	13 21 17.6	+1.5
NVAR	Mina Array Bea	149.14	9	PKPbc	PKPbc	13 21 29.1	+1.7
	1.3nm,1.0s,baz=261,slow=0.8,SNR=6.4						
NVAR	Mina Array Bea	149.14	9	PKPbc	PKPbc	13 21 29.1	+1.7
TXAR	Lajitas Array	157.25	340	PKPab	PKPab	13 22 06.2	+0.3
	0.6nm,1.0s,baz=79,slow=6.5,SNR=3.7						
TXAR	Lajitas Array	157.25	340	PKPab	PKPab	13 22 06.2	+0.3

*ISCJB **11** 13:06:18.8±1.7, 8.°0S±0.°3×67.°9E±0.°3, h10km, mb3.8/6, Error ellipse: s-maj=52.2km s-min=21.1km az=142.0*
*IDC **11** 13:06:20.2±1.7, 7.°95S×67.°98E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=52.4km s-min=25.7km az=48.0*
*NEIC **11** 13:06:21.7±1.2, 7.°91S×67.°98E, h10km, Error ellipse: s-maj=39.5km s-min=18.1km az=49.0*
ISC 11 13:06:21.4±1.7, **7.°9S**±0.°2×**67.°9E**±0.°3, **h10km, n17, σ0.s77**/13, **mb3.8**/6, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	40.31	49	P	P	13 14 00.4	+1.2
	1.1nm,0.7s,mb3.7,baz=243,slow=9.1,SNR=11						
CMAR	Chiang Mai Arr	40.31	49	P	P	13 14 00.4	+1.2
MKAR	Makanchi Array	55.97	12	P	P	13 15 58.9	-0.9
	0.6nm,0.7s,mb3.8,baz=194,slow=7.6,SNR=4.2						
MKAR	Makanchi Array	55.97	12	P	P	13 15 58.9	-0.9
BRTR	Keskin Array B	57.05	329	P	P	13 16 08.6	+0.9
	0.3nm,0.7s,mb3.4,baz=166,slow=7.4,SNR=2.7						
BRTR	Keskin Array B	57.05	329	P	P	13 16 08.6	+0.9
KURK	Kurchatov	59.15	8	P	P	13 16 21.3	-0.9
	1.1nm,0.7s,mb4.0,baz=207,slow=7.2,SNR=9.8						
KURK	Kurchatov	59.15	8	P	P	13 16 21.3	-0.9
ASAR	Alice Springs	64.88	112	P	P	13 17 01.4	0.0
	0.5nm,0.7s,mb3.7,baz=283,slow=6.0,SNR=5.8						
ASAR	Alice Springs	64.88	112	P	P	13 17 01.4	0.0
WRA	Warramunga Arr	65.20	108	P	P	13 17 03.0	-0.6
	1.5nm,1.1s,mb3.9,baz=279,slow=7.1,SNR=5.0						
WRA	Warramunga Arr	65.20	108	P	P	13 17 03.0	-0.6
WRAB	Tennant Creek	65.21	108	eP	P	13 17 03.8	+0.2
PDAR	Pinedale Array	145.24	357	PKPbc	PKPbc	13 26 00.6	+1.2
	0.5nm,0.6s,baz=97,slow=3.6,SNR=4.4						
PDAR	Pinedale Array	145.24	357	PKPbc	PKPbc	13 26 00.6	+1.2
NVAR	Mina Array Bea	149.13	10	PKPbc	PKPbc	13 26 11.6	+1.1
	0.4nm,0.6s,baz=291,slow=1.2,SNR=3.7						
NVAR	Mina Array Bea	149.13	10	PKPbc	PKPbc	13 26 11.6	+1.1

*IDC **11** 13:16:08.3±0.6, 35.°22N×81.°43E, h0km, mb4.2/18, mb1 4.3/22, mb1mx4.2/28, mbtmp4.2/22, ML3.9/4, MS3.9/16, Ms1 4.0/16, ms1mx3.8/33, Error ellipse: s-maj=18.6km s-min=13.0km az=51.0*
*NNC **11** 13:16:09.7±1.6, 35.°66N×81.°75E, h0km, mb4.0, mpv4.4, Error ellipse: s-maj=19.4km s-min=9.4km az=129.0*
*ISCJB **11** 13:16:12.0±0.5, 35.°30N±0.°02×81.°41E±0.°03, h35km±5km, mb4.3/41, MS4.0/21, Error ellipse: s-maj=4.6km s-min=3.6km az=139.9*
*MOS **11** 13:16:11.2±1.0, 35.°25N×81.°28E, h30km, mb4.3/23, MS4.0/11, Error ellipse: s-maj=10.2km s-min=5.1km az=113.3*
*BJI **11** 13:16:13.1, 35.°42N×81.°28E, h42km, mB4.8/19, mb4.5/31, ML4.5/5, Ms4.5/31, Ms7 4.2/26*
*NEIC **11** 13:16:13.4±1.4, 35.°27N×81.°37E, h33km±11km, mb4.6/11, Error ellipse: s-maj=7.7km s-min=3.9km az=59.0*
*GCMT **11** 13:16:15.2±0.4, 35.°32N×81.°31E, h25km±1km, MW4.9, Moment Tensor Solution. s22,c28; s54,c83; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.62±.24; $M_{\theta\theta}$-0.61±.14; $M_{\phi\phi}$3.23±.15; $M_{r\theta}$0.61±.34; $M_{\theta\phi}$0.83±.10; $M_{\phi r}$-0.25±.28; Best double couple: $M_0$3.10000×10^{16} NP1:ϕ_s209.00000°, δ46.00000°, λ-66.00000°. NP2:ϕ_s355.00000°, δ49.00000°, λ-114.00000°. Principal axes: T 3.4100, Plg1.0000°, Azm102.0000°; N -0.5800, Plg17.0000°, Azm11.0000°; P -2.8300, Plg72.0000°, Azm195.0000°; Data Used: II G IU IC CN.*
ISC 11 13:16:14.9±0.4, **35.°27N**±0.°02×**81.°40E**±0.°03, **h46km**±4km, **n212, σ1.s23**/231, **mb4.3**/41, **MS4.0**/21, **11C-9D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	Sundarnagar	5.28	226	ePKP	Pn	13 17 32.0	+0.8
SMLA	Simla	5.45	222	i P	Pn	13 17 34.4	+0.9
SMLA				i x	Sn	13 18 38.7	+3.8
SMLA				⇓AML	AML	13 18 44.9	
	comp=E,835nm,0.8s						
SMLA				⇓AML	AML	13 18 46.4	
	comp=N,802nm,0.7s						
BHK	Bhakra	5.67	229	ePKP	Pn	13 17 37.0	+0.4
DDI	Dehra Dun	5.68	211	ePKP	Pn	13 17 36.8	+0.1
KSH	Kashi	6.05	316	P	Pn	13 17 43.7	+1.9
KSH				sP		13 17 57.3	
KSH				S	Sn	13 18 52.0	+2.2
KSH				pmax	pmax		
	comp=Z,180nm,1.0s						
KSH				pmax	pmax		
	comp=Z,730nm,3.0s						
KSH				smax			
	comp=N,230nm,0.8s						
KSH				smax			
	comp=E,310nm,1.0s						
KSH				LR	LR		
	comp=N,4μm,7.5s						
KSH				LR	LR		
	comp=E,2μm,6.0s						
KSH				LR	LR		
	comp=Z,3μm,6.9s						
CHCP	Chirah Chowk	6.91	259	P	Pn	13 17 54.0	+0.4
DANN	Dangsing	7.18	163	eP	Pn	13 17 56.7	-0.6
	comp=Z,97nm,1.0s						
DANN	Dangsing	7.18	163	eP	Pn	13 17 56.7	-0.6
	comp=Z,97nm,1.0s						
KOLN	Koldanda	7.71	165	eP	Pn	13 18 00.0	-4.5
	comp=Z,32nm,0.6s						
KOLN	Koldanda	7.71	165	eP	Pn	13 18 00.0	-4.5
GKN	Gorkha	7.75	158	eP	Pn	13 18 05.1	0.0
	comp=Z,26nm,0.4s						
GKN	Gorkha	7.75	158	eP	Pn	13 18 05.1	0.0
	comp=Z,26nm,0.4s						
CEP	Cherat	7.97	262	P	Pn	13 18 08.4	+0.4
CEP				S	Sn	13 19 40.0	+3.2
KKN	Kakani	8.16	155	eP	Pn	13 18 10.1	-0.6
	comp=Z,28nm,0.6s						
KKN	Kakani	8.16	155	eP	Pn	13 18 10.1	-0.6
	comp=Z,28nm,0.6s						
KKN	Kakani	8.16	155	eP	Pn	13 18 10.1	-0.6
KKN				pmax	pmax		
	comp=Z,28nm,0.6s						
DMN	Daman	8.26	157	eP	Pn	13 18 11.0	-1.2
	comp=Z,42nm,0.5s						
DMN	Daman	8.26	157	eP	Pn	13 18 11.0	-1.2
	comp=Z,42nm,0.5s						
GUN	Gumba	8.27	151	eP	Pn	13 18 13.8	+1.6
	comp=Z,58nm,0.5s						
GUN	Gumba	8.27	151	eP	Pn	13 18 13.8	+1.6
	comp=Z,58nm,0.5s						
KZA	Kyzart	8.33	327	P	Pn	13 18 15.7	+2.7
	SNR=10						
KZA				P		13 18 15.7	
	SNR=10						
THW	Thamme Wali	8.39	256	P	Pn	13 18 14.8	+0.9
PKI	Pulchoki	8.40	155	eP	Pn	13 18 12.9	-1.1
	comp=Z,74nm,0.9s						
PKI	Pulchoki	8.40	155	eP	Pn	13 18 12.9	-1.1
	comp=Z,74nm,0.9s						
PKI	Pulchoki	8.40	155	eP	Pn	13 18 12.9	-1.1
PKI				pmax	pmax		
	comp=Z,74nm,0.9s						
JIRN	Jiri	8.62	150	eP	Pn	13 18 17.1	+0.1
	comp=Z,26nm,0.5s						
JIRN	Jiri	8.62	150	eP	Pn	13 18 17.1	+0.1
	comp=Z,26nm,0.5s						
UCH	Uchtor	8.79	324	P	Pn	13 18 20.9	+1.7
	SNR=12						
UCH				P		13 18 20.9	
	SNR=12						
TKM2	Tokmak 2	8.87	331	P	Pn	13 18 24.0	+3.6
	SNR=8.7						
TKM2				P		13 18 24.0	
	SNR=8.7						
TKM2	Tokmak 2	8.87	331	⇓Pn	Pn	13 18 17.0	-3.4
	comp=Z,8.9nm,0.8s						
TKM2				⇓Pg	Pn	13 18 47.9	+27
	comp=Z,29nm,1.0s						
TKM2				⇑Lg		13 20 46.3	
	comp=Z,90nm,1.2s						
TKM2	Tokmak 2	8.87	331	ePn	Pn	13 18 19.6	-0.8
TKM2	Tokmak 2	8.87	331	eP	Pn	13 18 19.6	-0.8
AAK	Ala-Archa	9.11	326	P	Pn	13 18 29.7	+6.1
	SNR=6.9						
AAK				P		13 18 29.7	
	SNR=6.9						
AAK	Ala-Archa	9.11	326	ePn	Pn	13 18 23.0	-0.7
AAK				eSn	Sn	13 20 04.1	-0.7
AAK	Ala-Archa	9.11	326	eP	Pn	13 18 23.0	-0.7
AAK				e		13 20 04.1	
AML	Almayashu	9.12	321	P	Pn	13 18 26.0	+2.1
	SNR=24						
AML				P		13 18 26.0	
	SNR=24						
FRU	Bishkek	9.21	327	eP	Pn	13 18 30.0	+4.9
FRU				pmax	pmax		
	comp=Z,70nm,2.0s						
FRU				pmax	pmax		
	comp=E,580nm,2.0s						
CHMS	Chumysh	9.29	328	P	Pn	13 18 26.6	+0.5
	SNR=9.8						
CHMS				P		13 18 26.6	
	SNR=9.8						
RAMN	Ramite	9.41	150	eP	Pn	13 18 24.4	-3.5
	comp=E,116nm,0.8s						
RAMN	Ramite	9.41	150	eP	Pn	13 18 24.4	-3.5
	comp=E,116nm,0.8s						
EKS2	Erkin-Say	9.47	323	P	Pn	13 18 30.6	+2.0
	SNR=23						
EKS2				P		13 18 30.6	
	SNR=23						
EKS2	Erkin-Say	9.47	323	ePn	Pn	13 18 29.2	+0.6
EKS2	Erkin-Say	9.47	323	eP	Pn	13 18 29.2	+0.6
TAPN	Taplejung	9.56	144	eP	Pn	13 18 28.5	-1.4
	comp=E,59nm,1.0s						
TAPN	Taplejung	9.56	144	eP	Pn	13 18 28.5	-1.4
	comp=E,59nm,1.0s						
WMQ	Urumqi	9.82	28	P	Pn	13 18 33.1	-0.3
WMQ				pP		13 18 36.3	
WMQ				S	Sn	13 20 23.2	+1.0
WMQ				pmax	pmax		
	comp=Z,24nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,270nm,4.0s						
WMQ				LR	LR		
	comp=N,1μm,5.0s						
WMQ				LR	LR		
	comp=E,2μm,4.8s						
ODAN	Odare	9.83	147	eP	Pn	13 18 29.7	-3.9
	comp=E,48nm,0.6s						
ODAN	Odare	9.83	147	eP	Pn	13 18 29.7	-3.9
	comp=E,48nm,0.6s						
LSA	Lhasa	9.93	121	P	Pn	13 18 39.4	+4.5
LSA				S	Sn	13 20 35.9	+11
LSA				LR	LR		
	comp=E,830nm,10.7s						
KBL	Kabul	10.18	269	ePn	Pn	13 18 38.4	0.0
KBL	Kabul	10.18	269	eP	Pn	13 18 38.4	+0.1
KK31	Karatay Array	11.51	316	⇓Pn	Pn	13 18 56.3	-0.2
	comp=E,0.3nm,0.2s,baz=131,slow=13,SNR=7.7						
KK31				⇑Pg	Pn	13 19 38.1	+42
	comp=E,9.5nm,0.8s,baz=131,slow=16,SNR=3.5						
KK31				⇑Lg		13 22 08.6	
	comp=E,16nm,0.9s,baz=124,slow=27						
KKAR	Karatay Array	11.51	316	ePn	Pn	13 18 53.9	-2.6
KKAR	Karatay Array	11.51	316	eP	Pn	13 18 53.9	-2.6
MK31	Makanchi Array	11.53	3	Pn	Pn	13 18 52.4	-4.4
	comp=E,9.9nm,0.7s,baz=181,slow=12,SNR=49						
MK31				⇓Sn	Sn	13 21 01.9	-2.2
	comp=E,20nm,0.9s						
MK31	Makanchi Array	11.53	3	ePn	Pn	13 18 54.9	-1.9
MK31				eSn	Sn	13 21 04.4	+0.3
MK31	Makanchi Array	11.53	3	eP	Pn	13 18 54.9	-1.9
MK31				e		13 21 04.4	
MKAR	Makanchi Array	11.53	3	Pn	Pn	13 18 54.1	-2.7
	comp=E,1.4nm,0.3s,baz=180,slow=12,SNR=44						
MKAR	Makanchi Array	11.53	3	Pn	Pn	13 18 54.1	-2.7
MKAR				ePn	Pn	13 18 55.2	-1.6
MKAR	Makanchi Array	11.53	3	P	Pn	13 18 54.1	-2.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SHL	Shillong	13.23	134	ePKP	Pn	13 19 19.7	-0.4
SHL				ex	x	13 21 45.0	
GTA	Gaotai	15.21	69	eP	Pn	13 19 50.4	+3.8
GTA				pP	pP	13 19 55.0	-6.5
GTA				sP	sP	13 19 58.0	-9.3
GTA				S	S	13 22 41.3	-7.6
GTA				sS	sS	13 22 44.4	-22
GTA				pmax	pmax		
	comp=Z,180nm,5.9s						
GTA				LR	LR		
	comp=N,820nm,14.5s						
GTA				LR	LR		
	comp=E,420nm,14.2s						
GTA				LR	LR		
	comp=Z,470nm,9.0s						
KURBB	Kurchatov Arra	15.49	353	Pn	Pn	13 19 44.5	-5.5
	comp=Z,2.7nm,1.2s						
KURBB				Lg		13 24 10.7	
	comp=Z,4.6nm,1.0s						
KURK	Kurchatov	15.57	353	⇑Pn	Pn	13 19 44.8	-6.3
	comp=Z,21nm,1.4s						
KURK				⇑Lg		13 24 12.9	
	comp=Z,30nm,1.4s						
KURK	Kurchatov	15.57	353	Pn	Pn	13 19 46.0	-5.1
	comp=Z,0.0nm,0.3s,baz=174,slow=12,SNR=20						
KURK				LR	LR	13 26 29.6	
	comp=Z,241nm,19.8s,baz=185,slow=40						
KURK	Kurchatov	15.57	353	Pn	Pn	13 19 46.0	-5.1
KURK				ePn	Pn	13 19 48.8	-2.3
KURK				e		13 24 37.8	
KURK	Kurchatov	15.57	353	i P	Pn	13 19 47.1	-4.0
KURK				pmax	pmax		
	comp=Z,12nm,1.1s						
HYB	Hyderabad	17.96	189	i P	Pn	13 20 17.0	-4.2
POO	Poona	17.97	204	ex	Pn	13 20 19.0	-2.4
HVS	Khovu-Aksy	18.18	25	⇑iP	Pn	13 20 25.0	+1.4
HVS				pmax	pmax		
	comp=Z,58nm,1.2s						
HVS				MLR	MLR		
	comp=Z,1μm,16.0s						
LZH	Lanzhou	18.25	81	eP	Pn	13 20 26.5	+1.9
LZH				pP	pP	13 20 36.0	+0.8
LZH				sP	sP	13 20 42.3	+1.3
LZH				S	S	13 23 43.5	-7.3
LZH				sS	sS	13 23 58.5	-9.5
LZH				eSS		13 24 08.0	
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.8s						
LZH				LR	LR		
	comp=N,1μm,11.6s						
LZH				LR	LR		
	comp=E,520nm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,15.0s						
LZH	Lanzhou	18.25	81	eP	Pn	13 20 26.5	+1.9
	comp=Z,26nm,1.1s						
LZH				pP	pP	13 20 36.0	+0.8
LZH				sP	sP	13 20 42.3	+1.3
LZH				S	S	13 23 43.5	-7.3
LZH				sS	sS	13 23 58.5	-9.5
LZH				eSS		13 24 08.0	
LZH	Lanzhou	18.25	81	eP	Pn	13 20 26.5	+1.9
LZH				S	S	13 23 43.5	-7.3
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
ZAA0	Zalesovo Array	18.83	6	eP	Pn	13 20 28.4	-3.1
ZALV	Zalesovo Beam	18.83	6	P	Pn	13 20 30.0	-1.5
	comp=Z,0.5nm,0.3s,baz=197,slow=12,SNR=8.3						
ZALV				LR	LR	13 28 04.4	
	comp=Z,86nm,19.2s,baz=236,slow=38						
ZALV	Zalesovo Beam	18.83	6	P	Pn	13 20 30.0	-1.5
ZALV	Zalesovo Beam	18.83	6	P	Pn	13 20 30.0	-1.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,86nm,19.2s						
VOSK	Vostochnaya	18.96	340	⇑P	Pn	13 20 29.5	-3.5
	comp=Z,9.9nm,1.2s						
VOSK	Vostochnaya	18.96	340	P	Pn	13 20 31.0	-2.0
VOSK				pmax	pmax		
	comp=Z,24nm,1.1s						
KAD	Karad	19.01	202	ePKP	Pn	13 20 33.3	-0.7
CD2	Chengdu	19.22	97	eP	Pn	13 20 36.4	0.0
CD2				pP	pP	13 20 46.2	+0.3
CD2				PP		13 20 51.6	
CD2				S	S	13 24 05.2	-5.2
CD2				sS	sS	13 24 20.3	-7.4
CD2				SS		13 24 32.2	
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,1μm,15.6s						
CD2				LR	LR		
	comp=E,890nm,12.0s						
CD2				LR	LR		
	comp=Z,900nm,13.2s						
BVA0	Borovoye Array	19.39	340	⇑P	Pn	13 20 34.4	-3.8
	comp=Z,0.9nm,0.8s						
BVA0	Borovoye Array	19.39	340	P	Pn	13 20 36.9	-1.3
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.6s						
BVAR	Borovoye Array	19.39	340	P	Pn	13 20 36.3	-1.9
	comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=11						
BVAR				LR	LR	13 27 35.4	
	comp=Z,123nm,21.0s,baz=152,slow=35						
BVAR	Borovoye Array	19.39	340	P	Pn	13 20 36.3	-1.9
BVAR	Borovoye Array	19.39	340	P	Pn	13 20 36.3	-1.9
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,123nm,21.0s						
BRVK	Borovoye	19.45	340	⇓P	Pn	13 20 34.7	-4.2
	comp=Z,19nm,0.8s						
BRVK	Borovoye	19.45	340	eP	Pn	13 20 36.7	-2.2
	comp=Z,14nm,0.9s						
BRVK	Borovoye	19.45	340	⇓iP	Pn	13 20 37.3	-1.6
BRVK				pmax	pmax		
	comp=Z,14nm,1.4s						
BRVK				MLR	MLR		
	comp=Z,581nm,18.0s						
NVS	Novosibirsk	19.61	3	eP	Pn	13 20 40.7	-0.1
NVS				pmax	pmax		
	comp=Z,44nm,2.0s						
NVS				pmax	pmax		
	comp=N,15nm,1.6s						
ZRNK	Zerenda	19.74	337	⇑P	Pn	13 20 38.9	-3.5
	comp=N,0.1nm,0.8s						
ZRNK	Zerenda	19.74	337	P	Pn	13 20 39.7	-2.7
KMI	Kunming	20.99	113	P	P	13 20 55.1	+0.7
KMI				PP		13 21 19.5	
KMI				S	S	13 24 48.4	+2.7
KMI				SS		13 25 23.1	
KMI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,210nm,8.7s						
KMI				LR	LR		
	comp=N,370nm,14.3s,MS3.9						
KMI				LR	LR		
	comp=E,180nm,15.2s,MS3.9						
KMI				LR	LR		
	comp=Z,520nm,21.7s						
KMI	Kunming	20.99	113	P	P	13 20 55.1	+0.7
	comp=Z,5.0nm,1.0s						
KMI				pP		13 20 58.6	
KMI				sP	sP	13 20 59.8	-11
KMI				PP		13 21 19.5	
KMI				PPP		13 21 29.1	
KMI				S	S	13 24 48.4	+2.7
KMI				SS		13 25 23.1	
KMI				SSS		13 25 37.4	
KMI	Kunming	20.99	113	P	P	13 20 55.1	+0.7
KMI						13 21 19.5	
KMI				PPP		13 21 29.1	
KMI				S	S	13 24 48.4	+2.7
KMI				SS		13 25 23.1	
KMI				SSS		13 25 37.4	
KMI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AB31	Akbulak array	21.06	318	⇑P	P	13 20 54.4	-0.4
	comp=Z,4.8nm,0.8s,mb3.9						
AB31	Akbulak array	21.06	318	P	P	13 20 54.4	-0.5
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
ABKAR	Akbulak array	21.06	318	eP	P	13 20 52.4	-2.5
MOY	Mondy	21.59	35	eP	P	13 21 04.1	+3.6
ZAK	Zakamensk	21.92	40	eP	P	13 21 05.8	+1.7
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb3.9						
SONM	Songino Array	22.41	48	P	P	13 21 11.7	+2.4
	comp=Z,5.3nm,0.8s,mb4.0,baz=243,slow=10,SNR=18						
SONM				LR	LR	13 30 23.6	

comp=Z,271nm,18.8s,MS3.7,baz=206,slow=38
SONM Songino Array 22.41 48 P **P 13 21 11.7 +2.4**
SONM Songino Array 22.41 48 P **P 13 21 11.7 +2.3**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM MLR MLR
comp=Z,271nm,18.8s
CHTO Chiang Mai 22.58 132 *e*P **P 13 21 11.5 +0.1**
comp=Z,6.7nm,1.1s,mb4.0
CHTO Chiang Mai 22.58 132 *e*P **P 13 21 11.5 +0.1**
CHTO pmax pmax
comp=Z,7.0nm,1.1s,mb4.0
AKTO Aktyubinsk 22.75 319 ⇑P **P 13 21 12.3 -0.6**
comp=Z,0.9nm,0.9s,mb3.2
AKTO Aktyubinsk 22.75 319 P **P 13 21 13.2 +0.3**
comp=Z,3.3nm,0.7s,mb3.9,baz=127,slow=6.7,SNR=12
AKTO LR LR 13 30 54.5
comp=Z,1μm,18.5s,MS4.4,baz=128,slow=39
AKTO Aktyubinsk 22.75 319 P **P 13 21 13.2 +0.3**
AKTO Aktyubinsk 22.75 319 P **P 13 21 13.2 +0.3**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
AKTO MLR MLR
comp=Z,1μm,18.5s,MS4.4
ULN Ulaanbaatar 22.83 49 *e*P **P 13 21 13.9 +0.2**
comp=Z,33nm,1.5s,mb4.5
ULN Ulaanbaatar 22.83 49 *e*P **P 13 21 13.9 +0.1**
ULN pmax pmax
comp=Z,33nm,1.5s,mb4.5
CMAR Chiang Mai Arr 22.86 133 P **P 13 21 13.9 -0.4**
comp=Z,2.0nm,0.7s,mb3.6,baz=320,slow=11,SNR=11
CMAR LR LR 13 29 53.2
comp=Z,79nm,19.5s,MS3.2,baz=312,slow=36
CMAR Chiang Mai Arr 22.86 133 P **P 13 21 13.9 -0.4**
CMAR Chiang Mai Arr 22.86 133 P **P 13 21 13.9 -0.4**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,79nm,19.5s
TLY Talaya 22.87 37 *e*P pP 13 21 26.8 +1.6
TLY *e* 13 21 34.8
TLY *e*S **S 13 25 12.6 -7.8**
TLY *e*SS 13 25 27.3
TLY pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
TLY MLR MLR
comp=Z,28nm,9.0s
GYA Guiyang 23.34 105 *e*P **P 13 21 19.0 -0.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
HHC Hu-ho-hao-te 24.32 68 *e*P **P 13 21 25.8 -2.3**
HHC pP 13 21 37.6
HHC sP sP 13 21 42.8 -2.8
HHC PP 13 22 01.7
HHC PcP PcP 13 25 07.6 +0.8
HHC S **S 13 25 39.0 -5.2**
HHC sS sS 13 25 56.9 -7.3
HHC SS 13 26 33.5
HHC pmax pmax
comp=Z,15nm,1.0s,mb4.4
HHC pmax pmax
comp=Z,180nm,5.0s
HHC LR LR
comp=N,490nm,12.7s,MS4.3
HHC LR LR
comp=E,470nm,12.9s,MS4.3
HHC LR LR
comp=Z,410nm,13.4s,MS4.1
ARU Arti 26.25 331 *e*P **P 13 21 44.6 -0.8**
comp=Z,5.1nm,0.8s,mb4.1
ARU Arti 26.25 331 *d i*P **P 13 21 46.5 +1.1**
ARU *e* 13 22 23.2
ARU S **S 13 26 15.4 +1.0**
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ARU MLR MLR
comp=Z,274nm,17.0s,MS3.9
BJI Beijing 27.83 70 P **P 13 21 58.5 -1.3**
BJI S **S 13 26 40.2 +0.5**
BJI pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BJI LR LR
comp=N,490nm,21.3s,MS4.1
BJI LR LR
comp=E,240nm,20.9s,MS4.1
BJI LR LR
comp=Z,250nm,28.7s
WHN Wuhan 27.98 90 *e*P **P 13 22 06.7 +5.4**
WHN S **S 13 26 50.2 +7.9**
WHN LR LR
comp=N,530nm,9.1s
WHN LR LR
comp=E,860nm,6.8s
WHN LR LR
comp=Z,2μm,26.6s,MS4.6
SOKR Solikamsk 29.14 334 *e*P **P 13 22 12.3 +1.1**
SOKR pmax pmax
comp=Z,10.0nm,1.4s,mb4.3
SOKR MLR MLR
comp=Z,290nm,14.0s,MS4.0
QIZ Qiongzhong 29.89 115 P **P 13 22 19.7 +1.4**
QIZ S **S 13 27 14.7 +2.3**
QIZ pmax pmax
comp=Z,9.0nm,1.9s,mb4.2
QIZ LR LR
comp=N,310nm,17.7s,MS4.0
QIZ LR LR
comp=E,170nm,17.7s,MS4.0
QIZ LR LR
comp=Z,430nm,21.1s,MS4.1
NJ2 Nanjing 31.22 85 *e*P **P 13 22 33.3 +3.4**
NJ2 PP PP 13 23 40.6 -0.3
NJ2 S **S 13 27 34.5 +1.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
NJ2 pmax pmax
comp=Z,130nm,4.2s
NJ2 LR LR
comp=N,300nm,9.2s
NJ2 LR LR
comp=E,170nm,9.2s
NJ2 LR LR
comp=Z,260nm,7.8s
SSE Sheshan 33.40 86 P **P 13 22 53.8 +4.7**
SSE S **S 13 28 14.1 +7.0**
SSE pmax pmax
comp=Z,20nm,0.7s,mb5.2
SSE pmax pmax
comp=Z,80nm,3.6s
SSE Sheshan 33.40 86 P **P 13 22 53.8 +4.7**
SSE S **S 13 28 14.1 +7.0**
CN2 Changchun 34.68 62 *e*P **P 13 23 02.7 +2.7**
CN2 *e*pP pP 13 23 14.8 +2.6
CN2 *e*S **S 13 28 27.2 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,19.0s,MS4.2
CN2 LR LR
comp=E,400nm,19.0s,MS4.2
CN2 LR LR
comp=Z,400nm,18.0s,MS4.2
KLMR Klimovskoe 36.92 327 *e*P **P 13 23 19.0 0.0**
KLMR pmax pmax
comp=Z,36nm,1.8s,mb4.9
KSRS Korea Array 37.23 73 LR LR 13 40 15.6
comp=Z,210nm,21.0s,MS3.9,baz=98,slow=39
MDJ Mudanjiang 37.63 61 P **P 13 23 26.6 +1.4**
MDJ pmax pmax
comp=Z,10.0nm,1.9s,mb4.2
MDJ pmax pmax
comp=Z,110nm,5.3s
BRTR Keskin Array B 37.80 291 P **P 13 23 27.1 +0.4**
comp=Z,1.0nm,0.9s,mb3.6,baz=108,slow=4.0,SNR=5.5
BRTR LR LR 13 43 02.1
comp=Z,95nm,18.6s,MS3.6,baz=219,slow=43
BRTR Keskin Array B 37.80 291 P **P 13 23 27.1 +0.4**
BRTR Keskin Array B 37.80 291 P **P 13 23 27.1 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR MLR MLR
comp=Z,95nm,18.6s
AKASG Malin Array Be 40.30 309 P **P 13 23 47.0 -0.4**
comp=Z,3.1nm,0.7s,mb4.2,baz=77,slow=7.8,SNR=5.4
AKASG Malin Array Be 40.30 309 P **P 13 23 47.0 -0.4**
AKASG Malin Array Be 40.30 309 P **P 13 23 47.1 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 41.29 328 *e*P **P 13 23 54.9 -0.5**
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
JOF Joensuu 41.29 328 *ep* **P 13 23 54.9 -0.5**
comp=Z,4.5nm,0.7s,mb4.2
FINES FINESS Array B 43.30 325 P **P 13 24 12.4 +0.6**
comp=Z,5.3nm,0.7s,mb4.4,baz=109,slow=10,SNR=7.8
FINES LR LR 13 43 12.8
comp=Z,384nm,19.5s,MS4.3,baz=287,slow=38
FINES FINESS Array B 43.30 325 P **P 13 24 12.4 +0.7**
FINES FINESS Array B 43.30 325 P **P 13 24 12.4 +0.6**
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES MLR MLR
comp=Z,384nm,19.5s
KAF Kangasniemi 43.33 326 *e*P **P 13 24 10.7 -1.3**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
KAF Kangasniemi 43.33 326 *ep* **P 13 24 10.7 -1.3**
comp=Z,2.1nm,0.7s,mb4.0
MJAR Matsushiro Arr 45.45 71 P **P 13 24 29.7 +0.4**
comp=Z,1.6nm,0.6s,mb4.0,baz=286,slow=10,SNR=5.7
MJAR Matsushiro Arr 45.45 71 P **P 13 24 29.7 +0.4**
MJAR Matsushiro Arr 45.45 71 P **P 13 24 29.7 +0.4**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 45.62 336 P **P 13 24 30.4 +0.2**
comp=Z,4.4nm,0.9s,mb4.4,baz=98,slow=9.2,SNR=3.5
ARCES LR LR 13 44 55.4
comp=Z,177nm,19.0s,MS4.0,baz=141,slow=38
ARCES ARCESS Array B 45.62 336 P **P 13 24 30.4 +0.2**
ARCES ARCESS Array B 45.62 336 P **P 13 24 30.4 +0.2**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,177nm,19.0s
DAV Davao City (W) 49.25 114 LR LR 13 46 44.0
comp=Z,189nm,20.5s,MS4.1,baz=39,slow=37
NB2 NORSAR Subarra 50.42 324 P **P 13 25 07.6 +0.2**
comp=Z,2.3nm,0.7s,mb4.3,baz=88,slow=7.9
NOA NORSAR Array B 50.42 324 P **P 13 25 08.0 +0.5**
comp=Z,2.8nm,0.7s,mb4.4,baz=88,slow=7.5,SNR=12
NOA LR LR 13 47 22.5
comp=Z,334nm,19.7s,MS4.4,baz=145,slow=37
NOA NORSAR Array B 50.42 324 P **P 13 25 08.0 +0.5**
NOA NORSAR Array B 50.42 324 P **P 13 25 08.0 +0.6**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,334nm,19.7s
GERES GERESS Array B 50.46 308 P **P 13 25 08.5 +0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=86,slow=7.1,SNR=8.6
GERES LR LR 13 48 56.7
comp=Z,268nm,18.1s,MS4.3,baz=77,slow=39
GERES GERESS Array B 50.46 308 P **P 13 25 08.5 +0.6**
GERES GERESS Array B 50.46 308 P **P 13 25 08.5 +0.6**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,268nm,18.2s
CDF Champ du Feu 54.71 308 *e*P **P 13 25 39.0 -0.3**
CDF Champ du Feu 54.71 308 *e*P **P 13 25 39.0 -0.3**
CDF Champ du Feu 54.71 308 *e*P **P 13 25 39.0 -0.3**
LPG La Plagne 55.88 305 *e*P **P 13 25 48.0 +0.2**
comp=Z,13nm,0.8s,mb4.7
LPG La Plagne 55.88 305 *e*P **P 13 25 48.0 +0.2**
comp=Z,13nm,0.8s,mb5.0
LPG La Plagne 55.88 305 *e*P **P 13 25 48.0 +0.2**
LPG pmax pmax
comp=Z,13nm,0.8s,mb5.0
LPL La Plagne 55.89 305 *e*P **P 13 25 48.1 +0.3**
comp=Z,9.2nm,0.7s,mb4.6
LPL La Plagne 55.89 305 *e*P **P 13 25 48.1 +0.3**
comp=Z,9.2nm,0.7s,mb4.9
LPL La Plagne 55.89 305 *e*P **P 13 25 48.1 +0.3**
LPL pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
FRF La Foret Royal 56.56 303 *e*P **P 13 25 51.7 -0.9**
comp=Z,172nm,1.6s
FRF La Foret Royal 56.56 303 *e*P **P 13 25 51.7 -0.9**
comp=Z,172nm,1.6s
FRF La Foret Royal 56.56 303 *e*P **P 13 25 51.7 -0.9**
FRF pmax pmax
comp=Z,172nm,1.6s
LOR Lormes 57.24 308 *e*P **P 13 25 57.3 -0.1**
comp=Z,12nm,0.9s,mb4.6
LOR Lormes 57.24 308 *e*P **P 13 25 57.3 -0.1**
comp=Z,12nm,0.9s,mb4.9
LOR Lormes 57.24 308 *e*P **P 13 25 57.3 -0.1**
LOR pmax pmax
comp=Z,12nm,0.9s,mb4.9
KEST Kesra 57.37 293 LR LR 13 56 39.5
comp=Z,55nm,18.7s,MS3.7,baz=186,slow=42
SSF Saint Saulge 57.53 308 *e*P **P 13 25 58.7 -0.8**
SSF Saint Saulge 57.53 308 *e*P **P 13 25 58.7 -0.8**
SSF Saint Saulge 57.53 308 *e*P **P 13 25 58.7 -0.8**
AVF Avril sur Loir 57.72 307 *e*P **P 13 26 00.3 -0.5**
AVF Avril sur Loir 57.72 307 *e*P **P 13 26 00.3 -0.5**
AVF Avril sur Loir 57.72 307 *e*P **P 13 26 00.3 -0.5**
ESDC Sonseca Array 65.39 302 LR LR 13 59 46.1
comp=Z,94nm,21.2s,MS4.0,baz=30,slow=40
COLD Coldfoot 70.63 19 *e*P **P 13 27 24.7 -0.4**
comp=Z,6.4nm,0.3s,mb5.0
ILAR Eielson Array 73.38 20 P **P 13 27 41.4 -0.2**
comp=Z,0.9nm,0.7s,mb3.8,baz=320,slow=4.4,SNR=14
ILAR Eielson Array 73.38 20 P **P 13 27 41.4 -0.2**
ILAR Eielson Array 73.38 20 P **P 13 27 41.4 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 74.20 275 P **P 13 27 47.1 0.0**
comp=Z,5.7nm,0.9s,mb4.5,baz=44,slow=4.9,SNR=29
TORD Torodi Ar. Bea 74.20 275 P **P 13 27 47.1 0.0**
WRA Warramunga Arr 74.39 129 P **P 13 27 47.8 -0.3**
comp=Z,1.5nm,0.9s,mb3.9,baz=326,slow=5.9,SNR=7.9
WRA Warramunga Arr 74.39 129 P **P 13 27 47.8 -0.3**
WRA Warramunga Arr 74.39 129 P **P 13 27 47.8 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 76.86 132 P **P 13 28 02.2 +0.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=309,slow=5.6,SNR=12
ASAR Alice Springs 76.86 132 P **P 13 28 02.2 +0.1**
ASAR Alice Springs 76.86 132 P **P 13 28 02.2 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
LBTB Lobatse 79.89 230 P **P 13 28 19.1 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=72,slow=4.9,SNR=8.0
LBTB Lobatse 79.89 230 *e*P **P 13 28 18.9 +0.1**
comp=Z,8.7nm,0.8s,mb4.7
LBTB Lobatse 79.89 230 *e*P **P 13 28 18.9 +0.1**
LBTB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YKA Yellowknife Ar 81.73 7 P **P 13 28 28.4 +0.2**
comp=Z,0.8nm,0.6s,mb3.8,baz=341,slow=5.4,SNR=10
YKA Yellowknife Ar 81.73 7 P **P 13 28 28.4 +0.2**
YKA Yellowknife Ar 81.73 7 P **P 13 28 28.4 +0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
BOSA Boshof 82.71 227 P **P 13 28 33.7 0.0**
comp=Z,9.9nm,0.8s,mb4.9,baz=54,slow=3.2,SNR=15
BOSA Boshof 82.71 227 *e*P **P 13 28 34.0 +0.3**
BOSA Boshof 82.71 227 P **P 13 28 33.7 0.0**
BOSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
DBIC Dimbokro 83.15 273 P **P 13 28 36.5 +0.1**
comp=Z,4.5nm,0.8s,mb4.5,baz=49,slow=4.2,SNR=7.7
DBIC LR LR 14 08 54.5
comp=Z,194nm,20.0s,MS4.5,baz=45,slow=38
DBIC Dimbokro 83.15 273 P **P 13 28 36.5 +0.1**
DBIC Dimbokro 83.15 273 P **P 13 28 36.5 +0.1**
DBIC pmax pmax
comp=Z,5.0nm,0.8s
DBIC MLR MLR
comp=Z,194nm,20.0s
STKA Stephens Creek 87.48 132 P **P 13 28 56.9 -0.7**
comp=Z,1.6nm,0.8s,mb4.3,baz=354,slow=8.9,SNR=3.0
STKA Stephens Creek 87.48 132 P **P 13 28 56.9 -0.6**
STKA Stephens Creek 87.48 132 P **P 13 28 56.9 -0.6**
STKA pmax pmax
comp=Z,2.0nm,0.8s
FFC Flin Flon 90.32 2 *i*P **P 13 29 08.3 -2.4**
VNA2 Neumayer--Watz 122.49 203 *e* PKPdf 13 35 04.4 +0.4
baz=12,slow=5.3
VNA3 Neumayer Olymp 123.29 203 *e* PKPdf 13 35 05.9 +0.4
LPAZ La Paz 146.88 297 PKPbc PKPbc 13 35 52.6 -0.1
comp=Z,2.5nm,0.8s,baz=351,slow=1.4,SNR=9.4
LPAZ La Paz 146.88 297 PKPbc PKPbc 13 35 52.6 -0.1

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*ISCJB **11** 13:25:28.7±0.6, 33°.9S±0°.1×77°.2E±0°.1, h10km, mb4.0/12, MS3.8/4, Error ellipse: s-maj=20.3km s-min=15.4km az=6.1*
*IDC **11** 13:25:29.3±1.0, 33°.69S×77°.22E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/18, mbtmp3.9/10, MS3.8/4, Ms1 3.7/4, ms1mx3.3/23, Error ellipse: s-maj=37.8km s-min=21.1km az=9.0*
*NEIC **11** 13:25:30.7±0.6, 33°.77S×77°.20E, h10km, mb4.5/2, Error ellipse: s-maj=22.7km s-min=11.8km az=192.0*
ISC 11 13:25:30.6±0.6, 33°.9S±0°.1×77°.2E±0°.1, h10km, n32, σ0=59/24, mb4.0/12, MS3.8/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	33.31	100	LR	LR	LR	13 43 25.8	
	comp=Z,184nm,18.1s,MS3.8,baz=110,slow=32							
MAW	Mawson	34.79	190	LR	LR	LR	13 43 16.5	
	comp=Z,49nm,19.4s,MS3.3,baz=101,slow=30							
BOSA	Boshof	44.33	262	LR	LR	LR	13 48 11.1	
	comp=Z,155nm,20.1s,MS3.9,baz=281,slow=31							
LBTB	Lobatse	45.39	267	P	P		13 33 50.1	+0.6
	1.9nm,0.6s,mb4.1,baz=101,slow=7.5,SNR=3.3							
LBTB	Lobatse	45.39	267	P	P		13 33 50.1	+0.6
KMBO	Kilima Mbogo	49.55	303	*e*P	P		13 34 21.6	-0.3
	5.8nm,1.3s,mb4.5							
ASAR	Alice Springs	50.21	94	P	P		13 34 26.5	-0.4
	0.3nm,0.6s,mb3.5,baz=245,slow=6.9,SNR=9.6							
ASAR	Alice Springs	50.21	94	P	P		13 34 26.5	-0.4
WRA	Warramunga Arr	52.22	90	P	P		13 34 42.2	+0.2
	0.6nm,0.8s,mb3.6,baz=244,slow=7.3,SNR=7.5							
WRA	Warramunga Arr	52.22	90	P	P		13 34 42.2	+0.2
STKA	Stephens Creek	53.33	107	P	P		13 34 50.9	+0.8
	3.0nm,1.0s,mb4.2,baz=340,slow=16,SNR=2.9							
STKA	Stephens Creek	53.33	107	P	P		13 34 50.9	+0.8
SNAA	Sanae	55.13	202	*e*	P		13 35 01.8	-0.8
CMAR	Chiang Mai Arr	56.01	25	P	P		13 35 09.0	-0.5
	0.4nm,0.6s,mb3.6,baz=216,slow=5.6,SNR=3.9							
CMAR	Chiang Mai Arr	56.01	25	P	P		13 35 09.0	-0.5
LZH	Lanzhou	73.91	22	*e*P	P		13 37 06.0	+0.3
LZH				pP	pP		13 37 16.5	+7.5
LZH				sP	sP		13 37 19.5	+9.3
URZ	Urewera	76.76	127	LR	LR		14 02 35.9	
	comp=Z,70nm,19.2s,MS4.0,baz=190,slow=29							
KKAR	Karatay Array	76.84	355	*e*P	P		13 37 23.4	+1.1
	3.8nm,0.7s,mb4.4							
MKAR	Makanchi Array	80.42	4	P	P		13 37 40.9	-1.1
	1.1nm,0.7s,mb3.9,baz=178,slow=6.4,SNR=10							
MKAR	Makanchi Array	80.42	4	P	P		13 37 40.9	-1.1
BRTR	Keskin Array B	83.56	328	P	P		13 37 58.8	+0.1
	0.9nm,0.8s,mb4.0,baz=148,slow=4.3,SNR=6.0							
BRTR	Keskin Array B	83.56	328	P	P		13 37 58.8	+0.1
SONM	Songino Array	85.44	19	P	P		13 38 08.1	+0.1
	0.6nm,0.8s,mb3.8,baz=194,slow=6.4,SNR=3.7							
SONM	Songino Array	85.44	19	P	P		13 38 08.1	+0.1
TORD	Torodi Ar. Bea	85.54	289	P	P		13 38 09.6	+0.3
	1.0nm,0.8s,mb4.1,baz=119,slow=3.8,SNR=7.1							
TORD	Torodi Ar. Bea	85.54	289	P	P		13 38 09.6	+0.3
ZALV	Zalesovo Beam	87.70	5	P	P		13 38 18.4	-0.5
	1.0nm,0.6s,mb4.2,baz=192,slow=5.2,SNR=6.7							
ZALV	Zalesovo Beam	87.70	5	P	P		13 38 18.4	-0.5
ILAR	Eielson Array	139.23	27	PKhKP	PKPpre		13 44 53.2	
	0.3nm,0.5s,baz=217,slow=4.8,SNR=8.0							
ILAR	Eielson Array	139.23	27	PKPpre	PKPpre		13 44 53.2	
YKA	Yellowknife Ar	150.39	11	PKPbc	PKPbc		13 45 20.5	-0.9
	0.3nm,0.6s,baz=339,slow=3.3,SNR=6.1							
YKA	Yellowknife Ar	150.39	11	PKPbc	PKPbc		13 45 20.6	-0.9

IDC 11 13:32:23.4±59.0, 19°.57S×179°.40E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=1050.0km s-min=143.4km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.02	242	P	P	P	13 39 26.8	+0.3
	1.5nm,0.9s,baz=102,slow=14,SNR=2.2							
WRA	Warramunga Arr	42.31	262	P	P	P	13 40 19.4	+0.1
	0.3nm,0.3s,baz=97,slow=7.7,SNR=13							
ASAR	Alice Springs	42.36	256	P	P	P	13 40 19.1	-0.5
	0.4nm,0.6s,baz=94,slow=7.6,SNR=12							

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*IDC **11** 13:56:58.0±1.0, 9°.49S×113°.68E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.2/17, mbtmp4.2/9, ML4.3/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/24, Error ellipse: s-maj=45.7km s-min=13.1km az=49.0*
*NEIC **11** 13:57:03.7±2.0, 9°.49S×113°.83E, h41km±18km, mb4.8/10, Error ellipse: s-maj=24.1km s-min=6.7km az=53.0*
*DJA **11** 13:57:04, 9°.62S×114°.00E, h17km, MLv4.7/12*
*ISCJB **11** 13:57:06.7±0.7, 9°.35S±0°.07×114°.00E±0°.04, h82km±5km, mb4.3/17, Error ellipse: s-maj=12.6km s-min=5.4km az=13.9*
ISC 11 13:57:07.1±0.7, 9°.41S±0°.07×114°.01E±0°.04, h71km±5km, n70, σ0=98/70, mb4.3/17, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	0.94	9	P	Pn	Pn	13 57 23.3	-1.7
JAGI				S	Sn	Sn	13 57 37.9	-0.3
GMJI	Gumukmas	1.25	334	P	Pn	Pn	13 57 28.0	-1.0
IGBI	Denpasar	1.27	63	P	Pn	Pn	13 57 27.8	-1.3
BLJI	Banyuglugur	1.70	346	P	Pn	Pn	13 57 35.7	+0.9
SRBI	Singaraja	1.77	42	P	Pn	Pn	13 57 36.1	+0.3
KHKI	Kahang-Kahang	1.89	57	P	Pn	Pn	13 57 37.3	-0.1
KRKI	Karangkates	1.97	309	P	Pn	Pn	13 57 38.4	-0.1
KRKI				S	Sn	Sn	13 58 02.1	-0.2
MTNI	Mataram	2.27	70	P	Pn	Pn	13 57 42.6	+0.1
MTNI				S	Sn	Sn	13 58 10.7	+1.2
KMMI	Kalianget	2.34	359	P	Pn	Pn	13 57 45.6	+2.1
PWJI	Pagerwojo	2.57	302	P	Pn	Pn	13 57 45.8	-0.8
SJI	Sawahan	2.77	307	P	Pn	Pn	13 57 50.2	+1.0
GRJI	Gresik	2.90	329	P	Pn	Pn	13 57 52.3	+1.3
PCJI	Pacitan	3.04	293	P	Pn	Pn	13 57 53.6	+0.6
BJII	Banjamegara	4.72	296	P	Pn	Pn	13 58 20.0	+4.1
KBKI	Kotabaru	6.44	20	P	Pn	Pn	13 58 42.2	+2.8
	28nm,1.0s							
KAPI	Kappang	7.18	53	Pn	Pn	Pn	13 58 48.8	-0.7
	4.3nm,0.3s,baz=183,slow=14,SNR=7.7							
KAPI				Sn	Sn	Sn	14 00 06.7	-3.0
	4.0nm,0.3s,baz=246,slow=22,SNR=5.8							
KAPI				LR	LR		14 02 01.1	
	comp=Z,472nm,19.0s,baz=168,slow=40							
KAPI	Kappang	7.18	53	Pn	Pn	Pn	13 58 48.8	-0.7
BKSI	Bulukumba	7.30	57	P	Pn	Pn	13 58 51.9	+0.8
	0.2nm36nm,0.6s							
XMIS	Christmas Isla	8.30	262	P	Pn	Pn	13 59 01.6	-3.2
	390nm,1.4s							
CGJI	Cibinong	8.69	288	P	Pn	Pn	13 59 10.6	+0.5
	80nm,0.5s							
MNAI	Manna	12.06	294	P	Pn	Pn	13 59 56.0	-0.2
	292nm,1.3s							
MBWA	Marble Bar	12.92	155	P	Pn	Pn	14 00 01.2	-6.7
	20nm,1.7s							
FITZ	Fitzroy Crossi	14.22	129	Pn	Pn	Pn	14 00 20.5	-4.5
	0.3nm,0.3s,baz=306,slow=9.1,SNR=13							
FITZ				Sn	Sn	Sn	14 02 47.6	-14
	0.9nm,0.3s,baz=175,slow=17,SNR=6.3							
FITZ				LR	LR		14 05 39.0	
	comp=Z,143nm,21.6s,baz=315,slow=36							
FITZ	Fitzroy Crossi	14.22	129	Pn	Pn	Pn	14 00 20.5	-4.5
FITZ				*e*Pn	Pn	Pn	14 00 22.7	-2.4
FITZ	Fitzroy Crossi	14.22	129	P	Pn	Pn	14 00 21.5	-3.6
	12nm,2.7s							
FAKI	Fak Fak	19.24	72	P	Pn	Pn	14 01 25.8	-1.8
	24nm,1.2s							
DAV	Davao City (W)	20.02	36	LR	LR	LR	14 10 14.7	
	comp=Z,247nm,20.8s,baz=227,slow=39							
WRA	Warramunga Arr	22.26	120	P	P	P	14 01 58.4	0.0
	4.5nm,1.1s,mb3.7,baz=293,slow=11,SNR=18							
WRA				PcP	PcP	PcP	14 05 54.4	+2.1
	0.3nm,0.5s,baz=316,slow=2.0,SNR=3.5							
WRA	Warramunga Arr	22.26	120	P	P	P	14 01 58.4	0.0
WRA				PcP	PcP	PcP	14 05 54.4	+2.1
WB2	Warramunga Arr	22.27	120	*e*P	P	P	14 01 59.0	+0.5
NWAO	Narrogin (SRO)	23.59	173	LR	LR	LR	14 10 10.1	
	comp=Z,160nm,21.8s,baz=337,slow=34							

ASAR Alice Springs 23.72 129 P **P 14 02 13.4 +0.6**
5.4nm,0.7s,mb4.0,baz=301,slow=8.9,SNR=139
ASAR PcP PcP 14 05 57.6 +2.3
0.4nm,0.5s,baz=306,slow=1.9,SNR=4.3
ASAR S **S 14 06 33.7 +11**
1.4nm,0.8s,baz=309,slow=24,SNR=5.1
ASAR Alice Springs 23.72 129 P **P 14 02 13.4 +0.6**
ASAR PcP PcP 14 05 57.6 +2.3
ASAR S **S 14 06 33.7 +11**
AS31 Alice Springs 23.72 129 *e*P **P 14 02 13.7 +0.9**
CMAR Chiang Mai Arr 31.43 332 P **P 14 03 22.4 +0.6**
0.5nm,0.4s,mb3.6,baz=166,slow=8.9,SNR=5.4
CMAR LR LR 14 17 36.3
comp=Z,80nm,18.1s,baz=160,slow=40
CMAR Chiang Mai Arr 31.43 332 P **P 14 03 22.4 +0.6**
STKA Stephens Creek 33.97 135 P **P 14 03 44.8 +0.9**
4.3nm,0.6s,mb4.5,baz=315,slow=7.7,SNR=8.4
STKA LR LR 14 18 15.8
comp=Z,166nm,18.1s,baz=26,slow=37
STKA Stephens Creek 33.97 135 *e*P **P 14 03 44.7 +0.8**
2.0nm,1.0s,mb3.9
STKA P 14 03 44.8
ODAN Odare 44.35 325 *e*P **P 14 05 09.7 -0.8**
8.9nm,0.7s,mb4.6
ODAN Odare 44.35 325 *e*P **P 14 05 09.7 -0.8**
8.9nm,0.7s,mb4.6
TAPN Taplejung 44.55 326 *e*P **P 14 05 10.7 -1.4**
5.5nm,0.5s,mb4.5
TAPN Taplejung 44.55 326 *e*P **P 14 05 10.7 -1.4**
5.5nm,0.5s,mb4.5
JIRN Jiri 45.64 325 *e*P **P 14 05 20.4 -0.4**
4.2nm,0.5s,mb4.4
JIRN Jiri 45.64 325 *e*P **P 14 05 20.4 -0.4**
4.2nm,0.5s,mb4.4
GUN Gumba 46.01 325 *e*P **P 14 05 23.2 -0.5**
14nm,0.4s,mb5.0
GUN Gumba 46.01 325 *e*P **P 14 05 23.2 -0.5**
14nm,0.4s,mb5.0
DMN Daman 46.23 324 *e*P **P 14 05 25.8 +0.4**
7.9nm,0.5s,mb4.7
DMN Daman 46.23 324 *e*P **P 14 05 25.8 +0.4**
7.9nm,0.5s,mb4.7
GKN Gorkha 46.80 323 *e*P **P 14 05 30.1 +0.2**
7.0nm,0.4s,mb4.8
GKN Gorkha 46.80 323 *e*P **P 14 05 30.1 +0.2**
7.0nm,0.4s,mb4.7
KOLN Koldanda 47.25 322 *e*P **P 14 05 34.0 +0.7**
8.9nm,0.5s,mb4.7
KOLN Koldanda 47.25 322 *e*P **P 14 05 34.0 +0.7**
8.9nm,0.5s,mb4.8
DANN Dangsing 47.58 323 *e*P **P 14 05 36.3 +0.4**
9.3nm,0.6s,mb4.8
DANN Dangsing 47.58 323 *e*P **P 14 05 36.3 +0.4**
9.3nm,0.6s,mb4.8
KSRS Korea Array 48.40 15 LR LR 14 27 29.9
comp=Z,30nm,19.1s,baz=81,slow=38
SONM Songino Array 57.39 354 P **P 14 06 48.5 +0.4**
1.3nm,0.4s,mb4.3,baz=170,slow=8.7,SNR=8.0
SONM Songino Array 57.39 354 P **P 14 06 48.5 +0.4**
MK31 Makanchi Array 62.69 336 *e*P **P 14 07 23.9 -0.5**
MKAR Makanchi Array 62.69 336 P **P 14 07 24.6 +0.2**
1.9nm,0.5s,mb4.2,baz=152,slow=7.3,SNR=38
MKAR LR LR 14 35 20.8
comp=Z,38nm,21.6s,baz=302,slow=37
MKAR Makanchi Array 62.69 336 P **P 14 07 24.6 +0.2**
MAW Mawson 67.22 199 LR LR 14 30 25.9
comp=Z,72nm,18.1s,baz=151,slow=30
ZALV Zalesovo Beam 67.78 342 P **P 14 07 56.5 -0.7**
0.9nm,0.4s,mb4.0,baz=148,slow=5.1,SNR=6.5
ZALV Zalesovo Beam 67.78 342 P **P 14 07 56.5 -0.7**
ABKAR Akbulak array 75.12 327 *e*P **P 14 08 41.6 +0.1**
3.9nm,0.5s,mb4.4
BOSA Boshof 84.47 242 LR LR 14 38 43.6
comp=Z,55nm,21.0s,baz=1.0,slow=30
BRTR Keskin Array B 88.62 310 P **P 14 09 51.6 -0.9**
0.7nm,0.7s,mb3.8,baz=138,slow=4.9,SNR=3.8
BRTR Keskin Array B 88.62 310 P **P 14 09 51.6 -0.9**
GRFO Grafenberg 105.38 319 *e*PKPdf PKiKP 14 15 21.3 -0.6
YKA Yellowknife Ar 116.53 23 PKP PKPdf 14 15 42.1 -0.4
0.1nm,0.5s,baz=318,slow=1.7,SNR=3.2
YKA Yellowknife Ar 116.53 23 PKP PKPdf 14 15 42.1 -0.4

KRSC 11 14:00:05.3±2.0, 55°57N×162°12E, h67km±67km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.75**	**31**	*e*P	Pn	14 00 21.5	+1.0
KBTR				*i* S	Sn	14 00 33.9	+2.1
KMNR	**Kamenistaya**	**1.08**	**281**	P	Pn	14 00 24.9	+0.3
TUMR	**Tumrok**	**1.16**	**256**	*e*P	Pn	14 00 27.6	+2.0
NLC	**Nalytchevo**	**2.90**	**215**	*e*P	Pn	14 00 50.5	+1.5
NLC				*i* S	Sn	14 01 23.4	+0.7
AVH	**Avacha**	**3.04**	**222**	*e*P	Pn	14 00 53.3	+2.4
KOK	**Koryaka**	**3.06**	**223**	*e*P	Pn	14 00 52.8	+1.6

IDC 11 14:14:23.7±2.0, 1°20N×126°67E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=183.1km s-min=23.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.31**	**161**	P	P	14 19 22.7	-0.3
	1.4nm,0.6s,baz=339,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.70**	**165**	P	P	14 19 56.1	+0.4
	0.3nm,0.3s,baz=345,slow=11,SNR=13						
MKAR	**Makanchi Array**	**59.60**	**326**	P	P	14 24 29.4	0.0
	0.4nm,0.4s,baz=118,slow=7.7,SNR=13						

BJI ***11*** *14:23:37.9, 1°.01N×126°.62E, h43km, mB5.1/23, mb4.8/42, Ms4.6/18, Ms7 4.4/21*
MOS ***11*** *14:23:41.0±0.9, 1°.50N×126°.35E, h33km, mb5.1/28, Error ellipse: s-maj=17.0km s-min=6.2km az=118.1*
NEIC ***11*** *14:23:43.0±0.2, 1°.55N×126°.51E, mb5.0/37, Error ellipse: s-maj=7.4km s-min=4.0km az=63.0*
ISCJB ***11*** *14:23:43.7±0.5, 1°.52N±0°.03×126°.43E±0°.03, h56km±5km, mb4.8/84, MS3.8/10, Error ellipse: s-maj=6.2km s-min=4.2km az=139.6*
DJA ***11*** *14:23:44.8±0.7, 2°N±3°×12°7E±°, h27km±7km, M4.7/7, mb4.9/27, mB5.1/9, MLv4.8/13, Mw(mB)4.5/9*
IDC ***11*** *14:23:45.0±1.9, 1°.52N×126°.48E, h51km±17km, mb4.4/18, mb1 4.4/21, mb1mx4.4/23, mbtmp4.4/21, ML4.6/3, MS3.5/3, Ms1 3.6/3, ms1mx3.0/29, Error ellipse: s-maj=18.2km s-min=8.1km az=78.0*
ISC 11 14:23:45.4±0.4, 1°51N±0°.03×126°45E±0°.03, h56km±4km, h43km±2.5km: pP-P, n232, σ1§11/239, mb4.8/84, MS3.8/10, 2C-6D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**128**	P	**Pn**	**14 24 02.8**	**-2.9**
TNTI				S	**Sn**	**14 24 20.8**	**+0.1**
MNI	**Manado**	**1.61**	**268**	P	**Pn**	**14 24 09.6**	**-1.9**
SGSI	**Sangihe**	**2.35**	**337**	P	**Pn**	**14 24 19.6**	**-2.1**
LBMI	**Labuha**	**2.38**	**154**	P	**Pn**	**14 24 19.9**	**-2.1**
LBMI				S	**Sn**	**14 24 51.2**	**+1.2**
KMSI	**Cibinong**	**2.63**	**249**	P	**Pn**	**14 24 25.2**	**-0.3**
GTOI	**Gorontalo**	**3.54**	**256**	P	**Pn**	**14 24 38.2**	**+0.2**
LUWI	**Luwuk**	**4.46**	**235**	P	**Pn**	**14 24 51.8**	**+1.2**
NLAI	**Namlea**	**4.76**	**172**	P	**Pn**	**14 24 51.8**	**-2.9**
MSAI	**Masohi**	**5.42**	**153**	P	**Pn**	**14 25 05.8**	**+2.1**
	0.1nm1μm41nm,1.4s						
AAI	**Ambon**	**5.45**	**161**	P	**Pn**	**14 25 04.3**	**+0.2**
	0.4nm1μm97nm,0.7s						
DAV	**Davao City (W)**	**5.59**	**351**	P	**Pn**	**14 25 06.3**	**+0.2**
	62nm,0.3s,baz=144,slow=8.7,SNR=2.5						
DAV				S	**Sn**	**14 26 19.1**	**+10**
	baz=249,slow=23,SNR=3.2						
DAV	**Davao City (W)**	**5.59**	**351**	*e*Pn	**Pn**	**14 25 02.6**	**-3.6**
KDI	**Kendari**	**6.64**	**215**	P	**Pn**	**14 25 20.1**	**-0.3**
	0.2nm795nm68nm,0.7s						
FAKI	**Fak Fak**	**7.28**	**127**	P	**Pn**	**14 25 31.9**	**+2.7**
	0.3nm68nm,1.1s						
MSSI	**Masamba**	**7.33**	**237**	P	**Pn**	**14 25 31.4**	**+1.5**
	0.7nm4μm137nm,0.5s						
TTSI	**Tana Toraja**	**8.02**	**236**	P	**Pn**	**14 25 39.4**	**0.0**
	1μm107nm,0.6s						
SPSI	**Sidrap Palu**	**8.61**	**231**	P	**Pn**	**14 25 48.5**	**+1.1**
	894nm66nm,0.5s						
MYLDM	**Lahad Datu**	**8.73**	**295**	P	**Pn**	**14 25 50.7**	**+1.6**

MYLDM	**Lahad Datu**	**8.73**	**295**	P	**Pn**	**14 25 50.6**	**+1.5**
	2μm194nm,0.7s						
BKSI	**Bulukumba**	**9.27**	**223**	P	**Pn**	**14 25 56.7**	**+0.2**
	544nm53nm,0.9s						
KAPI	**Kappang**	**9.31**	**226**	P	**Pn**	**14 25 56.8**	**-0.2**
	5.5nm,0.3s,baz=71,slow=2.9,SNR=20						
KAPI				S	**Sn**	**14 27 45.7**	**+5.3**
	0.5nm,0.3s,baz=194,slow=21,SNR=2.1						
KAPI	**Kappang**	**9.31**	**226**	P	**Pn**	**14 25 56.8**	**-0.2**
KAPI				S	**Sn**	**14 27 45.6**	**+5.3**
KAPI	**Kappang**	**9.31**	**226**	P	**Pn**	**14 25 57.6**	**+0.6**
	49nm,0.8s						
BAKI	**Biak**	**10.03**	**105**	P	**Pn**	**14 26 08.6**	**+1.8**
	229nm,1.3s						
KDM	**Kudat**	**10.99**	**300**	P	**Pn**	**14 26 23.6**	**+3.6**
KKM	**Kota Kinabalu**	**11.16**	**294**	P	**Pn**	**14 26 24.0**	**+1.7**
KKM	**Kota Kinabalu**	**11.16**	**294**	*e*Pn	**Pn**	**14 26 22.9**	**+0.5**
KKM	**Kota Kinabalu**	**11.16**	**294**	P	**Pn**	**14 26 23.7**	**+1.4**
	44nm,0.6s						
SBUM	**Sibu**	**14.25**	**274**	P	**Pn**	**14 27 11.6**	**+7.2**
	25nm,0.8s						
MTNI	**Mataram**	**14.37**	**225**	P	**Pn**	**14 27 13.9**	**+8.0**
	5μm91nm,0.9s						
KHKI	**Kahang-Kahang**	**14.59**	**228**	P	**Pn**	**14 27 17.8**	**+9.0**
	84nm,1.0s						
JAGI	**Jajag, Banyuwa**	**15.76**	**231**	P	**Pn**	**14 27 29.4**	**+5.4**
	56nm,1.0s						
KSM	**Kuching**	**16.13**	**270**	P	**Pn**	**14 27 32.2**	**+3.5**
KSM	**Kuching**	**16.13**	**270**	*e*Pn	**Pn**	**14 27 29.6**	**+0.9**
	40nm,1.1s						
KSM	**Kuching**	**16.13**	**270**	P	**Pn**	**14 27 34.0**	**+5.3**
	45nm,1.3s						
PCJI	**Pacitan**	**18.02**	**237**	P	**Pn**	**14 27 53.7**	**+1.6**
	60nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.50**	**182**	P	**Pn**	**14 28 07.3**	**-2.5**
	0.5nm,0.3s,baz=5.2,slow=8.5,SNR=15						
FITZ	**Fitzroy Crossi**	**19.50**	**182**	*e*P	**Pn**	**14 28 07.3**	**-2.5**
	16nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.50**	**182**	*e*P	**Pn**	**14 28 07.9**	**-1.9**
FITZ				*e*		14 28 18.9	
FITZ	**Fitzroy Crossi**	**19.50**	**182**	P	**Pn**	**14 28 08.7**	**-1.1**
	16nm,1.0s						
GUMO	**Guam**	**21.83**	**56**	LR	LR	14 35 06.9	
	comp=Z,140nm,18.6s,MS3.4,baz=240,slow=31						
TPUB	**Ta-pu**	**22.39**	**346**	*e*P	**P**	**14 28 37.2**	**-2.0**
	48nm,0.7s,mb5.0						
COEN	**Coen**	**22.60**	**133**	*e*P	**P**	**14 28 39.1**	**-2.4**
	159nm,1.1s,mb5.4						
COEN	**Coen**	**22.60**	**133**	P	**P**	**14 28 42.3**	**+0.8**
	22nm,1.1s,mb4.5						
WRAB	**Tennant Creek**	**22.67**	**160**	*e*P	**P**	**14 28 40.7**	**-1.5**
	61nm,0.8s,mb5.1						
WRAB				*e*S	**S**	**14 32 46.1**	**-0.6**
WRAB	**Tennant Creek**	**22.67**	**160**	*e*P	**P**	**14 28 40.7**	**-1.5**
WRAB				*e*S	**S**	**14 32 46.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**22.67**	**160**	P	**P**	**14 28 41.9**	**-0.3**
	comp=Z,142nm,0.9s,mb5.4						
WRA	**Warramunga Arr**	**22.68**	**160**	P	**P**	**14 28 41.0**	**-1.3**
	comp=Z,63nm,0.8s,mb5.1,baz=339,slow=11,SNR=225						
WRA				S	**S**	**14 32 46.5**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=358,slow=14,SNR=4.7						
WRA	**Warramunga Arr**	**22.68**	**160**	P	**P**	**14 28 41.0**	**-1.3**
WRA				S	**S**	**14 32 46.5**	**-0.3**
WRA	**Warramunga Arr**	**22.68**	**160**	P	**P**	**14 28 41.0**	**-1.2**
WRA				S	**S**	**14 32 46.5**	**-0.3**
WB2	**Warramunga Arr**	**22.68**	**160**	*e*P	**P**	**14 28 41.3**	**-1.0**
WB2				*e*S	**S**	**14 32 49.0**	**+2.1**
SSLB	**Suanglung**	**22.78**	**347**	*e*P	**P**	**14 28 42.0**	**-1.3**
	comp=Z,28nm,0.7s,mb4.8						
PMG	**Port Moresby**	**23.31**	**118**	P	**P**	**14 28 48.8**	**0.0**
	comp=Z,12nm,0.8s,mb4.4,baz=313,slow=2.7,SNR=6.8						
PMG	**Port Moresby**	**23.31**	**118**	P	**P**	**14 28 48.8**	**0.0**
PMG	**Port Moresby**	**23.31**	**118**	⇑*i*P	**P**	**14 28 49.3**	**+0.5**
PMG				pmax	pmax		
	comp=Z,37nm,1.6s						
MBWA	**Marble Bar**	**23.46**	**196**	*e*P	**P**	**14 28 48.5**	**-1.7**
	comp=Z,20nm,0.8s,mb4.6						
QIZ	**Qiongzhong**	**23.83**	**318**	P	**P**	**14 28 54.9**	**+1.3**
QIZ				S	**S**	**14 33 07.8**	**+2.2**
QIZ				sS	sS	14 33 22.8	-6.3
QIZ				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.5						
QIZ				LR	LR		
	comp=Z,270nm,18.7s,MS3.8						
JOW	**Kunigami**	**25.24**	**4**	P	**P**	**14 29 07.4**	**+1.1**
	comp=Z,38nm,0.9s,mb4.9,baz=184,slow=7.7,SNR=6.0						
JOW	**Kunigami**	**25.24**	**4**	*e*P	**P**	**14 29 05.3**	**-1.0**
	comp=Z,16nm,0.9s,mb4.5						
IPM	**Ipoh**	**25.55**	**277**	*e*P	**P**	**14 29 08.8**	**-0.6**
AS31	**Alice Springs**	**26.05**	**164**	*e*P	**P**	**14 29 14.0**	**+0.4**
AS31				*e*PcP	PcP	14 32 42.1	+1.5
ASAR	**Alice Springs**	**26.05**	**164**	P	**P**	**14 29 13.5**	**-0.2**
	comp=Z,9.0nm,0.4s,mb4.6,baz=348,slow=11,SNR=173						
ASAR				S	**S**	**14 33 44.6**	**+3.7**
	comp=Z,0.7nm,0.7s,baz=349,slow=19,SNR=3.1						
ASAR	**Alice Springs**	**26.05**	**164**	P	**P**	**14 29 13.5**	**-0.2**
ASAR				S	**S**	**14 33 44.6**	**+3.7**
ASAR	**Alice Springs**	**26.05**	**164**	P	**P**	**14 29 13.5**	**-0.2**
ASAR				S	**S**	**14 33 44.6**	**+3.7**
CTA	**Charters Tower**	**28.95**	**139**	P	**P**	**14 29 40.4**	**+0.7**
	comp=Z,3.9nm,0.4s,mb4.5,baz=348,slow=12,SNR=7.4						
CTA	**Charters Tower**	**28.95**	**139**	*e*P	**P**	**14 29 40.8**	**+1.2**
	comp=Z,4.6nm,0.8s,mb4.3						
CTA	**Charters Tower**	**28.95**	**139**	P	**P**	**14 29 40.4**	**+0.7**
CTA	**Charters Tower**	**28.95**	**139**	P	**P**	**14 29 40.4**	**+0.8**
CTAO	**Charters Tower**	**28.95**	**139**	*e*P	**P**	**14 29 38.4**	**-1.3**
	comp=Z,16nm,1.2s,mb4.6						
CTAO	**Charters Tower**	**28.95**	**139**	*e*P	**P**	**14 29 38.4**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
CTAO	**Charters Tower**	**28.95**	**139**	P	**P**	**14 29 40.7**	**+1.1**
	comp=Z,12nm,1.0s,mb4.6						
GYA	**Guiyang**	**31.26**	**324**	*e*P	**P**	**14 29 59.6**	**-0.5**
GYA				pP	pP	14 30 11.3	-2.9
GYA				sP	sP	14 30 17.8	-3.0
GYA				PP	PP	14 31 05.4	-6.2
GYA				PcP	PcP	14 32 53.0	-0.5
GYA				S	**S**	**14 35 03.5**	**+0.7**
GYA				sS	sS	14 35 23.9	-2.9
GYA				ScP	ScP	14 36 32.1	+0.1
GYA				ScS	ScS	14 40 28.0	-1.6
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,550nm,17.0s,MS4.4						
GYA				LR	LR		
	comp=E,480nm,18.2s,MS4.4						
GYA				LR	LR		
	comp=Z,510nm,17.6s,MS4.2						
CMAR	**Chiang Mai Arr**	**31.80**	**304**	P	**P**	**14 30 05.3**	**+0.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=128,slow=7.5,SNR=12						
CMAR				PcP	PcP	14 32 56.7	+1.5
	comp=Z,0.7nm,0.7s,baz=154,slow=2.4,SNR=5.8						
CMAR				LR	LR	14 43 57.8	
	comp=Z,74nm,19.5s,MS3.4,baz=145,slow=38						
CMAR	**Chiang Mai Arr**	**31.80**	**304**	P	**P**	**14 30 05.3**	**+0.3**
CMAR				PcP	PcP	14 32 56.7	+1.5
CMAR	**Chiang Mai Arr**	**31.80**	**304**	P	**P**	**14 30 05.3**	**+0.3**
CMAR						14 32 56.7	
CHTO	**Chiang Mai**	**31.98**	**304**	*e*P	**P**	**14 30 05.8**	**-0.6**
	comp=Z,4.1nm,0.7s,mb4.4						
CHTO	**Chiang Mai**	**31.98**	**304**	*e*P	**P**	**14 30 05.9**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
CHTO	**Chiang Mai**	**31.98**	**304**	P	**P**	**14 30 06.5**	**0.0**
	comp=Z,7.4nm,0.7s,mb4.6						
FORT	**Forrest**	**32.14**	**177**	*e*P	**P**	**14 30 06.2**	**-1.5**
	comp=Z,37nm,0.7s,mb5.3						
KMI	**Kunming**	**32.78**	**318**	P	**P**	**14 30 17.2**	**+3.8**
KMI				pP	pP	14 30 27.4	-0.2
KMI				sP	sP	14 30 31.8	-2.4
KMI				PP	PP	14 31 25.9	-2.6
KMI				S	**S**	**14 35 29.5**	**+2.9**
KMI				sS	sS	14 35 48.8	-1.8
KMI				SS	SS	14 37 30.6	-19
KMI				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
KMI				LR	LR		
	comp=E,140nm,23.1s,MS3.8						
KMI				LR	LR		
	comp=Z,180nm,20.1s,MS3.8						
KMI	**Kunming**	**32.78**	**318**	P	**P**	**14 30 17.2**	**+3.8**
	comp=Z,11nm,1.3s,mb4.6						
KMI				pP	pP	14 30 27.4	-0.2
KMI				sP	sP	14 30 31.8	-2.4
KMI				PP	PP	14 31 25.9	-2.6
KMI				S	**S**	**14 35 29.5**	**+2.9**
KMI				sS	sS	14 35 48.8	-1.8
KMI				SS	SS	14 37 30.6	-19
KMI	**Kunming**	**32.78**	**318**	P	**P**	**14 30 17.2**	**+3.8**
KMI				*PP	pP	14 30 27.4	-0.2
KMI				*SP	sP	14 30 31.8	-2.4
KMI						14 31 25.9	
KMI				S	**S**	**14 35 29.5**	**+2.9**
KMI				*SS	sS	14 35 48.8	-1.8
KMI				SS	SS	14 37 30.6	-19
KMI				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
KLBR	**Kellerberrin**	**33.93**	**193**	*e*P	**P**	**14 30 23.5**	**+0.1**
	comp=Z,15nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**35.34**	**193**	P	**P**	**14 30 35.4**	**0.0**
	comp=Z,7.3nm,0.5s,mb4.9,baz=0.1,slow=6.5,SNR=9.4						
NWAO	**Narrogin (SRO)**	**35.34**	**193**	P	**P**	**14 30 35.4**	**0.0**
NWAO	**Narrogin (SRO)**	**35.34**	**193**	P	**P**	**14 30 35.4**	**0.0**
KSAR	**Wonju Array Be**	**35.78**	**2**	P	**P**	**14 30 40.7**	**+1.4**
KSAR	**Wonju Array Be**	**35.78**	**2**	P	**P**	**14 30 40.7**	**+1.4**
KSRS	**Korea Array**	**35.80**	**2**	P	**P**	**14 30 40.7**	**+1.3**
	comp=Z,3.2nm,0.7s,mb4.4,baz=178,slow=10.0,SNR=12						
STKA	**Stephens Creek**	**36.17**	**158**	P	**P**	**14 30 43.0**	**+0.3**
	comp=Z,14nm,0.7s,mb5.0,baz=335,slow=8.1,SNR=32						
STKA	**Stephens Creek**	**36.17**	**158**	*e*P	**P**	**14 30 42.7**	**0.0**
	comp=Z,13nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**36.17**	**158**	*e*P	**P**	**14 30 42.4**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.2						
STKA				*e*PcP	PcP	14 33 06.3	-1.0
STKA	**Stephens Creek**	**36.17**	**158**	*e*P	**P**	**14 30 42.4**	**-0.3**
STKA				*e*		14 33 06.3	
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN	**Xi'an**	**36.28**	**335**	P	**P**	**14 30 42.3**	**-1.3**
XAN				pP	pP	14 30 50.4	-7.4
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
XAN				pmax	pmax		
	comp=Z,7.0nm,3.4s						
CD2	**Chengdu**	**36.29**	**326**	⇑*i*P	**P**	**14 30 43.0**	**-0.7**
CD2				pP	pP	14 30 55.1	-2.8
CD2				sP	sP	14 31 00.5	-4.0
CD2				PP	PP	14 32 07.5	+0.3
CD2				S	**S**	**14 36 20.7**	**+0.2**
CD2				sS	sS	14 36 41.0	-3.7
CD2				SS	SS	14 38 47.5	-13
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CD2				pmax	pmax		
	comp=Z,100nm,5.8s						
CD2				LR	LR		
	comp=N,200nm,18.0s,MS4.3						
CD2				LR	LR		
	comp=E,370nm,13.2s,MS4.3						
CD2				LR	LR		
	comp=Z,130nm,10.8s,MS4.0						
MJAR	**Matsushiro Arr**	**36.52**	**16**	P	**P**	**14 30 44.0**	**-1.6**
	comp=Z,4.6nm,0.7s,mb4.4,baz=188,slow=9.9,SNR=10						
MJAR	**Matsushiro Arr**	**36.52**	**16**	P	**P**	**14 30 44.0**	**-1.6**
MJAR	**Matsushiro Arr**	**36.52**	**16**	P	**P**	**14 30 44.0**	**-1.6**
MAT	**Matsushiro**	**36.52**	**16**	P	**P**	**14 30 43.8**	**-1.8**
MAT				*e*S	**S**	**14 36 25.6**	**+1.7**
BJI	**Beijing**	**39.48**	**348**	P	**P**	**14 31 10.4**	**0.0**
BJI				S	**S**	**14 37 11.4**	**+2.9**
BJI				pmax	pmax		
	comp=Z,30nm,0.4s,mb5.4						
ARMA	**Armidale**	**39.80**	**145**	*e*P	**P**	**14 31 14.2**	**+1.0**
ARMA	**Armidale**	**39.80**	**145**	*e*P	**P**	**14 31 14.1**	**+0.9**
	comp=Z,25nm,1.0s,mb4.9						
SNY	**Shenyang**	**40.22**	**357**	⇓P	**P**	**14 31 18.4**	**+1.8**
SNY				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
LZH	**Lanzhou**	**40.28**	**331**	*e*P	**P**	**14 31 18.7**	**+1.5**
LZH				pP	pP	14 31 29.1	-2.5
LZH				sP	sP	14 31 35.0	-3.2
LZH				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
LZH	**Lanzhou**	**40.28**	**331**	*e*P	**P**	**14 31 18.7**	**+1.5**
	comp=Z,17nm,1.1s,mb4.7						
LZH				pP	pP	14 31 29.1	-2.5
LZH				sP	sP	14 31 35.0	-3.2
LZH	**Lanzhou**	**40.28**	**331**	*e*P	**P**	**14 31 18.7**	**+1.5**
LZH				*PP	pP	14 31 29.1	-2.5
LZH				*SP	sP	14 31 35.0	-3.2
LZH				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
SHL	**Shillong**	**41.00**	**309**	*e*PKP	**P**	**14 31 26.0**	**+2.8**
HHC	**Hu-ho-hao-te**	**41.42**	**343**	*e*P	**P**	**14 31 26.6**	**+0.2**
HHC				pP	pP	14 31 38.9	-2.0
HHC				sP	sP	14 31 44.4	-3.1
HHC				PP	PP	14 33 07.5	+4.4
HHC				PcP	PcP	14 33 24.1	+0.5
HHC				ScP	ScP	14 37 08.9	-0.2
HHC				S	**S**	**14 37 39.3**	**+1.8**
HHC				sS	sS	14 37 59.8	-2.1
HHC				SS	SS	14 40 40.3	-3.2
HHC				ScS	ScS	14 41 24.3	-0.9
HHC				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.7						
HHC				pmax	pmax		
	comp=Z,140nm,6.1s						
HHC				LR	LR		
	comp=N,270nm,14.6s,MS4.3						
HHC				LR	LR		
	comp=E,220nm,15.8s,MS4.3						
HHC				LR	LR		
	comp=Z,170nm,14.4s,MS4.1						
CN2	**Changchun**	**42.12**	**359**	*e*P	**P**	**14 31 34.0**	**+1.9**
CNB	**Canberra Magne**	**42.44**	**152**	*e*P	**P**	**14 31 35.9**	**+1.0**
	comp=Z,36nm,0.9s,mb5.0						
TOO	**Toolangi**	**42.69**	**158**	*e*P	**P**	**14 31 37.6**	**+0.7**
	comp=Z,35nm,1.9s,mb4.8						
MDJ	**Mudanjiang**	**43.02**	**3**	P	**P**	**14 31 39.3**	**-0.1**
MDJ				pmax	pmax	

comp=Z,8.0nm,0.4s,mb5.0
DMN Daman 47.31 307 *e*P **P 14 32 13.2 -0.5**
comp=Z,8.5nm,0.5s,mb4.9
DMN Daman 47.31 307 *e*P **P 14 32 13.2 -0.5**
comp=Z,8.5nm,0.5s,mb4.9
HABR Khabarovsk 47.37 8 *e*P **P 14 32 22.2 +8.4**
HABR *e**SS sS 14 39 21.1 -7.4
HABR *e* 14 42 03.4
HABR *e*SS SS 14 42 32.2 +0.1
HABR pmax pmax
comp=E,44nm,2.2s
HABR pmax pmax
comp=N,24nm,2.2s
HABR pmax pmax
comp=Z,26nm,1.4s,mb5.0
HABR MLR MLR
comp=Z,55nm,18.0s,MS3.6
KLR Kul'dur 47.76 5 *e*P **P 14 32 13.7 -3.2**
GKN Gorkha 47.85 307 *e*P **P 14 32 17.5 -0.5**
comp=Z,10nm,0.5s,mb5.1
GKN Gorkha 47.85 307 *e*P **P 14 32 17.5 -0.5**
comp=Z,10nm,0.5s,mb5.1
KOLN Koldanda 48.58 307 *e*P **P 14 32 23.2 -0.4**
comp=Z,24nm,0.5s,mb5.5
KOLN Koldanda 48.58 307 *e*P **P 14 32 23.2 -0.4**
comp=Z,24nm,0.5s,mb5.5
DANN Dangsing 48.70 307 *e*P **P 14 32 23.8 -0.7**
comp=Z,25nm,0.5s,mb5.5
DANN Dangsing 48.70 307 *e*P **P 14 32 23.8 -0.7**
comp=Z,25nm,0.5s,mb5.5
ULN Ulaanbaatar 49.14 343 *e*P **P 14 32 27.4 -0.1**
comp=Z,11nm,1.2s,mb4.8
ULN Ulaanbaatar 49.14 343 *e*P **P 14 32 27.4 -0.1**
ULN pmax pmax
comp=Z,11nm,1.2s,mb4.8
ULN Ulaanbaatar 49.14 343 P **P 14 32 28.4 +0.9**
SONM Songino Array 49.31 342 P **P 14 32 29.0 +0.2**
comp=Z,4.1nm,0.7s,mb4.5,baz=150,slow=8.5,SNR=11
SONM Songino Array 49.31 342 P **P 14 32 29.0 +0.2**
SONM Songino Array 49.31 342 P **P 14 32 29.0 +0.2**
HYB Hyderabad 49.63 292 *i* P **P 14 32 30.0 -1.8**
ZAK Zakamensk 52.52 341 *e*P **P 14 32 54.7 +1.8**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
TLY Talaya 53.55 343 *e*P **P 14 33 04.9 +4.5**
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TLY MLR MLR
comp=Z,51nm,18.0s,MS3.6
WMQ Urumqi 54.39 326 P **P 14 33 07.0 +0.3**
WMQ pP pP 14 33 19.6 -2.1
WMQ sP sP 14 33 24.9 -3.2
WMQ PP PP 14 35 10.8 +1.5
WMQ S **S 14 40 40.4 -0.6**
WMQ SS SS 14 44 22.6 -1.4
WMQ pmax pmax
comp=Z,11nm,0.9s,mb4.8
WMQ pmax pmax
comp=Z,200nm,3.8s
WMQ LR LR
comp=N,100nm,21.0s
WMQ LR LR
comp=E,97nm,34.0s
WMQ LR LR
comp=Z,84nm,26.8s
CLNS Chul'man 55.18 359 *e*P **P 14 33 12.8 +0.6**
CLNS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CLNS pmax pmax
comp=E,2.0nm,0.6s
CLNS pmax pmax
comp=N,10.0nm,1.1s
HVS Khovu-Aksy 56.63 336 *d i*P **P 14 33 22.8 +0.1**
HVS pmax pmax
comp=Z,36nm,1.2s,mb5.3
BOD Bodaibo 57.01 352 *e*P **P 14 33 25.7 +0.5**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.9
PETK Petropavlovsk- 57.59 22 P **P 14 33 30.6 +1.2**
comp=Z,8.5nm,0.9s,mb4.8,baz=185,slow=10,SNR=4.1
PETK Petropavlovsk- 57.59 22 P **P 14 33 30.6 +1.2**
PETK Petropavlovsk- 57.59 22 P **P 14 33 30.6 +1.2**
MK31 Makanchi Array 59.22 326 *e*P **P 14 33 40.8 -0.1**
MK31 Makanchi Array 59.22 326 *e*P **P 14 33 40.8 -0.1**
MKAR Makanchi Array 59.22 326 P **P 14 33 40.7 -0.2**
comp=Z,4.6nm,0.3s,mb4.9,baz=120,slow=8.0,SNR=114
MKAR Makanchi Array 59.22 326 P **P 14 33 40.7 -0.2**
MKAR Makanchi Array 59.22 326 P **P 14 33 40.7 -0.2**
KSH Kashi 59.42 316 P **P 14 33 44.0 +1.5**
KSH pP pP 14 33 56.6 -1.1
KSH sP sP 14 34 01.9 -2.1
KSH PP PP 14 35 57.2 +3.0
KSH ScP ScP 14 38 28.7 +2.7
KSH S **S 14 41 48.8 +1.3**
KSH sS sS 14 42 09.5 -3.6
KSH ScS ScS 14 43 26.3 -1.6
KSH SS SS 14 45 45.5 +2.0
KSH pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KSH pmax pmax
comp=Z,170nm,5.2s
KSH LR LR
comp=N,170nm,6.0s
KSH LR LR
comp=E,150nm,6.1s
KSH LR LR
comp=Z,210nm,5.3s
YAK Yakutsk 60.42 2 *e*P **P 14 33 48.3 -0.5**
comp=Z,31nm,0.9s,mb5.3
YAK Yakutsk 60.42 2 *e*P **P 14 33 48.9 0.0**
YAK pmax pmax
comp=Z,26nm,1.0s,mb5.2
TKM2 Tokmak 2 61.23 319 *e*P **P 14 33 54.7 0.0**
comp=Z,21nm,1.7s,mb5.0
TKM2 Tokmak 2 61.23 319 *e*P **P 14 33 54.7 0.0**
TKM2 pmax pmax
comp=Z,21nm,1.7s,mb5.0
AAK Ala-Archa 61.82 319 *e*P **P 14 33 59.7 +1.1**
comp=Z,16nm,1.0s,mb5.1
AAK Ala-Archa 61.82 319 *e*P **P 14 33 59.7 +1.0**
AAK pmax pmax
comp=Z,16nm,1.0s,mb5.1
EKS2 Erkin-Say 62.30 319 *e*P **P 14 34 02.1 +0.1**
comp=Z,13nm,1.4s,mb4.9
EKS2 Erkin-Say 62.30 319 *e*P **P 14 34 02.1 +0.1**
EKS2 pmax pmax
comp=Z,13nm,1.4s,mb4.9
ZAA0 Zalesovo Array 62.44 334 *e*P **P 14 34 00.7 -1.9**
ZALV Zalesovo Beam 62.44 334 P **P 14 34 01.9 -0.7**
comp=Z,2.4nm,0.4s,mb4.7,baz=124,slow=6.1,SNR=17
ZALV Zalesovo Beam 62.44 334 P **P 14 34 01.9 -0.7**
ZALV Zalesovo Beam 62.44 334 P **P 14 34 01.9 -0.7**
KBL Kabul 62.66 308 *e*P **P 14 34 04.4 -0.1**
comp=Z,53nm,0.8s,mb5.7
KBL Kabul 62.66 308 *e*P **P 14 34 04.4 -0.1**
KBL pmax pmax
comp=Z,53nm,0.8s,mb5.7
KURK Kurchatov 63.46 328 *e*P **P 14 34 09.5 +0.1**
comp=Z,32nm,0.6s,mb5.6
KURK Kurchatov 63.46 328 *e*P **P 14 34 09.5 0.0**
KURK pmax pmax
comp=Z,32nm,0.6s,mb5.6
NVS Novosibirsk 63.72 334 *e*P **P 14 34 10.1 -1.0**
NVS pmax pmax
comp=Z,23nm,1.6s,mb5.0
KK31 Karatay Array 64.67 318 *i* P **P 14 34 16.4 -1.1**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
VOSK Vostochnaya 68.57 327 P **P 14 34 41.1 -1.1**
VOSK pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
BVA0 Borovoye Array 69.03 328 *i* P **P 14 34 44.8 -0.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRVK Borovoye 69.10 328 *e*P **P 14 34 45.6 +0.1**
comp=Z,6.9nm,0.8s,mb4.6
BRVK Borovoye 69.10 328 ‖ *i*P **P 14 34 45.2 -0.3**
BRVK pmax pmax
comp=Z,12nm,1.2s,mb4.7
ZRNK Zerenda 69.74 327 P **P 14 34 48.7 -0.8**
AB31 Akbulak array 73.69 321 *i* P **P 14 35 12.9 -0.4**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ABKAR Akbulak array 73.69 321 *e*P **P 14 35 13.5 +0.2**
comp=Z,3.2nm,0.5s,mb4.5
AKTO Aktyubinsk 75.22 322 P **P 14 35 21.9 -0.3**
AKTO pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
SVE Sverdlovsk 75.70 329 ‖ *i*P **P 14 35 25.3 +0.5**
SVE pmax pmax
comp=Z,34nm,0.9s,mb5.3
ARU Arti 76.66 328 *e*P **P 14 35 29.8 -0.4**
comp=Z,16nm,0.6s,mb5.1
ARU Arti 76.66 328 *d i*P **P 14 35 29.8 -0.4**
ARU 14 38 22.7
ARU PPP 14 40 07.4
ARU S S 14 45 15.8 +3.4
ARU SS SS 14 50 10.7 +1.8
ARU pmax pmax
comp=Z,12nm,0.6s,mb5.0
ARU Arti 76.66 328 P **P 14 35 29.8 -0.4**
comp=Z,146nm,0.6s,SNR=5.8
SOKR Solikamsk 78.50 331 *e*P **P 14 35 41.3 +0.9**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
RAYN Ar Rayn 81.09 293 P **P 14 35 55.6 +0.3**
comp=Z,78nm,0.7s,mb5.8,SNR=7.0
VNDA Vanda 81.27 173 *e*P **P 14 35 56.1 +1.0**
comp=Z,5.0nm,0.9s,mb4.4
VNDA Vanda 81.27 173 *e*P **P 14 35 56.1 +1.0**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 84.46 314 *e*P **P 14 36 16.2 +3.9**
comp=Z,8.4nm,0.8s,mb4.9
KIV Kislovodsk 84.46 314 *e*P **P 14 36 12.2 -0.1**
KIV pmax pmax
comp=Z,11nm,0.9s,mb5.0
COLD Coldfoot 86.04 23 *e*P **P 14 36 21.0 +1.4**
comp=Z,45nm,2.3s,mb5.3
VSR Storozhevoye 87.13 321 *e*P **P 14 36 25.2 -0.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
VSR pmax pmax
comp=N,9.0nm,1.2s
VSR pmax pmax
comp=E,6.0nm,0.9s
KLMR Klimovskoe 87.19 331 *e*P **P 14 36 23.6 -1.8**
KLMR pmax pmax
comp=Z,11nm,1.0s,mb5.0
ILAR Eielson Array 87.22 25 P **P 14 36 24.7 -0.8**
comp=Z,0.7nm,0.7s,mb4.0,baz=250,slow=4.8,SNR=13
ILAR Eielson Array 87.22 25 P **P 14 36 24.7 -0.8**
ILAR Eielson Array 87.22 25 P **P 14 36 24.7 -0.8**
OBN Obninsk 88.71 325 ‖ *i*P **P 14 36 32.6 -0.1**
OBN pmax pmax
comp=Z,25nm,1.3s,mb5.4
ASF Jabal al Asfar 88.83 302 LR LR 15 18 47.7
comp=Z,23nm,19.7s,MS3.6,baz=62,slow=37
BR131 Keskin Array S 91.21 310 *e*P **P 14 36 44.7 -0.2**
BRTR Keskin Array B 91.21 310 P **P 14 36 44.6 -0.2**
comp=Z,1.6nm,0.8s,mb4.4,baz=118,slow=5.2,SNR=9.3
BRTR PP PP 14 40 21.7 -0.7
comp=Z,0.6nm,0.3s,baz=76,slow=4.8,SNR=15
BRTR Keskin Array B 91.21 310 P **P 14 36 44.6 -0.2**
BRTR Keskin Array B 91.21 310 P **P 14 36 44.6 -0.2**
ARCES ARCESS Array B 92.42 340 P **P 14 36 49.5 -0.3**
comp=Z,7.9nm,0.9s,mb5.0,baz=64,slow=5.5,SNR=6.9
ARCES ARCESS Array B 92.42 340 P **P 14 36 49.5 -0.3**
ARCES ARCESS Array B 92.42 340 P **P 14 36 49.5 -0.3**
FINES FINESS Array B 93.64 332 P **P 14 36 54.3 -1.2**
comp=Z,1.3nm,0.5s,mb4.6,baz=67,slow=5.0,SNR=5.5
FINES FINESS Array B 93.64 332 P **P 14 36 54.3 -1.2**
FINES FINESS Array B 93.64 332 P **P 14 36 54.3 -1.2**
BUR08 Bucovina Ar. S 96.47 318 *e*P **P 14 37 08.6 -0.2**
NOA NORSAR Array B 100.64 333 P Pdif 14 37 25.6 -1.7
comp=Z,1.1nm,0.8s,baz=67,slow=4.4,SNR=3.1
NOA NORSAR Array B 100.64 333 P Pdif 14 37 25.6 -1.7
NOA NORSAR Array B 100.64 333 P Pdif 14 37 25.6 -1.7
YKA Yellowknife Ar 101.63 25 P Pdif 14 37 32.2 +0.5
comp=Z,0.3nm,0.6s,baz=297,slow=4.2,SNR=3.4
YKA Yellowknife Ar 101.63 25 P Pdif 14 37 32.2 +0.5
YKA Yellowknife Ar 101.63 25 P Pdif 14 37 32.2 +0.5
MCCM Marconi Confer 105.20 50 *e*PKiKP PKiKP 14 41 58.9 -3.2
HRY Holter Researc 110.05 39 *e*Pdif Pdif 14 38 06.7 -2.4
PV04 Paradox Valley 115.50 46 *e*PKPdif PKPdif 14 42 21.0 -0.6
SCHQ Schefferville 122.80 9 PKP PKPdif 14 42 35.5 +0.4
comp=Z,2.9nm,0.6s,baz=252,slow=10,SNR=11
SCHQ Schefferville 122.80 9 PKP PKPdif 14 42 35.5 +0.4
TXAR Lajitas Array 123.17 53 PKP PKPdif 14 42 37.2 +0.7
comp=Z,0.6nm,0.8s,baz=256,slow=2.1,SNR=4.1
TXAR Lajitas Array 123.17 53 PKP PKPdif 14 42 37.2 +0.7
TXAR Lajitas Array 123.17 53 PKiKP PKPdif 14 42 37.3 +0.7
TORD Torodi Ar. Bea 123.31 287 PKP PKPdif 14 42 37.8 +0.6
comp=Z,1.0nm,0.7s,baz=44,slow=1.8,SNR=7.1
TORD Torodi Ar. Bea 123.31 287 PKP PKPdif 14 42 37.8 +0.6

*IDC **11** 14:56:04.3±1.4, 6°.25S×104°.76E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/20, mbtmp4.0/8, MS3.6/7, Ms1 3.6/7, ms1mx3.2/31, Error ellipse: s-maj=81.6km s-min=16.0km az=50.0*
*ISCJB **11** 14:56:05.7±1.7, 5°.92S±0°.05×104°.98E±0°.06, h4km±11km, mb4.0/9, MS3.6/6, Error ellipse: s-maj=12.4km s-min=5.4km az=141.4*
*NEIC **11** 14:56:05.8±1.1, 6°.22S×104°.83E, h10km, mb4.3/1, Error ellipse: s-maj=63.2km s-min=10.8km az=48.0*
NEIC Felt [II] at Tanjungkarang-Telukbetung, Sumatra.
*DJA **11** 14:56:10, 5°.78S×105°.15E, h10km, MLv4.7/13*
ISC 11 14:56:06.5±1.1, 5°.92S±0°.05×104°.98E±0°.05, h3km±6km, n47, σ1°.56/46, mb4.0/9, MS3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.61**	**26**	P	**Pg**	**14 56 17.7**	**-0.6**
BLSI				S	**Sg**	**14 56 23.9**	**-2.3**
CGJI	**Cibinong**	**0.99**	**134**	P	**Pg**	**14 56 25.1**	**-0.4**
KLI	**Kotabumi**	**1.06**	**353**	P	**Pg**	**14 56 26.6**	**-0.3**
KLI				S	**Sg**	**14 56 41.3**	**+0.7**
SBJI	**Serang**	**1.16**	**100**	P	**Pg**	**14 56 27.1**	**-1.7**
LWLI	**Liwa**	**1.28**	**314**	P	**Pg**	**14 56 33.2**	**+2.0**
LWLI				S	**Sg**	**14 56 52.8**	**+4.9**
MDSI	**Maura Dua**	**1.64**	**331**	P	**Pn**	**14 56 37.8**	**+1.6**
TNG	**Tangerang**	**1.67**	**99**	P	**Pn**	**14 56 39.1**	**+2.4**
TNG				P	**Pn**	**14 56 39.1**	**+2.4**
TNG				S	**Sn**	**14 56 59.1**	**+0.4**
TNG				S	**Sn**	**14 56 59.1**	**+0.4**
SKJI	**Sukabumi**	**1.90**	**125**	P	**Pn**	**14 56 39.7**	**-0.1**
SKJI				S	**Sn**	**14 57 06.7**	**+2.4**
MNAI	**Manna**	**2.54**	**307**	P	**Pn**	**14 56 58.1**	**+9.4**
LEM	**Lembang**	**2.77**	**109**	P	**Pn**	**14 56 57.4**	**+5.6**
CISI	**Cisompet, Garu**	**3.25**	**120**	P	**Pn**	**14 56 58.7**	**+0.3**
KSI	**Kapahiang**	**3.28**	**313**	P	**Pn**	**14 57 05.2**	**+6.4**
TPI	**Tanjungpandan**	**4.12**	**40**	P	**Pn**	**14 57 10.6**	**+0.2**
BJII	**Banjamegara**	**4.90**	**107**	P	**Pn**	**14 57 21.6**	**+0.5**
UGM	**Wanagama**	**5.85**	**110**	P	**Pn**	**14 57 35.9**	**+1.8**
128nm,1.5s							
PCJI	**Pacitan**	**6.55**	**111**	P	**Pn**	**14 57 45.5**	**+1.7**
57nm,1.7s							
PDSI	**Padang**	**6.72**	**318**	P	**Pn**	**14 57 53.7**	**+7.6**
996nm59nm,1.0s							
SJI	**Sawahan**	**6.97**	**105**	P	**Pn**	**14 57 52.5**	**+2.8**
33nm,2.1s							
PWJI	**Pagerwojo**	**7.09**	**108**	P	**Pn**	**14 57 53.9**	**+2.7**
48nm,1.2s							
PBKI	**Pangkalan Bun**	**7.39**	**65**	P	**Pn**	**14 58 00.3**	**+4.9**
KAPI	**Kappang**	**14.73**	**87**	LR	LR	15 07 02.9	
FITZ	**Fitzroy Crossi**	**23.52**	**123**	P	**P**	**15 01 16.2**	**-2.0**
2.4nm,0.6s,mb3.8,baz=349,slow=5.2,SNR=5.6							
FITZ				LR	LR	15 10 41.9	
comp=Z,120nm,18.3s,MS3.4,baz=299,slow=37							
FITZ	**Fitzroy Crossi**	**23.52**	**123**	P	**P**	**15 01 16.2**	**-2.0**
CMAR	**Chiang Mai Arr**	**24.95**	**346**	P	**P**	**15 01 32.3**	**+1.0**
1.2nm,0.7s,mb3.5,baz=179,slow=8.2,SNR=11							
CMAR	**Chiang Mai Arr**	**24.95**	**346**	P	**P**	**15 01 32.3**	**+1.0**
NWAO	**Narrogin (SRO)**	**29.19**	**159**	LR	LR	15 14 05.5	
comp=Z,122nm,18.7s,MS3.5,baz=110,slow=37							
WRA	**Warramunga Arr**	**31.75**	**119**	P	**P**	**15 02 29.3**	**-2.8**
1.1nm,0.5s,mb4.0,baz=299,slow=9.4,SNR=19							
WRA	**Warramunga Arr**	**31.75**	**119**	P	**P**	**15 02 29.3**	**-2.8**
WB2	**Warramunga Arr**	**31.76**	**119**	*e*P	**P**	**15 02 29.6**	**-2.6**
ASAR	**Alice Springs**	**32.94**	**125**	P	**P**	**15 02 40.7**	**-1.9**
3.2nm,0.5s,mb4.5,baz=292,slow=7.5,SNR=160							
ASAR	**Alice Springs**	**32.94**	**125**	P	**P**	**15 02 40.7**	**-1.9**
AS31	**Alice Springs**	**32.94**	**125**	*e*P	**P**	**15 02 40.6**	**-1.9**
CTA	**Charters Tower**	**42.47**	**113**	LR	LR	15 22 45.4	
comp=Z,55nm,19.2s,MS3.5,baz=56,slow=38							
STKA	**Stephens Creek**	**42.85**	**132**	P	**P**	**15 04 04.9**	**-1.2**
11nm,0.7s,mb4.7,baz=307,slow=8.2,SNR=14							
STKA	**Stephens Creek**	**42.85**	**132**	P	**P**	**15 04 04.9**	**-1.2**
SONM	**Songino Array**	**53.54**	**1**	LR	LR	15 31 00.7	
comp=Z,112nm,18.5s,MS4.0,baz=138,slow=39							
MKAR	**Makanchi Array**	**56.21**	**341**	P	**P**	**15 05 49.0**	**+1.1**
0.4nm,0.5s,mb3.8,baz=134,slow=8.9,SNR=5.4							
MKAR				LR	LR	15 32 51.0	
comp=Z,51nm,19.0s,MS3.6,baz=341,slow=39							
MKAR	**Makanchi Array**	**56.21**	**341**	P	**P**	**15 05 49.0**	**+1.1**
ZALV	**Zalesovo Beam**	**62.01**	**347**	P	**P**	**15 06 26.6**	**-1.3**
0.5nm,0.3s,mb4.0,baz=138,slow=5.4,SNR=4.7							
ZALV				LR	LR	15 35 48.4	
comp=Z,48nm,19.2s,MS3.7,baz=295,slow=38							
ZALV	**Zalesovo Beam**	**62.01**	**347**	P	**P**	**15 06 26.6**	**-1.3**
ABKAR	**Akbulak array**	**67.47**	**330**	*e*P	**P**	**15 07 02.8**	**-0.9**
0.9nm,0.4s,mb4.2							
BRTR	**Keskin Array B**	**79.62**	**312**	P	**P**	**15 08 13.2**	**-2.3**
1.1nm,0.9s,mb3.8,baz=141,slow=6.8,SNR=5.5							
BRTR	**Keskin Array B**	**79.62**	**312**	P	**P**	**15 08 13.2**	**-2.3**
YKA	**Yellowknife Ar**	**116.53**	**19**	PKP	PKPdf	15 14 52.5	+0.9
0.2nm,0.7s,baz=337,slow=2.0,SNR=4.4							
YKA	**Yellowknife Ar**	**116.53**	**19**	PKP	PKPdf	15 14 52.5	+0.9
TXAR	**Lajitas Array**	**144.31**	**46**	PKP	PKPdf	15 15 42.8	-2.0
0.1nm,0.4s,baz=325,slow=1.4,SNR=3.2							
TXAR	**Lajitas Array**	**144.31**	**46**	PKP	PKPdf	15 15 42.8	-2.0

IDC 11 15:11:17.8±3.3, 31°.14S×176°.81W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=77.9km s-min=37.5km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.68**	**214**	Pn	Pn	15 13 25.0	+0.4
0.1nm,0.3s,baz=136,slow=17,SNR=3.8							
URZ				Sn	Sn	15 15 02.4	-0.8
0.4nm,0.3s,baz=317,slow=23,SNR=4.9							
ASAR	**Alice Springs**	**44.09**	**267**	P	P	15 19 28.4	+0.5
0.4nm,0.7s,baz=106,slow=7.6,SNR=9.7							
WRA	**Warramunga Arr**	**45.15**	**272**	P	P	15 19 35.8	-0.5
0.5nm,0.4s,baz=111,slow=8.0,SNR=13							
FINES	**FINESS Array B**	**146.19**	**340**	PKPbc	PKPbc	15 30 58.3	-0.9
1.0nm,0.6s,baz=48,slow=2.1,SNR=4.4							

IDC 11 15:18:48.8±3.2, 31°.26S×176°.85W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=77.3km s-min=37.0km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.57**	**214**	Pn	Pn	15 20 55.0	+0.8
0.2nm,0.3s,baz=340,slow=16,SNR=5.3							
URZ				Sn	Sn	15 22 30.2	-1.3
0.7nm,0.3s,baz=320,slow=17,SNR=7.8							
ASAR	**Alice Springs**	**44.06**	**267**	P	P	15 26 58.6	0.0
0.5nm,0.8s,baz=107,slow=7.5,SNR=6.6							
WRA	**Warramunga Arr**	**45.12**	**272**	P	P	15 27 07.2	0.0
0.3nm,0.3s,baz=111,slow=8.1,SNR=11							
FINES	**FINESS Array B**	**146.29**	**340**	PKPbc	PKPbc	15 38 29.6	-1.0
3.0nm,0.8s,baz=29,slow=4.4,SNR=5.7							

MEX 11 15:44:24.0±0.8, 16°.45N×98°.98W, h16km±999km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.82**	**94**	*i* P	Pb	15 44 36.7	-3.1
PNIG				*i* S	Sb	15 44 47.4	-3.3
ACX	**Acapulco**	**0.94**	**296**	*i* P	Pb	15 44 39.4	-2.5
ACX				*i* S	Sb	15 44 50.6	-3.5
CAIG	**El Cayaco**	**1.37**	**296**	*i* P	Pn	15 44 45.7	-2.8
CAIG				*i* S	Sn	15 45 01.7	-4.5
MEIG	**Mezcala**	**1.59**	**337**	*i* P	Pn	15 44 48.5	-3.0
MEIG				*i* S	Sn	15 45 07.0	-4.7
UTMO	**Huajuapan**	**1.77**	**39**	*i* P	Pn	15 44 51.1	-2.9
UTMO				*i* S	Sn	15 45 11.1	-5.2
VHO	**Vista Hermosa**	**2.24**	**74**	*e*P	Pn	15 44 57.7	-2.7
VHO				*i* S	Sn	15 45 24.1	-3.7
OXX	**Oaxaca**	**2.25**	**74**	*e*P	Pn	15 44 57.0	-3.6
OXX				*i* S	Sn	15 45 23.8	-4.2
PPM	**Popocatepetl**	**2.62**	**7**	*i* P	Pn	15 45 04.8	-0.9
PPM				*i* S	Sn	15 45 37.7	+0.5
ZIIG	**Zihuatanejo**	**2.64**	**296**	*i* P	Pn	15 45 05.5	-0.5
ZIIG				*i* S	Sn	15 45 37.7	+0.1

*IDC **11** 15:49:33.2±1.6, 33°.00N×91°.76E, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.7/24, mbtmp3.7/6, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/34, Error ellipse: s-maj=86.2km s-min=20.5km az=66.0*
*ISCJB **11** 15:49:35.3±0.7, 32°.70N±0°.07×91°.2E±0°.1, h33km, mb3.5/5, Error ellipse: s-maj=16.5km s-min=10.2km az=2.5*
ISC 11 15:49:37.4±0.7, 32°.73N±0°.07×91°.2E±0°.1, h35km, n11, σ1°.16/11, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**6.14**	**210**	*e*P	**Pn**	**15 51 05.4**	**-0.3**
3.9nm,0.5s							
ODAN	**Odare**	**6.71**	**210**	*e*P	**Pn**	**15 51 09.6**	**-3.8**
6.1nm,0.5s							
RAMN	**Ramite**	**6.99**	**216**	*e*P	**Pn**	**15 51 15.4**	**-1.9**
10.0nm,0.4s							
GKN	**Gorkha**	**7.35**	**232**	*e*P	**Pn**	**15 51 24.1**	**+1.9**
5.4nm,0.4s							
MKAR	**Makanchi Array**	**15.60**	**337**	Pn	**Pn**	**15 53 15.5**	**+0.9**
0.1nm,0.3s,baz=166,slow=13,SNR=4.2							
CMAR	**Chiang Mai Arr**	**15.84**	**152**	Pn	**Pn**	**15 53 18.7**	**+0.9**
0.3nm,0.3s,baz=329,slow=10,SNR=12							
ZALV	**Zalesovo Beam**	**21.69**	**350**	P	**P**	**15 54 24.1**	**-1.0**
0.8nm,0.5s,mb3.4,baz=161,slow=9.4,SNR=5.7							
BVAR	**Borovoye Array**	**25.20**	**330**	P	**P**	**15 55 00.2**	**+0.7**
0.1nm,0.4s,mb2.7,baz=134,slow=8.4,SNR=3.7							
BVAR				LR	LR	16 06 01.9	
comp=Z,68nm,18.8s,baz=272,slow=39							
WRA	**Warramunga Arr**	**66.68**	**135**	P	**P**	**16 00 24.7**	**-0.1**
0.8nm,0.6s,mb3.9,baz=330,slow=5.9,SNR=8.7							
ASAR	**Alice Springs**	**69.34**	**138**	P	**P**	**16 00 42.1**	**+0.6**
0.9nm,0.6s,mb3.9,baz=326,slow=6.5,SNR=22							
ILAR	**Eielson Array**	**72.84**	**22**	P	**P**	**16 01 00.8**	**-1.4**
0.6nm,0.9s,mb3.5,baz=297,slow=5.3,SNR=4.6							

IDC 11 16:01:24.8±7.2, 30°.60S×176°.92W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/15, mbtmp3.7/2, Error ellipse: s-maj=305.1km s-min=55.0km az=155.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.02**	**267**	P	P	16 09 34.4	0.0
0.5nm,0.6s,baz=107,slow=7.5,SNR=14							
WRA	**Warramunga Arr**	**45.03**	**272**	P	P	16 09 42.4	-0.1
0.5nm,0.4s,baz=111,slow=8.1,SNR=10							
FINES	**FINESS Array B**	**145.64**	**341**	PKPbc	PKPbc	16 21 03.8	-0.8
1.8nm,0.9s,baz=105,slow=2.2,SNR=8.0							

GUC 11 16:04:14.2±0.5, 31°.05S×71°.49W, h47km±13km, MD4.0, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.44**	**106**	*e*P	Pn	16 04 25.0	+0.5
CMCH				*i* S	Sn	16 04 33.0	+1.1
CMCH				AML	AML	16 04 33.9	
comp=E,43μm,0.7s							
OVCH	**Ovalle**	**0.51**	**30**	*e*P	Pn	16 04 55.1	+30
OVCH				*i* S	Sn	16 05 03.9	+31
OVCH				AML	AML	16 05 05.0	
comp=N,7μm,0.3s							
CHNG	**Los Chungos**	**0.83**	**181**	*e*P	Pn	16 04 30.8	+1.2
CHNG				*i* S	Sn	16 04 42.7	+2.0
LSCH	**La Serena**	**1.16**	**11**	*e*P	Pn	16 04 34.7	+0.7
LSCH				*i* S	Sn	16 04 49.5	+0.8
PTCH	**Petorca**	**1.30**	**159**	*e*P	Pn	16 04 36.4	+0.4
PTCH				*i* S	Sn	16 04 53.3	+1.1
PTCH				AML	AML	16 04 57.6	
comp=N,3μm,0.4s							
JACH	**Jahuel**	**1.80**	**155**	*e*P	Pn	16 04 43.5	+0.8
ROCH	**El Roble**	**1.96**	**168**	*e*P	Pn	16 04 45.7	+0.7

IHA	**Instituto Hidr**	**1.97 184**	*e*P	Pn	16 04 49.5	+4.3
PEL	**Peldehue**	**2.20 162**	*e*P	Pn	16 04 49.0	+0.8
PEL			*e*S	Sn	16 05 16.1	+1.9
PEL			AML	AML	16 05 36.1	
	comp=E,680nm,0.5s					
CLCH	**Cerro Calan**	**2.48 161**	*e*P	Pn	16 04 53.0	+0.9
CLCH			AML	AML	16 05 40.3	
	comp=E,709nm,0.7s					
FCH	**Farellones**	**2.49 156**	*e*P	Pn	16 04 53.5	+1.3
FCH			*e*S	Sn	16 05 22.6	+1.3
SAN	**Santiago**	**2.50 164**	*e*P	Pn	16 05 10.7	+18
VACH	**Vallenar**	**2.55 15**	*e*P	Pn	16 04 52.4	-0.6
PCH	**Pirque**	**2.69 162**	*e*P	Pn	16 04 55.8	+0.7
LMEL	**Las Melosas**	**2.99 159**	*e*P	Pn	16 04 60.0	+0.8
CACH	**El Canelo**	**3.15 166**	*e*P	Pn	16 05 02.7	+1.4

IDC ***11*** *16:11:13.4±1.7, 7°.17S×120°.35E, h398km±17km, mb3.4/4, mb1 3.6/7, mb1mx3.3/19, mbtmp3.4/7, Error ellipse: s-maj=116.1km s-min=12.9km az=58.0*
NEIC ***11*** *16:11:13.3±0.7, 7°.09S×120°.49E, h396km±7km, mb3.8/2, Error ellipse: s-maj=48.7km s-min=6.6km az=56.0*
ISC 11 16:11:13.4±0.9, 7°.1S±0°.3×120°.5E±0°.4, h397km±11km, n19, σ0°23/22, mb3.6/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.20 341**		P			**Pn**	**16 12 10.7**	**+0.3**
	25nm,0.3s,baz=188,slow=4.6,SNR=37								
KAPI	**Kappang**	**2.20 341**		*e*Pn			**Pn**	**16 12 10.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.03 156**		P			**P**	**16 13 53.2**	**-0.3**
	0.3nm,0.3s,baz=343,slow=9.9,SNR=10								
FITZ				S			**S**	**16 16 17.7**	**+12**
	0.2nm,0.3s,baz=205,slow=17,SNR=2.7								
FITZ	**Fitzroy Crossi**	**12.03 156**		P			**P**	**16 13 53.2**	**-0.3**
FITZ				S			**S**	**16 16 17.7**	**+12**
WRA	**Warramunga Arr**	**18.54 135**		P			**P**	**16 15 03.7**	**-0.1**
	1.7nm,0.3s,baz=315,slow=11,SNR=80								
WRA	**Warramunga Arr**	**18.54 135**		P			**P**	**16 15 03.7**	**-0.1**
WRAB	**Tennant Creek**	**18.54 135**		*e*P			**P**	**16 15 03.8**	**0.0**
	8.3nm,0.6s								
WB2	**Warramunga Arr**	**18.55 135**		*e*P			**P**	**16 15 03.7**	**-0.2**
WB2				*e*S			**S**	**16 18 14.3**	**0.0**
AS31	**Alice Springs**	**20.91 143**		*e*P			**P**	**16 15 26.5**	**+0.1**
ASAR	**Alice Springs**	**20.91 143**		P			**P**	**16 15 26.6**	**+0.2**
	5.8nm,0.6s,baz=315,slow=8.2,SNR=120								
ASAR	**Alice Springs**	**20.91 143**		P			**P**	**16 15 26.6**	**+0.2**
STKA	**Stephens Creek**	**31.55 144**		P			**P**	**16 17 01.1**	**+0.3**
	3.1nm,0.3s,mb4.1,baz=332,slow=8.5,SNR=24								
STKA	**Stephens Creek**	**31.55 144**		*e*P			**P**	**16 17 01.0**	**+0.2**
	0.7nm,0.4s,mb3.3								
CHTO	**Chiang Mai**	**33.38 321**		P			**P**	**16 17 16.9**	**+0.2**
MK31	**Makanchi Array**	**63.47 332**		*e*P			**P**	**16 21 02.2**	**-0.3**
MKAR	**Makanchi Array**	**63.47 332**		P			**P**	**16 21 02.9**	**+0.3**
	0.7nm,0.5s,mb3.5,baz=146,slow=7.9,SNR=10								
MKAR	**Makanchi Array**	**63.47 332**		P			**P**	**16 21 02.9**	**+0.3**
ZALV	**Zalesovo Beam**	**67.82 338**		P			**P**	**16 21 29.4**	**-0.4**
	0.9nm,0.5s,mb3.6,baz=153,slow=5.0,SNR=4.5								
ZALV	**Zalesovo Beam**	**67.82 338**		P			**P**	**16 21 29.4**	**-0.4**

MOS ***11*** *16:29:04.0±0.9, 19°.04S×175°.38W, h186km, mb4.9/24, Error ellipse: s-maj=9.1km s-min=7.5km az=51.4*
ISCJB ***11*** *16:29:10.0±0.1, 19°.11S±0°.03×175°.43W±0°.02, h239km, mb5.2/188, Error ellipse: s-maj=4.6km s-min=2.4km az=146.7*
IDC ***11*** *16:29:10.9±0.6, 19°.16S×175°.35W, h240km±5km, mb4.9/23, mb1 4.9/24, mb1mx4.9/25, mbtmp4.9/24, Error ellipse: s-maj=11.0km s-min=7.5km az=129.0*
NEIC ***11*** *16:29:10.5±0.1, 19°.11S×175°.33W, mb5.0/96, Error ellipse: s-maj=6.1km s-min=3.8km az=146.0*
BJI ***11*** *16:29:10.8, 18°.41S×175°.22W, h230km, mB5.3/23, mb5.2/46*
BGS ***11*** *16:29:11.8±3.5, 19°.11S×175°.33W, h238km, mb5.0(NEIC)*
GCMT ***11*** *16:29:13.1±0.2, 19°.13S×174°.94W, h243km±1km, MW5.3, Moment Tensor Solution. s66,c94; s73,c110; Moment tensor: Scale 10^17^Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0 1.10000×10^17^ NP1:φs278.00000°, δ14.00000°, λ151.00000°. NP2:φs37.00000°, δ83.00000°, λ78.00000°. Principal axes: T 1.0400, Plg50.0000°, Azm293.0000°; N 0.0300, Plg12.0000°, Azm38.0000°; P -1.0700, Plg37.0000°, Azm137.0000°; Data Used: II IU IC G CN.*
DJA ***11*** *16:29:21, 19°.28S×175°.90W, h314km, Mw5.3/49*
ISC 11 16:29:11.5±0.1, 19°.11S±0°.03×175°.40W±0°.02, h241km, h241km±2.0km; pP-P, n964, σ0s79/679, mb5.2/188, 257C-136D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.23**	**34**	P			**Pn**	**16 30 34.6**	**-7.9**
	93nm,0.3s,baz=175,slow=0.9,SNR=173								
AFI				S			**S**	**16 31 39.1**	**-16**
	61nm,0.3s,baz=217,slow=23,SNR=3.8								
AFI	**Afiamalu**	**6.23**	**34**	P			**Pn**	**16 30 34.6**	**-7.9**
AFI				S			**S**	**16 31 39.1**	**-16**
AFI	**Afiamalu**	**6.23**	**34**	P			**Pn**	**16 30 34.6**	**-7.9**
AFI				S			**S**	**16 31 39.1**	**-16**
MSVF	**Nonsavu**	**6.37 281**		*e*Pn			**Pn**	**16 30 47.6**	**+3.4**
	485nm,0.8s								
MSVF				*e*S			**S**	**16 32 06.3**	**+8.1**
MSVF	**Nonsavu**	**6.37 281**		*e*P			**Pn**	**16 30 47.6**	**+3.4**
MSVF				pmax			pmax		
	comp=Z,485nm,0.8s								
RAO	**Raoul Island**	**10.35 192**		Pn			**Pn**	**16 31 28.9**	**-5.7**
RAO				*e*S			**S**	**16 33 23.5**	**-7.2**
RAO	**Raoul Island**	**10.35 192**		P			**Pn**	**16 31 28.9**	**-5.7**
RAO				*e*S			**S**	**16 33 23.5**	**-7.3**
FUNA	**Funafuti**	**11.76 333**		*e*P			**Pn**	**16 31 53.4**	**+0.9**
	comp=Z,2μm,2.2s								
RAR	**Rarotonga**	**14.82 101**		P			**Pn**	**16 32 26.8**	**-3.2**
	comp=Z,6.1nm,0.3s,baz=252,slow=8.5,SNR=28								
RAR	**Rarotonga**	**14.82 101**		*e*Pn			**Pn**	**16 32 26.0**	**-4.0**
	comp=Z,235nm,1.0s								
RAR				P				16 32 26.8	
RAR				*e*S			**S**	**16 35 16.6**	**+2.7**
RAR	**Rarotonga**	**14.82 101**		*e*P			**Pn**	**16 32 26.0**	**-4.0**
RAR				pmax			pmax		
	comp=Z,235nm,1.0s								
NORM	**Noumea**	**17.24 257**		*e*P			**P**	**16 32 58.3**	**+1.9**
DZM	**Mont Dzumac**	**17.25 257**		*e*P			**P**	**16 32 58.9**	**+2.2**
	comp=Z,1μm,1.2s								
DZM	**Mont Dzumac**	**17.25 257**		*e*P			**P**	**16 32 58.7**	**+2.0**
	comp=Z,483nm,1.0s								
NOUC	**Port Laguerre**	**17.39 257**		*e*P			**P**	**16 32 59.9**	**+1.7**
OUZ	**Omahuta**	**18.77 209**		*e*P			**P**	**16 33 14.2**	**+1.2**
	comp=Z,155nm,1.1s								
WCZ	**Waipu Caves**	**19.05 206**		PN			**P**	**16 33 17.7**	**+1.7**
KUZ	**Kuaotunu**	**19.22 202**		PN			**P**	**16 33 19.3**	**+1.6**
PUZ	**Puketiti**	**19.69 195**		PN			**P**	**16 33 22.4**	**-0.3**
PUZ				SN			**S**	**16 36 47.9**	**-3.4**
MKAZ	**Moumakai**	**19.75 203**		PN			**P**	**16 33 24.6**	**+1.2**
MWZ	**Matawai**	**20.12 196**		PN			**P**	**16 33 27.5**	**+0.2**
URZ	**Urewera**	**20.16 197**		P			**P**	**16 33 26.1**	**-1.7**
	comp=Z,90nm,0.3s,baz=263,slow=2.6,SNR=95								
URZ				S			**S**	**16 36 54.4**	**-6.1**
	comp=Z,28nm,0.5s,baz=78,slow=14,SNR=6.1								
URZ	**Urewera**	**20.16 197**		P			**P**	**16 33 26.1**	**-1.7**
URZ				*e*P				16 33 26.2	
URZ				*e*S			**S**	**16 36 53.0**	**-7.5**
URZ				S			**S**	**16 36 54.4**	**-6.1**
URZ	**Urewera**	**20.16 197**		*e*PN			**P**	**16 33 25.6**	**-2.2**
HIZ	**Hauiti**	**21.11 202**		PN			**P**	**16 33 39.1**	**+1.4**
PXZ	**Pawanui**	**21.89 196**		*e*PN			**P**	**16 33 43.9**	**-1.2**
TSZ	**Takapari Road**	**22.16 198**		PN			**P**	**16 33 45.6**	**-2.1**
TSZ				SN			**S**	**16 37 36.5**	**+2.6**
NRZ	**Ngariki Road**	**22.17 202**		PN			**P**	**16 33 52.8**	**+5.1**
SNZO	**South Karori**	**23.69 199**		*e*P			**P**	**16 34 01.5**	**0.0**
	comp=Z,167nm,0.8s,mb5.7								
SNZO				*e*S			**S**	**16 38 01.6**	**+3.4**
QRZ	**Quartz Range**	**23.99 203**		PN			**P**	**16 34 04.7**	**+0.5**
NNZ	**Nelson**	**24.03 201**		PN			**P**	**16 34 02.7**	**-2.0**
NNZ				SN			**S**	**16 38 06.1**	**+2.4**
TBI	**Tubuai**	**24.53 104**		*e*P			**P**	**16 34 06.3**	**-3.1**
	comp=Z,440nm,1.2s,mb6.0								
PAE	**Paea**	**24.54**	**91**	*e*P			**P**	**16 34 06.2**	**-3.3**
	comp=Z,39nm,1.1s,mb5.0								
PPT2	**Papeete2**	**24.55**	**91**	*e*P			**P**	**16 34 07.7**	**-1.9**
	comp=Z,219nm,1.2s,mb5.7								
PPT2				*e*pP				16 34 48.8	
	comp=Z,49nm,1.4s								
THZ	**Tophouse**	**24.68 201**		PN			**P**	**16 34 10.3**	**-0.2**
THZ				SN			**S**	**16 38 15.9**	**+2.0**
TIAR	**Tiarei**	**24.77**	**91**	*e*P			**P**	**16 34 08.6**	**-3.0**
	comp=Z,184nm,1.0s,mb5.7								
TIAR				*e*pP				16 34 51.6	
	comp=Z,58nm,0.9s								
KHZ	**Kahutara**	**25.05 200**		*e*P			**P**	**16 34 13.5**	**-0.3**
	comp=Z,101nm,0.5s,mb5.7								
KHZ				*e*S			**S**	**16 38 20.2**	**+0.4**
KHZ	**Kahutara**	**25.05 200**		PN			**P**	**16 34 13.5**	**-0.3**
DSZ	**Denniston Nort**	**25.06 203**		PN			**P**	**16 34 14.2**	**+0.3**
HNR	**Honiara**	**25.73 289**		P			**P**	**16 34 19.7**	**-0.5**
	comp=Z,110nm,0.7s,mb5.6,baz=146,slow=2.1,SNR=6.1								
HNR	**Honiara**	**25.73 289**		*e*P			**P**	**16 34 16.9**	**-3.3**
	comp=Z,147nm,0.9s,mb5.6								
HNR				P				16 34 19.8	
HNR	**Honiara**	**25.73 289**		*e*P			**P**	**16 34 17.0**	**-3.3**
HNR				pmax			pmax		
	comp=Z,147nm,0.9s,mb5.6								
MEH	**Mehetia**	**25.94**	**92**	*e*P			**P**	**16 34 19.8**	**-2.3**
	comp=Z,103nm,1.1s,mb5.4								
PMOR	**Pomariorio Ree**	**26.59**	**85**	*e*P			**P**	**16 34 25.7**	**-2.3**
	comp=Z,147nm,1.3s,mb5.4								
RPZ	**Rata Peaks**	**27.04 202**		P			**P**	**16 34 31.2**	**-0.4**
	comp=Z,64nm,0.7s,mb5.4,baz=16,slow=3.8,SNR=27								
RPZ				S			**S**	**16 38 50.9**	**-0.2**
	comp=Z,17nm,0.9s,baz=349,slow=5.2,SNR=3.3								
RPZ	**Rata Peaks**	**27.04 202**		*e*P			**P**	**16 34 30.9**	**-0.7**
	comp=Z,88nm,0.6s,mb5.6								
RPZ				P				16 34 31.2	
RPZ				S			**S**	**16 38 51.0**	**-0.2**
RPZ	**Rata Peaks**	**27.04 202**		PN			**P**	**16 34 30.8**	**-0.8**
LBZ	**Lake Benmore**	**27.94 202**		PN			**P**	**16 34 38.6**	**-1.0**
JCZ	**Jackson Bay**	**28.21 205**		PN			**P**	**16 34 40.5**	**-1.4**
ODZ	**Otahua Downs**	**28.35 201**		*e*P			**P**	**16 34 44.1**	**+1.0**
	comp=Z,225nm,1.1s,mb5.7								
ODZ	**Otahua Downs**	**28.35 201**		*e*PN			**P**	**16 34 47.2**	**+4.0**
EIDS	**Eidsvold**	**31.59 253**		*e*P			**P**	**16 35 11.4**	**-0.6**
	comp=Z,128nm,0.9s,mb5.5								
ARMA	**Armidale**	**31.88 243**		*e*P			**P**	**16 35 14.8**	**+0.4**
ARMA	**Armidale**	**31.88 243**		*e*P			**P**	**16 35 15.2**	**+0.8**
	comp=Z,39nm,0.7s,mb5.0								
CNB	**Canberra Magne**	**35.03 235**		⇑*i*P			**P**	**16 35 41.7**	**+0.2**
	comp=Z,559nm,0.6s,mb6.3								
CAN	**Canberra**	**35.31 235**		⇑*e*P			**P**	**16 35 43.3**	**-0.7**
	comp=Z,104nm,1.0s,mb5.3								
CAN	**Canberra**	**35.31 235**		⇑*e*P			**P**	**16 35 43.3**	**-0.7**
CAN				pmax			pmax		
	comp=Z,104nm,1.0s,mb5.3								
CTA	**Charters Tower**	**36.09 262**		P			**P**	**16 35 51.0**	**+0.3**
	comp=Z,794nm,0.5s,baz=90,slow=10,SNR=1132								
CTA				PcP			PcP	16 38 11.6	+0.4
	comp=Z,11nm,0.7s,baz=71,slow=7.3,SNR=2.3								
CTA	**Charters Tower**	**36.09 262**		⇑*i*P			**P**	**16 35 50.9**	**+0.2**
	comp=Z,618nm,0.4s								
CTA				*e*S			**S**	**16 41 11.0**	**-1.0**
CTA	**Charters Tower**	**36.09 262**		P			**P**	**16 35 51.0**	**+0.3**
CTA				PcP			PcP	16 38 11.6	+0.4
CTA	**Charters Tower**	**36.09 262**		P			**P**	**16 35 51.1**	**+0.4**
CTA								16 38 11.6	
CTAO	**Charters Tower**	**36.09 262**		⇑*i*P			**P**	**16 35 50.7**	**0.0**
	comp=Z,710nm,0.6s,mb6.4								
CTAO				pP			pP	16 36 41.8	+2.1
CTAO	**Charters Tower**	**36.09 262**		⇑*i*P			**P**	**16 35 50.7**	**0.0**
CTAO				pmax			pmax		
	comp=Z,710nm,0.6s,mb6.4								
CTAO	**Charters Tower**	**36.09 262**		P			**P**	**16 35 50.5**	**-0.2**
CTAO	**Charters Tower**	**36.09 262**		P			**P**	**16 35 50.5**	**-0.2**
	comp=Z,4.5nmcomp=Z,1μm,0.7s								
CTAO	**Charters Tower**	**36.09 262**		P			**P**	**16 35 49.9**	**-0.8**
	comp=Z,1μm,0.7s								
PMG	**Port Moresby**	**37.48 280**		⇑*i*P			**P**	**16 36 02.0**	**-0.5**
	comp=Z,118nm,0.8s,mb5.5								
PMG				*e*pP			pP	16 36 52.7	+0.9
PMG				*e*PP			PP	16 37 33.8	+0.3
PMG	**Port Moresby**	**37.48 280**		⇑*i*P			**P**	**16 36 02.0**	**-0.5**
PMG				*e*				16 37 33.8	
PMG				pmax			pmax		
	comp=Z,118nm,0.8s								
PMG	**Port Moresby**	**37.48 280**		P			**P**	**16 36 02.5**	**0.0**
	comp=Z,0.4nmcomp=Z,2μmcomp=Z,145nm,0.9s,mb5.5								
PMG	**Port Moresby**	**37.48 280**		P			**P**	**16 36 01.9**	**-0.6**
	comp=Z,2μmcomp=Z,145nm,0.9s,mb5.5								
RKT	**Rikitea**	**37.84 103**		*e*P			**P**	**16 36 04.1**	**-1.3**
	comp=Z,123nm,0.9s,mb5.4								
TOO	**Toolangi**	**38.69 233**		⇑*i*P			**P**	**16 36 11.9**	**-0.4**
	comp=Z,355nm,0.6s,mb6.1								
TAU	**Tasmania Unive**	**39.33 225**		*e*P			**P**	**16 36 17.1**	**-0.4**
	comp=Z,27nm,0.8s,mb4.8								
TAU	**Tasmania Unive**	**39.33 225**		*e*P			**P**	**16 36 17.1**	**-0.4**
TAU				pmax			pmax		
	comp=Z,27nm,0.8s,mb4.8								
COEN	**Coen**	**39.98 271**		⇑*i*P			**P**	**16 36 22.9**	**-0.3**
	comp=Z,776nm,0.8s,mb6.2								
COEN				*e*pP			pP	16 37 13.2	+0.2
COEN	**Coen**	**39.98 271**		P			**P**	**16 36 22.9**	**-0.3**
	comp=Z,2μmcomp=Z,163nm,0.7s,mb5.5								
COEN	**Coen**	**39.98 271**		P			**P**	**16 36 21.2**	**-2.0**
	comp=Z,2μmcomp=Z,163nm,0.7s,mb5.5								
STKA	**Stephens Creek**	**40.60 243**		P			**P**	**16 36 28.1**	**0.0**
	comp=Z,106nm,1.0s,mb5.2,baz=89,slow=9.2,SNR=128								
STKA	**Stephens Creek**	**40.60 243**		⇑*i*P			**P**	**16 36 28.1**	**0.0**
	comp=Z,63nm,0.9s,mb5.0								
STKA	**Stephens Creek**	**40.60 243**		⇑*e*P			**P**	**16 36 27.5**	**-0.6**
	comp=Z,26nm,1.0s,mb4.6								
STKA				P				16 36 28.1	
STKA				pP			pP	16 37 17.6	-0.4
STKA	**Stephens Creek**	**40.60 243**		⇑*e*P			**P**	**16 36 27.5**	**-0.6**
STKA				pmax			pmax		
	comp=Z,26nm,1.0s								
BBOO	**Buckleboo**	**45.36 243**		*e*P			**P**	**16 37 05.2**	**-0.9**
	comp=Z,3μm,1.0s								
JAY	**Jayapura**	**45.98 286**		P			**P**	**16 37 11.9**	**+0.7**
	comp=Z,3μmcomp=Z,178nm,0.7s,mb5.5								
JAY	**Jayapura**	**45.98 286**		P			**P**	**16 37 11.9**	**+0.7**
	comp=Z,3μmcomp=Z,178nm,0.7s,mb5.5								
WRAB	**Tennant Creek**	**47.23 260**		⇑*i*P			**P**	**16 37 19.6**	**-1.2**
	comp=Z,373nm,1.0s,mb5.7								
WRAB	**Tennant Creek**	**47.23 260**		⇑*i*P			**P**	**16 37 19.6**	**-1.2**
WRAB				pmax			pmax		
	comp=Z,373nm,1.0s,mb5.7								
WRAB	**Tennant Creek**	**47.23 260**		P			**P**	**16 37 19.5**	**-1.3**
	comp=Z,2.0nmcomp=Z,5μmcomp=Z,584nm,1.1s,mb5.8								
WRAB	**Tennant Creek**	**47.23 260**		P			**P**	**16 37 19.5**	**-1.3**
	comp=Z,5μmcomp=Z,584nm,1.1s,mb5.8								
AS31	**Alice Springs**	**47.23 255**		⇑*i*P			**P**	**16 37 20.2**	**-0.6**
AS31				*e*PcP			PcP	16 38 47.6	-0.4
AS31				*e*S			**S**	**16 43 53.5**	**-1.8**
ASAR	**Alice Springs**	**47.23 255**		P			**P**	**16 37 20.5**	**-0.3**
	comp=Z,247nm,0.5s,mb5.8,baz=93,slow=8.0,SNR=2357								
ASAR				PcP			PcP	16 38 48.2	+0.1
	comp=Z,12nm,0.5s,baz=97,slow=5.2,SNR=5.4								
ASAR				S			**S**	**16 43 54.5**	**-0.8**
	comp=Z,14nm,0.8s,baz=94,slow=15,SNR=25								
ASAR	**Alice Springs**	**47.23 255**		P			**P**	**16 37 20.5**	**-0.3**
ASAR				PcP			PcP	16 38 48.2	+0.1
ASAR				S			**S**	**16 43 54.5**	**-0.8**
ASAR	**Alice Springs**	**47.23 255**		P			**P**	**16 37 20.5**	**-0.3**
ASAR								16 38 48.2	
ASAR				S			**S**	**16 43 54.5**	**-0.8**
WRA	**Warramunga Arr**	**47.23 260**		P			**P**	**16 37 19.9**	**-1.0**
	comp=Z,94nm,0.3s,mb5.5,baz=97,slow=7.3,SNR=1384								
WRA				PcP			PcP	16 38 48.3	+0.2
	comp=Z,18nm,0.8s,baz=92,slow=3.7,SNR=4.6								
WRA				S			**S**	**16 43 53.3**	**-2.1**
	comp=Z,3.1nm,0.9s,baz=93,slow=14,SNR=5.4								
WRA	**Warramunga Arr**	**47.23 260**		P			**P**	**16 37 19.9**	**-1.0**
WRA				PcP			PcP	16 38 48.3	+0.2
WRA				S			**S**	**16 43 53.3**	**-2.1**
WRA	**Warramunga Arr**	**47.23 260**		P			**P**	**16 37 19.9**	**-1.0**
WRA								16 38 48.3	
WRA				S			**S**	**16 43 53.3**	**-2.1**
SMPI	**Sarmi**	**48.01 285**		P			**P**	**16 37 27.3**	**+0.4**
	comp=Z,181nm,1.0s,mb5.3								
SMPI	**Sarmi**	**48.01 285**		P			**P**	**16 37 27.3**	**+0.4**
	comp=Z,181nm,1.0s,mb5.3								
BAKI	**Biak**	**50.72 285**		P			**P**	**16 37 48.6**	**+1.3**
	comp=Z,269nm,0.9s,mb5.7								
BAKI	**Biak**	**50.72 285**		P			**P**	**16 37 48.6**	**+1.3**
	comp=Z,269nm,0.9s,mb5.7								
GUMO	**Guam**	**50.87 307**		P			**P**	**16 37 48.7**	**+0.3**
	comp=Z,158nm,0.7s,mb5.5,baz=199,slow=16,SNR=5.7								
GUMO	**Guam**	**50.87 307**		P			**P**	**16 37 48.7**	**+0.3**
GUMO	**Guam**	**50.87 307**		P			**P**	**16 37 48.7**	**+0.3**
FORT	**Forrest**	**52.09 246**		⇑*i*P			**P**	**16 37 56.4**	**-0.9**
	comp=Z,280nm,0.6s,mb5.9								
FORT	**Forrest**	**52.09 246**		⇑*i*P			**P**	**16 37 56.0**	**-1.2**
	comp=Z,426nm,0.9s,mb5.9								
TLE	**Tual**	**52.20 278**		P			**P**	**16 37 58.4**	**+0.1**
	comp=Z,1.3nmcomp=Z,5μmcomp=Z,468nm,1.0s,mb5.8								
TLE	**Tual**	**52.20 278**		P			**P**	**16 37 58.4**	**+0.1**
	comp=Z,5μmcomp=Z,468nm,1.0s,mb5.8								
FAKI	**Fak Fak**	**53.61 281**		P			**P**	**16 38 09.4**	**+0.8**
	comp=Z,2μmcomp=Z,153nm,1.1s,mb5.4								
FITZ	**Fitzroy Crossi**	**55.65 261**		⇑*i*P			**P**	**16 38 22.8**	**-0.4**
	comp=Z,55nm,0.5s,mb5.3								
FITZ	**Fitzroy Crossi**	**55.65 261**		*e*P			**P**	**16 38 22.7**	**-0.5**
	comp=Z,113nm,1.1s,mb5.3								
FITZ	**Fitzroy Crossi**	**55.65 261**		P			**P**	**16 38 24.0**	**+0.8**
	comp=Z,900nmcomp=Z,84nm,1.3s,mb5.1								
MSAI	**Masohi**	**56.55 279**		P			**P**	**16 38 32.2**	**+2.6**
	comp=Z,440nmcomp=Z,41nm,0.9s,mb5.0								
MSAI	**Masohi**	**56.55 279**		P			**P**	**16 38 29.1**	**-0.5**
	comp=Z,438nmcomp=Z,41nm,0.9s,mb5.0								
AAI	**Ambon**	**57.12 278**		P			**P**	**16 38 32.7**	**-0.9**
	comp=Z,5μmcomp=Z,261nm,0.4s,mb6.2								
AAI	**Ambon**	**57.12 278**		P			**P**	**16 38 33.2**	**-0.4**
	comp=Z,5μmcomp=Z,261nm,0.4s,mb6.2								
NLAI	**Namlea**	**58.30 278**		P			**P**	**16 38 41.5**	**-0.3**
	comp=Z,2μmcomp=Z,277nm,1.2s,mb5.8								
NLAI	**Namlea**	**58.30 278**		P			**P**	**16 38 41.3**	**-0.5**
	comp=Z,2μmcomp=Z,277nm,1.2s,mb5.8								
LBMI	**Labuha**	**58.86 281**		P			**P**	**16 38 45.8**	**+0.2**
LBMI	**Labuha**	**58.86 281**		P			**P**	**16 38 45.2**	**-0.4**
	comp=Z,3μmcomp=Z,335nm,0.9s,mb6.0								
SBA	**Scott Base**	**59.42 184**		*e*P			**P**	**16 38 50.2**	**+1.8**
	comp=Z,28nm,1.1s,mb4.8								
SBA	**Scott Base**	**59.42 184**		*e*P			**P**	**16 38 50.2**	**+1.8**
SBA				pmax			pmax		
	comp=Z,28nm,1.1s,mb4.8								
VNDA	**Vanda**	**59.51 186**		*e*P			**P**	**16 38 50.4**	**+1.4**
VNDA				*e*pP			pP	16 39 47.5	+4.5
TNTI	**Ternate**	**59.52 283**		P			**P**	**16 38 49.9**	**-0.2**
	comp=Z,6μmcomp=Z,642nm,0.9s,mb6.2								
TNTI	**Ternate**	**59.52 283**		P			**P**	**16 38 49.6**	**-0.5**
	comp=Z,6μmcomp=Z,642nm,0.9s,mb6.2								
MBWA	**Marble Bar**	**60.56 256**		*e*P			**P**	**16 38 56.1**	**-0.9**
	comp=Z,124nm,1.1s,mb5.5								
MBWA	**Marble Bar**	**60.56 256**		P			**P**	**16 38 56.2**	**-0.9**
	comp=Z,126nm,1.2s,mb5.4								
MBWA	**Marble Bar**	**60.56 256**		P			**P**	**16 38 56.2**	**-0.9**
	comp=Z,126nm,1.2s,mb5.4								
MBWA	**Marble Bar**	**60.56 256**		P			**P**	**16 38 55.9**	**-1.2**
	comp=Z,125nm,1.2s,mb5.4								
KLBR	**Kellerberrin**	**60.86 244**		⇑*i*P			**P**	**16 38 58.1**	**-0.9**
	comp=Z,87nm,0.8s,mb5.4								
MMRI	**Maumere**	**61.17 271**		P			**P**	**16 39 00.4**	**-0.9**
MMRI	**Maum

comp=Z,1µcomp=Z,134nm,0.9s,mb5.6
FX1 Attu Island--F 72.38 353 P **P 16 40 09.8 -1.1**
comp=Z,27nm,0.7s,mb5.0,baz=119,slow=10,SNR=4.0
FX1 Attu Island--F 72.38 353 P **P 16 40 09.8 -1.1**
FX1 Attu Island--F 72.38 353 P **P 16 40 09.9 -1.1**
JNU Nakatsue 72.99 315⇑ *eP* **P 16 40 14.8 -0.2**
comp=Z,75nm,1.4s,mb5.1
PBKI Pangkalan Bun 73.00 273 P **P 16 40 16.4 +0.8**
comp=Z,251nm,1.1s,mb5.8
BTM Bintulu 73.67 279 P **P 16 40 19.8 +0.3**
ASAJ Asahikawa 73.72 330 P **P 16 40 20.1 +1.0**
comp=Z,40nm,0.8s,mb5.1,baz=224,slow=9.1,SNR=22
ASAJ Asahikawa 73.72 330 *eP* **P 16 40 19.9 +0.8**
comp=Z,21nm,1.1s,mb4.7
ASAJ P 16 40 20.1
STKI Sintang 74.09 276 P **P 16 40 22.7 +0.8**
comp=Z,64nm,1.4s,mb5.1
SBUM Sibu 74.21 278 P **P 16 40 23.1 +0.5**
SBUM Sibu 74.21 278 P **P 16 40 23.0 +0.4**
comp=Z,622nmcomp=Z,51nm,1.1s,mb5.1
TWG Pinlang 74.73 301 *eP* **P 16 40 23.9 -1.5**
comp=Z,31nm,0.6s,mb5.1
YULB Yu-li 74.82 302 *eP* **P 16 40 24.3 -1.6**
comp=Z,37nm,0.9s,mb5.0
NACB Ninganchiao 74.96 303⇑ *iP* **P 16 40 26.1 -0.6**
comp=Z,213nm,1.1s,mb5.7
CISI Cisompet, Garu 75.12 267 P **P 16 40 28.7 +0.9**
comp=Z,2µcomp=Z,134nm,1.1s,mb5.5
SSLB Suanglung 75.29 302⇑ *eP* **P 16 40 27.0 -1.5**
comp=Z,130nm,1.0s,mb5.5
TPUB Ta-pu 75.32 301⇑ *iP* **P 16 40 27.0 -1.7**
comp=Z,270nm,0.9s,mb5.9
TPUB *es*P sP 16 42 00.7 +10
YHNB Yeheng 75.38 303 *eP* **P 16 40 29.0 0.0**
comp=Z,157nm,1.3s,mb5.5
LEM Lembang 75.53 268 P **P 16 40 30.2 0.0**
comp=Z,3µcomp=Z,314nm,1.0s,mb5.9
PETK Petropavlovsk- 75.60 344 P **P 16 40 29.0 -0.6**
comp=Z,34nm,0.8s,mb5.0,baz=116,slow=9.0,SNR=26
PETK Petropavlovsk- 75.60 344 P **P 16 40 29.0 -0.6**
PETK Petropavlovsk- 75.60 344 P **P 16 40 29.0 -0.6**
KSM Kuching 75.67 277 P **P 16 40 31.4 +0.5**
KSM Kuching 75.67 277⇑ *iP* **P 16 40 31.1 +0.1**
comp=Z,65nm,0.8s,mb5.3
KSM Kuching 75.67 277 P **P 16 40 31.6 +0.7**
comp=Z,1µcomp=Z,115nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 75.79 332⇑ *iP* **P 16 40 31.0 +0.2**
comp=Z,123nm,1.0s,mb5.5
YSS *ep*P pP 16 41 30.9 +3.3
YSS Yuzh-Sakhalins 75.79 332⇑ *iP* **P 16 40 31.0 +0.2**
YSS *e* pP 16 41 31.8 +4.2
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.5
MWC Mount Wilson 76.08 46 *eP* **P 16 40 32.2 -0.6**
comp=Z,7.8nm,0.8s,mb4.4
MWC *e*PcP PcP 16 40 41.9 -2.0
MWC Mount Wilson 76.08 46 *eP* **P 16 40 32.2 -0.6**
MWC *e* 16 40 41.9
MWC pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
BFSC Mount Baldy Ra 76.36 46 ⇓P **P 16 40 34.0 -0.3**
baz=76
DBJI Dramaga 76.43 268 P **P 16 40 34.9 -0.4**
comp=Z,3µcomp=Z,279nm,0.9s,mb5.9
MONP Monument Peak 76.46 48 ⇑P **P 16 40 34.7 -0.2**
baz=77
SKJI Sukabumi 76.48 267 P **P 16 40 35.2 -0.3**
comp=Z,2µcomp=Z,261nm,1.0s,mb5.8
EDW2 Edwards Air Fo 76.50 45 ⇑P **P 16 40 35.1 0.0**
baz=77
DVTC Desert V Tower 76.56 48 ⇑P **P 16 40 35.5 0.0**
baz=77
ISA Isabella 76.62 45 ⇑P **P 16 40 35.7 -0.1**
baz=77
ISA Isabella 76.62 45 *eP* **P 16 40 35.6 -0.2**
comp=Z,20nm,1.2s,mb4.6
ISA *ep*P pP 16 41 31.8 -0.9
ISA Isabella 76.62 45 *eP* **P 16 40 35.6 -0.2**
ISA pmax pmax
comp=Z,20nm,1.2s,mb4.6
CMB Columbia Colle 76.79 42 *eP* **P 16 40 36.1 -0.6**
comp=Z,10nm,1.0s,mb4.4
CMB Columbia Colle 76.79 42 *eP* **P 16 40 36.1 -0.6**
CMB pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
PFO Pinyon Flat Ob 76.83 47 ⇑P **P 16 40 37.2 +0.1**
baz=77
LRMC Laurel Mountai 77.04 45 ⇑P **P 16 40 38.0 -0.1**
baz=77
CWC Cottonwood Cre 77.33 44 ⇑P **P 16 40 40.1 +0.4**
baz=78
BELC Belle Mtn. Jos 77.36 47 ⇓P **P 16 40 39.9 -0.1**
baz=78
CGJI Cibinong 77.41 267 P **P 16 40 38.2 -2.5**
comp=Z,2µcomp=Z,194nm,0.8s,mb5.8
MPMC Manual Prospec 77.51 45 ⇑P **P 16 40 40.9 +0.2**
baz=78
KSRS Korea Array 77.51 317 P **P 16 40 41.9 +1.2**
comp=Z,23nm,0.8s,mb4.8,baz=134,slow=6.0,SNR=50
KSAR Wonju Array Be 77.53 317 P **P 16 40 41.9 +1.1**
KSAR Wonju Array Be 77.53 317 P **P 16 40 41.9 +1.1**
GSC Goldstone 77.54 46 ⇑P **P 16 40 40.7 -0.2**
baz=78
GSC Goldstone 77.54 46 *eP* **P 16 40 40.2 -0.7**
comp=Z,12nm,1.2s,mb4.4
GSC Goldstone 77.54 46 *eP* **P 16 40 40.2 -0.7**
GSC pmax pmax
comp=Z,12nm,1.2s,mb4.4
MLAC Mammoth Lakes 77.54 43 ⇑P **P 16 40 41.3 +0.4**
baz=78
BC3 Big Chuckawall 77.56 48 ⇓P **P 16 40 41.4 +0.4**
baz=78
TIN Tinemaha 77.59 43 ⇑P **P 16 40 41.8 +0.7**
baz=78
HEC Hector,Ludlow 77.59 46 ⇓P **P 16 40 41.4 +0.2**
baz=78
WCN Washoe City 77.95 41 ⇓P **P 16 40 43.6 +0.5**
baz=78
GMRC Granite Mounta 78.03 47 ⇓P **P 16 40 43.8 +0.2**
baz=78
IRM Iron Mountain 78.04 47 ⇓P **P 16 40 43.6 -0.1**
baz=78
GRAC Grapevine Rang 78.12 44 ⇓P **P 16 40 44.3 +0.3**
baz=78
FURC Furnace Creek, 78.16 45 ⇑P **P 16 40 44.3 +0.1**
baz=78
TUQ Turquoise Moun 78.21 46 ⇑P **P 16 40 44.5 -0.1**
baz=78
Y12C Blythe 78.26 48 ⇑P **P 16 40 45.1 +0.2**
baz=78
113A Mohawk Valley, 78.27 49 ⇑P **P 16 40 45.2 +0.2**
baz=78
NVAR Mina Array Bea 78.35 42 P **P 16 40 45.3 0.0**
comp=Z,13nm,0.8s,mb4.6,baz=226,slow=9.2,SNR=67
NVAR pP pP 16 41 40.7 -1.6
comp=Z,5.1nm,1.0s,baz=234,slow=9.6,SNR=2.5
NVAR Mina Array Bea 78.35 42 P **P 16 40 45.3 0.0**
NVAR pP pP 16 41 40.7 -1.6
PPBI Pangkal Pinang 78.40 272 P **P 16 40 47.4 +1.3**
comp=Z,916nmcomp=Z,78nm,1.1s,mb5.2
214A Organ Pipe Nat 78.54 50 ⇑P **P 16 40 47.2 +0.7**
baz=79
Z13A Yuma Proving G 78.58 49 ⇑P **P 16 40 46.9 +0.3**
baz=79
VLA Vladivostok 78.59 324 *c iP* **P 16 40 46.8 +0.3**
VLA pmax pmax
comp=Z,27nm,0.9s,mb4.9
PDMCI Parker Dam,Lak 78.82 48 ⇑P **P 16 40 48.3 +0.3**
baz=79
114A Black Gap (USA 78.90 50 ⇑P **P 16 40 47.9 -0.5**
baz=79
KDAK Kodiak Island 78.92 12 P **P 16 40 47.2 -0.7**
comp=Z,24nm,0.7s,mb4.9,baz=243,slow=2.6,SNR=18
KDAK Kodiak Island 78.92 12 P **P 16 40 47.2 -0.7**
KDAK Kodiak Island 78.92 12 *i* P **P 16 40 47.2 -0.7**
Z14A Wintersburg 79.17 49 ⇓P **P 16 40 49.9 0.0**
baz=79
MOD Modoc 79.20 39 *eP* **P 16 40 49.5 -0.3**
comp=Z,13nm,0.9s,mb4.6
MOD *ep*P pP 16 41 45.7 -1.3
K05A Summer Lake 79.36 38 ⇑P **P 16 40 50.9 +0.2**
baz=80
W13A Hualapai Mount 79.42 47 ⇓P **P 16 40 51.3 +0.1**
baz=80
Y14A Wickenburg 79.43 49 ⇑P **P 16 40 51.3 0.0**
baz=80
LWLI Liwa 79.45 268 P **P 16 40 51.3 -0.6**
comp=Z,132nm,0.8s,mb5.6
MDSI Maura Dua 79.51 269 P **P 16 40 51.0 -1.2**
comp=Z,1µcomp=Z,66nm,1.2s,mb5.1
R11A Troy Canyon, C 80.05 44 ⇓P **P 16 40 54.3 -0.2**
baz=80
BMN Battle Mountai 80.19 41 *eP* **P 16 40 54.8 -0.3**
comp=Z,17nm,1.1s,mb4.6
BMN Battle Mountai 80.19 41 *eP* **P 16 40 54.8 -0.4**
BMN pmax pmax
comp=Z,17nm,1.1s,mb4.6
TUC Tucson 80.20 51 *eP* **P 16 40 55.5 0.0**
comp=Z,3.4nm,1.0s
TUC *e*PcP PcP 16 41 03.7 +1.8
TUC *ep*P pP 16 41 51.3 -1.4
TUC Tucson 80.20 51 *eP* **P 16 40 55.5 +0.1**
TUC pmax pmax
comp=Z,3.0nm,1.0s
318A Bisbee 80.36 52 ⇓P **P 16 40 56.4 +0.1**
baz=80
HABR Khabarovsk 80.48 329 *ceP* **P 16 40 56.2 -0.3**
HABR 16 44 02.2
HABR *e*PPP 16 45 53.6
HABR S S 16 50 36.5 -5.9
HABR *e* 16 50 52.3
HABR SSS 16 59 24.3
HABR pmax pmax
comp=Z,125nm,1.1s,mb5.5
HABR pmax pmax
comp=N,22nm,1.1s
HABR pmax pmax
comp=E,28nm,0.9s
HABR MLR MLR
comp=Z,231nm,16.0s
WVOR Wild Horse Val 80.51 39 *eP* **P 16 40 56.4 -0.4**
comp=Z,16nm,1.0s,mb4.6
WVOR Wild Horse Val 80.51 39 *eP* **P 16 40 56.4 -0.4**
WVOR pmax pmax
comp=Z,16nm,1.0s,mb4.6
X16A Lo Mia Camp, P 80.79 49 ⇑P **P 16 40 59.3 +0.8**
baz=81
MDJ Mudanjiang 80.83 324 P **P 16 40 59.5 +1.1**
MDJ pP pP 16 41 55.4 -0.4
MDJ sP sP 16 42 20.1 -1.2
MDJ PP PP 16 44 10.3 +3.7
MDJ S S 16 50 50.5 +4.4
MDJ pmax pmax
comp=Z,68nm,1.2s,mb5.2
MDJ pmax pmax
comp=Z,260nm,5.2s
Y17A Roosevelt 80.85 50 ⇑P **P 16 40 59.3 +0.4**
baz=81
118A Homack Ranch, 80.96 51 ⇑P **P 16 40 59.7 +0.3**
baz=81
I07A Izee 81.00 37 ⇑P **P 16 40 59.2 -0.1**
baz=81,SNR=12
R13A O'Grain Ranch, 81.02 44 ⇓P **P 16 41 00.2 +0.6**
baz=81
G06A Carlson Farm, 81.07 36 ⇑P **P 16 40 59.4 -0.3**
baz=81
CCUT Cedar City 81.09 45 *eP* **P 16 41 00.2 +0.3**
comp=Z,9.1nm,1.0s,mb4.4
CCUT *ep*P pP 16 41 56.3 -1.2
J08A Circle Bar Ran 81.16 38 ⇑P **P 16 41 00.7 +0.5**
baz=81
ARUT Antelope Range 81.16 45 *eP* **P 16 41 00.4 +0.1**
comp=Z,6.8nm,0.9s,mb4.3
ARUT Antelope Range 81.16 45 *eP* **P 16 41 00.4 0.0**
ARUT pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
219A White Tail Can 81.18 52 ⇓P **P 16 41 01.4 +0.8**
baz=81
X17A Forest Lakes 81.20 49 ⇓P **P 16 41 01.3 +0.7**
baz=81
U15A North Rim 81.22 47 ⇑P **P 16 41 01.5 +0.8**
baz=81
KSI Kapahiang 81.27 269 P **P 16 41 00.9 -0.6**
comp=Z,164nm,0.9s,mb5.7
WUAZ Wupatki 81.39 48 ⇓P **P 16 41 02.6 +1.0**
baz=82
Y18A Canyon Day Jun 81.48 50 ⇑P **P 16 41 02.8 +0.7**
baz=82,SNR=5.4
119A Ashpeak Ranch, 81.52 51 ⇓P **P 16 41 02.9 +0.6**
baz=82
W17A Winslow 81.64 49 ⇓P **P 16 41 03.6 +0.7**
baz=82
220A Playas Peak, P 81.68 52 ⇑P **P 16 41 03.9 +0.7**
baz=82
MYKOM Kota Tinggi 81.85 275 P **P 16 41 04.9 +0.4**
U16A Tuba City 81.88 47 ⇓P **P 16 41 05.2 +1.0**
baz=82
120A U Bar Ranch, L 81.91 52 ⇑P **P 16 41 05.2 +0.8**
baz=82
X18A Snowflake 81.91 49 ⇑P **P 16 41 05.0 +0.7**
baz=82
BBB Bella Bella 82.04 27 P **P 16 41 04.3 -0.2**
comp=Z,9.7nm,0.6s,mb4.6,baz=274,slow=5.1,SNR=9.0
BBB Bella Bella 82.04 27 P **P 16 41 04.3 -0.2**
Y19A Nutrioso 82.13 50 ⇓P **P 16 41 06.0 +0.5**
baz=82,SNR=5.4
R15A Junction 82.17 45 ⇓P **P 16 41 06.5 +0.9**
baz=82
Z20A Nine Sixteen R 82.21 51 ⇑P **P 16 41 06.8 +0.8**
baz=82
X19A St. Johns 82.33 50 ⇓P **P 16 41 07.1 +0.5**
baz=82
W18A Petrified Fore 82.35 49 ⇓P **P 16 41 07.3 +0.7**
baz=82
RSW Rattlesnake Hi 82.36 35 *eP* **P 16 41 06.3 -0.1**
comp=Z,15nm,1.0s,mb4.6
S16A Weppner Ranch, 82.37 46 ⇓P **P 16 41 07.3 +0.7**
baz=82
MSU Marysvale 82.39 45 *eP* **P 16 41 07.3 +0.6**
comp=Z,11nm,1.0s,mb4.4
MSU Marysvale 82.39 45 *eP* **P 16 41 07.4 +0.7**
MSU pmax pmax
comp=Z,11nm,1.0s,mb4.4
KGM Kluang 82.42 275 P **P 16 41 07.6 0.0**
U17A Shonto 82.44 47 ⇑P **P 16 41 07.9 +0.9**
baz=83
V18A Ganado 82.51 48 ⇓P **P 16 41 08.2 +0.8**
baz=83
121A Cookes Peak, D 82.53 52 ⇓P **P 16 41 08.3 +0.7**
baz=83
T17A Navajo Res., N 82.54 47 ⇑P **P 16 41 08.1 +0.5**
baz=83,SNR=5.7
QIZ Qiongzhong 82.55 293 P **P 16 41 08.7 +0.7**
QIZ S S 16 51 05.6 +0.9
QIZ pmax pmax
comp=Z,24nm,1.7s,mb4.7
W19A Sanders 82.60 49 ⇓P **P 16 41 08.5 +0.7**
baz=83,SNR=5.3
KLR Kul'dur 82.61 328 *eP* **P 16 41 03.8 -3.8**
KLR pmax pmax
comp=Z,52nm,1.4s,mb5.1
ETW Entiat 82.72 34 *eP* **P 16 41 07.4 -0.8**
comp=Z,64nm,1.4s,mb5.2
ETW *ep*P pP 16 42 04.7 -1.2
BMO Blue Mountains 82.72 37 *eP* **P 16 41 07.3 -0.9**
comp=Z,13nm,1.4s,mb4.5
BMO *ep*P pP 16 42 04.9 -1.1
BMO Blue Mountains 82.72 37 *eP* **P 16 41 07.3 -1.0**
BMO pmax pmax
comp=Z,13nm,1.4s,mb4.5
CN2 Changchun 82.73 321 *eP* **P 16 41 08.9 +0.5**
CN2 *e*S S 16 51 05.0 -0.5
CN2 pmax pmax
comp=Z,50nm,2.0s,mb4.9
CN2 pmax pmax
comp=Z,200nm,5.0s
R16A Teasdale 82.74 45 ⇓P **P 16 41 08.7 +0.2**
baz=83,SNR=12
Y20A Horse Springs, 82.74 51 ⇑P **P 16 41 09.3 +0.6**
baz=83,SNR=12
MFID Camas Ranch 82.75 39 ⇓P **P 16 41 08.1 -0.4**
baz=83,SNR=7.4
LNOR Lincton Mounta 82.77 36 *eP* **P 16 41 07.6 -0.9**
comp=Z,2.7nm,0.7s,mb4.1
LNOR Lincton Mounta 82.77 36 *eP* **P 16 41 07.6 -0.9**
LNOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
DUG Dugway 82.86 43 ⇓P **P 16 41 08.7 -0.4**
baz=83,SNR=5.4
S17A Black Ridge (B 82.87 46 ⇓P **P 16 41 08.4 -0.9**
baz=83,SNR=7.3
P15A Leamington 82.88 44 ⇓P **P 16 41 09.7 +0.5**
baz=83
U18A Rough Rock, Ch 82.90 48 ⇓P **P 16 41 09.7 +0.3**
baz=83,SNR=7.0
X20A Quemado 82.96 50 ⇑P **P 16 41 10.5 +0.7**
baz=83,SNR=8.2
Z21A St. Cloud Mine 82.98 51 ⇑P **P 16 41 10.3 +0.4**
baz=83
PMR Palmer 83.13 12 *eP* **P 16 41 08.7 -1.3**
comp=Z,65nm,1.3s,mb5.2
PMR Palmer 83.13 12 *eP* **P 16 41 08.7 -1.3**
PMR pmax pmax
comp=Z,65nm,1.3s,mb5.2
O15A The Old Anders 83.13 43 ⇓P **P 16 41 11.3 +0.9**
baz=83
V19A Window Rock 83.14 49 ⇓P **P 16 41 11.3 +0.6**
baz=83
E09A Wood Farm, Sta 83.23 36 ⇑P **P 16 41 09.8 -1.0**
baz=83,SNR=8.1
W20A Ramah 83.24 49 ⇓P **P 16 41 11.3 +0.1**
baz=83,SNR=10
T18A Mexican Hat 83.25 47 ⇑P **P 16 41 11.5 +0.3**
baz=83,SNR=44
U19A Dine' College, 83.30 48 ⇓P **P 16 41 11.8 +0.3**
baz=83,SNR=14
Y21A Point of Rocks 83.31 51 ⇓P **P 16 41 12.1 +0.6**
baz=83,SNR=8.7
R17A Hanksville Air 83.33 46 ⇑P **P 16 41 11.7 +0.1**
baz=84
I12A Atlanta 83.39 39 ⇑P **P 16 41 11.7 0.0**
baz=84,SNR=23
F10A Beach Ranch, E 83.42 37 ⇓P **P 16 41 11.2 -0.7**
baz=84,SNR=19
DIV Divide 83.43 14 *eP* **P 16 41 10.5 -1.1**
comp=Z,58nm,1.1s,mb5.2
TMUT Trail Mountain 83.44 45 *eP* **P 16 41 12.8 +0.7**
comp=Z,30nm,0.8s,mb5.1
TMUT *ep*P pP 16 42 10.7 +0.8
S18A Hurst Farm, Bl 83.45 47 ⇑P **P 16 41 12.2 0.0**
baz=84
OD2 Odessa Site #2 83.45 35 *eP* **P 16 41 10.9 -1.1**
comp=Z,12nm,0.8s,mb4.7
Z22A Elephant Butte 83.48 52 ⇑P **P 16 41 13.1 +0.6**
baz=84,SNR=12
V20A Brimhall 83.59 49 ⇑P **P 16 41 13.1 +0.1**
baz=84
WHN Wuhan 83.62 305 P **P 16 41 14.2 +1.0**
WHN pmax pmax
comp=Z,260nm,1.5s,mb5.7
MAW Mawson 83.68 199 P **P 16 41 13.0 +0.1**
comp=Z,9.4nm,0.6s,mb4.7,baz=120,slow=5.8,SNR=15
MAW Mawson 83.68 199 *eP* **P 16 41 13.3 +0.4**
comp=Z,8.1nm,0.5s,mb4.7
MAW Mawson 83.68 199 *eP* **P 16 41 12.6 -0.3**
comp=Z,2.7nm,0.6s,mb4.2
MAW P 16 41 13.0
MAW Mawson 83.68 199 *eP* **P 16 41 12.6 -0.3**
MAW pmax pmax
comp=Z,3.0nm,0.6s
HLID Hailey 83.69 40 ⇑P **P 16 41 13.6 +0.3**
baz=84,SNR=27
HLID Hailey 83.69 40 *eP* **P 16 41 13.3 0.0**
comp=Z,16nm,0.8s,mb4.8
HLID *ep*P pP 16 42 10.0 -1.1
T19A Beclabito 83.69 48 ⇑P **P 16 41 14.2 +0.8**
baz=84
HVU Hansel Valley 83.73 42 *eP* **P 16 41 12.3 -1.2**
comp=Z,12nm,1.0s,mb4.6
HVU Hansel Valley 83.73 42 *eP* **P 16 41 12.3 -1.2**
HVU pmax pmax
comp=Z,12nm,1.0s,mb4.6
J13A Cove Ranch, Pi 83.74 40 ⇑P **P 16 41 13.9 +0.3**
baz=84,SNR=13
M15A Larsen Ranch, 83.77 42 ⇑P **P 16 41 13.3 -0.4**
baz=84,SNR=19
Y22A Socorro 83.79 51 ⇓P **P 16 41 14.5 +0.5**
baz=84,SNR=5.6
SRU San Rafael 83.81 45 *eP* **P 16 41 13.8 -0.2**
comp=Z,20nm,0.9s,mb4.8
SRU *ep*P pP 16 42 12.0 +0.2
SRU San Rafael 83.81 45 *eP* **P 16 41 13.8 -0.2**
SRU pmax pmax
comp=Z,20nm,0.9s,mb4.8
U20A Newcomb 83.83 48 ⇓P **P 16 41 14.5 +0.4**
baz=84
P17A Butcher Ranch, 83.85 45 ⇓P **P 16 41 14.5 +0.4**
baz=84
W21A San Fidel 83.85 50 ⇑P **P 16 41 15.0 +0.7**
baz=84
425A Indio Mountain 83.85 55 ⇑P **P 16 41 15.0 +0.6**
baz=84,SNR=6.6
R18A Canyonlands Na 83.86 46 ⇑P **P 16 41 14.1 -0.1**
baz=84,SNR=16
LAZ Ladron 83.88 51 P **P 16 41 14.5 +0.1**
comp=Z,2.6nm,0.9s,mb4.0
K14A Jones Ranch, D 83.89 41 ⇑P **P 16 41 14.6 +0.3**
baz=84,SNR=7.4
LENM Lemitar 83.89 51 *eP* **P 16 41 15.3 +0.8**
comp=Z,11nm,0.9s,mb4.6
C09A Chrisman Ranch 83.93 35 ⇓P **P 16 41 14.1 -0.2**
baz=84
MNTX Cornudas Mount 83.96 54 ⇓P **P 16 41 15.3 +0.4**
baz=84,SNR=7.2
MNTX Cornudas Mount 83.96 54 *eP* **P 16 41 15.1 +0.2**
comp=Z,11nm,0.9s,mb4.6
JLU Jordanelle 83.96 43 *eP* **P 16 41 13.4 -1.3**
comp=Z,11nm,0.9s,mb4.6
H12A Diamond D Ranc 83.97 39 ⇑P **P 16 41 14.3 -0.4**
baz=84,SNR=14
626A Big Bend Ranch 83.98 56 ⇑P **P 16 41 15.5 +0.4**
baz=84,SNR=5.4
DAU Daniels Canyon 83.99 44 *eP* **P 16 41 14.4 -0.5**
comp=Z,10nm,1.0s,mb4.5
DAU Daniels Canyon 83.99 44 *eP* **P 16 41 14.4 -0.4**
DAU pmax pmax
comp=Z,11nm,1.0s,mb4.5
224A Cornudas Mount 84.02 53 ⇑P **P 16 41 15.8 +0.6**
baz=84,SNR=7.1
Z23A Rita Site, Whi 84.02 52 ⇑P **P 16 41 16.3 +1.1**
baz=84
I13A Wildhorse Cree 84.06 40 ⇑P **P 16 41 15.3 +0.2**
baz=84,SNR=9.5
Q18A Rafter H Ranch 84.06 45 ⇓P **P 16 41 14.8 -0.5**
baz=84,SNR=7.2
S19A Harvey Farm, M 84.07 47 ⇑P **P 16 41 15.1 -0.2**
baz=84,SNR=6.6
L15A Malad City 84.10 42 ⇑P **P 16 41 14.8 -0.5**
baz=84,SNR=9.2
N16A Rees Ranch, Co 84.12 43 ⇑P **P 16 41 15.8 +0.3**
baz=84
325A Bean Ranch, Si 84.12 54 ⇓P **P 16 41 15.9 +0.1**
baz=84,SNR=7.0
BNM Barren Site 84.14 51 *eP* **P 16 41 16.1 +0.3**
comp=Z,8.4nm,0.9s,mb4.5
PDSI Padang 84.17 271 P **P 16 41 17.3 +0.9**
comp=Z,68nm,1.1s,mb5.3
V21A Milan 84.18 49 ⇓P **P 16 41 16.4 +0.5**
baz=84
LPM Los Pinos Moun 84.21 51 *eP* **P 16 41 16.6 +0.5**
comp=Z,12nm,1.0s,mb4.6
O17A Robinson Place 84.22 44 ⇓P **P 16 41 16.2 +0.2**
baz=84,SNR=29
TXAR Lajitas Array 84.25 56 P **P 16 41 17.1 +0.6**
comp=Z,2.2nm,1.0s,baz=213,slow=6.0,SNR=14
TXAR pP pP 16 42 13.6 -0.7
comp=Z,1.6nm,0.8s,baz=223,slow=5.1,SNR=2.4
TXAR Lajitas Array 84.25 56 P **P 16 41 17.1 +0.6**
TXAR pP pP 16 42 13.6 -0.7
TXAR Lajitas Array 84.25 56 P **P 16 41 17.1 +0.7**
R19A Curley Farm, L 84.25 46 ⇑P **P 16 41 16.2 -0.1**
baz=84
P18A Preston Nutter 84.25 45 ⇑P **P 16 41 16.2 0.0**
baz=84,SNR=8.0
H13A Challis 84.34 39 ⇓P **P 16 41 16.5 0.0**
baz=84,SNR=9.8
HWUT Hardware Ranch 84.41 43 *eP* **P 16 41 16.3 -0.7**
comp=Z,5.3nm,0.9s,mb4.3
PV10 Paradox Valley 84.44 46 *eP* **P 16 41 16.6 -0.5**
comp=Z,188nm,0.9s,mb5.8
Y23A Lovelace Mesa, 84.46 51 ⇑P **P 16 41 18.0 +0.6**
baz=85
U21A Nageezi 84.46 49 ⇑P **P 16 41 17.7 +0.4**
baz=85,SNR=14
I14A Mackay 84.47 40 ⇓P **P 16 41 17.4 +0.2**
baz=85,SNR=9.8
627A Terlingua Ranc 84.52 56 ⇑P **P 16 41 18.3 +0.5**
baz=85,SNR=5.7
N17A Moffit Pass 84.54 43 ⇓P **P 16 41 17.1 -0.4**
baz=85,SNR=7.9
426A McDonald Obser 84.54 55 ⇑P **P 16 41 18.0 +0.1**
baz=85,SNR=5.7

PV04 **Paradox Valley** 84.54 46 eP P 16 41 17.6 -0.1
225A **Deer Hill, Car** 84.56 54 ⇑P P 16 41 18.5 +0.5
baz=85,SNR=8.1
Q19A **Hogan Spring (** 84.58 46 ⇓P P 16 41 17.8 0.0
baz=85,SNR=8.7
TNA **Tin City** 84.60 3 eP P 16 41 16.7 -0.6
comp=Z,36nm,1.1s,mb5.0
TRF **Thorofare Moun** 84.61 11 eP P 16 41 15.6 -1.7
comp=Z,44nm,0.9s,mb5.2
E12A **Beaver Dam Sad** 84.62 37 ⇓P P 16 41 16.6 -1.2
baz=85,SNR=6.4
ANMO **Albuquerque** 84.63 50 eP P 16 41 18.4 +0.2
comp=Z,11nm,0.9s,mb4.6
ANMO **Albuquerque** 84.63 50 eP P 16 41 18.5 +0.3
ANMO pmax pmax
comp=Z,11nm,0.9s
527A **Woodward Ranch** 84.64 56 ⇑P P 16 41 19.9 +1.6
baz=85,SNR=6.6
S20A **Disappointment** 84.64 47 ⇓P P 16 41 18.4 +0.2
baz=85
G13A **Cobalt** 84.65 39 ⇓P P 16 41 17.2 -0.8
baz=85,SNR=7.9
PV01 **Paradox Valley** 84.65 47 eP P 16 41 18.3 +0.1
comp=Z,342nm,0.7s,mb6.2
L16A **Fish Haven** 84.71 42 ⇑P P 16 41 18.7 +0.3
baz=85
O18A **Roosevelt** 84.73 44 ⇑P P 16 41 19.3 +0.8
baz=85
V22A **San Miguel Ran** 84.75 49 ⇑P P 16 41 19.4 +0.6
baz=85
R20A **Redvale** 84.81 47 ⇓P P 16 41 19.5 +0.5
baz=85
T21A **Navajo Lake** 84.82 48 ⇓P P 16 41 19.6 +0.5
baz=85
NEW **Newport** 84.83 35 eP P 16 41 17.7 -1.1
comp=Z,1.8nm,0.6s,mb4.0
NEW **Newport** 84.83 35 eP P 16 41 17.7 -1.2
NEW pmax pmax
comp=Z,2.0nm,0.6s
H14A **Leadore** 84.90 39 ⇑P P 16 41 19.1 -0.2
baz=85,SNR=7.9
Y24A **Capitan** 84.92 52 ⇓P P 16 41 20.4 +0.7
baz=85,SNR=20
M17A **Scullys Gap (B** 84.92 43 ⇓P P 16 41 19.5 +0.1
baz=85
628A **Black Gap, Mar** 84.93 57 ⇑P P 16 41 20.7 +0.9
baz=85
125A **Gardner Draw,** 84.93 53 ⇑P P 16 41 19.9 +0.2
baz=85
S21A **Coal Bank Pass** 84.96 47 ⇓P P 16 41 19.8 0.0
baz=85,SNR=7.1
F13A **Darby** 84.97 38 ⇑P P 16 41 19.0 -0.6
baz=85,SNR=7.4
K16A **Soda Springs** 85.03 41 ⇑P P 16 41 20.1 +0.1
baz=85,SNR=9.1
C11A **Tepee Creek (N** 85.05 35 ⇑P P 16 41 19.7 -0.3
baz=85,SNR=26
BPAW **Bear Paw Mtn.** 85.08 10 eP P 16 41 17.3 -2.5
comp=Z,21nm,1.3s,mb4.7
P19A **Cripple Cowboy** 85.10 45 ⇓P P 16 41 20.3 -0.2
baz=85,SNR=5.1
427A **Hayter Ranch,** 85.11 55 ⇓P P 16 41 21.2 +0.6
baz=85,SNR=7.4
Z25A **Roswell** 85.16 52 ⇓P P 16 41 21.2 +0.3
baz=85
V23A **Ortiz Mt. (NFS** 85.20 50 ⇓P P 16 41 21.4 +0.4
baz=85
T22A **Edith** 85.28 48 ⇑P P 16 41 22.3 +1.0
baz=85
M18A **Lyman** 85.28 43 ⇓P P 16 41 21.8 +0.5
baz=85
528A **Cox Ranch, San** 85.29 56 ⇑P P 16 41 22.1 +0.5
baz=85
MCMT **McKenzie Canyo** 85.32 39 eP P 16 41 21.4 0.0
comp=Z,4.6nm,1.2s,mb4.1
MCMT eP pP 16 42 18.7 -0.7
H15A **Lima** 85.33 40 ⇓P P 16 41 22.4 +0.9
baz=86
O19A **Miners Draw (B** 85.33 45 ⇓P P 16 41 22.3 +0.7
baz=86
IPM **Ipoh** 85.40 276 P P 16 41 23.4 +0.9
IPM **Ipoh** 85.40 276 eP P 16 41 22.8 +0.3
comp=Z,104nm,0.8s,mb5.6
IPM **Ipoh** 85.40 276 P P 16 41 23.2 +0.7
comp=Z,1µmcomp=Z,132nm,1.2s,mb5.5
C12B **Naegeli Ranch,** 85.41 36 ⇓P P 16 41 22.3 +0.5
baz=86
126A **Clayton Basin,** 85.41 53 ⇓P P 16 41 22.8 +0.6
baz=86
K17A **Gardner Place,** 85.41 42 ⇑P P 16 41 22.1 +0.2
baz=86
UBT **Ubonrachathani** 85.41 288 ⇓P P 16 41 24.0 +1.5
E13A **Victor** 85.42 37 ⇓P P 16 41 21.8 0.0
baz=86
P20A **De Beque** 85.43 46 ⇑P P 16 41 22.4 +0.3
baz=86
R21A **Cimarron** 85.46 47 ⇓P P 16 41 22.6 +0.4
baz=86,SNR=8.9
Y25A **Mesa, Roswell** 85.47 52 ⇓P P 16 41 22.4 +0.1
baz=86,SNR=6.7
RRI2 **Red Ridge** 85.47 41 eP P 16 41 21.7 -0.4
comp=Z,12nm,1.1s,mb4.5
MENT **Mentasta** 85.49 14 eP P 16 41 21.1 -0.7
W24A **Lazy 6 Ranch,** 85.52 51 ⇑P P 16 41 23.0 +0.4
baz=86
F14A **Wisdom** 85.55 38 ⇓P P 16 41 21.9 -0.5
baz=86
D13A **Huson** 85.63 37 ⇑P P 16 41 22.5 -0.4
baz=86,SNR=6.7
I16A **Newdale** 85.64 41 ⇑P P 16 41 22.9 -0.1
baz=86,SNR=5.9
S22A **4UR Ranch, Cre** 85.67 48 ⇓P P 16 41 23.4 +0.1
baz=86,SNR=6.2
Z26A **Caprock** 85.71 53 ⇑P P 16 41 23.8 +0.1
baz=86,SNR=11
G15A **Dillon** 85.72 39 ⇓P P 16 41 22.9 -0.5
baz=86
MSO **Missoula** 85.78 37 ⇑P P 16 41 23.4 -0.1
baz=86
B12A **Libby** 85.78 35 ⇑P P 16 41 23.8 +0.3
baz=86
328A **Wristen Ranch,** 85.79 55 ⇓P P 16 41 24.5 +0.4
baz=86,SNR=5.6
E14A **Clinton** 85.81 38 ⇑P P 16 41 23.2 -0.5
baz=86,SNR=5.4
DLBC **Dease Lake** 85.84 22 P P 16 41 23.2 -0.3
comp=Z,10.0nm,0.8s,mb4.6,baz=238,slow=5.5,SNR=12
DLBC **Dease Lake** 85.84 22 P P 16 41 23.2 -0.3
V24A **Rampart Ranch,** 85.85 50 ⇓P P 16 41 24.8 +0.6
baz=86
J17A **Brown Place, J** 85.86 41 ⇓P P 16 41 24.5 +0.4
baz=86
BSMT **Bassoo Peak** 85.87 36 eP P 16 41 23.2 -0.9
comp=Z,4.9nm,0.7s,mb4.3
K18A **Toltan Ranch,** 85.91 42 ⇑P P 16 41 24.6 +0.3
baz=86
M19A **Rock Springs** 85.91 44 ⇑P P 16 41 25.4 +1.0
baz=86
127A **Arkansas Junct** 85.93 54 ⇑P P 16 41 25.3 +0.6
baz=86
R22A **Saguache, Gunn** 85.95 47 ⇑P P 16 41 25.2 +0.6
baz=86,SNR=7.2
A12A **Yaak River Ran** 86.01 35 ⇑P P 16 41 24.7 0.0
baz=86
KULM **Kulim** 86.02 277 P P 16 41 25.1 -0.4
KULM **Kulim** 86.02 277 eP P 16 41 25.9 +0.3
comp=Z,60nm,1.3s,mb5.2
KULM **Kulim** 86.02 277 P P 16 41 25.3 -0.3
comp=Z,51nm,1.1s,mb5.2
L19A **Farson** 86.08 43 ⇑P P 16 41 24.9 -0.2
baz=86
F15A **Butte** 86.08 39 ⇑P P 16 41 25.2 +0.2
baz=86
LRM **Limekiln Ridge** 86.09 39 eP P 16 41 24.4 -0.7
comp=Z,47nm,1.0s,mb5.2
Y26A **Elida** 86.11 52 ⇑P P 16 41 25.7 +0.2
baz=86
Q22A **Crested Butte,** 86.14 47 ⇓P P 16 41 25.7 +0.1
baz=86,SNR=9.5
G16A **Moss Hill, Enn** 86.16 39 ⇑P P 16 41 25.4 -0.1
baz=86
N20A **Spence Gulch,** 86.17 44 ⇑P P 16 41 25.8 +0.2
baz=86
QLMT **Earthquake Lak** 86.18 40 eP P 16 41 26.0 +0.4
comp=Z,0.2nm,0.4s
W25A **X Bar L Ranch,** 86.21 51 ⇓P P 16 41 25.1 -0.9
baz=86
J18A **Kendall Valley** 86.22 42 ⇑P P 16 41 25.4 -0.5
baz=86,SNR=10
CHMT **Chamberlain Mo** 86.22 37 eP P 16 41 24.7 -1.1
comp=Z,5.9nm,1.0s,mb4.3
H16A **Russell Place,** 86.22 40 ⇓P P 16 41 26.2 +0.4
baz=86,SNR=8.4
I17A **Pilgrim Ck.** 86.23 41 ⇑P P 16 41 26.3 +0.4
baz=86
SMCO **Snowmass** 86.24 46 eP P 16 41 25.8 -0.3
comp=Z,6.1nm,0.9s,mb4.3
PD01 **Pinedale Array** 86.27 42 eP P 16 41 24.9 -1.2
BW06 **Boulder Array** 86.28 42 ⇓P P 16 41 25.8 -0.4
baz=86
PDAR **Pinedale Array** 86.28 42 P P 16 41 25.4 -0.7
comp=Z,1.9nm,0.7s,baz=204,slow=3.1,SNR=16
PDAR pP pP 16 42 23.1 -1.2
comp=Z,3.0nm,0.8s,baz=199,slow=4.4,SNR=5.7
PDAR PKKPbc PKKPbc 16 59 22.9 -1.6
comp=Z,0.9nm,0.9s,baz=100,slow=5.0,SNR=4.8
PDAR **Pinedale Array** 86.28 42 P P 16 41 25.4 -0.7
PDAR pP pP 16 42 23.1 -1.2
PDAR PKKPbc PKKPbc 16 59 22.9 -1.6
E15A **Deer Lodge** 86.31 38 ⇓P P 16 41 26.2 0.0
baz=86
B13A **Whitefish** 86.34 36 ⇓P P 16 41 25.9 -0.4
baz=86
COLA **College** 86.35 11 eP P 16 41 24.5 -1.4
comp=Z,62nm,1.1s,mb5.2
COLA **College** 86.35 11 eP P 16 41 24.5 -1.4
COLA pmax pmax
comp=Z,62nm,1.1s,mb5.2
V25A **Rancho No Teng** 86.38 50 ⇑P P 16 41 25.9 -0.9
baz=86
ILAR **Eielson Array** 86.44 12 P P 16 41 25.0 -1.4
comp=Z,23nm,1.1s,mb4.8,baz=239,slow=4.1,SNR=66
ILAR pP pP 16 42 25.0 +0.4
comp=Z,5.1nm,1.0s,baz=227,slow=6.0,SNR=2.9
ILAR **Eielson Array** 86.44 12 P P 16 41 25.0 -1.4
ILAR pP pP 16 42 25.0 +0.4
ILAR **Eielson Array** 86.44 12 P P 16 41 25.0 -1.4
BOZ **Bozeman (W)** 86.49 39 ⇑P P 16 41 26.9 -0.1
baz=87
BOZ **Bozeman (W)** 86.49 39 eP P 16 41 26.1 -1.0
comp=Z,23nm,1.8s,mb4.6
BOZ **Bozeman (W)** 86.49 39 eP P 16 41 26.1 -1.0
BOZ pmax pmax
comp=Z,23nm,1.8s,mb4.6
F16A **Kennard Place,** 86.56 39 ⇓P P 16 41 27.5 +0.1
baz=87
R23A **Moffat** 86.58 48 ⇓P P 16 41 28.2 +0.5
baz=87
P22A **Eagle** 86.59 46 ⇓P P 16 41 27.7 0.0
baz=87
Y27A **Causey** 86.59 53 ⇑P P 16 41 27.6 -0.3
baz=87
SDCO **Great Sand Dun** 86.60 48 ⇓P P 16 41 27.7 -0.1
baz=87,SNR=5.3
SDCO **Great Sand Dun** 86.60 48 eP P 16 41 27.0 -0.8
comp=Z,2.6nm,0.9s,mb4.0
SDCO eP pP 16 42 27.6 +1.6
T24A **Torres, Weston** 86.62 49 ⇑P P 16 41 27.9 0.0
baz=87
N21A **Black Mountain** 86.63 45 ⇓P P 16 41 27.8 -0.1
baz=87,SNR=5.2
BJI **Beijing** 86.65 314 P P 16 41 28.7 +0.7
BJI S S 16 51 38.3 -6.0
BJI sS sS 16 53 25.0 -1.5
BJI pmax pmax
comp=Z,53nm,1.7s,mb5.0
BJI pmax pmax
comp=Z,410nm,4.1s
D15A **Lincoln** 86.71 38 ⇑P P 16 41 27.5 -0.6
baz=87,SNR=5.4
S24A **Houchin Ranch,** 86.76 48 ⇑P P 16 41 29.0 +0.4
baz=87
K19A **Absolon Red Bu** 86.77 43 ⇑P P 16 41 28.3 -0.1
baz=87
U25A **Circle Dot Ran** 86.78 50 ⇑P P 16 41 28.8 +0.1
baz=87
PSI **Prapat** 86.83 274 P P 16 41 28.6 -0.9
comp=Z,755nmcomp=Z,61nm,1.1s,mb5.2
HRY **Holter Researc** 86.93 38 eP P 16 41 28.6 -0.6
comp=Z,6.8nm,0.8s,mb4.4
O22A **Kremmling** 87.00 46 ⇓P P 16 41 29.1 -0.5
baz=87,SNR=5.2
B14A **Marquette Ranc** 87.00 36 ⇓P P 16 41 28.8 -0.7
baz=87
WALA **Waterton Lakes** 87.03 35 eP P 16 41 28.6 -1.0
comp=Z,0.3nm,0.8s
WALA eP pP 16 42 26.4 -1.5
C15A **Salmond Ranch,** 87.06 37 ⇓P P 16 41 29.6 -0.1
baz=87
M21A **Separation Pea** 87.14 44 ⇓P P 16 41 29.6 -0.7
baz=87
F17A **Fitzpatrick Pl** 87.20 39 ⇑P P 16 41 30.6 +0.1
baz=87
A14A **Double T Ranch** 87.25 36 ⇓P P 16 41 30.2 -0.4
baz=87
U26A **Atchley Ranch,** 87.25 50 ⇑P P 16 41 30.5 -0.4
baz=87
D16A **Dana Ranch, Ca** 87.27 38 ⇑P P 16 41 30.4 -0.4
baz=87,SNR=8.2
S25A **Robets Cordova** 87.32 49 ⇑P P 16 41 30.6 -0.6
baz=87
N22A **Wattenberg Ran** 87.36 45 ⇑P P 16 41 31.2 -0.1
baz=88
B15A **Bradely Ranch,** 87.37 36 ⇑P P 16 41 29.6 -1.6
baz=88
Q24A **Divide** 87.40 47 ⇑P P 16 41 31.2 -0.5
baz=88
DAWY **Dawson** 87.47 15 eP P 16 41 30.3 -1.0
DAWY eP pP 16 42 27.7 -2.0
J20A **Shoshoni** 87.51 42 ⇑P P 16 41 31.9 -0.2
baz=88
C16A **Fuhringer Ranc** 87.56 37 ⇓P P 16 41 31.4 -0.7
baz=88
G18A **Lazy EL Ranch,** 87.56 40 ⇑P P 16 41 32.0 -0.2
baz=88
A15A **Johnson Ranch,** 87.64 36 ⇓P P 16 41 31.5 -0.9
baz=88
R25A **Fountain Ranch** 87.64 48 ⇑P P 16 41 32.3 -0.5
baz=88
RLMT **Red Lodge** 87.65 40 ⇓P P 16 41 32.8 +0.1
baz=88
EGAK **Eagle** 87.66 14 eP P 16 41 31.3 -0.9
comp=Z,37nm,1.2s,mb5.1
K21A **Alava** 87.70 43 ⇑P P 16 41 32.9 -0.1
baz=88
N23A **Red Feather La** 87.75 45 ⇑P P 16 41 33.3 +0.1
baz=88
F18A **Big Timber** 87.77 40 ⇓P P 16 41 33.2 0.0
baz=88
D17A **Six Diamond Ra** 87.83 38 ⇓P P 16 41 33.0 -0.4
baz=88
J21A **Lysite** 87.92 43 ⇑P P 16 41 33.9 -0.1
baz=88
BILL **Bilibino** 87.93 353 eP P 16 41 32.4 -1.0
comp=Z,30nm,1.3s,mb5.0
BILL eP pP 16 42 30.7 -1.2
BILL **Bilibino** 87.93 353 ⇑iP P 16 41 32.8 -0.6
BILL i 16 44 58.0
BILL pmax pmax
comp=Z,45nm,2.3s,mb4.9
E18A **Harlowton** 87.99 39 ⇓P P 16 41 34.2 +0.1
baz=88
C17A **Wharram Farm,** 88.04 38 ⇓P P 16 41 34.0 -0.4
baz=88
COLD **Coldfoot** 88.09 10 eP P 16 41 33.3 -0.9
comp=Z,8.1nm,0.9s,mb4.5
GYA **Guiyang** 88.11 299 ⇑iP P 16 41 36.5 +1.2
GYA pP pP 16 42 31.1 -2.6
GYA sP sP 16 42 54.3 -4.6
GYA PP PP 16 45 08.7 +2.6
GYA SKS 16 51 41.2
GYA S S 16 51 58.8 0.0
GYA sS sS 16 53 34.5 -6.8
GYA SS SS 16 57 55.9 +2.0
GYA pmax pmax
comp=Z,30nm,0.9s,mb5.1
GYA pmax pmax
comp=Z,140nm,3.5s
AMTX **Amarillo** 88.13 52 ⇑P P 16 41 35.0 -0.2
baz=88
F19A **Roth Farm, Mol** 88.21 40 ⇑P P 16 41 34.9 -0.3
baz=88
A16A **West Butte Ran** 88.25 36 ⇓P P 16 41 34.9 -0.5
baz=88
R26A **Arlington** 88.30 48 ⇑P P 16 41 35.2 -0.7
baz=88
P25A **Willow Gulch B** 88.33 47 ⇑P P 16 41 35.5 -0.5
baz=88
B17A **L&G Farms, Che** 88.36 37 ⇓P P 16 41 35.4 -0.5
baz=88
PLCA **Paso Flores** 88.43 133 P P 16 41 36.7 +0.1
comp=Z,3.5nm,0.8s,mb4.2,baz=257,slow=6.2,SNR=5.7
PLCA pP pP 16 42 33.9 -1.2
comp=Z,3.7nm,0.9s,baz=262,slow=5.4,SNR=3.7
PLCA **Paso Flores** 88.43 133 eP P 16 41 36.0 -0.6
PLCA P 16 41 36.7
PLCA epP pP 16 42 33.7 -1.3
PLCA pP pP 16 42 33.9 -1.2
PLCA **Paso Flores** 88.43 133 eP P 16 41 36.0 -0.6
L23A **Garrett** 88.47 44 ⇑P P 16 41 36.2 -0.4
baz=89
J22A **Midwest** 88.57 43 ⇑P P 16 41 36.5 -0.5
baz=89
SYO **Syowa Base** 88.60 192 ⇑eP P 16 41 34.8 -2.0
SYO **Syowa Base** 88.60 192 ⇓ePcP PcP 16 41 36.4 -1.8
E19A **Rath Farm, Rou** 88.61 39 ⇑P P 16 41 37.3 +0.2
baz=89
A17A **Triple J Farms** 88.75 37 ⇑P P 16 41 37.5 -0.3
baz=89
I22A **9 Mile Ranch,** 88.79 42 ⇑P P 16 41 38.0 -0.1
baz=89
EGMT **Eagleton** 88.82 38 ⇓P P 16 41 38.1 +0.1
baz=89
D19A **Cripps Ranch,** 88.90 39 ⇑P P 16 41 38.6 +0.2
baz=89
B18A **Beardsley Farm** 89.00 37 ⇓P P 16 41 38.6 -0.3
baz=89
C19A **Slack Wire Ran** 89.08 38 ⇓P P 16 41 39.2 -0.1
baz=89
A18A **Metzger Ranch,** 89.22 37 ⇑P P 16 41 39.4 -0.5
baz=89
XAN **Xi'an** 89.26 306 P P 16 41 41.4 +0.9
XAN pmax pmax
comp=Z,18nm,1.3s,mb4.7
XAN pmax pmax
comp=Z,52nm,4.9s
D20A **Manuel Ranch,** 89.31 39 ⇓P P 16 41 40.3 -0.1
baz=90
SNAA **Sanae** 89.31 178 e P 16 41 39.7 -0.4
SNAA **Sanae** 89.31 178 eP P 16 41 39.4 -0.7
comp=Z,3.2nm,0.8s,mb4.2
SNAA **Sanae** 89.31 178 eP P 16 41 39.4 -0.7
SNAA pmax pmax
comp=Z,3.0nm,0.8s
VNA3 **Neumayer Olymp** 89.34 175 e P 16 41 40.1 -0.1
C20A **Veseth Ranch,** 89.69 39 ⇑P P 16 41 42.0 -0.1
baz=90
VNA2 **Neumayer--Watz** 89.81 176 e P 16 41 42.8 +0.4
baz=207,slow=2.9
D21A **La Casta Ranch** 89.98 39 ⇑P P 16 41 44.0 +0.5
baz=90
NST **Nakhon Sawan** 89.98 287 P P 16 41 45.0 +0.8
comp=Z,42nm,1.3s,mb5.1
B20A **Solberg Farm,** 90.03 38 ⇑P P 16 41 43.8 +0.1
baz=90
G23A **Biddle** 90.09 42 ⇓P P 16 41 44.4 +0.3
baz=90
HHC **Hu-ho-hao-te** 90.16 313 ⇑P P 16 41 45.9 +1.4
HHC PP PP 16 45 27.4 +5.4
HHC SKS 16 51 51.6
HHC S S 16 52 17.2 +0.1
HHC pmax pmax
comp=Z,58nm,1.0s,mb5.4
HHC pmax pmax
comp=Z,310nm,5.3s
LAO **LASA Array** 90.27 40 ⇑P P 16 41 45.4 +0.6
baz=90
C21A **Desert Coulee** 90.28 39 ⇑P P 16 41 45.0 +0.1
baz=90
A20A **Cobblestone Ra** 90.30 38 ⇑P P 16 41 44.9 -0.1
baz=90
K26A **Motz Farm, Whi** 90.40 45 ⇓P P 16 41 45.9 +0.3
baz=90
H24A **Dirks Ranch, A** 90.42 42 ⇑P P 16 41 45.6 0.0
baz=90
RSSD **Black Hills** 90.47 43 eP P 16 41 45.2 -0.7
comp=Z,6.4nm,1.0s,mb4.4
RSSD **Black Hills** 90.47 43 eP P 16 41 45.2 -0.6
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
D22A **Cohagen** 90.51 40 ⇓P P 16 41 46.2 +0.2
baz=91
CLNS **Chul'man** 90.56 332 eP P 16 41 46.1 +0.2
CLNS e 16 45 30.7
CLNS ePPP 16 47 29.1
CLNS e 16 52 15.4
CLNS pmax pmax
comp=Z,42nm,1.0s,mb5.3
CLNS pmax pmax
comp=E,18nm,1.2s
CLNS pmax pmax
comp=N,27nm,1.3s
CLNS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
CLNS pmax pmax
comp=N,13nm,1.4s
CLNS pmax pmax
comp=E,3.0nm,0.9s
KMI **Kunming** 90.92 296 P P 16 41 50.1 +1.7
KMI S S 16 52 24.6 -0.1
KMI pmax pmax
comp=Z,46nm,1.4s,mb5.2
KMI pmax pmax
comp=Z,170nm,3.2s
KMI **Kunming** 90.92 296 P P 16 41 50.1 +1.7
comp=Z,46nm,1.4s,mb5.2
KMI pP pP 16 42 52.6 +5.6
KMI sP sP 16 43 19.0 +6.8
KMI S S 16 52 24.6 -0.1
KMI sS sS 16 54 13.6 +5.7
KMI **Kunming** 90.92 296 P P 16 41 50.1 +1.7
KMI *PP pP 16 42 52.6 +5.6
KMI S S 16 52 24.6 -0.1
KMI *SS sS 16 54 13.6 +5.7
KMI pmax pmax
comp=Z,46nm,1.4s,mb5.2
A21A **Bergtoll Ranch** 90.94 38 ⇑P P 16 41 47.5 -0.3
baz=91
D23A **Lindsay** 91.11 40 ⇑P P 16 41 49.3 +0.6
baz=91
BSI **Banda Aceh** 91.12 275 P P 16 41 49.2 -0.4
comp=Z,631nmcomp=Z,46nm,1.6s,mb5.2
C23A **Lambert** 91.41 39 ⇑P P 16 41 50.1 0.0
baz=92
BDT **Bhumibol Dam** 91.52 288 P P 16 41 53.0 +1.7
comp=Z,42nm,0.9s,mb5.4
A22A **Carney Farms,** 91.52 38 ⇑P P 16 41 50.9 +0.3
baz=92
D24A **Glendive** 91.62 40 ⇑P P 16 41 51.6 +0.6
baz=92
C24A **Savage** 91.74 40 ⇑P P 16 41 52.4 +0.7
baz=92
YAK **Yakutsk** 91.77 337 eP P 16 41 49.6 -1.8
comp=Z,26nm,0.8s,mb5.2
YAK **Yakutsk** 91.77 337 eP P 16 41 48.9 -2.5
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.0
B23A **Brockton** 91.82 39 ⇓P P 16 41 52.7 +0.7
baz=92
CM31 **Chiang Mai Arr** 91.98 289 eP P 16 41 54.4 +1.0
comp=Z,48nm,1.1s,mb5.3
CMAR **Chiang Mai Arr** 91.98 289 P P 16 41 54.9 +1.4
comp=Z,37nm,1.0s,mb5.3,baz=113,slow=2.9,SNR=161
CMAR pP pP 16 42 57.6 +5.5
comp=Z,6.1nm,1.0s,baz=105,slow=2.8,SNR=3.6
CMAR PP PP 16 45 39.7 +2.9
comp=Z,2.6nm,1.0s,baz=128,slow=6.1,SNR=5.4
CMAR **Chiang Mai Arr** 91.98 289 P P 16 41 54.9 +1.4
CMAR pP pP 16 42 57.6 +5.5
CMAR PP PP 16 45 39.7 +2.9
CMAR **Chiang Mai Arr** 91.98 289 P P 16 41 54.9 +1.5
CMAR *PP pP 16 42 57.6 +5.5
CMAR 16 45 39.7
CHG **Chiang Mai** 92.09 289 P P 16 41 55.1 +1.1
CHTO **Chiang Mai** 92.09 289 eP P 16 41 54.6 +0.7
comp=Z,54nm,1.0s,mb5.4
CHTO **Chiang Mai** 92.09 289 eP P 16 41 54.6 +0.6
CHTO pmax pmax
comp=Z,54nm,1.0s,mb5.4
CHTO **Chiang Mai** 92.09 289 P P 16 41 54.3 +0.3
comp=Z,634nmcomp=Z,60nm,1.1s,mb5.4

CD2	**Chengdu**	**92.12**	**302**	P	**P**	**16 41 56.2**	**+2.4**
CD2				pP	pP	16 42 51.1	-1.4
CD2				sP	sP	16 43 14.2	-3.4
CD2				PP	PP	16 45 42.2	+4.5
CD2				SKS		16 52 06.1	
CD2				S	S	16 52 36.3	+1.0
CD2				sS	sS	16 54 12.9	-5.8
CD2				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
CD2				pmax	pmax		
	comp=Z,100nm,5.8s						
DGMT	**Dagmar**	**92.30**	**39**	⇓P	**P**	**16 41 54.8**	**+0.6**
	baz=92						
DGMT	**Dagmar**	**92.30**	**39**	*e*P	**P**	**16 41 53.6**	**-0.6**
	comp=Z,37nm,1.1s,mb5.2						
INK	**Inuvik**	**92.31**	**14**	P	**P**	**16 41 52.8**	**-1.0**
	comp=Z,22nm,1.1s,mb5.0,baz=222,slow=4.4,SNR=45						
INK	**Inuvik**	**92.31**	**14**	P	**P**	**16 41 52.8**	**-1.0**
INK	**Inuvik**	**92.31**	**14**	P	**P**	**16 41 52.8**	**-1.0**
A24A	**Westby**	**92.62**	**39**	⇑P	**P**	**16 41 56.1**	**+0.5**
	baz=93						
LZH	**Lanzhou**	**93.89**	**307**	*e*P	**P**	**16 42 03.8**	**+1.9**
LZH				pP	pP	16 42 57.7	-2.9
LZH				sP	sP	16 43 23.4	-2.3
LZH				PP	PP	16 45 55.0	+3.6
LZH				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.5						
LZH				pmax	pmax		
	comp=Z,190nm,5.4s						
LZH	**Lanzhou**	**93.89**	**307**	*e*P	**P**	**16 42 03.8**	**+1.9**
	comp=Z,50nm,1.1s,mb5.5						
LZH				pP	pP	16 42 57.7	-2.9
LZH				sP	sP	16 43 23.4	-2.3
LZH				PP	PP	16 45 55.0	+3.6
LZH	**Lanzhou**	**93.89**	**307**	*e*P	**P**	**16 42 03.8**	**+1.9**
LZH						16 45 55.0	
LZH				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.5						
YKA	**Yellowknife Ar**	**94.24**	**24**	P	**P**	**16 42 01.3**	**-1.5**
	comp=Z,3.9nm,0.8s,mb4.5,baz=240,slow=4.3,SNR=40						
YKA				pP	pP	16 43 02.1	+0.6
	comp=Z,2.2nm,1.0s,baz=237,slow=4.3,SNR=3.3						
YKA				PKKP	PKKPbc	16 59 01.0	-4.4
	comp=Z,0.4nm,0.5s,baz=45,slow=2.1,SNR=4.6						
YKA	**Yellowknife Ar**	**94.24**	**24**	P	**P**	**16 42 01.3**	**-1.5**
YKA				pP	pP	16 43 02.1	+0.6
YKA				PKKP	PKKPbc	16 59 01.0	-4.4
YKA	**Yellowknife Ar**	**94.24**	**24**	P	**P**	**16 42 01.3**	**-1.5**
ULN	**Ulaanbaatar**	**95.93**	**319**	*e*P	**P**	**16 42 10.4**	**-0.5**
	comp=Z,9.8nm,1.0s,mb5.0						
ULN				*ep*P	pP	16 43 09.6	-0.1
ULN				*e*PP	PP	16 46 02.6	-4.2
ULN	**Ulaanbaatar**	**95.93**	**319**	*e*P	**P**	**16 42 10.4**	**-0.5**
ULN				*e*		16 46 02.6	
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
ULN	**Ulaanbaatar**	**95.93**	**319**	P	**P**	**16 42 11.8**	**+0.9**
SONM	**Songino Array**	**96.33**	**318**	P	**P**	**16 42 13.5**	**+0.8**
	comp=Z,4.2nm,0.9s,mb4.7,baz=145,slow=5.4,SNR=6.1						
SONM				PP	PP	16 46 05.5	-4.5
	comp=Z,3.3nm,0.9s,baz=129,slow=12,SNR=3.6						
SONM	**Songino Array**	**96.33**	**318**	P	**P**	**16 42 13.5**	**+0.8**
SONM				PP	PP	16 46 05.5	-4.5
SONM	**Songino Array**	**96.33**	**318**	P	**P**	**16 42 13.5**	**+0.8**
SONM						16 46 05.5	
GTA	**Gaotai**	**98.00**	**309**	*e*P	**P**	**16 42 21.3**	**+0.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.7						
ZAK	**Zakamensk**	**99.13**	**320**	*e*P	Pdif	16 42 34.2	+8.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb4.2						
LPAZ	**La Paz**	**100.30**	**111**	PP	PP	16 46 38.9	-1.6
	comp=Z,3.5nm,1.2s,baz=274,slow=3.4,SNR=6.4						
LPAZ	**La Paz**	**100.30**	**111**	PP	PP	16 46 38.9	-1.6
SHL	**Shillong**	**100.38**	**293**	*e*PKP	Pdif	16 42 29.0	-1.9
ZALV	**Zalesovo Beam**	**110.95**	**321**	PKiKP	PKiKP	16 47 14.3	-1.4
	comp=Z,3.7nm,0.6s,baz=137,slow=0.9,SNR=19						
ZALV				PP	PP	16 47 54.9	-3.2
	comp=Z,3.8nm,1.0s,baz=96,slow=7.4,SNR=8.8						
ZALV	**Zalesovo Beam**	**110.95**	**321**	PKiKP	PKiKP	16 47 14.3	-1.4
ZALV				PP	PP	16 47 54.9	-3.2
ZALV	**Zalesovo Beam**	**110.95**	**321**	PKIKP	PKiKP	16 47 14.4	-1.3
ZALV						16 47 54.9	
NVS	**Novosibirsk**	**111.92**	**322**	*e*PKIKP	PKiKP	16 47 15.7	-1.9
NVS				*e*		16 47 58.2	
MK31	**Makanchi Array**	**112.03**	**314**	*e*PKPdf	PKiKP	16 47 16.4	-1.6
MK31				*e*PP	PP	16 47 58.6	-7.5
MK31	**Makanchi Array**	**112.03**	**314**	*e*PKIKP	PKiKP	16 47 16.4	-1.6
MK31				*e*		16 47 58.6	
MKAR	**Makanchi Array**	**112.03**	**314**	Pdiff	Pdif	16 43 23.1	+0.5
	comp=Z,0.4nm,0.6s,baz=84,slow=5.2,SNR=4.9						
MKAR				PKiKP	PKiKP	16 47 16.6	-1.4
	comp=Z,2.8nm,0.6s,baz=184,slow=0.8,SNR=17						
MKAR				PP	PP	16 48 01.1	-4.9
	comp=Z,3.5nm,1.0s,baz=91,slow=8.5,SNR=6.6						
MKAR	**Makanchi Array**	**112.03**	**314**	Pdif	Pdif	16 43 23.1	+0.5
MKAR				PKiKP	PKiKP	16 47 16.6	-1.4
MKAR				PP	PP	16 48 01.1	-4.9
MKAR	**Makanchi Array**	**112.03**	**314**	P	Pdif	16 43 23.1	+0.5
MKAR				*i*		16 47 16.6	
MKAR						16 48 01.1	
KURK	**Kurchatov**	**114.63**	**318**	PKP	PKiKP	16 47 21.5	-1.4
	comp=Z,5.4nm,0.8s,baz=100,slow=1.8,SNR=33						
KURK				PP	PP	16 48 15.9	-8.3
	comp=Z,4.4nm,1.0s,baz=96,slow=6.2,SNR=7.5						
KURK	**Kurchatov**	**114.63**	**318**	*e*PKPdf	PKiKP	16 47 21.2	-1.6
KURK				PKP	PKiKP	16 47 21.5	-1.4
KURK				*e*PP	PP	16 48 14.9	-9.4
KURK				PP	PP	16 48 15.9	-8.3
KURK	**Kurchatov**	**114.63**	**318**	*e*PKIKP	PKiKP	16 47 21.2	-1.7
TKM2	**Tokmak 2**	**116.55**	**309**	P	PKPdf	16 47 26.0	-0.8
	SNR=6.0						
TKM2				P		16 47 26.0	
	SNR=6.0						
KBK	**Karagaybulak**	**117.02**	**309**	P	PKPdf	16 47 27.1	-0.6
	SNR=6.1						
KBK				P		16 47 27.1	
	SNR=6.1						
CHMS	**Chumysh**	**117.18**	**309**	P	PKPdf	16 47 26.9	-1.1
	SNR=6.3						
CHMS				P		16 47 26.9	
	SNR=6.3						
USP	**Ospenovka**	**117.37**	**309**	P	PKPdf	16 47 27.3	-1.0
	SNR=9.6						
USP				P		16 47 27.3	
	SNR=9.6						
EKS2	**Erkin-Say**	**117.89**	**309**	P	PKPdf	16 47 29.2	-0.2
	SNR=6.4						
EKS2				P		16 47 29.2	
	SNR=6.4						
AML	**Almayashu**	**117.94**	**308**	P	PKPdf	16 47 29.5	0.0
	SNR=8.6						
AML				P		16 47 29.5	
	SNR=8.6						
VOSK	**Vostochnaya**	**119.26**	**320**	PKIKP	PKPdf	16 47 29.7	-2.0
VOSK				pmax	pmax		
	comp=Z,18nm,1.0s						
BVA0	**Borovoye Array**	**119.58**	**321**	*i* PKIKP	PKPdf	16 47 31.1	-1.2
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**119.58**	**321**	PKP	PKPdf	16 47 31.4	-1.0
	comp=Z,6.2nm,0.4s,baz=130,slow=1.1,SNR=32						
BVAR				PP	PP	16 48 55.3	-3.1
	comp=Z,6.0nm,0.9s,baz=86,slow=7.6,SNR=5.6						
BVAR	**Borovoye Array**	**119.58**	**321**	PKP	PKPdf	16 47 31.4	-1.0
BVAR				PP	PP	16 48 55.3	-3.1
BVAR	**Borovoye Array**	**119.58**	**321**	PKIKP	PKPdf	16 47 31.4	-0.9
BVAR						16 48 55.3	
BRVK	**Borovoye**	**119.64**	**321**	*e*PKPdf	PKPdf	16 47 31.1	-1.3
BRVK				*ep*PKPdf	pPKPdf	16 48 55.4	+21
BRVK	**Borovoye**	**119.64**	**321**	*e*PKIKP	PKPdf	16 47 31.1	-1.3
BRVK				*e*		16 48 55.4	
ZRNK	**Zerenda**	**120.42**	**321**	PKIKP	PKPdf	16 47 32.0	-1.9
ZRNK				pmax	pmax		
	comp=Z,19nm,0.9s						
SPA0	**Spitsbergen Ar**	**120.62**	**357**	*e*P	PKPdf	16 47 32.9	-0.8
SPITS	**Spitsbergen Ar**	**120.62**	**357**	PKP	PKPdf	16 47 32.3	-1.4
	comp=Z,10nm,0.8s,baz=142,slow=9.8,SNR=8.1						
SPITS	**Spitsbergen Ar**	**120.62**	**357**	PKP	PKPdf	16 47 32.3	-1.4
SPITS	**Spitsbergen Ar**	**120.62**	**357**	PKIKP	PKPdf	16 47 32.3	-1.4
KBL	**Kabul**	**121.36**	**299**	*e*PKPdf	PKPdf	16 47 36.0	-0.4
KBL	**Kabul**	**121.36**	**299**	*e*PKIKP	PKPdf	16 47 36.0	-0.4
SVE	**Sverdlovsk**	**124.21**	**327**	*e*PKIKP	PKPdf	16 47 40.4	-0.7
SVE				pmax	pmax		
	comp=Z,25nm,0.9s						
SOKR	**Solikamsk**	**125.11**	**331**	*d i* PKIKP	PKPdf	16 47 42.2	-0.5
SOKR				pmax	pmax		
	comp=Z,20nm,0.8s						
ARU	**Arti**	**125.43**	**327**	*e*PKPdf	PKPdf	16 47 42.5	-0.9
ARU	**Arti**	**125.43**	**327**	*i* PKIKP	PKPdf	16 47 42.7	-0.7
ARU						16 49 36.6	
AB31	**Akbulak array**	**126.74**	**318**	*i* PKIKP	PKPdf	16 47 45.1	-1.1
AB31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ABKAR	**Akbulak array**	**126.74**	**318**	*e*PKPdf	PKPdf	16 47 45.4	-0.8
ABKAR				*e*PP	PP	16 49 40.7	-5.8
KEV	**Kevo**	**127.55**	**350**	*e*PKIKP	PKPdf	16 47 44.3	-2.8
KEV	**Kevo**	**127.55**	**350**	*ep*kp	PKPdf	16 47 44.3	-2.8
ARCES	**ARCESS Array B**	**127.98**	**351**	PKP	PKPdf	16 47 47.2	-0.8
	comp=Z,6.5nm,0.4s,baz=40,slow=1.3,SNR=71						
ARCES	**ARCESS Array B**	**127.98**	**351**	PKP	PKPdf	16 47 47.2	-0.8
ARCES	**ARCESS Array B**	**127.98**	**351**	PKIKP	PKPdf	16 47 47.2	-0.8
ARE0	**ARCESS Array S**	**127.98**	**351**	*e*P	PKPdf	16 47 47.2	-0.8
ARE0	**ARCESS Array S**	**127.98**	**351**	*e*PKPdf	PKPdf	16 47 46.6	-1.3
BOSA	**Boshof**	**128.53**	**203**	PKP	PKPdf	16 47 51.1	+0.7
	comp=Z,2.6nm,0.9s,baz=226,slow=6.3,SNR=4.6						
BOSA	**Boshof**	**128.53**	**203**	PKP	PKPdf	16 47 51.1	+0.7
BOSA	**Boshof**	**128.53**	**203**	PKIKP	PKPdf	16 47 51.1	+0.7
TRO	**Tromso**	**128.73**	**354**	*e*P	PKPdf	16 47 48.7	-0.7
STEI	**Steigen**	**130.73**	**355**	*e*P	PKPdf	16 47 52.8	-0.5
KLMR	**Klimovskoe**	**131.56**	**338**	*e*PKIKP	PKPdf	16 47 52.4	-2.6
KLMR				pmax	pmax		
	comp=Z,25nm,1.1s						
JOF	**Joensuu**	**132.53**	**344**	*e*PKIKP	PKPdf	16 47 54.7	-2.1
JOF				pmax	pmax		
	comp=Z,12nm,0.6s						
JOF	**Joensuu**	**132.53**	**344**	*e*pkp	PKPdf	16 47 54.7	-2.1
	comp=Z,12nm,0.6s						
KAF	**Kangasniemi**	**134.45**	**346**	*e*PKIKP	PKPdf	16 47 55.4	-5.0
KAF	**Kangasniemi**	**134.45**	**346**	*e*pkp	PKPdf	16 47 55.4	-5.0
FINES	**FINESS Array B**	**135.09**	**346**	PKhKP	PKPpre	16 47 47.0	
	comp=Z,0.8nm,0.5s,baz=336,slow=9.0,SNR=5.1						
FINES				PKP	PKPdf	16 47 59.6	-2.0
	comp=Z,7.6nm,0.7s,baz=21,slow=3.4,SNR=17						
FINES	**FINESS Array B**	**135.09**	**346**	PKPpre	PKPpre	16 47 47.0	
FINES				PKP	PKPdf	16 47 59.6	-2.0
FINES	**FINESS Array B**	**135.09**	**346**	PKHKP	PKPpre	16 47 47.0	
FINES						16 47 59.6	
OBN	**Obninsk**	**136.66**	**334**	⇓*i* PKIKP	PKPdf	16 48 05.3	+0.6
OBN				*i*		16 50 46.2	
OBN				pmax	pmax		
	comp=Z,18nm,1.0s						
NOA	**NORSAR Array B**	**137.85**	**355**	PKhKP	PKPpre	16 47 56.3	
	comp=Z,1.4nm,0.7s,baz=11,slow=2.3,SNR=5.3						
NOA	**NORSAR Array B**	**137.85**	**355**	PKPpre	PKPpre	16 47 56.3	
NOA	**NORSAR Array B**	**137.85**	**355**	PKHKP	PKPpre	16 47 56.3	
VSR	**Storozhevoye**	**137.97**	**328**	*e*PKIKP	PKPdf	16 48 04.5	-2.8
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR				pmax	pmax		
	comp=N,2.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.7s						
KMBO	**Kilima Mbogo**	**142.15**	**242**	*e*PKPdf	PKPdf	16 48 12.5	-3.5
KMBO	**Kilima Mbogo**	**142.15**	**242**	*e*PKIKP	PKPdf	16 48 12.5	-3.5
SUW	**Suwalki**	**142.35**	**342**	*e*PKP	PKPdf	16 48 11.2	-3.9
SUW	**Suwalki**	**142.35**	**342**	*e*PKIKP	PKPdf	16 48 11.2	-3.9
ANN	**Anapa**	**142.58**	**321**	*i* PKIKP	PKPdf	16 48 11.8	-4.0
ANN				pmax	pmax		
	comp=Z,45nm,1.0s						
BNGL	**BINGOL**	**142.76**	**310**	⇑*i* P	PKPdf	16 48 12.8	-3.5
AKASG	**Malin Array Be**	**142.92**	**334**	PKhKP	PKPpre	16 48 11.8	
	comp=Z,7.8nm,0.6s,baz=42,slow=4.2,SNR=32						
AKASG	**Malin Array Be**	**142.92**	**334**	PKPpre	PKPpre	16 48 11.8	
AKASG	**Malin Array Be**	**142.92**	**334**	PKHKP	PKPpre	16 48 11.8	
AKBB	**Malin Array Si**	**142.92**	**334**	*e*PKPpre	PKPpre	16 48 11.1	
AKBB	**Malin Array Si**	**142.92**	**334**	*e*PKHKP	PKPpre	16 48 11.1	
KIEV	**Kiev**	**142.93**	**334**	*e*PKPpre	PKPpre	16 48 11.3	
KIEV	**Kiev**	**142.93**	**334**	*e*PKHKP	PKPpre	16 48 11.3	
KELT	**Kelkit**	**143.63**	**313**	⇑*i* P	PKPdf	16 48 15.2	-2.6
XAL	**Allendale**	**143.94**	**7**	*e*P	PKPdf	16 48 15.2	-2.6
XDE	**Dent Fell**	**144.13**	**8**	*e*P	PKPdf	16 48 15.2	-3.0
SIM	**Simferopol'**	**144.44**	**323**	*c i* PKIKP	PKPdf	16 48 16.4	-2.7
SIM				pmax	pmax		
	comp=Z,162nm,0.7s						
ELZG	**Elazig**	**144.50**	**310**	⇑*i* P	PKPdf	16 48 19.9	+0.5
GKP	**Gorka Klasztor**	**144.53**	**347**	*e*PKP	PKPdf	16 48 17.4	-1.5
GKP	**Gorka Klasztor**	**144.53**	**347**	*e*PKIKP	PKPdf	16 48 17.4	-1.5
DLF	**Lyons Farm**	**144.81**	**12**	⇑*i* P	PKPdf	16 48 18.1	-1.3
BEL	**Belsk**	**144.95**	**342**	*e*PKP	PKPdf	16 48 19.5	-0.2
BEL	**Belsk**	**144.95**	**342**	*e*PKIKP	PKPdf	16 48 19.5	-0.2
ERBA	**Erbaa**	**145.10**	**315**	⇑*i* P	PKPdf	16 48 20.9	+0.6
AKCD	**Akcadag**	**145.34**	**311**	⇑*i* P	PKPab	16 48 21.8	+0.1
ATAB	**Bozova**	**145.40**	**309**	⇑*i* P	PKPdf	16 48 20.8	-0.1
KBI1	**Birley Grange**	**145.59**	**7**	⇑*e*P	PKPdf	16 48 20.4	-0.4
LVV	**L'vov**	**145.65**	**338**	*e*PKP2	PKPdf	16 48 20.7	-0.3
STNC	**Stoke**	**145.68**	**7**	*e*P	PKPdf	16 48 21.1	+0.2
STNC				AMB	AMB	16 48 22.6	
	comp=Z,176nm,1.3s						
FOEL	**Foel Wylfa**	**145.75**	**8**	⇑*e*P	PKPdf	16 48 20.1	-0.9
FOEL				AMB	AMB	16 48 21.5	
	comp=Z,115nm,1.6s						
KWE	**Weaver Farm**	**145.79**	**7**	*e*P	PKPdf	16 48 21.3	+0.2
KIS	**Kishinev**	**145.85**	**330**	⇑*i* PKIKP	PKPdf	16 48 21.0	-0.4
KIS				M		16 48 21.5	
	comp=Z,400nm,1.5s						
KIS	**Kishinev**	**145.85**	**330**	⇑*i* PKIKP	PKPdf	16 48 21.0	-0.4
KIS				pmax	pmax		
	comp=Z,400nm,1.5s						
HLM1	**Long Mynd**	**146.15**	**8**	⇑*e*P	PKPdf	16 48 21.2	-0.5
HLM1				AMB	AMB	16 48 22.0	
	comp=Z,59nm,1.0s						
KWP	**Kalwaria Pacla**	**146.27**	**339**	*e*PKP	PKPdf	16 48 23.5	+1.5
KWP	**Kalwaria Pacla**	**146.27**	**339**	*e*PKPdf	PKPdf	16 48 23.0	+1.0
KWP	**Kalwaria Pacla**	**146.27**	**339**	⇑PKP2	PKPdf	16 48 23.3	+1.3
KWP	**Kalwaria Pacla**	**146.27**	**339**	⇑*i* P	PKPdf	16 48 23.3	+1.3
NRDL	**Niedersach Rie**	**146.41**	**354**	*e*PKPbc	PKPbc	16 48 23.3	-0.6
CTKT	**Corum**	**146.43**	**316**	⇑*i* P	PKPdf	16 48 23.9	+1.3
LEOM	**Leova**	**146.50**	**330**	⇑PKP2	PKPab	16 48 24.0	-1.8
LEOM	**Leova**	**146.50**	**330**	⇑*i* P	PKPdf	16 48 24.0	+1.5
MCH1	**Michaelchurch**	**146.64**	**9**	⇑*e*P	PKPdf	16 48 23.4	+0.8
MCH1				AMB	AMB	16 48 24.0	
	comp=Z,52nm,1.0s						
OJC	**Ojcow**	**146.68**	**342**	*e*PKP	PKPdf	16 48 24.5	+1.8
OJC				*ep*PKP	pPKPdf	16 49 27.6	+3.2
OJC	**Ojcow**	**146.68**	**342**	*e*PKP2	PKPdf	16 48 24.5	+1.8
SSW	**Stow on the Wo**	**146.82**	**7**	⇑*e*P	PKPdf	16 48 23.6	+0.7
BALT	**Daday**	**146.84**	**319**	⇑*i* P	PKPbc	16 48 24.7	-0.8
BUR08	**Bucovina Ar. S**	**146.96**	**334**	*e*PKPdf	PKPbc	16 48 25.4	-0.2
BURAR	**Bucovina Array**	**146.98**	**334**	⇓PKP2	PKPbc	16 48 25.8	+0.1
BURAR	**Bucovina Array**	**146.98**	**334**	⇓*i* P	PKPbc	16 48 25.8	+0.1
KSP	**Ksiaz**	**147.01**	**346**	*e*PKP	PKPbc	16 48 25.7	+0.1
KSP	**Ksiaz**	**147.01**	**346**	*e*PKPdf	PKPdf	16 48 23.3	+0.1
KSP				*i* PKPab	PKPab	16 48 25.8	-1.9
KSP				*ep*PKP	pPKPdf	16 49 28.5	+3.6
KSP	**Ksiaz**	**147.01**	**346**	*e*PKIKP	PKPdf	16 48 23.3	+0.1
KOLS	**Kolonicke sedl**	**147.01**	**338**	*e*PKP2	PKPbc	16 48 25.9	+0.2
KOLS	**Kolonicke sedl**	**147.01**	**338**	*e*PKP	PKPbc	16 48 25.9	+0.2
HGH	**Gray Hill**	**147.02**	**8**	⇑*e*P	PKPdf	16 48 24.3	+1.1
CLZ	**Clausthal**	**147.03**	**353**	*e*PKPbc	PKPbc	16 48 25.4	-0.2
CLZ	**Clausthal**	**147.03**	**353**	*e*PKP2	PKPbc	16 48 25.4	-0.2
TLCR		**147.14**	**328**	⇑PKP2	PKPbc	16 48 25.9	-0.3
TLCR		**147.14**	**328**	⇑*i* P	PKPbc	16 48 25.9	-0.3
CLL	**Collm**	**147.19**	**350**	⇑*e*PKIKP	PKPdf	16 48 23.0	-0.5
CLL				*i*		16 48 25.8	
CLL				*e*		16 49 26.0	
CLL				pmax	pmax		
	comp=Z,95nm,1.1s						
CLL				pmax	pmax		
	comp=Z,62nm,1.1s						
CLL	**Collm**	**147.19**	**350**	*e*PKPdf	PKPdf	16 48 23.0	-0.5
CLL				⇑*i* PKPbc	PKPbc	16 48 25.8	-0.3
	comp=Z,95nm,1.1s						
CLL				⇓*i* PKPab	PKPab	16 48 27.7	-0.7
	comp=Z,62nm,1.1s						
CLL				*e*		16 48 34.0	
CLL				*e*		16 48 41.0	
CLL				*ep*PKPbc	pPKPbc	16 49 26.0	-1.0
CLL				*ep*PKPab	pPKPab	16 49 29.0	+0.9
TESR		**147.21**	**331**	⇑*i* P	PKPbc	16 48 26.2	-0.1
NIE	**Niedzica**	**147.24**	**341**	*e*PKP	PKPbc	16 48 26.8	+0.5
NIE	**Niedzica**	**147.24**	**341**	*e*PKP2	PKPbc	16 48 26.8	+0.5
UZH	**Uzhgorod**	**147.26**	**338**	*d i* PKP2	PKPbc	16 48 25.8	-0.6
AVNT	**Avonos**	**147.29**	**313**	⇑*i* P	PKPbc	16 48 26.4	-0.4
CRVS	**Cervenica-Dubn**	**147.32**	**339**	*e*PKP2	PKPbc	16 48 26.4	-0.1
CRVS	**Cervenica-Dubn**	**147.32**	**339**	*e*PKP	PKPbc	16 48 26.4	-0.1
ELDT	**Eldivan**	**147.38**	**317**	⇑*i* P	PKPbc	16 48 27.3	+0.3
UPC	**Upice**	**147.38**	**346**	*e*PKIKP	PKPdf	16 48 23.9	0.0
UPC				*i*		16 48 26.5	
UPC				*e*		16 49 28.8	
UPC	**Upice**	**147.38**	**346**	*e*PKPDF	PKPdf	16 48 23.9	0.0
UPC				⇑*i* PKP	PKPbc	16 48 26.5	-0.2
UPC				*e*PKPAB	PKPab	16 48 29.2	0.0
UPC				*ep*PKP	pPKPdf	16 49 28.8	+3.2
BRG	**Berggiesshubel**	**147.45**	**349**	*e*PKP	PKPdf	16 48 23.1	-0.9
	comp=Z,20nm,1.4s						
BRG				*i*		16 48 26.5	
	comp=Z,42nm,0.8s						
BRG				*ep*PKP	pPKPdf	16 49 29.3	+3.6
	comp=Z,16nm,1.2s						
BRG	**Berggiesshubel**	**147.45**	**349**	*e*PKPbc	PKPbc	16 48 26.7	-0.1
DPC	**Dobruska-Polom**	**147.46**	**346**	*e*PKIKP	PKPdf	16 48 24.4	+0.4
DPC				*i*		16 48 27.2	
DPC				*e*		16 49 29.7	
DPC	**Dobruska-Polom**	**147.46**	**346**	*e*PKPDF	PKPdf	16 48 24.4	+0.4
DPC				⇑*i* PKP	PKPbc	16 48 27.2	+0.3
DPC				*ep*PKP	pPKPdf	16 49 29.7	+4.0
OKC	**Ostrava-Krasne**	**147.48**	**344**	*e*PKIKP	PKPdf	16 48 23.3	-0.8
OKC				*i*		16 48 26.7	
OKC	**Ostrava-Krasne**	**147.48**	**344**	*e*PKPDF	PKPdf	16 48 23.3	-0.8
OKC				⇑*i* PKP	PKPbc	16 48 26.7	-0.3
OKC				*e*PKPAB	PKPab	16 48 29.7	+0.1
WOL	**Wolverton**	**147.54**	**7**	⇑*e*P	PKPdf	16 48 25.9	+1.7
WOL				AMB	AMB	16 48 27.8	
	comp=Z,57nm,1.5s						
TRPA	**Tarpa**	**147.60**	**337**	⇓*i* P	PKPbc	16 48 27.0	-0.3
KRLC	**Kraliky**	**147.61**	**345**	⇑*e*PKP	PKPbc	16 48 27.7	+0.4
BMR	**Baia Mare**	**147.62**	**336**	⇑PKP2	PKPbc	16 48 27.3	-0.1
BMR	**Baia Mare**	**147.62**	**336**	⇑*i* P	PKPbc	16 48 27.3	-0.1
BR131	**Keskin Array S**	**147.65**	**316**	*e*PKPdf	PKPdf	16 48 23.1	-1.5
BR131				*e*PKPbc	PKPbc	16 48 27.3	-0.4
BRTR	**Keskin Array B**	**147.65**	**316**	PKP	PKPdf	16 48 23.6	-1.1
	comp=Z,34nm,0.8s,baz=90,slow=2.5,SNR=41						
BRTR				PKPbc	PKPbc	16 48 27.2	-0.5
	comp=Z,34nm,0.8s,baz=141,slow=4.7,SNR=161						
BRTR	**Keskin Array B**	**147.65**	**316**	PKP	PKPdf	16 48 23.6	-1.1
BRTR				PKPbc	PKPbc	16 48 27.2	-0.5
BRTR	**Keskin Array B**	**147.65**	**316**	PKIKP	PKPdf	16 48 23.6	-1.1
BRTR						16 48 27.3	
VRI	**Vrincioaia**	**147.66**	**331**	⇑PKP2	PKPbc	16 48 27.5	-0.1
VRI	**Vrincioaia**	**147.66**	**331**	⇑*i* P	PKPbc	16 48 27.5	-0.1
PVCC	**Panska Ves**	**147.67**	**348**	*e*PKIKP	PKPdf	16 48 24.4	+0.1
PVCC				*i*		16 48 27.5	
PVCC				*e*		16 49 29.9	
PVCC	**Panska Ves**	**147.67**	**348**	*e*PKPDF	PKPdf	16 48 24.4	+0.1
PVCC				⇑*i* PKP	PKPbc	16 48 27.5	+0.1
PVCC				*e*PKPAB	PKPab	16 48 32.2	+1.9
PVCC				*

ISCJB ***11*** *16:40:34.9±2.8, 31°.38S±0°.05×176°.81W±0°.09, h10km±16km, mb4.8/29, MS4.4/7, Error ellipse: s-maj=14.0km s-min=7.1km az=22.7*
BJI ***11*** *16:40:34.9, 31°.29S×176°.97W, h10km, mB5.4/10, mb5.2/9, Ms5.3/5, Ms7 4.9/5*
IDC ***11*** *16:40:34.9±0.5, 30°.96S×176°.70W, h0km, mb4.5/14, mb1 4.7/14, mb1mx4.6/18, mbtmp4.5/14, MS3.9/5, Ms1 3.9/5, ms1mx3.7/29, Error ellipse: s-maj=23.3km s-min=17.9km az=173.0*
NEIC ***11*** *16:40:36.0±0.4, 31°.04S×176°.65W, h10km, mb4.8/12, Error ellipse: s-maj=11.7km s-min=10.3km az=142.0*
MOS ***11*** *16:40:39.1±1.3, 31°.03S×176°.85W, h33km, mb5.2/5, Error ellipse: s-maj=19.8km s-min=13.4km az=37.7*

ISC 11 16:40:35.4±3.2, 31°.32S±0°.05×176°.75W±0°.09, h4km±19km, n139, σ1$19/93, mb4.8/29, MS4.4/7, 1C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.29**	**334**	*e*Pn	**Pn**	**16 41 09.7**	**-4.2**
RAO	**Raoul Island**	**2.29**	**334**	*e*P	**Pn**	**16 41 09.7**	**-4.2**
PUZ	**Puketiti**	**7.90**	**210**	PN	**Pn**	**16 42 31.7**	**+0.8**
PUZ				SN	**Sn**	**16 43 59.7**	**-1.0**
URZ	**Urewera**	**8.57**	**214**	Pn	**Pn**	**16 42 41.1**	**+0.9**
	1.6nm,0.3s,baz=63,slow=9.8,SNR=9.4						
URZ				Sn	**Sn**	**16 44 17.2**	**-0.1**
	6.4nm,0.3s,baz=160,slow=22,SNR=12						
URZ	**Urewera**	**8.57**	**214**	Pn	**Pn**	**16 42 41.1**	**+0.9**
URZ				Sn	**Sn**	**16 44 17.2**	**-0.1**
URZ	**Urewera**	**8.57**	**214**	PN	**Pn**	**16 42 41.3**	**+1.2**
URZ				*e*SN	**Sn**	**16 44 16.7**	**-0.6**
OUZ	**Omahuta**	**8.97**	**242**	*e*Pn	**Pn**	**16 42 50.7**	**+5.0**
MRZ	**Mangatainoka R**	**11.20**	**212**	PN	**Pn**	**16 43 14.5**	**-1.7**
MRZ				SN	**Sn**	**16 45 16.0**	**-5.8**
THZ	**Tophouse**	**13.33**	**216**	*e*PN	**Pn**	**16 43 45.1**	**-0.2**
THZ				SN	**Sn**	**16 46 08.5**	**-5.4**
MQZ	**McQueen's Vall**	**14.94**	**211**	SN	**Sn**	**16 46 42.4**	**-11**
RPZ	**Rata Peaks**	**15.69**	**215**	Pn	**Pn**	**16 44 15.4**	**-1.7**
	2.4nm,0.3s,baz=97,slow=9.7,SNR=11						
RPZ				Sn	**Sn**	**16 47 00.7**	**-11**
	0.7nm,0.3s,baz=301,slow=19,SNR=3.5						
RPZ	**Rata Peaks**	**15.69**	**215**	*e*Pn	**Pn**	**16 44 14.9**	**-2.2**
	32nm,0.7s						
RPZ				*e*Sn	**Sn**	**16 47 00.4**	**-11**
RPZ				Sn	**Sn**	**16 47 00.7**	**-11**
JCZ	**Jackson Bay**	**17.11**	**218**	PN	**Pn**	**16 44 33.7**	**-1.5**
DZM	**Mont Dzumac**	**17.60**	**297**	*e*LR	LR	16 49 03.8	
	2μm,26.6s						
DZM	**Mont Dzumac**	**17.60**	**297**	*e*Pn	**Pn**	**16 44 43.0**	**+1.5**
	33nm,0.9s						
RAR	**Rarotonga**	**18.23**	**61**	LR	LR	16 50 38.0	
	comp=Z,282nm,19.3s,baz=247,slow=34						
TBI	**Tubuai**	**25.46**	**79**	*e*LR	LR	16 52 05.8	
	807nm,28.0s,baz=249						
PPT	**Papeete**	**28.18**	**67**	*e*LR	LR	16 53 14.9	
	543nm,26.2s,baz=248						
CMSA	**Cobar Meteorol**	**31.95**	**260**	*e*P	**P**	**16 47 04.1**	**+1.8**
	20nm,0.8s,mb5.0						
CTA	**Charters Tower**	**35.01**	**280**	P	**P**	**16 47 30.3**	**+1.2**
	16nm,0.8s,mb5.0,baz=107,slow=9.9,SNR=14						
CTA				LR	LR	16 59 20.7	
	comp=Z,458nm,20.8s,MS4.2,baz=63,slow=32						
CTA	**Charters Tower**	**35.01**	**280**	*e*P	**P**	**16 47 30.1**	**+1.0**
	13nm,0.9s,mb4.9						
CTA	**Charters Tower**	**35.01**	**280**	P	**P**	**16 47 30.3**	**+1.2**
CTA	**Charters Tower**	**35.01**	**280**	P	**P**	**16 47 30.3**	**+1.2**
CTAO	**Charters Tower**	**35.01**	**280**	*e*P	**P**	**16 47 30.3**	**+1.2**
	18nm,0.9s,mb5.0						
CTAO	**Charters Tower**	**35.01**	**280**	*e*P	**P**	**16 47 30.3**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**35.33**	**258**	P	**P**	**16 47 34.0**	**+2.3**
	comp=Z,11nm,1.0s,mb4.8,baz=90,slow=9.2,SNR=8.4						
STKA				LR	LR	16 59 45.5	
	comp=Z,253nm,21.1s,MS4.0,baz=31,slow=32						
STKA	**Stephens Creek**	**35.33**	**258**	*e*P	**P**	**16 47 33.5**	**+1.8**
	comp=Z,8.4nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**35.33**	**258**	*e*P	**P**	**16 47 33.3**	**+1.5**
	comp=Z,2.6nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**35.33**	**258**	*e*P	**P**	**16 47 33.3**	**+1.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MTSU	**Mount Surprise**	**37.52**	**281**	*e*P	**P**	**16 47 51.4**	**+0.8**
	comp=Z,31nm,1.0s,mb5.0						
RKT	**Rikitea**	**37.86**	**88**	*e*LR	LR	16 57 36.8	
	comp=Z,631nm,31.8s,baz=257						
ASAR	**Alice Springs**	**44.14**	**267**	P	**P**	**16 48 44.6**	**-0.5**
	comp=Z,7.0nm,0.8s,mb4.4,baz=106,slow=6.9,SNR=33						
ASAR				PcP	PcP	16 50 32.2	+1.9
	comp=Z,3.5nm,1.0s,baz=112,slow=4.3,SNR=6.9						
ASAR	**Alice Springs**	**44.14**	**267**	P	**P**	**16 48 44.6**	**-0.5**
ASAR				PcP	PcP	16 50 32.2	+1.9
ASAR	**Alice Springs**	**44.14**	**267**	P	**P**	**16 48 44.7**	**-0.5**
ASAR						16 50 32.2	
WRAB	**Tennant Creek**	**45.20**	**272**	*e*P	**P**	**16 48 52.5**	**-1.2**
	comp=Z,14nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**45.20**	**272**	*e*P	**P**	**16 48 52.5**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**45.21**	**272**	P	**P**	**16 48 52.6**	**-1.1**
	comp=Z,11nm,0.9s,mb4.7,baz=111,slow=8.0,SNR=79						
WRA				PcP	PcP	16 50 34.8	+0.8
	comp=Z,2.7nm,0.9s,baz=117,slow=3.6,SNR=4.3						
WRA				LR	LR	17 08 30.3	
	comp=Z,319nm,18.9s,MS4.3,baz=95,slow=37						
WRA	**Warramunga Arr**	**45.21**	**272**	P	**P**	**16 48 52.6**	**-1.1**
WRA				PcP	PcP	16 50 34.8	+0.8
WRA	**Warramunga Arr**	**45.21**	**272**	P	**P**	**16 48 52.7**	**-1.0**
WRA						16 50 34.8	
FITZ	**Fitzroy Crossi**	**53.43**	**270**	P	**P**	**16 49 55.9**	**-0.8**
	comp=Z,4.9nm,0.9s,mb4.4,baz=163,slow=10,SNR=4.7						
FITZ	**Fitzroy Crossi**	**53.43**	**270**	*e*P	**P**	**16 49 56.4**	**-0.3**
	comp=Z,9.2nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.43**	**270**	P	**P**	**16 49 55.9**	**-0.8**
CASY	**Casey**	**54.84**	**208**	P	**P**	**16 50 09.8**	**+3.5**
	comp=Z,14nm,0.9s,mb5.0						
QSPA	**South Pole Qui**	**58.80**	**180**	P	**P**	**16 50 37.8**	**+3.7**
	comp=Z,9.3nm,0.8s,mb4.9,baz=30,slow=2.3,SNR=30						
QSPA	**South Pole Qui**	**58.80**	**180**	*e*P	**P**	**16 50 37.7**	**+3.6**
	comp=Z,6.9nm,0.8s,mb4.7						
QSPA				*e*		16 50 47.9	
TGY	**Tagaytay City**	**74.89**	**297**	LR	LR	17 25 47.1	
	comp=Z,14nm,18.2s,MS3.3,baz=317,slow=36						
SYO	**Syowa Base**	**76.47**	**193**	‖*e*X	**P**	**16 52 18.2**	**-7.6**
SNAA	**Sanae**	**77.21**	**178**	*e*	**P**	**16 52 31.6**	**+1.6**
SNAA	**Sanae**	**77.21**	**178**	*e*P	**P**	**16 52 31.2**	**+1.2**
	comp=Z,7.2nm,1.0s,mb4.6						
SNAA				*e*		16 52 41.4	
SNAA	**Sanae**	**77.21**	**178**	*e*P	**P**	**16 52 31.2**	**+1.2**
SNAA				*e*		16 52 41.4	
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VNA3	**Neumayer Olymp**	**77.32**	**176**	*e*	**P**	**16 52 32.3**	**+1.7**
VNA3				*e*		16 52 42.4	
VNA2	**Neumayer--Watz**	**77.77**	**176**	*e*	**P**	**16 52 34.9**	**+1.8**
	baz=174,slow=5.2						
VNA2				*e*		16 52 45.5	
VNA1	**Neumayer--Stat**	**77.99**	**176**	*e*	**P**	**16 52 37.6**	**+3.2**
MJAR	**Matsushiro Arr**	**79.61**	**325**	P	**P**	**16 52 41.7**	**-1.9**
	comp=Z,3.3nm,0.9s,mb4.2,baz=178,slow=5.4,SNR=5.1						
MJAR	**Matsushiro Arr**	**79.61**	**325**	P	**P**	**16 52 41.7**	**-1.9**
MJAR	**Matsushiro Arr**	**79.61**	**325**	P	**P**	**16 52 41.7**	**-1.9**
PLCA	**Paso Flores**	**81.10**	**132**	P	**P**	**16 52 52.9**	**+1.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=202,slow=7.3,SNR=3.1						
PLCA	**Paso Flores**	**81.10**	**132**	P	**P**	**16 52 52.5**	**+0.7**
PLCA	**Paso Flores**	**81.10**	**132**	P	**P**	**16 52 52.5**	**+0.7**
KSRS	**Korea Array**	**85.74**	**319**	P	**P**	**16 53 15.8**	**+0.2**
	comp=Z,2.4nm,0.9s,mb4.5,baz=142,slow=5.9,SNR=5.7						
KSAR	**Wonju Array Be**	**85.75**	**319**	P	**P**	**16 53 15.8**	**+0.2**
KSAR	**Wonju Array Be**	**85.75**	**319**	P	**P**	**16 53 15.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**86.04**	**334**	*e*P	**P**	**16 53 16.8**	**+0.1**
	comp=Z,17nm,0.9s,mb5.3						
YSS	**Yuzh-Sakhalins**	**86.04**	**334**	*e*P	**P**	**16 53 17.8**	**+1.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.5						
ISA	**Isabella**	**86.20**	**44**	*e*P	**P**	**16 53 16.6**	**-1.2**
	comp=Z,2.0nm,0.8s,mb4.4						
ISA	**Isabella**	**86.20**	**44**	*e*P	**P**	**16 53 16.6**	**-1.2**
ISA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
QIZ	**Qiongzhong**	**86.36**	**295**	P	**P**	**16 53 18.5**	**-0.5**
QIZ				S	S	17 03 54.0	-1.6
QIZ				pmax	pmax		
	comp=Z,13nm,1.9s,mb4.8						
QIZ				pmax	pmax		
	comp=Z,110nm,3.9s						
KULM	**Kulim**	**86.42**	**278**	*e*P	**P**	**16 53 19.7**	**+0.2**
	comp=Z,18nm,1.0s,mb5.2						
NVAR	**Mina Array Bea**	**88.19**	**42**	P	**P**	**16 53 26.9**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.5,baz=220,slow=8.2,SNR=20						
NVAR	**Mina Array Bea**	**88.19**	**42**	P	**P**	**16 53 26.9**	**-0.6**
WHN	**Wuhan**	**89.75**	**306**	*e*P	**P**	**16 53 34.5**	**-0.5**
HABR	**Khabarovsk**	**90.37**	**330**	P	**P**	**16 53 36.9**	**-0.5**
HABR						16 57 06.6	
HABR				*e*PPP		16 59 05.8	
HABR				*e*S	SKSac	17 04 06.2	-2.8
HABR				*e*		17 04 33.5	
HABR				*e*PS	PS	17 05 37.6	-2.1
HABR				*e*SS	SS	17 10 30.2	-3.0
HABR				*e*SSS		17 14 06.3	
HABR				pmax	pmax		
	comp=N,70nm,2.9s						
HABR				pmax	pmax		
	comp=E,45nm,2.2s						
HABR				pmax	pmax		
	comp=Z,87nm,2.9s,mb5.6						
CN2	**Changchun**	**91.52**	**322**	*e*P	**P**	**16 53 43.7**	**+0.8**
CN2				*e*sP	sP	16 53 50.7	+5.9
CN2				*e*S	S	17 04 39.9	-3.2
CN2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.4						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,17.0s,MS5.3						
CN2				LR	LR		
	comp=E,800nm,17.0s,MS5.3						
CN2				LR	LR		
	comp=Z,500nm,19.0s,MS5.0						
TXAR	**Lajitas Array**	**91.98**	**57**	P	**P**	**16 53 44.8**	**-0.6**
	comp=Z,0.8nm,0.8s,mb4.1,baz=207,slow=5.6,SNR=7.8						
TXAR	**Lajitas Array**	**91.98**	**57**	P	**P**	**16 53 44.8**	**-0.6**
TXAR	**Lajitas Array**	**91.98**	**57**	P	**P**	**16 53 44.8**	**-0.6**
GYA	**Guiyang**	**92.94**	**299**	P	**P**	**16 53 51.0**	**+1.1**
GYA				PP	PP	16 57 35.4	+2.6
GYA				SKS		17 04 22.7	
GYA				S	S	17 04 53.9	-2.7
GYA				SS	SS	17 11 11.5	+0.4
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.5						
GYA				pmax	pmax		
	comp=Z,110nm,5.4s						
GYA				LR	LR		
	comp=N,450nm,20.0s,MS5.0						
GYA				LR	LR		
	comp=E,380nm,22.2s,MS5.0						
GYA				LR	LR		
	comp=Z,410nm,21.6s,MS4.8						
CMAR	**Chiang Mai Arr**	**94.72**	**289**	P	**P**	**16 53 59.2**	**+1.0**
	comp=Z,2.2nm,1.0s,mb4.6,baz=151,slow=3.0,SNR=11						
CMAR	**Chiang Mai Arr**	**94.72**	**289**	P	**P**	**16 53 59.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**94.72**	**289**	P	**P**	**16 53 59.3**	**+1.1**
KMI	**Kunming**	**95.19**	**296**	P	**P**	**16 53 58.9**	**-1.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
KMI	**Kunming**	**95.19**	**296**	P	**P**	**16 53 58.9**	**-1.4**
	comp=Z,7.0nm,1.0s,mb5.0						
KMI	**Kunming**	**95.19**	**296**	P	**P**	**16 53 58.9**	**-1.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
PDAR	**Pinedale Array**	**96.06**	**43**	P	**P**	**16 54 02.7**	**-1.1**
	comp=Z,0.5nm,0.7s,mb4.0,baz=190,slow=2.7,SNR=5.4						
PDAR	**Pinedale Array**	**96.06**	**43**	P	**P**	**16 54 02.7**	**-1.1**
CD2	**Chengdu**	**97.48**	**302**	*e*P	**P**	**16 54 11.2**	**+0.7**
CD2				pP	pP	16 54 15.8	+3.8
CD2				sP	sP	16 54 18.5	+6.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				pmax	pmax		
	comp=Z,30nm,6.8s						
HHC	**Hu-ho-hao-te**	**97.64**	**313**	*e*P	**P**	**16 54 09.8**	**-1.2**
HHC				pP	pP	16 54 14.6	+2.2
HHC				sP	sP	16 54 16.8	+3.9
HHC				PP	PP	16 58 11.7	+2.6
HHC				SKS		17 04 45.1	
HHC				S	S	17 05 32.6	-4.3
HHC				sS	sS	17 05 40.7	+1.5
HHC				SS	SS	17 12 15.8	-1.7
HHC				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.4						
HHC				pmax	pmax		
	comp=Z,190nm,5.0s						
HHC				LR	LR		
	comp=N,280nm,18.8s,MS4.9						
HHC				LR	LR		
	comp=E,220nm,18.4s,MS4.9						
HHC				LR	LR		
	comp=Z,300nm,19.9s,MS4.8						
ILAR	**Eielson Array**	**98.58**	**12**	P	**P**	**16 54 13.0**	**-1.6**
	comp=Z,0.8nm,0.9s,mb4.2,baz=224,slow=5.3,SNR=8.8						
ILAR	**Eielson Array**	**98.58**	**12**	P	**P**	**16 54 13.0**	**-1.6**
ILAR	**Eielson Array**	**98.58**	**12**	P	**P**	**16 54 13.0**	**-1.6**
WMQ	**Urumqi**	**114.64**	**308**	*e*PKP	PKiKP	16 59 16.5	-0.1
MKAR	**Makanchi Array**	**119.18**	**309**	PKP	PKPdf	16 59 24.7	-0.6
	comp=Z,0.5nm,0.8s,baz=117,slow=2.7,SNR=2.8						
MKAR	**Makanchi Array**	**119.18**	**309**	PKP	PKPdf	16 59 24.7	-0.6
MKAR	**Makanchi Array**	**119.18**	**309**	PKIKP	PKPdf	16 59 24.7	-0.6
ZALV	**Zalesovo Beam**	**119.43**	**318**	PKP	PKPdf	16 59 23.9	-1.7
	comp=Z,0.4nm,0.3s,baz=135,slow=0.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**119.43**	**318**	PKP	PKPdf	16 59 23.9	-1.7
ZALV	**Zalesovo Beam**	**119.43**	**318**	PKIKP	PKPdf	16 59 23.9	-1.6
KURK	**Kurchatov**	**122.46**	**313**	PKP	PKPdf	16 59 30.2	-1.2
	comp=Z,1.8nm,0.8s,baz=104,slow=2.0,SNR=18						
KURK	**Kurchatov**	**122.46**	**313**	PKP	PKPdf	16 59 30.2	-1.2
KURK	**Kurchatov**	**122.46**	**313**	PKIKP	PKPdf	16 59 30.2	-1.2
KBL	**Kabul**	**125.56**	**292**	*e*PKPdf	PKPdf	16 59 38.5	+0.5
KBL	**Kabul**	**125.56**	**292**	*e*PKIKP	PKPdf	16 59 38.5	+0.5
BVAR	**Borovoye Array**	**127.81**	**315**	PKP	PKPdf	16 59 41.7	+0.1
	comp=Z,2.1nm,0.9s,baz=100,slow=3.3,SNR=7.3						
BVAR	**Borovoye Array**	**127.81**	**315**	PKP	PKPdf	16 59 41.7	+0.1
BVAR	**Borovoye Array**	**127.81**	**315**	PKIKP	PKPdf	16 59 41.7	+0.1
ARCES	**ARCESS Array B**	**139.71**	**348**	PKP	PKPdf	17 00 02.0	-1.4
	comp=Z,4.8nm,0.9s,baz=2.9,slow=2.4,SNR=5.2						
ARCES	**ARCESS Array B**	**139.71**	**348**	PKP	PKPdf	17 00 02.0	-1.4
ARCES	**ARCESS Array B**	**139.71**	**348**	PKIKP	PKPdf	17 00 02.1	-1.4
JOF	**Joensuu**	**143.66**	**339**	*e*PKIKP	PKPdf	17 00 06.5	-4.2
JOF	**Joensuu**	**143.66**	**339**	*e*pkp	PKPdf	17 00 06.5	-4.2
MOS	**Moscow**	**145.70**	**325**	*e*PKIKP	PKPdf	17 00 14.9	+0.5
MOS				pmax	pmax		
	comp=Z,67nm,0.8s						
KAF	**Kangasniemi**	**145.76**	**341**	*e*PKP2	PKPdf	17 00 12.2	-2.2
KAF	**Kangasniemi**	**145.76**	**341**	*e*pkp	PKPdf	17 00 12.2	-2.2
FINES	**FINESS Array B**	**146.37**	**340**	PKPbc	PKPbc	17 00 15.4	-1.3
	comp=Z,17nm,0.6s,baz=47,slow=2.5,SNR=51						
FINES	**FINESS Array B**	**146.37**	**340**	PKPbc	PKPbc	17 00 15.4	-1.3
FINES	**FINESS Array B**	**146.37**	**340**	PKP2	PKPbc	17 00 15.4	-1.3
OBN	**Obninsk**	**146.53**	**325**	‖*i*PKP2	PKPdf	17 00 16.1	+0.2
OBN				*i*		17 03 38.6	
OBN				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV	**Kislovodsk**	**146.63**	**303**	*e*PKP2	PKPdf	17 00 16.3	-0.1
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
VSR	**Storozhevoye**	**146.94**	**317**	*e*PKP2	PKPdf	17 00 17.9	+1.2
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSU	**Vasula**	**148.50**	**336**	*i* PKP2	PKPbc	17 00 22.3	-0.3
NB2	**NORSAR Subarra**	**149.81**	**352**	PKP	PKPbc	17 00 24.9	-0.9
	comp=Z,2.7nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.81**	**352**	PKP	PKPdf	17 00 21.1	0.0
	comp=Z,5.3nm,0.8s,baz=13,slow=4.2,SNR=17						
NOA				PKPbc	PKPbc	17 00 25.2	-0.6
	comp=Z,4.2nm,0.7s,baz=13,slow=4.1,SNR=17						
NOA	**NORSAR Array B**	**149.81**	**352**	PKP	PKPdf	17 00 21.1	0.0
NOA				PKPbc	PKPbc	17 00 25.2	-0.6
NOA	**NORSAR Array B**	**149.81**	**352**	PKHKP	PKPdf	17 00 21.1	0.0
AKASG	**Malin Array Be**	**152.68**	**323**	PKPbc	PKPbc	17 00 32.2	-0.7
	comp=Z,8.9nm,1.0s,baz=45,slow=2.5,SNR=10						
AKASG	**Malin Array Be**	**152.68**	**323**	PKPbc	PKPbc	17 00 32.2	-0.7
AKASG	**Malin Array Be**	**152.68**	**323**	PKIKP	PKPbc	17 00 32.2	-0.6
KIEV	**Kiev**	**152.69**	**323**	*e*PKPbc	PKPbc	17 00 31.4	-1.5
KIEV				*e*PKPab	PKPab	17 00 41.6	-2.0
KIEV	**Kiev**	**152.69**	**323**	*e*PKIKP	PKPbc	17 00 31.4	-1.5
KIEV				*e*		17 00 41.6	
BRTR	**Keskin Array B**	**153.98**	**297**	PKPbc	PKPbc	17 00 34.2	-1.8
	comp=Z,0.8nm,0.9s,baz=4.6,slow=7.7,SNR=3.5						
BRTR				PKPab	PKPab	17 00 49.6	+0.2
	comp=Z,1.0nm,0.8s,baz=115,slow=5.6,SNR=4.5						

GUC 11 16:40:17.7±0.6, 33°.70S×70°.56W, h100km±2km, MD3.8, ML3.9, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCH	**Pirque**	**0.09**	**27**	‖*i*P	Pn	16 40 31.4	-0.3
PCH				*i* S	Sn	16 40 41.1	-1.0
ANTU	**Antumapu**	**0.14**	**335**	‖*e*P	Pn	16 40 31.4	-0.3
ANTU				*i* S	Sn	16 40 41.5	-0.8
ANTU				AML	AML	16 40 42.3	
	comp=N,10μm,0.6s						
SJCH	**San Jose de Ma**	**0.18**	**72**	*e*P	Pn	16 40 31.7	-0.1
SJCH				*e*S	Sn	16 40 42.0	-0.4
FSR	**Penalolen**	**0.22**	**7**	*e*P	Pn	16 40 31.8	-0.2
FSR				*e*S	Sn	16 40 42.1	-0.6
LACH	**Col Las Americ**	**0.25**	**6**	*e*P	Pn	16 40 32.0	-0.1
LACH				*e*S	Sn	16 40 42.4	-0.5
LACH				AML	AML	16 40 43.4	
	comp=N,5μm,0.6s						
CHCH	**Chadas Angostu**	**0.25**	**198**	*e*P	Pn	16 40 31.6	-0.5
SAN	**Santiago**	**0.26**	**341**	*e*P	Pn	16 40 31.7	-0.5
SAN				*i* S	Sn	16 40 41.8	-1.1
CLCH	**Cerro Calan**	**0.30**	**4**	‖*i*P	Pn	16 40 32.3	-0.1
CLCH				*i* S	Sn	16 40 42.9	-0.4
CLCH				AML	AML	16 40 44.7	
	comp=N,9μm,0.7s						
TACH	**Talagante**	**0.32**	**278**	‖*e*P	Pn	16 40 32.0	-0.4
LMEL	**Las Melosas**	**0.33**	**117**	‖*i*P	Pn	16 40 32.3	-0.2
LMEL				*i* S	Sn	16 40 43.3	-0.2
LMEL				AML	AML	16 40 44.4	
	comp=N,5μm,0.2s						
CACH	**El Canelo**	**0.42**	**184**	‖*i*P	Pn	16 40 33.1	+0.1
FCH	**Farellones**	**0.43**	**32**	‖*i*P	Pn	16 40 33.5	+0.4
FCH				*e*S	Sn	16 40 45.6	+1.1
PEL	**Peldehue**	**0.56**	**349**	‖*i*P	Pn	16 40 34.0	+0.1
PEL				*i* S	Sn	16 40 46.2	+0.1
PEL				AML	AML	16 40 48.8	
	comp=N,4μm,0.4s						
LNV	**Longovilo**	**0.75**	**250**	‖*e*P	Pn	16 40 35.0	-0.7
JACH	**Jahuel**	**1.01**	**358**	*e*P	Pn	16 40 38.8	+0.5
JACH				*i* S	Sn	16 40 53.9	+0.1
IHA	**Instituto Hidr**	**1.12**	**306**	*e*P	Pn	16 40 40.0	+0.4
NICH	**Los Niches**	**1.42**	**203**	‖*e*P	Pn	16 40 42.5	-0.4
CHNG	**Los Chungos**	**1.97**	**336**	*e*P	Pn	16 40 50.7	+0.7
CMCH	**Combarbala**	**2.54**	**351**	*e*P	Pn	16 40 57.4	0.0
CMCH				*e*S	Sn	16 41 27.9	0.0
CMCH				AML	AML	16 41 42.6	
	comp=E,1μm,0.9s						

BRTR	**Keskin Array B**	**153.98 297**	PKPbc	PKPbc	17 00 34.2	-1.8
BRTR			PKPab	PKPab	17 00 49.6	+0.2
BRTR	**Keskin Array B**	**153.98 297**	PKIKP	PKPbc	17 00 34.3	-1.8
BRTR					17 00 49.6	
BUR08	**Bucovina Ar. S**	**156.61 320**	*e*PKPab	PKPab	17 01 00.6	+0.2
CLL	**Collm**	**158.76 343**	*e*PKP2	PKPab	17 01 10.0	+0.5
CLL	**Collm**	**158.76 343**	*e*PKPab	PKPab	17 01 10.0	+0.5
GERES	**GERESS Array B**	**160.78 339**	PKPab	PKPab	17 01 17.4	-1.0
	comp=Z,1.5nm,1.0s,baz=72,slow=4.3,SNR=5.1					
GERES	**GERESS Array B**	**160.78 339**	PKPab	PKPab	17 01 17.4	-1.0
TORD	**Torodi Ar. Bea**	**161.86 175**	PKP	PKPdf	17 00 37.8	-0.6
	comp=Z,1.1nm,1.1s,baz=188,slow=0.8,SNR=2.3					
TORD			PKPab	PKPab	17 01 24.7	+0.9
	comp=Z,2.9nm,0.8s,baz=179,slow=4.0,SNR=14					
TORD	**Torodi Ar. Bea**	**161.86 175**	PKP	PKPdf	17 00 37.8	-0.6
TORD			PKPab	PKPab	17 01 24.7	+0.9

*IDC **11** 16:46:04.0±1.3, 30.°92S×176.°94W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=43.2km s-min=32.2km az=49.0*
*NEIC **11** 16:46:05.2±0.8, 31.°08S×176.°99W, h10km, mb4.3/1, Error ellipse: s-maj=19.6km s-min=8.8km az=105.0*
*ISCJB **11** 16:46:08.1±1.7, 31.°12S±0.°09×177.°2W±0.°3, h33km, mb3.7/3, Error ellipse: s-maj=34.1km s-min=11.1km az=11.7*

ISC 11 16:46:10.2±1.7, 31.°02S±0.°09×177.°2W±0.°3, h35km, n15, σ0.°61/9, mb3.7/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.87**	**340**	*e*Pn	**Pn**	**16 46 38.8**	**-0.8**
URZ	**Urewera**	**8.62**	**211**	Sn	**Sn**	**16 49 47.7**	**-0.5**
	0.8nm,0.3s,baz=330,slow=20,SNR=6.1						
URZ	**Urewera**	**8.62**	**211**	Sn	**Sn**	**16 49 47.7**	**-0.5**
ASAR	**Alice Springs**	**43.77**	**267**	P	**P**	**16 54 13.0**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=106,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**43.77**	**267**	P	**P**	**16 54 13.0**	**+0.5**
WRA	**Warramunga Arr**	**44.82**	**272**	P	**P**	**16 54 21.7**	**+0.8**
	0.6nm,0.5s,mb3.7,baz=112,slow=7.7,SNR=7.8						
WRA	**Warramunga Arr**	**44.82**	**272**	P	**P**	**16 54 21.7**	**+0.8**
QSPA	**South Pole Qui**	**59.09**	**180**	P	**P**	**16 56 06.7**	**+0.4**
	1.5nm,0.8s,mb4.1,baz=22,slow=0.5,SNR=11						
QSPA	**South Pole Qui**	**59.09**	**180**	*e*P	**P**	**16 56 06.1**	**-0.3**
	1.6nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**145.96**	**340**	PKPbc	PKPbc	17 05 44.2	-1.1
	3.4nm,0.7s,baz=28,slow=3.2,SNR=15						
FINES	**FINESS Array B**	**145.96**	**340**	PKPbc	PKPbc	17 05 44.2	-1.1
NOA	**NORSAR Array B**	**149.46**	**352**	PKPbc	PKPbc	17 05 53.8	-1.1
	0.5nm,0.6s,baz=13,slow=4.1,SNR=2.7						
NOA	**NORSAR Array B**	**149.46**	**352**	PKPbc	PKPbc	17 05 53.8	-1.1
TORD	**Torodi Ar. Bea**	**162.19**	**176**	PKPab	PKPab	17 06 54.0	-1.2
	0.5nm,0.7s,baz=185,slow=2.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**162.19**	**176**	PKPab	PKPab	17 06 54.0	-1.2

*ISCJB **11** 16:49:29.3±4.4, 31.°20S±0.°08×177.°0W±0.°1, h3km±28km, mb4.2/8, Error ellipse: s-maj=21.5km s-min=12.9km az=11.5*
*IDC **11** 16:49:30.1±0.9, 30.°95S×176.°76W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/17, mbtmp4.2/6, Error ellipse: s-maj=30.8km s-min=24.9km az=4.0*
*NEIC **11** 16:49:31.4±0.7, 31.°09S×176.°79W, h10km, mb4.5/3, Error ellipse: s-maj=18.8km s-min=13.6km az=95.0*

ISC 11 16:49:31.9±4.7, 31.°12S±0.°08×176.°9W±0.°1, h11km±30km, n35, σ1.°18/24, mb4.2/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.04**	**335**	*e*Pn	**Pn**	**16 50 04.6**	**-1.5**
URZ	**Urewera**	**8.64**	**213**	Pn	**Pn**	**16 51 35.6**	**-1.2**
	1.1nm,0.3s,baz=270,slow=20,SNR=5.4						
URZ				Sn	**Sn**	**16 53 12.7**	**-1.5**
	1.2nm,0.3s,baz=334,slow=17,SNR=7.0						
URZ	**Urewera**	**8.64**	**213**	Pn	**Pn**	**16 51 35.6**	**-1.2**
URZ				Sn	**Sn**	**16 53 12.7**	**-1.5**
SNZO	**South Karori**	**12.20**	**211**	*e*Pn	**Pn**	**16 52 26.5**	**+1.1**
	67nm,0.4s						
CTA	**Charters Tower**	**34.81**	**279**	P	**P**	**16 56 25.8**	**+3.0**
	3.1nm,0.6s,mb4.4,baz=93,slow=12,SNR=6.7						
CTA	**Charters Tower**	**34.81**	**279**	P	**P**	**16 56 25.8**	**+3.0**
CTAO	**Charters Tower**	**34.81**	**279**	*e*P	**P**	**16 56 25.7**	**+2.9**
	3.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**35.21**	**258**	P	**P**	**16 56 26.4**	**+0.3**
	2.4nm,0.8s,mb4.2,baz=90,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**35.21**	**258**	P	**P**	**16 56 26.4**	**+0.3**
ASAR	**Alice Springs**	**43.98**	**267**	P	**P**	**16 57 40.3**	**+1.0**
	1.8nm,0.8s,mb3.8,baz=104,slow=7.4,SNR=18						
ASAR				PcP	PcP	16 59 25.8	+0.7
	0.6nm,1.0s,baz=114,slow=3.9,SNR=4.6						
ASAR	**Alice Springs**	**43.98**	**267**	P	**P**	**16 57 40.3**	**+1.0**
ASAR				PcP	PcP	16 59 25.8	+0.7
WRAB	**Tennant Creek**	**45.03**	**272**	*e*P	**P**	**16 57 47.3**	**-0.4**
	5.3nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**45.03**	**272**	P	**P**	**16 57 48.4**	**+0.7**
	1.2nm,0.4s,mb4.1,baz=111,slow=8.1,SNR=20						
WRA	**Warramunga Arr**	**45.03**	**272**	P	**P**	**16 57 48.4**	**+0.7**
QSPA	**South Pole Qui**	**58.99**	**180**	P	**P**	**16 59 33.2**	**+2.3**
	4.0nm,0.7s,mb4.6,baz=43,slow=3.0,SNR=20						
QSPA	**South Pole Qui**	**58.99**	**180**	P	**P**	**16 59 33.2**	**+2.3**
SNAA	**Sanae**	**77.41**	**178**	*e*	**P**	**17 01 26.9**	**+0.4**
SNAA	**Sanae**	**77.41**	**178**	*e*P	**P**	**17 01 26.1**	**-0.3**
	8.1nm,1.2s,mb4.5						
VNA3	**Neumayer Olymp**	**77.53**	**176**	*e*	**P**	**17 01 27.0**	**-0.1**
VNA2	**Neumayer--Watz**	**77.97**	**177**	*e*	**P**	**17 01 29.1**	**-0.5**
	baz=170,slow=3.6						
NVAR	**Mina Array Bea**	**88.15**	**42**	P	**P**	**17 02 21.4**	**-1.2**
	0.6nm,0.8s,mb3.9,baz=222,slow=8.7,SNR=4.9						
NVAR	**Mina Array Bea**	**88.15**	**42**	P	**P**	**17 02 21.4**	**-1.2**
ARCES	**ARCESS Array B**	**139.48**	**348**	PKP	PKPdf	17 08 59.9	+1.6
	6.8nm,1.0s,baz=26,slow=2.3,SNR=4.2						
ARCES	**ARCESS Array B**	**139.48**	**348**	PKP	PKPdf	17 08 59.9	+1.6
JOF	**Joensuu**	**143.42**	**339**	*e*pkp	PKPdf	17 09 01.5	-4.1
KAF	**Kangasniemi**	**145.53**	**341**	*e*pkp	PKPdf	17 09 07.8	-1.4
	3.0nm,0.5s						
FINES	**FINESS Array B**	**146.13**	**340**	PKPbc	PKPbc	17 09 10.7	-0.6
	5.0nm,0.5s,baz=51,slow=3.4,SNR=31						
FINES	**FINESS Array B**	**146.13**	**340**	PKPbc	PKPbc	17 09 10.7	-0.6
NB2	**NORSAR Subarra**	**149.59**	**352**	PKP	PKPbc	17 09 19.4	-1.2
	comp=Z,1.0nm,0.6s,baz=11,slow=2.6						
NOA	**NORSAR Array B**	**149.59**	**352**	PKPbc	PKPbc	17 09 19.9	-0.7
	comp=Z,1.0nm,0.6s,baz=13,slow=4.1,SNR=5.8						
NOA	**NORSAR Array B**	**149.59**	**352**	PKPbc	PKPbc	17 09 19.9	-0.7
AKASG	**Malin Array Be**	**152.42**	**323**	PKPbc	PKPbc	17 09 27.0	-0.5
	comp=Z,1.1nm,0.6s,baz=45,slow=5.5,SNR=4.3						
AKASG	**Malin Array Be**	**152.42**	**323**	PKPbc	PKPbc	17 09 27.0	-0.5
TORD	**Torodi Ar. Bea**	**162.07**	**176**	PKPab	PKPab	17 10 19.8	-0.3
	comp=Z,1.1nm,0.7s,baz=177,slow=3.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**162.07**	**176**	PKPab	PKPab	17 10 19.8	-0.3

WEL 11 16:52:04.8±0.1, 41.°08S×174.°14E, h75km±1km, ML2.9/8, 1C, Error ellipse: s-maj=1.2km s-min=1.0km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.17**	**143**	⇑PN	Pn	16 52 15.7	-0.2
TCW				SN	Sn	16 52 23.0	-0.9
DUWZ	**D'Urville Isla**	**0.32**	**329**	PN	Pn	16 52 16.5	-0.2
DUWZ				SN	Sn	16 52 25.2	-0.2
TUWZ	**Tuamarina**	**0.38**	**203**	PN	Pn	16 52 16.8	-0.3
TUWZ				SN	Sn	16 52 25.2	-0.9
SNZO	**South Karori**	**0.48**	**119**	PN	Pn	16 52 17.6	-0.3
WEL	**Wellington**	**0.51**	**114**	PN	Pn	16 52 18.0	-0.2
WEL				SN	Sn	16 52 27.3	-0.7
NNZ	**Nelson**	**0.59**	**256**	PN	Pn	16 52 18.4	-0.6
NNZ				SN	Sn	16 52 28.6	-0.8
KIW	**Kapiti Island**	**0.62**	**70**	PN	Pn	16 52 19.1	-0.1
KIW				SN	Sn	16 52 29.5	-0.3
BHW	**Baring Head**	**0.64**	**121**	PN	Pn	16 52 19.1	-0.3
BHW				SN	Sn	16 52 28.9	-1.4
BSWZ	**Blackbirch Sta**	**0.67**	**198**	PN	Pn	16 52 19.4	-0.3
BSWZ				SN	Sn	16 52 30.6	-0.1
CAW	**Cannon Point**	**0.70**	**93**	PN	Pn	16 52 19.6	-0.4
OGWZ	**Otaki Gorge**	**0.82**	**72**	PN	Pn	16 52 21.2	-0.2
MSWZ	**Moikau Station**	**0.90**	**112**	PN	Pn	16 52 21.8	-0.6
PLWZ	**Palliser**	**0.97**	**121**	PN	Pn	16 52 22.6	-0.6
MTW	**Mount Morrison**	**1.03**	**95**	PN	Pn	16 52 23.1	-0.8
HOWZ	**Holdsworth Sta**	**1.05**	**81**	PN	Pn	16 52 23.5	-0.7
THZ	**Tophouse**	**1.16**	**233**	PN	Pn	16 52 25.3	-0.2
QRZ	**Quartz Range**	**1.25**	**281**	PN	Pn	16 52 25.9	-0.7
TMWZ	**Te Maipa**	**1.32**	**92**	PN	Pn	16 52 26.8	-0.8
TIWZ	**Tintock**	**1.35**	**78**	PN	Pn	16 52 27.1	-1.0
KHZ	**Kahutara**	**1.41**	**198**	PN	Pn	16 52 28.3	-0.5
DFE	**Dawson Falls**	**1.75**	**359**	PN	Pn	16 52 34.1	+0.9
PKE	**Pukeiti**	**1.89**	**356**	PN	Pn	16 52 35.7	+0.6

*NEIC **11** 16:59:31.1, 38.°67S×175.°92E, h120km, MG3.6(WEL), After WEL.*

WEL 11 16:59:30.9±0.3, 38.°67S×175.°92E, h121km±2km, ML3.6/13, Error ellipse: s-maj=1.7km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.52**	**210**	PN	Pn	16 59 49.1	0.0
WTVZ				SN	Sn	17 00 02.0	-0.7
WTVZ	**West Tongariro**	**0.52**	**210**	Pn	Pn	16 59 49.1	0.0
OTVZ	**Oturere**	**0.54**	**202**	PN	Pn	16 59 49.4	+0.3
OTVZ				SN	Sn	17 00 03.4	+0.5
TWVZ	**Taurewa**	**0.55**	**223**	PN	Pn	16 59 49.3	0.0
TWVZ				SN	Sn	17 00 02.5	-0.6
TWVZ	**Taurewa**	**0.55**	**223**	Pn	Pn	16 59 49.3	0.0
NGZ	**Ngauruhoe**	**0.57**	**206**	PN	Pn	16 59 49.4	+0.1
NGZ				SN	Sn	17 00 03.4	+0.1
NGZ	**Ngauruhoe**	**0.57**	**206**	Pn	Pn	16 59 49.4	+0.1
TUVZ	**Tukino**	**0.64**	**199**	PN	Pn	16 59 50.1	+0.3
TUVZ	**Tukino**	**0.64**	**199**	Pn	Pn	16 59 50.1	+0.3
FWVZ	**Far West T-bar**	**0.65**	**206**	PN	Pn	16 59 50.0	+0.1
FWVZ	**Far West T-bar**	**0.65**	**206**	Pn	Pn	16 59 50.0	+0.1
BKZ	**Black Stump Fm**	**0.67**	**138**	PN	Pn	16 59 50.1	0.0
BKZ				SN	Sn	17 00 02.9	-1.7
BKZ	**Black Stump Fm**	**0.67**	**138**	Pn	Pn	16 59 50.0	0.0
BKZ				Sn	Sn	17 00 03.3	-1.3
TRVZ	**Turoa**	**0.69**	**204**	PN	Pn	16 59 50.5	+0.2
WNVZ	**Wahianoa**	**0.71**	**201**	PN	Pn	16 59 50.6	+0.2
WNVZ	**Wahianoa**	**0.71**	**201**	Pn	Pn	16 59 50.6	+0.2
MOVZ	**Moawhango**	**0.75**	**190**	PN	Pn	16 59 50.6	-0.2
MOVZ				SN	Sn	17 00 04.1	-1.6
MOVZ	**Moawhango**	**0.75**	**190**	Pn	Pn	16 59 50.6	-0.2
MOVZ				Sn	Sn	17 00 04.9	-0.8
PKVZ	**Pokaka**	**0.77**	**215**	PN	Pn	16 59 50.9	+0.1
NMHZ	**Naumai**	**0.82**	**122**	PN	Pn	16 59 52.1	+0.9
NMHZ				SN	Sn	17 00 07.6	+0.9
BHHZ	**Black Hill Sta**	**0.83**	**172**	PN	Pn	16 59 51.2	-0.2
BHHZ				SN	Sn	17 00 05.4	-1.5
HIZ	**Hauiti**	**0.85**	**280**	PN	Pn	16 59 51.6	+0.1
HIZ				SN	Sn	17 00 05.9	-1.3
HIZ	**Hauiti**	**0.85**	**280**	Pn	Pn	16 59 51.6	+0.1
RAHZ	**Arahi**	**0.95**	**106**	PN	Pn	16 59 52.8	+0.3
RAHZ				SN	Sn	17 00 09.1	+0.3
MCHZ	**McNeill Hill**	**0.99**	**142**	PN	Pn	16 59 53.8	+1.0
URZ	**Urewera**	**1.02**	**67**	PN	Pn	16 59 52.7	-0.5
URZ				SN	Sn	17 00 08.7	-1.3
URZ	**Urewera**	**1.02**	**67**	Pn	Pn	16 59 52.7	-0.5
URZ				Sn	Sn	17 00 08.7	-1.3
PNHZ	**Pukenui**	**1.27**	**170**	PN	Pn	16 59 55.6	-0.1
PNHZ	**Pukenui**	**1.27**	**170**	Pn	Pn	16 59 55.6	-0.1
MWZ	**Matawai**	**1.31**	**76**	Pn	Pn	16 59 56.2	0.0
WAZ	**Wanganui**	**1.31**	**213**	PN	Pn	16 59 56.3	+0.2
WAZ	**Wanganui**	**1.31**	**213**	Pn	Pn	16 59 56.4	+0.2
KAHZ	**Kahuranaki**	**1.35**	**147**	PN	Pn	16 59 57.1	+0.4
TSZ	**Takapari Road**	**1.39**	**179**	PN	Pn	16 59 56.7	-0.4
TSZ	**Takapari Road**	**1.39**	**179**	Pn	Pn	16 59 56.8	-0.4
KNZ	**Kokohu**	**1.42**	**105**	PN	Pn	16 59 57.5	+0.1
KNZ	**Kokohu**	**1.42**	**105**	Pn	Pn	16 59 57.5	+0.1
WPHZ	**Waipukurau**	**1.46**	**164**	PN	Pn	16 59 57.6	-0.2
PXZ	**Pawanui**	**1.55**	**152**	PN	Pn	16 59 58.7	-0.2
MHGZ	**Mahia Peninsul**	**1.63**	**108**	PN	Pn	17 00 00.1	+0.3
DVHZ	**Dannevirke**	**1.64**	**173**	PN	Pn	16 59 59.3	-0.7
DVHZ	**Dannevirke**	**1.64**	**173**	Pn	Pn	16 59 59.3	-0.7
PRHZ	**Porangahau**	**1.69**	**161**	PN	Pn	17 00 00.3	-0.4
PRHZ	**Porangahau**	**1.69**	**161**	Pn	Pn	17 00 00.3	-0.4
POWZ	**Post Office Ro**	**1.73**	**184**	PN	Pn	17 00 00.3	-0.7
POWZ	**Post Office Ro**	**1.73**	**184**	Pn	Pn	17 00 00.3	-0.7
PUZ	**Puketiti**	**1.93**	**73**	PN	Pn	17 00 03.2	-0.3
PUZ	**Puketiti**	**1.93**	**73**	Pn	Pn	17 00 03.2	-0.3
MRZ	**Mangatainoka R**	**2.01**	**187**	PN	Pn	17 00 03.2	-1.3
MRZ	**Mangatainoka R**	**2.01**	**187**	Pn	Pn	17 00 03.2	-1.3
BFZ	**Birch Farm**	**2.03**	**173**	PN	Pn	17 00 03.7	-1.0
BFZ	**Birch Farm**	**2.03**	**173**	Pn	Pn	17 00 03.7	-1.0
TIWZ	**Tintock**	**2.11**	**181**	PN	Pn	17 00 04.6	-1.1
TIWZ	**Tintock**	**2.11**	**181**	Pn	Pn	17 00 04.6	-1.1
OGWZ	**Otaki Gorge**	**2.23**	**195**	PN	Pn	17 00 05.9	-1.3
OGWZ	**Otaki Gorge**	**2.23**	**195**	Pn	Pn	17 00 05.9	-1.3
HOWZ	**Holdsworth Sta**	**2.25**	**188**	PN	Pn	17 00 05.9	-1.6
KIW	**Kapiti Island**	**2.33**	**199**	PN	Pn	17 00 06.8	-1.7
KIW	**Kapiti Island**	**2.33**	**199**	Pn	Pn	17 00 06.8	-1.7
TMWZ	**Te Maipa**	**2.44**	**180**	PN	Pn	17 00 08.3	-1.6
MTW	**Mount Morrison**	**2.51**	**187**	PN	Pn	17 00 08.7	-2.1
MTW	**Mount Morrison**	**2.51**	**187**	Pn	Pn	17 00 08.8	-2.1
CAW	**Cannon Point**	**2.52**	**195**	PN	Pn	17 00 09.1	-1.9
CAW	**Cannon Point**	**2.52**	**195**	Pn	Pn	17 00 09.1	-1.9
DUWZ	**D'Urville Isla**	**2.63**	**215**	PN	Pn	17 00 10.6	-1.8
TRWZ	**Traveller**	**2.74**	**184**	PN	Pn	17 00 11.8	-1.9
MSWZ	**Moikau Station**	**2.79**	**190**	Pn	Pn	17 00 05.1	-9.4
TCW	**Tory Channel**	**2.84**	**206**	PN	Pn	17 00 12.8	-2.2
TCW	**Tory Channel**	**2.84**	**206**	Pn	Pn	17 00 12.8	-2.2
PLWZ	**Palliser**	**2.94**	**190**	PN	Pn	17 00 13.8	-2.6
TUWZ	**Tuamarina**	**3.15**	**208**	PN	Pn	17 00 16.6	-2.5
NNZ	**Nelson**	**3.21**	**217**	PN	Pn	17 00 17.6	-2.3
NNZ	**Nelson**	**3.21**	**217**	Pn	Pn	17 00 17.6	-2.3
QRZ	**Quartz Range**	**3.39**	**229**	PN	Pn	17 00 20.2	-2.0
QRZ	**Quartz Range**	**3.39**	**229**	Pn	Pn	17 00 20.2	-2.0
THZ	**Tophouse**	**3.86**	**216**	PN	Pn	17 00 25.9	-2.6
THZ	**Tophouse**	**3.86**	**216**	Pn	Pn	17 00 25.9	-2.6
KHZ	**Kahutara**	**4.16**	**205**	PN	Pn	17 00 29.3	-3.2
KHZ	**Kahutara**	**4.16**	**205**	Pn	Pn	17 00 29.3	-3.2

*SZGRF **11** 17:05:52.5, 6.°82S×101.°97E, h30km, mb5.7, MS5.2, Southwest of Sumatera, Indonesia*
*BJI **11** 17:06:03.6, 4.°08S×100.°76E, h30km, mB5.6/54, mb5.6/73, Ms5.8/80, Ms7 5.8/69*
*NEIC **11** 17:06:06.9±2.2, 3.°65S×100.°75E, h14km±13km, mb5.7/73, MS5.4/10, MW5.5, MW5.5, Error ellipse: s-maj=6.2km s-min=3.6km az=223.0, Moment Tensor Solution. s67 Moment tensor: Scale 10^{17}Nm; M_{rr}1.31; $M_{\theta\theta}$-1.46; $M_{\phi\phi}$0.16; $M_{r\theta}$1.45; $M_{\theta\phi}$0.83; $M_{\phi r}$-1.03; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s276.00000°, δ23.00000°, λ64.00000°. NP2:ϕ_s124.00000°, δ70.00000°, λ100.00000°. Principal axes: T 2.1600, Plg63.0000°, Azm50.0000°; N 0.4400, Plg9.0000°, Azm300.0000°; P -2.5900, Plg24.0000°, Azm206.0000°;*
NEIC Felt [II] at Bengkulu, Sumatra.
*ISCJB **11** 17:06:07.5±0.1, 3.°60S±0.°02×100.°74E±0.°02, h28km, mb5.6/207, MS5.4/95 Error ellipse: s-maj=3.7km s-min=2.1km az=29.8*
*IDC **11** 17:06:08.6±0.5, 3.°66S×100.°74E, h26km±2km, mb5.2/27, mb1 5.2/28, mb1mx5.1/29, mbtmp5.2/28, ML5.1/1, MS5.2/22, Ms1 5.2/22, ms1mx5.0/35, Error ellipse: s-maj=13.3km s-min=8.6km az=48.0*
*MOS **11** 17:06:08.7±1.1, 3.°50S×100.°82E, h33km, mb5.9/69, MS5.2/46, Error ellipse: s-maj=8.5km s-min=4.3km az=114.8*
*DJA **11** 17:06:09, 3.°72S×100.°55E, h29km, Mw5.4/64*
*GCMT **11** 17:06:11.0±0.1, 3.°94S×100.°42E, h16km, MW5.7, Moment Tensor Solution. s84,c150; s24,c24; Moment tensor: Scale 10^{17}Nm; M_{rr}1.30±.03; $M_{\theta\theta}$-0.80±.02; $M_{\phi\phi}$-0.50±.03; $M_{r\theta}$3.16±.08; $M_{\theta\phi}$0.90±.02; $M_{\phi r}$-2.13±.09; Best double couple: $M_0$4.10000×10^{17} NP1:ϕ_s319.00000°, δ11.00000°, λ104.00000°. NP2:ϕ_s124.00000°, δ80.00000°, λ87.00000°. Principal axes: T 3.9500, Plg55.0000°, Azm31.0000°; N 0.2500, Plg3.0000°, Azm125.0000°; P -4.2000, Plg35.0000°, Azm217.0000°; Data Used: II IU CN IC G. Surface waves: sta= 91, comp=156, per= 50.*

ISC 11 17:06:09.6±0.1, 3.°62S±0.°02×100.°71E±0.°02, h30km, h30km±.7km: pP-P, n1115, σ1.°03/693, mb5.6/206, MS5.4/95, 262C-173D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.70**	**26**	P	**Pn**	**17 06 38.2**	**+1.0**
KSI	**Kapahiang**	**1.88**	**91**	P	**Pn**	**17 06 41.4**	**+1.7**
MNAI	**Manna**	**2.36**	**108**	P	**Pn**	**17 06 47.7**	**+1.4**
PDSI	**Padang**	**2.71**	**355**	P	**Pn**	**17 06 51.1**	**+0.1**
PPI	**Padang Panjang**	**3.16**	**354**	P	**Pn**	**17 06 57.0**	**-0.3**
MDSI	**Maura Dua**	**3.57**	**104**	P	**Pn**	**17 07 04.0**	**+1.1**
LWLI	**Liwa**	**3.62**	**113**	P	**Pn**	**17 07 04.9**	**+1.3**
RGRI	**Rengat**	**3.64**	**27**	P	**Pn**	**17 07 06.2**	**+2.3**
BKNI	**Bangkinang**	**3.94**	**5**	P	**Pn**	**17 07 08.6**	**+0.6**
KLI	**Kotabumi**	**4.32**	**107**	P	**Pn**	**17 07 15.1**	**+1.9**
MNSI	**Mandailing Nat**	**4.53**	**346**	P	**Pn**	**17 07 15.8**	**-0.4**
BLSI	**Bandar Lampung**	**4.84**	**111**	P	**Pn**	**17 07 22.0**	**+1.5**
PPBI	**Pangkal Pinang**	**5.61**	**75**	P	**Pn**	**17 07 33.0**	**+1.9**
	2.6nm5μm328nm,1.4s						
CGJI	**Cibinong**	**5.79**	**121**	P	**Pn**	**17 07 31.9**	**-1.6**
	3.7nm872nm,0.9s						
SBJI	**Serang**	**5.95**	**115**	P	**Pn**	**17 07 44.1**	**+8.5**
KGM	**Kluang**	**6.18**	**25**	P	**Pn**	**17 07 40.5**	**+1.6**
MYKOM	**Kota Tinggi**	**6.23**	**30**	P	**Pn**	**17 07 41.4**	**+1.9**
MYKOM	**Kota Tinggi**	**6.23**	**30**	P	**Pn**	**17 07 40.9**	**+1.4**
	5.5nm7μm602nm,1.3s						
TNG	**Tangerang**	**6.44**	**113**	P	**Pn**	**17 07 43.0**	**+0.6**
	8.2nm2μm,0.8s						
TNG				P		17 07 43.7	
	12nm4μm,0.9s						
PSI	**Prapat**	**6.62**	**344**	P	**Pn**	**17 07 44.5**	**-0.5**
	1.5nm3μm164nm,1.1s						
DBJI	**Dramaga**	**6.69**	**116**	P	**Pn**	**17 07 46.5**	**+0.7**
CBJI	**Citeko**	**6.72**	**115**	P	**Pn**	**17 07 48.8**	**+2.5**
	9.4nm3μm,1.0s						
SKJI	**Sukabumi**	**6.72**	**120**	P	**Pn**	**17 07 46.4**	**+0.1**
	4.6nm1μm,1.2s						
TPI	**Tanjungpandan**	**6.99**	**83**	P	**Pn**	**17 07 51.8**	**+1.8**
	2.4nm3μm105nm,1.4s						
TSI	**Tuntungan**	**7.39**	**343**	P	**Pn**	**17 07 55.5**	**0.0**
	4.1nm8μm499nm,1.2s						
LEM	**Lembang**	**7.58**	**115**	P	**Pn**	**17 07 59.1**	**+1.0**
	3.2nm940nm,1.1s						
TPTI		**7.69**	**333**	P	**Pn**	**17 08 00.5**	**+0.9**
	1.9nm505nm,0.7s						
IPM	**Ipoh**	**8.05**	**2**	P	**Pn**	**17 08 06.3**	**+1.7**
IPM	**Ipoh**	**8.05**	**2**⇑	*e*Pn	**Pn**	**17 08 05.1**	**+0.5**
	314nm,1.1s						
IPM	**Ipoh**	**8.05**	**2**	P	**Pn**	**17 08 06.4**	**+1.8**
	3μm247nm,1.4s						
CISI	**Cisompet, Garu**	**8.08**	**119**	P	**Pn**	**17 08 02.8**	**-2.2**
	1μm,0.9s						
XMIS	**Christmas Isla**	**8.39**	**144**	*e*P	**Pn**	**17 08 02.8**	**-6.5**
	453nm,0.6s						
XMIS				*e*S	**Sn**	**17 09 26.3**	**-17**
KULM	**Kulim**	**8.85**	**360**	P	**Pn**	**17 08 16.9**	**+1.3**
KULM	**Kulim**	**8.85**	**360**⇑	*e*Pn	**Pn**	**17 08 15.2**	**-0.4**
	349nm,1.2s						
KULM	**Kulim**	**8.85**	**360**	P	**Pn**	**17 08 17.0**	**+1.4**
	3μm254nm,1.3s						
COCO	**West Island**	**9.33**	**204**	*e*Pn	**Pn**	**17 08 18.6**	**-3.5**
	395nm,1.0s						
COCO	**West Island**	**9.33**	**204**	*e*P	**Pn**	**17 08 18.6**	**-3.6**
COCO				pmax	pmax		
	comp=Z,395nm,1.0s						
COCO	**West Island**	**9.33**	**204**	P	**Pn**	**17 08 18.9**	**-3.3**
	comp=Z,399nm,1.3s						
SMRI	**Semar

CMAR MLR MLR
comp=Z,10μm,18.2s
LUWI Luwuk 22.19 84 P **P 17 11 03.8 +0.1**
comp=Z,6μmcomp=Z,665nm,1.4s,mb5.9
CHG Chiang Mai 22.36 356 ⇑P **P 17 11 02.6 -2.7**
comp=Z,59nm,1.4s,mb4.8
CHTO Chiang Mai 22.36 356 *e*P **P 17 11 03.6 -1.7**
comp=Z,207nm,1.3s,mb5.4
CHTO Chiang Mai 22.36 356 *e*P **P 17 11 03.6 -1.7**
CHTO pmax pmax
comp=Z,207nm,1.3s,mb5.4
CHTO Chiang Mai 22.36 356 P **P 17 11 04.1 -1.2**
comp=Z,2μmcomp=Z,156nm,1.3s,mb5.3
CHTO Chiang Mai 22.36 356 P **P 17 11 03.9 -1.4**
SNR=67
GTOI Gorontalo 22.69 80 P **P 17 11 07.4 -1.5**
comp=Z,5μmcomp=Z,488nm,1.3s,mb5.8
KMSI Cibinong 23.63 80 P **P 17 11 19.7 +1.1**
comp=Z,7μmcomp=Z,364nm,1.1s,mb5.7
ENPP El Nido 23.75 51 *e*P **P 17 11 19.5 -0.1**
QIZ Qiongzhong 24.24 21 P **P 17 11 23.6 -0.4**
QIZ pP 17 11 28.8
QIZ sP sP 17 11 34.8 -1.5
QIZ S **S 17 15 42.9 +2.0**
QIZ sS sS 17 15 56.5 +1.3
QIZ pmax pmax
comp=Z,210nm,1.5s,mb5.3
QIZ pmax pmax
comp=Z,2μm,7.8s
QIZ LR LR
comp=N,8μm,13.2s
QIZ LR LR
comp=Z,9μm,17.9s,MS5.3
MNI Manado 24.64 79 P **P 17 11 28.6 +0.8**
comp=Z,3μmcomp=Z,296nm,1.0s,mb5.8
CUYO Cuyo Island 24.81 54 *e*P **P 17 11 29.7 +0.4**
BUSP Coron 24.83 51 *e*P **P 17 11 29.5 0.0**
PAGZ Pagadian 25.33 63 *e*P **P 17 11 34.2 +0.2**
MBWA Marble Bar 25.42 135 *e*P **P 17 11 32.3 -2.4**
comp=Z,45nm,1.1s,mb4.9
MBWA Marble Bar 25.42 135 P **P 17 11 34.6 -0.2**
comp=Z,50nm,1.2s,mb4.9
LUBP Lubang 25.95 48 *e*P **P 17 11 39.3 -0.3**
GUIM Jordan 25.98 57 *e*P **P 17 11 40.1 +0.2**
NLAI Namlea 26.35 90 P **P 17 11 44.3 +1.0**
comp=Z,1μmcomp=Z,62nm,1.0s,mb5.1
OTRP Odiongan 26.48 53 *e*P **P 17 11 44.4 0.0**
RCP Roxas 26.61 55⇑*e*P **P 17 11 45.8 +0.2**
TGY Tagaytay City 26.70 48 P **P 17 11 46.5 +0.1**
comp=Z,536nm,0.9s,mb6.1,baz=202,slow=5.7,SNR=24
TGY Tagaytay City 26.70 48 P **P 17 11 46.5 +0.1**
TGY pmax pmax
comp=Z,537nm,0.9s
BUKP Musuan 26.85 65 *e*P **P 17 11 47.4 -0.5**
LBMI Labuha 26.94 84 P **P 17 11 47.8 -0.8**
comp=Z,4μmcomp=Z,274nm,1.1s,mb5.7
BOAC Boac 26.98 51 *e*P **P 17 11 48.1 -0.8**
TNTI Ternate 27.00 81 P **P 17 11 47.2 -2.0**
comp=Z,2μmcomp=Z,182nm,1.4s,mb5.4
DAV Davao City (W) 27.00 67 P **P 17 11 49.2 +0.1**
comp=Z,56nm,0.4s,mb5.5,baz=340,slow=7.4,SNR=4.8
DAV Davao City (W) 27.00 67 P **P 17 11 49.2 +0.1**
SCZP Santa Cruz 27.07 44 *e*P **P 17 11 49.1 -0.6**
AAI Ambon 27.43 91 P **P 17 11 58.0 +4.9**
comp=Z,59nm,1.0s,mb5.1
BOLP Bolinao 27.49 43 *e*P **P 17 11 51.3 -2.2**
MSLP Maasin 27.67 60 *e*P **P 17 11 51.5 -3.6**
FITZ Fitzroy Crossi 28.34 122 P **P 17 12 00.0 -1.0**
comp=Z,24nm,0.9s,mb4.8,baz=304,slow=7.3,SNR=26
FITZ LR LR 17 23 49.2
comp=Z,2μm,20.1s,MS4.7,baz=309,slow=38
FITZ Fitzroy Crossi 28.34 122⇑*i*P **P 17 12 00.2 -0.9**
comp=Z,61nm,0.8s,mb5.3
FITZ *e*S **S 17 16 42.5 -3.5**
FITZ Fitzroy Crossi 28.34 122 P **P 17 12 00.0 -1.0**
FITZ Fitzroy Crossi 28.34 122 P **P 17 12 00.3 -0.8**
comp=Z,843nmcomp=Z,48nm,1.4s,mb4.9
MEEK Meekatharra 28.60 145 *e*P **P 17 12 04.3 +1.0**
comp=Z,129nm,1.1s,mb5.6
MEEK *e*S **S 17 16 42.3 -7.6**
KMI Kunming 28.64 4 P **P 17 12 04.6 +0.9**
KMI pP pP 17 12 12.6 +0.2
KMI sP sP 17 12 16.2 +0.2
KMI PP PP 17 12 58.4 -10
KMI S **S 17 16 51.8 +1.2**
KMI sS sS 17 17 05.7 +0.7
KMI pmax pmax
comp=Z,63nm,1.2s,mb5.2
KMI pmax pmax
comp=Z,600nm,7.3s
KMI LR LR
comp=N,2μm,17.4s,MS5.6
KMI LR LR
comp=E,14μm,17.4s,MS5.6
KMI LR LR
comp=Z,15μm,14.1s,MS5.7
KMI Kunming 28.64 4 P **P 17 12 04.6 +0.9**
comp=Z,63nm,1.2s,mb5.2
KMI pP pP 17 12 12.6 +0.2
KMI sP sP 17 12 16.2 +0.2
KMI PP PP 17 12 58.4 -10
KMI PPP 17 13 11.8
KMI S **S 17 16 51.8 +1.2**
KMI sS sS 17 17 05.7 +0.7
KMI SSS 17 18 42.8
KMI LR LR
comp=Z,15μm,14.1s,MS5.7
KMI Kunming 28.64 4 P **P 17 12 04.6 +0.9**
KMI *PP pP 17 12 12.6 +0.2
KMI *SP sP 17 12 16.2 +0.2
KMI 17 12 58.4
KMI PPP 17 13 11.8
KMI S **S 17 16 51.8 +1.2**
KMI *SS sS 17 17 05.7 +0.7
KMI pmax pmax
comp=Z,63nm,1.2s,mb5.2
KMI MLR MLR
comp=Z,15μm,14.1s,MS5.7
CAL Calcutta 28.68 336 *e*PKP **P 17 12 07.0 +3.0**
CAL AMb AMB 17 12 07.8
comp=Z,3μm,0.5s
CAL *e*S **S 17 16 56.1 +4.9**
AGT Agartala 28.85 342 *e*PKP **P 17 12 04.0 -1.5**
AGT *ex* x 17 12 31.0
PVCP Virac 28.88 53 *e*P **P 17 12 04.2 -1.8**
ABRA Dolores 28.92 42 *e*P **P 17 12 05.7 -0.6**
HKC Hong Kong Obse 28.94 26 P **P 17 12 06.0 -0.3**
IMP Imphal 28.99 347 *e*PKP **P 17 12 06.0 -0.8**
CAUP Cauayan 29.20 45 *e*P **P 17 12 07.9 -0.9**
GZH Guangzhou 29.27 24 P **P 17 12 15.3 +6.0**
GZH S S 17 17 25.1 +25
GZH LR LR
comp=N,6μm,19.3s,MS5.5
GZH LR LR
comp=E,8μm,18.1s,MS5.5
GZH LR LR
comp=Z,11μm,14.7s,MS5.6
HYB Hyderabad 30.25 314 *i* P **P 17 12 17.5 -0.5**
HYB *es*P sP 17 12 25.0 -5.4
HYB *e*S **S 17 17 18.0 +1.9**
HYB LR LR 17 25 22.0
comp=Z,6.5nm,18.0s
SHL Shillong 30.25 344⇑*i*P **P 17 12 18.5 +0.6**
SHL *ex* x 17 17 16.5
GYA Guiyang 30.45 11⇑*i*P **P 17 12 19.8 +0.1**
GYA pP pP 17 12 29.4 +0.9
GYA sP sP 17 12 33.4 +1.3
GYA PP PP 17 13 19.7 -9.2
GYA PcP PcP 17 15 19.2 +0.3
GYA S **S 17 17 17.4 -1.6**
GYA sS sS 17 17 33.0 -0.5
GYA pmax pmax
comp=Z,70nm,1.0s,mb5.3
GYA pmax pmax
comp=Z,500nm,8.8s
GYA LR LR
comp=N,4μm,18.9s,MS5.6
GYA LR LR
comp=E,13μm,20.5s,MS5.6
GYA LR LR
comp=Z,13μm,21.8s,MS5.5
FAKI Fak Fak 31.50 90 P **P 17 12 27.9 -1.3**
comp=Z,98nm,1.2s,mb5.5
TLE Tual 31.99 95 P **P 17 12 32.0 -1.5**
comp=Z,66nm,1.4s,mb5.3
SLGI Shiliguri 32.40 339 *e*PKP **P 17 12 38.0 +1.1**
NGP Nagpur 32.51 320 *e*PKP **P 17 12 37.5 -0.4**
NGP *ex* x 17 18 01.2
ODAN Odare 32.92 338 *e*P **P 17 12 42.7 +1.2**
comp=Z,967nm,1.1s,mb6.6
ODAN Odare 32.92 338 *e*P **P 17 12 42.7 +1.2**
comp=Z,967nm,1.1s,mb6.6
NWAO Narrogin (SRO) 33.00 154 P **P 17 12 41.8 -0.3**
comp=Z,42nm,1.2s,mb5.2,baz=319,slow=6.7,SNR=6.7
NWAO LR LR 17 25 43.1
comp=Z,7μm,20.0s,MS5.3,baz=330,slow=36
NWAO Narrogin (SRO) 33.00 154 *e*P **P 17 12 41.8 -0.3**
comp=Z,90nm,1.5s,mb5.5
NWAO Narrogin (SRO) 33.00 154 P **P 17 12 41.8 -0.3**
NWAO pmax pmax
comp=Z,42nm,1.2s
NWAO MLR MLR
comp=Z,7μm,20.0s
TPUB Ta-pu 33.07 35 *e*P **P 17 12 42.4 -0.4**
comp=Z,191nm,1.0s,mb6.0
TAPN Taplejung 33.25 339 *e*P **P 17 12 46.1 +1.8**
comp=Z,2μm,1.0s,mb6.9
TAPN Taplejung 33.25 339 *e*P **P 17 12 46.1 +1.8**
comp=Z,2μm,1.0s,mb6.9
QZH Quanzhou 33.29 31⇑*i*P **P 17 12 42.0 -2.7**
QZH pmax pmax
comp=Z,380nm,1.4s,mb6.1
QZH pmax pmax
comp=Z,1μm,7.4s
QZH LR LR
comp=N,16μm,15.6s,MS5.9
QZH LR LR
comp=E,11μm,14.1s,MS5.9
QZH LR LR
comp=Z,14μm,15.2s,MS5.8
RAMN Ramite 33.31 337 *e*P **P 17 12 46.4 +1.6**
comp=Z,576nm,1.2s,mb6.4
RAMN Ramite 33.31 337 *e*P **P 17 12 46.4 +1.6**
comp=Z,576nm,1.2s,mb6.4
KAD Karad 33.44 309 *e*PKP **P 17 12 47.1 +1.0**
KAD AMb AMB 17 12 58.4
comp=Z,61nm,1.2s,mb5.4
YULB Yu-li 33.53 36 *e*P **P 17 12 46.3 -0.5**
comp=Z,47nm,1.0s,mb5.4
SSLB Suanglung 33.64 35 *e*P **P 17 12 47.7 0.0**
comp=Z,109nm,1.3s,mb5.6
JIRN Jiri 34.11 337 *e*P **P 17 12 53.4 +1.7**
comp=Z,234nm,1.2s,mb6.0
JIRN Jiri 34.11 337 *e*P **P 17 12 53.4 +1.7**
comp=Z,234nm,1.2s,mb6.0
ALBI Allahabad 34.11 328 *e*PKP **P 17 12 51.0 -0.8**
NACB Ninganchiao 34.30 35 *e*P **P 17 12 53.5 -0.1**
comp=Z,132nm,0.9s,mb5.9
PKI Pulchoki 34.34 335 *e*P **P 17 12 54.8 +1.0**
comp=Z,340nm,1.2s,mb6.1
PKI Pulchoki 34.34 335 *e*P **P 17 12 54.8 +1.0**
comp=Z,340nm,1.2s,mb6.2
PKI Pulchoki 34.34 335 *e*P **P 17 12 54.8 +1.0**
PKI pmax pmax
comp=Z,340nm,1.2s,mb6.2
LSA Lhasa 34.38 345 P **P 17 12 57.1 +3.0**
LSA pP pP 17 13 03.8 +1.0
LSA sP sP 17 13 07.8 +1.3
LSA PP PP 17 14 16.8 +4.5
LSA S **S 17 18 29.0 +8.9**
LSA pmax pmax
comp=Z,80nm,1.5s,mb5.4
LSA LR LR
comp=N,2μm,26.9s,MS5.0
LSA LR LR
comp=E,3μm,29.9s,MS5.0
LSA LR LR
comp=Z,3μm,28.4s,MS4.9
POO Poona 34.41 311 *e*PKP **P 17 12 53.4 -1.1**
POO AMb AMB 17 13 06.8
comp=Z,78nm,1.3s,mb5.5
GUN Gumba 34.45 336 *e*P **P 17 12 56.2 +1.5**
comp=Z,1μm,1.2s,mb6.7
GUN Gumba 34.45 336 *e*P **P 17 12 56.2 +1.5**
comp=Z,1μm,1.2s,mb6.7
CD2 Chengdu 34.46 5⇑*i*P **P 17 12 54.2 -0.6**
CD2 pP pP 17 13 06.2 +2.6
CD2 sP sP 17 13 11.6 +4.4
CD2 PP PP 17 14 11.5 -1.8
CD2 PcP PcP 17 15 28.2 -1.6
CD2 S **S 17 18 19.3 -2.1**
CD2 sS sS 17 18 39.6 +3.8
CD2 PcS PcS 17 19 13.5 -2.7
CD2 SS SS 17 20 34.0 -18
CD2 ScS ScS 17 23 10.0 -5.8
CD2 pmax pmax
comp=Z,140nm,1.2s,mb5.8
CD2 pmax pmax
comp=Z,1μm,6.6s
CD2 LR LR
comp=N,11μm,15.0s,MS6.0
CD2 LR LR
comp=E,22μm,18.0s,MS6.0
CD2 LR LR
comp=Z,13μm,14.4s,MS5.8
DMN Daman 34.50 335 *e*P **P 17 12 56.1 +0.9**
comp=Z,442nm,1.1s,mb6.3
DMN Daman 34.50 335 *e*P **P 17 12 56.1 +0.9**
comp=Z,442nm,1.1s,mb6.3
YHNB Yeheng 34.56 34 *e*P **P 17 12 55.1 -0.6**
comp=Z,86nm,1.0s,mb5.6
KKN Kakani 34.59 335 *e*P **P 17 12 56.9 +1.0**
comp=Z,393nm,0.9s,mb6.3
KKN Kakani 34.59 335 *e*P **P 17 12 56.9 +1.0**
comp=Z,393nm,0.9s,mb6.3
KKN Kakani 34.59 335 *e*P **P 17 12 56.9 +1.0**
KKN pmax pmax
comp=Z,393nm,0.9s,mb6.3
GKN Gorkha 35.05 335 *e*P **P 17 13 00.8 +0.9**
comp=Z,694nm,1.1s,mb6.5
GKN Gorkha 35.05 335 *e*P **P 17 13 00.8 +0.9**
comp=Z,694nm,1.1s,mb6.5
BHPL Bhopal 35.05 321 *e*PKP **P 17 12 57.9 -2.1**
BHPL AMb AMB 17 13 02.5
comp=Z,60nm,1.5s,mb5.3
KOLN Koldanda 35.30 333 *e*P **P 17 13 03.1 +1.0**
comp=Z,248nm,0.9s,mb6.2
KOLN Koldanda 35.30 333 *e*P **P 17 13 03.1 +1.0**
comp=Z,248nm,0.9s,mb6.1
BAKI Biak 35.45 87 P **P 17 13 12.8 +9.2**
DANN Dangsing 35.73 334 *e*P **P 17 13 06.7 +1.0**
comp=Z,697nm,1.1s,mb6.5
DANN Dangsing 35.73 334 *e*P **P 17 13 06.7 +1.0**
comp=Z,697nm,1.1s,mb6.5
PYUN Piuthan 35.86 333 *e*P **P 17 13 07.6 +0.7**
comp=Z,776nm,1.1s,mb6.5
PYUN Piuthan 35.86 333 *e*P **P 17 13 07.6 +0.7**
comp=Z,776nm,1.1s,mb6.5
WHN Wuhan 36.39 20 P **P 17 13 11.3 -0.1**
WHN sP sP 17 13 19.8 -4.0
WHN PP PP 17 14 40.5 +5.9
WHN S **S 17 19 01.7 +11**
WHN pmax pmax
comp=Z,180nm,0.8s,mb6.0
WHN LR LR
comp=N,26μm,14.0s,MS6.2
WHN LR LR
comp=E,11μm,14.1s,MS6.2
WHN LR LR
comp=Z,34μm,14.3s,MS6.3
WRA Warramunga Arr 36.58 119 P **P 17 13 11.8 -1.4**
comp=Z,42nm,1.0s,mb5.2,baz=297,slow=9.1,SNR=101
WRA PcP PcP 17 15 36.7 +0.4
comp=Z,11nm,1.0s,baz=306,slow=2.5,SNR=4.7
WRA S **S 17 18 52.2 -2.0**
comp=Z,10nm,1.0s,baz=292,slow=16,SNR=6.9
WRA Warramunga Arr 36.58 119 P **P 17 13 11.8 -1.4**
WRA PcP PcP 17 15 36.7 +0.4
WRA S **S 17 18 52.2 -2.0**
WRA Warramunga Arr 36.58 119 P **P 17 13 11.8 -1.4**
WRA 17 15 36.7
WRA S **S 17 18 52.2 -2.0**
WRA pmax pmax
comp=Z,43nm,1.0s
WRA pmax pmax
comp=Z,11nm,1.0s
WRA smax
comp=N,10.0nm,1.0s
WRAB Tennant Creek 36.59 119 *e*P **P 17 13 12.0 -1.2**
comp=N,50nm,0.8s,mb5.4
WRAB Tennant Creek 36.59 119 *e*P **P 17 13 12.0 -1.2**
WRAB pmax pmax
comp=Z,50nm,0.8s,mb5.4
WRAB Tennant Creek 36.59 119 P **P 17 13 12.2 -1.0**
comp=Z,2μmcomp=Z,118nm,1.2s,mb5.6
WB2 Warramunga Arr 36.59 119 *e*P **P 17 13 11.8 -1.5**
FORT Forrest 37.35 139 *e*P **P 17 13 21.4 +1.8**
comp=Z,32nm,0.6s,mb5.3
AGRA Agra 37.73 326 *e*PKP **P 17 13 21.9 -1.0**
AGRA AMb AMB 17 13 24.6
comp=Z,78nm,0.2s,mb6.2
ASAR Alice Springs 37.74 125 P **P 17 13 22.4 -0.7**
comp=Z,18nm,0.8s,mb4.8,baz=296,slow=7.3,SNR=124
ASAR PcP PcP 17 15 40.0 +0.3
comp=Z,5.1nm,0.9s,baz=317,slow=2.2,SNR=4.3
ASAR S **S 17 19 12.3 +0.5**
comp=Z,8.9nm,0.8s,baz=291,slow=15,SNR=10
ASAR Alice Springs 37.74 125 P **P 17 13 22.4 -0.7**
ASAR PcP PcP 17 15 40.0 +0.3
ASAR S **S 17 19 12.3 +0.5**
ASAR Alice Springs 37.74 125 P **P 17 13 22.4 -0.6**
ASAR 17 15 40.1
ASAR S **S 17 19 12.4 +0.6**
ASAR pmax pmax
comp=Z,18nm,0.8s
ASAR pmax pmax
comp=Z,5.0nm,0.9s
ASAR smax
comp=N,9.0nm,0.9s
AS31 Alice Springs 37.74 125 *e*P **P 17 13 22.5 -0.5**
XAN Xi'an 38.25 11 P **P 17 13 26.2 -0.9**
XAN pP pP 17 13 36.0 0.0
XAN sP sP 17 13 40.2 +0.6
XAN PP PP 17 14 55.9 +0.9
XAN S **S 17 19 26.6 +7.4**
XAN pmax pmax
comp=Z,110nm,1.0s,mb5.5
XAN pmax pmax
comp=Z,180nm,6.6s
XAN LR LR
comp=N,6μm,13.6s,MS5.6
XAN LR LR
comp=E,3μm,14.6s,MS5.6
XAN LR LR
comp=Z,4μm,13.6s,MS5.3
PTH Pithoragarh 38.39 331 *e*PKP **P 17 13 29.0 +0.7**
SONA Sohna 39.00 326 *e*PKP **P 17 13 33.4 -0.1**
AJM Ajmer 39.13 321 *e*PKP **P 17 13 34.0 -0.6**
AYAN Aya Nagar 39.16 326 *e*PKP **P 17 13 34.3 -0.5**
AYAN AMb AMB 17 13 44.0
comp=Z,87nm,1.0s,mb5.5
NDI New Delhi 39.26 326 *e*PKP **P 17 13 34.0 -1.7**
NDI *e*PKP 17 13 40.1
NJ2 Nanjing 39.45 25 *e*P **P 17 13 37.8 +0.6**
NJ2 pmax pmax
comp=Z,70nm,1.0s,mb5.3
NJ2 pmax pmax
comp=Z,710nm,8.9s
NJ2 LR LR
comp=N,9μm,24.6s,MS5.5
NJ2 LR LR
comp=E,4μm,23.4s,MS5.5
NJ2 LR LR
comp=Z,12μm,25.0s,MS5.7
KHET Khetri 39.60 324 *e*PKP **P 17 13 38.0 -0.5**
KHET AMb AMB 17 13 40.6
comp=Z,67nm,1.7s,mb5.1
LZH Lanzhou 39.61 4 *e*P **P 17 13 39.1 +0.6**
LZH pP pP 17 13 50.1 +2.8
LZH sP sP 17 13 55.4 +4.5
LZH PP PP 17 15 12.5 +2.7
LZH PcP PcP 17 15 46.0 +0.7
LZH *e*S **S 17 19 41.0 +1.4**
LZH sS sS 17 19 59.1 +4.9
LZH SS SS 17 22 37.0 +1.4
LZH pmax pmax
comp=Z,430nm,1.1s,mb6.1
LZH pmax pmax
comp=Z,1μm,5.3s
LZH LR LR
comp=N,11μm,14.7s,MS5.9
LZH LR LR
comp=E,2μm,10.6s,MS5.9
LZH LR LR
comp=Z,12μm,15.2s,MS5.9
LZH Lanzhou 39.61 4 *e*P **P 17 13 39.1 +0.6**
comp=Z,428nm,1.1s,mb6.1
LZH pP pP 17 13 50.1 +2.8
LZH sP sP 17 13 55.4 +4.5
LZH PP PP 17 15 12.5 +2.7
LZH PcP PcP 17 15 46.0 +0.7
LZH *e*S **S 17 19 41.0 +1.4**
LZH sS sS 17 19 59.1 +4.9
LZH SS SS 17 22 37.0 +1.4
LZH LR LR
comp=Z,12μm,15.2s,MS5.9
LZH Lanzhou 39.61 4 *e*P **P 17 13 39.1 +0.6**
LZH *PP pP 17 13 50.1 +2.8
LZH *SP sP 17 13 55.4 +4.5
LZH 17 15 12.5
LZH 17 15 46.0
LZH *e*S **S 17 19 41.0 +1.4**
LZH *SS sS 17 19 59.1 +4.9
LZH pmax pmax
comp=Z,428nm,1.1s,mb6.1
LZH MLR MLR
comp=Z,12μm,15.2s,MS5.9
SSE Sheshan 39.67 28 P **P 17 13 40.3 +1.3**
SSE pP pP 17 13 51.6 +3.7
SSE S **S 17 19 41.7 +1.1**
SSE sS sS 17 20 01.7 +6.5
SSE pmax pmax
comp=Z,210nm,0.8s,mb5.9
SSE pmax pmax
comp=Z,570nm,8.6s
SSE LR LR
comp=N,6μm,15.3s,MS5.8
SSE LR LR
comp=E,8μm,15.3s,MS5.8
SSE LR LR
comp=Z,12μm,13.8s,MS5.9
SSE Sheshan 39.67 28 P **P 17 13 40.3 +1.3**
comp=Z,213nm,0.8s,mb5.9
SSE pP pP 17 13 51.6 +3.7
SSE S **S 17 19 41.7 +1.1**
SSE sS sS 17 20 01.7 +6.5
SSE LR LR
comp=Z,12μm,13.8s,MS5.9
DDI Dehra Dun 40.10 329⇑*i*P **P 17 13 41.0 -1.7**
DDI *ex* x 17 17 31.0
JOW Kunigami 40.33 40 P **P 17 13 44.8 +0.2**
comp=Z,70nm,0.7s,mb5.5,baz=244,slow=7.2,SNR=17
JOW Kunigami 40.33 40 P **P 17 13 44.8 +0.2**
SMLA Simla 41.21 329 *i* P **P 17 13 51.4 -0.4**
SDNR Sundarnagar 41.60 329 *ex* **P 17 13 57.0 +2.0**
BHK Bhakra 41.83 328 *e*PKP **P 17 13 57.0 +0.2**
TIA Tai'an 42.50 20 P **P 17 14 01.3 -0.9**
TIA pmax pmax
comp=Z,70nm,1.1s,mb5.2
TIA pmax pmax
comp=Z,790nm,12.0s
TIA LR LR
comp=N,12μm,16.2s,MS6.0
TIA LR LR
comp=E,10μm,15.2s,MS6.0
TIA LR LR
comp=Z,20μm,15.5s,MS6.1
TIY Taiyuan 42.55 14 *e*P **P 17 14 02.6 0.0**
TIY pP pP 17 14 12.6 +1.1
TIY sP sP 17 14 16.3 +1.2
TIY S **S 17 20 23.3 +0.1**
TIY sS sS 17 20 41.5 +3.6
TIY pmax pmax
comp=Z,650nm,3.9s
TIY LR LR
comp=N,6μm,14.6s,MS5.7
TIY LR LR
comp=E,4μm,15.2s,MS5.7
TIY LR LR
comp=Z,5μm,15.5s,MS5.5
GTA Gaotai 42.83 359 ⇑P **P 17 14 05.3 +0.4**
GTA pP pP 17 14 14.7 +0.9
GTA sP sP 17 14 18.9 +1.5
GTA S **S 17 20 28.6 +1.3**

GTA sS sS 17 20 45.0 +3.0
GTA SS SS 17 23 33.7 -5.6
GTA pmax pmax
comp=Z,150nm,1.2s,mb5.6
GTA pmax pmax
comp=Z,1μm,7.6s
GTA LR LR
comp=N,6μm,14.7s,MS5.7
GTA LR LR
comp=E,4μm,15.2s,MS5.7
GTA LR LR
comp=Z,7μm,16.1s,MS5.7
COEN Coen 43.13 107 P **P 17 14 05.8 -1.9**
comp=Z,38nm,1.3s,mb5.0
BTO Baotou 44.83 10 *e*P **P 17 14 20.4 -0.6**
HHC Hu-ho-hao-te 45.36 12⇑*i*P **P 17 14 26.4 +1.3**
HHC pP pP 17 14 36.3 +2.2
HHC sP sP 17 14 40.2 +2.5
HHC PcP PcP 17 16 05.1 +0.8
HHC PP PP 17 16 13.8 +2.1
HHC ScP ScP 17 19 53.9 -1.2
HHC S **S 17 21 05.3 +1.1**
HHC sS sS 17 21 22.0 +3.1
HHC SS SS 17 24 21.5 -6.8
HHC pmax pmax
comp=Z,170nm,1.2s,mb5.8
HHC pmax pmax
comp=Z,960nm,5.3s
HHC LR LR
comp=N,9μm,15.5s,MS5.9
HHC LR LR
comp=E,6μm,15.9s,MS5.9
HHC LR LR
comp=Z,9μm,15.2s,MS5.8
BJI Beijing 45.72 17 P **P 17 14 28.2 +0.2**
BJI PcP PcP 17 16 06.2 +0.6
BJI PP PP 17 16 16.1 +0.6
BJI S **S 17 21 12.3 +3.0**
BJI sS sS 17 21 28.3 +4.2
BJI pmax pmax
comp=Z,170nm,1.1s,mb5.9
BJI pmax pmax
comp=Z,880nm,7.5s
BJI LR LR
comp=N,12μm,16.3s,MS6.0
BJI LR LR
comp=E,4μm,14.5s,MS6.0
BJI LR LR
comp=Z,7μm,17.2s,MS5.7
JNU Nakatsue 46.38 36 *e*P **P 17 14 33.0 -0.3**
comp=Z,164nm,1.1s,mb5.9
PMG Port Moresby 46.48 99 P **P 17 14 32.4 -2.0**
comp=Z,51nm,1.1s,mb5.3,baz=292,slow=8.1,SNR=12
PMG Port Moresby 46.48 99 *e*P **P 17 14 32.5 -1.9**
comp=Z,98nm,1.3s,mb5.6
PMG Port Moresby 46.48 99*c i*P **P 17 14 32.5 -1.9**
PMG pmax pmax
comp=Z,120nm,1.6s
PMG MLR MLR
comp=Z,2μm,19.0s
PMG Port Moresby 46.48 99 P **P 17 14 34.5 +0.1**
comp=Z,1μmcomp=Z,59nm,1.4s,mb5.3
DL2 Dalian 46.52 23 P **P 17 14 33.7 -0.6**
DL2 S **S 17 21 25.9 +5.0**
DL2 pmax pmax
comp=Z,70nm,1.3s,mb5.4
DL2 pmax pmax
comp=Z,340nm,7.0s
DL2 LR LR
comp=N,3μm,15.0s,MS5.5
DL2 LR LR
comp=E,2μm,14.4s,MS5.5
DL2 LR LR
comp=Z,5μm,15.1s,MS5.5
CTA Charters Tower 47.28 114 S **S 17 21 31.3 -1.2**
comp=Z,3.2nm,1.0s,baz=77,slow=17,SNR=5.8
CTA Charters Tower 47.28 114⇑*i*P **P 17 14 40.1 -0.6**
comp=Z,34nm,0.9s,mb5.3
CTA *e*S **S 17 21 31.3 -1.2**
CTAO Charters Tower 47.28 114 *e*P **P 17 14 39.8 -0.9**
comp=Z,71nm,1.1s,mb5.5
CTAO Charters Tower 47.28 114 *e*P **P 17 14 39.8 -0.9**
CTAO pmax pmax
comp=Z,71nm,1.1s,mb5.5
CTAO Charters Tower 47.28 114 P **P 17 14 40.1 -0.6**
comp=Z,1μmcomp=Z,65nm,1.6s,mb5.3
INCN Inchon 47.47 28 *e*P **P 17 14 40.4 -1.3**
comp=Z,137nm,1.2s,mb5.8
STKA Stephens Creek 47.55 131 P **P 17 14 42.5 -0.1**
comp=Z,22nm,0.9s,mb5.2,baz=300,slow=7.4,SNR=25
STKA LR LR 17 36 06.7
comp=Z,5μm,21.5s,MS5.5,baz=297,slow=38
STKA Stephens Creek 47.55 131⇑*i*P **P 17 14 42.6 0.0**
comp=Z,29nm,0.7s,mb5.4
STKA Stephens Creek 47.55 131 *e*P **P 17 14 42.5 -0.1**
comp=Z,12nm,0.9s,mb4.9
STKA Stephens Creek 47.55 131 P **P 17 14 42.5 -0.1**
STKA pmax pmax
comp=Z,22nm,0.9s
STKA MLR MLR
comp=Z,5μm,21.5s
KSAR Wonju Array Be 48.04 29 P **P 17 14 46.1 -0.1**
KSAR pP pP 17 14 53.8 -1.4
KSAR PcP PcP 17 16 14.2 +0.4
KSAR Wonju Array Be 48.04 29 P **P 17 14 46.1 -0.1**
KSAR *PP pP 17 14 53.8 -1.4
KSAR 17 16 14.3
KSRS Korea Array 48.06 29 P **P 17 14 46.1 -0.3**
comp=Z,189nm,1.0s,mb6.1,baz=219,slow=8.0,SNR=205
KSRS pP pP 17 14 53.8 -1.6
comp=Z,129nm,1.0s,baz=212,slow=4.8,SNR=15
KSRS PcP PcP 17 16 14.2 +0.3
comp=Z,7.7nm,0.9s,baz=205,slow=5.1,SNR=2.7
KSRS LR LR 17 37 39.4
comp=Z,2μm,18.1s,MS5.2,baz=246,slow=39
KSRS Korea Array 48.06 29 P **P 17 14 46.1 -0.3**
KSRS *PP pP 17 14 53.8 -1.6
KSRS 17 16 14.2
KSRS pmax pmax
comp=Z,189nm,1.0s,mb6.1
KSRS pmax pmax
comp=Z,129nm,1.0s,mb5.9
KSRS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KSRS MLR MLR
comp=Z,2μm,18.1s,MS5.2
KBL Kabul 48.26 324 *e*P **P 17 14 47.4 -0.6**
comp=Z,52nm,1.2s,mb5.4
KBL Kabul 48.26 324 *e*P **P 17 14 47.4 -0.5**
KBL pmax pmax
comp=Z,52nm,1.2s,mb5.4
KSH Kashi 48.59 334 P **P 17 14 49.5 -0.9**
KSH pP pP 17 14 59.3 -0.2
KSH sP sP 17 15 03.1 +0.1
KSH PcP PcP 17 16 16.6 +0.8
KSH PP PP 17 16 41.4 -2.2
KSH S **S 17 21 44.0 -6.4**
KSH ScS ScS 17 24 36.6 -4.5
KSH pmax pmax
comp=Z,70nm,1.0s,mb5.7
KSH LR LR
comp=N,2μm,19.0s,MS5.4
KSH LR LR
comp=E,3μm,16.5s,MS5.4
KSH LR LR
comp=Z,4μm,20.8s,MS5.4
WMQ Urumqi 48.66 347 P **P 17 14 51.7 +0.9**
WMQ pP pP 17 15 04.1 +4.2
WMQ sP sP 17 15 09.4 +5.9
WMQ PP PP 17 16 44.7 +0.6
WMQ S **S 17 21 49.2 -1.9**
WMQ ScS ScS 17 24 37.4 -3.9
WMQ pmax pmax
comp=Z,340nm,1.0s,mb6.3
WMQ pmax pmax
comp=Z,670nm,3.8s
WMQ LR LR
comp=N,3μm,18.4s,MS5.4
WMQ LR LR
comp=E,3μm,20.2s,MS5.4
WMQ LR LR
comp=Z,3μm,28.6s
JMDO Jabal Madar 48.99 304 P **P 17 14 55.1 +1.3**
SNR=9.0
SMDO Samad 49.34 305 P **P 17 14 58.0 +1.5**
SNR=18

SNY Shenyang 49.79 22⇑P **P 17 14 58.4 -1.2**
SNY pP pP 17 15 06.4 -2.2
SNY S **S 17 22 01.1 -6.0**
SNY pmax pmax
comp=Z,68nm,1.3s,mb5.5
SNY pmax pmax
comp=Z,710nm,7.7s
SNY LR LR
comp=E,7μm,16.2s
SNY LR LR
comp=Z,9μm,14.7s,MS5.9
BSY Bisya 49.90 304 P **P 17 15 02.1 +1.3**
SNR=26
HOQ Hoqain 50.18 305 P **P 17 15 04.5 +1.6**
SNR=20
CBIJ Chichi jima 50.35 50 P **P 17 15 02.4 -1.7**
comp=Z,109nm,0.8s,mb5.9,baz=67,slow=23,SNR=3.4
CBIJ LR LR 17 34 45.2
comp=Z,700nm,20.2s,MS4.7,baz=230,slow=34
CBIJ Chichi jima 50.35 50 P **P 17 15 02.4 -1.7**
ARQ Araqi 50.72 304 P **P 17 15 08.4 +1.5**
SNR=12
ULHL Ulahol 50.77 337 P **P 17 15 08.3 +1.4**
SNR=7.1
ULHL P 17 15 08.3
SNR=7.1
KZA Kyzart 51.03 336 P **P 17 15 10.1 +1.2**
SNR=52
KZA P 17 15 10.1
SNR=52
UCH Uchtor 51.46 335 P **P 17 15 13.6 +1.5**
SNR=13
UCH P 17 15 13.6
SNR=13
SONM Songino Array 51.48 5 P **P 17 15 13.5 +1.3**
comp=Z,164nm,1.1s,mb5.9,baz=188,slow=8.3,SNR=158
SONM pP pP 17 15 21.5 +0.2
comp=Z,208nm,0.9s,baz=186,slow=7.5,SNR=30
SONM PcP PcP 17 16 26.3 +0.1
comp=Z,26nm,0.9s,baz=177,slow=5.8,SNR=1.9
SONM Songino Array 51.48 5 P **P 17 15 13.5 +1.3**
SONM pP pP 17 15 21.5 +0.2
SONM PcP PcP 17 16 26.3 +0.1
SONM Songino Array 51.48 5 P **P 17 15 13.5 +1.3**
SONM *PP pP 17 15 21.5 +0.2
SONM 17 16 26.3
SONM pmax pmax
comp=Z,164nm,1.1s
SONM pmax pmax
comp=Z,208nm,0.9s
SONM pmax pmax
comp=Z,26nm,0.9s
ULN Ulaanbaatar 51.57 5 *e*P **P 17 15 13.6 +0.7**
comp=Z,234nm,1.2s,mb6.0
ULN Ulaanbaatar 51.57 5 *e*P **P 17 15 13.6 +0.7**
ULN pmax pmax
comp=Z,234nm,1.2s,mb6.0
ULN Ulaanbaatar 51.57 5 P **P 17 15 13.5 +0.6**
comp=Z,2μmcomp=Z,156nm,1.4s,mb5.8
ULN Ulaanbaatar 51.57 5 P **P 17 15 14.2 +1.3**
SNR=47
TKM2 Tokmak 2 51.59 337 P **P 17 15 13.9 +0.8**
SNR=116
TKM2 P 17 15 13.9
SNR=116
TKM2 Tokmak 2 51.59 337 *e*P **P 17 15 13.5 +0.4**
comp=Z,162nm,0.9s,mb6.0
TKM2 Tokmak 2 51.59 337 *e*P **P 17 15 13.5 +0.4**
TKM2 pmax pmax
comp=Z,162nm,0.9s,mb6.0
KBK Karagaybulak 51.63 336 P **P 17 15 14.6 +1.1**
SNR=69
KBK P 17 15 14.6
SNR=69
ASHO Ashiyiah 51.70 305 P **P 17 15 15.4 +1.1**
SNR=10.0
HATD Hatta, Dubai 51.70 306 P **P 17 15 15.2 +1.0**
SNR=14
AML Almayashu 51.72 335 P **P 17 15 15.5 +1.4**
SNR=7.9
AML P 17 15 15.5
SNR=7.9
AAK Ala-Archa 51.80 335 P **P 17 15 15.4 +0.7**
SNR=34
AAK P 17 15 15.4
SNR=34
AAK Ala-Archa 51.80 335 PFAKE 17 15 30.0 +15
AAK LR LR
comp=Z,4μm,20.0s,MS5.4
AAK Ala-Archa 51.80 335*ce*P **P 17 15 15.3 +0.6**
AAK Ala-Archa 51.80 335 P **P 17 15 16.0 +1.3**
SNR=39
FRU Bishkek 51.91 336⇑*i*P **P 17 15 16.0 +0.5**
FRU *i* pP 17 15 24.0 -0.6
FRU *e*S **S 17 22 35.0 -1.5**
FRU *i* 17 22 38.0
FRU pmax pmax
comp=Z,260nm,2.0s,mb5.8
FRU MLR MLR
comp=E,6μm,19.0s
CHMS Chumysh 52.00 336 P **P 17 15 16.7 +0.6**
SNR=31
CHMS P 17 15 16.7
SNR=31
EKS2 Erkin-Say 52.12 335 P **P 17 15 18.4 +1.4**
SNR=58
EKS2 P 17 15 18.4
SNR=58
EKS2 Erkin-Say 52.12 335 *e*P **P 17 15 18.3 +1.2**
comp=E,119nm,0.9s,mb5.8
EKS2 Erkin-Say 52.12 335 *e*P **P 17 15 18.3 +1.2**
EKS2 pmax pmax
comp=Z,119nm,0.9s,mb5.8
NAZ Nazwa, Dubai 52.15 306 P **P 17 15 18.8 +1.1**
SNR=9.5
CN2 Changchun 52.19 23⇑P **P 17 15 16.5 -1.1**
CN2 *e*pP pP 17 15 26.5 -0.2
CN2 *e*sP sP 17 15 30.4 +0.2
CN2 PP PP 17 17 15.8 -0.5
CN2 *e*S **S 17 22 38.0 -2.3**
CN2 SS SS 17 26 13.2 -5.0
CN2 pmax pmax
comp=Z,200nm,1.1s,mb6.0
CN2 pmax pmax
comp=Z,800nm,4.0s
CN2 LR LR
comp=N,7μm,16.0s,MS5.8
CN2 LR LR
comp=E,4μm,16.0s,MS5.8
CN2 LR LR
comp=Z,7μm,16.0s,MS5.8
USP Ospenovka 52.32 336 P **P 17 15 18.8 +0.3**
SNR=112
USP P 17 15 18.8
SNR=112
MK31 Makanchi Array 52.77 344 *e*P **P 17 15 22.1 +0.3**
MK31 Makanchi Array 52.77 344 *e*P **P 17 15 22.1 +0.3**
MKAR Makanchi Array 52.77 344 P **P 17 15 21.8 0.0**
comp=Z,121nm,0.9s,mb5.8,baz=148,slow=7.6,SNR=465
MKAR LR LR 17 42 41.8
comp=Z,2μm,18.5s,MS5.2,baz=160,slow=42
MKAR Makanchi Array 52.77 344 P **P 17 15 21.8 0.0**
MKAR Makanchi Array 52.77 344 P **P 17 15 21.8 0.0**
MKAR pmax pmax
comp=Z,121nm,0.9s
MKAR MLR MLR
comp=Z,2μm,18.5s
TOO Toolangi 53.06 136 *e*P pP 17 15 34.3 +1.0
comp=Z,64nm,1.0s
TOO *e*S **S 17 22 55.4 +2.9**
MAJO Matsushiro 53.10 38 *e*P **P 17 15 22.9 -1.5**
comp=Z,154nm,1.3s,mb5.8
MAJO Matsushiro 53.10 38 *e*P **P 17 15 22.9 -1.5**
MAJO pmax pmax
comp=Z,154nm,1.3s,mb5.8
MAT Matsushiro 53.10 38 P **P 17 15 22.5 -1.9**
MAT S **S 17 22 52.0 -1.0**
MJAR Matsushiro Arr 53.10 38 P **P 17 15 23.0 -1.5**
comp=Z,104nm,1.1s,mb5.7,baz=221,slow=8.2,SNR=99
MJAR PcP PcP 17 16 33.0 +0.4
comp=Z,15nm,1.0s,baz=224,slow=5.3,SNR=2.6
MJAR LR LR 17 40 13.8
comp=Z,1μm,19.8s,MS5.0,baz=245,slow=38
MJAR Matsushiro Arr 53.10 38 P **P 17 15 23.0 -1.5**
MJAR PcP PcP 17 16 33.0 +0.4
MJAR Matsushiro Arr 53.10 38 P **P 17 15 23.0 -1.4**

MJAR 17 16 33.0
MJAR pmax pmax
comp=Z,104nm,1.1s
MJAR pmax pmax
comp=Z,15nm,1.0s
MJAR MLR MLR
comp=Z,1μm,19.8s
YNG Young 53.74 131 *e*P **P 17 15 29.4 +0.1**
comp=Z,29nm,0.7s,mb5.3
YNG *e*S **S 17 23 01.2 -0.7**
ZAK Zakamensk 53.84 2⇑*i*P **P 17 15 30.0 +0.4**
ZAK *e* pP 17 15 37.9 -0.8
ZAK *e* 17 16 35.4
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
KK31 Karatay Array 53.91 333 *i* P **P 17 15 29.5 -0.8**
KK31 pmax pmax
comp=Z,24nm,0.8s,mb5.2
KKAR Karatay Array 53.91 333 *e*P **P 17 15 30.0 -0.2**
comp=Z,60nm,1.3s,mb5.4
KKAR Karatay Array 53.91 333 *e*P **P 17 15 30.0 -0.3**
KKAR pmax pmax
comp=Z,60nm,1.3s,mb5.4
VLA Vladivostok 54.38 28⇓*i*P **P 17 15 33.7 0.0**
VLA *e* 17 16 35.6
VLA *e*S **S 17 23 06.3 -3.8**
VLA pmax pmax
comp=Z,136nm,1.3s,mb5.7
ABPO Ambohimpanom 54.39 249 *e*P **P 17 15 35.2 +1.0**
comp=Z,65nm,1.8s,mb5.3
ABPO LR LR
comp=Z,3μm,21.0s,MS5.3
ABPO Ambohimpanom 54.39 249 *e*P **P 17 15 35.2 +1.0**
ABPO pmax pmax
comp=Z,65nm,1.8s,mb5.3
ABPO MLR MLR
comp=Z,3μm,21.0s,MS5.3
MDJ Mudanjiang 54.54 25 P **P 17 15 34.8 0.0**
MDJ pmax pmax
comp=Z,46nm,1.0s,mb5.5
MDJ pmax pmax
comp=Z,620nm,7.9s
MDJ LR LR
comp=N,5μm,13.7s,MS5.9
MDJ LR LR
comp=E,4μm,12.4s,MS5.9
MDJ LR LR
comp=Z,8μm,13.1s,MS6.0
CAN Canberra 54.61 132 *e*P **P 17 15 35.9 +0.3**
comp=Z,31nm,0.9s,mb5.3
CAN Canberra 54.61 132 *e*P **P 17 15 35.9 +0.3**
CAN pmax pmax
comp=Z,31nm,0.9s,mb5.3
HVS Khovu-Aksy 54.88 355*c i*P **P 17 15 36.8 -0.3**
HVS pmax pmax
comp=Z,266nm,1.4s,mb6.1
ARMA Armidale 54.90 125⇑*i*P **P 17 15 39.0 +1.3**
MOY Mondy 55.08 0 *e*P **P 17 15 39.1 +0.5**
MOY pmax pmax
comp=Z,93nm,2.7s,mb5.3
TLY Talaya 55.15 2 *e*P **P 17 15 40.1 +1.1**
comp=Z,82nm,1.0s,mb5.7
TLY Talaya 55.15 2 *e*P **P 17 15 38.9 -0.2**
TLY *e* 17 17 38.8
TLY pmax pmax
comp=Z,80nm,1.1s,mb5.7
TLY MLR MLR
comp=Z,5μm,16.0s,MS5.6
TLY Talaya 55.15 2 P **P 17 15 40.3 +1.3**
SNR=20
TLY Talaya 55.15 2 P **P 17 15 40.4 +1.3**
comp=Z,390nm,1.0s,mb6.4,SNR=9.2
IRK Irkutsk 55.74 3 *e*P **P 17 15 43.7 +0.4**
IRK *e* pP 17 15 52.7 +0.2
IRK pmax pmax
comp=Z,135nm,1.6s,mb5.7
CIT Chita 56.50 9 *e*P **P 17 15 49.3 +0.5**
CIT *e* pP 17 15 57.9 0.0
CIT *e* 17 16 04.5
CIT pmax pmax
comp=Z,304nm,2.0s,mb6.0
ABKT Ailbek 57.14 320 P **P 17 15 53.4 -0.2**
comp=Z,292nm,1.2s,mb6.2,SNR=13
KURK Kurchatov 57.35 344 *e*P **P 17 15 54.3 -0.5**
comp=Z,232nm,1.1s,mb6.1
KURK Kurchatov 57.35 344*c i*P **P 17 15 54.7 -0.1**
KURK pmax pmax
comp=Z,291nm,1.2s,mb6.2
KURK Kurchatov 57.35 344 P **P 17 15 54.9 +0.1**
SNR=64
ZAA0 Zalesovo Array 58.88 349 *e*P **P 17 16 05.0 -0.5**
ZALV Zalesovo Beam 58.88 349 P **P 17 16 05.1 -0.4**
comp=Z,229nm,1.0s,mb6.2,baz=160,slow=4.7,SNR=526
ZALV S **S 17 24 09.2 -0.1**
comp=Z,1.3nm,0.7s,baz=157,slow=13,SNR=4.3
ZALV PKP2ab 17 46 01.4
comp=Z,0.3nm,0.4s,baz=308,slow=4.7,SNR=4.9
ZALV LR LR 17 46 51.9
comp=Z,926nm,18.8s,MS4.9,baz=165,slow=42
ZALV Zalesovo Beam 58.88 349 P **P 17 16 05.1 -0.4**
ZALV S **S 17 24 09.2 -0.1**
ZALV P'P'ab 17 46 01.4
ZALV Zalesovo Beam 58.88 349 P **P 17 16 05.1 -0.4**
ZALV S **S 17 24 09.2 -0.1**
ZALV pmax pmax
comp=Z,229nm,1.0s,mb6.2
ZALV smax
comp=N,1.0nm,0.7s
ZALV MLR MLR
comp=Z,927nm,18.8s,MS4.9
HNR Honiara 59.08 99 P **P 17 16 05.5 -2.1**
comp=Z,245nm,0.9s,mb6.2,baz=164,slow=4.1,SNR=8.0
HNR Honiara 59.08 99 *e*P **P 17 16 06.3 -1.4**
comp=Z,549nm,1.1s,mb6.5
HNR Honiara 59.08 99 *e*P **P 17 16 06.3 -1.3**
HNR pmax pmax
comp=Z,549nm,1.1s,mb6.5
KLR Kul'dur 59.13 23⇓*i*P **P 17 16 03.0 -4.3**
KLR *e*S **S 17 24 23.0 +10**
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,340nm,1.8s,mb6.1
KLR pmax pmax
comp=Z,1μm,7.5s
HABR Khabarovsk 59.90 26*ce*P **P 17 16 09.7 -2.9**
HABR *e**PP pP 17 16 19.8 -2.1
HABR *e**SP sP 17 16 23.9 -1.5
HABR *e* 17 16 56.4
HABR 17 18 21.6
HABR *e*S **S 17 24 18.6 -4.0**
HABR *e**SS sS 17 24 35.2 -2.6
HABR *e*SS SS 17 28 16.0 -3.5
HABR pmax pmax
comp=Z,104nm,1.9s,mb5.5
HABR pmax pmax
comp=N,17nm,1.1s
HABR pmax pmax
comp=E,37nm,1.4s
HABR pmax pmax
comp=Z,359nm,3.0s
HABR MLR MLR
comp=Z,3μm,19.0s,MS5.5
NVS Novosibirsk 60.03 348⇑*i*P **P 17 16 12.4 -1.0**
NVS *e*S **S 17 24 12.4 -12**
NVS pmax pmax
comp=N,96nm,1.4s
NVS pmax pmax
comp=Z,164nm,1.4s,mb5.9
NVS pmax pmax
comp=E,60nm,1.3s
NVS smax
comp=E,30nm,1.8s
RAYN Ar Rayn 60.14 300 P **P 17 16 14.5 -0.3**
comp=E,121nm,1.1s,mb5.8,SNR=15
KBD Kabd 60.35 307 *e*P **P 17 16 16.2 0.0**
KBD AMb AMB 17 16 17.5
comp=Z,86nm,1.3s,mb5.6
RDF Al-Radifah 60.37 306 *e*P **P 17 16 17.0 +0.7**
RDF AMb AMB 17 16 28.1
comp=Z,168nm,1.6s,mb5.8
UMR Umm Al-Rimmam 60.48 307 *e*P **P 17 16 17.4 +0.4**
UMR AMb AMB 17 16 18.4
comp=Z,129nm,1.4s,mb5.8
ASAJ Asahikawa 60.56 34 P **P 17 16 16.8 -0.5**
comp=Z,37nm,0.8s,mb5.5,baz=238,slow=16,SNR=22

ASAJ Asahikawa 60.56 34 *e*P **P 17 16 16.5 -0.7**
comp=Z,42nm,1.1s,mb5.5
ASAJ Asahikawa 60.56 34 P **P 17 16 16.8 -0.4**
ASAJ pmax pmax
comp=Z,37nm,0.9s
NAY Al-Naaiem 60.74 306 *e*P **P 17 16 18.6 -0.2**
NAY AMb AMB 17 16 29.9
comp=Z,59nm,1.2s,mb5.6
VOSK Vostochnaya 61.49 340 P **P 17 16 21.5 -1.9**
VOSK pmax pmax
comp=Z,153nm,1.2s,mb6.0
BVA0 Borovoye Array 61.94 340 *i* P **P 17 16 25.2 -1.2**
BVA0 pmax pmax
comp=Z,18nm,1.0s,mb5.2
BRVK Borovoye 62.00 340 *e*P **P 17 16 25.8 -1.0**
comp=Z,62nm,0.9s,mb5.7
BRVK Borovoye 62.00 340*c i*P **P 17 16 26.1 -0.7**
BRVK pmax pmax
comp=Z,99nm,1.2s,mb5.8
BRVK Borovoye 62.00 340 P **P 17 16 26.4 -0.4**
SNR=24
BOD Bodaibo 62.17 8 *e*P **P 17 16 27.4 -0.5**
BOD pmax pmax
comp=Z,86nm,1.1s,mb5.8
YUK Yuzh-Kuril'sk 62.35 35*c i*P **P 17 16 25.3 -4.0**
YUK *e*S **S 17 24 48.8 -5.1**
YUK pmax pmax
comp=Z,2μm,1.8s,mb7.0
YUK MLR MLR
comp=E,2μm,19.0s
YUK MLR MLR
comp=Z,2μm,19.0s,MS5.3
ZRNK Zerenda 62.37 339 P **P 17 16 27.4 -1.9**
ZRNK pmax pmax
comp=Z,113nm,1.1s,mb5.9
YSS Yuzh-Sakhalins 62.49 31 *e*P **P 17 16 29.6 -0.6**
comp=Z,259nm,0.9s,mb6.4
YSS *e* pP 17 16 37.7 -1.7
YSS Yuzh-Sakhalins 62.49 31α *i*P **P 17 16 29.8 -0.4**
YSS *e**PP pP 17 16 40.2 +0.7
YSS *e* 17 17 10.0
YSS *e* 17 18 51.0
YSS *e*S **S 17 24 52.0 -3.6**
YSS *e*PS 17 25 10.0
YSS *e*PPS 17 25 26.0
YSS *e* 17 26 12.0
YSS pmax pmax
comp=N,60nm,0.9s
YSS pmax pmax
comp=Z,220nm,0.9s,mb6.3
YSS pmax pmax
comp=E,40nm,0.8s
YSS MLR MLR
comp=E,2μm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s,MS5.2
MIR Mirnyy 63.04 183 *e*P **P 17 16 25.0 -8.6**
MIR pmax pmax
comp=Z,45nm,2.0s,mb5.2
MIR MLR MLR
comp=N,2μm,18.0s,MS5.5
MIR MLR MLR
comp=E,2μm,18.0s,MS5.5
MIR MLR MLR
comp=Z,3μm,18.0s,MS5.5
CLNS Chul'man 63.39 15 *e*P **P 17 16 35.3 -0.7**
CLNS *e**PP pP 17 16 52.6 +7.3
CLNS *e* 17 17 11.3
CLNS *e* 17 18 54.5
CLNS *e*PPP 17 20 26.8
CLNS *e*S **S 17 25 05.7 -0.8**
CLNS pmax pmax
comp=N,30nm,1.2s
CLNS pmax pmax
comp=Z,64nm,1.2s,mb5.6
CLNS pmax pmax
comp=E,28nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,13nm,1.2s
CLNS smax
comp=N,312nm,11.5s
CLNS smax
comp=E,251nm,12.5s
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.8
CLNS MLR MLR
comp=Z,7μm,18.0s,MS5.9
CLNS MLR MLR
comp=N,4μm,13.0s,MS5.8
AB31 Akbulak array 63.39 331 *i* P **P 17 16 35.1 -1.1**
AB31 pmax pmax
comp=Z,189nm,1.1s,mb6.1
ABKAR Akbulak array 63.39 331 *e*P **P 17 16 35.1 -1.1**
comp=Z,112nm,0.9s,mb6.0
KMBO Kilima Mbogo 63.44 271 *e*P **P 17 16 37.9 +0.7**
comp=Z,8.7nm,1.1s,mb4.8
KMBO Kilima Mbogo 63.44 271 *e*P **P 17 16 37.9 +0.7**
KMBO pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 63.44 271 P **P 17 16 46.4 +9.2**
SNR=5.9
BHD Baghdad 64.58 309 *i* x **P 17 16 42.0 -2.3**
BHD *i* x x 17 25 19.5
DZM Mont Dzumac 66.18 112 *e*P **P 17 16 54.6 -0.3**
comp=Z,70nm,1.4s,mb5.5
DZM *e*S S 17 25 39.5 -2.7
comp=Z,2μm,27.4s
DZM *e*LR LR 17 36 48.9
comp=Z,3μm,24.1s
MAK Makhachkala 66.66 320 *e*P **P 17 16 56.9 -0.6**
MAK *e* 17 17 23.6
MAK *e* 17 19 20.2
MAK *e*PPP 17 21 08.5
MAK *e*S S 17 25 46.5 -0.7
MAK *e* 17 26 53.7
MAK *e*SS SS 17 30 08.6 +3.3
MAK pmax pmax
comp=Z,213nm,1.1s,mb6.1
MAK pmax pmax
comp=N,124nm,0.8s
MAK pmax pmax
comp=E,49nm,0.6s
MAK pmax pmax
comp=Z,702nm,2.4s,mb6.3
MAK smax
comp=E,2μm,5.0s
MAK smax
comp=N,2μm,5.4s
HAKT HAKKARI 66.80 314⇑ *i*P **P 17 16 57.0 -1.6**
DGRG David-gareji 67.33 318 P **P 17 17 02.1 +0.2**
MTA Mtatsminda 67.83 318 P **P 17 17 05.1 +0.1**
TBLG Delisi 67.89 318 *e*P **P 17 17 05.2 -0.2**
TBLG Delisi 67.89 318 P **P 17 17 05.2 -0.1**
GOR Gori 68.42 318 P **P 17 17 10.0 +1.3**
SVE Sverdlovsk 68.44 338*de*P **P 17 17 08.6 +0.1**
SVE *e* 17 19 42.1
SVE *e*PPP 17 21 16.4
SVE *e*S S 17 26 04.8 -3.3
SVE *e* 17 27 03.3
SVE *e*SSS 17 33 39.3
SVE pmax pmax
comp=Z,211nm,1.2s,mb6.0
SVE smax
comp=E,747nm,19.3s
SVE MLR MLR
comp=Z,3μm,21.0s,MS5.5
SVE MLR MLR
comp=N,1μm,22.0s,MS5.4
SVE MLR MLR
comp=E,2μm,21.0s,MS5.4
DRV Dumont d'Urvil 68.58 164 P **P 17 17 18.0 +8.8**
DRV S S 17 26 08.0 -1.5
DRV SS SS 17 29 56.0 -38
DRV L 17 33 00.0
DRV R 17 38 00.0
AKH Akhalkalaki 68.58 317 P **P 17 17 10.4 +0.6**
MAW Mawson 68.90 195 LR LR 17 40 49.2
comp=E,3μm,21.6s,MS5.5,baz=36,slow=30
ARU Arti 68.97 336 *e*P **P 17 17 10.6 -1.2**
comp=E,139nm,1.3s,mb5.7
ARU Arti 68.97 336*c i*P **P 17 17 11.1 -0.7**
ARU *e* 17 17 36.3
ARU *e*PPP 17 21 18.2
ARU S S 17 26 14.4 +0.1
ARU SS SS 17 30 37.2 -3.3
ARU SSS 17 33 48.1
ARU pmax pmax
comp=Z,134nm,1.2s,mb5.8
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.4
ARU Arti 68.97 336 P **P 17 17 11.2 -0.6**
comp=Z,442nm,1.1s,mb6.3,SNR=28
ONI Oni 69.12 318 P **P 17 17 13.3 +0.2**
YAK Yakutsk 69.13 14 *e*P **P 17 17 10.9 -1.8**
comp=Z,255nm,1.1s,mb6.1
YAK Yakutsk 69.13 14*c i*P **P 17 17 11.5 -1.2**
YAK *e* 17 17 35.3
YAK *e* 17 19 40.5
YAK *e*PPP 17 21 30.4
YAK *e*S S 17 26 16.2 +0.2
YAK *e*SS SS 17 30 46.7 +4.0
YAK pmax pmax
comp=Z,227nm,1.2s,mb6.0
YAK pmax pmax
comp=N,92nm,1.3s
YAK pmax pmax
comp=E,73nm,1.4s
YAK pmax pmax
comp=Z,617nm,4.2s
YAK pmax pmax
comp=N,610nm,5.4s
YAK pmax pmax
comp=E,560nm,4.4s
YAK smax
comp=N,215nm,9.9s
YAK smax
comp=E,56nm,9.1s
YAK MLR MLR
comp=Z,5μm,16.0s,MS5.8
YAK MLR MLR
comp=N,4μm,16.0s,MS5.8
YAK MLR MLR
comp=E,1μm,15.0s,MS5.8
DDEM Demirkent 69.56 316⇑ *i*P **P 17 17 16.1 +0.3**
DBOC Borcka 69.80 317⇑ *i*P **P 17 17 16.7 -0.6**
KIV Kislovodsk 70.22 319 *e*P **P 17 17 19.9 +0.1**
comp=E,87nm,1.3s,mb5.5
KIV Kislovodsk 70.22 319*c i*P **P 17 17 19.9 +0.1**
KIV *e* 17 17 37.9
KIV *e* 17 19 53.8
KIV *e*PPP 17 21 37.9
KIV *e*S S 17 26 29.6 -0.1
KIV *e*SS SS 17 31 01.5 +1.1
KIV pmax pmax
comp=Z,61nm,1.0s,mb5.5
KIV pmax pmax
comp=Z,115nm,4.2s
KIV MLR MLR
comp=Z,892nm,19.0s,MS5.0
KIV Kislovodsk 70.22 319 P **P 17 17 20.8 +1.0**
SNR=15
KIV Kislovodsk 70.22 319 P **P 17 17 20.5 +0.7**
comp=Z,296nm,1.3s,mb6.1,SNR=8.8
ATAB Bozova 70.75 312⇑ *i*P **P 17 17 22.6 -0.5**
AKCD Akcadag 71.31 312⇑ *i*P **P 17 17 26.8 +0.2**
SKR Severo-Kuril's 71.82 33 *e*P **P 17 17 29.0 -0.4**
SKR *e* pP 17 17 37.4 -1.4
SKR pmax pmax
comp=Z,350nm,1.1s,mb6.2
SOKR Solikamsk 71.82 338*c i*P **P 17 17 29.4 +0.2**
SOKR S S 17 26 48.9 +1.3
SOKR SS SS 17 31 20.5 -3.8
SOKR pmax pmax
comp=Z,170nm,1.1s,mb5.9
SOKR MLR MLR
comp=Z,4μm,24.0s,MS5.5
SOC Sochi 72.03 318*c i*P **P 17 17 29.6 -1.1**
SOC *i* *PP pP 17 17 37.8 -2.4
SOC *e* 17 17 48.0
SOC *e* 17 20 09.5
SOC *e*PPP 17 21 59.0
SOC *i* S S 17 26 47.3 -3.2
SOC *e* 17 27 29.2
SOC pmax pmax
comp=Z,67nm,0.9s,mb5.6
SOC MLR MLR
comp=Z,1μm,21.0s,MS5.2
GULE Gulek 73.33 311⇑ *i*P **P 17 17 39.0 +0.3**
RPZ Rata Peaks 73.34 135 LR LR 17 49 00.3
comp=Z,4μm,21.9s,MS5.6,baz=280,slow=35
AVNT Avonos 73.74 312⇑ *i*P **P 17 17 40.6 -0.4**
CSS Prodhromos 73.77 308 *e*P **P 17 17 41.4 +0.1**
comp=Z,141nm,1.4s,mb5.7
PETK Petropavlovsk- 73.88 32 P **P 17 17 41.0 -0.5**
comp=Z,13nm,0.7s,mb4.9,baz=211,slow=6.4,SNR=7.5
PETK Petropavlovsk- 73.88 32 P **P 17 17 41.0 -0.5**
PETK Petropavlovsk- 73.88 32 P **P 17 17 41.1 -0.4**
PETK pmax pmax
comp=Z,13nm,0.7s,mb5.0
ANN Anapa 74.01 319 *e*P **P 17 17 41.0 -1.5**
ANN *e*S S 17 27 09.3 -3.8
ANN *e*SSS 17 35 12.6
ANN pmax pmax
comp=Z,49nm,1.2s,mb5.3
PET Petropavlovsk 74.34 32 *e*P **P 17 17 41.8 -2.4**
comp=Z,124nm,1.0s,mb5.8
PET Petropavlovsk 74.34 32 *e*P **P 17 17 43.1 -1.1**
PET *e* 17 20 34.5
PET *e*S S 17 27 12.4 -4.0
PET pmax pmax
comp=Z,161nm,1.1s,mb5.9
PET pmax pmax
comp=Z,400nm,12.7s
PET pmax pmax
comp=Z,300nm,15.3s
CTKT Corum 74.38 314 *i* P **P 17 17 43.8 -0.9**
BR131 Keskin Array S 74.93 313 *e*P **P 17 17 47.1 -0.8**
comp=Z,18nm,0.8s,mb5.1
BRTR Keskin Array B 74.93 313 P **P 17 17 47.2 -0.7**
comp=Z,17nm,0.8s,mb5.0,baz=134,slow=7.6,SNR=109
BRTR pP pP 17 17 56.0 -1.4
comp=Z,8.3nm,0.6s,baz=139,slow=6.1,SNR=9.7
BRTR Keskin Array B 74.93 313 P **P 17 17 47.2 -0.7**
BRTR pP pP 17 17 56.0 -1.4
BRTR Keskin Array B 74.93 313 P **P 17 17 47.3 -0.7**
BRTR *PP pP 17 17 56.0 -1.4
BRTR pmax pmax
comp=Z,17nm,0.8s
BRTR pmax pmax
comp=Z,8.0nm,0.6s
BOSA Boshof 75.50 242 P **P 17 17 51.2 -0.3**
comp=Z,7.8nm,0.9s,mb4.6,baz=103,slow=3.2,SNR=9.2
BOSA pP pP 17 17 58.4 -2.5
comp=Z,9.8nm,0.8s,baz=64,slow=5.5,SNR=7.4
BOSA LR LR 17 45 03.7
comp=Z,1μm,20.1s,MS5.3,baz=92,slow=31
BOSA Boshof 75.50 242 *e*P **P 17 17 51.6 +0.1**
comp=Z,13nm,1.0s,mb4.8
BOSA pP pP 17 17 58.4 -2.5
BOSA Boshof 75.50 242 P **P 17 17 51.3 -0.2**
BOSA *PP pP 17 17 58.4 -2.6
BOSA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BOSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BOSA MLR MLR
comp=Z,1μm,20.1s,MS5.3
VSR Storozhevoye 75.50 325 *e*P **P 17 17 49.9 -1.1**
VSR *e**PP pP 17 17 57.8 -2.6
VSR *e* 17 20 38.6
VSR *e*S S 17 27 24.9 -4.6
VSR pmax pmax
comp=Z,90nm,0.8s,mb5.8
VSR pmax pmax
comp=N,20nm,0.7s
VSR pmax pmax
comp=E,40nm,0.7s
VSR pmax pmax
comp=Z,250nm,4.5s
VSR pmax pmax
comp=N,90nm,4.1s
VSR pmax pmax
comp=E,100nm,4.7s
VSR smax
comp=N,370nm,5.0s
VSR smax
comp=Z,170nm,4.0s
VSR smax
comp=E,120nm,7.8s
VSR MLR MLR
comp=Z,2μm,22.0s,MS5.3
VSR MLR MLR
comp=N,420nm,19.0s,MS5.2
VSR MLR MLR
comp=E,1μm,20.0s,MS5.2
SIM Simferopol' 76.27 318*c i*P **P 17 17 53.3 -2.2**
SIM *e*PPP 17 22 39.0
SIM *e*S S 17 27 33.0 -5.2
SIM *e*PS 17 28 15.0
SIM pmax pmax
comp=Z,35nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,730nm,20.8s,MS5.0
SYO Syowa Base 76.57 199⇓ *e*P **P 17 18 01.0 +4.3**
URZ Urewera 77.09 128 LR LR 17 55 10.8
comp=Z,1μm,18.9s,MS5.3,baz=218,slow=38
MOS Moscow 78.24 329 *e*P **P 17 18 05.3 -1.0**
MOS *e* pP 17 18 13.8 -2.0
MOS *e* 17 18 23.1
MOS *e*S S 17 27 54.4 -4.8
MOS pmax pmax
comp=Z,185nm,1.4s,mb5.8
MOS pmax pmax
comp=Z,300nm,1.7s,mb6.0
MOS MLR MLR
comp=Z,2μm,21.0s,MS5.3
OBN Obninsk 78.54 328 *e*P **P 17 18 07.8 -0.1**
comp=Z,263nm,1.4s,mb6.0
OBN Obninsk 78.54 328*c i*P **P 17 18 07.9 0.0**
OBN *i* pP 17 18 16.0 -1.4
OBN *i* 17 21 04.8
OBN *i* S S 17 28 02.4 +0.1
OBN *i* SS SS 17 32 59.6 -6.7
OBN pmax pmax
comp=Z,182nm,1.3s,mb5.8
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.2
OBN Obninsk 78.54 328 P **P 17 18 07.6 -0.3**
comp=Z,543nm,1.0s,mb6.4,SNR=7.4
AKHS Akhisar 79.05 311⇑ *i*P **P 17 18 10.1 -1.0**
KLMR Klimovskoe 79.59 334*c i*P **P 17 18 13.6 0.0**
KLMR *e* 17 18 20.4
KLMR S S 17 28 12.7 -0.6
KLMR pmax pmax
comp=Z,207nm,1.3s,mb5.9
KLMR pmax pmax
comp=Z,35nm,3.0s
KLMR MLR MLR
comp=Z,996nm,18.0s,MS5.2
TLCR 79.92 317⇓ P **P 17 18 16.4 +0.7**
TLCR 79.92 317⇓ *i*P **P 17 18 16.4 +0.7**
TIRR Tirgusor 80.00 316⇓ P **P 17 18 16.3 +0.1**
TIRR Tirgusor 80.00 316⇓ *i*P **P 17 18 16.3 +0.1**
PRK Paraskevi 80.31 311 *e*P **P 17 18 17.1 -0.9**
KIS Kishinev 80.41 319 *e*P **P 17 18 17.0 -1.3**
KIS *e*S S 17 28 20.0 -2.5
KIS LRM 18 00 30.0
comp=Z,700nm,17.0s
KIS Kishinev 80.41 319 *e*P **P 17 18 17.0 -1.3**
KIS *e* pP 17 18 26.0 -1.9
KIS *e* 17 23 12.0
KIS *e*S S 17 28 20.0 -2.5
KIS MLR MLR
comp=Z,700nm,17.0s,MS5.1
VNDA Vanda 80.44 169 *e*P **P 17 18 16.9 -1.1**
comp=Z,16nm,1.0s,mb4.9
VNDA Vanda 80.44 169 *e*P **P 17 18 16.9 -1.1**
VNDA pmax pmax
comp=Z,16nm,1.0s
LEOM Leova 80.65 318⇑ P **P 17 18 20.4 +0.8**
LEOM Leova 80.65 318⇑ *i*P **P 17 18 20.4 +0.8**
AKASG Malin Array Be 81.19 322 P **P 17 18 21.4 -1.0**
comp=Z,15nm,0.9s,mb4.9,baz=88,slow=4.7,SNR=39
AKASG pP pP 17 18 29.3 -2.7
comp=Z,5.0nm,0.7s,baz=92,slow=4.8,SNR=4.6
AKASG LR LR 17 58 50.7
comp=Z,1μm,21.5s,MS5.3,baz=85,slow=39
AKASG Malin Array Be 81.19 322 P **P 17 18 21.4 -1.0**
AKASG pP pP 17 18 29.3 -2.7
AKASG Malin Array Be 81.19 322 P **P 17 18 21.5 -0.9**
AKASG *PP pP 17 18 29.3 -2.7
AKASG pmax pmax
comp=Z,15nm,0.9s
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG MLR MLR
comp=Z,1μm,21.5s
AKBB Malin Array Si 81.19 322 *e*P **P 17 18 21.1 -1.3**
AKBB *e* pP 17 18 30.1 -1.9
AKBB Malin Array Si 81.19 322 *e*P **P 17 18 21.1 -1.3**
AKBB *e* pP 17 18 30.1 -1.9
KIEV Kiev 81.20 322 *e*P **P 17 18 21.6 -0.9**
comp=Z,41nm,1.4s,mb5.2
KIEV *e* pP 17 18 29.9 -2.1
KIEV Kiev 81.20 322 *e*P **P 17 18 21.6 -0.9**
KIEV *e* pP 17 18 29.9 -2.1
KIEV pmax pmax
comp=Z,41nm,1.4s,mb5.2
VRI Vrincioaia 81.51 317⇑ P **P 17 18 24.6 +0.3**
VRI Vrincioaia 81.51 317⇑ *i*P **P 17 18 24.6 +0.3**
PLOR Plostina 81.56 317⇓ P **P 17 18 25.1 +0.6**
PLOR Plostina 81.56 317⇓ *i*P **P 17 18 25.1 +0.6**
TESR 81.72 318⇓ *i*P **P 17 18 26.0 +0.6**
PTL Penteli 81.90 309 *e*P **P 17 18 25.6 -0.9**
VLY Voula,Athens 81.92 309 *e*P **P 17 18 24.8 -1.8**
MLR Muntele Rosu 81.96 317⇑ P **P 17 18 27.2 +0.6**
MLR Muntele Rosu 81.96 317⇑ *i*P **P 17 18 27.2 +0.6**
VIL1 Vilia, Western 82.34 309 *e*P **P 17 18 28.0 -0.8**
BURAR Bucovina Array 82.94 319⇑ P **P 17 18 33.1 +1.4**
BURAR Bucovina Array 82.94 319⇑ *i*P **P 17 18 33.1 +1.4**
BUR08 Bucovina Ar. S 82.95 319 *e*P **P 17 18 32.4 +0.6**
MICGM Minsk 83.06 326⇑ *i*P **P 17 18 30.0 -2.1**
MNK Minsk 83.08 326⇑ *i*P **P 17 18 30.0 -2.3**
MNK pmax pmax
comp=Z,210nm,1.1s,mb6.1
PUL Pulkovo 83.38 331⇓ *i*P **P 17 18 34.9 +1.2**
PUL pmax pmax
comp=Z,80nm,0.4s,mb6.1
VAY Valandovo 83.50 312 *i* P **P 17 18 33.3 -1.4**
NACGM Naroch 83.78 326 *e* **P 17 18 33.0 -2.8**
JOF Joensuu 83.98 334 *e*P **P 17 18 35.6 -1.1**
JOF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
JOF Joensuu 83.98 334 *e*p **P 17 18 35.6 -1.1**
comp=Z,8.6nm,0.8s,mb4.9
BMR Baia Mare 84.08 319 P **P 17 18 39.1 +1.5**
GZR Gura Zlata 84.12 316⇑ P **P 17 18 38.4 +0.6**
GZR Gura Zlata 84.12 316⇑ *i*P **P 17 18 38.3 +0.5**
LVV L'vov 84.19 321 *e*P **P 17 18 37.4 -0.7**
LVV *e* 17 21 57.7
LVV MLR MLR
comp=Z,700nm,17.0s,MS5.1
LVV MLR MLR
comp=N,100nm,16.0s,MS5.1
LVV MLR MLR
comp=E,600nm,17.0s,MS5.1
IIGN Ignalina 84.21 326 *e*P **P 17 18 38.1 +0.1**
IIGN AMB AMB 17 18 39.2
comp=Z,30nm,1.3s,mb5.3
IZAR Zarasai 84.30 327 *e*P **P 17 18 38.5 +0.1**
IZAR AMB AMB 17 18 39.4
comp=Z,19nm,1.4s,mb5.0
ISAL Salakas 84.32 327 *e*P **P 17 18 38.6 +0.1**
ISAL AMB AMB 17 18 40.9
comp=Z,21nm,1.2s,mb5.2
BIA Bitola 84.37 312 *e*P **P 17 18 37.6 -1.6**
BILL Bilibino 84.43 20⇓ *i*P **P 17 18 38.6 -0.3**
BILL *e* 17 21 52.3
BILL pmax pmax
comp=Z,47nm,1.4s,mb5.4
DRGR 84.43 318⇑ P **P 17 18 40.0 +0.6**
DRGR 84.43 318⇑ *i*P **P 17 18 40.0 +0.6**
SKO Skopje 84.45 313 *e*P **P 17 18 37.9 -1.7**
KRUS Krusevo 84.48 312 *i* P **P 17 18 38.1 -1.7**
LVZ Lovozero 84.54 340 *e*P **P 17 18 39.3 -0.1**
LVZ pmax pmax
comp=Z,72nm,1.2s,mb5.7
TRPA Tarpa 84.81 319⇑ *i*P **P 17 18 42.0 +0.8**
APA Apatity 84.85 339⇓ *i*P **P 17 18 41.0 0.0**
APA *i* pP 17 18 49.5 -1.1

APA eS S 17 29 07.0 0.0
APA pmax pmax
comp=Z,72nm,1.2s,mb5.7
APA MLR MLR
comp=Z,2μm,21.0s,MS5.6
BZS Buzias 84.96 316 ⇑P P 17 18 42.3 +0.3
BZS Buzias 84.96 316 ⇑iP P 17 18 42.3 +0.3
KWP Kalwaria Pacla 85.00 320 eP P 17 18 42.7 +0.6
KWP epP pP 17 18 51.3 -0.4
KWP ePP PP 17 21 57.3 -2.0
KWP LMZ 18 02 50.2
comp=Z,1μm,23.1s
KWP Kalwaria Pacla 85.00 320 eP P 17 18 42.4 +0.3
comp=Z,74nm,1.3s,mb5.7
KWP Kalwaria Pacla 85.00 320 eP P 17 18 42.7 +0.6
KWP e*PP pP 17 18 51.3 -0.4
KWP e 17 21 57.3
KWP MLR MLR
comp=Z,1μm,23.1s,MS5.1
KWP Kalwaria Pacla 85.00 320 ⇑iP P 17 18 42.5 +0.4
UZH Uzhgorod 85.07 319 eP P 17 18 42.8 +0.3
UZH i pP 17 18 50.2 -1.9
UZH e 17 22 02.0
UZH iS S 17 29 07.8 -2.2
UZH ePS 17 29 58.0
UZH eSSS 17 38 06.0
UZH MLR MLR
comp=N,650nm,20.0s,MS5.2
UZH MLR MLR
comp=E,650nm,20.0s,MS5.2
UZH MLR MLR
comp=Z,400nm,20.0s,MS4.8
KOLS Kolonicke sedl 85.14 320 eP P 17 18 44.2 +1.4
KOLS Kolonicke sedl 85.14 320 eP P 17 18 44.2 +1.4
SUW Suwalki 85.61 325 eP P 17 18 44.5 -0.5
comp=Z,300nm,1.4s,mb6.3
SUW epP pP 17 18 52.8 -1.8
SUW eSKSac SKSac 17 29 04.7 -3.6
SUW eS S 17 29 13.0 -2.1
SUW LMZ 18 04 50.0
comp=Z,1μm,20.4s
SUW Suwalki 85.61 325 eP P 17 18 45.0 -0.1
comp=Z,185nm,1.1s,mb6.2
SUW Suwalki 85.61 325 eP P 17 18 44.5 -0.6
SUW e*PP pP 17 18 52.8 -1.9
SUW e 17 29 04.7
SUW eS S 17 29 13.0 -2.1
SUW pmax pmax
comp=Z,300nm,1.4s,mb6.3
SUW MLR MLR
comp=Z,1μm,20.4s,MS5.3
CRVS Cervenica-Dubn 85.66 319 eP P 17 18 45.8 +0.4
CRVS eS S 17 29 15.1 -0.7
CRVS Cervenica-Dubn 85.66 319 eP P 17 18 45.8 +0.4
FINES FINESS Array B 85.87 332 P P 17 18 46.5 +0.3
comp=Z,18nm,0.9s,mb5.3,baz=100,slow=7.9,SNR=22
FINES LR LR 18 01 21.5
comp=Z,1μm,21.7s,MS5.3,baz=350,slow=39
FINES FINESS Array B 85.87 332 P P 17 18 46.5 +0.3
FINES FINESS Array B 85.87 332 P P 17 18 46.5 +0.3
FINES pmax pmax
comp=Z,18nm,0.9s
FINES MLR MLR
comp=Z,1μm,21.7s
STHS Stebnicka Huta 85.89 320 eP P 17 18 47.7 +1.1
STHS Stebnicka Huta 85.89 320 eP P 17 18 47.7 +1.1
KAF Kangasniemi 85.94 333 eP P 17 18 45.7 -0.8
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.2
KAF Kangasniemi 85.94 333 ep P 17 18 45.7 -0.8
comp=Z,14nm,0.8s,mb5.2
KECS Kecovo 86.22 319 eP P 17 18 48.4 +0.2
KECS Kecovo 86.22 319 eP P 17 18 48.4 +0.2
NVL N'lazarevskaya 86.23 199 eP pP 17 18 58.0 +0.5
NVL e*PP sP 17 19 09.5 +8.6
NVL pmax pmax
comp=Z,27nm,1.9s,mb5.2
MAIT Maitri 86.26 199 eP P 17 18 51.8 +3.8
MAIT e 17 18 56.6
QSPA South Pole Qui 86.35 180 LR LR 17 55 04.2
comp=Z,2μm,19.1s,MS5.6,baz=322,slow=34
QSPA South Pole Qui 86.35 180 eP P 17 18 48.1 -0.2
comp=Z,17nm,1.3s,mb5.1
NIE Niedzica 86.49 320 eP P 17 18 50.2 +0.7
NIE Niedzica 86.49 320 eP P 17 18 50.2 +0.7
PSZ Piszkesteto 86.52 318 eP P 17 18 49.9 +0.2
comp=Z,31nm,1.3s,mb5.4
PSZ Piszkesteto 86.52 318 ⇓P P 17 18 50.4 +0.7
PSZ Piszkesteto 86.52 318 ⇑ePcP P 17 18 50.5 +0.8
PSZ Piszkesteto 86.52 318 ⇓iP P 17 18 50.4 +0.7
BEL Belsk 86.61 322 eP P 17 18 50.6 +0.6
BEL epP pP 17 18 59.3 -0.3
BEL LMZ 18 01 51.9
comp=Z,2μm,23.5s
BEL Belsk 86.61 322 eP P 17 18 50.6 +0.5
BEL e*PP pP 17 18 59.3 -0.3
BEL MLR MLR
comp=Z,2μm,23.5s,MS5.4
OJC Ojcow 86.95 321 eP P 17 18 51.9 +0.1
OJC ePcP PcP 17 18 54.2 +0.2
OJC eS S 17 29 28.0 -0.3
OJC L 18 10 25.7
comp=Z,1.0nm,18.3s
OJC Ojcow 86.95 321 eP P 17 18 51.9 +0.1
OJC eS S 17 29 28.0 -0.3
OJC MLR MLR
comp=Z,1μm,18.3s,MS5.3
BUD Budapest 87.03 318 ⇓ePcP P 17 18 53.1 +0.9
PKSM Moragy 87.11 316 ⇓P P 17 18 53.1 +0.5
PKSM Moragy 87.11 316 ⇓iP P 17 18 53.1 +0.5
VYHS Vyhne 87.31 319 eP P 17 18 53.8 +0.3
VYHS eS S 17 29 23.2 -8.6
VYHS Vyhne 87.31 319 eP P 17 18 53.8 +0.3
KEV Kevo 87.78 340 eP P 17 18 54.7 -0.7
KEV pmax pmax
comp=Z,13nm,0.9s,mb5.2
KEV Kevo 87.78 340 ep P 17 18 54.7 -0.7
comp=Z,13nm,0.9s,mb5.2
OKC Ostrava-Krasne 87.95 320 iP P 17 18 57.1 +0.5
OKC e 17 29 38.8
OKC e 17 30 41.4
OKC MLR MLR
comp=Z,700nm,20.5s,MS5.1
OKC Ostrava-Krasne 87.95 320 ⇑iP P 17 18 57.1 +0.5
OKC eSKS 17 29 38.8
OKC ex x 17 30 41.4
OKC AMS AMS 18 10 50.0
comp=Z,700nm,20.5s
ARCES ARCESS Array B 88.23 340 P P 17 18 57.7 +0.2
comp=Z,38nm,0.9s,mb5.6,baz=87,slow=2.7,SNR=29
ARCES LR LR 18 02 52.5
comp=Z,2μm,20.3s,MS5.6,baz=99,slow=39
ARCES ARCESS Array B 88.23 340 P P 17 18 57.7 +0.2
ARCES ARCESS Array B 88.23 340 P P 17 18 57.7 +0.2
ARCES pmax pmax
comp=Z,38nm,0.9s
ARCES MLR MLR
comp=Z,2μm,20.3s
ARE0 ARCESS Array S 88.23 340 eP P 17 18 58.3 +0.8
ARE0 e 17 29 39.1
MORC Moravsky Berou 88.33 320 eP P 17 18 58.6 +0.2
comp=Z,61nm,1.5s,mb5.6
MORC Moravsky Berou 88.33 320 ⇑P P 17 18 58.8 +0.4
MORC Moravsky Berou 88.33 320 ⇑iP P 17 18 58.8 +0.4
ZST Bratislava 88.41 318 eP P 17 18 59.4 +0.6
ZST Bratislava 88.41 318 eP P 17 18 59.4 +0.6
SOP Sopron 88.71 318 ePcP P 17 19 00.5 +0.2
KRLC Kraliky 88.85 320 ⇑eP P 17 19 02.3 +1.4
KTK1 Kautokeino 88.89 339 eP P 17 19 01.1 +0.4
KTK1 e 17 29 44.2
KTK1 AMS AMS 18 02 20.4
comp=Z,3μm,16.4s,MS5.8
GKP Gorka Klasztor 88.97 323 eP P 17 19 01.7 +0.3
GKP epP pP 17 19 10.2 -0.7
GKP eSKSac SKSac 17 29 32.6 +3.7
GKP eS S 17 29 47.4 0.0
GKP LMZ 18 07 16.9
comp=Z,1μm,20.2s
GKP Gorka Klasztor 88.97 323 eP P 17 19 01.7 +0.4
GKP e*PP pP 17 19 10.2 -0.8
GKP e 17 29 32.6
GKP eS S 17 29 47.4 0.0
GKP MLR MLR
comp=Z,1μm,20.2s,MS5.3
GCIS Gornji Cirnik 89.14 316 eP P 17 19 03.0 +0.7
DPC Dobruska-Polom 89.18 320 ⇑eP P 17 19 03.4 +1.0
DPC e*PP pP 17 19 10.8 -1.2
DPC e 17 29 50.2
DPC e 17 30 56.0
DPC MLR MLR
comp=Z,900nm,18.4s,MS5.2
DPC Dobruska-Polom 89.18 320 ⇑eP P 17 19 03.4 +1.0
DPC epP pP 17 19 10.8 -1.2
DPC eS S 17 29 50.2 +0.7
DPC ex x 17 30 56.0
DPC AMS AMS 18 10 00.0
comp=Z,900nm,18.4s
CONA Conrad Observa 89.21 318 ⇑iP P 17 19 02.1 -0.4
comp=Z,18nm,1.4s,mb5.2
KSP Ksiaz 89.25 321 eP P 17 19 03.7 +0.9
KSP epP pP 17 19 11.5 -0.8
KSP eSKSac SKSac 17 29 34.3 +3.7
KSP eS S 17 29 47.4 -2.8
KSP LMZ 18 02 39.9
comp=Z,900nm,24.3s
KSP Ksiaz 89.25 321 eP P 17 19 03.3 +0.6
KSP epP pP 17 19 11.5 -0.8
KSP eS S 17 29 48.0 -2.2
KSP LM 18 02 46.0
comp=Z,1.9nm,24.3s
KSP Ksiaz 89.25 321 ⇑eP P 17 19 03.3 +0.6
KSP e*PP pP 17 19 11.5 -0.8
KSP eS S 17 29 48.0 -2.2
KSP MLR MLR
comp=Z,2μm,24.3s,MS5.4
ARSA Arzberg 89.36 317 ⇑iP P 17 19 03.5 +0.1
comp=Z,47nm,1.3s,mb5.7
BOJS Bojanci 89.37 315 iP P 17 19 03.9 +0.5
UPC Upice 89.39 321 iP P 17 19 04.5 +1.1
UPC e*PP pP 17 19 12.8 -0.2
UPC Upice 89.39 321 ⇑iP P 17 19 04.5 +1.1
UPC epP pP 17 19 12.8 -0.2
PERS Pernice 89.58 317 eP P 17 19 05.1 +0.7
TREC Trest 89.60 319 iP P 17 19 05.3 +0.9
TREC MLR MLR
comp=Z,1μm,18.6s,MS5.3
TREC Trest 89.60 319 ⇑iP P 17 19 05.3 +0.9
TREC AMS AMS 18 05 30.0
comp=Z,1μm,18.6s
SOKA Soboth 89.64 317 ⇑iPcP P 17 19 05.2 +0.6
comp=Z,63nm,1.2s,mb5.8
VNDS Vrh nad Dolski 89.81 316 eP P 17 19 06.0 +0.5
MOA Molln 90.27 318 ⇓iP P 17 19 07.6 +0.1
comp=Z,29nm,1.7s,mb5.3
PRU Pruhonice 90.28 320 iP P 17 19 08.1 +0.6
PRU e 17 29 54.6
PRU MLR MLR
comp=N,1μm,19.0s
PRU Pruhonice 90.28 320 ⇑iP P 17 19 08.1 +0.6
PRU eS S 17 29 54.6 -5.2
PRU AMS AMS 18 00 20.0
PVCC Panska Ves 90.31 320 iP P 17 19 08.9 +1.2
PVCC e*PP pP 17 19 18.7 +1.4
PVCC MLR MLR
comp=Z,1μm,22.1s,MS5.2
PVCC Panska Ves 90.31 320 ⇑iP P 17 19 08.9 +1.2
PVCC epP pP 17 19 18.7 +1.4
PVCC AMS AMS 18 03 00.0
comp=Z,1μm,22.1s
PRA Prague 90.36 320 ⇑P P 17 19 09.0 +1.1
PRA pP pP 17 19 18.0 +0.5
TRO Tromso 90.51 340 eP P 17 19 08.4 +0.2
TRO e 17 30 03.5
TRO AMS AMS 18 03 10.0
comp=Z,2μm,21.4s,MS5.4
MYKA Terra Mystica 90.59 317 ⇑iP P 17 19 09.3 +0.2
comp=Z,41nm,1.7s,mb5.5
GEC2 GERESS Array S 90.73 319 eP P 17 19 10.3 +0.6
comp=Z,80nm,1.5s,mb5.8
GEC2 epP pP 17 19 19.2 -0.1
GEC2 GERESS Array S 90.73 319 eP P 17 19 10.3 +0.6
GEC2 e*PP pP 17 19 19.2 -0.1
GEC2 pmax pmax
comp=Z,80nm,1.5s,mb5.8
GERES GERESS Array B 90.73 319 P P 17 19 10.2 +0.6
comp=Z,12nm,0.9s,mb5.2,baz=103,slow=4.2,SNR=68
GERES pP pP 17 19 19.3 0.0
comp=Z,3.0nm,0.7s,baz=106,slow=4.4,SNR=5.5
GERES GERESS Array B 90.73 319 P P 17 19 10.2 +0.6
GERES pP pP 17 19 19.3 0.0
GERES GERESS Array B 90.73 319 P P 17 19 10.3 +0.6
GERES *PP pP 17 19 19.3 0.0
GERES pmax pmax
comp=Z,12nm,0.9s
GERES pmax pmax
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 90.74 321 ePKP P 17 19 09.7 +0.1
comp=Z,65nm,1.6s,mb5.7
BRG i pP 17 19 19.1 -0.2
comp=Z,64nm,1.6s
BRG e 17 22 30.4
comp=Z,10nm,1.6s
BRG e 17 23 00.3
comp=Z,9.8nm,1.3s
BRG e S 17 30 03.0 -1.0
BRG
comp=N,861nm,20.4s
BRG
comp=E,856nm,18.0s
BRG
comp=Z,1μm,15.6s
BRG Berggiesshubel 90.74 321 eP P 17 19 10.4 +0.7
comp=Z,65nm,1.6s,mb5.7
BRG epP pP 17 19 19.2 -0.1
SNAA Sanae 90.83 198 LR LR 17 58 52.7
comp=Z,343nm,18.1s,MS4.8,baz=272,slow=35
SNAA Sanae 90.83 198 eP P 17 19 11.2 +1.5
comp=Z,14nm,1.1s,mb5.2
SNAA Sanae 90.83 198 eP P 17 19 11.2 +1.5
SNAA pmax pmax
comp=Z,14nm,1.1s
KBA Koelnbreinsper 90.83 317 ⇑iP P 17 19 09.8 -0.4
comp=Z,23nm,1.2s,mb5.4
KHC Kasperske Hory 90.83 319 eP P 17 19 10.2 +0.1
comp=Z,39nm,1.7s,mb5.5
KHC Kasperske Hory 90.83 319 ⇑eP P 17 19 10.5 +0.4
KHC e*PP pP 17 19 19.3 -0.5
KHC e 17 30 04.3
KHC MLR MLR
comp=Z,1μm,24.0s,MS5.3
KHC Kasperske Hory 90.83 319 ⇑eP P 17 19 10.5 +0.4
KHC epP pP 17 19 19.3 -0.5
KHC ex x 17 19 33.5
KHC eS S 17 30 04.3 -0.6
KHC AMS AMS 18 06 30.0
comp=Z,1μm,24.0s
RJOB Jochberg 91.25 318 eP P 17 19 11.8 -0.3
comp=Z,16nm,1.1s,mb5.3
WET Wettzell 91.29 319 eP P 17 19 12.9 +0.6
comp=Z,51nm,1.3s,mb5.7
WET epP pP 17 19 21.5 -0.4
WET Wettzell 91.29 319 eP P 17 19 12.9 +0.6
WET e*PP pP 17 19 21.5 -0.4
WET pmax pmax
comp=Z,51nm,1.3s,mb5.7
CLL Collm 91.36 321 eP P 17 19 12.8 +0.3
comp=Z,27nm,1.2s,mb5.5
CLL epP pP 17 19 21.4 -0.8
CLL Collm 91.36 321 iP P 17 19 12.8 +0.3
CLL i pP 17 19 21.6 -0.6
CLL eS S 17 29 59.0 -11
CLL pmax pmax
comp=Z,27nm,1.2s,mb5.5
CLL MLR MLR
comp=Z,1μm,19.4s,MS5.3
CLL Collm 91.36 321 iP P 17 19 12.8 +0.3
comp=Z,27nm,1.2s,mb5.5
CLL i pP 17 19 21.6 -0.6
CLL e 17 23 10.0
CLL eSKKSac SKKSac 17 29 58.0 -0.5
CLL eS S 17 30 11.0 +1.4
comp=N,600nm,28.1s
CLL eS S 17 30 11.0 +1.4
comp=E,200nm,21.8s
CLL ePS PS 17 31 31.0 +8.9
CLL eSSSS 17 43 04.0
CLL LmV 18 10 00.0
comp=Z,1μm,19.4s
HFS Hagfors 91.62 330 LR LR 18 03 41.8
comp=Z,447nm,20.6s,MS4.9,baz=84,slow=38
NKC Novy Kostel 91.64 320 iP P 17 19 13.9 0.0
NKC e*PP pP 17 19 23.7 +0.2
NKC MLR MLR
comp=Z,1μm,25.5s,MS5.2
NKC Novy Kostel 91.64 320 ⇑iP P 17 19 13.9 0.0
NKC epP pP 17 19 23.7 +0.2
NKC AMS AMS 18 03 50.0
comp=Z,1μm,25.5s
TANN Tannenbergstha 91.64 320 eP P 17 19 14.3 +0.4
comp=Z,28nm,1.5s,mb5.4
TANN epP pP 17 19 23.3 -0.2
ROTZ Rotzenmuhle 91.77 320 eP P 17 19 15.3 +0.8
comp=Z,33nm,1.4s,mb5.5
WTTA Wattenberg 92.00 317 ⇑iP P 17 19 15.0 -0.6
comp=Z,35nm,1.1s,mb5.6
WATA Walderalm 92.05 317 ⇓iP P 17 19 15.0 -0.8
comp=Z,9.4nm,0.9s,mb5.1
MOX Moxa 92.20 320 eP P 17 19 16.7 +0.3
comp=Z,32nm,1.4s,mb5.5
MOX epP pP 17 19 26.0 -0.1
MOX Moxa 92.20 320 eP P 17 19 16.7 +0.3
MOX e*PP pP 17 19 26.0 -0.1
MOX pmax pmax
comp=Z,32nm,1.4s,mb5.5
SPA0 Spitsbergen Ar 92.36 348 eP P 17 19 16.5 -0.2
MOTA Moosalm 92.37 317 ⇓iP P 17 19 17.0 -0.3
comp=Z,16nm,0.9s,mb5.4
GRF Grafenberg Arr 92.40 319 eP P 17 19 18.3 +0.9
comp=Z,44nm,1.4s,mb5.6
GRF eL 18 12 29.7
comp=Z,733nm,19.2s
GRF Grafenberg Arr 92.40 319 eP P 17 19 18.3 +0.9
GRF pmax pmax
comp=Z,44nm,1.4s,mb5.6
GRF MLR MLR
comp=Z,700nm,19.2s,MS5.1
GRFO Grafenberg 92.40 319 eP P 17 19 18.0 +0.6
comp=Z,42nm,1.6s,mb5.5
GRFO Grafenberg 92.40 319 eP P 17 19 18.0 +0.6
GRFO pmax pmax
comp=Z,42nm,1.6s,mb5.5
RETA Reutte 92.61 317 ⇑iPcP P 17 19 18.6 +0.2
comp=Z,22nm,1.1s,mb5.5
FETA Feichten 92.61 317 ⇑iPcP P 17 19 18.7 +0.2
comp=Z,17nm,1.1s,mb5.4
NB2 NORSAR Subarra 92.90 331 P P 17 19 18.4 -1.0
comp=Z,19nm,1.1s,mb5.4,baz=95,slow=4.6
NOA NORSAR Array B 92.90 331 P P 17 19 19.0 -0.4
comp=Z,7.8nm,1.0s,mb5.1,baz=94,slow=4.7,SNR=12
NOA PP PP 17 22 59.9 -2.1
comp=Z,3.3nm,0.9s,baz=96,slow=7.4,SNR=4.7
NOA LR LR 18 07 40.3
comp=Z,792nm,19.3s,MS5.2,baz=60,slow=40
NOA NORSAR Array B 92.90 331 P P 17 19 19.0 -0.5
NOA PP PP 17 22 59.9 -2.1
NOA NORSAR Array B 92.90 331 P P 17 19 19.0 -0.4
NOA 17 22 59.9
NOA pmax pmax
comp=Z,8.0nm,1.0s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,792nm,19.3s
CLZ Clausthal 93.03 322 eP P 17 19 20.6 +0.4
comp=Z,26nm,1.3s,mb5.5
CLZ Clausthal 93.03 322 eP P 17 19 20.6 +0.4
CLZ pmax pmax
comp=Z,26nm,1.3s,mb5.5
DAVA Damuels 93.20 317 ⇑iPcP P 17 19 21.8 +0.6
comp=Z,21nm,0.9s,mb5.5
KEST Kesra 93.20 305 P P 17 19 21.6 +0.2
comp=Z,10nm,1.0s,mb5.2,baz=335,slow=2.5,SNR=6.1
KEST LR LR 18 03 53.9
comp=Z,535nm,18.8s,MS5.0,baz=186,slow=37
KEST Kesra 93.20 305 P P 17 19 21.6 +0.1
NRDL Niedersach Rie 93.21 322 eP P 17 19 21.6 +0.5
comp=Z,24nm,1.3s,mb5.5
KBS Kingsbay 93.29 349 AMS AMS 18 10 06.2
comp=Z,2μm,18.1s,MS5.7
PGF Pioggiola 93.68 312 eP P 17 19 23.5 0.0
PGF Pioggiola 93.68 312 eP P 17 19 23.5 0.0
PGF Pioggiola 93.68 312 eP P 17 19 23.5 0.0
TNS Taunus Mts 94.21 320 eP P 17 19 25.9 +0.2
comp=Z,27nm,1.0s,mb5.6
TNS Taunus Mts 94.21 320 eP P 17 19 25.9 +0.2
TNS pmax pmax
comp=Z,27nm,1.0s,mb5.6
BFO Black Forest 94.27 318 eP P 17 19 25.8 -0.2
comp=Z,33nm,1.7s,mb5.5
BFO Black Forest 94.27 318 eP P 17 19 25.8 -0.2
BFO pmax pmax
comp=Z,33nm,1.7s,mb5.5
CDF Champ du Feu 94.97 318 eP P 17 19 28.7 -0.5
CDF Champ du Feu 94.97 318 eP P 17 19 28.7 -0.5
CDF Champ du Feu 94.97 318 eP P 17 19 28.7 -0.5
MBDF Montbardon 95.33 314 eP P 17 19 30.8 -0.2
MBDF Montbardon 95.33 314 eP P 17 19 30.8 -0.2
MBDF Montbardon 95.33 314 eP P 17 19 30.8 -0.2
LPG La Plagne 95.34 315 eP P 17 19 30.7 -0.3
comp=Z,30nm,1.3s,mb5.3
LPG La Plagne 95.34 315 eP P 17 19 30.7 -0.3
comp=Z,30nm,1.3s,mb5.6
LPG La Plagne 95.34 315 eP P 17 19 30.7 -0.3
LPG pmax pmax
comp=Z,30nm,1.3s,mb5.6
LPL La Plagne 95.35 315 eP P 17 19 31.0 -0.1
comp=Z,35nm,1.3s,mb5.3
LPL La Plagne 95.35 315 eP P 17 19 31.0 -0.1
comp=Z,35nm,1.3s,mb5.6
LPL La Plagne 95.35 315 eP P 17 19 31.0 -0.1
LPL pmax pmax
comp=Z,35nm,1.3s,mb5.6
BNI Bardonecchia 95.39 315 PFAKE 17 19 40.0 +8.7
BNI LR LR
comp=Z,2μm,22.0s,MS5.5
FRF La Foret Royal 95.42 313 eP P 17 19 31.0 -0.4
comp=Z,179nm,1.6s,mb5.9
FRF La Foret Royal 95.42 313 eP P 17 19 31.0 -0.4
comp=Z,179nm,1.6s,mb6.2
FRF La Foret Royal 95.42 313 eP P 17 19 31.0 -0.4
FRF pmax pmax
comp=Z,179nm,1.6s,mb6.2
HAU Haudompre 95.59 318 eP P 17 19 31.4 -0.7
HAU eR
comp=Z,696nm,20.0s
HAU Haudompre 95.59 318 eP P 17 19 31.4 -0.7
HAU Haudompre 95.59 318 eP P 17 19 31.4 -0.7
CABF La Chapelle 95.79 316 eP P 17 19 32.8 -0.2
CABF La Chapelle 95.79 316 eP P 17 19 32.8 -0.2
CABF La Chapelle 95.79 316 eP P 17 19 32.8 -0.2
BER Bergen 95.79 330 AMS AMS 18 13 49.0
comp=Z,1μm,20.0s,MS5.4
FOO Floro 95.87 331 AMS AMS 18 08 18.6
comp=Z,3μm,21.6s,MS5.7
ORIF Oris-en-Rattie 95.96 315 eP P 17 19 33.5 -0.4
ORIF eR
comp=Z,1μm,23.0s
ORIF Oris-en-Rattie 95.96 315 eP P 17 19 33.5 -0.4
ORIF Oris-en-Rattie 95.96 315 eP P 17 19 33.5 -0.4
MEZF Maizieres J'vi 96.45 318 eP P 17 19 35.6 -0.4
MEZF Maizieres J'vi 96.45 318 eP P 17 19 35.6 -0.4
SFTF Sexfontaines 96.47 318 eP P 17 19 35.6 -0.5
SFTF Sexfontaines 96.47 318 eP P 17 19 35.6 -0.5
VIVF Saint-Julien-l 96.82 315 eP P 17 19 37.0 -0.8
comp=Z,74nm,1.6s,mb5.6
VIVF Saint-Julien-l 96.82 315 eP P 17 19 37.0 -0.8
comp=Z,74nm,1.6s,mb5.9
VIVF Saint-Julien-l 96.82 315 eP P 17 19 37.0 -0.8
VIVF pmax pmax
comp=Z,74nm,1.6s,mb5.9
BAIF Baives 96.94 320 eP P 17 19 38.0 -0.2
comp=Z,17nm,0.9s,mb5.2
BAIF Baives 96.94 320 eP P 17 19 38.0 -0.2
comp=Z,17nm,0.9s,mb5.5
BAIF Baives 96.94 320 eP P 17 19 38.0 -0.2
BAIF pmax pmax
comp=Z,17nm,0.9s,mb5.5
LOR Lormes 97.30 317 eP P 17 19 39.3 -0.6
comp=Z,19nm,1.2s,mb5.1
LOR eR
comp=Z,833nm,22.2s
LOR Lormes 97.30 317 eP P 17 19 39.3 -0.6
comp=Z,19nm,1.2s,mb5.4

LOR Lormes 97.30 317 *e*P **P** **17 19 39.3 -0.6**
LOR pmax pmax
comp=Z,19nm,1.2s,mb5.4
SMF Signal de Mont 97.34 316 *e*P **P** **17 19 39.2 -0.9**
comp=Z,27nm,1.3s,mb5.2
SMF Signal de Mont 97.34 316 *e*P **P** **17 19 39.2 -0.9**
comp=Z,27nm,1.3s,mb5.5
SMF Signal de Mont 97.34 316 *e*P **P** **17 19 39.2 -0.9**
SMF pmax pmax
comp=Z,27nm,1.3s,mb5.5
AVF Avril sur Loir 97.67 317 *e*P **P** **17 19 40.7 -0.8**
comp=Z,43nm,1.5s,mb5.5
AVF Avril sur Loir 97.67 317 *e*P **P** **17 19 40.7 -0.8**
comp=Z,43nm,1.5s,mb5.8
AVF Avril sur Loir 97.67 317 *e*P **P** **17 19 40.7 -0.8**
AVF pmax pmax
comp=Z,43nm,1.5s,mb5.8
TORD Torodi Ar. Bea 99.58 283 P Pdif 17 19 50.5 +0.5
comp=Z,2.6nm,1.1s,baz=70,slow=4.9,SNR=7.7
TORD pP pP 17 19 59.0 -1.5
comp=Z,2.9nm,1.1s,baz=84,slow=2.5,SNR=6.1
TORD LR LR 18 01 23.9
comp=Z,1µm,21.9s,MS5.4,baz=85,slow=33
TORD Torodi Ar. Bea 99.58 283 P Pdif 17 19 50.5 +0.5
TORD pP pP 17 19 59.0 -1.5
ILAR Eielson Array 102.69 24 P Pdif 17 20 02.0 -1.7
comp=Z,0.7nm,1.0s,baz=282,slow=4.3,SNR=7.2
ILAR PP PP 17 24 06.3 -11
comp=Z,2.6nm,1.1s,baz=284,slow=8.1,SNR=4.6
ILAR PKKP PKKPbc 17 36 10.4 +5.1
comp=Z,0.6nm,0.8s,baz=123,slow=2.3,SNR=6.1
ILAR Eielson Array 102.69 24 P Pdif 17 20 02.0 -1.7
ILAR PP PP 17 24 06.3 -11
ILAR PKKP PKKPbc 17 36 10.4 +5.1
ILAR Eielson Array 102.69 24 P Pdif 17 20 02.1 -1.7
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR pmax pmax
comp=Z,3.0nm,1.1s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ESDC Sonseca Array 103.59 310 PP PP 17 24 30.0 +5.5
comp=Z,0.7nm,0.6s,baz=95,slow=7.4,SNR=4.7
ESDC Sonseca Array 103.59 310 PP PP 17 24 30.0 +5.5
DBIC Dimbokro 105.86 276 PFAKE 17 24 40.0 +8.5
DBIC LR LR
comp=Z,842nm,21.0s,MS5.3
MTE Manteigas 106.21 311 PFAKE 17 24 40.0 +8.6
MTE LR LR
comp=Z,677nm,19.0s,MS5.2
TBI Tubuai 106.65 116 *e*Sdif Sdif 17 32 15.4 -4.4
comp=Z,569nm,28.8s
TBI *e*SS SS 17 39 46.8 -4.0
comp=Z,1µm,24.2s
TBI *e*LR LR 17 55 27.4
comp=Z,2µm,22.8s
PPT Papeete 107.60 110 *e*Pdif Pdif 17 20 27.8 +2.2
comp=Z,52nm,23.8s
PPT Papeete 107.60 110 *e*PP PP 17 24 41.0 -14
comp=Z,94nm,25.5s
PPT *e*Sdif Sdif 17 32 19.8 -8.0
comp=Z,874nm,24.5s
PPT *e*LR LR 17 56 04.8
comp=Z,1µm,21.8s
YKA Yellowknife Ar 115.70 17 PKP PKPdf 17 24 47.2 -1.5
comp=Z,2.3nm,0.8s,baz=321,slow=2.1,SNR=21
YKA PP PP 17 25 41.4 -10
comp=Z,1.9nm,1.0s,baz=319,slow=6.9,SNR=6.4
YKA Yellowknife Ar 115.70 17 PKP PKPdf 17 24 47.2 -1.5
YKA PP PP 17 25 41.4 -10
YKA Yellowknife Ar 115.70 17 PKIKP PKPdf 17 24 47.2 -1.5
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,1.0s
TAOE Nuku Hiva Isla 118.08 102 *e*LR LR 18 01 09.3
comp=Z,802nm,24.5s
RKT Rikitea 119.57 119 *e*SS SS 17 42 46.9 +5.1
comp=Z,877nm,31.2s
RKT *e*LR LR 18 01 35.8
comp=Z,2µm,25.8s
A05A Maple Falls 121.98 32 ⇑P PKPdf 17 25 00.2 -1.0
baz=122
JCW Jim Creek 122.54 33 *e*PKPdf PKPdf 17 25 02.4 +0.1
E03A Lebam 122.59 35 ⇑P PKPdf 17 25 02.2 -0.2
baz=122
ETW Entiat 123.76 32 *e*PKPdf PKPdf 17 25 03.8 -0.8
ETW *e* 17 25 14.1
C09A Chrisman Ranch 124.71 31 ⇑P PKPdf 17 25 06.5 0.0
baz=125
OD2 Odessa Site #2 124.75 32 *e*PKPdf PKPdf 17 25 07.0 +0.5
RSW Rattlesnake Hi 124.90 33 *e*PKPdf PKPdf 17 25 07.7 +0.8
HAWA Hanford 124.93 33 *e*PKPdf PKPdf 17 25 07.6 +0.7
HUMO Hull Mountain 125.13 39 *e*PKPdf PKPdf 17 25 08.1 +0.7
A12A Yaak River Ran 125.25 29 ⇑P PKPdf 17 25 07.4 -0.1
baz=125
B12A Libby 125.61 29 ⇑P PKPdf 17 25 07.7 -0.5
baz=126
FFC Flin Flon 125.82 16 *e*PKPdf PKPdf 17 25 07.7 -0.7
FFC Flin Flon 125.82 16 *e*PKIKP PKPdf 17 25 07.7 -0.7
LNOR Lincton Mounta 125.94 33 *e*PKPdf PKPdf 17 25 09.5 +0.6
LNOR Lincton Mounta 125.94 33 *e*PKIKP PKPdf 17 25 09.5 +0.6
WALA Waterton Lakes 125.98 28 *e*PKPdf PKPdf 17 25 09.4 +0.6
C12B Naegeli Ranch, 126.18 30 ⇓P PKPdf 17 25 09.0 -0.2
baz=126
A14A Double T Ranch 126.27 27 ⇑P PKPdf 17 25 09.2 -0.2
baz=126
K05A Summer Lake 126.33 37 ⇑P PKPdf 17 25 10.0 +0.2
baz=126
I07A Izee 126.36 35 ⇑P PKPdf 17 25 09.4 -0.3
baz=126
BSMT Bassoo Peak 126.42 29 *e*PKPdf PKPdf 17 25 09.4 -0.4
F10A Beach Ranch, E 126.44 32 ⇓P PKPdf 17 25 10.0 +0.2
baz=126
A15A Johnson Ranch, 126.58 27 ⇓P PKPdf 17 25 09.7 -0.3
baz=126
C13A Hot Springs 126.64 29 ⇑P PKPdf 17 25 09.7 -0.5
baz=126
B14A Marquette Ranc 126.78 28 ⇓P PKPdf 17 25 09.8 -0.6
baz=127
E12A Beaver Dam Sad 127.01 31 ⇑P PKPdf 17 25 10.4 -0.5
baz=127
SWMT Swartz Lake 127.04 29 *e*PKPdf PKPdf 17 25 11.1 +0.2
D13A Huson 127.11 30 ⇓P PKPdf 17 25 10.8 -0.3
baz=127
B15A Bradely Ranch, 127.14 27 ⇑P PKPdf 17 25 10.7 -0.4
baz=127
MOD Modoc 127.16 38 *e*PKPdf PKPdf 17 25 11.7 +0.4
J08A Circle Bar Ran 127.39 35 ⇑P PKPdf 17 25 12.2 +0.5
baz=127
B16A M & M Farms, S 127.46 27 ⇑P PKPdf 17 25 11.4 -0.2
baz=127
SLMT Seeley Lake 127.47 29 *e*PKPdf PKPdf 17 25 11.6 -0.2
A17A Triple J Farms 127.50 26 ⇓P PKPdf 17 25 11.9 +0.1
baz=127
C15A Salmond Ranch, 127.51 28 ⇑P PKPdf 17 25 11.4 -0.4
baz=127
MSO Missoula 127.55 29 ⇑P PKPdf 17 25 11.5 -0.4
baz=127
MSO Missoula 127.55 29 *e*PKPdf PKPdf 17 25 10.9 -1.0
E13A Victor 127.69 30 ⇑P PKPdf 17 25 11.5 -0.7
baz=128
CHMT Chamberlain Mo 127.82 29 *e*PKPdf PKPdf 17 25 12.2 -0.2
WVOR Wild Horse Val 127.85 36 *e*PKPdf PKPdf 17 25 13.0 +0.4
WVOR Wild Horse Val 127.85 36 *e*PKIKP PKPdf 17 25 13.0 +0.4
A18A Metzger Ranch, 127.89 25 ⇑P PKPdf 17 25 11.8 -0.7
baz=128
C16A Fuhringer Ranc 127.89 27 ⇓P PKPdf 17 25 11.9 -0.6
baz=128
B17A L&G Farms, Che 127.95 26 ⇓P PKPdf 17 25 12.0 -0.6
baz=128
SCHQ Schefferville 127.95 351 PKP PKPdf 17 25 12.4 -0.1
comp=Z,8.6nm,0.9s,baz=116,slow=1.1,SNR=4.5
SCHQ Schefferville 127.95 351 PKP PKPdf 17 25 12.4 -0.1
G12A Big Creek, Yel 128.00 32 ⇓P PKPdf 17 25 12.5 -0.3
baz=128
E14A Clinton 128.06 30 ⇑P PKPdf 17 25 12.8 -0.1
baz=128
F13A Darby 128.07 31 ⇑P PKPdf 17 25 12.5 -0.5
baz=128
D15A Lincoln 128.08 28 ⇑P PKPdf 17 25 12.6 -0.3
baz=128
B18A Beardsley Farm 128.32 26 ⇓P PKPdf 17 25 12.9 -0.4
baz=128
C17A Wharram Farm, 128.46 27 ⇓P PKPdf 17 25 13.1 -0.5
baz=128

E15A Deer Lodge 128.47 29 ⇓P PKPdf 17 25 13.6 -0.1
baz=128
F14A Wisdom 128.54 30 ⇑P PKPdf 17 25 13.6 -0.2
baz=128
D16A Dana Ranch, Ca 128.55 28 ⇓P PKPdf 17 25 13.8 -0.1
baz=128
G13A Cobalt 128.60 31 ⇑P PKPdf 17 25 13.7 -0.2
baz=128
EGMT Eagleton 128.61 26 ⇑P PKPdf 17 25 13.9 0.0
baz=128
EGMT Eagleton 128.61 26 *e*PKPdf PKPdf 17 25 14.7 +0.8
B19A Brinkman Farms 128.63 25 ⇓P PKPdf 17 25 14.1 +0.2
baz=128
H12A Diamond D Ranc 128.64 32 ⇓P PKPdf 17 25 14.3 +0.2
baz=128
A20A Cobblestone Ra 128.71 24 ⇑P PKPdf 17 25 13.9 -0.1
baz=129
E16A East Helena 128.85 28 ⇑P PKPdf 17 25 14.6 +0.2
baz=129
D17A Six Diamond Ra 128.85 27 ⇑P PKPdf 17 25 14.5 +0.1
baz=129
MFID Camas Ranch 128.85 34 ⇑P PKPdf 17 25 14.6 +0.1
baz=129
MFID Camas Ranch 128.85 34 *e*PKPdf PKPdf 17 25 15.4 +0.9
H13A Challis 128.94 32 ⇑P PKPdf 17 25 14.5 -0.1
baz=129
F15A Butte 128.95 29 ⇑P PKPdf 17 25 14.4 -0.2
baz=129
LRM Limekiln Ridge 128.99 29 *e*PKPdf PKPdf 17 25 15.3 +0.6
I12A Atlanta 128.99 33 ⇑P PKPdf 17 25 15.5 +0.7
baz=129
B20A Solberg Farm, 129.02 24 ⇓P PKPdf 17 25 14.4 -0.3
baz=129
A21A Bergtoll Ranch 129.02 23 ⇑P PKPdf 17 25 14.8 +0.1
baz=129
C19A Slack Wire Ran 129.14 26 ⇓P PKPdf 17 25 15.2 +0.3
baz=129
D18A Linhart Farms, 129.22 27 ⇓P PKPdf 17 25 15.4 +0.3
baz=129
DLMT Dillon 129.24 30 *e*PKPdf PKPdf 17 25 16.0 +0.8
E17A Martinsdale 129.29 28 ⇑P PKPdf 17 25 15.4 +0.2
baz=129
H14A Leadore 129.37 31 ⇑P PKPdf 17 25 15.1 -0.4
baz=129
A22A Carney Farms, 129.41 22 ⇑P PKPdf 17 25 15.7 +0.3
baz=129
F16A Kennard Place, 129.42 29 ⇓P PKPdf 17 25 15.2 -0.4
baz=129
G15A Dillon 129.44 30 ⇑P PKPdf 17 25 15.7 +0.1
baz=129
B21A Ellsworth Farm 129.44 24 ⇑P PKPdf 17 25 15.6 +0.1
baz=129
I13A Wildhorse Cree 129.46 32 ⇓P PKPdf 17 25 16.2 +0.6
baz=129
MCMT McKenzie Canyo 129.49 31 *e*PKPdf PKPdf 17 25 16.4 +0.7
BOZ Bozeman (W) 129.51 29 ⇑P PKPdf 17 25 16.2 +0.5
baz=129
BOZ Bozeman (W) 129.51 29 *e*PKPdf PKPdf 17 25 16.0 +0.3
BOZ Bozeman (W) 129.51 29 *e*PKIKP PKPdf 17 25 16.0 +0.3
HLID Hailey 129.53 33 ⇑P PKPdf 17 25 16.4 +0.6
baz=129
HLID Hailey 129.53 33 *e*PKPdf PKPdf 17 25 16.3 +0.5
C20A Veseth Ranch, 129.60 25 ⇑P PKPdf 17 25 16.1 +0.3
baz=130
E18A Harlowton 129.64 27 ⇓P PKPdf 17 25 16.1 +0.1
baz=130
D19A Cripps Ranch, 129.65 26 ⇓P PKPdf 17 25 16.0 0.0
baz=130
G16A Moss Hill, Enn 129.73 30 ⇑P PKPdf 17 25 16.4 +0.2
baz=130
H15A Lima 129.74 31 ⇓P PKPdf 17 25 16.8 +0.6
baz=130
J13A Cove Ranch, Pi 129.77 33 ⇑P PKPdf 17 25 17.1 +0.8
baz=130
F17A Fitzpatrick Pl 129.79 28 ⇑P PKPdf 17 25 16.8 +0.6
baz=130
I14A Mackay 129.80 32 ⇑P PKPdf 17 25 17.0 +0.7
baz=130
C21A Desert Coulee 129.89 24 ⇑P PKPdf 17 25 16.6 +0.3
baz=130
D20A Manuel Ranch, 130.03 25 ⇑P PKPdf 17 25 16.4 -0.2
baz=130
J14A Carey 130.18 32 ⇓P PKPdf 17 25 17.5 +0.4
baz=130
G17A Pierce Place, 130.18 29 ⇑P PKPdf 17 25 17.3 +0.4
baz=130
B23A Brockton 130.20 22 ⇓P PKPdf 17 25 17.7 +0.8
baz=130
QLMT Earthquake Lak 130.20 30 *e*PKPdf PKPdf 17 25 18.4 +1.3
E19A Rath Farm, Rou 130.23 26 ⇑P PKPdf 17 25 16.9 -0.1
baz=130
F18A Big Timber 130.23 28 ⇑P PKPdf 17 25 17.3 +0.2
baz=130
GCMT Greycliff 130.34 28 *e*PKPdf PKPdf 17 25 18.1 +0.8
H16A Russell Place, 130.38 30 ⇓P PKPdf 17 25 17.7 +0.3
baz=130
NVAR Mina Array Bea 130.39 40 PKP PKPdf 17 25 18.0 +0.4
comp=Z,9.4nm,1.0s,baz=193,slow=3.3,SNR=6.3
NVAR SKPab 17 28 40.0
comp=Z,5.2nm,1.0s,baz=276,slow=4.0,SNR=9.4
NVAR Mina Array Bea 130.39 40 PKP PKPdf 17 25 18.0 +0.4
NVAR SKPab 17 28 40.0
C22A Vida 130.44 23 ⇑P PKPdf 17 25 18.1 +0.7
baz=130
E20A Meyer Farm, Mu 130.49 26 ⇓P PKPdf 17 25 18.2 +0.6
baz=130
D21A La Casta Ranch 130.53 25 ⇓P PKPdf 17 25 18.1 +0.5
baz=130
YMR Madison River 130.55 30 *e*PKPdf PKPdf 17 25 18.7 +1.0
F19A Roth Farm, Mol 130.62 27 ⇑P PKPdf 17 25 18.0 +0.2
baz=130
C23A Lambert 130.67 23 ⇓P PKPdf 17 25 18.1 +0.3
baz=130
G18A Lazy EL Ranch, 130.74 28 ⇑P PKPdf 17 25 18.8 +0.7
baz=131
YFT Old Faithful 130.77 30 *e*PKPdf PKPdf 17 25 20.8 +2.6
D22A Cohagen 130.80 24 ⇓P PKPdf 17 25 19.0 +0.9
baz=131
I16A Newdale 130.85 31 ⇓P PKPdf 17 25 19.1 +0.8
baz=131
K14A Jones Ranch, D 130.89 33 ⇓P PKPdf 17 25 19.5 +1.1
baz=131
E21A Keefer Ranch, 130.91 25 ⇓P PKPdf 17 25 19.1 +0.7
baz=131
F20A Billings 131.02 27 ⇑P PKPdf 17 25 19.0 +0.5
baz=131
RLMT Red Lodge 131.03 28 ⇑P PKPdf 17 25 19.2 +0.6
baz=131
RLMT Red Lodge 131.03 28 *e*PKPdf PKPdf 17 25 17.8 -0.8
LAO LASA Array 131.15 24 ⇑P PKPdf 17 25 19.3 +0.5
baz=131
H18A Shoshone NF, C 131.17 29 ⇓P PKPdf 17 25 19.8 +0.9
baz=131
D23A Lindsay 131.17 23 ⇑P PKPdf 17 25 19.4 +0.6
baz=131
C24A Savage 131.18 22 ⇓P PKPdf 17 25 18.7 -0.1
baz=131
L14A Malta 131.20 34 ⇓P PKPdf 17 25 19.8 +0.7
baz=131
PKM Peak Mountain 131.25 45 ⇓P PKPdf 17 25 20.3 +1.0
baz=131
I17A Pilgrim Ck. 131.28 30 ⇓P PKPdf 17 25 20.4 +1.3
baz=131
TPH Tonopah 131.29 40 PFAKE 17 25 30.0 +11
TPH LR LR
comp=Z,720nm,21.0s,MS5.3
RRI2 Red Ridge 131.31 31 *e*PKPdf PKPdf 17 25 19.9 +0.7
TPAW Teton Pass 131.40 31 *e*PKPdf PKPdf 17 25 21.0 +1.7
G20A Bridger 131.44 27 ⇑P PKPdf 17 25 20.7 +1.3
baz=131
E22A Miles City 131.47 24 ⇓P PKPdf 17 25 20.5 +1.1
baz=131
ULM Lac du Bonnet 131.47 14 PKP PKPdf 17 25 19.1 -0.2
comp=Z,12nm,1.0s,baz=354,slow=2.4,SNR=11
ULM Lac du Bonnet 131.47 14 *e*PKPdf PKPdf 17 25 18.5 -0.8
ULM PKP PKPdf 17 25 19.1 -0.2
ULM Lac du Bonnet 131.47 14 *e*PKIKP PKPdf 17 25 18.5 -0.8
H19A Powell 131.50 28 ⇑P PKPdf 17 25 20.7 +1.2
baz=131
K16A Soda Springs 131.54 32 ⇑P PKPdf 17 25 20.3 +0.6
baz=131
REDW Red Top Meadow 131.54 31 *e*PKPdf PKPdf 17 25 20.1 +0.5
D24A Glendive 131.56 23 ⇓P PKPdf 17 25 20.4 +0.9
baz=131
J17A Brown Place, J 131.62 31 ⇑P PKPdf 17 25 21.9 +2.1
baz=132
CWC Cottonwood Cre 131.64 43 ⇓P PKPdf 17 25 21.0 +1.0

baz=132
E23A Ismay 131.68 24 ⇑P PKPdf 17 25 21.0 +1.2
baz=132
L15A Malad City 131.69 33 ⇓P PKPdf 17 25 20.7 +0.7
baz=132
ISA Isabella 131.79 44 ⇑P PKPdf 17 25 20.9 +0.6
baz=132
I18A Diamond G Ranc 131.82 30 ⇓P PKPdf 17 25 21.0 +0.9
baz=132
AHID Auburn Hatcher 131.84 31 PFAKE 17 25 30.0 +10
AHID LR LR
comp=Z,908nm,19.0s,MS5.5
F22A Rosebud 131.87 25 ⇓P PKPdf 17 25 20.5 +0.3
baz=132
G21A Lodge Grass 131.89 26 ⇑P PKPdf 17 25 21.4 +1.2
baz=132
I19A Meeteetse 131.97 29 ⇓P PKPdf 17 25 20.9 +0.5
baz=132
M15A Larsen Ranch, 132.02 34 ⇑P PKPdf 17 25 22.0 +1.5
baz=132
E24A Baker 132.03 23 ⇑P PKPdf 17 25 21.7 +1.2
baz=132
J18A Kendall Valley 132.07 30 ⇑P PKPdf 17 25 21.1 +0.5
baz=132
H20A Greybull 132.10 28 ⇑P PKPdf 17 25 20.9 +0.3
baz=132
R11A Troy Canyon, C 132.17 39 ⇑P PKPdf 17 25 22.6 +1.6
baz=132
MPMC Manual Prospec 132.25 43 ⇑P PKPdf 17 25 22.5 +1.3
baz=132
G22A Birney 132.29 26 ⇑P PKPdf 17 25 22.2 +1.2
baz=132
HWUT Hardware Ranch 132.41 33 *e*PKPdf PKPdf 17 25 20.8 -0.5
LRMC Laurel Mountai 132.43 43 ⇑P PKPdf 17 25 21.6 +0.1
baz=132
L17A Cokeville 132.43 32 ⇑P PKPdf 17 25 21.7 +0.3
baz=132
FURC Furnace Creek, 132.44 42 ⇑P PKPdf 17 25 22.6 +1.1
baz=132
I20A Worland 132.45 28 ⇓P PKPdf 17 25 22.1 +0.8
baz=132
K18A Toltan Ranch, 132.48 31 ⇓P PKPdf 17 25 22.5 +1.1
baz=132
J19A Crowheart 132.51 29 ⇓P PKPdf 17 25 22.2 +0.7
baz=132
EDW2 Edwards Air Fo 132.54 44 ⇑P PKPdf 17 25 22.4 +0.7
baz=132
MDND Maddock 132.60 19 ⇑P PKPdf 17 25 22.1 +0.6
baz=132
BW06 Boulder Array 132.63 30 ⇑P PKPdf 17 25 21.7 0.0
baz=132
PDAR Pinedale Array 132.63 30 PKhKP PKPpre 17 25 15.7
comp=Z,0.9nm,0.7s,baz=112,slow=2.4,SNR=4.0
PDAR PKP PKPdf 17 25 21.8 +0.1
comp=Z,2.6nm,0.9s,baz=227,slow=1.8,SNR=12
PDAR pPKP pPKPdf 17 25 31.8 +0.2
comp=Z,2.4nm,0.8s,baz=165,slow=2.5,SNR=8.5
PDAR PP PP 17 27 43.8 -1.4
comp=Z,3.2nm,1.2s,baz=340,slow=1.7,SNR=3.9
PDAR SKP 17 28 55.7
comp=Z,0.8nm,0.7s,baz=98,slow=1.9,SNR=2.6
PDAR Pinedale Array 132.63 30 PKPpre PKPpre 17 25 15.7
PDAR PKP PKPdf 17 25 21.8 +0.1
PDAR pPKP pPKPdf 17 25 31.8 +0.2
PDAR PP PP 17 27 43.8 -1.4
PDAR SKP 17 28 55.7
DUG Dugway 132.66 35 ⇓P PKPdf 17 25 22.0 +0.2
baz=132
DUG Dugway 132.66 35 *e*PKPdf PKPdf 17 25 22.2 +0.4
DUG Dugway 132.66 35 *e*PKIKP PKPdf 17 25 22.2 +0.4
G23A Biddle 132.69 25 ⇑P PKPdf 17 25 21.7 -0.1
baz=132
H22A Clearmont 132.76 26 ⇓P PKPdf 17 25 21.9 0.0
baz=133
J20A Shoshoni 132.92 29 ⇑P PKPdf 17 25 22.3 +0.1
baz=133
I21A Big Trails, Te 132.94 28 ⇑P PKPdf 17 25 22.4 +0.1
baz=133
K19A Absolon Red Bu 132.94 30 ⇑P PKPdf 17 25 22.4 +0.1
baz=133
M17A Scullys Gap (B 132.98 32 ⇓P PKPdf 17 25 23.0 +0.6
baz=133
L18A Fontenelle, Gr 132.99 31 ⇑P PKPdf 17 25 22.6 +0.2
baz=133
GSC Goldstone 133.13 43 ⇑P PKPdf 17 25 23.5 +0.7
baz=133
GSC Goldstone 133.13 43 *e*PKPdf PKPdf 17 25 23.9 +1.0
GSC Goldstone 133.13 43 *e*PKIKP PKPdf 17 25 23.9 +1.0
J21A Lysite 133.23 28 ⇓P PKPdf 17 25 23.2 +0.4
baz=133
I22A 9 Mile Ranch, 133.25 27 ⇑P PKPdf 17 25 23.3 +0.5
baz=133
K20A Yellowstone Ra 133.31 29 ⇓P PKPdf 17 25 23.5 +0.5
baz=133
DAU Daniels Canyon 133.40 34 *e*PKPdf PKPdf 17 25 24.0 +0.8
DAU Daniels Canyon 133.40 34 *e*PKIKP PKPdf 17 25 24.0 +0.8
H24A Dirks Ranch, A 133.41 25 ⇑P PKPdf 17 25 23.7 +0.6
baz=133
J22A Midwest 133.63 27 ⇑P PKPdf 17 25 23.4 -0.2
baz=134
TUQ Turquoise Moun 133.65 42 ⇑P PKPdf 17 25 24.4 +0.5
baz=134
HEC Hector,Ludlow 133.72 43 ⇑P PKPdf 17 25 24.4 +0.4
baz=134
P16A Fountain Green 133.72 35 ⇑P PKPdf 17 25 24.3 +0.5
baz=134
M19A Rock Springs 133.75 31 ⇑P PKPdf 17 25 24.4 +0.5
baz=134
MURC Murrieta 133.77 45 ⇑P PKPdf 17 25 24.8 +0.6
baz=134
L20A Wamsutter 133.80 30 ⇑P PKPdf 17 25 24.4 +0.4
baz=134
O17A Robinson Place 133.83 34 ⇓P PKPdf 17 25 24.9 +0.9
baz=134
K21A Alcova 133.86 29 ⇑P PKPdf 17 25 24.6 +0.6
baz=134
CCUT Cedar City 134.04 38 *e*PKPdf PKPdf 17 25 25.7 +1.2
J23A Dilts Ranch, B 134.05 27 ⇑P PKPdf 17 25 24.6 +0.2
baz=134
I24A Kuemmerle Ranc 134.10 26 ⇑P PKPdf 17 25 25.1 +0.7
baz=134
RSSD Black Hills 134.13 25 *e*PKPdf PKPdf 17 25 23.9 -0.6
RSSD Black Hills 134.13 25 *e*PKIKP PKPdf 17 25 23.9 -0.6
MSU Marysvale 134.14 36 *e*PKPdf PKPdf 17 25 25.6 +0.9
MSU Marysvale 134.14 36 *e*PKIKP PKPdf 17 25 25.6 +0.9
N19A John Jarvie Ra 134.18 32 ⇓P PKPdf 17 25 25.1 +0.4
baz=134
TMUT Trail Mountain 134.18 35 *e*PKPdf PKPdf 17 25 25.6 +0.9
O18A Roosevelt 134.19 33 ⇓P PKPdf 17 25 25.0 +0.3
baz=134
K22A Casper 134.19 28 ⇑P PKPdf 17 25 25.0 +0.3
baz=134
GMRC Granite Mounta 134.20 43 ⇓P PKPdf 17 25 25.9 +1.0
baz=134
PFO Pinyon Flat Ob 134.29 45 ⇑P PKPdf 17 25 25.7 +0.6
baz=134
PFO Pinyon Flat Ob 134.29 45 *e*PKPdf PKPdf 17 25 25.8 +0.6
PFO Pinyon Flat Ob 134.29 45 *e*PKIKP PKPdf 17 25 25.8 +0.7
L21A Rawlins 134.31 29 ⇓P PKPdf 17 25 25.4 +0.5
baz=134
P17A Butcher Ranch, 134.33 34 ⇓P PKPdf 17 25 25.9 +0.9
baz=134
BELC Belle Mtn. Jos 134.40 44 ⇑P PKPdf 17 25 26.0 +0.7
baz=134
Q16A Castle Valley 134.46 35 ⇓P PKPdf 17 25 25.7 +0.5
baz=134
P18A Preston Nutter 134.50 34 ⇑P PKPdf 17 25 26.0 +0.7
baz=134
J24A Dixon Ranch, L 134.50 26 ⇑P PKPdf 17 25 26.0 +0.8
baz=134
K23A Bowen Ranch, D 134.53 27 ⇑P PKPdf 17 25 26.0 +0.7
baz=134
M21A Separation Pea 134.58 30 ⇓P PKPdf 17 25 25.7 +0.3
baz=134
RWWY Rawlins 134.60 30 *e*PKPdf PKPdf 17 25 25.0 -0.4
O19A Miners Draw (B 134.64 32 ⇑P PKPdf 17 25 25.7 +0.1
baz=134
SRU San Rafael 134.70 35 *e*PKPdf PKPdf 17 25 25.4 -0.3
SRU San Rafael 134.70 35 *e*PKIKP PKPdf 17 25 25.4 -0.3
N20A Spence Gulch, 134.70 31 ⇑P PKPdf 17 25 26.2 +0.5
baz=135
R16A Teasdale 134.70 36 ⇑P PKPdf 17 25 26.8 +1.1
baz=135
MONP Monument Peak 134.70 46 ⇓P PKPdf 17 25 26.5 +0.6
baz=135
L22A Ellis Ranch, M 134.71 29 ⇓P PKPdf 17 25 26.0 +0.4
baz=135

IRM	Iron Mountain	134.90	43	⇓P	PKPdf	17 25 26.5 +0.2
	baz=135					
Q18A	Rafter H Ranch	134.93	34	⇓P	PKPdf	17 25 26.7 +0.6
	baz=135					
BC3	Big Chuckawall	134.97	44	⇑P	PKPdf	17 25 27.2 +0.8
	baz=135					
L23A	Garrett	135.00	28	⇓P	PKPdf	17 25 26.7 +0.5
	baz=135					
S16A	Weppner Ranch,	135.01	37	⇑P	PKPdf	17 25 26.7 +0.4
	baz=135					
R17A	Hanksville Air	135.06	35	⇓P	PKPdf	17 25 26.8 +0.4
	baz=135					
SWSC	Sam W. Stewart	135.12	45	⇑P	PKPdf	17 25 27.2 +0.6
	baz=135					
N21A	Black Mountain	135.14	31	⇑P	PKPdf	17 25 27.0 +0.5
	baz=135					
P19A	Cripple Cowboy	135.19	33	⇑P	PKPdf	17 25 27.4 +0.8
	baz=135					
W13A	Hualapai Mount	135.20	41	⇓P	PKPdf	17 25 27.0 +0.2
	baz=135					
O20A	White River Ci	135.22	32	⇓P	PKPdf	17 25 27.4 +0.7
	baz=135					
L24A	Wheatland	135.41	27	⇓P	PKPdf	17 25 27.7 +0.8
	baz=135					
U15A	North Rim	135.41	39	⇓P	PKPdf	17 25 28.0 +0.9
	baz=135					
K25A	Mack Ranch, Ha	135.43	26	⇓P	PKPdf	17 25 27.6 +0.7
	baz=135					
M23A	Laramie	135.49	28	⇑P	PKPdf	17 25 27.4 +0.3
	baz=135					
PDMCI	Parker Dam,Lak	135.50	42	⇓P	PKPdf	17 25 27.8 +0.5
	baz=135					
Q19A	Hogan Spring (	135.51	34	⇑P	PKPdf	17 25 27.7 +0.4
	baz=135					
S17A	Black Ridge (B	135.54	36	⇓P	PKPdf	17 25 27.8 +0.5
	baz=135					
R18A	Canyonlands Na	135.56	35	⇑P	PKPdf	17 25 28.1 +0.8
	baz=135					
Y12C	Blythe	135.56	43	⇑P	PKPdf	17 25 28.4 +0.9
	baz=136					
N22A	Wattenberg Ran	135.64	30	⇓P	PKPdf	17 25 28.0 +0.6
	baz=136					
GLA	Glamis	135.74	44	⇓P	PKPdf	17 25 28.4 +0.6
	baz=136					
GLA	Glamis	135.74	44	ePKPdf	PKPdf	17 25 26.8 -1.1
GLA	Glamis	135.74	44	ePKIKP	PKPdf	17 25 26.8 -1.0
N23A	Red Feather La	135.82	29	⇓P	PKPdf	17 25 28.7 +1.0
	baz=136					
M24A	Cheyenne	135.91	28	⇓P	PKPdf	17 25 29.1 +1.2
	baz=136					
T17A	Navajo Res., N	135.96	37	⇓P	PKPdf	17 25 29.1 +1.0
	baz=136					
S18A	Hurst Farm, Bl	135.97	36	⇓P	PKPdf	17 25 29.1 +1.0
	baz=136					
R19A	Curley Farm, L	135.98	34	⇓P	PKPdf	17 25 29.2 +1.0
	baz=136					
Q20A	Ridgley Place,	136.05	33	⇑P	PKPdf	17 25 29.4 +1.2
	baz=136					
O22A	Kremmling	136.08	30	⇓P	PKPdf	17 25 29.2 +1.0
	baz=136					
P21A	Newcastle	136.09	32	⇓P	PKPdf	17 25 29.7 +1.4
	baz=136					
U17A	Shonto	136.31	37	⇓P	PKPdf	17 25 30.0 +1.2
	baz=136					
U16A	Tuba City	136.32	38	⇓P	PKPdf	17 25 29.9 +1.1
	baz=136					
O23A	Lake Granby, G	136.35	30	⇓P	PKPdf	17 25 29.5 +0.7
	baz=136					
N24A	Carr	136.38	28	⇑P	PKPdf	17 25 29.8 +1.0
	baz=136					
T18A	Mexican Hat	136.42	36	⇑P	PKPdf	17 25 29.6 +0.6
	baz=136					
S19A	Harvey Farm, M	136.43	35	⇑P	PKPdf	17 25 30.0 +1.0
	baz=136					
Z13A	Yuma Proving G	136.47	43	⇑P	PKPdf	17 25 29.8 +0.7
	baz=136					
PV01	Paradox Valley	136.48	34	ePKPdf	PKPdf	17 25 29.9 +0.8
Y14A	Wickenburg	136.48	42	⇓P	PKPdf	17 25 30.4 +1.2
	baz=136					
Q21A	Lamborn Mesa,	136.52	33	⇓P	PKPdf	17 25 30.3 +1.2
	baz=136					
R20A	Redvale	136.54	34	⇓P	PKPdf	17 25 30.2 +1.0
	baz=136					
WUAZ	Wupatki	136.57	39	⇓P	PKPdf	17 25 30.3 +1.0
	baz=136					
WUAZ	Wupatki	136.57	39	ePKPdf	PKPdf	17 25 30.2 +0.9
113A	Mohawk Valley,	136.64	44	⇑P	PKPdf	17 25 30.7 +1.1
	baz=136					
S20A	Disappointment	136.81	34	⇓P	PKPdf	17 25 30.4 +0.8
	baz=137					
ISCO	Idaho Springs	136.82	30	⇓P	PKPdf	17 25 30.4 +0.8
	baz=137					
ISCO	Idaho Springs	136.82	30	ePKPdf	PKPdf	17 25 30.3 +0.7
ISCO	Idaho Springs	136.82	30	ePKIKP	PKPdf	17 25 30.3 +0.7
Q22A	Crested Butte,	136.86	32	⇑P	PKPdf	17 25 30.9 +1.2
	baz=137					
Z14A	Wintersburg	136.86	43	⇓P	PKPdf	17 25 30.7 +0.8
	baz=137					
V17A	Tonalea, Kykot	136.86	39	⇓P	PKPdf	17 25 30.8 +1.0
	baz=137					
R21A	Cimarron	136.87	33	⇓P	PKPdf	17 25 30.9 +1.1
	baz=137					
U18A	Rough Rock, Ch	136.90	37	⇑P	PKPdf	17 25 31.1 +1.2
	baz=137					
SPMN	St. Paul	136.91	14	⇑P	PKPdf	17 25 30.1 +0.4
	baz=137					
P23A	Jefferson	137.03	31	⇑P	PKPdf	17 25 31.1 +1.0
	baz=137					
T19A	Beclabito	137.12	36	⇓P	PKPdf	17 25 31.4 +1.1
	baz=137					
MVCO	Mesa Verde	137.16	35	⇑P	PKPdf	17 25 31.5 +1.1
	baz=137					
MVCO	Mesa Verde	137.16	35	ePKPdf	PKPdf	17 25 31.7 +1.3
X16A	Lo Mia Camp, P	137.21	40	⇓P	PKPdf	17 25 31.8 +1.3
	baz=137					
S21A	Coal Bank Pass	137.25	34	⇑P	PKPdf	17 25 32.1 +1.6
	baz=137					
114A	Black Gap (USA	137.26	43	⇑P	PKPdf	17 25 32.0 +1.4
	baz=137					
V18A	Ganado	137.33	38	⇑P	PKPdf	17 25 32.3 +1.6
	baz=137					
U19A	Dine' College,	137.38	37	⇓P	PKPdf	17 25 32.0 +1.2
	baz=137					
Q23A	Hartsel	137.38	31	⇑P	PKPdf	17 25 31.5 +0.8
	baz=137					
R22A	Saguache, Gunn	137.40	32	⇓P	PKPdf	17 25 31.5 +0.7
	baz=137					
S22A	4UR Ranch, Cre	137.72	33	⇑P	PKPdf	17 25 32.5 +1.1
	baz=138					
U20A	Newcomb	137.73	36	⇑P	PKPdf	17 25 31.9 +0.5
	baz=138					
P25A	Willow Gulch B	137.75	29	⇓P	PKPdf	17 25 32.3 +0.9
	baz=138					
214A	Organ Pipe Nat	137.76	44	⇑P	PKPdf	17 25 32.5 +0.9
	baz=138					
W18A	Petrified Fore	137.84	38	⇑P	PKPdf	17 25 33.0 +1.3
	baz=138					
T21A	Navajo Lake	137.87	34	⇑P	PKPdf	17 25 32.9 +1.2
	baz=138					
V19A	Window Rock	137.87	37	⇑P	PKPdf	17 25 32.8 +1.1
	baz=138					
R23A	Moffat	137.92	32	⇓P	PKPdf	17 25 32.7 +1.0
	baz=138					
Y17A	Roosevelt	138.05	41	⇑P	PKPdf	17 25 33.2 +1.1
	baz=138					
W19A	Sanders	138.06	38	⇑P	PKPdf	17 25 33.0 +0.9
	baz=138					
X18A	Snowflake	138.09	39	⇑P	PKPdf	17 25 33.5 +1.4
	baz=138					
V20A	Brimhall	138.16	36	⇓P	PKPdf	17 25 33.2 +0.9
	baz=138					
Q25A	Bedland, Calha	138.18	30	⇑P	PKPdf	17 25 33.0 +0.9
	baz=138					
U21A	Nageezi	138.19	35	⇑P	PKPdf	17 25 33.5 +1.2
	baz=138					
T22A	Edith	138.20	34	⇓P	PKPdf	17 25 33.7 +1.4
	baz=138					
SDCO	Great Sand Dun	138.43	32	⇑P	PKPdf	17 25 33.7 +1.1
	baz=138					
Y18A	Canyon Day Jun	138.52	40	⇓P	PKPdf	17 25 34.6 +1.6
	baz=138					
X19A	St. Johns	138.57	39	⇓P	PKPdf	17 25 34.8 +1.8
	baz=138					
W20A	Ramah	138.59	37	⇑P	PKPdf	17 25 34.6 +1.5
	baz=138					
V21A	Milan	138.64	36	⇑P	PKPdf	17 25 34.4 +1.3
	baz=138					
S24A	Houchin Ranch,	138.66	32	⇑P	PKPdf	17 25 34.5 +1.5
	baz=138					
T23A	Casias Ranch,	138.66	33	⇑P	PKPdf	17 25 34.4 +1.3
	baz=138					
BGNE	Belgrade	138.75	22	⇓P	PKPdf	17 25 34.2 +1.0
	baz=139					
R25A	Fountain Ranch	138.75	30	⇓P	PKPdf	17 25 33.7 +0.5
	baz=139					
Y19A	Nutrioso	138.90	39	⇑P	PKPdf	17 25 35.6 +2.0
	baz=139					
Z18A	Geronimo	138.96	41	⇑P	PKPdf	17 25 34.8 +1.0
	baz=139					
V22A	San Miguel Ran	138.99	35	⇓P	PKPdf	17 25 35.0 +1.3
	baz=139					
S25A	Robets Cordova	139.04	31	⇓P	PKPdf	17 25 34.7 +0.9
	baz=139					
R26A	Arlington	139.05	29	⇑P	PKPdf	17 25 35.1 +1.3
	baz=139					
U23A	El Rito	139.09	34	⇑P	PKPdf	17 25 34.8 +0.9
	baz=139					
T24A	Torres, Weston	139.16	32	⇑P	PKPdf	17 25 35.5 +1.4
	baz=139					
118A	Homack Ranch,	139.28	41	⇑P	PKPdf	17 25 35.7 +1.3
	baz=139					
Z19A	T-Link Ranch,	139.33	40	⇑P	PKPdf	17 25 35.4 +1.0
	baz=139					
T25A	Trinidad	139.45	31	⇓P	PKPdf	17 25 35.7 +1.2
	baz=139					
Y20A	Horse Springs,	139.48	38	⇓P	PKPdf	17 25 35.9 +1.2
	baz=139					
V23A	Ortiz Mt. (NFS	139.52	35	⇓P	PKPdf	17 25 36.4 +1.6
	baz=139					
119A	Ashpeak Ranch,	139.64	41	⇑P	PKPdf	17 25 36.4 +1.3
	baz=140					
218A	Dragoon	139.64	42	⇑P	PKPdf	17 25 36.5 +1.4
	baz=140					
Y21A	Point of Rocks	139.85	38	⇓P	PKPdf	17 25 35.9 +0.5
	baz=140					
Z20A	Nine Sixteen R	139.87	40	⇑P	PKPdf	17 25 36.8 +1.3
	baz=140					
W23A	Werner Place,	139.96	35	⇓P	PKPdf	17 25 36.8 +1.2
	baz=140					
318A	Bisbee	140.01	43	⇑P	PKPdf	17 25 35.9 +0.2
	baz=140					
U25A	Circle Dot Ran	140.01	32	⇓P	PKPdf	17 25 36.9 +1.3
	baz=140					
V24A	Rampart Ranch,	140.04	34	⇓P	PKPdf	17 25 37.2 +1.5
	baz=140					
219A	White Tail Can	140.15	41	⇑P	PKPdf	17 25 37.5 +1.5
	baz=140					
120A	U Bar Ranch, L	140.21	40	⇑P	PKPdf	17 25 37.9 +1.8
	baz=140					
LPM	Los Pinos Moun	140.27	36	ePKPdf	PKPdf	17 25 34.8 -1.3
V25A	Rancho No Teng	140.32	33	⇑P	PKPdf	17 25 37.5 +1.4
	baz=140					
Z21A	St. Cloud Mine	140.32	39	⇓P	PKPdf	17 25 37.6 +1.3
	baz=140					
Y22A	Socorro	140.33	37	⇑P	PKPdf	17 25 37.6 +1.3
	baz=140					
CBKS	Cedar Bluff	140.33	25	⇑P	PKPdf	17 25 37.2 +1.1
	baz=140					
W24A	Lazy 6 Ranch,	140.34	34	⇓P	PKPdf	17 25 37.7 +1.5
	baz=140					
U26A	Atchley Ranch,	140.37	32	⇓P	PKPdf	17 25 37.6 +1.4
	baz=140					
BNM	Barren Site	140.38	37	ePKPpre	PKPpre	17 25 30.6
319A	Douglas	140.52	42	⇑P	PKPdf	17 25 38.2 +1.5
	baz=140					
220A	Playas Peak, P	140.69	41	⇓P	PKPdf	17 25 38.1 +1.2
	baz=141					
121A	Cookes Peak, D	140.76	40	⇓P	PKPdf	17 25 38.5 +1.4
	baz=141					
Z22A	Elephant Butte	140.79	38	⇓P	PKPdf	17 25 38.7 +1.6
	baz=141					
V26A	Tequesquite Ra	140.80	32	⇓P	PKPdf	17 25 38.0 +1.0
	baz=141					
W25A	X Bar L Ranch,	140.86	33	⇑P	PKPdf	17 25 38.5 +1.3
	baz=141					
Y23A	Lovelace Mesa,	140.88	36	⇓P	PKPdf	17 25 38.8 +1.6
	baz=141					
320A	Kipp Ranch, An	141.05	42	⇓P	PKPdf	17 25 39.1 +1.5
	baz=141					
221A	Mesquite Ranch	141.11	40	⇑P	PKPdf	17 25 38.6 +0.9
	baz=141					
Z23A	Rita Site, Whi	141.24	37	⇓P	PKPdf	17 25 39.5 +1.5
	baz=141					
Y24A	Capitan	141.25	36	⇓P	PKPdf	17 25 39.3 +1.4
	baz=141					
X25A	Clemmons Ranch	141.26	34	⇓P	PKPdf	17 25 39.2 +1.3
	baz=141					
AAM	Ann Arbor	141.29	5	PFAKE		17 25 50.0 +12
AAM				LR	LR	
	comp=Z,1μm,21.0s,MS5.7					
W26A	Owens Ranch, T	141.34	33	⇑P	PKPdf	17 25 39.2 +1.2
	baz=141					
Y25A	Mesa, Roswell	141.68	35	⇑P	PKPdf	17 25 39.1 +0.4
	baz=142					
X26A	CR and CF Fran	141.72	34	⇓P	PKPdf	17 25 39.7 +0.9
	baz=142					
W27A	Bowe Ranch, En	141.74	32	⇓P	PKPdf	17 25 39.9 +1.2
	baz=142					
Z25A	Roswell	142.13	36	⇑P	PKPdf	17 25 39.8 +0.3
	baz=142					
Y26A	Elida	142.17	34	⇓P	PKPdf	17 25 39.6 0.0
	baz=142					
224A	Cornudas Mount	142.49	38	⇑P	PKPdf	17 25 40.4 +0.2
	baz=142					
Y27A	Causey	142.57	34	⇓P	PKPdf	17 25 40.2 -0.1
	baz=142					
AMTX	Amarillo	142.60	31	⇑P	PKPdf	17 25 41.0 +0.7
	baz=142					
AMTX	Amarillo	142.60	31	PFAKE		17 25 50.0 +10
AMTX				LR	LR	
	comp=Z,1μm,20.0s,MS5.7					
125A	Gardner Draw,	142.60	37	⇑P	PKPdf	17 25 40.7 +0.4
	baz=142					
MSTX	Muleshoe	142.72	33	⇑P	PKPdf	17 25 38.2 -2.3
	baz=143					
SFIN	Scholer Farm	142.74	10	⇓P	PKPdf	17 25 39.8 -0.6
	baz=143					
MNTX	Cornudas Mount	142.83	38	⇓P	PKPdf	17 25 39.3 -1.5
	baz=143					
MNTX	Cornudas Mount	142.83	38	ePKPpre	PKPpre	17 25 37.1
225A	Deer Hill, Car	142.89	37	⇓P	PKPdf	17 25 39.1 -1.8
	baz=143					
324A	Moseley Ranch,	142.94	39	⇑P	PKPdf	17 25 38.7 -2.3
	baz=143					
Z27A	Tatum	142.96	34	⇑P	PKPdf	17 25 37.5 -3.5
	baz=143					
325A	Bean Ranch, Si	143.31	38	⇓P	PKPdf	17 25 38.8 -2.9
	baz=143					
127A	Arkansas Junct	143.35	35	⇑P	PKPdf	17 25 39.7 -2.0
	baz=143					
ACSO	Alum Creek Sta	143.41	5	ePKPpre	PKPpre	17 25 37.7
CPUP	Villa Florida	143.41	214	PKP	PKPdf	17 25 39.1 -2.8
	comp=Z,0.7nm,0.4s,baz=56,slow=7.0,SNR=4.6					
CPUP	Villa Florida	143.41	214	PKP	PKPdf	17 25 39.1 -2.8
CPUP	Villa Florida	143.41	214	PKIKP	PKPdf	17 25 39.2 -2.8
CPUP				pmax	pmax	
	comp=Z,1.0nm,0.4s					
425A	Indio Mountain	143.70	39	⇓P	PKPdf	17 25 40.4 -1.9
	baz=144					
326A	Caldwell Ranch	143.96	37	⇓P	PKPdf	17 25 41.7 -1.1
	baz=144					
WMOK	Wichita Mounta	144.14	28	ePKPpre	PKPpre	17 25 40.0
WMOK	Wichita Mounta	144.14	28	ePKIKP	PKPpre	17 25 40.0
OLIL	Olney	144.14	12	ePKPpre	PKPpre	17 25 40.1
327A	Balmorhea Ranc	144.21	37	⇓P	PKPdf	17 25 42.2 -1.1
	baz=144					
FVM	French Village	144.32	15	ePKPpre	PKPpre	17 25 40.6
FVM	French Village	144.32	15	ePKIKP	PKPpre	17 25 40.6
426A	McDonald Obser	144.38	38	⇓P	PKPdf	17 25 42.2 -1.3
	baz=144					
TUL1	Tulsa	144.44	23	⇑P	PKPdf	17 25 41.3 -2.2
	baz=144					
328A	Wristen Ranch,	144.61	36	⇓P	PKPdf	17 25 43.0 -0.9
	baz=144					
427A	Hayter Ranch,	144.64	37	⇓P	PKPdf	17 25 43.3 -0.7
	baz=144					
526A	Mary Lane Ranc	144.76	39	⇓P	PKPdf	17 25 43.7 -0.5
	baz=145					
SIUC	Southern Illin	144.87	14	ePKPdf	PKPdf	17 25 43.0 -1.2
WCI	Wyandotte Cave	144.97	10	ePKPdf	PKPdf	17 25 42.9 -1.5
WCI	Wyandotte Cave	144.97	10	ePKIKP	PKPdf	17 25 42.9 -1.4
USIN	University of	144.97	12	ePKPpre	PKPdf	17 25 42.7 -1.6
527A	Woodward Ranch	145.00	38	⇓P	PKPab	17 25 44.1 +0.2
	baz=145					
626A	Big Bend Ranch	145.08	40	⇓P	PKPbc	17 25 44.8 +0.6
	baz=145					
428A	Kincaid Ranch,	145.16	37	⇓P	PKPbc	17 25 45.4 +0.9
	baz=145					
528A	Cox Ranch, San	145.50	38	⇓P	PKPdf	17 25 46.0 +0.5
	baz=145					
TXAR	Lajitas Array	145.53	40	PKPbc	PKPbc	17 25 46.4 +0.7
	comp=Z,133nm,1.0s,baz=284,slow=1.7,SNR=642					
TXAR	Lajitas Array	145.53	40	PKPbc	PKPbc	17 25 46.4 +0.7
CBN	Corbin	145.54	357	ePKPdf	PKPdf	17 25 44.9 -0.4
627A	Terlingua Ranc	145.62	39	⇑P	PKPdf	17 25 46.8 +1.0
	baz=146					
PARMO	Parma	145.74	15	ePKPdf	PKPdf	17 25 45.4 -0.4
628A	Black Gap, Mar	145.91	39	⇓P	PKPdf	17 25 47.6 +1.4
	baz=146					
UTMT	University of	146.27	14	ePKPdf	PKPdf	17 25 47.5 +0.8
MIAR	Mount Ida	146.49	22	ePKPdf	PKPdf	17 25 47.2 +0.1
MIAR	Mount Ida	146.49	22	ePKP2	PKPdf	17 25 47.2 +0.1
LCO	Las Campanas	146.52	194	ePKPdf	PKPdf	17 25 47.9 +0.6
HBAR	Harrisburg	146.53	17	ePKPbc	PKPbc	17 25 47.9 -0.6
BLA	Blacksburg	146.56	2	ePKPdf	PKPdf	17 25 47.2 +0.1
BLA	Blacksburg	146.56	2	ePKP2	PKPdf	17 25 47.2 +0.1
UALR	University of	146.72	20	ePKPdf	PKPdf	17 25 48.0 +0.6
JCT	Junction City	147.00	34	⇑P	PKPdf	17 25 50.0 +2.0
	baz=147					
JCT	Junction City	147.00	34	ePKPdf	PKPdf	17 25 48.3 +0.2
JCT	Junction City	147.00	34	ePKP2	PKPdf	17 25 48.3 +0.3
TZTN	Tazewell	147.01	6	ePKPbc	PKPbc	17 25 49.2 -0.7
PLAL	Pickwick Lake	147.75	14	ePKPdf	PKPdf	17 25 48.6 -0.5
TKL	Tuckaleechee C	147.86	7	ePKPbc	PKPbc	17 25 51.5 -0.7
TKL	Tuckaleechee C	147.86	7	ePKP2	PKPbc	17 25 51.5 -0.7
OXF	Oxford	147.86	16	ePKPbc	PKPbc	17 25 51.5 -0.8
OXF	Oxford	147.86	16	ePKP2	PKPbc	17 25 51.5 -0.8
CPCT	Cooper Cave	147.96	8	ePKPdf	PKPdf	17 25 48.2 -1.3
SWET	Sewanee	147.97	10	ePKPbc	PKPbc	17 25 51.1 -1.4
BBSR	BB Station	148.29	336	ePKPbc	PKPbc	17 25 53.1 -0.4
KMSC	Kings Mountain	148.58	3	⇓P	PKPdf	17 25 53.1 +2.5
	baz=148					
JSC	Jenkinsville	149.44	3	ePKPbc	PKPbc	17 25 55.9 -0.5
JSC	Jenkinsville	149.44	3	ePKP2	PKPbc	17 25 55.9 -0.5
HKT	Hockley	149.49	29	ePKPdf	PKPdf	17 25 52.8 +0.6
HKT	Hockley	149.49	29	ePKHKP	PKPdf	17 25 52.8 +0.7
LPAZ	La Paz	157.35	209	PKP	PKPdf	17 26 04.8 +1.1
	comp=Z,1.8nm,1.0s,baz=54,slow=4.6,SNR=6.1					
LPAZ	La Paz	157.35	209	PKP	PKPdf	17 26 04.8 +1.1
LPAZ				ePKPdf	PKPdf	17 26 04.9 +1.2
LPAZ				LR	LR	
	comp=Z,821nm,20.0s,MS5.6					
LPAZ	La Paz	157.35	209	PKIKP	PKPdf	17 26 04.8 +1.1
LPAZ				pmax	pmax	
	comp=Z,2.0nm,1.0s					
SAML	Samuel	159.66	232	ePKPdf	PKPdf	17 26 06.4 -0.2
OTAV	Otavalo	176.53	194	ePKPdf	PKPdf	17 26 18.2 +0.1

*ISCJB **11** 17:25:01.6±0.6,4.87S±0.09×153.60E±0.09,h43km, mb4.2/15,Error ellipse: s-maj=16.1km s-min=8.4km az=40.3*

*IDC **11** 17:25:03.4±0.6,4.89S×153.63E,h46km±4km,mb4.0/12, mb1 4.2/13,mb1mx4.0/18,mbtmp4.1/13,Error ellipse: s-maj=20.3km s-min=13.1km az=115.0*

*NEIC **11** 17:25:03.0±0.5,4.92S×153.66E,mb4.6/3,Error ellipse: s-maj=16.7km s-min=9.6km az=116.0*

ISC 11 17:25:03.3±0.6,4.92S±0.09×153.69E±0.10,h45km, h45km±1.9km:pP-P,n41,σ1900/39,mb4.2/15,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.86	235	P	Pn	17 26 55.8	+0.6
	16nm,0.3s,baz=47,slow=7.0,SNR=56						
PMG				S	Sn	17 28 23.9	+1.0
	29nm,0.3s,baz=132,slow=22,SNR=12						
PMG	Port Moresby	7.86	235	eP	Pn	17 26 54.1	-1.0
	75nm,0.6s						
PMG				S	Sn	17 28 23.9	+1.0
COEN	Coen	13.71	228	eP	Pn	17 28 16.4	+1.2
	19nm,0.7s						
COEN	Coen	13.71	228	eP	Pn	17 28 17.3	+2.1
EIDS	Eidsvold	20.49	187	eP	P	17 29 42.1	+4.6
	23nm,0.6s						
QIS	Mount Isa	20.71	220	eP	P	17 29 44.0	+4.0
WRAB	Tennant Creek	24.02	230	eP	P	17 30 13.2	-0.9
	5.2nm,0.6s,mb4.1						
WB2	Warramunga Arr	24.03	230	eP	P	17 30 12.9	-1.3
WRA	Warramunga Arr	24.04	230	P	P	17 30 14.4	+0.2
	2.5nm,0.5s,mb3.9,baz=54,slow=10,SNR=54						
WRA				PcP	PcP	17 33 55.6	+0.3
	2.0nm,0.7s,baz=58,slow=2.5,SNR=8.1						
WRA	Warramunga Arr	24.04	230	P	P	17 30 14.4	+0.2
WRA				PcP	PcP	17 33 55.6	+0.3
AS31	Alice Springs	26.66	224	eP	P	17 30 36.6	-1.5
ASAR	Alice Springs	26.67	224	P	P	17 30 37.7	-0.4
	0.8nm,0.4s,mb3.6,baz=56,slow=9.1,SNR=40						
ASAR				PcP	PcP	17 34 01.6	+0.4
	1.5nm,0.8s,baz=41,slow=3.2,SNR=7.8						
ASAR	Alice Springs	26.67	224	P	P	17 30 37.7	-0.4
ASAR				PcP	PcP	17 34 01.6	+0.4
STKA	Stephens Creek	29.12	201	P	P	17 30 58.8	-1.1
	1.9nm,0.6s,mb4.0,baz=18,slow=10,SNR=6.1						
STKA	Stephens Creek	29.12	201	P	P	17 30 58.8	-1.1
FITZ	Fitzroy Crossi	30.38	242	P	P	17 31 10.2	-1.1
	1.0nm,0.4s,mb3.9,baz=76,slow=4.1,SNR=9.8						
FITZ	Fitzroy Crossi	30.38	242	eP	P	17 31 09.2	-2.1
	6.5nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	30.38	242	P	P	17 31 10.2	-1.1
RPZ	Rata Peaks	41.57	161	P	P	17 32 47.7	+1.2
	16nm,0.7s,mb4.8,baz=108,slow=15,SNR=7.9						
RPZ	Rata Peaks	41.57	161	P	P	17 32 47.7	+1.2
KSRS	Korea Array	48.51	332	sP	sP	17 33 59.4	-0.3
	1.9nm,0.8s,baz=144,slow=9.6,SNR=4.6						
KSAR	Wonju Array Be	48.51	332	sP	sP	17 33 59.4	-0.3
PETK	Petropavlovsk-	57.91	3	P	P	17 34 51.2	+0.6
	4.9nm,0.9s,mb4.6,baz=181,slow=8.5,SNR=4.5						
PETK	Petropavlovsk-	57.91	3	P	P	17 34 51.2	+0.6
CMAR	Chiang Mai Arr	58.73	295	P	P	17 34 57.5	+0.5

2.3nm,0.6s,baz=75,slow=4.0,SNR=7.6
TORD Torodi Ar. Bea 151.18 288 PKPbc PKPbc 17 44 51.5 -1.2
TORD PKPab PKPab 17 45 00.0 -0.6

IDC 11 17:32:47.0±1.7, 55°33S×128°27W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.7/13, mbtmp3.5/3, MS4.0/1, Ms1 4.0/1, ms1mx3.5/17, Error ellipse: s-maj=64.6km s-min=36.2km az=28.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**33.34**	**114**	LR	LR	17 49 19.4	
	comp=Z,254nm,20.0s,baz=37,slow=30						
SNAA	**Sanae**	**47.65**	**160**	P	P	17 41 23.7	-0.6
	0.5nm,0.9s,baz=197,slow=14,SNR=5.8						
ASAR	**Alice Springs**	**75.15**	**250**	P	P	17 44 32.5	+1.5
	0.5nm,0.9s,baz=142,slow=5.8,SNR=4.4						
WRA	**Warramunga Arr**	**77.93**	**253**	P	P	17 44 46.1	-0.7
	0.5nm,0.5s,baz=143,slow=5.1,SNR=9.4						
ILAR	**Eielson Array**	**120.62**	**351**	PKP	PKPdf	17 51 38.4	-0.7
	0.4nm,0.7s,baz=193,slow=3.7,SNR=4.7						
BRTR	**Keskin Array B**	**160.27**	**135**	PKPab	PKPab	17 53 28.9	+0.8
	0.4nm,0.8s,baz=182,slow=4.3,SNR=2.8						

IDC 11 17:36:35.0±3.2, 13°70S×166°34E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=179.6km s-min=34.3km az=133.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.00**	**227**	P	P	17 42 36.9	+0.3
	0.8nm,0.6s,baz=53,slow=15,SNR=3.8						
ASAR	**Alice Springs**	**32.22**	**247**	P	P	17 43 05.0	-0.2
	0.1nm,0.5s,baz=76,slow=9.0,SNR=5.6						
ILAR	**Eielson Array**	**85.83**	**18**	P	P	17 49 16.1	+0.1
	0.3nm,0.8s,baz=229,slow=6.1,SNR=5.3						

*ISCJB **11** 18:05:31.0±1.1, 21°17S±0°06×68°2W±0°1, h137km±11km, mb4.0/8, Error ellipse: s-maj=18.1km s-min=9.7km az=167.7*
*IDC **11** 18:05:33.9±2.0, 20°99S×68°12W, h142km±17km, mb4.0/6, mb1 3.9/10, mb1mx3.8/17, mbtmp3.8/10, Error ellipse: s-maj=19.1km s-min=14.2km az=61.0*
*NEIC **11** 18:05:33.2±1.2, 20°95S×68°02W, h136km±11km, mb4.6/3, Error ellipse: s-maj=15.5km s-min=10.7km az=61.0*
ISC 11 18:05:32.3±1.0, 21°16S±0°07×68°2W±0°1, h132km±11km, n37, σ1°22/32, mb4.0/8, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.85**	**0**	P	**Pn**	**18 06 43.7**	**+0.3**
	12nm,0.3s,baz=166,slow=7.2,SNR=102						
LPAZ				S	**Sn**	**18 07 39.0**	**+0.2**
	baz=253,slow=17,SNR=1.6						
LPAZ	**La Paz**	**4.85**	**0**	P	**Pn**	**18 06 43.7**	**+0.3**
LPAZ				S	**Sn**	**18 07 39.0**	**+0.2**
LCO	**Las Campanas**	**8.15**	**196**	*e*P	**Pn**	**18 07 23.2**	**-4.5**
	16nm,0.3s						
CFAA	**Coronel Fontan**	**10.40**	**180**	P	**Pn**	**18 07 55.6**	**-2.2**
	0.1nm,0.3s,baz=348,slow=11,SNR=9.0						
CFAA				S	**Sn**	**18 09 44.9**	**-7.7**
	0.2nm,0.3s,baz=237,slow=22,SNR=4.0						
CFAA	**Coronel Fontan**	**10.40**	**180**	P	**Pn**	**18 07 55.6**	**-2.2**
CFAA				S	**Sn**	**18 09 44.9**	**-7.7**
CPUP	**Villa Florida**	**11.17**	**119**	P	**Pn**	**18 08 08.6**	**+0.5**
	0.5nm,0.3s,baz=292,slow=13,SNR=3.6						
CPUP	**Villa Florida**	**11.17**	**119**	P	**Pn**	**18 08 08.6**	**+0.5**
NNA	**Nana**	**12.35**	**316**	P	**Pn**	**18 08 24.3**	**+0.7**
	1.2nm,0.3s,baz=151,slow=12,SNR=2.6						
NNA	**Nana**	**12.35**	**316**	*e*P	**Pn**	**18 08 24.2**	**+0.5**
	12nm,0.7s						
SAML	**Samuel**	**13.06**	**22**	*e*P	**Pn**	**18 08 28.4**	**-4.5**
	7.1nm,0.6s						
PLCA	**Paso Flores**	**19.61**	**185**	P	**P**	**18 09 52.6**	**+2.4**
	0.2nm,0.3s,baz=24,slow=10.0,SNR=5.1						
PLCA	**Paso Flores**	**19.61**	**185**	P	**P**	**18 09 52.6**	**+2.4**
RCBR	**Riachuelo**	**34.77**	**69**	P	**P**	**18 12 09.2**	**-1.0**
	5.7nm,0.6s,mb4.4,baz=50,slow=21,SNR=6.1						
RCBR	**Riachuelo**	**34.77**	**69**	P	**P**	**18 12 09.2**	**-1.0**
TXAR	**Lajitas Array**	**60.76**	**324**	P	**P**	**18 15 28.6**	**-1.5**
	0.3nm,0.8s,mb3.2,baz=132,slow=6.2,SNR=2.2						
TXAR	**Lajitas Array**	**60.76**	**324**	P	**P**	**18 15 28.6**	**-1.5**
DBIC	**Dimbokro**	**67.97**	**73**	P	**P**	**18 16 17.8**	**+0.3**
	13nm,0.6s,mb4.8,baz=218,slow=6.4,SNR=30						
DBIC	**Dimbokro**	**67.97**	**73**	P	**P**	**18 16 17.8**	**+0.3**
QSPA	**South Pole Qui**	**69.03**	**180**	P	**P**	**18 16 26.1**	**+3.1**
	0.7nm,0.6s,mb3.6,baz=125,slow=4.8,SNR=4.0						
QSPA	**South Pole Qui**	**69.03**	**180**	P	**P**	**18 16 26.1**	**+3.1**
ULM	**Lac du Bonnet**	**75.21**	**342**	P	**P**	**18 16 58.5**	**-1.5**
	2.4nm,0.4s,mb4.2,baz=155,slow=5.9,SNR=6.9						
ULM	**Lac du Bonnet**	**75.21**	**342**	P	**P**	**18 16 58.5**	**-1.5**
NVAR	**Mina Array Bea**	**75.66**	**322**	P	**P**	**18 17 03.8**	**+0.9**
	0.5nm,0.8s,mb3.2,baz=156,slow=5.6,SNR=3.0						
NVAR	**Mina Array Bea**	**75.66**	**322**	P	**P**	**18 17 03.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**76.58**	**70**	P	**P**	**18 17 09.0**	**+0.4**
	28nm,0.7s,mb5.0,baz=254,slow=5.6,SNR=293						
TORD	**Torodi Ar. Bea**	**76.58**	**70**	P	**P**	**18 17 09.0**	**+0.3**
YKA	**Yellowknife Ar**	**91.11**	**340**	P	**P**	**18 18 21.6**	**+0.3**
	0.8nm,0.5s,mb4.0,baz=133,slow=4.5,SNR=19						
YKA	**Yellowknife Ar**	**91.11**	**340**	P	**P**	**18 18 21.6**	**+0.3**
ASAR	**Alice Springs**	**130.53**	**207**	PKP	PKPdf	18 24 29.0	+1.0
	0.2nm,0.4s,baz=119,slow=1.6,SNR=12						
ASAR	**Alice Springs**	**130.53**	**207**	PKP	PKPdf	18 24 29.0	+1.0
WRA	**Warramunga Arr**	**133.60**	**210**	PKP	PKPdf	18 24 35.1	+1.1
	0.3nm,0.6s,baz=155,slow=1.7,SNR=2.8						
WRA	**Warramunga Arr**	**133.60**	**210**	PKP	PKPdf	18 24 35.0	+1.1
ZALV	**Zalesovo Beam**	**141.35**	**25**	PKP	PKPdf	18 24 46.0	-1.1
	0.3nm,0.4s,baz=48,slow=2.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**141.35**	**25**	PKP	PKPdf	18 24 46.0	-1.1
MK31	**Makanchi Array**	**144.95**	**36**	*e*PKPdf	PKPdf	18 24 54.2	+0.5
MKAR	**Makanchi Array**	**144.95**	**36**	PKP	PKPdf	18 24 54.4	+0.8
	3.4nm,0.7s,baz=326,slow=3.5,SNR=28						
MKAR	**Makanchi Array**	**144.95**	**36**	PKP	PKPdf	18 24 54.4	+0.8

*IDC **11** 18:36:51.7±2.1, 31°58S×176°53W, h0km, mb4.0/3, mb1 4.2/5, mb1mx4.0/17, mbtmp4.1/5, ML4.1/2, Error ellipse: s-maj=63.5km s-min=32.5km az=135.0*
*NEIC **11** 18:36:56.7±2.3, 31°75S×176°53W, h37km±15km, mb4.1/3, Error ellipse: s-maj=34.8km s-min=14.1km az=100.0*
*ISCJB **11** 18:36:57.9±4.2, 31°8S±0°1×177°0W±0°6, h33km, mb4.1/5, Error ellipse: s-maj=79.4km s-min=10.4km az=11.8*
ISC 11 18:36:59.6±3.8, 31°7S±0°1×177°0W±0°6, h35km, n17, σ1°06/15, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.61**	**341**	P	**Pn**	**18 37 38.7**	**-0.5**
URZ	**Urewera**	**8.13**	**215**	Pn	**Pn**	**18 38 53.4**	**-1.6**
	0.7nm,0.3s,baz=11,slow=5.2,SNR=4.9						
URZ				Sn	Sx	18 40 34.2	
	2.0nm,0.3s,baz=8.9,slow=22,SNR=6.1						
URZ	**Urewera**	**8.13**	**215**	Pn	**Pn**	**18 38 53.4**	**-1.6**
URZ				Sn	Sx	18 40 34.2	
RPZ	**Rata Peaks**	**15.24**	**215**	Pn	**Pn**	**18 40 33.8**	**+1.7**
	2.2nm,0.3s,baz=321,slow=21,SNR=9.4						
RPZ				Sn	**Sn**	**18 43 19.3**	**-0.4**
	0.3nm,0.3s,baz=68,slow=11,SNR=2.2						
RPZ	**Rata Peaks**	**15.24**	**215**	Pn	**Pn**	**18 40 33.8**	**+1.7**
RPZ				Sn	**Sn**	**18 43 19.3**	**-0.4**
CTAO	**Charters Tower**	**34.90**	**280**	*e*P	**P**	**18 43 49.1**	**+1.2**
	3.9nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**35.07**	**259**	P	**P**	**18 43 51.4**	**+2.2**
	1.7nm,0.9s,mb4.0,baz=90,slow=13,SNR=3.0						
STKA	**Stephens Creek**	**35.07**	**259**	P	**P**	**18 43 49.0**	**-0.3**
	1.1nm,1.2s,mb3.7						
ASAR	**Alice Springs**	**43.94**	**268**	P	**P**	**18 45 03.5**	**+0.2**
	1.2nm,0.6s,mb3.8,baz=106,slow=7.2,SNR=25						
ASAR	**Alice Springs**	**43.94**	**268**	P	**P**	**18 45 03.5**	**+0.2**
WRAB	**Tennant Creek**	**45.04**	**273**	*e*P	**P**	**18 45 11.7**	**-0.4**
	1.8nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**45.05**	**273**	P	**P**	**18 45 11.2**	**-1.0**
	1.9nm,0.5s,mb4.2,baz=112,slow=8.2,SNR=21						
WRA	**Warramunga Arr**	**45.05**	**273**	P	**P**	**18 45 11.2**	**-1.0**
FINES	**FINESS Array B**	**146.70**	**340**	PKPbc	PKPbc	18 56 34.0	-2.9
	3.0nm,0.5s,baz=64,slow=3.8,SNR=23						
FINES	**FINESS Array B**	**146.70**	**340**	PKPbc	PKPbc	18 56 34.0	-2.9
NOA	**NORSAR Array B**	**150.19**	**352**	PKPbc	PKPbc	18 56 43.2	-2.8
	0.7nm,0.6s,baz=14,slow=4.1,SNR=3.5						
NOA	**NORSAR Array B**	**150.19**	**352**	PKPbc	PKPbc	18 56 43.2	-2.8

*NEIC **11** 18:41:17.4, 19°09N×66°88W, h12km, MD3.1(RSPR), After RSPR.*
RSPR 11 18:41:17.4, 19°09N×66°88W, h12km±4km, MD3.0/9, 29C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.65**	**200**	*e*P	Pg	18 41 28.5	-1.6
AGPR	**Aguadilla, PR**	**0.65**	**200**	*e*P	Pg	18 41 28.5	-1.6
AGPR				*e*S	Sg	18 41 38.1	-0.5
AOPR	**Arecibo Observ**	**0.74**	**171**	*e*P	Pg	18 41 30.3	-1.6
AOPR	**Arecibo Observ**	**0.74**	**171**	*e*P	Pg	18 41 30.3	-1.6
LRS	**Lares**	**0.79**	**177**	*e*P	Pg	18 41 30.7	-2.0
LRS				*e*S	Sg	18 41 41.4	-1.6
LRS	**Lares**	**0.79**	**177**	*e*P	Pg	18 41 30.7	-2.0
LRS				*e*S	Sg	18 41 41.4	-1.6
LSP	**Las Mesas**	**0.93**	**192**	*e*P	Pg	18 41 32.9	-2.4
LSP				*e*S	Sg	18 41 45.3	-2.1
LSP	**Las Mesas**	**0.93**	**192**	*e*P	Pg	18 41 32.9	-2.4
LSP				*e*S	Sg	18 41 45.3	-2.1
CELP	**Cerrillos**	**1.04**	**164**	*e*P	Pb	18 41 35.0	-2.4
CELP	**Cerrillos**	**1.04**	**164**	*e*P	Pb	18 41 35.0	-2.4
OBIP	**Obispado Ponce**	**1.07**	**166**	*e*P	Pb	18 41 35.3	-2.6
OBIP	**Obispado Ponce**	**1.07**	**166**	*e*P	Pb	18 41 35.3	-2.6
OBIP				*e*S	Sb	18 41 49.3	-2.5
CRPR	**Cabo Rojo, PR**	**1.09**	**191**	*e*P	Pb	18 41 35.4	-2.9
CRPR	**Cabo Rojo, PR**	**1.09**	**191**	*e*P	Pb	18 41 35.4	-2.9
CRPR				*e*S	Sb	18 41 49.5	-3.1
GBPR	**Guanica, Bosqu**	**1.10**	**180**	*e*P	Pb	18 41 36.1	-2.4
GBPR				*e*S	Sb	18 41 50.6	-2.2
GBPR	**Guanica, Bosqu**	**1.10**	**180**	*e*P	Pb	18 41 36.1	-2.4
GBPR				*e*S	Sb	18 41 50.6	-2.2
SJG	**San Juan**	**1.19**	**144**	*e*P	Pn	18 41 37.5	-2.4
SJG	**San Juan**	**1.19**	**144**	*e*P	Pn	18 41 37.1	-2.9
SJG	**San Juan**	**1.19**	**144**	*e*P	Pn	18 41 37.5	-2.4
ICM	**Isla Caja Muer**	**1.23**	**164**	*e*P	Pn	18 41 38.1	-2.4
ICM	**Isla Caja Muer**	**1.23**	**164**	*e*P	Pn	18 41 38.1	-2.4
ICM				*e*S	Sb	18 41 53.4	-3.2
CBYP	**Canovanas**	**1.26**	**130**	*e*P	Pn	18 41 37.1	-3.8
HUMP	**Col San Antoni**	**1.35**	**134**	*e*P	Pn	18 41 39.0	-3.2
HUMP	**Col San Antoni**	**1.35**	**134**	*e*P	Pn	18 41 39.0	-3.2
HUMP				*e*S	Sb	18 41 55.4	-4.6
MTP	**Monte Pirata**	**1.60**	**128**	*e*P	Pn	18 41 42.0	-3.5
MTP	**Monte Pirata**	**1.60**	**128**	*e*P	Pn	18 41 42.0	-3.5
MTP				*e*S	Sn	18 42 01.4	-4.7
STVI	**Saint Thomas**	**1.97**	**111**	*e*P	Pn	18 41 48.3	-2.3
STVI	**Saint Thomas**	**1.97**	**111**	*e*P	Pn	18 41 53.6	+3.0
STVI				*e*S	Sn	18 42 11.7	-3.5
DR12	**Loma Pena Alta**	**2.38**	**263**	*e*P	Pn	18 41 53.6	-2.8
DR12	**Loma Pena Alta**	**2.38**	**263**	*e*P	Pn	18 41 53.6	-2.8
SDDR	**Presa de Saban**	**4.17**	**269**	P	Pn	18 42 25.5	+4.6

*ISK **11** 18:59:46.6, 38°16N×38°66E, h2km, MD2.7*
*ISCJB **11** 18:59:47.2±0.6, 38°12N±0°04×38°65E±0°03, h2km±9km, Error ellipse: s-maj=6.6km s-min=4.3km az=177.6*
*DDA **11** 18:59:47.5, 38°14N×38°62E, h7km±5km, Md3.3*
*CSEM **11** 18:59:47.7±0.2, 38°14N×38°66E, h2km, MD2.7, Error ellipse: s-maj=6.3km s-min=4.4km az=163.0*
ISC 11 18:59:48.0±0.5, 38°13N±0°04×38°64E±0°03, h5km±9km, n23, σ0°72/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	**Malataya**	**0.26**	**319**	PG	**Pg**	**18 59 52.7**	**-0.3**
MYA				SG	**Sg**	**18 59 56.7**	**+0.3**
MYA	**Malataya**	**0.26**	**319**	*i* Pg	**Pg**	**18 59 52.7**	**-0.3**
MYA				*i* Sg	**Sg**	**18 59 56.7**	**+0.3**
ELZG	**Elazig**	**0.45**	**36**	*e*P	**Pg**	**18 59 56.1**	**-0.7**
ELZG				*i* S	**Sg**	**19 00 03.3**	**+0.7**
ELZG	**Elazig**	**0.45**	**36**	*e*P	**Pg**	**18 59 56.1**	**-0.6**
ELZG				*i* S	**Sg**	**19 00 03.3**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.58**	**65**	*e*PG	**Pg**	**18 59 58.4**	**-0.7**
SVRC				*e*SG	**Sg**	**19 00 06.7**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.58**	**65**	*e*Pg	**Pg**	**18 59 58.4**	**-0.7**
SVRC				*e*Sg	**Sg**	**19 00 06.7**	**+0.1**
AKCD	**Akcadag**	**0.59**	**286**	*i* P	**Pg**	**18 59 58.9**	**-0.4**
AKCD				*i* S	**Sg**	**19 00 07.3**	**+0.4**
AKCD	**Akcadag**	**0.59**	**286**	*i* P	**Pg**	**18 59 58.9**	**-0.4**
AKCD				*i* S	**Sg**	**19 00 07.3**	**+0.3**
URFA	**Urfa**	**0.70**	**168**	*e*PG	**Pg**	**19 00 01.1**	**-0.4**
URFA	**Urfa**	**0.70**	**168**	*e*Pg	**Pg**	**19 00 01.1**	**-0.4**
PTK	**Pertek**	**0.96**	**38**	*e*PG	**Pg**	**19 00 04.5**	**-1.9**
PTK				*e*SG	**Sg**	**19 00 19.1**	**+0.2**
PTK	**Pertek**	**0.96**	**38**	*e*Pg	**Pg**	**19 00 04.5**	**-1.9**
PTK				*e*Sg	**Sg**	**19 00 19.1**	**+0.2**
DIYA	**Diyarbakir**	**1.19**	**100**	*e*P	**Pg**	**19 00 10.7**	**0.0**
DIYA				*i* S	**Sg**	**19 00 27.7**	**+1.5**
DIYA	**Diyarbakir**	**1.19**	**100**	*e*P	**Pg**	**19 00 10.7**	**-0.1**
DIYA				*i* S	**Sg**	**19 00 27.7**	**+1.5**
GAZ	**Gaziantep**	**1.49**	**230**	*e*PN	**Pn**	**19 00 15.9**	**+0.6**
GAZ	**Gaziantep**	**1.49**	**230**	*e*Pn	**Pn**	**19 00 15.9**	**+0.6**
KMRS	**Kahramanmaras**	**1.51**	**246**	*e*PN	**Pn**	**19 00 15.9**	**+0.2**
KMRS	**Kahramanmaras**	**1.51**	**246**	*e*Pn	**Pn**	**19 00 15.9**	**+0.2**
SARI	**SarD1z-Kayseri**	**1.62**	**290**	*e*PN	**Pg**	**19 00 19.9**	**+0.8**
SARI	**SarD1z-Kayseri**	**1.62**	**290**	*e*Pn	**Pg**	**19 00 19.9**	**+0.8**
KUZU	**Kuzuini**	**1.84**	**223**	*i* P	**Pg**	**19 00 23.2**	**-0.1**
KUZU				*i* S	**Sn**	**19 00 43.0**	**-0.9**
KUZU	**Kuzuini**	**1.84**	**223**	*i* P	**Pg**	**19 00 23.2**	**-0.1**
KUZU				*i* S	**Sn**	**19 00 43.0**	**-0.9**
KOZT	**Kozan**	**2.32**	**255**	*e*PN	**Pn**	**19 00 27.6**	**+0.7**

*IDC **11** 19:00:30.6±1.2, 31°52S×176°72W, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.1/18, mbtmp4.2/7, ML4.4/2, Error ellipse: s-maj=37.6km s-min=24.2km az=144.0*
*NEIC **11** 19:00:31.9±0.8, 31°43S×176°73W, h10km, mb4.1/3, Error ellipse: s-maj=18.3km s-min=13.9km az=109.0*
ISC 11 19:00:36.8±0.9, 31°73S±0°07×176°9W±0°1, h35km, n35, σ1°23/40, mb4.0/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.62**	**340**	*e*P	**Pn**	**19 01 09.8**	**-6.8**
MXZ	**Matakaoa Point**	**7.04**	**213**	PN	**Pn**	**19 02 17.4**	**+0.1**
MXZ				*e*SN	**Sn**	**19 03 41.5**	**+5.4**
PUZ	**Puketiti**	**7.48**	**211**	PN	**Pn**	**19 02 22.9**	**-0.5**
PUZ				SN	**Sn**	**19 03 53.6**	**+6.6**
MWZ	**Matawai**	**8.03**	**213**	PN	**Pn**	**19 02 32.2**	**+1.3**
MWZ				SN	**Sn**	**19 04 06.0**	**+5.6**
URZ	**Urewera**	**8.17**	**215**	Pn	**Pn**	**19 02 33.7**	**+0.9**
	1.9nm,0.3s,baz=229,slow=20,SNR=11						
URZ				Sn	**Sn**	**19 04 09.3**	**+5.4**
	4.7nm,0.3s,baz=193,slow=18,SNR=8.8						
URZ	**Urewera**	**8.17**	**215**	*e*P	**Pn**	**19 02 33.5**	**+0.7**
URZ				Sn	**Sn**	**19 04 09.3**	**+5.4**
URZ	**Urewera**	**8.17**	**215**	PN	**Pn**	**19 02 33.8**	**+1.0**
URZ				SN	**Sn**	**19 04 08.3**	**+4.4**
MRZ	**Mangatainoka R**	**10.79**	**212**	PN	**Pn**	**19 03 07.5**	**-1.2**
MRZ				SN	**Sn**	**19 05 06.7**	**-1.5**
CTZ	**Chatham Island**	**11.99**	**179**	PN	**Pn**	**19 03 24.8**	**-0.4**
CTZ				SN	**Sn**	**19 05 30.8**	**-6.8**
THZ	**Tophouse**	**12.93**	**216**	PN	**Pn**	**19 03 39.9**	**+2.0**
THZ				*e*SN	**Sn**	**19 05 59.2**	**-1.3**
KHZ	**Kahutara**	**13.12**	**213**	PN	**Pn**	**19 03 40.5**	**0.0**
MQZ	**McQueen's Vall**	**14.53**	**212**	*e*SN	**Sn**	**19 06 33.8**	**-5.7**
RPZ	**Rata Peaks**	**15.29**	**215**	Pn	**Pn**	**19 04 09.3**	**-0.5**
	3.4nm,0.3s,baz=55,slow=4.6,SNR=15						
RPZ				Sn	**Sn**	**19 06 50.9**	**-7.0**
	0.2nm,0.3s,baz=260,slow=20,SNR=3.6						
RPZ	**Rata Peaks**	**15.29**	**215**	*e*P	**Pn**	**19 04 07.7**	**-2.1**
RPZ				Sn	**Sn**	**19 06 50.9**	**-7.0**
CTA	**Charters Tower**	**34.96**	**280**	P	**P**	**19 07 26.6**	**+0.9**
	1.3nm,0.4s,mb4.2,baz=94,slow=9.8,SNR=5.3						
CTA	**Charters Tower**	**34.96**	**280**	P	**P**	**19 07 26.6**	**+0.9**
CTAO	**Charters Tower**	**34.96**	**280**	*e*P	**P**	**19 07 26.6**	**+0.9**
	3.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**35.13**	**259**	P	**P**	**19 07 28.9**	**+1.9**
	2.6nm,0.6s,mb4.3,baz=323,slow=22,SNR=6.4						
STKA	**Stephens Creek**	**35.13**	**259**	*e*P	**P**	**19 07 27.9**	**+0.9**
	0.8nm,0.9s,mb3.6						
ASAR	**Alice Springs**	**44.00**	**268**	P	**P**	**19 08 40.9**	**-0.1**
	1.7nm,0.9s,mb3.8,baz=104,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**44.00**	**268**	P	**P**	**19 08 40.9**	**-0.1**
WB2	**Warramunga Arr**	**45.10**	**273**	*e*P	**P**	**19 08 49.3**	**-0.5**
WRAB	**Tennant Creek**	**45.10**	**273**	*e*P	**P**	**19 08 49.3**	**-0.5**
	1.9nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**45.11**	**273**	P	**P**	**19 08 48.9**	**-1.0**
	2.0nm,0.7s,mb4.1,baz=112,slow=7.7,SNR=19						
WRA	**Warramunga Arr**	**45.11**	**273**	P	**P**	**19 08 48.9**	**-1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**76.92**	**176**	*e*	**P**	**19 12 27.4**	**+2.4**
VNA2	**Neumayer--Watz**	**77.37**	**176**	*e*	**P**	**19 12 30.3**	**+2.8**
	baz=178,slow=5.7						
NVAR	**Mina Array Bea**	**88.57**	**42**	P	**P**	**19 13 24.3**	**-1.4**
	0.6nm,1.0s,mb3.9,baz=216,slow=8.8,SNR=3.7						
NVAR	**Mina Array Bea**	**88.57**	**42**	P	**P**	**19 13 24.3**	**-1.5**
FINES	**FINESS Array B**	**146.71**	**340**	PKPbc	PKPbc	19 20 12.0	-2.1
	3.7nm,0.8s,baz=64,slow=4.4,SNR=7.6						
FINES	**FINESS Array B**	**146.71**	**340**	PKPbc	PKPbc	19 20 12.0	-2.1
NOA	**NORSAR Array B**	**150.20**	**352**	PKPbc	PKPbc	19 20 21.8	-1.4
	1.7nm,0.9s,baz=16,slow=4.3,SNR=3.8						
NOA	**NORSAR Array B**	**150.20**	**352**	PKPbc	PKPbc	19 20 21.8	-1.4
TORD	**Torodi Ar. Bea**	**161.46**	**176**	PKPab	PKPab	19 21 19.4	+0.8
	0.6nm,0.7s,baz=178,slow=3.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**161.46**	**176**	PKPab	PKPab	19 21 19.4	+0.8

IDC 11 19:17:46.9±1.8, 0°56N×124°87E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, Error ellipse: s-maj=182.5km s-min=24.9km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.39**	**156**	P	P	19 22 47.2	+0.2
	0.6nm,0.4s,baz=334,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.64**	**161**	P	P	19 23 18.2	-0.1
	0.2nm,0.4s,baz=340,slow=7.1,SNR=5.9						
MKAR	**Makanchi Array**	**59.13**	**327**	P	P	19 27 49.4	+0.1
	0.3nm,0.6s,baz=118,slow=7.4,SNR=3.2						

*IDC **11** 19:40:52.1±1.2, 46°92N×155°82E, h0km, mb3.7/11, mb1 4.0/12, mb1mx3.8/27, mbtmp3.7/12, ML3.2/1, Error ellipse: s-maj=34.8km s-min=18.1km az=168.0*
*ISCJB **11** 19:40:55.0±0.7, 46°94N±0°09×155°7E±0°1, h33km, mb3.8/11, Error ellipse: s-maj=16.3km s-min=9.6km az=43.8*
*MOS **11** 19:40:55.4±1.3, 47°04N×155°66E, h33km, mb4.1/6, Error ellipse: s-maj=26.2km s-min=16.9km az=72.4*
*NEIC **11** 19:40:57.9±0.8, 47°07N×155°81E, h35km, mb3.8/1, Error ellipse: s-maj=22.0km s-min=12.3km az=163.0*
ISC 11 19:40:57.1±0.7, 46°88N±0°09×155°8E±0°1, h35km, n35, σ0°90/37, mb3.8/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.73**	**256**	PN	**Pn**	**19 42 18.3**	**-1.4**
KUR				pmax	pmax		
	comp=Z,190nm,1.0s						
PETK	**Petropavlovsk-**	**6.36**	**11**	Pn	**Pn**	**19 42 25.4**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=133,slow=18,SNR=5.1						
PETK				Sn	**Sn**	**19 43 39.8**	**+0.4**
	baz=218,slow=13,SNR=3.0						
PETK	**Petropavlovsk-**	**6.36**	**11**	Pn	**Pn**	**19 42 25.4**	**-2.8**
PETK				Sn	**Sn**	**19 43 39.8**	**+0.4**
PETK	**Petropavlovsk-**	**6.36**	**11**	PN	**Pn**	**19 42 25.4**	**-2.8**
PETK						19 43 39.8	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**35.31**	**39**	P	**P**	**19 47 47.2**	**-1.2**
	comp=Z,0.4nm,0.7s,mb3.4,baz=255,slow=8.3,SNR=5.3						
ILAR	**Eielson Array**	**35.31**	**39**	P	**P**	**19 47 47.2**	**-1.2**

3.2nm,0.6s,mb4.0,baz=124,slow=7.3,SNR=4.7
NWAO Narrogin (SRO) 27.54 199 P P 19 49 39.7 +0.6
STKA Stephens Creek 27.95 154 P P 19 49 43.4 +0.7
2.6nm,0.7s,mb3.8,baz=339,slow=12,SNR=7.1
STKA Stephens Creek 27.95 154 *eP* **P 19 49 43.5 +0.8**
CMSA Cobar Meteorol 29.66 148 *eP* **P 19 49 58.9 +1.1**
17nm,1.1s,mb4.5
CMAR Chiang Mai Arr 37.98 312 P P 19 51 10.0 +0.8
1.0nm,0.7s,mb3.4,baz=140,slow=7.4,SNR=10
CMAR Chiang Mai Arr 37.98 312 P P 19 51 10.0 +0.8
KSAR Wonju Array Be 44.22 0 P P 19 51 59.8 +0.4
KSRS Korea Array 44.24 0 P P 19 51 59.8 +0.3
1.3nm,0.6s,mb3.3,baz=180,slow=9.4,SNR=4.6
MJAR Matsushiro Arr 44.44 12 P P 19 51 59.4 -1.7
2.8nm,0.7s,mb3.6,baz=193,slow=9.9,SNR=7.0
MJAR Matsushiro Arr 44.44 12 P P 19 51 59.4 -1.7
PETK Petropavlovsk- 65.09 19 P P 19 54 25.9 -2.0
2.1nm,0.5s,mb4.0,baz=183,slow=8.3,SNR=4.6
PETK Petropavlovsk- 65.09 19 P P 19 54 25.9 -2.0
MKAR Makanchi Array 66.98 328 P P 19 54 40.5 +0.5
1.3nm,0.5s,mb3.9,baz=120,slow=7.9,SNR=33
MKAR Makanchi Array 66.98 328 P P 19 54 40.5 +0.5
ZALV Zalesovo Beam 70.58 335 P P 19 55 01.6 -0.3
1.1nm,0.4s,mb3.8,baz=150,slow=6.1,SNR=8.9
ZALV Zalesovo Beam 70.58 335 P P 19 55 01.6 -0.3
KURK Kurchatov 71.33 330 P P 19 55 06.8 +0.4
2.9nm,0.6s,mb4.1,baz=132,slow=5.0,SNR=26
KURK Kurchatov 71.33 330 P P 19 55 06.8 +0.4
AKTO Aktyubinsk 82.66 323 P P 19 56 08.4 -0.8
0.4nm,0.3s,mb3.7,baz=123,slow=8.0,SNR=3.7
AKTO Aktyubinsk 82.66 323 P P 19 56 08.4 -0.8
TORD Torodi Ar. Bea 126.52 281 PKP PKPdf 20 02 48.2 +0.6
0.2nm,0.5s,baz=77,slow=2.7,SNR=3.0
TORD Torodi Ar. Bea 126.52 281 PKP PKPdf 20 02 48.1 +0.6
OLIL Olney 134.88 40 *e*PKPdf PKPdf 20 03 00.7 -2.0
WCI Wyandotte Cave 136.33 40 *e*PKPdf PKPdf 20 03 05.2 -0.2
GOGA Godfrey 141.01 43 *e*PKPdf PKPdf 20 03 14.7 +0.6

IDC 11 19:57:31.3±6.3, 17°.81S×177°.00W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.6/2, Error ellipse: s-maj=320.6km s-min=51.1km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.97**	**259**	P	P	20 05 55.6	-0.8
0.3nm,0.7s,baz=96,slow=7.5,SNR=6.8							
ASAR	**Alice Springs**	**46.11**	**254**	P	P	20 05 58.1	+0.6
1.1nm,0.5s,baz=90,slow=8.1,SNR=22							
GERES	**GERESS Array B**	**147.85**	**347**	PKPbc	PKPbc	20 17 17.7	-0.5
0.5nm,0.5s,baz=29,slow=3.0,SNR=5.4							

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*ISCJB **11** 20:38:23.4±0.4, 28°.20N±0°.05×140°.1E±0°.1, h429km±6km, mb3.7/20, Error ellipse: s-maj=19.2km s-min=6.4km az=166.7*
*IDC **11** 20:38:24.0±0.5, 28°.18N×140°.09E, h419km±7km, mb3.3/16, mb1 3.5/18, mb1mx3.4/26, mbtmp3.4/18, Error ellipse: s-maj=18.6km s-min=9.9km az=72.0*
*NEIC **11** 20:38:24.7±0.6, 28°.17N×140°.12E, h430km±7km, mb4.0/6, Error ellipse: s-maj=12.7km s-min=8.0km az=68.0*
*JMA **11** 20:38:25.1±0.1, 28°.34N×140°.56E, h432km, M3.8*
ISC 11 20:38:24.4±0.4, 28°.24N±0°.05×140°.2E±0°.1, h424km±6km, n50, σ0s84/57, mb3.7/20, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.11**	**122**	P	**P**	**20 39 23.8**	**+0.5**
80nm,0.3s,baz=84,slow=23,SNR=50							
CBIJ				S	**S**	**20 40 09.9**	**-0.9**
216nm,0.3s,baz=276,slow=20,SNR=32							
CBIJ	**Chichi jima**	**2.11**	**122**	P	**P**	**20 39 23.8**	**+0.5**
CBIJ				S	**S**	**20 40 09.9**	**-0.9**
CBIJ	**Chichi jima**	**2.11**	**122**	P	**P**	**20 39 23.7**	**+0.5**
CBIJ				*e*S	**S**	**20 40 09.7**	**-1.1**
JHHJ	**Haha-jima-NKT**	**2.39**	**132**	P	**P**	**20 39 25.7**	**+0.7**
JHHJ				S	**S**	**20 40 14.0**	**-0.1**
JHJ2	**Mitsune**	**4.87**	**356**	*e*S	**S**	**20 40 51.7**	**-1.0**
BSO4	**Boso 4**	**6.73**	**1**	*e*S	**S**	**20 41 23.5**	**-4.7**
HMMJ	**Hamamatsu 2**	**6.92**	**343**	P	**P**	**20 40 08.8**	**+1.2**
JOD2	**Odawara 2**	**7.07**	**353**	P	**P**	**20 40 11.0**	**+1.9**
JOD2				*e*S	**S**	**20 41 34.5**	**-0.4**
JHU	**Hanno**	**7.63**	**354**	*e*S	**S**	**20 41 42.2**	**-4.0**
JRY	**Ryogami san**	**7.83**	**352**	P	**P**	**20 40 18.7**	**+1.2**
JRY				*e*S	**S**	**20 41 49.2**	**-1.1**
JAG	**Ashikaga**	**8.19**	**356**	P	**P**	**20 40 22.3**	**+0.9**
JAG				*e*S	**S**	**20 41 54.3**	**-3.2**
JOW	**Kunigami**	**10.66**	**265**	P	**P**	**20 40 49.5**	**+0.7**
4.4nm,0.3s,baz=100,slow=12,SNR=11							
JOW	**Kunigami**	**10.66**	**265**	P	**P**	**20 40 49.5**	**+0.7**
ULN	**Ulaanbaatar**	**32.27**	**316**	*e*P	**P**	**20 44 16.3**	**+0.4**
4.6nm,1.1s,mb3.7							
SONM	**Songino Array**	**32.66**	**316**	P	**P**	**20 44 19.2**	**0.0**
2.1nm,0.6s,mb3.6,baz=124,slow=8.5,SNR=8.3							
SONM	**Songino Array**	**32.66**	**316**	P	**P**	**20 44 19.2**	**0.0**
CMAR	**Chiang Mai Arr**	**38.93**	**265**	P	**P**	**20 45 11.7**	**-0.4**
0.3nm,0.7s,mb2.8,baz=74,slow=7.6,SNR=3.8							
CMAR	**Chiang Mai Arr**	**38.93**	**265**	P	**P**	**20 45 11.7**	**-0.4**
ZALV	**Zalesovo Beam**	**47.46**	**319**	P	**P**	**20 46 18.3**	**-0.4**
0.9nm,0.3s,mb3.5,baz=103,slow=6.7,SNR=9.2							
ZALV				PcP	PcP	20 47 39.9	-1.3
0.6nm,0.5s,baz=149,slow=3.1,SNR=4.0							
ZALV	**Zalesovo Beam**	**47.46**	**319**	P	**P**	**20 46 18.3**	**-0.4**
ZALV				PcP	PcP	20 47 39.9	-1.3
WRAB	**Tennant Creek**	**48.22**	**187**	*e*P	**P**	**20 46 24.1**	**-0.7**
2.8nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**48.23**	**187**	P	**P**	**20 46 24.1**	**-0.7**
3.8nm,0.5s,mb4.0,baz=4.6,slow=7.7,SNR=79							
WRA				PcP	PcP	20 47 45.2	+0.9
0.7nm,0.8s,baz=3.4,slow=4.2,SNR=4.8							
WRA	**Warramunga Arr**	**48.23**	**187**	P	**P**	**20 46 24.1**	**-0.7**
WRA				PcP	PcP	20 47 45.2	+0.9
MKAR	**Makanchi Array**	**48.38**	**309**	P	**P**	**20 46 25.6**	**-0.1**
1.5nm,0.8s,mb3.4,baz=86,slow=10,SNR=15							
MKAR				PcP	PcP	20 47 43.6	-1.0
0.7nm,0.7s,baz=81,slow=7.7,SNR=5.2							
MKAR	**Makanchi Array**	**48.38**	**309**	P	**P**	**20 46 25.6**	**-0.1**
MKAR				PcP	PcP	20 47 43.6	-1.0
KURK	**Kurchatov**	**50.92**	**314**	P	**P**	**20 46 44.6**	**+0.1**
3.0nm,0.3s,mb3.9,baz=90,slow=6.8,SNR=8.3							
KURK	**Kurchatov**	**50.92**	**314**	*e*P	**P**	**20 46 43.9**	**-0.6**
15nm,1.2s,mb4.1							
ASAR	**Alice Springs**	**51.95**	**187**	P	**P**	**20 46 51.7**	**-0.7**
1.3nm,0.4s,mb3.5,baz=2.3,slow=5.8,SNR=46							
ASAR	**Alice Springs**	**51.95**	**187**	P	**P**	**20 46 51.7**	**-0.7**
BVAR	**Borovoye Array**	**56.00**	**317**	P	**P**	**20 47 21.2**	**+0.3**
4.4nm,0.4s,mb4.1,baz=92,slow=7.3,SNR=27							
BVAR	**Borovoye Array**	**56.00**	**317**	P	**P**	**20 47 21.2**	**+0.3**
BRVK	**Borovoye**	**56.06**	**317**	*e*P	**P**	**20 47 21.9**	**+0.6**
7.5nm,0.8s,mb4.1							
KKAR	**Karatay Array**	**56.98**	**305**	*e*P	**P**	**20 47 27.8**	**-0.1**
5.7nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**59.80**	**179**	P	**P**	**20 47 46.6**	**-0.4**
2.3nm,0.5s,mb3.9,baz=1.0,slow=7.1,SNR=12							
STKA	**Stephens Creek**	**59.80**	**179**	*e*P	**P**	**20 47 46.8**	**-0.2**
0.4nm,0.5s,mb3.1							
AKTO	**Aktyubinsk**	**63.98**	**315**	P	**P**	**20 48 14.0**	**-0.3**
2.0nm,0.6s,mb3.8,baz=80,slow=14,SNR=9.6							
AKTO	**Aktyubinsk**	**63.98**	**315**	P	**P**	**20 48 14.0**	**-0.3**
ARCES	**ARCESS Array B**	**71.88**	**340**	P	**P**	**20 49 03.5**	**+1.0**
2.9nm,0.9s,mb3.8,baz=44,slow=7.2,SNR=7.4							
ARCES	**ARCESS Array B**	**71.88**	**340**	P	**P**	**20 49 03.5**	**+1.0**
YKA	**Yellowknife Ar**	**71.98**	**28**	P	**P**	**20 49 04.8**	**+1.6**
0.1nm,0.4s,mb2.7,baz=299,slow=6.0,SNR=3.7							
YKA	**Yellowknife Ar**	**71.98**	**28**	P	**P**	**20 49 04.8**	**+1.6**
FINES	**FINESS Array B**	**76.14**	**333**	P	**P**	**20 49 27.0**	**+0.1**
1.5nm,0.3s,mb4.0,baz=66,slow=5.4,SNR=21							
FINES	**FINESS Array B**	**76.14**	**333**	P	**P**	**20 49 27.0**	**+0.1**
AKASG	**Malin Array Be**	**80.65**	**323**	P	**P**	**20 49 50.8**	**-0.7**
0.9nm,0.5s,mb3.7,baz=51,slow=6.7,SNR=3.7							
AKASG	**Malin Array Be**	**80.65**	**323**	P	**P**	**20 49 50.8**	**-0.7**
NB2	**NORSAR Subarra**	**81.89**	**338**	P	**P**	**20 49 57.5**	**-0.2**
comp=Z,0.8nm,0.6s,mb3.6,baz=46,slow=5.3							
NOA	**NORSAR Array B**	**81.89**	**338**	P	**P**	**20 49 57.5**	**-0.2**
comp=Z,1.2nm,0.6s,mb3.8,baz=47,slow=5.0,SNR=4.8							
NOA	**NORSAR Array B**	**81.89**	**338**	P	**P**	**20 49 57.5**	**-0.2**
BRTR	**Keskin Array B**	**83.92**	**312**	P	**P**	**20 50 07.7**	**-0.8**
comp=Z,0.2nm,0.4s,mb3.2,baz=80,slow=3.8,SNR=3.6							
BRTR	**Keskin Array B**	**83.92**	**312**	P	**P**	**20 50 07.7**	**-0.8**

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*ISCJB **11** 20:47:20.1±1.6, 51°.3N±0°.1×174°.2W±0°.1, h55km±13km, mb3.6/5, Error ellipse: s-maj=23.8km s-min=7.9km az=158.8*
*NEIC **11** 20:47:21.6±2.4, 51°.33N×174°.24W, h52km±13km, ML3.1(AEIC), Error ellipse: s-maj=37.1km s-min=7.0km az=157.0*
*IDC **11** 20:47:22.9±3.4, 52°.74N×175°.09W, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.5/26, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=103.3km s-min=23.6km az=159.0*
ISC 11 20:47:20.9±1.4, 51°.3N±0°.1×174°.2W±0°.1, h43km±14km, n29, σ0s80/30, mb3.6/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.95**	**359**	P	**Pn**	**20 47 36.9**	**-0.9**
ATKA				S	**Sn**	**20 47 49.8**	**-0.3**
KOFP	**Flat Point**	**1.02**	**3**	P	**Pn**	**20 47 39.3**	**+0.5**
KOKL	**Mount Kliuchef**	**1.07**	**359**	P	**Pn**	**20 47 39.7**	**+0.3**
KOSE	**Korovin Southe**	**1.09**	**4**	P	**Pn**	**20 47 40.6**	**+0.8**
GSTD	**Great Sitkin T**	**1.47**	**304**	P	**Pn**	**20 47 43.9**	**-1.0**
GSTD				S	**Sn**	**20 48 03.1**	**+0.3**
ETKA	**Kagalaska Isla**	**1.52**	**294**	P	**Pn**	**20 47 44.9**	**-0.7**
ADAG	**Mount Adagdak**	**1.68**	**296**	P	**Pn**	**20 47 47.9**	**+0.2**
KINC	**Kanaga Island**	**1.96**	**291**	P	**Pn**	**20 47 51.4**	**-0.3**
KIMD	**Kanaga Island**	**1.98**	**286**	P	**Pn**	**20 47 51.5**	**-0.4**
TAFP	**Tanaga Falls P**	**2.46**	**287**	P	**Pn**	**20 47 58.8**	**+0.3**
TAFP				S	**Sn**	**20 48 27.8**	**+0.5**
TASE	**Tanaga Southea**	**2.48**	**285**	P	**Pn**	**20 47 59.4**	**+0.6**
GANE	**Gareloi Northe**	**2.93**	**283**	P	**Pn**	**20 48 05.2**	**+0.2**
KDAK	**Kodiak Island**	**14.10**	**54**	Pn	**Pn**	**20 50 37.9**	**+0.1**
0.3nm,0.3s,baz=329,slow=12,SNR=2.8							
KDAK	**Kodiak Island**	**14.10**	**54**	Pn	**Pn**	**20 50 37.9**	**+0.1**
PETK	**Petropavlovsk-**	**17.30**	**287**	Pn	**Pn**	**20 51 19.0**	**0.0**
0.4nm,0.3s,baz=94,slow=16,SNR=4.1							
PETK	**Petropavlovsk-**	**17.30**	**287**	Pn	**Pn**	**20 51 19.0**	**0.0**
ILAR	**Eielson Array**	**19.58**	**36**	P	**Pn**	**20 51 43.0**	**-3.5**
0.2nm,0.3s,baz=238,slow=8.3,SNR=31							
ILAR	**Eielson Array**	**19.58**	**36**	P	**Pn**	**20 51 43.0**	**-3.5**
EGAK	**Eagle**	**21.77**	**39**	*e*P	**P**	**20 52 08.8**	**+0.2**
6.4nm,0.7s,mb4.2							
INK	**Inuvik**	**25.92**	**34**	P	**P**	**20 52 48.5**	**0.0**
0.9nm,0.8s,mb3.4,baz=257,slow=3.4,SNR=3.6							
INK	**Inuvik**	**25.92**	**34**	P	**P**	**20 52 48.5**	**0.0**
PDAR	**Pinedale Array**	**43.56**	**75**	P	pP	20 55 34.5	+2.3
0.6nm,0.7s,baz=313,slow=15,SNR=4.2							
PDAR	**Pinedale Array**	**43.56**	**75**	P	pP	20 55 34.5	+2.3
MKAR	**Makanchi Array**	**62.34**	**311**	P	**P**	**20 57 35.9**	**-2.7**
0.2nm,0.3s,mb3.7,baz=46,slow=6.1,SNR=9.1							
MKAR	**Makanchi Array**	**62.34**	**311**	P	**P**	**20 57 35.9**	**-2.7**
CMAR	**Chiang Mai Arr**	**73.91**	**279**	P	**P**	**20 58 55.9**	**+4.5**
0.4nm,0.8s,mb3.4,baz=27,slow=6.1,SNR=3.7							
CMAR	**Chiang Mai Arr**	**73.91**	**279**	P	**P**	**20 58 55.9**	**+4.5**
GERES	**GERESS Array B**	**80.05**	**355**	P	**P**	**20 59 27.0**	**+1.5**
0.3nm,0.5s,mb3.5,baz=10,slow=6.2,SNR=4.3							
GERES	**GERESS Array B**	**80.05**	**355**	P	**P**	**20 59 27.0**	**+1.5**

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*ISCJB **11** 20:51:20.7±0.9, 14°.9S±0°.1×71°.70W±0°.08, h130km±11km, mb3.6/5, Error ellipse: s-maj=25.8km s-min=8.4km az=24.7*
*NEIC **11** 20:51:22.0±1.3, 15°.25S×71°.78W, h121km±14km, mb4.6/1, Error ellipse: s-maj=32.5km s-min=14.6km az=212.0*
*IDC **11** 20:51:26.7±4.2, 15°.31S×71°.46W, h154km±30km, mb3.5/5, mb1 3.6/7, mb1mx3.4/21, mbtmp3.5/7, Error ellipse: s-maj=38.9km s-min=25.5km az=104.0*
ISC 11 20:51:21.9±0.9, 15°.0S±0°.2×71°.8W±0°.1, h122km±10km, n16, σ1s12/19, mb3.7/5, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.72**	**110**	P	**Pn**	**20 52 18.9**	**+1.1**
3.3nm,0.3s,baz=300,slow=8.5,SNR=60							
LPAZ				S	**Sn**	**20 53 00.8**	**-0.2**
2.3nm,0.3s,baz=200,slow=23,SNR=13							
LPAZ	**La Paz**	**3.72**	**110**	P	**Pn**	**20 52 18.9**	**+1.1**
LPAZ				S	**Sn**	**20 53 00.8**	**-0.2**
NNA	**Nana**	**5.79**	**301**	*e*P	**Pn**	**20 52 46.4**	**+0.8**
58nm,0.3s							
NNA				*e*S	**Sn**	**20 53 50.0**	**-0.8**
SAML	**Samuel**	**10.34**	**55**	*e*P	**Pn**	**20 53 43.5**	**-3.6**
7.4nm,0.6s							
CPUP	**Villa Florida**	**17.56**	**132**	P	**Pn**	**20 55 15.6**	**-3.5**
1.0nm,0.3s,baz=300,slow=14,SNR=8.6							
CPUP	**Villa Florida**	**17.56**	**132**	P	**Pn**	**20 55 15.6**	**-3.5**
SNAA	**Sanae**	**69.25**	**162**	P	**P**	**21 02 14.5**	**-0.8**
1.0nm,0.6s,mb3.8,baz=322,slow=12,SNR=22							
SNAA	**Sanae**	**69.25**	**162**	P	**P**	**21 02 14.5**	**-0.8**
DBIC	**Dimbokro**	**69.71**	**77**	P	**P**	**21 02 18.7**	**-0.5**
1.0nm,0.5s,mb3.9,baz=207,slow=4.7,SNR=4.3							
DBIC	**Dimbokro**	**69.71**	**77**	P	**P**	**21 02 18.7**	**-0.5**
QSPA	**South Pole Qui**	**75.13**	**180**	P	**P**	**21 02 50.4**	**+0.2**
1.2nm,0.6s,mb3.8,baz=173,slow=4.9,SNR=3.6							
QSPA	**South Pole Qui**	**75.13**	**180**	P	**P**	**21 02 50.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**77.89**	**73**	P	**P**	**21 03 07.2**	**+0.4**
1.0nm,0.5s,mb3.8,baz=270,slow=5.4,SNR=22							
TORD	**Torodi Ar. Bea**	**77.89**	**73**	P	**P**	**21 03 07.2**	**+0.4**
YKA	**Yellowknife Ar**	**84.22**	**341**	P	**P**	**21 03 42.3**	**+3.0**
0.2nm,0.5s,mb3.2,baz=136,slow=5.4,SNR=4.3							
YKA	**Yellowknife Ar**	**84.22**	**341**	P	**P**	**21 03 42.4**	**+3.0**

IDC 11 20:54:53.8±1.1, 42°.21N×29°.34W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/28, mbtmp3.7/8, MLA.4/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/38, Error ellipse: s-maj=35.6km s-min=20.3km az=12.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.32**	**89**	P	Pn	20 59 21.7	+0.3
0.2nm,0.3s,baz=288,slow=11,SNR=4.8							
ESDC				LR	LR	21 05 19.1	
comp=Z,49nm,19.2s,baz=335,slow=32							
DAVOX	**Davos/Dischmat**	**28.14**	**67**	LR	LR	21 11 37.9	
comp=Z,63nm,18.7s,baz=355,slow=36							
GERES	**GERESS Array B**	**30.55**	**63**	LR	LR	21 11 49.6	
comp=Z,90nm,21.0s,baz=110,slow=33							
FINES	**FINESS Array B**	**37.85**	**40**	P	P	21 02 11.4	-0.4
3.8nm,0.9s,baz=272,slow=8.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**39.52**	**128**	P	P	21 02 25.9	-0.4
0.8nm,1.0s,baz=336,slow=8.0,SNR=3.7							
TKL	**Tuckaleechee C**	**42.23**	**280**	LR	LR	21 19 57.8	
comp=Z,40nm,18.6s,baz=46,slow=36							
PDAR	**Pinedale Array**	**56.92**	**300**	P	P	21 04 40.7	+0.3
0.8nm,1.0s,baz=51,slow=5.9,SNR=2.7							
PDAR				LR	LR	21 27 07.9	
comp=Z,41nm,19.2s,baz=259,slow=34							
AKTO	**Aktyubinsk**	**57.55**	**49**	P	P	21 04 45.1	+0.3
0.8nm,0.5s,baz=354,slow=2.8,SNR=3.7							
JTS	**JuntasAbangare**	**57.87**	**254**	LR	LR	21 24 29.1	
comp=Z,50nm,21.8s,baz=0.5,slow=31							
TXAR	**Lajitas Array**	**59.90**	**284**	P	P	21 05 01.7	+0.3
0.2nm,0.8s,baz=22,slow=36,SNR=3.6							
TXAR				LR	LR	21 27 46.0	
comp=Z,34nm,21.4s,baz=5.0,slow=33							
BBB	**Bella Bella**	**62.76**	**317**	LR	LR	21 32 34.8	
comp=Z,63nm,18.9s,baz=264,slow=36							
ILAR	**Eielson Array**	**62.77**	**335**	P	P	21 05 20.4	+0.1
0.4nm,0.7s,baz=41,slow=6.1,SNR=6.3							
MKAR	**Makanchi Array**	**72.65**	**42**	P	P	21 06 22.7	-0.3
0.9nm,0.7s,baz=302,slow=8.3,SNR=2.7							

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*IDC **11** 20:54:58.8±0.3, 5°.84S×105°.44E, h0km, mb4.9/31, mb1 5.0/31, mb1mx5.0/33, mbtmp4.9/31, MS4.1/7, Ms1 4.1/7, ms1mx3.7/31, Error ellipse: s-maj=14.7km s-min=9.7km az=59.0*
*BJI **11** 20:54:59.4, 5°.90S×105°.30E, h10km, mB5.1/33, mb4.9/46, Ms5.0/36, Ms7 4.8/34*
*MOS **11** 20:55:02.6±1.4, 5°.75S×105°.50E, h33km, mb5.4/35, Error ellipse: s-maj=11.2km s-min=5.3km az=119.8*
*DJA **11** 20:55:04.4±0.2, 6°.S±3°.×10°.5E±°., h10km, M5.0/9, mB5.5/42, mb5.1/49, MLv5.2/27, Mw(mB)5.0/42*
*NEIC **11** 20:55:04.2±0.2, 5°.85S×105°.33E, h35km, mb5.2/43, Error ellipse: s-maj=8.0km s-min=5.3km az=59.0*
*ISCJB **11** 20:55:05.6±0.5, 5°.91S±0°.03×105°.38E±0°.03, h61km±4km, mb5.1/117, Error ellipse: s-maj=6.2km s-min=3.6km az=37.4*
ISC 11 20:55:06.8±0.4, 5°.92S±0°.03×105°.34E±0°.03, h56km±4km, h9km±3.8km:pP-P, n518, σ1s39/433, mb5.1/117, MS4.4/22, 29C-19D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.56**	**351**	P	**Pn**	**20 55 14.5**	**-3.9**
SBJI	**Serang**	**0.81**	**104**	P	**Pn**	**20 55 14.8**	**-7.1**
KLI	**Kotabumi**	**1.16**	**336**	P	**Pn**	**20 55 25.2**	**-1.4**
TNG	**Tangerang**	**1.33**	**101**	P	**Pn**	**20 55 24.2**	**-4.7**
TNG				P		20 55 24.2	
DBJI	**Dramaga**	**1.54**	**114**	P	**Pn**	**20 55 26.7**	**-5.1**
LWLI	**Liwa**	**1.56**	**305**	P	**Pn**	**20 55 31.0**	**-1.1**
SKJI	**Sukabumi**	**1.62**	**132**	P	**Pn**	**20 55 27.3**	**-5.6**
MDSI	**Maura Dua**	**1.83**	**321**	P	**Pn**	**20 55 34.9**	**-1.0**
LEM	**Lembang**	**2.44**	**112**	P	**Pn**	**20 55 41.6**	**-2.6**
MNAI	**Manna**	**2.83**	**303**	P	**Pn**	**20 55 52.8**	**+3.2**
CISI	**Cisompet, Garu**	**2.95**	**124**	P	**Pn**	**20 55 47.2**	**-4.0**
KSI	**Kapahiang**	**3.54**	**309**	P	**Pn**	**20 56 01.1**	**+1.8**
PPBI	**Pangkal Pinang**	**3.82**	**12**	P	**Pn**	**20 56 03.9**	**+0.8**
TPI	**Tanjungpandan**	**3.90**	**36**	P	**Pn**	**20 56 03.5**	**-0.8**
CLJI	**Cilicap**	**4.07**	**116**	P	**Pn**	**20 56 16.0**	**+10**
BJII	**Banjamegara**	**4.56**	**108**	P	**Pn**	**20 56 15.2**	**+1.9**
SMRI	**Semarang**	**5.19**	**103**	P	**Pn**	**20 56 28.7**	**+6.7**
KRJI	**Kerinci**	**5.42**	**314**	P	Px	20 56 40.4	
UGM	**Wanagama**	**5.52**	**111**	P	**Pn**	**20 56 28.5**	**+2.1**
1.7nm7μm350nm,0.9s							
PCJI	**Pacitan**	**6.22**	**112**	P	**Pn**	**20 56 38.5**	**+2.5**
1.1nm3μm329nm,1.1s							
RGRI	**Rengat**	**6.29**	**331**	P	**Pn**	**20 56 42.5**	**+5.4**
1.8nm182nm,1.0s							
SJI	**Sawahan**	**6.63**	**106**	P	**Pn**	**20 56 43.0**	**+1.3**
0.8nm143nm,0.8s							
PWJI	**Pagerwojo**	**6.75**	**108**	P	**Pn**	**20 56 43.2**	**-0.1**
0.9nm4μm305nm,0.9s							
PDSI	**Padang**	**6.96**	**315**	P	**Pn**	**20 56 50.5**	**+4.3**
0.8nm3μm179nm,1.7s							
PPI	**Padang Panjang**	**7.33**	**318**	P	**Pn**	**20 56 55.8**	**+4.5**
0.5nm2μm54nm,1.8s							
KRKI	**Karangkates**	**7.40**	**108**	P	**Pn**	**20 56 56.1**	**+3.8**
BKNI	**Bangkinang**	**7.54**	**325**	P	**Pn**	**20 57 01.0**	**+6.8**
0.8nm2μm192nm,1.2s							
MYKOM	**Kota Tinggi**	**7.80**	**349**	P	**Pn**	**20 57 01.3**	**+3.6**
0.6nm1μm90nm,1.5s							
GMJI	**Gumukmas**	**8.38**	**107**	P	**Pn**	**20 57 07.9**	**+2.3**
2μm90nm,1.2s							
BLJI	**Banyuglugur**	**8.40**	**103**	P	**Pn**	**20 57 09.6**	**+3.7**
3μm147nm,0.7s							
STKI	**Sintang**	**8.54**	**46**	P	**Pn**	**20 57 09.6**	**+1.7**
0.6nm53nm,1.2s							
KMMI	**Kalianget**	**8.65**	**98**	P	**Pn**	**20 57 10.1**	**+0.8**
4μm248nm,1.6s							
MNSI	**Mandailing Nat**	**8.81**	**319**	P	**Pn**	**20 57 15.8**	**+4.3**
2μm72nm,1.9s							
JAGI	**Jajag, Banyuwa**	**9.11**	**107**	P	**Pn**	**20 57 16.0**	**+0.4**
2μm162nm,1.2s							
SRBI	**Singaraja**	**10.04**	**103**	P	**Pn**	**20 57 29.0**	**+0.7**
4μm106nm,1.1s							
COCO	**West Island**	**10.45**	**233**	*e*P	**Pn**	**20 57 30.8**	**-3.2**
147nm,0.8s							
COCO	**West Island**	**10.45**	**233**	*e*P	**Pn**	**20 57 30.8**	**-3.2**
COCO				pmax	pmax		
comp=Z,147nm,0.8s							
KHKI	**Kahang-Kahang**	**10.48**	**104**	P	**Pn**	**20 57 35.2**	**+0.9**
comp=Z,2μmcomp=Z,112nm,0.8s							
PSI	**Prapat**	**10.78**	**323**	P	**Pn**	**20 57 42.3**	**+3.9**
comp=Z,2μmcomp=Z,98nm,1.7s							
SBUM	**Sibu**	**10.79**	**40**	P	**Pn**	**20 57 43.6**	**+5.0**
SBUM	**Sibu**	**10.79**	**40**	P	**Pn**	**20 57 42.7**	**+4.1**
comp=Z,618nmcomp=Z,38nm,1.5s							
MTNI	**Mataram**	**11.08**	**105**	P	**Pn**	**20 57 41.1**	**-1.5**
comp=Z,2μmcomp=Z,99nm,0.9s							
IPM	**Ipoh**	**11.19**	**337**	P	**Pn**	**20 57 43.2**	**-1.0**
comp=Z,37nm,1.0s							
IPM	**Ipoh**	**11.19**	**337**

TGY	**Tagaytay City**	**25.21**	**38**	P	**P**	**21 00 29.9 +2.5**
	comp=Z,169nm,0.5s,mb5.8,baz=188,slow=7.9,SNR=10					
CHG	**Chiang Mai**	**25.37**	**346**	⇓P	**P**	**21 00 28.1 -0.8**
	comp=Z,14nm,1.3s,mb4.3					
CHTO	**Chiang Mai**	**25.37**	**346**	*e*P	**P**	**21 00 27.6 -1.3**
	comp=Z,36nm,1.2s,mb4.8					
CHTO	**Chiang Mai**	**25.37**	**346**	*e*P	**P**	**21 00 27.6 -1.3**
CHTO				pmax	pmax	
	comp=Z,36nm,1.2s,mb4.8					
CHTO	**Chiang Mai**	**25.37**	**346**	P	**P**	**21 00 28.9 0.0**
	SNR=16					
KLBR	**Kellerberrin**	**28.06**	**157**	*e*P	**P**	**21 00 52.0 -0.9**
	comp=Z,31nm,0.9s,mb4.9					
NWAO	**Narrogin (SRO)**	**29.06**	**159**	P	**P**	**21 01 01.3 -0.6**
	comp=Z,14nm,0.8s,mb4.7,baz=348,slow=14,SNR=4.2					
NWAO				LR	LR	21 12 29.5
	comp=Z,467nm,18.5s,MS4.1,baz=297,slow=36					
NWAO	**Narrogin (SRO)**	**29.06**	**159**	P	**P**	**21 01 01.3 -0.6**
NWAO	**Narrogin (SRO)**	**29.06**	**159**	P	**P**	**21 01 01.3 -0.6**
KMI	**Kunming**	**30.96**	**355**	P	**P**	**21 01 21.3 +2.6**
KMI				pP	pP	21 01 25.5 -7.3
KMI				sP	sP	21 01 27.5 -12
KMI				PP	PP	21 02 24.3 -5.3
KMI				S	**S**	**21 06 24.2 +4.8**
KMI				sS	sS	21 06 33.8 -10
KMI				SS	SS	21 08 10.7 -23
KMI				pmax	pmax	
	comp=Z,10.0nm,1.2s,mb4.5					
KMI				pmax	pmax	
	comp=Z,94nm,4.7s					
KMI				LR	LR	
	comp=N,3μm,10.4s,MS5.3					
KMI				LR	LR	
	comp=E,970nm,11.7s,MS5.3					
KMI				LR	LR	
	comp=Z,3μm,10.1s,MS5.3					
KMI	**Kunming**	**30.96**	**355**	P	**P**	**21 01 21.3 +2.6**
	comp=Z,10.0nm,1.2s,mb4.5					
KMI				pP	pP	21 01 25.5 -7.3
KMI				sP	sP	21 01 27.5 -12
KMI				PP	PP	21 02 24.3 -5.3
KMI				PPP		21 02 36.5
KMI				S	**S**	**21 06 24.2 +4.8**
KMI				sS	sS	21 06 33.8 -10
KMI				SS	SS	21 08 10.7 -23
KMI				SSS		21 08 33.7
KMI				LR	LR	
	comp=Z,3μm,10.1s,MS5.3					
KMI	**Kunming**	**30.96**	**355**	P	**P**	**21 01 21.3 +2.6**
KMI				*SP	sP	21 01 27.5 -12
KMI						21 02 24.3
KMI				PPP		21 02 36.5
KMI				S	**S**	**21 06 24.2 +4.8**
KMI				pmax	pmax	
	comp=Z,10.0nm,1.2s,mb4.5					
KMI				MLR	MLR	
	comp=Z,3μm,10.1s,MS5.3					
WRA	**Warramunga Arr**	**31.44**	**119**	P	**P**	**21 01 21.6 -1.4**
	comp=Z,23nm,0.8s,mb5.1,baz=297,slow=9.4,SNR=150					
WRA				PcP	PcP	21 04 15.8 +0.4
	comp=Z,2.9nm,0.6s,baz=318,slow=2.2,SNR=6.4					
WRA	**Warramunga Arr**	**31.44**	**119**	P	**P**	**21 01 21.6 -1.4**
WRA				PcP	PcP	21 04 15.8 +0.4
WRA	**Warramunga Arr**	**31.44**	**119**	P	**P**	**21 01 21.7 -1.3**
WRA						21 04 15.8
WRAB	**Tennant Creek**	**31.44**	**119**	*e*P	**P**	**21 01 21.0 -2.0**
	comp=Z,50nm,0.9s,mb5.3					
WRAB	**Tennant Creek**	**31.44**	**119**	P	**P**	**21 01 21.0 -2.1**
	comp=Z,322nm,0.8s,mb6.2,SNR=23					
WRAB	**Tennant Creek**	**31.44**	**119**	*e*P	**P**	**21 01 21.0 -2.1**
WRAB				pmax	pmax	
	comp=Z,50nm,0.9s,mb5.3					
WRAB	**Tennant Creek**	**31.44**	**119**	P	**P**	**21 01 21.9 -1.2**
	comp=Z,100nm,1.0s,mb5.6					
WB2	**Warramunga Arr**	**31.45**	**119**	*e*P	**P**	**21 01 20.8 -2.3**
GYA	**Guiyang**	**32.21**	**2**	⇑*i*P	**P**	**21 01 31.5 +1.8**
GYA				PP	PP	21 02 37.4 -6.0
GYA				PcP	PcP	21 04 21.6 +4.2
GYA				S	**S**	**21 06 43.5 +4.6**
GYA				ScP	ScP	21 08 01.8 +5.4
GYA				SS	SS	21 08 34.4 -25
GYA				pmax	pmax	
	comp=Z,20nm,0.9s,mb5.0					
GYA				pmax	pmax	
	comp=Z,90nm,4.3s					
GYA				LR	LR	
	comp=N,850nm,11.5s,MS4.8					
GYA				LR	LR	
	comp=E,810nm,12.4s,MS4.8					
GYA				LR	LR	
	comp=Z,1μm,10.6s,MS4.8					
ASAR	**Alice Springs**	**32.66**	**126**	P	**P**	**21 01 32.4 -1.3**
	comp=Z,15nm,0.7s,mb5.1,baz=301,slow=8.3,SNR=134					
ASAR				PcP	PcP	21 04 19.6 +0.9
	comp=Z,5.2nm,0.8s,baz=324,slow=1.4,SNR=6.9					
ASAR	**Alice Springs**	**32.66**	**126**	P	**P**	**21 01 32.4 -1.3**
ASAR				PcP	PcP	21 04 19.6 +0.9
ASAR	**Alice Springs**	**32.66**	**126**	P	**P**	**21 01 32.4 -1.3**
ASAR						21 04 19.7
TPUB	**Ta-pu**	**32.66**	**27**	*e*P	**P**	**21 01 34.8 +1.2**
	comp=Z,25nm,0.8s,mb5.2					
YULB	**Yu-li**	**33.05**	**28**	*e*P	**P**	**21 01 35.6 -1.4**
	comp=Z,35nm,0.9s,mb5.3					
SSLB	**Suanglung**	**33.23**	**27**	*e*P	**P**	**21 01 38.2 -0.4**
	comp=Z,43nm,0.9s,mb5.4					
SHL	**Shillong**	**33.92**	**338**	*e*PKP	**P**	**21 01 47.3 +2.7**
HMDM	**Hanimaadhoo**	**34.48**	**291**	P	**P**	**21 01 54.7 +5.1**
	comp=Z,104nm,1.5s,mb5.5					
HYB	**Hyderabad**	**35.18**	**312**	*i* P	**P**	**21 01 54.0 -1.6**
CD2	**Chengdu**	**36.65**	**358**	*e*P	**P**	**21 02 08.6 +0.6**
CD2				pP	pP	21 02 13.0 -9.4
CD2				sP	sP	21 02 15.6 -13
CD2				PP	PP	21 03 34.1 +1.6
CD2				PcP	PcP	21 04 31.0 +0.9
CD2				S	**S**	**21 07 51.8 +4.5**
CD2				sS	sS	21 07 59.0 -13
CD2				SS	SS	21 10 19.3 -10
CD2				ScS	ScS	21 12 21.6 +2.6
CD2				pmax	pmax	
	comp=Z,20nm,1.0s,mb4.9					
CD2				pmax	pmax	
	comp=Z,50nm,4.8s					
CD2				LR	LR	
	comp=N,2μm,9.6s					
CD2				LR	LR	
	comp=E,2μm,9.6s					
CD2				LR	LR	
	comp=Z,2μm,10.8s,MS5.2					
ODAN	**Odare**	**36.93**	**333**	*e*P	**P**	**21 02 09.1 -1.4**
	comp=Z,23nm,0.7s,mb5.1					
ODAN	**Odare**	**36.93**	**333**	*e*P	**P**	**21 02 09.1 -1.4**
	comp=Z,23nm,0.7s,mb5.1					
TAPN	**Taplejung**	**37.21**	**334**	*e*P	**P**	**21 02 12.0 -0.8**
	comp=Z,52nm,0.9s,mb5.4					
TAPN	**Taplejung**	**37.21**	**334**	*e*P	**P**	**21 02 12.0 -0.8**
	comp=Z,52nm,0.9s,mb5.4					
RAMN	**Ramite**	**37.38**	**332**	*e*P	**P**	**21 02 12.8 -1.4**
	comp=Z,46nm,1.4s,mb5.1					
RAMN	**Ramite**	**37.38**	**332**	*e*P	**P**	**21 02 12.8 -1.4**
	comp=Z,46nm,1.4s,mb5.1					
LSA	**Lhasa**	**37.95**	**340**	P	**P**	**21 02 18.6 -0.4**
COEN	**Coen**	**38.07**	**105**	P	**P**	**21 02 17.8 -2.5**
	comp=Z,1μmcomp=Z,101nm,1.3s,mb5.4					
JIRN	**Jiri**	**38.17**	**332**	*e*P	**P**	**21 02 19.2 -1.7**
	comp=Z,17nm,1.0s,mb4.7					
JIRN	**Jiri**	**38.17**	**332**	*e*P	PcP	21 04 37.0 +2.2
	comp=Z,11nm,1.0s					
JIRN	**Jiri**	**38.17**	**332**	*e*P	**P**	**21 02 19.2 -1.7**
	comp=Z,17nm,1.0s,mb4.7					
PKI	**Pulchoki**	**38.47**	**331**	*e*P	PcP	21 04 37.2 +1.5
	comp=Z,58nm,1.2s					
GUN	**Gumba**	**38.53**	**332**	*e*P	**P**	**21 02 22.4 -1.5**
	comp=Z,228nm,1.6s,mb5.7					
GUN	**Gumba**	**38.53**	**332**	*e*P	PcP	21 04 37.7 +1.8
	comp=Z,36nm,0.9s					
GUN	**Gumba**	**38.53**	**332**	*e*P	**P**	**21 02 22.4 -1.5**
	comp=Z,228nm,1.6s,mb5.7					
DMN	**Daman**	**38.65**	**331**	*e*P	**P**	**21 02 23.2 -1.7**
	comp=Z,47nm,1.3s,mb5.1					
DMN	**Daman**	**38.65**	**331**	*e*P	PcP	21 04 36.9 +0.6
	comp=Z,86nm,1.1s					
DMN	**Daman**	**38.65**	**331**	*e*P	**P**	**21 02 23.2 -1.7**
	comp=Z,47nm,1.3s,mb5.1					
KKN	**Kakani**	**38.71**	**331**	*e*P	**P**	**21 02 23.7 -1.8**
	comp=Z,36nm,1.1s,mb5.0					
KKN	**Kakani**	**38.71**	**331**	*e*P	PcP	21 04 38.0 +1.5
KKN	**Kakani**	**38.71**	**331**	*e*P	**P**	**21 02 23.7 -1.8**
	comp=Z,36nm,1.1s,mb5.0					
KKN	**Kakani**	**38.71**	**331**	*e*P	**P**	**21 02 23.7 -1.8**
KKN				pmax	pmax	
	comp=Z,36nm,1.1s,mb5.0					
GKN	**Gorkha**	**39.20**	**330**	*e*P	**P**	**21 02 27.4 -2.2**
	comp=Z,101nm,1.4s,mb5.4					
GKN	**Gorkha**	**39.20**	**330**	*e*P	PcP	21 04 39.3 +1.3
	comp=Z,61nm,1.2s					
GKN	**Gorkha**	**39.20**	**330**	*e*P	**P**	**21 02 27.4 -2.2**
	comp=Z,101nm,1.4s,mb5.4					
POO	**Poona**	**39.42**	**309**	⇓*i*P	**P**	**21 02 28.0 -3.6**
	comp=Z,50nm,1.0s,mb5.2					
KOLN	**Koldanda**	**39.53**	**329**	*e*P	**P**	**21 02 29.8 -2.5**
	comp=Z,20nm,0.6s,mb5.0					
KOLN	**Koldanda**	**39.53**	**329**	*e*P	PcP	21 04 38.5 -0.6
	comp=Z,13nm,0.6s					
KOLN	**Koldanda**	**39.53**	**329**	*e*P	**P**	**21 02 29.8 -2.5**
	comp=Z,20nm,0.6s,mb5.0					
SSE	**Sheshan**	**39.81**	**21**	P	**P**	**21 02 32.4 -2.2**
SSE				S	**S**	**21 08 37.3 +2.3**
SSE				sS	sS	21 08 53.1 -6.3
SSE				pmax	pmax	
	comp=Z,21nm,0.7s,mb5.0					
SSE				pmax	pmax	
	comp=Z,180nm,4.3s					
SSE				LR	LR	
	comp=N,270nm,11.5s,MS4.7					
SSE				LR	LR	
	comp=E,500nm,11.4s,MS4.7					
SSE				LR	LR	
	comp=Z,560nm,10.8s,MS4.7					
SSE	**Sheshan**	**39.81**	**21**	P	**P**	**21 02 32.4 -2.2**
	comp=Z,21nm,0.7s,mb5.0					
SSE				S	**S**	**21 08 37.3 +2.3**
SSE				sS	sS	21 08 53.1 -6.3
SSE				LR	LR	
	comp=Z,560nm,10.8s,MS4.7					
XAN	**Xi'an**	**39.89**	**5**	P	**P**	**21 02 35.5 +0.3**
XAN				pP	pP	21 02 41.0 -8.7
XAN				sP	sP	21 02 43.0 -13
XAN				S	**S**	**21 08 39.0 +2.9**
XAN				sS	sS	21 08 46.5 -14
XAN				SS	SS	21 11 28.2 -6.4
XAN				pmax	pmax	
	comp=Z,4.0nm,1.1s,mb4.1					
XAN				pmax	pmax	
	comp=Z,32nm,5.1s					
XAN				LR	LR	
	comp=N,680nm,12.3s,MS4.7					
XAN				LR	LR	
	comp=E,280nm,12.6s,MS4.7					
XAN				LR	LR	
	comp=Z,370nm,11.2s,MS4.5					
DANN	**Dangsing**	**39.92**	**330**	*e*P	**P**	**21 02 33.2 -2.4**
	comp=Z,99nm,1.3s,mb5.4					
DANN	**Dangsing**	**39.92**	**330**	*e*P	PcP	21 04 41.8 +1.5
	comp=Z,74nm,1.1s					
DANN	**Dangsing**	**39.92**	**330**	*e*P	**P**	**21 02 33.2 -2.4**
	comp=Z,99nm,1.3s,mb5.4					
PMG	**Port Moresby**	**41.58**	**97**	P	**P**	**21 02 47.3 -2.2**
	comp=Z,28nm,0.8s,mb5.0,baz=260,slow=6.2,SNR=12					
PMG	**Port Moresby**	**41.58**	**97**	P	**P**	**21 02 47.3 -2.2**
PMG	**Port Moresby**	**41.58**	**97**	*ce*P	**P**	**21 02 47.6 -1.8**
PMG				pmax	pmax	
	comp=Z,114nm,1.7s					
PMG	**Port Moresby**	**41.58**	**97**	P	**P**	**21 02 47.5 -1.9**
	comp=Z,748nmcomp=Z,64nm,1.4s,mb5.1					
LZH	**Lanzhou**	**41.81**	**358**	*e*P	**P**	**21 02 52.5 +1.5**
LZH				pP	pP	21 02 56.7 -8.8
LZH				sP	sP	21 02 58.4 -14
LZH				*e*S	**S**	**21 09 07.4 +2.8**
LZH				SS	SS	21 12 08.7 -4.0
LZH				pmax	pmax	
	comp=Z,31nm,1.4s,mb4.8					
LZH				pmax	pmax	
	comp=Z,190nm,4.4s					
LZH				LR	LR	
	comp=N,690nm,12.4s					
LZH				LR	LR	
	comp=E,980nm,9.7s					
LZH				LR	LR	
	comp=Z,970nm,13.4s,MS4.8					
LZH	**Lanzhou**	**41.81**	**358**	*e*P	**P**	**21 02 52.5 +1.5**
	comp=Z,31nm,1.4s,mb4.8					
LZH				pP	pP	21 02 56.7 -8.8
LZH				sP	sP	21 02 58.4 -14
LZH				PcP	PcP	21 03 45.2 -61
LZH				PP	PP	21 04 37.4 +8.7
LZH				*e*S	**S**	**21 09 07.4 +2.8**
LZH				sS	sS	21 09 13.3 -16
LZH				SS	SS	21 12 08.7 -4.0
LZH				LR	LR	
	comp=Z,970nm,13.4s,MS4.8					
LZH	**Lanzhou**	**41.81**	**358**	*e*P	**P**	**21 02 52.5 +1.5**
LZH				*SP	sP	21 02 58.4 -14
LZH				*e*S	**S**	**21 09 07.4 +2.8**
LZH				SS	SS	21 12 08.7 -4.0
LZH				pmax	pmax	
	comp=Z,31nm,1.4s,mb4.8					
LZH				MLR	MLR	
	comp=Z,970nm,13.4s,MS4.8					
CTA	**Charters Tower**	**42.14**	**113**	P	**P**	**21 02 52.4 -1.6**
	comp=Z,26nm,0.8s,mb4.9,baz=277,slow=10,SNR=23					
CTA				LR	LR	21 21 37.3
	comp=Z,231nm,20.1s,MS4.1,baz=128,slow=38					
CTA	**Charters Tower**	**42.14**	**113**	*e*P	**P**	**21 02 53.2 -0.8**
	comp=Z,21nm,0.8s,mb4.8					
CTA	**Charters Tower**	**42.14**	**113**	P	**P**	**21 02 52.4 -1.6**
CTA	**Charters Tower**	**42.14**	**113**	P	**P**	**21 02 52.4 -1.6**
CTAO	**Charters Tower**	**42.14**	**113**	*e*P	**P**	**21 02 53.4 -0.6**
	comp=Z,113nm,1.4s,mb5.3					
CTAO	**Charters Tower**	**42.14**	**113**	*e*P	**P**	**21 02 53.4 -0.6**
CTAO				pmax	pmax	
	comp=Z,113nm,1.4s,mb5.3					
CTAO	**Charters Tower**	**42.14**	**113**	P	**P**	**21 02 53.7 -0.3**
	comp=Z,755nmcomp=Z,64nm,1.6s,mb5.0					
STKA	**Stephens Creek**	**42.59**	**132**	P	**P**	**21 02 56.5 -0.9**
	comp=Z,65nm,0.7s,mb5.5,baz=303,slow=8.2,SNR=147					
STKA				LR	LR	21 20 20.8
	comp=Z,209nm,20.7s,MS4.0,baz=111,slow=36					
STKA	**Stephens Creek**	**42.59**	**132**	⇓*i*P	**P**	**21 02 56.5 -0.9**
	comp=Z,38nm,1.5s,mb4.9					
STKA				*e*S	**S**	**21 09 14.6 -1.7**
STKA	**Stephens Creek**	**42.59**	**132**	P	**P**	**21 02 56.5 -0.9**
STKA	**Stephens Creek**	**42.59**	**132**	P	**P**	**21 02 56.5 -0.9**
GTA	**Gaotai**	**45.39**	**354**	*e*P	**P**	**21 03 21.0 +1.3**
GTA				pP	pP	21 03 25.8 -8.7
GTA				sP	sP	21 03 29.0 -12
GTA				S	**S**	**21 10 01.2 +4.4**
GTA				sS	sS	21 10 08.3 -13
GTA				SS	SS	21 13 17.6 -3.8
GTA				pmax	pmax	
	comp=Z,23nm,1.2s,mb4.9					
GTA				pmax	pmax	
	comp=Z,170nm,5.0s					
GTA				LR	LR	
	comp=N,440nm,13.3s,MS4.8					
GTA				LR	LR	
	comp=E,770nm,15.7s,MS4.8					
GTA				LR	LR	
	comp=Z,550nm,12.1s,MS4.7					
BJI	**Beijing**	**46.81**	**11**	P	**P**	**21 03 32.1 +1.2**
BJI				S	**S**	**21 10 22.2 +5.0**
BJI				pmax	pmax	
	comp=Z,13nm,1.4s,mb4.7					
BJI				LR	LR	
	comp=N,1μm,14.9s,MS5.1					
BJI				LR	LR	
	comp=E,560nm,13.1s,MS5.1					
BJI				LR	LR	
	comp=Z,410nm,14.2s,MS4.5					
HHC	**Hu-ho-hao-te**	**46.89**	**6**	*e*P	**P**	**21 03 33.3 +1.8**
HHC				pP	pP	21 03 37.8 -8.5
HHC				sP	sP	21 03 40.3 -12
HHC				PcP	PcP	21 05 04.6 +1.1
HHC				PP	PP	21 05 24.0 +1.4
HHC				ScP	ScP	21 08 56.8 +4.1
HHC				S	**S**	**21 10 24.9 +6.6**
HHC				sS	sS	21 10 32.9 -10
HHC				ScS	ScS	21 13 24.9 +3.9
HHC				SS	SS	21 13 45.1 -0.7
HHC				pmax	pmax	
	comp=Z,13nm,1.1s,mb4.8					
HHC				pmax	pmax	
	comp=Z,130nm,6.2s					
HHC				LR	LR	
	comp=N,820nm,14.2s,MS4.9					
HHC				LR	LR	
	comp=E,670nm,15.8s,MS4.9					
HHC				LR	LR	
	comp=Z,730nm,14.3s,MS4.8					
KSAR	**Wonju Array Be**	**48.00**	**24**	P	**P**	**21 03 40.2 +0.1**
KSAR	**Wonju Array Be**	**48.00**	**24**	P	**P**	**21 03 40.2 +0.1**
KSRS	**Korea Array**	**48.02**	**24**	P	**P**	**21 03 40.2 -0.1**
	comp=Z,13nm,1.1s,mb4.9,baz=202,slow=8.0,SNR=20					
TOO	**Toolangi**	**48.22**	**137**	*e*P	**P**	**21 03 43.2 +1.3**
	comp=Z,117nm,0.9s,mb5.9					
CAN	**Canberra**	**49.65**	**132**	*e*P	**P**	**21 03 53.0 +0.1**
	comp=Z,77nm,1.4s,mb5.5					
CAN	**Canberra**	**49.65**	**132**	*e*P	**P**	**21 03 53.1 +0.2**
CAN				pmax	pmax	
	comp=Z,77nm,1.4s,mb5.5					
ARMA	**Armidale**	**49.81**	**125**	*e*P	**P**	**21 03 55.7 +1.5**
WMQ	**Urumqi**	**52.02**	**344**	P	**P**	**21 04 11.0 +0.5**
WMQ				pP	pP	21 04 15.5 -10
WMQ				sP	sP	21 04 18.0 -14
WMQ				PP	PP	21 06 09.8 +0.6
WMQ				S	**S**	**21 11 32.5 +2.6**
WMQ				sS	sS	21 11 40.1 -15
WMQ				pmax	pmax	
	comp=Z,28nm,1.2s,mb5.1					
WMQ				pmax	pmax	
	comp=Z,140nm,3.8s					
WMQ				LR	LR	
	comp=N,190nm,21.0s,MS4.2					
WMQ				LR	LR	
	comp=E,150nm,22.0s,MS4.2					
MAT	**Matsushiro**	**52.26**	**34**	P	**P**	**21 04 11.5 -1.0**
MAT				*e*S	**S**	**21 11 34.8 +1.3**
MJAR	**Matsushiro Arr**	**52.26**	**34**	P	**P**	**21 04 11.7 -0.8**
	comp=E,3.6nm,0.9s,mb4.3,baz=210,slow=7.2,SNR=8.7					
MJAR	**Matsushiro Arr**	**52.26**	**34**	P	**P**	**21 04 11.7 -0.8**
MJAR	**Matsushiro Arr**	**52.26**	**34**	P	**P**	**21 04 11.7 -0.8**
KSH	**Kashi**	**52.72**	**332**	P	**P**	**21 04 13.7 -2.1**
KSH				pP	pP	21 04 18.4 -12
KSH				sP	sP	21 04 20.1 -17
KSH				PcP	PcP	21 05 25.5 +0.6
KSH				PP	PP	21 06 12.4 -3.3
KSH				ScP	ScP	21 09 20.5 +2.8
KSH				PcS	PcS	21 09 22.4 -1.1
KSH				S	**S**	**21 11 36.1 -3.6**
KSH				ScS	ScS	21 13 59.4 -1.3
KSH				pmax	pmax	
	comp=Z,12nm,1.0s,mb4.8					
KSH				pmax	pmax	
	comp=Z,210nm,6.2s					
KSH				LR	LR	
	comp=N,220nm,5.8s					
KSH				LR	LR	
	comp=E,130nm,5.2s					
KSH				LR	LR	
	comp=Z,220nm,6.6s					
CN2	**Changchun**	**52.73**	**18**	*e*P	**P**	**21 04 16.2 +0.5**
CN2				*es*P	sP	21 04 23.2 -14
CN2				*e*S	**S**	**21 11 43.8 +4.2**
CN2				pmax	pmax	
	comp=Z,40nm,1.4s,mb5.2					
CN2				pmax	pmax	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,400nm,14.0s,MS4.8					
CN2				LR	LR	
	comp=E,400nm,14.0s,MS4.8					
CN2				LR	LR	
	comp=Z,300nm,18.0s,MS4.4					
KBL	**Kabul**	**52.84**	**322**	*e*P	**P**	**21 04 14.5 -2.3**
	comp=Z,26nm,1.2s,mb5.0					
KBL	**Kabul**	**52.84**	**322**	*e*P	**P**	**21 04 14.5 -2.3**
KBL				pmax	pmax	
	comp=Z,26nm,1.2s,mb5.0					
SONM	**Songino Array**	**53.53**	**1**	P	**P**	**21 04 21.8 +0.2**
	comp=Z,12nm,1.0s,mb4.8,baz=179,slow=8.7,SNR=42					
SONM				PcP	PcP	21 05 28.3 +0.5
	comp=Z,4.1nm,0.7s,baz=175,slow=3.7,SNR=7.6					
SONM	**Songino Array**	**53.53**	**1**	P	**P**	**21 04 21.8 +0.2**
SONM				PcP	PcP	21 05 28.3 +0.5
SONM	**Songino Array**	**53.53**	**1**	P	**P**	**21 04 21.8 +0.2**
SONM						21 05 28.3
ULN	**Ulaanbaatar**	**53.58**	**1**	*e*P	**P**	**21 04 21.4 -0.6**
	comp=Z,9.4nm,0.9s,mb4.7					
ULN	**Ulaanbaatar**	**53.58**	**1**	*e*P	**P**	**21 04 21.4 -0.5**
ULN				pmax	pmax	
	comp=Z,9.0nm,0.9s,mb4.7					
VLA	**Vladivostok**	**54.43**	**24**	⇓*i*P	**P**	**21 04 25.5 -2.8**
VLA				*e*		21 05 27.6
VLA				*e*		21 06 27.3
VLA				*e*S	**S**	**21 12 02.5 -0.2**
SMDO	**Samad**	**54.44**	**304**	P	**P**	**21 04 29.6 +0.9**
	SNR=14					
MDJ	**Mudanjiang**	**54.83**	**21**	P	**P**	**21 04 31.3 +0.2**
MDJ				pmax	pmax	
	comp=Z,5.0nm,1.2s,mb4.4					
MDJ				pmax	pmax	
	comp=Z,81nm,6.4s					
BSY	**Bisya**	**55.01**	**303**	P	**P**	**21 04 35.1 +2.3**
	SNR=9.9					
KZA	**Kyzart**	**55.09**	**333**	P	PcP	21 05 35.3 +1.4
	SNR=5.9					
KZA				P		21 05 35.3
	SNR=5.9					
KZA	**Kyzart**	**55.09**	**333**	P	**P**	**21 04 32.5 -0.5**
	SNR=8.2					
KZA				P		21 04 32.5
	SNR=8.2					
HOQ	**Hoqain**	**55.28**	**304**	P	**P**	**21 04 36.0 +1.2**
	SNR=16					
RBK	**Rabkut**	**55.59**	**296**	P	**P**	**21 04 38.5 +1.4**
	SNR=7.6					
TKM2	**Tokmak 2**	**55.60**	**334**	P	**P**	**21 04 36.3 -0.4**
	SNR=10					
TKM2				P		21 04 36.3
	SNR=10					
TKM2	**Tokmak 2**	**55.60**	**334**	*i* P	**P**	**21 04 36.3 -0.4**
KBK	**Karagaybulak**	**55.68**	**333**	P	**P**	**21 04 37.2 -0.1**
	SNR=8.5					
KBK				P		21 04 37.2
	SNR=8.5					
ARQ	**Araqi**	**55.83**	**303**	P	**P**	**21 04 40.7 +2.0**
	SNR=5.3					
AML	**Almayashu**	**55.84**	**332**	P	PcP	21 05 39.2 +2.4
	SNR=8.1					
AML				P		21 05 39.2
	SNR=8.1					
AML	**Almayashu**	**55.84**	**332**	P	**P**	**21 04 38.2 -0.2**
	SNR=5.2					
AML				P		21 04 38.2
	SNR=5.2					
AAK	**Ala-Archa**	**55.87**	**333**	P	PcP	21 05 39.1 +2.3
	SNR=12					
AAK				P		21 05 39.1
	SNR=12					
AAK	**Ala-Archa**	**55.87**	**333**	⇑*e*P	**P**	**21 04 37.4 -1.2**
AAK				pmax	pmax	
	comp=Z,23nm,1.7s,mb4.9					
FRU	**Bishkek**	**55.97**	**333**	⇑*i*P	**P**	**21 04 38.0 -1.4**
FRU				*i*		21 05 39.0
CHMS	**Chumysh**	**56.04**	**333**	P	PcP	21 05 38.4 +0.8
	SNR=8.3					
CHMS				P		21 05 38.4
	SNR=8.3					
ZAK	**Zakamensk**	**56.10**	**358**	*e*P	**P**	**21 04 39.8 -0.3**
ZAK				*e*		21 05 31.1
ZAK				pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.6					
EKS2	**Erkin-Say**	**56.22**	**332**	P	**P**	**21 04 40.9 -0.3**
	SNR=10					
EKS2				P		21 04 40.9
	SNR=10					
MK31	**Makanchi Array**	**56.33**	**341**	*i* P	**P**	**21 04 39.7 -2.1**
MK31				pmax	pmax	
	comp=Z,13nm,0.9s,mb5.0					
MKAR	**Makanchi Array**	**56.33**	**341**	P	**P**	**21 04 39.5 -2.3**
	comp=Z,8.3nm,0.9s,mb4.8,baz=143,slow=7

ABTO Aybut 56.36 295 P **P** **21 04 45.0 +2.4**
SNR=10
USP Ospenovka 56.37 333 P PcP 21 05 40.4 +1.6
SNR=8.3
USP P 21 05 40.4
SNR=8.3
ASHO Ashiyiah 56.78 305 P **P** **21 04 47.6 +2.1**
SNR=9.4
HATD Hatta, Dubai 56.79 305 P **P** **21 04 46.7 +1.1**
SNR=13
NAZ Nazwa, Dubai 57.24 305 P **P** **21 04 50.5 +1.8**
SNR=7.7
TLY Talaya 57.39 359 *e*P **P** **21 04 49.9 +0.6**
TLY *e* 21 04 57.3
TLY *e*S **S** **21 12 31.6 -10**
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
TLY MLR MLR
comp=Z,292nm,14.0s,MS4.5
HVS Khovu-Aksy 57.71 351 *i* P **P** **21 04 51.1 -0.4**
HVS pmax pmax
comp=Z,60nm,1.6s,mb5.4
ASAJ Asahikawa 60.06 30 P **P** **21 05 07.3 -0.6**
comp=Z,14nm,0.9s,mb5.0,baz=257,slow=20,SNR=4.3
ASAJ Asahikawa 60.06 30 P **P** **21 05 07.3 -0.6**
HABR Khabarovsk 60.10 22 *e*P pP 21 05 19.2 -4.3
HABR *e* 21 05 50.3
HABR *e*S **S** **21 13 16.5 -0.6**
HABR *e**SS sS 21 13 33.7 -9.2
HABR *e* 21 14 52.7
HABR *e*SS SS 21 17 14.8 -0.3
HABR pmax pmax
comp=E,51nm,2.4s
HABR pmax pmax
comp=Z,27nm,2.0s,mb4.9
HABR pmax pmax
comp=N,17nm,2.0s
HABR MLR MLR
comp=Z,137nm,20.0s,MS4.1
KURK Kurchatov 60.94 341 P **P** **21 05 11.5 -2.3**
comp=Z,9.0nm,1.0s,mb4.9,baz=159,slow=6.2,SNR=56
KURK PcP PcP 21 05 57.1 +0.4
comp=Z,7.2nm,0.9s,baz=160,slow=3.5,SNR=12
KURK Kurchatov 60.94 341 *e*P **P** **21 05 11.7 -2.1**
comp=Z,23nm,1.1s,mb5.2
KURK PcP PcP 21 05 57.1 +0.4
KURK Kurchatov 60.94 341 P **P** **21 05 13.4 -0.4**
comp=Z,104nm,1.0s,mb5.9,SNR=12
KURK Kurchatov 60.94 341 *e*P **P** **21 05 11.7 -2.1**
KURK 21 05 57.2
KURK pmax pmax
comp=Z,23nm,1.1s,mb5.2
KURK Kurchatov 60.94 341 P **P** **21 05 13.6 -0.2**
SNR=6.2
ABKT Ailbek 61.87 319 P **P** **21 05 20.4 0.0**
comp=Z,313nm,1.1s,mb6.3,SNR=8.3
ZAA0 Zalesovo Array 62.09 346 *e*P **P** **21 05 19.2 -2.4**
ZALV Zalesovo Beam 62.09 346 P **P** **21 05 19.7 -1.8**
comp=Z,18nm,0.8s,mb5.2,baz=148,slow=3.5,SNR=72
ZALV Zalesovo Beam 62.09 346 P **P** **21 05 19.7 -1.8**
ZALV Zalesovo Beam 62.09 346 P **P** **21 05 19.7 -1.8**
YSS Yuzh-Sakhalins 62.19 28 *e*P **P** **21 05 22.2 -0.2**
comp=Z,46nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 62.19 28⇑*i*P **P** **21 05 22.3 0.0**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
NVS Novosibirsk 63.29 346 *e*P **P** **21 05 27.8 -1.7**
NVS *e* 21 06 01.3
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=Z,18nm,1.5s,mb5.0
RAYN Ar Rayn 65.28 299 P **P** **21 05 43.6 +0.4**
comp=Z,122nm,1.1s,mb5.8,SNR=9.2
UMR Umm Al-Rimmam 65.55 306 *e*P **P** **21 05 43.6 -1.2**
UMR AMb AMB 21 05 46.6
comp=Z,94nm,0.8s,mb5.9
BVAR Borovoye Array 65.74 338 P **P** **21 05 44.1 -1.5**
comp=Z,5.1nm,0.8s,mb4.6,baz=142,slow=7.3,SNR=16
BVAR PcP PcP 21 06 16.7 +0.3
comp=Z,5.8nm,0.9s,baz=145,slow=5.4,SNR=8.7
BVAR Borovoye Array 65.74 338 P **P** **21 05 44.1 -1.5**
BVAR PcP PcP 21 06 16.7 +0.3
BVAR Borovoye Array 65.74 338 P **P** **21 05 44.1 -1.4**
BVAR 21 06 16.7
BRVK Borovoye 65.81 338 *e*P **P** **21 05 44.3 -1.6**
comp=Z,8.7nm,1.0s,mb4.7
BRVK Borovoye 65.81 338 *c*e P **P** **21 05 45.1 -0.9**
BRVK pmax pmax
comp=Z,15nm,1.7s,mb4.8
NAY Al-Naaiem 65.82 306 *e*P **P** **21 05 45.4 -1.2**
NAY AMb AMB 21 05 47.7
comp=Z,40nm,0.8s,mb5.5
MIB Mutribah 65.95 306 *e*P **P** **21 05 45.6 -1.8**
MIB AMb AMB 21 05 50.0
comp=Z,91nm,1.8s,mb5.5
AB31 Abkulak array 67.65 330 *i* P **P** **21 05 55.4 -2.4**
AB31 pmax pmax
comp=Z,28nm,0.9s,mb5.3
ABKAR Abkulak array 67.65 330 *e*P **P** **21 05 55.4 -2.4**
comp=Z,21nm,0.8s,mb5.2
MAW Mawson 67.92 196 P **P** **21 05 60.0 +0.8**
comp=Z,10nm,0.8s,mb4.9,baz=42,slow=7.5,SNR=3.6
MAW Mawson 67.92 196 P **P** **21 05 60.0 +0.8**
MAW Mawson 67.92 196 P **P** **21 06 00.0 +0.8**
KMBO Kilima Mbogo 68.09 271 *e*P **P** **21 06 03.1 +1.8**
comp=Z,17nm,1.6s,mb4.8
KMBO Kilima Mbogo 68.09 271 *e*P **P** **21 06 03.1 +1.8**
KMBO pmax pmax
comp=Z,17nm,1.6s
RPZ Rata Peaks 68.46 135 P **P** **21 06 02.1 -1.0**
comp=Z,35nm,1.1s,mb5.3,baz=255,slow=9.3,SNR=4.4
RPZ Rata Peaks 68.46 135 P **P** **21 06 02.1 -1.0**
AKTO Aktyubinsk 69.36 330 P **P** **21 06 07.8 -0.7**
comp=Z,5.7nm,1.0s,mb4.5,baz=134,slow=7.5,SNR=11
AKTO PcP PcP 21 06 32.2 +0.6
comp=Z,13nm,0.9s,baz=149,slow=4.5,SNR=14
AKTO Aktyubinsk 69.36 330 P **P** **21 06 07.8 -0.7**
AKTO PcP PcP 21 06 32.2 +0.6
AKTO Aktyubinsk 69.36 330 P **P** **21 06 07.8 -0.6**
AKTO 21 06 32.2
BHD Baghdad 69.60 309 *ex* P **P** **21 06 12.0 +1.7**
BHD *ex* x 21 15 14.5
YAK Yakutsk 70.31 12 *e*P **P** **21 06 12.4 -1.6**
comp=Z,45nm,0.9s,mb5.4
YAK Yakutsk 70.31 12 *e*P **P** **21 06 12.6 -1.4**
YAK pmax pmax
comp=Z,40nm,0.9s,mb5.3
YAK pmax pmax
comp=N,12nm,1.1s
MAK Makhachkala 71.39 319 *e*P **P** **21 06 18.5 -2.5**
MAK *e* pP 21 06 35.1 -1.5
MAK *e* 21 09 03.1
MAK *e*S S 21 15 35.2 +0.3
MAK *e* 21 16 19.2
MAK pmax pmax
comp=Z,223nm,1.7s,mb5.8
DGRG David-gareji 72.14 317 P **P** **21 06 25.9 +0.4**
SVE Sverdlovsk 72.36 336⇓*e*P **P** **21 06 26.7 +0.2**
SVE pmax pmax
comp=Z,37nm,1.4s,mb5.1
MTA Mtatsminda 72.64 317 P **P** **21 06 22.6 -5.9**
TBLG Delisi 72.69 317 *e*P **P** **21 06 29.7 +0.9**
TBLG Delisi 72.69 317 P **P** **21 06 29.8 +1.0**
ARU Arti 72.95 335 *e*P **P** **21 06 29.4 -0.5**
comp=Z,22nm,1.3s,mb4.9
ARU Arti 72.95 335 *d i*P **P** **21 06 29.3 -0.7**
ARU *e* 21 09 12.6
ARU S S 21 15 53.7 +1.4
ARU SS SS 21 20 29.7 -4.2
ARU pmax pmax
comp=Z,22nm,1.2s,mb5.0
ARU Arti 72.95 335 P **P** **21 06 29.7 -0.3**
comp=Z,76nm,1.3s,mb5.5,SNR=5.7
GOR Gori 73.22 317 P **P** **21 06 33.4 +1.5**
AKH Akhalkalaki 73.41 316 P **P** **21 06 33.8 +0.7**
PETK Petropavlovsk- 73.47 30 P **P** **21 06 31.8 -1.4**
comp=Z,4.5nm,0.6s,mb4.5,baz=229,slow=5.5,SNR=3.3
PETK Petropavlovsk- 73.47 30 P **P** **21 06 31.8 -1.4**
PETK Petropavlovsk- 73.47 30 P **P** **21 06 31.8 -1.4**
ONI Oni 73.91 317 P **P** **21 06 36.6 +0.7**
KIV Kislovodsk 74.98 318 *e*P **P** **21 06 41.3 -0.8**
comp=Z,55nm,1.1s,mb5.4
KIV Kislovodsk 74.98 318 *d i*P **P** **21 06 42.3 +0.2**
KIV *e*S S 21 16 16.2 +0.6
KIV pmax pmax
comp=Z,47nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,52nm,18.0s,MS3.9
KIV Kislovodsk 74.98 318 P **P** **21 06 41.9 -0.2**
SNR=11
KIV Kislovodsk 74.98 318 P **P** **21 06 42.0 -0.1**
comp=Z,227nm,1.0s,mb6.1,SNR=7.6
ASF Jabal al Asfar 75.19 305 P **P** **21 06 45.1 +1.5**
comp=Z,18nm,0.9s,mb5.0,baz=347,slow=2.9,SNR=30
ASF LR LR 21 41 00.5
comp=Z,109nm,18.8s,MS4.2,baz=169,slow=37
ASF Jabal al Asfar 75.19 305 P **P** **21 06 45.1 +1.5**
ASF Jabal al Asfar 75.19 305 P **P** **21 06 45.1 +1.5**
SOKR Solikamsk 75.70 337 *c i*P **P** **21 06 46.3 +0.4**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.0
SYO Syowa Base 75.94 200⇑*e*P **P** **21 06 47.2 0.0**
SYO Syowa Base 75.94 200⇑*e*pP PcP 21 06 53.4 -6.0
LSZ Lusaka 76.09 256 *e*P **P** **21 06 49.3 +0.2**
comp=Z,12nm,0.8s,mb4.9
LSZ Lusaka 76.09 256 *e*P **P** **21 06 49.3 +0.2**
LSZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
SOC Sochi 76.82 317 *e*P **P** **21 06 52.0 -0.7**
SOC *e*S S 21 16 38.4 +2.5
SOC *e* 21 17 04.7
SOC pmax pmax
comp=Z,67nm,0.9s,mb5.6
LBTB Lobatse 78.24 246 P **P** **21 07 02.9 +1.8**
comp=Z,13nm,0.7s,mb4.9,baz=98,slow=6.3,SNR=21
LBTB Lobatse 78.24 246 *e*P **P** **21 07 01.7 +0.7**
comp=Z,13nm,0.8s,mb4.9
LBTB Lobatse 78.24 246 *e*P **P** **21 07 01.7 +0.7**
LBTB pmax pmax
comp=Z,13nm,0.8s,mb4.9
SBA Scott Base 78.41 169 *e*P **P** **21 07 02.4 +1.4**
comp=Z,36nm,1.3s,mb5.2
SBA Scott Base 78.41 169 *e*P **P** **21 07 02.4 +1.5**
SBA pmax pmax
comp=Z,37nm,1.3s,mb5.2
BOSA Boshof 78.49 242 P **P** **21 07 03.2 +0.9**
comp=Z,7.9nm,0.7s,mb4.8,baz=100,slow=6.2,SNR=16
BOSA Boshof 78.49 242 *e*P **P** **21 07 02.8 +0.4**
BOSA Boshof 78.49 242 *e*P **P** **21 07 02.8 +0.4**
CSS Prodhromos 78.82 307 *e*P **P** **21 07 04.1 +0.1**
BR131 Keskin Array S 79.88 312 *e*P **P** **21 07 08.6 -1.0**
comp=Z,29nm,1.1s,mb5.1
BRTR Keskin Array B 79.88 312 P **P** **21 07 09.0 -0.7**
comp=Z,17nm,1.0s,mb4.9,baz=124,slow=6.1,SNR=50
BRTR Keskin Array B 79.88 312 P **P** **21 07 09.0 -0.7**
BRTR Keskin Array B 79.88 312 P **P** **21 07 09.0 -0.7**
VSR Storozhevoye 80.03 324 *e*P **P** **21 07 08.4 -1.8**
VSR pmax pmax
comp=Z,60nm,1.1s,mb5.4
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=E,20nm,0.7s
SIM Simferopol' 81.07 317 *d i*P **P** **21 07 14.6 -1.3**
SIM pmax pmax
comp=Z,69nm,0.9s,mb5.6
SUR Sutherland 82.25 238 P **P** **21 07 23.9 +1.5**
comp=Z,25nm,1.1s,mb5.1,baz=84,slow=10,SNR=2.8
SUR Sutherland 82.25 238 P **P** **21 07 23.9 +1.5**
MOS Moscow 82.60 328 *e*P **P** **21 07 22.3 -1.4**
MOS pmax pmax
comp=Z,86nm,1.3s,mb5.6
MOS pmax pmax
comp=Z,200nm,1.6s,mb5.9
OBN Obninsk 82.93 327 *d i*P **P** **21 07 25.0 -0.4**
OBN pmax pmax
comp=Z,135nm,1.4s,mb5.8
KLMR Klimovskoe 83.68 333 *e*P **P** **21 07 26.6 -2.5**
KLMR pmax pmax
comp=Z,60nm,1.4s,mb5.5
QSPA South Pole Qui 84.06 180 P **P** **21 07 29.9 -0.9**
comp=Z,24nm,1.0s,mb5.3,baz=283,slow=2.1,SNR=25
QSPA PKKPbc PKKPbc 21 25 43.6 -4.7
comp=Z,0.5nm,0.3s,baz=180,slow=1.0,SNR=3.4
QSPA South Pole Qui 84.06 180 *e*P **P** **21 07 31.0 +0.1**
comp=Z,41nm,1.2s,mb5.4
TLCR 84.75 316⇓*i*P **P** **21 07 35.6 +0.7**
TIRR Tirgusor 84.86 316⇓*i*P **P** **21 07 32.3 -3.2**
KIS Kishinev 85.18 318⇓*i*P **P** **21 07 38.0 +0.9**
comp=Z,200nm,1.0s,mb6.2
KIS Kishinev 85.18 318 *c i*P **P** **21 07 38.0 +0.9**
KIS *e* 21 18 04.0
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.2
KIS pmax pmax
comp=Z,400nm,2.0s,mb6.2
CFR Carcaliu 85.22 316⇑*i*P **P** **21 07 37.8 +0.5**
LEOM Leova 85.44 317 P **P** **21 07 40.3 +1.9**
LEOM Leova 85.44 317⇑*i*P **P** **21 07 38.1 -0.3**
NVL N'lazarevskaya 85.61 199 *e*P **P** **21 07 35.3 -3.5**
NVL pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MAIT Maitri 85.64 199 *e*P **P** **21 07 40.5 +1.6**
AKASG Malin Array Be 85.83 322 P **P** **21 07 39.1 -1.1**
comp=Z,19nm,0.9s,mb5.3,baz=85,slow=4.7,SNR=48
AKASG Malin Array Be 85.83 322 P **P** **21 07 39.1 -1.1**
AKASG Malin Array Be 85.83 322 P **P** **21 07 39.1 -1.1**
AKBB Malin Array Si 85.83 322 *e*P **P** **21 07 38.2 -1.9**
AKBB Malin Array Si 85.83 322 *e*P **P** **21 07 38.3 -1.9**
KIEV Kiev 85.84 322 *e*P **P** **21 07 37.6 -2.6**
comp=Z,28nm,1.0s,mb5.5
KIEV Kiev 85.84 322⇓*i*P **P** **21 07 39.4 -0.8**
GHRR 85.91 317⇑*i*P **P** **21 07 42.4 +1.7**
PGOR Pogoanele 85.95 316⇑*i*P **P** **21 07 44.3 +3.4**
PETR 85.96 317⇑*i*P **P** **21 07 43.8 +2.8**
TSUM Tsumeb 85.96 251 *e*P **P** **21 07 43.5 +1.9**
comp=Z,12nm,1.0s,mb5.1
IAS Iasi 86.06 318 P **P** **21 07 42.9 +1.5**
VRI Vrincioaia 86.33 317 P **P** **21 07 44.2 +1.4**
VRI Vrincioaia 86.33 317⇓*i*P **P** **21 07 43.6 +0.8**
PLOR Plostina 86.38 317 P **P** **21 07 44.6 +1.6**
PLOR Plostina 86.38 317⇑*i*P **P** **21 07 42.7 -0.3**
SULR 86.41 315⇑*i*P **P** **21 07 43.3 +0.1**
TESR 86.52 317⇑*i*P **P** **21 07 43.8 +0.1**
MLR Muntele Rosu 86.79 316 P **P** **21 07 46.6 +1.5**
MLR Muntele Rosu 86.79 316⇑*i*P **P** **21 07 45.6 +0.5**
HUMR Humele 87.27 315⇑*i*P **P** **21 07 47.9 +0.5**
VOIR 87.40 316⇑*i*P **P** **21 07 47.7 -0.3**
MICGM Minsk 87.55 325⇑*i*P **P** **21 07 47.0 -1.5**
BURAR Bucovina Array 87.71 318⇑*i*P **P** **21 07 50.3 +0.9**
BUR08 Bucovina Ar. S 87.72 318 *e*P **P** **21 07 49.9 +0.4**
JOF Joensuu 88.04 334 *e*P **P** **21 07 50.4 -0.3**
JOF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
JOF Joensuu 88.04 334 *e*p **P** **21 07 50.4 -0.3**
comp=Z,8.5nm,0.8s,mb5.0
NACGM Naroch 88.26 326 *e*P **P** **21 07 50.0 -1.9**
LOT Lotru 88.29 316⇓*i*P **P** **21 07 50.7 -1.5**
IIGN Ignalina 88.67 326 *e*P **P** **21 07 53.9 +0.1**
IIGN AMB AMB 21 07 56.0
comp=Z,42nm,1.1s,mb5.7
IZAR Zarasai 88.75 326 *e*P **P** **21 07 54.2 0.0**
IZAR AMB AMB 21 07 56.1
comp=Z,18nm,1.2s,mb5.3
ISAL Salakas 88.77 326 *e*P **P** **21 07 54.3 +0.1**
ISAL AMB AMB 21 07 56.4
comp=Z,17nm,1.1s,mb5.3
BMR Baia Mare 88.86 318 P **P** **21 07 57.2 +2.3**
LVV L'vov 88.89 320 *e*P **P** **21 07 51.3 -3.7**
GZR Gura Zlata 88.97 316 P **P** **21 07 56.9 +1.5**
GZR Gura Zlata 88.97 316⇑*i*P **P** **21 07 56.3 +0.9**
DRGR 89.24 317 P **P** **21 07 58.6 +1.9**
DRGR 89.24 317⇑*i*P **P** **21 07 56.7 0.0**
TRPA Tarpa 89.57 318⇑*i*P **P** **21 07 59.7 +1.5**
KWP Kalwaria Pacla 89.71 320 *e*P **P** **21 07 59.7 +0.9**
KWP *e* 21 10 24.0
KWP *e*S S 21 18 45.2 -0.8
KWP Kalwaria Pacla 89.71 320 *e*P **P** **21 07 59.7 +0.9**
KWP *e*S S 21 18 45.2 -0.8
BZS Buzias 89.81 316 P **P** **21 08 01.2 +1.8**
BZS Buzias 89.81 316⇓*i*P **P** **21 07 58.4 -1.0**
UZH Uzhgorod 89.81 319 *e*P **P** **21 07 58.0 -1.3**
UZH *i* 21 08 07.8
KOLS Kolonicke sedl 89.88 319 *e*P **P** **21 08 01.3 +1.7**
KOLS Kolonicke sedl 89.88 319 *e*P **P** **21 08 01.3 +1.7**
FINES FINESS Array B 90.05 332 P **P** **21 08 00.1 0.0**
comp=Z,18nm,0.9s,mb5.4,baz=83,slow=6.0,SNR=21
FINES FINESS Array B 90.05 332 P **P** **21 08 00.1 0.0**
FINES FINESS Array B 90.05 332 P **P** **21 08 00.1 0.0**
SNAA Sanae 90.05 197 *e* **P** **21 08 02.3 +2.3**
SNAA Sanae 90.05 197 P **P** **21 08 00.7 +0.7**
comp=Z,13nm,1.1s,mb5.2,baz=109,slow=3.6,SNR=25
SNAA Sanae 90.05 197 *e*P **P** **21 08 00.8 +0.7**
comp=Z,40nm,1.1s,mb5.7
SNAA Sanae 90.05 197 *e*P **P** **21 08 00.8 +0.8**
SNAA pmax pmax
comp=Z,40nm,1.1s
KAF Kangasniemi 90.08 333 *e*P **P** **21 07 59.4 -0.9**
KAF pmax pmax
comp=Z,16nm,0.9s,mb5.3
KAF Kangasniemi 90.08 333 *e*p **P** **21 07 59.4 -0.9**
comp=Z,16nm,0.9s,mb5.3
SUW Suwalki 90.15 324 *e*P **P** **21 08 01.4 +0.6**
SUW *e* 21 10 22.8
SUW *e*S S 21 18 47.8 -2.1
SUW Suwalki 90.15 324 *e*P **P** **21 08 01.4 +0.6**
SUW *e*S S 21 18 47.8 -2.1
CRVS Cervenica-Dubn 90.40 319 *e*P **P** **21 08 03.2 +1.1**
CRVS Cervenica-Dubn 90.40 319 *e*P **P** **21 08 03.2 +1.1**
KECS Kecovo 90.98 318 *e*P **P** **21 08 05.8 +1.0**
KECS Kecovo 90.98 318 *e*P **P** **21 08 05.8 +1.0**
NIE Niedzica 91.22 319 *e*P **P** **21 08 07.7 +1.9**
NIE Niedzica 91.22 319 *e*P **P** **21 08 07.7 +1.9**
BEL Belsk 91.24 322 *e*P **P** **21 08 06.0 +0.1**
BEL *e* 21 10 31.4
BEL *e*S S 21 18 58.9 -1.1
BEL Belsk 91.24 322 *e*P **P** **21 08 06.0 +0.1**
BEL *e*S S 21 18 58.9 -1.1
PSZ Piszkesteto 91.30 318 *e*P **P** **21 08 06.6 +0.3**
comp=Z,12nm,1.0s,mb5.2
PSZ Piszkesteto 91.30 318 *e*P **P** **21 08 06.6 +0.3**
PSZ pmax pmax
comp=Z,13nm,1.0s,mb5.2
PSZ Piszkesteto 91.30 318⇑*e*P **P** **21 08 07.6 +1.3**
PSZ Piszkesteto 91.30 318⇑*i*P **P** **21 08 07.4 +1.1**
OJC Ojcow 91.65 320 *e*P **P** **21 08 08.3 +0.5**
OJC Ojcow 91.65 320 *e*P **P** **21 08 08.3 +0.5**
VNA2 Neumayer--Watz 91.69 198 *e* **P** **21 08 10.2 +2.5**
baz=77,slow=3.9
PKSM Moragy 91.94 316⇑*i*P **P** **21 08 08.7 -0.6**
VNA1 Neumayer--Stat 92.07 198 *e* **P** **21 08 13.1 +3.7**
VYHS Vyhne 92.07 318 *e*P **P** **21 08 10.5 +0.7**
VYHS Vyhne 92.07 318 *e*P **P** **21 08 10.5 +0.7**
VNA3 Neumayer Olymp 92.24 197 *e* **P** **21 08 15.0 +4.8**
OKC Ostrava-Krasne 92.67 320 *e*P **P** **21 08 13.8 +1.3**
OKC Ostrava-Krasne 92.67 320 *e*P **P** **21 08 13.8 +1.3**
MORC Moravsky Berou 93.05 320 *e*P **P** **21 08 13.4 -0.9**
comp=Z,32nm,1.5s,mb5.5
MORC Moravsky Berou 93.05 320 *e*P **P** **21 08 13.4 -0.9**
MORC pmax pmax
comp=Z,32nm,1.5s,mb5.5
MORC Moravsky Berou 93.05 320⇑*i*P **P** **21 08 15.6 +1.3**
DPC Dobruska-Polom 93.88 320 *e*P **P** **21 08 19.7 +1.6**
DPC Dobruska-Polom 93.88 320 *e*P **P** **21 08 19.7 +1.6**
KSP Ksiaz 93.94 321 *e*P **P** **21 08 18.2 -0.2**
KSP *e*S S 21 19 27.7 +3.6
KSP Ksiaz 93.94 321 *e*P **P** **21 08 17.6 -0.8**
KSP Ksiaz 93.94 321 *e*P **P** **21 08 17.6 -0.8**
UPC Upice 94.09 320 *e*P **P** **21 08 20.3 +1.2**
UPC Upice 94.09 320 *e*P **P** **21 08 20.3 +1.2**
PRU Pruhonice 95.00 320 *e*P **P** **21 08 24.2 +0.9**
PRU Pruhonice 95.00 320 *e*P **P** **21 08 24.2 +0.9**
GERES GERESS Array B 95.49 318 P **P** **21 08 25.4 -0.1**
comp=Z,4.2nm,1.1s,mb4.8,baz=111,slow=5.9,SNR=13
GERES GERESS Array B 95.49 318 P **P** **21 08 25.4 -0.1**
GERES GERESS Array B 95.49 318 P **P** **21 08 25.4 -0.1**
KHC Kasperske Hory 95.58 319 *e*P **P** **21 08 26.7 +0.7**
KHC Kasperske Hory 95.58 319 *e*P **P** **21 08 26.7 +0.7**
CLL Collm 96.04 321 *e*P **P** **21 08 28.0 0.0**
GRF Grafenberg Arr 97.14 319 *e*P **P** **21 08 33.2 +0.2**
comp=Z,37nm,1.7s,mb5.5
GRF Grafenberg Arr 97.14 319 *e*P **P** **21 08 33.2 +0.2**
GRF pmax pmax
comp=Z,37nm,1.7s,mb5.5
NOA NORSAR Array B 97.14 331 P **P** **21 08 32.4 -0.3**
comp=Z,2.7nm,0.9s,mb4.7,baz=91,slow=4.9,SNR=5.1
NOA NORSAR Array B 97.14 331 P **P** **21 08 32.4 -0.3**
NOA NORSAR Array B 97.14 331 P **P** **21 08 32.4 -0.3**
ILAR Eielson Array 102.87 25 PKKPbc PKKPbc 21 24 56.7 -2.0
comp=Z,0.7nm,0.9s,baz=119,slow=2.2,SNR=5.3
ILAR Eielson Array 102.87 25 PKKPbc PKKPbc 21 24 56.7 -2.0
TORD Torodi Ar. Bea 104.58 282 PKiKP PKiKP 21 13 23.1 +0.3
comp=Z,0.9nm,0.8s,baz=84,slow=1.6,SNR=5.2
TORD Torodi Ar. Bea 104.58 282 PKiKP PKiKP 21 13 23.1 +0.3
INK Inuvik 106.64 19 PKiKP PKiKP 21 13 26.3 +1.2
comp=Z,2.6nm,1.0s,baz=223,slow=1.8,SNR=5.0
INK Inuvik 106.64 19 PKiKP PKiKP 21 13 26.3 +1.2
YKA Yellowknife Ar 116.42 19 PKP PKPdf 21 13 43.7 -0.1
comp=Z,3.3nm,1.0s,baz=305,slow=1.9,SNR=28
YKA Yellowknife Ar 116.42 19 PKP PKPdf 21 13 43.8 -0.1
YKA Yellowknife Ar 116.42 19 PKiKP PKPdf 21 13 43.8 0.0
JCW Jim Creek 121.86 35 *e*PKPdf PKPdf 21 13 55.4 +0.6
ETW Entiat 123.08 35 *e*PKPdf PKPdf 21 13 57.3 +0.2
OD2 Odessa Site #2 124.13 35 *e*PKPdf PKPdf 21 13 60.0 +0.9
RSW Rattlesnake Hi 124.16 36 *e*PKPdf PKPdf 21 14 01.6 +2.4
BSMT Bassoo Peak 126.02 32 *e*PKPdf PKPdf 21 14 03.3 +0.5
FFC Flin Flon 126.60 19 *e*PKPdf PKPdf 21 14 03.7 +0.1
FFC Flin Flon 126.60 19 *e*PKiKP PKPdf 21 14 03.7 +0.1
WVOR Wild Horse Val 126.79 40 *e*PKPdf PKPdf 21 14 05.8 +1.5
WVOR Wild Horse Val 126.79 40 *e*PKiKP PKPdf 21 14 05.8 +1.4
SLMT Seeley Lake 127.09 32 *e*PKPdf PKPdf 21 14 04.6 -0.2
MSO Missoula 127.10 33 *e*PKPdf PKPdf 21 14 05.3 +0.5
EGMT Eagleton 128.49 30 *e*PKPdf PKPdf 21 14 08.4 +1.0
LRM Limekiln Ridge 128.54 33 *e*PKPdf PKPdf 21 14 09.3 +1.7
DLMT Dillon 128.74 34 *e*PKPdf PKPdf 21 14 09.5 +1.5
MCMT McKenzie Canyo 128.93 34 *e*PKPdf PKPdf 21 14 09.7 +1.3
NVAR Mina Array Bea 128.97 44 PKP PKPdf 21 14 10.4 +1.8
comp=Z,2.7nm,0.9s,baz=258,slow=2.2,SNR=18
NVAR Mina Array Bea 128.97 44 PKP PKPdf 21 14 10.4 +1.8
BOZ Bozeman (W) 129.09 33 *e*PKPdf PKPdf 21 14 09.9 +1.3
BOZ Bozeman (W) 129.09 33 *e*PKiKP PKPdf 21 14 09.9 +1.2
QLMT Earthquake Lak 129.72 34 *e*PKPdf PKPdf 21 14 11.8 +2.0
GCMT Greycliff 130.04 32 *e* PKPdf 21 14 11.1 +0.6
YMR Madison River 130.08 34 *e*PKPdf PKPdf 21 14 11.9 +1.3
IMW Indian Meadow 130.58 34 *e*PKPdf PKPdf 21 14 13.9 +2.3
RRI2 Red Ridge 130.71 35 *e*PKPdf PKPdf 21 14 12.8 +1.0
DGMT Dagmar 130.73 26 *e*PKPdf PKPdf 21 14 13.6 +2.0
MOOW Moose Ponds 130.79 34 *e*PKPdf PKPdf 21 14 11.1 -0.8
SCHQ Schefferville 130.83 354 PKP PKPdf 21 14 12.1 +0.4
comp=Z,4.4nm,0.8s,baz=36,slow=1.7,SNR=6.3
SCHQ Schefferville 130.83 354 PKP PKPdf 21 14 12.1 +0.4
LOHW Long Hollow 130.95 34 *e*PKPdf PKPdf 21 14 13.7 +1.5
REDW Red Top Meadow 130.97 35 *e*PKPdf PKPdf 21 14 13.7 +1.4
HWUT Hardware Ranch 131.63 37 *e*PKPdf PKPdf 21 14 14.8 +1.2
PD01 Pinedale Array 132.06 35 *e*PKPdf PKPdf 21 14 15.1 +0.7
PD02 Pinedale Array 132.07 35 *e*PKPdf PKPdf 21 14 15.3 +0.9
PDAR Pinedale Array 132.08 35 PKP PKPdf 21 14 15.2 +0.7
comp=Z,5.3nm,1.2s,baz=333,slow=0.7,SNR=12
PDAR Pinedale Array 132.08 35 PKP PKPdf 21 14 15.2 +0.7
ULM Lac du Bonnet 132.37 18 PKP PKPdf 21 14 15.3 +0.6
comp=Z,11nm,0.9s,baz=345,slow=5.2,SNR=14
ULM Lac du Bonnet 132.37 18 PKP PKPdf 21 14 15.3 +0.6
ULM Lac du Bonnet 132.37 18 PKiKP PKPdf 21 14 15.3 +0.6
RWWY Rawlins 134.10 34 *e*PKPdf PKPdf 21 14 20.1 +1.8
ANMO Albuquerque 138.85 41 PKP PKPdf 21 14 29.2 +1.9
comp=Z,3.4nm,0.9s,baz=12,slow=1.6,SNR=5.3
ANMO Albuquerque 138.85 41 PKP PKPdf 21 14 29.2 +1.9
ANMO Albuquerque 138.85 41 PKiKP PKPdf 21 14 29.2 +1.9
TXAR Lajitas Array 144.06 46 PKP PKPdf 21 14 35.6 -1.1
comp=Z,13nm,1.0s,baz=274,slow=2.0,SNR=29
TXAR Lajitas Array 144.06 46 PKP PKPdf 21 14 35.6 -1.1
TXAR Lajitas Array 144.06 46 PKiKP PKPdf 21 14 35.7 -1.1
CCM Cathedral Cave 144.64 23 *e*PKPdf PKPdf 21 14 36.0 -1.5
CCM Cathedral Cave 144.64 23 *e*PKiKP PKPdf 21 14 36.0 -1.5
ACSO Alum Creek Sta 145.03 11 *e*PKPdf PKPdf 21 14 36.0 -2.2
PAL Palisades 145.06 359 *e*PKPdf PKPdf 21 14 37.7 -0.5
OLIL Olney 145.14 19 *e*PKPdf PKPdf 21 14 37.6 -0.7
SSPA Standing Stone 145.32 4 *e*PKPdf PKPdf 21 14 37.8 -0.9
JCT Junction City 146.01 41 *e*PKPdf PKPdf 21 14 40.5 +0.4
JCT Junction City 146.01 41 *e*PKP2 PKPdf 21 14 40.5 +0.4
WCI Wyandotte Cave 146.15 17 *e*PKPdf PKPdf 21 14 40.6 +0.5
WCI Wyandotte Cave 146.15 17 *e*PKP2 PKPdf 21 14 40.7 +0.6
MIAR Mount Ida 146.58 29 *e*PKPdf PKPab 21 14 43.0 -0.5
MIAR Mount Ida 146.58 29 *e*PKP2 PKPab 21 14 43.0 -0.6
SDMD Soldier's Deli 146.60 3 *e*PKPdf PKPdf 21 14 41.8 +0.9
UALR University of 146.97 27 *e*PKPdf PKPdf 21 14 43.0 +1.4
HBAR Harrisburg 147.04 24 *e*PKPdf PKPab 21 14 44.0 -1.3
WVT Waverly 147.60 20 *e*PKPdf PKPbc 21 14 44.1 -1.2
WVT Waverly 147.60 20 *e*PKP2 PKPbc 21 14 44.2 -1.1
OXF Oxford 148.45 24 *e*PKPbc PKPbc 21 14 47.9 +0.2

TZTN	Tazewell	148.46	14	*e*PKPbc	PKPbc	21 14 47.2	-0.3
PLAL	Pickwick Lake	148.54	21	*e*PKPbc	PKPbc	21 14 47.0	-0.9
HKT	Hockley	148.87	37	*e*PKPbc	PKPbc	21 14 49.9	+1.1
HKT	Hockley	148.87	37	*e*PKP2	PKPbc	21 14 49.9	+1.1
SWET	Sewanee	149.05	18	*e*Pdif	PKPdf	21 14 46.5	+1.4
SWET				*e*PKPbc	PKPbc	21 14 47.6	-1.6
TKL	Tuckaleechee C	149.24	15	PKPbc	PKPbc	21 14 50.3	+0.7
	comp=Z,64nm,0.9s,baz=133,slow=2.8,SNR=28						
TKL	Tuckaleechee C	149.24	15	*e*PKPbc	PKPbc	21 14 48.8	-0.8
TKL	Tuckaleechee C	149.24	15	*e*PKP2	PKPbc	21 14 48.8	-0.8
CPCT	Cooper Cave	149.25	16	*e*PKPdf	PKPdf	21 14 45.7	+0.3
VBMS	Vicksburg	149.94	28	*e*PKPbc	PKPbc	21 14 52.1	+0.7
LRAL	Lakeview Retre	150.68	21	*e*PKPbc	PKPbc	21 14 51.5	-1.7
JSC	Jenkinsville	151.13	11	*e*PKPbc	PKPbc	21 14 52.4	-1.8
JSC	Jenkinsville	151.13	11	*e*PKIKP	PKPbc	21 14 52.4	-1.8
GOGA	Godfrey	151.45	16	*e*PKPbc	PKPbc	21 14 55.1	+0.1
GOGA	Godfrey	151.45	16	*e*PKIKP	PKPbc	21 14 55.1	+0.1
LPAZ	La Paz	157.00	196	PKP	PKPdf	21 14 59.5	+2.4
	comp=Z,2.5nm,0.9s,baz=39,slow=3.5,SNR=9.1						
LPAZ	La Paz	157.00	196	*e*PKPdf	PKPdf	21 14 59.7	+2.6
LPAZ	La Paz	157.00	196	*e*PKIKP	PKPdf	21 14 59.7	+2.6
SAML	Samuel	161.31	218	*e*PKPdf	PKPdf	21 15 02.9	+0.8
OTAV	Otavalo	173.21	146	*e*PKPdf	PKPdf	21 15 12.4	+1.5

ISCJB ***11*** *20:56:41.5±1.5, 46°.4N±0°.1×153°.0E±0°.1, h39km±12km, mb3.7/13, Error ellipse: s-maj=28.2km s-min=8.7km az=147.7*
MOS ***11*** *20:56:41.2±1.7, 46°.35N×153°.12E, h39km, mb4.8/5, Error ellipse: s-maj=16.3km s-min=11.1km az=78.8*
NEIC ***11*** *20:56:43.2±1.0, 46°.46N×153°.05E, h35km, mb3.8/1, Error ellipse: s-maj=28.0km s-min=13.5km az=160.0*
IDC ***11*** *20:56:46.8±5.3, 46°.62N×153°.01E, h63km±43km, mb3.4/12, mb1 3.6/13, mb1mx3.5/25, mbtmp3.4/13, ML3.4/1, Error ellipse: s-maj=41.1km s-min=15.9km az=169.0*
ISC 11 20:56:43.9±1.3, 46°.4N±0°.1×153°.0E±0°.1, h42km±11km, n41, g0°83/42, mb3.7/13, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.79**	**253**	↓*i*PN	**Pn**	**20 57 39.2**	**-0.5**
KUR				*i* S	**Sn**	**20 58 22.9**	**-0.1**
KUR				pmax	pmax		
	comp=Z,180nm,0.3s						
KUR				smax			
	comp=N,190nm,0.8s						
KUR				smax			
	comp=E,160nm,0.8s						
SKR	**Severo-Kuril's**	**4.72**	**25**	*e*PN	**Pn**	**20 57 53.0**	**+0.5**
PETK	**Petropavlovsk-**	**7.33**	**23**	P	**Pn**	**20 58 28.2**	**-0.1**
	comp=E,0.6nm,0.3s,baz=186,slow=14,SNR=5.8						
PETK	**Petropavlovsk-**	**7.33**	**23**	P	**Pn**	**20 58 28.2**	**-0.1**
PETK	**Petropavlovsk-**	**7.33**	**23**	*e*PN	**Pn**	**20 58 28.7**	**+0.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.34**	**242**	*i* PN	**Pn**	**20 58 42.1**	**-0.1**
SONM	**Songino Array**	**31.37**	**290**	P	**P**	**21 03 02.4**	**+2.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=69,slow=7.9,SNR=2.4						
SONM	**Songino Array**	**31.37**	**290**	P	**P**	**21 03 02.4**	**+2.1**
SONM	**Songino Array**	**31.37**	**290**	P	**P**	**21 03 02.4**	**+2.1**
ILAR	**Eielson Array**	**36.84**	**38**	P	**P**	**21 03 47.4**	**-0.1**
	comp=Z,0.2nm,0.9s,mb3.0,baz=250,slow=8.4,SNR=3.6						
ILAR	**Eielson Array**	**36.84**	**38**	P	**P**	**21 03 47.4**	**-0.1**
ILAR	**Eielson Array**	**36.84**	**38**	P	**P**	**21 03 47.4**	**-0.1**
INK	**Inuvik**	**41.95**	**32**	P	**P**	**21 04 30.8**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.4,baz=277,slow=5.0,SNR=3.6						
INK	**Inuvik**	**41.95**	**32**	*e*P	**P**	**21 04 30.6**	**+0.6**
	comp=Z,1.5nm,0.7s,mb3.7						
INK	**Inuvik**	**41.95**	**32**	P	**P**	**21 04 30.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**42.73**	**306**	P	**P**	**21 04 34.5**	**-2.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=66,slow=8.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**42.73**	**306**	P	**P**	**21 04 34.5**	**-2.1**
ZALV	**Zalesovo Beam**	**42.73**	**306**	P	**P**	**21 04 34.5**	**-2.1**
YKA	**Yellowknife Ar**	**51.22**	**37**	P	**P**	**21 05 41.4**	**-1.2**
	comp=Z,0.3nm,0.8s,mb3.3,baz=294,slow=7.0,SNR=4.5						
YKA	**Yellowknife Ar**	**51.22**	**37**	P	**P**	**21 05 41.4**	**-1.2**
YKA	**Yellowknife Ar**	**51.22**	**37**	P	**P**	**21 05 41.4**	**-1.2**
ZRNK	**Zerenda**	**51.77**	**310**	*i* P	**P**	**21 05 47.3**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
CMAR	**Chiang Mai Arr**	**52.23**	**256**	P	**P**	**21 05 51.9**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=46,slow=6.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**52.23**	**256**	P	**P**	**21 05 51.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**52.23**	**256**	P	**P**	**21 05 51.9**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**62.64**	**62**	P	**P**	**21 07 04.3**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.6,baz=276,slow=9.0,SNR=3.1						
NVAR	**Mina Array Bea**	**62.64**	**62**	P	**P**	**21 07 04.3**	**+0.5**
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**21 07 14.1**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.3,baz=26,slow=6.7,SNR=10						
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**21 07 14.1**	**-0.3**
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**21 07 14.1**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**64.99**	**54**	P	**P**	**21 07 19.3**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=258,slow=6.9,SNR=3.5						
PDAR	**Pinedale Array**	**64.99**	**54**	P	**P**	**21 07 19.3**	**+0.1**
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**21 07 41.2**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=29,slow=6.4,SNR=5.2						
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**21 07 41.2**	**-0.1**
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**21 07 41.2**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**21 08 01.0**	**-0.5**
	comp=Z,2.3nm,0.4s,mb4.5,baz=34,slow=6.4,SNR=6.5						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**21 08 01.0**	**-0.5**
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**21 08 01.0**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**21 08 35.5**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=222,slow=1.7,SNR=5.2						
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**21 08 35.5**	**-0.7**
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**21 08 35.6**	**-0.6**

IDC ***11*** *20:57:19.6±0.5, 6°.04S×105°.43E, h0km, mb4.7/23, mb1 4.8/23, mb1mx4.7/27, mbtmp4.7/23, Error ellipse: s-maj=21.5km s-min=10.2km az=48.0*
BJI ***11*** *20:57:22.1±5.90S×105°.20E, h14km, mB5.1/23, mb4.8/29, Ms5.2/25, Ms7 4.9/22*
ISCJB ***11*** *20:57:23.1±0.8, 6°.14S±0°.04×105°.28E±0°.04, h27km±6km, mb5.0/72, MS4.6/9, Error ellipse: s-maj=7.3km s-min=5.3km az=41.2*
MOS ***11*** *20:57:23.9±1.8, 5°.98S×105°.47E, h33km, mb5.3/23, Error ellipse: s-maj=10.3km s-min=6.6km az=115.2*
DJA ***11*** *20:57:24, 6°.18S×105°.33E, h10km, mb4.9/27*
NEIC ***11*** *20:57:25.9±1.5, 6°.02S×105°.32E, h41km±13km, mb5.1/26, Error ellipse: s-maj=10.3km s-min=7.4km az=59.0*
NEIC Felt at Jakarta, Java.
ISC 11 20:57:21.9±0.9, 6°.16S±0°.04×105°.25E±0°.04, h8km±5km, h15km±.9km:pP-P, n304, o1°49/253, mb5.0/72, MS4.6/9, 26C-9D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.63**	**135**	P	**Pg**	**20 57 33.6**	**-0.5**
BLSI	**Bandar Lampung**	**0.79**	**360**	P	**Pg**	**20 57 35.6**	**-1.6**
BLSI	**Bandar Lampung**	**0.79**	**360**	P	**Pg**	**20 57 40.1**	**+2.9**
SBJI	**Serang**	**0.88**	**87**	P	**Pg**	**20 57 38.1**	**-0.8**
SBJI	**Serang**	**0.88**	**87**	P	**Sg**	**20 57 50.0**	**-0.3**
TNG	**Tangerang**	**1.39**	**90**	P	**Pn**	**20 57 45.0**	**-2.7**
TNG				P		20 57 45.3	
TNG	**Tangerang**	**1.39**	**90**	P	**Pn**	**20 57 48.9**	**+1.2**
TNG				P		20 57 48.9	
DBJI	**Dramaga**	**1.54**	**105**	P	**Pn**	**20 57 48.9**	**-0.9**
SKJI	**Sukabumi**	**1.55**	**123**	P	**Pn**	**20 57 49.8**	**0.0**
CBJI	**Citeko**	**1.61**	**99**	P	**Pn**	**20 57 52.2**	**+1.5**
LWLI	**Liwa**	**1.64**	**314**	P	**Pn**	**20 57 55.4**	**+4.3**
MDSI	**Maura Dua**	**1.98**	**327**	P	**Pn**	**20 57 58.6**	**+2.9**
LEM	**Lembang**	**2.45**	**106**	P	**Pn**	**20 58 09.1**	**+6.9**
CISI	**Cisompet, Garu**	**2.90**	**119**	P	**Pn**	**20 58 10.6**	**+2.1**
MYKOM	**Kota Tinggi**	**8.02**	**350**	P	**Pn**	**20 59 21.9**	**+3.0**
	241nm,1.6s						
BLJI	**Banyuglugur**	**8.44**	**101**	P	**Pn**	**20 59 31.7**	**+7.1**
	156nm,1.4s						
JAGI	**Jajag, Banyuwa**	**9.13**	**105**	P	**Pn**	**20 59 36.1**	**+2.1**
	136nm,1.4s						
COCO	**West Island**	**10.23**	**234**	*e*P	**Pn**	**20 59 54.2**	**+5.0**
	196nm,1.3s						
COCO	**West Island**	**10.23**	**234**	*e*P	**Pn**	**20 59 54.2**	**+5.0**
COCO				pmax	pmax		
	comp=Z,196nm,1.3s						
PSI	**Prapat**	**10.91**	**324**	P	**Pn**	**21 00 03.5**	**+4.9**
	comp=Z,1μmcomp=Z,50nm,1.8s						
BKSI	**Bulukumba**	**14.83**	**88**	P	**Pn**	**21 00 54.0**	**+2.0**
	comp=Z,52nm,1.4s						
MSSI	**Masamba**	**15.45**	**77**	P	**Pn**	**21 01 06.1**	**+5.7**
	comp=Z,5μmcomp=Z,229nm,1.2s						
KKM	**Kota Kinabalu**	**16.34**	**42**	*e*P	**Pn**	**21 01 12.3**	**+0.5**
KKM	**Kota Kinabalu**	**16.34**	**42**	P	**Pn**	**21 01 14.5**	**+2.6**
	comp=Z,988nmcomp=Z,40nm,1.2s						
MMRI	**Maumere**	**17.03**	**99**	P	**Pn**	**21 01 23.6**	**+3.0**
	comp=Z,82nm,1.5s						
KDI	**Kendari**	**17.44**	**84**	P	**Pn**	**21 01 28.1**	**+2.3**
	comp=Z,45nm,1.6s						
MRSI	**Marisa**	**17.92**	**69**	P	**Pn**	**21 01 32.6**	**+0.8**
	comp=Z,72nm,1.4s						
LUWI	**Luwuk**	**18.21**	**74**	P	**Pn**	**21 01 36.2**	**+0.9**
	comp=Z,3μmcomp=Z,147nm,1.3s						
GTOI	**Gorontalo**	**18.98**	**70**	P	**Pn**	**21 01 44.1**	**-0.6**
	comp=Z,3μmcomp=Z,266nm,1.3s						
MBWA	**Marble Bar**	**20.47**	**138**	*e*P	**P**	**21 01 59.5**	**-0.8**
TNTI	**Ternate**	**23.13**	**73**	P	**P**	**21 02 28.9**	**0.0**
	comp=Z,3μmcomp=Z,198nm,1.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**23.17**	**123**	P	**P**	**21 02 27.8**	**-1.4**
	comp=Z,27nm,1.1s,mb4.6,baz=296,slow=8.4,SNR=7.5						
FITZ	**Fitzroy Crossi**	**23.17**	**123**	*e*P	**P**	**21 02 27.7**	**-1.5**
	comp=Z,57nm,1.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**23.17**	**123**	P	**P**	**21 02 27.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**23.17**	**123**	P	**P**	**21 02 30.5**	**+1.3**
	comp=Z,807nmcomp=Z,46nm,1.5s,mb4.7						
DAV	**Davao City (W)**	**24.17**	**57**	P	**P**	**21 02 40.1**	**+1.2**
	comp=Z,147nm,0.4s,mb5.8,baz=244,slow=9.5,SNR=5.8						
DAV	**Davao City (W)**	**24.17**	**57**	*e*P	**P**	**21 02 41.9**	**+3.0**
DAV	**Davao City (W)**	**24.17**	**57**	P	**P**	**21 02 41.2**	**+2.2**
	SNR=8.0						
CM31	**Chiang Mai Arr**	**25.24**	**346**	*e*P	**P**	**21 02 47.3**	**-1.3**
CMAR	**Chiang Mai Arr**	**25.24**	**346**	P	**P**	**21 02 46.5**	**-2.1**
	comp=Z,5.2nm,0.9s,mb4.0,baz=183,slow=8.7,SNR=6.5						
CMAR				PcP	PcP	21 06 22.9	+0.7
	comp=Z,4.6nm,1.0s,baz=210,slow=2.5,SNR=9.4						
CMAR	**Chiang Mai Arr**	**25.24**	**346**	P	**P**	**21 02 46.5**	**-2.1**
CMAR				PcP	PcP	21 06 22.9	+0.7
CMAR	**Chiang Mai Arr**	**25.24**	**346**	P	**P**	**21 02 46.6**	**-2.0**
CMAR						21 06 22.9	
TGY	**Tagaytay City**	**25.45**	**38**	P	**P**	**21 02 51.4**	**+0.8**
	comp=Z,267nm,0.7s,mb5.9,baz=196,slow=6.6,SNR=9.4						
TGY	**Tagaytay City**	**25.45**	**38**	P	**P**	**21 02 51.4**	**+0.8**
TGY	**Tagaytay City**	**25.45**	**38**	P	**P**	**21 02 51.4**	**+0.8**
CHTO	**Chiang Mai**	**25.58**	**346**	*e*P	**P**	**21 02 48.5**	**-3.2**
CHTO	**Chiang Mai**	**25.58**	**346**	*e*P	**P**	**21 02 48.6**	**-3.1**
CHTO	**Chiang Mai**	**25.58**	**346**	P	**P**	**21 02 53.3**	**+1.6**
	comp=Z,20nm,1.3s,mb4.5						
KMI	**Kunming**	**31.19**	**356**	P	**P**	**21 03 43.9**	**+2.2**
KMI				pP	pP	21 03 48.4	+4.2
KMI				sP	sP	21 03 50.0	+4.8
KMI				PP	PP	21 04 47.4	-4.9
KMI				S	**S**	**21 08 49.7**	**+1.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
KMI				pmax	pmax		
	comp=Z,63nm,3.2s						
KMI				LR	LR		
	comp=N,3μm,10.7s,MS5.3						
KMI				LR	LR		
	comp=E,970nm,11.7s,MS5.3						
KMI				LR	LR		
	comp=Z,3μm,10.0s,MS5.3						
KMI	**Kunming**	**31.19**	**356**	P	**P**	**21 03 43.9**	**+2.2**
	comp=Z,7.0nm,1.1s,mb4.4						
KMI				pP	pP	21 03 48.4	+4.2
KMI				sP	sP	21 03 50.0	+4.8
KMI				PP	PP	21 04 47.4	-4.9
KMI				S	**S**	**21 08 49.7**	**+1.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
KMI				MLR	MLR		
	comp=Z,3μm,10.0s,MS5.3						
WRA	**Warramunga Arr**	**31.40**	**119**	P	**P**	**21 03 42.5**	**-1.2**
	comp=Z,9.2nm,0.8s,mb4.7,baz=305,slow=8.8,SNR=13						
WRA				PcP	PcP	21 06 36.7	-0.8
	comp=Z,1.3nm,0.7s,baz=288,slow=2.2,SNR=5.9						
WRA	**Warramunga Arr**	**31.40**	**119**	P	**P**	**21 03 42.5**	**-1.2**
WRA				PcP	PcP	21 06 36.7	-0.8
WRA	**Warramunga Arr**	**31.40**	**119**	P	**P**	**21 03 42.5**	**-1.2**
WRA						21 06 36.7	
WRAB	**Tennant Creek**	**31.41**	**119**	*e*P	**P**	**21 03 40.2**	**-3.6**
	comp=Z,24nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**31.41**	**119**	*e*P	**P**	**21 03 40.2**	**-3.6**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**31.41**	**119**	P	**P**	**21 03 42.8**	**-1.0**
	comp=Z,57nm,1.2s,mb5.3						
WB2	**Warramunga Arr**	**31.41**	**119**	*e*P	**P**	**21 03 41.9**	**-1.9**
GYA	**Guiyang**	**32.46**	**2**	P	**P**	**21 03 53.4**	**+0.6**
GYA				pP	pP	21 03 58.7	+3.4
GYA				PP	PP	21 05 02.9	-3.4
GYA				PcP	PcP	21 06 41.2	+1.1
GYA				S	**S**	**21 09 07.8**	**-0.1**
GYA				ScP	ScP	21 10 23.6	-0.9
GYA				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,650nm,15.5s,MS4.5						
GYA				LR	LR		
	comp=E,510nm,16.4s,MS4.5						
GYA				LR	LR		
	comp=Z,2μm,15.6s,MS4.9						
ASAR	**Alice Springs**	**32.59**	**125**	P	**P**	**21 03 53.1**	**-1.0**
	comp=Z,13nm,0.9s,mb4.8,baz=299,slow=7.4,SNR=16						
ASAR				PcP	PcP	21 06 40.1	-0.5
	comp=Z,6.6nm,1.0s,baz=313,slow=1.9,SNR=9.1						
ASAR				S	**S**	**21 09 05.5**	**-4.6**
	comp=Z,3.0nm,1.0s,baz=294,slow=16,SNR=7.2						
ASAR	**Alice Springs**	**32.59**	**125**	P	**P**	**21 03 53.1**	**-1.0**
ASAR				PcP	PcP	21 06 40.1	-0.5
ASAR				S	**S**	**21 09 05.5**	**-4.6**
ASAR	**Alice Springs**	**32.59**	**125**	P	**P**	**21 03 53.1**	**-1.0**
ASAR						21 06 40.2	
ASAR				S	**S**	**21 09 05.6**	**-4.5**
YULB	**Yu-li**	**33.30**	**28**	*e*P	**P**	**21 04 00.9**	**+0.7**
	comp=Z,36nm,1.1s,mb5.2						
SSLB	**Suanglung**	**33.48**	**27**	*e*P	**P**	**21 04 01.8**	**-0.1**
	comp=Z,27nm,1.0s,mb5.1						
ODAN	**Odare**	**37.10**	**333**	*e*P	**P**	**21 04 32.0**	**-1.0**
	comp=Z,27nm,0.7s,mb5.2						
ODAN	**Odare**	**37.10**	**333**	*e*P	**P**	**21 04 32.0**	**-1.0**
	comp=Z,27nm,0.7s,mb5.2						
TAPN	**Taplejung**	**37.39**	**334**	*e*P	**P**	**21 04 34.3**	**-1.1**
	comp=Z,24nm,1.0s,mb5.2						
TAPN	**Taplejung**	**37.39**	**334**	*e*P	**P**	**21 04 34.3**	**-1.1**
	comp=Z,45nm,1.0s,mb5.2						
RAMN	**Ramite**	**37.55**	**332**	*e*P	**P**	**21 04 33.2**	**-3.6**
	comp=Z,69nm,1.2s,mb5.3						
RAMN	**Ramite**	**37.55**	**332**	*e*P	**P**	**21 04 33.2**	**-3.6**
	comp=Z,69nm,1.2s,mb5.3						
COEN	**Coen**	**38.10**	**105**	P	**P**	**21 04 38.5**	**-3.1**
	comp=Z,60nm,1.3s,mb5.2						
XAN	**Xi'an**	**40.13**	**5**	P	**P**	**21 04 57.8**	**-0.6**
XAN				pP	pP	21 05 02.0	+1.1
XAN				S	**S**	**21 11 01.0**	**-4.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
XAN				pmax	pmax		
	comp=Z,27nm,5.0s						
XAN				LR	LR		
	comp=N,420nm,12.3s,MS4.6						
XAN				LR	LR		
	comp=E,280nm,12.5s,MS4.6						
XAN				LR	LR		
	comp=Z,230nm,11.8s,MS4.2						
PMG	**Port Moresby**	**41.63**	**97**	P	**P**	**21 05 09.2**	**-2.0**
	comp=Z,12nm,0.8s,mb4.6,baz=244,slow=1.3,SNR=5.0						
PMG	**Port Moresby**	**41.63**	**97**	*e*P	**P**	**21 05 09.2**	**-2.0**
PMG	**Port Moresby**	**41.63**	**97**	*c i*P	**P**	**21 05 09.1**	**-2.0**
PMG				pmax	pmax		
	comp=Z,50nm,1.4s						
LZH	**Lanzhou**	**42.05**	**358**	*e*P	**P**	**21 05 15.3**	**+1.2**
LZH				pP	pP	21 05 19.8	+3.2
LZH				sP	sP	21 05 22.6	+5.0
LZH				PP	PP	21 06 50.2	-1.3
LZH				PcP	PcP	21 07 09.0	-0.1
LZH				*e*S	**S**	**21 11 35.5**	**+2.0**
LZH				sS	sS	21 11 42.0	+4.4
LZH				SS	SS	21 14 33.3	-7.6
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
LZH				pmax	pmax		
	comp=Z,100nm,5.3s						
LZH				LR	LR		
	comp=N,690nm,12.4s						
LZH				LR	LR		
	comp=E,980nm,9.7s						
LZH				LR	LR		
	comp=Z,970nm,13.4s,MS4.9						
LZH	**Lanzhou**	**42.05**	**358**	*e*P	**P**	**21 05 15.3**	**+1.2**
	comp=Z,10.0nm,1.0s,mb4.4						
LZH				pP	pP	21 05 19.8	+3.2
LZH				sP	sP	21 05 22.6	+5.0
LZH				PcP	PcP	21 07 09.0	-0.1
LZH				*e*S	**S**	**21 11 35.5**	**+2.0**
LZH				sS	sS	21 11 42.0	+4.4
LZH				SS	SS	21 14 33.3	-7.6
LZH				LR	LR		
	comp=Z,970nm,13.4s,MS4.9						
LZH	**Lanzhou**	**42.05**	**358**	*e*P	**P**	**21 05 15.3**	**+1.2**
LZH				*SP	sP	21 05 22.6	+5.0
LZH						21 07 09.0	
LZH				*e*S	**S**	**21 11 35.5**	**+2.0**
LZH				SS	SS	21 14 33.3	-7.6
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
LZH				MLR	MLR		
	comp=Z,970nm,13.4s,MS4.9						
CTA	**Charters Tower**	**42.13**	**113**	P	**P**	**21 05 14.3**	**-0.8**
	comp=Z,5.8nm,0.3s,mb4.6,baz=297,slow=7.9,SNR=6.7						
CTA	**Charters Tower**	**42.13**	**113**	*e*P	**P**	**21 05 14.5**	**-0.6**
	comp=Z,23nm,1.0s,mb4.8						
CTA	**Charters Tower**	**42.13**	**113**	P	**P**	**21 05 14.3**	**-0.8**
CTA	**Charters Tower**	**42.13**	**113**	P	**P**	**21 05 14.3**	**-0.8**
CTAO	**Charters Tower**	**42.13**	**113**	*e*P	**P**	**21 05 14.4**	**-0.7**
	comp=Z,70nm,1.2s,mb5.2						
CTAO	**Charters Tower**	**42.13**	**113**	*e*P	**P**	**21 05 14.4**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.2						
CTAO	**Charters Tower**	**42.13**	**113**	P	**P**	**21 05 14.2**	**-0.9**
	comp=Z,40nm,1.3s,mb4.9						
STKA	**Stephens Creek**	**42.49**	**132**	P	**P**	**21 05 16.4**	**-1.5**
	comp=Z,36nm,0.7s,mb5.1,baz=306,slow=6.3,SNR=7.9						
STKA	**Stephens Creek**	**42.49**	**132**	*e*P	**P**	**21 05 16.2**	**-1.7**
	comp=Z,29nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**42.49**	**132**	P	**P**	**21 05 16.4**	**-1.5**
STKA	**Stephens Creek**	**42.49**	**132**	P	**P**	**21 05 16.4**	**-1.5**
HHC	**Hu-ho-hao-te**	**47.14**	**7**	*e*P	**P**	**21 05 55.6**	**+0.9**
HHC				pP	pP	21 06 00.2	+2.9
HHC				sP	sP	21 06 02.6	+4.3
HHC				PcP	PcP	21 07 27.2	+0.8
HHC				PP	PP	21 07 46.0	+0.2
HHC				ScP	ScP	21 11 19.5	-1.3
HHC				S	**S**	**21 12 47.4**	**0.0**
HHC				sS	sS	21 12 55.4	+3.8
HHC				SS	SS	21 16 07.0	-7.8
HHC				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
HHC				pmax	pmax		
	comp=Z,84nm,5.5s						
HHC				LR	LR		
	comp=N,820nm,15.2s,MS4.9						
HHC				LR	LR		
	comp=E,670nm,14.1s,MS4.9						
HHC				LR	LR		
	comp=Z,730nm,13.8s,MS4.8						
KSAR	**Wonju Array Be**	**48.25**	**24**	P	**P**	**21 06 03.4**	**-0.1**
KSAR	**Wonju Array Be**	**48.25**	**24**	P	**P**	**21 06 03.4**	**0.0**
KSRS	**Korea Array**	**48.28**	**24**	P	**P**	**21 06 03.4**	**-0.3**
	comp=Z,10nm,1.1s,mb4.8,baz=196,slow=8.3,SNR=9.6						
CAN	**Canberra**	**49.56**	**132**	*e*P	**P**	**21 06 14.5**	**+1.0**
	comp=Z,28nm,1.1s,mb5.2						
CAN	**Canberra**	**49.56**	**132**	*e*P	**P**	**21 06 14.5**	**+0.9**
CAN				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
WMQ	**Urumqi**	**52.22**	**344**	P	**P**	**21 06 33.1**	**-0.3**
WMQ				pP	pP	21 06 37.6	+1.6
WMQ				sP	sP	21 06 40.1	+3.1
WMQ				PP	PP	21 08 31.9

MDJ S S 21 14 37.5 +0.2
MDJ ScS ScS 21 16 43.9 -0.2
MDJ pmax pmax
comp=Z,13nm,1.2s,mb4.8
MDJ pmax pmax
comp=Z,100nm,5.0s
MDJ LR LR
comp=N,82nm,17.5s,MS4.1
MDJ LR LR
comp=E,120nm,18.8s,MS4.1
HOQ Hoqain 55.34 304 P **P 21 07 01.8 +5.1**
SNR=8.1
MKAR Makanchi Array 56.52 341 P **P 21 07 02.2 -2.5**
comp=E,10nm,1.0s,mb4.8,baz=148,slow=7.1,SNR=10.0
MKAR PcP PcP 21 08 01.4 +0.1
comp=E,3.7nm,0.9s,baz=142,slow=4.9,SNR=4.3
MKAR Makanchi Array 56.52 341 P **P 21 07 02.2 -2.5**
MKAR PcP PcP 21 08 01.4 +0.1
MKAR Makanchi Array 56.52 341 P **P 21 07 02.2 -2.5**
MKAR 21 08 01.5
HATD Hatta, Dubai 56.85 305 P **P 21 07 12.5 +5.1**
SNR=8.0
TLY Talaya 57.63 359 *eP* **P 21 07 13.3 +0.9**
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KURK Kurchatov 61.13 341 P **P 21 07 34.1 -2.5**
comp=Z,8.3nm,1.0s,mb4.8,baz=159,slow=6.2,SNR=10
KURK PcP PcP 21 08 19.1 -0.5
comp=Z,3.6nm,0.8s,baz=154,slow=3.5,SNR=6.1
KURK Kurchatov 61.13 341 P **P 21 07 34.1 -2.5**
KURK PcP PcP 21 08 19.1 -0.5
KURK Kurchatov 61.13 341 P **P 21 07 34.2 -2.5**
KURK 21 08 19.1
ABKT Ailbek 61.99 319 P **P 21 07 41.8 -0.9**
comp=Z,201nm,1.1s,SNR=6.2
ZAA0 Zalesovo Array 62.30 347 *eP* **P 21 07 41.0 -3.5**
ZALV Zalesovo Beam 62.30 347 P **P 21 07 41.2 -3.3**
comp=Z,17nm,0.9s,mb5.2,baz=148,slow=4.1,SNR=13
ZALV Zalesovo Beam 62.30 347 P **P 21 07 41.2 -3.3**
ZALV Zalesovo Beam 62.30 347 P **P 21 07 41.2 -3.3**
YSS Yuzh-Sakhalins 62.44 28 *eP* **P 21 07 43.8 -1.8**
comp=Z,43nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 62.44 28⇑*iP* **P 21 07 43.8 -1.8**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
NVS Novosibirsk 63.50 346 *eP* **P 21 07 50.9 -1.5**
NVS pmax pmax
comp=Z,64nm,2.8s,mb5.3
NVS pmax pmax
comp=E,62nm,3.1s
RAYN Ar Rayn 65.32 299 P **P 21 08 04.7 -0.3**
comp=E,101nm,1.4s,mb5.7,SNR=5.6
UMR Umm Al-Rimmam 65.62 306 *eP* **P 21 08 02.2 -4.6**
NAY Al-Naaiem 65.89 306 *eP* **P 21 08 03.8 -4.8**
NAY AMb AMB 21 08 11.8
comp=Z,25nm,0.9s,mb5.2
BVAR Borovoye Array 65.93 338 P **P 21 08 06.9 -1.5**
comp=Z,4.2nm,0.9s,mb4.5,baz=142,slow=7.5,SNR=6.2
BVAR Borovoye Array 65.93 338 P **P 21 08 06.9 -1.5**
BVAR Borovoye Array 65.93 338 P **P 21 08 06.9 -1.4**
BRVK Borovoye 66.00 338 *eP* **P 21 08 07.4 -1.4**
comp=Z,7.7nm,1.1s,mb4.7
BRVK Borovoye 66.00 338⇑*eP* **P 21 08 09.5 +0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
MIB Mutribah 66.02 306 *eP* **P 21 08 04.8 -4.6**
MIB AMb AMB 21 08 14.7
comp=Z,77nm,1.2s,mb5.6
ABKAR Abkulak array 67.81 330 *eP* **P 21 08 15.6 -4.9**
KMBO Kilima Mbogo 68.00 271 *eP* **P 21 08 25.1 +2.7**
comp=Z,13nm,1.5s,mb4.7
KMBO Kilima Mbogo 68.00 271 *eP* **P 21 08 25.1 +2.7**
KMBO pmax pmax
comp=Z,13nm,1.5s
AKTO Aktyubinsk 69.53 330 P **P 21 08 30.4 -0.6**
comp=Z,5.1nm,1.0s,mb4.4,baz=203,slow=2.2,SNR=4.3
AKTO Aktyubinsk 69.53 330 P **P 21 08 30.4 -0.6**
AKTO Aktyubinsk 69.53 330 P **P 21 08 30.5 -0.6**
YAK Yakutsk 70.56 12 *eP* **P 21 08 34.0 -3.2**
comp=Z,32nm,0.9s,mb5.2
YAK Yakutsk 70.56 12 *eP* **P 21 08 34.0 -3.2**
YAK pmax pmax
comp=Z,32nm,0.9s,mb5.2
SVE Sverdlovsk 72.54 336⇓*eP* **P 21 08 47.9 -1.3**
SVE pmax pmax
comp=Z,35nm,1.4s,mb5.1
ARU Arti 73.13 335 *eP* **P 21 08 50.9 -1.8**
comp=Z,23nm,1.3s,mb4.9
ARU Arti 73.13 335*c iP* **P 21 08 53.7 +1.0**
ARU 21 11 38.5
ARU S S 21 18 21.1 +0.6
ARU SS SS 21 23 05.5 +3.6
ARU pmax pmax
comp=Z,21nm,1.2s,mb4.9
KIV Kislovodsk 75.10 318 *eP* **P 21 09 04.0 -0.5**
comp=Z,23nm,1.0s,mb5.1
KIV Kislovodsk 75.10 318 *eP* **P 21 09 03.9 -0.7**
KIV pmax pmax
comp=Z,25nm,0.9s,mb5.1
KIV Kislovodsk 75.10 318 P **P 21 09 04.3 -0.3**
comp=Z,132nm,0.9s,mb5.9,SNR=5.7
ASF Jabal al Asfar 75.25 305 P **P 21 09 08.1 +2.4**
comp=Z,16nm,0.9s,mb4.9,baz=341,slow=3.0,SNR=12
ASF Jabal al Asfar 75.25 305 P **P 21 09 08.1 +2.4**
ASF Jabal al Asfar 75.25 305 P **P 21 09 08.1 +2.4**
SOKR Solikamsk 75.88 337 *eP* **P 21 09 07.5 -1.2**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.0
VNDA Vanda 77.11 169 *eP* **P 21 09 15.5 +0.1**
VNDA Vanda 77.11 169 *eP* **P 21 09 15.5 +0.1**
LBTB Lobatse 78.06 246 P **P 21 09 21.8 0.0**
comp=Z,5.5nm,0.9s,mb4.5,baz=140,slow=9.8,SNR=4.0
LBTB Lobatse 78.06 246 *eP* **P 21 09 20.7 -1.0**
LBTB Lobatse 78.06 246 *eP* **P 21 09 20.7 -1.1**
SBA Scott Base 78.19 169 *eP* **P 21 09 22.6 +1.1**
comp=Z,28nm,1.3s,mb5.0
SBA Scott Base 78.19 169 *eP* **P 21 09 22.6 +1.1**
SBA pmax pmax
comp=Z,28nm,1.3s,mb5.0
BOSA Boshof 78.30 242 P **P 21 09 22.1 -1.0**
comp=Z,16nm,1.2s,mb4.8,baz=96,slow=8.4,SNR=3.7
BOSA Boshof 78.30 242 *eP* **P 21 09 22.1 -1.0**
comp=Z,18nm,1.3s,mb4.8
BOSA Boshof 78.30 242 *eP* **P 21 09 22.1 -1.0**
BOSA pmax pmax
comp=Z,18nm,1.3s,mb4.8
CSS Prodhromos 78.89 307 P **P 21 09 26.5 +0.3**
comp=Z,43nm,1.0s,mb5.3
BR131 Keskin Array S 79.97 312 *eP* **P 21 09 30.1 -1.9**
comp=Z,20nm,1.1s,mb5.0
BRTR Keskin Array B 79.97 312 P **P 21 09 30.1 -1.8**
comp=Z,12nm,1.0s,mb4.8,baz=133,slow=5.1,SNR=16
BRTR Keskin Array B 79.97 312 P **P 21 09 30.1 -1.8**
BRTR Keskin Array B 79.97 312 P **P 21 09 30.1 -1.8**
VSR Storozhevoye 80.17 324 *eP* **P 21 09 31.8 -0.9**
VSR pmax pmax
comp=Z,50nm,1.5s,mb5.2
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,30nm,1.1s
MOS Moscow 82.75 328 *eP* **P 21 09 44.7 -1.6**
MOS pmax pmax
comp=Z,69nm,1.3s,mb5.5
OBN Obninsk 83.08 327*c iP* **P 21 09 47.9 -0.1**
OBN *e* 21 13 03.4
OBN pmax pmax
comp=Z,91nm,1.5s,mb5.6
QSPA South Pole Qui 83.82 180 P **P 21 09 50.6 -0.8**
comp=Z,3.9nm,0.9s,mb4.6,baz=270,slow=3.0,SNR=4.7
QSPA South Pole Qui 83.82 180 *eP* **P 21 09 51.9 +0.4**
comp=Z,20nm,1.2s,mb5.1
KLMR Klimovskoe 83.85 333 *eP* **P 21 09 49.0 -2.9**
KLMR pmax pmax
comp=Z,36nm,1.4s,mb5.3
LEOM Leova 85.55 318⇑P **P 21 10 01.1 +0.3**
LEOM Leova 85.55 318⇑*iP* **P 21 10 01.1 +0.3**
TSUM Tsumeb 85.80 251 *eP* **P 21 10 04.6 +1.9**
comp=Z,21nm,1.4s,mb5.2
AKASG Malin Array Be 85.96 322 P **P 21 10 01.4 -1.3**
comp=Z,14nm,0.9s,mb5.2,baz=92,slow=4.8,SNR=16
AKASG Malin Array Be 85.96 322 P **P 21 10 01.4 -1.3**
AKASG Malin Array Be 85.96 322 P **P 21 10 01.4 -1.3**
AKBB Malin Array Si 85.96 322 *eP* **P 21 09 58.7 -4.0**
AKBB Malin Array Si 85.96 322 *eP* **P 21 09 58.7 -4.0**

KIEV Kiev 85.97 322 *eP* **P 21 09 57.0 -5.8**
comp=Z,13nm,0.8s,mb5.2
KIEV Kiev 85.97 322⇓*eP* **P 21 10 02.7 0.0**
GHRR 86.03 317⇑*iP* **P 21 10 06.6 +3.5**
PETR 86.07 317⇑*iP* **P 21 10 07.4 +4.0**
VRI Vrincioaia 86.44 317⇑P **P 21 10 07.4 +2.2**
VRI Vrincioaia 86.44 317⇑*iP* **P 21 10 07.3 +2.1**
PLOR Plostina 86.50 317⇓P **P 21 10 07.5 +2.0**
PLOR Plostina 86.50 317⇓*iP* **P 21 10 07.5 +2.0**
TESR 86.64 317⇑*iP* **P 21 10 06.1 0.0**
MLR Muntele Rosu 86.90 316 P **P 21 10 09.0 +1.5**
MLR Muntele Rosu 86.90 316⇑*iP* **P 21 10 08.0 +0.5**
VOIR 87.51 316⇑P **P 21 10 14.1 +3.7**
VOIR 87.51 316⇑*iP* **P 21 10 14.1 +3.7**
BURAR Bucovina Array 87.83 318⇑P **P 21 10 14.2 +2.3**
BURAR Bucovina Array 87.83 318⇑*iP* **P 21 10 14.2 +2.3**
BUR08 Bucovina Ar. S 87.84 318 *eP* **P 21 10 08.7 -3.3**
JOF Joensuu 88.22 334 *eP* **P 21 10 10.0 -3.4**
JOF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
JOF Joensuu 88.22 334 *ep* **P 21 10 10.0 -3.4**
comp=Z,5.7nm,0.9s,mb4.8
NACGM Naroch 88.41 326 *e* **P 21 10 13.0 -1.5**
BMR Baia Mare 88.98 318 P **P 21 10 19.1 +1.8**
GZR Gura Zlata 89.08 316⇑P **P 21 10 20.0 +2.2**
GZR Gura Zlata 89.08 316⇑*iP* **P 21 10 20.0 +2.2**
DRGR 89.35 317⇑P **P 21 10 20.8 +1.7**
DRGR 89.35 317⇑*iP* **P 21 10 20.8 +1.7**
TRPA Tarpa 89.69 318⇑*iP* **P 21 10 22.0 +1.3**
SNAA Sanae 89.80 198 *e* **P 21 10 23.2 +2.5**
SNAA Sanae 89.80 198 P **P 21 10 21.3 +0.6**
comp=Z,1.8nm,0.9s,mb4.4,baz=128,slow=6.8,SNR=6.7
SNAA Sanae 89.80 198 *eP* **P 21 10 21.5 +0.8**
comp=Z,28nm,1.2s,mb5.5
SNAA Sanae 89.80 198 *eP* **P 21 10 21.5 +0.8**
SNAA pmax pmax
comp=Z,28nm,1.2s
BZS Buzias 89.92 316⇑P **P 21 10 21.9 +0.1**
BZS Buzias 89.92 316⇑*iP* **P 21 10 21.9 +0.1**
FINES FINESS Array B 90.22 332 P **P 21 10 22.8 0.0**
comp=Z,10nm,0.8s,mb5.2,baz=95,slow=4.8,SNR=11
FINES FINESS Array B 90.22 332 P **P 21 10 22.8 0.0**
FINES FINESS Array B 90.22 332 P **P 21 10 22.8 0.0**
KAF Kangasniemi 90.25 333 *eP* **P 21 10 21.8 -1.2**
KAF pmax pmax
comp=Z,11nm,0.9s,mb5.2
KAF Kangasniemi 90.25 333 *ep* **P 21 10 21.8 -1.2**
comp=Z,11nm,0.9s,mb5.2
PSZ Piszkesteto 91.42 318 *eP* **P 21 10 31.1 +2.4**
PSZ Piszkesteto 91.42 318⇓P **P 21 10 31.0 +2.3**
PSZ Piszkesteto 91.42 318⇓*iP* **P 21 10 31.0 +2.3**
VNA2 Neumayer-Watz 91.44 198 *e* **P 21 10 31.0 +2.6**
baz=79,slow=3.4
VNA3 Neumayer Olymp 91.98 197 *e* **P 21 10 34.2 +3.3**
PKSM Moragy 92.05 316⇑P **P 21 10 34.1 +2.4**
PKSM Moragy 92.05 316⇑*iP* **P 21 10 34.1 +2.4**
MORC Moravsky Berou 93.17 320 *eP* **P 21 10 36.3 -0.5**
comp=Z,11nm,1.3s,mb5.1
MORC Moravsky Berou 93.17 320⇓P **P 21 10 37.0 +0.2**
MORC Moravsky Berou 93.17 320⇓*iP* **P 21 10 37.0 +0.2**
GERES GERESS Array B 95.61 318 P **P 21 10 48.1 +0.1**
comp=Z,2.5nm,1.0s,mb4.6,baz=90,slow=4.0,SNR=9.1
GERES GERESS Array B 95.61 318 P **P 21 10 48.1 +0.1**
GERES GERESS Array B 95.61 318 P **P 21 10 48.1 +0.1**
NOA NORSAR Array B 97.31 331 P **P 21 10 54.8 -0.6**
comp=Z,3.0nm,1.0s,mb4.7,baz=95,slow=4.4,SNR=3.2
NOA NORSAR Array B 97.31 331 P **P 21 10 54.8 -0.6**
NOA NORSAR Array B 97.31 331 P **P 21 10 54.8 -0.6**
YKA Yellowknife Ar 116.67 19 PKP PKPdf 21 16 04.9 -1.6
comp=Z,2.5nm,0.9s,baz=306,slow=2.1,SNR=11
YKA PKKPab PKKPab 21 26 38.0 +0.1
comp=Z,1.7nm,1.1s,baz=120,slow=3.6,SNR=4.5
YKA Yellowknife Ar 116.67 19 PKP PKPdf 21 16 04.9 -1.6
YKA PKKPab PKKPab 21 26 38.0 +0.1
YKA Yellowknife Ar 116.67 19 PKIKP PKPdf 21 16 04.9 -1.6
JCW Jim Creek 122.11 35 *e*PKPdf PKPdf 21 16 16.4 -1.0
ETW Entiat 123.33 35 *e*PKPdf PKPdf 21 16 16.6 -3.1
HUMO Hull Mountain 124.14 42 *e*PKPdf PKPdf 21 16 20.4 -1.0
OD2 Odessa Site #2 124.37 35 *e*PKPdf PKPdf 21 16 19.6 -2.1
RSW Rattlesnake Hi 124.40 36 *e*PKPdf PKPdf 21 16 22.5 +0.7
LNOR Lincton Mounta 125.45 36 *e*PKPdf PKPdf 21 16 24.2 +0.4
LNOR Lincton Mounta 125.45 36 *e*PKIKP PKPdf 21 16 24.2 +0.4
BSMT Bassoo Peak 126.27 33 *e*PKPdf PKPdf 21 16 25.0 -0.3
FFC Flin Flon 126.85 19 *e*PKPdf PKPdf 21 16 20.9 -5.4
FFC Flin Flon 126.85 19 *e*PKIKP PKPdf 21 16 20.9 -5.3
SWMT Swartz Lake 126.90 32 *e*PKPdf PKPdf 21 16 25.9 -0.7
WVOR Wild Horse Val 127.03 40 *e*PKPdf PKPdf 21 16 26.2 -0.7
WVOR Wild Horse Val 127.03 40 *e*PKIKP PKPdf 21 16 26.2 -0.8
SLMT Seeley Lake 127.34 32 *e*PKPdf PKPdf 21 16 24.3 -3.1
EGMT Eagleton 128.74 30 *e*PKPdf PKPdf 21 16 27.6 -2.5
LRM Limekiln Ridge 128.78 33 *e*PKPdf PKPdf 21 16 31.1 +0.9
HLID Hailey 129.03 37 *e*PKPdf PKPdf 21 16 31.3 +0.6
NVAR Mina Array Bea 129.20 44 PKhKP PKPpre 21 16 13.7
comp=Z,0.5nm,0.8s,baz=267,slow=5.4,SNR=3.5
NVAR PKP PKPdf 21 16 31.7 +0.5
comp=Z,6.9nm,1.2s,baz=219,slow=0.6,SNR=10.0
NVAR Mina Array Bea 129.20 44 PKPpre PKPpre 21 16 13.7
NVAR PKP PKPdf 21 16 31.7 +0.5
QLMT Earthquake Lak 129.97 34 PKPdf PKPdf 21 16 32.6 +0.1
SCHQ Schefferville 131.05 354 PKP PKPdf 21 16 33.1 -1.2
comp=Z,5.9nm,0.9s,baz=352,slow=4.2,SNR=3.8
SCHQ Schefferville 131.05 354 PKP PKPdf 21 16 33.1 -1.2
REDW Red Top Meadow 131.22 35 PKPdf PKPdf 21 16 34.4 -0.5
ULM Lac du Bonnet 132.63 18 PKP PKPdf 21 16 38.0 +0.6
comp=Z,8.7nm,1.0s,baz=7.3,slow=3.3,SNR=8.3
ULM Lac du Bonnet 132.63 18 PKP PKPdf 21 16 38.0 +0.6
ULM Lac du Bonnet 132.63 18 PKIKP PKPdf 21 16 38.0 +0.6
MSU Marysvale 133.28 41 *e*PKPdf PKPdf 21 16 36.9 -2.1
MSU Marysvale 133.28 41 *e*PKIKP PKPdf 21 16 36.9 -2.1
MVCO Mesa Verde 136.41 40 *e*PKPdf PKPdf 21 16 46.4 +1.5
TXAR Lajitas Array 144.29 46 PKP PKPdf 21 16 57.2 -2.1
comp=Z,8.9nm,0.9s,baz=257,slow=0.8,SNR=14
TXAR Lajitas Array 144.29 46 PKP PKPdf 21 16 57.2 -2.1
TXAR Lajitas Array 144.29 46 PKIKP PKPdf 21 16 57.2 -2.1
LCO Las Campanas 144.81 186 *e*PKPdf PKPdf 21 16 59.2 -1.1
CCM Cathedral Cave 144.90 23 *e*PKPdf PKPdf 21 16 57.5 -2.6
CCM Cathedral Cave 144.90 23 *e*PKIKP PKPdf 21 16 57.5 -2.6
ACSO Alum Creek Sta 145.28 11 *e*PKPdf PKPdf 21 16 58.1 -2.7
SSPA Standing Stone 145.56 4 *e*PKPdf PKPdf 21 16 59.9 -1.3
JCT Junction City 146.25 41 *e*PKPdf PKPdf 21 17 02.4 -0.3
JCT Junction City 146.25 41 *e*PKP2 PKPdf 21 17 02.4 -0.3
WCI Wyandotte Cave 146.41 17 *e*PKPdf PKPdf 21 17 01.4 -1.3
WCI Wyandotte Cave 146.41 17 *e*PKP2 PKPdf 21 17 01.4 -1.3
MIAR Mount Ida 146.83 29 *e*PKPdf PKPdf 21 17 01.6 -2.0
MIAR Mount Ida 146.83 29 *e*PKIKP PKPdf 21 17 01.6 -2.0
SDMD Soldier's Deli 146.85 3 *e*PKPdf PKPdf 21 17 03.0 -0.4
UALR University of 147.22 27 *e*PKPbc PKPbc 21 17 06.1 -0.3
HBAR Harrisburg 147.29 24 *e*PKPbc PKPbc 21 17 05.6 -1.0
WVT Waverly 147.85 20 *e*PKPdf PKPdf 21 17 04.6 -0.6
WVT Waverly 147.85 20 *e*PKIKP PKPdf 21 17 04.6 -0.6
TZTN Tazewell 148.71 14 *e*PKPbc PKPbc 21 17 09.3 -1.0
PLAL Pickwick Lake 148.80 21 *e*PKPbc PKPbc 21 17 08.1 -2.6
HKT Hockley 149.11 37 *e*PKPbc PKPbc 21 17 11.9 +0.3
HKT Hockley 149.11 37 *e*PKP2 PKPbc 21 17 11.9 +0.3
SWET Sewanee 149.31 18 *e*PKPdf PKPdf 21 17 07.1 -0.5
TKL Tuckaleechee C 149.50 15 PKPbc PKPbc 21 17 09.1 -3.3
comp=Z,50nm,0.9s,baz=109,slow=1.3,SNR=13
TKL Tuckaleechee C 149.50 15 *e*PKPbc PKPbc 21 17 10.4 -1.9
TKL Tuckaleechee C 149.50 15 *e*PKP2 PKPbc 21 17 10.4 -2.0
CPCT Cooper Cave 149.50 16 *e*PKPbc PKPbc 21 17 09.7 -2.7
VBMS Vicksburg 150.19 28 *e*PKPbc PKPbc 21 17 13.9 -0.3
LRAL Lakeview Retre 150.94 22 *e*PKPbc PKPbc 21 17 14.8 -1.1
GOGA Godfrey 151.71 16 *e*PKPbc PKPbc 21 17 16.0 -1.7
GOGA Godfrey 151.71 16 *e*PKIKP PKPbc 21 17 16.0 -1.7
BRAL Brewton 152.72 24 *e*PKPbc PKPbc 21 17 20.1 +0.1
LPAZ La Paz 156.75 196 *e*PKPdf PKPdf 21 17 21.0 +2.1
LPAZ La Paz 156.75 196 *e*PKIKP PKPdf 21 17 21.0 +2.1

*ISCJB **11** 21:00:28.0±0.8, 39°.69N±0°.02×23°.81E±0°.06, h13km±5km, Error ellipse: s-maj=7.9km s-min=4.0km az=7.6*
*CSEM **11** 21:00:28.0±0.2, 39°.70N×23°.81E, h15km, ML2.5/4, Error ellipse: s-maj=6.6km s-min=2.9km az=101.0*
*ATH **11** 21:00:28.4, 39°.66N×23°.77E, h37km±1km, MD3.2/9*
*THE **11** 21:00:28.1, 39°.70N×23°.86E, h7km±1km, ML2.5/4, Error ellipse: s-maj=1.2km s-min=0.4km az=244.0*
ISC 11 21:00:28.1±0.6, **39°.69N**±0°.02×**23°.83E**±0°.06, **h17**km±4km, **n31**, σ0°.75/48, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.14**	**333**	⇓Pg	Pg	21 06 27.5	-0.3
	245nm,0.2s,SNR=18						
ESPR				Lg		21 06 30.9	
	1μm,0.2s,SNR=5.0						
ESPR	**Espera**	**0.14**	**333**	Pg	Pg	21 06 27.5	-0.4
	245nm,0.2s,SNR=18						
ESPR				Lg		21 06 30.9	
	1μm,0.2s,SNR=5.0						
LIJA	**Lijar**	**0.34**	**62**	⇓Pg	Pg	21 06 30.6	-0.5
LIJA				Lg		21 06 37.0	
LIJA	**Lijar**	**0.34**	**62**	*i*P	Pg	21 06 30.6	-0.5
LIJA				*e*S	Sg	21 06 37.0	+1.1
EJIF	**Jimena Fronter**	**0.38**	**139**	⇓Pg	Pg	21 06 31.3	-0.6
	87nm,0.2s,SNR=18						
EJIF				Lg		21 06 36.3	
	220nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.38**	**139**	Pg	Pg	21 06 31.3	-0.6
	87nm,0.2s,SNR=18						
EJIF				Lg		21 06 36.3	
	220nm,0.4s,SNR=7.9						
CNIL	**Conil**	**0.43**	**211**	⇑Pg	Pg	21 06 35.7	+2.9
CNIL				Lg		21 06 47.6	
CNIL	**Conil**	**0.43**	**211**	*i*P	Pg	21 06 35.7	+2.9
SFS	**San Fernando**	**0.44**	**231**	Pg	Pg	21 06 36.0	+3.1
SFS				Lg		21 06 51.4	
SFS	**San Fernando**	**0.44**	**231**	*e*P	Pg	21 06 36.0	+3.1
EMIJ	**Mijas**	**0.83**	**102**	Pg	Pg	21 06 38.8	-1.3
	24nm,0.2s,SNR=15						
EMIJ				Lg		21 06 51.3	
	542nm,0.6s,SNR=5.0						
EMIJ	**Mijas**	**0.83**	**102**	Pg	Pg	21 06 38.8	-1.4
	24nm,0.2s,SNR=15						
EMIJ				Lg		21 06 51.3	
	542nm,0.6s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.25**	**325**	Pn	Pn	21 06 45.3	-1.6
	0.6nm,0.1s,SNR=160						
EMIN				Pg	Pg	21 06 46.7	-1.4
	11nm,0.1s,SNR=15						
EMIN				Lg		21 07 03.1	
	38nm,0.1s,SNR=23						
EMIN	**Mina Concepcio**	**1.25**	**325**	Pn	Pn	21 06 45.3	-1.6
	0.6nm,0.1s,SNR=160						
ELOJ	**Sierra Loja**	**1.36**	**72**	Pn	Pn	21 06 48.0	-0.5
	0.2nm,0.1s,SNR=6.6						
ELOJ				Pg	Pg	21 06 49.2	-1.1
	12nm,0.1s,SNR=26						
ELOJ				Lg		21 07 07.9	
	33nm,0.2s,SNR=6.8						
ELOJ	**Sierra Loja**	**1.36**	**72**	Pn	Pn	21 06 48.0	-0.5
	0.2nm,0.1s,SNR=6.6						
ELUQ	**Luque**	**1.46**	**56**	Pn	Pn	21 06 48.7	-1.1
	6.8nm,0.2s,SNR=7.9						
ELUQ				Pg	Pg	21 06 50.6	-1.5
	31nm,0.2s,SNR=7.9						
ELUQ				Lg		21 07 10.0	
	42nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.46**	**56**	Pn	Pn	21 06 48.7	-1.1
	6.8nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.57**	**301**	Pn	Pn	21 06 50.1	-1.3
	0.6nm,0.1s,SNR=44						
EGRO				Pg	Pg	21 06 52.0	-2.3
	7.5nm,0.1s,SNR=13						
EGRO				Lg		21 07 12.7	
	37nm,0.1s,SNR=5.6						
EGRO	**El Granado**	**1.57**	**301**	Pn	Pn	21 06 50.1	-1.3
	0.6nm,0.1s,SNR=44						
ERON	**Agron**	**1.60**	**80**	Pg	Pg	21 06 52.3	-2.7
	4.9nm,0.2s,SNR=7.9						
ERON				Lg		21 07 16.1	
	18nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.60**	**80**	Pg	Pg	21 06 52.3	-2.6
	4.9nm,0.2s,SNR=7.9						
ERON				Lg		21 07 16.1	
	18nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.69**	**294**	*e*Pn	Pn	21 06 51.5	-1.4
PVAQ	**Vaqueiros**	**1.69**	**294**	*e*Pg	Pg	21 06 54.1	-2.3
PVAQ				*e*Sn	Sn	21 07 13.8	-0.4
PVAQ				*e*Sg	Sg	21 07 17.0	-1.3
PVAQ				A		21 07 21.7	
	43nm,0.3s						
PVAQ	**Vaqueiros**	**1.69**	**294**	Pn	Pn	21 06 51.5	-1.4
PVAQ				Pg	Pg	21 06 54.1	-2.3
PVAQ				Sn	Sn	21 07 13.8	-0.4
PVAQ				Lg		21 07 17.0	
	43nm,0.3s						
PVAQ	**Vaqueiros**	**1.69**	**294**	*e*Pn	Pn	21 06 51.5	-1.4
PVAQ	**Vaqueiros**	**1.69**	**294**	*e*Pg	Pg	21 06 54.1	-2.3
PVAQ				*e*Sn	Sn	21 07 13.8	-0.4
PVAQ				*e*Sg	Sg	21 07 17.0	-1.3
	43nm,0.3s						
EADA	**Adamuz**	**1.71**	**34**	Pn	Pn	21 06 51.7	-1.7
	0.9nm,0.1s,SNR=7.9						
EADA				Pg	Pg	21 06 54.2	-2.8
	10nm,0.1s,SNR=63						
EADA				Lg		21 07 16.3	
	27nm,0.1s,SNR=5.9						
EADA	**Adamuz**	**1.71**	**34**	Pn	Pn	21 06 51.7	-1.6
	0.9nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**1.75**	**325**	*e*Pn	Pn	21 06 52.3	-1.5
PBAR	**Barrancos**	**1.75**	**325**	*e*Pg	Pg	21 06 54.9	-2.7
PBAR				*e*Sn	Sn	21 07 13.6	-2.1
PBAR				*e*Sg	Sg	21 07 18.6	-1.7

*CSEM **11** 21:06:22.7±0.2, 36°.79N×5°.77W, h15km, ML3.2/19, Error ellipse: s-maj=4.9km s-min=2.0km az=6.0*
*SFS **11** 21:06:23.0, 36°.73N×5°.78W, h0km, ML2.7*
*INMG **11** 21:06:24.3±1.4, 36°.75N×5°.78W, h17km±3km, ML2.6, Error ellipse: s-maj=2.3km s-min=1.6km az=22.0*
MDD 11 21:06:24.1±0.2, **36°.74N**×**5°.78W, h15**km±1km, **mbLg2.7**/32, **1C-3D, Error ellipse: s-maj=3.4km s-min=1.8km az=24.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.26**	**334**	P	Pg	21 00 33.4	-0.5
PAIG				S	Sg	21 00 37.6	-0.2
PAIG	**Paliouri**	**0.26**	**334**	P	Pg	21 00 33.4	-0.5
PAIG				S	Sg	21 00 37.6	-0.2
AOS	**Alonnisos**	**0.53**	**175**	P	Pg	21 00 38.1	-0.5
AOS				S	Sg	21 00 45.9	+0.3
AOS	**Alonnisos**	**0.53**	**175**	P	Pg	21 00 38.1	-0.5
AOS				S	Sg	21 00 45.9	+0.3
SKIA	**Skiathos**	**0.60**	**208**	P	Pg	21 00 39.6	-0.3
SKIA				S	Sg	21 00 48.8	+0.9
SKIA	**Skiathos**	**0.60**	**208**	P	Pg	21 00 39.6	-0.3
SKIA				S	Sg	21 00 48.8	+0.9
NEO	**Neokhori**	**0.60**	**230**	*e*PN	Pn	21 00 40.5	-1.4
NEO				*e*SN	Sg	21 00 49.3	+1.1
NEO	**Neokhori**	**0.60**	**230**	P	Pg	21 00 40.4	+0.3
NEO				S	Sg	21 00 49.3	+1.1
NEO	**Neokhori**	**0.60**	**230**	*e*Pn	Pn	21 00 40.5	-1.4
NEO				S	Sg	21 00 49.3	+1.1
OUR	**Ouranopolis**	**0.65**	**11**	P	Pg	21 00 40.6	-0.4
OUR				S	Sg	21 00 49.3	-0.3
OUR	**Ouranopolis**	**0.65**	**11**	P	Pg	21 00 40.6	-0.4
OUR				S	Sg	21 00 49.3	-0.3
PLG	**Polygyros**	**0.74**	**337**	*e*PN	Pn	21 00 42.7	-1.1
PLG	**Polygyros**	**0.74**	**337**	P	Pb	21 00 41.6	-1.0
PLG	**Polygyros**	**0.74**	**337**	*e*Pb	Pb	21 00 41.7	-0.9
HORT	**Hortiatis**	**1.06**	**329**	P	Pb	21 00 48.2	+0.2
HORT	**Hortiatis**	**1.06**	**329**	P	Pb	21 00 48.2	+0.2

PBAR			A			21 07 23.0	
	42nm,0.7s						
PBAR	**Barrancos**	**1.75 325**	Pn	Pn		21 06 52.3	-1.5
PBAR			Pg	Pg		21 06 54.9	-2.7
PBAR			Sn	Sn		21 07 13.6	-2.1
PBAR			Lg			21 07 18.6	
	42nm,0.7s						
PBAR	**Barrancos**	**1.75 325**	*e*Pn	Pn		21 06 52.3	-1.5
PBAR	**Barrancos**	**1.75 325**	*e*Pg	Pg		21 06 54.9	-2.7
PBAR			*e*Sn	Sn		21 07 13.6	-2.1
PBAR			*e*Sg	Sg		21 07 18.6	-1.7
	42nm,0.7s						
EGUA	**Guajares**	**1.78 86**	Pg	Pg		21 06 55.4	-2.8
	8.8nm,0.2s,SNR=7.9						
EGUA			Lg			21 07 19.7	
	71nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**1.78 86**	Pg	Pg		21 06 55.4	-2.8
	8.8nm,0.2s,SNR=7.9						
EGUA			Lg			21 07 19.7	
	71nm,0.4s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**1.79 287**	*e*Pn	Pn		21 06 53.6	-0.8
PBDV	**Barranco-do-Ve**	**1.79 287**	*e*Pg	Pg		21 06 55.6	-2.9
PBDV			*e*Sn	Sn		21 07 15.3	-1.6
PBDV			*e*Sg	Sg		21 07 20.7	-1.1
PBDV			A			21 07 27.3	
	32nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.79 287**	Pn	Pn		21 06 53.6	-0.8
PBDV			Pg	Pg		21 06 55.6	-2.9
PBDV			Sn	Sn		21 07 15.3	-1.6
PBDV			Lg			21 07 20.7	
	32nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.79 287**	*e*Pn	Pn		21 06 53.6	-0.8
PBDV	**Barranco-do-Ve**	**1.79 287**	*e*Pg	Pg		21 06 55.6	-2.9
PBDV			*e*Sn	Sn		21 07 15.3	-1.6
PBDV			*e*Sg	Sg		21 07 20.7	-1.1
	32nm,0.6s						
ECOG	**Cogollos-Vega**	**1.85 73**	Pg	Pg		21 06 56.6	-3.0
	11nm,0.2s,SNR=7.9						
ECOG			Lg			21 07 22.1	
	56nm,0.4s,SNR=5.1						
ECOG	**Cogollos-Vega**	**1.85 73**	Pg	Pg		21 06 56.6	-3.0
	11nm,0.2s,SNR=7.9						
ECOG			Lg			21 07 22.1	
	56nm,0.4s,SNR=5.1						
EQUE	**Quentar**	**1.93 76**	Pn	Pn		21 06 55.7	-0.6
	0.5nm,0.1s,SNR=24						
EQUE			Pg	Pg		21 06 58.8	-2.3
	6.4nm,0.3s,SNR=7.1						
EQUE			Lg			21 07 24.6	
	24nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.93 76**	Pn	Pn		21 06 55.7	-0.6
	0.5nm,0.1s,SNR=24						
PCVE	**Castro Verde**	**2.01 297**	*e*Pn	Pn		21 06 56.1	-1.3
PCVE	**Castro Verde**	**2.01 297**	*e*Pg	Pg		21 07 01.2	-1.5
PCVE			*e*Sg	Sg		21 07 26.4	-2.4
PCVE			A			21 07 31.1	
	30nm,0.4s						
PCVE	**Castro Verde**	**2.01 297**	Pn	Pn		21 06 56.1	-1.3
PCVE			Pg	Pg		21 07 01.2	-1.5
PCVE			Lg			21 07 26.4	
	30nm,0.4s						
PCVE	**Castro Verde**	**2.01 297**	*e*Pn	Pn		21 06 56.1	-1.3
PCVE	**Castro Verde**	**2.01 297**	*e*Pg	Pg		21 07 01.2	-1.5
PCVE			*e*Sg	Sg		21 07 26.4	-2.4
	30nm,0.4s						
EBAD	**Badajoz**	**2.23 334**	Pn	Pn		21 06 58.9	-1.6
	1.2nm,0.1s,SNR=14						
EBAD			Pg	Pg		21 07 03.6	-3.3
	3.9nm,0.2s,SNR=16						
EBAD			Sn	Sn		21 07 25.7	-2.1
	15nm,0.2s,SNR=5.0						
EBAD			Lg			21 07 31.2	
	32nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.23 334**	Pn	Pn		21 06 58.8	-1.7
	1.2nm,0.1s,SNR=14						
EBER	**Berja**	**2.32 85**	Pn	Pn		21 07 01.4	-0.3
	0.2nm,0.1s,SNR=7.9						
EBER			Pg	Pg		21 07 05.6	-3.0
	3.1nm,0.3s,SNR=5.9						
EBER			Lg			21 07 36.6	
	29nm,0.7s,SNR=7.9						
EBER	**Berja**	**2.32 85**	Pn	Pn		21 07 01.4	-0.3
	0.2nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**2.37 285**	*e*Pn	Pn		21 07 03.2	+0.9
MORF	**Marmelete**	**2.37 285**	*e*Pg	Pg		21 07 07.7	-1.8
MORF			*e*Sg	Sg		21 07 38.1	-2.1
MORF			A			21 07 43.8	
	22nm,0.2s						
MORF	**Marmelete**	**2.37 285**	Pn	Pn		21 07 03.2	+0.9
MORF			Pg	Pg		21 07 07.7	-1.8
MORF			Lg			21 07 38.1	
	22nm,0.2s						
MORF	**Marmelete**	**2.37 285**	*e*Pn	Pn		21 07 03.2	+0.9
MORF	**Marmelete**	**2.37 285**	*e*Pg	Pg		21 07 07.7	-1.8
MORF			*e*Sg	Sg		21 07 38.1	-2.1
	22nm,0.2s						
EQES	**Quesada**	**2.40 63**	Pn	Pn		21 07 01.5	-1.4
	0.8nm,0.1s,SNR=7.9						
EQES			Pg	Pg		21 07 06.6	-3.6
	2.9nm,0.1s,SNR=24						
EQES			Sn	Sn		21 07 30.3	-1.7
	6.4nm,0.2s,SNR=5.0						
EQES			Lg			21 07 38.5	
	19nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.40 63**	Pn	Pn		21 07 01.5	-1.3
	0.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.47 280**	*e*Pn	Pn		21 07 03.0	-0.8
PFVI			*e*Sn	Sn		21 07 32.8	-0.9
PFVI			*e*Sg	Sg		21 07 40.9	-2.7
PFVI			A			21 07 46.3	
	16nm,0.5s						
PFVI	**Vila Bisbo**	**2.47 280**	Pn	Pn		21 07 02.6	-1.2
	0.6nm,0.1s,SNR=7.9						
PFVI			Pg	Pg		21 07 08.3	-3.1
	1.4nm,0.1s,SNR=6.4						
PFVI			Sn	Sn		21 07 30.7	-3.0
	7.5nm,0.2s,SNR=7.9						
PFVI			Lg			21 07 40.2	
	14nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.47 280**	Pn	Pn		21 07 02.6	-1.2
	0.6nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.47 280**	Pg	Pg		21 07 08.4	-3.1
	1.4nm,0.1s,SNR=6.4						
PFVI			Sn	Sn		21 07 30.7	-3.0
	7.5nm,0.2s,SNR=7.9						
PFVI			Lg			21 07 40.2	
	14nm,0.2s,SNR=7.9						
PFVI			*e*Sg	Sg		21 07 40.9	-2.7
	16nm,0.5s						
EVO	**Evora**	**2.52 316**	*e*Pn	Pn		21 07 03.3	-1.1
EVO			*e*Sg	Sg		21 07 42.0	-3.0
EVO			A			21 07 47.5	
	26nm,0.6s						
EVO	**Evora**	**2.52 316**	Pn	Pn		21 07 03.3	-1.1
EVO			Lg			21 07 42.0	
	26nm,0.6s						
EVO	**Evora**	**2.52 316**	*e*Pn	Pn		21 07 03.3	-1.1
EVO			*e*Sg	Sg		21 07 42.0	-3.0
	26nm,0.6s						
PESTR	**Estremoz**	**2.56 326**	*e*Pn	Pn		21 07 04.0	-1.0
PESTR			*e*Sg	Sg		21 07 44.5	-1.8
PESTR			A			21 07 47.7	
	17nm,0.4s						
PESTR	**Estremoz**	**2.56 326**	Pn	Pn		21 07 04.0	-1.0
PESTR			Lg			21 07 44.5	
	17nm,0.4s						
PESTR	**Estremoz**	**2.56 326**	*e*Pn	Pn		21 07 04.0	-1.0
PESTR			*e*Sg	Sg		21 07 44.5	-1.8
	17nm,0.4s						
PNCL	**Nicolau / Gran**	**2.58 303**	*e*Pn	Pn		21 07 04.1	-1.2
PNCL	**Nicolau / Gran**	**2.58 303**	*e*Pg	Pg		21 07 11.5	-2.0
PNCL			*e*Sn	Sn		21 07 35.1	-1.2
PNCL			*e*Sg	Sg		21 07 44.2	-2.8
PNCL			A			21 07 48.9	
	15nm,0.2s						
PNCL	**Nicolau / Gran**	**2.58 303**	*e*Pn	Pn		21 07 04.1	-1.2
PNCL	**Nicolau / Gran**	**2.58 303**	*e*Pg	Pg		21 07 11.5	-2.0
PNCL			*e*Sn	Sn		21 07 35.1	-1.2
PNCL			*e*Sg	Sg		21 07 44.2	-2.8
	15nm,0.2s						
MOE	**Montemor**	**2.71 312**	*e*Sg	Sg		21 07 47.8	-3.2
MOE	**Montemor**	**2.71 312**	Lg			21 07 47.8	
MOE	**Montemor**	**2.71 312**	*e*Sg	Sg		21 07 47.8	-3.2
EHUE	**Huescar**	**2.76 66**	Pn	Pn		21 07 06.1	-1.6
	1.0nm,0.1s,SNR=7.9						
EHUE			Pg	Pg		21 07 10.7	-6.2
	1.7nm,0.1s,SNR=7.9						
EHUE			Sn	Sn		21 07 39.3	-1.4
	3.8nm,0.4s,SNR=7.9						
EHUE			Lg			21 07 49.2	
	8.7nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.76 66**	Pn	Pn		21 07 06.1	-1.6
	1.0nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**2.97 335**	*e*Pn	Pn		21 07 09.1	-1.5
PMRV			*e*Sn	Sn		21 07 43.9	-2.0
PMRV			*e*Sg	Sg		21 07 53.9	-5.5
PMRV			A			21 08 00.6	
	23nm,0.3s						
PMRV	**Marv??o**	**2.97 335**	Pn	Pn		21 07 09.1	-1.5
PMRV			Sn	Sn		21 07 43.9	-2.0
PMRV			Lg			21 07 53.9	
	23nm,0.3s						
PMRV	**Marv??o**	**2.97 335**	*e*Pn	Pn		21 07 09.1	-1.5
PMRV			*e*Sn	Sn		21 07 43.9	-2.0
PMRV			*e*Sg	Sg		21 07 53.9	-5.5
	23nm,0.3s						
EVIA	**Vianos**	**3.21 53**	Pn	Pn		21 07 12.2	-1.8
	2.0nm,0.1s,SNR=7.9						
EVIA			Sn	Sn		21 07 49.8	-2.2
	5.2nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**3.21 53**	Pn	Pn		21 07 12.2	-1.8
	2.0nm,0.1s,SNR=7.9						
EVIA			Sn	Sn		21 07 49.8	-2.2
	5.2nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**3.26 25**	Pn	Pn		21 07 13.5	-1.1
	5.8nm,0.1s,baz=202,slow=12,SNR=8.2						
ESDC			Sn	Sn		21 07 49.4	-3.6
	1.7nm,0.1s,baz=209,slow=24,SNR=9.6						
ESDC			Lg			21 08 04.2	
	2.1nm,0.2s,baz=206,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**3.26 25**	Pn	Pn		21 07 13.5	-1.0
	5.8nm,0.1s,slow=12,SNR=8.2						
ESDC			Sn	Sn		21 07 49.4	-3.6
	1.7nm,0.1s,baz=209,slow=24,SNR=9.6						
ESDC			Lg			21 08 04.2	
	2.1nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.32 356**	Pn	Pn		21 07 14.0	-1.5
	0.3nm,0.2s,SNR=9.1						
EPLA			Sn	Sn		21 07 49.9	-4.7
	3.4nm,0.2s,SNR=7.9						
EPLA			Lg			21 08 03.7	
	25nm,0.5s,SNR=7.9						
EPLA	**Plasencia**	**3.32 356**	Pn	Pn		21 07 14.0	-1.5
	0.3nm,0.2s,SNR=9.1						
EPLA			Sn	Sn		21 07 49.9	-4.8
	3.4nm,0.2s,SNR=7.9						
EPLA			Lg			21 08 03.7	
	25nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**3.54 310**	Pn	Pn		21 07 18.1	-0.4
	0.3nm,0.1s,SNR=7.9						
PMAFR			Pg	Pg		21 07 26.7	-5.2
	SNR=7.9						
PMAFR			Sn	Sn		21 07 57.6	-2.5
	65nm,0.6s,SNR=7.9						
PMAFR			Lg			21 08 13.8	
	58nm,0.6s,SNR=7.9						
PMAFR	**Mafra**	**3.54 310**	Pn	Pn		21 07 18.1	-0.4
	0.3nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.78 72**	Pn	Pn		21 07 21.2	-0.6
	1.0nm,0.2s,SNR=7.9						
EMUR			Sn	Sn		21 08 01.1	-4.8
	0.8nm,0.2s,SNR=7.9						
EMUR			Lg			21 08 20.9	
	5.7nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.78 72**	Pn	Pn		21 07 21.2	-0.6
	1.0nm,0.2s,SNR=7.9						
EMUR			Sn	Sn		21 08 01.1	-4.8
	0.8nm,0.2s,SNR=7.9						
EMUR			Lg			21 08 20.9	
	5.7nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.85 59**	Pn	Pn		21 07 20.7	-2.1
	0.6nm,0.1s,SNR=7.9						
ETOB			Sn	Sn		21 08 04.8	-2.9
	1.3nm,0.2s,SNR=7.9						
ETOB			Lg			21 08 22.9	
	5.4nm,0.3s,SNR=5.0						
ETOB	**Tobarra**	**3.85 59**	Pn	Pn		21 07 20.7	-2.1
	0.6nm,0.1s,SNR=7.9						
ETOB			Sn	Sn		21 08 04.8	-3.0
	1.3nm,0.2s,SNR=7.9						
ETOB			Lg			21 08 22.9	
	5.4nm,0.3s,SNR=5.0						
GUD	**Guadarrama**	**4.09 18**	Pn	Pn		21 07 25.2	-0.9
	0.9nm,0.2s,SNR=7.9						
GUD			Sn	Sn		21 08 10.1	-3.6
	4.3nm,0.3s,SNR=7.9						
GUD			Lg			21 08 29.1	
	7.2nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**4.09 18**	Pn	Pn		21 07 25.2	-0.9
	0.9nm,0.2s,SNR=7.9						
GUD			Sn	Sn		21 08 10.1	-3.6
	4.3nm,0.3s,SNR=7.9						
GUD			Lg			21 08 29.1	
	7.2nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**4.52 348**	Pn	Pn		21 07 31.0	-0.9
	0.5nm,0.1s,SNR=7.9						
MVO			Sn	Sn		21 08 18.7	-5.5
	2.5nm,0.2s,SNR=7.9						
MVO			Lg			21 08 42.1	
	11nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**4.52 348**	Pn	Pn		21 07 31.0	-0.9
	0.5nm,0.1s,SNR=7.9						
MVO			Sn	Sn		21 08 18.7	-5.5
	2.5nm,0.2s,SNR=7.9						
MVO			Lg			21 08 42.1	
	11nm,0.4s,SNR=7.9						
ETOR	**Torete**	**5.00 34**	Pn	Pn		21 07 36.2	-2.3
	7.0nm,0.1s,SNR=7.9						
ETOR	**Torete**	**5.00 34**	Pn	Pn		21 07 36.2	-2.3
	7.0nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.51 47**	Pn	Pn		21 07 44.6	-0.9
	0.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.51 47**	Pn	Pn		21 07 44.6	-0.9
	0.4nm,0.2s,SNR=7.9						

CSEM ***11*** *21:07:57.3±0.1, 42°.92N×1°.08W, h15km, ML3.3/37, Error ellipse: s-maj=2.8km s-min=2.1km az=158.0*
STR ***11*** *21:07:57.2±0.5, 42°.87N×1°.11W, h5km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NEIC ***11*** *21:07:58.3, 42°.91N×1°.11W, h2km, ML3.3(LDG), After LDG.*
INMG ***11*** *21:07:58.5±1.3, 42°.85N×1°.14W, h4km±2km, ML2.8, Error ellipse: s-maj=1.8km s-min=1.5km az=46.0*
LDG ***11*** *21:07:58.3±0.1, 42°.91N×1°.11W, h2km, Ml3.3/33, Error ellipse: s-maj=1.6km s-min=1.4km az=163.0*
MDD 11 21:07:57.9±0.1, 42°.87N×1°.11W, h3km±2km, mbLg2.8/26, 8C-4D, Error ellipse: s-maj=1.6km s-min=1.2km az=169.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IELO	**Elcoad**	**0.10**	**253**	⇓Pg	Pg	21 07 59.3	-0.4
	6μm,0.1s,SNR=18						
IELO				Lg		21 08 00.5	
	4μm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.10**	**253**	Pg	Pg	21 07 59.3	-0.4
	6μm,0.1s,SNR=18						
IELO				Lg		21 08 00.5	
	4μm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.15**	**278**	⇓Pg	Pg	21 08 00.6	-0.1
	151nm,0.1s,SNR=18						
EORO				Lg		21 08 03.2	
	3μm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.15**	**278**	Pg	Pg	21 08 00.6	-0.1
	151nm,0.1s,SNR=18						
EORO				Lg		21 08 03.2	
	3μm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.15**	**231**	⇓Pg	Pg	21 08 01.0	+0.3
	359nm,0.1s,SNR=18						
IEPA				Lg		21 08 03.9	
	4μm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.15**	**231**	Pg	Pg	21 08 01.0	+0.3
	359nm,0.1s,SNR=18						
IEPA				Lg		21 08 03.9	
	4μm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.19**	**250**	⇑Pg	Pg	21 08 01.0	-0.5
	436nm,0.1s,SNR=18						
IPRE				Lg		21 08 04.2	
	786nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.19**	**250**	Pg	Pg	21 08 01.0	-0.5
	436nm,0.1s,SNR=18						
IPRE				Lg		21 08 04.2	
	786nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.26**	**341**	*e*Pg	Pg	21 08 03.0	+0.2
SJPF				*e*Sg	Sg	21 08 06.1	0.0
	958nm,0.3s						
SJPF	**Ste Jean**	**0.26**	**341**	*e*Pg	Pg	21 08 03.0	+0.2
SJPF				*e*Sg	Sg	21 08 06.1	0.0
SJPF	**Ste Jean**	**0.26**	**341**	Pg	Pg	21 08 03.0	+0.2
SJPF				Lg		21 08 06.1	
	479nm,0.3s						
SJPF	**Ste Jean**	**0.26**	**341**	*e*Sg	Sg	21 08 06.1	0.0
	479nm,0.3s						
SJPF	**Ste Jean**	**0.26**	**341**	*e*Pg	Pg	21 08 03.0	+0.2
IUNC	**Unciti**	**0.31**	**248**	⇑Pg	Pg	21 08 03.5	-0.3
	13nm,0.1s,SNR=18						
IUNC				Lg		21 08 09.4	
	595nm,0.1s,SNR=29						
IUNC	**Unciti**	**0.31**	**248**	Pg	Pg	21 08 03.5	-0.2
	13nm,0.1s,SNR=18						
IUNC				Lg		21 08 09.4	
	595nm,0.1s,SNR=29						
IUSE	**Utxeti**	**0.33**	**283**	Pg	Pg	21 08 04.0	-0.1
	60nm,0.2s,SNR=105						
IUSE				Lg		21 08 09.1	
	66nm,0.1s,SNR=46						
IUSE	**Utxeti**	**0.33**	**283**	Pg	Pg	21 08 04.1	-0.1
	60nm,0.2s,SNR=105						
IUSE				Lg		21 08 09.1	
	66nm,0.1s,SNR=46						
EARA	**Aranguren**	**0.36**	**254**	⇓Pg	Pg	21 08 04.4	-0.3
	22nm,0.1s,SNR=18						
EARA				Lg		21 08 09.8	
	159nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.36**	**254**	Pg	Pg	21 08 04.4	-0.3
	22nm,0.1s,SNR=18						
EARA				Lg		21 08 09.8	
	159nm,0.1s,SNR=7.9						
ORDF	**Ordiarp**	**0.37**	**21**	Pg	Pg	21 08 05.4	+0.5
ORDF				Lg		21 08 10.2	
ORDF	**Ordiarp**	**0.37**	**21**	Sg	Sg	21 08 09.4	-0.3
ORDF	**Ordiarp**	**0.37**	**21**	Pg	Pg	21 08 05.4	+0.5
ORDF	**Ordiarp**	**0.37**	**21**	Pg	Pg	21 08 05.4	+0.5
ORDF				Sg	Sg	21 08 09.4	-0.3
OSSF	**Osses**	**0.40**	**344**	Pg	Pg	21 08 05.8	+0.3
OSSF				Lg		21 08 12.1	
OSSF	**Osses**	**0.40**	**344**	Sg	Sg	21 08 10.4	-0.3
OSSF	**Osses**	**0.40**	**344**	Pg	Pg	21 08 05.8	+0.3
OSSF	**Osses**	**0.40**	**344**	Pg	Pg	21 08 05.8	+0.3
OSSF				Sg	Sg	21 08 10.4	-0.3
FDAF	**Les Forges d'A**	**0.41**	**97**	Pg	Pg	21 08 05.0	-0.6
FDAF				Lg		21 08 11.3	
ETSF	**Etsaut**	**0.41**	**86**	*e*Pg	Pg	21 08 05.2	-0.5
ETSF				*e*Sg	Sg	21 08 10.6	-0.4
	653nm,0.3s						
ETSF	**Etsaut**	**0.41**	**86**	*e*Pg	Pg	21 08 05.2	-0.5
ETSF				*e*Sg	Sg	21 08 10.6	-0.4
ETSF	**Etsaut**	**0.41**	**86**	Pg	Pg	21 08 05.2	-0.5
ETSF				Lg		21 08 10.6	
	326nm,0.3s						
ETSF	**Etsaut**	**0.41**	**86**	*e*Pg	Pg	21 08 05.2	-0.5
ELIZ	**Elizondo**	**0.42**	**314**	⇑Pg	Pg	21 08 06.1	+0.1
	244nm,0.2s,SNR=18						
ELIZ				Lg		21 08 12.6	
	212nm,0.2s,SNR=24						
ELIZ	**Elizondo**	**0.42**	**314**	Pg	Pg	21 08 06.1	+0.1
	244nm,0.2s,SNR=18						
ELIZ				Lg		21 08 12.6	
	212nm,0.2s,SNR=24						
EALK	**Alkurruntz**	**0.45**	**320**	⇑Pg	Pg	21 08 06.6	+0.1
	16nm,0.2s,SNR=18						
EALK				Lg		21 08 13.2	
	177nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.45**	**320**	Pg	Pg	21 08 06.6	+0.1
	16nm,0.2s,SNR=18						
EALK				Lg		21 08 13.2	
	177nm,0.1s,SNR=7.9						
REYF	**Montagne du Re**	**0.56**	**69**	Pg	Pg	21 08 08.4	-0.2
REYF				Lg		21 08 16.6	
VIEF	**Viey**	**0.84**	**89**	Pg	Pg	21 08 12.8	-1.0
VIEF				Lg		21 08 24.2	
VIEF	**Viey**	**0.84**	**89**	Pg	Pg	21 08 12.6	-1.3
VIEF	**Viey**	**0.84**	**89**	Sg	Sg	21 08 24.2	-0.5
VIEF	**Viey**	**0.84**	**89**	Pg	Pg	21 08 12.6	-1.3
VIEF				Sg	Sg	21 08 24.2	-0.5
LABF	**Labassere**	**0.89**	**78**	Pg	Pg	21 08 13.7	-1.1
LABF				Lg		21 08 26.2	
EBIE	**Bielsa**	**0.94**	**101**	⇑Pg	Pg	21 08 14.8	-1.1
	1.3nm,0.1s,SNR=18						
EBIE				Lg		21 08 29.5	
	12nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.94**	**101**	Pg	Pg	21 08 14.8	-1.1
	1.3nm,0.1s,SNR=18						
EBIE				Lg		21 08 29.5	
	12nm,0.1s,SNR=7.9						
RESF	**Ens**	**1.07**	**93**	Pg	Pg	21 08 17.1	-1.2
RESF				Lg		21 08 32.2	
RESF	**Ens**	**1.07**	**93**	Pg	Pg	21 08 16.8	-1.5
RESF				Sg	Sg	21 08 32.1	-0.1
RESF	**Ens**	**1.07**	**93**	Pg	Pg	21 08 16.8	-1.5
RESF				Sg	Sg	21 08 32.1	-0.1
EPF	**Esparros**	**1.08**	**81**	*e*Pg	Pg	21 08 17.3	-1.2
EPF				*e*Sg	Sg	21 08 32.4	-0.1
	246nm,0.3s						
EPF	**Esparros**	**1.08**	**81**	*e*Pg	Pg	21 08 17.3	-1.2
EPF				*e*Sg	Sg	21 08 32.4	-0.1
EPF	**Esparros**	**1.08**	**81**	Pg	Pg	21 08 17.3	-1.2
EPF				Lg		21 08 32.4	
	123nm,0.3s						
EPF	**Esparros**	**1.08**	**81**	*e*Pg	Pg	21 08 17.3	-1.2
EPF	**Esparros**	**1.08**	**81**	*e*Sg	Sg	21 08 32.4	-0.1
	123nm,0.3s						
ESAC	**San Caprasio**	**1.24**	**157**	⇑Pg	Pg	21 08 21.5	-0.2
	22nm,0.2s,SNR=18						
ESAC				Lg		21 08 38.4	
	207nm,0.2s,SNR=13						
ESAC	**San Caprasio**	**1.24**	**157**	Pg	Pg	21 08 21.5	-0.2
	22nm,0.2s,SNR=18						
ESAC				Lg		21 08 38.4	
	207nm,0.2s,SNR=13						
MELF	**Melles**	**1.38**	**89**	Pg	Pg	21 08 22.3	-2.0
MELF				Lg		21 08 38.9	
MLS	**Moulis**	**1.62**	**86**	Pg	Pg	21 08 26.8	-2.1
MLS				Lg		21 08 51.6	
MLS	**

1.5nm,0.1s,SNR=29
ERTA Horta de San J 2.20 150 Pn Pn 21 08 34.3 -0.8
0.2nm,0.1s,SNR=12
ERTA Pg Pg 21 08 39.0 -1.0
1.1nm,0.1s,SNR=7.9
ERTA Lg 21 09 08.8
3.9nm,0.1s,SNR=7.9
ERTA Horta de San J 2.20 150 Pn Pn 21 08 34.3 -0.9
0.2nm,0.1s,SNR=12
ERTA Horta de San J 2.20 150 Pg Pg 21 08 39.0 -0.9
1.1nm,0.1s,SNR=7.9
ERTA Lg 21 09 08.8
3.9nm,0.1s,SNR=7.9
EPOB Poblet 2.23 132 ⇑Pn Pn 21 08 34.5 -1.1
1.8nm,0.2s,SNR=18
EPOB Pg Pg 21 08 39.0 -1.5
1.3nm,0.1s,SNR=14
EPOB Sn Sn 21 09 01.8 -1.8
10nm,0.2s,SNR=7.9
EPOB Lg 21 09 08.5
6.2nm,0.1s,SNR=7.9
EPOB Poblet 2.23 132 Pn Pn 21 08 34.5 -1.1
1.8nm,0.2s,SNR=18
CLLI Llivia 2.31 99 Pn Pn 21 08 38.3 +1.6
0.2nm,0.1s,SNR=41
CLLI Pg Pg 21 08 40.6 -1.6
5.0nm,0.2s,SNR=7.9
CLLI Lg 21 09 12.3
8.0nm,0.2s,SNR=7.9
CLLI Llivia 2.31 99 Pn Pn 21 08 38.3 +1.6
0.2nm,0.1s,SNR=41
VALF Valcebollere 2.36 100 Pn Pn 21 08 38.7 +1.4
VALF Lg 21 09 13.2
VALF Valcebollere 2.36 100 Pg Pg 21 08 41.4 -1.6
VALF Sg Sg 21 09 14.9 +1.4
VALF Valcebollere 2.36 100 Pg Pg 21 08 41.4 -1.6
VALF Sg Sg 21 09 14.9 +1.4
CARF Carcanieres 2.37 93 Pg Pg 21 08 40.1 -3.2
CARF Lg 21 09 12.4
CARF Carcanieres 2.37 93 Pg Pg 21 08 42.0 -1.3
CARF Sg Sg 21 09 14.9 +0.8
CARF Carcanieres 2.37 93 Pg Pg 21 08 42.0 -1.3
CARF Sg Sg 21 09 14.9 +0.8
LFF La Frestale 2.46 32 *e*Pn Pn 21 08 37.3 -1.5
LFF *e*Sn Sn 21 09 05.8 -3.6
62nm,0.3s
LFF La Frestale 2.46 32 *e*Pn Pn 21 08 37.3 -1.5
LFF *e*Sn Sn 21 09 05.8 -3.6
LFF La Frestale 2.46 32 Pn Pn 21 08 37.3 -1.5
LFF Sn Sn 21 09 05.8 -3.6
31nm,0.3s
LFF La Frestale 2.46 32 *e*Pn Pn 21 08 37.3 -1.5
LFF La Frestale 2.46 32 *e*Sn Sn 21 09 05.8 -3.6
31nm,0.3s
MTLF Montolieu 2.48 78 *e*Pn Pn 21 08 38.9 -0.2
MTLF *e*Sn Sn 21 09 06.6 -3.3
30nm,0.3s
MTLF Montolieu 2.48 78 *e*Pn Pn 21 08 38.9 -0.2
MTLF *e*Sn Sn 21 09 06.6 -3.3
MTLF Montolieu 2.48 78 Pn Pn 21 08 38.9 -0.2
MTLF Sn Sn 21 09 06.6 -3.3
15nm,0.3s
MTLF Montolieu 2.48 78 *e*Pn Pn 21 08 38.9 -0.2
MTLF *e*Sn Sn 21 09 06.6 -3.3
15nm,0.3s
EMOS Mosqueruela 2.55 169 Pn Pn 21 08 40.5 +0.5
0.1nm,0.1s,SNR=7.9
EMOS Sn Sn 21 09 09.3 -2.3
2.8nm,0.1s,SNR=4.0
EMOS Lg 21 09 17.8
8.0nm,0.2s,SNR=7.9
EMOS Mosqueruela 2.55 169 Pn Pn 21 08 40.5 +0.5
0.1nm,0.1s,SNR=7.9
EMOS Sn Sn 21 09 09.3 -2.2
2.8nm,0.1s,SNR=4.0
EMOS Lg 21 09 17.8
8.0nm,0.2s,SNR=7.9
FILF Fillols 2.73 95 Pn Pn 21 08 42.7 +0.3
CFON Fontmartina 2.86 112 ⇑Pn Pn 21 08 44.1 -0.2
7.0nm,0.2s,SNR=18
CFON Lg 21 09 29.5
37nm,0.3s,SNR=7.9
CFON Fontmartina 2.86 112 Pn Pn 21 08 44.1 -0.1
7.0nm,0.2s,SNR=18
CFON Lg 21 09 29.5
37nm,0.3s,SNR=7.9
SJAF Saint Jean de 2.97 96 Lg 21 09 30.5
EJON La Jonquera 2.98 97 Pn Pn 21 08 46.5 +0.5
0.2nm,0.1s,SNR=7.9
EJON Pg Pg 21 08 53.1 -1.8
SNR=7.9
EJON Lg 21 09 34.1
1.2nm,0.1s,SNR=7.9
EJON La Jonquera 2.98 97 Pn Pn 21 08 46.5 +0.5
0.2nm,0.1s,SNR=7.9
CAF Calviac 3.08 47 *e*Pn Pn 21 08 45.8 -1.5
CAF *e*Sn Sn 21 09 20.6 -4.0
57nm,0.3s
CAF Calviac 3.08 47 *e*Pn Pn 21 08 45.8 -1.5
CAF *e*Sn Sn 21 09 20.6 -4.0
CAF Calviac 3.08 47 Pn Pn 21 08 45.8 -1.5
CAF Sn Sn 21 09 20.6 -4.0
29nm,0.3s
CAF Calviac 3.08 47 *e*Pn Pn 21 08 45.8 -1.5
CAF Calviac 3.08 47 *e*Sn Sn 21 09 20.6 -4.0
29nm,0.3s
RJF Les Rejaudoux 3.08 37 *e*Pn Pn 21 08 44.8 -2.6
RJF *e*Sn Sn 21 09 20.8 -3.9
56nm,0.4s
RJF Les Rejaudoux 3.08 37 *e*Pn Pn 21 08 44.8 -2.6
RJF *e*Sn Sn 21 09 20.8 -3.9
RJF Les Rejaudoux 3.08 37 Pn Pn 21 08 44.8 -2.6
RJF Sn Sn 21 09 20.8 -3.9
28nm,0.4s
RJF Les Rejaudoux 3.08 37 *e*Pn Pn 21 08 44.8 -2.6
RJF *e*Sn Sn 21 09 20.8 -3.9
28nm,0.4s
ECHE Chera 3.28 178 Pg Pg 21 08 59.7 -1.0
8.3nm,0.4s,SNR=7.9
ECHE Lg 21 09 42.0
6.7nm,0.3s,SNR=7.9
ECHE Chera 3.28 178 Pg Pg 21 08 59.7 -1.0
8.3nm,0.4s,SNR=7.9
ECHE Lg 21 09 42.0
6.7nm,0.3s,SNR=7.9
MFF Saint Martin d 3.79 10 *e*Pn Pn 21 08 55.2 -1.9
MFF *e*Sn Sn 21 09 37.6 -4.6
8.2nm,0.2s
MFF Saint Martin d 3.79 10 *e*Pn Pn 21 08 55.2 -1.9
MFF *e*Sn Sn 21 09 37.6 -4.6
MFF Saint Martin d 3.79 10 Pn Pn 21 08 55.2 -1.9
MFF Sn Sn 21 09 37.6 -4.6
4.1nm,0.2s
MFF Saint Martin d 3.79 10 *e*Pn Pn 21 08 55.2 -1.9
LASF Ste Croix 3.81 70 *e*Pn Pn 21 08 56.5 -0.9
LASF *e*Sn Sn 21 09 38.1 -4.6
93nm,0.8s
LASF Ste Croix 3.81 70 *e*Pn Pn 21 08 56.5 -0.9
LASF *e*Sn Sn 21 09 38.1 -4.6
LASF Ste Croix 3.81 70 Pn Pn 21 08 56.5 -0.9
LASF Sn Sn 21 09 38.1 -4.6
46nm,0.8s
LASF Ste Croix 3.81 70 *e*Pn Pn 21 08 56.5 -0.9
LASF *e*Sn Sn 21 09 38.1 -4.6
46nm,0.8s
ESDC Sonseca Array 3.85 215 Pn Pn 21 08 56.4 -1.4
64µm,0.1s,baz=33,slow=14,SNR=6.2
ESDC Sonseca Array 3.85 215 Pn Pn 21 08 56.4 -1.5
64µm,0.1s,baz=33,slow=14,SNR=6.2
LBL Lubilhac 3.93 52 Pn Pn 21 08 57.4 -1.6
LBL Lubilhac 3.93 52 Pn Pn 21 08 57.4 -1.6
TCF Toulx Ste Croi 4.16 34 *e*Pn Pn 21 08 59.1 -3.0
TCF *e*Sn Sn 21 09 46.5 -4.7
14nm,0.2s
TCF Toulx Ste Croi 4.16 34 *e*Pn Pn 21 08 59.1 -3.0
TCF *e*Sn Sn 21 09 46.5 -4.7
TCF Toulx Ste Croi 4.16 34 Pn Pn 21 08 59.1 -3.0
TCF Sn Sn 21 09 46.5 -4.7
6.9nm,0.2s
TCF Toulx Ste Croi 4.16 34 *e*Pn Pn 21 08 59.1 -3.0
TCF *e*Sn Sn 21 09 46.5 -4.7
6.9nm,0.2s
ECAL Calabor 4.27 259 Pn Pn 21 09 03.3 -0.4
0.4nm,0.1s,SNR=7.9
ECAL Sn Sn 21 09 51.0 -2.8
4.6nm,0.2s,SNR=7.9
ECAL Calabor 4.27 259 Pn Pn 21 09 03.3 -0.3
0.4nm,0.1s,SNR=7.9
ECAL Sn Sn 21 09 51.0 -2.9
4.6nm,0.2s,SNR=7.9
PBRG Braganca 4.31 258 *e*Pn Pn 21 09 04.0 -0.2
PBRG *e*Sn Sn 21 09 53.0 -1.8
PBRG A 21 10 18.2
10nm,0.4s
PBRG Braganca 4.31 258 Pn Pn 21 09 04.0 -0.2
PBRG Sn Sn 21 09 53.0 -1.8
5.2nm,0.4s
PBRG Braganca 4.31 258 *e*Pn Pn 21 09 04.0 -0.2
PBRG *e*Sn Sn 21 09 53.0 -1.8
10nm,0.4s
EVIA Vianos 4.36 194 Pn Pn 21 09 04.5 -0.4
0.1nm,0.1s,SNR=7.9
EVIA Lg 21 10 18.8
6.2nm,0.4s,SNR=7.9
EVIA Vianos 4.36 194 Pn Pn 21 09 04.5 -0.4
0.1nm,0.1s,SNR=7.9
EVIA Lg 21 10 18.8
6.2nm,0.4s,SNR=7.9
AGO Saint Agoulin 4.40 42 Pn Pn 21 09 01.5 -3.9
AGO Saint Agoulin 4.40 42 Pn Pn 21 09 01.5 -3.9
VIVF Saint-Julien-l 4.63 63 *e*Pn Pn 21 09 07.0 -1.6
VIVF *e*Sn Sn 21 09 58.0 -4.8
22nm,0.7s
VIVF Saint-Julien-l 4.63 63 *e*Pn Pn 21 09 07.0 -1.6
VIVF *e*Sn Sn 21 09 58.0 -4.8
VIVF Saint-Julien-l 4.63 63 Pn Pn 21 09 07.0 -1.6
VIVF Sn Sn 21 09 58.0 -4.8
11nm,0.7s
VIVF Saint-Julien-l 4.63 63 *e*Pn Pn 21 09 07.0 -1.6
VIVF *e*Sn Sn 21 09 58.0 -4.8
11nm,0.7s
BGF Bois d'Agland 4.64 36 *e*Pn Pn 21 09 05.9 -2.9
BGF *e*Sn Sn 21 09 58.0 -5.1
138nm,0.5s
BGF Bois d'Agland 4.64 36 *e*Pn Pn 21 09 05.9 -2.9
BGF *e*Sn Sn 21 09 58.0 -5.1
BGF Bois d'Agland 4.64 36 Pn Pn 21 09 05.9 -2.9
BGF Sn Sn 21 09 58.0 -5.1
69nm,0.5s
BGF Bois d'Agland 4.64 36 *e*Pn Pn 21 09 05.9 -2.9
BGF *e*Sn Sn 21 09 58.0 -5.1
69nm,0.5s
EPLA Plasencia 4.67 235 Pn Pn 21 09 06.9 -2.2
SNR=7.9
EPLA Sn Sn 21 10 00.3 -3.4
0.1nm,0.0s,SNR=7.9
EPLA Lg 21 10 25.9
SNR=7.9
EPLA Plasencia 4.67 235 Pn Pn 21 09 06.9 -2.2
SNR=7.9
EPLA Sn Sn 21 10 00.3 -3.5
0.1nm,0.0s,SNR=7.9
EPLA Lg 21 10 25.9
SNR=7.9
MVO Moncorvo 4.72 251 *e*Pn Pn 21 09 09.5 -0.4
MVO *e*Sn Sn 21 10 02.2 -3.0
MVO *e*Sg Sg 21 10 25.4 -4.2
MVO A 21 10 30.8
21nm,0.5s
MVO Moncorvo 4.72 251 Pn Pn 21 09 09.5 -0.4
1.3nm,0.1s,SNR=6.1
MVO Sn Sn 21 10 01.1 -4.1
0.3nm,0.0s,SNR=7.9
MVO Moncorvo 4.72 251 Pn Pn 21 09 09.5 -0.4
1.3nm,0.1s,SNR=6.1
MVO Sn Sn 21 10 01.1 -4.1
0.3nm,0.0s,SNR=7.9
MVO *e*Sg Sg 21 10 25.4 -4.2
21nm,0.5s
SMRF Simiane la Rot 5.00 75 *e*Pn Pn 21 09 13.5 -0.1
SMRF *e*Sn Sn 21 10 06.8 -5.0
2.0nm,0.3s
SMRF Simiane la Rot 5.00 75 *e*Pn Pn 21 09 13.5 -0.1
SMRF *e*Sn Sn 21 10 06.8 -5.0
SMRF Simiane la Rot 5.00 75 Pn Pn 21 09 13.5 -0.1
SMRF Sn Sn 21 10 06.8 -5.0
2.0nm,0.3s
SMRF Simiane la Rot 5.00 75 *e*Pn Pn 21 09 13.5 -0.1
SMRF *e*Sn Sn 21 10 06.8 -5.0
1.0nm,0.3s
AVF Avril sur Loir 5.04 37 *e*Pn Pn 21 09 11.4 -2.9
AVF *e*Sn Sn 21 10 07.4 -5.6
20nm,0.6s
AVF Avril sur Loir 5.04 37 *e*Pn Pn 21 09 11.4 -2.9
AVF *e*Sn Sn 21 10 07.4 -5.6
AVF Avril sur Loir 5.04 37 Pn Pn 21 09 11.4 -2.9
AVF Sn Sn 21 10 07.4 -5.6
10nm,0.6s
AVF Avril sur Loir 5.04 37 *e*Pn Pn 21 09 11.4 -2.9
AVF *e*Sn Sn 21 10 07.4 -5.6
10nm,0.6s
HYF Humbligny 5.14 30 *e*Pn Pn 21 09 12.6 -3.0
HYF *e*Sn Sn 21 10 09.7 -5.6
HYF Humbligny 5.14 30 *e*Pn Pn 21 09 12.6 -3.0
HYF *e*Sn Sn 21 10 09.7 -5.6
HYF Humbligny 5.14 30 Pn Pn 21 09 12.6 -3.0
HYF Sn Sn 21 10 09.7 -5.6
HYF Humbligny 5.14 30 *e*Pn Pn 21 09 12.6 -3.0
HYF *e*Sn Sn 21 10 09.7 -5.6
SMF Signal de Mont 5.17 41 *e*Pn Pn 21 09 13.2 -2.8
SMF *e*Sn Sn 21 10 10.4 -5.6
14nm,0.5s
SMF Signal de Mont 5.17 41 *e*Pn Pn 21 09 13.2 -2.8
SMF *e*Sn Sn 21 10 10.4 -5.6
SMF Signal de Mont 5.17 41 Pn Pn 21 09 13.2 -2.8
SMF Sn Sn 21 10 10.4 -5.6
6.8nm,0.5s
SMF Signal de Mont 5.17 41 *e*Pn Pn 21 09 13.2 -2.8
SMF *e*Sn Sn 21 10 10.4 -5.6
6.8nm,0.5s
PVRL Vila Real 5.17 254 *e*Pn Pn 21 09 14.7 -1.3
PVRL *e*Sn Sn 21 10 12.9 -3.2
PVRL Vila Real 5.17 254 Pn Pn 21 09 14.7 -1.3
PVRL Sn Sn 21 10 12.9 -3.2
PVRL Vila Real 5.17 254 *e*Pn Pn 21 09 14.7 -1.3
PVRL *e*Sn Sn 21 10 12.9 -3.2
POLO Lamas de Olo 5.19 255 *e*Pn Pn 21 09 15.8 -0.5
POLO *e*Sn Sn 21 10 14.4 -2.2
POLO A 21 10 56.0
4.7nm,0.6s
POLO Lamas de Olo 5.19 255 *e*Pn Pn 21 09 15.8 -0.5
POLO *e*Sn Sn 21 10 14.4 -2.2
4.7nm,0.6s
ELOB Lobios 5.24 261 Pn Pn 21 09 16.3 -0.8
1.1nm,0.1s,SNR=6.5
ELOB Sn Sn 21 10 12.2 -5.8
0.3nm,0.1s,SNR=7.9
ELOB Lobios 5.24 261 Pn Pn 21 09 16.3 -0.7
1.1nm,0.1s,SNR=6.5
ELOB Sn Sn 21 10 12.2 -5.8
0.3nm,0.1s,SNR=7.9
QUIF Quistinic 5.25 345 *e*Pn Pn 21 09 15.9 -1.2
QUIF *e*Sn Sn 21 10 12.4 -5.6
4.0nm,0.3s
QUIF Quistinic 5.25 345 *e*Pn Pn 21 09 15.9 -1.2
QUIF *e*Sn Sn 21 10 12.4 -5.6
QUIF Quistinic 5.25 345 Pn Pn 21 09 15.9 -1.2
QUIF Sn Sn 21 10 12.4 -5.6
2.0nm,0.3s
QUIF Quistinic 5.25 345 *e*Pn Pn 21 09 15.9 -1.2
QUIF *e*Sn Sn 21 10 12.4 -5.6
2.0nm,0.3s
EQES Quesada 5.28 197 Pn Pn 21 09 17.8 +0.2
0.4nm,0.2s,SNR=4.0
EQES Quesada 5.28 197 Pn Pn 21 09 17.8 +0.3
0.4nm,0.2s,SNR=4.0
SSF Saint Saulge 5.32 36 *e*Pn Pn 21 09 15.0 -3.1
SSF *e*Sn Sn 21 10 14.3 -5.5
35nm,0.6s
SSF Saint Saulge 5.32 36 *e*Pn Pn 21 09 15.0 -3.1
SSF *e*Sn Sn 21 10 14.3 -5.5
SSF Saint Saulge 5.32 36 Pn Pn 21 09 15.0 -3.1
SSF Sn Sn 21 10 14.3 -5.5
18nm,0.6s
SSF Saint Saulge 5.32 36 *e*Pn Pn 21 09 15.0 -3.1
SSF *e*Sn Sn 21 10 14.3 -5.5
18nm,0.6s
EADA Adamuz 5.39 210 Pn Pn 21 09 18.6 -0.5
0.3nm,0.1s,SNR=4.0
EADA Sn Sn 21 10 18.1 -3.4
0.1nm,0.1s,SNR=7.9
EADA Lg 21 10 48.7
3.5nm,0.4s,SNR=7.9
EADA Adamuz 5.39 210 Pn Pn 21 09 18.5 -0.5
0.3nm,0.1s,SNR=4.0
EADA Sn Sn 21 10 18.1 -3.4
0.1nm,0.1s,SNR=7.9
EADA Lg 21 10 48.7
3.5nm,0.4s,SNR=7.9
ORIF Oris-en-Rattie 5.45 66 *e*Pn Pn 21 09 19.9 0.0
ORIF *e*Sn Sn 21 10 17.7 -5.4
3.8nm,0.3s
ORIF Oris-en-Rattie 5.45 66 *e*Pn Pn 21 09 19.9 0.0
ORIF *e*Sn Sn 21 10 17.7 -5.4
ORIF Oris-en-Rattie 5.45 66 Pn Pn 21 09 19.9 0.0
ORIF Sn Sn 21 10 17.7 -5.4
1.9nm,0.3s
ORIF Oris-en-Rattie 5.45 66 *e*Sn Sn 21 10 17.7 -5.4
1.9nm,0.3s
SGMF Saint Gilles 5.48 350 *e*Pn Pn 21 09 18.8 -1.4
SGMF *e*Sn Sn 21 10 17.9 -5.8
5.7nm,0.3s
SGMF Saint Gilles 5.48 350 *e*Pn Pn 21 09 18.8 -1.4
SGMF *e*Sn Sn 21 10 17.9 -5.8
SGMF Saint Gilles 5.48 350 Pn Pn 21 09 18.8 -1.4
SGMF Sn Sn 21 10 17.9 -5.8
2.8nm,0.3s
SGMF Saint Gilles 5.48 350 *e*Pn Pn 21 09 18.8 -1.4
SGMF *e*Sn Sn 21 10 17.9 -5.8
2.8nm,0.3s
PVIS Viseu 5.51 249 *e*Sn Sn 21 10 21.5 -3.0
PVIS Viseu 5.51 249 Sn Sn 21 10 21.5 -3.0
PVIS Viseu 5.51 249 *e*Sn Sn 21 10 21.5 -3.0
GRR Gorron 5.52 2 *e*Pn Pn 21 09 18.8 -2.0
GRR *e*Sn Sn 21 10 18.9 -5.8
10.0nm,0.5s
GRR Gorron 5.52 2 *e*Pn Pn 21 09 18.8 -2.0
GRR *e*Sn Sn 21 10 18.9 -5.8
GRR Gorron 5.52 2 Pn Pn 21 09 18.8 -2.0
GRR Sn Sn 21 10 18.9 -5.8
0.0nm,0.5s
GRR Gorron 5.52 2 *e*Pn Pn 21 09 18.8 -2.0
GRR *e*Sn Sn 21 10 18.9 -5.8
5.0nm,0.5s
LMR La Mourre 5.60 83 *e*Pn Pn 21 09 20.3 -1.6
LMR *e*Sn Sn 21 10 21.2 -5.5
3.4nm,0.3s
LMR La Mourre 5.60 83 *e*Pn Pn 21 09 20.3 -1.6
LMR *e*Sn Sn 21 10 21.2 -5.5
LMR La Mourre 5.60 83 Pn Pn 21 09 20.3 -1.6
LMR Sn Sn 21 10 21.2 -5.5
1.7nm,0.3s
LMR La Mourre 5.60 83 *e*Pn Pn 21 09 20.3 -1.6
LMR *e*Sn Sn 21 10 21.2 -5.5
1.7nm,0.3s
LOR Lormes 5.63 37 *e*Pn Pn 21 09 20.0 -2.4
LOR *e*Sn Sn 21 10 21.6 -5.9
16nm,0.6s
LOR Lormes 5.63 37 *e*Pn Pn 21 09 20.0 -2.4
LOR *e*Sn Sn 21 10 21.6 -5.9
LOR Lormes 5.63 37 Pn Pn 21 09 20.0 -2.4
LOR Sn Sn 21 10 21.6 -5.9
8.1nm,0.6s
LOR Lormes 5.63 37 *e*Pn Pn 21 09 20.0 -2.4
LOR *e*Sn Sn 21 10 21.6 -5.9
8.1nm,0.6s
PCBR Castelo Branco 5.67 240 *e*Pn Pn 21 09 21.9 -0.9
PCBR *e*Sn Sn 21 10 24.5 -3.9
PCBR A 21 11 05.0
7.9nm,0.5s
PCBR Castelo Branco 5.67 240 Pn Pn 21 09 21.9 -0.9
PCBR Sn Sn 21 10 24.5 -3.9
4.0nm,0.5s
PCBR Castelo Branco 5.67 240 *e*Pn Pn 21 09 21.9 -0.9
PCBR *e*Sn Sn 21 10 24.5 -3.9
7.9nm,0.5s
ROSF Rostrenen 5.67 345 *e*Pn Pn 21 09 21.2 -1.7
ROSF *e*Sn Sn 21 10 22.7 -5.8
2.4nm,0.2s
ROSF Rostrenen 5.67 345 *e*Pn Pn 21 09 21.2 -1.7
ROSF *e*Sn Sn 21 10 22.7 -5.8
ROSF Rostrenen 5.67 345 Pn Pn 21 09 21.2 -1.7
ROSF Sn Sn 21 10 22.7 -5.8
1.2nm,0.2s
ROSF Rostrenen 5.67 345 *e*Pn Pn 21 09 21.2 -1.7
ROSF *e*Sn Sn 21 10 22.7 -5.8
1.2nm,0.2s
FRF La Foret Royal 5.71 80 *e*Pn Pn 21 09 23.1 -0.4
FRF *e*Sn Sn 21 10 23.8 -5.7
4.3nm,0.4s
FRF La Foret Royal 5.71 80 *e*Pn Pn 21 09 23.1 -0.4
FRF *e*Sn Sn 21 10 23.8 -5.7
FRF La Foret Royal 5.71 80 Pn Pn 21 09 23.1 -0.4
FRF Sn Sn 21 10 23.8 -5.7
2.2nm,0.4s
FRF La Foret Royal 5.71 80 *e*Pn Pn 21 09 23.1 -0.4
FRF *e*Sn Sn 21 10 23.8 -5.7
2.2nm,0.4s
LDF La Druitiere 5.76 7 *e*Pn Pn 21 09 22.0 -2.2
LDF *e*Sn Sn 21 10 24.7 -6.1
5.7nm,0.2s
LDF La Druitiere 5.76 7 *e*Pn Pn 21 09 22.0 -2.2
LDF *e*Sn Sn 21 10 24.7 -6.1
LDF La Druitiere 5.76 7 *e*Pn Pn 21 09 22.0 -2.2
EMAZ Mazaricos 5.78 273 Pn Pn 21 09 23.9 -0.4
4.3nm,0.2s,SNR=4.0
EMAZ Sn Sn 21 10 27.0 -4.0
1.9nm,0.1s,SNR=7.9
EMAZ Mazaricos 5.78 273 Pn Pn 21 09 23.9 -0.4
4.3nm,0.2s,SNR=4.0
EMAZ Sn Sn 21 10 27.0 -4.1
1.9nm,0.1s,SNR=7.9
PMRV Marv??o 5.86 236 *e*Pn Pn 21 09 24.0 -1.4
PMRV *e*Sn Sn 21 10 28.7 -4.3
PMRV A 21 11 13.8
7.3nm,0.6s
PMRV Marv??o 5.86 236 Pn Pn 21 09 24.0 -1.4
PMRV Sn Sn 21 10 28.7 -4.3
7.3nm,0.6s
PMRV Marv??o 5.86 236 *e*Pn Pn 21 09 24.0 -1.4
FLN La Foliniere 5.91 4 *e*Pn Pn 21 09 23.5 -2.7
FLN *e*Sn Sn 21 10 28.1 -6.2
6.9nm,0.4s
FLN La Foliniere 5.91 4 *e*Pn Pn 21 09 23.5 -2.7
FLN *e*Sn Sn 21 10 28.1 -6.2
FLN La Foliniere 5.91 4 Pn Pn 21 09 23.5 -2.7
FLN Sn Sn 21 10 28.1 -6.2
3.5nm,0.4s
FLN La Foliniere 5.91 4 *e*Pn Pn 21 09 23.5 -2.7
EQUE Quentar 5.93 198 Pn Pn 21 09 27.6 +1.1
0.1nm,0.1s,SNR=4.0
EQUE Quentar 5.93 198 Pn Pn 21 09 27.6 +1.1
0.1nm,0.1s,SNR=4.0
MBDF Montbardon 6.00 69 *e*Pn Pn 21 09 26.0 -1.4
MBDF *e*Sn Sn 21 10 30.9 -5.7
1.5nm,0.3s
MBDF Montbardon 6.00 69 *e*Pn Pn 21 09 26.0 -1.4
MBDF *e*Sn Sn 21 10 30.9 -5.7
MBDF Montbardon 6.00 69 Pn Pn 21 09 26.0 -1.4
MBDF Sn Sn 21 10 30.9 -5.7
0.8nm,0.3s
MBDF Montbardon 6.00 69 *e*Pn Pn 21 09 26.0 -1.4
MBDF *e*Sn Sn 21 10 30.9 -5.7
0.8nm,0.3s
EBAD Badajoz 6.08 229 Pn Pn 21 09 27.6 -0.8
0.2nm,0.1s,SNR=4.0
EBAD Badajoz 6.08 229 Pn Pn 21 09 27.6 -0.9
0.2nm,0.1s,SNR=4.0
LPL La Plagne 6.23 62 *e*Pn Pn 21 09 30.6 0.0
LPL *e*Sn Sn 21 10 36.4 -5.8
2.2nm,0.4s
LPL La Plagne 6.23 62 *e*Pn Pn 21 09 30.6 0.0
LPL *e*Sn Sn 21 10 36.4 -5.8
LPL La Plagne 6.23 62 Pn Pn 21 09 30.6 0.0
LPL Sn Sn 21 10 36.4 -5.8
1.1nm,0.4s
LPL La Plagne 6.23 62 *e*Pn Pn 21 09 30.6 0.0
LPL *e*Sn Sn 21 10 36.4 -5.8
1.1nm,0.4s
LPG La Plagne 6.23 62 *e*Pn Pn 21 09 31.2 +0.6
LPG *e*Sn Sn 21 10 36.5 -5.8
5.6nm,0.6s
LPG La Plagne 6.23 62 *e*Pn Pn 21 09 31.2 +0.6
LPG *e*Sn Sn 21 10 36.5 -5.8
LPG La Plagne 6.23 62 Pn Pn 21 09 31.2 +0.6

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
LPG				Sn	Sn	21 10 36.5	-5.8
	2.8nm,0.6s						
CABF	**La Chapelle**	**6.34**	**51**	*e*Pn	Pn	21 09 30.3	-1.9
CABF	**La Chapelle**	**6.34**	**51**	*e*Pn	Pn	21 09 30.3	-1.9
CABF	**La Chapelle**	**6.34**	**51**	Pn	Pn	21 09 30.3	-1.9
CABF	**La Chapelle**	**6.34**	**51**	*e*Pn	Pn	21 09 30.3	-1.9
SFTF	**Sexfontaines**	**6.86**	**37**	*e*Pn	Pn	21 09 37.0	-2.2
SFTF				*e*Sn	Sn	21 10 51.0	-6.8
	7.5nm,0.4s						
SFTF	**Sexfontaines**	**6.86**	**37**	*e*Pn	Pn	21 09 37.0	-2.2
SFTF				*e*Sn	Sn	21 10 51.0	-6.8
SFTF	**Sexfontaines**	**6.86**	**37**	Pn	Pn	21 09 37.0	-2.2
SFTF				Sn	Sn	21 10 51.0	-6.8
	7.5nm,0.4s						
SFTF	**Sexfontaines**	**6.86**	**37**	*e*Pn	Pn	21 09 37.0	-2.2
MEZF	**Maizieres J'vi**	**7.09**	**35**	*e*Pn	Pn	21 09 40.1	-2.3
MEZF				*e*Sn	Sn	21 10 56.5	-7.0
	7.9nm,0.5s						
MEZF	**Maizieres J'vi**	**7.09**	**35**	*e*Pn	Pn	21 09 40.1	-2.3
MEZF				*e*Sn	Sn	21 10 56.5	-7.0
MEZF	**Maizieres J'vi**	**7.09**	**35**	Pn	Pn	21 09 40.1	-2.3
MEZF				Sn	Sn	21 10 56.5	-7.0
	7.9nm,0.5s						
MEZF	**Maizieres J'vi**	**7.09**	**35**	*e*Pn	Pn	21 09 40.1	-2.3
PNCL	**Nicolau / Gran**	**7.38**	**232**	*e*Pn	Pn	21 09 45.3	-1.1
PNCL	**Nicolau / Gran**	**7.38**	**232**	*e*Pn	Pn	21 09 45.3	-1.1
PAGF	**Fort de Pagny**	**7.43**	**38**	*e*Pn	Pn	21 09 44.8	-2.2
PAGF				*e*Sn	Sn	21 11 04.7	-7.0
	2.2nm,0.5s						
PAGF	**Fort de Pagny**	**7.43**	**38**	*e*Pn	Pn	21 09 44.8	-2.2
PAGF				*e*Sn	Sn	21 11 04.7	-7.0
PAGF	**Fort de Pagny**	**7.43**	**38**	*e*Pn	Pn	21 09 44.8	-2.2
BAIF	**Baives**	**8.07**	**25**	*e*Pn	Pn	21 09 53.8	-2.0
BAIF				*e*Sn	Sn	21 11 19.8	-7.7
	3.8nm,0.5s						
BAIF	**Baives**	**8.07**	**25**	*e*Pn	Pn	21 09 53.8	-2.0
BAIF				*e*Sn	Sn	21 11 19.8	-7.7
BAIF	**Baives**	**8.07**	**25**	Pn	Pn	21 09 53.8	-2.0
BAIF				Sn	Sn	21 11 19.8	-7.7
	1.9nm,0.5s						
BAIF	**Baives**	**8.07**	**25**	*e*Pn	Pn	21 09 53.8	-2.0
GIVF	**Givet**	**8.31**	**27**	*e*Pn	Pn	21 09 56.6	-2.5
GIVF				*e*Sn	Sn	21 11 25.3	-8.0
	5.0nm,0.2s						
GIVF	**Givet**	**8.31**	**27**	*e*Pn	Pn	21 09 56.6	-2.5
GIVF				*e*Sn	Sn	21 11 25.3	-8.0
GIVF	**Givet**	**8.31**	**27**	Pn	Pn	21 09 56.6	-2.5
GIVF				Sn	Sn	21 11 25.3	-8.0
	2.5nm,0.2s						
GIVF	**Givet**	**8.31**	**27**	*e*Pn	Pn	21 09 56.6	-2.5

ISCJB ***11*** *21:10:07.2±0.6, 56°62S±0°10×141°4W±0°2, h10km, mb4.2/8, MS4.4/3, Error ellipse: s-maj=17.4km s-min=12.5km az=151.4*
IDC ***11*** *21:10:07.5±0.9, 56°63S×141°35W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.1/13, mbtmp4.0/7, MS3.9/2, Ms1 3.9/2, ms1mx3.4/22, Error ellipse: s-maj=33.7km s-min=22.3km az=17.0*
NEIC ***11*** *21:10:08.9±0.5, 56°66S×141°32W, h10km, mb4.6/5, Error ellipse: s-maj=17.2km s-min=14.8km az=25.0*

ISC 11 21:10:09.2±0.6, 56°62S±0°10×141°3W±0°2, h10km, n33, σ0°66/22, mb4.2/8, MS4.4/3, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCN	**Pitcairn Islan**	**32.56**	**19**	P	**P**	**21 16 39.6**	**-0.7**
	97nm,0.6s						
QSPA	**South Pole Qui**	**33.54**	**180**	P	**P**	**21 16 49.6**	**+1.2**
	1.1nm,0.5s,mb4.0,baz=85,slow=4.3,SNR=4.6						
QSPA				LR	LR	21 27 54.2	
	comp=Z,246nm,21.3s,MS3.9,baz=285,slow=32						
QSPA	**South Pole Qui**	**33.54**	**180**	*e*P	**P**	**21 16 48.0**	**-0.3**
	2.7nm,0.9s,mb4.2						
RKT	**Rikitea**	**33.79**	**11**	*e*T		21 52 15.0	
	3.0nm,0.3s						
PMSA	**Palmer Station**	**36.38**	**135**	P	**P**	**21 17 13.8**	**+0.8**
	155nm,1.4s						
RAR	**Rarotonga**	**37.90**	**331**	LR	LR	21 29 13.4	
	comp=Z,165nm,19.5s,MS3.9,baz=135,slow=30						
MEH	**Mehetia**	**39.01**	**350**	*e*T		21 58 51.8	
	48nm,0.3s						
PPT	**Papeete**	**39.48**	**348**	*e*S	**S**	**21 23 41.8**	**+0.3**
	41nm,25.8s						
PPT				*e*LR	LR	21 28 17.9	
	413nm,25.0s,baz=175						
TAOE	**Nuku Hiva Isla**	**47.66**	**2**	*e*LR	LR	21 30 56.1	
	865nm,36.0s						
VNA3	**Neumayer Olymp**	**47.96**	**161**	*e*	**P**	**21 18 46.7**	**-0.5**
VNA2	**Neumayer--Watz**	**48.63**	**162**	*e*	**P**	**21 18 52.2**	**-0.2**
	baz=217,slow=7.8						
VNA1	**Neumayer--Stat**	**48.71**	**161**	*e*	**P**	**21 18 53.3**	**+0.3**
SNAA	**Sanae**	**48.74**	**164**	*e*	**P**	**21 18 52.7**	**-0.5**
SNAA	**Sanae**	**48.74**	**164**	P	**P**	**21 18 52.5**	**-0.7**
	1.5nm,0.5s,mb4.3,baz=221,slow=10,SNR=47						
SNAA	**Sanae**	**48.74**	**164**	*e*P	**P**	**21 18 51.2**	**-2.0**
	3.6nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**57.10**	**261**	P	**P**	**21 19 56.4**	**+1.0**
	1.8nm,0.8s,mb4.1,baz=114,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**57.10**	**261**	P	**P**	**21 19 56.4**	**+1.0**
CTA	**Charters Tower**	**63.80**	**273**	P	**P**	**21 20 41.8**	**+0.5**
	4.4nm,1.0s,mb4.4,baz=198,slow=5.2,SNR=3.6						
CTA	**Charters Tower**	**63.80**	**273**	P	**P**	**21 20 41.8**	**+0.5**
LPAZ	**La Paz**	**67.32**	**85**	P	**P**	**21 21 04.8**	**+0.7**
	0.6nm,0.5s,mb3.9,baz=180,slow=2.0,SNR=2.6						
LPAZ	**La Paz**	**67.32**	**85**	*e*P	**P**	**21 21 04.6**	**+0.5**
	0.6nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**67.73**	**261**	P	**P**	**21 21 06.3**	**-0.4**
	1.0nm,0.6s,mb4.0,baz=139,slow=6.4,SNR=18						
ASAR	**Alice Springs**	**67.73**	**261**	P	**P**	**21 21 06.3**	**-0.4**
WRA	**Warramunga Arr**	**70.49**	**263**	P	**P**	**21 21 23.6**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=146,slow=5.6,SNR=17						
WRA	**Warramunga Arr**	**70.49**	**263**	P	**P**	**21 21 23.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**76.72**	**257**	LR	LR	21 52 13.5	
	comp=Z,2μm,19.6s,MS5.5,baz=357,slow=33						
FITZ	**Fitzroy Crossi**	**76.72**	**257**	*e*P	**P**	**21 21 59.8**	**-0.7**
	12nm,1.5s,mb4.6						
ILAR	**Eielson Array**	**121.14**	**357**	PKP	PKPdf	21 29 01.7	+1.3
	0.2nm,0.7s,baz=214,slow=1.6,SNR=3.4						
ILAR	**Eielson Array**	**121.14**	**357**	PKP	PKPdf	21 29 01.7	+1.3
MKAR	**Makanchi Array**	**151.69**	**268**	PKPbc	PKPbc	21 30 01.8	-0.9
	0.9nm,0.8s,baz=101,slow=4.6,SNR=6.8						
MKAR				PKPab	PKPab	21 30 11.2	-0.5
	1.3nm,0.7s,baz=144,slow=2.7,SNR=9.0						
MKAR	**Makanchi Array**	**151.69**	**268**	PKPbc	PKPbc	21 30 01.8	-0.9
MKAR				PKPab	PKPab	21 30 11.2	-0.4
ZALV	**Zalesovo Beam**	**153.96**	**284**	PKPab	PKPab	21 30 20.1	-0.9
	0.5nm,0.5s,baz=94,slow=4.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**153.96**	**284**	PKPab	PKPab	21 30 20.1	-0.9

ISCJB ***11*** *21:13:39.5±0.7, 7°46N±0°09×73°80W±0°10, h112km±16km, mb3.5/2, Error ellipse: s-maj=20.1km s-min=7.7km az=42.5*
NEIC ***11*** *21:13:40.1±1.0, 7°57N×73°83W, h80km±14km, Error ellipse: s-maj=18.7km s-min=14.0km az=170.0*
FUNV ***11*** *21:13:41.3, 6°79N×73°14W, h165km, MW3.2*
IDC ***11*** *21:13:42.2±7.3, 7°39N×74°15W, h109km±91km, mb3.2/2, mb1 3.5/3, mb1mx3.2/20, mbtmp3.4/3, ML2.7/1, Error ellipse: s-maj=98.2km s-min=35.0km az=42.0*

ISC 11 21:13:40.8±0.7, 7°49N±0°07×73°83W±0°08, h89km±12km, n20, σ1°47/25, mb3.5/2, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.54**	**76**	⇓*iP*	**Pn**	**21 14 10.1**	**+3.1**
CAPV				*e*S	**Sn**	**21 14 31.1**	**+4.1**
ROSC	**El Rosal**	**2.66**	**191**	P	**Pn**	**21 14 22.5**	**+0.7**
	31nm,0.3s,baz=95,slow=24,SNR=38						
ROSC				S	**Sn**	**21 14 54.0**	**+0.7**
	35nm,0.3s,baz=90,slow=21,SNR=12						
ROSC	**El Rosal**	**2.66**	**191**	*e*Pn	**Pn**	**21 14 22.2**	**+0.4**
ROSC				*e*Sn	**Sn**	**21 14 52.9**	**-0.4**
VIGV	**El Vigia**	**2.78**	**61**	*e*P	**Pn**	**21 14 24.6**	**+1.2**
VIGV				*e*S	**Sn**	**21 14 56.3**	**+0.1**
SOCV	**Socops**	**3.05**	**75**	⇓*e*P	**Pn**	**21 14 24.7**	**-2.2**
SOCV				*e*S	**Sn**	**21 14 56.7**	**-5.8**
VIRV	**Villa del Rosa**	**3.31**	**25**	⇑*e*P	Px	21 14 36.9	
VIRV				*e*S	Sx	21 15 19.0	
SDV	**Santo Domingo**	**3.45**	**66**	*e*Pn	**Pn**	**21 14 31.3**	**-1.1**
SDV				*e*Sn	**Sn**	**21 15 06.0**	**-6.3**
QARV	**Quebrada Arrib**	**4.24**	**50**	*e*P	**Pn**	**21 14 44.3**	**+1.3**
DABV	**Dabajuro**	**4.64**	**42**	*e*P	**Pn**	**21 14 51.0**	**+2.4**
SANV	**Sanarito**	**4.69**	**64**	*e*P	**Pn**	**21 14 46.4**	**-2.8**
SIQV	**Siquisique**	**5.06**	**51**	*e*P	**Pn**	**21 14 54.5**	**+0.2**
TEPV	**Terepaima**	**5.20**	**61**	*e*P	**Pn**	**21 14 53.5**	**-2.6**
MAPV	**Macapo**	**5.80**	**66**	*e*P	**Pn**	**21 15 00.2**	**-4.1**
MONV	**Montecano**	**5.84**	**40**	*e*P	**Pn**	**21 15 06.2**	**+1.3**
BAUV	**El Baul**	**5.91**	**75**	*e*P	**Pn**	**21 14 58.6**	**-7.1**
BCIP	**Isla Barro Col**	**6.18**	**286**	*e*Pn	**Pn**	**21 15 08.7**	**-0.7**
YKA	**Yellowknife Ar**	**62.40**	**340**	P	**P**	**21 23 53.1**	**-0.8**
	0.5nm,0.5s,mb3.8,baz=133,slow=6.8,SNR=9.8						
YKA	**Yellowknife Ar**	**62.40**	**340**	P	**P**	**21 23 53.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**74.29**	**78**	P	**P**	**21 25 10.2**	**+1.2**
	0.4nm,0.8s,mb3.2,baz=274,slow=4.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**74.29**	**78**	P	**P**	**21 25 10.2**	**+1.2**

IDC 11 21:17:01.3±68.0, 14°70S×164°93E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, MS3.7/1, Ms1 3.7/1, ms1mx3.0/23, Error ellipse: s-maj=1136.0km s-min=108.3km az=64.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.31**	**227**	P	P	21 22 48.4	+0.5
	1.1nm,0.7s,baz=56,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**29.63**	**255**	P	P	21 23 08.7	0.0
	0.7nm,1.1s,baz=87,slow=8.7,SNR=2.5						
ASAR	**Alice Springs**	**30.57**	**248**	P	P	21 23 16.6	-0.4
	0.3nm,0.5s,baz=80,slow=8.9,SNR=6.7						
TGY	**Tagaytay City**	**52.09**	**301**	LR	LR	21 47 18.5	
	comp=Z,64nm,18.1s,baz=164,slow=35						

MEX 11 21:19:20.3±0.3, 17°39N×101°26W, h11km±2km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.29**	**318**	*i*P	Pg	21 19 25.8	-0.4
ZIIG				*i*S	Sg	21 19 30.1	0.0
CAIG	**El Cayaco**	**1.01**	**109**	*i*P	Pg	21 19 36.4	-3.3
CAIG				*i*S	Sg	21 19 49.5	-3.4
ACX	**Acapulco**	**1.44**	**111**	*i*P	Pn	21 19 42.4	-3.9
ACX				*i*S	Sn	21 19 58.6	-6.6
MEIG	**Mezcala**	**1.65**	**71**	*e*P	Pn	21 19 45.8	-3.5
MEIG				*i*S	Sn	21 20 05.8	-4.8
MMIG	**Aquila**	**2.18**	**295**	*i*P	Pn	21 19 53.2	-3.3
MMIG				*i*S	Sn	21 20 18.7	-4.8
MOIG	**Morelia**	**2.28**	**2**	*e*P	Pn	21 19 55.1	-2.8
MOIG				*i*S	Sn	21 20 22.0	-4.0
SZVM	**Salazar**	**2.62**	**43**	*e*P	Pn	21 20 00.1	-2.6
SZVM				*i*S	Sn	21 20 31.1	-3.4
MZVM		**2.63**	**47**	*i*P	Pn	21 19 59.8	-3.0
MZVM				*i*S	Sn	21 20 31.1	-3.6
PBVM	**Pinon**	**2.91**	**45**	*e*P	Pn	21 20 03.9	-2.6
PBVM				*i*S	Sn	21 20 37.5	-4.0
PTVM	**Pico Tres Padr**	**2.99**	**43**	*e*P	Pn	21 20 05.0	-2.7
PTVM				*i*S	Sn	21 20 40.0	-3.7
PPM	**Popocatepetl**	**3.01**	**56**	*e*P	Pn	21 20 05.8	-2.2
PPM				*i*S	Sn	21 20 40.4	-3.6
PNIG	**Pinotepa**	**3.16**	**108**	*e*P	Pn	21 20 07.1	-2.9
PNIG				*i*S	Sn	21 20 44.0	-3.8
IIO	**Organos**	**3.26**	**47**	*e*P	Pn	21 20 10.7	-0.7
IIO				*i*S	Sn	21 20 44.4	-5.8
UTMO	**Huajuapan**	**3.33**	**82**	*e*P	Pn	21 20 09.8	-2.5
UTMO				*i*S	Sn	21 20 47.6	-4.3
SFJM	**Santa Fe**	**3.51**	**332**	*e*P	Pn	21 20 12.9	-1.9
SFJM				*i*S	Sn	21 20 53.5	-2.9
VHO	**Vista Hermosa**	**4.34**	**93**	*e*P	Pn	21 20 23.7	-2.5
VHO				*i*S	Sn	21 21 13.4	-3.5

DJA ***11*** *21:20:46, 6°15S×105°39E, h10km, MLv3.8/6*
IDC ***11*** *21:20:46.3±5.2, 5°91S×106°02E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=221.7km s-min=26.0km az=53.0*

ISC 11 21:20:45.2±1.4, 6°16S±0°09×105°39E±0°09, h1km±10km, n16, σ1°13/17, mb3.6/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.54**	**146**	P	**Pg**	**21 20 55.9**	**+0.4**
SBJI	**Serang**	**0.73**	**87**	P	**Pg**	**21 20 58.8**	**-0.5**
BLSI	**Bandar Lampung**	**0.80**	**349**	P	**Pg**	**21 20 59.8**	**-0.8**
TNG	**Tangerang**	**1.25**	**90**	P	**Pg**	**21 21 09.5**	**+0.4**
TNG				P	**Pg**	**21 21 08.8**	**-0.3**
KLI	**Kotabumi**	**1.40**	**337**	P	**Pn**	**21 21 12.3**	**+0.4**
SKJI	**Sukabumi**	**1.43**	**126**	P	**Pn**	**21 21 12.0**	**-0.3**
CBJI	**Citeko**	**1.47**	**100**	P	**Pn**	**21 21 14.5**	**+1.6**
LWLI	**Liwa**	**1.75**	**311**	P	**Pn**	**21 21 16.6**	**-0.1**
MDSI	**Maura Dua**	**2.06**	**324**	P	**Pn**	**21 21 20.5**	**-0.5**
LEM	**Lembang**	**2.31**	**107**	P	**Pn**	**21 21 27.4**	**+3.0**
CISI	**Cisompet, Garu**	**2.77**	**120**	P	**Pn**	**21 21 31.7**	**+0.9**
KSI	**Kapahiang**	**3.74**	**312**	P	**Pn**	**21 21 45.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**23.04**	**123**	P	**P**	**21 25 48.7**	**-3.5**
	3.6nm,1.1s,mb3.8,baz=304,slow=11,SNR=2.7						
CMAR	**Chiang Mai Arr**	**25.28**	**346**	P	**P**	**21 26 13.9**	**+0.6**
	0.8nm,1.1s,mb3.4,baz=186,slow=8.2,SNR=4.6						
WRA	**Warramunga Arr**	**31.27**	**119**	P	**P**	**21 27 04.8**	**-2.1**
	1.0nm,0.7s,mb3.8,baz=296,slow=9.6,SNR=6.3						
ASAR	**Alice Springs**	**32.47**	**125**	P	**P**	**21 27 15.9**	**-1.5**
	0.6nm,0.8s,mb3.5,baz=297,slow=8.3,SNR=5.9						

ISCJB ***11*** *21:21:53.1±0.8, 18°26S±0°09×177°95W±0°09, h625km±9km, mb4.2/30, Error ellipse: s-maj=15.4km s-min=10.6km az=139.9*
NEIC ***11*** *21:21:53.1±0.7, 18°24S×177°89W, h610km±8km, mb4.4/19, Error ellipse: s-maj=9.6km s-min=7.4km az=135.0*
IDC ***11*** *21:21:54.2±2.1, 18°18S×177°95W, h616km±25km, mb3.6/17, mb1 3.8/17, mb1mx3.7/22, mbtmp3.6/17, Error ellipse: s-maj=15.8km s-min=11.5km az=147.0*

ISC 11 21:21:53.9±0.8, 18°25S±0°09×177°91W±0°09, h617km±8km, n110, σ0°82/63, mb4.2/30, 6C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.88**	**277**	*e*P	**P**	**21 23 19.0**	**-0.8**
MSVF				*e*S	**S**	**21 24 30.8**	**+1.0**
AFI	**Afiamalu**	**7.31**	**55**	S	**S**	**21 25 12.1**	**-8.3**
	5.1nm,0.3s,baz=37,slow=20,SNR=3.8						
DZM	**Mont Dzumac**	**15.17**	**253**	*e*P	**P**	**21 25 03.2**	**+0.3**
	3.6nm,0.6s						
URZ	**Urewera**	**20.41**	**191**	P	**P**	**21 25 47.5**	**-2.8**
	20nm,0.7s,baz=12,slow=3.6,SNR=10.0						
URZ	**Urewera**	**20.41**	**191**	*e*P	**P**	**21 25 48.5**	**-1.8**
	22nm,0.8s						
URZ				*e*PcP	PcP	21 29 38.6	+4.4
SNZO	**South Karori**	**23.84**	**194**	*e*P	**P**	**21 26 19.0**	**-1.8**
	100nm,1.4s,mb5.3						
RPZ	**Rata Peaks**	**27.04**	**198**	P	**P**	**21 26 49.6**	**+0.8**
	15nm,0.8s,mb4.7,baz=47,slow=6.8,SNR=3.7						
RPZ	**Rata Peaks**	**27.04**	**198**	P	**P**	**21 26 49.6**	**+0.8**
EIDS	**Eidsvold**	**29.60**	**251**	*e*P	**P**	**21 27 11.3**	**0.0**
	4.0nm,0.7s,mb4.2						
CTA	**Charters Tower**	**33.86**	**261**	P	**P**	**21 27 47.5**	**+0.1**
	8.2nm,0.6s,mb4.6,baz=96,slow=12,SNR=12						
CTA	**Charters Tower**	**33.86**	**261**	P	**P**	**21 27 47.5**	**+0.1**
CTAO	**Charters Tower**	**33.86**	**261**	*e*P	**P**	**21 27 47.4**	**0.0**
	8.1nm,0.6s,mb4.5						
PMG	**Port Moresby**	**34.98**	**280**	P	**P**	**21 27 57.3**	**+0.5**
	32nm,0.9s,mb5.0,baz=76,slow=4.1,SNR=9.9						
PMG	**Port Moresby**	**34.98**	**280**	*e*P	**P**	**21 27 57.4**	**+0.6**
	31nm,0.8s,mb5.0						
COEN	**Coen**	**37.58**	**271**	*e*P	**P**	**21 28 17.8**	**-0.3**
	134nm,0.5s						
STKA	**Stephens Creek**	**38.88**	**242**	P	**P**	**21 28 29.1**	**+0.8**
	3.0nm,0.7s,mb3.9,baz=83,slow=7.3,SNR=9.4						
STKA	**Stephens Creek**	**38.88**	**242**	*e*P	**P**	**21 28 29.2**	**+0.9**
WB2	**Warramunga Arr**	**45.02**	**260**	*e*P	**P**	**21 29 16.2**	**-0.3**
WRAB	**Tennant Creek**	**45.03**	**260**	*e*P	**P**	**21 29 16.1**	**-0.4**
	5.3nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**45.04**	**260**	P	**P**	**21 29 16.4**	**-0.2**
	4.9nm,0.4s,mb4.4,baz=96,slow=6.9,SNR=139						
WRA				PcP	PcP	21 30 44.4	+0.5
	2.2nm,1.1s,baz=91,slow=3.8,SNR=5.4						
WRA	**Warramunga Arr**	**45.04**	**260**	P	**P**	**21 29 16.4**	**-0.2**
WRA				PcP	PcP	21 30 44.4	+0.5
AS31	**Alice Springs**	**45.15**	**255**	*e*P	**P**	**21 29 17.3**	**-0.1**
AS31				PcP	PcP	21 30 41.4	-2.9
ASAR	**Alice Springs**	**45.16**	**255**	P	**P**	**21 29 17.6**	**+0.2**
	10nm,0.5s,mb4.6,baz=92,slow=7.6,SNR=138						
ASAR				PcP	PcP	21 30 44.8	+0.5
	1.3nm,0.4s,baz=106,slow=3.8,SNR=9.7						
ASAR				S	**S**	**21 35 14.1**	**+0.4**
	2.1nm,0.9s,baz=89,slow=17,SNR=13						
ASAR	**Alice Springs**	**45.16**	**255**	P	**P**	**21 29 17.6**	**+0.2**
ASAR				PcP	PcP	21 30 44.8	+0.5
ASAR				S	**S**	**21 35 14.1**	**+0.4**
GUMO	**Guam**	**48.45**	**308**	P	**P**	**21 29 41.2**	**-1.1**
	54nm,0.5s,mb5.3						
FITZ	**Fitzroy Crossi**	**53.44**	**261**	P	**P**	**21 30 18.2**	**0.0**
	1.3nm,0.3s,mb3.7,baz=132,slow=13,SNR=14						
FITZ	**Fitzroy Crossi**	**53.44**	**261**	P	**P**	**21 30 18.2**	**0.0**
MBWA	**Marble Bar**	**58.45**	**256**	*e*P	**P**	**21 30 52.2**	**-0.4**
	4.8nm,0.6s,mb3.8						
NWAO	**Narrogin (SRO)**	**59.47**	**242**	*e*P	**P**	**21 30 55.0**	**-4.2**
MJAR	**Matsushiro Arr**	**68.46**	**323**	P	**P**	**21 31 55.6**	**-0.2**
	5.1nm,0.6s,mb4.1,baz=154,slow=6.0,SNR=18						
MJAR	**Matsushiro Arr**	**68.46**	**323**	P	**P**	**21 31 55.6**	**-0.2**
KKM	**Kota Kinabalu**	**69.28**	**284**	*e*P	**P**	**21 32 01.6**	**+0.4**
	5.8nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**21 32 16.1**	**+1.2**
	5.4nm,0.6s,mb4.2,baz=47,slow=1.2,SNR=14						
QSPA	**South Pole Qui**	**71.81**	**180**	*e*P	**P**	**21 32 16.1**	**+1.2**
	4.9nm,0.6s,mb4.2						
YULB	**Yu-li**	**72.35**	**303**	*e*P	**P**	**21 32 17.9**	**-1.0**
	35nm,1.5s,mb4.7						
SSLB	**Suanglung**	**72.81**	**303**	*e*P	**P**	**21 32 20.9**	**-0.7**
	9.1nm,0.6s,mb4.5						
KSM	**Kuching**	**73.20**	**277**	*e*P	**P**	**21 32 25.0**	**+1.0**
	10nm,0.9s,mb4.3						
PETK	**Petropavlovsk-**	**74.13**	**345**	P	**P**	**21 32 28.2**	**-0.1**
	5.0nm,0.6s,mb4.2,baz=131,slow=8.9,SNR=5.1						
PETK	**Petropavlovsk-**	**74.13**	**345**	P	**P**	**21 32 28.2**	**-0.1**
ISA	**Isabella**	**77.71**	**46**	*e*P	**P**	**21 32 48.8**	**+0.3**
	4.1nm,1.0s,mb3.8						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**21 32 57.9**	**+0.8**
	1.9nm,0.7s,mb3.5,baz=224,slow=8.7,SNR=15						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**21 32 57.9**	**+0.9**
SLKM	**Skilak Lake**	**81.61**	**13**	*e*P	**P**	**21 33 08.7**	**+0.5**
SML	**Sawmill**	**83.19**	**14**	*e*P	**P**	**21 33 15.6**	**-0.5**
TRF	**Thorofare Moun**	**84.24**	**12**	*e*P	**P**	**21 33 20.3**	**-1.0**
	8.1nm,0.7s,mb4.4						
MCK	**McKinley**	**84.77**	**13**	*e*P	**P**	**21 33 24.1**	**+0.2**
	4.6nm,0.8s,mb4.2						
TXAR	**Lajitas Array**	**85.78**	**57**	P	**P**	**21 33 31.3**	**+1.8**
	1.6nm,0.7s,mb3.8,baz=217,slow=6.2,SNR=18						
TXAR	**Lajitas Array**	**85.78**	**57**	P	**P**	**21 33 31.3**	**+1.8**
ILAR	**Eielson Array**	**86.11**	**13**	P	**P**	**21 33 29.4**	**-0.9**
	1.1nm,0.4s,mb3.8,baz=218,slow=4.9,SNR=46						
ILAR	**Eielson Array**	**86.11**	**13**	P	**P**	**21 33 29.4**	**-0.9**
PDAR	**Pinedale Array**	**87.27**	**43**	P	**P**	**21 33 36.5**	**+0.3**
	1.1nm,0.7s,mb3.7,baz=207,slow=3.1,SNR=5.4						
PDAR	**Pinedale Array**	**87.27**	**43**	P	**P**	**21 33 36.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**89.44**	**290**	P	**P**	**21 33 48.5**	**+1.7**
CHTO	**Chiang Mai**	**89.56**	**290**	*e*P	**P**	**21 33 48.0**	**+0.6**
	2.3nm,0.7s,mb4.1						
SNAA	**Sanae**	**90.25**	**178**	*e*P	**P**	**21 33 49.9**	**+0.3**
INK	**Inuvik**	**92.09**	**15**	P	**P**	**21 33 57.2**	**-0.7**
	1.9nm,0.8s,mb4.2,baz=190,slow=2.7,SNR=5.7						
INK	**Inuvik**	**92.09**	**15**	*e*P	**P**	**21 33 56.5**	**-1.4**
	3.0nm,0.9s

CKLZ				⇓iS	Sg	21 26 01.4	+1.2
SPIZ	**Spitak**	**0.87**	**327**	⇓iP	Pg	21 25 49.0	-0.3
SPIZ				⇓iS	Sg	21 26 00.3	-0.2
STEZ	**Stepenevan**	**0.98**	**338**	⇓iP	Pg	21 25 51.2	-0.2
STEZ				⇓iS	Sg	21 26 04.6	+0.5
DYDN	**Diyadin**	**1.08**	**239**	iP	Pg	21 25 51.8	-1.5
DYDN				iS	Sg	21 26 07.4	+0.1
DYDN	**Diyadin**	**1.08**	**239**	iP	Pg	21 25 51.8	-1.5
DYDN				iS	Sg	21 26 07.4	+0.1
CLDR	**Caldiran**	**1.21**	**219**	ePN	Pn	21 25 54.4	-1.3
CLDR				eSN	Sn	21 26 12.6	+0.4
CLDR	**Caldiran**	**1.21**	**219**	ePn	Pn	21 25 54.4	-1.3
CLDR				eSn	Sn	21 26 12.6	+0.4
DGRG	**David-gareji**	**1.40**	**15**	P	Pn	21 25 57.1	-1.1
DGRG				S	Sb	21 26 17.0	+0.2
DGRG	**David-gareji**	**1.40**	**15**	P	Pn	21 25 57.1	-1.2
DGRG				S	Sb	21 26 17.0	+0.1
KARS	**Kars**	**1.48**	**292**	ePN	Pn	21 25 57.5	-1.9
KARS				eSN	Sn	21 26 17.0	-1.8
KARS	**Kars**	**1.48**	**292**	ePn	Pn	21 25 57.5	-1.9
KARS				eSn	Sn	21 26 17.0	-1.8
AGRB	**Hanur-Agry**	**1.55**	**251**	ePN	Pn	21 25 59.8	-0.5
AGRB	**Hanur-Agry**	**1.55**	**251**	ePn	Pn	21 25 59.8	-0.5
MTA	**Mtatsminda**	**1.60**	**357**	P	Pn	21 25 59.9	-1.0
MTA				S	Sn	21 26 21.3	-0.4
MTA	**Mtatsminda**	**1.60**	**357**	P	Pn	21 25 59.9	-1.1
MTA				S	Sn	21 26 21.3	-0.4
TBLG	**Delisi**	**1.64**	**356**	P	Pn	21 26 00.5	-1.0
TBLG				S	Sn	21 26 22.4	-0.3
TBLG	**Delisi**	**1.64**	**356**	P	Pn	21 26 00.5	-1.0
TBLG				S	Sn	21 26 22.4	-0.2
AKH	**Akhalkalaki**	**1.69**	**321**	P	Pn	21 26 01.7	-0.5
AKH				S	Sn	21 26 24.2	+0.4
AKH	**Akhalkalaki**	**1.69**	**321**	P	Pn	21 26 01.7	-0.5
AKH				S	Sn	21 26 24.2	+0.3
TUTA	**Tutak**	**1.74**	**247**	iP	Pn	21 26 03.5	+0.5
TUTA				iS	Sn	21 26 28.4	+3.1
TUTA	**Tutak**	**1.74**	**247**	iP	Pn	21 26 03.5	+0.5
TUTA				iS	Sn	21 26 28.4	+3.1
GOR	**Gori**	**1.98**	**343**	P	Pn	21 26 06.8	+0.6
GOR				S	Sn	21 26 34.5	+3.5
GOR	**Gori**	**1.98**	**343**	P	Pn	21 26 06.8	+0.6
GOR				S	Sn	21 26 34.5	+3.5
HOMI	**Horasan**	**2.29**	**270**	iP	Pn	21 26 13.6	+3.1
HOMI				iS	Sn	21 26 46.2	+7.4
DAGI	**Agillar**	**2.47**	**294**	iP	Pn	21 26 16.9	+3.9
DAGI				iS	Sn	21 26 48.8	+5.6
HAKT	**HAKKARI**	**2.70**	**200**	eP	Pn	21 26 20.0	+3.9
HAKT				eS	Sn	21 27 02.9	+14
HAKT	**HAKKARI**	**2.70**	**200**	eP	Pn	21 26 20.0	+3.9
HAKT				eS	Sn	21 27 02.9	+14
ONI	**Oni**	**2.71**	**337**	P	Pn	21 26 21.5	+5.1
ONI				S	Sn	21 26 53.3	+4.0
ONI	**Oni**	**2.71**	**337**	P	Pn	21 26 21.5	+5.2
ONI				S	Sn	21 26 53.3	+4.0

BJI ***11*** *21:40:44.5,0.56S×124.04E,h132km,mB6.1/38,mb6.1/71*
NEIC ***11*** *21:40:51.9±0.1,0.06N×123.43E,h129km,mb6.1/108, ME5.7,MW5.9,MW5.9,Error ellipse: s-maj=4.2km s-min=3.1km az=64.0,Moment Tensor Solution. s38 Moment tensor: Scale 10^{17}Nm; M_{rr}1.87; $M_{\theta\theta}$-2.69; $M_{\phi\phi}$0.82; $M_{r\theta}$7.57; $M_{\theta\phi}$1.59; $M_{r\phi}$1.69; Best double couple: $M_0$8.30000×10^{17} NP1:ϕ_s79.00000°,δ83.00000°, λ75.00000°. NP2:ϕ_s325.00000°,δ17.00000°,λ155.00000°. Principal axes: T 8.2200, Plg49.0000°, Azm332.0000°; N 0.1100, Plg14.0000°, Azm80.0000°; P -8.3200, Plg36.0000°, Azm182.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [IV] at Luwuk and [III] at Gorontalo. Also felt at Kotamobagu.
ISCJB ***11*** *21:40:51.2±0.1,0.12N±0.02×123.60E±0.02,h139km, mb6.0/232 Error ellipse: s-maj=2.4km s-min=2.2km az=168.3*
BGS ***11*** *21:40:51.4±2.5,0.38S×123.41E,h133km,mb6.1(NEIC)*
IDC ***11*** *21:40:52.7±0.6,0.13N×123.43E,h136km±4km,mb5.7/26, mb1 5.6/28,mb1mx5.6/28,mbtmp5.7/28,MS4.9/17, Ms1 4.9/17,ms1mx4.7/29,Error ellipse: s-maj=11.6km s-min=7.0km az=71.0*
MOS ***11*** *21:40:52.2±0.9,0.08N×123.44E,h149km,mb6.2/78, MS5.0/38,Error ellipse: s-maj=7.9km s-min=4.2km az=115.7*
GCMT ***11*** *21:40:54.0±0.1,0.00N×123.64E,h135km,MW5.9, Moment Tensor Solution. s112,c259; s76,c91; Moment tensor: Scale 10^{17}Nm; M_{rr}3.33±.07; $M_{\theta\theta}$-3.11±.08; $M_{\phi\phi}$-0.22±.08; $M_{r\theta}$8.23±.05; $M_{\theta\phi}$2.12±.07; $M_{r\phi}$1.05±.06; Best double couple: $M_0$9.10000×10^{17} NP1:ϕ_s323.00000°, δ18.00000°,λ144.00000°. NP2:ϕ_s87.00000°,δ80.00000°, λ75.00000°. Principal axes: T 9.3900, Plg53.0000°, Azm339.0000°; N -0.5100, Plg15.0000°, Azm90.0000°; P -8.8900, Plg33.0000°, Azm189.0000°; Data Used: II IU CN IC G. Surface waves: sta=118, comp=279, per= 50.*
DJA ***11*** *21:40:54.2±0.2,0.7N±2.5×12.4E±.,h133km±2km,M6.0/5, mB6.3/89,mb6.0/105,MLv6.6/20,Mw(mB)6.0/89,Mwp5.4/3*
SZGRF ***11*** *21:41:12.6,4.66N×117.61E,h33km,mb5.8,MS5.1, Borneo*
ISC 11 21:40:53.0±0.1,0.10N±0.02×123.57E±0.02,h141km, h141km±1.5km;pP-P,n1634,σ1s22/815,mb6.0/232, 295C-262D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.63**	**41**	P	**Pn**	**21 41 13.7**	**-0.4**
GTOI	**Gorontalo**	**0.77**	**314**	P	**Pn**	**21 41 16.7**	**+1.6**
LUWI	**Luwuk**	**1.38**	**215**	P	**Pn**	**21 41 18.2**	**-2.5**
MNI	**Manado**	**1.84**	**44**	P	**Pn**	**21 41 26.5**	**+0.7**
TNTI	**Ternate**	**3.86**	**80**	P	**Pn**	**21 41 49.0**	**-2.2**
LBMI	**Labuha**	**4.00**	**101**	P	**Pn**	**21 41 49.9**	**-3.2**
SGSI	**Sangihe**	**4.07**	**29**	P	**Pn**	**21 41 55.3**	**+1.3**
KDI	**Kendari**	**4.14**	**193**	P	**Pn**	**21 41 52.0**	**-2.9**
MSSI	**Masamba**	**4.18**	**231**	P	**Pn**	**21 41 55.0**	**-0.4**
TTSI	**Tana Toraja**	**4.88**	**230**	P	**Pn**	**21 42 04.3**	**-0.4**
SPSI	**Sidrap Palu** 45nm7μm,0.5s	**5.54**	**223**	P	**Pn**	**21 42 12.7**	**-0.8**
BBSI	**Bau Bau** 28nm5μm,1.3s	**5.64**	**190**	P	**Pn**	**21 42 13.0**	**-1.8**
AAI	**Ambon** 38nm6μm,1.2s	**5.96**	**129**	P	**Pn**	**21 42 17.5**	**-1.7**
KAPI	**Kappang** 363nm,0.3s,baz=40,slow=8.1,SNR=280	**6.35**	**217**	P	**Pn**	**21 42 23.0**	**-1.3**
KAPI	279nm,0.3s,baz=218,slow=23,SNR=12			S	**Sn**	**21 43 32.2**	**-3.6**
KAPI	0.2nm,0.3s,baz=255,slow=9.3,SNR=4.2			ScP	ScP	21 52 27.3	+0.3
KAPI	0.5nm,0.3s,baz=24,slow=23,SNR=7.6			ScS	ScS	21 56 00.7	+0.3
KAPI	**Kappang**	**6.35**	**217**	ePn	**Pn**	**21 42 22.8**	**-1.6**
KAPI				eSn	**Sn**	**21 43 32.5**	**-3.3**
KAPI				ePcP	PcP	21 49 08.1	-0.3
KAPI				eScP	ScP	21 52 27.9	+1.0
KAPI				ScS	ScS	21 56 00.7	+0.3
KAPI	**Kappang** 20nm3μm,1.0s	**6.35**	**217**	P	**Pn**	**21 42 22.7**	**-1.7**
KAPI	**Kappang** SNR=121	**6.35**	**217**	P	**Pn**	**21 42 23.2**	**-1.2**
MSAI	**Masohi** 21nm2μm,0.6s	**6.36**	**123**	P	**Pn**	**21 42 23.1**	**-1.4**
SMKI	**Samarinda** 16nm3μm,0.9s	**6.38**	**265**	P	**Pn**	**21 42 26.7**	**+1.9**
BKSI	**Bulukumba** 19nm2μm,0.7s	**6.39**	**213**	P	**Pn**	**21 42 23.9**	**-1.0**
MYLDM	**Lahad Datu**	**7.15**	**315**	P	**Pn**	**21 42 38.7**	**+3.6**
DAV	**Davao City (W)** 79nm,0.3s,baz=176,slow=1.9,SNR=228	**7.21**	**16**	P	**Pn**	**21 42 41.6**	**+5.7**
DAV	**Davao City (W)**	**7.21**	**16**	ePn	**Pn**	**21 42 36.8**	**+0.9**
DAV				eSn	**Sn**	**21 43 57.1**	**+0.6**
DAV				ePcP	PcP	21 49 09.7	+0.7
DAV				eScP	ScP	21 52 29.4	+1.7
DAV	**Davao City (W)**	**7.21**	**16**	P	**Pn**	**21 42 41.7**	**+5.8**
DAV	**Davao City (W)**	**7.21**	**16**	⇓eP	**Pn**	**21 42 40.1**	**+4.2**
DAV	**Davao City (W)** SNR=432	**7.21**	**16**	P	**Pn**	**21 42 40.9**	**+5.0**
KBKI	**Kotabaru** 6.5nm2μm,1.1s	**8.13**	**245**	P	**Pn**	**21 42 49.0**	**+0.7**
MMRI	**Maumere** 7.5nm1μm,1.4s	**8.78**	**189**	P	**Pn**	**21 42 54.9**	**-2.0**
FAKI	**Fak Fak** 10μm1μm,0.6s	**9.18**	**109**	P	**Pn**	**21 42 59.8**	**-2.5**
SNPH	**Sibulan**	**9.19**	**356⇑**	eP	**Pn**	**21 43 08.4**	**+6.0**
BBKI	**Banjar Baru** 3μm,1.4s	**9.41**	**248**	P	**Pn**	**21 43 07.5**	**+2.1**
KKM	**Kota Kinabalu**	**9.42**	**309**	ePn	**Pn**	**21 43 08.8**	**+3.3**
KKM				eSn	**Sn**	**21 44 48.6**	**-1.3**
KKM				ePcP	PcP	21 49 11.9	+1.1
KKM				eScP	ScP	21 52 29.4	-0.6
KKM	**Kota Kinabalu** 3μm,0.7s	**9.42**	**309**	P	**Pn**	**21 43 08.5**	**+3.0**
TBP	**Tagbilaran**	**9.53**	**2⇑**	eP	**Pn**	**21 43 12.2**	**+5.1**
MSLP	**Maasin**	**10.05**	**7**	eP	ScP	21 52 31.6	+0.9
MSLP				eS		21 52 59.6	
LLP	**Lapu-Lapu**	**10.16**	**2⇑**	eP	**Pn**	**21 43 20.2**	**+4.9**
WSI	**Waingapu** 3μm,0.6s	**10.23**	**198**	P	**Pn**	**21 43 17.1**	**+0.8**
GUIM	**Jordan**	**10.50**	**355**	eP	ScP	21 52 31.6	+0.3
TLE	**Tual** 2μm,0.8s	**10.78**	**122**	P	**Pn**	**21 43 22.0**	**-1.6**
PLP	**Palo**	**11.08**	**7⇑**	iP	**Pn**	**21 43 31.9**	**+4.3**
MTNI	**Mataram**	**11.38**	**220**	P	ScP	21 52 33.2	+0.7
MTNI	**Mataram** 2μm,1.0s	**11.38**	**220**	P	**Pn**	**21 43 32.2**	**+0.6**
RCP	**Roxas**	**11.42**	**356⇑**	eP	**Pn**	**21 43 35.6**	**+3.6**
RCP	**Roxas**	**11.42**	**356⇑**	eP	ScP	21 52 39.6	+7.1
KHKI	**Kahang-Kahang** 74nm,1.4s	**11.56**	**223**	P	ScP	21 52 35.4	+2.7
KHKI	**Kahang-Kahang** 1μm,1.4s	**11.56**	**223**	P	**Pn**	**21 43 34.6**	**+0.8**
SBUM	**Sibu** 7μm452nm,1.3s	**11.58**	**282**	P	**Pn**	**21 43 35.6**	**+1.4**
SRBI	**Singaraja** 105nm,2.0s,4μm	**11.64**	**226**	P	ScS	21 56 24.3	+16
SRBI	**Singaraja** 2μm,1.2s	**11.64**	**226**	P	**Pn**	**21 43 36.0**	**+1.1**
KMMI	**Kalianget** 3μm,1.0s	**11.92**	**233**	P	**Pn**	**21 43 41.4**	**+2.8**
STKI	**Sintang** 732nm,1.3s	**12.09**	**270**	P	**Pn**	**21 43 42.9**	**+2.1**
IGBI	**Denpasar** 1μm,1.3s	**12.20**	**223**	P	**Pn**	**21 43 44.7**	**+2.5**
PBKI	**Pangkalan Bun** 3μm,1.2s	**12.21**	**257**	P	**Pn**	**21 43 43.6**	**+1.1**
NBBI	**Negara** 2μm,1.4s	**12.26**	**226**	P	**Pn**	**21 43 45.4**	**+2.4**
OTRP	**Odiongan**	**12.28**	**353**	eP	ScP	21 52 35.3	+1.6
BAKI	**Biak** 10μm378nm,1.6s	**12.60**	**96**	P	**Pn**	**21 43 49.1**	**+1.6**
BLJI	**Banyuglugur** 95nm,1.5s,3μm	**12.63**	**232**	P	ScS	21 56 19.2	+8.3
BLJI	**Banyuglugur** 188nm,0.8s	**12.63**	**232**	P	ScP	21 52 35.1	+0.8
BLJI	**Banyuglugur** 1μm,0.8s	**12.63**	**232**	P	**Pn**	**21 43 48.8**	**+0.9**
JAGI	**Jajag, Banyuwa** 3μm,1.6s	**12.67**	**228**	P	**Pn**	**21 43 49.6**	**+1.3**
GMJI	**Gumukmas** 2μm,1.0s	**13.07**	**230**	P	**Pn**	**21 43 55.3**	**+1.7**
KSM	**Kuching**	**13.33**	**276**	P	**Pn**	**21 43 58.7**	**+1.9**
KSM	**Kuching**	**13.33**	**276**	ePn	**Pn**	**21 43 56.1**	**-0.7**
KSM				eSn	**Sn**	**21 46 23.0**	**-1.2**
KSM				ePcP	PcP	21 49 16.4	+1.4
KSM				eScP	ScP	21 52 35.6	+0.2
KSM	**Kuching** 1μm,1.2s	**13.33**	**276**	P	**Pn**	**21 43 58.4**	**+1.6**
KRKI	**Karangkates** 422nm,1.2s	**13.78**	**233**	P	ScS	21 56 17.3	+3.7
KRKI	**Karangkates** 4μm,1.6s	**13.78**	**233**	P	**Pn**	**21 44 04.5**	**+1.8**
LQP	**Lukban**	**14.07**	**352⇓**	eP	**Pn**	**21 44 11.9**	**+5.7**
SJI	**Sawahan** 340nm,1.0s,4μm	**14.11**	**236**	P	ScS	21 56 15.1	+0.8
SJI	**Sawahan** 779nm,1.0s	**14.11**	**236**	P	**Pn**	**21 44 08.5**	**+1.8**
TGY	**Tagaytay City** 92nm,0.3s,baz=191,slow=2.4,SNR=62	**14.15**	**350**	P	**Pn**	**21 44 11.9**	**+4.6**
TGY	19nm,0.3s,baz=319,slow=1.4,SNR=8.0			ScP	ScP	21 52 38.1	+1.4
TGY	**Tagaytay City**	**14.15**	**350**	P	**Pn**	**21 44 11.9**	**+4.6**
TGY				ScP	ScP	21 52 38.1	+1.4
TGY	**Tagaytay City**	**14.15**	**350**	P	**Pn**	**21 44 11.9**	**+4.6**
TGY	comp=Z,92nm,0.3s			pmax	pmax		
TGY	comp=N,19nm,0.3s			pmax	pmax		
PWJI	**Pagerwojo** comp=N,130nm,1.5s	**14.23**	**235**	P	ScS	21 56 17.0	+2.3
PWJI	**Pagerwojo** comp=N,207nm,1.0s	**14.23**	**235**	P	ScP	21 52 37.5	+0.6
PWJI	**Pagerwojo** comp=N,1μm,1.1s	**14.23**	**235**	P	**Pn**	**21 44 09.5**	**+1.2**
PCJI	**Pacitan**	**14.84**	**236**	P	ScS	21 56 15.7	-0.5
PCJI	**Pacitan** comp=N,196nm,1.2s	**14.84**	**236**	P	ScP	21 52 39.1	+1.1
PCJI	**Pacitan** comp=N,2μm,1.3s	**14.84**	**236**	P	**Pn**	**21 44 17.6**	**+1.6**
SMRI	**Semarang** comp=N,1μm,1.1s	**14.89**	**241**	P	**Pn**	**21 44 19.5**	**+2.8**
UGM	**Wanagama** comp=N,2μm,1.6s	**15.24**	**238**	ePn	**Pn**	**21 44 22.7**	**+1.6**
UGM	**Wanagama** comp=N,510nm,1.8s	**15.24**	**238**	P	ScS	21 56 19.0	+1.7
UGM	**Wanagama** comp=N,508nm,1.5s	**15.24**	**238**	P	**Pn**	**21 44 23.1**	**+2.1**
SMPI	**Sarmi** comp=N,8μmcomp=N,716nm,1.3s	**15.28**	**98**	P	**Pn**	**21 44 23.2**	**+1.7**
YOGI	**Yogyakarta** comp=N,836nm,0.8s	**15.39**	**239**	P	ScS	21 56 19.6	+2.0
YOGI	**Yogyakarta** comp=N,2μm,1.7s	**15.39**	**239**	P	**Pn**	**21 44 27.0**	**+4.2**
BALP	**Baler**	**15.67**	**353**	eP	**Pn**	**21 44 28.1**	**+2.0**
BJII	**Banjamegara** comp=N,329nm,0.8s	**15.67**	**242**	P	ScS	21 56 19.7	+1.3
BJII	**Banjamegara** comp=N,3μm,1.4s	**15.67**	**242**	P	**Pn**	**21 44 28.6**	**+2.3**
TPI	**Tanjungpandan** comp=N,5μmcomp=N,411nm,1.2s	**16.16**	**260**	P	**Pn**	**21 44 34.1**	**+1.8**
CLJI	**Cilicap** comp=N,3μm,1.0s	**16.46**	**242**	P	**Pn**	**21 44 38.4**	**+2.5**
BOLP	**Bolinao**	**16.58**	**348**	eP	**Pn**	**21 44 39.0**	**+1.7**
CAUP	**Cauayan**	**16.83**	**354**	eP	**Pn**	**21 44 43.3**	**+2.9**
JAY	**Jayapura** comp=N,174nm,1.2s	**17.33**	**99**	P	**Pn**	**21 44 50.3**	**+3.8**
LEM	**Lembang** comp=N,235nm,1.6s	**17.34**	**246**	P	ScS	21 56 24.5	+1.3
LEM	**Lembang** comp=N,1μm,1.2s	**17.34**	**246**	P	**Pn**	**21 44 46.9**	**+0.3**
CISI	**Cisompet, Garu** comp=N,685nm,1.1s,comp=N,6μm	**17.45**	**244**	P	ScS	21 56 24.4	+0.9
CISI	**Cisompet, Garu** comp=N,523nm,1.1s,comp=N,5μm	**17.45**	**244**	P	ScP	21 52 43.4	+0.3
CISI	**Cisompet, Garu** comp=N,2μm,0.9s	**17.45**	**244**	P	**Pn**	**21 44 46.7**	**-1.2**
PPBI	**Pangkal Pinang** comp=N,5μmcomp=N,323nm,1.3s	**17.57**	**263**	P	**Pn**	**21 44 50.3**	**+0.9**
ABRA	**Dolores**	**17.66**	**351**	eP	**Pn**	**21 44 50.7**	**+0.2**
CBJI	**Citeko** comp=N,4μm,1.2s	**17.89**	**248**	P	**Pn**	**21 44 52.8**	**-0.5**
TNG	**Tangerang** comp=N,1μm,1.2s	**18.00**	**249**	P	**Pn**	**21 44 56.4**	**+1.9**
TNG	comp=N,763nm,1.2s			P		21 44 57.2	
DBJI	**Dramaga** comp=N,293nm,1.1s	**18.04**	**248**	P	ScP	21 52 44.6	+0.3
FITZ	**Fitzroy Crossi** comp=N,68nm,0.3s,baz=5.4,slow=8.4,SNR=1170	**18.20**	**174**	P	**P**	**21 44 54.5**	**-0.7**
FITZ	comp=N,1.6nm,0.3s,baz=48,slow=2.1,SNR=4.4			ScP	ScP	21 52 45.6	+1.1
FITZ	comp=N,0.1nm,0.3s,baz=93,slow=2.8,SNR=5.8			P3KPbc		22 19 34.5	
FITZ	**Fitzroy Crossi** comp=N,1μm,0.6s	**18.20**	**174**	⇓iP	**P**	**21 44 54.6**	**-0.6**
FITZ				eS	**S**	**21 48 04.5**	**-12**
FITZ	**Fitzroy Crossi**	**18.20**	**174**	P	**P**	**21 44 54.5**	**-0.7**
FITZ				ScP	ScP	21 52 45.6	+1.1
FITZ				e		22 19 34.5	
FITZ	**Fitzroy Crossi** comp=N,1μm,1.1s	**18.20**	**174**	P	**P**	**21 44 54.1**	**-1.1**
PIP	**Pasuquin**	**18.34**	**351⇓**	eP	**P**	**21 44 57.2**	**+0.4**
SKJI	**Sukabumi** comp=N,754nm,1.1s,comp=N,8μm	**18.38**	**247**	P	ScS	21 56 25.2	-1.1
SKJI	**Sukabumi** comp=N,950nm,1.6s	**18.38**	**247**	P	**P**	**21 45 00.4**	**+3.2**
SBJI	**Serang** comp=N,9μmcomp=N,711nm,1.5s	**18.47**	**250**	P	**P**	**21 45 00.6**	**+2.4**
CGJI	**Cibinong** comp=N,894nm,1.4s	**19.04**	**249**	P	**P**	**21 45 04.5**	**+0.1**
BLSI	**Bandar Lampung** comp=N,6μmcomp=N,505nm,1.3s	**19.08**	**253**	P	**P**	**21 45 08.4**	**+3.5**
KLI	**Kotabumi** comp=N,7μmcomp=N,750nm,1.3s	**19.33**	**255**	P	**P**	**21 45 10.4**	**+2.9**
MYKOM	**Kota Tinggi** comp=N,9μmcomp=N,641nm,1.6s	**19.79**	**275**	P	**P**	**21 45 14.2**	**+1.7**
MYKOM	**Kota Tinggi**	**19.79**	**275**	P	**P**	**21 45 14.8**	**+2.3**
MDSI	**Maura Dua** comp=N,135nm,1.0s	**19.90**	**257**	P	ScP	21 52 47.9	-0.6
MDSI	**Maura Dua** comp=N,5μmcomp=N,340nm,1.1s	**19.90**	**257**	P	**P**	**21 45 13.8**	**+0.1**
LWLI	**Liwa** comp=N,501nm,1.1s,comp=N,6μm	**20.14**	**255**	P	ScS	21 56 31.4	-0.7
LWLI	**Liwa** comp=N,648nm,0.9s,comp=N,5μm	**20.14**	**255**	P	ScP	21 52 49.2	+0.1
LWLI	**Liwa** comp=N,598nm,0.7s	**20.14**	**255**	P	**P**	**21 45 18.6**	**+2.3**
KGM	**Kluang**	**20.33**	**276**	P	**P**	**21 45 21.8**	**+3.4**
XMIS	**Christmas Isla** comp=N,2μm,0.9s	**20.68**	**239**	eP	**P**	**21 45 20.2**	**-1.9**
XMIS				eSCP	ScP	21 52 50.4	+0.1
XMIS	**Christmas Isla** comp=N,3μm,0.9s	**20.68**	**239**	P	**P**	**21 45 24.6**	**+2.5**
MNAI	**Manna** comp=N,566nm,1.4s,mb5.7	**21.06**	**258**	P	**P**	**21 45 28.3**	**+2.1**
KSI	**Kapahiang**	**21.29**	**260**	P	ScS	21 56 35.7	-0.5
KSI	**Kapahiang** comp=N,485nm,0.8s	**21.29**	**260**	P	ScP	21 52 52.5	+0.6
KSI	**Kapahiang** comp=N,836nm,0.9s,mb6.1	**21.29**	**260**	P	**P**	**21 45 29.5**	**+0.9**
MBWA	**Marble Bar** comp=N,798nm,1.2s,mb5.9	**21.46**	**190**	iP	**P**	**21 45 29.2**	**-1.1**
MBWA				eS	**S**	**21 49 17.1**	**-3.1**
MBWA				ePcP	PcP	21 49 28.4	+0.4
MBWA				eScP	ScP	21 52 52.3	+0.2
MBWA	**Marble Bar** comp=N,786nm,1.3s,mb5.9	**21.46**	**190**	P	**P**	**21 45 29.1**	**-1.2**
MBWA	**Marble Bar** SNR=57	**21.46**	**190**	P	**P**	**21 45 29.5**	**-0.7**
KRJI	**Kerinci** comp=N,2μm,1.1s,mb6.4	**22.21**	**264**	P	**P**	**21 45 40.6**	**+2.3**
BKNI	**Bangkinang**	**22.53**	**271**	P	ScP	21 52 56.8	+1.8
BKNI	**Bangkinang** comp=N,7μmcomp=N,437nm,1.1s,mb5.8	**22.53**	**271**	P	**P**	**21 45 42.5**	**+1.0**
WRAB	**Tennant Creek** comp=N,2μm,1.4s,mb6.3	**22.54**	**153**	eP	**P**	**21 45 39.6**	**-1.8**
WRAB				epPn		21 46 09.3	
WRAB				ePcP	PcP	21 49 29.6	-0.6
WRAB				eS	**S**	**21 49 39.8**	**+1.8**
WRAB				eScP	ScP	21 52 55.7	+0.8
WRAB	**Tennant Creek** comp=N,5μm,0.6s,mb7.1	**22.54**	**153**	P	**P**	**21 45 39.0**	**-2.4**
WRAB	**Tennant Creek**	**22.54**	**153**	eP	**P**	**21 45 39.7**	**-1.7**
WRAB				e		21 46 09.3	
WRAB				e		21 49 29.6	
WRAB				eS	**S**	**21 49 39.8**	**+1.8**
WRAB	comp=Z,2μm,1.4s,mb6.3			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,1μm,1.4s,mb6.2	**22.54**	**153**	P	**P**	**21 45 39.2**	**-2.2**
WRA	**Warramunga Arr** comp=Z,393nm,0.5s,mb6.1,baz=333,slow=10,SNR=410	**22.54**	**153**	P	**P**	**21 45 39.5**	**-1.9**
WRA	comp=Z,240nm,0.7s,baz=331,slow=12,SNR=4.7			pP		21 46 06.3	
WRA	comp=Z,87nm,0.8s,baz=334,slow=16,SNR=6.0			S	**S**	**21 49 34.4**	**-3.7**
WRA	comp=Z,85nm,1.0s,baz=333,slow=3.1,SNR=15			ScP	ScP	21 52 55.1	+0.2
WRA	comp=Z,16nm,0.9s,baz=22,slow=6.8,SNR=8.9			ScS	ScS	21 56 38.0	-2.5
WRA	comp=Z,2.4nm,0.7s,baz=153,slow=3.6,SNR=30			P3KPbc		22 19 08.2	
WRA	comp=Z,2.6nm,1.0s,baz=72,slow=3.0,SNR=6.7			P3KP		22 20 03.0	
WRA	comp=Z,1.2nm,1.1s,baz=150,slow=4.1,SNR=5.4			PKP2ab		22 23 08.5	
WRA	**Warramunga Arr**	**22.54**	**153**	P	**P**	**21 45 39.5**	**-1.9**
WRA				pP		21 46 06.3	
WRA				S	**S**	**21 49 34.4**	**-3.7**
WRA				ScP	ScP	21 52 55.1	+0.2
WRA				ScS	ScS	21 56 38.0	-2.5
WRA				e		22 19 08.2	
WRA				PKKKP		22 20 03.0	
WRA				P'P'ab		22 23 08.5	
WRA	**Warramunga Arr**	**22.54**	**153**	P	**P**	**21 45 39.6**	**-1.9**
WRA				*PP		21 46 06.3	
WRA				S	**S**	**21 49 34.4**	**-3.7**
WRA						21 56 38.0	
WRA	comp=Z,393nm,0.5s			pmax	pmax		
WRA	comp=Z,240nm,0.7s			pmax	pmax		
WRA	comp=N,87nm,0.8s			smax			
WRA	comp=N,85nm,1.0s			pmax	pmax		
WRA	comp=N,16nm,1.0s			pmax	pmax		
WRA	comp=Z,2.0nm,0.7s			pmax	pmax		
WRA	comp=Z,3.0nm,1.0s			pmax	pmax		
WRA	comp=Z,1.0nm,1.1s			pmax	pmax		
WB2	**Warramunga Arr**	**22.55**	**153**	eP	**P**	**21 45 39.3**	**-2.2**
WB2				epP		21 46 06.7	
WB2				eS	**S**	**21 49 38.8**	**+0.7**
WB2				eScP	ScP	21 52 55.5	+0.7
TWG	**Pinlang** comp=Z,496nm,0.8s,mb6.0	**22.71**	**354**	eP	**P**	**21 45 42.5**	**-0.5**
TWG				eScP	ScP	21 52 54.3	-0.9
IPM	**Ipoh**	**22.93**	**281**	P	**P**	**21 45 47.4**	**+2.2**
IPM	**Ipoh** comp=Z,878nm,1.0s,mb6.1	**22.93**	**281**	eP	**P**	**21 45 45.8**	**+0.6**
IPM				ePcP	PcP	21 49 31.8	+0.7
IPM				eScP	ScP	21 52 56.2	+0.1
IPM	**Ipoh** comp=Z,951nm,1.2s,mb6.1	**22.93**	**281**	P	**P**	**21 45 46.7**	**+1.5**
PDSI	**Padang** comp=Z,353nm,0.8s,comp=Z,6μm	**23.13**	**267**	P	ScP	21 52 55.7	-0.9
PDSI	**Padang** comp=Z,10μmcomp=Z,1μm,1.3s,mb6.1	**23.13**	**267**	P	**P**	**21 45 46.7**	**-0.3**
QIZ	**Qiongzhong**	**23.14**	**325**	P	**P**	**21 45 48.2**	**+1.3**
QIZ				pP		21 46 14.6	
QIZ				sP	sP	21 46 30.8	-0.7
QIZ				S	**S**	**21 49 49.2**	**+1.4**
QIZ				sS	sS	21 50 39.3	+2.7
QIZ	comp=Z,1μm,1

SSLB *e*PcP PcP 21 49 33.4 +1.0
SSLB S **S** **21 49 56.9 +0.4**
SSLB *e*ScP ScP 21 52 58.0 +0.1
UBT Ubonrachathani 23.71 310 ⇓P **P** **21 45 55.5 +3.2**
comp=Z,938nm,0.6s,mb6.5
HKC Hong Kong Obse 23.89 338 ⇑*i*P **P** **21 45 56.0 +2.2**
HKC *i* S **S** **21 50 02.0 +2.1**
COEN Coen 23.91 127 *e*P **P** **21 45 53.1 -1.0**
COEN *e*pP 21 46 21.4
COEN *e*sP sP 21 46 37.8 -2.0
COEN *e*S **S** **21 50 03.8 +3.3**
COEN *e*ScP ScP 21 53 00.0 +1.4
COEN Coen 23.91 127 P **P** **21 45 52.9 -1.2**
comp=Z,6μmcomp=Z,479nm,1.2s,mb5.9
SNG Songkhla 23.95 288 P **P** **21 45 56.0 +1.6**
comp=Z,1μm,1.0s,mb6.3
MNSI Mandailing Nat 24.00 272 P **P** **21 45 56.9 +2.0**
comp=Z,4μmcomp=Z,197nm,0.8s,mb5.7
NACB Ninganchiao 24.01 356 *e*P **P** **21 45 54.6 -0.2**
comp=Z,428nm,1.2s,mb5.8
NACB *e*PcP PcP 21 49 34.1 +0.9
YHNB Yeheng 24.52 355 *e*P **P** **21 45 59.2 -0.3**
comp=Z,2μm,1.5s,mb6.4
YHNB *e*sP sP 21 46 41.5 -4.0
YHNB *e*PcP PcP 21 49 34.7 +0.4
YHNB *e*ScP ScP 21 53 01.7 +1.6
PSI Prapat 24.78 276 P ScP 21 53 01.0 -0.1
PSI Prapat 24.78 276 P **P** **21 46 02.7 +0.7**
comp=Z,4μmcomp=Z,289nm,1.0s,mb5.7
TATO Taipei 24.81 356 *e*P **P** **21 46 01.7 -0.5**
comp=Z,678nm,1.0s,mb6.1
TATO Taipei 24.81 356 P **P** **21 46 05.2 +3.0**
SNR=6.2
GZH Guangzhou 24.92 337 P **P** **21 46 08.4 +5.3**
GZH S **S** **21 50 23.1 +6.9**
GZH pmax pmax
comp=Z,940nm,1.5s,mb6.1
GUMO Guam 25.00 57 P **P** **21 46 04.3 +0.4**
comp=Z,450nm,0.9s,mb6.0,baz=207,slow=4.7,SNR=7.8
GUMO ScP ScP 21 53 00.7 -1.0
comp=Z,178nm,0.9s,baz=190,slow=6.9,SNR=4.1
GUMO Guam 25.00 57 *e*P **P** **21 46 04.8 +0.9**
comp=Z,913nm,1.2s,mb6.2
GUMO ScP ScP 21 53 00.7 -1.0
GUMO Guam 25.00 57 *e*P **P** **21 46 04.8 +0.9**
GUMO pmax pmax
comp=Z,913nm,1.2s,mb6.2
GUMO Guam 25.00 57 P **P** **21 46 06.4 +2.5**
comp=Z,859nm,1.4s,mb6.1
QZH Quanzhou 25.16 349 ⇑*i*P **P** **21 46 04.3 -1.0**
QZH pmax pmax
comp=Z,2μm,1.1s,mb6.6
QZH LR LR
comp=N,4μm,18.0s
QZH LR LR
comp=E,4μm,17.1s
QZH LR LR
comp=Z,6μm,17.5s
TSI Tuntungan 25.21 278 P **P** **21 46 07.5 +1.5**
comp=Z,8μmcomp=Z,359nm,1.6s,mb5.7
PMG Port Moresby 25.31 113 P **P** **21 46 07.0 +0.2**
comp=Z,103nm,0.8s,mb5.4,baz=313,slow=4.8,SNR=30
PMG ScP ScP 21 53 04.4 +1.8
comp=Z,25nm,1.0s,baz=331,slow=1.0,SNR=3.5
PMG Port Moresby 25.31 113 *e*P **P** **21 46 06.9 +0.1**
comp=Z,311nm,1.0s,mb5.8
PMG *e*ScP ScP 21 53 04.0 +1.4
PMG Port Moresby 25.31 113 P **P** **21 46 07.0 +0.2**
PMG pmax pmax
comp=Z,103nm,0.8s
PMG pmax pmax
comp=N,25nm,1.0s
PMG Port Moresby 25.31 113 P **P** **21 46 07.1 +0.3**
comp=N,6μmcomp=N,300nm,1.1s,mb5.7
AS31 Alice Springs 25.67 158 *e*P **P** **21 46 09.2 -0.6**
AS31 *e*PcP PcP 21 49 38.0 +1.1
AS31 *e*ScP ScP 21 53 04.1 +0.7
ASAR Alice Springs 25.67 158 P **P** **21 46 09.3 -0.6**
comp=N,133nm,0.7s,mb5.7,baz=336,slow=7.7,SNR=394
ASAR PcP PcP 21 49 38.0 +1.1
comp=N,46nm,0.6s,baz=350,slow=2.4,SNR=6.3
ASAR S **S** **21 50 33.8 +5.7**
comp=N,14nm,0.7s,baz=349,slow=18,SNR=4.6
ASAR ScP ScP 21 53 03.6 +0.3
comp=N,100nm,1.0s,baz=346,slow=2.4,SNR=27
ASAR ScS ScS 21 56 50.8 -2.1
comp=N,9.8nm,1.0s,baz=335,slow=4.1,SNR=4.4
ASAR P3KPbc 22 18 56.4
comp=N,1.2nm,0.8s,baz=145,slow=3.8,SNR=10
ASAR P3KP 22 20 03.3
comp=N,3.6nm,1.2s,baz=76,slow=3.9,SNR=4.1
ASAR Alice Springs 25.67 158 P **P** **21 46 09.3 -0.6**
ASAR PcP PcP 21 49 38.0 +1.1
ASAR S **S** **21 50 33.8 +5.8**
ASAR ScP ScP 21 53 03.6 +0.3
ASAR ScS ScS 21 56 50.8 -2.1
ASAR *e* 22 18 56.4
ASAR PKKKP 22 20 03.3
ASAR Alice Springs 25.67 158 P **P** **21 46 09.3 -0.6**
ASAR 21 49 38.0
ASAR S **S** **21 50 33.8 +5.8**
ASAR 21 56 50.8
ASAR pmax pmax
comp=Z,133nm,0.7s
ASAR pmax pmax
comp=Z,46nm,0.6s
ASAR smax
comp=N,14nm,0.7s
ASAR pmax pmax
comp=N,100nm,1.0s
ASAR pmax pmax
comp=N,10.0nm,1.0s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR pmax pmax
comp=Z,4.0nm,1.3s
KKTK Khon Kaen 26.06 309 ⇑P **P** **21 46 15.0 +1.5**
comp=Z,2μm,0.4s,mb7.2
TPTI 26.56 277 P **P** **21 46 18.3 +0.2**
comp=Z,185nm,0.8s,mb5.8
NNT Nongplab 26.70 299 P **P** **21 46 21.5 +2.2**
JOW Kunigami 26.96 9 P **P** **21 46 21.9 +0.4**
comp=Z,228nm,0.8s,mb5.8,baz=217,slow=6.6,SNR=21
JOW PcP PcP 21 49 41.8 +1.9
comp=Z,96nm,0.9s,baz=200,slow=5.2,SNR=4.4
JOW ScP ScP 21 53 08.2 +1.0
comp=Z,44nm,0.9s,baz=239,slow=4.0,SNR=8.6
JOW LR LR 21 56 43.5
comp=Z,3μm,18.3s,baz=171,slow=35
JOW Kunigami 26.96 9 *e*P **P** **21 46 22.2 +0.7**
comp=Z,188nm,1.1s,mb5.6
JOW *e*PcP PcP 21 49 41.4 +1.6
JOW *e*ScP ScP 21 53 08.1 +0.9
LHMI Lhok Sumawe 27.07 281 P **P** **21 46 25.0 +2.4**
comp=Z,5μmcomp=Z,470nm,0.9s,mb6.1
NST Nakhon Sawan 27.84 305 ⇓P **P** **21 46 31.5 +2.1**
comp=Z,552nm,1.2s,mb6.2
BSI Banda Aceh 28.73 281 P **P** **21 46 37.4 0.0**
comp=Z,2μmcomp=Z,101nm,1.6s,mb5.3
BDT Bhumibol Dam 29.59 306 P **P** **21 46 46.0 +1.1**
comp=Z,189nm,1.0s,mb5.8
CTA Charters Tower 29.93 133 P **P** **21 46 48.4 +0.5**
comp=Z,81nm,1.0s,mb5.4,baz=314,slow=11,SNR=43
CTA ScP ScP 21 53 18.6 +2.0
comp=Z,122nm,1.0s,baz=290,slow=4.5,SNR=12
CTA LR LR 22 00 29.8
comp=Z,2μm,19.3s,baz=314,slow=39
CTA Charters Tower 29.93 133 ⇓*i*P **P** **21 46 48.4 +0.4**
comp=Z,69nm,0.9s,mb5.4
CTA *e*S **S** **21 51 31.9 -3.4**
CTA *e*SCP ScP 21 53 17.1 +0.5
CTA *e*SCS ScS 21 57 13.6 +1.3
CTA Charters Tower 29.93 133 P **P** **21 46 48.4 +0.5**
CTA ScP ScP 21 53 18.6 +2.0
CTA Charters Tower 29.93 133 P **P** **21 46 48.4 +0.4**
CTA 21 53 18.6
CTA pmax pmax
comp=Z,81nm,1.0s
CTA pmax pmax
comp=N,122nm,1.0s
CTA MLR MLR
comp=Z,2μm,19.3s
CTAO Charters Tower 29.93 133 *e*P **P** **21 46 48.5 +0.5**
comp=Z,238nm,1.2s,mb5.8
CTAO *e*PcP PcP 21 49 49.5 +2.1
CTAO *e*ScP ScP 21 53 18.1 +1.5

CTAO Charters Tower 29.93 133 *e*P **P** **21 46 48.5 +0.5**
CTAO *e* 21 49 49.5
CTAO *e* 21 53 18.1
CTAO pmax pmax
comp=Z,238nm,1.2s,mb5.8
CTAO Charters Tower 29.93 133 P **P** **21 46 48.5 +0.5**
comp=Z,3μmcomp=Z,175nm,1.6s,mb5.5
CM31 Chiang Mai Arr 30.30 308 *e*P **P** **21 46 53.3 +2.1**
comp=Z,576nm,1.1s,mb6.2
CM31 *e*pP pP 21 47 20.1 -1.2
CM31 *e*PcP PcP 21 49 50.1 +1.7
CM31 *e*ScP ScP 21 53 18.2 +0.4
CMAR Chiang Mai Arr 30.30 308 P **P** **21 46 52.9 +1.7**
comp=Z,335nm,1.0s,mb6.0,baz=136,slow=6.9,SNR=256
CMAR PcP PcP 21 49 50.2 +1.9
comp=Z,85nm,0.9s,baz=165,slow=1.7,SNR=13
CMAR ScP ScP 21 53 19.1 +1.3
comp=Z,56nm,1.1s,baz=161,slow=2.3,SNR=21
CMAR ScS ScS 21 57 15.6 +1.4
comp=Z,4.1nm,0.8s,baz=172,slow=8.1,SNR=5.9
CMAR LR LR 21 58 54.0
comp=Z,4μm,19.0s,baz=122,slow=36
CMAR P3KPbc 22 18 49.8
comp=Z,0.6nm,0.3s,baz=326,slow=4.4,SNR=4.9
CMAR Chiang Mai Arr 30.30 308 P **P** **21 46 52.9 +1.7**
CMAR PcP PcP 21 49 50.2 +1.9
CMAR ScP ScP 21 53 19.1 +1.3
CMAR ScS ScS 21 57 15.6 +1.4
CMAR *e* 22 18 49.8
CMAR Chiang Mai Arr 30.30 308 P **P** **21 46 52.9 +1.7**
CMAR 21 49 50.3
CMAR 21 57 15.6
CMAR pmax pmax
comp=Z,335nm,1.0s
CMAR pmax pmax
comp=Z,85nm,1.0s
CMAR pmax pmax
comp=N,56nm,1.1s
CMAR pmax pmax
comp=N,4.0nm,0.9s
CMAR MLR MLR
comp=Z,4μm,19.0s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CHG Chiang Mai 30.50 309 ⇑P **P** **21 46 55.2 +2.2**
comp=Z,207nm,1.2s,mb5.7
CHTO Chiang Mai 30.50 309 *e*P **P** **21 46 54.5 +1.6**
CHTO *e*PcP PcP 21 49 50.4 +1.5
CHTO *e*ScP ScP 21 53 18.9 +0.5
CHTO Chiang Mai 30.50 309 *e*P **P** **21 46 54.5 +1.5**
CHTO *e* 21 49 50.4
CHTO Chiang Mai 30.50 309 P **P** **21 46 54.4 +1.4**
comp=Z,1μm,1.1s,mb6.5
CHTO Chiang Mai 30.50 309 P **P** **21 46 55.1 +2.2**
SNR=304
GYA Guiyang 30.85 329 ⇑*i*P **P** **21 46 57.6 +1.6**
GYA pP pP 21 47 27.6 +1.4
GYA sP sP 21 47 44.1 +1.7
GYA PP PP 21 48 03.8 -4.7
GYA PcP PcP 21 49 51.1 +1.4
GYA S **S** **21 51 51.6 +2.1**
GYA sS sS 21 52 42.3 -0.2
GYA ScP ScP 21 53 19.5 0.0
GYA ScS ScS 21 57 15.1 -1.5
GYA pmax pmax
comp=Z,240nm,1.1s,mb5.8
GYA pmax pmax
comp=Z,2μm,6.7s
SSE Sheshan 30.91 356 P **P** **21 46 57.5 +1.1**
SSE pP pP 21 47 27.5 +0.9
SSE sP sP 21 47 43.4 +0.6
SSE S **S** **21 53.2 +2.9**
SSE sS sS 21 52 44.9 +1.7
SSE pmax pmax
comp=Z,380nm,1.2s,mb6.0
SSE pmax pmax
comp=Z,180nm,4.3s
SSE LR LR
comp=N,3μm,19.0s
SSE LR LR
comp=E,2μm,19.0s
SSE LR LR
comp=Z,4μm,26.3s
SSE Sheshan 30.91 356 P **P** **21 46 57.5 +1.1**
comp=Z,380nm,1.2s,mb6.0
SSE pP pP 21 47 27.5 +0.9
SSE sP sP 21 47 43.4 +0.6
SSE S **S** **21 53.2 +2.9**
SSE sS sS 21 52 44.9 +1.7
SSE SS SS 21 54 12.1 +3.5
SSE LR LR
comp=Z,4μm,26.3s
FORT Forrest 31.00 172 ⇓*i*P **P** **21 46 56.5 -0.7**
comp=Z,823nm,0.5s,mb6.7
FORT Forrest 31.00 172 *e*P **P** **21 46 56.5 -0.7**
FORT *e*pP pP 21 47 25.3 -2.2
FORT *e*ScP ScP 21 53 21.2 +1.3
WHN Wuhan 31.52 345 ⇓P **P** **21 47 03.3 +1.5**
WHN pP pP 21 47 33.1 +1.1
WHN sP sP 21 47 50.6 +2.4
WHN pmax pmax
comp=Z,1μm,1.3s,mb6.5
WHN LR LR
comp=N,4μm,13.2s
WHN LR LR
comp=E,8μm,17.0s
WHN LR LR
comp=Z,8μm,22.6s
KLBR Kellerberrin 32.00 189 ⇓*i*P **P** **21 47 04.9 -1.0**
comp=Z,346nm,0.6s,mb6.3
KLBR *e*SCP ScP 21 53 24.1 +0.9
KMI Kunming 32.01 323 P **P** **21 47 08.6 +2.5**
KMI pP pP 21 47 38.8 +2.4
KMI sP sP 21 47 56.5 +3.9
KMI PP PP 21 48 20.8 -0.5
KMI PcP PcP 21 49 53.6 +0.8
KMI S **S** **21 52 07.8 +0.2**
KMI ScP ScP 21 53 24.6 +1.2
KMI pmax pmax
comp=Z,250nm,1.5s,mb5.7
KMI pmax pmax
comp=Z,2μm,6.3s
KMI LR LR
comp=N,2μm,15.1s
KMI LR LR
comp=E,3μm,14.1s
KMI LR LR
comp=Z,3μm,15.2s
KMI Kunming 32.01 323 P **P** **21 47 08.6 +2.5**
comp=Z,255nm,1.5s,mb5.7
KMI pP pP 21 47 38.8 +2.4
KMI sP sP 21 47 56.5 +3.9
KMI PP PP 21 48 20.8 -0.5
KMI PPP 21 48 39.4
KMI PcP PcP 21 49 53.6 +0.8
KMI S **S** **21 52 07.8 +0.2**
KMI sS sS 21 53 05.4 +4.8
KMI ScP ScP 21 53 24.6 +1.2
KMI SS SS 21 54 11.7 -19
KMI LR LR
comp=Z,3μm,15.2s
KMI Kunming 32.01 323 P **P** **21 47 08.6 +2.5**
KMI *PP pP 21 47 38.8 +2.4
KMI *SP sP 21 47 56.5 +3.9
KMI 21 48 20.8
KMI PPP 21 48 39.4
KMI 21 49 53.6
KMI S **S** **21 52 07.8 +0.2**
KMI *SS sS 21 53 05.4 +4.8
KMI SS SS 21 54 11.7 -19
KMI pmax pmax
comp=Z,255nm,1.5s,mb5.7
KMI MLR MLR
comp=Z,3μm,15.2s
NJ2 Nanjing 32.09 352 *e*P **P** **21 47 08.1 +1.3**
NJ2 pP pP 21 47 38.7 +1.7
NJ2 pmax pmax
comp=Z,760nm,1.1s,mb6.3
NJ2 pmax pmax
comp=Z,3μm,5.2s
NJ2 LR LR
comp=N,2μm,24.8s
NJ2 LR LR
comp=E,2μm,23.7s

NJ2 LR LR
comp=Z,3μm,27.9s
CBIJ Chichi jima 32.26 32 P **P** **21 47 07.9 -0.4**
comp=Z,3μm,0.5s,mb7.3,baz=198,slow=2.1,SNR=288
CBIJ S **S** **21 52 07.7 -3.8**
comp=Z,221nm,0.8s,baz=32,slow=24,SNR=6.9
CBIJ Chichi jima 32.26 32 P **P** **21 47 07.9 -0.4**
CBIJ S **S** **21 52 07.7 -3.8**
NWAO Narrogin (SRO) 33.39 190 P **P** **21 47 17.4 -0.6**
comp=Z,147nm,0.6s,mb5.9,baz=16,slow=8.8,SNR=190
NWAO LR LR 22 03 00.1
comp=Z,693nm,18.4s,baz=356,slow=40
NWAO Narrogin (SRO) 33.39 190 *e*P **P** **21 47 17.3 -0.7**
comp=Z,791nm,1.3s,mb6.3
NWAO *e*ScP ScP 21 53 28.8 +0.8
NWAO Narrogin (SRO) 33.39 190 *e*P **P** **21 47 17.3 -0.7**
NWAO pmax pmax
comp=Z,791nm,1.3s
NWAO Narrogin (SRO) 33.39 190 P **P** **21 47 17.8 -0.2**
SNR=26
JNU Nakatsue 33.56 11 *e*P **P** **21 47 19.6 +0.1**
comp=Z,92nm,0.8s,mb5.6
JNU *e*PcP PcP 21 49 57.0 0.0
JNU *e*ScP ScP 21 53 28.9 +0.3
BBOO Buckleboo 34.79 161 *e*P **P** **21 47 29.4 -0.8**
BBOO *e*pP pP 21 47 58.7 -2.0
BBOO S **S** **21 52 50.0 -0.3**
BBOO *e*ScP ScP 21 53 34.0 +1.1
CD2 Chengdu 35.95 330 ⇑*i*P **P** **21 47 41.2 +1.1**
CD2 pP pP 21 48 11.9 +1.1
CD2 sP sP 21 48 28.3 +1.4
CD2 PP PP 21 49 07.9 +3.1
CD2 PcP PcP 21 50 04.9 +0.9
CD2 S **S** **21 53 08.8 +0.6**
CD2 sS sS 21 54 02.5 +0.7
CD2 ScS ScS 21 57 41.0 -2.1
CD2 pmax pmax
comp=Z,1μm,1.1s,mb6.5
CD2 pmax pmax
comp=Z,5μm,5.2s
CD2 LR LR
comp=N,3μm,15.0s
CD2 LR LR
comp=E,3μm,15.6s
CD2 LR LR
comp=Z,3μm,16.8s
STKA Stephens Creek 36.09 153 P **P** **21 47 41.1 -0.1**
comp=Z,362nm,0.5s,mb6.2,baz=327,slow=8.3,SNR=1053
STKA S **S** **21 53 08.2 -2.0**
comp=Z,15nm,0.6s,baz=62,slow=22,SNR=3.0
STKA ScP ScP 21 53 38.4 +0.6
comp=Z,168nm,1.0s,baz=332,slow=4.8,SNR=14
STKA P3KPbc 22 18 15.2
comp=Z,2.1nm,1.0s,baz=159,slow=5.2,SNR=4.4
STKA Stephens Creek 36.09 153 ⇓*i*P **P** **21 47 41.2 -0.1**
comp=Z,398nm,0.6s,mb6.2
STKA *e*S **S** **21 53 02.8 -7.4**
STKA *e*SCP ScP 21 53 38.8 +1.1
STKA *e*SCS ScS 21 57 40.3 -3.5
STKA Stephens Creek 36.09 153 *e*P **P** **21 47 41.2 -0.1**
comp=Z,377nm,1.5s,mb5.8
STKA *e*PP PP 21 49 05.1 -1.2
STKA *e*PcP PcP 21 50 04.8 +0.5
STKA *e*S **S** **21 53 09.5 -0.8**
STKA *e*ScP ScP 21 53 38.8 +1.1
STKA *e* 22 18 15.2
STKA Stephens Creek 36.09 153 P **P** **21 47 41.2 -0.1**
STKA S **S** **21 53 08.2 -2.0**
STKA pmax pmax
comp=Z,362nm,0.5s
STKA smax
comp=N,15nm,0.6s
STKA pmax pmax
comp=N,168nm,1.0s
STKA pmax pmax
comp=Z,2.0nm,1.0s
TIA Tai'an 36.42 351 P **P** **21 47 44.0 -0.1**
TIA pP pP 21 48 14.5 -0.3
TIA sP sP 21 48 29.0 -1.9
TIA S **S** **21 53 21.2 +6.0**
TIA pmax pmax
comp=Z,420nm,0.9s,mb6.1
TIA pmax pmax
comp=Z,2μm,7.4s
XAN Xi'an 36.45 339 P **P** **21 47 44.5 +0.2**
XAN pP pP 21 48 15.1 0.0
XAN sP sP 21 48 29.5 -1.7
XAN S **S** **21 53 13.7 -2.0**
XAN pmax pmax
comp=Z,130nm,1.4s,mb5.4
XAN pmax pmax
comp=Z,470nm,6.6s
XAN LR LR
comp=N,1μm,14.6s
XAN LR LR
comp=E,540nm,15.1s
XAN LR LR
comp=Z,830nm,13.7s
INCN Inchon 37.31 4 *e*P **P** **21 47 52.1 +0.6**
comp=Z,95nm,1.0s,mb5.4
INCN *e*PP PP 21 49 23.2 +3.6
INCN *e*PcP PcP 21 50 08.4 +0.5
INCN *e*ScP ScP 21 53 42.7 +0.6
KSAR Wonju Array Be 37.37 6 P **P** **21 47 52.6 +0.6**
KSAR PcP PcP 21 50 09.5 +1.4
KSAR ScP ScP 21 53 43.2 +0.9
KSAR PKiKP PKiKP 21 57 24.7 -0.1
KSAR Wonju Array Be 37.37 6 P **P** **21 47 52.6 +0.6**
KSAR 21 50 09.5
KSRS Korea Array 37.39 6 P **P** **21 47 52.6 +0.4**
comp=Z,120nm,0.9s,mb5.5,baz=181,slow=9.9,SNR=181
KSRS PcP PcP 21 50 09.5 +1.3
comp=Z,42nm,0.9s,baz=188,slow=3.3,SNR=10
KSRS ScP ScP 21 53 43.2 +0.8
comp=Z,29nm,0.9s,baz=189,slow=3.1,SNR=24
KSRS PKiKP PKiKP 21 57 24.7 -0.1
comp=Z,1.2nm,0.4s,baz=228,slow=1.8,SNR=4.6
KSRS LR LR 22 04 19.5
comp=Z,947nm,19.0s,baz=194,slow=38
KSRS Korea Array 37.39 6 P **P** **21 47 52.6 +0.4**
KSRS 21 50 09.5
KSRS pmax pmax
comp=Z,120nm,0.9s,mb5.5
KSRS pmax pmax
comp=Z,42nm,0.9s,mb5.1
KSRS pmax pmax
comp=N,29nm,0.9s
KSRS pmax pmax
comp=Z,1.0nm,0.4s
KSRS MLR MLR
comp=Z,947nm,19.0s
HNR Honiara 37.43 106 P **P** **21 47 52.7 -0.2**
comp=Z,577nm,0.8s,mb6.3,baz=277,slow=1.8,SNR=5.9
HNR Honiara 37.43 106 *e*P **P** **21 47 53.0 +0.1**
comp=Z,526nm,0.8s,mb6.2
HNR *e*ScP ScP 21 53 45.1 +2.0
HNR Honiara 37.43 106 *e*P **P** **21 47 53.0 +0.1**
HNR pmax pmax
comp=Z,526nm,0.8s,mb6.2
IMP Imphal 37.74 313 *e*PKP **P** **21 47 56.0 +0.6**
IMP *ex* x 21 53 43.0
DL2 Dalian 38.66 358 P **P** **21 48 03.1 +0.3**
DL2 pP pP 21 48 32.4 -1.4
DL2 sP sP 21 48 50.8 +0.9
DL2 *e*S **S** **21 53 46.4 -2.6**
DL2 pmax pmax
comp=Z,260nm,0.9s,mb5.9
DL2 pmax pmax
comp=Z,700nm,3.5s
MJAR Matsushiro Arr 38.72 19 P **P** **21 48 02.9 -0.5**
comp=Z,530nm,0.8s,mb6.2,baz=196,slow=9.7,SNR=789
MJAR pP pP 21 48 32.9 -1.5
comp=Z,98nm,0.8s,baz=194,slow=9.6,SNR=3.6
MJAR PcP PcP 21 50 13.8 +1.5
comp=Z,76nm,1.0s,baz=202,slow=2.6,SNR=7.2
MJAR ScP ScP 21 53 48.0 +0.5
comp=Z,46nm,0.8s,baz=197,slow=4.7,SNR=20
MJAR LR LR 22 01 54.7
comp=Z,2μm,19.6s,baz=210,slow=33
MJAR Matsushiro Arr 38.72 19 P **P** **21 48 02.9 -0.5**
MJAR pP pP 21 48 32.9 -1.5
MJAR PcP PcP 21 50 13.8 +1.5
MJAR ScP ScP 21 53 48.0 +0.5
MJAR Matsushiro Arr 38.72 19 P **P** **21 48 02.9 -0.5**
MJAR *PP pP 21 48 32.9 -1.5

MJAR							21 50 13.8
MJAR							21 53 48.0
MJAR				pmax	pmax		
	comp=Z,530nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,98nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,76nm,1.0s						
MJAR				pmax	pmax		
	comp=N,46nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,2μm,19.6s						
MAJO	**Matsushiro**	**38.72**	**19**	*e*P	**P**	**21 48 02.9**	**-0.5**
	comp=Z,670nm,0.9s,mb6.3						
MAJO				*e*pP	pP	21 48 33.2	-1.2
MAJO				*e*PcP	PcP	21 50 13.2	+0.8
MAJO				*e*ScP	ScP	21 53 47.0	-0.5
MAJO	**Matsushiro**	**38.72**	**19**	*e*P	**P**	**21 48 02.9**	**-0.5**
MAJO				*e**PP	pP	21 48 33.2	-1.2
MAJO				*e*		21 50 13.2	
MAJO				*e*		21 53 47.0	
MAJO				pmax	pmax		
	comp=Z,670nm,0.9s,mb6.3						
MAT	**Matsushiro**	**38.72**	**19**	P	**P**	**21 48 03.0**	**-0.4**
MAT				S	**S**	**21 53 55.3**	**+5.3**
TIY	**Taiyuan**	**38.81**	**346**	⇑*i*P	**P**	**21 48 04.4**	**+0.3**
TIY				pP	pP	21 48 32.3	-2.9
TIY				sP	sP	21 48 49.0	-2.2
TIY				S	**S**	**21 53 52.5**	**+1.2**
TIY				LR	LR		
	comp=N,1μm,13.0s						
TIY				LR	LR		
	comp=E,1μm,14.3s						
TIY				LR	LR		
	comp=Z,320nm,6.6s						
AGT	**Agartala**	**39.26**	**309**	*e*PKP	**P**	**21 48 07.0**	**-1.1**
AGT				*e*x	x	21 49 09.0	
SHL	**Shillong**	**39.71**	**312**	*e*PKP	**P**	**21 48 11.0**	**-0.8**
SHL				*i* x	x	21 53 55.0	
SHL				*e*x	x	21 55 04.0	
LZH	**Lanzhou**	**40.23**	**335**	*e*P	**P**	**21 48 17.5**	**+1.6**
LZH				pP	pP	21 48 49.7	+2.6
LZH				sP	sP	21 49 02.6	-0.5
LZH				PP	PP	21 49 56.1	+4.7
LZH				PcP	PcP	21 50 19.1	+1.9
LZH				*e*S	**S**	**21 54 13.3**	**+0.8**
LZH				sS	sS	21 55 06.0	-0.8
LZH				ScS	ScS	21 58 05.6	-1.8
LZH				pmax	pmax		
	comp=Z,970nm,1.1s,mb6.3						
LZH				pmax	pmax		
	comp=Z,1μm,4.8s						
LZH				LR	LR		
	comp=N,9μm,22.0s						
LZH				LR	LR		
	comp=E,7μm,20.0s						
LZH				LR	LR		
	comp=Z,4μm,22.0s						
LZH	**Lanzhou**	**40.23**	**335**	*e*P	**P**	**21 48 17.5**	**+1.6**
	comp=Z,970nm,1.1s,mb6.3						
LZH				pP	pP	21 48 49.7	+2.6
LZH				sP	sP	21 49 02.6	-0.5
LZH				PP	PP	21 49 56.1	+4.7
LZH				PcP	PcP	21 50 19.1	+1.9
LZH				*e*S	**S**	**21 54 13.3**	**+0.8**
LZH				sS	sS	21 55 06.0	-0.8
LZH				SS	SS	21 57 11.6	-5.0
LZH				ScS	ScS	21 58 05.6	-1.8
LZH				LR	LR		
	comp=Z,4μm,22.0s						
LZH	**Lanzhou**	**40.23**	**335**	*e*P	**P**	**21 48 17.5**	**+1.6**
LZH				*PP	pP	21 48 49.7	+2.6
LZH						21 49 56.1	
LZH						21 50 19.1	
LZH				*e*S	**S**	**21 54 13.3**	**+0.8**
LZH				*SS	sS	21 55 06.0	-0.8
LZH				SS	SS	21 57 11.6	-5.0
LZH						21 58 05.6	
LZH				pmax	pmax		
	comp=Z,970nm,1.1s,mb6.3						
LZH				MLR	MLR		
	comp=Z,4μm,22.0s						
BJI	**Beijing**	**40.32**	**351**	P	**P**	**21 48 16.3**	**-0.3**
BJI				pP	pP	21 48 48.2	+0.4
BJI				sP	sP	21 49 03.6	-0.2
BJI				PcP	PcP	21 50 18.4	+1.0
BJI				ScP	ScP	21 53 53.8	+0.2
BJI				S	**S**	**21 54 15.7**	**+2.0**
BJI				sS	sS	21 55 11.8	+3.7
BJI				pmax	pmax		
	comp=Z,470nm,0.8s,mb6.2						
BJI				pmax	pmax		
	comp=Z,1μm,4.1s						
BJI				LR	LR		
	comp=N,2μm,20.2s						
BJI				LR	LR		
	comp=E,1μm,21.3s						
ARMA	**Armidale**	**40.41**	**141**	⇓*i*P	**P**	**21 48 18.7**	**+1.2**
ARMA				*e*SCP	ScP	21 53 56.3	+2.1
ARMA				*e*S	**S**	**21 54 15.9**	**+0.5**
ARMA				*e*SCS	ScS	21 58 11.6	+2.8
ARMA	**Armidale**	**40.41**	**141**	*e*P	**P**	**21 48 18.8**	**+1.3**
	comp=E,277nm,0.8s,mb5.9						
ARMA				*e*ScP	ScP	21 53 56.1	+1.8
ARMA				*e*S	**S**	**21 54 17.6**	**+2.2**
CAL	**Calcutta**	**40.91**	**305**	*e*PKP	**P**	**21 48 24.0**	**+2.3**
CAL				*e*S	**S**	**21 54 25.6**	**+2.6**
SNY	**Shenyang**	**41.54**	**0**	⇑P	**P**	**21 48 25.9**	**-0.6**
SNY				PP	PP	21 50 04.7	-0.8
SNY				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.5						
SNY				pmax	pmax		
	comp=Z,2μm,3.5s						
SNY				LR	LR		
	comp=N,2μm,25.0s						
SNY				LR	LR		
	comp=E,3μm,16.7s						
SNY				LR	LR		
	comp=Z,2μm,18.6s						
HHC	**Hu-ho-hao-te**	**42.00**	**346**	*e*P	**P**	**21 48 31.0**	**+0.7**
HHC				pP	pP	21 49 02.3	+0.6
HHC				sP	sP	21 49 19.0	+1.4
HHC				PP	PP	21 50 13.6	+3.1
HHC				PcP	PcP	21 50 23.4	+0.6
HHC				S	**S**	**21 54 39.3**	**+0.7**
HHC				sS	sS	21 55 35.6	+2.4
HHC				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.6						
HHC				pmax	pmax		
	comp=Z,1μm,6.9s						
BWNR	**Bhubaneshwar**	**42.04**	**301**	*e*PKP	**P**	**21 48 31.0**	**0.0**
BTO	**Baotou**	**42.16**	**345**	*e*P	**P**	**21 48 31.4**	**-0.2**
CAN	**Canberra**	**42.48**	**149**	*e*P	**P**	**21 48 35.6**	**+1.4**
	comp=Z,407nm,0.6s,mb6.2						
CAN				*e*PcP	PcP	21 50 26.4	+1.8
CAN				*e*ScP	ScP	21 54 03.7	+1.4
CAN	**Canberra**	**42.48**	**149**	*e*P	**P**	**21 48 35.6**	**+1.3**
CAN				*e*		21 50 26.4	
CAN				pmax	pmax		
	comp=Z,407nm,0.6s,mb6.2						
RIV	**Riverview**	**42.54**	**145**	*e*P	**P**	**21 48 36.7**	**+1.9**
RIV				*e*	pP	21 49 04.7	-1.6
RIV				*e*S	**S**	**21 54 50.7**	**+4.0**
TOO	**Toolangi**	**42.60**	**154**	⇓*i*P	**P**	**21 48 36.6**	**+1.4**
	comp=Z,2μm,0.8s,mb6.8						
TOO				*e*SCP	ScP	21 54 04.0	+1.2
TOO				*e*S	**S**	**21 54 48.3**	**+0.8**
CNB	**Canberra Magne**	**42.66**	**148**	⇓*i*P	**P**	**21 48 36.8**	**+1.0**
	comp=Z,3μm,1.5s,mb6.7						
CNB				*e*	pP	21 49 05.3	-2.0
CNB				*e*SCP	ScP	21 54 04.6	+1.5
CNB				*e*S	**S**	**21 54 50.2**	**+1.7**
LSA	**Lhasa**	**42.67**	**317**	P	**P**	**21 48 38.0**	**+2.1**
LSA				S	**S**	**21 54 47.8**	**-0.9**
VLA	**Vladivostok**	**43.48**	**9**	*d i*P	**P**	**21 48 43.0**	**+0.9**
VLA				*i*		21 50 27.2	
VLA				*e*S	**S**	**21 55 01.4**	**+1.3**
VLA				pmax	pmax		
	comp=Z,504nm,1.2s,mb6.0						
CN2	**Changchun**	**43.54**	**2**	*e*P	**P**	**21 48 41.4**	**-1.3**
CN2				*e*pP	pP	21 49 12.9	-1.4
CN2				*e*sP	sP	21 49 29.1	-1.1
CN2				PcP	PcP	21 50 26.4	-1.5
CN2				ScP	ScP	21 54 03.5	-2.9
CN2				*e*S	**S**	**21 55 00.1**	**-0.9**
CN2				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.2						
CN2				pmax	pmax		
	comp=Z,1μm,12.0s						
CN2				LR	LR		
	comp=N,1μm,17.0s						
CN2				LR	LR		
	comp=E,2μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
ODAN	**Odare**	**43.79**	**310**	*e*P	**P**	**21 48 44.6**	**-0.4**
	comp=Z,564nm,0.7s,mb6.3						
ODAN	**Odare**	**43.79**	**310**	*e*P	**P**	**21 48 44.6**	**-0.4**
	comp=Z,564nm,0.7s,mb6.3						
TAPN	**Taplejung**	**43.81**	**311**	*e*P	**P**	**21 48 45.1**	**0.0**
	comp=Z,1μm,0.9s,mb6.5						
TAPN	**Taplejung**	**43.81**	**311**	*e*P	**P**	**21 48 45.1**	**0.0**
	comp=Z,1μm,0.9s,mb6.5						
RAMN	**Ramite**	**44.44**	**310**	*e*P	**P**	**21 48 50.0**	**-0.2**
	comp=Z,3μm,1.1s,mb6.8						
RAMN	**Ramite**	**44.44**	**310**	*e*P	**P**	**21 48 50.0**	**-0.2**
	comp=Z,3μm,1.1s,mb6.8						
MDJ	**Mudanjiang**	**44.65**	**6**	P	**P**	**21 48 52.4**	**+0.9**
MDJ				pP	pP	21 49 21.4	-1.8
MDJ				sP	sP	21 49 34.0	-5.0
MDJ				PcP	PcP	21 50 33.0	+1.3
MDJ				PP	PP	21 50 41.6	+3.0
MDJ				ScP	ScP	21 54 11.0	0.0
MDJ				PcS	PcS	21 54 22.6	-2.6
MDJ				S	**S**	**21 55 20.8**	**+3.8**
MDJ				SS	SS	21 58 33.7	-7.6
MDJ				pmax	pmax		
	comp=Z,270nm,1.2s,mb5.8						
MDJ				pmax	pmax		
	comp=Z,1μm,4.6s						
MDJ				LR	LR		
	comp=N,1μm,24.0s						
MDJ				LR	LR		
	comp=E,1μm,18.2s						
MDJ				LR	LR		
	comp=Z,3μm,30.9s						
GTA	**Gaotai**	**44.75**	**334**	⇑P	**P**	**21 48 53.5**	**+1.1**
GTA				PcP	PcP	21 50 34.0	+1.8
GTA				ScP	ScP	21 54 11.5	0.0
GTA				PcS	PcS	21 54 25.5	-0.4
GTA				S	**S**	**21 55 18.6**	**-0.1**
GTA				ScS	ScS	21 58 33.3	-2.0
GTA				pmax	pmax		
	comp=Z,660nm,1.1s,mb6.2						
GTA				pmax	pmax		
	comp=Z,3μm,4.7s						
GTA				LR	LR		
	comp=N,1μm,19.0s						
GTA				LR	LR		
	comp=E,2μm,17.3s						
GTA				LR	LR		
	comp=Z,2μm,16.2s						
MDRS	**Chennai**	**44.82**	**288**	*ex*	**P**	**21 48 46.2**	**-7.1**
MDRS				*ex*	x	21 55 36.2	
JIRN	**Jiri**	**45.12**	**311**	*e*P	**P**	**21 48 55.1**	**-0.4**
	comp=Z,463nm,1.0s,mb6.0						
JIRN	**Jiri**	**45.12**	**311**	*e*P	**P**	**21 48 55.1**	**-0.4**
	comp=Z,463nm,1.0s,mb6.1						
ERM	**Erimo**	**45.31**	**21**	P	**P**	**21 48 58.4**	**+1.6**
	comp=Z,2μm,0.9s,mb6.7,SNR=11						
ERM	**Erimo**	**45.31**	**21**	*e*P	**P**	**21 48 57.2**	**+0.4**
	comp=Z,254nm,0.9s,mb5.8						
ERM	**Erimo**	**45.31**	**21**	*d i*P	**P**	**21 48 58.3**	**+1.5**
GUN	**Gumba**	**45.48**	**311**	*e*P	**P**	**21 48 57.6**	**-0.8**
	comp=Z,2μm,0.9s,mb6.7						
GUN	**Gumba**	**45.48**	**311**	*e*P	**P**	**21 48 57.6**	**-0.8**
	comp=Z,2μm,0.9s,mb6.6						
PKI	**Pulchoki**	**45.67**	**310**	*e*P	**P**	**21 48 59.0**	**-0.8**
	comp=Z,1μm,1.2s,mb6.4						
PKI	**Pulchoki**	**45.67**	**310**	*e*P	**P**	**21 48 59.0**	**-0.8**
	comp=Z,1μm,1.2s,mb6.4						
PKI	**Pulchoki**	**45.67**	**310**	*e*P	**P**	**21 48 59.0**	**-0.8**
PKI				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.4						
KKN	**Kakani**	**45.88**	**310**	*e*P	**P**	**21 49 00.5**	**-1.0**
	comp=Z,1μm,1.2s,mb6.5						
KKN	**Kakani**	**45.88**	**310**	*e*P	**P**	**21 49 00.5**	**-1.0**
	comp=Z,1μm,1.2s,mb6.5						
KKN	**Kakani**	**45.88**	**310**	*e*P	**P**	**21 49 00.5**	**-1.0**
KKN				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.5						
DMN	**Daman**	**45.92**	**310**	*e*P	**P**	**21 49 01.2**	**-0.6**
	comp=Z,2μm,1.1s,mb6.6						
DMN	**Daman**	**45.92**	**310**	*e*P	**P**	**21 49 01.2**	**-0.6**
	comp=Z,2μm,1.1s,mb6.6						
GKN	**Gorkha**	**46.48**	**310**	*e*P	**P**	**21 49 05.3**	**-0.9**
	comp=Z,2μm,1.1s,mb6.6						
GKN	**Gorkha**	**46.48**	**310**	*e*P	**P**	**21 49 05.3**	**-0.9**
	comp=Z,2μm,1.1s,mb6.6						
ASAJ	**Asahikawa**	**46.99**	**19**	*e*P	**P**	**21 49 11.0**	**+1.2**
	comp=Z,342nm,0.9s,mb6.0						
ASAJ				*e*PcP	PcP	21 50 40.3	+0.3
NOUC	**Port Laguerre**	**47.12**	**121**	*e*P	**P**	**21 49 11.5**	**+0.3**
KOLN	**Koldanda**	**47.16**	**309**	*e*P	**P**	**21 49 10.6**	**-0.9**
	comp=Z,1μm,0.7s,mb6.7						
KOLN	**Koldanda**	**47.16**	**309**	*e*P	**P**	**21 49 10.6**	**-0.9**
	comp=Z,1μm,0.7s,mb6.7						
DZM	**Mont Dzumac**	**47.23**	**121**	*e*P	**P**	**21 49 13.1**	**+1.0**
	comp=Z,226nm,1.4s,mb5.6						
DZM				*e*ScP	ScP	21 54 25.2	+3.0
	comp=Z,134nm,1.5s						
DZM	**Mont Dzumac**	**47.23**	**121**	*e*P	**P**	**21 49 12.9**	**+0.8**
	comp=Z,341nm,1.5s,mb5.8						
DZM				*e*ScP	ScP	21 54 25.1	+2.9
DANN	**Dangsing**	**47.32**	**310**	*e*P	**P**	**21 49 11.9**	**-0.8**
	comp=Z,1μm,0.7s,mb6.7						
DANN	**Dangsing**	**47.32**	**310**	*e*P	**P**	**21 49 11.9**	**-0.8**
	comp=Z,1μm,0.7s,mb6.7						
ALBI	**Allahabad**	**47.48**	**305**	*e*PKP	**P**	**21 49 13.0**	**-1.0**
HYB	**Hyderabad**	**47.51**	**294**	*i* P	**P**	**21 49 13.0**	**-1.4**
	comp=Z,210nm,1.0s,mb5.7						
HYB				*e*pP	pP	21 49 43.0	-3.4
HYB				*e*S	**S**	**21 55 58.0**	**-0.8**
PYUN	**Piuthan**	**47.79**	**309**	*e*P	**P**	**21 49 15.2**	**-1.2**
	comp=Z,3μm,1.0s,mb6.8						
PYUN	**Piuthan**	**47.79**	**309**	*e*P	**P**	**21 49 15.2**	**-1.2**
	comp=Z,3μm,1.0s,mb6.8						
TAU	**Tasmania Unive**	**47.83**	**156**	*e*P	**P**	**21 49 17.4**	**+1.0**
	comp=Z,649nm,1.6s,mb6.0						
TAU				*e*PcP	PcP	21 50 43.2	+0.3
TAU				*e*ScP	ScP	21 54 26.3	+2.0
TAU	**Tasmania Unive**	**47.83**	**156**	P	**P**	**21 49 17.4**	**+1.0**
	comp=Z,1μm,1.6s,mb6.2,SNR=10						
TAU	**Tasmania Unive**	**47.83**	**156**	*e*P	**P**	**21 49 17.4**	**+1.0**
TAU				*e*		21 50 43.2	
TAU				pmax	pmax		
	comp=Z,649nm,1.6s,mb6.0						
YUK	**Yuzh-Kuril'sk**	**48.05**	**22**	*e*P	**P**	**21 49 17.2**	**-0.8**
YUK				*e**PP	pP	21 49 48.0	-2.2
YUK				*i **SP	sP	21 50 05.4	-0.5
YUK				*i*		21 51 11.0	
YUK				*e*PPP		21 52 06.1	
YUK				S	**S**	**21 56 06.2**	**+0.7**
YUK				*i* SSS		22 00 56.2	
YUK				pmax	pmax		
	comp=N,124nm,0.6s						
YUK				pmax	pmax		
	comp=Z,2μm,1.3s,mb6.6						
YUK				pmax	pmax		
	comp=E,569nm,1.3s						
YUK				pmax	pmax		
	comp=Z,3μm,1.3s,mb6.7						
NGP	**Nagpur**	**48.23**	**299**	*e*PKP	**P**	**21 49 17.9**	**-1.9**
NGP				*ex*	x	21 49 21.0	
	comp=Z,816nm,1.7s						
NGP				*ex*	x	21 56 04.0	
HABR	**Khabarovsk**	**49.20**	**10**	*c i*P	**P**	**21 49 27.7**	**+1.0**
HABR				*e**PP	pP	21 49 58.0	-1.0
HABR				*e**SP	sP	21 50 14.0	-0.7
HABR				*e*		21 50 47.0	
HABR						21 51 21.3	
HABR				*e*PPP		21 52 19.1	
HABR				*e*S	**S**	**21 56 24.5**	**+3.0**
HABR				*e*		21 59 03.1	
HABR				pmax	pmax		
	comp=N,623nm,1.7s						
HABR				pmax	pmax		
	comp=Z,2μm,1.7s,mb6.5						
HABR				pmax	pmax		
	comp=E,661nm,1.7s						
HABR				pmax	pmax		
	comp=Z,3μm,1.7s,mb6.6						
HABR				MLR	MLR		
	comp=Z,692nm,20.0s						
KLR	**Kul'dur**	**49.45**	**7**	⇓*i*P	**P**	**21 49 24.3**	**-4.3**
KLR				pmax	pmax		
	comp=N,150nm,1.8s						
KLR				pmax	pmax		
	comp=E,120nm,1.8s						
KLR				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.1						
KLR				pmax	pmax		
	comp=N,1μm,9.0s						
KLR				pmax	pmax		
	comp=Z,2μm,9.0s						
YSS	**Yuzh-Sakhalins**	**49.59**	**17**	*e*P	**P**	**21 49 30.2**	**+0.4**
YSS				*e*PcP	PcP	21 50 50.6	+1.4
YSS	**Yuzh-Sakhalins**	**49.59**	**17**	*α i*P	**P**	**21 49 30.0**	**+0.3**
YSS				*e**PP	pP	21 50 00.5	-1.6
YSS				*e**SP	sP	21 50 18.0	+0.2
YSS				*i*		21 50 50.2	
YSS				*e*		21 51 24.0	
YSS				*e*S	**S**	**21 56 24.0**	**-3.1**
YSS				*e**SS	sS	21 57 20.0	-3.1
YSS				pmax	pmax		
	comp=Z,600nm,1.0s,mb6.2						
YSS				pmax	pmax		
	comp=N,350nm,1.1s						
YSS				pmax	pmax		
	comp=E,390nm,1.3s						
YSS				pmax	pmax		
	comp=Z,1μm,3.0s						
YSS				MLR	MLR		
	comp=E,800nm,17.0s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
LATR	**Latur**	**49.61**	**294**	*e*PKP	**P**	**21 49 30.7**	**+0.3**
ULN	**Ulaanbaatar**	**49.70**	**345**	*e*P	**P**	**21 49 31.0**	**+0.5**
	comp=Z,165nm,0.8s,mb5.7						
ULN				*e*pP	pP	21 50 01.2	-1.7
ULN				*e*PcP	PcP	21 50 49.8	+0.2
ULN				*e*ScP	ScP	21 54 31.6	-0.6
ULN	**Ulaanbaatar**	**49.70**	**345**	*e*P	**P**	**21 49 31.0**	**+0.5**
ULN				*e**PP	pP	21 50 01.2	-1.7
ULN				*e*		21 50 49.8	
ULN				pmax	pmax		
	comp=Z,165nm,0.8s,mb5.7						
ULN	**Ulaanbaatar**	**49.70**	**345**	P	**P**	**21 49 30.7**	**+0.2**
	comp=Z,4μmcomp=Z,269nm,0.9s,mb5.9						
ULN	**Ulaanbaatar**	**49.70**	**345**	P	**P**	**21 49 31.4**	**+0.9**
	SNR=67						
SONM	**Songino Array**	**49.84**	**345**	P	**P**	**21 49 32.0**	**+0.4**
	comp=Z,174nm,0.8s,mb5.8,baz=160,slow=7.6,SNR=518						
SONM				pP	pP	21 50 03.6	-0.3
	comp=Z,62nm,0.8s,baz=164,slow=8.4,SNR=2.8						
SONM				PcP	PcP	21 50 50.9	+0.7
	comp=Z,99nm,0.8s,baz=164,slow=4.7,SNR=8.7						
SONM				ScP	ScP	21 54 32.6	-0.1
	comp=Z,24nm,0.9s,baz=153,slow=4.1,SNR=7.9						
SONM				LR	LR	22 12 32.6	
	comp=Z,1μm,19.1s,baz=157,slow=38						
SONM				PKPPKP		22 20 20.0	
	comp=Z,0.7nm,0.8s,baz=333,slow=1.6,SNR=3.6						
SONM				PKP2ab		22 21 10.7	
	comp=Z,3.3nm,1.1s,baz=330,slow=5.0,SNR=14						
SONM				P4KPbc		22 27 04.2	
	comp=Z,2.8nm,0.7s,baz=168,slow=4.9,SNR=14						
SONM	**Songino Array**	**49.84**	**345**	P	**P**	**21 49 32.0**	**+0.4**
SONM				pP	pP	21 50 03.6	-0.3
SONM				PcP	PcP	21 50 50.9	+0.7
SONM				ScP	ScP	21 54 32.6	-0.1
SONM				P'P'		22 20 20.0	
SONM				P'P'ab		22 21 10.7	
SONM				*e*		22 27 04.2	
SONM	**Songino Array**	**49.84**	**345**	P	**P**	**21 49 32.0**	**+0.4**
SONM				*PP	pP	21 50 03.6	-0.3
SONM						21 50 50.9	
SONM				pmax	pmax		
	comp=Z,174nm,0.8s						
SONM				pmax	pmax		
	comp=Z,63nm,0.9s						
SONM				pmax	pmax		
	comp=Z,99nm,0.8s						
SONM				pmax	pmax		
	comp=N,24nm,0.9s						
SONM				MLR	MLR		
	comp=Z,1μm,19.1s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BHPL	**Bhopal**	**50.36**	**301**	*e*PKP	**P**	**21 49 35.8**	**-0.2**
BHPL				AMb	AMB	21 49 38.5	
	comp=Z,949nm,0.7s,mb6.5						
LGTI	**Lohaghat**	**50.55**	**309**	*ex*	PcS	21 54 46.3	-4.5
LGTI				*ex*	x	21 56 57.1	
PTH	**Pithoragarh**	**50.62**	**309**	*e*PKP	**P**	**21 49 37.8**	**0.0**
AGRA	**Agra**	**51.43**	**306**	*e*PKP	**P**	**21 49 43.5**	**-0.4**
AGRA				AMb	AMB	21 49 45.1	
	comp=Z,656nm,0.5s,mb6.5						
KAD	**Karad**	**51.51**	**292**	*e*PKP	**P**	**21 49 43.3**	**-1.4**
DGAR	**Diego Garcia**	**51.51**	**260**	*e*P	**P**	**21 49 42.6**	**-2.2**
	comp=Z,193nm,0.8s,mb5.8						
DGAR				*e*PcP	PcP	21 50 56.9	-0.2
DGAR				*e*ScP	ScP	21 54 40.4	-0.4
DGAR	**Diego Garcia**	**51.51**	**260**	*e*P	**P**	**21 49 42.6**	**-2.2**
DGAR				*e*		21 50 56.9	
DGAR				pmax	pmax		
	comp=Z,193nm,0.8s,mb5.8						
POO	**Poona**	**52.12**	**294**	*e*PKP	**P**	**21 49 48.1**	**-1.1**
ASOR	**Ausora**	**52.19**	**307**	*e*PKP	**P**	**21 49 49.7**	**+0.1**
CIT	**Chita**	**52.42**	**352**	*e*P	**P**	**21 49 51.4**	**+0.6**
CIT				*e*	pP	21 50 21.0	-2.4
CIT				*e*		21 51 00.6	
CIT				pmax	pmax		
	comp=Z,693nm,1.7s,mb6.0						
AYAN	**Aya Nagar**	**52.60**	**307**	*e*PKP	**P**	**21 49 52.2**	**-0.3**
NDI	**New Delhi**	**52.61**	**307**	*e*PKP	**P**	**21 49 50.0**	**-2.6**
NDI				*e*PKP		21 49 51.5	
NDI				*ex*	x	21 57 03.0	
DDI	**Dehra Dun**	**52.64**	**309**	⇑*i*P	**P**	**21 49 52.0**	**-0.9**
DDI				*e*S	**S**	**21 57 11.5**	**+1.9**
KUDL	**Kundal**	**52.97**	**306**	*e*PKP	**P**	**21 49 54.8**	**-0.5**
ZAK	**Zakamensk**	**53.00**	**344**	⇑*i*P	**P**	**21 49 55.5**	**+0.4**
ZAK				*i*		21 51 02.4	
ZAK				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.3						
KKR	**Kurukshetra**	**53.45**	**308**	*e*PKP	**P**	**21 49 59.4**	**+0.6**
KKR				AMb	AMB	21 50 00.8	
	comp=Z,694nm,0.7s,mb6.5						
SMLA	**Simla**	**53.68**	**310**	*i* x	x	21 57 14.3	
AJM	**Ajmer**	**53.87**	**303**	*e*PKP	**P**	**21 50 01.0**	**-0.9**
SDNR	**Sundarnagar**	**54.00**	**310**	*e*PKP	**P**	**21 50 02.3**	**-0.4**
SDNR				*e*S	**S**	**21 57 29.5**	**+1.6**
WMQ	**Urumqi**	**54.01**	**328**	P	**P**	**21 50 03.4**	**+0.9**
WMQ				PP	PP	21 52 06.2	+0.7
WMQ				S	**S**	**21 57 36.7**	**+9.1**
WMQ				pmax	pmax		
	comp=Z,790nm,0.8s,mb6.5						
WMQ				pmax	pmax		
	comp=Z,3μm,3.0s						
WMQ				LR	LR		
	comp=N,3μm,21.6s						
WMQ				LR	LR		
	comp=E,2μm,21.6s						
WMQ				LR	LR		
	comp=Z,2μm,26.0s						
TLY	**Talaya**	**54.08**	**345**	*e*P	**P**	**21 50 03.4**	**+0.5**
	comp=Z,146nm,0.9s,mb5.7						
TLY				*e*PcP	PcP	21 51 06.4	+0.4
TLY	**Talaya**	**54.08**	**345**	⇑*i*P	**P**	**21 50 02.5**	**-0.4**
TLY		

TLY	**Talaya**	**54.08 345**	P	**P**	**21 50 03.4 +0.5**
	comp=Z,955nm,0.8s,mb6.6,SNR=31				
BHK	**Bhakra**	**54.39 310**	*e*PKP	**P**	**21 50 05.0 -0.6**
IRK	**Irkutsk**	**54.43 346**	*e*P	**P**	**21 50 05.2 -0.2**
IRK			*e*S	ScS	21 59 36.4 -4.1
IRK			pmax	pmax	
	comp=Z,310nm,2.1s,mb5.7				
BHV	**Bhavnagar**	**54.53 297**	*e*PKP	**P**	**21 50 06.0 -0.7**
MOY	**Mondy**	**54.80 343**	*e*P	**P**	**21 50 09.0 +0.9**
MOY			pmax	pmax	
	comp=Z,389nm,3.3s				
FUNA	**Funafuti**	**56.07 100**	*e*P	**P**	**21 50 19.3 +1.3**
	comp=Z,395nm,1.4s,mb6.0				
MSVF	**Nonsavu**	**56.41 111**	*e*P	**P**	**21 50 22.4 +2.1**
	comp=Z,71nm,1.0s,mb5.5				
MSVF			*e*ScP	ScP	21 55 05.1 +3.0
MSVF	**Nonsavu**	**56.41 111**	P	**P**	**21 50 22.0 +1.7**
	comp=Z,297nm,0.7s,mb6.2,SNR=8.0				
MSVF	**Nonsavu**	**56.41 111**	*e*P	**P**	**21 50 22.4 +2.1**
MSVF			pmax	pmax	
	comp=Z,71nm,1.0s,mb5.5				
CLNS	**Chul'man**	**56.57 1**	*e*P	**P**	**21 50 20.2 -0.5**
CLNS			*e*		21 51 14.9
CLNS			*e*		21 52 25.9
CLNS			*e*S	**S**	**21 58 12.6 +11**
CLNS			pmax	pmax	
	comp=Z,317nm,1.1s,mb6.1				
CLNS			pmax	pmax	
	comp=N,204nm,1.1s				
CLNS			pmax	pmax	
	comp=E,86nm,1.1s				
CLNS			pmax	pmax	
	comp=Z,31nm,1.2s,mb5.0				
CLNS			pmax	pmax	
	comp=N,57nm,1.3s				
CLNS			pmax	pmax	
	comp=E,23nm,1.2s				
CLNS			smax		
	comp=N,312nm,10.8s				
CLNS			smax		
	comp=E,121nm,11.5s				
HVS	**Khovu-Aksy**	**56.79 338***c*	*i*P	**P**	**21 50 22.6 +0.3**
HVS			pmax	pmax	
	comp=Z,3μm,1.0s,mb7.0				
SKR	**Severo-Kuril's**	**57.48 24**	*e*P	**P**	**21 50 28.5 +1.3**
SKR			pmax	pmax	
	comp=Z,100nm,0.6s,mb5.8				
SKR			pmax	pmax	
	comp=E,160nm,0.9s				
BOD	**Bodaibo**	**58.05 354**⇓	*i*P	**P**	**21 50 30.7 -0.3**
BOD			*e*		22 00 02.9
BOD			pmax	pmax	
	comp=Z,332nm,1.3s,mb6.0				
OUZ	**Omahuta**	**58.33 133**	*e*P	**P**	**21 50 34.9 +1.4**
	comp=Z,332nm,1.8s,mb5.9				
OUZ			*e*PP	PP	21 52 46.9 +2.6
OUZ			*e*ScP	ScP	21 55 13.2 +3.0
KSH	**Kashi**	**58.48 318**⇑	*i*P	**P**	**21 50 35.5 +1.1**
KSH			pP	pP	21 51 05.3 -2.4
KSH			sP	sP	21 51 19.2 -4.0
KSH			PcP	PcP	21 51 24.8 +1.3
KSH			PP	PP	21 52 47.2 +1.7
KSH			ScP	ScP	21 55 11.6 +0.8
KSH			PcS	PcS	21 55 24.0 -1.2
KSH			S	**S**	**21 58 24.2 -2.7**
KSH			ScS	ScS	22 00 08.7 -1.8
KSH			pmax	pmax	
	comp=Z,190nm,0.9s,mb5.9				
KSH			pmax	pmax	
	comp=Z,1μm,3.1s				
KSH			LR	LR	
	comp=N,1μm,16.8s				
KSH			LR	LR	
	comp=E,950nm,14.6s				
KSH			LR	LR	
	comp=Z,1μm,14.4s				
MK31	**Makanchi Array**	**58.83 328**	*e*P	**P**	**21 50 36.8 +0.1**
MK31			*e*PcP	PcP	21 51 24.9 +0.3
MK31			*e*ScP	ScP	21 55 11.3 -0.8
MK31	**Makanchi Array**	**58.83 328**	*e*P	**P**	**21 50 36.8 +0.2**
MK31			*e*		21 51 24.9
MKAR	**Makanchi Array**	**58.83 328**	P	**P**	**21 50 36.8 +0.2**
	comp=Z,220nm,0.6s,mb6.2,baz=125,slow=7.1,SNR=743				
MKAR			pP	pP	21 51 09.7 -0.3
	comp=Z,95nm,1.0s,baz=108,slow=7.8,SNR=2.3				
MKAR			PcP	PcP	21 51 24.4 -0.3
	comp=Z,137nm,0.6s,baz=146,slow=3.3,SNR=15				
MKAR			ScP	ScP	21 55 11.7 -0.5
	comp=Z,40nm,1.0s,baz=112,slow=5.4,SNR=6.8				
MKAR			S	**S**	**21 58 33.3 +2.2**
	comp=Z,11nm,1.1s,baz=138,slow=13,SNR=4.6				
MKAR			LR	LR	22 15 57.6
	comp=Z,1μm,19.5s,baz=120,slow=36				
MKAR			PKPPKP		22 20 09.4
	comp=Z,1.8nm,0.9s,baz=270,slow=3.3,SNR=5.1				
MKAR			P4KPbc		22 27 43.3
	comp=Z,6.8nm,0.9s,baz=119,slow=5.2,SNR=44				
MKAR	**Makanchi Array**	**58.83 328**	*e*P	**P**	**21 50 36.8 +0.2**
MKAR			pP	pP	21 51 09.7 -0.3
MKAR			PcP	PcP	21 51 24.4 -0.3
MKAR			ScP	ScP	21 55 11.7 -0.5
MKAR			S	**S**	**21 58 33.3 +2.2**
MKAR			P'P'		22 20 09.4
MKAR			*e*		22 27 43.3
MKAR	**Makanchi Array**	**58.83 328**	P	**P**	**21 50 36.8 +0.2**
MKAR			*PP	pP	21 51 09.7 -0.3
MKAR					21 51 24.4
MKAR			S	**S**	**21 58 33.3 +2.2**
MKAR			pmax	pmax	
	comp=Z,220nm,0.6s				
MKAR			pmax	pmax	
	comp=Z,95nm,1.0s				
MKAR			pmax	pmax	
	comp=Z,137nm,0.6s				
MKAR			pmax	pmax	
	comp=N,40nm,1.0s				
MKAR			smax		
	comp=N,11nm,1.1s				
MKAR			MLR	MLR	
	comp=Z,1μm,19.5s				
MKAR			pmax	pmax	
	comp=Z,2.0nm,0.9s				
MKAR			pmax	pmax	
	comp=Z,7.0nm,0.9s				
DCZ	**Deep Cove**	**59.44 146**	PN	**P**	**21 50 41.6 +0.7**
DCZ			pP	pP	21 51 18.1 +3.8
JCZ	**Jackson Bay**	**59.55 144**	PN	**P**	**21 50 42.9 +1.2**
JCZ			pP	pP	21 51 15.1 0.0
ULHL	**Ulaho!**	**59.70 321**	P	**P**	**21 50 43.7 +0.9**
	SNR=19				
ULHL			P		21 50 43.7
	SNR=19				
MLZ	**Mavora Lakes**	**59.94 145**	PN	**P**	**21 50 44.6 +0.3**
PEA0B	**Petropavlovsk-**	**59.97 23**	*e*P	**P**	**21 50 45.6 +1.3**
PETK	**Petropavlovsk-**	**59.97 23**	P	**P**	**21 50 45.9 +1.5**
	comp=Z,362nm,0.9s,mb6.2,baz=284,slow=8.8,SNR=3.8				
PETK			PcP	PcP	21 51 30.1 +1.0
	comp=Z,139nm,0.9s,baz=184,slow=4.3,SNR=4.9				
PETK			LR	LR	22 16 26.1
	comp=Z,538nm,20.0s,baz=224,slow=36				
PETK	**Petropavlovsk-**	**59.97 23**	P	**P**	**21 50 45.9 +1.5**
PETK			PcP	PcP	21 51 30.1 +1.0
PETK	**Petropavlovsk-**	**59.97 23**	P	**P**	**21 50 45.9 +1.5**
PETK					21 51 30.1
PETK			pmax	pmax	
	comp=Z,362nm,0.9s,mb6.2				
PETK			pmax	pmax	
	comp=Z,139nm,0.9s,mb5.8				
PETK			MLR	MLR	
	comp=Z,538nm,20.0s				
KZA	**Kyzart**	**60.25 320**	P	**P**	**21 50 48.0 +1.5**
	SNR=136				
KZA			P		21 50 48.0
	SNR=136				
PET	**Petropavlovsk**	**60.29 24**	*e*P	**P**	**21 50 48.0 +1.5**
PET			*e*pP	pP	21 51 18.9 -1.1
PET			*e*PcP	PcP	21 51 31.3 +1.0
PET	**Petropavlovsk**	**60.29 24**⇑	*i*P	**P**	**21 50 47.7 +1.2**
PET			*e**SP	sP	21 51 30.7 -4.7
PET			*e*S	**S**	**21 58 53.9 +4.3**
PET			pmax	pmax	
	comp=Z,2μm,1.9s,mb6.7				
PET			pmax	pmax	
	comp=Z,1μm,1.3s,mb6.5				
PET			pmax	pmax	
	comp=Z,700nm,14.3s				
PET			MLR	MLR	
	comp=Z,400nm,19.0s				
PET	**Petropavlovsk**	**60.29 24**	*e*P	**P**	**21 50 48.0 +1.5**
PET			*e**PP	pP	21 51 18.9 -1.1
PET			*e*		21 51 31.3
TKM2	**Tokmak 2**	**60.46 321**	P	**P**	**21 50 48.4 +0.4**
	SNR=294				
TKM2			P		21 50 48.4
	SNR=294				
TKM2	**Tokmak 2**	**60.46 321**	*e*P	**P**	**21 50 48.2 +0.3**
	comp=Z,179nm,0.6s,mb6.1				
TKM2			*e*S	**S**	**21 58 51.7 -0.5**
TKM2			*e*P'P'		22 20 18.1
TKM2	**Tokmak 2**	**60.46 321**	*e*P	**P**	**21 50 48.2 +0.3**
TKM2			*e*S	**S**	**21 58 51.7 -0.5**
TKM2			pmax	pmax	
	comp=Z,179nm,0.6s,mb6.1				
LBZ	**Lake Benmore**	**60.58 143**	PN	**P**	**21 50 49.1 +0.4**
LBZ			pP	pP	21 51 26.2 +4.1
APZ	**The Paps**	**60.72 147**	PN	**P**	**21 50 49.7 +0.1**
APZ			pP	pP	21 51 26.4 +3.3
KBK	**Karagaybulak**	**60.74 321**	P	**P**	**21 50 50.8 +1.0**
	SNR=132				
KBK			P		21 50 50.8
	SNR=132				
RPZ	**Rata Peaks**	**60.74 142**	P	**P**	**21 50 50.7 +0.9**
	comp=Z,504nm,1.0s,mb6.3,baz=309,slow=3.7,SNR=66				
RPZ			S	**S**	**21 58 59.0 +3.4**
	comp=Z,6.0nm,0.4s,baz=102,slow=19,SNR=4.8				
RPZ	**Rata Peaks**	**60.74 142**	*e*P	**P**	**21 50 50.7 +0.9**
RPZ			*e*PcP	PcP	21 51 28.2 -4.2
RPZ			*e*S	**S**	**21 58 59.6 +4.0**
RPZ	**Rata Peaks**	**60.74 142**	PN	**P**	**21 50 50.2 +0.5**
RPZ			pP	pP	21 51 26.2 +2.9
UCH	**Uchtor**	**60.80 320**	P	**P**	**21 50 51.6 +1.4**
	SNR=26				
UCH			P		21 50 51.6
	SNR=26				
TOZ	**Tahuroa Road**	**60.80 134**	PN	**P**	**21 50 51.9 +1.6**
AAK	**Ala-Archa**	**61.01 320**	P	**P**	**21 50 52.6 +1.0**
	SNR=101				
AAK			P		21 50 52.6
	SNR=101				
AAK	**Ala-Archa**	**61.01 320**	P	**P**	**21 50 52.0 +0.3**
	comp=Z,796nm,0.9s,mb6.5,SNR=94				
AAK	**Ala-Archa**	**61.01 320**	*e*P	**P**	**21 50 52.5 +0.9**
AAK			*e*PcP	PcP	21 51 33.5 -0.1
AAK			*e*ScP	ScP	21 55 22.1 +0.2
AAK	**Ala-Archa**	**61.01 320**	*i* P	**P**	**21 50 52.6 +0.9**
AAK	**Ala-Archa**	**61.01 320**	P	**P**	**21 50 52.2 +0.5**
	comp=Z,767nm,1.3s,mb6.4				
AAK	**Ala-Archa**	**61.01 320**	P	**P**	**21 50 52.9 +1.3**
	SNR=73				
CHMS	**Chumysh**	**61.04 321**	P	**P**	**21 50 52.0 +0.2**
	SNR=60				
CHMS			P		21 50 52.0
	SNR=60				
FRU	**Bishkek**	**61.04 321**⇑	*i*P	**P**	**21 50 50.0 -1.8**
FRU			*i*		21 51 32.0
FRU			*e*S	**S**	**21 59 00.0 +0.5**
FRU			*e*		21 59 43.0
FRU			pmax	pmax	
	comp=Z,650nm,2.3s,mb6.0				
AML	**Almayashu**	**61.28 320**	P	**P**	**21 50 54.6 +1.2**
	SNR=255				
AML			P		21 50 54.6
	SNR=255				
KBL	**Kabul**	**61.31 310**	*e*P	**P**	**21 50 53.7 -0.1**
	comp=Z,697nm,1.4s,mb6.3				
KBL			*e*ScP	ScP	21 55 24.1 +0.7
KBL			*e*S	**S**	**21 59 03.6 +0.3**
KBL			*e*P'P'		22 20 10.6
KBL	**Kabul**	**61.31 310**	*e*P	**P**	**21 50 53.7 -0.1**
KBL			*e*S	**S**	**21 59 03.6 +0.3**
KBL			pmax	pmax	
	comp=Z,697nm,1.4s,mb6.3				
USP	**Ospenovka**	**61.33 321**	P	**P**	**21 50 53.9 +0.1**
	SNR=146				
USP			P		21 50 53.9
	SNR=146				
EKS2	**Erkin-Say**	**61.49 320**	P	**P**	**21 50 55.8 +0.9**
	SNR=144				
EKS2			P		21 50 55.8
	SNR=144				
EKS2	**Erkin-Say**	**61.49 320**	*e*P	**P**	**21 50 55.6 +0.8**
	comp=Z,126nm,0.8s,mb5.8				
EKS2			*e*pP	pP	21 51 26.7 -1.7
EKS2			*e*PcP	PcP	21 51 36.3 +0.8
EKS2			*e*ScP	ScP	21 55 24.1 +0.1
EKS2			*e*S	**S**	**21 59 09.4 +4.2**
EKS2			*e*P'P'		22 20 07.4
EKS2	**Erkin-Say**	**61.49 320**	*e*P	**P**	**21 50 55.6 +0.8**
EKS2			*e**PP	pP	21 51 26.7 -1.8
EKS2			*e*		21 51 36.3
EKS2			*e*S	**S**	**21 59 09.4 +4.2**
EKS2			pmax	pmax	
	comp=Z,126nm,0.8s,mb5.8				
KHZ	**Kahutara**	**61.63 140**	*e*P	**P**	**21 50 55.8 -0.1**
KHZ			*e*PcP	PcP	21 51 32.2 -3.8
SNZO	**South Karori**	**61.86 138**	*e*P	**P**	**21 50 55.2 -2.2**
	comp=Z,274nm,1.0s,mb6.0				
SNZO			*e*ScP	ScP	21 55 27.9 +2.1
OGWZ	**Otaki Gorge**	**61.95 138**	*e*PN	**P**	**21 50 57.9 0.0**
YAK	**Yakutsk**	**61.95 3**	*e*P	**P**	**21 50 57.8 +0.3**
YAK			*e*ScP	ScP	21 55 25.6 0.0
YAK	**Yakutsk**	**61.95 3***c*	*i*P	**P**	**21 50 57.8 +0.3**
YAK			*e**PP	pP	21 51 30.3 -0.9
YAK			*e*		21 51 40.7
YAK			*e*		21 53 15.8
YAK			*e*PPP		21 54 44.2
YAK			*e*S	**S**	**21 59 13.2 +2.9**
YAK			*e*		22 00 35.8
YAK			pmax	pmax	
	comp=Z,1μm,0.9s,mb6.7				
YAK			pmax	pmax	
	comp=N,487nm,1.2s				
YAK			pmax	pmax	
	comp=E,101nm,1.2s				
YAK			pmax	pmax	
	comp=Z,655nm,2.7s,mb6.0				
YAK			pmax	pmax	
	comp=N,1μm,3.2s				
YAK			pmax	pmax	
	comp=E,212nm,3.3s				
YAK			smax		
	comp=N,533nm,3.5s				
YAK			smax		
	comp=E,569nm,4.1s				
BHHZ	**Black Hill Sta**	**61.96 136**	PN	**P**	**21 50 58.4 +0.3**
MRZ	**Mangatainoka R**	**62.15 137**	PN	**P**	**21 50 58.8 -0.5**
MRZ			pP	pP	21 51 34.2 +1.1
URZ	**Urewera**	**62.18 134**	P	**P**	**21 50 59.5 -0.1**
	comp=E,92nm,0.8s,mb5.7,baz=264,slow=8.4,SNR=30				
URZ			S	**S**	**21 59 09.7 -4.4**
	comp=E,6.8nm,0.8s,baz=329,slow=3.4,SNR=3.0				
URZ	**Urewera**	**62.18 134**	*e*P	**P**	**21 50 59.5 -0.1**
	comp=E,146nm,0.8s,mb5.9				
URZ			*e*PcP	PcP	21 51 38.8 +0.4
URZ			ScP	ScP	21 55 28.3 +1.1
URZ			S	**S**	**21 59 09.7 -4.4**
URZ	**Urewera**	**62.18 134**	PN	**P**	**21 50 59.4 -0.1**
URZ			pP	pP	21 51 36.2 +2.9
NMHZ	**Naumai**	**62.31 135**	PN	**P**	**21 51 01.7 +1.2**
ZAA0	**Zalesovo Array**	**62.46 335**	*e*P	**P**	**21 50 59.8 -1.3**
ZAA0			*e*PP	PP	21 53 18.9 -1.3
ZAA0			*e*S	**S**	**21 59 10.7 -6.3**
ZALV	**Zalesovo Beam**	**62.46 335**	P	**P**	**21 50 59.9 -1.2**
	comp=E,388nm,0.9s,mb6.2,baz=119,slow=5.2,SNR=286				
ZALV			PcP	PcP	21 51 38.1 -1.0
	comp=E,46nm,0.7s,baz=131,slow=4.4,SNR=3.7				
ZALV			S	**S**	**21 59 12.3 -4.7**
	comp=E,3.4nm,0.8s,baz=130,slow=13,SNR=4.0				
ZALV			PKPPKP		22 20 03.5
	comp=E,1.4nm,0.8s,baz=299,slow=5.8,SNR=6.3				
ZALV			PKP2bc		22 20 11.7
	comp=E,8.2nm,0.9s,baz=311,slow=2.6,SNR=12				
ZALV			P4KPbc		22 27 58.2
	comp=E,1.3nm,0.8s,baz=116,slow=3.4,SNR=5.6				
ZALV	**Zalesovo Beam**	**62.46 335**	P	**P**	**21 50 59.9 -1.2**
ZALV			PcP	PcP	21 51 38.1 -1.0
ZALV			S	**S**	**21 59 12.3 -4.7**
ZALV			P'P'		22 20 03.5
ZALV			⇑*e*		22 20 11.7
ZALV			*e*		22 27 58.2
ZALV	**Zalesovo Beam**	**62.46 335**	P	**P**	**21 50 59.9 -1.2**
ZALV			pP	pP	21 51 38.1 +3.3
ZALV			S	**S**	**21 59 12.3 -4.7**
ZALV			pmax	pmax	
	comp=Z,388nm,0.9s,mb6.2				
ZALV			pmax	pmax	
	comp=Z,46nm,0.7s,mb5.4				
ZALV			smax		
	comp=N,3.0nm,0.8s				
ZALV			pmax	pmax	
	comp=Z,1.0nm,0.8s				
ZALV			pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.5				
ZALV			pmax	pmax	
	comp=Z,1.0nm,0.8s				
MWZ	**Matawai**	**62.51 134**	PN	**P**	**21 51 02.4 +0.7**
MWZ			pP	pP	21 51 38.1 +2.6
CNGZ	**Carnagh Statio**	**63.06 134**	PN	**P**	**21 51 06.1 +0.7**
KURK	**Kurchatov**	**63.17 330**	P	**P**	**21 51 05.4 -0.5**
	comp=Z,423nm,0.7s,mb6.4,baz=129,slow=6.0,SNR=920				
KURK			PcP	PcP	21 51 41.7 -0.4
	comp=Z,141nm,0.7s,baz=122,slow=4.1,SNR=10				
KURK			PP	PP	21 53 27.2 +0.6
	comp=Z,26nm,1.0s,baz=131,slow=8.6,SNR=5.5				
KURK			S	**S**	**21 59 22.6 -3.4**
	comp=Z,3.8nm,1.1s,baz=142,slow=11,SNR=3.4				
KURK	**Kurchatov**	**63.17 330**	*e*P	**P**	**21 51 05.6 -0.3**
	comp=Z,1μm,0.8s,mb6.7				
KURK			PcP	PcP	21 51 41.7 -0.4
KURK			*e*PP	PP	21 53 21.4 -5.2
KURK			*e*S	**S**	**21 59 27.1 +1.1**
KURK			*e*P'P'		22 20 05.0
KURK	**Kurchatov**	**63.17 330**	P	**P**	**21 51 05.3 -0.6**
	comp=Z,8μm,0.8s				
KURK	**Kurchatov**	**63.17 330**	*e*P	**P**	**21 51 05.6 -0.3**
KURK			pP	pP	21 51 41.7 +2.0
KURK			*e*		21 53 21.4
KURK			*e*S	**S**	**21 59 27.1 +1.1**
KURK			pmax	pmax	
	comp=Z,1μm,0.8s,mb6.7				
KURK	**Kurchatov**	**63.17 330**	P	**P**	**21 51 05.9 0.0**
	SNR=246				
NVS	**Novosibirsk**	**63.75 335**⇑	*i*P	**P**	**21 51 08.2 -1.4**
NVS			*e**PP	pP	21 51 42.7 -0.7
NVS			*i* S	**S**	**21 59 27.5 -5.5**
NVS			pmax	pmax	
	comp=Z,542nm,0.7s,mb6.5				
NVS			pmax	pmax	
	comp=N,251nm,0.7s				
NVS			pmax	pmax	
	comp=E,238nm,0.6s				
NVS			smax		
	comp=E,170nm,1.7s				
NVS			smax		
	comp=N,84nm,1.6s				
KK31	**Karatay Array**	**63.81 319**	*i* P	**P**	**21 51 09.4 -0.8**
KK31			pmax	pmax	
	comp=Z,182nm,1.3s,mb5.8				
KKAR	**Karatay Array**	**63.81 319**	*e*P	**P**	**21 51 09.8 -0.5**
KKAR			*e*PcP	PcP	21 51 43.7 -1.2
KKAR			*e*P'P'		22 20 04.1
KKAR	**Karatay Array**	**63.81 319**	*e*P	**P**	**21 51 09.8 -0.4**
KKAR			*e*	pP	21 51 43.7 -0.4
AFI	**Afiamalu**	**65.47 105**	P	**P**	**21 51 23.6 +2.1**
	comp=Z,50nm,0.8s,mb5.4,baz=203,slow=13,SNR=3.4				
AFI	**Afiamalu**	**65.47 105**	P	**P**	**21 51 23.6 +2.1**
AFI	**Afiamalu**	**65.47 105**	P	**P**	**21 51 23.6 +2.1**
AFI			pmax	pmax	
	comp=Z,50nm,0.8s,mb5.4				
FX1	**Attu Island--F**	**66.79 30**	P	**P**	**21 51 30.7 +1.5**
	comp=Z,742nm,0.9s,mb6.5,baz=301,slow=1.5,SNR=55				
FX1	**Attu Island--F**	**66.79 30**	P	**P**	**21 51 30.7 +1.5**
FX1	**Attu Island--F**	**66.79 30**	P	**P**	**21 51 30.7 +1.5**
FX1			pmax	pmax	
	comp=Z,742nm,0.9s				
CASY	**Casey**	**66.89 186**⇓	*i*P	**P**	**21 51 29.6 0.0**
CASY	**Casey**	**66.89 186**	*e*P	**P**	**21 51 29.5 0.0**
	comp=Z,345nm,1.1s,mb6.1				
SMY	**Shemya**	**67.17 31**	*e*P	**P**	**21 51 33.5 +1.8**
SMY			*e*PcP	PcP	21 52 00.1 +1.4
SMY	**Shemya**	**67.17 31**	*e*P	**P**	**21 51 33.5 +1.8**
SMY			*e*		21 52 00.1
JMDO	**Jabal Madar**	**67.35 294**	P	**P**	**21 51 32.4 -1.0**
	SNR=32				
SMDO	**Samad**	**67.52 295**	P	**P**	**21 51 33.4 -1.1**
	SNR=25				
DRV	**Dumont d'Urvil**	**67.64 173**	P	**P**	**21 51 44.0 +10**
DRV			S	S	22 00 19.0 -0.8
DRV			R		22 13 00.0
MRIV	**Mauritius Mete**	**67.66 248**	*e*P	**P**	**21 51 34.3 -1.0**
MRIV			*e*PcP	PcP	21 52 01.2 -0.1
JOHN	**Johnston Islan**	**67.89 72**	*e*P	**P**	**21 51 38.6 +1.8**
MSEY	**Mahe Island**	**68.17 265**	*e*P	**P**	**21 51 39.0 +0.3**
	comp=Z,118nm,1.3s,mb5.5				
MSEY	**Mahe Island**	**68.17 265**	*e*P	**P**	**21 51 39.0 +0.3**
MSEY			pmax	pmax	
	comp=Z,118nm,1.3s,mb5.5				
BSY	**Bisya**	**68.24 294**	P	**P**	**21 51 38.1 -0.8**
	SNR=51				
HOQ	**Hoqain**	**68.28 295**	P	**P**	**21 51 38.5 -0.7**
	SNR=43				
BVAR	**Borovoye Array**	**68.69 329**	PKP2bc		22 19 58.6
	comp=Z,2.3nm,1.0s,baz=318,slow=1.9,SNR=5.0				
BVAR			LR	LR	22 21 33.1
	comp=Z,932nm,20.3s,baz=258,slow=36				
BVAR			P4KPbc		22 28 27.6
	comp=Z,1.5nm,0.8s,baz=128,slow=6.3,SNR=9.1				
BRVK	**Borovoye**	**68.76 329**	P	**P**	**21 51 41.7 +0.1**
	comp=Z,1μm,0.8s,mb6.7,SNR=62				
BRVK	**Borovoye**	**68.76 329**	*e*P	**P**	**21 51 40.9 -0.7**
	comp=Z,240nm,1.0s,mb5.9				
BRVK			*e*S	S	22 00 33.9 +0.2
BRVK	**Borovoye**	**68.76 329**	*e*P	**P**	**21 51 40.9 -0.7**
BRVK			*e*S	S	22 00 33.9 +0.2
BRVK			pmax	pmax	
	comp=Z,240nm,1.0s,mb5.9				
BRVK	**Borovoye**	**68.76 329**	P	**P**	**21 51 41.4 -0.2**
	SNR=81				
ARQ	**Araqi**	**68.95 295**	P	**P**	**21 51 42.6 -0.8**
	SNR=47				
AMKA	**Amchitka**	**69.25 34**	*e*P	**P**	**21 51 46.3 +1.7**
	comp=Z,190nm,0.9s,mb5.8				
AMKA			*e*PP	PP	21 54 17.0 -2.6
ZRNK	**Zerenda**	**69.38 328**	*i* P	**P**	**21 51 44.5 -0.9**
ZRNK			pmax	pmax	
	comp=Z,291nm,0.7s,mb6.1				
RER	**Riviere de l'E**	**69.41 247**	*e*P	**P**	**21 51 44.2 -2.0**
	comp=Z,48nm,0.8s,mb5.3				
HATD	**Hatta, Dubai**	**69.55 296**	P	**P**	**21 51 45.8 -1.2**
	SNR=33				
ASHO	**Ashiyiah**	**69.59 296**	P	**P**	**21 51 46.1 -1.2**
	SNR=36				
MIR	**Mirnyy**	**69.94 193**⇓	*i*P	**P**	**21 51 50.0 +1.5**
MIR			*e*S	S	22 00 48.0 +1.1
MIR			*e**SS	sS	22 01 30.0 -16
MIR			pmax	pmax	
	comp=Z,394nm,1.4s,mb6.0				
MIR			pmax	pmax	
	comp=Z,1μm,2.4s,mb6.2				
MIR			pmax	pmax	
	comp=N,606nm,2.0s				
MIR			pmax	pmax	
	comp=E,505nm,4.0s				
MIR			smax		
	comp=N,2μm,6.0s				
MIR			smax		
	comp=E,1μm,6.0s				
NAZ	**Nazwa, Dubai**	**70.00 297**	P	**P**	**21 51 50.3 +0.5**
	SNR=15				
ASUD	**Al Ashush, Dub**	**70.24 296**	P	**P**	**21 51 51.3 0.0**
	SNR=32				
RBK	**Rabkut**	**70.32 288**	P	**P**	**21 51 51.0 -0.8**
	SNR=15				
ABKT	**Ailbek**	**70.75 310**	P	**P**	**21 51 53.0 -1.1**
	comp=E,419nm,0.9s,mb6.2,SNR=24				
ABTO	**Aybut**	**71.16 288**	P	**P**	**21 51 55.7 -1.2**
	SNR=20				
AB31	**Akbulak array**	**73.00 322**	*i* P	**P**	**21 52 05.9 -1.4**
AB31			pmax	pmax	
	comp=Z,91nm,0.8s,mb5.6				
ABKAR	**Akbulak array**	**73.00 322**	*e*P	**P**	**21 52 06.5 -0.8**
ABKAR			*e*PcP	PcP	21 52 22.9 -0.5
BILL	**Bilibino**	**73.86 15**	*e*P	**P**	**21 52 12.3 +0.4**
	comp=Z,300nm,1.2s,mb5.9				

BILL ePP PP 21 54 53.8 -4.8
BILL Bilibino 73.86 15⇑iP P 21 52 12.1 +0.2
BILL i 21 52 26.5
BILL e*PP pP 21 52 50.9 +4.3
BILL i 21 55 01.7
BILL pmax pmax
comp=Z,363nm,1.6s,mb5.9
AKTO Aktyubinsk 74.57 323 i P **P 21 52 15.7 -0.7**
AKTO pmax pmax
comp=Z,28nm,0.8s,mb4.9
MUKL Al Mukalla 75.00 285 eP **P 21 52 18.4 -1.2**
SVE Sverdlovsk 75.43 330d iP **P 21 52 20.5 -0.7**
SVE pmax pmax
comp=Z,532nm,0.9s,mb6.2
ARU Arti 76.34 329 eP **P 21 52 24.6 -1.7**
comp=Z,360nm,1.0s,mb6.0
ARU ePP PP 21 55 11.0 -8.8
ARU Arti 76.34 329c iP **P 21 52 25.0 -1.4**
ARU *PP pP 21 53 02.9 +1.6
ARU e 21 55 17.8
ARU S S 22 01 57.4 -2.2
ARU *SS sS 22 02 55.3 -4.6
ARU SSS 22 10 08.6
ARU pmax pmax
comp=Z,401nm,1.0s,mb6.0
ARU Arti 76.34 329 P **P 21 52 25.0 -1.4**
comp=Z,2μm,1.0s,mb6.7
NIKO Nikolski 76.58 35 eP **P 21 52 29.1 +1.3**
comp=Z,390nm,1.0s,mb6.0
NIKO esP sP 21 53 15.3 -2.5
ABPO Ambohimpanom 77.12 251 eP **P 21 52 31.6 0.0**
comp=Z,31nm,0.6s,mb5.1
ABPO Ambohimpanom 77.12 251 eP **P 21 52 31.6 +0.1**
ABPO pmax pmax
comp=Z,31nm,0.6s,mb5.1
QRN Al-Qurain 77.38 299 eP **P 21 52 31.1 -1.7**
QRN AMb AMB 21 52 35.1
comp=Z,200nm,0.6s,mb5.9
KBD Kabd 77.63 300 eP **P 21 52 32.3 -1.9**
KBD AMb AMB 21 52 38.0
comp=Z,132nm,1.3s,mb5.4
UMR Umm Al-Rimmam 77.65 300 eP **P 21 52 32.8 -1.5**
UMR AMb AMB 21 52 35.0
comp=Z,249nm,1.1s,mb5.8
MIB Mutribah 78.01 300 eP **P 21 52 34.6 -1.7**
MIB AMb AMB 21 52 37.4
comp=Z,281nm,0.8s,mb6.0
NAY Al-Naaiem 78.03 300 eP **P 21 52 34.7 -1.7**
NAY AMb AMB 21 52 39.9
comp=Z,110nm,0.7s,mb5.6
UNV Unalaska Valle 78.19 35 eP **P 21 52 37.8 +1.1**
SOKR Solikamsk 78.33 331c iP **P 21 52 36.2 -1.2**
SOKR S S 22 02 12.9 -8.1
SOKR pmax pmax
comp=Z,160nm,0.9s,mb5.7
SOKR MLR MLR
comp=Z,2μm,23.0s
AKUT Akutan 78.68 34 eP **P 21 52 40.5 +1.1**
comp=Z,2μm,1.0s,mb6.6
GAMB Gambell 78.98 24 eP **P 21 52 41.8 +1.0**
comp=Z,481nm,1.0s,mb6.1
GAMB esP sP 21 53 30.4 -0.6
XMAS Kiritimati 78.99 88 eP **P 21 52 44.8 +2.8**
comp=Z,578nm,1.5s,mb6.0
XMAS epP pP 21 53 16.9 -0.3
RAYN Ar Rayn 79.02 294 P **P 21 52 40.7 -1.2**
comp=Z,1μm,0.7s,mb6.6,SNR=74
MAW Mawson 79.28 200 P **P 21 52 43.2 +0.8**
comp=Z,138nm,1.0s,mb5.5,baz=57,slow=5.8,SNR=27
MAW LR LR 22 24 21.8
comp=Z,388nm,19.5s,baz=58,slow=33
MAW Mawson 79.28 200 eP **P 21 52 43.1 +0.7**
comp=Z,92nm,1.0s,mb5.4
MAW eS S 22 02 27.7 -3.1
MAW Mawson 79.28 200 eP **P 21 52 42.8 +0.4**
comp=Z,33nm,1.0s,mb4.9
MAW Mawson 79.28 200 P **P 21 52 43.2 +0.8**
MAW pmax pmax
comp=Z,138nm,1.0s
MAW MLR MLR
comp=Z,388nm,19.5s
TRBA At Turbah 79.71 283 eP **P 21 52 45.9 0.0**
MAK Makhachkala 79.75 314c iP **P 21 52 45.6 +0.1**
MAK e 21 52 52.0
MAK e*SP sP 21 53 34.2 -1.5
MAK ePPP 21 57 35.0
MAK eS S 22 02 27.8 -8.9
MAK e 22 02 49.5
MAK e*SS sS 22 03 34.2 -3.3
MAK pmax pmax
comp=Z,396nm,1.7s,mb5.8
MAK MLR MLR
comp=Z,942nm,24.0s
FALS False Pass 80.20 34 eP **P 21 52 48.4 +0.8**
comp=Z,2μm,0.9s,mb6.7
FALS epP pP 21 53 21.6 -1.2
VNDA Vanda 80.27 172 eP **P 21 52 47.8 +0.2**
comp=Z,117nm,1.0s,mb5.5
VNDA esP sP 21 53 34.7 -3.1
VNDA Vanda 80.27 172 eP **P 21 52 47.8 +0.2**
VNDA pmax pmax
comp=Z,117nm,1.0s
BHD Baghdad 80.90 304 i x **P 21 52 47.0 -4.9**
BHD i x x 22 02 37.5
DGRG David-gareji 81.09 312 P **P 21 52 52.5 -0.1**
TNA Tin City 81.14 23 eP **P 21 52 53.5 +1.1**
comp=Z,186nm,0.8s,mb5.8
SBA Scott Base 81.21 172 eP **P 21 52 53.8 +1.1**
comp=Z,2μm,3.0s
SBA Scott Base 81.21 172 eP **P 21 52 53.8 +1.2**
SBA pmax pmax
comp=Z,2μm,3.0s
KHU Kahuku 81.29 71 eP **P 21 52 56.0 +1.8**
KHU Kahuku 81.29 71 eP **P 21 52 56.0 +1.8**
MTA Mtatsminda 81.55 312 P **P 21 52 54.8 -0.3**
TBLG Delisi 81.60 312 eP **P 21 52 55.0 -0.4**
TBLG Delisi 81.60 312 P **P 21 52 55.1 -0.3**
STCH Steam Cracks 81.76 71 eP **P 21 52 58.9 +2.3**
HAKT HAKKARI 81.90 308⇑iP **P 21 52 55.4 -1.6**
SDPT Sand Point 81.95 34 eP **P 21 52 57.5 +0.6**
comp=Z,2μm,0.9s,mb6.7
GOR Gori 82.09 312 P **P 21 52 58.5 +0.6**
DYDN Diyadin 82.13 310⇑iP **P 21 52 58.7 +0.5**
AKH Akhalkalaki 82.48 312 P **P 21 53 00.7 +0.7**
GEVA Gevas 82.49 308⇑iP **P 21 53 00.0 -0.1**
ONI Oni 82.65 313 P **P 21 53 01.0 +0.1**
TUTA Tutak 82.79 310⇑iP **P 21 53 01.6 -0.1**
SIRN S¨–rnak 82.92 308⇑iP **P 21 53 00.9 -1.5**
TATV Tatvan 83.12 309⇑iP **P 21 53 03.5 +0.1**
CHGN Chignik 83.27 33 eP **P 21 53 04.0 +0.3**
KIV Kislovodsk 83.36 314 eP **P 21 53 04.0 -0.5**
comp=Z,66nm,1.0s,mb5.3
KIV Kislovodsk 83.36 314c iP **P 21 53 04.0 -0.4**
KIV e*PP pP 21 53 39.2 -0.7
KIV e*SP sP 21 53 54.6 -0.2
KIV e 21 56 12.0
KIV ePPP 21 58 09.6
KIV eS S 22 03 11.1 -2.7
KIV eSS SS 22 08 34.8 -7.5
KIV pmax pmax
comp=Z,54nm,0.9s,mb5.3
KIV pmax pmax
comp=Z,250nm,3.5s
KIV MLR MLR
comp=Z,522nm,19.0s
KIV Kislovodsk 83.36 314 P **P 21 53 03.8 -0.6**
SNR=16
KIV Kislovodsk 83.36 314 P **P 21 53 04.1 -0.3**
comp=Z,312nm,0.9s,mb6.0,SNR=13
HOMI Horasan 83.55 310⇑iP **P 21 53 05.5 0.0**
DAGI Agilar 83.64 311⇑iP **P 21 53 06.0 +0.1**
DDEM Demirkent 83.74 311⇑iP **P 21 53 06.2 -0.2**
DBOC Borcka 83.85 311⇑iP **P 21 53 06.7 -0.3**
BEST Besiri 83.85 308 i P **P 21 53 06.9 -0.2**
ERZM Erzurum 83.95 310 i P **P 21 53 07.1 -0.5**
BNGL BINGOL 84.03 309⇑iP **P 21 53 07.9 -0.1**
KOPT Kop Dagi 84.62 310⇑iP **P 21 53 11.2 +0.2**
DIYA Diyarbakir 84.76 308⇑iP **P 21 53 11.5 -0.2**
MACK Trabzon 85.24 311⇑iP **P 21 53 13.4 -0.6**
SOC Sochi 85.47 314c iP **P 21 53 13.6 -1.5**
SOC e*PP pP 21 53 48.4 -2.3
SOC e 21 56 32.9
SOC ePPP 21 58 28.0
SOC eS S 22 03 25.0 -10
SOC e*SS sS 22 04 29.2 -7.2
SOC eSSS 22 12 36.9
SOC pmax pmax
comp=Z,232nm,0.9s,mb5.9
SOC MLR MLR
comp=Z,789nm,20.0s
SVW2 Sparrevohn 85.48 29 eP **P 21 53 16.5 +1.8**
comp=Z,96nm,0.8s,mb5.6
KELT Kelkit 85.58 310⇑iP **P 21 53 14.5 -1.2**
ELZG Elazig 85.69 308⇑iP **P 21 53 16.9 +0.6**
OHAK Old Harbor 86.19 33 eP **P 21 53 19.8 +1.5**
comp=Z,818nm,1.0s,mb6.4
KMBO Kilima Mbogo 86.32 269 eP **P 21 53 20.5 +0.6**
KMBO Kilima Mbogo 86.32 269 eP **P 21 53 20.0 +0.1**
comp=Z,141nm,1.5s,mb5.5
KMBO Kilima Mbogo 86.32 269 eP **P 21 53 20.0 +0.1**
KMBO pmax pmax
comp=Z,141nm,1.5s
KMBO Kilima Mbogo 86.32 269 P **P 21 53 20.8 +0.9**
SNR=34
GRSN GIRESUNGRSN 86.38 311⇑iP **P 21 53 16.2 -3.4**
VSR Storozhevoye 86.41 321c iP **P 21 53 18.1 -1.4**
VSR e*PP pP 21 53 57.6 +2.4
VSR eS S 22 03 37.0 -6.6
VSR pmax pmax
comp=Z,510nm,0.8s,mb6.3
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,90nm,0.7s
VSR smax
comp=N,240nm,2.0s
VSR smax
comp=Z,6.0nm,0.8s
VSR smax
comp=E,180nm,2.6s
VOR Voronezh 86.42 322⇑iP **P 21 53 18.0 -1.6**
VOR pmax pmax
comp=Z,1μm,1.2s,mb6.5
AKCD Akcadag 86.51 308⇑iP **P 21 53 20.1 -0.2**
KDAK Kodiak Island 86.63 32 eP **P 21 53 21.3 +0.9**
comp=Z,1μm,1.7s,mb6.4
KDAK Kodiak Island 86.63 32 P **P 21 53 22.3 +1.9**
comp=Z,2μm,0.8s,mb7.0,SNR=17
KDAK Kodiak Island 86.63 32 eP **P 21 53 21.3 +0.9**
KDAK pmax pmax
comp=Z,1μm,1.7s,mb6.4
RSO Redoubt South 86.79 30 eP **P 21 53 21.5 +0.4**
KLMR Klimovskoe 87.00 331c iP **P 21 53 21.1 -1.1**
KLMR i *PP pP 21 53 58.7 +0.8
KLMR e 21 56 44.7
KLMR eS SKSac 22 03 30.5 -5.5
KLMR pmax pmax
comp=Z,346nm,0.6s,mb6.4
KLMR pmax pmax
comp=Z,305nm,4.8s
PPT Papeete 87.03 107 eS S 22 03 48.0 -2.9
comp=Z,1μm,24.2s
PPT eLR LR 22 20 53.9
comp=Z,1μm,30.2s
PPT2 Papeete2 87.03 108 eP **P 21 53 28.2 +4.9**
comp=Z,55nm,1.2s,mb5.3
PPT2 epP pP 21 54 01.8 +2.8
comp=Z,143nm,1.5s
ASF Jabal al Asfar 87.12 302 PKKPbc PKKPbc 22 11 17.5 +2.0
comp=Z,3.5nm,1.0s,baz=196,slow=5.2,SNR=3.5
ASF Jabal al Asfar 87.12 302 PKKPbc PKKPbc 22 11 17.5 +2.0
KUZU Kuzuini 87.13 307⇑iP **P 21 53 22.6 -0.7**
ANN Anapa 87.18 315 eP **P 21 53 20.7 -2.7**
ANN e*PP pP 21 53 57.2 -2.0
ANN e 21 56 49.4
ANN pmax pmax
comp=Z,621nm,1.4s,mb6.2
SCER sogukcermik 87.20 310⇑iP **P 21 53 23.9 +0.2**
TIAR Tiarei 87.25 107 eP **P 21 53 29.0 +4.7**
comp=Z,60nm,0.9s,mb5.4
TBI Tubuai 87.26 113 eS S 22 03 49.1 -3.8
comp=Z,2μm,30.5s
PPLA Purkeypile 87.28 27 eP **P 21 53 23.2 -0.3**
comp=Z,403nm,1.6s,mb6.0
PPLA ePP PP 21 56 44.9 -4.5
ERBA Erbaa 87.51 311⇑iP **P 21 53 24.7 -0.4**
FKH Fakeheh 87.59 304 eP **P 21 53 25.9 +0.3**
MOS Moscow 87.63 326 eP **P 21 53 22.0 -3.3**
MOS e*PP pP 21 54 03.7 +2.6
MOS e*SP sP 21 54 19.0 +3.1
MOS eS SKSac 22 03 31.8 -8.2
MOS e 22 03 48.0
MOS pmax pmax
comp=Z,581nm,1.3s,mb6.2
MOS pmax pmax
comp=Z,1μm,1.8s,mb6.4
TOKA Tokat 87.71 310⇑iP **P 21 53 25.6 -0.5**
PINB Pinarbasi 87.72 309⇑iP **P 21 53 26.0 -0.1**
YAYL Yayladag 87.88 306⇑iP **P 21 53 26.5 -0.5**
SYO Syowa Base 87.92 201⇑iP **P 21 53 25.2 -1.2**
SYO Syowa Base 87.92 201⇑iPcP PcP 21 53 29.0 +0.9
SYO Syowa Base 87.92 201⇓ipP pP 21 54 00.2 -2.1
HWQ Hawqa 87.97 304 eP **P 21 53 27.1 -0.4**
SLKM Skilak Lake 88.04 30 eP **P 21 53 26.8 -0.3**
SLKM Skilak Lake 88.04 30 eP **P 21 53 26.8 -0.3**
TRF Thorofare Moun 88.18 27 eP **P 21 53 27.5 -0.2**
comp=Z,439nm,1.5s,mb6.1
OBN Obninsk 88.20 325 eP **P 21 53 26.6 -1.4**
comp=Z,1μm,1.7s,mb6.4
OBN ePKKPbc PKKPbc 22 11 18.1 +4.3
OBN Obninsk 88.20 325c iP **P 21 53 26.7 -1.3**
OBN i *PP pP 21 54 07.0 +3.1
OBN i 21 56 57.0
OBN i S SKSac 22 03 41.4 -2.0
OBN i PS PS 22 05 27.2 +5.3
OBN pmax pmax
comp=Z,580nm,1.4s,mb6.2
OBN Obninsk 88.20 325 P **P 21 53 26.0 -2.0**
comp=Z,2μm,0.6s,mb7.1,SNR=16
BHL Bhannes 88.21 304 eP **P 21 53 28.3 -0.2**
RC01 Rabbit Creek A 88.31 29 eP **P 21 53 28.1 -0.3**
comp=Z,239nm,1.0s,mb6.0
RC01 ePP PP 21 56 59.9 +2.2
SEW Seward 88.41 30 eP **P 21 53 28.8 -0.1**
comp=Z,388nm,1.0s,mb6.2
SEW ePP PP 21 56 53.7 -4.8
COLD Coldfoot 88.44 23 eP **P 21 53 29.9 +1.0**
comp=Z,269nm,0.8s,mb6.1
COLD ePP PP 21 56 58.4 -0.2
MEH Mehetia 88.47 108 eP **P 21 53 34.2 +4.1**
comp=Z,60nm,0.9s,mb5.4
PMOR Pomariorio Rege 88.61 105 eP **P 21 53 35.1 +4.3**
comp=Z,427nm,1.3s,mb6.2
PMR Palmer 88.62 29 eP **P 21 53 30.1 +0.2**
comp=Z,266nm,1.3s,mb6.0
PMR Palmer 88.62 29 eP **P 21 53 30.1 +0.2**
PMR pmax pmax
comp=Z,266nm,1.3s,mb6.0
MCK McKinley 88.80 26 eP **P 21 53 30.1 -0.5**
comp=Z,345nm,1.0s,mb6.2
MCK McKinley 88.80 26 eP **P 21 53 30.1 -0.5**
MCK pmax pmax
comp=Z,369nm,1.0s,mb6.3
AVNT Avonos 88.93 309⇑iP **P 21 53 30.9 -0.9**
GULE Gulek 88.98 307⇑iP **P 21 53 31.6 -0.5**
CTKT Corum 89.01 310⇑iP **P 21 53 30.2 -1.9**
COLA College 89.31 25 eP **P 21 53 32.3 -0.7**
comp=Z,38nm,0.8s,mb5.4
COLA College 89.31 25 eP **P 21 53 32.3 -0.7**
COLA pmax pmax
comp=Z,38nm,0.8s,mb5.4
LVZ Lovozero 89.50 338 eP **P 21 53 30.7 -3.2**
comp=Z,145nm,0.8s,mb6.0
LVZ Lovozero 89.50 338⇓iP **P 21 53 32.6 -1.2**
LVZ pmax pmax
comp=Z,268nm,1.3s,mb6.0
LVZ Lovozero 89.50 338 P **P 21 53 32.5 -1.3**
comp=Z,1μm,0.8s,mb6.8,SNR=15
SIM Simferopol' 89.54 315c iP **P 21 53 31.2 -3.4**
SIM e*PP pP 21 54 10.4 -0.1
SIM i 21 57 07.0
SIM e 22 03 47.0
SIM eS S 22 04 06.0 -7.5
SIM pmax pmax
comp=Z,81nm,0.9s,mb5.7
ILAR Eielson Array 89.72 25 P **P 21 53 33.8 -1.2**
comp=Z,36nm,0.6s,mb5.5,baz=243,slow=5.2,SNR=410
ILAR PP PP 21 57 03.5 -5.3
comp=Z,14nm,1.0s,baz=263,slow=6.3,SNR=4.3
ILAR PKKPbc PKKPbc 22 11 07.8 -2.7
comp=Z,2.7nm,0.7s,baz=90,slow=0.5,SNR=8.7
ILAR PKPPKP 22 19 16.4
comp=Z,0.8nm,1.1s,baz=141,slow=5.2,SNR=4.7
ILAR LR LR 22 30 43.5
comp=Z,325nm,20.0s,baz=90,slow=33
ILAR Eielson Array 89.72 25 P **P 21 53 33.8 -1.2**
ILAR PP PP 21 57 03.5 -5.3
ILAR PKKPbc PKKPbc 22 11 07.8 -2.7
ILAR P'P' 22 19 16.4
ILAR Eielson Array 89.72 25 P **P 21 53 33.8 -1.1**
ILAR pmax pmax
comp=Z,36nm,0.6s
ILAR pmax pmax
comp=Z,14nm,1.0s
ILAR pmax pmax
comp=Z,3.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR MLR MLR
comp=Z,325nm,20.0s
BR131 Keskin Array S 89.88 310 eP **P 21 53 34.6 -1.6**
comp=Z,20nm,0.8s,mb5.1
BR131 ePP PP 21 57 10.8 -0.1
BRTR Keskin Array B 89.88 310 P **P 21 53 34.9 -1.4**
comp=Z,30nm,0.9s,mb5.2,baz=123,slow=4.5,SNR=120
BRTR PP PP 21 57 11.2 +0.3
comp=Z,14nm,1.0s,baz=110,slow=6.7,SNR=5.5
BRTR PKKPbc PKKPbc 22 11 09.3 +0.3
comp=Z,2.5nm,1.1s,baz=242,slow=4.2,SNR=5.2
BRTR LR LR 22 42 23.6
comp=Z,367nm,19.9s,baz=265,slow=41
BRTR Keskin Array B 89.88 310 P **P 21 53 34.9 -1.4**
BRTR PP PP 21 57 11.2 +0.3
BRTR PKKPbc PKKPbc 22 11 09.3 +0.3
BRTR Keskin Array B 89.88 310 P **P 21 53 34.9 -1.4**
BRTR 21 57 11.2
BRTR pmax pmax
comp=Z,30nm,0.9s
BRTR pmax pmax
comp=Z,14nm,1.0s
BRTR pmax pmax
comp=Z,3.0nm,1.1s
BRTR MLR MLR
comp=Z,367nm,19.9s
APA Apatity 89.97 337⇑iP **P 21 53 35.0 -1.1**
APA i *PP pP 21 54 10.0 -2.0
APA i *SP sP 21 54 27.0 +0.2
APA e 22 03 49.0
APA eS S 22 04 08.0 -8.6
APA pmax pmax
comp=Z,160nm,1.2s,mb5.8
QSPA South Pole Qui 90.03 180 eP **P 21 53 36.9 +0.8**
comp=Z,142nm,1.2s,mb5.8
BALT Daday 90.07 311 i P **P 21 53 35.4 -1.7**
CSS Prodhromos 90.14 305 eP **P 21 53 36.5 -1.1**
comp=Z,109nm,1.1s,mb5.7
CSS ePP PP 21 57 09.6 -3.5
DIV Divide 90.23 29 eP **P 21 53 37.9 +0.5**
comp=Z,458nm,1.2s,mb6.3
BBAL Bala 90.28 309⇑iP **P 21 53 36.9 -1.2**
PAX Paxson 90.35 27 eP **P 21 53 38.4 +0.5**
comp=Z,203nm,0.9s,mb6.0
PAX ePP PP 21 57 06.2 -7.7
PAX Paxson 90.35 27 eP **P 21 53 38.4 +0.5**
PAX pmax pmax
comp=Z,203nm,0.9s,mb6.0
RAGM Ragged Mountai 90.79 30 eP **P 21 53 41.7 +1.7**
comp=Z,353nm,1.4s,mb6.2
BMRM Bremner River 90.81 29 eP **P 21 53 40.5 +0.4**
comp=Z,867nm,1.6s,mb6.5
BMRM ePP PP 21 57 03.2 -14
JOF Joensuu 90.94 333 eP **P 21 53 39.4 -1.3**
JOF pmax pmax
comp=Z,239nm,0.6s,mb6.4
JOF Joensuu 90.94 333 ep **P 21 53 39.4 -1.3**
comp=Z,239nm,0.6s,mb6.4
GAZI Gazipasa 90.95 306⇑iP **P 21 53 40.3 -1.0**
DOT Dot Lake 90.97 26 eP **P 21 53 40.8 0.0**
comp=Z,138nm,1.0s,mb5.9
KDHN Kadinhani 91.08 308⇑iP **P 21 53 39.7 -2.2**
MENT Mentasta 91.15 27 eP **P 21 53 42.8 +1.2**
PUL Pulkovo 91.56 330⇓iP **P 21 53 42.8 -0.8**
PUL pmax pmax
comp=Z,438nm,1.4s,mb6.3
POGA Pongola 91.78 243 eP **P 21 53 45.9 +0.5**
POGA AMB AMB 21 53 46.9
comp=Z,108nm,0.7s,mb6.0
HENT Hendek 91.96 311 i P **P 21 53 42.1 -3.8**
BOLV Bolvadin 91.99 309⇑iP **P 21 53 44.8 -1.3**
EGAK Eagle 92.17 25 eP **P 21 53 46.6 +0.3**
comp=Z,194nm,1.1s,mb6.0
KEV Kevo 92.19 340 eP **P 21 53 44.6 -1.7**
comp=Z,70nm,0.8s,mb5.7
KEV Kevo 92.19 340 eP **P 21 53 44.6 -1.7**
KEV pmax pmax
comp=Z,70nm,0.8s,mb5.7
KEV Kevo 92.19 340 ep **P 21 53 44.2 -2.1**
comp=Z,48nm,0.5s,mb5.8
AKASG Malin Array Be 92.69 321 P **P 21 53 47.2 -1.8**
comp=Z,37nm,0.6s,mb5.7,baz=72,slow=4.4,SNR=152
AKASG PP PP 21 57 33.8 +1.2
comp=Z,5.6nm,0.7s,baz=72,slow=7.5,SNR=5.4
AKASG PKiKP PKiKP 21 58 36.9 +0.4
comp=Z,2.7nm,0.6s,baz=74,slow=2.5,SNR=4.5
AKASG S SKSac 22 04 06.1 -3.4
comp=Z,1.1nm,0.6s,baz=70,slow=8.5,SNR=3.1
AKASG ScS ScS 22 04 35.6 -7.9
comp=Z,3.1nm,1.0s,baz=91,slow=7.2,SNR=5.0
AKASG PKKP PKKPbc 22 11 00.7 -1.7
comp=Z,1.8nm,0.7s,baz=276,slow=3.3,SNR=6.7
AKASG Malin Array Be 92.69 321 P **P 21 53 47.2 -1.8**
AKASG PP PP 21 57 33.8 +1.2
AKASG PKiKP PKiKP 21 58 36.9 +0.4
AKASG S SKSac 22 04 06.1 -3.4
AKASG ScS ScS 22 04 35.6 -7.9
AKASG PKKP PKKPbc 22 11 00.7 -1.7
AKASG Malin Array Be 92.69 321 P **P 21 53 47.2 -1.8**
AKASG 21 57 33.8
AKASG S SKSac 22 04 06.1 -3.4
AKASG 22 04 35.6
AKASG 22 11 00.7
AKASG pmax pmax
comp=Z,37nm,0.6s
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG smax
comp=N,1.0nm,0.6s
AKASG pmax pmax
comp=N,3.0nm,1.0s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 92.69 321 eP **P 21 53 46.9 -2.0**
AKBB ePP PP 21 57 31.9 -0.7
AKBB Malin Array Si 92.69 321 eP **P 21 53 46.9 -2.1**
AKBB e 21 57 31.9
KIEV Kiev 92.69 321 eP **P 21 53 46.9 -2.2**
comp=Z,55nm,0.9s,mb5.7
KIEV ePP PP 21 57 31.8 -0.8
KIEV Kiev 92.69 321 eP **P 21 53 46.9 -2.1**
KIEV e 21 57 31.8
KIEV pmax pmax
comp=Z,55nm,0.9s,mb5.7
ARCES ARCESS Array B 92.73 340 P **P 21 53 47.4 -1.4**
comp=Z,103nm,0.7s,mb6.1,baz=86,slow=5.6,SNR=230
ARCES PKiKP PKiKP 21 58 36.5 +0.4
comp=Z,9.7nm,0.9s,baz=71,slow=1.1,SNR=5.0
ARCES PKKP PKKPbc 22 11 00.1 -2.8
comp=Z,2.4nm,0.7s,baz=251,slow=3.2,SNR=9.0
ARCES LR LR 22 43 40.3
comp=Z,584nm,18.2s,baz=85,slow=41
ARCES ARCESS Array B 92.73 340 P **P 21 53 47.4 -1.4**
ARCES PKiKP PKiKP 21 58 36.5 +0.4
ARCES PKKP PKKPbc 22 11 00.1 -2.8
ARCES ARCESS Array B 92.73 340 P **P 21 53 47.4 -1.4**
ARCES 22 11 00.2
ARCES pmax pmax
comp=Z,103nm,0.7s
ARCES pmax pmax
comp=Z,10.0nm,0.9s
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR

comp=Z,584nm,18.2s
ARE0 ARCESS Array S 92.73 340 *e*P **P 21 53 47.3 -1.5**
ARE0 ARCESS Array S 92.73 340 *e*P **P 21 53 47.5 -1.4**
MBAR Mbarara 92.83 269 *e*P **P 21 53 48.4 -2.1**
DAWY Dawson 93.00 26 *e*P **P 21 53 50.9 +0.7**
KIS Kishinev 93.18 317 *e*P **P 21 53 51.0 -0.4**
KIS Kishinev 93.18 317 *e*PP PP 21 57 38.0 +1.4
KIS LRM 22 38 15.0
comp=Z,600nm,20.0s
KIS Kishinev 93.18 317 *e*P **P 21 53 51.0 -0.4**
KIS *e* 21 57 38.0
KIS *e* 22 04 12.0
KIS MLR MLR
comp=Z,600nm,20.0s
MICGM Minsk 93.23 324⇑*i*P **P 21 53 49.0 -2.4**
MNK Minsk 93.26 324⇑*i*P **P 21 53 49.0 -2.6**
MNK pmax pmax
comp=E,530nm,1.4s
MNK pmax pmax
comp=Z,840nm,1.0s,mb6.8
TLCR 93.29 315 ⇑P **P 21 53 51.3 -0.6**
TLCR 93.29 315⇑*i*P **P 21 53 51.3 -0.6**
KAF Kangasniemi 93.32 332 *e*P **P 21 53 49.6 -2.1**
KAF pmax pmax
comp=Z,49nm,0.8s,mb5.7
KAF Kangasniemi 93.32 332 *e*p **P 21 53 49.6 -2.1**
comp=Z,49nm,0.8s,mb5.7
ULDT Uludag 93.33 310⇑*i*P **P 21 53 49.4 -2.8**
SPA0 Spitsbergen Ar 93.40 349 *e*P **P 21 53 51.1 -0.7**
SPB4 Spitsbergen Ar 93.40 349 *e*P **P 21 53 51.0 -0.8**
VSU Vasula 93.50 328*c i*P **P 21 53 51.1 -1.5**
VSU pmax pmax
comp=Z,302nm,1.3s,mb6.3
FINES FINESS Array B 93.50 331 P **P 21 53 50.7 -1.8**
comp=Z,31nm,0.6s,mb5.6,baz=62,slow=5.1,SNR=115
FINES PKiKP PKiKP 21 58 37.9 +0.3
comp=Z,6.1nm,0.5s,baz=192,slow=1.8,SNR=5.6
FINES LR LR 22 40 10.8
comp=Z,677nm,19.7s,baz=201,slow=38
FINES FINESS Array B 93.50 331 P **P 21 53 50.7 -1.9**
FINES PKiKP PKiKP 21 58 37.9 +0.3
FINES FINESS Array B 93.50 331 P **P 21 53 50.7 -1.8**
FINES pmax pmax
comp=Z,31nm,0.6s
FINES pmax pmax
comp=Z,6.0nm,0.5s
FINES MLR MLR
comp=Z,677nm,19.7s
LEOM Leova 93.60 316 ⇑P **P 21 53 52.4 -0.9**
LEOM Leova 93.60 316⇑*i*P **P 21 53 52.4 -0.9**
KTK1 Kautokeino 93.61 339 *e*P **P 21 53 51.3 -1.6**
KTK1 *e*SKS 22 04 13.1
TIRR Tirgusor 93.62 314 ⇓P **P 21 53 51.2 -2.3**
TIRR Tirgusor 93.62 314⇓*i*P **P 21 53 51.2 -2.3**
CFR Carcaliu 93.77 315 ⇑P **P 21 53 53.3 -0.8**
CFR Carcaliu 93.77 315⇑*i*P **P 21 53 53.3 -0.8**
NACGM Naroch 93.83 325 *e*P **P 21 53 51.0 -3.2**
KBS Kingsbay 93.99 350 *e*P **P 21 53 53.9 -0.5**
KBS Kingsbay 93.99 350 *e*P **P 21 53 53.9 -0.5**
comp=Z,109nm,0.9s,mb6.0
KBS Kingsbay 93.99 350 *e*P **P 21 53 53.9 -0.6**
KBS pmax pmax
comp=Z,109nm,0.9s,mb6.0
IZAR Zarasai 94.05 326 *e*P **P 21 53 54.6 -0.5**
IZAR AMB AMB 21 53 56.4
comp=Z,134nm,1.0s,mb6.0
IZAR *e*PP PP 21 57 41.6 -1.5
IZAR *e*PP PP 21 57 41.8 -1.3
IIGN Ignalina 94.11 325 *e*P **P 21 53 54.9 -0.5**
IIGN AMB AMB 21 53 56.9
comp=Z,141nm,1.2s,mb6.0
IIGN *e*PP PP 21 57 42.3 -1.2
IIGN *e*PP PP 21 57 42.3 -1.2
ISAL Salakas 94.14 326 *e*P **P 21 53 55.0 -0.6**
ISAL AMB AMB 21 53 56.9
comp=Z,93nm,1.1s,mb5.8
ISAL *e*PP PP 21 57 42.7 -1.0
ISAL *e*PP PP 21 57 42.7 -1.0
GHRR 94.21 316⇑*i*P **P 21 53 55.5 -0.6**
PETR 94.36 316⇓*i*P **P 21 53 57.4 +0.6**
GRER 94.57 315⇑*i*P **P 21 53 58.5 +0.7**
INK Inuvik 94.67 21 *e*P **P 21 53 57.6 -0.1**
INK *e*PKPdf PKiKP 21 58 40.4 +1.0
INK Inuvik 94.67 21 *e*P **P 21 53 57.6 -0.2**
TESR 94.70 317⇓*i*P **P 21 53 57.5 -0.9**
VRI Vrincioaia 94.70 316 ⇓P **P 21 53 58.1 -0.3**
VRI Vrincioaia 94.70 316⇓*i*P **P 21 53 58.0 -0.4**
PLOR Plostina 94.76 316 P **P 21 53 58.1 -0.5**
PLOR Plostina 94.76 316⇑*i*P **P 21 53 56.9 -1.7**
SLR Silverton 94.81 244 *e*P **P 21 53 59.9 +0.5**
SLR AMB AMB 21 54 00.8
comp=Z,37nm,2.8s,mb5.1
ERPM east rand prop 94.82 244 *e*P **P 21 53 59.7 +0.3**
ERPM AMB AMB 21 54 00.4
comp=Z,29nm,2.2s,mb5.1
TRO Tromso 94.98 340 *e*P **P 21 53 57.4 -1.7**
TRO *e*SKS 22 04 20.2
SULR 95.14 315⇓*i*P **P 21 53 58.5 -1.9**
LSZ Lusaka 95.22 255⇑*i*P **P 21 54 01.2 -0.1**
LSZ Lusaka 95.22 255 *e*P **P 21 54 01.1 -0.3**
LSZ *e*PKPdf PKiKP 21 58 42.3 +0.4
LSZ Lusaka 95.22 255 *e*P **P 21 54 01.1 -0.3**
MLR Muntele Rosu 95.28 316 ⇑P **P 21 54 00.8 -0.2**
MLR Muntele Rosu 95.28 316⇑*i*P **P 21 54 00.8 -0.2**
SKAG Skagway 95.56 30 *e*P **P 21 54 03.7 +1.7**
comp=Z,400nm,1.0s,mb6.7
BURAR Bucovina Array 95.57 318 ⇓P **P 21 54 01.7 -0.6**
BURAR Bucovina Array 95.57 318⇓*i*P **P 21 54 01.7 -0.6**
BURAR Bucovina Array 95.57 318⇑*i*P PKKPbc 22 10 54.2 -0.5
BUR08 Bucovina Ar. S 95.58 318 *e*P **P 21 54 01.6 -0.7**
PRYS Parys 95.58 243 *e*P **P 21 54 02.4 -0.5**
VOIR 95.92 316 ⇑P **P 21 54 02.5 -1.4**
VOIR 95.92 316⇑*i*P **P 21 54 02.5 -1.4**
GRM Grahamstown 95.96 237 *e*P **P 21 54 03.6 -0.8**
GRM AMB AMB 21 54 06.3
comp=Z,64nm,0.8s,mb6.0
SIT Sitka 95.96 33 *e*P **P 21 54 05.8 +2.0**
comp=Z,354nm,1.4s,mb6.5
SIT Sitka 95.96 33 *e*P **P 21 54 05.8 +2.0**
SIT pmax pmax
comp=Z,354nm,1.4s,mb6.5
SUW Suwalki 96.03 324 *e*P **P 21 54 02.7 -1.5**
comp=Z,400nm,2.1s,mb6.4
SUW *e*SKSac SKSac 22 04 26.4 -0.9
SUW *e*S S 22 05 04.4 -6.4
SUW LMZ 22 38 07.9
comp=Z,800nm,21.2s
SUW Suwalki 96.03 324 *e*P **P 21 54 03.2 -1.0**
SUW Suwalki 96.03 324 *e*P **P 21 54 02.7 -1.5**
SUW *e* 22 04 26.4
SUW *e*S S 22 05 04.4 -6.4
SUW pmax pmax
comp=Z,400nm,2.1s,mb6.4
SUW MLR MLR
comp=Z,800nm,21.2s
HUMR Humele 96.06 315⇓*i*P **P 21 54 03.2 -1.4**
LVV L'vov 96.08 320 *e*P **P 21 54 02.9 -1.7**
LVV *e* 21 58 02.9
LVV *e* 22 00 06.3
LVV *e* 22 04 25.1
LVV *e* 22 06 29.9
LVV MLR MLR
comp=Z,300nm,17.0s
LVV MLR MLR
comp=N,200nm,16.0s
LVV MLR MLR
comp=E,300nm,18.0s
BMR Baia Mare 96.72 318 ⇑P **P 21 54 07.6 +0.1**
BMR Baia Mare 96.72 318⇑*i*P **P 21 54 07.6 +0.1**
STEI Steigen 96.73 339 *e*P **P 21 54 05.4 -1.7**
STEI AMB AMB 21 54 06.4
comp=Z,168nm,0.7s,mb6.5
SOE Somerset East 96.80 237 *e*P **P 21 54 08.5 +0.3**
SOE AMB AMB 21 54 10.2
comp=Z,46nm,1.1s,mb5.7
LOT Lotru 96.81 316⇑*i*P **P 21 54 07.1 -0.9**
CRAR CRAIOVA 96.92 315 P **P 21 54 08.3 -0.2**
KWP Kalwaria Pacla 96.96 320 *e*P **P 21 54 07.5 -1.1**
comp=Z,300nm,1.8s,mb6.3
KWP *e*SKSac SKSac 22 04 29.6 -2.8
KWP LMZ 22 33 57.6
comp=Z,1μm,31.0s
KWP Kalwaria Pacla 96.96 320 *e*P **P 21 54 07.6 -1.0**
KWP *e*PP PP 21 58 06.0 +0.2
KWP Kalwaria Pacla 96.96 320 *e*P **P 21 54 07.6 -1.0**
KWP *e* 21 58 06.0
KWP Kalwaria Pacla 96.96 320⇓*i*P PKKPbc 22 10 51.2 +0.2
HVD Gariep Dam 97.00 239 *e*P **P 21 54 09.7 +0.5**
HVD AMB AMB 21 54 10.8
comp=Z,37nm,3.3s
IDI Anoyia 97.03 305 *e*P **P 21 54 08.7 -0.5**
comp=Z,216nm,1.7s,mb6.2
NVL N'lazarevskaya 97.14 198 *e*P **P 21 54 11.4 +2.5**
NVL *e*S SKSac 22 04 25.7 -6.8
NVL pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
MAIT Maitri 97.17 198 *e*P **P 21 54 09.8 +0.7**
LBTB Lobatse 97.27 245 *e*P **P 21 54 09.9 -0.7**
LBTB AMB AMB 21 54 11.1
comp=Z,26nm,2.0s,mb5.2
LBTB Lobatse 97.27 245 *e*P **P 21 54 10.2 -0.3**
comp=Z,13nm,0.9s,mb5.2
LBTB *e*PKPdf PKiKP 21 58 46.2 +0.9
LBTB Lobatse 97.27 245 *e*P **P 21 54 10.2 -0.3**
LBTB pmax pmax
comp=Z,13nm,0.9s,mb5.3
TRPA Tarpa 97.29 318⇑*i*P **P 21 54 09.1 -1.0**
TRPA Tarpa 97.29 318⇑*i*P PKKPbc 22 10 49.7 -0.4
KOLS Kolonicke sedl 97.35 319 *i*P **P 21 54 10.2 -0.1**
KOLS Kolonicke sedl 97.35 319 *e*P **P 21 54 10.2 -0.1**
BOSA Boshof 97.35 241 P **P 21 54 10.5 -0.3**
comp=Z,16nm,0.7s,mb5.5,baz=105,slow=4.7,SNR=34
BOSA PKKP PKKPbc 22 10 50.3 +1.1
comp=Z,6.4nm,0.9s,baz=289,slow=4.9,SNR=6.4
BOSA LR LR 22 38 43.2
comp=Z,466nm,18.3s,baz=92,slow=36
BOSA Boshof 97.35 241 *e*P **P 21 54 11.1 +0.3**
comp=Z,18nm,0.8s,mb5.4
BOSA PKKP PKKPbc 22 10 50.3 +1.1
BOSA Boshof 97.35 241 *e*P **P 21 54 11.1 +0.3**
BOSA pmax pmax
comp=Z,18nm,0.8s,mb5.5
DEV Deva 97.36 316 ⇑P **P 21 54 09.1 -1.3**
DEV Deva 97.36 316⇑*i*P **P 21 54 09.1 -1.3**
DRGR 97.36 317 ⇑P **P 21 54 09.4 -1.0**
DRGR 97.36 317⇑*i*P **P 21 54 09.4 -1.0**
DRGR 97.36 317⇓*i*P PKKPbc 22 10 50.0 +0.2
SWZ Schweizer 97.38 243 *e*P **P 21 54 09.5 -1.4**
SWZ AMB AMB 21 54 11.7
comp=Z,24nm,2.9s,mb5.0
UZH Uzhgorod 97.38 319*d i*P **P 21 54 09.2 -1.3**
UZH *e**PP pP 21 54 49.2 +2.7
UZH *i* SP sP 21 55 00.8 -0.5
UZH *e* 21 58 12.0
UZH *e*S S 22 05 17.0 -5.6
UZH *e*PS SP 22 06 41.0 -4.2
UZH MLR MLR
comp=E,500nm,21.0s
UZH MLR MLR
comp=Z,400nm,21.0s
ALE Alert 97.41 1 P **P 21 54 10.0 0.0**
comp=Z,118nm,0.8s,mb6.3,SNR=11
GZR Gura Zlata 97.51 316 ⇓P **P 21 54 10.3 -0.8**
GZR Gura Zlata 97.51 316⇓*i*P **P 21 54 10.3 -0.8**
GZR Gura Zlata 97.51 316⇑*i*P PKKPbc 22 10 49.5 +0.1
MOR8 Moi Rana 97.56 337 *e*P **P 21 54 08.4 -2.5**
MOR8 AMB AMB 21 54 09.3
comp=Z,70nm,0.9s,mb6.1
WRAK Wrangell Islan 97.69 33 *e*P **P 21 54 13.2 +1.5**
BEL Belsk 97.81 322 *e*P **P 21 54 11.7 -0.6**
comp=Z,300nm,1.8s,mb6.4
BEL *e*SKSac SKSac 22 04 35.6 -1.0
BEL *e*S S 22 05 28.1 +2.0
BEL LMZ 22 39 31.1
comp=Z,900nm,22.3s
BEL Belsk 97.81 322 *e*P **P 21 54 11.7 -0.6**
BEL *e* 22 04 35.6
BEL *e*S S 22 05 28.1 +2.0
BEL pmax pmax
comp=Z,300nm,1.8s,mb6.4
BEL MLR MLR
comp=Z,900nm,22.3s
CRVS Cervenica-Dubn 97.88 319 *i*P **P 21 54 12.8 +0.1**
CRVS Cervenica-Dubn 97.88 319 *e*P **P 21 54 12.8 +0.1**
FLOS Flostrand 97.92 338 *e*P **P 21 54 10.8 -1.7**
STHS Stebnicka Huta 97.94 320 *i*P **P 21 54 13.0 0.0**
STHS Stebnicka Huta 97.94 320 *e*P **P 21 54 13.0 0.0**
STOK Stokkvaagen 98.06 338 *e*P **P 21 54 11.5 -1.6**
STOK AMB AMB 21 54 12.3
comp=Z,80nm,0.9s,mb6.1
BZS Buzias 98.29 316 ⇓P **P 21 54 13.2 -1.4**
BZS Buzias 98.29 316⇓*i*P **P 21 54 13.2 -1.4**
BZS Buzias 98.29 316⇑*i*P PKKPbc 22 10 44.6 -2.6
DLBC Dease Lake 98.46 31 *e*PcP **P 21 54 16.1 +1.0**
NIE Niedzica 98.54 320 *e*P **P 21 54 15.9 +0.3**
NIE Niedzica 98.54 320 *e*P **P 21 54 15.9 +0.3**
KECS Kecovo 98.59 319 *i*P **P 21 54 14.9 -1.0**
KECS Kecovo 98.59 319 PDIF **P 21 54 14.9 -1.0**
OJC Ojcow 98.72 321 *e*P **P 21 54 15.6 -0.8**
OJC *e*SKSac SKSac 22 04 39.3 -2.0
OJC L 22 42 42.1
comp=Z,0.9nm,20.7s
OJC Ojcow 98.72 321 *e*P **P 21 54 15.6 -0.8**
OJC *e* 22 04 39.3
OJC MLR MLR
comp=Z,900nm,20.7s
NSS Namsos 99.07 336 *e*P **P 21 54 14.6 -3.0**
PSZ Piszkesteto 99.08 319 *e*PcP **P 21 54 17.0 -1.1**
comp=Z,63nm,1.3s,mb5.9
PSZ PP PP 21 58 19.1 -2.9
PSZ Piszkesteto 99.08 319⇑*e*P **P 21 54 17.0 -1.1**
PSZ 21 58 19.1
PSZ pmax pmax
comp=Z,63nm,1.3s,mb5.9
PSZ Piszkesteto 99.08 319⇓*e*P **P 21 54 17.9 -0.2**
GKP Gorka Klasztor 99.64 324 *e*P Pdif 21 54 19.5 -0.9
GKP *e*PP PP 21 58 26.4 +0.3
GKP *e*SKSac SKSac 22 04 42.1 -3.6
GKP LMZ 22 40 23.8
comp=Z,1μm,21.1s
GKP Gorka Klasztor 99.64 324 *e*P Pdif 21 54 19.5 -1.0
GKP *e* 21 58 26.4
GKP *e* 22 04 42.1
VYHS Vyhne 99.66 319 *i*P Pdif 21 54 19.6 -0.9
VYHS Vyhne 99.66 319 PDIF Pdif 21 54 19.6 -0.9
HFS Hagfors 99.71 331 LR LR 22 42 13.1
comp=Z,1μm,21.1s,baz=70,slow=37
BUD Budapest 99.73 318⇓*e*P Pdif 21 54 20.7 -0.2
OKC Ostrava-Krasne 99.84 321 *i*P Pdif 21 54 20.8 -0.5
OKC *e* 21 58 30.5
OKC *e* 22 04 45.5
OKC MLR MLR
comp=Z,600nm,15.3s
OKC Ostrava-Krasne 99.84 321 *i* PDIFF Pdif 21 54 20.8 -0.5
OKC *e*PP PP 21 58 30.5 +2.8
OKC *e*SKS 22 04 45.5
OKC AMS AMS 22 41 20.0
comp=Z,600nm,15.3s
PKSM Moragy 100.23 317 ⇓P Pdif 21 54 22.0 -1.1
PKSM Moragy 100.23 317⇓*i*P Pdif 21 54 22.0 -1.1
PKSM Moragy 100.23 317⇓*i*P PP 21 58 36.0 +5.8
MORC Moravsky Berou 100.23 321 *e*Pdif Pdif 21 54 22.6 -0.5
MORC Moravsky Berou 100.23 321 ⇑P Pdif 21 54 22.7 -0.4
MORC Moravsky Berou 100.23 321⇑*i*P Pdif 21 54 22.7 -0.4
DAG Danmarks Havn 100.39 352⇑*i*P Pdif 21 54 22.2 -1.6
DAG pmax pmax
comp=Z,49nm,0.8s
DAG Danmarks Havn 100.39 352⇑*i*P Pdif 21 54 22.2 -1.6
comp=Z,66nm,0.8s
BSD Bornholm Skovb 100.51 326⇑*i*P Pdif 21 54 23.8 -0.5
BSD pmax pmax
comp=Z,76nm,1.0s
BSD MLR MLR
comp=Z,700nm,21.0s
BSD Bornholm Skovb 100.51 326⇑*i*P Pdif 21 54 23.8 -0.5
comp=Z,76nm,1.0s
BSD
comp=Z,690nm,21.0s
NC602 NORSAR Array S 100.53 332 *e*P Pdif 21 54 21.6 -2.8
RKT Rikitea 100.58 113 *e*S Sdif 22 05 46.0 -3.2
comp=Z,1μm,29.5s
NB2 NORSAR Subarra 100.58 333 P Pdif 21 54 22.4 -2.2
comp=Z,33nm,0.8s,baz=73,slow=4.4
NOA NORSAR Array B 100.58 333 P Pdif 21 54 22.4 -2.2
comp=Z,21nm,0.7s,baz=73,slow=4.6,SNR=64
NOA PP PP 21 58 20.4 -12
comp=Z,5.8nm,0.7s,baz=72,slow=8.2,SNR=4.9
NOA NORSAR Array B 100.58 333 P Pdif 21 54 22.4 -2.2
NOA PP PP 21 58 20.4 -12
NOA NORSAR Array B 100.58 333 P Pdif 21 54 22.4 -2.2
NOA pmax pmax
comp=Z,21nm,0.7s
NOA pmax pmax
comp=Z,6.0nm,0.7s
KRLC Kraliky 100.65 321 *i* PDIFF Pdif 21 54 25.4 +0.5
KSP Ksiaz 100.78 322 *e*P Pdif 21 54 25.1 -0.3
KSP *e*PP PP 21 58 32.1 -2.6
KSP *e*SKSac SKSac 22 04 50.1 -1.3
KSP LMZ 22 41 24.9
comp=Z,1μm,23.3s
KSP Ksiaz 100.78 322 *e*Pdiffc Pdif 21 54 25.2 -0.3
KSP *e*PP PP 21 58 31.0 -3.7
KSP Ksiaz 100.78 322⇑*e*P Pdif 21 54 25.2 -0.3
KSP *e* 21 58 31.0
NAO01 NORSAR Array S 100.80 333 *e*Pdif Pdif 21 54 23.8 -1.8
comp=Z,21nm,0.7s
DPC Dobruska-Polom 100.87 321 *e*Pdif Pdif 21 54 25.5 -0.4
DPC *e*PP PP 21 58 40.5 +5.1
DPC Dobruska-Polom 100.87 321 *i*P Pdif 21 54 25.9 0.0
DPC *e* 22 04 51.3
DPC MLR MLR
comp=Z,700nm,22.8s
DPC Dobruska-Polom 100.87 321 *i* PDIFF Pdif 21 54 25.9 0.0
DPC *e*SKS 22 04 51.3
DPC AMS AMS 22 40 50.0
comp=Z,700nm,22.8s
SNAA Sanae 100.92 195 *e* Pdif 21 54 26.5 +0.4
SNAA Sanae 100.92 195 *e*Pdif Pdif 21 54 23.7 -2.4
SNAA *e*PKKPbc PKKPbc 22 10 37.5 -3.1
SNAA Sanae 100.92 195 *e*P Pdif 21 54 23.7 -2.4
VRAC Vranov 100.94 320 ⇑P Pdif 21 54 26.0 -0.2
VRAC Vranov 100.94 320⇑*i*P Pdif 21 54 26.0 -0.2
UPC Upice 101.03 322 *i*P Pdif 21 54 27.0 +0.4
UPC *e* 22 04 51.5
UPC Upice 101.03 322 *i* PDIFF Pdif 21 54 27.0 +0.4
UPC *e*SKS 22 04 51.5
SOP Sopron 101.33 319⇓*e*P Pdif 21 54 27.6 -0.3
TREC Trest 101.65 321 *i*P Pdif 21 54 29.6 +0.2
TREC MLR MLR
comp=Z,800nm,21.0s
TREC Trest 101.65 321 *i* PDIFF Pdif 21 54 29.6 +0.2
TREC AMS AMS 22 37 30.0
comp=Z,800nm,21.0s
CSNA Conrad Observa 101.73 319⇑*i*Pdiff Pdif 21 54 29.2 -0.6
comp=Z,16nm,1.6s
KONO Kongsberg 101.82 332 *e*P Pdif 21 54 28.5 -1.6
RES Resolute Bay 101.91 10 *e*Pdif Pdif 21 54 30.9 +0.3
comp=Z,26nm,0.8s
RES *e*PP PP 21 58 42.2 -0.3
RES Resolute Bay 101.91 10 *e*P Pdif 21 54 30.9 +0.4
RES *e* 21 58 42.2
RES pmax pmax
comp=Z,26nm,0.8s
PVCC Panska Ves 101.92 322 *i*P Pdif 21 54 30.9 +0.4
PVCC *e* 22 04 55.8
PVCC MLR MLR
comp=Z,1μm,24.4s
PVCC Panska Ves 101.92 322 *i* PDIFF Pdif 21 54 30.9 +0.4
PVCC *e*SKS 22 04 55.8
PVCC AMS AMS 22 41 30.0
comp=Z,1μm,24.4s
PRU Pruhonice 102.07 321 *i*P Pdif 21 54 31.4 +0.2
PRU *e* 21 58 53.0
PRU *e* 22 04 54.2
PRU MLR MLR
comp=Z,800nm,20.3s
PRU Pruhonice 102.07 321 *i* PDIFF Pdif 21 54 31.4 +0.2
PRU *e*PP PP 21 58 53.0 +8.5
PRU *e*SKS 22 04 54.2
PRU *e*PS PS 22 08 02.3 +9.1
PRU AMS AMS 22 41 40.0
comp=Z,800nm,20.3s
ARSA Arzberg 102.11 319⇓*i*Pdiff Pdif 21 54 30.9 -0.5
comp=Z,20nm,1.5s
PRA Prague 102.12 321 PDIFF Pdif 21 54 30.0 -1.4
PRA PP PP 21 58 49.0 +4.2
BRG Berggiesshubel 102.21 322 *e*PKP Pdif 21 54 31.4 -0.4
comp=Z,72nm,1.4s
BRG *e* 21 58 49.8
comp=Z,32nm,1.2s
BRG *e* 22 04 55.7
comp=Z,18nm,1.7s
BRG Berggiesshubel 102.21 322 *e*P Pdif 21 54 31.6 -0.3
comp=Z,72nm,1.4s
PERS Pernice 102.52 318 *i* Pdiff Pdif 21 54 32.7 -0.6
VNA2 Neumayer--Watz 102.54 195 *e* Pdif 21 54 34.5 +1.2
CLL Collm 102.66 323 *e*P Pdif 21 54 33.3 -0.6
comp=Z,36nm,1.3s
CLL Collm 102.66 323 *i*P Pdif 21 54 33.3 -0.6
CLL *i* 21 58 51.4
CLL *e* 22 04 58.0
CLL *e*S Sdif 22 05 59.0 -7.6
CLL pmax pmax
comp=Z,36nm,1.3s
CLL Collm 102.66 323⇑*i*Pdif Pdif 21 54 33.3 -0.6
comp=Z,36nm,1.3s
CLL *e*SPdif 21 55 16.0
CLL *i* 21 57 36.4
CLL *e* 21 58 03.0
CLL *e*PP PP 21 58 45.0 -3.8
CLL *i* 21 58 51.4
comp=Z,75nm,1.6s
CLL *e*SPP 21 59 39.0
CLL *e*SKSac SKSac 22 04 58.0 -2.3
CLL *e*Sdif Sdif 22 05 59.0 -7.6
CLL *e* 22 07 11.0
CLL *e*PS PS 22 07 56.0 -3.3
CLL *e*PPS 22 08 48.0
CLL *e*SPPS 22 09 25.0
CLL *e*PKKPbc PKKPbc 22 10 35.0 +0.1
CLL *e* 22 11 36.0
CLL *e*SS SS 22 13 24.0 +6.8
CLL *e*SS 22 14 12.0
CLL *e*SSS 22 17 24.0
CLL *e*SSSS 22 18 12.0
CLL *e*pPPPrev 22 19 12.0
CLL *e* 22 24 42.0
CLL LmV 22 48 00.0
comp=Z,700nm,18.6s
BOJS Bojanci 102.70 317 *e*Pdiff Pdif 21 54 33.8 -0.2
BOJS *e*PP PP 21 58 55.6 +6.3
MOA Molln 102.79 319⇑*i*Pdiff Pdif 21 54 34.1 -0.3
comp=Z,29nm,1.1s,SNR=9.8
GEC2 GERESS Array S 102.90 320 *e*P Pdif 21 54 34.1 -0.8
comp=Z,34nm,1.4s
GEC2 GERESS Array S 102.90 320 *e*P Pdif 21 54 34.1 -0.8
GEC2 pmax pmax
comp=Z,34nm,1.4s
GERES GERESS Array B 102.90 320 P Pdif 21 54 34.8 -0.1
comp=Z,13nm,1.1s,baz=73,slow=4.6,SNR=37
GERES PKiKP PKiKP 21 58 54.5 -0.2
comp=Z,7.1nm,0.8s,baz=60,slow=3.2,SNR=8.3
GERES PKKPbc PKKPbc 22 10 33.1 -1.1
comp=Z,2.6nm,1.0s,baz=222,slow=1.8,SNR=6.0
GERES GERESS Array B 102.90 320 P Pdif 21 54 34.8 -0.1
GERES PKiKP PKiKP 21 58 54.5 -0.2
GERES PKKPbc PKKPbc 22 10 33.1 -1.1
GERES GERESS Array B 102.90 320 P Pdif 21 54 34.8 -0.1
GERES *i* 21 58 54.5
GERES pmax pmax
comp=Z,13nm,1.1s
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES pmax pmax
comp=Z,3.0nm,1.0s
VNA3 Neumayer Olymp 102.90 194 *e* Pdif 21 54 35.9 +1.0
KHC Kasperske Hory 102.90 321 *e*Pdif Pdif 21 54 35.1 +0.2
KHC *e*PKPdf PKiKP 21 58 55.3 +0.6
KHC Kasperske Hory 102.90 321 *i*P Pdif 21 54 35.0 +0.1
KHC *e* 22 05 01.4
KHC MLR MLR
comp=Z,1μm,26.3s
KHC Kasperske Hory 102.90 321 *i* PDIFF Pdif 21 54 35.0 +0.1
KHC *e*x x 21 58 20.5
KHC *e*SKS 22 05 01.4
KHC AMS AMS 22 42 10.0
comp=Z,1μm,26.3s
MUD Monsted U'grnd 103.17 329 *i*P Pdif 21 54 35.4 -0.7
MUD pmax pmax

comp=Z,20nm,0.7s
MUD MLR MLR
comp=Z,1µm,19.0s
MUD Monsted U'grnd 103.17 329 *i* P Pdif 21 54 35.4 -0.7
comp=Z,20nm,0.7s
MUD
comp=Z,1µm,19.0s
TANN Tannenbergstha 103.24 322 *e*P Pdif 21 54 36.1 -0.3
comp=Z,44nm,1.5s
NKC Novy Kostel 103.30 322 *i* P Pdif 21 54 36.9 +0.2
NKC MLR MLR
comp=Z,1µm,23.5s
NKC Novy Kostel 103.30 322 *i* PDIFF Pdif 21 54 36.9 +0.2
NKC AMS AMS 22 42 20.0
comp=Z,1µm,23.5s
WET Wettzell 103.34 321 *e*P Pdif 21 54 36.2 -0.7
comp=Z,30nm,1.5s
WET Wettzell 103.34 321 *e*P Pdif 21 54 36.2 -0.7
WET pmax pmax
comp=Z,30nm,1.5s
ROTZ Rotzenmuhle 103.58 322 *e*P Pdif 21 54 38.0 0.0
comp=Z,64nm,1.9s
MOX Moxa 103.69 323 *e*P Pdif 21 54 38.2 -0.2
comp=Z,42nm,1.5s
MOX Moxa 103.69 323 *e*P Pdif 21 54 38.2 -0.2
MOX pmax pmax
comp=Z,42nm,1.5s
RJOB Jochberg 103.78 319 *e*P Pdif 21 54 37.9 -0.9
comp=Z,37nm,1.7s
NRDL Niedersach Rie 104.01 325 *e*P Pdif 21 54 40.1 +0.2
comp=Z,60nm,1.2s
CLZ Clausthal 104.06 324 *e*P Pdif 21 54 40.3 +0.2
comp=Z,72nm,1.3s
CLZ Clausthal 104.06 324 *e*P Pdif 21 54 40.3 +0.2
CLZ pmax pmax
comp=Z,72nm,1.3s
YKA Yellowknife Ar 104.08 24 Pdiff Pdif 21 54 40.4 +0.3
comp=Z,9.2nm,0.7s,baz=300,slow=4.7,SNR=72
YKA PKiKP PKiKP 21 58 55.9 -0.5
comp=Z,3.6nm,0.9s,baz=296,slow=1.6,SNR=4.2
YKA SKiKP 22 02 19.3
comp=Z,3.4nm,0.7s,baz=302,slow=1.8,SNR=10
YKA PKKPbc PKKPbc 22 10 27.9 -3.2
comp=Z,2.9nm,0.7s,baz=112,slow=2.1,SNR=21
YKA Yellowknife Ar 104.08 24 Pdif Pdif 21 54 40.5 +0.3
YKA PKiKP PKiKP 21 58 55.9 -0.5
YKA *e* 22 02 19.3
YKA PKKPbc PKKPbc 22 10 27.9 -3.2
YKA Yellowknife Ar 104.08 24 P Pdif 21 54 40.4 +0.2
YKA *i* 21 58 55.9
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA pmax pmax
comp=Z,3.0nm,0.7s
GRF Grafenberg Arr 104.22 322 *e*P Pdif 21 54 40.6 -0.2
comp=Z,34nm,1.6s
GRF *e*L 22 44 28.1
comp=Z,709nm,21.5s
GRF Grafenberg Arr 104.22 322 *e*P Pdif 21 54 40.6 -0.2
GRF pmax pmax
comp=Z,34nm,1.6s
GRF MLR MLR
comp=Z,700nm,21.5s
UBBA Unterbreizbach 104.61 323 *e*P Pdif 21 54 42.1 -0.4
comp=Z,28nm,1.6s
WTTA Wattenberg 104.66 319⇑ *i*Pdiff Pdif 21 54 41.7 -1.1
comp=Z,27nm,0.9s
WATA Walderalm 104.68 319⇑ *i*Pdiff Pdif 21 54 42.3 -0.6
comp=Z,6.2nm,0.6s
MOTA Moosalm 104.99 319⇓ *i*Pdiff Pdif 21 54 43.5 -0.7
comp=Z,16nm,0.9s,SNR=8.6
NLWA Neilton Lookou 105.04 41 *e*Pdif Pdif 21 54 47.0 +2.5
NLWA *e*PP PP 21 59 07.7 +1.1
TSUM Tsumeb 105.12 250 *e*PKKPab PKKPab 22 10 47.8 +3.2
FETA Feichten 105.33 319⇑ *i*Pdiff Pdif 21 54 45.3 -0.4
comp=Z,15nm,1.0s
IBBN Ibbenburen 105.43 325 *e*P Pdif 21 54 46.6 +0.4
comp=Z,117nm,1.8s
E03A Lebam 105.49 41 ⇓P PKiKP 21 58 59.9 +0.4
baz=106
GNW Green Mountain 105.66 40 *e*Pdif Pdif 21 54 48.8 +1.6
GNW *e*PKPdf PKiKP 21 59 01.3 +1.5
GNW *e*PP PP 21 59 10.6 -0.6
A05A Maple Falls 105.68 39 ⇓P PKiKP 21 58 59.8 +0.1
baz=106
TNS Taunus Mts 105.75 323 *e*P Pdif 21 54 47.4 -0.2
comp=Z,27nm,1.5s
TNS Taunus Mts 105.75 323 *e*P Pdif 21 54 47.4 -0.2
TNS pmax pmax
comp=Z,27nm,1.5s
FUORN Ofenpass-Fuorn 105.75 319 *e*Pdif Pdif 21 54 47.9 +0.3
STU Stuttgart 105.77 321 *e*P Pdif 21 54 47.5 -0.2
comp=Z,17nm,1.2s
DAVOX Davos/Dischmat 105.95 319 PKKPab PKKPab 22 10 42.3 +1.4
comp=Z,5.8nm,0.8s,baz=258,slow=5.7,SNR=6.4
DAVOX Davos/Dischmat 105.95 319 PKKPab PKKPab 22 10 42.3 +1.4
SCO Scoresbysund 105.99 349 *i* P Pdif 21 54 49.4 +0.7
SCO pmax pmax
comp=Z,12nm,0.8s
SCO Scoresbysund 105.99 349 *i* P Pdif 21 54 49.4 +0.7
comp=Z,12nm,0.8s
SCO Scoresbysund 105.99 349 *i* P PKiKP 21 59 00.8 +1.1
comp=Z,8.6nm,0.9s
BUG Bochum--Univer 106.02 324 *e*P Pdif 21 54 48.6 -0.2
comp=Z,32nm,1.4s
JCW Jim Creek 106.04 39 *e*Pdif Pdif 21 54 49.5 +0.7
TUE Stuetta 106.40 319 *e*PP PP 21 59 22.9 +6.2
BFO Black Forest 106.45 321 *e*PP PP 21 59 20.4 +3.4
SUMG Summit 106.56 354 *e*Pdif Pdif 21 54 53.3 +2.1
SUMG *e*PKPdf PKiKP 21 59 01.9 +1.1
SUMG Summit 106.56 354 *e*P Pdif 21 54 53.3 +2.1
SUMG Summit 106.56 354 *i* P Pdif 21 54 54.1 +2.9
comp=Z,11nm,0.9s
SUMG Summit 106.56 354 *i* P PKiKP 21 59 02.8 +2.0
comp=Z,14nm,1.0s
LANF Langenberg 106.56 322 *e*P PKiKP 21 59 02.5 +1.1
LON Longmire 106.57 41 *e*Pdif Pdif 21 54 53.4 +2.2
LON Longmire 106.57 41 *e*P Pdif 21 54 53.4 +2.1
HUMO Hull Mountain 107.03 45 *e*Pdif Pdif 21 54 57.9 +4.5
HUMO *e*PKPdf PKiKP 21 59 02.6 +0.2
HUMO *e*PP PP 21 59 21.6 +0.1
CDF Champ du Feu 107.09 321 *e*P Pdif 21 54 52.9 -0.6
comp=Z,12nm,0.9s
HOOD Mount Hood Mea 107.13 42 *e*Pdif Pdif 21 54 54.9 +1.1
ECH Echery 107.23 321 *e*P PKiKP 21 58 59.4 -3.3
ETW Entiat 107.25 40 *e*Pdif Pdif 21 54 55.5 +1.3
ETW *e*PKPdf PKiKP 21 59 03.9 +1.2
WLF Walferdange 107.33 323 *e*P Pdif 21 54 54.8 +0.2
WLF Walferdange 107.33 323 *e*PP PP 21 59 21.7 -1.6
MOF Molkenrain 107.37 321 *e*P PKiKP 21 59 03.3 +0.3
LOMF Lomont 107.74 320 *e*P PKiKP 21 58 59.4 -4.3
SENIN Lac Senin/Sane 107.77 319 *e*PP PP 21 59 26.4 -0.3
G06A Carlson Farm, 107.84 42 ⇓P PKiKP 21 59 04.3 +0.4
baz=108
WDC Whiskeytown Da 107.90 47 *e*PKiKP PKiKP 21 59 05.4 +1.2
THEF They Montfort 107.96 321 *e*P PKiKP 21 59 04.6 +0.6
HAWA Hanford 108.17 41 *e*Pdif Pdif 21 55 02.0 +3.6
HAWA *e*PKiKP PKiKP 21 59 06.3 +1.8
OD2 Odessa Site #2 108.35 39 *e*Pdif Pdif 21 55 00.4 +1.2
LPG La Plagne 108.43 319 *e*P Pdif 21 54 59.5 0.0
LPG La Plagne 108.43 319 *e*P Pdif 21 54 59.5 0.0
LPG La Plagne 108.43 319 *e*P Pdif 21 54 59.5 0.0
LPL La Plagne 108.43 319 *e*P Pdif 21 54 58.3 -1.2
comp=Z,43nm,1.3s
LPL La Plagne 108.43 319 *e*P Pdif 21 54 58.3 -1.2
comp=Z,43nm,1.3s
LPL La Plagne 108.43 319 *e*P Pdif 21 54 58.3 -1.2
LPL pmax pmax
comp=Z,43nm,1.3s
RSL Roselend 108.44 319 *e*P PP 21 59 20.9 -11
K05A Summer Lake 108.45 45 ⇓P PKiKP 21 59 05.1 0.0
baz=108
C09A Chrisman Ranch 108.48 39 ⇓P PKiKP 21 59 05.3 +0.2
baz=108
I07A Izee 108.98 43 ⇑P PKiKP 21 59 06.4 +0.3
baz=109
NEW Newport 109.02 38 *e*Pdif Pdif 21 55 03.9 +1.8
NEW Newport 109.02 38 *e*P Pdif 21 55 03.9 +1.8
E09A Wood Farm, Sta 109.03 40 ⇓P PKiKP 21 59 06.7 +0.6
baz=109
OHCM Honcut 109.03 48 *e*PKiKP PKiKP 21 59 07.8 +1.5
OHCM *e*PKKPab PKKPab 22 10 27.9 +0.8
MOD Modoc 109.12 45 *e*PKPdf PKiKP 21 59 08.2 +1.8
LNOR Lincton Mounta 109.17 41 *e*PKPdf PKiKP 21 59 07.8 +1.4
LNOR *e*PP PP 21 59 36.5 -0.3
ORIF Oris-en-Rattie 109.20 318 *e*P Pdif 21 55 05.0 +2.0
comp=Z,62nm,1.4s
ORIF Oris-en-Rattie 109.20 318 *e*P Pdif 21 55 05.0 +2.0
ORIF Oris-en-Rattie 109.20 318 *e*P Pdif 21 55 05.0 +2.0
KEST Kesra 109.44 308 PKiKP PKiKP 21 59 08.9 +1.7
comp=Z,3.1nm,0.9s,baz=176,slow=6.3,SNR=4.8
KEST PP PP 21 59 38.0 -1.2
comp=Z,13nm,0.9s,baz=17,slow=5.2,SNR=7.6
KEST PKKPbc PKKPbc 22 10 15.1 +1.5
comp=Z,1.8nm,0.7s,baz=346,slow=11,SNR=4.4
KEST Kesra 109.44 308 PKiKP PKiKP 21 59 08.9 +1.7
KEST PP PP 21 59 38.0 -1.2
KEST PKKPbc PKKPbc 22 10 15.1 +1.5
A12A Yaak River Ran 109.64 37 ⇓P PKiKP 21 59 08.1 +0.9
baz=110
XAL Allendale 109.67 330 *e*P PKiKP 21 59 07.3 +0.3
F10A Beach Ranch, E 109.82 40 ⇓P PKiKP 21 59 08.4 +0.8
baz=110
B12A Libby 109.87 37 ⇑P PKiKP 21 59 08.7 +1.1
baz=110
J08A Circle Bar Ran 109.92 43 ⇓P PKiKP 21 59 08.6 +0.8
baz=110
KPL Plockton 109.96 333 *e*P PKiKP 21 59 07.7 +0.2
WVOR Wild Horse Val 110.13 44 *e*PKKPab PKKPab 22 10 22.1 -0.2
BMO Blue Mountains 110.18 41 *e*Pdif Pdif 21 55 08.2 +0.9
BMO *e*PKPdf PKiKP 21 59 08.9 +0.6
BMO Blue Mountains 110.18 41 *e*P Pdif 21 55 08.2 +0.9
BMO *e* 21 59 08.9
CMB Columbia Colle 110.22 49 *e*PKPdf PKiKP 21 59 09.5 +0.9
CMB Columbia Colle 110.22 49 *e*PKIKP PKiKP 21 59 09.5 +0.9
KESW Keswick, Cumbr 110.26 330 *e*P PKiKP 21 59 08.7 +0.6
KESW AMB AMB 21 59 12.3
comp=Z,69nm,3.1s
WCN Washoe City 110.32 48 ⇓P PKiKP 21 59 09.7 +0.9
baz=110
B13A Whitefish 110.59 37 ⇓P PKiKP 21 59 09.8 +0.9
baz=111
BSMT Bassoo Peak 110.62 38 *e*Pdif Pdif 21 55 11.2 +2.0
BSMT *e*PKPdf PKiKP 21 59 10.2 +1.2
BSMT *e*PKKPab PKKPab 22 10 20.2 +0.1
BLMT Blacktail Moun 110.81 37 *e*Pdif Pdif 21 55 11.2 +1.1
BLMT *e*PKPdf PKiKP 21 59 10.5 +1.1
BLMT PP PP 21 59 48.3 -0.2
C13A Hot Springs 110.82 38 ⇑P PKiKP 21 59 09.9 +0.5
baz=111
GAL1 Galloway 110.90 331 *e*P PKiKP 21 59 08.0 -1.3
GAL1 AMB AMB 21 59 11.1
comp=Z,48nm,1.0s
SSW Stow on the Wo 110.93 327 *e*P PKiKP 21 59 10.3 +0.8
JTMT Jette 110.97 38 *e*Pdif Pdif 21 55 12.6 +1.8
JTMT *e*PKPdf PKiKP 21 59 10.5 +0.8
JTMT *e*PP PP 21 59 50.0 +0.4
JTMT *e*PKKPab PKKPab 22 10 18.2 -0.3
SWN1 Swindon 111.12 327 *e*P PKiKP 21 59 08.5 -1.4
SWN1 AMB AMB 21 59 09.3
comp=Z,141nm,2.6s
D13A Huson 111.14 38 ⇓P PKiKP 21 59 10.3 +0.2
baz=111
FOEL Foel Wylfa 111.18 329 *e*P PKiKP 21 59 09.6 -0.3
FOEL AMB AMB 21 59 24.5
comp=Z,67nm,2.7s
HLM1 Long Mynd 111.20 328 *e*P PKiKP 21 59 08.8 -1.2
HLM1 AMB AMB 21 59 13.1
comp=Z,56nm,3.0s
SWMT Swartz Lake 111.24 38 *e*PKPdf PKiKP 21 59 10.4 +0.2
SWMT *e*PP PP 21 59 52.4 +0.8
SWMT *e*SKPdf SKPdf 22 02 33.5 +0.7
SWMT *e*PKKPab PKKPab 22 10 17.1 -0.2
SMMC Simmler 111.29 52 ⇑P PKiKP 21 59 11.2 +0.4
baz=111
B14A Marquette Ranc 111.32 37 ⇓P PKiKP 21 59 11.0 +0.6
baz=111
A15A Johnson Ranch, 111.36 36 ⇑P PKiKP 21 59 10.9 +0.5
baz=111
MCH1 Michaelchurch 111.53 328 *e*P PKiKP 21 59 10.7 +0.1
MCH1 AMB AMB 21 59 14.1
comp=Z,58nm,5.0s
PKM Peak Mountain 111.55 52 ⇓P PKiKP 21 59 12.8 +1.6
baz=112
MSO Missoula 111.57 39 ⇓P PKiKP 21 59 10.8 -0.1
baz=112,SNR=11
MSO Missoula 111.57 39 *e*PKPdf PKiKP 21 59 11.6 +0.8
MSO *e*SKPdf SKPdf 22 02 33.4 0.0
E13A Victor 111.58 39 ⇑P PKiKP 21 59 10.8 -0.1
baz=112,SNR=7.6
HGH Gray Hill 111.61 327 *e*P PKiKP 21 59 11.1 +0.3
NVAR Mina Array Bea 111.67 48 Pdiff Pdif 21 55 16.0 +2.1
comp=Z,1.3nm,0.8s,baz=273,slow=5.9,SNR=7.4
NVAR PKiKP PKiKP 21 59 13.7 +2.3
comp=Z,7.3nm,0.7s,baz=265,slow=1.8,SNR=24
NVAR PP PP 21 59 47.8 -7.3
comp=Z,9.3nm,1.0s,baz=276,slow=4.0,SNR=5.5
NVAR SKP 22 02 35.1
comp=Z,1.8nm,0.7s,baz=35,slow=3.3,SNR=3.9
NVAR PKKPbc PKKPbc 22 10 06.3 -0.1
comp=Z,2.1nm,0.8s,baz=129,slow=4.3,SNR=5.9
NVAR SKKPbc 22 13 38.4
comp=Z,0.9nm,0.7s,baz=151,slow=3.6,SNR=3.9
NVAR Mina Array Bea 111.67 48 Pdif Pdif 21 55 16.0 +2.1
NVAR PKiKP PKiKP 21 59 13.7 +2.3
NVAR PP PP 21 59 47.8 -7.3
NVAR SKP 22 02 35.1
NVAR PKKPbc PKKPbc 22 10 06.3 -0.1
NVAR SKKPbc 22 13 38.4
SLMT Seeley Lake 111.67 38 *e*Pdif Pdif 21 55 15.8 +1.9
SLMT *e*PKPdf PKiKP 21 59 12.2 +1.1
SLMT *e*SKPdf SKPdf 22 02 34.0 +0.4
MFID Camas Ranch 111.70 42 ⇓P PKiKP 21 59 12.4 +1.1
baz=112
MFID Camas Ranch 111.70 42 *e*Pdif Pdif 21 55 14.9 +0.8
MFID *e*PKPdf PKiKP 21 59 12.8 +1.6
F13A Darby 111.75 40 ⇓P PKiKP 21 59 11.3 0.0
baz=112
B15A Bradely Ranch, 111.76 37 ⇓P PKiKP 21 59 10.7 -0.5
baz=112,SNR=10.0
MTUM Tungsten Hills 111.81 49 *e*PKiKP PKiKP 21 59 13.9 +2.3
MTUM *e*PP PP 21 59 57.5 +1.4
VES Vestal, Richgr 111.86 51 ⇑P PKiKP 21 59 12.2 +0.4
baz=112
BSC Santa Cruz Isl 111.94 53 ⇓P PKiKP 21 59 12.3 +0.3
baz=112
CHMT Chamberlain Mo 111.96 38 *e*Pdif Pdif 21 55 16.4 +1.2
CHMT *e*PKPdf PKiKP 21 59 12.9 +1.3
CHMT *e*PP PP 21 59 55.1 -1.6
CHMT *e*SKPdf SKPdf 22 02 34.3 +0.1
C15A Salmond Ranch, 111.98 37 ⇑P PKiKP 21 59 11.6 0.0
baz=112,SNR=6.8
E14A Clinton 112.02 39 ⇓P PKiKP 21 59 11.9 +0.2
baz=112,SNR=6.7
I12A Atlanta 112.03 42 ⇓P PKiKP 21 59 12.3 +0.5
baz=112
G13A Cobalt 112.10 40 ⇑P PKiKP 21 59 12.6 +0.6
baz=112
B16A M & M Farms, S 112.23 36 ⇑P PKiKP 21 59 11.9 -0.1
baz=112,SNR=6.1
ARVC Arvin 112.26 52 ⇓P PKiKP 21 59 12.7 +0.2
baz=112
H13A Challis 112.30 41 ⇑P PKiKP 21 59 13.2 +0.9
baz=112
D15A Lincoln 112.35 38 ⇓P PKiKP 21 59 12.3 -0.1
baz=112,SNR=7.2
F14A Wisdom 112.36 39 ⇑P PKiKP 21 59 13.3 +0.9
baz=112
ISA Isabella 112.38 51 ⇓P PKiKP 21 59 12.8 +0.1
baz=112
ISA Isabella 112.38 51 *e*PKPdf PKiKP 21 59 14.0 +1.2
ISA *e*PKKPbc PKKPbc 22 10 04.8 +0.8
ISA *e*PKKPab PKKPab 22 10 12.3 0.0
ISA Isabella 112.38 51 *e*PKIKP PKiKP 21 59 14.0 +1.2
CWC Cottonwood Cre 112.45 50 ⇑P PKiKP 21 59 13.5 +0.6
baz=112
C16A Fuhringer Ranc 112.48 37 ⇓P PKiKP 21 59 12.6 0.0
baz=112,SNR=5.5
E15A Deer Lodge 112.55 38 ⇓P PKiKP 21 59 13.3 +0.6
baz=113
A17A Triple J Farms 112.57 35 ⇓P PKiKP 21 59 13.3 +0.6
baz=113
HLID Hailey 112.60 42 ⇓P PKiKP 21 59 14.1 +1.1
baz=113
HLID Hailey 112.60 42 *e*PKPdf PKiKP 21 59 15.3 +2.4
HLID *e*SKPdf SKPdf 22 02 36.3 +0.9
HLID *e*PKKPab PKKPab 22 10 11.2 -0.1
I13A Wildhorse Cree 112.65 41 ⇓P PKiKP 21 59 13.7 +0.6
baz=113
B17A L&G Farms, Che 112.82 36 ⇓P PKiKP 21 59 14.1 +0.8
baz=113
GRAC Grapevine Rang 112.82 49 ⇓P PKiKP 21 59 14.4 +0.8
baz=113
J13A Cove Ranch, Pi 112.82 42 ⇓P PKiKP 21 59 15.0 +1.6
baz=113
HTL Hartland 112.84 327 *e*P PKiKP 21 59 12.8 -0.3
HTL AMB AMB 21 59 14.2
comp=Z,35nm,1.9s
H14A Leadore 112.86 41 ⇓P PKiKP 21 59 13.9 +0.5
baz=113
F15A Butte 112.90 39 ⇓P PKiKP 21 59 13.9 +0.4
baz=113,SNR=5.8
SFJD Kangerlussuaq 112.92 358 *e*PKiKP PKiKP 21 59 13.3 +0.4
SFJD Kangerlussuaq 112.92 358 *e*PKIKP PKiKP 21 59 13.3 +0.4
SFJD Kangerlussuaq 112.92 358 *i* P PKiKP 21 59 12.7 -0.2
comp=Z,28nm,0.8s
LRM Limekiln Ridge 112.93 39 *e*Pdif Pdif 21 55 21.5 +2.0
LRM *e*PKPdf PKiKP 21 59 14.9 +1.4
LRM *e*PKKPab PKKPab 22 10 10.4 +0.6
D16A Dana Ranch, Ca 112.95 38 ⇑P PKiKP 21 59 13.5 -0.1
baz=113,SNR=9.2
EDW2 Edwards Air Fo 112.99 52 ⇑P PKiKP 21 59 14.4 +0.4
baz=113
MPMC Manual Prospec 113.03 50 ⇑P PKiKP 21 59 14.6 +0.6
baz=113
DLMT Dillon 113.04 40 *e*PKPdf PKiKP 21 59 14.7 +1.0
DLMT *e*SKPdf SKPdf 22 02 37.1 +0.9
DLMT *e*PKKPab PKKPab 22 10 09.4 +0.1
PASC Pasadena Art C 113.05 53 *e*PKPdf PKiKP 21 59 15.5 +1.4
LRMC Laurel Mountai 113.05 51 ⇓P PKiKP 21 59 13.6 -0.4
baz=113
A18A Metzger Ranch, 113.07 35 ⇑P PKiKP 21 59 14.3 +0.6
baz=113
I14A Mackay 113.09 41 ⇓P PKiKP 21 59 14.0 +0.1
baz=113
E16A East Helena 113.10 38 ⇑P PKiKP 21 59 15.0 +1.2
baz=113
MCMT McKenzie Canyo 113.11 40 *e*PKPdf PKiKP 21 59 15.2 +1.3
MCMT *e*PP PP 22 00 04.7 -0.3
MCMT SKPdf SKPdf 22 02 37.9 +1.5
MWC Mount Wilson 113.13 52 *e*PKiKP PKiKP 21 59 16.4 +2.1
MWC *e*PP PP 22 00 04.2 -1.5
MWC Mount Wilson 113.13 52 *e*PKIKP PKiKP 21 59 16.4 +2.1
MWC *e* 22 00 04.2
C17A Wharram Farm, 113.15 37 ⇑P PKiKP 21 59 13.7 -0.2
baz=113,SNR=9.5
G15A Dillon 113.19 40 ⇑P PKiKP 21 59 14.8 +0.8
baz=113
J14A Carey 113.29 42 ⇑P PKiKP 21 59 14.5 +0.2
baz=113
H15A Lima 113.33 40 ⇓P PKiKP 21 59 15.3 +1.0
baz=113,SNR=14
B18A Beardsley Farm 113.37 36 ⇓P PKiKP 21 59 14.7 +0.5
baz=113
FURC Furnace Creek, 113.38 50 ⇓P PKiKP 21 59 14.9 +0.2
baz=113
D17A Six Diamond Ra 113.42 37 ⇓P PKiKP 21 59 14.5 +0.1
baz=113,SNR=7.5
BFSC Mount Baldy Ra 113.44 52 ⇓P PKiKP 21 59 15.6 +0.8
baz=114
F16A Kennard Place, 113.47 39 ⇑P PKiKP 21 59 15.6 +1.0
baz=114,SNR=16
BOZ Bozeman (W) 113.53 39 ⇓P PKiKP 21 59 15.9 +1.3
baz=114,SNR=17
BOZ Bozeman (W) 113.53 39 *e*PKPdf PKiKP 21 59 15.6 +1.0
BOZ *e*PP PP 22 00 07.6 -0.4
BOZ *e*SKPdf SKPdf 22 02 38.1 +0.9
BOZ *e*PKKPab PKKPab 22 10 07.2 0.0
BOZ Bozeman (W) 113.53 39 *e*PKIKP PKiKP 21 59 15.6 +0.9
BOZ *e* 22 00 07.6
BOZ *e* 22 02 38.1
EGMT Eagleton 113.56 36 ⇓P PKiKP 21 59 15.5 +0.8
baz=114
EGMT Eagleton 113.56 36 *e*PKPdf PKiKP 21 59 15.2 +0.6
EGMT *e*PP PP 22 00 08.7 +0.6
EGMT *e*SKPdf SKPdf 22 02 37.5 +0.3
EGMT *e*PKKPab PKKPab 22 10 05.1 -1.9
G16A Moss Hill, Enn 113.60 39 ⇑P PKiKP 21 59 15.3 +0.5
baz=114,SNR=14
E17A Martinsdale 113.64 38 ⇓P PKiKP 21 59 15.9 +1.0
baz=114
A19A Klindworth Far 113.70 35 ⇓P PKiKP 21 59 16.1 +1.2
baz=114
R11A Troy Canyon, C 113.71 48 ⇑P PKiKP 21 59 16.5 +1.2
baz=114
GSC Goldstone 113.79 51 ⇓P PKiKP 21 59 16.4 +0.9
baz=114
GSC Goldstone 113.79 51 *e*PKPdf PKiKP 21 59 16.9 +1.4
GSC *e*SKPdf SKPdf 22 02 38.6 +0.6
GSC *e*PKKPbc PKKPbc 22 10 00.1 +0.8
GSC Goldstone 113.79 51 *e*PKIKP PKiKP 21 59 16.9 +1.4
GSC *e* 22 02 38.6
B19A Brinkman Farms 113.82 35 ⇓P PKiKP 21 59 15.3 +0.2
baz=114
K14A Jones Ranch, D 113.84 43 ⇓P PKiKP 21 59 16.5 +1.2
baz=114
FFC Flin Flon 113.88 27 *e*PKPdf PKiKP 21 59 15.6 +0.6
FFC *e*SKPdf SKPdf 22 02 37.1 -0.5
FFC Flin Flon 113.88 27 *e*PKIKP PKiKP 21 59 15.6 +0.6
FFC *e* 22 02 37.1
D18A Linhart Farms, 113.93 37 ⇓P PKiKP 21 59 15.9 +0.6
baz=114
MURC Murrieta 114.00 53 ⇑P PKiKP 21 59 16.9 +1.0
baz=114
L14A Malta 114.00 43 ⇑P PKiKP 21 59 16.6 +0.9
baz=114
SHOC Shoshone 114.01 50 ⇑P PKiKP 21 59 16.6 +0.7
baz=114
F17A Fitzpatrick Pl 114.02 38 ⇑P PKiKP 21 59 16.7 +1.1
baz=114,SNR=16
QLMT Earthquake Lak 114.02 40 *e*PKPdf PKiKP 21 59 17.1 +1.5
QLMT *e*SKPdf SKPdf 22 02 39.0 +0.8
QLMT *e*PKKPab PKKPab 22 10 06.2 +1.2
C19A Slack Wire Ran 114.12 36 ⇓P PKiKP 21 59 16.5 +0.8
baz=114
E18A Harlowton 114.16 37 ⇑P PKiKP 21 59 16.5 +0.7
baz=114
H16A Russell Place, 114.19 40 ⇓P PKiKP 21 59 17.1 +1.1
baz=114,SNR=9.0
A20A Cobblestone Ra 114.19 34 ⇑P PKiKP 21 59 16.2 +0.3
baz=114
G17A Pierce Place, 114.23 39 ⇓P PKiKP 21 59 17.4 +1.4
baz=114,SNR=7.5
HEC Hector,Ludlow 114.31 51 ⇓P PKiKP 21 59 17.5 +1.0
baz=114
B20A Solberg Farm, 114.36 35 ⇓P PKiKP 21 59 16.7 +0.6
baz=114
YMR Madison River 114.38 40 *e*PKPdf PKiKP 21 59 18.1 +1.8
YMR *e*SKPdf SKPdf 22 02 40.0 +1.2
YMR *e*PKKPab PKKPab 22 10 03.8 +0.4
I16A Newdale 114.40 41 ⇓P PKiKP 21 59 17.6 +1.2
baz=114,SNR=11
HVU Hansel Valley 114.42 43 *e*PKPdf PKiKP 21 59 17.8 +1.3
HVU *e*PP PP 22 00 14.9 +0.5
HVU *e*SKPdf SKPdf 22 02 40.2 +1.1
HVU *e*PKKPab PKKPab 22 10 03.0 -0.2
HVU Hansel Valley 114.42 43 *e*PKIKP PKiKP 21 59 17.8 +1.3
HVU *e* 22 00 14.9
HVU *e* 22 02 40.2
TUQ Turquoise Moun 114.43 51 ⇑P PKiKP 21 59 18.0 +1.3
baz=114
D19A Cripps Ranch, 114.50 36 ⇓P PKiKP 21 59 17.4 +0.9
baz=114
YNR Norris Junctio 114.54 40 *e*PKPdf PKiKP 21 59 19.5 +2.9
YNR *e*PP PP 22 00 11.5 -3.6
YNR SKPdf SKPdf 22 02 41.9 +2.7
YNR *e*PKKPab PKKPab 22 10 03.9 +1.2
YFT Old Faithful 114.56 40 *e*PKPdf PKiKP 21 59 19.7 +3.0
YFT SKPdf SKPdf 22 02 39.3 +0.1
PFO Pinyon Flat Ob 114.59 53 ⇓P PKiKP 21 59 18.3 +1.2
baz=115
PFO Pinyon Flat Ob 114.59 53 *e*PKPdf PKiKP 21 59 18.7 +1.6
PFO *e*SKPdf SKPdf 22 02 40.6 +1.0
PFO Pinyon Flat Ob 114.59 53 *e*PKIKP PKiKP 21 59 18.7 +1.6
PFO *e* 22 02 40.6
L15A Malad City 114.59 43 ⇓P PKiKP 21 59 17.6 +0.8
baz=115
F18A Big Timber 114.60 38 ⇑P PKiKP 21 59 17.7 +1.0
baz=115,SNR=12
BAR Barrett 114.69 54 *e*PKiKP PKiKP 21 59 18.7 +1.4
A21A Bergtoll Ranch 114.69 34 ⇓P PKiKP 21 59 17.1 +0.3
baz=115
DCID1 Drake Creek 114.72 41 *e*PKPdf PKiKP 21 59 19.2 +2.2

RRI2	Red Ridge	114.74	41	ePKPdf	PKiKP	21 59 17.9	+0.8
RRI2				ePP	PP	22 00 16.5	0.0
RRI2				eSKPdf	SKPdf	22 02 41.4	+1.9
RRI2				ePKKPab	PKKPab	22 10 01.7	-0.1
C20A	Veseth Ranch, baz=115	114.74	36	⇓P	PKiKP	21 59 17.7	+0.8
IMW	Indian Meadow	114.74	40	ePKPdf	PKiKP	21 59 18.9	+1.9
IMW				PP	PP	22 00 12.6	-4.0
IMW				ePKKPab	PKKPab	22 10 01.9	+0.1
H17A	Grant Village baz=115	114.75	40	⇓P	PKiKP	21 59 18.6	+1.6
M15A	Larsen Ranch, baz=115	114.77	43	⇑P	PKiKP	21 59 17.8	+0.7
K16A	Soda Springs baz=115,SNR=14	114.78	42	⇓P	PKiKP	21 59 18.6	+1.4
LKWY	Lake	114.79	40	ePKPdf	PKiKP	21 59 19.1	+2.0
LKWY				ePP	PP	22 00 18.4	+1.5
LKWY	Lake	114.79	40	ePKIKP	PKiKP	21 59 19.1	+2.0
LKWY				e		22 00 18.4	
FLWY	Flagg Ranch	114.82	40	ePdif	Pdif	21 55 31.3	+3.4
FLWY				ePKPdf	PKiKP	21 59 17.5	+0.3
FLWY				ePP	PP	22 00 19.1	+2.0
FLWY				ePKPab	PKKPab	22 10 02.0	+0.5
BELC	Belle Mtn. Jos baz=115	114.83	52	⇑P	PKiKP	21 59 18.6	+1.1
MONP	Monument Peak baz=115	114.83	53	⇓P	PKiKP	21 59 19.0	+1.5
GMRC	Granite Mounta baz=115	114.85	51	⇑P	PKiKP	21 59 19.4	+1.9
E19A	Rath Farm, Rou baz=115,SNR=6.6	114.90	37	⇓P	PKiKP	21 59 18.2	+0.9
TPAW	Teton Pass	114.92	41	ePKPdf	PKiKP	21 59 19.1	+1.8
TPAW				eSKPdf	SKPdf	22 02 40.5	+0.6
TPAW				ePKPab	PKKPab	22 10 01.5	+0.4
MOOW	Moose Ponds	114.94	40	ePKPdf	PKiKP	21 59 18.1	+0.7
MOOW				eSKPdf	SKPdf	22 02 40.5	+0.6
MOOW				ePKKPab	PKKPab	22 10 00.4	-0.5
R13A	O'Grain Ranch, baz=115	114.96	47	⇓P	PKiKP	21 59 19.2	+1.6
I17A	Pilgrim Ck. baz=115,SNR=8.1	114.97	40	⇓P	PKiKP	21 59 18.9	+1.5
D20A	Manuel Ranch, baz=115	114.97	36	⇑P	PKiKP	21 59 18.7	+1.3
DUG	Dugway baz=115	115.03	45	⇑P	PKiKP	21 59 19.1	+1.4
DUG	Dugway	115.03	45	ePKPdf	PKiKP	21 59 18.7	+1.0
DUG				eSKPdf	SKPdf	22 02 41.4	+1.2
DUG				ePKKPbc	PKKPbc	22 09 55.7	+0.4
DUG	Dugway	115.03	45	ePKIKP	PKiKP	21 59 18.7	+1.0
DUG				e		22 09 55.7	
REDW	Red Top Meadow	115.04	41	ePKPdf	PKiKP	21 59 18.8	+1.2
REDW				eSKPdf	SKPdf	22 02 41.3	+1.2
SNOW	Snow King Moun	115.06	41	ePKPdf	PKiKP	21 59 19.2	+1.5
SNOW				ePP	PP	22 00 19.8	+1.0
SNOW				eSKPdf	SKPdf	22 02 41.4	+1.2
LOHW	Long Hollow	115.09	41	ePKPdf	PKiKP	21 59 18.4	+0.7
LOHW				ePP	PP	22 00 18.5	-0.5
LOHW				eSKPdf	SKPdf	22 02 41.4	+1.2
LOHW				ePKPab	PKKPab	22 10 00.1	-0.2
F19A	Roth Farm, Mol baz=115,SNR=6.5	115.10	38	⇑P	PKiKP	21 59 18.8	+1.1
J17A	Brown Place, J baz=115,SNR=22	115.13	41	⇑P	PKiKP	21 59 18.9	+1.1
DVTC	Desert V Tower baz=115	115.16	54	⇓P	PKiKP	21 59 18.8	+0.6
LDFC	Landfair	115.18	51	ePKPdf	PKPdf	21 59 19.9	+1.8
LDFC				ePP	PP	22 00 20.9	+0.9
LDFC				ePKKPbc	PKKPbc	22 09 55.5	+1.0
H18A	Shoshone NF, C baz=115,SNR=6.9	115.20	39	⇑P	PKiKP	21 59 19.0	+1.1
C21A	Desert Coulee baz=115	115.21	35	⇑P	PKiKP	21 59 18.4	+0.5
L16A	Fish Haven baz=115	115.23	42	⇑P	PKiKP	21 59 19.0	+0.9
O15A	The Old Anders baz=115	115.23	45	⇑P	PKiKP	21 59 19.4	+1.3
RLMT	Red Lodge baz=115,SNR=5.6	115.25	39	⇓P	PKiKP	21 59 19.2	+1.2
RLMT	Red Lodge	115.25	39	ePKPdf	PKPdf	21 59 19.7	+1.8
RLMT				ePKKPab	PKKPab	22 09 59.5	0.0
A22A	Carney Farms, baz=115	115.25	34	⇓P	PKiKP	21 59 18.7	+0.8
E20A	Meyer Farm, Mu baz=115	115.27	37	⇓P	PKiKP	21 59 18.7	+0.8
HWUT	Hardware Ranch	115.31	43	ePKPdf	PKPdf	21 59 18.9	+0.7
HWUT				SKPdf	SKPdf	22 02 40.8	0.0
HWUT				ePKPab	PKKPab	22 09 59.0	-0.3
SWSC	Sam W. Stewart baz=115	115.31	53	⇓P	PKiKP	21 59 19.3	+0.9
NOQ	North Oquirrh	115.33	44	ePKPdf	PKPdf	21 59 20.1	+1.9
NOQ				eSKPdf	SKPdf	22 02 42.8	+2.0
BC3	Big Chuckawall baz=115	115.37	52	⇑P	PKiKP	21 59 19.7	+1.1
IRM	Iron Mountain baz=116	115.44	52	⇓P	PKiKP	21 59 20.2	+1.5
ARUT	Antelope Range	115.49	47	ePKPdf	PKPdf	21 59 21.1	+2.4
ARUT				ePP	PP	22 00 22.5	+0.4
ARUT	Antelope Range	115.49	47	ePKIKP	PKPdf	21 59 21.1	+2.4
ARUT				e		22 00 22.5	
I18A	Diamond G Ranc baz=116,SNR=5.4	115.56	40	⇑P	PKiKP	21 59 19.4	+0.8
L17A	Cokeville baz=116	115.57	42	⇓P	PKiKP	21 59 19.5	+0.8
B22A	Reddig Ranch S baz=116	115.58	34	⇑P	PKiKP	21 59 19.2	+0.7
F20A	Billings baz=116	115.61	38	⇑P	PKiKP	21 59 19.3	+0.6
CCUT	Cedar City	115.64	48	ePKPdf	PKPdf	21 59 20.8	+1.8
CCUT				ePP	PP	22 00 23.0	-0.1
CCUT				ePKKPbc	PKKPbc	22 09 53.3	+0.2
H19A	Powell baz=116,SNR=7.2	115.64	39	⇓P	PKiKP	21 59 19.7	+1.0
J18A	Kendall Valley baz=116,SNR=12	115.65	41	⇑P	PKiKP	21 59 19.5	+0.7
P15A	Leamington baz=116	115.65	45	⇓P	PKiKP	21 59 20.2	+1.2
D21A	La Casta Ranch baz=116	115.66	36	⇑P	PKiKP	21 59 19.7	+1.0
TAM	Tamanrasset	115.67	295	ePKPdf	PKPdf	21 59 21.1	+1.7
TAM				ePP	PP	22 00 25.9	+1.9
TAM				eSKPdf	SKPdf	22 02 42.6	+0.6
TAM	Tamanrasset	115.67	295	ePKIKP	PKPdf	21 59 21.1	+1.7
TAM				e		22 00 25.9	
N16A	Rees Ranch, Co baz=116,SNR=5.9	115.70	44	⇓P	PKiKP	21 59 19.9	+0.9
JLU	Jordanelle	115.81	44	ePKPdf	PKPdf	21 59 20.9	+1.7
JLU				ePP	PP	22 00 23.5	-0.7
JLU				ePKKPbc	PKKPbc	22 09 52.5	0.0
JLU				ePKPab	PKKPab	22 09 57.7	+0.6
A23A	Redstone baz=116	115.84	33	⇓P	PKPdf	21 59 20.1	+1.0
G20A	Bridger baz=116,SNR=17	115.85	38	⇑P	PKPdf	21 59 19.7	+0.6
E21A	Keefer Ranch, baz=116	115.88	36	⇓P	PKPdf	21 59 20.3	+1.1
K18A	Toltan Ranch, baz=116,SNR=18	115.89	41	⇑P	PKPdf	21 59 20.1	+0.8
I19A	Meeteetse baz=116,SNR=7.9	115.93	40	⇓P	PKPdf	21 59 20.0	+0.7
O16A	Springville baz=116	115.94	44	⇓P	PKPdf	21 59 20.6	+1.1
C22A	Vida baz=116	115.94	35	⇑P	PKPdf	21 59 20.0	+0.8
M17A	Scullys Gap (B baz=116,SNR=18	115.98	43	⇑P	PKPdf	21 59 20.5	+1.0
DAU	Daniels Canyon	116.03	44	ePKPdf	PKPdf	21 59 21.3	+1.6
DAU	Daniels Canyon	116.03	44	ePKIKP	PKPdf	21 59 21.3	+1.7
GLA	Glamis baz=116	116.05	53	⇓P	PKPdf	21 59 21.2	+1.3
GLA	Glamis	116.05	53	ePKiKP	PKiKP	21 59 22.3	+2.4
GLA	Glamis	116.05	53	ePKIKP	PKPdf	21 59 22.3	+2.4
B23A	Brockton baz=116	116.06	34	⇑P	PKPdf	21 59 20.3	+0.9
Y12C	Blythe baz=116	116.07	52	⇑P	PKPdf	21 59 21.0	+1.1
P16A	Fountain Green baz=116	116.07	45	⇓P	PKPdf	21 59 20.8	+1.1
D22A	Cohagen baz=116	116.09	35	⇓P	PKPdf	21 59 20.9	+1.4
N17A	Moffit Pass baz=116,SNR=16	116.09	43	⇓P	PKPdf	21 59 21.0	+1.2
W13A	Hualapai Mount baz=116	116.11	50	⇓P	PKPdf	21 59 22.0	+2.0
PD01	Pinedale Array	116.13	41	ePKPdf	PKPdf	21 59 21.0	+1.2
PD01				ePKPab	PKPab	22 09 55.4	-0.3
MSU	Marysvale	116.14	46	ePKPdf	PKPdf	21 59 21.7	+1.8
MSU				eSKPdf	SKPdf	22 02 44.4	+2.0
MSU				ePKKPbc	PKKPbc	22 09 52.4	+1.0
MSU	Marysvale	116.14	46	ePKIKP	PKPdf	21 59 21.7	+1.8
MSU				e		22 09 52.4	
PD02	Pinedale Array	116.14	41	ePKPdf	PKPdf	21 59 21.0	+1.2
PD02				ePKPab	PKPab	22 09 55.5	-0.1
BW06	Boulder Array baz=116,SNR=19	116.15	41	⇑P	PKPdf	21 59 20.6	+0.8
BW06	Boulder Array	116.15	41	ePKiKP	PKiKP	21 59 20.9	+1.2
BW06				ePKKPbc	PKKPbc	22 09 50.5	-0.9
PDAR	Pinedale Array	116.15	41	Pdiff	Pdif	21 55 35.9	+2.1
	comp=Z,1.9nm,1.0s,baz=227,slow=3.5,SNR=6.5						
PDAR				PKP	PKPdf	21 59 20.9	+1.1
	comp=Z,10.0nm,0.9s,baz=197,slow=1.5,SNR=35						
PDAR				SKP		22 02 43.5	
	comp=Z,5.0nm,1.0s,baz=225,slow=0.2,SNR=4.1						
PDAR				PKKPbc	PKKPbc	22 09 49.4	-2.0
	comp=Z,2.7nm,0.7s,baz=114,slow=5.6,SNR=7.3						
PDAR	Pinedale Array	116.15	41	Pdif	Pdif	21 55 35.9	+2.1
PDAR				PKP	PKPdf	21 59 20.9	+1.1
PDAR				SKP		22 02 43.5	
PDAR				PKKPbc	PKKPbc	22 09 49.4	-2.0
R15A	Junction baz=116	116.18	47	⇑P	PKPdf	21 59 21.4	+1.4
PDMCI	Parker Dam,Lak baz=116	116.19	51	⇓P	PKPdf	21 59 21.1	+1.0
L18A	Fontenelle, Gr baz=116,SNR=35	116.21	42	⇑P	PKPdf	21 59 21.0	+1.0
F21A	Absaloka Mine, baz=116	116.22	37	⇑P	PKPdf	21 59 21.0	+1.2
J19A	Crowheart baz=116,SNR=11	116.25	40	⇑P	PKPdf	21 59 20.9	+0.9
LAO	LASA Array baz=116	116.31	36	⇑P	PKPdf	21 59 21.1	+1.1
LAO	LASA Array	116.31	36	ePKPdf	PKPdf	21 59 21.7	+1.7
LAO				eSKPdf	SKPdf	22 02 43.0	+0.5
C23A	Lambert baz=116	116.31	34	⇓P	PKPdf	21 59 21.0	+1.0
A24A	Westby baz=116	116.34	33	⇑P	PKPdf	21 59 20.8	+0.8
H20A	Greybull baz=116,SNR=10	116.34	39	⇑P	PKPdf	21 59 20.9	+0.8
M18A	Lyman baz=116,SNR=11	116.41	43	⇑P	PKPdf	21 59 21.1	+0.8
G21A	Lodge Grass baz=116	116.47	38	⇑P	PKPdf	21 59 21.3	+1.0
O17A	Robinson Place baz=116,SNR=38	116.48	44	⇑P	PKPdf	21 59 21.6	+1.1
DGMT	Dagmar baz=116	116.49	33	⇑P	PKPdf	21 59 21.0	+0.8
DGMT	Dagmar	116.49	33	ePKPdf	PKPdf	21 59 21.5	+1.2
DGMT				ePP	PP	22 00 27.9	-0.6
DGMT				eSKPdf	SKPdf	22 02 43.9	+1.1
TMUT	Trail Mountain	116.52	45	ePKPdf	PKPdf	21 59 22.1	+1.5
TMUT				ePKKPbc	PKKPbc	22 09 50.4	+0.4
TMUT				ePKKPab	PKKPab	22 09 54.7	+0.7
I20A	Worland baz=116,SNR=19	116.52	39	⇓P	PKPdf	21 59 21.5	+1.1
L19A	Farson baz=117,SNR=11	116.58	42	⇑P	PKPdf	21 59 21.8	+1.1
E22A	Miles City baz=117	116.60	36	⇓P	PKPdf	21 59 21.4	+0.9
D23A	Lindsay baz=117	116.64	35	⇓P	PKPdf	21 59 21.6	+1.0
Q16A	Castle Valley baz=117,SNR=12	116.70	45	⇓P	PKPdf	21 59 22.3	+1.3
R16A	Teasdale baz=117	116.73	46	⇓P	PKPdf	21 59 22.7	+1.7
F22A	Rosebud baz=117	116.76	37	⇑P	PKPdf	21 59 21.7	+0.8
P17A	Butcher Ranch, baz=117,SNR=15	116.78	45	⇑P	PKPdf	21 59 22.1	+1.0
J20A	Shoshoni baz=117,SNR=23	116.83	40	⇓P	PKPdf	21 59 22.0	+0.9
U15A	North Rim baz=117	116.85	48	⇑P	PKPdf	21 59 23.1	+1.8
H21A	Big Horn, Sher baz=117,SNR=5.1	116.87	38	⇓P	PKPdf	21 59 21.6	+0.4
S16A	Weppner Ranch, baz=117	116.87	47	⇑P	PKPdf	21 59 22.2	+0.9
C24A	Savage baz=117	116.89	34	⇓P	PKPdf	21 59 22.4	+1.4
Z13A	Yuma Proving G baz=117	116.93	52	⇑P	PKPdf	21 59 23.0	+1.4
E23A	Ismay baz=117	116.94	36	⇓P	PKPdf	21 59 22.4	+1.2
O18A	Roosevelt baz=117,SNR=10	116.95	44	⇓P	PKPdf	21 59 22.6	+1.2
M19A	Rock Springs baz=117,SNR=7.2	116.99	42	⇓P	PKPdf	21 59 22.2	+0.7
113A	Mohawk Valley, baz=117	116.99	53	⇓P	PKPdf	21 59 22.5	+0.8
K20A	Yellowstone Ra baz=117,SNR=8.0	117.00	41	⇓P	PKPdf	21 59 21.9	+0.5
G22A	Birney baz=117	117.03	37	⇓P	PKPdf	21 59 22.1	+0.7
P18A	Preston Nutter baz=117,SNR=24	117.06	44	⇑P	PKPdf	21 59 22.8	+1.2
SRU	San Rafael	117.08	45	ePKPdf	PKPdf	21 59 22.9	+1.2
SRU				ePKPbc	PKKPbc	22 09 48.0	-0.1
SRU				ePKKPab	PKKPab	22 09 51.8	+0.3
SRU	San Rafael	117.08	45	ePKIKP	PKPdf	21 59 22.9	+1.2
I21A	Big Trails, Te baz=117,SNR=14	117.12	39	⇓P	PKPdf	21 59 21.8	+0.2
D24A	Glendive baz=117	117.17	35	⇓P	PKPdf	21 59 22.5	+0.9
Y14A	Wickenburg baz=117	117.20	51	⇓P	PKPdf	21 59 22.9	+0.8
R17A	Hanksville Air baz=117,SNR=14	117.23	46	⇑P	PKPdf	21 59 22.9	+0.9
J21A	Lysite baz=117,SNR=13	117.25	40	⇓P	PKPdf	21 59 22.3	+0.4
N19A	John Jarvie Ra baz=117	117.25	43	⇑P	PKPdf	21 59 22.4	+0.5
L20A	Wamsutter baz=117,SNR=10	117.30	41	⇑P	PKPdf	21 59 23.3	+1.2
H22A	Clearmont baz=117	117.31	38	⇓P	PKPdf	21 59 22.5	+0.6
Q18A	Rafter H Ranch baz=117,SNR=19	117.36	45	⇓P	PKPdf	21 59 23.2	+0.9
Z14A	Wintersburg baz=118	117.44	52	⇓P	PKPdf	21 59 23.8	+1.2
S17A	Black Ridge (B baz=118,SNR=22	117.48	47	⇓P	PKPdf	21 59 23.5	+1.0
E24A	Baker baz=118	117.49	35	⇑P	PKPdf	21 59 23.2	+1.0
O19A	Miners Draw (B baz=118,SNR=9.2	117.55	43	⇓P	PKPdf	21 59 23.4	+0.8
G23A	Biddle baz=118	117.58	37	⇑P	PKPdf	21 59 22.8	+0.3
I22A	9 Mile Ranch, baz=118,SNR=7.1	117.58	39	⇑P	PKPdf	21 59 22.4	-0.1
M20A	Sweetwater, Wa baz=118	117.64	42	⇓P	PKPdf	21 59 23.4	+0.7
114A	Black Gap (USA baz=118	117.70	52	⇓P	PKPdf	21 59 24.1	+1.1
K21A	Alcova baz=118,SNR=28	117.72	40	⇑P	PKPdf	21 59 23.4	+0.6
T17A	Navajo Res., N baz=118,SNR=60	117.73	47	⇓P	PKPdf	21 59 24.7	+1.6
F24A	Ekalaka baz=118	117.80	36	⇓P	PKPdf	21 59 23.2	+0.3
U16A	Tuba City baz=118	117.83	48	⇑P	PKPdf	21 59 25.2	+2.0
J22A	Midwest baz=118,SNR=48	117.83	39	⇑P	PKPdf	21 59 23.1	+0.1
R18A	Canyonlands Na baz=118,SNR=33	117.83	46	⇓P	PKPdf	21 59 23.8	+0.7
WUAZ	Wupatki baz=118	117.88	49	⇑P	PKPdf	21 59 25.2	+1.8
WUAZ	Wupatki	117.88	49	ePKPdf	PKPdf	21 59 24.7	+1.4
WUAZ				eSKPdf	SKPdf	22 02 47.1	+1.2
WUAZ				ePKKPbc	PKKPbc	22 09 45.2	+0.1
N20A	Spence Gulch, baz=118	117.89	42	⇑P	PKPdf	21 59 24.8	+1.6
P19A	Cripple Cowboy baz=118,SNR=18	117.94	44	⇑P	PKPdf	21 59 25.0	+1.7
L21A	Rawlins baz=118,SNR=29	117.96	41	⇑P	PKPdf	21 59 24.2	+0.9
ESDC	Sonseca Array	117.97	316	PKP	PKPdf	21 59 23.6	+0.2
	comp=Z,10.0nm,0.8s,baz=19,slow=3.5,SNR=33						
ESDC				PP	PP	22 00 37.0	-2.3
	comp=Z,2.8nm,0.9s,baz=59,slow=7.9,SNR=4.1						
ESDC				PKKPbc	PKKPbc	22 09 44.4	-0.5
	comp=Z,1.5nm,0.7s,baz=248,slow=3.4,SNR=5.7						
ESDC	Sonseca Array	117.97	316	PKP	PKPdf	21 59 23.6	+0.2
ESDC				PP	PP	22 00 37.0	-2.3
ESDC				PKKPbc	PKKPbc	22 09 44.4	-0.5
U17A	Shonto baz=118,SNR=14	118.00	48	⇓P	PKPdf	21 59 25.2	+1.6
214A	Organ Pipe Nat baz=118	118.02	53	⇑P	PKPdf	21 59 24.9	+1.2
Q19A	Hogan Spring (baz=118,SNR=48	118.03	45	⇑P	PKPdf	21 59 24.8	+1.3
S18A	Hurst Farm, Bl baz=118,SNR=39	118.04	46	⇑P	PKPdf	21 59 24.7	+1.1
G24A	Alzada baz=118	118.10	36	⇓P	PKPdf	21 59 23.8	+0.3
M21A	Separation Pea baz=118,SNR=47	118.13	41	⇑P	PKPdf	21 59 24.5	+0.8
K22A	Casper baz=118,SNR=18	118.18	40	⇑P	PKPdf	21 59 23.9	+0.2
I23A	Meade Ranch, G baz=118	118.18	38	⇓P	PKPdf	21 59 23.8	+0.1
RWWY	Rawlins	118.20	41	ePKPdf	PKPdf	21 59 24.6	+0.9
RWWY				eSKPdf	SKPdf	22 02 46.8	+0.5
O20A	White River Ci baz=118,SNR=16	118.22	43	⇑P	PKPdf	21 59 25.1	+1.2
X16A	Lo Mia Camp, P baz=118	118.24	50	⇓P	PKPdf	21 59 25.5	+1.4
V17A	Tonalea, Kykot baz=118,SNR=24	118.28	49	⇓P	PKPdf	21 59 25.2	+1.1
PAB	San Pablo	118.30	316	ePKPdf	PKPdf	21 59 24.9	+0.9
PAB				SKPdf	SKPdf	22 02 47.9	+1.3
PAB	San Pablo	118.30	316	ePKIKP	PKPdf	21 59 24.9	+0.9
R19A	Curley Farm, L baz=118,SNR=8.1	118.32	45	⇑P	PKPdf	21 59 25.4	+1.3
H24A	Dirks Ranch, A baz=118	118.33	37	⇑P	PKPdf	21 59 24.2	+0.3
T18A	Mexican Hat baz=118,SNR=42	118.36	47	⇑P	PKPdf	21 59 25.5	+1.3
P20A	De Beque baz=118,SNR=12	118.41	44	⇓P	PKPdf	21 59 25.2	+0.9
J23A	Dilts Ranch, B baz=118	118.41	39	⇓P	PKPdf	21 59 24.4	+0.3
N21A	Black Mountain baz=118,SNR=40	118.43	42	⇑P	PKPdf	21 59 25.2	+0.9
PV04	Paradox Valley	118.53	45	ePKPdf	PKPdf	21 59 26.6	+2.1
PV04				eSKPdf	SKPdf	22 02 47.4	+0.3
PV04				ePKKPbc	PKKPbc	22 09 43.2	+0.4
L22A	Ellis Ranch, M baz=118,SNR=10	118.54	41	⇑P	PKPdf	21 59 25.3	+0.8
W17A	Winslow baz=119,SNR=7.2	118.55	49	⇓P	PKPdf	21 59 26.2	+1.6
S19A	Harvey Farm, M baz=119,SNR=14	118.64	46	⇑P	PKPdf	21 59 25.9	+1.1
U18A	Rough Rock, Ch baz=119,SNR=9.0	118.65	48	⇑P	PKPdf	21 59 26.5	+1.7
K23A	Bowen Ranch, D baz=119,SNR=5.6	118.70	39	⇑P	PKPdf	21 59 26.2	+1.5
O21A	Pagoda baz=119	118.71	43	⇓P	PKPdf	21 59 25.6	+0.8
Q20A	Ridgley Place, baz=119,SNR=22	118.71	44	⇓P	PKPdf	21 59 26.4	+1.5
I24A	Kuemmerle Ranc baz=119	118.75	38	⇑P	PKPdf	21 59 24.5	-0.2
X17A	Forest Lakes baz=119,SNR=20	118.75	50	⇑P	PKPdf	21 59 26.9	+1.8
PBRG	Braganca	118.85	319	ePKPdf	PKPdf	21 59 25.4	+0.4
PV01	Paradox Valley	118.88	45	ePKPdf	PKPdf	21 59 26.4	+1.2
PV01				eSKPdf	SKPdf	22 02 48.6	+0.9
PV01				ePKKPbc	PKKPbc	22 09 41.8	+0.2
V18A	Ganado baz=119,SNR=24	118.89	48	⇓P	PKPdf	21 59 27.1	+1.8
Y17A	Roosevelt baz=119,SNR=11	118.96	51	⇓P	PKPdf	21 59 26.7	+1.2
L23A	Garrett baz=119,SNR=11	118.97	40	⇑P	PKPdf	21 59 25.5	+0.2
RSSD	Black Hills	118.97	37	ePKPdf	PKPdf	21 59 25.5	+0.3
RSSD				eSKPdf	SKPdf	22 02 46.8	-0.9
RSSD	Black Hills	118.97	37	ePKIKP	PKPdf	21 59 25.5	+0.3
R20A	Redvale baz=119,SNR=25	118.99	45	⇓P	PKPdf	21 59 27.0	+1.6
J24A	Dixon Ranch, L baz=119	119.01	38	⇓P	PKPdf	21 59 25.5	+0.2
P21A	Newcastle baz=119	119.05	43	⇑P	PKPdf	21 59 26.5	+1.0
T19A	Beclabito baz=119,SNR=16	119.10	47	⇓P	PKPdf	21 59 26.6	+1.0
N22A	Wattenberg Ran baz=119,SNR=17	119.12	42	⇓P	PKPdf	21 59 26.8	+1.2
S20A	Disappointment baz=119,SNR=33	119.16	46	⇓P	PKPdf	21 59 27.1	+1.4
U19A	Dine' College, baz=119,SNR=11	119.19	47	⇓P	PKPdf	21 59 27.3	+1.5
K24A	Anderson Ranch baz=119	119.23	39	⇓P	PKPdf	21 59 25.9	+0.2
W18A	Petrified Fore baz=119,SNR=18	119.27	49	⇑P	PKPdf	21 59 27.6	+1.6
Q21A	Lamborn Mesa, baz=119	119.27	44	⇑P	PKPdf	21 59 27.7	+1.8
M23A	Laramie baz=119,SNR=5.0	119.28	41	⇓P	PKPdf	21 59 26.2	+0.3
MVCO	Mesa Verde baz=119,SNR=44	119.33	46	⇑P	PKPdf	21 59 27.4	+1.4
MVCO	Mesa Verde	119.33	46	ePKPdf	PKPdf	21 59 27.9	+1.8
MVCO				eSKPdf	SKPdf	22 02 51.5	+2.9
MVCO				ePKKPab	PKKPab	22 09 42.4	+0.7
X18A	Snowflake baz=119,SNR=12	119.34	50	⇓P	PKPdf	21 59 27.9	+1.7
MDND	Maddock baz=119	119.34	32	⇑P	PKPdf	21 59 26.2	+0.4
MVO	Moncorvo	119.35	319	ePKPdf	PKPdf	21 59 26.8	+0.8
O22A	Kremmling baz=119,SNR=10.0	119.36	42	⇑P	PKPdf	21 59 27.1	+1.0
Z17A	San Carlos Hig baz=120	119.40	51	⇑P	PKPdf	21 59 28.1	+1.8
N23A	Red Feather La baz=119,SNR=8.7	119.41	41	⇓P	PKPdf	21 59 27.1	+0.9
P22A	Eagle baz=120,SNR=16	119.49	43	⇑P	PKPdf	21 59 27.8	+1.5
R21A	Cimarron baz=120	119.50	45	⇓P	PKPdf	21 59 28.1	+1.8
L24A	Wheatland baz=120	119.50	40	⇓P	PKPdf	21 59 26.6	+0.3
TUC	Tucson	119.51	52	ePKPdf	PKPdf	21 59 28.2	+1.6
TUC				ePP	PP	22 00 49.1	-1.1
TUC				eSKPdf	SKPdf	22 02 50.2	+1.1
TUC				ePKKPab	PKKPab	22 09 41.7	+0.8
TUC	Tucson	119.51	52	ePKIKP	PKPdf	21 59 28.2	+1.6
TUC				e		22 00 49.1	
SMCO	Snowmass	119.53	44	ePKPdf	PKPdf	21 59 28.9	+2.5
SMCO				eSKPdf	SKPdf	22 02 51.4	+2.4
SMCO				ePKKPbc	PKKPbc	22 09 39.7	+0.5
PHWY	Pilot Hill	119.53	41	ePKPdf	PKPdf	21 59 27.4	+1.1
W19A	Sanders baz=120,SNR=8.0	119.53	49	⇑P	PKPdf	21 59 28.1	+1.6
V19A	Window Rock baz=120,SNR=13	119.55	48	⇑P	PKPdf	21 59 28.5	+1.9
Y18A	Canyon Day Jun baz=120,SNR=8.8	119.56	50	⇑P	PKPdf	21 59 28.2	+1.5
ULM	Lac du Bonnet	119.64	28	PKP	PKPdf	21 59 26.1	-0.2
	comp=Z,41nm,0.7s,baz=

	baz=120						
M24A	Cheyenne	119.86	40	⇓P	PKPdf	21 59 27.9	+0.9
	baz=120,SNR=6.7						
X19A	St. Johns	119.88	49	⇓P	PKPdf	21 59 29.0	+1.8
	baz=120,SNR=8.2						
K25A	Mack Ranch, Ha	119.88	39	⇓P	PKPdf	21 59 27.4	+0.5
	baz=120						
V20A	Brimhall	119.94	48	⇓P	PKPdf	21 59 28.7	+1.4
	baz=120,SNR=13						
118A	Homack Ranch,	120.03	52	⇑P	PKPdf	21 59 29.2	+1.6
	baz=120,SNR=13						
L25A	Engebretsen Ra	120.06	39	⇑P	PKPdf	21 59 28.0	+0.7
	baz=120						
MTE	Manteigas	120.07	318	ePKPdf	PKPdf	21 59 28.6	+1.2
MTE	Manteigas	120.07	318	ePKPdf	PKPdf	21 59 28.9	+1.5
Y19A	Nutrioso	120.09	50	⇓P	PKPdf	21 59 29.5	+1.9
	baz=120,SNR=36						
T21A	Navajo Lake	120.12	46	⇑P	PKPdf	21 59 29.4	+1.8
	baz=120,SNR=36						
R22A	Saguache, Gunn	120.12	44	⇑P	PKPdf	21 59 29.9	+2.4
	baz=120						
PVIS	Viseu	120.14	319	ePKPdf	PKPdf	21 59 28.0	+0.5
ISCO	Idaho Springs	120.17	42	⇑P	PKPdf	21 59 29.1	+1.5
	baz=120,SNR=26						
ISCO	Idaho Springs	120.17	42	ePKPdf	PKPdf	21 59 28.9	+1.2
ISCO				eSKPdf	SKPdf	22 02 51.1	+0.9
ISCO	Idaho Springs	120.17	42	ePKIKP	PKPdf	21 59 28.9	+1.3
W20A	Ramah	120.19	48	⇓P	PKPdf	21 59 29.2	+1.4
	baz=120,SNR=48						
218A	Dragoon	120.22	52	⇓P	PKPdf	21 59 29.3	+1.4
	baz=120,SNR=10						
P23A	Jefferson	120.22	43	⇓P	PKPdf	21 59 29.2	+1.5
	baz=120,SNR=11						
K26A	Motz Farm, Whi	120.26	38	⇑P	PKPdf	21 59 28.0	+0.3
	baz=120						
U21A	Nageezi	120.27	47	⇓P	PKPdf	21 59 29.5	+1.6
	baz=120,SNR=69						
S22A	4UR Ranch, Cre	120.28	45	⇑P	PKPdf	21 59 29.9	+2.0
	baz=120						
PCBR	Castelo Branco	120.30	318	ePKPdf	PKPdf	21 59 29.0	+1.1
Z19A	T-Link Ranch,	120.34	51	⇑P	PKPdf	21 59 29.8	+1.6
	baz=120,SNR=7.4						
O24A	Longmont	120.37	42	⇓P	PKPdf	21 59 29.3	+1.3
	baz=120						
X20A	Quemado	120.43	49	⇑P	PKPdf	21 59 30.2	+1.9
	baz=120,SNR=19						
PMRV	Marv??o	120.44	317	ePKPdf	PKPdf	21 59 28.2	0.0
Q23A	Hartsel	120.44	43	⇑P	PKPdf	21 59 29.4	+1.2
	baz=120,SNR=23						
318A	Bisbee	120.45	53	⇑P	PKPdf	21 59 29.3	+0.9
	baz=120,SNR=20						
119A	Ashpeak Ranch,	120.51	51	⇓P	PKPdf	21 59 29.9	+1.4
	baz=121,SNR=12						
V21A	Milan	120.55	47	⇓P	PKPdf	21 59 30.2	+1.7
	baz=121,SNR=8.0						
T22A	Edith	120.56	46	⇑P	PKPdf	21 59 30.2	+1.7
	baz=121						
N25A	Grover	120.67	41	⇓P	PKPdf	21 59 29.1	+0.5
	baz=121						
L26A	Underwood Farm	120.68	39	⇑P	PKPdf	21 59 29.2	+0.7
	baz=121						
Y20A	Horse Springs,	120.78	50	⇓P	PKPdf	21 59 30.9	+1.9
	baz=121,SNR=28						
P24A	Kohler Place,	120.78	42	⇑P	PKPdf	21 59 29.7	+0.9
	baz=121						
R23A	Moffat	120.78	44	⇓P	PKPdf	21 59 30.6	+1.7
	baz=121,SNR=21						
PBAR	Barrancos	120.79	316	ePKPdf	PKPdf	21 59 29.8	+0.9
PBAR	Barrancos	120.79	316	ePP	PP	22 00 58.0	-0.6
219A	White Tail Can	120.83	52	⇑P	PKPdf	21 59 30.9	+1.7
	baz=121,SNR=21						
W21A	San Fidel	120.83	48	⇑P	PKPdf	21 59 30.8	+1.8
	baz=121,SNR=6.6						
PESTR	Estremoz	120.84	317	ePKPdf	PKPdf	21 59 30.1	+1.2
PESTR	Estremoz	120.84	317	ePP	PP	22 00 57.6	-1.3
K27A	Flueckinger Fa	120.85	38	⇓P	PKPdf	21 59 28.8	-0.1
	baz=121						
U22A	Llaves	120.88	46	⇓P	PKPdf	21 59 31.0	+1.9
	baz=121						
Q24A	Divide	120.88	43	⇑P	PKPdf	21 59 30.1	+1.1
	baz=121,SNR=11						
S23A	Nye Farm, Mont	120.89	45	⇓P	PKPdf	21 59 31.1	+2.1
	baz=121						
TORD	Torodi Ar. Bea	120.93	285	PKP	PKPdf	21 59 29.4	-0.4
	comp=Z,41nm,0.8s,baz=69,slow=1.5,SNR=151						
TORD				pPKP	pPKPdf	22 00 05.5	-1.9
	comp=Z,15nm,1.1s,baz=87,slow=1.1,SNR=1.5						
TORD				SKP		22 02 51.8	
	comp=Z,13nm,0.8s,baz=47,slow=1.8,SNR=6.4						
TORD				PKKPab	PKKPab	22 09 35.2	+0.3
	comp=Z,22nm,1.0s,baz=294,slow=3.8,SNR=30						
TORD				PKKP	PKKPdf	22 10 07.7	+0.6
	comp=Z,14nm,1.0s,baz=273,slow=2.8,SNR=3.9						
TORD	Torodi Ar. Bea	120.93	285	PKP	PKPdf	21 59 29.4	-0.4
TORD				pPKP	pPKPdf	22 00 05.5	-1.9
TORD				SKP		22 02 51.8	
TORD				PKKPab	PKKPab	22 09 35.2	+0.3
TORD				PKKP	PKKPdf	22 10 07.7	+0.6
AGMN	Agassiz Nation	120.97	30	ePKPdf	PKPdf	21 59 28.5	-0.4
AGMN				eSKPdf	SKPdf	22 02 51.0	-0.3
PTOM	Tomar	121.03	318	ePKPdf	PKPdf	21 59 30.3	+1.0
V22A	San Miguel Ran	121.04	47	⇑P	PKPdf	21 59 31.3	+1.9
	baz=121						
319A	Douglas	121.04	53	⇓P	PKPdf	21 59 31.4	+1.8
	baz=121						
120A	U Bar Ranch, L	121.11	51	⇓P	PKPdf	21 59 31.5	+1.9
	baz=121,SNR=24						
T23A	Casias Ranch,	121.17	45	⇓P	PKPdf	21 59 31.4	+1.8
	baz=121,SNR=13						
SDCO	Great Sand Dun	121.22	44	⇑P	PKPdf	21 59 31.4	+1.7
	baz=121,SNR=32						
SDCO	Great Sand Dun	121.22	44	ePKPdf	PKPdf	21 59 31.2	+1.5
SDCO				eSKPdf	SKPdf	22 02 54.2	+2.0
SDCO				ePKKPab	PKKPab	22 09 33.9	+0.5
R24A	Sanders Place,	121.26	44	⇓P	PKPdf	21 59 30.9	+1.1
	baz=121,SNR=8.0						
Y21A	Point of Rocks	121.27	49	⇑P	PKPdf	21 59 31.7	+1.8
	baz=121,SNR=42						
P25A	Willow Gulch B	121.28	42	⇓P	PKPdf	21 59 30.9	+1.1
	baz=121,SNR=41						
EVO	Evora	121.30	317	ePKIKP	PKPdf	21 59 29.9	+0.1
	comp=Z,156nm,1.0s						
EVO	Evora	121.30	317	ePKPdf	PKPdf	21 59 30.8	+1.0
EVO	Evora	121.30	317	ePP	PP	22 01 00.4	-1.6
EVOP	Sao Brissos	121.37	317	ePKPdf	PKPdf	21 59 29.9	-0.1
EVOP	Sao Brissos	121.37	317	ePKIKP	PKPdf	21 59 29.9	-0.1
U23A	El Rito	121.38	46	⇓P	PKPdf	21 59 32.3	+2.3
	baz=121						
W22A	Albuquerque	121.43	48	⇑P	PKPdf	21 59 32.5	+2.3
	baz=122						
PBEJ	Beja	121.44	316	ePKPdf	PKPdf	21 59 30.6	+0.5
220A	Playas Peak, P	121.44	52	⇓P	PKPdf	21 59 31.3	+1.0
	baz=122,SNR=26						
S24A	Houchin Ranch,	121.47	44	⇓P	PKPdf	21 59 31.6	+1.4
	baz=122,SNR=13						
O26A	Horse Wrangler	121.47	41	⇓P	PKPdf	21 59 30.9	+0.7
	baz=122						
LAZ	Ladron	121.51	49	ePKPdf	PKPdf	21 59 32.1	+1.7
LAZ				eSKPdf	SKPdf	22 02 52.7	-0.2
Q25A	Bedland, Calha	121.52	43	⇓P	PKPdf	21 59 31.0	+0.7
	baz=122,SNR=20						
Z21A	St. Cloud Mine	121.56	50	⇑P	PKPdf	21 59 32.2	+1.7
	baz=122,SNR=13						
PVAQ	Vaqueiros	121.63	315	ePKPdf	PKPdf	21 59 31.0	+0.5
V23A	Ortiz Mt. (NFS	121.64	47	⇑P	PKPdf	21 59 32.5	+1.9
	baz=122						
320A	Kipp Ranch, An	121.66	52	⇑P	PKPdf	21 59 32.1	+1.3
	baz=122						
LENM	Lemitar	121.74	49	ePKPdf	PKPdf	21 59 32.5	+1.7
LENM				eSKPdf	SKPdf	22 02 55.3	+2.0
PCVE	Castro Verde	121.75	316	ePKPdf	PKPdf	21 59 31.4	+0.7
121A	Cookes Peak, D	121.78	51	⇓P	PKPdf	21 59 32.4	+1.5
	baz=122,SNR=22						
BRSD	Miller	121.78	35	⇑P	PKPdf	21 59 30.5	-0.1
	baz=122						
ANMO	Albuquerque	121.79	48	ePKPdf	PKPdf	21 59 32.3	+1.5
ANMO				SKPdf	SKPdf	22 02 55.2	+1.8
ANMO	Albuquerque	121.79	48	ePKIKP	PKPdf	21 59 32.3	+1.4
Y22D	IRIS PASSCAL I	121.81	49	⇓P	PKPdf	21 59 32.7	+1.7
	baz=122						
Y22A	Socorro	121.84	49	⇑P	PKPdf	21 59 32.6	+1.6
	baz=122						
T24A	Torres, Weston	121.85	45	⇑P	PKPdf	21 59 32.6	+1.7
	baz=122,SNR=19						
PBDV	Barranco-do-Ve	121.85	315	ePKPdf	PKPdf	21 59 32.1	+1.2
PNCL	Nicolau / Gran	121.85	316	ePKPdf	PKPdf	21 59 31.7	+0.8
R25A	Fountain Ranch	121.87	43	⇑P	PKPdf	21 59 31.6	+0.7
	baz=122,SNR=21						
W23A	Werner Place,	121.92	47	⇑P	PKPdf	21 59 32.6	+1.5
	baz=122						
LPM	Los Pinos Moun	121.93	49	ePKPdf	PKPdf	21 59 32.7	+1.5
LPM				eSKPdf	SKPdf	22 02 55.7	+2.1
LPM				ePKKPab	PKKPab	22 09 31.2	+0.9
OGNE	Ogallala	121.93	40	⇓P	PKPdf	21 59 31.0	0.0
	baz=122						
OGNE	Ogallala	121.93	40	ePKPdf	PKPdf	21 59 31.2	+0.2
OGNE				ePP	PP	22 01 07.3	+1.2
OGNE				eSKPdf	SKPdf	22 02 54.8	+1.3
PMAFR	Mafra	121.95	318	ePKPdf	PKPdf	21 59 32.2	+1.1
221A	Mesquite Ranch	121.99	51	⇓P	PKPdf	21 59 32.9	+1.6
	baz=122						
U24A	Moreno Valley	122.00	46	⇓P	PKPdf	21 59 33.1	+1.9
	baz=122						
BNM	Barren Site	122.00	49	ePKPdf	PKPdf	21 59 32.8	+1.5
BNM				eSKPdf	SKPdf	22 02 55.8	+2.0
BNM				ePKKPbc	PKKPbc	22 09 30.2	+0.3
S25A	Robets Cordova	122.00	44	⇑P	PKPdf	21 59 32.3	+1.1
	baz=122,SNR=15						
Z22A	Elephant Butte	122.12	50	⇑P	PKPdf	21 59 33.0	+1.5
	baz=122						
X23A	Hourglass Bar	122.15	48	⇓P	PKPdf	21 59 32.8	+1.3
	baz=122						
PTEO	Sao Teotonio	122.26	316	ePKPdf	PKPdf	21 59 32.8	+1.1
T25A	Trinidad	122.27	45	⇑P	PKPdf	21 59 33.2	+1.4
	baz=122,SNR=29						
V24A	Rampart Ranch,	122.31	46	⇓P	PKPdf	21 59 33.5	+1.6
	baz=122,SNR=34						
122A	Conniff Cattle	122.32	50	⇑P	PKPdf	21 59 33.4	+1.5
	baz=122						
MORF	Marmelete	122.33	316	ePKPdf	PKPdf	21 59 32.6	+0.8
R26A	Arlington	122.37	43	⇓P	PKPdf	21 59 33.0	+1.1
	baz=122,SNR=27						
W24A	Lazy 6 Ranch,	122.45	47	⇓P	PKPdf	21 59 33.8	+1.6
	baz=122,SNR=42						
222A	Williams Famil	122.48	51	⇑P	PKPdf	21 59 34.4	+2.1
	baz=122						
Y23A	Lovelace Mesa,	122.53	49	⇓P	PKPdf	21 59 33.1	+0.7
	baz=123						
PFVI	Vila Bisbo	122.53	316	ePKPdf	PKPdf	21 59 33.6	+1.4
U25A	Circle Dot Ran	122.62	45	⇑P	PKPdf	21 59 33.8	+1.4
	baz=123,SNR=31						
Z23A	Rita Site, Whi	122.68	49	⇑P	PKPdf	21 59 34.0	+1.3
	baz=123						
X24A	Lazy VL Ranch,	122.71	48	⇓P	PKPdf	21 59 33.9	+1.2
	baz=123						
V25A	Rancho No Teng	122.74	46	⇓P	PKPdf	21 59 34.2	+1.5
	baz=123,SNR=50						
123A	Bell Site, Whi	122.91	50	⇑P	PKPdf	21 59 34.7	+1.6
	baz=123						
Y24A	Capitan	122.99	48	⇓P	PKPdf	21 59 34.6	+1.3
	baz=123,SNR=61						
223A	Chaparral, Ant	123.04	51	⇑P	PKPdf	21 59 34.7	+1.3
	baz=123						
U26A	Atchley Ranch,	123.10	45	⇑P	PKPdf	21 59 34.4	+1.0
	baz=123,SNR=19						
W25A	X Bar L Ranch,	123.13	47	⇑P	PKPdf	21 59 34.2	+0.7
	baz=123,SNR=36						
X25A	Clemmons Ranch	123.30	47	⇑P	PKPdf	21 59 35.0	+1.2
	baz=123						
EYMN	Ely	123.30	28	ePKPdf	PKPdf	21 59 34.3	+0.9
V26A	Tequesquite Ra	123.35	46	⇑P	PKPdf	21 59 34.9	+1.0
	baz=123,SNR=14						
ECSD	EROS Data Cent	123.55	34	ePKPdf	PKPdf	21 59 33.3	-0.7
ECSD				eSKPdf	SKPdf	22 02 56.9	+0.5
ECSD				ePKKPab	PKKPab	22 09 22.4	-0.9
Y25A	Mesa, Roswell	123.55	48	⇓P	PKPdf	21 59 35.5	+1.2
	baz=124,SNR=59						
W26A	Owens Ranch, T	123.70	46	⇑P	PKPdf	21 59 35.8	+1.2
	baz=124,SNR=16						
224A	Cornudas Mount	123.71	50	⇓P	PKPdf	21 59 36.2	+1.5
	baz=124,SNR=15						
Z25A	Roswell	123.81	49	⇑P	PKPdf	21 59 36.5	+1.7
	baz=124,SNR=28						
X26A	CR and CF Fran	123.92	47	⇓P	PKPdf	21 59 35.8	+0.8
	baz=124,SNR=20						
MNTX	Cornudas Mount	123.98	51	⇑P	PKPdf	21 59 36.2	+1.0
	baz=124,SNR=60						
MNTX	Cornudas Mount	123.98	51	ePKPdf	PKPdf	21 59 36.2	+1.0
MNTX				eSKPdf	SKPdf	22 02 59.6	+1.9
MNTX				ePKKPab	PKKPab	22 09 20.9	-0.7
324A	Moseley Ranch,	124.01	51	⇓P	PKPdf	21 59 36.5	+1.3
	baz=124,SNR=42						
BGNE	Belgrade	124.08	37	⇑P	PKPdf	21 59 35.3	+0.2
	baz=124						
125A	Gardner Draw,	124.13	49	⇑P	PKPdf	21 59 36.6	+1.2
	baz=124,SNR=21						
Y26A	Elida	124.19	48	⇓P	PKPdf	21 59 36.4	+0.8
	baz=124,SNR=18						
W27A	Bowe Ranch, En	124.22	46	⇑P	PKPdf	21 59 36.6	+1.1
	baz=124,SNR=26						
225A	Deer Hill, Car	124.24	50	⇑P	PKPdf	21 59 37.0	+1.3
	baz=124,SNR=14						
Z26A	Caprock	124.37	48	⇓P	PKPdf	21 59 36.6	+0.7
	baz=124,SNR=8.8						
X27A	F and S Farms,	124.39	47	⇓P	PKPdf	21 59 36.7	+0.8
	baz=124,SNR=6.7						
325A	Bean Ranch, Si	124.44	51	⇑P	PKPdf	21 59 36.8	+0.8
	baz=124,SNR=21						
GDL2	Guadalupe Moun	124.55	50	ePKPdf	PKPdf	21 59 37.9	+1.7
CBKS	Cedar Bluff	124.57	41	⇓P	PKPdf	21 59 36.3	+0.2
	baz=125						
CBKS	Cedar Bluff	124.57	41	ePKPdf	PKPdf	21 59 37.4	+1.2
CBKS	Cedar Bluff	124.57	41	ePKIKP	PKPdf	21 59 37.4	+1.3
SCHQ	Schefferville	124.59	7	PKP	PKPdf	21 59 36.2	+0.6
	comp=Z,93nm,0.7s,baz=17,slow=3.0,SNR=87						
SCHQ				PP	PP	22 01 21.6	-1.5
	comp=Z,23nm,0.9s,baz=0.9,slow=7.5,SNR=4.6						
SCHQ				SKP		22 02 58.6	
	comp=Z,29nm,0.9s,baz=359,slow=2.8,SNR=5.8						
SCHQ				PKKPbc		22 09 18.7	
	comp=Z,8.4nm,1.0s,baz=226,slow=6.0,SNR=3.8						
SCHQ	Schefferville	124.59	7	PKP	PKPdf	21 59 36.2	+0.6
SCHQ				ePKPdf	PKPdf	21 59 36.5	+0.9
SCHQ				ePP	PP	22 01 22.3	-0.8
SCHQ				eSKPdf	SKPdf	22 02 58.5	+0.4
SCHQ				SKP		22 02 58.6	
SCHQ				PKKPbc		22 09 18.7	
SPMN	St. Paul	124.60	31	⇓P	PKPdf	21 59 36.1	+0.1
	baz=125						
126A	Clayton Basin,	124.62	49	⇑P	PKPdf	21 59 37.0	+0.7
	baz=125,SNR=16						
425A	Indio Mountain	124.67	52	⇓P	PKPdf	21 59 37.5	+1.0
	baz=125,SNR=23						
Y27A	Causey	124.70	47	⇑P	PKPdf	21 59 37.3	+0.8
	baz=125,SNR=29						
226A	Malaga, Loving	124.81	50	⇓P	PKPdf	21 59 37.7	+0.9
	baz=125,SNR=33						
Z27A	Tatum	124.92	48	⇓P	PKPdf	21 59 37.6	+0.7
	baz=125,SNR=74						
MSTX	Muleshoe	124.95	47	⇓P	PKPdf	21 59 37.7	+0.7
	baz=125,SNR=32						
127A	Arkansas Junct	125.11	49	⇓P	PKPdf	21 59 38.1	+0.8
	baz=125,SNR=5.7						
326A	Caldwell Ranch	125.23	51	⇓P	PKPdf	21 59 38.0	+0.4
	baz=125,SNR=16						
AMTX	Amarillo	125.30	46	⇓P	PKPdf	21 59 38.9	+1.3
	baz=125						
AMTX	Amarillo	125.30	46	ePKPdf	PKPdf	21 59 38.9	+1.2
227A	Bennet, Jal	125.45	50	⇓P	PKPdf	21 59 38.8	+0.8
	baz=126						
426A	McDonald Obser	125.46	51	⇑P	PKPdf	21 59 39.2	+1.1
	baz=126,SNR=11						
327A	Balmorhea Ranc	125.58	50	⇓P	PKPdf	21 59 39.3	+1.0
	baz=126						
526A	Mary Lane Ranc	125.67	52	⇓P	PKPdf	21 59 39.3	+0.9
	baz=126,SNR=32						
626A	Big Bend Ranch	125.84	53	⇓P	PKPdf	21 59 39.5	+0.7
	baz=126,SNR=15						
427A	Hayter Ranch,	125.87	51	⇑P	PKPdf	21 59 40.2	+1.4
	baz=126,SNR=40						
527A	Woodward Ranch	126.01	52	⇓P	PKPdf	21 59 40.0	+0.8
	baz=126,SNR=37						
328A	Wristen Ranch,	126.10	50	⇓P	PKPdf	21 59 39.9	+0.6
	baz=126,SNR=40						
TXAR	Lajitas Array	126.30	53	PKP	PKPdf	21 59 40.1	+0.4
	comp=Z,15nm,0.9s,baz=222,slow=1.7,SNR=43						
TXAR				SKPbc		22 02 42.3	
	comp=Z,5.1nm,0.8s,baz=222,slow=1.2,SNR=5.3						
TXAR				PKKPbc		22 09 17.5	
	comp=Z,0.6nm,0.8s,baz=125,slow=2.8,SNR=4.2						
TXAR				SKKPbc		22 12 51.3	
	comp=Z,2.1nm,1.0s,baz=130,slow=5.1,SNR=5.0						
TXAR	Lajitas Array	126.30	53	PKP	PKPdf	21 59 40.1	+0.4
TXAR				SKPbc		22 02 42.3	
TXAR				PKKPbc		22 09 17.5	
TXAR				SKKPbc		22 12 51.3	
TXAR	Lajitas Array	126.30	53	PKIKP	PKPdf	21 59 40.1	+0.4
TXAR				pmax	pmax		
	comp=Z,15nm,0.9s						
TXAR				pmax	pmax		
	comp=N,5.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KSU1	Kansas State U	126.40	39	ePKPdf	PKPdf	21 59 40.5	+0.9
627A	Terlingua Ranc	126.47	52	⇓P	PKPdf	21 59 40.6	+0.6
	baz=126,SNR=35						
428A	Kincaid Ranch,	126.48	51	⇓P	PKPdf	21 59 41.4	+1.3
	baz=126,SNR=38						
SCIA	State Center	126.64	34	ePKPdf	PKPdf	21 59 40.7	+0.8
SCIA				eSKPdf	SKPdf	22 03 04.0	+1.6
528A	Cox Ranch, San	126.65	51	⇓P	PKPdf	21 59 41.0	+0.7
	baz=127,SNR=14						
628A	Black Gap, Mar	126.86	52	⇑P	PKPdf	21 59 41.6	+0.8
	baz=127,SNR=28						
WMOK	Wichita Mounta	127.42	44	ePKPdf	PKPdf	21 59 42.3	+0.7
WMOK				PP	PP	22 01 42.0	-1.0
WMOK	Wichita Mounta	127.42	44	ePKIKP	PKPdf	21 59 42.3	+0.6
WMOK						22 01 42.0	
JFWS	Jewell Farm	127.53	31	ePKPdf	PKPdf	21 59 41.4	-0.2
JFWS				epPKPdf	pPKPdf	22 00 19.6	+0.4
JFWS	Jewell Farm	127.53	31	ePKIKP	PKPdf	21 59 41.4	-0.2
JFWS				e		22 00 19.6	
DBIC	Dimbokro	128.11	279	eP	PKPdf	21 59 35.6	-7.9
DBIC	Dimbokro	128.11	279	PKP	PKPdf	21 59 43.6	0.0
	comp=Z,48nm,1.0s,baz=117,slow=2.4,SNR=3.7						
DBIC				SKPbc		22 02 49.5	
	comp=Z,25nm,0.9s,baz=72,slow=4.9,SNR=9.5						
DBIC	Dimbokro	128.11	279	PKP	PKPdf	21 59 43.6	0.0
DBIC				ePKPdf	PKPdf	21 59 44.0	+0.4
DBIC				epPKPdf	pPKPdf	22 00 21.6	+0.4
DBIC				SKPbc		22 02 49.5	
DBIC				eSKPdf	SKPdf	22 03 06.7	+0.7
DBIC	Dimbokro	128.11	279	PKIKP	PKPdf	21 59 43.6	0.0
DBIC				pmax	pmax		
	comp=Z,48nm,1.0s						
DBIC				pmax	pmax		
	comp=N,25nm,0.9s						
EFI	East Falkland	128.59	179	ePKPdf	PKPdf	21 59 43.0	-0.4
EFI	East Falkland	128.59	179	ePKIKP	PKPdf	21 59 43.0	-0.4
GLMI	Grayling	128.76	26	ePKPdf	PKPdf	21 59 44.8	+0.9
TUL1	Tulsa	128.81	41	⇑P	PKPdf	21 59 45.0	+0.7
	baz=129						
JCT	Junction City	128.81	50	⇓P	PKPdf	21 59 45.2	+0.8
	baz=129						
JCT	Junction City	128.81	50	ePKPdf	PKPdf	21 59 44.7	+0.3
JCT				eSKPdf	SKPdf	22 03 05.9	-1.0
JCT	Junction City	128.81	50	ePKIKP	PKPdf	21 59 44.7	+0.2
HDIL	Hopedale	129.71	33	ePKPdf	PKPdf	21 59 46.3	+0.5
HDIL				PP	PP	22 01 55.3	-2.2
HDIL				eSKPdf	SKPdf	22 03 09.5	+1.3
RFTA	Plano	129.81	45	ePKPdf	PKPdf	21 59 47.6	+1.3
RFTA				PP	PP	22 01 56.5	-2.2
RFTA				e		22 02 56.9	
CCM	Cathedral Cave	130.32	36	ePKPdf	PKPdf	21 59 47.7	+0.6
CCM				eSKPbc	SKPbc	22 02 56.8	-0.7
CCM	Cathedral Cave	130.32	36	ePKIKP	PKPdf	21 59 47.7	+0.6
PMAR	Madeira	130.49	315	ePKPdf	PKPdf	21 59 48.9	+1.3
SLM	Saint Louis	130.52	35	eSKPbc	SKPbc	22 02 57.9	-0.3
PMOZ	Porto Moniz, M	130.64	315	ePKPdf	PKPdf	21 59 49.3	+1.4
FVM	French Village	130.85	36	ePKPdf	PKPdf	21 59 48.1	0.0
FVM				epPKPdf	pPKPdf	22 00 25.3	-0.4
FVM				ePP	PP	22 02 07.0	+2.0
FVM				eSKPbc	SKPbc	22 02 59.4	0.0
FVM	French Village	130.85	36	ePKIKP	PKPdf	21 59 48.1	0.0
FVM				e		22 00 25.3	
FVM				e		22 02 07.1	
SFIN	Scholer Farm	131.00	31	⇓P	PKPdf	21 59 48.8	+0.5
	baz=131						
MIAR	Mount Ida	131.08	41	ePKPdf	PKPdf	21 59 49.7	+1.1
MIAR				epPKPdf	pPKPdf	22 00 24.7	-1.5
MIAR				ePP	PP	22 02 05.3	-1.4
MIAR	Mount Ida	131.08	41	ePKIKP	PKPdf	21 59 49.7	+1.1
MIAR				e		22 00 24.7	
MIAR				e		22 02 05.3	
AAM	Ann Arbor	131.19	27	ePKPdf	PKPdf

TZTN	**Tazewell**	**135.71**	**32**	*e*PKPdf	PKPdf	21 59 57.1	-0.2
TZTN				*e*PP	PP	22 02 34.0	-1.7
ILCA	**Isla Las Cabra**	**135.77**	**163**	‖*e*P	SKPbc	22 03 12.4	-3.5
CPCT	**Cooper Cave**	**136.00**	**34**	*e*PKPdf	PKPdf	21 59 57.8	0.0
CPCT				*e*SKPbc	SKPbc	22 03 15.3	-1.5
PAL	**Palisades**	**136.12**	**19**	*e*PKPdf	PKPdf	21 59 58.1	+0.2
PAL				*e*SKPbc	SKPbc	22 03 17.7	+0.7
PAL	**Palisades**	**136.12**	**19**	*e*PKIKP	PKPdf	21 59 58.1	+0.2
YLE	**Yale**	**136.15**	**18**	*e*PKPdf	PKPdf	21 59 58.5	+0.5
YLE				*e*SKPbc	SKPbc	22 03 17.7	+0.6
MVL	**Millersville**	**136.15**	**22**	*e*SKPbc	SKPbc	22 03 17.4	+0.3
BRNJ	**Basking Ridge**	**136.19**	**20**	*e*SKPbc	SKPbc	22 03 18.2	+1.0
LRAL	**Lakeview Retre**	**136.25**	**38**	*e*PKPdf	PKPdf	21 59 59.4	+1.0
LRAL				*e*SKPbc	SKPbc	22 03 17.4	-0.3
LRAL				*e*SKPdf	SKPdf	22 03 21.5	+1.0
TKL	**Tuckaleechee C**	**136.25**	**33**	*e*PKPdf	PKPdf	21 59 58.9	+0.6
TKL				pPKPdf	pPKPdf	22 00 33.6	-2.3
TKL				*e*PP	PP	22 02 38.0	-1.3
TKL				*e*SKPbc	SKPbc	22 03 17.0	-0.6
TKL	**Tuckaleechee C**	**136.25**	**33**	*e*PKIKP	PKPdf	21 59 58.9	+0.6
TKL						22 00 33.7	
TKL				*e*		22 02 38.0	
CPNY	**Central Park**	**136.29**	**19**	*e*PKPdf	PKPdf	21 59 59.0	+0.7
CPNY				*e*SKPbc	SKPbc	22 03 18.1	+0.6
SDMD	**Soldier's Deli**	**136.47**	**23**	*e*PKPdf	PKPdf	21 59 58.5	-0.1
SDMD				*e*SKPbc	SKPbc	22 03 17.7	-0.4
BLA	**Blacksburg**	**136.75**	**28**	*e*PKPdf	PKPdf	21 59 59.6	+0.4
BLA	**Blacksburg**	**136.75**	**28**	*e*PKIKP	PKPdf	21 59 59.6	+0.4
CBN	**Corbin**	**137.29**	**25**	*e*PKPdf	PKPdf	22 00 00.6	+0.4
CBN				*e*SKPbc	SKPbc	22 03 21.1	+0.5
BRAL	**Brewton**	**137.56**	**40**	*e*PKPdf	PKPdf	22 00 02.6	+1.7
BRAL				*e*SKPbc	SKPbc	22 03 22.0	+0.4
PLCA	**Paso Flores**	**137.57**	**164**	PKPKP	PKPpre	21 59 51.1	
	comp=N,5.3nm,0.8s,baz=48,slow=2.0,SNR=5.6						
PLCA				PKP	PKPdf	22 00 02.4	+1.8
	comp=N,24nm,0.8s,baz=187,slow=2.2,SNR=16						
PLCA				SKP		22 03 22.6	
	comp=N,26nm,0.9s,baz=194,slow=3.7,SNR=12						
PLCA	**Paso Flores**	**137.57**	**164**	PKPpre	PKPpre	21 59 51.1	
PLCA				*e*PKPdf	PKPdf	22 00 00.3	-0.3
PLCA				PKP	PKPdf	22 00 02.4	+1.8
PLCA				SKP		22 03 22.6	
PLCA				*e*SKPbc	SKPbc	22 03 22.7	+1.4
PLCA				SKPab		22 03 31.2	
PLCA	**Paso Flores**	**137.57**	**164**	*e*PKIKP	PKPdf	22 00 00.4	-0.2
BBTS	**Babate**	**137.91**	**292**	SKPbc	SKPbc	22 03 23.9	+0.8
	comp=N,88nm,1.0s,baz=222,slow=1.3,SNR=6.7						
BBTS	**Babate**	**137.91**	**292**	SKPbc	SKPbc	22 03 23.9	+0.8
GOGA	**Godfrey**	**138.08**	**35**	*e*PKPdf	PKPdf	22 00 02.4	+0.6
GOGA	**Godfrey**	**138.08**	**35**	*e*PKIKP	PKPdf	22 00 02.4	+0.6
CMIG	**Matias Romero**	**138.46**	**64**	PKhKP	PKPpre	21 59 55.0	
	comp=N,6.6nm,0.6s,baz=350,slow=2.1,SNR=3.0						
CMIG				PKP	PKPdf	22 00 03.5	+0.7
	comp=N,43nm,0.9s,baz=350,slow=2.1,SNR=7.0						
CMIG				SKPbc	SKPbc	22 03 25.2	+0.7
	comp=N,45nm,0.8s,baz=301,slow=3.2,SNR=19						
CMIG	**Matias Romero**	**138.46**	**64**	PKPpre	PKPpre	21 59 55.0	
CMIG				PKP	PKPdf	22 00 03.5	+0.7
CMIG				SKPbc	SKPbc	22 03 25.2	+0.7
LHS	**Liberty Hill**	**138.72**	**31**	*e*SKPbc	SKPbc	22 03 28.1	+3.3
TRQA	**Tornquist**	**141.88**	**173**	*e*PKPdf	PKPdf	22 00 03.8	-4.8
TRQA				*e*SKPdf	SKPdf	22 03 31.8	+1.6
TRQA				*e*SKPbc	SKPbc	22 03 34.1	+1.1
TEIG	**Tepich**	**142.86**	**55**	PKP	PKPdf	22 00 08.5	-2.2
	comp=N,206nm,1.1s,baz=332,slow=4.7,SNR=20						
TEIG				SKPbc	SKPbc	22 03 35.9	-0.1
	comp=N,29nm,0.9s,baz=100,slow=1.2,SNR=4.3						
TEIG	**Tepich**	**142.86**	**55**	PKP	PKPdf	22 00 08.6	-2.2
TEIG				SKPbc	SKPbc	22 03 35.9	-0.1
SACV	**Santiago Islan**	**144.27**	**296**	*e*PKPdf	PKPdf	22 00 11.4	-1.9
SACV				*e*SKPbc	SKPbc	22 03 40.1	+0.6
CLCH	**Cerro Calan**	**144.32**	**160**	‖*e*P	PKPdf	22 00 12.6	-0.3
FCH	**Farellones**	**144.47**	**160**	‖*e*P	PKPdf	22 00 14.9	+1.7
PEL	**Peldehue**	**144.50**	**159**	‖*e*P	PKPdf	22 00 12.9	-0.4
ROCH	**El Roble**	**144.53**	**159**	‖*e*P	PKPdf	22 00 13.4	+0.1
TGUH	**Tegucigalpa,Un**	**146.39**	**64**	*e*PKPbc	PKPbc	22 00 19.0	+0.5
TGUH				*e*SKPbc	SKPbc	22 03 45.4	+1.0
CFAA	**Coronel Fontan**	**146.73**	**161**	PKPbc	PKPbc	22 00 18.6	-0.4
	baz=200,slow=4.8						
CFAA				SKPbc	SKPbc	22 03 45.0	+0.3
	comp=N,3.4nm,1.1s,baz=221,slow=3.1,SNR=3.6						
CFAA	**Coronel Fontan**	**146.73**	**161**	PKPbc	PKPbc	22 00 18.6	-0.4
CFAA				SKPbc	SKPbc	22 03 45.0	+0.3
BBSR	**BB Station**	**146.78**	**13**	*e*PKPdf	PKPdf	22 00 18.5	+1.3
BBSR				SKPbc	SKPbc	22 03 44.8	+0.1
LCO	**Las Campanas**	**148.18**	**156**	*e*PKPdf	PKPdf	22 00 21.3	+1.7
LCO				*e*PKPbc	PKPbc	22 00 24.6	+1.6
LCO				*e*SKPbc	SKPbc	22 03 49.5	+1.6
JCR	**Jicaral**	**149.80**	**70**	*e*P	PKPdf	22 00 28.9	+6.3
JTS	**JuntasAbangare**	**149.81**	**69**	PKP	PKPdf	22 00 23.8	+1.2
	comp=N,102nm,1.2s,baz=324,slow=2.9,SNR=12						
JTS				PKPbc	PKPbc	22 00 28.5	+0.9
	comp=N,212nm,0.9s,baz=310,slow=2.5,SNR=47						
JTS	**JuntasAbangare**	**149.81**	**69**	*e*PKPdf	PKPdf	22 00 22.8	+0.1
JTS				PKP	PKPdf	22 00 23.8	+1.2
JTS				*e*PKPbc	PKPbc	22 00 28.7	+1.2
LAJ	**Bijagual**	**150.72**	**69**	*e*P	PKPdf	22 00 25.8	+1.7
QCR	**Quepos**	**150.82**	**70**	*e*P	PKPbc	22 00 31.3	+1.4
BUS	**Buena Vista**	**151.16**	**70**	*e*P	PKPdf	22 00 26.9	+2.1
ACR	**Cerro Adams**	**151.98**	**71**	*e*P	PKPdf	22 00 26.3	+0.3
MTDJ	**Mount Denham**	**152.40**	**48**	*e*PKPdf	PKPdf	22 00 27.5	+1.0
MTDJ				*e*PKPbc	PKPbc	22 00 34.5	+1.0
MTDJ				*e*PKPab	PKPab	22 00 44.8	+0.9
GTBY	**Guantanamo Bay**	**152.97**	**42**	*e*PKPdf	PKPdf	22 00 28.5	+1.2
GTBY				*e*PKPbc	PKPbc	22 00 34.9	+0.3
BCIP	**Isla Barro Col**	**154.94**	**68**	*e*PKPbc	PKPbc	22 00 39.8	+0.7
BCIP				*e*PKPab	PKPab	22 00 57.2	+2.2
SDDR	**Presa de Saban**	**156.08**	**37**	*e*PKPab	PKPab	22 01 00.3	+0.7
NNA	**Nana**	**156.55**	**121**	PKP	PKPdf	22 00 32.4	0.0
	comp=N,20nm,0.7s,baz=288,slow=3.1,SNR=11						
NNA				PKPab	PKPab	22 01 03.1	+1.3
	comp=N,14nm,0.7s,baz=243,slow=5.1,SNR=4.2						
NNA	**Nana**	**156.55**	**121**	PKP	PKPdf	22 00 32.4	0.0
NNA				*e*PKPdf	PKPdf	22 00 33.1	+0.8
NNA				*e*PKPdif	PKPdf	22 00 44.0	+12
NNA				PKPab	PKPab	22 01 03.1	+1.3
NNA	**Nana**	**156.55**	**121**	PKIKP	PKPdf	22 00 32.4	+0.1
NNA				pmax	pmax		
	comp=Z,21nm,0.7s						
NNA				pmax	pmax		
	comp=Z,14nm,0.7s						
ATAH	**Atahualpa**	**157.01**	**108**	PKP	PKPdf	22 00 35.5	+2.5
	comp=Z,44nm,1.1s,baz=284,slow=0.8,SNR=30						
ATAH				PKPab	PKPab	22 01 07.1	+3.2
	comp=Z,40nm,1.0s,baz=304,slow=1.9,SNR=7.3						
ATAH	**Atahualpa**	**157.01**	**108**	PKP	PKPdf	22 00 35.5	+2.5
ATAH				PKPab	PKPab	22 01 07.1	+3.2
OTAV	**Otavalo**	**157.98**	**89**	*e*PKPdf	PKPdf	22 00 35.9	+1.7
OTAV				*ep*PKPdf	pPKPdf	22 01 11.5	-0.4
RCBR	**Riachuelo**	**158.73**	**254**	PKP	PKPdf	22 00 36.4	+1.3
	comp=Z,61nm,1.2s,baz=233,slow=5.1,SNR=4.9						
RCBR				PKPab	PKPab	22 01 11.6	+0.3
	comp=Z,110nm,1.0s,baz=105,slow=6.0,SNR=7.5						
RCBR	**Riachuelo**	**158.73**	**254**	*e*PKPdf	PKPdf	22 00 35.7	+0.6
RCBR				PKP	PKPdf	22 00 36.4	+1.3
RCBR				*e*PKPab	PKPab	22 01 11.4	+0.1
AGPR	**Aguadilla, PR**	**158.78**	**29**	*e*PKPab	PKPab	22 01 12.1	+1.0
AGP	**Aguadilla**	**158.81**	**29**	*e*PKPab	PKPab	22 01 12.6	+1.3
MPR	**Mayaguez**	**158.98**	**29**	*e*PKPab	PKPab	22 01 12.6	+0.6
LSP	**Las Mesas**	**159.04**	**29**	*e*PKPab	PKPab	22 01 13.5	+1.2
AOPR	**Arecibo Observ**	**159.05**	**28**	*e*PKPab	PKPab	22 01 12.8	+0.4
LRS	**Lares**	**159.06**	**29**	*e*PKPdf	PKPdf	22 00 34.7	-0.6
LRS				*e*PKPab	PKPab	22 01 13.0	+0.7
CRPR	**Cabo Rojo, PR**	**159.17**	**30**	*e*PKPab	PKPab	22 01 13.5	+0.7
CELP	**Cerrillos**	**159.37**	**28**	*e*PKPdf	PKPdf	22 00 36.2	+0.6
CELP				*e*PKPab	PKPab	22 01 14.1	+0.4
OBIP	**Obispado Ponce**	**159.38**	**29**	*e*PKPdf	PKPdf	22 00 36.3	+0.6
OBIP				*e*PKPab	PKPab	22 01 14.4	+0.6
CBYP	**Canovanas**	**159.53**	**26**	*e*PKPdf	PKPdf	22 00 35.5	-0.3
CBYP				*e*PKPab	PKPab	22 01 15.0	+0.7
CBYP				*es*PKPdf		22 01 26.6	
SJG	**San Juan**	**159.54**	**27**	PKP	PKPdf	22 00 35.8	0.0
	comp=Z,37nm,1.0s,baz=22,slow=10.0,SNR=5.8						
SJG				PKPab	PKPab	22 01 14.7	+0.3
	comp=Z,230nm,0.9s,baz=45,slow=4.2,SNR=23						
SJG	**San Juan**	**159.54**	**27**	PKP	PKPdf	22 00 35.8	0.0
SJG				*e*PKPdf	PKPdf	22 00 36.0	+0.1
SJG				*e*PKPab	PKPab	22 01 15.3	+0.9
SJG	**San Juan**	**159.54**	**27**	PKIKP	PKPdf	22 00 35.8	-0.1
SJG						22 01 14.7	
SJG				pmax	pmax		
	comp=Z,37nm,1.0s						
SJG				pmax	pmax		
	comp=Z,230nm,0.9s						
ICM	**Isla Caja Muer**	**159.55**	**29**	*e*PKPdf	PKPdf	22 00 36.1	+0.2
ICM				*e*PKPab	PKPab	22 01 14.5	0.0
HUMP	**Col San Antoni**	**159.65**	**27**	*e*PKPdf	PKPdf	22 00 36.5	+0.5
HUMP				*e*PKPab	PKPab	22 01 15.8	+0.9
MTP	**Monte Pirata**	**159.82**	**26**	*e*PKPdf	PKPdf	22 00 35.5	-0.7
MTP				*e*PKPdif	PKPdf	22 00 48.8	+13
MTP				*ep*PKPdf	pPKPdf	22 01 11.8	-2.2
MTP				*e*PKPab	PKPab	22 01 16.6	+0.9
STVI	**Saint Thomas**	**159.84**	**24**	*e*PKPdf	PKPdf	22 00 36.6	+0.4
STVI				*e*PKPab	PKPab	22 01 16.4	+0.6
LPAZ	**La Paz**	**160.20**	**145**	PKP	PKPdf	22 00 38.8	+2.2
	comp=Z,25nm,0.9s,baz=51,slow=2.8,SNR=62						
LPAZ				PKPab	PKPab	22 01 20.2	+2.8
	comp=Z,30nm,0.8s,baz=224,slow=4.9,SNR=6.8						
LPAZ	**La Paz**	**160.20**	**145**	*e*PKPdf	PKPdf	22 00 38.8	+2.1
LPAZ				PKPab	PKPab	22 01 20.2	+2.8
LPAZ	**La Paz**	**160.20**	**145**	PKIKP	PKPdf	22 00 38.8	+2.2
LPAZ						22 01 20.2	
LPAZ				pmax	pmax		
	comp=Z,25nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,30nm,0.8s						
CDVI	**St. Croix**	**160.46**	**24**	*e*PKPdf	PKPdf	22 00 37.0	+0.1
ROSC	**El Rosal**	**161.46**	**74**	PKP	PKPdf	22 00 39.5	+1.4
	comp=Z,35nm,0.9s,baz=114,slow=3.8,SNR=26						
ROSC				PKPab	PKPab	22 01 27.0	+3.7
	comp=Z,79nm,0.9s,baz=88,slow=2.8,SNR=12						
ROSC	**El Rosal**	**161.46**	**74**	*e*PKPdf	PKPdf	22 00 39.5	+1.4
ROSC				*e*PKPdif	PKPdf	22 00 52.6	+14
ROSC				PKPab	PKPab	22 01 27.0	+3.7
LZG	**Guadaloupe-1**	**163.03**	**18**	*e*P	PKPab	22 01 28.9	-0.7
SCG	**Saint Claude**	**163.16**	**18**	*e*P	PKPab	22 01 30.7	+0.5
DOG	**Dongo Capester**	**163.18**	**17**	*e*P	PKPab	22 01 31.4	+1.1
HMG	**Houelmont**	**163.20**	**18**	*e*P	PKPab	22 01 30.8	+0.4
SDV	**Santo Domingo**	**163.28**	**57**	*e*PKPdf	PKPdf	22 00 39.8	-0.1
SDV				*e*SKPab		22 01 33.5	
SDV				*e*PP	PP	22 05 14.8	-1.5
TBG	**Guadaloupe-3**	**163.34**	**18**	*e*P	PKPab	22 01 30.7	-0.3
MGG	**Marie-Galante**	**163.37**	**17**	*e*P	PKPab	22 01 32.2	+1.0
FDF	**Fort de France**	**164.54**	**17**	*e*PKPdf	PKPdf	22 00 41.9	+0.9
FDF				*e*PKPab	PKPab	22 01 36.7	+0.3
FDF	**Fort de France**	**164.54**	**17**	*e*PKIKP	PKPdf	22 00 41.9	+0.9
FDF				*e*		22 01 36.7	
FDF	**Fort de France**	**164.54**	**17**	*e*P	PKPdf	22 00 42.1	+1.1
BIM	**Bigot**	**164.77**	**17**	*e*P	PKPdf	22 00 42.5	+1.3
MVM	**Montagne Vaucl**	**164.79**	**17**	*e*P	PKPdf	22 00 42.4	+1.2
SAML	**Samuel**	**168.93**	**143**	*e*PKPdf	PKPdf	22 00 44.7	+0.3
SAML				*e*PKPab	PKPab	22 01 56.8	+0.9

MAN 11 21:42:35.7°61N×122°97E, h28km, mb4.9, ML3.8, MS3.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.43**	**293**	*e*P	Pb	21 42 46.9	+2.6
IPIL				*e*S	Sb	21 42 55.3	+4.6
PAGZ	**Pagadian**	**0.47**	**60**	*e*P	Pb	21 42 45.7	+0.9
PAGZ				*e*S	Sb	21 42 55.9	+4.4

DJA 11 21:55:12.0°75N×124°55E, h232km, MLv4.2/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.59**	**253**	P	S	21 56 01.2	-6.2
LUWI	**Luwuk**	**2.52**	**225**	P	Pn	21 55 59.1	+0.9
MRSI	**Marisa**	**2.62**	**264**	P	Pn	21 55 58.3	-1.0
TNTI	**Ternate**	**2.82**	**90**	P	Pn	21 55 58.5	-2.9
SGSI	**Sangihe**	**3.08**	**19**	P	Pn	21 56 05.5	+1.2
LBMI	**Labuha**	**3.26**	**115**	P	Pn	21 56 08.2	+1.9

*IDC **11** 21:59:39.4±2.7, 1°81N×98°18E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=128.9km s-min=20.6km az=57.0*
*DJA **11** 21:59:40, 1°31N×97°97E, h15km, MLv3.8/4*
*NEIC **11** 21:59:42.9±0.8, 1°49N×97°71E, h35km, Error ellipse: s-maj=17.0km s-min=12.7km az=60.0*
ISC 11 21:59:42.1±0.8, 1°33N±0°07×97°86E±0°08, h35km, n22, σ19°35/23, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.80**	**107**	P	**Pn**	**22 00 08.3**	**-2.3**
PSI	**Prapat**	**1.81**	**36**	P	**Pn**	**22 00 09.1**	**-1.7**
TPTI		**2.04**	**340**	P	**Pn**	**22 00 15.3**	**+1.4**
PPI	**Padang Panjang**	**3.09**	**125**	P	**Pn**	**22 00 28.8**	**+0.3**
PDSI	**Padang**	**3.42**	**131**	P	**Pn**	**22 00 31.9**	**-1.1**
IPM	**Ipoh**	**4.45**	**45**	*e*Pb	**Pn**	**22 00 49.4**	**+2.2**
IPM				*e*Sb	**Sn**	**22 01 38.2**	**+0.5**
KULM	**Kulim**	**4.82**	**35**	*e*Pb	**Pn**	**22 00 52.1**	**-0.1**
KULM	**Kulim**	**4.82**	**35**	P	**Pn**	**22 00 51.9**	**-0.3**
CHTO	**Chiang Mai**	**17.41**	**3**	*e*Pn	**Pn**	**22 03 37.0**	**-5.3**
WRA	**Warramunga Arr**	**41.54**	**123**	P	**P**	**22 07 29.1**	**+2.6**
	0.4nm,0.6s,mb3.2,baz=305,slow=9.0,SNR=5.6						
WRA	**Warramunga Arr**	**41.54**	**123**	P	**P**	**22 07 29.1**	**+2.6**
ASAR	**Alice Springs**	**42.95**	**128**	P	**P**	**22 07 40.6**	**+2.7**
	0.2nm,0.3s,mb3.3,baz=299,slow=7.8,SNR=3.4						
ASAR	**Alice Springs**	**42.95**	**128**	P	**P**	**22 07 40.6**	**+2.7**
SONM	**Songino Array**	**46.91**	**8**	P	**P**	**22 08 08.0**	**-1.1**
	0.2nm,0.3s,mb3.5,baz=188,slow=11,SNR=3.6						
SONM	**Songino Array**	**46.91**	**8**	P	**P**	**22 08 08.0**	**-1.1**
MK31	**Makanchi Array**	**47.28**	**345**	*e*P	**P**	**22 08 12.1**	**+0.1**
MKAR	**Makanchi Array**	**47.28**	**345**	P	**P**	**22 08 11.7**	**-0.3**
	0.7nm,0.6s,mb3.8,baz=159,slow=8.2,SNR=16						
MKAR	**Makanchi Array**	**47.28**	**345**	P	**P**	**22 08 11.7**	**-0.3**
KURK	**Kurchatov**	**51.84**	**345**	P	**P**	**22 08 45.8**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=165,slow=7.6,SNR=4.6						
KURK	**Kurchatov**	**51.84**	**345**	P	**P**	**22 08 45.8**	**-0.9**
ZALV	**Zalesovo Beam**	**53.54**	**350**	P	**P**	**22 08 58.6**	**-0.6**
	0.6nm,0.3s,mb4.0,baz=169,slow=7.1,SNR=6.1						
ZALV				PcP	PcP	22 10 05.7	+0.1
	0.3nm,0.4s,baz=169,slow=2.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**53.54**	**350**	P	**P**	**22 08 58.6**	**-0.5**
ZALV				PcP	PcP	22 10 05.7	+0.1

IDC 11 22:00:06.6±4.1, 3°63S×100°71E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/20, mbtmp3.5/5, Error ellipse: s-maj=160.1km s-min=21.7km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.02**	**356**	P	P	22 05 04.0	+1.2
	0.5nm,0.6s,baz=181,slow=9.0,SNR=3.8						
WRA	**Warramunga Arr**	**36.58**	**119**	P	P	22 07 13.9	-0.6
	0.3nm,0.4s,baz=307,slow=9.1,SNR=9.1						
ASAR	**Alice Springs**	**37.74**	**125**	P	P	22 07 24.9	+0.5
	0.2nm,0.3s,baz=297,slow=7.9,SNR=7.2						
SONM	**Songino Array**	**51.49**	**5**	P	P	22 09 13.0	-0.8
	0.7nm,0.6s,baz=188,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**52.78**	**344**	P	P	22 09 22.9	-0.5
	0.6nm,0.7s,baz=148,slow=8.8,SNR=3.8						
TXAR	**Lajitas Array**	**145.53**	**40**	PKPbc	PKPbc	22 19 47.5	-0.1
	0.7nm,0.5s,baz=281,slow=1.4,SNR=14						

MEX 11 22:02:50.8±0.6, 16°40N×98°60W, h20km±100km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.45**	**91**	*i* P	Pb	22 02 58.9	-1.1
PNIG				*i* S	Sb	22 03 04.3	-2.0
ACX	**Acapulco**	**1.29**	**291**	*i* P	Pn	22 03 11.2	-2.6
ACX				*i* S	Sn	22 03 27.9	-2.6
UTMO	**Huajuapan**	**1.61**	**28**	*i* P	Pn	22 03 16.0	-2.1
UTMO				*i* S	Sn	22 03 33.8	-4.4
CAIG	**El Cayaco**	**1.72**	**292**	*i* P	Pn	22 03 16.5	-3.2
CAIG				*i* S	Sn	22 03 37.9	-3.3
VHO	**Vista Hermosa**	**1.91**	**69**	*e*P	Pn	22 03 18.7	-3.4
VHO				*i* S	Sn	22 03 40.8	-4.8

DJA 11 22:20:28.6°62S×103°74E, h20km, MLv3.8/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.62**	**11**	P	Pn	22 20 55.8	+0.3
LWLI				S	Sn	22 21 11.2	-4.6
BLSI	**Bandar Lampung**	**1.95**	**50**	P	Pn	22 21 00.5	+0.6
MDSI	**Maura Dua**	**2.16**	**12**	P	Pn	22 21 03.7	+0.8
MDSI				S	Sn	22 21 31.6	+2.4
MNAI	**Manna**	**2.38**	**341**	P	Pn	22 21 07.6	+1.7
MNAI				S	Sn	22 21 36.8	+2.4
KSI	**Kapahiang**	**3.16**	**339**	P	Pn	22 21 17.5	+0.8
KSI				S	Sn	22 21 55.7	+1.9

MEX 11 22:20:38.3±0.6, 15°84N×97°02W, h13km±7km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.88**	**94**	*i* P	Pg	22 20 52.7	-2.7
HUIG				*i* S	Sg	22 21 03.6	-3.4
PNIG	**Pinotepa**	**1.20**	**298**	*i* P	Pn	22 20 56.6	-4.1
PNIG				*i* S	Sb	22 21 12.2	-4.0
VHO	**Vista Hermosa**	**1.26**	**13**	*i* P	Pn	22 20 58.0	-3.6
VHO				*i* S	Sb	22 21 13.4	-4.7
OXX	**Oaxaca**	**1.27**	**13**	*i* P	Pn	22 20 58.0	-3.8
OXX				*i* S	Sb	22 21 13.7	-4.7
UTMO	**Huajuapan**	**2.12**	**339**	*e*P	Pn	22 21 11.5	-1.9
UTMO				*i* S	Sn	22 21 35.2	-4.4
CMIG	**Matias Romero**	**2.40**	**58**	*i* P	Pn	22 21 14.7	-2.7
CMIG				*i* S	Sn	22 21 42.4	-4.2
PPM	**Popocatepetl**	**3.56**	**335**	*e*P	Pn	22 21 33.0	-0.2
PPM				*i* S	Sn	22 22 12.7	-2.5

IDC 11 22:21:37.0±1.8, 31°23S×176°89W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/17, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=38.5km s-min=35.6km az=110.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.57**	**213**	Pn	Pn	22 23 41.7	-0.7
	0.6nm,0.3s,baz=351,slow=16,SNR=6.9						
URZ				Sn	Sn	22 25 19.2	-0.5
	1.8nm,0.3s,baz=195,slow=20,SNR=7.7						
CTA	**Charters Tower**	**34.87**	**280**	P	P	22 28 31.9	+1.7
	1.0nm,0.3s,baz=117,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**44.02**	**267**	P	P	22 29 46.2	-0.3
	0.7nm,0.6s,baz=106,slow=7.2,SNR=8.9						
WRA	**Warramunga Arr**	**45.08**	**272**	P	P	22 29 54.3	-0.8
	1.0nm,0.6s,baz=112,slow=7.9,SNR=17						
FINES	**FINESS Array B**	**146.25**	**340**	PKPbc	PKPbc	22 41 17.3	-1.4
	1.8nm,0.5s,baz=43,slow=3.7,SNR=13						
TORD	**Torodi Ar. Bea**	**161.96**	**176**	PKPab	PKPab	22 42 26.9	+0.2
	0.2nm,0.6s,baz=165,slow=3.8,SNR=2.7						

*IDC **11** 22:22:34.1±1.1, 11°92N×143°64E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/23, mbtmp3.7/6, Error ellipse: s-maj=53.0km s-min=21.3km az=118.0*
*ISCJB **11** 22:22:37.2±5.9, 11°9N±0°2×143°6E±0°3, h31km±42km, mb3.6/5, Error ellipse: s-maj=53.9km s-min=14.8km az=32.6*
*NEIC **11** 22:22:39.4±0.9, 11°91N×143°73E, h35km, Error ellipse: s-maj=42.9km s-min=16.7km az=118.0*
ISC 11 22:22:37.9±6.3, 11°9N±0°2×143°7E±0°3, h24km±45km, n12, σ0°74/14, mb3.6/5, South of Mariana Islands

| Code | Station Name | Δ° | AZ° | Phase ID Op |

WIZ	**White Island**	**0.99 293**	P*		Pb	23 17 27.2	-1.1
WIZ	**White Island**	**0.99 293**	P*		Pb	23 17 28.4	+0.1
URZ	**Urewera**	**1.02 251**	*e*P*		Pb	23 17 27.6	-1.1
URZ	**Urewera**	**1.02 251**	P*		Pb	23 17 28.1	-0.6
PRGZ	**Paritu Road**	**1.06 200**	P*		Pb	23 17 26.9	-2.4
KNZ	**Kokohu**	**1.21 205**	P*		Pb	23 17 28.4	-3.5
KNZ	**Kokohu**	**1.21 205**	P*		Pb	23 17 28.6	-3.3
MHGZ	**Mahia Peninsul**	**1.27 195**	PN		Pn	23 17 29.5	-3.1
EDRZ	**Edgecumbe**	**1.28 261**	PN		Pn	23 17 32.0	-0.7
EDRZ	**Edgecumbe**	**1.28 261**	Pn		Pn	23 17 32.8	+0.1
RAHZ	**Arahi**	**1.40 224**	PN		Pn	23 17 32.3	-2.1
OPRZ	**Ohinepanea**	**1.41 273**	PN		Pn	23 17 33.5	-1.1
TARZ	**Mount Tarawera**	**1.48 257**	PN		Pn	23 17 35.6	+0.1
PRRZ	**Plateau Road**	**1.64 249**	PN		Pn	23 17 38.1	+0.4
NMHZ	**Naumai**	**1.68 225**	PN		Pn	23 17 37.1	-1.1
BKZ	**Black Stump Fm**	**1.91 229**	PN		Pn	23 17 39.5	-1.9
BKZ	**Black Stump Fm**	**1.91 229**	Pn		Pn	23 17 39.5	-1.9
MCHZ	**McNeill Hill**	**1.99 220**	PN		Pn	23 17 40.4	-2.1
KAHZ	**Kahuranaki**	**2.19 211**	PN		Pn	23 17 41.6	-3.6
BHHZ	**Black Hill Sta**	**2.37 228**	PN		Pn	23 17 45.1	-2.6
KUZ	**Kuaotunu**	**2.40 299**	PN		Pn	23 17 46.7	-1.5
KUZ			SN		Sn	23 18 16.9	-0.5
KUZ	**Kuaotunu**	**2.40 299**	Pn		Pn	23 17 46.7	-1.5
KUZ			Sn		Sn	23 18 17.7	+0.3
PXZ	**Pawanui**	**2.40 208**	PN		Pn	23 17 44.4	-3.7
MOVZ	**Moawhango**	**2.51 233**	PN		Pn	23 17 47.8	-1.8
MOVZ	**Moawhango**	**2.51 233**	Pn		Pn	23 17 47.8	-1.8
WNVZ	**Wahianoa**	**2.56 236**	PN		Pn	23 17 49.0	-1.4
WNVZ	**Wahianoa**	**2.56 236**	Pn		Pn	23 17 49.0	-1.4
PNHZ	**Pukenui**	**2.59 219**	PN		Pn	23 17 47.6	-3.2
PNHZ	**Pukenui**	**2.59 219**	Pn		Pn	23 17 47.6	-3.2
WPHZ	**Waipukurau**	**2.60 214**	PN		Pn	23 17 48.2	-2.7
MKAZ	**Moumakai**	**2.65 287**	PN		Pn	23 17 51.1	-0.5
MKAZ	**Moumakai**	**2.65 287**	Pn		Pn	23 17 51.1	-0.5
PRHZ	**Porangahau**	**2.69 209**	PN		Pn	23 17 47.9	-4.2
PRHZ	**Porangahau**	**2.69 209**	Pn		Pn	23 17 47.9	-4.2
TSZ	**Takapari Road**	**2.82 220**	PN		Pn	23 17 49.8	-4.2
TSZ			SN		Sn	23 18 25.2	-2.7
TSZ	**Takapari Road**	**2.82 220**	Pn		Pn	23 17 49.8	-4.2
TSZ			Sn		Sn	23 18 25.2	-2.7
DVHZ	**Dannevirke**	**2.91 215**	PN		Pn	23 17 51.3	-3.9
DVHZ	**Dannevirke**	**2.91 215**	Pn		Pn	23 17 51.3	-3.9
MRZ	**Mangatainoka R**	**3.47 217**	PN		Pn	23 17 58.4	-4.5
MRZ			SN		Sn	23 18 39.2	-4.7
MRZ	**Mangatainoka R**	**3.47 217**	Pn		Pn	23 17 58.4	-4.5
MRZ			Sn		Sn	23 18 39.2	-4.7
HOWZ	**Holdsworth Sta**	**3.69 216**	PN		Pn	23 18 01.1	-4.8
TMWZ	**Te Maipa**	**3.70 210**	PN		Pn	23 18 00.9	-5.1
OGWZ	**Otaki Gorge**	**3.79 219**	PN		Pn	23 18 02.7	-4.6
OGWZ	**Otaki Gorge**	**3.79 219**	Pn		Pn	23 18 02.7	-4.6
MTW	**Mount Morrison**	**3.90 213**	PN		Pn	23 18 03.2	-5.6
MTW	**Mount Morrison**	**3.90 213**	Pn		Pn	23 18 03.2	-5.6
KIW	**Kapiti Island**	**3.96 221**	PN		Pn	23 18 04.9	-4.7
KIW	**Kapiti Island**	**3.96 221**	Pn		Pn	23 18 04.9	-4.7
CAW	**Cannon Point**	**4.06 218**	PN		Pn	23 18 05.6	-5.4
CAW	**Cannon Point**	**4.06 218**	Pn		Pn	23 18 05.6	-5.4
THZ	**Tophouse**	**5.67 226**	PN		Pn	23 18 27.9	-5.2
THZ	**Tophouse**	**5.67 226**	Pn		Pn	23 18 27.9	-5.2

IDC 11 23:45:45.1±5.4, 29°.42S×177°.84W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/14, mbtmp3.4/2, Error ellipse: s-maj=292.8km s-min=79.8km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.31**	**266**	P	P	23 53 48.8	-0.2
	0.2nm,0.5s,baz=99,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**44.21**	**271**	P	P	23 53 56.4	+0.1
	0.3nm,0.6s,baz=112,slow=7.9,SNR=5.4						
FINES	**FINESS Array B**	**144.28**	**341**	PKP	PKPdf	00 05 21.7	-0.7
	1.7nm,0.8s,baz=60,slow=3.4,SNR=5.5						

*ISCJB **11** 23:48:43.1±0.5, 54°.59N±0°.03×19°.27E±0°.07, h0km, Error ellipse: s-maj=5.9km s-min=4.2km az=11.5*
*NEIC **11** 23:48:46.6±0.8, 54°.51N×19°.16E, h5km, Error ellipse: s-maj=15.2km s-min=9.5km az=96.0*
*CSEM **11** 23:48:46.1±0.3, 54°.53N×19°.13E, h1km, ML2.0, Error ellipse: s-maj=11.2km s-min=6.4km az=108.0, Mining explosion.*
*IDC **11** 23:48:47.0±1.0, 54°.45N×19°.35E, h0km, mb1 3.2/6, mb1mx3.1/25, mbtmp3.1/6, ML2.8/6, Error ellipse: s-maj=17.1km s-min=8.8km az=98.0*
*HEL **11** 23:48:49.5±0.5, 54°.61N×19°.39E, h0km, ML2.0, Explosion*
ISC 11 23:48:45.8±0.5, 54°.56N±0°.03×19°.27E±0°.07, h0km, n47, σ1§60/73, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUW	**Suwalki**	**2.36**	**102**	*e*Pn	**Pn**	**23 49 26.6**	**+0.9**
SUW				*e*Sg	**Sg**	**23 50 00.1**	**-1.4**
SUW	**Suwalki**	**2.36**	**102**	*e*Pn	**Pn**	**23 49 26.6**	**+0.9**
BSD	**Bornholm Skovb**	**2.58**	**284**	*i* P	**Pn**	**23 49 27.9**	**-0.8**
BSD				*i*		23 49 32.0	
BSD				*i* S	**Sn**	**23 50 04.3**	**+3.6**
BSD	**Bornholm Skovb**	**2.58**	**284**	*i* P	**Pn**	**23 49 27.9**	**-0.8**
MTSE	**Matsula**	**4.86**	**29**	*e*P	**Pn**	**23 50 02.3**	**+2.3**
MTSE				*e*S	**Sn**	**23 50 57.1**	**+0.2**
MTSE	**Matsula**	**4.86**	**29**	P	**Pn**	**23 50 02.3**	**+2.3**
MTSE				S	**Sn**	**23 50 57.1**	**+0.2**
MORC	**Moravsky Berou**	**4.91**	**193**	*e*Pn	**Pn**	**23 50 00.1**	**-0.6**
MORC				Sn	**Sn**	**23 50 56.6**	**-1.6**
MORC	**Moravsky Berou**	**4.91**	**193**	*e*Pn	**Pn**	**23 50 00.1**	**-0.7**
MORC				Sn	**Sn**	**23 50 56.6**	**-1.6**
VRAC	**Vranov**	**5.52**	**199**	Pn	**Pn**	**23 50 07.6**	**-1.5**
	0.2nm,0.3s,baz=3.6,slow=16,SNR=2.4						
VRAC	**Vranov**	**5.52**	**199**	Pn	**Pn**	**23 50 07.6**	**-1.5**
VRAC	**Vranov**	**5.52**	**199**	Pn	**Pn**	**23 50 07.6**	**-1.5**
AAL	**Aland**	**5.64**	**4**	*e*P	**Pn**	**23 50 13.5**	**+2.7**
AAL				*e*S	**Sn**	**23 51 16.1**	**-0.2**
AAL	**Aland**	**5.64**	**4**	P	**Pn**	**23 50 13.5**	**+2.7**
AAL				S	**Sn**	**23 51 16.0**	**-0.2**
MEF	**Metsahovi**	**6.31**	**24**	*e*P	**Pn**	**23 50 22.7**	**+2.8**
MEF				*e*S	**Sn**	**23 51 31.1**	**-1.5**
MEF				MSG		23 51 36.6	
	comp=Z,1.3nm,0.2s						
MEF	**Metsahovi**	**6.31**	**24**	P	**Pn**	**23 50 22.6**	**+2.7**
MEF				S	**Sn**	**23 51 31.0**	**-1.6**
HFS	**Hagfors**	**6.34**	**334**	Pn	**Pn**	**23 50 22.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=130,slow=14,SNR=9.7						
HFS				Sn	**Sn**	**23 51 31.3**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=147,slow=24,SNR=3.5						
HFS				Lg		23 52 08.0	
	comp=Z,0.2nm,0.3s,baz=144,slow=27,SNR=2.9						
HFS	**Hagfors**	**6.34**	**334**	Pn	**Pn**	**23 50 22.4**	**+2.0**
HFS				Sn	**Sn**	**23 51 31.3**	**-2.2**
HFS				Lg		23 52 08.0	
HFS	**Hagfors**	**6.34**	**334**	Pn	**Pn**	**23 50 22.4**	**+2.0**
HFS				Sn	**Sn**	**23 51 31.3**	**-2.2**
RAF	**Rauma**	**6.61**	**11**	*e*P	**Pn**	**23 50 26.0**	**+1.9**
RAF				*e*S	**Sn**	**23 51 38.6**	**-1.5**
RAF				MSG		23 51 45.0	
	comp=Z,0.7nm,0.2s						
RAF	**Rauma**	**6.61**	**11**	P	**Pn**	**23 50 25.9**	**+1.8**
RAF				S	**Sn**	**23 51 38.5**	**-1.6**
GERES	**GERESS Array B**	**6.69**	**213**	Pn	**Pn**	**23 50 25.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=32,slow=19,SNR=2.4						
GERES	**GERESS Array B**	**6.69**	**213**	Pn	**Pn**	**23 50 25.4**	**+0.2**
GERES	**GERESS Array B**	**6.69**	**213**	Pn	**Pn**	**23 50 25.4**	**+0.2**
PVF	**Pernaja**	**6.96**	**28**	*e*P	**Pn**	**23 50 30.7**	**+1.8**
PVF				*e*S	**Sn**	**23 51 46.5**	**-2.3**
PVF				MSG		23 51 52.6	
	comp=Z,0.6nm,0.2s						
PVF	**Pernaja**	**6.96**	**28**	P	**Pn**	**23 50 30.6**	**+1.7**
PVF				S	**Sn**	**23 51 46.4**	**-2.3**
VJF	**Virojoki**	**7.46**	**33**	*e*P	**Pn**	**23 50 36.6**	**+0.8**
VJF				MSG		23 52 01.2	
	comp=Z,1.2nm,0.2s						
VJF	**Virojoki**	**7.46**	**33**	P	**Pn**	**23 50 36.5**	**+0.8**
NOA	**NORSAR Array B**	**7.78**	**330**	Pn	**Pn**	**23 50 38.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=117,slow=14,SNR=2.7						
NOA				Sn	**Sn**	**23 52 08.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=330,slow=22,SNR=3.3						
NOA	**NORSAR Array B**	**7.78**	**330**	Pn	**Pn**	**23 50 38.9**	**-1.2**
NOA				Sn	**Sn**	**23 52 08.1**	**-0.7**
NOA	**NORSAR Array B**	**7.78**	**330**	Pn	**Pn**	**23 50 38.9**	**-1.2**
NOA				Sn	**Sn**	**23 52 08.1**	**-0.8**
FIA0	**FINESS Array S**	**7.79**	**25**	*e*P	**Pn**	**23 50 42.1**	**+1.9**
FIA0				*e*S	**Sn**	**23 52 07.0**	**-1.9**
FIA0				MSG		23 52 13.0	
	comp=Z,0.6nm,0.1s						
FIA0	**FINESS Array S**	**7.79**	**25**	P	**Pn**	**23 50 42.0**	**+1.8**
FINES	**FINESS Array B**	**7.79**	**25**	Pn	**Pn**	**23 50 41.3**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=203,slow=12,SNR=20						
FINES				Sn	**Sn**	**23 52 06.5**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=206,slow=23,SNR=3.0						
FINES	**FINESS Array B**	**7.79**	**25**	Pn	**Pn**	**23 50 41.3**	**+1.1**
FINES				Sn	**Sn**	**23 52 06.5**	**-2.4**
FINES	**FINESS Array B**	**7.79**	**25**	Pn	**Pn**	**23 50 41.3**	**+1.1**
KEF	**Keuruu**	**8.17**	**19**	*e*P	**Pn**	**23 50 48.0**	**+2.5**
KEF				*e*S	**Sn**	**23 52 16.7**	**-1.7**
KEF	**Keuruu**	**8.17**	**19**	P	**Pn**	**23 50 47.9**	**+2.5**
KAF	**Kangasniemi**	**8.42**	**23**	*e*P	**Pn**	**23 50 50.0**	**+1.1**
KAF				*e*S	**Sn**	**23 52 22.1**	**-2.4**
KAF	**Kangasniemi**	**8.42**	**23**	P	**Pn**	**23 50 50.0**	**+1.1**
KAF				S	**Sn**	**23 52 22.1**	**-2.4**
VAF	**Ylistaro**	**8.69**	**10**	*e*P	**Pn**	**23 50 54.1**	**+1.7**
VAF	**Ylistaro**	**8.69**	**10**	P	**Pn**	**23 50 54.1**	**+1.6**
SUF	**Sumiainen**	**8.93**	**21**	*e*P	**Pn**	**23 50 57.8**	**+2.0**
SUF	**Sumiainen**	**8.93**	**21**	P	**Pn**	**23 50 57.7**	**+1.9**
JOF	**Joensuu**	**10.44**	**32**	*e*P	**Pn**	**23 51 16.2**	**-0.3**
JOF	**Joensuu**	**10.44**	**32**	P	**Pn**	**23 51 16.2**	**-0.3**
ARCES	**ARCESS Array B**	**15.29**	**8**	Pn	**Pn**	**23 52 18.7**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=191,slow=14,SNR=8.5						
ARCES	**ARCESS Array B**	**15.29**	**8**	Pn	**Pn**	**23 52 18.7**	**-3.9**

*IDC **12** 00:29:51.6±1.2, 10°.92S×167°.56E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.0/18, mbtmp4.2/7, Error ellipse: s-maj=44.2km s-min=23.1km az=156.0*
*ISCJB **12** 00:29:54.5±0.8, 11°.25±0°.2×167°.67E±0°.09, h33km, mb4.0/6, Error ellipse: s-maj=25.1km s-min=12.6km az=2.1*
*NEIC **12** 00:29:56.6±0.6, 11°.12S×167°.64E, h35km, Error ellipse: s-maj=19.5km s-min=9.8km az=182.0*
ISC 12 00:29:56.7±0.8, 11°.15±0°.2×167°.63E±0°.09, h35km, n16, σ0§48/16, mb4.0/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**12.04**	**124**	*e*Pn	**Pn**	**00 32 45.4**	**-0.4**
AFI	**Afiamalu**	**20.29**	**100**	P	**P**	**00 34 30.3**	**+0.7**
	20nm,0.2s,baz=248,slow=11,SNR=3.1						
AFI	**Afiamalu**	**20.29**	**100**	P	**P**	**00 34 30.3**	**+0.7**
STKA	**Stephens Creek**	**31.68**	**225**	P	**P**	**00 36 16.9**	**-0.1**
	1.2nm,0.5s,mb4.0,baz=52,slow=8.3,SNR=5.3						
STKA	**Stephens Creek**	**31.68**	**225**	P	**P**	**00 36 16.9**	**-0.1**
WRAB	**Tennant Creek**	**33.19**	**251**	*e*P	**P**	**00 36 30.6**	**+0.2**
WRA	**Warramunga Arr**	**33.20**	**251**	P	**P**	**00 36 30.6**	**+0.2**
	0.6nm,0.3s,mb4.0,baz=79,slow=8.7,SNR=17						
WRA	**Warramunga Arr**	**33.20**	**251**	P	**P**	**00 36 30.6**	**+0.2**
ASAR	**Alice Springs**	**34.42**	**244**	P	**P**	**00 36 40.4**	**-0.7**
	0.6nm,0.5s,mb3.8,baz=68,slow=9.2,SNR=10.0						
ASAR	**Alice Springs**	**34.42**	**244**	P	**P**	**00 36 40.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.15**	**255**	P	**P**	**00 37 38.8**	**+0.8**
	2.1nm,0.4s,mb4.1,baz=90,slow=7.4,SNR=16						
FITZ	**Fitzroy Crossi**	**41.15**	**255**	P	**P**	**00 37 38.8**	**+0.8**
ILAR	**Eielson Array**	**83.00**	**18**	P	**P**	**00 42 17.8**	**-0.1**
	0.5nm,0.7s,mb3.7,baz=234,slow=5.0,SNR=4.1						
ILAR	**Eielson Array**	**83.00**	**18**	P	**P**	**00 42 17.8**	**-0.2**
MKAR	**Makanchi Array**	**94.85**	**317**	P	**P**	**00 43 14.5**	**-0.5**
	0.5nm,0.5s,mb4.2,baz=92,slow=6.4,SNR=5.2						
MKAR	**Makanchi Array**	**94.85**	**317**	P	**P**	**00 43 14.5**	**-0.5**

*IDC **12** 00:47:17.7±1.0, 31°.18S×176°.75W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.2/17, mbtmp4.2/7, ML3.9/1, MS3.8/9, Ms1 3.8/9, ms1mx3.4/31, Error ellipse: s-maj=39.2km s-min=23.2km az=154.0*
*NEIC **12** 00:47:19.5±0.5, 31°.11S×176°.87W, h10km, mb4.4/5, Error ellipse: s-maj=12.2km s-min=11.2km az=63.0*
*ISCJB **12** 00:47:22.1±0.6, 31°.20S±0°.05×177°.1W±0°.1, h33km, mb4.2/8, MS3.9/8, Error ellipse: s-maj=13.1km s-min=7.3km az=177.4*
ISC 12 00:47:20.8±4.5, 31°.15S±0°.05×177°.0W±0°.1, h15km±27km, n49, σ1§05/31, mb4.2/8, MS3.9/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.05**	**338**	*e*Pn	**Pn**	**00 47 54.0**	**-0.7**
RAO				*e*Sn	**Sn**	**00 48 19.4**	**-0.6**
URZ	**Urewera**	**8.57**	**213**	Pn	**Pn**	**00 49 22.3**	**-2.1**
	1.5nm,0.3s,baz=9.5,slow=6.1,SNR=9.2						
URZ				Sn	**Sn**	**00 50 58.7**	**-2.1**
	4.7nm,0.3s,baz=18,slow=20,SNR=4.0						
URZ	**Urewera**	**8.57**	**213**	*e*Pn	**Pn**	**00 49 23.4**	**-1.0**
URZ				*e*Sn	**Sn**	**00 50 59.7**	**-1.2**
SNZO	**South Karori**	**12.13**	**211**	*e*Pn	**Pn**	**00 50 08.6**	**-4.4**
SNZO				*e*Sn	**Sn**	**00 52 20.6**	**-7.4**
DZM	**Mont Dzumac**	**17.31**	**298**	*e*P	**Pn**	**00 51 28.5**	**+6.5**
	46nm,1.1s						
DZM				*e*LR	LR	00 55 43.8	
	731nm,27.3s						
DZM	**Mont Dzumac**	**17.31**	**298**	*e*Pn	**Pn**	**00 51 22.2**	**+0.2**
	14nm,0.9s						
RAR	**Rarotonga**	**18.36**	**61**	LR	LR	00 56 05.2	
	comp=Z,188nm,18.9s,baz=317,slow=29						
TBI	**Tubuai**	**25.66**	**79**	*e*LR	LR	00 58 52.8	
	284nm,29.0s						
PPT	**Papeete**	**28.34**	**68**	*e*LR	LR	01 00 01.1	
	208nm,27.2s						
HNR	**Honiara**	**30.43**	**310**	LR	LR	01 03 45.6	
	comp=Z,158nm,18.2s,MS3.7,baz=95,slow=32						
CTA	**Charters Tower**	**34.75**	**280**	P	**P**	**00 54 13.5**	**+2.9**
	4.6nm,0.6s,mb4.6,baz=100,slow=11,SNR=6.3						
CTA	**Charters Tower**	**34.75**	**280**	P	**P**	**00 54 13.5**	**+2.9**
CTAO	**Charters Tower**	**34.75**	**280**	*e*P	**P**	**00 54 10.7**	**+0.1**
	4.2nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**35.13**	**258**	P	**P**	**00 54 16.6**	**+2.7**
	1.3nm,0.5s,mb4.1,baz=98,slow=13,SNR=5.2						
STKA				LR	LR	01 05 17.3	
	comp=Z,102nm,21.1s,MS3.5,baz=28,slow=30						
STKA	**Stephens Creek**	**35.13**	**258**	*e*P	**P**	**00 54 14.8**	**+0.9**
	4.5nm,1.5s,mb4.2						
PMG	**Port Moresby**	**39.68**	**295**	*e*P	**P**	**00 54 52.4**	**-0.2**
ASAR	**Alice Springs**	**43.91**	**267**	P	**P**	**00 55 27.3**	**+0.2**
	2.5nm,0.7s,mb4.1,baz=108,slow=7.5,SNR=26						
ASAR				PcP	PcP	00 57 13.8	+0.7
	0.7nm,0.7s,baz=116,slow=4.2,SNR=3.8						
ASAR	**Alice Springs**	**43.91**	**267**	P	**P**	**00 55 27.3**	**+0.2**
ASAR				PcP	PcP	00 57 13.8	+0.7
WRAB	**Tennant Creek**	**44.96**	**272**	*e*P	**P**	**00 55 36.5**	**+0.9**
	4.8nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**44.96**	**272**	P	**P**	**00 55 35.8**	**+0.2**
	3.5nm,0.5s,mb4.5,baz=111,slow=8.0,SNR=69						
WRA				PcP	PcP	00 57 14.4	-2.4
	1.0nm,0.8s,baz=116,slow=3.0,SNR=3.3						
WRA				LR	LR	01 12 47.5	
	comp=Z,152nm,21.4s,MS3.9,baz=100,slow=34						
WRA	**Warramunga Arr**	**44.96**	**272**	P	**P**	**00 55 35.8**	**+0.2**
WRA				PcP	PcP	00 57 14.4	-2.4
FITZ	**Fitzroy Crossi**	**53.20**	**270**	LR	LR	01 17 18.9	
	comp=Z,96nm,18.7s,MS3.9,baz=89,slow=34						
FITZ	**Fitzroy Crossi**	**53.20**	**270**	*e*P	**P**	**00 56 39.9**	**+1.2**
QSPA	**South Pole Qui**	**58.96**	**180**	*e*P	**P**	**00 57 20.6**	**+1.6**
	4.8nm,0.8s,mb4.6						
SNAA	**Sanae**	**77.38**	**178**	*e*	**P**	**00 59 14.7**	**0.0**
SNAA				*e*		00 59 25.4	
VNA3	**Neumayer Olymp**	**77.50**	**176**	*e*	**P**	**00 59 15.5**	**+0.2**
VNA3				*e*		00 59 25.5	
VNA2	**Neumayer--Watz**	**77.94**	**177**	*e*	**P**	**00 59 18.3**	**+0.5**
	baz=178,slow=4.6						
VNA2				*e*		00 59 28.2	
VNA2				*e*		01 00 10.8	
PLCA	**Paso Flores**	**81.38**	**133**	LR	LR	01 28 54.4	
	comp=Z,76nm,18.5s,MS4.1,baz=234,slow=31						
NVAR	**Mina Array Bea**	**88.23**	**42**	P	**P**	**01 00 10.5**	**-0.8**
	1.0nm,0.8s,mb4.1,baz=211,slow=8.0,SNR=7.6						
NVAR	**Mina Array Bea**	**88.23**	**42**	P	**P**	**01 00 10.5**	**-0.8**
TXAR	**Lajitas Array**	**92.09**	**57**	LR	LR	01 37 06.2	
	comp=Z,57nm,18.1s,MS4.1,baz=5.0,slow=32						
LPAZ	**La Paz**	**97.08**	**114**	LR	LR	01 34 48.8	
	comp=Z,32nm,18.1s,MS3.9,baz=115,slow=29						
LPAZ	**La Paz**	**97.08**	**114**	*e*P	**P**	**01 00 52.8**	**0.0**
ILAR	**Eielson Array**	**98.47**	**13**	P	**P**	**01 00 56.1**	**-1.7**
	0.2nm,0.7s,mb3.7,baz=205,slow=5.8,SNR=2.7						
ILAR	**Eielson Array**	**98.47**	**13**	P	**P**	**01 00 56.1**	**-1.8**
CPUP	**Villa Florida**	**98.86**	**128**	LR	LR	01 42 12.2	
	comp=Z,31nm,18.2s,MS3.9,baz=323,slow=33						
JOF	**Joensuu**	**143.42**	**339**	*e*pkp	PKPdf	01 06 49.0	-4.9
KAF	**Kangasniemi**	**145.53**	**341**	*e*pkp	PKPdf	01 06 56.1	-1.5
FINES	**FINESS Array B**	**146.14**	**340**	PKPbc	PKPbc	01 06 58.5	-1.1
	8.5nm,0.8s,baz=53,slow=2.7,SNR=21						
FINES	**FINESS Array B**	**146.14**	**340**	PKPbc	PKPbc	01 06 58.5	-1.1
NB2	**NORSAR Subarra**	**149.62**	**352**	PKP	PKPdf	01 07 07.7	+3.3
	comp=Z,1.1nm,0.6s,baz=11,slow=2.6						
NOA	**NORSAR Array B**	**149.62**	**352**	PKPbc	PKPbc	01 07 08.0	-1.0
	comp=Z,2.8nm,0.9s,baz=13,slow=4.2,SNR=6.0						
NOA	**NORSAR Array B**	**149.62**	**352**	PKPbc	PKPbc	01 07 08.0	-1.0
AKASG	**Malin Array Be**	**152.41**	**323**	PKPbc	PKPbc	01 07 15.3	-0.6
	comp=Z,0.7nm,0.4s,baz=49,slow=2.7,SNR=3.9						
AKASG				PKPab	PKPab	01 07 25.6	-0.5
	comp=Z,2.1nm,0.6s,baz=48,slow=5.0,SNR=5.7						
AKASG	**Malin Array Be**	**152.41**	**323**	PKPbc	PKPbc	01 07 15.3	-0.6
AKASG				PKPab	PKPab	01 07 25.6	-0.5
BRTR	**Keskin Array B**	**153.69**	**297**	PKPab	PKPab	01 07 33.0	+1.1
	comp=Z,0.7nm,0.9s,baz=80,slow=3.4,SNR=4.2						
BRTR	**Keskin Array B**	**153.69**	**297**	PKPab	PKPab	01 07 33.0	+1.1
TORD	**Torodi Ar. Bea**	**162.04**	**176**	PKPab	PKPab	01 08 08.4	+0.1
	comp=Z,1.3nm,0.8s,baz=186,slow=3.7,SNR=7.8						
TORD	**Torodi Ar. Bea**	**162.04**	**176**	PKPab	PKPab	01 08 08.4	+0.1

*PRE **12** 01:19:17.8±0.9, 27°.89S×26°.72E, h2km, ML3.0*
*ISCJB **12** 01:19:18.9±0.9, 27°.93S±0°.03×26°.74E±0°.04, h16km±9km, mb4.0/2, Error ellipse: s-maj=5.9km s-min=4.6km az=27.9*
*IDC **12** 01:19:18.4±3.3, 27°.86S×26°.77E, h0km, mb3.8/2, mb1 3.8/2, mb1mx3.4/20, mbtmp3.8/2, Error ellipse: s-maj=56.3km s-min=17.1km az=131.0*
ISC 12 01:19:18.8±0.9, 27°.90S±0°.03×26°.73E±0°.04, h5km±6km, n16, σ0§61/28, mb3.9/2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSD	**Buffelsfontein**	**1.03**	**3**	*e*P	**Pg**	**01 19 37.9**	**-0.7**
BFSD				*e*S	**Sg**	**01 19 51.5**	**-0.4**
BFSD				AML	AML	01 19 58.4	
	comp=Z,82nm,0.2s						
PRYS	**Parys**	**1.12**	**30**	*e*P	**Pg**	**01 19 39.5**	**-0.7**
PRYS				*e*S	**Sg**	**01 19 55.1**	**+0.4**
PRYS				AML	AML	01 20 00.9	
	comp=Z,142nm,0.3s						
SWZ	**Schweizer**	**1.43**	**300**	*e*P	**Pn**	**01 19 45.4**	**+0.1**
SWZ				*e*S	**Sb**	**01 20 04.2**	**-0.2**
SWZ				AML	AML	01 20 07.5	
	comp=Z,157nm,0.3s						
BOSA	**Boshof**	**1.48**	**241**	Pg	**Pg**	**01 19 47.2**	**0.0**
	comp=Z,34nm,0.3s,baz=63,slow=14,SNR=1216						
BOSA				Lg		01 20 06.5	
	comp=Z,27nm,0.3s,baz=157,slow=19,SNR=20						
BOSA				Rg		01 20 15.8	
	comp=Z,30nm,0.3s,baz=260,slow=8.0,SNR=6.4						
KSR	**Koster**	**2.04**	**4**	*e*P	**Pn**	**01 19 54.0**	**+0.3**
KSR				*e*S	**Sn**	**01 20 19.4**	**-0.2**
KSR				AML	AML	01 20 23.5	
	comp=Z,200nm,0.2s						
SLR	**Silverton**	**2.56**	**33**	*e*P	**Pn**	**01 20 00.8**	**0.0**
SLR				*e*S	**Sn**	**01 20 32.2**	**-0.2**
SLR				AML	AML	01 20 46.2	
	comp=Z,130nm,0.5s						
HVD	**Gariep Dam**	**2.91**	**201**	*e*P	**Pn**	**01 20 06.4**	**+0.8**
HVD				*e*S	**Sn**	**01 20 41.1**	**+0.2**
HVD				AML	AML	01 21

Error ellipse: s-maj=49.0km s-min=19.9km az=222.0
IDC ***12*** *01:30:16.5±2.9, 8°.39S×119°.81E, h212km, 32km, mb3.4/3, mb1 3.5/5, mb1mx3.2/18, mbtmp3.3/5, Error ellipse: s-maj=85.4km s-min=12.9km az=51.0*
ISC 12 01:30:14.1±0.8, 8.4S±0.1×119.8E±0.1, h185km±6km, n18, σ0.89/26, mb3.9/2, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMNI	**Bima**	**1.12**	**263**	P	**Pn**	**01 30 43.1**	**0.0**
BMNI				S	**Sn**	**01 31 05.5**	**0.0**
WSI	**Waingapu**	**1.35**	**159**	P	**Pn**	**01 30 45.0**	**-0.1**
WSI				S	**Sn**	**01 31 09.3**	**+0.1**
MMRI	**Maumere**	**2.41**	**96**	P	**Pn**	**01 30 56.1**	**+0.1**
MTNI	**Mataram**	**3.61**	**266**	P	**Pn**	**01 30 53.9**	**-17**
FITZ	**Fitzroy Crossi**	**11.19**	**150**	P	**Pn**	**01 32 52.0**	**+3.1**
2.0nm,0.3s,baz=342,slow=14,SNR=6.3							
FITZ				S	**Sn**	**01 34 51.1**	**-2.2**
0.6nm,0.3s,baz=345,slow=18,SNR=10.0							
FITZ	**Fitzroy Crossi**	**11.19**	**150**	P	**Pn**	**01 32 52.0**	**+3.1**
FITZ				S	**Sn**	**01 34 51.1**	**-2.2**
WRA	**Warramunga Arr**	**18.15**	**131**	P	**P**	**01 34 12.3**	**-0.3**
1.7nm,0.3s,baz=306,slow=12,SNR=150							
WRA				S	**S**	**01 37 31.5**	**+0.6**
0.3nm,0.3s,baz=299,slow=20,SNR=5.9							
WRA	**Warramunga Arr**	**18.15**	**131**	P	**P**	**01 34 12.3**	**-0.3**
WRA				S	**S**	**01 37 31.5**	**+0.6**
WRAB	**Tennant Creek**	**18.15**	**131**	*e*P	**P**	**01 34 12.6**	**0.0**
4.5nm,0.8s							
WB2	**Warramunga Arr**	**18.16**	**131**	*e*P	**P**	**01 34 12.7**	**0.0**
AS31	**Alice Springs**	**20.31**	**140**	*e*P	**P**	**01 34 36.3**	**+0.4**
ASAR	**Alice Springs**	**20.31**	**140**	P	**P**	**01 34 36.6**	**+0.7**
1.6nm,0.5s,baz=318,slow=11,SNR=27							
ASAR				S	**S**	**01 38 12.4**	**-1.1**
0.4nm,0.7s,baz=321,slow=23,SNR=4.2							
ASAR	**Alice Springs**	**20.31**	**140**	P	**P**	**01 34 36.6**	**+0.7**
ASAR				S	**S**	**01 38 12.4**	**-1.1**
COEN	**Coen**	**23.56**	**106**	*e*P	**P**	**01 35 07.2**	**-0.9**
STKA	**Stephens Creek**	**30.92**	**142**	P	**P**	**01 36 14.7**	**+1.2**
2.8nm,0.3s,mb4.5,baz=316,slow=10,SNR=18							
STKA	**Stephens Creek**	**30.92**	**142**	P	**P**	**01 36 14.7**	**+1.2**
MKAR	**Makanchi Array**	**64.30**	**332**	P	**P**	**01 40 28.6**	**-1.0**
0.2nm,0.4s,mb3.3,baz=155,slow=7.5,SNR=6.0							
MKAR	**Makanchi Array**	**64.30**	**332**	P	**P**	**01 40 28.6**	**-1.0**

CSEM ***12*** *01:31:00.4, 39°.17N×30°.09W, h10km, ML3.2, After PDA*
PDA 12 01:31:00.4±0.5, 39.17N×30.09W, h10km, MD3.5, ML3.2, Error ellipse: s-maj=64.1km s-min=3.9km az=35.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.23**	**118**	*e*P	Pn	01 31 19.1	-4.5
CALA				*e*S	Sb	01 31 32.8	-6.8
CALA	**Caldeira**	**1.23**	**118**	*e*P	Pn	01 31 19.1	-4.5
CALA				*e*S	Sb	01 31 32.8	-6.8
HOR	**Horta**	**1.31**	**119**	*e*P	Pn	01 31 20.1	-4.6
HOR				*e*S	Sb	01 31 34.9	-6.9
HOR	**Horta**	**1.31**	**119**	*e*P	Pn	01 31 20.1	-4.6
HOR				*e*S	Sb	01 31 34.9	-6.9
PCAN	**Candelaria**	**1.44**	**119**	*e*P	Pn	01 31 21.8	-4.7
PCAN				*e*S	Sn	01 31 37.9	-7.5
PCAN				A		01 31 39.8	
75nm,0.4s							
PCAN	**Candelaria**	**1.44**	**119**	*e*P	Pn	01 31 21.8	-4.7
PCAN				*e*S	Sn	01 31 37.9	-7.5
PICO	**Pico**	**1.46**	**117**	*e*P	Pn	01 31 22.2	-4.6
PICO				*e*S	Sn	01 31 38.8	-7.1
PICO	**Pico**	**1.46**	**117**	*e*P	Pn	01 31 22.2	-4.6
PICO				*e*S	Sn	01 31 38.8	-7.1

ISK ***12*** *01:48:43.5, 37°.42N×35°.86E, h30km, MD2.4*
DDA ***12*** *01:48:43.6, 37°.40N×35°.92E, h7km±7km, Md3.0*
ISCJB ***12*** *01:48:44.8±0.5, 37°.41N±0°.03×35°.89E±0°.04, h24km±4km, Error ellipse: s-maj=6.1km s-min=5.1km az=138.8*
CSEM ***12*** *01:48:44.4±0.3, 37°.40N×35°.88E, h24km±3km, MD2.4, Error ellipse: s-maj=8.5km s-min=6.6km az=144.0*
ISC 12 01:48:45.0±0.5, 37.41N±0.03×35.89E±0.05, h24km±4km, n24, σ1.05/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.09**	**327**	*e*PG	**Pb**	**01 48 49.6**	**+0.3**
KOZT				SG	**Sb**	**01 48 52.9**	**+0.6**
CEYT	**Ceyhan**	**0.41**	**196**	*e*PG	**Pb**	**01 48 53.4**	**-0.3**
CEYT				*e*SG	**Sb**	**01 49 00.8**	**+1.3**
CEYT	**Ceyhan**	**0.41**	**196**	*e*Pg	**Pb**	**01 48 53.4**	**-0.2**
CEYT				*e*Sg	**Sb**	**01 49 00.8**	**+1.3**
KMRS	**Kahramanmaras**	**0.81**	**83**	*e*PG	**Pb**	**01 48 59.4**	**-1.0**
KMRS				*e*SG	**Sb**	**01 49 10.5**	**-0.5**
KMRS	**Kahramanmaras**	**0.81**	**83**	*e*Pg	**Pb**	**01 48 59.4**	**-1.0**
KMRS				*e*Sg	**Sb**	**01 49 10.5**	**-0.4**
GULE	**Gulek**	**0.89**	**263**	*i* P	**Pb**	**01 49 01.4**	**-0.4**
GULE				*i* S	**Sb**	**01 49 13.7**	**+0.5**
GULE	**Gulek**	**0.89**	**263**	*i* P	**Pb**	**01 49 01.4**	**-0.4**
GULE				*i* S	**Sb**	**01 49 13.7**	**+0.4**
KRTS	**Karatas**	**0.93**	**206**	*e*PG	**Pb**	**01 49 00.6**	**-1.7**
KRTS	**Karatas**	**0.93**	**206**	*e*Pg	**Pb**	**01 49 00.6**	**-1.8**
GAZ	**Gaziantep**	**1.08**	**102**	*e*PN	**Pn**	**01 49 03.8**	**-0.8**
GAZ	**Gaziantep**	**1.08**	**102**	*e*Pn	**Pn**	**01 49 03.8**	**-0.8**
KUZU	**Kuzuini**	**1.14**	**123**	*i* P	**Pn**	**01 49 05.3**	**-0.2**
KUZU				*i* S	**Sn**	**01 49 19.2**	**-1.1**
KUZU	**Kuzuini**	**1.14**	**123**	*i* P	**Pn**	**01 49 05.3**	**-0.1**
KUZU				*i* S	**Sn**	**01 49 19.2**	**-1.1**
MERS	**Mersin**	**1.22**	**244**	*e*PN	**Pn**	**01 49 04.7**	**-1.8**
MERS	**Mersin**	**1.22**	**244**	*e*Pn	**Pn**	**01 49 04.7**	**-1.8**
PINB	**Pinarbasi**	**1.33**	**18**	*i* P	**Pn**	**01 49 08.7**	**+0.6**
PINB				*i* S	**Sn**	**01 49 26.1**	**+1.0**
PINB	**Pinarbasi**	**1.33**	**18**	*i* P	**Pn**	**01 49 08.7**	**+0.6**
PINB				*i* S	**Sn**	**01 49 26.1**	**+1.0**
YAYL	**Yayladag**	**1.38**	**173**	*e*P	**Pn**	**01 49 10.0**	**+1.3**
YAYL				*e*S	**Sn**	**01 49 28.1**	**+1.9**
YAYL	**Yayladag**	**1.38**	**173**	*e*P	**Pn**	**01 49 10.0**	**+1.3**
YAYL				*e*S	**Sn**	**01 49 28.1**	**+1.9**
SARI	**SarD1z-Kayseri**	**1.42**	**26**	*e*PG	**Pn**	**01 49 02.8**	**-6.5**
BNN	**Bunyan**	**1.44**	**359**	*e*PN	**Pn**	**01 49 08.1**	**-1.5**
BNN	**Bunyan**	**1.44**	**359**	*e*Pn	**Pn**	**01 49 08.1**	**-1.5**
AKCD	**Akcadag**	**1.84**	**61**	*e*P	**Pn**	**01 49 15.5**	**+0.4**
AKCD				*e*S	**Sn**	**01 49 39.0**	**+1.4**
AKCD	**Akcadag**	**1.84**	**61**	*e*P	**Pn**	**01 49 15.5**	**+0.4**
AKCD				*e*S	**Sn**	**01 49 39.0**	**+1.4**

CSEM ***12*** *02:05:52.1, 39°.79N×29°.16W, h5km, ML2.7, After PDA*
PDA 12 02:05:52.1±0.3, 39.79N×29.16W, h5km, MD3.5, ML2.7, Error ellipse: s-maj=17.0km s-min=2.9km az=75.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.25**	**163**	*e*P	Pg	02 06 11.6	-4.5
CALA				*e*S	Sg	02 06 26.0	-6.4
CALA	**Caldeira**	**1.25**	**163**	*e*P	Pg	02 06 11.6	-4.5
CALA				*e*S	Sg	02 06 26.0	-6.4
HOR	**Horta**	**1.32**	**162**	*e*S	Sg	02 06 27.4	-7.2
HOR	**Horta**	**1.32**	**162**	*e*S	Sg	02 06 27.4	-7.2
PICO	**Pico**	**1.41**	**156**	*e*P	Pn	02 06 13.6	-4.7
PICO				*e*S	Sb	02 06 29.7	-7.3
PICO	**Pico**	**1.41**	**156**	*e*P	Pn	02 06 13.6	-4.7
PICO				*e*S	Sb	02 06 29.7	-7.3
PCAN	**Candelaria**	**1.42**	**158**	*e*P	Pn	02 06 13.5	-5.0
PCAN				*e*S	Sb	02 06 29.9	-7.5
PCAN				A		02 06 32.4	
46nm,0.1s							
PCAN	**Candelaria**	**1.42**	**158**	*e*P	Pn	02 06 13.5	-5.0
PCAN				*e*S	Sb	02 06 29.9	-7.5

CSEM ***12*** *02:18:21.7, 39°.64N×29°.55W, h10km, ML2.9, After PDA*
PDA 12 02:18:21.7±0.4, 39.64N×29.55W, h10km, MD3.6, ML2.9, Error ellipse: s-maj=8.0km s-min=3.4km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.24**	**148**	*e*P	Pn	02 18 40.6	-4.5
CALA				*e*S	Sb	02 18 54.6	-6.7
CALA	**Caldeira**	**1.24**	**148**	*e*P	Pn	02 18 40.6	-4.5
CALA				*e*S	Sb	02 18 54.6	-6.7
HOR	**Horta**	**1.32**	**147**	*e*P	Pn	02 18 41.4	-4.7
HOR				*e*S	Sb	02 18 56.3	-7.1
HOR	**Horta**	**1.32**	**147**	*e*P	Pn	02 18 41.4	-4.7
HOR				*e*S	Sb	02 18 56.3	-7.1
ROSA	**Rosais**	**1.37**	**132**	*e*S	Sb	02 18 57.3	-7.5
ROSA				A		02 18 58.9	
55nm,0.3s							
ROSA	**Rosais**	**1.37**	**132**	*e*S	Sb	02 18 57.3	-7.5
PICO	**Pico**	**1.43**	**142**	*e*P	Pn	02 18 43.3	-4.4
PICO				*e*S	Sn	02 18 59.5	-7.0
PICO	**Pico**	**1.43**	**142**	*e*P	Pn	02 18 43.3	-4.4
PICO				*e*S	Sn	02 18 59.5	-7.0
PCAN	**Candelaria**	**1.43**	**144**	*e*P	Pn	02 18 43.1	-4.6
PCAN				*e*S	Sn	02 18 59.2	-7.4
PCAN				A		02 19 01.2	
185nm,0.3s							
PCAN	**Candelaria**	**1.43**	**144**	*e*P	Pn	02 18 43.1	-4.6
PCAN				*e*S	Sn	02 18 59.2	-7.4
PMAN	**Manadas**	**1.51**	**131**	*e*S	Sn	02 19 01.2	-7.4
PMAN				A		02 19 02.0	
27nm,0.3s							
PMAN	**Manadas**	**1.51**	**131**	*e*S	Sn	02 19 01.2	-7.4

ISCJB ***12*** *02:24:33.2±0.7, 51°.51N±0°.03×16°.11E±0°.04, h0km, Error ellipse: s-maj=5.0km s-min=3.1km az=20.5*
CSEM ***12*** *02:24:34.2±0.3, 51°.56N×16°.08E, h2km, ML3.0/7, Error ellipse: s-maj=5.3km s-min=4.8km az=44.0*
WAR ***12*** *02:24:35.7, 51°.55N×16°.10E, ML2.4, Mining Induced*
PRU ***12*** *02:24:36.5, 51°.49N×16°.05E, h0km*
VIE ***12*** *02:24:37.6±0.6, 51°.32N×16°.13E, h0km, mb1.8/2, ML2.5/4, Error ellipse: s-maj=3.8km s-min=3.6km az=171.0 66 km WNW of Wroclaw Suspected Mining induced.*
ISC 12 02:24:33.8±0.6, 51.58N±0.03×16.12E±0.04, h0km, n31, σ0.93/57, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**172**	*e*Pg	**Pg**	**02 24 48.9**	**+0.9**
KSP				*e*Sg	**Sg**	**02 24 58.5**	**+0.9**
KSP	**Ksiaz**	**0.74**	**172**	*e*Pg	**Pg**	**02 24 48.8**	**+0.8**
KSP				*e*Sg	**Sg**	**02 24 58.4**	**+0.8**
UPC	**Upice**	**1.07**	**184**	*e*PG	**Pg**	**02 24 54.9**	**+0.6**
UPC	**Upice**	**1.07**	**184**	Pg	**Pg**	**02 24 54.9**	**+0.6**
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*PG	**Pg**	**02 24 57.6**	**+0.2**
DPC				*e*SG	**Sg**	**02 25 13.5**	**+0.1**
11nm,0.2s							
DPC	**Dobruska-Polom**	**1.23**	**174**	Pg	**Pg**	**02 24 57.6**	**+0.2**
DPC				Sg	**Sg**	**02 25 13.5**	**+0.1**
11nm,0.2s							
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pg**	**02 25 01.7**	**+0.4**
PVCC				*e*SG	**Sg**	**02 25 20.2**	**+0.4**
PVCC	**Panska Ves**	**1.44**	**224**	Pg	**Pg**	**02 25 01.7**	**+0.4**
PVCC				Sg	**Sg**	**02 25 20.2**	**+0.4**
BRG	**Berggiesshubel**	**1.54**	**244**	PG	**Pg**	**02 25 03.6**	**+0.4**
BRG				SG	**Sg**	**02 25 23.9**	**+0.7**
1.8nm,0.5s							
PRU	**Pruhonice**	**1.88**	**213**	*e*PG	**Pg**	**02 25 08.4**	**-1.4**
PRU				*e*SG	**Sg**	**02 25 33.3**	**-0.8**
13nm,0.4s							
PRU	**Pruhonice**	**1.88**	**213**	Pg	**Pg**	**02 25 08.4**	**-1.4**
PRU				Sg	**Sg**	**02 25 33.3**	**-0.8**
13nm,0.4s							
CLL	**Collm**	**1.97**	**263**	*e*Pn	**Pn**	**02 25 08.0**	**-0.3**
CLL				*i* Pg	**Pg**	**02 25 10.7**	**-0.8**
CLL				*i*		02 25 11.9	
CLL				*e*		02 25 14.0	
CLL				*e*Sg	**Sg**	**02 25 38.0**	**+1.0**
comp=Z,11nm,0.4s							
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Sg	**Sg**	**02 25 37.9**	**-0.6**
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*SG	**Sg**	**02 25 42.6**	**-0.7**
comp=Z,14nm,0.5s							
OKC	**Ostrava-Krasne**	**2.17**	**143**	Sg	**Sg**	**02 25 42.6**	**-0.7**
comp=Z,14nm,0.5s							
VRAC	**Vranov**	**2.29**	**172**	*e*Pn	**Pn**	**02 25 13.6**	**+0.8**
VRAC				*e*Sg	**Sg**	**02 25 46.1**	**-1.2**
TREC	**Trest**	**2.32**	**190**	*e*PN	**Pn**	**02 25 13.7**	**+0.5**
TREC				*e*PG	**Pg**	**02 25 17.5**	**-0.7**
TREC	**Trest**	**2.32**	**190**	Pn	**Pn**	**02 25 13.7**	**+0.5**
NKC	**Novy Kostel**	**2.69**	**241**	*e*PN	**Pn**	**02 25 19.0**	**+0.8**
NKC				*e*PG	**Pg**	**02 25 25.2**	**0.0**
NKC				*e*SG	**Sg**	**02 26 00.9**	**+0.9**
comp=Z,18nm,0.3s							
NKC	**Novy Kostel**	**2.69**	**241**	Pn	**Pn**	**02 25 19.0**	**+0.8**
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**02 25 26.6**	**+1.2**
OJC				*e*Sg	**Sg**	**02 26 01.3**	**+1.0**
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**02 25 26.6**	**+1.2**
OJC				*e*Sg	**Sg**	**02 26 01.3**	**+1.0**
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**02 25 22.0**	**+0.3**
KHC				*e*PG	**Pg**	**02 25 28.2**	**-1.9**
KHC				*e*SG	**Sg**	**02 26 07.7**	**-0.5**
comp=Z,5.4nm,0.3s							
KHC	**Kasperske Hory**	**2.94**	**215**	Pn	**Pn**	**02 25 22.0**	**+0.3**
VYHS	**Vyhne**	**3.55**	**149**	*e*PN	**Pg**	**02 25 39.5**	**-2.2**
VYHS				*e*SG	**Sg**	**02 26 28.5**	**+0.8**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**02 25 30.7**	**-0.3**
BSD				*i* S	**Sn**	**02 26 12.4**	**-1.9**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**02 25 30.7**	**-0.3**
BSD				*i* S	**Sn**	**02 26 12.4**	**-1.9**
CONA	**Conrad Observa**	**3.66**	**183**	⇑*i*Pn	**Pn**	**02 25 33.0**	**+1.5**
CONA				⇓*i*Sg	**Sg**	**02 26 29.9**	**-1.3**
comp=Z,7.6nm,0.6s							
CONA	**Conrad Observa**	**3.66**	**183**	Pn	**Pn**	**02 25 33.0**	**+1.5**
CONA				Sg	**Sg**	**02 26 29.9**	**-1.3**
comp=Z,7.6nm,0.6s							
MOA	**Molln**	**3.92**	**199**	⇑*i*Pn	**Pn**	**02 25 36.0**	**+0.9**
MOA				⇓*i*Sg	**Sg**	**02 26 39.0**	**-0.6**
comp=Z,3.4nm,0.4s							
MOA	**Molln**	**3.92**	**199**	Pn	**Pn**	**02 25 36.0**	**+0.9**
MOA				Sg	**Sg**	**02 26 39.0**	**-0.6**
comp=Z,3.4nm,0.4s							

WEL 12 02:54:25.8±0.4, 37°.94S×179°.09E, h61km±6km, ML3.5/4, Error ellipse: s-maj=5.5km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.67**	**259**	PN	Pn	02 54 38.5	-1.3
PUZ				SN	Sn	02 54 48.8	-1.1
MXZ	**Matakaoa Point**	**0.73**	**301**	PN	Pn	02 54 40.3	-0.1
MXZ				SN	Sn	02 54 51.3	+0.2
CNGZ	**Carnagh Statio**	**0.88**	**232**	PN	Pn	02 54 42.2	-0.1
CNGZ				SN	Sn	02 54 55.0	+0.5
MWZ	**Matawai**	**1.29**	**252**	PN	Pn	02 54 47.4	-0.3
MWZ				SN	Sn	02 55 03.4	-0.7
PRGZ	**Paritu Road**	**1.36**	**224**	PN	Pn	02 54 48.7	+0.1
PRGZ				SN	Sn	02 55 06.3	+0.6
MHGZ	**Mahia Peninsul**	**1.52**	**217**	PN	Pn	02 54 50.3	-0.4
KNZ	**Kokohu**	**1.55**	**225**	PN	Pn	02 54 50.6	-0.5
KNZ				SN	Sn	02 55 09.2	-1.0
URZ	**Urewera**	**1.59**	**258**	PN	Pn	02 54 52.3	+0.6
RAHZ	**Arahi**	**1.85**	**238**	PN	Pn	02 54 55.6	+0.5
TARZ	**Mount Tarawera**	**2.06**	**261**	PN	Pn	02 54 59.3	+1.3
NMHZ	**Naumai**	**2.13**	**237**	PN	Pn	02 55 00.4	+1.4
BKZ	**Black Stump Fm**	**2.38**	**238**	PN	Pn	02 55 02.8	+0.5
MCHZ	**McNeill Hill**	**2.40**	**231**	PN	Pn	02 55 03.0	+0.4
KAHZ	**Kahuranaki**	**2.53**	**222**	PN	Pn	02 55 04.1	-0.3
PXZ	**Pawanui**	**2.71**	**219**	PN	Pn	02 55 06.1	-0.8
BHHZ	**Black Hill Sta**	**2.83**	**236**	PN	Pn	02 55 09.0	+0.5
PNHZ	**Pukenui**	**2.99**	**228**	PN	Pn	02 55 09.8	-0.9
PRHZ	**Porangahau**	**3.01**	**219**	PN	Pn	02 55 09.4	-1.6
TSZ	**Takapari Road**	**3.23**	**228**	PN	Pn	02 55 12.7	-1.2
MRZ	**Mangatainoka R**	**3.84**	**224**	PN	Pn	02 55 20.6	-1.8

CSEM ***12*** *03:26:37.5, 39°.27N×30°.10W, h5km, ML2.9, After PDA*
PDA 12 03:26:37.5±0.3, 39.27N×30.10W, h5km, MD3.5, ML2.9, Error ellipse: s-maj=9.1km s-min=3.2km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.29**	**122**	*e*P	Pn	03 26 57.4	-4.7
CALA				*e*S	Sg	03 27 12.4	-6.5
CALA	**Caldeira**	**1.29**	**122**	*e*P	Pn	03 26 57.4	-4.7
CALA				*e*S	Sg	03 27 12.4	-6.5
PCAN	**Candelaria**	**1.49**	**122**	*e*P	Pn	03 27 00.2	-4.8
PCAN				*e*S	Sn	03 27 17.2	-7.6
PCAN				A		03 27 19.6	
69nm,0.2s							
PCAN	**Candelaria**	**1.49**	**122**	*e*P	Pn	03 27 00.2	-4.8
PCAN				*e*S	Sn	03 27 17.2	-7.6
PICO	**Pico**	**1.51**	**120**	*e*P	Pn	03 27 00.5	-4.7
PICO				*e*S	Sn	03 27 17.7	-7.6
PICO	**Pico**	**1.51**	**120**	*e*P	Pn	03 27 00.5	-4.7
PICO				*e*S	Sn	03 27 17.7	-7.6
ROSA	**Rosais**	**1.55**	**110**	*e*S	Sn	03 27 18.4	-7.8
ROSA				A		03 27 19.2	
28nm,0.2s							
ROSA	**Rosais**	**1.55**	**110**	*e*S	Sn	03 27 18.4	-7.8

NIED ***12*** *03:33:00, 41°.70N×144°.30E, h20km, Mw4.0 Best double couple: M0 1.28000×10^15 NP1:φs358.00000°, δ83.00000°, λ25.00000°. NP2:φs265.00000°, δ65.00000°, λ173.00000°.*
MOS ***12*** *03:33:17.0±0.9, 41°.60N×144°.14E, h33km, mb4.3/19, Error ellipse: s-maj=13.3km s-min=8.9km az=97.1*
ISCJB ***12*** *03:33:17.3±1.0, 41°.63N±0°.05×144°.29E±0°.08, h40km±7km, mb4.0/24, MS3.7/2, Error ellipse: s-maj=11.2km s-min=7.5km az=33.1*
JMA ***12*** *03:33:17.7±0.2, 41°.71N×144°.27E, h26km±2km, M4.3*
NEIC ***12*** *03:33:19.4±0.8, 41°.70N×144°.16E, h37km±7km, mb4.3/8, Error ellipse: s-maj=8.5km s-min=6.4km az=101.0*
IDC ***12*** *03:33:20.1±3.1, 41°.69N×144°.14E, h40km±28km, mb3.7/16, mb1 3.8/18, mb1mx3.7/29, mbtmp3.7/18, ML3.3/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/41, Error ellipse: s-maj=19.7km s-min=15.8km az=107.0*
ISC 12 03:33:17.7±1.4, 41.70N±0.04×144.29E±0.08, h25km±9km, n87, σ0.68/92, mb4.0/24, MS3.7/2, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.90**	**291**	*e*Pn	**Pn**	**03 33 34.9**	**+0.2**
ERM				*e*Sn	**Sn**	**03 33 48.2**	**+1.2**
ERM	**Erimo**	**0.90**	**291**	*e*P	**Pb**	**03 33 34.9**	**+0.3**
ERM				*e*		03 33 48.2	
JEM	**Erimo**	**0.90**	**291**	P	**Pb**	**03 33 34.8**	**+0.2**
JCH	**Churui**	**1.15**	**323**	P	**Pn**	**03 33 37.6**	**-0.5**
JCH				*e*S	**Sn**	**03 33 52.8**	**-0.2**
JOB	**Onbets**	**1.25**	**345**	P	**Pn**	**03 33 39.5**	**-0.1**
JOB				*e*S	**Sn**	**03 33 56.1**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.28**	**297**	P	**Pn**	**03 33 40.6**	**+0.6**
JAK	**Akkeshi**	**1.33**	**13**	P	**Pn**	**03 33 40.0**	**-0.7**
JAK				*e*S	**Sn**	**03 33 57.2**	**-0.4**
JAR	**Ashorobuto**	**1.64**	**347**	P	**Pn**	**03 33 44.1**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**2.61**	**26**	P	**Pn**	**03 34 03.0**	**+4.8**
YUK				S	**Sn**	**03 34 34.1**	**+5.1**
YUK				pmax	pmax		
comp=Z,118nm,0.3s							
YUK				pmax	pmax		
comp=N,74nm,0.2s							
YUK				pmax	pmax		
comp=E,18nm,0.3s							
YUK				pmax	pmax		
comp=Z,9μm,0.3s							
ASAJ	**Asahikawa**	**2.72**	**333**	P	**Pn**	**03 34 00.2**	**+0.5**
comp=Z,3.9nm,0.3s,baz=201,slow=8,9,SNR=15							
ASAJ				S	**Sn**	**03 34 37.2**	**+5.5**
comp=Z,17nm,0.3s,baz=240,slow=30,SNR=5.0							
ASAJ				LR	LR	03 35 22.4	
comp=Z,283nm,19.2s,baz=210,slow=46							
ASAJ	**Asahikawa**	**2.72**	**333**	*e*Pn	**Pn**	**03 33 59.5**	**-0.2**
ASAJ				S	**Sn**	**03 34 37.2**	**+5.5**
ASAJ	**Asahikawa**	**2.72**	**333**	P	**Pn**	**03 34 00.2**	**+0.5**
ASAJ				S	**Sn**	**03 34 37.3**	**+5.5**
ASAJ				pmax	pmax		
comp=Z,4.0nm,0.3s							
ASAJ				smax			
comp=N,17nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,283nm,19.2s							
MJAR	**Matsushiro Arr**	**6.99**	**225**	P	**Pn**	**03 34 58.0**	**-0.4**
comp=Z,0.7nm,0.3s,baz=27,slow=14,SNR=12							
MJAR	**Matsushiro Arr**	**6.99**	**225**	P	**Pn**	**03 34 58.0**	**-0.4**
MJAR	**Matsushiro Arr**	**6.99**	**225**	P	**Pn**	**03 34 58.0**	**-0.4**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**6.99**	**225**	*e*Pn	**Pn**	**03 34 58.3**	**0.0**
MAJO	**Matsushiro**	**6.99**	**225**	*e*P	**Pn**	**03 34 58.3**	**-0.1**
KSRS	**Korea Array**	**13.31**	**257**	LR	LR	03 41 39.5	
comp=Z,58nm,18.1s,baz=348,slow=38							
ULN	**Ulaanbaatar**	**26.95**	**296**	*e*P	**P**	**03 38 56.9**	**0.0**
comp=Z,4.1nm,0.9s,mb4.0							
ULN	**Ulaanbaatar**	**26.95**	**296**	*e*P	**P**	**03 38 56.9**	**0.0**
ULN				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.0							
SONM	**Songino Array**	**27.39**	**296**	P	**P**	**03 39 01.5**	**+0.6**
comp=Z,2.1nm,0.8s,mb3.7,baz=89,slow=8.4,SNR=10							
SONM	**Songino Array**	**27.39**	**296**	P	**P**	**03 39 01.5**	**+0.6**
SONM	**Songino Array**	**27.39**	**296**	P	**P**	**03 39 01.5**	**+0.6**
SONM				pmax

KBL	Kabul	57.89	290	*e*P	P	03 43 06.8	-0.7
	comp=Z,2.4nm,0.6s,mb4.4						
KBL	Kabul	57.89	290	*e*P	P	03 43 06.8	-0.7
KBL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
YKA	Yellowknife Ar	58.67	32	P	P	03 43 13.5	+1.0
	comp=Z,0.1nm,0.6s,mb3.0,baz=275,slow=9.8,SNR=3.8						
YKA	Yellowknife Ar	58.67	32	P	P	03 43 13.5	+1.0
YKA	Yellowknife Ar	58.67	32	P	P	03 43 13.5	+1.0
WRA	Warramunga Arr	62.01	191	P	P	03 43 35.3	-0.4
	comp=Z,0.6nm,0.8s,mb3.8,baz=7.9,slow=6.8,SNR=6.2						
WRA	Warramunga Arr	62.01	191	P	P	03 43 35.3	-0.4
WRA	Warramunga Arr	62.01	191	P	P	03 43 35.3	-0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JOF	Joensuu	62.91	332	*e*P	P	03 43 42.0	+0.7
JOF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
JOF	Joensuu	62.91	332	*e*p	P	03 43 42.0	+0.7
	comp=Z,2.0nm,0.8s,mb4.3						
KAF	Kangasniemi	65.19	333	*e*P	P	03 43 56.8	+0.5
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KAF	Kangasniemi	65.19	333	*e*p	P	03 43 56.8	+0.5
	comp=Z,1.8nm,0.6s,mb4.3						
FINES	FINESS Array B	65.73	332	P	P	03 43 59.3	-0.4
	comp=Z,1.9nm,0.6s,mb4.3,baz=53,slow=6.0,SNR=12						
FINES	FINESS Array B	65.73	332	P	P	03 43 59.3	-0.4
FINES	FINESS Array B	65.73	332	P	P	03 43 59.3	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	Alice Springs	65.74	190	P	P	03 44 01.2	+1.0
	comp=Z,0.4nm,0.8s,mb3.5,baz=8.9,slow=6.6,SNR=2.8						
ASAR	Alice Springs	65.74	190	P	P	03 44 01.2	+1.0
ASAR	Alice Springs	65.74	190	P	P	03 44 01.2	+1.0
NB2	NORSAR Subarra	70.73	338	P	P	03 44 34.3	+3.2
	comp=Z,0.7nm,0.5s,mb3.9,baz=36,slow=6.5						
NOA	NORSAR Array B	70.73	338	P	P	03 44 31.2	+0.1
	comp=Z,0.7nm,0.6s,mb3.8,baz=35,slow=6.2,SNR=4.7						
NOA	NORSAR Array B	70.73	338	P	P	03 44 31.2	+0.1
NOA	NORSAR Array B	70.73	338	P	P	03 44 31.2	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	71.96	323	P	P	03 44 37.9	-0.8
	comp=Z,0.4nm,0.5s,mb3.6,baz=40,slow=5.9,SNR=4.8						
AKASG	Malin Array Be	71.96	323	P	P	03 44 37.9	-0.8
AKASG	Malin Array Be	71.96	323	P	P	03 44 37.9	-0.8
CLL	Collm	78.13	331	*i* P	P	03 45 13.9	-0.4
ASF	Jabal al Asfar	80.72	305	LR	LR	04 22 26.2	
	comp=Z,33nm,18.8s,MS3.7,baz=43,slow=36						
EIL	Elat	83.65	304	LR	LR	04 23 13.2	
	comp=Z,32nm,21.3s,MS3.7,baz=73,slow=36						
TXAR	Lajitas Array	85.55	54	P	P	03 45 53.7	-0.1
	comp=Z,0.2nm,0.7s,mb3.5,baz=308,slow=4.5,SNR=4.3						
TXAR	Lajitas Array	85.55	54	P	P	03 45 53.7	-0.1
TXAR	Lajitas Array	85.55	54	P	P	03 45 53.7	-0.1

ATH 12 03:42:57.4, 36°.91N×22°.34E, h17km, MD2.4/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.43	309	*e*PB	Pb	03 43 06.1	-0.4
VLI	Veliai	0.52	112	*e*PN	Pg	03 43 07.5	-0.2
VLI				*e*SN	Sg	03 43 15.3	+0.7
KYTH	Kithira	0.84	138	*e*PN	Pn	03 43 13.5	-0.9

*DDA **12** 03:43:38.9, 36°.97N×28°.24E, h4km, Md2.6*
*ISK **12** 03:43:39.4, 37°.13N×28°.11E, h5km, MD2.4*
*ISCJB **12** 03:43:40.7±0.7, 37°.06N±0°.05×28°.19E±0°.05, h6km±9km, Error ellipse: s-maj=9.1km s-min=5.5km az=145.3*
*CSEM **12** 03:43:40.7±0.3, 37°.07N×28°.20E, h5km, MD2.4, Error ellipse: s-maj=8.5km s-min=5.7km az=145.0*
ISC 12 03:43:41.2±0.7, 37°.06N±0°.05×28°.19E±0°.05, h6km±8km, n17, σ0°.91/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.10	45	PG	Pg	03 43 42.5	-1.0
YER				SG	Sg	03 43 45.5	+0.4
YER	Yerkesik	0.10	45	*i* Pg	Pg	03 43 42.5	-1.0
YER				*i* Sg	Sg	03 43 45.5	+0.4
TURN	Turunc	0.38	120	*i* P	Pg	03 43 42.8	-5.8
TURN				*i* S	Sg	03 43 46.4	-7.2
DAT	Datca	0.59	236	*e*PG	Pg	03 43 52.0	-0.6
DAT				*e*SG	Sg	03 44 01.0	+0.7
DAT	Datca	0.59	236	*e*Pg	Pg	03 43 52.1	-0.5
DAT				*e*Sg	Sg	03 44 01.0	+0.7
AYDN	Tasoluk	0.65	338	*i* P	Pg	03 43 53.4	-0.3
AYDN				*i* S	Sg	03 44 03.1	+1.0
AYDN	Tasoluk	0.65	338	*i* P	Pg	03 43 53.3	-0.4
AYDN				*i* S	Sg	03 44 03.1	+1.0
DNZL	Cakiroluk	0.93	47	*i* P	Pg	03 43 57.3	-1.7
DNZL				*i* S	Sg	03 44 12.4	+1.4
DNZL	Cakiroluk	0.93	47	*i* P	Pg	03 43 57.3	-1.7
DNZL				*i* S	Sg	03 44 12.4	+1.4
DENT	Denizli	0.96	44	*e*PG	Pg	03 43 58.9	-0.8
DENT	Denizli	0.96	44	*e*Pg	Pg	03 43 58.9	-0.8
GLHS	Glhisar (BURDU	1.05	84	*e*PN	Pg	03 44 02.1	+0.8
GLHS	Glhisar (BURDU	1.05	84	*e*Pn	Pg	03 44 02.1	+0.8
ELL	Elmali	1.41	102	*e*PN	Pn	03 44 08.2	+0.8
ELL	Elmali	1.41	102	*e*Pn	Pn	03 44 08.2	+0.8
KULA	Kula-Manisa	1.50	14	*e*PN	Pn	03 44 07.9	-0.7
KULA	Kula-Manisa	1.50	14	*e*Pn	Pn	03 44 07.9	-0.7

*THR **12** 04:00:48.8±0.4, 30°.78N×56°.72E, h14km±4km, ML3.5*
*ISCJB **12** 04:00:49.4±0.5, 30°.91N±0°.04×56°.73E±0°.04, h10km, Error ellipse: s-maj=6.4km s-min=5.1km az=163.7*
*CSEM **12** 04:00:49.1±0.3, 30°.84N×56°.77E, h2km, ML3.5, Error ellipse: s-maj=6.8km s-min=5.8km az=120.0*
*TEH **12** 04:00:50.5, 30°.92N×56°.79E, h2km*
ISC 12 04:00:50.1±0.4, 30°.82N±0°.03×56°.76E±0°.04, h10km, n55, σ1°.12/65, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.83	180	*e*Pg	Pg	04 01 04.0	-2.3
KRBR				*e*Sg	Sg	04 01 15.3	-1.8
KRBR				AML	AML	04 01 15.9	
	comp=E,1μm,0.3s						
KRBR				AML	AML	04 01 16.2	
	comp=N,1μm,0.2s						
KRBR	Kerman	0.83	180	*e*Pg	Pg	04 01 04.0	-2.2
KRBR				*e*Sg	Sg	04 01 15.3	-1.8
IBAF	Bafgh	1.28	307	*e*Pg	Pg	04 01 11.3	-3.4
IBAF				*e*		04 01 14.4	
	comp=Z,16μm,0.1s						
IBAF				*e*Sg	Sg	04 01 28.3	-3.1
IBAF	Bafgh	1.28	307	*e*Pg	Pg	04 01 11.3	-3.4
IBAF				*e*Sg	Sg	04 01 28.3	-3.1
IMEH	Mehriz	1.93	288	*e*Pn	Pn	04 01 22.5	-0.5
IMEH				*e*		04 01 25.0	
	comp=Z,15μm,0.1s						
IMEH	Mehriz	1.93	288	*e*Pn	Pn	04 01 22.5	-0.5
ICHK	Chekchek	2.46	306	*e*Pn	Pn	04 01 30.8	+0.5
ICHK				*e*		04 02 11.7	
	comp=Z,4μm,0.2s						
ICHK	Chekchek	2.46	306	*e*Pn	Pn	04 01 30.8	+0.5
IKOO	Kooshah	2.49	50	*e*Pn	Pn	04 01 31.0	+0.2
IKOO				*e*		04 02 14.7	
	comp=Z,4μm,0.2s						
IKOO	Kooshah	2.49	50	*e*Pn	Pn	04 01 31.0	+0.2
ITEG	Tejag	2.67	39	*e*Pn	Pn	04 01 32.6	-0.6
ITEG				*e*		04 02 23.8	
	comp=Z,4μm,0.2s						
ITEG	Tejag	2.67	39	*e*Pn	Pn	04 01 32.6	-0.6
TABS	Tabas	2.84	6	*e*Pn	Pn	04 01 36.2	+0.7
TABS				AML	AML	04 02 30.1	
	comp=N,293nm,0.5s						
TABS	Tabas	2.84	6	*e*Pn	Pn	04 01 36.2	+0.7
ISAD	Sadrabad	2.85	293	*e*Pn	Pn	04 01 37.1	+1.4
ISAD				*e*		04 02 26.4	
	comp=Z,3μm,0.1s						
ISAD	Sadrabad	2.85	293	*e*Pn	Pn	04 01 37.1	+1.4
IDAH	Dahanechah	3.26	53	*e*Pn	Pn	04 01 41.6	+0.2
IDAH				*e*		04 02 42.0	
	comp=Z,955nm,0.3s						
IDAH	Dahanechah	3.26	53	*e*Pn	Pn	04 01 41.6	+0.2
IPAR	Pars	3.36	254	*e*Pn	Pn	04 01 44.4	+1.8
IPAR				*e*Sg	Sg	04 02 37.2	-0.8
IPAR				*e*		04 02 40.8	
	comp=Z,971nm,0.4s						
IPAR	Pars	3.36	254	*e*Pn	Pn	04 01 44.4	+1.8
IPAR				*e*Sg	Sg	04 02 37.2	-0.8
IBND	Bandar-abas	3.37	183	*e*Pn	Pn	04 01 44.4	+1.6
IBND	Bandar-abas	3.37	183	*e*Pn	Pn	04 01 44.4	+1.6
IMON	Monand	3.42	45	*e*Pn	Pn	04 01 43.5	0.0
IMON				*e*		04 01 57.8	
	comp=Z,1μm,0.2s						
IMON	Monand	3.42	45	*e*Pn	Pn	04 01 43.5	0.0
BNDS	Bandar-Abbas	3.45	189	*e*Pn	Pn	04 01 43.6	-0.2
BNDS				AML	AML	04 02 58.5	
	comp=N,86nm,0.6s						
BNDS	Bandar-Abbas	3.45	189	*e*Pn	Pn	04 01 43.7	-0.2
ISRV	Sarvestan	3.47	247	*e*Pn	Pn	04 01 45.8	+1.6
ISRV				*e*		04 01 58.1	
	comp=Z,657nm,0.3s						
ISRV	Sarvestan	3.47	247	*e*Pn	Pn	04 01 45.8	+1.6
NASN	Na'in	3.90	301	*e*Pn	Pn	04 01 50.6	+0.5
NASN				*e*Sg	Sg	04 02 50.0	-5.5
NASN				AML	AML	04 02 54.1	
	comp=N,52nm,0.6s						
NASN	Na'in	3.90	301	*e*Pn	Pn	04 01 50.6	+0.5
NASN				*e*Sg	Sg	04 02 50.0	-5.5
IZEF	Zefreh	4.30	300	*e*Pn	Pn	04 01 55.9	+0.3
IZEF				*e*		04 03 06.6	
	comp=Z,435nm,0.3s						
IZEF	Zefreh	4.30	300	*e*Pn	Pn	04 01 55.9	+0.3
IKLH	Kolahrood	5.06	301	*e*Pn	Pn	04 02 06.3	+0.3
IKLH				*e*		04 03 37.6	
	comp=Z,466nm,0.3s						
IKLH	Kolahrood	5.06	301	*e*Pn	Pn	04 02 06.3	+0.3
ISFB	Sefidab	5.19	314	*e*Pn	Pn	04 02 08.2	+0.3
ISFB				*e*Sg	Sg	04 03 31.2	-5.7
ISFB				*e*		04 03 40.4	
	comp=Z,306nm,0.4s						
ISFB	Sefidab	5.19	314	*e*Pn	Pn	04 02 08.2	+0.3
ISFB				*e*Sg	Sg	04 03 31.2	-5.7
IANJ	Anjilo	5.21	333	*e*Pn	Pn	04 02 07.7	-0.5
IANJ				*e*		04 03 58.3	
	comp=Z,246nm,0.3s						
IANJ	Anjilo	5.21	333	*e*Pn	Pn	04 02 07.7	-0.5
IPIR	Pirpir	5.33	292	*e*Pn	Pn	04 02 11.4	+1.6
IPIR	Pirpir	5.33	292	*e*Pn	Pn	04 02 11.4	+1.6
ISHM	Shahmirzad	5.76	331	*e*Pn	Pn	04 02 15.4	-0.3
ISHM				*e*		04 04 14.7	
	comp=Z,414nm,0.3s						
ISHM	Shahmirzad	5.76	331	*e*Pn	Pn	04 02 15.4	-0.3
IPAY	Payeh	5.92	18	*e*Pn	Pn	04 02 17.8	0.0
IPAY				*e*		04 04 00.6	
	comp=Z,211nm,0.3s						
IPAY	Payeh	5.92	18	*e*Pn	Pn	04 02 17.8	0.0
IKIA	Kiasar	5.96	335	*e*Pn	Pn	04 02 18.2	-0.2
IKIA				*e*		04 04 27.2	
	comp=Z,371nm,0.5s						
IKIA	Kiasar	5.96	335	*e*Pn	Pn	04 02 18.2	-0.2
IKRD	Kardeh	6.12	13	*e*Pn	Pn	04 02 23.1	+2.5
IKRD				*e*		04 04 43.8	
	comp=Z,128nm,0.3s						
IKRD	Kardeh	6.12	13	*e*Pn	Pn	04 02 23.1	+2.5
IMYA	Miami	6.17	26	*e*Pn	Pn	04 02 20.7	-0.6
IMYA	Miami	6.17	26	*e*Pn	Pn	04 02 20.7	-0.6
IDMV	Damavand	6.18	321	*e*Pn	Pn	04 02 21.1	-0.4
IDMV				*e*		04 04 28.8	
	comp=Z,537nm,0.5s						
IDMV	Damavand	6.18	321	*e*Pn	Pn	04 02 21.1	-0.4
ISFR	Sfrayin	6.30	9	*e*Pn	Pn	04 02 21.3	-1.8
IEMG	Emamgholi	6.76	13	*e*Pn	Pn	04 02 28.6	-0.8
IEMG				*e*		04 02 59.3	
	comp=Z,73nm,0.2s						
IEMG	Emamgholi	6.76	13	*e*Pn	Pn	04 02 28.6	-0.8

*ISCJB **12** 04:12:45.8±1.8, 34°.17N±0°.04×26°.24E±0°.04, h16km±16km, mb4.0/22, Error ellipse: s-maj=8.2km s-min=4.7km az=37.3*
*IDC **12** 04:12:46.0±0.9, 34°.21N×26°.10E, h0km, mb4.0/12, mb1 4.0/17, mb1mx3.9/29, mbtmp3.9/17, ML3.7/5, Error ellipse: s-maj=20.2km s-min=15.5km az=160.0*
*CSEM **12** 04:12:47.1±0.1, 34°.20N×26°.19E, h10km, mb4.1/11, Error ellipse: s-maj=5.7km s-min=2.7km az=49.0*
*NEIC **12** 04:12:52.2±1.2, 34°.27N×26°.11E, h46km±10km, mb4.1/8, Error ellipse: s-maj=10.5km s-min=6.7km az=167.0*
*HLW **12** 04:12:53.6, 34°.07N×26°.31E, h35km±19km, Md4.0, Ml3.5*
ISC 12 04:12:48.5±2.3, 34°.18N±0°.04×26°.20E±0°.04, h20km±16km, n156, σ0°.85/163, mb4.0/22, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	Anoyia	1.54	316	*e*Pn	Pn	04 13 18.3	+3.4
GVD	Gavdhos	1.86	291	*e*Pn	Pn	04 13 20.4	+1.1
GVD	Gavdhos	1.86	291	*e*Pn	Pn	04 13 20.4	+1.1
HBRG	Burj al 'Arab	4.73	138	P	Pn	04 13 59.4	+0.7
	baz=138						
HBRG				AMP		04 15 00.0	
	comp=E,120μm,0.8s,logA/T=5.2,baz=138						
SWA2		4.96	188	P	Pn	04 14 02.9	+1.0
	baz=189						
SWA2		4.96	188	P	Pn	04 14 02.9	+1.0
HNAT	Natroun	5.89	139	P	Pn	04 14 14.7	+0.1
	baz=139						
HNAT	Natroun	5.89	139	P	Pn	04 14 14.7	+0.1
AYT	Al 'Ayyat	6.13	135	P	Pn	04 14 18.2	+0.2
	baz=135						
AYT	Al 'Ayyat	6.13	135	P	Pn	04 14 18.2	+0.2
AWBH		6.28	158	P	Pn	04 14 20.3	+0.2
	baz=158						
AWBH		6.28	158	P	Pn	04 14 20.3	+0.3
KOT	Kottamia	6.39	130	P	Pn	04 14 21.4	-0.1
	baz=129						
KOT	Kottamia	6.39	130	P	Pn	04 14 21.4	-0.1
HSAF	As Saff	6.43	134	P	Pn	04 14 22.5	+0.4
	baz=133						
HSAF	As Saff	6.43	134	P	Pn	04 14 22.5	+0.4
GLL	Jalalah	6.56	133	P	Pn	04 14 23.4	-0.4
	baz=132						
GLL				S	Sn	04 15 32.2	-5.8
	baz=132						
GLL	Jalalah	6.56	133	P	Pn	04 14 23.4	-0.4
AMAG	Maghara	6.89	119	P	Pn	04 14 28.7	+0.3
	baz=118						
AMAG				S	Sn	04 15 41.0	-5.3
	baz=118						
AMAG	Maghara	6.89	119	P	Pn	04 14 28.7	+0.3
SUZ		7.10	126	P	Pn	04 14 31.4	+0.2
	baz=125						
SUZ		7.10	126	P	Pn	04 14 31.4	+0.1
HFRF	Wahat Farafira	7.24	165	P	Pn	04 14 32.9	-0.4
	baz=165						
HFRF	Wahat Farafira	7.24	165	P	Pn	04 14 32.9	-0.3
MMAI	Mount Meron Ar	7.76	96	Pn	Pn	04 14 39.4	-1.0
	comp=E,1.1nm,0.3s,baz=280,slow=10,SNR=5.5						
MMAI				Sn	Sn	04 16 05.7	-2.0
	comp=E,1.2nm,0.3s,baz=280,slow=30,SNR=3.1						
MMAI	Mount Meron Ar	7.76	96	Pn	Pn	04 14 39.4	-1.0
MMAI				Sn	Sn	04 16 05.7	-2.0
MMAI	Mount Meron Ar	7.76	96	Pn	Pn	04 14 39.4	-1.0
HNKL	Nakhl	7.84	121	P	Pn	04 14 41.4	0.0
	baz=120						
HNKL	Nakhl	7.84	121	P	Pn	04 14 41.4	-0.1
BRTR	Keskin Array B	8.12	45	Pn	Pn	04 14 45.8	+0.5
	comp=E,0.0nm,0.3s,baz=217,slow=15,SNR=3.6						
BRTR	Keskin Array B	8.12	45	Pn	Pn	04 14 45.8	+0.5
BRTR	Keskin Array B	8.12	45	Pn	Pn	04 14 45.8	+0.5
EIL	Elat	8.69	119	Pn	Pn	04 14 53.5	+0.4
	comp=E,0.7nm,0.3s,baz=329,slow=5.1,SNR=13						
EIL				Sn	Sn	04 16 30.6	+0.1
	comp=E,0.5nm,0.3s,baz=189,slow=22,SNR=4.6						
EIL	Elat	8.69	119	Pn	Pn	04 14 53.5	+0.4
EIL				Sn	Sn	04 16 30.6	+0.1
EIL	Elat	8.69	119	Pn	Pn	04 14 53.5	+0.4
EIL				Sn	Sn	04 16 30.6	+0.2
HKAT	Jabal Katrina	8.73	128	P	Pn	04 14 52.9	-0.7
	baz=128						
HKAT	Jabal Katrina	8.73	128	P	Pn	04 14 52.9	-0.7
HDK1	Dakhla	9.05	161	P	Pn	04 14 58.1	+0.1
	baz=161						
HDK1	Dakhla	9.05	161	P	Pn	04 14 58.1	+0.1
AKRG	Al Kharijah	9.42	156	P	Pn	04 15 02.1	-1.0
	baz=155						
GTR	Jabal at Tayr	9.43	155	P	Pn	04 15 02.5	-0.7
	baz=155						
GTR	Jabal at Tayr	9.43	155	P	Pn	04 15 02.5	-0.8

HDK2	Wahat Dakhilah	10.12	166	P	Pn	04 15 11.8	-0.9
	baz=166						
HDK2	Wahat Dakhilah	10.12	166	P	Pn	04 15 11.8	-0.8
AKASG	Malin Array Be	16.66	7	Pn	Pn	04 16 41.6	+1.0
	comp=E,0.6nm,0.3s,baz=197,slow=11,SNR=4.2						
AKASG	Malin Array Be	16.66	7	Pn	Pn	04 16 41.6	+1.0
AKASG	Malin Array Be	16.66	7	Pn	Pn	04 16 41.6	+1.0
MORC	Moravsky Berou	16.84	340	*e*Pn	Pn	04 16 41.7	-1.2
	comp=E,1.7nm,0.7s						
MORC	Moravsky Berou	16.84	340	*e*Pn	Pn	04 16 41.7	-1.2
	comp=E,1.7nm,0.7s						
GERES	GERESS Array B	17.35	331	Pn	Pn	04 16 50.1	+0.7
	comp=E,0.1nm,0.3s,baz=140,slow=10,SNR=4.7						
GERES	GERESS Array B	17.35	331	Pn	Pn	04 16 50.0	+0.7
GERES	GERESS Array B	17.35	331	Pn	Pn	04 16 50.0	+0.7
SBF	Sospel	17.46	309	*e*P	Pn	04 16 48.3	-2.4
	comp=E,146nm,1.4s						
SBF	Sospel	17.46	309	*e*P	Pn	04 16 48.3	-2.4
	comp=E,146nm,1.4s						
DAVOX	Davos/Dischmat	17.63	320	P	Pn	04 16 53.4	+0.6
	comp=E,0.2nm,0.3s,baz=139,slow=16,SNR=4.5						
DAVOX	Davos/Dischmat	17.63	320	P	Pn	04 16 53.4	+0.6
DAVOX	Davos/Dischmat	17.63	320	P	Pn	04 16 53.4	+0.5
CABF	La Chapelle	19.65	315	*e*P	Pn	04 17 14.6	-2.7
CABF	La Chapelle	19.65	315	*e*P	Pn	04 17 14.6	-2.7
CABF	La Chapelle	19.65	315	*e*P	Pn	04 17 14.6	-2.7
HINF	Hinteralfeld	19.90	319	*e*P	Pn	04 17 19.2	-1.0
HINF	Hinteralfeld	19.90	319	*e*P	Pn	04 17 19.2	-1.0
HINF	Hinteralfeld	19.90	319	*e*P	Pn	04 17 19.2	-1.0
CDF	Champ du Feu	20.03	321	*e*P	P	04 17 20.4	+0.4
	comp=E,14nm,0.7s						
CDF	Champ du Feu	20.03	321	*e*P	P	04 17 20.4	+0.4
	comp=E,14nm,0.7s						
CDF	Champ du Feu	20.03	321	*e*P	P	04 17 20.4	+0.4
	comp=E,6.8nm,0.7s						
HAU	Haudompre	20.28	319	*e*P	P	04 17 23.1	+0.4
	comp=E,6.4nm,0.6s						
HAU	Haudompre	20.28	319	*e*P	P	04 17 23.1	+0.4
	comp=E,6.4nm,0.6s						
HAU	Haudompre	20.28	319	*e*P	P	04 17 23.1	+0.4
	comp=E,3.2nm,0.6s						
SMF	Signal de Mont	21.01	313	*e*P	P	04 17 31.3	+0.7
SMF	Signal de Mont	21.01	313	*e*P	P	04 17 31.3	+0.7
SMF	Signal de Mont	21.01	313	*e*P	P	04 17 31.3	+0.7
SFTF	Sexfontaines	21.12	318	*e*P	P	04 17 31.5	-0.3
	comp=E,23nm,0.9s,mb4.2						
SFTF	Sexfontaines	21.12	318	*e*P	P	04 17 31.5	-0.3
	comp=E,23nm,0.9s,mb4.5						
SFTF	Sexfontaines	21.12	318	*e*P	P	04 17 31.5	-0.3
	comp=E,11nm,0.9s,mb4.2						
LOR	Lormes	21.30	315	*e*P	P	04 17 34.7	+0.9
	comp=E,5.9nm,0.7s,mb3.7						
LOR	Lormes	21.30	315	*e*P	P	04 17 34.7	+0.9
	comp=E,5.9nm,0.7s,mb4.0						
LOR	Lormes	21.30	315	*e*P	P	04 17 34.7	+0.9
	comp=E,3.0nm,0.7s,mb3.7						
AVF	Avril sur Loir	21.37	313	*e*P	P	04 17 34.7	+0.2
AVF	Avril sur Loir	21.37	313	*e*P	P	04 17 34.7	+0.2
AVF	Avril sur Loir	21.37	313	*e*P	P	04 17 34.7	+0.2
TAM	Tamanrasset	21.38	243	*e*P	P	04 17 36.6	+1.7
	comp=E,5.6nm,0.9s,mb3.9						
TAM	Tamanrasset	21.38	243	*e*P	P	04 17 36.6	+1.7
	comp=E,5.6nm,0.9s,mb3.9						
WLF	Walferdange	21.39	322	*e*P	P	04 17 34.1	-0.6
	comp=E,6.8nm,0.8s,mb4.0						
WLF	Walferdange	21.39	322	*e*P	P	04 17 34.2	-0.5
	comp=E,6.8nm,0.8s,mb4.0						
CAF	Calviac	21.41	307	*e*P	P	04 17 35.0	+0.1
	comp=E,6.5nm,0.7s,mb3.8						
CAF	Calviac	21.41	307	*e*P	P	04 17 35.0	+0.1
	comp=E,6.5nm,0.7s,mb4.1						
CAF	Calviac	21.41	307	*e*P	P	04 17 35.0	+0.1
	comp=E,3.2nm,0.7s,mb3.8						
SSF	Saint Saulge	21.41	314	*e*P	P	04 17 35.1	+0.2
	comp=E,7.4nm,0.8s,mb3.8						
SSF	Saint Saulge	21.41	314	*e*P	P	04 17 35.1	+0.2
	comp=E,7.4nm,0.8s,mb4.1						
SSF	Saint Saulge	21.41	314	*e*P	P	04 17 35.1	+0.2
	comp=E,3.7nm,0.8s,mb3.8						
BGF	Bois d'Agland	21.57	312	*e*P	P	04 17 36.8	+0.1
	comp=E,20nm,0.7s,mb4.3						
BGF	Bois d'Agland	21.57	312	*e*P	P	04 17 36.8	+0.1
	comp=E,20nm,0.7s,mb4.7						
BGF	Bois d'Agland	21.57	312	*e*P	P	04 17 36.8	+0.1
	comp=E,9.9nm,0.7s,mb4.3						
RJF	Les Rejaudoux	21.91	308	*e*P	P	04 17 40.0	-0.3
RJF	Les Rejaudoux	21.91	308	*e*P	P	04 17 40.0	-0.3
RJF	Les Rejaudoux	21.91	308	*e*P	P	04 17 40.0	-0.3
LFF	La Frestale	22.29	306	*e*P	P	04 17 43.9	-0.5
LFF	La Frestale	22.29	306	*e*P	P	04 17 43.9	-0.5
LFF	La Frestale	22.29	306	*e*P	P	04 17 43.9	-0.5
GIVF	Givet	22.34	322	*e*P	P	04 17 44.6	-0.2
GIVF	Givet	22.34	322	*e*P	P	04 17 44.6	-0.2
GIVF	Givet

FRB	Frobisher Bay	61.94	330	P	P	04 23 06.7	+0.2
YKA	Yellowknife Ar	78.64	343	P	P	04 24 49.1	+0.5
	comp=E,0.2nm,0.5s,mb3.3,baz=36,slow=5.9,SNR=3.7						
YKA	Yellowknife Ar	78.64	343	P	P	04 24 49.1	+0.5
YKA	Yellowknife Ar	78.64	343	P	P	04 24 49.1	+0.5

*ISCJB **12** 04:40:14.7±1.5,42.°19N±0.°09×126.°7W±0.°2,h10km, mb3.2/2,Error ellipse: s-maj=18.2km s-min=10.1km az=149.2*
*IDC **12** 04:40:15.5±3.9,42.°21N×126.°42W,h0km,mb3.2/2, mb1 3.6/3,mb1mx3.4/24,mbtmp3.2/3,ML3.2/1,MS3.0/2, Ms1 3.0/2,ms1mx2.6/16,Error ellipse: s-maj=100.2km s-min=19.8km az=50.0*
*NEIC **12** 04:40:16.8±1.2,42.°19N×126.°69W,h10km,mb3.7/3,Error ellipse: s-maj=14.7km s-min=7.8km az=60.0*

ISC 12 04:40:16.4±1.6,42.°15N±0.°09×126.°7W±0.°2,h10km,n31, σ0°80/30,mb3.2/2,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	Bosley Butte	1.86	87	*e*Pn	Pn	04 40 48.4	+0.1
KEBM	Edson Butte	1.92	67	*e*Pn	Pn	04 40 47.5	-1.5
HUMO	Hull Mountain	2.83	80	*e*Pn	Pn	04 41 01.6	-0.1
YBH	Yreka Blue Hor	3.03	97	*e*Pn	Pn	04 41 06.1	+1.8
COR	Corvallis	3.49	45	*e*Pn	Pn	04 41 08.8	-1.8
HOOD	Mount Hood Mea	4.86	48	*e*Pn	Pn	04 41 29.3	-0.1
LON	Longmire	5.79	36	*e*Pn	Pn	04 41 41.9	-0.4
	11nm,0.8s						
WVOR	Wild Horse Val	6.01	85	*e*Pn	Pn	04 41 45.4	+0.1
ETW	Entiat	7.10	38	*e*Pn	Pn	04 42 00.5	+0.3
	8.0nm,0.8s						
LNOR	Lincton Mounta	7.13	56	*e*Pn	Pn	04 41 59.9	-0.8
	4.0nm,0.7s						
BMO	Blue Mountains	7.37	65	*e*Pn	Pn	04 42 04.1	+0.2
	2.9nm,0.5s						
NVAR	Mina Array Bea	7.44	117	Pn	Pn	04 42 04.3	-0.6
	0.4nm,0.3s,baz=295,slow=13,SNR=8.9						
NVAR				LR	LR	04 45 12.1	
	comp=Z,83nm,21.8s,baz=353,slow=40						
NVAR	Mina Array Bea	7.44	117	Pn	Pn	04 42 04.3	-0.6
NEW	Newport	9.13	45	*e*Pn	Pn	04 42 27.8	-0.2
HLID	Hailey	9.16	77	*e*Pn	Pn	04 42 30.1	+1.7
BSMT	Bassoo Peak	10.20	52	*e*Pn	Pn	04 42 42.9	+0.2
	5.3nm,1.2s						
MSO	Missoula	10.26	59	*e*Pn	Pn	04 42 43.7	+0.1
	5.4nm,1.2s						
DUG	Dugway	10.68	96	*e*Pn	Pn	04 42 49.5	+0.2
QLMT	Earthquake Lak	11.44	71	*e*Pn	Pn	04 42 59.9	+0.2
	1.4nm,0.3s						
BOZ	Bozeman (W)	11.44	67	*e*Pn	Pn	04 43 00.9	+1.2
	1.8nm,0.7s						
MOOW	Moose Ponds	11.83	77	*e*Pn	Pn	04 43 05.1	+0.1
RSSD	Black Hills	16.68	76	*e*Pn	Pn	04 44 10.6	+0.6
SDCO	Great Sand Dun	16.86	98	*e*Pn	Pn	04 44 11.6	-0.8
ANMO	Albuquerque	17.39	108	LR	LR	04 51 10.8	
	comp=Z,63nm,20.1s,baz=120,slow=38						
MNTX	Cornudas Mount	19.96	115	*e*P	Pn	04 44 49.4	-0.9
	2.0nm,1.1s						
FFC	Flin Flon	20.55	44	*e*P	P	04 44 55.5	+0.7
	3.0nm,0.7s						
CBKS	Cedar Bluff	20.77	90	*e*P	P	04 44 56.5	-0.8
	2.7nm,0.4s						
YKA	Yellowknife Ar	21.61	15	P	P	04 45 05.7	-0.4
	1.2nm,0.8s,mb3.4,baz=206,slow=11,SNR=6.6						
YKA	Yellowknife Ar	21.61	15	P	P	04 45 05.7	-0.4
ILAR	Eielson Array	25.41	340	P	P	04 45 44.5	+0.9
	0.4nm,0.8s,mb3.0,baz=157,slow=8.7,SNR=5.7						
ILAR	Eielson Array	25.41	340	P	P	04 45 44.5	+0.9

IDC 12 04:49:08.7±8.1,6.°41S×148.°91E,h49km±66km,mb2.7/1, mb1 3.4/3,mb1mx3.2/15,mbtmp3.2/3,ML2.6/1,Error ellipse: s-maj=129.2km s-min=58.5km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.45	210	P	Pn	04 49 60.0	0.0
	4.4nm,0.3s,baz=32,slow=9.5,SNR=8.3						
PMG				S	Sn	04 50 40.2	+0.7
	8.4nm,0.3s,baz=69,slow=8.9,SNR=11						
WRA	Warramunga Arr	19.53	225	P	Pn	04 53 32.3	-1.6
	0.1nm,0.3s,baz=51,slow=11,SNR=9.7						
ASAR	Alice Springs	22.42	219	P	P	04 54 03.5	+0.1
	0.4nm,0.6s,baz=49,slow=9.9,SNR=4.4						
TORD	Torodi Ar. Bea	147.03	284	PKPbc	PKPbc	05 08 46.4	-0.8
	0.1nm,0.5s,baz=62,slow=3.2,SNR=3.6						

KRSC 12 04:58:10.8±0.4,52.°64N×157.°87E,h162km±28km,ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.44	118	*e*P	Pn	04 58 33.6	+0.4
RUS				*e*S	Sn	04 58 50.7	+0.4
PET	Petropavlovsk	0.61	51	*e*P	Pn	04 58 35.4	+1.4
PET				*e*S	Sn	04 58 53.5	+1.7
MIPR	Malaya Ipel'ka	0.77	242	*e*P	Pn	04 58 34.5	-0.5
MIPR				*e*S	Sn	04 58 52.0	-1.5
KOK	Koryaka	0.80	35	*e*P	Pn	04 58 37.2	+2.0
KOK				*e*S	Sn	04 58 57.0	+3.1
AVH	Avacha	0.82	40	*e*P	Pn	04 58 37.3	+2.0
SDLR	Sedlovina	0.89	43	*e*P	Pn	04 58 37.5	+1.7
SDLR				*e*S	Sn	04 58 57.2	+2.3
NLC	Nalytchevo	1.04	59	*e*P	Pn	04 58 38.1	+1.1
NLC				*e*S	Sn	04 58 57.9	+0.9
SPN	Mys Shipunski	1.38	70	*e*P	Pn	04 58 41.5	+1.5
SPN				*e*S	Sn	04 59 03.3	+0.8
MKZ	Mys Kozlova	3.00	49	*e*P	Pn	04 59 00.3	+1.8
MKZ				*e*S	Sn	04 59 36.1	+0.6
KBTR	Krutoberegovo	4.60	37	*e*P	Pn	04 59 21.0	+2.0
KBTR				*e*S	Sn	05 00 11.7	-0.5
BKI	Bering	5.43	59	*e*S	Sn	05 00 30.8	-1.1

*ISCJB **12** 05:12:40.0±0.8,40.°58N±0.°04×32.°72E±0.°05,h4km±8km, Error ellipse: s-maj=6.8km s-min=5.9km az=4.4*
*ISK **12** 05:12:40.0,40.°57N×32.°74E,h8km,MD2.9*
*CSEM **12** 05:12:40.5±0.1,40.°59N×32.°73E,h8km,MD2.9,Error ellipse: s-maj=3.4km s-min=2.8km az=150.0*
*DDA **12** 05:12:41.4,40.°65N×32.°85E,h7km±3km,Md2.9*

ISC 12 05:12:40.5±0.7,40.°59N±0.°04×32.°72E±0.°05,h6km±6km, n43,σ0°49/49,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	Eldivan	0.55	100	*i* P	Pg	05 12 50.7	-0.4
ELDT				*i* S	Sg	05 12 58.0	-0.3
ELDT	Eldivan	0.55	100	*i* P	Pg	05 12 50.7	-0.4
ELDT				*i* S	Sg	05 12 58.0	-0.3
SAFT	Safranbolu	0.65	358	*e*PG	Pg	05 12 53.4	+0.3
SAFT	Safranbolu	0.65	358	*e*Pg	Pg	05 12 53.4	+0.3
CANT	Cankiri	0.69	88	*e*PG	Pg	05 12 53.5	-0.2
CANT				*e*SG	Sg	05 13 03.0	+0.3
LOD	Lodumlu	0.70	177	*e*PG	Pg	05 12 53.6	-0.4
LOD	Lodumlu	0.70	177	*e*Pg	Pg	05 12 53.6	-0.4
BALT	Daday	1.07	28	*i* P	Pg	05 13 00.6	-0.5
BALT	Daday	1.07	28	*i* P	Pg	05 13 00.6	-0.5
TOS	Tosya	1.09	65	*e*PN	Pg	05 13 01.0	-0.4
TOS	Tosya	1.09	65	*e*Pn	Pg	05 13 01.0	-0.4
BBAL	Bala	1.09	163	*i* P	Pg	05 13 02.3	+0.8
BBAL				*i* S	Sg	05 13 19.3	+3.8
BBAL	Bala	1.09	163	*i* P	Pg	05 13 02.3	+0.9
MDUB	Mudurnu	1.17	265	*e*PN	Pn	05 13 03.0	-0.3
MDUB	Mudurnu	1.17	265	*e*Pn	Pn	05 13 03.0	-0.3
AFSR	Af¨ar-Bala (A	1.17	167	*e*PN	Pn	05 13 02.7	-0.7
AFSR				*e*SN	Sn	05 13 18.9	-0.7
AFSR	Af¨ar-Bala (A	1.17	167	*e*Pn	Pn	05 13 02.7	-0.7
AFSR				*e*Sn	Sn	05 13 18.9	-0.7
KDZE	Karadeniz Ereo	1.21	307	*e*PN	Pn	05 13 03.8	-0.1
KDZE	Karadeniz Ereo	1.21	307	*e*Pn	Pn	05 13 03.8	-0.1
SVRH	Sivrihisar-ESK	1.46	219	*e*PN	Pn	05 13 07.2	-0.2
SVRH	Sivrihisar-ESK	1.46	219	*e*Pn	Pn	05 13 07.2	-0.2
CORM	Corum	1.52	105	*e*PN	Pn	05 13 07.8	-0.4
CORM	Corum	1.52	105	*e*Pn	Pn	05 13 07.8	-0.3
CTKT	Corum	1.58	88	*e*P	Pn	05 13 08.7	-0.3
CTKT	Corum	1.58	88	*e*P	Pn	05 13 08.7	-0.3
GULT	Gulveren	1.69	265	*e*PN	Pn	05 13 10.7	+0.2
GULT	Gulveren	1.69	265	*e*Pn	Pn	05 13 10.7	+0.2
KIZT	Kizilcal	1.82	201	*e*PN	Pn	05 13 12.0	-0.3
KIZT	Kizilcal	1.82	201	*e*Pn	Pn	05 13 12.0	-0.4
DIKM	Dikmen	2.19	60	*e*PN	Pn	05 13 18.1	+0.7
DIKM	Dikmen	2.19	60	*e*Pn	Pn	05 13 18.1	+0.7
YOZ	Yozgat	2.21	115	*e*PN	Pn	05 13 18.1	+0.5
YOZ	Yozgat	2.21	115	*e*Pn	Pn	05 13 18.1	+0.4
LADK	Ladik-KONYA	2.40	187	*e*PN	Pn	05 13 20.5	+0.2
LADK	Ladik-KONYA	2.40	187	*e*Pn	Pn	05 13 20.5	+0.2
ALT	Altintas	2.52	234	*e*PN	Pn	05 13 22.4	+0.4
ALT	Altintas	2.52	234	*e*Pn	Pn	05 13 22.4	+0.4
KVT	Kavak	2.57	78	*e*PN	Pn	05 13 23.2	+0.5
KVT	Kavak	2.57	78	*e*Pn	Pn	05 13 23.2	+0.5
KONT	Konya--Tatoy	2.65	186	*e*PN	Pn	05 13 24.0	+0.2
KONT	Konya--Tatoy	2.65	186	*e*Pn	Pn	05 13 24.0	+0.2
BNN	Bunyan	2.97	125	*e*PN	Pn	05 13 28.8	+0.6
BNN	Bunyan	2.97	125	*e*Pn	Pn	05 13 28.8	+0.7

*ISCJB **12** 05:21:06.4±0.2,42.°33N±0.°03×141.°16E±0.°04, h130km±2km,mb4.0/28,Error ellipse: s-maj=6.5km s-min=4.1km az=142.1*
*MOS **12** 05:21:06.6±1.0,42.°34N×141.°08E,h133km,mb4.1/11, Error ellipse: s-maj=12.9km s-min=10.2km az=79.8*
*JMA **12** 05:21:07.7±0.1,42.°36N×141.°15E,h123km±1km,M3.3*
*IDC **12** 05:21:07.3±1.2,42.°37N×141.°09E,h123km±10km, mb3.6/18,mb1 3.7/21,mb1mx3.6/28,mbtmp3.5/21,Error ellipse: s-maj=14.5km s-min=11.4km az=133.0*
*NEIC **12** 05:21:07.8,42.°36N×141.°15E,h123km,mb4.7/13,After JMA.*

ISC 12 05:21:07.5±0.2,42.°33N±0.°03×141.°16E±0.°04,h124km±2km, n117,σ0°66/133,mb4.1/28,2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	Noboribetsu	0.17	327	P	Pn	05 21 24.3	-0.3
JNB				*e*S	Sn	05 21 36.9	-0.5
JKB	Kayabe	0.45	192	P	Pn	05 21 25.8	+0.1
JKB				*e*S	Sn	05 21 39.1	-0.2
JEW	Eniwo	0.55	23	P	Pn	05 21 26.4	+0.2
JEW				*e*S	Sn	05 21 40.5	+0.1
JYM2	Yakumo 2	0.62	250	P	Pn	05 21 26.9	+0.2
JYM2				*e*S	Sn	05 21 41.2	0.0
JSH	Shimam	0.88	291	P	Pn	05 21 28.8	0.0
JOT	Ohata	0.95	185	P	Pn	05 21 29.9	+0.4
JOT				*e*S	Sn	05 21 47.1	+1.1
JSR	Shiriuchi	0.97	215	P	Pn	05 21 30.0	+0.3
JBT2	Biratori 2	1.00	63	P	Pn	05 21 29.9	+0.1
JSK	Shakotan	1.14	334	P	Pn	05 21 31.2	-0.1
JNBK	Urakawa-nobuka	1.18	92	P	Pn	05 21 31.9	+0.2
JOSM	Okushiri--Mats	1.28	259	P	Pn	05 21 32.7	0.0
JOSM				*e*S	Sn	05 21 51.8	0.0
JFR	Furan	1.34	51	P	Pn	05 21 33.2	-0.2
JHR	Hokuryu	1.47	16	P	Pn	05 21 35.6	+0.7
JHR				*e*S	Sn	05 21 57.0	+1.3
ERM	Erimo	1.52	101	*e*Pn	Pn	05 21 36.0	+0.6
ERM				*e*Sn	Sn	05 21 56.6	0.0
ERM	Erimo	1.52	101	*e*PN	Pn	05 21 36.0	+0.6
ERM				*e*		05 21 56.6	
JCH	Churui	1.65	79	P	Pn	05 21 37.2	+0.2
JCH				*e*S	Sn	05 21 59.4	0.0
JKK2	Kamakawa 2	1.93	36	P	Pn	05 21 40.3	0.0
JKK2				*e*S	Sn	05 22 04.5	-0.9
JANG	Nango	1.97	172	P	Pn	05 21 40.2	-0.7
JANG				*e*S	Sn	05 22 04.6	-1.7
ASAJ	Asahikawa	2.07	30	P	Pn	05 21 42.3	+0.3
ASAJ	18nm,0.3s,baz=230,slow=12,SNR=38						
ASAJ				S	Sn	05 22 08.1	-0.4
	20nm,0.3s,baz=240,slow=20,SNR=20						
ASAJ	Asahikawa	2.07	30	*e*Pn	Pn	05 21 42.1	0.0
ASAJ				*e*Sn	Sn	05 22 08.1	-0.3
ASAJ	Asahikawa	2.07	30	PN	Pn	05 21 42.3	+0.3
ASAJ				S	Sn	05 22 08.1	-0.4
ASAJ				pmax	pmax		
	comp=Z,18nm,0.3s						
ASAJ				smax			
	comp=N,20nm,0.3s						
JAR	Ashorobuto	2.15	62	P	Pn	05 21 42.5	-0.5
JAR				*e*S	Sn	05 22 08.9	-1.3
YUK	Yuzh-Kuril'sk	3.84	62	*d i* PN	Pn	05 22 05.7	+0.8
YUK				*i* S	Sn	05 22 49.2	-0.2
YUK				pmax	pmax		
	comp=Z,132nm,0.2s						
YUK				pmax	pmax		
	comp=E,49nm,0.2s						
YUK				pmax	pmax		
	comp=N,614nm,0.6s						
YUK				pmax	pmax		
	comp=Z,18μm,0.3s						
MJAR	Matsushiro Arr	6.21	203	P	Pn	05 22 37.5	+0.6
	comp=Z,1.0nm,0.3s,baz=16,slow=12,SNR=7.0						
MJAR	Matsushiro Arr	6.21	203	P	Pn	05 22 37.5	+0.6
MJAR	Matsushiro Arr	6.21	203	PN	Pn	05 22 37.5	+0.6
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	15.46	40	P	Pn	05 24 39.7	+1.2
	comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=2.4						
PETK	Petropavlovsk-	15.46	40	P	Pn	05 24 39.7	+1.2
PETK	Petropavlovsk-	15.46	40	P	Pn	05 24 39.7	+1.2
SONM	Songino Array	25.01	295	P	P	05 26 18.7	-0.9
	comp=Z,1.7nm,0.4s,mb3.8,baz=81,slow=8.3,SNR=19						
SONM	Songino Array	25.01	295	P	P	05 26 18.7	-0.9
SONM	Songino Array	25.01	295	P	P	05 26 18.7	-0.9
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BILL	Bilibino	29.05	19	⇓ *i* P	P	05 26 59.6	+4.1
BILL				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7						
ZAA0	Zalesovo Array	38.36	308	*e*P	P	05 28 15.4	-0.7
ZALV	Zalesovo Beam	38.36	308	P	P	05 28 16.4	+0.3
	comp=Z,10nm,0.7s,mb4.8,baz=86,slow=8.0,SNR=41						
ZALV				PcP	PcP	05 30 26.5	-0.6
	comp=Z,0.6nm,0.6s,baz=106,slow=4.7,SNR=3.6						
ZALV	Zalesovo Beam	38.36	308	P	P	05 28 16.4	+0.3
ZALV				PcP	PcP	05 30 26.5	-0.6
ZALV	Zalesovo Beam	38.36	308	P	P	05 28 16.5	+0.4
ZALV						05 30 26.5	
ZALV				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
MK31	Makanchi Array	41.33	297	*e*P	P	05 28 41.0	+0.2
MK31	Makanchi Array	41.33	297	*e*P	P	05 28 41.0	+0.2
MKAR	Makanchi Array	41.33	297	P	P	05 28 40.4	-0.4
	comp=Z,3.2nm,0.6s,mb4.3,baz=82,slow=10,SNR=33						
MKAR				PcP	PcP	05 30 36.1	-0.6
	comp=Z,0.2nm,0.4s,baz=85,slow=1.7,SNR=4.5						
MKAR	Makanchi Array	41.33	297	P	P	05 28 40.4	-0.4
MKAR				PcP	PcP	05 30 36.1	-0.6
MKAR	Makanchi Array	41.33	297	P	P	05 28 40.4	-0.4
MKAR						05 30 36.1	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	Kurchatov	42.67	304	P	P	05 28 51.4	-0.2
	comp=Z,8.3nm,0.4s,mb4.8,baz=76,slow=9.0,SNR=65						
KURK	Kurchatov	42.67	304	*e*P	P	05 28 50.5	-1.0
	comp=Z,5.7nm,0.6s,mb4.5						
KURK	Kurchatov	42.67	304	*e*P	P	05 28 50.5	-1.1
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
CMAR	Chiang Mai Arr	42.91	250	P	P	05 28 54.1	+0.2
	comp=Z,0.4nm,0.3s,mb3.6,baz=43,slow=7.6,SNR=4.0						
CMAR	Chiang Mai Arr	42.91	250	P	P	05 28 54.1	+0.2
CMAR	Chiang Mai Arr	42.91	250	P	P	05 28 54.1	+0.2
ILAR	Eielson Array	45.20	35	P	P	05 29 12.0	+0.4
	comp=Z,0.2nm,0.9s,baz=280,slow=5.5,SNR=4.8						
ILAR	Eielson Array	45.20	35	P	P	05 29 12.0	+0.4
ILAR	Eielson Array	45.20	35	P	P	05 29 12.0	+0.4
TAPN	Taplejung	45.62	269	*e*P	P	05 29 16.0	+0.6
TAPN	Taplejung	45.62	269	*e*P	P	05 29 16.0	+0.6
ODAN	Odare	46.13	268	*e*P	P	05 29 19.7	+0.3
	comp=Z,7.2nm,0.7s,mb4.5						
ODAN	Odare	46.13	268	*e*P	P	05 29 19.7	+0.3
	comp=Z,7.2nm,0.7s,mb4.5						
JIRN	Jiri	46.58	270	*e*P	P	05 29 23.4	+0.5
	comp=Z,1.9nm,0.3s,mb4.3						
JIRN	Jiri	46.58	270	*e*P	P	05 29 23.4	+0.5
	comp=Z,1.9nm,0.3s,mb4.3						
RAMN	Ramite	46.67	269	*e*P	P	05 29 23.8	+0.2
	comp=Z,23nm,0.7s,mb5.0						
RAMN	Ramite	46.67	269	*e*P	P	05 29 23.8	+0.2
	comp=Z,23nm,0.7s,mb5.0						
GUN	Gumba	46.67	271	*e*P	P	05 29 24.1	+0.5
	comp=Z,41nm,0.4s						
GUN	Gumba	46.67	271	*e*P	P	05 29 24.1	+0.5
	comp=Z,41nm,0.4s						
BVAR	Borovoye Array	46.98	309	P	P	05 29 25.2	-0.4
	comp=Z,1.3nm,0.4s,mb4.0,baz=80,slow=8.5,SNR=13						
BVAR	Borovoye Array	46.98	309	P	P	05 29 25.2	-0.4
BVAR	Borovoye Array	46.98	309	P	P	05 29 25.2	-0.5
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TKM2	Tokmak 2	47.11	294	*e*P	P	05 29 27.1	+0.2
	comp=Z,5.9nm,0.5s,mb4.6						
TKM2	Tokmak 2	47.11	294	*e*P	P	05 29 27.1	+0.3
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
KKN	Kakani	47.18	271	*e*P	P	05 29 28.0	+0.4
KKN	Kakani	47.18	271	*e*P	P	05 29 28.0	+0.4
KKN	Kakani	47.18	271	*e*P	P	05 29 28.0	+0.4
PKI	Pulchoki	47.21	270	*e*P	P	05 29 27.9	+0.1
PKI	Pulchoki	47.21	270	*e*P	P	05 29 27.9	+0.1
PKI	Pulchoki	47.21	270	*e*P	P	05 29 27.9	+0.1
DMN	Daman	47.41	271	*e*P	P	05 29 29.6	+0.3
	comp=Z,16nm,0.8s,mb4.8						
DMN	Daman	47.41	271	*e*P	P	05 29 29.6	+0.3
	comp=Z,16nm,0.8s,mb4.8						
GKN	Gorkha	47.54	271	*e*P	P	05 29 30.7	+0.3
	comp=Z,12nm,0.4s,mb5.1						
GKN	Gorkha	47.54	271	*e*P	P	05 29 30.7	+0.3
	comp=Z,12nm,0.4s,mb5.1						
DANN	Dangsing	48.01	272	*e*P	P	05 29 34.4	+0.5
	comp=Z,71nm,0.7s						
DANN	Dangsing	48.01	272	*e*P	P	05 29 34.4	+0.5
	comp=Z,71nm,0.7s						
KOLN	Koldanda	48.44	272	*e*P	P	05 29 37.2	-0.1
	comp=Z,5.4nm,0.3s,mb4.9						
KOLN	Koldanda	48.44	272	*e*P	P	05 29 37.2	-0.1
	comp=Z,5.4nm,0.3s,mb4.9						
INK	Inuvik	49.81	29	P	P	05 29 47.2	+0.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=310,slow=7.0,SNR=6.8						
INK	Inuvik	49.81	29	P	P	05 29 47.2	+0.1
INK	Inuvik	49.81	29	P	P	05 29 47.2	+0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	Karatay Array	50.45	296	*e*P	P	05 29 51.2	-1.1
	comp=Z,2.6nm,0.6s,mb4.3						
KKAR	Karatay Array	50.45	296	*e*P	P	05 29 51.2	-1.1
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ABKAR	Akbulak array	54.48	307	*e*P	P	05 30 21.1	-0.8
	comp=Z,1.8nm,0.5s,mb4.4						
RES	Resolute Bay	57.54	15	*e*P	P	05 30 45.5	+2.2
	comp=Z,1.9nm,0.3s,mb4.6						
RES	Resolute Bay	57.54	15	*e*P	P	05 30 45.5	+2.2
RES				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
ARCES	ARCESS Array B	58.99	338	P	P	05 30 52.5	-0.9
	comp=Z,1.6nm,0.8s,mb4.1,baz=46,slow=7.7,SNR=3.0						
ARCES	ARCESS Array B	58.99	338	P	P	05 30 52.5	-0.9
ARCES	ARCESS Array B	58.99	338	P	P	05 30 52.5	-1.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	59.37	32	P	P	05 30 56.0	-0.1
	comp=Z,0.1nm,0.4s,mb3.2,baz=314,slow=7.1,SNR=3.6						
YKA	Yellowknife Ar	59.37	32	P	P	05 30 56.0	-0.1
YKA	Yellowknife Ar	59.37	32	P	P	05 30 56.0	-0.1
WRA	Warramunga Arr	62.28	187	P	P	05 31 15.3	-0.9
	comp=Z,0.5nm,0.6s,mb3.7,baz=6.1,slow=6.7,SNR=7.6						
WRA	Warramunga Arr	62.28	187	P	P	05 31 15.3	-0.9
WRA	Warramunga Arr	62.28	187	P	P	05 31 15.3	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	64.07	331	P	P	05 31 26.1	-1.5
	comp=Z,1.7nm,0.5s,mb4.1,baz=48,slow=6.4,SNR=7.8						
FINES	FINESS Array B	64.07	331	P	P	05 31 26.1	-1.5
FINES	FINESS Array B	64.07	331	P	P	05 31 26.1	-1.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	Alice Springs	66.00	187	P	P	05 31 41.0	+0.5
	comp=Z,0.4nm,0.5s,mb3.5,baz=7.1,slow=5.7,SNR=4.6						
ASAR	Alice Springs	66.00	187	P	P	05 31 41.0	+0.5
ASAR	Alice Springs	66.00	187	P	P	05 31 41.0	+0.5
NB2	NORSAR Subarra	69.25	336	P	P	05 31 59.4	-1.1
	comp=Z,0.8nm,0.6s,mb3.7,baz=35,slow=6.2						
NOA	NORSAR Array B	69.25	336	P	P	05 31 59.6	-0.9
	comp=Z,1.0nm,0.7s,mb3.8,baz=37,slow=6.3,SNR=4.2						
NOA	NORSAR Array B	69.25	336	P	P	05 31 59.6	-0.9
NOA	NORSAR Array B	69.25	336	P	P	05 31 59.6	-0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	70.02	321	P	P	05 32 04.6	-0.9
	comp=Z,1.0nm,0.5s,mb4.0,baz=45,slow=5.8,SNR

TAP ***12*** *05:50:01.4, 24.°52N×122.°44E, h73km, ML3.6, C*
ISC 12 05:50:02.2±0.6, 24.°49N±0.°04×122.°48E±0.°02, h59km±9km, n33, σ0.°62/59, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.48**	**93**	P	**Pn**	**05 50 13.9**	**0.0**
YOJ				*e*S	**Sn**	**05 50 23.2**	**+0.7**
TWC	**Suao**	**0.59**	**282**	⇑*i*P	**Pn**	**05 50 14.7**	**-0.5**
	baz=285						
TWC				S	**Sn**	**05 50 24.2**	**-0.3**
	baz=285						
ENA	**Nanau**	**0.68**	**265**	P	**Pn**	**05 50 16.0**	**-0.2**
	baz=257						
ENA				*e*S	**Sn**	**05 50 26.5**	**+0.1**
	baz=257						
TWE	**Neicheng**	**0.78**	**287**	P	**Pn**	**05 50 17.0**	**-0.4**
	baz=286						
TWE				S	**Sn**	**05 50 28.1**	**-0.4**
	baz=286						
ENTT	**Nioudou**	**0.85**	**280**	P	**Pn**	**05 50 18.3**	**+0.1**
	baz=282						
ENTT				*e*S	**Sn**	**05 50 30.5**	**+0.4**
	baz=282						
NWF	**Wu-fen Shan**	**0.86**	**312**	P	**Pn**	**05 50 18.0**	**-0.5**
	baz=312						
NWF				S	**Sn**	**05 50 30.5**	**+0.1**
	baz=312						
TWD	**Chiawan**	**0.91**	**243**	*e*P	**Pn**	**05 50 18.9**	**-0.1**
	baz=233						
TWD				S	**Sn**	**05 50 31.0**	**-0.4**
	baz=233						
TWA	**Mucha**	**0.95**	**301**	*e*P	**Pn**	**05 50 19.1**	**-0.6**
	baz=300						
TWA				*e*S	**Sn**	**05 50 33.2**	**+0.7**
	baz=300						
NNS	**Nan Shan**	**1.01**	**267**	P	**Pn**	**05 50 20.2**	**-0.2**
	baz=257						
NNS				*e*S	**Sn**	**05 50 34.2**	**+0.3**
	baz=257						
NSK	**Sanguang**	**1.04**	**280**	⇑*i*P	**Pn**	**05 50 20.6**	**-0.1**
	baz=279						
NSK				S	**Sn**	**05 50 34.6**	**+0.1**
	baz=279						
TWS1	**Kuangyinshan**	**1.14**	**302**	*e*P	**Pn**	**05 50 21.6**	**-0.5**
	baz=302						
IRIF	**Iriomote-Funau**	**1.15**	**98**	P	**Pn**	**05 50 21.6**	**-0.6**
IRIF				*e*S	**Sn**	**05 50 37.2**	**+0.2**
WHF	**Hehuan Shan**	**1.16**	**253**	P	**Pn**	**05 50 22.3**	**-0.1**
	baz=251						
WHF				S	**Sn**	**05 50 37.2**	**-0.3**
	baz=251						
ESL	**Shilin**	**1.17**	**235**	P	**Pn**	**05 50 21.6**	**-1.0**
	baz=225						
ESL				*e*S	**Sn**	**05 50 36.6**	**-1.0**
	baz=225						
TWT	**Tachien**	**1.22**	**259**	*e*P	**Pn**	**05 50 23.7**	**+0.6**
	baz=252						
TWT				*e*S	**Sn**	**05 50 39.1**	**+0.4**
	baz=252						
HATJ	**Hateruma jima**	**1.28**	**109**	*e*S	**Sn**	**05 50 41.8**	**+1.6**
NSTT	**Nanjuang**	**1.36**	**276**	*e*P	**Pn**	**05 50 24.5**	**-0.4**
	baz=275						
NSTT				*e*S	**Sn**	**05 50 42.5**	**+0.5**
	baz=275						
JKRS	**Kuro-shima**	**1.41**	**100**	P	**Pn**	**05 50 25.6**	**-0.1**
JKRS				*e*S	**Sn**	**05 50 44.0**	**+0.6**
EHY	**Hungye**	**1.45**	**228**	*e*P	**Pn**	**05 50 24.9**	**-1.3**
	baz=234						
JIJ	**Ishigaki jima**	**1.52**	**94**	P	**Pn**	**05 50 26.4**	**-0.7**
JIJ				*e*S	**Sn**	**05 50 44.8**	**-1.1**
SMLT	**Sun Moon Lake**	**1.57**	**248**	*e*P	**Pn**	**05 50 28.4**	**+0.6**
	baz=240						
SMLT				*e*S	**Sn**	**05 50 47.9**	**+0.8**
	baz=240						
TWF1	**Yuli**	**1.57**	**224**	P	**Pn**	**05 50 26.7**	**-1.1**
	baz=231						
TWF1				*e*S	**Sn**	**05 50 45.2**	**-2.0**
	baz=231						
TYC	**Yuchr**	**1.60**	**249**	*e*P	**Pn**	**05 50 28.6**	**+0.4**
	baz=241						
TYC				*e*S	**Sn**	**05 50 48.1**	**+0.3**
	baz=241						
YUS	**Yu-Shan**	**1.72**	**235**	*e*P	**Pn**	**05 50 30.1**	**+0.3**
	baz=226						
YUS				*e*S	**Sn**	**05 50 50.4**	**-0.3**
	baz=226						
WNT	**Mingjian**	**1.75**	**250**	*e*P	**Pn**	**05 50 30.6**	**+0.3**
	baz=259						
ALS	**Alishan**	**1.82**	**238**	P	**Pn**	**05 50 31.9**	**+0.7**
	baz=228						
ALS				*e*S	**Sn**	**05 50 54.1**	**+0.9**
	baz=228						
ELDTW	**Lidau**	**1.87**	**226**	*e*P	**Pn**	**05 50 31.9**	**0.0**
	baz=224						
CHN5	**Tsauling**	**1.88**	**242**	*e*P	**Pn**	**05 50 32.6**	**+0.6**
	baz=231						
CHN5				*e*S	**Sn**	**05 50 55.0**	**+0.4**
	baz=231						
JTJ	**Tarama**	**2.02**	**85**	P	**Pn**	**05 50 33.8**	**-0.2**
STYT	**Tauyuan**	**2.06**	**230**	*e*P	**Pn**	**05 50 35.0**	**+0.4**
	baz=224						
STYT				*e*S	**Sn**	**05 50 59.3**	**+0.2**
	baz=224						
CHN1	**Nanshi**	**2.21**	**234**	*e*P	**Pn**	**05 50 38.0**	**+1.4**
	baz=233						
CHN1				*e*S	**Sn**	**05 51 02.9**	**0.0**
	baz=233						
SSD	**Sandimen**	**2.43**	**225**	*e*P	**Pn**	**05 50 40.1**	**+0.5**
	baz=223						
SCZT	**Fangliau**	**2.72**	**219**	*e*P	**Pn**	**05 50 43.8**	**+0.3**
	baz=231						
SCZT				*e*S	**Sn**	**05 51 14.8**	**-0.3**
	baz=231						

ISCJB ***12*** *06:01:42.3±0.3, 13.°12N±0.°06×87.°62W±0.°06, h181km±3km, mb3.4/9, Error ellipse: s-maj=13.4km s-min=4.3km az=40.5*
CASC ***12*** *06:01:43.9±2.7, 12.°95N×87.°64W, h152km±18km, MD4.3, ML3.6, mb3.7(NEIC)*
IDC ***12*** *06:01:43.1±1.7, 13.°07N×87.°78W, h175km±18km, mb3.2/8, mb1 3.5/11, mb1mx3.3/24, mbtmp3.2/11, Error ellipse: s-maj=33.2km s-min=17.5km az=34.0*
NEIC ***12*** *06:01:43.4±0.8, 13.°10N×87.°71W, h176km±7km, mb3.7/3, Error ellipse: s-maj=18.7km s-min=9.9km az=47.0*
ISC 12 06:01:43.2±0.3, 13.°11N±0.°06×87.°62W±0.°06, h175km±3km, n52, σ1.°01/62, mb3.4/9, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.27**	**309**	*e*P	**Pn**	**06 02 05.8**	**-0.9**
BLLM	**Bellamira**	**0.69**	**299**	*e*P	**Pn**	**06 02 07.5**	**-0.9**
VSM	**San Miguel**	**0.71**	**297**	*e*P	**Pn**	**06 02 08.0**	**-0.5**
CAHU	**Cacacuatique**	**0.88**	**319**	*e*P	**Pn**	**06 02 09.2**	**-0.3**
CAHU				*e*S	**Sn**	**06 02 29.9**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.00**	**20**	*e*Pn	**Pn**	**06 02 10.4**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.00**	**20**	*e*P	**Pn**	**06 02 10.6**	**+0.1**
TGUH				*e*S	**Sn**	**06 02 30.5**	**-1.0**
CNGN	**Cerro Negro**	**1.08**	**124**	*e*P	**Pn**	**06 02 10.4**	**-0.7**
CNGN				*e*S	**Sn**	**06 02 34.6**	**+2.1**
SNVI	**San Vicente**	**1.29**	**293**	*e*P	**Pn**	**06 02 12.4**	**-0.4**
LFRS	**El Faro**	**1.50**	**290**	*e*P	**Pn**	**06 02 14.3**	**-0.4**
LBRS	**Las Brisas**	**1.52**	**295**	*e*P	**Pn**	**06 02 14.9**	**-0.1**
SNET	**Serv Nac Est T**	**1.67**	**290**	*e*P	**Pn**	**06 02 15.9**	**-0.6**
SNET				*e*S	**Sn**	**06 02 42.9**	**+0.7**
SNET				AML	AML	06 02 48.9	
	comp=Z,475nm,0.3s						
BOQS	**Boqueron**	**1.73**	**291**	*e*P	**Pn**	**06 02 16.6**	**-0.5**
BOQS				*e*S	**Sn**	**06 02 44.9**	**+1.6**
SNJE	**San Jose**	**2.08**	**292**	*e*P	**Pn**	**06 02 20.7**	**-0.1**
SBLS	**San Blas**	**2.08**	**291**	*e*P	**Pn**	**06 02 20.7**	**-0.1**
RTR	**El Retiro**	**2.12**	**292**	*e*P	**Pn**	**06 02 21.5**	**+0.2**
MTO2	**Montecristo 2**	**2.13**	**307**	*e*P	**Pn**	**06 02 21.7**	**+0.3**
GBS2	**Las Lilas**	**3.10**	**137**	*i* P	**Pn**	**06 02 33.1**	**+0.3**
GBS3	**Finca Las lm¨¡**	**3.13**	**137**	*i* P	**Pn**	**06 02 34.4**	**+1.1**
LAPC	**Finca la Perla**	**3.16**	**137**	*i* P	**Pn**	**06 02 33.5**	**-0.1**
LAPC				*i* S	**Sn**	**06 03 08.8**	**-4.1**
GPS3	**Bodega del ICE**	**3.21**	**136**	*i* P	**Pn**	**06 02 34.9**	**+0.6**
MESS	**Mesas**	**3.34**	**134**	*i* P	**Pn**	**06 02 36.0**	**+0.1**
MESS				*i* S	**Sn**	**06 03 14.2**	**-2.7**
JTS	**JuntasAbangare**	**3.83**	**137**	P	**Pn**	**06 02 42.6**	**+0.6**
	comp=Z,3.8nm,0.3s,baz=300,slow=14,SNR=30						
JTS				S	**Sn**	**06 03 24.4**	**-3.5**
	comp=Z,15nm,0.3s,baz=311,slow=20,SNR=16						
JTS	**JuntasAbangare**	**3.83**	**137**	*e*Pn	**Pn**	**06 02 42.5**	**+0.5**
JTS				*e*Sn	**Sn**	**06 03 25.4**	**-2.5**
JCR	**Jicaral**	**4.06**	**143**	*e*P	**Pn**	**06 02 46.1**	**+1.1**
JCR				*e*S	**Sn**	**06 03 28.7**	**-4.6**
CGA2	**Cerro Gallo 2**	**4.36**	**134**	*e*P	**Pn**	**06 02 51.2**	**+2.4**
CGA2				*e*S	**Sn**	**06 03 39.4**	**-0.7**
BUS	**Buena Vista**	**5.17**	**133**	*e*P	**Pn**	**06 03 01.6**	**+2.2**
BUS				*e*S	**Sn**	**06 03 57.9**	**-1.3**
TEIG	**Tepich**	**7.11**	**355**	P	**Pn**	**06 03 26.2**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=139,slow=19,SNR=3.4						
TEIG	**Tepich**	**7.11**	**355**	P	**Pn**	**06 03 26.2**	**+1.5**
CMIG	**Matias Romero**	**8.06**	**300**	P	**Pn**	**06 03 36.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=145,slow=13,SNR=9.9						
CMIG				S	**Sn**	**06 05 01.2**	**-6.3**
	comp=Z,0.3nm,0.3s,baz=86,slow=19,SNR=8.9						
CMIG	**Matias Romero**	**8.06**	**300**	P	**Pn**	**06 03 36.6**	**-0.7**
CMIG				S	**Sn**	**06 05 01.2**	**-6.3**
SDV	**Santo Domingo**	**17.19**	**102**	*e*P	**Pn**	**06 05 34.0**	**+0.9**
	comp=Z,3.2nm,0.6s						
TXAR	**Lajitas Array**	**21.97**	**320**	P	**P**	**06 06 23.8**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.2,baz=144,slow=8.5,SNR=16						
TXAR	**Lajitas Array**	**21.97**	**320**	P	**P**	**06 06 23.8**	**+0.6**
TKL	**Tuckaleechee C**	**22.72**	**8**	P	**P**	**06 06 31.4**	**+1.4**
	comp=Z,3.9nm,0.9s,mb3.8,baz=162,slow=9.6,SNR=5.2						
TKL	**Tuckaleechee C**	**22.72**	**8**	P	**P**	**06 06 31.4**	**+1.4**
PDAR	**Pinedale Array**	**35.12**	**331**	P	**P**	**06 08 20.9**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.3,baz=124,slow=10,SNR=5.5						
PDAR	**Pinedale Array**	**35.12**	**331**	P	**P**	**06 08 20.9**	**+1.0**
NVAR	**Mina Array Bea**	**37.10**	**318**	P	**P**	**06 08 36.1**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.1,baz=120,slow=8.4,SNR=2.8						
NVAR	**Mina Array Bea**	**37.10**	**318**	P	**P**	**06 08 36.0**	**-0.7**
ULM	**Lac du Bonnet**	**37.65**	**351**	P	**P**	**06 08 40.1**	**-1.0**
	comp=Z,2.2nm,0.5s,mb4.0,baz=169,slow=9.5,SNR=6.5						
ULM	**Lac du Bonnet**	**37.65**	**351**	P	**P**	**06 08 40.1**	**-1.0**
WALA	**Waterton Lakes**	**41.90**	**334**	*e*P	**P**	**06 09 15.4**	**-0.8**
	comp=Z,0.1nm,0.5s,mb2.7						
SCHQ	**Schefferville**	**44.70**	**17**	P	**P**	**06 09 38.2**	**-0.4**
	comp=Z,2.8nm,0.5s,mb4.1,baz=216,slow=8.7,SNR=4.9						
SCHQ	**Schefferville**	**44.70**	**17**	*e*P	**P**	**06 09 38.3**	**-0.3**
	comp=Z,7.8nm,1.0s,mb4.3						
YKA	**Yellowknife Ar**	**52.94**	**345**	P	**P**	**06 10 40.7**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.3,baz=143,slow=6.9,SNR=3.7						
YKA	**Yellowknife Ar**	**52.94**	**345**	P	**P**	**06 10 40.7**	**-0.4**
ILAR	**Eielson Array**	**65.36**	**336**	P	**P**	**06 12 04.8**	**-1.5**
	comp=Z,0.1nm,0.6s,mb2.8,baz=90,slow=8.1,SNR=4.5						
ILAR	**Eielson Array**	**65.36**	**336**	P	**P**	**06 12 04.8**	**-1.5**
WRA	**Warramunga Arr**	**139.29**	**255**	PKP	PKPdf	06 20 51.1	+0.9
	comp=Z,0.5nm,0.4s,baz=91,slow=2.4,SNR=6.8						
WRA	**Warramunga Arr**	**139.29**	**255**	PKP	PKPdf	06 20 51.1	+0.9
ASAR	**Alice Springs**	**139.35**	**249**	PKP	PKPdf	06 20 51.3	+1.1
	comp=Z,0.7nm,0.5s,baz=98,slow=1.7,SNR=9.5						
ASAR	**Alice Springs**	**139.35**	**249**	PKP	PKPdf	06 20 51.3	+1.1

ISCJB ***12*** *06:12:22.4±0.5, 22.°91N±0.°02×121.°40E±0.°03, h14km±3km, Error ellipse: s-maj=4.3km s-min=3.0km az=7.9*
NEIC ***12*** *06:12:23.0±1.6, 22.°97N×121.°33E, h10km, Error ellipse: s-maj=19.1km s-min=8.4km az=125.0*
TAP ***12*** *06:12:23.0, 22.°94N×121.°30E, h24km, ML3.6, B*
ISC 12 06:12:22.4±0.5, 22.°91N±0.°02×121.°39E±0.°03, h16km±2km, n50, σ1.°10/75, 3C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.19**	**354**	⇑*i*P	**Pg**	**06 12 28.5**	**+1.5**
	baz=30						
CHKT				*i* S	**Sg**	**06 12 32.4**	**+2.2**
	baz=30						
TTN	**Taitung**	**0.27**	**236**	P	**Pg**	**06 12 29.5**	**+1.3**
	baz=215						
TTN				*e*S	**Sg**	**06 12 34.8**	**+2.6**
	baz=215						
TWG	**Pinlang**	**0.30**	**254**	⇑*i*P	**Pg**	**06 12 29.1**	**+0.3**
	baz=248						
TWG				S	**Sg**	**06 12 33.1**	**0.0**
	baz=248						
TWG	**Pinlang**	**0.30**	**254**	*e*Pg	**Pg**	**06 12 28.6**	**-0.2**
TWG				*e*Sg	**Sg**	**06 12 33.0**	**-0.1**
ELDTW	**Lidau**	**0.44**	**310**	P	**Pg**	**06 12 30.7**	**-0.6**
	baz=314						
ELDTW				*e*S	**Sg**	**06 12 35.8**	**-1.5**
	baz=314						
TWF1	**Yuli**	**0.45**	**350**	⇓*i*P	**Pg**	**06 12 31.4**	**-0.1**
	baz=354						
YULB	**Yu-li**	**0.49**	**350**	*e*Pg	**Pg**	**06 12 31.5**	**-0.7**
ECL	**Taimali**	**0.50**	**232**	*e*P	**Pg**	**06 12 32.0**	**-0.4**
	baz=231						
EHY	**Hungye**	**0.60**	**354**	P	**Pg**	**06 12 33.5**	**-0.7**
	baz=2.0						
STYT	**Tauyuan**	**0.63**	**294**	*e*P	**Pg**	**06 12 34.0**	**-0.8**
	baz=300						
STYT				*e*S	**Sg**	**06 12 41.7**	**-1.6**
	baz=300						
YUS	**Yu-Shan**	**0.70**	**326**	P	**Pb**	**06 12 35.7**	**-0.6**
	baz=330						
YUS				*e*S	**Sb**	**06 12 43.9**	**-1.9**
	baz=330						
TAW	**Tawu**	**0.71**	**220**	*e*P	**Pb**	**06 12 36.1**	**-0.3**
	baz=212						
SSD	**Sandimen**	**0.71**	**257**	⇑*i*P	**Pb**	**06 12 35.2**	**-1.3**
	baz=252						
EAST	**Anshuo**	**0.72**	**224**	*e*P	**Pb**	**06 12 35.5**	**-1.0**
	baz=216						
SGST	**Jiashian**	**0.76**	**284**	*e*P	**Pb**	**06 12 36.6**	**-0.6**
	baz=282						
SGST				*e*S	**Sb**	**06 12 47.0**	**-0.3**
	baz=282						
TPUB	**Ta-pu**	**0.80**	**300**	*e*Pg	**Pg**	**06 12 37.0**	**-1.0**
TPUB				*e*Sg	**Sg**	**06 12 48.3**	**-0.2**
ALS	**Alishan**	**0.81**	**319**	⇓*i*P	**Pb**	**06 12 37.7**	**-0.3**
	baz=314						
CHN1	**Nanshi**	**0.84**	**290**	P	**Pb**	**06 12 38.5**	**-0.1**
	baz=289						
CHN1				*e*S	**Sb**	**06 12 49.9**	**+0.2**
	baz=289						
CHN4	**Tsaushan**	**0.85**	**301**	*e*P	**Pb**	**06 12 38.8**	**-0.1**
	baz=310						
CHN4				S	**Sb**	**06 12 50.2**	**+0.1**
	baz=310						
LAY	**Lan-yu**	**0.88**	**170**	P	**Pb**	**06 12 38.9**	**-0.4**
	baz=181						
LAY				*e*S	**Sb**	**06 12 51.2**	**+0.5**
	baz=181						
SCZT	**Fangliau**	**0.89**	**233**	*e*P	**Pb**	**06 12 38.7**	**-0.6**
	baz=226						
TWM1	**Shoushan**	**0.89**	**265**	*e*P	**Pb**	**06 12 39.8**	**+0.3**
	baz=262						
ESL	**Shilin**	**0.91**	**3**	*e*P	**Pb**	**06 12 37.9**	**-1.8**
	baz=8.0						
CHN5	**Tsauling**	**0.95**	**317**	*e*P	**Pb**	**06 12 40.2**	**-0.2**
	baz=318						
CHN5				*e*S	**Sb**	**06 12 54.0**	**+1.2**
	baz=318						
CHN3	**Shinhua**	**0.96**	**280**	*e*P	**Pb**	**06 12 41.5**	**+0.9**
	baz=279						
CHN3				*e*S	**Sb**	**06 12 56.7**	**+3.7**
	baz=279						
SSLB	**Suanglung**	**0.96**	**336**	*e*Pg	**Pg**	**06 12 39.6**	**-1.5**
CHN2	**Minshiung**	**1.04**	**307**	*e*P	**Pb**	**06 12 42.3**	**+0.2**
	baz=308						
CHY	**Chiayi**	**1.06**	**304**	*e*P	**Pb**	**06 12 42.3**	**-0.2**
	baz=305						
CHY				*e*S	**Sb**	**06 12 57.0**	**+0.9**
	baz=305						
SMLT	**Sun Moon Lake**	**1.07**	**335**	*e*P	**Pb**	**06 12 42.2**	**-0.3**
	baz=343						
SMLT				*e*S	**Sb**	**06 12 57.7**	**+1.3**
	baz=343						
HEN	**Hengchun**	**1.08**	**214**	*e*P	**Pb**	**06 12 42.6**	**-0.1**
	baz=197						
WGK	**Gukeng**	**1.08**	**316**	*e*P	**Pb**	**06 12 43.1**	**+0.3**
	baz=317						
WGK				*e*S	**Sb**	**06 12 58.1**	**+1.4**
	baz=317						
TSEB	**Hengchuen, Pin**	**1.10**	**204**	*e*P	**Pb**	**06 12 43.7**	**+0.7**
	baz=195						
TSEB				*e*S	**Sb**	**06 12 56.7**	**-0.3**
	baz=195						
TWK1	**Hengchun**	**1.10**	**209**	*e*P	**Pb**	**06 12 42.4**	**-0.6**
	baz=197						
TYC	**Yuchr**	**1.11**	**334**	*e*P	**Pb**	**06 12 43.0**	**-0.2**
	baz=337						
TYC				*e*S	**Sb**	**06 12 58.0**	**+0.6**
	baz=337						
WNT	**Mingjian**	**1.16**	**326**	*e*P	**Pn**	**06 12 44.5**	**+0.5**
	baz=328						
WNT				*e*S	**Sb**	**06 13 00.6**	**+1.6**
	baz=328						
CHN8	**Yiju**	**1.17**	**292**	*e*P	**Pn**	**06 12 42.1**	**-2.0**
	baz=292						
CHN8				*e*S	**Sb**	**06 13 00.4**	**+1.3**
	baz=292						
TWD	**Chiawan**	**1.19**	**9**	*e*P	**Pn**	**06 12 44.2**	**-0.2**
	baz=3.0						
TWD				*e*S	**Sb**	**06 12 57.2**	**-2.4**
	baz=3.0						
WHF	**Hehuan Shan**	**1.24**	**355**	*e*P	**Pn**	**06 12 44.1**	**-1.0**
	baz=10.0						
WHF				*e*S	**Sb**	**06 12 60.0**	**-1.2**
	baz=10.0						
NACB	**Ninganchiao**	**1.28**	**9**	*e*Pn	**Pn**	**06 12 46.2**	**+0.6**
TWT	**Tachien**	**1.35**	**352**	*e*P	**Pn**	**06 12 48.2**	**+1.6**
TWT				*e*S	**Sn**	**06 13 02.3**	**-2.0**
TWQ1	**Liyutan**	**1.54**	**339**	*e*P	**Pn**	**06 12 50.7**	**+1.5**
	baz=342						
NSY	**Sanyi**	**1.61**	**339**	*e*P	**Pn**	**06 12 52.0**	**+1.8**
	baz=340						
NSY				*e*S	**Sn**	**06 13 12.6**	**+2.0**
	baz=340						
ENTT	**Nioudou**	**1.73**	**5**	*e*P	**Pn**	**06 12 49.2**	**-2.7**
	baz=15						
TWC	**Suao**	**1.75**	**14**	*e*P	**Pn**	**06 12 52.3**	**+0.3**
	baz=12						
NSTT	**Nanjuang**	**1.75**	**348**	*e*P	**Pn**	**06 12 54.3**	**+2.2**
	baz=2.0						
YHNB	**Yeheng**	**1.76**	**360**	*e*Pn	**Pn**	**06 12 52.4**	**+0.2**
PNG	**Penghu**	**1.81**	**292**	*e*P	**Pn**	**06 12 52.1**	**-0.8**
	baz=292						
TWE	**Neicheng**	**1.82**	**8**	*e*P	**Pn**	**06 12 52.7**	**-0.4**
	baz=9.0						
YOJ	**Yonaguni jima**	**2.15**	**44**	*e*P	**Pn**	**06 12 59.0**	**+1.4**
	baz=50						
NWF	**Wu-fen Shan**	**2.19**	**9**	*e*P	**Pn**	**06 12 59.3**	**+1.2**
	baz=9.0						

ISCJB ***12*** *06:13:00.7±0.5, 50.°09N±0.°04×19.°02E±0.°03, h0km, Error ellipse: s-maj=5.5km s-min=2.5km az=12.4*
CSEM ***12*** *06:13:01.8±0.3, 50.°10N×19.°07E, h2km, ML2.8/4, Error ellipse: s-maj=7.7km s-min=3.7km az=10.0*
PRU ***12*** *06:13:02.8, 50.°09N×19.°08E, h0km*
ISC 12 06:13:02.1±0.5, 50.°08N±0.°04×19.°07E±0.°03, h0km, n24, σ1.°11/43, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.49**	**74**	*e*Pg	**Pg**	**06 13 11.0**	**-0.5**
OJC				*e*Sg	**Sg**	**06 13 17.6**	**-0.3**
OJC	**Ojcow**	**0.49**	**74**	*e*Pg	**Pg**	**06 13 11.0**	**-0.5**
OJC				*e*Sg	**Sg**	**06 13 17.6**	**-0.3**
OKC	**Ostrava-Krasne**	**0.64**	**248**	*e*PG	**Pg**	**06 13 15.5**	**+1.1**
OKC				*e*SG	**Sg**	**06 13 23.8**	**+1.1**
	23nm,0.4s						
OKC	**Ostrava-Krasne**	**0.64**	**248**	Pg	**Pg**	**06 13 15.5**	**+1.1**
OKC				Sg	**Sg**	**06 13 23.8**	**+1.1**
	23nm,0.4s						
MORC	**Moravsky Berou**	**1.03**	**253**	*e*Pg	**Pg**	**06 13 22.4**	**+0.5**
MORC				*e*Sg	**Sg**	**06 13 37.0**	**+1.8**
NIE	**Niedzica**	**1.05**	**129**	*e*Pg	**Pg**	**06 13 22.2**	**0.0**
NIE				*e*Sg	**Sg**	**06 13 37.4**	**+1.7**
NIE				e		06 13 37.7	
NIE	**Niedzica**	**1.05**	**129**	*e*Pg	**Pg**	**06 13 22.2**	**0.0**
NIE				*e*Sg	**Sg**	**06 13 37.4**	**+1.7**
STHS	**Stebnicka Huta**	**1.56**	**114**	*e*PG	**Pg**	**06 13 32.1**	**+0.1**
STHS				*e*SG	**Sg**	**06 13 54.7**	**+2.4**
STHS	**Stebnicka Huta**	**1.56**	**114**	*e*Pg	**Pg**	**06 13 32.1**	**+0.1**
STHS				*e*Sg	**Sg**	**06 13 54.7**	**+2.4**
VYHS	**Vyhne**	**1.60**	**185**	*e*PG	**Pg**	**06 13 31.3**	**-1.4**
VYHS				*e*SG	**Sg**	**06 13 52.6**	**-0.8**
VYHS	**Vyhne**	**1.60**	**185**	*e*Pg	**Pg**	**06 13 31.3**	**-1.4**
VYHS				*e*Sg	**Sg**	**06 13 52.6**	**-0.8**
DPC	**Dobruska-Polom**	**1.78**	**280**	*e*PG	**Pg**	**06 13 34.1**	**-2.2**
DPC				*e*SG	**Sg**	**06 13 57.9**	**-1.5**
	18nm,0.5s						
DPC	**Dobruska-Polom**	**1.78**	**280**	Pg	**Pg**	**06 13 34.1**	**-2.2**
DPC				Sg	**Sg**	**06 13 57.9**	**-1.5**
	18nm,0.5s						
VRAC	**Vranov**	**1.78**	**245**	*e*Pn	**Pn**	**06 13 35.3**	**+1.2**
VRAC				*e*Sg	**Sg**	**06 13 59.4**	**0.0**
KECS	**Kecovo**	**1.85**	**149**	*e*PN	**Pn**	**06 13 34.4**	**-0.7**
KECS				*e*SG	**Sg**	**06 13 59.7**	**-1.9**
KECS	**Kecovo**	**1.85**	**149**	*e*Pn	**Pn**	**06 13 34.4**	**-0.7**
KECS				*e*Sg	**Sg**	**06 13 59.7**	**-1.9**
KSP	**Ksiaz**	**1.93**	**294**	*e*Pg	**Pg**	**06 13 38.6**	**-0.5**
KSP				*e*Sg	**Sg**	**06 14 04.4**	**+0.4**
KSP	**Ksiaz**	**1.93**	**294**	*e*Pg	**Pg**	**06 13 38.6**	**-0.5**
KSP				*e*Sg	**Sg**	**06 14 04.4**	**+0.4**
UPC	**Upice**	**2.00**	**283**	*e*SG	**Sg**	**06 14 05.9**	**-0.6**
UPC	**Upice**	**2.00**	**283**	Sg	**Sg**	**06 14 05.9**	**-0.6**
PRU	**Pruhonice**	**2.92**	**270**	*e*SG	**Sg**	**06 14 35.3**	**-0.5**
	6.9nm,0.6s						
PRU	**Pruhonice**	**2.92**	**270**	Sg	**Sg**	**06 14 35.3**	**-0.5**
	6.9nm,0.6s						
BRG	**Berggiesshubel**	**3.37**	**286**	SG	**Sg**	**06 14 51.9**	**+1.7**
	4.3nm,0.7s						
KHC	**Kasperske Hory**	**3.69**	**257**	*e*PN	**Pn**	**06 14 00.0**	**-0.4**
KHC

*IDC **12** 06:45:18.0±1.1, 38°.99S×178°.27E, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.1/15, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=37.6km s-min=21.3km az=39.0*
*WEL **12** 06:45:21.0±0.3, 38°.90S×178°.53E, h30km±1km, ML4.2/42, Error ellipse: s-maj=2.5km s-min=1.1km az=90.0*
WEL Felt in the Gisborne region, maximum reported intensity MM 4.
*NEIC **12** 06:45:21.0, 38°.90S×178°.53E, h30km, ML4.2(WEL), After WEL.*
NEIC Felt at Gisborne and Mangapapa.

ISC 12 06:45:18.1±1.4, 39°.12S±0°.04×178°.76E±0°.09, h29km±8km, n92, σ1°01/94, mb4.2/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.66**	**267**	P*	**Pb**	**06 45 32.1**	**+0.9**
MHGZ				eS*	**Sb**	**06 45 40.7**	**+0.7**
PRGZ	**Paritu Road**	**0.71**	**285**	P*	**Pb**	**06 45 31.2**	**-0.7**
PRGZ				S*	**Sb**	**06 45 39.9**	**-1.4**
KNZ	**Kokohu**	**0.85**	**276**	PN	**Pn**	**06 45 33.6**	**-0.6**
KNZ				SN	**Sn**	**06 45 43.6**	**-2.0**
PUZ	**Puketiti**	**1.11**	**339**	PN	**Pn**	**06 45 36.4**	**-1.3**
PUZ				SN	**Sn**	**06 45 48.0**	**-4.1**
MWZ	**Matawai**	**1.24**	**309**	PN	**Pn**	**06 45 37.9**	**-1.5**
MWZ				SN	**Sn**	**06 45 49.4**	**-5.8**
RAHZ	**Arahi**	**1.32**	**278**	PN	**Pn**	**06 45 40.3**	**-0.2**
CKHZ	**Cape Kidnapper**	**1.41**	**247**	PN	**Pn**	**06 45 43.3**	**+1.5**
NMHZ	**Naumai**	**1.52**	**270**	PN	**Pn**	**06 45 43.7**	**+0.4**
URZ	**Urewera**	**1.55**	**303**	PN	**Pn**	**06 45 42.2**	**-1.5**
URZ	**Urewera**	**1.55**	**303**	Pn	**Pn**	**06 45 42.4**	**-1.4**
	64nm,0.3s,baz=125,slow=7.6,SNR=150						
URZ				Sn	**Sn**	**06 45 58.5**	**-4.4**
	234nm,0.3s,baz=324,slow=19,SNR=31						
URZ	**Urewera**	**1.55**	**303**	ePn	**Pn**	**06 45 42.5**	**-1.2**
URZ				Sn	**Sn**	**06 45 58.5**	**-4.4**
MXZ	**Matakaoa Point**	**1.59**	**347**	PN	**Pn**	**06 45 43.8**	**-0.5**
KAHZ	**Kahuranaki**	**1.61**	**244**	PN	**Pn**	**06 45 45.7**	**+1.1**
MCHZ	**McNeill Hill**	**1.63**	**258**	PN	**Pn**	**06 45 46.0**	**+1.1**
PXZ	**Pawanui**	**1.73**	**237**	PN	**Pn**	**06 45 46.8**	**+0.7**
BKZ	**Black Stump Fm**	**1.76**	**268**	PN	**Pn**	**06 45 46.8**	**+0.1**
EDRZ	**Edgecumbe**	**1.88**	**302**	PN	**Pn**	**06 45 47.7**	**-0.5**
PRRZ	**Plateau Road**	**1.95**	**288**	ePN	**Pn**	**06 45 48.1**	**-1.2**
TARZ	**Mount Tarawera**	**1.97**	**296**	PN	**Pn**	**06 45 49.1**	**-0.5**
PRHZ	**Porangahau**	**2.00**	**234**	PN	**Pn**	**06 45 50.5**	**+0.5**
WPHZ	**Waipukurau**	**2.03**	**241**	PN	**Pn**	**06 45 51.0**	**+0.7**
HRRZ	**Handcock Road**	**2.07**	**290**	ePN	**Pn**	**06 45 50.5**	**-0.4**
BHHZ	**Black Hill Sta**	**2.12**	**259**	PN	**Pn**	**06 45 52.3**	**+0.7**
PNHZ	**Pukenui**	**2.13**	**247**	PN	**Pn**	**06 45 52.5**	**+0.7**
DVHZ	**Dannevirke**	**2.32**	**239**	PN	**Pn**	**06 45 55.0**	**+0.6**
MOVZ	**Moawhango**	**2.35**	**262**	PN	**Pn**	**06 45 56.0**	**+1.2**
TSZ	**Takapari Road**	**2.36**	**246**	PN	**Pn**	**06 45 55.2**	**+0.4**
KATZ	**Kakaramea**	**2.39**	**272**	PN	**Pn**	**06 45 56.0**	**+0.7**
OTVZ	**Oturere**	**2.41**	**268**	PN	**Pn**	**06 45 56.4**	**+0.9**
TUVZ	**Tukino**	**2.42**	**265**	PN	**Pn**	**06 45 56.7**	**+1.0**
KRVZ	**Karewarewa**	**2.43**	**270**	PN	**Pn**	**06 45 56.5**	**+0.7**
NGZ	**Ngauruhoe**	**2.46**	**268**	PN	**Pn**	**06 45 57.1**	**+0.9**
WNVZ	**Wahianoa**	**2.46**	**264**	PN	**Pn**	**06 45 57.3**	**+1.0**
WTVZ	**West Tongariro**	**2.47**	**269**	PN	**Pn**	**06 45 57.2**	**+0.9**
BFZ	**Birch Farm**	**2.49**	**230**	PN	**Pn**	**06 45 56.6**	**0.0**
FWVZ	**Far West T-bar**	**2.50**	**266**	PN	**Pn**	**06 45 57.7**	**+0.9**
WPVZ	**Whakapapa**	**2.50**	**267**	PN	**Pn**	**06 45 57.8**	**+1.0**
TRVZ	**Turoa**	**2.50**	**265**	PN	**Pn**	**06 45 57.8**	**+1.0**
TWVZ	**Taurewa**	**2.59**	**270**	PN	**Pn**	**06 45 58.4**	**+0.4**
POWZ	**Post Office Ro**	**2.63**	**240**	PN	**Pn**	**06 45 59.7**	**+1.0**
PKVZ	**Pokaka**	**2.66**	**265**	PN	**Pn**	**06 46 00.0**	**+1.0**
TIWZ	**Tintock**	**2.76**	**232**	PN	**Pn**	**06 46 00.8**	**+0.3**
MRZ	**Mangatainoka R**	**2.89**	**237**	PN	**Pn**	**06 46 02.4**	**+0.2**
TMWZ	**Te Maipa**	**2.97**	**227**	PN	**Pn**	**06 46 02.8**	**-0.5**
WAZ	**Wanganui**	**2.99**	**256**	PN	**Pn**	**06 46 05.6**	**+2.1**
HOWZ	**Holdsworth Sta**	**3.06**	**233**	PN	**Pn**	**06 46 04.6**	**0.0**
HIZ	**Hauiti**	**3.11**	**280**	PN	**Pn**	**06 46 05.4**	**+0.3**
MTW	**Mount Morrison**	**3.22**	**230**	PN	**Pn**	**06 46 06.2**	**-0.6**
OGWZ	**Otaki Gorge**	**3.24**	**237**	PN	**Pn**	**06 46 07.1**	**+0.1**
KUZ	**Kuaotunu**	**3.37**	**314**	PN	**Pn**	**06 46 06.8**	**-2.0**
RAEZ	**Rainy Point**	**3.40**	**266**	PN	**Pn**	**06 46 10.6**	**+1.5**
PAWZ	**Paruwai Farm**	**3.41**	**227**	PN	**Pn**	**06 46 08.6**	**-0.8**
KIW	**Kapiti Island**	**3.43**	**238**	PN	**Pn**	**06 46 09.7**	**+0.1**
CAW	**Cannon Point**	**3.46**	**234**	PN	**Pn**	**06 46 09.6**	**-0.4**
MKAZ	**Moumakai**	**3.47**	**304**	PN	**Pn**	**06 46 09.1**	**-1.1**
DFE	**Dawson Falls**	**3.62**	**265**	PN	**Pn**	**06 46 14.2**	**+2.0**
PLWZ	**Palliser**	**3.63**	**226**	PN	**Pn**	**06 46 11.0**	**-1.4**
PKE	**Pukeiti**	**3.71**	**267**	PN	**Pn**	**06 46 14.8**	**+1.4**
SNZO	**South Karori**	**3.80**	**234**	ePn	**Pn**	**06 46 14.7**	**0.0**
SNZO				eSn	**Sn**	**06 46 56.5**	**-1.9**
TCW	**Tory Channel**	**4.02**	**237**	PN	**Pn**	**06 46 17.5**	**-0.3**
TUWZ	**Tuamarina**	**4.35**	**236**	PN	**Pn**	**06 46 21.3**	**-1.0**
BSWZ	**Blackbirch Sta**	**4.54**	**234**	PN	**Pn**	**06 46 23.7**	**-1.1**
NNZ	**Nelson**	**4.62**	**241**	PN	**Pn**	**06 46 25.5**	**-0.6**
QRZ	**Quartz Range**	**5.08**	**248**	PN	**Pn**	**06 46 30.7**	**-1.6**
KHZ	**Kahutara**	**5.16**	**229**	ePn	**Pn**	**06 46 31.4**	**-1.8**
KHZ				eSn	**Sn**	**06 47 29.6**	**-2.2**
THZ	**Tophouse**	**5.19**	**238**	PN	**Pn**	**06 46 32.4**	**-1.4**
OUZ	**Omahuta**	**5.67**	**312**	ePn	**Pn**	**06 46 40.5**	**+0.1**
CTZ	**Chatham Island**	**5.78**	**145**	PN	**Pn**	**06 46 48.2**	**+6.4**
DSZ	**Dennistoun Nort**	**5.92**	**241**	PN	**Pn**	**06 46 42.5**	**-1.4**
MQZ	**McQueen's Vall**	**6.49**	**223**	PN	**Pn**	**06 46 50.2**	**-1.4**
RPZ	**Rata Peaks**	**7.39**	**229**	Pn	**Pn**	**06 47 03.5**	**-0.5**
	1.8nm,0.3s,baz=354,slow=6.7,SNR=7.6						
RPZ				Sn	**Sn**	**06 48 20.1**	**-6.7**
	10nm,0.3s,baz=38,slow=18,SNR=21						
RPZ	**Rata Peaks**	**7.39**	**229**	Pn	**Pn**	**06 47 03.5**	**-0.5**
RPZ				Sn	**Sn**	**06 48 20.1**	**-6.7**
ODZ	**Otahua Downs**	**8.45**	**223**	PN	**Pn**	**06 47 17.2**	**-1.4**
ODZ	**Otahua Downs**	**8.45**	**223**	ePn	**Pn**	**06 47 17.9**	**-0.6**
ODZ				eSn	**Sn**	**06 48 47.4**	**-5.5**
TUZ	**Tuapeka**	**9.59**	**222**	PN	**Pn**	**06 47 33.7**	**-0.5**
AS31	**Alice Springs**	**40.85**	**279**	eP	**P**	**06 52 58.1**	**+0.7**
ASAR	**Alice Springs**	**40.85**	**279**	P	**P**	**06 52 58.3**	**+0.9**
	3.8nm,0.7s,mb4.1,baz=132,slow=8.8,SNR=39						
ASAR	**Alice Springs**	**40.85**	**279**	P	**P**	**06 52 58.3**	**+0.9**
WRA	**Warramunga Arr**	**42.63**	**284**	P	**P**	**06 53 13.2**	**+1.2**
	1.6nm,0.5s,mb4.0,baz=126,slow=7.2,SNR=18						
WRA	**Warramunga Arr**	**42.63**	**284**	P	**P**	**06 53 13.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**50.35**	**279**	P	**P**	**06 54 13.6**	**+1.0**
	1.6nm,0.5s,mb4.3,baz=124,slow=7.3,SNR=4.6						
FITZ	**Fitzroy Crossi**	**50.35**	**279**	P	**P**	**06 54 13.6**	**+1.0**
MKAR	**Makanchi Array**	**121.12**	**307**	PKP	PKPdf	07 04 10.5	+3.0
	0.8nm,0.9s,baz=46,slow=4.2,SNR=3.7						
MKAR	**Makanchi Array**	**121.12**	**307**	PKP	PKPdf	07 04 10.5	+3.1
ARCES	**ARCESS Array B**	**146.36**	**343**	PKPbc	PKPbc	07 04 58.4	+3.4
	3.4nm,0.6s,baz=56,slow=2.3,SNR=16						
ARCES	**ARCESS Array B**	**146.36**	**343**	PKPbc	PKPbc	07 04 58.4	+3.4
FINES	**FINESS Array B**	**152.03**	**332**	PKPbc	PKPbc	07 05 12.7	+3.2
	2.5nm,0.7s,baz=43,slow=3.6,SNR=8.0						
FINES	**FINESS Array B**	**152.03**	**332**	PKPbc	PKPbc	07 05 12.7	+3.2
BRTR	**Keskin Array B**	**153.15**	**282**	PKPbc	PKPbc	07 05 16.3	+3.5
	1.5nm,0.8s,baz=149,slow=3.4,SNR=6.1						
BRTR	**Keskin Array B**	**153.15**	**282**	PKPbc	PKPbc	07 05 16.2	+3.5
TORD	**Torodi Ar. Bea**	**154.00**	**187**	PKPbc	PKPbc	07 05 21.1	+5.9
	0.2nm,0.5s,baz=129,slow=4.6,SNR=2.4						
TORD				PKPab	PKPab	07 05 33.9	+5.3
	0.8nm,0.6s,baz=189,slow=3.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**154.00**	**187**	PKPbc	PKPbc	07 05 21.1	+5.9
TORD				PKPab	PKPab	07 05 33.9	+5.3

IDC 12 06:49:15.1±1.2, 6°.67S×143°.42E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.9/14, mbtmp4.0/6, ML2.8/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/23, Error ellipse: s-maj=29.5km s-min=25.7km az=93.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.59**	**127**	Pn	Pn	06 50 26.2	+0.4
	0.9nm,0.3s,baz=328,slow=19,SNR=3.1						
PMG				Sn	Sn	06 51 21.1	+1.2
	1.8nm,0.3s,baz=229,slow=19,SNR=4.2						
CTA	**Charters Tower**	**13.62**	**169**	LR	LR	06 57 47.6	
	comp=Z,160nm,18.1s,baz=49,slow=38						
WRA	**Warramunga Arr**	**15.87**	**213**	Pn	Pn	06 52 56.4	-3.6
	0.1nm,0.3s,baz=34,slow=13,SNR=11						
WRA				Sn	Sn	06 55 56.9	+0.1
	0.1nm,0.3s,baz=41,slow=24,SNR=3.3						
WRA				Lg		06 57 40.5	
	0.2nm,0.3s,baz=40,slow=29,SNR=6.8						
WRA				LR	LR	06 59 02.9	
	comp=Z,111nm,19.3s,baz=30,slow=37						
ASAR	**Alice Springs**	**19.22**	**207**	P	Pn	06 53 41.4	-0.4
	0.2nm,0.3s,baz=31,slow=12,SNR=26						
ASAR				Lg		06 59 26.2	
	0.1nm,0.3s,baz=23,slow=31,SNR=5.6						
GUMO	**Guam**	**20.17**	**4**	LR	LR	07 01 58.1	
	comp=Z,88nm,18.8s,baz=131,slow=38						
FITZ	**Fitzroy Crossi**	**20.73**	**235**	P	P	06 53 57.2	-0.2
	6.3nm,0.9s,baz=68,slow=13,SNR=8.2						
FITZ				LR	LR	07 02 31.1	
	comp=Z,186nm,19.5s,baz=92,slow=38						
STKA	**Stephens Creek**	**25.14**	**184**	LR	LR	07 05 44.4	
	comp=Z,169nm,19.0s,baz=24,slow=39						
MJAR	**Matsushiro Arr**	**43.26**	**354**	LR	LR	07 13 51.7	
	comp=Z,38nm,21.0s,baz=355,slow=34						
MKAR	**Makanchi Array**	**75.78**	**322**	P	P	07 01 03.8	+1.0
	0.8nm,0.9s,baz=108,slow=4.7,SNR=4.2						
QSPA	**South Pole Qui**	**83.31**	**180**	P	P	07 01 43.4	+0.1
	1.6nm,0.6s,baz=344,slow=3.4,SNR=7.0						
ILAR	**Eielson Array**	**87.50**	**24**	P	P	07 02 03.8	-0.6
	0.7nm,0.9s,baz=230,slow=6.1,SNR=4.5						

KRSC 12 06:59:08.4±0.5, 55°.39N×163°.51E, h14km±16km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.91**	**335**	eP	Pb	06 59 25.6	-0.3
KBTR				eS	Sb	06 59 37.8	0.0
MKZ	**Mys Kozlova**	**1.32**	**232**	eP	Pn	06 59 32.7	+0.3
MKZ				eS	Sb	06 59 49.6	-0.1
BKI	**Bering**	**1.42**	**97**	eS	Sn	06 59 56.8	+4.6
SMKR	**Semkarok**	**1.66**	**317**	eP	Pn	06 59 38.1	+1.1
SMKR				eS	Sn	06 59 59.8	+1.8
BDR	**Baidarnaya**	**1.75**	**313**	eP	Pn	06 59 39.8	+1.5
SRKR	**Sorokina**	**1.83**	**315**	eP	Pn	06 59 40.8	+1.5
KLY	**Klyuchi**	**1.86**	**301**	eP	Pn	06 59 39.2	-0.6
KMNR	**Kamenistaya**	**1.90**	**283**	eP	Pn	06 59 42.4	+2.1
TUMR	**Tumrok**	**1.93**	**268**	eP	Pn	06 59 41.2	+0.5
KPT	**Kopyto**	**1.95**	**289**	eP	Pn	06 59 42.7	+1.7
KOZ	**Kozyrevsk**	**2.16**	**290**	eP	Pn	06 59 46.4	+2.5
SRDR	**Sredinnyy**	**2.33**	**295**	eP	Pn	06 59 48.3	+2.0
SRDR				eS	Sn	07 00 16.9	+2.2
ESO	**Esso**	**2.78**	**283**	eP	Pn	06 59 55.1	+2.7
ESO				eS	Sn	07 00 30.1	+4.4
SPN	**Mys Shipunski**	**3.08**	**223**	eS	Sn	07 00 30.4	-2.6
SDLR	**Sedlovina**	**3.44**	**234**	eP	Pn	07 00 04.1	+2.7
AVH	**Avacha**	**3.51**	**235**	eP	Pn	07 00 05.6	+3.1
KOK	**Koryaka**	**3.54**	**236**	eP	Pn	07 00 06.0	+3.1

*ISCJB **12** 06:59:49.4±0.4, 40°.75N±0°.03×29°.17E±0°.04, h3km±5km, Error ellipse: s-maj=6.0km s-min=3.6km az=138.4*
*CSEM **12** 06:59:49.7±0.1, 40°.76N×29°.18E, h5km, MD2.9, Error ellipse: s-maj=1.8km s-min=1.3km az=45.0*
*ISK **12** 06:59:49.0, 40°.76N×29°.18E, h5km, MD2.9*
*DDA **12** 06:59:49.9, 40°.76N×29°.21E, h7km±2km, Md3.1*

ISC 12 06:59:49.8±0.4, 40°.75N±0°.03×29°.18E±0°.04, h5km±4km, n63, σ0°45/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUY	**Buyukada**	**0.11**	**336**	*i* P	**Pg**	**06 59 52.9**	**+0.8**
BUY				*i* S	**Sg**	**06 59 54.8**	**+1.1**
BUY	**Buyukada**	**0.11**	**336**	*i* P	**Pg**	**06 59 52.9**	**+0.8**
BUY				*i* S	**Sg**	**06 59 54.8**	**+1.1**
YLV	**Yalova**	**0.24**	**141**	ePG	**Pg**	**06 59 54.5**	**0.0**
YLV				eSG	**Sg**	**06 59 58.6**	**+1.0**
YLV	**Yalova**	**0.24**	**141**	ePg	**Pg**	**06 59 54.5**	**0.0**
YLV				eSg	**Sg**	**06 59 58.6**	**+1.0**
GEMT	**Gemlik**	**0.32**	**178**	ePG	**Pg**	**06 59 56.1**	**+0.1**
GEMT	**Gemlik**	**0.32**	**178**	ePg	**Pg**	**06 59 56.1**	**+0.1**
ISK	**Istanbul-Kandi**	**0.33**	**344**	ePG	**Pg**	**06 59 55.6**	**-0.5**
ISK				eSG	**Sg**	**07 00 00.2**	**-0.2**
ISK	**Istanbul-Kandi**	**0.33**	**344**	ePg	**Pg**	**06 59 55.6**	**-0.5**
ISK				eSg	**Sg**	**07 00 00.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.44**	**210**	ePG	**Pg**	**06 59 58.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.44**	**210**	ePg	**Pg**	**06 59 58.3**	**-0.1**
KLYT	**Kilyos**	**0.51**	**349**	ePG	**Pg**	**06 59 59.5**	**-0.2**
KLYT	**Kilyos**	**0.51**	**349**	ePg	**Pg**	**06 59 59.5**	**-0.2**
BGKT	**Bogazkoy**	**0.53**	**325**	ePG	**Pg**	**06 59 59.5**	**-0.5**
BGKT	**Bogazkoy**	**0.53**	**325**	ePg	**Pg**	**06 59 59.5**	**-0.5**
ADVT	**Abdulvahap**	**0.53**	**127**	ePG	**Pg**	**06 59 59.7**	**-0.4**
ADVT	**Abdulvahap**	**0.53**	**127**	ePg	**Pg**	**06 59 59.7**	**-0.4**
SILT	**Sile**	**0.53**	**41**	ePG	**Pg**	**06 59 59.5**	**-0.6**
SILT	**Sile**	**0.53**	**41**	ePg	**Pg**	**06 59 59.5**	**-0.6**
ELBA	**Catalca**	**0.69**	**305**	*i* P	**Pg**	**07 00 02.4**	**-0.7**
ELBA	**Catalca**	**0.69**	**305**	*i* P	**Pg**	**07 00 02.4**	**-0.7**
CTKS	**Kestanelik-??a**	**0.70**	**314**	ePG	**Pg**	**07 00 03.3**	**0.0**
CTKS	**Kestanelik-??a**	**0.70**	**314**	ePg	**Pg**	**07 00 03.3**	**0.0**
KCTX	**Karacabey (Bur**	**0.79**	**232**	ePG	**Pg**	**07 00 04.8**	**-0.3**
KCTX	**Karacabey (Bur**	**0.79**	**232**	ePg	**Pg**	**07 00 04.8**	**-0.2**
SLVT	**Silivri**	**0.87**	**303**	ePG	**Pg**	**07 00 06.3**	**-0.2**
SLVT				eSG	**Sg**	**07 00 18.7**	**+0.8**
SLVT	**Silivri**	**0.87**	**303**	ePg	**Pg**	**07 00 06.3**	**-0.3**
SLVT				eSg	**Sg**	**07 00 18.7**	**+0.8**
GPA	**Golpazari**	**0.98**	**118**	ePG	**Pg**	**07 00 08.4**	**-0.2**
CTYL	**Yal??k??y-??at**	**0.98**	**317**	ePG	**Pg**	**07 00 08.2**	**-0.5**
CTYL	**Yal??k??y-??at**	**0.98**	**317**	ePg	**Pg**	**07 00 08.2**	**-0.5**
BNT	**Bandirma**	**1.04**	**248**	ePG	**Pg**	**07 00 09.3**	**-0.4**
BNT	**Bandirma**	**1.04**	**248**	ePg	**Pg**	**07 00 09.3**	**-0.4**
GULT	**Gulveren**	**1.07**	**107**	ePG	**Pg**	**07 00 10.3**	**0.0**
GULT	**Gulveren**	**1.07**	**107**	ePg	**Pg**	**07 00 10.3**	**0.0**
EDC	**Edincik**	**1.08**	**248**	ePN	**Pg**	**07 00 10.1**	**-0.5**
EDC	**Edincik**	**1.08**	**248**	ePn	**Pg**	**07 00 10.1**	**-0.4**
DST	**Dursunbey**	**1.22**	**201**	ePN	**Pn**	**07 00 12.8**	**-0.7**
DST	**Dursunbey**	**1.22**	**201**	ePn	**Pn**	**07 00 12.8**	**-0.7**
GONE	**Gonen-Balikesi**	**1.34**	**239**	ePN	**Pn**	**07 00 15.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.34**	**239**	ePn	**Pn**	**07 00 15.1**	**0.0**
MFT	**Murefte**	**1.44**	**272**	ePN	**Pn**	**07 00 16.7**	**+0.2**
MFT	**Murefte**	**1.44**	**272**	ePn	**Pn**	**07 00 16.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.48**	**257**	ePN	**Pn**	**07 00 16.9**	**-0.1**
KRBG	**Karabiga-Canak**	**1.48**	**257**	ePn	**Pn**	**07 00 17.0**	**0.0**
BALB	**Balikesir**	**1.49**	**222**	ePN	**Pn**	**07 00 17.2**	**0.0**
BALB	**Balikesir**	**1.49**	**222**	ePn	**Pn**	**07 00 17.2**	**0.0**
MDUB	**Mudurnu**	**1.56**	**100**	ePN	**Pn**	**07 00 18.3**	**0.0**
MDUB	**Mudurnu**	**1.56**	**100**	ePn	**Pn**	**07 00 18.3**	**+0.1**
ALT	**Altintas**	**1.84**	**157**	ePN	**Pn**	**07 00 22.1**	**+0.1**
ALT	**Altintas**	**1.84**	**157**	ePn	**Pn**	**07 00 22.1**	**+0.1**
LPK	**Lapseki**	**1.88**	**259**	ePN	**Pn**	**07 00 22.3**	**-0.3**
LPK	**Lapseki**	**1.88**	**259**	ePn	**Pn**	**07 00 22.3**	**-0.3**
ERIK	**Erikli-Kesan**	**2.03**	**269**	ePN	**Pn**	**07 00 25.0**	**+0.4**
ERIK	**Erikli-Kesan**	**2.03**	**269**	ePn	**Pn**	**07 00 25.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.09**	**261**	ePN	**Pn**	**07 00 25.6**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.09**	**261**	ePn	**Pn**	**07 00 25.7**	**+0.3**
EDRB	**Edirne**	**2.13**	**302**	ePN	**Pn**	**07 00 26.7**	**+0.6**
EDRB	**Edirne**	**2.13**	**302**	ePn	**Pn**	**07 00 26.7**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.22**	**125**	ePN	**Pn**	**07 00 27.5**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.22**	**125**	ePn	**Pn**	**07 00 27.5**	**+0.2**
KULA	**Kula-Manisa**	**2.27**	**190**	ePN	**Pn**	**07 00 28.2**	**+0.3**
KULA	**Kula-Manisa**	**2.27**	**190**	ePn	**Pn**	**07 00 28.2**	**+0.3**
EZN	**Ezine**	**2.37**	**248**	ePN	**Pn**	**07 00 29.7**	**+0.4**
EZN	**Ezine**	**2.37**	**248**	ePn	**Pn**	**07 00 29.7**	**+0.4**

IDC 12 07:16:23.0±3.0, 8°.52S×118°.53E, h151km±25km, mb3.1/3, mb1 3.3/6, mb1mx3.2/19, mbtmp3.1/6, Error ellipse: s-maj=36.1km s-min=12.0km az=58.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.69**	**19**	P	Pn	07 17 19.4	+0.1
	1.0nm,0.3s,baz=232,slow=16,SNR=3.5						
KAPI				S	Sn	07 18 03.4	+0.4
	1.3nm,0.3s,baz=82,slow=8.7,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.77**	**145**	P	Pn	07 19 04.7	-1.5
	0.2nm,0.3s,baz=324,slow=7.0,SNR=6.6						
FITZ				S	Sn	07 21 07.6	-8.7
	1.0nm,0.3s,baz=168,slow=19,SNR=15						
WRA	**Warramunga Arr**	**19.05**	**128**	P	P	07 20 34.2	+0.5
	0.4nm,0.3s,baz=302,slow=13,SNR=26						
WRA				S	S	07 24 02.2	+0.2
	0.1nm,0.3s,baz=304,slow=17,SNR=4.8						
ASAR	**Alice Springs**	**21.06**	**137**	P	P	07 20 56.4	+1.1
	1.6nm,0.5s,baz=309,slow=9.2,SNR=44						
ASAR				S	S	07 24 53.0	+12
	0.6nm,0.7s,baz=304,slow=22,SNR=4.9						
SONM	**Songino Array**	**57.13**	**350**	P	P	07 25 54.3	+0.6
	0.4nm,0.5s,baz=165,slow=6.0,SNR=4.0						
MKAR	**Makanchi Array**	**63.82**	**333**	P	P	07 26 38.6	-0.5
	0.2nm,0.5s,baz=135,slow=4.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**117.92**	**280**	PKP	PKPdf	07 34 52.7	+0.1
	0.3nm,0.4s,baz=53,slow=2.1,SNR=3.9						

*ISCJB **12** 07:26:08.4±0.3, 40°.57N±0°.02×27°.30E±0°.03, h10km±2km, Error ellipse: s-maj=3.5km s-min=3.2km az=39.3*

*CSEM **12** 07:26:08.5±0.1, 40°.58N×27°.31E, h10km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.8km az=17.0*
*ATH **12** 07:26:08.0, 40°.57N×27°.31E, h20km±1km, MD3.2/5*
*DDA **12** 07:26:08.6, 40°.55N×27°.32E, h7km±4km, Ml3.0*
*ISK **12** 07:26:08.1, 40°.57N×27°.31E, h12km, MD3.0*

ISC 12 07:26:08.7±0.3, 40°.58N±0°.02×27°.31E±0°.03, h11km±2km, n72, σ0°76/98, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.15**	**318**	ePG	**Pg**	**07 26 12.6**	**+0.5**
RKY				eSG	**Sg**	**07 26 15.4**	**+0.9**
RKY	**Sarkoy-Tekirda**	**0.15**	**318**	ePg	**Pg**	**07 26 12.6**	**+0.5**
RKY				eSg	**Sg**	**07 26 15.4**	**+0.9**
SART	**Tekirdag**	**0.15**	**319**	*i* P	**Pg**	**07 26 12.2**	**+0.1**
SART				*i* S	**Sg**	**07 26 15.1**	**+0.6**
SART	**Tekirdag**	**0.15**	**319**	*i* P	**Pg**	**07 26 12.2**	**+0.1**
SART				*i* S	**Sg**	**07 26 15.1**	**+0.6**
KRBG	**Karabiga-Canak**	**0.18**	**183**	PG	**Pg**	**07 26 12.7**	**+0.1**
KRBG				eSG	**Sg**	**07 26 15.7**	**+0.4**
KRBG	**Karabiga-Canak**	**0.18**	**183**	*i* Pg	**Pg**	**07 26 12.7**	**+0.1**
KRBG				eSg	**Sg**	**07 26 15.7**	**+0.4**
MFT	**Murefte**	**0.21**	**354**	ePG	**Pg**	**07 26 13.9**	**+0.8**
MFT				eSG	**Sg**	**07 26 16.7**	**+0.5**
MFT	**Murefte**	**0.21**	**354**	ePg	**Pg**	**07 26 14.0**	**+0.9**
MFT				eSg	**Sg**	**07 26 16.7**	**+0.5**
TKR	**Tekirdag**	**0.45**	**22**	ePG	**Pg**	**07 26 17.4**	**0.0**
TKR	**Tekirdag**	**0.45**	**22**	ePg	**Pg**	**07 26 17.4**	**0.0**
LPK	**Lapseki**	**0.47**	**244**	ePG	**Pg**	**07 26 16.7**	**-1.1**
LPK	**Lapseki**	**0.47**	**244**	ePg	**Pg**	**07 26 16.7**	**-1.1**
EDC	**Edincik**	**0.48**	**118**	ePG	**Pg**	**07 26 17.9**	**-0.1**
EDC				eSG	**Sg**	**07 26 25.1**	**+0.7**
EDC	**Edincik**	**0.48**	**118**	ePg	**Pg**	**07 26 18.0**	**0

mpv2.7, Error ellipse: s-maj=51.2km s-min=35.2km az=23.0

ISC 12 07:46:13.3±2.9, 50°.7N±0°.2×79°.1E±0°.4, h10km, n6, σ0s86/9, 5C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**5.87 297**		**Pn**	**Pn**	**07 47 40.9**	**+0.7**
	0.1nm,0.8s,baz=92,slow=12,SNR=4.0						
BVA0				⇓Sn	**Sn**	**07 48 48.2**	**+0.6**
	0.6nm,1.2s,baz=104,slow=22,SNR=5.5						
BVA0				⇓Lg		07 49 19.1	
	0.3nm,0.6s,baz=111,slow=27						
BRVK	**Borovoye**	**5.94 297**		⇑Pn	**Pn**	**07 47 41.8**	**+0.6**
	5.0nm,1.4s						
BRVK				⇓Sn	**Sn**	**07 48 48.0**	**-1.3**
	3.7nm,0.6s						
BRVK				⇓Lg		07 49 20.1	
	2.4nm,0.5s						
ZRNK	**Zerenda**	**6.65 294**		⇑Pn	**Pn**	**07 47 49.5**	**-1.3**
	0.8nm,0.6s						
ZRNK				⇑Sn	**Sn**	**07 49 07.2**	**+0.6**
	2.9nm,0.8s						
ZRNK				⇑Lg		07 49 44.0	
	1.7nm,0.6s						
TKM2	**Tokmak 2**	**8.14 198**		P	**Pn**	**07 48 11.6**	**+0.2**
	SNR=5.0						
TKM2				P		07 48 11.6	
	SNR=5.0						
TKM2	**Tokmak 2**	**8.14 198**		⇓Pn	**Pn**	**07 48 11.1**	**-0.3**
	3.6nm,0.8s						
TKM2				⇑Sn	Sn	07 48 58.0	-45
	4.4nm,0.3s						
UCH	**Uchtor**	**9.04 202**		P	**Pn**	**07 48 28.2**	**+4.4**
	SNR=9.0						
UCH				P		07 48 28.2	
	SNR=9.0						

IDC 12 07:50:08.0±24.0, 16°.80S×172°.46W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=448.4km s-min=164.2km az=71.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.23 259**		P	P	07 57 38.0	-0.4
	1.0nm,0.3s,baz=84,slow=9.2,SNR=3.1						
STKA	**Stephens Creek**	**44.14 241**		P	P	07 58 18.6	+0.1
	0.9nm,0.4s,baz=84,slow=9.2,SNR=4.1						
WRA	**Warramunga Arr**	**50.42 258**		P	P	07 59 07.2	-0.5
	0.7nm,0.7s,baz=96,slow=6.5,SNR=14						
ASAR	**Alice Springs**	**50.55 253**		P	P	07 59 09.2	+0.6
	4.8nm,0.5s,baz=90,slow=8.4,SNR=139						

IDC 12 07:56:54.4±0.8, 11°.12S×120°.07E, h0km, mb4.2/7, mb1 4.3/11, mb1mx4.1/19, mbtmp4.2/11, ML4.0/4, MS2.9/1, Error ellipse: s-maj=45.9km s-min=15.5km az=66.0

ISCJB 12 07:56:55.5±0.4, 11°.52S±0°.04×119°.80E±0°.05, h33km, mb4.1/9, Error ellipse: s-maj=8.0km s-min=4.5km az=149.7

NEIC 12 07:56:56.7±3.7, 11°.46S×119°.77E, h22km±28km, mb4.2/3, Error ellipse: s-maj=22.5km s-min=9.9km az=64.0

DJA 12 07:57:03, 10°.64S×119°.68E, h145km, MLv4.4/9

ISC 12 07:56:57.8±0.4, 11°.47S±0°.04×119°.80E±0°.05, h35km, n45, σ1s28/57, mb4.1/9, 1D, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.85**	**15**	P	**Pn**	**07 57 31.4**	**+4.2**
WSI				S	**Sn**	**07 57 49.1**	**-0.3**
BMNI	**Bima**	**3.11**	**339**	P	**Pn**	**07 57 44.5**	**+0.1**
BMNI				S	**Sn**	**07 58 13.7**	**-6.6**
MMRI	**Maumere**	**3.70**	**41**	P	**Pn**	**07 57 55.1**	**+2.5**
MMRI				S	**Sn**	**07 58 32.8**	**-2.2**
MTNI	**Mataram**	**4.55**	**308**	P	**Pn**	**07 58 03.4**	**-0.8**
KHKI	**Kahang-Kahang**	**5.15**	**306**	P	**Pn**	**07 58 12.3**	**-0.2**
IGBI	**Denpasar**	**5.28**	**299**	P	**Pn**	**07 58 13.8**	**-0.5**
SRBI	**Singaraja**	**5.63**	**306**	P	**Pn**	**07 58 20.3**	**+1.2**
	0.3nm4μm50nm,1.4s						
BKSI	**Bulukumba**	**6.12**	**3**	P	**Pn**	**07 58 21.2**	**-4.6**
	0.2nm50nm,0.7s						
JAGI	**Jajag, Banyuwa**	**6.31**	**298**	P	**Pn**	**07 58 25.9**	**-2.5**
KAPI	**Kappang**	**6.41**	**360**	Pn	**Pn**	**07 58 27.3**	**-2.6**
	2.0nm,0.3s,baz=204,slow=14,SNR=6.7						
KAPI				Sn	**Sn**	**07 59 39.0**	**-3.0**
	6.2nm,0.3s,baz=133,slow=19,SNR=6.4						
KAPI	**Kappang**	**6.41**	**360**	*e*Pn	**Pn**	**07 58 31.0**	**+1.1**
KAPI				*e*Sn	**Sn**	**07 59 42.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**8.68**	**140**	Pn	**Pn**	**07 59 02.1**	**+1.1**
	1.6nm,0.3s,baz=328,slow=12,SNR=38						
FITZ				Sn	**Sn**	**08 00 36.0**	**-1.7**
	1.9nm,0.3s,baz=177,slow=19,SNR=8.1						
FITZ				LR	LR	08 02 34.0	
	comp=Z,71nm,19.1s,baz=114,slow=39						
FITZ	**Fitzroy Crossi**	**8.68**	**140**	*e*P	**Pn**	**07 59 01.6**	**+0.6**
	29nm,0.6s						
FITZ				*e*S	**Sn**	**08 00 33.9**	**-3.8**
FITZ	**Fitzroy Crossi**	**8.68**	**140**	Pn	**Pn**	**07 59 02.1**	**+1.1**
FITZ				Sn	**Sn**	**08 00 36.0**	**-1.7**
MBWA	**Marble Bar**	**9.64**	**180**	*e*P	**Pn**	**07 59 07.7**	**-6.4**
MBWA				*e*S	**Sn**	**08 00 52.0**	**-9.1**
MBWA	**Marble Bar**	**9.64**	**180**	*e*Pn	**Pn**	**07 59 13.6**	**-0.5**
	35nm,1.1s						
MBWA				*e*Sn	**Sn**	**08 00 52.5**	**-8.6**
MEEK	**Meekatharra**	**15.13**	**184**	*e*P	**Pn**	**08 00 28.1**	**-0.9**
	36nm,0.3s						
MEEK				*e*S	S	08 02 59.9	-32
WRA	**Warramunga Arr**	**16.33**	**123**	Pn	**Pn**	**08 00 43.4**	**-1.1**
	0.9nm,0.3s,baz=297,slow=13,SNR=49						
WRA				Sn	**Sn**	**08 03 37.0**	**-7.7**
	0.5nm,0.3s,baz=293,slow=25,SNR=7.0						
WRA	**Warramunga Arr**	**16.33**	**123**	Pn	**Pn**	**08 00 43.4**	**-1.1**
WRA				Sn	**Sn**	**08 03 37.0**	**-7.7**
WRAB	**Tennant Creek**	**16.33**	**123**	*e*P	**Pn**	**08 00 44.5**	**-0.2**
	4.5nm,0.7s						
WB2	**Warramunga Arr**	**16.34**	**123**	*e*P	**Pn**	**08 00 43.6**	**-1.0**
MORW	**Morawa**	**17.86**	**191**	*e*P	**Pn**	**08 01 02.3**	**-1.3**
	27nm,0.3s						
MORW				*e*S	S	08 04 02.1	-25
AS31	**Alice Springs**	**18.09**	**134**	*e*P	**Pn**	**08 01 08.5**	**+2.1**
ASAR	**Alice Springs**	**18.09**	**134**	P	**Pn**	**08 01 08.6**	**+2.1**
	0.5nm,0.3s,baz=314,slow=13,SNR=35						
ASAR				S	**S**	**08 04 21.8**	**-10**
	0.2nm,0.3s,baz=312,slow=24,SNR=6.2						
ASAR	**Alice Springs**	**18.09**	**134**	P	**Pn**	**08 01 08.6**	**+2.1**
ASAR				S	**S**	**08 04 21.8**	**-10**
NWAO	**Narrogin (SRO)**	**21.49**	**186**	P	**P**	**08 01 50.0**	**+6.5**
	5.1nm,0.5s,mb4.1,baz=19,slow=14,SNR=7.4						
NWAO	**Narrogin (SRO)**	**21.49**	**186**	P	**P**	**08 01 50.0**	**+6.5**
STKA	**Stephens Creek**	**28.57**	**139**	P	**P**	**08 02 53.2**	**+2.5**
	1.6nm,0.6s,mb3.9,baz=328,slow=9.5,SNR=3.4						
STKA	**Stephens Creek**	**28.57**	**139**	P	**P**	**08 02 53.2**	**+2.5**
SONM	**Songino Array**	**60.23**	**350**	P	**P**	**08 07 03.3**	**+0.9**
	2.0nm,0.8s,mb4.2,baz=167,slow=8.0,SNR=14						
SONM	**Songino Array**	**60.23**	**350**	P	**P**	**08 07 03.3**	**-0.9**
MKAR	**Makanchi Array**	**67.00**	**333**	P	**P**	**08 07 47.8**	**+0.7**
	3.0nm,0.7s,mb4.4,baz=149,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**67.00**	**333**	P	**P**	**08 07 47.8**	**+0.7**
TKM2	**Tokmak 2**	**67.53**	**326**	⇓P	**P**	**08 07 50.4**	**-0.2**
	1.6nm,0.8s,mb4.1						
TKM2	**Tokmak 2**	**67.53**	**326**	*e*P	**P**	**08 07 51.1**	**+0.6**
	1.2nm,0.5s,mb4.2						
KURK	**Kurchatov**	**71.54**	**334**	P	**P**	**08 08 15.2**	**0.0**
	0.8nm,0.7s,mb3.8,baz=143,slow=4.9,SNR=5.3						
KURK	**Kurchatov**	**71.54**	**334**	P	**P**	**08 08 15.2**	**0.0**
ZAA0	**Zalesovo Array**	**71.61**	**339**	*e*P	**P**	**08 08 15.0**	**-0.5**
ZALV	**Zalesovo Beam**	**71.61**	**339**	P	**P**	**08 08 15.5**	**0.0**
	2.4nm,0.6s,mb4.3,baz=144,slow=4.8,SNR=10						
ZALV	**Zalesovo Beam**	**71.61**	**339**	P	**P**	**08 08 15.5**	**0.0**
ABKAR	**Akbulak array**	**80.02**	**325**	*e*P	**P**	**08 09 04.6**	**+1.0**
	2.6nm,0.9s,mb4.2						
AKTO	**Aktyubinsk**	**81.69**	**325**	P	**P**	**08 09 13.9**	**+1.4**
	1.8nm,0.5s,mb4.2,baz=114,slow=6.9,SNR=7.8						
AKTO	**Aktyubinsk**	**81.69**	**325**	P	**P**	**08 09 13.9**	**+1.4**
YKA	**Yellowknife Ar**	**116.10**	**25**	PKP	PKPdf	08 15 38.4	+1.6
	0.4nm,0.5s,baz=304,slow=2.2,SNR=4.4						
YKA	**Yellowknife Ar**	**116.10**	**25**	PKP	PKPdf	08 15 38.5	+1.6

IDC 12 08:09:59.5±3.4, 7°.39S×128°.67E, h107km±32km, mb3.9/11, mb1 4.0/15, mb1mx4.0/20, mbtmp4.0/15, MS3.1/3, Ms1 3.1/3, ms1mx2.6/27, Error ellipse: s-maj=24.7km s-min=14.3km az=66.0

NEIC 12 08:09:59.9±1.6, 7°.46S×128°.78E, h113km±15km, mb4.5/11, Error ellipse: s-maj=13.4km s-min=8.8km az=53.0

ISCJB 12 08:10:02.4±1.2, 7°.54S±0°.06×128°.82E±0°.06, h156km±13km, mb4.2/16, Error ellipse: s-maj=13.2km s-min=6.3km az=43.2

DJA 12 08:10:09, 8°.08S×128°.54E, h208km, mb4.5/9

ISC 12 08:10:05.0±1.1, 7°.72S±0°.07×128°.80E±0°.07, h170km±12km, n65, σ1s30/70, mb4.2/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**6.56**	**262**	P	**Pn**	**08 11 40.3**	**+1.0**
	0.9nm3μm197nm,1.1s						
MMRI				S	**Sn**	**08 12 51.8**	**-1.7**
	0.9nm3μm197nm,1.1s						
KDI	**Kendari**	**7.19**	**301**	P	**Pn**	**08 11 49.5**	**+1.8**
	0.3nm893nm87nm,1.1s						
WSI	**Waingapu**	**8.63**	**256**	P	**Pn**	**08 12 06.2**	**-0.5**
	484nm,0.4s						
WSI				S	**Sn**	**08 13 38.4**	**-4.6**
	484nm,0.4s						
BKSI	**Bulukumba**	**8.94**	**285**	P	**Pn**	**08 12 11.6**	**+0.8**
	40nm,1.2s						
APSI	**Ampana**	**9.82**	**313**	P	**Pn**	**08 12 29.5**	**+7.1**
BMNI	**Bima**	**10.04**	**265**	P	**Pn**	**08 12 27.2**	**+1.9**
	954nm23nm,0.9s						
BMNI				S	**Sn**	**08 14 11.9**	**-5.0**
	954nm23nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.77**	**196**	P	**Pn**	**08 12 33.3**	**-1.5**
	1.8nm,0.3s,baz=20,slow=12,SNR=52						
FITZ				S	**Sn**	**08 14 27.9**	**-6.5**
	3.1nm,0.3s,baz=270,slow=20,SNR=9.8						
FITZ				LR	LR	08 16 11.3	
	comp=Z,32nm,20.9s,baz=20,slow=34						
FITZ	**Fitzroy Crossi**	**10.77**	**196**	*e*P	**Pn**	**08 12 34.3**	**-0.5**
	12nm,0.3s						
FITZ				*e*S	**Sn**	**08 14 28.8**	**-5.6**
FITZ	**Fitzroy Crossi**	**10.77**	**196**	P	**Pn**	**08 12 33.3**	**-1.5**
FITZ				S	**Sn**	**08 14 27.9**	**-6.5**
WRAB	**Tennant Creek**	**13.28**	**157**	*e*Pn	**Pn**	**08 13 05.6**	**-1.5**
	12nm,0.6s						
WRAB				*e*Sn	**Sn**	**08 15 27.6**	**-7.1**
WRAB	**Tennant Creek**	**13.28**	**157**	P	**Pn**	**08 13 06.4**	**-0.7**
	36nm,0.7s						
WRA	**Warramunga Arr**	**13.29**	**157**	P	**Pn**	**08 13 06.5**	**-0.7**
	3.4nm,0.3s,baz=338,slow=12,SNR=94						
WRA				S	**Sn**	**08 15 27.6**	**-7.2**
	6.7nm,0.3s,baz=336,slow=22,SNR=12						
WRA				LR	LR	08 18 24.2	
	comp=Z,29nm,18.1s,baz=355,slow=37						
WRA	**Warramunga Arr**	**13.29**	**157**	P	**Pn**	**08 13 06.5**	**-0.7**
WRA				S	**Sn**	**08 15 27.6**	**-7.1**
WB2	**Warramunga Arr**	**13.29**	**157**	*e*Pn	**Pn**	**08 13 06.2**	**-1.1**
WB2				*e*Sn	**Sn**	**08 15 28.0**	**-6.9**
COEN	**Coen**	**15.42**	**115**	*e*P	**Pn**	**08 13 32.8**	**-0.9**
	74nm,0.6s						
COEN				*e*S	**S**	**08 16 14.9**	**-11**
COEN	**Coen**	**15.42**	**115**	*e*P	**Pn**	**08 13 33.0**	**-0.7**
	69nm,0.4s						
COEN	**Coen**	**15.42**	**115**	P	**Pn**	**08 13 33.2**	**-0.5**
	29nm,0.8s						
MBWA	**Marble Bar**	**15.98**	**212**	*e*P	**Pn**	**08 13 40.0**	**-0.6**
	4.6nm,0.4s						
AS31	**Alice Springs**	**16.60**	**163**	*e*P	**Pn**	**08 13 50.7**	**+2.6**
AS31				*e*S	**S**	**08 16 51.6**	**-0.7**
ASAR	**Alice Springs**	**16.60**	**163**	P	**Pn**	**08 13 50.2**	**+2.2**
	1.5nm,0.3s,baz=339,slow=9.8,SNR=131						
ASAR				S	**S**	**08 16 48.6**	**-3.8**
	1.7nm,0.3s,baz=339,slow=25,SNR=9.2						
ASAR	**Alice Springs**	**16.60**	**163**	P	**Pn**	**08 13 50.2**	**+2.2**
ASAR				S	**S**	**08 16 48.6**	**-3.8**
PMG	**Port Moresby**	**18.23**	**97**	P	**P**	**08 14 06.6**	**+1.0**
	1.2nm,0.3s,baz=273,slow=10,SNR=9.2						
PMG	**Port Moresby**	**18.23**	**97**	*e*P	**P**	**08 14 10.0**	**+4.5**
	17nm,0.8s						
PMG	**Port Moresby**	**18.23**	**97**	P	**P**	**08 14 10.5**	**+5.0**
KSM	**Kuching**	**20.58**	**296**	*e*P	**P**	**08 14 30.6**	**-0.2**
	33nm,1.1s						
CTA	**Charters Tower**	**20.91**	**128**	P	**P**	**08 14 37.5**	**+3.2**
	2.2nm,0.7s,baz=301,slow=14,SNR=3.0						
CTA	**Charters Tower**	**20.91**	**128**	P	**P**	**08 14 37.5**	**+3.2**
FORT	**Forrest**	**22.96**	**182**	*e*P	**P**	**08 14 57.9**	**+3.3**
	22nm,1.1s,mb4.5						
FORT	**Forrest**	**22.96**	**182**	*e*P	**P**	**08 14 58.0**	**+3.4**
	23nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**25.89**	**202**	*e*P	**P**	**08 15 24.5**	**+3.3**
	41nm,1.6s,mb4.8						
STKA	**Stephens Creek**	**26.83**	**155**	P	**P**	**08 15 34.4**	**+4.7**
	1.7nm,0.4s,mb4.0,baz=342,slow=6.4,SNR=5.7						
STKA	**Stephens Creek**	**26.83**	**155**	*e*P	**P**	**08 15 32.8**	**+3.2**
	3.3nm,2.0s,mb3.6						
STKA	**Stephens Creek**	**26.83**	**155**	*e*P	**P**	**08 15 32.7**	**+3.1**
	0.9nm,0.8s,mb3.5						
NWAO	**Narrogin (SRO)**	**27.29**	**202**	P	**P**	**08 15 36.4**	**+2.8**
	4.6nm,0.5s,mb4.4,baz=35,slow=10,SNR=8.2						
NWAO	**Narrogin (SRO)**	**27.29**	**202**	P	**P**	**08 15 36.4**	**+2.8**
CMAR	**Chiang Mai Arr**	**39.30**	**312**	P	**P**	**08 17 16.7**	**-0.9**
	0.8nm,0.3s,mb3.8,baz=140,slow=4.4,SNR=6.9						
CMAR	**Chiang Mai Arr**	**39.30**	**312**	P	**P**	**08 17 16.7**	**-0.9**
LZH	**Lanzhou**	**49.49**	**333**	*e*P	**P**	**08 18 38.0**	**-0.2**
	15nm,1.0s,mb4.6						
LZH				pP	pP	08 18 42.5	-34
LZH				sP	sP	08 18 44.0	-51
AFI	**Afiamalu**	**58.57**	**102**	LR	LR	08 43 41.8	
	comp=Z,113nm,18.5s,baz=103,slow=34						
SONM	**Songino Array**	**58.75**	**343**	P	**P**	**08 19 43.9**	**-1.1**
	0.5nm,0.6s,mb3.5,baz=165,slow=5.6,SNR=5.5						
SONM	**Songino Array**	**58.75**	**343**	P	**P**	**08 19 43.9**	**-1.1**
PETK	**Petropavlovsk-**	**65.37**	**19**	P	**P**	**08 20 28.9**	**-0.1**
	1.6nm,0.5s,mb4.1,baz=191,slow=7.0,SNR=3.1						
PETK	**Petropavlovsk-**	**65.37**	**19**	P	**P**	**08 20 28.9**	**-0.1**
MKAR	**Makanchi Array**	**68.18**	**328**	P	**P**	**08 20 46.3**	**-0.5**
	1.5nm,0.4s,mb4.0,baz=115,slow=7.7,SNR=31						
MKAR	**Makanchi Array**	**68.18**	**328**	P	**P**	**08 20 46.3**	**-0.5**
AAK	**Ala-Archa**	**70.32**	**320**	*e*P	**P**	**08 21 00.6**	**+0.5**
	34nm,1.1s,mb5.0						
EKS2	**Erkin-Say**	**70.79**	**320**	*e*P	**P**	**08 21 03.5**	**+0.5**
	7.1nm,1.1s,mb4.3						
ZAA0	**Zalesovo Array**	**71.70**	**334**	*e*P	**P**	**08 21 07.3**	**-0.8**
ZALV	**Zalesovo Beam**	**71.70**	**334**	P	**P**	**08 21 07.3**	**-0.9**
	1.9nm,0.5s,mb4.1,baz=122,slow=6.1,SNR=11						
ZALV	**Zalesovo Beam**	**71.70**	**334**	P	**P**	**08 21 07.3**	**-0.9**
KURK	**Kurchatov**	**72.51**	**329**	P	**P**	**08 21 12.2**	**-0.8**
	2.3nm,0.5s,mb4.2,baz=127,slow=4.8,SNR=26						
KURK	**Kurchatov**	**72.51**	**329**	*e*P	**P**	**08 21 12.9**	**-0.2**
	3.8nm,0.8s,mb4.2						
KKAR	**Karatay Array**	**73.10**	**319**	*e*P	**P**	**08 21 17.1**	**+0.4**
	6.5nm,1.1s,mb4.3						
QSPA	**South Pole Qui**	**82.27**	**180**	P	**P**	**08 22 08.8**	**+2.0**
	1.8nm,0.3s,mb4.2,baz=300,slow=7.7,SNR=3.7						
QSPA	**South Pole Qui**	**82.27**	**180**	P	**P**	**08 22 08.8**	**+2.0**
ILAR	**Eielson Array**	**94.50**	**25**	P	**P**	**08 23 04.5**	**-1.1**
	1.0nm,1.1s,mb3.8,baz=248,slow=4.8,SNR=4.0						
ILAR	**Eielson Array**	**94.50**	**25**	P	**P**	**08 23 04.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**127.78**	**281**	PKP	PKPdf	08 28 52.4	+1.2
	0.5nm,0.5s,baz=30,slow=1.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**127.78**	**281**	PKP	PKPdf	08 28 52.4	+1.2
CFAA	**Coronel Fontan**	**137.64**	**158**	PKP	PKPdf	08 29 11.7	+2.3
	0.2nm,0.4s,baz=203,slow=3.6,SNR=4.3						
CFAA	**Coronel Fontan**	**137.64**	**158**	PKP	PKPdf	08 29 11.7	+2.3
CPUP	**Villa Florida**	**145.64**	**170**	PKPbc	PKPbc	08 29 27.1	+2.7
	1.7nm,0.6s,baz=206,slow=3.5,SNR=5.1						
CPUP	**Villa Florida**	**145.64**	**170**	PKPbc	PKPbc	08 29 27.1	+2.7
LPAZ	**La Paz**	**150.85**	**145**	PKPbc	PKPbc	08 29 42.4	+4.0
	2.3nm,0.4s,baz=88,slow=1.2,SNR=7.2						
LPAZ	**La Paz**	**150.85**	**145**	*e*PKPbc	PKPbc	08 29 41.4	+3.1

ISCJB 12 08:12:13.7±0.5, 58°.87S±0°.05×149°.3E±0°.2, h10km, mb4.6/12, MS4.2/16, Error ellipse: s-maj=18.5km s-min=7.7km az=5.5

IDC 12 08:12:13.7±0.8, 58°.80S×149°.26E, h0km, mb4.6/9, mb1 4.7/9, mb1mx4.5/16, mbtmp4.6/9, MS4.2/16, Ms1 4.2/16, ms1mx4.1/21, Error ellipse: s-maj=36.3km s-min=16.8km az=94.0

NEIC 12 08:12:15.3±0.4, 58°.85S×149°.18E, h10km, mb4.7/8, Error ellipse: s-maj=15.4km s-min=7.6km az=95.0

GCMT 12 08:12:19.9±0.3, 58°.81S×148°.90E, h12km, MW5.1, Moment Tensor Solution. s37,c43; s72,c111; Moment tensor: Scale 10^16 Nm; Mrr=0.62±.15; Mθθ 2.25±.12; Mφφ=-1.63±.15; Mrθ=1.69±.34; Mθφ=4.07±.10; Mφr=0.26±.39; Best double couple: M0=4.80000×10^16 NP1:φs347.00000°, δ69.00000°, λ=-3.00000°. NP2:φs78.00000°, δ87.00000°, λ=-159.00000°. Principal axes: T 5.1200, Plg13.0000°, Azm211.0000°; N -0.5800, Plg69.0000°, Azm85.0000°; P -4.5400, Plg17.0000°, Azm305.0000°; Data Used: II IU IC G CN.

ISC 12 08:12:15.5±0.5, 58°.88S±0°.05×149°.3E±0°.2, h10km, n52, σ0s92/34, mb4.6/12, MS4.2/16, 1D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**16.03**	**355**	*e*P	**Pn**	**08 16 04.8**	**+4.1**
	57nm,0.9s						
MOO	**Moorlands**	**16.50**	**355**	*e*P	**Pn**	**08 16 10.8**	**+4.0**
	208nm,1.0s						
CASY	**Casey**	**19.02**	**231**	*e*P	**Pn**	**08 16 37.1**	**-0.6**
	60nm,1.3s						
VNDA	**Vanda**	**19.21**	**172**	*e*P	**Pn**	**08 16 38.5**	**-1.5**
	115nm,1.7s						
SBA	**Scott Base**	**19.94**	**169**	*e*P	**Pn**	**08 16 47.4**	**-1.3**
	25nm,1.1s						
RPZ	**Rata Peaks**	**20.26**	**51**	LR	LR	08 23 28.9	
	comp=Z,857nm,18.4s,MS4.1,baz=200,slow=33						
TOO	**Toolangi**	**21.46**	**352**	*e*P	**P**	**08 17 04.2**	**+0.5**
	127nm,1.1s,mb5.2						
YNG	**Young**	**24.59**	**358**	*e*P	**P**	**08 17 36.0**	**+0.6**
	20nm,0.9s,mb4.6						
URZ	**Urewera**	**27.32**	**53**	P	**P**	**08 17 59.8**	**-0.3**
	21nm,1.0s,mb4.6,baz=34,slow=7.3,SNR=4.7						
URZ				LR	LR	08 28 08.2	
	comp=Z,582nm,18.8s,MS4.2,baz=334,slow=35						
URZ	**Urewera**	**27.32**	**53**	P	**P**	**08 17 59.8**	**-0.3**
QSPA	**South Pole Qui**	**31.22**	**180**	P	**P**	**08 18 35.0**	**+0.6**
	10nm,1.0s,mb4.6,baz=355,slow=4.5,SNR=13						
QSPA				LR	LR	08 30 56.9	
	comp=Z,499nm,18.6s,MS4.2,baz=212,slow=36						
QSPA	**South Pole Qui**	**31.22**	**180**	*e*P	**P**	**08 18 35.3**	**+0.9**
	12nm,1.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**33.62**	**306**	LR	LR	08 29 12.7	
	comp=Z,411nm,18.8s,MS4.2,baz=145,slow=30						
MAW	**Mawson**	**36.69**	**220**	P	**P**	**08 19 22.5**	**+0.6**
	14nm,1.1s,mb4.7,baz=129,slow=13,SNR=3.0						
MAW				LR	LR	08 34 27.7	
	comp=Z,709nm,18.4s,MS4.5,baz=111,slow=36						
MAW	**Mawson**	**36.69**	**220**	P	**P**	**08 19 22.5**	**+0.6**
ASAR	**Alice Springs**	**36.83**	**336**	P	**P**	**08 19 22.9**	**-0.7**
	2.6nm,0.6s,mb4.2,baz=169,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**36.83**	**336**	P	**P**	**08 19 22.9**	**-0.7**
DZM	**Mont Dzumac**	**38.78**	**26**	*e*P	**P**	**08 19 40.4**	**+0.4**
	36nm,1.2s,mb5.0						
DZM				*e*S	**S**	**08 25 32.6**	**-4.6**
	189nm,27.1s						
DZM				*e*LR	LR	08 29 58.7	
	1μm,25.9s						
DZM	**Mont Dzumac**	**38.78**	**26**	*e*P	**P**	**08 19 41.0**	**+1.0**
	18nm,1.3s,mb4.6						
CTA	**Charters Tower**	**38.80**	**356**	P	**P**	**08 19 39.3**	**-0.9**
	10nm,0.7s,mb4.7,baz=204,slow=13,SNR=7.0						
CTA				LR	LR	08 33 42.1	
	comp=Z,629nm,18.7s,MS4.5,baz=183,slow=33						
CTA	**Charters Tower**	**38.80**	**356**	P	**P**	**08 19 39.3**	**-0.9**
CTAO	**Charters Tower**	**38.80**	**356**	*e*P	**P**	**08 19 40.9**	**+0.8**
	7.5nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**40.36**	**338**	P	**P**	**08 19 51.8**	**-1.4**
	6.0nm,0.9s,mb4.3,baz=164,slow=7.2,SNR=5.0						
WRA				LR	LR	08 34 07.3	
	comp=Z,265nm,20.4s,MS4.1,baz=160,slow=33						
WRA	**Warramunga Arr**	**40.36**	**338**	P	**P**	**08 19 51.8**	**-1.3**
SYO	**Syowa Base**	**42.77**	**210**	⇓*e*P	**P**	**08 20 11.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**44.23**	**327**	LR	LR	08 36 53.2	
	comp=Z,300nm,18.4s,MS4.2,baz=165,slow=34						
SNAA	**Sanae**	**48.29**	**191**	*e*	**P**	**08 20 56.8**	**+0.8**
SNAA	**Sanae**	**48.29**	**191**	P	**P**	**08 20 56.6**	**+0.6**
	13nm,1.2s,mb4.9,baz=173,slow=7.9,SNR=20						
SNAA	**Sanae**	**48.29**	**191**	*e*P	**P**	**08 20 56.2**	**+0.1**
	45nm,1.3s,mb5.3						
VNA3	**Neumayer Olymp**	**49.33**	**189**	*e*	**P**	**08 21 04.8**	**+0.8**
VNA3				*e*		08 21 10.5	
PMG	**Port Moresby**	**49.38**	**357**	P	**P**	**08 21 04.3**	**-

az=31.0

ISC 12 08:27:07.8±1.1, 6°57′N±0′.08×82°.65W±0′.06, h10km, n17, σ1°03′/20, mb3.5/3, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.13**	**346**	*i P*	**Pn**	**08 27 41.5**	**-1.9**
ACR				⇓*eP*		08 27 41.7	
ACR				*eS*	**Sn**	**08 28 10.4**	**+0.4**
BRU2	**Volcan**	**2.21**	**359**	*eP*	**Pn**	**08 27 44.1**	**-0.4**
BUS	**Buena Vista**	**3.16**	**340**	*eP*	**Pn**	**08 27 57.5**	**-0.1**
BUS				*eS*	**Sn**	**08 28 38.0**	**+2.6**
QCR	**Quepos**	**3.21**	**332**	*eP*	**Pn**	**08 27 57.4**	**-0.9**
QCR				*eS*	**Sn**	**08 28 36.2**	**-0.4**
SJS	**Escuela Geolog**	**3.62**	**337**	*eP*	**Pn**	**08 28 04.7**	**+0.6**
CGA2	**Cerro Gallo 2**	**3.87**	**332**	*eP*	**Pn**	**08 28 07.3**	**-0.1**
CGA2				*eS*	**Sn**	**08 28 53.7**	**+0.8**
UPIG		**3.91**	**52**	*eP*	**Pn**	**08 28 07.5**	**-0.4**
UPIG				*eS*	**Sn**	**08 28 53.9**	**0.0**
JCR	**Jicaral**	**4.07**	**323**	*eP*	**Pn**	**08 28 08.3**	**-1.8**
JTS	**JuntasAbangare**	**4.34**	**328**	Pn	**Pn**	**08 28 14.0**	**+0.1**
	6.5nm,0.3s,baz=98,slow=22,SNR=70						
JTS				Sn	**Sn**	**08 29 03.8**	**-0.8**
	9.2nm,0.3s,baz=292,slow=21,SNR=9.4						
JTS				LR	LR	08 29 56.1	
	comp=Z,162nm,19.8s,baz=236,slow=41						
ROSC	**El Rosal**	**8.45**	**101**	Pn	**Pn**	**08 29 10.5**	**+0.2**
	0.3nm,0.3s,baz=274,slow=17,SNR=3.2						
CMIG	**Matias Romero**	**15.89**	**312**	Pn	**Pn**	**08 30 57.1**	**+5.5**
	0.3nm,0.3s,baz=144,slow=11,SNR=7.4						
SJG	**San Juan**	**19.76**	**53**	LR	LR	08 38 09.3	
	comp=Z,26nm,21.0s,baz=131,slow=35						
PTP	**Ponta Puerca**	**20.25**	**54**	*eP*	x	08 27 35.7	
PTP				*eS*	x	08 27 57.2	
LPAZ	**La Paz**	**26.87**	**148**	LR	LR	08 44 20.8	
	comp=Z,29nm,20.4s,baz=104,slow=38						
NVAR	**Mina Array Bea**	**45.22**	**320**	P	**P**	**08 35 28.3**	**+3.0**
	0.9nm,0.8s,mb3.6,baz=125,slow=7.9,SNR=6.8						
YKA	**Yellowknife Ar**	**60.52**	**344**	P	**P**	**08 37 18.1**	**+0.2**
	0.4nm,0.7s,mb3.7,baz=145,slow=6.0,SNR=6.4						
ILAR	**Eielson Array**	**73.28**	**336**	P	**P**	**08 38 40.3**	**+1.2**
	0.3nm,0.8s,mb3.3,baz=100,slow=4.0,SNR=3.2						

NEIC 12 08:29:17.5, 17°.51N×100°.79W, h20km, MD3.6(MEX), After MEX.

MEX 12 08:29:17.5±0.7, 17°.51N×100°.79W, h20km±35km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.65**	**279**	*i P*	Pb	08 29 28.5	-1.7
ZIIG				*i S*	Sb	08 29 35.9	-3.0
ZIIG	**Zihuatanejo**	**0.65**	**279**	*i P*	Pb	08 29 28.5	-1.7
ZIIG				*i S*	Sb	08 29 35.9	-3.0
CAIG	**El Cayaco**	**0.68**	**132**	*i P*	Pb	08 29 28.4	-2.2
CAIG				*i S*	Sb	08 29 36.6	-2.9
CAIG	**El Cayaco**	**0.68**	**132**	*i P*	Pb	08 29 28.4	-2.2
CAIG				*i S*	Sb	08 29 36.6	-2.9
ACX	**Acapulco**	**1.09**	**125**	*eP*	Pn	08 29 34.6	-3.0
ACX				*i S*	Sb	08 29 46.5	-5.0
ACX	**Acapulco**	**1.09**	**125**	*eP*	Pn	08 29 34.6	-3.0
ACX				*i S*	Sb	08 29 46.5	-5.0
MEIG	**Mezcala**	**1.19**	**69**	*eP*	Pn	08 29 36.0	-3.0
MEIG				*i S*	Sb	08 29 49.7	-4.6
MZVM		**2.23**	**41**	*eP*	Pn	08 29 50.4	-3.0
MZVM				*i S*	Sn	08 30 17.4	-3.0
PPM	**Popocatepetl**	**2.57**	**53**	*eP*	Pn	08 29 56.0	-2.0
PPM				*i S*	Sn	08 30 27.0	-1.8
PPM	**Popocatepetl**	**2.57**	**53**	*eP*	Pn	08 29 56.0	-2.0
PPM				*i S*	Sn	08 30 27.0	-1.8
PNIG	**Pinotepa**	**2.78**	**113**	*eP*	Pn	08 29 58.7	-2.1
PNIG				*i S*	Sn	08 30 29.6	-4.2
PNIG	**Pinotepa**	**2.78**	**113**	*eP*	Pn	08 29 58.7	-2.1
PNIG				*i S*	Sn	08 30 29.6	-4.2
UTMO	**Huajuapan**	**2.86**	**83**	*eP*	Pn	08 30 00.0	-2.0
UTMO				*i S*	Sn	08 30 33.3	-2.7

IDC 12 08:35:22.1±45.0, 15°.31S×173°.50W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/17, mbtmp4.0/3, Error ellipse: s-maj=865.9km s-min=180.2km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.00**	**240**	P	P	08 43 31.8	+0.3
	2.0nm,0.6s,baz=72,slow=8.4,SNR=5.1						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	08 44 16.4	-0.5
	0.1nm,0.3s,baz=92,slow=8.1,SNR=6.7						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	08 44 18.9	0.0
	2.5nm,0.5s,baz=89,slow=8.1,SNR=44						

NNC 12 08:45:28.8±2.9, 53°.98N×87°.08E, h11km±19km, mb3.9, mpv3.6, 7C-6D, Error ellipse: s-maj=21.9km s-min=16.5km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.13**	**241**	⇑Pn	Pn	08 47 00.6	+1.4
	7.5nm,0.7s						
KURK				⇑Sn	Sn	08 48 08.9	-0.2
	3.8nm,0.8s						
KURK				⇓Lg		08 48 42.7	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**6.23**	**241**	⇓Pn	Pn	08 47 02.2	+1.7
	1.8nm,0.6s						
KURBB				⇓Sn	Sn	08 48 12.6	+1.0
	1.4nm,0.6s						
KURBB				⇓Lg		08 48 47.2	
	6.3nm,0.8s						
MK31	**Makanchi Array**	**7.82**	**205**	⇑Pn	Pn	08 47 20.7	-1.7
	4.3nm,1.1s,baz=245,slow=23,SNR=2.6						
MK31				⇓Sn	Sn	08 48 53.0	+2.2
	2.4nm,0.8s,baz=24,slow=26,SNR=8.2						
VOSK	**Vostochnaya**	**9.71**	**269**	⇑Sn	Sn	08 49 39.6	+2.4
	9.6nm,1.1s						
BVA0	**Borovoye Array**	**9.99**	**271**	⇑Pn	Pn	08 47 51.6	-0.5
	0.4nm,0.8s,baz=78,slow=13,SNR=4.6						
BRVK	**Borovoye**	**10.05**	**272**	⇑Pn	Pn	08 47 51.6	-1.2
	2.6nm,0.6s						
ZRNK	**Zerenda**	**10.82**	**272**	⇑Pn	Pn	08 48 02.9	-0.6
	3.3nm,0.9s						
ZRNK				⇓Sn	Sn	08 50 06.2	+1.8
	4.7nm,0.8s						

ISCJB 12 09:09:27.8±0.4, 13°.50N±0′.04×120°.78E±0′.07, h140km±4km, mb3.8/10, Error ellipse: s-maj=11.6km s-min=7.3km az=171.1
IDC 12 09:09:28.2±0.5, 13°.54N×121°.00E, h130km±3km, mb3.6/9, mb1 3.8/10, mb1mx3.6/22, mbtmp3.7/10, Error ellipse: s-maj=29.1km s-min=12.1km az=67.0
NEIC 12 09:09:28.6±0.7, 13°.56N×121°.04E, h135km±6km, mb4.4/2, Error ellipse: s-maj=19.8km s-min=7.3km az=67.0
MAN 12 09:09:29, 13°.52N×120°.71E, h110km, mb3.9, ML2.7, MS2.3

ISC 12 09:09:28.9±0.4, 13°.50N±0′.04×120°.77E±0′.07, h135km±4km, n46, σ0°.95/46, mb3.8/10, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.56**	**295**	*eP*	**Pn**	**09 09 47.6**	**-1.2**
LUBP				*eS*	**Sn**	**09 09 50.4**	**-13**
TGY	**Tagaytay City**	**0.62**	**15**	P	**Pn**	**09 09 48.5**	**-0.8**
	1μm,0.3s,baz=191,slow=3.8,SNR=92						
TGY				S	**Sn**	**09 10 04.0**	**-0.7**
	766nm,0.3s,baz=24,slow=20,SNR=27						
TGY	**Tagaytay City**	**0.62**	**15**	P	**Pn**	**09 09 48.5**	**-0.8**
TGY				S	**Sn**	**09 10 04.0**	**-0.7**
TGY	**Tagaytay City**	**0.62**	**15**	⇑*i P*	**Pn**	**09 09 48.7**	**-0.6**
LQP	**Lukban**	**0.97**	**51**	*eP*	**Sn**	**09 10 09.6**	**+0.1**
BOAC	**Boac**	**1.05**	**92**	*eP*	**Pn**	**09 09 52.4**	**-0.3**
BOAC				*eS*	**Sn**	**09 09 58.3**	**-12**
BUSP	**Coron**	**1.59**	**201**	*eP*	**Pn**	**09 09 58.1**	**-0.2**
OTRP	**Odiongan**	**1.66**	**133**	*eP*	**Pn**	**09 09 59.1**	**-0.1**
POLP	**Polilio Island**	**1.67**	**43**	*eP*	**Pn**	**09 09 59.8**	**+0.5**
GQP	**Guinayangan**	**1.68**	**76**	⇓*eP*	**Pn**	**09 09 55.8**	**-3.5**
GQP				*eS*	Px	09 09 59.9	
AUQP	**San Andres**	**1.86**	**95**	*eP*	**Pn**	**09 10 03.6**	**+2.1**
BALP	**Baler**	**2.36**	**19**	*eP*	**Pn**	**09 10 08.2**	**+0.5**
SCZP	**Santa Cruz**	**2.41**	**340**	*eP*	**Pn**	**09 10 07.5**	**-0.7**
ENPP	**El Nido**	**2.63**	**210**	*eP*	**Pn**	**09 10 11.8**	**+0.8**
CUYO	**Cuyo Island**	**2.64**	**175**	*eP*	**Pn**	**09 10 11.8**	**+0.7**
BOLP	**Bolinao**	**2.98**	**344**	*eP*	**Pn**	**09 10 14.9**	**-0.6**
PVCP	**Virac**	**3.29**	**88**	*eP*	**Pn**	**09 10 20.8**	**+1.2**
CAUP	**Cauayan**	**3.58**	**16**	*eP*	**Pn**	**09 10 23.7**	**+0.5**
KAPI	**Kappang**	**18.42**	**183**	P	**P**	**09 13 35.7**	**+1.8**
	1.9nm,0.3s,baz=51,slow=6.5,SNR=6.1						
KAPI	**Kappang**	**18.42**	**183**	P	**P**	**09 13 35.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**21.55**	**286**	P	**P**	**09 14 09.7**	**+2.0**
	1.3nm,0.5s,mb3.6,baz=92,slow=8.8,SNR=13						
CMAR	**Chiang Mai Arr**	**21.55**	**286**	P	**P**	**09 14 09.7**	**+2.0**
WRAB	**Tennant Creek**	**35.81**	**158**	*eP*	**P**	**09 16 14.4**	**-1.1**
	2.6nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**35.81**	**158**	P	**P**	**09 16 14.1**	**-1.4**
	1.7nm,0.3s,mb4.1,baz=333,slow=9.8,SNR=92						
WRA				PcP	PcP	09 18 39.6	-0.7
	0.2nm,0.4s,baz=343,slow=2.9,SNR=2.6						
WRA	**Warramunga Arr**	**35.81**	**158**	P	**P**	**09 16 14.1**	**-1.4**
WRA				PcP	PcP	09 18 39.6	-0.7
WB2	**Warramunga Arr**	**35.82**	**158**	*eP*	**P**	**09 16 14.4**	**-1.1**
SONM	**Songino Array**	**36.27**	**344**	P	**P**	**09 16 19.0**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=156,slow=11,SNR=5.5						
SONM				PcP	PcP	09 18 41.2	0.0
	0.2nm,0.4s,baz=186,slow=1.4,SNR=2.8						
SONM	**Songino Array**	**36.27**	**344**	P	**P**	**09 16 19.0**	**-0.1**
SONM				PcP	PcP	09 18 41.2	0.0
AS31	**Alice Springs**	**39.10**	**161**	*eP*	**P**	**09 16 42.7**	**-0.5**
ASAR	**Alice Springs**	**39.11**	**161**	P	**P**	**09 16 42.3**	**-0.9**
	2.0nm,0.4s,mb4.1,baz=337,slow=6.8,SNR=57						
ASAR				PcP	PcP	09 18 50.0	-0.4
	0.3nm,0.4s,baz=333,slow=3.1,SNR=3.5						
ASAR	**Alice Springs**	**39.11**	**161**	P	**P**	**09 16 42.3**	**-0.9**
ASAR				PcP	PcP	09 18 50.0	-0.4
MK31	**Makanchi Array**	**46.23**	**324**	*eP*	**P**	**09 17 41.3**	**+0.9**
MKAR	**Makanchi Array**	**46.23**	**324**	P	**P**	**09 17 41.1**	**+0.7**
	0.6nm,0.3s,mb3.6,baz=133,slow=9.0,SNR=9.6						
MKAR				PcP	PcP	09 19 14.1	+0.3
	0.4nm,0.7s,baz=116,slow=3.4,SNR=2.6						
MKAR	**Makanchi Array**	**46.23**	**324**	P	**P**	**09 17 41.1**	**+0.7**
MKAR				PcP	PcP	09 19 14.1	+0.3
ZALV	**Zalesovo Beam**	**49.27**	**333**	P	**P**	**09 18 03.1**	**-0.6**
	0.6nm,0.3s,mb3.7,baz=127,slow=6.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**49.27**	**333**	P	**P**	**09 18 03.1**	**-0.6**
KURK	**Kurchatov**	**50.39**	**326**	P	**P**	**09 18 12.8**	**+0.5**
	1.3nm,0.4s,mb3.9,baz=120,slow=8.4,SNR=10						
KURK	**Kurchatov**	**50.39**	**326**	*eP*	**P**	**09 18 13.1**	**+0.8**
	6.1nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**78.90**	**26**	P	**P**	**09 21 16.6**	**-0.5**
	0.2nm,0.6s,mb2.9,baz=270,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**78.90**	**26**	P	**P**	**09 21 16.6**	**-0.5**
ARCES	**ARCESS Array B**	**79.30**	**339**	P	**P**	**09 21 18.4**	**-0.7**
	6.5nm,1.0s,mb4.2,baz=90,slow=6.3,SNR=4.5						
ARCES	**ARCESS Array B**	**79.30**	**339**	P	**P**	**09 21 18.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**114.08**	**291**	PKP	PKiKP	09 27 52.5	-0.6
	0.2nm,0.4s,baz=58,slow=2.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**114.08**	**291**	PKP	PKiKP	09 27 52.5	-0.6
TXAR	**Lajitas Array**	**119.57**	**45**	PKP	PKPdf	09 28 03.9	+0.5
	0.2nm,0.4s,baz=180,slow=1.8,SNR=8.9						
TXAR	**Lajitas Array**	**119.57**	**45**	PKP	PKPdf	09 28 03.9	+0.5

IDC 12 09:22:57.0±24.0, 20°.04S×178°.26W, h484km±219km, mb3.7/3, mb1 3.9/3, mb1mx3.2/15, mbtmp3.7/3, Error ellipse: s-maj=167.2km s-min=98.4km az=95.0

NEIC 12 09:23:12.0±1.6, 19°.35S×179°.65W, h577km±14km, mb3.9/4, Error ellipse: s-maj=40.5km s-min=33.5km az=204.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.71**	**306**	*eP*	P	09 24 27.8	+0.1
ARMA	**Armidale**	**28.21**	**241**	*eP*	P	09 28 17.8	-1.7
CTA	**Charters Tower**	**32.07**	**263**	*eP*	P	09 28 55.1	+2.3
	4.8nm,0.3s						
STKA	**Stephens Creek**	**36.91**	**242**	P	P	09 29 30.7	-2.3
	3.4nm,0.6s,baz=82,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**36.91**	**242**	*eP*	P	09 29 30.8	-2.1
	2.4nm,0.5s						
STKA	**Stephens Creek**	**36.91**	**242**	*eP*	P	09 29 30.8	-2.2
	0.5nm,0.5s						
WB2	**Warramunga Arr**	**43.22**	**261**	*eP*	P	09 30 23.9	+0.5
WRAB	**Tennant Creek**	**43.22**	**261**	*eP*	P	09 30 23.9	+0.5
	2.4nm,0.3s						
WRA	**Warramunga Arr**	**43.23**	**261**	P	P	09 30 23.9	+0.4
	2.6nm,0.3s,baz=96,slow=7.8,SNR=165						
WRA				PcP	PcP	09 31 57.3	-2.2
	0.4nm,0.6s,baz=91,slow=3.3,SNR=2.7						
WRA	**Warramunga Arr**	**43.23**	**261**	P	P	09 30 23.9	+0.4
WRA				PcP	PcP	09 31 57.3	-2.2
AS31	**Alice Springs**	**43.28**	**256**	*eP*	P	09 30 23.9	+0.1
ASAR	**Alice Springs**	**43.28**	**256**	P	P	09 30 23.9	+0.1
	9.0nm,0.5s,baz=88,slow=8.2,SNR=204						
ASAR				PcP	PcP	09 31 56.9	-2.8
	0.7nm,0.5s,baz=106,slow=3.8,SNR=4.4						
ASAR	**Alice Springs**	**43.28**	**256**	P	P	09 30 23.9	+0.1
ASAR				PcP	PcP	09 31 56.9	-2.8
FITZ	**Fitzroy Crossi**	**51.65**	**262**	*eP*	P	09 31 27.5	+1.1
	5.7nm,1.6s						
FITZ	**Fitzroy Crossi**	**51.65**	**262**	*eP*	P	09 31 27.5	+1.1
	1.5nm,0.5s						
SBA	**Scott Base**	**58.92**	**183**	*eP*	P	09 32 16.5	+0.6
	30nm,1.6s						
AKASG	**Malin Array Be**	**141.26**	**331**	PKP	PKPdf	09 41 31.4	-5.9
	1.2nm,0.4s,baz=44,slow=4.1,SNR=6.1						
AKASG	**Malin Array Be**	**141.26**	**331**	PKP	PKPdf	09 41 31.4	-6.0
BRTR	**Keskin Array B**	**144.92**	**313**	PKPbc	PKPdf	09 41 44.4	+0.2
	0.6nm,0.5s,baz=141,slow=3.9,SNR=3.6						
BRTR	**Keskin Array B**	**144.92**	**313**	PKPbc	PKPdf	09 41 44.4	+0.2

BJI 12 09:33:31.3, 31°.47N×104°.22E, h19km, ML3.5/12, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.68**	**215**	Pg	Pg	09 33 43.6	-1.2
CD2				Sg	Sg	09 33 53.2	-0.8
CD2				smax			
	comp=N,1μm,0.8s						
CD2				smax			
	comp=E,810nm,0.8s						
LZH	**Lanzhou**	**4.62**	**356**	Pg	Pg	09 35 07.0	+7.3
LZH				Sg	Sg	09 35 56.6	-2.9
LZH				smax			
	comp=N,25nm,1.0s						
LZH				smax			
	comp=E,40nm,0.6s						
LZH				LR	LR		
	comp=N,110nm,4.7s						
LZH				LR	LR		
	comp=E,270nm,7.5s						
LZH				LR	LR		
	comp=Z,230nm,5.8s						
XAN	**Xi'an**	**4.72**	**56**	Pn	Pn	09 34 43.6	+2.2
XAN				Pg	Pg	09 34 55.9	-5.7
XAN				Sn	Sn	09 35 39.8	+4.2
XAN				Sg	Sg	09 35 55.5	-7.2
XAN				smax			
	comp=N,88nm,0.9s						
XAN				smax			
	comp=E,46nm,0.9s						
GYA	**Guiyang**	**5.43**	**156**	*e*Pn	Pn	09 34 52.7	+1.4
GYA				Sn	Sn	09 35 55.6	+2.3
GYA				smax			
	comp=N,50nm,1.0s						
GYA				smax			
	comp=E,50nm,0.9s						

IDC 12 09:45:12.7±2.0, 12°.92N×87°.47W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/21, mbtmp3.7/4, ML2.8/1, Error ellipse: s-maj=109.6km s-min=18.9km az=53.0
NEIC 12 09:45:19.8±2.7, 12°.33N×87°.84W, h86km±25km, Error ellipse: s-maj=60.0km s-min=16.5km az=62.0
ISCJB 12 09:45:20.7±2.9, 12°.4N±0°.3×87°.6W±0°.4, h113km±25km, mb3.8/3, Error ellipse: s-maj=83.7km s-min=13.9km az=147.9

ISC 12 09:45:20.4±2.9, 12°.4N±0°.2×87°.8W±0°.4, h94km±27km, n11, σ0°.52/12, mb3.8/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.77**	**17**	*e*Pn	**Pn**	**09 45 49.9**	**+0.1**
JTS	**JuntasAbangare**	**3.47**	**126**	Pn	**Pn**	**09 46 11.5**	**-0.8**
	0.8nm,0.3s,baz=328,slow=16,SNR=4.5						
JTS				Pg	**Pn**	**09 46 18.3**	**+6.0**
	1.5nm,0.3s,baz=315,slow=19,SNR=6.1						
JTS				Sn	**Sn**	**09 46 52.9**	**+0.4**
	1.3nm,0.3s,baz=317,slow=18,SNR=3.9						
JTS	**JuntasAbangare**	**3.47**	**126**	Pn	**Pn**	**09 46 11.5**	**-0.8**
JTS				Sn	**Sn**	**09 46 52.9**	**+0.4**
TXAR	**Lajitas Array**	**22.43**	**321**	P	**P**	**09 50 11.7**	**+0.2**
	1.6nm,0.8s,mb3.4,baz=144,slow=11,SNR=16						
TXAR	**Lajitas Array**	**22.43**	**321**	P	**P**	**09 50 11.7**	**+0.2**
ULM	**Lac du Bonnet**	**38.36**	**352**	P	**P**	**09 52 31.3**	**-0.8**
	2.7nm,0.7s,mb4.2,baz=160,slow=10,SNR=5.6						
ULM	**Lac du Bonnet**	**38.36**	**352**	P	**P**	**09 52 31.3**	**-0.8**
YKA	**Yellowknife Ar**	**53.61**	**345**	P	**P**	**09 54 32.1**	**+0.6**
	0.6nm,0.8s,mb3.7,baz=143,slow=7.5,SNR=7.6						
YKA	**Yellowknife Ar**	**53.61**	**345**	P	**P**	**09 54 32.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**148.67**	**348**	PKPbc	PKPbc	10 04 59.3	+1.9
	0.4nm,0.5s,baz=348,slow=4.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**148.67**	**348**	PKPbc	PKPbc	10 04 59.3	+1.9

ISCJB 12 10:01:43.5±0.6, 64°.70N±0°.03×30°.6E±0′.1, h0km, Error ellipse: s-maj=8.5km s-min=4.8km az=3.8
IDC 12 10:01:43.3±3.1, 64°.80N×31°.98E, h0km, mb1 3.1/4, mb1mx2.9/25, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=40.3km s-min=9.6km az=98.0
CSEM 12 10:01:44.5±0.5, 64°.72N×30°.72E, h2km, ML2.3, Error ellipse: s-maj=15.1km s-min=7.7km az=95.0, Mining explosion.
HEL 12 10:01:45.0±0.4, 64°.69N×30°.73E, h0km, ML2.3, ML2.2(NAO), Explosion
NAO 12 10:01:45.4±1.9, 64°.67N×30°.40E, ML2.2
BER 12 10:01:47.2±4.0, 64°.70N×30°.41E, h0km, ML2.2(NAO), Suspected explosion

ISC 12 10:01:44.7±0.6, 64°.73N±0°.03×30°.7E±0′.1, h0km, n37, σ1°.37/61, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.34**	**346**	*eP*	**Pg**	**10 02 09.1**	**-1.2**
KU6				*eS*	**Sg**	**10 02 29.8**	**+2.1**
KU6	**Riekki**	**1.34**	**346**	*eP*	**Pg**	**10 02 09.1**	**-1.2**
KU6				*eS*	**Sg**	**10 02 29.8**	**+2.2**
KU6	**Riekki**	**1.34**	**346**	*eP*	**Pg**	**10 02 09.1**	**-1.2**
KU6				*eS*	**Sg**	**10 02 29.8**	**+2.1**
MSF	**Maaselka**	**1.37**	**331**	*eP*	**Pg**	**10 02 09.5**	**-1.4**
MSF	**Maaselka**	**1.37**	**331**	*eP*	**Pg**	**10 02 09.5**	**-1.4**
MSF	**Maaselka**	**1.37**	**331**	P	**Pg**	**10 02 09.4**	**-1.5**
JOF	**Joensuu**	**1.84**	**171**	*eP*	**Pn**	**10 02 15.7**	**-1.9**
JOF				*eS*	**Sn**	**10 02 41.2**	**-0.3**
JOF				MSG		10 02 48.5	
	comp=Z,27nm,0.2s						
JOF	**Joensuu**	**1.84**	**171**	*eP*	**Pn**	**10 02 15.7**	**-1.9**
JOF				*eS*	**Sn**	**10 02 41.2**	**-0.3**
JOF				MSG		10 02 48.5	
	comp=Z,27nm,0.2s						
JOF	**Joensuu**	**1.84**	**171**	P	**Pn**	**10 02 15.6**	**-1.9**
JOF				*eS*	**Sn**	**10 02 41.2**	**-0.3**
	comp=Z,27nm,0.2s,SNR=31						
OUL	**Oulu**	**2.07**	**282**	*eP*	**Pn**	**10 02 20.9**	**+0.4**
OUL				*eS*	**Sn**	**10 02 47.3**	**+0.3**
OUL	**Oulu**	**2.07**	**282**	*eP*	**Pn**	**10 02 20.9**	**+0.4**
OUL				*eS*	**Sn**	**10 02 47.3**	**+0.3**
OUL	**Oulu**	**2.07**	**282**	*eP*	**Pn**	**10 02 20.9**	**+0.3**
	SNR=31						
OUL				S	**Sn**	**10 02 47.3**	**+0.3**
RNF	**Rovaniemi**	**2.70**	**316**	*eP*	**Pn**	**10 02 32.5**	**+3.2**
RNF	**Rovaniemi**	**2.70**	**316**	*eP*	**Pn**	**10 02 32.5**	**+3.2**
RNF	**Rovaniemi**	**2.70**	**316**	P	**Pn**	**10 02 32.4**	**+3.2**
SUF	**Sumiainen**	**2.85**	**227**	*eP*	**Pn**	**10 02 33.2**	**+1.8**
SUF				MSG		10 03 16.8	
	comp=Z,13nm,0.2s						
SUF	**Sumiainen**	**2.85**	**227**	*eP*	**Pn**	**10 02 33.2**	**+1.8**
SUF				MSG		10 03 16.8	
	comp=Z,13nm,0.2s						
SUF	**Sumiainen**	**2.85**	**227**	P	**Pn**	**10 02 33.1**	**+1.7**
APA0	**Apatity Array**	**3.04**	**17**	Pn	**Pn**	**10 02 35.0**	**+1.1**
	baz=190,slow=16						
APA0				Sn	**Sn**	**10 03 12.8**	**+2.0**
	baz=191,slow=37						
APA0	**Apatity Array**	**3.04**	**17**	*eP*	**Pn**	**10 02 35.0**	**+1.1**
APA0				*eS*	**Sn**	**10 03 12.8**	**+2.0**
APA0	**Apatity Array**	**3.04**	**17**	P	**Pn**	**10 02 34.9**	**+1.0**
APA0				Sn	**Sn**	**10 03 12.8**	**+2.0**
VRF	**Varrio**	**3.06**	**352**	*eP*	**Pn**	**10 02 34.3**	**+0.1**
VRF				MSG		10 03 29.5	
	comp=Z,6.7nm,0.2s						
VRF	**Varrio**	**3.06**	**352**	*eP*	**Pn**	**10 02 34.3**	**+0.1**
VRF				MSG		10 03 29.5	
	comp=Z,6.7nm,0.2s						
VRF	**Varrio**	**3.06**	**352**	*eP*	**Pn**	**10 02 34.3**	**+0.1**
	comp=Z,6.7nm,0.2s						
FIA0	**FINESS Array S**	**3.91**	**214**	Pn	**Pn**	**10 02 45.4**	**-0.5**
	baz=45,slow=14						
FIA0				Sn	**Sn**	**10 03 28.4**	**-4.0**
	baz=7.1,slow=22						
FIA0				Lg		10 03 44.8	
	baz=37,slow=28						
FIA0	**FINESS Array S**	**3.91**	**214**	*e

PRGZ	**Paritu Road**	**0.51 270**	P*	Pb	10 29 31.0	-0.3
PRGZ			S*	Sb	10 29 39.4	+0.9
PRGZ	**Paritu Road**	**0.51 270**	P*	Pb	10 29 31.0	-0.3
PRGZ			S*	Sb	10 29 39.4	+0.9
CNGZ	**Carnagh Statio**	**0.51 330**	P*	Pb	10 29 31.2	-0.1
CNGZ			S*	Sb	10 29 39.2	+0.7
CNGZ	**Carnagh Statio**	**0.51 330**	P*	Pb	10 29 31.2	-0.1
MHGZ	**Mahia Peninsul**	**0.54 245**	P*	Pb	10 29 31.8	0.0
MHGZ	**Mahia Peninsul**	**0.54 245**	P*	Pb	10 29 31.8	0.0
KNZ	**Kokohu**	**0.68 262**	PN	Pn	10 29 33.3	-0.8
KNZ			SN	Sn	10 29 43.7	+0.1
KNZ	**Kokohu**	**0.68 262**	P*	Pb	10 29 33.3	-0.8
PUZ	**Puketiti**	**0.88 346**	PN	Pn	10 29 36.1	-0.8
PUZ	**Puketiti**	**0.88 346**	Pn	Pn	10 29 36.1	-0.8
PUZ			Sn	Sn	10 29 45.1	-3.5
MWZ	**Matawai**	**0.98 306**	PN	Pn	10 29 37.4	-0.9
MWZ			SN	Sn	10 29 49.8	-1.4
MWZ	**Matawai**	**0.98 306**	Pn	Pn	10 29 37.4	-0.9
RAHZ	**Arahi**	**1.13 270**	PN	Pn	10 29 40.1	-0.3
RAHZ	**Arahi**	**1.13 270**	Pn	Pn	10 29 40.1	-0.3
URZ	**Urewera**	**1.30 300**	PN	Pn	10 29 42.1	-0.6
URZ	**Urewera**	**1.30 300**	*e*Pn	Pn	10 29 42.2	-0.5
NMHZ	**Naumai**	**1.36 262**	PN	Pn	10 29 43.5	+0.1
NMHZ	**Naumai**	**1.36 262**	Pn	Pn	10 29 43.5	+0.1
MXZ	**Matakaoa Point**	**1.37 352**	PN	Pn	10 29 43.7	0.0
MXZ	**Matakaoa Point**	**1.37 352**	Pn	Pn	10 29 43.7	0.0
MCHZ	**McNeill Hill**	**1.52 250**	PN	Pn	10 29 45.9	+0.3
MCHZ	**McNeill Hill**	**1.52 250**	Pn	Pn	10 29 46.0	+0.3
KAHZ	**Kahuranaki**	**1.55 235**	PN	Pn	10 29 46.3	+0.2
KAHZ	**Kahuranaki**	**1.55 235**	Pn	Pn	10 29 46.3	+0.2
BKZ	**Black Stump Fm**	**1.61 261**	PN	Pn	10 29 46.5	-0.4
BKZ	**Black Stump Fm**	**1.61 261**	Pn	Pn	10 29 46.5	-0.4
RRRZ	**Republican Roa**	**1.69 290**	PN	Pn	10 29 47.6	-0.4
RRRZ	**Republican Roa**	**1.69 290**	Pn	Pn	10 29 47.6	-0.4
PXZ	**Pawanui**	**1.70 229**	PN	Pn	10 29 47.0	-1.2
PXZ	**Pawanui**	**1.70 229**	Pn	Pn	10 29 47.0	-1.2
TARZ	**Mount Tarawera**	**1.73 293**	PN	Pn	10 29 49.2	+0.6
TARZ	**Mount Tarawera**	**1.73 293**	Pn	Pn	10 29 49.5	+0.9
OPRZ	**Ohinepanea**	**1.89 304**	PN	Pn	10 29 50.4	-0.5
OPRZ	**Ohinepanea**	**1.89 304**	Pn	Pn	10 29 50.4	-0.5
WPHZ	**Waipukurau**	**1.98 234**	PN	Pn	10 29 51.3	-0.7
WPHZ	**Waipukurau**	**1.98 234**	Pn	Pn	10 29 51.3	-0.7
PRHZ	**Porangahau**	**1.99 227**	PN	Pn	10 29 51.1	-1.0
PRHZ	**Porangahau**	**1.99 227**	Pn	Pn	10 29 51.1	-1.0
BHHZ	**Black Hill Sta**	**2.00 253**	PN	Pn	10 29 52.1	-0.2
BHHZ	**Black Hill Sta**	**2.00 253**	Pn	Pn	10 29 52.1	-0.2
PNHZ	**Pukenui**	**2.06 241**	PN	Pn	10 29 52.6	-0.6
PNHZ	**Pukenui**	**2.06 241**	Pn	Pn	10 29 52.6	-0.6
OTVZ	**Oturere**	**2.25 263**	PN	Pn	10 29 56.2	+0.5
OTVZ	**Oturere**	**2.25 263**	Pn	Pn	10 29 56.2	+0.5
KRVZ	**Karewarewa**	**2.26 265**	PN	Pn	10 29 56.3	+0.5
KRVZ	**Karewarewa**	**2.26 265**	Pn	Pn	10 29 56.3	+0.5
TUVZ	**Tukino**	**2.27 260**	Pn	Pn	10 29 57.1	+1.1
DVHZ	**Dannevirke**	**2.29 232**	Pn	Pn	10 29 54.0	-2.2
TSZ	**Takapari Road**	**2.29 240**	PN	Pn	10 29 55.1	-1.2
TSZ	**Takapari Road**	**2.29 240**	Pn	Pn	10 29 55.1	-1.2
NGZ	**Ngauruhoe**	**2.30 263**	PN	Pn	10 29 57.1	+0.7
NGZ	**Ngauruhoe**	**2.30 263**	Pn	Pn	10 29 57.1	+0.7
WNVZ	**Wahianoa**	**2.32 259**	PN	Pn	10 29 57.1	+0.4
WNVZ	**Wahianoa**	**2.32 259**	Pn	Pn	10 29 57.1	+0.4
WPVZ	**Whakapapa**	**2.34 262**	PN	Pn	10 29 57.6	+0.6
WPVZ	**Whakapapa**	**2.34 262**	Pn	Pn	10 29 57.6	+0.6
FWVZ	**Far West T-bar**	**2.34 261**	PN	Pn	10 29 57.4	+0.4
FWVZ	**Far West T-bar**	**2.34 261**	Pn	Pn	10 29 57.5	+0.4
PKVZ	**Pokaka**	**2.51 261**	PN	Pn	10 29 59.7	+0.5
PKVZ	**Pokaka**	**2.51 261**	Pn	Pn	10 29 59.7	+0.5
WAZ	**Wanganui**	**2.87 252**	Pn	Pn	10 30 05.6	+1.3
QRZ	**Quartz Range**	**5.00 246**	Pn	Pn	10 30 30.7	-2.8
THZ	**Tophouse**	**5.15 235**	Pn	Pn	10 30 32.9	-2.7
CTZ	**Chatham Island**	**6.03 144**	Pn	Pn	10 30 48.4	+0.7
ODZ	**Otahua Downs**	**8.48 221**	Pn	Pn	10 31 17.6	-3.7

*CSEM **12** 10:30:23.8±0.2, 33°.45N×35°.56E, h2km, ML2.8, Error ellipse: s-maj=9.2km s-min=3.5km az=96.0*

GRAL 12 10:30:24.3±0.3, 33°.42N×35°.60E, h0km±41km, MD2.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.21**	**69**	*e*P	Pg	10 30 28.1	-0.3
RCY				*e*S	Sg	10 30 31.0	-0.2
RCY	**Rachaya**	**0.21**	**69**	*e*P	Pg	10 30 28.1	-0.3
RCY				*e*S	Sg	10 30 31.0	-0.2
MATL	**Matarih**	**0.23**	**287**	*e*P	Pg	10 30 28.4	-0.3
MATL	**Matarih**	**0.23**	**287**	*e*P	Pg	10 30 28.4	-0.3
BHL	**Bhannes**	**0.48**	**6**	*e*P	Pg	10 30 33.0	-0.6
BHL	**Bhannes**	**0.48**	**6**	*e*P	Pg	10 30 33.0	-0.6
HWQ	**Hawqa**	**0.90**	**19**	*e*P	Pg	10 30 40.5	-1.1
HWQ				*e*S	Sg	10 30 52.6	-0.8
HWQ	**Hawqa**	**0.90**	**19**	*e*P	Pg	10 30 40.5	-1.1
HWQ				*e*S	Sg	10 30 52.6	-0.8

*IDC **12** 10:38:51.5±1.1, 38°.12N×91°.18E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/28, mbtmp3.4/7, ML3.3/2, Error ellipse: s-maj=50.2km s-min=22.5km az=53.0*
*ISCJB **12** 10:38:52.6±1.0, 38°.3N±0°.1×91°.1E±0°.1, h10km, mb3.5/3, Error ellipse: s-maj=19.1km s-min=10.8km az=20.8*
*BJI **12** 10:38:52.8, 38°.36N×91°.01E, h13km, ML3.3/5*
*NEIC **12** 10:38:56.7±1.0, 38°.25N×91°.18E, h35km, mb3.4/1, Error ellipse: s-maj=21.3km s-min=13.7km az=222.0*

ISC 12 10:38:54.7±1.0, 38°.3N±0°.1×91°.1E±0°.1, h10km, n20, σ1§18/19, mb3.5/3, 1C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**6.91**	**78**	*e*Pn	**Pn**	**10 40 36.9**	**+1.0**
MK31	**Makanchi Array**	**10.70**	**326**	*e*Pn	**Pn**	**10 41 29.3**	**+1.5**
MKAR	**Makanchi Array**	**10.70**	**326**	Pn	**Pn**	**10 41 29.1**	**+1.2**
	1.5nm,0.3s,baz=140,slow=12,SNR=37						
MKAR	**Makanchi Array**	**10.70**	**326**	Pn	**Pn**	**10 41 29.1**	**+1.2**
TKM2	**Tokmak 2**	**12.65**	**296**	*e*Pn	**Pn**	**10 41 55.9**	**+1.3**
	4.7nm,0.6s						
SONM	**Songino Array**	**14.69**	**45**	Pn	**Pn**	**10 42 22.6**	**+0.2**
	0.1nm,0.3s,baz=238,slow=15,SNR=2.2						
SONM	**Songino Array**	**14.69**	**45**	Pn	**Pn**	**10 42 22.6**	**+0.2**
KURK	**Kurchatov**	**15.26**	**329**	Pn	**Pn**	**10 42 27.7**	**-2.4**
	0.1nm,0.3s,baz=139,slow=12,SNR=4.6						
KURK	**Kurchatov**	**15.26**	**329**	Pn	**Pn**	**10 42 28.9**	**-1.1**
	2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**16.26**	**347**	Pn	**Pn**	**10 42 41.0**	**-1.9**
	0.3nm,0.3s,baz=159,slow=12,SNR=2.6						
ZALV	**Zalesovo Beam**	**16.26**	**347**	Pn	**Pn**	**10 42 41.0**	**-1.9**
BVAR	**Borovoye Array**	**20.55**	**323**	P	**P**	**10 43 32.5**	**-0.7**
	0.8nm,0.8s,baz=129,slow=12,SNR=3.5						
BVAR	**Borovoye Array**	**20.55**	**323**	P	**P**	**10 43 32.5**	**-0.7**
AB31	**Akbulak array**	**24.86**	**306**	⇑Lg		10 44 14.8	
	0.6nm,0.6s,baz=351,slow=26,SNR=5.2						
WRA	**Warramunga Arr**	**70.72**	**137**	P	**P**	**10 50 06.5**	**-4.4**
	0.3nm,0.6s,mb3.4,baz=330,slow=5.9,SNR=3.6						
WRA	**Warramunga Arr**	**70.72**	**137**	P	**P**	**10 50 06.5**	**-4.4**
ASAR	**Alice Springs**	**73.55**	**139**	P	**P**	**10 50 27.4**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=324,slow=5.7,SNR=7.2						
ASAR	**Alice Springs**	**73.55**	**139**	P	**P**	**10 50 27.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**81.51**	**280**	P	**P**	**10 51 11.9**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=53,slow=5.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**81.51**	**280**	P	**P**	**10 51 11.9**	**-0.8**

NNC 12 10:42:04.2±6.2, 44°.35N×87°.85E, h8km±90km, mb3.7, mpv3.5, 7C-2D, Error ellipse: s-maj=93.3km s-min=41.2km az=127.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.60**	**304**	⇓Pn	Pn	10 43 15.5	+1.5
	1.1nm,0.3s,baz=123,slow=12,SNR=56						
MK31				Sn	Sn	10 44 10.4	+2.8
	5.6nm,0.3s,baz=124,slow=26,SNR=8.7						
KURBB	**Kurchatov Arra**	**8.89**	**318**	Pn	Pn	10 44 12.4	-0.5
	0.3nm,0.3s						
KURBB				⇑Sn	Sn	10 45 51.7	-1.5
	1.9nm,0.6s						
KURK	**Kurchatov**	**8.91**	**319**	⇑Pn	Pn	10 44 12.2	-1.0
	1.5nm,0.3s						
KURK				⇑Sn	Sn	10 45 51.3	-2.3
	7.3nm,1.0s						
TKM2	**Tokmak 2**	**9.00**	**265**	⇓Pn	Pn	10 44 15.8	+1.4
	4.1nm,1.2s						
TKM2				⇑Lg		10 46 48.8	
	9.2nm,1.5s						
VOSK	**Vostochnaya**	**13.94**	**313**	⇑P	Pn	10 45 20.4	-1.4
	1.0nm,0.5s						
BVA0	**Borovoye Array**	**14.40**	**313**	⇑P	Pn	10 45 27.2	-0.9
	0.2nm,0.5s,baz=120,slow=15,SNR=10						
ZRNK	**Zerenda**	**15.10**	**311**	⇑P	Pn	10 45 35.5	-2.2
	1.5nm,0.7s						

*IDC **12** 10:46:16.3±0.6, 30°.96S×176°.77W, h0km, mb4.6/14, mb1 4.8/14, mb1mx4.7/18, mbtmp4.6/14, MS3.8/13, Ms1 3.8/13, ms1mx3.6/24, Error ellipse: s-maj=23.2km s-min=18.1km az=164.0*
*BJI **12** 10:46:16.6, 30°.46S×176°.20W, h10km, mB5.5/16, mb5.4/22, Ms5.2/12, Ms7 4.9/13*
*ISCJB **12** 10:46:17.4±2.5, 31°.40S±0°.05×176°.77W±0°.09, h18km±17km, mb4.9/35, MS4.1/19, Error ellipse: s-maj=13.3km s-min=6.9km az=26.7*
*NEIC **12** 10:46:17.7±0.3, 31°.11S×176°.80W, h10km, mb5.1/20, Error ellipse: s-maj=8.9km s-min=6.6km az=121.0*
*MOS **12** 10:46:21.4±1.0, 30°.87S×176°.93W, h33km, mb5.1/9, Error ellipse: s-maj=17.0km s-min=12.2km az=131.0*

ISC 12 10:46:17.1±2.5, 31°.26S±0°.04×176°.81W±0°.08, h4km±15km, h19km±4.2km: pP-P, n194, σ1§23/119, mb4.9/35, MS4.1/19, 6C-5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.22**	**334**	*e*Pn	**Pn**	**10 46 51.5**	**-3.1**
RAO	**Raoul Island**	**2.22**	**334**	*e*P	**Pn**	**10 46 51.6**	**-3.0**
PUZ	**Puketiti**	**7.92**	**210**	PN	**Pn**	**10 48 12.7**	**-0.2**
PUZ				SN	**Sn**	**10 49 40.7**	**-2.2**
CNGZ	**Carnagh Statio**	**8.29**	**208**	PN	**Pn**	**10 48 19.1**	**+1.1**
MWZ	**Matawai**	**8.46**	**212**	PN	**Pn**	**10 48 19.9**	**-0.4**
MWZ				SN	**Sn**	**10 49 55.2**	**-1.0**
URZ	**Urewera**	**8.59**	**214**	Pn	**Pn**	**10 48 21.9**	**-0.2**
	3.0nm,0.3s,baz=339,slow=15,SNR=19						
URZ				Sn	**Sn**	**10 49 59.8**	**+0.4**
	7.6nm,0.3s,baz=161,slow=22,SNR=13						
URZ	**Urewera**	**8.59**	**214**	*e*Pn	**Pn**	**10 48 23.6**	**+1.4**
URZ				Sn	**Sn**	**10 49 59.8**	**+0.4**
URZ				*e*Sn	**Sn**	**10 50 01.7**	**+2.3**
URZ	**Urewera**	**8.59**	**214**	PN	**Pn**	**10 48 22.7**	**+0.6**
URZ				SN	**Sn**	**10 49 59.5**	**+0.1**
MRZ	**Mangatainoka R**	**11.22**	**211**	PN	**Pn**	**10 48 56.0**	**-2.2**
MRZ				SN	**Sn**	**10 50 58.3**	**-5.8**
KHZ	**Kahutara**	**13.55**	**212**	*e*Pn	**Pn**	**10 49 30.5**	**+0.6**
KHZ				*e*Sn	**Sn**	**10 51 57.7**	**-3.1**
MSVF	**Nonsavu**	**14.25**	**340**	*e*Pn	**Pn**	**10 49 37.2**	**-2.5**
MSVF	**Nonsavu**	**14.25**	**340**	*e*P	**Pn**	**10 49 37.2**	**-2.5**
RPZ	**Rata Peaks**	**15.71**	**214**	Pn	**Pn**	**10 49 56.9**	**-2.2**
	3.2nm,0.3s,baz=334,slow=1.1,SNR=14						
RPZ				Sn	**Sn**	**10 52 43.7**	**-10**
	1.6nm,0.3s,baz=354,slow=12,SNR=6.5						
RPZ	**Rata Peaks**	**15.71**	**214**	*e*Pn	**Pn**	**10 49 56.9**	**-2.1**
	40nm,0.8s						
RPZ				Sn	**Sn**	**10 52 43.7**	**-10**
ODZ	**Otahua Downs**	**16.91**	**212**	*e*Pn	**Pn**	**10 50 15.1**	**+0.7**
	234nm,0.8s						
ODZ	**Otahua Downs**	**16.91**	**212**	PN	**Pn**	**10 50 15.2**	**+0.8**
DZM	**Mont Dzumac**	**17.53**	**297**	*e*P	**Pn**	**10 50 26.6**	**+4.2**
	86nm,1.0s						
DZM				*e*LR	LR	10 54 30.1	
	1μm,27.4s						
DZM	**Mont Dzumac**	**17.53**	**297**	*e*P	**Pn**	**10 50 25.0**	**+2.6**
DZM	**Mont Dzumac**	**17.53**	**297**	*e*P	**Pn**	**10 50 25.4**	**+3.0**
	35nm,0.8s						
AFI	**Afiamalu**	**17.88**	**16**	P	**Pn**	**10 50 19.8**	**-6.8**
	0.8nm,0.3s,baz=207,slow=14,SNR=3.0						
AFI	**Afiamalu**	**17.88**	**16**	P	**Pn**	**10 50 19.8**	**-6.9**
AFI	**Afiamalu**	**17.88**	**16**	P	**Pn**	**10 50 19.8**	**-6.9**
RAR	**Rarotonga**	**18.24**	**61**	P	**Pn**	**10 50 26.0**	**-5.2**
	1.1nm,0.3s,baz=238,slow=9.5,SNR=3.7						
RAR	**Rarotonga**	**18.24**	**61**	P	**Pn**	**10 50 26.0**	**-5.2**
RAR	**Rarotonga**	**18.24**	**61**	P	**Pn**	**10 50 26.0**	**-5.2**
ARMA	**Armidale**	**27.07**	**264**	*e*P	**P**	**10 52 04.5**	**+3.8**
PPT	**Papeete**	**28.20**	**67**	*e*LR	LR	10 58 57.3	
	317nm,27.0s						
CNB	**Canberra Magne**	**28.49**	**253**	*e*P	**P**	**10 52 15.8**	**+2.5**
	78nm,1.5s,mb5.1						
HNR	**Honiara**	**30.64**	**310**	LR	LR	11 02 45.6	
	comp=Z,154nm,20.9s,MS3.6,baz=161,slow=32						
TOO	**Toolangi**	**31.58**	**248**	*e*P	**P**	**10 52 43.5**	**+2.8**
	30nm,0.8s,mb5.2						
CTA	**Charters Tower**	**34.95**	**280**	P	**P**	**10 53 11.9**	**+1.6**
	20nm,0.6s,mb5.2,baz=105,slow=11,SNR=39						
CTA				LR	LR	11 05 00.5	
	comp=Z,290nm,21.9s,MS4.0,baz=83,slow=32						
CTA	**Charters Tower**	**34.95**	**280**	*e*P	**P**	**10 53 11.0**	**+0.7**
	16nm,0.6s,mb5.1						
CTA	**Charters Tower**	**34.95**	**280**	P	**P**	**10 53 11.9**	**+1.6**
CTA	**Charters Tower**	**34.95**	**280**	P	**P**	**10 53 11.9**	**+1.6**
CTAO	**Charters Tower**	**34.95**	**280**	*e*P	**P**	**10 53 11.0**	**+0.7**
	23nm,0.7s,mb5.2						
CTAO	**Charters Tower**	**34.95**	**280**	*e*P	**P**	**10 53 11.0**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**35.30**	**258**	P	**P**	**10 53 14.8**	**+1.7**
	comp=Z,15nm,1.0s,mb4.9,baz=96,slow=10.0,SNR=9.6						
STKA				LR	LR	11 05 26.6	
	comp=Z,123nm,21.6s,MS3.6,baz=30,slow=32						
STKA	**Stephens Creek**	**35.30**	**258**	*e*P	**P**	**10 53 14.5**	**+1.4**
	comp=Z,11nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**35.30**	**258**	*e*P	**P**	**10 53 15.2**	**+2.0**
	comp=Z,4.7nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**35.30**	**258**	*e*P	**P**	**10 53 15.2**	**+2.1**
STKA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
RKT	**Rikitea**	**37.90**	**88**	*e*LR	LR	11 03 18.5	
	comp=Z,466nm,36.0s						
AS31	**Alice Springs**	**44.09**	**267**	*e*P	**P**	**10 54 26.6**	**+0.1**
ASAR	**Alice Springs**	**44.09**	**267**	P	**P**	**10 54 26.1**	**-0.4**
	comp=Z,7.3nm,0.6s,mb4.6,baz=102,slow=7.1,SNR=116						
ASAR				PcP	PcP	10 56 10.8	-1.0
	comp=Z,3.1nm,0.9s,baz=130,slow=4.6,SNR=6.8						
ASAR	**Alice Springs**	**44.09**	**267**	P	**P**	**10 54 26.1**	**-0.4**
ASAR				PcP	PcP	10 56 10.8	-1.0
ASAR	**Alice Springs**	**44.09**	**267**	P	**P**	**10 54 26.1**	**-0.4**
ASAR						10 56 10.8	
WB2	**Warramunga Arr**	**45.15**	**272**	*e*P	**P**	**10 54 34.2**	**-0.7**
WRAB	**Tennant Creek**	**45.15**	**272**	*e*P	**P**	**10 54 34.2**	**-0.8**
	comp=Z,12nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**45.15**	**272**	P	**P**	**10 54 34.7**	**-0.3**
	comp=Z,97nm,0.5s,mb5.9,SNR=20						
WRAB	**Tennant Creek**	**45.15**	**272**	*e*P	**P**	**10 54 34.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**45.16**	**272**	P	**P**	**10 54 34.0**	**-1.0**
	comp=Z,9.1nm,0.5s,mb4.8,baz=111,slow=8.0,SNR=260						
WRA				PcP	PcP	10 56 15.5	0.0
	comp=Z,3.3nm,0.9s,baz=116,slow=3.2,SNR=5.2						
WRA	**Warramunga Arr**	**45.16**	**272**	P	**P**	**10 54 34.0**	**-1.0**
WRA				PcP	PcP	10 56 15.5	0.0
WRA	**Warramunga Arr**	**45.16**	**272**	P	**P**	**10 54 34.0**	**-1.0**
WRA						10 56 15.5	
FITZ	**Fitzroy Crossi**	**53.39**	**270**	P	**P**	**10 55 36.9**	**-1.1**
	comp=Z,7.5nm,0.9s,mb4.6,baz=147,slow=5.5,SNR=12						
FITZ	**Fitzroy Crossi**	**53.39**	**270**	*e*P	**P**	**10 55 37.7**	**-0.3**
	comp=Z,13nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**53.39**	**270**	P	**P**	**10 55 36.9**	**-1.1**
KLBR	**Kellerberrin**	**55.05**	**251**	*e*P	**P**	**10 55 49.6**	**-0.4**
	comp=Z,32nm,1.7s,mb5.1						
QSPA	**South Pole Qui**	**58.85**	**180**	P	**P**	**10 56 19.6**	**+3.4**
	comp=Z,8.8nm,0.7s,mb4.9,baz=39,slow=2.5,SNR=28						
QSPA	**South Pole Qui**	**58.85**	**180**	*e*P	**P**	**10 56 19.8**	**+3.6**
	comp=Z,22nm,1.2s,mb5.1						
MAW	**Mawson**	**71.87**	**200**	LR	LR	11 27 36.3	
	comp=Z,38nm,18.0s,MS3.7,baz=137,slow=34						
SYO	**Syowa Base**	**76.51**	**193**	*e*P	**P**	**10 58 07.7**	**-0.1**
SNAA	**Sanae**	**77.27**	**178**	*e*	**P**	**10 58 13.5**	**+1.5**
SNAA	**Sanae**	**77.27**	**178**	*e*P	**P**	**10 58 12.1**	**+0.1**
	comp=Z,7.5nm,1.0s,mb4.6						
SNAA	**Sanae**	**77.27**	**178**	*e*P	**P**	**10 58 12.1**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VNA3	**Neumayer Olymp**	**77.38**	**176**	*e*	**P**	**10 58 14.5**	**+1.9**
VNA3				*e*		10 58 18.3	
VNA3				*e*		10 58 24.7	
VNA2	**Neumayer--Watz**	**77.83**	**176**	*e*	**P**	**10 58 17.0**	**+1.9**
	baz=172,slow=5.7						
VNA2				*e*		10 58 27.1	
VNA1	**Neumayer--Stat**	**78.05**	**176**	*e*	**P**	**10 58 18.9**	**+2.5**
MJAR	**Matsushiro Arr**	**79.53**	**325**	P	**P**	**10 58 23.3**	**-1.6**
	comp=Z,3.3nm,0.9s,mb4.2,baz=168,slow=5.0,SNR=5.0						
MJAR	**Matsushiro Arr**	**79.53**	**325**	P	**P**	**10 58 23.3**	**-1.6**
MJAR	**Matsushiro Arr**	**79.53**	**325**	P	**P**	**10 58 23.3**	**-1.6**
PLCA	**Paso Flores**	**81.17**	**132**	LR	LR	11 27 35.5	
	comp=Z,77nm,18.1s,MS4.1,baz=254,slow=30						
ASAJ	**Asahikawa**	**83.68**	**332**	LR	LR	11 28 25.5	
	comp=Z,107nm,21.1s,MS4.2,baz=48,slow=30						
IPM	**Ipoh**	**85.63**	**278**	*e*P	**P**	**10 58 56.6**	**-0.7**
	comp=Z,20nm,0.8s,mb5.4						
KSRS	**Korea Array**	**85.67**	**319**	P	**P**	**10 58 57.0**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.5,baz=144,slow=5.7,SNR=7.5						
KSRS				LR	LR	11 32 18.2	
	comp=Z,37nm,18.7s,MS3.8,baz=139,slow=32						
KSAR	**Wonju Array Be**	**85.68**	**319**	P	**P**	**10 58 57.0**	**0.0**
KSAR	**Wonju Array Be**	**85.68**	**319**	P	**P**	**10 58 57.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**85.97**	**334**	*e*P	**P**	**10 58 58.7**	**+0.6**
	comp=Z,44nm,1.0s,mb5.7						
YSS	**Yuzh-Sakhalins**	**85.97**	**334**	⇑*i*P	**P**	**10 58 58.1**	**0.0**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.6						
ISA	**Isabella**	**86.19**	**44**	*e*P	**P**	**10 58 59.2**	**-0.3**
	comp=Z,7.6nm,1.4s,mb4.7						
ISA	**Isabella**	**86.19**	**44**	*e*P	**P**	**10 58 59.2**	**-0.3**
ISA				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.8						
QIZ	**Qiongzhong**	**86.29**	**295**	P	**P**	**10 59 02.0**	**+1.7**
QIZ				S	S	11 09 35.6	-1.0
QIZ				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.9						
QIZ				pmax	pmax		
	comp=Z,100nm,4.6s						
KULM	**Kulim**	**86.37**	**278**	*e*P	**P**	**10 59 00.7**	**-0.2**
	comp=Z,34nm,1.1s,mb5.5						
PETK	**Petropavlovsk-**	**86.90**	**345**	P	**P**	**10 59 01.6**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.6,baz=163,slow=5.6,SNR=3.5						
PETK				LR	LR	11 33 35.9	
	comp=Z,44nm,18.3s,MS3.9,baz=256,slow=33						
PETK	**Petropavlovsk-**	**86.90**	**345**	P	**P**	**10 59 01.6**	**-0.9**
PETK	**Petropavlovsk-**	**86.90**	**345**	P	**P**	**10 59 01.6**	**-0.9**
GSC	**Goldstone**	**86.95**	**45**	*e*P	**P**	**10 59 02.9**	**-0.3**
	comp=Z,5.6nm,1.1s,mb4.7						
GSC	**Goldstone**	**86.95**	**45**	*e*P	**P**	**10 59 02.9**	**-0.3**
GSC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.7						
WDC	**Whiskeytown Da**	**87.34**	**38**	*e*P	**P**	**10 59 04.3**	**-0.7**
	comp=Z,9.0nm,1.1s,mb4.9						
WDC	**Whiskeytown Da**	**87.34**	**38**	*e*P	**P**	**10 59 04.3**	**-0.7**
WDC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.9						
NJ2	**Nanjing**	**87.58**	**310**	*e*P	**P**	**10 59 06.1**	**-0.3**
NJ2				pP	pP	10 59 11.0	+3.1
NJ2				sP	sP	10 59 13.2	+4.8
NJ2				SKS		11 09 31.0	
NJ2				S	S	11 09 53.0	+4.4
NJ2				SS	SS	11 15 33.0	-2.0
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,230nm,6.6s						
NJ2				LR	LR		
	comp=N,5μm,25.5s						
NJ2				LR	LR		
	comp=E,4μ

HHC			PP	PP		11 03 55.1	+4.8
HHC			SKS			11 10 29.1	
HHC			S	S		11 11 15.0	-2.9
HHC			sS	sS		11 11 25.5	+5.1
HHC			pmax	pmax			
	comp=Z,12nm,0.6s,mb5.6						
HHC			pmax	pmax			
	comp=Z,200nm,5.7s						
HHC			LR	LR			
	comp=N,180nm,16.0s,MS4.9						
HHC			LR	LR			
	comp=E,240nm,16.0s,MS4.9						
HHC			LR	LR			
	comp=Z,120nm,17.7s,MS4.4						
ILAR	**Eielson Array**	**98.53 12**	P	**P**		**10 59 54.4**	**-1.7**
	comp=Z,0.8nm,0.8s,mb4.3,baz=224,slow=5.5,SNR=12						
ILAR			LR	LR		11 39 42.7	
	comp=Z,46nm,18.2s,MS4.0,baz=273,slow=33						
ILAR	**Eielson Array**	**98.53 12**	P	**P**		**10 59 54.4**	**-1.7**
ILAR	**Eielson Array**	**98.53 12**	P	**P**		**10 59 54.4**	**-1.7**
CPUP	**Villa Florida**	**98.65 128**	LR	LR		11 35 34.5	
	comp=Z,51nm,19.0s,MS4.0,baz=334,slow=30						
LZH	**Lanzhou**	**100.06 306**	*e*P	Pdif		11 00 04.0	+0.4
LZH			pP			11 00 08.5	
LZH			sP			11 00 10.7	
LZH			pmax	pmax			
	comp=Z,13nm,1.0s						
LZH	**Lanzhou**	**100.06 306**	*e*P	Pdif		11 00 04.0	+0.4
	comp=Z,13nm,1.0s						
LZH			pP			11 00 08.5	
LZH			sP			11 00 10.7	
LZH	**Lanzhou**	**100.06 306**	*e*P	Pdif		11 00 04.0	+0.4
LZH			*SP			11 00 10.7	
LZH			pmax	pmax			
	comp=Z,13nm,1.0s						
WMQ	**Urumqi**	**114.56 308**	*e*PKP	PKiKP		11 04 58.3	+0.1
KRAR	**Krasnoyarsk**	**115.46 322** ⇑	*i*PKIKP	PKPdf		11 04 59.6	+0.1
ZALV	**Zalesovo Beam**	**119.36 318**	PKP	PKPdf		11 05 05.5	-1.5
	comp=Z,1.3nm,0.7s,baz=235,slow=29,SNR=4.4						
ZALV	**Zalesovo Beam**	**119.36 318**	PKP	PKPdf		11 05 05.5	-1.5
ZALV	**Zalesovo Beam**	**119.36 318**	PKIKP	PKPdf		11 05 05.6	-1.5
KURK	**Kurchatov**	**122.38 313**	PKP	PKPdf		11 05 11.9	-1.1
	comp=Z,2.7nm,0.7s,baz=106,slow=1.8,SNR=5.6						
KURK	**Kurchatov**	**122.38 313**	PKP	PKPdf		11 05 11.9	-1.1
KURK			*e*PKPdf	PKPdf		11 05 12.1	-0.9
KURK	**Kurchatov**	**122.38 313**	*d*PKIKP	PKPdf		11 05 12.2	-0.8
BVAR	**Borovoye Array**	**127.74 315**	PKP	PKPdf		11 05 22.9	-0.3
	comp=Z,3.5nm,0.9s,baz=108,slow=4.8,SNR=6.6						
BVAR	**Borovoye Array**	**127.74 315**	PKP	PKPdf		11 05 22.9	-0.3
BVAR	**Borovoye Array**	**127.74 315**	PKIKP	PKPdf		11 05 22.9	-0.3
BRVK	**Borovoye**	**127.80 315** ⇓	*i*PKIKP	PKPdf		11 05 22.9	-0.4
BRVK			pmax	pmax			
	comp=Z,5.0nm,1.0s						
ARU	**Arti**	**134.41 320**	*i*PKIKP	PKPdf		11 05 35.3	-0.4
ARU						11 08 05.3	
ARU			SS	SS		11 25 49.8	-9.3
AKTO	**Aktyubinsk**	**135.44 312**	PKP	PKPdf		11 05 36.9	-0.9
	comp=Z,1.1nm,0.5s,baz=76,slow=4.3,SNR=5.3						
AKTO	**Aktyubinsk**	**135.44 312**	PKP	PKPdf		11 05 36.9	-0.9
AKTO	**Aktyubinsk**	**135.44 312**	PKIKP	PKPdf		11 05 36.9	-0.9
ARCES	**ARCESS Array B**	**139.64 348**	PKhKP	PKPpre		11 05 37.6	
	comp=Z,5.5nm,1.0s,baz=43,slow=2.3,SNR=3.8						
ARCES			PKP	PKPdf		11 05 44.1	-0.9
	comp=Z,6.3nm,0.7s,baz=42,slow=0.3,SNR=15						
ARCES	**ARCESS Array B**	**139.64 348**	PKPpre	PKPpre		11 05 37.6	
ARCES			PKP	PKPdf		11 05 44.1	-0.9
ARCES	**ARCESS Array B**	**139.64 348**	PKHKP	PKPpre		11 05 37.6	
ARCES						11 05 44.1	
KLMR	**Klimovskoe**	**142.00 332**	*e*PKHKP	PKPpre		11 05 43.9	
KLMR			pmax	pmax			
	comp=Z,7.0nm,0.8s						
BHD	**Baghdad**	**145.27 284**	*i* x	PKPbc		11 05 54.5	-1.4
TBLG	**Delisi**	**145.30 299**	*e*PKIKP	PKPdf		11 05 56.1	+0.2
GNI	**Garni**	**145.38 297**	PKPbc	PKPbc		11 05 54.8	-1.2
	comp=Z,2.1nm,0.3s,baz=49,slow=8.6,SNR=5.3						
GNI	**Garni**	**145.38 297**	*e*PKPbc	PKPbc		11 05 56.7	+0.7
GNI	**Garni**	**145.38 297** ⇑	*i*PKIKP	PKPdf		11 05 56.9	+0.8
MOS	**Moscow**	**145.62 326**	*e*PKP2	PKPdf		11 05 54.2	-1.8
MOS			*e*			11 12 59.5	
MOS			pmax	pmax			
	comp=Z,127nm,0.9s						
PUL	**Pulkovo**	**146.21 335** *c*	*i*PKP2	PKPab		11 05 58.4	-0.2
PUL			pmax	pmax			
	comp=Z,95nm,0.4s						
FINES	**FINESS Array B**	**146.30 340**	PKPbc	PKPbc		11 05 56.8	-1.4
	comp=Z,28nm,0.6s,baz=51,slow=3.1,SNR=94						
FINES	**FINESS Array B**	**146.30 340**	PKPbc	PKPbc		11 05 56.8	-1.4
FINES	**FINESS Array B**	**146.30 340**	PKP2	PKPbc		11 05 56.8	-1.4
OBN	**Obninsk**	**146.46 325** ⇓	*i*PKP2	PKPdf		11 05 57.9	+0.5
OBN			pmax	pmax			
	comp=Z,137nm,2.5s						
OBN			MLR	MLR			
	comp=Z,100nm,13.0s,MS4.8						
KIV	**Kislovodsk**	**146.56 304**	*i*PKP2	PKPab		11 06 01.0	+0.5
KIV			pmax	pmax			
	comp=Z,25nm,1.4s						
VSR	**Storozhevoye**	**146.86 317**	*e*PKP2	PKPdf		11 05 58.8	+0.6
VSR			pmax	pmax			
	comp=N,3.0nm,0.8s						
VSR			pmax	pmax			
	comp=E,7.0nm,0.8s						
VSR			pmax	pmax			
	comp=Z,20nm,0.8s						
NB2	**NORSAR Subarra**	**149.75 352**	PKP	PKPbc		11 06 05.8	-1.6
	comp=Z,10nm,0.7s,baz=10,slow=2.6						
NOA	**NORSAR Array B**	**149.75 352**	PKPbc	PKPbc		11 06 06.2	-1.2
	comp=Z,8.7nm,0.7s,baz=13,slow=4.1,SNR=26						
NOA	**NORSAR Array B**	**149.75 352**	PKPbc	PKPbc		11 06 06.2	-1.2
NOA	**NORSAR Array B**	**149.75 352**	PKHKP	PKPbc		11 06 06.2	-1.2
NACGM	**Naroch**	**151.03 332**	*e*	PKPdf		11 06 06.0	+1.2
AKASG	**Malin Array Be**	**152.60 323**	PKPbc	PKPbc		11 06 13.3	-1.0
	comp=Z,11nm,0.8s,baz=48,slow=2.8,SNR=21						
AKASG			PKPab	PKPab		11 06 23.5	-1.4
	comp=Z,8.1nm,0.7s,baz=47,slow=3.9,SNR=10						
AKASG	**Malin Array Be**	**152.60 323**	PKPbc	PKPbc		11 06 13.3	-1.0
AKASG			PKPab	PKPab		11 06 23.5	-1.4
AKASG	**Malin Array Be**	**152.60 323**	PKIKP	PKPbc		11 06 13.4	-1.0
AKASG						11 06 23.5	
AKBB	**Malin Array Si**	**152.60 323**	*e*PKPbc	PKPbc		11 06 13.6	-0.7
AKBB	**Malin Array Si**	**152.60 323**	*e*PKIKP	PKPbc		11 06 13.6	-0.8
KIEV	**Kiev**	**152.62 323**	*e*PKPbc	PKPbc		11 06 13.6	-0.8
KIEV			*e*PKPab	PKPab		11 06 23.4	-1.6
KIEV	**Kiev**	**152.62 323**	*e*PKIKP	PKPbc		11 06 13.6	-0.8
KIEV			*e*			11 06 23.4	
BRTR	**Keskin Array B**	**153.91 297**	PKPbc	PKPbc		11 06 15.5	-2.1
	comp=Z,0.9nm,0.9s,baz=42,slow=3.8,SNR=3.6						
BRTR			PKPab	PKPab		11 06 30.6	-0.2
	comp=Z,0.8nm,0.6s,baz=114,slow=2.7,SNR=3.6						
BRTR	**Keskin Array B**	**153.91 297**	PKPbc	PKPbc		11 06 15.5	-2.1
BRTR			PKPab	PKPab		11 06 30.6	-0.2
BRTR	**Keskin Array B**	**153.91 297**	PKIKP	PKPbc		11 06 15.5	-2.1
BRTR						11 06 30.6	
DBIC	**Dimbokro**	**154.40 161**	PKP	PKPdf		11 06 10.8	-0.4
	comp=Z,2.5nm,1.0s,baz=60,slow=1.3,SNR=3.1						
DBIC			PKPbc	PKPbc		11 06 19.4	0.0
	comp=Z,4.6nm,0.8s,baz=220,slow=3.9,SNR=5.7						
DBIC	**Dimbokro**	**154.40 161**	PKP	PKPdf		11 06 10.8	-0.4
DBIC			PKPbc	PKPbc		11 06 19.4	0.0
DBIC	**Dimbokro**	**154.40 161**	PKIKP	PKPdf		11 06 10.8	-0.3
DBIC						11 06 19.4	
BUR08	**Bucovina Ar. S**	**156.54 320**	*e*PKPab	PKPab		11 06 41.8	0.0
CRVS	**Cervenica-Dubn**	**157.61 327**	*e*PKP2	PKPab		11 06 43.4	-2.9
CRVS	**Cervenica-Dubn**	**157.61 327**	*e*PKP	PKPab		11 06 43.4	-2.9
UPC	**Upice**	**158.53 337**	*e*PKP2	PKPab		11 06 49.9	-0.3
UPC	**Upice**	**158.53 337**	*e*PKPAB	PKPab		11 06 49.9	-0.3
DPC	**Dobruska-Polom**	**158.56 337**	*e*PKP2	PKPab		11 06 50.0	-0.3
DPC	**Dobruska-Polom**	**158.56 337**	*e*PKPAB	PKPab		11 06 50.0	-0.3
KRLC	**Kraliky**	**158.63 335**	*e*PKPAB	PKPab		11 06 49.9	-0.7
CLL	**Collm**	**158.69 343**	*e*PKP2	PKPab		11 06 35.0	-16
BRG	**Berggiesshubel**	**158.84 341**	*e*(P)	PKPab		11 06 50.5	-1.0
	comp=Z,3.8nm,0.7s						
BRG	**Berggiesshubel**	**158.84 341**	*e*PKP2	PKPab		11 06 50.5	-1.0
BRG			pmax	pmax			
	comp=Z,4.0nm,0.7s						
VYHS	**Vyhne**	**159.09 330**	*e*PKP2	PKPab		11 06 51.8	-0.9
VYHS	**Vyhne**	**159.09 330**	*e*PKP	PKPab		11 06 51.8	-0.9
KHC	**Kasperske Hory**	**160.50 339**	*e*PKP2	PKPab		11 06 58.1	-0.7
KHC	**Kasperske Hory**	**160.50 339**	*e*PKPAB	PKPab		11 06 58.1	-0.7
GERES	**GERESS Array B**	**160.72 339**	PKPab	PKPab		11 06 59.3	-0.5
	comp=Z,1.3nm,0.8s,baz=46,slow=5.8,SNR=7.0						
GERES	**GERESS Array B**	**160.72 339**	PKPab	PKPab		11 06 59.3	-0.5
GERES	**GERESS Array B**	**160.72 339**	PKP2	PKPab		11 06 59.3	-0.4
CONA	**Conrad Observa**	**160.75 333** ⇓	*i*PKPab	PKPab		11 07 00.3	+0.3
	comp=Z,12nm,1.3s						
MOA	**Molln**	**161.40 336** ⇑	*i*PKPab	PKPab		11 07 02.3	-0.4
	comp=Z,16nm,2.2s						
TORD	**Torodi Ar. Bea**	**161.92 175**	PKPab	PKPab		11 07 06.5	+0.7
	comp=Z,3.6nm,0.8s,baz=176,slow=3.9,SNR=16						
TORD	**Torodi Ar. Bea**	**161.92 175**	PKPab	PKPab		11 07 06.5	+0.7
ABTA	**Abfaltersbach**	**162.94 338** ⇓	*i*PKPab	PKPab		11 07 08.5	-1.1
	comp=Z,17nm,1.6s						

CSEM ***12*** *10:56:33.3±0.1, 45°.17N×23°.09E, h2km, ML2.7, Error ellipse: s-maj=3.6km s-min=2.6km az=135.0*
BEO ***12*** *10:56:34.6±0.4, 45°.12N×23°.08E, h10km±3km, ML2.7/1*
BUC ***12*** *10:56:34.5±0.9, 45°.28N×23°.08E, h14km±5km, MD2.6/3, Error ellipse: s-maj=9.5km s-min=4.4km az=348.0*
ISC 12 10:56:33.2±0.5, 45°.16N±0°.02×23°.10E±0°.03, h1km±4km, n61, σ0s87/87, 29C-11D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.32**	**316** ⇑	*i*P	**Pg**	**10 56 40.0**	**+0.6**
GZR				S	**Sg**	**10 56 44.4**	**+0.8**
GZR	**Gura Zlata**	**0.32**	**316** ⇑	*i*P	**Pg**	**10 56 40.0**	**+0.6**
GZR				*i* S	**Sg**	**10 56 44.4**	**+0.8**
GZR	**Gura Zlata**	**0.32**	**316** ⇑	*i*P	**Pg**	**10 56 40.0**	**+0.6**
GZR				S	**Sg**	**10 56 44.4**	**+0.8**
DJES	**Djerdap**	**0.64**	**220**	*e*Pg	**Pg**	**10 56 45.7**	**+0.2**
DJES				*e*Sg	**Sg**	**10 56 55.3**	**+1.5**
DEV	**Deva**	**0.74**	**350** ⇑	*i*P	**Pg**	**10 56 47.3**	**0.0**
DEV	**Deva**	**0.74**	**350**	S	**Sg**	**10 56 55.2**	**-1.7**
DEV	**Deva**	**0.74**	**350** ⇑	*i*P	**Pg**	**10 56 47.3**	**0.0**
DEV				*i* S	**Sg**	**10 56 55.2**	**-1.7**
DEV	**Deva**	**0.74**	**350** ⇑	*i*P	**Pg**	**10 56 47.3**	**0.0**
DEV				S	**Sg**	**10 56 55.2**	**-1.7**
BZS	**Buzias**	**1.14**	**294** ⇑	*i*Pg	**Pg**	**10 56 54.8**	**-0.2**
BZS				*e*Sg	**Sg**	**10 57 10.1**	**+0.3**
BZS	**Buzias**	**1.14**	**294** ⇑	*i*P	**Pg**	**10 56 54.8**	**-0.2**
BZS	**Buzias**	**1.14**	**294**	S	**Sg**	**10 57 11.5**	**+1.7**
BZS	**Buzias**	**1.14**	**294** ⇑	*i*P	**Pg**	**10 56 54.8**	**-0.2**
BZS				*i* S	**Sg**	**10 57 11.5**	**+1.7**
BZS	**Buzias**	**1.14**	**294** ⇑	*i*P	**Pg**	**10 56 54.8**	**-0.2**
BZS				*e*Sg	**Sg**	**10 57 10.1**	**+0.3**
BZS				S	**Sg**	**10 57 11.5**	**+1.7**
MDB	**Medias**	**1.33**	**42** ⇑	*i*P	**Pg**	**10 56 57.4**	**-1.4**
MDB	**Medias**	**1.33**	**42**	S	**Sg**	**10 57 14.1**	**-1.9**
MDB	**Medias**	**1.33**	**42** ⇑	*i*P	**Pg**	**10 56 57.4**	**-1.4**
MDB				*i* S	**Sg**	**10 57 14.1**	**-1.9**
MDB	**Medias**	**1.33**	**42** ⇑	*i*P	**Pg**	**10 56 57.4**	**-1.4**
MDB				S	**Sg**	**10 57 14.1**	**-1.9**
VOIR		**1.41**	**78**	S	**Sg**	**10 57 19.3**	**+0.9**
VOIR		**1.41**	**78**	*i* S	**Sg**	**10 57 19.3**	**+0.9**
VOIR		**1.41**	**78**	S	**Sg**	**10 57 19.3**	**+0.9**
BOLS	**Boljevac**	**1.56**	**212** ⇑	*i*Pn	**Pn**	**10 57 01.2**	**-0.8**
BOLS				*e*Sn	**Sn**	**10 57 21.6**	**-1.3**
BOLS	**Boljevac**	**1.56**	**212** ⇑	*i*Pn	**Pn**	**10 57 01.2**	**-0.8**
SVIS	**Svilajnac**	**1.61**	**237**	*e*Pn	**Pn**	**10 57 03.2**	**+0.5**
SVIS				*e*Sg	**Sg**	**10 57 25.8**	**+0.8**
DRGR		**1.65**	**351** ⇑	*i*P	**Pn**	**10 57 02.7**	**-0.6**
DRGR		**1.65**	**351** ⇑	*i*P	**Pn**	**10 57 02.7**	**-0.6**
DRGR		**1.65**	**351** ⇑	*i*P	**Pn**	**10 57 02.7**	**-0.6**
ZAPS	**Zavoj**	**1.92**	**190** ⇑	*i*Pn	**Pn**	**10 57 06.0**	**-0.9**
ZAPS				*e*Sg	**Sg**	**10 57 34.0**	**-0.7**
MLR	**Muntele Rosu**	**2.04**	**80** ⇑	*i*Pn	**Pn**	**10 57 10.1**	**+1.5**
MLR				*e*Sg	**Sg**	**10 57 39.8**	**+1.2**
MLR	**Muntele Rosu**	**2.04**	**80** ⇓	*i*P	**Pn**	**10 57 09.8**	**+1.2**
MLR	**Muntele Rosu**	**2.04**	**80**	S	**Sn**	**10 57 35.3**	**+0.7**
MLR	**Muntele Rosu**	**2.04**	**80** ⇓	*i*P	**Pn**	**10 57 09.8**	**+1.2**
MLR				*i* S	**Sn**	**10 57 35.3**	**+0.7**
MLR	**Muntele Rosu**	**2.04**	**80** ⇓	*i*P	**Pn**	**10 57 09.8**	**+1.2**
MLR	**Muntele Rosu**	**2.04**	**80** ⇑	*i*Pn	**Pn**	**10 57 10.1**	**+1.5**
MLR				S	**Sn**	**10 57 35.3**	**+0.7**
MLR				*e*Sg	**Sg**	**10 57 39.8**	**+1.2**
GRUS	**Gruza**	**2.12**	**234**	*e*Pn	**Pn**	**10 57 10.3**	**+0.5**
GRUS				*e*Sg	**Sg**	**10 57 40.8**	**-0.6**
GRUS	**Gruza**	**2.12**	**234**	*e*Pn	**Pn**	**10 57 10.3**	**+0.5**
GRUS				*e*Sg	**Sg**	**10 57 40.8**	**-0.6**
TRUS	**Trudelj**	**2.13**	**245** ⇑	*i*Pn	**Pn**	**10 57 09.5**	**-0.4**
TRUS	**Trudelj**	**2.13**	**245** ⇑	*i*Pn	**Pn**	**10 57 09.5**	**-0.4**
SELS	**Selova**	**2.41**	**217**	*e*Pn	**Pn**	**10 57 14.5**	**+0.9**
SELS				*e*Sg	**Sg**	**10 57 49.3**	**-1.1**
DIVS	**Divibare**	**2.46**	**245**	*e*Pn	**Pn**	**10 57 14.6**	**+0.2**
DIVS				*e*Sg	**Sg**	**10 57 52.2**	**+0.1**
DIVS	**Divibare**	**2.46**	**245**	*e*Pn	**Pn**	**10 57 14.6**	**+0.2**
DIVS				*e*Sg	**Sg**	**10 57 52.2**	**+0.1**
BARS	**Barje**	**2.52**	**202**	*e*Pn	**Pn**	**10 57 14.4**	**-0.8**
BARS				*e*Sg	**Sg**	**10 57 53.6**	**-0.5**
BARS	**Barje**	**2.52**	**202**	*e*Pn	**Pn**	**10 57 14.4**	**-0.8**
BARS				*e*Sg	**Sg**	**10 57 53.6**	**-0.5**
PLOR	**Plostina**	**2.59**	**73** ⇑	*i*P	**Pn**	**10 57 16.5**	**+0.3**
PLOR	**Plostina**	**2.59**	**73** ⇑	*i*P	**Pn**	**10 57 16.5**	**+0.3**
PLOR	**Plostina**	**2.59**	**73** ⇑	*i*P	**Pn**	**10 57 16.5**	**+0.3**
IVAS	**Ivanjica**	**2.64**	**234** ⇓	*i*Pn	**Pn**	**10 57 17.0**	**+0.2**
IVAS	**Ivanjica**	**2.64**	**234** ⇓	*i*Pn	**Pn**	**10 57 17.0**	**+0.2**
BURAR	**Bucovina Array**	**2.86**	**30** ⇓	*i*P	**Pn**	**10 57 20.1**	**+0.2**
BURAR	**Bucovina Array**	**2.86**	**30** ⇓	*i*P	**Pn**	**10 57 20.1**	**+0.2**
BURAR	**Bucovina Array**	**2.86**	**30** ⇓	*i*P	**Pn**	**10 57 20.1**	**+0.2**
BBLS	**Lazići**	**2.94**	**245**	*e*Pn	**Pn**	**10 57 22.1**	**+1.1**
BBLS	**Lazići**	**2.94**	**245**	*e*Pn	**Pn**	**10 57 22.1**	**+1.1**
PKSM	**Moragy**	**3.29**	**290** ⇑	*i*P	**Pn**	**10 57 25.7**	**-0.2**
PKSM	**Moragy**	**3.29**	**290** ⇑	*i*P	**Pn**	**10 57 25.7**	**-0.2**
PKSM	**Moragy**	**3.29**	**290** ⇑	*i*P	**Pn**	**10 57 25.7**	**-0.2**
PSZ	**Piszkesteto**	**3.53**	**322** ⇓	*i*P	**Pn**	**10 57 28.7**	**-0.5**
PSZ	**Piszkesteto**	**3.53**	**322** ⇓	*i*P	**Pn**	**10 57 28.7**	**-0.5**
PSZ	**Piszkesteto**	**3.53**	**322** ⇓	*i*P	**Pn**	**10 57 28.7**	**-0.5**
KECS	**Kecovo**	**3.78**	**333**	*e*PG	**Pn**	**10 57 32.8**	**+0.3**
CRVS	**Cervenica-Dubn**	**3.91**	**344**	*e*PG	**Pn**	**10 57 30.1**	**-4.2**
VYHS	**Vyhne**	**4.43**	**320**	*e*PG	**Pn**	**10 57 33.5**	**-8.0**

MAN 12 11:11:30.7±85N×123°.45E, h25km, mb4.5, ML3.4, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.07**	**267**	*e*P	Pb	11 11 34.3	-0.1
PAGZ				*e*S	Sb	11 11 38.2	+0.8
IPIL	**Ipil**	**0.87**	**266**	*e*P	Pb	11 11 47.0	+0.5
IPIL				*e*S	Sb	11 11 55.5	-2.3
SNPH	**Sibulan**	**1.50**	**352** ⇑	*i*P	Pn	11 11 56.6	+1.3
SNPH				*i* S	Sn	11 12 16.4	+2.3
BUKP	**Musuan**	**1.60**	**89**	*e*P	Pn	11 11 56.8	+0.1
TBP	**Tagbilaran**	**1.87**	**13**	*e*P	Pn	11 12 00.6	+0.2
TBP				*e*S	Sn	11 12 23.8	+0.5

IDC ***12*** *11:28:08.5±1.2, 31°.19S×177°.19W, h0km, mb4.2/4, mb1 4.3/6, mb1mx4.1/19, mbtmp4.2/6, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/18, Error ellipse: s-maj=30.9km s-min=27.4km az=78.0*
NEIC ***12*** *11:28:09.5±0.8, 31°.09S×177°.10W, h10km, mb4.5/1, Error ellipse: s-maj=19.1km s-min=10.8km az=93.0*
ISCJB ***12*** *11:28:12.2±1.5, 31°.24S±0°.08×177°.4W±0°.3, h33km, mb4.2/4, Error ellipse: s-maj=31.2km s-min=10.2km az=9.9*
ISC 12 11:28:14.2±1.6, 31°.16S±0°.08×177°.3W±0°.3, h35km, n25, σ1s23/20, mb4.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.97**	**345**	*e*Pn	**Pn**	**11 28 42.6**	**-2.5**
URZ	**Urewera**	**8.43**	**211**	Pn	**Pn**	**11 30 11.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=329,slow=12,SNR=3.0						
URZ				Sn	**Sn**	**11 31 47.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=143,slow=15,SNR=2.5						
URZ	**Urewera**	**8.43**	**211**	*e*Pn	**Pn**	**11 30 14.8**	**+1.1**
URZ				*e*Sn	**Sn**	**11 31 46.9**	**-0.8**
URZ				Sn	**Sn**	**11 31 47.6**	**0.0**
RPZ	**Rata Peaks**	**15.54**	**213**	Pn	**Pn**	**11 31 47.7**	**-2.9**
	comp=Z,1.2nm,0.3s,baz=353,slow=19,SNR=5.2						
RPZ	**Rata Peaks**	**15.54**	**213**	*e*Pn	**Pn**	**11 31 49.3**	**-1.2**
CTA	**Charters Tower**	**34.48**	**280**	P	**P**	**11 35 00.8**	**+1.8**
	comp=Z,1.0nm,0.8s,mb4.6,baz=99,slow=11,SNR=9.8						
CTA				LR	LR	11 47 10.7	
	comp=Z,54nm,20.7s,baz=235,slow=33						
CTA	**Charters Tower**	**34.48**	**280**	*e*P	**P**	**11 35 03.3**	**+4.3**
	3.5nm,0.7s,mb4.4						
CTA	**Charters Tower**	**34.48**	**280**	P	**P**	**11 35 00.8**	**+1.8**
CTAO	**Charters Tower**	**34.48**	**280**	*e*P	**P**	**11 35 04.1**	**+5.1**
	4.1nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**43.64**	**267**	P	**P**	**11 36 15.5**	**0.0**
	1.6nm,0.7s,mb3.9,baz=106,slow=6.8,SNR=24						
ASAR	**Alice Springs**	**43.64**	**267**	P	**P**	**11 36 15.5**	**0.0**
WB2	**Warramunga Arr**	**44.69**	**273**	*e*P	**P**	**11 36 24.2**	**+0.3**
WRA	**Warramunga Arr**	**44.70**	**273**	P	**P**	**11 36 24.3**	**+0.3**
	2.0nm,0.6s,mb4.2,baz=111,slow=7.9,SNR=36						
WRA	**Warramunga Arr**	**44.70**	**273**	P	**P**	**11 36 24.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.93**	**270**	*e*P	**P**	**11 37 28.4**	**+1.1**
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**11 38 10.3**	**+0.8**
	0.7nm,0.3s,mb4.1,baz=73,slow=4.8,SNR=4.5						
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**11 38 10.3**	**+0.8**
KURK	**Kurchatov**	**121.98**	**313**	PKP	PKPdf	11 47 04.5	+0.1
	0.6nm,0.5s,baz=105,slow=2.1,SNR=4.1						
KURK	**Kurchatov**	**121.98**	**313**	PKP	PKPdf	11 47 04.5	+0.1
FINES	**FINESS Array B**	**146.05**	**340**	PKPbc	PKPbc	11 47 48.9	-0.8
	4.1nm,0.5s,baz=43,slow=3.3,SNR=3.4						
FINES	**FINESS Array B**	**146.05**	**340**	PKPbc	PKPbc	11 47 48.9	-0.8
NOA	**NORSAR Array B**	**149.59**	**352**	PKPbc	PKPbc	11 47 58.3	-0.9
	0.7nm,0.6s,baz=9.2,slow=3.6,SNR=3.6						
NOA	**NORSAR Array B**	**149.59**	**352**	PKPbc	PKPbc	11 47 58.3	-0.9
TORD	**Torodi Ar. Bea**	**162.05**	**177**	PKPab	PKPab	11 48 57.7	-1.0
	0.4nm,0.6s,baz=155,slow=2.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**162.05**	**177**	PKPab	PKPab	11 48 57.7	-1.0

IDC ***12*** *11:30:40.6±6.5, 18°.84S×169°.24E, h223km±59km, mb3.8/12, mb1 4.1/13, mb1mx3.9/19, mbtmp3.9/13, Error ellipse: s-maj=26.8km s-min=20.8km az=109.0*
ISCJB ***12*** *11:30:41.6±1.4, 18°.84S±0°.10×169°.2E±0°.1, h243km±11km, mb4.0/14, Error ellipse: s-maj=17.2km s-min=15.4km az=4.0*
NEIC ***12*** *11:30:42.4±1.3, 18°.80S×169°.21E, h240km±12km, mb4.5/6, Error ellipse: s-maj=14.5km s-min=12.5km az=143.0*
ISC 12 11:30:41.8±1.4, 18°.82S±0°.10×169°.2E±0°.1, h234km±11km, n42, σ0s84/42, mb4.0/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.14**	**218**	*e*P	**Pn**	**11 31 45.7**	**-0.9**
DZM	**Mont Dzumac**	**4.14**	**218**	*e*Pn	**Pn**	**11 31 47.4**	**+0.7**
DZM				*e*Sn	**S**	**11 32 37.0**	**-1.0**
NOUC	**Port Laguerre**	**4.25**	**219**	*e*P	**Pn**	**11 31 48.6**	**+0.7**
HNR	**Honiara**	**12.95**	**315**	P	**Pn**	**11 33 37.4**	**-0.4**
	1.8nm,0.3s,baz=138,slow=1.8,SNR=5.6						
HNR	**Honiara**	**12.95**	**315**	*e*Pn	**Pn**	**11 33 38.0**	**+0.2**
EIDS	**Eid

CALA	**Caldeira**	**1.27**	**128**	*e*P	Pg	11 35 00.7	-4.6
CALA				*e*S	Sg	11 35 15.4	-6.4
CALA	**Caldeira**	**1.27**	**128**	*e*P	Pg	11 35 00.7	-4.6
CALA				*e*S	Sg	11 35 15.4	-6.4
PCAN	**Candelaria**	**1.48**	**127**	*e*P	Pn	11 35 03.4	-4.8
PCAN				*e*S	Sn	11 35 20.1	-7.8
PCAN				A		11 35 23.2	
	114nm,0.2s						
PCAN	**Candelaria**	**1.48**	**127**	*e*P	Pn	11 35 03.4	-4.8
PCAN				*e*S	Sn	11 35 20.1	-7.8
PICO	**Pico**	**1.49**	**125**	*e*P	Pn	11 35 03.7	-4.7
PICO				*e*S	Sn	11 35 20.7	-7.5
PICO	**Pico**	**1.49**	**125**	*e*P	Pn	11 35 03.7	-4.7
PICO				*e*S	Sn	11 35 20.7	-7.5
PMAN	**Manadas**	**1.65**	**116**	*e*S	Sn	11 35 24.4	-7.7
PMAN				A		11 35 26.2	
	48nm,0.2s						
PMAN	**Manadas**	**1.65**	**116**	*e*S	Sn	11 35 24.4	-7.7

NIED ***12*** *11:48:00,38.°30N×141.°90E,h41km,Mw3.5 Best double couple: M₀2.05000×10¹⁴ NP1:φs15.00000°,δ82.00000°, λ103.00000°. NP2:φs135.00000°,δ16.00000°,λ30.00000°.*

JMA 12 11:48:30.2±0.1,38.°30N×141.°86E,h46km±1km,M3.6,8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.43**	**291**	⇓P	Pn	11 48 40.4	+0.1
JIO				S	Sn	11 48 47.4	-0.2
OFUJ	**Ofunato**	**0.79**	**349**	⇓P	Pn	11 48 44.9	-0.1
OFUJ				S	Sn	11 48 55.4	-0.4
JMK	**Ichinoseki**	**0.82**	**323**	⇓P	Pn	11 48 45.7	+0.3
JMK				S	Sn	11 48 56.5	0.0
JOU	**Okura**	**0.94**	**274**	⇓P	Pn	11 48 47.4	+0.4
JOU				S	Sn	11 49 00.0	+0.6
JMM	**Marumori**	**0.95**	**243**	⇓P	Pn	11 48 46.6	-0.5
JFK	**Kawauchi**	**1.22**	**220**	P	Pn	11 48 50.3	-0.4
JFK				S	Sn	11 49 05.0	-1.0
JOM	**Ohasama**	**1.25**	**339**	⇓P	Pn	11 48 51.7	+0.5
JOM				S	Sn	11 49 07.8	+0.9
JYK	**Kaneyama**	**1.33**	**298**	⇓P	Pn	11 48 52.7	+0.4
JYK				*e*S	Sn	11 49 09.9	+1.1
JYS	**Shiratake**	**1.42**	**267**	P	Pn	11 48 53.9	+0.4
JYS				*e*S	Sn	11 49 12.0	+1.1
JFT	**Otama**	**1.44**	**238**	⇓P	Pn	11 48 54.1	+0.4
JFT				*e*S	Sn	11 49 11.8	+0.4
MAT	**Matsushiro**	**3.40**	**240**	P	Pn	11 49 22.2	+1.6
MAT				S	Sn	11 50 05.5	+5.8

DDA ***12*** *11:50:56.0,40.°81N×29.°33E,h6km±3km,Md2.7*
ISCJB ***12*** *11:50:56.7±0.6,40.°78N±0.°03×29.°20E±0.°06,h12km±5km, Error ellipse: s-maj=8.4km s-min=5.0km az=155.1*
ISK ***12*** *11:50:56.3,40.°78N×29.°17E,h11km,MD2.5*
CSEM ***12*** *11:50:57.0±0.1,40.°78N×29.°18E,h10km,MD2.7, Error ellipse: s-maj=3.6km s-min=2.8km az=77.0*

ISC 12 11:50:57.2±0.6,40.°79N±0.°03×29.°20E±0.°06,h10km±5km, n32,σ0°78/39,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUY	**Buyukada**	**0.09**	**317**	*i* P	**Pg**	**11 51 00.6**	**+0.9**
BUY				*i* S	**Sg**	**11 51 02.6**	**+1.1**
BUY	**Buyukada**	**0.09**	**317**	*i* P	**Pg**	**11 51 00.6**	**+0.9**
BUY				*i* S	**Sg**	**11 51 02.6**	**+1.1**
YLV	**Yalova**	**0.26**	**149**	*e*PG	**Pg**	**11 51 02.3**	**-0.2**
YLV				*e*SG	**Sg**	**11 51 06.2**	**+0.2**
YLV	**Yalova**	**0.26**	**149**	*e*Pg	**Pg**	**11 51 02.3**	**-0.2**
YLV				*e*Sg	**Sg**	**11 51 06.2**	**+0.2**
ISK	**Istanbul-Kandi**	**0.30**	**339**	*e*PG	**Pg**	**11 51 02.8**	**-0.4**
ISK				*e*SG	**Sg**	**11 51 07.7**	**+0.4**
ISK	**Istanbul-Kandi**	**0.30**	**339**	*e*Pg	**Pg**	**11 51 02.8**	**-0.4**
ISK				*e*Sg	**Sg**	**11 51 07.7**	**+0.5**
ARMT	**Armutlu**	**0.34**	**229**	*e*PG	**Pg**	**11 51 03.2**	**-0.8**
ARMT	**Armutlu**	**0.34**	**229**	*e*Pg	**Pg**	**11 51 03.2**	**-0.7**
GEMT	**Gemlik**	**0.35**	**181**	*e*PG	**Pg**	**11 51 03.5**	**-0.7**
GEMT	**Gemlik**	**0.35**	**181**	*e*Pg	**Pg**	**11 51 03.5**	**-0.7**
KLYT	**Kilyos**	**0.48**	**346**	*e*PG	**Pg**	**11 51 06.3**	**-0.3**
KLYT	**Kilyos**	**0.48**	**346**	*e*Pg	**Pg**	**11 51 06.3**	**-0.3**
SILT	**Sile**	**0.50**	**43**	*e*PG	**Pg**	**11 51 07.1**	**+0.2**
SILT	**Sile**	**0.50**	**43**	*e*Pg	**Pg**	**11 51 07.1**	**+0.2**
BGKT	**Bogazkoy**	**0.51**	**321**	*e*PG	**Pg**	**11 51 06.5**	**-0.6**
BGKT	**Bogazkoy**	**0.51**	**321**	*e*Pg	**Pg**	**11 51 06.5**	**-0.6**
ELBA	**Catalca**	**0.68**	**302**	*i* P	**Pg**	**11 51 10.1**	**-0.4**
ELBA	**Catalca**	**0.68**	**302**	*i* P	**Pg**	**11 51 10.1**	**-0.3**
CTKS	**Kestanelik-??a**	**0.69**	**311**	*e*PG	**Pg**	**11 51 10.5**	**-0.1**
CTKS	**Kestanelik-??a**	**0.69**	**311**	*e*Pg	**Pg**	**11 51 10.5**	**-0.1**
KCTX	**Karacabey (Bur**	**0.83**	**231**	*e*PG	**Pg**	**11 51 12.5**	**-0.7**
KCTX	**Karacabey (Bur**	**0.83**	**231**	*e*Pg	**Pg**	**11 51 12.5**	**-0.7**
BNT	**Bandirma**	**1.06**	**247**	*e*PG	**Pg**	**11 51 17.2**	**-0.4**
BNT	**Bandirma**	**1.06**	**247**	*e*Pg	**Pg**	**11 51 17.3**	**-0.4**
GULT	**Gulveren**	**1.06**	**109**	*e*PG	**Pg**	**11 51 17.5**	**-0.2**
GULT	**Gulveren**	**1.06**	**109**	*e*Pg	**Pg**	**11 51 17.5**	**-0.2**
DURS	**Dursunbey**	**1.31**	**205**	*i* P	**Pn**	**11 51 22.1**	**+0.6**
DURS				*i* S	**Sb**	**11 51 41.4**	**+2.8**
DURS	**Dursunbey**	**1.31**	**205**	*i* P	**Pn**	**11 51 22.1**	**+0.6**
GONE	**Gonen-Balikesi**	**1.37**	**238**	*e*PN	**Pn**	**11 51 21.2**	**-1.1**
GONE	**Gonen-Balikesi**	**1.37**	**238**	*e*Pn	**Pn**	**11 51 21.2**	**-1.2**
BALY	**Balya**	**1.60**	**230**	*e*P	**Pn**	**11 51 26.6**	**+1.1**
BALY	**Balya**	**1.60**	**230**	*e*P	**Pn**	**11 51 26.6**	**+1.1**

BJI ***12*** *11:55:27.0,30.°78S×176.°72W,h2km,mB5.6/16,mb5.4/24, Ms5.3/11,Ms7 5.0/12*
IDC ***12*** *11:55:28.1±0.5,30.°95S×176.°75W,h0km,mb4.7/13, mb1 4.9/13,mb1mx4.8/17,mbtmp4.6/13,MS4.0/14, Ms1 4.0/14,ms1mx3.8/25,Error ellipse: s-maj=21.2km s-min=19.0km az=17.0*
NEIC ***12*** *11:55:29.6±0.2,31.°07S×176.°81W,h10km,mb5.1/25, Error ellipse: s-maj=8.0km s-min=7.1km az=133.0*
GCMT ***12*** *11:55:31.1±0.4,30.°89S×176.°25W,h12km,MW5.0, Moment Tensor Solution. s16,c20; s55,c83; Moment tensor: Scale 10¹⁶Nm; Mrr-2.31±.11; Mθθ0.21±.12; Mφφ2.10±.10; Mrθ1.22±.41; Mrφ1.06±.08; Mθφ-2.53±.34; Best double couple: M₀3.70000×10¹⁶ NP1:φs225.00000°, δ30.00000°,λ-41.00000°. NP2:φs352.00000°,δ71.00000°, λ-114.00000°. Principal axes: T 3.3300, Plg22.0000°, Azm100.0000°; N 0.7000, Plg22.0000°, Azm1.0000°; P -4.0300, Plg58.0000°, Azm230.0000°; Data Used: IU II G IC CN.*
ISCJB ***12*** *11:55:31.1±0.1,31.°43S±0.°04×176.°85W±0.°05,h33km, mb5.2/54,MS4.2/21 Error ellipse: s-maj=7.0km s-min=3.1km az=42.5*
MOS ***12*** *11:55:33.1±1.1,30.°86S×176.°90W,h33km,mb5.3/18, Error ellipse: s-maj=15.6km s-min=10.1km az=125.2*

ISC 12 11:55:33.1±0.1,31.°36S±0.°04×176.°83W±0.°05,h35km, (h11km△3.3km:pP-P),n358,σ0°87/247,mb5.2/54,MS4.2/21, 58C-58D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.30**	**335**	*e*Pn	**Pn**	**11 56 03.6**	**-4.9**
RAO	**Raoul Island**	**2.30**	**335**	*e*P	**Pn**	**11 56 03.6**	**-4.9**
PUZ	**Puketiti**	**7.83**	**210**	*e*PN	**Pn**	**11 57 24.4**	**0.0**
PUZ				SN	**Sn**	**11 58 51.4**	**-0.4**
MWZ	**Matawai**	**8.37**	**212**	*e*PN	**Pn**	**11 57 31.3**	**-0.5**
MWZ				*e*SN	**Sn**	**11 59 07.5**	**+2.5**
URZ	**Urewera**	**8.50**	**214**	Pn	**Pn**	**11 57 33.8**	**+0.1**
	2.8nm,0.3s,baz=339,slow=13,SNR=18						
URZ				Sn	**Sn**	**11 59 11.3**	**+3.0**
	9.1nm,0.3s,baz=151,slow=22,SNR=11						
URZ	**Urewera**	**8.50**	**214**	*e*Pn	**Pn**	**11 57 35.0**	**+1.4**
URZ				Sn	**Sn**	**11 59 11.3**	**+3.0**
URZ				*e*Sn	**Sn**	**11 59 12.5**	**+4.2**
URZ	**Urewera**	**8.50**	**214**	*e*PN	**Pn**	**11 57 33.7**	**0.0**
URZ				SN	**Sn**	**11 59 11.3**	**+3.0**
BKZ	**Black Stump Fm**	**9.51**	**213**	*e*PN	**Pn**	**11 57 47.3**	**-0.3**
BKZ				*e*SN	**Sn**	**11 59 34.1**	**+0.9**
TSZ	**Takapari Road**	**10.47**	**212**	*e*PN	**Pn**	**11 57 59.6**	**-1.1**
TSZ				*e*SN	**Sn**	**11 59 56.0**	**-0.8**
MRZ	**Mangatainoka R**	**11.13**	**211**	*e*PN	**Pn**	**11 58 07.3**	**-2.4**
MRZ				*e*SN	**Sn**	**12 00 10.1**	**-2.8**
QRZ	**Quartz Range**	**12.77**	**219**	*e*PN	**Pn**	**11 58 30.6**	**-1.6**
THZ	**Tophouse**	**13.26**	**216**	*e*PN	**Pn**	**11 58 37.3**	**-1.4**
KHZ	**Kahutara**	**13.46**	**212**	*e*Pn	**Pn**	**11 58 38.1**	**-3.3**
KHZ				*e*Sn	**Sn**	**12 01 03.5**	**-6.1**
KHZ	**Kahutara**	**13.46**	**212**	*e*PN	**Pn**	**11 58 37.3**	**-4.1**
KHZ				*e*SN	**Sn**	**12 01 03.2**	**-6.4**
MSVF	**Nonsavu**	**14.34**	**340**	*e*Pn	**Pn**	**11 58 48.5**	**-5.1**
MSVF	**Nonsavu**	**14.34**	**340**	*e*P	**Pn**	**11 58 48.5**	**-5.1**
RPZ	**Rata Peaks**	**15.62**	**214**	Pn	**Pn**	**11 59 09.0**	**-1.4**
	6.6nm,0.3s,baz=263,slow=1.8,SNR=29						
RPZ				Sn	**Sn**	**12 01 56.7**	**-5.6**
	1.7nm,0.3s,baz=327,slow=15,SNR=5.8						
RPZ	**Rata Peaks**	**15.62**	**214**	*e*Pn	**Pn**	**11 59 08.7**	**-1.8**
	60nm,0.7s						
RPZ				Sn	**Sn**	**12 01 56.7**	**-5.6**
RPZ	**Rata Peaks**	**15.62**	**214**	*e*PN	**Pn**	**11 59 07.8**	**-2.6**
ODZ	**Otahua Downs**	**16.82**	**212**	*e*Pn	**Pn**	**11 59 26.3**	**+0.6**
	298nm,0.8s						
ODZ	**Otahua Downs**	**16.82**	**212**	*e*PN	**Pn**	**11 59 23.5**	**-2.2**
JCZ	**Jackson Bay**	**17.03**	**218**	*e*PN	**Pn**	**11 59 26.3**	**-2.1**
DZM	**Mont Dzumac**	**17.56**	**298**	*e*P	**Pn**	**11 59 36.8**	**+1.7**
	158nm,1.1s						
DZM				*e*LR	LR	12 03 54.1	
	3μm,27.2s						
DZM	**Mont Dzumac**	**17.56**	**298**	*e*Pn	**Pn**	**11 59 33.4**	**-1.7**
	66nm,0.9s						
NOUC	**Port Laguerre**	**17.65**	**297**	*e*P	**Pn**	**11 59 35.9**	**-0.3**
TBI	**Tubuai**	**25.53**	**79**	*e*LQ		12 05 42.1	
	791nm,26.2s						
TBI				*e*LR	LR	12 06 58.9	
	886nm,28.5s						
ARMA	**Armidale**	**27.04**	**264**	*e*P	**P**	**12 01 16.7**	**+4.6**
PPT	**Papeete**	**28.25**	**67**	*e*LQ		12 06 44.6	
	512nm,24.2s						
PPT				*e*LR	LR	12 08 08.8	
	608nm,27.8s,baz=231						
CNB	**Canberra Magne**	**28.44**	**253**	*e*P	**P**	**12 01 28.7**	**+4.1**
	79nm,0.9s,mb5.3						
HNR	**Honiara**	**30.69**	**310**	*e*P	**P**	**12 01 44.8**	**+0.2**
	97nm,0.6s,mb5.8						
HNR	**Honiara**	**30.69**	**310**	*e*P	**P**	**12 01 44.8**	**+0.2**
HNR				pmax	pmax		
	comp=Z,97nm,0.6s,mb5.8						
TOO	**Toolangi**	**31.53**	**248**	*e*P	**P**	**12 01 55.6**	**+3.7**
	comp=Z,71nm,1.0s,mb5.5						
CTA	**Charters Tower**	**34.95**	**280**	*e*P	**P**	**12 02 23.8**	**+1.9**
	comp=Z,26nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**34.95**	**280**	P	**P**	**12 02 22.7**	**+0.9**
	comp=Z,44nm,0.9s,mb5.4						
CTAO	**Charters Tower**	**34.95**	**280**	P	**P**	**12 02 22.7**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.4						
STKA	**Stephens Creek**	**35.26**	**258**	P	**P**	**12 02 26.4**	**+2.0**
	comp=Z,23nm,1.0s,mb5.1,baz=93,slow=9.9,SNR=16						
STKA				LR	LR	12 14 48.7	
	comp=Z,233nm,19.8s,MS3.9,baz=38,slow=33						
STKA	**Stephens Creek**	**35.26**	**258**	*e*P	**P**	**12 02 26.8**	**+2.4**
	comp=Z,20nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**35.26**	**258**	*e*P	**P**	**12 02 27.1**	**+2.6**
	comp=Z,8.8nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**35.26**	**258**	*e*P	**P**	**12 02 27.1**	**+2.7**
STKA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RKT	**Rikitea**	**37.92**	**88**	*e*LR	LR	12 12 48.4	
	comp=Z,632nm,27.2s						
PMG	**Port Moresby**	**39.92**	**295**	P	**P**	**12 03 03.9**	**-0.2**
	comp=Z,5.5nm,0.9s,mb4.3,baz=180,slow=7.4,SNR=4.3						
PMG	**Port Moresby**	**39.92**	**295**	P	**P**	**12 03 03.9**	**-0.2**
PMG	**Port Moresby**	**39.92**	**295**	*e*P	**P**	**12 03 03.0**	**-1.1**
PMG				pmax	pmax		
	comp=Z,18nm,1.2s						
TAOE	**Nuku Hiva Isla**	**40.78**	**65**	*e*LR	LR	12 13 56.1	
	comp=Z,246nm,26.2s						
AS31	**Alice Springs**	**44.07**	**267**	*e*P	**P**	**12 03 37.9**	**+0.1**
ASAR	**Alice Springs**	**44.07**	**267**	P	**P**	**12 03 38.0**	**+0.1**
	comp=Z,11nm,0.7s,mb4.7,baz=104,slow=7.6,SNR=126						
ASAR				PcP	PcP	12 05 24.0	+1.2
	comp=Z,8.1nm,1.1s,baz=122,slow=4.7,SNR=7.7						
ASAR	**Alice Springs**	**44.07**	**267**	P	**P**	**12 03 38.0**	**+0.1**
ASAR				PcP	PcP	12 05 24.0	+1.2
ASAR	**Alice Springs**	**44.07**	**267**	P	**P**	**12 03 38.0**	**+0.2**
ASAR						12 05 24.0	
WB2	**Warramunga Arr**	**45.13**	**272**	*e*P	**P**	**12 03 45.8**	**-0.6**
WRAB	**Tennant Creek**	**45.14**	**272**	*e*P	**P**	**12 03 45.5**	**-0.9**
	comp=Z,18nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**45.14**	**272**	*e*P	**P**	**12 03 45.5**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**45.14**	**272**	P	**P**	**12 03 46.0**	**-0.5**
	comp=Z,8.7nm,0.6s,mb4.8,baz=113,slow=7.6,SNR=67						
WRA				PcP	PcP	12 05 27.6	+1.1
	comp=Z,5.0nm,0.9s,baz=119,slow=3.6,SNR=6.6						
WRA				LR	LR	12 20 58.0	
	comp=Z,353nm,20.4s,MS4.3,baz=95,slow=34						
WRA	**Warramunga Arr**	**45.14**	**272**	P	**P**	**12 03 46.0**	**-0.5**
WRA				PcP	PcP	12 05 27.6	+1.1
WRA	**Warramunga Arr**	**45.14**	**272**	P	**P**	**12 03 46.0**	**-0.4**
WRA						12 05 27.6	
FORT	**Forrest**	**46.78**	**256**	*e*P	**P**	**12 03 59.8**	**+0.6**
	comp=Z,23nm,0.7s,mb5.2						
VNDA	**Vanda**	**47.25**	**186**	*e*P	**P**	**12 04 10.0**	**+7.7**
	comp=Z,37nm,2.4s,mb4.9						
VNDA	**Vanda**	**47.25**	**186**	*e*P	**P**	**12 04 10.0**	**+7.7**
VNDA				pmax	pmax		
	comp=Z,37nm,2.4s						
FITZ	**Fitzroy Crossi**	**53.37**	**270**	*e*P	**P**	**12 04 49.2**	**-0.1**
	comp=Z,16nm,0.9s,mb5.0						
CASY	**Casey**	**54.77**	**208**	*e*P	**P**	**12 05 02.2**	**+3.3**
CASY	**Casey**	**54.77**	**208**	*e*P	**P**	**12 05 02.2**	**+3.4**
	comp=Z,24nm,1.0s,mb5.2						
KLBR	**Kellerberrin**	**55.00**	**251**	*e*P	**P**	**12 05 00.2**	**-0.9**
QSPA	**South Pole Qui**	**58.76**	**180**	P	**P**	**12 05 30.6**	**+3.7**
	comp=Z,16nm,0.8s,mb5.1,baz=56,slow=2.5,SNR=34						
QSPA				LR	LR	12 26 09.4	
	comp=Z,96nm,19.9s,MS3.9,baz=234,slow=31						
QSPA	**South Pole Qui**	**58.76**	**180**	P	**P**	**12 05 30.6**	**+3.7**
QSPA				*e*P		12 05 32.2	
BMNI	**Bima**	**63.84**	**276**	P	**P**	**12 06 02.6**	**+0.3**
	comp=Z,918nmcomp=Z,39nm,1.0s,mb5.4						
MTNI	**Mataram**	**65.34**	**275**	P	**P**	**12 06 17.4**	**+1.4**
	comp=Z,9μmcomp=Z,72nm,1.1s,mb5.6						
DAV	**Davao City (W)**	**66.94**	**294**	LR	LR	12 30 37.0	
	comp=Z,151nm,20.5s,MS4.2,baz=157,slow=32						
GMJI	**Gumukmas**	**68.45**	**273**	P	**P**	**12 06 32.8**	**+0.9**
	comp=Z,73nm,1.0s,mb5.7						
MAW	**Mawson**	**71.77**	**200**	LR	LR	12 39 38.9	
	comp=Z,77nm,18.6s,MS4.0,baz=137,slow=37						
LEM	**Lembang**	**74.16**	**272**	P	**P**	**12 07 07.9**	**+1.5**
	comp=Z,77nm,1.0s,mb5.6						
SYO	**Syowa Base**	**76.41**	**193**	*e*P	**P**	**12 07 19.8**	**+1.3**
SNAA	**Sanae**	**77.17**	**178**	*e*	**P**	**12 07 25.4**	**+2.7**
SNAA	**Sanae**	**77.17**	**178**	*e*P	**P**	**12 07 25.6**	**+2.8**
	comp=Z,9.8nm,0.9s,mb4.7						
SNAA	**Sanae**	**77.17**	**178**	*e*P	**P**	**12 07 25.6**	**+2.9**
SNAA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VNA3	**Neumayer Olymp**	**77.28**	**176**	*e*	**P**	**12 07 26.0**	**+2.6**
VNA2	**Neumayer--Watz**	**77.73**	**176**	*e*	**P**	**12 07 28.8**	**+2.9**
	baz=174,slow=5.7						
VNA1	**Neumayer--Stat**	**77.95**	**176**	*e*	**P**	**12 07 30.5**	**+3.4**
MJAR	**Matsushiro Arr**	**79.60**	**325**	P	**P**	**12 07 35.3**	**-1.2**
	comp=Z,10nm,1.1s,mb4.7,baz=168,slow=5.8,SNR=8.7						
MJAR				LR	LR	12 37 58.9	
	comp=Z,50nm,19.1s,MS3.9,baz=120,slow=32						
MJAR	**Matsushiro Arr**	**79.60**	**325**	P	**P**	**12 07 35.3**	**-1.2**
MJAR	**Matsushiro Arr**	**79.60**	**325**	P	**P**	**12 07 35.3**	**-1.2**
MAT	**Matsushiro**	**79.60**	**325**	P	**P**	**12 07 35.4**	**-1.1**
KSI	**Kapahiang**	**80.07**	**272**	P	**P**	**12 07 42.4**	**+2.7**
	comp=Z,110nm,1.1s,mb5.7						
PLCA	**Paso Flores**	**81.12**	**132**	P	**P**	**12 07 47.7**	**+2.8**
	comp=Z,2.6nm,0.9s,mb4.1,baz=219,slow=5.6,SNR=4.7						
PLCA				LR	LR	12 34 38.7	
	comp=Z,171nm,19.1s,MS4.4,baz=345,slow=29						
PLCA	**Paso Flores**	**81.12**	**132**	P	**P**	**12 07 47.7**	**+2.9**
PLCA	**Paso Flores**	**81.12**	**132**	P	**P**	**12 07 47.7**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**82.41**	**334**	*i* P	**P**	**12 07 51.7**	**+0.4**
YUK				*i* S	S	12 18 06.0	+1.2
YUK				pmax	pmax		
	comp=E,855nm,2.0s						
YUK				pmax	pmax		
	comp=N,550nm,2.0s						
YUK				pmax	pmax		
	comp=Z,2μm,1.9s						
YUK				smax			
	comp=N,3μm,3.3s						
YUK				smax			
	comp=E,4μm,3.9s						
PDSI	**Padang**	**83.30**	**273**	P	**P**	**12 07 56.1**	**-0.6**
	comp=E,1μmcomp=E,82nm,1.1s,mb5.7						
BKNI	**Bangkinang**	**83.44**	**274**	P	**P**	**12 07 58.1**	**+0.6**
MNSI	**Mandailing Nat**	**84.93**	**274**	P	**P**	**12 08 03.8**	**-1.2**
	comp=E,1μcomp=E,46nm,0.9s,mb5.6						
IPM	**Ipoh**	**85.62**	**278**	*e*P	**P**	**12 08 08.6**	**+0.1**
	comp=E,31nm,0.8s,mb5.6						
MONP	**Monument Peak**	**85.66**	**47**	⇓P	**P**	**12 08 07.7**	**-0.4**
	baz=86						
ARVC	**Arvin**	**85.70**	**44**	⇓P	**P**	**12 08 08.2**	**-0.1**
	baz=86						
DVTC	**Desert V Tower**	**85.71**	**48**	⇑P	**P**	**12 08 08.6**	**+0.2**
	baz=86						
KSRS	**Korea Array**	**85.73**	**319**	P	**P**	**12 08 08.6**	**+0.3**
	comp=E,3.9nm,0.8s,mb4.7,baz=143,slow=6.2,SNR=13						
KSRS				LR	LR	12 41 53.3	
	comp=E,50nm,21.1s,MS3.9,baz=22,slow=33						
KSAR	**Wonju Array Be**	**85.74**	**319**	P	**P**	**12 08 08.6**	**+0.2**
KSAR	**Wonju Array Be**	**85.74**	**319**	P	**P**	**12 08 08.6**	**+0.2**
BFSC	**Mount Baldy Ra**	**85.80**	**46**	⇑P	**P**	**12 08 08.5**	**-0.3**
	baz=86						
EDW2	**Edwards Air Fo**	**86.03**	**45**	⇑P	**P**	**12 08 09.2**	**-0.7**
	baz=86,SNR=6.0						
VES	**Vestal, Richgr**	**86.03**	**44**	⇓P	**P**	**12 08 09.3**	**-0.6**
	baz=86						
YSS	**Yuzh-Sakhalins**	**86.05**	**334**	⇑*e*P	**P**	**12 08 10.3**	**+0.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.6						
PFO	**Pinyon Flat Ob**	**86.12**	**47**	⇑P	**P**	**12 08 10.0**	**-0.4**
	baz=86						
ISA	**Isabella**	**86.27**	**44**	⇑P	**P**	**12 08 10.8**	**-0.3**
	baz=86,SNR=7.4						
ISA	**Isabella**	**86.27**	**44**	*e*P	**P**	**12 08 10.8**	**-0.3**
	comp=Z,15nm,1.4s,mb5.0						
ISA	**Isabella**	**86.27**	**44**	*e*P	**P**	**12 08 10.8**	**-0.3**
ISA				pmax	pmax		
	comp=Z,15nm,1.4s,mb5.0						
QIZ	**Qiongzhong**	**86.31**	**295**	P	**P**	**12 08 09.0**	**-2.7**
QIZ				S	S	12 18 46.8	+1.9
QIZ				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.1						
QIZ				pmax	pmax		
	comp=Z,78nm,5.3s						
KULM	**Kulim**	**86.36**	**278**	*e*P	**P**	**12 08 12.5**	**+0.4**
	comp=Z,64nm,1.2s,mb5.7						
PSI	**Prapat**	**86.53**	**275**	P	**P**	**12 08 12.3**	**-0.7**
	comp=Z,506nmcomp=Z,52nm,1.1s,mb5.7						
LRMC	**Laurel Mountai**	**86.62**	**45**	⇓P	**P**	**12 08 12.2**	**-0.6**
	baz=87,SNR=5.6						
BELC	**Belle Mtn. Jos**	**86.66**	**47**	⇓P	**P**	**12 08 12.8**	**-0.3**
	baz=87						
BC3	**Big Chuckawall**	**86.78**	**47**	⇑P	**P**	**12 08 13.3**	**-0.3**
	baz=87,SNR=6.4						
CMB	**Columbia Colle**	**86.80**	**41**	*e*P	**P**	**12 08 12.9**	**-0.8**
	comp=Z,8.0nm,1.0s,mb4.9						
CMB	**Columbia Colle**	**86.80**	**41**	*e*P	**P**	**12 08 12.9**	**-0.7**
CMB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
PETK	**Petropavlovsk-**	**86.99**	**345**	P	**P**	**12 08 12.3**	**-1.8**
	comp=Z,4.7nm,0.8s,mb4.8,baz=152,slow=6.7,SNR=3.5						
PETK				LR	LR	12 44 36.5	
	comp=Z,100nm,18.4s,MS4.3,baz=64,slow=34						
PETK	**Petropavlovsk-**	**86.99**	**345**	P	**P**	**12 08 12.3**	**-1.8**
PETK	**Petropavlovsk-**	**86.99**	**345**	P	**P**	**12 08 12.3**	**-1.8**
HEC	**Hector,Ludlow**	**87.01**	**46**	⇓P	**P**	**12 08 14.2**	**-0.5**
	baz=87						
GSC	**Goldstone**	**87.03**	**45**	⇓P	**P**	**12 08 14.3**	**-0.5**
	baz=87,SNR=5.3						
GSC	**Goldstone**	**87.03**	**45**	*e*P	**P**	**12 08 14.6**	**-0.2**
	comp=Z,22nm,1.4s,mb5.2						
GSC	**Goldstone**	**87.03**	**45**	*e*P	**P**	**12 08 14.6**	**-0.2**
GSC				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.2						
MPMC	**Manual Prospec**	**87.13**	**44**	⇓P	**P**	**12 08 14.8**	**-0.5**
	baz=87,SNR=8.6						
IRM	**Iron Mountain**	**87.30**	**47**	⇓P	**P**	**

comp=Z,236nm,20.0s,MS4.6
120A U Bar Ranch, L 90.50 52 ⇑P P 12 08 31.7 +0.3
baz=91
U15A North Rim 90.54 47 ⇓P P 12 08 31.7 +0.3
baz=91,SNR=10.0
WUAZ Wupatki 90.55 48 ⇓P P 12 08 32.0 +0.6
baz=91
WUAZ Wupatki 90.55 48 eP P 12 08 31.8 +0.3
comp=Z,36nm,2.0s,mb5.3
CCUT Cedar City 90.60 45 eP P 12 08 32.0 +0.4
comp=Z,15nm,1.7s,mb5.1
R13A O'Grain Ranch, 90.64 45 ⇑P P 12 08 32.5 +0.8
baz=91
X18A Snowflake 90.85 49 ⇓P P 12 08 33.1 +0.3
baz=91
Y19A Nutrioso 90.95 50 ⇑P P 12 08 33.7 +0.4
baz=91
V17A Tonalea, Kykot 90.98 48 ⇑P P 12 08 33.7 +0.3
baz=91
121A Cookes Peak, D 91.07 52 ⇑P P 12 08 34.0 +0.1
baz=91
U16A Tuba City 91.09 48 ⇓P P 12 08 34.6 +0.7
baz=91
X19A St. Johns 91.21 50 ⇓P P 12 08 35.1 +0.5
baz=91
I07A Izee 91.49 37 ⇑P P 12 08 35.4 -0.2
baz=92
Y20A Horse Springs, 91.50 51 ⇑P P 12 08 36.5 +0.6
baz=92
CN2 Changchun 91.51 322 ⇑P P 12 08 35.9 +0.2
CN2 esP sP 12 08 41.0 -10
CN2 pmax pmax
comp=Z,40nm,1.1s,mb5.7
CN2 pmax pmax
comp=Z,200nm,5.0s
J08A Circle Bar Ran 91.54 38 ⇓P P 12 08 35.2 -0.6
baz=92
V18A Ganado 91.58 48 ⇓P P 12 08 36.3 0.0
baz=92
Z21A St. Cloud Mine 91.61 52 ⇓P P 12 08 36.6 +0.2
baz=92
U17A Shonto 91.67 47 ⇓P P 12 08 36.7 +0.1
baz=92
G06A Carlson Farm, 91.72 36 ⇓P P 12 08 36.1 -0.6
baz=92
S16A Weppner Ranch, 91.79 46 ⇓P P 12 08 37.0 -0.1
baz=92
X20A Quemado 91.80 50 ⇓P P 12 08 37.4 +0.1
baz=92
T17A Navajo Res., N 91.83 47 ⇓P P 12 08 37.9 +0.6
baz=92
626A Big Bend Ranch 91.85 56 ⇑P P 12 08 37.8 +0.1
baz=92
425A Indio Mountain 91.96 55 ⇑P P 12 08 38.3 +0.1
baz=92
Y21A Point of Rocks 92.03 51 ⇑P P 12 08 39.1 +0.7
baz=92
Z22A Elephant Butte 92.05 52 ⇑P P 12 08 38.8 +0.3
baz=92
TXAR Lajitas Array 92.06 57 P P 12 08 38.2 -0.4
comp=Z,0.9nm,1.0s,mb4.1,baz=210,slow=7.2,SNR=8.0
TXAR LR LR 12 45 02.8
comp=Z,104nm,18.2s,MS4.3,baz=190,slow=32
TXAR Lajitas Array 92.06 57 P P 12 08 38.2 -0.4
TXAR Lajitas Array 92.06 57 P P 12 08 38.3 -0.3
U18A Rough Rock, Ch 92.06 48 ⇑P P 12 08 38.7 +0.3
baz=92
W20A Ramah 92.15 50 ⇓P P 12 08 39.4 +0.5
baz=92
MNTX Cornudas Mount 92.22 54 ⇑P P 12 08 39.2 -0.1
baz=92
627A Terlingua Ranc 92.33 57 ⇓P P 12 08 39.8 0.0
baz=92
224A Cornudas Mount 92.34 54 ⇑P P 12 08 39.6 -0.2
baz=92
KLR Kul'dur 92.37 329 eP P 12 08 35.3 -4.2
U19A Dine' College, 92.41 48 ⇑P P 12 08 39.8 -0.2
baz=92
T18A Mexican Hat 92.50 47 ⇑P P 12 08 40.4 -0.1
baz=93
527A Woodward Ranch 92.56 56 ⇓P P 12 08 40.7 -0.3
baz=93
426A McDonald Obser 92.57 55 ⇑P P 12 08 40.7 -0.2
baz=93
628A Black Gap, Mar 92.70 57 ⇑P P 12 08 40.9 -0.7
baz=93
R17A Hanksville Air 92.77 46 ⇓P P 12 08 41.9 +0.2
baz=93
GYA Guiyang 92.90 299 eP P 12 08 44.0 +1.5
GYA PP PP 12 12 29.4 +3.7
GYA SKS 12 19 15.6
GYA S S 12 19 47.8 +1.9
GYA SS SS 12 26 03.9 +3.1
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.5
GYA pmax pmax
comp=Z,130nm,6.0s
GYA LR LR
comp=N,530nm,20.8s,MS5.1
GYA LR LR
comp=E,450nm,22.6s,MS5.1
GYA LR LR
comp=Z,2μm,20.0s,MS5.5
MFID Camas Ranch 93.00 40 ⇑P P 12 08 42.3 -0.3
baz=93
HAWA Hanford 93.08 36 eP P 12 08 42.3 -0.6
comp=Z,12nm,1.3s,mb5.2
427A Hayter Ranch, 93.11 56 ⇓P P 12 08 43.2 -0.3
baz=93
528A Cox Ranch, San 93.16 57 ⇓P P 12 08 42.9 -0.8
baz=93
S19A Harvey Farm, M 93.33 47 ⇓P P 12 08 44.5 +0.2
baz=93
U21A Nageezi 93.48 49 ⇓P P 12 08 45.1 +0.1
baz=94
I12A Atlanta 93.63 40 ⇓P P 12 08 45.3 -0.1
baz=94
M15A Larsen Ranch, 93.64 43 ⇓P P 12 08 45.1 -0.5
baz=94
O17A Robinson Place 93.86 45 ⇓P P 12 08 46.2 -0.4
baz=94
E09A Wood Farm, Sta 93.86 36 ⇑P P 12 08 46.0 -0.5
baz=94
HLID Hailey 93.87 40 ⇑P P 12 08 46.0 -0.7
baz=94
HLID Hailey 93.87 40 eP P 12 08 46.3 -0.3
comp=Z,2.9nm,0.9s,mb4.7
J13A Cove Ranch, Pi 93.90 40 ⇑P P 12 08 46.3 -0.4
baz=94
F10A Beach Ranch, E 93.97 37 ⇓P P 12 08 45.9 -1.1
baz=94
L15A Malad City 94.02 42 ⇓P P 12 08 46.7 -0.6
baz=94
J14A Carey 94.22 41 ⇓P P 12 08 48.0 -0.2
baz=94
H12A Diamond D Ranc 94.28 39 ⇑P P 12 08 47.7 -0.8
baz=94
BJI Beijing 94.31 315 P P 12 08 48.7 0.0
BJI S S 12 19 52.3 -5.4
BJI pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
BJI LR LR
comp=Z,120nm,36.4s,MS4.1
X25A Clemmons Ranch 94.35 52 ⇓P P 12 08 48.6 -0.4
baz=94
Q20A Ridgley Place, 94.59 47 ⇓P P 12 08 49.6 -0.4
baz=95
H13A Challis 94.61 40 ⇑P P 12 08 49.6 -0.4
baz=95
CMAR Chiang Mai Arr 94.66 289 P P 12 08 52.4 +1.6
comp=Z,1.7nm,0.5s,mb4.8,baz=146,slow=3.2,SNR=21
CMAR PP PP 12 12 41.0 +1.3
comp=Z,0.3nm,0.4s,baz=137,slow=8.0,SNR=5.3
CMAR LR LR 12 49 33.4
comp=Z,32nm,20.2s,MS3.8,baz=145,slow=34
CMAR Chiang Mai Arr 94.66 289 P P 12 08 52.4 +1.6
CMAR PP PP 12 12 41.0 +1.3
CMAR Chiang Mai Arr 94.66 289 P P 12 08 52.4 +1.6
CMAR 12 12 41.0
CHTO Chiang Mai 94.85 289 eP P 12 08 53.0 +1.3
comp=Z,3.4nm,0.9s,mb4.8
CHTO Chiang Mai 94.85 289 eP P 12 08 53.0 +1.3
CHTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
CHTO Chiang Mai 94.85 289 P P 12 08 53.8 +2.1
G13A Cobalt 94.97 39 ⇑P P 12 08 50.8 -0.8
baz=95

K16A Soda Springs 95.00 42 ⇓P P 12 08 51.6 -0.2
baz=95
KMI Kunming 95.15 296 P P 12 08 54.7 +1.8
KMI pP pP 12 08 58.8 -5.3
KMI sP sP 12 09 00.6 -7.5
KMI S S 12 20 05.4 -0.3
KMI SS SS 12 26 34.3 +1.3
KMI pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
KMI Kunming 95.15 296 P P 12 08 54.7 +1.8
comp=Z,10.0nm,0.5s,mb5.5
KMI pP pP 12 08 58.8 -5.3
KMI sP sP 12 09 00.6 -7.5
KMI S S 12 20 05.4 -0.3
KMI SS SS 12 26 34.3 +1.3
KMI LR LR
comp=Z,70nm,41.7s,MS3.8
KMI Kunming 95.15 296 P P 12 08 54.7 +1.8
KMI S S 12 20 05.4 -0.3
KMI SS SS 12 26 34.3 +1.3
KMI pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
KMI MLR MLR
comp=Z,70nm,41.7s,MS3.8
I15A Monteview 95.23 41 ⇓P P 12 08 53.0 +0.2
baz=95
K17A Gardner Place, 95.33 42 ⇑P P 12 08 52.8 -0.5
baz=95
F13A Darby 95.36 39 ⇑P P 12 08 52.7 -0.7
baz=95
H15A Lima 95.53 40 ⇑P P 12 08 54.0 -0.2
baz=96
I16A Newdale 95.71 41 ⇓P P 12 08 55.3 +0.3
baz=96
PDAR Pinedale Array 96.14 43 LR LR 12 47 12.4
comp=Z,61nm,19.5s,MS4.1,baz=15,slow=32
S25A Robets Cordova 96.29 50 ⇓P P 12 08 57.9 +0.1
baz=96
H16A Russell Place, 96.36 41 ⇑P P 12 08 58.3 +0.4
baz=96
LPAZ La Paz 96.84 114 LR LR 12 45 30.4
comp=Z,46nm,18.7s,MS4.0,baz=52,slow=31
CD2 Chengdu 97.45 302 eP P 12 09 03.8 +0.6
CD2 pP pP 12 09 08.5 -5.9
CD2 sP sP 12 09 11.5 -6.9
CD2 PP PP 12 13 03.2 +2.2
CD2 SKS 12 19 39.2
CD2 S S 12 20 24.0 -1.3
CD2 sS sS 12 20 32.2 -12
CD2 SS SS 12 27 07.9 +2.6
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
CD2 pmax pmax
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,150nm,15.6s
CD2 LR LR
comp=Z,170nm,15.6s,MS4.6
HHC Hu-ho-hao-te 97.62 313 eP P 12 09 04.0 +0.2
HHC pP pP 12 09 10.8 -4.1
HHC sP sP 12 09 13.3 -5.6
HHC PP PP 12 13 05.2 +3.0
HHC SKS 12 19 39.1
HHC S S 12 20 24.6 -1.7
HHC sS sS 12 20 35.3 -10
HHC pmax pmax
comp=Z,12nm,0.6s,mb5.6
HHC pmax pmax
comp=Z,94nm,7.5s
HHC LR LR
comp=N,210nm,16.3s,MS4.8
HHC LR LR
comp=E,140nm,16.4s,MS4.8
HHC LR LR
comp=Z,160nm,17.1s,MS4.6
CPUP Villa Florida 98.60 128 LR LR 12 44 47.0
comp=Z,108nm,19.2s,MS4.4,baz=60,slow=30
ILAR Eielson Array 98.63 12 P P 12 09 06.0 -1.6
comp=Z,1.9nm,1.0s,mb4.6,baz=219,slow=5.7,SNR=7.4
ILAR Eielson Array 98.63 12 P P 12 09 06.0 -1.6
ILAR Eielson Array 98.63 12 P P 12 09 06.1 -1.6
LZH Lanzhou 100.10 306 eP Pdif 12 09 16.7 +1.7
LZH pP 12 09 20.5
LZH sP 12 09 22.0
LZH pmax pmax
comp=Z,13nm,1.0s
LZH Lanzhou 100.10 306 eP Pdif 12 09 16.7 +1.7
comp=Z,13nm,1.0s
LZH pP 12 09 20.5
LZH sP 12 09 22.0
LZH Lanzhou 100.10 306 eP Pdif 12 09 16.7 +1.7
LZH pmax pmax
comp=Z,13nm,1.0s
WMQ Urumqi 114.61 308 ePKP PKiKP 12 14 09.3 0.0
MKAR Makanchi Array 119.16 309 PKP PKPdf 12 14 17.5 -0.4
comp=Z,2.3nm,1.0s,baz=72,slow=4.0,SNR=8.9
MKAR Makanchi Array 119.16 309 PKIKP PKPdf 12 14 17.5 -0.5
ZALV Zalesovo Beam 119.41 318 PKP PKPdf 12 14 16.9 -1.3
comp=Z,1.4nm,0.7s,baz=114,slow=1.8,SNR=7.2
ZALV Zalesovo Beam 119.41 318 PKP PKPdf 12 14 16.9 -1.3
ZALV Zalesovo Beam 119.41 318 PKIKP PKPdf 12 14 17.0 -1.2
NVS Novosibirsk 120.52 319 ePKIKP PKPdf 12 14 17.5 -2.8
NVS pmax pmax
comp=Z,4.0nm,1.0s
NVS pmax pmax
comp=N,2.0nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.4s
KURK Kurchatov 122.44 313 ePKPdf PKPdf 12 14 23.7 -0.5
KURK Kurchatov 122.44 313c iPKIKP PKPdf 12 14 23.9 -0.2
KURK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 123.48 303⇑iPKIKP PKPdf 12 14 27.0 +0.6
EKS2 Erkin-Say 124.00 303 ePKPdf PKPdf 12 14 27.6 +0.2
EKS2 Erkin-Say 124.00 303 ePKIKP PKPdf 12 14 27.6 +0.2
KBL Kabul 125.52 292 ePKPdf PKPdf 12 14 32.0 +1.4
KBL Kabul 125.52 292 ePKIKP PKPdf 12 14 32.0 +1.4
KKAR Karatay Array 126.44 303 ePKPdf PKPdf 12 14 32.3 +0.2
KKAR Karatay Array 126.44 303 ePKIKP PKPdf 12 14 32.3 +0.2
BRVK Borovoye 127.86 315 ePKPdf PKPdf 12 14 34.1 -0.4
BRVK Borovoye 127.86 315c iPKIKP PKPdf 12 14 34.4 0.0
BRVK pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 134.47 320 ePKPdf PKPdf 12 14 47.1 +0.3
ARU Arti 134.47 320 iPKIKP PKPdf 12 14 47.7 +0.9
ARU 12 17 19.2
SOKR Solikamsk 134.75 325 ePKIKP PKPdf 12 14 48.4 +1.1
SOKR pmax pmax
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 139.73 348 PKP PKPdf 12 14 58.0 +1.8
comp=Z,6.5nm,0.8s,baz=335,slow=2.0,SNR=6.9
ARCES ARCESS Array B 139.73 348 PKP PKPdf 12 14 58.0 +1.8
ARCES ARCESS Array B 139.73 348 PKIKP PKPdf 12 14 58.0 +1.8
KLMR Klimovskoe 142.08 332 ePKIKP PKPdf 12 14 59.4 -1.3
KLMR pmax pmax
comp=Z,22nm,1.2s
JOF Joensuu 143.67 339 ePKIKP PKPdf 12 15 04.2 +0.8
JOF Joensuu 143.67 339 epkp PKPdf 12 15 04.2 +0.8
BHD Baghdad 145.28 284 i x PKPbc 12 15 04.0 -3.0
TBLG Delisi 145.33 299 ePKIKP PKPdf 12 15 07.7 +0.7
GNI Garni 145.40 296 ePKPbc PKPbc 12 15 08.6 +1.4
GNI Garni 145.40 296d iPKIKP PKPdf 12 15 08.0 +0.8
GNI pmax pmax
comp=Z,53nm,1.2s
MOS Moscow 145.69 325 ePKP2 PKPdf 12 15 05.7 -1.5
MOS pmax pmax
comp=Z,176nm,1.1s
MOS pmax pmax
comp=Z,300nm,1.3s
MSKU Masuku 145.71 199 PKPbc PKPbc 12 15 10.6 +1.7
comp=Z,21nm,0.7s,baz=80,slow=9.5,SNR=6.2
MSKU Masuku 145.71 199 PKPbc PKPbc 12 15 10.6 +1.7
KAF Kangasniemi 145.78 341 ePKP2 PKPdf 12 15 05.2 -1.9
KAF Kangasniemi 145.78 341 epkp PKPdf 12 15 05.2 -1.9
FINES FINESS Array B 146.38 340 PKPbc PKPbc 12 15 08.0 -1.5
comp=Z,22nm,0.7s,baz=43,slow=3.0,SNR=36
FINES FINESS Array B 146.38 340 PKPbc PKPbc 12 15 08.0 -1.5
FINES FINESS Array B 146.38 340 PKIKP PKPbc 12 15 08.0 -1.5
OBN Obninsk 146.53 325c iPKP2 PKPdf 12 15 09.5 +0.9
OBN pmax pmax
comp=Z,165nm,2.1s
OBN MLR MLR
comp=Z,100nm,12.0s,MS4.8

KIV Kislovodsk 146.60 303 ePKPdf PKPdf 12 15 09.1 +0.1
KIV ePKPbc PKPbc 12 15 11.0 +0.3
KIV ePKPab PKPab 12 15 12.7 +0.9
KIV Kislovodsk 146.60 303⇓iPKP2 PKPab 12 15 12.8 +1.0
KIV pmax pmax
comp=Z,28nm,1.2s
VSR Storozhevoye 146.92 317 ePKP2 PKPdf 12 15 10.8 +1.4
VSR pmax pmax
comp=N,3.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
NB2 NORSAR Subarra149.84 352 PKP PKPbc 12 15 17.9 -0.8
comp=Z,16nm,0.9s,baz=12,slow=2.7
NOA NORSAR Array B149.84 352 PKPbc PKPbc 12 15 18.1 -0.6
comp=Z,7.4nm,0.7s,baz=14,slow=4.2,SNR=18
NOA NORSAR Array B149.84 352 PKPbc PKPbc 12 15 18.1 -0.6
NOA NORSAR Array B149.84 352 PKHKP PKPbc 12 15 18.1 -0.6
ANN Anapa 150.11 306 i PKP2 PKPab 12 15 26.0 +0.1
ANN pmax pmax
comp=Z,55nm,1.2s
HFS Hagfors 150.37 349 PKPbc PKPbc 12 15 19.0 -1.0
comp=Z,18nm,0.8s,baz=132,slow=2.2,SNR=17
HFS Hagfors 150.37 349 PKPbc PKPbc 12 15 19.0 -1.0
HFS Hagfors 150.37 349 PKHKP PKPbc 12 15 19.0 -1.0
NACGM Naroch 151.10 331 e PKPdf 12 15 19.0 +3.0
KONO Kongsberg 151.38 353 ePKPdf PKPdf 12 15 15.7 -0.6
KONO ePKPbc PKPbc 12 15 21.8 -0.5
KONO ePKPab PKPab 12 15 27.6 -3.0
KONO Kongsberg 151.38 353 ePKIKP PKPdf 12 15 15.7 -0.6
KONO e 12 15 21.8
KONO e 12 15 27.6
ASF Jabal al Asfar 151.38 281 PKPbc PKPbc 12 15 24.6 +1.3
comp=Z,5.6nm,0.9s,baz=70,slow=3.9,SNR=7.2
ASF Jabal al Asfar 151.38 281 PKPbc PKPbc 12 15 24.6 +1.3
ASF Jabal al Asfar 151.38 281 PKIKP PKPbc 12 15 24.6 +1.3
EIL Elat 152.62 275 PKPbc PKPbc 12 15 25.9 -0.2
comp=Z,6.1nm,0.8s,baz=48,slow=5.5,SNR=5.8
EIL Elat 152.62 275 PKPbc PKPbc 12 15 25.9 -0.2
AKASG Malin Array Be 152.67 323 PKPbc PKPbc 12 15 25.0 -0.6
comp=Z,12nm,0.8s,baz=47,slow=2.4,SNR=28
AKASG Malin Array Be 152.67 323 PKPbc PKPbc 12 15 25.0 -0.6
AKASG Malin Array Be 152.67 323 PKIKP PKPbc 12 15 25.0 -0.6
AKBB Malin Array Si 152.67 323 ePKPdf PKPdf 12 15 18.0 -0.5
AKBB ePKPbc PKPbc 12 15 25.3 -0.2
AKBB ePKPab PKPab 12 15 35.1 -1.3
AKBB Malin Array Si 152.67 323 ePKIKP PKPdf 12 15 18.0 -0.5
AKBB e 12 15 25.3
AKBB e 12 15 35.1
KIEV Kiev 152.68 323 ePKPbc PKPbc 12 15 25.0 -0.6
KIEV ePKPab PKPab 12 15 35.1 -1.3
KIEV Kiev 152.68 323d iPKIKP PKPbc 12 15 25.0 -0.6
MMAI Mount Meron Ar 152.73 282 PKPbc PKPbc 12 15 27.4 +1.1
comp=Z,0.7nm,0.3s,baz=28,slow=15,SNR=4.0
MMAI Mount Meron Ar 152.73 282 PKPbc PKPbc 12 15 27.4 +1.1
SUW Suwalki 153.18 333 ePKP PKPbc 12 15 26.7 +0.2
SUW Suwalki 153.18 333 ePKIKP PKPbc 12 15 26.7 +0.1
BRTR Keskin Array B 153.94 297 PKP PKPdf 12 15 21.4 +0.7
comp=Z,1.4nm,1.0s,baz=57,slow=4.6,SNR=4.7
BRTR PKPbc PKPbc 12 15 28.6 -0.1
comp=Z,1.9nm,1.0s,baz=111,slow=2.8,SNR=4.7
BRTR PKPab PKPab 12 15 43.0 +0.9
comp=Z,1.4nm,0.7s,baz=123,slow=8.9,SNR=4.8
BRTR Keskin Array B 153.94 297 PKP PKPdf 12 15 21.4 +0.7
BRTR PKPbc PKPbc 12 15 28.6 -0.1
BRTR PKPab PKPab 12 15 43.0 +0.9
BRTR Keskin Array B 153.94 297 PKIKP PKPdf 12 15 21.4 +0.7
BRTR 12 15 28.7
DBIC Dimbokro 154.32 161 PKP PKPdf 12 15 23.4 +1.4
comp=Z,1.9nm,0.7s,baz=14,slow=4.2,SNR=3.8
DBIC PKPbc PKPbc 12 15 31.2 +0.9
comp=Z,3.1nm,0.7s,baz=261,slow=2.6,SNR=4.9
DBIC Dimbokro 154.32 161 PKP PKPdf 12 15 23.4 +1.4
DBIC PKPbc PKPbc 12 15 31.2 +0.9
DBIC Dimbokro 154.32 161 PKIKP PKPdf 12 15 23.4 +1.4
DBIC 12 15 31.2
LVV L'vov 155.83 326 ePKP2 PKPab 12 15 57.0 +7.2
KWP Kalwaria Pacla 156.58 327 ePKP PKPab 12 15 52.6 -0.4
KWP Kalwaria Pacla 156.58 327 ePKP2 PKPab 12 15 52.6 -0.4
UZH Uzhgorod 157.47 325 ePKIKP PKPdf 12 15 25.7 +0.6
UZH e 12 15 36.1
UZH e 12 15 52.7
CRVS Cervenica-Dubn 157.68 327 ePKP2 PKPab 12 15 56.9 -0.9
CRVS Cervenica-Dubn 157.68 327 ePKP PKPab 12 15 56.9 -0.9
KSP Ksiaz 158.23 337 ePKP PKPab 12 15 60.0 -0.1
KSP Ksiaz 158.23 337 ePKP PKPab 12 15 59.6 -0.4
KSP Ksiaz 158.23 337 ePKP2 PKPab 12 15 59.6 -0.4
UPC Upice 158.61 337 ePKP2 PKPab 12 16 01.8 +0.1
UPC Upice 158.61 337 ePKPAB PKPab 12 16 01.8 +0.1
DPC Dobruska-Polom 158.64 336 ePKP2 PKPab 12 16 01.7 -0.1
DPC Dobruska-Polom 158.64 336 ePKPAB PKPab 12 16 01.7 -0.1
CLL Collm 158.78 343 ePKP2 PKPab 12 16 02.0 -0.4
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 158.78 343 ePKPab PKPab 12 16 02.0 -0.4
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 158.92 341 e(P) PKPab 12 16 02.0 -1.1
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 158.92 341 ePKP2 PKPab 12 16 02.0 -1.0
BRG pmax pmax
comp=Z,6.0nm,1.1s
PVCC Panska Ves 159.05 339 ePKP2 PKPab 12 16 03.6 0.0
PVCC Panska Ves 159.05 339 ePKPAB PKPab 12 16 03.6 0.0
PSZ Piszkesteto 159.11 327⇑ePKP PKPab 12 16 03.4 -0.6
VYHS Vyhne 159.16 330 ePKP2 PKPab 12 16 03.8 -0.4
VYHS Vyhne 159.16 330 ePKP PKPab 12 16 03.8 -0.4
PRU Pruhonice 159.53 339 ePKP2 PKPab 12 16 05.6 -0.1
PRU Pruhonice 159.53 339 ePKPAB PKPab 12 16 05.6 -0.1
TREC Trest 159.82 336 ePKP2 PKPab 12 16 06.9 -0.1
TREC Trest 159.82 336 ePKPAB PKPab 12 16 06.9 -0.1
KHC Kasperske Hory 160.58 339 ePKP2 PKPab 12 16 09.9 -0.4
KHC Kasperske Hory 160.58 339 ePKPAB PKPab 12 16 09.9 -0.4
GERES GERESS Array B 160.80 338 PKPab PKPab 12 16 11.0 -0.2
comp=Z,1.2nm,0.7s,baz=46,slow=3.9,SNR=8.7
GERES GERESS Array B 160.80 338 PKPab PKPab 12 16 11.0 -0.2
GERES GERESS Array B 160.80 338 PKP2 PKPab 12 16 11.0 -0.3
CONA Conrad Observa 160.82 333⇑iPKPab PKPab 12 16 11.3 -0.1
comp=Z,12nm,1.2s
TORD Torodi Ar. Bea 161.83 175 PKP PKPdf 12 15 29.7 -1.4
comp=Z,1.9nm,1.1s,baz=248,slow=2.1,SNR=6.1
TORD PKPab PKPab 12 16 18.3 +1.8
comp=Z,3.8nm,0.7s,baz=175,slow=3.9,SNR=21
TORD Torodi Ar. Bea 161.83 175 PKP PKPdf 12 15 29.7 -1.4
TORD PKPab PKPab 12 16 18.3 +1.8
ABTA Abfaltersbach 163.03 338⇑iPKPab PKPab 12 16 19.8 -1.2
comp=Z,14nm,1.1s

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*ISCJB **12** 12:20:29.3±3.0, 2°.47N±0°.08×95°.61E±0°.07, h11km±20km, mb3.6/7, Error ellipse: s-maj=13.9km s-min=11.0km az=37.3*
*DJA **12** 12:20:32, 2°.57N×95°.63E, h20km, MLv3.5/4*
*IDC **12** 12:20:33.7±2.2, 2°.57N×95°.81E, h21km±5km, mb3.4/6, mb1 3.6/7, mb1mx3.4/23, mbtmp3.4/7, ML4.2/1, Error ellipse: s-maj=86.7km s-min=20.8km az=59.0*
*NEIC **12** 12:20:34.8±0.9, 2°.49N×95°.78E, h35km, mb4.1/1, Error ellipse: s-maj=18.5km s-min=11.4km az=59.0*
ISC 12 12:20:31.2±3.5, 2°.51N±0°.08×95°.66E±0°.07, h9km±23km, h23km±1.0km:pP-P, n25, σ0°.78/26, mb3.6/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.69**	**64**	P	**Pn**	**12 20 59.7**	**-1.2**
TPTI				S	**Sn**	**12 21 22.7**	**+0.1**
BSI	**Banda Aceh**	**2.99**	**353**	P	**Pn**	**12 21 18.1**	**-0.6**
LHMI	**Lhok Sumawe**	**2.99**	**25**	P	**Pn**	**12 21 18.4**	**-0.4**
TSI	**Tuntungan**	**3.06**	**71**	P	**Pn**	**12 21 23.0**	**+3.2**
PSI	**Prapat**	**3.27**	**85**	P	**Pn**	**12 21 22.4**	**-0.3**
MNSI	**Mandailing Nat**	**4.27**	**113**	P	**Pn**	**12 21 37.5**	**+1.1**
KULM	**Kulim** 40nm,1.2s	**5.69**	**61**	ePn	**Pn**	**12 21 55.7**	**-0.3**
IPM	**Ipoh** 13nm,0.4s	**5.70**	**70**	ePn	**Pn**	**12 21 56.1**	**0.0**
IPM	**Ipoh**	**5.70**	**70**	P	**Pn**	**12 21 56.6**	**+0.5**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=197,slow=11,SNR=8.7	**16.17**	**11**	Pn	**Pn**	**12 24 19.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.17**	**11**	Pn	**Pn**	**12 24 19.5**	**+0.7**
WRA	**Warramunga Arr** 0.3nm,0.7s,mb3.1,baz=300,slow=9.6,SNR=5.1	**44.03**	**122**	P	**P**	**12 28 39.5**	**0.0**
WRA	**Warramunga Arr**	**44.03**	**122**	P	**P**	**12 28 39.5**	**0.0**

WRAB Tennant Creek 44.04 122 *eP* **P 12 28 36.3 -3.3**
4.7nm,1.3s,mb4.1
WB2 Warramunga Arr 44.04 122 *eP* **P 12 28 39.2 -0.4**
ASAR Alice Springs 45.41 127 P P **12 28 50.5 0.0**
0.2nm,0.6s,mb3.1,baz=301,slow=8.0,SNR=5.1
ASAR Alice Springs 45.41 127 P P **12 28 50.5 0.0**
MKAR Makanchi Array 45.62 347 P **P 12 28 52.2 +0.5**
0.7nm,0.4s,mb3.9,baz=150,slow=8.5,SNR=11
MKAR pP pP 12 28 58.4 +3.6
0.6nm,0.5s,baz=153,slow=8.2,SNR=4.6
MKAR Makanchi Array 45.62 347 P **P 12 28 52.2 +0.5**
MKAR pP pP 12 28 58.4 +3.6
SONM Songino Array 46.09 10 P **P 12 28 55.7 +0.2**
0.4nm,0.6s,mb3.5,baz=189,slow=9.3,SNR=4.6
SONM pP pP 12 29 01.9 +3.4
0.8nm,0.7s,baz=192,slow=10.0,SNR=5.1
SONM Songino Array 46.09 10 P **P 12 28 55.7 +0.2**
SONM pP pP 12 29 01.9 +3.4
KURK Kurchatov 50.15 346 P **P 12 29 26.9 +0.1**
0.5nm,0.7s,mb3.7,baz=179,slow=6.3,SNR=4.6
KURK pP pP 12 29 34.0 +4.2
0.5nm,0.6s,baz=164,slow=7.3,SNR=4.4
KURK Kurchatov 50.15 346 P **P 12 29 26.9 +0.1**
KURK pP pP 12 29 34.0 +4.2
ZALV Zalesovo Beam 52.04 352 P **P 12 29 41.2 +0.3**
0.5nm,0.4s,mb3.8,baz=164,slow=6.0,SNR=5.1
ZALV pP pP 12 29 48.2 +4.2
0.6nm,0.4s,baz=175,slow=6.7,SNR=3.3
ZALV Zalesovo Beam 52.04 352 P **P 12 29 41.2 +0.3**
ZALV pP pP 12 29 48.2 +4.2

*IDC **12** 13:13:21.2±1.8, 14°.24S×166°.84E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, ML4.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/21, Error ellipse: s-maj=54.4km s-min=24.7km az=131.0*
*ISCJB **12** 13:13:25.0±1.0, 14°.23S±0°.07×166°.6E±0°.1, h33km, mb3.8/5, Error ellipse: s-maj=18.7km s-min=7.6km az=158.6*
*NEIC **12** 13:13:26.6±1.0, 14°.26S×166°.80E, h35km, Error ellipse: s-maj=22.1km s-min=14.0km az=84.0*
ISC 12 13:13:27.5±2.1, 14°.19S±0°.09×166°.6E±0°.2, h38km±18km, n14, σ1º01/18, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.85**	**181**	*eP*	**Pn**	**13 15 19.6**	**+0.4**
DZM				*eS*	**Sn**	**13 16 46.6**	**-0.2**
DZM	**Mont Dzumac**	**7.85**	**181**	Pn	**Pn**	**13 15 17.2**	**-1.9**
DZM				*eSn*	**Sn**	**13 16 40.7**	**-6.1**
HNR	**Honiara**	**8.08**	**305**	Pn	**Pn**	**13 15 24.0**	**+1.6**
17nm,0.3s,baz=140,slow=3.9,SNR=7.6							
HNR				Sn	**Sn**	**13 16 51.4**	**-1.1**
4.5nm,0.3s,baz=108,slow=20,SNR=2.7							
HNR				LR	LR	13 17 51.0	
comp=Z,93nm,20.9s,baz=151,slow=33							
HNR	**Honiara**	**8.08**	**305**	Pn	**Pn**	**13 15 24.0**	**+1.6**
HNR				Sn	**Sn**	**13 16 51.4**	**-1.1**
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**13 19 24.3**	**+1.5**
1.0nm,0.4s,mb3.9,baz=66,slow=11,SNR=5.5							
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**13 19 24.3**	**+1.5**
WRA	**Warramunga Arr**	**31.37**	**255**	P	**P**	**13 19 44.6**	**-0.4**
0.2nm,0.6s,mb3.1,baz=87,slow=9.8,SNR=3.9							
WRA	**Warramunga Arr**	**31.37**	**255**	P	**P**	**13 19 44.6**	**-0.4**
ASAR	**Alice Springs**	**32.30**	**248**	P	**P**	**13 19 52.8**	**-0.3**
0.3nm,0.5s,mb3.4,baz=73,slow=9.5,SNR=8.7							
ASAR	**Alice Springs**	**32.30**	**248**	P	**P**	**13 19 52.8**	**-0.3**
PETK	**Petropavlovsk-**	**67.46**	**354**	P	**P**	**13 24 19.5**	**+0.3**
4.7nm,1.0s,mb4.5,baz=146,slow=3.4,SNR=4.1							
PETK	**Petropavlovsk-**	**67.46**	**354**	P	**P**	**13 24 19.5**	**+0.3**
ILAR	**Eielson Array**	**86.20**	**18**	P	**P**	**13 26 03.7**	**-0.8**
0.5nm,0.4s,mb4.1,baz=236,slow=5.1,SNR=31							
ILAR	**Eielson Array**	**86.20**	**18**	P	**P**	**13 26 03.7**	**-0.8**

*IDC **12** 13:25:52.0±6.4, 14°.18S×166°.77E, h36km±49km, mb4.1/15, mb1 4.2/17, mb1mx4.1/21, mbtmp4.1/17, ML3.2/1, MS4.0/10, Ms1 4.0/10, ms1mx3.7/26, Error ellipse: s-maj=28.4km s-min=17.0km az=90.0*
*NEIC **12** 13:25:53.6±0.9, 14°.24S×166°.70E, h51km±8km, mb4.6/9, Error ellipse: s-maj=8.2km s-min=7.5km az=191.0*
ISC 12 13:25:53.1±1.1, 14°.23S±0°.05×166°.66E±0°.06, h45km±10km, h31km±4.4km: pP-P, n110, σ0º92/62, mb4.3/22, MS4.0/9, 5C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.80**	**181**	*ePn*	**Pn**	**13 27 44.0**	**-0.1**
19nm,0.2s							
DZM				*e*Sn	**Sn**	**13 29 07.8**	**-3.4**
21nm,0.3s							
DZM				*e*LR	LR	13 29 33.0	
720nm,24.6s							
DZM	**Mont Dzumac**	**7.80**	**181**	*eP*	**Pn**	**13 27 43.8**	**-0.3**
DZM				*eS*	**Sn**	**13 29 09.9**	**-1.3**
DZM	**Mont Dzumac**	**7.80**	**181**	*ePn*	**Pn**	**13 27 43.6**	**-0.5**
DZM				*eSn*	**Sn**	**13 29 10.5**	**-0.7**
HNR	**Honiara**	**8.11**	**305**	Pn	**Pn**	**13 27 48.5**	**+0.1**
34nm,0.3s,baz=149,slow=3.8,SNR=11							
HNR				Sn	**Sn**	**13 29 16.1**	**-2.7**
20nm,0.3s,baz=137,slow=19,SNR=4.3							
HNR				LR	LR	13 30 36.4	
comp=Z,466nm,20.5s,baz=298,slow=35							
HNR	**Honiara**	**8.11**	**305**	*ePn*	**Pn**	**13 27 47.6**	**-0.8**
HNR				*eSn*	**Sn**	**13 29 18.3**	**-0.6**
MSVF	**Nonsavu**	**11.50**	**109**	*eP*	**Pn**	**13 28 36.2**	**+1.5**
PMG	**Port Moresby**	**19.67**	**282**	P	**Pn**	**13 30 21.1**	**+0.8**
0.2nm,0.3s,baz=77,slow=5.9,SNR=7.4							
PMG	**Port Moresby**	**19.67**	**282**	P	**Pn**	**13 30 21.1**	**+0.8**
CTA	**Charters Tower**	**20.34**	**251**	P	**P**	**13 30 27.4**	**+1.6**
11nm,1.0s,baz=79,slow=17,SNR=8.3							
CTA				LR	LR	13 37 32.5	
comp=Z,313nm,18.9s,MS3.7,baz=299,slow=34							
CTA	**Charters Tower**	**20.34**	**251**	*eP*	**P**	**13 30 27.3**	**+1.5**
7.8nm,1.0s							
CTA				*e*		13 30 32.6	
CTA	**Charters Tower**	**20.34**	**251**	P	**P**	**13 30 27.4**	**+1.6**
CTAO	**Charters Tower**	**20.34**	**251**	*eP*	**P**	**13 30 26.8**	**+1.0**
11nm,0.9s							
AFI	**Afiamalu**	**20.92**	**92**	LR	LR	13 36 34.2	
comp=Z,223nm,18.6s,MS3.6,baz=237,slow=31							
STKA	**Stephens Creek**	**28.87**	**228**	P	**P**	**13 31 49.3**	**+1.6**
4.2nm,0.5s,mb4.5,baz=41,slow=7.0,SNR=17							
STKA				LR	LR	13 43 32.5	
comp=Z,537nm,18.1s,MS4.2,baz=38,slow=37							
STKA	**Stephens Creek**	**28.87**	**228**	*eP*	**P**	**13 31 49.2**	**+1.6**
3.0nm,0.4s,mb4.4							
STKA				*e*	pP	13 31 59.3	-0.2
STKA	**Stephens Creek**	**28.87**	**228**	P	**P**	**13 31 49.3**	**+1.6**
RPZ	**Rata Peaks**	**29.63**	**174**	P	**P**	**13 31 54.6**	**+0.5**
12nm,0.9s,mb4.6,baz=294,slow=12,SNR=1.9							
RPZ				LR	LR	13 42 12.3	
comp=Z,205nm,18.1s,MS3.8,baz=9.6,slow=33							
RPZ	**Rata Peaks**	**29.63**	**174**	P	**P**	**13 31 54.6**	**+0.5**
WB2	**Warramunga Arr**	**31.36**	**255**	*eP*	**P**	**13 32 09.7**	**-0.1**
WRAB	**Tennant Creek**	**31.36**	**255**	*eP*	**P**	**13 32 09.8**	**0.0**
4.4nm,0.9s,mb4.3							
WRA	**Warramunga Arr**	**31.38**	**255**	P	**P**	**13 32 08.9**	**-1.0**
0.5nm,0.6s,mb3.6,baz=86,slow=9.1,SNR=13							
WRA	**Warramunga Arr**	**31.38**	**255**	P	**P**	**13 32 08.9**	**-1.0**
AS31	**Alice Springs**	**32.30**	**248**	*eP*	**P**	**13 32 17.0**	**-1.0**
ASAR	**Alice Springs**	**32.30**	**248**	P	**P**	**13 32 17.6**	**-0.5**
1.0nm,0.5s,mb3.9,baz=74,slow=9.4,SNR=36							
ASAR	**Alice Springs**	**32.30**	**248**	P	**P**	**13 32 17.6**	**-0.5**
FORT	**Forrest**	**39.05**	**238**	*eP*	**P**	**13 33 15.7**	**-0.1**
20nm,0.9s,mb4.8							
FORT				*e*	pP	13 33 26.2	-1.7
FITZ	**Fitzroy Crossi**	**39.53**	**259**	LR	LR	13 49 51.9	
comp=Z,211nm,18.5s,MS4.0,baz=262,slow=36							
FITZ	**Fitzroy Crossi**	**39.53**	**259**	*eP*	**P**	**13 33 21.9**	**+2.0**
8.6nm,1.5s,mb4.3							
FITZ				*e*	pP	13 33 30.6	-1.5
FITZ	**Fitzroy Crossi**	**39.53**	**259**	*eP*	**P**	**13 33 20.8**	**+0.9**
9.1nm,0.8s,mb4.6							
FITZ				*e*	pP	13 33 30.2	-1.9
PPT	**Papeete**	**42.16**	**101**	*eS*	**S**	**13 39 58.4**	**-0.3**
55nm,27.0s							
PPT				*e*LR	LR	13 45 33.9	
134nm,25.0s							
TBI	**Tubuai**	**42.39**	**109**	*e*LR	LR	13 45 52.8	
164nm,23.8s							
NWAO	**Narrogin (SRO)**	**48.50**	**239**	LR	LR	13 55 12.2	
comp=Z,189nm,18.6s,MS4.1,baz=288,slow=36							
MJAR	**Matsushiro Arr**	**57.19**	**333**	P	**P**	**13 35 35.7**	**0.0**
2.4nm,0.6s,mb4.4,baz=171,slow=7.3,SNR=6.3							
MJAR	**Matsushiro Arr**	**57.19**	**333**	P	**P**	**13 35 35.7**	**0.0**
KSRS	**Korea Array**	**62.99**	**326**	P	**P**	**13 36 15.9**	**+0.5**
1.2nm,0.6s,mb4.2,baz=139,slow=7.9,SNR=5.0							
KSAR	**Wonju Array Be**	**63.00**	**326**	P	**P**	**13 36 15.9**	**+0.4**
SBA	**Scott Base**	**63.63**	**180**	P	**P**	**13 36 16.9**	**-2.2**
SBA				*e*	pP	13 36 24.7	-7.2
PETK	**Petropavlovsk-**	**67.50**	**354**	P	**P**	**13 36 44.2**	**0.0**
4.0nm,0.8s,mb4.5,baz=160,slow=7.2,SNR=8.7							
PETK	**Petropavlovsk-**	**67.50**	**354**	P	**P**	**13 36 44.2**	**0.0**
CMAR	**Chiang Mai Arr**	**74.20**	**294**	P	**P**	**13 37 26.7**	**+1.0**
0.9nm,0.8s,mb3.8,baz=130,slow=3.8,SNR=8.7							
CMAR	**Chiang Mai Arr**	**74.20**	**294**	P	**P**	**13 37 26.7**	**+1.0**
QSPA	**South Pole Qui**	**75.80**	**180**	P	**P**	**13 37 35.2**	**+1.3**
1.4nm,0.3s,mb4.4,baz=2.0,slow=2.9,SNR=6.4							
QSPA	**South Pole Qui**	**75.80**	**180**	*eP*	**P**	**13 37 33.9**	**0.0**
6.3nm,0.8s,mb4.6							
LZH	**Lanzhou**	**77.54**	**312**	*eP*	**P**	**13 37 52.5**	**+8.1**
16nm,1.3s,mb4.8							
LZH				pP	pP	13 37 57.0	-0.6
LZH				sP	sP	13 37 59.0	-3.7
ULN	**Ulaanbaatar**	**81.38**	**324**	*eP*	**P**	**13 38 06.1**	**+1.1**
3.7nm,1.0s,mb4.3							
SONM	**Songino Array**	**81.74**	**324**	P	**P**	**13 38 07.7**	**+0.8**
1.3nm,0.9s,mb3.9,baz=136,slow=6.3,SNR=7.8							
SONM	**Songino Array**	**81.74**	**324**	P	**P**	**13 38 07.7**	**+0.8**
BILL	**Bilibino**	**82.04**	**360**	*eP*	**P**	**13 38 07.6**	**-0.4**
5.2nm,0.6s,mb4.6							
TRF	**Thorofare Moun**	**84.25**	**18**	*eP*	**P**	**13 38 18.8**	**-0.8**
5.3nm,0.9s,mb4.7							
ILAR	**Eielson Array**	**86.23**	**18**	P	**P**	**13 38 28.1**	**-1.3**
2.2nm,0.6s,mb4.5,baz=238,slow=5.1,SNR=66							
ILAR				LR	LR	14 11 46.5	
comp=Z,88nm,19.0s,MS4.2,baz=316,slow=32							
ILAR	**Eielson Array**	**86.23**	**18**	P	**P**	**13 38 28.1**	**-1.3**
NVAR	**Mina Array Bea**	**87.39**	**49**	LR	LR	14 10 42.3	
comp=Z,190nm,18.5s,MS4.5,baz=304,slow=31							
SNAA	**Sanae**	**94.01**	**183**	*e*	**P**	**13 39 06.1**	**0.0**
SNAA	**Sanae**	**94.01**	**183**	*eP*	**P**	**13 39 05.6**	**-0.5**
8.3nm,1.4s,mb5.0							
VNA3	**Neumayer Olymp**	**94.70**	**181**	*e*	**P**	**13 39 09.0**	**-0.2**
VNA2	**Neumayer–Watz**	**94.96**	**182**	*e*	**P**	**13 39 10.7**	**+0.3**
baz=193,slow=4.8							
PDAR	**Pinedale Array**	**95.04**	**47**	LR	LR	14 13 51.2	
comp=Z,48nm,21.3s,MS3.9,baz=121,slow=30							
MKAR	**Makanchi Array**	**96.43**	**317**	P	**P**	**13 39 17.9**	**+0.5**
0.8nm,0.7s,mb4.3,baz=87,slow=5.0,SNR=4.4							
MKAR	**Makanchi Array**	**96.43**	**317**	P	**P**	**13 39 17.9**	**+0.5**
ZALV	**Zalesovo Beam**	**96.64**	**324**	P	**P**	**13 39 17.6**	**-0.6**
1.1nm,0.7s,mb4.4,baz=95,slow=4.9,SNR=5.7							
ZALV	**Zalesovo Beam**	**96.64**	**324**	P	**P**	**13 39 17.6**	**-0.6**
YKA	**Yellowknife Ar**	**97.38**	**27**	P	**P**	**13 39 20.1**	**-1.2**
0.2nm,0.6s,mb3.8,baz=257,slow=4.8,SNR=2.7							
YKA	**Yellowknife Ar**	**97.38**	**27**	P	**P**	**13 39 20.1**	**-1.2**
ARCES	**ARCESS Array B**	**119.62**	**345**	PKP	PKPdf	13 44 36.9	-0.5
1.9nm,0.5s,baz=72,slow=1.0,SNR=14							
ARCES	**ARCESS Array B**	**119.62**	**345**	PKP	PKPdf	13 44 36.9	-0.5
FINES	**FINESS Array B**	**125.04**	**338**	PKP	PKPdf	13 44 47.9	-0.2
2.2nm,0.8s,baz=14,slow=2.4,SNR=5.5							
FINES	**FINESS Array B**	**125.04**	**338**	PKP	PKPdf	13 44 47.9	-0.2
NOA	**NORSAR Array B**	**129.99**	**345**	PKP	PKPdf	13 44 57.7	+0.2
0.4nm,0.6s,baz=0.0,slow=1.3,SNR=2.8							
NOA	**NORSAR Array B**	**129.99**	**345**	PKP	PKPdf	13 44 57.7	+0.2
GERES	**GERESS Array B**	**138.93**	**333**	PKP	PKPdf	13 45 15.0	+0.3
1.1nm,0.8s,baz=172,slow=2.7,SNR=4.2							
GERES	**GERESS Array B**	**138.93**	**333**	PKP	PKPdf	13 45 15.0	+0.3
GRR	**Gorron**	**144.41**	**346**	*e*PKP1	PKPdf	13 45 23.9	-0.5
GRR	**Gorron**	**144.41**	**346**	*e*P	PKPdf	13 45 23.9	-0.5
LPL	**La Plagne**	**144.49**	**335**	*e*PKP1	PKPdf	13 45 24.0	-0.7
LPL	**La Plagne**	**144.49**	**335**	*e*P	PKPdf	13 45 24.0	-0.7
LPG	**La Plagne**	**144.50**	**335**	*e*PKP1	PKPdf	13 45 24.1	-0.6
11nm,0.7s							
LPG	**La Plagne**	**144.50**	**335**	*e*P	PKPdf	13 45 24.1	-0.6
SMF	**Signal de Mont**	**144.62**	**339**	*e*PKP1	PKPdf	13 45 23.6	-1.3
10nm,0.7s							
SMF	**Signal de Mont**	**144.62**	**339**	*e*P	PKPdf	13 45 23.6	-1.3
AVF	**Avril sur Loir**	**144.65**	**340**	⇑*e*PKP1	PKPdf	13 45 23.7	-1.2
9.6nm,0.9s							
AVF	**Avril sur Loir**	**144.65**	**340**	*e*P	PKPdf	13 45 23.7	-1.2
SGMF	**Saint Gilles**	**144.91**	**347**	*e*PKP1	PKPdf	13 45 24.4	-0.9
SGMF	**Saint Gilles**	**144.91**	**347**	*e*P	PKPdf	13 45 24.4	-0.9
BGF	**Bois d'Agland**	**145.02**	**340**	⇑*e*PKP1	PKPbc	13 45 25.1	+0.1
17nm,0.8s							
BGF	**Bois d'Agland**	**145.02**	**340**	*e*P	PKPbc	13 45 25.1	+0.1
ORIF	**Oris-en-Rattie**	**145.33**	**336**	⇑*e*PKP1	PKPbc	13 45 26.7	+0.7
27nm,0.8s							
ORIF	**Oris-en-Rattie**	**145.33**	**336**	*e*P	PKPbc	13 45 26.7	+0.7
TCF	**Toulx Ste Croi**	**145.47**	**341**	⇑*e*PKP1	PKPbc	13 45 26.6	+0.2
39nm,1.2s							
TCF	**Toulx Ste Croi**	**145.47**	**341**	*e*P	PKPdf	13 45 26.6	+0.2
SBF	**Sospel**	**145.53**	**333**	*e*PKP1	PKPbc	13 45 26.7	0.0
78nm,1.0s							
SBF	**Sospel**	**145.53**	**333**	*e*P	PKPdf	13 45 26.7	+0.2
SSB	**Saint Sauveur**	**145.54**	**337**	*e*PKPdf	PKPdf	13 45 27.0	+0.5
PGF	**Pioggiola**	**145.83**	**330**	*e*PKP1	PKPbc	13 45 27.8	+0.1
PGF	**Pioggiola**	**145.83**	**330**	*e*P	PKPdf	13 45 27.8	+0.7
VIVF	**Saint-Julien-l**	**145.85**	**337**	*e*PKP1	PKPbc	13 45 28.6	+1.0
VIVF	**Saint-Julien-l**	**145.85**	**337**	*e*P	PKPdf	13 45 28.6	+1.5
MFF	**Saint Martin d**	**145.88**	**344**	*e*PKP1	PKPbc	13 45 27.7	0.0
28nm,1.0s							
MFF	**Saint Martin d**	**145.88**	**344**	*e*P	PKPdf	13 45 27.7	+0.7
FRF	**La Foret Royal**	**146.12**	**334**	*e*PKP1	PKPbc	13 45 28.4	-0.1
24nm,0.7s							
FRF	**La Foret Royal**	**146.12**	**334**	*e*P	PKPdf	13 45 28.4	+0.8
SMRF	**Simiane la Rot**	**146.23**	**335**	⇑*e*PKP1	PKPbc	13 45 29.4	+0.6
16nm,0.8s							
SMRF	**Simiane la Rot**	**146.23**	**335**	*e*P	PKPdf	13 45 29.4	+1.7
LMR	**La Mourre**	**146.36**	**333**	*e*PKP1	PKPbc	13 45 29.2	0.0
26nm,0.9s							
LMR	**La Mourre**	**146.36**	**333**	*e*P	PKPdf	13 45 29.2	+1.2
RJF	**Les Rejaudoux**	**146.56**	**341**	*e*PKP1	PKPbc	13 45 27.9	-1.9
RJF	**Les Rejaudoux**	**146.56**	**341**	*e*P	PKPdf	13 45 27.9	-0.3
ESDC	**Sonseca Array**	**153.34**	**344**	PKPbc	PKPbc	13 45 46.2	-0.5
0.8nm,0.6s,baz=351,slow=2.5,SNR=4.1							
ESDC				PKPab	PKPab	13 45 58.9	+0.2
0.7nm,0.6s,baz=2.9,slow=3.9,SNR=3.3							
ESDC	**Sonseca Array**	**153.34**	**344**	PKPbc	PKPbc	13 45 46.2	-0.5
ESDC				PKPab	PKPab	13 45 58.9	+0.2
TORD	**Torodi Ar. Bea**	**165.35**	**268**	PKPab	PKPab	13 46 51.3	-0.4
1.4nm,1.2s,baz=101,slow=1.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**165.35**	**268**	PKPab	PKPab	13 46 51.3	-0.4

*ISCJB **12** 13:46:27.6±1.6, 8°.25S±0°.04×117°.97E±0°.03, h15km±10km, mb4.1/8, Error ellipse: s-maj=5.9km s-min=4.7km az=177.5*
*IDC **12** 13:46:27.3±1.0, 8°.11S×118°.02E, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, ML4.2/3, Error ellipse: s-maj=32.8km s-min=11.4km az=53.0*
*NEIC **12** 13:46:28.6±0.5, 8°.17S×117°.91E, h10km, mb4.0/1, Error ellipse: s-maj=17.3km s-min=7.3km az=65.0*
*DJA **12** 13:46:29, 8°.24S×117°.91E, h11km, MLv4.5/17*
ISC 12 13:46:28.5±1.8, 8°.24S±0°.03×117°.94E±0°.03, h9km±12km, n48, σ1º08/58, mb4.1/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.79**	**257**	P	**Pn**	**13 46 58.0**	**-1.7**
KHKI	**Kahang-Kahang**	**2.31**	**267**	P	**Pn**	**13 47 05.8**	**-1.0**
KHKI				S	**Sn**	**13 47 35.4**	**0.0**
SRBI	**Singaraja**	**2.70**	**273**	P	**Pn**	**13 47 12.2**	**-0.1**
SRBI				S	**Sn**	**13 47 45.8**	**+0.6**
WSI	**Waingapu**	**2.73**	**122**	P	**Pn**	**13 47 11.4**	**-1.2**
IGBI	**Denpasar**	**2.82**	**258**	P	**Pn**	**13 47 15.4**	**+1.5**
IGBI				S	**Sn**	**13 47 49.7**	**+1.6**
NBBI	**Negara**	**3.29**	**267**	P	**Pn**	**13 47 21.4**	**+1.1**
BKSI	**Bulukumba**	**3.62**	**37**	P	**Pn**	**13 47 25.6**	**+0.8**
BKSI				S	**Sn**	**13 48 09.7**	**+2.0**
KAPI	**Kappang**	**3.67**	**29**	Pn	**Pn**	**13 47 25.1**	**-0.5**
76nm,0.3s,baz=218,slow=4.4,SNR=310							
KAPI				Sn	**Sn**	**13 48 07.2**	**-1.9**
84nm,0.3s,baz=54,slow=23,SNR=35							
KAPI	**Kappang**	**3.67**	**29**	*e*Pn	**Pn**	**13 47 25.0**	**-0.6**
KAPI				*e*Sn	**Sn**	**13 48 08.4**	**-0.7**
KAPI	**Kappang**	**3.67**	**29**	P	**Pn**	**13 47 25.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**3.75**	**266**	P	**Pn**	**13 47 25.0**	**-1.7**
KMMI	**Kalianget**	**4.11**	**286**	P	**Pn**	**13 47 32.4**	**+0.8**
MMRI	**Maumere**	**4.27**	**96**	P	**Pn**	**13 47 37.0**	**+3.2**
BLJI	**Banyuglugur**	**4.33**	**276**	P	**Pn**	**13 47 33.4**	**-1.2**
GMJI	**Gumukmas**	**4.45**	**269**	P	**Pn**	**13 47 37.0**	**+0.7**
SPSI	**Sidrap Palu**	**4.62**	**23**	P	**Pn**	**13 47 38.8**	**+0.2**
MJSI	**Majene**	**4.77**	**13**	P	**Pn**	**13 47 41.0**	**+0.3**
TTSI	**Tana Toraja**	**5.49**	**20**	P	**Pn**	**13 47 52.1**	**+1.6**
BBKI	**Banjar Baru**	**5.66**	**327**	P	**Pn**	**13 47 53.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**12.34**	**143**	Pn	**Pn**	**13 49 25.3**	**+0.7**
0.6nm,0.3s,baz=331,slow=7.7,SNR=16							
FITZ				Sn	**Sn**	**13 51 42.4**	**+0.1**
0.7nm,0.3s,baz=192,slow=18,SNR=5.3							
FITZ	**Fitzroy Crossi**	**12.34**	**143**	*eP*	**Pn**	**13 49 26.6**	**+2.1**
8.1nm,0.6s							
FITZ				*eS*	**Sn**	**13 51 41.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**12.34**	**143**	*e*Pn	**Pn**	**13 49 25.4**	**+0.8**
FITZ				Sn	**Sn**	**13 51 42.4**	**+0.1**
MBWA	**Marble Bar**	**12.96**	**173**	*e*Pn	**Pn**	**13 49 32.9**	**-0.1**
MBWA				*e*Sn	**Sn**	**13 51 48.1**	**-9.4**
WRA	**Warramunga Arr**	**19.68**	**128**	P	**Pn**	**13 50 58.9**	**-0.7**
0.7nm,0.3s,baz=302,slow=12,SNR=46							
WRA				S	**Sn**	**13 54 40.6**	**-0.3**
0.1nm,0.3s,baz=296,slow=20,SNR=3.1							
WRA	**Warramunga Arr**	**19.68**	**128**	P	**Pn**	**13 50 58.9**	**-0.7**
WRA				S	**Sn**	**13 54 40.6**	**-0.3**
WRAB	**Tennant Creek**	**19.69**	**128**	*eP*	**Pn**	**13 50 58.9**	**-0.7**
4.7nm,0.6s							
WB2	**Warramunga Arr**	**19.69**	**128**	*eP*	**Pn**	**13 50 58.4**	**-1.3**
AS31	**Alice Springs**	**21.66**	**137**	*eP*	**P**	**13 51 20.8**	**+1.1**
ASAR	**Alice Springs**	**21.66**	**137**	P	**P**	**13 51 21.0**	**+1.4**
11nm,0.6s,mb4.5,baz=309,slow=8.2,SNR=117							
ASAR	**Alice Springs**	**21.66**	**137**	P	**P**	**13 51 21.0**	**+1.4**
CTA	**Charters Tower**	**29.82**	**116**	P	**P**	**13 52 36.1**	**0.0**
3.9nm,0.9s,mb4.2,baz=276,slow=6.7,SNR=4.7							
CTA	**Charters Tower**	**29.82**	**116**	*eP*	**P**	**13 52 35.9**	**-0.3**
3.1nm,0.9s,mb4.0							
CTA	**Charters Tower**	**29.82**	**116**	P	**P**	**13 52 36.1**	**0.0**
STKA	**Stephens Creek**	**32.20**	**140**	P	**P**	**13 52 58.2**	**+1.1**
3.8nm,0.5s,mb4.5,baz=316,slow=10,SNR=19							
STKA	**Stephens Creek**	**32.20**	**140**	*eP*	**P**	**13 52 58.4**	**+1.3**
3.5nm,0.4s,mb4.5							
STKA	**Stephens Creek**	**32.20**	**140**	P	**P**	**13 52 58.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**32.48**	**325**	P	**P**	**13 52 59.2**	**-0.4**
0.6nm,0.7s,mb3.5,baz=150,slow=6.1,SNR=4.7							
CMAR	**Chiang Mai Arr**	**32.48**	**325**	P	**P**	**13 52 59.2**	**-0.4**
KSAR	**Wonju Array Be**	**46.38**	**11**	P	**P**	**13 54 55.2**	**-0.1**
KSRS	**Korea Array**	**46.40**	**11**	P	**P**	**13 54 55.2**	**-0.3**
1.5nm,0.8s,mb4.0,baz=206,slow=8.1,SNR=4.2							
SONM	**Songino Array**	**56.76**	**351**	P	**P**	**13 56 12.0**	**-0.8**
1.6nm,0.8s,mb4.1,baz=171,slow=8.0,SNR=8.1							
SONM	**Songino Array**	**56.76**	**351**	P	**P**	**13 56 12.0**	**-0.8**
MKAR	**Makanchi Array**	**63.31**	**333**	P	**P**	**13 56 56.4**	**-1.4**
1.2nm,0.7s,mb4.2,baz=148,slow=8.7,SNR=5.2							
MKAR	**Makanchi Array**	**63.31**	**333**	P	**P**	**13 56 56.4**	**-1.4**
ZALV	**Zalesovo Beam**	**67.96**	**340**	P	**P**	**13 57 25.8**	**-1.9**
0.6nm,0.4s,mb4.0,baz=119,slow=4.9,SNR=4.8							
ZALV	**Z

HFRF	Wahat Farafira	7.62 171	P		Pn	14 01 52.6	+0.2
HDK2	Wahat Dakhilah	10.50 170	P		Pn	14 02 31.2	-0.6
	baz=170						
HDK2	Wahat Dakhilah	10.50 170	P		Pn	14 02 31.2	-0.6

IDC ***12*** *14:00:21.5±3.2,5.°07S×151.°47E, h103km±21km, mb3.7/6, mb1 3.9/8, mb1mx3.6/17, mbtmp3.7/8, Error ellipse: s-maj=56.4km s-min=18.3km az=116.0*
ISCJB ***12*** *14:00:22.0±3.3,5.°0S±0.°2×151.°3E±0.°2, h118km±28km, mb3.8/7, Error ellipse: s-maj=42.6km s-min=22.5km az=27.7*
NEIC ***12*** *14:00:23.7±2.3,5.°07S×151.°31E, h121km±20km, mb3.9/2, Error ellipse: s-maj=29.9km s-min=16.1km az=109.0*
ISC 12 14:00:23.4±3.0,5.°1S±0.°2×151.°4E±0.°2, h119km±24km, n23, σ0.°66/22, mb3.8/7, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.00**	**224**	P	**Pn**	**14 01 49.3**	**-0.7**
	3.4nm,0.3s,baz=11,slow=4.0,SNR=12						
PMG				S	**Sn**	**14 02 58.1**	**+0.8**
	4.4nm,0.3s,baz=142,slow=21,SNR=10						
PMG	**Port Moresby**	**6.00**	**224**	P	**Pn**	**14 01 49.3**	**-0.7**
PMG				S	**Sn**	**14 02 58.1**	**+0.8**
CTA	**Charters Tower**	**15.72**	**198**	P	**Pn**	**14 03 59.1**	**+0.8**
	0.2nm,0.3s,baz=30,slow=12,SNR=8.0						
CTA	**Charters Tower**	**15.72**	**198**	P	**Pn**	**14 03 59.1**	**+0.8**
CTAO	**Charters Tower**	**15.72**	**198**	*eP*	**Pn**	**14 03 58.9**	**+0.6**
	4.5nm,0.7s						
WRAB	**Tennant Creek**	**22.20**	**227**	*eP*	**P**	**14 05 09.1**	**-1.1**
	5.0nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**22.20**	**227**	*eP*	**P**	**14 05 09.4**	**-0.8**
WRA	**Warramunga Arr**	**22.21**	**227**	P	**P**	**14 05 10.0**	**-0.3**
	2.4nm,0.3s,mb3.9,baz=50,slow=10,SNR=64						
WRA				ScP	ScP	14 12 30.9	+1.7
	1.0nm,1.0s,baz=49,slow=2.6,SNR=7.7						
WRA	**Warramunga Arr**	**22.21**	**227**	P	**P**	**14 05 10.0**	**-0.3**
WRA				ScP	ScP	14 12 30.9	+1.7
AS31	**Alice Springs**	**25.00**	**221**	*eP*	**P**	**14 05 36.5**	**+0.3**
ASAR	**Alice Springs**	**25.00**	**221**	P	**P**	**14 05 36.8**	**+0.5**
	3.2nm,0.4s,mb4.1,baz=56,slow=8.9,SNR=77						
ASAR				ScP	ScP	14 12 38.8	+2.0
	0.5nm,0.9s,baz=53,slow=1.9,SNR=5.6						
ASAR	**Alice Springs**	**25.00**	**221**	P	**P**	**14 05 36.8**	**+0.5**
ASAR				ScP	ScP	14 12 38.8	+2.0
FITZ	**Fitzroy Crossi**	**28.30**	**241**	P	**P**	**14 06 06.0**	**+0.1**
	2.0nm,0.5s,mb3.9,baz=63,slow=3.7,SNR=7.4						
FITZ	**Fitzroy Crossi**	**28.30**	**241**	P	**P**	**14 06 06.0**	**+0.1**
SONM	**Songino Array**	**65.84**	**329**	P	**P**	**14 10 57.1**	**+1.1**
	0.3nm,0.5s,mb3.4,baz=138,slow=3.4,SNR=3.6						
SONM	**Songino Array**	**65.84**	**329**	P	**P**	**14 10 57.1**	**+1.1**
ZALV	**Zalesovo Beam**	**80.63**	**327**	P	**P**	**14 12 22.7**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=116,slow=6.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**80.63**	**327**	P	**P**	**14 12 22.7**	**-0.1**
ILAR	**Eielson Array**	**82.96**	**22**	P	**P**	**14 12 34.5**	**-0.3**
	0.5nm,0.6s,mb3.5,baz=252,slow=5.7,SNR=5.7						
ILAR	**Eielson Array**	**82.96**	**22**	P	**P**	**14 12 34.5**	**-0.3**
SYO	**Syowa Base**	**92.92**	**200**	‖ *eP*	pP	14 13 54.5	+0.9
TORD	**Torodi Ar. Bea**	**149.07**	**287**	PKPbc	PKPbc	14 19 57.4	-1.3
	0.5nm,0.7s,baz=56,slow=2.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.07**	**287**	PKPbc	PKPbc	14 19 57.4	-1.3

IDC 12 14:09:45.5±3.4, 31.°03S×176.°86W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.6/16, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=80.9km s-min=47.7km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.76**	**213**	Pn	Pn	14 11 52.2	-1.1
	0.2nm,0.3s,baz=320,slow=17,SNR=4.0						
URZ				Sn	Sn	14 13 28.1	-4.7
	0.3nm,0.3s,baz=101,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**44.05**	**267**	P	P	14 17 55.4	+0.1
	0.1nm,0.4s,baz=109,slow=7.0,SNR=4.9						
WRA	**Warramunga Arr**	**45.10**	**272**	P	P	14 18 03.8	+0.1
	0.3nm,0.3s,baz=111,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**146.06**	**340**	PKPbc	PKPbc	14 29 25.8	-0.9
	3.1nm,1.1s,baz=343,slow=4.4,SNR=3.4						

IDC 12 14:19:06.6±1.6, 7.°23S×128.°31E, h0km, mb3.6/2, mb1 4.1/5, mb1mx3.8/15, mbtmp3.9/5, ML4.1/3, MS4.0/1, Ms1 4.0/1, ms1mx2.6/19, Error ellipse: s-maj=106.0km s-min=24.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.12**	**193**	Pn	Pn	14 21 47.6	+0.6
	1.3nm,0.3s,baz=33,slow=12,SNR=35						
FITZ				Sn	Sn	14 23 40.0	-12
	2.0nm,0.3s,baz=110,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**13.93**	**156**	Pn	Pn	14 22 24.8	-0.6
	0.8nm,0.3s,baz=322,slow=14,SNR=41						
WRA				Sn	Sn	14 24 44.8	-16
	0.8nm,0.3s,baz=329,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**17.20**	**162**	P	Pn	14 23 08.7	+0.2
	0.5nm,0.3s,baz=334,slow=9.4,SNR=54						
ASAR				S	Sn	14 26 07.8	-13
	0.4nm,0.3s,baz=348,slow=26,SNR=6.3						
PMG	**Port Moresby**	**18.78**	**98**	LR	LR	14 30 29.2	
	comp=Z,392nm,18.6s,baz=83,slow=36						
SONM	**Songino Array**	**58.14**	**343**	P	P	14 29 03.3	+1.2
	0.3nm,0.5s,baz=163,slow=6.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**71.05**	**335**	P	P	14 30 25.7	-0.7
	0.3nm,0.4s,baz=125,slow=7.2,SNR=2.5						

ISCJB ***12*** *14:44:08.8±0.6, 39.°64N±0.°03×29.°42E±0.°04, h7km±7km, Error ellipse: s-maj=5.5km s-min=4.9km az=0.2*
CSEM ***12*** *14:44:08.6±0.2, 39.°62N×29.°43E, h1km, MD2.5, Error ellipse: s-maj=4.2km s-min=3.7km az=65.0*
ISK ***12*** *14:44:08.7, 39.°64N×29.°41E, h12km, MD2.8*
DDA ***12*** *14:44:09.1, 39.°64N×29.°39E, h7km±4km, Md2.5*
ISC 12 14:44:09.4±0.5, 39.°64N±0.°03×29.°41E±0.°04, h11km±6km, n38, σ0.°74/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.55**	**337**	*eP*	**Pg**	**14 44 18.7**	**-1.3**
ULDT				*i* S	**Sg**	**14 44 27.3**	**0.0**
ULDT	**Uludag**	**0.55**	**337**	*eP*	**Pg**	**14 44 18.7**	**-1.4**
ULDT				*i* S	**Sg**	**14 44 27.3**	**0.0**
GDZ	**Gediz**	**0.55**	**174**	*i* P	**Pg**	**14 44 19.3**	**-0.8**
GDZ	**Gediz**	**0.55**	**174**	*i* P	**Pg**	**14 44 19.3**	**-0.8**
CAVI	**Cavuskoy**	**0.66**	**30**	*e*PG	**Pg**	**14 44 21.4**	**-0.7**
CAVI				*e*SG	**Sg**	**14 44 31.0**	**+0.3**
CAVI	**Cavuskoy**	**0.66**	**30**	*e*Pg	**Pg**	**14 44 21.4**	**-0.7**
CAVI				*e*Sg	**Sg**	**14 44 31.0**	**+0.3**
DURS	**Dursunbey**	**0.72**	**267**	*eP*	**Pg**	**14 44 23.0**	**-0.4**
DURS				*i* S	**Sg**	**14 44 35.0**	**+2.1**
DURS	**Dursunbey**	**0.72**	**267**	*eP*	**Pg**	**14 44 23.0**	**-0.4**
DURS				*i* S	**Sg**	**14 44 35.0**	**+2.1**
ALT	**Altintas**	**0.80**	**137**	*e*PG	**Pg**	**14 44 24.3**	**-0.4**
ALT	**Altintas**	**0.80**	**137**	*e*Pg	**Pg**	**14 44 24.3**	**-0.4**
GEMT	**Gemlik**	**0.81**	**348**	*e*PG	**Pg**	**14 44 25.1**	**-0.1**
GEMT	**Gemlik**	**0.81**	**348**	*e*Pg	**Pg**	**14 44 25.1**	**0.0**
MDNY	**Mudanya-Bursa**	**0.83**	**331**	*e*PG	**Pg**	**14 44 26.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.83**	**331**	*e*Pg	**Pg**	**14 44 26.0**	**+0.5**
BORA	**Eskisehir**	**0.84**	**73**	*i* P	**Pg**	**14 44 25.2**	**-0.4**
BORA				*i* S	**Sg**	**14 44 38.7**	**+2.2**
BORA	**Eskisehir**	**0.84**	**73**	*i* P	**Pg**	**14 44 25.2**	**-0.4**
ARMT	**Armutlu**	**1.02**	**336**	*e*PG	**Pg**	**14 44 28.7**	**-0.3**
ARMT	**Armutlu**	**1.02**	**336**	*e*Pg	**Pg**	**14 44 28.7**	**-0.3**
KCTX	**Karacabey (Bur**	**1.02**	**308**	*e*PG	**Pg**	**14 44 29.0**	**-0.2**
KCTX	**Karacabey (Bur**	**1.02**	**308**	*e*Pg	**Pg**	**14 44 29.0**	**-0.1**
ESKT	**Eskisehir**	**1.12**	**96**	*e*PN	**Pg**	**14 44 30.7**	**-0.2**
ESKT	**Eskisehir**	**1.12**	**96**	*e*Pn	**Pg**	**14 44 30.7**	**-0.2**
GULT	**Gulveren**	**1.16**	**47**	*e*PN	**Pn**	**14 44 31.2**	**-0.3**
GULT	**Gulveren**	**1.16**	**47**	*e*Pn	**Pn**	**14 44 31.3**	**-0.2**
BALB	**Balikesir**	**1.18**	**271**	*e*PN	**Pn**	**14 44 31.5**	**-0.3**
BALB	**Balikesir**	**1.18**	**271**	*e*Pn	**Pn**	**14 44 31.5**	**-0.3**
BUY	**Buyukada**	**1.23**	**350**	*e*P	**Pn**	**14 44 32.8**	**+0.3**
BUY	**Buyukada**	**1.23**	**350**	*e*P	**Pn**	**14 44 32.8**	**+0.3**
KULA	**Kula-Manisa**	**1.26**	**208**	*e*PN	**Pn**	**14 44 32.7**	**-0.2**
KULA	**Kula-Manisa**	**1.26**	**208**	*e*Pn	**Pn**	**14 44 32.7**	**-0.2**
MANT	**Manisa**	**1.32**	**210**	*e*P	**Pn**	**14 44 34.6**	**+0.9**
MANT	**Manisa**	**1.32**	**210**	*e*P	**Pn**	**14 44 34.6**	**+0.9**
GONE	**Gonen-Balikesi**	**1.39**	**288**	*e*PN	**Pn**	**14 44 34.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.39**	**288**	*e*Pn	**Pn**	**14 44 34.5**	**-0.2**
ISK	**Istanbul-Kandi**	**1.45**	**349**	*e*PN	**Pn**	**14 44 35.4**	**-0.2**
ISK	**Istanbul-Kandi**	**1.45**	**349**	*e*Pn	**Pn**	**14 44 35.4**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.64**	**96**	*e*PN	**Pn**	**14 44 38.5**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.64**	**96**	*e*Pn	**Pn**	**14 44 38.5**	**+0.3**

IDC ***12*** *15:44:52.3±1.4, 31.°18S×176.°70W, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.2/18, mbtmp4.2/7, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=45.6km s-min=22.8km az=144.0*
NEIC ***12*** *15:44:54.3±0.8, 31.°02S×176.°85W, h10km, mb4.4/4, Error ellipse: s-maj=16.7km s-min=11.8km az=94.0*
ISCJB ***12*** *15:44:57.5±0.7, 31.°13S±0.°04×177.°2W±0.°1, h33km, mb4.3/7, Error ellipse: s-maj=14.6km s-min=6.2km az=5.9*
ISC 12 15:44:59.3±0.7, 31.°05S±0.°04×177.°2W±0.°1, h35km, n41, σ1.°41/37, mb4.3/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.91**	**340**	*e*Pn	**Pn**	**15 45 26.9**	**-2.5**
RAO				*e*Sn	**Sn**	**15 45 50.7**	**-1.5**
PUZ	**Puketiti**	**7.96**	**207**	*e*PN	**Pn**	**15 46 51.3**	**-1.1**
PUZ				*e*SN	**Sn**	**15 48 22.3**	**+1.2**
MWZ	**Matawai**	**8.48**	**210**	*e*PN	**Pn**	**15 46 58.4**	**-1.1**
URZ	**Urewera**	**8.60**	**212**	Pn	**Pn**	**15 47 00.4**	**-0.8**
	0.4nm,0.3s,baz=141,slow=11,SNR=6.9						
URZ				Sn	**Sn**	**15 48 37.4**	**+0.5**
	1.1nm,0.3s,baz=181,slow=18,SNR=6.5						
URZ	**Urewera**	**8.60**	**212**	Pn	**Pn**	**15 47 00.4**	**-0.8**
URZ				Sn	**Sn**	**15 48 37.4**	**+0.5**
URZ	**Urewera**	**8.60**	**212**	*e*PN	**Pn**	**15 46 59.9**	**-1.2**
URZ				*e*SN	**Sn**	**15 48 37.4**	**+0.5**
TSZ	**Takapari Road**	**10.58**	**210**	*e*PN	**Pn**	**15 47 26.2**	**-2.2**
MRZ	**Mangatainoka R**	**11.25**	**210**	*e*PN	**Pn**	**15 47 32.6**	**-4.8**
MRZ				*e*SN	**Sn**	**15 49 37.8**	**-4.0**
NNZ	**Nelson**	**12.69**	**214**	*e*SN	**Sn**	**15 50 12.4**	**-4.8**
THZ	**Tophouse**	**13.34**	**214**	*e*PN	**Pn**	**15 48 02.7**	**-3.4**
KHZ	**Kahutara**	**13.56**	**211**	*e*PN	**Pn**	**15 48 05.3**	**-3.8**
RPZ	**Rata Peaks**	**15.71**	**213**	Pn	**Pn**	**15 48 36.0**	**-1.8**
	0.8nm,0.3s,baz=342,slow=3.2,SNR=5.0						
RPZ	**Rata Peaks**	**15.71**	**213**	Pn	**Pn**	**15 48 36.0**	**-1.8**
DZM	**Mont Dzumac**	**17.16**	**297**	*e*P	**Pn**	**15 48 57.4**	**+0.9**
	12nm,0.8s						
RAR	**Rarotonga**	**18.41**	**62**	LR	LR	15 53 56.0	
	comp=Z,117nm,20.8s,baz=292,slow=30						
PAE	**Paea**	**28.35**	**68**	*e*T		16 18 22.2	
	1.9nm,0.2s						
PPT2	**Papeete2**	**28.39**	**68**	*e*T		16 18 25.6	
	2.3nm,0.2s						
MEH	**Mehetia**	**29.45**	**70**	*e*T		16 19 54.1	
	25nm,0.3s						
CTA	**Charters Tower**	**34.62**	**280**	P	**P**	**15 51 47.3**	**+2.1**
	5.5nm,0.6s,mb4.6,baz=102,slow=10.0,SNR=12						
CTA	**Charters Tower**	**34.62**	**280**	P	**P**	**15 51 47.3**	**+2.1**
CTAO	**Charters Tower**	**34.62**	**280**	*e*P	**P**	**15 51 47.4**	**+2.2**
	6.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**35.04**	**258**	P	**P**	**15 51 50.7**	**+2.0**
	3.7nm,1.0s,mb4.3,baz=124,slow=17,SNR=2.7						
STKA	**Stephens Creek**	**35.04**	**258**	P	**P**	**15 51 50.7**	**+2.0**
ASAR	**Alice Springs**	**43.80**	**267**	P	**P**	**15 53 03.1**	**+1.2**
	1.5nm,0.6s,mb3.9,baz=105,slow=7.6,SNR=33						
ASAR	**Alice Springs**	**43.80**	**267**	P	**P**	**15 53 03.1**	**+1.2**
WB2	**Warramunga Arr**	**44.83**	**272**	*e*P	**P**	**15 53 10.8**	**+0.6**
WRAB	**Tennant Creek**	**44.84**	**272**	*e*P	**P**	**15 53 10.5**	**+0.3**
	2.1nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**44.84**	**272**	P	**P**	**15 53 10.8**	**+0.6**
	1.3nm,0.4s,mb4.1,baz=111,slow=7.9,SNR=26						
WRA	**Warramunga Arr**	**44.84**	**272**	P	**P**	**15 53 10.8**	**+0.6**
QSPA	**South Pole Qui**	**59.06**	**180**	*e*P	**P**	**15 54 56.6**	**+1.3**
	10.0nm,1.2s,mb4.7						
SNAA	**Sanae**	**77.48**	**178**	*e*	**P**	**15 56 51.5**	**+0.8**
VNA3	**Neumayer Olymp**	**77.61**	**176**	*e*	**P**	**15 56 52.2**	**+0.8**
VNA2	**Neumayer--Watz**	**78.05**	**177**	*e*	**P**	**15 56 55.3**	**+1.5**
	baz=191,slow=2.8						
NVAR	**Mina Array Bea**	**88.23**	**42**	P	**P**	**15 57 45.4**	**-1.3**
	1.5nm,0.9s,mb4.2,baz=216,slow=8.3,SNR=6.5						
NVAR	**Mina Array Bea**	**88.23**	**42**	P	**P**	**15 57 45.4**	**-1.3**
FINES	**FINESS Array B**	**146.00**	**340**	PKPbc	PKPbc	16 04 33.2	-1.4
	7.3nm,0.8s,baz=59,slow=2.1,SNR=14						
FINES	**FINESS Array B**	**146.00**	**340**	PKPbc	PKPbc	16 04 33.2	-1.4
HFS	**Hagfors**	**150.02**	**349**	PKPbc	PKPbc	16 04 43.8	-1.6
	2.0nm,0.6s,baz=103,slow=11,SNR=2.1						
HFS	**Hagfors**	**150.02**	**349**	PKPbc	PKPbc	16 04 43.8	-1.6
AKASG	**Malin Array Be**	**152.26**	**323**	PKPbc	PKPbc	16 04 49.7	-1.2
	3.3nm,0.9s,baz=56,slow=3.1,SNR=6.0						
AKASG	**Malin Array Be**	**152.26**	**323**	PKPbc	PKPbc	16 04 49.7	-1.2

DJA 12 15:47:40, 9.°85S×116.°38E, h19km, MLv3.7/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.22**	**350**	P	Pn	15 48 01.3	-0.8
IGBI	**Denpasar**	**1.59**	**310**	P	Pn	15 48 07.0	-0.2
KHKI	**Kahang-Kahang**	**1.66**	**333**	P	Pn	15 48 08.2	+0.1
SRBI	**Singaraja**	**2.10**	**327**	P	Pn	15 48 14.5	+0.3
NBBI	**Negara**	**2.28**	**310**	P	Pn	15 48 17.3	+0.7
JAGI	**Jajag, Banyuwa**	**2.59**	**302**	P	Pn	15 48 21.1	+0.2
GMJI	**Gumukmas**	**3.30**	**298**	P	Pn	15 48 31.2	+0.6
KAPI	**Kappang**	**5.85**	**35**	P	Pn	15 49 06.0	+0.2

IDC ***12*** *15:58:14.9±0.6, 31.°06S×176.°73W, h0km, mb4.5/13, mb1 4.6/13, mb1mx4.6/18, mbtmp4.4/13, MS4.1/17, Ms1 4.1/17, ms1mx4.0/26, Error ellipse: s-maj=23.1km s-min=18.7km az=169.0*
ISCJB ***12*** *15:58:17.0±0.6, 31.°65S±0.°04×176.°7W±0.°1, h33km, mb4.5/16, MS4.2/17, Error ellipse: s-maj=13.0km s-min=4.9km az=19.8*
NEIC ***12*** *15:58:16.2±0.4, 31.°01S×176.°74W, h10km, mb4.6/7, Error ellipse: s-maj=11.8km s-min=10.6km az=103.0*
GCMT ***12*** *15:58:20.0±0.3, 31.°07S×176.°54W, h12km, MW5.0, Moment Tensor Solution. s33,c48; s76,c114; Moment tensor: Scale 10^16 Nm; Mrr=3.72±.08; Mθθ=2.21±.09; Mφφ=1.51±.08; Mrθ=0.87±.30; Mrφ=1.21±.07; Mθφ=0.28±.35; Best double couple: M0=3.50000×10^16 NP1:φs=50.00000°, δ=38.00000°, λ=-96.00000°. NP2:φs=237.00000°, δ=52.00000°, λ=-85.00000°. Principal axes: T 3.2300, Plg7.0000°, Azm324.0000°; N 0.6200, Plg4.0000°, Azm54.0000°; P -3.8500, Plg82.0000°, Azm172.0000°; Data Used: II IC IU G CN.*
ISC 12 15:58:19.3±0.6, 31.°62S±0.°04×176.°8W±0.°1, h35km, n123, σ1.°19/89, mb4.5/16, MS4.2/17, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.56**	**337**	*e*Pn	**Pn**	**15 58 50.5**	**-7.8**
RAO				*e*Sn	**Sn**	**15 59 13.3**	**-15**
MXZ	**Matakaoa Point**	**7.20**	**213**	PN	**Pn**	**16 00 04.2**	**+2.2**
MXZ				*e*SN	**Sn**	**16 01 29.1**	**+6.7**
PUZ	**Puketiti**	**7.64**	**211**	PN	**Pn**	**16 00 09.2**	**+1.2**
PUZ				*e*SN	**Sn**	**16 01 35.6**	**+2.3**
CNGZ	**Carnagh Statio**	**8.00**	**210**	*e*PN	**Pn**	**16 00 14.7**	**+1.7**
MWZ	**Matawai**	**8.18**	**213**	PN	**Pn**	**16 00 17.3**	**+1.9**
MWZ				*e*SN	**Sn**	**16 01 51.7**	**+5.0**
URZ	**Urewera**	**8.33**	**216**	Pn	**Pn**	**16 00 18.8**	**+1.4**
	baz=290,slow=5.5						
URZ				Sn	**Sn**	**16 01 55.1**	**+4.9**
	18nm,0.3s,baz=146,slow=22,SNR=12						
URZ	**Urewera**	**8.33**	**216**	*e*Pn	**Pn**	**16 00 19.2**	**+1.7**
URZ				*e*Sn	**Sn**	**16 01 51.3**	**+1.1**
URZ	**Urewera**	**8.33**	**216**	*e*PN	**Pn**	**16 00 18.9**	**+1.4**
KNZ	**Kokohu**	**8.68**	**210**	*e*PN	**Pn**	**16 00 23.0**	**+0.7**
BKZ	**Black Stump Fm**	**9.34**	**214**	*e*PN	**Pn**	**16 00 31.0**	**-0.2**
BKZ				*e*SN	**Sn**	**16 02 19.6**	**+4.6**
MRZ	**Mangatainoka R**	**10.95**	**212**	*e*PN	**Pn**	**16 00 52.1**	**-1.3**
MRZ				*e*SN	**Sn**	**16 02 52.9**	**-1.6**
KIW	**Kapiti Island**	**11.42**	**214**	*e*PN	**Pn**	**16 00 58.4**	**-1.4**
SNZO	**South Karori**	**11.86**	**213**	*e*Pn	**Pn**	**16 01 06.2**	**+0.3**
SNZO				*e*Sn	**Sn**	**16 03 17.2**	**+0.3**
CTZ	**Chatham Island**	**12.10**	**180**	*e*PN	**Pn**	**16 01 09.1**	**0.0**
CTZ				*e*SN	**Sn**	**16 03 16.5**	**-6.2**
QRZ	**Quartz Range**	**12.62**	**220**	*e*PN	**Pn**	**16 01 14.3**	**-1.9**
THZ	**Tophouse**	**13.08**	**216**	*e*PN	**Pn**	**16 01 21.5**	**-1.1**
KHZ	**Kahutara**	**13.27**	**213**	*e*Pn	**Pn**	**16 01 24.6**	**-0.6**
KHZ				*e*Sn	**Sn**	**16 03 50.2**	**-1.1**
KHZ	**Kahutara**	**13.27**	**213**	*e*PN	**Pn**	**16 01 24.4**	**-0.7**
DSZ	**Denniston Nort**	**13.65**	**219**	*e*PN	**Pn**	**16 01 29.1**	**-1.1**
MSVF	**Nonsavu**	**14.60**	**340**	*e*P	**Pn**	**16 01 35.2**	**-8.2**
	21nm,1.1s						
MQZ	**McQueen's Vall**	**14.69**	**212**	*e*PN	**Pn**	**16 01 44.4**	**0.0**
WVZ	**Waitaha Valley**	**15.14**	**217**	*e*PN	**Pn**	**16 01 49.6**	**-0.8**
RPZ	**Rata Peaks**	**15.44**	**215**	Pn	**Pn**	**16 01 54.4**	**+0.1**
	8.1nm,0.3s,baz=49,slow=1.9,SNR=34						
RPZ				Sn	**Sn**	**16 04 37.1**	**-7.1**
	1.6nm,0.3s,baz=223,slow=22,SNR=8.1						
RPZ	**Rata Peaks**	**15.44**	**215**	*e*P	**Pn**	**16 01 53.9**	**-0.5**
	30nm,0.5s						
RPZ				Sn	**Sn**	**16 04 37.1**	**-7.1**
RPZ	**Rata Peaks**	**15.44**	**215**	*e*PN	**Pn**	**16 01 52.6**	**-1.7**
FOZ	**Fox Glacier**	**16.03**	**218**	*e*PN	**Pn**	**16 02 00.8**	**-1.2**
LBZ	**Lake Benmore**	**16.36**	**215**	PN	**Pn**	**16 02 05.9**	**-0.3**
JCZ	**Jackson Bay**	**16.87**	**218**	*e*PN	**Pn**	**16 02 10.8**	**-1.8**
WKZ	**Wanaka**	**17.26**	**216**	*e*PN	**Pn**	**16 02 17.4**	**0.0**
DZM	**Mont Dzumac**	**17.73**	**298**	*e*P	**Pn**	**16 02 24.7**	**+1.2**
	74nm,1.4s						
DZM				*e*LR	LR	16 06 42.1	
	2μm,27.4s						
DZM	**Mont Dzumac**	**17.73**	**298**	*e*P	**Pn**	**16 02 23.7**	**+0.2**
DZM	**Mont Dzumac**	**17.73**	**298**	*e*P	**Pn**	**16 02 24.0**	**+0.5**
	19nm,0.8s						
AFI	**Afiamalu**	**18.20**	**16**	P	**Pn**	**16 02 19.6**	**-10**
	2.1nm,0.3s,baz=204,slow=20,SNR=3.7						
AFI	**Afiamalu**	**18.20**	**16**	P	**Pn**	**16 02 19.6**	**-10**
RAR	**Rarotonga**	**18.38**	**60**	*e*P	**Pn**	**16 02 21.4**	**-10**
	19nm,0.8s						
TBI	**Tubuai**	**25.52**	**78**	*e*LR	LR	16 09 30.9	
	686nm,29.2s						
ARMA	**Armidale**	**27.08**	**264**	*e*P	**P**	**16 04 02.4**	**+3.8**
PPT	**Papeete**	**28.30**	**67**	*e*LR	LR	16 10 40.1	
	598nm,29.8s,baz=233						
CTA	**Charters Tower**	**35.06**	**280**	P	**P**	**16 05 10.2**	**+1.2**
	10.0nm,0.6s,mb4.9,baz=106,slow=11,SNR=17						
CTA				LR	LR	16 17 37.2	
	comp=Z,168nm,18.3s,MS3.8,baz=107,slow=33						
CTA	**Charters Tower**	**35.06**	**280**	*e*P	**P**	**16 05 11.0**	**+2.0**
	7.9nm,0.6s,mb4.8						
CTA	**Charters Tower**	**35.06**	**280**	P	**P**	**16 05 10.2**	**+1.2**
CTAO	**Charters Tower**	**35.06**	**280**	*e*P	**P**	**16 05 09.8**	**+0.8**
	10.0nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**35.27**	**258**	P	**P**	**16 05 13.3**	**+2.6**
	4.1nm,0.7s,mb4.5,baz=114,slow=7.9,SNR=10						
STKA				LR	LR	16 19 06.1	
	comp=Z,346nm,19.0s,MS4.1,baz=292,slow=35						
STKA	**Stephens Creek**	**35.27**	**258**	*e*P	**P**	**16 05 12.7**	**+2.0**
	4.7nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**35.27**	**258**	*e*P	**P**	**16 05 13.0**	**+2.3**
	2.3nm,1.0s,mb4.1						
MTSU	**Mount Surprise**	**37.58**	**282**	*e*P	**P**	**16 05 30.8**	**+0.2**
	9.1nm,0.5s,mb4.8						
TAOE	**Nuku Hiva Isla**	**40.83**	**64**	*e*LR	LR	16 16 25.7	
	392nm,30.2s						
AS31	**Alice Springs**	**44.12**	**268**	*e*P	**P**	**16 06 24.4**	**0.0**
ASAR	**Alice Springs**	**44.12**	**268**	P	**P**	**16 06 24.6**	**+0.1**
	4.1nm,0.6s,mb4.3,baz=103,slow=7.3,SNR=103						
ASAR				PcP	PcP	16 08 10.8	+1.6
	1.5nm,0.9s,baz=107,slow=4.0,SNR=3.3

comp=Z,1.0nm,0.4s,baz=84,slow=7.6,SNR=8.6
MMAI Mount Meron Ar 152.84 282 PKPbc PKPbc 16 18 13.9 +1.2
AKASG Malin Array Be 152.91 322 PKPbc PKPbc 16 18 12.0 -0.3
comp=Z,0.9nm,0.5s,baz=46,slow=2.2,SNR=7.1
AKASG Malin Array Be 152.91 322 PKPbc PKPbc 16 18 12.0 -0.3
DBIC Dimbokro 154.05 161 PKP PKPdf 16 18 10.7 +2.9
comp=Z,1.9nm,0.6s,baz=125,slow=4.1,SNR=4.4
DBIC PKPbc PKPbc 16 18 17.5 +1.6
comp=Z,1.6nm,0.6s,baz=281,slow=8.6,SNR=2.9
DBIC Dimbokro 154.05 161 PKP PKPdf 16 18 10.7 +2.9
DBIC PKPbc PKPbc 16 18 17.5 +1.6
BUR08 Bucovina Ar. S 156.84 320 ePKPab PKPab 16 18 39.9 -0.5
CLL Collm 159.05 343 e(PKPab) PKPab 16 18 51.0 +1.2
BRG Berggiesshubel 159.19 341 ePKP PKPab 16 18 50.0 -0.4
comp=Z,4.3nm,0.9s
GERES GERESS Array B 161.06 338 PKPab PKPab 16 18 57.9 -0.7
comp=Z,0.4nm,0.8s,baz=354,slow=5.4,SNR=4.7
GERES GERESS Array B 161.06 338 PKPab PKPab 16 18 57.9 -0.7
TORD Torodi Ar. Bea 161.56 175 PKPab PKPab 16 19 04.4 +2.8
comp=Z,4.1nm,0.8s,baz=176,slow=4.1,SNR=20
TORD Torodi Ar. Bea 161.56 175 PKPab PKPab 16 19 04.4 +2.8

*IDC **12** 16:03:23.8±0.7, 33°.52S×179°.61W, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.3/16, mbtmp4.4/7, Error ellipse: s-maj=32.7km s-min=23.1km az=15.0*
*ISCJB **12** 16:03:27.8±0.6, 34°.11S±0°.04×179°.9W±0°.1, h33km, mb4.4/11, Error ellipse: s-maj=13.6km s-min=5.1km az=13.2*
*NEIC **12** 16:03:31.8±1.4, 34°.03S×179°.85W, h55km±12km, mb4.5/5, Error ellipse: s-maj=17.1km s-min=12.9km az=121.0*

ISC 12 16:03:30.5±0.7, 34°.08S±0°.04×180°.0W±0°.1, h35km, n85, σ1§47/67, mb4.4/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.75	202	PN	Pn	16 04 27.3	+1.6
MXZ				SN	Sn	16 05 10.4	+1.7
MXZ				T		16 07 21.1	
MXZ				T(MAX)		16 08 44.0	
PUZ	Puketiti	4.24	199	PN	Pn	16 04 33.8	+1.3
PUZ				eSN	Sn	16 05 22.1	+1.4
KUZ	Kuaotunu	4.42	232	PN	Pn	16 04 41.5	+6.5
CNGZ	Carnagh Statio	4.64	198	PN	Pn	16 04 39.1	+1.1
OPRZ	Ohinepanea	4.70	216	PN	Pn	16 04 42.5	+3.6
MWZ	Matawai	4.71	205	PN	Pn	16 04 40.5	+1.6
MWZ				eSN	Sn	16 05 32.7	+0.5
TGRZ	Tauranga	4.76	219	ePN	Pn	16 04 44.0	+4.3
URZ	Urewera	4.79	209	Pn	Pn	16 04 42.0	+1.8
	30nm,0.3s,baz=282,slow=4.3,SNR=47						
URZ				Sn	Sn	16 05 36.5	+2.0
	40nm,0.3s,baz=136,slow=22,SNR=11						
URZ	Urewera	4.79	209	ePn	Pn	16 04 41.6	+1.5
URZ				eSn	Sn	16 05 29.5	-5.0
URZ	Urewera	4.79	209	PN	Pn	16 04 41.4	+1.2
MKAZ	Moumakai	4.93	231	ePN	Pn	16 04 49.5	+6.6
RAO	Raoul Island	5.12	20	ePn	Pn	16 04 44.8	+0.1
PRGZ	Paritu Road	5.13	199	ePN	Pn	16 04 44.7	-0.1
TOZ	Tahuroa Road	5.18	224	ePN	Pn	16 04 50.5	+5.1
KNZ	Kokohu	5.28	200	PN	Pn	16 04 46.2	-0.7
MHGZ	Mahia Peninsul	5.34	198	PN	Pn	16 04 47.5	-0.2
RAHZ	Arahi	5.38	205	SN	Sn	16 05 51.2	+2.4
BKZ	Black Stump Fm	5.82	208	PN	Pn	16 04 54.2	0.0
BKZ				eSN	Sn	16 05 60.0	+0.2
HIZ	Hauiti	6.09	222	ePN	Pn	16 05 02.0	+4.0
PXZ	Pawanui	6.46	202	PN	Pn	16 05 00.7	-2.3
PXZ				eSN	Sn	16 06 11.3	-4.2
TSZ	Takapari Road	6.80	207	ePN	Pn	16 05 05.3	-2.4
WAZ	Wanganui	6.96	214	ePN	Pn	16 05 10.5	+0.6
MRZ	Mangatainoka R	7.46	207	ePN	Pn	16 05 14.1	-2.7
MRZ				eSN	Sn	16 06 34.1	-6.1
SNZO	South Karori	8.36	209	ePn	Pn	16 05 25.3	-3.8
SNZO				eSn	Sn	16 06 55.5	-6.7
NNZ	Nelson	8.87	215	ePN	Pn	16 05 33.4	-2.6
NNZ				eSN	Sn	16 07 09.5	-5.1
QRZ	Quartz Range	9.00	219	ePN	Pn	16 05 36.0	-1.8
THZ	Tophouse	9.51	214	ePN	Pn	16 05 42.3	-2.6
THZ				eSN	Sn	16 07 24.5	-6.1
KHZ	Kahutara	9.76	210	ePN	Pn	16 05 44.2	-4.1
CTZ	Chatham Island	9.98	166	ePN	Pn	16 05 49.4	-1.9
RPZ	Rata Peaks	11.89	213	Pn	Pn	16 06 13.7	-3.7
	1.8nm,0.3s,baz=90,slow=6.8,SNR=5.0						
RPZ				Sn	Sn	16 08 17.3	-11
	3.9nm,0.3s,baz=304,slow=21,SNR=19						
RPZ	Rata Peaks	11.89	213	Pn	Pn	16 06 13.7	-3.7
RPZ				Sn	Sn	16 08 17.3	-11
RPZ	Rata Peaks	11.89	213	ePN	Pn	16 06 12.4	-5.0
ODZ	Otahua Downs	13.12	211	ePN	Pn	16 06 28.6	-5.6
JCZ	Jackson Bay	13.27	218	ePN	Pn	16 06 33.7	-2.5
STKA	Stephens Creek	32.20	263	P	P	16 09 58.7	+3.4
	1.7nm,0.7s,mb4.0,baz=178,slow=23,SNR=3.0						
STKA	Stephens Creek	32.20	263	P	P	16 09 58.7	+3.4
CTA	Charters Tower	32.99	286	P	P	16 10 03.5	+1.3
	4.4nm,0.3s,mb4.9,baz=117,slow=6.8,SNR=7.3						
CTA	Charters Tower	32.99	286	P	P	16 10 03.5	+1.3
CTAO	Charters Tower	32.99	286	P	P	16 10 03.8	+1.6
	7.5nm,0.6s,mb4.8						
AS31	Alice Springs	41.41	272	eP	P	16 11 13.9	+0.2
ASAR	Alice Springs	41.41	272	P	P	16 11 14.1	+0.5
	3.8nm,0.7s,mb4.1,baz=112,slow=7.7,SNR=10						
ASAR	Alice Springs	41.41	272	P	P	16 11 14.1	+0.5
WB2	Warramunga Arr	42.73	277	eP	P	16 11 24.6	+0.1
WRAB	Tennant Creek	42.74	277	eP	P	16 11 24.6	+0.2
	3.7nm,0.7s,mb4.2						
WRA	Warramunga Arr	42.74	277	P	P	16 11 24.9	+0.4
	1.6nm,0.3s,mb4.2,baz=118,slow=7.7,SNR=37						
WRA	Warramunga Arr	42.74	277	P	P	16 11 24.9	+0.4
FITZ	Fitzroy Crossi	50.82	274	P	P	16 12 27.1	-0.6
	1.6nm,0.5s,mb4.2,baz=120,slow=11,SNR=11						
FITZ	Fitzroy Crossi	50.82	274	P	P	16 12 27.1	-0.6
MBWA	Marble Bar	54.28	267	eP	P	16 12 51.9	-1.4
	6.4nm,0.8s,mb4.6						
QSPA	South Pole Qui	56.04	180	P	P	16 13 08.2	+3.1
	2.7nm,0.5s,mb4.5,baz=0.0,slow=0.0,SNR=6.5						
QSPA	South Pole Qui	56.04	180	eP	P	16 13 06.6	+1.4
	3.6nm,0.7s,mb4.5						
SNAA	Sanae	74.52	179	P	P	16 15 06.2	+1.2
	2.5nm,0.7s,mb4.2						
SNAA				e	pP	16 15 13.7	-2.2
PETK	Petropavlovsk-	88.98	347	P	P	16 16 22.1	+1.2
	5.8nm,0.7s,mb5.0,baz=128,slow=7.1,SNR=16						
PETK	Petropavlovsk-	88.98	347	P	P	16 16 22.1	+1.2
PDAR	Pinedale Array	99.92	45	P	Pdif	16 17 08.1	-3.6
	0.7nm,1.0s,baz=120,slow=5.3,SNR=3.7						
ZALV	Zalesovo Beam	119.64	317	PKP	PKPdf	16 22 13.8	-2.2
	0.6nm,0.4s,baz=329,slow=4.3,SNR=3.9						
ZALV	Zalesovo Beam	119.64	317	PKP	PKPdf	16 22 13.8	-2.2
KURK	Kurchatov	122.35	312	PKP	PKPdf	16 22 19.7	-1.6
	1.6nm,0.6s,baz=117,slow=1.9,SNR=13						
KURK	Kurchatov	122.35	312	PKP	PKPdf	16 22 19.7	-1.6
BVAR	Borovoye Array	127.82	314	PKP	PKPdf	16 22 31.2	-0.5
	1.4nm,0.7s,baz=113,slow=11,SNR=6.4						
BVAR	Borovoye Array	127.82	314	PKP	PKPdf	16 22 31.2	-0.5
AKTO	Aktyubinsk	135.26	310	PKP	PKPdf	16 22 45.4	-0.5
	1.2nm,0.7s,baz=116,slow=6.0,SNR=4.6						
AKTO	Aktyubinsk	135.26	310	PKP	PKPdf	16 22 45.4	-0.5
KEV	Kevo	141.30	345	epkp	PKPdf	16 22 59.5	+3.1
ARCES	ARCESS Array B	141.79	346	PKhKP	PKPpre	16 22 51.1	
	7.5nm,1.1s,baz=37,slow=1.7,SNR=8.6						
ARCES	ARCESS Array B	141.79	346	PKPpre	PKPpre	16 22 51.1	
JOF	Joensuu	145.15	335	epkp	PKPdf	16 22 59.7	-3.6
KAF	Kangasniemi	147.38	337	epkp	PKPbc	16 23 08.2	-1.4
FINES	FINESS Array B	147.94	337	PKPbc	PKPbc	16 23 08.4	-2.8
	5.5nm,0.6s,baz=30,slow=5.3,SNR=23						
FINES	FINESS Array B	147.94	337	PKPbc	PKPbc	16 23 08.4	-2.8
EIL	Elat	150.12	271	PKPbc	PKPbc	16 23 15.6	-2.1
	3.6nm,0.7s,baz=350,slow=4.6,SNR=5.1						
EIL	Elat	150.12	271	PKPbc	PKPbc	16 23 15.6	-2.1
MMAI	Mount Meron Ar	150.60	278	PKPbc	PKPbc	16 23 17.1	-1.6
	1.1nm,0.3s,baz=80,slow=7.1,SNR=9.3						
MMAI	Mount Meron Ar	150.60	278	PKPbc	PKPbc	16 23 17.1	-1.6
NB2	NORSAR Subarra	152.08	348	PKP	PKPbc	16 23 19.7	-1.5
	comp=Z,0.8nm,0.4s,baz=17,slow=2.6						
NOA	NORSAR Array B	152.08	348	PKPbc	PKPbc	16 23 20.7	-0.5
	comp=Z,0.7nm,0.5s,baz=12,slow=4.5,SNR=7.8						
NOA	NORSAR Array B	152.08	348	PKPbc	PKPbc	16 23 20.7	-0.5
DBIC	Dimbokro	152.35	169	PKPbc	PKPbc	16 23 25.2	+1.9
	comp=Z,2.9nm,0.4s,baz=137,slow=3.6,SNR=13						
DBIC	Dimbokro	152.35	169	PKPbc	PKPbc	16 23 25.2	+1.9
BRTR	Keskin Array B	152.65	292	PKPbc	PKPbc	16 23 20.3	-2.9
	comp=Z,1.4nm,0.7s,baz=119,slow=2.6,SNR=6.1						
BRTR	Keskin Array B	152.65	292	PKPbc	PKPbc	16 23 20.3	-2.9
AKASG	Malin Array Be	153.04	317	PKPbc	PKPbc	16 23 21.3	-2.4
	comp=Z,1.5nm,0.5s,baz=62,slow=2.4,SNR=9.0						
AKASG	Malin Array Be	153.04	317	PKPbc	PKPbc	16 23 21.3	-2.4
TORD	Torodi Ar. Bea	159.10	185	PKP	PKPdf	16 23 25.2	-0.3
	comp=Z,0.4nm,0.7s,baz=349,slow=2.4,SNR=2.9						
TORD				PKPab	PKPab	16 24 02.5	+0.4
	comp=Z,0.9nm,0.6s,baz=161,slow=3.8,SNR=4.6						
TORD	Torodi Ar. Bea	159.10	185	PKP	PKPdf	16 23 25.2	-0.3
TORD				PKPab	PKPab	16 24 02.5	+0.4

*ISCJB **12** 16:11:36.4±4.6, 16°.6S±0°.2×171°.2E±0°.3, h58km±25km, mb4.3/8, Error ellipse: s-maj=57.6km s-min=22.4km az=157.9*
*IDC **12** 16:11:36.4±33.0, 17°.89S×170°.80E, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.0/16, mbtmp4.5/4, Error ellipse: s-maj=575.8km s-min=101.2km az=77.0*
*NEIC **12** 16:11:37.8±4.1, 16°.56S×171°.25E, h58km±21km, mb4.0/5, Error ellipse: s-maj=51.1km s-min=21.9km az=68.0*

ISC 12 16:11:38.4±3.9, 16°.6S±0°.2×171°.2E±0°.3, h60km±19km, n17, σ0§99/18, mb4.3/8, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.09	219	ePn	Pn	16 13 19.6	+0.1
	9.8nm,0.4s						
NOUC	Port Laguerre	7.20	219	eP	Pn	16 13 21.1	+0.1
NOUC				eS	Sn	16 14 29.5	-12
HNR	Honiara	13.04	301	ePn	Pn	16 14 40.9	-0.2
	92nm,1.3s						
CTAO	Charters Tower	23.93	258	eP	P	16 16 48.7	+1.6
	4.3nm,0.9s,mb3.9						
STKA	Stephens Creek	30.88	235	P	P	16 17 44.4	-4.9
	4.0nm,0.6s,mb4.4,baz=76,slow=6.3,SNR=11						
STKA	Stephens Creek	30.88	235	eP	P	16 17 43.9	-5.3
	0.8nm,0.6s,mb3.7						
WB2	Warramunga Arr	35.11	259	eP	P	16 18 26.0	-0.4
WRAB	Tennant Creek	35.11	259	eP	P	16 18 26.2	-0.1
	0.9nm,0.4s,mb4.0						
WRA	Warramunga Arr	35.12	259	P	P	16 18 26.4	0.0
	0.8nm,0.3s,mb4.2,baz=90,slow=8.6,SNR=45						
WRA	Warramunga Arr	35.12	259	P	P	16 18 26.4	0.0
AS31	Alice Springs	35.65	252	eP	P	16 18 29.1	-1.8
ASAR	Alice Springs	35.65	252	P	P	16 18 29.6	-1.4
	12nm,0.6s,mb5.0,baz=81,slow=8.9,SNR=303						
ASAR	Alice Springs	35.65	252	P	P	16 18 29.6	-1.4
FITZ	Fitzroy Crossi	43.44	261	P	P	16 19 38.0	+2.2
	3.0nm,0.5s,mb4.3,baz=108,slow=7.5,SNR=24						
FITZ	Fitzroy Crossi	43.44	261	P	P	16 19 38.0	+2.2
MBWA	Marble Bar	48.75	256	eP	P	16 20 17.9	+0.3
	4.4nm,0.5s,mb4.7						
QSPA	South Pole Qui	73.49	180	eP	P	16 23 04.1	0.0
	1.1nm,0.6s,mb4.0						

IDC 12 16:11:50.8±1.2, 21°.71S×177°.38W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/16, mbtmp4.0/6, ML4.4/1, Error ellipse: s-maj=58.4km s-min=25.0km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.17	195	P	Pn	16 15 52.1	0.0
	1.2nm,0.3s,baz=315,slow=14,SNR=7.8						
STKA	Stephens Creek	37.80	246	P	P	16 19 09.2	+0.2
	2.9nm,0.8s,baz=261,slow=22,SNR=3.5						
ASAR	Alice Springs	44.82	258	P	P	16 20 07.0	+0.2
	1.0nm,0.7s,baz=98,slow=7.3,SNR=6.9						
WRA	Warramunga Arr	45.02	263	P	P	16 20 08.6	+0.2
	0.6nm,0.6s,baz=101,slow=8.8,SNR=8.6						
TXAR	Lajitas Array	87.22	57	P	P	16 24 40.7	+1.3
	0.3nm,0.9s,baz=208,slow=4.3,SNR=3.5						
ILAR	Eielson Array	89.36	13	P	P	16 24 49.6	+1.0
	1.2nm,1.0s,baz=215,slow=5.0,SNR=8.9						
ARCES	ARCESS Array B	130.20	350	PKP	PKPdf	16 31 00.4	-1.7
	3.1nm,0.9s,baz=5.7,slow=2.4,SNR=7.5						
AKASG	Malin Array Be	144.34	331	PKP	PKPdf	16 31 27.9	-0.8
	1.3nm,0.4s,baz=43,slow=4.1,SNR=8.5						
BRTR	Keskin Array B	148.07	311	PKPbc	PKPbc	16 31 38.5	0.0
	0.7nm,0.7s,baz=116,slow=5.7,SNR=4.3						
GERES	GERESS Array B	151.51	345	PKPbc	PKPbc	16 31 44.8	-1.9
	0.6nm,0.7s,baz=48,slow=2.0,SNR=5.8						

IGQ 12 16:50:46.5, 0°.37S×80°.34W, h12km±8km, Mb4.0, Ms3.8, 1C-2D, Error ellipse: s-maj=8.7km s-min=6.0km az=5.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMOR	Cotopaxi Volca	1.92	101	P	Pn	16 51 21.3	+2.4
BREF	Cotopaxi Volca	1.92	99	⇓P	Pn	16 51 22.4	+3.3
MOV1	Cotopaxi Vol s	1.93	100	P	Pn	16 51 21.7	+2.6
BVC2	Cotopaxi Volca	1.95	99	⇓P	Pn	16 51 22.4	+3.0
VC1	Cotopaxi 1	1.96	98	P	Pn	16 51 22.5	+3.0
BTAM	Cotopaxi Volca	1.97	99	⇑P	Pn	16 51 22.8	+3.2
IGUA	Igualata	2.04	123	P	Pn	16 51 22.6	+2.0
PISA	Pisayambo	2.07	109	P	Pn	16 51 24.1	+3.1
JUI6	Juive	2.15	119	P	Pn	16 51 25.5	+3.4
BMAS	Trigal station	2.18	121	P	Pn	16 51 25.0	+2.5
RUN5	Runtun	2.18	119	P	Pn	16 51 26.0	+3.5
BRUN	Tungurahua Vol	2.19	119	P	Pn	16 51 26.0	+3.3
ARRY	Arrayan	2.20	121	P	Pn	16 51 25.2	+2.4
ARRY	Arrayan	2.20	121	S	Sn	16 51 53.0	+3.0
BULB	Ulba Tungurahu	2.20	119	P	Pn	16 51 25.3	+2.4
PAT1	Patacocha	2.21	121	P	Pn	16 51 26.1	+3.1

*ISCJB **12** 16:56:28.1±0.6, 50°.26N±0°.03×18°.81E±0°.03, h0km, Error ellipse: s-maj=5.1km s-min=2.6km az=23.4*
*WAR **12** 16:56:29.7, 50°.24N×18°.92E*
*CSEM **12** 16:56:29.1±0.2, 50°.27N×18°.85E, h1km, ML2.8/4, Error ellipse: s-maj=5.1km s-min=2.6km az=15.0*
*PRU **12** 16:56:30.7, 50°.22N×18°.84E, h0km*

ISC 12 16:56:29.7±0.5, 50°.23N±0°.03×18°.84E±0°.03, h0km, n31, σ1§05/52, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.59	229	ePG	Pg	16 56 42.2	+1.2
OKC				eSG	Sg	16 56 49.5	+0.8
	16nm,0.3s						
OKC	Ostrava-Krasne	0.59	229	Pg	Pg	16 56 42.2	+1.2
OKC				Sg	Sg	16 56 49.5	+0.8
	16nm,0.3s						
OJC	Ojcow	0.61	90	i Pg	Pg	16 56 41.0	-0.4
OJC				eSg	Sg	16 56 49.1	-0.3
OJC	Ojcow	0.61	90	i Pg	Pg	16 56 41.0	-0.4
OJC				eSg	Sg	16 56 49.1	-0.3
MORC	Moravsky Berou	0.95	242	ePg	Pg	16 56 48.0	+0.1
LIKS	Likavka	1.19	172	eSG	Sg	16 57 09.5	+1.7
LIKS	Likavka	1.19	172	eSg	Sg	16 57 09.5	+1.7
NIE	Niedzica	1.25	130	ePg	Pg	16 56 53.6	0.0
NIE				eSg	Sg	16 57 11.1	+1.3
NIE	Niedzica	1.25	130	ePg	Pg	16 56 53.6	0.0
NIE				eSg	Sg	16 57 11.1	+1.3
DPC	Dobruska-Polom	1.62	275	ePG	Pg	16 56 59.3	-1.4
DPC				eSG	Sg	16 57 21.0	-0.7
	20nm,0.4s						
DPC	Dobruska-Polom	1.62	275	Pg	Pg	16 56 59.3	-1.4
DPC				Sg	Sg	16 57 21.0	-0.7
	20nm,0.4s						
KOLL	Kolacno	1.67	190	ePG	Pg	16 57 02.2	+0.5
KOLL				eSG	Sg	16 57 22.2	-1.2
KOLL	Kolacno	1.67	190	ePg	Pg	16 57 02.2	+0.5
KOLL				eSg	Sg	16 57 22.2	-1.2
VRAC	Vranov	1.72	239	ePn	Pn	16 57 00.7	-0.2
VRAC				eSg	Sg	16 57 25.2	+0.2
VYHS	Vyhne	1.73	180	ePN	Pn	16 57 00.5	-0.5
VYHS				eSN	Sn	16 57 23.9	+0.1
VYHS	Vyhne	1.73	180	ePn	Pn	16 57 00.5	-0.5
VYHS				eSn	Sn	16 57 23.9	+0.1
KSP	Ksiaz	1.74	292	ePn	Pn	16 57 03.0	+1.9
KSP				eSn	Sn	16 57 26.6	+2.7
KSP	Ksiaz	1.74	292	i Pg	Pg	16 57 03.1	+0.1
KSP				eSg	Sg	16 57 26.3	+0.7
KSP	Ksiaz	1.74	292	⇑i Pg	Pg	16 57 03.0	0.0
KSP				eSg	Sg	16 57 26.3	+0.7
UPC	Upice	1.83	280	eSG	Sg	16 57 28.9	+0.3
UPC	Upice	1.83	280	Sg	Sg	16 57 28.9	+0.3
KECS	Kecovo	2.05	148	ePN	Pn	16 57 04.5	-0.8
KECS				eSN	Sn	16 57 28.6	-3.0
KECS	Kecovo	2.05	148	ePn	Pn	16 57 04.5	-0.8
KECS				eSn	Sn	16 57 28.6	-3.0
KOLS	Kolonicke sedl	2.58	119	ePN	Pn	16 57 17.2	+4.5
PVCC	Panska Ves	2.75	278	eSG	Sg	16 57 56.6	-1.5
	20nm,0.6s						
PVCC	Panska Ves	2.75	278	Sg	Sg	16 57 56.6	-1.5
	20nm,0.6s						
PRU	Pruhonice	2.78	267	eSG	Sg	16 57 58.4	-0.5
	4.0nm,0.6s						
PRU	Pruhonice	2.78	267	Sg	Sg	16 57 58.4	-0.5
	4.0nm,0.6s						
BRG	Berggiesshubel	3.19	284	PG	Pg	16 57 30.8	0.0
BRG				SG	Sg	16 58 15.3	+3.1
	5.0nm,0.4s						
KHC	Kasperske Hory	3.59	254	ePN	Pn	16 57 25.5	-1.0
KHC				ex	x	16 57 32.5	
KHC				eSG	Sg	16 58 24.0	-1.0
CLL	Collm	3.86	289	ePg	Pg	16 57 43.0	-0.7
CLL				eSg	Sg	16 58 34.0	+0.3
	comp=Z,6.0nm,0.8s						

*IDC **12** 17:03:37.8±1.3, 10°.19S×112°.07E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.6/17, mbtmp3.6/7, Error ellipse: s-maj=62.9km s-min=18.2km az=56.0*
*NEIC **12** 17:03:42.9±0.8, 10°.22S×112°.06E, h35km, Error ellipse: s-maj=43.3km s-min=11.9km az=61.0*
*ISCJB **12** 17:03:43.2±1.1, 9°.90S±0°.10×112°.9E±0°.1, h57km±12km, mb3.5/7, Error ellipse: s-maj=20.0km s-min=12.4km az=140.1*
*DJA **12** 17:03:45, 9°.62S×112°.87E, h15km, MLv3.7/6*

ISC 12 17:03:45.7±1.1, 9°.75S±0°.10×112°.8E±0°.1, h42km±11km, n22, σ1§06/22, mb3.5/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.59	23	P	Pn	17 04 10.1	-1.3
KRKI	Karangkates	1.62	347	P	Pn	17 04 11.5	-0.3
PWJI	Pagerwojo	1.99	329	P	Pn	17 04 17.0	+0.1
BLJI	Banyuglugur	2.13	21	P	Pn	17 04 19.0	+0.2
PCJI	Pacitan	2.24	313	P	Pn	17 04 21.6	+1.3
SJI	Sawahan	2.26	332	P	Pn	17 04 21.0	+0.5
KHKI	Kahang-Kahang	3.07	64	P	Pn	17 04 32.3	+0.5
MBWA	Marble Bar	13.15	150	ePn	Pn	17 06 47.7	-2.2
	25nm,1.5s						
WRA	Warramunga Arr	23.11	118	P	P	17 08 49.8	+1.5
	0.5nm,0.7s,mb3.1,baz=291,slow=11,SNR=6.4						
WRA	Warramunga Arr	23.11	118	P	P	17 08 49.8	+1.5
NWAO	Narrogin (SRO)	23.42	171	P	P	17 08 44.8	-6.5
	7.6nm,1.0s,mb4.1,baz=14,slow=19,SNR=3.1						
NWAO	Narrogin (SRO)	23.42	171	P	P	17 08 44.8	-6.5
ASAR	Alice Springs	24.43	127	P	P	17 09 02.5	+1.9
	0.6nm,0.6s,mb3.2,baz=303,slow=8.2,SNR=12						
ASAR	Alice Springs	24.43	127	P	P	17 09 02.5	+1.9
CMAR	Chiang Mai Arr	31.19	334	P	P	17 10 01.6	+0.4
	0.5nm,0.8s,mb3.4,baz=171,slow=7.4,SNR=5.7						
CMAR	Chiang Mai Arr	31.19	334	P	P	17 10 01.6	+0.4
SONM	Songino Array	57.61	355	P	P	17 13 30.7	-0.7
	0.2nm,0.6s,mb3.3,baz=169,slow=9.1,SNR=3.7						
SONM	Songino Array	57.61	355	P	P	17 13 30.7	-0.7
MKAR	Makanchi Array	62.54	337	P	P	17 14 04.2	-1.0
	0.4nm,0.6s,mb3.8,baz=148,slow=6.3,SNR=5.9						
MKAR	Makanchi Array	62.54	337	P	P	17 14 04.2	-1.0
ZALV	Zalesovo Beam	67.74	343	P	P	17 14 37.9	-0.8
	0.5nm,0.7s,mb3.7,baz=152,slow=6.4,SNR=2.8						
ZALV	Zalesovo Beam	67.74	343	P	P	17 14 37.9	-0.8

*TIF **12** 17:06:12.6, 40°.36N×44°.87E, h17km±2km*
*CSEM **12** 17:06:12.8±0.4, 40°.30N×44°.80E, h2km, ML2.8, Error ellipse: s-maj=8.4km s-min=5.6km az=137.0*
*NSSP **12** 17:06:12.4, 40°.37N×44°.85E, h15km, Ms2.8*
*ISCJB **12** 17:06:13.4±0.6, 40°.27N±0°.02×44°.79E±0°.03, h7km±5km, Error ellipse: s-maj=4.5km s-min=4.2km az=164.8*

ISC 12 17:06:14.0±0.5, 40°.26N±0°.03×44°.77E±0°.03, h15km±4km, n33, σ1§18/66, 19C-12D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERE	Yerevan	0.25	248	⇑iP	Pg	17 06 14.0	-5.4
ERE				⇑S	Sg	17 06 17.0	-6.0
ERE	Yerevan	0.25	248	⇑P	Pg	17 06 14.0	-5.4
ERE				S	Sg	17 06 17.0	-6.0
PAAR	P'arak'ar	0.32	249	⇑iP	Pg	17

5.6nm,0.3s,baz=191,slow=23,SNR=4.2
PMG Port Moresby 4.28 184 *e*Pn **Pn 17 20 21.3 -1.5**
PMG S **Sn 17 21 17.8 +6.2**
HNR Honiara 13.11 110 LR LR 17 26 22.1
comp=Z,187nm,20.7s,baz=292,slow=32
GUMO Guam 18.75 352 LR LR 17 30 07.9
comp=Z,115nm,18.1s,baz=145,slow=34
WRAB Tennant Creek 19.49 220 *e*P **Pn 17 23 40.5 -1.5**
5.6nm,0.8s
WB2 Warrarmunga Arr 19.50 220 *e*P **Pn 17 23 41.1 -1.0**
WRA Warrarmunga Arr 19.51 220 P **Pn 17 23 41.5 -0.7**
0.6nm,0.3s,baz=41,slow=11,SNR=64
WRA Warrarmunga Arr 19.51 220 P **Pn 17 23 41.5 -0.7**
EIDS Eidsvold 20.44 171 *e*P **P 17 23 51.5 +1.3**
65nm,0.8s
QLP Quilpie 21.58 188 *e*P **P 17 24 06.5 +4.2**
AS31 Alice Springs 22.61 214 *e*P **P 17 24 14.3 +1.1**
ASAR Alice Springs 22.61 214 P **P 17 24 14.4 +1.2**
4.5nm,0.8s,mb3.8,baz=46,slow=8.4,SNR=75
ASAR Alice Springs 22.61 214 P **P 17 24 14.4 +1.2**
FITZ Fitzroy Crossi 24.93 237 P **P 17 24 35.5 +0.6**
9.0nm,0.6s,mb4.3,baz=54,slow=11,SNR=26
FITZ LR LR 17 34 44.9
comp=Z,58nm,19.9s,baz=63,slow=37
FITZ Fitzroy Crossi 24.93 237 *e*P **P 17 24 34.2 -0.7**
18nm,0.6s,mb4.7
FITZ Fitzroy Crossi 24.93 237 P **P 17 24 35.5 +0.6**
DZM Mont Dzumac 24.94 134 *e*P **P 17 24 33.8 -1.2**
21nm,0.9s,mb4.6
STKA Stephens Creek 27.19 191 LR LR 17 37 34.3
comp=Z,109nm,18.4s,baz=22,slow=40
MJAR Matsushiro Arr 42.33 349 LR LR 17 43 23.3
comp=Z,40nm,18.3s,baz=145,slow=34
RPZ Rata Peaks 43.72 155 LR LR 17 43 37.5
comp=Z,88nm,20.0s,baz=330,slow=33
KSRS Korea Array 46.09 338 LR LR 17 44 15.9
comp=Z,42nm,18.6s,baz=18,slow=32
CMAR Chiang Mai Arr 53.24 297 P **P 17 28 30.5 +0.9**
0.5nm,0.7s,mb3.7,baz=128,slow=5.1,SNR=5.0
CMAR Chiang Mai Arr 53.24 297 P **P 17 28 30.5 +0.9**
TLY Talaya 67.77 332 P **P 17 30 07.5 -0.4**
5.4nm,0.8s,mb4.4
MK31 Makanchi Array 77.11 320 P **P 17 30 59.6 -3.9**
ZALV Zalesovo Beam 78.51 328 P **P 17 31 11.5 +0.4**
0.5nm,0.6s,mb3.5,baz=95,slow=3.3,SNR=3.5
ZALV Zalesovo Beam 78.51 328 P **P 17 31 11.5 +0.4**
MAW Mawson 83.24 203 P **P 17 31 35.6 -0.5**
ILAR Eielson Array 84.48 23 P **P 17 31 42.5 +0.1**
0.5nm,0.8s,mb3.4,baz=257,slow=5.1,SNR=4.9
ILAR Eielson Array 84.48 23 P **P 17 31 42.5 +0.1**
TORD Torodi Ar. Bea 145.30 286 PKPbc PKPbc 17 38 47.5 -0.7
2.3nm,1.0s,baz=76,slow=3.1,SNR=7.1
TORD Torodi Ar. Bea 145.30 286 PKPbc PKPbc 17 38 47.5 -0.7

GUC 12 17:19:35.0±0.8, 33.°13S×70.°37W, h13km±2km, MD3.5, ML2.5, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.20**	**161**	AML	AML	17 19 42.5	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**0.27**	**268**	⇑*i*P	Pg	17 19 41.2	+0.6
PEL				*i* S	Sg	17 19 45.6	+1.3
PEL				AML	AML	17 19 53.4	
	comp=N,589nm,0.5s						
CLCH	**Cerro Calan**	**0.30**	**208**	⇑*i*P	Pg	17 19 41.5	+0.4
CLCH				*i* S	Sg	17 19 46.9	+1.6
CLCH				AML	AML	17 19 48.7	
	comp=E,2μm,0.4s						
CLCH				AML	AML	17 19 49.2	
	comp=E,2μm,0.5s						
ROCH	**El Roble**	**0.56**	**287**	⇑*i*P	Pg	17 19 46.7	+0.7
ROCH				*i* S	Sg	17 19 55.0	+1.5
ROCH				AML	AML	17 19 57.3	
	comp=N,418nm,0.6s						
LMEL	**Las Melosas**	**0.72**	**169**	*e*P	Pg	17 19 47.5	-1.6
LMEL				*i* S	Sg	17 19 57.5	-1.2
LMEL				AML	AML	17 19 58.6	
	comp=N,147nm,0.4s						
CHCH	**Chadas Angostu**	**0.83**	**196**	*e*P	Pg	17 19 50.5	-0.6
CHCH				*i* S	Sg	17 20 02.3	+0.3
CACH	**El Canelo**	**1.00**	**191**	⇓*i*P	Pb	17 19 53.8	-0.4
CACH				*i* S	Sb	17 20 07.7	+0.4
LNV	**Longovilo**	**1.20**	**226**	⇓*i*P	Pn	17 19 57.0	-0.4
LNV				*i* S	Sb	17 20 13.3	+0.5

*IDC **12** 17:30:51.8±1.9, 31.°28S×176.°90W, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.9/17, mbtmp4.0/4, ML4.1/2, MS3.9/1, Ms1 3.9/1, ms1mx2.8/28, Error ellipse: s-maj=44.7km s-min=33.7km az=113.0*
*NEIC **12** 17:30:52.4±1.5, 31.°20S×176.°87W, h10km, mb4.4/3, Error ellipse: s-maj=31.5km s-min=14.1km az=92.0*
*ISCJB **12** 17:30:54.8±1.2, 31.°26S±0.°07×177.°1W±0.°2, h33km, mb4.1/5, Error ellipse: s-maj=23.8km s-min=10.5km az=5.2*
ISC 12 17:30:56.4±1.2, 31.°16S±0.°07×177.°0W±0.°2, h35km, n20, σ1.9°27/21, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.08**	**336**	*e*Pn	**Pn**	**17 31 26.0**	**-2.7**
RAO				*e*Sn	**Sn**	**17 31 49.4**	**-4.0**
URZ	**Urewera**	**8.59**	**213**	Pn	**Pn**	**17 32 57.6**	**-0.7**
	0.8nm,0.3s,baz=88,slow=17,SNR=5.4						
URZ				Sn	**Sn**	**17 34 33.5**	**-0.4**
	2.2nm,0.3s,baz=204,slow=19,SNR=7.8						
URZ	**Urewera**	**8.59**	**213**	Pn	**Pn**	**17 32 57.6**	**-0.7**
URZ				*e*Sn	**Sn**	**17 34 24.8**	**-9.1**
URZ				Sn	**Sn**	**17 34 33.5**	**-0.4**
RPZ	**Rata Peaks**	**15.71**	**214**	Pn	**Pn**	**17 34 31.8**	**-3.2**
	2.1nm,0.3s,baz=15,slow=22,SNR=8.2						
RPZ				Sn	**Sn**	**17 37 15.6**	**-12**
	0.4nm,0.3s,baz=312,slow=20,SNR=2.1						
RPZ	**Rata Peaks**	**15.71**	**214**	Pn	**Pn**	**17 34 31.8**	**-3.2**
RPZ				Sn	**Sn**	**17 37 15.6**	**-12**
EIDS	**Eidsvold**	**28.66**	**274**	P	**P**	**17 36 49.8**	**-0.2**
	5.3nm,1.0s,mb4.2						
HNR	**Honiara**	**30.47**	**310**	P	**P**	**17 37 07.9**	**+1.9**
	41nm,1.0s,mb5.1						
AS31	**Alice Springs**	**43.95**	**267**	P	**P**	**17 39 01.0**	**+0.7**
ASAR	**Alice Springs**	**43.96**	**267**	P	**P**	**17 39 01.4**	**+1.1**
	0.6nm,0.6s,mb3.5,baz=104,slow=7.4,SNR=19						
ASAR	**Alice Springs**	**43.96**	**267**	P	**P**	**17 39 01.4**	**+1.1**
WRAB	**Tennant Creek**	**45.01**	**272**	P	**P**	**17 39 09.1**	**+0.4**
	3.4nm,1.0s,mb4.1						
WRA	**Warrarmunga Arr**	**45.01**	**272**	P	**P**	**17 39 09.8**	**+1.0**
	0.6nm,0.5s,mb3.7,baz=111,slow=8.1,SNR=28						
WRA	**Warrarmunga Arr**	**45.01**	**272**	P	**P**	**17 39 09.8**	**+1.0**
RPN	**Rapa Nui**	**58.38**	**105**	LR	LR	17 58 15.1	
	comp=Z,102nm,20.9s,baz=202,slow=28						
SNAA	**Sanae**	**77.37**	**178**	*e*	**P**	**17 42 46.3**	**-0.9**
VNA3	**Neumayer Olymp**	**77.48**	**176**	*e*	**P**	**17 42 48.9**	**+1.1**
FINES	**FINESS Array B**	**146.16**	**340**	PKPbc	PKPbc	17 50 32.6	+0.4
	3.9nm,0.9s,baz=38,slow=3.4,SNR=7.0						
FINES	**FINESS Array B**	**146.16**	**340**	PKPbc	PKPbc	17 50 32.6	+0.4
TORD	**Torodi Ar. Bea**	**162.03**	**176**	PKPab	PKPab	17 51 41.0	+0.2
	0.3nm,0.6s,baz=171,slow=4.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**162.03**	**176**	PKPab	PKPab	17 51 41.0	+0.2

IDC 12 17:35:27.1±1.5, 5.°00S×146.°97E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=50.8km s-min=23.7km az=112.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.38**	**178**	Pn	Pn	17 36 35.4	+0.4
	0.3nm,0.3s,baz=323,slow=15,SNR=2.1						
PMG				Sn	Sn	17 37 29.0	+2.2
	0.8nm,0.3s,baz=201,slow=17,SNR=2.7						
WRA	**Warrarmunga Arr**	**19.28**	**219**	P	Pn	17 39 54.2	-0.4
	0.2nm,0.3s,baz=44,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**22.43**	**213**	P	P	17 40 27.0	-0.7
	1.2nm,0.9s,baz=47,slow=8.0,SNR=11						
FITZ	**Fitzroy Crossi**	**24.58**	**236**	P	P	17 40 49.4	+0.3
	2.7nm,0.7s,baz=78,slow=9.3,SNR=10						
FITZ				LR	LR	17 51 26.0	
	comp=Z,25nm,20.1s,baz=209,slow=39						
ILAR	**Eielson Array**	**84.58**	**23**	P	P	17 48 02.7	+0.7
	0.6nm,1.0s,baz=231,slow=6.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**144.81**	**286**	PKP	PKPdf	17 55 04.9	-2.3
	0.3nm,0.6s,baz=106,slow=3.1,SNR=2.7						

*NEIC **12** 17:39:04.1, 38.°88S×178.°17E, h28km, ML3.5(WEL), After WEL*
WEL 12 17:39:04.2±0.2, 38.°88S×178.°15E, h27km±1km, ML3.5/8, Error ellipse: s-maj=1.9km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRGZ	**Paritu Road**	**0.21**	**259**	P*	Pb	17 39 09.9	-0.2
PRGZ				S*	Sb	17 39 14.0	-0.3
PRGZ	**Paritu Road**	**0.21**	**259**	P*	Pb	17 39 09.9	-0.2
PRGZ				S*	Sb	17 39 15.3	+1.0
MHGZ	**Mahia Peninsul**	**0.33**	**215**	P*	Pb	17 39 12.8	+1.0
MHGZ	**Mahia Peninsul**	**0.33**	**215**	P*	Pb	17 39 12.8	+1.1
KNZ	**Kokohu**	**0.39**	**249**	P*	Pb	17 39 12.7	0.0
KNZ				S*	Sb	17 39 19.2	+0.6
KNZ	**Kokohu**	**0.39**	**249**	P*	Pb	17 39 12.7	0.0
KNZ				S*	Sb	17 39 19.2	+0.6
MWZ	**Matawai**	**0.73**	**318**	P*	Pb	17 39 18.0	-0.3
MWZ				S*	Sb	17 39 28.3	+0.3
MWZ	**Matawai**	**0.73**	**318**	Pn	Pn	17 39 18.0	-0.7
PUZ	**Puketiti**	**0.81**	**6**	PN	Pn	17 39 19.3	-0.5
PUZ				SN	Sn	17 39 31.1	+0.1
PUZ	**Puketiti**	**0.81**	**6**	Pn	Pn	17 39 19.3	-0.5
RAHZ	**Arahi**	**0.83**	**267**	PN	Pn	17 39 19.7	-0.3
RAHZ				*e*SN	Sn	17 39 31.0	-0.3
RAHZ	**Arahi**	**0.83**	**267**	Pn	Pn	17 39 19.7	-0.3
RAHZ				Sn	Sn	17 39 32.3	+0.9
URZ	**Urewera**	**1.02**	**307**	PN	Pn	17 39 22.2	-0.5
URZ				*e*SN	Sn	17 39 36.1	-0.1
URZ	**Urewera**	**1.02**	**307**	Pn	Pn	17 39 22.2	-0.5
NMHZ	**Naumai**	**1.07**	**258**	PN	Pn	17 39 23.2	-0.1
NMHZ	**Naumai**	**1.07**	**258**	Pn	Pn	17 39 23.2	-0.1
CKHZ	**Cape Kidnapper**	**1.14**	**227**	*e*PN	Pn	17 39 23.9	-0.4
CKHZ	**Cape Kidnapper**	**1.14**	**227**	Pn	Pn	17 39 23.9	-0.4
MCHZ	**McNeill Hill**	**1.26**	**243**	*e*PN	Pn	17 39 25.9	0.0
MCHZ	**McNeill Hill**	**1.26**	**243**	Pn	Pn	17 39 26.3	+0.4
BKZ	**Black Stump Fm**	**1.32**	**257**	PN	Pn	17 39 26.4	-0.4
BKZ	**Black Stump Fm**	**1.32**	**257**	Pn	Pn	17 39 26.4	-0.4
MXZ	**Matakaoa Point**	**1.32**	**6**	PN	Pn	17 39 27.0	+0.2
MXZ	**Matakaoa Point**	**1.32**	**6**	Pn	Pn	17 39 27.1	+0.2
KAHZ	**Kahuranaki**	**1.34**	**227**	PN	Pn	17 39 26.8	-0.3
KAHZ	**Kahuranaki**	**1.34**	**227**	Pn	Pn	17 39 26.8	-0.3
TARZ	**Mount Tarawera**	**1.44**	**296**	Pn	Pn	17 39 29.7	+1.3
PXZ	**Pawanui**	**1.52**	**221**	PN	Pn	17 39 28.2	-1.4
PXZ				*e*SN	Sn	17 39 47.1	-1.3
PXZ	**Pawanui**	**1.52**	**221**	Pn	Pn	17 39 28.2	-1.4
BHHZ	**Black Hill Sta**	**1.73**	**249**	PN	Pn	17 39 32.0	-0.4
BHHZ	**Black Hill Sta**	**1.73**	**249**	Pn	Pn	17 39 32.0	-0.4
WNVZ	**Wahianoa**	**2.03**	**257**	Pn	Pn	17 39 37.0	+0.4
WPVZ	**Whakapapa**	**2.05**	**260**	Pn	Pn	17 39 34.3	-2.5
TSZ	**Takapari Road**	**2.06**	**235**	*e*PN	Pn	17 39 35.7	-1.3
TSZ	**Takapari Road**	**2.06**	**235**	Pn	Pn	17 39 35.8	-1.2
DVHZ	**Dannevirke**	**2.08**	**227**	PN	Pn	17 39 35.8	-1.5
DVHZ	**Dannevirke**	**2.08**	**227**	Pn	Pn	17 39 35.8	-1.5
WAZ	**Wanganui**	**2.60**	**249**	*e*PN	Pn	17 39 45.1	+0.7
WAZ	**Wanganui**	**2.60**	**249**	Pn	Pn	17 39 45.1	+0.6
MRZ	**Mangatainoka R**	**2.66**	**227**	PN	Pn	17 39 43.3	-1.9
MRZ				SN	Sn	17 40 14.7	-1.8
MRZ	**Mangatainoka R**	**2.66**	**227**	Pn	Pn	17 39 43.3	-1.9
TMWZ	**Te Maipa**	**2.82**	**217**	*e*PN	Pn	17 39 45.0	-2.4
TMWZ	**Te Maipa**	**2.82**	**217**	Pn	Pn	17 39 45.0	-2.4
HOWZ	**Holdsworth Sta**	**2.85**	**224**	PN	Pn	17 39 45.8	-2.1
HOWZ	**Holdsworth Sta**	**2.85**	**224**	Pn	Pn	17 39 45.8	-2.1
MTW	**Mount Morrison**	**3.05**	**221**	PN	Pn	17 39 48.0	-2.6
MTW	**Mount Morrison**	**3.05**	**221**	Pn	Pn	17 39 48.0	-2.6
PKE	**Pukeiti**	**3.25**	**263**	PN	Pn	17 39 55.0	+1.6
PKE	**Pukeiti**	**3.25**	**263**	Pn	Pn	17 39 55.0	+1.6
NNZ	**Nelson**	**4.34**	**236**	Pn	Pn	17 40 06.6	-1.7
CTZ	**Chatham Island**	**6.25**	**143**	PN	Pn	17 40 34.8	+0.3
CTZ	**Chatham Island**	**6.25**	**143**	Pn	Pn	17 40 34.8	+0.3

IDC 12 17:52:29.8±1.8, 31.°22S×176.°78W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.9/16, mbtmp3.9/3, ML3.7/1, MS3.3/2, Ms1 3.2/2, ms1mx2.8/31, Error ellipse: s-maj=44.6km s-min=35.6km az=121.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.64**	**214**	Pn	Pn	17 54 36.4	+0.4
	0.8nm,0.3s,baz=21,slow=8.6,SNR=4.9						
URZ				Sn	Sn	17 56 12.6	-1.6
	1.6nm,0.3s,baz=144,slow=18,SNR=6.4						
STKA	**Stephens Creek**	**35.33**	**258**	LR	LR	18 13 32.9	
	comp=Z,45nm,18.5s,baz=24,slow=36						
ASAR	**Alice Springs**	**44.12**	**267**	P	P	18 00 40.4	+0.3
	1.1nm,0.8s,baz=105,slow=7.4,SNR=13						
WRA	**Warrarmunga Arr**	**45.18**	**272**	P	P	18 00 48.5	-0.1
	1.0nm,0.4s,baz=111,slow=8.1,SNR=48						
FITZ	**Fitzroy Crossi**	**53.41**	**270**	LR	LR	18 24 38.9	
	comp=Z,27nm,20.0s,baz=269,slow=36						
FINES	**FINESS Array B**	**146.27**	**340**	PKPbc	PKPbc	18 12 10.5	-1.1
	2.3nm,0.5s,baz=51,slow=3.1,SNR=17						
TORD	**Torodi Ar. Bea**	**161.96**	**175**	PKPab	PKPab	18 13 19.2	-0.2
	0.9nm,0.9s,baz=163,slow=3.5,SNR=4.6						

*IDC **12** 17:52:36.2±1.4, 26.°39N×93.°25E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/26, mbtmp3.4/5, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/27, Error ellipse: s-maj=152.0km s-min=20.4km az=55.0*
ISC 12 17:52:37.9±4.9, 26.°64N±0.°07×93.°6E±0.°1, h8km±32km, n10, σ0.9°93/11, mb3.7/5, Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**1.87**	**236**	*e*Pn	**Pn**	**17 53 13.0**	**+2.9**
SHL				*e*SN	**Sn**	**17 53 33.0**	**-0.9**
IMP	**Imphal**	**1.87**	**170**	*e*PKP	**Pn**	**17 53 10.0**	**-0.2**
IMP				*e*S	**Sn**	**17 53 35.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**9.53**	**148**	Pn	**Pn**	**17 54 54.1**	**-1.2**
	0.1nm,0.3s,baz=312,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**22.02**	**339**	P	**P**	**17 57 33.3**	**+0.8**
	0.4nm,0.5s,mb3.1,baz=152,slow=10,SNR=6.9						
AKTK	**Aktyubinsk**	**36.06**	**321**	P	**P**	**17 59 39.4**	**-0.3**
	1.0nm,0.4s,mb4.1						
AKTO	**Aktyubinsk**	**36.06**	**321**	P	**P**	**17 59 39.4**	**-0.3**
	0.8nm,0.4s,mb4.0,baz=117,slow=4.5,SNR=4.5						
AKTO	**Aktyubinsk**	**36.06**	**321**	P	**P**	**17 59 39.4**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ASAJ	**Asahikawa**	**42.92**	**53**	LR	LR	18 18 00.1	
	comp=Z,20nm,20.6s,baz=152,slow=35						
WRA	**Warrarmunga Arr**	**60.88**	**135**	P	**P**	**18 02 50.9**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.8,baz=323,slow=7.4,SNR=5.4						
ASAR	**Alice Springs**	**63.40**	**138**	P	**P**	**18 03 08.2**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.5,baz=318,slow=6.1,SNR=5.0						

*SOF **12** 17:53:57.0, 39.°27N×23.°69E, h2km, MD3.5*
*IDC **12** 17:53:60.0±0.8, 39.°37N×23.°56E, h0km, mb3.8/12, mb1 3.8/17, mb1mx3.8/29, mbtmp3.7/17, ML3.3/5, MS3.1/6, Ms1 3.2/6, ms1mx2.8/44, Error ellipse: s-maj=15.2km s-min=13.4km az=108.0*
*NEIC **12** 17:54:01.7±2.4, 39.°41N×23.°53E, h12km±16km, mb4.2/4, Error ellipse: s-maj=6.4km s-min=5.4km az=49.0*
*ISCJB **12** 17:54:02.4±0.3, 39.°48N±0.°01×23.°68E±0.°02, h12km±2km, mb3.8/15, MS3.1/3, Error ellipse: s-maj=2.2km s-min=1.9km az=30.6*
*ATH **12** 17:54:02.1, 39.°48N×23.°72E, h28km±1km, ML3.9*
*CSEM **12** 17:54:03.4±0.1, 39.°46N×23.°62E, h15km, mb3.9/12, Error ellipse: s-maj=2.4km s-min=2.1km az=122.0*
*THE **12** 17:54:03.1, 39.°48N×23.°69E, h10km±1km, ML4.0/17, Error ellipse: s-maj=1.1km s-min=0.6km az=214.0*
*MOS **12** 17:54:03.6±1.2, 39.°48N×23.°44E, h49km, mb4.0/11, Error ellipse: s-maj=12.1km s-min=5.6km az=87.3*
ISC 12 17:54:03.4±0.3, 39.°47N±0.°01×23.°63E±0.°02, h14km±2km, n387, σ1.9°06/447, mb3.8/15, MS3.1/3, 8C-22D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKIA	**Skiathos**	**0.33**	**202**	P	**Pg**	**17 54 10.0**	**-0.2**
SKIA				S	**Sg**	**17 54 15.2**	**+0.5**
SKIA	**Skiathos**	**0.33**	**202**	P	**Pg**	**17 54 10.0**	**-0.2**
SKIA				S	**Sg**	**17 54 15.2**	**+0.5**
NEO	**Neokhori**	**0.35**	**242**	*e*PB	**Pg**	**17 54 10.8**	**+0.2**
NEO	**Neokhori**	**0.35**	**242**	P	**Pg**	**17 54 10.6**	**0.0**
NEO				S	**Sg**	**17 54 16.4**	**+0.9**
NEO	**Neokhori**	**0.35**	**242**	P	**Pg**	**17 54 10.6**	**0.0**
NEO				S	**Sg**	**17 54 16.4**	**+0.9**
XOR	**Xorichti**	**0.35**	**253**	P	**Pg**	**17 54 10.5**	**-0.1**
XOR				S	**Sg**	**17 54 16.4**	**+0.9**
XOR	**Xorichti**	**0.35**	**253**	P	**Pg**	**17 54 10.5**	**-0.1**
XOR				S	**Sg**	**17 54 16.4**	**+0.9**
AOS	**Alonnisos**	**0.36**	**147**	P	**Pg**	**17 54 10.0**	**-0.7**
AOS				S	**Sg**	**17 54 15.3**	**-0.3**
AOS	**Alonnisos**	**0.36**	**147**	P	**Pg**	**17 54 10.0**	**-0.7**
AOS				S	**Sg**	**17 54 15.3**	**-0.3**
PAIG	**Paliouri**	**0.46**	**5**	P	**Pg**	**17 54 12.1**	**-0.4**
PAIG				S	**Sg**	**17 54 18.9**	**+0.3**
PAIG	**Paliouri**	**0.46**	**5**	P	**Pg**	**17 54 12.1**	**-0.4**
PAIG				S	**Sg**	**17 54 18.9**	**+0.3**
MRKA	**Markates**	**0.77**	**182**	P	**Pg**	**17 54 17.5**	**-0.8**
MRKA				S	**Sg**	**17 54 29.3**	**+0.9**
MRKA	**Markates**	**0.77**	**182**	P	**Pg**	**17 54 17.5**	**-0.8**
MRKA				S	**Sg**	**17 54 29.3**	**+0.9**
OUR	**Ouranopolis**	**0.90**	**17**	P	**Pb**	**17 54 20.1**	**-0.7**
OUR				S	**Sb**	**17 54 33.5**	**+0.8**
OUR	**Ouranopolis**	**0.90**	**17**	P	**Pb**	**17 54 20.1**	**-0.7**
OUR				S	**Sb**	**17 54 33.5**	**+0.8**
PLG	**Polygyros**	**0.91**	**351**	*e*PN	**Pg**	**17 54 20.0**	**-1.0**
PLG	**Polygyros**	**0.91**	**351**	P	**Pb**	**17 54 19.9**	**-1.1**
PLG				S	**Sb**	**17 54 33.3**	**+0.4**
PLG	**Polygyros**	**0.91**	**351**	P	**Pb**	**17 54 19.9**	**-1.1**
PLG				S	**Sb**	**17 54 33.3**	**+0.4**
ATAL	**Atalanti**	**0.91**	**211**	P	**Pb**	**17 54 20.5**	**-0.5**
ATAL				S	**Sb**	**17 54 33.9**	**+0.9**
ATAL	**Atalanti**	**0.91**	**211**	P	**Pb**	**17 54 20.5**	**-0.5**
ATAL				S	**Sb**	**17 54 33.9**	**+0.9**
LKR	**Lokris**	**0.96**	**211**	*e*PN	**Pg**	**17 54 21.3**	**-0.6**
LKR				*e*SN	**Sg**	**17 54 36.0**	**+1.6**
LKR	**Lokris**	**0.96**	**211**	P	**Pb**	**17 54 21.2**	**-0.5**
LKR				S	**Sg**	**17 54 35.7**	**+1.3**
LKR	**Lokris**	**0.96**	**211**	P	**Pb**	**17 54 21.2**	**-0.5**
LKR				S	**Sg**	**17 54 35.7**	**+1.3**
LKR				*e*Sn	**Sg**	**17 54 36.0**	**+1.6**
AXAR	**Agios Charalam**	**1.03**	**227**	P	**Pb**	**17 54 22.7**	**-0.4**
AXAR				S	**Sb**	**17 54 38.1**	**+1.7**
AXAR	**Agios Charalam**	**1.03**	**227**	P	**Pb**	**17 54 22.7**	**-0.4**
AXAR				S	**Sb**	**17 54 38.1**	**+1.7**
LIT	**Litokhoron**	**1.08**	**306**	*e*PN	**Pg**	**17 54 23.2**	**-1.0**
LIT	**Litokhoron**	**1.08**	**306**	P	**Pb**	**17 54 23.3**	**-0.5**
LIT				S	**Sb**	**17 54 39.6**	**+1.8**
LIT	**Litokhoron**	**1.08**	**306**	P	**Pb**	**17 54 23.3**	**-0.5**
LIT				S	**Sb**	**17 54 39.6**	**+1.8**
AGG	**Agios Georgios**	**1.10**	**246**	*e*PN	**Pg**	**17 54 23.8**	**-0.9**
AGG				*e*SN	**Sg**	**17 54 40.5**	**+1.4**
AGG	**Agios Georgios**	**1.10**	**246**	P	**Pb**	**17 54 23.7**	**-0.6**
AGG				S	**Sg**	**17 54 40.8**	**+1.7**
AGG	**Agios Georgios**	**1.10**	**246**	P	**Pb**	**17 54 23.7**	**-0.6**
AGG				*e*Sn	**Sg**	**17 54 40.5**	**+1.4**
AGG				S	**Sg**	**17 54 40.8**	**+1.7**
HORT	**Hortiatis**	**1.19**	**340**	P	**Pn**	**17 54 24.9**	**-0.8**
HORT				S	**Sb**	**17 54 41.4**	**+0.3**
HORT	**Hortiatis**	**1.19**	**340**	P	**Pn**	**17 54 24.9**	**-0.8**
HORT				S	**Sb**	**17 54 41.4**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.25**	**249**	P	**Pn**	**17 54 26.5**	**+0.1**
MAKR				S	**Sb**	**17 54 44.0**	**+1.3**
MAKR	**Makrakomi, Fth**	**1.25**	**249**	P	**Pn**	**17 54 26.5**	**+0.1**
MAKR				S	**Sb**	**17 54 44.0**	**+1.3**
THL	**Klokotos Trika**	**1.25**	**275**	*e*PN	**Pn**	**17 54 26.0**	**-0.5**
THL	**Klokotos Trika**	**1.25**	**275**	P	**Pn**	**17 54 25.8**	**-0.7**
THL	**Klokotos Trika**	**1.25**	**275**	P	**Pn**	**17 54 25.8**	**-0.7**
THE	**Thessaloniki**	**1.26**	**336**	P	**Pn**	**17 54 25.8**	**-0.8**
THE				S	**Sb**	**17 54 43.0**	**-0.1**
THE	**Thessaloniki**	**1.26**	**336**	P	**Pn**	**17 54 25.8**	**-0.8**
THE				S	**Sb**	**17 54 43.0**	**-0.1**
LIA	**Limnos Island**	**1.27**	**70**	*e*PN	**Pn**	**17 54 24.7**	**-2.0**
LIA				*e*SN	**Sn**	**17 54 41.0**	**-2.6**
LIA	**Limnos Island**	**1.27**	**70**	P	**Pn**	**17 54 24.8**	**-1.9**
LIA				S	**Sb**	**17 54 42.2**	**-1.1**
LIA	**Limnos Island**	**1.27**	**70**	P	**Pn**	**17 54 24.8**	**-1.9**
LIA				*e*Sn	**Sn**	**17 54 41.0**	**-2.6**
LIA				S	**Sb**	**17 54 42.2**	**-1.1**
VIL1	**Vilia, Western**	**1.33**	**190**	*e*PN	**Pn**	**17 54 26.6**	**-0.9**
VIL1				*e

CHOS	Chios island	2.18	119	P		Pn	17 54 38.3	-0.9
CHOS	Chios island	2.18	119	P		Pn	17 54 38.3	-0.9
NEST	Nestorio	2.19	296	P		Pn	17 54 40.0	+0.6
NEST	Nestorio	2.19	296	P		Pn	17 54 40.0	+0.6
ENEZ	Enez	2.31	56	*e*P		Pn	17 54 41.4	+0.4
ENEZ	Enez	2.31	56	*e*P		Pn	17 54 41.4	+0.4
VLX	Vlachokerasia	2.32	205	*e*PN		Pn	17 54 41.2	+0.1
VLX	Vlachokerasia	2.32	205	P		Pn	17 54 41.2	+0.1
VLX	Vlachokerasia	2.32	205	P		Pn	17 54 41.2	+0.1
ALN	Alexandroupoli	2.33	52	*e*PN		Pn	17 54 39.5	-1.8
ALN	Alexandroupoli	2.33	52	P		Pn	17 54 40.2	-1.1
ALN				S		Sn	17 55 09.9	+0.1
ALN	Alexandroupoli	2.33	52	*e*Pn		Pn	17 54 39.3	-2.0
ALN	Alexandroupoli	2.33	52	P		Pn	17 54 40.2	-1.1
ALN				S		Sn	17 55 09.9	+0.1
RZN	Rozhen	2.36	20	*e*P		Pn	17 54 41.1	-0.6
RZN	Rozhen	2.36	20	*e*P		Pn	17 54 41.1	-0.6
GELI	Tayfur-Gelibol	2.38	66	*e*P		Pn	17 54 41.8	-0.1
GELI	Tayfur-Gelibol	2.38	66	*e*P		Pn	17 54 41.8	-0.1
LKD2	Lefkada island	2.41	254	P		Pn	17 54 44.8	+2.4
LKD2	Lefkada island	2.41	254	P		Pn	17 54 44.8	+2.4
KKB	Krupnik	2.43	350	*e*P		Pn	17 54 41.8	-0.8
KKB	Krupnik	2.43	350	*e*P		Pn	17 54 41.8	-0.8
ERIK	Erikli-Kesan	2.52	61	*e*P		Pn	17 54 44.5	+0.7
ERIK	Erikli-Kesan	2.52	61	*e*P		Pn	17 54 44.5	+0.7
IGT	Igoumenitsa	2.55	272	P		Pn	17 54 46.7	+2.4
IGT	Igoumenitsa	2.55	272	P		Pn	17 54 46.7	+2.4
KDZ	Kurdzhali	2.56	31	*e*P		Pn	17 54 42.6	-1.9
KDZ	Kurdzhali	2.56	31	*e*P		Pn	17 54 42.6	-1.9
URLA	Izmir	2.57	115	*i* P		Pn	17 54 51.5	+6.9
LPK	Lapseki	2.57	69	*e*P		Pn	17 54 45.4	+0.8
LPK	Lapseki	2.57	69	*e*P		Pn	17 54 45.4	+0.8
KFL	Anninata	2.60	239	P		Pn	17 54 47.9	+2.8
KRUS	Krusevo	2.62	317	*i* Pn		Pn	17 54 45.3	0.0
KRUS	Krusevo	2.62	317	*i* Pn		Pn	17 54 45.3	0.0
ITM	Ithomi	2.65	211	P		Pn	17 54 46.4	+0.7
ITM	Ithomi	2.65	211	P		Pn	17 54 46.4	+0.7
VLS	Valsamata	2.70	242	*e*PN		Pn	17 54 47.5	+1.1
VLS	Valsamata	2.70	242	P		Pn	17 54 49.7	+3.3
VLS	Valsamata	2.70	242	*e*Pb		Pn	17 54 48.5	+2.1
PLD	Plovdiv	2.75	17	P		Pn	17 54 47.6	+0.5
PLD	Plovdiv	2.75	17	*e*P		Pn	17 54 47.5	+0.4
PLD	Plovdiv	2.75	17	*e*P		Pn	17 54 47.5	+0.4
APE	Apeiranthos	2.83	147	*e*P		Pn	17 54 46.9	-1.3
APE	Apeiranthos	2.83	147	⇓P		Pn	17 54 47.2	-1.0
APE	Apeiranthos	2.83	147	⇓*i*P		Pn	17 54 47.2	-1.0
APE	Apeiranthos	2.83	147	P		Pn	17 54 47.2	-1.0
BLCB	Balcova	2.88	111	*e*P		Pn	17 54 48.9	+0.1
BLCB	Balcova	2.88	111	*e*P		Pn	17 54 48.9	+0.1
DIM	Dimitrovgrad	2.95	29	*e*P		Pn	17 54 49.1	-0.7
DIM				*e*Pg		Pg	17 54 59.3	-0.7
DIM	Dimitrovgrad	2.95	29	*e*P		Pn	17 54 49.1	-0.7
KRBG	Karabiga-Canak	2.97	71	*e*P		Pn	17 54 51.1	+1.1
KRBG	Karabiga-Canak	2.97	71	*e*P		Pn	17 54 51.1	+1.1
KEK	Kerkira	2.97	276	*e*PN		Pn	17 54 51.3	+1.2
KEK	Kerkira	2.97	276	*e*Pn		Pn	17 54 51.3	+1.2
PYL	PYLOS	2.97	211	*e*PN		Pn	17 54 51.1	+1.0
PYL	PYLOS	2.97	211	*e*Pb		Pb	17 54 52.1	-4.0
RKY	Sarkoy-Tekirda	2.98	65	*e*P		Pn	17 54 51.5	+1.3
RKY	Sarkoy-Tekirda	2.98	65	*e*P		Pn	17 54 51.5	+1.3
SKO	Skopje	3.00	327	*i* Pn		Pn	17 54 51.8	+1.3
SKO	Skopje	3.00	327	*i* Pn		Pn	17 54 51.8	+1.3
IZM	Izmir	3.03	110	*e*P		Pn	17 54 51.1	+0.2
IZM	Izmir	3.03	110	*e*P		Pn	17 54 51.1	+0.2
MFT	Murefte	3.09	64	*e*P		Pn	17 54 52.9	+1.2
MFT	Murefte	3.09	64	*e*P		Pn	17 54 52.9	+1.1
BALY	Balya	3.09	84	*i* P		Pn	17 54 51.1	-0.7
BALY	Balya	3.09	84	*i* P		Pn	17 54 51.1	-0.7
VTS	Vitosha	3.13	354	P		Pn	17 54 53.0	+0.7
VTS	Vitosha	3.13	354	⇓P		Pn	17 54 53.0	+0.7
VTS	Vitosha	3.13	354	P		Pn	17 54 52.9	+0.6
VTS	Vitosha	3.13	354	⇓*i*P		Pn	17 54 53.0	+0.7
VTS	Vitosha	3.13	354	P		Pn	17 54 52.9	+0.6
GONE	Gonen-Balikesi	3.18	78	*e*P		Pn	17 54 54.3	+1.4
GONE	Gonen-Balikesi	3.18	78	*e*P		Pn	17 54 54.3	+1.3
KYTH	Kithira	3.22	189	P		Pn	17 54 53.4	-0.2
KYTH	Kithira	3.22	189	P		Pn	17 54 53.4	-0.2
BALB	Balikesir	3.29	86	*e*P		Pn	17 54 55.5	+1.0
BALB	Balikesir	3.29	86	*e*P		Pn	17 54 55.5	+1.0
AKS	Akhisar	3.31	99	*e*P		Pn	17 54 55.2	+0.5
AKS	Akhisar	3.31	99	*e*P		Pn	17 54 55.2	+0.5
AKHS	Akhisar	3.31	99	*i* P		Pn	17 54 54.4	-0.4
AKHS	Akhisar	3.31	99	*i* P		Pn	17 54 54.4	-0.3
GCAM	G?zelcaml?	3.33	121	*i* P		Pg	17 55 06.9	-0.4
EDRB	Edirne	3.35	44	*e*P		Pn	17 54 56.2	+0.9
EDRB	Edirne	3.35	44	*e*P		Pn	17 54 56.2	+0.9
TKR	Tekirdag	3.35	62	*e*P		Pn	17 54 56.4	+1.1
TKR	Tekirdag	3.35	62	*e*P		Pn	17 54 56.4	+1.1
THR3	Thira Island,	3.37	155	P		Pn	17 54 54.9	-0.6
THR3	Thira Island,	3.37	155	P		Pn	17 54 54.9	-0.6
EDC	Edincik	3.37	74	*e*P		Pn	17 54 56.7	+1.1
EDC	Edincik	3.37	74	*e*P		Pn	17 54 56.7	+1.1
TIR	Tirane	3.43	304	Pn		Pn	17 54 52.3	-4.1
TIR	Tirane	3.43	304	P		Pn	17 54 52.3	-4.1
TIR	Tirane	3.43	304	P		Pn	17 54 52.3	-4.1
CRLT	Corlu	3.55	61	*e*P		Pn	17 54 59.2	+1.2
CRLT	Corlu	3.55	61	*e*P		Pn	17 54 59.2	+1.2
BARS	Barje	3.61	338	⇑*i*Pn		Pn	17 54 58.8	-0.1
KCTX	Karacabey (Bur	3.72	76	*e*P		Pn	17 55 01.5	+1.1
KCTX	Karacabey (Bur	3.72	76	*e*P		Pn	17 55 01.5	+1.1
DURS	Dursunbey	3.75	87	*i* P		Pn	17 55 00.5	-0.3
DURS	Dursunbey	3.75	87	*i* P		Pn	17 55 00.5	-0.3
BODT	Bodrum	3.77	129	*e*P		Pn	17 54 59.7	-1.3
BODT	Bodrum	3.77	129	*e*P		Pn	17 54 59.7	-1.3
DST	Dursunbey	3.86	86	*e*P		Pn	17 55 03.8	+1.5
DST	Dursunbey	3.86	86	*e*P		Pn	17 55 03.8	+1.5
SLVT	Silivri	3.92	62	*e*P		Pn	17 55 04.4	+1.4
SLVT	Silivri	3.92	62	*e*P		Pn	17 55 04.4	+1.3
PVL	Pavlikeni	3.95	18	*e*P		Pn	17 55 01.6	-2.0
PVL	Pavlikeni	3.95	18	*e*P		Pn	17 55 01.6	-2.0
MANT	Manisa	3.96	103	*i* P		Pn	17 55 05.4	+1.6
MANT	Manisa	3.96	103	*i* P		Pn	17 55 05.4	+1.6
DEMI	Demirci	3.97	95	*i* P		Pn	17 55 04.4	+0.6
DEMI	Demirci	3.97	95	*i* P		Pn	17 55 04.4	+0.5
KULA	Kula-Manisa	4.04	102	*e*P		Pn	17 55 05.2	+0.5
KULA	Kula-Manisa	4.04	102	*e*P		Pn	17 55 05.2	+0.5
CTKS	Kestanelik-??a	4.12	63	*e*P		Pn	17 55 07.4	+1.5
CTKS	Kestanelik-??a	4.12	63	*e*P		Pn	17 55 07.4	+1.5
MDNY	Mudanya-Bursa	4.14	76	*e*P		Pn	17 55 07.8	+1.7
MDNY	Mudanya-Bursa	4.14	76	*e*P		Pn	17 55 07.8	+1.7
ARMT	Armutlu	4.16	73	*e*P		Pn	17 55 08.0	+1.5
ARMT	Armutlu	4.16	73	*e*P		Pn	17 55 08.0	+1.5
BGKT	Bogazkoy	4.29	65	*e*P		Pn	17 55 09.7	+1.6
BGKT	Bogazkoy	4.29	65	*e*P		Pn	17 55 09.7	+1.5
IDI	Anoyia	4.30	166	*e*Pn		Pn	17 55 07.8	-0.6
IDI	Anoyia	4.30	166	*e*Pn		Pn	17 55 07.8	-0.5
YER	Yerkesik	4.34	121	*e*P		Pn	17 55 09.4	+0.5
YER	Yerkesik	4.34	121	*e*P		Pn	17 55 09.4	+0.5
GEMT	Gemlik	4.38	76	*e*P		Pn	17 55 11.1	+1.7
GEMT	Gemlik	4.38	76	*e*P		Pn	17 55 11.1	+1.6
ISK	Istanbul-Kandi	4.45	67	*e*P		Pn	17 55 12.1	+1.7
ISK	Istanbul-Kandi	4.45	67	*e*P		Pn	17 55 12.1	+1.7
BOLS	Boljevac	4.53	344	⇑*i*Pn		Pn	17 55 10.0	-1.5
YLV	Yalova	4.54	74	*e*P		Pn	17 55 13.0	+1.3
YLV	Yalova	4.54	74	*e*P		Pn	17 55 13.0	+1.3
GDZ	Gediz	4.56	93	*i* P		Pn	17 55 11.5	-0.4
GDZ	Gediz	4.56	93	*i* P		Pn	17 55 11.5	-0.4
DNZL	Cakiroluk	4.60	111	*i* P		Pn	17 55 13.2	+0.6
DNZL	Cakiroluk	4.60	111	*i* P		Pn	17 55 13.2	+0.7
GVD	Gavdhos	4.64	175	Pn		Pn	17 55 10.7	-2.3
GVD	Gavdhos	4.64	175	Pn		Pn	17 55 10.7	-2.4
GRUS	Gruza	4.92	335	*e*Pn		Pn	17 55 17.9	+1.0
ALT	Altintas	5.05	93	*e*P		Pn	17 55 18.9	+0.2
ALT	Altintas	5.05	93	*e*P		Pn	17 55 18.9	+0.3
BORA	Eskisehir	5.28	83	*i* P		Pn	17 55 21.9	0.0
BORA	Eskisehir	5.28	83	*i* P		Pn	17 55 21.9	+0.1
TIP	Timpagrande 14nm,0.5s	5.34	269	*e*Pn		Pn	17 55 20.6	-1.9
TIP				*e*Sn		Sn	17 56 16.8	-7.0
TIP	Timpagrande 14nm,0.5s	5.34	269	*e*Pn		Pn	17 55 20.6	-2.0
DIVS	Divibare	5.36	331	⇑*i*Pn		Pn	17 55 21.2	-1.7
STON	Ston	5.62	309	*e*Pn		Pn	17 55 27.6	+1.2
STON				Sn		Sn	17 56 28.7	-2.0
STON	Ston	5.62	309	*e*Pn		Pn	17 55 27.6	+1.2
BOLV	Bolvadin	5.75	95	*i* P		Pn	17 55 30.4	+2.2
BOLV	Bolvadin	5.75	95	*i* P		Pn	17 55 30.4	+2.2
GZR	Gura Zlata	5.95	354	⇓P		Pn	17 55 31.9	+0.9
GZR	Gura Zlata	5.95	354	⇓*i*P		Pn	17 55 31.9	+0.9
GZR	Gura Zlata	5.95	354	P		Pn	17 55 31.9	+0.9
VOIR		6.05	10	⇓P		Pn	17 55 33.1	+0.7
VOIR		6.05	10	⇓*i*P		Pn	17 55 33.1	+0.7
VOIR		6.05	10	P		Pn	17 55 33.1	+0.7
TIRR	Tirgusor 51nm,1.2s	6.12	34	*e*Pn		Pn	17 55 32.8	-0.6
TIRR	Tirgusor comp=Z,51nm,1.2s	6.12	34	*e*P		Pn	17 55 32.8	-0.6
TIRR				pmax	pmax			
TIRR	Tirgusor comp=Z,51nm,1.2s	6.12	34	*e*P		Pn	17 55 32.8	-0.6
MLR	Muntele Rosu comp=Z,0.2nm,0.3s,baz=162,slow=6.4,SNR=6.4	6.25	15	Pn		Pn	17 55 35.4	+0.3
MLR				Sn		Sn	17 56 48.7	+2.3
MLR				Lg			17 57 27.3	
MLR	Muntele Rosu comp=Z,0.1nm,0.3s,baz=259,slow=23,SNR=2.1	6.25	15	Pn		Pn	17 55 35.4	+0.3
MLR				Sn		Sn	17 56 48.7	+2.3
MLR				Lg			17 57 27.3	
MLR	Muntele Rosu	6.25	15	P		Pn	17 55 35.4	+0.2
MLR							17 56 48.7	
MLR	Muntele Rosu	6.25	15	⇑*i*P		Pn	17 55 40.1	+4.9
MLR	Muntele Rosu	6.25	15	P		Pn	17 55 35.4	+0.2
MLR				S		Sn	17 56 48.7	+2.3
BZS	Buzias	6.32	347	⇓P		Pn	17 55 35.6	-0.4
BZS	Buzias	6.32	347	⇓*i*P		Pn	17 55 35.6	-0.4
BZS	Buzias	6.32	347	P		Pn	17 55 35.6	-0.4
DOPR	Dopca	6.62	11	⇑*i*P		Pn	17 55 41.3	+1.1
DOPR	Dopca	6.62	11	⇑*i*P		Pn	17 55 41.3	+1.1
PLOR	Plostina	6.75	18	⇓P		Pn	17 55 44.1	+2.1
PLOR	Plostina	6.75	18	⇓*i*P		Pn	17 55 44.1	+2.1
PLOR	Plostina	6.75	18	P		Pn	17 55 44.1	+2.1
VRI	Vrincioaia	6.78	19	⇓P		Pn	17 55 44.6	+2.1
VRI	Vrincioaia	6.78	19	⇓*i*P		Pn	17 55 44.5	+2.0
VRI	Vrincioaia	6.78	19	P		Pn	17 55 44.6	+2.1
TLCR		6.88	32	⇓P		Pn	17 55 44.0	+0.2
TLCR		6.88	32	⇓*i*P		Pn	17 55 44.0	+0.2
TLCR		6.88	32	P		Pn	17 55 44.0	+0.2
DAD	Ankara	7.05	84	*i* P		Pn	17 55 52.5	+6.4
DAD				*i* P			17 55 52.6	
TESR		7.37	16	⇓*i*P		Pn	17 55 51.9	+1.4
TESR		7.37	16	⇓*i*P		Pn	17 55 51.9	+1.4
PKSM	Moragy	7.67	333	⇑P		Pn	17 55 54.9	+0.4
PKSM	Moragy	7.67	333	⇑*i*P		Pn	17 55 54.9	+0.4
PKSM	Moragy	7.67	333	P		Pn	17 55 54.9	+0.4
BR131	Keskin Array S comp=Z,1.0nm,0.4s	7.73	85	*e*Pn		Pn	17 55 54.6	-1.0
BR131	Keskin Array S comp=Z,1.0nm,0.4s	7.73	85	*e*Pn		Pn	17 55 54.6	-0.9
BRTR	Keskin Array B comp=Z,0.3nm,0.3s,baz=256,slow=11,SNR=12	7.73	85	Pn		Pn	17 55 55.7	+0.2
BRTR	Keskin Array B	7.73	85	Pn		Pn	17 55 55.7	+0.2
BRTR	Keskin Array B	7.73	85	P		Pn	17 55 55.7	+0.2
BRTR	Keskin Array B	7.73	85	P		Pn	17 55 55.7	+0.2
BURAR	Bucovina Array	8.22	8	⇓P		Pn	17 56 02.6	+0.5
BURAR	Bucovina Array	8.22	8	⇓*i*P		Pn	17 56 02.6	+0.5
BURAR	Bucovina Array	8.22	8	⇓*i*P		Pn	17 56 02.6	+0.5
BUR08	Bucovina Ar. S	8.25	7	*e*Pn		Pn	17 56 02.4	-0.1
BUR08	Bucovina Ar. S	8.25	7	*e*Pn		Pn	17 56 02.4	-0.1
NVLJ	Novalja	8.27	311	⇓*i*Pn		Pn	17 56 01.6	-1.2
NVLJ				Sn		Sn	17 57 32.6	-3.3
PSZ	Piszkesteto	8.86	343	Pn		Pn	17 56 10.1	-0.9
PSZ	Piszkesteto	8.86	343	P		Pn	17 56 10.1	-0.9
PSZ	Piszkesteto	8.86	343	P		Pn	17 56 10.1	-0.9
UZH	Uzhgorod	9.21	354	*e*P		Pn	17 56 15.3	-0.3
UZH	Uzhgorod	9.21	354	*e*P		Pn	17 56 15.3	-0.3
VRAC	Vranov comp=Z,94nm,19.1s,baz=151,slow=38	11.04	335	LR		LR	18 01 01.1	
MMAI	Mount Meron Ar comp=Z,0.5nm,0.3s,baz=316,slow=12,SNR=5.7	11.48	121	Pn		Pn	17 56 46.0	-0.9
MMAI				LR		LR	18 01 31.1	
MMAI	Mount Meron Ar comp=Z,30nm,19.7s,baz=280,slow=39	11.48	121	Pn		Pn	17 56 46.0	-0.9
MMAI	Mount Meron Ar	11.48	121	Pn		Pn	17 56 46.0	-0.9
GERES	GERESS Array B comp=Z,0.1nm,0.3s,baz=156,slow=10.0,SNR=3.8	11.76	326	Pn		Pn	17 56 51.3	+0.7
GERES	GERESS Array B	11.76	326	Pn		Pn	17 56 51.3	+0.7
GERES	GERESS Array B	11.76	326	P		Pn	17 56 51.3	+0.7
GERES	GERESS Array B	11.76	326	P		Pn	17 56 51.3	+0.7
DAVOX	Davos/Dischmat comp=Z,132nm,21.0s,baz=278,slow=39	12.41	311	LR		LR	18 02 08.7	
EIL	Elat comp=Z,0.1nm,0.3s,baz=247,slow=18,SNR=2.6	13.50	133	Pn		Pn	17 57 13.2	-1.4
EIL	Elat	13.50	133	Pn		Pn	17 57 13.1	-1.4
ESDC	Sonseca Array comp=Z,0.2nm,0.3s,mb3.0,baz=206,slow=14,SNR=2.7	21.24	279	P		P	17 58 46.9	-2.0
ESDC	Sonseca Array	21.24	279	P		P	17 58 46.9	-2.0
ESDC	Sonseca Array	21.24	279	P		P	17 58 46.9	-2.0
HFS	Hagfors comp=Z,2.0nm,0.8s,mb3.6,baz=150,slow=10,SNR=4.1	21.61	346	P		P	17 58 52.7	0.0
HFS	Hagfors	21.61	346	P		P	17 58 52.6	0.0
HFS	Hagfors	21.61	346	P		P	17 58 52.7	+0.1
HFS				pmax	pmax			
HFS	Hagfors comp=Z,2.0nm,0.8s	21.61	346	P		P	17 58 52.7	+0.1
HFS				pmax	pmax			
HFS	Hagfors comp=Z,2.0nm,0.8s,mb3.6	21.61	346	P		P	17 58 52.7	+0.1
FINES	FINESS Array B comp=Z,5.4nm,1.0s,mb4.0,baz=202,slow=10,SNR=3.3	22.05	3	P		P	17 58 56.2	-1.2
FINES				LR		LR	18 08 28.9	
FINES	FINESS Array B comp=Z,83nm,18.7s,MS3.2,baz=206,slow=39	22.05	3	P		P	17 58 56.2	-1.2
FINES	FINESS Array B	22.05	3	P		P	17 58 56.2	-1.2
FINES				pmax	pmax			
FINES	FINESS Array B comp=Z,5.0nm,1.0s	22.05	3	P		P	17 58 56.2	-1.2
FINES				MLR	MLR			
FINES	FINESS Array B comp=Z,83nm,18.7s	22.05	3	P		P	17 58 56.2	-1.2
NB2	NORSAR Subarra comp=Z,3.3nm,0.9s,mb3.8,baz=161,slow=11	22.92	344	P		P	17 59 08.0	+1.3
NOA	NORSAR Array B comp=Z,0.7nm,0.6s,mb3.3,baz=147,slow=9.1,SNR=2.9	22.92	344	P		P	17 59 06.9	+0.2
NOA				LR	LR		18 08 56.5	
NOA	NORSAR Array B comp=Z,40nm,19.3s,MS2.9,baz=130,slow=39	22.92	344	P		P	17 59 06.9	+0.2
NOA	NORSAR Array B	22.92	344	P		P	17 59 06.9	+0.2
NOA				pmax	pmax			
NOA	NORSAR Array B comp=Z,1.0nm,0.6s	22.92	344	P		P	17 59 06.9	+0.2
NOA				MLR	MLR			
NOA	NORSAR Array B comp=Z,40nm,19.3s	22.92	344	P		P	17 59 06.9	+0.2
ARCES	ARCESS Array B comp=Z,68nm,18.4s,MS3.3,baz=205,slow=39	30.14	1	LR		LR	18 13 47.9	
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.4s,mb3.8,baz=35,slow=8.5,SNR=8.3	32.59	222	P		P	18 00 33.6	-0.9
TORD	Torodi Ar. Bea	32.59	222	P		P	18 00 33.6	-0.9
TORD	Torodi Ar. Bea	32.59	222	P		P	18 00 33.6	-0.9
BRVK	Borovoye comp=Z,3.0nm,1.0s,mb4.2	34.36	51	*e*P		P	18 00 49.9	+0.4
BRVK	Borovoye comp=Z,3.0nm,1.0s,mb4.2	34.36	51	*e*P		P	18 00 49.9	+0.3
BRVK				pmax	pmax			
BRVK	Borovoye comp=Z,3.0nm,1.0s,mb4.2	34.36	51	*e*P		P	18 00 49.9	+0.3
BRVK	Borovoye comp=Z,3.0nm,1.0s,mb4.2	34.36	51	*e*P		P	18 00 49.9	+0.3
EKS2	Erkin-Say comp=Z,1.9nm,0.9s,mb3.9	37.50	68	P		P	18 01 16.6	0.0
EKS2	Erkin-Say comp=Z,2.0nm,0.9s,mb4.0	37.50	68	P		P	18 01 16.6	0.0
EKS2				pmax	pmax			
EKS2	Erkin-Say comp=Z,1.9nm,0.9s,mb3.9	37.50	68	P		P	18 01 16.6	0.0
KURK	Kurchatov	39.55	55	P		P	18 01 26.8	-6.9
KURK	Kurchatov	39.55	55	P		P	18 01 26.8	-6.9
DBIC	Dimbokro comp=Z,3.5nm,1.0s,mb4.0,baz=24,slow=1.2,SNR=3.7	41.51	226	P		P	18 01 46.9	-3.4
DBIC	Dimbokro comp=Z,9.6nm,1.2s,mb4.3	41.51	226	*e*P		P	18 01 46.5	-3.8
DBIC	Dimbokro comp=Z,10.0nm,1.2s	41.51	226	*e*P		P	18 01 46.5	-3.8
DBIC				pmax	pmax			
MK31	Makanchi Array	42.55	60	P		P	18 01 57.5	-1.0
MK31	Makanchi Array	42.55	60	P		P	18 01 57.5	-1.0
MK31	Makanchi Array	42.55	60	P		P	18 01 57.5	-1.0
MKAR	Makanchi Array comp=Z,0.9nm,0.5s,mb3.8,baz=275,slow=7.3,SNR=18	42.55	60	P		P	18 01 59.0	+0.5
MKAR	Makanchi Array	42.55	60	P		P	18 01 59.0	+0.5
MKAR	Makanchi Array	42.55	60	P		P	18 01 59.0	+0.5
MKAR				pmax	pmax			
MKAR	Makanchi Array comp=Z,1.0nm,0.5s	42.55	60	P		P	18 01 59.0	+0.5
MKAR	Makanchi Array comp=Z,1.0nm,0.5s,mb3.8	42.55	60	P		P	18 01 59.0	+0.5
ZALV	Zalesovo Beam comp=Z,1.1nm,0.6s,mb3.8,baz=279,slow=7.9,SNR=6.1	43.01	49	P		P	18 02 02.4	+0.3
ZALV	Zalesovo Beam	43.01	49	P		P	18 02 02.4	+0.3
ZALV	Zalesovo Beam	43.01	49	P		P	18 02 02.4	+0.3
ZALV				pmax	pmax			
ZALV	Zalesovo Beam comp=Z,1.0nm,0.6s,mb3.7	43.01	49	P		P	18 02 02.4	+0.3
ZALV	Zalesovo Beam comp=Z,1.0nm,0.6s,mb3.7	43.01	49	P		P	18 02 02.4	+0.3
SONM	Songino Array comp=Z,0.5nm,0.8s,mb3.6,baz=297,slow=9.5,SNR=3.6	57.76	52	P		P	18 03 52.5	-1.2
SONM	Songino Array	57.76	52	P		P	18 03 52.5	-1.2
SONM	Songino Array	57.76	52	P		P	18 03 52.5	-1.2
SONM				pmax	pmax			
SONM	Songino Array comp=Z,1.0nm,0.8s	57.76	52	P		P	18 03 52.5	-1.2
SONM	Songino Array comp=Z,1.0nm,0.8s,mb3.9	57.76	52	P		P	18 03 52.5	-1.2
ULN	Ulaanbaatar comp=Z,2.4nm,1.1s,mb4.1	58.14	52	*e*P		P	18 03 56.8	+0.3
ULN	Ulaanbaatar	58.14	52	*e*P		P	18 03 56.8	+0.4
ULN				pmax	pmax			
ULN	Ulaanbaatar comp=Z,2.0nm,1.1s,mb4.1	58.14	52	*e*P		P	18 03 56.8	+0.4
ULN	Ulaanbaatar comp=Z,2.4nm,1.1s,mb4.1	58.14	52	*e*P		P	18 03 56.8	+0.4
SCHQ	Schefferville comp=Z,5.0nm,1.0s,mb4.5,baz=45,slow=16,SNR=3.0	59.15	318	P		P	18 04 02.1	-1.2
SCHQ	Schefferville	59.15	318	P		P	18 04 02.1	-1.2
SCHQ	Schefferville	59.15	318	P		P	18 04 02.2	-1.1
HHC	Hu-ho-hao-te	64.30	57	*e*P		P	18 04 39.0	+0.7
HHC				sP	sP		18 04 45.5	+1.0
HHC				PP	PP		18 07 01.1	+1.7
HHC				ScP			18 09 13.7	
HHC				PcS			18 09 16.3	
HHC				S	S		18 13 14.2	-1.5
HHC				ScS	ScS		18 14 28.1	-3.9
HHC				pmax	pmax			
HHC	comp=Z,11nm,0.6s			pmax	pmax			
HHC	comp=Z,61nm,5.8s			LR	LR			
HHC	comp=N,100nm,15.0s			LR	LR			
HHC	comp=E,200nm,15.7s			LR	LR			
HHC	comp=Z,88n

CBIJ	**Chichi jima**	**5.59**	**173**	Pn	**Pn**	**18 39 12.8**	**+1.0**
	10nm,0.3s,baz=298,slow=16,SNR=9.8						
CBIJ				Sn	**Sn**	**18 40 12.0**	**-2.8**
	17nm,0.3s,baz=279,slow=22,SNR=6.6						
CBIJ	**Chichi jima**	**5.59**	**173**	Pn	**Pn**	**18 39 12.8**	**+1.0**
CBIJ				Sn	**Sn**	**18 40 12.0**	**-2.8**
INCN	**Inchon**	**13.06**	**296**	Pn	**Pn**	**18 40 46.9**	**-7.1**
YSS	**Yuzh-Sakhalins**	**14.30**	**4**	*e*Pn	Px	18 41 20.1	
SONM	**Songino Array**	**30.45**	**310**	P	**P**	**18 44 01.0**	**+0.9**
	0.3nm,0.5s,mb3.3,baz=124,slow=8.2,SNR=4.6						
SONM	**Songino Array**	**30.45**	**310**	P	**P**	**18 44 01.0**	**+0.9**
MKAR	**Makanchi Array**	**46.58**	**306**	P	**P**	**18 46 15.1**	**-0.3**
	0.7nm,0.6s,mb3.8,baz=82,slow=8.7,SNR=6.3						
MKAR	**Makanchi Array**	**46.58**	**306**	P	**P**	**18 46 15.1**	**-0.3**
MCK	**McKinley**	**52.27**	**32**	P	pP	18 47 10.1	+0.9
	1.8nm,0.9s						
WRAB	**Tennant Creek**	**52.75**	**188**	*e*P	**P**	**18 47 02.2**	**-0.3**
	1.8nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**52.76**	**188**	P	**P**	**18 47 02.6**	**+0.1**
	2.0nm,0.5s,mb4.3,baz=5.4,slow=7.7,SNR=67						
WRA	**Warramunga Arr**	**52.76**	**188**	P	**P**	**18 47 02.6**	**+0.1**
ASAR	**Alice Springs**	**56.48**	**188**	P	**P**	**18 47 29.9**	**+0.3**
	0.3nm,0.7s,mb3.4,baz=359,slow=6.4,SNR=6.2						
ASAR	**Alice Springs**	**56.48**	**188**	P	**P**	**18 47 29.9**	**+0.3**
MBWA	**Marble Bar**	**57.42**	**204**	P	**P**	**18 47 35.9**	**-0.3**
RES	**Resolute Bay**	**66.81**	**14**	*e*P	pP	18 48 46.4	-3.2
	2.4nm,1.0s						

IDC 12 18:51:51.7±7.3, 16°.89S×71°.63W, h139km±41km, mb3.3/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.4/4, Error ellipse: s-maj=123.7km s-min=26.7km az=20.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.41**	**80**	P	Pn	18 52 43.8	-0.2
	8.4nm,0.3s,baz=276,slow=9.1,SNR=177						
LPAZ				S	Sn	18 53 26.1	+1.8
	1.6nm,0.3s,baz=3.5,slow=25,SNR=5.6						
TXAR	**Lajitas Array**	**55.39**	**326**	P	P	19 01 11.8	+0.3
	0.2nm,0.7s,baz=142,slow=9.0,SNR=2.3						
DBIC	**Dimbokro**	**70.02**	**76**	P	P	19 02 49.0	+0.2
	2.0nm,0.7s,baz=248,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**78.33**	**72**	P	P	19 03 36.9	-0.1
	0.6nm,0.5s,baz=261,slow=4.4,SNR=12						

IDC 12 19:00:17.4±15.0, 2°.02N×122°.56E, h411km±204km, mb3.0/6, mb1 3.1/6, mb1mx2.9/19, mbtmp3.0/6, Error ellipse: s-maj=81.3km s-min=30.4km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.22**	**171**	P	P	19 04 23.5	+0.2
	0.7nm,0.3s,baz=357,slow=8.9,SNR=8.0						
WRA	**Warramunga Arr**	**24.70**	**153**	P	P	19 05 03.1	-0.5
	0.6nm,0.4s,baz=336,slow=9.6,SNR=16						
ASAR	**Alice Springs**	**27.82**	**157**	P	P	19 05 31.4	+0.1
	0.4nm,0.6s,baz=333,slow=7.9,SNR=12						
STKA	**Stephens Creek**	**38.24**	**153**	P	P	19 07 01.0	+0.7
	4.1nm,0.8s,baz=321,slow=5.6,SNR=4.1						
SONM	**Songino Array**	**47.73**	**345**	P	P	19 08 15.7	+0.7
	0.8nm,0.6s,baz=159,slow=8.2,SNR=8.6						
MKAR	**Makanchi Array**	**56.68**	**328**	P	P	19 09 19.5	-0.3
	0.9nm,0.4s,baz=124,slow=8.5,SNR=26						

*IDC **12** 19:02:18.8±2.8, 14°.26S×177°.55W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/16, mbtmp3.8/6, MS3.7/6, Ms1 3.7/6, ms1mx3.4/19, Error ellipse: s-maj=146.8km s-min=25.0km az=147.0*
*ISCJB **12** 19:02:21.3±0.8, 14°.7S±0°.2×177°.4W±0°.2, h33km, mb4.0/8, MS3.7/6, Error ellipse: s-maj=36.7km s-min=18.1km az=142.9*
*NEIC **12** 19:02:22.9±0.7, 14°.77S×177°.35W, h35km, mb4.8/3, Error ellipse: s-maj=35.6km s-min=17.3km az=143.0*

ISC 12 19:02:23.3±0.8, 14°.7S±0°.2×177°.4W±0°.2, h35km, n24, σ0.91/16, mb4.0/8, MS3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**22.77**	**281**	LR	LR	19 15 18.3	
	comp=Z,178nm,18.7s,MS3.5,baz=165,slow=35						
URZ	**Urewera**	**23.94**	**191**	LR	LR	19 16 18.1	
	comp=Z,126nm,20.1s,MS3.4,baz=29,slow=34						
STKA	**Stephens Creek**	**41.08**	**238**	LR	LR	19 24 40.2	
	comp=Z,78nm,20.1s,MS3.6,baz=26,slow=33						
WRA	**Warramunga Arr**	**46.25**	**256**	P	**P**	**19 10 46.1**	**+0.5**
	1.4nm,1.0s,mb3.9,baz=89,slow=8.2,SNR=6.0						
WRA	**Warramunga Arr**	**46.25**	**256**	P	**P**	**19 10 46.1**	**+0.5**
ASAR	**Alice Springs**	**46.67**	**251**	P	**P**	**19 10 50.0**	**+1.2**
	2.4nm,0.6s,mb4.3,baz=84,slow=8.2,SNR=35						
ASAR	**Alice Springs**	**46.67**	**251**	P	**P**	**19 10 50.0**	**+1.2**
MJAR	**Matsushiro Arr**	**65.99**	**322**	LR	LR	19 38 33.8	
	comp=Z,61nm,18.2s,MS3.9,baz=35,slow=33						
PETK	**Petropavlovsk-**	**70.89**	**344**	LR	LR	19 42 59.6	
	comp=Z,58nm,18.2s,MS3.9,baz=251,slow=35						
KSM	**Kuching**	**73.29**	**276**	P	**P**	**19 13 51.3**	**-0.5**
QSPA	**South Pole Qui**	**75.31**	**180**	*e*P	**P**	**19 14 01.7**	**-0.7**
	5.3nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**76.46**	**44**	P	**P**	**19 14 09.4**	**-0.1**
	0.1nm,0.3s,mb3.2,baz=170,slow=9.9,SNR=4.2						
NVAR	**Mina Array Bea**	**76.46**	**44**	P	**P**	**19 14 09.4**	**-0.1**
MCK	**McKinley**	**81.24**	**12**	P	**P**	**19 14 35.0**	**-0.2**
	11nm,1.3s,mb4.6						
ILAR	**Eielson Array**	**82.59**	**13**	P	**P**	**19 14 41.8**	**-0.5**
	0.9nm,0.8s,mb3.8,baz=224,slow=5.1,SNR=6.9						
ILAR	**Eielson Array**	**82.59**	**13**	P	**P**	**19 14 41.8**	**-0.5**
LRM	**Limekiln Ridge**	**83.91**	**40**	P	**P**	**19 14 51.8**	**+2.3**
	52nm,0.8s						
MAW	**Mawson**	**87.17**	**199**	LR	LR	19 50 04.6	
	comp=Z,62nm,18.1s,MS4.1,baz=300,slow=33						
CMAR	**Chiang Mai Arr**	**88.76**	**289**	P	**P**	**19 15 12.8**	**-1.2**
	0.2nm,0.6s,mb3.7,baz=117,slow=3.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**88.76**	**289**	P	**P**	**19 15 12.8**	**-1.2**
YKA	**Yellowknife Ar**	**91.05**	**24**	P	**P**	**19 15 23.5**	**-0.1**
	0.3nm,0.8s,mb3.7,baz=241,slow=4.7,SNR=4.3						
YKA	**Yellowknife Ar**	**91.05**	**24**	P	**P**	**19 15 23.5**	**-0.2**
GERES	**GERESS Array B**	**144.78**	**347**	PKP	PKPdf	19 21 55.1	-1.3
	0.3nm,0.6s,baz=35,slow=5,SNR=4.5						
GERES	**GERESS Array B**	**144.78**	**347**	PKP	PKPdf	19 21 55.1	-1.3

IDC 12 19:04:40.4±1.9, 0°.70N×125°.17E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.3/3, Error ellipse: s-maj=194.6km s-min=25.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.40**	**157**	P	P	19 09 39.7	-0.8
	0.3nm,0.4s,baz=335,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**25.66**	**161**	P	P	19 10 12.8	+0.8
	0.3nm,0.7s,baz=330,slow=9.9,SNR=4.9						
MKAR	**Makanchi Array**	**59.19**	**327**	P	P	19 14 43.2	+0.1
	0.2nm,0.6s,baz=134,slow=8.9,SNR=2.6						

WEL 12 19:22:31.7±0.3, 36°.78S×177°.29E, h181km±3km, ML3.5/8, Error ellipse: s-maj=4.4km s-min=3.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.13**	**134**	PN	Pn	19 23 00.4	0.0
MXZ				SN	Sn	19 23 21.9	-0.7
URZ	**Urewera**	**1.48**	**185**	PN	Pn	19 23 03.9	+0.5
URZ				SN	Sn	19 23 28.4	+0.1
PUZ	**Puketiti**	**1.50**	**149**	PN	Pn	19 23 03.6	0.0
PUZ				SN	Sn	19 23 28.1	-0.4
MWZ	**Matawai**	**1.56**	**173**	PN	Pn	19 23 04.6	+0.3
MWZ				SN	Sn	19 23 29.4	-0.1
MHGZ	**Mahia Peninsul**	**2.42**	**169**	PN	Pn	19 23 13.2	-0.2
BKZ	**Black Stump Fm**	**2.46**	**195**	*e*PN	Pn	19 23 13.8	-0.1
BHHZ	**Black Hill Sta**	**2.87**	**199**	PN	Pn	19 23 17.8	-0.9
KAHZ	**Kahuranaki**	**3.03**	**186**	PN	Pn	19 23 20.0	-0.6
PXZ	**Pawanui**	**3.26**	**186**	PN	Pn	19 23 22.1	-1.4
TSZ	**Takapari Road**	**3.44**	**197**	PN	Pn	19 23 24.1	-1.5
PRHZ	**Porangahau**	**3.52**	**188**	PN	Pn	19 23 25.4	-1.3
MRZ	**Mangatainoka R**	**4.10**	**199**	PN	Pn	19 23 31.6	-2.4
OGWZ	**Otaki Gorge**	**4.36**	**202**	PN	Pn	19 23 35.0	-2.3

*NEIC **12** 19:27:06.5, 15°.87N×97°.14W, h16km, MD3.7(MEX), After MEX.*

MEX 12 19:27:06.5±0.6, 15°.87N×97°.14W, h16km±7km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.99**	**96**	*i* P	Pb	19 27 22.3	-3.1
HUIG				*i* S	Sb	19 27 33.8	-4.4
HUIG	**Huatulco**	**0.99**	**96**	*i* P	Pb	19 27 22.3	-3.1
HUIG				*i* S	Sb	19 27 33.8	-4.4
PNIG	**Pinotepa**	**1.08**	**299**	*e*P	Pb	19 27 23.5	-3.4
PNIG				*i* S	Sb	19 27 36.0	-4.8
PNIG	**Pinotepa**	**1.08**	**299**	*e*P	Pb	19 27 23.5	-3.4
PNIG				*i* S	Sb	19 27 36.0	-4.8
VHO	**Vista Hermosa**	**1.26**	**18**	*e*P	Pn	19 27 25.7	-3.7
VHO				*i* S	Sb	19 27 41.3	-4.5
VHO	**Vista Hermosa**	**1.26**	**18**	*e*P	Pn	19 27 25.7	-3.7
VHO				*i* S	Sb	19 27 41.3	-4.5
OXX	**Oaxaca**	**1.27**	**18**	*i* P	Pn	19 27 25.2	-4.4
OXX				*i* S	Sb	19 27 41.4	-4.8
OXX	**Oaxaca**	**1.27**	**18**	*i* P	Pn	19 27 25.2	-4.4
OXX				*i* S	Sb	19 27 41.4	-4.8
UTMO	**Huajuapan**	**2.05**	**342**	*i* P	Pn	19 27 38.3	-2.1
UTMO				*i* S	Sn	19 28 01.6	-4.0
UTMO	**Huajuapan**	**2.05**	**342**	*i* P	Pn	19 27 38.3	-2.1
UTMO				*i* S	Sn	19 28 01.6	-4.0
CMIG	**Matias Romero**	**2.48**	**60**	*e*P	Pn	19 27 42.4	-3.8
CMIG				*i* S	Sn	19 28 11.2	-5.0
CMIG	**Matias Romero**	**2.48**	**60**	*e*P	Pn	19 27 42.4	-3.8
CMIG				*i* S	Sn	19 28 11.2	-5.0
TPIG	**Tehuac#an**	**2.54**	**355**	*i* S	Sn	19 28 13.1	-4.7
TPIG	**Tehuac#an**	**2.54**	**355**	*i* S	Sn	19 28 13.1	-4.7
PCIG		**3.77**	**92**	*i* P	Pn	19 28 02.3	-1.7
PCIG				*i* S	Sn	19 28 44.1	-4.1
PCIG		**3.77**	**92**	*i* P	Pn	19 28 02.3	-1.7
PCIG				*i* S	Sn	19 28 44.1	-4.1

IDC 12 19:39:24.1±1.8, 49°.53S×106°.79E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/11, mbtmp3.7/4, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=45.3km s-min=42.2km az=163.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.33**	**29**	LR	LR	19 49 05.2	
	comp=Z,37nm,19.9s,baz=141,slow=32						
STKA	**Stephens Creek**	**31.37**	**69**	P	P	19 45 46.2	-0.2
	2.3nm,0.9s,baz=211,slow=18,SNR=2.9						
ASAR	**Alice Springs**	**33.43**	**49**	P	P	19 46 05.1	+0.6
	0.7nm,0.8s,baz=208,slow=8.0,SNR=9.6						
FITZ	**Fitzroy Crossi**	**34.84**	**33**	LR	LR	19 59 09.9	
	comp=Z,18nm,21.3s,baz=174,slow=34						
WRA	**Warramunga Arr**	**36.81**	**47**	P	P	19 46 33.2	-0.4
	0.6nm,0.7s,baz=205,slow=10.0,SNR=3.9						
QSPA	**South Pole Qui**	**40.60**	**180**	LR	LR	20 02 41.1	
	comp=Z,66nm,19.1s,baz=135,slow=34						
CMAR	**Chiang Mai Arr**	**68.04**	**352**	P	P	19 50 25.2	0.0
	0.8nm,0.8s,baz=196,slow=5.3,SNR=8.9						
ATD	**Arta Tunnel**	**82.54**	**297**	LR	LR	20 22 25.4	
	comp=Z,24nm,18.2s,baz=85,slow=31						
RPN	**Rapa Nui**	**97.18**	**148**	LR	LR	20 27 33.5	
	comp=Z,135nm,21.8s,baz=167,slow=30						
NVAR	**Mina Array Bea**	**146.19**	**92**	PKPbc	PKPbc	19 59 06.3	+0.6
	0.5nm,0.5s,baz=224,slow=5.0,SNR=3.2						
TXAR	**Lajitas Array**	**149.34**	**120**	PKPbc	PKPbc	19 59 13.6	-1.1
	0.1nm,0.6s,baz=192,slow=6.5,SNR=2.6						

IDC 12 20:17:04.1±3.0, 2°.50S×140°.60E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/13, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=96.6km s-min=25.3km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.39**	**199**	P	Pn	20 21 20.6	0.0
	0.2nm,0.3s,baz=19,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.02**	**197**	P	P	20 22 00.3	+0.1
	1.1nm,0.7s,baz=30,slow=9.5,SNR=13						
CMAR	**Chiang Mai Arr**	**45.98**	**299**	P	P	20 25 28.8	-0.7
	0.3nm,0.6s,baz=119,slow=5.2,SNR=4.4						
MKAR	**Makanchi Array**	**70.78**	**322**	P	P	20 28 23.1	+0.8
	1.0nm,0.7s,baz=100,slow=7.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**72.71**	**329**	P	P	20 28 33.6	-0.2
	0.2nm,0.3s,baz=111,slow=6.5,SNR=3.8						

*GEN **12** 20:19:42.3, 46°.08N×6°.35E, h5km, ML1.5*
*ZUR **12** 20:19:42.7, 46°.09N×6°.41E, h14km±6km, ML1.8/6*
*LDG **12** 20:19:42.9±0.0, 46°.08N×6°.41E, h2km, Md2.3/3, Ml2.3/23, Error ellipse: s-maj=0.6km s-min=0.5km az=84.0*
*ISCJB **12** 20:19:42.6±0.3, 46°.08N±0°.02×6°.40E±0°.03, h24km±3km, Error ellipse: s-maj=4.1km s-min=2.6km az=164.4*
*CSEM **12** 20:19:42.3±0.1, 46°.08N×6°.39E, h15km, ML2.2/25, Error ellipse: s-maj=1.4km s-min=1.1km az=75.0*
*STR **12** 20:19:43.1±0.2, 46°.05N×6°.38E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 12 20:19:42.4±0.3, 46°.08N±0°.01×6°.39E±0°.02, h16km±2km, n77, σ0.54/142, 4C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG01	**Vacheresse**	**0.33**	**39**	Pg	**Pg**	**20 19 49.2**	**0.0**
OG01				Sg	**Sg**	**20 19 55.5**	**+1.7**
OG01	**Vacheresse**	**0.33**	**39**	Pg	**Pg**	**20 19 49.2**	**0.0**
OG01				Sg	**Sg**	**20 19 55.5**	**+1.7**
SALAN	**Lac Salanfe**	**0.41**	**80**	⇑*i*Pg	**Pg**	**20 19 50.8**	**0.0**
	22nm,0.3s						
SALAN				*e*Sg	**Sg**	**20 19 56.1**	**-0.3**
	22nm,0.3s						
SALAN	**Lac Salanfe**	**0.41**	**80**	⇑*i*Pg	**Pg**	**20 19 50.8**	**0.0**
	22nm,0.3s						
SALAN				*e*Sg	**Sg**	**20 19 56.1**	**-0.3**
	22nm,0.3s						
RSL	**Roselend**	**0.42**	**156**	Pg	**Pg**	**20 19 51.1**	**+0.2**
RSL				Sg	**Sg**	**20 19 56.6**	**-0.1**
RSL	**Roselend**	**0.42**	**156**	Pg	**Pg**	**20 19 51.1**	**+0.2**
RSL				Sg	**Sg**	**20 19 56.6**	**-0.1**
GIMEL	**St. Georges /**	**0.47**	**350**	*e*Pg	**Pg**	**20 19 51.7**	**0.0**
	187nm,0.4s						
GIMEL	**St. Georges /**	**0.47**	**350**	*e*Pg	**Pg**	**20 19 51.7**	**0.0**
	187nm,0.4s						
AIGLE	**Aigle**	**0.47**	**56**	⇑*i*Pg	**Pg**	**20 19 52.0**	**+0.1**
	80nm,0.7s						
AIGLE	**Aigle**	**0.47**	**56**	⇑*i*Pg	**Pg**	**20 19 52.0**	**+0.1**
	80nm,0.7s						
OG35	**Corcelles**	**0.57**	**267**	Pg	**Pg**	**20 19 54.0**	**+0.4**
OG35				Sg	**Sg**	**20 20 01.8**	**+0.7**
CABF	**La Chapelle**	**0.57**	**339**	*e*Pg	**Pg**	**20 19 54.1**	**+0.4**
CABF				*e*Sg	**Sg**	**20 20 01.8**	**+0.5**
	7.2nm,0.1s						
CABF	**La Chapelle**	**0.57**	**339**	*e*Pg	**Pg**	**20 19 54.1**	**+0.4**
CABF				*e*Sg	**Sg**	**20 20 01.8**	**+0.5**
	3.6nm,0.1s						
LPL	**La Plagne**	**0.61**	**156**	*e*Pg	**Pg**	**20 19 54.8**	**+0.4**
LPL				*e*Sg	**Sg**	**20 20 01.9**	**-0.6**
	10nm,0.3s						
LPL	**La Plagne**	**0.61**	**156**	*e*Pg	**Pg**	**20 19 54.8**	**+0.4**
LPL				*e*Sg	**Sg**	**20 20 01.9**	**-0.6**
	5.2nm,0.3s						
LPG	**La Plagne**	**0.63**	**156**	*e*Pg	**Pg**	**20 19 55.3**	**+0.5**
LPG				*e*Sg	**Sg**	**20 20 03.1**	**-0.1**
	10.0nm,0.2s						
LPG	**La Plagne**	**0.63**	**156**	*e*Pg	**Pg**	**20 19 55.3**	**+0.5**
LPG				*e*Sg	**Sg**	**20 20 03.1**	**-0.1**
	5.0nm,0.2s						
SENIN	**Lac Senin/Sane**	**0.70**	**65**	*e*Pg	**Pg**	**20 19 56.0**	**0.0**
	45nm,0.6s						
SENIN	**Lac Senin/Sane**	**0.70**	**65**	*e*Pg	**Pg**	**20 19 56.0**	**0.0**
	45nm,0.6s						
TORNY	**Torny/Romont**	**0.80**	**29**	*e*Pg	**Pg**	**20 19 58.2**	**+0.2**
	67nm,0.3s						
TORNY	**Torny/Romont**	**0.80**	**29**	*e*Pg	**Pg**	**20 19 58.2**	**+0.2**
	67nm,0.3s						
BRANT	**Les Verrieres**	**0.86**	**4**	*e*Pg	**Pg**	**20 19 59.1**	**-0.1**
	70nm,0.5s						
BRANT	**Les Verrieres**	**0.86**	**4**	*e*Pg	**Pg**	**20 19 59.1**	**-0.1**
	70nm,0.5s						
TRAV	**Traversella**	**1.11**	**120**	P	**Pb**	**20 20 02.9**	**-0.3**
TRAV				S	**Sb**	**20 20 16.9**	**-0.5**
RSP	**Reno Superiore**	**1.12**	**146**	P	**Pb**	**20 20 03.3**	**0.0**
RSP				S	**Sb**	**20 20 17.4**	**-0.2**
ORIF	**Oris-en-Rattie**	**1.21**	**197**	*e*Pg	**Pg**	**20 20 05.6**	**-0.2**
ORIF				*e*Sg	**Sg**	**20 20 21.8**	**+0.2**
	10nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.21**	**197**	*e*Pg	**Pg**	**20 20 05.6**	**-0.2**
ORIF				*e*Sg	**Sg**	**20 20 21.8**	**+0.2**
	5.1nm,0.2s						
MBDF	**Montbardon**	**1.38**	**168**	*e*Pn	**Pn**	**20 20 07.6**	**+0.6**
MBDF				*e*Sg	**Sg**	**20 20 26.5**	**-0.3**
	9.7nm,0.5s						
MBDF	**Montbardon**	**1.38**	**168**	*e*Pn	**Pn**	**20 20 07.6**	**+0.6**
MBDF				*e*Sg	**Sg**	**20 20 26.5**	**-0.3**
	4.8nm,0.5s						
SSB	**Saint Sauveur**	**1.52**	**239**	Pg	**Pg**	**20 20 12.1**	**+0.5**
SSB				Sg	**Sg**	**20 20 31.5**	**+0.2**
SSB	**Saint Sauveur**	**1.52**	**239**	Pg	**Pg**	**20 20 12.1**	**+0.5**
SSB				Sg	**Sg**	**20 20 31.5**	**+0.2**
VIVF	**Saint-Julien-l**	**1.71**	**225**	*e*Pn	**Pn**	**20 20 11.9**	**+0.3**
VIVF	**Saint-Julien-l**	**1.71**	**225**	*e*Pg	**Pg**	**20 20 15.1**	**-0.2**
VIVF				*e*Sg	**Sg**	**20 20 37.2**	**-0.4**
	9.6nm,0.2s						
VIVF	**Saint-Julien-l**	**1.71**	**225**	*e*Pn	**Pn**	**20 20 11.9**	**+0.3**
VIVF	**Saint-Julien-l**	**1.71**	**225**	*e*Pg	**Pg**	**20 20 15.1**	**-0.2**
VIVF				*e*Sg	**Sg**	**20 20 37.2**	**-0.4**
	4.8nm,0.2s						
HINF	**Hinteralfeld**	**1.77**	**10**	*e*Pn	**Pn**	**20 20 12.6**	**+0.2**
HINF				*e*Sg	**Sg**	**20 20 38.2**	**-1.2**
	4.5nm,0.2s						
HINF	**Hinteralfeld**	**1.77**	**10**	*e*Pn	**Pn**	**20 20 12.6**	**+0.2**
HINF				*e*Sg	**Sg**	**20 20 38.2**	**-1.2**
	2.2nm,0.2s						
SMF	**Signal de Mont**	**1.85**	**289**	*e*Pn	**Pn**	**20 20 14.3**	**+0.8**
SMF	**Signal de Mont**	**1.85**	**289**	*e*Pg	**Pg**	**20 20 17.8**	**-0.1**
SMF				*e*Sg	**Sg**	**20 20 41.7**	**-0.2**
	5.0nm,0.2s						
SMF	**Signal de Mont**	**1.85**	**289**	*e*Pn	**Pn**	**20 20 14.3**	**+0.8**
SMF	**Signal de Mont**	**1.85**	**289**	*e*Pg	**Pg**	**20 20 17.8**	**-0.1**
SMF				*e*Sg	**Sg**	**20 20 41.7**	**-0.2**
	2.5nm,0.2s						
HAU	**Haudompre**	**1.93**	**359**	*e*Pn	**Pn**	**20 20 15.0**	**+0.4**
HAU				*e*Sn	**Sn**	**20 20 38.5**	**0.0**
	4.4nm,0.2s						
HAU	**Haudompre**	**1.93**	**359**	*e*Pn	**Pn**	**20 20 15.0**	**+0.4**
HAU				*e*Sn	**Sn**	**20 20 38.5**	**0.0**
	2.2nm,0.2s						
LOR	**Lormes**	**2.11**	**305**	*e*Pn	**Pn**	**20 20 17.9**	**+0.9**
LOR				*e*Sg	**Sg**	**20 20 49.7**	**-0.5**
	2.4nm,0.2s						
LOR	**Lormes**	**2.11**	**305**	*e*Pn	**Pn**	**20 20 17.9**	**+0.9**
LOR				*e*Sg	**Sg**	**20 20 49.7**	**-0.5**
	1.2nm,0.2s						
SMRF	**Simiane la Rot**	**2.18**	**196**	*e*Pn	**Pn**	**20 20 18.0**	**0.0**
SMRF				*e*Sg	**Sg**	**20 20 51.7**	**-0.7**
	2.6nm,0.4s						
SMRF	**Simiane la Rot**	**2.18**	**196**	*e*Pn	**Pn**	**20 20 18.0**	**0.0**
SMRF				*e*Sg	**Sg**	**20 20 51.7**	**-0.7**
	1.3nm,0.4s						
AVF	**Avril sur Loir**	**2.21**	**290**	*e*Pn	**Pn**	**20 20 19.4**	**+0.9**
AVF				*e*Sn	**Sn**	**20 20 45.8**	**+0.3**
	2.2nm,0.3s						
AVF	**Avril sur Loir**	**2.21**	**290**	*e*Pn	**Pn**	**20 20 19.4**	**+0.9**
AVF				*e*Sn	**Sn**	**20 20 45.8**	**+0.3**
	1.1nm,0.3s						
SSF	**Saint Saulge**	**2.22**	**297**	*e*Pn	**Pn**	**20 20 19.2**	**+0.7**
SSF				*e*Sg	**Sg**	**20 20 53.2**	**-0.4**
	2.1nm,0.3s						
SSF	**Saint Saulge**	**2.22**	**297**	*e*Pn	**Pn**	**20 20 19.2**	**+0.7**
SSF				*e*Sg	**Sg**	**20 20 53.2**	**-0.4**
	1.0nm,0.3s						
SFTF	**Sexfontaines**	**2.32**	**337**	*e*Pn	**Pn**	**20 20 20.4**	**+0.5**
SFTF				*e*Sn	**Sn**	**20 20 47.9**	**-0.2**
SFTF				*e*Sg	**Sg**	**20 20 56.0**	**-0.9**
	2.0nm,0.2s						
SFTF	**Sexfontaines**	**2.32**	**337**	*e*Pn	**Pn**	**20 20 20.4**	**+0.5**
SFTF				*e*Sn	**Sn**	**20 20 47.9**	**-0.2**
SFTF				*e*Sg	**Sg**	**20 20 56.0**	**-0.9**
	1.0nm,0.2s						
SBF	**Sospel**	**2.34**	**161**	*e*Pn	**Pn**	**20 20 20.7**	**+0.6**
SBF				*e*Sn	**Sn**	**20 20 48.2**	**-0.3**
	3.2nm,0.3s						
SBF	**Sospel**	**2.34**	**161**	*e*Pn	**Pn**	**20 20 20.7**	**+0.6**
SBF				*e*Sn	**Sn**	**20 20 48.2**	**-0.3**
	1.6nm,0.3s						
CDF	**Champ du Feu**	**2.41**	**14**	*e*Pn	**Pn**	**20 20 20.8

BMAS	Trigal station	2.59	25	⇑P	Pn	20 26 42.8	-0.2
ARRY	Arrayan	2.60	25	⇑P	Pn	20 26 42.6	-0.5
PAT1	Patacocha	2.61	26	⇑P	Pn	20 26 43.2	0.0
BIL2	Estacion Bilba	2.63	24	⇓S	Sn	20 27 14.8	+0.1
BIL2	Estacion Bilba	2.63	24	⇓P	Pn	20 26 43.8	+0.3
BBIL	Ulba Tungurahu	2.64	24	⇑P	Pn	20 26 43.5	-0.2
RETU	Refugio	2.66	25	⇓S	Sn	20 27 16.4	+1.1
RETU	Refugio	2.66	25	⇓P	Pn	20 26 44.1	+0.2
JUI6	Juive	2.67	24	P	Pn	20 26 43.8	-0.3
ULBA	Ulba	2.67	26	P	Pn	20 26 44.5	+0.4
BULB	Ulba Tungurahu	2.68	25	⇑P	Pn	20 26 43.8	-0.4
BULB	Ulba Tungurahu	2.68	25	⇑S	Sn	20 27 16.3	+0.2
BRUN	Tungurahua Vol	2.70	25	⇓S	Sn	20 27 16.9	+0.5
BRUN	Tungurahua Vol	2.70	25	⇓P	Pn	20 26 44.3	-0.1
RUN5	Runtun	2.70	25	S	Sn	20 27 17.2	+0.8
RUN5	Runtun	2.70	25	P	Pn	20 26 44.4	0.0
PISA	Pisayambo	3.04	23	P	Pn	20 26 49.1	+0.2
CHIS	Cerro-Chispas-	3.04	338	P	Pn	20 26 47.2	-1.8
PECV	Mancha de Ca P	3.12	351	P	Pn	20 26 49.2	-0.8
BMOR	Cotopaxi Volca	3.31	19	⇑P	Pn	20 26 52.6	-0.1
MOV1	Cotopaxi Vol s	3.34	20	P	Pn	20 26 52.8	-0.1
BREF	Cotopaxi Volca	3.38	19	P	Pn	20 26 53.8	+0.3
TAMB	Tambo	3.38	21	P	Pn	20 26 53.8	+0.2
BTAM	Cotopaxi Volca	3.39	20	⇑P	Pn	20 26 53.5	-0.1
NAS2	Nasa	3.39	19	P	Pn	20 26 53.4	-0.3
BVC2	Cotopaxi Volca	3.40	20	⇑P	Pn	20 26 53.9	+0.1
VC1	Cotopaxi 1	3.42	20	⇓P	Pn	20 26 54.7	+0.7
COV1	Cotopaxi Volc	3.42	21	P	Pn	20 26 54.3	+0.3
ATAH	Atahualpa	3.44	160	P	Pn	20 26 56.4	+2.1
	10nm,0.3s,baz=360,slow=8.4,SNR=26						
ATAH				S	Sn	20 27 31.1	-3.1
	44nm,0.3s,baz=143,slow=17,SNR=4.3						
ATAH				LR	LR	20 28 29.2	
	comp=Z,188nm,21.7s,baz=214,slow=41						
ATAH	Atahualpa	3.44	160	P	Pn	20 26 56.4	+2.1
ATAH				S	Sn	20 27 31.1	-3.1
PITA	Cotopaxi Volc	3.48	19	P	Pn	20 26 55.4	+0.4
ANTI	Antisana	3.68	22	⇑P	Pn	20 26 57.5	-0.1
TERV	Terraza Guagua	3.80	15	P	Pn	20 26 59.8	+0.6
GGP	Refugio Guagua	3.80	15	P	Pn	20 26 59.8	+0.5
PINO	Pino	3.81	15	P	Pn	20 27 00.2	+0.7
YANA	Yana	3.86	15	P	Pn	20 27 00.5	+0.4
CAYR	Refugio Cayamb	4.17	22	P	Pn	20 27 04.7	+0.5
CHAR	Charly	4.21	27	P	Pn	20 27 04.4	-0.4
CAYA	Cayambe	4.22	22	P	Pn	20 27 04.8	-0.2
LAV4	Lava4-Reventad	4.23	27	P	Pn	20 27 04.4	-0.6
OTAV	Otavalo	4.24	15	⇓P	Pn	20 27 05.2	0.0
OTAV	Otavalo	4.24	15	*e*Pn	Pn	20 27 03.9	-1.2
OTAV				*e*Sn	Sn	20 27 50.9	-2.6
CONE	Cono NE Rev Vo	4.24	27	P	Pn	20 27 04.6	-0.6
NNA	Nana	8.50	162	P	Pn	20 28 03.7	+0.6
	4.9nm,0.3s,baz=286,slow=7.8,SNR=7.8						
NNA				S	Sn	20 29 37.6	+0.3
	15nm,0.3s,baz=216,slow=15,SNR=8.8						
NNA	Nana	8.50	162	*e*Pn	Pn	20 27 54.9	-8.2
NNA				*e*Sn	Sn	20 29 35.1	-2.2
NNA				S	Sn	20 29 37.6	+0.3
ROSC	El Rosal	10.13	31	Pn	Pn	20 28 19.7	-5.6
JTS	JuntasAbangare	15.06	339	P	Pn	20 29 30.0	-0.6
	0.2nm,0.3s,baz=288,slow=16,SNR=2.7						
JTS	JuntasAbangare	15.06	339	*e*Pn	Pn	20 29 27.1	-3.4
SDV	Santo Domingo	15.49	35	*e*Pn	Pn	20 29 33.5	-2.5
LPAZ	La Paz	16.68	138	P	Pn	20 29 54.1	+3.3
	0.1nm,0.3s,baz=340,slow=15,SNR=3.2						
LPAZ	La Paz	16.68	138	*e*Pn	Pn	20 29 49.3	-1.5
	11nm,1.1s						
SAML	Samuel	17.04	108	*e*Pn	Pn	20 29 50.7	-4.5
	11nm,0.9s						
SAML				*e*Sn	Sn	20 32 36.9	-28
MTDJ	Mount Denham	22.05	5	*e*P	P	20 30 51.8	+1.9
	69nm,1.1s,mb4.9						
GTBY	Guantanamo Bay	24.05	10	*e*P	P	20 31 10.6	+1.4
	43nm,1.0s,mb4.7						
TEIG	Tepich	25.43	341	P	P	20 31 21.7	0.0
	3.6nm,0.3s,mb4.2,baz=30,slow=11,SNR=3.0						
TEIG	Tepich	25.43	341	P	P	20 31 21.2	-0.6
SJG	San Juan	25.54	31	P	P	20 31 22.2	-0.5
	16nm,0.2s,mb5.0,baz=3.5,slow=11,SNR=3.7						
SJG	San Juan	25.54	31	*e*P	P	20 31 21.2	-1.5
	19nm,0.9s,mb4.5						
PLCA	Paso Flores	37.58	169	P	P	20 33 10.3	+2.4
	1.1nm,0.6s,mb3.9,baz=342,slow=6.4,SNR=3.1						
PLCA	Paso Flores	37.58	169	P	P	20 33 10.3	+2.4
TXAR	Lajitas Array	40.31	327	P	P	20 33 32.0	+1.1
	0.5nm,0.5s,mb3.6,baz=149,slow=8.9,SNR=6.8						
TXAR	Lajitas Array	40.31	327	P	P	20 33 32.0	+1.1
ANMO	Albuquerque	46.16	329	*e*P	P	20 34 18.2	+0.3
	3.2nm,0.7s,mb4.2						
ECSD	EROS Data Cent	49.82	344	*e*P	P	20 34 43.0	-2.9
	5.2nm,0.6s,mb4.6						
PDAR	Pinedale Array	53.78	333	P	P	20 35 15.6	+0.2
	1.1nm,0.7s,mb4.0,baz=126,slow=7.8,SNR=4.4						
PDAR	Pinedale Array	53.78	333	P	P	20 35 15.6	+0.2
HWUT	Hardware Ranch	53.83	331	*e*P	P	20 35 14.8	-1.0
	2.8nm,0.7s,mb4.4						
NVAR	Mina Array Bea	55.27	323	P	P	20 35 27.7	+1.4
	1.8nm,0.7s,mb4.2,baz=145,slow=7.4,SNR=5.0						
NVAR	Mina Array Bea	55.27	323	P	P	20 35 27.7	+1.4
ULM	Lac du Bonnet	55.72	347	P	P	20 35 28.1	-1.2
	2.7nm,0.7s,mb4.4,baz=156,slow=11,SNR=5.4						
ULM	Lac du Bonnet	55.72	347	P	P	20 35 28.1	-1.2
HLID	Hailey	56.69	330	*e*P	P	20 35 36.1	-0.2
	1.5nm,0.8s,mb4.1						
MFID	Camas Ranch	57.30	329	*e*P	P	20 35 41.5	+0.9
	5.8nm,0.9s,mb4.6						
YKA	Yellowknife Ar	71.35	344	P	P	20 37 11.2	-0.7
	2.2nm,0.6s,mb4.2,baz=139,slow=5.8,SNR=35						
YKA	Yellowknife Ar	71.35	344	P	P	20 37 11.2	-0.7
DBIC	Dimbokro	75.31	82	P	P	20 37 36.7	+0.5
	4.8nm,0.8s,mb4.3,baz=251,slow=5.2,SNR=7.4						
DBIC	Dimbokro	75.31	82	*e*P	P	20 37 36.5	+0.2
	7.9nm,1.0s,mb4.4						
EGAK	Eagle	81.80	338	*e*P	P	20 38 10.5	-0.3
	8.2nm,0.8s,mb4.6						
SNAA	Sanae	82.17	162	*e*P	P	20 38 13.3	+0.6
	1.9nm,0.9s,mb3.9						
TORD	Torodi Ar. Bea	82.38	76	P	P	20 38 14.8	-0.1
	0.7nm,0.4s,mb3.9,baz=278,slow=5.3,SNR=14						
TORD				pP	pP	20 38 38.5	-1.4
	0.6nm,0.6s,baz=275,slow=5.9,SNR=2.7						
TORD	Torodi Ar. Bea	82.38	76	P	P	20 38 14.8	-0.1
TORD				pP	pP	20 38 38.5	-1.4
ILAR	Eielson Array	84.02	337	P	P	20 38 21.9	-0.3
	1.8nm,0.8s,mb3.9,baz=130,slow=3.5,SNR=18						
ILAR	Eielson Array	84.02	337	P	P	20 38 21.9	-0.3
QSPA	South Pole Qui	86.20	180	P	P	20 38 34.3	+1.3
	2.6nm,0.9s,mb4.2						
TSUM	Tsumeb	95.47	110	*e*P	P	20 39 14.9	-2.6
	6.4nm,1.2s,mb4.9						
ZALV	Zalesovo Beam	128.47	12	PKP	PKPdf	20 44 58.5	+0.1
	1.0nm,0.4s,baz=318,slow=2.0,SNR=7.8						
ZALV				pPKP	pPKPdf	20 45 22.9	-1.9
	0.6nm,0.4s,baz=318,slow=2.0,SNR=3.0						
ZALV	Zalesovo Beam	128.47	12	PKP	PKPdf	20 44 58.5	+0.1
ZALV				pPKP	pPKPdf	20 45 22.9	-1.9
MKAR	Makanchi Array	134.44	17	PKP	PKPdf	20 45 09.7	-0.3
	0.7nm,0.8s,baz=286,slow=2.8,SNR=6.0						
MKAR	Makanchi Array	134.44	17	PKP	PKPdf	20 45 09.7	-0.3
SONM	Songino Array	135.91	354	PKP	PKPdf	20 45 13.0	+0.4
	0.3nm,0.4s,baz=341,slow=1.4,SNR=5.5						
SONM	Songino Array	135.91	354	PKP	PKPdf	20 45 13.0	+0.4
ASAR	Alice Springs	137.42	228	PKP	PKPdf	20 45 16.2	0.0
	0.4nm,0.5s,baz=122,slow=2.2,SNR=5.1						
ASAR				pPKP	pPKPdf	20 45 40.3	-2.3
	0.3nm,0.5s,baz=95,slow=1.8,SNR=2.3						
ASAR	Alice Springs	137.42	228	PKP	PKPdf	20 45 16.2	0.0
ASAR				pPKP	pPKPdf	20 45 40.3	-2.3
WRA	Warramunga Arr	139.14	233	PKP	PKPdf	20 45 19.4	0.0
	0.7nm,0.6s,baz=111,slow=1.7,SNR=9.1						
WRA				pPKP	pPKPdf	20 45 44.8	-1.0
	0.4nm,0.7s,baz=113,slow=2.1,SNR=2.1						
WRA	Warramunga Arr	139.14	233	PKP	PKPdf	20 45 19.4	0.0
WRA				pPKP	pPKPdf	20 45 44.8	-1.0
DANN	Dangsing	150.94	31	*e*P	PKPbc	20 45 46.1	+1.0
	17nm,0.7s						
DANN	Dangsing	150.94	31	*e*P	PKPbc	20 45 46.1	+1.0
KOLN	Koldanda	151.32	32	*e*P	PKPbc	20 45 46.3	+0.3
	6.6nm,0.5s						
KOLN	Koldanda	151.32	32	*e*P	PKPbc	20 45 46.3	+0.3
GKN	Gorkha	151.67	30	*e*P	PKPbc	20 45 47.3	+0.5
	15nm,0.7s						
GKN	Gorkha	151.67	30	*e*P	PKPbc	20 45 47.3	+0.5
KKN	Kakani	152.17	30	*e*P	PKPbc	20 45 48.3	+0.3
	7.3nm,0.7s						
KKN	Kakani	152.17	30	*e*P	PKPbc	20 45 48.3	+0.3
DMN	Daman	152.23	30	*e*P	PKPbc	20 45 48.5	+0.4
	4.0nm,0.4s						
DMN	Daman	152.23	30	*e*P	PKPbc	20 45 48.5	+0.4
GUN	Gumba	152.36	29	*e*P	PKPbc	20 45 49.2	+0.8
GUN	Gumba	152.36	29	*e*P	PKPbc	20 45 49.2	+0.8
PKI	Pulchoki	152.42	30	*e*P	PKPbc	20 45 48.7	+0.2
PKI	Pulchoki	152.42	30	*e*P	PKPbc	20 45 48.7	+0.2
RAMN	Ramite	153.51	29	*e*P	PKPbc	20 45 50.0	-0.9
	6.8nm,0.7s						
RAMN	Ramite	153.51	29	*e*P	PKPbc	20 45 50.0	-0.9
TAPN	Taplejung	153.68	26	*e*P	PKPbc	20 45 49.5	-1.8
TAPN	Taplejung	153.68	26	*e*P	PKPbc	20 45 49.5	-1.8
CMAR	Chiang Mai Arr	165.44	6	PKP	PKPdf	20 45 57.7	+0.6
	0.2nm,0.6s,baz=294,slow=2.3,SNR=4.6						
CMAR				pPKP	pPKPdf	20 46 21.3	-2.4
	0.5nm,0.8s,baz=288,slow=2.3,SNR=3.8						
CMAR				PKPab	PKPab	20 46 54.7	-0.5
	1.3nm,0.8s,baz=339,slow=5.4,SNR=12						
CMAR	Chiang Mai Arr	165.44	6	PKP	PKPdf	20 45 57.7	+0.6
CMAR				pPKP	pPKPdf	20 46 21.3	-2.4
CMAR				PKPab	PKPab	20 46 54.7	-0.5

CSEM ***12*** *20:27:19.3±0.3, 51°.49N×16°.21E, h2km, ML3.0/4, Error ellipse: s-maj=6.4km s-min=4.8km az=61.0*
WAR ***12*** *20:27:21.4, 51°.45N×16°.18E, ML2.3, Mining Induced*
PRU ***12*** *20:27:21.2, 51°.41N×16°.19E, h0km*
ISC 12 20:27:20.4±1.3, 51°.42N±0°.06×16°.19E±0°.06, h0km, n24, σ0s82/40, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**174**	*e*Pg	**Pg**	**20 27 32.6**	**+1.0**
KSP				*e*Sg	**Sg**	**20 27 40.9**	**+1.7**
KSP	**Ksiaz**	**0.58**	**174**	*e*Pg	**Pg**	**20 27 32.6**	**+1.0**
KSP				*e*Sg	**Sg**	**20 27 40.5**	**+1.3**
KSP	**Ksiaz**	**0.58**	**174**	*e*Pg	**Pg**	**20 27 32.6**	**+1.0**
KSP				*e*Sg	**Sg**	**20 27 40.5**	**+1.3**
UPC	**Upice**	**0.92**	**187**	*e*PG	**Pg**	**20 27 38.6**	**+0.5**
UPC	**Upice**	**0.92**	**187**	Pg	**Pg**	**20 27 38.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.08**	**176**	*e*PG	**Pg**	**20 27 41.4**	**+0.3**
DPC				*e*SG	**Sg**	**20 27 55.0**	**0.0**
13nm,0.6s							
DPC	**Dobruska-Polom**	**1.08**	**176**	Pg	**Pg**	**20 27 41.4**	**+0.3**
DPC				Sg	**Sg**	**20 27 55.0**	**0.0**
13nm,0.6s							
PVCC	**Panska Ves**	**1.36**	**230**	*e*PG	**Pg**	**20 27 47.1**	**+0.6**
PVCC				*e*SG	**Sg**	**20 28 05.6**	**+1.4**
68nm,0.4s							
PVCC	**Panska Ves**	**1.36**	**230**	Pg	**Pg**	**20 27 47.1**	**+0.6**
PVCC				Sg	**Sg**	**20 28 05.6**	**+1.4**
68nm,0.4s							
KRLC	**Kraliky**	**1.40**	**164**	*e*PG	**Pg**	**20 27 47.6**	**+0.4**
KRLC	**Kraliky**	**1.40**	**164**	Pg	**Pg**	**20 27 47.6**	**+0.4**
BRG	**Berggiesshubel**	**1.52**	**250**	PG	**Pg**	**20 27 49.5**	**-0.1**
BRG				SG	**Sg**	**20 28 09.9**	**+0.6**
16nm,0.3s							
PRU	**Pruhonice**	**1.78**	**217**	*e*PG	**Pg**	**20 27 53.9**	**-0.6**
PRU				*e*SG	**Sg**	**20 28 17.4**	**-0.2**
10nm,0.3s							
PRU	**Pruhonice**	**1.78**	**217**	Pg	**Pg**	**20 27 53.9**	**-0.6**
PRU				Sg	**Sg**	**20 28 17.4**	**-0.2**
10nm,0.3s							
MORC	**Moravsky Berou**	**1.86**	**152**	*e*Pn	**Pn**	**20 27 53.4**	**-0.1**
MORC				*e*Sg	**Sg**	**20 28 20.2**	**+0.1**
OKC	**Ostrava-Krasne**	**2.02**	**141**	*e*SG	**Sg**	**20 28 23.7**	**-1.5**
OKC	**Ostrava-Krasne**	**2.02**	**141**	Sg	**Sg**	**20 28 23.7**	**-1.5**
VRAC	**Vranov**	**2.13**	**173**	*e*Sg	**Sg**	**20 28 28.6**	**-0.3**
NKC	**Novy Kostel**	**2.66**	**245**	*e*PN	**Pn**	**20 28 04.4**	**-0.1**
NKC				*e*PG	**Pg**	**20 28 11.3**	**0.0**
NKC				*e*SG	**Sg**	**20 28 44.9**	**-0.8**
9.1nm,0.4s							
NKC	**Novy Kostel**	**2.66**	**245**	Pn	**Pn**	**20 28 04.4**	**-0.1**
NKC	**Novy Kostel**	**2.66**	**245**	Pg	**Pg**	**20 28 11.3**	**0.0**
NKC				Sg	**Sg**	**20 28 44.9**	**-0.8**
9.1nm,0.4s							
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PN	**Pn**	**20 28 07.4**	**+0.4**
KHC				*e*PG	**Pg**	**20 28 13.3**	**-1.6**
KHC				*e*SG	**Sg**	**20 28 50.0**	**-1.7**
KHC	**Kasperske Hory**	**2.84**	**217**	Pn	**Pn**	**20 28 07.4**	**+0.4**
KHC	**Kasperske Hory**	**2.84**	**217**	Pg	**Pg**	**20 28 13.3**	**-1.6**

ISCJB ***12*** *20:28:13.6±0.7, 30°.09N±0°.07×141°.5E±0°.3, h97km±10km, mb3.8/4, Error ellipse: s-maj=42.4km s-min=5.4km az=166.3*
JMA ***12*** *20:28:13.9±0.1, 30°.14N×141°.56E, h52km, M4.2*
IDC ***12*** *20:28:15.8±1.8, 29°.99N×141°.43E, h96km±18km, mb3.5/4, mb1 3.5/6, mb1mx3.2/24, mbtmp3.4/6, Error ellipse: s-maj=112.8km s-min=11.5km az=76.0*
ISC 12 20:28:15.0±0.8, 30°.12N±0°.07×141°.7E±0°.3, h96km±10km, n15, σ1s05/26, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.04**	**172**	P	**Pn**	**20 29 01.6**	**+0.4**
4.3nm,0.3s,baz=283,slow=21,SNR=9.9							
CBIJ				S	**Sn**	**20 29 35.9**	**-0.9**
32nm,0.3s,baz=265,slow=22,SNR=11							
CBIJ	**Chichi jima**	**3.04**	**172**	P	**Pn**	**20 29 01.6**	**+0.4**
CBIJ				*e*S	**Sn**	**20 29 36.3**	**-0.5**
JHJ2	**Mitsune**	**3.38**	**332**	P	**Pn**	**20 29 04.5**	**-1.2**
JHJ2				S	**Sn**	**20 29 41.0**	**-3.9**
BSO3	**Boso 3**	**4.77**	**348**	P	**Pn**	**20 29 24.1**	**-0.4**
BSO3				S	**Sn**	**20 30 17.0**	**-1.6**
BSO4	**Boso 4**	**4.99**	**347**	P	**Pn**	**20 29 29.4**	**+2.0**
BSO4				S	**Sn**	**20 30 23.0**	**-0.8**
JOD2	**Odawara 2**	**5.58**	**338**	P	**Pn**	**20 29 37.3**	**+1.9**
JOD2				*e*S	**Sn**	**20 30 38.0**	**-0.2**
JHU	**Hanno**	**6.06**	**341**	P	**Pn**	**20 29 42.6**	**+0.6**
JHU				S	**Sn**	**20 30 49.8**	**-0.2**
JRY	**Ryogami san**	**6.33**	**339**	P	**Pn**	**20 29 47.0**	**+1.4**
JRY				*e*S	**Sn**	**20 30 55.3**	**-1.1**
JHO	**Hitachi**	**6.54**	**352**	P	**Pn**	**20 29 48.5**	**0.0**
JHO				S	**Sn**	**20 30 56.0**	**-5.6**
JAG	**Ashikaga**	**6.56**	**344**	P	**Pn**	**20 29 48.7**	**-0.1**
JAG				S	**Sn**	**20 30 58.6**	**-3.5**
MJAR	**Matsushiro Arr**	**7.03**	**337**	P	**Pn**	**20 29 56.7**	**+1.5**
0.7nm,0.3s,baz=354,slow=19,SNR=4.4							
MJAR				S	**Sn**	**20 31 14.8**	**+1.1**
0.4nm,0.3s,baz=184,slow=18,SNR=3.6							
WRA	**Warramunga Arr**	**50.27**	**189**	P	**P**	**20 37 01.1**	**-0.5**
0.5nm,0.3s,mb4.0,baz=6.5,slow=7.8,SNR=6.7							
FITZ	**Fitzroy Crossi**	**50.37**	**200**	P	**P**	**20 37 02.0**	**-0.4**
1.1nm,0.9s,mb3.8,baz=8.7,slow=13,SNR=2.4							
ASAR	**Alice Springs**	**53.99**	**189**	P	**P**	**20 37 28.6**	**-0.6**
0.2nm,0.6s,mb3.3,baz=10,slow=5.7,SNR=3.2							
FINES	**FINESS Array B**	**75.05**	**333**	P	**P**	**20 39 46.6**	**+0.8**
3.2nm,1.0s,mb4.0,baz=66,slow=4.8,SNR=9.8							

NIED ***12*** *20:40:00, 24°.00N×122°.70E, h29km, Mw3.9 Best double couple: M0 8.74000×10^14 NP1:φ1=65.00000°, δ1=81.00000°, λ1=74.00000°. NP2:φ2=306.00000°, δ2=19.00000°, λ2=150.00000°.*
IDC ***12*** *20:40:23.1±0.8, 24°.10N×122°.64E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.8/23, mbtmp3.8/13, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.3/44, Error ellipse: s-maj=34.8km s-min=17.4km az=65.0*
ISCJB ***12*** *20:40:28.0±0.2, 23°.87N±0°.02×122°.70E±0°.02, h50km±4km, mb3.8/16, Error ellipse: s-maj=3.4km s-min=2.4km az=153.6*
JMA ***12*** *20:40:28.3±0.2, 24°.01N×122°.65E, h34km, M3.6*
TAP ***12*** *20:40:28.3, 23°.95N×122°.66E, h40km±1km, ML4.2, D*
NEIC ***12*** *20:40:28.3±0.9, 24°.01N×122°.65E, h39km±8km, mb4.0/4, Error ellipse: s-maj=11.0km s-min=9.8km az=83.0*
ISC 12 20:40:28.8±0.3, 23°.87N±0°.02×122.70E±0°.02, h44km±4km, n101, σ1s17/155, mb3.8/16, 3C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.65**	**26**	P	**Pn**	**20 40 39.6**	**-2.1**
YOJ				S	**Sn**	**20 40 47.3**	**-3.6**
HWA	**Hwalien**	**1.01**	**276**	P	**Pn**	**20 40 45.4**	**-1.1**
baz=261							
HWA				*e*S	**Sn**	**20 40 59.0**	**-0.5**
baz=261							
HATJ	**Hateruma jima**	**1.03**	**79**	P	**Pn**	**20 40 46.9**	**+0.2**
HATJ				S	**Sn**	**20 41 00.5**	**+0.5**
TWD	**Chiawan**	**1.03**	**282**	*e*P	**Pn**	**20 40 45.3**	**-1.6**
baz=278							
TWD				S	**Sn**	**20 40 58.1**	**-2.0**
baz=278							
ENA	**Nanau**	**1.04**	**302**	⇓*i*P	**Pn**	**20 40 45.7**	**-1.2**
baz=300							
ENA				*e*S	**Sn**	**20 41 00.3**	**0.0**
baz=300							
IRIF	**Iriomote-Funau**	**1.05**	**64**	P	**Pn**	**20 40 46.7**	**-0.3**
IRIF				S	**Sn**	**20 41 01.3**	**+0.8**
NACB	**Ninganchiao**	**1.06**	**287**	*e*Pn	**Pn**	**20 40 45.2**	**-2.0**
TWC	**Suao**	**1.07**	**313**	*i* P	**Pn**	**20 40 45.9**	**-1.5**
baz=312							
TWC				*e*S	**Sn**	**20 40 59.0**	**-2.1**
baz=312							
ESL	**Shilin**	**1.16**	**267**	⇓*i*P	**Pn**	**20 40 47.0**	**-1.6**
baz=253							
ESL				*e*S	**Sn**	**20 41 01.1**	**-2.3**
baz=253							
ILA	**Ilan**	**1.24**	**316**	*e*P	**Pn**	**20 40 49.3**	**-0.5**
baz=315							
ILA				*e*S	**Sn**	**20 41 06.7**	**+1.3**
baz=315							
JKRS	**Kuro-shima**	**1.25**	**73**	P	**Pn**	**20 40 50.2**	**+0.4**
JKRS				S	**Sn**	**20 41 06.9**	**+1.5**
TWE	**Neicheng**	**1.27**	**312**	⇓*i*P	**Pn**	**20 40 49.2**	**-0.8**
baz=300							
TWE				S	**Sn**	**20 41 06.4**	**+0.6**
baz=300							
ENTT	**Nioudou**	**1.29**	**307**	*i* P	**Pn**	**20 40 49.7**	**-0.6**
baz=305							
ENTT				*e*S	**Sn**	**20 41 07.1**	**+0.7**
baz=305							
TWB1	**Santiao Chiao**	**1.30**	**330**	P	**Pn**	**20 40 49.6**	**-1.0**
baz=330							
EHY	**Hungye**	**1.32**	**254**	*i* P	**Pn**	**20 40 50.0**	**-0.7**
baz=250							
EHY				*e*S	**Sn**	**20 41 06.4**	**-0.7**
baz=250							
NNS	**Nan Shan**	**1.34**	**295**	⇓*i*P	**Pn**	**20 40 50.2**	**-0.8**
baz=293							
NNS				*e*S	**Sn**	**20 41 07.4**	**-0.2**
baz=293							
WHF	**Hehuan Shan**	**1.34**	**282**	*e*P	**Pn**	**20 40 48.6**	**-2.5**
baz=279							
YULB	**Yu-li**	**1.37**	**250**	*e*Pn	**Pn**	**20 40 49.6**	**-1.9**
YULB				*e*Sn	**Sn**	**20 41 03.5**	**-5.0**
TWF1	**Yuli**	**1.39**	**248**	*i* P	**Pn**	**20 40 50.6**	**-1.1**
baz=235							
TWF1				S	**Sn**	**20 41 08.8**	**-0.1**
baz=235							
JIJ	**Ishigaki jima**	**1.41**	**69**	P	**Pn**	**20 40 51.7**	**-0.2**
JIJ				S	**Sn**	**20 41 10.0**	**+0.7**
TWT	**Tachien**	**1.45**	**286**	*e*P	**Pn**	**20 40 52.6**	**+0.1**
baz=283							
TWT				*e*S	**Sn**	**20 41 11.3**	**+1.1**
baz=283							
YHNB	**Yeheng**	**1.45**	**304**	*e*Pn	**Pn**	**20 40 51.5**	**-1.0**
CHKT	**Chengkung**	**1.45**	**238**	⇑*i*P	**Pn**	**20 40 51.4**	**-1.1**
baz=224							
CHKT				*e*S	**Sn**	**20 41 08.4**	**-1.9**
baz=224							
NWF	**Wu-fen Shan**	**1.46**	**325**	P	**Pn**	**20 40 51.8**	**-0.8**
baz=325							
NWF				*e*S	**Sn**	**20 41 11.3**	**+0.7**
baz=325							
NSK	**Sanguang**	**1.46**	**303**	⇓*i*P	**Pn**	**20 40 52.2**	**-0.5**
baz=289							
NSK				*e*S	**Sn**	**20 41 12.4**	**+1.7**
baz=289							
TWA	**Mucha**	**1.50**	**317**	*e*P	**Pn**	**20 40 52.7**	**-0.5**
baz=332							
TWA				*e*S	**Sn**	**20 41 12.2**	**+0.6**
baz=332							
TATO	**Taipei**	**1.56**	**315**	*e*Pn	**Pn**	**20 40 53.6**	**-0.5**
TATO				*e*Sn	**Sn**	**20 41 11.9**	**-1.1**
TAP1	**Taipei**	**1.58**	**317**

WTCT	**Ta-ch'eng**	**2.22**	**270**	*e*P	**Pn**	**20 41 03.8**	**+0.8**
	baz=267						
WTCT				*e*S	**Sn**	**20 41 31.0**	**+1.8**
	baz=267						
TAW	**Tawu**	**2.24**	**228**	*e*P	**Pn**	**20 41 02.3**	**-1.2**
	baz=233						
TAW				*e*S	**Sn**	**20 41 29.1**	**-0.8**
	baz=233						
EAST	**Anshuo**	**2.26**	**229**	P	**Pn**	**20 41 03.3**	**-0.3**
	baz=233						
EAST				*e*S	**Sn**	**20 41 29.3**	**-1.0**
	baz=233						
WSF	**Szhu**	**2.28**	**265**	*e*P	**Pn**	**20 41 05.4**	**+1.4**
	baz=261						
WSF				*e*S	**Sn**	**20 41 33.3**	**+2.4**
	baz=261						
CHN3	**Shinhua**	**2.29**	**250**	*e*P	**Pn**	**20 41 06.7**	**+2.7**
	baz=246						
CHN3				*e*S	**Sn**	**20 41 35.8**	**+4.8**
	baz=246						
SGLT	**Jiouru**	**2.33**	**241**	*e*P	**Pn**	**20 41 07.4**	**+2.8**
	baz=234						
TWM1	**Shoushan**	**2.34**	**244**	*e*P	**Pn**	**20 41 08.0**	**+3.2**
	baz=241						
SCZT	**Fangliau**	**2.43**	**232**	*e*P	**Pn**	**20 41 06.5**	**+0.5**
	baz=224						
HEN	**Hengchun**	**2.59**	**225**	*e*P	**Pn**	**20 41 09.3**	**+1.1**
	baz=221						
HEN				*e*S	**Sn**	**20 41 38.8**	**+0.3**
	baz=221						
TWK1	**Hengchun**	**2.60**	**223**	*e*P	**Pn**	**20 41 09.2**	**+0.9**
	baz=211						
TWK1				*e*S	**Sn**	**20 41 39.4**	**+0.8**
	baz=211						
JOGS	**Gusukube**	**2.62**	**70**	P	**Pn**	**20 41 09.7**	**+1.1**
TWP	**Hsiaoliuchiu**	**2.64**	**235**	*e*P	**Pn**	**20 41 12.2**	**+3.4**
	baz=230						
PNG	**Penghu**	**2.90**	**265**	*e*P	**Pn**	**20 41 13.1**	**+0.6**
	baz=261						
PNG				*e*S	**Sn**	**20 41 46.0**	**-0.1**
	baz=261						
KNM	**Kinmen**	**3.94**	**279**	*e*P	**Pn**	**20 41 27.8**	**+1.2**
	baz=277						
JKE	**Kume jima 2**	**4.44**	**56**	P	**Pn**	**20 41 33.3**	**-0.2**
JOW	**Kunigami**	**5.84**	**59**	Pn	**Pn**	**20 41 51.6**	**-1.2**
	1.7nm,0.3s,baz=98,slow=20,SNR=13						
JOW	**Kunigami**	**5.84**	**59**	Pn	**Pn**	**20 41 51.6**	**-1.2**
KSAR	**Wonju Array Be**	**14.24**	**17**	Pn	**Pn**	**20 43 50.4**	**+2.7**
KSRS	**Korea Array**	**14.26**	**17**	Pn	**Pn**	**20 43 50.4**	**+2.4**
	0.2nm,0.3s,baz=198,slow=12,SNR=3.7						
ULN	**Ulaanbaatar**	**26.99**	**336**	*e*P	**P**	**20 46 04.4**	**-1.9**
	0.7nm,0.5s,mb3.5						
SONM	**Songino Array**	**27.21**	**336**	P	**P**	**20 46 06.9**	**-1.3**
	0.7nm,0.6s,mb3.4,baz=153,slow=10,SNR=9.6						
SONM				LR	LR	20 57 30.1	
	comp=Z,64nm,18.8s,baz=298,slow=38						
SONM	**Songino Array**	**27.21**	**336**	P	**P**	**20 46 06.9**	**-1.3**
MKAR	**Makanchi Array**	**39.53**	**316**	P	**P**	**20 47 54.9**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=101,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**39.53**	**316**	P	**P**	**20 47 54.9**	**-0.3**
ZALV	**Zalesovo Beam**	**41.26**	**327**	P	**P**	**20 48 07.4**	**-2.1**
	0.6nm,0.5s,mb3.5,baz=114,slow=7.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.26**	**327**	P	**P**	**20 48 07.4**	**-2.1**
KURK	**Kurchatov**	**43.22**	**320**	P	**P**	**20 48 21.9**	**-3.6**
	2.0nm,0.8s,mb3.9						
WRAB	**Tennant Creek**	**45.00**	**164**	*e*P	**P**	**20 48 41.2**	**+1.3**
	3.8nm,1.1s,mb4.1						
WRA	**Warramunga Arr**	**45.00**	**164**	P	**P**	**20 48 41.9**	**+1.9**
	0.8nm,0.6s,mb3.8,baz=346,slow=8.7,SNR=11						
WRA	**Warramunga Arr**	**45.00**	**164**	P	**P**	**20 48 41.9**	**+1.9**
KBL	**Kabul**	**47.55**	**296**	*e*P	**P**	**20 49 00.8**	**+0.8**
	1.9nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**48.49**	**166**	P	**P**	**20 49 09.8**	**+2.5**
	0.5nm,0.5s,mb3.9,baz=346,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**48.49**	**166**	P	**P**	**20 49 09.8**	**+2.5**
ARCES	**ARCESS Array B**	**70.34**	**338**	P	**P**	**20 51 35.9**	**-1.6**
	3.3nm,0.9s,mb4.2,baz=44,slow=5.3,SNR=3.0						
ARCES	**ARCESS Array B**	**70.34**	**338**	P	**P**	**20 51 35.9**	**-1.6**
FINES	**FINESS Array B**	**72.41**	**330**	P	**P**	**20 51 49.4**	**-0.6**
	3.8nm,1.1s,mb4.2,baz=67,slow=5.0,SNR=4.7						
FINES	**FINESS Array B**	**72.41**	**330**	P	**P**	**20 51 49.4**	**-0.6**
BRTR	**Keskin Array B**	**74.47**	**307**	P	**P**	**20 52 03.5**	**+0.9**
	0.5nm,0.5s,mb3.7,baz=118,slow=3.0,SNR=5.6						
BRTR	**Keskin Array B**	**74.47**	**307**	P	**P**	**20 52 03.5**	**+0.9**
HFS	**Hagfors**	**78.51**	**331**	P	**P**	**20 52 24.9**	**-0.1**
	3.7nm,1.0s,mb4.3,baz=108,slow=4.7,SNR=3.7						
HFS	**Hagfors**	**78.51**	**331**	P	**P**	**20 52 24.9**	**-0.1**
NOA	**NORSAR Array B**	**79.14**	**333**	P	**P**	**20 52 27.4**	**-1.1**
	0.5nm,0.5s,mb3.7,baz=53,slow=6.0,SNR=2.5						
NOA	**NORSAR Array B**	**79.14**	**333**	P	**P**	**20 52 27.4**	**-1.1**
YKA	**Yellowknife Ar**	**82.71**	**23**	P	**P**	**20 52 47.3**	**-0.2**
	0.4nm,0.7s,mb3.6,baz=314,slow=5.0,SNR=6.6						
YKA	**Yellowknife Ar**	**82.71**	**23**	P	**P**	**20 52 47.3**	**-0.2**
GERES	**GERESS Array B**	**83.96**	**321**	P	**P**	**20 52 54.3**	**+0.1**
	0.2nm,0.5s,mb3.5,baz=44,slow=4.4,SNR=2.8						
GERES	**GERESS Array B**	**83.96**	**321**	P	**P**	**20 52 54.3**	**+0.1**

*IDC **12** 21:07:16.9±2.2, 6°.99S×129°.08E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=88.9km s-min=29.4km az=75.0*
*NEIC **12** 21:07:22.6±1.0, 7°.12S×128°.90E, h35km, Error ellipse: s-maj=20.4km s-min=11.4km az=57.0*
*ISCJB **12** 21:07:26.9±2.8, 7°.5S±0°.1×128°.4E±0°.2, h100km±35km, Error ellipse: s-maj=28.4km s-min=13.9km az=157.8*
ISC 12 21:07:27.5±2.6, 7°.5S±0°.1×128°.5E±0°.2, h86km±32km, n11, σ0°90/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.02**	**285**	*e*Pn	**Pn**	**21 09 34.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**10.89**	**194**	Pn	**Pn**	**21 10 01.6**	**+1.2**
	0.3nm,0.3s,baz=177,slow=13,SNR=10						
FITZ				Sn	**Sn**	**21 11 59.8**	**-0.6**
	0.3nm,0.3s,baz=118,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**10.89**	**194**	Pn	**Pn**	**21 10 01.6**	**+1.2**
FITZ				Sn	**Sn**	**21 11 59.8**	**-0.6**
WRA	**Warramunga Arr**	**13.61**	**156**	Pn	**Pn**	**21 10 35.5**	**-1.4**
	0.1nm,0.3s,baz=343,slow=13,SNR=11						
WRA				Sn	**Sn**	**21 12 56.8**	**-10**
	0.5nm,0.3s,baz=332,slow=22,SNR=10						
WRA	**Warramunga Arr**	**13.61**	**156**	Pn	**Pn**	**21 10 35.5**	**-1.4**
WRA				Sn	**Sn**	**21 12 56.8**	**-10**
MBWA	**Marble Bar**	**15.99**	**211**	*e*Pn	**Pn**	**21 11 13.0**	**+5.6**
ASAR	**Alice Springs**	**16.89**	**163**	P	**Pn**	**21 11 19.7**	**+1.1**
	0.1nm,0.3s,baz=347,slow=10,SNR=11						
ASAR	**Alice Springs**	**16.89**	**163**	P	**Pn**	**21 11 19.7**	**+1.1**
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**21 18 16.3**	**-0.1**
	0.1nm,0.3s,baz=131,slow=6.6,SNR=3.7						
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**21 18 16.3**	**-0.1**
LPAZ	**La Paz**	**151.21**	**145**	*e*PKPbc	PKPbc	21 27 14.8	+2.9

PGC 12 21:11:54.8±0.2, 49°.48N×127°.63W, h10km, ML2.9/13, Mw3.5, 12D, 112km west of Gold R., Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.52**	**40**	⇑P	Pg	21 12 05.0	+0.1
EDB				⇓S	Sg	21 12 11.0	-0.7
BPBC	**Brooks Peninsu**	**0.69**	**353**	⇑P	Pg	21 12 08.0	-0.1
ETB	**Estevan Point**	**0.72**	**98**	⇑P	Pg	21 12 09.1	+0.3
WOSB	**Woss**	**0.97**	**45**	⇑P	Pg	21 12 12.1	-1.4
WOSB				⇓S	Sg	21 12 23.6	-2.5
MAYB	**Maynard**	**0.97**	**18**	⇓P	Pg	21 12 12.1	-1.4
MAYB				⇑S	Sg	21 12 24.0	-2.1
GDR	**Gold River**	**1.08**	**73**	⇑P	Pb	21 12 13.6	-2.0
HOLB	**Holberg**	**1.21**	**345**	⇓P	Pn	21 12 15.6	-2.2
HOLB				⇓S	Sb	21 12 28.8	-4.6
PHC	**Port Hardy**	**1.24**	**6**	⇓P	Pn	21 12 15.9	-2.2
PHC				⇓S	Sb	21 12 29.9	-4.3
BTB	**Buttle Lake**	**1.38**	**90**	⇓Pn	Pn	21 12 18.3	-1.8
NCRB	**Newcastle Ridg**	**1.38**	**47**	⇑Pn	Pn	21 12 18.3	-1.8
NCRB				⇑Sn	Sn	21 12 34.2	-4.1
OZB	**Mount Ozzard**	**1.50**	**109**	⇓Pn	Pn	21 12 19.7	-2.0
OZB				⇑Sn	Sn	21 12 36.6	-4.7
CBB	**Campbell River**	**1.57**	**68**	⇓Pn	Pn	21 12 20.9	-1.8
CBB				⇑Sn	Sn	21 12 39.6	-3.5
BMSB	**Bamfield Mari**	**1.76**	**110**	⇑Sn	Sn	21 12 43.8	-4.0
ALB	**Alberni**	**1.84**	**95**	⇑Pn	Pn	21 12 24.6	-1.9
MGB	**Mount Grey**	**1.99**	**103**	⇑Pn	Pn	21 12 26.8	-1.7
MGB				⇑Sn	Sn	21 12 49.1	-4.2
PFB	**Port Renfrew**	**2.29**	**112**	⇑Pn	Pn	21 12 31.3	-1.3
PFB				⇑Sn	Sn	21 12 55.9	-4.9
BBB	**Bella Bella**	**2.73**	**354**	⇓Pn	Pn	21 12 37.0	-1.7
BBB				⇓Sn	Sn	21 13 06.7	-4.9

*ISCJB **12** 21:11:58.9±1.6, 2°.81S±0°.04×135°.85E±0°.04, h15km±12km, mb4.2/14, MS3.8/5, Error ellipse: s-maj=6.7km s-min=5.8km az=39.7*
*IDC **12** 21:11:59.0±0.7, 2°.87S×135°.59E, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.2/20, mbtmp4.2/15, ML4.0/3, MS3.8/5, Ms1 3.8/5, ms1mx3.1/27, Error ellipse: s-maj=27.6km s-min=10.8km az=78.0*
*DJA **12** 21:12:02, 2°.69S×135°.86E, h21km, mb4.8/18*
*NEIC **12** 21:12:04.0±0.5, 2°.97S×135°.63E, h35km, mb4.3/6, Error ellipse: s-maj=17.7km s-min=8.8km az=67.0*
ISC 12 21:12:03.7±1.6, 2°.91S±0°.05×135°.87E±0°.04, h34km±13km, n68, σ1°28/79, mb4.2/14, MS3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**1.72**	**8**	P	**Pn**	**21 12 26.9**	**-4.3**
BAKI				S	**Sn**	**21 12 47.2**	**-4.8**
SMPI	**Sarmi**	**2.98**	**72**	P	**Pn**	**21 12 47.6**	**-1.0**
FAKI	**Fak Fak**	**3.61**	**270**	P	**Pn**	**21 12 56.6**	**-0.7**
FAKI				S	**Sn**	**21 13 37.9**	**-0.9**
TLE	**Tual**	**4.14**	**229**	P	**Pn**	**21 13 07.8**	**+3.3**
JAY	**Jayapura**	**4.85**	**86**	P	**Pn**	**21 13 14.9**	**+0.6**
MSAI	**Masohi**	**6.94**	**266**	P	**Pn**	**21 13 44.0**	**+0.9**
	0.2nm679nm29nm,0.9s						
AAI	**Ambon**	**7.70**	**264**	P	**Pn**	**21 13 53.8**	**+0.3**
	0.2nm65nm,0.6s						
LBMI	**Labuha**	**8.66**	**285**	P	**Pn**	**21 14 05.6**	**-1.1**
	63nm,1.1s						
MNI	**Manado**	**11.84**	**291**	P	**Pn**	**21 14 46.6**	**-3.7**
	1µm109nm,1.0s						
PMG	**Port Moresby**	**12.95**	**120**	Pn	**Pn**	**21 15 07.3**	**+1.9**
	0.9nm,0.3s,baz=23,slow=7.3,SNR=4.4						
PMG	**Port Moresby**	**12.95**	**120**	*e*Pn	**Pn**	**21 15 06.8**	**+1.5**
	16nm,1.0s						
PMG	**Port Moresby**	**12.95**	**120**	P	**Pn**	**21 15 06.1**	**+0.7**
	19nm,1.4s						
COEN	**Coen**	**13.14**	**147**	*e*P	**Pn**	**21 15 07.9**	**-0.1**
	58nm,0.5s						
COEN				*e*S	**Sn**	**21 17 26.2**	**-6.9**
COEN	**Coen**	**13.14**	**147**	P	**Pn**	**21 15 08.2**	**+0.2**
	21nm,0.7s						
KDI	**Kendari**	**13.27**	**265**	P	**Pn**	**21 15 09.7**	**-0.1**
	20nm,1.1s						
GTOI	**Gorontalo**	**13.32**	**285**	P	**Pn**	**21 15 10.8**	**+0.2**
	34nm,0.6s						
MRSI	**Marisa**	**14.32**	**283**	P	**Pn**	**21 15 24.3**	**+0.1**
	30nm,0.8s						
TTSI	**Tana Toraja**	**16.03**	**269**	P	**Pn**	**21 15 52.6**	**+5.9**
SPSI	**Sidrap Palu**	**16.10**	**266**	P	**Pn**	**21 15 47.4**	**-0.3**
	25nm,1.1s						
WRAB	**Tennant Creek**	**16.99**	**185**	*e*Pn	**Pn**	**21 15 57.0**	**-1.8**
	22nm,0.6s						
WRAB				*e*Sn	**Sn**	**21 18 57.5**	**-9.2**
WRAB	**Tennant Creek**	**16.99**	**185**	P	**Pn**	**21 15 57.9**	**-0.9**
	956nm60nm,0.7s						
WB2	**Warramunga Arr**	**17.00**	**185**	*e*Pn	**Pn**	**21 15 56.9**	**-2.0**
WB2				*e*Sn	**Sn**	**21 18 58.9**	**-8.0**
WRA	**Warramunga Arr**	**17.00**	**185**	P	**Pn**	**21 15 57.4**	**-1.5**
	0.8nm,0.3s,baz=356,slow=13,SNR=16						
WRA				S	**Sn**	**21 18 59.7**	**-7.2**
	1.2nm,0.3s,baz=7.7,slow=22,SNR=11						
WRA	**Warramunga Arr**	**17.00**	**185**	P	**Pn**	**21 15 57.4**	**-1.5**
WRA				S	**Sn**	**21 18 59.7**	**-7.2**
FITZ	**Fitzroy Crossi**	**18.13**	**213**	P	**Pn**	**21 16 12.6**	**-0.3**
	1.0nm,0.3s,baz=42,slow=10,SNR=16						
FITZ				S	**Sn**	**21 19 25.2**	**-9.2**
	0.7nm,0.3s,baz=197,slow=17,SNR=4.2						
FITZ	**Fitzroy Crossi**	**18.13**	**213**	*e*P	**Pn**	**21 16 13.0**	**+0.1**
	14nm,0.4s						
FITZ				*e*S	**Sn**	**21 19 25.6**	**-8.7**
FITZ	**Fitzroy Crossi**	**18.13**	**213**	P	**Pn**	**21 16 12.6**	**-0.3**
FITZ				S	**Sn**	**21 19 25.2**	**-9.2**
FITZ	**Fitzroy Crossi**	**18.13**	**213**	P	**Pn**	**21 16 14.0**	**+1.1**
	14nm,0.8s						
MYLDM	**Lahad Datu**	**19.12**	**295**	P	**Pn**	**21 16 26.5**	**+1.5**
CTA	**Charters Tower**	**19.86**	**150**	P	**Pn**	**21 16 33.1**	**-0.7**
	7.0nm,0.8s,baz=335,slow=11,SNR=10						
CTA	**Charters Tower**	**19.86**	**150**	*e*P	**Pn**	**21 16 30.0**	**-3.8**
	6.0nm,0.7s						
CTA	**Charters Tower**	**19.86**	**150**	P	**Pn**	**21 16 33.1**	**-0.7**
CTAO	**Charters Tower**	**19.86**	**150**	*e*P	**Pn**	**21 16 32.6**	**-1.2**
	9.4nm,0.9s						
CTAO				*e*S	**Sn**	**21 20 13.8**	**-2.3**
CTAO	**Charters Tower**	**19.86**	**150**	P	**Pn**	**21 16 33.1**	**-0.7**
	16nm,2.8s						
MTNI	**Mataram**	**20.40**	**253**	P	**P**	**21 16 38.1**	**+0.1**
	41nm,0.9s						
AS31	**Alice Springs**	**20.72**	**185**	*e*Pn	**P**	**21 16 42.9**	**+1.6**
AS31				*e*S	**S**	**21 20 30.1**	**-1.0**
AS31				*e*ScP	ScP	21 24 28.2	+3.6
ASAR	**Alice Springs**	**20.73**	**185**	P	**P**	**21 16 43.2**	**+1.8**
	41nm,0.7s,baz=10,slow=11,SNR=290						
ASAR				S	**S**	**21 20 33.2**	**+2.1**
	12nm,1.0s,baz=12,slow=19,SNR=12						
ASAR	**Alice Springs**	**20.73**	**185**	P	**P**	**21 16 43.2**	**+1.8**
ASAR				S	**S**	**21 20 33.2**	**+2.1**
KHKI	**Kahang-Kahang**	**20.87**	**254**	P	**P**	**21 16 43.4**	**+0.3**
	30nm,0.9s						
BBKI	**Banjar Baru**	**21.00**	**268**	P	**P**	**21 16 47.4**	**+2.9**
KKM	**Kota Kinabalu**	**21.55**	**294**	*e*P	**P**	**21 16 46.6**	**-3.8**
	10.0nm,0.6s,mb4.4						
EIDS	**Eidsvold**	**26.71**	**148**	*e*P	**P**	**21 17 41.1**	**+1.1**
	59nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**29.32**	**170**	P	**P**	**21 18 04.8**	**+1.6**
	3.0nm,0.8s,mb4.1,baz=348,slow=9.3,SNR=2.7						
STKA	**Stephens Creek**	**29.32**	**170**	P	**P**	**21 18 04.8**	**+1.6**
NWAO	**Narrogin (SRO)**	**34.60**	**208**	LR	LR	21 34 49.3	
	comp=Z,144nm,18.6s,MS3.7,baz=354,slow=40						
KSRS	**Korea Array**	**40.83**	**350**	LR	LR	21 33 40.6	
	comp=Z,29nm,21.5s,MS3.1,baz=170,slow=32						
CMAR	**Chiang Mai Arr**	**42.10**	**302**	P	**P**	**21 19 51.8**	**-1.0**
	1.3nm,0.8s,mb3.6,baz=124,slow=5.7,SNR=11						
CMAR	**Chiang Mai Arr**	**42.10**	**302**	P	**P**	**21 19 51.8**	**-1.0**
LZH	**Lanzhou**	**48.98**	**325**	*e*P	**P**	**21 20 49.5**	**+2.5**
	18nm,1.3s,mb4.9						
LZH				pP	pP	21 20 54.0	-3.2
LZH				sP	sP	21 20 56.6	-4.6
URZ	**Urewera**	**51.52**	**138**	P	**P**	**21 21 10.0**	**+3.7**
	8.9nm,1.0s,mb4.7,baz=302,slow=13,SNR=2.8						
URZ	**Urewera**	**51.52**	**138**	P	**P**	**21 21 10.0**	**+3.7**
SONM	**Songino Array**	**56.73**	**337**	P	**P**	**21 21 44.6**	**+0.5**
	0.3nm,0.7s,mb3.4,baz=104,slow=6.1,SNR=2.1						
SONM				LR	LR	21 46 32.9	
	comp=Z,48nm,18.4s,MS3.6,baz=199,slow=37						
SONM	**Songino Array**	**56.73**	**337**	P	**P**	**21 21 44.6**	**+0.5**
MK31	**Makanchi Array**	**68.23**	**323**	*e*P	**P**	**21 23 00.2**	**-0.8**
MKAR	**Makanchi Array**	**68.23**	**323**	P	**P**	**21 23 00.1**	**-0.8**
	1.0nm,0.5s,mb4.2,baz=110,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**68.23**	**323**	P	**P**	**21 23 00.1**	**-0.8**
ZALV	**Zalesovo Beam**	**70.70**	**331**	P	**P**	**21 23 14.8**	**-1.2**
	0.2nm,0.4s,mb3.4,baz=94,slow=15,SNR=2.8						
ZALV	**Zalesovo Beam**	**70.70**	**331**	P	**P**	**21 23 14.8**	**-1.2**
KURK	**Kurchatov**	**72.26**	**326**	P	**P**	**21 23 24.1**	**-1.5**
	0.5nm,0.3s,mb3.9,baz=125,slow=4.7,SNR=4.0						
KURK	**Kurchatov**	**72.26**	**326**	P	**P**	**21 23 26.2**	**+0.7**
	2.1nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**77.86**	**326**	P	**P**	**21 23 58.6**	**+0.8**
	1.2nm,0.7s,mb3.9,baz=134,slow=12,SNR=4.8						
BVAR	**Borovoye Array**	**77.86**	**326**	P	**P**	**21 23 58.6**	**+0.8**
ABKAR	**Akbulak array**	**83.04**	**320**	*e*P	**P**	**21 24 24.5**	**-1.3**
	0.7nm,0.7s,mb3.8						
QSPA	**South Pole Qui**	**87.04**	**180**	P	**P**	**21 24 47.9**	**+2.6**
	1.0nm,0.3s,mb4.5,baz=9.2,slow=2.1,SNR=4.2						
QSPA				LR	LR	22 04 17.8	
	comp=Z,143nm,18.3s,MS4.4,baz=2.8,slow=36						
QSPA	**South Pole Qui**	**87.04**	**180**	P	**P**	**21 24 47.9**	**+2.6**
ILAR	**Eielson Array**	**87.19**	**25**	P	**P**	**21 24 45.5**	**-0.7**
	1.1nm,0.7s,mb4.2,baz=265,slow=4.4,SNR=15						
ILAR	**Eielson Array**	**87.19**	**25**	P	**P**	**21 24 45.5**	**-0.7**
BBB	**Bella Bella**	**95.98**	**38**	LR	LR	22 03 30.8	
	comp=Z,80nm,19.0s,MS4.2,baz=276,slow=32						

*IDC **12** 21:17:22.1±1.7, 5°.33S×148°.34E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.1/15, mbtmp4.2/6, ML4.0/1, Error ellipse: s-maj=62.0km s-min=25.3km az=109.0*
*ISCJB **12** 21:17:24.6±0.9, 5°.36S±0°.10×148°.4E±0°.1, h33km, mb4.0/5, Error ellipse: s-maj=17.3km s-min=12.3km az=33.6*

*NEIC **12** 21:17:26.1±1.0, 5°.29S×148°.32E, h35km, Error ellipse: s-maj=20.3km s-min=14.7km az=146.0*
ISC 12 21:17:26.1±1.0, 5°.3S±0°.1×148°.3E±0°.1, h35km, n19, σ1°43/19, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.25**	**195**	Pn	**Pn**	**21 18 35.0**	**+6.6**
	1.8nm,0.3s,baz=72,slow=2.4,SNR=4.8						
PMG				Sn	**Sn**	**21 19 31.2**	**+14**
	4.8nm,0.3s,baz=211,slow=20,SNR=6.4						
PMG	**Port Moresby**	**4.25**	**195**	*e*Pn	**Pn**	**21 18 26.2**	**-2.2**
PMG				*e*Sn	**Sn**	**21 19 17.5**	**+0.7**
HNR	**Honiara**	**12.27**	**110**	*e*Pn	**Pn**	**21 20 17.6**	**-0.8**
	186nm,1.4s						
CTAO	**Charters Tower**	**14.85**	**188**	*e*Pn	**Pn**	**21 20 54.6**	**+0.9**
WB2	**Warramunga Arr**	**19.91**	**222**	*e*P	**Pn**	**21 21 54.3**	**-2.4**
WRA	**Warramunga Arr**	**19.92**	**222**	P	**Pn**	**21 21 55.2**	**-1.5**
	0.5nm,0.3s,baz=36,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**19.92**	**222**	P	**Pn**	**21 21 55.2**	**-1.5**
ASAR	**Alice Springs**	**22.94**	**216**	P	**P**	**21 22 28.4**	**+1.0**
	7.9nm,0.9s,mb4.2,baz=45,slow=8.8,SNR=9.3						
ASAR	**Alice Springs**	**22.94**	**216**	P	**P**	**21 22 28.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**25.54**	**238**	P	**P**	**21 22 51.4**	**-0.4**
	13nm,0.7s,mb4.6,baz=96,slow=4.3,SNR=5.8						
FITZ	**Fitzroy Crossi**	**25.54**	**238**	P	**P**	**21 22 51.4**	**-0.4**
STKA	**Stephens Creek**	**27.19**	**193**	P	**P**	**21 23 08.6**	**+2.1**
	2.3nm,0.7s,mb3.8,baz=331,slow=18,SNR=2.0						
STKA	**Stephens Creek**	**27.19**	**193**	P	**P**	**21 23 08.6**	**+2.1**
MKAR	**Makanchi Array**	**77.77**	**320**	P	**P**	**21 29 23.0**	**+3.3**
	0.4nm,0.7s,mb3.5,baz=101,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**77.77**	**320**	P	**P**	**21 29 23.0**	**+3.3**
YKA	**Yellowknife Ar**	**97.94**	**28**	P	**P**	**21 30 57.9**	**-0.3**
	0.5nm,0.9s,mb4.0,baz=270,slow=4.6,SNR=4.0						
YKA	**Yellowknife Ar**	**97.94**	**28**	P	**P**	**21 30 57.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**146.15**	**286**	PKPbc	PKPbc	21 37 04.2	+0.5
	2.0nm,0.7s,baz=88,slow=3.7,SNR=13						
TORD	**Torodi Ar. Bea**	**146.15**	**286**	PKPbc	PKPbc	21 37 04.2	+0.5

*IDC **12** 21:20:20.5±2.8, 31°.32S×176°.93W, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.0/17, mbtmp4.1/5, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/24, Error ellipse: s-maj=64.5km s-min=34.9km az=122.0*
*NEIC **12** 21:20:21.0±1.8, 31°.59S×176°.86W, h10km, mb4.2/2, Error ellipse: s-maj=35.3km s-min=16.8km az=101.0*
ISC 12 21:20:19.0±5.5, 31°.7S±0°.2×176°.0W±0°.8, h35km, n16, σ0°82/15, mb4.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.91**	**325**	*e*Pn	**Pn**	**21 20 53.6**	**-9.2**
URZ	**Urewera**	**8.70**	**219**	Pn	**Pn**	**21 22 22.7**	**+0.5**
	1.0nm,0.3s,baz=113,slow=20,SNR=7.4						
URZ				Sn	**Sn**	**21 24 04.2**	**+5.2**
	2.4nm,0.3s,baz=194,slow=14,SNR=4.7						
URZ	**Urewera**	**8.70**	**219**	*e*Pn	**Pn**	**21 22 21.7**	**-0.5**
URZ				*e*Sn	**Sn**	**21 23 59.2**	**+0.2**
HNR	**Honiara**	**31.42**	**309**	*e*P	**P**	**21 26 37.7**	**+0.7**
CTA	**Charters Tower**	**35.71**	**280**	P	**P**	**21 27 14.0**	**-0.2**
	3.2nm,0.6s,mb4.4,baz=95,slow=9.4,SNR=2.6						
CTA	**Charters Tower**	**35.71**	**280**	P	**P**	**21 27 14.0**	**-0.2**
CTAO	**Charters Tower**	**35.71**	**280**	*e*P	**P**	**21 27 13.1**	**-1.2**

WRA	Warramunga Arr	45.19	272	P	P	22 03 42.9	-0.2
FITZ	Fitzroy Crossi	53.42	270	P	P	22 04 47.7	+1.8
2.0nm,0.9s,mb4.0,baz=78,slow=9.3,SNR=3.1							
FITZ	Fitzroy Crossi	53.42	270	P	P	22 04 47.7	+1.8
KSRS	Korea Array	85.59	319	LR	LR	22 44 02.2	
comp=Z,10nm,18.0s,MS3.3,baz=295,slow=34							
FINES	FINESS Array B	146.20	340	PKPbc	PKPbc	22 15 07.5	+2.3
1.3nm,0.4s,baz=52,slow=3.5,SNR=17							
FINES	FINESS Array B	146.20	340	PKPbc	PKPbc	22 15 07.5	+2.3
NOA	NORSAR Array B	149.63	352	PKPbc	PKPbc	22 15 17.2	+2.8
1.0nm,0.8s,baz=14,slow=4.3,SNR=3.3							
NOA	NORSAR Array B	149.63	352	PKPbc	PKPbc	22 15 17.2	+2.8

GUC 12 22:05:28.4±0.9, 34°.71S×72°.09W, h15km±6km, MD3.8, ML3.6, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.77	113	⇓iP	Pg	22 05 43.6	+0.2
NICH				i S	Sg	22 05 54.6	+1.1
TALC	Talca	0.78	151	i P	Pg	22 05 42.9	-0.7
TALC				i S	Sg	22 05 53.4	-0.6
TALC				AML	AML	22 05 54.4	
comp=N,6μm,0.1s							
LNV	Longovilo	0.94	37	⇓iP	Pb	22 05 44.5	-1.9
LNV				i S	Sb	22 05 56.4	-2.3
LNCH	Linares	1.20	161	⇑iP	Pn	22 05 53.2	+2.5
LNCH				i S	Sb	22 06 08.3	+2.1
LNCH				AML	AML	22 06 12.1	
comp=N,3μm,0.5s							
CACH	El Canelo	1.37	65	⇓iP	Pn	22 05 52.6	-0.3
CACH				i S	Sn	22 06 11.2	+0.3
CHCH	Chadas Angostu	1.42	57	⇑iP	Pn	22 05 53.2	-0.4
CHCH				i S	Sn	22 06 11.3	-0.8
TACH	Talagante	1.43	43	⇑iP	Pn	22 05 52.2	-1.5
TACH				i S	Sn	22 06 10.2	-2.0
COCH	Cobquecura	1.53	202	eP	Pn	22 05 54.3	-0.8
COCH				AML	AML	22 06 19.1	
comp=E,268nm,0.5s							
ANTU	Antumapu	1.66	47	eP	Pn	22 05 55.9	-1.1
ANTU				i S	Sn	22 06 17.8	-0.3
ANTU				AML	AML	22 06 22.1	
comp=E,2μm,0.5s							
PCH	Pirque	1.70	51	⇓iP	Pn	22 05 57.3	-0.3
IHA	Instituto Hidr	1.72	13	eP	Pn	22 05 57.7	-0.1
IHA				i S	Sn	22 06 19.9	+0.3
SAN	Santiago	1.73	44	eP	Pn	22 05 57.9	0.0
SAN				i S	Sn	22 06 19.7	0.0
LMEL	Las Melosas	1.79	62	⇓iP	Pn	22 05 59.1	+0.4
LMEL				i S	Sn	22 06 22.2	+1.1
LMEL				AML	AML	22 06 25.3	
comp=N,2μm,0.2s							
FSR	Penalolen	1.79	47	AML	AML	22 06 24.4	
comp=N,250nm,0.3s							
SJCH	San Jose de Ma	1.79	54	eP	Pn	22 05 59.1	+0.3
SJCH				eS	Sn	22 06 21.9	+0.6
SJCH				AML	AML	22 06 26.3	
comp=E,1μm,0.4s							
CLCH	Cerro Calan	1.84	45	⇓iP	Pn	22 05 59.8	+0.4
CLCH				i S	Sn	22 06 22.3	-0.2
CLCH				AML	AML	22 06 32.3	
comp=E,1μm,0.4s							
CLCH				AML	AML	22 06 32.9	
comp=E,1μm,0.5s							
PEL	Peldehue	1.95	37	⇑iP	Pn	22 06 01.1	+0.1
PEL				i S	Sn	22 06 24.9	-0.4
PEL				AML	AML	22 06 37.3	
comp=N,898nm,0.4s							
ROCH	El Roble	1.96	28	⇓iP	Pn	22 05 60.0	-1.1
ROCH				i S	Sn	22 06 25.4	+0.1
ROCH				AML	AML	22 06 32.2	
comp=E,614nm,0.6s							
FCH	Farellones	2.04	48	⇓iP	Pn	22 06 03.0	+0.9
FCH				i S	Sn	22 06 28.5	+1.2
FCH				AML	AML	22 06 33.2	
comp=N,748nm,0.1s							
JACH	Jahuel	2.38	32	eP	Pn	22 06 08.3	+1.4

NNC 12 22:29:24.9±7.8, 37°.39N×71°.57E, h133km±154km, mb2.7, mpv3.6, 3C-1D, Error ellipse: s-maj=88.7km s-min=50.0km az=28.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.01	18	P	Pn	22 30 38.7	+0.6
SNR=43							
AML				P		22 30 38.7	
SNR=43							
EKS2	Erkin-Say	5.53	17	P	Pn	22 30 45.9	+0.8
SNR=24							
EKS2				P		22 30 45.9	
SNR=24							
AAK	Ala-Archa	5.70	22	P	Pn	22 30 47.9	+0.6
SNR=9.9							
AAK				P		22 30 47.9	
SNR=9.9							
KK31	Karatay Array	5.77	352	⇑P	Pn	22 30 48.8	+0.6
1.2nm,0.2s,baz=174,slow=12,SNR=58							
KK31				⇓S	Sn	22 31 53.8	+0.5
4.1nm,0.3s,baz=172,slow=22,SNR=17							
CHMS	Chumysh	6.11	22	P	Pn	22 30 53.1	+0.3
SNR=5.1							
CHMS				P		22 30 53.1	
SNR=5.1							
TKM2	Tokmak 2	6.33	28	P	Pn	22 30 55.5	-0.3
SNR=8.4							
TKM2				P		22 30 55.5	
SNR=8.4							
TKM2	Tokmak 2	6.33	28	⇑P	Pn	22 30 55.4	-0.3
3.5nm,0.6s							
AB31	Akbulak array	14.55	328	⇑P	Pn	22 32 44.3	+0.1
0.1nm,0.3s,baz=166,slow=11,SNR=6.9							

*IDC **12** 22:44:14.6±7.1, 13°.13S×167°.06E, h174km±64km, mb3.7/10, mb1 3.8/10, mb1mx3.6/20, mbtmp3.7/10, Error ellipse: s-maj=27.0km s-min=21.2km az=51.0*
*ISCJB **12** 22:44:15.9±2.6, 13°.2S±0°.1×167°.1E±0°.1, h205km±28km, mb3.8/10, Error ellipse: s-maj=25.0km s-min=16.5km az=158.0*
*NEIC **12** 22:44:15.9±1.8, 13°.15S×167°.10E, h190km±18km, mb3.7/2, Error ellipse: s-maj=16.2km s-min=10.7km az=166.0*

ISC 12 22:44:16.1±2.6, 13°.1S±0°.1×167°.1E±0°.1, h191km±27km, n35, σ0s87/23, mb3.9/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.90	184	ePn	Pn	22 46 21.6	+0.5
3.5nm,0.5s							
MSVF	Nonsavu	11.50	115	ePn	Pn	22 46 54.2	-0.6
0.5nm,0.3s							
CTA	Charters Tower	21.13	248	P	P	22 48 46.9	+0.7
3.4nm,0.8s,mb3.7,baz=75,slow=12,SNR=4.4							
CTA	Charters Tower	21.13	248	P	P	22 48 46.9	+0.7
URZ	Urewera	26.55	162	P	P	22 49 37.0	+0.7
5.6nm,0.6s,mb4.4,baz=310,slow=10,SNR=2.4							
URZ	Urewera	26.55	162	eP	P	22 49 36.3	+0.1
RPZ	Rata Peaks	30.66	174	P	P	22 50 12.9	+0.4
2.3nm,0.4s,mb4.3,baz=346,slow=22,SNR=4.6							
RPZ	Rata Peaks	30.66	174	P	P	22 50 12.9	+0.4
WRAB	Tennant Creek	32.08	253	P	P	22 50 24.9	-0.4
WRA	Warramunga Arr	32.09	253	P	P	22 50 23.8	-1.6
0.4nm,0.5s,mb3.4,baz=87,slow=9.0,SNR=10							
WRA	Warramunga Arr	32.09	253	P	P	22 50 23.8	-1.6
ASAR	Alice Springs	33.12	247	P	P	22 50 33.6	-0.7
1.3nm,0.5s,mb3.9,baz=76,slow=9.3,SNR=31							
ASAR	Alice Springs	33.12	247	P	P	22 50 33.6	-0.7
PETK	Petropavlovsk-	66.47	354	P	P	22 54 45.9	+1.2
4.2nm,0.8s,mb4.3,baz=168,slow=7.4,SNR=3.1							
PETK	Petropavlovsk-	66.47	354	P	P	22 54 46.0	+1.2
SONM	Songino Array	81.13	324	P	P	22 56 11.2	+1.1
0.2nm,0.5s,mb3.0,baz=135,slow=5.4,SNR=3.8							
SONM	Songino Array	81.13	324	P	P	22 56 11.2	+1.1
ILAR	Eielson Array	85.08	18	P	P	22 56 29.6	-0.3
2.0nm,0.6s,mb4.0,baz=239,slow=5.2,SNR=39							
ILAR	Eielson Array	85.08	18	P	P	22 56 29.6	-0.3
INK	Inuvik	91.45	19	P	P	22 56 58.5	-1.6
0.9nm,1.0s,mb3.7,baz=233,slow=5.1,SNR=2.1							
INK	Inuvik	91.45	19	P	P	22 56 58.5	-1.5
MKAR	Makanchi Array	95.95	317	P	P	22 57 21.9	+0.7
0.7nm,0.7s,mb4.1,baz=82,slow=6.2,SNR=8.1							
MKAR	Makanchi Array	95.95	317	P	P	22 57 21.9	+0.7
ARCES	ARCESS Array B	118.69	346	PKP	PKPdf	23 02 40.6	-0.2
2.5nm,0.3s,baz=72,slow=2.1,SNR=47							
ARCES	ARCESS Array B	118.69	346	PKP	PKPdf	23 02 40.6	-0.2
FINES	FINESS Array B	124.20	339	PKP	PKPdf	23 02 51.6	+0.1
2.2nm,0.6s,baz=48,slow=2.8,SNR=11							
FINES	FINESS Array B	124.20	339	PKP	PKPdf	23 02 51.6	+0.1
NOA	NORSAR Array B	129.06	345	PKP	PKPdf	23 03 01.1	+0.2
0.3nm,0.4s,baz=32,slow=2.0,SNR=4.1							
NOA	NORSAR Array B	129.06	345	PKP	PKPdf	23 03 01.1	+0.2
KEST	Kesra	149.88	322	PKPbc	PKPbc	23 03 44.8	+0.7
1.7nm,0.9s,baz=285,slow=11,SNR=2.1							
KEST	Kesra	149.88	322	PKPbc	PKPbc	23 03 44.8	+0.7
ESDC	Sonseca Array	152.42	345	PKPbc	PKPbc	23 03 50.4	+0.6
0.7nm,0.6s,baz=1.5,slow=4.6,SNR=7.4							
ESDC				PKPab	PKPab	23 04 01.5	+0.9
0.5nm,0.6s,baz=19,slow=4.6,SNR=3.2							
ESDC	Sonseca Array	152.42	345	PKPbc	PKPbc	23 03 50.4	+0.6
ESDC				PKPab	PKPab	23 04 01.5	+0.9
TORD	Torodi Ar. Bea	165.79	272	PKP	PKPdf	23 03 59.2	+0.3
0.5nm,0.8s,baz=37,slow=1.4,SNR=3.4							
TORD	Torodi Ar. Bea	165.79	272	PKP	PKPdf	23 03 59.2	+0.3

*ISCJB **12** 22:45:53.8±0.2, 50°.36N±0°.02×18°.68E±0°.02, h0km, mb3.3/3, Error ellipse: s-maj=2.5km s-min=1.6km az=12.4*
*MOS **12** 22:45:54.4±1.4, 50°.40N×18°.73E, h10km, mb3.7/1, Error ellipse: s-maj=5.5km s-min=4.4km az=87.6*
*LDG **12** 22:45:55.1±0.1, 50°.37N×18°.92E, h2km, Ml3.6/15, Error ellipse: s-maj=4.9km s-min=1.6km az=13.0*
*CSEM **12** 22:45:55.7±0.1, 50°.34N×18°.76E, h1km, ML4.0/8, Error ellipse: s-maj=3.3km s-min=2.1km az=10.0*
*IPEC **12** 22:45:55.2±0.5, 50°.37N×18°.89E, h4km±1km, ML3.2/3, Error ellipse: s-maj=2.6km s-min=2.5km az=57.0*
*PRU **12** 22:45:55.9, 50°.36N×18°.81E, h0km*
*WAR **12** 22:45:55.7, 50°.35N×18°.88E*
*NEIC **12** 22:45:56.7, 50°.36N×18°.80E, h1km, ML3.6(SZGRF), After SZGRF.*
NEIC Felt at Bytom.
*BGR **12** 22:45:56.7±0.3, 50°.36N×18°.80E, h1km, ML3.7/10, Error ellipse: s-maj=6.7km s-min=3.3km az=7.0*
*IDC **12** 22:45:57.0±0.6, 50°.31N×18°.71E, h0km, mb3.4/3, mb1 3.5/10, mb1mx3.5/25, mbtmp3.4/10, ML3.3/7, Error ellipse: s-maj=12.6km s-min=5.6km az=150.0*
*VIE **12** 22:46:00.4±0.5, 49°.78N×18°.81E, h0km, mb2.6/5, ML3.3/6, Error ellipse: s-maj=4.4km s-min=2.9km az=12.0 41 km E of Ostrava Suspected Mining induced.*

ISC 12 22:45:55.7±0.2, 50°.33N±0°.02×18°.76E±0°.02, h0km, n299, σ18s23/440, mb3.3/3, 15C-16D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.44	236	ePg	Pg	22 46 06.6	+2.5
RAC				eSg	Sg	22 46 14.6	+4.9
RAC	Raciborz	0.44	236	eP	Pg	22 46 06.6	+2.5
RAC				e		22 46 14.6	
RAC	Raciborz	0.44	236	eP	Pg	22 46 06.6	+2.5
RAC				eSg	Sg	22 46 14.6	+4.9
OKC	Ostrava-Krasne	0.63	219	ePg	Pg	22 46 09.6	+1.8
OKC				eSg	Sg	22 46 19.2	+3.3
OKC	Ostrava-Krasne	0.63	219	eP	Pg	22 46 09.5	+1.7
OKC				e		22 46 19.0	
OKC				smax			
comp=N,247nm,0.3s							
OKC	Ostrava-Krasne	0.63	219	ePg	Pg	22 46 09.6	+1.8
OKC				eSg	Sg	22 46 19.2	+3.3
OKC	Ostrava-Krasne	0.63	219	ePG	Pg	22 46 09.5	+1.7
OKC				eSG	Sg	22 46 19.0	+3.1
comp=N,247nm,0.3s							
OKC	Ostrava-Krasne	0.63	219	ePg	Pg	22 46 09.4	+1.6
baz=42							
OKC				Sg	Sg	22 46 19.0	+3.1
comp=N,247nm,0.3s							
OJC	Ojcow	0.68	99	ePg	Pg	22 46 07.8	-0.9
OJC				eSg	Sg	22 46 16.5	-0.9
OJC				i		22 46 17.7	
OJC	Ojcow	0.68	99	ePg	Pg	22 46 08.4	-0.3
OJC				eSg	Sg	22 46 17.0	-0.4
OJC	Ojcow	0.68	99	eP	Pg	22 46 08.4	-0.3
OJC				e		22 46 17.0	
OJC	Ojcow	0.68	99	ePg	Pg	22 46 08.4	-0.3
OJC				eSg	Sg	22 46 17.0	-0.4
OJC	Ojcow	0.68	99	Pg	Pg	22 46 08.4	-0.3
OJC				eSg	Sg	22 46 16.5	-0.9
MORC	Moravsky Berou	0.96	235	ePg	Pg	22 46 15.2	+1.1
MORC				eSg	Sg	22 46 28.8	+2.3
MORC	Moravsky Berou	0.96	235	⇑P	Pg	22 46 15.2	+1.1
MORC				S	Sg	22 46 29.0	+2.5
MORC	Moravsky Berou	0.96	235	ePg	Pg	22 46 15.2	+1.1
MORC				eSg	Sg	22 46 28.9	+2.4
MORC	Moravsky Berou	0.96	235	⇑iP	Pg	22 46 15.2	+1.1
MORC	Moravsky Berou	0.96	235	S	Sg	22 46 29.0	+2.5
MORC	Moravsky Berou	0.96	235	P	Pg	22 46 15.2	+1.1
MORC				eSg	Sg	22 46 28.4	+1.9
comp=N,421nm,0.2s,baz=55							
MORC				S	Sg	22 46 29.0	+2.5
KRLC	Kraliky	1.29	259	ePG	Pn	22 46 20.6	-0.4
KRLC				eSG	Sn	22 46 38.0	-1.0
KRLC	Kraliky	1.29	259	Pg	Pn	22 46 20.6	-0.4
KRLC				Sg	Sn	22 46 38.0	-1.0
LIKS	Likavka	1.30	170	eP	Pg	22 46 20.5	-0.1
LIKS				e		22 46 38.5	
LIKS				smax			
comp=N,861nm,0.3s							
LIKS	Likavka	1.30	170	ePG	Pg	22 46 20.5	-0.1
LIKS				eSG	Sg	22 46 38.5	+1.1
LIKS	Likavka	1.30	170	eP	Pg	22 46 20.5	-0.1
comp=N,861nm,0.3s							
LIKS				eS	Sg	22 46 38.5	+1.1
NIE	Niedzica	1.36	132	ePg	Pg	22 46 20.9	-0.8
NIE				eSg	Sg	22 46 39.4	+0.1
NIE	Niedzica	1.36	132	eP	Pg	22 46 20.9	-0.8
NIE				e		22 46 39.4	
NIE	Niedzica	1.36	132	eP	Pg	22 46 20.9	-0.8
NIE				eS	Sg	22 46 39.4	+0.1
DPC	Dobruska-Polom	1.56	272	ePn	Pn	22 46 25.3	+0.6
DPC				ePg	Pg	22 46 26.1	+0.5
DPC				eSg	Sg	22 46 47.3	+1.5
DPC	Dobruska-Polom	1.56	272	eP	Pn	22 46 25.3	+0.6
DPC				e		22 46 46.3	
DPC				smax			
comp=N,169nm,0.3s							
DPC	Dobruska-Polom	1.56	272	ePn	Pn	22 46 25.3	+0.6
DPC				ePg	Pg	22 46 26.1	+0.5
DPC				eSg	Sg	22 46 47.3	+1.5
DPC	Dobruska-Polom	1.56	272	ePG	Pn	22 46 25.3	+0.6
DPC				eSG	Sn	22 46 46.3	+0.7
comp=N,169nm,0.3s							
DPC	Dobruska-Polom	1.56	272	ePn	Pn	22 46 25.0	+0.3
baz=88							
DPC	Dobruska-Polom	1.56	272	eP	Pn	22 46 25.3	+0.6
comp=N,169nm,0.3s							
KSP	Ksiaz	1.65	289	ePn	Pn	22 46 27.1	+1.1
KSP				ePg	Pg	22 46 30.0	+2.6
KSP				eSn	Sn	22 46 50.5	+2.7
KSP	Ksiaz	1.65	289	ePn	Pn	22 46 26.5	+0.6
KSP				eSg	Sg	22 46 49.6	+0.8
KSP	Ksiaz	1.65	289	eP	Pn	22 46 25.5	-0.4
KSP				e		22 46 50.4	
KSP	Ksiaz	1.65	289	ePn	Pn	22 46 26.5	+0.6
KSP				eSg	Sg	22 46 49.6	+0.8
KSP	Ksiaz	1.65	289	ePn	Pn	22 46 25.5	-0.4
KSP				i Pg	Pg	22 46 28.1	+0.7
KSP				eSg	Sg	22 46 50.4	+1.6
KSP	Ksiaz	1.65	289	eP	Pn	22 46 25.5	-0.4
KSP	Ksiaz	1.65	289	Pn	Pn	22 46 26.5	+0.6
KSP	Ksiaz	1.65	289	i Pg	Pg	22 46 28.1	+0.7
KSP				Sg	Sg	22 46 49.6	+0.8
KSP				eS	Sg	22 46 50.4	+1.6
VRAC	Vranov	1.73	235	Pn	Pn	22 46 27.6	+0.6
comp=N,15nm,0.3s,baz=57,slow=15,SNR=77							
VRAC				Pg	Pg	22 46 28.8	-0.1
comp=N,15nm,0.3s,baz=58,slow=15,SNR=67							
VRAC				Lg		22 46 52.2	
comp=N,61nm,0.3s,baz=118,slow=14,SNR=13							
VRAC	Vranov	1.73	235	Pn	Pn	22 46 27.6	+0.6
VRAC				Pg	Pg	22 46 28.8	-0.1
VRAC				Lg		22 46 52.2	
VRAC	Vranov	1.73	235	⇑P	Pn	22 46 27.6	+0.5
VRAC				S	Sn	22 46 52.2	+2.3
VRAC	Vranov	1.73	235	⇑iP	Pn	22 46 27.6	+0.5
VRAC	Vranov	1.73	235	S	Sn	22 46 52.2	+2.3
VRAC	Vranov	1.73	235	ePn	Pn	22 46 27.3	+0.2
comp=N,168nm,0.3s,baz=54							
VRAC	Vranov	1.73	235	P	Pn	22 46 27.6	+0.5
VRAC	Vranov	1.73	235	Pg	Pg	22 46 28.8	-0.1
VRAC				eSg	Sg	22 46 52.3	+0.9
comp=N,168nm,0.3s,baz=54							
UPC	Upice	1.77	277	eP	Pn	22 46 27.8	+0.3
UPC	Upice	1.77	277	ePG	Pn	22 46 27.8	+0.3
UPC	Upice	1.77	277	Pg	Pn	22 46 27.8	+0.3
KOLL	Kolacno	1.77	188	eP	Pn	22 46 27.2	-0.3
KOLL				e		22 46 52.7	
KOLL	Kolacno	1.77	188	ePN	Pn	22 46 27.2	-0.3
KOLL				eSG	Sg	22 46 52.7	+0.2
KOLL	Kolacno	1.77	188	eP	Pn	22 46 27.2	-0.3
KOLL				eS	Sg	22 46 52.7	+0.2
VYHS	Vyhne	1.84	178	eP	Pn	22 46 28.1	-0.4
VYHS				e		22 46 52.1	
VYHS	Vyhne	1.84	178	ePN	Pn	22 46 28.1	-0.4
VYHS				eSN	Sn	22 46 52.1	-0.3
VYHS	Vyhne	1.84	178	eP	Pn	22 46 28.1	-0.4
VYHS				eSg	Sn	22 46 52.1	-0.3
STHS	Stebnicka Huta	1.85	119	eP	Pn	22 46 29.1	+0.5
STHS				e		22 46 55.2	
STHS	Stebnicka Huta	1.85	119	ePN	Pn	22 46 29.1	+0.5
STHS				eSN	Sg	22 46 55.2	+0.1
STHS	Stebnicka Huta	1.85	119	eP	Pn	22 46 29.1	+0.5
STHS				eSg	Sg	22 46 55.2	+0.1
BEL	Belsk	1.98	40	eP	Pg	22 46 36.9	+3.2
BEL				eSg	Sg	22 47 08.3	+9.0
BEL	Belsk	1.98	40	eP	Pg	22 46 36.9	+3.2
BEL	Belsk	1.98	40	ePg	Pg	22 46 36.9	+3.2
KRUC	Moravsky	1.99	231	ePn	Pn	22 46 30.7	+0.1
comp=N,152nm,0.6s,baz=50							
KRUC				eSn	Sn	22 46 58.4	+2.2
comp=N,152nm,0.6s,baz=50							
SMOL	Smolenice	2.01	206	eP	Pn	22 46 31.3	+0.4
SMOL				e		22 46 56.0	
SMOL	Smolenice	2.01	206	ePN	Pn	22 46 31.3	+0.4
SMOL				eSN	Sn	22 46 56.0	-0.7
SMOL	Smolenice	2.01	206	eP	Pn	22 46 31.3	+0.4
SMOL				eS	Sn	22 46 56.0	-0.7
KECS	Kecovo	2.17	148	eP	Pn	22 46 31.6	-1.4
KECS				e		22 46 58.1	
KECS	Kecovo	2.17	148	ePN	Pn	22 46 31.6	-1.4
KECS				eSN	Sn	22 46 58.1	-2.4
KECS	Kecovo	2.17	148	eP	Pn	22 46 31.6	-1.4
KECS				eS	Sn	22 46 58.1	-2.4
CRVS	Cervenica-Dubn	2.27	128	eP	Pn	22 46 34.0	-0.4
CRVS	Cervenica-Dubn	2.27	128	ePN	Pn	22 46 34.0	-0.4
CRVS	Cervenica-Dubn	2.27	128	eP	Pn	22 46 34.0	-0.4
ZST	Bratislava	2.40	208	eP	Pn	22 46 36.9	+0.8
ZST				e		22 47 06.7	
ZST	Bratislava	2.40	208	ePN	Pn	22 46 36.9	+0.8
ZST				eSN	Sn	22 47 06.7	+0.6
ZST	Bratislava	2.40	208	eP	Pn	22 46 36.9	+0.8
ZST				eS	Sn	22 47 06.7	+0.6
PSZ	Piszkesteto	2.53	162	ePn	Pn	22 46 37.5	-0.5
PSZ				ePb	Pb	22 46 43.1	+1.2
PSZ				eSn	Sn	22 47 09.7	+0.3
PSZ	Piszkesteto	2.53	162	eP	Pn	22 46 37.5	-0.4
PSZ				e		22 47 09.7	
PSZ	Piszkesteto	2.53	162	ePB	Pg	22 46 43.7	-0.4
PSZ				eSn	Sn	22 47 12.9	+3.5
PSZ	Piszkesteto	2.53	162	⇑iP	Pn	22 46 37.7	-0.2
PSZ	Piszkesteto	2.53	162	eP	Pn	22 46 37.5	-0.4
PSZ	Piszkesteto	2.53	162	ePb	Pg	22 46 43.1	-1.0
PSZ				eS	Sn	22 47 09.7	+0.3
PSZ				eSn	Sn	22 47 12.9	+3.5
KWP	Kalwaria Pacla	2.64	104	ePn	Pn	22 46 40.1	+0.6
KWP				ePg	Pg	22 46 47.1	+0.8
KWP	Kalwaria Pacla	2.64	104	ePn	Pn	22 46 40.0	+0.4
KWP				ePb	Pb	22 46 44.5	+0.6
KWP				eSn	Sn	22 47 12.7	+0.4
KWP	Kalwaria Pacla	2.64	104	⇓P	Pn	22 46 39.3	-0.3
KWP				S	Sn	22 47 13.1	+0.8
KWP	Kalwaria Pacla	2.64	104	⇓iP	Pn	22 46 39.3	-0.3
KWP	Kalwaria Pacla	2.64	104	S	Sn	22 47 13.1	+0.8
KWP	Kalwaria Pacla	2.64	104	P	Pn	22 46 39.3	-0.3
KWP	Kalwaria Pacla	2.64	104	ePn	Pn	22 46 40.0	+0.4
KWP	Kalwaria Pacla	2.64	104	ePg	Pg	22 46 47.1	+0.7
KWP				S	Sn	22 47 13.1	+0.8
KOLS	Kolonicke sedl	2.68	120	eP	Pn	22 46 39.5	-0.5
KOLS	Kolonicke sedl	2.68	120	ePN	Pn	22 46 39.5	-0.5
KOLS	Kolonicke sedl	2.68	120	eP	Pn	22 46 39.5	-0.5
PVCC	Panska Ves	2.69	276	eP	Pn	22 46 40.5	+0.4
PVCC	Panska Ves	2.69	276	ePN	Pn	22 46 40.5	+0.4
PVCC				eSG	Sg	22 47 22.6	+0.6
comp=N,139nm,0.3s							
PVCC	Panska Ves	2.69	276	Pn	Pn	22 46 40.5	+0.4
PVCC				Sg	Sg	22 47 22.6	+0.6
comp=N,139nm,0.3s							
PRU	Pruhonice	2.73	264	eP	Pn	22 46 40.8	0.0
PRU	Pruhonice	2.73	264	ePN	Pn	22 46 40.8	0.0
PRU				ePG	Pg	22 46 46.1	-2.0
PRU				eSG	Sg	22 47 22.6	-0.9
comp=N,107nm,0.7s							
PRU	Pruhonice	2.73	264	Pn	Pn	22 46 40.8	0.0
BUD	Budapest	2.85	176	⇓ePg	Pg	22 46 52.8	+2.4
BUD				eSg	Sg	22 47 29.4	+2.1
UZH	Uzhgorod	2.86	125	eP	Pn	22 46 39.1	-3.5
UZH				eS	Sn	22 47 12.3	-5.4
UZH				smax			
comp=N,100nm,0.9s							
UZH				smax			
comp=E,100nm,0.9s							
UZH				MLR	MLR		
comp=Z,55nm,0.9s							
PKSG		2.95	185	ePn	Pn	22 46 44.0	+0.2
PKSG				eSn

GERES	GERESS Array B	3.61 248	Pn	Pn	22 46 53.3	+0.5
GERES			Pg	Pg	22 47 01.8	-3.1
GERES			Sn	Sn	22 47 36.7	+0.6
GERES			Lg		22 47 51.6	
GERES	GERESS Array B	3.61 248	P	Pn	22 46 53.3	+0.5
GERES					22 47 36.7	
GERES			pmax	pmax		
	comp=Z,1.0nm,0.3s					
GERES			pmax	pmax		
	comp=Z,4.0nm,0.3s					
GERES			smax			
	comp=N,5.0nm,0.3s					
GERES	GERESS Array B	3.61 248	P	Pn	22 46 53.3	+0.5
	comp=N,4.0nm,0.3s					
GERES	GERESS Array B	3.61 248	Pg	Pg	22 47 01.8	-3.1
GERES			S	Sn	22 47 36.7	+0.6
ARSA	Arzberg	3.75 216	⇑iPn	Pn	22 46 54.2	-0.5
ARSA	Arzberg	3.75 216	Pn	Pn	22 46 54.2	-0.6
CLL	Collm	3.78 287	e(Pn)	Pn	22 46 57.0	+1.9
CLL			ePg	Pg	22 47 06.0	-2.1
CLL			eSg	Sg	22 47 58.0	+1.0
	comp=Z,69nm,0.5s					
RUE	Ruedersdorf	3.79 307	ePg	Pg	22 47 09.2	+0.9
RUE			eSg	Sg	22 47 59.2	+1.8
RUE	Ruedersdorf	3.79 307	ePg	Pg	22 47 09.2	+0.9
RUE			eSg	Sg	22 47 59.2	+1.9
MOA	Molln	3.86 232	⇑iPn	Pn	22 46 56.7	+0.5
MOA			⇑iSg	Sg	22 47 58.1	-1.4
	comp=Z,46nm,0.5s					
MOA	Molln	3.86 232	Pn	Pn	22 46 56.7	+0.5
MOA			Sg	Sg	22 47 58.1	-1.4
	comp=Z,46nm,0.5s					
WET	Wettzell	3.99 255	ePn	Pn	22 46 59.1	+1.0
WET			eSg	Sg	22 48 02.6	-1.3
WET	Wettzell	3.99 255	eP	Pn	22 46 59.1	+1.0
WET	Wettzell	3.99 255	ePn	Pn	22 46 59.1	+1.0
WET			eSg	Sg	22 48 02.6	-1.3
WET	Wettzell	3.99 255	Pn	Pn	22 46 59.1	+1.0
WET			Sg	Sg	22 48 02.6	-1.3
TANN	Tannenbergstha	4.03 274	ePn	Pn	22 46 59.9	+1.3
TANN	Tannenbergstha	4.03 274	ePn	Pn	22 46 59.9	+1.3
TANN	Tannenbergstha	4.03 274	Pn	Pn	22 46 59.9	+1.3
NKC	Novy Kostel	4.05 271	eSG	Sg	22 48 04.9	-0.8
	comp=Z,68nm,0.5s					
NKC	Novy Kostel	4.05 271	Sg	Sg	22 48 04.9	-0.8
	comp=Z,68nm,0.5s					
BEHE	Becsehely	4.08 200	⇓ePn	Pn	22 47 00.8	+1.5
BMR	Baia Mare	4.10 129	⇓P	Pn	22 46 59.3	-0.2
BMR	Baia Mare	4.10 129	⇓iP	Pn	22 46 59.3	-0.2
BMR	Baia Mare	4.10 129	P	Pn	22 46 59.3	-0.2
PKSM	Moragy	4.12 181	⇓P	Pn	22 46 59.7	-0.2
PKSM	Moragy	4.12 181	⇓iP	Pn	22 46 59.7	-0.2
PKSM	Moragy	4.12 181	ePn	Pn	22 46 59.8	-0.1
WERD	Werda	4.13 274	eSg	Sg	22 48 07.8	-0.5
WERD	Werda	4.13 274	eSg	Sg	22 48 07.8	-0.5
WERD	Werda	4.13 274	Sg	Sg	22 48 07.8	-0.5
ROTZ	Rotzenmuhle	4.26 265	ePn	Pn	22 47 01.5	-0.2
ROTZ	Rotzenmuhle	4.26 265	ePn	Pn	22 47 01.5	-0.3
ROTZ	Rotzenmuhle	4.26 265	Pn	Pn	22 47 01.5	-0.2
DRGR		4.41 142	⇑P	Pn	22 47 03.7	-0.1
DRGR			S	Sn	22 47 53.4	-2.4
DRGR		4.41 142	⇑iP	Pn	22 47 03.7	-0.1
DRGR		4.41 142	S	Sn	22 47 53.4	-2.4
DRGR		4.41 142	P	Pn	22 47 03.7	-0.1
DRGR			S	Sn	22 47 53.4	-2.4
MOX	Moxa	4.57 277	eSg	Sg	22 48 21.5	-1.0
MOX	Moxa	4.57 277	eSg	Sg	22 48 21.5	-0.9
MOX	Moxa	4.57 277	Sg	Sg	22 48 21.5	-1.0
SUW	Suwalki	4.58 35	ePn	Pn	22 47 06.2	0.0
SUW	Suwalki	4.58 35	ePn	Pn	22 47 06.0	-0.2
SUW			eSn	Sn	22 48 00.2	+0.1
SUW	Suwalki	4.58 35	eP	Pn	22 47 06.0	-0.2
SUW			e		22 48 00.2	
SUW	Suwalki	4.58 35	eP	Pn	22 47 06.0	-0.2
SUW			eS	Sn	22 48 00.2	+0.1
KBA	Koelnbreinsper	4.84 230	⇓iPn	Pn	22 47 10.9	+1.2
KBA			⇑iSg	Sg	22 48 29.9	-1.2
	comp=Z,60nm,0.9s					
KBA	Koelnbreinsper	4.84 230	Pn	Pn	22 47 10.9	+1.2
KBA			Sg	Sg	22 48 29.9	-1.2
	comp=Z,60nm,0.9s					
GRA1	Grafenberg Arr	4.90 265	eSg	Sg	22 48 33.8	+0.7
GRA1	Grafenberg Arr	4.90 265	Sg	Sg	22 48 33.8	+0.7
GRF	Grafenberg Arr	4.90 265	eSg	Sg	22 48 33.8	+0.7
GRFO	Grafenberg	4.90 265	ePn	Pn	22 47 10.8	+0.2
GRFO			eSg	Sg	22 48 34.7	+1.6
GRFO	Grafenberg	4.90 265	eP	Pn	22 47 10.8	+0.2
GRFO	Grafenberg	4.90 265	eP	Pn	22 47 10.8	+0.2
GRFO			eSg	Sg	22 48 34.7	+1.6
BUR08	Bucovina Ar. S	5.02 120	ePn	Pn	22 47 12.6	+0.4
BUR08			eSn	Sn	22 48 09.4	-1.5
BUR08	Bucovina Ar. S	5.02 120	ePn	Pn	22 47 12.6	+0.4
BUR08			eSn	Sn	22 48 09.4	-1.5
BURAR	Bucovina Array	5.05 120	⇓P	Pn	22 47 12.7	+0.1
BURAR	Bucovina Array	5.05 120	⇓iP	Pn	22 47 12.7	+0.1
BURAR	Bucovina Array	5.05 120	⇓iP	Pn	22 47 12.7	+0.1
BZS	Buzias	5.09 157	⇑P	Pn	22 47 12.8	-0.4
BZS	Buzias	5.09 157	⇑iP	Pn	22 47 12.8	-0.4
BZS	Buzias	5.09 157	P	Pn	22 47 12.8	-0.4
BSD	Bornholm Skovb	5.33 336	iP	Pn	22 47 15.6	-0.9
BSD			iS	Sn	22 48 11.8	-6.7
BSD	Bornholm Skovb	5.33 336	iP	Pn	22 47 15.6	-0.9
BSD			iS	Sn	22 48 11.8	-6.7
BSD	Bornholm Skovb	5.33 336	iP	Pn	22 47 15.6	-0.9
DIVS	Divibare	6.29 172	iPn	Pn	22 47 30.1	+0.4
GRUS	Gruza	6.58 168	iPn	Pn	22 47 34.4	+0.8
KIEV	Kiev	6.68 83	eP	Pn	22 47 36.6	+1.7
KIEV	Kiev	6.68 83	eP	Pn	22 47 36.6	+1.7
AKASG	Malin Array Be	6.69 83	Pn	Pn	22 47 34.4	-0.7
	comp=Z,1.1nm,0.3s,baz=270,slow=11,SNR=4.0					
AKASG			Pg	Pg	22 47 53.5	-10
	comp=Z,1.4nm,0.3s,baz=271,slow=13,SNR=5.3					
AKASG			Sn	Sn	22 48 46.9	-5.0
	comp=Z,2.1nm,0.3s,baz=263,slow=23,SNR=6.1					
AKASG			Lg		22 49 32.1	
	comp=Z,2.5nm,0.3s,baz=130,slow=29,SNR=3.6					
AKASG	Malin Array Be	6.69 83	Pn	Pn	22 47 34.4	-0.7
AKASG			Pg	Pg	22 47 53.5	-10
AKASG			Sn	Sn	22 48 46.9	-5.0
AKASG			Lg		22 49 32.1	
AKASG	Malin Array Be	6.69 83	P	Pn	22 47 34.4	-0.7
AKASG					22 48 46.9	
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKASG			smax			
	comp=N,2.0nm,0.3s					
AKASG	Malin Array Be	6.69 83	P	Pn	22 47 34.4	-0.7
	comp=N,1.0nm,0.3s					
NACGM	Naroch	6.69 44	e	Sb	22 49 18.0	+4.7
IIGN	Ignalina	6.76 39	eP	Sg	22 49 25.6	-7.1
IIGN	Ignalina	6.76 39	eP	Sg	22 49 25.5	-7.2
MLR	Muntele Rosu	6.84 132	Pn	Pn	22 47 39.8	+2.6
	comp=N,0.0nm,0.3s,baz=158,slow=16,SNR=2.2					
MLR	Muntele Rosu	6.84 132	Pn	Pn	22 47 39.8	+2.6
MLR	Muntele Rosu	6.84 132	P	Pn	22 47 39.8	+2.7
DAVOX	Davos/Dischmat	6.88 242	Pn	Pn	22 47 39.0	+1.3
	comp=N,0.6nm,0.3s,baz=85,slow=4.2,SNR=7.7					
DAVOX			Sn	Sn	22 48 56.7	+0.1
	comp=N,0.5nm,0.3s,baz=340,slow=22,SNR=1.5					
DAVOX			Lg		22 49 38.0	
	comp=N,2.3nm,0.3s,baz=145,slow=23,SNR=8.9					
DAVOX	Davos/Dischmat	6.88 242	Pn	Pn	22 47 39.0	+1.3
DAVOX			Sn	Sn	22 48 56.7	+0.1
DAVOX			Lg		22 49 38.0	
DAVOX	Davos/Dischmat	6.88 242	P	Pn	22 47 39.0	+1.3
DAVOX					22 48 56.7	
DAVOX	Davos/Dischmat	6.88 242	P	Pn	22 47 39.0	+1.3
DAVOX			S	Sn	22 48 56.7	+0.1
ISAL	Salakas	6.88 37	eP	Sb	22 49 25.4	+6.8
ISAL	Salakas	6.88 37	eP	Sb	22 49 25.4	+6.7
MICGM	Minsk	6.97 50	e	Sb	22 49 29.0	+7.8
IZAR	Zarasai	7.06 37	eP	Sb	22 49 23.9	+0.2
CDF	Champ du Feu	7.74 260	ePn	Pn	22 47 48.3	-1.2
CDF			eSn	Sn	22 49 13.0	-4.8
CDF			eSg	Sg	22 50 01.2	-2.8
	comp=N,40nm,0.9s					
CDF	Champ du Feu	7.74 260	ePn	Pn	22 47 48.3	-1.2
CDF			eSn	Sn	22 49 13.0	-4.8
CDF			eSg	Sg	22 50 01.2	-2.8
CDF	Champ du Feu	7.74 260	eP	Pn	22 47 48.3	-1.2
CDF			e		22 49 13.0	
CDF	Champ du Feu	7.74 260	ePn	Pn	22 47 48.3	-1.2
HINF	Hinterlafeld	8.21 257	ePn	Pn	22 47 54.2	-1.8
HINF			eSg	Sg	22 50 16.0	-3.2
	comp=N,3.6nm,0.4s					
HINF	Hinterlafeld	8.21 257	ePn	Pn	22 47 54.2	-1.8
HINF			eSg	Sg	22 50 16.0	-3.2
HINF	Hinterlafeld	8.21 257	eP	Pn	22 47 54.2	-1.8
HINF	Hinterlafeld	8.21 257	ePn	Pn	22 47 54.2	-1.8
HAU	Haudompre	8.46 259	ePn	Pn	22 47 57.6	-1.8
HAU			eSg	Sg	22 50 23.2	-4.0
	comp=N,5.7nm,0.4s					
HAU	Haudompre	8.46 259	ePn	Pn	22 47 57.6	-1.8
HAU			eSg	Sg	22 50 23.2	-4.0
HAU	Haudompre	8.46 259	eP	Pn	22 47 57.6	-1.8
HAU	Haudompre	8.46 259	ePn	Pn	22 47 57.6	-1.8
PAGF	Fort de Pagny	8.68 263	ePn	Pn	22 48 00.8	-1.6
PAGF			eSg	Sg	22 50 30.4	-3.8
	comp=N,0.5nm,0.3s					
PAGF	Fort de Pagny	8.68 263	ePn	Pn	22 48 00.8	-1.6
PAGF			eSg	Sg	22 50 30.4	-3.8
PAGF	Fort de Pagny	8.68 263	ePn	Pn	22 48 00.8	-1.6
GIVF	Givet	8.94 274	ePn	Pn	22 48 04.4	-1.6
GIVF			eSg	Sg	22 50 38.4	-4.2
	comp=N,2.3nm,0.2s					
GIVF	Givet	8.94 274	ePn	Pn	22 48 04.4	-1.6
GIVF			eSg	Sg	22 50 38.4	-4.2
GIVF	Givet	8.94 274	eP	Pn	22 48 04.4	-1.6
GIVF	Givet	8.94 274	ePn	Pn	22 48 04.4	-1.6
MEZF	Maizieres J'vi	9.12 264	ePn	Pn	22 48 06.8	-1.7
MEZF			eSn	Sn	22 49 45.2	-6.6
MEZF			eSg	Sn	22 50 43.8	+52
	comp=N,2.3nm,0.4s					
MEZF	Maizieres J'vi	9.12 264	ePn	Pn	22 48 06.8	-1.7
MEZF			eSn	Sn	22 49 45.2	-6.6
MEZF			eSg	Sn	22 50 43.8	+52
MEZF	Maizieres J'vi	9.12 264	ePn	Pn	22 48 06.8	-1.7
CABF	La Chapelle	9.20 251	ePn	Pn	22 48 07.3	-2.3
CABF			eSg	Sn	22 50 46.9	+53
	comp=N,24nm,0.8s					
CABF	La Chapelle	9.20 251	ePn	Pn	22 48 07.3	-2.3
CABF			eSg	Sn	22 50 46.9	+53
CABF	La Chapelle	9.20 251	eP	Pn	22 48 07.3	-2.3
SFTF	Sexfontaines	9.22 262	ePn	Pn	22 48 08.2	-1.6
SFTF			eSg	Sn	22 50 47.2	+53
	comp=N,1.6nm,0.3s					
SFTF	Sexfontaines	9.22 262	ePn	Pn	22 48 08.2	-1.6
SFTF			eSg	Sn	22 50 47.2	+53
SFTF	Sexfontaines	9.22 262	ePn	Pn	22 48 08.2	-1.6
BAIF	Baives	9.34 274	ePn	Pn	22 48 09.8	-1.7
BAIF			eSg	Sn	22 50 50.9	+54
	comp=N,0.6nm,0.3s					
BAIF	Baives	9.34 274	ePn	Pn	22 48 09.8	-1.7
BAIF			eSg	Sn	22 50 50.9	+54
BAIF	Baives	9.34 274	eP	Pn	22 48 09.8	-1.7
BAIF	Baives	9.34 274	ePn	Pn	22 48 09.8	-1.7
LPG	La Plagne	9.40 244	ePn	Pn	22 48 10.8	-1.4
LPG			eSn	Sn	22 49 52.2	-6.3
	comp=N,0.3nm,0.2s					
LPG	La Plagne	9.40 244	ePn	Pn	22 48 10.8	-1.4
LPG			eSn	Sn	22 49 52.2	-6.3
LPG	La Plagne	9.40 244	eP	Pn	22 48 10.8	-1.4
LPG			e		22 49 52.2	
LPG	La Plagne	9.40 244	ePn	Pn	22 48 10.8	-1.4
LPL	La Plagne	9.40 244	ePn	Pn	22 48 11.0	-1.3
LPL			eSn	Sn	22 49 52.2	-6.3
	comp=N,0.6nm,0.3s					
LPL	La Plagne	9.40 244	ePn	Pn	22 48 11.0	-1.3
LPL			eSn	Sn	22 49 52.2	-6.3
LPL	La Plagne	9.40 244	eP	Pn	22 48 11.0	-1.3
LPL			e		22 49 52.2	
LPL	La Plagne	9.40 244	ePn	Pn	22 48 11.0	-1.3
HFS	Hagfors	10.24 346	Pn	Pn	22 48 23.0	-0.7
	comp=N,0.3nm,0.3s,baz=144,slow=13,SNR=8.2					
HFS	Hagfors	10.24 346	Pn	Pn	22 48 23.0	-0.7
HFS	Hagfors	10.24 346	P	Pn	22 48 23.0	-0.7
HFS	Hagfors	10.24 346	P	Pn	22 48 23.0	-0.7
LOR	Lormes	10.30 258	ePn	Pn	22 48 22.6	-2.0
LOR			eSn	Sn	22 50 13.4	-7.2
LOR			eSg	Sn	22 51 20.9	+60
	comp=N,0.4nm,0.2s					
LOR	Lormes	10.30 258	ePn	Pn	22 48 22.6	-2.0
LOR			eSn	Sn	22 50 13.4	-7.2
LOR			eSg	Sn	22 51 20.9	+60
LOR	Lormes	10.30 258	eP	Pn	22 48 22.6	-2.0
LOR			e		22 50 13.4	
LOR	Lormes	10.30 258	ePn	Pn	22 48 22.6	-2.0
SMF	Signal de Mont	10.56 255	ePn	Pn	22 48 26.4	-1.8
SMF			eSg	Sn	22 51 29.2	+62
	comp=N,0.9nm,0.3s					
SMF	Signal de Mont	10.56 255	ePn	Pn	22 48 26.4	-1.8
SMF			eSg	Sn	22 51 29.2	+62
SMF	Signal de Mont	10.56 255	eP	Pn	22 48 26.4	-1.8
SMF	Signal de Mont	10.56 255	ePn	Pn	22 48 26.4	-1.8
SSF	Saint Saulge	10.60 258	ePn	Pn	22 48 26.9	-1.8
SSF			eSn	Sn	22 50 20.5	-7.5
SSF			eSg	Sn	22 51 30.1	+62
	comp=N,2.0nm,0.5s					
SSF	Saint Saulge	10.60 258	ePn	Pn	22 48 26.9	-1.8
SSF			eSn	Sn	22 50 20.5	-7.5
SSF			eSg	Sn	22 51 30.1	+62
SSF	Saint Saulge	10.60 258	eP	Pn	22 48 26.9	-1.8
SSF			e		22 50 20.5	
SSF	Saint Saulge	10.60 258	ePn	Pn	22 48 26.9	-1.8
NOA	NORSAR Array B	11.54 341	Pn	Pn	22 48 38.1	-3.4
	comp=N,0.3nm,0.3s,baz=152,slow=12,SNR=2.0					
NOA	NORSAR Array B	11.54 341	Pn	Pn	22 48 38.1	-3.4
NOA	NORSAR Array B	11.54 341	P	Pn	22 48 38.1	-3.4
FINES	FINESS Array B	11.86 17	Pn	Pn	22 48 42.1	-3.8
	comp=N,1.0nm,0.3s,baz=193,slow=11,SNR=23					
FINES			Sn	Sn	22 50 49.3	-10
	comp=N,0.4nm,0.3s,baz=192,slow=22,SNR=3.1					
FINES	FINESS Array B	11.86 17	Pn	Pn	22 48 42.1	-3.8
FINES			Sn	Sn	22 50 49.3	-10
FINES	FINESS Array B	11.86 17	P	Pn	22 48 42.2	-3.7
FINES					22 50 49.3	
FINES			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KAF	Kangasniemi	12.52 17	eP	Pn	22 48 50.9	-4.0
KAF			pmax	pmax		
	comp=Z,2.0nm,0.6s					
KAF	Kangasniemi	12.52 17	ep	Pn	22 48 50.9	-4.0
	comp=Z,2.4nm,0.6s					
JOF	Joensuu	14.35 24	eP	Pn	22 49 14.2	-5.6
JOF			pmax	pmax		
	comp=Z,3.0nm,0.5s					
JOF	Joensuu	14.35 24	ep	Pn	22 49 14.2	-5.6
	comp=Z,3.1nm,0.5s					
LVZ	Lovozero	19.30 18	P	Pn	22 50 22.0	-0.7
LVZ	Lovozero	19.30 18	eP	Pn	22 50 23.5	+0.7
LVZ	Lovozero	19.30 18	P	Pn	22 50 22.0	-0.8
ARCES	ARCESS Array B	19.54 7	Pn	Pn	22 50 21.4	-4.2
	comp=Z,0.5nm,0.3s,baz=194,slow=13,SNR=17					
ARCES	ARCESS Array B	19.54 7	Pn	Pn	22 50 21.4	-4.2
ARCES	ARCESS Array B	19.54 7	P	Pn	22 50 21.4	-4.2
ARCES			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KEV	Kevo	19.88 8	eP	Pn	22 50 25.3	-4.4
KEV			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KEV	Kevo	19.88 8	ep	Pn	22 50 25.3	-4.4
	comp=Z,3.4nm,0.8s					
TORD	Torodi Ar. Bea	39.62 207	P	P	22 53 29.0	+0.1
	comp=Z,0.4nm,0.7s,mb3.1,baz=20,slow=9.3,SNR=3.5					
TORD	Torodi Ar. Bea	39.62 207	P	P	22 53 29.0	+0.1
TORD	Torodi Ar. Bea	39.62 207	P	P	22 53 29.0	+0.1
MKAR	Makanchi Array	41.06 69	P	P	22 53 41.6	+1.0
	comp=Z,0.2nm,0.5s,mb3.1,baz=300,slow=7.7,SNR=3.5					
MKAR	Makanchi Array	41.06 69	P	P	22 53 41.6	+1.0
MKAR	Makanchi Array	41.06 69	P	P	22 53 41.6	+1.0
MKAR	Makanchi Array	41.06 69	P	P	22 53 41.6	+1.0
SONM	Songino Array	54.20 56	P	P	22 55 24.0	+1.4
	comp=Z,0.4nm,0.5s,mb3.7,baz=300,slow=9.8,SNR=4.2					
SONM	Songino Array	54.20 56	P	P	22 55 24.0	+1.4
SONM	Songino Array	54.20 56	P	P	22 55 24.0	+1.4
SONM	Songino Array	54.20 56	P	P	22 55 24.0	+1.4
NATX	Nacogdoches	79.33 307	eP	P	22 58 04.7	+1.5
NATX			ePcP	PcP	22 58 11.5	+0.1
COCO	West Island	91.81 107	iP	P	22 59 01.9	-3.6

IDC ***12*** *23:04:36.4±8.8, 17°.56S×178°.85W, h468km±104km, mb3.1/8, mb1 3.4/8, mb1mx3.2/17, mbtmp3.1/8, Error ellipse: s-maj=41.5km s-min=24.8km az=16.0*

ISCJB ***12*** *23:04:41.3±1.3, 17°.8S±0°.2×179°.0W±0°.2, h540km±14km, mb3.4/7, Error ellipse: s-maj=31.3km s-min=20.6km az=136.4*

NEIC ***12*** *23:04:41.8±1.1, 17°.78S×178°.95W, h535km±11km, Error ellipse: s-maj=24.8km s-min=16.2km az=135.0*

ISC 12 23:04:42.0±1.3, 17°.8S±0°.2×179°.0W±0°.2, h536km±13km, n22, σ0°85/18, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.85	270	eP		P	P	23 05 55.0	+0.1
URZ	Urewera	20.72	189	P		P	P	23 08 44.3	-0.8
	3.7nm,0.3s,baz=241,slow=10,SNR=7.3								
URZ	Urewera	20.72	189	eP		P	P	23 08 43.8	-1.3
STKA	Stephens Creek	38.25	241	P		P	P	23 11 17.8	+1.4
	1.1nm,0.3s,mb3.9,baz=67,slow=17,SNR=5.5								
STKA	Stephens Creek	38.25	241	eP		P	P	23 11 16.8	+0.4
WRA	Warramunga Arr	44.15	259	P		P	P	23 12 03.3	-0.1
	0.1nm,0.3s,mb2.8,baz=95,slow=7.1,SNR=3.6								
WRA	Warramunga Arr	44.15	259	P		P	P	23 12 03.3	-0.1
AS31	Alice Springs	44.33	254	eP		P	P	23 12 04.9	+0.1
ASAR	Alice Springs	44.33	254	P		P	P	23 12 05.1	+0.3
	3.5nm,0.5s,mb4.2,baz=90,slow=8.1,SNR=50								
ASAR	Alice Springs	44.33	254	P		P	P	23 12 05.1	+0.3
MJAR	Matsushiro Arr	67.47	324	P		P	P	23 14 44.0	-0.6
	0.9nm,0.5s,mb3.5,baz=158,slow=6.5,SNR=3.9								
MJAR	Matsushiro Arr	67.47	324	P		P	P	23 14 44.0	-0.6
ILAR	Eielson Array	85.86	13	P		P	P	23 16 23.2	-1.3
	0.2nm,0.4s,mb3.1,baz=226,slow=5.3,SNR=6.1								
ILAR	Eielson Array	85.86	13	P		P	P	23 16 23.2	-1.3
TXAR	Lajitas Array	86.35	58	P		P	P	23 16 29.6	+1.8
	0.3nm,0.9s,mb2.9,baz=215,slow=4.1,SNR=3.8								
TXAR	Lajitas Array	86.35	58	P		P	P	23 16 29.6	+1.8
PDAR	Pinedale Array	87.60	44	P		P	P	23 16 33.3	0.0
	0.2nm,0.4s,mb3.2,baz=246,slow=11,SNR=3.3								
PDAR	Pinedale Array	87.60	44	P		P	P	23 16 33.3	0.0
BRTR	Keskin Array B	144.31	315	PKP		PKPdf		23 23 17.6	+0.3
	0.5nm,0.6s,baz=132,slow=2.9,SNR=1.9								
BRTR	Keskin Array B	144.31	315	PKP		PKPdf		23 23 17.6	+0.3
GERES	GERESS Array B	147.33	344	PKPbc		PKPbc		23 23 25.3	-0.1
	0.5nm,0.6s,baz=54,slow=2.3,SNR=4.9								
GERES	GERESS Array B	147.33	344	PKPbc		PKPbc		23 23 25.3	-0.1

DDA ***12*** *23:08:57.5, 39°.47N×32°.95E, h7km±3km, Md2.8*

ISCJB ***12*** *23:08:58.2±0.6, 39°.48N±0°.04×33°.01E±0°.04, h7km±7km, Error ellipse: s-maj=7.7km s-min=4.7km az=167.0*

CSEM ***12*** *23:08:58.1±0.1, 39°.48N×33°.02E, h5km, MD2.8, Error ellipse: s-maj=4.0km s-min=3.0km az=138.0*

ISK ***12*** *23:08:58.4, 39°.51N×33°.00E, h12km, MD3.0*

ISC 12 23:08:58.6±0.5, 39°.46N±0°.04×33°.02E±0°.04, h5km±6km, n23, σ0°71/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BBAL	Bala	0.11	45	i	P		Pg	23 09 01.2	+0.3
BBAL				i	S		Sg	23 09 03.8	+1.3
BBAL	Bala	0.11	45	i	P		Pg	23 09 01.2	+0.3
BBAL				i	S		Sg	23 09 03.8	+1.3
LOD	Lodumlu	0.47	335	e	PG		Pg	23 09 07.1	-0.5
LOD				e	SG		Sg	23 09 13.7	0.0
LOD	Lodumlu	0.47	335	e	Pg		Pg	23 09 07.1	-0.5
LOD				e	Sg		Sg	23 09 13.7	0.0
CDAG	Cicekdag	1.06	81	i	P		Pg	23 09 18.1	-0.7
CDAG				i	S		Sg	23 09 32.2	-0.4
CDAG	Cicekdag	1.06	81	i	P		Pg	23 09 18.1	-0.7
CDAG				i	S		Sg	23 09 32.2	-0.4
KIZT	Kizilcal	1.06	237	e	PG		Pg	23 09 19.5	+0.6
KIZT	Kizilcal	1.06	237	e	Pg		Pg	23 09 19.5	+0.6
SVRH	Sivrihisar-ESK	1.16	270	e	PN		Pg	23 09 20.5	-0.3
SVRH				e	SN		Sg	23 09 36.9	+1.1
SVRH	Sivrihisar-ESK	1.16	270	e	Pn		Pg	23 09 20.5	-0.3
SVRH				e	Sn		Sg	23 09 36.9	+1.1
KDHN	Kadinhani	1.18	217	i	P		Pg	23 09 20.3	-0.8
KDHN				i	S		Sg	23 09 35.1	-1.2
KDHN	Kadinhani	1.18	217	i	P		Pg	23 09 20.3	-0.8
KDHN				i	S		Sg	23 09 35.1	-1.2
CANT	Cankiri	1.23	22	e	PN		Pn	23 09 21.7	-0.7
SULT	Sultanhani-AKS	1.32	163	e	PN		Pn	23 09 24.0	+0.4
SULT				e	SN		Sn	23 09 42.7	+1.2
SULT	Sultanhani-AKS	1.32	163	e	Pn		Pn	23 09 24.0	+0.4
SULT				e	Sn		Sn	23 09 42.7	+1.2
LADK	Ladik-KONYA	1.36	202	e	PN		Pn	23 09 24.0	-0.1
LADK	Ladik-KONYA	1.36	202	e	Pn		Pn	23 09 24.0	-0.1
CORM	Corum	1.43	60	e	PN		Pn	23 09 24.3	-0.8
CORM	Corum	1.43	60	e	Pn		Pn	23 09 24.3	-0.8
KONT	Konya--Tatoy	1.60	199	e	PN		Pn	23 09 27.9	+0.4
KONT	Konya--Tatoy	1.

YKA	Yellowknife Ar	19.64	59	P	Pn	23 27 48.5	-0.2
	0.1nm,0.3s,baz=276,slow=5.5,SNR=1.9						
YKA	Yellowknife Ar	19.64	59	P	Pn	23 27 48.5	-0.2
ULM	Lac du Bonnet	33.59	77	P	P	23 29 57.5	-0.4
	7.9nm,0.9s,mb4.6,baz=231,slow=21,SNR=8.1						
ULM	Lac du Bonnet	33.59	77	P	P	23 29 57.5	-0.4
SONM	Songino Array	56.19	307	P	P	23 32 58.3	+1.0
	1.2nm,0.7s,mb4.0,baz=38,slow=7.3,SNR=10						
SONM	Songino Array	56.19	307	P	P	23 32 58.3	+1.0
ZALV	Zalesovo Beam	59.31	324	P	P	23 33 19.8	+0.7
	0.4nm,0.5s,mb3.7,baz=62,slow=3.4,SNR=3.0						
ZALV	Zalesovo Beam	59.31	324	P	P	23 33 19.8	+0.7
MKAR	Makanchi Array	66.30	322	P	P	23 34 06.0	+0.3
	0.8nm,0.9s,mb3.7,baz=36,slow=6.7,SNR=5.4						
MKAR	Makanchi Array	66.30	322	P	P	23 34 06.0	+0.3

*ISCJB **12** 23:25:43.2±1.1, 17.°5S±0.°2×175.°1W±0.°2, h316km±20km, mb3.8/4, Error ellipse: s-maj=40.6km s-min=17.9km az=154.5*
*IDC **12** 23:25:43.6±8.7, 17.°52S×175.°04W, h306km±224km, mb3.6/4, mb1 3.7/5, mb1mx3.3/18, mbtmp3.6/5, Error ellipse: s-maj=213.9km s-min=33.6km az=69.0*
*NEIC **12** 23:25:43.5±1.0, 17.°62S×175.°05W, h304km±16km, mb3.6/2, Error ellipse: s-maj=31.1km s-min=15.0km az=161.0*
ISC 12 23:25:43.6±1.2, 17.°6S±0.°3×175.°1W±0.°2, h305km±22km, n12, σ0°28/14, mb3.8/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.80	41	P	Pn	23 26 59.6	+0.5
	6.2nm,0.3s,baz=79,slow=5.2,SNR=4.0						
AFI				S	S	23 27 59.4	-0.4
	4.8nm,0.3s,baz=97,slow=22,SNR=4.8						
AFI	Afiamalu	4.80	41	P	Pn	23 26 59.6	+0.5
AFI				S	S	23 27 59.4	-0.4
MSVF	Nonsavu	6.58	267	ePn	Pn	23 27 20.0	0.0
DZM	Mont Dzumac	17.98	253	ePn	P	23 29 32.8	-0.1
	3.7nm,0.7s						
URZ	Urewera	21.74	197	P	P	23 30 11.0	+0.3
	4.0nm,0.4s,mb4.1,baz=34,slow=7.3,SNR=4.5						
URZ	Urewera	21.74	197	eP	P	23 30 10.2	-0.5
STKA	Stephens Creek	41.61	242	P	P	23 33 02.7	+0.1
	4.3nm,1.0s,mb3.6,baz=69,slow=8.6,SNR=2.9						
STKA	Stephens Creek	41.61	242	eP	P	23 33 02.3	-0.3
	2.3nm,1.3s,mb3.2						
WRA	Warramunga Arr	47.84	259	P	P	23 33 51.6	0.0
	1.1nm,0.5s,mb3.4,baz=97,slow=7.4,SNR=13						
WRA	Warramunga Arr	47.84	259	P	P	23 33 51.6	0.0
ASAR	Alice Springs	47.97	254	P	P	23 33 52.7	+0.2
	7.4nm,0.7s,mb4.1,baz=90,slow=8.0,SNR=86						
ASAR	Alice Springs	47.97	254	P	P	23 33 52.7	+0.2

*IDC **13** 00:05:06.3±17.0, 20.°66S×177.°88W, h462km±146km, mb3.1/3, mb1 3.5/3, mb1mx3.1/15, mbtmp3.1/3, Error ellipse: s-maj=215.5km s-min=48.8km az=135.0*
*ISCJB **13** 00:05:08.7±2.2, 20.°4S±0.°3×178.°2W±0.°2, h494km±21km, mb3.7/4, Error ellipse: s-maj=52.2km s-min=25.3km az=156.2*
*NEIC **13** 00:05:09.0±2.1, 20.°35S×178.°07W, h490km±18km, mb4.2/1, Error ellipse: s-maj=44.6km s-min=23.7km az=155.0*
ISC 13 00:05:09.2±2.2, 20.°4S±0.°3×178.°1W±0.°2, h489km±21km, n19, σ0°60/10, mb3.7/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.49	305	eP	P	00 06 31.1	0.0
ASAR	Alice Springs	44.46	257	P	P	00 12 36.5	+0.3
	1.8nm,0.5s,mb3.8,baz=97,slow=7.6,SNR=30						
ASAR				PcP	PcP	00 14 09.1	-0.4
	0.3nm,0.9s,baz=100,slow=3.6,SNR=4.9						
ASAR	Alice Springs	44.46	257	P	P	00 12 36.5	+0.3
ASAR				PcP	PcP	00 14 09.1	-0.4
WB2	Warramunga Arr	44.52	262	eP	P	00 12 36.3	-0.4
WRA	Warramunga Arr	44.53	262	P	P	00 12 36.8	-0.1
	0.9nm,0.3s,mb3.7,baz=98,slow=8.5,SNR=8.3						
WRA	Warramunga Arr	44.53	262	P	P	00 12 36.8	-0.1
RRI2	Red Ridge	88.10	42	eP	P	00 17 05.9	-1.1
	2.7nm,0.6s,mb4.2						
ILAR	Eielson Array	88.21	13	P	P	00 17 08.1	+1.0
	0.2nm,0.5s,mb3.1,baz=225,slow=4.3,SNR=4.8						
ILAR	Eielson Array	88.21	13	P	P	00 17 08.1	+1.0
PLCA	Paso Flores	89.42	134	eP	P	00 17 13.7	+0.3
AKASG	Malin Array Be	142.86	331	PKhKP	PKPpre	00 23 43.4	
	1.3nm,0.5s,baz=45,slow=4.9,SNR=5.1						
AKASG	Malin Array Be	142.86	331	PKPpre	PKPpre	00 23 43.4	
BRTR	Keskin Array B	146.69	312	PKPbc	PKPbc	00 23 56.1	+0.3
	0.6nm,0.5s,baz=124,slow=4.6,SNR=6.4						
BRTR	Keskin Array B	146.69	312	PKPbc	PKPbc	00 23 56.1	+0.3
MMAI	Mount Meron Ar	147.67	300	PKPbc	PKPbc	00 23 59.5	+0.9
	0.8nm,0.4s,baz=76,slow=6.1,SNR=8.8						
MMAI	Mount Meron Ar	147.67	300	PKPbc	PKPbc	00 23 59.5	+0.9
CLL	Collm	147.92	347	i PKPbc	PKPbc	00 23 59.6	+0.9
	comp=Z,3.0nm,0.9s						
GERES	GERESS Array B	150.06	344	PKPbc	PKPbc	00 24 04.0	0.0
	comp=Z,0.2nm,0.5s,baz=49,slow=4.4,SNR=2.6						
GERES	GERESS Array B	150.06	344	PKPbc	PKPbc	00 24 04.0	0.0

*ISCJB **13** 00:35:51.8±1.0, 27.°90S±0.°09×66.°77W±0.°10, h176km±13km, mb3.3/2, Error ellipse: s-maj=15.7km s-min=14.2km az=153.6*
*NEIC **13** 00:35:52.7±0.8, 27.°82S×66.°75W, h164km±8km, mb3.8/1, Error ellipse: s-maj=13.8km s-min=11.4km az=126.0*
*IDC **13** 00:35:55.4±1.6, 28.°18S×66.°44W, h176km±15km, mb3.1/2, mb1 3.1/5, mb1mx3.1/17, mbtmp3.0/5, Error ellipse: s-maj=32.3km s-min=16.6km az=115.0*
ISC 13 00:35:52.6±1.0, 27.°87S±0.°09×66.°76W±0.°10, h167km±13km, n21, σ0°76/16, mb3.3/2, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	3.65	251	ePn	Pn	00 36 49.4	+0.5
LCO				eSn	Sn	00 37 32.4	-0.2
CFAA	Coronel Fontan	3.94	199	P	Pn	00 36 53.3	+0.9
	3.5nm,0.3s,baz=20,slow=13,SNR=107						
CFAA				S	Sn	00 37 38.4	-0.8
	2.4nm,0.3s,baz=137,slow=20,SNR=24						
CFAA	Coronel Fontan	3.94	199	P	Pn	00 36 53.3	+0.9
CFAA				S	Sn	00 37 38.4	-0.8
CPUP	Villa Florida	8.54	82	P	Pn	00 37 52.5	-0.6
	0.2nm,0.3s,baz=250,slow=14,SNR=3.8						
CPUP	Villa Florida	8.54	82	P	Pn	00 37 52.5	-0.6
LPAZ	La Paz	11.60	353	P	Pn	00 38 42.7	+9.4
	0.3nm,0.3s,baz=196,slow=4.1,SNR=6.4						
LPAZ	La Paz	11.60	353	ePn	Pn	00 38 34.1	+0.8
	1.2nm,0.4s						
SAML	Samuel	19.12	11	eP	P	00 39 57.5	-5.5
SNAA	Sanae	55.65	160	P	P	00 45 11.1	+0.4
	0.2nm,0.5s,mb3.2,baz=288,slow=8.7,SNR=8.1						
SNAA	Sanae	55.65	160	eP	P	00 45 11.6	+0.8
WUAZ	Wupatki	75.81	324	eS	P	00 47 18.8	-1.4
TORD	Torodi Ar. Bea	77.78	68	P	P	00 47 32.2	+0.5
	0.5nm,0.5s,mb3.4,baz=274,slow=5.7,SNR=11						
TORD	Torodi Ar. Bea	77.78	68	P	P	00 47 32.2	+0.5
ASAR	Alice Springs	125.02	203	PKP	PKPdf	00 54 34.1	+0.6
	0.2nm,0.4s,baz=134,slow=1.9,SNR=3.4						
ASAR	Alice Springs	125.02	203	PKP	PKPdf	00 54 34.1	+0.6
WRA	Warramunga Arr	128.27	206	PKP	PKPdf	00 54 40.8	+1.0
	0.4nm,0.4s,baz=157,slow=1.7,SNR=4.3						
WRA	Warramunga Arr	128.27	206	PKP	PKPdf	00 54 40.8	+1.0
ZALV	Zalesovo Beam	146.65	31	PKPbc	PKPbc	00 55 14.6	+0.5
	0.3nm,0.4s,baz=318,slow=4.1,SNR=3.6						
ZALV	Zalesovo Beam	146.65	31	PKPbc	PKPbc	00 55 14.6	+0.5
MKAR	Makanchi Array	149.26	44	PKPbc	PKPbc	00 55 22.6	+1.3
	0.5nm,0.7s,baz=308,slow=2.8,SNR=3.6						
MKAR	Makanchi Array	149.26	44	PKPbc	PKPbc	00 55 22.6	+1.3

*CSEM **13** 00:44:16.1±0.1, 46.°42N×14.°97E, h10km, ML2.4/19, Error ellipse: s-maj=1.5km s-min=1.3km az=155.0*
*VIE **13** 00:44:16.2±0.3, 46.°44N×14.°99E, h11km±3km, mb1.2/1, ML1.6/3, Error ellipse: s-maj=1.4km s-min=1.0km az=172.0 22 km S of Lavamnd*
LJU 13 00:44:15.8, 46.°42N×14.°97E, h10km, ML1.6, 5C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	Pernice	0.24	26	⇓iPg	Pg	00 44 21.3	+0.6
PERS				i Sg	Sg	00 44 24.4	+0.3
	comp=Z,51nm,0.1s						
PERS	Pernice	0.24	26	⇓iPg	Pg	00 44 21.3	+0.5
PERS				i Sg	Sg	00 44 24.4	+0.3
	comp=Z,51nm,0.1s						
BISS	Bistriski jare	0.26	26	⇓iPg	Pg	00 44 21.5	+0.5
BISS				i Sg	Sg	00 44 24.8	+0.3
BISS							
	comp=Z,168nm,0.1s						
BISS	Bistriski jare	0.26	26	⇓iPg	Pg	00 44 21.5	+0.5
BISS				i Sg	Sg	00 44 24.8	+0.3
	comp=Z,168nm,0.1s						
SOKA	Soboth	0.26	10	⇓iPg	Pg	00 44 21.7	+0.5
SOKA				⇑iSg	Sg	00 44 25.4	+0.6
	comp=Z,15nm,0.1s						
SOKA	Soboth	0.26	10	Pg	Pg	00 44 21.7	+0.5
SOKA				Sg	Sg	00 44 25.4	+0.6
	comp=Z,15nm,0.1s						
OBKA	Obir	0.30	288	⇓iPg	Pg	00 44 22.7	+0.9
OBKA				⇑iSg	Sg	00 44 27.2	+1.3
	comp=Z,28nm,0.2s						
OBKA	Obir	0.30	288	Pg	Pg	00 44 22.7	+0.9
OBKA				Sg	Sg	00 44 27.2	+1.3
	comp=Z,28nm,0.2s						
PDKS	Podkum	0.36	176	⇓iPg	Pg	00 44 23.7	+0.8
PDKS				i Sg	Sg	00 44 27.9	+0.3
PDKS							
	comp=Z,12nm,0.1s						
PDKS	Podkum	0.36	176	⇓iPg	Pg	00 44 23.7	+0.9
PDKS				i Sg	Sg	00 44 27.9	+0.3
	comp=Z,12nm,0.1s						
VNDS	Vrh nad Dolski	0.37	210	⇓iPg	Pg	00 44 23.7	+0.7
GROS	Grobnik	0.37	83	i Pg	Pg	00 44 23.4	+0.2
GROS				i Sg	Sg	00 44 28.3	+0.1
GROS							
	comp=Z,100nm,0.1s						
GROS	Grobnik	0.37	83	i Pg	Pg	00 44 23.4	+0.2
GROS				i Sg	Sg	00 44 28.3	+0.2
	comp=Z,100nm,0.1s						
MOZS	Mozjanca	0.38	251	i Pg	Pg	00 44 23.8	+0.5
MOZS				i Sg	Sg	00 44 29.1	+0.7
MOZS							
	comp=Z,15nm,0.1s						
MOZS	Mozjanca	0.38	251	i Pg	Pg	00 44 23.8	+0.5
MOZS				i Sg	Sg	00 44 29.1	+0.7
	comp=Z,15nm,0.1s						
DOBS	Dobrina	0.44	127	⇑iPg	Pg	00 44 24.8	+0.4
DOBS	Dobrina	0.44	127	⇑iPg	Pg	00 44 24.8	+0.4
LJU	Ljubljana	0.48	219	i Pg	Pg	00 44 25.7	+0.5
LJU	Ljubljana	0.48	219	i Pg	Pg	00 44 25.7	+0.5
LEGS	Legarje	0.53	152	i Pg	Pg	00 44 26.8	+0.7
LEGS				i Sg	Sg	00 44 33.3	+0.3
LEGS	Legarje	0.53	152	i Pg	Pg	00 44 26.8	+0.7
LEGS				i Sg	Sg	00 44 33.3	+0.3
CESS	Cesta pri Krsk	0.56	142	i Pg	Pg	00 44 27.6	+0.9
CESS				i Sg	Sg	00 44 34.6	+0.5
CESS							
	comp=Z,23nm,0.1s						
CESS	Cesta pri Krsk	0.56	142	i Pg	Pg	00 44 27.6	+0.9
CESS				i Sg	Sg	00 44 34.6	+0.5
	comp=Z,23nm,0.1s						
CRNS	Crni Vrh	0.59	236	i Pg	Pg	00 44 27.8	+0.5
CRNS				i Sg	Sg	00 44 35.5	+0.5
CRNS							
	comp=Z,26nm,0.2s						
GOLS	Golise	0.61	131	i Pg	Pg	00 44 28.3	+0.6
GOLS				i Sg	Sg	00 44 36.1	+0.5
GOLS							
	comp=Z,19nm,0.2s						
GOLS	Golise	0.61	131	i Pg	Pg	00 44 28.3	+0.6
GOLS				i Sg	Sg	00 44 36.2	+0.5
	comp=Z,19nm,0.2s						
VISS	Visnje	0.62	188	i Pg	Pg	00 44 28.3	+0.5
VISS	Visnje	0.62	188	i Pg	Pg	00 44 28.3	+0.5
GORS	Gorjuse	0.68	262	i Pg	Pg	00 44 29.0	+0.1
GORS				i Sg	Sg	00 44 38.3	+0.5
GORS							
	comp=Z,3.0nm,0.1s						
GORS	Gorjuse	0.68	262	i Pg	Pg	00 44 29.0	+0.1
GORS				i Sg	Sg	00 44 38.3	+0.5
	comp=Z,3.0nm,0.1s						
CRES	Cresnjev	0.68	150	i Pg	Pg	00 44 29.7	+0.7
CRES				i Sg	Sg	00 44 38.0	+0.1
CRES							
	comp=Z,4.0nm,0.1s						
CRES	Cresnjev	0.68	150	i Pg	Pg	00 44 29.7	+0.7
CRES				i Sg	Sg	00 44 38.0	+0.1
	comp=Z,4.0nm,0.1s						
GCIS	Gornji Cirnik	0.72	140	i Pg	Pg	00 44 30.2	+0.6
GCIS				i Sg	Sg	00 44 39.9	+0.9
GCIS							
	comp=Z,4.0nm,0.1s						
GCIS	Gornji Cirnik	0.72	140	i Pg	Pg	00 44 30.2	+0.6
GCIS				i Sg	Sg	00 44 39.9	+0.9
	comp=Z,4.0nm,0.1s						
CEY	Cerknica	0.78	209	i Sg	Sg	00 44 43.1	+2.2
CEY							
	comp=Z,3.0nm,0.1s						
CEY	Cerknica	0.78	209	i Sg	Sg	00 44 43.1	+2.3
	comp=Z,2.0nm,0.1s						
JAVS	Javornik	0.82	230	i Pg	Pg	00 44 31.6	+0.1
JAVS				i Sg	Sg	00 44 43.0	+0.8
JAVS							
	comp=Z,4.0nm,0.1s						
JAVS	Javornik	0.82	230	i Pg	Pg	00 44 31.6	+0.1
JAVS				i Sg	Sg	00 44 43.0	+0.8
	comp=Z,4.0nm,0.1s						
VOJS	Vojsko	0.84	243	i Pg	Pg	00 44 32.1	0.0
VOJS				i Sg	Sg	00 44 44.6	+1.6
VOJS							
	comp=Z,4.0nm,0.1s						
VOJS	Vojsko	0.84	243	i Pg	Pg	00 44 32.1	0.0
VOJS				i Sg	Sg	00 44 44.6	+1.6
	comp=Z,4.0nm,0.1s						
CADS	Cadrg	0.87	258	eSg	Sg	00 44 44.3	+0.4
CADS							
	comp=Z,5.0nm,0.1s						
CADS	Cadrg	0.87	258	eSg	Sg	00 44 44.3	+0.4
	comp=Z,4.0nm,0.1s						
KOGS	Kog	0.89	88	i Pg	Pg	00 44 33.1	+0.2
KOGS				i Sg	Sg	00 44 44.4	-0.1
KOGS							
	comp=Z,6.0nm,0.1s						
KOGS	Kog	0.89	88	i Pg	Pg	00 44 33.1	+0.2
KOGS				i Sg	Sg	00 44 44.4	-0.1
	comp=Z,6.0nm,0.1s						
ARSA	Arzberg	0.92	25	⇑iPg	Pg	00 44 33.4	0.0
ARSA				⇓iSg	Sg	00 44 46.0	+0.6
	comp=Z,1.5nm,0.1s						
ARSA	Arzberg	0.92	25	Pg	Pg	00 44 33.4	0.0
ARSA				Sg	Sg	00 44 46.0	+0.6
	comp=Z,1.5nm,0.1s						
BOJS	Bojanci	0.94	168	i Pg	Pg	00 44 34.2	+0.4
BOJS							
	comp=Z,7.0nm,0.2s						
BOJS	Bojanci	0.94	168	i Pg	Pg	00 44 34.2	+0.4
	comp=Z,7.0nm,0.2s						
SKDS	Skadanscina	1.09	218	i Pg	Pg	00 44 36.1	-0.7
SKDS				i Sg	Sg	00 44 51.8	+0.8
SKDS							
	comp=Z,8.0nm,0.1s						
SKDS	Skadanscina	1.09	218	i Pg	Pg	00 44 36.1	-0.7
SKDS				i Sg	Sg	00 44 51.8	+0.8
	comp=Z,8.0nm,0.1s						

*MOS **13** 01:25:40.8±1.1, 52.°22N×158.°27E, h80km, mb4.4/14, Error ellipse: s-maj=14.7km s-min=6.4km az=87.3*
*ISCJB **13** 01:25:43.0±0.5, 52.°29N±0.°05×158.°54E±0.°07, h99km±2km, mb4.0/37, Error ellipse: s-maj=9.6km s-min=5.8km az=153.5*
*KRSC **13** 01:25:43.1±0.9, 52.°19N×158.°94E, h75km±55km, ML4.4*
*NEIC **13** 01:25:44.0±0.6, 52.°31N×158.°29E, h94km±4km, mb4.0/7, Error ellipse: s-maj=9.9km s-min=6.4km az=176.0*
*IDC **13** 01:25:45.8±0.9, 52.°40N×158.°14E, h109km±5km, mb3.5/20, mb1 3.7/20, mb1mx3.7/26, mbtmp3.5/20, Error ellipse: s-maj=18.0km s-min=12.9km az=154.0*
ISC 13 01:25:44.0±0.5, 52.°30N±0.°05×158.°50E±0.°07, h95km±2km, n175, σ1°09/198, mb4.0/37, 3C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.14	4	i P	Pn	01 25 56.0	-1.3
RUS				i S	Sn	01 26 05.0	-2.2
RUS	Russkaya	0.14	4	PN	Pn	01 25 56.0	-1.3
RUS				S	Sn	01 26 05.0	-2.2
GRL	Gorelyy	0.36	315	eP	Pn	01 25 58.4	+0.1
GRL				eS	Sn	01 26 10.8	+1.9
PET	Petropavlovsk	0.73	7	eP	Pn	01 26 00.7	-0.5
PET				eS	Sn	01 26 13.1	-0.9
PET	Petropavlovsk	0.73	7	ePn	Pn	01 26 00.5	-0.7
PET				eSn	Sn	01 26 13.1	-0.9
PET	Petropavlovsk	0.73	7	αi PN	Pn	01 26 00.5	-0.7
PET				eS	Sn	01 26 12.4	-1.6
PET				pmax	pmax		
	comp=Z,1μm,0.3s						
PET				pmax	pmax		
	comp=Z,1μm,0.3s						
PET				smax			
	comp=N,7μm,0.6s						
PET				smax			
	comp=E,3μm,0.4s						
UGLR	Uglovaya	0.93	12	eP	Pn	01 26 03.6	+0.4
UGLR				eS	Sn	01 26 18.1	+0.4
PEA0B	Petropavlovsk-	0.94	329	ePn	Pn	01 26 03.8	+0.4
PEA0B				eSn	Sn	01 26 16.3	-1.6
PETK	Petropavlovsk-	0.94	329	P	Pn	01 26 03.9	+0.5
	comp=E,166nm,0.3s,baz=129,slow=16,SNR=1228						
PETK				S	Sn	01 26 19.8	+1.9
	comp=E,106nm,0.3s,baz=181,slow=12,SNR=16						
PETK	Petropavlovsk-	0.94	329	P	Pn	01 26 03.9	+0.5
PETK				S	Sn	01 26 19.8	+1.9
PETK	Petropavlovsk-	0.94	329	PN	Pn	01 26 03.9	+0.5
PETK				pmax	pmax		
	comp=Z,167nm,0.3s						
AVH	Avacha	0.98	9	eP	Pn	01 26 04.4	+0.7
AVH				eS	Sn	01 26 19.4	+0.8
KOK	Koryaka	1.00	5	eP	Pn	01 26 05.0	+1.0
KOK				eS	Sn	01 26 20.4	+1.4
SDLR	Sedlovina	1.01	13	eP	Pn	01 26 04.0	-0.1
SDLR				eS	Sn	01 26 18.9	-0.3
NLC	Nalytchevo	1.01	30	eP	Pn	01 26 02.8	-1.3
NLC				eS	Sn	01 26 16.8	-2.5
NLC	Nalytchevo	1.01	30	PN	Pn	01 26 02.8	-1.3
NLC				S	Sn	01 26 16.8	-2.5
MIPR	Malaya Ipel'ka	1.07	269	eP	Pn	01 26 05.5	+0.8
MIPR				eS	Sn	01 26 22.1	+1.8
SPN	Mys Shipunski	1.23	49	eP	Pn	01 26 05.9	-0.7
SPN				eS	Sn	01 26 22.0	-1.6
SPN	Mys Shipunski	1.23	49	PN	Pn	01 26 05.9	-0.7
SPN				S	Sn	01 26 22.0	-1.6
KII	Karymskiy	1.83	18	eP	Pn	01 26 15.3	+1.2
KII				eS	Sn	01 26 39.0	+1.9
MKZ	Mys Kozlova	2.98	39	eP	Pn	01 26 28.6	-0.6
MKZ				eS	Sn	01 27 01.1	-2.9
MKZ	Mys Kozlova	2.98	39	PN	Pn	01 26 28.6	-0.6
MKZ				S	Sn	01 27 01.1	-2.9
ESO	Esso	3.64	2	eP	Pn	01 26 39.7	+1.6
ESO	Esso	3.64	2	PN	Pn	01 26 39.7	+1.6
BKI	Bering	5.30	54	eS	Sn	01 27 52.6	-7.8
FX1	Attu Island--F	8.95	80	P	Pn	01 27 50.0	-0.3
	comp=Z,6.4nm,0.3s,baz=334,slow=6.8,SNR=44						
FX1				S	Sn	01 29 21.0	-8.3
	comp=Z,29nm,0.3s,baz=89,slow=15,SNR=17						
FX1	Attu Island--F	8.95	80	P	Pn	01 27 50.0	-0.3
FX1				S	Sn	01 29 21.0	-8.3
FX1	Attu Island--F	8.95	80	PN	Pn	01 27 50.0	-0.3
FX1				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SEY	Seymchan	11.15	345	⇑ePN	Pn	01 28 13.0	-7.1
BILL	Bilibino	16.23	10	eP	Pn	01 29 25.1	-0.9
BILL				pmax	pmax		
	comp=Z,4.0nm,1.6s						
MJAR	Matsushiro Arr	21.29	230	P	P	01 30 21.9	-0.8
	comp=Z,0.9nm,0.5s,mb3.3,baz=23,slow=10,SNR=3.5						
MJAR	Matsushiro Arr	21.29	230	P	P	01 30 21.9	-0.8
MJAR	Matsushiro Arr	21.29	230	P	P	01 30 21.9	-0.8
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	30.07	44	P	P	01 31 44.0	+0.3
	comp=Z,0.6nm,0.7s,mb3.4,baz=260,slow=6.8,SNR=9.8						
ILAR	Eielson Array	30.07	44	P	P	01 31 44.0	+0.3
ILAR	Eielson Array	30.07	44	P	P	01 31 44.0	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	33.14	283	P	P	01 32 10.1	-0.7
	comp=Z,0.2nm,0.4s,mb3.3,baz=63,slow=8.4,SNR=5.2						
SONM	Songino Array	33.14	283	P	P	01 32 10.1	-0.7
SONM	Songino Array	33.14	283	P	P	01 32 10.1	-0.8
INK	Inuvik	35.09	37	P	P	01 32 27.9	+0.4
	comp=Z,0.5nm,0.4s,mb3.7,baz=251,slow=8.6,SNR=14						
INK	Inuvik	35.09	37	eP	P	01 32 28.2	+0.6
	comp=Z,0.8nm,0.4s,mb3.9						
INK	Inuvik	35.09	37	eP	P	01 32 28.2	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	42.39	303	P	P	01 33 26.0	-2.6
	comp=Z,0.4nm,0.3s,mb3.6,baz=55,slow=7.6,SNR=4.0						
ZALV	Zalesovo Beam	42.39	303	P	P	01 33 26.0	-2.6
ZALV	Zalesovo Beam	42.39	303	eP	P	01 33 26.3	-2.3
YKA	Yellowknife Ar	44.41	41	P	P	01 33 45.5	+0.8
	comp=Z,0.6nm,0.7s,mb3.4,baz=299,slow=8.0,SNR=5.4						
YKA	Yellowknife Ar	44.41	41	P	P	01 33 45.5	+0.8
YKA	Yellowknife Ar	44.41	41	P	P	01 33 45.5	+0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES	Resolute Bay	44.42	21	P	P	01 33 45.6	+0.9
	comp=Z,0.8nm,0.3s,mb3.9,baz=316,slow=8.3,SNR=12						
RES	Resolute Bay	44.42	21	eP	P	01 33 45.3	+0.6
	comp=Z,1.2nm,0.5s,mb3.9						
RES	Resolute Bay	44.42	21	P	P	01 33 45.6	+0.9
RES				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
MK31	Makanchi Array	47.62	295	eP	P	01 34 08.2	-1.9
MK31	Makanchi Array	47.62	295	eP	P	01 34 08.

OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
NB2 NORSAR Subarra 64.03 343 P **P** **01 36 06.3 -0.77**
comp=Z,2.2nm,0.5s,mb4.2,baz=23,slow=6.9
NOA NORSAR Array B 64.03 343 P **P** **01 36 06.4 -0.5**
comp=Z,2.7nm,0.5s,mb4.3,baz=21,slow=6.7,SNR=17
NOA NORSAR Array B 64.03 343 P **P** **01 36 06.4 -0.5**
NOA NORSAR Array B 64.03 343 P **P** **01 36 06.4 -0.6**
NOA pmax pmax
comp=Z,3.0nm,0.5s
TUC Tucson 65.59 68 *eP* **P** **01 36 18.5 +1.0**
comp=Z,1.2nm,0.8s,mb3.8
TUC Tucson 65.59 68 *eP* **P** **01 36 18.5 +0.9**
TUC pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
SCHQ Schefferville 66.80 27 P **P** **01 36 24.9 0.0**
comp=Z,4.1nm,0.9s,mb4.2,baz=348,slow=9.3,SNR=3.7
SCHQ Schefferville 66.80 27 P **P** **01 36 24.9 0.0**
MNTX Cornudas Mount 69.09 65 *eP* **P** **01 36 41.0 +1.3**
comp=Z,0.5nm,0.5s,mb3.6
WMOK Wichita Mounta 70.35 59 *eP* **P** **01 36 47.3 0.0**
comp=Z,1.7nm,0.7s,mb4.0
WMOK Wichita Mounta 70.35 59 *eP* **P** **01 36 47.3 0.0**
WMOK pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
TXAR Lajitas Array 71.85 66 P **P** **01 36 57.6 +1.1**
comp=Z,0.9nm,0.6s,mb3.8,baz=298,slow=4.4,SNR=15
TXAR pP pP 01 37 19.1 -1.4
comp=Z,0.2nm,0.4s,baz=294,slow=4.9,SNR=5.2
TXAR Lajitas Array 71.85 66 P **P** **01 36 57.6 +1.1**
TXAR pP pP 01 37 19.1 -1.4
TXAR Lajitas Array 71.85 66 P **P** **01 36 57.6 +1.1**
TXAR *PP pP 01 37 19.1 -1.5
TXAR pmax pmax
comp=Z,1.0nm,0.6s
CLL Collm 72.74 338 *eP* **P** **01 37 03.0 +1.6**
CLL Collm 72.74 338 *eP* **P** **01 37 03.0 +1.6**
BUR08 Bucovina Ar. S 72.75 329 *eP* **P** **01 37 00.9 -0.6**
GERES GERESS Array B 74.87 337 P **P** **01 37 13.7 -0.2**
comp=Z,0.6nm,0.5s,mb3.6,baz=40,slow=7.7,SNR=9.0
GERES GERESS Array B 74.87 337 P **P** **01 37 13.7 -0.2**
GERES GERESS Array B 74.87 337 P **P** **01 37 13.7 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 74.95 203 P **P** **01 37 14.6 0.0**
comp=Z,0.3nm,0.8s,mb3.1,baz=21,slow=6.4,SNR=2.8
WRA Warramunga Arr 74.95 203 P **P** **01 37 14.6 0.0**
WRA Warramunga Arr 74.95 203 P **P** **01 37 14.6 0.0**
BRTR Keskin Array B 76.60 319 P **P** **01 37 23.4 -0.5**
comp=Z,0.3nm,0.6s,mb3.2,baz=39,slow=3.9,SNR=3.4
BRTR Keskin Array B 76.60 319 P **P** **01 37 23.4 -0.5**
BRTR Keskin Array B 76.60 319 P **P** **01 37 23.4 -0.5**
PAGF Fort de Pagny 76.88 342 *eP* **P** **01 37 24.7 -0.6**
SFTF Sexfontaines 77.34 342 *eP* **P** **01 37 27.7 -0.2**
comp=Z,7.1nm,0.4s,mb4.5
HINF Hinteralfeld 77.36 341 *eP* **P** **01 37 27.2 -0.8**
FLN La Foliniere 77.74 346 *eP* **P** **01 37 29.6 -0.5**
FLN La Foliniere 77.74 346 *eP* **P** **01 37 29.6 -0.5**
FLN La Foliniere 77.74 346 *eP* **P** **01 37 29.6 -0.5**
LDF La Druitiere 77.85 346 *eP* **P** **01 37 30.0 -0.7**
comp=Z,4.2nm,0.6s,mb4.1
LDF La Druitiere 77.85 346 *eP* **P** **01 37 30.0 -0.7**
comp=Z,4.2nm,0.6s,mb4.3
LDF La Druitiere 77.85 346 *eP* **P** **01 37 30.0 -0.7**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
GRR Gorron 78.16 346 *eP* **P** **01 37 32.2 -0.2**
GRR Gorron 78.16 346 *eP* **P** **01 37 32.2 -0.2**
GRR Gorron 78.16 346 *eP* **P** **01 37 32.2 -0.2**
LOR Lormes 78.47 343 *eP* **P** **01 37 33.8 -0.3**
comp=Z,8.9nm,0.6s,mb4.4
LOR Lormes 78.47 343 *eP* **P** **01 37 33.8 -0.3**
comp=Z,8.9nm,0.6s,mb4.7
LOR Lormes 78.47 343 *eP* **P** **01 37 33.8 -0.3**
LOR pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
SGMF Saint Gilles 78.53 347 *eP* **P** **01 37 34.9 +0.4**
SGMF Saint Gilles 78.53 347 *eP* **P** **01 37 34.9 +0.4**
SGMF Saint Gilles 78.53 347 *eP* **P** **01 37 34.9 +0.4**
ROSF Rostrenen 78.54 348 *eP* **P** **01 37 35.1 +0.5**
ROSF Rostrenen 78.54 348 *eP* **P** **01 37 35.1 +0.5**
ROSF Rostrenen 78.54 348 *eP* **P** **01 37 35.1 +0.5**
ASAR Alice Springs 78.64 203 P **P** **01 37 36.2 +1.0**
comp=Z,0.3nm,0.7s,mb3.3,baz=19,slow=6.2,SNR=3.8
ASAR Alice Springs 78.64 203 P **P** **01 37 36.2 +1.0**
ASAR Alice Springs 78.64 203 P **P** **01 37 36.2 +1.0**
SSF Saint Saulge 78.73 343 *eP* **P** **01 37 35.2 -0.4**
comp=Z,6.9nm,0.7s,mb4.3
SSF Saint Saulge 78.73 343 *eP* **P** **01 37 35.2 -0.4**
comp=Z,6.9nm,0.7s,mb4.6
SSF Saint Saulge 78.73 343 *eP* **P** **01 37 35.2 -0.4**
SSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
AVF Avril sur Loir 79.02 343 *eP* **P** **01 37 37.1 -0.1**
comp=Z,17nm,0.8s,mb4.6
AVF Avril sur Loir 79.02 343 *eP* **P** **01 37 37.1 -0.1**
comp=Z,17nm,0.8s,mb4.9
AVF Avril sur Loir 79.02 343 *eP* **P** **01 37 37.1 -0.1**
AVF pmax pmax
comp=Z,17nm,0.8s,mb4.9
BGF Bois d'Agland 79.33 343 *eP* **P** **01 37 39.3 +0.4**
BGF Bois d'Agland 79.33 343 *eP* **P** **01 37 39.3 +0.4**
BGF Bois d'Agland 79.33 343 *eP* **P** **01 37 39.3 +0.4**
LPL La Plagne 79.58 340 *eP* **P** **01 37 40.9 +0.6**
LPL La Plagne 79.58 340 *eP* **P** **01 37 40.9 +0.6**
LPL La Plagne 79.58 340 *eP* **P** **01 37 40.9 +0.6**
LPG La Plagne 79.60 340 *eP* **P** **01 37 41.1 +0.7**
comp=Z,7.2nm,0.7s,mb4.3
LPG La Plagne 79.60 340 *eP* **P** **01 37 41.1 +0.7**
comp=Z,7.2nm,0.7s,mb4.6
LPG La Plagne 79.60 340 *eP* **P** **01 37 41.1 +0.7**
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
TCF Toulx Ste Croi 79.71 344 *eP* **P** **01 37 40.9 0.0**
TCF Toulx Ste Croi 79.71 344 *eP* **P** **01 37 40.9 0.0**
TCF Toulx Ste Croi 79.71 344 *eP* **P** **01 37 40.9 0.0**
MFF Saint Martin d 79.79 345 *eP* **P** **01 37 41.5 +0.1**
comp=Z,6.5nm,0.5s,mb4.4
MFF Saint Martin d 79.79 345 *eP* **P** **01 37 41.5 +0.1**
comp=Z,6.5nm,0.5s,mb4.7
MFF Saint Martin d 79.79 345 *eP* **P** **01 37 41.5 +0.1**
MFF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
ORIF Oris-en-Rattie 80.33 341 *eP* **P** **01 37 44.8 +0.5**
ORIF Oris-en-Rattie 80.33 341 *eP* **P** **01 37 44.8 +0.5**
ORIF Oris-en-Rattie 80.33 341 *eP* **P** **01 37 44.8 +0.5**
VIVF Saint-Julien-l 80.63 341 *eP* **P** **01 37 46.3 +0.4**
VIVF Saint-Julien-l 80.63 341 *eP* **P** **01 37 46.3 +0.4**
VIVF Saint-Julien-l 80.63 341 *eP* **P** **01 37 46.3 +0.4**
RJF Les Rejaudoux 80.78 344 *eP* **P** **01 37 47.2 +0.5**
RJF Les Rejaudoux 80.78 344 *eP* **P** **01 37 47.2 +0.5**
RJF Les Rejaudoux 80.78 344 *eP* **P** **01 37 47.2 +0.5**
CAF Calviac 81.05 343 *eP* **P** **01 37 48.8 +0.6**
comp=Z,19nm,0.9s,mb4.6
CAF Calviac 81.05 343 *eP* **P** **01 37 48.8 +0.6**
comp=Z,19nm,0.9s,mb4.9
CAF Calviac 81.05 343 *eP* **P** **01 37 48.8 +0.6**
CAF pmax pmax
comp=Z,19nm,0.9s,mb4.9
LFF La Frestale 81.27 344 *eP* **P** **01 37 49.8 +0.5**
LFF La Frestale 81.27 344 *eP* **P** **01 37 49.8 +0.5**
LFF La Frestale 81.27 344 *eP* **P** **01 37 49.8 +0.5**
EPF Esparros 83.19 344 *eP* **P** **01 37 59.6 +0.2**
EPF Esparros 83.19 344 *eP* **P** **01 37 59.6 +0.2**
EPF Esparros 83.19 344 *eP* **P** **01 37 59.6 +0.2**
SJPF Ste Jean 83.36 345 *eP* **P** **01 38 01.3 +1.0**
SJPF Ste Jean 83.36 345 *eP* **P** **01 38 01.3 +1.0**
SJPF Ste Jean 83.36 345 *eP* **P** **01 38 01.3 +1.0**
ETSF Etsaut 83.47 345 *eP* **P** **01 38 01.8 +1.0**
ETSF Etsaut 83.47 345 *eP* **P** **01 38 01.8 +1.0**
ETSF Etsaut 83.47 345 *eP* **P** **01 38 01.8 +1.0**
ESDC Sonseca Array 87.14 347 P **P** **01 38 18.6 -0.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=1.6,slow=5.5,SNR=4.1
ESDC Sonseca Array 87.14 347 P **P** **01 38 18.6 -0.5**

*MDD **13** 01:40:41.1±0.8, 32°.29N×5°.66W, h10km±7km, mb3.8/8, Error ellipse: s-maj=6.7km s-min=4.7km az=3.0, PRXIMO*
*INMG **13** 01:40:42.9±1.0, 32°.43N×5°.58W, h16km±5km, mb4.5/8, ML2.4, Error ellipse: s-maj=5.9km s-min=4.7km az=8.0*
*CSEM **13** 01:40:45.2±0.4, 32°.69N×5°.63W, h10km, mb3.8/8, Error ellipse: s-maj=8.2km s-min=6.4km az=49.0*
ISC 13 01:40:42.4±0.7,**32°.40N**±0°.04×**5°.70W**±0°.04,**h27**km±5km,
n50,σ1.18/82,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**0.34**	**303**	P	**Pb**	**01 40 49.0**	**-1.0**
KIB				S	**Sb**	**01 40 56.0**	**+0.7**
TZC	**Tazercounte**	**0.71**	**250**	P	**Pb**	**01 40 54.0**	**-2.1**
TZC				S	**Sb**	**01 41 04.0**	**-1.5**
CZD	**Col de Zad**	**0.85**	**41**	P	**Pb**	**01 40 57.0**	**-1.4**
CZD				S	**Sb**	**01 41 10.0**	**+0.6**
ZFT	**Errachidia**	**1.20**	**107**	P	**Pn**	**01 41 02.0**	**-1.4**
ZFT				S	**Sn**	**01 41 18.0**	**-0.8**
EMIJ	**Mijas**	**4.23**	**10**	S	**Sn**	**01 42 31.7**	**-1.9**
1.0nm,0.4s,SNR=7.9							
EMIJ	**Mijas**	**4.23**	**10**	S	**Sn**	**01 42 31.7**	**-1.8**
1.0nm,0.4s,SNR=7.9							
EGUA	**Guajares**	**4.77**	**21**	P	**Pn**	**01 41 53.3**	**+0.9**
1.0nm,0.2s,SNR=4.0							
EGUA	**Guajares**	**4.77**	**21**	P	**Pn**	**01 41 53.3**	**+0.9**
1.0nm,0.2s,SNR=4.0							
ERON	**Agron**	**4.87**	**18**	P	**Pn**	**01 41 55.0**	**+1.2**
0.5nm,0.3s,SNR=4.0							
ERON	**Agron**	**4.87**	**18**	P	**Pn**	**01 41 55.0**	**+1.2**
0.5nm,0.3s,SNR=4.0							
PBDV	**Barranco-do-Ve**	**5.17**	**340**	*e*Pn	**Pn**	**01 41 59.0**	**+1.0**
PBDV				*e*Sn	**Sn**	**01 42 56.5**	**-0.2**
PBDV	**Barranco-do-Ve**	**5.17**	**340**	P	**Pn**	**01 41 59.0**	**+1.0**
PBDV				S	**Sn**	**01 42 56.5**	**-0.2**
PBDV	**Barranco-do-Ve**	**5.17**	**340**	*e*Pn	**Pn**	**01 41 59.0**	**+1.0**
PBDV				*e*Sn	**Sn**	**01 42 56.5**	**-0.2**
PVAQ	**Vaqueiros**	**5.26**	**342**	*e*Pn	**Pn**	**01 42 00.0**	**+0.8**
PVAQ				*e*Sn	**Sn**	**01 42 59.4**	**+0.4**
PVAQ	**Vaqueiros**	**5.26**	**342**	P	**Pn**	**01 42 00.0**	**+0.8**
PVAQ				S	**Sn**	**01 42 59.4**	**+0.4**
PVAQ	**Vaqueiros**	**5.26**	**342**	*e*Pn	**Pn**	**01 42 00.0**	**+0.8**
PVAQ				*e*Sn	**Sn**	**01 42 59.4**	**+0.4**
EGRO	**El Granado**	**5.33**	**345**	P	**Pn**	**01 42 00.9**	**+0.7**
0.6nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**01 43 00.2**	**-0.5**
1.6nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**5.33**	**345**	P	**Pn**	**01 42 00.9**	**+0.8**
0.6nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**01 43 00.2**	**-0.4**
1.6nm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.38**	**332**	S	**Sn**	**01 43 01.9**	**+0.1**
1.8nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.38**	**332**	S	**Sn**	**01 43 01.9**	**+0.1**
1.8nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.42**	**352**	P	**Pn**	**01 42 01.6**	**+0.3**
0.9nm,0.2s,SNR=9.3							
EMIN				S	**Sn**	**01 43 01.7**	**-1.1**
0.5nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.42**	**352**	P	**Pn**	**01 42 01.6**	**+0.3**
0.9nm,0.2s,SNR=9.3							
EMIN				S	**Sn**	**01 43 01.7**	**-1.1**
0.5nm,0.3s,SNR=7.9							
MORF	**Marmelete**	**5.46**	**335**	*e*Pn	**Pn**	**01 42 04.2**	**+2.2**
MORF	**Marmelete**	**5.46**	**335**	P	**Pn**	**01 42 04.2**	**+2.2**
MORF	**Marmelete**	**5.46**	**335**	*e*Pn	**Pn**	**01 42 04.2**	**+2.2**
PCVE	**Castro Verde**	**5.56**	**341**	*e*Pn	**Pn**	**01 42 05.4**	**+2.0**
PCVE				*e*Sn	**Sn**	**01 43 05.5**	**-0.9**
PCVE	**Castro Verde**	**5.56**	**341**	P	**Pn**	**01 42 05.4**	**+2.0**
PCVE				S	**Sn**	**01 43 05.5**	**-0.9**
PCVE	**Castro Verde**	**5.56**	**341**	*e*Pn	**Pn**	**01 42 05.4**	**+2.0**
PCVE				*e*Sn	**Sn**	**01 43 05.5**	**-0.9**
PTEO	**Sao Teotonio**	**5.71**	**335**	*e*Pn	**Pn**	**01 42 06.5**	**+1.2**
PTEO	**Sao Teotonio**	**5.71**	**335**	P	**Pn**	**01 42 06.5**	**+1.2**
PTEO	**Sao Teotonio**	**5.71**	**335**	*e*Pn	**Pn**	**01 42 06.5**	**+1.2**
EADA	**Adamuz**	**5.83**	**9**	P	**Pn**	**01 42 08.1**	**+1.1**
0.1nm,0.1s,SNR=4.0							
EADA				S	**Sn**	**01 43 11.0**	**-2.0**
1.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.83**	**9**	P	**Pn**	**01 42 08.1**	**+1.1**
0.1nm,0.1s,SNR=4.0							
EADA				S	**Sn**	**01 43 11.0**	**-2.0**
1.1nm,0.2s,SNR=7.9							
PBAR	**Barrancos**	**5.87**	**350**	*e*Pn	**Pn**	**01 42 08.9**	**+1.4**
PBAR				*e*Sn	**Sn**	**01 43 12.5**	**-1.4**
PBAR	**Barrancos**	**5.87**	**350**	P	**Pn**	**01 42 08.9**	**+1.4**
PBAR				S	**Sn**	**01 43 12.5**	**-1.4**
PBAR	**Barrancos**	**5.87**	**350**	*e*Pn	**Pn**	**01 42 08.9**	**+1.4**
PBAR				*e*Sn	**Sn**	**01 43 12.5**	**-1.4**
PNCL	**Nicolau / Gran**	**6.15**	**339**	*e*Pn	**Pn**	**01 42 12.2**	**+0.8**
PNCL				*e*Sn	**Sn**	**01 43 21.4**	**+0.5**
PNCL	**Nicolau / Gran**	**6.15**	**339**	*e*Pn	**Pn**	**01 42 12.2**	**+0.8**
PNCL				*e*Sn	**Sn**	**01 43 21.4**	**+0.5**
EBAD	**Badajoz**	**6.43**	**351**	P	**Pn**	**01 42 16.2**	**+0.9**
0.4nm,0.1s,SNR=10.0							
EBAD				S	**Sn**	**01 43 26.4**	**-1.4**
0.5nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**6.43**	**351**	P	**Pn**	**01 42 16.2**	**+0.9**
0.4nm,0.1s,SNR=10.0							
EBAD				S	**Sn**	**01 43 26.4**	**-1.4**
0.5nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**6.64**	**347**	*e*Pn	**Pn**	**01 42 19.6**	**+1.5**
PESTR				*e*Sn	**Sn**	**01 43 31.6**	**-1.2**
PESTR	**Estremoz**	**6.64**	**347**	P	**Pn**	**01 42 19.6**	**+1.5**
PESTR				S	**Sn**	**01 43 31.6**	**-1.2**
PESTR	**Estremoz**	**6.64**	**347**	*e*Pn	**Pn**	**01 42 19.6**	**+1.5**
PESTR				*e*Sn	**Sn**	**01 43 31.6**	**-1.2**
PMRV	**Marv??o**	**7.15**	**349**	*e*Pn	**Pn**	**01 42 26.2**	**+1.1**
PMRV				*e*Sn	**Sn**	**01 43 43.8**	**-1.6**
PMRV	**Marv??o**	**7.15**	**349**	P	**Pn**	**01 42 26.2**	**+1.1**
PMRV				S	**Sn**	**01 43 43.8**	**-1.6**
PMRV	**Marv??o**	**7.15**	**349**	*e*Pn	**Pn**	**01 42 26.2**	**+1.1**
PMRV				*e*Sn	**Sn**	**01 43 43.8**	**-1.6**
EPLA	**Plasencia**	**7.66**	**358**	P	**Pn**	**01 42 31.8**	**-0.3**
1.7nm,0.1s,SNR=4.0							
EPLA	**Plasencia**	**7.66**	**358**	P	**Pn**	**01 42 31.8**	**-0.3**
1.7nm,0.1s,SNR=4.0							
MVO	**Moncorvo**	**8.82**	**353**	P	**Pn**	**01 42 49.1**	**+1.1**
0.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**8.82**	**353**	P	**Pn**	**01 42 49.1**	**+1.1**
0.6nm,0.1s,SNR=7.9							

CASC 13 01:50:40.9±2.2,**14°.18N**×**91°.54W**,**h86**km±11km,**MD3.5,1C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.16**	**326**	*e*P	Pn	01 50 53.8	+0.5
JAT				*e*S	Sn	01 51 03.5	+1.1
FUG	**Fuego 3**	**0.73**	**69**	*e*P	Pn	01 50 57.6	+0.3
FUG				*e*S	Sn	01 51 09.4	-0.2
FG6		**0.74**	**60**	*e*P	Pn	01 50 58.1	+0.6
FG6				*e*S	Sn	01 51 10.4	+0.6
PSG	**Pto de San Jos**	**0.77**	**108**	*e*P	Pn	01 50 58.3	+0.6
PSG				*e*S	Sn	01 51 10.1	-0.2
PCG	**Pacaya**	**0.93**	**77**	*e*P	Pn	01 51 00.6	+1.1
PCG				*e*S	Sn	01 51 14.3	+0.9
NBG	**Las Nubes**	**1.23**	**71**	*e*P	Pn	01 51 04.3	+1.2
NBG				*e*S	Sn	01 51 24.1	+4.4
RBDL	**Robledal**	**1.80**	**92**	*e*P	Pn	01 51 10.3	-0.1
RTR	**El Retiro**	**1.86**	**99**	*e*P	Pn	01 51 11.3	+0.2
RTR				*e*S	Sn	01 51 36.5	+2.3
SBLS	**San Blas**	**1.90**	**100**	*e*P	Pn	01 51 12.0	+0.4
SBLS				*e*S	Sn	01 51 36.7	+1.7
SNJE	**San Jose**	**1.91**	**99**	*e*P	Pn	01 51 12.0	+0.3
SNJE				*e*S	Sn	01 51 37.5	+2.3
MTO2	**Montecristo 2**	**2.13**	**84**	*e*P	Pn	01 51 14.0	-0.6

*IDC **13** 02:12:33.7±1.0, 7°.03N×79°.46W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.8/20, mbtmp3.6/8, ML3.7/1, MS3.1/4, Ms1 3.1/4, ms1mx2.9/30, Error ellipse: s-maj=49.2km s-min=20.7km az=54.0*
*ISCJB **13** 02:12:37.6±2.7, 7°.20N±0°.06×79°.36W±0°.06, h28km±21km, mb3.7/12, MS3.0/2, Error ellipse: s-maj=11.4km s-min=8.1km az=44.9*
*NEIC **13** 02:12:40.1±3.0, 7°.18N×79°.43W, h34km±23km, mb3.8/6, Error ellipse: s-maj=14.6km s-min=9.2km az=56.0*
ISC 13 02:12:40.7±1.0,**7°.20N**±0°.06×**79°.41W**±0°.06,**h35**km±11km,
n32,σ1.10/31,mb3.7/12,MS3.0/2,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**2.00**	**348**	*e*Pn	**Pn**	**02 13 09.1**	**-2.8**
BCIP				*e*Sn	**Sn**	**02 13 35.1**	**-0.6**
ROSC	**El Rosal**	**5.56**	**114**	Pn	**Pn**	**02 14 04.2**	**+3.1**
7.2nm,0.3s,baz=50,slow=3.2,SNR=13							
ROSC				LR	LR	02 16 25.0	
comp=Z,122nm,20.3s,baz=18,slow=42							
ROSC	**El Rosal**	**5.56**	**114**	Pn	**Pn**	**02 14 04.2**	**+3.1**
JTS	**JuntasAbangare**	**6.28**	**300**	Pn	**Pn**	**02 14 10.5**	**-0.3**
1.5nm,0.3s,baz=235,slow=23,SNR=7.4							
JTS				Sn	**Sn**	**02 15 31.7**	**+10**
baz=347,slow=19,SNR=1.7							
JTS				LR	LR	02 16 55.7	
comp=Z,225nm,18.5s,baz=186,slow=41							
JTS	**JuntasAbangare**	**6.28**	**300**	Pn	**Pn**	**02 14 10.5**	**-0.4**
JTS				Sn	**Sn**	**02 15 31.7**	**+10**
OTAV	**Otavalo**	**6.99**	**172**	*e*Pn	**Pn**	**02 14 20.7**	**+0.1**
SDV	**Santo Domingo**	**8.85**	**79**	*e*Pn	**Pn**	**02 14 47.0**	**+0.8**
8.8nm,0.5s							
SDV				*e*Sn	**Sn**	**02 16 24.0**	**-0.7**
SDDR	**Presa de Saban**	**14.12**	**33**	*e*Pn	**Pn**	**02 15 59.2**	**+1.0**
SAML	**Samuel**	**22.78**	**135**	*e*P	**P**	**02 17 39.6**	**-0.7**
3.6nm,0.6s,mb4.0							
LPAZ	**La Paz**	**25.87**	**155**	P	**P**	**02 18 07.3**	**-2.0**
0.7nm,0.8s,mb3.2,baz=343,slow=11,SNR=2.2							
LPAZ				LR	LR	02 29 13.6	
comp=Z,40nm,20.6s,MS2.9,baz=100,slow=39							
LPAZ	**La Paz**	**25.87**	**155**	*e*P	**P**	**02 18 08.4**	**-0.9**
1.5nm,0.9s,mb3.5							
ANMO	**Albuquerque**	**37.16**	**322**	*e*P	**P**	**02 19 49.0**	**+0.7**
1.3nm,0.9s,mb3.8							
SDCO	**Great Sand Dun**	**38.52**	**326**	*e*P	**P**	**02 20 00.6**	**+0.8**
0.9nm,0.6s,mb3.7							
CPUP	**Villa Florida**	**39.63**	**148**	LR	LR	02 37 57.5	
comp=Z,29nm,18.4s,MS3.1,baz=151,slow=39							
BW06	**Boulder Array**	**44.27**	**328**	*e*P	**P**	**02 20 47.7**	**+0.9**
1.0nm,0.6s,mb3.7							
PDAR	**Pinedale Array**	**44.27**	**328**	P	**P**	**02 20 47.3**	**+0.5**
0.6nm,0.8s,mb3.4,baz=126,slow=11,SNR=4.7							
PDAR	**Pinedale Array**	**44.27**	**328**	P	**P**	**02 20 47.3**	**+0.5**
ULM	**Lac du Bonnet**	**45.06**	**345**	P	**P**	**02 20 53.0**	**0.0**
1.3nm,0.6s,mb4.0,baz=164,slow=10,SNR=4.3							
ULM	**Lac du Bonnet**	**45.06**	**345**	P	**P**	**02 20 53.0**	**0.0**
TPAW	**Teton Pass**	**45.50**	**328**	*e*P	**P**	**02 20 58.0**	**+1.3**
1.1nm,0.8s,mb3.8							
NVAR	**Mina Array Bea**	**46.87**	**317**	P	**P**	**02 21 08.1**	**+0.6**
0.4nm,0.7s,mb3.5,baz=128,slow=8.6,SNR=3.9							
NVAR	**Mina Array Bea**	**46.87**	**317**	P	**P**	**02 21 08.1**	**+0.6**
YKA	**Yellowknife Ar**	**60.87**	**342**	P	**P**	**02 22 48.1**	**-1.2**
1.0nm,0.7s,mb4.1,baz=138,slow=6.4,SNR=3.8							
YKA	**Yellowknife Ar**	**60.87**	**342**	P	**P**	**02 22 48.1**	**-1.2**
ILAR	**Eielson Array**	**74.01**	**336**	P	**P**	**02 24 10.0**	**-2.4**
0.3nm,0.9s,mb3.2,baz=122,slow=3.9,SNR=3.0							
ILAR	**Eielson Array**	**74.01**	**336**	P	**P**	**02 24 10.0**	**-2.4**
TORD	**Torodi Ar. Bea**	**79.77**	**78**	P	**P**	**02 24 46.0**	**+0.1**
0.4nm,0.7s,mb3.5,baz=284,slow=6.7,SNR=5.3							
TORD	**Torodi Ar. Bea**	**79.77**	**78**	P	**P**	**02 24 46.0**	**+0.1**
ASAR	**Alice Springs**	**144.09**	**239**	PKP	PKPdf	02 32 09.2	-4.3
0.5nm,0.5s,baz=117,slow=4.0,SNR=6.8							
ASAR	**Alice Springs**	**144.09**	**239**	PKP	PKPdf	02 32 09.2	-4.3
WRA	**Warramunga Arr**	**144.92**	**245**	PKP	PKPdf	02 32 12.0	-3.0
1.5nm,0.8s,baz=100,slow=3.1,SNR=11							
WRA	**Warramunga Arr**	**144.92**	**245**	PKP	PKPdf	02 32 12.0	-3.0

*IDC **13** 02:28:18.2±6.4, 28°.19S×178°.29W, h198km±57km, mb3.0/3, mb1 3.4/4, mb1mx3.3/15, mbtmp3.1/4, Error ellipse: s-maj=45.7km s-min=30.0km az=11.0*
*ISCJB **13** 02:28:24.3±1.0, 28°.6S±0°.1×178°.4W±0°.3, h270km±10km, mb2.9/3, Error ellipse: s-maj=39.6km s-min=15.2km az=22.6*
*NEIC **13** 02:28:25.5±1.1, 28°.58S×178°.41W, h269km±11km, Error ellipse: s-maj=33.1km s-min=22.5km az=133.0*
ISC 13 02:28:25.4±0.9,**28°.7S**±0°.1×**178°.3W**±0°.3,**h270**km±10km,
n19,σ0.55/12,mb2.9/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.62**	**146**	*e*Pn	**Pn**	**02 29 02.1**	**+1.1**
RAO				*e*Sn	**S**	**02 29 28.3**	**-0.8**
URZ	**Urewera**	**10.24**	**201**	P	**Pn**	**02 30 46.7**	**0.0**
0.2nm,0.3s,baz=320,slow=5.8,SNR=3.1							
URZ				S	**S**	**02 32 41.7**	**0.0**
1.5nm,0.3s,baz=324,slow=10,SNR=9.3							
URZ	**Urewera**	**10.24**	**201**	P	**Pn**	**02 30 46.7**	**0.0**
URZ				S	**S**	**02 32 41.7**	**0.0**
ASAR	**Alice Springs**	**42.95**	**265**	P	**P**	**02 35 58.6**	**+0.3**
0.3nm,0.6s,mb2.7,baz=97,slow=7.5,SNR=3.8							
ASAR	**Alice Springs**	**42.95**	**265**	P	**P**	**02 35 58.6**	**+0.3**
WRA	**Warramunga Arr**	**43.79**	**271**	P	**P**	**02 36 04.6**	**-0.4**
0.2nm,0.4s,mb2.7,baz=109,slow=7.8,SNR=5.7							
WRA	**Warramunga Arr**	**43.79**	**271**	P	**P**	**02 36 04.6**	**-0.4**
NVAR	**Mina Array Bea**	**87.20**	**43**	P	**P**	**02 40 41.0**	**-0.2**
0.2nm,0.4s,mb3.3,baz=221,slow=6.7,SNR=3.5							
NVAR	**Mina Array Bea**	**87.20**	**43**	P	**P**	**02 40 41.0**	**-0.2**
FINES	**FINESS Array B**	**143.49**	**341**	PKhKP	PKPpre	02 47 22.9	
3.5nm,0.9s,baz=67,slow=3.6,SNR=3.4							
FINES	**FINESS Array B**	**143.49**	**341**	PKPpre	PKPpre	02 47 22.9	
NOA	**NORSAR Array B**	**147.07**	**351**	PKPbc	PKPbc	02 47 34.4	-1.4
0.5nm,0.5s,ba

TUTA	Tutak	1.30	91	*i* P	Pn	03 11 48.3	-0.4
TUTA				*i* S	Sb	03 12 05.7	0.0
TUTA	Tutak	1.30	91	*i* P	Pn	03 11 48.3	-0.4
TUTA				*i* S	Sb	03 12 05.7	0.0
AGRB	Hanur-Agry	1.44	84	*e*PN	Pn	03 11 50.7	+0.1
AGRB	Hanur-Agry	1.44	84	*e*Pn	Pn	03 11 50.7	0.0
PTK	Pertek	1.46	249	*e*PN	Pn	03 11 50.1	-0.8
PTK	Pertek	1.46	249	*e*Pn	Pn	03 11 50.1	-0.8
BEST	Besiri	1.54	176	*i* P	Pg	03 11 53.3	-0.4
BEST				*i* S	Sg	03 12 14.8	+1.2
KELT	Kelkit	1.62	297	*i* P	Pg	03 11 54.7	-0.5
KELT				*i* S	Sg	03 12 20.6	+4.5
KELT	Kelkit	1.62	297	*i* P	Pg	03 11 54.7	-0.5
GUMT	Gumushane	1.64	309	*e*PN	Pn	03 11 54.1	+0.7
GUMT	Gumushane	1.64	309	*e*Pn	Pn	03 11 54.1	+0.7
DAGI	Agillar	1.75	20	*i* P	Pg	03 11 56.6	-1.1
DAGI				*i* S	Sg	03 12 19.8	-0.6
SVRC	Sivrice-ELAZID	1.77	234	*e*PN	Pn	03 11 55.5	+0.3
SVRC	Sivrice-ELAZID	1.77	234	*e*Pn	Pn	03 11 55.5	+0.3
KARS	Kars	1.91	51	*e*PN	Pn	03 11 57.6	+0.5
KARS	Kars	1.91	51	*e*Pn	Pn	03 11 57.6	+0.5
BCA	Borcka	2.05	10	*e*PN	Pn	03 11 59.7	+0.7
BCA	Borcka	2.05	10	*e*Pn	Pn	03 11 59.7	+0.7
CLDR	Caldiran	2.18	97	*e*PN	Pn	03 12 01.1	+0.3
CLDR	Caldiran	2.18	97	*e*Pn	Pn	03 12 01.1	+0.3
MALT	Malatya	2.39	243	*e*PN	Pn	03 12 04.4	+0.6
MALT	Malatya	2.39	243	*e*Pn	Pn	03 12 04.4	+0.7
CUKT	Cukurca	2.92	138	*e*PN	Pn	03 12 11.4	+0.5
CUKT	Cukurca	2.92	138	*e*Pn	Pn	03 12 11.4	+0.4

IDC 13 04:19:01.4±3.0, 31°32S×176°78W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/16, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=75.6km s-min=36.3km az=121.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.55	214	Pn	Pn	04 21 06.2	-0.2
	0.3nm,0.3s,baz=338,slow=16,SNR=3.6						
URZ				Sn	Sn	04 22 44.0	+0.4
	baz=8.8,slow=19,SNR=3.4						
ASAR	Alice Springs	44.11	267	P	P	04 27 11.9	+0.3
	0.5nm,0.6s,baz=103,slow=7.6,SNR=7.7						
WRA	Warramunga Arr	45.18	272	P	P	04 27 20.0	-0.2
	0.5nm,0.4s,baz=111,slow=8.0,SNR=13						
FINES	FINESS Array B	146.37	340	PKPbc	PKPbc	04 38 42.6	-0.9
	1.5nm,0.6s,baz=55,slow=5.3,SNR=9.1						

TRN 13 04:29:21.7, 15°30N×61°48W, h145km, MD3.7, M3.1(FDF), M3.1(FDF), 2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDN	Morne-Daniel	0.08	79	*e*P	Pn	04 29 42.6	+1.4
DPMT	Pointe Michel	0.10	113	*e*P	Pn	04 29 42.0	+0.8
DBCT	Belle View Cho	0.13	104	*e*P	Pn	04 29 43.2	+1.9
DFBT	Forest Bistro	0.13	118	*e*P	Pn	04 29 42.3	+1.1
DSHT	Scott's Head	0.13	132	*e*P	Pn	04 29 42.6	+1.3
DLPL	La Plaine	0.22	82	*e*P	Pn	04 29 41.9	+0.4
DLPL				*e*S	Sn	04 29 56.0	-0.4
DWS	Wesley	0.31	31	*e*P	Pn	04 29 44.5	+2.8
DWS				*e*S	Sn	04 29 58.8	+1.8
TBG	Guadaloupe-3	0.57	343	*e*P	Pn	04 29 43.9	+1.0
MGG	Marie-Galante	0.63	14	*e*P	Pn	04 29 43.5	+0.2
FDF	Fort de France	0.65	151⇓	*e*P	Pn	04 29 44.6	+1.2
FDF			⇓	*e*S	Sn	04 30 01.2	+1.4
HMG	Houelmont	0.71	342	*e*P	Pn	04 29 45.1	+1.3
HMG				*e*S	Sn	04 30 01.4	+0.8
PHG	Guadaloupe-2	0.73	347	*e*P	Pn	04 29 45.0	+1.1
DOG	Dongo Capester	0.74	349	*e*P	Pn	04 29 44.9	+0.9
SCG	Saint Claude	0.75	345	*e*P	Pn	04 29 45.5	+1.4
SCG				*e*S	Sn	04 30 02.2	+1.1
BCG	Bois Riant Cap	0.79	350	*e*P	Pn	04 29 45.4	+1.0
BIM	Bigot	0.87	153	*e*P	Pn	04 29 46.2	+1.2
BIM				*e*S	Sn	04 30 05.7	+2.9
LZG	Guadaloupe-1	0.88	341	*e*P	Pn	04 29 46.3	+1.3
MVM	Montagne Vaucl	0.93	143	*e*P	Pn	04 29 46.2	+0.7
SLW	Petit Monier	1.38	158	*e*P	Pn	04 29 50.6	+0.9
SLB	Belfond	1.52	164	*e*P	Pn	04 29 53.4	+2.2
SLB				*e*S	Sn	04 30 13.0	-0.8
MCLT	Moule a Chique	1.67	162	*e*P	Pn	04 29 53.1	+0.4
MCLT				*e*S	Sn	04 30 14.8	-1.7
SVB	Belmont	2.03	174	*e*P	Pn	04 29 59.1	+2.1
SVB				*e*S	Sn	04 30 23.8	-0.2
SKI	Saint Kitts	2.36	329	*e*P	Pn	04 30 08.9	+8.0

TAP 13 04:30:16.3, 23°52N×120°45E, h10km, ML2.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHY	Chiayi	0.03	230	*e*P	Pg	04 30 18.6	+0.4
	baz=213						
CHY				*i* S	Sg	04 30 20.0	+0.5
	baz=213						
CHN2	Minshiung	0.03	58	*e*P	Pg	04 30 18.8	+0.6
	baz=56						
CHN2				S	Sg	04 30 20.6	+1.0
	baz=56						
CHN4	Tsaushan	0.21	140	P	Pg	04 30 21.8	+1.0
	baz=140						
CHN4				*e*S	Sg	04 30 25.6	+1.9
	baz=140						
CHN5	Tsauling	0.23	69	P	Pg	04 30 21.9	+0.8
	baz=68						
CHN5				*e*S	Sg	04 30 26.1	+1.8
	baz=68						
CHN8	Yiju	0.27	232	*e*P	Pg	04 30 22.6	+0.7
	baz=230						
CHN8				*e*S	Sg	04 30 27.9	+2.3
	baz=230						
CHN1	Nanshi	0.34	167	*i* P	Pg	04 30 24.0	+1.0
	baz=166						
CHN1				S	Sg	04 30 29.6	+2.1
	baz=166						
SGST	Jiashian	0.45	164	*e*P	Pg	04 30 26.0	+0.9
	baz=162						
TYC	Yuchr	0.54	44	*e*P	Pg	04 30 27.8	+0.9
	baz=44						
TYC				S	Sg	04 30 36.3	+2.3
	baz=44						

IDC 13 05:34:40.1±3.6, 19°17N×146°12E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/21, mbtmp4.0/4, Error ellipse: s-maj=167.2km s-min=26.7km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.55	197	P	P	05 42 20.6	-0.7
	0.6nm,0.3s,baz=14,slow=8.3,SNR=15						
ASAR	Alice Springs	44.21	196	P	P	05 42 51.9	+0.7
	0.1nm,0.3s,baz=15,slow=7.5,SNR=5.7						
KURK	Kurchatov	61.19	318	P	P	05 44 58.2	+1.6
	0.4nm,0.3s,baz=94,slow=7.5,SNR=4.9						
FINES	FINESS Array B	86.62	335	P	P	05 47 24.0	-1.3
	6.7nm,1.1s,baz=68,slow=3.7,SNR=5.2						

*NEIC **13** 05:42:37.2, 16°59N×99°77W, h1km, MD3.5(MEX), After MEX.*

MEX 13 05:42:38.6±0.3, 16°69N×99°72W, h6km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.22	322	*e*P	Pg	05 42 43.5	+0.5
ACX				*i* S	Sg	05 42 47.2	+1.2
ACX	Acapulco	0.22	322	*e*P	Pg	05 42 43.5	+0.5
ACX				*i* S	Sg	05 42 47.2	+1.2
CAIG	El Cayaco	0.64	304	*e*P	Pg	05 42 49.9	-0.9
CAIG				*i* S	Sg	05 42 59.2	+0.1
CAIG	El Cayaco	0.64	304	*e*P	Pg	05 42 49.9	-0.9
CAIG				*i* S	Sg	05 42 59.2	+0.1
MEIG	Mezcala	1.23	4	*i* P	Pg	05 42 58.6	-3.6
MEIG				*i* S	Sg	05 43 14.5	-3.7
PNIG	Pinotepa	1.55	101	*e*P	Pn	05 43 03.6	-3.2
PNIG				*i* S	Sn	05 43 22.0	-5.3
PNIG	Pinotepa	1.55	101	*e*P	Pn	05 43 03.6	-3.2
PNIG				*i* S	Sn	05 43 22.0	-5.3
UTMO	Huajuapan	2.15	58	*i* P	Pn	05 43 11.9	-3.1
UTMO				*i* S	Sn	05 43 37.6	-4.4
PPM	Popocatepetl	2.58	24	*i* P	Pn	05 43 18.7	-2.2
PPM				*i* S	Sn	05 43 51.9	-0.8
PPM	Popocatepetl	2.58	24	*i* P	Pn	05 43 18.7	-2.2
PPM				*i* S	Sn	05 43 48.9	-3.8

*NEIC **13** 05:46:38.8, 44°57N×6°94E, h2km, ML2.6(LDG), After LDG.*
*GEN **13** 05:46:38.3, 44°53N×6°84E, h6km, ML2.2*
*ROM **13** 05:46:38.5±0.2, 44°55N×6°92E, h10km, Md2.2/9, Ml2.2/6, Error ellipse: s-maj=3.0km s-min=1.2km az=60.0*
*ISCJB **13** 05:46:38.4±0.2, 44°58N±0°01×6°91E±0°03, h25km±2km, Error ellipse: s-maj=3.5km s-min=2.1km az=155.8*
*STR **13** 05:46:38.6±0.1, 44°56N×6°90E, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **13** 05:46:38.2±0.1, 44°56N×6°89E, h15km, ML2.6/35, Error ellipse: s-maj=2.1km s-min=1.4km az=54.0*
*LDG **13** 05:46:38.8±0.0, 44°57N×6°94E, h2km, Md2.4/3, Ml2.6/30, Error ellipse: s-maj=1.1km s-min=0.6km az=64.0*

ISC 13 05:46:38.2±0.2, 44°57N±0°01×6°88E±0°02, h16km±1km, n145, σ0°88/279, 4C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.10	209	Pg	Pg	05 46 41.1	-0.5
SURF				Sg	Sg	05 46 42.7	-1.2
SURF	Saint Ours	0.10	209	Pg	Pg	05 46 41.1	-0.5
SURF				Sg	Sg	05 46 42.7	-1.2
MBDF	Montbardon	0.17	333	*e*Pg	Pg	05 46 42.9	+0.3
MBDF				*e*Sg	Sg	05 46 45.6	+0.1
	1μm,0.3s						
MBDF	Montbardon	0.17	333	*e*Pg	Pg	05 46 42.9	+0.3
MBDF				*e*Sg	Sg	05 46 45.6	+0.1
MBDF	Montbardon	0.17	333	*e*Pg	Pg	05 46 42.9	+0.3
MBDF				*e*Sg	Sg	05 46 45.6	+0.1
	558nm,0.3s						
PZZ	Stroppo	0.18	111⇑	*i*Pg	Pg	05 46 42.6	0.0
PZZ				Sg	Sg	05 46 45.3	-0.3
	2μm,0.2s						
PZZ	Stroppo	0.18	111	P	Pg	05 46 42.6	0.0
PZZ				Sg	Sg	05 46 45.3	-0.3
	2μm,0.2s						
DOI	San Damiano	0.27	104⇑	*i*Pg	Pg	05 46 44.0	0.0
DOI				Sg	Sg	05 46 48.1	+0.1
	99nm,0.3s						
DOI	San Damiano	0.27	104⇑	*i*Pg	Pg	05 46 44.0	0.0
DOI				Sg	Sg	05 46 48.1	+0.1
	99nm,0.3s						
STV	Sant Anna di V	0.46	135	Pg	Pg	05 46 47.0	-0.3
STV				Sg	Sg	05 46 53.3	-0.1
	359nm,0.3s						
STV	Sant Anna di V	0.46	135	P	Pg	05 46 47.0	-0.3
STV				S	Sg	05 46 53.1	-0.3
BNI	Bardonecchia	0.50	343	Pg	Pg	05 46 49.0	+0.8
BNI				Sg	Sg	05 46 56.1	+1.1
	52nm,0.7s						
BNI	Bardonecchia	0.50	343	Pg	Pg	05 46 49.0	+0.8
BNI				Sg	Sg	05 46 56.1	+1.1
	52nm,0.7s						
TOUF	Mont Tournerai	0.61	155	Pg	Pg	05 46 50.2	-0.1
TOUF				Sg	Sg	05 46 57.9	-0.6
TOUF	Mont Tournerai	0.61	155	Pg	Pg	05 46 50.2	-0.1
TOUF				Sg	Sg	05 46 57.9	-0.6
RSP	Reno Superiore	0.64	25	Pg	Pg	05 46 51.4	+0.7
RSP	Reno Superiore	0.64	25	P	Pg	05 46 51.4	+0.7
AUTN	L'Aution	0.69	146	Pg	Pg	05 46 51.9	+0.1
AUTN				Sg	Sg	05 47 00.6	-0.4
AUTN	L'Aution	0.69	146	Pg	Pg	05 46 51.9	+0.1
AUTN				Sg	Sg	05 47 00.6	-0.4
MVIF	Mont Vial	0.70	164	Pg	Pg	05 46 52.0	+0.1
MVIF				Sg	Sg	05 47 01.6	+0.4
MVIF	Mont Vial	0.70	164	Pg	Pg	05 46 52.0	+0.1
MVIF				Sg	Sg	05 47 01.6	+0.4
LUCF	Luceram	0.76	154	Pg	Pg	05 46 52.6	-0.3
LUCF				Sg	Sg	05 47 02.9	0.0
LUCF	Luceram	0.76	154	Pg	Pg	05 46 52.6	-0.3
LUCF				Sg	Sg	05 47 02.9	0.0
SAOF	Saorge	0.76	140	Pg	Pg	05 46 52.4	-0.6
SAOF				Sg	Sg	05 47 02.6	-0.4
SAOF	Saorge	0.76	140	Pg	Pg	05 46 52.4	-0.6
SAOF				Sg	Sg	05 47 02.6	-0.4
ORIF	Oris-en-Rattie	0.80	296	*e*Pg	Pg	05 46 53.7	0.0
ORIF				*e*Sg	Sg	05 47 03.8	-0.3
	70nm,0.2s						
ORIF	Oris-en-Rattie	0.80	296	*e*Pg	Pg	05 46 53.7	0.0
ORIF				*e*Sg	Sg	05 47 03.8	-0.3
ORIF	Oris-en-Rattie	0.80	296	*e*Pg	Pg	05 46 53.7	0.0
ORIF				*e*Sg	Sg	05 47 03.8	-0.3
	35nm,0.2s						
MONE	Monesi	0.80	128	P	Pb	05 46 53.3	-0.3
SBF	Sospel	0.81	150	*e*Pg	Pg	05 46 53.7	-0.3
SBF				*e*Sg	Sg	05 47 04.3	-0.3
	107nm,0.4s						
SBF	Sospel	0.81	150	*e*Pg	Pg	05 46 53.7	-0.3
SBF				*e*Sg	Sg	05 47 04.3	-0.3
SBF	Sospel	0.81	150	*e*Pg	Pg	05 46 53.7	-0.3
SBF				*e*Sg	Sg	05 47 04.3	-0.3
	53nm,0.4s						
CALN	Calern	0.82	180	Pg	Pg	05 46 54.3	+0.2
CALN				Sg	Sg	05 47 04.9	0.0
CALN	Calern	0.82	180	Pg	Pg	05 46 54.3	+0.2
CALN				Sg	Sg	05 47 04.9	0.0
GDM	Grand'Maison	0.83	320	Pg	Pg	05 46 54.8	+0.4
GDM				Sg	Sg	05 47 05.7	+0.3
GDM	Grand'Maison	0.83	320	Pg	Pg	05 46 54.8	+0.4
GDM				Sg	Sg	05 47 05.7	+0.3
RONM	Roccetta Nervi	0.86	143	P	Pb	05 46 54.2	-0.6
REVF	Revere	0.90	157	Pg	Pg	05 46 55.4	-0.3
REVF				Sg	Sg	05 47 07.7	+0.2
REVF	Revere	0.90	157	Pg	Pg	05 46 55.4	-0.3
REVF				Sg	Sg	05 47 07.7	+0.2
LSD	Lago del Serru	0.91	11	Pg	Pg	05 46 56.6	+0.8
LSD				Sg	Sg	05 47 08.7	+1.0
LSD	Lago del Serru	0.91	11	P	Pb	05 46 56.2	+0.7
LSD	Lago del Serru	0.91	11	Pg	Pg	05 46 56.6	+0.8
LSD				Sg	Sg	05 47 08.7	+1.0
LPG	La Plagne	0.93	354	*e*Pg	Pg	05 46 56.9	+0.6
LPG				*e*Sg	Sg	05 47 08.5	0.0
	26nm,0.3s						
LPG	La Plagne	0.93	354	*e*Pg	Pg	05 46 56.9	+0.6
LPG				*e*Sg	Sg	05 47 08.5	0.0
LPG	La Plagne	0.93	354	*e*Pg	Pg	05 46 56.9	+0.6
LPG				*e*Sg	Sg	05 47 08.5	0.0
	13nm,0.3s						
NEGI	Seborga	0.93	140	P	Pb	05 46 55.8	-0.1
LPL	La Plagne	0.95	354	*e*Pg	Pg	05 46 57.0	+0.4
LPL				*e*Sg	Sg	05 47 09.1	0.0
	33nm,0.3s						
LPL	La Plagne	0.95	354	*e*Pg	Pg	05 46 57.0	+0.4
LPL				*e*Sg	Sg	05 47 09.1	0.0
LPL	La Plagne	0.95	354	*e*Pg	Pg	05 46 57.0	+0.4
LPL				*e*Sg	Sg	05 47 09.1	0.0
	16nm,0.3s						
RORO	Rocca Rossa	0.96	118	Pg	Pg	05 46 56.3	-0.6
RORO				Sg	Sg	05 47 09.0	-0.5
	65nm,0.3s						
RORO	Rocca Rossa	0.96	118	P	Pb	05 46 56.1	-0.4
RORO				Sg	Sg	05 47 09.0	-0.5
	65nm,0.3s						
IMI	Imperia	0.98	132	Pg	Pg	05 46 56.8	-0.4
IMI	Imperia	0.98	132	P	Pb	05 46 56.5	-0.3
IMI	Imperia	0.98	132	Pg	Pg	05 46 56.8	-0.4
FIN	Finale Ligure	1.02	110	P	Pb	05 46 58.4	+1.0
FRF	La Foret Royal	1.02	190	*e*Pg	Pg	05 46 57.5	-0.5
FRF				*e*Sg	Sg	05 47 11.8	+0.4
	96nm,0.3s						
FRF	La Foret Royal	1.02	190	*e*Pg	Pg	05 46 57.5	-0.5
FRF				*e*Sg	Sg	05 47 11.8	+0.4
FRF	La Foret Royal	1.02	190	*e*Pg	Pg	05 46 57.5	-0.5
FRF				*e*Sg	Sg	05 47 11.8	+0.4
	48nm,0.3s						
GRN	Grenoble	1.05	310	Pg	Pg	05 46 59.6	+1.1
GRN				Sg	Sg	05 47 13.5	+1.2
GRN	Grenoble	1.05	310	Pg	Pg	05 46 59.6	+1.1
GRN				Sg	Sg	05 47 13.5	+1.2
ROTM	Rocchetta Tana	1.08	75	P	Pb	05 46 59.3	+0.8
SMRF	Simiane la Rot	1.11	238	*e*Pg	Pg	05 47 00.3	+0.7
SMRF				*e*Sg	Sg	05 47 15.5	+1.3
	81nm,0.3s						
SMRF	Simiane la Rot	1.11	238	*e*Pg	Pg	05 47 00.3	+0.7
SMRF				*e*Sg	Sg	05 47 15.5	+1.3
SMRF	Simiane la Rot	1.11	238	*e*Pg	Pg	05 47 00.3	+0.7
SMRF				*e*Sg	Sg	05 47 15.5	+1.3
	40nm,0.3s						
TRAV	Traversella	1.12	33	P	Pb	05 46 59.0	-0.2
PCP	Piancastagn	1.19	91⇑	*i*Pg	Pg	05 47 00.3	-0.8
PCP	Piancastagn	1.19	91	P	Pn	05 47 00.2	+0.1
PCP				S	Sb	05 47 15.5	+0.1
LMR	La Mourre	1.27	192	*e*Pg	Pg	05 47 02.0	-0.6
LMR				*e*Sg	Sg	05 47 18.5	-0.6
	39nm,0.2s						
LMR	La Mourre	1.27	192	*e*Pg	Pg	05 47 02.0	-0.6
LMR				*e*Sg	Sg	05 47 18.5	-0.6
LMR	La Mourre	1.27	192	*e*Pg	Pg	05 47 02.0	-0.6
LMR				*e*Sg	Sg	05 47 18.5	-0.6
	20nm,0.2s						
VIVF	Saint-Julien-l	1.60	281	*e*Pn	Pn	05 47 07.6	+1.8
VIVF	Saint-Julien-l	1.60	281	*e*Pg	Pg	05 47 09.8	+0.8
VIVF				*e*Sg	Sg	05 47 30.7	+0.9
	23nm,0.3s						
VIVF	Saint-Julien-l	1.60	281	*e*Pn	Pn	05 47 07.6	+1.8
VIVF				*e*Pg	Pg	05 47 09.8	+0.8
VIVF				*e*Sg	Sg	05 47 30.7	+0.9
VIVF	Saint-Julien-l	1.60	281	*e*Pn	Pn	05 47 07.6	+1.8
VIVF	Saint-Julien-l	1.60	281	*e*Pg	Pg	05 47 09.8	+0.8
VIVF				*e*Sg	Sg	05 47 30.7	+0.9
	11nm,0.3s						
CABF	La Chapelle	2.12	345	*e*Pn	Pn	05 47 15.2	+2.4
CABF				*e*Sn	Sn	05 47 39.1	+0.3
	2.8nm,0.3s						
CABF	La Chapelle	2.12	345	*e*Pn	Pn	05 47 15.2	+2.4
CABF				*e*Sn	Sn	05 47 39.1	+0.3
CABF	La Chapelle	2.12	345	*e*Pn	Pn	05 47 15.2	+2.4
CABF				*e*Sn	Sn	05 47 39.1	+0.3
	1.4nm,0.3s						
LASF	Ste Croix	2.23	258	*e*Pn	Pn	05 47 15.3	+0.9
LASF				*e*Sn	Sn	05 47 42.4	+0.9
	4.9nm,0.4s						
LASF	Ste Croix	2.23	258	*e*Pn	Pn	05 47 15.3	+0.9
LASF				*e*Sn	Sn	05 47 42.4	+0.9
LASF	Ste Croix	2.23	258	*e*Pn	Pn	05 47 15.3	+0.9
LASF				*e*Sn	Sn	05 47 42.4	+0.9
	2.5nm,0.4s						
PGF	Pioggiola	2.54	142	*e*Pn	Pn	05 47 19.7	+1.0
PGF				*e*Sn	Sn	05 47 48.4	-0.8
	10.0nm,0.2s						
PGF	Pioggiola	2.54	142	*e*Pn	Pn	05 47 19.7	+1.0
PGF				*e*Sn	Sn	05 47 48.4	-0.8
PGF	Pioggiola	2.54	142	*e*Pn	Pn	05 47 19.7	+1.0
PGF				*e*Sn	Sn	05 47 48.4	-0.8
	5.0nm,0.2s						
SMF	Signal de Mont	2.98	315	*e*Pn	Pn	05 47 27.0	+2.3
SMF	Signal de Mont	2.98	315	*e*Pg	Pg	05 47 34.6	-0.6
SMF				*e*Sg	Sg	05 48 12.8	-1.0
	4.2nm,0.3s						
SMF	Signal de Mont	2.98	315	*e*Pn	Pn	05 47 27.0	+2.3
SMF				*e*Pg	Pg	05 47 34.6	-0.6
SMF				*e*Sg	Sg	05 48 12.8	-1.0
SMF	Signal de Mont	2.98	315	*e*Pn	Pn	05 47 27.0	+2.3
SMF	Signal de Mont	2.98	315	*e*Pg	Pg	05 47 34.6	-0.6
SMF				*e*Sg	Sg	05 48 12.8	-1.0
	2.1nm,0.3s						
HINF	Hinteralfeld	3.25	360	*e*Pn	Pn	05 47 29.1	+0.7
HINF				*e*Sn	Sn	05 48 05.4	-1.3
	1.5nm,0.4s						
HINF	Hinteralfeld	3.25	360	*e*Pn	Pn	05 47 29.1	+0.7
HINF				*e*Sn	Sn	05 48 05.4	-1.3
HINF	Hinteralfeld	3.25	360	*e*Pn	Pn	05 47 29.1	+0.7
HINF				*e*Sn	Sn	05 48 05.4	-1.3
	0.8nm,0.4s						
AVF	Avril sur Loir	3.32	313	*e*Pn	Pn	05 47 31.9	+2.5
AVF				*e*Sn	Sn	05 48 08.3	-0.3
	4.4nm,0.5s						
AVF	Avril sur Loir	3.32	313	*e*Pn	Pn	05 47 31.9	+2.5
AVF				*e*Sn	Sn	05 48 08.3	-0.3
AVF	Avril sur Loir	3.32	313	*e*Pn	Pn	05 47 31.9	+2.5
AVF				*e*Sn	Sn	05 48 08.3	-0.3
	2.2nm,0.5s						
LOR	Lormes	3.42	323	*e*Pn	Pn	05 47 31.7	+0.9
LOR				*e*Sn	Sn	05 48 10.5	-0.6
LOR				*e*Sg	Sg	05 48 26.4	-1.7
	5.9nm,0.5s						
LOR	Lormes	3.42	323	*e*Pn	Pn	05 47 31.7	+0.9
LOR				*e*Sn	Sn	05 48 10.5	-0.6
LOR				*e*Sg	Sg	05 48 26.4	-1.7
LOR	Lormes	3.42	323	*e*Pn	Pn	05 47 31.7	+0.9
LOR				*e*Sn	Sn	05 48 10.5	-0.6
LOR				*e*Sg	Sg	05 48 26.4	-1.7
	3.0nm,0.5s						
SSF	Saint Saulge	3.43	318	*e*Pn	Pn	05 47 31.6	+0.7
SSF				*e*Sn	Sn	05 48 10.5	-0.7
SSF				*e*Sg	Sg	05 48 27.0	-1.4
	3.6nm,0.4s						
SSF	Saint Saulge	3.43	318	*e*Pn	Pn	05 47 31.6	+0.7
SSF				*e*Sn	Sn	05 48 10.5	-0.7
SSF				*e*Sg	Sg	05 48 27.0	-1.4
SSF	Saint Saulge	3.43	318	*e*Pn	Pn	05 47 31.6	+0.7
SSF				*e*Sn	Sn	05 48 10.5	-0.7
SSF				*e*Sg	Sg	05 48 27.0	-1.4
	1.8nm,0.4s						
CAF	Calviac	3.45	278	*e*Pn	Pn	05 47 32.3	+1.1
CAF				*e*Sg	Sg	05 48 28.5	-0.5
	1.6nm,0.3s						
CAF	Calviac	3.45	278	*e*Pn	Pn	05 47 32.3	+1.1
CAF				*e*Sg	Sg	05 48 28.5	-0.5
CAF	Calviac	3.45	278	*e*Pn	Pn	05 47 32.3	+1.1
CAF				*e*Sg	Sg	05 48 28.5	-0.5
	0.8nm,0.3s						
HAU

RJF *e*Sg **Sg** **05 48 41.4 -1.3**
RJF Les Rejaudoux 3.88 283 *e*Pn **Pn** **05 47 38.1 +1.0**
RJF *e*Sg **Sg** **05 48 41.4 -1.3**
0.5nm,0.2s
PAGF Fort de Pagny 4.07 349 *e*Pn **Pn** **05 47 40.3 +0.7**
PAGF *e*Sn **Sn** **05 48 25.2 -1.6**
1.0nm,0.4s
PAGF Fort de Pagny 4.07 349 *e*Pn **Pn** **05 47 40.3 +0.7**
PAGF *e*Sn **Sn** **05 48 25.2 -1.6**
PAGF Fort de Pagny 4.07 349 *e*Pn **Pn** **05 47 40.3 +0.7**
PAGF *e*Sn **Sn** **05 48 25.2 -1.6**
0.5nm,0.4s
MEZF Maizieres J'vi 4.13 343 *e*Pn **Pn** **05 47 40.8 +0.3**
MEZF *e*Sn **Sn** **05 48 26.7 -1.7**
3.1nm,0.3s
MEZF Maizieres J'vi 4.13 343 *e*Pn **Pn** **05 47 40.8 +0.3**
MEZF *e*Sn **Sn** **05 48 26.7 -1.7**
MEZF Maizieres J'vi 4.13 343 *e*Pn **Pn** **05 47 40.8 +0.3**
MEZF *e*Sn **Sn** **05 48 26.7 -1.7**
1.5nm,0.3s
LFF La Frestale 4.39 277 *e*Pn **Pn** **05 47 44.8 +0.7**
LFF *e*Sg **Sg** **05 48 57.8 -1.3**
6.0nm,0.5s
LFF La Frestale 4.39 277 *e*Pn **Pn** **05 47 44.8 +0.7**
LFF *e*Sg **Sg** **05 48 57.8 -1.3**
LFF La Frestale 4.39 277 *e*Pn **Pn** **05 47 44.8 +0.7**
LFF *e*Sg **Sg** **05 48 57.8 -1.3**
3.0nm,0.5s
EPF Esparros 4.98 254 *e*Pn **Pn** **05 47 52.6 +0.4**
EPF *e*Sn **Sn** **05 48 47.9 -1.5**
0.8nm,0.3s
EPF Esparros 4.98 254 *e*Pn **Pn** **05 47 52.6 +0.4**
EPF *e*Sn **Sn** **05 48 47.9 -1.5**
EPF Esparros 4.98 254 *e*Pn **Pn** **05 47 52.6 +0.4**
EPF *e*Sn **Sn** **05 48 47.9 -1.5**
0.4nm,0.3s
MFF Saint Martin d 5.33 295 *e*Pn **Pn** **05 47 57.6 +0.5**
MFF *e*Sn **Sn** **05 48 56.3 -1.8**
0.7nm,0.2s
MFF Saint Martin d 5.33 295 *e*Pn **Pn** **05 47 57.6 +0.5**
MFF *e*Sn **Sn** **05 48 56.3 -1.8**
MFF Saint Martin d 5.33 295 *e*Pn **Pn** **05 47 57.6 +0.5**
MFF *e*Sn **Sn** **05 48 56.3 -1.8**
0.3nm,0.2s
LDF La Druitiere 6.28 312 *e*Pn **Pn** **05 48 10.3 +0.2**
LDF *e*Sn **Sn** **05 49 18.9 -2.6**
1.1nm,0.4s
LDF La Druitiere 6.28 312 *e*Pn **Pn** **05 48 10.3 +0.2**
LDF *e*Sn **Sn** **05 49 18.9 -2.6**
LDF La Druitiere 6.28 312 *e*Pn **Pn** **05 48 10.3 +0.2**

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*IDC **13** 05:57:33.1±9.7, 36°.08N×70°.51E, h186km±103km, mb3.3/4, mb1 3.2/8, mb1mx3.0/28, mbtmp3.1/8, MS3.4/2, Ms1 3.4/2, ms1mx2.6/24, Error ellipse: s-maj=57.0km s-min=47.7km az=115.0*
*NNC **13** 05:57:34.3±7.4, 36°.83N×70°.12E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=65.1km s-min=48.6km az=164.0*
*ISCJB **13** 05:57:36.2±0.4, 36°.46N±0°.04×70°.42E±0°.07, h207km±7km, mb3.4/3, Error ellipse: s-maj=9.4km s-min=5.5km az=161.1*
*NEIC **13** 05:57:37.0±0.6, 36°.46N×70°.51E, h191km±9km, mb4.6/13, Error ellipse: s-maj=10.3km s-min=4.9km az=62.0*
ISC 13 05:57:37.1±0.4, 36°.47N±0°.04×70°.45E±0°.07, h199km±7km, n51, σ0§97/55, mb3.4/3, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.24**	**211**	*e*Pn	**Pn**	**05 58 18.2**	**+0.1**
KBL				*e*Sn	**Sn**	**05 58 48.4**	**-1.5**
CEP	**Cherat**	**2.90**	**155**	⇓P	**Pn**	**05 58 27.1**	**+1.6**
CEP				S	**Sn**	**05 59 04.0**	**+0.7**
CHCP	**Chirah Chowk**	**3.63**	**140**	⇓P	**Pn**	**05 58 36.2**	**+1.9**
THW	**Thamme Wali**	**3.82**	**163**	⇓P	**Pn**	**05 58 37.6**	**+1.0**
SARP	**Sargodha**	**4.89**	**157**	P	**Pn**	**05 58 50.6**	**+0.4**
SARP				S	**Sn**	**05 59 46.0**	**-1.7**
KK31	**Karatay Array**	**6.63**	**0**	P	**Pn**	**05 59 11.6**	**-0.8**
2.3nm,0.2s,baz=183,slow=12,SNR=108							
KK31				⇑S	**Sn**	**06 00 22.2**	**-5.8**
2.9nm,0.4s,baz=187,slow=20,SNR=5.3							
KKAR	**Karatay Array**	**6.63**	**0**	*e*Pn	**Pn**	**05 59 11.4**	**-0.9**
11nm,0.3s							
KKAR				*e*Sn	**Sn**	**06 00 23.4**	**-4.5**
AAK	**Ala-Archa**	**6.91**	**26**	*e*Pn	**Pn**	**05 59 16.4**	**+0.4**
28nm,0.5s							
TKM2	**Tokmak 2**	**7.57**	**30**	⇓P	**Pn**	**05 59 25.0**	**+0.4**
8.2nm,0.5s							
TKM2				⇑S	**Sn**	**06 00 47.8**	**-2.2**
6.9nm,0.8s							
TKM2	**Tokmak 2**	**7.57**	**30**	*e*Pn	**Pn**	**05 59 24.5**	**-0.1**
12nm,0.5s							
MK31	**Makanchi Array**	**13.58**	**37**	⇑P	**Pn**	**06 00 43.0**	**+1.3**
2.9nm,0.8s,baz=210,slow=9.2,SNR=10							
MKAR	**Makanchi Array**	**13.58**	**37**	P	**Pn**	**06 00 41.1**	**-0.6**
0.1nm,0.3s,baz=215,slow=12,SNR=5.3							
MKAR	**Makanchi Array**	**13.58**	**37**	P	**Pn**	**06 00 41.1**	**-0.5**
DANN	**Dangsing**	**13.85**	**122**	*e*P	**Pn**	**06 00 44.8**	**-0.4**
DANN	**Dangsing**	**13.85**	**122**	*e*P	**Pn**	**06 00 44.8**	**-0.4**
KOLN	**Koldanda**	**14.11**	**124**	*e*P	**Pn**	**06 00 48.1**	**-0.3**
6.1nm,0.3s							
KOLN	**Koldanda**	**14.11**	**124**	*e*P	**Pn**	**06 00 48.1**	**-0.3**
6.1nm,0.3s							
GKN	**Gorkha**	**14.67**	**121**	*e*P	**Pn**	**06 00 55.6**	**+0.3**
12nm,0.3s							
GKN	**Gorkha**	**14.67**	**121**	*e*P	**Pn**	**06 00 55.6**	**+0.3**
12nm,0.3s							
AB31	**Akbulak array**	**14.90**	**332**	⇓P	**Pn**	**06 00 59.1**	**+1.2**
1.0nm,0.3s,baz=142,slow=12,SNR=76							
ABKAR	**Akbulak array**	**14.90**	**332**	*e*P	**Pn**	**06 00 58.8**	**+0.9**
2.5nm,0.3s							
DMN	**Daman**	**15.23**	**121**	*e*P	**Pn**	**06 01 01.3**	**-0.9**
7.9nm,0.4s							
DMN	**Daman**	**15.23**	**121**	*e*P	**Pn**	**06 01 01.3**	**-0.9**
7.9nm,0.4s							
KKN	**Kakani**	**15.24**	**120**	*e*P	**Pn**	**06 01 02.2**	**-0.1**
7.5nm,0.3s							
KKN	**Kakani**	**15.24**	**120**	*e*P	**Pn**	**06 01 02.2**	**-0.1**
7.5nm,0.3s							
KURK	**Kurchatov**	**15.41**	**20**	P	**Pn**	**06 01 04.2**	**+0.1**
0.0nm,0.3s,baz=214,slow=9.1,SNR=4.5							
KURK	**Kurchatov**	**15.41**	**20**	P	**Pn**	**06 01 04.2**	**+0.1**
PKI	**Pulchoki**	**15.47**	**121**	*e*P	**Pn**	**06 01 04.8**	**-0.3**
17nm,0.4s							
PKI	**Pulchoki**	**15.47**	**121**	*e*P	**Pn**	**06 01 04.8**	**-0.3**
17nm,0.4s							
GUN	**Gumba**	**15.59**	**119**	*e*P	**Pn**	**06 01 06.7**	**+0.2**
14nm,0.4s							
GUN	**Gumba**	**15.59**	**119**	*e*P	**Pn**	**06 01 06.7**	**+0.2**
14nm,0.4s							
JIRN	**Jiri**	**15.96**	**119**	*e*P	**Pn**	**06 01 11.7**	**+0.7**
8.3nm,0.5s							
JIRN	**Jiri**	**15.96**	**119**	*e*P	**Pn**	**06 01 11.7**	**+0.7**
8.3nm,0.5s							
BVAR	**Borovoye Array**	**16.56**	**360**	P	**Pn**	**06 01 19.9**	**+2.0**
0.2nm,0.3s,baz=172,slow=11,SNR=3.5							
BVAR	**Borovoye Array**	**16.56**	**360**	P	**Pn**	**06 01 19.9**	**+2.0**
AKTO	**Aktyubinsk**	**16.59**	**331**	⇑P	**Pn**	**06 01 17.9**	**-0.4**
AKTO	**Aktyubinsk**	**16.59**	**331**	P	**Pn**	**06 01 17.7**	**-0.6**
0.3nm,0.3s,baz=140,slow=16,SNR=2.9							
AKTO	**Aktyubinsk**	**16.59**	**331**	P	**Pn**	**06 01 17.7**	**-0.6**
RAMN	**Ramite**	**16.68**	**120**	*e*P	**Pn**	**06 01 19.3**	**-0.4**
15nm,0.6s							
RAMN	**Ramite**	**16.68**	**120**	*e*P	**Pn**	**06 01 19.3**	**-0.4**
15nm,0.6s							
TAPN	**Taplejung**	**17.23**	**117**	*e*P	**Pn**	**06 01 25.2**	**-0.9**
8.5nm,0.6s							
TAPN	**Taplejung**	**17.23**	**117**	*e*P	**Pn**	**06 01 25.2**	**-0.9**
8.5nm,0.6s							
ZAA0	**Zalesovo Array**	**20.13**	**25**	*e*P	**P**	**06 01 55.7**	**0.0**
ZALV	**Zalesovo Beam**	**20.13**	**25**	P	**P**	**06 01 56.0**	**+0.3**
2.3nm,0.4s,baz=213,slow=10,SNR=15							
ZALV	**Zalesovo Beam**	**20.13**	**25**	P	**P**	**06 01 56.0**	**+0.3**
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	**06 04 29.1**	**-0.2**
1.3nm,0.9s,mb3.5,baz=128,slow=12,SNR=4.3							
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	**06 04 29.1**	**-0.2**
ARCES	**ARCESS Array B**	**41.01**	**338**	P	**P**	**06 05 00.4**	**+0.2**
1.9nm,0.6s,mb3.7,baz=112,slow=7.2,SNR=7.1							
GERES	**GERESS Array B**	**42.58**	**305**	LR	LR	06 24 01.7	
comp=Z,99nm,20.4s,baz=64,slow=37							
KSRS	**Korea Array**	**45.31**	**71**	LR	LR	06 26 54.3	
comp=Z,23nm,21.9s,baz=311,slow=39							
TORD	**Torodi Ar. Bea**	**65.27**	**268**	P	**P**	**06 07 55.7**	**-2.1**
0.2nm,0.4s,mb3.1,baz=49,slow=6.4,SNR=3.4							

IDC 13 05:58:26.8±4.8, 7°.52S×126°.65E, h190km±48km, mb3.4/4, mb1 3.6/7, mb1mx3.4/15, mbtmp3.4/7, MS3.4/1, Ms1 3.4/1, ms1mx2.4/18, Error ellipse: s-maj=66.9km s-min=15.4km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.56**	**185**	P	Pn	06 00 53.7	+0.2
0.4nm,0.3s,baz=322,slow=14,SNR=13							
FITZ				S	Sn	06 02 48.4	-2.8
0.9nm,0.3s,baz=252,slow=18,SNR=5.6							
WRA	**Warramunga Arr**	**14.42**	**150**	P	Pn	06 01 41.9	-0.5
0.8nm,0.3s,baz=327,slow=12,SNR=16							
WRA				S	Sn	06 04 18.0	-5.5
0.5nm,0.3s,baz=346,slow=20,SNR=5.0							
ASAR	**Alice Springs**	**17.50**	**157**	P	Pn	06 02 19.7	+0.2
3.4nm,0.3s,baz=332,slow=12,SNR=123							
ASAR				S	S	06 05 30.4	+0.6
0.1nm,0.3s,baz=334,slow=22,SNR=4.4							
STKA	**Stephens Creek**	**27.95**	**152**	P	P	06 03 59.8	+0.3
1.9nm,0.6s,baz=333,slow=9.0,SNR=3.1							
CMAR	**Chiang Mai Arr**	**37.60**	**314**	P	P	06 05 24.1	+0.8
0.8nm,0.5s,baz=157,slow=7.4,SNR=6.8							
URZ	**Urewera**	**54.75**	**132**	LR	LR	06 31 09.6	
comp=Z,36nm,18.5s,baz=340,slow=36							
MKAR	**Makanchi Array**	**66.88**	**329**	P	P	06 08 58.4	+0.1
0.2nm,0.4s,baz=132,slow=8.0,SNR=3.4							
ZALV	**Zalesovo Beam**	**70.62**	**335**	P	P	06 09 20.5	-0.8
0.4nm,0.5s,baz=134,slow=6.2,SNR=2.6							

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*ISCJB **13** 06:02:24.0±0.1, 46°.529N±0°.010×10°.10E±0°.01, h10km, Error ellipse: s-maj=1.4km s-min=1.2km az=170.4*
*ZUR **13** 06:02:23.9, 46°.50N×10°.06E, h1km, ML3.3/19*
*NEIC **13** 06:02:23.9, 46°.50N×10°.06E, h1km, ML3.3(ZUR), ML2.9(ROM), After ZUR.*
NEIC Felt [IV] at Livigno.
*ROM **13** 06:02:23.5±0.2, 46°.52N×10°.04E, h5km±2km, Md3.0/19, Ml2.9/7, Error ellipse: s-maj=2.3km s-min=1.8km az=2.0*
*VIE **13** 06:02:23.6±0.1, 46°.49N×10°.09E, h8km±1km, mb2.6/9, ML3.4/11, Error ellipse: s-maj=0.9km s-min=0.6km az=3.0 20 km ENE of St. Moritz*
*PRU **13** 06:02:24.2, 46°.49N×10°.12E, h0km*
*GEN **13** 06:02:24.7, 46°.53N×10°.05E, h5km, ML3.1*
*CSEM **13** 06:02:24.5±0.1, 46°.51N×10°.12E, h2km, ML3.5/32, Error ellipse: s-maj=1.9km s-min=1.5km az=175.0*
*LDG **13** 06:02:25.6±0.1, 46°.62N×10°.28E, h2km, Ml3.4/31, Error ellipse: s-maj=2.1km s-min=2.1km az=112.0*
*BGR **13** 06:02:26.1±0.5, 46°.53N×10°.10E, h10km, ML3.3/9, Error ellipse: s-maj=6.7km s-min=4.4km az=18.0*
*STR **13** 06:02:27.9±0.3, 46°.59N×9°.96E, h5km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 13 06:02:24.7±0.2, 46°.515N±0°.010×10°.09E±0°.01, h1km±1km, n320, σ1§17/548, 25C-44D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BERNI	**Berninapass**	**0.11**	**203**	⇑*i*Pg	**Pg**	**06 02 26.5**	**-0.3**
20μm,0.3s							
BERNI				*e*Sg	**Sg**	**06 02 27.9**	**-0.3**
20μm,0.3s							
BERNI	**Berninapass**	**0.11**	**203**	⇑*i*Pg	**Pg**	**06 02 26.5**	**-0.3**
BERNI				Sg	**Sg**	**06 02 27.9**	**-0.3**
BERNI	**Berninapass**	**0.11**	**203**	⇑*i*Pg	**Pg**	**06 02 26.5**	**-0.3**
20μm,0.3s							
BERNI				*e*Sg	**Sg**	**06 02 27.9**	**-0.3**
20μm,0.3s							
FUORN	**Ofenpass-Fuorn**	**0.16**	**49**	⇑*i*Pg	**Pg**	**06 02 27.9**	**+0.1**
9μm,0.3s							
FUORN	**Ofenpass-Fuorn**	**0.16**	**49**	Pg	**Pg**	**06 02 27.9**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**0.16**	**49**	⇑*i*Pg	**Pg**	**06 02 27.9**	**+0.1**
9μm,0.3s							
BRMO	**Bormio**	**0.20**	**101**	⇑*i*Pg	**Pg**	**06 02 28.4**	**-0.1**
BRMO				Sg	**Sg**	**06 02 31.4**	**+0.2**
1μm,0.6s							
BRMO	**Bormio**	**0.20**	**101**	⇑*i*Pg	**Pg**	**06 02 28.4**	**-0.1**
BRMO				Sg	**Sg**	**06 02 31.4**	**+0.2**
1μm,0.6s							
DAVOX	**Davos/Dischmat**	**0.30**	**332**	⇓*i*Pg	**Pg**	**06 02 30.3**	**-0.1**
7μm,0.3s							
DAVOX				*e*Sg	**Sg**	**06 02 34.6**	**+0.3**
7μm,0.3s							
DAVOX	**Davos/Dischmat**	**0.30**	**332**	Pg	**Pg**	**06 02 30.4**	**0.0**
DAVOX				Sg	**Sg**	**06 02 34.6**	**+0.3**
DAVOX	**Davos/Dischmat**	**0.30**	**332**	Pg	**Pg**	**06 02 30.4**	**0.0**
DAVOX				*e*Sg	**Sg**	**06 02 34.6**	**+0.3**
7μm,0.3s							
VDL	**Val di Lei**	**0.44**	**266**	⇓*i*Pg	**Pg**	**06 02 32.2**	**-0.9**
3μm,0.2s							
TUE	**Stuetta**	**0.51**	**266**	*e*Pg	**Pg**	**06 02 33.3**	**-1.1**
TUE				*e*Sg	**Sg**	**06 02 40.4**	**-0.6**
TUE	**Stuetta**	**0.51**	**266**	⇓*i*Pg	**Pg**	**06 02 33.5**	**-0.9**
TUE				Sg	**Sg**	**06 02 40.3**	**-0.8**
692nm,0.3s							
TUE	**Stuetta**	**0.51**	**266**	⇓*i*Pg	**Pg**	**06 02 33.5**	**-0.9**
TUE				*e*Sg	**Sg**	**06 02 40.4**	**-0.7**
RNI	**Roncone**	**0.66**	**144**	⇑*e*Pg	**Pg**	**06 02 36.7**	**-0.5**
RNI				*e*Sg	**Sg**	**06 02 45.2**	**-0.6**
RNI	**Roncone**	**0.66**	**144**	*e*Pg	**Pg**	**06 02 36.7**	**-0.6**
RNI				*e*Sg	**Sg**	**06 02 45.2**	**-0.6**
FETA	**Feichten**	**0.67**	**41**	*e*Pg	**Pg**	**06 02 37.1**	**-0.5**
SNR=230							
FETA				⇓*i*Sg	**Sg**	**06 02 46.5**	**+0.2**
68nm,0.1s							
FETA	**Feichten**	**0.67**	**41**	Pg	**Pg**	**06 02 37.1**	**-0.5**
SNR=230							
FETA				Sg	**Sg**	**06 02 46.5**	**+0.2**
68nm,0.1s							
PLONS	**Plons/SG**	**0.72**	**318**	⇓*i*Pg	**Pg**	**06 02 38.0**	**-0.5**
567nm,0.5s							
DAVA	**Damuels**	**0.79**	**350**	*e*Pg	**Pg**	**06 02 39.6**	**-0.1**
SNR=73							
DAVA				⇓*i*Sg	**Sg**	**06 02 50.3**	**+0.4**
342nm,0.3s							
DAVA	**Damuels**	**0.79**	**350**	*e*Pg	**Pg**	**06 02 39.7**	**0.0**
DAVA				*e*Sg	**Sg**	**06 02 50.6**	**+0.7**
DAVA	**Damuels**	**0.79**	**350**	Pg	**Pg**	**06 02 39.7**	**0.0**
DAVA				Sg	**Sg**	**06 02 50.3**	**+0.4**
342nm,0.3s							
APPI	**Appiano**	**0.79**	**92**	⇑*i*Pg	**Pg**	**06 02 39.3**	**-0.5**
APPI	**Appiano**	**0.79**	**92**	⇑*i*Pg	**Pg**	**06 02 39.3**	**-0.5**
LLS	**Linth-Limmern**	**0.81**	**295**	⇓*i*Pg	**Pg**	**06 02 39.3**	**-0.9**
277nm,0.5s							
OBER	**Oberstdorf**	**0.90**	**9**	⇑*e*Pg	**Pg**	**06 02 41.3**	**-0.7**
OBER				⇑*e*Sg	**Sg**	**06 02 55.7**	**+2.0**
OBER	**Oberstdorf**	**0.90**	**9**	Pg	**Pg**	**06 02 41.3**	**-0.7**
OBER				Sg	**Sg**	**06 02 55.7**	**+2.0**
MUGIO	**Muggio**	**0.94**	**231**	⇑*i*Pg	**Pg**	**06 02 41.3**	**-1.3**
2μm,0.4s							
MUGIO	**Muggio**	**0.94**	**231**	⇑*i*Pg	**Pg**	**06 02 41.3**	**-1.3**
MUGIO				Sg	**Sg**	**06 02 53.8**	**-0.9**
MUGIO	**Muggio**	**0.94**	**231**	⇑*i*Pg	**Pg**	**06 02 41.3**	**-1.3**
2μm,0.4s							
MUGIO				Sg	**Sg**	**06 02 53.8**	**-0.9**
PANI	**Panarotta**	**0.97**	**118**	*e*Pg	**Pg**	**06 02 43.3**	**+0.1**
PANI				*e*Sg	**Sg**	**06 02 56.0**	**+0.2**
PANI	**Panarotta**	**0.97**	**118**	*e*Pg	**Pg**	**06 02 43.3**	**+0.1**
PANI				*e*Sg	**Sg**	**06 02 56.0**	**+0.3**
BALD	**Monte Baldo**	**0.98**	**148**	⇑*e*Pg	**Pg**	**06 02 42.5**	**-0.8**
BALD	**Monte Baldo**	**0.98**	**148**	*e*Pg	**Pg**	**06 02 42.5**	**-0.8**
FUSIO	**Fusio**	**0.98**	**267**	⇓*i*Pg	**Pg**	**06 02 42.2**	**-1.3**
1μm,0.5s							
FUSIO	**Fusio**	**0.98**	**267**	⇓*i*Pg	**Pg**	**06 02 42.2**	**-1.3**
FUSIO				Sg	**Sg**	**06 02 54.7**	**-1.5**
FUSIO	**Fusio**	**0.98**	**267**	⇓*i*Pg	**Pg**	**06 02 42.2**	**-1.3**
1μm,0.5s							
FUSIO				Sg	**Sg**	**06 02 54.7**	**-1.5**
DDS	**Dosso del Somm**	**0.99**	**129**	⇑*e*Pg	**Pg**	**06 02 43.5**	**-0.2**
DDS	**Dosso del Somm**	**0.99**	**129**	*e*Pg	**Pg**	**06 02 43.5**	**-0.2**
RETA	**Reutte**	**1.08**	**25**	⇑*e*Pg	**Pg**	**06 02 44.7**	**-0.6**
SNR=90							
RETA				⇓*i*Sg	**Sg**	**06 03 00.2**	**+0.9**
140nm,0.3s							
RETA	**Reutte**	**1.08**	**25**	Pg	**Pg**	**06 02 44.7**	**-0.6**
SNR=90							
RETA				Sg	**Sg**	**06 03 00.2**	**+0.9**
140nm,0.3s							
MOTA	**Moosalm**	**1.08**	**40**	⇓*e*Pg	**Pg**	**06 02 44.3**	**-1.2**
SNR=90							
MOTA				⇓*i*Sg	**Sg**	**06 02 59.8**	**+0.3**
52nm,0.2s							
MOTA	**Moosalm**	**1.08**	**40**	Pg	**Pg**	**06 02 44.3**	**-1.1**
SNR=90							
MOTA				Sg	**Sg**	**06 02 59.8**	**+0.3**
52nm,0.2s							
CTI	**Castel Tesino**	**1.18**	**113**	Pg	**Pg**	**06 02 46.6**	**-0.7**
CTI				Sg	**Sg**	**06 03 02.6**	**0.0**
191nm,0.3s							
CTI	**Castel Tesino**	**1.18**	**113**	Pg	**Pg**	**06 02 46.6**	**-0.7**
CTI				Sg	**Sg**	**06 03 02.6**	**0.0**
191nm,0.3s							
BNALP	**Bannalp**	**1.20**	**288**	⇓*i*Pg	**Pg**	**06 02 46.4**	**-1.2**
852nm,0.7s							
BNALP	**Bannalp**	**1.20**	**288**	⇓*i*Pg	**Pg**	**06 02 46.4**	**-1.2**
852nm,0.7s							
WILA	**Wila**	**1.21**	**319**	⇓*i*P	**Pg**	**06 02 47.7**	**-0.1**
3μm,0.3s							
WILA	**Wila**	**1.21**	**319**	⇓*i*P	**Pg**	**06 02 47.7**	**-0.1**
3μm,0.3s							
SCE	**Schlegeis**	**1.23**	**64**	⇓*i*Pg	**Pg**	**06 02 46.9**	**-1.4**
SCE	**Schlegeis**	**1.23**	**64**	Pg	**Pg**	**06 02 46.9**	**-1.4**
WEIN	**Weingarten**	**1.26**	**324**	⇓*i*P	**Pg**	**06 02 48.8**	**0.0**
826nm,0.4s							
WEIN	**Weingarten**	**1.26**	**324**	⇓*i*P	**Pg**	**06 02 48.8**	**0.0**
826nm,0.4s							
WTTA	**Wattenberg**	**1.30**	**54**	⇑*e*Pn	**Pn**	**06 02 48.3**	**-1.6**
SNR=37							
WTTA				⇑*i*Pg	**Pg**	**06 02 48.9**	**-0.7**
WTTA				⇓*i*Sg	**Sg**	**06 03 07.7**	**+1.2**
175nm,0.3s							
WTTA	**Wattenberg**	**1.30**	**54**	*e*Pg	**Pg**	**06 02 48.7**	**-0.9**
WTTA	**Wattenberg**	**1.30**	**54**	Pn	**Pn**	**06 02 48.3**	**-1.6**
SNR=37							
WTTA	**Wattenberg**	**1.30**	**54**	Pg	**Pg**	**06 02 48.9**	**-0.7**
WTTA				Sg	**Sg**	**06 03 07.7**	**+1.2**
175nm,0.3s							
WATA	**Walderalm**	**1.31**	**51**	⇓*e*Pn	**Pn**	**06 02 48.3**	**-1.7**
SNR=21							
WATA				⇑*i*Pg	**Pg**	**06 02 49.0**	**-0.8**
WATA				⇓*i*Sg	**Sg**	**06 03 07.6**	**+0.8**
83nm,0.3s							
WATA	**Walderalm**	**1.31**	**51**	Pn	**Pn**	**06 02 48.3**	**-1.7**
SNR=21							
WATA	**Walderalm**	**1.31**	**51**	Pg	**Pg**	**06 02 49.0**	**-0.8**
WATA				Sg	**Sg**	**06 03 07.6**	**+0.8**
83nm,0.3s							
ZUR	**Degenried**	**1.34**	**310**	⇓*i*P	**Pg**	**06 02 50.1**	**-0.2**
747nm,0.5s							
ZUR	**Degenried**	**1.34**	**310**	⇓*i*P	**Pg**	**06 02 50.1**	**-0.2**
747nm,0.5s							
FAU	**Forcella Aurin**	**1.34**	**102**	⇓*e*Pg	**Pg**	**06 02 49.7**	**-0.7**
FAU	**Forcella Aurin**	**1.34**	**102**	*e*Pg	**Pg**	**06 02 49.7**	**-0.7**
CGRP	**Cima Grappa**	**1.35**	**117**	⇓*e*Pg	**Pg**	**06 02 50.3**	**-0.2**
CGRP				*e*Sg	**Sg**	**06 03 08.7**	**+0.7**
CGRP	**Cima Grappa**	**1.35**	**117**	Pg	**Pg**	**06 02 50.3**	**-0.2**
233nm,0.5s							
CGRP	**Cima Grappa**	**1.35**	**117**	Pg	**Pg**	**06 02 50.3**	**-0.2**
233nm,0.5s							
CGRP				*e*Sg	**Sg**	**06 03 08.7**	**+0.7**
HASLI	**Hasliberg/Brie**	**1.35**	**281**	⇓*i*P	**Pg**	**06 02 49.2**	**-1.4**
1μm,0.6s							
HASLI	**Hasliberg/Brie**	**1.35**	**281**	⇓*i*P	**Pg**	**06 02 49.2**	**-1.4**
1μm,0.6s							
AGOR	**Agordo**	**1.38**	**99**	⇓*e*Pg	**Pg**	**06 02 50.3**	**-0.8**
AGOR				*e*Sg	**Sg**	**06 03 08.8**	**-0.1**
AGOR	**Agordo**	**1.38**	**99**	Pg	**Pg**	**06 02 50.2**	**-0.8**
AGOR				Sg	**Sg**	**06 03 09.1**	**+0.2**
124nm,0.4s							
AGOR	**Agordo**	**1.38**	**99**	Pg	**Pg**	**06 02 50.2**	**-0.8**
AGOR				Sg	**Sg**	**06 03 09.1**	**+0.2**
124nm,0.4s							
AFL	**Alpe Faloria**	**1.45**	**89**	⇓*e*Pg	**Pg**	**06 02 51.4**	**-1.0**
AFL	**Alpe Faloria**	**1.45**	**89**	*e*Pg	**Pg**	**06 02 51.4**	**-1.0**
VARN	**Col Varnada, M**	**1.50**	**110**	⇓*e*Pg	**Pg**	**06 02 52.4**	**-0.9**
VARN				*e*Sg	**Sg**	**06 03 12.4**	**-0.3**
VARN	**Col Varnada, M**	**1.50**	**110**	*e*Pg	**Pg**	**06 02 52.4**	**-0.9**
VARN				*e*Sg	**Sg**	**06 03 12.4**	**-0.3**
MMK	**Mattmark**	**1.54**	**253**	Pg	**Pn**	**06 02 52.3**	**-0.9**
MMK	**Mattmark**	**1.54**	**253**	Pg	**Pn**	**06 02 52.3**	**-0.9**
CIMO	**Cimolais**	**1.64**	**96**	⇑*e*Pg	**Pn**	**06 02 54.8**	**+0.2**
CIMO	**Cimolais**	**1.64**	**96**	*e*Pg	**Pn**	**06 02 54.8**	**+0.2**
SLE	**Schleitheim**	**1.66**	**320**	⇓*i*Pn	**Pn**	**06 02 55.2**	**+0.4**
1μm,0.4s							
SLE	**Schleitheim**	**1.66**	**320**	⇓*i*Pn	**Pn**	**06 02 55.2**	**+0.4**
1μm,0.4s							
SULZ	**Cheisacher**	**1.69**	**308**	⇓*i*Pn	**Pn**	**06 02 55.9**

KBA				eSg	Sg	06 03 37.6	-1.3
KBA	**Koelnbreinsper**	**2.31**	**75**	Pg	Pg	06 03 06.7	-2.2
KBA				Sg	Sg	06 03 37.6	-1.2
LSD	**Lago del Serru**	**2.31**	**244**	Pg	Pn	06 03 05.1	+1.3
	80nm,0.5s						
STU	**Stuttgart**	**2.34**	**345**	ePn	Pn	06 03 04.0	-0.2
STU				eSn	Sn	06 03 32.6	-0.9
STU	**Stuttgart**	**2.34**	**345**	ePn	Pn	06 03 04.0	-0.1
STU				eSn	Sn	06 03 32.6	-0.9
OG01	**Vacheresse**	**2.36**	**267**	Pn	Pn	06 03 05.0	+0.6
OG01	**Vacheresse**	**2.36**	**267**	Pn	Pn	06 03 05.0	+0.6
ACOM	**Acomizza, Ital**	**2.37**	**88**	ePn	Pn	06 03 07.2	+2.7
ACOM	**Acomizza, Ital**	**2.37**	**88**	Pg	Pn	06 03 07.5	+3.0
ACOM	**Acomizza, Ital**	**2.37**	**88**	ePn	Pn	06 03 07.2	+2.7
ACOM	**Acomizza, Ital**	**2.37**	**88**	Pg	Pn	06 03 07.5	+3.0
LOMF	**Lomont**	**2.38**	**292**	Pn	Pn	06 03 05.5	+0.7
LOMF	**Lomont**	**2.38**	**292**	Pn	Pn	06 03 05.5	+0.7
RSP	**Reno Superiore**	**2.40**	**236**	P	Pn	06 03 03.2	-1.8
MOF	**Molkenrain**	**2.42**	**305**	Pn	Pn	06 03 05.7	+0.5
MOF	**Molkenrain**	**2.42**	**305**	Pn	Pn	06 03 05.7	+0.5
LPG	**La Plagne**	**2.54**	**248**	ePn	Pn	06 03 08.8	+1.9
LPG				eSn	Sn	06 03 39.9	+1.6
	123nm,0.6s						
LPG	**La Plagne**	**2.54**	**248**	ePn	Pn	06 03 08.8	+1.9
LPG				eSn	Sn	06 03 39.9	+1.6
LPG	**La Plagne**	**2.54**	**248**	ePn	Pn	06 03 08.8	+1.9
LPG				eSn	Sn	06 03 39.9	+1.6
	62nm,0.6s						
LPL	**La Plagne**	**2.54**	**248**	ePn	Pn	06 03 09.5	+2.6
LPL				eSn	Sn	06 03 39.9	+1.5
	100nm,0.4s						
LPL	**La Plagne**	**2.54**	**248**	ePn	Pn	06 03 09.5	+2.6
LPL				eSn	Sn	06 03 39.9	+1.5
LPL	**La Plagne**	**2.54**	**248**	ePn	Pn	06 03 09.5	+2.6
LPL				eSn	Sn	06 03 39.9	+1.5
	50nm,0.4s						
RSL	**Roselend**	**2.54**	**252**	Pn	Pn	06 03 07.7	+0.7
RSL	**Roselend**	**2.54**	**252**	Pn	Pn	06 03 07.7	+0.7
HINF	**Hinteralfeld**	**2.56**	**302**	ePn	Pn	06 03 07.3	+0.1
HINF				eSn	Sn	06 03 37.3	-1.7
HINF				eSg	Sg	06 03 47.4	+0.5
	49nm,0.4s						
HINF	**Hinteralfeld**	**2.56**	**302**	ePn	Pn	06 03 07.3	+0.1
HINF				eSn	Sn	06 03 37.3	-1.7
HINF				eSg	Sg	06 03 47.4	+0.5
HINF	**Hinteralfeld**	**2.56**	**302**	ePn	Pn	06 03 07.3	+0.1
HINF				eSn	Sn	06 03 37.3	-1.7
HINF				eSg	Sg	06 03 47.4	+0.5
	24nm,0.4s						
MAIM	**Mastiano**	**2.62**	**174**	P	Pn	06 03 06.2	-1.8
ECH	**Echery**	**2.62**	**312**	ePn	Pn	06 03 08.1	+0.1
ECH				eSg	Sg	06 03 49.1	+0.4
ECH	**Echery**	**2.62**	**312**	ePn	Pn	06 03 08.1	+0.1
ECH				eSg	Sg	06 03 49.1	+0.4
ECH	**Echery**	**2.62**	**312**	Pn	Pn	06 03 08.5	+0.5
VOY	**Vojsko**	**2.69**	**99**	ePn	Pn	06 03 11.1	+2.2
VOY				e		06 03 14.3	
VOY				e		06 03 16.7	
VOY				eSn	Sg	06 03 49.1	-1.8
CDF	**Champ du Feu**	**2.69**	**316**	ePn	Pn	06 03 09.4	+0.4
CDF				eSn	Sn	06 03 39.4	-2.7
CDF				eSg	Sg	06 03 50.4	-0.6
	164nm,0.7s						
CDF	**Champ du Feu**	**2.69**	**316**	ePn	Pn	06 03 09.4	+0.4
CDF				eSn	Sn	06 03 39.4	-2.7
CDF				eSg	Sg	06 03 50.4	-0.6
CDF	**Champ du Feu**	**2.69**	**316**	ePn	Pn	06 03 09.4	+0.4
CDF				eSn	Sn	06 03 39.4	-2.7
CDF				eSg	Sg	06 03 50.4	-0.6
	82nm,0.7s						
CABF	**La Chapelle**	**2.76**	**273**	ePn	Pn	06 03 10.9	+1.0
CABF				eSn	Sn	06 03 43.8	-0.1
CABF				eSg	Sg	06 03 56.0	+2.7
	68nm,0.6s						
CABF	**La Chapelle**	**2.76**	**273**	ePn	Pn	06 03 10.9	+1.0
CABF				eSn	Sn	06 03 43.8	-0.1
CABF				eSg	Sg	06 03 56.0	+2.7
CABF	**La Chapelle**	**2.76**	**273**	ePn	Pn	06 03 10.9	+1.0
CABF				eSn	Sn	06 03 43.8	-0.1
CABF				eSg	Sg	06 03 56.0	+2.7
	34nm,0.6s						
RORO	**Rocca Rossa**	**2.79**	**211**	P	Pn	06 03 08.2	-2.2
BNI	**Bardonecchia**	**2.80**	**240**	ePn	Pn	06 03 08.6	-1.9
BNI				ePg	Pg	06 03 13.8	-4.5
BNI				eS	Sg	06 03 49.8	-4.6
BNI	**Bardonecchia**	**2.80**	**240**	ePn	Pn	06 03 08.6	-1.8
JAVS	**Javornik**	**2.83**	**101**	*i* Pn	Pn	06 03 13.2	+2.3
JAVS				*i* Pg	Pg	06 03 22.7	+3.8
JAVS	**Javornik**	**2.83**	**101**	*i* Pn	Pn	06 03 13.2	+2.3
PZZ	**Stroppo**	**2.90**	**227**	P	Pn	06 03 11.1	-0.7
SKDS	**Skadanscina**	**2.90**	**108**	*i* Pn	Pn	06 03 13.0	+1.1
SKDS				*i* Pg	Pg	06 03 19.4	-0.9
SKDS				*i* Sn	Sn	06 03 52.4	+5.0
SKDS	**Skadanscina**	**2.90**	**108**	*i* Pn	Pn	06 03 13.0	+1.1
LANF	**Langenberg**	**2.91**	**329**	Pn	Pn	06 03 12.1	+0.1
LANF	**Langenberg**	**2.91**	**329**	Pn	Pn	06 03 12.1	+0.1
MBDF	**Montbardon**	**2.93**	**234**	ePn	Pn	06 03 11.8	-0.5
MBDF				eSn	Sn	06 03 49.3	+1.2
	52nm,0.5s						
MBDF	**Montbardon**	**2.93**	**234**	ePn	Pn	06 03 11.8	-0.5
MBDF				eSn	Sn	06 03 49.3	+1.2
MBDF	**Montbardon**	**2.93**	**234**	ePn	Pn	06 03 11.8	-0.5
MBDF				eSn	Sn	06 03 49.3	+1.2
	26nm,0.5s						
MONE	**Monesi**	**2.94**	**215**	P	Pn	06 03 11.1	-1.3
HAU	**Haudompre**	**2.95**	**302**	ePn	Pn	06 03 12.9	+0.3
HAU				eSn	Sn	06 03 46.6	-1.9
HAU				eSg	Sg	06 03 59.7	+0.3
	46nm,0.4s						
HAU	**Haudompre**	**2.95**	**302**	ePn	Pn	06 03 12.9	+0.3
HAU				eSn	Sn	06 03 46.6	-1.9
HAU				eSg	Sg	06 03 59.7	+0.3
HAU	**Haudompre**	**2.95**	**302**	ePn	Pn	06 03 12.9	+0.3
HAU				eSn	Sn	06 03 46.6	-1.9
HAU				eSg	Sg	06 03 59.7	+0.3
	23nm,0.4s						
STV	**Sant Anna di V**	**2.99**	**222**	P	Pn	06 03 11.6	-1.5
IMI	**Imperia**	**3.03**	**212**	P	Pn	06 03 11.5	-2.2
SAOF	**Saorge**	**3.10**	**216**	Pn	Pn	06 03 15.7	+1.1
SAOF	**Saorge**	**3.10**	**216**	Pn	Pn	06 03 15.7	+1.1
AUTN	**L'Aution**	**3.14**	**218**	Pn	Pn	06 03 16.4	+1.2
AUTN	**L'Aution**	**3.14**	**218**	Pn	Pn	06 03 16.4	+1.2
MOA	**Molln**	**3.15**	**63**	ePn	Pn	06 03 17.0	+1.8
MOA	**Molln**	**3.15**	**63**	Pn	Pn	06 03 17.0	+1.7
RONM	**Roccetta Nervi**	**3.17**	**215**	P	Pn	06 03 13.4	-2.2
TOUF	**Mont Tournerai**	**3.20**	**220**	Pn	Pn	06 03 16.9	+0.9
TOUF	**Mont Tournerai**	**3.20**	**220**	Pn	Pn	06 03 16.9	+0.9
TOU	**Tromm**	**3.21**	**345**	Pn	Pn	06 03 15.3	-0.8
WET	**Wettzell**	**3.23**	**35**	ePn	Pn	06 03 16.5	0.0
WET				eSn	Sn	06 03 55.2	-0.4
WET	**Wettzell**	**3.23**	**35**	Pn	Pn	06 03 16.5	0.0
WET				Sn	Sn	06 03 55.2	-0.4
SBF	**Sospel**	**3.25**	**216**	ePn	Pn	06 03 17.7	+1.1
SBF				eSn	Sn	06 03 56.7	+0.8
	55nm,0.3s						
SBF	**Sospel**	**3.25**	**216**	ePn	Pn	06 03 17.7	+1.1
SBF				eSn	Sn	06 03 56.7	+0.8
SBF	**Sospel**	**3.25**	**216**	ePn	Pn	06 03 17.7	+1.1
SBF				eSn	Sn	06 03 56.7	+0.8
	28nm,0.3s						
LUCF	**Luceram**	**3.26**	**217**	Pn	Pn	06 03 18.3	+1.5
LUCF	**Luceram**	**3.26**	**217**	Pn	Pn	06 03 18.3	+1.5
GRFO	**Grafenberg**	**3.27**	**13**	ePn	Pn	06 03 17.1	+0.1
GRFO				ePg	Pg	06 03 28.2	+0.9
GRFO				eSn	Sn	06 04 02.8	+6.3
GRFO				eSg	Sg	06 04 13.4	+3.8
GRFO	**Grafenberg**	**3.27**	**13**	ePn	Pn	06 03 17.1	+0.2
GRA1	**Grafenberg Arr**	**3.27**	**13**	Pn	Pn	06 03 15.3	-1.6
GRA1				Sg	Sg	06 04 10.1	+0.5
GRF	**Grafenberg Arr**	**3.27**	**13**	ePn	Pn	06 03 15.3	-1.6
GRF				eSg	Sg	06 04 10.1	+0.5
MVIF	**Mont Vial**	**3.34**	**219**	Pn	Pn	06 03 18.6	+0.7
MVIF	**Mont Vial**	**3.34**	**219**	Pn	Pn	06 03 18.6	+0.7
ORIF	**Oris-en-Rattie**	**3.35**	**243**	ePn	Pn	06 03 20.5	+2.4
ORIF				eSn	Sn	06 03 59.1	+0.7
	113nm,0.8s						
ORIF	**Oris-en-Rattie**	**3.35**	**243**	ePn	Pn	06 03 20.5	+2.4
ORIF				eSn	Sn	06 03 59.1	+0.7
ORIF	**Oris-en-Rattie**	**3.35**	**243**	ePn	Pn	06 03 20.5	+2.4
ORIF				eSn	Sn	06 03 59.1	+0.7
	56nm,0.8s						
REVF	**Revere**	**3.38**	**216**	Pn	Pn	06 03 19.5	+1.1
REVF	**Revere**	**3.38**	**216**	Pn	Pn	06 03 19.5	+1.1
GEC2	**GERESS Array S**	**3.38**	**45**	ePn	Pn	06 03 19.3	+0.9
GEC2				eSg	Sg	06 04 13.2	+0.1
GEC2	**GERESS Array S**	**3.38**	**45**	Pn	Pn	06 03 19.3	+0.9
GEC2				Sg	Sg	06 04 13.2	+0.1
PERS	**Pernice**	**3.47**	**86**	*i* Pn	Pn	06 03 20.4	+0.7
PERS				*i* Sn	Sn	06 04 08.6	+7.1
PERS	**Pernice**	**3.47**	**86**	*i* Pn	Pn	06 03 20.4	+0.7
KHC	**Kasperske Hory**	**3.52**	**41**	ePn	Pn	06 03 20.7	+0.3
KHC				ePg	Pg	06 03 32.4	+0.3
KHC				eSn	Sn	06 04 04.2	+1.6
KHC				eSg	Sg	06 04 18.2	+0.6
KHC	**Kasperske Hory**	**3.52**	**41**	ePN	Pn	06 03 20.8	+0.4
KHC				ePG	Pg	06 03 28.1	-4.0
KHC				eSN	Sn	06 04 02.8	+0.2
KHC				eSG	Sg	06 04 16.1	-1.6
	60nm,0.7s						
KHC	**Kasperske Hory**	**3.52**	**41**	ePn	Pn	06 03 20.7	+0.3
KHC	**Kasperske Hory**	**3.52**	**41**	ePg	Pg	06 03 32.3	+0.2
KHC				Sn	Sn	06 04 02.8	+0.2
KHC				Sg	Sg	06 04 16.1	-1.6
	60nm,0.7s						
ROTZ	**Rotzenmuhle**	**3.55**	**23**	ePn	Pn	06 03 19.6	-1.2
ROTZ				eSn	Sn	06 04 01.8	-1.6
ROTZ				eSg	Sg	06 04 17.1	-1.6
ROTZ	**Rotzenmuhle**	**3.55**	**23**	Pn	Pn	06 03 19.6	-1.2
ROTZ				Sn	Sn	06 04 01.8	-1.6
ROTZ				Sg	Sg	06 04 17.1	-1.6
PAGF	**Fort de Pagny**	**3.59**	**306**	ePn	Pn	06 03 21.9	+0.6
PAGF				eSn	Sn	06 04 01.6	-2.7
	17nm,0.9s						
PAGF	**Fort de Pagny**	**3.59**	**306**	ePn	Pn	06 03 21.9	+0.6
PAGF				eSn	Sn	06 04 01.6	-2.7
PAGF	**Fort de Pagny**	**3.59**	**306**	ePn	Pn	06 03 21.9	+0.6
PAGF				eSn	Sn	06 04 01.6	-2.7
	8.6nm,0.9s						
BOJS	**Bojanci**	**3.74**	**104**	*i* Pn	Pn	06 03 25.5	+2.1
BOJS				*i* Pg	Pg	06 03 35.6	-0.7
BOJS				*i* Sg	Sg	06 04 22.8	-1.9
BOJS	**Bojanci**	**3.74**	**104**	*i* Pn	Pn	06 03 25.5	+2.1
RUP	**Ruppelstein**	**3.78**	**329**	Pn	Pn	06 03 24.0	+0.1
SFTF	**Sexfontaines**	**3.82**	**298**	ePn	Pn	06 03 25.2	+0.6
SFTF				eSn	Sn	06 04 07.7	-2.4
	43nm,0.8s						
SFTF	**Sexfontaines**	**3.82**	**298**	ePn	Pn	06 03 25.2	+0.6
SFTF				eSn	Sn	06 04 07.7	-2.4
SFTF	**Sexfontaines**	**3.82**	**298**	ePn	Pn	06 03 25.2	+0.6
SFTF				eSn	Sn	06 04 07.7	-2.4
	22nm,0.8s						
FRF	**La Foret Royal**	**3.83**	**221**	ePn	Pn	06 03 25.2	+0.6
FRF				eSn	Sn	06 04 10.7	+0.5
	27nm,0.4s						
FRF	**La Foret Royal**	**3.83**	**221**	ePn	Pn	06 03 25.2	+0.6
FRF				eSn	Sn	06 04 10.7	+0.5
FRF	**La Foret Royal**	**3.83**	**221**	ePn	Pn	06 03 25.2	+0.6
FRF				eSn	Sn	06 04 10.7	+0.5
	13nm,0.4s						
TNS	**Taunus Mts**	**3.87**	**344**	ePn	Pn	06 03 25.6	+0.5
TNS				eSg	Sg	06 04 29.0	+0.2
TNS	**Taunus Mts**	**3.87**	**344**	Pn	Pn	06 03 25.6	+0.4
TNS				Sg	Sg	06 04 29.0	+0.2
MEZF	**Maizieres J'vi**	**3.95**	**302**	ePn	Pn	06 03 26.3	0.0
MEZF				eSn	Sn	06 04 10.3	-2.9
	26nm,0.5s						
MEZF	**Maizieres J'vi**	**3.95**	**302**	ePn	Pn	06 03 26.3	0.0
MEZF				eSn	Sn	06 04 10.3	-2.9
MEZF	**Maizieres J'vi**	**3.95**	**302**	ePn	Pn	06 03 26.3	0.0
MEZF				eSn	Sn	06 04 10.3	-2.9
	13nm,0.5s						
NKC	**Novy Kostel**	**4.04**	**22**	ePN	Pn	06 03 26.0	-1.5
NKC				ePG	Pg	06 03 34.6	-7.4
NKC				eSN	Sn	06 04 13.6	-1.8
NKC				eSG	Sg	06 04 32.4	-2.0
	29nm,0.4s						
NKC	**Novy Kostel**	**4.04**	**22**	Pn	Pn	06 03 26.0	-1.5
NKC				Sn	Sn	06 04 13.6	-1.8
NKC				Sg	Sg	06 04 32.4	-2.0
	29nm,0.4s						
PGF	**Pioggiola**	**4.04**	**191**	ePn	Pn	06 03 28.5	+0.9
PGF				eSn	Sn	06 04 14.5	-1.0
	5.5nm,0.3s						
PGF	**Pioggiola**	**4.04**	**191**	ePn	Pn	06 03 28.5	+0.9
PGF				eSn	Sn	06 04 14.5	-1.0
PGF	**Pioggiola**	**4.04**	**191**	ePn	Pn	06 03 28.5	+0.9
PGF				eSn	Sn	06 04 14.5	-1.0
	2.8nm,0.3s						
LMR	**La Mourre**	**4.07**	**220**	ePn	Pn	06 03 28.1	+0.2
LMR				eSn	Sn	06 04 16.3	+0.1
	14nm,0.3s						
LMR	**La Mourre**	**4.07**	**220**	ePn	Pn	06 03 28.1	+0.2
LMR				eSn	Sn	06 04 16.3	+0.1
LMR	**La Mourre**	**4.07**	**220**	ePn	Pn	06 03 28.1	+0.2
LMR				eSn	Sn	06 04 16.3	+0.1
	6.8nm,0.3s						
SMRF	**Simiane la Rot**	**4.07**	**233**	ePn	Pn	06 03 29.3	+1.3
SMRF				eSn	Sn	06 04 16.2	0.0
	13nm,0.4s						
SMRF	**Simiane la Rot**	**4.07**	**233**	ePn	Pn	06 03 29.3	+1.3
SMRF				eSn	Sn	06 04 16.2	0.0
SMRF	**Simiane la Rot**	**4.07**	**233**	ePn	Pn	06 03 29.3	+1.3
SMRF				eSn	Sn	06 04 16.2	0.0
	6.7nm,0.4s						
WLF	**Walferdange**	**4.11**	**322**	PN	Pn	06 03 30.0	+1.5
WLF				SN	Sn	06 04 19.2	+2.1
	comp=E,14nm,0.0s						
WLF	**Walferdange**	**4.11**	**322**	ePn	Pn	06 03 29.9	+1.5
WLF	**Walferdange**	**4.11**	**322**	Pn	Pn	06 03 29.9	+1.4
WLF				Sn	Sn	06 04 19.2	+2.1
VIVF	**Saint-Julien-l**	**4.14**	**248**	ePn	Pn	06 03 29.5	+0.6
VIVF				eSn	Sn	06 04 17.6	-0.3
	comp=E,20nm,0.5s						
VIVF	**Saint-Julien-l**	**4.14**	**248**	ePn	Pn	06 03 29.5	+0.6
VIVF				eSn	Sn	06 04 17.6	-0.3
VIVF	**Saint-Julien-l**	**4.14**	**248**	ePn	Pn	06 03 29.5	+0.6
VIVF				eSn	Sn	06 04 17.6	-0.3
	comp=E,9.9nm,0.5s						
MOX	**Moxa**	**4.26**	**13**	ePn	Pn	06 03 28.6	-1.9
MOX				eSn	Sn	06 04 18.8	-1.9
MOX	**Moxa**	**4.26**	**13**	Pn	Pn	06 03 28.6	-1.9
MOX				Sn	Sn	06 04 18.8	-2.0
SMF	**Signal de Mont**	**4.31**	**274**	ePn	Pn	06 03 31.9	+0.7
SMF				eSn	Sn	06 04 20.9	-1.1
SMF				eSg	Sg	06 04 44.3	+1.3
	comp=E,15nm,0.4s						
SMF	**Signal de Mont**	**4.31**	**274**	ePn	Pn	06 03 31.9	+0.7
SMF				eSn	Sn	06 04 20.9	-1.1
SMF				eSg	Sg	06 04 44.3	+1.3
SMF	**Signal de Mont**	**4.31**	**274**	ePn	Pn	06 03 31.9	+0.7
SMF				eSn	Sn	06 04 20.9	-1.1
SMF				eSg	Sg	06 04 44.3	+1.3
	comp=E,7.4nm,0.4s						
LOR	**Lormes**	**4.33**	**282**	ePn	Pn	06 03 33.0	+1.4
LOR				eSn	Sn	06 04 21.3	-1.4
LOR				eSg	Sg	06 04 44.5	+0.7
	comp=E,9.8nm,0.4s						
LOR	**Lormes**	**4.33**	**282**	ePn	Pn	06 03 33.0	+1.4
LOR				eSn	Sn	06 04 21.3	-1.4
LOR				eSg	Sg	06 04 44.5	+0.7
LOR	**Lormes**	**4.33**	**282**	ePn	Pn	06 03 33.0	+1.4
LOR				eSn	Sn	06 04 21.3	-1.4
LOR				eSg	Sg	06 04 44.5	+0.7
	comp=E,4.9nm,0.4s						
PLDF	**La Plantade**	**4.52**	**265**	Pn	Pn	06 03 35.0	+0.9
PLDF	**La Plantade**	**4.52**	**265**	Pn	Pn	06 03 35.0	+0.9
SSF	**Saint Saulge**	**4.55**	**279**	ePn	Pn	06 03 36.0	+1.4
SSF				eSn	Sn	06 04 26.3	-1.8
SSF				eSg	Sg	06 04 51.5	+0.7
	comp=E,22nm,0.8s						
SSF	**Saint Saulge**	**4.55**	**279**	ePn	Pn	06 03 36.0	+1.4
SSF				eSn	Sn	06 04 26.3	-1.8
SSF				eSg	Sg	06 04 51.5	+0.7
SSF	**Saint Saulge**	**4.55**	**279**	ePn	Pn	06 03 36.0	+1.4
SSF				eSn	Sn	06 04 26.3	-1.8
SSF				eSg	Sg	06 04 51.5	+0.7
	comp=E,11nm,0.8s						
PRU	**Pruhonice**	**4.58**	**39**	ePN	Pn	06 03 35.0	+0.1
PRU				ePG	Pg	06 03 45.2	-7.1
PRU				eSN	Sn	06 04 26.8	-1.8
PRU	**Pruhonice**	**4.58**	**39**	Pn	Pn	06 03 35.0	+0.1
PRU				Sn	Sn	06 04 26.8	-1.8
AVF	**Avril sur Loir**	**4.64**	**276**	ePn	Pn	06 03 36.9	+1.1
AVF				eSn	Sn	06 04 28.5	-1.8
AVF				eSg	Sg	06 04 54.2	+0.4
	comp=E,32nm,1.0s						
AVF	**Avril sur Loir**	**4.64**	**276**	ePn	Pn	06 03 36.9	+1.1
AVF				eSn	Sn	06 04 28.5	-1.8
AVF				eSg	Sg	06 04 54.2	+0.4
AVF	**Avril sur Loir**	**4.64**	**276**	ePn	Pn	06 03 36.9	+1.1
AVF				eSn	Sn	06 04 28.5	-1.8
AVF				eSg	Sg	06 04 54.2	+0.4
	comp=E,16nm,1.0s						
AGO	**Saint Agoulin**	**4.84**	**267**	Pn	Pn	06 03 39.4	+0.8
AGO	**Saint Agoulin**	**4.84**	**267**	Pn	Pn	06 03 39.4	+0.8
MEM	**Membach**	**4.91**	**328**	PN	Pn	06 03 40.6	+1.2
MEM	**Membach**	**4.91**	**328**	Pn	Pn	06 03 40.6	+1.1
LBL	**Lubilhac**	**4.95**	**257**	Pn	Pn	06 03 40.4	+0.4
LBL	**Lubilhac**	**4.95**	**257**	Pn	Pn	06 03 40.4	+0.4
BGF	**Bois d'Agland**	**5.00**	**273**	ePn	Pn	06 03 41.6	+0.9
BGF				eSn	Sn	06 04 37.2	-1.8
	comp=E,19nm,0.4s						
BGF	**Bois d'Agland**	**5.00**	**273**	ePn	Pn	06 03 41.6	+0.9
BGF				eSn	Sn	06 04 37.2	-1.8
BGF	**Bois d'Agland**	**5.00**	**273**	ePn	Pn	06 03 41.6	+0.9
BGF				eSn	Sn	06 04 37.2	-1.8
	comp=E,9.6nm,0.4s						
GIVF	**Givet**	**5.02**	**318**	ePn	Pn	06 03 42.5	+1.5
GIVF				eSn	Sn	06 04 34.9	-4.7
	comp=E,5.0nm,0.4s						
GIVF	**Givet**	**5.02**	**318**	ePn	Pn	06 03 42.5	+1.5
GIVF				eSn	Sn	06 04 34.9	-4.7
GIVF	**Givet**	**5.02**	**318**	ePn	Pn	06 03 42.5	+1.5
GIVF				eSn	Sn	06 04 34.9	-4.7
	comp=E,2.5nm,0.4s						
LASF	**Ste Croix**	**5.03**	**243**	ePn	Pn	06 03 41.6	+0.5
LASF				eSn	Sn	06 04 38.9	-0.8
	comp=E,27nm,0.6s						
LASF	**Ste Croix**	**5.03**	**243**	ePn	Pn	06 03 41.6	+0.5
LASF				eSn	Sn	06 04 38.9	-0.8
LASF	**Ste Croix**	**5.03**	**243**	ePn	Pn	06 03 41.6	+0.5
LASF				eSn	Sn	06 04 38.9	-0.8
	comp=E,14nm,0.6s						
BCLA	**Clavier**	**5.04**	**323**	PN	Pn	06 03 42.9	+1.7
BCLA				SN	Sn	06 04 38.0	-2.1
	comp=E,7.4nm,0.0s						
BCLA	**Clavier**	**5.04**	**323**	Pn	Pn	06 03 42.9	+1.7
BCLA				Sn	Sn	06 04 37.9	-2.1
BRG	**Berggiesshubel**	**5.05**	**29**	PG	Pg	06 03 51.9	-10
BRG				SG	Sg	06 04 57.4	-10
	comp=E,12nm,0.6s						
DOU	**Dourbes**	**5.12**	**316**	PN	Pn	06 03 44.1	+1.7
DOU				PG	Pg	06 04 04.0	+1.2
DOU				SN	Sn	06 04 44.3	+2.2
	comp=E,6.7nm,0.0s						
DOU	**Dourbes**	**5.12**	**316**	Pn	Pn	06 03 44.1	+1.7
HYF	**Humbligny**	**5.16**	**281**	ePn	Pn	06 03 44.6	+1.7
HYF				eSn	Sn	06 04 40.6	-2.4
HYF	**Humbligny**	**5.16**	**281**	ePn	Pn	06 03 44.6	+1.7
HYF				eSn	Sn	06 04 40.6	-2.4
HYF	**Humbligny**	**5.16**	**281**	ePn	Pn	06 03 44.6	+1.7
HYF				eSn	Sn	06 04 40.6	-2.4
CLL	**Collm**	**5.17**	**21**	ePn	Pn	06 03 42.0	-1.0
CLL				ePg	Pg	06 04 05.0	+1.4
CLL				eSn	Sn	06 04 42.0	-1.2
CLL				eSg	Sg	06 05 12.0	+1.4
	comp=Z,21nm,0.6s						
BAIF	**Baives**	**5.29**	**314**	ePn	Pn	06 03 45.9	+1.2
BAIF				eSn	Sn	06 04 41.1	-5.1
	comp=Z,15nm,0.9s						
BAIF	**Baives**	**5.29**	**314**	ePn	Pn	06 03 45.9	+1.2
BAIF				eSn	Sn	06 04 41.1	-5.1
BAIF	**Baives**	**5.29**	**314**	ePn	Pn	06 03 45.9	+1.2
SMOL	**Smolenice**	**5.36**	**65**	ePN	Pn	06 03 46.8	+1.1
SMOL	**Smolenice**	**5.36**	**65**	ePn	Pn	06 03 46.8	+1.1
TCF	**Toulx Ste Croi**	**5.45**	**270**	ePn	Pn	06 03 47.9	+1.0
TCF				eSn	Sn	06 04 48.3	-1.9
	comp=Z,17nm,0.7s						
TCF	**Toulx Ste Croi**	**5.45**	**270**	ePn	Pn	06 03 47.9	+1.0
TCF				eSn	Sn	06 04 48.3	-1.9
TCF	**Toulx Ste Croi**	**5.45**	**270**	ePn	Pn	06 03 47.9	+1.0
SNF	**Seneffe**	**5.55**	**318**	PN	Pn	06 03 50.4	+2.1
SNF	**Seneffe**	**5.55**	**318**	Pn	Pn	06 03 50.3

ONI				S		**Sn**		**06 08 27.6**	**+0.6**
ONI	**Oni**	**1.52**	**300**	P		**Pn**		**06 08 06.9**	**-0.1**
ONI				S		**Sn**		**06 08 27.6**	**+0.6**
ARNR	**Ardon**	**1.52**	**333**	*e*PG		**Pg**		**06 08 07.4**	**-1.3**
ARNR				*e*S		**Sg**		**06 08 28.8**	**+0.3**
ARNR	**Ardon**	**1.52**	**333**	*e*Pg		**Pg**		**06 08 07.4**	**-1.3**
ARNR				*e*Sg		**Sg**		**06 08 28.8**	**+0.3**
GRO	**Groznyy**	**1.53**	**14**	*e*PN		**Pn**		**06 08 06.2**	**-0.9**
GRO	**Groznyy**	**1.53**	**14**	*e*Pn		**Pn**		**06 08 06.2**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.62**	**312**	⇓*i*PN		**Pn**		**06 08 08.6**	**+0.2**
DIGR				*i* S		**Sn**		**06 08 30.3**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.62**	**312**	*i* Pn		**Pn**		**06 08 08.6**	**+0.2**
DIGR				*i* Sg		**Sn**		**06 08 30.3**	**+0.9**
DBC	**Dubki**	**1.67**	**44**	*i* PN		**Pn**		**06 08 10.8**	**+1.7**
DBC				*i* S		**Sg**		**06 08 33.1**	**-0.1**
DBC	**Dubki**	**1.67**	**44**	*i* Pn		**Pn**		**06 08 10.8**	**+1.7**
DBC				*i* Sg		**Sg**		**06 08 33.1**	**-0.1**
LSNR	**Lesken**	**1.78**	**324**	*e*PN		**Pn**		**06 08 11.3**	**+0.8**
LSNR				*e*S		**Sg**		**06 08 35.7**	**-0.9**
LSNR	**Lesken**	**1.78**	**324**	*e*Pn		**Pn**		**06 08 11.3**	**+0.8**
LSNR				*e*Sg		**Sg**		**06 08 35.7**	**-0.9**

GUC 13 06:09:42.5±0.6, 21°.37S×69°.98W, h40km±4km, ML3.7, 1C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.37**	**166**	⇓*i*P		Pn	06 09 52.2	+0.6
PB07				*i* S		Sn	06 09 58.5	+0.6
PB07				AML		AML	06 09 59.2	
	comp=E,9μm,0.7s							
PB01	**Plate Boundary**	**0.56**	**55**	⇑*i*P		Pn	06 09 54.3	+0.2
PB01				*i* S		Sn	06 10 02.4	+0.1
PB01				AML		AML	06 10 03.0	
	comp=E,19μm,0.2s							
MACH	**Maria Elena**	**0.85**	**166**	⇓*i*P		Pn	06 09 58.8	+0.8
MACH				*i* S		Sn	06 10 10.8	+1.5
PB04	**Plate Boundary**	**1.01**	**153**	⇓*i*P		Pn	06 10 00.5	+0.3
PB04				*i* S		Sn	06 10 13.6	+0.5
PB04				AML		AML	06 10 16.5	
	comp=N,3μm,0.2s							
PSGC	**Pisagua**	**1.77**	**356**	⇓*i*P		Pn	06 10 12.0	+1.4
PSGC				*i* S		Sn	06 10 14.2	+2.3
PSGC				AML		AML	06 10 37.1	
	comp=E,591nm,0.3s							
MECH	**Mejillones**	**1.78**	**194**	*e*P		Pn	06 10 12.3	+1.5
MNMC	**Miaee Miae**	**2.25**	**9**	*e*P		Pn	06 10 19.8	+2.5
MNMC				*i* S		Sn	06 10 47.6	+3.7
MNMC				AML		AML	06 10 51.3	
	comp=E,833nm,0.0s							
SPCH	**San Pedro de A**	**2.26**	**133**	*e*P		Pn	06 10 24.3	+7.0
SPCH				*i* S		Sn	06 10 54.7	+11

*ISCJB **13** 06:13:42.7±0.3, 27°.03N±0°.04×102°.67E±0°.04, h10km, mb3.9/15, Error ellipse: s-maj=5.3km s-min=4.5km az=28.9*
*IDC **13** 06:13:43.5±0.8, 27°.05N×102°.64E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.8/26, mbtmp3.9/13, MS3.1/1, Ms1 3.1/1, ms1mx2.4/33, Error ellipse: s-maj=57.8km s-min=16.1km az=58.0*
*NEIC **13** 06:13:44.9±0.3, 26°.98N×102°.57E, h10km, mb4.6/6, Error ellipse: s-maj=6.0km s-min=4.7km az=46.0*
*BJI **13** 06:13:45.3, 27°.04N×102°.74E, h15km, mB4.2/3, mb4.1/7, ML3.8/14, Ms3.7/4, Ms7 3.5/3*
*MOS **13** 06:13:46.5±0.8, 27°.17N×102°.73E, h33km, mb4.1/12, Error ellipse: s-maj=19.5km s-min=9.2km az=108.0*
ISC 13 06:13:44.5±0.3, 27°.04N±0°.03×102°.68E±0°.03, h10km, n76, σ1§02/83, mb3.9/15, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.91**	**178**	Pg	**Pg**	**06 14 20.3**	**-0.8**
KMI				Sg	**Sg**	**06 14 47.1**	**+1.2**
KMI				smax			
	comp=N,380nm,0.8s						
KMI				smax			
	comp=E,470nm,0.8s						
KMI	**Kunming**	**1.91**	**178**	Pg	**Pg**	**06 14 20.2**	**-0.9**
KMI				Sg	**Sg**	**06 14 47.1**	**+1.2**
KMI	**Kunming**	**1.91**	**178**	P	**Pg**	**06 14 20.2**	**-0.9**
KMI						06 14 47.1	
GYA	**Guiyang**	**3.61**	**98**	Pn	**Pn**	**06 14 44.1**	**+3.7**
GYA				Pg	**Pg**	**06 14 52.1**	**-1.5**
GYA				Sn	**Sn**	**06 15 21.8**	**-1.3**
GYA				Sg	**Sb**	**06 15 31.9**	**-0.3**
GYA				smax			
	comp=N,170nm,0.8s						
GYA				smax			
	comp=E,110nm,0.8s						
CD2	**Chengdu**	**3.97**	**13**	Pn	**Pn**	**06 14 48.0**	**+2.6**
CD2				Pg	**Pg**	**06 14 58.3**	**-2.3**
CD2				Sn	**Sn**	**06 15 34.8**	**+2.8**
CD2				Sg	**Sg**	**06 15 48.3**	**-3.7**
CD2				smax			
	comp=N,490nm,0.8s						
CD2				smax			
	comp=E,460nm,0.8s						
XAN	**Xi'an**	**8.81**	**36**	P	**Pn**	**06 15 51.4**	**-0.5**
XAN				pP		06 16 00.4	
XAN				sP		06 16 03.3	
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,25nm,6.6s						
XAN				LR	LR		
	comp=N,290nm,8.2s						
XAN				LR	LR		
	comp=E,140nm,8.2s						
XAN				LR	LR		
	comp=Z,78nm,12.8s						
CMAR	**Chiang Mai Arr**	**9.21**	**203**	Pn	**Pn**	**06 16 02.7**	**+5.2**
	comp=Z,0.4nm,0.3s,baz=9.8,slow=12,SNR=11						
CMAR				Pg	Pn	06 16 36.5	+39
	comp=Z,0.2nm,0.3s,baz=19,slow=18,SNR=5.2						
CMAR				Lg		06 18 40.7	
	comp=Z,1.1nm,0.3s,baz=12,slow=29,SNR=4.9						
CMAR	**Chiang Mai Arr**	**9.21**	**203**	Pn	**Pn**	**06 16 02.7**	**+5.2**
CMAR				Pg	Pn	06 16 36.5	+39
CMAR				Lg		06 18 40.7	
CMAR	**Chiang Mai Arr**	**9.21**	**203**	P	**Pn**	**06 16 02.7**	**+5.2**
TAPN	**Taplejung**	**13.33**	**275**	*e*P	**Pn**	**06 16 52.5**	**-1.4**
	comp=Z,6.9nm,0.4s						
TAPN	**Taplejung**	**13.33**	**275**	*e*P	**Pn**	**06 16 52.5**	**-1.4**
	comp=Z,6.9nm,0.4s						
RAMN	**Ramite**	**14.34**	**273**	*e*P	**Pn**	**06 17 06.6**	**-1.0**
	comp=Z,8.8nm,0.6s						
RAMN	**Ramite**	**14.34**	**273**	*e*P	**Pn**	**06 17 06.6**	**-1.0**
	comp=Z,8.8nm,0.6s						
JIRN	**Jiri**	**14.67**	**276**	*e*P	**Pn**	**06 17 11.5**	**-0.7**
	comp=Z,2.4nm,0.4s						
JIRN	**Jiri**	**14.67**	**276**	*e*P	**Pn**	**06 17 11.5**	**-0.7**
	comp=Z,2.4nm,0.4s						
GUN	**Gumba**	**14.94**	**277**	*e*P	**Pn**	**06 17 15.5**	**-0.3**
	comp=Z,17nm,0.5s						
GUN	**Gumba**	**14.94**	**277**	*e*P	**Pn**	**06 17 15.5**	**-0.3**
	comp=Z,17nm,0.5s						
PKI	**Pulchoki**	**15.37**	**276**	*e*P	**Pn**	**06 17 20.9**	**-0.6**
	comp=Z,17nm,0.5s						
PKI	**Pulchoki**	**15.37**	**276**	*e*P	**Pn**	**06 17 20.9**	**-0.6**
	comp=Z,17nm,0.5s						
PKI	**Pulchoki**	**15.37**	**276**	*e*P	**Pn**	**06 17 20.9**	**-0.6**
PKI				pmax	pmax		
	comp=Z,17nm,0.5s						
KKN	**Kakani**	**15.48**	**277**	*e*P	**Pn**	**06 17 22.7**	**-0.2**
	comp=Z,28nm,0.7s						
KKN	**Kakani**	**15.48**	**277**	*e*P	**Pn**	**06 17 22.7**	**-0.2**
	comp=Z,28nm,0.7s						
KKN	**Kakani**	**15.48**	**277**	*e*P	**Pn**	**06 17 22.7**	**-0.2**
KKN				pmax	pmax		
	comp=Z,28nm,0.7s						
DMN	**Daman**	**15.64**	**276**	*e*P	**Pn**	**06 17 25.0**	**0.0**
	comp=Z,28nm,0.7s						
DMN	**Daman**	**15.64**	**276**	*e*P	**Pn**	**06 17 25.0**	**0.0**
	comp=Z,28nm,0.7s						
GKN	**Gorkha**	**16.04**	**278**	*e*P	**Pn**	**06 17 29.7**	**-0.5**
	comp=Z,10nm,0.4s						
DANN	**Dangsing**	**16.81**	**279**	*e*P	**Pn**	**06 17 39.5**	**-0.6**
	comp=Z,34nm,0.7s						
DANN	**Dangsing**	**16.81**	**279**	*e*P	**Pn**	**06 17 39.5**	**-0.6**
	comp=Z,34nm,0.7s						
KOLN	**Koldanda**	**16.96**	**277**	*e*P	**Pn**	**06 17 41.5**	**-0.5**
KOLN	**Koldanda**	**16.96**	**277**	*e*P	**Pn**	**06 17 41.5**	**-0.5**
SONM	**Songino Array**	**20.96**	**7**	P	**P**	**06 18 28.3**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=193,slow=12,SNR=10						
SONM	**Songino Array**	**20.96**	**7**	P	**P**	**06 18 28.3**	**+0.7**
SONM	**Songino Array**	**20.96**	**7**	P	**P**	**06 18 28.3**	**+0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAK	**Zakamensk**	**23.31**	**1**	*e*P	**P**	**06 18 50.9**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.5						
MK31	**Makanchi Array**	**25.45**	**326**	*e*P	**P**	**06 19 13.3**	**+0.8**
MK31	**Makanchi Array**	**25.45**	**326**	*e*P	**P**	**06 19 13.3**	**+0.8**
MKAR	**Makanchi Array**	**25.45**	**326**	P	**P**	**06 19 13.4**	**+0.9**
	comp=Z,1.8nm,0.7s,mb3.7,baz=134,slow=11,SNR=11						
MKAR	**Makanchi Array**	**25.45**	**326**	P	**P**	**06 19 13.3**	**+0.9**
MKAR	**Makanchi Array**	**25.45**	**326**	P	**P**	**06 19 13.4**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**29.91**	**329**	P	**P**	**06 19 52.8**	**+0.4**
	comp=Z,3.3nm,0.6s,mb4.3,baz=132,slow=10,SNR=32						
KURK	**Kurchatov**	**29.91**	**329**	*e*P	**P**	**06 19 52.8**	**+0.4**
	comp=Z,5.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**29.91**	**329**	P	**P**	**06 19 52.8**	**+0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ZALV	**Zalesovo Beam**	**29.94**	**339**	P	**P**	**06 19 52.7**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=140,slow=8.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**29.94**	**339**	P	**P**	**06 19 52.7**	**+0.1**
ZALV	**Zalesovo Beam**	**29.94**	**339**	P	**P**	**06 19 52.7**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MJAR	**Matsushiro Arr**	**31.50**	**64**	LR	LR	06 31 42.8	
	comp=Z,36nm,19.7s,baz=20,slow=34						
BVAR	**Borovoye Array**	**35.34**	**326**	P	**P**	**06 20 40.7**	**+0.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=114,slow=6.5,SNR=3.4						
BVAR	**Borovoye Array**	**35.34**	**326**	P	**P**	**06 20 40.7**	**+1.0**
BVAR	**Borovoye Array**	**35.34**	**326**	P	**P**	**06 20 40.7**	**+0.9**
ABKAR	**Akbulak array**	**39.57**	**316**	*e*P	**P**	**06 21 16.9**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.6						
AKTO	**Aktyubinsk**	**41.12**	**317**	P	**P**	**06 21 28.5**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.5,baz=82,slow=15,SNR=2.5						
AKTO	**Aktyubinsk**	**41.12**	**317**	P	**P**	**06 21 28.5**	**-0.1**
AKTO	**Aktyubinsk**	**41.12**	**317**	P	**P**	**06 21 28.5**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
WRAB	**Tennant Creek**	**55.88**	**143**	*e*P	**P**	**06 23 23.3**	**+0.8**
	comp=Z,1.9nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**55.88**	**143**	*e*P	**P**	**06 23 23.3**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**55.88**	**143**	P	**P**	**06 23 23.1**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=332,slow=8.2,SNR=16						
WRA	**Warramunga Arr**	**55.88**	**143**	P	**P**	**06 23 23.1**	**+0.6**
WRA	**Warramunga Arr**	**55.88**	**143**	P	**P**	**06 23 23.2**	**+0.7**
ASAR	**Alice Springs**	**58.74**	**146**	P	**P**	**06 23 43.9**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=327,slow=7.0,SNR=7.5						
ASAR	**Alice Springs**	**58.74**	**146**	P	**P**	**06 23 43.9**	**+1.2**
ASAR	**Alice Springs**	**58.74**	**146**	P	**P**	**06 23 43.9**	**+1.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**59.31**	**315**	P	**P**	**06 23 46.6**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=72,slow=6.9,SNR=3.2						
AKASG	**Malin Array Be**	**59.31**	**315**	P	**P**	**06 23 46.6**	**+0.2**
AKASG	**Malin Array Be**	**59.31**	**315**	P	**P**	**06 23 46.6**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**60.28**	**327**	P	**P**	**06 23 53.6**	**+0.7**
	comp=Z,3.1nm,0.8s,mb4.4,baz=101,slow=6.0,SNR=7.1						
FINES	**FINESS Array B**	**60.28**	**327**	P	**P**	**06 23 53.6**	**+0.7**
FINES	**FINESS Array B**	**60.28**	**327**	P	**P**	**06 23 53.6**	**+0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**60.47**	**337**	P	**P**	**06 23 54.2**	**+0.2**
	comp=Z,1.6nm,0.8s,mb4.1,baz=92,slow=8.2,SNR=9.7						
ARCES	**ARCESS Array B**	**60.47**	**337**	P	**P**	**06 23 54.2**	**+0.2**
ARCES	**ARCESS Array B**	**60.47**	**337**	P	**P**	**06 23 54.3**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**67.43**	**328**	P	**P**	**06 24 39.8**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=80,slow=4.5,SNR=3.2						
NOA	**NORSAR Array B**	**67.43**	**328**	P	**P**	**06 24 39.8**	**-0.2**
NOA	**NORSAR Array B**	**67.43**	**328**	P	**P**	**06 24 39.8**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**69.52**	**315**	P	**P**	**06 24 53.7**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=64,slow=4.5,SNR=3.1						
GERES	**GERESS Array B**	**69.52**	**315**	P	**P**	**06 24 53.7**	**+0.5**
GERES	**GERESS Array B**	**69.52**	**315**	P	**P**	**06 24 53.7**	**+0.4**

*IDC **13** 06:17:28.6±4.1, 32°.35S×69°.36W, h105km±41km, mb3.4/1, mb1 3.4/3, mb1mx3.2/13, mbtmp3.2/3, Error ellipse: s-maj=93.4km s-min=37.9km az=94.0*
*GUC **13** 06:17:28.1±0.6, 32°.24S×69°.77W, h150km, MD3.9, ML4.0*
*ISCJB **13** 06:17:29.1±0.7, 32°.28S±0°.05×69°.9W±0°.2, h146km±11km, Error ellipse: s-maj=25.0km s-min=6.6km az=167.2*
ISC 13 06:17:29.7±0.7, 32°.27S±0°.05×69°.9W±0°.2, h143km±12km, n24, σ0§72/37, 2C-6D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.76**	**236**	⇓*e*P	**Pn**	**06 17 51.0**	**-0.7**
PTCH	**Petorca**	**0.92**	**270**	*e*P	**Pn**	**06 17 52.4**	**-0.6**
PTCH				*i* S	**Sn**	**06 18 11.1**	**+0.4**
PTCH				AML	AML	06 18 12.6	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**1.12**	**219**	⇑*e*P	**Pn**	**06 17 54.3**	**-0.5**
PEL				*i* S	**Sn**	**06 18 13.6**	**-0.5**
PEL				AML	AML	06 18 14.5	
	comp=N,6μm,0.4s						
ROCH	**El Roble**	**1.21**	**234**	*e*P	**Pn**	**06 17 55.5**	**-0.1**
ROCH				*e*S	**Sn**	**06 18 16.2**	**+0.7**
ROCH				AML	AML	06 18 18.2	
	comp=E,2μm,0.5s						
CLCH	**Cerro Calan**	**1.27**	**207**	⇓*i*P	**Pn**	**06 17 55.8**	**-0.4**
CLCH				*i* S	**Sn**	**06 18 17.0**	**+0.5**
LACH	**Col Las Americ**	**1.31**	**206**	*e*P	**Pn**	**06 17 56.4**	**-0.3**
LACH				*e*S	**Sn**	**06 18 17.9**	**+0.5**
FSR	**Penalolen**	**1.34**	**205**	*e*P	**Pn**	**06 17 56.5**	**-0.5**
FSR				*e*S	**Sn**	**06 18 18.1**	**+0.3**
SAN	**Santiago**	**1.37**	**210**	*e*P	**Pn**	**06 17 56.7**	**-0.5**
SAN				*i* S	**Sn**	**06 18 18.5**	**+0.1**
SJCH	**San Jose de Ma**	**1.44**	**197**	*e*P	**Pn**	**06 17 57.2**	**-0.7**
SJCH				*e*S	**Sn**	**06 18 20.0**	**+0.3**
CHNG	**Los Chungos**	**1.45**	**285**	*e*P	**Pn**	**06 17 58.1**	**-0.1**
CHNG				*e*S	**Sn**	**06 18 20.4**	**+0.5**
ANTU	**Antumapu**	**1.46**	**207**	*e*P	**Pn**	**06 17 57.5**	**-0.6**
ANTU				*i* S	**Sn**	**06 18 20.4**	**+0.4**
ANTU				AML	AML	06 18 21.7	
	comp=E,1μm,0.5s						
PCH	**Pirque**	**1.46**	**202**	⇑*e*P	**Pn**	**06 17 57.8**	**-0.5**
PCH				*i* S	**Sn**	**06 18 20.3**	**+0.2**
CMCH	**Combarbala**	**1.47**	**318**	⇓*i*P	**Pn**	**06 17 57.4**	**-0.9**
CMCH				*i* S	**Sn**	**06 18 20.4**	**+0.2**
LMEL	**Las Melosas**	**1.61**	**191**	*e*P	**Pn**	**06 17 58.9**	**-0.9**
LMEL				*e*S	**Sn**	**06 18 24.7**	**+1.8**
LMEL				AML	AML	06 18 29.4	
	comp=N,772nm,0.2s						
TACH	**Talagante**	**1.66**	**213**	*e*P	**Pn**	**06 17 60.0**	**-0.4**
TACH				*e*S	**Sn**	**06 18 24.0**	**0.0**
IHA	**Instituto Hidr**	**1.69**	**243**	*e*P	**Pn**	**06 18 00.6**	**-0.2**
CHCH	**Chadas Angostu**	**1.79**	**202**	⇓*i*P	**Pn**	**06 18 02.0**	**0.0**
CACH	**El Canelo**	**1.95**	**199**	⇓*i*P	**Pn**	**06 18 04.1**	**+0.3**
CACH				*i* S	**Sn**	**06 18 31.2**	**+1.2**
LNV	**Longovilo**	**2.14**	**217**	⇓*i*P	**Pn**	**06 18 05.3**	**-0.6**
PLCA	**Paso Flores**	**8.47**	**184**	P	**Pn**	**06 19 27.9**	**-1.4**
	comp=N,0.1nm,0.3s,baz=317,slow=14,SNR=3.5						
LPAZ	**La Paz**	**15.98**	**6**	P	**Pn**	**06 21 08.7**	**+2.1**
	comp=N,0.1nm,0.3s,baz=179,slow=11,SNR=7.9						
TORD	**Torodi Ar. Bea**	**81.88**	**69**	P	**P**	**06 29 34.9**	**+1.5**
	comp=N,0.8nm,0.9s,baz=269,slow=5.6,SNR=3.5						
KURK	**Kurchatov**	**150.36**	**42**	PKPbc	PKPbc	06 37 06.6	+3.0
	comp=N,0.2nm,0.4s,baz=304,slow=3.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**151.78**	**32**	PKPbc	PKPbc	06 37 09.7	+2.9
	comp=N,1.3nm,0.5s,baz=308,slow=3.9,SNR=8.1						
ZALV				pPKPbc	pPKPbc	06 37 42.9	-1.7
	comp=N,0.2nm,0.3s,baz=315,slow=2.5,SNR=3.5						

*ISCJB **13** 06:22:02.5±1.5, 18°.79S±0°.09×176°.55W±0°.09, h270km±16km, mb4.0/15, Error ellipse: s-maj=16.5km s-min=11.4km az=142.9*
*IDC **13** 06:22:03.2±2.1, 18°.81S×176°.49W, h267km±20km, mb3.9/11, mb1 4.1/12, mb1mx3.9/19, mbtmp3.9/12, Error ellipse: s-maj=19.9km s-min=12.6km az=138.0*
*NEIC **13** 06:22:06.4±1.2, 18°.81S×176°.43W, h300km±11km, mb4.4/8, Error ellipse: s-maj=17.7km s-min=11.1km az=158.0*
ISC 13 06:22:03.3±1.4, 18°.85±0°.1×176°.53W±0°.09, h264km±16km, n80, σ0§75/43, mb4.0/15, 7C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.25**	**280**	*e*Pn	**Pn**	**06 23 31.8**	**+9.1**
	90nm,0.9s						
AFI	**Afiamalu**	**6.64**	**44**	P	**Pn**	**06 23 39.7**	**0.0**
	6.7nm,0.3s,baz=261,slow=0.4,SNR=8.1						
AFI				S	**S**	**06 24 51.1**	**-6.0**
	9.7nm,0.3s,baz=49,slow=22,SNR=9.3						
AFI	**Afiamalu**	**6.64**	**44**	P	**Pn**	**06 23 39.7**	**0.0**
AFI				S	**S**	**06 24 51.1**	**-6.0**
RAR	**Rarotonga**	**15.94**	**102**	P	**Pn**	**06 25 34.5**	**+0.4**
	2.3nm,0.3s,baz=268,slow=5.7,SNR=5.7						
RAR	**Rarotonga**	**15.94**	**102**	P	**Pn**	**06 25 34.5**	**+0.4**
URZ	**Urewera**	**20.21**	**195**	P	**P**	**06 26 16.9**	**-1.6**
	6.9nm,0.3s,baz=275,slow=1.6,SNR=13						
URZ				S	**S**	**06 29 43.1**	**-7.0**
	6.3nm,0.8s,baz=90,slow=20,SNR=3.9						
URZ	**Urewera**	**20.21**	**195**	*e*P	**P**	**06 26 16.8**	**-1.7**
	8.3nm,0.4s						
URZ				S	**S**	**06 29 43.1**	**-7.0**
ARMA	**Armidale**	**31.09**	**242**	*e*P	**P**	**06 27 58.7**	**+1.3**
CTA	**Charters Tower**	**35.08**	**262**	⇓*i*P	**P**	**06 28 32.4**	**+0.5**
	14nm,0.7s,mb4.6						
CTAO	**Charters Tower**	**35.08**	**262**	*e*P	**P**	**06 28 32.5**	**+0.5**
	19nm,0.8s,mb4.7						
PMG	**Port Moresby**	**36.36**	**280**	P	**P**	**06 28 42.9**	**+0.1**
	16nm,0.8s,mb4.6,baz=105,slow=5.1,SNR=6.9						
PMG	**Port Moresby**	**36.36**	**280**	*e*P	**P**	**06 28 43.9**	**+1.0**
	25nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**39.81**	**243**	P	**P**	**06 29 12.1**	**+0.8**
	2.5nm,0.3s,mb4.0,baz=75,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**39.81**	**243**	*e*P	**P**	**06 29 11.5**	**+0.2**
	0.7nm,0.6s,mb3.2						
WB2	**Warramunga Arr**	**46.23**	**260**	*e*P	**P**	**06 30 02.2**	**-0.5**
WRAB	**Tennant Creek**	**46.23**	**260**	*e*P	**P**	**06 30 02.2**	**-0.6**
	3.8nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**46.24**	**260**	P	**P**	**06 30 02.3**	**-0.5**
	6.7nm,0.5s,mb4.2,baz=98,slow=6.7,SNR=110						
WRA				PcP	PcP	06 31 32.6	-1.2
	1.0nm,0.4s,baz=95,slow=3.4,SNR=5.6						
WRA	**Warramunga Arr**	**46.24**	**260**	P	**P**	**06 30 02.3**	**-0.5**
WRA				PcP	PcP	06 31 32.6	-1.2
AS31	**Alice Springs**	**46.29**	**255**	*e*P	**P**	**06 30 03.0**	**-0.1**
ASAR	**Alice Springs**	**46.29**	**255**	P	**P**	**06 30 03.3**	**+0.2**
	31nm,0.6s,mb4.8,baz=88,slow=8.5,SNR=315						
ASAR				PcP	PcP	06 31 32.6	-1.2
	1.9nm,0.7s,baz=98,slow=4.4,SNR=5.7						
ASAR				S	**S**	**06 36 24.5**	**-5.3**
	1.9nm,0.9s,baz=89,slow=16,SNR=12						
ASAR	**Alice Springs**	**46.29**	**255**	P	**P**	**06 30 03.3**	**+0.2**
ASAR				PcP	PcP	06 31 32.6	-1.2
ASAR				S	**S**	**06 36 24.5**	**-5.3**
FITZ	**Fitzroy Crossi**	**54.66**	**261**	*e*P	**P**	**06 31 05.6**	**0.0**
	5.0nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**54.66**	**261**	*e*P	**P**	**06 31 05.7**	**+0.1**
	2.7nm,0.5s,mb3.9						
MJAR	**Matsushiro Arr**	**69.66**	**322**	P	**P**	**06 32 44.2**	**-0.3**
	2.7nm,0.8s,mb4.0,baz=168,slow=6.6,SNR=6.6						
MJAR	**Matsushiro Arr**	**69.66**	**322**	P	**P**	**06 32 44.2**	**-0.3**
QSPA	**South Pole Qui**	**71.30**	**180**	*e*P	**P**	**06 32 54.1**	**+0.4**
	7.3nm,1.1s,mb4.2						
NVAR	**Mina Array Bea**	**78.81**	**43**	P	**P**	**06 33 37.6**	**+0.5**
	0.6nm,0.6s,mb3.5,baz=230,slow=8.7,SNR=4.2						
NVAR	**Mina Array Bea**	**78.81**	**43**	P	**P**	**06 33 37.6**	**+0.5**
TXAR	**Lajitas Array**	**84.95**	**57**	P	**P**	**06 34 10.6**	**+1.4**
	0.9nm,0.9s,mb3.6,baz=217,slow=8.3,SNR=8.9						
TXAR	**Lajitas Array**	**84.95**	**57**	P	**P**	**06 34 10.6**	**+1.4**
COLA	**College**	**86.22**	**12**	*e*P	**P**	**06 34 13.9**	**-0.7**
	4.4nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**86.32**	**12**	P	**P**	**06 34 14.4**	**-0.7**
	1.3nm,0.9s,mb

MW4.7(NIED), Error ellipse: s-maj=8.1km s-min=5.6km az=111.0
NEIC Recorded [1 JMA] in Iwate and Miyagi.
ISC 13 07:20:46.9±1.0, 38°50N±0°.03×143°24E±0°.03, h7km±6km, h31km±1.8km:pP-P, n197, σ1°01/222, mb4.5/54, MS4.3/38, 3C-8D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.36**	**296**	P	**Pn**	**07 21 11.2**	**-1.0**
OFUJ				*e*S	**Sb**	**07 21 31.3**	**+1.1**
JIO	**Ouri**	**1.49**	**269**	P	**Pn**	**07 21 13.0**	**-1.0**
JIO				*e*S	**Sn**	**07 21 34.5**	**+0.8**
MIYJ	**Miyakonagasawa**	**1.54**	**314**	P	**Pn**	**07 21 13.6**	**-1.2**
MIYJ				*e*S	**Sn**	**07 21 35.9**	**+0.9**
JMK	**Ichinoseki**	**1.65**	**286**	P	**Pn**	**07 21 15.5**	**-0.7**
JMK				*e*S	**Sn**	**07 21 39.2**	**+1.6**
JOM	**Ohasama**	**1.80**	**303**	P	**Pn**	**07 21 17.7**	**-0.7**
JOU	**Okura**	**2.03**	**267**	P	**Pn**	**07 21 21.2**	**-0.3**
JOU				*e*S	**Sn**	**07 21 48.6**	**+1.5**
JMM	**Marumori**	**2.03**	**253**	P	**Pn**	**07 21 20.5**	**-1.0**
JFK	**Kawauchi**	**2.19**	**240**	P	**Pn**	**07 21 22.5**	**-1.2**
JFK				*e*S	**Sn**	**07 21 51.6**	**+0.6**
JYK	**Kaneyama**	**2.29**	**281**	P	**Pn**	**07 21 25.1**	**0.0**
JANG	**Nango**	**2.30**	**325**	P	**Pn**	**07 21 23.9**	**-1.3**
ERM	**Erimo**	**3.51**	**359**	*e*Pn	**Pn**	**07 21 42.3**	**+0.5**
ERM	**Erimo**	**3.51**	**359**	*e*P	**Pn**	**07 21 42.3**	**+0.5**
MJAR	**Matsushiro Arr**	**4.46**	**245**	Pn	**Pn**	**07 21 56.2**	**+1.4**
	10nm,0.3s,baz=65,slow=11,SNR=70						
MJAR				Sn	**Sn**	**07 22 51.3**	**+4.4**
	6.4nm,0.3s,baz=54,slow=27,SNR=4.7						
MJAR				LR	LR	07 23 47.4	
	comp=Z,2μm,18.1s,baz=60,slow=43						
MJAR	**Matsushiro Arr**	**4.46**	**245**	Pn	**Pn**	**07 21 56.2**	**+1.4**
MJAR				Sn	**Sn**	**07 22 51.2**	**+4.4**
MJAR	**Matsushiro Arr**	**4.46**	**245**	P	**Pn**	**07 21 56.2**	**+1.4**
MJAR						07 22 51.3	
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MJAR				smax			
	comp=N,6.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,2μm,18.1s						
MAJO	**Matsushiro**	**4.46**	**245**	*e*Pn	**Pn**	**07 21 56.3**	**+1.4**
MAJO	**Matsushiro**	**4.46**	**245**	*e*P	**Pn**	**07 21 56.3**	**+1.5**
MAT	**Matsushiro**	**4.46**	**245**	P	**Pn**	**07 21 55.4**	**+0.6**
MAT				S	**Sn**	**07 22 47.8**	**+0.9**
ASAJ	**Asahikawa**	**5.63**	**355**	Pn	**Pn**	**07 22 12.5**	**+1.6**
	comp=Z,3.8nm,0.3s,baz=187,slow=4.6,SNR=14						
ASAJ				Sn	**Sn**	**07 23 14.2**	**-1.5**
	comp=Z,3.0nm,0.3s,baz=120,slow=20,SNR=3.2						
ASAJ				LR	LR	07 25 09.9	
	comp=Z,2μm,19.3s,baz=28,slow=46						
ASAJ	**Asahikawa**	**5.63**	**355**	*e*Pn	**Pn**	**07 22 12.1**	**+1.1**
ASAJ				Sn	**Sn**	**07 23 14.2**	**-1.5**
ASAJ	**Asahikawa**	**5.63**	**355**	P	**Pn**	**07 22 12.5**	**+1.6**
ASAJ						07 23 14.3	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.3s						
YUK	**Yuzh-Kuril'sk**	**5.87**	**19**	*d* iP	**Pn**	**07 22 12.8**	**-1.4**
YUK				*i* S	**Sn**	**07 23 15.4**	**-6.3**
YUK				pmax	pmax		
	comp=N,44nm,0.2s						
YUK				pmax	pmax		
	comp=E,24nm,0.2s						
YUK				pmax	pmax		
	comp=Z,86nm,0.2s						
YUK				pmax	pmax		
	comp=Z,200nm,0.2s						
YUK				smax			
	comp=E,415nm,0.7s						
YUK				smax			
	comp=N,519nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.45**	**358**	*e*P	Px	07 23 00.0	
YSS				MLR	MLR		
	comp=Z,800nm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
VLA	**Vladivostok**	**9.76**	**302**	*i* P	**Pn**	**07 23 11.9**	**+4.3**
CBIJ	**Chichi jima**	**11.41**	**185**	Pn	**Pn**	**07 23 30.4**	**+0.1**
	comp=E,2.8nm,0.3s,baz=279,slow=19,SNR=3.8						
CBIJ				Sn	**Sn**	**07 25 23.6**	**-14**
	comp=E,2.2nm,0.3s,baz=287,slow=19,SNR=2.4						
CBIJ	**Chichi jima**	**11.41**	**185**	Pn	**Pn**	**07 23 30.4**	**+0.1**
CBIJ				Sn	**Sn**	**07 25 23.6**	**-14**
HABR	**Khabarovsk**	**11.60**	**332**	*e*P	**Pn**	**07 23 32.5**	**-0.2**
HABR						07 25 42.9	
HABR				pmax	pmax		
	comp=E,80nm,3.2s						
HABR				pmax	pmax		
	comp=N,82nm,3.5s						
HABR				pmax	pmax		
	comp=Z,136nm,2.8s						
HABR				MLR	MLR		
	comp=Z,628nm,17.0s						
MDJ	**Mudanjiang**	**11.90**	**305**	P	**Pn**	**07 23 37.3**	**+0.4**
MDJ				S	**Sn**	**07 25 48.8**	**-1.1**
MDJ				ScP	ScP	07 32 56.0	-1.0
MDJ				PcS	PcS	07 32 58.6	+0.9
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,39nm,3.2s						
MDJ				LR	LR		
	comp=N,840nm,17.1s						
MDJ				LR	LR		
	comp=E,1μm,16.2s						
MDJ				LR	LR		
	comp=Z,2μm,16.8s						
KSRS	**Korea Array**	**12.14**	**270**	Pn	**Pn**	**07 23 43.5**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=82,slow=12,SNR=7.1						
KSRS				LR	LR	07 28 12.1	
	comp=Z,937nm,18.4s,baz=76,slow=37						
KSRS	**Korea Array**	**12.14**	**270**	P	**Pn**	**07 23 43.5**	**+3.3**
KSRS				MLR	MLR		
	comp=Z,937nm,18.4s						
KSAR	**Wonju Array Be**	**12.17**	**270**	Pn	**Pn**	**07 23 43.5**	**+2.8**
KSAR	**Wonju Array Be**	**12.17**	**270**	P	**Pn**	**07 23 43.5**	**+2.9**
KLR	**Kul'dur**	**13.54**	**326**	*e*P	**Pn**	**07 23 53.9**	**-5.3**
KLR				pmax	pmax		
	comp=E,30nm,1.2s						
KLR				pmax	pmax		
	comp=Z,25nm,1.2s						
KLR				MLR	MLR		
	comp=E,1μm,13.5s						
KLR				MLR	MLR		
	comp=Z,3μm,13.5s						
CN2	**Changchun**	**14.41**	**297**	*e*P	**Pn**	**07 24 12.0**	**+0.9**
CN2				*e*pP	pP	07 24 19.4	-0.8
CN2				*e*S	**Sn**	**07 26 50.3**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,700nm,16.0s						
DL2	**Dalian**	**16.88**	**278**	P	**Pn**	**07 24 43.9**	**+0.4**
DL2				S	**Sn**	**07 27 48.0**	**-3.2**
DL2				pmax	pmax		
	comp=Z,30nm,1.2s						
DL2				LR	LR		
	comp=N,510nm,17.5s						
DL2				LR	LR		
	comp=E,460nm,12.9s						
DL2				LR	LR		
	comp=Z,540nm,16.7s						
PETK	**Petropavlovsk-**	**17.69**	**30**	LR	LR	07 32 26.7	
	comp=Z,164nm,18.4s,baz=217,slow=39						
SSE	**Sheshan**	**19.54**	**254**	P	**Pn**	**07 25 12.8**	**-3.4**
SSE				S	**Sn**	**07 28 53.4**	**-2.2**
SSE				pmax	pmax		
	comp=Z,32nm,0.7s						
SSE				pmax	pmax		
	comp=Z,160nm,10.1s						
SSE				LR	LR		
	comp=N,540nm,14.7s						
SSE				LR	LR		
	comp=E,380nm,14.7s						
SSE				LR	LR		
	comp=Z,760nm,14.0s						
SSE	**Sheshan**	**19.54**	**254**	P	**Pn**	**07 25 12.8**	**-3.4**
	comp=Z,32nm,0.7s						
SSE				S	**Sn**	**07 28 53.4**	**-2.2**
SSE				sS	sS	07 29 08.6	+10
NJ2	**Nanjing**	**20.89**	**259**	*e*P	**P**	**07 25 29.8**	**+0.1**
NJ2				pP		07 25 38.8	
NJ2				sP	sP	07 25 43.0	+10
NJ2				PP		07 25 52.3	
NJ2				S	**S**	**07 29 13.0**	**-10**
NJ2				sS	sS	07 29 25.0	-1.1
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,250nm,3.7s						
NJ2				LR	LR		
	comp=N,490nm,16.5s,MS4.3						
NJ2				LR	LR		
	comp=E,1μm,21.3s,MS4.3						
NJ2				LR	LR		
	comp=Z,570nm,18.3s,MS4.0						
BJI	**Beijing**	**20.99**	**283**	P	**P**	**07 25 32.1**	**+1.4**
BJI				S	**S**	**07 29 23.8**	**-0.8**
BJI				LR	LR		
	comp=N,360nm,13.3s,MS4.4						
BJI				LR	LR		
	comp=E,1μm,15.4s,MS4.4						
BJI				LR	LR		
	comp=Z,420nm,15.4s,MS3.9						
YULB	**Yu-li**	**24.02**	**238**	*e*P	**P**	**07 26 02.3**	**-0.1**
	comp=Z,25nm,1.1s,mb4.6						
HHC	**Hu-ho-hao-te**	**24.43**	**286**	*e*P	**P**	**07 26 04.4**	**-1.6**
HHC				pP		07 26 11.4	
HHC				sP	sP	07 26 14.5	+5.4
HHC				PP		07 26 40.8	
HHC				PcP	PcP	07 29 45.0	+0.2
HHC				S	**S**	**07 30 19.5**	**-6.6**
HHC				SS		07 31 14.3	
HHC				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.7						
HHC				pmax	pmax		
	comp=Z,150nm,4.6s						
HHC				LR	LR		
	comp=N,330nm,11.9s,MS4.5						
HHC				LR	LR		
	comp=E,1μm,15.5s,MS4.5						
HHC				LR	LR		
	comp=Z,1μm,15.1s,MS4.5						
GUMO	**Guam**	**24.86**	**176**	LR	LR	07 34 08.4	
	comp=Z,171nm,20.3s,MS3.5,baz=7.8,slow=32						
YAK	**Yakutsk**	**24.99**	**345**	*e*P	**P**	**07 26 11.1**	**+0.2**
	comp=Z,28nm,0.8s,mb4.8						
YAK	**Yakutsk**	**24.99**	**345**	*e*P	**P**	**07 26 10.3**	**-0.6**
YAK				*e**PP		07 26 21.7	
YAK				*e*		07 26 45.2	
YAK				*e*PPP		07 26 54.4	
YAK				*e*S	**S**	**07 30 35.6**	**+0.9**
YAK				*e*		07 37 07.7	
YAK				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.8						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
YAK				smax			
	comp=N,112nm,11.6s						
YAK				smax			
	comp=E,86nm,12.5s						
YAK				MLR	MLR		
	comp=Z,486nm,15.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,423nm,16.0s						
WHN	**Wuhan**	**25.02**	**260**	P	**P**	**07 26 10.5**	**-1.0**
WHN				S	**S**	**07 30 29.0**	**-6.8**
WHN				LR	LR		
	comp=N,880nm,11.7s,MS4.7						
WHN				LR	LR		
	comp=E,990nm,10.0s,MS4.7						
WHN				LR	LR		
	comp=Z,1μm,12.5s,MS4.7						
FX1	**Attu Island--F**	**25.14**	**45**	LR	LR	07 34 47.0	
	comp=Z,130nm,18.6s,MS3.5,baz=84,slow=33						
BOD	**Bodaibo**	**27.11**	**325**	*e*P	**P**	**07 26 29.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**27.78**	**301**	*e*P	**P**	**07 26 36.3**	**+0.1**
	comp=Z,24nm,1.2s,mb4.7						
ULN	**Ulaanbaatar**	**27.78**	**301**	*e*P	**P**	**07 26 36.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.7						
XAN	**Xi'an**	**27.93**	**271**	P	**P**	**07 26 36.9**	**-0.8**
XAN				pP	pP	07 26 46.8	+6.9
XAN				sP	sP	07 26 53.0	+12
XAN				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
XAN				pmax	pmax		
	comp=Z,42nm,12.9s						
XAN				LR	LR		
	comp=N,230nm,16.4s,MS3.9						
XAN				LR	LR		
	comp=E,140nm,17.9s,MS3.9						
XAN				LR	LR		
	comp=Z,140nm,16.4s,MS3.6						
SONM	**Songino Array**	**28.22**	**301**	P	**P**	**07 26 40.2**	**+0.1**
	comp=Z,14nm,1.1s,mb4.5,baz=109,slow=6.6,SNR=41						
SONM				LR	LR	07 38 15.6	
	comp=Z,538nm,18.3s,MS4.2,baz=94,slow=37						
SONM	**Songino Array**	**28.22**	**301**	P	**P**	**07 26 40.2**	**+0.1**
SONM	**Songino Array**	**28.22**	**301**	P	**P**	**07 26 40.2**	**+0.1**
SONM				pmax	pmax		
	comp=Z,14nm,1.1s						
SONM				MLR	MLR		
	comp=Z,538nm,18.3s						
TLY	**Talaya**	**30.51**	**309**	*e*P	**P**	**07 27 01.1**	**+0.7**
	comp=Z,18nm,1.4s,mb4.7						
TLY	**Talaya**	**30.51**	**309**	*e*P	**P**	**07 27 00.4**	**0.0**
TLY				*e*		07 28 02.1	
TLY				*e*S	**S**	**07 31 55.7**	**-6.1**
TLY				*e*SS	SS	07 33 54.9	-17
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
TLY				MLR	MLR		
	comp=Z,619nm,15.0s,MS4.4						
ZAK	**Zakamensk**	**30.54**	**306**	*e*P	**P**	**07 27 00.4**	**-0.3**
ZAK				*e*		07 27 10.5	
ZAK				*e*		07 27 18.7	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
LZH	**Lanzhou**	**31.27**	**278**	*e*P	**P**	**07 27 08.1**	**+0.8**
LZH				pP	pP	07 27 17.9	+8.4
LZH				sP	sP	07 27 23.5	+13
LZH				*e*S	**S**	**07 32 12.1**	**-2.1**
LZH				*e*SS	SS	07 33 57.8	-30
LZH				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
LZH				pmax	pmax		
	comp=Z,160nm,5.3s						
LZH				LR	LR		
	comp=N,600nm,14.0s,MS4.6						
LZH				LR	LR		
	comp=E,810nm,15.0s,MS4.6						
LZH				LR	LR		
	comp=Z,840nm,16.7s,MS4.5						
LZH	**Lanzhou**	**31.27**	**278**	*e*P	**P**	**07 27 08.1**	**+0.8**
	comp=Z,14nm,1.0s,mb4.8						
LZH				pP	pP	07 27 17.9	+8.4
LZH				sP	sP	07 27 23.5	+13
LZH				*e*S	**S**	**07 32 12.1**	**-2.1**
LZH				sS	sS	07 32 18.0	+0.2
LZH				*e*SS	SS	07 33 57.8	-30
LZH				LR	LR		
	comp=Z,840nm,16.7s,MS4.5						
LZH	**Lanzhou**	**31.27**	**278**	*e*P	**P**	**07 27 08.1**	**+0.8**
LZH				*PP	pP	07 27 17.9	+8.4
LZH				*SP	sP	07 27 23.5	+13
LZH				*e*S	**S**	**07 32 12.1**	**-2.1**
LZH				*e*SS	SS	07 33 57.8	-30
LZH				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
LZH				MLR	MLR		
	comp=Z,840nm,16.7s,MS4.5						
BILL	**Bilibino**	**32.21**	**16**	*i* P	**P**	**07 27 15.8**	**+0.6**
BILL				*e**PP	pP	07 27 25.0	+7.6
BILL				*e**SP	sP	07 27 29.9	+12
BILL				*e*		07 30 02.8	
BILL				*e*SS	SS	07 34 14.4	-32
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.9						
GYA	**Guiyang**	**32.91**	**260**	P	**P**	**07 27 25.0**	**+3.3**
GYA				pP	pP	07 27 31.8	+7.9
GYA				PP	PP	07 28 32.1	-3.9
GYA				PcP	PcP	07 30 05.4	-0.8
GYA				S	**S**	**07 32 41.0**	**+1.2**
GYA				ScP	ScP	07 33 48.9	-1.7
GYA				SS	SS	07 34 35.6	-26
GYA				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
GYA				pmax	pmax		
	comp=Z,70nm,5.4s						
GYA				LR	LR		
	comp=N,380nm,15.2s,MS4.3						
GYA				LR	LR		
	comp=E,280nm,12.7s,MS4.3						
GYA				LR	LR		
	comp=Z,440nm,14.2s,MS4.3						
CD2	**Chengdu**	**33.14**	**269**	*e*P	**P**	**07 27 23.3**	**-0.4**
CD2				pP	pP	07 27 30.5	+4.6
CD2				sP	sP	07 27 33.8	+7.0
CD2				PP	PP	07 28 34.0	-4.5
CD2				S	**S**	**07 32 38.9**	**-4.4**
CD2				sS	sS	07 32 51.3	+4.3
CD2				SS	SS	07 34 40.0	-26
CD2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=N,610nm,16.8s,MS4.6						
CD2				LR	LR		
	comp=E,670nm,15.6s,MS4.6						
CD2				LR	LR		
	comp=Z,700nm,13.2s,MS4.5						
GTA	**Gaotai**	**33.54**	**285**	⇓P	**P**	**07 27 28.3**	**+1.1**
GTA				pP	pP	07 27 35.8	+6.4
GTA				sP	sP	07 27 38.9	+8.6
GTA				S	**S**	**07 32 50.5**	**+1.0**
GTA				sS	sS	07 33 03.3	+10
GTA				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
GTA				pmax	pmax		
	comp=Z,150nm,6.2s						
GTA				LR	LR		
	comp=N,290nm,17.6s,MS4.6						
GTA				LR	LR		
	comp=E,980nm,17.3s,MS4.6						
GTA				LR	LR		
	comp=Z,1μm,17.1s,MS4.7						
QIZ	**Qiongzhong**	**34.85**	**246**	P	**P**	**07 27 35.8**	**-2.9**
QIZ				S	**S**	**07 33 09.9**	**-0.1**
QIZ				sS	sS	07 33 21.8	+8.1
QIZ				pmax	pmax		
	comp=Z,170nm,4.6s						
QIZ				LR	LR		
	comp=N,330nm,18.5s,MS4.2						
QIZ				LR	LR		
	comp=E,160nm,19.2s,MS4.2						
QIZ				LR	LR		
	comp=Z,410nm,19.4s,MS4.2						
KMI	**Kunming**	**36.62**	**261**	P	**P**	**07 27 53.6**	**-0.3**
KMI				S	**S**	**07 33 35.1**	**-2.0**
KMI				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
KMI				LR	LR		
	comp=N,400nm,17.0s,MS4.5						
KMI				LR	LR		
	comp=E,380nm,13.7s,MS4.5						
KMI				LR	LR		
	comp=Z,470nm,16.1s,MS4.4						
KMI	**Kunming**	**36.62**	**261**	P	**P**	**07 27 53.6**	**-0.3**
	comp=Z,14nm,0.8s,mb4.8						
KMI				S	**S**	**07 33 35.1**	**-2.0**
KMI				LR	LR		
	comp=Z,470nm,16.1s,MS4.4						
KMI	**Kunming**	**36.62**	**261**	P	**P**	**07 27 53.6**	**-0.3**
KMI				S	**S**	**07 33 35.1**	**-2.0**
KMI				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
KMI				MLR	MLR		
	comp=Z,470nm,16.1s,MS4.4						
HVS	**Khovu-Aksy**	**36.66**	**307**	⇓*e*P	**P**	**07 27 54.1**	**+0.2**
HVS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.4						
HVS				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.1						
KRAR	**Krasnoyarsk**	**37.44**	**315**	⇓*e*P	**P**	**07 28 00.8**	**+0.4**
KRAR				pmax	pmax		
	comp=Z,45nm,0.5s,mb5.5						
KRAR				MLR	MLR		
	comp=Z,534nm,25.0s,MS4.2						
WMQ	**Urumqi**	**41.49**	**296**	P	**P**	**07 28 37.0**	**+2.6**
WMQ				pP	pP	07 28 44.4	+7.7
WMQ				sP	sP	07 28 47.8	+10
WMQ				PP	PP	07 30 16.5	+6.4
WMQ				S	**S**	**07 34 50.9**	**+0.9**
WMQ				sS	sS	07 35 04.5	+11
WMQ				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.6						
WMQ				pmax	pmax		
	comp=Z,150nm,5.6s						
WMQ				LR	LR		
	comp=N,400nm,8.0s						
WMQ				LR	LR		
	comp=E,650nm,7.2s						
WMQ				LR	LR		
	comp=Z,220nm,18.4s,MS4.1						
ZAA0	**Zalesovo Array**	**42.02**	**311**	*e*P	**P**	**07 28 38.1**	**-0.5**
ZALV	**Zalesovo Beam**	**42.02**	**311**	P	**P**	**07 28 37.7**	**-0.9**
	comp=Z,7.9nm,1.1s,mb4.3,baz=90,slow=7.4,SNR=18						
ZALV				PcP	PcP	07 30 33.6	+0.1
	comp=Z,1.7nm,0.6s,baz=57,slow=4.0,SNR=4.1						
ZALV				LR	LR	07 46 26.5	
	comp=Z,140nm,20.9s,MS3.8,baz=89,slow=37						
ZALV	**Zalesovo Beam**	**42.02**	**311**	P	**P**	**07 28 37.7**	**-0.9**
ZALV				PcP	PcP	07 30 33.6	+0.1
ZALV	**Zalesovo Beam**	**42.02**	**311**	P	**P**	**07 28 37.7**	**-0.9**
ZALV						07 30 33.6	
ZALV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
ZALV				MLR	MLR		
	comp=Z,140nm,20.9s,MS3.8						
NVS	**Novosibirsk**	**42.90**	**313**	*e*P	**P**	**07 28 44.8**	**-0.9**
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
CMAR	**Chiang Mai Arr**	**43.27**	**255**	P	**P**	**07 28 47.8**	**-1.4**
	comp=Z,0.7nm,0.4s,mb3.8,baz=38,slow=6.4,SNR=4.9						
CMAR				LR	LR	07 48 01.0	
	comp=Z,83nm,18.4s,MS3.7,baz=178,slow=38						
CMAR	**Chiang Mai Arr**	**43.27**	**255**	P	**P**	**07 28 47.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**43.27**	**255**	P	**P**	**07 28 47.8**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,83nm,18.4s						
MK31	**Makanchi Array**	**44.59**	**301**	*e*P	**P**	**07 28 59.3**	**-0.1**
MK31	**Makanchi Array**	**44.59**	**301**	*e*P	**P**	**07 28 59.3**	**-0.1**
MKAR	**Makanchi Array**	**44.59**	**301**	P	**P**	**07 28 58.4**	**-1.1**
	comp=Z,8.1nm,1.0s,mb4.5,baz=81,slow=9.2,SNR=12						
MKAR				LR	LR	07 48 23.2	
	comp=Z,262nm,18.5s,MS4.2,baz=353,slow=37						
MKAR	**Makanchi Array**	**44.59**	**301**	P	**P**	**07 28 58.4**	**-1.1**
MKAR	**Makanchi Array**	**44.59**	**301**	P	**P**	**07 28 58.4**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,262nm,18.5s						
SHL	**Shillong**	**44.88**	**269**	*e*PKP	**P**	**07 29 02.3**	**+0.3**
KURK	**Kurchatov**	**46.18**	**307**	LR	LR	07 49 14.0	
	comp=Z,225nm,19.0s,MS4.1,baz=60,slow=37						
ILAR	**Eielson Array**	**47.48**	**33**	P	**P**	**07 29 22.9**	**+1.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=261,slow=6.6,SNR=8.6						

ILAR Eielson Array 47.48 33 P **P 07 29 22.9 +1.0**
ILAR Eielson Array 47.48 33 P **P 07 29 23.0 +1.0**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
HNR Honiara 50.17 158 LR LR 07 48 52.1
comp=Z,168nm,19.3s,MS4.1,baz=173,slow=34
TKM2 Tokmak 2 50.22 298 *e*P **P 07 29 43.8 +0.4**
comp=Z,21nm,0.9s,mb5.2
TKM2 Tokmak 2 50.22 298 *e*P **P 07 29 43.8 +0.5**
TKM2 pmax pmax
comp=Z,21nm,0.9s,mb5.2
BVAR Borovoye Array 50.67 312 LR LR 07 52 14.5
comp=Z,325nm,18.3s,MS4.4,baz=300,slow=37
AAK Ala-Archa 51.08 298 *e*P **P 07 29 49.5 -0.3**
comp=Z,35nm,1.0s,mb5.2
AAK Ala-Archa 51.08 298‖ *e*P **P 07 29 50.2 +0.4**
AAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
AAK MLR MLR
comp=Z,526nm,16.0s,MS4.7
KSH Kashi 51.14 294 P **P 07 29 53.8 +3.5**
KSH pP pP 07 30 01.3 +8.7
KSH sP sP 07 30 04.3 +11
KSH PcP PcP 07 31 08.6 +2.7
KSH PP PP 07 31 51.6 +4.8
KSH ScP ScP 07 35 02.8 +0.2
KSH PcS PcS 07 35 05.3 +1.8
KSH S **S 07 37 09.1 +0.6**
KSH sS sS 07 37 22.4 +10
KSH ScS ScS 07 39 39.5 -1.9
KSH SS SS 07 40 42.4 -1.0
KSH pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
KSH pmax pmax
comp=Z,190nm,5.0s
KSH LR LR
comp=N,370nm,12.5s
KSH LR LR
comp=E,240nm,7.8s
KSH LR LR
comp=Z,340nm,10.6s,MS4.6
INK Inuvik 52.42 28 P **P 07 30 01.3 +1.9**
comp=Z,0.5nm,0.7s,mb3.6,baz=303,slow=3.4,SNR=3.4
INK Inuvik 52.42 28 P **P 07 30 01.3 +1.9**
INK Inuvik 52.42 28 P **P 07 30 01.3 +1.9**
INK pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 53.65 300 *e*P **P 07 30 08.5 -0.4**
comp=Z,8.7nm,1.0s,mb4.6
KKAR Karatay Array 53.65 300 *e*P **P 07 30 08.5 -0.4**
KKAR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SVE Sverdlovsk 55.01 318⇑ *i*P **P 07 30 19.2 +0.6**
SVE pmax pmax
comp=Z,23nm,1.1s,mb5.1
SVE MLR MLR
comp=Z,940nm,18.0s,MS4.9
ARU Arti 56.23 318 *e*P **P 07 30 26.3 -1.1**
comp=Z,20nm,1.2s,mb5.0
ARU Arti 56.23 318 *d i*P **P 07 30 27.7 +0.4**
ARU 07 32 29.9
ARU S **S 07 38 17.3 +0.3**
ARU SS SS 07 42 02.5 -0.4
ARU pmax pmax
comp=Z,16nm,1.0s,mb5.0
ARU MLR MLR
comp=Z,614nm,17.0s,MS4.8
KBL Kabul 58.25 291 *e*P **P 07 30 40.9 -1.0**
comp=Z,10nm,1.0s,mb4.8
KBL Kabul 58.25 291 *e*P **P 07 30 40.9 -1.1**
KBL pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
WRAB Tennant Creek 58.72 190 *e*P **P 07 30 45.3 +0.1**
comp=Z,10nm,1.0s,mb4.8
WRAB Tennant Creek 58.72 190 *e*P **P 07 30 45.3 +0.1**
WRAB pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
WB2 Warramunga Arr 58.73 190 *e*P **P 07 30 45.0 -0.3**
WRA Warramunga Arr 58.73 190 P **P 07 30 44.6 -0.7**
comp=Z,3.2nm,0.8s,mb4.4,baz=7.4,slow=7.1,SNR=28
WRA Warramunga Arr 58.73 190 P **P 07 30 44.6 -0.7**
WRA Warramunga Arr 58.73 190 P **P 07 30 44.6 -0.7**
WRA pmax pmax
comp=Z,3.0nm,0.8s
AKTO Aktyubinsk 58.78 312 LR LR 07 57 30.8
comp=Z,295nm,18.8s,MS4.4,baz=64,slow=38
HYB Hyderabad 59.69 269 *i* P **P 07 30 51.5 -0.7**
RES Resolute Bay 60.81 15 *e*P **P 07 30 59.7 +0.6**
RES Resolute Bay 60.81 15 *e*P **P 07 30 59.7 +0.6**
YKA Yellowknife Ar 61.81 31 P **P 07 31 06.8 +0.8**
comp=Z,0.2nm,0.4s,mb3.6,baz=308,slow=7.0,SNR=3.0
YKA Yellowknife Ar 61.81 31 P **P 07 31 06.8 +0.8**
YKA Yellowknife Ar 61.81 31 P **P 07 31 06.8 +0.8**
ASAR Alice Springs 62.46 190 P **P 07 31 09.8 -0.8**
comp=Z,1.9nm,0.9s,mb4.2,baz=8.7,slow=6.3,SNR=12
ASAR Alice Springs 62.46 190 P **P 07 31 09.8 -0.8**
ASAR Alice Springs 62.46 190 P **P 07 31 09.9 -0.8**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
KEV Kevo 62.58 339 *e*P **P 07 31 07.9 -3.2**
KEV Kevo 62.58 339 *e*p **P 07 31 07.9 -3.2**
ARCES ARCESS Array B 63.13 340 P **P 07 31 14.3 -0.4**
comp=Z,3.6nm,0.9s,mb4.5,baz=35,slow=7.9,SNR=8.3
ARCES LR LR 08 03 34.2
comp=Z,178nm,18.4s,MS4.3,baz=202,slow=41
ARCES ARCESS Array B 63.13 340 P **P 07 31 14.3 -0.4**
ARCES ARCESS Array B 63.13 340 P **P 07 31 14.3 -0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,178nm,18.4s
KLMR Klimovskoe 63.29 328 *e*P **P 07 31 14.4 -1.5**
KLMR pmax pmax
comp=Z,26nm,1.6s,mb5.1
DZM Mont Dzumac 64.07 156 *e*S **S 07 39 57.4 -0.9**
comp=Z,82nm,22.5s
DZM *e*LR LR 07 50 29.5
comp=Z,151nm,22.4s
JOF Joensuu 65.35 332 *e*P **P 07 31 29.6 +0.3**
JOF Joensuu 65.35 332 *e*p **P 07 31 29.6 +0.3**
KAF Kangasniemi 67.66 333 *e*P **P 07 31 43.4 -0.8**
KAF Kangasniemi 67.66 333 *e*p **P 07 31 43.4 -0.8**
OBN Obninsk 67.78 324‖ *e*P **P 07 31 44.4 -0.6**
OBN *e**SP sP 07 32 00.9 +13
OBN *e* 07 32 11.8
OBN *e* 07 34 09.8
OBN *e*SS SS 07 44 58.7 -4.7
OBN pmax pmax
comp=Z,40nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,600nm,21.0s,MS4.8
FINES FINESS Array B 68.19 333 P **P 07 31 46.7 -0.7**
comp=Z,5.7nm,0.8s,mb4.7,baz=30,slow=12,SNR=7.0
FINES LR LR 08 04 13.5
comp=Z,287nm,19.8s,MS4.5,baz=98,slow=38
FINES FINESS Array B 68.19 333 P **P 07 31 46.7 -0.7**
FINES FINESS Array B 68.19 333 P **P 07 31 46.7 -0.8**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES MLR MLR
comp=Z,287nm,19.8s
STKA Stephens Creek 70.04 181 LR LR 08 02 36.6
comp=Z,78nm,18.1s,MS4.0,baz=25,slow=36
KIV Kislovodsk 71.03 311 *e*P **P 07 32 06.5 +1.1**
comp=Z,18nm,1.0s,mb5.0
KIV Kislovodsk 71.03 311⇑ *e*P **P 07 32 07.3 +1.9**
KIV *e* 07 32 18.7
KIV pmax pmax
comp=Z,14nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.4
NB2 NORSAR Subarra 73.39 338 P **P 07 32 19.3 +0.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=38,slow=6.2
NOA NORSAR Array B 73.39 338 P **P 07 32 18.9 -0.2**
comp=Z,6.1nm,0.9s,mb4.5,baz=38,slow=5.8,SNR=8.5
NOA LR LR 08 06 09.9
comp=Z,206nm,20.4s,MS4.4,baz=290,slow=37
NOA NORSAR Array B 73.39 338 P **P 07 32 18.9 -0.2**
NOA NORSAR Array B 73.39 338 P **P 07 32 18.9 -0.2**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA MLR MLR
comp=Z,206nm,20.4s
ANN Anapa 73.55 314 *e*P **P 07 32 17.7 -2.7**
ANN *e**PP pP 07 32 27.8 +5.1
ANN *e* 07 35 02.0
ANN *e*S S 07 41 45.2 -5.3
ANN pmax pmax
comp=Z,64nm,1.2s,mb5.4
AKASG Malin Array Be 74.02 323 P **P 07 32 22.2 -0.8**
comp=Z,7.6nm,0.8s,mb4.7,baz=44,slow=6.2,SNR=18
AKASG LR LR 08 07 16.5
comp=Z,135nm,18.4s,MS4.3,baz=10.0,slow=38
AKASG Malin Array Be 74.02 323 P **P 07 32 22.2 -0.8**
AKASG Malin Array Be 74.02 323 P **P 07 32 22.2 -0.8**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKASG MLR MLR
comp=Z,135nm,18.4s
KIEV Kiev 74.03 323 *e*P **P 07 32 22.4 -0.6**
comp=Z,16nm,1.0s,mb4.9
KIEV Kiev 74.03 323‖ *e*P **P 07 32 22.6 -0.5**
PDAR Pinedale Array 75.61 47 P **P 07 32 33.5 +1.2**
comp=Z,0.5nm,0.8s,mb3.5,baz=349,slow=0.9,SNR=3.6
PDAR Pinedale Array 75.61 47 P **P 07 32 33.5 +1.2**
STHS Stebnicka Huta 78.58 326 *e*P **P 07 32 53.1 +4.2**
STHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
STHS Stebnicka Huta 78.58 326 *e*P **P 07 32 53.1 +4.2**
OJC Ojcow 78.62 327 *e*P **P 07 32 49.9 +0.7**
OJC Ojcow 78.62 327 *e*P **P 07 32 49.9 +0.8**
CRVS Cervenica-Dubn 78.86 325 *e*P **P 07 32 50.7 +0.2**
CRVS Cervenica-Dubn 78.86 325 *e*P **P 07 32 50.7 +0.2**
BRTR Keskin Array B 78.95 312 P **P 07 32 51.4 +0.2**
comp=Z,1.3nm,0.9s,mb3.9,baz=347,slow=5.1,SNR=5.0
BRTR Keskin Array B 78.95 312 P **P 07 32 51.4 +0.2**
BRTR Keskin Array B 78.95 312 P **P 07 32 51.4 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
KSP Ksiaz 79.61 329 *e*P **P 07 32 54.8 +0.3**
KSP Ksiaz 79.61 329 *e*P **P 07 32 54.8 +0.3**
MORC Moravsky Berou 79.91 328 *e*P **P 07 32 56.5 +0.3**
comp=Z,4.0nm,1.0s,mb4.3
MORC Moravsky Berou 79.91 328 *e*P **P 07 32 56.5 +0.3**
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
DPC Dobruska-Polom 79.97 329 *e*P **P 07 32 57.0 +0.4**
DPC Dobruska-Polom 79.97 329 *e*P **P 07 32 57.8 +1.3**
DPC Dobruska-Polom 79.97 329 *e*P **P 07 32 57.8 +1.3**
KRLC Kraliky 80.00 328 *e*P **P 07 32 57.0 +0.3**
PSZ Piszkesteto 80.29 325 *e*P **P 07 32 59.0 +0.6**
comp=Z,5.9nm,0.8s,mb4.6
PSZ Piszkesteto 80.29 325 *e*P **P 07 32 59.0 +0.7**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VYHS Vyhne 80.33 326 *e*P **P 07 32 58.8 +0.3**
VYHS pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
VYHS Vyhne 80.33 326 *e*P **P 07 32 58.8 +0.3**
BRG Berggiesshubel 80.52 330 *e*P **P 07 32 59.9 +0.4**
comp=Z,14nm,1.5s,mb4.7
BRG Berggiesshubel 80.52 330 *e*P **P 07 32 59.8 +0.4**
BRG pmax pmax
comp=Z,14nm,1.5s,mb4.7
CLL Collm 80.53 331 *i* P **P 07 32 59.3 -0.2**
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLL Collm 80.53 331 *i* P **P 07 32 59.3 -0.2**
comp=Z,10.0nm,0.9s,mb4.8
CLL *e*pP pP 07 33 11.0 +9.1
PVCC Panska Ves 80.54 330 *e*P **P 07 33 00.5 +0.9**
PVCC Panska Ves 80.54 330 *e*P **P 07 33 00.5 +0.9**
PRU Pruhonice 80.97 329 *e*P **P 07 33 02.5 +0.6**
PRU Pruhonice 80.97 329 *e*P **P 07 33 02.5 +0.6**
TREC Trest 81.13 328 *e*P **P 07 33 03.4 +0.6**
TREC Trest 81.13 328 *e*P **P 07 33 03.4 +0.6**
NKC Novy Kostel 81.60 331 *e*P **P 07 33 05.5 +0.2**
NKC Novy Kostel 81.60 331 *e*P **P 07 33 05.5 +0.2**
KHC Kasperske Hory 82.04 329 *e*P **P 07 33 07.7 +0.1**
KHC Kasperske Hory 82.04 329 *e*P **P 07 33 07.7 +0.1**
GERES GERESS Array B 82.22 329 P **P 07 33 08.7 +0.2**
comp=Z,1.8nm,0.9s,mb4.0,baz=3.2,slow=7.2,SNR=8.1
GERES GERESS Array B 82.22 329 P **P 07 33 08.7 +0.2**
GERES GERESS Array B 82.22 329 P **P 07 33 08.7 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.9s
PMOR Pomarlorio Ree 83.46 115 *e*T 09 05 17.7
comp=Z,5.3nm,0.2s
PPT Papeete 84.01 118 *e*LR LR 07 59 38.0
comp=Z,123nm,22.8s
MEH Mehetia 85.27 117 *e*T 09 07 33.1
comp=Z,27nm,0.2s
TBI Tubuai 88.05 122 *e*LR LR 08 01 32.6
comp=Z,97nm,23.0s
TBI *e*T 09 11 00.9
comp=Z,8.8nm,0.3s
TXAR Lajitas Array 88.08 53 P **P 07 33 39.0 +0.7**
comp=Z,0.3nm,0.7s,mb3.6,baz=337,slow=3.5,SNR=3.5
TXAR Lajitas Array 88.08 53 P **P 07 33 39.0 +0.7**
TXAR Lajitas Array 88.08 53 P **P 07 33 39.0 +0.7**

IDC 13 07:44:40.1±1.0, 32°.85N×92°.02E, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.6/25, mbtmp3.5/7, ML4.0/2, Error ellipse: s-maj=43.1km s-min=20.0km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.63**	**155**	Pn	Pn	07 48 22.4	+0.6
	0.5nm,0.3s,baz=327,slow=11,SNR=4.4						
SONM	**Songino Array**	**18.50**	**32**	P	Pn	07 48 57.1	-0.6
	0.1nm,0.3s,baz=224,slow=12,SNR=6.1						
ZALV	**Zalesovo Beam**	**21.70**	**348**	P	P	07 49 31.4	-1.1
	0.3nm,0.3s,baz=161,slow=9.2,SNR=4.1						
BVAR	**Borovoye Array**	**25.46**	**329**	P	P	07 50 11.3	+1.8
	0.3nm,0.5s,baz=110,slow=7.8,SNR=2.8						
WRA	**Warramunga Arr**	**66.27**	**136**	P	P	07 55 30.5	+0.2
	0.2nm,0.5s,baz=328,slow=6.3,SNR=4.2						
ASAR	**Alice Springs**	**68.96**	**139**	P	P	07 55 47.4	+0.2
	0.5nm,0.6s,baz=329,slow=6.8,SNR=8.5						
TORD	**Torodi Ar. Bea**	**83.26**	**281**	P	P	07 57 08.1	-0.9
	0.4nm,0.8s,baz=57,slow=4.6,SNR=2.3						

IDC 13 07:53:40.4±0.8, 16°.71S×70°.74W, h112km±6km, mb3.8/6, mb1 3.9/7, mb1mx3.7/15, mbtmp3.8/7, Error ellipse: s-maj=27.1km s-min=19.5km az=48.0
NEIC 13 07:53:41.9±1.1, 16°.71S×70°.81W, h128km±10km, mb4.2/3, Error ellipse: s-maj=14.1km s-min=12.3km az=63.0
ISCJB 13 07:53:42.4±0.9, 16°.81S±0°.09×70°.88W±0°.07, h149km±9km, mb3.6/8, Error ellipse: s-maj=16.6km s-min=9.1km az=28.0

ISC 13 07:53:43.4±0.9, 16°.83S±0°.09×70°.89W±0°.07, h143km±9km, h111km±5.0km: pP-P, n32, σ0°.93/28, mb3.6/8, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.70**	**79**	P	**Pn**	**07 54 26.2**	**-0.5**
	baz=255,slow=7.6						
LPAZ				S	**Sn**	**07 55 00.2**	**+0.2**
	8.6nm,0.3s,baz=352,slow=19,SNR=4.0						
LPAZ	**La Paz**	**2.70**	**79**	*e*Pn	**Pn**	**07 54 26.0**	**-0.7**
LPAZ				*e*Sn	**Sn**	**07 55 01.6**	**+1.6**
NNA	**Nana**	**7.51**	**309**	P	**Pn**	**07 55 28.7**	**-1.7**
	1.5nm,0.3s,baz=103,slow=17,SNR=5.6						
NNA				S	**Sn**	**07 56 55.2**	**+1.0**
	1.4nm,0.3s,baz=233,slow=18,SNR=3.1						
NNA	**Nana**	**7.51**	**309**	P	**Pn**	**07 55 28.7**	**-1.7**
NNA				S	**Sn**	**07 56 55.2**	**+1.0**
SAML	**Samuel**	**10.85**	**45**	*e*Pn	**Pn**	**07 56 09.4**	**-5.5**
	3.3nm,0.4s						
CFAA	**Coronel Fontan**	**14.90**	**171**	P	**Pn**	**07 57 06.0**	**-0.8**
	baz=343,slow=13						
CFAA	**Coronel Fontan**	**14.90**	**171**	P	**Pn**	**07 57 06.0**	**-0.8**
OTAV	**Otavalo**	**18.53**	**336**	*e*Pn	**Pn**	**07 57 55.9**	**+5.0**
	1.9nm,0.6s						
PLCA	**Paso Flores**	**23.82**	**179**	P	**P**	**07 58 44.8**	**+1.7**
	2.2nm,1.0s,mb3.6,baz=328,slow=12,SNR=3.4						
PLCA	**Paso Flores**	**23.82**	**179**	P	**P**	**07 58 44.8**	**+1.7**
TXAR	**Lajitas Array**	**55.75**	**325**	P	**P**	**08 03 05.5**	**+0.2**
	0.1nm,0.4s,mb3.0,baz=157,slow=9.6,SNR=2.7						
TXAR				pP	pP	08 03 32.5	-6.3
	0.3nm,0.8s,baz=155,slow=9.9,SNR=2.5						
TXAR	**Lajitas Array**	**55.75**	**325**	P	**P**	**08 03 05.5**	**+0.2**
TXAR				pP	pP	08 03 32.5	-6.3
PDAR	**Pinedale Array**	**69.15**	**331**	P	**P**	**08 04 38.0**	**+3.9**
	0.2nm,0.6s,mb3.0,baz=136,slow=7.1,SNR=2.9						
PDAR				pP	pP	08 05 02.7	-6.3
	0.4nm,0.8s,baz=116,slow=6.1,SNR=2.7						
PDAR	**Pinedale Array**	**69.15**	**331**	P	**P**	**08 04 38.0**	**+3.9**
PDAR				pP	pP	08 05 02.6	-6.3
DBIC	**Dimbokro**	**69.32**	**76**	P	**P**	**08 04 35.2**	**-0.5**
	3.5nm,0.7s,mb4.2,baz=214,slow=3.1,SNR=4.9						
DBIC	**Dimbokro**	**69.32**	**76**	*e*P	**P**	**08 04 35.5**	**-0.3**
	2.9nm,0.5s,mb4.3						
ULM	**Lac du Bonnet**	**70.33**	**343**	P	**P**	**08 04 40.9**	**-0.2**
	1.7nm,0.5s,mb4.1,baz=170,slow=6.1,SNR=4.4						
ULM	**Lac du Bonnet**	**70.33**	**343**	P	**P**	**08 04 40.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**77.63**	**72**	P	**P**	**08 05 23.8**	**-0.6**
	3.3nm,0.8s,mb4.0,baz=250,slow=6.0,SNR=19						
TORD				pP	pP	08 05 52.9	-7.1
	0.4nm,0.6s,baz=249,slow=5.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.63**	**72**	P	**P**	**08 05 23.8**	**-0.6**
TORD				pP	pP	08 05 52.9	-7.1
ESDC	**Sonseca Array**	**83.88**	**46**	P	**P**	**08 05 57.5**	**+0.4**
	1.0nm,0.6s,mb3.7,baz=248,slow=5.7,SNR=6.0						
ESDC	**Sonseca Array**	**83.88**	**46**	P	**P**	**08 05 57.5**	**+0.4**
YKA	**Yellowknife Ar**	**86.19**	**341**	P	**P**	**08 06 07.9**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=130,slow=4.9,SNR=6.1						
YKA				pP	pP	08 06 37.0	-7.3
	0.5nm,0.9s,baz=132,slow=4.9,SNR=3.3						
YKA	**Yellowknife Ar**	**86.19**	**341**	P	**P**	**08 06 07.9**	**-0.1**
YKA				pP	pP	08 06 37.0	-7.3
ASAR	**Alice Springs**	**133.02**	**212**	PKP	PKPdf	08 12 43.3	+0.8
	0.4nm,1.0s,baz=103,slow=2.1,SNR=3.1						
ASAR	**Alice Springs**	**133.02**	**212**	PKP	PKPdf	08 12 43.3	+0.8
WRA	**Warramunga Arr**	**135.84**	**215**	PKP	PKPdf	08 12 48.7	+0.8
	0.3nm,0.7s,baz=143,slow=1.6,SNR=3.0						
WRA				pPKP	pPKPdf	08 13 18.4	-7.7
	0.3nm,0.8s,baz=152,slow=2.2,SNR=2.2						
WRA	**Warramunga Arr**	**135.84**	**215**	PKP	PKPdf	08 12 48.7	+0.8
WRA				pPKP	pPKPdf	08 13 18.4	-7.7
ZALV	**Zalesovo Beam**	**138.43**	**21**	PKP	PKPdf	08 12 51.7	+0.1
	0.5nm,0.5s,baz=254,slow=2.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**138.43**	**21**	PKP	PKPdf	08 12 51.7	+0.1
SONM	**Songino Array**	**149.00**	**4**	PKPbc	PKPbc	08 13 15.6	+1.2
	1.0nm,0.5s,baz=328,slow=2.5,SNR=10						
SONM				pPKPbc	pPKPbc	08 13 45.3	-7.1
	0.3nm,0.5s,baz=321,slow=1.3,SNR=2.6						
SONM	**Songino Array**	**149.00**	**4**	PKPbc	PKPbc	08 13 15.6	+1.2
SONM				pPKPbc	pPKPbc	08 13 45.2	-7.1

ISCJB 13 08:23:40.6±0.4, 42°.70N±0°.03×141°.86E±0°.04, h136km±3km, mb3.5/8, Error ellipse: s-maj=6.6km s-min=4.3km az=139.4
MOS 13 08:23:40.9±1.2, 42°.65N×142°.05E, h146km, mb3.6/5, Error ellipse: s-maj=20.1km s-min=10.6km az=75.1
JMA 13 08:23:41.4±0.2, 42°.74N×141°.80E, h136km±2km, M3.3
IDC 13 08:23:41.0±1.3, 42°.61N×142°.11E, h131km±9km, mb3.2/7, mb1 3.4/9, mb1mx3.3/25, mbtmp3.2/9, Error ellipse: s-maj=23.5km s-min=14.5km az=125.0
NEIC 13 08:23:41.8±0.6, 42°.65N×142°.12E, h138km±8km, mb4.5/1, Error ellipse: s-maj=16.0km s-min=8.9km az=115.0

ISC 13 08:23:41.7±0.4, 42°.70N±0°.03×141°.86E±0°.04, h133km±3km, n56, σ0°.82/76, mb3.5/8, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEW	**Eniwo**	**0.33**	**295**	P	**Pn**	**08 24 00.2**	**-0.1**
JEW				S	**Sn**	**08 24 14.0**	**-0.4**
JBT2	**Biratori 2**	**0.38**	**78**	P	**Pn**	**08 24 00.9**	**+0.4**
JBT2				*e*S	**Sn**	**08 24 15.7**	**+0.9**
JNB	**Noboribetsu**	**0.65**	**249**	P	**Pn**	**08 24 01.7**	**-0.3**
JNB				*e*S	**Sn**	**08 24 17.2**	**-0.2**
JFR	**Furan**	**0.71**	**49**	P	**Pn**	**08 24 02.3**	**-0.2**
JFR				*e*S	**Sn**	**08 24 18.0**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.79**	**122**	P	**Pn**	**08 24 03.7**	**+0.7**
JNBK				*e*S	**Sn**	**08 24 21.0**	**+1.8**
JAB	**Ashibetsu**	**0.85**	**18**	P	**Pn**	**08 24 03.8**	**+0.3**
JAB				*e*S	**Sn**	**08 24 20.2**	**+0.1**
JKB	**Kayabe**	**1.02**	**217**	P	**Pn**	**08 24 04.7**	**-0.3**
JKB				*e*S	**Sn**	**08 24 22.0**	**-0.7**
JHR	**Hokuryu**	**1.04**	**355**	P	**Pn**	**08 24 05.8**	**+0.5**
JHR				*e*S	**Sn**	**08 24 24.0**	**+0.7**
JCH	**Churui**	**1.11**	**94**	P	**Pn**	**08 24 05.5**	**-0.4**
JCH				*e*S	**Sn**	**08 24 23.6**	**-0.8**
ERM	**Erimo**	**1.18**	**125**	*e*Pn	**Pn**	**08 24 07.0**	**+0.4**
ERM				*e*Sn	**Sn**	**08 24 27.4**	**+1.8**
ERM	**Erimo**	**1.18**	**125**	*e*PN	**Pn**	**08 24 07.0**	**+0.4**
ERM				*e*		08 24 27.4	
JSK	**Shakotan**	**1.20**	**303**	P	**Pn**	**08 24 06.7**	**-0.1**
JKK2	**Kamakawa 2**	**1.34**	**29**	P	**Pn**	**08 24 08.1**	**-0.1**
JKK2				S	**Sn**	**08 24 28.0**	**-0.5**
JOT	**Ohata**	**1.45**	**205**	P	**Pn**	**08 24 09.1**	**-0.3**
JOT				*e*S	**Sn**	**08 24 30.1**	**-0.5**
ASAJ	**Asahikawa**	**1.51**	**21**	P	**Pn**	**08 24 09.9**	**-0.2**
	9.0nm,0.3s,baz=214,slow=11,SNR=84						
ASAJ				S	**Sn**	**08 24 31.5**	**-0.4**
	26nm,0.3s,baz=94,slow=19,SNR=26						
ASAJ	**Asahikawa**	**1.51**	**21**	*e*Pn	**Pn**	**08 24 09.8**	**-0.3**
ASAJ				*e*Sn	**Sn**	**08 24 31.2**	**-0.6**
ASAJ	**Asahikawa**	**1.51**	**21**	PN	**Pn**	**08 24 09.9**	**-0.2**
ASAJ				S	**Sn**	**08 24 31.5**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,26nm,0.3s						
JAR	**Ashorobuto**	**1.52**	**66**	P	**Pn**	**08 24 10.0**	**-0.2**
JAR				*e*S	**Sn**	**08 24 31.3**	**-0.8**
JOSM	**Okushiri--Mats**	**1.87**	**251**	P	**Pn**	**08 24 14.0**	**-0.2**
JOSM				*e*S	**Sn**	**08 24 38.1**	**-1.0**
JTKR	**Abashiri--Toko**	**1.96**	**49**	P	**Pn**	**08 24 15.9**	**+0.6**
JTKR				*e*S	**Sn**	**08 24 41.2**	**+0.1**
JAK	**Akkeshi**	**2.11**	**81**	P	**Pn**	**08 24 16.5**	**-0.6**
JAK				*e*S	**Sn**	**08 24 42.7**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**3.21**	**64**	*i* PN	**Pn**	**08 24 31.9**	**+0.8**
YUK				*i* S	**Sn**	**08 25 10.3**	**+1.0**
YUK				pmax	pmax		
	comp=E,29nm,0.2s						
YUK				pmax	pmax		
	comp=N,34nm,0.2s						
YUK				pmax	pmax		
	comp=Z,57nm,0.2s						
YUK				pmax	pmax		
	comp=Z,8μm,0.2s						
YUK				smax			
	comp=N,394nm,0.4s						
YUK				smax			
	comp=E,210nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.30**	**8**	*e*Pn	**Pn**	**08 24 45.5**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.30**	**8**	‖ *i*PN	**Pn**	**08 24 45.7**	**+0.3**
MAJO	**Matsushiro**	**6.76**	**206**	*e*Pn	**Pn**	**08 25 18.5**	**0.0**
MAJO	**Matsushiro**	**6.76**	**206**	*e*PN	**Pn**	**08 25 18.5**	**0.0**
MAT	**Matsushiro**	**6.76**	**206**	P	**Pn**	**08 25 19.0**	**+0.5**
MJAR	**Matsushiro Arr**	**6.76**	**206**	P	**Pn**	**08 25 18.6**	**+0.1**
	comp=E,1.4nm,0.3s,baz=23,slow=12,SNR=15						
MJAR	**Matsushiro Arr**	**6.76**	**206**	P	**Pn**	**08 25 18.6**	**+0.1**
MJAR	**Matsushiro Arr**	**6.76**	**206**	PN	**Pn**	**08 25 18.6**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**14.84**	**40**	P	**Pn**	**08 27 02.4**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=225,slow=10.0,SNR=3.2						
PETK	**Petropavlovsk-**	**14.84**	**40**	P	**Pn**	**08 27 02.5**	**-2.1**
PETK	**Petropavlovsk-**	**14.84**	**40**	P	**Pn**	**08 27 02.5**	**-2.1**
SONM	**Songino Array**	**25.33**	**294**	P	**P**	**08 28 57.0**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.3,baz=80,slow=9.0,SNR=7.3						
SONM	**Songino Array**	**25.33**	**294**	P	**P**	**08 28 57.0**	**+1.2**
SONM	**Songino Array**	**25.33**	**294**	P	**P**	**08 28 57.0**	**+1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**38.55**	**307**	P	**P**	**08 30 51.5**	**+0.6**
	comp=Z,0.5nm,0.3s,mb3.6,baz=80,slow=9.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**38.55**	**307**	P	**P**	**08 30 51.5**	**+0.6**
ZALV	**Zalesovo Beam**	**38.55**	**307**	P	**P**	**08 30 51.5**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
MKAR	**Makanchi Array**	**41.62**	**297**	P	**P**	**08 31 18.9**	**+2.5**
	comp=Z,0.5nm,0.7s,mb3.3,baz=90,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**41.62**	**297**	P	**P**	**08 31 18.9**	**+2.5**
MKAR	**

ILAR	**Eielson Array**	**44.60**	**35**	P	**P**	**08 31 39.5**	**-0.5**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
INK	**Inuvik**	**49.24**	**29**	P	**P**	**08 32 15.2**	**-0.7**
comp=Z,0.5nm,0.3s,mb3.7,baz=302,slow=7.4,SNR=12							
INK	**Inuvik**	**49.24**	**29**	P	**P**	**08 32 15.2**	**-0.7**
INK	**Inuvik**	**49.24**	**29**	P	**P**	**08 32 15.3**	**-0.7**
INK				pmax	pmax		
comp=Z,1.0nm,0.3s							
YKA	**Yellowknife Ar**	**58.78**	**32**	P	**P**	**08 33 24.8**	**-0.5**
comp=Z,0.1nm,0.5s,mb2.9,baz=311,slow=7.4,SNR=2.6							
YKA	**Yellowknife Ar**	**58.78**	**32**	P	**P**	**08 33 24.8**	**-0.4**
YKA	**Yellowknife Ar**	**58.78**	**32**	P	**P**	**08 33 24.8**	**-0.4**
WRA	**Warramunga Arr**	**62.71 188**		P	**P**	**08 33 51.0**	**-1.3**
comp=Z,0.2nm,0.5s,mb3.2,baz=4.5,slow=6.9,SNR=4.8							
WRA	**Warramunga Arr**	**62.71 188**		P	**P**	**08 33 51.0**	**-1.3**
WRA	**Warramunga Arr**	**62.71 188**		P	**P**	**08 33 51.0**	**-1.3**

IDC 13 08:26:37.2±7.2, 30°47S×177°08W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/15, mbtmp3.8/2, Error ellipse: s-maj=305.8km s-min=53.9km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.90**	**267**	P	P	08 34 45.3	-0.5
0.5nm,0.6s,baz=105,slow=7.4,SNR=11							
WRA	**Warramunga Arr**	**44.90**	**272**	P	P	08 34 54.1	+0.3
0.9nm,0.3s,baz=111,slow=8.1,SNR=21							
FINES	**FINESS Array B**	**145.48**	**341**	PKPbc	PKPbc	08 46 15.7	-0.8
6.2nm,1.1s,baz=46,slow=4.0,SNR=10							

*CSEM **13** 08:27:13.3, 38°71N×22°52E, h13km, After THE*
THE 13 08:27:13.3, 38°71N×22°52E, h13km±1km, Error ellipse: s-maj=1.9km s-min=0.4km az=73.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.12**	**64**	P	Pg	08 27 16.6	0.0
AXAR				S	Sg	08 27 19.2	+0.2
AXAR	**Agios Charalam**	**0.12**	**64**	P	Pg	08 27 16.6	0.0
AXAR				S	Sg	08 27 19.2	+0.2
DESF	**Desfina**	**0.30**	**178**	P	Pg	08 27 19.5	0.0
DESF				S	Sg	08 27 24.0	+0.4
DESF	**Desfina**	**0.30**	**178**	P	Pg	08 27 19.5	0.0
DESF				S	Sg	08 27 24.0	+0.4
DSF	**Desfina**	**0.30**	**178**	P	Pg	08 27 19.5	0.0
DSF	**Desfina**	**0.30**	**178**	P	Pg	08 27 19.5	0.0
AGG	**Agios Georgios**	**0.34**	**335**	P	Pg	08 27 20.3	+0.1
AGG				S	Sg	08 27 25.1	+0.2
AGG	**Agios Georgios**	**0.34**	**335**	P	Pg	08 27 20.3	+0.1
AGG				S	Sg	08 27 25.1	+0.2
LKR	**Lokris**	**0.38**	**99**	P	Pg	08 27 20.7	-0.3
LKR	**Lokris**	**0.38**	**99**	P	Pg	08 27 20.7	-0.3

*ROM **13** 08:27:09.3±0.1, 38°48N×23°59E, h10km, Md3.3/1, Ml4.7/1, Error ellipse: s-maj=5.8km s-min=0.0km az=13.0*
*PRU **13** 08:27:10.8, 38°11N×22°25E, h0km, M5.1*
*SZGRF **13** 08:27:13.8, 38°05N×22°66E, h10km, mb4.8, Greece*
*BJI **13** 08:27:17.6, 38°76N×22°10E, h34km, mB5.1/28, mb4.9/44, Ms5.1/22, Ms7 5.0/20*
*ISCJB **13** 08:27:20.0±0.2, 38°753N±0°010×22°556E±0°010, h25km±1km, mb5.0/160, MS4.8/29, Error ellipse: s-maj=1.6km s-min=1.2km az=19.9*
*NEIC **13** 08:27:19.2, 38°72N×22°57E, h24km, mb5.1/120, ML5.2(ATH), MW4.9(USGS), After ATH.*
NEIC Felt [II] in the Athens-Piraeus area and at Volos. Also felt at Aidhipsos, Amfiklia, Itea, Lamia, Larisa, Patrai, Portaria, Rafina, Rion and Sofhades.
*PDG **13** 08:27:19.4±0.6, 38°74N×22°58E, h12km±1km, MD5.1/9, ML4.9/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*ATH **13** 08:27:19.2, 38°72N×22°57E, h24km, ML5.2*
*CSEM **13** 08:27:19.9±0.1, 38°70N×22°58E, h12km, mb5.0/99, Ms4.8, Mw5.2, Error ellipse: s-maj=2.1km s-min=1.5km az=23.0*
*THE **13** 08:27:19.9, 38°71N×22°58E, h8km±1km, ML5.2/17, Error ellipse: s-maj=1.0km s-min=0.6km az=287.0*
*HLW **13** 08:27:20.9, 38°71N×22°46E, h11km±14km, Md4.6, Ml4.7*
*TEH **13** 08:27:20.0, 38°76N×22°58E, h10km*
*MOS **13** 08:27:20.6±1.1, 38°79N×22°55E, h30km, mb5.1/66, MS4.8/33, Error ellipse: s-maj=4.3km s-min=2.5km az=103.4*
*BEO **13** 08:27:21.7±0.8, 38°96N×22°82E, h0km, ML4.7/1*
*IDC **13** 08:27:22.2±1.4, 38°78N×22°59E, h35km±10km, mb4.5/25, mb1 4.6/36, mb1mx4.6/40, mbtmp4.5/36, ML4.4/8, MS4.4/16, Ms1 4.5/16, ms1mx4.3/39, Error ellipse: s-maj=10.9km s-min=10.5km az=8.0*
*GCMT **13** 08:27:22.2±0.2, 38°52N×22°54E, h19km, MW5.2, Moment Tensor Solution. s56,c70; s78,c130; Moment tensor: Scale 10^{16}Nm; M_{rr}=4.61±.21; $M_{\theta\theta}$=5.48±.15; $M_{\phi\phi}$=-0.87±.15; $M_{r\theta}$=-4.88±.39; $M_{r\phi}$=0.20±.11; $M_{\theta\phi}$=0.50±.39; Best double couple: M_0=7.00000×10^{16} NP1:ϕ_s=261.00000°, δ23.00000°, λ-103.00000°. NP2:ϕ_s=94.00000°, δ67.00000°, λ-85.00000°. Principal axes: T 7.4500, Plg22.0000°, Azm180.0000°; N -0.8200, Plg5.0000°, Azm272.0000°; P -6.6300, Plg67.0000°, Azm14.0000°; Data Used: II IU IC CN G.*
*BGS **13** 08:27:24.6±1.8, 38°99N×22°31E, h33km, mb5.1*
*TIR **13** 08:27:32.0, 38°62N×22°51E, h1km, ML4.9*
ISC 13 08:27:20.5±0.2, 38°711N±0°009×22°578E±0°009, h15km±1km, h33km±4.3km:pP-P, n1702, σ1°30/1882, mb5.0/160, MS4.8/29, 68C-65D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.08**	**49**	P	**Pg**	08 27 22.9	-0.7
AXAR				S	**Sg**	08 27 25.3	+1.9
AXAR	**Agios Charalam**	**0.08**	**49**	P	**Pg**	08 27 22.9	-0.7
AXAR				S	**Sg**	08 27 25.3	+1.9
DSF	**Desfina**	**0.30**	**188**	P	**Pg**	08 27 25.3	-1.5
DSF				S	**Sg**	08 27 30.6	+0.3
DSF	**Desfina**	**0.30**	**188**	P	**Pg**	08 27 25.3	-1.5
DSF				S	**Sg**	08 27 30.6	+0.3
LKR	**Lokris**	**0.34**	**100**	*e*PB	**Pg**	08 27 26.8	-0.6
LKR				*e*SB	**Sg**	08 27 32.6	+1.2
LKR	**Lokris**	**0.34**	**100**	P	**Pg**	08 27 26.7	-0.7
LKR				S	**Sg**	08 27 32.6	+1.2
LKR	**Lokris**	**0.34**	**100**	*e*Pb	**Pg**	08 27 26.8	-0.6
LKR				*e*Sb	**Sg**	08 27 32.6	+1.2
ATAL	**Atalanti**	**0.35**	**93**	P	**Pg**	08 27 26.9	-0.7
ATAL				S	**Sg**	08 27 32.8	+1.0
ATAL	**Atalanti**	**0.35**	**93**	P	**Pg**	08 27 26.9	-0.7
ATAL				S	**Sg**	08 27 32.8	+1.0
AGG	**Agios Georgios**	**0.37**	**328**	*e*PB	**Pg**	08 27 26.7	-1.3
AGG				*e*SB	**Sg**	08 27 32.2	-0.2
AGG	**Agios Georgios**	**0.37**	**328**	P	**Pg**	08 27 26.6	-1.4
AGG				S	**Sg**	08 27 32.0	-0.4
AGG	**Agios Georgios**	**0.37**	**328**	*e*Pb	**Pg**	08 27 26.7	-1.3
AGG				*e*Sb	**Sg**	08 27 32.2	-0.2
MAKR	**Makrakomi, Fth**	**0.46**	**311**	P	**Pg**	08 27 28.3	-1.4
MAKR				S	**Sg**	08 27 35.2	-0.3
MAKR	**Makrakomi, Fth**	**0.46**	**311**	P	**Pg**	08 27 28.3	-1.4
MAKR				S	**Sg**	08 27 35.2	-0.3
KALE	**Kalithea**	**0.47**	**227**	P	**Pg**	08 27 28.1	-1.7
KALE				S	**Sg**	08 27 35.4	-0.3
KALE	**Kalithea**	**0.47**	**227**	P	**Pg**	08 27 28.1	-1.7
KALE				S	**Sg**	08 27 35.4	-0.3
EFP	**Efpalio**	**0.60**	**242**	*e*PN	**Pg**	08 27 31.0	-1.2
EFP				*e*SN	**Sg**	08 27 40.0	+0.1
EFP	**Efpalio**	**0.60**	**242**	P	**Pg**	08 27 30.1	-2.1
EFP				S	**Sg**	08 27 39.8	-0.1
EFP	**Efpalio**	**0.60**	**242**	P	**Pg**	08 27 30.1	-2.1
EFP	**Efpalio**	**0.60**	**242**	*e*Pn	**Pg**	08 27 31.0	-1.2
EFP				*e*Sn	**Sg**	08 27 40.0	+0.1
EVR	**Evrytania**	**0.64**	**289**	*e*PN	**Pg**	08 27 31.5	-1.4
EVR	**Evrytania**	**0.64**	**289**	P	**Pg**	08 27 31.4	-1.5
EVR				S	**Sg**	08 27 41.5	+0.4
EVR	**Evrytania**	**0.64**	**289**	*e*Pn	**Pg**	08 27 31.5	-1.4
LAKA	**Lakka**	**0.67**	**225**	P	**Pg**	08 27 31.4	-2.1
LAKA				S	**Sg**	08 27 41.8	-0.2
LAKA	**Lakka**	**0.67**	**225**	P	**Pg**	08 27 31.4	-2.1
LAKA				S	**Sg**	08 27 41.8	-0.2
LTK	**Loutraki**	**0.75**	**156**	*e*PN	**Pg**	08 27 34.6	-0.5
LTK				*e*SN	**Sg**	08 27 45.3	+0.5
LTK	**Loutraki**	**0.75**	**156**	P	**Pg**	08 27 33.2	-1.9
LTK				S	**Sg**	08 27 45.8	+1.0
LTK	**Loutraki**	**0.75**	**156**	P	**Pg**	08 27 33.2	-1.9
LTK	**Loutraki**	**0.75**	**156**	*e*Pn	**Pg**	08 27 34.6	-0.5
LTK				S	**Sg**	08 27 45.8	+1.0
LTK				*e*Sn	**Sg**	08 27 46.3	+1.5
UPR	**University Cam**	**0.75**	**236**	*e*PN	**Pg**	08 27 34.0	-1.2
UPR	**University Cam**	**0.75**	**236**	P	**Pg**	08 27 33.2	-2.0
UPR				S	**Sg**	08 27 44.8	0.0
UPR	**University Cam**	**0.75**	**236**	P	**Pg**	08 27 33.2	-2.0
UPR	**University Cam**	**0.75**	**236**	*e*Pn	**Pg**	08 27 34.0	-1.2
NEO	**Neokhori**	**0.78**	**40**	*e*PN	**Pg**	08 27 34.3	-1.3
NEO				*e*SN	**Sg**	08 27 45.8	+0.1
NEO	**Neokhori**	**0.78**	**40**	P	**Pg**	08 27 34.2	-1.4
NEO				S	**Sg**	08 27 46.4	+0.7
NEO	**Neokhori**	**0.78**	**40**	*e*Pn	**Pg**	08 27 34.3	-1.3
NEO				S	**Sg**	08 27 46.4	+0.7
MRKA	**Markates**	**0.79**	**90**	P	**Pg**	08 27 34.4	-1.4
MRKA				S	**Sg**	08 27 46.9	+0.9
MRKA	**Markates**	**0.79**	**90**	P	**Pg**	08 27 34.4	-1.4
MRKA				S	**Sg**	08 27 46.9	+0.9
GUR	**Goura**	**0.80**	**194**	*e*PN	**Pg**	08 27 34.5	-1.4
GUR	**Goura**	**0.80**	**194**	P	**Pg**	08 27 34.4	-1.5
GUR				S	**Sg**	08 27 46.6	+0.4
GUR	**Goura**	**0.80**	**194**	*e*Pn	**Pg**	08 27 34.5	-1.4
GUR				S	**Sg**	08 27 46.6	+0.4
XOR	**Xorichti**	**0.81**	**36**	P	**Pb**	08 27 34.9	-1.3
XOR				S	**Sg**	08 27 46.6	-0.1
XOR	**Xorichti**	**0.81**	**36**	P	**Pb**	08 27 34.9	-1.3
XOR				S	**Sg**	08 27 46.6	-0.1
SKIA	**Skiathos**	**0.83**	**56**	P	**Pb**	08 27 35.5	-1.0
SKIA				S	**Sb**	08 27 48.2	+0.7
SKIA	**Skiathos**	**0.83**	**56**	P	**Pb**	08 27 35.5	-1.0
SKIA				S	**Sb**	08 27 48.2	+0.7
THL	**Klokotos Trika**	**0.96**	**333**	*e*PN	**Pg**	08 27 37.2	-1.8
THL				*e*SN	**Sg**	08 27 51.0	-0.4
THL	**Klokotos Trika**	**0.96**	**333**	P	**Pb**	08 27 37.1	-1.7
THL				S	**Sb**	08 27 52.8	+1.6
THL	**Klokotos Trika**	**0.96**	**333**	*e*Pn	**Pg**	08 27 37.2	-1.8
THL				*e*Sn	**Sg**	08 27 51.8	+0.4
RLS	**Riolos of Patr**	**1.09**	**234**	*e*PN	**Pg**	08 27 40.0	-1.5
RLS				*e*SN	**Sg**	08 27 55.7	+0.1
RLS	**Riolos of Patr**	**1.09**	**234**	P	**Pb**	08 27 39.4	-1.6
RLS				S	**Sb**	08 27 56.3	+1.3
RLS	**Riolos of Patr**	**1.09**	**234**	P	**Pb**	08 27 39.4	-1.6
RLS	**Riolos of Patr**	**1.09**	**234**	*e*Pn	**Pg**	08 27 40.0	-1.5
RLS				*e*Sn	**Sg**	08 27 56.1	+0.5
AOS	**Alonnisos**	**1.11**	**65**	P	**Pb**	08 27 40.3	-1.1
AOS				S	**Sb**	08 27 56.0	+0.3
AOS	**Alonnisos**	**1.11**	**65**	P	**Pb**	08 27 40.3	-1.1
AOS				S	**Sb**	08 27 56.0	+0.3
ATH	**Athens Observa**	**1.16**	**129**	*e*PN	**Pn**	08 27 41.7	-0.4
ATH				*e*SN	**Sn**	08 27 57.5	-0.2
ATH	**Athens Observa**	**1.16**	**129**	P	**Pn**	08 27 40.9	-1.2
ATH				S	**Sb**	08 27 58.6	+1.6
ATH	**Athens Observa**	**1.16**	**129**	P	**Pn**	08 27 40.9	-1.2
ATH	**Athens Observa**	**1.16**	**129**	*e*Pn	**Pn**	08 27 41.7	-0.4
ATH				*e*Sn	**Sn**	08 27 57.5	-0.2
ATH				S	**Sb**	08 27 58.6	+1.6
NAIG	**Nisos Aigina**	**1.19**	**143**	*e*PN	**Pn**	08 27 41.7	-0.8
NAIG	**Nisos Aigina**	**1.19**	**143**	*e*Pn	**Pn**	08 27 41.7	-0.8
PTL	**Penteli**	**1.21**	**123**	*e*PN	**Pn**	08 27 42.5	-0.3
PTL				*e*SN	**Sn**	08 27 59.2	+0.4
PTL	**Penteli**	**1.21**	**123**	P	**Pn**	08 27 42.3	-0.5
PTL	**Penteli**	**1.21**	**123**	P	**Pn**	08 27 42.3	-0.5
PTL	**Penteli**	**1.21**	**123**	*e*Pn	**Pn**	08 27 42.7	-0.1
PTL				*e*Sn	**Sn**	08 27 59.4	+0.6
VLY	**Voula,Athens**	**1.28**	**131**	*e*PN	**Pn**	08 27 43.3	-0.3
VLY				*e*SN	**Sn**	08 28 01.5	+0.8
VLY	**Voula,Athens**	**1.28**	**131**	P	**Pn**	08 27 43.1	-0.7
VLY	**Voula,Athens**	**1.28**	**131**	P	**Pn**	08 27 43.1	-0.7
VLY	**Voula,Athens**	**1.28**	**131**	*e*Pn	**Pn**	08 27 43.5	-0.3
VLY				*e*Sn	**Sn**	08 28 00.5	-0.2
DID	**Didima**	**1.31**	**156**	*e*PN	**Pn**	08 27 43.7	-0.5
DID				*e*SN	**Sn**	08 28 02.5	+1.1
DID	**Didima**	**1.31**	**156**	P	**Pn**	08 27 43.4	-0.8
DID				S	**Sb**	08 28 02.0	+0.7
DID	**Didima**	**1.31**	**156**	*e*Pn	**Pn**	08 27 43.5	-0.7
DID				S	**Sb**	08 28 02.0	+0.7
DID				*e*Sn	**Sn**	08 28 02.5	+1.1
DIDY	**Didyma**	**1.33**	**158**	P	**Pn**	08 27 43.7	-0.8
DIDY				S	**Sn**	08 28 03.0	+1.1
DIDY	**Didyma**	**1.33**	**158**	P	**Pn**	08 27 43.7	-0.8
DIDY				S	**Sn**	08 28 03.0	+1.1
VLX	**Vlachokerasia**	**1.35**	**187**	*e*PN	**Pn**	08 27 44.5	-0.2
VLX	**Vlachokerasia**	**1.35**	**187**	P	**Pn**	08 27 44.4	-0.3
VLX	**Vlachokerasia**	**1.35**	**187**	*e*Pn	**Pn**	08 27 44.5	-0.2
LIT	**Litokhoron**	**1.39**	**357**	*e*PN	**Pn**	08 27 44.6	-0.7
LIT	**Litokhoron**	**1.39**	**357**	P	**Pn**	08 27 44.4	-0.9
LIT				S	**Sn**	08 28 03.6	+0.3
LIT	**Litokhoron**	**1.39**	**357**	*e*Pn	**Pn**	08 27 44.6	-0.7
LIT				S	**Sn**	08 28 03.6	+0.3
PAIG	**Paliouri**	**1.48**	**35**	P	**Pn**	08 27 45.2	-1.4
PAIG	**Paliouri**	**1.48**	**35**	P	**Pn**	08 27 45.2	-1.4
MEV	**Metsovon**	**1.50**	**316**	P	**Pn**	08 27 47.0	+0.2
MEV	**Metsovon**	**1.50**	**316**	P	**Pn**	08 27 47.0	+0.2
LKD2	**Lefkada island**	**1.50**	**274**	P	**Pn**	08 27 47.8	+1.0
LKD2	**Lefkada island**	**1.50**	**274**	P	**Pn**	08 27 47.8	+1.0
KFL	**Anninata**	**1.53**	**247**	P	**Pn**	08 27 48.4	+1.2
KFL	**Anninata**	**1.53**	**247**	P	**Pn**	08 27 48.4	+1.2
MRMA	**Marmari**	**1.56**	**114**	P	**Pn**	08 27 47.3	-0.3
MRMA				S	**Sn**	08 28 07.7	+0.2
MRMA	**Marmari**	**1.56**	**114**	P	**Pn**	08 27 47.3	-0.3
MRMA				S	**Sn**	08 28 07.7	+0.2
ITM	**Ithomi**	**1.61**	**199**	*e*PN	**Pn**	08 27 48.8	+0.5
ITM	**Ithomi**	**1.61**	**199**	P	**Pn**	08 27 49.4	+1.1
ITM	**Ithomi**	**1.61**	**199**	*e*Pn	**Pn**	08 27 48.8	+0.5
ITM	**Ithomi**	**1.61**	**199**	P	**Pn**	08 27 49.4	+1.1
JAN	**Janina**	**1.64**	**306**	P	**Pn**	08 27 49.0	+0.3
JAN	**Janina**	**1.64**	**306**	P	**Pn**	08 27 49.0	+0.3
VLS	**Valsamata**	**1.65**	**252**	*e*PN	**Pn**	08 27 49.4	+0.5
VLS	**Valsamata**	**1.65**	**252**	P	**Pn**	08 27 49.7	+0.8
VLS	**Valsamata**	**1.65**	**252**	P	**Pn**	08 27 49.7	+0.8
VLS	**Valsamata**	**1.65**	**252**	*e*Pn	**Pn**	08 27 50.0	+1.1
KZN	**Kozani**	**1.71**	**339**	*e*PN	**Pn**	08 27 49.6	-0.1
KZN	**Kozani**	**1.71**	**339**	P	**Pn**	08 27 49.5	-0.2
KZN	**Kozani**	**1.71**	**339**	*e*Pn	**Pn**	08 27 49.6	-0.1
PLG	**Polygyros**	**1.79**	**22**	*e*PB	**Pn**	08 27 49.8	-1.0
PLG	**Polygyros**	**1.79**	**22**	P	**Pn**	08 27 49.5	-1.3
PLG	**Polygyros**	**1.79**	**22**	P	**Pn**	08 27 49.5	-1.3
RGA	**Parga**	**1.84**	**290**	P	**Pn**	08 27 50.9	-0.5
RGA	**Parga**	**1.84**	**290**	P	**Pn**	08 27 50.9	-0.5
HORT	**Hortiatis**	**1.93**	**12**	P	**Pn**	08 27 51.5	-1.2
HORT	**Hortiatis**	**1.93**	**12**	P	**Pn**	08 27 51.5	-1.2
IGT	**Igoumenitsa**	**1.93**	**296**	P	**Pn**	08 27 54.8	+2.1
PYL	**PYLOS**	**1.93**	**200**	*e*PN	**Pn**	08 27 53.0	+0.3
PYL	**PYLOS**	**1.93**	**200**	P	**Pn**	08 27 54.0	+1.3
PYL	**PYLOS**	**1.93**	**200**	*e*Pn	**Pn**	08 27 54.0	+1.3
THE	**Thessaloniki**	**1.94**	**9**	P	**Pn**	08 27 52.5	-0.4
THE	**Thessaloniki**	**1.94**	**9**	P	**Pn**	08 27 52.5	-0.4
OUR	**Ouranopolis**	**1.95**	**33**	P	**Pn**	08 27 52.1	-0.9
OUR	**Ouranopolis**	**1.95**	**33**	P	**Pn**	08 27 52.1	-0.9
VLI	**Veliai**	**2.01**	**172**	*e*PB	**Pn**	08 27 53.5	-0.3
VLI	**Veliai**	**2.01**	**172**	P	**Pn**	08 27 53.7	-0.1
VLI	**Veliai**	**2.01**	**172**	*e*Pb	**Pn**	08 27 53.1	-0.7
VLI	**Veliai**	**2.01**	**172**	P	**Pn**	08 27 53.7	-0.1
NEST	**Nestorio**	**2.07**	**326**	P	**Pn**	08 27 55.1	+0.4
NEST	**Nestorio**	**2.07**	**326**	P	**Pn**	08 27 55.1	+0.4
LSK	**Leskovik**	**2.10**	**314**	*e*PN	**Pg**	08 27 58.2	-2.6
LSK				*i* SN	**Sg**	08 28 25.7	-2.3
LSK	**Leskovik**	**2.10**	**314**	*e*Pn	**Pg**	08 27 58.2	-2.6
LSK				*i* Sn	**Sg**	08 28 25.7	-2.3
SOH	**Sokhos**	**2.19**	**16**	*e*PN	**Pn**	08 27 56.2	-0.1
SOH				*e*SN	**Sn**	08 28 23.7	+0.6
SOH	**Sokhos**	**2.19**	**16**	P	**Pn**	08 27 56.5	+0.2
SOH	**Sokhos**	**2.19**	**16**	*e*Pn	**Pn**	08 27 56.2	-0.1
SOH	**Sokhos**	**2.19**	**16**	P	**Pn**	08 27 56.5	+0.2
SOH				*e*Sn	**Sn**	08 28 24.0	+0.9
FNA	**Florina**	**2.27**	**336**	P	**Pn**	08 27 57.3	-0.1
FNA				S	**Sn**	08 28 26.7	+1.7
FNA	**Florina**	**2.27**	**336**	P	**Pn**	08 27 57.3	-0.1
FNA				S	**Sn**	08 28 26.7	+1.7
SRN	**Sarande**	**2.32**	**301**	*e*PN	**Pg**	08 28 02.2	-2.7
SRN				*i* SN	**Sg**	08 28 38.2	+3.3
SRN	**Sarande**	**2.32**	**301**	*e*Pn	**Pg**	08 28 02.2	-2.7
SRN				*i* Sn	**Sg**	08 28 38.2	+3.3
LIA	**Limnos Island**	**2.34**	**59**	P	**Pn**	08 27 57.4	-1.0
LIA	**Limnos Island**	**2.34**	**59**	P	**Pn**	08 27 57.4	-1.0
KBN	**Korca**	**2.36**	**325**	*e*PN	**Pn**	08 28 00.2	+1.6
KBN				*i* SN	**Sg**	08 28 40.3	+4.0
KBN	**Korca**	**2.36**	**325**	*e*Pn	**Pn**	08 28 00.2	+1.6
KBN				*i* Sn	**Sg**	08 28 40.3	+4.0
KEK	**Kerkira**	**2.38**	**296**	P	**Pn**	08 28 00.4	+1.5
KEK	**Kerkira**	**2.38**	**296**	Pn	**Pn**	08 28 02.0	+3.1
KEK	**Kerkira**	**2.38**	**296**	Pn	**Pn**	08 28 02.0	+3.1
KYTH	**Kithira**	**2.45**	**171**	P	**Pn**	08 27 59.7	-0.2
KYTH	**Kithira**	**2.45**	**171**	P	**Pn**	08 27 59.7	-0.2
KNT	**Kendrikon**	**2.46**	**6**	P	**Pn**	08 27 59.7	-0.3
KNT	**Kendrikon**	**2.46**	**6**	P	**Pn**	08 27 59.7	-0.3
BIA	**Bitola**	**2.50**	**338**	*e*Pn	**Pn**	08 28 00.7	+0.2
BIA	**Bitola**	**2.50**	**338**	*e*Pn	**Pn**	08 28 00.7	+0.2
SRS	**Serrai**	**2.53**	**18**	P	**Pn**	08 28 00.3	-0.6
SRS	**Serrai**	**2.53**	**18**	P	**Pn**	08 28 00.3	-0.6
SIGR	**SIGRI**	**2.60**	**78**	P	**Pn**	08 28 01.4	-0.6
SIGR	**SIGRI**	**2.60**	**78**	P	**Pn**	08 28 01.4	-0.6
VAY	**Valandovo**	**2.61**	**360**	⇓*i*Pn	**Pn**	08 28 01.2	-0.8
VAY	**Valandovo**	**2.61**	**360**	*i* Pn	**Pn**	08 28 01.2	-0.8
VAY	**Valandovo**	**2.61**	**360**	⇓*i*Pn	**Pn**	08 28 01.2	-0.8
KAVA	**Kavala**	**2.73**	**33**	P	**Pn**	08 28 03.2	-0.4
KAVA	**Kavala**	**2.73**	**33**	P	**Pn**	08 28 03.2	-0.4
CHOS	**Chios island**	**2.75**	**96**	*e*PN	**Pn**	08 28 03.9	0.0
CHOS	**Chios island**	**2.75**	**96**	P	**Pn**	08 28 03.9	0.0
CHOS	**Chios island**	**2.75**	**96**	*e*Pn	**Pn**	08 28 03.9	0.0
NVR	**Nevrokopi**	**2.81**	**20**	P	**Pn**	08 28 04.7	-0.2
NVR	**Nevrokopi**	**2.81**	**20**	P	**Pn**	08 28 04.7	-0.2
KRUS	**Krusevo**	**2.84**	**339**	*i* Pn	**Pn**	08 28 05.4	+0.1
KRUS	**Krusevo**	**2.84**	**339**	*i* Pn	**Pn**	08 28 05.3	0.0
APE	**Apeiranthos**	**2.85**	**124**	*e*PN	**Pn**	08 28 05.5	+0.1
APE				*e*SN	**Sn**	08 28 43.5	+4.1
APE	**Apeiranthos**	**2.85**	**124**	P	**Pn**	08 28 05.2	-0.2
APE	**Apeiranthos**	**2.85**	**124**	⇓P	**Pn**	08 28 06.3	+0.9
APE	**Apeiranthos**	**2.85**	**124**	⇓*i*P	**Pn**	08 28 06.3	+0.9
APE	**Apeiranthos**	**2.85**	**124**	P	**Pn**	08 28 05.2	-0.2
APE	**Apeiranthos**	**2.85**	**124**	*e*Pn	**Pn**	08 28 05.5	+0.1
APE				*e*Sn	**Sn**	08 28 43.5	+4.0
BOZC	**Bozcaada**	**2.92**	**66**	*i* P	**Pn**	08 28 05.3	-1.0
PRK	**Paraskevi**	**2.93**	**78**	P	**Pn**	08 28 06.0	-0.4
PRK	**Paraskevi**	**2.93**	**78**	P	**Pn**	08 28 06.0	-0.4
VLO	**Vlora**	**2.96**	**307**	*e*PN	**Pg**	08 28 14.6	-2.6
VLO				*i* SN	**Sg**	08 29 03.0	+7.5
VLO	**Vlora**	**2.96**	**307**	*e*Pn	**Pg**	08 28 14.6	-2.6
VLO				*i* Sn	**Sg**	08 29 03.0	+7.5
EZN	**Ezine**	**3.11**	**68**	*e*PN	**Pn**	08 28 09.5	+0.5
EZN				*e*SN	**Sn**	08 28 51.9	+6.0
EZN	**Ezine**	**3.11**	**68**	*e*Pn	**Pn**	08 28 09.5	+0.5
EZN				*e*Sn	**Sn**	08 28 51.9	+6.0
URLA	**Izmir**	**3.17**	**95**	*i* P	**Pn**	08 28 09.1	-0.7
URLA	**Izmir**	**3.17**	**95**	*i* P	**Pn**	08 28 09.1	-0.6
THR2	**Thira island,**	**3.20**	**134**	P	**Pn**	08 28 10.4	+0.2
THR2	**Thira island,

BUM	Brajici-Budva	4.55	323	⇑iPn	Pn	08 28 29.3	+0.5
BUM				eSn	Sn	08 29 22.0	+0.6
ZAPS	Zavoj	4.56	1	⇓iPn	Pn	08 28 29.5	+0.7
TIP	Timpagrande	4.56	278	ePn	Pn	08 28 29.4	+0.5
TIP	Timpagrande	4.56	278	Pn	Pn	08 28 29.2	+0.3
TIP	Timpagrande	4.56	278	Pn	Pn	08 28 29.2	+0.3
IVA	Berane	4.63	335	⇑iPn	Pn	08 28 30.8	+1.0
IVA				eSn	Sn	08 29 24.1	+0.9
BEY	Berane	4.63	335	⇑iPn	Pn	08 28 30.8	+1.0
BEY				eSn	Sn	08 29 24.1	+0.9
SELS	Selova	4.64	347	⇑iPn	Pn	08 28 29.2	-0.7
CRLT	Corlu	4.64	57	ePN	Pn	08 28 30.8	+0.8
CRLT	Corlu	4.64	57	ePn	Pn	08 28 30.8	+0.8
MANT	Manisa	4.69	91	iP	Pn	08 28 31.7	+1.1
MANT	Manisa	4.69	91	iP	Pn	08 28 31.7	+1.1
NOCI	Noci 626nm,0.7s	4.73	298	Pn	Pn	08 28 31.6	+0.4
NOCI	Noci 626nm,0.7s	4.73	298	Pn	Pn	08 28 31.6	+0.4
KCTX	Karacabey (Bur	4.73	69	ePN	Pn	08 28 32.9	+1.6
KCTX	Karacabey (Bur	4.73	69	ePn	Pn	08 28 32.9	+1.7
KULA	Kula-Manisa	4.77	90	ePN	Pn	08 28 33.7	+2.0
KULA	Kula-Manisa	4.77	90	ePn	Pn	08 28 33.7	+2.0
YER	Yerkesik	4.78	107	ePN	Pn	08 28 34.0	+2.2
YER	Yerkesik	4.78	107	ePn	Pn	08 28 34.0	+2.2
DST	Dursunbey	4.78	77	ePN	Pn	08 28 33.1	+1.2
DST	Dursunbey	4.78	77	ePn	Pn	08 28 33.1	+1.2
DEMI	Demirci	4.80	84	iP	Pn	08 28 33.2	+1.1
DEMI	Demirci	4.80	84	iP	Pn	08 28 33.2	+1.0
GRI	Girifalco	4.81	273	Pn	Pn	08 28 32.9	+0.5
GRI	Girifalco	4.81	273	Pn	Pn	08 28 32.9	+0.5
PLAC	Placanica	4.82	269	Pn	Pn	08 28 33.7	+1.3
PLAC	Placanica	4.82	269	Pn	Pn	08 28 33.7	+1.3
JMB	Yambol	4.83	38	⇓iPn	Pn	08 28 31.6	-1.0
JMB	Yambol	4.83	38	P	Pn	08 28 32.4	-0.2
JMB	Yambol	4.83	38	⇓iPn	Pn	08 28 31.6	-1.0
JMB	Yambol	4.83	38	P	Pn	08 28 32.4	-0.2
KARP	Karpathos	4.83	129	P	Pn	08 28 34.5	+1.9
KARP	Karpathos	4.83	129	P	Pn	08 28 34.5	+1.9
HCY	Herceg Novi	4.86	321	⇑iPn	Pn	08 28 33.5	+0.6
HCY				eSn	Sn	08 29 29.2	+0.3
HCY	Herceg Novi	4.86	321	⇑iPn	Pn	08 28 33.5	+0.6
HCY				eSn	Sn	08 29 29.2	+0.3
NKY	Niksic	4.92	328	⇑iPn	Pn	08 28 34.1	+0.3
NKY				eSn	Sn	08 29 31.5	+1.1
NKY	Niksic	4.92	328	⇑iPn	Pn	08 28 34.1	+0.3
NKY				eSn	Sn	08 29 31.5	+1.1
MATE	Matera 571nm,0.8s	4.93	295	Pn	Pn	08 28 35.4	+1.5
MATE	Matera 571nm,0.8s	4.93	295	Pn	Pn	08 28 35.4	+1.5
SJES	Sjenica	4.95	337	ePn	Pn	08 28 35.1	+0.8
CARO	Carolei	4.99	278	Pn	Pn	08 28 36.8	+2.1
CARO	Carolei	4.99	278	Pn	Pn	08 28 36.8	+2.1
SLVT	Silivri	5.00	58	ePN	Pn	08 28 35.8	+0.9
SLVT	Silivri	5.00	58	ePn	Pn	08 28 35.8	+0.8
CRAC	Craco 2µm,1.1s	5.03	291	Pn	Pn	08 28 36.3	+1.0
CRAC	Craco 2µm,1.1s	5.03	291	Pn	Pn	08 28 36.3	+1.0
AMUR	Altamura 698nm,0.8s	5.10	297	Pn	Pn	08 28 36.2	0.0
AMUR	Altamura 698nm,0.8s	5.10	297	Pn	Pn	08 28 36.2	0.0
TURN	Turunc	5.11	109	iP	Pn	08 28 35.0	-1.4
TURN	Turunc	5.11	109	iP	Pn	08 28 35.0	-1.5
ELBA	Catalca	5.11	60	iP	Pn	08 28 35.0	-1.4
ELBA	Catalca	5.11	60	iP	Pn	08 28 35.0	-1.5
BOLS	Boljevac	5.13	355	⇓iPn	Pn	08 28 35.0	-1.7
BOLS	Boljevac	5.13	355	⇓iPn	Pn	08 28 35.0	-1.7
MDNY	Mudanya-Bursa	5.15	69	ePN	Pn	08 28 39.0	+2.0
MDNY	Mudanya-Bursa	5.15	69	ePn	Pn	08 28 39.0	+2.1
SOI	Samo	5.17	265	Pn	Pn	08 28 39.2	+2.0
SOI	Samo	5.17	265	Pn	Pn	08 28 39.2	+2.0
DENT	Denizli	5.17	99	ePN	Pn	08 28 39.3	+2.0
DENT	Denizli	5.17	99	ePn	Pn	08 28 39.3	+2.0
CTYL	Yal??k??y-??at	5.18	56	ePN	Pn	08 28 38.1	+0.8
CTYL	Yal??k??y-??at	5.18	56	ePn	Pn	08 28 38.1	+0.8
BRY	Bratogost	5.19	325	⇑iPn	Pn	08 28 37.7	+0.2
BRY				eSn	Sn	08 29 36.7	-0.3
BRY	Bratogost	5.19	325	⇑iPn	Pn	08 28 37.7	+0.2
BRY				eSn	Sn	08 29 36.7	-0.3
ARMT	Armutlu	5.19	67	ePN	Pn	08 28 39.6	+2.1
ARMT	Armutlu	5.19	67	ePn	Pn	08 28 39.6	+2.1
IVAS	Ivanjica	5.19	340	ePn	Pn	08 28 37.5	-0.1
DNZL	Cakiroluk	5.20	99	iP	Pn	08 28 39.4	+1.8
DNZL	Cakiroluk	5.20	99	iP	Pn	08 28 39.4	+1.8
CTKS	Kestanelik-??a	5.21	59	ePN	Pn	08 28 39.3	+1.6
CTKS	Kestanelik-??a	5.21	59	ePn	Pn	08 28 39.3	+1.6
PLE	Pljevlja	5.21	333	⇑iPn	Pn	08 28 38.3	+0.6
PLE				eSn	Sn	08 29 38.0	+0.6
PLE	Pljevlja	5.21	333	⇑iPn	Pn	08 28 38.3	+0.6
PLE				eSn	Sn	08 29 38.0	+0.6
MPAZ	Palizzi	5.22	264	Pn	Pn	08 28 39.1	+1.1
MPAZ	Palizzi	5.22	264	Pn	Pn	08 28 39.1	+1.1
JOPP	Joppolo	5.24	271	Pn	Pn	08 28 40.3	+2.1
JOPP	Joppolo	5.24	271	Pn	Pn	08 28 40.3	+2.1
SCHR	S. Chirico Rap 759nm,0.9s	5.25	288	Pn	Pn	08 28 39.4	+1.1
CEL	Celeste	5.26	267	ePn	Pn	08 28 39.6	+1.1
CEL	Celeste	5.26	267	Pn	Pn	08 28 40.4	+1.9
CEL	Celeste	5.26	267	ePn	Pn	08 28 39.6	+1.1
ULDT	Uludag	5.28	72	iP	Pn	08 28 38.8	+0.1
ULDT	Uludag	5.28	72	iP	Pn	08 28 38.8	+0.1
UPM	Unac-Piva	5.28	329	⇑iPn	Pn	08 28 39.9	+1.2
UPM				eSn	Sn	08 29 39.4	+0.2
UPM	Unac-Piva	5.28	329	⇑iPn	Pn	08 28 39.9	+1.2
UPM				eSn	Sn	08 29 39.4	+0.2
PTRP	Pietrapertosa 6µm,2.8s	5.35	292	Pn	Pn	08 28 40.5	+0.8
PTRP	Pietrapertosa 6µm,2.8s	5.35	292	Pn	Pn	08 28 40.5	+0.8
MSCL	Scilla	5.35	267	Pn	Pn	08 28 41.5	+1.8
MSCL	Scilla	5.35	267	Pn	Pn	08 28 41.5	+1.8
GRUS	Gruza	5.36	345	ePn	Pn	08 28 39.5	-0.3
GRUS				eSn	Sn	08 29 38.5	-2.7
GRUS	Gruza	5.36	345	ePn	Pn	08 28 39.5	-0.3
GRUS				eSn	Sn	08 29 38.5	-2.7
BGKT	Bogazkoy	5.36	61	ePN	Pn	08 28 42.0	+2.1
BGKT	Bogazkoy	5.36	61	ePn	Pn	08 28 42.0	+2.1
ZIMR		5.37	22	⇑iP	Pn	08 28 40.3	+0.3
GEMT	Gemlik	5.39	69	ePN	Pn	08 28 42.7	+2.4
GEMT	Gemlik	5.39	69	ePn	Pn	08 28 42.7	+2.4
CUC	Castrocucco	5.40	286	ePn	Pn	08 28 41.8	+1.5
CUC	Castrocucco 1µm,0.7s	5.40	286	Pn	Pn	08 28 41.8	+1.5
CUC	Castrocucco	5.40	286	ePn	Pn	08 28 41.8	+1.5
GDZ	Gediz	5.40	84	iP	Pn	08 28 40.5	+0.1
GDZ	Gediz	5.40	84	iP	Pn	08 28 40.5	+0.1
SIRI	Monte Sirino - 881nm,0.6s	5.40	288	Pn	Pn	08 28 42.0	+1.6
SIRI	Monte Sirino - 881nm,0.6s	5.40	288	Pn	Pn	08 28 42.0	+1.6
KHAL	Karahalli	5.43	91	iP	Pn	08 28 42.6	+1.7
KHAL	Karahalli	5.43	91	iP	Pn	08 28 42.6	+1.8
MRVN	Minervino Murg 534nm,0.8s	5.44	298	Pn	Pn	08 28 41.2	+0.2
MRVN	Minervino Murg 534nm,0.8s	5.44	298	Pn	Pn	08 28 41.2	+0.2
MTTG	Motta San Giov	5.46	265	Pn	Pn	08 28 41.9	+0.7
MTTG	Motta San Giov	5.46	265	Pn	Pn	08 28 41.9	+0.7
MCEL	Monticello 1µm,0.7s	5.48	289	Pn	Pn	08 28 43.3	+1.8
MCEL	Monticello 1µm,0.7s	5.48	289	Pn	Pn	08 28 43.3	+1.8
ISK	Istanbul-Kandi	5.51	63	ePN	Pn	08 28 43.5	+1.6
ISK	Istanbul-Kandi	5.51	63	ePn	Pn	08 28 43.5	+1.6
PALZ	Palazzo San Ge 5µm,1.4s	5.56	296	Pn	Pn	08 28 43.3	+0.7
PALZ	Palazzo San Ge 5µm,1.4s	5.56	296	Pn	Pn	08 28 43.3	+0.7
YLV	Yalova	5.56	68	ePN	Pn	08 28 43.5	+0.9
YLV	Yalova	5.56	68	ePn	Pn	08 28 43.5	+0.9
STON	Ston	5.56	320	ePn	Pn	08 28 41.9	-0.8
STON				Sn	Sn	08 29 41.5	-4.7
PZUN	Potenza	5.57	292	Pn	Pn	08 28 44.9	+2.2
PZUN	Potenza	5.57	292	Pn	Pn	08 28 44.9	+2.2
KLYT	Kilyos	5.58	61	ePN	Pn	08 28 44.6	+1.8
KLYT	Kilyos	5.58	61	ePn	Pn	08 28 44.6	+1.8
SVIS	Svilajnac	5.64	350	⇑iPn	Pn	08 28 43.1	-0.6
BBLS	Lazići	5.68	336	ePn	Pn	08 28 45.6	+1.4
BBLS				eSn	Sn	08 29 47.5	-1.5
BBLS	Lazići	5.68	336	ePn	Pn	08 28 45.6	+1.4
BBLS				eSn	Sn	08 29 47.5	-1.5
GLHS	Glhisar (BURDU	5.69	104	ePN	Pn	08 28 46.6	+2.3
GLHS	Glhisar (BURDU	5.69	104	ePn	Pn	08 28 46.6	+2.3
GOLH	Golhisar	5.71	103	iP	Pn	08 28 47.5	+2.9
GOLH	Golhisar	5.71	103	iP	Pn	08 28 47.5	+2.8
DIVS	Divibare	5.72	341	ePn	Pn	08 28 44.4	-0.4
DIVS				eSn	Sn	08 29 47.4	-2.8
DIVS	Divibare	5.72	341	P	Pn	08 28 44.9	+0.1
DIVS	Divibare	5.72	341	ePn	Pn	08 28 44.4	-0.4
DIVS	Divibare	5.72	341	P	Pn	08 28 44.9	+0.1
DIVS				eSn	Sn	08 29 47.4	-2.8
BULG	Bulgheria - Ca 1µm,0.9s	5.74	286	Pn	Pn	08 28 46.7	+1.6
BULG	Bulgheria - Ca 1µm,0.9s	5.74	286	Pn	Pn	08 28 46.7	+1.6
TRUS	Trudelj	5.74	344	ePn	Pn	08 28 43.7	-1.4
TRUS	Trudelj	5.74	344	ePn	Pn	08 28 43.7	-1.4
ADVT	Abdulvahap	5.79	70	ePN	Pn	08 28 47.7	+1.9
ADVT	Abdulvahap	5.79	70	ePn	Pn	08 28 47.7	+1.9
MMME	Mongiuffi-Meli	5.81	265	Pn	Pn	08 28 47.9	+1.8
MMME	Mongiuffi-Meli	5.81	265	Pn	Pn	08 28 47.9	+1.8
CAVI	Cavuskoy	5.82	73	ePN	Pn	08 28 48.5	+2.4
CAVI	Cavuskoy	5.82	73	ePn	Pn	08 28 48.5	+2.4
MRLC	Muro Lucano 479nm,0.8s	5.83	293	Pn	Pn	08 28 47.6	+1.2
MRLC	Muro Lucano 479nm,0.8s	5.83	293	Pn	Pn	08 28 47.6	+1.2
CMPR	Campora 833nm,0.7s	5.85	288	Pn	Pn	08 28 48.0	+1.4
CMPR	Campora 833nm,0.7s	5.85	288	Pn	Pn	08 28 48.0	+1.4
ALT	Altintas	5.89	84	ePN	Pn	08 28 48.9	+1.8
ALT	Altintas	5.89	84	ePn	Pn	08 28 48.9	+1.8
CDRU	Civita di Ruta 608nm,0.8s	5.89	290	Pn	Pn	08 28 48.7	+1.6
CDRU	Civita di Ruta 608nm,0.8s	5.89	290	Pn	Pn	08 28 48.7	+1.6
SGO	Sicignano 457nm,0.8s	5.91	290	Pn	Pn	08 28 47.8	+0.4
SGO	Sicignano 457nm,0.8s	5.91	290	Pn	Pn	08 28 47.8	+0.4
MSAG	Monte S. Angel	5.92	303	Pn	Pn	08 28 47.4	-0.1
MSAG	Monte S. Angel	5.92	303	Pn	Pn	08 28 47.4	-0.1
DJES	Djerdap	5.95	360	ePn	Pn	08 28 47.1	-0.8
AGST	Augusta-Monte	5.99	258	Pn	Pn	08 28 47.7	-0.8
AGST	Augusta-Monte	5.99	258	Pn	Pn	08 28 47.7	-0.8
HAGA	Augusta	6.03	259	Pn	Pn	08 28 47.3	-1.8
HAGA	Augusta	6.03	259	Pn	Pn	08 28 47.3	-1.8
SGTA	Sant Agata di 1µm,1.0s	6.05	296	Pn	Pn	08 28 50.7	+1.4
SGTA	Sant Agata di 1µm,1.0s	6.05	296	Pn	Pn	08 28 50.7	+1.4
MCRV	Calabrutti - M 849nm,0.8s	6.07	292	Pn	Pn	08 28 51.1	+1.5
MCRV	Calabrutti - M 849nm,0.8s	6.07	292	Pn	Pn	08 28 51.1	+1.5
HUMR	Humele	6.08	16	⇑iP	Pn	08 28 51.0	+1.2
HUMR	Humele	6.08	16	⇑iP	Pn	08 28 51.0	+1.2
SNAL	S. Angelo Dei	6.09	294	Pn	Pn	08 28 52.2	+2.3
SNAL	S. Angelo Dei	6.09	294	Pn	Pn	08 28 52.2	+2.3
CAFE	Carife 376nm,0.8s	6.10	295	Pn	Pn	08 28 51.8	+1.7
CAFE	Carife 376nm,0.8s	6.10	295	Pn	Pn	08 28 51.8	+1.7
HCRL	Carlentini	6.13	259	Pn	Pn	08 28 49.0	-1.4
HCRL	Carlentini	6.13	259	Pn	Pn	08 28 49.0	-1.4
ELL	Elmali	6.13	106	ePN	Pn	08 28 52.6	+2.2
ELL	Elmali	6.13	106	ePn	Pn	08 28 52.6	+2.1
HAVL	Avola	6.15	256	Pn	Pn	08 28 49.2	-1.5
HAVL	Avola	6.15	256	Pn	Pn	08 28 49.2	-1.5
FG5	Orsara di Pugl 788nm,0.8s	6.17	297	Pn	Pn	08 28 50.8	-0.2
FG5	Orsara di Pugl 788nm,0.8s	6.17	297	Pn	Pn	08 28 50.8	-0.2
GPA	Golpazari	6.18	73	ePN	Pn	08 28 52.4	+1.2
GPA	Golpazari	6.18	73	ePn	Pn	08 28 52.4	+1.2
CSSN	Cassano Irpino 467nm,0.9s	6.20	293	Pn	Pn	08 28 52.7	+1.3
CSSN	Cassano Irpino 467nm,0.9s	6.20	293	Pn	Pn	08 28 52.7	+1.3
BORA	Eskisehir	6.22	77	iP	Pn	08 28 52.7	+1.1
BORA	Eskisehir	6.22	77	iP	Pn	08 28 52.7	+1.1
SHUT	Suhut-Afyon	6.25	89	ePN	Pn	08 28 54.7	+2.7
SHUT	Suhut-Afyon	6.25	89	ePn	Pn	08 28 54.7	+2.7
IFIL	Filicudi I Eol	6.28	271	Pn	Pn	08 28 54.3	+1.9
IFIL	Filicudi I Eol	6.28	271	Pn	Pn	08 28 54.3	+1.9
MOCO	Biccari - m.te 2µm,1.4s	6.28	297	Pn	Pn	08 28 53.7	+1.2
MRB1	Monte Rocchett 2µm,0.8s	6.32	295	Pn	Pn	08 28 54.1	+1.0
MRB1	Monte Rocchett 2µm,0.8s	6.32	295	Pn	Pn	08 28 54.1	+1.0
GULT	Gulveren	6.37	72	ePN	Pn	08 28 55.4	+1.7
GULT	Gulveren	6.37	72	ePn	Pn	08 28 55.4	+1.7
KORT	Korkueli	6.38	103	iP	Pn	08 28 58.3	+4.4
GALF	Gagliano Caste	6.39	263	Pn	Pn	08 28 56.7	+2.7
GALF	Gagliano Caste	6.39	263	Pn	Pn	08 28 56.7	+2.7
HVZN	Vizzini	6.40	259	Pn	Pn	08 28 54.1	0.0
HVZN	Vizzini	6.40	259	Pn	Pn	08 28 54.1	0.0
PSB1	Pescosannita 897nm,0.9s	6.47	295	Pn	Pn	08 28 57.6	+2.5
PSB1	Pescosannita 897nm,0.9s	6.47	295	Pn	Pn	08 28 57.6	+2.5
ESKT	Eskisehir	6.48	80	ePN	Pn	08 28 56.8	+1.5
ESKT	Eskisehir	6.48	80	iP	Pn	08 28 55.5	+0.2
ESKT	Eskisehir	6.48	80	ePn	Pn	08 28 56.8	+1.5
SEYT	Eskypehyr	6.48	80	iP	Pn	08 28 55.5	+0.2
BOLV	Bolvadin	6.55	87	iP	Pn	08 28 57.0	+0.8
BOLV	Bolvadin	6.55	87	iP	Pn	08 28 57.0	+0.8
CIGN	Sant'Elia a Pi 1µm,1.2s	6.57	299	Pn	Pn	08 28 57.3	+0.9
CIGN	Sant'Elia a Pi 1µm,1.2s	6.57	299	Pn	Pn	08 28 57.3	+0.9
SACR	S. Croce Del S	6.61	296	Pn	Pn	08 28 58.1	+1.1
SACR	S. Croce Del S	6.61	296	Pn	Pn	08 28 58.1	+1.1
ISOR	Termini	6.63	289	Pn	Pn	08 28 58.2	+0.9
ISOR	Termini	6.63	289	Pn	Pn	08 28 58.2	+0.9
OVO	Vesuviano	6.65	291	Pn	Pn	08 29 01.0	+3.5
OVO	Vesuviano	6.65	291	Pn	Pn	08 29 01.0	+3.5
RAFF	Raffo Rosso	6.66	260	Pn	Pn	08 28 58.7	+1.0
RAFF	Raffo Rosso	6.66	260	Pn	Pn	08 28 58.7	+1.0
PTRJ	Pietraroja 1µm,0.8s	6.72	296	Pn	Pn	08 28 59.6	+1.1
PTRJ	Pietraroja 1µm,0.8s	6.72	296	Pn	Pn	08 28 59.6	+1.1
LTBQ	Tobruq SNR=22	6.73	170	iP	Pn	08 28 58.2	-0.5
LTBQ				eS	Sn	08 30 12.0	-3.1
	90nm,0.6s,SNR=22						
BSSO	Busso	6.74	297	Pn	Pn	08 29 00.2	+1.4
BSSO	Busso	6.74	297	Pn	Pn	08 29 00.2	+1.4
SUTC	Sutluce-Ispart	6.75	98	ePN	Pn	08 29 02.0	+2.9
SUTC	Sutluce-Ispart	6.75	98	ePn	Pn	08 29 02.0	+3.0
FGSL	Fruska Gora	6.76	343	⇓iPn	Pn	08 28 58.5	-0.6
FRGS	Fruska Gora	6.76	343	⇓iPn	Pn	08 28 58.5	-0.6
LOT	Lotru	6.79	7	⇓iP	Pn	08 29 00.1	+0.6
LOT	Lotru	6.79	7	⇓iP	Pn	08 29 00.1	+0.6
SGG	Gregorio Mates	6.83	296	Pn	Pn	08 29 02.6	+2.5
SGG	Gregorio Mates	6.83	296	Pn	Pn	08 29 02.6	+2.5
TRIV	Trivento 1µm,0.7s	6.86	299	Pn	Pn	08 29 01.1	+0.7
TRIV	Trivento 1µm,0.7s	6.86	299	Pn	Pn	08 29 01.1	+0.7
FRES	Fresagrandinar 3µm,1.0s	6.86	301	Pn	Pn	08 29 01.3	+0.8
FRES	Fresagrandinar 3µm,1.0s	6.86	301	Pn	Pn	08 29 01.3	+0.8
MDUB	Mudurnu	6.88	73	ePN	Pn	08 29 03.1	+2.3
MDUB	Mudurnu	6.88	73	ePn	Pn	08 29 03.1	+2.3
BZS	Buzias	6.94	354	⇓iPn	Pn	08 29 00.8	-0.7
BZS	Buzias	6.94	354	P	Pn	08 29 01.6	+0.1
BZS	Buzias	6.94	354	⇓iP	Pn	08 29 01.5	0.0
BZS	Buzias	6.94	354	⇓iPn	Pn	08 29 00.8	-0.7
BZS	Buzias	6.94	354	⇓iP	Pn	08 29 01.5	0.0
VAGA	Valle Agricola 743nm,0.8s	6.95	296	Pn	Pn	08 29 03.7	+2.1
VAGA	Valle Agricola 743nm,0.8s	6.95	296	Pn	Pn	08 29 03.7	+2.1
VOIR		6.97	14	⇓iP	Pn	08 29 02.6	+0.7
VOIR		6.97	14	⇓iP	Pn	08 29 02.5	+0.6
VOIR		6.97	14	⇓iP	Pn	08 29 02.5	+0.6
SVRH	Sivrihisar-ESK	7.00	81	ePN	Pn	08 29 04.7	+2.4
SVRH	Sivrihisar-ESK	7.00	81	ePn	Pn	08 29 04.7	+2.4
PGOR	Pogoanele	7.01	27	⇓iP	Pn	08 29 04.8	+2.3
PGOR	Pogoanele	7.01	27	⇓iP	Pn	08 29 04.8	+2.3
MIDA	Miranda 697nm,0.6s	7.01	297	Pn	Pn	08 29 03.7	+1.2
MIDA	Miranda 697nm,0.6s	7.01	297	Pn	Pn	08 29 03.7	+1.2
WDD	Wield Dalam	7.02	249	ePn	Pn	08 29 03.5	+0.8
WDD	Wield Dalam	7.02	249	ePn	Pn	08 29 03.5	+0.8
ISR	Istrita	7.05	24	⇓P	Pn	08 29 05.0	+2.0
ISR	Istrita	7.05	24	⇓iP	Pn	08 29 05.0	+2.0
ISR	Istrita	7.05	24	P	Pn	08 29 05.0	+2.0
MSC	Monte Massico	7.06	293	Pn	Pn	08 29 04.0	+0.8
MSC	Monte Massico	7.06	293	Pn	Pn	08 29 04.0	+0.8
RFI	Roccamonfina 130nm,1.2s	7.08	294	Pn	Pn	08 29 04.2	+0.7
RFI	Roccamonfina 130nm,1.2s	7.08	294	Pn	Pn	08 29 04.2	+0.7
RNI2	Rionero Sannit 761nm,0.7s	7.11	298	Pn	Pn	08 29 06.5	+2.7
RNI2	Rionero Sannit 761nm,0.7s	7.11	298	Pn	Pn	08 29 06.5	+2.7
MODR	Mondragone 105nm,0.7s	7.12	293	Pn	Pn	08 29 04.3	+0.4
MODR	Mondragone 105nm,0.7s	7.12	293	Pn	Pn	08 29 04.3	+0.4
CERA	Filignano 644nm,0.7s	7.16	296	Pn	Pn	08 29 07.2	+2.6
CERA	Filignano 644nm,0.7s	7.16	296	Pn	Pn	08 29 07.2	+2.6
DEV	Deva	7.17	2	⇑P	Pn	08 29 06.4	+1.7
DEV	Deva	7.17	2	⇑iP	Pn	08 29 06.4	+1.7
DEV	Deva	7.17	2	P	Pn	08 29 06.4	+1.7
CAFR	Castel Frentan 8µm,1.3s	7.19	302	Pn	Pn	08 29 07.1	+2.1
CAFR	Castel Frentan 8µm,1.3s	7.19	302	Pn	Pn	08 29 07.1	+2.1
TIRR	Tirgusor	7.22	35	ePn	Pn	08 29 05.2	-0.1
TIRR	Tirgusor	7.22	35	⇓P	Pn	08 29 06.3	+1.0
TIRR	Tirgusor	7.22	35	⇓iP	Pn	08 29 06.3	+1.0
TIRR	Tirgusor	7.22	35	ePn	Pn	08 29 05.2	-0.1
TIRR	Tirgusor	7.22	35	P	Pn	08 29 06.3	+1.0
LPEL	Lama dei Pelig 758nm,1.0s	7.22	300	Pn	Pn	08 29 06.8	+1.4
LPEL	Lama dei Pelig 758nm,1.0s	7.22	300	Pn	Pn	08 29 06.8	+1.4
MLR	Muntele Rosu 4.7nm,0.3s,baz=199,slow=8.5,SNR=146	7.22	19	Pn	Pn	08 29 05.9	+0.5
MLR				Sn	Sn	08 30 26.9	-0.1
	baz=323,slow=20,SNR=2.4						
MLR				LR	LR	08 32 11.9	
	comp=Z,2µm,21.0s,baz=216,slow=40						
MLR	Muntele Rosu	7.22	19	Pn	Pn	08 29 05.9	+0.5
MLR				Sn	Sn	08 30 26.9	-0.1
MLR	Muntele Rosu	7.22	19	P	Pn	08 29 05.9	+0.5
MLR						08 30 26.9	
MLR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,2µm,21.0s						
MLR	Muntele Rosu	7.22	19	⇓iP	Pn	08 29 06.7	+1.3
MLR	Muntele Rosu	7.22	19	P	Pn	08 29 05.9	+0.5
	comp=Z,5.0nm,0.3s						
MLR				S	Sn	08 30 26.9	-0.2
	comp=Z,2µm,21.0s						
KIZT	Kizilcal	7.27	86	ePN	Pn	08 29 08.2	+2.1
KIZT	Kizilcal	7.27	86	ePn	Pn	08 29 08.2	+2.2
SDI	San Donato comp=Z,500nm,0.9s	7.35	297	Pn	Pn	08 29 07.5	+0.4
SDI	San Donato comp=Z,500nm,0.9s	7.35	297	Pn	Pn	08 29 07.5	+0.4
INTR	Introdacqua comp=Z,1µm,0.9s	7.40	299	Pn	Pn	08 29 08.7	+0.9
INTR	Introdacqua comp=Z,1µm,0.9s	7.40	299	Pn	Pn	08 29 08.7	+0.9
POFI	Posta Fibreno comp=Z,276nm,0.6s	7.42	297	Pn	Pn	08 29 10.2	+2.1
POFI	Posta Fibreno comp=Z,276nm,0.6s	7.42	297	Pn	P

HMAT S Sn 08 30 52.1 -5.4
baz=152
HMAT Matruh 8.46 153 P Pn 08 29 20.6 -1.8
HMAT S Sn 08 30 52.1 -5.4
CING Cingoli 8.48 306 Pn Pn 08 29 22.7 0.0
CING Cingoli 8.48 306 Pn Pn 08 29 22.7 0.0
CESI CESI - Serrava 8.49 303 Pn Pn 08 29 25.0 +2.2
comp=Z,90nm,0.7s
CESI CESI - Serrava 8.49 303 Pn Pn 08 29 25.0 +2.2
comp=Z,90nm,0.7s
SNTG Esanatoglia 8.59 305 Pn Pn 08 29 23.2 -0.9
SNTG Esanatoglia 8.59 305 Pn Pn 08 29 23.2 -0.9
BR131 Keskin Array S 8.65 80 *e*Pn Pn 08 29 26.5 +1.5
comp=Z,14nm,0.4s
BR131 Keskin Array S 8.65 80 *e*Pn Pn 08 29 26.5 +1.5
comp=Z,14nm,0.4s
BRTR Keskin Array B 8.65 80 Pn Pn 08 29 26.3 +1.3
comp=Z,5.6nm,0.3s,baz=258,slow=12,SNR=102
BRTR Sn Sn 08 31 00.1 -2.0
baz=266,slow=19,SNR=1.9
BRTR ScP ScP 08 39 23.1 -1.1
comp=Z,0.1nm,0.3s,baz=270,slow=1.4,SNR=3.7
BRTR Keskin Array B 8.65 80 Pn Pn 08 29 26.3 +1.3
BRTR Sn Sn 08 31 00.1 -2.0
BRTR ScP ScP 08 39 23.1 -1.1
BRTR Keskin Array B 8.65 80 P Pn 08 29 26.3 +1.3
BRTR 08 31 00.1
BRTR pmax pmax
comp=Z,6.0nm,0.3s
BRTR Keskin Array B 8.65 80 P Pn 08 29 26.3 +1.3
comp=Z,6.0nm,0.3s
BRTR S Sn 08 31 00.1 -2.0
BOJS Bojanci 8.70 324 *i* Pn Pn 08 29 25.5 -0.2
BOJS *i* Sn Sn 08 30 59.6 -3.8
BOJS Bojanci 8.70 324 Pn Pn 08 29 25.5 -0.1
TOLF Tolfa 8.74 296 Pn Pn 08 29 28.7 +2.5
TOLF Tolfa 8.74 296 Pn Pn 08 29 28.7 +2.5
MURB Monte Urbino 8.86 304 Pn Pn 08 29 29.4 +1.6
comp=Z,422nm,0.9s
MURB Monte Urbino 8.86 304 Pn Pn 08 29 29.4 +1.6
comp=Z,422nm,0.9s
FSSB Fossombrone 8.90 307 Pn Pn 08 29 27.6 -0.9
FSSB Fossombrone 8.90 307 Pn Pn 08 29 27.6 -0.9
MGAB Montegabbione 8.98 301 Pn Pn 08 29 31.0 +1.5
comp=Z,204nm,1.0s
MGAB Montegabbione 8.98 301 Pn Pn 08 29 31.0 +1.5
comp=Z,204nm,1.0s
LSRT Sirt 9.03 214 *i* P Pn 08 29 29.4 -0.8
SNR=22
BURAR Bucovina Array 9.11 11 ⇓P Pn 08 29 32.7 +1.5
BURAR Bucovina Array 9.11 11 ⇓*i*P Pn 08 29 32.7 +1.5
VISS Visnje 9.11 324 *i* Pn Pn 08 29 30.6 -0.7
VISS *i* Sn Sn 08 31 09.7 -3.9
VISS Visnje 9.11 324 *i* Pn Pn 08 29 30.6 -0.7
BUR08 Bucovina Ar. S 9.13 11 *e*Pn Pn 08 29 31.9 +0.3
BUR08 Bucovina Ar. S 9.13 11 *e*Pn Pn 08 29 31.9 +0.3
BADI Badiali 9.15 305 Pn Pn 08 29 34.8 +2.9
comp=Z,209nm,0.9s
BADI Badiali 9.15 305 Pn Pn 08 29 34.8 +2.9
comp=Z,209nm,0.9s
PARC Parchiule 9.22 306 Pn Pn 08 29 34.6 +1.8
comp=Z,233nm,1.1s
PARC Parchiule 9.22 306 Pn Pn 08 29 34.6 +1.8
comp=Z,233nm,1.1s
CSS Prodhromos 9.39 110 *e*Pn Pn 08 29 37.4 +2.1
comp=Z,52nm,0.8s
CSS Prodhromos 9.39 110 *e*Pn Pn 08 29 37.4 +2.2
comp=Z,52nm,0.8s
PSZ Piszkesteto 9.41 349 *e*Pn Pn 08 29 34.9 -0.4
PSZ Piszkesteto 9.41 349 ⇑P Pn 08 29 36.3 +0.9
PSZ Piszkesteto 9.41 349 ⇓*e* Pn 08 29 38.0 +2.6
PSZ Piszkesteto 9.41 349 ⇑*i*P Pn 08 29 36.3 +0.9
PSZ Piszkesteto 9.41 349 *e*Pn Pn 08 29 34.9 -0.5
PSZ Piszkesteto 9.41 349 P Pn 08 29 36.3 +0.9
TRPA Tarpa 9.42 360 ⇑*i*P Pn 08 29 35.8 +0.3
LJU Ljubljana 9.44 323 *i* Pn Pn 08 29 35.8 0.0
LJU *i* Sn Sn 08 31 18.8 -2.8
KIS Kishinev 9.46 27 *e*P Pn 08 29 37.0 +0.9
KIS *e*S Sn 08 31 28.0 +5.9
KIS *i* Li 08 32 16.0
KIS *e*Rg 08 33 11.0
KIS LRM 08 33 40.0
comp=Z,7μm,12.0s
KIS Kishinev 9.46 27 *e*P Pn 08 29 37.0 +0.9
KIS *e*S Sn 08 31 28.0 +5.9
KIS MLR MLR
comp=N,7μm,11.0s
KIS MLR MLR
comp=E,5μm,11.0s
KIS MLR MLR
comp=Z,7μm,11.0s
KIS MLR MLR
comp=Z,7μm,12.0s
KIS Kishinev 9.46 27 *e*P Pn 08 29 37.0 +0.9
KIS *e*S Sn 08 31 28.0 +5.9
comp=Z,7μm,12.0s
JAVS Javornik 9.55 321 *i* Pn Pn 08 29 36.4 -0.9
TRI Trieste 9.57 320 *e*Pn Pn 08 29 37.7 +0.1
TRI Trieste 9.57 320 *e*P Pn 08 29 37.7 +0.1
TRI Trieste 9.57 320 *e*P Pn 08 29 37.7 +0.1
ASQU Asqua 9.58 305 Pn Pn 08 29 39.8 +2.1
comp=Z,242nm,1.4s
ASQU Asqua 9.58 305 Pn Pn 08 29 39.8 +2.1
comp=Z,242nm,1.4s
AVNT Avonos 9.59 86 *i* P Pn 08 29 39.2 +1.3
AVNT Avonos 9.59 86 *i* P Pn 08 29 39.2 +1.3
CTKT Corum 9.61 75 *i* P Pn 08 29 38.7 +0.5
LUJL Ujela 9.63 187 *i* P Pn 08 29 34.6 -3.8
SNR=22
SOKA Soboth 9.70 328 ⇑*i*Pn Pn 08 29 38.1 -1.3
SOKA ⇑*i*Sn Sn 08 31 26.1 -2.0
SOKA Soboth 9.70 328 Pn Pn 08 29 38.1 -1.3
SOKA Sn Sn 08 31 26.1 -1.9
VOY Vojsko 9.73 322 *e*Pn Pn 08 29 39.4 -0.4
VOY *e*Sn Sn 08 31 23.5 -5.2
SWA2 9.74 165 P Pn 08 29 38.1 -1.9
baz=164
SWA2 S Sn 08 31 22.1 -7.0
baz=164
SWA2 9.74 165 P Pn 08 29 38.1 -1.9
SWA2 S Sn 08 31 22.1 -7.0
OBKA Obir 9.78 325 ⇓*i*Pn Pn 08 29 39.5 -1.0
OBKA ⇓*i*Sn Sn 08 31 28.1 -1.8
OBKA Obir 9.78 325 Pn Pn 08 29 39.5 -1.0
OBKA Sn Sn 08 31 28.1 -1.8
KECS Kecovo 9.88 352 *e*P Pn 08 29 43.4 +1.5
KECS Kecovo 9.88 352 *e*PN Pn 08 29 43.4 +1.5
KECS Kecovo 9.88 352 *e*P Pn 08 29 43.4 +1.5
KECS Kecovo 9.88 352 *e*Pn Pn 08 29 43.8 +1.9
UZH Uzhgorod 9.92 359 *e*P Pn 08 29 45.7 +3.4
UZH *e*S Sn 08 31 39.0 +5.7
UZH MLR MLR
comp=N,7μm,11.0s
UZH MLR MLR
comp=E,4μm,11.0s
UZH MLR MLR
comp=Z,6μm,11.0s
UZH Uzhgorod 9.92 359 *e*P Pn 08 29 45.7 +3.4
UZH *e*S Sn 08 31 39.0 +5.7
ARSA Arzberg 9.97 331 ⇑*i*Pn Pn 08 29 42.6 -0.5
SNR=30
ARSA ⇑*i*Sn Sn 08 31 31.5 -3.1
ARSA Arzberg 9.97 331 Pn Pn 08 29 42.6 -0.5
SNR=30
ARSA Sn Sn 08 31 31.5 -3.1
SEI Scarperia 9.98 306 Pn Pn 08 29 43.8 +0.6
SEI Scarperia 9.98 306 Pn Pn 08 29 43.8 +0.6
SOP Sopron 9.98 336 ⇓*e* Pn 08 29 44.3 +1.1
HBRG Burj al 'Arab 10.08 141 P Pn 08 29 43.1 -1.5
baz=141
CRVS Cervenica-Dubn 10.22 356 *e*P Pn 08 29 47.4 +0.9
CRVS Cervenica-Dubn 10.22 356 *e*PN Pn 08 29 47.4 +0.9
CRVS Cervenica-Dubn 10.22 356 *e*P Pn 08 29 47.4 +0.9
PTCC Patocco-Chiusa 10.26 321 Pn Pn 08 29 47.2 +0.2
PTCC Patocco-Chiusa 10.26 321 Pn Pn 08 29 47.2 +0.2
ZST Bratislava 10.28 339 *e*P Pn 08 29 47.9 +0.6
ZST Bratislava 10.28 339 *e*PN Pn 08 29 47.9 +0.6
ZST Bratislava 10.28 339 *e*P Pn 08 29 47.9 +0.6
ACOM Acomizza, Ital 10.29 322 Pn Pn 08 29 48.2 +0.8
ACOM Acomizza, Ital 10.29 322 Pn Pn 08 29 48.2 +0.8
VSL Villasalto 10.29 279 *e*Pn Pn 08 29 48.3 +0.8
VSL Villasalto 10.29 279 *e*Pn Pn 08 29 48.3 +0.8
KOLL Kolacno 10.31 344 *e*P Pn 08 29 48.8 +1.0
KOLL Kolacno 10.31 344 *e*PN Pn 08 29 48.8 +1.0
KOLL Kolacno 10.31 344 *e*P Pn 08 29 48.8 +1.0
CONA Conrad Observa 10.43 334 ⇑*i*Pn Pn 08 29 48.7 -0.6
SNR=12
CONA ⇑*i*Sn Sn 08 31 44.9 -0.9
CONA Conrad Observa 10.43 334 Pn Pn 08 29 48.7 -0.6
SNR=12
CONA Sn Sn 08 31 44.9 -0.9
SMOL Smolenice 10.48 341 *e*P Pn 08 29 48.7 -1.4
SMOL Smolenice 10.48 341 *e*PN Pn 08 29 48.7 -1.4
SMOL Smolenice 10.48 341 *e*P Pn 08 29 48.7 -1.4
GSCL Gusciola 10.60 306 Pn Pn 08 29 53.8 +2.0
comp=Z,23nm,0.6s
GSCL Gusciola 10.60 306 Pn Pn 08 29 53.8 +2.0
comp=Z,23nm,0.6s
SIM Simferopol' 10.62 50 *e*P Pn 08 29 52.9 +0.9
SIM pmax pmax
comp=Z,42nm,0.8s
SIM Simferopol' 10.62 50 *e*P Pn 08 29 52.9 +0.9
comp=Z,42nm,0.8s
CGRP Cima Grappa 10.72 315 Pn Pn 08 29 54.1 +0.8
CGRP Cima Grappa 10.72 315 Pn Pn 08 29 54.1 +0.8
KBA Koelnbreinsper 10.75 324 ⇓*i*Pn Pn 08 29 52.5 -1.2
KBA ⇓*i*Sn Sn 08 31 52.9 -0.9
KBA Koelnbreinsper 10.75 324 Pn Pn 08 29 52.5 -1.3
KBA Sn Sn 08 31 52.9 -0.9
NIE Niedzica 10.83 352 *e*P Pn 08 29 57.2 +2.4
NIE Niedzica 10.83 352 *e*P Pn 08 29 57.2 +2.4
NIE Niedzica 10.83 352 *e*P Pn 08 29 57.2 +2.4
CTI Castel Tesino 10.90 316 Pn Pn 08 29 55.1 -0.8
CTI Castel Tesino 10.90 316 Pn Pn 08 29 55.1 -0.8
ABTA Abfaltersbach 10.91 321 ⇓*i*Pn Pn 08 29 56.3 +0.3
SNR=17
ABTA ⇑*i*Sn Sn 08 31 56.6 -1.1
ABTA Abfaltersbach 10.91 321 Pn Pn 08 29 56.3 +0.3
SNR=17
ABTA Sn Sn 08 31 56.6 -1.1
KWP Kalwaria Pacla 10.92 0 *e*P Pn 08 30 00.0 +4.0
KWP *e*pP 08 30 04.5
KWP LMZ 08 34 40.1
comp=Z,9μm,16.0s
KWP Kalwaria Pacla 10.92 0 *e*P Pn 08 30 00.0 +4.0
KWP MLR MLR
comp=Z,9μm,16.0s
KWP Kalwaria Pacla 10.92 0 *e*P Pn 08 30 00.0 +4.0
comp=Z,9μm,16.0s
MOA Molln 10.95 329 ⇑*i*Pn Pn 08 29 55.3 -1.2
SNR=19
MOA ⇓*i*Sn Sn 08 31 57.7 -1.0
MOA Molln 10.95 329 Pn Pn 08 29 55.3 -1.2
SNR=19
MOA Sn Sn 08 31 57.7 -1.0
LZLA Zalla 10.96 204 *i* P Pn 08 29 55.3 -1.4
SNR=22
KEST Kesra 10.96 258 Pn Pn 08 29 58.6 +1.9
comp=Z,0.3nm,0.3s,baz=307,slow=4.2,SNR=11
KEST Sn Sn 08 31 58.6 -0.4
comp=Z,0.0nm,0.3s,baz=157,slow=17,SNR=1.9
KEST LR LR 08 35 01.5
comp=Z,662nm,19.1s,baz=190,slow=42
KEST Kesra 10.96 258 *e*Pn Pn 08 29 58.7 +2.0
KEST Sn Sn 08 31 58.6 -0.4
KEST Kesra 10.96 258 *e*Pn Pn 08 29 58.7 +2.0
KEST Sn Sn 08 31 58.6 -0.4
PGF Pioggiola 11.01 295 *e*P Pn 08 29 52.6 -4.7
comp=Z,192nm,1.0s
PGF Pioggiola 11.01 295 *e*P Pn 08 29 52.6 -4.7
comp=Z,192nm,1.0s
PGF Pioggiola 11.01 295 *e*P Pn 08 29 52.6 -4.7
PGF pmax pmax
comp=Z,192nm,1.0s
PGF Pioggiola 11.01 295 *e*P Pn 08 29 52.6 -4.7
comp=Z,192nm,1.0s
LSHF Shwairf 11.09 221 *i* P Pn 08 29 56.3 -2.2
SNR=22
LJFR Jufra 11.11 212 *i* P Pn 08 29 57.1 -1.6
SNR=22
LVV L'vov 11.15 5 *e*P Pn 08 30 04.0 +4.8
LVV L'vov 11.15 5 *e*P Pn 08 30 04.0 +4.8
VRAC Vranov 11.43 340 Pn Pn 08 30 03.3 +0.2
baz=166,slow=14,SNR=7.9
VRAC LR LR 08 34 48.4
comp=Z,2μm,18.3s,baz=183,slow=39
VRAC Vranov 11.43 340 Pn Pn 08 30 03.3 +0.2
VRAC Vranov 11.43 340 ⇓P Pn 08 30 04.4 +1.4
VRAC Vranov 11.43 340 ⇓*i*P Pn 08 30 04.4 +1.4
VRAC Vranov 11.43 340 Pn Pn 08 30 03.3 +0.3
VRAC Vranov 11.43 340 P Pn 08 30 04.4 +1.4
RJOB Jochberg 11.49 325 *e*Pn Pn 08 30 04.0 +0.1
OKC Ostrava-Krasne 11.56 346 *e*P Pn 08 30 06.5 +1.6
OKC MLR MLR
comp=Z,7μm,14.1s
OKC Ostrava-Krasne 11.56 346 *e*P Pn 08 30 06.5 +1.6
OKC AMS AMS 08 35 20.0
comp=Z,7μm,14.1s
OKC Ostrava-Krasne 11.56 346 *e*P Pn 08 30 06.5 +1.6
comp=Z,7μm,14.1s
KOT Kottamia 11.62 136 P Pn 08 30 04.3 -1.5
baz=135
KOT Kottamia 11.62 136 P Pn 08 30 04.3 -1.5
AWBH 11.62 151 P Pn 08 30 03.7 -2.1
baz=150
AWBH 11.62 151 P Pn 08 30 03.7 -2.1
MORC Moravsky Berou 11.63 344 *e*Pn Pn 08 30 06.4 +0.6
MORC Moravsky Berou 11.63 344 ⇑P Pn 08 30 06.9 +1.1
MORC Moravsky Berou 11.63 344 ⇑*i*P Pn 08 30 06.9 +1.1
MORC Moravsky Berou 11.63 344 *e*Pn Pn 08 30 06.4 +0.6
MORC Moravsky Berou 11.63 344 P Pn 08 30 06.9 +1.1
OJC Ojcow 11.68 351 *e*P Pn 08 30 08.8 +2.4
OJC Ojcow 11.68 351 *e*Pn Pn 08 30 07.6 +1.2
OJC Ojcow 11.68 351 *e*P Pn 08 30 08.8 +2.4
OJC Ojcow 11.68 351 *e*Pn Pn 08 30 07.6 +1.2
OJC Ojcow 11.68 351 *e*P Pn 08 30 08.8 +2.4
WTTA Wattenberg 11.71 320 ⇓*i*Pn Pn 08 30 05.8 -1.0
SNR=11
WTTA Wattenberg 11.71 320 Pn Pn 08 30 05.8 -1.0
SNR=11
HSAF As Saff 11.72 138 P Pn 08 30 05.7 -1.4
baz=137
HSAF As Saff 11.72 138 P Pn 08 30 05.7 -1.4
TREC Trest 11.74 337 *e*P Pn 08 30 05.6 -1.7
TREC MLR MLR
comp=Z,5μm,9.3s
TREC Trest 11.74 337 *e*P Pn 08 30 05.6 -1.7
TREC AMS AMS 08 34 50.0
comp=Z,5μm,9.3s
TREC Trest 11.74 337 *e*P Pn 08 30 05.6 -1.7
comp=Z,5μm,9.3s
WATA Walderalm 11.78 321 ⇑*i*Pn Pn 08 30 07.3 -0.6
SNR=16
WATA Walderalm 11.78 321 Pn Pn 08 30 07.3 -0.6
SNR=16
GLL Jalalah 11.83 138 P Pn 08 30 06.8 -1.9
baz=137
GLL Jalalah 11.83 138 P Pn 08 30 06.8 -1.8
MMAI Mount Meron Ar 11.85 115 Pn Pn 08 30 09.1 +0.2
comp=Z,5.7nm,0.3s,baz=301,slow=12,SNR=21
MMAI Mount Meron Ar 11.85 115 Pn Pn 08 30 09.1 +0.2
MMAI Mount Meron Ar 11.85 115 Pn Pn 08 30 09.1 +0.2
AMAG Maghara 11.88 129 P Pn 08 30 08.1 -1.2
baz=129
AMAG Maghara 11.88 129 P Pn 08 30 08.1 -1.2
GEC2 GERESS Array S 11.98 331 *e*Pn Pn 08 30 10.5 -0.1
GEC2 GERESS Array S 11.98 331 *e*P Pn 08 30 10.5 -0.1
GEC2 GERESS Array S 11.98 331 *e*P Pn 08 30 10.5 -0.1
GERES GERESS Array B 11.98 331 Pn Pn 08 30 10.3 -0.2
comp=Z,0.4nm,0.3s,baz=151,slow=12,SNR=45
GERES ScP ScP 08 39 26.6 -1.6
comp=Z,0.1nm,0.3s,baz=174,slow=2.0,SNR=10.0
GERES GERESS Array B 11.98 331 Pn Pn 08 30 10.3 -0.2
GERES ScP ScP 08 39 26.6 -1.6
GERES GERESS Array B 11.98 331 P Pn 08 30 10.3 -0.2
GERES GERESS Array B 11.98 331 P Pn 08 30 10.3 -0.2
FETA Feichten 12.01 318 ⇓*i*Pn Pn 08 30 10.5 -0.5
FETA ⇓*i*Sn Sn 08 32 21.8 -2.8
FETA Feichten 12.01 318 Pn Pn 08 30 10.5 -0.5
FETA Sn Sn 08 32 21.8 -2.8
FUORN Ofenpass-Fuorn 12.02 315 *e*Pn Pn 08 30 13.0 +1.9
FUORN Ofenpass-Fuorn 12.02 315 *e*Pn Pn 08 30 13.0 +2.0
MOTA Moosalm 12.03 320 ⇑*i*Pn Pn 08 30 10.8 -0.4
SNR=19
MOTA Moosalm 12.03 320 Pn Pn 08 30 10.8 -0.4
SNR=19
KRLC Kraliky 12.09 342 *e*P Pn 08 30 14.5 +2.5
SUZ 12.25 133 P Pn 08 30 12.5 -1.8
baz=133
SUZ 12.25 133 P Pn 08 30 12.5 -1.8
KHC Kasperske Hory 12.26 331 *e*Pn Pn 08 30 13.6 -0.8
KHC Kasperske Hory 12.26 331 *e*P Pn 08 30 13.7 -0.7
KHC *e* 08 32 29.0
KHC MLR MLR
comp=Z,11μm,14.3s
KHC Kasperske Hory 12.26 331 *e*P Pn 08 30 13.7 -0.7
KHC *e*x x 08 30 20.0
KHC *e*x x 08 31 06.5
KHC *e*x x 08 32 29.0
KHC AMS AMS 08 35 20.0
comp=Z,11μm,14.3s
KHC Kasperske Hory 12.26 331 *e*P Pn 08 30 13.7 -0.7
comp=Z,11μm,14.3s
KHC *e*S Sn 08 32 29.0 -1.7
DAVOX Davos/Dischmat 12.32 315 Pn Pn 08 30 15.6 +0.4
comp=Z,0.6nm,0.3s,baz=135,slow=16,SNR=18
DAVOX Sn Sn 08 32 30.4 -1.8
comp=Z,1.5nm,0.3s,baz=358,slow=21,SNR=7.1
DAVOX Davos/Dischmat 12.32 315 Pn Pn 08 30 15.6 +0.4
DAVOX Sn Sn 08 32 30.4 -1.8
DAVOX Davos/Dischmat 12.32 315 P Pn 08 30 15.6 +0.3
DAVOX 08 32 30.4
DAVOX Davos/Dischmat 12.32 315 P Pn 08 30 15.6 +0.3
DAVOX S Sn 08 32 30.4 -1.8
TUE Stuetta 12.45 313 *e*Pn Pn 08 30 17.5 +0.6
TUE *e*Sn Sn 08 32 28.5 -6.8
TUE Stuetta 12.45 313 *e*Pn Pn 08 30 17.5 +0.6
TUE *e*Sn Sn 08 32 28.5 -6.7
DPC Dobruska-Polom 12.46 341 *e*Pn Pn 08 30 17.4 +0.3
DPC Dobruska-Polom 12.46 341 *e*P Pn 08 30 17.7 +0.7
DPC MLR MLR
comp=Z,10μm,13.5s
DPC Dobruska-Polom 12.46 341 *e*P Pn 08 30 17.7 +0.7
DPC AMS AMS 08 35 40.0
comp=Z,10μm,13.5s
DPC Dobruska-Polom 12.46 341 *e*Pn Pn 08 30 17.4 +0.3
DPC Dobruska-Polom 12.46 341 *e*P Pn 08 30 17.7 +0.7
comp=Z,10μm,13.5s
HFRF Wahat Farafira 12.49 156 P Pn 08 30 14.8 -2.9
baz=155
HFRF AMP 08 32 00.0
comp=E,110μm,1.8s,logA/T=4.8,baz=155
HFRF Wahat Farafira 12.49 156 P Pn 08 30 14.8 -2.8
SBF Sospel 12.49 299 *e*P Pn 08 30 12.3 -5.3
comp=E,73nm,0.8s
SBF Sospel 12.49 299 *e*P Pn 08 30 12.3 -5.3
comp=E,73nm,0.8s
SBF Sospel 12.49 299 *e*P Pn 08 30 12.3 -5.3
SBF pmax pmax
comp=Z,73nm,0.8s
SBF Sospel 12.49 299 *e*P Pn 08 30 12.3 -5.3
comp=Z,73nm,0.8s
ZAF 12.52 136 P Pn 08 30 16.0 -1.9
baz=135
ZAF 12.52 136 P Pn 08 30 16.0 -2.0
WET Wettzell 12.54 329 *e*Pn Pn 08 30 16.1 -2.1
WET Wettzell 12.54 329 *e*P Pn 08 30 16.1 -2.1
WET Wettzell 12.54 329 *e*P Pn 08 30 16.1 -2.1
ANN Anapa 12.64 56 *e*P Pn 08 30 11.1 -8.5
ANN *e*SS 08 32 37.5
ANN pmax pmax
comp=Z,49nm,1.0s
ANN Anapa 12.64 56 *e*P Pn 08 30 11.1 -8.5
comp=Z,49nm,1.0s
ANN *e*S Sn 08 32 37.5 -2.6
PRU Pruhonice 12.65 336 *e*P Pn 08 30 20.3 +0.7
PRU MLR MLR
comp=Z,6μm,8.9s
PRU Pruhonice 12.65 336 *e*P Pn 08 30 20.3 +0.7
PRU AMS AMS 08 36 00.0
comp=Z,6μm,8.9s
PRU Pruhonice 12.65 336 *e*P Pn 08 30 20.3 +0.7
comp=Z,6μm,8.9s
UPC Upice 12.68 341 *e*P Pn 08 30 20.7 +0.6
UPC Upice 12.68 341 *e*P Pn 08 30 20.7 +0.6
UPC Upice 12.68 341 *e*P Pn 08 30 20.7 +0.6
HNKL Nakhl 12.86 130 P Pn 08 30 21.3 -1.3
baz=129
HNKL Nakhl 12.86 130 P Pn 08 30 21.3 -1.3
KIEV Kiev 12.87 19 *e*Pn Pn 08 30 22.0 -0.7
KIEV Kiev 12.87 19 ⇑*e*P Pn 08 30 23.5 +0.8
KIEV Kiev 12.87 19 *e*Pn Pn 08 30 22.0 -0.7
KIEV Kiev 12.87 19 *e*P Pn 08 30 23.5 +0.8
AKASG Malin Array Be 12.88 19 Pn Pn 08 30 22.0 -0.8
comp=Z,2.0nm,0.3s,baz=206,slow=12,SNR=17
AKASG LR LR 08 35 47.5
comp=Z,4μm,18.5s,baz=195,slow=39
AKASG ScP ScP 08 39 27.1 -2.5
comp=Z,0.2nm,0.3s,baz=232,slow=1.2,SNR=9.3
AKASG Malin Array Be 12.88 19 Pn Pn 08 30 22.0 -0.8
AKASG ScP ScP 08 39 27.1 -2.4
AKASG Malin Array Be 12.88 19 P Pn 08 30 22.0 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG MLR MLR
comp=Z,4μm,18.5s
AKASG Malin Array Be 12.88 19 P Pn 08 30 22.0 -0.8
comp=Z,4μm,18.5s
AKBB Malin Array Si 12.88 19 *e*Pn Pn 08 30 23.6 +0.8
AKBB Malin Array Si 12.88 19 *e*P Pn 08 30 23.6 +0.8
AKBB Malin Array Si 12.88 19 *e*P Pn 08 30 23.6 +0.8
KSP Ksiaz 12.92 342 *e*P Pn 08 30 26.3 +2.9
KSP LMZ 08 36 21.9
comp=Z,10μm,14.2s
KSP Ksiaz 12.92 342 *e*P Pn 08 30 26.1 +2.7
KSP *e*PP 08 30 35.0
KSP Ksiaz 12.92 342 *e*P Pn 08 30 26.1 +2.7
KSP Ksiaz 12.92 342 *e*P Pn 08 30 26.1 +2.7
FRF La Foret Royal 12.95 297 *e*P Pn 08 30 24.1 +0.3
comp=Z,61nm,1.1s
FRF La Foret Royal 12.95 297 *e*P Pn 08 30 24.1 +0.3
comp=Z,61nm,1.1s
FRF La Foret Royal 12.95 297 *e*P Pn 08 30 24.1 +0.3
FRF pmax pmax
comp=Z,61nm,1.1s
FRF La Foret Royal 12.95 297 *e*P Pn 08 30 24.1 +0.3
comp=Z,61nm,1.1s
LMR La Mourre 12.98 296 *e*P Pn 08 30 24.3 +0.1
comp=Z,124nm,1.3s
LMR La Mourre 12.98 296 *e*P Pn 08 30 24.3 +0.1
comp=Z,124nm,1.3s
LMR La Mourre 12.98 296 *e*P Pn 08 30 24.3 +0.1
LMR pmax pmax
comp=Z,124nm,1.3s
LMR La Mourre 12.98 296 *e*P Pn 08 30 24.3 +0.1
comp=Z,124nm,1.3s
PVCC Panska Ves 13.11 337 *e*P Pn 08 30 26.3 +0.3
PVCC MLR MLR
comp=Z,5μm,8.3s
PVCC Panska Ves 13.11 337 *e*P Pn 08 30 26.3 +0.3
PVCC AMS AMS 08 36 00.0
comp=Z,5μm,8.3s
PVCC Panska Ves 13.11 337 *e*P Pn 08 30 26.3 +0.3
comp=Z,5μm,8.3s
BEL Belsk 13.19 355 *e*P Pn 08 30 34.2 +7.2
BEL LMZ 08 36 25.4
comp=Z,8μm,12.6s
BEL Belsk 13.19 355 *e*P Pn 08 30 34.2 +7.2
BEL MLR MLR
comp=Z,8μm,12.6s
BEL Belsk 13.19 355 *e*P Pn 08 30 34.2 +7.2
comp=Z,8μm,12.6s
MBDF Montbardon 13.24 302 *e*P Pn 08 30 27.4 -0.4
comp=Z,55nm,0.8s
MBDF Montbardon 13.24 302 *e*P Pn 08 30 27.4 -0.4
comp=Z,55nm,0.8s
MBDF Montbardon 13.24 302 *e*P Pn 08 30 27.4 -0.4
MBDF pmax pmax
comp=Z,55nm,0.8s
MBDF Montbardon 13.24 302 *e*P Pn 08 30 27.4 -0.4
comp=Z,55nm,0.8s
ROTZ Rotzenmuhle 13.30 330 *e*Pn Pn 08 30 30.0 +1.4
ASF Jabal al Asfar 13.37 115 Pn Pn 08 30 31.2 +1.6
comp=Z,0.8nm,0.3s,baz=141,slow=6.5,SNR=12
ASF Jabal al Asfar 13.37 115 Pn Pn 08 30 31.2 +1.6
ASF Jabal al Asfar 13.37 115 P Pn 08 30 31.2 +1.6
ASF pmax pmax
comp=Z,1.0nm,0.3s
BNI Bardonecchia 13.43 303 *e*Pn Pn 08 30 35.3 +5.0
comp=Z,24nm,0.9s
BNI Bardonecchia 13.43 303 *e*P Pn 08 30 35.3 +5.0
BNI pmax pmax

comp=Z,24nm,0.9s
BNI Bardonecchia 13.43 303 *e*P Pn 08 30 35.3 +5.0
comp=Z,24nm,0.9s
GRB Gharib 13.44 138 P Pn 08 30 28.4 -2.2
baz=137
GRB Gharib 13.44 138 P Pn 08 30 28.4 -2.2
LPG La Plagne 13.56 305 *e*P Pn 08 30 32.2 +0.1
comp=Z,96nm,0.9s
LPG La Plagne 13.56 305 *e*P Pn 08 30 32.2 +0.1
comp=Z,96nm,0.9s
LPG La Plagne 13.56 305 *e*P Pn 08 30 32.2 +0.1
LPG pmax pmax
comp=Z,96nm,0.9s
LPG La Plagne 13.56 305 *e*P Pn 08 30 32.2 +0.1
comp=Z,96nm,0.9s
LPL La Plagne 13.58 305 *e*P Pn 08 30 32.2 -0.2
comp=Z,84nm,1.0s
LPL La Plagne 13.58 305 *e*P Pn 08 30 32.2 -0.2
comp=Z,84nm,1.0s
LPL La Plagne 13.58 305 *e*P Pn 08 30 32.2 -0.2
LPL pmax pmax
comp=Z,84nm,1.0s
LPL La Plagne 13.58 305 *e*P Pn 08 30 32.2 -0.2
comp=Z,84nm,1.0s
NKC Novy Kostel 13.59 331 *e*P Pn 08 30 31.7 -0.8
NKC MLR MLR
comp=Z,10μm,11.6s
NKC Novy Kostel 13.59 331 *e*P Pn 08 30 31.7 -0.8
NKC AMS AMS 08 36 20.0
comp=Z,10μm,11.6s
NKC Novy Kostel 13.59 331 *e*P Pn 08 30 31.7 -0.8
comp=Z,10μm,11.6s
SENIN Lac Senin/Sane 13.60 309 *e*Pn Pn 08 30 34.6 +1.9
SENIN Lac Senin/Sane 13.60 309 *e*Pn Pn 08 30 34.6 +1.9
BRG Berggiesshubel 13.61 336 *e*P Pn 08 30 32.4 -0.3
comp=Z,31nm,1.4s
BRG *e* 08 30 42.1
comp=Z,316nm,2.8s
BRG
comp=Z,5μm,9.5s
BRG
comp=N,3μm,11.8s
BRG
comp=E,6μm,11.8s
BRG Berggiesshubel 13.61 336 *e*Pn Pn 08 30 32.2 -0.5
BRG *e*L 08 37 30.7
comp=Z,3μm,16.5s
BRG Berggiesshubel 13.61 336 *e*P Pn 08 30 32.4 -0.3
BRG pmax pmax
comp=Z,31nm,1.4s
BRG pmax pmax
comp=Z,316nm,2.8s
BRG MLR MLR
comp=Z,5μm,9.5s
BRG MLR MLR
comp=N,3μm,11.8s
BRG MLR MLR
comp=E,6μm,11.8s
BRG Berggiesshubel 13.61 336 *e*P Pn 08 30 32.4 -0.3
comp=E,5μm,9.5s
EIL Elat 13.63 128 Pn **Pn 08 30 32.0 -1.2**
comp=E,4.0nm,0.3s,baz=322,slow=15,SNR=20
EIL Elat 13.63 128 Pn **Pn 08 30 32.0 -1.2**
EIL Elat 13.63 128 Pn **Pn 08 30 32.0 -1.2**
GRA1 Grafenberg Arr 13.65 327 *e*P Pn 08 30 33.4 0.0
comp=E,10μm,15.9s
GRF Grafenberg Arr 13.65 327 *e*Pn Pn 08 30 33.4 0.0
GRF *e*L 08 36 35.3
comp=Z,10μm,15.9s
GRF Grafenberg Arr 13.65 327 *e*P Pn 08 30 33.4 0.0
GRF MLR MLR
comp=Z,10μm,15.9s
GRFO Grafenberg 13.65 327 *e*Pn Pn 08 30 34.5 +1.1
GRFO Grafenberg 13.65 327 *e*P Pn 08 30 34.5 +1.1
GRFO Grafenberg 13.65 327 *e*P Pn 08 30 34.5 +1.1
TANN Tannenbergstha 13.73 332 *e*Pn Pn 08 30 33.4 -1.0
SOC Sochi 13.80 64 *e*P Pn 08 30 38.4 +3.0
SOC *e* 08 33 15.4
SOC pmax pmax
comp=Z,36nm,1.0s
SOC MLR MLR
comp=Z,1μm,14.0s
SOC Sochi 13.80 64 *e*P Pn 08 30 38.4 +3.0
comp=Z,36nm,1.0s
SOC *e*S **Sn 08 33 15.4 +7.2**
comp=Z,1μm,14.0s
SMRF Simiane la Rot 13.81 298 *e*P Pn 08 30 36.4 +0.9
comp=Z,101nm,1.2s
SMRF Simiane la Rot 13.81 298 *e*P Pn 08 30 36.4 +0.9
comp=Z,101nm,1.2s
SMRF Simiane la Rot 13.81 298 *e*P Pn 08 30 36.4 +0.9
comp=Z,51nm,1.2s
HBST Basata 13.82 130 P **Pn 08 30 34.5 -1.3**
baz=129
HBST Basata 13.82 130 P **Pn 08 30 34.6 -1.2**
TR2 13.86 135 P **Pn 08 30 34.1 -2.2**
baz=134
TR2 13.86 135 P **Pn 08 30 34.1 -2.2**
ORIF Oris-en-Rattie 13.90 302 *e*P Pn 08 30 37.0 +0.2
comp=Z,54nm,1.1s
ORIF *e*R
comp=Z,2μm,19.0s
ORIF Oris-en-Rattie 13.90 302 *e*P Pn 08 30 37.0 +0.2
comp=Z,54nm,1.1s
ORIF Oris-en-Rattie 13.90 302 *e*P Pn 08 30 37.0 +0.2
ORIF pmax pmax
comp=Z,54nm,1.1s
ORIF Oris-en-Rattie 13.90 302 *e*P Pn 08 30 37.0 +0.2
comp=Z,54nm,1.1s
HKAT Jabal Katrina 13.90 134 P **Pn 08 30 35.1 -1.9**
baz=133
HKAT Jabal Katrina 13.90 134 P **Pn 08 30 35.1 -1.8**
STU Stuttgart 13.93 321 *e*Pn Pn 08 30 35.7 -1.5
STU Stuttgart 13.93 321 *e*Pn Pn 08 30 35.7 -1.5
STU Stuttgart 13.93 321 *e*P Pn 08 30 35.7 -1.5
STU Stuttgart 13.93 321 *e*P Pn 08 30 35.7 -1.5
BFO Black Forest 14.10 318 *e*Pn Pn 08 30 36.9 -2.5
BFO Black Forest 14.10 318 *e*Pn Pn 08 30 36.9 -2.5
BFO Black Forest 14.10 318 *e*P Pn 08 30 36.9 -2.5
BFO Black Forest 14.10 318 *e*P Pn 08 30 36.9 -2.5
HDHB Dhahab 14.12 131 P **Pn 08 30 38.0 -1.9**
baz=131
HDHB Dhahab 14.12 131 P **Pn 08 30 38.0 -1.8**
LUMB Murzuk 14.16 210 *i* P **Pn 08 30 38.4 -2.1**
SNR=45
MOX Moxa 14.23 330 *e*Pn Pn 08 30 40.3 -1.0
MOX *e*L 08 37 04.8
comp=Z,6μm,17.7s
MOX Moxa 14.23 330 *e*P Pn 08 30 40.3 -1.0
MOX MLR MLR
comp=Z,6μm,17.7s
MOX Moxa 14.23 330 *e*P Pn 08 30 40.3 -1.0
comp=Z,6μm,17.7s
CLL Collm 14.28 335 *i* P **Pn 08 30 50.3 +8.3**
CLL pmax pmax
comp=Z,54nm,1.6s
CLL MLR MLR
comp=Z,4μm,16.1s
CLL Collm 14.28 335 *e*P Pn 08 30 42.0 0.0
CLL *i*sP sP 08 30 50.3 -5.2
comp=Z,54nm,1.6s
CLL *i*sPP 08 30 55.2
CLL Lmax 08 36 00.0
CLL Collm 14.28 335 *i* P **Pn 08 30 50.3 +8.3**
comp=Z,4μm,16.1s
HDK1 Dakhla 14.34 154 P **Pn 08 30 39.9 -2.9**
baz=154
HDK1 Dakhla 14.34 154 P **Pn 08 30 39.9 -3.0**
CABF La Chapelle 14.46 308 *e*P Pn 08 30 43.2 -1.2
comp=Z,132nm,1.2s
CABF La Chapelle 14.46 308 *e*P Pn 08 30 43.2 -1.2
comp=Z,132nm,1.2s
CABF La Chapelle 14.46 308 *e*P Pn 08 30 43.2 -1.2
CABF pmax pmax
comp=Z,132nm,1.2s
CABF La Chapelle 14.46 308 *e*P Pn 08 30 43.2 -1.2
comp=Z,132nm,1.2s
LKFR Kufra 14.52 178 *i* P **Pn 08 30 44.5 -0.8**
SNR=136
HINF Hinteralfeld 14.61 314 *e*P Pn 08 30 44.0 -2.4
comp=Z,152nm,1.3s
HINF Hinteralfeld 14.61 314 *e*P Pn 08 30 44.0 -2.4
comp=Z,152nm,1.3s
HINF Hinteralfeld 14.61 314 *e*P Pn 08 30 44.0 -2.4
HINF pmax pmax
comp=Z,152nm,1.3s
HINF Hinteralfeld 14.61 314 *e*P Pn 08 30 44.0 -2.4
comp=Z,152nm,1.3s
ECH Echery 14.66 315 *e*Pn Pn 08 30 46.2 -0.9
comp=Z,53nm,1.3s
ECH *e*Sn **Sn 08 33 18.6 -11**
ECH Echery 14.66 315 *e*P Pn 08 30 46.2 -0.9
ECH *e* 08 33 18.7
ECH pmax pmax
comp=Z,53nm,1.3s
ECH Echery 14.66 315 *e*P Pn 08 30 46.2 -0.9
comp=Z,53nm,1.3s
ECH *e*Sn **Sn 08 33 18.6 -11**
VIVF Saint-Julien-l 14.69 300 *e*P Pn 08 30 42.3 -5.3
comp=Z,49nm,1.1s
VIVF Saint-Julien-l 14.69 300 *e*P Pn 08 30 42.3 -5.3
comp=Z,49nm,1.1s
VIVF Saint-Julien-l 14.69 300 *e*P Pn 08 30 42.3 -5.3
VIVF pmax pmax
comp=Z,49nm,1.1s
VIVF Saint-Julien-l 14.69 300 *e*P Pn 08 30 42.3 -5.3
comp=Z,49nm,1.1s
CDF Champ du Feu 14.71 316 *e*P Pn 08 30 43.3 -4.5
comp=Z,188nm,1.6s
CDF Champ du Feu 14.71 316 *e*P Pn 08 30 43.3 -4.5
comp=Z,188nm,1.6s
CDF Champ du Feu 14.71 316 *e*P Pn 08 30 43.3 -4.5
CDF pmax pmax
comp=Z,188nm,1.6s
CDF Champ du Feu 14.71 316 *e*P Pn 08 30 43.3 -4.5
comp=Z,188nm,1.6s
HAU Haudompre 15.00 313 *e*P Pn 08 30 49.7 -2.0
comp=Z,119nm,0.9s
HAU *e*R
comp=Z,5μm,17.2s
HAU Haudompre 15.00 313 *e*P Pn 08 30 49.7 -2.0
comp=Z,119nm,0.9s
HAU Haudompre 15.00 313 *e*P Pn 08 30 49.7 -2.0
HAU pmax pmax
comp=Z,119nm,0.9s
HAU Haudompre 15.00 313 *e*P Pn 08 30 49.7 -2.0
comp=Z,119nm,0.9s
UBBA Unterbreizbach 15.02 328 *e*Pn Pn 08 30 52.5 +0.5
GKP Gorka Klasztor 15.02 348 *e*P Pn 08 30 57.7 +5.7
GKP LMZ 08 37 55.6
comp=Z,14μm,13.8s
GKP Gorka Klasztor 15.02 348 *e*P Pn 08 30 57.7 +5.7
GKP MLR MLR
comp=Z,14μm,13.8s
GKP Gorka Klasztor 15.02 348 *e*P Pn 08 30 57.7 +5.7
comp=Z,14μm,13.8s
LASF Ste Croix 15.03 297 *e*P Pn 08 30 49.1 -3.1
comp=Z,104nm,1.4s
LASF Ste Croix 15.03 297 *e*P Pn 08 30 49.1 -3.1
comp=Z,104nm,1.4s
LASF Ste Croix 15.03 297 *e*P Pn 08 30 49.1 -3.1
comp=Z,104nm,1.4s
TNS Taunus Mts 15.27 323 *e*Pn Pn 08 30 55.8 +0.5
TNS Taunus Mts 15.27 323 *e*P Pn 08 30 55.8 +0.5
TNS Taunus Mts 15.27 323 *e*P Pn 08 30 55.8 +0.5
SUW Suwalki 15.31 1 *e*P Pn 08 30 59.8 +4.0
SUW *e*pP pP 08 31 00.8 -4.0
SUW LMZ 08 37 30.6
comp=Z,5μm,16.7s
SUW Suwalki 15.31 1 *e*P Pn 08 30 56.1 +0.3
comp=Z,449nm,1.1s
SUW Suwalki 15.31 1 *e*P Pn 08 30 59.8 +4.0
SUW MLR MLR
comp=Z,5μm,16.7s
SUW Suwalki 15.31 1 *e*P Pn 08 30 59.8 +4.0
comp=Z,5μm,16.7s
PAGF Fort de Pagny 15.64 314 *e*P Pn 08 30 59.0 -1.2
comp=Z,65nm,1.5s
PAGF Fort de Pagny 15.64 314 *e*P Pn 08 30 59.0 -1.2
comp=Z,33nm,1.5s
CLZ Clausthal 15.66 331 *e*Pn Pn 08 31 03.6 +3.2
CLZ Clausthal 15.66 331 *e*P Pn 08 31 03.6 +3.2
CLZ Clausthal 15.66 331 *e*P Pn 08 31 03.6 +3.2
SFTF Sexfontaines 15.85 312 *e*P Pn 08 31 01.1 -1.8
comp=Z,404nm,1.7s
SFTF Sexfontaines 15.85 312 *e*P Pn 08 31 01.1 -1.8
comp=Z,404nm,1.7s
SFTF Sexfontaines 15.85 312 *e*P Pn 08 31 01.1 -1.8
comp=Z,202nm,1.7s
SMF Signal de Mont 15.87 306 *e*P Pn 08 31 01.9 -1.3
comp=Z,45nm,0.8s
SMF Signal de Mont 15.87 306 *e*P Pn 08 31 01.9 -1.3
comp=Z,45nm,0.8s
SMF Signal de Mont 15.87 306 *e*P Pn 08 31 01.9 -1.3
SMF pmax pmax
comp=Z,45nm,0.8s
SMF Signal de Mont 15.87 306 *e*P Pn 08 31 01.9 -1.3
comp=Z,45nm,0.8s
KIV Kislovodsk 15.97 64 *e*P Pn 08 31 09.3 +4.8
comp=Z,101nm,1.1s
KIV Kislovodsk 15.97 64 *de*P Pn 08 31 04.3 -0.2
KIV *e*S **Sn 08 34 00.6 -0.7**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,900nm,26.0s
KIV Kislovodsk 15.97 64 P **Pn 08 31 10.2 +5.7**
SNR=20
KIV Kislovodsk 15.97 64 P **Pn 08 31 10.6 +6.1**
comp=Z,467nm,1.1s,SNR=7.9
KIV Kislovodsk 15.97 64 *e*P Pn 08 31 09.3 +4.8
comp=Z,101nm,1.1s
KIV *e*S **Sn 08 34 00.6 -0.7**
comp=Z,900nm,26.0s
MEZF Maizieres J'vi 15.99 313 *e*P Pn 08 31 08.0 +3.3
MEZF Maizieres J'vi 15.99 313 *e*P Pn 08 31 08.0 +3.3
MEZF Maizieres J'vi 15.99 313 *e*P Pn 08 31 08.0 +3.3
MTLF Montolieu 16.04 293 *e*P Pn 08 31 08.0 +2.7
comp=Z,81nm,1.1s
MTLF Montolieu 16.04 293 *e*P Pn 08 31 08.0 +2.7
comp=Z,81nm,1.1s
MTLF Montolieu 16.04 293 *e*P Pn 08 31 08.0 +2.7
MTLF pmax pmax
comp=Z,81nm,1.1s
MTLF Montolieu 16.04 293 *e*P Pn 08 31 08.0 +2.7
comp=Z,81nm,1.1s
WLF Walferdange 16.05 318 P **Pn 08 31 04.8 -0.6**
comp=Z,90nm,2.4s
WLF Walferdange 16.05 318 *e*P Pn 08 31 06.6 +1.2
comp=Z,669nm,2.5s
WLF Walferdange 16.05 318 *e*P Pn 08 31 06.6 +1.2
WLF pmax pmax
comp=Z,669nm,2.5s
WLF Walferdange 16.05 318 *e*P Pn 08 31 06.6 +1.2
comp=Z,669nm,2.5s
LOR Lormes 16.12 308 *e*P Pn 08 31 04.6 -1.7
comp=Z,122nm,1.4s
LOR *e*R
comp=Z,2μm,17.2s
LOR Lormes 16.12 308 *e*P Pn 08 31 04.6 -1.7
comp=Z,122nm,1.4s
LOR Lormes 16.12 308 *e*P Pn 08 31 04.6 -1.7
LOR pmax pmax
comp=Z,122nm,1.4s
LOR Lormes 16.12 308 *e*P Pn 08 31 04.6 -1.7
comp=Z,122nm,1.4s
MNK Minsk 16.19 11 *e*P Pn 08 31 05.0 -2.2
MNK *e*S **Sn 08 34 05.0 -1.4**
MNK MLR MLR
comp=N,10μm,12.0s
MNK MLR MLR
comp=Z,13μm,11.0s
MNK Minsk 16.19 11 *e*P Pn 08 31 05.0 -2.2
comp=Z,10μm,12.0s
MNK *e*S **Sn 08 34 05.0 -1.4**
comp=Z,13μm,11.0s
MICGM Minsk 16.20 11 *e*P Pn 08 31 05.0 -2.3
AKH Akhalkalaki 16.24 74 P **Pn 08 31 10.5 +2.6**
AVF Avril sur Loir 16.24 306 *e*P Pn 08 31 06.4 -1.5
comp=Z,160nm,1.3s
AVF Avril sur Loir 16.24 306 *e*P Pn 08 31 06.4 -1.5
comp=Z,160nm,1.3s
AVF Avril sur Loir 16.24 306 *e*P Pn 08 31 06.4 -1.5
AVF pmax pmax
comp=Z,160nm,1.3s
AVF Avril sur Loir 16.24 306 *e*P Pn 08 31 06.4 -1.5
comp=Z,160nm,1.3s
SSF Saint Saulge 16.25 307 *e*P Pn 08 31 06.0 -2.0
comp=Z,95nm,1.1s
SSF Saint Saulge 16.25 307 *e*P Pn 08 31 06.0 -2.0
comp=Z,95nm,1.1s
SSF Saint Saulge 16.25 307 *e*P Pn 08 31 06.0 -2.0
SSF pmax pmax
comp=Z,95nm,1.1s
SSF Saint Saulge 16.25 307 *e*P Pn 08 31 06.0 -2.0
comp=Z,95nm,1.1s
NRDL Niedersach Rie 16.28 332 *e*Pn Pn 08 31 09.0 +0.7
ONI Oni 16.30 70 P **Pn 08 31 11.2 +2.5**
NACGM Naroch 16.44 9 *e*P Pn 08 31 10.0 -0.4
BGF Bois d'Agland 16.47 305 *e*P Pn 08 31 10.3 -0.6
comp=Z,154nm,1.2s
BGF Bois d'Agland 16.47 305 *e*P Pn 08 31 10.3 -0.6
comp=Z,154nm,1.2s
BGF Bois d'Agland 16.47 305 *e*P Pn 08 31 10.3 -0.6
BGF pmax pmax
comp=Z,155nm,1.2s
BGF Bois d'Agland 16.47 305 *e*P Pn 08 31 10.3 -0.6
comp=Z,155nm,1.2s
CAF Calviac 16.49 299 *e*P Pn 08 31 10.8 -0.2
CAF Calviac 16.49 299 *e*P Pn 08 31 10.8 -0.2
CAF Calviac 16.49 299 *e*P Pn 08 31 10.8 -0.2
CAF Calviac 16.49 299 *e*P Pn 08 31 10.8 -0.2
BUG Bochum--Univer 16.66 325 *e*Pn Pn 08 31 16.5 +3.4
BUG Bochum--Univer 16.66 325 *e*P Pn 08 31 16.5 +3.4
BUG Bochum--Univer 16.66 325 *e*P Pn 08 31 16.5 +3.4
MEM Membach 16.70 321 E **Pn 08 31 17.9 +4.2**
GOR Gori 16.73 72 P **Pn 08 31 19.6 +5.4**
TCF Toulx Ste Croi 16.79 303 *e*P Pn 08 31 17.6 +2.7
TCF Toulx Ste Croi 16.79 303 *e*P Pn 08 31 17.6 +2.7
TCF Toulx Ste Croi 16.79 303 *e*P Pn 08 31 17.6 +2.7
TCF Toulx Ste Croi 16.79 303 *e*P Pn 08 31 17.6 +2.7
IIGN Ignalina 16.83 7 *e*P Pn 08 31 17.2 +2.0
IIGN AMB AMB 08 31 23.9
comp=Z,140nm,1.4s
IIGN Ignalina 16.83 7 *e*P Pn 08 31 17.2 +1.9
comp=Z,140nm,1.4s,SNR=40
BCLA Clavier 16.94 319 P **Pn 08 31 15.7 -1.0**
comp=Z,65nm,2.1s
BCLA Clavier 16.94 319 P **Pn 08 31 15.7 -1.0**
comp=Z,65nm,2.1s
RJF Les Rejaudoux 16.96 300 *e*P Pn 08 31 16.2 -0.8
comp=Z,210nm,1.6s
RJF *e*R
comp=Z,2μm,18.8s
RJF Les Rejaudoux 16.96 300 *e*P Pn 08 31 16.2 -0.8
comp=Z,210nm,1.6s
RJF Les Rejaudoux 16.96 300 *e*P Pn 08 31 16.2 -0.8
RJF pmax pmax
comp=Z,210nm,1.6s
RJF Les Rejaudoux 16.96 300 *e*P Pn 08 31 16.2 -0.8
comp=Z,210nm,1.6s
GIVF Givet 17.00 318 *e*P Pn 08 31 19.6 +2.1
comp=Z,138nm,1.3s
GIVF Givet 17.00 318 *e*P Pn 08 31 19.6 +2.1
comp=Z,138nm,1.3s
GIVF Givet 17.00 318 *e*P Pn 08 31 19.6 +2.1
GIVF pmax pmax
comp=Z,138nm,1.3s
GIVF Givet 17.00 318 *e*P Pn 08 31 19.6 +2.1
comp=Z,138nm,1.3s
ISAL Salakas 17.04 7 *e*P Pn 08 31 19.8 +1.9
ISAL AMB AMB 08 31 26.2
comp=Z,92nm,1.4s
ISAL Salakas 17.04 7 *e*P Pn 08 31 19.8 +1.9
comp=Z,92nm,1.4s,SNR=40
VSR Storozhevoye 17.10 38 *e*P Pn 08 31 18.3 -0.4
VSR pmax pmax
comp=N,60nm,0.9s
VSR pmax pmax
comp=E,40nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
VSR MLR MLR
comp=N,3μm,12.0s
VSR MLR MLR
comp=E,4μm,12.0s
VSR MLR MLR
comp=Z,7μm,12.0s
VSR Storozhevoye 17.10 38 *e*P Pn 08 31 18.3 -0.4
DOU Dourbes 17.11 317 P **Pn 08 31 18.3 -0.6**
DOU Dourbes 17.11 317 P **Pn 08 31 18.3 -0.6**
GNI Garni 17.18 78 *e*P Pn 08 31 20.8 +1.0
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=1.6
GNI LR LR 08 37 59.3
comp=Z,1μm,21.9s,baz=96,slow=37
GNI Garni 17.18 78 *e*P Pn 08 31 25.2 +5.4
comp=Z,40nm,1.0s
GNI Garni 17.18 78 P **Pn 08 31 20.8 +1.0**
GNI MLR MLR
comp=Z,1μm,22.0s
GNI Garni 17.18 78 P **Pn 08 31 28.7 +8.9**
SNR=11
GNI Garni 17.18 78 P **Pn 08 31 20.8 +1.0**
comp=Z,1μm,22.0s
TBLG Delisi 17.18 73 *e*P Pn 08 31 22.4 +2.5
TBLG Delisi 17.18 73 P **Pn 08 31 22.5 +2.6**
TBLG Delisi 17.18 73 *e*P Pn 08 31 22.4 +2.5
IZAR Zarasai 17.22 7 *e*P Pn 08 31 22.0 +1.8
IZAR AMB AMB 08 31 28.3
comp=Z,135nm,1.4s
MTA Mtatsminda 17.22 73 P **Pn 08 31 21.4 +1.1**
BAIF Baives 17.30 317 *e*P Pn 08 31 21.8 +0.6
comp=Z,326nm,1.8s
BAIF Baives 17.30 317 *e*P Pn 08 31 21.8 +0.6
comp=Z,326nm,1.8s
BAIF Baives 17.30 317 *e*P Pn 08 31 21.8 +0.6
BAIF pmax pmax
comp=Z,326nm,1.8s
BAIF Baives 17.30 317 *e*P Pn 08 31 21.8 +0.6
comp=Z,326nm,1.8s
EPF Esparros 17.35 291 *e*P Pn 08 31 22.6 +0.7
comp=Z,112nm,1.5s
EPF Esparros 17.35 291 *e*P Pn 08 31 22.6 +0.7
comp=Z,112nm,1.5s
EPF Esparros 17.35 291 *e*P Pn 08 31 22.6 +0.7
EPF pmax pmax
comp=Z,113nm,1.5s
EPF Esparros 17.35 291 *e*P Pn 08 31 22.6 +0.7
comp=Z,113nm,1.5s
VOR Voronezh 17.45 36 *e*P Pn 08 31 22.0 -1.1
VOR pmax pmax
comp=Z,250nm,1.0s
VOR Voronezh 17.45 36 *e*P Pn 08 31 22.0 -1.1
comp=Z,250nm,1.0s
SNF Seneffe 17.52 318 P **Pn 08 31 22.9 -1.0**
comp=Z,49nm,2.5s
DGRG David-gareji 17.65 74 P **Pn 08 31 23.1 -2.6**
ETSF Etsaut 17.99 291 *e*P Pn 08 31 30.0 +0.1
comp=Z,66nm,1.0s
ETSF Etsaut 17.99 291 *e*P Pn 08 31 30.0 +0.1
comp=Z,66nm,1.0s
ETSF Etsaut 17.99 291 *e*P Pn 08 31 30.0 +0.1
ETSF pmax pmax
comp=Z,66nm,1.0s
ETSF Etsaut 17.99 291 *e*P Pn 08 31 30.0 +0.1
comp=Z,66nm,1.0s
MFF Saint Martin d 18.44 303 *e*P Pn 08 31 37.2 +1.9
comp=Z,179nm,1.4s
MFF Saint Martin d 18.44 303 *e*P Pn 08 31 37.2 +1.9
comp=Z,179nm,1.4s
MFF Saint Martin d 18.44 303 *e*P Pn 08 31 37.2 +1.9
MFF pmax pmax
comp=Z,179nm,1.4s
MFF Saint Martin d 18.44 303 *e*P Pn 08 31 37.2 +1.9
comp=Z,179nm,1.4s
BHD Baghdad 18.44 100 *i* x **Pn 08 31 37.5 +2.0**
BHD *i* x x 08 35 04.5
BHD Baghdad 18.44 100 *i* P **Pn 08 31 37.5 +2.0**
SJPF Ste Jean 18.50 291 *e*P Pn 08 31 34.2 -1.9
comp=Z,68nm,0.9s
SJPF Ste Jean 18.50 291 *e*P Pn 08 31 34.2 -1.9
comp=Z,68nm,0.9s
SJPF Ste Jean 18.50 291 *e*P Pn 08 31 34.2 -1.9
SJPF pmax pmax
comp=Z,68nm,0.9s
SJPF Ste Jean 18.50 291 *e*P Pn 08 31 34.2 -1.9
comp=Z,68nm,0.9s
OBN Obninsk 18.93 25 *e*P Pn 08 31 39.9 -1.2
comp=Z,390nm,1.3s
OBN Obninsk 18.93 25 *d* P **Pn 08 31 39.2 -2.0**
OBN *e*S **Sn 08 35 11.2 -1.4**
OBN pmax pmax
comp=Z,266nm,1.1s
OBN pmax pmax
comp=Z,225nm,2.5s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 18.93 25 Pn **Pn 08 31 40.7 -0.5**

comp=Z,1μm,1.4s,SNR=13
OBN Obninsk 18.93 25 *e*P **Pn 08 31 39.9 -1.3**
comp=Z,390nm,1.3s
OBN *e*S **Sn 08 35 11.2 -1.4**
comp=Z,2μm,15.0s
LDF La Druitiere 19.10 308 *e*P **Pn 08 31 42.5 -0.8**
comp=Z,60nm,0.8s
LDF La Druitiere 19.10 308 *e*P **Pn 08 31 42.5 -0.8**
comp=Z,60nm,0.8s
LDF La Druitiere 19.10 308 *e*P **Pn 08 31 42.5 -0.8**
LDF pmax pmax
comp=Z,60nm,0.8s
LDF La Druitiere 19.10 308 *e*P **Pn 08 31 42.5 -0.8**
comp=Z,60nm,0.8s
MAK Makhachkala 19.31 69 *e*P **Pn 08 31 39.7 -6.2**
MAK *e*S **Sn 08 35 16.2 -5.8**
MAK Makhachkala 19.31 69 *e*P **Pn 08 31 39.7 -6.2**
MAK *e*S **Sn 08 35 16.2 -5.8**
FLN La Foliniere 19.39 309 *e*P **Pn 08 31 44.3 -2.5**
comp=Z,316nm,1.5s
FLN *e*R
comp=Z,1μm,22.8s
FLN La Foliniere 19.39 309 *e*P **Pn 08 31 44.3 -2.5**
comp=Z,316nm,1.5s
FLN La Foliniere 19.39 309 *e*P **Pn 08 31 44.3 -2.5**
FLN pmax pmax
comp=Z,317nm,1.5s
FLN La Foliniere 19.39 309 *e*P **Pn 08 31 44.3 -2.5**
comp=Z,317nm,1.5s
GRR Gorron 19.48 307 *e*P **Pn 08 31 46.0 -1.9**
comp=Z,156nm,1.2s
GRR Gorron 19.48 307 *e*P **Pn 08 31 46.0 -1.9**
comp=Z,156nm,1.2s
GRR Gorron 19.48 307 *e*P **Pn 08 31 46.0 -1.9**
GRR pmax pmax
comp=Z,156nm,1.2s
GRR Gorron 19.48 307 *e*P **Pn 08 31 46.0 -1.9**
comp=Z,156nm,1.2s
MOS Moscow 19.79 26 *e*P **Pn 08 31 48.1 -3.4**
MOS *e*S **Sn 08 35 32.6 -0.7**
MOS pmax pmax
comp=Z,149nm,1.1s
MOS MLR MLR
comp=Z,2μm,10.0s
MOS Moscow 19.79 26 *e*P **Pn 08 31 48.1 -3.4**
comp=Z,149nm,1.1s
MOS *e*S **Sn 08 35 32.6 -0.7**
comp=Z,2μm,10.0s
VSU Vasula 19.95 6 *d i*P **Pn 08 31 50.7 -2.6**
VSU pmax pmax
comp=Z,513nm,1.2s
VSU Vasula 19.95 6 *i*P **Pn 08 31 50.7 -2.6**
comp=Z,513nm,1.2s
SGMF Saint Gilles 20.50 306 *e*P **P 08 31 56.9 -0.8**
comp=Z,372nm,1.4s
SGMF Saint Gilles 20.50 306 *e*P **P 08 31 56.9 -0.8**
comp=Z,372nm,1.4s
SGMF Saint Gilles 20.50 306 *e*P **P 08 31 56.9 -0.8**
SGMF pmax pmax
comp=Z,372nm,1.4s
SGMF Saint Gilles 20.50 306 *e*P **P 08 31 56.9 -0.8**
comp=Z,372nm,1.4s
ESDC Sonseca Array 20.57 281 P **P 08 31 58.4 -0.2**
comp=Z,15nm,0.9s,baz=75,slow=11,SNR=41
ESDC Sonseca Array 20.57 281 P **P 08 31 58.4 -0.2**
ESDC Sonseca Array 20.57 281 P **P 08 31 58.4 -0.2**
ESLA Sonseca Array 20.57 281 *e*P **P 08 31 57.7 -0.9**
comp=Z,24nm,1.1s
ESLA Sonseca Array 20.57 281 *e*P **P 08 31 57.7 -0.9**
comp=Z,24nm,1.1s
QUIF Quistinic 20.79 305 *e*P **P 08 32 00.0 -0.9**
comp=Z,411nm,1.4s
QUIF Quistinic 20.79 305 *e*P **P 08 32 00.0 -0.9**
comp=Z,411nm,1.4s
QUIF Quistinic 20.79 305 *e*P **P 08 32 00.0 -0.9**
QUIF pmax pmax
comp=Z,411nm,1.4s
QUIF Quistinic 20.79 305 *e*P **P 08 32 00.0 -0.9**
comp=Z,411nm,1.4s
PAB San Pablo 20.88 281 *e*P **P 08 32 01.8 -0.2**
comp=Z,58nm,1.1s
PAB San Pablo 20.88 281 *e*P **P 08 32 01.8 -0.1**
PAB pmax pmax
comp=Z,58nm,1.1s
PAB San Pablo 20.88 281 *e*P **P 08 32 01.8 -0.1**
comp=Z,58nm,1.1s
ROSF Rostrenen 20.98 306 *e*P **P 08 32 03.1 +0.2**
comp=Z,425nm,1.6s
ROSF Rostrenen 20.98 306 *e*P **P 08 32 03.1 +0.2**
comp=Z,425nm,1.6s
ROSF Rostrenen 20.98 306 *e*P **P 08 32 03.1 +0.2**
ROSF pmax pmax
comp=Z,425nm,1.6s
ROSF Rostrenen 20.98 306 *e*P **P 08 32 03.1 +0.2**
comp=Z,425nm,1.6s
TAM Tamanrasset 21.54 227 *e*P **P 08 32 11.1 +2.0**
comp=Z,104nm,1.5s,mb5.0
TAM Tamanrasset 21.54 227 *e*P **P 08 32 11.1 +1.9**
TAM pmax pmax
comp=Z,104nm,1.5s,mb5.0
TAM Tamanrasset 21.54 227 *e*P **P 08 32 11.1 +1.9**
comp=Z,104nm,1.5s,mb5.0
PUL Pulkovo 21.64 11 *i*P **P 08 32 12.1 +2.2**
PUL Pulkovo 21.64 11 *i*P **P 08 32 12.1 +2.2**
HGH Gray Hill 21.94 314 *e*P **P 08 32 11.8 -1.4**
HGH Gray Hill 21.94 314 P **P 08 32 11.8 -1.4**
HGH Gray Hill 21.94 314 *e*P **P 08 32 11.8 -1.4**
KBI1 Birley Grange 22.04 319‖ *e*P **P 08 32 12.6 -1.6**
KBI1 Birley Grange 22.04 319 P **P 08 32 12.6 -1.6**
KBI1 Birley Grange 22.04 319‖ *e*P **P 08 32 12.6 -1.6**
HFS Hagfors 22.17 348 P **P 08 32 13.6 -2.0**
comp=Z,11nm,0.6s,mb4.5,baz=152,slow=12,SNR=26
HFS LR LR 08 40 59.8
comp=Z,791nm,21.9s,MS4.1,baz=170,slow=37
HFS Hagfors 22.17 348 P **P 08 32 13.6 -2.0**
HFS Hagfors 22.17 348 P **P 08 32 13.6 -1.9**
HFS pmax pmax
comp=Z,11nm,0.6s
HFS MLR MLR
comp=Z,791nm,21.9s
HFS Hagfors 22.17 348 P **P 08 32 13.6 -1.9**
comp=Z,791nm,21.9s
MCH1 Michaelchurch 22.21 315‖ *e*P **P 08 32 14.2 -1.9**
MCH1 AMB AMB 08 32 21.8
comp=Z,180nm,1.3s,mb5.3
MCH1 Michaelchurch 22.21 315 P **P 08 32 14.2 -1.9**
MCH1 AMB AMB 08 32 21.8
comp=Z,180nm,1.3s,mb5.3
MCH1 Michaelchurch 22.21 315‖ *e*P **P 08 32 14.2 -1.8**
HLM1 Long Mynd 22.38 316 *e*P **P 08 32 15.8 -2.1**
HLM1 AMB AMB 08 32 21.7
comp=Z,122nm,1.9s,mb5.0
HLM1 Long Mynd 22.38 316 P **P 08 32 15.8 -2.1**
HLM1 AMB AMB 08 32 21.7
comp=Z,122nm,1.9s,mb5.0
HLM1 Long Mynd 22.38 316 *e*P **P 08 32 15.8 -2.1**
KONO Kongsberg 22.53 343 *e*P **P 08 32 17.9 -1.5**
KONO Kongsberg 22.53 343 *e*P **P 08 32 17.5 -1.9**
comp=Z,108nm,1.2s,mb5.2
KONO Kongsberg 22.53 343 *e*P **P 08 32 17.5 -1.9**
KONO pmax pmax
comp=Z,108nm,1.2s,mb5.2
KONO Kongsberg 22.53 343 *e*P **P 08 32 17.9 -1.5**
SNR=38
PBRG Braganca 22.54 287 *e*P **P 08 32 21.9 +2.2**
comp=Z,86nm,1.8s,mb4.9
PBRG Braganca 22.54 287 *e*P **P 08 32 21.9 +2.2**
comp=Z,86nm,1.8s,mb4.9
FOEL Foel Wylfa 22.73 317 *e*P **P 08 32 19.7 -1.8**
FOEL AMB AMB 08 32 27.1
comp=Z,147nm,1.8s,mb5.1
FOEL Foel Wylfa 22.73 317 P **P 08 32 19.7 -1.8**
FOEL AMB AMB 08 32 27.1
comp=Z,147nm,1.8s,mb5.1
FOEL Foel Wylfa 22.73 317 *e*P **P 08 32 19.7 -1.9**
MVO Moncorvo 22.79 286 *e*P **P 08 32 23.6 +1.3**
comp=Z,71nm,1.7s,mb4.8
MVO Moncorvo 22.79 286 *e*P **P 08 32 23.6 +1.3**
comp=Z,71nm,1.7s,mb4.8
FINES FINESS Array B 22.86 4 P **P 08 32 20.4 -2.4**
comp=Z,27nm,0.9s,mb4.7,baz=171,slow=9.8,SNR=40
FINES PcP PcP 08 36 10.0 -3.3
comp=Z,1.8nm,0.3s,baz=271,slow=1.7,SNR=17
FINES ScP ScP 08 39 47.5 -3.0
comp=Z,5.5nm,1.0s,baz=222,slow=2.6,SNR=3.5
FINES FINESS Array B 22.86 4 P **P 08 32 20.4 -2.4**

FINES PcP PcP 08 36 10.0 -3.2
FINES ScP ScP 08 39 47.5 -3.0
FINES FINESS Array B 22.86 4 P **P 08 32 20.5 -2.4**
FINES 08 36 10.0
FINES pmax pmax
comp=Z,27nm,0.9s
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES pmax pmax
comp=N,6.0nm,1.0s
FINES FINESS Array B 22.86 4 P **P 08 32 20.5 -2.4**
comp=N,27nm,0.9s,mb4.7
NC602 NORSAR Array S 23.11 346 *e*P **P 08 32 22.8 -2.7**
PBAR Barrancos 23.16 278 *e*P **P 08 32 25.1 -1.2**
comp=N,68nm,1.8s,mb4.8
PBAR Barrancos 23.16 278 *e*P **P 08 32 25.1 -1.2**
comp=N,68nm,1.8s,mb4.8
PMRV Marv??o 23.23 281 *e*P **P 08 32 27.3 +0.2**
PMRV Marv??o 23.23 281 *e*P **P 08 32 27.3 +0.2**
MTE Manteigas 23.24 284 *e*P **P 08 32 28.7 +1.6**
comp=N,113nm,1.6s,mb5.0
MTE *e*S **S 08 36 41.3 +3.0**
MTE Manteigas 23.24 284 *e*P **P 08 32 28.7 +1.6**
comp=N,113nm,1.6s,mb5.0
MTE *e*S **S 08 36 41.3 +3.0**
PCBR Castelo Branco 23.25 282 *e*P **P 08 32 27.2 0.0**
comp=N,63nm,1.5s,mb4.8
PCBR Castelo Branco 23.25 282 *e*P **P 08 32 27.2 0.0**
comp=N,63nm,1.5s,mb4.8
XAL Allendale 23.25 322 *e*P **P 08 32 25.5 -1.5**
XAL Allendale 23.25 322 P **P 08 32 25.5 -1.5**
XAL Allendale 23.25 322 *e*P **P 08 32 25.5 -1.5**
NAO01 NORSAR Array S 23.34 345 *e*P **P 08 32 25.9 -2.0**
comp=N,37nm,0.8s,mb4.9
NAO01 NORSAR Array S 23.34 345 *e*P **P 08 32 25.9 -2.0**
comp=N,37nm,0.8s,mb4.9
NB2 NORSAR Subarra 23.45 346 P **P 08 32 26.5 -2.6**
comp=Z,63nm,1.0s,mb5.0,baz=159,slow=9.3
NB2 NORSAR Subarra 23.45 346 P **P 08 32 26.5 -2.6**
baz=159,slow=9.1,SNR=38
NOA NORSAR Array B 23.45 346 P **P 08 32 26.9 -2.2**
comp=Z,8.3nm,0.7s,mb4.3,baz=157,slow=8.5,SNR=32
NOA ScP ScP 08 39 49.1 -2.9
comp=Z,3.7nm,1.0s,baz=144,slow=2.3,SNR=3.4
NOA LR LR 08 42 34.3
comp=Z,772nm,19.5s,MS4.2,baz=175,slow=39
NOA NORSAR Array B 23.45 346 P **P 08 32 26.9 -2.2**
NOA ScP ScP 08 39 49.1 -2.9
NOA NORSAR Array B 23.45 346 P **P 08 32 26.9 -2.2**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA pmax pmax
comp=N,4.0nm,1.0s
NOA MLR MLR
comp=Z,772nm,19.5s
NOA NORSAR Array B 23.45 346 P **P 08 32 26.9 -2.2**
comp=Z,772nm,19.5s
PESTR Estremoz 23.47 280 *e*P **P 08 32 30.8 +1.3**
PESTR Estremoz 23.47 280 *e*P **P 08 32 30.8 +1.3**
PVIS Viseu 23.47 285 *e*P **P 08 32 28.1 -1.5**
PVIS Viseu 23.47 285 *e*P **P 08 32 28.1 -1.5**
KESW Keswick, Cumbr 23.53 321 *e*P **P 08 32 28.1 -1.9**
KESW AMB AMB 08 32 33.9
comp=Z,266nm,4.3s
KESW Keswick, Cumbr 23.53 321 P **P 08 32 28.1 -1.9**
KESW AMB AMB 08 32 33.9
comp=Z,266nm,4.3s
KESW Keswick, Cumbr 23.53 321 *e*P **P 08 32 28.1 -1.9**
KAF Kangasniemi 23.54 4 *e*P **P 08 32 26.6 -3.4**
KAF pmax pmax
comp=Z,29nm,0.7s,mb4.8
KAF Kangasniemi 23.54 4 *e*p **P 08 32 26.6 -3.4**
comp=Z,28nm,0.7s,mb4.8
XDE Dent Fell 23.68 320 *e*P **P 08 32 30.1 -1.3**
XDE Dent Fell 23.68 320 P **P 08 32 30.1 -1.3**
XDE Dent Fell 23.68 320 *e*P **P 08 32 30.1 -1.2**
IPIR Pirpir 23.71 96 *e*P **P 08 32 33.4 +1.5**
IPIR Pirpir 23.71 96 *e*P **P 08 32 33.4 +1.5**
PBEJ Beja 23.83 278 *e*P **P 08 32 33.3 +0.4**
comp=Z,62nm,1.5s,mb4.8
PBEJ Beja 23.83 278 *e*P **P 08 32 33.3 +0.4**
comp=Z,62nm,1.5s,mb4.8
PVAQ Vaqueiros 23.84 276 *e*P **P 08 32 34.4 +1.4**
comp=Z,58nm,1.3s,mb4.8
PVAQ *e*S **S 08 36 48.0 -0.2**
PVAQ Vaqueiros 23.84 276 *e*P **P 08 32 34.4 +1.4**
comp=Z,58nm,1.3s,mb4.8
PVAQ *e*S **S 08 36 48.0 -0.2**
EVO Evora 23.85 279 *e*P **P 08 32 32.2 -0.9**
EVO *e*R
comp=Z,425nm,20.5s
EVO Evora 23.85 279 *e*P **P 08 32 36.0 +2.9**
EVO Evora 23.85 279 *e*P **P 08 32 36.0 +2.9**
EVOP Sao Brissos 23.94 279 *e*P **P 08 32 32.2 -1.7**
EVOP Sao Brissos 23.94 279 *e*P **P 08 32 32.2 -1.7**
EVOP Sao Brissos 23.94 279 *e*P **P 08 32 32.2 -1.7**
ESK Eskdalemuir 23.97 322 *e*P **P 08 32 32.4 -1.6**
ESK AMB AMB 08 32 36.4
comp=Z,346nm,4.6s
ESK Eskdalemuir 23.97 322 P **P 08 32 32.4 -1.6**
ESK AMB AMB 08 32 36.4
comp=Z,346nm,4.6s
ESK Eskdalemuir 23.97 322 P **P 08 32 34.7 +0.7**
comp=Z,949nm,1.5s,mb6.0,SNR=8.6
ESK Eskdalemuir 23.97 322 *e*P **P 08 32 34.3 +0.3**
comp=Z,246nm,1.2s,mb5.5
ESK Eskdalemuir 23.97 322 *e*P **P 08 32 34.3 +0.3**
ESK pmax pmax
comp=Z,246nm,1.2s,mb5.5
ESK Eskdalemuir 23.97 322 *e*P **P 08 32 34.3 +0.3**
comp=Z,246nm,1.2s,mb5.5
IKLH Kolahrood 24.01 94 *e*P **P 08 32 38.9 +4.3**
IKLH Kolahrood 24.01 94 *e*P **P 08 32 38.9 +4.3**
PBDV Barranco-do-Ve 24.05 276 *e*P **P 08 32 34.9 0.0**
comp=Z,76nm,1.2s,mb5.0
PBDV *e*S **S 08 36 51.5 0.0**
PBDV Barranco-do-Ve 24.05 276 *e*P **P 08 32 34.9 0.0**
comp=Z,76nm,1.2s,mb5.0
PBDV *e*S **S 08 36 51.5 0.0**
PCVE Castro Verde 24.05 277 *e*P **P 08 32 35.7 +0.8**
comp=Z,60nm,1.7s,mb4.8
PCVE Castro Verde 24.05 277 *e*P **P 08 32 35.7 +0.8**
comp=Z,60nm,1.7s,mb4.8
MESJ Messejana 24.14 278 *e*P **P 08 32 36.0 +0.3**
MESJ AMb AMB 08 32 38.8
comp=Z,59nm,1.3s,mb4.8
MESJ *e*S **S 08 36 55.0 +1.9**
MESJ Messejana 24.14 278 *e*P **P 08 32 36.0 +0.3**
comp=Z,59nm,1.3s,mb4.8
MESJ *e*S **S 08 36 55.0 +1.9**
MESJ Messejana 24.14 278 *e*P **P 08 32 36.0 +0.3**
MESJ *e*S **S 08 36 55.0 +1.9**
MESJ Messejana 24.14 278 *e*P **P 08 32 36.0 +0.3**
MESJ *e*S **S 08 36 55.0 +1.9**
EBL Broad Law 24.15 323 *e*P **P 08 32 34.0 -1.6**
EBL Broad Law 24.15 323 P **P 08 32 34.0 -1.6**
EBL Broad Law 24.15 323 *e*P **P 08 32 34.0 -1.6**
IFIR Firoozkooh 24.19 88 *e*P **P 08 32 36.8 +0.6**
IFIR Firoozkooh 24.19 88 *e*P **P 08 32 36.8 +0.6**
EDI Edinburgh 24.30 324 *e*P **P 08 32 34.8 -2.2**
EDI AMB AMB 08 32 41.9
comp=Z,290nm,1.4s,mb5.5
EDI Edinburgh 24.30 324 P **P 08 32 34.8 -2.2**
EDI AMB AMB 08 32 41.9
comp=Z,290nm,1.4s,mb5.5
EDI Edinburgh 24.30 324 *e*P **P 08 32 34.8 -2.2**
PNCL Nicolau / Gran 24.33 278 *e*P **P 08 32 38.0 +0.6**
comp=Z,88nm,1.5s,mb5.0
PNCL *e*S **S 08 36 58.4 +2.3**
PNCL Nicolau / Gran 24.33 278 *e*P **P 08 32 38.0 +0.6**
comp=Z,88nm,1.5s,mb5.0
PNCL *e*S **S 08 36 58.4 +2.3**
EAU Auchinoon 24.38 323 *e*P **P 08 32 36.8 -0.9**
EAU Auchinoon 24.38 323 P **P 08 32 36.8 -0.9**
EAU Auchinoon 24.38 323 *e*P **P 08 32 36.8 -0.9**
ISHM Shahmirzad 24.56 87 *e*P **P 08 32 40.7 +1.1**
ISHM Shahmirzad 24.56 87 *e*P **P 08 32 40.7 +1.1**
KLMR Klimovskoe 24.57 20 *d i*P **P 08 32 39.0 -0.4**
KLMR pmax pmax
comp=Z,499nm,1.4s,mb5.8
KLMR pmax pmax
comp=Z,405nm,8.4s
KLMR MLR MLR
comp=Z,7μm,14.0s,MS5.3
KLMR Klimovskoe 24.57 20 *i*P **P 08 32 39.0 -0.4**

comp=Z,7μm,14.0s
MORF Marmelete 24.59 277 *e*P **P 08 32 38.7 -1.1**
comp=Z,103nm,1.7s,mb5.1
MORF Marmelete 24.59 277 *e*P **P 08 32 40.1 +0.3**
MORF *e*S **S 08 37 02.3 +2.0**
MORF Marmelete 24.59 277 *e*P **P 08 32 38.7 -1.1**
comp=Z,103nm,1.7s,mb5.1
MORF *e*S **S 08 37 02.3 +2.0**
EBH Black Hill 24.63 324 *e*P **P 08 32 38.5 -1.5**
EBH Black Hill 24.63 324 P **P 08 32 38.5 -1.5**
EBH Black Hill 24.63 324 *e*P **P 08 32 38.5 -1.5**
RAYN Ar Rayn 24.69 121 P **P 08 32 43.3 +2.4**
comp=Z,176nm,1.0s,mb5.5,SNR=7.4
DLF Lyons Farm 24.71 316 *e*P **P 08 32 40.6 -0.1**
IGAR Gharneh 24.72 96 *e*P **P 08 32 42.3 +1.3**
PMAFR Mafra 24.76 281 *e*P **P 08 32 41.6 +0.2**
PMAFR Mafra 24.76 281 *e*P **P 08 32 41.6 +0.2**
IGLO Ghaloghah 24.80 85 *e*P **P 08 32 40.1 -1.6**
JOF Joensuu 24.81 10 *e*P **P 08 32 38.7 -2.9**
JOF pmax pmax
comp=Z,14nm,0.6s,mb4.7
JOF Joensuu 24.81 10 *e*p **P 08 32 38.7 -2.9**
comp=Z,14nm,0.6s,mb4.7
EAB Aberfoyle 24.99 323 *e*P **P 08 32 42.1 -1.2**
EAB Aberfoyle 24.99 323 P **P 08 32 42.1 -1.2**
EAB Aberfoyle 24.99 323 *e*P **P 08 32 42.1 -1.2**
KSB Sheil Bridge 26.05 324 *e*P **P 08 32 51.7 -1.2**
KSB Sheil Bridge 26.05 324 P **P 08 32 51.7 -1.2**
KSB Sheil Bridge 26.05 324 *e*P **P 08 32 51.7 -1.2**
KPL Plockton 26.22 325 *e*P **P 08 32 53.1 -1.3**
KPL AMB AMB 08 33 01.7
comp=Z,212nm,2.1s,mb5.3
KPL Plockton 26.22 325 P **P 08 32 53.1 -1.3**
KPL AMB AMB 08 33 01.7
comp=Z,212nm,2.1s,mb5.3
KPL Plockton 26.22 325 *e*P **P 08 32 53.1 -1.3**
IPAR Pars 26.59 100 *e*P **P 08 32 59.1 +1.0**
IPAR Pars 26.59 100 *e*P **P 08 32 59.1 +1.0**
NSS Namsos 26.61 350 *e*P **P 08 32 55.8 -2.0**
NSS AMS AMS 08 44 55.5
comp=Z,5μm,13.6s,MS5.2
NSS Namsos 26.61 350 *e*P **P 08 32 55.8 -2.0**
SNR=32
ISRV Sarvestan 26.86 101 *e*P **P 08 33 02.6 +2.2**
ISRV Sarvestan 26.86 101 *e*P **P 08 33 02.6 +2.2**
AKTK Aktyubinsk 27.57 53 P **P 08 33 06.4 -0.2**
comp=Z,655nm,20.8s
AKTO Aktyubinsk 27.57 53 P **P 08 33 06.4 -0.2**
comp=Z,2.7nm,0.6s,mb4.1,baz=225,slow=9.9,SNR=6.1
AKTO ScP ScP 08 40 00.2 -3.8
comp=Z,3.5nm,1.1s,baz=225,slow=2.9,SNR=3.5
AKTO LR LR 08 45 49.8
comp=Z,655nm,20.8s,MS4.2,baz=37,slow=40
AKTO Aktyubinsk 27.57 53 P **P 08 33 06.4 -0.2**
AKTO ScP ScP 08 40 00.2 -3.8
AKTO Aktyubinsk 27.57 53 P **P 08 33 06.4 -0.2**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
AKTO pmax pmax
comp=N,4.0nm,1.1s
AKTO MLR MLR
comp=Z,655nm,20.8s,MS4.2
AKTO Aktyubinsk 27.57 53 P **P 08 33 06.4 -0.2**
MOR8 Moi Rana 27.90 353 *e*P **P 08 33 08.7 -0.7**
MOR8 Moi Rana 27.90 353 *e*P **P 08 33 08.7 -0.7**
SNR=31
ISFR Sfrayin 27.90 82 *e*P **P 08 33 15.8 +6.0**
ISFR Sfrayin 27.90 82 *e*P **P 08 33 15.8 +6.0**
IEMG Emamgholi 28.32 81 *e*P **P 08 33 12.9 -0.6**
IEMG Emamgholi 28.32 81 *e*P **P 08 33 12.9 -0.6**
IAKL Akhelmad 28.61 83 *e*P **P 08 33 16.2 +0.2**
AB31 Akbulak array 28.61 56 *e*P **P 08 33 16.8 +0.9**
AB31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
AB31 Akbulak array 28.61 56 *e*P **P 08 33 16.8 +0.9**
comp=Z,7.0nm,0.8s,mb4.4
APA Apatity 29.54 8 *e*P **P 08 33 28.5 +4.5**
APA *e* 08 34 15.5
APA *i*S **S 08 38 24.0 +6.2**
APA pmax pmax
comp=Z,20nm,0.8s,mb4.9
APA MLR MLR
comp=Z,4μm,16.0s,MS5.2
ARU Arti 29.59 41 *e*P **P 08 33 24.1 -0.4**
comp=Z,29nm,1.0s,mb5.0
ARU Arti 29.59 41 *c i*P **P 08 33 24.6 0.0**
ARU *e* 08 34 16.5
ARU PPP 08 34 28.4
ARU 08 36 24.4
ARU S **S 08 38 21.9 +3.0**
ARU SS SS 08 39 48.2 -36
ARU pmax pmax
comp=Z,33nm,2.5s,mb4.6
ARU MLR MLR
comp=Z,2μm,13.0s,MS4.8
ARU Arti 29.59 41 *i*P **P 08 33 24.6 0.0**
comp=Z,33nm,2.5s,mb4.6
ARU S **S 08 38 21.9 +3.0**
SOKR Solikamsk 30.07 35 *c i*P **P 08 33 29.8 +1.1**
SOKR pmax pmax
comp=Z,90nm,1.5s,mb5.3
SOKR MLR MLR
comp=Z,1μm,15.0s,MS4.7
SOKR Solikamsk 30.07 35 *i*P **P 08 33 29.8 +1.1**
comp=Z,1μm,15.0s
KTK1 Kautokeino 30.36 0 *e*P **P 08 33 30.3 -0.9**
KTK1 AMS AMS 08 46 55.3
comp=Z,9μm,10.8s,MS5.7
KTK1 Kautokeino 30.36 0 *e*P **P 08 33 30.3 -0.9**
SNR=31
SVE Sverdlovsk 30.80 41‖ *e*P **P 08 33 35.0 -0.3**
SVE pmax pmax
comp=Z,76nm,1.2s,mb5.4
SVE MLR MLR
comp=Z,3μm,12.0s,MS5.1
SVE Sverdlovsk 30.80 41 *e*P **P 08 33 35.0 -0.3**
comp=Z,3μm,12.0s
ARCES ARCESS Array B 30.93 2 P **P 08 33 33.7 -2.5**
comp=Z,4.8nm,0.8s,mb4.4,baz=182,slow=7.2,SNR=44
ARCES PcP PcP 08 36 30.4 -1.8
comp=Z,8.6nm,1.1s,baz=184,slow=2.5,SNR=12
ARCES ScP ScP 08 40 10.7 -3.6
comp=Z,4.7nm,1.0s,baz=186,slow=0.9,SNR=7.0
ARCES LR LR 08 47 02.9
comp=Z,3μm,18.1s,MS5.0,baz=181,slow=38
ARCES ARCESS Array B 30.93 2 P **P 08 33 33.7 -2.5**
ARCES PcP PcP 08 36 30.4 -1.8
ARCES ScP ScP 08 40 10.7 -3.6
ARCES ARCESS Array B 30.93 2 P **P 08 33 33.7 -2.5**
ARCES 08 36 30.4
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES pmax pmax
comp=Z,9.0nm,1.1s
ARCES pmax pmax
comp=N,5.0nm,1.0s
ARCES MLR MLR
comp=Z,3μm,18.1s
ARCES ARCESS Array B 30.93 2 PcP PcP 08 36 30.4 -1.8
comp=Z,3μm,18.1s
ARE0 ARCESS Array S 30.93 2 *e*P **P 08 33 35.6 -0.6**
ARE0 *e*S **S 08 38 45.6 +6.0**
ARE0 ARCESS Array S 30.93 2 *e*P **P 08 33 35.7 -0.5**
SNR=31
TRO Tromso 31.05 358 *e*P **P 08 33 37.6 +0.3**
TRO AMS AMS 08 47 59.2
comp=Z,3μm,10.4s,MS5.2
TRO Tromso 31.05 358 *e*P **P 08 33 37.6 +0.3**
SNR=31
KEV Kevo 31.20 3 *e*P **P 08 33 35.5 -3.1**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KEV Kevo 31.20 3 *e*p **P 08 33 35.5 -3.1**
comp=Z,4.4nm,0.6s,mb4.5
TORD Torodi Ar. Bea 31.48 222 P **P 08 33 41.2 -0.4**
comp=Z,11nm,0.7s,mb4.8,baz=33,slow=9.1,SNR=41
TORD ScP ScP 08 40 14.2 -2.8
comp=Z,1.2nm,0.9s,baz=37,slow=3.0,SNR=3.7
TORD LR LR 08 47 58.3
comp=Z,757nm,18.1s,MS4.4,baz=40,slow=39
TORD Torodi Ar. Bea 31.48 222 P **P 08 33 41.2 -0.5**
TORD ScP ScP 08 40 14.2 -2.8
TORD Torodi Ar. Bea 31.48 222 P **P 08 33 41.2 -0.4**
ARQ Araqi 32.66 108 P **P 08 33 53.4 +1.5**
SNR=10

ARQ	**Araqi**	**32.66**	**108**	P	**P**	**08 33 53.4**	**+1.5**
	SNR=10						
HOQ	**Hoqain**	**33.11**	**107**	P	**P**	**08 34 00.3**	**+4.5**
	SNR=9.5						
SMDO	**Samad**	**33.96**	**107**	P	**P**	**08 34 02.4**	**-0.9**
	SNR=22						
JMDO	**Jabal Madar**	**34.41**	**108**	P	**P**	**08 34 10.3**	**+3.2**
	SNR=13						
RBK	**Rabkut**	**34.73**	**119**	P	**P**	**08 34 12.6**	**+2.6**
	SNR=5.2						
RBK	**Rabkut**	**34.73**	**119**	P	**P**	**08 34 12.6**	**+2.6**
	SNR=5.2						
BRVK	**Borovoye**	**35.48**	**50**	*e*P	**P**	**08 34 16.0**	**0.0**
	comp=Z,9.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**35.48**	**50⇓**	*e*P	**P**	**08 34 16.4**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
BRVK				MLR	MLR		
	comp=Z,665nm,14.0s,MS4.5						
BRVK	**Borovoye**	**35.48**	**50**	*e*P	**P**	**08 34 16.4**	**+0.3**
	comp=Z,665nm,14.0s						
KK31	**Karatay Array**	**36.10**	**67**	P	**P**	**08 34 21.0**	**-0.6**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
KK31	**Karatay Array**	**36.10**	**67**	P	**P**	**08 34 21.0**	**-0.6**
	comp=Z,5.0nm,0.5s,mb4.7						
EKS2	**Erkin-Say**	**38.54**	**67**	*e*P	**P**	**08 34 42.2**	**-0.1**
	comp=Z,48nm,0.8s,mb5.3						
EKS2	**Erkin-Say**	**38.54**	**67**	*e*P	**P**	**08 34 42.2**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.3						
EKS2	**Erkin-Say**	**38.54**	**67**	*e*P	**P**	**08 34 42.2**	**-0.1**
	comp=Z,48nm,0.8s,mb5.3						
AAK	**Ala-Archa**	**39.07**	**67**	*e*P	**P**	**08 34 46.8**	**+0.1**
	comp=Z,101nm,1.3s,mb5.4						
AAK				*e*ScP	ScP	08 40 43.0	-1.2
AAK	**Ala-Archa**	**39.07**	**67⇓**	*e*P	**P**	**08 34 47.7**	**+1.0**
AAK				pmax	pmax		
	comp=Z,42nm,2.5s,mb4.7						
AAK	**Ala-Archa**	**39.07**	**67**	P	**P**	**08 34 49.1**	**+2.5**
	SNR=6.4						
AAK	**Ala-Archa**	**39.07**	**67**	*e*P	**P**	**08 34 46.8**	**+0.1**
FRU	**Bishkek**	**39.11**	**67**	*e*P	**P**	**08 34 48.0**	**+1.0**
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.0						
FRU	**Bishkek**	**39.11**	**67**	*e*P	**P**	**08 34 48.0**	**+1.0**
	comp=Z,60nm,2.0s,mb5.0						
SCO	**Scoresbysund**	**39.28**	**338**	*i* P	**P**	**08 34 48.3**	**+0.2**
SCO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
SCO	**Scoresbysund**	**39.28**	**338**	*i* P	**P**	**08 34 48.3**	**+0.2**
	comp=Z,13nm,0.8s,mb4.7						
SCO	**Scoresbysund**	**39.28**	**338**	*i* P	**P**	**08 34 48.3**	**+0.2**
	comp=Z,13nm,0.8s,mb4.7						
SPA0	**Spitsbergen Ar**	**39.66**	**358**	*e*P	**P**	**08 34 50.8**	**-0.4**
SPA0	**Spitsbergen Ar**	**39.66**	**358**	*e*P	**P**	**08 34 50.8**	**-0.4**
	SNR=29						
TKM2	**Tokmak 2**	**39.80**	**66**	*e*P	**P**	**08 34 55.2**	**+2.5**
	comp=Z,6.8nm,1.1s,mb4.3						
TKM2	**Tokmak 2**	**39.80**	**66**	*e*P	**P**	**08 34 55.3**	**+2.5**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
TKM2	**Tokmak 2**	**39.80**	**66**	*e*P	**P**	**08 34 55.2**	**+2.5**
	comp=Z,6.8nm,1.1s,mb4.3						
DBIC	**Dimbokro**	**40.40**	**225**	P	**P**	**08 34 57.9**	**0.0**
	comp=Z,16nm,0.8s,mb4.8,baz=9.8,slow=11,SNR=20						
DBIC				LR	LR	08 51 59.3	
	comp=Z,566nm,21.6s,MS4.4,baz=13,slow=36						
DBIC	**Dimbokro**	**40.40**	**225**	*e*P	**P**	**08 34 57.8**	**-0.1**
	comp=Z,19nm,0.8s,mb4.9						
DBIC	**Dimbokro**	**40.40**	**225**	P	**P**	**08 34 57.9**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,16nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,566nm,21.6s						
DBIC	**Dimbokro**	**40.40**	**225**	*e*P	**P**	**08 34 57.8**	**-0.2**
	comp=Z,18nm,0.8s,mb4.9						
KBS	**Kingsbay**	**40.56**	**357**	*e*SS	SS	08 44 07.2	+0.7
KBS				AMS	AMS	08 53 33.4	
	comp=Z,1μm,13.4s,MS5.0						
KBS	**Kingsbay**	**40.56**	**357**	*e*SS	SS	08 44 07.2	+0.8
	SNR=42						
KURK	**Kurchatov**	**40.66**	**54**	LR	LR	08 55 27.7	
	comp=Z,592nm,19.0s,MS4.5,baz=315,slow=42						
KURK	**Kurchatov**	**40.66**	**54**	*e*P	**P**	**08 34 58.5**	**-1.3**
	comp=Z,15nm,1.0s,mb4.6						
KURK	**Kurchatov**	**40.66**	**54⇑**	*e*P	**P**	**08 34 59.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.5						
KURK				MLR	MLR		
	comp=Z,709nm,19.0s,MS4.5						
KURK	**Kurchatov**	**40.66**	**54**	*e*P	**P**	**08 34 59.6**	**-0.2**
	comp=Z,709nm,19.0s						
KSH	**Kashi**	**40.92**	**71**	P	**P**	**08 35 01.3**	**-0.8**
KSH				pP	pP	08 35 05.8	-1.1
KSH				PP	PP	08 36 38.1	+1.7
KSH				PcP	PcP	08 37 03.6	+1.2
KSH				ScP	ScP	08 40 50.3	-1.1
KSH				PcS	PcS	08 40 54.0	+0.8
KSH				S	**S**	**08 41 10.8**	**-2.4**
KSH				SS	SS	08 44 05.8	-8.9
KSH				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.4						
KSH				pmax	pmax		
	comp=Z,150nm,5.5s						
KSH				LR	LR		
	comp=N,380nm,12.2s						
KSH				LR	LR		
	comp=E,380nm,9.2s						
KSH				LR	LR		
	comp=Z,250nm,9.3s						
KMBO	**Kilima Mbogo**	**41.88**	**158**	*e*P	**P**	**08 35 11.6**	**+1.4**
	comp=Z,1.8nm,0.8s,mb3.8						
KMBO	**Kilima Mbogo**	**41.88**	**158**	*e*P	**P**	**08 35 11.6**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**41.88**	**158**	*e*P	**P**	**08 35 11.6**	**+1.4**
	comp=Z,1.8nm,0.8s,mb3.8						
DAG	**Danmarks Havn**	**42.13**	**347**	*e*P	**P**	**08 35 09.8**	**-1.8**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
DAG	**Danmarks Havn**	**42.13**	**347**	*i* P	**P**	**08 35 09.8**	**-1.8**
	comp=Z,6.5nm,0.9s,mb4.3						
NVS	**Novosibirsk**	**43.13**	**48**	*e*P	**P**	**08 35 18.0**	**-1.9**
NVS				*e*		08 37 00.3	
NVS				*e*PPP		08 37 37.3	
NVS				*e*S	**S**	**08 41 49.3**	**+3.9**
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,44nm,1.3s,mb5.0						
NVS				pmax	pmax		
	comp=E,9.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.8						
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				smax			
	comp=N,11nm,1.0s						
NVS				smax			
	comp=E,25nm,1.1s						
NVS	**Novosibirsk**	**43.13**	**48**	*e*P	**P**	**08 35 18.0**	**-1.9**
	comp=E,27nm,1.5s,mb4.8						
NVS				*e*S	**S**	**08 41 49.3**	**+3.9**
MK31	**Makanchi Array**	**43.64**	**59**	*e*P	**P**	**08 35 23.4**	**-0.7**
MK31	**Makanchi Array**	**43.64**	**59**	*e*P	**P**	**08 35 23.6**	**-0.6**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
MK31	**Makanchi Array**	**43.64**	**59**	*e*P	**P**	**08 35 23.6**	**-0.6**
	comp=Z,5.0nm,0.4s,mb4.6						
MKAR	**Makanchi Array**	**43.64**	**59**	P	**P**	**08 35 23.3**	**-0.9**
	comp=Z,7.1nm,0.4s,mb4.8,baz=274,slow=7.3,SNR=94						
MKAR				ScP	ScP	08 40 60.0	-2.2
	comp=Z,1.6nm,0.7s,baz=278,slow=3.7,SNR=5.5						
MKAR				LR	LR	08 58 16.1	
	comp=Z,290nm,18.8s,MS4.2,baz=171,slow=42						
MKAR	**Makanchi Array**	**43.64**	**59**	P	**P**	**08 35 23.3**	**-0.9**
MKAR				ScP	ScP	08 40 60.0	-2.2
MKAR	**Makanchi Array**	**43.64**	**59**	P	**P**	**08 35 23.3**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
MKAR				pmax	pmax		
	comp=N,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,290nm,18.8s						
MKAR	**Makanchi Array**	**43.64**	**59**	P	**P**	**08 35 23.3**	**-0.9**
	comp=Z,290nm,18.8s						
ZAA0	**Zalesovo Array**	**44.13**	**49**	*e*P	**P**	**08 35 26.6**	**-1.4**
ZAA0	**Zalesovo Array**	**44.13**	**49**	*e*P	**P**	**08 35 26.6**	**-1.4**
ZALV	**Zalesovo Beam**	**44.13**	**49**	P	**P**	**08 35 26.3**	**-1.7**
	comp=Z,7.1nm,0.4s,mb4.8,baz=272,slow=9.2,SNR=44						
ZALV				LR	LR	08 55 34.5	
	comp=Z,425nm,20.6s,MS4.3,baz=124,slow=38						
ZALV	**Zalesovo Beam**	**44.13**	**49**	P	**P**	**08 35 26.3**	**-1.7**
ZALV	**Zalesovo Beam**	**44.13**	**49**	P	**P**	**08 35 26.3**	**-1.7**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.7						
ZALV				MLR	MLR		
	comp=Z,425nm,20.6s,MS4.3						
ZALV	**Zalesovo Beam**	**44.13**	**49**	P	**P**	**08 35 26.3**	**-1.7**
	comp=Z,425nm,20.6s						
SUMG	**Summit**	**44.92**	**338**	*e*P	**P**	**08 35 34.4**	**+0.3**
	comp=Z,21nm,1.1s,mb4.9						
SUMG	**Summit**	**44.92**	**338**	*i* P	**P**	**08 35 34.0**	**-0.1**
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SUMG	**Summit**	**44.92**	**338**	*i* P	**P**	**08 35 34.0**	**-0.1**
	comp=Z,7.6nm,1.0s,mb4.5						
SUMG	**Summit**	**44.92**	**338**	*i* P	**P**	**08 35 34.0**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.5						
SFJD	**Kangerlussuaq**	**48.58**	**330**	*e*P	**P**	**08 36 04.7**	**+1.9**
SFJD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
SFJD	**Kangerlussuaq**	**48.58**	**330**	*i* P	**P**	**08 36 04.7**	**+1.9**
	comp=Z,10nm,0.8s,mb4.9						
SFJD	**Kangerlussuaq**	**48.58**	**330**	*e*P	**P**	**08 36 04.7**	**+1.9**
	comp=Z,10.0nm,0.8s,mb4.9						
HVS	**Khovu-Aksy**	**49.97**	**51⇓**	*e*P	**P**	**08 36 13.7**	**+0.1**
HVS				pmax	pmax		
	comp=Z,71nm,1.2s,mb5.6						
HVS	**Khovu-Aksy**	**49.97**	**51**	*e*P	**P**	**08 36 13.7**	**+0.1**
	comp=Z,71nm,1.2s,mb5.6						
DANN	**Dangsing**	**51.20**	**82**	*e*P	**P**	**08 36 21.8**	**-1.4**
	comp=Z,101nm,0.8s,mb5.8						
DANN	**Dangsing**	**51.20**	**82**	*e*P	**P**	**08 36 21.8**	**-1.4**
	comp=Z,101nm,0.8s,mb5.8						
DANN	**Dangsing**	**51.20**	**82**	*e*P	**P**	**08 36 21.8**	**-1.4**
	comp=Z,101nm,0.8s,mb5.8						
KOLN	**Koldanda**	**51.35**	**83**	*e*P	**P**	**08 36 22.6**	**-1.8**
	comp=Z,19nm,0.7s,mb5.1						
KOLN	**Koldanda**	**51.35**	**83**	*e*P	**P**	**08 36 22.6**	**-1.8**
	comp=Z,19nm,0.7s,mb5.1						
KOLN	**Koldanda**	**51.35**	**83**	*e*P	**P**	**08 36 22.6**	**-1.8**
	comp=Z,19nm,0.7s,mb5.1						
GKN	**Gorkha**	**52.05**	**82**	*e*P	**P**	**08 36 28.6**	**-1.0**
	comp=Z,27nm,0.8s,mb5.2						
GKN	**Gorkha**	**52.05**	**82**	*e*P	**P**	**08 36 28.6**	**-1.0**
	comp=Z,27nm,0.8s,mb5.2						
GKN	**Gorkha**	**52.05**	**82**	*e*P	**P**	**08 36 28.6**	**-1.0**
	comp=Z,27nm,0.8s,mb5.2						
DMN	**Daman**	**52.60**	**82**	*e*P	**P**	**08 36 32.6**	**-1.1**
	comp=Z,33nm,0.9s,mb5.3						
DMN	**Daman**	**52.60**	**82**	*e*P	**P**	**08 36 32.6**	**-1.1**
	comp=Z,33nm,0.9s,mb5.3						
PKI	**Pulchoki**	**52.85**	**82**	*e*P	**P**	**08 36 34.7**	**-0.8**
PKI	**Pulchoki**	**52.85**	**82**	*e*P	**P**	**08 36 34.7**	**-0.8**
PKI	**Pulchoki**	**52.85**	**82**	*e*P	**P**	**08 36 34.7**	**-0.8**
PKI	**Pulchoki**	**52.85**	**82**	*e*P	**P**	**08 36 34.7**	**-0.8**
GUN	**Gumba**	**53.05**	**82**	*e*P	**P**	**08 36 35.6**	**-1.4**
	comp=Z,60nm,1.0s,mb5.5						
GUN	**Gumba**	**53.05**	**82**	*e*P	**P**	**08 36 35.6**	**-1.4**
	comp=Z,60nm,1.0s,mb5.5						
GUN	**Gumba**	**53.05**	**82**	*e*P	**P**	**08 36 35.6**	**-1.4**
	comp=Z,60nm,1.0s,mb5.5						
JIRN	**Jiri**	**53.41**	**82**	*e*P	**P**	**08 36 38.9**	**-0.8**
JIRN	**Jiri**	**53.41**	**82**	*e*P	**P**	**08 36 38.9**	**-0.8**
JIRN	**Jiri**	**53.41**	**82**	*e*P	**P**	**08 36 38.9**	**-0.8**
LSZ	**Lusaka**	**53.96**	**173**	*e*P	**P**	**08 36 43.9**	**+0.3**
	comp=Z,18nm,1.3s,mb4.8						
LSZ	**Lusaka**	**53.96**	**173**	*e*P	**P**	**08 36 43.9**	**+0.3**
LSZ				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
LSZ	**Lusaka**	**53.96**	**173**	*e*P	**P**	**08 36 43.9**	**+0.3**
	comp=Z,18nm,1.3s,mb4.8						
RAMN	**Ramite**	**54.08**	**82**	*e*P	**P**	**08 36 43.5**	**-1.1**
	comp=Z,36nm,0.8s,mb5.4						
RAMN	**Ramite**	**54.08**	**82**	*e*P	**P**	**08 36 43.5**	**-1.1**
	comp=Z,36nm,0.8s,mb5.3						
RAMN	**Ramite**	**54.08**	**82**	*e*P	**P**	**08 36 43.5**	**-1.1**
	comp=Z,36nm,0.8s,mb5.3						
TAPN	**Taplejung**	**54.74**	**81**	*e*P	**P**	**08 36 48.6**	**-0.8**
	comp=Z,56nm,1.3s,mb5.5						
TAPN	**Taplejung**	**54.74**	**81**	*e*P	**P**	**08 36 48.6**	**-0.8**
	comp=Z,56nm,1.3s,mb5.4						
TAPN	**Taplejung**	**54.74**	**81**	*e*P	**P**	**08 36 48.6**	**-0.8**
	comp=Z,56nm,1.3s,mb5.4						
TLY	**Talaya**	**55.73**	**48**	*e*P	**P**	**08 36 56.9**	**+0.8**
	comp=Z,18nm,1.2s,mb5.0						
TLY	**Talaya**	**55.73**	**48**	*e*P	**P**	**08 36 54.8**	**-1.4**
TLY				*e*S	**S**	**08 44 34.6**	**-7.4**
TLY				*e*PS		08 44 43.1	
TLY				*e*		08 46 43.6	
TLY				*e*SS	SS	08 48 29.7	+2.8
TLY				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
TLY				MLR	MLR		
	comp=Z,604nm,15.0s,MS4.8						
TLY	**Talaya**	**55.73**	**48**	*e*P	**P**	**08 36 56.9**	**+0.7**
	comp=Z,18nm,1.2s,mb5.0						
TLY				*e*ScS	ScS	08 46 43.6	-1.0
IRK	**Irkutsk**	**55.90**	**47**	*e*P	**P**	**08 36 56.4**	**-0.9**
IRK				pmax	pmax		
	comp=Z,46nm,2.6s,mb5.0						
IRK	**Irkutsk**	**55.90**	**47**	*e*P	**P**	**08 36 56.4**	**-0.9**
	comp=Z,46nm,2.6s,mb5.0						
LSA	**Lhasa**	**56.24**	**77**	P	**P**	**08 36 59.3**	**-0.8**
FRB	**Frobisher Bay**	**56.56**	**328**	P	**P**	**08 37 00.5**	**-1.4**
	comp=Z,14nm,0.7s,mb5.1,baz=70,slow=8.4,SNR=24						
FRB	**Frobisher Bay**	**56.56**	**328**	P	**P**	**08 37 00.5**	**-1.4**
FRB	**Frobisher Bay**	**56.56**	**328**	P	**P**	**08 37 00.5**	**-1.4**
FRB				pmax	pmax		
	comp=Z,14nm,0.7s						
FRB	**Frobisher Bay**	**56.56**	**328**	P	**P**	**08 37 00.5**	**-1.4**
	comp=Z,14nm,0.7s,mb5.1						
TSUM	**Tsumeb**	**57.80**	**186**	*e*P	**P**	**08 37 11.5**	**+0.4**
	comp=Z,6.7nm,1.0s,mb4.6						
TSUM	**Tsumeb**	**57.80**	**186**	*e*P	**P**	**08 37 11.5**	**+0.4**
	comp=Z,6.7nm,1.0s,mb4.6						
GTA	**Gaotai**	**58.15**	**63**	⇑P	**P**	**08 37 12.9**	**-0.6**
GTA				pP	pP	08 37 23.3	+4.9
GTA				sP	sP	08 37 27.0	+6.7
GTA				S	**S**	**08 45 11.4**	**-2.8**
GTA				sS	sS	08 45 28.4	+6.1
GTA				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
GTA				pmax	pmax		
	comp=Z,120nm,6.9s						
GTA				LR	LR		
	comp=N,180nm,13.8s,MS4.5						
GTA				LR	LR		
	comp=E,220nm,14.5s,MS4.5						
GTA				LR	LR		
	comp=Z,200nm,14.7s,MS4.4						
SONM	**Songino Array**	**58.87**	**51**	P	**P**	**08 37 17.6**	**-0.8**
	comp=Z,11nm,1.1s,mb4.8,baz=282,slow=8.7,SNR=33						
SONM	**Songino Array**	**58.87**	**51**	P	**P**	**08 37 17.6**	**-0.8**
SONM	**Songino Array**	**58.87**	**51**	P	**P**	**08 37 17.6**	**-0.8**
SONM				pmax	pmax		
	comp=Z,11nm,1.1s						
SONM	**Songino Array**	**58.87**	**51**	P	**P**	**08 37 17.6**	**-0.8**
	comp=Z,11nm,1.1s,mb4.8						
BOD	**Bodaibo**	**58.95**	**39**	*e*P	**P**	**08 37 16.7**	**-2.1**
BOD				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
BOD	**Bodaibo**	**58.95**	**39**	*e*P	**P**	**08 37 16.7**	**-2.1**
	comp=Z,19nm,1.1s,mb5.0						
SCHQ	**Schefferville**	**59.16**	**318**	P	**P**	**08 37 18.5**	**-1.8**
	comp=Z,27nm,0.7s,mb5.4,baz=64,slow=8.4,SNR=24						
SCHQ				LR	LR	09 00 38.6	
	comp=Z,383nm,20.7s,MS4.5,baz=88,slow=34						
SCHQ	**Schefferville**	**59.16**	**318**	*e*P	**P**	**08 37 18.8**	**-1.5**
	comp=Z,23nm,0.5s,mb5.5						
SCHQ	**Schefferville**	**59.16**	**318**	*e*P	**P**	**08 37 18.8**	**-1.5**
	comp=Z,23nm,0.5s,mb5.5						
ULN	**Ulaanbaatar**	**59.26**	**51**	*e*P	**P**	**08 37 20.1**	**-1.0**
	comp=Z,10.0nm,0.8s,mb4.9						
ULN	**Ulaanbaatar**	**59.26**	**51**	*e*P	**P**	**08 37 20.1**	**-1.0**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ULN	**Ulaanbaatar**	**59.26**	**51**	*e*P	**P**	**08 37 20.1**	**-1.0**
	comp=Z,10.0nm,0.8s,mb4.9						
ABPO	**Ambohimpanom**	**61.90**	**153**	*e*P	**P**	**08 37 43.2**	**+3.9**
	comp=Z,15nm,1.2s,mb5.0						
ABPO	**Ambohimpanom**	**61.90**	**153**	*e*P	**P**	**08 37 43.3**	**+4.0**
ABPO				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
LZH	**Lanzhou**	**62.52**	**64**	*e*P	**P**	**08 37 42.6**	**-0.8**
LZH				pP	pP	08 37 55.0	+6.6
LZH				sP	sP	08 37 59.0	+8.8
LZH				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
LZH				pmax	pmax		
	comp=Z,96nm,5.8s						
LZH	**Lanzhou**	**62.52**	**64**	*e*P	**P**	**08 37 42.6**	**-0.8**
	comp=Z,30nm,1.0s,mb5.4						
LZH				pP	pP	08 37 55.0	+6.6
LZH				sP	sP	08 37 59.0	+8.8
LZH	**Lanzhou**	**62.52**	**64**	*e*P	**P**	**08 37 42.6**	**-0.8**
LZH				*PP	pP	08 37 55.0	+6.6
LZH				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
LZH	**Lanzhou**	**62.52**	**64**	*e*P	**P**	**08 37 42.6**	**-0.8**
	comp=Z,30nm,1.0s,mb5.4						
LBTB	**Lobatse**	**63.45**	**177**	*e*P	**P**	**08 37 51.6**	**+2.1**
	comp=Z,16nm,0.9s,mb5.1						
LBTB	**Lobatse**	**63.45**	**177**	*e*P	**P**	**08 37 51.6**	**+2.1**
LBTB				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
LBTB	**Lobatse**	**63.45**	**177**	*e*P	**P**	**08 37 51.6**	**+2.1**
	comp=Z,16nm,0.9s,mb5.1						
YAK	**Yakutsk**	**63.85**	**30**	*e*P	**P**	**08 37 55.8**	**+4.0**
	comp=Z,29nm,0.8s,mb5.4						
YAK	**Yakutsk**	**63.85**	**30**	*e*P	**P**	**08 37 54.5**	**+2.7**
YAK				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK	**Yakutsk**	**63.85**	**30**	*e*P	**P**	**08 37 54.5**	**+2.7**
	comp=E,3.0nm,1.1s,mb4.2						
CD2	**Chengdu**	**65.07**	**69⇑**	*i*P	**P**	**08 37 59.4**	**-1.0**
CD2				pP	pP	08 38 11.0	+5.7
CD2				sP	sP	08 38 14.3	+7.1
CD2				PP	PP	08 40 24.4	+1.1
CD2				S	S	08 46 37.3	-5.0
CD2				sS	sS	08 46 57.6	+7.2
CD2				SS	SS	08 50 51.5	-2.6
CD2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
CD2				pmax	pmax		
	comp=Z,120nm,9.6s						
HHC	**Hu-ho-hao-te**	**65.40**	**57**	*e*P	**P**	**08 38 02.6**	**+0.3**
HHC				PcP	PcP	08 38 34.9	+0.6
HHC				PP	PP	08 40 28.5	+2.6
HHC				S	S	08 46 44.3	-1.7
HHC				ScS	ScS	08 47 53.3	-3.9
HHC				SS	SS	08 50 57.6	-1.1
HHC				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
HHC				pmax	pmax		
	comp=Z,170nm,4.2s						
HHC				LR	LR		
	comp=N,440nm,16.7s,MS4.8						
HHC				LR	LR		
	comp=E,260nm,16.7s,MS4.8						
HHC				LR	LR		
	comp=Z,300nm,16.7s,MS4.6						
BOSA	**Boshof**	**67.02**	**177**	P	**P**	**08 38 12.1**	**-0.5**
	comp=Z,10nm,0.9s,mb4.8,baz=342,slow=6.6,SNR=12						
BOSA	**Boshof**	**67.02**	**177**	*e*P	**P**	**08 38 12.4**	**-0.2**
	comp=Z,11nm,0.9s,mb4.9						
BOSA	**Boshof**	**67.02**	**177**	*e*P	**P**	**08 38 12.4**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
BOSA	**Boshof**	**67.02**	**177**	*e*P	**P**	**08 38 12.4**	**-0.2**
	comp=Z,11nm,0.9s,mb4.9						
CHTO	**Chiang Mai**	**68.02**	**83**	*e*P	**P**	**08 38 17.4**	**-1.9**
	comp=Z,5.6nm,0.9s,mb4.6						
CHTO	**Chiang Mai**	**68.02**	**83**	*e*P	**P**	**08 38 17.4**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CHTO	**Chiang Mai**	**68.02**	**83**	*e*P	**P**	**08 38 17.4**	**-1.9**
	comp=Z,6.0nm,0.9s,mb4.6						
CMAR	**Chiang Mai Arr**	**68.22**	**83**	P	**P**	**08 38 18.1**	**-2.5**
	comp=Z,1.5nm,0.3s,mb4.4,baz=299,slow=8.2,SNR=8.9						
CMAR	**Chiang Mai Arr**	**68.22**	**83**	P	**P**	**08 38 18.1**	**-2.5**
CMAR	**Chiang Mai Arr**	**68.22**	**83**	P	**P**	**08 38 18.2**	**-2.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**68.22**	**83**	P	**P**	**08 38 18.2**	**-2.4**
	comp=Z,2.0nm,0.3s,mb4.6						
BJI	**Beijing**	**68.81**	**55**	P	**P**	**08 38 23.0**	**-1.0**
BJI				S	S	08 47 22.9	-4.3
BJI				SS	SS	08 51 53.0	+1.4
BJI				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
BJI				LR	LR		
	comp=N,300nm,16.4s,MS4.7						
BJI				LR	LR		
	comp=E,330nm,19.6s,MS4.7						
BJI				LR	LR		
	comp=Z,260nm,31.0s						
GYA	**Guiyang**	**69.62**	**72**	*e*P	**P**	**08 38 29.6**	**+0.4**
GYA				pmax	pmax		
	comp=Z,

MDJ LR LR
comp=Z,290nm,13.4s,MS4.7
COLD Coldfoot 74.24 357 *e*P **P 08 38 55.7 -0.5**
comp=Z,12nm,1.0s,mb4.8
COLD Coldfoot 74.24 357 *e*P **P 08 38 55.7 -0.6**
comp=Z,12nm,1.0s,mb4.8
HABR Khabarovsk 74.58 40 *e*P **P 08 38 57.4 -1.2**
HABR *e**SP sP 08 39 02.0 -3.4
HABR 08 41 43.5
HABR S S 08 48 32.6 -0.8
HABR 08 49 08.5
HABR pmax pmax
comp=N,6.0nm,1.4s
HABR pmax pmax
comp=E,13nm,1.4s
HABR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
HABR MLR MLR
comp=Z,767nm,18.0s,MS5.0
HABR Khabarovsk 74.58 40 *e*P **P 08 38 57.4 -1.2**
comp=Z,5.0nm,0.7s,mb4.5
HABR S S 08 48 32.6 -0.8
NJ2 Nanjing 75.15 61 *e*P **P 08 39 03.3 +1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
FFC Flin Flon 75.53 330 *e*P **P 08 39 02.9 -1.1**
comp=Z,31nm,1.4s,mb5.0
FFC Flin Flon 75.53 330 *c e*P **P 08 39 03.9 0.0**
FFC Flin Flon 75.53 330 *e*P **P 08 39 03.9 0.0**
TNA Tin City 75.74 4 *e*P **P 08 39 06.7 +1.8**
comp=Z,4.5nm,0.9s,mb4.4
TNA Tin City 75.74 4 *e*P **P 08 39 06.7 +1.8**
comp=Z,4.5nm,0.9s,mb4.4
EGAK Eagle 76.06 353 *e*P **P 08 39 06.8 +0.1**
comp=Z,6.2nm,0.9s,mb4.5
EGAK Eagle 76.06 353 *e*P **P 08 39 06.8 0.0**
comp=Z,6.2nm,0.9s,mb4.5
ACSO Alum Creek Sta 76.11 311 *e*P **P 08 39 06.9 -0.6**
comp=Z,26nm,0.9s,mb5.2
ACSO Alum Creek Sta 76.11 311 *e*P **P 08 39 06.9 -0.6**
comp=Z,26nm,0.9s,mb5.2
ULM Lac du Bonnet 76.22 324 P **P 08 39 05.8 -2.1**
comp=Z,11nm,0.9s,mb4.8,baz=48,slow=7.3,SNR=14
ULM Lac du Bonnet 76.22 324 *e*P **P 08 39 06.4 -1.6**
comp=Z,19nm,1.0s,mb5.0
ULM Lac du Bonnet 76.22 324 *e*P **P 08 39 06.4 -1.5**
ULM pmax pmax
comp=Z,19nm,1.0s
ULM Lac du Bonnet 76.22 324 *e*P **P 08 39 06.4 -1.5**
comp=Z,19nm,1.0s,mb5.0
QIZ Qiongzhong 76.28 77 P **P 08 39 07.8 -1.0**
QIZ S S 08 48 49.6 -3.5
QIZ pmax pmax
comp=Z,14nm,1.9s,mb4.6
QIZ pmax pmax
comp=Z,110nm,6.8s
COLA College 76.48 356 *e*P **P 08 39 08.8 -0.4**
comp=Z,3.5nm,0.6s,mb4.5
COLA College 76.48 356 *e*P **P 08 39 08.8 -0.3**
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
COLA College 76.48 356 *e*P **P 08 39 08.8 -0.3**
comp=Z,3.0nm,0.6s,mb4.4
ILAR Eielson Array 76.52 355 P **P 08 39 08.4 -0.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=348,slow=3.1,SNR=27
ILAR Eielson Array 76.52 355 P **P 08 39 08.4 -0.9**
ILAR Eielson Array 76.52 355 P **P 08 39 08.5 -0.9**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 76.52 355 P **P 08 39 08.5 -0.9**
comp=Z,2.0nm,0.6s,mb4.2
DAWY Dawson 76.57 352 *e*P **P 08 39 08.7 -1.0**
DAWY Dawson 76.57 352 *e*P **P 08 39 08.7 -1.0**
DOT Dot Lake 77.43 354 *e*P **P 08 39 14.1 -0.5**
comp=Z,11nm,1.2s,mb4.7
DOT Dot Lake 77.43 354 *e*P **P 08 39 14.1 -0.4**
comp=Z,11nm,1.2s,mb4.7
MCK McKinley 77.67 356 *e*P **P 08 39 14.9 -1.0**
comp=Z,24nm,1.2s,mb5.0
MCK McKinley 77.67 356 *e*P **P 08 39 14.9 -1.0**
MCK pmax pmax
comp=Z,24nm,1.2s,mb5.0
MCK McKinley 77.67 356 *e*P **P 08 39 14.9 -1.0**
comp=Z,24nm,1.2s,mb5.0
KSAR Wonju Array Be 77.72 52 P **P 08 39 14.5 -2.1**
KSAR Wonju Array Be 77.72 52 P **P 08 39 14.5 -2.1**
KSAR Wonju Array Be 77.72 52 P **P 08 39 14.5 -2.1**
KSRS Korea Array 77.74 52 P **P 08 39 14.5 -2.2**
comp=Z,6.8nm,0.6s,mb4.7,baz=314,slow=4.5,SNR=15
KSRS Korea Array 77.74 52 P **P 08 39 14.5 -2.2**
KSRS pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KSRS Korea Array 77.74 52 P **P 08 39 14.5 -2.2**
comp=Z,7.0nm,0.6s,mb4.8
TRF Thorofare Moun 78.02 357 *e*P **P 08 39 16.9 -0.9**
comp=Z,18nm,1.2s,mb4.9
TRF Thorofare Moun 78.02 357 *e*P **P 08 39 16.9 -0.9**
comp=Z,18nm,1.2s,mb4.9
PAX Paxson 78.21 354 *e*P **P 08 39 18.4 -0.5**
comp=Z,3.8nm,0.7s,mb4.4
PAX Paxson 78.21 354 *e*P **P 08 39 18.4 -0.5**
PAX pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PAX Paxson 78.21 354 *e*P **P 08 39 18.4 -0.5**
comp=Z,4.0nm,0.7s,mb4.5
PPLA Purkeypile 78.65 358 *e*P **P 08 39 20.5 -0.8**
comp=Z,11nm,0.6s,mb5.0
PPLA Purkeypile 78.65 358 *e*P **P 08 39 20.5 -0.8**
comp=Z,11nm,0.6s,mb5.0
JSC Jenkinsville 78.80 305 *e*P **P 08 39 23.2 +0.5**
JSC Jenkinsville 78.80 305 *e*P **P 08 39 23.2 +0.5**
JSC Jenkinsville 78.80 305 *e*P **P 08 39 23.2 +0.5**
BLO Bloomington 78.88 312 *e*P **P 08 39 22.9 -0.2**
comp=Z,30nm,0.8s,mb5.3
BLO Bloomington 78.88 312 *e*P **P 08 39 22.9 -0.1**
BLO pmax pmax
comp=Z,30nm,0.8s,mb5.3
BLO Bloomington 78.88 312 *e*P **P 08 39 22.9 -0.1**
comp=Z,30nm,0.8s,mb5.3
WCI Wyandotte Cave 79.37 311 *e*P **P 08 39 24.8 -0.9**
comp=Z,26nm,1.1s,mb5.1
WCI Wyandotte Cave 79.37 311 *e*P **P 08 39 24.8 -0.9**
WCI pmax pmax
comp=Z,26nm,1.1s,mb5.1
WCI Wyandotte Cave 79.37 311 *e*P **P 08 39 24.8 -0.9**
comp=Z,26nm,1.1s,mb5.1
YSS Yuzh-Sakhalins 79.38 37 *e*P **P 08 39 25.1 -0.5**
comp=Z,51nm,0.9s,mb5.5
YSS Yuzh-Sakhalins 79.38 37 *e*P **P 08 39 24.5 -1.1**
YSS *e* pP 08 39 30.1 -0.6
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS MLR MLR
comp=Z,500nm,16.0s,MS5.0
YSS Yuzh-Sakhalins 79.38 37 *e*P **P 08 39 24.5 -1.1**
comp=Z,30nm,1.0s,mb5.2
TKL Tuckaleechee C 79.51 307 *e*P **P 08 39 26.5 0.0**
TKL Tuckaleechee C 79.51 307 *e*P **P 08 39 26.5 0.0**
TKL Tuckaleechee C 79.51 307 *e*P **P 08 39 26.5 0.0**
HDIL Hopedale 79.55 314 *e*P **P 08 39 25.2 -1.5**
comp=Z,37nm,1.1s,mb5.2
HDIL Hopedale 79.55 314 *e*P **P 08 39 25.2 -1.5**
comp=Z,37nm,1.1s,mb5.2
SML Sawmill 79.56 356 *e*P **P 08 39 25.6 -0.7**
comp=Z,3.4nm,0.8s,mb4.3
SML Sawmill 79.56 356 *e*P **P 08 39 25.6 -0.7**
SML pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SML Sawmill 79.56 356 *e*P **P 08 39 25.6 -0.7**
comp=Z,3.0nm,0.8s,mb4.3
PMR Palmer 79.82 356 *e*P **P 08 39 25.5 -2.2**
comp=Z,8.5nm,0.8s,mb4.7
PMR Palmer 79.82 356 *e*P **P 08 39 25.5 -2.2**
PMR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PMR Palmer 79.82 356 *e*P **P 08 39 25.5 -2.2**
comp=Z,8.0nm,0.8s,mb4.7
OLIL Olney 80.09 312 *e*P **P 08 39 29.1 -0.6**
comp=Z,32nm,1.4s,mb5.1
OLIL Olney 80.09 312 *e*P **P 08 39 29.0 -0.6**
comp=Z,32nm,1.4s,mb5.1
RC01 Rabbit Creek A 80.35 356 *e*P **P 08 39 30.1 -0.5**
comp=Z,22nm,0.9s,mb5.1
RC01 Rabbit Creek A 80.35 356 *e*P **P 08 39 30.1 -0.5**
comp=Z,22nm,0.9s,mb5.1
DLBC Dease Lake 80.54 346 P **P 08 39 31.9 +0.3**
comp=Z,4.1nm,0.8s,mb4.4,baz=346,slow=3.7,SNR=4.5
DLBC Dease Lake 80.54 346 *e*P **P 08 39 32.8 +1.1**
DLBC Dease Lake 80.54 346 *e*P **P 08 39 32.8 +1.1**
RSO Redoubt South 81.11 358 *e*P **P 08 39 29.7 -5.0**
comp=Z,36nm,0.8s,mb5.3
ECSD EROS Data Cent 81.23 320 *e*P **P 08 39 34.1 -1.5**
comp=Z,22nm,1.1s,mb5.0
ECSD EROS Data Cent 81.23 320 *e*P **P 08 39 34.1 -1.5**
comp=Z,22nm,1.1s,mb5.0
SDDR Presa de Saban 81.29 287 *e*P **P 08 39 37.4 +1.1**
comp=Z,24nm,0.8s,mb5.2
SDDR Presa de Saban 81.29 287 *e*P **P 08 39 37.4 +1.1**
comp=Z,24nm,0.8s,mb5.2
SIUC Southern Illin 81.43 312 *e*P **P 08 39 36.9 +0.1**
comp=Z,52nm,1.1s,mb5.4
SIUC Southern Illin 81.43 312 *e*P **P 08 39 36.9 +0.1**
comp=Z,52nm,1.1s,mb5.4
WVT Waverly 81.68 310 *e*P **P 08 39 37.5 -0.7**
comp=Z,23nm,1.2s,mb5.0
WVT Waverly 81.68 310 *e*P **P 08 39 37.5 -0.7**
WVT pmax pmax
comp=Z,23nm,1.2s,mb5.0
WVT Waverly 81.68 310 *e*P **P 08 39 37.5 -0.7**
comp=Z,23nm,1.2s,mb5.0
FVM French Village 81.95 313 *e*P **P 08 39 39.4 -0.1**
comp=Z,43nm,1.1s,mb5.3
FVM French Village 81.95 313 *e*P **P 08 39 39.4 -0.1**
FVM pmax pmax
comp=Z,43nm,1.1s,mb5.3
FVM French Village 81.95 313 *e*P **P 08 39 39.4 -0.1**
comp=Z,43nm,1.1s,mb5.3
CCM Cathedral Cave 82.36 313 *e*P **P 08 39 40.6 -1.2**
comp=Z,41nm,1.1s,mb5.3
CCM Cathedral Cave 82.36 313 *e*P **P 08 39 40.6 -1.1**
CCM pmax pmax
comp=Z,41nm,1.1s,mb5.3
CCM Cathedral Cave 82.36 313 *e*P **P 08 39 40.6 -1.1**
comp=Z,41nm,1.1s,mb5.3
PLAL Pickwick Lake 82.60 309 *e*P **P 08 39 42.7 -0.3**
comp=Z,30nm,1.1s,mb5.2
PLAL Pickwick Lake 82.60 309 *e*P **P 08 39 42.7 -0.3**
comp=Z,30nm,1.1s,mb5.2
LRAL Lakeview Retre 83.24 307 *e*P **P 08 39 45.7 -0.6**
comp=Z,38nm,1.1s,mb5.3
LRAL Lakeview Retre 83.24 307 *e*P **P 08 39 45.7 -0.7**
comp=Z,38nm,1.1s,mb5.3
KDAK Kodiak Island 83.78 357 P **P 08 39 47.5 -1.1**
comp=Z,18nm,0.9s,mb5.2,baz=26,slow=5.6,SNR=5.4
KDAK Kodiak Island 83.78 357 P **P 08 39 47.5 -1.1**
KDAK Kodiak Island 83.78 357 P **P 08 39 47.6 -1.1**
KDAK pmax pmax
comp=Z,18nm,0.9s,mb5.2
KDAK Kodiak Island 83.78 357 P **P 08 39 47.6 -1.1**
comp=Z,18nm,0.9s,mb5.2
EGMT Eagleton 83.80 330 *e*P **P 08 39 47.0 -2.0**
comp=Z,62nm,1.2s,mb5.6
EGMT Eagleton 83.80 330 *e*P **P 08 39 47.0 -2.0**
comp=Z,62nm,1.2s,mb5.6
MAJO Matsushiro 84.45 47 *e*P **P 08 39 50.4 -2.1**
comp=Z,26nm,1.1s,mb5.3
MAJO Matsushiro 84.45 47 *e*P **P 08 39 50.4 -2.1**
MAJO pmax pmax
comp=Z,27nm,1.1s,mb5.3
MAJO Matsushiro 84.45 47 *e*P **P 08 39 50.4 -2.1**
comp=Z,27nm,1.1s,mb5.3
MAT Matsushiro 84.45 47 P **P 08 39 49.8 -2.7**
MAT S S 08 50 18.0 -0.3
MJAR Matsushiro Arr 84.45 47 P **P 08 39 50.4 -2.1**
comp=Z,8.2nm,0.9s,mb4.8,baz=315,slow=4.3,SNR=16
MJAR Matsushiro Arr 84.45 47 P **P 08 39 50.4 -2.1**
MJAR Matsushiro Arr 84.45 47 P **P 08 39 50.4 -2.1**
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 84.45 47 P **P 08 39 50.4 -2.1**
comp=Z,8.0nm,0.9s,mb4.8
RSSD Black Hills 84.49 324 *e*P **P 08 39 51.7 -0.8**
comp=Z,25nm,1.5s,mb5.1
RSSD Black Hills 84.49 324 *e*P **P 08 39 51.7 -0.8**
RSSD pmax pmax
comp=Z,25nm,1.5s,mb5.1
RSSD Black Hills 84.49 324 *e*P **P 08 39 51.7 -0.8**
comp=Z,25nm,1.5s,mb5.1
WALA Waterton Lakes 84.50 333 *e*P **P 08 39 51.8 -0.7**
comp=Z,0.4nm,0.9s
WALA Waterton Lakes 84.50 333 *e*P **P 08 39 51.8 -0.7**
comp=Z,0.4nm,0.9s
KSU1 Kansas State U 84.59 317 *e*P **P 08 39 52.0 -1.2**
comp=Z,47nm,1.0s,mb5.6
KSU1 Kansas State U 84.59 317 *e*P **P 08 39 52.0 -1.1**
comp=Z,47nm,1.0s,mb5.6
UALR University of 85.28 311 *e*P **P 08 39 56.0 -0.7**
comp=Z,18nm,0.9s,mb5.2
UALR University of 85.28 311 *e*P **P 08 39 56.0 -0.7**
comp=Z,18nm,0.9s,mb5.2
GCMT Greycliff 85.59 329 *e*P **P 08 39 57.0 -1.0**
comp=Z,7.6nm,1.0s,mb4.9
GCMT Greycliff 85.59 329 *e*P **P 08 39 57.0 -1.0**
comp=Z,7.6nm,1.0s,mb4.9
JTMT Jette 85.74 332 *e*P **P 08 39 58.6 -0.1**
comp=Z,42nm,1.4s,mb5.5
JTMT Jette 85.74 332 *e*P **P 08 39 58.7 0.0**
comp=Z,42nm,1.4s,mb5.5
SWMT Swartz Lake 85.84 332 *e*P **P 08 39 58.6 -0.6**
comp=Z,20nm,1.2s,mb5.2
SWMT Swartz Lake 85.84 332 *e*P **P 08 39 58.6 -0.6**
comp=Z,20nm,1.2s,mb5.2
SLMT Seeley Lake 85.88 332 *e*P **P 08 39 58.7 -0.7**
comp=Z,8.1nm,1.0s,mb4.9
SLMT Seeley Lake 85.88 332 *e*P **P 08 39 58.7 -0.7**
comp=Z,8.1nm,1.0s,mb4.9
RLMT Red Lodge 85.97 328 *e*P **P 08 40 00.0 +0.1**
comp=Z,35nm,1.5s,mb5.4
RLMT Red Lodge 85.97 328 *e*P **P 08 40 00.0 +0.1**
comp=Z,35nm,1.5s,mb5.4
VBMS Vicksburg 85.97 309 *e*P **P 08 40 00.8 +0.6**
comp=Z,56nm,1.0s,mb5.8
VBMS Vicksburg 85.97 309 *e*P **P 08 40 00.8 +0.6**
comp=Z,56nm,1.0s,mb5.8
CHMT Chamberlain Mo 86.06 331 *e*P **P 08 39 58.7 -1.7**
comp=Z,13nm,1.6s,mb4.9
CHMT Chamberlain Mo 86.06 331 *e*P **P 08 39 58.7 -1.6**
comp=Z,13nm,1.6s,mb4.9
MIAR Mount Ida 86.16 312 *e*P **P 08 40 00.5 -0.6**
comp=Z,35nm,1.1s,mb5.5
MIAR Mount Ida 86.16 312 *e*P **P 08 40 00.5 -0.6**
MIAR pmax pmax
comp=Z,35nm,1.1s,mb5.5
MIAR Mount Ida 86.16 312 *e*P **P 08 40 00.5 -0.6**
comp=Z,35nm,1.1s,mb5.5
BOZ Bozeman (W) 86.49 330 *e*P **P 08 40 02.2 -0.2**
comp=Z,8.0nm,1.1s,mb4.9
BOZ Bozeman (W) 86.49 330 *e*P **P 08 40 02.2 -0.3**
BOZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
BOZ Bozeman (W) 86.49 330 *e*P **P 08 40 02.2 -0.3**
comp=Z,8.0nm,1.1s,mb4.9
LRM Limekiln Ridge 86.67 330 *e*P **P 08 40 02.5 -0.8**
comp=Z,74nm,1.0s,mb5.9
LRM Limekiln Ridge 86.67 330 *e*P **P 08 40 02.5 -0.8**
comp=Z,74nm,1.0s,mb5.9
SDV Santo Domingo 87.00 279 *e*P **P 08 40 06.0 +0.5**
comp=Z,11nm,0.8s,mb5.1
SDV Santo Domingo 87.00 279 *e*P **P 08 40 06.0 +0.5**
comp=Z,11nm,0.8s,mb5.1
QLMT Earthquake Lak 87.09 329 *e*P **P 08 40 06.3 +0.9**
comp=Z,0.4nm,0.5s,mb3.9
QLMT Earthquake Lak 87.09 329 *e*P **P 08 40 06.3 +0.9**
comp=Z,0.4nm,0.5s,mb3.9
OD2 Odessa Site #2 87.58 335 *e*P **P 08 40 06.5 -1.2**
comp=Z,43nm,1.4s,mb5.5
OD2 Odessa Site #2 87.58 335 *e*P **P 08 40 06.5 -1.3**
comp=Z,43nm,1.4s,mb5.5
TPAW Teton Pass 88.00 328 *e*P **P 08 40 10.3 +0.4**
comp=Z,5.6nm,0.9s,mb4.8
TPAW Teton Pass 88.00 328 *e*P **P 08 40 10.3 +0.5**
comp=Z,5.6nm,0.9s,mb4.8
PD02 Pinedale Array 88.00 327 *e*P **P 08 40 08.3 -1.6**
PD02 Pinedale Array 88.00 327 *e*P **P 08 40 08.3 -1.5**
BW06 Boulder Array 88.00 327 *e*P **P 08 40 08.7 -1.1**
comp=Z,11nm,1.4s,mb4.9
BW06 Boulder Array 88.00 327 *e*P **P 08 40 08.7 -1.2**
comp=Z,11nm,1.4s,mb4.9
PDAR Pinedale Array 88.00 327 P **P 08 40 07.8 -2.1**
comp=Z,2.4nm,0.7s,mb4.5,baz=65,slow=5.1,SNR=16
PDAR PP PP 08 43 32.6 -2.9
comp=Z,1.6nm,1.0s,baz=62,slow=6.3,SNR=4.7
PDAR LR LR 09 20 33.7
comp=Z,733nm,18.5s,MS5.1,baz=37,slow=36
PDAR Pinedale Array 88.00 327 P **P 08 40 07.8 -2.1**
PDAR PP PP 08 43 32.6 -2.9
PDAR Pinedale Array 88.00 327 P **P 08 40 07.8 -2.1**
PD01 Pinedale Array 88.01 327 *e*P **P 08 40 08.6 -1.3**
PD01 Pinedale Array 88.01 327 *e*P **P 08 40 08.6 -1.3**
ISCO Idaho Springs 88.60 323 *e*P **P 08 40 12.2 -0.5**
comp=Z,13nm,1.2s,mb5.1
ISCO Idaho Springs 88.60 323 *e*P **P 08 40 12.2 -0.6**
ISCO pmax pmax
comp=Z,13nm,1.2s,mb5.1
ISCO Idaho Springs 88.60 323 *e*P **P 08 40 12.2 -0.6**
comp=Z,13nm,1.2s,mb5.1
WMOK Wichita Mounta 88.97 315 *e*P **P 08 40 13.6 -1.0**
comp=Z,9.1nm,0.8s,mb5.2
WMOK Wichita Mounta 88.97 315 *e*P **P 08 40 13.6 -1.0**
WMOK pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
WMOK Wichita Mounta 88.97 315 *e*P **P 08 40 13.6 -1.0**
comp=Z,9.0nm,0.8s,mb5.2
SMCO Snowmass 89.73 323 *e*P **P 08 40 17.1 -1.0**
comp=Z,16nm,1.5s,mb5.1
SMCO Snowmass 89.73 323 *e*P **P 08 40 17.1 -1.0**
comp=Z,16nm,1.5s,mb5.1
HWUT Hardware Ranch 89.81 327 *e*P **P 08 40 17.0 -1.4**
comp=Z,9.6nm,0.8s,mb5.2
HWUT Hardware Ranch 89.81 327 *e*P **P 08 40 17.0 -1.4**
comp=Z,9.6nm,0.8s,mb5.2
HKT Hockley 90.79 310 *e*P **P 08 40 23.5 +0.3**
comp=Z,12nm,1.1s,mb5.1
HKT Hockley 90.79 310 *e*P **P 08 40 23.5 +0.3**
HKT pmax pmax
comp=Z,12nm,1.1s,mb5.1
HKT Hockley 90.79 310 *e*P **P 08 40 23.5 +0.3**
comp=Z,12nm,1.1s,mb5.1
PV04 Paradox Valley 91.26 324 *e*P **P 08 40 23.9 -1.3**
PV04 Paradox Valley 91.26 324 *e*P **P 08 40 23.9 -1.3**
PV01 Paradox Valley 91.32 324 *e*P **P 08 40 23.9 -1.6**
comp=Z,1μm,1.0s
PV01 Paradox Valley 91.32 324 *e*P **P 08 40 23.9 -1.6**
comp=Z,1μm,1.0s
PV10 Paradox Valley 91.34 324 *e*P **P 08 40 25.6 0.0**
comp=Z,407nm,0.9s
PV10 Paradox Valley 91.34 324 *e*P **P 08 40 25.6 0.0**
comp=Z,407nm,0.9s
SRU San Rafael 91.41 325 *e*P **P 08 40 24.2 -1.7**
comp=Z,7.0nm,0.8s,mb5.0
SRU San Rafael 91.41 325 *e*P **P 08 40 24.2 -1.7**
SRU pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
SRU San Rafael 91.41 325 *e*P **P 08 40 24.2 -1.7**
comp=Z,7.0nm,0.8s,mb5.0
DUG Dugway 91.50 327 *e*P **P 08 40 25.0 -1.3**
comp=Z,6.6nm,0.9s,mb5.0
DUG Dugway 91.50 327 *e*P **P 08 40 25.0 -1.3**
DUG pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
DUG Dugway 91.50 327 *e*P **P 08 40 25.0 -1.3**
comp=Z,7.0nm,0.9s,mb5.0
MVCO Mesa Verde 92.03 323 *e*P **P 08 40 28.6 -0.1**
comp=Z,1.0nm,1.0s,mb5.1
MVCO Mesa Verde 92.03 323 *e*P **P 08 40 28.6 -0.2**
comp=Z,1.0nm,1.0s,mb5.1
JCT Junction City 92.72 313 *e*P **P 08 40 32.2 +0.1**
comp=Z,7.4nm,1.1s,mb5.0
JCT Junction City 92.72 313 *e*P **P 08 40 32.2 +0.1**
JCT pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
JCT Junction City 92.72 313 *e*P **P 08 40 32.2 +0.1**
comp=Z,7.0nm,1.1s,mb5.0
MNTX Cornudas Mount 94.85 318 *e*P **P 08 40 40.2 -1.7**
comp=Z,3.6nm,1.0s,mb4.8
MNTX Cornudas Mount 94.85 318 *e*P **P 08 40 40.2 -1.7**
comp=Z,3.5nm,1.0s,mb4.7
TXAR Lajitas Array 95.76 315 P **P 08 40 45.7 -0.3**
comp=Z,2.1nm,0.8s,mb4.6,baz=72,slow=2.9,SNR=19
TXAR Lajitas Array 95.76 315 P **P 08 40 45.7 -0.3**
TXAR Lajitas Array 95.76 315 P **P 08 40 45.7 -0.4**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 95.76 315 P **P 08 40 45.7 -0.4**
comp=Z,2.0nm,0.8s,mb4.6
WRA Warramunga Arr 118.95 93 PKP PKPdf 08 46 06.9 -1.8
comp=Z,1.0nm,0.6s,baz=314,slow=1.7,SNR=15
WRA Warramunga Arr 118.95 93 PKP PKPdf 08 46 06.9 -1.8
WRA Warramunga Arr 118.95 93 PKIKP PKPdf 08 46 06.9 -1.7
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 118.95 93 PKIKP PKPdf 08 46 06.9 -1.7
ASAR Alice Springs 120.63 97 PKP PKPdf 08 46 09.8 -2.0
comp=Z,1.0nm,0.4s,baz=305,slow=1.4,SNR=40
ASAR Alice Springs 120.63 97 PKP PKPdf 08 46 09.8 -2.0
ASAR Alice Springs 120.63 97 PKIKP PKPdf 08 46 09.8 -2.0
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 120.63 97 PKIKP PKPdf 08 46 09.8 -2.0
QSPA South Pole Qui 128.56 180 PKP PKPdf 08 46 25.7 +0.4
comp=Z,1.4nm,0.7s,baz=300,slow=2.8,SNR=4.9
QSPA South Pole Qui 128.56 180 PKP PKPdf 08 46 25.7 +0.4
QSPA South Pole Qui 128.56 180 PKIKP PKPdf 08 46 25.7 +0.4
MSVF Nonsavu 150.10 53 *e*PKPbc PKPbc 08 47 09.8 -1.1
MSVF Nonsavu 150.10 53 *e*PKPbc PKPbc 08 47 09.8 -1.1

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*IDC **13** 08:27:33.6±1.0, 30°.89S×176°.70W, h0km, mb4.4/7, mb1 4.5/7, mb1mx4.3/18, mbtmp4.4/7, MS2.7/1, Ms1 2.7/1, ms1mx2.6/23, Error ellipse: s-maj=31.1km s-min=27.1km az=15.0*

*NEIC **13** 08:27:35.1±0.7, 31°.03S×176°.75W, h10km, mb4.4/5, Error ellipse: s-maj=17.1km s-min=13.5km az=105.0*

ISC 13 08:27:40.9±1.2, 31°.20S±0°.09×177°.0W±0°.2, h35km, n37, σ0 95/26, mb4.4/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	Time h m s	ISC	Res ISC
URZ	**Urewera**	**8.53**	**213**	Pn	**Pn**	**08 29 40.4**		**-1.5**
	2.1nm,0.3s,baz=332,slow=3.2,SNR=6.3							
URZ				Sn	**Sn**	**08 31 17.3**		**+0.5**
	5.1nm,0.3s,baz=177,slow=19,SNR=8.0							
URZ				LR	LR	08 32 52.7		
	comp=Z,50nm,20.8s,baz=38,slow=36							
URZ	**Urewera**	**8.53**	**213**	*e*Pn	**Pn**	**08 29 41.6**		**-0.3**
URZ				*e*Sn	**Sn**	**08 31 19.6**		**+2.7**
KHZ	**Kahutara**	**13.49**	**211**	*e*Pn	**Pn**	**08 30 48.5**		**-1.2**
RPZ	**Rata Peaks**	**15.64**	**214**	Pn	**Pn**	**08 31 14.6**		**-4.0**
	4.3nm,0.3s,baz=21,slow=8.6,SNR=14							
RPZ	**Rata Peaks**	**15.64**	**214**	*e*P	**Pn**	**08 31 14.8**		**-3.8**
	14nm,0.7s							
DZM	**Mont Dzumac**	**17.32**	**298**	*e*P	**Pn**	**08 31 44.4**		**+4.4**
	34nm,1.2s							
DZM				*e*LR	LR	08 35 58.9		
	244nm,25.8s							
TBI	**Tubuai**	**25.68**	**79**	*e*LR	LR	08 39 07.2		
	122nm,29.8s							
PPT	**Papeete**	**28.36**	**68**	*e*LR	LR	08 40 16.2		
	75nm,27.8s							
CTA	**Charters Tower**	**34.75**	**280**	P	**P**	**08 34 29.1**		**+1.2**
	7.1nm,0.5s,mb4.9,baz=108,slow=9.6,SNR=12							
CTA	**Charters Tower**	**34.75**	**280**	P	**P**	**08 34 29.1**		**+1.2**
STKA	**Stephens Creek**	**35.11**	**258**	P	**P**	**08 34 32.3**		**+1.3**
	9.1nm,1.1s,mb4.6,baz=101,slow=12,SNR=5.9							
STKA	**Stephens Creek**	**35.11**	**258**	*e*P	**P**	**08 34 32.6**		**+1.7**
	3.1nm,1.1s,mb4.2							
AS31	**Alice Springs**	**43.90**	**267**	*e*P	**P**	**08 35 44.1**		**-0.1**
ASAR	**Alice Springs**	**43.90**	**267**	P	**P**	**08 35 43.9**		**-0.4**
	3.1nm,0.6s,mb4.2,baz=104,slow=7.4,SNR=34							
ASAR				PcP	PcP	08 37 28.9		-1.2
	0.7nm,0.6s,baz=124,slow=4.6,SNR=4.4							
ASAR	**Alice Springs**	**43.90**	**267**	P	**P**	**08 35 43.9**		**-0.4**
ASAR				PcP	PcP	08 37 28.9		-1.2
WB2	**Warramunga Arr**	**44.95**	**272**	*e*P	**P**	**08 35 52.1**		**-0.6**
WRAB	**Tennant Creek**	**44.95**	**272**	*e*P	**P**	**08 35 52.5**		**-0.2**
	4.5nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**44.96**	**272**	P	**P**	**08 35 52.0**		**-0.8**
	3.4nm,0.4s,mb4.5,baz=111,slow=8.0,SNR=34							
WRA	**Warramunga Arr**	**44.96**	**272**	P	**P**	**08 35 52.0**		**-0.8**
FITZ	**Fitzroy Crossi**	**53.19**	**270**	P	**P**	**08 36 55.7**		**-0.1**
	2.0nm,0.7s,mb4.2,baz=117,slow=9.0,SNR=4.6							
FITZ	**Fitzroy Crossi**	**53.19**	**270**	P	**P**	**08 36 55.7**		**-0.1**
QSPA	**South Pole Qui**	**58.91**	**180**	P	**P**	**08 37 36.8**		**+0.9**
	2.0nm,0.6s,mb4.3,baz=45,slow=1.4,SNR=7.9							
QSPA	**South Pole Qui**	**58.91**	**180**	*e*P	**P**	**08 37 37.5**		**+1.6**
	2.2nm,0.7s,mb4.3							
MAW	**Mawson**	**71.85**	**200**	P	**P**	**08 38 59.9**		**+0.2**
	1.9nm,0.7s,mb4.1,baz=132,slow=9.2,SNR=4.8							
MAW	**Mawson**	**71.85**	**200**	P	**P**	**08 38 59.9**		**+0.2**

SNAA	**Sanae**	**77.33**	**178**	*e*P	**P**	**08 39 31.1**	**-0.4**
	4.9nm,1.1s,mb4.3						
ARCES	**ARCESS Array B**	**139.54**	**348**	PKP	PKPdf	08 47 00.9	-2.8
	2.1nm,0.7s,baz=48,slow=1.5,SNR=6.7						
ARCES	**ARCESS Array B**	**139.54**	**348**	PKP	PKPdf	08 47 00.9	-2.8
FINES	**FINESS Array B**	**146.18**	**340**	PKPbc	PKPbc	08 47 14.2	-2.5
	5.6nm,0.5s,baz=46,slow=4.0,SNR=41						
FINES	**FINESS Array B**	**146.18**	**340**	PKPbc	PKPbc	08 47 14.2	-2.5
NB2	**NORSAR Subarra**	**149.66**	**352**	PKP	PKPdf	08 47 23.6	+2.2
	comp=Z,1.4nm,0.6s,baz=10,slow=2.6						
NOA	**NORSAR Array B**	**149.66**	**352**	PKPbc	PKPbc	08 47 23.3	-2.8
	comp=Z,2.3nm,0.7s,baz=15,slow=4.1,SNR=6.8						
NOA	**NORSAR Array B**	**149.66**	**352**	PKPbc	PKPbc	08 47 23.3	-2.8
HFS	**Hagfors**	**150.19**	**349**	PKPbc	PKPbc	08 47 24.5	-2.8
	comp=Z,2.6nm,0.6s,baz=76,slow=1.8,SNR=6.2						
HFS	**Hagfors**	**150.19**	**349**	PKPbc	PKPbc	08 47 24.5	-2.8
AKASG	**Malin Array Be**	**152.44**	**323**	PKPbc	PKPbc	08 47 30.8	-2.1
	comp=Z,3.1nm,0.8s,baz=53,slow=2.0,SNR=6.1						
AKASG	**Malin Array Be**	**152.44**	**323**	PKPbc	PKPbc	08 47 30.8	-2.1

*NEIC **13** 08:28:03.0, 16°.21N×98°.40W, h5km, MD3.7(MEX), After MEX.*
MEX 13 08:28:02.7±0.4, 16°.23N×98°.39W, h4km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**58**	*i* P	Pg	08 28 08.1	-0.4
PNIG				*i* S	Sg	08 28 13.2	+0.7
PNIG	**Pinotepa**	**0.30**	**58**	*i* P	Pg	08 28 08.1	-0.4
PNIG				*i* S	Sg	08 28 12.7	+0.2
ACX	**Acapulco**	**1.54**	**294**	*i* P	Pn	08 28 28.1	-2.9
ACX				*i* S	Sn	08 28 48.8	-2.7
ACX	**Acapulco**	**1.54**	**294**	*i* P	Pn	08 28 28.1	-2.9
ACX				*i* S	Sn	08 28 47.5	-4.0
UTMO	**Huajuapan**	**1.69**	**19**	*i* P	Pn	08 28 30.2	-2.8
UTMO				*i* S	Sn	08 28 50.7	-4.4
VHO	**Vista Hermosa**	**1.80**	**62**	*i* P	Pn	08 28 31.2	-3.3
VHO				*i* S	Sn	08 28 55.2	-2.5
VHO	**Vista Hermosa**	**1.80**	**62**	*i* P	Pn	08 28 31.2	-3.3
VHO				*i* S	Sn	08 28 53.4	-4.4
OXX	**Oaxaca**	**1.81**	**62**	*i* P	Pn	08 28 32.6	-2.1
OXX				*i* S	Sn	08 28 54.9	-3.1
OXX	**Oaxaca**	**1.81**	**62**	*i* P	Pn	08 28 31.3	-3.4
OXX				*i* S	Sn	08 28 52.7	-5.3
CAIG	**El Cayaco**	**1.97**	**295**	*e*P	Pn	08 28 33.6	-3.3
CAIG				*i* S	Sn	08 28 58.3	-3.8
CAIG	**El Cayaco**	**1.97**	**295**	*e*P	Pn	08 28 33.6	-3.3
CAIG				*i* S	Sn	08 28 56.9	-5.2
MEIG	**Mezcala**	**2.05**	**325**	*e*P	Pn	08 28 35.0	-3.1
MEIG				*i* S	Sn	08 28 59.0	-5.2
PPM	**Popocatepetl**	**2.83**	**355**	*i* P	Pn	08 28 46.2	-2.5
PPM				*i* S	Sn	08 29 21.5	-1.7
PPM	**Popocatepetl**	**2.83**	**355**	*i* P	Pn	08 28 46.2	-2.5
PPM				*i* S	Sn	08 29 19.2	-4.0

*ATH **13** 08:28:38.7, 38°.72N×22°.54E, h22km±2km, MD2.9/6*
*ISCJB **13** 08:28:39.0±0.4, 38°.71N±0°.02×22°.54E±0°.03, h10km, Error ellipse: s-maj=3.0km s-min=2.7km az=43.1*
*CSEM **13** 08:28:39.2, 38°.71N×22°.54E, h15km, ML4.4/7, After THE*
*THE **13** 08:28:39.2, 38°.71N×22°.54E, h15km, ML4.4/7, Error ellipse: s-maj=0.8km s-min=0.4km az=240.0*
ISC 13 08:28:38.9±0.7, 38°.71N±0°.02×22°.54E±0.03, h19km±7km, n36, σ0°38/66, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.11**	**60**	P	**Pg**	**08 28 42.6**	**-0.3**
AXAR				S	**Sg**	**08 28 45.3**	**-0.2**
AXAR	**Agios Charalam**	**0.11**	**60**	P	**Pg**	**08 28 42.6**	**-0.3**
AXAR				S	**Sg**	**08 28 45.3**	**-0.2**
DESF	**Desfina**	**0.30**	**181**	P	**Pg**	**08 28 45.1**	**-0.4**
DESF				S	**Sg**	**08 28 50.0**	**0.0**
DESF	**Desfina**	**0.30**	**181**	P	**Pg**	**08 28 45.1**	**-0.4**
DESF				S	**Sg**	**08 28 50.0**	**0.0**
DSF	**Desfina**	**0.30**	**181**	P	**Pg**	**08 28 45.1**	**-0.5**
DSF				S	**Sg**	**08 28 49.9**	**-0.1**
DSF	**Desfina**	**0.30**	**181**	P	**Pg**	**08 28 45.1**	**-0.5**
DSF				S	**Sg**	**08 28 49.9**	**-0.1**
AGG	**Agios Georgios**	**0.35**	**333**	*e*PB	**Pg**	**08 28 46.2**	**-0.2**
AGG	**Agios Georgios**	**0.35**	**333**	P	**Pg**	**08 28 46.4**	**0.0**
AGG				S	**Sg**	**08 28 51.6**	**+0.1**
AGG	**Agios Georgios**	**0.35**	**333**	P	**Pg**	**08 28 46.4**	**0.0**
AGG				S	**Sg**	**08 28 51.6**	**+0.1**
LKR	**Lokris**	**0.37**	**99**	*e*PB	**Pg**	**08 28 46.5**	**-0.2**
LKR				*e*SB	**Sg**	**08 28 52.3**	**+0.3**
LKR	**Lokris**	**0.37**	**99**	P	**Pg**	**08 28 46.5**	**-0.2**
LKR				S	**Sg**	**08 28 52.4**	**+0.4**
LKR	**Lokris**	**0.37**	**99**	P	**Pg**	**08 28 46.5**	**-0.2**
LKR				S	**Sg**	**08 28 52.4**	**+0.4**
ATAL	**Atalanti**	**0.38**	**93**	P	**Pg**	**08 28 46.8**	**-0.1**
ATAL				S	**Sg**	**08 28 52.5**	**+0.2**
ATAL	**Atalanti**	**0.38**	**93**	P	**Pg**	**08 28 46.8**	**-0.1**
ATAL				S	**Sg**	**08 28 52.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.44**	**314**	P	**Pg**	**08 28 48.0**	**+0.1**
MAKR				S	**Sg**	**08 28 54.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.44**	**314**	P	**Pg**	**08 28 48.0**	**+0.1**
MAKR				S	**Sg**	**08 28 54.8**	**+0.8**
KALE	**Kalithea**	**0.45**	**224**	P	**Pg**	**08 28 47.8**	**-0.3**
KALE				S	**Sg**	**08 28 54.0**	**-0.2**
KALE	**Kalithea**	**0.45**	**224**	P	**Pg**	**08 28 47.8**	**-0.3**
KALE				S	**Sg**	**08 28 54.0**	**-0.2**
EFP	**Efpalio**	**0.57**	**240**	*e*PN	**Pg**	**08 28 50.0**	**-0.3**
EFP				*e*SN	**Sg**	**08 28 58.8**	**+0.8**
EFP	**Efpalio**	**0.57**	**240**	P	**Pg**	**08 28 50.2**	**-0.1**
EFP				S	**Sg**	**08 28 58.6**	**+0.6**
EFP	**Efpalio**	**0.57**	**240**	P	**Pg**	**08 28 50.2**	**-0.1**
EFP				S	**Sg**	**08 28 58.6**	**+0.6**
EVR	**Evrytania**	**0.60**	**290**	*e*PN	**Pg**	**08 28 51.2**	**+0.2**
LTK	**Loutraki**	**0.77**	**154**	*e*PN	**Pg**	**08 28 53.5**	**-0.5**
LTK				*e*SN	**Sg**	**08 29 04.8**	**+0.6**
LTK	**Loutraki**	**0.77**	**154**	P	**Pg**	**08 28 53.9**	**-0.1**
LTK				S	**Sg**	**08 29 05.4**	**+1.2**
LTK	**Loutraki**	**0.77**	**154**	P	**Pg**	**08 28 53.9**	**-0.1**
LTK				S	**Sg**	**08 29 05.4**	**+1.2**
GUR	**Goura**	**0.79**	**191**	*e*PN	**Pg**	**08 28 54.2**	**-0.2**
NEO	**Neokhori**	**0.80**	**42**	*e*PN	**Pg**	**08 28 54.2**	**-0.4**
NEO				*e*SN	**Sg**	**08 29 05.4**	**+0.1**
NEO	**Neokhori**	**0.80**	**42**	P	**Pg**	**08 28 54.9**	**+0.3**
NEO				S	**Sg**	**08 29 05.4**	**+0.1**
NEO	**Neokhori**	**0.80**	**42**	P	**Pg**	**08 28 54.9**	**+0.3**
NEO				S	**Sg**	**08 29 05.4**	**+0.1**
MRKA	**Markates**	**0.82**	**90**	P	**Pg**	**08 28 55.1**	**+0.1**
MRKA				S	**Sg**	**08 29 06.4**	**+0.4**
MRKA	**Markates**	**0.82**	**90**	P	**Pg**	**08 28 55.1**	**+0.1**
MRKA				S	**Sg**	**08 29 06.4**	**+0.4**
XOR	**Xorichti**	**0.83**	**38**	P	**Pg**	**08 28 54.7**	**-0.5**
XOR				S	**Sg**	**08 29 06.1**	**-0.1**
XOR	**Xorichti**	**0.83**	**38**	P	**Pg**	**08 28 54.7**	**-0.5**
XOR				S	**Sg**	**08 29 06.1**	**-0.1**
THL	**Klokotos Trika**	**0.94**	**335**	*e*PN	**Pg**	**08 28 56.8**	**-0.5**
THL	**Klokotos Trika**	**0.94**	**335**	P	**Pg**	**08 28 56.9**	**-0.4**
THL	**Klokotos Trika**	**0.94**	**335**	P	**Pg**	**08 28 56.9**	**-0.4**

*ISCJB **13** 08:29:50.2±0.4, 38°.71N±0°.02×22°.54E±0°.03, h24km±4km, Error ellipse: s-maj=4.7km s-min=3.6km az=40.8*
*CSEM **13** 08:29:50.7, 38°.72N×22°.55E, h15km, ML3.7/7, After THE*
*ATH **13** 08:29:50.6, 38°.71N×22°.54E, h16km±3km, MD2.7/7*
*THE **13** 08:29:50.7, 38°.72N×22°.55E, h15km, ML3.7/7, Error ellipse: s-maj=0.8km s-min=0.4km az=238.0*
ISC 13 08:29:50.4±0.3, 38°.72N±0°.02×22°.54E±0.03, h19km±2km, n32, σ0°74/59, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.11**	**62**	P	**Pg**	**08 29 54.0**	**-0.3**
AXAR				S	**Sg**	**08 29 56.5**	**-0.4**
AXAR	**Agios Charalam**	**0.11**	**62**	P	**Pg**	**08 29 54.0**	**-0.3**
AXAR				S	**Sg**	**08 29 56.5**	**-0.4**
DESF	**Desfina**	**0.30**	**181**	P	**Pg**	**08 29 56.5**	**-0.5**
DESF				S	**Sg**	**08 30 01.6**	**0.0**
DESF	**Desfina**	**0.30**	**181**	P	**Pg**	**08 29 56.5**	**-0.5**
DESF				S	**Sg**	**08 30 01.6**	**0.0**
DSF	**Desfina**	**0.30**	**182**	P	**Pg**	**08 29 56.5**	**-0.6**
DSF				S	**Sg**	**08 30 02.3**	**+0.7**
DSF	**Desfina**	**0.30**	**182**	P	**Pg**	**08 29 56.5**	**-0.6**
DSF				S	**Sg**	**08 30 02.3**	**+0.7**
AGG	**Agios Georgios**	**0.34**	**332**	*e*PB	**Pg**	**08 29 57.7**	**-0.1**
AGG	**Agios Georgios**	**0.34**	**332**	P	**Pg**	**08 29 57.7**	**-0.1**
AGG				S	**Sg**	**08 30 03.0**	**+0.2**
AGG	**Agios Georgios**	**0.34**	**332**	P	**Pg**	**08 29 57.7**	**-0.1**
AGG				S	**Sg**	**08 30 03.0**	**+0.2**
LKR	**Lokris**	**0.37**	**100**	*e*PB	**Pb**	**08 29 57.8**	**-0.4**
LKR				*e*SB	**Sg**	**08 30 03.6**	**+0.2**
LKR	**Lokris**	**0.37**	**100**	P	**Pg**	**08 29 57.7**	**-0.4**
LKR				S	**Sg**	**08 30 03.5**	**+0.1**
LKR	**Lokris**	**0.37**	**100**	P	**Pg**	**08 29 57.7**	**-0.4**
LKR				S	**Sg**	**08 30 03.5**	**+0.1**
ATAL	**Atalanti**	**0.38**	**93**	P	**Pg**	**08 29 58.4**	**+0.1**
ATAL				S	**Sg**	**08 30 03.4**	**-0.3**
ATAL	**Atalanti**	**0.38**	**93**	P	**Pg**	**08 29 58.4**	**+0.1**
ATAL				S	**Sg**	**08 30 03.4**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.43**	**313**	P	**Pg**	**08 29 59.5**	**+0.2**
MAKR				S	**Sg**	**08 30 06.4**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.43**	**313**	P	**Pg**	**08 29 59.5**	**+0.2**
MAKR				S	**Sg**	**08 30 06.4**	**+1.1**
KALE	**Kalithea**	**0.45**	**224**	P	**Pg**	**08 29 59.2**	**-0.4**
KALE				S	**Sg**	**08 30 06.4**	**+0.6**
KALE	**Kalithea**	**0.45**	**224**	P	**Pg**	**08 29 59.2**	**-0.4**
KALE				S	**Sg**	**08 30 06.4**	**+0.6**
EFP	**Efpalio**	**0.57**	**240**	*e*PN	**Pn**	**08 30 01.6**	**-1.8**
EFP				*e*SN	**Sb**	**08 30 10.4**	**+0.9**
EFP	**Efpalio**	**0.57**	**240**	P	**Pb**	**08 30 01.5**	**-0.2**
EFP				S	**Sb**	**08 30 10.7**	**+1.2**
EFP	**Efpalio**	**0.57**	**240**	P	**Pb**	**08 30 01.5**	**-0.2**
EFP				S	**Sb**	**08 30 10.7**	**+1.2**
EVR	**Evrytania**	**0.60**	**290**	*e*PN	**Pn**	**08 30 02.7**	**-1.2**
LTK	**Loutraki**	**0.77**	**154**	*e*PN	**Pb**	**08 30 05.4**	**+0.3**
LTK	**Loutraki**	**0.77**	**154**	P	**Pb**	**08 30 05.4**	**+0.3**
LTK				S	**Sb**	**08 30 17.3**	**+2.1**
LTK	**Loutraki**	**0.77**	**154**	P	**Pb**	**08 30 05.4**	**+0.3**
LTK				S	**Sb**	**08 30 17.3**	**+2.1**
GUR	**Goura**	**0.79**	**191**	*e*PN	**Pn**	**08 30 05.8**	**-0.7**
NEO	**Neokhori**	**0.80**	**42**	*e*PN	**Pn**	**08 30 06.2**	**-0.3**
NEO				*e*SN	**Sn**	**08 30 17.0**	**-0.8**
NEO	**Neokhori**	**0.80**	**42**	P	**Pb**	**08 30 05.7**	**+0.1**
NEO				S	**Sb**	**08 30 17.2**	**+1.3**
NEO	**Neokhori**	**0.80**	**42**	P	**Pb**	**08 30 05.7**	**+0.1**
NEO				S	**Sb**	**08 30 17.2**	**+1.3**
XOR	**Xorichti**	**0.82**	**38**	P	**Pb**	**08 30 05.9**	**-0.2**
XOR				S	**Sb**	**08 30 17.8**	**+1.0**
XOR	**Xorichti**	**0.82**	**38**	P	**Pb**	**08 30 05.9**	**-0.2**
XOR				S	**Sb**	**08 30 17.8**	**+1.0**
THL	**Klokotos Trika**	**0.94**	**335**	*e*PN	**Pn**	**08 30 08.5**	**0.0**

*BJI **13** 08:45:34.4, 49°.00S×123°.40E, h5km, mB6.1/44, mb5.7/60, Ms5.8/62, Ms7 5.6/59*
*IDC **13** 08:45:34.6±0.5, 49°.00S×123°.48E, h0km, mb5.3/18, mb1 5.3/19, mb1mx5.3/19, mbtmp5.3/19, ML3.1/1, MS5.7/18, Ms1 5.7/18, ms1mx5.7/18, Error ellipse: s-maj=18.7km s-min=12.4km az=116.0*
*MOS **13** 08:45:35.8±1.1, 48°.84S×123°.40E, h11km, mb6.0/32, MS5.7/55, Error ellipse: s-maj=13.9km s-min=7.7km az=79.9*
*ISCJB **13** 08:45:35.1±0.2, 49°.08S±0°.03×123°.43E±0°.05, h10km, mb5.7/149, MS5.8/217, Error ellipse: s-maj=4.6km s-min=4.0km az=22.8*
*NEIC **13** 08:45:36.3±0.1, 48°.98S×123°.40E, h10km, mb6.0/64, MS5.8/172, MW5.9, Error ellipse: s-maj=6.4km s-min=5.6km az=86.0*
*GCMT **13** 08:45:37.1±0.1, 49°.12S×123°.86E, h12km, MW5.9, Moment Tensor Solution. s95,c171; s88,c122; Moment tensor: Scale 10^18Nm; Mrr=0.96±.01; Mθθ=1.01±.01; Mφφ=-0.05±.01; Mrθ=-0.14±.02; Mθφ=-0.12±.01; Mφr=0.03±.02; Best double couple: M0=1.00000×10^18 NP1:φs=275.00000°, δ=41.00000°, λ=-92.00000°. NP2:φs=98.00000°, δ=49.00000°, λ=-89.00000°. Principal axes: T 1.0400, Plg=4.0000°, Azm=187.0000°; N -0.0700, Plg=1.0000°, Azm=277.0000°; P -0.9700, Plg=86.0000°, Azm=22.0000°; Data Used: II IU IC G CN. Surface waves: sta=111, comp=253, per= 50.*
*DJA **13** 08:45:38, 49°.11S×123°.71E, h10km, Mw6.2/67*
ISC 13 08:45:35.2±1.9, 49°.09S±0°.03×123°.43E±0°.05, h0km±11km, n773, σ1°17/335, mb5.8/149, MS5.8/217, 14C-11D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.80**	**342**	Pn	**Pn**	**08 49 28.6**	**-3.1**
	3.3nm,0.3s,baz=164,slow=13,SNR=31						
NWAO				LR	LR	08 54 31.8	
	comp=Z,62μm,20.3s,baz=158,slow=32						
NWAO	**Narrogin (SRO)**	**16.80**	**342**	*e*P	**Pn**	**08 49 30.0**	**-1.7**
	836nm,1.4s						
NWAO	**Narrogin (SRO)**	**16.80**	**342**	*e*P	**Pn**	**08 49 30.0**	**-1.7**
NWAO				pmax	pmax		
	comp=Z,836nm,1.4s						
NWAO	**Narrogin (SRO)**	**16.80**	**342**	P	**Pn**	**08 49 31.9**	**+0.2**
	SNR=47						
TAU	**Tasmania Unive**	**17.67**	**79**	*e*P	**Pn**	**08 49 42.6**	**0.0**
	comp=Z,1μm,1.6s						
TAU	**Tasmania Unive**	**17.67**	**79**	P	**Pn**	**08 49 43.7**	**+1.1**
	comp=Z,2μm,1.5s,SNR=7.7						
TAU	**Tasmania Unive**	**17.67**	**79**	*e*P	**Pn**	**08 49 42.6**	**0.0**
TAU				pmax	pmax		
	comp=Z,1μm,1.6s						
MOO	**Moorlands**	**17.82**	**77**	*e*P	**Pn**	**08 49 46.2**	**+1.8**
	comp=Z,2μm,1.5s						
MOO				*e*S	**Sn**	**08 53 05.6**	**+2.1**
KLBR	**Kellerberrin**	**17.99**	**344**	*e*P	**Pn**	**08 49 45.4**	**-1.2**
	comp=Z,909nm,1.5s						
CASY	**Casey**	**18.49**	**197**	*e*P	**Pn**	**08 49 50.8**	**-1.7**
CASY				*e*S	**Sn**	**08 53 25.7**	**+6.3**
CASY	**Casey**	**18.49**	**197**	*e*P	**Pn**	**08 49 53.1**	**+0.6**
	comp=Z,382nm,1.1s						
FORT	**Forrest**	**18.62**	**13**	*e*P	**Pn**	**08 49 52.1**	**-2.2**
	comp=Z,287nm,2.0s						
FORT				*e*S	**Sn**	**08 53 32.5**	**+10**
FORT	**Forrest**	**18.62**	**13**	*e*P	**Pn**	**08 49 51.7**	**-2.6**
	comp=Z,2μm,1.9s						
DRV	**Dumont d'Urvil**	**19.58**	**160**	P	**Pn**	**08 50 03.0**	**-2.7**
DRV				R		08 54 00.0	
TOO	**Toolangi**	**19.67**	**62**	*e*P	**Pn**	**08 50 05.2**	**-1.7**
	comp=Z,1μm,1.2s						
TOO				*e*S	**Sn**	**08 53 42.9**	**-5.4**
STKA	**Stephens Creek**	**21.96**	**45**	P	**P**	**08 50 28.7**	**-1.7**
	comp=Z,117nm,1.3s,mb5.2,baz=196,slow=13,SNR=35						
STKA				LR	LR	08 57 16.7	
	comp=Z,37μm,21.7s,MS5.8,baz=207,slow=32						
STKA	**Stephens Creek**	**21.96**	**45**	*e*P	**P**	**08 50 27.6**	**-2.8**
	comp=Z,108nm,1.6s,mb5.0						
STKA				*e*S	**S**	**08 54 28.8**	**-4.8**
STKA	**Stephens Creek**	**21.96**	**45**	*e*P	**P**	**08 50 29.4**	**-1.0**
	comp=Z,135nm,1.7s,mb5.1						
STKA	**Stephens Creek**	**21.96**	**45**	*e*P	**P**	**08 50 29.4**	**-1.0**
STKA				pmax	pmax		
	comp=Z,135nm,1.7s						
CAN	**Canberra**	**23.27**	**63**	*e*P	**P**	**08 50 43.4**	**-0.9**
	comp=Z,894nm,2.0s,mb6.0						
CAN				LR	LR		
	comp=Z,21μm,22.0s,MS5.6						
CAN	**Canberra**	**23.27**	**63**	*e*P	**P**	**08 50 43.4**	**-0.9**
CAN				pmax	pmax		
	comp=Z,894nm,2.0s,mb6.0						
CAN				MLR	MLR		
	comp=Z,21μm,22.0s,MS5.6						
MIR	**Mirnyy**	**23.45**	**211**	↑*i*P	**P**	**08 50 46.8**	**+1.0**
MIR				*e*S	**S**	**08 55 00.0**	**+0.4**
MIR				pmax	pmax		
	comp=Z,371nm,1.8s,mb5.6						
MIR				pmax	pmax		
	comp=N,2μm,6.0s						
MIR				pmax	pmax		
	comp=E,2μm,6.0s						
MIR				pmax	pmax		
	comp=Z,5μm,6.0s						
MIR				smax			
	comp=N,9μm,14.0s						
MIR				smax			
	comp=E,12μm,14.0s						
CNB	**Canberra Magne**	**23.49**	**64**	*e*P	**P**	**08 50 45.7**	**-0.9**
	comp=E,918nm,1.6s,mb6.1						
CNB				*e*S	**S**	**08 54 59.4**	**-1.4**
ASAR	**Alice Springs**	**26.68**	**22**	P	**P**	**08 51 13.5**	**-2.3**
	comp=E,56nm,1.0s,mb5.3,baz=190,slow=9.5,SNR=56						
ASAR				P3KPbc		09 23 59.0	
	comp=E,1.3nm,0.9s,baz=8.1,slow=4.3,SNR=9.5						
ASAR	**Alice Springs**	**26.68**	**22**	P	**P**	**08 51 13.5**	**-2.3**
ASAR				*e*		09 23 59.0	
ASAR	**Alice Springs**	**26.68**	**22**	P	**P**	**08 51 13.5**	**-2.3**
AS31	**Alice Springs**	**26.68**	**22**	*e*P	**P**	**08 51 13.4**	**-2.4**
MBWA	**Marble Bar**	**28.02**	**353**	*e*P	**P**	**08 51 26.2**	**-1.6**
	comp=E,372nm,1.5s,mb6.0						
MBWA				LR	LR		
	comp=Z,26μm,19.0s,MS5.8						
MBWA	**Marble Bar**	**28.02**	**353**	P	**P**	**08 51 27.1**	**-0.7**
	comp=Z,4μmcomp=Z,198nm,1.4s,mb5.8						
MBWA	**Marble Bar**	**28.02**	**353**	P	**P**	**08 51 26.8**	**-1.0**
MBWA	**Marble Bar**	**28.02**	**353**	P	**P**	**08 51 27.1**	**-0.7**
	SNR=16						
ARMA	**Armidale**	**28.35**	**59**	*e*P	**P**	**08 51 27.6**	**-3.1**
WRA	**Warramunga Arr**	**30.37**	**21**	P	**P**	**08 51 46.0**	**-2.7**
	comp=Z,24nm,1.1s,mb4.9,baz=199,slow=9.2,SNR=51						
WRA				LR	LR	09 02 48.4	
	comp=Z,65μm,21.2s,MS6.2,baz=185,slow=34						
WRA				P3KPbc		09 23 49.4	
	comp=Z,4.3nm,1.2s,baz=21,slow=3.8,SNR=6.8						
WRA	**Warramunga Arr**	**30.37**	**21**	P	**P**	**08 51 46.0**	**-2.7**
WRA				*e*		09 23 49.4	
WRA	**Warramunga Arr**	**30.37**	**21**	P	**P**	**08 51 46.0**	**-2.7**
WB2	**Warramunga Arr**	**30.37**	**21**	*e*P	**P**	**08 51 46.2**	**-2.5**
WRAB	**Tennant Creek**	**30.38**	**21**	*e*P	**P**	**08 51 46.7**	**-2.1**
	comp=Z,190nm,1.6s,mb5.7						
WRAB				LR	LR		
	comp=Z,62μm,21.0s,MS6.2						
WRAB	**Tennant Creek**	**30.38**	**21**	P	**P**	**08 51 46.5**	**-2.3**
	comp=Z,286nm,1.9s,mb5.8,SNR=13						
WRAB	**Tennant Creek**	**30.38**	**21**	*e*P	**P**	**08 51 46.7**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,189nm,1.6s,mb5.7						
WRAB				MLR	MLR		
	comp=Z,62μm,21.0s,MS6.2						
WRAB	**Tennant Creek**	**30.38**	**21**	P	**P**	**08 51 47.0**	**-1.8**
	comp=Z,5μmcomp=Z,380nm,1.1s,mb6.2						
WRAB	**Tennant Creek**	**30.38**	**21**	P	**P**	**08 51 47.0**	**-1.8**
	comp=Z,5μmcomp=Z,126nm,2.0s,mb5.4						
FITZ	**Fitzroy Crossi**	**30.96**	**4**	*e*P	**P**	**08 51 52.7**	**-1.2**
	comp=Z,93nm,1.2s,mb5.6						
FITZ				*e*S	**S**	**08 56 40.4**	**-19**
FITZ	**Fitzroy Crossi**	**30.96**	**4**	P	**P**	**08 51 53.6**	**-0.3**
	comp=Z,3μmcomp=Z,122nm,0.9s,mb5.8						
FITZ	**Fitzroy Crossi**	**30.96**	**4**	P	**P**	**08 51 53.4**	**-0.5**
	comp=Z,3μmcomp=Z,108nm,1.8s,mb5.5						
ODZ	**Otahua Downs**	**32.00**	**101**	*e*P	**P**	**08 52 04.8**	**+1.9**
	comp=Z,1μm,1.5s,mb6.5						
VNDA	**Vanda**	**32.06**	**165**	*e*P	**P**	**08 52 02.9**	**-0.2**
	comp=Z,174nm,1.3s,mb5.8						
VNDA				LR	LR		
	comp=Z,33μm,20.0s,MS6.0						
VNDA	**Vanda**	**32.06**	**165**	*e*P	**P**	**08 52 02.9**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,174nm,1.3s						
VNDA				MLR	MLR		
	comp=Z,33μm,20.0s						
RPZ	**Rata Peaks**	**32.84**	**99**	P	**P**	**08 52 09.8**	**-0.4**
	comp=Z,25nm,1.0s,mb5.1,baz=238,slow=1.7,SNR=7.3						
RPZ				LR	LR	09 02 59.0	
	comp=Z,6μm,18.3s,MS5.3,baz=231,slow=32						
RPZ	**Rata Peaks**	**32.84**	**99**	*e*P	**P**	**08 52 11.1**	**+0.8**
	comp=Z,212nm,1.4s,mb5.9						
SBA	**Scott Base**	**33.10**	**165**	*e*P	**P**	**08 52 13.7**	**+1.5**
	comp=Z,388nm,1.6s,mb6.1						
SBA				LR	LR		
	comp=Z,19μm,19.0s,MS5.8						
SBA	**Scott Base**	**33.10**	**165**	*e*P	**P**	**08 52 13.7**	**+1.5**
SBA				pmax	pmax		
	comp=Z,388nm,1.6s,mb6.1						
SBA				MLR	MLR		
	comp=Z,19μm,19.0s,MS5.8						
PAF	**Port-aux-Franc**	**34.16**	**249**	PFAKE		08 52 30.0	+8.3
PAF				LR	LR		
	comp=Z,12μm,22.0s,MS5.6						
CTA	**Charters Tower**	**34.23**	**40**	P	**P**	**08 52 20.9**	**-1.7**
	comp=Z,41nm,1.2s,mb5.2,baz=207,slow=10,SNR=18						
CTA				LR	LR	09 06 14.6	
	comp=Z,28μm,18.0s,MS6.0,baz=204,slow=36						
CTA	**Charters Tower**	**34.23**	**40**	*e*P	**P**	**08 52 20.1**	**-2.4**
	comp=Z,37nm,1.6s,mb5.1						
CTA	**Charters Tower**	**34.23**	**40**	P	**P**	**08 52 20.9**	**-1.7**
CTA	**Charters Tower**	**34.23**	**40**	P	**P**	**08 52 20.9**	**-1.6**
CTAO	**Charters Tower**	**34.23**	**40**	*e*P	**P**	**08 52 19.9**	**-2.7**
	comp=Z,184nm,1.6s,mb5.8						
CTAO				LR	LR		
	comp=Z,27μm,19.0s,MS6.0						
CTAO	**Charters Tower**	**34.23**	**40**	*e*P	**P**	**08 52 19.9**	**-2.6

BJII Banjamegara 43.19 340 P **P 08 53 39.3 +1.5**
comp=Z,4μmcomp=Z,184nm,2.0s,mb5.5
NOUC Port Laguerre 43.23 67 *e*P **P 08 53 36.2 -1.9**
SYO Syowa Base 43.25 212⇓*e*P **P 08 53 36.4 -1.3**
SYO Syowa Base 43.25 212⇓*i*pP pP 08 53 40.6 +2.9
DZM Mont Dzumac 43.33 67 *e*P **P 08 53 39.1 +0.2**
comp=Z,300nm,1.6s,mb5.8
DZM *e*S **S 09 00 08.1 +0.7**
comp=Z,2μm,27.1s
DZM *e*LQ 09 03 56.1
comp=Z,5μm,30.4s
DZM *e*LR LR 09 05 45.7
comp=Z,9μm,22.9s
DZM Mont Dzumac 43.33 67 *e*P **P 08 53 37.4 -1.5**
CISI Cisompet, Garu 43.43 337 P **P 08 53 39.8 +0.1**
BKSI Bulukumba 43.70 355 P **P 08 53 43.1 +1.2**
comp=Z,3μmcomp=Z,127nm,1.7s,mb5.4
TLE Tual 44.01 13 P **P 08 53 47.2 +2.8**
comp=Z,9μmcomp=Z,336nm,1.9s,mb5.7
KAPI Kappang 44.03 355 LR LR 09 10 52.3
comp=Z,7μm,19.9s,MS5.6,baz=176,slow=34
KAPI Kappang 44.03 355 *e*P **P 08 53 43.6 -0.9**
comp=Z,563nm,1.6s,mb6.0
KAPI Kappang 44.03 355 P **P 08 53 45.1 +0.6**
comp=Z,5μmcomp=Z,230nm,1.7s,mb5.6
LEM Lembang 44.18 337 P **P 08 53 48.8 +3.0**
PMG Port Moresby 44.26 35 P **P 08 53 45.6 -0.8**
comp=Z,52nm,1.0s,mb5.2,baz=207,slow=5.5,SNR=16
PMG PP PP 08 55 29.2 -0.3
comp=Z,38nm,1.2s,baz=187,slow=9.2,SNR=4.4
PMG Port Moresby 44.26 35 *e*P **P 08 53 45.2 -1.2**
comp=Z,310nm,1.6s,mb5.8
PMG PP PP 08 55 29.2 -0.3
PMG LR LR
comp=Z,12μm,19.0s,MS5.8
PMG Port Moresby 44.26 35 *e*P **P 08 53 45.2 -1.2**
PMG 08 55 29.2
PMG pmax pmax
comp=Z,310nm,1.6s
PMG MLR MLR
comp=Z,12μm,19.0s
PMG Port Moresby 44.26 35 P **P 08 53 46.8 +0.4**
comp=Z,4μmcomp=Z,129nm,1.7s,mb5.4
DBJI Dramaga 44.67 336 P **P 08 53 51.9 +2.2**
comp=Z,7μmcomp=Z,292nm,1.8s,mb5.9
CBJI Citeko 44.77 336 P **P 08 53 51.4 +0.9**
comp=Z,587nm,1.4s,mb6.3
CGJI Cibinong 44.91 335 P **P 08 53 53.0 +1.5**
comp=Z,4μmcomp=Z,118nm,2.3s,mb5.4
SBJI Serang 45.25 335 P **P 08 53 58.8 +4.5**
comp=Z,9μmcomp=Z,237nm,1.9s,mb5.8
RBSI Rajabasa 45.62 335 P **P 08 54 00.4 +3.2**
comp=Z,2μmcomp=Z,101nm,1.6s,mb5.6
LWLI Liwa 46.90 333 P **P 08 54 10.0 +2.8**
comp=Z,6μmcomp=Z,189nm,2.0s,mb5.9
PBKI Pangkalan Bun 47.29 344 P **P 08 54 13.7 +3.4**
comp=Z,408nm,1.1s,mb6.5
LUWI Luwuk 47.86 359 P **P 08 54 16.4 +1.6**
comp=Z,5μmcomp=Z,239nm,1.9s,mb6.0
TPI Tanjungpandan 48.09 339 P **P 08 54 17.9 +1.4**
comp=Z,5μmcomp=Z,220nm,1.8s,mb6.0
RAO Raoul Island 48.30 88 PFAKE 08 54 30.0 +12
RAO LR LR
comp=Z,3μm,22.0s,MS5.2
KSI Kapahiang 48.63 332 P **P 08 54 22.5 +1.8**
comp=Z,9μmcomp=Z,438nm,2.0s,mb6.1
JAY Jayapura 48.70 23 P **P 08 54 21.9 +0.7**
comp=Z,5μmcomp=Z,84nm,1.9s,mb5.4
SMPI Sarmi 48.72 21 P **P 08 54 22.7 +1.3**
comp=Z,241nm,2.2s,mb5.8
PPBI Pangkal Pinang 49.04 337 P **P 08 54 24.3 +0.4**
comp=Z,4μmcomp=Z,166nm,1.8s,mb5.8
GTOI Gorontalo 49.53 359 P **P 08 54 28.6 +1.0**
comp=Z,5μmcomp=Z,215nm,1.9s,mb5.8
HNR Honiara 49.91 50 *e*P **P 08 54 31.9 +1.3**
comp=Z,314nm,1.4s,mb6.0
HNR LR LR
comp=Z,10μm,21.0s,MS5.8
HNR Honiara 49.91 50 *e*P **P 08 54 31.9 +1.4**
HNR pmax pmax
comp=Z,314nm,1.4s,mb6.0
HNR MLR MLR
comp=Z,10μm,21.0s,MS5.8
NVL N'lazarevskaya 50.90 203⇑*i*P **P 08 54 40.8 +3.5**
NVL *e**PP 08 54 46.9
NVL *e* 08 56 36.3
NVL pmax pmax
comp=Z,249nm,2.2s,mb5.8
MAIT Maitri 50.91 203 *e*P **P 08 54 40.5 +3.0**
MAIT *e* 08 54 46.3
MAIT *e* 08 56 35.5
MAIT *e*S **S 09 01 43.3 -11**
KSM Kuching 51.62 343 P **P 08 54 43.6 +0.2**
KSM Kuching 51.62 343 *e*P **P 08 54 43.6 +0.2**
comp=Z,349nm,1.5s,mb6.1
KSM LR LR
comp=Z,8μm,22.0s,MS5.7
SBUM Sibu 52.24 346 P **P 08 54 48.3 +0.3**
PPI Padang Panjang 52.34 330 P **P 08 54 49.3 +0.5**
comp=Z,4μmcomp=Z,176nm,1.8s,mb5.7
BTM Bintulu 52.84 347 P **P 08 54 52.8 +0.3**
BKNI Bangkinang 52.87 331 P **P 08 54 53.3 +0.6**
comp=Z,8μmcomp=Z,553nm,1.4s,mb6.3
TSM Tawau 53.38 353 P **P 08 54 56.7 +0.3**
MYKOM Kota Tinggi 53.43 335 P **P 08 54 57.2 +0.3**
MYKOM Kota Tinggi 53.43 335 P **P 08 54 57.8 +1.0**
comp=Z,3μmcomp=Z,155nm,1.1s,mb5.8
SNAA Sanae 53.72 198 *e* **P 08 54 58.2 -0.1**
SNAA *e* 08 55 00.4
SNAA Sanae 53.72 198 P **P 08 54 57.9 -0.4**
comp=Z,74nm,1.0s,mb5.7,baz=142,slow=10,SNR=54
SNAA Sanae 53.72 198 *e*P **P 08 54 57.9 -0.4**
comp=Z,680nm,1.2s,mb6.5
SNAA Sanae 53.72 198 *e*P **P 08 54 57.9 -0.4**
SNAA pmax pmax
comp=Z,680nm,1.2s
MSVF Nonsavu 53.78 74 *e*P **P 08 54 59.6 +0.2**
MSVF LR LR
comp=Z,3μm,20.0s,MS5.4
MSVF Nonsavu 53.78 74 P **P 08 55 00.0 +0.6**
comp=Z,595nm,1.3s,mb6.5,SNR=14
MSVF Nonsavu 53.78 74 *e*P **P 08 54 59.6 +0.2**
MSVF MLR MLR
comp=Z,3μm,20.0s,MS5.4
KGM Kluang 53.80 335 P **P 08 54 59.8 +0.3**
MYLDM Lahad Datu 54.21 354 P **P 08 55 02.5 0.0**
SDKM Sandakan 54.77 352 P **P 08 55 06.6 0.0**
VNA2 Neumayer--Watz 55.23 198 *e* **P 08 55 09.5 +0.3**
baz=139,slow=7.5
VNA2 *e* 08 55 11.6
KKM Kota Kinabalu 55.26 351 P **P 08 55 10.2 +0.1**
KKM Kota Kinabalu 55.26 351 *e*P **P 08 55 10.4 +0.3**
comp=Z,349nm,1.9s,mb6.1
KKM LR LR
comp=Z,5μm,20.0s,MS5.6
VNA3 Neumayer Olymp 55.41 197 *e* **P 08 55 10.7 +0.1**
VNA3 *e* 08 55 12.6
VNA1 Neumayer--Stat 55.62 198 *e* **P 08 55 13.0 +0.9**
VNA1 *e* 08 55 15.9
PSI Prapat 55.88 330 P **P 08 55 13.4 -1.2**
comp=Z,3μmcomp=Z,122nm,1.8s,mb5.6
DAV Davao City (W) 55.95 3 PFAKE 08 55 30.0 +15
DAV LR LR
comp=Z,7μm,20.0s,MS5.8
DAV Davao City (W) 55.95 3⇑*e*P **P 08 55 03.3 -12**
DAV Davao City (W) 55.95 3 P **P 08 55 16.0 +1.0**
SNR=5.5
IPM Ipoh 56.80 333 P **P 08 55 21.6 +0.5**
IPM Ipoh 56.80 333 *e*P **P 08 55 20.6 -0.6**
comp=Z,412nm,1.6s,mb6.2
KULM Kulim 57.68 333 P **P 08 55 27.9 +0.5**
KULM Kulim 57.68 333 *e*P **P 08 55 26.6 -0.8**
comp=Z,764nm,1.6s,mb6.5
KULM LR LR
comp=Z,7μm,20.0s,MS5.7
DGAR Diego Garcia 59.53 297 *e*P **P 08 55 40.4 +0.1**
comp=Z,933nm,1.8s,mb6.5
DGAR LR LR
comp=Z,3μm,21.0s,MS5.4
DGAR Diego Garcia 59.53 297 *i*P **P 08 55 39.2 -1.1**
RER Riviere de l'E 59.77 272 *e*P **P 08 55 42.0 +0.1**
comp=Z,192nm,1.0s,mb6.1
RER LR LR
comp=Z,2μm,19.0s,MS5.2
FUNA Funafuti 61.52 68 PFAKE 08 56 10.0 +16
FUNA LR LR
comp=Z,4μm,21.0s,MS5.6
GUMO Guam 65.22 23 *e*P **P 08 56 17.9 -0.4**
comp=Z,1μm,1.9s,mb6.8
GUMO LR LR
comp=Z,7μm,19.0s,MS5.9
GUMO Guam 65.22 23 *e*P **P 08 56 17.9 -0.4**
GUMO pmax pmax
comp=Z,1μm,1.9s,mb6.8
GUMO MLR MLR
comp=Z,7μm,19.0s,MS5.9
RAR Rarotonga 65.72 95 P **P 08 56 22.0 +0.3**
comp=Z,62nm,1.3s,mb5.7,baz=214,slow=3.6,SNR=8.7
RAR Rarotonga 65.72 95 *e*P **P 08 56 22.6 +0.9**
comp=Z,234nm,1.7s,mb6.1
RAR Rarotonga 65.72 95 *e*P **P 08 56 22.6 +0.9**
RAR pmax pmax
comp=Z,234nm,1.7s
TARA Tarawa 65.85 56 PFAKE 08 56 30.0 +7.5
TARA LR LR
comp=Z,6μm,22.0s,MS5.7
PMSA Palmer Station 66.33 177 PFAKE 08 56 40.0 +15
PMSA LR LR
comp=Z,11μm,21.0s,MS6.0
ABPO Ambohimpanom 66.89 267 *e*P **P 08 56 30.1 +0.9**
comp=Z,109nm,1.3s,mb5.9
ABPO LR LR
comp=Z,4μm,20.0s,MS5.6
ABPO Ambohimpanom 66.89 267 *e*P **P 08 56 30.1 +0.9**
ABPO pmax pmax
comp=Z,109nm,1.3s,mb5.9
ABPO MLR MLR
comp=Z,4μm,20.0s,MS5.6
QIZ Qiongzhong 68.88 346 P **P 08 56 42.4 +0.9**
QIZ pP 08 56 44.6
QIZ sP sP 08 56 45.8 +4.3
QIZ S S 09 05 46.8 +0.3
QIZ pmax pmax
comp=Z,120nm,1.9s,mb5.8
QIZ pmax pmax
comp=Z,1μm,6.0s
QIZ LR LR
comp=N,2μm,29.3s
QIZ LR LR
comp=Z,6μm,29.8s,MS5.6
BDT Bhumibol Dam 69.51 335 P **P 08 56 45.0 -0.4**
comp=Z,18nm,1.0s,mb5.2
GRM Grahamstown 69.78 242 *e*P **P 08 56 46.7 -0.4**
GRM AMB AMB 08 56 56.3
comp=Z,91nm,1.3s,mb5.7
KSD Kokstad 70.04 246 *e*P **P 08 56 47.4 -1.4**
KSD AMB AMB 08 57 21.3
comp=Z,185nm,1.9s,mb5.9
CM31 Chiang Mai Arr 70.68 335 *e*P **P 08 56 52.5 -0.1**
comp=Z,143nm,1.3s,mb5.9
CM31 LR LR
comp=Z,3μm,20.0s,MS5.5
CMAR Chiang Mai Arr 70.68 335 P **P 08 56 52.5 -0.1**
comp=Z,34nm,1.0s,mb5.4,baz=186,slow=4.5,SNR=65
CMAR LR LR 09 27 21.9
comp=Z,3μm,19.7s,MS5.6,baz=341,slow=36
CMAR Chiang Mai Arr 70.68 335 P **P 08 56 52.5 -0.1**
CMAR Chiang Mai Arr 70.68 335 P **P 08 56 52.5 -0.1**
SOE Somerset East 70.77 242 *e*P **P 08 56 51.8 -1.3**
SOE AMB AMB 08 56 56.8
comp=Z,87nm,1.9s,mb5.6
TBI Tubuai 70.89 104 *e*S S 09 06 10.2 -0.3
comp=Z,1μm,27.2s
TBI *e*LR LR 09 18 39.1
comp=Z,1μm,35.0s
POGA Pongola 70.97 250 *e*P **P 08 56 52.9 -1.6**
POGA AMB AMB 08 56 57.2
comp=Z,64nm,1.8s,mb5.5
CHG Chiang Mai 71.02 335⇓P **P 08 56 54.1 -0.6**
comp=Z,37nm,1.9s,mb5.2
CHTO Chiang Mai 71.02 335 *e*P **P 08 56 54.4 -0.3**
comp=Z,331nm,1.8s,mb6.2
CHTO LR LR
comp=Z,4μm,20.0s,MS5.6
CHTO Chiang Mai 71.02 335 *e*P **P 08 56 54.4 -0.3**
CHTO pmax pmax
comp=Z,331nm,1.8s,mb6.2
CHTO MLR MLR
comp=Z,4μm,20.0s,MS5.6
CHTO Chiang Mai 71.02 335 P **P 08 56 55.0 +0.4**
SNR=75
HKC Hong Kong Obse 71.54 351 P **P 08 57 00.0 +2.3**
CHRT Chiangrai 71.81 337⇑P **P 08 56 58.5 -0.9**
comp=Z,234nm,1.3s,mb6.2
TPUB Ta-pu 72.10 357 *e*P **P 08 57 01.1 +0.1**
comp=Z,1μm,1.8s,mb6.7
MSEY Mahe Island 72.12 284 *e*P **P 08 57 02.1 +0.5**
comp=Z,340nm,1.9s,mb6.2
MSEY LR LR
comp=Z,4μm,21.0s,MS5.7
MSEY Mahe Island 72.12 284 *e*P **P 08 57 02.1 +0.5**
MSEY pmax pmax
comp=Z,340nm,1.9s,mb6.2
MSEY MLR MLR
comp=Z,4μm,21.0s,MS5.7
YULB Yu-li 72.17 358 *e*P **P 08 57 01.6 +0.1**
comp=Z,152nm,1.6s,mb5.9
HVD Gariep Dam 72.33 244 *e*P **P 08 57 02.9 +0.2**
HVD AMB AMB 08 57 12.1
comp=Z,128nm,1.4s,mb5.9
GZH Guangzhou 72.41 350 P **P 08 57 08.0 +5.1**
GZH LR LR
comp=N,2μm,20.8s,MS5.4
GZH LR LR
comp=E,1μm,20.0s,MS5.4
GZH LR LR
comp=Z,5μm,26.9s
SSLB Suanglung 72.58 358 *e*P **P 08 57 02.9 -1.0**
comp=Z,248nm,1.3s,mb6.2
YHNB Yeheng 73.44 358 *e*P **P 08 57 07.5 -1.5**
comp=Z,270nm,1.7s,mb6.1
YHNB LR LR
comp=Z,5μm,21.0s,MS5.8
SUR Sutherland 73.73 239 *e*P **P 08 57 02.7 -8.2**
SUR AMB AMB 08 57 20.7
comp=Z,69nm,1.6s,mb5.4
SUR Sutherland 73.73 239 *e*P **P 08 57 12.2 +1.2**
comp=Z,126nm,1.4s,mb5.8
SUR LR LR
comp=Z,4μm,20.0s,MS5.7
SUR Sutherland 73.73 239 P **P 08 57 13.1 +2.2**
SNR=5.4
TATO Taipei 73.74 358 PFAKE 08 57 20.0 +9.2
TATO LR LR
comp=Z,4μm,22.0s,MS5.6
ERPM east rand prop 73.78 249 *e*P **P 08 57 11.8 +0.5**
ERPM AMB AMB 08 57 20.6
comp=Z,86nm,1.3s,mb5.6
QZH Quanzhou 73.82 355⇓*i*P **P 08 57 11.3 +0.1**
QZH S S 09 06 46.9 +3.4
QZH pmax pmax
comp=Z,250nm,1.4s,mb6.0
QZH pmax pmax
comp=Z,2μm,4.6s
QZH LR LR
comp=N,4μm,16.3s,MS5.8
QZH LR LR
comp=E,1μm,12.7s,MS5.8
QZH LR LR
comp=Z,9μm,26.2s
MOPA Mopani 73.88 253 *e*P **P 08 57 11.7 -0.2**
MOPA AMB AMB 08 57 15.1
comp=Z,93nm,1.7s,mb5.5
PRYS Parys 73.90 248 *e*P **P 08 57 11.3 -0.6**
PRYS AMB AMB 08 57 20.4
comp=Z,61nm,1.3s,mb5.5
BOSA Boshof 73.93 245 *e*P **P 08 57 11.1 -1.0**
BOSA AMB AMB 08 57 20.8
comp=Z,61nm,1.4s,mb5.4
BOSA Boshof 73.93 245 P **P 08 57 11.9 -0.2**
comp=Z,8.0nm,0.9s,mb4.8,baz=146,slow=7.2,SNR=15
BOSA LR LR 09 24 05.6
comp=Z,5μm,18.3s,MS5.8,baz=145,slow=31
BOSA Boshof 73.93 245 *e*P **P 08 57 11.6 -0.6**
comp=Z,76nm,1.3s,mb5.6
BOSA Boshof 73.93 245 *e*P **P 08 57 11.6 -0.5**
BOSA pmax pmax
comp=Z,75nm,1.3s,mb5.6
PKA Prieska 74.62 243 *e*P **P 08 57 16.0 -0.2**
PKA AMB AMB 08 57 25.0
comp=Z,19nm,1.3s,mb5.0
PAE Paea 74.92 100 *e*P **P 08 57 18.4 +0.4**
comp=Z,34nm,1.5s,mb5.2
SWZ Schweizer 74.94 246 *e*P **P 08 57 17.0 -1.0**
SWZ AMB AMB 08 57 26.8
comp=Z,76nm,1.4s,mb5.5
PPT2 Papeete2 74.98 100 *e*P **P 08 57 20.2 +1.8**
comp=Z,138nm,1.5s,mb5.8
PPT Papeete 74.99 100 *e*PP PP 09 00 02.5 -3.4
comp=Z,80nm,24.5s
PPT *e*S S 09 06 58.1 +0.8
comp=Z,2μm,29.8s
PPT *e*SS SS 09 11 44.5 -0.8
comp=Z,468nm,25.2s
PPT *e*LQ 09 17 19.1
comp=Z,2μm,31.0s
PPT *e*LR LR 09 20 29.8
comp=Z,2μm,25.2s,baz=216
CVNA Calvinia 75.00 239 *e*P **P 08 57 17.0 -1.3**
CVNA AMB AMB 08 57 22.2
comp=Z,115nm,1.7s,mb5.6
TIAR Tiarei 75.15 100 *e*P **P 08 57 20.2 +0.9**
comp=Z,244nm,1.3s,mb6.1
MNGI Mangalore 75.16 311 *e*x x 08 57 51.4
MNGI *e*x x 09 07 05.7
JOW Kunigami 75.70 4 P **P 08 57 22.1 0.0**
comp=Z,31nm,1.0s,mb5.4,baz=140,slow=3.6,SNR=4.9
JOW LR LR 09 30 07.5
comp=Z,4μm,21.9s,MS5.7,baz=293,slow=35
JOW Kunigami 75.70 4 P **P 08 57 22.1 0.0**
KMI Kunming 76.15 341 P **P 08 57 26.6 +1.9**
KMI pP 08 57 35.1
KMI PcP PcP 08 57 38.0 +1.2
KMI PP PP 09 00 18.0 +2.0
KMI S S 09 07 12.4 +2.9
KMI SKS 09 07 32.0
KMI ScS ScS 09 07 38.8 -1.8
KMI pmax pmax
comp=Z,170nm,1.8s,mb5.9
KMI pmax pmax
comp=Z,1μm,3.1s
KMI LR LR
comp=N,2μm,22.3s,MS5.5
KMI LR LR
comp=E,2μm,20.3s,MS5.5
KMI LR LR
comp=Z,3μm,22.3s,MS5.5
KMI Kunming 76.15 341 P **P 08 57 26.6 +1.9**
comp=Z,171nm,1.8s,mb5.9
KMI pP 08 57 35.1
KMI PcP PcP 08 57 38.0 +1.2
KMI sP sP 08 57 38.3 +14
KMI PP PP 09 00 18.0 +2.0
KMI PPP 09 02 05.9
KMI S S 09 07 12.4 +2.9
KMI sS sS 09 07 26.2 +17
KMI SKS 09 07 32.0
KMI ScS ScS 09 07 38.8 -1.8
KMI SS SS 09 12 12.1 +8.7
KMI SSS 09 15 30.6
KMI LR LR
comp=Z,3μm,22.3s,MS5.5
KMI Kunming 76.15 341 P **P 08 57 26.6 +1.9**
KMI *PP 08 57 35.1
KMI 08 57 38.0
KMI 09 00 18.0
KMI PPP 09 02 05.9
KMI S S 09 07 12.4 +2.9
KMI 09 07 32.0
KMI 09 07 38.8
KMI pmax pmax
comp=Z,171nm,1.8s,mb5.9
KMI MLR MLR
comp=Z,3μm,22.3s,MS5.5
LBTB Lobatse 76.37 248 *e*P **P 08 57 25.6 -0.7**
LBTB AMB AMB 08 57 27.9
comp=Z,41nm,2.2s,mb5.2
LBTB Lobatse 76.37 248 *e*P **P 08 57 25.4 -0.8**
comp=Z,32nm,1.1s,mb5.4
LBTB LR LR
comp=Z,4μm,22.0s,MS5.7
LBTB Lobatse 76.37 248 *e*P **P 08 57 25.4 -0.9**
LBTB pmax pmax
comp=Z,32nm,1.1s,mb5.4
LBTB MLR MLR
comp=Z,4μm,22.0s,MS5.7
GYA Guiyang 76.68 345⇑*i*P **P 08 57 28.3 +0.6**
GYA S S 09 07 11.3 -3.9
GYA SKS 09 07 35.0
GYA pmax pmax
comp=Z,60nm,1.4s,mb5.5
GYA pmax pmax
comp=Z,410nm,6.1s
GYA LR LR
comp=N,2μm,21.1s,MS5.5
GYA LR LR
comp=E,2μm,20.5s,MS5.5
GYA LR LR
comp=Z,4μm,24.8s,MS5.7
HYB Hyderabad 77.25 316 *i* P **P 08 57 30.0 -1.1**
comp=Z,70nm,1.0s,mb5.8
HYB *e*sP sP 08 57 36.0 +4.8
HYB *e*S S 09 07 20.0 -1.8
KOMG Komaggas 77.55 239 *e*P **P 08 57 32.5 -0.3**
KOMG AMB AMB 08 57 42.2
comp=Z,89nm,1.5s,mb5.7
CBIJ Chichi jima 77.67 17 LR LR 09 31 00.0
comp=Z,2μm,22.0s,MS5.5,baz=0.2,slow=35
GOA Goa 77.83 311⇑*e*PKP **P 08 57 29.9 -4.5**
CAL Calcutta 77.87 327 *e*PKP **P 08 57 33.0 -1.4**
CAL *e*S S 09 07 24.8 -3.5
PMOR Pomariorio Ree 77.97 99 *e*P **P 08 57 37.0 +1.7**
comp=Z,375nm,1.6s,mb6.3
IMP Imphal 78.11 333 *e*PKP **P 08 57 36.0 +0.3**
AGT Agartala 78.11 330 *e*PKP **P 08 57 34.0 -1.8**
AGT *e*x x 08 58 15.0
WAKE Wake Island 78.16 41 PFAKE 08 57 50.0 +14
WAKE LR LR
comp=Z,6μm,20.0s,MS6.0
KAD Karad 79.21 313 *e*PKP **P 08 57 41.2 -0.8**
KAD AMb AMB 08 57 45.9
comp=Z,280nm,1.8s,mb6.0
SHL Shillong 79.48 331 *e*PKP **P 08 57 43.5 +0.3**
SHL *e*S S 09 07 42.0 -3.4
EFI East Falkland 79.61 179 *e*P **P 08 57 45.9 +2.1**
comp=Z,260nm,1.4s,mb6.0
EFI LR LR
comp=Z,6μm,21.0s,MS5.9
EFI East Falkland 79.61 179 *e*P **P 08 57 45.9 +2.1**
EFI pmax pmax
comp=Z,260nm,1.4s,mb6.0
EFI MLR MLR
comp=Z,6μm,21.0s,MS5.9
WHN Wuhan 79.68 352⇓P **P 08 57 44.8 +0.6**
WHN S S 09 07 43.6 -3.8
WHN pmax pmax
comp=Z,890nm,2.0s,mb6.3
WHN LR LR
comp=N,5μm,21.0s,MS5.9
WHN LR LR
comp=E,2μm,20.2s,MS5.9
WHN LR LR
comp=Z,9μm,26.1s
SSE Sheshan 79.85 358 P **P 08 57 45.4 +0.3**
SSE S S 09 07 51.0 +1.9
SSE SS SS 09 13 03.5 +4.5
SSE pmax pmax
comp=Z,88nm,0.9s,mb5.7
SSE pmax pmax
comp=Z,670nm,9.4s
SSE LR LR
comp=N,3μm,23.3s,MS5.5
SSE LR LR
comp=E,760nm,23.3s,MS5.5
SSE LR LR
comp=Z,3μm,19.8s,MS5.7
SSE Sheshan 79.85 358 P **P 08 57 45.4 +0.3**
comp=Z,88nm,0.9s,mb5.7
SSE S S 09 07 51.0 +1.9
SSE sS sS 09 07 56.6 +7.5
SSE SS SS 09 13 03.5 +4.5
SSE LR LR
comp=Z,3μm,19.8s,MS5.7
RKT Rikitea 80.07 114 *e*S S 09 07 51.0 -1.2
comp=Z,489nm,27.2s
RKT *e*SS SS 09 13 01.7 +0.2
comp=Z,410nm,29.5s
RKT *e*LQ 09 19 13.6

comp=Z,4μm,32.2s
RKT eLR LR 09 22 50.9
comp=Z,8μm,29.2s,baz=215
NGP Nagpur 80.31 319 ePKP **P 08 57 46.0 -1.9**
NGP eS S 09 07 50.5 -3.8
POO Poona 80.42 313 ePKP **P 08 57 48.4 -0.1**
POO AMb AMB 08 57 52.3
comp=Z,224nm,1.7s,mb5.8
NJ2 Nanjing 80.88 356 eP **P 08 57 51.1 +0.5**
NJ2 pP 08 57 55.8
NJ2 sP sP 08 57 58.1 +7.4
NJ2 PP PP 09 00 56.8 +1.3
NJ2 S S 09 07 59.0 -0.9
NJ2 pmax pmax
comp=Z,250nm,1.0s,mb6.2
NJ2 pmax pmax
comp=Z,970nm,5.5s
NJ2 LR LR
comp=N,5μm,18.8s,MS5.9
NJ2 LR LR
comp=E,3μm,20.6s,MS5.9
NJ2 LR LR
comp=Z,6μm,22.6s,MS5.9
CD2 Chengdu 81.55 343⇑ iP **P 08 57 54.9 +0.7**
CD2 pP 08 57 59.6
CD2 sP sP 08 58 02.3 +8.0
CD2 PP PP 09 01 04.3 +3.2
CD2 pmax pmax
comp=Z,150nm,1.6s,mb5.9
CD2 pmax pmax
comp=Z,940nm,10.8s
CD2 LR LR
comp=N,3μm,29.4s
CD2 LR LR
comp=E,2μm,21.6s
CD2 LR LR
comp=Z,4μm,22.8s
LSZ Lusaka 81.99 256 eP **P 08 57 57.8 +0.7**
LSZ Lusaka 81.99 256 eP **P 08 57 57.4 +0.3**
comp=Z,60nm,1.2s,mb5.6
LSZ LR LR
comp=Z,3μm,20.0s,MS5.7
LSZ Lusaka 81.99 256 eP **P 08 57 57.4 +0.3**
LSZ pmax pmax
comp=Z,60nm,1.2s,mb5.6
LSZ MLR MLR
comp=Z,3μm,20.0s,MS5.7
LSZ Lusaka 81.99 256 P **P 08 57 58.7 +1.6**
SNR=19
JNU Nakatsue 82.11 6 eP **P 08 57 55.9 -1.2**
comp=Z,86nm,1.4s,mb5.7
ODAN Odare 82.17 328 eP **P 08 57 56.8 -0.8**
comp=Z,659nm,1.9s,mb6.5
ODAN Odare 82.17 328 eP **P 08 57 56.8 -0.8**
comp=Z,659nm,1.9s,mb6.4
TAPN Taplejung 82.50 328 eP **P 08 57 58.7 -0.7**
comp=Z,313nm,1.2s,mb6.4
TAPN Taplejung 82.50 328 eP **P 08 57 58.7 -0.7**
comp=Z,313nm,1.2s,mb6.4
RAMN Ramite 82.53 327 eP **P 08 57 58.7 -0.8**
comp=Z,418nm,1.4s,mb6.5
RAMN Ramite 82.53 327 eP **P 08 57 58.7 -0.8**
comp=Z,418nm,1.4s,mb6.5
BHPL Bhopal 82.85 318 ePKP **P 08 58 00.8 -0.5**
JIRN Jiri 83.32 327 eP **P 08 58 03.0 -0.6**
comp=Z,246nm,1.7s,mb6.2
JIRN Jiri 83.32 327 eP **P 08 58 03.0 -0.6**
comp=Z,246nm,1.7s,mb6.2
PKI Pulchoki 83.52 327 eP **P 08 58 03.7 -0.9**
comp=Z,798nm,1.5s,mb6.7
PKI Pulchoki 83.52 327 eP **P 08 58 03.7 -0.9**
comp=Z,798nm,1.5s,mb6.7
PKI Pulchoki 83.52 327 eP **P 08 58 03.7 -0.9**
PKI pmax pmax
comp=Z,798nm,1.5s,mb6.7
LSA Lhasa 83.56 332 P **P 08 58 04.8 0.0**
LSA S S 09 08 27.6 +0.1
LSA LR LR
comp=N,1μm,46.0s
LSA LR LR
comp=E,2μm,31.7s
LSA LR LR
comp=Z,3μm,46.0s,MS5.3
GUN Gumba 83.66 327 eP **P 08 58 04.9 -0.4**
comp=Z,2μm,1.7s
GUN Gumba 83.66 327 eP **P 08 58 04.9 -0.4**
comp=Z,2μm,1.7s
DMN Daman 83.66 326 eP **P 08 58 04.6 -0.7**
comp=Z,720nm,1.6s,mb6.6
DMN Daman 83.66 326 eP **P 08 58 04.6 -0.7**
comp=Z,720nm,1.6s,mb6.7
XAN Xi'an 83.76 348 P **P 08 58 05.8 +0.1**
XAN PP PP 09 01 21.1 +1.9
XAN S S 09 08 25.6 -3.8
XAN pmax pmax
comp=Z,31nm,1.7s,mb5.3
XAN LR LR
comp=N,2μm,33.5s,MS5.2
XAN LR LR
comp=E,480nm,33.5s,MS5.2
XAN LR LR
comp=Z,860nm,33.5s,MS4.9
KKN Kakani 83.77 327 eP **P 08 58 05.1 -0.8**
comp=Z,666nm,1.4s,mb6.7
KKN Kakani 83.77 327 eP **P 08 58 05.1 -0.8**
comp=Z,666nm,1.4s,mb6.7
KKN Kakani 83.77 327 eP **P 08 58 05.1 -0.8**
KKN pmax pmax
comp=Z,666nm,1.4s,mb6.7
GKN Gorkha 84.19 326 eP **P 08 58 07.0 -1.0**
comp=Z,444nm,1.2s,mb6.6
GKN Gorkha 84.19 326 eP **P 08 58 07.0 -1.0**
comp=Z,444nm,1.2s,mb6.6
KOLN Koldanda 84.37 325 eP **P 08 58 07.8 -1.1**
comp=Z,176nm,1.0s,mb6.2
KOLN Koldanda 84.37 325 eP **P 08 58 07.8 -1.1**
comp=Z,176nm,1.0s,mb6.2
XMAS Kiritimati 84.42 80 PFAKE 08 58 20.0 +10
XMAS LR LR
comp=Z,2μm,20.0s,MS5.5
COYC Coyhaique 84.76 169 eP **P 08 58 10.7 -0.2**
DANN Dangsing 84.83 326 eP **P 08 58 09.8 -1.5**
comp=Z,414nm,0.9s,mb6.7
DANN Dangsing 84.83 326 eP **P 08 58 09.8 -1.5**
comp=Z,414nm,0.9s,mb6.7
TSUM Tsumeb 85.60 246 eP **P 08 58 16.9 +1.4**
TSUM Tsumeb 85.60 246 eP **P 08 58 16.2 +0.6**
comp=Z,77nm,1.4s,mb5.6
TSUM LR LR
comp=Z,5μm,19.0s,MS5.9
TRIS Tristan da Cun 85.66 214 PFAKE 08 58 30.0 +14
TRIS LR LR
comp=Z,3μm,22.0s,MS5.7
INCN Inchon 86.24 3 PFAKE 08 58 30.0 +12
INCN LR LR
comp=Z,3μm,21.0s,MS5.7
KSAR Wonju Array Be 86.24 4 P **P 08 58 18.0 0.0**
KSAR Wonju Array Be 86.24 4 P **P 08 58 18.0 -0.1**
KSRS Korea Array 86.26 4 P **P 08 58 18.0 -0.1**
comp=Z,23nm,1.0s,mb5.2,baz=180,slow=3.6,SNR=16
KSRS LR LR 09 35 48.3
comp=Z,1μm,21.7s,MS5.3,baz=161,slow=35
MAJO Matsushiro 86.26 12 eP **P 08 58 16.4 -1.7**
comp=Z,158nm,1.3s,mb6.0
MAJO LR LR
comp=Z,3μm,21.0s,MS5.6
MAJO Matsushiro 86.26 12 eP **P 08 58 16.5 -1.7**
MAJO pmax pmax
comp=Z,158nm,1.3s,mb6.0
MAJO MLR MLR
comp=Z,3μm,21.0s,MS5.6
MAT Matsushiro 86.26 12 P **P 08 58 16.5 -1.7**
MAT S S 09 08 52.0 -2.0
MJAR Matsushiro Arr 86.26 12 P **P 08 58 17.2 -1.0**
comp=Z,33nm,1.0s,mb5.4,baz=194,slow=3.9,SNR=35
MJAR LR LR 09 34 21.8
comp=Z,2μm,21.7s,MS5.5,baz=195,slow=34
MJAR Matsushiro Arr 86.26 12 P **P 08 58 17.2 -1.0**
MJAR Matsushiro Arr 86.26 12 P **P 08 58 17.2 -1.0**
LZH Lanzhou 86.57 344⇑P **P 08 58 20.5 +0.8**
LZH pP 08 58 26.4
LZH sP sP 08 58 29.0 +9.3
LZH SKS 09 08 46.3
LZH S S 09 08 56.0 -1.1
LZH sS sS 09 09 05.0 +7.9
LZH pmax pmax
comp=Z,320nm,1.5s,mb6.3
LZH pmax pmax
comp=Z,1μm,4.0s
LZH LR LR
comp=N,3μm,14.0s,MS6.0
LZH LR LR
comp=E,3μm,16.8s,MS6.0
LZH LR LR
comp=Z,6μm,20.2s,MS6.0
LZH Lanzhou 86.57 344⇑P **P 08 58 20.5 +0.8**
comp=Z,323nm,1.5s,mb6.3
LZH pP 08 58 26.4
LZH sP sP 08 58 29.0 +9.3
LZH SKS 09 08 46.2
LZH S S 09 08 56.0 -1.1
LZH sS sS 09 09 05.0 +7.9
LZH SS SS 09 14 41.2 +2.6
LZH LR LR
comp=Z,6μm,20.2s,MS6.0
LZH Lanzhou 86.57 344⇑P **P 08 58 20.5 +0.8**
LZH *PP 08 58 26.4
LZH 09 08 46.2
LZH S S 09 08 56.0 -1.1
LZH SS SS 09 14 41.2 +2.6
LZH pmax pmax
comp=Z,323nm,1.5s,mb6.3
LZH MLR MLR
comp=Z,6μm,20.2s,MS6.0
KMBO Kilima Mbogo 86.64 272 eP **P 08 58 21.2 +0.5**
comp=Z,59nm,1.9s,mb5.5
KMBO LR LR
comp=Z,2μm,19.0s,MS5.4
KMBO Kilima Mbogo 86.64 272 eP **P 08 58 21.2 +0.5**
KMBO pmax pmax
comp=Z,59nm,1.9s
KMBO MLR MLR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 86.64 272 P **P 08 58 22.4 +1.7**
SNR=10.0
AJM Ajmer 86.90 318 ePKP **P 08 58 19.0 -2.6**
TIY Taiyuan 86.97 351 eP **P 08 58 21.8 +0.2**
TIY LR LR
comp=N,3μm,21.0s
TIY LR LR
comp=E,910nm,15.4s
TIY LR LR
comp=Z,2μm,20.8s,MS5.5
TAOE Nuku Hiva Isla 87.56 101 eS S 09 09 05.2 -2.7
comp=Z,271nm,26.6s
TAOE eSS SS 09 14 54.8 +1.9
comp=Z,2μm,32.1s
TAOE eLR LR 09 26 19.3
comp=Z,2μm,24.1s
DL2 Dalian 87.63 359⇑ iP **P 08 58 27.4 +2.6**
DL2 SKS 09 08 53.3
DL2 S S 09 09 09.3 +2.1
DL2 pmax pmax
comp=Z,50nm,1.4s,mb5.7
DL2 pmax pmax
comp=Z,330nm,4.8s
DL2 LR LR
comp=N,1μm,19.3s,MS5.3
DL2 LR LR
comp=E,650nm,19.0s,MS5.3
DL2 LR LR
comp=Z,2μm,21.7s,MS5.4
NDI New Delhi 87.71 321 ePKP **P 08 58 22.5 -2.9**
HUNY Huinay 87.86 168 eP **P 08 58 26.7 +0.4**
ILCA Isla Las Cabra 88.15 168 eP **P 08 58 26.6 -1.0**
BJI Beijing 88.98 354 P **P 08 58 31.5 +0.4**
BJI PP PP 09 02 06.8 +5.5
BJI SKS 09 09 00.9
BJI S S 09 09 22.6 +2.7
BJI pmax pmax
comp=Z,68nm,1.6s,mb5.6
BJI pmax pmax
comp=Z,770nm,5.7s
PLCA Paso Flores 89.72 169 P **P 08 58 34.8 -0.3**
comp=Z,14nm,1.2s,mb5.1,baz=182,slow=6.1,SNR=4.8
PLCA LR LR 09 35 06.3
comp=Z,5μm,21.8s,MS5.9,baz=186,slow=33
PLCA Paso Flores 89.72 169 eP **P 08 58 35.1 +0.1**
PLCA Paso Flores 89.72 169 eP **P 08 58 35.1 +0.1**
BTO Baotou 90.09 350 eP **P 08 58 36.3 0.0**
RBK Rabkut 90.16 297 P **P 08 58 38.1 +0.9**
SNR=20
HHC Hu-ho-hao-te 90.16 351 eP **P 08 58 37.5 +0.8**
HHC sP sP 08 58 43.8 +7.1
HHC PP PP 09 02 14.3 +3.5
HHC SKS 09 09 07.0
HHC S S 09 09 29.6 -1.3
HHC pmax pmax
comp=Z,64nm,1.7s,mb5.6
HHC pmax pmax
comp=Z,730nm,3.8s
HHC LR LR
comp=N,2μm,21.4s,MS5.5
HHC LR LR
comp=E,1μm,20.2s,MS5.5
HHC LR LR
comp=Z,3μm,26.2s
SDNR Sundarnagar 90.28 322 ePKP **P 08 58 38.0 +0.5**
SNY Shenyang 90.53 0⇑⇑P **P 08 58 38.1 -0.3**
SNY SKS 09 09 08.8
SNY S S 09 09 35.4 +1.1
SNY pmax pmax
comp=Z,40nm,2.1s,mb5.4
SNY pmax pmax
comp=Z,590nm,5.6s
SNY LR LR
comp=N,2μm,26.4s,MS5.4
SNY LR LR
comp=E,1μm,26.4s,MS5.4
SNY LR LR
comp=Z,3μm,24.5s,MS5.6
GTA Gaotai 90.56 342⇓⇓P **P 08 58 38.4 -0.2**
GTA pP 08 58 43.3
GTA sP sP 08 58 45.5 +6.9
GTA PP PP 09 02 16.3 +2.3
GTA SKS 09 09 09.1
GTA S S 09 09 32.3 -2.4
GTA pmax pmax
comp=Z,46nm,1.9s,mb5.5
GTA pmax pmax
comp=Z,650nm,6.4s
GTA LR LR
comp=N,3μm,23.0s,MS5.7
GTA LR LR
comp=E,2μm,23.5s,MS5.7
GTA LR LR
comp=Z,5μm,26.1s,MS5.8
ABTO Aybut 90.57 296 P **P 08 58 40.7 +1.5**
SNR=6.9
RPN Rapa Nui 90.73 135 PFAKE 08 58 50.0 +10
RPN LR LR
comp=Z,2μm,20.0s,MS5.5
MBAR Mbarara 91.32 268 eP **P 08 58 43.3 +0.4**
THN Thein Dam 91.61 321 ePKP **P 08 58 42.8 -0.8**
JMDO Jabal Madar 91.78 303 P **P 08 58 44.8 +0.1**
SNR=9.9
VLA Vladivostok 92.12 6 eP **P 08 58 45.6 -0.1**
VLA eS SKSac 09 09 16.4 -3.0
VLA pmax pmax
comp=Z,32nm,0.7s,mb5.8
SMDO Samad 92.36 303 P **P 08 58 46.9 -0.4**
SNR=22
ERM Erimo 92.37 15 PFAKE 08 59 00.0 +13
ERM LR LR
comp=Z,3μm,21.0s,MS5.7
CN2 Changchun 92.52 1 eP **P 08 58 47.5 0.0**
CN2 epP 08 58 52.3
CN2 esP sP 08 58 54.5 +6.9
CN2 PP PP 09 02 32.5 +3.1
CN2 eS S 09 09 50.0 -2.2
CN2 pmax pmax
comp=Z,80nm,1.5s,mb5.9
CN2 pmax pmax
comp=Z,900nm,4.0s
CN2 LR LR
comp=N,1μm,18.0s,MS5.6
CN2 LR LR
comp=E,2μm,18.0s,MS5.6
CN2 LR LR
comp=Z,2μm,21.0s,MS5.6
BSY Bisya 92.58 302 P **P 08 58 48.0 -0.3**
SNR=11
TRQA Tornquist 93.10 176 eP **P 08 58 49.5 -1.3**
comp=Z,85nm,1.5s,mb6.0
TRQA LR LR
comp=Z,9μm,20.0s,MS6.2
HOQ Hoqain 93.18 303 P **P 08 58 51.1 0.0**
SNR=12
MIDW Midway 93.29 49 PFAKE 08 59 00.0 +8.5
MIDW LR LR
comp=Z,7μm,21.0s,MS6.1
ARQ Araqi 93.43 302 P **P 08 58 51.5 -0.7**
SNR=6.1
MDJ Mudanjiang 93.47 4 P **P 08 58 51.8 -0.1**
MDJ pP 08 58 54.9
MDJ sP sP 08 58 56.3 +4.3
MDJ PP PP 09 02 35.8 -1.1
MDJ S S 09 09 59.8 -0.8
MDJ pmax pmax
comp=Z,14nm,1.3s,mb5.2
MDJ pmax pmax
comp=Z,240nm,5.0s
MDJ LR LR
comp=N,1μm,43.3s
MDJ LR LR
comp=E,1μm,35.5s
MDJ LR LR
comp=Z,2μm,46.8s,MS5.1
ASAJ Asahikawa 94.33 14 LR LR 09 40 52.1
comp=Z,3μm,21.4s,MS5.7,baz=185,slow=35
ASHO Ashiyiah 94.75 303 P **P 08 58 57.4 -0.9**
SNR=8.7
YUK Yuzh-Kuril'sk 94.80 16 c iP **P 08 58 54.8 -3.2**
YUK i 09 02 44.5
YUK eS SKSac 09 09 28.3 -5.8
YUK i SS SS 09 16 28.6 -8.8
YUK MLR MLR
comp=N,873nm,20.0s
YUK MLR MLR
comp=Z,1μm,20.0s,MS5.5
HATD Hatta, Dubai 94.82 303 P **P 08 58 58.5 -0.2**
SNR=14
KBL Kabul 96.27 318 eP **P 08 59 04.9 -0.2**
comp=Z,144nm,1.8s,mb6.2
KBL Kabul 96.27 318 eP **P 08 59 04.9 -0.1**
KBL pmax pmax
comp=Z,144nm,1.8s,mb6.2
YSS Yuzh-Sakhalins 97.12 13 PFAKE 08 59 20.0 +11
YSS LR LR
comp=Z,997nm,22.0s,MS5.3
ULN Ulaanbaatar 97.61 349 eP **P 08 59 09.9 -0.7**
comp=Z,115nm,1.9s,mb6.3
ULN LR LR
comp=Z,3μm,22.0s,MS5.8
ULN Ulaanbaatar 97.61 349 eP **P 08 59 10.0 -0.7**
ULN pmax pmax
comp=Z,115nm,1.9s,mb6.3
ULN MLR MLR
comp=Z,3μm,22.0s,MS5.8
ULN Ulaanbaatar 97.61 349 P **P 08 59 11.1 +0.5**
SNR=18
SONM Songino Array 97.66 349 P **P 08 59 10.2 -0.7**
comp=Z,7.4nm,1.0s,mb5.4,baz=170,slow=1.9,SNR=23
SONM PP PP 09 03 02.8 -6.5
comp=Z,2.0nm,1.2s,baz=156,slow=3.9,SNR=3.7
SONM PKKPbc PKKPbc 09 15 45.9 -1.2
comp=Z,0.3nm,0.8s,baz=90,slow=1.4,SNR=3.0
SONM LR LR 09 43 43.7
comp=Z,2μm,21.7s,MS5.6,baz=164,slow=36
SONM Songino Array 97.66 349 P **P 08 59 10.2 -0.7**
SONM PP PP 09 03 02.8 -6.5
SONM PKKPbc PKKPbc 09 15 45.9 -1.2
SONM Songino Array 97.66 349 P **P 08 59 10.2 -0.7**
WMQ Urumqi 97.68 335 P **P 08 59 10.9 -0.2**
WMQ pP 08 59 15.8
WMQ sP sP 08 59 17.9 +6.7
WMQ PP PP 09 03 11.1 +1.6
WMQ S S 09 10 31.6 -5.5
WMQ pmax pmax
comp=Z,38nm,1.6s,mb5.9
WMQ pmax pmax
comp=Z,680nm,5.0s
WMQ LR LR
comp=N,2μm,24.2s,MS5.7
WMQ LR LR
comp=E,2μm,19.6s,MS5.7
WMQ LR LR
comp=Z,2μm,33.2s
KSH Kashi 97.68 325 P **P 08 59 09.4 -1.9**
KSH pP 08 59 14.4
KSH sP sP 08 59 16.3 +5.0
KSH PP PP 09 03 07.8 -1.8
KSH SKS 09 09 44.9
KSH S S 09 10 28.6 -8.8
KSH pmax pmax
comp=Z,32nm,1.7s,mb5.8
KSH pmax pmax
comp=Z,280nm,6.5s
KSH LR LR
comp=N,1μm,16.7s,MS5.6
KSH LR LR
comp=E,850nm,14.8s,MS5.6
KSH LR LR
comp=Z,2μm,20.4s
HABR Khabarovsk 97.69 8 eP **P 08 59 09.0 -2.1**
HABR e*PP 08 59 12.0
HABR e 09 03 04.2
HABR eS SKSac 09 09 45.8 -3.2
HABR e 09 10 31.7
HABR ePS PS 09 11 54.7 -5.6
HABR eSS SS 09 17 09.3 -9.0
HABR SSS 09 20 53.3
HABR pmax pmax
comp=Z,29nm,2.7s,mb5.5
HABR pmax pmax
comp=Z,39nm,1.8s,mb5.8
HABR pmax pmax
comp=E,50nm,1.8s
HABR pmax pmax
comp=N,26nm,1.8s
HABR MLR MLR
comp=Z,1μm,17.0s,MS5.5
KLR Kul'dur 98.20 6 eP **P 08 59 09.1 -4.2**
ZAK Zakamensk 100.58 347 eP Pdif 08 59 23.4 -1.4
ZAK pmax pmax
comp=Z,9.0nm,1.9s
TKM2 Tokmak 2 100.78 326 PFAKE 08 59 40.0 +14
TKM2 LR LR
comp=Z,3μm,20.0s,MS5.9
AAK Ala-Archa 100.94 325 ePdif Pdif 08 59 24.3 -2.1
comp=Z,95nm,1.8s
AAK LR LR
comp=Z,3μm,19.0s,MS5.8
AAK Ala-Archa 100.94 325⇑ eP Pdif 08 59 25.5 -0.9
AAK pmax pmax
comp=Z,29nm,1.9s
AAK MLR MLR
comp=Z,5μm,19.0s,MS6.1
AAK Ala-Archa 100.94 325 P Pdif 08 59 26.4 0.0
SNR=5.4
SHEL Horse Pasture 101.16 229 PFAKE 08 59 40.0 +13
SHEL LR LR
comp=Z,3μm,20.0s,MS5.8
LCO Las Campanas 101.24 167 PFAKE 08 59 40.0 +12
LCO LR LR
comp=Z,4μm,20.0s,MS5.9
TLY Talaya 101.80 348 PFAKE 08 59 40.0 +10
TLY LR LR
comp=Z,2μm,20.0s,MS5.6
TLY Talaya 101.80 348 eP Pdif 08 59 18.0 -12
TLY pmax pmax
comp=Z,7.0nm,1.0s
TLY MLR MLR
comp=Z,1μm,21.0s,MS5.4
HVS Khovu-Aksy 103.03 341⇓⇓ eP Pdif 08 59 34.0 -1.7
CPUP Villa Florida 104.92 179 ePKPdf PKiKP 09 03 59.1 +0.1
CPUP LR LR
comp=Z,1μm,21.0s,MS5.5
PET Petropavlovsk 106.03 21 PFAKE 09 04 10.0 +10
PET LR LR
comp=Z,2μm,22.0s,MS5.5
PET Petropavlovsk 106.03 21 eP Pdif 08 59 48.6 -0.4
PET e 09 04 17.3
PET ePS PS 09 13 26.4 -2.3
PET ePPS 09 14 25.3
PET eSS SS 09 19 11.7 -1.9

PET pmax pmax
comp=Z,200nm,14.2s
PET pmax pmax
comp=Z,200nm,18.3s
PET MLR MLR
comp=Z,2μm,16.0s,MS5.7
PET MLR MLR
comp=Z,2μm,18.0s
KURK Kurchatov 106.57 332 PP PP 09 04 10.0 -6.3
comp=Z,0.5nm,0.3s,baz=150,slow=6.0,SNR=3.7
KURK Kurchatov 106.57 332 PP PP 09 04 10.0 -6.3
KURK LR LR
comp=Z,3μm,22.0s,MS5.8
SPB Sao Paulo 107.19 189 PFAKE 09 04 10.0 +6.7
SPB LR LR
comp=Z,9μm,20.0s,MS6.3
ZALV Zalesovo Beam 107.70 337 PP PP 09 04 18.1 -6.5
comp=Z,1.6nm,0.8s,baz=160,slow=4.6,SNR=3.6
ZALV PKKPbc PKKPbc 09 15 15.3 -2.0
comp=Z,0.5nm,0.6s,baz=317,slow=5.9,SNR=2.6
ZALV Zalesovo Beam 107.70 337 PP PP 09 04 18.1 -6.5
ZALV PKKPbc PKKPbc 09 15 15.3 -2.0
BHD Baghdad 107.86 300 *ex* PP 09 04 25.0 -1.1
YAK Yakutsk 110.88 3 PFAKE 09 04 20.0 +11
YAK LR LR
comp=Z,2μm,21.0s,MS5.7
BVAR Borovoye Array 111.21 329 PKKPbc PKKPbc 09 15 04.6 -1.2
comp=Z,0.7nm,0.8s,baz=224,slow=4.0,SNR=2.7
BVAR Borovoye Array 111.21 329 PKKPbc PKKPbc 09 15 04.6 -1.2
BRVK Borovoye 111.27 329 PFAKE 09 04 20.0 +10
BRVK LR LR
comp=Z,4μm,22.0s,MS5.9
GNI Garni 112.65 305 PFAKE 09 04 20.0 +7.1
GNI LR LR
comp=Z,2μm,22.0s,MS5.6
LPAZ La Paz 114.11 168 PFAKE 09 04 30.0 +13
LPAZ LR LR
comp=Z,5μm,19.0s,MS6.2
CSS Prodhromos 115.52 294 PFAKE 09 04 30.0 +11
CSS LR LR
comp=Z,2μm,20.0s,MS5.8
KIV Kislovodsk 116.41 307 PFAKE 09 04 30.0 +10
KIV LR LR
comp=Z,1μm,22.0s,MS5.5
KIV Kislovodsk 116.41 307 *e*PKIKP PKPdf 09 04 19.2 -0.8
KIV *e* 09 04 27.3
KIV *e* 09 05 28.6
KIV *e*PS PS 09 15 01.6 -6.8
KIV pmax pmax
comp=Z,3.0nm,0.7s
NNA Nana 116.61 158 PFAKE 09 04 30.0 +8.6
NNA LR LR
comp=Z,2μm,20.0s,MS5.7
SVE Sverdlovsk 117.66 326 *e*PKIKP PKPdf 09 04 22.7 +0.8
SVE *e* 09 05 35.9
SVE pmax pmax
comp=Z,27nm,1.8s
ARU Arti 118.13 325 *e*PKPdf PKPdf 09 04 21.6 -1.3
ARU LR LR
comp=Z,3μm,21.0s,MS5.9
ARU Arti 118.13 325 *i* PKIKP PKPdf 09 04 22.4 -0.5
ARU 09 05 35.3
ARU 09 11 14.9
ARU MLR MLR
comp=Z,3μm,20.0s,MS5.9
BRTR Keskin Array B 118.54 299 PKP PKPdf 09 04 23.6 -0.6
comp=Z,2.0nm,1.0s,baz=129,slow=3.9,SNR=5.5
BRTR PP PP 09 05 39.9 -2.1
comp=Z,2.1nm,1.0s,baz=151,slow=3.3,SNR=5.5
BRTR SKKPbc 09 18 32.2
comp=Z,4.0nm,1.2s,baz=15,slow=6.0,SNR=3.7
BRTR Keskin Array B 118.54 299 PKP PKPdf 09 04 23.6 -0.6
BRTR PP PP 09 05 39.9 -2.1
BRTR SKKPbc 09 18 32.2
BRTR Keskin Array B 118.54 299 PKIKP PKPdf 09 04 23.7 -0.5
BRTR 09 05 39.9
BR131 Keskin Array S 118.54 299 PFAKE 09 04 40.0 +16
BR131 LR LR
comp=Z,2μm,21.0s,MS5.7
DBIC Dimbokro 119.44 244 PKP PKPdf 09 04 25.6 -1.3
comp=Z,3.7nm,0.9s,baz=128,slow=7.1,SNR=4.2
DBIC Dimbokro 119.44 244 PKP PKPdf 09 04 25.6 -1.3
DBIC LR LR
comp=Z,3μm,21.0s,MS5.8
DBIC Dimbokro 119.44 244 PKIKP PKPdf 09 04 25.6 -1.2
DBIC MLR MLR
comp=Z,3μm,21.0s
ANN Anapa 119.77 305 *i* PKIKP PKPdf 09 04 36.5 +10
ANN pmax pmax
comp=Z,60nm,1.3s
ANN MLR MLR
comp=N,1μm,22.0s,MS5.7
ANN MLR MLR
comp=E,2μm,22.0s,MS5.7
ANN MLR MLR
comp=Z,1μm,22.0s,MS5.5
TORD Torodi Ar. Bea 120.47 254 PKP PKPdf 09 04 27.2 -1.5
comp=Z,5.2nm,0.9s,baz=136,slow=1.1,SNR=13
TORD PP PP 09 05 56.9 +1.6
comp=Z,1.6nm,1.0s,baz=143,slow=4.6,SNR=2.6
TORD PKKPbc PKKPbc 09 14 32.9 +0.2
comp=Z,0.8nm,0.8s,baz=314,slow=2.4,SNR=4.7
TORD Torodi Ar. Bea 120.47 254 PKP PKPdf 09 04 27.2 -1.5
TORD PP PP 09 05 56.9 +1.6
TORD PKKPbc PKKPbc 09 14 32.9 +0.2
SOKR Solikamsk 121.06 327 *i* PKIKP PKPdf 09 04 36.5 +8.1
SOKR pmax pmax
comp=Z,20nm,0.9s
BILL Bilibino 121.12 17 *e*PKPdf PKPdf 09 04 26.5 -1.8
BILL LR LR
comp=Z,2μm,19.0s,MS5.7
BILL Bilibino 121.12 17 *i* PKIKP PKPdf 09 04 27.9 -0.4
BILL *e* 09 04 36.0
BILL *e* 09 05 56.6
BILL *e* 09 11 23.5
BILL *e*PS PS 09 15 51.7 +1.4
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL MLR MLR
comp=Z,1μm,22.0s,MS5.5
SAML Samuel 121.92 172 *e*PKPdf PKPdf 09 04 31.0 -0.6
SAML LR LR
comp=Z,5μm,22.0s,MS6.1
RCBR Riachuelo 122.41 205 PFAKE 09 04 40.0 +7.4
RCBR LR LR
comp=Z,3μm,19.0s,MS6.0
VSR Storozhevoye 122.99 312 *e*PKIKP PKPdf 09 04 30.3 -2.1
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.3s
VSR pmax pmax
comp=Z,40nm,2.0s
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,30nm,2.0s
TAM Tamanrasset 125.04 265 *e*PKPdf PKPdf 09 04 38.0 +0.8
TAM LR LR
comp=Z,2μm,21.0s,MS5.8
TAM Tamanrasset 125.04 265 *e*PKIKP PKPdf 09 04 38.0 +0.7
TAM MLR MLR
comp=Z,2μm,21.0s,MS5.8
TNA Tin City 125.85 29 *e*PKPdf PKPdf 09 04 36.9 -0.5
MOS Moscow 126.46 315 *e*PKIKP PKPdf 09 04 38.0 -0.9
MOS *e* 09 06 31.8
MOS pmax pmax
comp=Z,65nm,1.7s
MOS MLR MLR
comp=Z,2μm,20.0s,MS5.7
OBN Obninsk 126.59 314 PFAKE 09 04 50.0 +11
OBN LR LR
comp=Z,3μm,22.0s,MS5.9
OBN Obninsk 126.59 314 || *i* PKIKP PKPdf 09 04 39.0 -0.1
OBN *e* 09 04 46.6
OBN *e* 09 06 42.3
OBN *e*PS PS 09 16 33.5 -5.5
OBN pmax pmax
comp=Z,28nm,1.3s
KDAK Kodiak Island 126.83 42 PFAKE 09 04 50.0 +10
KDAK LR LR
comp=Z,3μm,21.0s,MS5.9
TIR Tirane 127.73 292 PFAKE 09 04 50.0 +8.2
TIR LR LR
comp=Z,2μm,21.0s,MS5.7
AKASG Malin Array Be 127.75 307 PKP PKPdf 09 04 40.3 -1.2
comp=Z,2.0nm,0.8s,baz=104,slow=1.2,SNR=15
AKASG PP PP 09 06 44.6 +0.6
comp=Z,0.3nm,0.3s,baz=119,slow=5.1,SNR=5.7
AKASG Malin Array Be 127.75 307 PKP PKPdf 09 04 40.3 -1.2
AKASG PP PP 09 06 44.6 +0.6
AKASG Malin Array Be 127.75 307 PKIKP PKPdf 09 04 40.3 -1.2
AKASG 09 06 44.6
KIEV Kiev 127.75 307 PFAKE 09 04 50.0 +8.5
KIEV LR LR
comp=Z,2μm,22.0s,MS5.8
KIEV Kiev 127.75 307 *i* PKIKP PKPdf 09 04 40.4 -1.1
WDD Wield Dalam 127.77 284 PFAKE 09 04 50.0 +7.9
WDD LR LR
comp=Z,2μm,20.0s,MS5.9
OTAV Otavalo 127.82 152 *e*PKPdf PKPdf 09 04 43.4 +0.4
OTAV *e*PP PP 09 06 47.7 +4.0
OTAV LR LR
comp=Z,2μm,22.0s,MS5.8
BUR08 Bucovina Ar. S 128.22 302 *e*PKPdf PKPdf 09 04 43.2 +0.7
CEL Celeste 128.36 287 PFAKE 09 04 50.0 +6.9
CEL LR LR
comp=Z,2μm,20.0s,MS5.9
TIP Timpagrande 128.37 288 PFAKE 09 04 50.0 +6.9
TIP LR LR
comp=Z,2μm,20.0s,MS5.7
KLMR Klimovskoe 128.53 322 *e*PKIKP PKPdf 09 04 41.0 -1.7
KLMR *e* 09 06 51.1
KLMR pmax pmax
comp=Z,115nm,1.6s
SLKM Skilak Lake 129.35 40 *e*PKPdf PKPdf 09 04 44.1 -0.1
SLKM Skilak Lake 129.35 40 *e*PKIKP PKPdf 09 04 44.1 -0.2
CUC Castrocucco 129.43 289 PFAKE 09 05 00.0 +15
CUC LR LR
comp=Z,1μm,20.0s,MS5.6
PPLA Purkeypile 129.82 36 *e*PKPdf PKPdf 09 04 44.4 -0.7
RC01 Rabbit Creek A 129.86 39 *e*PKPdf PKPdf 09 04 45.2 0.0
LVV L'vov 130.06 303 *e*PKIKP PKPdf 09 04 45.4 -0.5
PMR Palmer 130.37 39 *e*PKPdf PKPdf 09 04 46.4 +0.2
PMR *e*PP PP 09 06 59.1 -1.9
PMR Palmer 130.37 39 *e*PKIKP PKPdf 09 04 46.4 +0.2
PMR *e* 09 06 59.1
UZH Uzhgorod 130.39 301 *e*PKIKP PKPdf 09 04 45.7 -0.9
UZH *e* 09 04 54.5
MNK Minsk 130.50 310 *e*PKIKP PKPdf 09 04 45.0 -1.6
KWP Kalwaria Pacla 130.69 303 PFAKE 09 05 00.0 +13
KWP LR LR
comp=Z,2μm,20.0s,MS5.7
TRF Thorofare Moun 130.84 36 *e*PKPdf PKPdf 09 04 46.7 -0.3
CRVS Cervenica-Dubn 131.00 301 *e*PKIKP PKPdf 09 04 48.0 +0.2
CRVS Cervenica-Dubn 131.00 301 *e*PKP PKPdf 09 04 48.0 +0.2
CRVS *e* 09 07 17.7
KECS Kecovo 131.34 300 *e*PKIKP PKPdf 09 04 49.0 +0.6
KECS *e* 09 07 04.4
KECS Kecovo 131.34 300 *e*PKP PKPdf 09 04 49.0 +0.6
KECS *e*PP PP 09 07 04.4 -3.1
PSZ Piszkesteto 131.38 299 *e*PKPdf PKPdf 09 04 49.1 +0.6
PSZ LR LR
comp=Z,1μm,19.0s,MS5.6
PSZ Piszkesteto 131.38 299 *e*PKIKP PKPdf 09 04 49.1 +0.6
PSZ MLR MLR
comp=Z,1μm,19.0s,MS5.6
PSZ Piszkesteto 131.38 299 || *e*PKP PKPdf 09 04 49.1 +0.6
MCK McKinley 131.51 36 *e*PKPdf PKPdf 09 04 47.8 -0.4
MCK *e*SKPbc SKPbc 09 08 14.6 +0.1
MCK McKinley 131.51 36 *e*PKIKP PKPdf 09 04 47.8 -0.5
DIV Divide 131.55 40 *e*PKPdf PKPdf 09 04 49.8 +1.3
BUD Budapest 131.65 298 || *e*PKP PKPdf 09 04 49.7 +0.7
BMRM Bremner River 131.97 41 *e*PKPdf PKPdf 09 04 49.0 -0.3
AQU L'Aquila 132.27 290 PFAKE 09 05 00.0 +10
AQU LR LR
comp=Z,2μm,22.0s,MS5.8
VYHS Vyhne 132.28 300 *e*PKIKP PKPdf 09 04 50.5 +0.3
VYHS Vyhne 132.28 300 *e*PKP PKPdf 09 04 50.5 +0.3
VYHS *e*PP PP 09 07 11.9 -1.7
COLA College 132.46 35 *e*PKPdf PKPdf 09 04 50.0 -0.1
COLA LR LR
comp=Z,4μm,22.0s,MS6.1
COLA College 132.46 35 *e*PKIKP PKPdf 09 04 50.0 0.0
COLA MLR MLR
comp=Z,4μm,22.0s,MS6.1
OJC Ojcow 132.61 302 *e*PKP PKPdf 09 04 50.3 -0.5
OJC Ojcow 132.61 302 *e*PKIKP PKPdf 09 04 50.3 -0.5
SUW Suwalki 132.63 308 *e*PKPdf PKPdf 09 04 49.4 -1.3
SUW *e*PP PP 09 07 19.4 +3.7
SUW Suwalki 132.63 308 *e*PKIKP PKPdf 09 04 49.4 -1.3
SUW *e* 09 07 19.4
COLD Coldfoot 132.68 32 *e*PKPdf PKPdf 09 04 51.6 +1.3
ILAR Eielson Array 132.79 36 PKP PKPdf 09 04 49.7 -0.9
comp=Z,1.7nm,1.0s,baz=275,slow=3.2,SNR=11
ILAR PP PP 09 07 18.6 +2.2
comp=Z,0.9nm,0.9s,baz=223,slow=5.1,SNR=3.6
ILAR Eielson Array 132.79 36 PKP PKPdf 09 04 49.7 -0.9
ILAR PP PP 09 07 18.6 +2.2
ILAR Eielson Array 132.79 36 PKIKP PKPdf 09 04 49.7 -0.9
ILAR 09 07 18.6
PASC Pasadena Art C 132.88 84 *e*PKPdf PKPdf 09 04 51.3 -0.5
BAR Barrett 132.94 87 *e*PKPdf PKPdf 09 04 52.9 +0.9
MWC Mount Wilson 132.99 85 *e*PKPdf PKPdf 09 04 51.9 -0.1
MWC Mount Wilson 132.99 85 *e*PKIKP PKPdf 09 04 51.9 -0.1
SOP Sopron 133.19 298 || *e*PKP PKPdf 09 04 53.4 +1.5
VSL Villasalto 133.21 284 PFAKE 09 05 00.0 +7.7
VSL LR LR
comp=Z,2μm,21.0s,MS5.8
DOT Dot Lake 133.41 38 *e*PKPdf PKPdf 09 04 51.5 -0.3
ROSC El Rosal 133.41 155 PKP PKPdf 09 04 54.1 +0.5
comp=Z,4.3nm,0.6s,baz=101,slow=16,SNR=17
ROSC El Rosal 133.41 155 PKP PKPdf 09 04 54.1 +0.5
ROSC *e*PKPdf PKPdf 09 04 54.7 +1.1
ISA Isabella 133.59 83 *e*PKPdf PKPdf 09 04 53.3 +0.1
ISA Isabella 133.59 83 *e*PKIKP PKPdf 09 04 53.3 +0.2
MORC Moravsky Berou 133.66 300 *e*PKPdf PKPdf 09 04 52.7 0.0
MORC Moravsky Berou 133.66 300 *e*PKIKP PKPdf 09 04 52.7 -0.1
PFO Pinyon Flat Ob 133.66 86 *e*PKPdf PKPdf 09 04 52.9 -0.5
PFO LR LR
comp=Z,1μm,21.0s,MS5.5
PFO Pinyon Flat Ob 133.66 86 *e*PKIKP PKPdf 09 04 52.9 -0.4
PFO MLR MLR
comp=Z,1μm,21.0s,MS5.5
LVZ Lovozero 133.80 328 PFAKE 09 05 00.0 +7.5
LVZ LR LR
comp=Z,2μm,20.0s,MS5.8
TRI Trieste 133.84 294 PFAKE 09 05 00.0 +6.8
TRI LR LR
comp=Z,1μm,22.0s,MS5.6
GLA Glamis 134.39 88 *e*PKPdf PKPdf 09 04 55.6 +0.9
GLA Glamis 134.39 88 *e*PKIKP PKPdf 09 04 55.6 +0.9
GSC Goldstone 134.46 84 *e*PKPdf PKPdf 09 04 57.4 +2.7
GSC Goldstone 134.46 84 *e*PKIKP PKPdf 09 04 57.4 +2.6
FINES FINESS Array B 134.53 318 PKP PKPdf 09 04 52.4 -1.7
comp=Z,4.3nm,0.9s,baz=66,slow=3.4,SNR=7.8
FINES FINESS Array B 134.53 318 PKP PKPdf 09 04 52.4 -1.7
FINES FINESS Array B 134.53 318 PKIKP PKPdf 09 04 52.4 -1.6
DAC Darwin (Calif) 134.53 83 PFAKE 09 05 10.0 +15
DAC LR LR
comp=Z,2μm,22.0s,MS5.8
DPC Dobruska-Polom 134.62 301 *e*PKIKP PKPdf 09 04 56.8 +2.3
DPC MLR MLR
comp=Z,1μm,23.0s,MS5.6
DPC Dobruska-Polom 134.62 301 *e*PKPdf PKPdf 09 04 56.8 +2.3
DPC *ex* x 09 05 15.4
DPC AMS AMS 09 54 50.0
comp=Z,1μm,23.0s
JTS JuntasAbangare 134.67 139 PFAKE 09 05 10.0 +14
JTS LR LR
comp=Z,2μm,20.0s,MS5.8
JTS JuntasAbangare 134.67 139 *i* PKIKP PKPdf 09 04 56.3 +0.5
KSP Ksiaz 134.87 301 *e*PKP PKPdf 09 04 54.9 -0.1
KSP *e*PPS 09 19 36.0
KSP LM 09 56 05.0
comp=Z,3.5nm,30.4s
KSP Ksiaz 134.87 301 *e*PKIKP PKPdf 09 04 54.9 -0.1
UPC Upice 134.87 301 *e*PKIKP PKPdf 09 04 54.0 -1.0
UPC Upice 134.87 301 *e*PKPdf PKPdf 09 04 54.0 -1.0
EGAK Eagle 135.03 37 *e*PKPdf PKPdf 09 04 56.4 +1.5
EGAK *e*PP PP 09 07 26.3 -4.4
EGAK LR LR
comp=Z,4μm,22.0s,MS6.1
NVAR Mina Array Bea 135.31 80 PKP PKPdf 09 04 57.3 +1.1
comp=Z,2.5nm,0.7s,baz=243,slow=3.5,SNR=5.3
NVAR Mina Array Bea 135.31 80 PKP PKPdf 09 04 57.3 +1.1
GERES GERESS Array B 135.42 298 PKP PKPdf 09 04 54.5 -1.6
comp=Z,1.4nm,0.8s,baz=126,slow=2.5,SNR=7.8
GERES GERESS Array B 135.42 298 PKP PKPdf 09 04 54.5 -1.6
GERES GERESS Array B 135.42 298 PKIKP PKPdf 09 04 54.5 -1.6
LDFC Landfair 135.44 86 *e*PKPdf PKPdf 09 04 55.6 -1.0
PRU Pruhonice 135.47 299 *e*PKIKP PKPdf 09 05 03.1 +7.0
PRU MLR MLR
comp=Z,2μm,27.6s,MS5.7
PRU Pruhonice 135.47 299 *e*pPKP PKPdf 09 05 03.1 +7.0
PRU AMS AMS 10 10 00.0
comp=Z,2μm,27.6s
DAWY Dawson 135.47 38 *e*PKPdf PKPdf 09 04 51.1 -4.6
DAWY *e*PP PP 09 07 30.5 -3.1
KHC Kasperske Hory 135.63 298 *e*PKIKP PKPdf 09 04 58.7 +2.2
KHC *e* 09 07 30.3
KHC MLR MLR
comp=Z,2μm,23.0s,MS5.7
KHC Kasperske Hory 135.63 298 *e*PKPdf PKPdf 09 04 58.7 +2.2
KHC *e*PP PP 09 07 30.3 -4.6
KHC AMS AMS 10 09 40.0
comp=Z,2μm,23.0s
BCIP Isla Barro Col 135.69 146 PFAKE 09 05 10.0 +12
BCIP LR LR
comp=Z,1μm,22.0s,MS5.6
WRAK Wrangell Islan 135.75 51 PFAKE 09 05 10.0 +14
WRAK LR LR
comp=Z,2μm,20.0s,MS5.9
TPH Tonopah 135.81 81 PFAKE 09 05 10.0 +13
TPH LR LR
comp=Z,2μm,22.0s,MS5.8
BRG Berggiesshubel 136.21 300 *e*PKP PKPdf 09 04 56.8 -0.7
comp=Z,65nm,2.2s
BRG *e* 09 05 07.1
comp=Z,56nm,1.9s
BRG PP PP 09 07 45.0 +6.5
BRG *e* 09 07 57.0
BRG SS SS 09 26 24.0 +44
BRG Berggiesshubel 136.21 300 *e*PKIKP PKPdf 09 04 56.8 -0.7
BRG 09 07 45.0
BRG pmax pmax
comp=Z,65nm,2.2s
BRG pmax pmax
comp=Z,56nm,1.9s
NLWA Neilton Lookou 136.49 66 PFAKE 09 05 10.0 +12
NLWA LR LR
comp=Z,2μm,21.0s,MS5.8
TUC Tucson 136.58 92 *e*PKPdf PKPdf 09 04 59.2 +0.4
TUC LR LR
comp=Z,1μm,20.0s,MS5.6
TUC Tucson 136.58 92 *e*PKIKP PKPdf 09 04 59.2 +0.4
TUC MLR MLR
comp=Z,1μm,20.0s,MS5.6
SACV Santiago Islan 136.60 230 PFAKE 09 05 10.0 +11
SACV LR LR
comp=Z,2μm,19.0s,MS5.8
NKC Novy Kostel 136.78 299 *e*PKIKP PKPdf 09 04 54.8 -3.8
NKC Novy Kostel 136.78 299 *e*PKPpre PKPdf 09 04 54.8 -3.8
NKC *ex* x 09 07 35.8
TUE Stuetta 136.88 293 PFAKE 09 05 10.0 +11
TUE LR LR
comp=Z,3μm,19.0s,MS6.0
TGUH Tegucigalpa,Un 136.92 133 PFAKE 09 05 10.0 +10
TGUH LR LR
comp=Z,1μm,20.0s,MS5.6
CLL Collm 136.94 301 *i* PKIKP PKPdf 09 05 00.4 +1.6
CLL pmax pmax
comp=Z,79nm,2.0s
CLL MLR MLR
comp=Z,2μm,30.7s,MS5.5
CLL Collm 136.94 301 *e*PKPpre PKPpre 09 04 49.0
CLL *i* PKPdf PKPdf 09 05 00.4 +1.6
comp=Z,79nm,2.0s
CLL *e*PP PP 09 07 42.0 -1.1
comp=Z,56nm,1.8s
CLL *e*SS SS 09 25 48.0 -0.9
CLL LmV 10 06 00.0
comp=Z,2μm,20.8s
KEV Kevo 137.05 329 PFAKE 09 05 10.0 +12
KEV LR LR
comp=Z,3μm,22.0s,MS6.0
BMN Battle Mountai 137.12 78 PFAKE 09 05 10.0 +10
BMN LR LR
comp=Z,1μm,19.0s,MS5.6
FRF La Foret Royal 137.12 288 *e*PKIKP PKPdf 09 04 56.1 -3.3
comp=Z,97nm,1.4s
FRF La Foret Royal 137.12 288 *e*PKPdf PKPdf 09 04 56.1 -3.3
FRF La Foret Royal 137.12 288 *e*PKIKP PKPdf 09 04 56.1 -3.3
GRF Grafenberg Arr 137.25 298 *e*PKIKP PKPdf 09 04 56.9 -2.6
WVOR Wild Horse Val 137.27 75 PFAKE 09 05 10.0 +10
WVOR LR LR
comp=Z,2μm,21.0s,MS5.8
ARCES ARCESS Array B 137.50 329 PKP PKPdf 09 05 00.0 +0.7
comp=Z,5.0nm,1.0s,baz=41,slow=2.9,SNR=4.6
ARCES ARCESS Array B 137.50 329 PKP PKPdf 09 05 00.1 +0.7
ARCES ARCESS Array B 137.50 329 PKIKP PKPdf 09 05 00.1 +0.8
MBDF Montbardon 137.62 289 *e*PKIKP PKPdf 09 05 00.1 -0.2
comp=Z,72nm,1.4s
MBDF Montbardon 137.62 289 *e*PKPdf PKPdf 09 05 00.1 -0.2
MBDF Montbardon 137.62 289 *e*PKIKP PKPdf 09 05 00.1 -0.2
BNI Bardonecchia 137.84 289 PFAKE 09 05 10.0 +9.3
BNI LR LR
comp=Z,2μm,21.0s,MS5.8
LPG La Plagne 138.01 290 *e*PKIKP PKPdf 09 04 59.5 -1.5
comp=Z,34nm,1.1s
LPG La Plagne 138.01 290 *e*PKPdf PKPdf 09 04 59.5 -1.5
LPG La Plagne 138.01 290 *e*PKIKP PKPdf 09 04 59.5 -1.5
JCW Jim Creek 138.02 65 *e*PKPdf PKPdf 09 05 02.3 +1.4
LPL La Plagne 138.03 290 *e*PKIKP PKPdf 09 04 59.4 -1.6
comp=Z,161nm,1.8s
LPL La Plagne 138.03 290 *e*PKPdf PKPdf 09 04 59.4 -1.6
LPL La Plagne 138.03 290 *e*PKIKP PKPdf 09 04 59.4 -1.6
CCUT Cedar City 138.03 84 *e*PKPdf PKPdf 09 05 01.7 +0.4
WUAZ Wupatki 138.15 88 *e*PKPdf PKPdf 09 05 02.5 +0.9
WUAZ LR LR
comp=Z,1μm,20.0s,MS5.7
SDV Santo Domingo 138.23 159 *e*PKPdf PKPdf 09 05 02.3 -0.1
SDV LR LR
comp=Z,2μm,19.0s,MS5.8
ORIF Oris-en-Rattie 138.27 289 *e*PKIKP PKPdf 09 04 59.9 -1.6
comp=Z,119nm,1.9s
ORIF Oris-en-Rattie 138.27 289 *e*PKPdf PKPdf 09 04 59.9 -1.6
ORIF Oris-en-Rattie 138.27 289 *e*PKIKP PKPdf 09 04 59.9 -1.6
BFO Black Forest 138.35 295 PFAKE 09 05 10.0 +8.5
BFO LR LR
comp=Z,1μm,21.0s,MS5.7
HAWA Hanford 138.65 69 PFAKE 09 05 10.0 +7.8
HAWA LR LR
comp=Z,2μm,21.0s,MS5.9
INK Inuvik 139.00 34 *e*PKPdf PKPdf 09 04 59.7 -2.4
INK Inuvik 139.00 34 *e*PKIKP PKPdf 09 04 59.7 -2.4
ECH Echery 139.01 294 PFAKE 09 05 10.0 +7.3
ECH LR LR
comp=Z,1μm,20.0s,MS5.7
SSB Saint Sauveur 139.27 289 PFAKE 09 05 10.0 +6.7
SSB LR LR
comp=Z,2μm,19.0s,MS5.9
TXAR Lajitas Array 139.29 101 PKhKP PKPpre 09 04 54.4
comp=Z,1.8nm,0.8s,baz=174,slow=2.6,SNR=15
TXAR PKP PKPdf 09 05 02.2 -1.7
comp=Z,3.9nm,0.8s,baz=191,slow=4.2,SNR=16
TXAR Lajitas Array 139.29 101 PKPpre PKPpre 09 04 54.4
TXAR PKP PKPdf 09 05 02.2 -1.7
TXAR Lajitas Array 139.29 101 PKHKP PKPpre 09 04 54.4
TXAR 09 05 02.2
BMO Blue Mountains 139.31 72 *e*PKPdf PKPdf 09 05 04.6 +1.2
BMO LR LR
comp=Z,2μm,19.0s,MS5.8
BMO Blue Mountains 139.31 72 *e*PKIKP PKPdf 09 05 04.6 +1.2
BMO MLR MLR
comp=Z,2μm,19.0s,MS5.8
MVU Marysvale 139.31 83 PFAKE 09 05 20.0 +16
MVU LR LR
comp=Z,1μm,20.0s,MS5.7
MSU Marysvale 139.34 84 *e*PKPdf PKPdf 09 05 05.4 +1.7
MSU Marysvale 139.34 84 *e*PKIKP PKPdf 09 05 05.4 +1.7
OD2 Odessa Site #2 139.61 68 *e*PKPdf PKPdf 09 05 04.6 +0.7
MNTX Cornudas Mount 139.74 97 *e*PKPdf PKPdf 09 05 03.6 -1.0
MNTX LR LR
comp=Z,809nm,19.0s,MS5.5
MTLF Montolieu 139.81 285 *e*PKIKP PKPdf 09 05 02.6 -1.8
comp=Z,152nm,1.9s
MTLF Montolieu 139.81 285 *e*PKPdf PKPdf 09 05 02.6 -1.8
MTLF Montolieu 139.81 285 *e*PKIKP PKPdf 09 05 02.6 -1.8
DUG Dugway 139.84 81 *e*PKPpre PKPpre 09 04 58.3

DUG *e*PKPdf PKPdf 09 05 04.9 +0.3
DUG LR LR
comp=Z,1μm,20.0s,MS5.7
DUG Dugway 139.84 81 *e*PKHKP PKPpre 09 04 58.3
DUG *e* 09 05 04.9
DUG MLR MLR
comp=Z,1μm,20.0s,MS5.7
WLF Walferdange 140.22 295 PFAKE 09 05 20.0 +15
WLF LR LR
comp=Z,2μm,21.0s,MS5.8
LENM Lemitar 140.24 93 *e*PKPdf PKPdf 09 05 07.2 +1.8
LAZ Ladron 140.27 92 *e*PKPpre PKPpre 09 04 58.9
LAZ *e*PKPdf PKPdf 09 05 06.6 +1.1
BNM Barren Site 140.45 93 *e*PKPdf PKPdf 09 05 06.3 +0.5
HLID Hailey 140.52 75 PFAKE 09 05 20.0 +14
HLID LR LR
comp=Z,2μm,22.0s,MS5.8
NOQ North Oquirrh 140.53 81 *e*PKPdf PKPdf 09 05 08.7 +2.9
LPM Los Pinos Moun 140.55 93 *e*PKPdf PKPdf 09 05 05.6 -0.4
RTC Rabat Centre 140.58 266 PFAKE 09 05 20.0 +14
RTC LR LR
comp=Z,2μm,20.0s,MS5.8
HVU Hansel Valley 140.69 79 *e*PKPdf PKPdf 09 05 06.6 +0.5
HVU Hansel Valley 140.69 79 *e*PKIKP PKPdf 09 05 06.6 +0.6
GDL2 Guadalupe Moun 140.72 97 *e*PKPpre PKPpre 09 05 01.0
GDL2 *e*PKPdf PKPdf 09 05 07.1 +0.7
SRU San Rafael 140.75 84 *e*PKPpre PKPpre 09 04 59.5
SRU *e*PKPdf PKPdf 09 05 06.5 +0.3
SRU San Rafael 140.75 84 *e*PKHKP PKPpre 09 04 59.5
SRU *e* 09 05 06.5
JLU Jordanelle 140.94 81 *e*PKPdf PKPdf 09 05 06.9 +0.4
MVCO Mesa Verde 141.03 88 *e*PKPpre PKPpre 09 04 59.3
MVCO LR LR
comp=Z,1μm,20.0s,MS5.7
ANMO Albuquerque 141.05 92 *e*PKPpre PKPpre 09 04 58.9
ANMO LR LR
comp=Z,1μm,19.0s,MS5.7
ANMO Albuquerque 141.05 92 *e*PKHKP PKPpre 09 04 58.9
ANMO MLR MLR
comp=Z,1μm,19.0s
NB2 NORSAR Subarra141.19 314 PKPdf PKPdf 09 05 11.0 +4.7
comp=Z,13nm,1.2s,baz=104,slow=1.9
NB2 NORSAR Subarra141.19 314 PKPdf PKPdf 09 05 11.0 +4.7
baz=104,slow=1.9
NOA NORSAR Array B141.19 314 PKhKP PKPpre 09 04 60.0
comp=Z,0.8nm,0.8s,baz=141,slow=8.7,SNR=2.9
NOA NORSAR Array B141.19 314 PKPpre PKPpre 09 04 60.0
NOA NORSAR Array B141.19 314 PKHKP PKPpre 09 05 00.0
HWUT Hardware Ranch 141.38 80 *e*PKPpre PKPpre 09 05 02.2
HWUT LR LR
comp=Z,2μm,19.0s,MS5.8
CPRX Cap Rock 141.57 97 *e*PKPdf PKPdf 09 05 07.4 -0.5
SFS San Fernando 141.62 270 PFAKE 09 05 20.0 +12
SFS LR LR
comp=Z,6μm,19.0s,MS6.4
KONO Kongsberg 141.63 312 PFAKE 09 05 20.0 +13
KONO LR LR
comp=Z,977nm,22.0s,MS5.5
TEIG Tepich 141.65 127 PFAKE 09 05 20.0 +12
TEIG LR LR
comp=Z,1μm,20.0s,MS5.7
KVTX Kingsville 141.72 109 PFAKE 09 05 20.0 +12
KVTX LR LR
comp=Z,2μm,19.0s,MS5.9
KBS Kingsbay 141.80 343 PFAKE 09 05 20.0 +13
KBS LR LR
comp=Z,2μm,21.0s,MS5.8
ESDC Sonseca Array 141.93 276 PKhKP PKPpre 09 05 03.4
comp=Z,2.1nm,0.8s,baz=116,slow=2.3,SNR=3.9
ESDC Sonseca Array 141.93 276 PKPpre PKPpre 09 05 03.4
ESLA Sonseca Array 141.93 276 PFAKE 09 05 20.0 +12
ESLA LR LR
comp=Z,9μm,20.0s,MS6.5
MCMT McKenzie Canyo 142.10 74 *e*PKPdf PKPdf 09 05 07.2 -1.3
PAB San Pablo 142.11 276 *e*PKPdf PKPdf 09 05 09.1 +0.4
PAB LR LR
comp=Z,2μm,19.0s,MS5.8
PAB San Pablo 142.11 276 *e*PKIKP PKPdf 09 05 09.1 +0.4
PAB MLR MLR
comp=Z,2μm,19.0s,MS5.8
BSMT Bassoo Peak 142.21 69 *e*PKPdf PKPdf 09 05 08.3 -0.2
AHID Auburn Hatcher 142.25 78 PFAKE 09 05 20.0 +11
AHID LR LR
comp=Z,2μm,20.0s,MS5.8
MSO Missoula 142.30 71 *e*PKPdf PKPdf 09 05 09.1 +0.4
MSO LR LR
comp=Z,2μm,22.0s,MS5.8
RRI2 Red Ridge 142.39 77 *e*PKPdf PKPdf 09 05 06.2 -2.8
DLMT Dillon 142.51 74 *e*PKPdf PKPdf 09 05 06.9 -2.2
JCT Junction City 142.54 104 *e*PKPdf PKPdf 09 05 06.5 -3.2
JCT LR LR
comp=Z,1μm,19.0s,MS5.8
JCT Junction City 142.54 104 *e*PKIKP PKPdf 09 05 06.5 -3.2
JCT MLR MLR
comp=Z,1μm,19.0s,MS5.8
SWMT Swartz Lake 142.55 70 *e*PKPdf PKPdf 09 05 06.7 -2.5
TPAW Teton Pass 142.70 77 *e*PKPdf PKPdf 09 05 06.6 -2.9
REDW Red Top Meadow 142.70 78 *e*PKPdf PKPdf 09 05 05.7 -3.9
SLMT Seeley Lake 142.75 71 *e*PKPdf PKPdf 09 05 04.7 -4.8
CHMT Chamberlain Mo 142.76 71 *e*PKPdf PKPdf 09 05 05.9 -3.7
LRM Limekiln Ridge 142.80 73 *e*PKPdf PKPdf 09 05 05.7 -4.0
SNOW Snow King Moun 142.81 78 *e*PKPdf PKPdf 09 05 07.1 -2.6
IMW Indian Meadow 142.89 77 *e*PKPdf PKPdf 09 05 07.2 -2.7
GRGR Grenville 142.92 172 PFAKE 09 05 20.0 +9.1
GRGR LR LR
comp=Z,3μm,21.0s,MS6.0
MOOW Moose Ponds 142.95 77 *e*PKPdf PKPdf 09 05 06.8 -3.2
LOHW Long Hollow 142.98 77 *e*PKPdf PKPdf 09 05 06.8 -3.2
QLMT Earthquake Lak 143.01 75 *e*PKPdf PKPdf 09 05 08.1 -2.0
SMCO Snowmass 143.11 86 *e*PKPdf PKPdf 09 05 07.2 -3.2
FLWY Flagg Ranch 143.13 77 *e*PKPdf PKPdf 09 05 09.3 -1.0
PBAR Barrancos 143.14 272 *e*LR LR 09 58 12.0
comp=Z,2μm,20.0s
PVAQ Vaqueiros 143.15 270 *e*LQ 09 48 08.3
PVAQ *e*LR LR 09 57 00.8
comp=Z,1μm,18.0s
PBDV Barranco-do-Ve 143.20 270 *e*LR LR 09 57 17.5
comp=Z,2μm,20.0s
YFT Old Faithful 143.21 76 *e*PKPdf PKPdf 09 05 10.4 0.0
WALA Waterton Lakes 143.22 68 *e*PKPdf PKPdf 09 05 07.6 -2.7
YMR Madison River 143.23 76 *e*PKPdf PKPdf 09 05 09.0 -1.5
PD01 Pinedale Array 143.24 79 *e*PKPdf PKPdf 09 05 06.9 -3.6
BOZ Bozeman (W) 143.24 74 *e*PKPdf PKPdf 09 05 07.2 -3.3
BOZ LR LR
comp=Z,2μm,21.0s,MS5.8
BOZ Bozeman (W) 143.24 74 *e*PKIKP PKPdf 09 05 07.2 -3.2
BOZ MLR MLR
comp=Z,2μm,21.0s,MS5.8
BW06 Boulder Array 143.25 79 *e*PKPdf PKPdf 09 05 07.5 -3.1
BW06 LR LR
comp=Z,1μm,20.0s,MS5.7
PD02 Pinedale Array 143.25 79 *e*PKPdf PKPdf 09 05 07.3 -3.3
PDAR Pinedale Array 143.25 79 PKhKP PKPpre 09 05 07.2
comp=Z,1.9nm,0.7s,baz=209,slow=1.7,SNR=22
PDAR Pinedale Array 143.25 79 PKPpre PKPpre 09 05 07.2
SDCO Great Sand Dun 143.29 89 *e*PKPdf PKPdf 09 05 08.9 -1.9
SDCO LR LR
comp=Z,2μm,20.0s,MS5.8
YNR Norris Junctio 143.43 76 *e*PKPdf PKPdf 09 05 11.1 +0.3
PCVE Castro Verde 143.49 270 *e*LR LR 09 56 23.3
comp=Z,1μm,18.0s
LKWY Lake 143.54 76 PFAKE 09 05 20.0 +9.0
LKWY LR LR
comp=Z,3μm,21.0s,MS6.0
MORF Marmelete 143.71 269 *e*LR LR 09 57 57.8
comp=Z,1μm,20.0s
MORF Marmelete 143.71 269 *e*PKIKP PKPdf 09 05 10.7 -0.9
MESJ Messejana 143.73 270 *e*P PKPdf 09 05 10.4 -1.2
MESJ AMS AMS 10 12 42.6
comp=Z,1μm,19.4s,MS5.6
MESJ Messejana 143.73 270 *e*PKIKP PKPdf 09 05 10.4 -1.2
PESTR Estremoz 143.88 272 *e*PKP PKPdf 09 05 10.2 -1.6
PESTR *e*LR LR 09 58 12.0
comp=Z,1μm,22.0s
EVO Evora 143.97 272 *e*PKIKP PKPdf 09 05 10.0 -2.0
comp=Z,238nm,1.4s
EVO Evora 143.97 272 *e*PKP PKPdf 09 05 10.5 -1.5
EVOP Sao Brissos 144.04 272 *e*PKPdf PKPdf 09 05 10.0 -2.1
EVOP Sao Brissos 144.04 272 *e*PKIKP PKPdf 09 05 10.0 -2.1
PMRV Marv??o 144.04 273 *e*PKP PKPdf 09 05 10.3 -1.8
BBGH Gun Hill 144.08 175 PFAKE 09 05 20.0 +7.1
BBGH LR LR
comp=Z,4μm,22.0s,MS6.1
PNCL Nicolau / Gran 144.08 271 *e*LR LR 09 56 42.3
comp=Z,1μm,18.0s
AMTX Amarillo 144.14 96 *e*PKPdf PKPdf 09 05 11.7 -0.7
AMTX LR LR
comp=Z,1μm,20.0s,MS5.7
RWWY Rawlins 144.25 82 *e*PKPdf PKPdf 09 05 10.7 -1.7
PCBR Castelo Branco 144.32 274 *e*PKP PKPdf 09 05 11.3 -1.2
ISCO Idaho Springs 144.33 86 *e*PKPdf PKPdf 09 05 11.1 -1.5
ISCO LR LR
comp=Z,2μm,22.0s,MS5.8
ISCO Idaho Springs 144.33 86 *e*PKIKP PKPdf 09 05 11.1 -1.5
ISCO MLR MLR
comp=Z,2μm,22.0s,MS5.8
RLMT Red Lodge 144.51 76 *e*PKPdf PKPdf 09 05 11.5 -1.2
RLMT LR LR
comp=Z,3μm,22.0s,MS6.0
GCMT Greycliff 144.54 75 *e*PKPdf PKPdf 09 05 11.6 -1.1
MTE Manteigas 144.65 275 *e*PKP PKPdf 09 05 13.0 -0.1
MTE *e*LR LR 09 58 12.6
comp=Z,2μm,18.0s
MTE Manteigas 144.65 275 *e*PKPdf PKPdf 09 05 12.6 -0.5
MTE LR LR
comp=Z,3μm,20.0s,MS6.0
HKT Hockley 144.69 108 *e*PKPdf PKPdf 09 05 12.9 -0.6
HKT Hockley 144.69 108 *e*PKIKP PKPdf 09 05 13.0 -0.5
MVO Moncorvo 144.70 276 *e*PKP PKPdf 09 05 12.9 -0.3
PTOM Tomar 144.81 273 *e*PKP PKPdf 09 05 12.3 -1.1
LIS Lisbon 144.82 271 *e*P PKPdf 09 05 12.0 -1.5
LIS AMS AMS 10 06 24.8
comp=Z,2μm,22.5s,MS5.8
LIS Lisbon 144.82 271 *e*PKIKP PKPdf 09 05 12.0 -1.4
PBRG Braganca 144.83 277 *e*PKP PKPdf 09 05 12.7 -0.7
PBRG *e*LR LR 09 57 18.1
comp=Z,2μm,18.0s
MTDJ Mount Denham 144.86 144 PFAKE 09 05 30.0 +16
MTDJ LR LR
comp=Z,4μm,20.0s,MS6.2
SGMF Saint Gilles 144.95 290 *e*PKIKP PKPdf 09 05 11.9 -1.4
comp=Z,430nm,1.6s
SGMF Saint Gilles 144.95 290 *e*PKPdf PKPdf 09 05 11.9 -1.4
SGMF Saint Gilles 144.95 290 *e*PKIKP PKPdf 09 05 11.9 -1.4
PMAFR Mafra 145.03 271 *e*PKP PKPdf 09 05 11.3 -2.5
PMAFR *e*LR LR 09 57 34.0
comp=Z,2μm,20.0s
PVIS Viseu 145.04 275 *e*PKP PKPdf 09 05 13.5 -0.3
PHWY Pilot Hill 145.20 84 *e*PKPdf PKPdf 09 05 13.1 -0.9
QUIF Quistinic 145.20 289 *e*PKIKP PKPdf 09 05 10.3 -3.5
comp=Z,833nm,1.9s
QUIF Quistinic 145.20 289 *e*PKPdf PKPdf 09 05 10.3 -3.5
QUIF Quistinic 145.20 289 *e*PKP2 PKPdf 09 05 10.3 -3.5
PVRL Vila Real 145.21 276 *e*PKP PKPdf 09 05 14.3 +0.3
POLO Lamas de Olo 145.31 276 *e*PKP PKPdf 09 05 14.2 0.0
POLO *e*LR LR 10 01 57.2
comp=Z,836nm,18.0s
EGMT Eagleton 145.38 71 *e*PKPdf PKPdf 09 05 13.8 -0.3
EGMT LR LR
comp=Z,2μm,22.0s,MS5.9
ROSF Rostrenen 145.43 289 *e*PKIKP PKPdf 09 05 11.4 -2.8
comp=Z,376nm,1.5s
ROSF Rostrenen 145.43 289 *e*PKPdf PKPdf 09 05 11.4 -2.8
ROSF Rostrenen 145.43 289 *e*PKP2 PKPdf 09 05 11.4 -2.8
FDF Fort de France 145.54 172 *e*PKPdf PKPdf 09 05 14.6 -0.8
FDF LR LR
comp=Z,2μm,21.0s,MS6.0
FDF Fort de France 145.54 172 *e*PKIKP PKPdf 09 05 14.6 -0.8
FDF MLR MLR
comp=Z,2μm,21.0s,MS6.0
WMOK Wichita Mounta 145.94 99 *e*PKPdf PKPdf 09 05 14.8 -0.7
WMOK LR LR
comp=Z,1μm,21.0s,MS5.7
WMOK Wichita Mounta 145.94 99 *e*PKIKP PKPdf 09 05 14.8 -0.7
WMOK MLR MLR
comp=Z,1μm,21.0s,MS5.7
YKA Yellowknife Ar 145.99 45 PKPbc PKPbc 09 05 14.2 -1.3
comp=Z,31nm,1.0s,baz=269,slow=2.8,SNR=91
YKA Yellowknife Ar 145.99 45 PKPbc PKPbc 09 05 14.2 -1.3
YKA Yellowknife Ar 145.99 45 PKP2 PKPbc 09 05 14.2 -1.3
RFTA Plano 146.20 103 *e*PKPdf PKPdf 09 05 17.1 +1.1
NATX Nacogdoches 146.66 107 *e*PKPdf PKPdf 09 05 17.9 +1.0
NATX LR LR
comp=Z,1μm,19.0s,MS5.7
LAO LASA Array 147.09 75 *e*PKPdf PKPdf 09 05 17.2 +0.2
LAO *e*PKPbc PKPbc 09 05 19.3 +0.1
LAO LR LR
comp=Z,2μm,21.0s,MS5.8
GTBY Guantanamo Bay 147.32 146 *e*PKPbc PKPbc 09 05 19.6 -1.0
GTBY LR LR
comp=Z,2μm,20.0s,MS6.0
ESK Eskdalemuir 147.41 302 PFAKE 09 05 30.0 +13
ESK LR LR
comp=Z,2μm,19.0s,MS5.9
RSSD Black Hills 147.44 80 *e*PKPdf PKPdf 09 05 17.1 -0.7
RSSD *e*PKPbc PKPbc 09 05 20.0 -0.3
RSSD Black Hills 147.44 80 *e*PKIKP PKPdf 09 05 17.1 -0.6
RSSD *e* 09 05 20.0
CBKS Cedar Bluff 147.67 92 *e*PKPdf PKPdf 09 05 18.1 -0.2
CBKS LR LR
comp=Z,2μm,22.0s,MS5.9
CBKS Cedar Bluff 147.67 92 *e*PKIKP PKPdf 09 05 18.1 -0.2
CBKS MLR MLR
comp=Z,2μm,22.0s,MS5.9
SDDR Presa de Saban 147.71 153 *e*PKPdf PKPdf 09 05 19.5 +0.5
SDDR LR LR
comp=Z,2μm,20.0s,MS5.9
CRPR Cabo Rojo, PR 147.84 161 *e*PKPbc PKPbc 09 05 21.1 -0.9
OBIP Obispado Ponce 147.98 162 *e*PKPdf PKPdf 09 05 17.8 -1.6
LSP Las Mesas 148.01 161 *e*PKPdf PKPdf 09 05 21.1 +1.6
CELP Cerrillos 148.02 162 *e*PKPdf PKPdf 09 05 18.3 -1.2
SJG San Juan 148.14 163 PFAKE 09 05 30.0 +10
SJG LR LR
comp=Z,3μm,21.0s,MS6.1
LRS Lares 148.18 161 *e*PKPdf PKPdf 09 05 19.1 -0.6
CBYP Canovanas 148.36 163 *e*PKPdf PKPdf 09 05 21.2 +1.2
ANWB Willy Bob 148.38 170 PFAKE 09 05 30.0 +10
ANWB LR LR
comp=Z,2μm,21.0s,MS5.8
DAG Danmarks Havn 148.51 344 *i* PKP2 PKPdf 09 05 21.1 +2.6
DAG pmax pmax
comp=Z,42nm,1.1s
STVI Saint Thomas 148.60 165 *e*PKPdf PKPdf 09 05 19.8 -0.7
DLF Lyons Farm 148.88 297 *e*P PKPdf 09 05 23.5 +3.7
DGMT Dagmar 149.02 73 *e*PKPdf PKPdf 09 05 20.6 +0.5
DGMT LR LR
comp=Z,2μm,19.0s,MS5.9
MIAR Mount Ida 149.18 104 *e*PKPdf PKPdf 09 05 21.6 +0.7
MIAR LR LR
comp=Z,2μm,22.0s,MS5.9
MIAR Mount Ida 149.18 104 *e*PKIKP PKPdf 09 05 21.6 +0.7
MIAR MLR MLR
comp=Z,2μm,22.0s,MS5.9
VBMS Vicksburg 149.55 111 *e*PKPdf PKPdf 09 05 22.9 +1.3
VBMS LR LR
comp=Z,2μm,20.0s,MS5.8
RES Resolute Bay 149.71 19 *e*PKPdf PKPdf 09 05 19.4 -1.2
RES *e*PKPbc PKPbc 09 05 24.6 -0.6
RES Resolute Bay 149.71 19 *e*PKHKP PKPdf 09 05 19.4 -1.1
KSU1 Kansas State U 149.88 94 *e*PKPbc PKPbc 09 05 26.1 -0.6
KSU1 LR LR
comp=Z,2μm,20.0s,MS6.0
UALR University of 150.10 105 *e*PKPdf PKPdf 09 05 22.8 +0.4
UALR *e*PKPbc PKPbc 09 05 26.9 -0.4
UALR *e*PKPab PKPab 09 05 35.1 +1.8
BRAL Brewton 150.78 117 *e*PKPbc PKPbc 09 05 29.8 +0.7
BRAL LR LR
comp=Z,2μm,20.0s,MS5.8
HBAR Harrisburg 151.66 106 *e*PKPdf PKPdf 09 05 24.9 +0.2
HBAR *e*PKPbc PKPbc 09 05 30.0 -1.0
HBAR *e*PKPab PKPab 09 05 38.6 -1.2
OXF Oxford 151.78 109 *e*PKPbc PKPbc 09 05 29.4 -1.9
OXF *e*PKPab PKPab 09 05 38.6 -1.7
OXF LR LR
comp=Z,1μm,20.0s,MS5.8
OXF Oxford 151.78 109 *e*PKIKP PKPbc 09 05 29.5 -1.8
OXF *e* 09 05 38.6
OXF MLR MLR
comp=Z,1μm,20.0s,MS5.8
FFC Flin Flon 151.83 61 *e*PKPdf PKPdf 09 05 23.0 -1.3
FFC *e*PKPbc PKPbc 09 05 30.0 -0.7
FFC *e*PKPab PKPab 09 05 38.2 -1.7
FFC LR LR
comp=Z,2μm,20.0s,MS6.0
FFC Flin Flon 151.83 61 *e*PKIKP PKPdf 09 05 23.0 -1.3
FFC *e* 09 05 30.0
FFC *e* 09 05 38.2
FFC MLR MLR
comp=Z,2μm,20.0s,MS6.0
ECSD EROS Data Cent 152.12 86 *e*PKPdf PKPdf 09 05 23.9 -1.3
ECSD *e*PKPbc PKPbc 09 05 30.3 -1.5
ECSD *e*PKPab PKPab 09 05 38.7 -2.7
ECSD LR LR
comp=Z,3μm,22.0s,MS6.1
LRAL Lakeview Retre 152.25 114 *e*PKPdf PKPdf 09 05 25.4 -0.3
LRAL *e*PKPbc PKPbc 09 05 31.4 -1.0
LRAL *e*PKPab PKPab 09 05 40.1 -2.2
LRAL LR LR
comp=Z,3μm,20.0s,MS6.1
GNAR Gosnell 152.33 106 *e*PKPbc PKPbc 09 05 33.1 +0.6
HALT Halls 152.72 107 *e*PKPbc PKPbc 09 05 33.1 -0.3
HALT *e*PKPab PKPab 09 05 40.7 -3.5
CCM Cathedral Cave 152.79 101 *e*PKPdf PKPdf 09 05 25.6 -0.7
CCM *e*PKPbc PKPbc 09 05 32.5 -1.0
CCM Cathedral Cave 152.79 101 *e*PKIKP PKPdf 09 05 25.6 -0.7
CCM *e* 09 05 32.5
PLAL Pickwick Lake 152.91 110 *e*PKPdf PKPdf 09 05 25.2 -1.4
PLAL *e*PKPbc PKPbc 09 05 32.0 -1.8
PLAL *e*PKPab PKPab 09 05 40.6 -4.4
PLAL LR LR
comp=Z,3μm,20.0s,MS6.1
PARMO Parma 152.93 105 *e*PKPdf PKPdf 09 05 27.9 +1.3
GLAT Glass 152.98 106 *e*PKPbc PKPbc 09 05 35.4 +1.5
FVM French Village 153.28 102 *e*PKPbc PKPbc 09 05 33.6 -0.9
FVM French Village 153.28 102 *e*PKIKP PKPbc 09 05 33.7 -0.9
UTMT University of 153.29 106 *e*PKPbc PKPbc 09 05 33.6 -1.0
SCIA State Center 153.53 92 *e*PKPdf PKPdf 09 05 27.7 +0.4
SCIA *e*PKPbc PKPbc 09 05 34.2 -0.8
SCIA LR LR
comp=Z,3μm,20.0s,MS6.0
SLM Saint Louis 153.78 101 *e*PKPbc PKPbc 09 05 34.6 -1.0
SLM Saint Louis 153.78 101 *e*PKIKP PKPbc 09 05 34.6 -1.0
WVT Waverly 153.81 108 *e*PKPdf PKPdf 09 05 26.5 -1.4
WVT Waverly 153.81 108 *e*PKIKP PKPdf 09 05 26.5 -1.4
SIUC Southern Illin 153.90 104 *e*PKPdf PKPdf 09 05 27.2 -0.8
SIUC *e*PKPbc PKPbc 09 05 34.9 -1.0
AGMN Agassiz Nation 154.25 77 *e*PKPdf PKPdf 09 05 26.3 -1.7
AGMN *e*PKPab PKPab 09 05 49.5 -0.8
AGMN LR LR
comp=Z,2μm,22.0s,MS6.0
SWET Sewanee 154.39 112 *e*PKPdf PKPdf 09 05 28.4 -0.3
GOGA Godfrey 154.61 118 *e*PKPdf PKPdf 09 05 29.3 +0.2
GOGA LR LR
comp=Z,2μm,20.0s,MS6.0
GOGA Godfrey 154.61 118 *e*PKIKP PKPdf 09 05 29.3 +0.2
GOGA MLR MLR
comp=Z,2μm,20.0s,MS6.0
ULM Lac du Bonnet 154.73 72 PKP PKPdf 09 05 27.5 -1.1
comp=Z,2.6nm,0.7s,baz=195,slow=1.4,SNR=6.4
ULM Lac du Bonnet 154.73 72 *e*PKPdf PKPdf 09 05 26.8 -1.9
ULM PKP PKPdf 09 05 27.5 -1.1
ULM LR LR
comp=Z,3μm,20.0s,MS6.1
ULM Lac du Bonnet 154.73 72 *e*PKIKP PKPdf 09 05 26.8 -1.9
ULM 09 05 27.5
ULM MLR MLR
comp=Z,3μm,20.0s
USIN University of 155.04 105 *e*PKPdf PKPdf 09 05 29.8 +0.3
SUMG Summit 155.06 347 *e*PKPdf PKPdf 09 05 28.0 -0.5
SUMG *e*PKPab PKPab 09 05 52.8 -0.3
SUMG Summit 155.06 347 *e*PKIKP PKPdf 09 05 28.0 -0.5
OLIL Olney 155.21 103 *e*PKPdf PKPdf 09 05 29.6 -0.2
OLIL *e*PKPbc PKPdf 09 05 37.6 +7.9
HDIL Hopedale 155.43 98 *e*PKPdf PKPdf 09 05 29.2 -0.8
HDIL LR LR
comp=Z,2μm,20.0s,MS5.9
JFWS Jewell Farm 155.94 92 *e*PKPdf PKPdf 09 05 28.6 -1.9
JFWS LR LR
comp=Z,2μm,20.0s,MS5.9
JFWS Jewell Farm 155.94 92 *e*PKIKP PKPdf 09 05 28.6 -2.0
JFWS MLR MLR
comp=Z,2μm,20.0s,MS5.9
WCI Wyandotte Cave 156.06 106 *e*PKPdf PKPdf 09 05 29.9 -1.0
WCI Wyandotte Cave 156.06 106 *e*PKIKP PKPdf 09 05 29.9 -1.0
NHSC New Hope 156.24 123 PFAKE 09 05 40.0 +8.7
NHSC LR LR
comp=Z,3μm,22.0s,MS6.0
BLO Bloomington 156.47 104 *e*PKPdf PKPdf 09 05 31.8 +0.4
BLO Bloomington 156.47 104 *e*PKIKP PKPdf 09 05 31.8 +0.4
TZTN Tazewell 156.72 112 *e*PKPdf PKPdf 09 05 31.6 -0.2
EYMN Ely 156.96 80 *e*PKPdf PKPdf 09 05 31.0 -0.7
EYMN *e*PKPab PKPab 09 05 60.0 -2.0
EYMN LR LR
comp=Z,3μm,22.0s,MS6.0
BLA Blacksburg 159.03 116 PFAKE 09 05 50.0 +15
BLA LR LR
comp=Z,2μm,20.0s,MS5.9
CNNC Cliffs of the 159.09 124 PFAKE 09 05 50.0 +15
CNNC LR LR
comp=Z,2μm,21.0s,MS6.0
ACSO Alum Creek Sta 159.32 105 PFAKE 09 05 50.0 +15
ACSO LR LR
comp=Z,2μm,21.0s,MS5.9
AAM Ann Arbor 159.97 100 *e*PKPdf PKPdf 09 05 36.0 +0.4
AAM LR LR
comp=Z,3μm,20.0s,MS6.1
AAM Ann Arbor 159.97 100 *e*PKIKP PKPdf 09 05 36.0 +0.5
AAM MLR MLR
comp=Z,3μm,20.0s,MS6.1
GLMI Grayling 160.44 92 PFAKE 09 05 50.0 +14
GLMI LR LR
comp=Z,3μm,22.0s
CBN Corbin 161.49 118 PFAKE 09 05 50.0 +13
CBN LR LR
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 161.78 353 PFAKE 09 05 50.0 +13
SFJD LR LR
comp=Z,3μm,20.0s
BBSR BB Station 162.22 157 PFAKE 09 05 50.0 +12
BBSR LR LR
comp=Z,3μm,21.0s
ERPA Erie 162.24 104 PFAKE 09 05 50.0 +12
ERPA LR LR
comp=Z,3μm,22.0s
BINY Binghamton 164.80 110 PFAKE 09 05 50.0 +10
BINY LR LR
comp=Z,3μm,22.0s
NCB Newcomb 166.82 106 PFAKE 09 05 50.0 +8.1
NCB LR LR
comp=Z,4μm,21.0s
PKME Peaks-Kenny Pk 170.53 109 PFAKE 09 05 50.0 +5.7
PKME LR LR
comp=Z,5μm,20.0s
SCHQ Schefferville 171.45 44 PFAKE 09 05 50.0 +5.6
SCHQ LR LR
comp=Z,5μm,22.0s

IDC 13 08:50:38.7±1.1, 32°.99N×91°.93E, h0km, mb 3.5/6, mb1 3.7/9, mb1mx3.6/26, mbtmp3.5/9, ML 3.6/3, Error ellipse: s-maj=46.2km s-min=20.4km az=66.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.63**	**335**	Pn	Pn	08 54 17.3	-2.9
	0.0nm,0.3s,baz=147,slow=14,SNR=2.5						
CMAR	**Chiang Mai Arr**	**15.78**	**155**	Pn	Pn	08 54 21.2	-1.1
	0.5nm,0.3s,baz=330,slow=10,SNR=4.4						
SONM	**Songino Array**	**18.43**	**32**	P	Pn	08 54 55.4	-0.1
	0.1nm,0.3s,baz=214,slow=12,SNR=9.6						
KURK	**Kurchatov**	**20.25**	**335**	P	P	08 55 14.2	-1.1
	0.5nm,0.4s,baz=147,slow=8.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**21.56**	**349**	P	P	08 55 29.0	-0.5
	0.6nm,0.6s,baz=163,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**66.42**	**136**	P	P	09 01 30.9	+1.1
	0.7nm,0.8s,baz=325,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**	**69.11**	**139**	P	P	09 01 46.0	-0.7
	1.1nm,0.8s,baz=322,slow=6.4,SNR=7.5						
YKA	**Yellowknife Ar**	**82.49**	**12**	P	P	09 03 03.6	+0.9
	0.1nm,0.5s,baz=328,slow=5.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**83.16**	**281**	P	P	09 03 07.5	+0.4
	0.5nm,0.9s,baz=37,slow=4.1,SNR=2.7						

ISCJB ***13*** *08:51:05.1±0.9, 38°.98N±0°.08×48°.94E±0°.05, h10km, Error ellipse: s-maj=11.3km s-min=5.1km az=177.2*
TEH ***13*** *08:51:05.2, 39°.09N×48°.91E, h10km*
CSEM ***13*** *08:51:06.0±0.4, 38°.99N×48°.87E, h10km, ML3.0, Error ellipse: s-maj=13.0km s-min=4.8km az=4.0*
ISC 13 08:51:05.7±0.8, 39°.04N±0°.07×48°.89E±0°.05, h10km, n24, σ0.79/29, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**0.81**	**254**	*e*Pg	**Pg**	**08 51 21.1**	**-0.2**
ISRB	**Sarab**	**1.55**	**219**	*e*Pn	**Pn**	**08 51 33.7**	**+0.4**
ISRB				*e*		08 51 41.5	
	comp=Z,3μm,0.2s						
ISRB				*e*Sg	**Sg**	**08 51 55.4**	**0.0**
ISRB	**Sarab**	**1.55**	**219**	*e*Pn	**Pn**	**08 51 33.7**	**+0.4**
ISRB				*e*Sg	**Sg**	**08 51 55.4**	**0.0**
IHRS	**Heris**	**1.62**	**244**	*e*Pn	**Pn**	**08 51 34.1**	**-0.1**
IHRS				*e*		08 51 58.0	
	comp=Z,14μm,0.2s						
IHRS	**Heris**	**1.62**	**244**	*e*Pn	**Pn**	**08 51 34.1**	**-0.1**
IBST	**Bostanabad**	**2.06**	**230**	*e*Pn	**Pn**	**08 51 40.5**	**+0.1**
IBST				*e*		08 51 49.2	
	comp=Z,1μm,0.1s						
IBST				*e*Sg	**Sg**	**08 52 10.6**	**-1.4**
IBST	**Bostanabad**	**2.06**	**230**	*e*Pn	**Pn**	**08 51 40.5**	**+0.1**
IBST				*e*Sg	**Sg**	**08 52 10.6**	**-1.4**
ITBZ	**Tabriz**	**2.29**	**250**	*e*	**Sb**	**08 52 16.9**	**+1.4**
	comp=N,2μm,0.1s						
ZNJK	**Zanjan**	**2.37**	**184**	*e*Pn	**Pn**	**08 51 44.3**	**-0.3**
IMRD	**Marand**	**2.51**	**264**	*e*Pn	**Pn**	**08 51 46.6**	**+0.1**
IMRD				*e*		08 51 59.2	
	comp=Z,3μm,0.1s						
IMRD	**Marand**	**2.51**	**264**	*e*Pn	**Pn**	**08 51 46.6**	**+0.1**
ISHB	**Shabestar**	**2.67**	**255**	*e*Pn	**Pn**	**08 51 50.0**	**+1.2**
ISHB				*e*		08 52 36.4	
	comp=Z,589nm,0.2s						
ISHB	**Shabestar**	**2.67**	**255**	*e*Pn	**Pn**	**08 51 50.0**	**+1.2**
IPRN	**Peran**	**3.91**	**135**	*e*Pn	**Pn**	**08 52 05.2**	**-0.6**
IPRN				*e*		08 52 52.9	
	comp=Z,3μm,0.0s						
SNGE	**Sanandaj**	**4.13**	**198**	*e*Pn	**Pn**	**08 52 08.3**	**-0.5**
DAMV	**Damavand**	**4.19**	**143**	*e*Pn	**Pn**	**08 52 10.7**	**+1.0**
IALA	**Alasht**	**4.29**	**132**	*e*Pn	**Pn**	**08 52 10.1**	**-0.9**
IALA				*e*Pn	**Pn**	**08 52 09.8**	**-1.2**
IALA				*e*		08 52 11.2	
	comp=Z,1μm,0.1s						
IALA				*e*		08 53 00.5	
	comp=E,3μm,0.1s						
IALA	**Alasht**	**4.29**	**132**	*e*Pn	**Pn**	**08 52 09.8**	**-1.2**
IFIR	**Firoozkooh**	**4.58**	**137**	*e*Pn	**Pn**	**08 52 16.2**	**+1.2**
IFIR				*e*		08 52 18.0	
	comp=Z,401nm,0.1s						
IFIR	**Firoozkooh**	**4.58**	**137**	*e*Pn	**Pn**	**08 52 16.2**	**+1.2**
IGLO	**Ghaloghah**	**4.66**	**121**	*e*Pn	**Pn**	**08 52 15.8**	**-0.3**
IGLO				*e*		08 52 18.9	
	comp=Z,3μm,0.1s						
IKIA	**Kiasar**	**4.74**	**125**	*e*Pn	**Pn**	**08 52 17.5**	**+0.3**
IKIA				*e*		08 52 18.6	
	comp=Z,2μm,0.1s						
IKIA	**Kiasar**	**4.74**	**125**	*e*Pn	**Pn**	**08 52 17.5**	**+0.3**
ONI	**Oni**	**5.44**	**312**	P	**Pn**	**08 52 25.7**	**-1.2**

ISCJB ***13*** *08:53:53.3±0.5, 49°.04S±0°.07×123°.5E±0°.2, h10km, mb4.2/10, Error ellipse: s-maj=19.9km s-min=9.5km az=15.7*
IDC ***13*** *08:53:53.7±0.7, 49°.00S×123°.53E, h0km, mb4.4/10, mb1 4.4/11, mb1mx4.4/14, mbtmp4.4/11, ML1.8/1, Error ellipse: s-maj=28.0km s-min=14.9km az=113.0*
NEIC ***13*** *08:53:55.2±0.4, 49°.04S×123°.49E, h10km, mb4.5/4, Error ellipse: s-maj=15.6km s-min=8.0km az=106.0*
ISC 13 08:53:55.2±0.5,**49°.04S**±0°.07×**123°.5E**±0°.2,**h10**km,**n36,** σ0°**83**/25,**mb4.2**/10,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.77**	**341**	Pn	**Pn**	**08 57 49.2**	**-0.9**
	0.2nm,0.3s,baz=153,slow=14,SNR=3.1						
NWAO	**Narrogin (SRO)**	**16.77**	**341**	*e*P	**Pn**	**08 57 49.4**	**-0.7**
	29nm,1.0s						
CASY	**Casey**	**18.56**	**197**	*e*P	**Pn**	**08 58 10.5**	**-1.4**
	92nm,1.3s						
FORT	**Forrest**	**18.56**	**12**	*e*P	**Pn**	**08 58 13.8**	**+1.5**
	24nm,0.9s						
STKA	**Stephens Creek**	**21.88**	**45**	P	**P**	**08 58 47.3**	**-0.8**
	4.6nm,0.7s,mb4.0,baz=187,slow=10,SNR=7.6						
STKA	**Stephens Creek**	**21.88**	**45**	*e*P	**P**	**08 58 47.4**	**-0.7**
	1.4nm,0.8s,mb3.4						
ASAR	**Alice Springs**	**26.62**	**22**	P	**P**	**08 59 33.3**	**-0.4**
	2.3nm,0.7s,mb3.8,baz=198,slow=9.8,SNR=25						
ASAR	**Alice Springs**	**26.62**	**22**	P	**P**	**08 59 33.3**	**-0.4**
WRA	**Warramunga Arr**	**30.30**	**20**	P	**P**	**09 00 05.5**	**-1.1**
	0.4nm,0.6s,mb3.3,baz=183,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**30.30**	**20**	P	**P**	**09 00 05.5**	**-1.1**
MAW	**Mawson**	**35.01**	**216**	P	**P**	**09 00 47.6**	**+0.3**
	12nm,1.0s,mb4.8,baz=92,slow=11,SNR=11						
MAW	**Mawson**	**35.01**	**216**	*e*P	**P**	**09 00 47.2**	**-0.1**
	10nm,1.0s,mb4.7						
MAW	**Mawson**	**35.01**	**216**	P	**P**	**09 00 47.6**	**+0.3**
URZ	**Urewera**	**39.48**	**95**	P	**P**	**09 01 25.6**	**+0.1**
	13nm,0.8s,mb4.7,baz=238,slow=4.1,SNR=6.1						
URZ	**Urewera**	**39.48**	**95**	*e*P	**P**	**09 01 26.1**	**+0.5**
	16nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**41.08**	**180**	P	**P**	**09 01 39.5**	**+1.1**
	17nm,1.0s,mb4.6,baz=335,slow=6.2,SNR=13						
QSPA	**South Pole Qui**	**41.08**	**180**	*e*P	**P**	**09 01 39.2**	**+0.9**
SNAA	**Sanae**	**53.78**	**198**	P	**P**	**09 03 17.3**	**+0.1**
	10.0nm,1.0s,mb4.7,baz=128,slow=11,SNR=24						
SNAA	**Sanae**	**53.78**	**198**	*e*P	**P**	**09 03 17.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**70.67**	**335**	P	**P**	**09 05 11.7**	**+0.8**
	1.6nm,0.4s,mb4.3,baz=186,slow=5.1,SNR=8.6						
CMAR	**Chiang Mai Arr**	**70.67**	**335**	P	**P**	**09 05 11.7**	**+0.8**
BOSA	**Boshof**	**74.01**	**245**	P	**P**	**09 05 31.1**	**+0.1**
	2.3nm,0.9s,mb4.1,baz=128,slow=5.8,SNR=4.3						
BOSA	**Boshof**	**74.01**	**245**	P	**P**	**09 05 31.1**	**+0.1**
MJAR	**Matsushiro Arr**	**86.20**	**12**	P	**P**	**09 06 36.6**	**+0.4**
	2.2nm,1.0s,mb4.3,baz=190,slow=7.9,SNR=8.0						
MJAR	**Matsushiro Arr**	**86.20**	**12**	P	**P**	**09 06 36.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**120.55**	**254**	PKP	PKPdf	09 12 46.2	-1.0
	0.4nm,0.7s,baz=130,slow=2.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**120.55**	**254**	PKP	PKPdf	09 12 46.2	-1.0
TXAR	**Lajitas Array**	**139.24**	**101**	PKhKP	PKPpre	09 13 12.0	
	0.5nm,0.8s,baz=206,slow=3.9,SNR=3.4						
TXAR				PKP	PKPdf	09 13 21.4	-0.7
	0.4nm,0.7s,baz=193,slow=6.2,SNR=3.9						
TXAR	**Lajitas Array**	**139.24**	**101**	PKPpre	PKPpre	09 13 12.0	
TXAR				PKP	PKPdf	09 13 21.4	-0.7
PDAR	**Pinedale Array**	**143.18**	**79**	PKhKP	PKPpre	09 13 25.8	
	0.4nm,0.6s,baz=146,slow=1.8,SNR=2.8						
PDAR	**Pinedale Array**	**143.18**	**79**	PKPpre	PKPpre	09 13 25.8	
WMOK	**Wichita Mounta**	**145.88**	**99**	*e*PKPdf	PKPdf	09 13 34.2	+0.4
YKA	**Yellowknife Ar**	**145.91**	**45**	PKPbc	PKPbc	09 13 33.7	+0.1
	2.2nm,0.7s,baz=270,slow=2.9,SNR=24						
YKA	**Yellowknife Ar**	**145.91**	**45**	PKPbc	PKPbc	09 13 33.7	+0.1
RSSD	**Black Hills**	**147.37**	**80**	*e*PKPbc	PKPbc	09 13 38.9	+0.5
KSU1	**Kansas State U**	**149.82**	**94**	*e*PKPbc	PKPbc	09 13 45.7	+0.9

ISCJB ***13*** *08:57:34.9±0.8, 38°.81N±0°.04×26°.30E±0°.05, h8km±7km, Error ellipse: s-maj=6.9km s-min=6.1km az=30.6*
DDA ***13*** *08:57:34.7, 38°.82N×26°.33E, h7km±5km, Md2.9*
CSEM ***13*** *08:57:35.2±0.2, 38°.81N×26°.32E, h15km, ML2.2/3, Error ellipse: s-maj=4.5km s-min=3.6km az=120.0*
THE ***13*** *08:57:35.6, 38°.86N×26°.37E, h17km±3km, ML2.2/3, Error ellipse: s-maj=5.0km s-min=1.6km az=273.0*
ISC 13 08:57:35.4±0.8,**38°.82N**±0°.04×**26°.31E**±0°.05,**h14**km±6km, **n17,** σ0°**61**/29,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.43**	**356**	P	**Pg**	**08 57 43.7**	**-0.3**
PRK				S	**Sg**	**08 57 50.0**	**+0.3**
PRK	**Paraskevi**	**0.43**	**356**	P	**Pg**	**08 57 43.7**	**-0.3**
PRK				S	**Sg**	**08 57 50.0**	**+0.3**
CHOS	**Chios island**	**0.47**	**205**	P	**Pg**	**08 57 44.8**	**0.0**
CHOS				S	**Sg**	**08 57 55.4**	**+4.3**
CHOS	**Chios island**	**0.47**	**205**	P	**Pg**	**08 57 44.8**	**0.0**
SIGR	**SIGRI**	**0.53**	**318**	P	**Pg**	**08 57 46.5**	**+0.7**
SIGR				S	**Sg**	**08 57 53.2**	**+0.3**
SIGR	**SIGRI**	**0.53**	**318**	P	**Pg**	**08 57 46.5**	**+0.7**
SIGR				S	**Sg**	**08 57 53.2**	**+0.3**
AYVA	**Ayvalik**	**0.57**	**31**	*i* P	**Pg**	**08 57 46.2**	**-0.5**
AYVA				*i* S	**Sg**	**08 57 53.6**	**-0.7**
AYVA	**Ayvalik**	**0.57**	**31**	*i* P	**Pg**	**08 57 46.2**	**-0.4**
AYVA				*i* S	**Sg**	**08 57 53.6**	**-0.7**
BOZC	**Bozcaada**	**1.04**	**349**	*i* P	**Pb**	**08 57 55.0**	**-0.3**
BOZC				*i* S	**Sb**	**08 58 09.0**	**+0.2**
AKHS	**Akhisar**	**1.18**	**87**	*i* P	**Pn**	**08 57 57.0**	**-0.5**
AKHS				*i* S	**Sb**	**08 58 14.3**	**+1.7**
AKHS	**Akhisar**	**1.18**	**87**	*i* P	**Pn**	**08 57 57.0**	**-0.5**
AKHS				*i* S	**Sb**	**08 58 14.3**	**+1.7**
BALY	**Balya**	**1.37**	**47**	*i* P	**Pn**	**08 57 59.9**	**-0.3**
BALY				*i* S	**Sn**	**08 58 18.1**	**-0.1**
BALY	**Balya**	**1.37**	**47**	*i* P	**Pn**	**08 57 59.8**	**-0.4**
BALY				*i* S	**Sn**	**08 58 18.1**	**-0.1**
APE	**Apeiranthos**	**1.85**	**200**	P	**Pn**	**08 58 05.9**	**-0.9**
APE	**Apeiranthos**	**1.85**	**200**	P	**Pn**	**08 58 05.9**	**-0.9**
SKIA	**Skiathos**	**2.24**	**280**	P	**Pn**	**08 58 12.3**	**+0.2**
SKIA	**Skiathos**	**2.24**	**280**	P	**Pn**	**08 58 12.3**	**+0.2**

BJI ***13*** *08:59:39.5, 49°.00S×123°.50E, h5km, mB5.7/20, mb5.3/42, Ms5.7/29, MS7 5.4/29*
IDC ***13*** *08:59:39.6±0.5, 49°.03S×123°.49E, h0km, mb4.9/16, mb1 5.0/17, mb1mx5.0/17, mbtmp4.9/17, ML2.7/1, MS5.1/5, Ms1 5.1/5, ms1mx4.6/20, Error ellipse: s-maj=21.3km s-min=13.0km az=110.0*
ISCJB ***13*** *08:59:40.2±0.2, 49°.05S±0°.04×123°.49E±0°.08, h10km, mb5.3/74, MS5.3/14, Error ellipse: s-maj=7.9km s-min=5.3km az=10.9*
MOS ***13*** *08:59:40.5±1.4, 48°.98S×123°.51E, h10km, mb5.5/22, Error ellipse: s-maj=20.8km s-min=8.7km az=82.1*
GCMT ***13*** *08:59:40.0±0.2, 49°.19S×123°.76E, h12km, MW5.4, Moment Tensor Solution. s20,c20; s71,c127; Moment tensor: Scale 10^17Nm; Mrr=1.04±.04; Mθθ=1.11±.03; Mφφ=0.06±.04; Mrθ=0.83±.11; Mrφ=0.37±.02; Mθφ=0.39±.12; Best double couple: M0=1.50000×10^17 NP1:φ=232.00000°, δ34.00000°, λ=131.00000°. NP2:φ=97.00000°, δ65.00000°, λ=67.00000°. Principal axes: T 1.4300, Plg17.0000°, Azm170.0000°; N 0.0700, Plg21.0000°, Azm267.0000°; P =1.4900, Plg62.0000°, Azm45.0000°; Data Used: IU II IC G.*
NEIC ***13*** *08:59:41.5±0.2, 49°.01S×123°.51E, h10km, mb5.5/42 Error ellipse: s-maj=7.4km s-min=5.4km az=90.0*
DJA ***13*** *08:59:47, 49°.10S×123°.74E, h48km, mb5.3/18*
ISC 13 08:59:41.9±0.2,**49°.06S**±0°.04×**123°.47E**±0°.08,**h10**km, **(h17**km±1.9km:**pP-P),n249,** σ0°**91**/170,**mb5.3**/74,**MS5.3**/14, **3C-2D,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.78**	**342**	Pn	**Pn**	**09 03 35.4**	**-1.4**
	1.3nm,0.3s,baz=168,slow=13,SNR=10						
NWAO				LR	LR	09 08 35.0	
	comp=Z,8μm,19.1s,baz=342,slow=32						
NWAO	**Narrogin (SRO)**	**16.78**	**342**	*e*P	**Pn**	**09 03 35.6**	**-1.3**
	77nm,1.0s						
NWAO	**Narrogin (SRO)**	**16.78**	**342**	*e*P	**Pn**	**09 03 35.6**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,77nm,1.0s						
MOO	**Moorlands**	**17.78**	**77**	*e*P	**Pn**	**09 03 51.8**	**+2.4**
	comp=Z,642nm,1.0s						
KLBR	**Kellerberrin**	**17.97**	**344**	*e*P	**Pn**	**09 03 50.4**	**-1.4**
	comp=Z,102nm,1.3s						
CASY	**Casey**	**18.53**	**197**	*e*P	**Pn**	**09 03 57.3**	**-1.1**
CASY	**Casey**	**18.53**	**197**	*e*P	**Pn**	**09 03 57.9**	**-0.5**
	comp=Z,144nm,1.2s						
FORT	**Forrest**	**18.58**	**12**	*e*P	**Pn**	**09 03 56.3**	**-3.0**
	comp=Z,62nm,1.0s						
FORT	**Forrest**	**18.58**	**12**	*e*P	**Pn**	**09 03 56.5**	**-2.8**
TOO	**Toolangi**	**19.63**	**62**	*e*P	**Pn**	**09 04 12.0**	**+0.2**
	comp=Z,297nm,1.8s						
STKA	**Stephens Creek**	**21.92**	**45**	P	**P**	**09 04 34.1**	**-1.1**
	comp=Z,15nm,0.9s,mb4.4,baz=202,slow=11,SNR=12						
STKA				S	**S**	**09 08 32.3**	**-4.9**
	comp=Z,1.3nm,0.4s,baz=313,slow=18,SNR=2.6						
STKA				LR	LR	09 11 09.0	
	comp=Z,4μm,18.8s,MS4.9,baz=321,slow=32						
STKA	**Stephens Creek**	**21.92**	**45**	*e*P	**P**	**09 04 34.9**	**-0.3**
	comp=Z,22nm,1.2s,mb4.5						
STKA	**Stephens Creek**	**21.92**	**45**	*e*P	**P**	**09 04 34.3**	**-0.9**
	comp=Z,30nm,1.6s,mb4.5						
STKA				S	**S**	**09 08 32.3**	**-4.9**
STKA	**Stephens Creek**	**21.92**	**45**	*e*P	**P**	**09 04 34.3**	**-0.9**
STKA				S	**S**	**09 08 32.3**	**-4.9**
STKA				pmax	pmax		
	comp=Z,30nm,1.6s						
MIR	**Mirnyy**	**23.49**	**211**	*e*P	**P**	**09 04 51.0**	**-0.6**
MIR				pmax	pmax		
	comp=Z,135nm,2.0s,mb5.0						
ASAR	**Alice Springs**	**26.64**	**22**	P	**P**	**09 05 18.8**	**-1.9**
	comp=Z,18nm,0.9s,mb4.6,baz=196,slow=9.7,SNR=80						
ASAR				P3KPbc		09 38 03.0	
	comp=Z,0.7nm,0.9s,baz=20,slow=4.0,SNR=4.8						
ASAR	**Alice Springs**	**26.64**	**22**	P	**P**	**09 05 18.8**	**-1.9**
ASAR				*e*		09 38 03.0	
ASAR	**Alice Springs**	**26.64**	**22**	P	**P**	**09 05 18.8**	**-1.9**
AS31	**Alice Springs**	**26.64**	**22**	*e*P	**P**	**09 05 19.0**	**-1.7**
MBWA	**Marble Bar**	**27.99**	**353**	*e*P	**P**	**09 05 31.5**	**-1.4**
	comp=Z,38nm,1.4s,mb4.8						
MBWA	**Marble Bar**	**27.99**	**353**	P	**P**	**09 05 32.8**	**0.0**
	comp=Z,560nm,1.4s,mb6.0						
WRA	**Warramunga Arr**	**30.33**	**21**	P	**P**	**09 05 51.3**	**-2.2**
	comp=Z,5.0nm,0.9s,mb4.2,baz=194,slow=9.4,SNR=14						
WRA				LR	LR	09 16 04.6	
	comp=Z,5μm,20.1s,MS5.2,baz=210,slow=32						
WRA	**Warramunga Arr**	**30.33**	**21**	P	**P**	**09 05 51.3**	**-2.2**
WRA	**Warramunga Arr**	**30.33**	**21**	P	**P**	**09 05 51.3**	**-2.2**
WRAB	**Tennant Creek**	**30.34**	**21**	*e*P	**P**	**09 05 52.0**	**-1.7**
	comp=Z,11nm,1.1s,mb4.5						
WRAB	**Tennant Creek**	**30.34**	**21**	*e*P	**P**	**09 05 52.0**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.93**	**4**	*e*P	**P**	**09 05 58.8**	**0.0**
	comp=Z,31nm,1.0s,mb5.1						
FITZ	**Fitzroy Crossi**	**30.93**	**4**	P	**P**	**09 05 59.1**	**+0.3**
	comp=Z,37nm,3.2s						
VNDA	**Vanda**	**32.08**	**165**	*e*P	**P**	**09 06 08.7**	**+0.2**
	comp=Z,74nm,1.6s,mb5.3						
VNDA	**Vanda**	**32.08**	**165**	*e*P	**P**	**09 06 08.7**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,74nm,1.6s						
RPZ	**Rata Peaks**	**32.81**	**99**	P	**P**	**09 06 13.7**	**-1.6**
	comp=Z,10nm,0.9s,mb4.7,baz=233,slow=4.8,SNR=4.5						
RPZ				LR	LR	09 16 54.2	
	comp=Z,2μm,21.7s,MS4.7,baz=170,slow=32						
RPZ	**Rata Peaks**	**32.81**	**99**	*e*P	**P**	**09 06 15.4**	**+0.1**
	comp=Z,113nm,1.9s,mb5.5						
SBA	**Scott Base**	**33.12**	**165**	*e*P	**P**	**09 06 18.2**	**+0.6**
	comp=Z,53nm,1.6s,mb5.2						
SBA	**Scott Base**	**33.12**	**165**	*e*P	**P**	**09 06 18.2**	**+0.6**
SBA				pmax	pmax		
	comp=Z,53nm,1.6s,mb5.2						
CTA	**Charters Tower**	**34.18**	**40**	P	**P**	**09 06 26.1**	**-1.2**
	comp=Z,12nm,1.0s,mb4.8,baz=197,slow=7.6,SNR=7.6						
CTA	**Charters Tower**	**34.18**	**40**	*e*P	**P**	**09 06 26.8**	**-0.6**
	comp=Z,11nm,1.2s,mb4.7						
CTA	**Charters Tower**	**34.18**	**40**	P	**P**	**09 06 26.1**	**-1.2**
CTA	**Charters Tower**	**34.18**	**40**	P	**P**	**09 06 26.2**	**-1.2**
CTAO	**Charters Tower**	**34.18**	**40**	*e*P	**P**	**09 06 26.5**	**-0.9**
	comp=Z,23nm,1.6s,mb4.9						
CTAO	**Charters Tower**	**34.18**	**40**	*e*P	**P**	**09 06 26.5**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.9						
CTAO	**Charters Tower**	**34.18**	**40**	P	**P**	**09 06 26.9**	**-0.5**
MAW	**Mawson**	**34.98**	**216**	P	**P**	**09 06 33.4**	**-0.4**
	comp=Z,23nm,1.1s,mb5.0,baz=89,slow=12,SNR=19						
MAW	**Mawson**	**34.98**	**216**	*e*P	**P**	**09 06 33.7**	**-0.1**
	comp=Z,16nm,1.1s,mb4.9						
MAW	**Mawson**	**34.98**	**216**	*e*P	**P**	**09 06 33.4**	**-0.4**
	comp=Z,8.0nm,1.2s,mb4.5						
MAW	**Mawson**	**34.98**	**216**	*e*P	**P**	**09 06 33.4**	**-0.4**
MAW				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KHZ	**Kahutara**	**35.03**	**98**	*e*P	**P**	**09 06 35.2**	**+0.7**
	comp=Z,242nm,2.0s,mb5.8						
URZ	**Urewera**	**39.51**	**95**	P	**P**	**09 07 12.1**	**-0.5**
	comp=Z,13nm,0.7s,mb4.8,baz=246,slow=6.5,SNR=7.3						
URZ	**Urewera**	**39.51**	**95**	P	**P**	**09 07 12.1**	**-0.5**
MMRI	**Maumere**	**40.30**	**358**	P	**P**	**09 07 19.4**	**+0.1**
	comp=Z,83nm,2.1s,mb5.1						
BMNI	**Bima**	**40.58**	**353**	P	**P**	**09 07 22.8**	**+1.2**
	comp=Z,4μmcomp=Z,111nm,1.5s,mb5.3						
QSPA	**South Pole Qui**	**41.07**	**180**	P	**P**	**09 07 24.8**	**-0.2**
	comp=Z,35nm,1.1s,mb4.9,baz=330,slow=4.9,SNR=39						
QSPA	**South Pole Qui**	**41.07**	**180**	P	**P**	**09 07 24.8**	**-0.2**
SJI	**Sawahan**	**42.35**	**343**	P	**P**	**09 07 37.2**	**+1.1**
	comp=Z,88nm,1.1s,mb5.3						
SYO	**Syowa Base**	**43.30**	**211**	‖*e*P	**P**	**09 07 41.4**	**-1.9**
BKSI	**Bulukumba**	**43.67**	**355**	P	**P**	**09 07 47.2**	**+0.4**
	comp=Z,36nm,1.6s,mb4.9						
KAPI	**Kappang**	**44.00**	**355**	P	**P**	**09 07 48.6**	**-0.9**
	comp=Z,14nm,0.7s,mb4.8,baz=182,slow=9.7,SNR=5.4						
KAPI	**Kappang**	**44.00**	**355**	*e*P	**P**	**09 07 49.5**	**0.0**
	comp=Z,185nm,1.8s,mb5.5						
PMG	**Port Moresby**	**44.22**	**35**	*e*P	**P**	**09 07 50.9**	**-0.3**
	comp=Z,41nm,0.9s,mb5.2						
PMG	**Port Moresby**	**44.22**	**35**	‖*e*P	**P**	**09 07 51.7**	**+0.5**
PMG				pmax	pmax		
	comp=Z,53nm,1.1s						
PMG	**Port Moresby**	**44.22**	**35**	P	**P**	**09 07 51.6**	**+0.4**
	comp=Z,50nm,1.0s,mb5.2						
SPSI	**Sidrap Palu**	**45.04**	**355**	P	**P**	**09 07 59.2**	**+1.4**
	comp=Z,104nm,1.5s,mb5.4						
NLAI	**Namlea**	**45.75**	**5**	P	**P**	**09 08 03.6**	**+0.2**
	comp=Z,28nm,1.3s,mb5.0						
BBKI	**Banjar Baru**	**46.02**	**348**	P	**P**	**09 08 06.5**	**+1.0**
	comp=Z,95nm,1.9s,mb5.4						
KSI	**Kapahiang**	**48.62**	**332**	P	**P**	**09 08 27.3**	**+1.5**
	comp=Z,127nm,1.6s,mb5.7						
KSM	**Kuching**	**51.60**	**343**	*e*P	**P**	**09 08 48.4**	**0.0**
	comp=Z,32nm,0.9s,mb5.2						
KSM	**Kuching**	**51.60**	**343**	P	**P**	**09 08 49.1**	**+0.7**
	comp=Z,45nm,1.2s,mb5.3						
SBUM	**Sibu**	**52.22**	**346**	P	**P**	**09 08 53.9**	**+0.9**
	comp=Z,38nm,1.5s,mb5.1						
MSVF	**Nonsavu**	**53.74**	**74**	*e*P	**P**	**09 09 04.8**	**+0.5**
	comp=Z,65nm,1.3s,mb5.4						
MSVF	**Nonsavu**	**53.74**	**74**	*e*P	**P**	**09 09 04.8**	**+0.5**
MSVF				pmax	pmax		
	comp=Z,65nm,1.3s,mb5.4						
SNAA	**Sanae**	**53.76**	**198**	*e*	**P**	**09 09 04.0**	**+0.3**
SNAA				*e*		09 09 10.5	
SNAA	**Sanae**	**53.76**	**198**	P	**P**	**09 09 03.5**	**-0.3**
	comp=Z,20nm,1.0s,mb5.0,baz=138,slow=8.9,SNR=61						
SNAA	**Sanae**	**53.76**	**198**	*e*P	**P**	**09 09 04.1**	**+0.4**
	comp=Z,181nm,1.5s,mb5.8						
SNAA	**Sanae**	**53.76**	**198**	*e*P	**P**	**09 09 04.1**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,181nm,1.5s						
VNA2	**Neumayer--Watz**	**55.27**	**198**	*e*	**P**	**09 09 15.2**	**+0.5**
	baz=143,slow=7.5						
VNA2				*e*		09 09 21.5	
VNA3	**Neumayer Olymp**	**55.45**	**197**	*e*	**P**	**09 09 16.0**	**0.0**
VNA3				*e*		09 09 22.6	
VNA1	**Neumayer--Stat**	**55.66**	**198**	*e*	**P**	**09 09 18.5**	**+1.0**
VNA1				*e*		09 09 27.7	
IPM	**Ipoh**	**56.79**	**333**	*e*P	**P**	**09 09 26.2**	**0.0**
	comp=Z,71nm,1.4s,mb5.5						
KULM	**Kulim**	**57.67**	**333**	*e*P	**P**	**09 09 32.1**	**-0.3**
	comp=Z,159nm,1.6s,mb5.8						
ABPO	**Ambohimpanom**	**66.93**	**267**	*e*P	**P**	**09 10 35.1**	**+0.6**
	comp=Z,52nm,1.6s,mb5.3						
ABPO	**Ambohimpanom**	**66.93**	**267**	*e*P	**P**	**09 10 35.1**	**+0.6**
ABPO				pmax	pmax		
	comp=Z,52nm,1.6s,mb5.3						
NST	**Nakhon Sawan**	**67.69**	**336**	P	**P**	**09 10 39.7**	**+0.5**
QIZ	**Qiongzhong**	**68.86**	**346**	P	**P**	**09 10 47.8**	**+1.3**
QIZ				S	S	09 19 57.8	+7.5
QIZ				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.0						
CMAR	**Chiang Mai Arr**	**70.67**	**335**	P	**P**	**09 10 57.5**	**-0.1**
	comp=Z,14nm,0.9s,mb4.9,baz=187,slow=5.6,SNR=58						
CMAR	**Chiang Mai Arr**	**70.67**	**335**	P	**P**	**09 10 57.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**70.67**	**335**	P	**P**	**09 10 57.6**	**0.0**
CHG	**Chiang Mai**	**71.00**	**335**	‖P	**P**	**09 10 59.7**	**0.0**
	comp=Z,10.0nm,1.2s,mb4.6						
CHTO	**Chiang Mai**	**71.00**	**335**	*e*P	**P**	**09 10 59.7**	**0.0**
	comp=Z,

comp=Z,62nm,1.0s,mb5.7
KOLN Koldanda 84.36 325 *e*P **P 09 12 13.0 -1.0**
comp=Z,62nm,1.0s,mb5.7
DANN Dangsing 84.82 326 *e*P **P 09 12 15.6 -0.7**
comp=Z,143nm,0.9s,mb6.1
DANN Dangsing 84.82 326 *e*P **P 09 12 15.6 -0.7**
comp=Z,143nm,0.9s,mb6.1
TSUM Tsumeb 85.64 246 *e*P **P 09 12 21.9 +1.1**
comp=Z,28nm,1.5s,mb5.3
KSAR Wonju Array Be 86.21 4 P **P 09 12 23.7 +0.7**
KSAR Wonju Array Be 86.21 4 P **P 09 12 23.7 +0.7**
KSRS Korea Array 86.22 4 P **P 09 12 23.7 +0.6**
comp=Z,7.7nm,1.1s,mb4.9,baz=174,slow=4.6,SNR=10
MAJO Matsushiro 86.22 12 *e*P **P 09 12 23.1 0.0**
comp=Z,50nm,1.2s,mb5.6
MAJO Matsushiro 86.22 12 *e*P **P 09 12 23.1 0.0**
MAJO pmax pmax
comp=Z,50nm,1.2s,mb5.6
MAT Matsushiro 86.22 12 P **P 09 12 23.1 0.0**
MJAR Matsushiro Arr 86.22 12 P **P 09 12 22.5 -0.6**
comp=Z,14nm,0.9s,mb5.2,baz=192,slow=7.3,SNR=30
MJAR Matsushiro Arr 86.22 12 P **P 09 12 22.5 -0.6**
MJAR Matsushiro Arr 86.22 12 P **P 09 12 22.5 -0.6**
LZH Lanzhou 86.55 344 *e*P **P 09 12 25.8 +1.1**
LZH pP pP 09 12 31.1 +3.1
LZH sP sP 09 12 34.0 +4.8
LZH SKS 09 22 47.1
LZH *e*S S 09 23 01.3 +0.4
LZH sS sS 09 23 08.0 +1.6
LZH pmax pmax
comp=Z,55nm,1.2s,mb5.7
LZH pmax pmax
comp=Z,610nm,6.0s
LZH LR LR
comp=N,590nm,13.1s,MS5.4
LZH LR LR
comp=E,660nm,12.4s,MS5.4
LZH LR LR
comp=Z,2μm,20.9s
LZH Lanzhou 86.55 344 *e*P **P 09 12 25.8 +1.1**
comp=Z,55nm,1.2s,mb5.7
LZH pP pP 09 12 31.1 +3.1
LZH sP sP 09 12 34.0 +4.8
LZH SKS 09 22 47.1
LZH *e*S S 09 23 01.2 +0.3
LZH sS sS 09 23 08.0 +1.6
LZH LR LR
comp=Z,2μm,20.9s,MS5.4
LZH Lanzhou 86.55 344 *e*P **P 09 12 25.8 +1.1**
LZH *PP pP 09 12 31.1 +3.1
LZH 09 22 47.1
LZH *e*S S 09 23 01.2 +0.3
LZH pmax pmax
comp=Z,55nm,1.2s,mb5.7
LZH MLR MLR
comp=Z,2μm,20.9s,MS5.4
KMBO Kilima Mbogo 86.67 272 *e*P **P 09 12 26.7 +0.7**
comp=Z,53nm,2.6s,mb5.3
KMBO Kilima Mbogo 86.67 272 *e*P **P 09 12 26.7 +0.7**
KMBO pmax pmax
comp=Z,53nm,2.6s
DL2 Dalian 87.60 359 P **P 09 12 30.1 +0.4**
DL2 S S 09 23 14.8 +3.9
DL2 pmax pmax
comp=Z,20nm,1.3s,mb5.2
DL2 pmax pmax
comp=Z,310nm,4.1s
DL2 LR LR
comp=N,410nm,16.6s,MS5.0
DL2 LR LR
comp=E,240nm,16.9s,MS5.0
DL2 LR LR
comp=Z,490nm,17.7s,MS5.0
NDI New Delhi 87.70 321 *ex* x 09 12 26.5
BJI Beijing 88.95 354 P **P 09 12 36.8 +0.7**
BJI pmax pmax
comp=Z,26nm,1.8s,mb5.3
BJI LR LR
comp=N,2μm,20.0s,MS5.5
BJI LR LR
comp=E,1μm,19.7s,MS5.5
BJI LR LR
comp=Z,2μm,21.8s,MS5.5
PLCA Paso Flores 89.74 169 P **P 09 12 39.8 -0.5**
comp=Z,7.3nm,1.1s,mb4.9,baz=190,slow=6.5,SNR=12
PLCA Paso Flores 89.74 169 *e*P **P 09 12 40.0 -0.2**
comp=Z,40nm,1.5s,mb5.5
PLCA Paso Flores 89.74 169 *e*P **P 09 12 40.0 -0.2**
PLCA pmax pmax
comp=Z,40nm,1.5s
HHC Hu-ho-hao-te 90.14 351 *e*P **P 09 12 43.0 +1.4**
HHC sP sP 09 12 49.8 +3.6
HHC PP PP 09 16 19.1 +3.3
HHC SKS 09 23 12.0
HHC S S 09 23 35.6 +0.9
HHC SS SS 09 29 39.3 +4.6
HHC pmax pmax
comp=Z,28nm,1.3s,mb5.4
HHC pmax pmax
comp=Z,360nm,4.2s
HHC LR LR
comp=N,2μm,25.0s,MS5.5
HHC LR LR
comp=E,810nm,21.4s,MS5.5
HHC LR LR
comp=Z,3μm,27.4s
GTA Gaotai 90.54 342 ⇑P **P 09 12 44.0 +0.4**
GTA pP pP 09 12 49.8 +2.9
GTA sP sP 09 12 52.9 +4.8
GTA pmax pmax
comp=Z,14nm,1.8s,mb5.0
CN2 Changchun 92.49 1 *e*P **P 09 12 53.3 +0.8**
CN2 *es*P sP 09 13 00.1 +3.1
CN2 PP PP 09 16 38.8 +4.5
CN2 *e*S S 09 23 54.4 -1.5
CN2 SS SS 09 30 13.3 +4.8
CN2 pmax pmax
comp=Z,20nm,1.1s,mb5.4
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,900nm,16.0s,MS5.5
CN2 LR LR
comp=E,1μm,16.0s,MS5.5
CN2 LR LR
comp=Z,900nm,19.0s,MS5.2
ATD Arta Tunnel 92.55 285 LR LR 09 46 16.5
comp=Z,738nm,19.0s,MS5.2,baz=160,slow=30
TRQA Tornquist 93.13 176 *e*P **P 09 12 54.9 -1.1**
comp=Z,7.9nm,1.4s,mb5.0
MDJ Mudanjiang 93.44 4 P **P 09 12 56.9 +0.1**
MDJ pP pP 09 13 00.4 +0.2
MDJ sP sP 09 13 01.5 +0.1
MDJ PP PP 09 16 40.0 -1.8
MDJ S S 09 24 04.1 -0.2
MDJ ScS ScS 09 24 05.9 0.0
MDJ sS sS 09 24 10.1 +0.2
MDJ pmax pmax
comp=Z,11nm,1.4s,mb5.1
MDJ pmax pmax
comp=Z,91nm,4.6s
MDJ LR LR
comp=N,1μm,38.0s
MDJ LR LR
comp=E,1μm,31.7s
MDJ LR LR
comp=Z,2μm,46.0s
KBL Kabul 96.27 318 *e*P **P 09 13 10.1 0.0**
comp=Z,30nm,1.6s,mb5.5
KBL Kabul 96.27 318 *e*P **P 09 13 10.1 0.0**
KBL pmax pmax
comp=Z,30nm,1.6s,mb5.5
ULN Ulaanbaatar 97.58 349 *e*P **P 09 13 15.7 0.0**
comp=Z,31nm,1.9s,mb5.5
ULN Ulaanbaatar 97.58 349 *e*P **P 09 13 15.7 0.0**
ULN pmax pmax
comp=Z,31nm,1.9s,mb5.5
SONM Songino Array 97.63 348 P **P 09 13 15.7 -0.2**
comp=Z,3.0nm,1.0s,mb4.8,baz=162,slow=3.8,SNR=14
SONM Songino Array 97.63 348 P **P 09 13 15.7 -0.2**
SONM Songino Array 97.63 348 P **P 09 13 15.7 -0.2**
HABR Khabarovsk 97.66 8 *e*P **P 09 13 20.3 +4.3**
HABR *e* 09 17 13.2
HABR *e*S S 09 23 53.0 -48
HABR *e* 09 24 41.1
HABR *e*PS PS 09 26 05.3 +0.1
HABR *e*SS SS 09 31 22.9 +0.9
HABR *e*SSS 09 35 09.0
HABR pmax pmax
comp=N,63nm,3.2s
HABR pmax pmax
comp=E,74nm,2.7s
HABR pmax pmax
comp=Z,103nm,2.7s,mb5.9
HABR MLR MLR
comp=Z,453nm,17.0s,MS5.0
WMQ Urumqi 97.66 335 P **P 09 13 15.9 -0.2**
WMQ pP pP 09 13 20.8 +1.3
WMQ sP sP 09 13 22.9 +2.2
WMQ PP PP 09 17 16.3 +1.7
WMQ S S 09 24 37.0 -4.0
WMQ pmax pmax
comp=Z,9.0nm,0.6s,mb5.5
WMQ pmax pmax
comp=Z,290nm,8.0s
WMQ LR LR
comp=N,2μm,23.8s,MS5.7
WMQ LR LR
comp=E,2μm,20.0s,MS5.7
WMQ LR LR
comp=Z,2μm,30.0s
KSH Kashi 97.67 325 *e*P **P 09 13 12.8 -3.5**
KSH SKS 09 23 46.9
KSH S S 09 24 28.3 -13
KSH pmax pmax
comp=Z,7.0nm,1.4s,mb5.0
KSH pmax pmax
comp=Z,210nm,5.7s
KSH LR LR
comp=N,210nm,7.6s
KSH LR LR
comp=E,290nm,8.3s
KSH LR LR
comp=Z,3μm,26.2s,MS5.6
KURK Kurchatov 106.55 332 Pdiff Pdif 09 13 49.4 -7.1
comp=Z,0.6nm,0.3s,baz=134,slow=2.7,SNR=3.7
KURK Kurchatov 106.55 332 Pdif Pdif 09 13 49.4 -7.0
KURK Kurchatov 106.55 332 P Pdif 09 13 49.4 -7.0
ZALV Zalesovo Beam 107.69 337 PP PP 09 18 29.7 +0.1
comp=Z,0.9nm,0.7s,baz=150,slow=3.3,SNR=6.4
ZALV Zalesovo Beam 107.69 337 PP PP 09 18 29.7 +0.1
KIV Kislovodsk 116.41 307 *i* PKIKP PKPdf 09 18 25.3 +0.3
KIV pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 118.12 325 *i* PKIKP PKPdf 09 18 28.1 +0.2
ARU 09 19 45.5
ARU 09 25 22.1
ARU SS SS 09 36 00.0 +1.4
TORD Torodi Ar. Bea 120.51 254 PKP PKPdf 09 18 31.5 -2.4
comp=Z,2.4nm,1.0s,baz=116,slow=1.3,SNR=7.0
TORD Torodi Ar. Bea 120.51 254 PKP PKPdf 09 18 31.5 -2.4
SOKR Solikamsk 121.05 327 *e*PKIKP PKPdf 09 18 39.5 +6.1
SOKR pmax pmax
comp=Z,9.0nm,0.5s
BILL Bilibino 121.08 17 *i* PKIKP PKPdf 09 18 34.5 +1.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,1μm,17.0s,MS5.5
SAML Samuel 121.95 172 *e*PKPdf PKPdf 09 18 36.3 -0.4
OBN Obninsk 126.58 314 *i* PKIKP PKPdf 09 18 44.9 +0.7
OBN pmax pmax
comp=Z,14nm,1.5s
KLMR Klimovskoe 128.52 322 *e*PKIKP PKPdf 09 18 43.8 -3.9
KLMR pmax pmax
comp=Z,30nm,1.6s
TRF Thorofare Moun 130.80 36 *e*PKPdf PKPdf 09 18 51.8 -0.2
MCK McKinley 131.47 36 *e*PKPdf PKPdf 09 18 53.4 +0.2
MCK McKinley 131.47 36 *e*PKIKP PKPdf 09 18 53.4 +0.2
ILAR Eielson Array 132.74 36 PKP PKPdf 09 18 53.8 -1.8
comp=Z,0.4nm,0.6s,baz=251,slow=2.8,SNR=6.3
ILAR Eielson Array 132.74 36 PKP PKPdf 09 18 53.9 -1.8
ILAR Eielson Array 132.74 36 PKIKP PKPdf 09 18 53.9 -1.7
NVAR Mina Array Bea 135.28 80 PKP PKPdf 09 19 01.9 +0.6
comp=Z,1.0nm,0.3s,baz=207,slow=3.7,SNR=4.7
NVAR Mina Array Bea 135.28 80 PKP PKPdf 09 19 01.9 +0.6
GERES GERESS Array B 135.43 298 PKP PKPdf 09 19 01.8 +0.7
comp=Z,1.1nm,0.8s,baz=135,slow=0.1,SNR=6.7
GERES GERESS Array B 135.43 298 PKP PKPdf 09 19 01.8 +0.7
GERES GERESS Array B 135.43 298 PKIKP PKPdf 09 19 01.8 +0.6
TXAR Lajitas Array 139.27 101 PKHKP PKPpre 09 18 60.0
comp=Z,0.8nm,0.8s,baz=270,slow=0.5,SNR=8.2
TXAR Lajitas Array 139.27 101 PKPpre PKPpre 09 18 60.0
TXAR Lajitas Array 139.27 101 PKHKP PKPpre 09 19 00.0
MSU Marysvale 139.31 83 *e*PKPdf PKPdf 09 19 10.4 +1.8
MSU Marysvale 139.31 83 *e*PKIKP PKPdf 09 19 10.5 +1.8
LAZ Ladron 140.24 92 *e*PKPdf PKPdf 09 19 11.1 +0.6
BNM Barren Site 140.42 93 *e*PKPdf PKPdf 09 19 11.7 +0.8
CPRX Cap Rock 141.54 97 *e*PKPdf PKPdf 09 19 12.8 -0.1
ESDC Sonseca Array 141.96 276 PKP PKPdf 09 19 13.7 +0.2
comp=Z,0.1nm,0.3s,baz=101,slow=1.3,SNR=5.8
ESDC Sonseca Array 141.96 276 PKP PKPdf 09 19 13.7 +0.2
JCT Junction City 142.52 103 *e*PKPdf PKPdf 09 19 10.8 -4.0
JCT Junction City 142.52 103 *e*PKIKP PKPdf 09 19 10.8 -3.9
LRM Limekiln Ridge 142.76 73 *e*PKPdf PKPdf 09 19 11.2 -3.4
PD01 Pinedale Array 143.20 79 *e*PKPdf PKPdf 09 19 12.6 -2.9
PD02 Pinedale Array 143.21 79 *e*PKPdf PKPdf 09 19 12.7 -2.8
PDAR Pinedale Array 143.21 79 PKhKP PKPpre 09 19 11.8
comp=Z,1.3nm,1.0s,baz=241,slow=1.9,SNR=9.1
PDAR Pinedale Array 143.21 79 PKPpre PKPpre 09 19 11.8
ISCO Idaho Springs 144.30 86 *e*PKPdf PKPdf 09 19 16.7 -0.8
ISCO Idaho Springs 144.30 86 *e*PKIKP PKPdf 09 19 16.7 -0.9
RLMT Red Lodge 144.48 76 *e*PKPdf PKPdf 09 19 16.5 -1.1
GCMT Greycliff 144.51 75 *e*PKPdf PKPdf 09 19 17.1 -0.7
HKT Hockley 144.68 108 *e*PKPdf PKPdf 09 19 17.4 -1.2
HKT Hockley 144.68 108 *e*PKIKP PKPdf 09 19 17.4 -1.1
PHWY Pilot Hill 145.17 84 *e*PKPdf PKPdf 09 19 18.6 -0.4
EGMT Eagleton 145.34 71 *e*PKPdf PKPdf 09 19 19.6 +0.6
WMOK Wichita Mounta 145.92 99 *e*PKPdf PKPdf 09 19 20.5 0.0
WMOK Wichita Mounta 145.92 99 *e*PKP2 PKPdf 09 19 20.5 0.0
YKA Yellowknife Ar 145.95 45 PKPbc PKPbc 09 19 20.0 -0.4
comp=Z,8.0nm,0.8s,baz=271,slow=2.8,SNR=68
YKA Yellowknife Ar 145.95 45 PKPbc PKPbc 09 19 20.1 -0.4
YKA Yellowknife Ar 145.95 45 PKP2 PKPab 09 19 20.1 -0.9
RFTA Plano 146.18 103 *e*PKPdf PKPdf 09 19 21.6 +0.5
NATX Nacogdoches 146.64 107 *e*PKPbc PKPbc 09 19 23.9 +0.4
LAO LASA Array 147.06 75 *e*PKPbc PKPbc 09 19 25.1 +0.9
RSSD Black Hills 147.41 80 *e*PKPdf PKPdf 09 19 22.1 -0.6
RSSD *e*PKPbc PKPbc 09 19 25.5 +0.3
RSSD Black Hills 147.41 80 *e*PKIKP PKPdf 09 19 22.1 -0.6
RSSD *e* 09 19 25.5
CBKS Cedar Bluff 147.64 92 *e*PKPdf PKPdf 09 19 24.1 +0.9
CBKS Cedar Bluff 147.64 92 *e*PKP2 PKPdf 09 19 24.2 +0.9
SDDR Presa de Saban 147.72 153 *e*PKPdf PKPbc 09 19 26.1 -0.7
LRS Lares 148.20 161 *e*PKPdf PKPdf 09 19 24.0 -0.8
DGMT Dagmar 148.98 73 *e*PKPdf PKPdf 09 19 25.0 -0.2
DGMT *e*PKPbc PKPbc 09 19 29.5 +0.3
VBMS Vicksburg 149.53 111 *e*PKPbc PKPbc 09 19 31.4 +0.2
RES Resolute Bay 149.67 19 *e*PKPdf PKPdf 09 19 24.0 -1.5
RES *e*PKPbc PKPbc 09 19 29.7 -0.5
RES Resolute Bay 149.67 19 *e*PKIKP PKPdf 09 19 24.0 -1.5
RES *e* 09 19 29.7
KSU1 Kansas State U 149.85 94 *e*PKPbc PKPbc 09 19 31.9 +0.3
UALR University of 150.08 105 *e*PKPbc PKPbc 09 19 32.3 0.0
HBAR Harrisburg 151.64 106 *e*PKPbc PKPbc 09 19 35.4 -0.6
FFC Flin Flon 151.78 61 *e*PKPbc PKPbc 09 19 34.6 -1.1
FFC Flin Flon 151.78 61 *e*PKIKP PKPbc 09 19 34.6 -1.1
ECSD EROS Data Cent 152.09 86 *e*PKPdf PKPdf 09 19 28.9 -1.2
ECSD *e*PKPbc PKPbc 09 19 35.8 -1.0
LRAL Lakeview Retre 152.24 114 *e*PKPbc PKPbc 09 19 36.6 -0.8
CCM Cathedral Cave 152.77 101 *e*PKPbc PKPbc 09 19 37.4 -1.1
CCM Cathedral Cave 152.77 101 *e*PKIKP PKPbc 09 19 37.4 -1.1
PLAL Pickwick Lake 152.90 109 *e*PKPbc PKPbc 09 19 36.8 -2.1
WCI Wyandotte Cave 156.04 106 *e*PKPdf PKPdf 09 19 35.5 -0.4
WCI Wyandotte Cave 156.04 106 *e*PKIKP PKPdf 09 19 35.5 -0.4

NEIC ***13*** *09:07:10.5, 18°.38N×102°.07W, h20km, MD3.7(MEX), After MEX.*

MEX 13 09:07:10.3±0.9, 18°.39N×102°.07W, h23km±34km, MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.96**	**143**	*i* P		Pb	09 07 24.8	-3.5
ZIIG				*i* S		Sb	09 07 37.9	-2.8
ZIIG	**Zihuatanejo**	**0.96**	**143**	*i* P		Pb	09 07 24.8	-3.5
ZIIG				*i* S		Sb	09 07 37.9	-2.8
MMIG	**Aquila**	**1.22**	**266**	*e*P		Pn	09 07 28.4	-3.5
MMIG				*i* S		Sn	09 07 44.1	-3.6
MOIG	**Morelia**	**1.53**	**33**	*i* P		Pn	09 07 33.3	-2.9
MOIG				*i* S		Sn	09 07 52.1	-3.3
MOIG	**Morelia**	**1.53**	**33**	*i* P		Pn	09 07 33.3	-2.9
MOIG				*i* S		Sn	09 07 52.1	-3.3
EZ5V		**1.81**	**307**	*e*P		Pn	09 07 38.3	-1.8
EZ5V				*i* S		Sn	09 07 59.8	-2.6
R15V		**1.98**	**294**	*i* P		Pn	09 07 40.5	-1.8
R15V				*i* S		Sn	09 08 03.1	-3.3
CAIG	**El Cayaco**	**2.17**	**128**	*e*P		Pn	09 07 44.1	-1.0
CAIG				*i* S		Sn	09 08 07.7	-3.5
CAIG	**El Cayaco**	**2.17**	**128**	*e*P		Pn	09 07 44.1	-1.0
CAIG				*i* S		Sn	09 08 07.7	-3.5
ACX	**Acapulco**	**2.59**	**125**	*i* P		Pn	09 07 48.2	-2.6
ACX				*i* S		Sn	09 08 17.2	-4.4
ACX	**Acapulco**	**2.59**	**125**	*i* P		Pn	09 07 48.2	-2.6
ACX				*i* S		Sn	09 08 17.2	-4.4
PPM	**Popocatepetl**	**3.33**	**78**	*i* P		Pn	09 07 58.8	-2.2
PPM				*i* S		Sn	09 08 38.1	-1.8
PPM	**Popocatepetl**	**3.33**	**78**	*i* P		Pn	09 07 58.8	-2.2
PPM				*i* S		Sn	09 08 38.1	-1.8
UTMO	**Huajuapan**	**4.09**	**97**	*i* P		Pn	09 08 09.8	-1.7
UTMO				*e*S		Sn	09 08 56.5	-2.2
UTMO	**Huajuapan**	**4.09**	**97**	*i* P		Pn	09 08 09.8	-1.7
UTMO				*e*S		Sn	09 08 56.5	-2.2

ISCJB ***13*** *09:28:01.2±0.9, 16°.4S±0°.2×176°.1W±0°.2, h361km±13km, mb3.6/9, Error ellipse: s-maj=37.9km s-min=13.8km az=145.2*

IDC ***13*** *09:28:01.3±1.4, 16°.39S×176°.09W, h350km±17km, mb3.3/7, mb1 3.6/8, mb1mx3.4/18, mbtmp3.4/8, Error ellipse: s-maj=31.2km s-min=13.6km az=136.0*

NEIC ***13*** *09:28:03.2±0.9, 16°.44S×176°.00W, h376km±9km, mb3.9/4, Error ellipse: s-maj=29.4km s-min=10.7km az=148.0*

ISC 13 09:28:02.4±0.8, 16°.5S±0°.2×175°.9W±0°.1, h365km±10km, n25, σ1º01/23, mb3.6/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.75**	**58**	P		**Pn**	**09 29 20.7**	**+0.6**
	14nm,0.3s,baz=178,slow=18,SNR=25							
AFI				S		**S**	**09 30 21.7**	**-1.3**
	2.8nm,0.3s,baz=350,slow=18,SNR=2.8							
AFI	**Afiamalu**	**4.75**	**58**	P		**Pn**	**09 29 20.7**	**+0.6**
AFI				S		**S**	**09 30 21.7**	**-1.3**
MSVF	**Nonsavu**	**5.88**	**257**	*e*Pn		**Pn**	**09 29 34.8**	**+2.4**
	33nm,0.8s							
DZM	**Mont Dzumac**	**17.54**	**249**	*e*P		**P**	**09 31 43.6**	**-0.1**
	2.1nm,0.7s							
URZ	**Urewera**	**22.56**	**194**	P		**P**	**09 32 32.2**	**-0.2**
	3.7nm,0.3s,mb4.1,baz=253,slow=3.5,SNR=16							
URZ	**Urewera**	**22.56**	**194**	*e*P		**P**	**09 32 32.4**	**0.0**
ARMA	**Armidale**	**32.70**	**239**	*e*P		**P**	**09 34 02.1**	**0.0**
	23nm,1.3s,mb4.2							
STKA	**Stephens Creek**	**41.39**	**240**	P		**P**	**09 35 14.6**	**+0.1**
	0.9nm,0.3s,mb3.4,baz=93,slow=9.8,SNR=6.4							
STKA	**Stephens Creek**	**41.39**	**240**	P		**P**	**09 35 14.6**	**+0.1**
WRAB	**Tennant Creek**	**47.22**	**258**	*e*P		**P**	**09 35 59.6**	**-0.7**
	2.6nm,0.9s,mb3.5							
WRA	**Warramunga Arr**	**47.23**	**258**	P		**P**	**09 35 59.3**	**-1.1**
	0.6nm,0.4s,mb3.2,baz=90,slow=7.2,SNR=12							
WRA	**Warramunga Arr**	**47.23**	**258**	P		**P**	**09 35 59.3**	**-1.1**
AS31	**Alice Springs**	**47.46**	**253**	*e*P		**P**	**09 36 01.4**	**-0.7**
ASAR	**Alice Springs**	**47.46**	**253**	P		**P**	**09 36 01.6**	**-0.5**
	4.5nm,0.5s,mb4.0,baz=90,slow=7.8,SNR=128							
ASAR	**Alice Springs**	**47.46**	**253**	P		**P**	**09 36 01.6**	**-0.5**
TXAR	**Lajitas Array**	**83.23**	**57**	P		**P**	**09 39 51.8**	**+2.7**
	0.4nm,0.7s,mb3.3,baz=235,slow=4.3,SNR=5.7							
TXAR	**Lajitas Array**	**83.23**	**57**	P		**P**	**09 39 51.8**	**+2.7**
ILAR	**Eielson Array**	**83.97**	**12**	P		**P**	**09 39 51.8**	**-0.1**
	0.5nm,0.6s,mb3.5,baz=217,slow=5.8,SNR=15							
ILAR	**Eielson Array**	**83.97**	**12**	P		**P**	**09 39 51.8**	**-0.1**
PDAR	**Pinedale Array**	**84.69**	**43**	P		**P**	**09 39 56.7**	**+0.7**
	0.7nm,1.0s,mb3.5,baz=217,slow=2.8,SNR=3.0							
PDAR	**Pinedale Array**	**84.69**	**43**	P		**P**	**09 39 56.7**	**+0.7**
BRTR	**Keskin Array B**	**145.37**	**318**	PKPbc		PKPbc	09 46 57.5	-0.6
	1.1nm,1.1s,baz=357,slow=5.8,SNR=3.9							
BRTR	**Keskin Array B**	**145.37**	**318**	PKPbc		PKPbc	09 46 57.5	-0.6
VRAC	**Vranov**	**145.69**	**345**	PKPbc		PKPbc	09 46 57.6	-1.2
	4.0nm,0.5s,baz=290,slow=23,SNR=5.3							
VRAC	**Vranov**	**145.69**	**345**	PKPbc		PKPbc	09 46 57.6	-1.2

JMA 13 09:42:52.6, 35°.25N×136°.46E, h16km, M2.7, 3C-1D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JEG	**Eigenji**	**0.13**	**206**	⇑P		Pg	09 42 56.4	+0.1
JEG				S		Sg	09 42 59.0	+0.2
JGM	**Miyama**	**0.49**	**25**	⇑P		Pg	09 43 02.5	0.0
JGM				S		Sg	09 43 09.4	+0.2
TSUJ	**Tsu 2**	**0.54**	**184**	⇑P		Pg	09 43 02.9	-0.4
TSUJ				*e*S		Sg	09 43 10.2	-0.3
JWT	**Wachi**	**0.87**	**272**	⇓P		Pb	09 43 08.7	-0.6
JWT				*e*S		Sb	09 43 19.8	-0.8
JHE	**Heguri**	**0.87**	**227**	P		Pb	09 43 08.7	-0.6
JHE				*e*S		Sb	09 43 20.1	-0.6
JIE	**Ise**	**0.88**	**167**	P		Pb	09 43 08.6	-0.9
JIE				*e*S		Sb	09 43 20.3	-0.7
JKN2	**Miekihoku**	**1.02**	**189**	P		Pb	09 43 11.2	-0.7
JKN2				*e*S		Sb	09 43 25.2	+0.2
JKG	**Kaga**	**1.03**	**354**	P		Pb	09 43 12.2	+0.1
JKG				*e*S		Sb	09 43 25.8	+0.5
MAT	**Matsushiro**	**1.92**	**47**	P		Pn	09 43 25.3	+0.7
MAT				S		Sn	09 43 50.8	+2.4

ISCJB ***13*** *09:46:06.4±2.4, 22°.2N±0°.1×143°.6E±0°.3, h146km±21km, mb3.4/6, Error ellipse: s-maj=40.4km s-min=19.6km az=174.3*

IDC ***13*** *09:46:06.7±3.9, 22°.30N×144°.01E, h144km±31km, mb3.1/6, mb1 3.3/7, mb1mx3.1/25, mbtmp3.2/7, MS3.3/1, Ms1 3.3/1, ms1mx2.6/18, Error ellipse: s-maj=121.9km s-min=18.2km az=79.0*

NEIC ***13*** *09:46:07.4±1.8, 22°.20N×143°.58E, h138km±16km, mb3.9/2, Error ellipse: s-maj=28.3km s-min=13.8km az=84.0*

ISC 13 09:46:06.8±2.3, 22°.2N±0°.1×143°.6E±0°.3, h132km±19km, n16, σ0º94/18, mb3.4/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.00**	**345**	P		**Pn**	**09 47 20.6**	**+0.7**
	12nm,0.3s,baz=310,slow=20,SNR=6.7							
CBIJ				S		**Sn**	**09 48 14.2**	**-2.8**
	3.7nm,0.3s,baz=256,slow=19,SNR=3.5							
CBIJ				LR		LR	09 49 16.0	
	comp=Z,285nm,18.6s,baz=121,slow=37							
CBIJ	**Chichi jima**	**5.00**	**345**	P		**Pn**	**09 47 20.6**	**+0.7**
CBIJ				S		**Sn**	**09 48 14.2**	**-2.8**
JOW	**Kunigami**	**14.68**	**291**	*e*Pn		**Pn**	**09 49 28.0**	**0.0**
	14nm,1.0s							
MAJO	**Matsushiro**	**15.00**	**343**	*e*Pn		**Pn**	**09 49 33.5**	**+1.4**
	1.1nm,0.3s							
SONM	**Songino Array**	**39.17**	**320**	P		**P**	**09 53 22.5**	**+0.8**
	0.2nm,0.5s,mb3.0,baz=124,slow=8.9,SNR=2.4							
SONM	**Songino Array**	**39.17**	**320**	P		**P**	**09 53 22.5**	**+0.8**
WRA	**Warramunga Arr**	**42.89**	**193**	P		**P**	**09 53 52.5**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=16,slow=9.1,SNR=6.1							
WRA	**Warramunga Arr**	**42.89**	**193**	P		**P**	**09 53 52.5**	**+0.2**
ASAR	**Alice Springs**	**46.60**	**192**	P		**P**	**09 54 20.9**	**-0.7**
	0.2nm,0.7s,mb2.9,baz=13,slow=12,SNR=4.6							
ASAR	**Alice Springs**	**46.60**	**192**	P		**P**	**09 54 20.9**	**-0.7**
KURK	**Kurchatov**	**57.35**	**317**	P		**P**	**09 55 41.0**	**+0.1**
	0.2nm,0.3s,mb3.4,baz=93,slow=8.1,SNR=7.4							
KURK	**Kurchatov**	**57.35**	**317**	P		**P**	**09 55 41.0**	**+0.1**
BVAR	**Borovoye Array**	**62.52**	**319**	P		**P**	**09 56 16.0**	**-0.3**
	0.7nm,0.3s,mb3.9,baz=82,slow=6.7,SNR=5.2							
BVAR	**Borovoye Array**	**62.52**	**319**	P		**P**	**09 56 16.0**	**-0.3**
FINES	**FINESS Array B**	**82.86**	**335**	P		**P**	**09 58 15.5**	**-0.8**
	2.3nm,1.0s,mb3.9,baz=104,slow=5.9,SNR=3.6							
FINES	**FINESS Array B**	**82.86**	**335**	P		**P**	**09 58 15.5**	**-0.8**

DJA 13 09:51:42, 0°.65N×98°.60E, h7km, MLv3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.99**	**82**	P		Pg	09 51 58.1	-2.9

MNSI				S	Sg	09 52 15.2	+1.3
PPI	**Padang Panjang**	**2.11**	**121**	P	Pn	09 52 18.1	+0.4
PPI				S	Sn	09 52 45.1	+0.9
PSI	**Prapat**	**2.16**	**9**	P	Pn	09 52 18.1	-0.3
PDSI	**Padang**	**2.42**	**130**	P	Pn	09 52 22.1	0.0
PDSI				S	Sn	09 52 53.3	+1.3
BKNI	**Bangkinang**	**2.46**	**97**	P	Pn	09 52 26.0	+3.4
BKNI				S	Sn	09 52 53.5	+0.6
TPTI		**2.96**	**331**	P	Pn	09 52 28.9	-0.5
SDSI	**Sungai Dareh**	**3.24**	**119**	P	Pn	09 52 34.6	+1.4

*IDC **13** 09:56:46.1±7.4, 22°.25S×179°.22W, h522km±81km, mb3.0/3, mb1 3.3/4, mb1mx3.0/16, mbtmp3.0/4, Error ellipse: s-maj=56.7km s-min=37.2km az=2.0*
*ISCJB **13** 09:56:49.7±1.5, 22°.4S±0°.1×179°.3W±0°.2, h584km±15km, mb3.6/5, Error ellipse: s-maj=33.5km s-min=22.7km az=0.7*
*NEIC **13** 09:56:49.9±1.1, 22°.47S×179°.27W, h570km±10km, mb4.0/2, Error ellipse: s-maj=22.4km s-min=14.9km az=118.0*

ISC 13 09:56:49.7±1.6, 22°.4S±0°.2×179°.3W±0°.2, h570km±15km, n18, σ0s36/13, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.32**	**331**	*e*P	**P**	**09 58 24.1**	**+0.6**
	20nm,0.7s						
MSVF				*e*S	**S**	**09 59 39.6**	**-0.4**
URZ	**Urewera**	**16.07**	**190**	P	**P**	**10 00 08.6**	**-0.2**
	0.9nm,0.3s,baz=168,slow=19,SNR=7.6						
URZ	**Urewera**	**16.07**	**190**	P	**P**	**10 00 08.6**	**-0.2**
AS31	**Alice Springs**	**42.96**	**259**	*e*P	**P**	**10 03 59.9**	**+0.3**
ASAR	**Alice Springs**	**42.96**	**259**	P	**P**	**10 04 00.0**	**+0.4**
	0.4nm,0.3s,mb3.5,baz=88,slow=7.7,SNR=16						
ASAR				PcP	PcP	10 05 38.2	+1.2
	0.4nm,0.6s,baz=110,slow=3.4,SNR=4.1						
ASAR	**Alice Springs**	**42.96**	**259**	P	**P**	**10 04 00.0**	**+0.4**
ASAR				PcP	PcP	10 05 38.2	+1.2
WRAB	**Tennant Creek**	**43.20**	**264**	*e*P	**P**	**10 04 01.1**	**-0.4**
	7.4nm,1.5s,mb4.0						
WRA	**Warramunga Arr**	**43.21**	**264**	P	**P**	**10 04 01.1**	**-0.4**
	0.8nm,0.3s,mb3.7,baz=96,slow=8.2,SNR=48						
WRA	**Warramunga Arr**	**43.21**	**264**	P	**P**	**10 04 01.1**	**-0.4**
MBWA	**Marble Bar**	**56.31**	**259**	*e*P	**P**	**10 05 37.6**	**+0.2**
	2.8nm,0.4s,mb3.9						
ILAR	**Eielson Array**	**90.46**	**13**	P	**P**	**10 08 50.4**	**-0.1**
	0.2nm,0.6s,mb3.1,baz=216,slow=5.6,SNR=5.1						
ILAR	**Eielson Array**	**90.46**	**13**	P	**P**	**10 08 50.4**	**-0.1**
AKASG	**Malin Array Be**	**144.10**	**329**	PKP	PKPdf	10 15 20.1	-0.7
	1.2nm,0.3s,baz=43,slow=4.2,SNR=8.1						
AKASG	**Malin Array Be**	**144.10**	**329**	PKP	PKPdf	10 15 20.1	-0.7
BRTR	**Keskin Array B**	**147.21**	**309**	PKPbc	PKPbc	10 15 30.4	+0.7
	0.6nm,0.6s,baz=155,slow=6.8,SNR=4.1						
BRTR	**Keskin Array B**	**147.21**	**309**	PKPbc	PKPbc	10 15 30.4	+0.7
GERES	**GERESS Array B**	**151.71**	**342**	PKPbc	PKPbc	10 15 41.1	+1.0
	0.4nm,0.4s,baz=45,slow=0.6,SNR=6.0						
GERES	**GERESS Array B**	**151.71**	**342**	PKPbc	PKPbc	10 15 41.1	+1.0

NNC 13 10:08:59.0±0.6, 42°.64N×70°.56E, h0km, mb3.5, mpv2.6, 15C-7D, Error ellipse: s-maj=8.4km s-min=2.7km az=75.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK07	**Karatay Array**	**0.45**	**355**	⇑P	Pg	10 09 08.2	+0.5
KK07				⇑S	Sg	10 09 14.6	+1.0
KK06	**Karatay Array**	**0.46**	**357**	⇑P	Pg	10 09 08.1	+0.3
KK06				⇓S	Sg	10 09 14.4	+0.6
KK02	**Karatay Array**	**0.47**	**356**	⇑P	Pg	10 09 08.3	+0.3
KK02				⇑S	Sg	10 09 14.7	+0.7
KK03	**Karatay Array**	**0.47**	**355**	⇑P	Pg	10 09 08.4	+0.4
KK03				⇑S	Sg	10 09 14.9	+0.9
KK31	**Karatay Array**	**0.47**	**356**	⇑P	Pg	10 09 08.3	+0.4
	1.7nm,0.2s,baz=142,slow=18,SNR=112						
KK31				⇓S	Sg	10 09 14.8	+0.8
	14nm,0.3s,baz=143,slow=30,SNR=39						
KK01	**Karatay Array**	**0.47**	**355**	⇑P	Pg	10 09 08.3	+0.3
KK01				⇑S	Sg	10 09 14.7	+0.6
KK08	**Karatay Array**	**0.47**	**354**	⇑P	Pg	10 09 08.5	+0.5
KK08				⇓S	Sg	10 09 15.1	+0.9
KK04	**Karatay Array**	**0.47**	**355**	⇑P	Pg	10 09 08.4	+0.3
KK04				⇓S	Sg	10 09 15.0	+0.8
KK05	**Karatay Array**	**0.48**	**357**	⇓P	Pg	10 09 08.4	+0.2
KK05				⇑S	Sg	10 09 14.9	+0.4
KK09	**Karatay Array**	**0.49**	**355**	⇑P	Pg	10 09 08.7	+0.3
KK09				⇑S	Sg	10 09 15.4	+0.7
TKM2	**Tokmak 2**	**3.72**	**84**	⇓Pn	Pn	10 09 55.2	-2.4
	2.7nm,0.5s						
TKM2				⇓Sn	Sn	10 10 45.0	+2.9
	4.7nm,0.7s						

IDC 13 10:12:51.2±3.4, 21°.20S×175°.46W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.9/17, mbtmp3.8/4, Error ellipse: s-maj=259.1km s-min=27.7km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.68**	**257**	P	P	10 21 21.9	-0.1
	1.2nm,1.0s,baz=92,slow=8.8,SNR=6.5						
WRA	**Warramunga Arr**	**46.86**	**262**	P	P	10 21 23.0	-0.4
	1.0nm,1.1s,baz=97,slow=6.6,SNR=6.2						
NVAR	**Mina Array Bea**	**79.92**	**42**	P	P	10 25 02.2	+0.1
	1.1nm,0.8s,baz=218,slow=9.2,SNR=4.2						
TXAR	**Lajitas Array**	**85.45**	**56**	P	P	10 25 31.1	+0.1
	0.5nm,0.9s,baz=230,slow=5.9,SNR=4.7						
BRTR	**Keskin Array B**	**149.06**	**313**	PKPbc	PKPbc	10 32 42.0	+0.5
	1.0nm,0.9s,baz=74,slow=2.3,SNR=4.0						

IDC 13 10:20:37.2±9.3, 1°.18N×126°.81E, h90km±89km, mb3.4/5, mb1 3.6/6, mb1mx3.4/18, mbtmp3.5/6, ML3.9/1, Error ellipse: s-maj=67.6km s-min=20.8km az=55.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.36**	**229**	P	Pn	10 22 50.0	+0.7
	1.1nm,0.3s,baz=85,slow=12,SNR=5.2						
KAPI				S	Sn	10 24 32.5	-0.3
	0.7nm,0.3s,baz=180,slow=18,SNR=3.0						
WRA	**Warramunga Arr**	**22.25**	**161**	P	P	10 25 26.0	-0.8
	2.5nm,0.8s,baz=340,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.64**	**165**	P	P	10 25 59.3	+0.8
	0.4nm,0.4s,baz=345,slow=9.3,SNR=9.4						
MKAR	**Makanchi Array**	**59.69**	**326**	P	P	10 30 32.0	-0.2
	1.6nm,0.9s,baz=111,slow=7.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**62.89**	**334**	P	P	10 30 53.5	-0.1
	0.3nm,0.5s,baz=115,slow=9.7,SNR=2.2						
BVAR	**Borovoye Array**	**69.50**	**328**	P	P	10 31 36.3	+0.4
	0.4nm,0.5s,baz=121,slow=5.6,SNR=3.0						

*NIED **13** 10:26:00, 33°.80N×135°.40E, h50km, Mw3.8 Best double couple: M0:6.66000×10^14 NP1:φs=338.00000°, δ82.00000°, λ-52.00000°. NP2:φs=79.00000°, δ39.00000°, λ-167.00000°.*
*ISCJB **13** 10:26:40.9±0.4, 33°.75N±0°.04×135°.32E±0°.03, h52km±4km, mb3.5/5, Error ellipse: s-maj=6.4km s-min=4.2km az=173.3*
*IDC **13** 10:26:40.8±5.4, 33°.75N×135°.43E, h33km±46km, mb3.4/5, mb1 3.5/6, mb1mx3.4/24, mbtmp3.3/6, ML3.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/24, Error ellipse: s-maj=33.6km s-min=22.7km az=73.0*
*JMA **13** 10:26:41.9, 33°.77N×135°.35E, h46km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs=343.00000°, δ76.00000°, λ-86.00000°. NP2: φs=148.00000°, δ14.00000°, λ-104.00000°. Principal axes: T Plg31.0000°, Azm70.0000°; N Plg4.0000°, Azm162.0000°; P Plg59.0000°, Azm258.0000°;*
JMA Felt II J1.
*NEIC **13** 10:26:42.0, 33°.77N×135°.35E, h46km, MG3.7(JMA), After JMA.*

ISC 13 10:26:41.9±0.4, 33°.76N±0°.04×135°.31E±0°.03, h44km±5km, n30, σ0s63/46, mb3.5/5, 5C-6D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.10**	**25**	⇓P	**Pn**	**10 26 49.2**	**+0.2**
JWM				S	**Sn**	**10 26 54.3**	**+0.4**
JWZ	**Kozaga**	**0.41**	**124**	⇓P	**Pn**	**10 26 51.4**	**-0.3**
JWZ				S	**Sn**	**10 26 58.4**	**-0.2**
JWY	**Kouya**	**0.51**	**28**	⇓P	**Pn**	**10 26 53.0**	**0.0**
JWY				S	**Sn**	**10 27 00.5**	**-0.3**
JAI	**Aioi**	**0.71**	**273**	⇑P	**Pn**	**10 26 55.9**	**+0.3**
JAI				S	**Sn**	**10 27 05.8**	**+0.4**
JAJ2	**Tsuna**	**0.74**	**332**	⇑P	**Pn**	**10 26 56.5**	**+0.5**
JAJ2				S	**Sn**	**10 27 06.7**	**+0.5**
JKN2	**Miekihoku**	**0.93**	**59**	⇓P	**Pn**	**10 26 58.2**	**-0.4**
JKN2				S	**Sn**	**10 27 10.5**	**-0.3**
JHE	**Heguri**	**0.94**	**19**	⇓P	**Pn**	**10 26 58.6**	**-0.1**
JHE				S	**Sn**	**10 27 10.7**	**-0.3**
JMN	**Monobe**	**1.19**	**269**	⇑P	**Pn**	**10 27 02.2**	**+0.1**
JMN				S	**Sn**	**10 27 16.9**	**-0.2**
TTO1	**TONANKAI O.B.S**	**1.24**	**96**	P	**Pn**	**10 27 02.2**	**-0.5**
TTO1				S	**Sn**	**10 27 18.1**	**-0.2**
JKS	**Kasai**	**1.27**	**343**	⇓P	**Pn**	**10 27 03.5**	**+0.3**
JKS				S	**Sn**	**10 27 19.4**	**+0.2**
JJS	**Sakaide**	**1.29**	**298**	P	**Pn**	**10 27 03.5**	**0.0**
JJS				S	**Sn**	**10 27 19.2**	**-0.4**
TSUJ	**Tsu 2**	**1.32**	**44**	⇑P	**Pn**	**10 27 03.3**	**-0.5**
TSUJ				S	**Sn**	**10 27 19.3**	**-0.9**
JIE	**Ise**	**1.32**	**61**	⇑P	**Pn**	**10 27 03.7**	**-0.1**
JIE				*e*S	**Sn**	**10 27 20.3**	**0.0**
MAJO	**Matsushiro**	**3.65**	**40**	*e*Pn	**Pn**	**10 27 35.3**	**-0.6**
MAT	**Matsushiro**	**3.65**	**40**	P	**Pn**	**10 27 37.3**	**+1.5**
MAT				S	**Sn**	**10 28 19.3**	**+1.6**
MJAR	**Matsushiro Arr**	**3.65**	**40**	Pn	**Pn**	**10 27 36.5**	**+0.7**
	1.4nm,0.3s,baz=255,slow=12,SNR=20						
MJAR				Pg	**Pn**	**10 27 46.8**	**+11**
	4.9nm,0.3s,baz=217,slow=16,SNR=27						
MJAR				Lg		10 28 34.6	
	2.5nm,0.3s,baz=222,slow=29,SNR=6.6						
MJAR				LR	LR	10 28 49.2	
	comp=Z,192nm,18.6s,baz=70,slow=36						
MJAR	**Matsushiro Arr**	**3.65**	**40**	Pn	**Pn**	**10 27 36.5**	**+0.7**
MJAR				Pg	**Pn**	**10 27 46.8**	**+11**
MJAR				Lg		10 28 34.6	
JNU	**Nakatsue**	**3.76**	**261**	*e*Pn	**Pn**	**10 27 37.8**	**+0.5**
KSRS	**Korea Array**	**7.05**	**304**	Sn	**Sn**	**10 29 40.2**	**-1.1**
	0.5nm,0.3s,baz=116,slow=23,SNR=5.6						
KSAR	**Wonju Array Be**	**7.07**	**303**	Sn	**Sn**	**10 29 40.2**	**-1.7**
SONM	**Songino Array**	**25.83**	**312**	P	**P**	**10 32 09.7**	**+0.8**
	0.6nm,0.7s,mb3.3,baz=123,slow=9.0,SNR=5.8						
SONM	**Songino Array**	**25.83**	**312**	P	**P**	**10 32 09.7**	**+0.8**
MKAR	**Makanchi Array**	**41.73**	**304**	P	**P**	**10 34 27.4**	**+0.9**
	1.7nm,0.6s,mb3.9,baz=88,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**41.73**	**304**	P	**P**	**10 34 27.4**	**+0.9**
WRA	**Warramunga Arr**	**53.41**	**181**	P	**P**	**10 35 56.8**	**-0.5**
	0.5nm,0.5s,mb3.7,baz=357,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**53.41**	**181**	P	**P**	**10 35 56.8**	**-0.5**
ILAR	**Eielson Array**	**54.89**	**31**	P	**P**	**10 36 07.0**	**-0.6**
	0.2nm,0.6s,mb3.3,baz=266,slow=5.8,SNR=5.2						
ILAR	**Eielson Array**	**54.89**	**31**	P	**P**	**10 36 07.0**	**-0.6**
ASAR	**Alice Springs**	**57.12**	**182**	P	**P**	**10 36 24.4**	**+0.4**
	0.3nm,0.8s,mb3.4,baz=12,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**57.12**	**182**	P	**P**	**10 36 24.4**	**+0.4**

*IDC **13** 10:41:38.7±1.3, 30°.62S×72°.16W, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=42.0km s-min=30.6km az=59.0*
*ISCJB **13** 10:41:39.7±0.7, 30°.71S±0°.03×72°.14W±0°.06, h10km, mb3.9/3, Error ellipse: s-maj=7.7km s-min=4.3km az=9.9*
*GUC **13** 10:41:40.8±0.8, 30°.77S×71°.97W, h2km±3km, ML4.2*
*NEIC **13** 10:41:43.5±4.8, 30°.60S×72°.18W, h32km±31km, Error ellipse: s-maj=31.2km s-min=12.9km az=101.0*

ISC 13 10:41:41.2±0.7, 30°.69S±0°.03×72°.03W±0°.06, h10km, n36, σ1s32/44, mb3.9/3, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.72**	**84**	⇓*i*P	**Pg**	**10 41 55.2**	**+0.1**
OVCH				*e*S	**Sg**	**10 42 04.8**	**+0.5**
CMCH	**Combarbala**	**1.01**	**119**	⇑*i*P	**Pg**	**10 41 59.1**	**-1.5**
CMCH				*i*S	**Sg**	**10 42 12.7**	**-1.0**
CMCH				AML	AML	10 42 14.5	
	comp=E,15μm,0.6s						
LSCH	**La Serena**	**1.03**	**41**	*e*P	**Pg**	**10 42 00.9**	**0.0**
LSCH				*i*S	**Sg**	**10 42 16.1**	**+1.7**
CHNG	**Los Chungos**	**1.27**	**159**	*e*P	**Pn**	**10 42 02.7**	**-2.3**
CHNG				*e*S	**Sb**	**10 42 19.5**	**-2.2**
PTCH	**Petorca**	**1.83**	**149**	*e*P	**Pn**	**10 42 11.7**	**-1.0**
PTCH				*e*S	**Sn**	**10 42 34.8**	**-1.1**
LCO	**Las Campanas**	**2.03**	**35**	*e*Pn	**Pn**	**10 42 15.4**	**0.0**
LCO				*e*Sg	**Sg**	**10 42 45.1**	**-1.3**
JACH	**Jahuel**	**2.33**	**149**	*e*P	**Pn**	**10 42 19.4**	**-0.2**
JACH				*i*S	**Sn**	**10 42 49.8**	**+1.4**
VACH	**Vallenar**	**2.38**	**28**	*e*P	**Pn**	**10 42 20.4**	**+0.3**
ROCH	**El Roble**	**2.44**	**159**	*e*P	**Pn**	**10 42 19.7**	**-1.3**
ROCH				*e*S	**Sn**	**10 42 53.1**	**+2.2**
PEL	**Peldehue**	**2.70**	**155**	*e*P	**Pn**	**10 42 24.0**	**-0.6**
PEL				*e*S	**Sn**	**10 42 58.9**	**+1.5**
PEL				AML	AML	10 43 05.5	
	comp=Z,1μm,0.4s						
CLCH	**Cerro Calan**	**2.98**	**155**	⇑*e*P	**Pn**	**10 42 28.9**	**+0.3**
CLCH				*e*S	**Sn**	**10 43 09.9**	**+5.5**
CLCH				AML	AML	10 43 20.4	
	comp=N,1μm,0.5s						
SAN	**Santiago**	**2.99**	**158**	*e*P	**Pn**	**10 42 31.3**	**+2.7**
FCH	**Farellones**	**3.02**	**151**	*e*P	**Pn**	**10 42 26.2**	**-2.8**
FCH				*e*S	**Sn**	**10 43 04.6**	**-0.6**
FCH				AML	AML	10 43 21.0	
	comp=E,370nm,0.2s						
TACH	**Talagante**	**3.10**	**163**	*e*P	**Pn**	**10 42 32.3**	**+2.1**
PCH	**Pirque**	**3.19**	**157**	*e*P	**Pn**	**10 42 32.0**	**+0.6**
LNV	**Longovilo**	**3.30**	**171**	*e*P	**Pn**	**10 42 37.0**	**+4.1**
CFAA	**Coronel Fontan**	**3.38**	**107**	Pn	**Pn**	**10 42 36.4**	**+2.4**
	comp=E,1.7nm,0.3s,baz=296,slow=12,SNR=61						
CFAA				Sn	**Sn**	**10 43 18.6**	**+4.5**
	comp=E,3.0nm,0.3s,baz=28,slow=22,SNR=7.0						
CFAA				Lg		10 43 25.5	
	comp=E,5.6nm,0.3s,baz=77,slow=14,SNR=15						
CFAA	**Coronel Fontan**	**3.38**	**107**	Pn	**Pn**	**10 42 36.4**	**+2.4**
CFAA				Sn	**Sn**	**10 43 18.6**	**+4.5**
CFAA				Lg		10 43 25.5	
CHCH	**Chadas Angostu**	**3.44**	**161**	*e*P	**Pn**	**10 42 35.1**	**+0.3**
LMEL	**Las Melosas**	**3.51**	**154**	*e*P	**Pn**	**10 42 35.9**	**+0.1**
CACH	**El Canelo**	**3.63**	**161**	*e*P	**Pn**	**10 42 37.3**	**-0.1**
PLCA	**Paso Flores**	**10.10**	**174**	Pn	**Pn**	**10 44 07.3**	**+1.1**
	comp=E,0.2nm,0.3s,baz=341,slow=13,SNR=2.8						
PLCA	**Paso Flores**	**10.10**	**174**	Pn	**Pn**	**10 44 07.3**	**+1.1**
TRQA	**Tornquist**	**11.08**	**134**	Pn	**Pn**	**10 44 22.8**	**+3.1**
	comp=E,4.7nm,0.6s						
TRQA				*e*Sn	**Sn**	**10 46 19.6**	**-4.1**
SNAA	**Sanae**	**54.65**	**159**	P	**P**	**10 51 09.0**	**-0.7**
	comp=E,0.5nm,0.8s,mb3.6,baz=293,slow=10,SNR=3.6						
SNAA	**Sanae**	**54.65**	**159**	P	**P**	**10 51 09.0**	**-0.7**
BOSA	**Boshof**	**81.61**	**118**	P	**P**	**10 53 59.1**	**-0.6**
	comp=E,0.9nm,0.5s,mb4.0,baz=276,slow=5.1,SNR=4.5						
BOSA	**Boshof**	**81.61**	**118**	P	**P**	**10 53 59.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P	**P**	**10 54 05.8**	**-1.6**
	comp=E,1.1nm,0.7s,mb4.0,baz=257,slow=4.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P	**P**	**10 54 05.8**	**-1.6**
BVAR	**Borovoye Array**	**144.79**	**40**	PKP	PKPdf	11 01 17.3	-0.5
	comp=E,1.1nm,0.4s,baz=318,slow=2.0,SNR=6.1						
BVAR	**Borovoye Array**	**144.79**	**40**	PKP	PKPdf	11 01 17.3	-0.5
KURK	**Kurchatov**	**150.38**	**39**	PKPbc	PKPbc	11 01 32.2	-0.2
	comp=E,0.9nm,0.8s,baz=293,slow=3.3,SNR=6.0						
KURK	**Kurchatov**	**150.38**	**39**	PKPbc	PKPbc	11 01 32.2	-0.2
ZALV	**Zalesovo Beam**	**151.38**	**29**	PKPbc	PKPbc	11 01 34.2	-0.4
	comp=E,2.8nm,0.7s,baz=305,slow=3.6,SNR=15						
ZALV	**Zalesovo Beam**	**151.38**	**29**	PKPbc	PKPbc	11 01 34.2	-0.4

IDC 13 10:47:55.4±9.4, 3°.56S×102°.28E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=333.8km s-min=32.6km az=62.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.25**	**120**	P	P	10 54 51.2	-0.8
	0.1nm,0.6s,baz=301,slow=9.0,SNR=2.7						
ASAR	**Alice Springs**	**36.50**	**126**	P	P	10 55 03.2	+0.5
	0.4nm,0.5s,baz=292,slow=7.7,SNR=8.6						
SONM	**Songino Array**	**51.30**	**4**	P	P	10 57 01.4	+0.2
	0.4nm,0.7s,baz=186,slow=5.8,SNR=4.1						

*ROM **13** 11:18:14.1±1.2, 44°.54N×14°.08E, h10km, Md2.7/3, Ml2.3/2, Error ellipse: s-maj=12.0km s-min=0.0km az=171.0*
*ISCJB **13** 11:18:15.4±0.6, 45°.06N±0°.02×14°.95E±0°.03, h10km, Error ellipse: s-maj=3.5km s-min=3.3km az=18.4*
*CSEM **13** 11:18:15.9±0.2, 45°.06N×14°.92E, h10km, ML3.1/18, Error ellipse: s-maj=3.7km s-min=3.4km az=168.0*
*VIE **13** 11:18:15.8±0.4, 45°.06N×14°.90E, h9km±2km, mb2.2/3, ML2.6/3, Error ellipse: s-maj=2.8km s-min=1.8km az=174.0 49 km SE of Rijeka*

ISC 13 11:18:15.3±0.8, 45°.01N±0°.03×14°.98E±0°.04, h2km±7km, n68, σ0s81/117, 7C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.45**	**190**	*e*Pg	**Pg**	**11 18 26.5**	**+2.6**
NVLJ				Sg	**Sg**	**11 18 34.8**	**+5.1**
NVLJ	**Novalja**	**0.45**	**190**	*e*Pg	**Pg**	**11 18 26.4**	**+2.5**
NVLJ				Sg	**Sg**	**11 18 34.8**	**+5.0**
BOJS	**Bojanci**	**0.53**	**21**	*i*Pg	**Pg**	**11 18 25.7**	**+0.3**
BOJS				*i*Sg	**Sg**	**11 18 32.2**	**-0.2**
BOJS							
	comp=Z,19nm,0.1s						
BOJS	**Bojanci**	**0.53**	**21**	*i*Pg	**Pg**	**11 18 25.7**	**+0.2**
BOJS				*i*Sg	**Sg**	**11 18 32.2**	**-0.2**
	comp=Z,19nm,0.1s						
GBRS	**Gornja Briga**	**0.54**	**347**	Pg	**Pg**	**11 18 25.3**	**-0.2**
GBRS				*i*Sg	**Sg**	**11 18 32.2**	**-0.3**
	comp=Z,54nm,0.1s						
KNDS	**Knezji Dol**	**0.67**	**321**	*i*Pg	**Pg**	**11 18 27.5**	**-0.6**
KNDS				*i*Sg	**Sg**	**11 18 37.1**	**+0.3**
KNDS							
	comp=Z,19nm,0.1s						
KNDS	**Knezji Dol**	**0.67**	**321**	*i*Pg	**Pg**	**11 18 27.5**	**-0.6**
KNDS				*i*Sg	**Sg**	**11 18 37.1**	**+0.3**
	comp=Z,19nm,0.1s						
VISS	**Visnje**	**0.80**	**353**	*i*Pg	**Pg**	**11 18 29.9**	**-0.7**
VISS				*i*Sg	**Sg**	**11 18 40.4**	**-0.6**
VISS							
	comp=Z,37nm,0.1s						
VISS	**Visnje**	**0.80**	**353**	*i*Pg	**Pg**	**11 18 29.9**	**-0.7**
VISS				*i*Sg	**Sg**	**11 18 40.3**	**-0.7**
	comp=Z,37nm,0.1s						
CEY	**Cerknica**	**0.83**	**332**	⇑*i*Pg	**Pg**	**11 18 30.5**	**-0.6**
CEY				*i*Sg	**Sg**	**11 18 42.0**	**+0.2**
CEY							
	comp=Z,50nm,0.2s						
CEY	**Cerknica**	**0.83**	**332**	⇑*i*Pg	**Pg**	**11 18 30.5**	**-0.6**
CEY				*i*Sg	**Sg**	**11 18 42.0**	**+0.2**
	comp=Z,50nm,0.2s						
SKDS	**Skadanscina**	**0.87**	**309**	*i*Pg	**Pg**	**11 18 30.9**	**-1.0**
SKDS				*i*Sg	**Sg**	**11 18 43.5**	**+0.4**
SKDS							
	comp=Z,20nm,0.1s						
SKDS	**Skadanscina**	**0.87**	**309**	*i*Pg	**Pg**	**11 18 30.9**	**-1.0**
SKDS				*i*Sg	**Sg**	**11 18 43.5**	**+0.4**
	comp=Z,20nm,0.1s						
CRES	**Cresnjev**	**0.88**	**22**	*i*Pg	**Pg**	**11 18 32.5**	**+0.3**
CRES				*i*Sg	**Sg**	**11 18 43.1**	**-0.5**
CRES							
	comp=Z,11nm,0.1s						
CRES	**Cresnjev**	**0.88**	**22**	*i*Pg	**Pg**	**11 18 32.5**	**+0.3**
CRES				*i*Sg	**Sg**	**11 18 43.1**	**-0.6**
	comp=Z,11nm,0.1s						
LEGS	**Legarje**	**0.97**	**14**	*i*Pg	**Pg**	**11 18 34.5**	**+0.6**
LEGS	**Legarje**	**0.97**	**14**	*i*Pg	**Pg**	**11 18 34.5**	**+0.6**
GCIS	**Gornji Cirnik**	**0.97**	**28**	*i*Pg	**Pg**	**11 18 34.9**	**+0.9**
GCIS	**Gornji Cirnik**	**0.97**	**28**	*i*Pg	**Pg**	**11 18 34.8**	**+0.9**
PDKS	**Podkum**	**1.05**	**1**	*i*Pg	**Pg**	**11 18 35.4**	**0.0**
PDKS							
	comp=Z,28nm,0.2s						
PDKS	**Podkum**	**1.05**	**1**	*i*Pg	**Pg**	**11 18 35.4**	**0.0**
	comp=Z,28nm,0.2s						
JAVS	**Javornik**	**1.09**	**324**	*i*Pg	**Pg**	**11 18 34.7**	**-1.5**
JAVS				*i*Sg	**Sg**	**11 18 50.7**	**+0.3**
JAVS							
	comp=Z,19nm,0.1s						
JAVS	**Javornik**	**1.09**	**324**	*i*Pg	**Pg**	**11 18 34.7**	**-1.5**
JAVS				*i*Sg	**Sg**	**11 18 50.7**	**+0.3**
	comp=Z,19nm,0.1s						
GOLS	**Golise**	**1.10**	**24**	*i*Pg	**Pg**	**11 18 37.3**	**+1.0**
GOLS				*i*Sg	**Sg**	**11 18 52.6**	**+2.0**
GOLS							
	comp=Z,6.0nm,0.1s						
GOLS	**Golise**	**1.10**	**24**	*i*Pg	**Pg**	**11 18 37.3**	**+0.9**
GOLS				*i*Sg	**Sg**	**11 18 52.6**	**+2.0**
	comp=Z,6.0nm,0.1s						
TRI	**Trieste**	**1.11**	**310**	*e*Pg	**Pg**	**11 18 35.5**	**-1.0**
TRI				*e*

SOKA				Sg	Sg	11 19 09.1	+0.2
	comp=Z,3.9nm,0.2s						
VINO	Villanova	1.72 317	*e*Pg		Pg	11 18 47.0	-1.3
VINO			*e*Sg		Sg	11 19 11.2	+0.6
VINO	Villanova	1.72 317	*e*Pg		Pg	11 18 47.0	-1.3
VINO			*e*Sg		Sg	11 19 11.2	+0.5
BAD	Bernadia	1.73 316	⇓*e*Pg		Pg	11 18 47.5	-0.9
BAD			*e*Sg		Sg	11 19 10.8	0.0
BAD	Bernadia	1.73 316	*e*Pg		Pg	11 18 47.5	-0.9
BAD			*e*Sg		Sg	11 19 10.8	0.0
PTCC	Patocco-Chiusa	1.80 321	Pg		Pn	11 18 47.7	+0.4
	comp=Z,5.0nm,0.3s						
PTCC	Patocco-Chiusa	1.80 321	Pg		Pn	11 18 47.7	+0.4
	comp=Z,5.0nm,0.3s						
ACOM	Acomizza, Ital	1.85 327	⇓*e*Pn		Pg	11 18 49.8	-0.9
ACOM	Acomizza, Ital	1.85 327	Pg		Pg	11 18 49.8	-0.9
ACOM			Sg		Sg	11 19 15.8	+1.1
	comp=Z,408nm,3.8s						
ACOM	Acomizza, Ital	1.85 327	Pg		Pg	11 18 49.8	-0.9
ACOM			Sg		Sg	11 19 15.8	+1.1
	comp=Z,408nm,3.8s						
MYKA	Terra Mystica	1.87 331	⇓*i*Pg		Pg	11 18 50.6	-0.6
MYKA			⇑*i*Sg		Sg	11 19 15.4	0.0
	comp=Z,15nm,0.3s						
MYKA	Terra Mystica	1.87 331	Pg		Pg	11 18 50.6	-0.5
MYKA			Sg		Sg	11 19 15.4	0.0
	comp=Z,15nm,0.3s						
ZOU	Zoufplan	2.09 319	*e*Pn		Pn	11 18 52.6	+1.3

IDC ***13*** *11:33:56.1±1.9,3.°28S×140.°24E,h0km,mb3.7/3, mb1 4.1/4,mb1mx3.7/14,mbtmp3.8/4,ML3.7/1,Error ellipse: s-maj=98.1km s-min=29.6km az=115.0*
ISCJB ***13*** *11:33:59.2±1.8,3.°57S±0.°06×140.°41E±0.°07,h24km±18km, mb3.7/1,Error ellipse: s-maj=11.9km s-min=9.9km az=166.5*
DJA ***13*** *11:33:59,3.°57S×140.°52E,h30km,MLv3.7/3*
NEIC ***13*** *11:34:01.4±1.2,3.°46S×140.°44E,h35km,mb3.8/2,Error ellipse: s-maj=28.3km s-min=16.0km az=111.0*

ISC 13 11:34:01.0±2.1,3.°47S±0.°07×140.°35E±0.°08,h29km±21km, n15,σ0°93/18,mb3.9/2,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.01	20	P	Pn	11 34 18.4	-0.9
JAY				S	Sb	11 34 33.0	0.0
WAMI	Wamena	1.69	256	P	Pn	11 34 26.6	-2.0
WAMI				S	Sn	11 34 48.6	-0.6
SMPI	Sarmi	2.21	312	P	Pn	11 34 37.2	+1.5
SMPI				S	Sn	11 35 07.0	+5.0
WRAB	Tennant Creek	17.38	199	*e*Pn	Pn	11 38 01.1	-0.3
	4.5nm,0.7s						
WB2	Warramunga Arr	17.39	199	*e*Pn	Pn	11 38 02.0	+0.4
WRA	Warramunga Arr	17.39	199	P	Pn	11 38 01.1	-0.5
	0.3nm,0.3s,baz=17,slow=13,SNR=15						
WRA	Warramunga Arr	17.39	199	P	Pn	11 38 01.1	-0.5
CTAO	Charters Tower	17.49	161	*e*Pn	Pn	11 38 02.4	-0.5
	15nm,1.3s						
FITZ	Fitzroy Crossi	20.47	224	P	P	11 38 36.9	+0.4
	1.9nm,0.8s,baz=37,slow=18,SNR=6.2						
FITZ	Fitzroy Crossi	20.47	224	P	P	11 38 36.9	+0.4
AS31	Alice Springs	21.02	197	*e*P	P	11 38 44.0	+1.6
ASAR	Alice Springs	21.02	197	P	P	11 38 43.2	+0.8
	7.1nm,0.7s,mb4.1,baz=27,slow=9.4,SNR=80						
ASAR	Alice Springs	21.02	197	P	P	11 38 43.2	+0.8
ILAR	Eielson Array	85.85	24	P	P	11 46 36.9	-0.7
	0.5nm,0.9s,mb3.7,baz=251,slow=5.6,SNR=3.5						
ILAR	Eielson Array	85.85	24	P	P	11 46 36.9	-0.7

IDC 13 11:41:59.9±2.1,28.°45N×140.°84E,h49km±23km,mb3.4/6, mb1 3.7/7,mb1mx3.4/23,mbtmp3.4/7,ML3.2/1,Error ellipse: s-maj=24.7km s-min=15.1km az=75.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.81	138	P	Pn	11 42 27.4	-1.1
	30nm,0.3s,baz=94,slow=22,SNR=32						
CBIJ				S	Sn	11 42 50.6	+0.3
	38nm,0.3s,baz=294,slow=19,SNR=8.2						
MJAR	Matsushiro Arr	8.37	345	P	Pn	11 43 58.9	+0.4
	0.3nm,0.3s,baz=161,slow=13,SNR=9.7						
CMAR	Chiang Mai Arr	39.53	265	P	P	11 49 26.5	+0.3
	0.8nm,0.6s,baz=72,slow=5.5,SNR=6.8						
WRA	Warramunga Arr	48.52	188	P	P	11 50 38.7	+0.6
	1.8nm,0.7s,baz=11,slow=8.5,SNR=18						
ASAR	Alice Springs	52.24	188	P	P	11 51 05.5	-0.6
	0.2nm,0.4s,baz=4.6,slow=4.6,SNR=3.8						
ILAR	Eielson Array	57.11	29	P	P	11 51 41.3	+0.4
	0.3nm,0.9s,baz=265,slow=5.1,SNR=4.1						
INK	Inuvik	62.30	25	P	P	11 52 16.7	+0.1
	0.4nm,0.6s,baz=307,slow=6.4,SNR=2.9						
FINES	FINESS Array B	76.20	333	P	P	11 53 41.7	-1.0
	7.8nm,1.2s,baz=99,slow=4.4,SNR=3.7						

DJA 13 11:43:47,3.°54S×140.°54E,h31km,MLv3.5/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.03	9	P	Pn	11 44 05.6	+0.2
JAY				S	Sn	11 44 19.0	+0.3
WAMI	Wamena	1.86	259	P	Pn	11 44 14.5	-2.2
WAMI				S	Sn	11 44 35.8	-3.3
SMPI	Sarmi	2.39	310	P	Pn	11 44 24.5	+0.5
SMPI				S	Sn	11 44 54.5	+2.2

ISCJB ***13*** *11:52:51.8±0.2,38.°74N±0.°01×22.°54E±0.°02,h14km±1km, mb3.8/12,Error ellipse: s-maj=2.2km s-min=1.8km az=161.5*
ATH ***13*** *11:52:51.8,38.°74N×22.°57E,h25km,ML4.0*
CSEM ***13*** *11:52:52.1±0.1,38.°71N×22.°56E,h10km,mb4.1/6,Error ellipse: s-maj=2.4km s-min=2.0km az=71.0*
THE ***13*** *11:52:52.6,38.°72N×22.°56E,h10km,ML3.8/16,Error ellipse: s-maj=0.8km s-min=0.5km az=258.0*
NEIC ***13*** *11:52:53.0,38.°76N×22.°66E,h0km,ML3.8(THE), ML3.8(CSEM),After THE.*
MOS ***13*** *11:52:53.5±1.1,38.°79N×22.°48E,h33km,mb4.0/5,Error ellipse: s-maj=14.9km s-min=6.9km az=82.4*
IDC ***13*** *11:52:56.6±2.4,38.°90N×22.°48E,h45km±24km,mb3.4/11, mb1 3.6/15,mb1mx3.5/28,mbtmp3.5/15,ML3.6/4,MS2.5/1, Ms1 2.5/1,ms1mx2.2/26,Error ellipse: s-maj=20.0km s-min=17.9km az=144.0*

ISC 13 11:52:52.6±0.2,38.°72N±0.°01×22.°55E±0.°02,h12km±1km, n250,σ0°90/334,mb3.8/12,13C-6D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	Agios Charalam	0.10	60	P	Pg	11 52 55.7	+0.3
AXAR				S	Sg	11 52 58.1	+0.7
AXAR	Agios Charalam	0.10	60	P	Pg	11 52 55.7	+0.3
AXAR				S	Sg	11 52 58.1	+0.7
DSF	Desfina	0.31	184	P	Pg	11 52 58.1	-0.7
DSF				S	Sg	11 53 02.5	-0.5
DSF	Desfina	0.31	184	P	Pg	11 52 58.1	-0.7
DSF				S	Sg	11 53 02.5	-0.5
AGG	Agios Georgios	0.35	330	*e*PB	Pg	11 52 59.2	-0.4
AGG				*e*SB	Sg	11 53 04.8	+0.5
AGG	Agios Georgios	0.35	330	P	Pg	11 52 59.1	-0.5
AGG				S	Sg	11 53 04.5	+0.2
AGG	Agios Georgios	0.35	330	*e*Pb	Pg	11 52 59.2	-0.4
AGG				S	Sg	11 53 04.5	+0.2
LKR	Lokris	0.35	101	*e*PB	Pg	11 52 59.5	-0.2
LKR				*e*SB	Sg	11 53 05.5	+1.0
LKR	Lokris	0.35	101	P	Pg	11 52 59.4	-0.3
LKR				S	Sg	11 53 05.6	+1.1
LKR	Lokris	0.35	101	P	Pg	11 52 59.4	-0.3
LKR				S	Sg	11 53 05.6	+1.1
ATAL	Atalanti	0.37	94	P	Pg	11 52 59.6	-0.3
ATAL				S	Sg	11 53 05.3	+0.5
ATAL	Atalanti	0.37	94	P	Pg	11 52 59.6	-0.3
ATAL				S	Sg	11 53 05.3	+0.5
MAKR	Makrakomi, Fth	0.44	312	P	Pg	11 53 00.8	-0.5
MAKR				S	Sg	11 53 07.5	+0.3
MAKR	Makrakomi, Fth	0.44	312	P	Pg	11 53 00.8	-0.5
MAKR				S	Sg	11 53 07.5	+0.3
KALE	Kalithea	0.46	225	P	Pg	11 53 00.7	-0.9
KALE				S	Sg	11 53 07.3	-0.5
KALE	Kalithea	0.46	225	P	Pg	11 53 00.7	-0.9
KALE				S	Sg	11 53 07.3	-0.5
EVR	Evrytania	0.61	289	*e*PN	Pg	11 53 04.0	-0.5
EVR	Evrytania	0.61	289	P	Pg	11 53 03.9	-0.6
EVR				S	Sg	11 53 13.2	+0.6
EVR	Evrytania	0.61	289	P	Pg	11 53 03.9	-0.6
EVR				S	Sg	11 53 13.2	+0.6
LAKA	Lakka	0.66	224	P	Pg	11 53 04.5	-0.8
LAKA				S	Sg	11 53 14.8	+0.8
LAKA	Lakka	0.66	224	P	Pg	11 53 04.5	-0.8
LAKA				S	Sg	11 53 14.8	+0.8
UPR	University Cam	0.74	234	*e*PN	Pg	11 53 06.0	-0.9
UPR				*e*SN	Sg	11 53 18.1	+1.4
UPR	University Cam	0.74	234	P	Pg	11 53 06.7	-0.2
UPR	University Cam	0.74	234	*e*Pn	Pg	11 53 06.0	-0.9
UPR	University Cam	0.74	234	P	Pg	11 53 06.7	-0.2
LTK	Loutraki	0.77	155	*e*PN	Pg	11 53 06.6	-0.8
LTK				*e*SN	Sg	11 53 18.3	+0.9
LTK	Loutraki	0.77	155	P	Pg	11 53 06.6	-0.8
LTK				S	Sg	11 53 18.5	+1.1
LTK	Loutraki	0.77	155	*e*Pb	Pg	11 53 05.6	-1.8
LTK	Loutraki	0.77	155	P	Pg	11 53 06.6	-0.8
LTK				S	Sg	11 53 18.5	+1.1
LTK				*e*Sn	Sg	11 53 19.3	+1.9
NEO	Neokhori	0.79	41	*e*PN	Pg	11 53 07.0	-0.8
NEO				*e*SN	Sg	11 53 18.1	0.0
NEO	Neokhori	0.79	41	P	Pg	11 53 07.4	-0.4
NEO				S	Sg	11 53 18.6	+0.5
NEO	Neokhori	0.79	41	*e*Pn	Pg	11 53 07.0	-0.8
NEO	Neokhori	0.79	41	P	Pg	11 53 07.4	-0.4
NEO				S	Sg	11 53 18.6	+0.5
GUR	Goura	0.80	192	*e*PB	Pg	11 53 07.1	-0.9
GUR				*e*SN	Sg	11 53 19.5	+1.0
GUR	Goura	0.80	192	P	Pg	11 53 07.2	-0.8
GUR				S	Sg	11 53 19.6	+1.1
GUR	Goura	0.80	192	P	Pg	11 53 07.2	-0.8
GUR				*e*Sn	Sg	11 53 19.5	+1.0
MRKA	Markates	0.81	91	P	Pg	11 53 07.4	-0.8
MRKA				S	Sg	11 53 20.2	+1.4
MRKA	Markates	0.81	91	P	Pg	11 53 07.4	-0.8
MRKA				S	Sg	11 53 20.2	+1.4
XOR	Xorichti	0.81	37	P	Pg	11 53 07.4	-0.9
XOR				S	Sg	11 53 19.0	0.0
XOR	Xorichti	0.81	37	P	Pg	11 53 07.4	-0.9
XOR				S	Sg	11 53 19.0	0.0
VIL1	Vilia, Western	0.82	132	*e*PN	Pg	11 53 07.5	-0.9
VIL1				*e*SN	Sg	11 53 20.0	+0.8
SKIA	Skiathos	0.84	58	P	Pg	11 53 08.1	-0.7
SKIA				S	Sg	11 53 19.9	+0.1
SKIA	Skiathos	0.84	58	P	Pg	11 53 08.1	-0.7
SKIA				S	Sg	11 53 19.9	+0.1
THL	Klokotos Trika	0.94	334	*e*PN	Pg	11 53 09.8	-1.0
THL				*e*SN	Sg	11 53 23.5	+0.4
THL	Klokotos Trika	0.94	334	P	Pg	11 53 09.7	-1.1
THL				S	Sg	11 53 24.1	+1.0
THL	Klokotos Trika	0.94	334	P	Pg	11 53 09.7	-1.1
THL				*e*Sn	Sg	11 53 23.7	+0.6
THL				S	Sg	11 53 24.1	+1.0
RLS	Riolos of Patr	1.08	233	P	Pg	11 53 12.3	-1.0
RLS				S	Sg	11 53 27.6	+0.2
RLS	Riolos of Patr	1.08	233	P	Pg	11 53 12.3	-1.0
RLS				S	Sg	11 53 27.6	+0.2
AOS	Alonnisos	1.13	66	P	Pg	11 53 13.1	-1.2
AOS				S	Sg	11 53 28.6	-0.4
AOS	Alonnisos	1.13	66	P	Pg	11 53 13.1	-1.2
AOS				S	Sg	11 53 28.6	-0.4
ATH	Athens Observa	1.18	129	*e*PN	Pn	11 53 14.6	-0.2
ATH				*e*SN	Sn	11 53 30.1	-0.7
ATH	Athens Observa	1.18	129	P	Pn	11 53 14.5	-0.3
ATH				S	Sb	11 53 29.9	-0.1
ATH	Athens Observa	1.18	129	*e*Pn	Pn	11 53 14.6	-0.2
ATH				S	Sb	11 53 29.9	-0.1
NAIG	Nisos Aigina	1.21	142	*e*PN	Pn	11 53 14.6	-0.6
NAIG	Nisos Aigina	1.21	142	*e*Pn	Pn	11 53 14.6	-0.6
PTL	Penteli	1.23	123	*e*PN	Pn	11 53 15.1	-0.4
PTL				*e*SN	Sn	11 53 31.9	-0.1
PTL	Penteli	1.23	123	P	Pn	11 53 15.1	-0.4
PTL				S	Sb	11 53 31.3	-0.1
PTL	Penteli	1.23	123	P	Pn	11 53 15.1	-0.4
PTL				S	Sb	11 53 31.3	-0.1
PTL				*e*Sn	Sn	11 53 31.9	-0.1
VLY	Voula,Athens	1.30	131	*e*PN	Pn	11 53 16.1	-0.4
VLY				*e*SN	Sn	11 53 34.4	+0.6
VLY	Voula,Athens	1.30	131	P	Pn	11 53 16.1	-0.4
VLY				S	Sb	11 53 33.8	+0.2
VLY	Voula,Athens	1.30	131	P	Pn	11 53 16.1	-0.4
VLY				S	Sb	11 53 33.8	+0.2
VLY				*e*Sn	Sn	11 53 34.4	+0.6
DID	Didima	1.32	156	*e*PN	Pn	11 53 16.4	-0.4
DID				*e*SN	Sn	11 53 35.0	+0.7
DID	Didima	1.32	156	P	Pn	11 53 16.1	-0.7
DID				S	Sb	11 53 34.8	+0.6
DID	Didima	1.32	156	P	Pn	11 53 16.1	-0.7
DID				*e*Sn	Sn	11 53 35.0	+0.7
DIDY	Didyma	1.34	157	P	Pn	11 53 16.5	-0.6
DIDY				S	Sb	11 53 34.9	+0.1
DIDY	Didyma	1.34	157	P	Pn	11 53 16.5	-0.6
DIDY				S	Sb	11 53 34.9	+0.1
VLX	Vlachokerasia	1.35	186	P	Pn	11 53 17.1	-0.1
VLX	Vlachokerasia	1.35	186	P	Pn	11 53 17.1	-0.1
LIT	Litokhoron	1.38	358	*e*PN	Pn	11 53 17.3	-0.3
LIT				*e*SN	Sn	11 53 35.6	-0.1
LIT	Litokhoron	1.38	358	P	Pn	11 53 17.2	-0.4
LIT	Litokhoron	1.38	358	*e*Pn	Pn	11 53 17.3	-0.3
LIT				*e*Sn	Sn	11 53 35.6	-0.1
MEV	Metsovon	1.48	316	P	Pn	11 53 19.6	+0.7
MEV	Metsovon	1.48	316	P	Pn	11 53 19.6	+0.7
LKD2	Lefkada island	1.48	273	P	Pn	11 53 19.9	+0.9
LKD2	Lefkada island	1.48	273	P	Pn	11 53 19.9	+0.9
PAIG	Paliouri	1.49	36	P	Pn	11 53 18.1	-1.0
PAIG	Paliouri	1.49	36	P	Pn	11 53 18.1	-1.0
KFL	Anninata	1.52	247	P	Pn	11 53 19.4	0.0
KFL	Anninata	1.52	247	P	Pn	11 53 19.4	0.0
MRMA	Marmari	1.58	114	P	Pn	11 53 20.5	+0.2
MRMA				S	Sn	11 53 41.2	+0.6
MRMA	Marmari	1.58	114	P	Pn	11 53 20.5	+0.2
MRMA				S	Sn	11 53 41.2	+0.6
ITM	Ithomi	1.61	198	*e*PN	Pn	11 53 21.2	+0.4
ITM	Ithomi	1.61	198	P	Pn	11 53 21.4	+0.6
ITM	Ithomi	1.61	198	*e*Pn	Pn	11 53 21.2	+0.4
JAN	Janina	1.62	306	P	Pn	11 53 22.3	+1.4
JAN	Janina	1.62	306	P	Pn	11 53 22.3	+1.4
VLS	Valsamata	1.63	251	*e*PN	Pn	11 53 22.0	+0.9
VLS	Valsamata	1.63	251	P	Pn	11 53 21.6	+0.5
VLS	Valsamata	1.63	251	P	Pn	11 53 21.6	+0.5
VLS	Valsamata	1.63	251	*e*Pn	Pn	11 53 22.4	+1.3
KZN	Kozani	1.70	339	*e*PN	Pn	11 53 22.2	+0.3
KZN	Kozani	1.70	339	P	Pn	11 53 22.2	+0.3
KZN				S	Sn	11 53 44.3	+0.8
KZN	Kozani	1.70	339	P	Pn	11 53 22.2	+0.3
KZN				S	Sn	11 53 44.3	+0.8
PLG	Polygyros	1.79	22	*e*PB	Pn	11 53 22.3	-0.9
PLG	Polygyros	1.79	22	P	Pn	11 53 22.3	-0.9
PLG	Polygyros	1.79	22	P	Pn	11 53 22.3	-0.9
IGT	Igoumenitsa	1.91	296	P	Pn	11 53 26.8	+2.0
IGT	Igoumenitsa	1.91	296	P	Pn	11 53 26.8	+2.0
HORT	Hortiatis	1.92	12	P	Pn	11 53 24.3	-0.7
HORT				S	Sn	11 53 48.6	-0.5
HORT	Hortiatis	1.92	12	P	Pn	11 53 24.3	-0.7
HORT				S	Sn	11 53 48.6	-0.5
THE	Thessaloniki	1.94	9	P	Pn	11 53 24.2	-1.0
THE				S	Sn	11 53 49.1	-0.4
THE	Thessaloniki	1.94	9	P	Pn	11 53 24.2	-1.0
THE				S	Sn	11 53 49.1	-0.4
OUR	Ouranopolis	1.96	34	P	Pn	11 53 24.8	-0.7
OUR	Ouranopolis	1.96	34	P	Pn	11 53 24.8	-0.7
VLI	Veliai	2.02	171	*e*PB	Pn	11 53 26.2	-0.2
VLI	Veliai	2.02	171	P	Pn	11 53 25.9	-0.5
VLI	Veliai	2.02	171	P	Pn	11 53 25.9	-0.5
NEST	Nestorio	2.05	326	P	Pn	11 53 27.8	+1.0
NEST	Nestorio	2.05	326	P	Pn	11 53 27.8	+1.0
SOH	Sokhos	2.19	16	*e*PB	Pn	11 53 28.7	0.0
SOH				*e*SN	Sn	11 53 55.5	-0.2
SOH	Sokhos	2.19	16	P	Pn	11 53 28.8	+0.1
SOH				S	Sn	11 53 56.3	+0.6
SOH	Sokhos	2.19	16	P	Pn	11 53 28.8	+0.1
SOH				*e*Sn	Sn	11 53 55.5	-0.2
SOH				S	Sn	11 53 56.3	+0.6
FNA	Florina	2.25	337	P	Pn	11 53 29.9	+0.3
FNA	Florina	2.25	337	P	Pn	11 53 29.9	+0.3
LIA	Limnos Island	2.35	59	*e*PN	Pn	11 53 30.3	-0.7
LIA	Limnos Island	2.35	59	*e*Pn	Pn	11 53 30.3	-0.7
KNT	Kendrikon	2.45	6	P	Pn	11 53 32.4	+0.1
KNT	Kendrikon	2.45	6	P	Pn	11 53 32.4	+0.1
KYTH	Kithira	2.46	171	P	Pn	11 53 32.6	+0.1
KYTH	Kithira	2.46	171	P	Pn	11 53 32.6	+0.1
BIA	Bitola	2.48	338	*i* Pn	Pn	11 53 34.0	+1.3
BIA	Bitola	2.48	338	*i* Pn	Pn	11 53 34.0	+1.2
SRS	Serrai	2.52	18	P	Pn	11 53 33.0	-0.3
SRS				S	Sn	11 54 04.8	+0.8
SRS	Serrai	2.52	18	P	Pn	11 53 33.0	-0.3
SRS				S	Sn	11 54 04.8	+0.8
VAY	Valandovo	2.60	0	*i* Pn	Pn	11 53 34.1	-0.3
VAY	Valandovo	2.60	0	*i* Pn	Pn	11 53 34.0	-0.3
KAVA	Kavala	2.73	33	P	Pn	11 53 35.0	-1.1
KAVA	Kavala	2.73	33	P	Pn	11 53 35.0	-1.1
CHOS	Chios island	2.77	96	*e*PN	Pn	11 53 36.9	+0.3
CHOS	Chios island	2.77	96	P	Pn	11 53 36.9	+0.3
CHOS	Chios island	2.77	96	P	Pn	11 53 36.9	+0.3
NVR	Nevrokopi	2.81	21	P	Pn	11 53 36.9	-0.4
NVR	Nevrokopi	2.81	21	P	Pn	11 53 36.9	-0.4
KRUS	Krusevo	2.83	340	*i* Pn	Pn	11 53 37.8	+0.3
KRUS	Krusevo	2.83	340	*i* Pn	Pn	11 53 37.8	+0.3
APE	Apeiranthos	2.87	124	⇑*i*P	Pn	11 53 38.0	-0.1
APE	Apeiranthos	2.87	124	⇑*i*P	Pn	11 53 38.0	-0.1
SKO	Skopje	3.36	346	*e*Pn	Pn	11 53 45.6	+0.9
SKO	Skopje	3.36	346	*e*Pn	Pn	11 53 45.6	+0.8
ALN	Alexandroupoli	3.46	50	*e*PN	Pn	11 53 45.9	-0.2
ALN	Alexandroupoli	3.46	50	*e*Pn	Pn	11 53 45.9	-0.2
SMG	Samos	3.52	105	*e*PN	Pn	11 53 47.2	+0.2
SMG	Samos	3.52	105	*e*Pn	Pn	11 53 47.2	+0.2
VTS	Vitosha	3.90	7	⇓P	Pn	11 53 53.3	+1.1
VTS	Vitosha	3.90	7	⇓*i*P	Pn	11 53 53.3	+1.1
VTS	Vitosha	3.90	7	P	Pn	11 53 53.3	+1.1
IDI	Anoyia	3.90	151	*e*PN	Pn	11 53 51.8	-0.5
IDI				*e*Sn	Sn	11 54 38.5	+0.6
IDI	Anoyia	3.90	151	*e*PN	Pn	11 53 51.8	-0.4
IDI				*e*Sn	Sn	11 54 38.5	+0.6
BARS	Barje	4.13	352	⇓*i*PN	Pn	11 53 55.6	+0.2
IVAS	Ivanjica	5.18	340	⇓*i*PN	Pn	11 54 10.5	+0.7
GRUS	Gruza	5.35	346	⇑*i*PN	Pn	11 54 12.4	+0.3
DIVS	Divibare	5.71	341	⇑*i*PN	Pn	11 54 17.3	+0.3
TRUS	Trudelj	5.73	344	*e*PN	Pn	11 54 18.4	+1.1
BZS	Buzias	6.93	355	⇓P	Pn	11 54 33.3	-0.5
BZS	Buzias	6.93	355	⇓*i*P	Pn	11 54 33.3	-0.5
BZS	Buzias	6.93	355	P	Pn	11 54 33.3	-0.5
MLR	Muntele Rosu	7.22	19	P	Pn	11 54 39.2	+1.4
	0.5nm,0.3s,baz=219,slow=16,SNR=9.4						
MLR	Muntele Rosu	7.22	19	P	Pn	11 54 39.2	+1.4
MLR	Muntele Rosu	7.22	19	⇑P	Pn	11 54 39.4	+1.6
MLR	Muntele Rosu	7.22	19	⇑*i*P	Pn	11 54 39.4	+1.6
MLR	Muntele Rosu	7.22	19	P	Pn	11 54 39.2	+1.4
PLOR	Plostina	7.75	22	⇑P	Pn	11 54 47.0	+2.0
PLOR	Plostina	7.75	22	⇑*i*P	Pn	11 54 47.0	+2.0
PLOR	Plostina	7.75	22	P	Pn	11 54 47.0	+2.0
VRI	Vrincioaia	7.78	22	⇑P	Pn	11 54 47.7	+2.2
VRI	Vrincioaia	7.78	22	⇑*i*P	Pn	11 54 47.7	+2.2
VRI	Vrincioaia	7.78	22	P	Pn	11 54 47.7	+2.2
TESR		8.35	20	⇑*i*P	Pn	11 54 55.9	+2.6
BR131	Keskin Array S	8.66	80	*e*Pn	Pn	11 54 59.5	+1.9
	1.1nm,0.4s						
BR131	Keskin Array S	8.66	80	*e*Pn	Pn	11 54 59.5	+1.9
	1.1nm,0.4s						
BRTR	Keskin Array B	8.66	80	P	Pn	11 54 59.5	+1.9
	0.6nm,0.3s,baz=260,slow=12,SNR=17						
BRTR	Keskin Array B	8.66	80	P	Pn	11 54 59.5	+1.9
BRTR	Keskin Array B	8.66	80	*e*P	Pn	11 54 59.5	+1.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR	Keskin Array B	8.66	80	*e*P	Pn	11 54 59.5	+1.9
	comp=Z,1.0nm,0.3s						
BOJS	Bojanci	8.68	324	*i* Pn	Pn	11 54 58.2	+0.3
BOJS				*i* Sn	Sn	11 56 34.4	-1.1
BOJS	Bojanci	8.68	324	Pn	Pn	11 54 58.2	+0.4
BOJS				*i* Sn	Sn	11 56 34.4	-1.1
VISS	Visnje	9.10	324	*i* Pn	Pn	11 55 03.2	-0.3
VISS				*i* Sn	Sn	11 56 41.8	-4.0
VISS	Visnje	9.10	324	*i* Pn	Pn	11 55 03.2	-0.3
PSZ	Piszkesteto	9.40	349	⇑*i*P	Pn	11 55 10.3	+2.7
JAVS	Javornik	9.53	321	*i* Pn	Pn	11 55 09.2	-0.3
JAVS				*i* Sn	Sn	11 56 53.1	-3.4
JAVS	Javornik	9.53	321	*i* P

ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
ZALV Zalesovo Beam 44.14 49 P **P 12 00 59.6 -1.0**
comp=Z,1.0nm,0.4s,mb3.9
SONM Songino Array 58.88 51 P **P 12 02 50.1 -0.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=289,slow=9.0,SNR=3.8
SONM Songino Array 58.88 51 P **P 12 02 50.1 -0.9**
SONM Songino Array 58.88 51 P **P 12 02 50.1 -0.9**
SONM Songino Array 58.88 51 P **P 12 02 50.1 -0.9**
SCHQ Schefferville 59.14 318 P **P 12 02 51.4 -1.3**
comp=Z,3.6nm,0.8s,mb4.5,baz=45,slow=8.6,SNR=4.7
SCHQ Schefferville 59.14 318 P **P 12 02 51.4 -1.2**
SCHQ Schefferville 59.14 318 P **P 12 02 51.4 -1.3**
BOSA Boshof 67.03 177 P **P 12 03 46.8 +1.6**
comp=Z,0.6nm,0.3s,mb4.1,baz=2.8,slow=4.3,SNR=3.3
BOSA Boshof 67.03 177 P **P 12 03 46.8 +1.6**
BOSA Boshof 67.03 177 P **P 12 03 46.8 +1.6**
BOSA pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
BOSA Boshof 67.03 177 P **P 12 03 46.8 +1.6**
comp=Z,1.0nm,0.3s,mb4.3
BILL Bilibino 70.12 14 *e*P **P 12 04 05.2 +1.0**
BILL pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BILL Bilibino 70.12 14 *e*P **P 12 04 05.2 +1.0**
comp=Z,5.0nm,1.1s,mb4.4
YKA Yellowknife Ar 73.42 341 P **P 12 04 22.4 -1.7**
comp=Z,0.3nm,0.6s,mb3.4,baz=34,slow=6.0,SNR=3.4
YKA Yellowknife Ar 73.42 341 P **P 12 04 22.4 -1.7**
YKA Yellowknife Ar 73.42 341 P **P 12 04 22.4 -1.7**
YKA Yellowknife Ar 73.42 341 P **P 12 04 22.4 -1.7**
ILAR Eielson Array 76.51 355 P **P 12 04 41.1 -0.8**
comp=Z,0.1nm,0.7s,mb2.9,baz=333,slow=3.5,SNR=4.1
ILAR Eielson Array 76.51 355 P **P 12 04 41.1 -0.8**
ILAR Eielson Array 76.51 355 P **P 12 04 41.1 -0.8**
ILAR Eielson Array 76.51 355 P **P 12 04 41.1 -0.8**

NIED ***13*** *12:24:00, 44.°90N×149.°40E, h47km, Mw3.6 Best double couple: M0=3.23000×10^14 NP1:φ=7.00000°, δ=54.00000°, λ=88.00000°. NP2:φ=191.00000°, δ=36.00000°, λ=93.00000°.*
JMA 13 12:24:39.6±1.0, 44.°85N×149.°36E, h30km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.00**	**242**	P	Pn	12 25 23.6	-1.4
NEM2				*e*S	Sn	12 25 57.3	-2.6
JRA	**Rausu**	**3.17**	**255**	P	Pn	12 25 28.6	+1.2
JNK	**Nakash**	**3.57**	**251**	P	Pn	12 25 33.4	+0.6
JAK	**Akkeshi**	**3.84**	**243**	P	Pn	12 25 35.9	-0.8
JTKR	**Abashiri--Toko**	**4.00**	**259**	P	Pn	12 25 41.8	+3.0
JAR	**Ashorobuto**	**4.32**	**251**	P	Pn	12 25 44.6	+1.5
JAR				*e*S	Sn	12 26 34.6	+2.2
JOB	**Onbets**	**4.44**	**246**	P	Pn	12 25 44.9	0.0
JKK2	**Kamakawa 2**	**4.84**	**261**	P	Pn	12 25 53.8	+3.5
JCH	**Churui**	**4.89**	**245**	P	Pn	12 25 51.2	+0.2
JEM	**Erimo**	**5.33**	**240**	P	Pn	12 25 58.5	+1.4
JNBK	**Urakawa-nobuka**	**5.44**	**244**	P	Pn	12 25 58.3	-0.3
JNB	**Noboribetsu**	**6.49**	**251**	P	Pn	12 26 14.3	+1.3
JKB	**Kayabe**	**6.75**	**247**	P	Pn	12 26 16.7	+0.1
JKB				*e*S	Sn	12 27 28.3	-4.1
JYM2	**Yakumo 2**	**7.09**	**250**	P	Pn	12 26 21.9	+0.7
JSR	**Shiriuchi**	**7.33**	**246**	P	Pn	12 26 24.2	-0.3

NIED ***13*** *12:32:00, 31.°40N×129.°50E, h5km, Mw4.4 Best double couple: M0=4.21000×10^15 NP1:φ=277.00000°, δ=70.00000°, λ=29.00000°. NP2:φ=176.00000°, δ=63.00000°, λ=157.00000°.*
IDC ***13*** *12:32:41.7±0.6, 31.°32N×129.°57E, h0km, mb4.0/19, mb1 4.2/22, mb1mx4.2/28, mbtmp4.0/22, ML3.5/3, MS3.7/13, Ms1 3.7/13, ms1mx3.4/38, Error ellipse: s-maj=19.0km s-min=12.9km az=77.0*
JMA ***13*** *12:32:42.0±0.1, 31.°37N×129.°45E, h11km±1km, M4.4*
JMA Felt II J1.
BJI ***13*** *12:32:42.1, 31.°21N×129.°80E, h10km, mB4.7/33, mb4.4/39, Ms4.4/35, Ms7 4.1/35*
ISCJB ***13*** *12:32:43.8±0.8, 31.°37N±0.°03×129.°67E±0.°04, h14km±5km, mb4.3/48, MS3.8/21, Error ellipse: s-maj=5.2km s-min=4.4km az=164.7*
NEIC ***13*** *12:32:44.0±0.5, 31.°38N×129.°66E, h10km, mb4.7/17, MW4.3(NIED), Error ellipse: s-maj=11.2km s-min=7.4km az=134.0*
NEIC Recorded [2 JMA] in Kagoshima and [1 JMA] in Kumamoto.
MOS ***13*** *12:32:45.9±2.1, 31.°31N×129.°73E, h33km, mb4.7/25, Error ellipse: s-maj=9.0km s-min=6.4km az=103.9*
ISC 13 12:32:44.6±0.7, 31.°35N±0.°02×129.°69E±0.°04, h10km±4km, h16km±3km: pP-P, n170, σ1.9s54/186, mb4.3/48, MS3.8/21, 10C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.33**	**3**	⇓P	**Pg**	**12 32 49.5**	**-1.7**
JSJ				S	**Sg**	**12 32 55.5**	**-0.2**
JSU	**Suzuyama**	**0.67**	**76**	⇓P	**Pg**	**12 32 58.1**	**+0.5**
JKC	**Kuchinoerabu**	**0.98**	**154**	⇑P	**Pg**	**12 33 02.5**	**-1.0**
JKC				S	**Sg**	**12 33 17.4**	**+1.1**
JTSR	**Tashiro 2**	**1.07**	**99**	⇑P	**Pb**	**12 33 04.9**	**-0.2**
JZO	**Okuchi**	**1.10**	**44**	⇓P	**Pb**	**12 33 05.2**	**-0.6**
JZO				S	**Sb**	**12 33 22.2**	**+2.0**
JHD	**Hondo**	**1.18**	**19**	⇓P	**Pb**	**12 33 05.1**	**-1.9**
JTN	**Tanegashima 3**	**1.30**	**122**	⇑P	**Pn**	**12 33 08.2**	**-0.6**
JTZ	**Takazaki**	**1.31**	**65**	⇓P	**Pn**	**12 33 08.7**	**-0.2**
JFU	**Fukue jima 2**	**1.53**	**329**	P	**Pn**	**12 33 07.5**	**-4.5**
JNU	**Nakatsue**	**2.04**	**29**	*e*Pn	**Pn**	**12 33 18.4**	**-0.5**
JNU				*e*Sn	**Sn**	**12 33 51.4**	**+7.1**
JOW	**Kunigami**	**4.67**	**196**	Pn	**Pn**	**12 33 54.8**	**-0.3**
KSAR	**Wonju Array Be**	**6.26**	**347**	Pn	**Pn**	**12 34 15.3**	**-1.6**
KSAR				Sn	**Sn**	**12 35 25.0**	**-3.6**
KSAR				Lg		12 35 58.9	
KSAR	**Wonju Array Be**	**6.26**	**347**	P	**Pn**	**12 34 15.4**	**-1.6**
KSAR						12 35 25.0	
KSRS	**Korea Array**	**6.27**	**347**	Pn	**Pn**	**12 34 15.3**	**-1.7**
2.3nm,0.3s,baz=162,slow=14,SNR=19							
KSRS				Sn	**Sn**	**12 35 25.0**	**-3.7**
0.9nm,0.3s,baz=160,slow=27,SNR=3.5							
KSRS				Lg		12 35 58.9	
2.2nm,0.3s,baz=167,slow=29,SNR=7.1							
KSRS	**Korea Array**	**6.27**	**347**	P	**Pn**	**12 34 15.4**	**-1.6**
KSRS						12 35 25.0	
KSRS				pmax	pmax		
comp=Z,2.0nm,0.3s							
KSRS				smax			
comp=N,1.0nm,0.3s							
MAJO	**Matsushiro**	**8.77**	**51**	Pn	**Pn**	**12 34 52.5**	**+1.2**
MAJO	**Matsushiro**	**8.77**	**51**	P	**Pn**	**12 34 52.5**	**+1.1**
MAT	**Matsushiro**	**8.77**	**51**	P	**Pn**	**12 34 52.7**	**+1.3**
MJAR	**Matsushiro Arr**	**8.77**	**51**	Pn	**Pn**	**12 34 52.9**	**+1.5**
comp=N,1.0nm,0.3s,baz=243,slow=14,SNR=21							
MJAR	**Matsushiro Arr**	**8.77**	**51**	Pn	**Pn**	**12 34 52.9**	**+1.5**
MJAR	**Matsushiro Arr**	**8.77**	**51**	P	**Pn**	**12 34 52.9**	**+1.5**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
NJ2	**Nanjing**	**9.26**	**277**	*e*P	**Pn**	**12 35 03.5**	**+5.3**
NJ2				pP		12 35 06.8	
NJ2				sP		12 35 09.5	
NJ2				S	**Sn**	**12 36 48.0**	**+5.6**
NJ2				sS		12 36 57.0	
NJ2				pmax	pmax		
comp=Z,20nm,0.9s							
NJ2				pmax	pmax		
comp=Z,190nm,4.3s							
NJ2				LR	LR		
comp=N,1μm,10.4s							
NJ2				LR	LR		
comp=E,550nm,13.2s							
NJ2				LR	LR		
comp=Z,740nm,11.6s							
TATO	**Taipei**	**9.63**	**231**	*e*Pn	**Pn**	**12 35 05.8**	**+2.6**
SSLB	**Suanglung**	**10.80**	**228**	*e*Pn	**Pn**	**12 35 21.2**	**+1.9**
CN2	**Changchun**	**12.88**	**346**	*e*P	**Pn**	**12 35 50.3**	**+2.7**
CN2				*e*pP		12 35 53.5	
CN2				*e*sP		12 35 56.9	
CN2				*e*S	**Sn**	**12 38 13.8**	**+2.9**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
CN2				pmax	pmax		
comp=Z,400nm,5.0s							
CN2				LR	LR		
comp=N,3μm,11.0s							
CN2				LR	LR		
comp=E,1μm,11.0s							
CN2				LR	LR		
comp=Z,600nm,10.0s							
MDJ	**Mudanjiang**	**13.25**	**360**	P	**Pn**	**12 35 52.5**	**-0.2**
MDJ				S	**Sn**	**12 38 19.6**	**-0.4**
MDJ				ScP	ScP	12 44 57.3	+1.2
MDJ				PcS	PcS	12 44 58.5	+1.4
MDJ				ScS	ScS	12 48 33.8	+1.2
MDJ				pmax	pmax		
comp=Z,3.0nm,1.2s							
MDJ				pmax	pmax		
comp=Z,130nm,4.7s							
MDJ				LR	LR		
comp=N,330nm,14.9s							
MDJ				LR	LR		
comp=E,710nm,14.9s							
MDJ				LR	LR		
comp=Z,470nm,14.4s							
BJI	**Beijing**	**13.98**	**312**	P	**Pn**	**12 36 05.0**	**+2.3**
BJI				S	**Sn**	**12 38 38.9**	**+0.9**
BJI				pmax	pmax		
comp=Z,7.0nm,0.6s							
BJI				LR	LR		
comp=N,590nm,13.0s							
BJI				LR	LR		
comp=E,500nm,14.4s							
BJI				LR	LR		
comp=Z,250nm,15.7s							
ERM	**Erimo**	**15.15**	**42**	⇑ *e*P	**Pn**	**12 36 24.7**	**+6.2**
ERM				pmax	pmax		
comp=Z,17nm,1.0s							
ASAJ	**Asahikawa**	**16.30**	**35**	Pn	**Pn**	**12 36 32.9**	**-0.7**
comp=Z,0.2nm,0.3s,baz=238,slow=16,SNR=2.6							
ASAJ				LR	LR	12 42 19.2	
comp=Z,322nm,20.0s,baz=80,slow=35							
ASAJ	**Asahikawa**	**16.30**	**35**	*e*Pn	**Pn**	**12 36 32.9**	**-0.6**
comp=Z,9.1nm,1.0s							
ASAJ	**Asahikawa**	**16.30**	**35**	P	**Pn**	**12 36 32.9**	**-0.6**
ASAJ				MLR	MLR		
comp=Z,322nm,20.0s							
HHC	**Hu-ho-hao-te**	**17.43**	**308**	*e*P	**Pn**	**12 36 48.9**	**+1.2**
HHC				sP	sP	12 36 55.4	+2.2
HHC				PP		12 37 03.3	
HHC				S	**Sn**	**12 40 00.8**	**-0.8**
HHC				SS		12 40 22.5	
HHC				PcP	PcP	12 41 30.9	+2.1
HHC				pmax	pmax		
comp=Z,9.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,180nm,7.4s							
HHC				LR	LR		
comp=N,370nm,13.9s							
HHC				LR	LR		
comp=E,370nm,12.9s							
HHC				LR	LR		
comp=Z,380nm,14.9s							
HABR	**Khabarovsk**	**17.58**	**12**	P	**Pn**	**12 36 55.3**	**+5.7**
HABR				*e*		12 40 09.7	
HABR				MLR	MLR		
comp=Z,231nm,14.0s							
KLR	**Kul'dur**	**17.93**	**4**	*e*P	**Pn**	**12 36 51.8**	**-2.1**
KLR				pmax	pmax		
comp=Z,110nm,1.6s							
KLR				MLR	MLR		
comp=N,500nm,13.0s							
KLR				MLR	MLR		
comp=Z,1μm,13.0s							
YUK	**Yuzh-Kuril'sk**	**17.96**	**41**	*i* P	**Pn**	**12 36 57.1**	**+2.8**
YUK				pmax	pmax		
comp=E,173nm,1.4s							
YUK				pmax	pmax		
comp=N,126nm,1.4s							
YUK				pmax	pmax		
comp=Z,274nm,1.4s							
YUK				pmax	pmax		
comp=Z,689nm,2.1s							
YUK				MLR	MLR		
comp=Z,206nm,15.0s							
YSS	**Yuzh-Sakhalins**	**18.55**	**29**	*e*P	**Pn**	**12 37 06.5**	**+5.1**
comp=Z,49nm,1.2s							
YSS	**Yuzh-Sakhalins**	**18.55**	**29**	*e*P	**Pn**	**12 37 02.5**	**+1.0**
YSS				pmax	pmax		
comp=Z,50nm,1.2s							
YSS				MLR	MLR		
comp=E,500nm,16.0s							
YSS				MLR	MLR		
comp=Z,500nm,16.0s							
GYA	**Guiyang**	**20.73**	**262**	P	**P**	**12 37 28.1**	**+2.8**
GYA				PP		12 37 45.8	
GYA				S	**S**	**12 41 12.3**	**-4.5**
GYA				SS		12 41 44.8	
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,40nm,3.7s							
GYA				LR	LR		
comp=N,700nm,14.3s,MS4.2							
GYA				LR	LR		
comp=E,190nm,12.1s,MS4.2							
GYA				LR	LR		
comp=Z,310nm,11.8s,MS3.9							
QIZ	**Qiongzhong**	**21.71**	**240**	P	**P**	**12 37 34.8**	**-1.1**
QIZ				S	**S**	**12 41 39.3**	**+3.2**
QIZ				pmax	pmax		
comp=Z,18nm,2.1s,mb4.1							
QIZ				pmax	pmax		
comp=Z,100nm,4.9s							
QIZ				LR	LR		
comp=N,480nm,16.1s,MS4.0							
QIZ				LR	LR		
comp=E,210nm,15.3s,MS4.0							
QIZ				LR	LR		
comp=Z,390nm,13.9s,MS4.0							
LZH	**Lanzhou**	**21.99**	**289**	*e*P	**P**	**12 37 40.8**	**+2.0**
LZH				pP		12 37 43.0	
LZH				sP	sP	12 37 44.5	+1.4
LZH				*e*S	**S**	**12 41 34.0**	**-7.4**
LZH				pmax	pmax		
comp=Z,16nm,1.0s,mb4.4							
LZH				pmax	pmax		
comp=Z,120nm,4.0s							
LZH				LR	LR		
comp=N,370nm,10.7s,MS4.3							
LZH				LR	LR		
comp=E,640nm,14.7s,MS4.3							
LZH				LR	LR		
comp=Z,470nm,12.6s,MS4.1							
LZH	**Lanzhou**	**21.99**	**289**	*e*P	**P**	**12 37 40.8**	**+2.0**
comp=Z,16nm,1.0s,mb4.4							
LZH				pP		12 37 43.0	
LZH				sP	sP	12 37 44.5	+1.4
LZH				*e*S	**S**	**12 41 34.0**	**-7.4**
LZH				sS	sS	12 41 40.0	-6.2
LZH				*e*SS		12 42 13.3	
LZH				LR	LR		
comp=Z,470nm,12.6s,MS4.1							
LZH	**Lanzhou**	**21.99**	**289**	*e*P	**P**	**12 37 40.8**	**+2.0**
LZH				*e*S	**S**	**12 41 34.0**	**-7.4**
LZH				*SS	sS	12 41 40.0	-6.2
LZH				*e*SS		12 42 13.3	
LZH				pmax	pmax		
comp=Z,16nm,1.0s,mb4.4							
LZH				MLR	MLR		
comp=Z,470nm,12.6s,MS4.1							
CD2	**Chengdu**	**22.20**	**276**	*e*P	**P**	**12 37 41.3**	**+0.3**
CD2				pP		12 37 45.0	
CD2				sP	sP	12 37 48.5	+3.2
CD2				PP		12 38 07.8	
CD2				S	**S**	**12 41 40.8**	**-4.7**
CD2				sS	sS	12 41 47.0	-3.3
CD2				SS		12 42 19.9	
CD2				pmax	pmax		
comp=Z,20nm,0.6s,mb4.7							
CD2				pmax	pmax		
comp=Z,80nm,4.8s							
CD2				LR	LR		
comp=N,670nm,14.4s,MS4.3							
CD2				LR	LR		
comp=E,610nm,13.2s,MS4.3							
CD2				LR	LR		
comp=Z,410nm,13.2s,MS4.0							
GUMO	**Guam**	**22.51**	**138**	LR	LR	12 44 25.6	
comp=Z,82nm,18.8s,MS3.2,baz=267,slow=31							
ULN	**Ulaanbaatar**	**23.88**	**320**	*e*P	**P**	**12 37 59.1**	**+0.9**
comp=Z,28nm,1.5s,mb4.5							
ULN	**Ulaanbaatar**	**23.88**	**320**	*e*P	**P**	**12 37 59.1**	**+1.0**
ULN				pmax	pmax		
comp=Z,28nm,1.5s,mb4.5							
SONM	**Songino Array**	**24.22**	**319**	P	**P**	**12 38 01.0**	**-0.3**
comp=Z,3.3nm,1.1s,mb3.7,baz=122,slow=8.6,SNR=14							
SONM				LR	LR	12 47 54.1	
comp=Z,142nm,18.3s,MS3.5,baz=159,slow=38							
SONM	**Songino Array**	**24.22**	**319**	P	**P**	**12 38 01.0**	**-0.3**
SONM	**Songino Array**	**24.22**	**319**	P	**P**	**12 38 01.0**	**-0.3**
SONM				pmax	pmax		
comp=Z,3.0nm,1.1s							
SONM				MLR	MLR		
comp=Z,143nm,18.3s							
KMI	**Kunming**	**24.51**	**262**	P	**P**	**12 38 05.6**	**+1.5**
KMI				pP		12 38 09.8	
KMI				S	**S**	**12 42 22.5**	**-2.2**
KMI				pmax	pmax		
comp=Z,11nm,0.7s,mb4.5							
KMI				LR	LR		
comp=N,210nm,10.4s,MS4.1							
KMI				LR	LR		
comp=E,260nm,10.1s,MS4.1							
KMI				LR	LR		
comp=Z,250nm,11.9s,MS3.9							
KMI	**Kunming**	**24.51**	**262**	P	**P**	**12 38 05.6**	**+1.5**
comp=Z,11nm,0.7s,mb4.5							
KMI				pP		12 38 09.7	
KMI				S	**S**	**12 42 22.5**	**-2.2**
KMI				LR	LR		
comp=Z,250nm,11.9s,MS3.9							
KMI	**Kunming**	**24.51**	**262**	P	**P**	**12 38 05.6**	**+1.5**
KMI				*PP		12 38 09.7	
KMI				S	**S**	**12 42 22.5**	**-2.2**
KMI				pmax	pmax		
comp=Z,11nm,0.7s,mb4.5							
KMI				MLR	MLR		
comp=Z,250nm,11.9s,MS3.9							
GTA	**Gaotai**	**25.57**	**297**	*e*P	**P**	**12 38 15.8**	**+2.1**
GTA				pP	pP	12 38 20.3	+3.5
GTA				sP	sP	12 38 22.8	+4.6
GTA				S	**S**	**12 42 44.8**	**+3.4**
GTA				sS	sS	12 42 52.1	+5.5
GTA				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.3							
GTA				pmax	pmax		
comp=Z,87nm,4.5s							
GTA				LR	LR		
comp=N,300nm,18.5s,MS3.9							
GTA				LR	LR		
comp=E,170nm,16.6s,MS3.9							
GTA				LR	LR		
comp=Z,290nm,16.6s,MS3.9							
ZAK	**Zakamensk**	**27.35**	**322**	*e*P	Px	12 38 45.0	
ZAK				*e*		12 38 53.5	
ZAK				pmax	pmax		
comp=Z,4.0nm,1.3s,mb3.8							
PETK	**Petropavlovsk-**	**29.72**	**35**	LR	LR	12 51 05.0	
comp=Z,66nm,19.8s,MS3.3,baz=221,slow=37							
CHTO	**Chiang Mai**	**30.41**	**253**	*e*P	**P**	**12 38 57.1**	**-0.1**
comp=Z,8.3nm,1.0s,mb4.4							
CHTO	**Chiang Mai**	**30.41**	**253**	*e*P	**P**	**12 38 57.1**	**0.0**
CHTO				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.4							
CMAR	**Chiang Mai Arr**	**30.59**	**252**	P	**P**	**12 38 57.5**	**-1.2**
comp=Z,2.8nm,0.9s,mb4.1,baz=49,slow=6.6,SNR=17							
CMAR				LR	LR	12 51 26.7	
comp=Z,102nm,18.6s,MS3.5,baz=50,slow=37							
CMAR	**Chiang Mai Arr**	**30.59**	**252**	P	**P**	**12 38 57.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**30.59**	**252**	P	**P**	**12 38 57.5**	**-1.2**
CMAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
CMAR				MLR	MLR		
comp=Z,102nm,18.6s							
WMQ	**Urumqi**	**35.17**	**303**	P	**P**	**12 39 40.4**	**+1.8**
WMQ				pP	pP	12 39 44.8	+3.0
WMQ				sP	sP	12 39 47.4	+4.3
WMQ				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6							
WMQ				pmax	pmax		
comp=Z,330nm,6.0s							
KAPI	**Kappang**	**37.38**	**196**	LR	LR	12 57 44.4	
comp=Z,40nm,19.6s,MS3.2,baz=263,slow=40							
GUN	**Gumba**	**38.06**	**276**	*e*P	**P**	**12 40 01.9**	**-1.4**
comp=Z,47nm,0.9s,mb5.2							
GUN	**Gumba**	**38.06**	**276**	*e*P	**P**	**12 40 01.9**	**-1.4**
comp=Z,47nm,0.9s,mb5.2							
PKI	**Pulchoki**	**38.55**	**276**	*e*P	**P**	**12 40 06.0**	**-1.5**
PKI	**Pulchoki**	**38.55**	**276**	*e*P	**P**	**12 40 06.0**	**-1.5**
PKI	**Pulchoki**	**38.55**	**276**	*e*P	**P**	**12 40 06.0**	**-1.5**
KKN	**Kakani**	**38.60**	**276**	*e*P	**P**	**12 40 06.1**	**-1.8**
comp=Z,25nm,0.8s,mb5.0							
KKN	**Kakani**	**38.60**	**276**	*e*P	**P**	**12 40 06.1**	**-1.8**
comp=Z,25nm,0.8s,mb5.0							
KKN	**Kakani**	**38.60**	**276**	*e*P	**P**	**12 40 06.1**	**-1.8**
KKN				pmax	pmax		
comp=Z,25nm,0.8s,mb5.0							
GKN	**Gorkha**	**39.09**	**277**	*e*P	**P**	**12 40 10.9**	**-1.1**
GKN	**Gorkha**	**39.09**	**277**	*e*P	**P**	**12 40 10.9**	**-1.1**
ZALV	**Zalesovo Beam**	**39.11**	**319**	P	**P**	**12 40 10.6**	**-1.3**
comp=Z,0.4nm,0.3s,mb3.6,baz=111,slow=8.3,SNR=5.0							
ZALV				PcP	PcP	12 42 20.3	-1.1
comp=Z,1.4nm,0.9s,baz=83,slow=3.4,SNR=5.8							
ZALV	**Zalesovo Beam**	**39.11**	**319**	P	**P**	**12 40 10.6**	**-1.3**
ZALV				PcP	PcP	12 42 20.3	-1.1
ZALV	**Zalesovo Beam**	**39.11**	**319**	P	**P**	**12 40 10.6**	**-1.2**
ZALV						12 42 20.3	
ZALV				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.5							
MKAR	**Makanchi Array**	**39.29**	**307**	P	**P**	**12 40 11.8**	**-1.6**
comp=Z,1.3nm,0.9s,mb3.7,baz=94,slow=13,SNR=3.7							
MKAR				PcP	PcP	12 42 20.0	-2.1
comp=Z,2.0nm,1.0s,baz=80,slow=1.7,SNR=2.7							
MKAR				LR	LR	12 58 45.2	
comp=Z,51nm,18.7s,MS3.4,baz=344,slow=40							
MKAR	**Makanchi Array**	**39.29**	**307**	P	**P**	**12 40 11.8**	**-1.6**
MKAR				PcP	PcP	12 42 20.0	-2.1
MKAR	**Makanchi Array**	**39.29**	**307**	P	**P**	**12 40 11.8**	**-1.6**
MKAR						12 42 20.0	
MKAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
MKAR				pmax	pmax		
comp=Z,2.0nm,1.0s							
MKAR				MLR	MLR		
comp=Z,51nm,18.7s							
DANN	**Dangsing**	**39.74**	**278**	*e*P	**P**	**12 40 15.6**	**-1.8**
comp=Z,29nm,1.0s,mb5.0							
DANN	**Dangsing**	**39.74**	**278**	*e*P	**P**	**12 40 15.6**	**-1.8**
comp=Z,29nm,1.0s,mb5.0							
KOLN	**Koldanda**	**40.03**	**277**	*e*P	**P**	**12 40 19.7**	**-0.2**
comp=Z,8.4nm,0.7s,mb4.6							
KOLN	**Koldanda**	**40.03**	**277**	*e*P	**P**	**12 40 19.7**	**-0.2**
comp=Z,8.4nm,0.7s,mb4.6							
KURK	**Kurchatov**	**42.15**	**313**	P	**P**	**12 40 36.4**	**-0.7**
comp=Z,1.7nm,0.7s,mb3.8,baz=100,slow=9.1,SNR=10							
KURK				LR	LR	12 59 30.0	
comp=Z,192nm,18.1s,MS4.0,baz=100,slow=38							
KURK	**Kurchatov**	**42.15**	**313**	P	**P**	**12 40 36.4**	**-0.7**
KURK	**Kurchatov**	**42.15**	**313**	⇑ *e*P	**P**	**12 40 38.8**	**+1.8**
KURK				pmax	pmax		
comp=Z,9.0nm,1.7s,mb4.1							
KURK				MLR	MLR		
comp=Z,224nm,17.0s,MS4.1							
BILL	**Bilibino**	**42.43**	**19**	*e*P	**P**	**12 40 39.8**	**+0.8**
comp=Z,64nm,2.0s,mb4.9							
BILL	**Bilibino**	**42.43**	**19**	⇑ *e*P	**P**	**12 40 43.8**	**+4.7**
BILL				*e*		12 42 23.8	
BILL				pmax	pmax		
comp=Z,7.0nm,1.4s,mb4.1							
BILL				MLR	MLR		
comp=Z,5μm,23.0s							
TKM2	**Tokmak 2**	**43.96**	**301**	*e*P	**P**	**12 40 50.5**	**-1.3**
comp=Z,13nm,0.9s,mb4.7							
TKM2	**Tokmak 2**	**43.96**	**301**	*e*P	**P**	**12 40 50.5**	**-1.3**
TKM2				pmax	pmax		
comp=Z,13nm,0.9s,mb4.7							
KSH	**Kashi**	**43.97**	**296**	P	**P**	**12 40 57.8**	**+5.9**
KSH				pP	pP	12 41 02.1	+6.9
KSH				sP	sP	12 41 05.1	+8.6
KSH				PcP	PcP

KSH SS SS 12 50 41.3 +1.1
KSH ScS ScS 12 50 52.3 +1.3
KSH pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
KSH pmax pmax
comp=Z,110nm,4.6s
KSH LR LR
comp=N,230nm,6.5s
KSH LR LR
comp=E,260nm,8.2s
KSH LR LR
comp=Z,340nm,7.9s
AAK Ala-Archa 44.79 301 *e*P **P 12 40 59.3 +0.8**
comp=Z,17nm,1.0s,mb4.8
AAK Ala-Archa 44.79 301⇑*e*P **P 12 41 00.4 +2.0**
AAK pmax pmax
comp=Z,16nm,1.7s,mb4.6
AAK MLR MLR
comp=Z,306nm,19.0s,MS4.2
EKS2 Erkin-Say 45.32 301 *e*P **P 12 41 05.2 +2.5**
comp=Z,42nm,2.5s,mb4.8
EKS2 Erkin-Say 45.32 301 *e*P **P 12 41 05.2 +2.6**
EKS2 pmax pmax
comp=Z,42nm,2.5s,mb4.8
BVAR Borovoye Array 47.44 315 P **P 12 41 15.9 -3.2**
comp=Z,0.8nm,0.8s,mb3.7,baz=93,slow=10,SNR=3.0
BVAR PcP PcP 12 42 47.3 -2.2
comp=Z,1.1nm,0.6s,baz=90,slow=4.3,SNR=3.5
BVAR Borovoye Array 47.44 315 P **P 12 41 15.9 -3.2**
BVAR PcP PcP 12 42 47.3 -2.2
BVAR Borovoye Array 47.44 315 P **P 12 41 15.9 -3.2**
BVAR 12 42 47.3
BVAR pmax pmax
comp=Z,1.0nm,0.8s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 47.51 315 *e*P **P 12 41 20.3 +0.7**
comp=Z,4.8nm,0.8s,mb4.6
BRVK Borovoye 47.51 315*c e*P **P 12 41 22.5 +2.8**
BRVK pmax pmax
comp=Z,13nm,1.7s,mb4.7
KKAR Karatay Array 47.66 302 *e*P **P 12 41 23.0 +2.0**
KKAR Karatay Array 47.66 302 *e*P **P 12 41 23.0 +2.0**
WRA Warramunga Arr 51.19 174 P **P 12 41 46.1 -1.9**
comp=Z,2.0nm,0.9s,mb4.0,baz=354,slow=8.3,SNR=13
WRA PcP PcP 12 43 02.2 -1.2
comp=Z,0.3nm,0.6s,baz=0.2,slow=4.3,SNR=6.4
WRA Warramunga Arr 51.19 174 P **P 12 41 46.1 -1.9**
WRA PcP PcP 12 43 02.2 -1.2
WRA Warramunga Arr 51.19 174 P **P 12 41 46.2 -1.9**
WRA 12 43 02.2
WRA pmax pmax
comp=Z,2.0nm,0.9s
SVE Sverdlovsk 53.09 320 *e*P **P 12 42 04.0 +2.1**
ABKAR Akbulak array 54.19 311 *e*P **P 12 42 08.3 -1.8**
comp=Z,4.6nm,1.1s,mb4.3
ARU Arti 54.26 320 *e*P **P 12 42 10.4 0.0**
comp=Z,13nm,1.1s,mb4.8
ARU Arti 54.26 320*c i*P **P 12 42 10.5 +0.1**
ARU *e* 12 44 10.0
ARU S **S 12 49 45.3 -2.4**
ARU SS SS 12 53 24.4 -4.8
ARU pmax pmax
comp=Z,20nm,1.6s,mb4.8
ASAR Alice Springs 54.85 175 P **P 12 42 13.7 -1.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=5.3,slow=13,SNR=26
ASAR PcP PcP 12 43 15.4 -1.7
comp=Z,0.4nm,0.6s,baz=351,slow=3.6,SNR=4.6
ASAR Alice Springs 54.85 175 P **P 12 42 13.7 -1.3**
ASAR PcP PcP 12 43 15.4 -1.7
ASAR Alice Springs 54.85 175 P **P 12 42 13.7 -1.3**
ASAR 12 43 15.5
ASAR pmax pmax
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 55.25 312 LR LR 13 07 25.7
comp=Z,186nm,20.4s,MS4.2,baz=104,slow=38
ILAR Eielson Array 59.35 30 P **P 12 42 45.8 -0.7**
comp=Z,0.2nm,0.6s,mb3.3,baz=285,slow=7.5,SNR=5.9
ILAR LR LR 13 11 13.4
comp=Z,80nm,19.3s,MS3.9,baz=248,slow=39
ILAR Eielson Array 59.35 30 P **P 12 42 45.8 -0.7**
ILAR Eielson Array 59.35 30 P **P 12 42 45.8 -0.7**
ILAR MLR MLR
comp=Z,81nm,19.3s
KLMR Klimovskoe 63.25 327 *e*P **P 12 43 10.3 -2.6**
KLMR pmax pmax
comp=Z,23nm,1.5s,mb5.1
INK Inuvik 63.71 24 P **P 12 43 15.4 -0.4**
comp=Z,1.2nm,1.0s,mb3.9,baz=325,slow=4.7,SNR=2.7
INK Inuvik 63.71 24 P **P 12 43 15.4 -0.4**
INK Inuvik 63.71 24 P **P 12 43 15.5 -0.3**
INK pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 63.88 169 P **P 12 43 15.8 -1.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=293,slow=7.7,SNR=4.3
STKA Stephens Creek 63.88 169 P **P 12 43 15.8 -1.6**
STKA Stephens Creek 63.88 169 P **P 12 43 15.8 -1.5**
STKA pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 66.62 321 *i* P **P 12 43 36.7 +1.8**
OBN *e* 12 46 03.1
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
KIV Kislovodsk 67.03 308⇑*e*P **P 12 43 38.9 +1.1**
KIV pmax pmax
comp=Z,14nm,1.3s,mb4.8
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.1
FINES FINESS Array B 69.07 330 P **P 12 43 48.1 -2.2**
comp=Z,2.9nm,0.6s,mb4.4,baz=65,slow=4.8,SNR=12
FINES FINESS Array B 69.07 330 P **P 12 43 48.1 -2.2**
FINES FINESS Array B 69.07 330 P **P 12 43 48.1 -2.2**
FINES pmax pmax
comp=Z,3.0nm,0.6s
ANN Anapa 70.16 311 *e**PP **P 12 43 52.3 -5.0**
ANN pmax pmax
comp=Z,42nm,1.4s,mb5.2
DAG Danmarks Havn 70.37 353 *i* P **P 12 43 57.2 -0.9**
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AKASG Malin Array Be 72.50 319 P **P 12 44 09.9 -1.5**
comp=Z,0.2nm,0.3s,mb3.5,baz=49,slow=7.0,SNR=5.5
AKASG Malin Array Be 72.50 319 P **P 12 44 09.9 -1.5**
AKASG Malin Array Be 72.50 319 P **P 12 44 09.9 -1.5**
KIEV Kiev 72.52 319 *i* P **P 12 44 12.5 +1.1**
YKA Yellowknife Ar 73.37 26 P **P 12 44 15.4 -0.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=296,slow=5.7,SNR=7.5
YKA Yellowknife Ar 73.37 26 P **P 12 44 15.4 -0.9**
YKA Yellowknife Ar 73.37 26 P **P 12 44 15.4 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 74.94 307 P **P 12 44 24.3 -1.6**
comp=Z,2.0nm,0.9s,mb4.1,baz=98,slow=7.6,SNR=6.4
BRTR Keskin Array B 74.94 307 P **P 12 44 24.3 -1.6**
BRTR Keskin Array B 74.94 307 P **P 12 44 24.3 -1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 75.31 334 P **P 12 44 24.8 -2.8**
comp=Z,6.5nm,0.9s,mb4.6,baz=48,slow=5.9
NOA NORSAR Array B 75.31 334 P **P 12 44 24.9 -2.7**
comp=Z,4.1nm,0.9s,mb4.3,baz=53,slow=5.2,SNR=3.0
NOA NORSAR Array B 75.31 334 P **P 12 44 24.9 -2.7**
NOA NORSAR Array B 75.31 334 P **P 12 44 24.9 -2.7**
NOA pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 76.03 356 *i* P **P 12 44 34.8 +3.2**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 76.03 356 *i* P **P 12 44 34.8 +3.2**
comp=Z,7.6nm,1.0s,mb4.6
ASF Jabal al Asfar 76.18 299 LR LR 13 24 06.0
comp=Z,29nm,18.9s,MS3.6,baz=166,slow=40
STHS Stebnicka Huta 77.58 321 *e*P **P 12 44 44.3 +3.6**
STHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
STHS Stebnicka Huta 77.58 321 *e*P **P 12 44 44.3 +3.6**
EIL Elat 78.85 298 LR LR 13 24 50.6
comp=Z,40nm,19.3s,MS3.8,baz=277,slow=40
VYHS Vyhne 79.41 321 *e*P **P 12 44 53.4 +2.6**
VYHS Vyhne 79.41 321 *e*P **P 12 44 53.4 +2.6**
DPC Dobruska-Polom 79.63 323 *e*P **P 12 44 53.9 +1.9**
DPC Dobruska-Polom 79.63 323 *e*P **P 12 44 53.9 +1.9**
UPC Upice 79.69 324 *e*P **P 12 44 55.3 +3.0**

UPC Upice 79.69 324 *e*P **P 12 44 55.3 +3.0**
CLL Collm 80.69 325 *e*P **P 12 44 59.0 +1.3**
CLL pmax pmax
comp=Z,15nm,1.5s,mb4.7
CLL Collm 80.69 325 *e*P **P 12 44 56.0 -1.7**
comp=Z,15nm,1.5s,mb4.7
PRU Pruhonice 80.76 324 *e*P **P 12 44 59.5 +1.4**
PRU Pruhonice 80.76 324 *e*P **P 12 44 59.5 +1.4**
KHC Kasperske Hory 81.78 323 *e*P **P 12 45 06.6 +3.1**
KHC Kasperske Hory 81.78 323 *e*P **P 12 45 06.6 +3.1**
GERES GERESS Array B 81.90 323 P **P 12 45 01.9 -2.3**
comp=Z,0.3nm,0.2s,mb3.8,baz=36,slow=5.1,SNR=3.1
GERES GERESS Array B 81.90 323 P **P 12 45 01.9 -2.3**
GERES GERESS Array B 81.90 323 P **P 12 45 01.9 -2.3**
FFC Flin Flon 83.46 27 *i* P **P 12 45 13.4 +1.2**
PDAR Pinedale Array 88.39 39 P **P 12 45 36.7 -0.1**
comp=Z,1.3nm,0.8s,mb4.2,baz=188,slow=2.7,SNR=3.8
PDAR Pinedale Array 88.39 39 P **P 12 45 36.7 -0.1**
ULM Lac du Bonnet 89.29 27 P **P 12 45 40.8 -0.1**
comp=Z,5.2nm,0.9s,mb4.8,baz=331,slow=6.9,SNR=6.1
ULM LR LR 13 25 58.1
comp=Z,110nm,18.6s,MS4.3,baz=225,slow=36
ULM Lac du Bonnet 89.29 27 P **P 12 45 40.8 -0.1**
ULM Lac du Bonnet 89.29 27 P **P 12 45 40.8 -0.1**
ULM pmax pmax
comp=Z,5.0nm,1.0s
ULM MLR MLR
comp=Z,110nm,18.6s

ISCJB ***13*** *12:44:12.1±0.7, 43°.20N±0°.08×87°.92E±0°.10, h10km, mb3.4/5, Error ellipse: s-maj=14.1km s-min=6.9km az=39.0*
IDC ***13*** *12:44:12.1±1.0, 43°.18N×88°.08E, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.6/27, mbtmp3.6/8, ML3.7/3, Error ellipse: s-maj=48.8km s-min=14.2km az=54.0*
NEIC ***13*** *12:44:14.0±0.6, 43°.21N×88°.18E, h10km, mb3.8/1, Error ellipse: s-maj=15.5km s-min=8.3km az=52.0*
NNC ***13*** *12:44:15.8±4.6, 43°.20N×87°.58E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=65.4km s-min=32.7km az=66.0*
ISC 13 12:44:14.3±0.7,**43°.16N**±0°.08×**87°.92E**±0°.10,**h10**km,**n31,** σ1º**32**/39,**mb3.4**/5,**6C-1D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.40 314**		⇑Pn	**Pn**	**Pn**	**12 45 36.2**	**+1.4**
	2.0nm,0.3s,baz=134,slow=14,SNR=162							
MK31				Sn		**Sn**	**12 46 36.1**	**-0.8**
	14nm,0.6s,baz=132,slow=30,SNR=9.5							
MK31	**Makanchi Array**	**5.40 314**		*e*Pn	**Pn**	**Pn**	**12 45 36.0**	**+1.2**
MK31				*e*Sn		**Sn**	**12 46 35.7**	**-1.2**
MKAR	**Makanchi Array**	**5.40 314**		Pn	**Pn**	**Pn**	**12 45 35.9**	**+1.2**
	1.7nm,0.3s,baz=135,slow=14,SNR=118							
MKAR				Sn		**Sn**	**12 46 35.6**	**-1.3**
	5.6nm,0.3s,baz=133,slow=24,SNR=12							
MKAR				Lg			12 47 10.5	
	6.0nm,0.3s,baz=123,slow=29,SNR=5.3							
MKAR	**Makanchi Array**	**5.40 314**		Pn		**Pn**	**12 45 35.9**	**+1.2**
MKAR				Sn		**Sn**	**12 46 35.6**	**-1.3**
MKAR				Lg			12 47 10.5	
TKM2	**Tokmak 2**	**9.03 273**		⇑Pn		**Pn**	**12 46 26.1**	**+1.5**
	2.3nm,0.7s							
TKM2	**Tokmak 2**	**9.03 273**		*e*Pn		**Pn**	**12 46 27.7**	**+3.1**
	2.7nm,0.8s							
KURK	**Kurchatov**	**9.87 323**		⇑Pn		**Pn**	**12 46 35.7**	**-0.4**
	0.7nm,0.3s							
KURK	**Kurchatov**	**9.87 323**		Pn		**Pn**	**12 46 35.0**	**-1.1**
	0.2nm,0.3s,baz=129,slow=13,SNR=9.4							
KURK				Sn		**Sn**	**12 48 21.6**	**-5.3**
	0.3nm,0.3s,baz=142,slow=20,SNR=5.8							
KURK	**Kurchatov**	**9.87 323**		Pn		**Pn**	**12 46 35.0**	**-1.1**
KURK				Sn		**Sn**	**12 48 21.6**	**-5.3**
ZAA0	**Zalesovo Array**	**10.99 350**		*e*Pn		**Pn**	**12 46 51.6**	**+0.3**
ZALV	**Zalesovo Beam**	**10.99 350**		Pn		**Pn**	**12 46 51.5**	**+0.2**
	0.8nm,0.3s,baz=180,slow=10,SNR=13							
ZALV				Sn		**Sn**	**12 48 49.3**	**-4.8**
	0.9nm,0.3s,baz=166,slow=27,SNR=9.8							
ZALV	**Zalesovo Beam**	**10.99 350**		Pn		**Pn**	**12 46 51.5**	**+0.2**
ZALV				Sn		**Sn**	**12 48 49.3**	**-4.8**
SONM	**Songino Array**	**13.77 64**		Pn		**Pn**	**12 47 30.6**	**+1.2**
	0.1nm,0.3s,baz=249,slow=12,SNR=2.5							
SONM				Lg			12 51 29.7	
	0.0nm,0.3s,baz=231,slow=30,SNR=3.1							
SONM	**Songino Array**	**13.77 64**		Pn		**Pn**	**12 47 30.6**	**+1.2**
SONM				Lg			12 51 29.7	
VOSK	**Vostochnaya**	**14.81 316**		⇑P		**Pn**	**12 47 45.8**	**+2.3**
	1.0nm,0.6s							
BVA0	**Borovoye Array**	**15.28 316**		⇓P		**Pn**	**12 47 53.5**	**+3.7**
	0.6nm,0.7s,baz=124,slow=11,SNR=8.5							
BVAR	**Borovoye Array**	**15.28 316**		Pn		**Pn**	**12 47 50.3**	**+0.5**
	0.4nm,0.3s,baz=125,slow=11,SNR=2.9							
BVAR	**Borovoye Array**	**15.28 316**		Pn		**Pn**	**12 47 50.3**	**+0.5**
BRVK	**Borovoye**	**15.35 316**		Pn		**Pn**	**12 47 52.5**	**+1.8**
	2.1nm,0.4s							
ZRNK	**Zerenda**	**15.95 314**		⇑P		**Pn**	**12 47 56.1**	**-2.5**
	0.7nm,0.5s							
AB31	**Akbulak array**	**20.23 297**		⇑P		**P**	**12 48 47.6**	**-1.6**
	0.2nm,0.4s,baz=97,slow=10,SNR=13							
CMAR	**Chiang Mai Arr**	**26.33 156**		P		**P**	**12 49 50.7**	**+0.4**
	0.3nm,0.4s,mb3.2,baz=349,slow=8.3,SNR=3.5							
CMAR	**Chiang Mai Arr**	**26.33 156**		P		**P**	**12 49 50.7**	**+0.4**
ARCES	**ARCESS Array B**	**40.78 331**		P		**P**	**12 51 54.8**	**-0.3**
	2.4nm,0.9s,mb3.8,baz=76,slow=7.5,SNR=4.5							
ARCES	**ARCESS Array B**	**40.78 331**		P		**P**	**12 51 54.8**	**-0.3**
ILAR	**Eielson Array**	**64.21 23**		P		**P**	**12 54 48.0**	**-0.8**
	0.4nm,0.7s,mb3.5,baz=315,slow=4.8,SNR=6.4							
ILAR	**Eielson Array**	**64.21 23**		P		**P**	**12 54 48.0**	**-0.8**
WRA	**Warramunga Arr**	**75.91 135**		P		**P**	**12 56 00.0**	**-1.0**
	0.3nm,0.6s,mb3.4,baz=334,slow=5.6,SNR=9.6							
WRA	**Warramunga Arr**	**75.91 135**		P		**P**	**12 56 00.0**	**-1.0**
ASAR	**Alice Springs**	**78.81 138**		P		**P**	**12 56 15.3**	**-1.8**
	0.2nm,0.7s,mb3.2,baz=328,slow=5.9,SNR=5.7							
ASAR	**Alice Springs**	**78.81 138**		P		**P**	**12 56 15.3**	**-1.8**

NIED ***13*** *12:55:00, 44°.80N×149°.40E, h41km, Mw4.2 Best double couple: M0=2.12000×10^15 NP1:φs=10.00000°, δ=65.00000°, λ=79.00000°. NP2:φs=216.00000°, δ=27.00000°, λ=113.00000°.*
IDC ***13*** *12:55:16.3±0.6, 44°.81N×149°.29E, h0km, mb4.2/20, mb1 4.3/23, mb1mx4.3/29, mbtmp4.2/23, ML3.4/2, MS3.3/7, Ms1 3.4/7, ms1mx3.2/40, Error ellipse: s-maj=17.3km s-min=14.5km az=138.0*
SKHL ***13*** *12:55:20.9±1.3, 44°.72N×149°.51E, h44km±2km, mb5.0/4*
ISCJB ***13*** *12:55:20.9±0.7, 44°.61N±0°.04×149°.38E±0°.06, h46km±5km, mb4.6/69, MS3.6/4, Error ellipse: s-maj=8.1km s-min=5.3km az=140.9*
JMA ***13*** *12:55:21.4±0.5, 44°.82N×149°.35E, h30km, M5.0*
MOS ***13*** *12:55:21.8±0.7, 44°.72N×149°.28E, h49km, mb4.9/32, Error ellipse: s-maj=9.5km s-min=6.7km az=119.8*
BJI ***13*** *12:55:22.8, 44°.79N×149°.36E, h69km, mB4.9/23, mb4.7/33, Ms4.2/13, Ms7 4.2/14*
NEIC ***13*** *12:55:22.6±0.8, 44°.76N×149°.35E, h44km±6km, mb4.7/18, Error ellipse: s-maj=9.3km s-min=5.3km az=142.0*
SZGRF ***13*** *12:55:33.9, 46°.83N×148°.97E, h33km, mb5.0, Northwest of Kuril Islands, Russia*
ISC 13 12:55:22.8±0.6,**44°.69N**±0°.04×**149°.35E**±0°.06,**h46**km±4km, **h61**km±1.8km:**pP-P,n317,**σ1º**03**/335,**mb4.6**/69,**MS3.6**/4, **9C-8D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.18 298**		*j*PN		**Pn**	**12 55 41.5**	**-1.3**
KUR				*e*S		**Sn**	**12 55 56.0**	**-1.7**
KUR				pmax	pmax			
	comp=Z,6μm,1.0s							
KUR				pmax	pmax			
	comp=N,960nm,0.4s							
KUR				pmax	pmax			
	comp=E,450nm,0.4s							
KUR				pmax	pmax			
	comp=Z,2μm,0.4s							
KUR				smax				
	comp=N,3μm,0.5s							
KUR				smax				
	comp=E,3μm,0.5s							
KUR				smax				
	comp=N,8μm,1.2s							
KUR				smax				
	comp=E,5μm,1.6s							
KUR	**Kuril'sk**	**1.18 298**		⇑*i*P		**Pn**	**12 55 41.5**	**-1.3**
KUR				⇓*i*P			12 55 41.5	
KUR				AMB	AMB		12 55 42.0	
	comp=E,6μm,1.0s							
KUR				AMB	AMB		12 55 42.2	
	comp=E,960nm,0.4s							
KUR				AMB	AMB		12 55 42.2	
	comp=E,450nm,0.4s							
KUR				AMB	AMB		12 55 42.2	
	comp=E,2μm,0.4s							
KUR				*e*S		**Sn**	**12 55 56.0**	**-1.7**
KUR				A			12 56 01.8	
	comp=E,3μm,0.5s							
KUR				A			12 56 01.8	
	comp=E,3μm,0.5s							
KUR				A			12 56 04.4	
	comp=E,5μm,1.6s							
KUR				A			12 56 04.4	
	comp=E,8μm,1.2s							
YUK	**Yuzh-Kuril'sk**	**2.58 256**		*i*PN		**Pn**	**12 56 01.5**	**-0.5**
YUK				*i* S		**Sn**	**12 56 33.1**	**+0.9**
YUK				pmax	pmax			
	comp=N,222nm,0.2s							
YUK				pmax	pmax			
	comp=E,147nm,0.2s							
YUK				pmax	pmax			
	comp=Z,720nm,0.2s							
YUK				pmax	pmax			
	comp=Z,650nm,0.2s							
YUK				smax				
	comp=N,2μm,0.5s							
YUK				smax				
	comp=E,2μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.58 256**		⇓*i*P		**Pn**	**12 56 01.6**	**-0.4**
YUK				AMB	AMB		12 56 07.6	
	comp=E,222nm,0.2s							
YUK				AMB	AMB		12 56 07.6	
	comp=E,147nm,0.2s							
YUK				AMB	AMB		12 56 07.6	
	comp=E,720nm,0.2s							
YUK				*i* S		**Sn**	**12 56 33.1**	**+0.9**
YUK				A			12 56 38.3	
	comp=E,1μm,0.5s							
YUK				A			12 56 38.3	
	comp=E,2μm,0.5s							
NEM2	**Nemuro 2**	**2.92 244**		P		**Pn**	**12 56 05.2**	**-1.4**
NEM2				*e*S		**Sn**	**12 56 38.2**	**-2.2**
JRA	**Rausu**	**3.12 258**		P		**Pn**	**12 56 10.3**	**+0.9**
JRA				*e*S		**Sn**	**12 56 47.0**	**+1.5**
JNK	**Nakash**	**3.51 253**		P		**Pn**	**12 56 14.9**	**+0.2**
JNK				*e*S		**Sn**	**12 56 55.4**	**+0.4**
JAK	**Akkeshi**	**3.77 245**		P		**Pn**	**12 56 17.5**	**-0.8**
JTKR	**Abashiri--Toko**	**3.97 261**		P		**Pn**	**12 56 22.2**	**+1.2**
JAR	**Ashorobuto**	**4.26 253**		P		**Pn**	**12 56 25.8**	**+0.8**
JMP	**Maruseppu**	**4.35 263**		P		**Pn**	**12 56 27.6**	**+1.4**
JOB	**Onbets**	**4.37 248**		P		**Pn**	**12 56 26.6**	**0.0**
JKK2	**Kamakawa 2**	**4.81 263**		P		**Pn**	**12 56 34.9**	**+2.4**
JCH	**Churui**	**4.81 247**		P		**Pn**	**12 56 32.5**	**-0.1**
JSE	**Soyaes**	**4.82 276**		P		**Pn**	**12 56 33.7**	**+1.0**
ASAJ	**Asahikawa**	**4.87 266**		Pn		**Pn**	**12 56 36.1**	**+2.7**
	comp=E,4.3nm,0.3s,baz=80,slow=14,SNR=31							
ASAJ				LR	LR		12 58 37.9	
	comp=E,397nm,19.0s,baz=160,slow=42							
ASAJ	**Asahikawa**	**4.87 266**		*e*Pn		**Pn**	**12 56 35.8**	**+2.4**
ASAJ	**Asahikawa**	**4.87 266**		PN		**Pn**	**12 56 36.1**	**+2.7**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,397nm,19.0s							
ASAJ	**Asahikawa**	**4.87 266**		P		**Pn**	**12 56 35.9**	**+2.5**
JFR	**Furan**	**5.11 255**		P		**Pn**	**12 56 38.7**	**+2.0**
YSS	**Yuzh-Sakhalins**	**5.13 298**		*e*Pn		**Pn**	**12 56 37.8**	**+0.9**
	comp=Z,36nm,0.3s							
YSS	**Yuzh-Sakhalins**	**5.13 298**		⇓*i*PN		**Pn**	**12 56 37.8**	**+0.8**
YSS				*e*S		**Sn**	**12 57 39.4**	**+4.5**
YSS				pmax	pmax			
	comp=Z,30nm,0.8s							
YSS				smax				
	comp=Z,500nm,17.0s							
YSS	**Yuzh-Sakhalins**	**5.13 298**		⇓*i*P		**Pn**	**12 56 37.8**	**+0.8**
YSS				AMB	AMB		12 56 38.6	
	comp=Z,30nm,0.8s							
YSS				*e*pP			12 56 52.7	
YSS				*e*S		**Sn**	**12 57 31.2**	**-3.7**
YSS				A			12 57 39.4	
	comp=Z,40nm,0.8s							
YSS				AMS	AMS		12 58 41.0	
	comp=Z,500nm,17.0s							
ERM	**Erimo**	**5.25 241**		*e*Pn		**Pn**	**12 56 40.3**	**+1.7**
	comp=Z,139nm,0.3s							
ERM				*e*Sn		**Sn**	**12 57 39.1**	**+1.4**
ERM	**Erimo**	**5.25 241**		*e*PN		**Pn**	**12 56 40.3**	**+1.7**
ERM				*e*			12 57 39.1	
ERM				pmax	pmax			
	comp=Z,139nm,0.3s							
ERM	**Erimo**	**5.25 241**		*e*P		**Pn**	**12 56 40.0**	**+1.4**
JEM	**Erimo**	**5.25 241**		P		**Pn**	**12 56 39.5**	**+0.9**
JAB	**Ashibetsu**	**5.27 259**		P		**Pn**	**12 56 42.0**	**+3.2**
JWK2	**Keihoku**	**5.32 279**		P		**Pn**	**12 56 42.8**	**+3.2**
JNBK	**Urakawa-nobuka**	**5.37 246**		P		**Pn**	**12 56 39.8**	**-0.4**
JNBK				*e*S		**Sn**	**12 57 39.7**	**-1.0**
JBT2	**Biratori 2**	**5.41 252**		P		**Pn**	**12 56 41.4**	**+0.6**
JEW	**Eniwo**	**6.01 255**		P		**Pn**	**12 56 51.4**	**+2.4**
JNB	**Noboribetsu**	**6.43 253**		P		**Pn**	**12 56 55.7**	**+0.9**
JKB	**Kayabe**	**6.68 248**		P		**Pn**	**12 56 58.2**	**-0.1**
JKB				*e*S		**Sn**	**12 58 10.0**	**-3.0**
JYM2	**Yakumo 2**	**7.03 252**		P		**Pn**	**12 57 03.6**	**+0.6**
JSH	**Shimam**	**7.05 256**		P		**Pn**	**12 57 05.1**	**+1.8**
JANG	**Nango**	**7.21 236**		P		**Pn**	**12 57 03.2**	**-2.4**
JANG				*e*S		**Sn**	**12 58 19.5**	**-6.6**
JTM	**Tenmabayashi**	**7.24 240**		P		**Pn**	**12 57 05.1**	**-0.7**
JSR	**Shiriuchi**	**7.26 247**		P		**Pn**	**12 57 05.6**	**-0.5**
JSR				*e*S		**Sn**	**12 58 24.4**	**-2.8**
JTH	**Tanohata**	**7.30 232**		P		**Pn**	**12 57 04.2**	**-2.5**
JTH				*e*S		**Sn**	**12 58 20.3**	**-7.9**
TYV	**Tymovskoe**	**7.64 326**		*e*P		**Pn**	**12 57 12.0**	**+0.6**
TYV				AMB	AMB		12 57 20.5	
	comp=Z,12nm,0.6s							
TYV				AMB	AMB		12 57 20.5	
	comp=Z,22nm,1.0s							
JOSM	**Okushiri--Mats**	**7.65 254**		P		**Pn**	**12 57 12.1**	**+0.6**
OFUJ	**Ofunato**	**8.01 228**		P		**Pn**	**12 57 14.2**	**-2.3**
JRG	**Rokugo**	**8.37 234**		P		**Pn**	**12 57 19.7**	**-1.6**
JIO	**Ouri**	**8.64 227**		P		**Pn**	**12 57 22.5**	**-2.7**
JIO				*e*S		**Sn**	**12 58 51.9**	**-9.3**
PETK	**Petropavlovsk-**	**10.05 30**		Pn		**Pn**	**12 57 42.3**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=212,slow=15,SNR=2.7							
PETK				LR	LR		13 01 32.4	
	comp=Z,77nm,21.0s,baz=82,slow=38							
PETK	**Petropavlovsk-**	**10.05 30**		Pn		**Pn**	**12 57 42.3**	**-2.0**
PETK	**Petropavlovsk-**	**10.05 30**		PN		**Pn**	**12 57 42.3**	**-2.0**
PETK				MLR	MLR			
	comp=Z,77nm,21.0s							
JFY	**Yanaizu**	**10.29 228**		P		**Pn**	**12 57 47.7**	**0.0**
HABR	**Khabarovsk**	**10.54 296**		PN		**Pn**	**12 57 49.2**	**-1.9**
HABR				pmax	pmax			
	comp=Z,70nm,2.8s							
HABR				pmax	pmax			
	comp=N,57nm,2.8s							
HABR				pmax	pmax			
	comp=E,83nm,2.8s							
HABR				MLR	MLR			
	comp=Z,109nm,16.0s							
MJAR	**Matsushiro Arr**	**11.73 230**		Pn		**Pn**	**12 58 05.4**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=28,slow=14,SNR=9.4							
MJAR				LR	LR		13 02 30.9	
	comp=Z,98nm,21.2s,baz=80,slow=37							
MJAR	**Matsushiro Arr**	**11.73 230**		Pn		**Pn**	**12 58 05.4**	**-2.0**
MJAR	**Matsushiro Arr**	**11.73 230**		PN		**Pn**	**12 58 05.4**	**-2.0**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,98nm,21.2s							
KLR	**Kul'dur**	**12.84 297**		*e*PN		**Pn**	**12 58 23.7**	**

comp=E,91nm,6.1s
MDJ LR LR
comp=Z,140nm,6.6s
CN2 Changchun 17.14 275 *e*P **Pn** **12 59 19.9 +1.1**
CN2 *ep*P pP 12 59 31.0 +0.4
CN2 *es*P sP 12 59 39.4 +3.0
CN2 *e*S **S** **13 02 26.3 -10**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,11.0s
CN2 LR LR
comp=E,300nm,11.0s
CN2 LR LR
comp=Z,200nm,12.0s
KSRS Korea Array 17.67 253 P **Pn** **12 59 24.5 -0.9**
comp=Z,0.2nm,0.3s,baz=60,slow=9.8,SNR=3.7
KSRS LR LR 13 05 15.9
comp=Z,86nm,20.1s,baz=157,slow=34
KSRS Korea Array 17.67 253 P **Pn** **12 59 24.5 -0.9**
KSRS MLR MLR
comp=Z,86nm,20.1s
KSAR Wonju Array Be 17.70 253 P **Pn** **12 59 24.5 -1.3**
KSAR Wonju Array Be 17.70 253 P **Pn** **12 59 24.5 -1.3**
YAK Yakutsk 20.81 333 *e*P **P** **12 59 58.5 -1.3**
comp=Z,47nm,0.9s
YAK Yakutsk 20.81 333 *e*P **P** **13 00 03.6 +3.7**
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,43nm,0.9s
NJ2 Nanjing 26.87 252 *e*P **P** **13 01 01.4 +2.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.6
HHC Hu-ho-hao-te 27.83 275 *e*P **P** **13 01 08.6 +1.0**
HHC pP pP 13 01 23.5 +3.8
HHC sP sP 13 01 30.8 +5.7
HHC PP PP 13 02 00.4 -11
HHC PcP PcP 13 04 24.3 +1.7
HHC S **S** **13 05 46.4 -1.1**
HHC sS sS 13 06 11.3 +3.6
HHC SS 13 07 09.6
HHC pmax pmax
comp=Z,11nm,0.7s,mb4.6
HHC pmax pmax
comp=Z,120nm,7.4s
HHC LR LR
comp=N,130nm,15.5s,MS3.8
HHC LR LR
comp=E,120nm,15.5s,MS3.8
HHC LR LR
comp=Z,200nm,15.5s,MS3.8
ULN Ulaanbaatar 29.14 291 *e*P **P** **13 01 19.0 -0.1**
comp=Z,1.3nm,0.5s,mb3.9
ULN Ulaanbaatar 29.14 291 *e*P **P** **13 01 19.0 -0.1**
ULN pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
SONM Songino Array 29.58 292 P **P** **13 01 22.6 -0.5**
comp=Z,0.9nm,0.6s,mb3.7,baz=80,slow=8.7,SNR=11
SONM LR LR 13 14 11.9
comp=Z,72nm,18.5s,MS3.3,baz=160,slow=38
SONM Songino Array 29.58 292 P **P** **13 01 22.6 -0.5**
SONM Songino Array 29.58 292 P **P** **13 01 22.6 -0.5**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,72nm,18.5s
LZH Lanzhou 35.32 272 *e*P **P** **13 02 14.0 +0.6**
LZH pmax pmax
comp=Z,18nm,1.0s,mb5.0
LZH Lanzhou 35.32 272 *e*P **P** **13 02 14.0 +0.6**
comp=Z,18nm,1.0s,mb5.0
LZH pP pP 13 02 19.5 -6.1
LZH sP sP 13 02 22.0 -9.0
LZH Lanzhou 35.32 272 *e*P **P** **13 02 14.0 +0.6**
LZH pmax pmax
comp=Z,18nm,1.0s,mb5.0
GTA Gaotai 36.70 279⇑ *e*P **P** **13 02 25.8 +0.7**
GTA pP pP 13 02 40.9 +3.5
GTA sP sP 13 02 47.9 +5.1
GTA pmax pmax
comp=Z,16nm,1.0s,mb4.8
CD2 Chengdu 38.07 265 *e*P **P** **13 02 36.8 0.0**
CD2 pP pP 13 02 51.9 +2.8
CD2 sP sP 13 02 59.3 +4.8
CD2 PP PP 13 04 08.3 +4.0
CD2 S **S** **13 08 24.3 -2.0**
CD2 sS sS 13 08 50.3 +3.5
CD2 SS SS 13 11 03.9 -10
CD2 pmax pmax
comp=Z,40nm,0.7s,mb5.3
CD2 pmax pmax
comp=Z,120nm,4.6s
CD2 LR LR
comp=E,120nm,14.4s
CD2 LR LR
comp=Z,150nm,9.6s
GYA Guiyang 38.68 257 P **P** **13 02 42.8 +0.8**
GYA pP pP 13 02 59.5 +5.2
GYA sP sP 13 03 06.3 +6.6
GYA PP PP 13 04 15.6 +4.5
GYA PcP PcP 13 04 55.0 +1.8
GYA S **S** **13 08 33.9 -1.7**
GYA ScP ScP 13 08 36.5 -0.9
GYA PcS PcS 13 08 45.3 +2.6
GYA ScS ScS 13 12 44.8 -3.4
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
COLA College 39.38 37 *e*P **P** **13 02 47.1 -0.2**
comp=Z,4.4nm,0.8s,mb4.2
COLA College 39.38 37 *e*P **P** **13 02 47.2 -0.2**
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ILAR Eielson Array 39.79 37 P **P** **13 02 50.5 -0.3**
comp=Z,1.5nm,0.9s,mb3.7,baz=267,slow=8.2,SNR=29
ILAR Eielson Array 39.79 37 P **P** **13 02 50.5 -0.3**
ILAR Eielson Array 39.79 37 P **P** **13 02 50.5 -0.3**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
QIZ Qiongzhong 41.60 245 P **P** **13 03 03.3 -2.9**
QIZ S **S** **13 09 19.1 -0.2**
QIZ pmax pmax
comp=Z,23nm,1.6s,mb4.6
QIZ pmax pmax
comp=Z,120nm,4.1s
ZALV Zalesovo Beam 41.70 307 P **P** **13 03 04.9 -1.8**
comp=Z,0.4nm,0.3s,mb3.5,baz=60,slow=6.3,SNR=3.7
ZALV PcP PcP 13 05 02.4 -0.1
comp=Z,2.1nm,0.6s,baz=114,slow=2.5,SNR=6.7
ZALV Zalesovo Beam 41.70 307 P **P** **13 03 04.9 -1.8**
ZALV PcP PcP 13 05 02.4 -0.1
ZALV Zalesovo Beam 41.70 307 P **P** **13 03 04.9 -1.8**
ZALV 13 05 02.4
ZALV pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
KMI Kunming 42.26 258 P **P** **13 03 11.9 +0.3**
KMI pmax pmax
comp=Z,13nm,0.7s,mb4.7
KMI Kunming 42.26 258 P **P** **13 03 11.9 +0.3**
comp=Z,13nm,0.7s,mb4.7
KMI Kunming 42.26 258 P **P** **13 03 11.9 +0.3**
KMI pmax pmax
comp=Z,13nm,0.7s,mb4.7
WMQ Urumqi 43.22 292 *e*P **P** **13 03 19.9 +0.8**
INK Inuvik 44.79 31 *e*P **P** **13 03 31.5 +0.1**
comp=Z,1.9nm,0.6s,mb4.1
INK Inuvik 44.79 31 *e*P **P** **13 03 31.5 +0.1**
INK pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 45.55 298 *e*P **P** **13 03 37.3 -0.4**
MK31 Makanchi Array 45.55 298 *e*P **P** **13 03 37.3 -0.4**
MKAR Makanchi Array 45.55 298 P **P** **13 03 37.4 -0.3**
comp=Z,3.2nm,0.6s,mb4.4,baz=73,slow=7.2,SNR=26
MKAR PcP PcP 13 05 15.7 +0.1
comp=Z,0.9nm,0.6s,baz=62,slow=4.6,SNR=3.7
MKAR LR LR 13 23 48.4
comp=Z,82nm,19.4s,MS3.7,baz=353,slow=38
MKAR Makanchi Array 45.55 298 P **P** **13 03 37.4 -0.3**
MKAR PcP PcP 13 05 15.7 +0.1
MKAR Makanchi Array 45.55 298 P **P** **13 03 37.4 -0.3**
MKAR 13 05 15.7
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,82nm,19.4s
KURK Kurchatov 46.31 304 P **P** **13 03 43.3 -0.4**
comp=Z,1.3nm,0.3s,mb4.3,baz=73,slow=7.9,SNR=8.9
KURK PcP PcP 13 05 18.1 -0.1
comp=Z,1.5nm,0.5s,baz=77,slow=3.6,SNR=9.8
KURK Kurchatov 46.31 304 P **P** **13 03 43.3 -0.4**
KURK PcP PcP 13 05 18.1 -0.1
KURK Kurchatov 46.31 304 P **P** **13 03 43.3 -0.4**
KURK 13 05 18.2
KURK pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
CMAR Chiang Mai Arr 49.30 255 P **P** **13 04 08.1 +0.9**
comp=Z,0.6nm,0.6s,mb3.8,baz=45,slow=7.1,SNR=6.2
CMAR LR LR 13 26 48.8
comp=Z,40nm,18.1s,MS3.5,baz=30,slow=38
CMAR Chiang Mai Arr 49.30 255 P **P** **13 04 08.1 +0.9**
CMAR Chiang Mai Arr 49.30 255 P **P** **13 04 08.1 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR MLR MLR
comp=Z,40nm,18.1s
BVAR Borovoye Array 50.13 309 P **P** **13 04 13.7 +0.7**
comp=Z,0.7nm,0.5s,mb4.0,baz=45,slow=15,SNR=4.2
BVAR Borovoye Array 50.13 309 P **P** **13 04 13.7 +0.7**
BVAR Borovoye Array 50.13 309 P **P** **13 04 13.7 +0.7**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
TAPN Taplejung 51.56 272 *e*P **P** **13 04 24.9 +0.7**
comp=Z,9.6nm,0.6s,mb4.9
TAPN Taplejung 51.56 272 *e*P **P** **13 04 24.9 +0.7**
comp=Z,9.6nm,0.6s,mb4.9
JIRN Jiri 52.46 274 *e*P **P** **13 04 31.6 +0.7**
JIRN Jiri 52.46 274 *e*P **P** **13 04 31.6 +0.7**
GUN Gumba 52.53 274 *e*P **P** **13 04 32.0 +0.6**
comp=Z,20nm,0.5s,mb5.3
GUN Gumba 52.53 274 *e*P **P** **13 04 32.0 +0.6**
comp=Z,20nm,0.5s,mb5.3
RAMN Ramite 52.59 273 *e*P **P** **13 04 32.1 +0.3**
comp=Z,34nm,0.6s,mb5.4
RAMN Ramite 52.59 273 *e*P **P** **13 04 32.1 +0.3**
comp=Z,34nm,0.6s,mb5.5
KSH Kashi 52.98 292 *e*P **P** **13 04 38.9 +4.3**
KSH pP pP 13 04 53.4 +6.1
KSH sP sP 13 05 00.8 +8.2
KSH PcP PcP 13 05 45.8 +3.0
KSH PP PP 13 06 39.6 +5.3
KSH ScP ScP 13 09 36.3 -0.1
KSH PcS PcS 13 09 43.4 +1.9
KSH S **S** **13 12 01.6 +0.9**
KSH ScS ScS 13 14 18.1 -2.0
KSH SS SS 13 15 40.0 +0.2
KSH pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
KSH pmax pmax
comp=Z,170nm,5.8s
KSH LR LR
comp=N,150nm,5.0s
KSH LR LR
comp=E,140nm,6.8s
KSH LR LR
comp=Z,280nm,6.8s
KKN Kakani 53.03 274 *e*P **P** **13 04 35.6 +0.5**
KKN Kakani 53.03 274 *e*P **P** **13 04 35.6 +0.5**
KKN Kakani 53.03 274 *e*P **P** **13 04 35.6 +0.5**
PKI Pulchoki 53.07 274 *e*P **P** **13 04 35.7 +0.3**
PKI Pulchoki 53.07 274 *e*P **P** **13 04 35.7 +0.3**
PKI Pulchoki 53.07 274 *e*P **P** **13 04 35.7 +0.3**
DMN Daman 53.26 274 *e*P **P** **13 04 37.3 +0.5**
comp=Z,15nm,0.6s,mb5.1
DMN Daman 53.26 274 *e*P **P** **13 04 37.3 +0.5**
comp=Z,15nm,0.6s,mb5.1
GKN Gorkha 53.36 275 *e*P **P** **13 04 37.8 +0.3**
comp=Z,13nm,0.5s,mb5.2
GKN Gorkha 53.36 275 *e*P **P** **13 04 37.8 +0.3**
comp=Z,13nm,0.5s,mb5.1
DANN Dangsing 53.78 276 *e*P **P** **13 04 41.5 +0.9**
comp=Z,19nm,0.4s,mb5.4
DANN Dangsing 53.78 276 *e*P **P** **13 04 41.5 +0.9**
comp=Z,19nm,0.4s,mb5.4
YKA Yellowknife Ar 54.13 35 P **P** **13 04 42.8 +0.1**
comp=Z,1.5nm,0.6s,mb4.1,baz=300,slow=7.1,SNR=13
YKA Yellowknife Ar 54.13 35 P **P** **13 04 42.8 +0.1**
YKA Yellowknife Ar 54.13 35 P **P** **13 04 42.8 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
KOLN Koldanda 54.23 275 *e*P **P** **13 04 44.3 +0.4**
KOLN Koldanda 54.23 275 *e*P **P** **13 04 44.3 +0.4**
ABKAR Akbulak array 57.70 309 *e*P **P** **13 05 07.0 -1.3**
comp=Z,2.0nm,0.5s,mb4.4
KEV Kevo 58.38 340 *e*P **P** **13 05 10.5 -2.3**
KEV Kevo 58.38 340 *ep* **P** **13 05 10.5 -2.3**
ARCES ARCESS Array B 58.91 340 P **P** **13 05 15.2 -1.3**
comp=Z,3.3nm,0.9s,mb4.4,baz=44,slow=8.0,SNR=5.1
ARCES ARCESS Array B 58.91 340 P **P** **13 05 15.2 -1.3**
ARCES ARCESS Array B 58.91 340 P **P** **13 05 15.2 -1.3**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
KBL Kabul 60.35 291 *e*P **P** **13 05 26.1 -0.8**
KBL Kabul 60.35 291 *e*P **P** **13 05 26.1 -0.8**
JOF Joensuu 61.98 333 *e*P **P** **13 05 35.5 -2.0**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
JOF Joensuu 61.98 333 *ep* **P** **13 05 35.5 -2.0**
comp=Z,2.2nm,0.5s,mb4.5
FFC Flin Flon 64.00 38 *i* P **P** **13 05 53.0 +2.0**
FINES FINESS Array B 64.74 334 P **P** **13 05 53.7 -2.1**
comp=Z,2.7nm,0.5s,mb4.5,baz=40,slow=8.4,SNR=21
FINES FINESS Array B 64.74 334 P **P** **13 05 53.7 -2.1**
FINES FINESS Array B 64.74 334 P **P** **13 05 53.7 -2.1**
FINES pmax pmax
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 65.76 195 P **P** **13 06 02.6 -0.2**
comp=Z,2.1nm,0.8s,mb4.2,baz=13,slow=6.7,SNR=17
WRA Warramunga Arr 65.76 195 P **P** **13 06 02.6 -0.2**
WRA Warramunga Arr 65.76 195 P **P** **13 06 02.7 -0.1**
WRA pmax pmax
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 68.09 51 P **P** **13 06 18.1 +0.5**
comp=Z,0.9nm,0.6s,mb4.0,baz=294,slow=1.6,SNR=7.8
PDAR Pinedale Array 68.09 51 P **P** **13 06 18.1 +0.5**
NOA NORSAR Array B 69.28 340 P **P** **13 06 22.7 -1.9**
comp=Z,1.4nm,0.5s,mb4.2,baz=30,slow=6.3,SNR=17
NOA NORSAR Array B 69.28 340 P **P** **13 06 22.7 -1.9**
NOA NORSAR Array B 69.28 340 P **P** **13 06 22.7 -1.9**
NOA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 69.47 195 P **P** **13 06 27.4 +1.2**
comp=Z,1.5nm,0.7s,mb4.0,baz=7.0,slow=4.5,SNR=23
ASAR Alice Springs 69.47 195 P **P** **13 06 27.4 +1.2**
ASAR Alice Springs 69.47 195 P **P** **13 06 27.4 +1.2**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 70.30 313 *e*P **P** **13 06 32.1 +0.9**
comp=Z,12nm,0.8s,mb4.9
KIV Kislovodsk 70.30 313 *d i*P **P** **13 06 32.4 +1.2**
KIV *e* 13 06 51.7
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.0
AKASG Malin Array Be 71.74 325 P **P** **13 06 38.9 -0.9**
comp=Z,6.0nm,0.6s,mb4.7,baz=36,slow=6.1,SNR=20
AKASG Malin Array Be 71.74 325 P **P** **13 06 38.9 -0.9**
AKASG Malin Array Be 71.74 325 P **P** **13 06 38.9 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 71.75 325 *e*P **P** **13 06 38.9 -1.0**
comp=Z,6.5nm,0.9s,mb4.6
KIEV Kiev 71.75 325 *e*P **P** **13 06 38.9 -1.0**
KIEV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ANN Anapa 72.38 316 *e*P **P** **13 06 47.5 +3.8**
ANN *e**PP pP 13 07 03.1 +6.1
ANN *e*S S 13 16 11.5 +7.8
ANN pmax pmax
comp=Z,79nm,1.7s,mb5.4
BUR08 Bucovina Ar. S 75.78 325 *e*P **P** **13 07 03.3 -0.2**
OJC Ojcow 75.80 329 *e*P **P** **13 07 03.5 0.0**
OJC Ojcow 75.80 329 *e*P **P** **13 07 03.5 0.0**
STHS Stebnicka Huta 75.92 328 *e*P **P** **13 07 04.6 +0.4**
STHS pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
STHS Stebnicka Huta 75.92 328 *e*P **P** **13 07 04.6 +0.4**
STHS Stebnicka Huta 75.92 328 *e*P **P** **13 07 04.6 +0.4**
CRVS Cervenica-Dubn 76.25 328 *e*P **P** **13 07 05.7 -0.5**
CRVS pmax pmax
comp=Z,47nm,2.5s,mb5.0
CRVS Cervenica-Dubn 76.25 328 *e*P **P** **13 07 05.7 -0.5**
CRVS Cervenica-Dubn 76.25 328 *e*P **P** **13 07 05.7 -0.5**
KSP Ksiaz 76.51 332 *e*P **P** **13 07 07.4 -0.2**
KSP Ksiaz 76.51 332 *e*P **P** **13 07 07.4 -0.2**
UPC Upice 76.89 332 *e*P **P** **13 07 09.7 0.0**
UPC Upice 76.89 332 *e*P **P** **13 07 09.7 0.0**
DPC Dobruska-Polom 76.92 331 *e*P **P** **13 07 10.1 +0.2**
DPC Dobruska-Polom 76.92 331 *e*P **P** **13 07 10.1 +0.2**
KECS Kecovo 76.97 328 *e*P **P** **13 07 10.1 -0.1**
KECS Kecovo 76.97 328 *e*P **P** **13 07 10.1 -0.1**
KECS Kecovo 76.97 328 *e*P **P** **13 07 10.1 -0.1**
MORC Moravsky Berou 76.97 330 *e*P **P** **13 07 10.1 -0.1**
comp=Z,10nm,1.0s,mb4.7
MORC Moravsky Berou 76.97 330 *e*P **P** **13 07 10.1 -0.1**
MORC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL Collm 77.19 334 *e*P **P** **13 07 10.7 -0.7**
comp=Z,17nm,0.6s,mb5.2
CLL Collm 77.19 334⇑ *i*P **P** **13 07 10.8 -0.6**
CLL pmax pmax
comp=Z,17nm,0.6s,mb5.2
CLL Collm 77.19 334⇑ *i*P **P** **13 07 10.8 -0.6**
comp=Z,17nm,0.6s,mb5.2
BRG Berggiesshubel 77.26 333 *i* P **P** **13 07 11.4 -0.4**
comp=Z,4.0nm,0.7s,mb4.4
BRG Berggiesshubel 77.26 333 *e*P **P** **13 07 11.3 -0.5**
BRG Berggiesshubel 77.26 333 *i* P **P** **13 07 11.4 -0.4**
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PVCC Panska Ves 77.36 332 *e*P **P** **13 07 12.2 -0.1**
PVCC Panska Ves 77.36 332 *e*P **P** **13 07 12.2 -0.1**
CLZ Clausthal 77.53 335 *e*P **P** **13 07 13.2 -0.1**
CLZ Clausthal 77.53 335 *e*P **P** **13 07 13.2 -0.1**
VYHS Vyhne 77.58 329 *e*P **P** **13 07 13.8 +0.2**
VYHS pmax pmax
comp=Z,35nm,2.7s,mb4.8
VYHS Vyhne 77.58 329 *e*P **P** **13 07 13.8 +0.2**
VYHS Vyhne 77.58 329 *e*P **P** **13 07 13.8 +0.2**
PRU Pruhonice 77.83 332 *e*P **P** **13 07 14.7 -0.3**
PRU Pruhonice 77.83 332 *e*P **P** **13 07 14.7 -0.3**
BR131 Keskin Array S 78.02 315 *e*P **P** **13 07 16.5 +0.3**
comp=Z,2.4nm,0.6s,mb4.3
BRTR Keskin Array B 78.02 315 P **P** **13 07 16.7 +0.4**
comp=Z,3.1nm,0.7s,mb4.3,baz=86,slow=3.8,SNR=14
BRTR Keskin Array B 78.02 315 P **P** **13 07 16.7 +0.4**
BRTR Keskin Array B 78.02 315 P **P** **13 07 16.7 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
TANN Tannenbergstha 78.14 333 *e*P **P** **13 07 16.4 -0.3**
MOX Moxa 78.20 334 *e*P **P** **13 07 16.8 -0.3**
comp=Z,4.0nm,0.7s,mb4.5
MOX Moxa 78.20 334 *e*P **P** **13 07 16.8 -0.3**
MOX pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NKC Novy Kostel 78.30 333 *e*P **P** **13 07 17.3 -0.3**
NKC Novy Kostel 78.30 333 *e*P **P** **13 07 17.3 -0.3**
ROTZ Rotzenmuhle 78.78 333 *e*P **P** **13 07 20.5 +0.2**
BUG Bochum--Univer 78.79 337 *e*P **P** **13 07 19.5 -0.7**
KHC Kasperske Hory 78.89 332 *e*P **P** **13 07 20.9 0.0**
comp=Z,13nm,0.6s,mb5.0
KHC Kasperske Hory 78.89 332 *e*P **P** **13 07 20.9 +0.1**
KHC pmax pmax
comp=Z,13nm,0.6s,mb5.0
KHC Kasperske Hory 78.89 332 *e*P **P** **13 07 20.8 0.0**
GEC2 GERESS Array S 79.09 332 *e*P **P** **13 07 21.7 -0.3**
comp=Z,7.0nm,0.7s,mb4.7
GEC2 GERESS Array S 79.09 332 *e*P **P** **13 07 21.7 -0.3**
GEC2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GERES GERESS Array B 79.09 332 P **P** **13 07 21.8 -0.2**
comp=Z,4.8nm,0.6s,mb4.6,baz=37,slow=5.7,SNR=36
GERES GERESS Array B 79.09 332 P **P** **13 07 21.8 -0.2**
GERES GERESS Array B 79.09 332 P **P** **13 07 21.8 -0.2**
GERES pmax pmax
comp=Z,5.0nm,0.6s
WET Wettzell 79.11 333 *e*P **P** **13 07 22.3 +0.3**
WET Wettzell 79.11 333 *e*P **P** **13 07 22.3 +0.3**
CONA Conrad Observa 79.13 330⇑ *i*P **P** **13 07 22.7 +0.5**
comp=Z,6.5nm,0.6s,mb4.8
GRF Grafenberg Arr 79.16 334 *e*P **P** **13 07 22.6 +0.3**
comp=Z,14nm,0.6s,mb5.1
GRF Grafenberg Arr 79.16 334 *e*P **P** **13 07 22.6 +0.3**
GRF pmax pmax
comp=Z,14nm,0.6s,mb5.1
TNS Taunus Mts 79.54 336 *e*P **P** **13 07 24.3 -0.1**
TNS Taunus Mts 79.54 336 *e*P **P** **13 07 24.3 -0.1**
RJOB Jochberg 80.35 332 *e*P **P** **13 07 29.2 +0.4**
FUR Furstenfeldbru 80.48 333 *e*P **P** **13 07 29.6 +0.1**
FUR Furstenfeldbru 80.48 333 *e*P **P** **13 07 29.6 +0.1**
SOKA Soboth 80.49 330⇓ *i*P **P** **13 07 29.4 -0.2**
comp=Z,7.2nm,0.7s,mb4.7
STU Stuttgart 80.60 335 *e*P **P** **13 07 30.3 +0.2**
GIVF Givet 80.67 338 *e*P **P** **13 07 30.7 +0.2**
GIVF Givet 80.67 338 *e*P **P** **13 07 30.7 +0.2**
GIVF Givet 80.67 338 *e*P **P** **13 07 30.7 +0.2**
KBA Koelnbreinsper 80.74 331⇑ *i*P **P** **13 07 31.4 +0.5**
comp=Z,7.4nm,0.5s,mb4.9
TXAR Lajitas Array 80.81 58 P **P** **13 07 31.8 +0.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=298,slow=4.5,SNR=13
TXAR Lajitas Array 80.81 58 P **P** **13 07 31.8 +0.2**
TXAR Lajitas Array 80.81 58 P **P** **13 07 31.8 +0.2**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
WATA Walderalm 81.11 332⇓ *i*P **P** **13 07 33.4 +0.5**
comp=Z,9.2nm,0.5s,mb5.0
WTTA Wattenberg 81.15 332⇑ *i*P **P** **13 07 33.4 +0.3**
comp=Z,10.0nm,0.5s,mb5.0
MOTA Moosalm 81.26 333⇑ *i*P **P** **13 07 33.6 0.0**
comp=Z,7.4nm,0.6s,mb4.8
BFO Black Forest 81.26 335 *e*P **P** **13 07 33.6 0.0**
BFO Black Forest 81.26 335 *e*P **P** **13 07 33.6 0.0**
CDF Champ du Feu 81.50 336 *e*P **P** **13 07 34.7 -0.2**
comp=Z,8.5nm,0.8s,mb4.4
CDF Champ du Feu 81.50 336 *e*P **P** **13 07 34.7 -0.2**
comp=Z,8.5nm,0.8s,mb4.7
CDF Champ du Feu 81.50 336 *e*P **P** **13 07 34.7 -0.2**
CDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PAGF Fort de Pagny 81.82 337 *e*P **P** **13 07 36.9 +0.3**
MEZF Maizieres J'vi 82.06 337 *e*P **P** **13 07 38.5 +0.6**
MEZF Maizieres J'vi 82.06 337 *e*P **P** **13 07 38.5 +0.6**
MMAI Mount Meron Ar 82.13 309 P **P** **13 07 39.1 +0.5**
comp=Z,2.2nm,0.5s,mb4.4,baz=46,slow=7.1,SNR=8.7
MMAI Mount Meron Ar 82.13 309 P **P** **13 07 39.1 +0.5**
HAU Haudompre 82.14 336 *e*P **P** **13 07 37.9 -0.4**
HAU Haudompre 82.14 336 *e*P **P** **13 07 37.9 -0.4**
HAU Haudompre 82.14 336 *e*P **P** **13 07 37.9 -0.4**
HINF Hinteralfeld 82.16 336 *e*P **P** **13 07 38.2 -0.2**
HINF Hinteralfeld 82.16 336 *e*P **P** **13 07 38.2 -0.2**
HINF Hinteralfeld 82.16 336 *e*P **P** **13 07 38.2 -0.2**
SFTF Sexfontaines 82.33 337 *e*P **P** **13 07 39.1 -0.2**
SFTF Sexfontaines 82.33 337 *e*P **P** **13 07 39.1 -0.2**
FLN La Foliniere 83.25 340 *e*P **P** **13 07 43.9 -0.2**
FLN La Foliniere 83.25 340 *e*P **P** **13 07 43.9 -0.2**
FLN La Foliniere 83.25 340 *e*P **P** **13 07 43.9 -0.2**
LDF La Druitiere 83.32 340 *e*P **P** **13 07 44.2 -0.2**
comp=Z,2.9nm,0.5s,mb4.3
LDF La Druitiere 83.32 340 *e*P **P** **13 07 44.2 -0.2**
comp=Z,2.9nm,0.4s,mb4.7
LDF La Druitiere 83.32 340 *e*P **P** **13 07 44.2 -0.2**
LDF pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
LOR Lormes 83.51 337 *e*P **P** **13 07 44.9 -0.5**
comp=Z,20nm,0.9s,mb4.9
LOR Lormes 83.51 337 *e*P **P** **13 07 44.9 -0.5**
comp=Z,20nm,0.9s,mb5.2
LOR Lormes 83.51 337 *e*P **P** **13 07 44.9 -0.5**
LOR pmax pmax
comp=Z,20nm,0.9s,mb5.2
GRR Gorron 83.69 341 *e*P **P** **13 07 46.5 +0.2**
comp=Z,22nm,0.6s,mb5.2
GRR Gorron 83.69 341 *e*P **P** **13 07 46.5 +0.2**
comp=Z,22nm,0.6s,mb5.5
GRR Gorron 83.69 341 *e*P **P** **13 07 46.5 +0.2**
GRR pmax pmax
comp=Z,23nm,0.6s,mb5.5
SSF Saint Saulge 83.80 337 *e*P **P** **13 07 46.7 -0.2**

comp=Z,3.9nm,0.5s,mb4.5
SSF Saint Saulge 83.80 337 *e*P **P 13 07 46.7 -0.2**
comp=Z,3.9nm,0.5s,mb4.8
SSF Saint Saulge 83.80 337 *e*P **P 13 07 46.7 -0.2**
SSF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
SMF Signal de Mont 84.09 337 *e*P **P 13 07 48.3 -0.1**
comp=Z,25nm,0.9s,mb5.0
SMF Signal de Mont 84.09 337 *e*P **P 13 07 48.3 -0.1**
comp=Z,25nm,0.9s,mb5.3
SMF Signal de Mont 84.09 337 *e*P **P 13 07 48.3 -0.1**
SMF pmax pmax
comp=Z,25nm,0.9s,mb5.3
AVF Avril sur Loir 84.09 337 *e*P **P 13 07 48.4 0.0**
comp=Z,5.6nm,0.5s,mb4.6
AVF Avril sur Loir 84.09 337 *e*P **P 13 07 48.4 0.0**
comp=Z,5.6nm,0.5s,mb5.0
AVF Avril sur Loir 84.09 337 *e*P **P 13 07 48.4 0.0**
AVF pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
LPL La Plagne 84.27 335 *e*P **P 13 07 50.0 +0.7**
comp=Z,4.6nm,0.5s,mb4.6
LPL La Plagne 84.27 335 *e*P **P 13 07 50.0 +0.7**
comp=Z,4.6nm,0.5s,mb4.9
LPL La Plagne 84.27 335 *e*P **P 13 07 50.0 +0.7**
LPL pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
LPG La Plagne 84.28 335 *e*P **P 13 07 50.1 +0.7**
LPG La Plagne 84.28 335 *e*P **P 13 07 50.1 +0.7**
LPG La Plagne 84.28 335 *e*P **P 13 07 50.1 +0.7**
EIL Elat 84.91 307 P **P 13 07 53.2 +0.3**
comp=Z,6.3nm,0.7s,mb4.9,baz=20,slow=7.3,SNR=4.2
EIL Elat 84.91 307 P **P 13 07 53.2 +0.3**
MBDF Montbardon 84.96 334 *e*P **P 13 07 52.9 0.0**
comp=Z,7.4nm,0.6s,mb4.7
MBDF Montbardon 84.96 334 *e*P **P 13 07 52.9 0.0**
comp=Z,7.4nm,0.6s,mb5.0
MBDF Montbardon 84.96 334 *e*P **P 13 07 52.9 0.0**
MBDF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
ORIF Oris-en-Rattie 85.06 335 *e*P **P 13 07 54.0 +0.6**
comp=Z,11nm,0.7s,mb4.8
ORIF Oris-en-Rattie 85.06 335 *e*P **P 13 07 54.0 +0.6**
comp=Z,11nm,0.7s,mb5.1
ORIF Oris-en-Rattie 85.06 335 *e*P **P 13 07 54.0 +0.6**
ORIF pmax pmax
comp=Z,11nm,0.7s,mb5.1
MFF Saint Martin d 85.19 339 *e*P **P 13 07 54.4 +0.5**
MFF Saint Martin d 85.19 339 *e*P **P 13 07 54.4 +0.5**
MFF Saint Martin d 85.19 339 *e*P **P 13 07 54.4 +0.5**
VIVF Saint-Julien-l 85.48 336 *e*P **P 13 07 55.9 +0.5**
comp=Z,8.5nm,0.7s,mb4.7
VIVF Saint-Julien-l 85.48 336 *e*P **P 13 07 55.9 +0.5**
comp=Z,8.5nm,0.7s,mb5.0
VIVF Saint-Julien-l 85.48 336 *e*P **P 13 07 55.9 +0.5**
VIVF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
SBF Sospel 85.53 333 *e*P **P 13 07 55.3 -0.4**
SBF Sospel 85.53 333 *e*P **P 13 07 55.3 -0.4**
SBF Sospel 85.53 333 *e*P **P 13 07 55.3 -0.4**
RJF Les Rejaudoux 85.96 338 *e*P **P 13 07 57.3 -0.5**
RJF Les Rejaudoux 85.96 338 *e*P **P 13 07 57.3 -0.5**
RJF Les Rejaudoux 85.96 338 *e*P **P 13 07 57.3 -0.5**
LMR La Mourre 86.30 334 *e*P **P 13 07 59.4 -0.1**
LMR La Mourre 86.30 334 *e*P **P 13 07 59.4 -0.1**
LMR La Mourre 86.30 334 *e*P **P 13 07 59.4 -0.1**
LASF Ste Croix 86.43 336 *e*P **P 13 08 00.9 +0.8**
LASF Ste Croix 86.43 336 *e*P **P 13 08 00.9 +0.8**
ETSF Etsaut 88.75 338 *e*P **P 13 08 13.4 +2.1**
ETSF Etsaut 88.75 338 *e*P **P 13 08 13.4 +2.1**
ETSF Etsaut 88.75 338 *e*P **P 13 08 13.4 +2.1**
PLCA Paso Flores 150.62 96 PKPbc PKPbc 13 15 09.6 +0.5
comp=Z,0.9nm,0.5s,baz=212,slow=5.7,SNR=3.5
PLCA Paso Flores 150.62 96 PKPbc PKPbc 13 15 09.6 +0.5
PLCA Paso Flores 150.62 96 PKIKP PKPbc 13 15 09.6 +0.5
PLCA pmax pmax
comp=Z,1.0nm,0.5s
VNA2 Neumayer–Watz 151.33 196 *e* PKPbc 13 15 10.3 +0.5
baz=347,slow=0.8
VNA2 *e* 13 15 24.0
VNA2 *e* 13 15 28.8
VNA3 Neumayer Olymp 151.48 194 *e* PKPbc 13 15 10.4 +0.2
VNA3 *e* 13 15 22.8

*IDC **13** 12:59:23.6±1.1, 36°.67N×69°.73E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/27, mbtmp3.6/9, ML3.2/3, Error ellipse: s-maj=25.6km s-min=20.1km az=103.0*
*ISCJB **13** 12:59:26.5±0.5, 37°.08N±0°.03×69°.54E±0°.08, h10km, mb3.6/5, Error ellipse: s-maj=9.6km s-min=4.1km az=6.7*
*NNC **13** 12:59:31.4±4.7, 37°.26N×69°.60E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=45.8km s-min=38.8km az=125.0*
*NEIC **13** 12:59:31.5±1.1, 36°.96N×69°.59E, h68km±12km, mb3.6/1, Error ellipse: s-maj=16.5km s-min=10.2km az=101.0*
ISC 13 12:59:27.9±0.6, 36°.99N±0°.03×69°.38E±0°.08, h10km, n38, σ1°34/43, mb3.6/5, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.46**	**186**	*e*Pn	**Pn**	**13 00 09.4**	**+1.4**
KBL				*e*Sn	**Sn**	**13 00 41.8**	**+3.7**
CEP	**Cherat**	**3.77**	**146**	P	**Pn**	**13 00 26.0**	**-0.1**
CEP				S	**Sn**	**13 01 11.0**	**+0.4**
THW	**Thamme Wali**	**4.62**	**154**	P	**Pn**	**13 00 36.7**	**-0.9**
AML	**Almayashu**	**6.12**	**32**	P	**Pn**	**13 00 59.3**	**+1.0**
	SNR=9.2						
AML				P		13 00 59.3	
	SNR=9.2						
KK31	**Karatay Array**	**6.17**	**8**	Pn	**Pn**	**13 01 00.8**	**+1.8**
	6.5nm,0.8s,baz=193,slow=13,SNR=31						
KK31				⇑Sn	**Sn**	**13 02 09.0**	**-0.5**
	1.6nm,0.4s,baz=188,slow=25,SNR=3.9						
KKAR	**Karatay Array**	**6.17**	**8**	*e*Pn	**Pn**	**13 01 00.9**	**+2.0**
	3.2nm,0.3s						
EKS2	**Erkin-Say**	**6.60**	**29**	*e*Pn	**Pn**	**13 01 06.5**	**+1.6**
EKS2				*e*Sg	**Sg**	**13 03 00.8**	**+1.2**
KZA	**Kyzart**	**6.81**	**40**	P	**Pn**	**13 01 08.3**	**+0.5**
	SNR=6.6						
KZA				P		13 01 08.3	
	SNR=6.6						
AAK	**Ala-Archa**	**6.88**	**33**	P	**Pn**	**13 01 09.8**	**+1.2**
	SNR=9.7						
AAK				P		13 01 09.8	
	SNR=9.7						
AAK	**Ala-Archa**	**6.88**	**33**	*e*Pn	**Pn**	**13 01 09.6**	**+1.0**
	30nm,0.6s						
AAK				*e*Sg	**Sg**	**13 03 07.5**	**-1.0**
CHMS	**Chumysh**	**7.28**	**33**	P	**Pn**	**13 01 15.0**	**+0.8**
	SNR=10						
CHMS				P		13 01 15.0	
	SNR=10						
USP	**Ospenovka**	**7.39**	**30**	P	**Pn**	**13 01 15.6**	**-0.2**
	SNR=8.0						
USP				P		13 01 15.6	
	SNR=8.0						
TKM2	**Tokmak 2**	**7.61**	**37**	P	**Pn**	**13 01 18.9**	**+0.2**
	SNR=11						
TKM2				P		13 01 18.9	
	SNR=11						
TKM2	**Tokmak 2**	**7.61**	**37**	⇓Pn	**Pn**	**13 01 18.7**	**0.0**
	5.7nm,0.8s						
TKM2				⇓Lg		13 03 23.3	
	4.0nm,0.7s						
TKM2	**Tokmak 2**	**7.61**	**37**	*e*Pn	**Pn**	**13 01 18.2**	**-0.5**
	5.6nm,0.6s						
MKAR	**Makanchi Array**	**13.71**	**40**	Pn	**Pn**	**13 02 40.4**	**-1.8**
	0.1nm,0.3s,baz=219,slow=17,SNR=4.3						
MKAR	**Makanchi Array**	**13.71**	**40**	Pn	**Pn**	**13 02 40.4**	**-1.8**
AB31	**Akbulak array**	**14.05**	**334**	⇑P	**Pn**	**13 02 46.5**	**-0.3**
	1.2nm,0.6s						
ABKAR	**Akbulak array**	**14.05**	**334**	*e*Pn	**Pn**	**13 02 46.5**	**-0.3**
	1.6nm,0.5s						
KURK	**Kurchatov**	**15.24**	**23**	Pn	**Pn**	**13 02 57.1**	**-5.7**
	0.1nm,0.3s,baz=211,slow=12,SNR=4.8						
KURK	**Kurchatov**	**15.24**	**23**	Pn	**Pn**	**13 02 57.1**	**-5.7**
AKTO	**Aktyubinsk**	**15.72**	**332**	⇑P	**Pn**	**13 03 14.7**	**+5.4**
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**16.05**	**2**	Pn	**Pn**	**13 03 11.2**	**-2.3**
	0.2nm,0.3s,baz=172,slow=11,SNR=2.5						
BVAR	**Borovoye Array**	**16.05**	**2**	Pn	**Pn**	**13 03 11.2**	**-2.3**
BRVK	**Borovoye**	**16.08**	**2**	P	**Pn**	**13 03 15.4**	**+1.5**
	2.6nm,0.5s						
ZAA0	**Zalesovo Array**	**20.05**	**27**	*e*P	**P**	**13 03 58.1**	**-2.8**
ZALV	**Zalesovo Beam**	**20.05**	**27**	P	**P**	**13 03 58.5**	**-2.4**
	2.0nm,0.5s,baz=216,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**20.05**	**27**	P	**P**	**13 03 58.5**	**-2.4**
SONM	**Songino Array**	**29.14**	**56**	P	**P**	**13 05 26.0**	**-2.9**
	0.7nm,1.0s,mb3.4,baz=261,slow=9.9,SNR=4.8						
SONM	**Songino Array**	**29.14**	**56**	P	**P**	**13 05 26.0**	**-2.9**
CMAR	**Chiang Mai Arr**	**31.83**	**117**	P	**P**	**13 05 48.5**	**-4.5**
	0.7nm,0.7s,mb3.6,baz=304,slow=8.8,SNR=8.2						
CMAR	**Chiang Mai Arr**	**31.83**	**117**	P	**P**	**13 05 48.5**	**-4.5**
TORD	**Torodi Ar. Bea**	**64.43**	**267**	P	**P**	**13 10 04.0**	**-0.6**
	0.4nm,0.8s,mb3.5,baz=25,slow=5.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**64.43**	**267**	P	**P**	**13 10 04.0**	**-0.6**
WRA	**Warramunga Arr**	**83.36**	**121**	P	**P**	**13 11 49.6**	**-5.7**
	0.7nm,0.7s,mb3.8,baz=323,slow=5.0,SNR=7.6						
WRA	**Warramunga Arr**	**83.36**	**121**	P	**P**	**13 11 49.6**	**-5.7**
ASAR	**Alice Springs**	**85.61**	**124**	P	**P**	**13 12 01.4**	**-5.2**
	0.5nm,0.6s,mb3.9,baz=305,slow=4.8,SNR=12						
ASAR	**Alice Springs**	**85.61**	**124**	P	**P**	**13 12 01.4**	**-5.2**

*NIED **13** 13:24:00, 31°.40N×129°.50E, h5km, Mw3.8 Best double couple: M0=4.77000×10^14 NP1:φ=277.00000°, δ=69.00000°, λ=30.00000°. NP2:φ=175.00000°, δ=62.00000°, λ=156.00000°.*
JMA 13 13:24:23.4, 31°.38N×129°.47E, h10km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.36**	**35**	P	Pg	13 24 30.7	+0.1
JSJ				S	Sg	13 24 35.8	+0.3
JSU	**Suzuyama**	**0.85**	**81**	P	Pg	13 24 39.3	-0.5
JSU				S	Sg	13 24 51.4	+0.5
JKC	**Kuchinoerabu**	**1.11**	**146**	P	Pb	13 24 43.7	-0.9
JKC				S	Sg	13 24 58.8	-0.3
JHD	**Hondo**	**1.22**	**27**	P	Pn	13 24 46.1	-0.4
JHD				S	Sb	13 25 03.4	+1.0
JZO	**Okuchi**	**1.22**	**51**	P	Pn	13 24 46.3	-0.3
JZO				S	Sb	13 25 03.2	+0.7
JTSR	**Tashiro 2**	**1.26**	**99**	P	Pn	13 24 46.2	-0.9
JTSR				S	Sb	13 25 03.4	-0.1
NGSJ	**Nagasakinomoza**	**1.28**	**13**	P	Pn	13 24 46.4	-0.9
NGSJ				S	Sb	13 25 04.5	+0.4

IDC 13 13:54:41.3±2.1, 61°.12N×166°.76E, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.6/26, mbtmp3.7/5, Error ellipse: s-maj=162.5km s-min=24.1km az=138.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**21.02**	**60**	P	P	13 59 26.4	+0.4
	1.3nm,0.7s,baz=276,slow=11,SNR=30						
INK	**Inuvik**	**25.50**	**48**	P	P	14 00 10.6	-0.2
	0.9nm,0.7s,baz=291,slow=12,SNR=6.6						
PDAR	**Pinedale Array**	**50.89**	**71**	P	P	14 03 43.6	+0.1
	0.5nm,0.8s,baz=316,slow=4.1,SNR=5.2						
WRA	**Warramunga Arr**	**84.89**	**210**	P	P	14 07 17.4	-0.2
	0.7nm,0.7s,baz=15,slow=5.4,SNR=5.9						
ASAR	**Alice Springs**	**88.57**	**210**	P	P	14 07 35.9	+0.4
	0.2nm,0.8s,baz=27,slow=6.4,SNR=3.2						

*NEIC **13** 13:57:26.4, 15°.58N×96°.06W, h6km, MD3.6(MEX), After MEX.*
MEX 13 13:57:26.4±0.5, 15°.58N×96°.06W, h7km±3km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.19**	**345**	*e*P	Pg	13 57 30.2	-0.1
HUIG				*i* S	Sg	13 57 32.6	-0.3
HUIG	**Huatulco**	**0.19**	**345**	*e*P	Pg	13 57 30.2	-0.1
HUIG				*i* S	Sg	13 57 32.6	-0.3
VHO	**Vista Hermosa**	**1.62**	**336**	*i* P	Pn	13 57 51.7	-3.7
VHO				*i* S	Sn	13 58 12.5	-4.0
VHO	**Vista Hermosa**	**1.62**	**336**	*i* P	Pn	13 57 51.7	-3.7
VHO				*i* S	Sn	13 58 12.5	-4.0
CMIG	**Matias Romero**	**1.88**	**37**	*e*P	Pn	13 57 55.1	-3.8
CMIG				*i* S	Sn	13 58 18.5	-4.4
CMIG	**Matias Romero**	**1.88**	**37**	*e*P	Pn	13 57 55.1	-3.8
CMIG				*i* S	Sn	13 58 18.5	-4.4
PNIG	**Pinotepa**	**2.15**	**292**	*i* P	Pn	13 57 59.5	-3.2
PNIG				*i* S	Sn	13 58 25.0	-4.6
PNIG	**Pinotepa**	**2.15**	**292**	*i* P	Pn	13 57 59.5	-3.2
PNIG				*i* S	Sn	13 58 25.0	-4.6
UTMO	**Huajuapan**	**2.79**	**323**	*i* P	Pn	13 58 09.2	-2.4
UTMO				*i* S	Sn	13 58 41.3	-4.2
UTMO	**Huajuapan**	**2.79**	**323**	*i* P	Pn	13 58 09.2	-2.4
UTMO				*i* S	Sn	13 58 41.3	-4.2
TGIG		**3.06**	**67**	*i* P	Pn	13 58 14.0	-1.2
TGIG				*i* S	Sn	13 58 48.4	-3.8
TGIG		**3.06**	**67**	*i* P	Pn	13 58 14.0	-1.2
TGIG				*i* S	Sn	13 58 48.4	-3.8

IDC 13 14:27:43.0±3.1, 31°.07S×176°.72W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=75.1km s-min=36.6km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.79**	**214**	Pn	Pn	14 29 52.0	+0.6
	0.4nm,0.3s,baz=306,slow=18,SNR=7.9						
URZ				Sn	Sn	14 31 30.0	-1.2
	0.8nm,0.3s,baz=177,slow=19,SNR=8.4						
ASAR	**Alice Springs**	**44.18**	**267**	P	P	14 35 54.2	+0.4
	0.4nm,0.5s,baz=105,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**45.23**	**272**	P	P	14 36 01.9	-0.3
	0.7nm,0.3s,baz=111,slow=8.1,SNR=24						
FINES	**FINESS Array B**	**146.15**	**340**	PKPbc	PKPbc	14 47 23.4	-1.0
	1.0nm,0.6s,baz=70,slow=4.6,SNR=7.3						

GUC 13 14:38:53.8±0.6, 34°.69S×72°.26W, h16km±4km, MD3.7, ML2.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.91**	**111**	*e*P	Pb	14 39 10.3	-0.9
NICH				*i* S	Sb	14 39 22.2	-0.8
LNV	**Longovilo**	**1.01**	**44**	*e*P	Pb	14 39 11.2	-1.7
CACH	**El Canelo**	**1.49**	**68**	*e*P	Pn	14 39 19.8	-0.1
CACH				*i* S	Sn	14 39 39.9	+0.9
COCH	**Cobquecura**	**1.50**	**196**	*e*P	Pn	14 39 19.2	-0.9
COCH				*i* S	Sn	14 39 38.9	-0.5
COCH				AML	AML	14 39 47.5	
	comp=E,53nm,0.5s						
CHCH	**Chadas Angostu**	**1.53**	**61**	*e*P	Pn	14 39 20.0	-0.4
CHCH				*i* S	Sn	14 39 39.9	-0.2
LMEL	**Las Melosas**	**1.90**	**64**	*e*P	Pn	14 39 26.0	+0.5
LMEL				*e*S	Sn	14 39 50.7	+1.5
LMEL				AML	AML	14 39 54.5	
	comp=N,284nm,0.3s						
ROCH	**El Roble**	**2.00**	**32**	*e*P	Pn	14 39 26.5	-0.4
ROCH				*e*S	Sn	14 39 53.8	+2.1
ROCH				AML	AML	14 40 02.2	
	comp=N,67nm,0.8s						
PEL	**Peldehue**	**2.02**	**41**	*e*P	Pn	14 39 28.0	+0.8
PEL				*e*S	Sn	14 39 52.6	+0.5
FCH	**Farellones**	**2.13**	**51**	*e*P	Pn	14 39 29.2	+0.6
FCH				*e*S	Sn	14 39 56.3	+1.6
FCH				AML	AML	14 39 59.3	
	comp=N,66nm,0.2s						

*IDC **13** 15:03:55.2±3.2, 34°.57N×142°.83E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.5/25, mbtmp3.6/8, ML3.6/2, Error ellipse: s-maj=110.0km s-min=19.1km az=67.0*
*ISCJB **13** 15:04:01.9±1.4, 34°.12N±0°.05×141°.79E±0°.08, h31km±10km, mb3.4/6, Error ellipse: s-maj=12.6km s-min=7.1km az=149.0*
*JMA **13** 15:04:01.3±0.3, 34°.07N×141°.76E, h30km±4km, M3.2*
*NEIC **13** 15:04:01.3, 34°.07N×141°.76E, h30km, MG3.2(JMA), After JMA.*
ISC 13 15:04:02.4±1.5, 34°.12N±0°.05×141°.72E±0°.08, h18km±8km, n26, σ0°65/33, mb3.4/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.81**	**311**	P	**Pb**	**15 04 17.3**	**-0.6**
BSO1				*e*S	**Sg**	**15 04 29.3**	**+0.3**
BSO2	**Boso 2**	**1.02**	**309**	*e*S	**Sb**	**15 04 34.9**	**+0.5**
BSO3	**Boso 3**	**1.21**	**305**	P	**Pn**	**15 04 23.6**	**-0.8**
BSO4	**Boso 4**	**1.43**	**308**	P	**Pn**	**15 04 27.3**	**-0.1**
BSO4				*e*S	**Sn**	**15 04 46.2**	**+0.4**
KTR	**Katsuura**	**1.55**	**312**	P	**Pn**	**15 04 29.5**	**+0.5**
CHOJ	**Chosi**	**1.73**	**336**	P	**Pn**	**15 04 31.4**	**-0.2**
JHJ2	**Mitsune**	**1.88**	**238**	P	**Pn**	**15 04 33.3**	**-0.3**
JHJ2				*e*S	**Sn**	**15 04 56.4**	**-0.4**
JIM2	**Oshima 3**	**1.98**	**288**	P	**Pn**	**15 04 33.7**	**-1.3**
JIM2				S	**Sn**	**15 05 00.3**	**+0.9**
MJAR	**Matsushiro Arr**	**3.75**	**311**	Pn	**Pn**	**15 04 59.3**	**0.0**
	2.2nm,0.3s,baz=193,slow=6.3,SNR=74						
MJAR				Sn	**Sn**	**15 05 43.0**	**-0.1**
	2.8nm,0.3s,baz=85,slow=9.4,SNR=5.2						
MJAR	**Matsushiro Arr**	**3.75**	**311**	Pn	**Pn**	**15 04 59.3**	**0.0**
MJAR				Sn	**Sn**	**15 05 43.0**	**-0.1**
MAJO	**Matsushiro**	**3.75**	**311**	*e*Pn	**Pn**	**15 04 59.6**	**+0.2**
MAT	**Matsushiro**	**3.75**	**311**	P	**Pn**	**15 04 59.7**	**+0.3**
MAT				S	**Sn**	**15 05 42.3**	**-0.8**
CBIJ	**Chichi jima**	**7.01**	**177**	Pn	**Pn**	**15 05 44.9**	**+0.7**
	3.7nm,0.3s,baz=306,slow=19,SNR=9.6						
CBIJ	**Chichi jima**	**7.01**	**177**	Pn	**Pn**	**15 05 44.9**	**+0.7**
SONM	**Songino Array**	**29.70**	**308**	P	**P**	**15 10 08.4**	**+1.2**
	0.6nm,0.6s,mb3.5,baz=108,slow=10,SNR=4.9						
SONM	**Songino Array**	**29.70**	**308**	P	**P**	**15 10 08.4**	**+1.2**
ZALV	**Zalesovo Beam**	**44.10**	**315**	P	**P**	**15 12 08.3**	**-0.9**
	0.6nm,0.6s,mb3.5,baz=101,slow=4.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**44.10**	**315**	P	**P**	**15 12 08.3**	**-0.9**
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**15 12 24.3**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=87,slow=9.4,SNR=7.2						
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**15 12 24.3**	**+0.4**
BVAR	**Borovoye Array**	**52.74**	**314**	P	**P**	**15 13 12.2**	**-3.7**
	0.1nm,0.3s,mb3.2,baz=111,slow=9.7,SNR=2.1						
BVAR	**Borovoye Array**	**52.74**	**314**	P	**P**	**15 13 12.2**	**-3.7**
WRA	**Warramunga Arr**	**54.22**	**189**	P	**P**	**15 13 27.0**	**0.0**
	0.3nm,0.5s,mb3.5,baz=5.8,slow=7.6,SNR=6.7						
WRA	**Warramunga Arr**	**54.22**	**189**	P	**P**	**15 13 27.0**	**0.0**
ASAR	**Alice Springs**	**57.94**	**188**	P	**P**	**15 13 53.7**	**+0.1**
	0.2nm,0.7s,mb3.2,baz=6.7,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**57.94**	**188**	P	**P**	**15 13 53.7**	**+0.1**

*NEIC **13** 15:18:43.6, 15°.66N×96°.04W, h5km, MD3.6(MEX), After MEX.*
MEX 13 15:18:43.5±0.6, 15°.64N×96°.08W, h8km±3km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.13**	**347**	*i* P	Pg	15 18 45.8	-0.5
HUIG				*i* S	Sg	15 18 48.1	-0.2
HUIG	**Huatulco**	**0.13**	**347**	*i* P	Pg	15 18 45.8	-0.5
HUIG				*i* S	Sg	15 18 48.1	-0.2
VHO	**Vista Hermosa**	**1.56**	**336**	*i* P	Pn	15 19 08.3	-3.1
VHO				*i* S	Sn	15 19 27.5	-4.3
VHO	**Vista Hermosa**	**1.56**	**336**	*i* P	Pn	15 19 08.3	-3.1
VHO				*i* S	Sn	15 19 27.5	-4.3
CMIG	**Matias Romero**	**1.84**	**38**	*i* P	Pn	15 19 12.3	-3.2
CMIG				*i* S	Sn	15 19 33.8	-5.1
CMIG	**Matias Romero**	**1.84**	**38**	*i* P	Pn	15 19 12.3	-3.2
CMIG				*i* S	Sn	15 19 33.8	-5.1
PNIG	**Pinotepa**	**2.11**	**291**	*i* P	Pn	15 19 16.0	-3.0
PNIG				*i* S	Sn	15 19 43.3	-2.1
PNIG	**Pinotepa**	**2.11**	**291**	*i* P	Pn	15 19 16.0	-3.0
PNIG				*i* S	Sn	15 19 39.7	-5.7
UTMO	**Huajuapan**	**2.73**	**323**	*i* P	Pn	15 19 26.5	-1.2
UTMO				*i* S	Sn	15 19 58.6	-2.2
UTMO	**Huajuapan**	**2.73**	**323**	*i* P	Pn	15 19 25.1	-2.5
UTMO				*i* S	Sn	15 19 55.9	-5.0

*BJI **13** 15:24:13.1, 5°.60S×110°.20E, h547km, mB4.6/24, mb4.7/41*
*MOS **13** 15:24:14.8±0.9, 5°.48S×110°.20E, h557km, mb4.5/23, Error ellipse: s-maj=12.2km s-min=6.4km az=115.2*
*ISCJB **13** 15:24:14.0±0.2, 5°.65S±0°.03×110°.10E±0°.03, h550km±2km, mb4.5/91, Error ellipse: s-maj=5.5km s-min=4.0km az=31.2*
*DJA **13** 15:24:14, 5°.73S×110°.08E, h547km, mb4.8/37*
*IDC **13** 15:24:15.3±0.8, 5°.58S×110°.22E, h546km±8km, mb3.9/33, mb1 3.9/35, mb1mx3.9/35, mbtmp3.9/35, Error ellipse: s-maj=11.1km s-min=5.8km az=56.0*
*NEIC **13** 15:24:15.5±0.4, 5°.59S×110°.17E, h551km±5km, mb4.7/39, Error ellipse: s-maj=6.6km s-min=3.7km az=54.0*
ISC 13 15:24:14.9±0.2, 5°.66S±0°.03×110°.09E±0°.03, h544km±2km, h545km±3.9km: pP-P, n350, σ0°92/305, mb4.5/89, 6C-32D, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRI	**Semarang**	**1.43**	**166**	P	**P**	**15 25 22.6**	**+0.7**
BJII	**Banjamegara**	**1.71**	**193**	P	**P**	**15 25 23.0**	**+0.1**
YOGI	**Yogyakarta**	**2.16**	**175**	P	**P**	**15 25 24.0**	**-0.8**
UGM	**Wanagama**	**2.28**	**169**	P	**P**	**15 25 24.7**	**-0.7**
SJI	**Sawahan**	**2.65**	**141**	P	**P**	**15 25 27.5**	**+0.1**
LEM	**Lembang**	**2.72**	**245**	P	**P**	**15 25 28.1**	**+0.3**
PCJI	**Pacitan**	**2.74**	**157**	P	**P**	**15 25 26.8**	**-1.1**
PWJI	**Pagerwojo**	**2.90**	**144**	P	**P**	**15 25 27.9**	**-1.0**
CISI	**Cisompet, Garu**	**2.94**	**230**	P	**P**	**15 25 27.8**	**-1.3**
CBJI	**Citeko**	**3.31**	**257**	P	**P**	**15 25 32.1**	**+0.6**
PBKI	**Pangkalan Bun**	**3.33**	**28**	P	**P**	**15 25 32.2**	**+0.5**
KRKI	**Karangkates**	**3.42**	**137**	P	**P**	**15 25 31.8**	**-0.4**
DBJI	**Dramaga**	**3.44**	**255**	P	**P**	**15 25 32.1**	**-0.3**
SKJI	**Sukabumi**	**3.76**	**249**	P	**P**	**15 25 34.3**	**-0.3**
TPI	**Tanjungpandan**	**3.77**	**320**	P	**P**	**15 25 35.2**	**+0.5**
BLJI	**Banyuglugur**	**4.05**	**121**	P	**P**	**15 25 37.2**	**+0.4**
KMMI	**Kalianget**	**4.09**	**110**	P	**P**	**15 25 37.8**	**+0.7**
GMJI	**Gumukmas**	**4.22**	**128**	P	**P**	**15 25 37.5**	**-0.6**
CGJI	**Cibinong**	**4.47**	**258**	P	**P**	**15 25 39.0**	**-1.1**
BLSI	**Bandar Lampung**	**4.83**	**273**	P	**P**	**15 25 43.0**	**0.0**
BBKI	**Banjar Baru**	**5.21**	**65**	P	**P**	**15 25 46.5**	**+0.2**
	2.3nm7μm252nm,0.7s						
NBBI	**Negara**	**5.24**	**121**	P	**P**	**15 25 46.2**	**-0.

KDI **Kendari** 12.60 83 P P 15 27 00.8 +1.1
502nm30nm,1.4s
KKM **Kota Kinabalu** 13.13 28 *e*P P 15 27 04.6 -0.6
142nm,0.9s
KKM **Kota Kinabalu** 13.13 28 P P 15 27 04.6 -0.6
2µm218nm,0.9s
MRSI **Marisa** 13.31 63 P P 15 27 06.6 -0.5
778nm55nm,0.6s
LUWI **Luwuk** 13.46 71 P P 15 27 08.4 -0.3
1µm123nm,0.9s
IPM **Ipoh** 13.54 318 P P 15 27 07.2 -2.3
IPM **Ipoh** 13.54 318 *e*P P 15 27 10.5 +1.0
29nm,0.6s
IPM **Ipoh** 13.54 318 P P 15 27 10.6 +1.1
49nm,0.8s
MYLDM **Lahad Datu** 13.65 38 P P 15 27 13.0 +2.3
MYLDM **Lahad Datu** 13.65 38 P P 15 27 12.7 +2.1
2µm178nm,1.1s
PSI **Prapat** 13.96 307 P P 15 27 12.3 -1.6
29nm,0.9s
GTOI **Gorontalo** 14.34 65 P P 15 27 14.5 -3.2
KULM **Kulim** 14.39 319 *e*P P 15 27 17.6 -0.7
18nm,0.8s
KULM **Kulim** 14.39 319 P P 15 27 14.6 -3.7
COCO **West Island** 14.61 243 *e*Pn P 15 27 21.2 +0.7
COCO **West Island** 14.61 243 *e*P P 15 27 21.2 +0.7
TSI **Tuntungan** 14.67 308 P P 15 27 20.7 -0.5
308nm,0.8s
KMSI **Cibinong** 15.19 66 P P 15 27 24.1 -2.4
6µm178nm,0.8s
LHMI **Lhok Sumawe** 17.00 309 P P 15 27 44.8 +0.7
6µm646nm,0.9s
MBWA **Marble Bar** 18.02 150 *e*P P 15 27 53.3 0.0
65nm,0.8s
MBWA **Marble Bar** 18.02 150 P P 15 27 53.8 +0.5
74nm,0.9s
LBMI **Labuha** 18.08 75 P P 15 27 55.4 +1.5
155nm,1.0s
TNTI **Ternate** 18.39 70 P P 15 27 56.6 -0.2
2µm222nm,1.0s
BSI **Banda Aceh** 18.46 307 P P 15 27 57.1 -0.3
52nm,0.9s
CTBH **Cotabato--PC H** 19.06 48⇑*i*P P 15 28 07.9 +5.1
FITZ **Fitzroy Crossi** 19.59 130 P P 15 28 08.0 +0.4
1.2nm,0.3s,baz=325,slow=7.0,SNR=32
FITZ **Fitzroy Crossi** 19.59 130 *e*P P 15 28 07.9 +0.3
9.3nm,0.4s
FITZ **Fitzroy Crossi** 19.59 130 P P 15 28 08.0 +0.4
CM31 **Chiang Mai Arr** 26.36 336 *e*P P 15 29 08.8 +0.8
17nm,0.8s,mb4.7
CMAR **Chiang Mai Arr** 26.36 336 P P 15 29 09.4 +1.4
18nm,0.8s,mb4.8,baz=171,slow=8.0,SNR=179
CMAR PcP PcP 15 32 17.0 +1.3
4.2nm,0.9s,baz=198,slow=2.8,SNR=14
CMAR ScP ScP 15 35 04.7 +0.3
1.2nm,0.9s,baz=174,slow=2.6,SNR=7.8
CMAR **Chiang Mai Arr** 26.36 336 P P 15 29 09.4 +1.4
CMAR PcP PcP 15 32 17.0 +1.3
CMAR ScP ScP 15 35 04.7 +0.3
CMAR **Chiang Mai Arr** 26.36 336 P P 15 29 09.4 +1.4
CMAR 15 32 17.0
CHTO **Chiang Mai** 26.68 336 *e*P P 15 29 11.7 +0.9
7.3nm,0.7s,mb4.4
CHTO **Chiang Mai** 26.68 336 *e*P P 15 29 11.7 +0.8
CHTO pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
CHTO **Chiang Mai** 26.68 336 P P 15 29 12.0 +1.1
KLBR **Kellerberrin** 26.78 165 *e*P P 15 29 12.4 +0.8
comp=Z,22nm,0.4s,mb5.1
WRA **Warramunga Arr** 27.52 123 P P 15 29 18.8 +0.5
comp=Z,0.9nm,0.3s,mb3.9,baz=313,slow=9.2,SNR=22
WRA PcP PcP 15 32 18.9 +0.3
comp=Z,4.4nm,0.8s,baz=297,slow=2.4,SNR=11
WRA S **S** 15 33 18.5 -2.9
comp=Z,7.8nm,1.0s,baz=296,slow=18,SNR=9.0
WRA ScP ScP 15 35 08.1 +0.2
comp=Z,2.3nm,1.0s,baz=304,slow=2.7,SNR=5.6
WRA **Warramunga Arr** 27.52 123 P P 15 29 18.8 +0.5
WRA PcP PcP 15 32 18.9 +0.3
WRA S **S** 15 33 18.5 -2.9
WRA ScP ScP 15 35 08.1 +0.2
WRA **Warramunga Arr** 27.52 123 P P 15 29 18.8 +0.6
WRA 15 32 18.9
WRA S **S** 15 33 18.5 -2.9
WRAB **Tennant Creek** 27.53 123 *e*P P 15 29 19.1 +0.8
WRAB **Tennant Creek** 27.53 123 *e*P P 15 29 19.1 +0.8
WB2 **Warramunga Arr** 27.53 123 *e*P P 15 29 18.3 0.0
NWAO **Narrogin (SRO)** 27.94 167 P P 15 29 22.8 +1.1
comp=Z,12nm,0.4s,mb4.9,baz=348,slow=8.1,SNR=30
NWAO **Narrogin (SRO)** 27.94 167 *e*P P 15 29 22.4 +0.7
NWAO P 15 29 22.8
NWAO **Narrogin (SRO)** 27.94 167 *e*P P 15 29 22.4 +0.7
AS31 **Alice Springs** 29.09 130 *e*P P 15 29 31.9 +0.1
ASAR **Alice Springs** 29.09 130 P P 15 29 32.3 +0.4
comp=Z,1.0nm,0.3s,mb4.0,baz=305,slow=7.8,SNR=55
ASAR PcP PcP 15 32 23.1 +0.6
comp=Z,3.7nm,0.6s,baz=328,slow=2.1,SNR=19
ASAR S **S** 15 33 42.6 -3.0
comp=Z,3.3nm,0.8s,baz=297,slow=15,SNR=12
ASAR ScP ScP 15 35 13.5 +0.7
comp=Z,3.0nm,0.8s,baz=312,slow=3.0,SNR=11
ASAR **Alice Springs** 29.09 130 P P 15 29 32.3 +0.4
ASAR PcP PcP 15 32 23.1 +0.6
ASAR S **S** 15 33 42.6 -3.0
ASAR ScP ScP 15 35 13.5 +0.7
ASAR **Alice Springs** 29.09 130 P P 15 29 32.3 +0.4
ASAR 15 32 23.1
ASAR S **S** 15 33 42.7 -2.9
FORT **Forrest** 30.16 148 *e*P P 15 29 42.1 +1.1
comp=Z,12nm,0.4s,mb4.8
KMI **Kunming** 31.42 347 P P 15 29 54.6 +2.7
KMI pmax pmax
comp=Z,18nm,1.2s,mb4.5
KMI **Kunming** 31.42 347 P P 15 29 54.6 +2.7
comp=Z,18nm,1.2s,mb4.5
KMI **Kunming** 31.42 347 P P 15 29 54.6 +2.7
KMI pmax pmax
comp=Z,18nm,1.2s,mb4.5
GYA **Guiyang** 32.10 354⇑*i*P P 15 29 59.6 +2.0
GYA PP PP 15 31 32.8 +2.7
GYA sP sP 15 32 33.8 +2.0
GYA S **S** 15 34 36.8 +5.1
GYA pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
GYA pmax pmax
comp=Z,80nm,4.4s
CAL **Calcutta** 35.19 324 *e*PKP P 15 30 23.5 -0.2
SHL **Shillong** 35.72 331 *e*PKP P 15 30 28.7 +0.6
CD2 **Chengdu** 36.86 351 P P 15 30 38.5 +1.1
CD2 pP 15 32 13.8
CD2 sP sP 15 33 13.3 -0.2
CD2 S **S** 15 35 47.0 +3.7
CD2 pmax pmax
comp=Z,50nm,0.8s,mb5.1
CD2 pmax pmax
comp=Z,80nm,4.4s
NJ2 **Nanjing** 38.42 12 *e*P P 15 30 50.3 +0.2
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.6
HYB **Hyderabad** 38.68 307 *i*P P 15 30 51.5 -0.9
ODAN **Odare** 39.09 327⇓*i*P P 15 30 56.3 +0.7
comp=Z,116nm,0.7s,mb5.5
ODAN **Odare** 39.09 327⇓*i*P P 15 30 56.3 +0.7
comp=Z,116nm,0.7s,mb5.5
TAPN **Taplejung** 39.30 328⇓*i*P P 15 30 58.5 +1.2
comp=Z,121nm,0.7s,mb5.5
TAPN **Taplejung** 39.30 328⇓*i*P P 15 30 58.5 +1.2
comp=Z,121nm,0.7s,mb5.5
STKA **Stephens Creek** 39.34 135 P P 15 30 58.6 +0.9
comp=Z,4.8nm,0.4s,mb4.4,baz=305,slow=7.6,SNR=28
STKA PcP PcP 15 32 52.8 +0.4
comp=Z,4.7nm,0.5s,baz=324,slow=5.1,SNR=4.6
STKA **Stephens Creek** 39.34 135 *e*P P 15 30 58.4 +0.8
comp=Z,4.5nm,0.4s,mb4.3
STKA **Stephens Creek** 39.34 135 *e*P P 15 30 58.2 +0.6
comp=Z,0.9nm,0.4s,mb3.6
STKA P 15 30 58.6
STKA PcP PcP 15 32 52.8 +0.4
STKA **Stephens Creek** 39.34 135 *e*P P 15 30 58.2 +0.6
STKA 15 32 52.8
STKA pmax pmax
comp=Z,1.0nm,0.4s
XAN **Xi'an** 39.49 358 P P 15 30 58.9 +0.2
XAN pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
XAN pmax pmax
comp=Z,27nm,5.2s
LSA **Lhasa** 39.58 334 P P 15 31 01.3 +1.8
RAMN **Ramite** 39.59 326⇓*i*P P 15 31 00.4 +0.7
RAMN **Ramite** 39.59 326⇓*i*P P 15 31 00.4 +0.7
JIRN **Jiri** 40.37 326⇓*i*P P 15 31 06.8 +0.9
comp=Z,31nm,0.7s,mb5.0
JIRN **Jiri** 40.37 326⇓*i*P P 15 31 06.8 +0.9
comp=Z,31nm,0.7s,mb5.0
GUN **Gumba** 40.74 326⇓*i*P P 15 31 09.7 +0.9
comp=Z,108nm,0.7s,mb5.5
GUN **Gumba** 40.74 326⇓*i*P P 15 31 09.7 +0.9
comp=Z,108nm,0.7s,mb5.5
PKI **Pulchoki** 40.74 325⇓*i*P P 15 31 09.1 +0.3
PKI **Pulchoki** 40.74 325⇓*i*P P 15 31 09.1 +0.3
PKI **Pulchoki** 40.74 325⇓*i*P P 15 31 09.1 +0.3
DMN **Daman** 40.94 325⇓*i*P P 15 31 10.9 +0.5
comp=Z,87nm,0.7s,mb5.4
DMN **Daman** 40.94 325⇓*i*P P 15 31 10.9 +0.5
comp=Z,87nm,0.7s,mb5.4
KKN **Kakani** 40.98 325⇓*i*P P 15 31 11.1 +0.4
KKN **Kakani** 40.98 325⇓*i*P P 15 31 11.1 +0.4
KKN **Kakani** 40.98 325⇓*i*P P 15 31 11.1 +0.4
GKN **Gorkha** 41.51 325⇓*i*P P 15 31 15.2 +0.3
GKN **Gorkha** 41.51 325⇓*i*P P 15 31 15.2 +0.3
LZH **Lanzhou** 41.93 352 *e*P P 15 31 20.1 +2.0
LZH pP pP 15 32 56.5 +1.3
LZH sP sP 15 33 56.5 0.0
LZH pmax pmax
comp=Z,35nm,1.0s,mb4.8
LZH pmax pmax
comp=Z,84nm,4.7s
LZH **Lanzhou** 41.93 352 *e*P P 15 31 20.1 +2.0
comp=Z,35nm,1.0s,mb4.8
LZH pP pP 15 32 56.5 +1.3
LZH PcP PcP 15 33 02.0 +1.2
LZH sP sP 15 33 56.5 0.0
LZH **Lanzhou** 41.93 352 *e*P P 15 31 20.1 +2.0
LZH *PP pP 15 32 56.5 +1.3
LZH pP pP 15 33 02.0 +6.8
LZH *SP sP 15 33 56.5 0.0
LZH pmax pmax
comp=Z,35nm,1.0s,mb4.8
KOLN **Koldanda** 41.94 324⇓*i*P P 15 31 18.6 +0.3
comp=Z,82nm,0.6s,mb5.4
KOLN **Koldanda** 41.94 324⇓*i*P P 15 31 18.6 +0.3
comp=Z,82nm,0.6s,mb5.4
KAD **Karad** 42.18 303 *e*PKP P 15 31 20.0 -0.4
KAD AMb AMB 15 31 20.2
comp=Z,91nm,0.9s,mb5.3
DANN **Dangsing** 42.28 324⇓*i*P P 15 31 21.3 +0.3
comp=Z,106nm,0.7s,mb5.5
DANN **Dangsing** 42.28 324⇓*i*P P 15 31 21.3 +0.3
comp=Z,106nm,0.7s,mb5.5
BHPL **Bhopal** 42.93 313 *e*PKP P 15 31 25.6 -0.5
POO **Poona** 43.06 305 *e*PKP P 15 31 26.7 -0.5
POO AMb AMB 15 31 27.9
comp=Z,42nm,0.6s,mb5.1
BJI **Beijing** 45.81 7 P P 15 31 48.4 +0.3
GTA **Gaotai** 45.84 349 ⇓P P 15 31 50.0 +1.7
GTA pP pP 15 33 29.5 +1.7
GTA sP sP 15 34 28.3 -0.1
GTA pmax pmax
comp=Z,20nm,0.8s,mb4.7
KSAR **Wonju Array Be** 45.98 20 P P 15 31 49.5 +0.1
KSAR **Wonju Array Be** 45.98 20 P P 15 31 49.5 +0.1
KSRS **Korea Array** 46.00 20 P P 15 31 49.5 -0.1
comp=Z,3.0nm,0.9s,mb3.7,baz=201,slow=8.7,SNR=5.8
NDI **New Delhi** 46.56 319 *e*PKP P 15 31 52.6 -1.3
HNR **Honiara** 49.53 98 PKPPKP 16 02 57.2
comp=Z,20nm,0.4s,baz=61,slow=1.9,SNR=4.5
HNR **Honiara** 49.53 98 *e*P P 15 32 15.5 -0.9
HNR **Honiara** 49.53 98 *e*P P 15 32 15.5 -0.9
MAJO **Matsushiro** 49.55 30 *e*P P 15 32 13.9 -2.2
MAJO **Matsushiro** 49.55 30 *e*P P 15 32 13.9 -2.2
MJAR **Matsushiro Arr** 49.55 30 P P 15 32 14.7 -1.4
comp=Z,3.2nm,0.6s,mb3.9,baz=215,slow=8.4,SNR=18
MJAR PcP PcP 15 33 29.1 +1.3
comp=Z,3.3nm,0.8s,baz=206,slow=5.4,SNR=7.8
MJAR ScP ScP 15 36 31.3 -0.2
comp=Z,1.2nm,0.9s,baz=209,slow=5.0,SNR=4.3
MJAR **Matsushiro Arr** 49.55 30 P P 15 32 14.7 -1.4
MJAR PcP PcP 15 33 29.1 +1.3
MJAR ScP ScP 15 36 31.3 -0.2
MJAR **Matsushiro Arr** 49.55 30 P P 15 32 14.7 -1.4
MJAR 15 33 29.1
CN2 **Changchun** 51.15 14 *e*P P 15 32 26.1 -1.5
CN2 *e*PcP PcP 15 33 32.4 -1.2
CN2 *e*S S 15 39 04.4 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
CN2 pmax pmax
comp=Z,200nm,4.0s
MDJ **Mudanjiang** 53.03 17 P P 15 32 40.8 -0.3
MDJ pP pP 15 34 23.8 -1.2
MDJ sP sP 15 35 22.5 -1.7
MDJ S **S** 15 39 29.9 -0.3
MDJ pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
MDJ pmax pmax
comp=Z,33nm,3.8s
WMQ **Urumqi** 53.24 340 P P 15 32 43.3 +0.7
WMQ pP pP 15 34 27.3 +0.6
WMQ sP sP 15 35 24.8 -1.1
WMQ pmax pmax
comp=Z,32nm,0.8s,mb4.7
WMQ pmax pmax
comp=Z,250nm,5.8s
ULN **Ulaanbaatar** 53.36 357 *e*P P 15 32 43.9 +0.5
comp=Z,13nm,0.7s,mb4.4
ULN *e*PcP PcP 15 33 41.4 -0.6
ULN **Ulaanbaatar** 53.36 357 *e*P P 15 32 43.9 +0.5
ULN *e* 15 33 41.4
ULN pmax pmax
comp=Z,13nm,0.7s,mb4.4
SONM **Songino Array** 53.36 357 P P 15 32 43.9 +0.5
comp=Z,9.5nm,0.6s,mb4.3,baz=177,slow=8.1,SNR=108
SONM PcP PcP 15 33 42.2 +0.3
comp=Z,3.9nm,0.7s,baz=167,slow=3.2,SNR=12
SONM **Songino Array** 53.36 357 P P 15 32 43.9 +0.5
SONM PcP PcP 15 33 42.2 +0.3
SONM **Songino Array** 53.36 357 P P 15 32 43.9 +0.5
SONM 15 33 42.2
KSH **Kashi** 54.88 328 P P 15 32 53.3 -1.0
KSH PcP PcP 15 33 48.8 +0.7
KSH pP pP 15 34 38.6 -0.6
KSH PP PP 15 35 05.9 +0.5
KSH sP sP 15 35 35.4 -2.8
KSH ScS ScS 15 41 43.8 -3.2
KSH pmax pmax
comp=Z,14nm,0.7s,mb4.3
KSH pmax pmax
comp=Z,97nm,5.3s
KBL **Kabul** 55.65 319 *e*P P 15 32 58.6 -1.1
comp=Z,13nm,0.8s,mb4.2
KBL **Kabul** 55.65 319 *e*P P 15 32 58.6 -1.1
KBL pmax pmax
comp=Z,13nm,0.8s,mb4.2
ZAK **Zakamensk** 56.12 355 *e*P P 15 33 01.1 -1.6
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb3.5
KZA **Kyzart** 57.13 330 P P 15 33 10.8 +1.0
SNR=24
KZA P 15 33 10.8
SNR=24
TKM2 **Tokmak 2** 57.58 330 P P 15 33 13.3 +0.5
SNR=42
TKM2 P 15 33 13.3
SNR=42
TKM2 **Tokmak 2** 57.58 330 *e*P P 15 33 13.2 +0.3
comp=Z,28nm,0.8s,mb4.5
TKM2 **Tokmak 2** 57.58 330 *i*P P 15 33 13.3 +0.4
KBK **Karagaybulak** 57.71 330 P P 15 33 14.7 +1.0
SNR=33
KBK P 15 33 14.7
SNR=33
MK31 **Makanchi Array** 57.74 338 *e*P P 15 33 13.9 +0.1
MK31 **Makanchi Array** 57.74 338 *e*P P 15 33 13.9 0.0
MKAR **Makanchi Array** 57.74 338 P P 15 33 14.1 +0.2
comp=Z,23nm,0.5s,mb4.6,baz=151,slow=7.4,SNR=277
MKAR **Makanchi Array** 57.74 338 P P 15 33 14.1 +0.2
MKAR **Makanchi Array** 57.74 338 P P 15 33 14.1 +0.2
AAK **Ala-Archa** 57.92 330 P P 15 33 15.8 +0.6
SNR=15
AAK P 15 33 15.8
SNR=15
AAK **Ala-Archa** 57.92 330 *e*P P 15 33 15.3 +0.2
comp=Z,89nm,1.0s,mb5.0
AAK *e*PcP PcP 15 34 01.4 +1.4
AAK **Ala-Archa** 57.92 330*d*i P P 15 33 15.7 +0.6
AAK pmax pmax
comp=Z,46nm,1.0s,mb4.7
AML **Almayashu** 57.97 329 P P 15 33 16.2 +0.8
SNR=45
AML P 15 33 16.2
SNR=45
EKS2 **Erkin-Say** 58.30 329 P P 15 33 18.1 +0.3
SNR=46
EKS2 P 15 33 18.1
SNR=46
EKS2 **Erkin-Say** 58.30 329 *e*P P 15 33 18.0 +0.2
comp=Z,27nm,0.8s,mb4.5
EKS2 **Erkin-Say** 58.30 329 *e*P P 15 33 18.0 +0.3
EKS2 pmax pmax
comp=Z,27nm,0.8s,mb4.5
USP **Ospenovka** 58.38 330 P P 15 33 18.3 +0.1
SNR=14
USP P 15 33 18.3
SNR=14
YSS **Yuzh-Sakhalins** 59.83 25 *e*P P 15 33 27.0 -0.9
KK31 **Karatay Array** 60.32 328 *e*P P 15 33 30.1 -1.1
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
KKAR **Karatay Array** 60.32 328 *e*P P 15 33 30.6 -0.7
comp=Z,8.0nm,0.7s,mb4.2
KKAR **Karatay Array** 60.32 328 *e*P P 15 33 30.6 -0.6
KKAR pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
KURK **Kurchatov** 62.35 338 P P 15 33 43.9 -0.5
comp=Z,13nm,0.8s,mb4.4,baz=152,slow=5.3,SNR=88
KURK PcP PcP 15 34 17.6 -0.1
comp=Z,7.6nm,0.9s,baz=143,slow=3.6,SNR=13
KURK **Kurchatov** 62.35 338 *e*P P 15 33 43.7 -0.6
comp=Z,18nm,0.8s,mb4.5
KURK P 15 33 43.9
KURK PcP PcP 15 34 17.6 -0.1
KURK **Kurchatov** 62.35 338 *e*P P 15 33 43.7 -0.6
KURK 15 34 17.7
KURK pmax pmax
comp=Z,18nm,0.8s,mb4.5
ZAA0 **Zalesovo Array** 63.06 344 *e*P P 15 33 48.4 -0.5
ZALV **Zalesovo Beam** 63.06 344 P P 15 33 48.3 -0.5
comp=Z,18nm,0.7s,mb4.6,baz=146,slow=4.5,SNR=94
ZALV PcP PcP 15 34 19.7 -0.9
comp=Z,3.1nm,0.6s,baz=155,slow=3.4,SNR=4.9
ZALV PKP2bc 16 02 46.4
comp=Z,0.5nm,0.4s,baz=298,slow=6.2,SNR=4.3
ZALV **Zalesovo Beam** 63.06 344 P P 15 33 48.3 -0.5
ZALV PcP PcP 15 34 19.7 -1.0
ZALV ⇑*e* 16 02 46.4
ZALV **Zalesovo Beam** 63.06 344 P P 15 33 48.3 -0.5
ZALV 15 34 19.7
BOD **Bodaibo** 63.34 2⇓*i*P P 15 33 50.4 -0.2
BOD pmax pmax
comp=Z,11nm,1.5s,mb4.1
NVS **Novosibirsk** 64.30 343 *e*P P 15 33 55.5 -1.2
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS pmax pmax
comp=Z,15nm,1.3s,mb4.3
RPZ **Rata Peaks** 65.31 136 P P 15 34 04.3 +0.8
comp=Z,15nm,0.9s,mb4.4,baz=131,slow=3.8,SNR=6.3
RPZ **Rata Peaks** 65.31 136 P P 15 34 04.3 +0.8
VOSK **Vostochnaya** 66.92 335 P P 15 34 12.1 -1.1
VOSK pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
BVA0 **Borovoye Array** 67.39 335 *i*P P 15 34 15.4 -0.6
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
BVAR **Borovoye Array** 67.39 335 P P 15 34 15.6 -0.4
comp=Z,11nm,0.7s,mb4.5,baz=142,slow=8.7,SNR=61
BVAR PcP PcP 15 34 38.7 0.0
comp=Z,4.0nm,0.8s,baz=134,slow=4.3,SNR=8.1
BVAR **Borovoye Array** 67.39 335 P P 15 34 15.6 -0.4
BVAR PcP PcP 15 34 38.7 0.0
BVAR **Borovoye Array** 67.39 335 P P 15 34 15.6 -0.4
BVAR 15 34 38.7
BRVK **Borovoye** 67.46 335 *e*P P 15 34 16.1 -0.3
comp=Z,9.0nm,1.0s,mb4.2
BRVK **Borovoye** 67.46 335*d*i P P 15 34 15.8 -0.6
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.4
ZRNK **Zerenda** 67.92 335 P P 15 34 18.7 -0.5
ZRNK pmax pmax
comp=Z,16nm,0.8s,mb4.6
URZ **Urewera** 68.52 129 P P 15 34 22.6 -0.7
comp=Z,3.9nm,0.3s,mb4.3,baz=226,slow=0.9,SNR=13
URZ **Urewera** 68.52 129 P P 15 34 22.6 -0.7
QRN **Al-Qurain** 68.83 304 *e*P P 15 34 24.5 -0.8
QRN AMb AMB 15 34 25.4
comp=Z,94nm,1.1s,mb5.2
YAK **Yakutsk** 69.16 10 *e*P P 15 34 25.7 -0.8
comp=Z,53nm,0.9s,mb5.1
YAK **Yakutsk** 69.16 10 *e*P P 15 34 25.2 -1.4
YAK *e*S S 15 42 44.1 -4.9
YAK *e* 15 43 32.8
YAK pmax pmax
comp=Z,38nm,1.0s,mb4.9
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=N,11nm,1.1s
YAK smax
comp=N,62nm,2.0s
YAK smax
comp=E,34nm,1.5s
UMR **Umm Al-Rimmam** 69.27 304 *e*P P 15 34 27.1 -0.8
UMR AMb AMB 15 34 27.8
comp=Z,90nm,0.7s,mb5.4
MAW **Mawson** 69.55 197 P P 15 34 30.2 +1.4
comp=Z,4.5nm,0.6s,mb4.2,baz=70,slow=6.8,SNR=19
MAW **Mawson** 69.55 197 *e*P P 15 34 30.2 +1.4
comp=Z,0.7nm,0.7s
MAW **Mawson** 69.55 197 *e*P P 15 34 30.2 +1.4
MAW pmax pmax
comp=Z,1.0nm,0.7s
NAY **Al-Naaiem** 69.56 304 *e*P P 15 34 28.6 -1.0
NAY AMb AMB 15 34 29.6
comp=Z,31nm,1.0s,mb4.8
MIB **Mutribah** 69.66 304 *e*P P 15 34 29.1 -1.2
MIB AMb AMB 15 34 30.0
comp=Z,48nm,0.7s,mb5.2
AB31 **Akbulak array** 69.89 328 *i*P P 15 34 30.7 -0.5
AB31 pmax pmax
comp=Z,28nm,0.5s,mb5.0
ABKAR **Akbulak array** 69.89 328 *e*P P 15 34 31.1 -0.1
comp=Z,30nm,0.6s,mb5.0
PETK **Petropavlovsk-** 70.95 28 P P 15 34 37.3 0.0
comp=Z,5.2nm,0.7s,mb4.2,baz=164,slow=5.9,SNR=5.6
PETK **Petropavlovsk-** 70.95 28 P P 15 34 37.3 0.0
PETK **Petropavlovsk-** 70.95 28 P P 15 34 37.3 -0.1
AKTO **Aktyubinsk** 71.58 328 P P 15 34 40.8 -0.4
comp=Z,9.3nm,0.6s,mb4.4,baz=95,slow=3.5,SNR=37
AKTO **Aktyubinsk** 71.58 328 P P 15 34 40.8 -0.4
AKTO **Aktyubinsk** 71.58 328 P P 15 34 40.8 -0.3
KMBO **Kilima Mbogo** 72.81 271 *e*P P 15 34 50.1 +1.0
comp=Z,1.5nm,0.5s,mb3.7
KMBO **Kilima Mbogo** 72.81 271 *e*P P 15 34 50.1 +1.0
KMBO pmax pmax
comp=Z,1.0nm,0.5s
SVE **Sverdlovsk** 74.11 334⇓*i*P P 15 34 55.7 +0.2
SVE pmax pmax
comp=Z,18nm,1.0s,mb4.5
ARU **Arti** 74.78 333 *e*P P 15 34 59.0 -0.3
comp=Z,16nm,1.1s,mb4.4
ARU **Arti** 74.78 333*d*i P P 15 34 58.6 -0.7
ARU 15 37 53.4
ARU S S 15 43 50.8 -1.0
ARU SS SS 15 48 49.3 -5.8
ARU pmax pmax
comp=Z,24nm,1.7s,mb4.3
GNI **Garni** 75.21 314 P P 15 35 01.9 -0.1
comp=Z,4.7nm,0.6s,mb4.1,baz=339,slow=14,SNR=5.7
GNI **Garni** 75.21 314 P P 15 35 01.9 -0.1
GNI *e*P 15 35 02.1
GNI **Garni** 75.21 314 P P 15 35 01.9 -0.2
VNDA **Vanda** 76.73 170 *e*P P 15 35 10.4 +0.6
comp=Z,7.6nm,1.3s,mb4.0

VNDA	**Vanda**	**76.73**	**170**	*e*P	**P**	**15 35 10.4**	**+0.6**
VNDA				pmax	pmax		
comp=Z,8.0nm,1.3s							
KIV	**Kislovodsk**	**77.97**	**317**	*e*P	**P**	**15 35 16.7**	**-0.4**
comp=Z,17nm,1.1s,mb4.3							
KIV	**Kislovodsk**	**77.97**	**317**	*e*P	**P**	**15 35 17.6**	**+0.5**
KIV				*e*PP	pP	15 37 14.8	+2.1
KIV				*e*		15 38 23.6	
KIV				pmax	pmax		
comp=Z,17nm,1.0s,mb4.3							
ASF	**Jabal al Asfar**	**78.92**	**304**	P	**P**	**15 35 23.5**	**+1.0**
comp=Z,14nm,0.9s,mb4.3,baz=336,slow=1.5,SNR=18							
ASF	**Jabal al Asfar**	**78.92**	**304**	P	**P**	**15 35 23.5**	**+1.0**
ASF	**Jabal al Asfar**	**78.92**	**304**	P	**P**	**15 35 23.5**	**+1.0**
SOC	**Sochi**	**79.88**	**316**	*i* P	**P**	**15 35 26.6**	**-0.7**
SOC				pmax	pmax		
comp=Z,45nm,0.8s,mb4.8							
EIL	**Elat**	**79.98**	**301**	P	**P**	**15 35 28.3**	**+0.2**
comp=Z,8.8nm,0.8s,mb4.1,baz=284,slow=1.4,SNR=7.1							
EIL	**Elat**	**79.98**	**301**	P	**P**	**15 35 28.3**	**+0.2**
MMAI	**Mount Meron Ar**	**80.34**	**305**	P	**P**	**15 35 31.2**	**+1.3**
comp=Z,6.2nm,0.6s,mb4.2,baz=101,slow=7.9,SNR=14							
MMAI	**Mount Meron Ar**	**80.34**	**305**	P	**P**	**15 35 31.2**	**+1.3**
LSZ	**Lusaka**	**80.74**	**255**	*e*P	**P**	**15 35 33.0**	**+0.7**
comp=Z,10nm,0.9s,mb4.3							
LSZ	**Lusaka**	**80.74**	**255**	*e*P	**P**	**15 35 33.0**	**+0.7**
LSZ				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.2							
ANN	**Anapa**	**81.81**	**317**	*e*P	**P**	**15 35 26.0**	**-11**
ANN				*e*PP	pP	15 37 25.4	-8.8
ANN				pmax	pmax		
comp=Z,68nm,1.5s,mb4.9							
CSS	**Prodhromos**	**82.45**	**306**	*e*P	**P**	**15 35 41.4**	**+0.7**
comp=Z,27nm,0.8s,mb4.7							
VSR	**Storozhevoye**	**82.62**	**323**	*e*P	**P**	**15 35 40.7**	**-0.4**
VSR				pmax	pmax		
comp=N,3.0nm,0.7s							
VSR				pmax	pmax		
comp=E,6.0nm,0.7s							
VSR				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.5							
LBTB	**Lobatse**	**82.66**	**246**	P	**P**	**15 35 42.5**	**+0.5**
comp=Z,5.4nm,0.6s,mb4.2,baz=105,slow=6.3,SNR=12							
LBTB	**Lobatse**	**82.66**	**246**	*e*P	**P**	**15 35 42.1**	**+0.1**
comp=Z,10.0nm,0.9s,mb4.3							
LBTB				P		15 35 42.5	
LBTB	**Lobatse**	**82.66**	**246**	*e*P	**P**	**15 35 42.1**	**+0.1**
LBTB				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.3							
BOSA	**Boshof**	**82.80**	**242**	P	**P**	**15 35 43.1**	**+0.5**
comp=Z,4.7nm,0.7s,mb4.1,baz=123,slow=1.7,SNR=9.1							
BOSA	**Boshof**	**82.80**	**242**	P	**P**	**15 35 43.1**	**+0.5**
BOSA				*e*P		15 35 43.3	
BOSA	**Boshof**	**82.80**	**242**	P	**P**	**15 35 43.1**	**+0.5**
BILL	**Bilibino**	**83.24**	**18**	*e*P	**P**	**15 35 42.9**	**-1.0**
comp=Z,2.8nm,0.6s,mb4.0							
BILL	**Bilibino**	**83.24**	**18**	*e*P	**P**	**15 35 43.1**	**-0.8**
BILL				*e*PP	pP	15 37 42.4	+0.9
BILL				*e*SP	sP	15 38 39.2	+2.3
BILL				*e*		15 39 05.0	
BILL				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.1							
BR131	**Keskin Array S**	**83.25**	**311**	*e*P	**P**	**15 35 44.5**	**-0.1**
comp=Z,12nm,0.8s,mb4.5							
BRTR	**Keskin Array B**	**83.25**	**311**	P	**P**	**15 35 44.5**	**0.0**
comp=Z,17nm,0.9s,mb4.6,baz=126,slow=6.6,SNR=64							
BRTR	**Keskin Array B**	**83.25**	**311**	P	**P**	**15 35 44.5**	**0.0**
BRTR	**Keskin Array B**	**83.25**	**311**	P	**P**	**15 35 44.6**	**0.0**
QSPA	**South Pole Qui**	**84.32**	**180**	P	**P**	**15 35 50.3**	**+1.2**
comp=Z,5.9nm,0.5s,mb4.4,baz=320,slow=0.5,SNR=57							
QSPA	**South Pole Qui**	**84.32**	**180**	*e*P	**P**	**15 35 50.2**	**+1.1**
comp=Z,7.4nm,0.9s,mb4.2							
OBN	**Obninsk**	**85.29**	**326**	*e*P	**P**	**15 35 54.1**	**-0.1**
comp=Z,118nm,1.4s,mb5.2							
OBN	**Obninsk**	**85.29**	**326**	*d*P	**P**	**15 35 54.0**	**-0.2**
OBN				*e*PP	pP	15 37 52.8	+0.3
OBN				*e*		15 39 22.8	
OBN				pmax	pmax		
comp=Z,100nm,1.7s,mb5.1							
KLMR	**Klimovskoe**	**85.60**	**332**	*e*P	**P**	**15 35 53.3**	**-2.3**
KLMR				pmax	pmax		
comp=Z,61nm,1.5s,mb5.0							
SUR	**Sutherland**	**86.40**	**238**	P	**P**	**15 36 01.7**	**+1.6**
comp=Z,13nm,1.0s,mb4.5,baz=86,slow=6.0,SNR=7.2							
SUR	**Sutherland**	**86.40**	**238**	P	**P**	**15 36 01.7**	**+1.6**
AKASG	**Malin Array Be**	**88.57**	**321**	P	**P**	**15 36 08.8**	**-1.0**
comp=Z,6.0nm,0.6s,mb4.6,baz=88,slow=4.7,SNR=26							
AKASG	**Malin Array Be**	**88.57**	**321**	P	**P**	**15 36 08.8**	**-1.0**
AKASG	**Malin Array Be**	**88.57**	**321**	P	**P**	**15 36 08.8**	**-1.0**
KIEV	**Kiev**	**88.58**	**321**	*e*P	**P**	**15 36 08.2**	**-1.6**
MLR	**Muntele Rosu**	**89.90**	**316**	P	**P**	**15 36 15.9**	**-0.1**
comp=Z,1.7nm,1.0s,mb3.8,baz=141,slow=23,SNR=4.2							
MLR	**Muntele Rosu**	**89.90**	**316**	P	**P**	**15 36 15.9**	**-0.1**
MLR	**Muntele Rosu**	**89.90**	**316**	P	**P**	**15 36 15.9**	**-0.2**
JOF	**Joensuu**	**89.91**	**333**	*e*P	**P**	**15 36 14.5**	**-1.2**
JOF	**Joensuu**	**89.91**	**333**	*e*pkp	**P**	**15 36 14.5**	**-1.2**
BUR08	**Bucovina Ar. S**	**90.70**	**318**	*e*P	**P**	**15 36 19.7**	**-0.1**
SNAA	**Sanae**	**91.71**	**197**	*e*	**P**	**15 36 25.5**	**+1.6**
SNAA	**Sanae**	**91.71**	**197**	P	**P**	**15 36 25.4**	**+1.5**
comp=Z,0.7nm,0.7s,mb3.8,baz=162,slow=6.0,SNR=7.4							
SNAA	**Sanae**	**91.71**	**197**	P	**P**	**15 36 25.4**	**+1.5**
SNAA	**Sanae**	**91.71**	**197**	P	**P**	**15 36 25.4**	**+1.5**
KAF	**Kangasniemi**	**92.05**	**332**	*e*P	**P**	**15 36 24.4**	**-1.2**
KAF	**Kangasniemi**	**92.05**	**332**	*e*pkp	**P**	**15 36 24.4**	**-1.2**
FINES	**FINESS Array B**	**92.06**	**331**	P	**P**	**15 36 25.4**	**-0.2**
comp=Z,2.1nm,0.6s,mb4.4,baz=110,slow=8.1,SNR=13							
FINES				PKKPbc	PKKPbc	15 53 39.0	-2.8
comp=Z,4.8nm,1.0s,baz=285,slow=3.7,SNR=4.4							
FINES	**FINESS Array B**	**92.06**	**331**	P	**P**	**15 36 25.4**	**-0.2**
FINES				PKKPbc	PKKPbc	15 53 39.0	-2.8
FINES	**FINESS Array B**	**92.06**	**331**	P	**P**	**15 36 25.5**	**-0.2**
ARCES	**ARCESS Array B**	**93.36**	**339**	P	**P**	**15 36 29.9**	**-1.6**
comp=Z,2.1nm,0.9s,mb4.2,baz=107,slow=4.1,SNR=6.7							
ARCES	**ARCESS Array B**	**93.36**	**339**	P	**P**	**15 36 29.9**	**-1.6**
ARCES	**ARCESS Array B**	**93.36**	**339**	P	**P**	**15 36 29.9**	**-1.6**
GERES	**GERESS Array B**	**98.43**	**318**	P	Pdif	15 36 54.5	-0.3
comp=Z,0.5nm,0.8s,baz=270,slow=0.4,SNR=3.9							
GERES	**GERESS Array B**	**98.43**	**318**	P	Pdif	15 36 54.5	-0.3
GERES	**GERESS Array B**	**98.43**	**318**	P	Pdif	15 36 54.5	-0.3
NOA	**NORSAR Array B**	**99.22**	**331**	P	Pdif	15 36 57.6	-0.6
comp=Z,1.2nm,0.8s,baz=30,slow=6.2,SNR=3.1							
NOA	**NORSAR Array B**	**99.22**	**331**	P	Pdif	15 36 57.6	-0.6
NOA	**NORSAR Array B**	**99.22**	**331**	P	Pdif	15 36 57.6	-0.7
ILAR	**Eielson Array**	**100.64**	**25**	PKKPbc	PKKPbc	15 53 16.0	-2.9
comp=Z,0.3nm,0.6s,baz=100,slow=1.4,SNR=7.6							
TORD	**Torodi Ar. Bea**	**109.15**	**282**	PKiKP	PKiKP	15 41 43.5	-0.5
comp=Z,1.1nm,0.5s,baz=56,slow=2.0,SNR=12							
TORD	**Torodi Ar. Bea**	**109.15**	**282**	PKiKP	PKiKP	15 41 43.5	-0.5
RES	**Resolute Bay**	**109.52**	**7**	PKiKP	PKiKP	15 41 42.3	-0.7
comp=Z,2.2nm,0.8s,baz=266,slow=3.5,SNR=5.4							
RES	**Resolute Bay**	**109.52**	**7**	PKiKP	PKiKP	15 41 42.3	-0.7
YKA	**Yellowknife Ar**	**114.53**	**21**	PKP	PKPdf	15 41 52.4	-0.4
comp=Z,1.7nm,0.6s,baz=324,slow=1.9,SNR=15							
YKA	**Yellowknife Ar**	**114.53**	**21**	PKP	PKPdf	15 41 52.5	-0.4
YKA	**Yellowknife Ar**	**114.53**	**21**	PKiKP	PKPdf	15 41 52.5	-0.4
DBIC	**Dimbokro**	**115.36**	**275**	PKP	PKPdf	15 41 55.5	-0.4
comp=Z,1.8nm,0.8s,baz=65,slow=11,SNR=3.8							
DBIC	**Dimbokro**	**115.36**	**275**	PKP	PKPdf	15 41 55.5	-0.4
DBIC	**Dimbokro**	**115.36**	**275**	PKiKP	PKPdf	15 41 55.5	-0.4
FFC	**Flin Flon**	**124.68**	**22**	*c i* PKiKP	PKPdf	15 42 13.5	+0.9
NVAR	**Mina Array Bea**	**125.42**	**46**	PKP	PKPdf	15 42 16.5	+1.9
comp=Z,1.8nm,0.7s,baz=246,slow=3.6,SNR=6.5							
NVAR	**Mina Array Bea**	**125.42**	**46**	PKP	PKPdf	15 42 16.5	+1.9
PDAR	**Pinedale Array**	**129.09**	**37**	PKP	PKPdf	15 42 22.5	+1.1
comp=Z,1.0nm,0.7s,baz=121,slow=0.4,SNR=8.1							
PDAR				SKP		15 44 52.6	
comp=Z,3.4nm,0.9s,baz=236,slow=0.7,SNR=15							
PDAR	**Pinedale Array**	**129.09**	**37**	PKP	PKPdf	15 42 22.5	+1.1
ULM	**Lac du Bonnet**	**130.50**	**22**	PKP	PKPdf	15 42 24.2	+0.3
comp=Z,2.5nm,0.5s,baz=242,slow=2.0,SNR=5.8							
ULM				SKPbc	SKPbc	15 44 57.6	+0.6
comp=Z,4.5nm,0.6s,baz=332,slow=4.4,SNR=8.3							
ULM	**Lac du Bonnet**	**130.50**	**22**	PKP	PKPdf	15 42 24.2	+0.3
ULM				SKPbc	SKPbc	15 44 57.6	+0.6
ULM	**Lac du Bonnet**	**130.50**	**22**	PKiKP	PKPdf	15 42 24.2	+0.3
SCHQ	**Schefferville**	**130.91**	**358**	PKP	PKPdf	15 42 24.6	+0.2
comp=Z,4.2nm,0.9s,baz=49,slow=8.9,SNR=3.8							
SCHQ	**Schefferville**	**130.91**	**358**	PKP	PKPdf	15 42 24.6	+0.2
PLCA	**Paso Flores**	**133.84**	**179**	PKP	PKPdf	15 42 31.8	+1.3
comp=Z,2.1nm,1.1s,baz=19,slow=16,SNR=3.0							
PLCA				SKP		15 45 13.1	
comp=Z,1.6nm,0.7s,baz=76,slow=2.7,SNR=4.5							
PLCA	**Paso Flores**	**133.84**	**179**	PKP	PKPdf	15 42 31.8	+1.3
PLCA				SKP		15 45 13.1	
PLCA	**Paso Flores**	**133.84**	**179**	PKiKP	PKPdf	15 42 31.8	+1.3
PLCA						15 45 13.1	
ANMO	**Albuquerque**	**135.44**	**44**	PKP	PKPdf	15 42 33.7	+0.1
comp=Z,1.9nm,0.8s,baz=222,slow=4.4,SNR=5.8							
ANMO				SKP		15 45 15.6	
comp=Z,2.7nm,0.8s,baz=252,slow=3.5,SNR=9.2							
ANMO	**Albuquerque**	**135.44**	**44**	PKP	PKPdf	15 42 33.7	+0.1
ANMO				SKP		15 45 15.6	
ANMO	**Albuquerque**	**135.44**	**44**	PKiKP	PKPdf	15 42 33.7	+0.1
ANMO						15 45 15.6	
TXAR	**Lajitas Array**	**140.37**	**50**	PKhKP	PKPpre	15 42 37.4	
comp=Z,1.0nm,0.6s,baz=268,slow=1.8,SNR=12							
TXAR				PKP	PKPdf	15 42 42.0	-0.9
comp=Z,1.0nm,0.6s,baz=296,slow=2.9,SNR=12							
TXAR				SKPbc	SKPbc	15 42 29.5	+1.4
comp=Z,1.6nm,0.6s,baz=261,slow=1.1,SNR=15							
TXAR	**Lajitas Array**	**140.37**	**50**	PKP	PKPdf	15 42 42.0	-0.8
TXAR				SKPbc	SKPbc	15 45 29.5	+1.4
TXAR	**Lajitas Array**	**140.37**	**50**	PKiKP	PKPdf	15 42 42.0	-0.8
JCT	**Junction City**	**142.59**	**45**	*e*PKPdf	PKPdf	15 42 44.6	-2.1
JCT	**Junction City**	**142.59**	**45**	*e*PKiKP	PKPdf	15 42 44.6	-2.2
CFAA	**Coronel Fontan**	**142.91**	**182**	PKP	PKPdf	15 42 45.8	-1.5
comp=Z,2.1nm,0.5s,baz=187,slow=3.6,SNR=53							
CFAA	**Coronel Fontan**	**142.91**	**182**	PKP	PKPdf	15 42 45.8	-1.5
SIUC	**Southern Illin**	**143.56**	**26**	*e*PKPdf	PKPdf	15 42 47.2	-1.0
MIAR	**Mount Ida**	**143.87**	**34**	*e*PKPdf	PKPdf	15 42 48.4	-0.5
MIAR	**Mount Ida**	**143.87**	**34**	*e*PKiKP	PKPdf	15 42 48.4	-0.5
SSPA	**Standing Stone**	**144.44**	**10**	*e*PKPdf	PKPdf	15 42 49.2	-0.5
WVT	**Waverly**	**145.49**	**26**	*e*PKPdf	PKPdf	15 42 51.5	-0.1
WVT	**Waverly**	**145.49**	**26**	*e*PKiKP	PKPdf	15 42 51.5	-0.1
LCO	**Las Campanas**	**145.53**	**179**	*e*PKPdf	PKPdf	15 42 52.0	+0.1
CPUP	**Villa Florida**	**145.94**	**200**	PKPbc	PKPbc	15 42 55.1	+0.6
comp=Z,7.1nm,0.4s,baz=130,slow=1.7,SNR=37							
CPUP	**Villa Florida**	**145.94**	**200**	PKPbc	PKPbc	15 42 55.1	+0.6
OXF	**Oxford**	**146.09**	**30**	*e*PKPdf	PKPdf	15 42 52.8	+0.1
OXF	**Oxford**	**146.09**	**30**	*e*PKiKP	PKPdf	15 42 52.8	+0.1
TZTN	**Tazewell**	**146.81**	**20**	*e*PKPdf	PKPdf	15 42 53.3	-0.5
CPCT	**Cooper Cave**	**147.44**	**22**	*e*PKPdf	PKPdf	15 42 55.1	+0.2
LRAL	**Lakeview Retre**	**148.45**	**28**	*e*PKPdf	PKPdf	15 42 56.7	+0.1

NEIC ***13*** *15:51:04.5±2.1, 6°.66S×129°.66E, h77km±23km, mb4.3/1, Error ellipse: s-maj=16.7km s-min=11.9km az=212.0*
IDC ***13*** *15:51:06.3±5.0, 6°.74S×129°.62E, h96km±50km, mb3.7/8, mb1 3.8/12, mb1mx3.7/19, mbtmp3.7/12, MS4.8/1, Ms1 4.8/1, ms1mx2.7/30, Error ellipse: s-maj=42.7km s-min=16.7km az=48.0*
ISCJB ***13*** *15:51:08.0±0.7, 6°.93S±0°.04×129°.69E±0°.08, h136km±9km, mb3.8/7, Error ellipse: s-maj=13.6km s-min=5.7km az=159.9*
DJA ***13*** *15:51:09, 6°.58S×129°.59E, h235km, MLv4.2/6*
ISC 13 15:51:08.3±0.6, **7°.01S**±0°.04×**129°.63E**±0°.08, **h120**km±8km, **n40**, σ1**938**/50, **mb3.9**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.37**	**66**	P	**Pn**	**15 52 04.5**	**+5.0**
AAI	**Ambon**	**3.60**	**336**	P	**Pn**	**15 52 03.7**	**+1.2**
MSAI	**Masohi**	**3.71**	**349**	P	**Pn**	**15 52 04.4**	**+0.5**
NLAI	**Namlea**	**4.51**	**326**	P	**Pn**	**15 52 14.0**	**-0.7**
FAKI	**Fak Fak**	**4.83**	**33**	P	**Pn**	**15 52 18.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.69**	**199**	P	**Pn**	**15 53 53.2**	**+1.8**
1.1nm,0.3s,baz=29,slow=12,SNR=31							
FITZ				S	**Sn**	**15 55 59.0**	**-1.2**
1.6nm,0.3s,baz=61,slow=19,SNR=5.2							
FITZ	**Fitzroy Crossi**	**11.69**	**199**	*e*P	**Pn**	**15 53 54.1**	**+2.7**
4.2nm,0.2s							
FITZ				*e*S	**Sn**	**15 55 56.5**	**-3.7**
FITZ	**Fitzroy Crossi**	**11.69**	**199**	P	**Pn**	**15 53 53.2**	**+1.8**
FITZ				S	**Sn**	**15 55 59.0**	**-1.2**
WRAB	**Tennant Creek**	**13.64**	**161**	*e*Pn	**Pn**	**15 54 18.7**	**+1.9**
WRAB				*e*Sn	**Sn**	**15 56 45.2**	**-2.1**
WRAB	**Tennant Creek**	**13.64**	**161**	P	**Pn**	**15 54 18.4**	**+1.6**
24nm,1.0s							
WRA	**Warramunga Arr**	**13.64**	**161**	P	**Pn**	**15 54 18.6**	**+1.7**
0.9nm,0.3s,baz=339,slow=13,SNR=30							
WRA				S	**Sn**	**15 56 47.0**	**-0.4**
2.5nm,0.3s,baz=335,slow=22,SNR=9.2							
WRA	**Warramunga Arr**	**13.64**	**161**	P	**Pn**	**15 54 18.6**	**+1.7**
WRA				S	**Sn**	**15 56 47.0**	**-0.4**
WB2	**Warramunga Arr**	**13.65**	**161**	*e*Pn	**Pn**	**15 54 17.2**	**+0.3**
WB2				*e*Sn	**Sn**	**15 56 45.5**	**-2.0**
COEN	**Coen**	**14.99**	**119**	*e*Pn	**Pn**	**15 54 34.7**	**+0.6**
12nm,0.7s							
COEN				*e*Sn	**Sn**	**15 57 13.9**	**-6.1**
COEN	**Coen**	**14.99**	**119**	P	**Pn**	**15 54 31.5**	**-2.6**
AS31	**Alice Springs**	**17.06**	**167**	*e*Pn	**Pn**	**15 55 03.8**	**+4.3**
AS31				*e*Sn	**Sn**	**15 58 09.3**	**-0.4**
ASAR	**Alice Springs**	**17.06**	**167**	P	**Pn**	**15 55 03.9**	**+4.3**
0.9nm,0.3s,baz=350,slow=11,SNR=116							
ASAR				S	**S**	**15 58 09.8**	**0.0**
0.5nm,0.3s,baz=358,slow=26,SNR=4.3							
ASAR	**Alice Springs**	**17.06**	**167**	P	**Pn**	**15 55 03.9**	**+4.3**
ASAR				S	**S**	**15 58 09.8**	**0.0**
PMG	**Port Moresby**	**17.51**	**99**	P	**Pn**	**15 55 03.7**	**-1.4**
0.2nm,0.3s,baz=302,slow=13,SNR=1.9							
PMG	**Port Moresby**	**17.51**	**99**	*e*Pn	**Pn**	**15 55 03.7**	**-1.3**
CTA	**Charters Tower**	**20.71**	**131**	P	**P**	**15 55 41.6**	**+2.4**
4.9nm,0.8s,baz=284,slow=11,SNR=3.2							
CTA	**Charters Tower**	**20.71**	**131**	P	**P**	**15 55 41.6**	**+2.4**
STKA	**Stephens Creek**	**27.14**	**157**	*e*P	**P**	**15 56 42.6**	**+2.4**
2.2nm,0.5s,mb3.9,baz=341,slow=8.8,SNR=7.1							
STKA	**Stephens Creek**	**27.14**	**157**	*e*P	**P**	**15 56 42.7**	**+2.4**
1.4nm,0.4s,mb3.8							
STKA	**Stephens Creek**	**27.14**	**157**	P	**P**	**15 56 42.6**	**+2.4**
JOW	**Kunigami**	**33.66**	**358**	LR	LR	16 09 15.6	
comp=Z,2μm,21.5s,baz=328,slow=33							
CMAR	**Chiang Mai Arr**	**39.46**	**310**	P	**P**	**15 58 25.8**	**-1.2**
1.0nm,0.7s,mb3.8,baz=138,slow=7.2,SNR=13							
CMAR	**Chiang Mai Arr**	**39.46**	**310**	P	**P**	**15 58 25.8**	**-1.2**
RPZ	**Rata Peaks**	**51.45**	**142**	P	**P**	**16 00 03.6**	**+2.4**
RPZ	**Rata Peaks**	**51.45**	**142**	P	**P**	**16 00 03.6**	**+2.4**
SONM	**Songino Array**	**58.33**	**342**	P	**P**	**16 00 50.8**	**+0.2**
0.4nm,0.5s,mb3.7,baz=161,slow=7.6,SNR=3.5							
SONM	**Songino Array**	**58.33**	**342**	P	**P**	**16 00 50.8**	**+0.2**
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**16 01 54.6**	**-0.1**
1.2nm,0.3s,mb4.2,baz=116,slow=8.4,SNR=31							
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**16 01 54.6**	**-0.1**
ZALV	**Zalesovo Beam**	**71.43**	**334**	P	**P**	**16 02 13.6**	**-1.7**
1.1nm,0.6s,mb3.9,baz=142,slow=5.5,SNR=5.3							
ZALV	**Zalesovo Beam**	**71.43**	**334**	P	**P**	**16 02 13.6**	**-1.7**
KURK	**Kurchatov**	**72.33**	**329**	P	**P**	**16 02 20.1**	**-0.8**
1.6nm,0.5s,mb4.1,baz=125,slow=5.2,SNR=15							
KURK	**Kurchatov**	**72.33**	**329**	P	**P**	**16 02 20.1**	**-0.8**
BVAR	**Borovoye Array**	**77.88**	**328**	P	**P**	**16 02 51.7**	**-0.8**
0.6nm,0.5s,mb3.5,baz=116,slow=6.8,SNR=4.5							
BVAR	**Borovoye Array**	**77.88**	**328**	P	**P**	**16 02 51.7**	**-0.8**

ISCJB ***13*** *15:54:39.5±0.2, 38°.73N±0°.01×22°.59E±0°.02, h9km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=175.1*
ATH ***13*** *15:54:39.4, 38°.73N×22°.59E, h21km, ML3.7*
CSEM ***13*** *15:54:40.0±0.1, 38°.71N×22°.61E, h10km, ML3.6/19, Error ellipse: s-maj=2.3km s-min=1.8km az=92.0*
THE ***13*** *15:54:40.5, 38°.71N×22°.62E, h12km±31km, ML3.6/19, Error ellipse: s-maj=31.6km s-min=0.8km az=0.0*
ISC 13 15:54:40.2±0.2, **38°.72N**±0°.01×**22°.60E**±0°.02, **h10**km±1km, **n161**, σ0**990**/258, **4C-5D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.07**	**45**	P	**Pg**	**15 54 42.7**	**+0.3**
AXAR				S	**Sg**	**15 54 45.0**	**+1.0**
AXAR	**Agios Charalam**	**0.07**	**45**	P	**Pg**	**15 54 42.7**	**+0.3**
AXAR				S	**Sg**	**15 54 45.0**	**+1.0**
DESF	**Desfina**	**0.31**	**190**	P	**Pg**	**15 54 45.6**	**-0.8**
DESF				S	**Sg**	**15 54 50.4**	**-0.2**
DESF	**Desfina**	**0.31**	**190**	P	**Pg**	**15 54 45.6**	**-0.8**
DESF				S	**Sg**	**15 54 50.4**	**-0.2**
DSF	**Desfina**	**0.31**	**190**	P	**Pg**	**15 54 45.8**	**-0.6**
DSF				S	**Sg**	**15 54 50.6**	**0.0**
DSF	**Desfina**	**0.31**	**190**	P	**Pg**	**15 54 45.8**	**-0.6**
DSF				S	**Sg**	**15 54 50.6**	**0.0**
LKR	**Lokris**	**0.32**	**102**	*e*PB	**Pg**	**15 54 46.6**	**0.0**
LKR				*e*SB	**Sg**	**15 54 52.1**	**+1.2**
LKR	**Lokris**	**0.32**	**102**	P	**Pg**	**15 54 46.5**	**-0.1**
LKR				S	**Sg**	**15 54 52.0**	**+1.1**
LKR	**Lokris**	**0.32**	**102**	P	**Pg**	**15 54 46.5**	**-0.1**
LKR				S	**Sg**	**15 54 52.0**	**+1.1**
ATAL	**Atalanti**	**0.33**	**95**	P	**Pg**	**15 54 46.8**	**0.0**
ATAL				S	**Sg**	**15 54 52.3**	**+1.1**
ATAL	**Atalanti**	**0.33**	**95**	P	**Pg**	**15 54 46.8**	**0.0**
ATAL				S	**Sg**	**15 54 52.3**	**+1.1**
AGG	**Agios Georgios**	**0.37**	**325**	*e*PB	**Pg**	**15 54 46.9**	**-0.6**
AGG				*e*SB	**Sg**	**15 54 52.5**	**+0.1**
AGG	**Agios Georgios**	**0.37**	**325**	P	**Pg**	**15 54 47.0**	**-0.5**
AGG				S	**Sg**	**15 54 52.6**	**+0.2**
AGG	**Agios Georgios**	**0.37**	**325**	P	**Pg**	**15 54 47.0**	**-0.5**
AGG				S	**Sg**	**15 54 52.6**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.47**	**309**	P	**Pg**	**15 54 48.7**	**-0.7**
MAKR				S	**Sg**	**15 54 55.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.47**	**309**	P	**Pg**	**15 54 48.7**	**-0.7**
MAKR				S	**Sg**	**15 54 55.9**	**+0.3**
KALE	**Kalithea**	**0.49**	**228**	P	**Pg**	**15 54 48.5**	**-1.2**
KALE				S	**Sg**	**15 54 56.4**	**+0.3**
KALE	**Kalithea**	**0.49**	**228**	P	**Pg**	**15 54 48.5**	**-1.2**
KALE				S	**Sg**	**15 54 56.4**	**+0.3**
EVR	**Evrytania**	**0.65**	**288**	P	**Pg**	**15 54 52.5**	**-0.2**
EVR	**Evrytania**	**0.65**	**288**	P	**Pg**	**15 54 52.5**	**-0.2**
LAKA	**Lakka**	**0.68**	**226**	P	**Pg**	**15 54 52.6**	**-0.8**
LAKA				S	**Sg**	**15 55 02.5**	**+0.2**
LAKA	**Lakka**	**0.68**	**226**	P	**Pg**	**15 54 52.6**	**-0.8**
LAKA				S	**Sg**	**15 55 02.5**	**+0.2**
LTK	**Loutraki**	**0.75**	**157**	*e*PN	**Pg**	**15 54 54.2**	**-0.5**
LTK	**Loutraki**	**0.75**	**157**	P	**Pg**	**15 54 53.9**	**-0.8**
LTK				S	**Sg**	**15 55 07.0**	**+2.4**
LTK	**Loutraki**	**0.75**	**157**	P	**Pg**	**15 54 53.9**	**-0.8**
LTK	**Loutraki**	**0.75**	**157**	*e*Pn	**Pg**	**15 54 54.2**	**-0.5**
NEO	**Neokhori**	**0.76**	**39**	*e*Pn	**Pg**	**15 54 54.1**	**-0.8**
NEO				*e*SN	**Sg**	**15 55 05.3**	**+0.4**
NEO	**Neokhori**	**0.76**	**39**	P	**Pg**	**15 54 54.2**	**-0.7**
NEO				S	**Sg**	**15 55 05.4**	**+0.5**
NEO	**Neokhori**	**0.76**	**39**	P	**Pg**	**15 54 54.2**	**-0.7**
NEO				*e*Sn	**Sg**	**15 55 05.3**	**+0.4**
UPR	**University Cam**	**0.77**	**236**	*e*PN	**Pg**	**15 54 54.6**	**-0.5**
U

OUR	Ouranopolis	1.94	33	P		Pn		15 55 12.3	-0.8
OUR				S		Sn		15 55 38.0	+0.6
OUR	Ouranopolis	1.94	33	P		Pn		15 55 12.3	-0.8
OUR				S		Sn		15 55 38.0	+0.6
IGT	Igoumenitsa	1.94	295	P		Pg		15 55 16.5	-0.9
IGT				S		Sn		15 55 39.4	+1.8
VLI	Veliai	2.02	172	*e*PN		Pn		15 55 14.5	+0.3
VLI	Veliai	2.02	172	P		Pn		15 55 13.7	-0.5
VLI				S		Sn		15 55 38.2	-1.2
VLI	Veliai	2.02	172	P		Pn		15 55 13.7	-0.5
VLI				S		Sn		15 55 38.2	-1.2
NEST	Nestorio	2.07	325	P		Pn		15 55 16.2	+1.2
NEST	Nestorio	2.07	325	P		Pn		15 55 16.2	+1.2
SOH	Sokhos	2.18	15	*e*PN		Pn		15 55 16.7	+0.3
SOH				*e*SN		Sn		15 55 44.2	+0.8
SOH	Sokhos	2.18	15	P		Pn		15 55 16.8	+0.4
SOH				S		Sn		15 55 43.2	-0.2
SOH	Sokhos	2.18	15	*e*Pn		Pn		15 55 16.7	+0.3
SOH				S		Sn		15 55 43.2	-0.2
SOH				*e*Sn		Sn		15 55 44.2	+0.8
FNA	Florina	2.27	336	P		Pn		15 55 18.1	+0.4
FNA				S		Sn		15 55 46.5	+0.9
FNA	Florina	2.27	336	P		Pn		15 55 18.1	+0.4
FNA				S		Sn		15 55 46.5	+0.9
LIA	Limnos Island	2.33	59	*e*PN		Pn		15 55 18.3	-0.1
LIA	Limnos Island	2.33	59	P		Pn		15 55 17.7	-0.7
LIA	Limnos Island	2.33	59	P		Pn		15 55 17.7	-0.7
LIA	Limnos Island	2.33	59	*e*Pn		Pn		15 55 18.0	-0.4
KNT	Kendrikon	2.45	5	P		Pn		15 55 20.2	0.0
KNT				S		Sn		15 55 49.5	-0.6
KNT	Kendrikon	2.45	5	P		Pn		15 55 20.2	0.0
KNT				S		Sn		15 55 49.5	-0.6
KYTH	Kithira	2.46	172	*e*PN		Pn		15 55 20.8	+0.5
KYTH	Kithira	2.46	172	*e*Pn		Pn		15 55 20.8	+0.5
SRS	Serrai	2.51	17	P		Pn		15 55 20.6	-0.4
SRS	Serrai	2.51	17	P		Pn		15 55 20.6	-0.4
VAY	Valandovo	2.60	360	*i* Pn		Pn		15 55 21.6	-0.6
VAY	Valandovo	2.60	360	*i* Pn		Pn		15 55 21.6	-0.6
KAVA	Kavala	2.71	32	P		Pn		15 55 22.6	-1.1
KAVA	Kavala	2.71	32	P		Pn		15 55 22.6	-1.1
CHOS	Chios island	2.73	96	*e*PN		Pn		15 55 24.2	+0.2
CHOS	Chios island	2.73	96	P		Pn		15 55 24.0	0.0
CHOS	Chios island	2.73	96	P		Pn		15 55 24.0	0.0
NVR	Nevrokopi	2.80	20	*e*PN		Pn		15 55 25.1	+0.1
NVR	Nevrokopi	2.80	20	P		Pn		15 55 24.8	-0.2
NVR	Nevrokopi	2.80	20	P		Pn		15 55 24.8	-0.2
NVR	Nevrokopi	2.80	20	*e*Pn		Pn		15 55 25.1	+0.1
KRUS	Krusevo	2.84	339	*i* Pn		Pn		15 55 26.0	+0.5
KRUS	Krusevo	2.84	339	*i* Pn		Pn		15 55 26.0	+0.4
APE	Apeiranthos	2.84	124	*e*PN		Pn		15 55 26.0	+0.4
APE	Apeiranthos	2.84	124	P		Pn		15 55 25.5	-0.1
APE	Apeiranthos	2.84	124	P		Pn		15 55 25.5	-0.1
APE	Apeiranthos	2.84	124	*e*Pn		Pn		15 55 26.0	+0.4
ALN	Alexandroupoli	3.43	50	*e*PN		Pn		15 55 33.5	-0.2
ALN	Alexandroupoli	3.43	50	*e*Pn		Pn		15 55 33.5	-0.2
VTS	Vitosha	3.90	7	⇑*i*P		Pn		15 55 41.3	+1.3
VTS	Vitosha	3.90	7	⇑*i*P		Pn		15 55 41.3	+1.3
BARS	Barje	4.14	352	⇓*i*Pn		Pn		15 55 43.5	+0.2
BOLS	Boljevac	5.13	355	*e*Pn		Pn		15 55 56.9	-0.1
GRUS	Gruza	5.36	345	*e*Pn		Pn		15 56 00.9	+0.8
STON	Ston	5.57	320	*e*Pn		Pn		15 56 00.9	-2.1
STON				Sn		Sn		15 57 04.1	-2.9
STON	Ston	5.57	320	*e*Pn		Pn		15 56 00.9	-2.1
DIVS	Divibare	5.72	341	*e*Pn		Pn		15 56 05.3	+0.2
MLR	Muntele Rosu	7.21	19	⇓*i*P		Pn		15 56 26.8	+1.3
MLR	Muntele Rosu	7.21	19	⇓*i*P		Pn		15 56 26.8	+1.3
PLOR	Plostina	7.73	22	⇑*i*P		Pn		15 56 34.9	+2.2
PLOR	Plostina	7.73	22	⇑*i*P		Pn		15 56 34.9	+2.2
VRI	Vrincioaia	7.77	22	⇓*i*P		Pn		15 56 35.7	+2.5
VRI	Vrincioaia	7.77	22	⇓*i*P		Pn		15 56 35.7	+2.5
NVLJ	Novalja	8.22	318	*e*Pn		Pn		15 56 39.9	+0.5
NVLJ				Sn		Sn		15 58 06.0	-6.2
NVLJ	Novalja	8.22	318	*e*Pn		Pn		15 56 39.8	+0.4
JAVS	Javornik	9.55	321	*i* Pn		Pn		15 56 57.8	+0.2
JAVS				*i* Sn		Sn		15 58 42.7	-2.3
JAVS	Javornik	9.55	321	*i* Pn		Pn		15 56 57.8	+0.1
JAVS				*i* Sn		Sn		15 58 42.7	-2.3
PERS	Pernice	9.64	328	*i* Pn		Pn		15 57 02.5	+3.7

ISCJB ***13*** *15:55:57.0±0.8, 32°.48N±0°.03×105°.24E±0°.05, h2km±6km, mb3.7/12, Error ellipse: s-maj=7.9km s-min=5.2km az=27.7*
IDC ***13*** *15:55:58.7±0.8, 32°.32N×104°.95E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.8/27, mbtmp3.7/13, Error ellipse: s-maj=48.8km s-min=15.1km az=56.0*
NEIC ***13*** *15:56:00.2±0.5, 32°.24N×104°.83E, h10km, Error ellipse: s-maj=20.6km s-min=9.2km az=62.0*
BJI ***13*** *15:56:01.8, 32°.47N×105°.20E, h12km, ML3.6/15, Ms3.5/2, Ms7 3.4/2*
ISC 13 15:55:59.3±0.8, 32°.50N±0°.03×105°.15E±0°.05, h2km±5km, n32, σ1°07/45, mb3.7/12, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.98**	**217**	Pn	**Pn**	**15 56 34.5**	**+0.6**
CD2				Pg	**Pg**	**15 56 36.8**	**-0.5**
CD2				Sn	**Sn**	**15 57 00.5**	**+1.2**
CD2				Sg	**Sg**	**15 57 03.3**	**+0.3**
CD2				smax			
	comp=N,3μm,0.7s						
CD2				smax			
	comp=E,5μm,0.5s						
XAN	**Xi'an**	**3.51**	**63**	Pn	**Pn**	**15 56 57.8**	**+2.9**
XAN				Pg	**Pg**	**15 57 06.6**	**-0.1**
XAN				Sn	**Sn**	**15 57 41.3**	**+4.2**
XAN				Sg	**Sg**	**15 57 52.3**	**+0.1**
XAN				smax			
	comp=N,230nm,0.8s						
XAN				smax			
	comp=E,120nm,0.8s						
LZH	**Lanzhou**	**3.74**	**344**	Pn	**Pn**	**15 57 01.1**	**+3.1**
LZH				Pg	**Pg**	**15 57 11.8**	**+0.9**
LZH				Sn	**Sn**	**15 57 42.0**	**-0.6**
LZH				Sg	**Sg**	**15 57 57.4**	**-2.0**
LZH				smax			
	comp=N,250nm,0.5s						
LZH				smax			
	comp=E,430nm,0.6s						
LZH				LR	LR		
	comp=N,310nm,5.6s						
LZH				LR	LR		
	comp=Z,340nm,5.5s						
LZH	**Lanzhou**	**3.74**	**344**	Pn	**Pn**	**15 57 01.1**	**+3.1**
LZH				Pg	**Pg**	**15 57 11.8**	**+0.9**
LZH				Sn	**Sn**	**15 57 42.0**	**-0.6**
LZH				Sg	**Sg**	**15 57 57.4**	**-2.0**
GYA	**Guiyang**	**6.17**	**167**	Pn	**Pn**	**15 57 35.9**	**+4.5**
GYA				Sn	**Sn**	**15 58 40.8**	**-1.7**
GYA				smax			
	comp=N,40nm,0.6s						
GYA				smax			
	comp=E,80nm,0.7s						
SONM	**Songino Array**	**15.35**	**3**	Pn	**Pn**	**15 59 41.1**	**+4.2**
	baz=136,slow=42,SNR=3.1						
SONM	**Songino Array**	**15.35**	**3**	Pn	**Pn**	**15 59 41.1**	**+4.2**
MK31	**Makanchi Array**	**22.55**	**316**	*e*P	**P**	**16 01 00.5**	**0.0**
MKAR	**Makanchi Array**	**22.55**	**316**	P	**P**	**16 01 00.8**	**+0.2**
	comp=E,1.1nm,0.7s,mb3.4,baz=116,slow=10,SNR=8.2						
MKAR	**Makanchi Array**	**22.55**	**316**	P	**P**	**16 01 00.8**	**+0.2**
ZALV	**Zalesovo Beam**	**25.88**	**332**	P	**P**	**16 01 32.0**	**-0.3**
	comp=E,0.6nm,0.5s,mb3.4,baz=128,slow=10.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**25.88**	**332**	P	**P**	**16 01 32.0**	**-0.3**
KURK	**Kurchatov**	**26.69**	**321**	P	**P**	**16 01 40.3**	**+0.6**
	comp=E,0.4nm,0.4s,mb3.3,baz=128,slow=9.5,SNR=8.0						
KURK	**Kurchatov**	**26.69**	**321**	P	**P**	**16 01 40.3**	**+0.6**
BVAR	**Borovoye Array**	**32.27**	**320**	P	**P**	**16 02 30.0**	**+0.8**
	comp=E,0.3nm,0.5s,mb3.4,baz=210,slow=37,SNR=2.9						
BVAR	**Borovoye Array**	**32.27**	**320**	P	**P**	**16 02 30.0**	**+0.8**
AKTO	**Aktyubinsk**	**38.85**	**312**	P	**P**	**16 03 23.6**	**-2.2**
	comp=E,0.6nm,0.3s,mb3.7,baz=137,slow=8.3,SNR=3.5						
AKTO	**Aktyubinsk**	**38.85**	**312**	P	**P**	**16 03 23.6**	**-2.2**
ARCES	**ARCESS Array B**	**56.36**	**335**	P	**P**	**16 05 41.9**	**+0.5**
	comp=E,2.0nm,0.8s,mb4.2,baz=84,slow=12,SNR=4.7						
ARCES	**ARCESS Array B**	**56.36**	**335**	P	**P**	**16 05 41.9**	**+0.5**
BRTR	**Keskin Array B**	**56.83**	**299**	P	**P**	**16 05 44.8**	**-0.5**
	comp=E,0.3nm,0.7s,mb3.4,baz=106,slow=7.2,SNR=2.9						
BRTR	**Keskin Array B**	**56.83**	**299**	P	**P**	**16 05 44.8**	**-0.5**
FINES	**FINESS Array B**	**56.91**	**326**	P	**P**	**16 05 46.1**	**+0.6**
	comp=E,7.4nm,1.2s,mb4.6,baz=116,slow=4.4,SNR=4.0						
FINES	**FINESS Array B**	**56.91**	**326**	P	**P**	**16 05 46.1**	**+0.6**

WRA	**Warramunga Arr**	**59.16**	**148**	P		**P**		**16 06 00.8**	**-0.8**
	comp=E,1.1nm,0.7s,mb4.0,baz=342,slow=7.2,SNR=7.0								
WRA	**Warramunga Arr**	**59.16**	**148**	P		**P**		**16 06 00.8**	**-0.8**
ASAR	**Alice Springs**	**62.24**	**150**	P		**P**		**16 06 22.8**	**+0.2**
	comp=E,0.3nm,0.5s,mb3.7,baz=334,slow=6.6,SNR=10.0								
ASAR	**Alice Springs**	**62.24**	**150**	P		**P**		**16 06 22.8**	**+0.2**
STKA	**Stephens Creek**	**72.71**	**148**	P		**P**		**16 07 27.2**	**-1.5**
	comp=E,2.2nm,0.9s,mb4.1,baz=342,slow=9.6,SNR=3.5								
STKA	**Stephens Creek**	**72.71**	**148**	P		**P**		**16 07 27.2**	**-1.5**
YKA	**Yellowknife Ar**	**80.10**	**18**	P		**P**		**16 08 10.7**	**+0.4**
	comp=E,0.6nm,0.6s,mb3.7,baz=329,slow=5.2,SNR=6.6								
YKA	**Yellowknife Ar**	**80.10**	**18**	P		**P**		**16 08 10.7**	**+0.4**

IDC ***13*** *16:12:52.3±2.8, 31°.32S×176°.51W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, ML3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=67.8km s-min=32.7km az=120.0*
NEIC ***13*** *16:12:52.9±2.7, 31°.21S×176°.51W, h10km, mb4.5/1, Error ellipse: s-maj=53.6km s-min=15.9km az=93.0*
ISC 13 16:12:53.4±3.7, 31°.4S±0°.1×176°.0W±0°.5, h35km, n18, σ0°95/17, mb4.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.74**	**322**	*e*Pn	**Pn**	**16 13 28.4**	**-6.4**
URZ	**Urewera**	**8.88**	**218**	Pn	**Pn**	**16 14 59.0**	**-0.1**
	0.6nm,0.3s,baz=282,slow=9.3,SNR=5.5						
URZ				Sn	**Sn**	**16 16 37.6**	**-0.3**
	0.7nm,0.3s,baz=38,slow=23,SNR=1.2						
URZ	**Urewera**	**8.88**	**218**	*e*Pn	**Pn**	**16 14 58.6**	**-0.6**
URZ				*e*Sn	**Sn**	**16 16 33.0**	**-5.0**
SNZO	**South Karori**	**12.39**	**215**	P	**Pn**	**16 15 48.5**	**+1.2**
	105nm,1.4s						
RPZ	**Rata Peaks**	**15.99**	**216**	Pn	**Pn**	**16 16 34.7**	**-0.8**
	0.8nm,0.3s,baz=347,slow=22,SNR=5.0						
RPZ	**Rata Peaks**	**15.99**	**216**	Pn	**Pn**	**16 16 34.7**	**-0.8**
RAR	**Rarotonga**	**17.71**	**59**	LR	LR	16 22 03.1	
	comp=Z,85nm,18.7s,baz=265,slow=30						
CTAO	**Charters Tower**	**35.68**	**279**	P	**P**	**16 19 49.2**	**+0.7**
	5.7nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**35.96**	**258**	P	**P**	**16 19 52.9**	**+2.1**
	3.4nm,1.1s,mb4.2,baz=114,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**35.96**	**258**	P	**P**	**16 19 52.9**	**+2.1**
AS31	**Alice Springs**	**44.80**	**267**	*e*P	**P**	**16 21 03.3**	**-0.7**
ASAR	**Alice Springs**	**44.80**	**267**	P	**P**	**16 21 03.7**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=105,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**44.80**	**267**	P	**P**	**16 21 03.7**	**-0.3**
WRAB	**Tennant Creek**	**45.87**	**272**	*e*P	**P**	**16 21 11.6**	**-1.0**
WRA	**Warramunga Arr**	**45.88**	**272**	P	**P**	**16 21 12.2**	**-0.4**
	0.8nm,0.3s,mb4.1,baz=111,slow=8.0,SNR=26						
WRA	**Warramunga Arr**	**45.88**	**272**	P	**P**	**16 21 12.2**	**-0.4**
FINES	**FINESS Array B**	**146.69**	**341**	PKPbc	PKPbc	16 32 33.8	+3.1
	2.0nm,0.5s,baz=55,slow=3.4,SNR=26						
FINES	**FINESS Array B**	**146.69**	**341**	PKPbc	PKPbc	16 32 33.8	+3.1

ISK ***13*** *16:56:30.9, 38°.46N×44°.63E, h5km, MD3.5*
NSSP ***13*** *16:56:31.0, 38°.52N×44°.98E, h17km, Ms3.4*
CSEM ***13*** *16:56:31.9±0.3, 38°.38N×44°.63E, h2km, MD3.5, Error ellipse: s-maj=7.8km s-min=4.2km az=117.0*
DDA ***13*** *16:56:32.9, 38°.40N×44°.64E, h2km, Md3.4*
TEH ***13*** *16:56:32.8, 38°.38N×44°.87E, h6km*
ISC 13 16:56:31.1±0.5, 38°.33N±0°.03×44°.81E±0°.02, h0km±4km, n54, σ1°07/81, 8C-14D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.64**	**94**	⇓*e*Pg	**Pg**	**16 56 43.7**	**+0.4**
ISHB				*e*Sg	**Sg**	**16 56 51.1**	**-0.4**
ISHB				*e*		16 56 58.7	
	comp=Z,18μm,0.2s						
IMRD	**Marand**	**0.80**	**61**	⇑*e*Pg	**Pg**	**16 56 45.4**	**-0.9**
IMRD				*e*Sg	**Sg**	**16 56 56.5**	**-0.2**
IMRD				*e*		16 56 58.7	
	comp=Z,38μm,0.1s						
ITBZ	**Tabriz**	**1.05**	**95**	*e*Pg	**Pg**	**16 56 50.9**	**-0.4**
ITBZ				*e*		16 57 12.4	
	comp=Z,5μm,0.2s						
CLDR	**Caldiran**	**1.07**	**319**	*e*PG	**Pg**	**16 56 48.9**	**-2.7**
CLDR				*e*SG	**Sg**	**16 57 02.0**	**-3.5**
CLDR	**Caldiran**	**1.07**	**319**	*e*Pg	**Pg**	**16 56 48.9**	**-2.7**
CLDR				*e*Sg	**Sg**	**16 57 02.0**	**-3.5**
HKR	**Hakkari**	**1.13**	**229**	*e*PN	**Pn**	**16 56 53.6**	**-0.6**
HKR				*e*SN	**Sn**	**16 57 10.5**	**0.0**
HKR	**Hakkari**	**1.13**	**229**	*e*Pn	**Pn**	**16 56 53.6**	**-0.6**
HKR				*e*Sn	**Sn**	**16 57 10.5**	**0.0**
VANB	**Van**	**1.15**	**284**	*e*PG	**Pg**	**16 56 51.0**	**-2.1**
VANB	**Van**	**1.15**	**284**	*e*Pg	**Pg**	**16 56 51.0**	**-2.1**
HAKT	**HAKKARI**	**1.17**	**229**	*i* P	**Pg**	**16 56 53.3**	**-0.2**
HAKT				*i* S	**Sg**	**16 57 13.2**	**+4.6**
HAKT	**HAKKARI**	**1.17**	**229**	*i* P	**Pg**	**16 56 53.3**	**-0.2**
IFTB	**Fath-abad**	**1.29**	**104**	*e*Pn	**Pn**	**16 56 56.8**	**+0.5**
IFTB				*e*		16 56 57.7	
	comp=Z,72μm,0.1s						
GEVA	**Gevas**	**1.38**	**270**	*i* P	**Pn**	**16 56 56.0**	**-1.6**
GEVA				*i* S	**Sg**	**16 57 19.3**	**+3.9**
GEVA	**Gevas**	**1.38**	**270**	*i* P	**Pn**	**16 56 56.0**	**-1.6**
CUKT	**Cukurca**	**1.45**	**222**	*e*PN	**Pn**	**16 56 58.9**	**+0.4**
CUKT	**Cukurca**	**1.45**	**222**	*e*Pn	**Pn**	**16 56 58.9**	**+0.4**
DYDN	**Diyadin**	**1.49**	**324**	*i* P	**Pn**	**16 56 58.4**	**-0.8**
DYDN				*i* S	**Sb**	**16 57 20.3**	**+1.2**
DYDN	**Diyadin**	**1.49**	**324**	*i* P	**Pn**	**16 56 58.4**	**-0.7**
DYDN				*i* S	**Sb**	**16 57 20.3**	**+1.1**
GRS	**Goris**	**1.66**	**45**	⇑*i*P	**Pn**	**16 57 02.0**	**+0.5**
GRS				⇓*i*S	**Sn**	**16 57 23.0**	**-0.5**
GRS	**Goris**	**1.66**	**45**	⇑P	**Pn**	**16 57 02.0**	**+0.5**
GRS				S	**Sn**	**16 57 23.0**	**-0.5**
IHRS	**Heris**	**1.75**	**90**	*e*	**Pg**	**16 57 08.1**	**+3.4**
	comp=Z,3μm,0.1s						
IHRS				*e*Pn	**Pn**	**16 57 03.0**	**+0.3**
IHRS				*e*Sn	**Sn**	**16 57 25.6**	**-0.2**
IBST	**Bostanabad**	**1.76**	**110**	*e*	**Pg**	**16 57 12.4**	**+7.6**
	comp=Z,1μm,0.1s						
IBST				*e*Pn	**Pn**	**16 57 03.2**	**+0.4**
IBST				*e*Sg	**Sg**	**16 57 27.1**	**-0.6**
GNI	**Garni**	**1.81**	**358**	*e*PN	**Pn**	**16 57 03.0**	**-0.6**
GNI	**Garni**	**1.81**	**358**	⇓*i*P	**Pn**	**16 57 04.4**	**+0.8**
GNI				⇓*i*S	**Sn**	**16 57 27.9**	**+0.6**
GNI	**Garni**	**1.81**	**358**	*e*Pn	**Pn**	**16 57 03.0**	**-0.6**
GNI	**Garni**	**1.81**	**358**	⇓P	**Pn**	**16 57 04.4**	**+0.8**
GNI				S	**Sn**	**16 57 27.9**	**+0.6**
PAAR	**P'arak'ar**	**1.84**	**350**	⇓*i*P	**Pg**	**16 57 06.9**	**+0.5**
PAAR				⇓*i*S	**Sn**	**16 57 28.0**	**0.0**
PAAR	**P'arak'ar**	**1.84**	**350**	⇓P	**Pg**	**16 57 06.9**	**+0.4**
PAAR				S	**Sn**	**16 57 28.0**	**0.0**
AGRB	**Hanur-Agry**	**1.89**	**312**	*e*PN	**Pn**	**16 57 02.7**	**-1.8**
AGRB	**Hanur-Agry**	**1.89**	**312**	*e*Pn	**Pn**	**16 57 02.7**	**-1.8**
VNNZ	**Vanand**	**1.93**	**337**	⇓P	**Pn**	**16 57 04.6**	**-0.5**
VADZ	**Vardenis**	**1.97**	**21**	*e*P	**Pn**	**16 57 07.0**	**+1.2**
VADZ				⇑S	**Sn**	**16 57 30.0**	**-1.2**
KAPZ	**Kaputan**	**1.99**	**358**	⇓*i*P	**Pn**	**16 57 06.3**	**+0.3**
KAPZ				⇓*i*S	**Sn**	**16 57 32.0**	**+0.5**
KAPZ	**Kaputan**	**1.99**	**358**	⇓P	**Pn**	**16 57 06.3**	**+0.3**
KAPZ				S	**Sn**	**16 57 32.0**	**+0.5**
ARUZ	**Aruch**	**2.02**	**344**	⇑P	**Pn**	**16 57 06.3**	**-0.2**
SIRN	**S¨–rnak**	**2.07**	**247**	*i* P	**Pg**	**16 57 10.5**	**-0.3**
SIRN				*i* S	**Sg**	**16 57 39.6**	**+1.9**
SIRN	**S¨–rnak**	**2.07**	**247**	*i* P	**Pg**	**16 57 10.5**	**-0.3**
AMBZ	**Amberd**	**2.10**	**348**	⇑*i*P	**Pn**	**16 57 07.3**	**-0.1**
AMBZ				⇓*i*S	**Sg**	**16 57 39.9**	**+1.4**
AMBZ	**Amberd**	**2.10**	**348**	⇑P	**Pn**	**16 57 07.3**	**-0.1**
STKZ		**2.11**	**45**	⇑*i*P	**Pn**	**16 56 59.1**	**-8.6**
STKZ				⇓*i*S	**Sn**	**16 57 27.4**	**-7.3**
ISRB	**Sarab**	**2.31**	**102**	*e*Pn	**Pn**	**16 57 11.7**	**+1.3**
ISRB				*e*		16 57 22.3	
	comp=Z,1μm,0.2s						
KARS	**Kars**	**2.66**	**330**	*e*PN	**Pn**	**16 57 13.9**	**-1.2**
KARS	**Kars**	**2.66**	**330**	*e*Pn	**Pn**	**16 57 13.9**	**-1.2**
STEZ	**Stepenevan**	**2.68**	**353**	*e*P	**Pn**	**16 57 17.0**	**+1.5**
STE	**Stepanavan**	**2.69**	**353**	P	**Pn**	**16 57 17.0**	**+1.5**
VRTB	**Varto-Mus**	**2.75**	**288**	*e*PN	**Pn**	**16 57 15.7**	**-0.7**
VRTB	**Varto-Mus**	**2.75**	**288**	*e*Pn	**Pn**	**16 57 15.7**	**-0.7**
BEST	**Besiri**	**2.83**	**262**	*i* P	**Pn**	**16 57 20.3**	**+2.8**
BEST				*i* S	**Sg**	**16 58 06.0**	**+4.0**
EZM	**Erzurum**	**3.11**	**301**	*e*PN	**Pn**	**16 57 20.7**	**-0.7**
BNGB	**Bing¨¶l**	**3.30**	**283**	*e*PN	**Pn**	**16 57 23.7**	**-0.3**
BINT	**Bingol**	**3.43**	**280**	*e*Pn	**Pn**	**16 57 23.7**	**-2.1**
IDHR	**Dehrash**	**3.84**	**160**	*e*Pn	**Pn**	**16 57 35.7**	**+4.3**
IDHR				*e*		16 57 50.3	
	comp=Z,248nm,0.2s						

SVRC	**Sivrice-ELAZID**	**4.33**	**272**	*e*PN	**Pn**	**16 57 38.2**	**+0.1**
SVRC	**Sivrice-ELAZID**	**4.33**	**272**	*e*Pn	**Pn**	**16 57 38.2**	**+0.1**

BJI ***13*** *17:16:44.0, 36°.00N×117°.30W, h5km, mB5.1/2, mb4.9/4, Ms4.9/1, Ms7 4.7/1*
ISCJB ***13*** *17:16:45.2±0.3, 36°.04N±0°.02×117°.23W±0°.03, h10km, mb3.2/1, Error ellipse: s-maj=3.5km s-min=2.9km az=157.2*
IDC ***13*** *17:16:46.2±1.8, 35°.92N×117°.20W, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.5/24, mbtmp3.2/5, ML3.2/3, Error ellipse: s-maj=25.0km s-min=9.6km az=48.0*
NEIC ***13*** *17:16:46.5, 35°.97N×117°.32W, h0km, ML4.0(PAS), After PAS.*
NEIC Felt [II] at Trona. Felt at Inyokern, Ridgecrest and in the China Lake area. Also felt at Las Vegas, Nevada.
ISC 13 17:16:46.4±0.3, 35°.99N±0°.02×117°.26W±0°.03, h10km, n49, σ1°49/76, mb3.4/2, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSC	**Goldstone**	**0.78**	**151**	*e*Pg	**Pg**	**17 17 01.4**	**0.0**
GSC				*e*Sg	**Sg**	**17 17 13.0**	**+1.4**
ISA	**Isabella**	**1.04**	**252**	*e*Pg	**Pg**	**17 17 04.8**	**-1.6**
ISA				*e*Sg	**Sg**	**17 17 16.7**	**-3.2**
MTUM	**Tungsten Hills**	**1.72**	**323**	*e*Pg	**Pg**	**17 17 18.4**	**-1.0**
OSI	**Osito Adit**	**1.82**	**222**	*e*Pn	**Pn**	**17 17 17.2**	**-0.6**
OSI				*e*Sn	**Sn**	**17 17 41.5**	**+0.7**
MWC	**Mount Wilson**	**1.88**	**201**	*e*Pn	**Pn**	**17 17 18.4**	**-0.2**
MWC				*e*Sg	**Sg**	**17 17 45.6**	**-1.2**
PASC	**Pasadena Art C**	**1.96**	**203**	*e*Pn	**Pn**	**17 17 19.3**	**-0.5**
PASC				*e*Sn	**Sn**	**17 17 47.1**	**+2.6**
LDFC	**Landfair**	**1.98**	**117**	*e*Pn	**Pn**	**17 17 18.3**	**-1.6**
LDFC				*e*Sn	**Sn**	**17 17 45.8**	**+1.1**
PFO	**Pinyon Flat Ob**	**2.46**	**164**	*e*Pn	**Pn**	**17 17 26.4**	**-0.3**
PFO				*e*Pg	**Pg**	**17 17 32.3**	**-1.4**
PFO				*e*Sg	**Sg**	**17 18 02.7**	**-2.9**
NVAR	**Mina Array Bea**	**2.58**	**341**	Pn	**Pn**	**17 17 29.5**	**+1.3**
	1.8nm,0.3s,baz=167,slow=16,SNR=14						
NVAR				Pg	**Pg**	**17 17 35.8**	**0.0**
	17nm,0.3s,baz=157,slow=17,SNR=62						
NVAR				Lg		17 18 10.0	
	18nm,0.3s,baz=154,slow=28,SNR=9.5						
NVAR	**Mina Array Bea**	**2.58**	**341**	Pn	**Pn**	**17 17 29.5**	**+1.3**
NVAR				Pg	**Pg**	**17 17 35.8**	**0.0**
NVAR				Lg		17 18 10.0	
CMB	**Columbia Colle**	**3.23**	**310**	*e*Pn	**Pn**	**17 17 36.6**	**-0.5**
CMB				*e*Sn	**Sn**	**17 18 14.3**	**-1.4**
CMB				*e*Sb	**Sb**	**17 18 22.9**	**-0.3**
CMB				*e*Sg	**Sg**	**17 18 31.0**	**+0.8**
BAR	**Barrett**	**3.34**	**171**	*e*Pn	**Pn**	**17 17 38.6**	**0.0**
BAR				*e*Sn	**Pb**	**17 17 46.0**	**+0.3**
BAR				*e*Sg	**Sg**	**17 18 28.4**	**-5.2**
**S

Tensor Solution. s35,c45; s75,c104; Moment tensor: Scale 10^{16}Nm; M_{rr}=2.90±.09; $M_{\theta\theta}$=0.03±.10; $M_{\phi\phi}$=2.93±.10; $M_{r\theta}$=0.24±.29; $M_{r\phi}$=-1.25±.08; $M_{\theta\phi}$=1.37±.29; Best double couple: M_0=3.40000×10^{16} NP1:ϕ_s=334.00000°,δ33.00000°, λ-99.00000°. NP2:ϕ_s=165.00000°,δ57.00000°, λ-84.00000°. Principal axes: T 3.6700, Plg12.0000°, Azm251.0000°; N -0.4600, Plg5.0000°, Azm342.0000°; P -3.2100, Plg77.0000°, Azm93.0000°; Data Used: II IU IC G CN.

ISC 13 17:21:14.7±0.3, 8°02.N±0.06×38°05W±0.06, h10km, n235, σ1§15/201, mb4.6/52, MS4.4/25, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.92**	**171**	Pn	**Pn**	**17 24 32.5**	**+0.3**
	1.0nm,0.3s,baz=46,slow=23,SNR=8.2						
RCBR				LR	LR	17 28 33.4	
	comp=Z,228nm,20.5s,baz=138,slow=31						
RCBR	**Riachuelo**	**13.92**	**171**	*e*Pn	**Pn**	**17 24 31.8**	**-0.4**
	6.9nm,0.6s						
RCBR				*e*Sn	**Sn**	**17 26 50.1**	**-17**
RCBR	**Riachuelo**	**13.92**	**171**	*e*Pn	**Pn**	**17 24 31.8**	**-0.3**
	6.9nm,0.6s						
SACV	**Santiago Islan**	**15.75**	**63**	*e*Pn	**Pn**	**17 24 49.1**	**-7.6**
	79nm,1.0s						
BBTS	**Babate**	**22.10**	**71**	LR	LR	17 32 44.7	
	comp=Z,1μm,19.7s,MS4.3,baz=48,slow=32						
SJG	**San Juan**	**29.11**	**293**	LR	LR	17 36 24.1	
	comp=Z,574nm,21.7s,MS4.2,baz=95,slow=31						
SAML	**Samuel**	**30.18**	**237**	*e*P	**P**	**17 27 25.8**	**+0.4**
	4.8nm,0.8s,mb4.3						
SAML	**Samuel**	**30.18**	**237**	*e*P	**P**	**17 27 25.8**	**+0.4**
	4.8nm,0.8s,mb4.3						
PMOZ	**Porto Moniz, M**	**31.35**	**35**	*e*T		18 00 01.0	
FUL	**Funchal**	**31.39**	**36**	*e*T		18 00 07.2	
PMAR	**Madeira**	**31.44**	**36**	*e*T		18 00 00.2	
DBIC	**Dimbokro**	**32.95**	**90**	P	**P**	**17 27 48.3**	**-1.5**
	2.2nm,0.5s,mb4.3,baz=248,slow=9.7,SNR=6.3						
DBIC				LR	LR	17 38 34.1	
	comp=Z,458nm,19.2s,MS4.2,baz=247,slow=32						
DBIC	**Dimbokro**	**32.95**	**90**	*e*P	**P**	**17 27 46.9**	**-2.9**
	4.7nm,0.9s,mb4.4						
DBIC	**Dimbokro**	**32.95**	**90**	*e*P	**P**	**17 27 46.9**	**-2.9**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DBIC	**Dimbokro**	**32.95**	**90**	*e*P	**P**	**17 27 46.9**	**-2.9**
	comp=Z,4.7nm,0.9s,mb4.4						
ROSC	**El Rosal**	**36.17**	**267**	LR	LR	17 42 24.4	
	comp=Z,506nm,21.8s,MS4.2,baz=25,slow=35						
LPAZ	**La Paz**	**38.33**	**231**	P	**P**	**17 28 38.2**	**+2.2**
	comp=Z,4.4nm,0.8s,mb4.2,baz=56,slow=6.5,SNR=19						
LPAZ				LR	LR	17 43 47.4	
	comp=Z,316nm,19.3s,MS4.1,baz=69,slow=35						
LPAZ	**La Paz**	**38.33**	**231**	*e*P	**P**	**17 28 37.8**	**+1.8**
	comp=Z,8.3nm,1.0s,mb4.4						
LPAZ	**La Paz**	**38.33**	**231**	*e*P	**P**	**17 28 37.8**	**+1.8**
LPAZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LPAZ	**La Paz**	**38.33**	**231**	*e*P	**P**	**17 28 37.8**	**+1.8**
	comp=Z,8.3nm,1.0s,mb4.4						
CPUP	**Villa Florida**	**38.94**	**208**	LR	LR	17 45 00.5	
	comp=Z,584nm,19.3s,MS4.4,baz=11,slow=36						
CPUP	**Villa Florida**	**38.94**	**208**	P	**P**	**17 28 41.7**	**+0.8**
	comp=Z,9.6nm,0.5s,mb4.8						
CPUP	**Villa Florida**	**38.94**	**208**	P	**P**	**17 28 41.7**	**+0.8**
CPUP				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CPUP	**Villa Florida**	**38.94**	**208**	P	**P**	**17 28 41.7**	**+0.8**
	comp=Z,9.6nm,0.5s,mb4.8						
TORD	**Torodi Ar. Bea**	**39.37**	**79**	P	**P**	**17 28 43.7**	**-1.1**
	comp=Z,6.3nm,0.8s,mb4.4,baz=272,slow=8.9,SNR=20						
TORD				LR	LR	17 43 13.3	
	comp=Z,900nm,19.6s,MS4.6,baz=260,slow=34						
TORD	**Torodi Ar. Bea**	**39.37**	**79**	P	**P**	**17 28 43.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**39.37**	**79**	P	**P**	**17 28 43.7**	**-1.1**
EVOP	**Sao Brissos**	**40.61**	**37**	*e*P	**P**	**17 28 56.4**	**+1.6**
	comp=Z,195nm,1.7s,mb5.5						
EVOP	**Sao Brissos**	**40.61**	**37**	*e*P	**P**	**17 28 56.4**	**+1.6**
EVOP				pmax	pmax		
	comp=Z,195nm,1.7s,mb5.5						
EVOP	**Sao Brissos**	**40.61**	**37**	*e*P	**P**	**17 28 56.4**	**+1.6**
	comp=Z,195nm,1.7s,mb5.5						
EVO	**Evora**	**40.68**	**37**	*e*P	**P**	**17 28 56.4**	**+1.0**
	comp=Z,195nm,1.7s,mb5.2						
OTAV	**Otavalo**	**40.99**	**261**	P	**P**	**17 28 59.5**	**+1.2**
	comp=Z,2.5nm,0.9s,mb3.8						
OTAV	**Otavalo**	**40.99**	**261**	P	**P**	**17 28 59.5**	**+1.2**
	comp=Z,2.5nm,0.9s,mb3.8						
ESDC	**Sonseca Array**	**43.86**	**39**	P	**P**	**17 29 20.9**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=280,slow=7.7,SNR=3.7						
ESDC				LR	LR	17 44 03.5	
	comp=Z,445nm,20.4s,MS4.4,baz=250,slow=31						
ESDC	**Sonseca Array**	**43.86**	**39**	P	**P**	**17 29 20.9**	**-0.3**
ESDC	**Sonseca Array**	**43.86**	**39**	P	**P**	**17 29 20.9**	**-0.3**
SJPF	**Ste Jean**	**47.56**	**36**	*e*P	**P**	**17 29 52.5**	**+2.0**
	comp=Z,92nm,1.3s,mb5.3						
SJPF	**Ste Jean**	**47.56**	**36**	*e*P	**P**	**17 29 52.5**	**+2.0**
	comp=Z,92nm,1.3s,mb5.7						
SJPF	**Ste Jean**	**47.56**	**36**	*e*P	**P**	**17 29 52.5**	**+2.0**
SJPF				pmax	pmax		
	comp=Z,92nm,1.3s,mb5.7						
ETSF	**Etsaut**	**47.83**	**37**	*e*P	**P**	**17 29 53.9**	**+1.3**
	comp=Z,57nm,1.4s,mb5.1						
ETSF	**Etsaut**	**47.83**	**37**	*e*P	**P**	**17 29 53.9**	**+1.3**
	comp=Z,57nm,1.4s,mb5.4						
ETSF	**Etsaut**	**47.83**	**37**	*e*P	**P**	**17 29 53.9**	**+1.3**
ETSF				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.4						
ETSF	**Etsaut**	**47.83**	**37**	*e*P	**P**	**17 29 53.9**	**+1.3**
	comp=Z,57nm,1.4s,mb5.4						
EPF	**Esparros**	**48.44**	**37**	*e*P	**P**	**17 29 58.6**	**+1.3**
	comp=Z,93nm,1.6s,mb5.2						
EPF	**Esparros**	**48.44**	**37**	*e*P	**P**	**17 29 58.6**	**+1.3**
	comp=Z,93nm,1.6s,mb5.6						
EPF	**Esparros**	**48.44**	**37**	*e*P	**P**	**17 29 58.6**	**+1.3**
EPF				pmax	pmax		
	comp=Z,93nm,1.6s,mb5.6						
EPF	**Esparros**	**48.44**	**37**	*e*P	**P**	**17 29 58.6**	**+1.3**
	comp=Z,93nm,1.6s,mb5.6						
CFAA	**Coronel Fontan**	**48.84**	**215**	P	**P**	**17 30 01.0**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=29,slow=6.4,SNR=19						
CFAA	**Coronel Fontan**	**48.84**	**215**	P	**P**	**17 30 01.0**	**+0.5**
CFAA	**Coronel Fontan**	**48.84**	**215**	P	**P**	**17 30 01.0**	**+0.5**
MTLF	**Montolieu**	**49.76**	**38**	*e*P	**P**	**17 30 08.2**	**+0.8**
MTLF	**Montolieu**	**49.76**	**38**	*e*P	**P**	**17 30 08.2**	**+0.8**
MTLF	**Montolieu**	**49.76**	**38**	*e*P	**P**	**17 30 08.2**	**+0.8**
MTLF	**Montolieu**	**49.76**	**38**	*e*P	**P**	**17 30 08.2**	**+0.8**
LFF	**La Frestale**	**49.78**	**36**	*e*P	**P**	**17 30 09.0**	**+1.5**
LFF	**La Frestale**	**49.78**	**36**	*e*P	**P**	**17 30 09.0**	**+1.5**
LFF	**La Frestale**	**49.78**	**36**	*e*P	**P**	**17 30 09.0**	**+1.5**
LFF	**La Frestale**	**49.78**	**36**	*e*P	**P**	**17 30 09.0**	**+1.5**
TKL	**Tuckaleechee C**	**49.95**	**310**	LR	LR	17 47 41.7	
	comp=Z,258nm,18.3s,MS4.3,baz=108,slow=32						
CAF	**Calviac**	**50.54**	**36**	*e*P	**P**	**17 30 14.6**	**+1.3**
	comp=Z,117nm,1.6s,mb5.2						
CAF	**Calviac**	**50.54**	**36**	*e*P	**P**	**17 30 14.6**	**+1.3**
	comp=Z,117nm,1.6s,mb5.6						
CAF	**Calviac**	**50.54**	**36**	*e*P	**P**	**17 30 14.6**	**+1.3**
CAF				pmax	pmax		
	comp=Z,117nm,1.6s,mb5.6						
CAF	**Calviac**	**50.54**	**36**	*e*P	**P**	**17 30 14.6**	**+1.3**
	comp=Z,117nm,1.6s,mb5.6						
LASF	**Ste Croix**	**51.15**	**38**	*e*P	**P**	**17 30 18.5**	**+0.6**
	comp=Z,62nm,1.2s,mb5.1						
LASF	**Ste Croix**	**51.15**	**38**	*e*P	**P**	**17 30 18.5**	**+0.6**
	comp=Z,62nm,1.2s,mb5.4						
LASF	**Ste Croix**	**51.15**	**38**	*e*P	**P**	**17 30 18.5**	**+0.6**
	comp=Z,62nm,1.2s,mb5.4						
KEST	**Kesra**	**51.25**	**50**	P	**P**	**17 30 15.5**	**-3.3**
	comp=Z,1.6nm,0.9s,mb3.9,baz=247,slow=7.7,SNR=2.4						
KEST				LR	LR	17 52 05.0	
	comp=Z,221nm,18.1s,MS4.2,baz=200,slow=36						
KEST	**Kesra**	**51.25**	**50**	P	**P**	**17 30 15.5**	**-3.3**
KEST	**Kesra**	**51.25**	**50**	P	**P**	**17 30 15.5**	**-3.3**
VIVF	**Saint-Julien-l**	**52.06**	**38**	*e*P	**P**	**17 30 25.4**	**+0.7**
	comp=Z,28nm,1.1s,mb4.8						
VIVF	**Saint-Julien-l**	**52.06**	**38**	*e*P	**P**	**17 30 25.4**	**+0.7**
	comp=Z,28nm,1.0s,mb5.2						
VIVF	**Saint-Julien-l**	**52.06**	**38**	*e*P	**P**	**17 30 25.4**	**+0.7**
VIVF				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
VIVF	**Saint-Julien-l**	**52.06**	**38**	*e*P	**P**	**17 30 25.4**	**+0.7**
	comp=Z,28nm,1.0s,mb5.2						
LOR	**Lormes**	**52.89**	**35**	*e*P	**P**	**17 30 32.3**	**+1.5**
	comp=Z,30nm,1.1s,mb4.8						
LOR	**Lormes**	**52.89**	**35**	*e*P	**P**	**17 30 32.3**	**+1.5**
	comp=Z,30nm,1.1s,mb5.1						
LOR	**Lormes**	**52.89**	**35**	*e*P	**P**	**17 30 32.3**	**+1.5**
LOR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
LOR	**Lormes**	**52.89**	**35**	*e*P	**P**	**17 30 32.3**	**+1.5**
	comp=Z,30nm,1.1s,mb5.1						
WVT	**Waverly**	**53.20**	**309**	P	**P**	**17 30 32.8**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.4						
WVT	**Waverly**	**53.20**	**309**	P	**P**	**17 30 32.8**	**-0.5**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WVT	**Waverly**	**53.20**	**309**	P	**P**	**17 30 32.8**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.4						
MBDF	**Montbardon**	**53.28**	**39**	*e*P	**P**	**17 30 34.7**	**+0.9**
	comp=Z,55nm,1.4s,mb5.0						
MBDF	**Montbardon**	**53.28**	**39**	*e*P	**P**	**17 30 34.7**	**+0.9**
	comp=Z,55nm,1.4s,mb5.3						
MBDF	**Montbardon**	**53.28**	**39**	*e*P	**P**	**17 30 34.7**	**+0.9**
MBDF				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.3						
MBDF	**Montbardon**	**53.28**	**39**	*e*P	**P**	**17 30 34.7**	**+0.9**
	comp=Z,55nm,1.4s,mb5.3						
HAU	**Haudompre**	**54.70**	**35**	*e*P	**P**	**17 30 45.5**	**+1.4**
HAU	**Haudompre**	**54.70**	**35**	*e*P	**P**	**17 30 45.5**	**+1.4**
HAU	**Haudompre**	**54.70**	**35**	*e*P	**P**	**17 30 45.5**	**+1.4**
HAU	**Haudompre**	**54.70**	**35**	*e*P	**P**	**17 30 45.5**	**+1.4**
HINF	**Hinteralfeld**	**54.89**	**36**	*e*P	**P**	**17 30 47.0**	**+1.5**
	comp=Z,124nm,1.8s,mb5.3						
HINF	**Hinteralfeld**	**54.89**	**36**	*e*P	**P**	**17 30 47.0**	**+1.5**
	comp=Z,124nm,1.8s,mb5.6						
HINF	**Hinteralfeld**	**54.89**	**36**	*e*P	**P**	**17 30 47.0**	**+1.5**
HINF				pmax	pmax		
	comp=Z,124nm,1.8s,mb5.6						
HINF	**Hinteralfeld**	**54.89**	**36**	*e*P	**P**	**17 30 47.0**	**+1.5**
	comp=Z,124nm,1.8s,mb5.6						
GIVF	**Givet**	**55.02**	**32**	*e*P	**P**	**17 30 48.3**	**+2.0**
GIVF	**Givet**	**55.02**	**32**	*e*P	**P**	**17 30 48.3**	**+2.0**
GIVF	**Givet**	**55.02**	**32**	*e*P	**P**	**17 30 48.3**	**+2.0**
DAVOX	**Davos/Dischmat**	**56.18**	**38**	P	**P**	**17 30 53.3**	**-1.4**
	comp=Z,8nm,0.8s,mb4.3,baz=180,slow=12,SNR=2.0						
DAVOX	**Davos/Dischmat**	**56.18**	**38**	P	**P**	**17 30 53.3**	**-1.4**
DAVOX	**Davos/Dischmat**	**56.18**	**38**	P	**P**	**17 30 53.3**	**-1.4**
DAVOX	**Davos/Dischmat**	**56.18**	**38**	P	**P**	**17 30 53.3**	**-1.4**
PLCA	**Paso Flores**	**56.99**	**209**	P	**P**	**17 31 01.6**	**+1.0**
	comp=Z,2.6nm,1.0s,mb4.2,baz=46,slow=7.8,SNR=4.0						
PLCA				LR	LR	17 56 17.6	
	comp=Z,304nm,19.0s,MS4.4,baz=263,slow=37						
PLCA	**Paso Flores**	**56.99**	**209**	*e*P	**P**	**17 31 00.7**	**+0.1**
	comp=Z,3.7nm,1.1s,mb4.3						
PLCA	**Paso Flores**	**56.99**	**209**	*e*P	**P**	**17 31 00.7**	**+0.1**
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PLCA	**Paso Flores**	**56.99**	**209**	*e*P	**P**	**17 31 00.7**	**+0.1**
	comp=Z,3.7nm,1.1s,mb4.3						
GRF	**Grafenberg Arr**	**58.34**	**35**	*e*P	**P**	**17 31 09.4**	**-0.5**
	comp=Z,25nm,1.2s,mb5.1						
GRF				*e*L		17 53 22.2	
	comp=Z,190nm,19.1s						
GRF	**Grafenberg Arr**	**58.34**	**35**	*e*P	**P**	**17 31 09.4**	**-0.5**
GRF				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
GRF				MLR	MLR		
	comp=Z,200nm,19.1s,MS4.2						
NKC	**Novy Kostel**	**59.29**	**35**	*e*P	**P**	**17 31 15.5**	**-1.0**
NKC	**Novy Kostel**	**59.29**	**35**	*e*P	**P**	**17 31 15.5**	**-1.0**
GERES	**GERESS Array B**	**59.40**	**37**	P	**P**	**17 31 15.5**	**-1.9**
	comp=Z,0.6nm,0.7s,mb3.7,baz=237,slow=6.2,SNR=4.3						
GERES				LR	LR	17 52 15.8	
	comp=Z,422nm,19.4s,MS4.6,baz=263,slow=31						
GERES	**GERESS Array B**	**59.40**	**37**	P	**P**	**17 31 15.5**	**-1.8**
GERES	**GERESS Array B**	**59.40**	**37**	P	**P**	**17 31 15.5**	**-1.9**
GERES	**GERESS Array B**	**59.40**	**37**	P	**P**	**17 31 15.5**	**-1.9**
KHC	**Kasperske Hory**	**59.45**	**37**	*e*P	**P**	**17 31 16.7**	**-1.0**
KHC	**Kasperske Hory**	**59.45**	**37**	*e*P	**P**	**17 31 16.7**	**-1.0**
CLL	**Collm**	**60.09**	**34**	*e*P	**P**	**17 31 23.0**	**+0.9**
CLL				*e*(sP)	sP	17 31 29.0	+2.5
PRU	**Pruhonice**	**60.39**	**36**	*e*P	**P**	**17 31 23.5**	**-0.6**
PRU	**Pruhonice**	**60.39**	**36**	*e*P	**P**	**17 31 23.5**	**-0.6**
PVCC	**Panska Ves**	**60.64**	**36**	*e*P	**P**	**17 31 32.7**	**+6.9**
PVCC	**Panska Ves**	**60.64**	**36**	*e*P	**P**	**17 31 32.7**	**+6.9**
TSUM	**Tsumeb**	**61.12**	**117**	*e*P	**P**	**17 31 28.7**	**-0.9**
	comp=Z,9.6nm,1.5s,mb4.7						
TSUM	**Tsumeb**	**61.12**	**117**	*e*P	**P**	**17 31 28.7**	**-0.9**
	comp=Z,9.6nm,1.5s,mb4.7						
UPC	**Upice**	**61.46**	**36**	*e*P	**P**	**17 31 31.8**	**+0.4**
UPC	**Upice**	**61.46**	**36**	*e*P	**P**	**17 31 31.8**	**+0.4**
DPC	**Dobruska-Polom**	**61.58**	**36**	*e*P	**P**	**17 31 32.1**	**-0.1**
DPC	**Dobruska-Polom**	**61.58**	**36**	*e*P	**P**	**17 31 32.1**	**-0.1**
ULM	**Lac du Bonnet**	**63.59**	**323**	P	**P**	**17 31 43.7**	**-1.9**
	comp=Z,2.7nm,0.8s,mb4.3,baz=84,slow=8.1,SNR=4.8						
ULM	**Lac du Bonnet**	**63.59**	**323**	P	**P**	**17 31 43.7**	**-1.9**
ULM	**Lac du Bonnet**	**63.59**	**323**	P	**P**	**17 31 43.7**	**-1.9**
ULM	**Lac du Bonnet**	**63.59**	**323**	P	**P**	**17 31 43.7**	**-1.9**
NOA	**NORSAR Array B**	**64.18**	**24**	P	**P**	**17 31 47.4**	**-1.9**
	comp=Z,6.3nm,1.1s,mb4.5,baz=238,slow=6.8,SNR=3.5						
NOA				LR	LR	17 53 40.7	
	comp=Z,191nm,19.9s,MS4.3,baz=180,slow=30						
NOA	**NORSAR Array B**	**64.18**	**24**	P	**P**	**17 31 47.4**	**-1.9**
NOA	**NORSAR Array B**	**64.18**	**24**	P	**P**	**17 31 47.4**	**-1.9**
NOA	**NORSAR Array B**	**64.18**	**24**	P	**P**	**17 31 47.4**	**-1.9**
SUMG	**Summit**	**64.50**	**360**	P	**P**	**17 31 50.9**	**-0.3**
	comp=Z,8.3nm,0.7s,mb4.9						
SUMG	**Summit**	**64.50**	**360**	P	**P**	**17 31 50.9**	**-0.4**
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SUMG	**Summit**	**64.50**	**360**	P	**P**	**17 31 50.9**	**-0.4**
	comp=Z,8.3nm,0.7s,mb4.9						
TXAR	**Lajitas Array**	**64.88**	**299**	P	**P**	**17 31 53.9**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.6,baz=106,slow=6.6,SNR=5.8						
TXAR				LR	LR	17 58 42.7	
	comp=Z,120nm,19.5s,MS4.1,baz=265,slow=35						
TXAR	**Lajitas Array**	**64.88**	**299**	P	**P**	**17 31 53.9**	**-0.6**
TXAR	**Lajitas Array**	**64.88**	**299**	P	**P**	**17 31 53.9**	**-0.6**
TXAR	**Lajitas Array**	**64.88**	**299**	P	**P**	**17 31 53.9**	**-0.6**
MLR	**Muntele Rosu**	**66.18**	**44**	P	**P**	**17 32 03.1**	**+0.5**
	comp=Z,2.4nm,1.1s,mb4.2,baz=343,slow=8.9,SNR=4.4						
MLR	**Muntele Rosu**	**66.18**	**44**	P	**P**	**17 32 03.1**	**+0.5**
MLR	**Muntele Rosu**	**66.18**	**44**	P	**P**	**17 32 03.1**	**+0.5**
MLR	**Muntele Rosu**	**66.18**	**44**	P	**P**	**17 32 03.1**	**+0.5**
SUR	**Sutherland**	**68.93**	**129**	P	**P**	**17 32 21.0**	**+0.8**
	comp=Z,24nm,1.2s,mb5.0						
SUR	**Sutherland**	**68.93**	**129**	P	**P**	**17 32 21.0**	**+0.8**
	comp=Z,24nm,1.2s,mb5.0						
AKASG	**Malin Array Be**	**69.50**	**39**	P	**P**	**17 32 22.6**	**-0.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=260,slow=6.4,SNR=8.3						
AKASG				LR	LR	17 59 47.0	
	comp=Z,268nm,19.1s,MS4.5,baz=290,slow=33						
AKASG	**Malin Array Be**	**69.50**	**39**	P	**P**	**17 32 22.6**	**-0.9**
AKASG	**Malin Array Be**	**69.50**	**39**	P	**P**	**17 32 22.6**	**-0.9**
AKASG	**Malin Array Be**	**69.50**	**39**	P	**P**	**17 32 22.6**	**-0.9**
LBTB	**Lobatse**	**70.09**	**120**	*e*P	**P**	**17 32 24.7**	**-2.8**
	comp=Z,18nm,1.6s,mb4.8						
LBTB	**Lobatse**	**70.09**	**120**	*e*P	**P**	**17 32 24.7**	**-2.8**
LBTB				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
LBTB	**Lobatse**	**70.09**	**120**	*e*P	**P**	**17 32 24.7**	**-2.8**
	comp=Z,18nm,1.6s,mb4.8						
FINES	**FINESS Array B**	**70.78**	**27**	P	**P**	**17 32 29.1**	**-2.0**
	comp=Z,1.9nm,1.0s,mb4.0,baz=207,slow=7.9,SNR=4.3						
FINES				LR	LR	17 56 46.3	
	comp=Z,257nm,21.5s,MS4.5,baz=317,slow=30						
FINES	**FINESS Array B**	**70.78**	**27**	P	**P**	**17 32 29.1**	**-2.0**
FINES	**FINESS Array B**	**70.78**	**27**	P	**P**	**17 32 29.1**	**-2.0**
FINES	**FINESS Array B**	**70.78**	**27**	P	**P**	**17 32 29.1**	**-2.0**
BRTR	**Keskin Array B**	**70.85**	**51**	P	**P**	**17 32 31.6**	**-0.3**
	comp=Z,1.8nm,0.9s,mb4.0,baz=292,slow=6.5,SNR=8.3						
BRTR				LR	LR	18 03 13.2	
	comp=Z,134nm,21.6s,MS4.2,baz=247,slow=36						
BRTR	**Keskin Array B**	**70.85**	**51**	P	**P**	**17 32 31.6**	**-0.3**
BRTR	**Keskin Array B**	**70.85**	**51**	P	**P**	**17 32 31.6**	**-0.3**
BRTR	**Keskin Array B**	**70.85**	**51**	P	**P**	**17 32 31.6**	**-0.3**
BOSA	**Boshof**	**71.03**	**124**	P	**P**	**17 32 33.0**	**-0.2**
	comp=Z,7.5nm,1.2s,mb4.5,baz=146,slow=19,SNR=4.3						
BOSA				LR	LR	17 57 30.1	
	comp=Z,210nm,20.7s,MS4.4,baz=309,slow=31						
BOSA	**Boshof**	**71.03**	**124**	*e*P	**P**	**17 32 32.6**	**-0.6**
	comp=Z,12nm,1.3s,mb4.7						
BOSA	**Boshof**	**71.03**	**124**	*e*P	**P**	**17 32 32.6**	**-0.6**
BOSA				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
PDAR	**Pinedale Array**	**71.03**	**312**	P	**P**	**17 32 32.1**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=97,slow=7.4,SNR=3.8						
PDAR				LR	LR	17 59 02.0	
	comp=Z,256nm,21.1s,MS4.5,baz=107,slow=32						
PDAR	**Pinedale Array**	**71.03**	**312**	P	**P**	**17 32 32.1**	**-0.9**
PDAR	**Pinedale Array**	**71.03**	**312**	P	**P**	**17 32 32.1**	**-0.9**
RLMT	**Red Lodge**	**71.12**	**315**	*e*P	**P**	**17 32 32.5**	**-1.0**
	comp=Z,20nm,1.5s,mb4.8						
FLWY	**Flagg Ranch**	**72.01**	**314**	*e*P	**P**	**17 32 38.7**	**-0.1**
	comp=Z,71nm,1.9s,mb5.3						
FLWY	**Flagg Ranch**	**72.01**	**314**	*e*P	**P**	**17 32 38.7**	**-0.1**
	comp=Z,71nm,1.9s,mb5.3						
YMR	**Madison River**	**72.26**	**314**	*e*P	**P**	**17 32 41.2**	**+0.8**
	comp=Z,45nm,1.4s,mb5.2						
YMR	**Madison River**	**72.26**	**314**	*e*P	**P**	**17 32 41.2**	**+0.8**
	comp=Z,45nm,1.4s,mb5.2						
ARCES	**ARCESS Array B**	**73.45**	**19**	P	**P**	**17 32 46.0**	**-1.0**
	comp=Z,3.2nm,0.9s,mb4.2,baz=253,slow=3.7,SNR=4.6						
ARCES				LR	LR	17 58 16.3	
	comp=Z,163nm,20.6s,MS4.3,baz=68,slow=30						
ARCES	**ARCESS Array B**	**73.45**	**19**	P	**P**	**17 32 46.0**	**-1.0**
ARCES	**ARCESS Array B**	**73.45**	**19**	P	**P**	**17 32 46.0**	**-1.0**
ARCES	**ARCESS Array B**	**73.45**	**19**	P	**P**	**17 32 46.0**	**-1.0**
RES	**Resolute Bay**	**73.89**	**347**	P	**P**	**17 32 49.2**	**-0.3**
	comp=Z,2.0nm,0.9s,mb4.0,baz=142,slow=6.1,SNR=4.6						
RES	**Resolute Bay**	**73.89**	**347**	*e*P	**P**	**17 32 48.8**	**-0.6**
	comp=Z,9.0nm,1.3s,mb4.5						
RES	**Resolute Bay**	**73.89**	**347**	*e*P	**P**	**17 32 48.8**	**-0.6**
RES				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
RES	**Resolute Bay**	**73.89**	**347**	*e*P	**P**	**17 32 48.8**	**-0.6**
	comp=Z,9.0nm,1.3s,mb4.5						
OBN	**Obninsk**	**74.68**	**35**	*e*P	**P**	**17 32 54.6**	**+0.2**
OBN				*e*		17 33 01.7	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.5						
MOS	**Moscow**	**75.36**	**34**	*e*P	**P**	**17 32 55.7**	**-2.6**
YKA	**Yellowknife Ar**	**76.72**	**332**	P	**P**	**17 33 04.3**	**-1.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=98,slow=5.6,SNR=10						
YKA	**Yellowknife Ar**	**76.72**	**332**	P	**P**	**17 33 04.3**	**-1.7**
YKA	**Yellowknife Ar**	**76.72**	**332**	P	**P**	**17 33 04.3**	**-1.6**
YKA	**Yellowknife Ar**	**76.72**	**332**	P	**P**	**17 33 04.3**	**-1.6**
RPN	**Rapa Nui**	**77.27**	**240**	LR	LR	18 05 48.0	
	comp=Z,155nm,19.2s,MS4.3,baz=136,slow=35						
NVAR	**Mina Array Bea**	**77.44**	**308**	LR	LR	18 02 22.0	
	comp=Z,256nm,20.3s,MS4.5,baz=129,slow=32						
ISA	**Isabella**	**77.61**	**305**	P	**P**	**17 33 11.4**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.3						

2.4nm,0.7s,mb3.5,baz=88,slow=8.1,SNR=60
ASAR PcP PcP 17 38 17.4 -4.4
0.5nm,0.5s,baz=103,slow=3.9,SNR=8.7
ASAR Alice Springs 45.08 256 P **P** **17 36 45.4 -0.6**
ASAR PcP PcP 17 38 17.4 -4.4
WRA Warramunga Arr 45.09 261 P **P** **17 36 45.6 -0.5**
0.7nm,0.3s,mb3.4,baz=96,slow=7.7,SNR=18
WRA Warramunga Arr 45.09 261 P **P** **17 36 45.6 -0.5**
MIDW Midway 47.51 0 *eP* **P** **17 37 04.2 -0.4**
132nm,0.6s
ILAR Eielson Array 87.34 13 P **P** **17 41 12.8 +0.6**
0.3nm,0.8s,mb3.2,baz=218,slow=5.7,SNR=5.5
ILAR Eielson Array 87.34 13 P **P** **17 41 12.8 +0.6**
CMAR Chiang Mai Arr 90.15 289 P **P** **17 41 26.4 0.0**
0.1nm,0.4s,mb3.0,baz=104,slow=2.2,SNR=4.1
CMAR Chiang Mai Arr 90.15 289 P **P** **17 41 26.4 0.0**
AKASG Malin Array Be 142.38 332 PKhKP PKPpre 17 47 50.0
1.1nm,0.4s,baz=44,slow=4.7,SNR=7.6
AKASG Malin Array Be 142.38 332 PKPpre PKPpre 17 47 50.0
BRTR Keskin Array B 146.48 314 PKPbc PKPbc 17 48 03.0 -2.9
1.0nm,0.7s,baz=148,slow=5.0,SNR=5.6
BRTR Keskin Array B 146.48 314 PKPbc PKPbc 17 48 03.0 -2.9
GERES GERESS Array B 149.41 345 PKPbc PKPbc 17 48 11.4 -1.8
0.6nm,0.7s,baz=55,slow=5.1,SNR=4.8
GERES GERESS Array B 149.41 345 PKPbc PKPbc 17 48 11.4 -1.8

DJA 13 17:34:59.8″89S×113°.02E, h10km, MLv3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.74**	**34**	P	Pg	17 35 13.7	+0.3
KRKI	**Karangkates**	**0.92**	**322**	P	Pg	17 35 16.4	-0.3
KRKI				S	Sg	17 35 29.8	+1.1
BLJI	**Banyuglugur**	**1.27**	**27**	P	Pn	17 35 21.7	-1.1
PWJI	**Pagerwojo**	**1.48**	**306**	P	Pn	17 35 38.1	+12
PWJI				S	Sn	17 35 51.8	+6.7

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*ISCJB **13** 17:40:18.2±2.1, 24°.2S±0°.2×180°.0W±0°.2, h407km±23km, mb3.9/9, Error ellipse: s-maj=39.2km s-min=21.8km az=13.0*
*NEIC **13** 17:40:19.5±1.6, 24°.31S×179°.94W, h409km±16km, mb4.2/4, Error ellipse: s-maj=28.6km s-min=14.8km az=190.0*
*IDC **13** 17:40:24.0±6.1, 24°.17S×179°.90E, h450km±69km, mb3.3/5, mb1 3.5/6, mb1mx3.2/16, mbtmp3.3/6, Error ellipse: s-maj=49.2km s-min=28.8km az=10.0*
ISC 13 17:40:19.3±2.1, 24°.3S±0°.3×179°.9W±0°.2, h405km±22km, n20, σ0s62/18, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.28**	**160**	*e*Pn	**Pn**	**17 41 44.3**	**-0.1**
URZ	**Urewera**	**14.17**	**190**	P	**P**	**17 43 28.1**	**+5.7**
1.1nm,0.3s,baz=163,slow=5.6,SNR=6.6							
URZ	**Urewera**	**14.17**	**190**	P	**P**	**17 43 28.1**	**+5.7**
CTAO	**Charters Tower**	**31.53**	**271**	*e*P	**P**	**17 46 06.7**	**+0.6**
11nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**34.64**	**249**	P	**P**	**17 46 33.7**	**+1.3**
1.9nm,0.7s,mb3.6,baz=143,slow=21,SNR=4.4							
STKA	**Stephens Creek**	**34.64**	**249**	*e*P	**P**	**17 46 33.0**	**+0.6**
PMG	**Port Moresby**	**34.67**	**290**	P	**P**	**17 46 33.7**	**+0.8**
4.1nm,0.7s,mb3.9,baz=105,slow=8.3,SNR=4.2							
PMG	**Port Moresby**	**34.67**	**290**	P	**P**	**17 46 33.7**	**+0.8**
AS31	**Alice Springs**	**42.03**	**261**	*e*P	**P**	**17 47 32.4**	**-0.9**
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	**17 47 33.2**	**-0.1**
1.4nm,0.6s,mb3.5,baz=96,slow=7.3,SNR=25							
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	**17 47 33.2**	**-0.1**
WRAB	**Tennant Creek**	**42.43**	**267**	*e*P	**P**	**17 47 35.8**	**-0.8**
3.3nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**42.44**	**267**	P	**P**	**17 47 35.9**	**-0.7**
4.1nm,0.6s,mb3.9,baz=105,slow=8.2,SNR=23							
WRA	**Warramunga Arr**	**42.44**	**267**	P	**P**	**17 47 35.9**	**-0.7**
CASY	**Casey**	**59.81**	**206**	P	**P**	**17 49 49.3**	**+6.1**
86nm,1.6s,mb4.9							
QSPA	**South Pole Qui**	**65.82**	**180**	*e*P	**P**	**17 50 22.4**	**+0.3**
3.4nm,1.3s,mb3.8							
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**17 52 36.8**	**-0.1**
0.5nm,0.7s,mb3.4,baz=224,slow=6.7,SNR=6.2							
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**17 52 36.8**	**-0.1**
BRTR	**Keskin Array B**	**147.84**	**307**	PKPbc	PKPbc	17 59 17.8	+0.4
0.5nm,0.8s,baz=9.3,slow=2.0,SNR=2.9							
BRTR	**Keskin Array B**	**147.84**	**307**	PKPbc	PKPbc	17 59 17.8	+0.4

IDC 13 17:50:25.3±3.1, 31°.28S×177°.15W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.9/4, ML3.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/26, Error ellipse: s-maj=72.6km s-min=36.3km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.41**	**213**	Pn	Pn	17 52 28.6	+0.2
0.4nm,0.3s,baz=73,slow=14,SNR=4.3							
URZ				Sn	Sn	17 54 05.2	+1.2
0.6nm,0.3s,baz=12,slow=3.9,SNR=2.2							
CTA	**Charters Tower**	**34.66**	**280**	LR	LR	18 07 28.3	
comp=Z,78nm,20.3s,baz=139,slow=30							
STKA	**Stephens Creek**	**35.00**	**258**	P	P	17 57 17.5	-2.0
1.8nm,0.8s,baz=135,slow=4.3,SNR=3.0							
ASAR	**Alice Springs**	**43.79**	**267**	P	P	17 58 33.9	+0.9
0.7nm,0.7s,baz=103,slow=7.4,SNR=12							
WRA	**Warramunga Arr**	**44.86**	**273**	P	P	17 58 42.4	+0.8
2.0nm,0.7s,baz=111,slow=7.8,SNR=8.8							
FINES	**FINESS Array B**	**146.22**	**340**	PKPbc	PKPbc	18 10 05.9	-1.0
2.0nm,0.7s,baz=96,slow=5.6,SNR=6.3							

IDC 13 17:54:48.3±7.6, 30°.85S×176°.98W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.5/15, mbtmp3.3/2, Error ellipse: s-maj=326.4km s-min=57.9km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.97**	**267**	P	P	18 02 57.2	-0.2
0.2nm,0.6s,baz=101,slow=7.8,SNR=5.4							
WRA	**Warramunga Arr**	**44.99**	**272**	P	P	18 03 05.8	+0.1
0.3nm,0.4s,baz=112,slow=8.1,SNR=3.9							
FINES	**FINESS Array B**	**145.87**	**340**	PKPbc	PKPbc	18 14 28.0	-0.9
0.7nm,0.7s,baz=52,slow=3.1,SNR=6.3							

IDC 13 17:55:31.0±6.3, 19°.39S×177°.76W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/16, mbtmp3.6/2, Error ellipse: s-maj=309.7km s-min=52.8km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.99**	**261**	P	P	18 03 49.2	+0.8
0.3nm,0.3s,baz=96,slow=8.2,SNR=5.4							
ASAR	**Alice Springs**	**45.00**	**256**	P	P	18 03 47.7	-0.8
0.6nm,0.7s,baz=88,slow=8.1,SNR=12							
BRTR	**Keskin Array B**	**146.25**	**314**	PKPbc	PKPbc	18 15 13.2	-0.5
0.8nm,1.1s,baz=42,slow=8.8,SNR=2.5							
MMAI	**Mount Meron Ar**	**147.44**	**301**	PKPbc	PKPbc	18 15 16.7	-0.7
0.4nm,0.4s,baz=76,slow=6.1,SNR=3.2							

IDC 13 18:02:26.1±1.4, 41°.69S×88°.55E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, MS3.6/4, Ms1 3.5/4, ms1mx3.3/27, Error ellipse: s-maj=40.7km s-min=31.9km az=105.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**24.35**	**78**	LR	LR	18 14 59.9	
comp=Z,100nm,19.3s,baz=113,slow=31							
MAW	**Mawson**	**29.46**	**200**	LR	LR	18 17 52.4	
comp=Z,108nm,19.8s,baz=212,slow=31							
ASAR	**Alice Springs**	**41.67**	**79**	P	P	18 10 16.3	-0.1
1.5nm,0.7s,baz=225,slow=7.1,SNR=23							
ASAR				PcP	PcP	18 12 13.2	0.0
0.8nm,0.7s,baz=219,slow=1.7,SNR=5.8							
WRA	**Warramunga Arr**	**44.28**	**75**	P	P	18 10 37.6	0.0
3.3nm,0.9s,baz=231,slow=7.8,SNR=15							
WRA				LR	LR	18 26 08.9	
comp=Z,62nm,21.3s,baz=320,slow=32							
QSPA	**South Pole Qui**	**48.46**	**180**	P	P	18 11 09.6	-0.1
0.6nm,0.8s,baz=257,slow=3.7,SNR=4.5							
BOSA	**Boshof**	**52.29**	**263**	LR	LR	18 28 49.6	
comp=Z,93nm,18.9s,baz=166,slow=30							
CMAR	**Chiang Mai Arr**	**60.61**	**11**	P	P	18 12 37.9	-0.6
0.3nm,0.6s,baz=223,slow=10,SNR=3.6							
RES	**Resolute Bay**	**146.87**	**2**	PKPbc	PKPbc	18 22 09.2	+0.3
0.7nm,0.8s,baz=315,slow=1.4,SNR=2.2							

MAN 13 18:15:12.18″14N×120°.42E, h16km, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.27**	**45**	↑*i*P	Pg	18 15 19.4	+1.6
PIP				*e*S	Sg	18 15 25.6	+3.9
ABRA	**Dolores**	**0.56**	**150**	*e*P	Pg	18 15 23.4	+0.3
ABRA				*e*S	Sg	18 15 33.3	+2.7
CAUP	**Cauayan**	**1.79**	**131**	*e*P	Pn	18 15 43.4	+1.2
CAUP				*e*S	Sn	18 16 06.7	+2.0

KRSC 13 18:54:27.1±1.3, 51°.47N×159°.84E, h10km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.27**	**320**	*e*P	Pn	18 54 50.4	-0.4
RUS				*e*S	Sb	18 55 07.4	0.0
GRL	**Gorelyy**	**1.54**	**315**	*e*P	Pn	18 54 56.4	+1.9
SPN	**Mys Shipunski**	**1.64**	**4**	P	Pn	18 54 58.5	+2.6
PET	**Petropavlovsk**	**1.72**	**335**	P	Pn	18 54 57.5	+0.5
PET				S	Sn	18 55 19.6	+0.6
NLC	**Nalytchevo**	**1.73**	**350**	*e*S	Sn	18 55 21.1	+1.8
AVH	**Avacha**	**1.92**	**340**	P	Pn	18 55 01.8	+2.0
KOK	**Koryaka**	**1.97**	**338**	P	Pn	18 55 01.6	+1.1
MIPR	**Malaya Ipel'ka**	**2.07**	**294**	*e*P	Pn	18 55 02.7	+0.8
MKZ	**Mys Kozlova**	**3.30**	**20**	*e*P	Pn	18 55 17.9	-0.8

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*BJI **13** 19:00:27.9, 3°.94S×130°.25E, h44km, mB5.2/31, mb4.9/49, Ms4.7/35, Ms7 4.3/34*
*IDC **13** 19:00:31.1±0.4, 3°.06S×129°.69E, h0km, mb5.0/26, mb1 4.9/28, mb1mx4.9/29, mbtmp4.9/28, ML4.1/2, MS4.2/15, Ms1 4.2/15, ms1mx4.0/33, Error ellipse: s-maj=18.6km s-min=10.4km az=75.0*
*MOS **13** 19:00:34.4±1.2, 3°.06S×129°.74E, h33km, mb5.3/35, MS4.2/8, Error ellipse: s-maj=11.1km s-min=5.8km az=114.8*
*ISCJB **13** 19:00:35.1±0.5, 3°.04S±0°.02×129°.82E±0°.02, h40km±4km, mb5.1/124, MS4.3/36, Error ellipse: s-maj=4.2km s-min=3.9km az=42.6*
*NEIC **13** 19:00:37.0±0.2, 3°.11S×129°.76E, mb5.2/55, Error ellipse: s-maj=6.8km s-min=4.7km az=64.0*
*GCMT **13** 19:00:36.6±0.3, 3°.05S×129°.80E, h25km±1km, MW5.1, Moment Tensor Solution. s29,c37; s66,c92; Moment tensor: Scale 10^{16}Nm; M_{rr}1.25±.20; $M_{\theta\theta}$3.54±.15; $M_{\phi\phi}$-4.79±.17; $M_{r\theta}$-2.11±.40; $M_{\theta\phi}$-0.92±.13; $M_{\phi r}$1.50±.38; Best double couple: $M_0$5.10000×10^{16} NP1:ϕ_b227.00000°, δ59.00000°, λ165.00000°. NP2:ϕ_b325.00000°, δ77.00000°, λ32.00000°. Principal axes: T 5.0500, Plg32.0000°, Azm191.0000°; N 0.1200, Plg55.0000°, Azm345.0000°; P -5.1600, Plg12.0000°, Azm93.0000°; Data Used: IC IU II G CN.*
*TEH **13** 19:00:37.0, 3°.19S×129°.82E, h44km*
*DJA **13** 19:00:38.1±0.2, 3°.5±3°.3×13°.0E±°, h48km±4km, M5.1, mB5.5/38, mb5.4/60, MLv5.4/12, Mw(mB)5.0/38*
ISC 13 19:00:37.3±0.4, 3°.07S±0°.02×129°.82E±0°.02, h44km±3km, h46km±1.8km: pP-P, n441, σ1s10/417, mb5.1/124, MS4.3/36, 13C-8D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.93**	**253**	P	**Pn**	**19 00 52.8**	**-1.2**
AAI	**Ambon**	**1.73**	**249**	P	**Pn**	**19 01 05.6**	**+0.6**
FAKI	**Fak Fak**	**2.43**	**86**	P	**Pn**	**19 01 14.2**	**-0.4**
NLAI	**Namlea**	**2.72**	**266**	P	**Pn**	**19 01 18.8**	**+0.3**
LBMI	**Labuha**	**3.35**	**316**	P	**Pn**	**19 01 24.8**	**-2.4**
TLE	**Tual**	**3.87**	**131**	P	**Pn**	**19 01 37.2**	**+2.9**
TNTI	**Ternate**	**4.54**	**327**	P	**Pn**	**19 01 41.5**	**-2.0**
BAKI	**Biak**	**6.56**	**74**	P	**Pn**	**19 02 11.1**	**-0.2**
2.2nm7μm692nm,1.1s							
MNI	**Manado**	**6.70**	**312**	P	**Pn**	**19 02 11.7**	**-1.5**
1.2nm6μm265nm,0.9s							
KMSI	**Cibinong**	**6.87**	**302**	P	**Pn**	**19 02 12.9**	**-2.6**
9.6nm740nm,0.8s							
KDI	**Kendari**	**7.24**	**263**	P	**Pn**	**19 02 20.8**	**+0.2**
0.5nm2μm156nm,1.1s							
LUWI	**Luwuk**	**7.32**	**286**	P	**Pn**	**19 02 19.7**	**-2.1**
2.8nm6μm531nm,1.1s							
GTOI	**Gorontalo**	**7.74**	**298**	P	**Pn**	**19 02 27.8**	**+0.3**
3.1nm9μm631nm,0.9s							
MRSI	**Marisa**	**8.63**	**294**	P	**Pn**	**19 02 36.6**	**-3.1**
4μm357nm,0.8s							
SMPI	**Sarmi**	**8.95**	**83**	P	**Pn**	**19 02 43.7**	**-0.4**
144nm,0.9s							
MMRI	**Maumere**	**9.35**	**233**	P	**Pn**	**19 02 52.8**	**+3.3**
4μm341nm,1.1s							
BKSI	**Bulukumba**	**9.92**	**257**	P	**Pn**	**19 02 59.5**	**+2.0**
2μm214nm,1.0s							
TTSI	**Tana Toraja**	**9.98**	**270**	P	**Pn**	**19 02 59.4**	**+1.1**
1μm115nm,1.0s							
SPSI	**Sidrap Palu**	**10.07**	**265**	P	**Pn**	**19 03 00.9**	**+1.5**
2μm126nm,1.7s							
KAPI	**Kappang**	**10.22**	**259**	Pn	**Pn**	**19 03 02.4**	**+0.9**
7.0nm,0.3s,baz=60,slow=5.9,SNR=18							
KAPI				Sn	**Sn**	**19 04 56.0**	**+1.1**
0.2nm,0.3s,baz=308,slow=19,SNR=3.2							
KAPI	**Kappang**	**10.22**	**259**	*e*Pn	**Pn**	**19 03 02.2**	**+0.6**
369nm,1.4s							
KAPI				Sn	**Sn**	**19 04 56.0**	**+1.1**
KAPI	**Kappang**	**10.22**	**259**	P	**Pn**	**19 03 02.4**	**+0.8**
3μm208nm,1.5s							
KAPI	**Kappang**	**10.22**	**259**	Pn	**Pn**	**19 03 05.3**	**+3.7**
SNR=17							
MJSI	**Majene**	**10.83**	**267**	P	**Pn**	**19 03 15.3**	**+5.4**
JAY	**Jayapura**	**10.89**	**87**	P	**Pn**	**19 03 09.4**	**-1.3**
70nm,1.0s							
DAV	**Davao City (W)**	**10.93**	**337**	Pn	**Pn**	**19 03 13.8**	**+2.6**
21nm,0.3s,baz=287,slow=10,SNR=8.7							
DAV	**Davao City (W)**	**10.93**	**337**	*e*Pn	**Pn**	**19 03 09.9**	**-1.3**
DAV	**Davao City (W)**	**10.93**	**337**	Pn	**Pn**	**19 03 14.0**	**+2.8**
SNR=8.0							
WSI	**Waingapu**	**11.51**	**235**	P	**Pn**	**19 03 22.5**	**+3.4**
8μm420nm,1.0s							
CTBH	**Cotabato--PC H**	**11.64**	**331**	↑*i*P	**Pn**	**19 03 19.5**	**-1.4**
BUKP	**Musuan**	**11.87**	**336**	*e*P	**Pn**	**19 03 24.8**	**+0.7**
KBKI	**Kotabaru**	**13.63**	**269**	P	**Pn**	**19 03 48.1**	**-0.1**
791nm41nm,1.2s							
MYLDM	**Lahad Datu**	**13.96**	**306**	P	**Pn**	**19 03 53.6**	**+0.9**
MYLDM	**Lahad Datu**	**13.96**	**306**	P	**Pn**	**19 03 53.2**	**+0.5**
2μm36nm,1.0s							
MSLP	**Maasin**	**14.02**	**339**	*e*P	**Pn**	**19 04 01.9**	**+8.5**
MTNI	**Mataram**	**14.65**	**247**	P	**Pn**	**19 04 02.9**	**+0.9**
2μm144nm,1.2s							
BBKI	**Banjar Baru**	**14.96**	**268**	P	**Pn**	**19 04 07.9**	**+1.9**
3μm175nm,1.8s							
KHKI	**Kahang-Kahang**	**15.08**	**249**	P	**Pn**	**19 04 08.1**	**+0.5**
99nm,1.2s							
SDKM	**Sandakan**	**15.29**	**304**	P	**Pn**	**19 04 11.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**15.49**	**195**	Pn	**Pn**	**19 04 09.6**	**-3.3**
2.2nm,0.3s,baz=30,slow=10.0,SNR=58							
FITZ				Sn	**Sn**	**19 07 04.0**	**+0.6**
0.5nm,0.3s,baz=101,slow=19,SNR=2.7							
FITZ				LR	LR	19 10 46.1	
comp=Z,440nm,19.5s,baz=28,slow=40							
FITZ	**Fitzroy Crossi**	**15.49**	**195**	*e*P	**Pn**	**19 04 08.7**	**-4.1**
152nm,0.8s							
FITZ	**Fitzroy Crossi**	**15.49**	**195**	Pn	**Pn**	**19 04 09.6**	**-3.2**
FITZ				Sn	**Sn**	**19 07 04.0**	**+0.6**
KMMI	**Kalianget**	**16.27**	**255**	P	**Pn**	**19 04 23.5**	**+0.5**
182nm,1.2s							
KDM	**Kudat**	**16.32**	**307**	P	**Pn**	**19 04 25.8**	**+2.2**
KKM	**Kota Kinabalu**	**16.33**	**304**	P	**Pn**	**19 04 25.8**	**+2.2**
KKM	**Kota Kinabalu**	**16.33**	**304**	*e*Pn	**Pn**	**19 04 24.9**	**+1.3**
71nm,1.1s							
BLJI	**Banyuglugur**	**16.80**	**253**	P	**Pn**	**19 04 30.1**	**+0.5**
3μm224nm,0.9s							
COEN	**Coen**	**17.06**	**130**	P	**Pn**	**19 04 33.1**	**+0.3**
3μm332nm,1.1s							
GMJI	**Gumukmas**	**17.09**	**252**	P	**Pn**	**19 04 33.2**	**0.0**
110nm,0.9s							
WRAB	**Tennant Creek**	**17.33**	**166**	*e*Pn	**Pn**	**19 04 30.9**	**-5.2**
215nm,1.1s							
WRAB				*e*Sn	**Sn**	**19 07 36.0**	**-12**
WRAB	**Tennant Creek**	**17.33**	**166**	Pn	**Pn**	**19 04 32.2**	**-3.9**
866nm,0.6s,SNR=37							
WRAB	**Tennant Creek**	**17.33**	**166**	*e*P	**Pn**	**19 04 30.9**	**-5.2**
WRAB				pmax	pmax		
comp=Z,215nm,1.1s							
WRA	**Warramunga Arr**	**17.34**	**166**	P	**Pn**	**19 04 31.5**	**-4.7**
comp=Z,4.0nm,0.3s,baz=345,slow=12,SNR=54							
WRA				S	**S**	**19 07 35.7**	**-20**
comp=Z,0.6nm,0.3s,baz=343,slow=22,SNR=4.8							
WRA	**Warramunga Arr**	**17.34**	**166**	P	**Pn**	**19 04 31.5**	**-4.7**
WRA				S	**S**	**19 07 35.7**	**-20**
WRA	**Warramunga Arr**	**17.34**	**166**	P	**Pn**	**19 04 31.5**	**-4.7**
WB2	**Warramunga Arr**	**17.34**	**166**	*e*Pn	**Pn**	**19 04 31.1**	**-5.2**
AUQP	**San Andres**	**17.77**	**337**	*e*P	**Pn**	**19 04 50.7**	**+9.2**
BTM	**Bintulu**	**17.85**	**290**	P	**Pn**	**19 04 44.2**	**+1.6**
KRKI	**Karangkates**	**18.00**	**253**	P	**Pn**	**19 04 43.4**	**-1.0**
comp=Z,301nm,0.7s							
PBKI	**Pangkalan Bun**	**18.13**	**271**	P	**Pn**	**19 04 47.0**	**+1.0**
comp=Z,2μmcomp=Z,286nm,1.1s							
PMG	**Port Moresby**	**18.34**	**111**	P	**Pn**	**19 04 48.4**	**-0.2**
comp=Z,0.6nm,0.3s,baz=330,slow=8.7,SNR=9.5							
PMG	**Port Moresby**	**18.34**	**111**	*e*P	**Pn**	**19 04 48.3**	**-0.3**
comp=Z,71nm,1.0s							
PMG	**Port Moresby**	**18.34**	**111**	*d i*P	**Pn**	**19 04 48.2**	**-0.4**
PMG				pmax	pmax		
comp=Z,20nm,1.0s							
PMG	**Port Moresby**	**18.34**	**111**	P	**Pn**	**19 04 48.8**	**+0.2**
comp=Z,815nmcomp=Z,73nm,1.4s							
SBUM	**Sibu**	**18.43**	**287**	P	**Pn**	**19 04 50.9**	**+1.3**
SBUM	**Sibu**	**18.43**	**287**	P	**Pn**	**19 04 50.5**	**+0.9**
comp=Z,806nmcomp=Z,68nm,1.3s							
SJI	**Sawahan**	**18.55**	**255**	P	**Pn**	**19 04 50.6**	**-0.6**
comp=Z,3μmcomp=Z,215nm,1.1s							
PWJI	**Pagerwojo**	**18.59**	**254**	P	**Pn**	**19 04 50.4**	**-1.2**
comp=Z,142nm,0.9s							
STKI	**Sintang**	**18.59**	**279**	P	**Pn**	**19 04 51.7**	**0.0**
comp=Z,65nm,1.1s							
TGY	**Tagaytay City**	**19.20**	**333**	P	**Pn**	**19 04 59.8**	**+0.9**
comp=Z,55nm,0.3s,baz=190,slow=6.1,SNR=2.6							
TGY	**Tagaytay City**	**19.20**	**333**	P	**Pn**	**19 04 59.8**	**+0.9**
TGY	**Tagaytay City**	**19.20**	**333**	P	**Pn**	**19 04 59.8**	**+0.9**
LUBP	**Lubang**	**19.21**	**331**	*e*P	**Pn**	**19 04 58.7**	**-0.3**
PCJI	**Pacitan**	**19.23**	**254**	P	**Pn**	**19 04 55.9**	**-3.4**
comp=Z,189nm,1.2s							
SMRI	**Semarang**	**19.70**	**258**	P	**Pn**	**19 05 02.6**	**-2.3**
comp=Z,191nm,1.1s							
UGM	**Wanagama**	**19.79**	**255**	P	**Pn**	**19 05 04.9**	**-1.1**
comp=Z,242nm,1.1s							
YOGI	**Yogyakarta**	**19.99**	**256**	P	**Pn**	**19 05 09.0**	**+0.6**
comp=Z,665nm,0.9s							
KSM	**Kuching**	**20.02**	**283**	P	**P**	**19 05 07.5**	**+0.9**
KSM	**Kuching**	**20.02**	**283**	*e*P	**P**	**19 05 06.7**	**+0.1**
comp=Z,118nm,0.8s							
KSM	**Kuching**	**20.02**	**283**	P	**P**	**19 05 07.5**	**+0.8**
comp=Z,1μmcomp=Z,158nm,0.9s							
BALP	**Baler**	**20.39**	**337**	*e*P	**P**	**19 05 03.6**	**-7.1**
BJII	**Banjamegara**	**20.46**	**257**	P	**P**	**19 05 11.3**	**-0.2**
comp=Z,2μmcomp=Z,177nm,1.0s							
MBWA	**Marble Bar**	**20.48**	**208**	*e*P	**P**	**19 05 08.5**	**-3.1**
comp=Z,231nm,1.0s							
MBWA	**Marble Bar**	**20.48**	**208**	P	**P**	**19 05 09.5**	**-2.1**
comp=Z,2μmcomp=Z,252nm,1.1s							
MBWA	**Marble Bar**	**20.48**	**208**	P	**P**	**19 05 13.5**	**+1.9**
SNR=18							
AS31	**Alice Springs**	**20.85**	**169**	*e*P	**P**	**19 05 14.8**	**-0.7**
AS31				*e*S	**S**	**19 09 01.0**	**-4.8**
ASAR	**Alice Springs**	**20.85**	**169**	P	**P**	**19 05 15.1**	**-0.4**
comp=Z,441nm,1.0s,baz=352,slow=10,SNR=1500							
ASAR				S	**S**	**19 09 04.1**	**-1.7**
comp=Z,58nm,1.1s,baz=350,slow=20,SNR=10							
ASAR	**Alice Springs**	**20.85**	**169**	P	**P**	**19 05 15.1**	**-0.4**
ASAR				S	**S**	**19 09 04.1**	**-1.7**
ASAR	**Alice Springs**	**20.85**	**169**	P	**P**	**19 05 15.1**	**-0.4**
ASAR				S	**S**	**19 09 04.1**	**-1.7**
SCZP	**Santa Cruz**	**21.14**	**333**	*e*P	**P**	**19 05 17.3**	**-1.4**
CAUP	**Cauayan**	**21.40**	**339**	*e*P	**P**	**19 05 22.8**	**+1.3**
TPI	**Tanjungpandan**	**22.14**	**270**	P	**P**	**19 05 28.3**	**-1.2**
comp=Z,973nmcomp=Z,86nm,1.1s,mb5.1							
CISI	**Cisompet, Garu**	**22.35**	**258**	P	**P**	**19 05 27.9**	**-3.8**
comp=Z,1μmcomp=Z,181nm,1.0s,mb5.5							
LEM	**Lembang**	**22.43**	**260**	P	**P**	**19 05 29.9**	**-2.6**
comp=Z,111nm,1.0s,mb5.3							
CBJI	**Citeko**	**23.13**	**261**	P	**P**	**19 05 35.5**	**-4.5**
comp=Z,200nm,0.9s,mb5.6							
DBJI	**Dramaga**	**23.24**	**261**	P	**P**	**19 05 39.1**	**-2.1**
comp=Z,59nm,1.2s,mb4.9							
CTA	**Charters Tower**	**23.31**	**138**	P	**P**	**19 05 42.3**	**+0.5**
comp=Z,92nm,1.1s,mb5.1,baz=322,slow=12,SNR=17							
CTA	**Charters Tower**	**23.31**	**138**	*e*P	**P**	**19 05 42.8**	**+1.0**
comp=Z,106nm,0.9s,mb5.3							
CTA				*e*S	**S**	**19 09 54.7**	**+3.7**
CTA	**Charters Tower**	**23.31**	**138**	P	**P**	**19 05 42.3**	**+0.5**
CTA	**Charters Tower**	**23.31**	**138**	P	**P**	**

SSE	**Sheshan**	**34.96 347**	P	**P**	**19 07 25.5 +0.2**	
SSE			S	**S**	**19 12 56.9 +2.8**	
SSE			pmax	pmax		
	comp=Z,32nm,0.7s,mb5.4					
SSE			pmax	pmax		
	comp=Z,220nm,4.1s					
SSE			LR	LR		
	comp=N,83nm,20.0s,MS3.9					
SSE			LR	LR		
	comp=E,210nm,20.0s,MS3.9					
SSE			LR	LR		
	comp=Z,170nm,20.0s,MS3.8					
SSE	**Sheshan**	**34.96 347**	P	**P**	**19 07 25.5 +0.2**	
	comp=Z,32nm,0.7s,mb5.4					
SSE			S	**S**	**19 12 56.9 +2.8**	
SSE			sS	sS	19 13 13.0 -1.0	
NJ2	**Nanjing**	**36.45 344**	*e*P	**P**	**19 07 40.1 +2.0**	
NJ2			pP	pP	19 07 52.3 +2.3	
NJ2			sP	sP	19 07 57.6 +2.4	
NJ2			PP	PP	19 09 01.4 -0.3	
NJ2			S	**S**	**19 13 17.0 +0.1**	
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8					
NJ2			pmax	pmax		
	comp=Z,290nm,4.2s					
NJ2			LR	LR		
	comp=N,350nm,20.6s,MS4.3					
NJ2			LR	LR		
	comp=E,520nm,23.2s,MS4.3					
NJ2			LR	LR		
	comp=Z,570nm,24.9s,MS4.2					
BDT	**Bhumibol Dam**	**36.50 305**	P	**P**	**19 07 40.0 +1.3**	
	comp=Z,20nm,1.0s,mb5.0					
WHN	**Wuhan**	**36.55 337**	P	**P**	**19 07 40.0 +1.1**	
WHN			S	**S**	**19 13 27.0 +8.6**	
WHN			LR	LR		
	comp=Z,810nm,21.7s,MS4.5					
CAN	**Canberra**	**36.69 153**	*e*P	**P**	**19 07 40.5 +0.4**	
	comp=Z,98nm,1.4s,mb5.4					
CAN	**Canberra**	**36.69 153**	*e*P	**P**	**19 07 40.5 +0.4**	
CAN			pmax	pmax		
	comp=Z,98nm,1.4s,mb5.5					
GYA	**Guiyang**	**36.92 324**	P	**P**	**19 07 42.6 +0.4**	
GYA			pP	pP	19 07 54.8 +0.7	
GYA			sP	sP	19 08 01.5 +2.2	
GYA			PP	PP	19 09 08.9 +1.9	
GYA			S	**S**	**19 13 23.5 -0.8**	
GYA			pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0					
GYA			pmax	pmax		
	comp=Z,90nm,3.2s					
GYA			LR	LR		
	comp=N,620nm,17.0s,MS4.5					
GYA			LR	LR		
	comp=E,500nm,18.4s,MS4.5					
GYA			LR	LR		
	comp=Z,750nm,17.4s,MS4.5					
CMAR	**Chiang Mai Arr**	**37.18 306**	P	**P**	**19 07 44.9 +0.4**	
	comp=Z,28nm,1.0s,mb5.0,baz=137,slow=7.4,SNR=140					
CMAR			PcP	PcP	19 10 05.7 +1.7	
	comp=Z,5.9nm,0.9s,baz=158,slow=2.4,SNR=8.8					
CMAR			ScP	ScP	19 13 52.1 +4.4	
	comp=Z,1.9nm,1.0s,baz=163,slow=3.1,SNR=6.6					
CMAR	**Chiang Mai Arr**	**37.18 306**	P	**P**	**19 07 44.9 +0.4**	
CMAR			PcP	PcP	19 10 05.7 +1.7	
CMAR			ScP	ScP	19 13 52.1 +4.4	
CMAR	**Chiang Mai Arr**	**37.18 306**	P	**P**	**19 07 44.9 +0.4**	
CMAR					19 10 05.7	
CM31	**Chiang Mai Arr**	**37.18 306**	*e*P	**P**	**19 07 44.5 +0.1**	
	comp=Z,43nm,1.0s,mb5.2					
CM31			*e*PcP	PcP	19 10 03.4 -0.6	
TOO	**Toolangi**	**37.22 159**	*e*P	**P**	**19 07 45.3 +0.7**	
	comp=Z,164nm,0.9s,mb5.9					
CHRT	**Chiangrai**	**37.28 309**	⇑P	**P**	**19 07 44.5 -0.8**	
	comp=Z,279nm,0.9s,mb6.1					
CHG	**Chiang Mai**	**37.37 307**	⇑P	**P**	**19 07 46.3 +0.3**	
	comp=Z,15nm,1.0s,mb4.8					
CHTO	**Chiang Mai**	**37.37 307**	*e*P	**P**	**19 07 46.0 0.0**	
	comp=Z,63nm,0.9s,mb5.4					
CHTO	**Chiang Mai**	**37.37 307**	*e*P	**P**	**19 07 46.0 0.0**	
CHTO			pmax	pmax		
	comp=Z,63nm,0.9s,mb5.5					
CHTO	**Chiang Mai**	**37.37 307**	P	**P**	**19 07 46.2 +0.2**	
CHTO	**Chiang Mai**	**37.37 307**	P	**P**	**19 07 46.8 +0.8**	
	SNR=29					
KMI	**Kunming**	**38.42 318**	P	**P**	**19 07 55.4 +0.6**	
KMI			pP	pP	19 08 09.0 +2.2	
KMI			S	**S**	**19 13 50.5 +3.5**	
KMI			pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8					
KMI			pmax	pmax		
	comp=Z,90nm,3.2s					
KMI			LR	LR		
	comp=N,240nm,16.5s,MS4.2					
KMI			LR	LR		
	comp=E,190nm,16.9s,MS4.2					
KMI			LR	LR		
	comp=Z,180nm,18.7s,MS3.9					
KMI	**Kunming**	**38.42 318**	P	**P**	**19 07 55.4 +0.6**	
	comp=Z,24nm,1.1s,mb4.8					
KMI			pP	pP	19 08 09.0 +2.2	
KMI			S	**S**	**19 13 50.5 +3.5**	
KMI	**Kunming**	**38.42 318**	P	**P**	**19 07 55.4 +0.6**	
KMI			*PP	pP	19 08 09.0 +2.2	
KMI			S	**S**	**19 13 50.5 +3.5**	
KMI			pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8					
MJAR	**Matsushiro Arr**	**40.18 10**	P	**P**	**19 08 07.3 -2.1**	
	comp=Z,13nm,0.8s,mb4.7,baz=191,slow=9.8,SNR=34					
MJAR	**Matsushiro Arr**	**40.18 10**	P	**P**	**19 08 07.3 -2.1**	
MJAR	**Matsushiro Arr**	**40.18 10**	P	**P**	**19 08 07.3 -2.1**	
MAJO	**Matsushiro**	**40.18 10**	*e*P	**P**	**19 08 07.0 -2.3**	
	comp=Z,20nm,0.8s,mb4.9					
MAJO	**Matsushiro**	**40.18 10**	*e*P	**P**	**19 08 07.1 -2.3**	
MAJO			pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9					
MAT	**Matsushiro**	**40.18 10**	P	**P**	**19 08 07.6 -1.8**	
MAT			S	**S**	**19 14 15.0 +1.8**	
DZM	**Mont Dzumac**	**40.25 121**	*e*P	**P**	**19 08 13.4 +3.2**	
	comp=Z,51nm,1.1s,mb5.2					
DZM			*e*S	**S**	**19 14 19.8 +5.1**	
	comp=Z,183nm,34.6s					
DZM			*e*LR	LR	19 19 22.1	
	comp=Z,843nm,24.5s					
KSAR	**Wonju Array Be**	**40.35 358**	P	**P**	**19 08 10.8 0.0**	
KSAR	**Wonju Array Be**	**40.35 358**	P	**P**	**19 08 10.8 +0.1**	
KSRS	**Korea Array**	**40.36 358**	P	**P**	**19 08 10.8 -0.1**	
	comp=Z,2.9nm,0.8s,mb4.1,baz=178,slow=11,SNR=5.7					
KSRS			LR	LR	19 24 08.7	
	comp=Z,246nm,19.3s,MS4.1,baz=186,slow=35					
CD2	**Chengdu**	**41.94 326**	⇑*i*P	**P**	**19 08 25.6 +1.6**	
CD2			pP	pP	19 08 37.9 +1.8	
CD2			sP	sP	19 08 43.3 +2.1	
CD2			pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7					
CD2			pmax	pmax		
	comp=Z,120nm,6.0s					
CD2			LR	LR		
	comp=N,270nm,18.0s,MS4.6					
CD2			LR	LR		
	comp=E,620nm,13.2s,MS4.6					
CD2			LR	LR		
	comp=Z,320nm,14.4s,MS4.3					
BJI	**Beijing**	**44.69 345**	P	**P**	**19 08 44.9 -1.1**	
BJI			S	**S**	**19 15 23.8 +4.3**	
BJI			sS	sS	19 15 44.8 +5.0	
BJI			LR	LR		
	comp=N,300nm,14.5s,MS4.4					
BJI			LR	LR		
	comp=E,180nm,15.7s,MS4.4					
BJI			LR	LR		
	comp=Z,150nm,22.4s					
SNY	**Shenyang**	**45.05 353**	⇓P	**P**	**19 08 48.8 0.0**	
SNY			S	**S**	**19 15 36.5 +12**	
SNY			SS	SS	19 18 50.9 +2.9	
SNY			pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9					
SNY			pmax	pmax		
	comp=Z,280nm,4.3s					
SNY			LR	LR		
	comp=E,190nm,15.3s					
SNY			LR	LR		
	comp=Z,210nm,20.4s					
LZH	**Lanzhou**	**45.90 330**	*e*P	**P**	**19 08 56.5 +0.9**	
LZH			pP	pP	19 09 07.0 -0.8	
LZH			sP	sP	19 09 12.0 -1.0	
LZH			pmax	pmax		
	comp=Z,34nm,1.1s,mb5.2					
LZH			pmax	pmax		
	comp=Z,260nm,4.8s					
LZH			LR	LR		
	comp=N,300nm,6.6s					
LZH			LR	LR		
	comp=E,220nm,8.7s					
LZH			LR	LR		
	comp=Z,250nm,7.7s					
LZH	**Lanzhou**	**45.90 330**	*e*P	**P**	**19 08 56.5 +0.9**	
	comp=Z,34nm,1.1s,mb5.2					
LZH			pP	pP	19 09 07.0 -0.8	
LZH			sP	sP	19 09 12.0 -1.0	
LZH	**Lanzhou**	**45.90 330**	*e*P	**P**	**19 08 56.5 +0.9**	
LZH			*PP	pP	19 09 07.0 -0.8	
LZH			*SP	sP	19 09 12.0 -1.0	
LZH			pmax	pmax		
	comp=Z,34nm,1.1s,mb5.2					
HHC	**Hu-ho-hao-te**	**46.79 341**	*e*P	**P**	**19 09 05.3 +2.8**	
HHC			pP	pP	19 09 17.3 +2.5	
HHC			sP	sP	19 09 23.3 +3.4	
HHC			PP	PP	19 10 56.0 +2.8	
HHC			S	**S**	**19 15 54.5 +4.8**	
HHC			ScS	ScS	19 18 52.9 -0.7	
HHC			SS	SS	19 19 14.3 -2.5	
HHC			pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0					
HHC			pmax	pmax		
	comp=Z,95nm,3.6s					
HHC			LR	LR		
	comp=N,220nm,17.8s,MS4.4					
HHC			LR	LR		
	comp=E,280nm,15.2s,MS4.4					
HHC			LR	LR		
	comp=Z,240nm,19.0s,MS4.2					
CN2	**Changchun**	**46.83 356**	*e*P	**P**	**19 09 01.8 -1.0**	
CN2			*e*pP	pP	19 09 14.3 -0.7	
CN2			*e*sP	sP	19 09 19.5 -0.7	
CN2			*e*S	**S**	**19 15 50.1 0.0**	
CN2			SS	SS	19 19 14.5 -2.8	
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,200nm,17.0s,MS4.3					
CN2			LR	LR		
	comp=E,200nm,17.0s,MS4.3					
CN2			LR	LR		
	comp=Z,300nm,19.0s,MS4.3					
MDJ	**Mudanjiang**	**47.48 360**	P	**P**	**19 09 08.1 +0.3**	
MDJ			pP	pP	19 09 19.5 -0.6	
MDJ			sP	sP	19 09 24.3 -0.9	
MDJ			ScP	ScP	19 14 28.1 -0.2	
MDJ			PcS	PcS	19 14 32.9 +0.1	
MDJ			S	**S**	**19 16 00.8 +1.5**	
MDJ			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8					
MDJ			pmax	pmax		
	comp=Z,65nm,4.2s					
MDJ			LR	LR		
	comp=N,94nm,29.4s,MS3.7					
MDJ			LR	LR		
	comp=E,71nm,29.8s,MS3.7					
MDJ			LR	LR		
	comp=Z,170nm,23.4s					
ASAJ	**Asahikawa**	**48.36 12**	P	**P**	**19 09 14.8 +0.1**	
	comp=Z,23nm,1.1s,mb5.1,baz=218,slow=15,SNR=4.3					
ASAJ			LR	LR	19 29 01.8	
	comp=Z,224nm,19.4s,MS4.2,baz=192,slow=35					
ASAJ	**Asahikawa**	**48.36 12**	P	**P**	**19 09 14.8 +0.1**	
YUK	**Yuzh-Kuril'sk**	**49.06 15**	*i* P	**P**	**19 09 11.6 -8.4**	
YUK			*i* S	**S**	**19 16 14.9 -6.8**	
YUK			*e*SS	SS	19 19 44.0 -9.4	
YUK			pmax	pmax		
	comp=N,141nm,1.3s					
YUK			pmax	pmax		
	comp=E,199nm,1.3s					
YUK			pmax	pmax		
	comp=Z,136nm,1.3s,mb5.8					
YUK			pmax	pmax		
	comp=Z,322nm,1.9s,mb6.0					
YUK			MLR	MLR		
	comp=E,104nm,18.0s					
YUK			MLR	MLR		
	comp=Z,161nm,18.0s,MS4.1					
LSA	**Lhasa**	**49.30 314**	P	**P**	**19 09 22.4 +0.2**	
GTA	**Gaotai**	**50.48 330**	⇑P	**P**	**19 09 30.9 -0.1**	
GTA			pP	pP	19 09 43.4 +0.1	
GTA			sP	sP	19 09 48.8 +0.3	
GTA			S	**S**	**19 16 40.8 -1.0**	
GTA			sS	sS	19 17 02.6 +0.2	
GTA			pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0					
GTA			pmax	pmax		
	comp=Z,94nm,5.2s					
GTA			LR	LR		
	comp=N,190nm,16.4s,MS4.3					
GTA			LR	LR		
	comp=E,200nm,17.8s,MS4.3					
GTA			LR	LR		
	comp=Z,160nm,18.5s,MS4.1					
TAPN	**Taplejung**	**50.61 309**	*e*P	**P**	**19 09 31.7 -0.5**	
	comp=Z,53nm,1.0s,mb5.4					
TAPN	**Taplejung**	**50.61 309**	*e*P	**P**	**19 09 31.7 -0.5**	
	comp=Z,53nm,1.0s,mb5.4					
ODAN	**Odare**	**50.61 309**	*e*P	**P**	**19 09 31.5 -0.7**	
	comp=Z,45nm,0.8s,mb5.4					
ODAN	**Odare**	**50.61 309**	*e*P	**P**	**19 09 31.5 -0.7**	
	comp=Z,45nm,0.8s,mb5.5					
YSS	**Yuzh-Sakhalins**	**51.10 11**	*e*P	**P**	**19 09 35.6 +0.1**	
	comp=Z,25nm,0.9s,mb5.2					
YSS	**Yuzh-Sakhalins**	**51.10 11**	⇓*e*P	**P**	**19 09 35.4 -0.1**	
YSS			pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2					
RAMN	**Ramite**	**51.27 308**	*e*P	**P**	**19 09 37.0 -0.2**	
	comp=Z,58nm,0.7s,mb5.6					
RAMN	**Ramite**	**51.27 308**	*e*P	**P**	**19 09 37.0 -0.2**	
	comp=Z,58nm,0.7s,mb5.6					
HABR	**Khabarovsk**	**51.54 4**	*e*P	**P**	**19 09 36.8 -1.9**	
HABR			*e**SP	sP	19 09 50.8 -5.4	
HABR			*e*		19 10 49.9	
HABR			*e*S	**S**	**19 16 56.0 0.0**	
HABR			*e**SS	sS	19 17 12.5 -4.2	
HABR					19 19 24.3	
HABR			*e*SS	SS	19 20 33.4 +0.6	
HABR			*e*SSS		19 22 12.1	
HABR			pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1					
HABR			pmax	pmax		
	comp=E,40nm,1.8s					
HABR			pmax	pmax		
	comp=N,48nm,2.1s					
HABR			MLR	MLR		
	comp=Z,246nm,17.0s,MS4.3					
JIRN	**Jiri**	**51.94 309**	*e*P	**P**	**19 09 41.6 -0.5**	
	comp=Z,15nm,1.1s,mb4.8					
JIRN	**Jiri**	**51.94 309**	*e*P	**P**	**19 09 41.6 -0.5**	
	comp=Z,15nm,1.1s,mb4.8					
KLR	**Kul'dur**	**52.12 2**	*e*P	**P**	**19 09 38.8 -4.2**	
GUN	**Gumba**	**52.30 309**	*e*P	**P**	**19 09 44.4 -0.4**	
	comp=Z,57nm,0.7s,mb5.6					
GUN	**Gumba**	**52.30 309**	*e*P	**P**	**19 09 44.4 -0.4**	
	comp=Z,57nm,0.7s,mb5.6					
PKI	**Pulchoki**	**52.50 308**	*e*P	**P**	**19 09 45.7 -0.6**	
PKI	**Pulchoki**	**52.50 308**	*e*P	**P**	**19 09 45.7 -0.6**	
PKI	**Pulchoki**	**52.50 308**	*e*P	**P**	**19 09 45.7 -0.6**	
KKN	**Kakani**	**52.71 309**	*e*P	**P**	**19 09 47.2 -0.6**	
	comp=Z,34nm,0.9s,mb5.3					
KKN	**Kakani**	**52.71 309**	*e*P	**P**	**19 09 47.2 -0.6**	
	comp=Z,34nm,0.9s,mb5.3					
KKN	**Kakani**	**52.71 309**	*e*P	**P**	**19 09 47.2 -0.6**	
KKN			pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3					
DMN	**Daman**	**52.76 308**	*e*P	**P**	**19 09 47.7 -0.5**	
	comp=Z,49nm,0.9s,mb5.4					
DMN	**Daman**	**52.76 308**	*e*P	**P**	**19 09 47.7 -0.5**	
	comp=Z,49nm,0.9s,mb5.4					
GKN	**Gorkha**	**53.31 309**	*e*P	**P**	**19 09 51.4 -0.9**	
	comp=Z,66nm,0.9s,mb5.5					
GKN	**Gorkha**	**53.31 309**	*e*P	**P**	**19 09 51.4 -0.9**	
	comp=Z,66nm,0.9s,mb5.6					
KOLN	**Koldanda**	**54.02 308**	*e*P	**P**	**19 09 57.1 -0.3**	
	comp=Z,71nm,0.8s,mb5.6					
KOLN	**Koldanda**	**54.02 308**	*e*P	**P**	**19 09 57.1 -0.3**	
	comp=Z,71nm,0.8s,mb5.7					
DANN	**Dangsing**	**54.15 308**	*e*P	**P**	**19 09 57.9 -0.5**	
	comp=Z,68nm,0.8s,mb5.6					
DANN	**Dangsing**	**54.15 308**	*e*P	**P**	**19 09 57.9 -0.5**	
	comp=Z,68nm,0.8s,mb5.6					
RPZ	**Rata Peaks**	**54.47 144**	P	**P**	**19 10 02.0 +1.6**	
	comp=Z,11nm,0.9s,mb4.8,baz=294,slow=2.4,SNR=2.9					
RPZ	**Rata Peaks**	**54.47 144**	P	**P**	**19 10 02.0 +1.6**	
HYB	**Hyderabad**	**54.50 294**	*i* P	**P**	**19 09 59.0 -2.1**	
ULN	**Ulaanbaatar**	**54.50 341**	*e*P	**P**	**19 10 00.3 -0.2**	
	comp=Z,36nm,1.2s,mb5.3					
ULN	**Ulaanbaatar**	**54.50 341**	*e*P	**P**	**19 10 00.3 -0.3**	
ULN			pmax	pmax		
	comp=Z,35nm,1.2s,mb5.3					
ULN	**Ulaanbaatar**	**54.50 341**	P	**P**	**19 10 01.8 +1.3**	
	SNR=11					
PYUN	**Piuthan**	**54.65 308**	*e*P	**P**	**19 10 01.8 -0.2**	
PYUN	**Piuthan**	**54.65 308**	*e*P	**P**	**19 10 01.8 -0.2**	
SONM	**Songino Array**	**54.69 341**	P	**P**	**19 10 01.9 -0.1**	
	comp=Z,18nm,1.2s,mb5.0,baz=150,slow=7.7,SNR=50					
SONM			PKP2bc		19 40 23.8	
	comp=Z,0.7nm,1.0s,baz=353,slow=5.8,SNR=3.8					
SONM	**Songino Array**	**54.69 341**	P	**P**	**19 10 01.9 -0.1**	
SONM			⇑*e*		19 40 23.8	
SONM	**Songino Array**	**54.69 341**	P	**P**	**19 10 01.9 0.0**	
URZ	**Urewera**	**55.53 135**	*e*P	**P**	**19 10 10.7 +2.5**	
	comp=Z,51nm,1.4s,mb5.4					
DGAR	**Diego Garcia**	**57.26 263**	*e*P	**P**	**19 10 19.6 -1.4**	
	comp=Z,192nm,1.4s,mb5.9					
DGAR	**Diego Garcia**	**57.26 263**	*e*P	**P**	**19 10 19.6 -1.4**	
DGAR			pmax	pmax		
	comp=Z,192nm,1.4s,mb5.9					
ZAK	**Zakamensk**	**57.92 340**	*e*P	**P**	**19 10 24.5 -0.4**	
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3					
TLY	**Talaya**	**58.91 341**	P	**P**	**19 10 33.0 +1.2**	
TLY	**Talaya**	**58.91 341**	*e*P	**P**	**19 10 28.1 -3.7**	
TLY			pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8					
TLY			MLR	MLR		
	comp=Z,105nm,22.0s,MS3.9					
IRK	**Irkutsk**	**59.20 342**	*e*P	**P**	**19 10 34.7 +0.9**	
IRK			pmax	pmax		
	comp=Z,39nm,1.6s,mb5.2					
MOY	**Mondy**	**59.79 340**	*e*P	**P**	**19 10 37.4 -0.5**	
WMQ	**Urumqi**	**60.04 326**	P	**P**	**19 10 39.3 -0.5**	
WMQ			pP	pP	19 10 52.1 -0.3	
WMQ			sP	sP	19 10 57.3 -0.1	
WMQ			PP	PP	19 12 53.8 +1.1	
WMQ			S	**S**	**19 18 46.8 -2.7**	
WMQ			pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1					
WMQ			pmax	pmax		
	comp=Z,350nm,5.4s					
WMQ			LR	LR		
	comp=N,340nm,27.4s,MS4.4					
WMQ			LR	LR		
	comp=E,210nm,24.4s,MS4.4					
WMQ			LR	LR		
	comp=Z,150nm,24.4s,MS4.0					
PETK	**Petropavlovsk-**	**60.68 19**	P	**P**	**19 10 44.5 +0.6**	
	comp=Z,23nm,0.8s,mb5.3,baz=193,slow=6.1,SNR=14					
PETK			LR	LR	19 33 08.2	
	comp=Z,197nm,19.4s,MS4.3,baz=204,slow=32					
PETK	**Petropavlovsk-**	**60.68 19**	P	**P**	**19 10 44.5 +0.6**	
PETK	**Petropavlovsk-**	**60.68 19**	P	**P**	**19 10 44.5 +0.6**	
PET	**Petropavlovsk**	**60.92 19**	*e*P	**P**	**19 10 46.4 +0.8**	
PET			pmax	pmax		
	comp=Z,38nm,1.1s,mb5.4					
BOD	**Bodaibo**	**62.02 350**	*e*P	**P**	**19 10 53.6 +0.7**	
BOD			pmax	pmax		
	comp=Z,12nm,1.2s,mb4.9					
HVS	**Khovu-Aksy**	**62.17 335**	*d i*P	**P**	**19 10 54.4 +0.4**	
HVS			pmax	pmax		
	comp=Z,155nm,0.8s,mb6.2					
HVS			MLR	MLR		
	comp=Z,2μm,18.0s,MS5.2					
DRV	**Dumont d'Urvil**	**63.87 175**	S	**S**	**19 19 26.0 -11**	
DRV			R		19 32 00.0	
CASY	**Casey**	**64.53 189**	⇑*i*P	**P**	**19 11 08.5 -0.9**	
CASY	**Casey**	**64.53 189**	*e*P	**P**	**19 11 08.3 -1.2**	
	comp=Z,32nm,1.1s,mb5.3					
MK31	**Makanchi Array**	**64.88 326**	*e*P	**P**	**19 11 11.1 -0.9**	
MK31	**Makanchi Array**	**64.88 326**	*e*P	**P**	**19 11 11.4 -0.6**	
MK31			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7					
MKAR	**Makanchi Array**	**64.88 326**	P	**P**	**19 11 11.6 -0.4**	
	comp=Z,4.2nm,0.6s,mb4.7,baz=121,slow=7.9,SNR=59					
MKAR	**Makanchi Array**	**64.88 326**	P	**P**	**19 11 11.6 -0.4**	
MKAR	**Makanchi Array**	**64.88 326**	P	**P**	**19 11 11.6 -0.4**	
YAK	**Yakutsk**	**64.92 360**	*e*P	**P**	**19 11 11.9 -0.1**	
	comp=Z,89nm,0.8s,mb5.8					
YAK	**Yakutsk**	**64.92 360**	*c i*P	**P**	**19 11 12.2 +0.2**	
YAK			*e**PP	pP	19 11 18.0 -6.7	
YAK			*e*		19 11 42.7	
YAK			*e*		19 13 30.4	
YAK			*e*PPP		19 15 15.2	
YAK			*e*S	**S**	**19 19 57.5 +7.3**	
YAK			*e**SS	sS	19 20 12.4 +1.0	
YAK			*e*		19 21 06.1	
YAK			pmax	pmax		
	comp=Z,71nm,0.9s,mb5.7					
YAK			pmax	pmax		
	comp=N,13nm,1.1s					
YAK			pmax	pmax		
	comp=E,6.0nm,1.0s					
YAK			pmax	pmax		
	comp=Z,95nm,3.0s					
YAK			pmax	pmax		
	comp=N,98nm,3.3s					
YAK			pmax	pmax		
	comp=E,46nm,2.2s					
YAK			smax			
	comp=N,158nm,3.5s					
YAK			smax			
	comp=E,74nm,3.5s					
YAK			MLR	MLR		
	comp=Z,225nm,23.0s,MS4.3					
YAK			MLR	MLR		
	comp=N,148nm,21.0s					
KSH	**Kashi**	**65.04 316**	P	**P**	**19 11 14.0 +0.8**	
KSH			pP	pP	19 11 26.4 +0.4	
KSH			sP	sP	19 11 32.0 +1.0	
KSH			PcP	PcP	19 11 46.5 +0.6	
KSH			PP	PP	19 13 39.0 +2.2	
KSH			ScP		19 15 44.8	
KSH			PcS		19 15 49.8	
KSH			S	S	19 19 49.4 -3.1	
KSH			ScS	ScS	19 21 00.8 -4.0	
KSH			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8					
KSH			pmax	pmax		
	comp=Z,120nm,4.1s					
KSH			LR	LR		
	comp=N,190nm,7.0s					
KSH			LR	LR		
	comp=E,200nm,7.0s					
KSH			LR	LR		
	comp=Z,200nm,7.0s					
FX1	**Attu Island--F**	**66.56 27**	P	**P**	**19 11 24.0 +1.3**	
	comp=Z,32nm,0.8s,mb5.4,baz=64,slow=20,SNR=5.7					
FX1			LR	LR	19 35 28.5	
	comp=Z,294nm,21.5s,MS4.5,baz=238,slow=32					
FX1	**Attu Island--F**	**66.56 27**	P	**P**	**19 11 24.0 +1.3**	
FX1	**Attu Island--F**	**66.56 27**	P	**P**	**19 11 24.0 +1.2**	
KZA	**Kyzart**	**66.71 319**	P	**P**	**19 11 24.7 +0.8**	
	SNR=11					
KZA			P		19 11 24.7	
	SNR=11					
TKM2	**Tokmak 2**	**66.88 320**	P	**P**	**19 11 25.4 +0.4**	
	SNR=6.4					
TKM2			P		19 11 25.4	
	SNR=6.4					
TKM2	**Tokmak 2**	**66.88 320**	*e*P	**P**	**19 11 24.9 0.0**	
	comp=Z,13nm,1.0s,mb4.9					
TKM2	**Tokmak 2**	**66.88 320**	*i* P	**P**	**19 11 25.3 +0.3**	
AAK	**Ala-Archa**	**67.46 319**	P	**P**	**19 11 29.8 +1.1**	
	SNR=7.4					
AAK			P		19 11 29.8	
	SNR=7.4					
AAK	**Ala-Archa**	**67.46 319**	P	**P**	**19 11 29.2 +0.5**	
	comp=Z,50nm,1.2s,mb5.4,SNR=7.5					
AAK	**Ala-Archa**	**67.46 319**	*e*P	**P**	**19 11 28.7 0.0**	
	comp=Z,60nm,1.1s,mb5.5					

AAK Ala-Archa 67.46 319⇓ *e*P P **19 11 29.1 +0.4**
AAK pmax pmax
comp=Z,23nm,1.1s,mb5.1
AAK MLR MLR
comp=Z,385nm,24.0s,MS4.5
AAK Ala-Archa 67.46 319 P P **19 11 29.6 +0.9**
SNR=5.3
USP Ospenovka 67.75 320 P P **19 11 30.2 -0.3**
SNR=18
USP P 19 11 30.2
SNR=18
AML Almayashu 67.76 318 P P **19 11 31.5 +0.9**
SNR=23
AML P 19 11 31.5
SNR=23
EKS2 Erkin-Say 67.94 319 P P **19 11 32.0 +0.2**
SNR=18
EKS2 P 19 11 32.0
SNR=18
EKS2 Erkin-Say 67.94 319 *e*P P **19 11 31.6 -0.1**
comp=Z,19nm,1.1s,mb5.0
EKS2 Erkin-Say 67.94 319 *e*P P **19 11 31.7 0.0**
EKS2 pmax pmax
comp=Z,19nm,1.1s,mb5.0
ZAA0 Zalesovo Array 68.01 333 *e*P P **19 11 30.5 -1.4**
ZAA0 *e*PP PP 19 14 02.8 +0.4
ZALV Zalesovo Beam 68.01 333 P P **19 11 30.9 -1.0**
comp=Z,14nm,0.8s,mb5.1,baz=107,slow=5.1,SNR=58
ZALV LR LR 19 42 04.0
comp=Z,110nm,20.3s,MS4.1,baz=128,slow=37
ZALV Zalesovo Beam 68.01 333 P P **19 11 30.9 -1.0**
ZALV Zalesovo Beam 68.01 333 P P **19 11 30.9 -1.0**
KBL Kabul 68.13 309 *e*P P **19 11 31.9 -1.2**
comp=Z,10.0nm,1.0s,mb4.8
KBL Kabul 68.13 309 *e*P P **19 11 31.9 -1.2**
KBL pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KURK Kurchatov 69.10 328 P P **19 11 38.4 -0.4**
comp=Z,37nm,0.7s,mb5.4,baz=128,slow=5.8,SNR=299
KURK Kurchatov 69.10 328 *e*P P **19 11 38.2 -0.5**
comp=Z,60nm,0.8s,mb5.6
KURK Kurchatov 69.10 328 P P **19 11 38.9 +0.1**
comp=Z,438nm,0.8s,mb6.4,SNR=63
KURK Kurchatov 69.10 328 P P **19 11 38.3 -0.5**
KURK pmax pmax
comp=Z,51nm,0.8s,mb5.5
KURK Kurchatov 69.10 328 P P **19 11 38.9 +0.1**
SNR=21
NVS Novosibirsk 69.29 333⇑ *i*P P **19 11 38.1 -1.8**
NVS *e*S S 19 20 40.8 -2.3
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS pmax pmax
comp=Z,23nm,1.0s,mb5.1
NVS smax
comp=N,5.0nm,1.7s
NVS smax
comp=E,8.0nm,1.7s
KK31 Karatay Array 70.30 318 *i* P P **19 11 45.7 -0.6**
KK31 pmax pmax
comp=Z,15nm,1.1s,mb4.8
KKAR Karatay Array 70.30 318 *e*P P **19 11 45.1 -1.2**
comp=Z,7.8nm,0.9s,mb4.6
KKAR Karatay Array 70.30 318 *e*P P **19 11 45.1 -1.2**
KKAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
VOSK Vostochnaya 74.21 327 P P **19 12 08.5 -1.0**
VOSK pmax pmax
comp=Z,16nm,0.7s,mb5.1
JMDO Jabal Madar 74.34 294 P P **19 12 11.4 +0.5**
SNR=7.3
SMDO Samad 74.51 295 P P **19 12 11.9 0.0**
SNR=6.8
BVA0 Borovoye Array 74.67 327 *i* P P **19 12 11.9 -0.2**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BVAR Borovoye Array 74.67 327 P P **19 12 11.9 -0.3**
comp=Z,16nm,0.8s,mb5.0,baz=132,slow=6.6,SNR=69
BVAR Borovoye Array 74.67 327 P P **19 12 11.9 -0.3**
BVAR Borovoye Array 74.67 327 P P **19 12 11.9 -0.2**
BRVK Borovoye 74.74 327 P P **19 12 12.0 -0.6**
comp=Z,162nm,1.1s,mb5.9,SNR=19
BRVK Borovoye 74.74 327 *e*P P **19 12 11.9 -0.6**
comp=Z,31nm,1.0s,mb5.2
BRVK Borovoye 74.74 327⇓ *e*P P **19 12 12.6 0.0**
BRVK pmax pmax
comp=Z,30nm,1.0s,mb5.2
BRVK MLR MLR
comp=Z,99nm,16.0s,MS4.2
BRVK Borovoye 74.74 327 P P **19 12 13.1 +0.5**
SNR=12
IDAH Dahanechah 74.94 305 *e*P P **19 12 15.0 +0.9**
BSY Bisya 75.23 294 P P **19 12 16.6 +0.5**
SNR=5.8
HOQ Hoqain 75.27 295 P P **19 12 16.6 +0.3**
SNR=7.0
BILL Bilibino 75.36 13⇓ *e*P P **19 12 17.3 +1.5**
BILL *e* pP 19 12 31.5 +2.7
BILL *e* 19 15 04.6
BILL pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.5
IKOO Kooshah 75.57 304 *e*P P **19 12 17.7 -0.1**
IMYA Miami 75.64 309 *e*P P **19 12 18.0 -0.1**
ITEG Tejag 75.89 305 *e*P P **19 12 20.1 +0.5**
VNDA Vanda 76.34 173 *e*P P **19 12 20.7 -0.7**
comp=Z,9.0nm,1.0s,mb4.7
VNDA Vanda 76.34 173 *e*P P **19 12 20.7 -0.6**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
IKRD Kardeh 76.98 309 *e*P P **19 12 21.3 -4.4**
SBA Scott Base 77.23 172 *e*P P **19 12 26.1 -0.2**
comp=Z,14nm,1.2s,mb4.8
SBA Scott Base 77.23 172 *e*P P **19 12 26.1 -0.2**
SBA pmax pmax
comp=Z,14nm,1.2s,mb4.8
ISFR Sfrayin 77.45 309 *e*P P **19 12 28.9 +0.6**
IBAF Bafgh 78.25 303 *e*P P **19 12 32.6 -0.3**
MAW Mawson 78.52 201 P P **19 12 33.6 -0.1**
comp=Z,15nm,1.0s,mb4.9,baz=75,slow=6.4,SNR=18
MAW LR LR 19 45 21.3
comp=Z,217nm,19.2s,MS4.5,baz=81,slow=34
MAW Mawson 78.52 201 *e*P P **19 12 33.0 -0.6**
comp=Z,14nm,1.1s,mb4.8
MAW Mawson 78.52 201 P P **19 12 33.6 -0.1**
MAW Mawson 78.52 201 P P **19 12 33.6 0.0**
AB31 Akbulak array 79.34 321 *i* P P **19 12 37.9 -0.6**
AB31 pmax pmax
comp=Z,14nm,0.7s,mb5.0
ISRV Sarvestan 79.95 300 *e*P P **19 12 42.3 0.0**
IPAR Pars 80.08 301 *e*P P **19 12 42.7 -0.3**
PAE Paea 80.12 107 *e*P P **19 12 45.3 +1.9**
comp=Z,3.8nm,0.9s,mb4.3
PPT Papeete 80.13 107 *e*LR LR 19 38 07.0
comp=Z,179nm,22.8s
PPT2 Papeete2 80.13 107 *e*P P **19 12 46.0 +2.6**
comp=Z,35nm,1.1s,mb5.2
TBI Tubuai 80.27 113 *e*LR LR 19 37 59.9
comp=Z,242nm,26.0s
TIAR Tiarei 80.35 107 *e*P P **19 12 46.0 +1.4**
comp=Z,23nm,1.0s,mb5.1
AKTO Aktyubinsk 80.88 322 P P **19 12 46.4 -0.4**
comp=Z,20nm,1.0s,mb5.0,baz=121,slow=8.1,SNR=44
AKTO LR LR 19 47 47.6
comp=Z,98nm,21.1s,MS4.1,baz=288,slow=35
AKTO Aktyubinsk 80.88 322 P P **19 12 46.4 -0.4**
AKTO Aktyubinsk 80.88 322 P P **19 12 46.4 -0.4**
SVE Sverdlovsk 81.34 329⇑ *e*P P **19 12 49.4 +0.4**
SVE pmax pmax
comp=Z,37nm,1.2s,mb5.2
PMOR Pomariorio Ree 81.77 105 *e*P P **19 12 53.2 +1.0**
comp=Z,50nm,1.4s,mb5.3
IKLH Kolahrood 81.88 304 *e*P P **19 12 53.3 +0.8**
ABPO Ambohimpanom 82.00 251 *e*P P **19 12 52.8 -0.6**
comp=Z,8.6nm,0.9s,mb4.7
ABPO Ambohimpanom 82.00 251 *e*P P **19 12 52.8 -0.6**
ABPO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ARU Arti 82.30 328 *e*P P **19 12 53.4 -0.7**
comp=Z,25nm,0.9s,mb5.2
ARU Arti 82.30 328 *c i*P P **19 12 53.5 -0.6**
ARU 19 15 59.6
ARU S S 19 23 07.8 +1.3
ARU SS SS 19 28 26.7 -0.8
ARU pmax pmax
comp=Z,34nm,1.0s,mb5.2
ARU Arti 82.30 328 P P **19 12 53.0 -1.1**
comp=Z,164nm,1.0s,mb5.9,SNR=10
IPIR Pirpir 82.35 303 *e*P P **19 12 55.2 +0.3**
SOKR Solikamsk 84.11 331⇑ *i*P P **19 13 04.3 +0.9**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
RDF Al-Radifah 84.71 299 *e*P P **19 13 07.3 +0.2**
MIB Mutribah 84.99 300 *e*P P **19 13 07.8 -0.8**
NAY Al-Naaiem 85.02 300 *e*P P **19 13 07.9 -0.8**
IKOM Komasi 85.35 304 *e*P P **19 13 09.6 -0.7**
IVIS Veis 85.93 305 *e*P P **19 13 12.2 -0.9**
KDAK Kodiak Island 85.99 32 P P **19 13 14.3 +1.4**
comp=Z,17nm,1.1s,mb5.2,baz=241,slow=18,SNR=3.0
KDAK LR LR 19 44 29.1
comp=Z,398nm,21.9s,MS4.8,baz=162,slow=31
KDAK Kodiak Island 85.99 32 P P **19 13 14.3 +1.4**
KDAK Kodiak Island 85.99 32 P P **19 13 14.3 +1.4**
RAYN Ar Rayn 86.00 294 P P **19 13 13.5 -0.2**
comp=Z,296nm,0.9s,SNR=51
IGHG Ghaleghazi 86.14 305 *e*P P **19 13 13.5 -0.7**
IHRS Heris 86.22 309 *e*P P **19 13 14.7 +0.2**
IDHR Dehrash 86.33 305 *e*P P **19 13 13.8 -1.3**
RSO Redoubt South 86.48 29 *e*P P **19 13 11.9 -3.3**
comp=Z,22nm,0.9s,mb5.4
QSPA South Pole Qui 86.88 180 P P **19 13 16.7 -0.2**
comp=Z,14nm,1.0s,mb5.2,baz=336,slow=1.9,SNR=22
QSPA LR LR 19 53 36.0
comp=Z,260nm,19.3s,MS4.7,baz=168,slow=37
QSPA South Pole Qui 86.88 180 *e*P P **19 13 16.5 -0.4**
comp=Z,16nm,1.0s,mb5.2
SYO Syowa Base 87.23 201⇓ *e*P P **19 13 17.0 -1.8**
SYO Syowa Base 87.23 201⇑ *e*sP sP 19 13 35.0 -1.9
ISHB Shabestar 87.33 308 *e*P P **19 13 20.9 +1.0**
ATD Arta Tunnel 87.64 282 P P **19 13 23.2 +1.3**
comp=Z,7.2nm,0.4s,mb5.2,baz=282,slow=22,SNR=7.3
ATD LR LR 19 49 04.1
comp=Z,96nm,21.7s,MS4.2,baz=64,slow=33
ATD Arta Tunnel 87.64 282 P P **19 13 23.2 +1.3**
SLKM Skilak Lake 87.72 29 *e*P P **19 13 21.5 +0.3**
SLKM Skilak Lake 87.72 29 *e*P P **19 13 21.5 +0.3**
RC01 Rabbit Creek A 88.05 29 *e*P P **19 13 23.4 +0.6**
comp=Z,16nm,0.9s,mb5.3
GNI Garni 88.19 310 P P **19 13 20.3 -3.7**
GNI Garni 88.19 310 P P **19 13 20.3 -3.7**
PMR Palmer 88.42 28 *e*P P **19 13 23.9 -0.6**
PMR Palmer 88.42 28 *e*P P **19 13 24.0 -0.5**
MCK McKinley 88.86 26 *e*P P **19 13 25.6 -0.9**
comp=Z,5.1nm,0.9s,mb4.8
MCK McKinley 88.86 26 *e*P P **19 13 25.6 -0.9**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
COLD Coldfoot 88.94 23 *e*P P **19 13 27.4 +0.6**
comp=Z,8.2nm,1.0s,mb5.0
TAOE Nuku Hiva Isla 89.57 99 *e*LR LR 19 42 39.5
comp=Z,261nm,23.8s
ILAR Eielson Array 89.89 25 P P **19 13 30.6 -0.8**
comp=Z,2.0nm,0.9s,mb4.4,baz=240,slow=5.3,SNR=19
ILAR LR LR 19 51 43.4
comp=Z,150nm,19.9s,MS4.4,baz=284,slow=34
ILAR Eielson Array 89.89 25 P P **19 13 30.6 -0.8**
ILAR Eielson Array 89.89 25 P P **19 13 30.6 -0.8**
PAX Paxson 90.31 27 *e*P P **19 13 34.5 +1.2**
comp=Z,16nm,1.5s,mb5.1
PAX Paxson 90.31 27 *e*P P **19 13 34.5 +1.2**
PAX pmax pmax
comp=Z,16nm,1.5s,mb5.1
KMBO Kilima Mbogo 92.50 269 *e*P P **19 13 45.5 +0.8**
comp=Z,10nm,1.0s,mb5.2
KMBO Kilima Mbogo 92.50 269 *e*P P **19 13 45.5 +0.8**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 92.78 321 *e*P P **19 13 47.1 +2.0**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.6s
VSR pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
KLMR Klimovskoe 92.81 331 *e*P P **19 13 39.5 -5.5**
KLMR pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
DAWY Dawson 93.09 26 *e*P P **19 13 46.9 +0.7**
OBN Obninsk 94.36 325 *e*P P **19 13 53.9 +1.6**
OBN *e*SS SS 19 31 30.5 +7.4
OBN pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.5
INK Inuvik 95.31 22 P P **19 13 55.8 -0.6**
comp=Z,3.5nm,0.9s,mb4.8,baz=297,slow=3.4,SNR=10
INK Inuvik 95.31 22 *e*P P **19 13 55.3 -1.0**
comp=Z,5.8nm,1.0s,mb5.0
INK Inuvik 95.31 22 *e*P P **19 13 55.3 -1.0**
INK pmax pmax
comp=Z,6.0nm,1.0s
EIL Elat 95.74 299 LR LR 19 58 26.1
comp=Z,73nm,19.2s,MS4.2,baz=250,slow=36
BR131 Keskin Array S 96.71 309 *e*P P **19 14 02.4 -0.9**
comp=Z,3.8nm,1.0s,mb4.8
BRTR Keskin Array B 96.71 309 P P **19 14 02.0 -1.3**
comp=Z,1.7nm,1.0s,mb4.4,baz=191,slow=1.3,SNR=5.9
BRTR PKKP PKKPbc 19 30 54.2 +6.8
comp=Z,1.1nm,1.0s,baz=274,slow=6.6,SNR=3.6
BRTR Keskin Array B 96.71 309 P P **19 14 02.0 -1.3**
BRTR PKKP PKKPbc 19 30 54.2 +6.8
BRTR Keskin Array B 96.71 309 P P **19 14 02.0 -1.3**
ARCES ARCESS Array B 97.86 340 P P **19 14 07.3 -0.5**
comp=Z,3.6nm,0.9s,mb4.9,baz=85,slow=7.5,SNR=5.1
ARCES PKKP PKKPbc 19 30 43.4 -1.9
comp=Z,1.6nm,0.9s,baz=318,slow=1.2,SNR=3.5
ARCES ARCESS Array B 97.86 340 P P **19 14 07.3 -0.5**
ARCES PKKP PKKPbc 19 30 43.4 -1.9
ARCES ARCESS Array B 97.86 340 P P **19 14 07.3 -0.5**
FINES FINESS Array B 99.25 332 P P **19 14 12.7 -1.5**
comp=Z,5.3nm,1.1s,mb5.0,baz=69,slow=7.6,SNR=2.7
FINES FINESS Array B 99.25 332 P P **19 14 12.7 -1.5**
FINES FINESS Array B 99.25 332 P P **19 14 12.7 -1.5**
SNAA Sanae 99.41 194 *e* P **19 14 15.7 +0.9**
SNAA Sanae 99.41 194 P P **19 14 14.9 +0.1**
comp=Z,0.8nm,0.8s,mb4.3,baz=246,slow=6.5,SNR=3.6
SNAA Sanae 99.41 194 *e*Pdif P **19 14 14.4 -0.4**
comp=Z,3.0nm,0.9s,mb4.8
SNAA Sanae 99.41 194 *e*P P **19 14 14.4 -0.4**
SNAA pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 101.27 240 P Pdif 19 14 23.8 +0.4
comp=Z,6.3nm,1.0s,baz=128,slow=2.8,SNR=6.4
BOSA Boshof 101.27 240 *e*Pdif Pdif 19 14 23.6 +0.2
BOSA Boshof 101.27 240 *e*P Pdif 19 14 23.6 +0.2
RES Resolute Bay 103.88 11 Pdiff Pdif 19 14 35.5 +0.5
comp=Z,2.4nm,1.1s,baz=292,slow=5.4,SNR=3.7
RES Resolute Bay 103.88 11 Pdif Pdif 19 14 35.5 +0.5
RES Resolute Bay 103.88 11 P Pdif 19 14 35.5 +0.5
YKA Yellowknife Ar 104.32 26 Pdiff Pdif 19 14 39.6 +2.7
comp=Z,0.3nm,0.7s,baz=298,slow=4.8,SNR=4.1
YKA PKiKP PKiKP 19 18 52.8 -0.3
comp=Z,0.3nm,0.6s,baz=307,slow=1.8,SNR=6.2
YKA Yellowknife Ar 104.32 26 Pdif Pdif 19 14 39.6 +2.7
YKA PKiKP PKiKP 19 18 52.9 -0.3
YKA Yellowknife Ar 104.32 26 P Pdif 19 14 39.6 +2.7
YKA *i* 19 18 52.9
NVAR Mina Array Bea 108.98 50 Pdiff Pdif 19 15 01.1 +3.4
comp=Z,0.6nm,0.5s,baz=257,slow=7.3,SNR=4.3
NVAR Mina Array Bea 108.98 50 Pdif Pdif 19 15 01.1 +3.5
GERES GERESS Array B 109.29 321 PKiKP PKiKP 19 19 03.1 +0.3
comp=Z,0.5nm,0.7s,baz=98,slow=2.0,SNR=4.0
GERES GERESS Array B 109.29 321 PKiKP PKiKP 19 19 03.1 +0.3
PDAR Pinedale Array 114.24 44 PKiKP PKiKP 19 19 14.5 +2.2
comp=Z,0.3nm,0.7s,baz=9.5,slow=2.2,SNR=2.9
PDAR PKKPbc PKKPbc 19 29 52.8 -1.1
comp=Z,1.4nm,1.0s,baz=103,slow=4.1,SNR=5.3
PDAR Pinedale Array 114.24 44 PKiKP PKiKP 19 19 14.5 +2.2
PDAR PKKPbc PKKPbc 19 29 52.8 -1.1
PGF Pioggiola 114.45 316 *e*PKIKP PKiKP 19 19 11.3 -1.5
comp=Z,106nm,1.4s
PGF Pioggiola 114.45 316 *e*PKPdf PKiKP 19 19 11.3 -1.5
PGF Pioggiola 114.45 316 *e*PKIKP PKiKP 19 19 11.3 -1.5
LPG La Plagne 114.90 319 *e*PKIKP PKiKP 19 19 12.8 -0.7
comp=Z,36nm,1.5s
LPG La Plagne 114.90 319 *e*PKPdf PKiKP 19 19 12.8 -0.7
LPG La Plagne 114.90 319 *e*PKIKP PKiKP 19 19 12.8 -0.7
LPL La Plagne 114.91 319 *e*PKIKP PKiKP 19 19 13.7 +0.1
comp=Z,48nm,1.4s
LPL La Plagne 114.91 319 *e*PKPdf PKiKP 19 19 13.7 +0.1
LPL La Plagne 114.91 319 *e*PKIKP PKiKP 19 19 13.7 +0.1
ANMO Albuquerque 119.06 51 PKP PKPdf 19 19 24.9 +3.0
comp=Z,0.6nm,0.5s,baz=309,slow=6.5,SNR=3.1
ANMO Albuquerque 119.06 51 PKP PKPdf 19 19 24.9 +3.0
ANMO Albuquerque 119.06 51 PKIKP PKPdf 19 19 24.9 +3.0
TAM Tamanrasset 122.67 295 *e*PKPdf PKPdf 19 19 30.1 +0.9
TAM Tamanrasset 122.67 295 *e*PKIKP PKPdf 19 19 30.1 +1.0
TXAR Lajitas Array 123.01 57 PKP PKPdf 19 19 30.5 +0.9
comp=Z,0.8nm,0.9s,baz=286,slow=2.1,SNR=5.5
TXAR PKKPbc PKKPbc 19 29 21.4 -0.2
comp=Z,1.0nm,0.9s,baz=119,slow=5.6,SNR=5.4
TXAR Lajitas Array 123.01 57 PKP PKPdf 19 19 30.5 +0.9
TXAR PKKPbc PKKPbc 19 29 21.4 -0.2
TXAR Lajitas Array 123.01 57 PKIKP PKPdf 19 19 30.5 +0.9
ESDC Sonseca Array 124.55 317 PKP PKPdf 19 19 34.0 +1.7
comp=Z,0.8nm,0.7s,baz=88,slow=2.4,SNR=3.7
ESDC Sonseca Array 124.55 317 PKP PKPdf 19 19 34.0 +1.7
JCT Junction City 125.83 54 *e*PKPdf PKPdf 19 19 35.6 +0.6
JCT Junction City 125.83 54 *e*PKIKP PKPdf 19 19 35.6 +0.6
TORD Torodi Ar. Bea 127.77 284 PKP PKPdf 19 19 39.2 +0.1
comp=Z,6.2nm,1.0s,baz=47,slow=1.6,SNR=20
TORD Torodi Ar. Bea 127.77 284 PKP PKPdf 19 19 39.2 +0.1
PLCA Paso Flores 132.59 159 PKhKP PKPpre 19 19 43.5
comp=Z,1.8nm,0.6s,baz=235,slow=5.7,SNR=5.0
PLCA SKP 19 23 23.7
comp=Z,2.3nm,1.0s,baz=264,slow=5.2,SNR=3.4
PLCA Paso Flores 132.59 159 PKPpre PKPpre 19 19 43.5
PLCA SKP 19 23 23.7
DBIC Dimbokro 134.71 276 PKP PKPdf 19 19 53.0 +0.7
comp=Z,5.7nm,0.8s,baz=98,slow=4.2,SNR=5.7
DBIC Dimbokro 134.71 276 *e*PKPdf PKPdf 19 19 52.9 +0.6
DBIC PKP PKPdf 19 19 53.0 +0.7
DBIC Dimbokro 134.71 276 *e*PKIKP PKPdf 19 19 52.9 +0.6
LCO Las Campanas 142.51 150 *e*PKPdf PKPdf 19 20 04.0 -2.3
NNA Nana 149.57 120 *e*PKPbc PKPbc 19 20 23.9 +0.8
NNA Nana 149.57 120 *e*PKP2 PKPbc 19 20 23.9 +0.8
CPUP Villa Florida 149.96 167 PKPbc PKPbc 19 20 24.7 +1.0
comp=Z,8.3nm,0.6s,baz=179,slow=1.8,SNR=5.8
CPUP Villa Florida 149.96 167 PKPbc PKPbc 19 20 24.7 +1.0
LPAZ La Paz 153.83 138 PKP PKPdf 19 20 26.1 +1.2
comp=Z,2.4nm,1.1s,baz=283,slow=4.1,SNR=5.6
LPAZ PKPbc PKPbc 19 20 35.1 +2.3
comp=Z,1.9nm,0.8s,baz=12,slow=5.4,SNR=5.3
LPAZ PKPab PKPab 19 20 46.0 +0.2
comp=Z,3.0nm,0.9s,baz=50,slow=6.6,SNR=5.5
LPAZ La Paz 153.83 138 *e*PKPdf PKPdf 19 20 25.6 +0.7
LPAZ PKP PKPdf 19 20 26.1 +1.2
LPAZ PKPbc PKPbc 19 20 35.1 +2.3
LPAZ PKPab PKPab 19 20 46.0 +0.2
LPAZ La Paz 153.83 138 *e*PKIKP PKPdf 19 20 25.6 +0.7
LPAZ 19 20 26.1
LPAZ 19 20 35.1
LPAZ 19 20 46.0
SDV Santo Domingo 158.87 73 *e*PKPdf PKPdf 19 20 32.4 +0.8
SAML Samuel 162.38 133 *e*PKPdf PKPdf 19 20 35.6 +0.2

NEIC ***13*** *19:04:28.8±3.1, 8°.09S×155°.07E, h61km±26km, mb4.4/5, Error ellipse: s-maj=28.7km s-min=23.1km az=131.0*
ISCJB ***13*** *19:04:30.0±4.0, 8°.1S±0°.2×154°.8E±0°.2, h80km±34km, mb4.0/11, Error ellipse: s-maj=35.7km s-min=24.3km az=158.9*
IDC ***13*** *19:04:31.1±5.8, 7°.48S×154°.72E, h50km±57km, mb3.6/6, mb1 3.9/7, mb1mx3.7/16, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=83.5km s-min=38.0km az=171.0*
ISC 13 19:04:31.0±3.4, 8°.1S±0°.2×154°.9E±0°.2, h77km±29km, n23, σ1§06/23, mb4.0/11, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.75**	**260**	P	**Pn**	**19 06 21.7**	**+0.5**
	1.1nm,0.3s,baz=78,slow=9.3,SNR=2.8						
PMG				S	**Sn**	**19 07 47.1**	**-0.5**
	0.5nm,0.3s,baz=100,slow=18,SNR=1.7						
PMG	**Port Moresby**	**7.75**	**260**	P	**Pn**	**19 06 21.7**	**+0.5**
PMG				*e*Pn	**Pn**	**19 06 21.7**	**+0.5**
PMG				S	**Sn**	**19 07 47.1**	**-0.5**
DZM	**Mont Dzumac**	**17.79**	**143**	*e*LR	LR	19 09 44.7	
	150nm,23.8s						
CMAR	**Chiang Mai Arr**	**61.17**	**296**	P	**P**	**19 14 38.8**	**+0.8**
	0.9nm,0.7s,mb3.9,baz=119,slow=5.6,SNR=6.1						
CMAR	**Chiang Mai Arr**	**61.17**	**296**	P	**P**	**19 14 38.8**	**+0.8**
CHTO	**Chiang Mai**	**61.30**	**297**	*e*P	**P**	**19 14 37.9**	**-0.9**
	2.3nm,1.0s,mb4.2						
SONM	**Songino Array**	**70.21**	**328**	P	**P**	**19 15 35.3**	**-0.3**
	0.5nm,0.7s,mb3.5,baz=130,slow=5.8,SNR=4.2						
SONM	**Songino Array**	**70.21**	**328**	P	**P**	**19 15 35.3**	**-0.3**
DGAR	**Diego Garcia**	**81.54**	**264**	P	**P**	**19 16 42.1**	**+1.2**
PMR	**Palmer**	**81.84**	**24**	*e*P	**P**	**19 16 40.0**	**-1.4**
	3.9nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**81.88**	**180**	P	**P**	**19 16 40.6**	**-0.9**
	4.0nm,1.0s,mb4.2						
MCK	**McKinley**	**83.11**	**22**	*e*P	**P**	**19 16 47.2**	**-0.8**
	9.6nm,0.9s,mb4.6						
COLA	**College**	**84.14**	**21**	P	**P**	**19 16 53.5**	**+0.3**
	4.3nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**84.17**	**319**	P	**P**	**19 16 54.2**	**+0.4**
	0.8nm,0.7s,mb3.6,baz=98,slow=6.0,SNR=3.8						
MKAR	**Makanchi Array**	**84.17**	**319**	P	**P**	**19 16 54.2**	**+0.4**
ILAR	**Eielson Array**	**84.43**	**21**	P	**P**	**19 16 53.8**	**-0.9**
	0.6nm,0.6s,mb3.6,baz=240,slow=4.3,SNR=8.5						
ILAR	**Eielson Array**	**84.43**	**21**	P	**P**	**19 16 53.8**	**-0.9**
NVAR	**Mina Array Bea**	**92.48**	**52**	P	**P**	**19 17 37.1**	**+3.3**
	0.7nm,0.7s,mb4.0,baz=249,slow=7.6,SNR=3.4						
NVAR	**Mina Array Bea**	**92.48**	**52**	P	**P**	**19 17 37.1**	**+3.3**
YKA	**Yellowknife Ar**	**97.36**	**28**	P	**P**	**19 17 57.9**	**+2.4**
	0.1nm,0.6s,mb3.4,baz=270,slow=4.2,SNR=2.8						
YKA	**Yellowknife Ar**	**97.36**	**28**	P	**P**	**19 17 57.9**	**+2.4**
TORD	**Torodi Ar. Bea**	**153.20**	**283**	PKPbc	PKPbc	19 24 23.1	+2.0
	0.6nm,0.7s,baz=73,slow=1.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**153.20**	**283**	PKPbc	PKPbc	19 24 23.1	+2.0

IDC ***13*** *19:07:16.2±1.2, 3°.05S×129°.59E, h0km, mb3.7/5, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, ML3.9/2, Error ellipse: s-maj=65.9km s-min=21.6km az=80.0*
ISCJB ***13*** *19:07:18.9±0.7, 3°.06S±0°.08×129°.9E±0°.3, h33km, mb3.9/7, Error ellipse: s-maj=39.3km s-min=10.1km az=169.7*
NEIC ***13*** *19:07:22.4±4.1, 3°.11S×129°.86E, h49km±43km, mb4.2/4, Error ellipse: s-maj=45.0km s-min=17.8km az=74.0*
ISC 13 19:07:21.2±0.7, 3°.08S±0°.08×129°.9E±0°.3, h35km, n18, σ1§15/18, mb3.9/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.50**	**195**	P	**Pn**	**19 10 56.3**	**-0.9**
	0.2nm,0.3s,baz=12,slow=14,SNR=1.6						
FITZ	**Fitzroy Crossi**	**15.50**	**195**	Pn	**Pn**	**19 10 56.3**	**-0.9**
WRAB	**Tennant Creek**	**17.31**	**166**	Pn	**Pn**	**19 11 22.1**	**+1.9**
WRA	**Warramunga Arr**	**17.32**	**166**	P	**Pn**	**19 11 20.4**	**+0.1**
	0.6nm,0.3s,baz=341,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**17.32**	**166**	P	**Pn**	**19 11 20.4**	**+0.1**
ASAR	**Alice Springs**	**20.84**	**170**	P	**P**	**19 12 00.5**	**+0.6**
	8.6nm,0.7s,baz=350,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**20.84**	**170**	P	**P**	**19 12 00.5**	**+0.6**
STKA	**Stephens Creek**	**30.70**	**160**	P	**P**	**19 13 30.8**	**-2.0**
	2.5nm,1.1s,mb4.0						
MJAR	**Matsushiro Arr**	**40.17**	**10**	P	**P**	**19 14 52.8**	**-1.2**
	0.9nm,0.7s,mb3.6,baz=187,slow=9.9,SNR=4.3						
MJAR	**Matsushiro Arr**	**40.17**	**10**	P	**P**	**19 14 52.8**	**-1.2**
ULN	**Ulaanbaatar**	**54.53**	**341**	P	**P**	**19 16 47.8**	**+2.2**
	3.3nm,1.2s,mb4.2						
SONM	**Songino Array**	**54.71**	**341**	P	**P**	**19 16 47.3**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=143,slow=5.5,SNR=2.8						
SONM	**Songino Array**	**54.71**	**341**	P	**P**	**19 16 47.4**	**+0.5**
MKAR	**Makanchi Array**	**64.91**	**326**	P	**P**	**19 17 57.0**	**-0.1**
	0.4nm,0.7s,mb3.6,baz=143,slow=5.0,SNR=3.2						
MKAR	**Makanchi Array**	**64.91**	**326**	P	**P**	**19 17 57.0**	**-0.1**
KURK	**Kurchatov**	**69.14**	**328**	P	**P**	**19 18 23.4**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=124,slow=5.7,SNR=10						
KURK	**Kurchatov**	**69.14**	**328**	*e*P	**P**	**19 18 22.9**	**-0.9**
	6.0nm,1.2s,mb4.4						
VNDA	**Vanda**	**76.33**	**173**	P	**P**	**19 19 06.1**	**0.0**
	4.4nm,1.5s,mb4.2						

IDC ***13*** *19:27:57.5±1.5, 3°.12S×129°.65E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.7/18, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=77.8km s-min=21.2km az=73.0*
NEIC ***13*** *19:28:01.5±1.2, 3°.10S×129°.95E, h35km, mb3.8/2, Error*

ellipse: s-maj=54.4km s-min=13.9km az=71.0
*ISCJB **13** 19:28:02.2±0.9,3°.15S±0°.06×129°.80E±0°.08,h58km±10km, mb3.6/5,Error ellipse: s-maj=14.2km s-min=9.1km az=149.4*
*DJA **13** 19:28:02,2°.96S×129°.78E,h24km,MLv3.4/6*
ISC 13 19:28:03.2±0.9,3°.13S±0°.07×129°.79E±0°.08,h46km±10km, n23,σ1s00/29,mb3.6/5,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.88**	**256**	P	**Pn**	**19 28 19.0**	**-0.2**
AAI	**Ambon**	**1.68**	**251**	P	**Pn**	**19 28 30.8**	**+0.7**
FAKI	**Fak Fak**	**2.47**	**85**	P	**Pn**	**19 28 41.4**	**+0.5**
NLAI	**Namlea**	**2.69**	**268**	P	**Pn**	**19 28 44.6**	**+0.7**
LBMI	**Labuha**	**3.37**	**317**	P	**Pn**	**19 28 51.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**15.42**	**195**	Pn	**Pn**	**19 31 37.9**	**+0.2**
	0.3nm,0.3s,baz=22,slow=12,SNR=11						
FITZ				Sn	**Sn**	**19 34 34.0**	**+6.4**
	0.1nm,0.3s,baz=198,slow=20,SNR=2.4						
FITZ	**Fitzroy Crossi**	**15.42**	**195**	Pn	**Pn**	**19 31 37.9**	**+0.2**
FITZ				Sn	**Sn**	**19 34 34.0**	**+6.4**
WRAB	**Tennant Creek**	**17.28**	**165**	Pn	**Pn**	**19 31 56.5**	**-4.7**
	5.8nm,1.1s						
WRA	**Warramunga Arr**	**17.29**	**165**	P	**Pn**	**19 31 59.6**	**-1.7**
	0.2nm,0.3s,baz=346,slow=12,SNR=9.6						
WRA				S	**S**	**19 35 09.1**	**-11**
	0.0nm,0.3s,baz=337,slow=21,SNR=3.3						
WRA	**Warramunga Arr**	**17.29**	**165**	P	**Pn**	**19 31 59.6**	**-1.7**
WRA				S	**S**	**19 35 09.1**	**-11**
AS31	**Alice Springs**	**20.80**	**169**	*e*P	**P**	**19 32 41.3**	**+0.7**
ASAR	**Alice Springs**	**20.80**	**169**	P	**P**	**19 32 41.5**	**+0.8**
	6.4nm,0.7s,baz=347,slow=11,SNR=69						
ASAR				S	**S**	**19 36 29.4**	**-0.9**
	0.5nm,0.9s,baz=352,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**20.80**	**169**	P	**P**	**19 32 41.5**	**+0.8**
ASAR				S	**S**	**19 36 29.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**37.19**	**306**	P	**P**	**19 35 10.3**	**+0.2**
	0.6nm,1.0s,mb3.4,baz=114,slow=9.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**37.19**	**306**	P	**P**	**19 35 10.3**	**+0.2**
CHTO	**Chiang Mai**	**37.38**	**307**	P	**P**	**19 35 12.0**	**+0.2**
	1.7nm,0.8s,mb3.9						
SONM	**Songino Array**	**54.74**	**341**	P	**P**	**19 37 30.1**	**+2.2**
	0.5nm,1.0s,mb3.5,baz=120,slow=5.8,SNR=2.6						
SONM	**Songino Array**	**54.74**	**341**	P	**P**	**19 37 30.1**	**+2.2**
MKAR	**Makanchi Array**	**64.91**	**326**	P	**P**	**19 38 37.3**	**-0.5**
	0.2nm,0.6s,mb3.3,baz=108,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**64.91**	**326**	P	**P**	**19 38 37.3**	**-0.5**
KURK	**Kurchatov**	**69.14**	**328**	P	**P**	**19 39 03.8**	**-0.8**
	1.3nm,0.8s,mb3.9,baz=130,slow=5.5,SNR=12						
KURK	**Kurchatov**	**69.14**	**328**	P	**P**	**19 39 03.8**	**-0.8**
SBA	**Scott Base**	**77.17**	**172**	*e*P	**P**	**19 39 47.7**	**-3.9**

*ISCJB **13** 19:28:21.4±1.2,31°.27N±0°.04×116°.76W±0°.06,h9km±6km, MS3.4/2,Error ellipse: s-maj=9.9km s-min=6.0km az=144.9*
*ECX **13** 19:28:22.4±0.4,31°.28N×116°.77W,h12km,MD4.0,ML4.1*
*NEIC **13** 19:28:22.5,31°.29N×116°.77W,h15km,ML3.9(ECX),After ECX.*
*IDC **13** 19:28:23.3±2.9,31°.38N×116°.68W,h0km,mb3.4/1, mb1 3.9/4,mb1mx3.6/23,mbtmp3.4/4,ML3.6/2,MS3.2/3, Ms1 3.2/3,ms1mx2.9/30,Error ellipse: s-maj=45.9km s-min=15.9km az=46.0*
ISC 13 19:28:24.1±1.3,31°.39N±0°.05×116°.73W±0°.07,h10km±6km, n30,σ1s24/40,MS3.4/2,2C-7D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECNX	**Esteban Cantu**	**0.29**	**22**	⇓*e*P	**Pg**	**19 28 29.8**	**-0.1**
ECNX				⇓*e*P		19 28 33.0	
ECNX				*e*S	**Sg**	**19 28 35.8**	**+1.8**
ECNX				*e*S	**Sg**	**19 28 41.1**	**+7.2**
PBX	**Punta Banda**	**0.36**	**0**	⇓*e*P	**Pg**	**19 28 30.7**	**-0.4**
PBX				*e*S	**Sg**	**19 28 37.3**	**+1.4**
PBX				⇓*e*		19 28 41.0	
	comp=N,15μm,0.7s						
PBX				⇓*e*		19 28 42.5	
	comp=E,12μm,0.8s						
RDX	**Rancho Dawling**	**0.86**	**51**	⇑*e*P	**Pg**	**19 28 39.0**	**-1.7**
RDX				*e*S	**Sg**	**19 28 52.7**	**+0.8**
RDX				⇓*e*		19 28 54.2	
	comp=N,5μm,0.6s						
CBX	**Cerro Bola**	**0.93**	**3**	⇓*e*P	**Pg**	**19 28 40.5**	**-1.4**
CBX				*e*S	**Sg**	**19 28 54.2**	**+0.1**
SPIG	**San Pedro Mart**	**1.13**	**107**	P	**Pb**	**19 28 42.0**	**-3.7**
SPIG				S	**Sb**	**19 28 56.8**	**-3.8**
BAR	**Barrett**	**1.29**	**2**	*e*Pn	**Pn**	**19 28 45.6**	**-2.6**
BAR				*e*Sn	**Sn**	**19 29 04.2**	**-1.3**
RMX	**La Rumorosa**	**1.33**	**24**	⇑*e*P	**Pn**	**19 28 47.3**	**-1.4**
RMX				*e*S	**Sb**	**19 29 06.3**	**0.0**
PFO	**Pinyon Flat Ob**	**2.23**	**6**	*e*Pn	**Pn**	**19 28 60.0**	**-1.1**
PFO				*e*Sn	**Sn**	**19 29 32.1**	**+3.4**
GLA	**Glamis**	**2.31**	**44**	*e*Pn	**Pn**	**19 29 02.0**	**-0.2**
PASC	**Pasadena Art C**	**3.04**	**337**	*e*Pn	**Pn**	**19 29 14.3**	**+2.1**
MWC	**Mount Wilson**	**3.04**	**339**	*e*Pn	**Pn**	**19 29 12.4**	**+0.1**
OSI	**Osito Adit**	**3.63**	**333**	*e*Pn	**Pn**	**19 29 27.6**	**+7.2**
GSC	**Goldstone**	**3.91**	**359**	*e*Pn	**Pn**	**19 29 29.6**	**+5.4**
GSC				*e*Sg	**Sg**	**19 30 22.8**	**-6.7**
LDFC	**Landfair**	**3.92**	**20**	*e*Pn	**Pn**	**19 29 29.3**	**+4.9**
LDFC				*e*Sg	**Sg**	**19 30 29.8**	**-0.4**
ISA	**Isabella**	**4.51**	**342**	*e*Pn	**Pn**	**19 29 30.9**	**-1.5**
TUC	**Tucson**	**5.14**	**78**	*e*Pn	**Pn**	**19 29 41.4**	**+0.3**
	comp=N,10nm,0.8s						
CCUT	**Cedar City**	**6.75**	**23**	*e*Pn	**Pn**	**19 30 04.5**	**+1.3**
	comp=N,9.5nm,0.8s						
CCUT				*e*Sg	**Sg**	**19 31 55.7**	**-5.0**
NVAR	**Mina Array Bea**	**7.15**	**350**	Pn	**Pn**	**19 30 10.0**	**+1.3**
	comp=N,0.2nm,0.3s,baz=168,slow=14,SNR=4.4						
NVAR				Lg		19 32 08.9	
	baz=166,slow=33,SNR=2.3						
NVAR				LR	LR	19 32 25.1	
	comp=N,47nm,19.5s,baz=180,slow=34						
NVAR	**Mina Array Bea**	**7.15**	**350**	Pn	**Pn**	**19 30 10.0**	**+1.3**
NVAR				Lg		19 32 08.9	
CGIG		**7.59**	**95**	P	**Pn**	**19 30 15.3**	**+0.6**
ANMO	**Albuquerque**	**9.31**	**65**	Pn	**Pn**	**19 30 44.6**	**+6.3**
	comp=N,0.1nm,0.3s,baz=270,slow=17,SNR=2.0						
ANMO				Lg		19 33 21.7	
	comp=N,0.1nm,0.3s,baz=342,slow=19,SNR=2.2						
ANMO	**Albuquerque**	**9.31**	**65**	Pn	**Pn**	**19 30 44.6**	**+6.3**
ANMO				Lg		19 33 21.7	
TXAR	**Lajitas Array**	**11.46**	**97**	Pn	**Pn**	**19 31 09.3**	**+1.4**
	comp=N,0.2nm,0.3s,baz=279,slow=13,SNR=17						
TXAR				Lg		19 34 38.2	
	comp=N,0.0nm,0.3s,baz=275,slow=32,SNR=3.3						
TXAR	**Lajitas Array**	**11.46**	**97**	Pn	**Pn**	**19 31 09.3**	**+1.4**
TXAR				Lg		19 34 38.2	
PDAR	**Pinedale Array**	**12.71**	**25**	Pn	**Pn**	**19 31 29.8**	**+4.9**
	baz=210,slow=6.3,SNR=3.2						
PDAR	**Pinedale Array**	**12.71**	**25**	Pn	**Pn**	**19 31 29.8**	**+4.9**
CMIG	**Matias Romero**	**24.41**	**121**	LR	LR	19 43 29.0	
	comp=N,101nm,20.0s,MS3.3,baz=198,slow=37						
ULM	**Lac du Bonnet**	**24.43**	**34**	LR	LR	19 43 34.1	
	comp=N,156nm,18.8s,MS3.5,baz=130,slow=37						
ILAR	**Eielson Array**	**38.27**	**340**	P	**P**	**19 35 45.0**	**+0.8**
	comp=N,0.6nm,0.8s,baz=156,slow=7.7,SNR=6.0						
ILAR	**Eielson Array**	**38.27**	**340**	P	**P**	**19 35 45.0**	**+0.8**

*NEIC **13** 19:34:47.7,16°.93N×100°.13W,h5km,MD3.3(MEX),After MEX.*
MEX 13 19:34:46.4±0.7,16°.88N×100°.18W,h9km±6km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**332**	*e*P	Pg	19 34 50.3	-0.1
CAIG				*i* S	Sg	19 34 53.4	+0.4
CAIG	**El Cayaco**	**0.19**	**332**	*e*P	Pg	19 34 50.3	-0.1
CAIG				*i* S	Sg	19 34 52.6	-0.4
ACX	**Acapulco**	**0.30**	**92**	*i* P	Pg	19 34 51.0	-1.5
ACX				*i* S	Sg	19 34 54.7	-1.9
ACX	**Acapulco**	**0.30**	**92**	*i* P	Pg	19 34 51.0	-1.5
ACX				*i* S	Sg	19 34 54.4	-2.2
ZIIG	**Zihuatanejo**	**1.43**	**301**	*i* P	Pn	19 35 11.2	-1.2
ZIIG				*i* S	Sn	19 35 29.9	-1.4
ZIIG	**Zihuatanejo**	**1.43**	**301**	*i* P	Pn	19 35 08.0	-4.5
ZIIG				*i* S	Sn	19 35 26.2	-5.1
PNIG	**Pinotepa**	**2.02**	**104**	*i* P	Pn	19 35 19.2	-1.5
PNIG				*i* S	Sn	19 35 43.3	-2.8
PNIG	**Pinotepa**	**2.02**	**104**	*e*P	Pn	19 35 18.2	-2.5
PNIG				*i* S	Sn	19 35 40.7	-5.4
UTMO	**Huajuapan**	**2.46**	**67**	*i* P	Pn	19 35 24.6	-2.0
UTMO				*i* S	Sn	19 35 53.7	-3.0
UTMO	**Huajuapan**	**2.46**	**67**	*i* P	Pn	19 35 24.6	-2.0
UTMO				*i* S	Sn	19 35 52.4	-4.4

*BJI **13** 19:55:40.1,60°.90N×150°.90W,h53km,mB5.0/14, mb4.8/21,Ms4.8/6,Ms7 4.6/7*
*ISCJB **13** 19:55:42.5±0.2,60°.90N±0°.02×150°.88W±0°.04,h67km±2km, mb4.4/61,Error ellipse: s-maj=3.4km s-min=3.0km az=146.5*
*IDC **13** 19:55:44.4±0.5,61°.04N×151°.01W,h69km±3km,mb3.9/28, mb1 4.1/33,mb1mx4.0/36,mbtmp4.0/33,MS3.5/11, Ms1 3.5/11,ms1mx3.3/47,Error ellipse: s-maj=13.5km s-min=8.5km az=22.0*
*NEIC **13** 19:55:44.1,60°.89N×150°.86W,h46km,mb4.6/26, ML4.2(AEIC),After AEIC.*
NEIC Felt [II] at Anchorage, Eagle River, Kenai, Seward and Soldotna. Also felt at Chugiak, Cooper Landing, Homer, Indian, Palmer, Sterling and Whittier.
ISC 13 19:55:43.6±0.2,60°.90N±0°.02×150°.90W±0°.04,h59km±2km, h66km±3.1km:pP-P,n216,σ1s05/201,mb4.5/61,MS3.6/9, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.44**	**52**	P	**Pn**	**19 55 55.0**	**+0.1**
FIB				S	**Sn**	**19 56 04.6**	**+1.6**
SLKM	**Skilak Lake**	**0.52**	**139**	P	**Pn**	**19 55 54.8**	**-0.8**
SUA	**Susitna One**	**0.57**	**8**	P	**Pn**	**19 55 55.6**	**-0.6**
SUA				S	**Sn**	**19 56 05.3**	**-0.2**
RC01	**Rabbit Creek A**	**0.60**	**71**	P	**Pn**	**19 55 55.4**	**-1.1**
RC01				S	**Sn**	**19 56 05.8**	**-0.1**
BKG	**Blockade Glaci**	**0.69**	**285**	P	**Pn**	**19 55 57.1**	**-0.5**
STLK	**Strandline Lak**	**0.75**	**323**	P	**Pn**	**19 55 58.3**	**-0.1**
CKL	**Chakachamna La**	**0.76**	**294**	P	**Pn**	**19 55 58.2**	**-0.3**
SPNW	**Spurr Northwes**	**0.94**	**299**	P	**Pn**	**19 56 00.8**	**0.0**
RDN	**Redoubt North**	**0.99**	**248**	P	**Pn**	**19 56 00.8**	**-0.6**
RSO	**Redoubt South**	**1.01**	**245**	P	**Pn**	**19 56 01.5**	**-0.2**
RED	**Redoubt Volcan**	**1.04**	**243**	P	**Pn**	**19 56 01.8**	**-0.3**
SEW	**Seward**	**1.07**	**137**	P	**Pn**	**19 56 01.8**	**-0.7**
SEW				S	**Sn**	**19 56 17.4**	**+0.8**
PMR	**Palmer**	**1.10**	**50**	*e*P	**Pn**	**19 56 02.7**	**-0.2**
SKT	**Skwentna**	**1.13**	**345**	P	**Pn**	**19 56 03.0**	**-0.3**
SKT				S	**Sn**	**19 56 18.7**	**+0.9**
BRLK	**Bradley Lake**	**1.14**	**180**	P	**Pn**	**19 56 03.5**	**+0.1**
BRLK				S	**Sn**	**19 56 18.8**	**+0.8**
INE	**Iliamna NE**	**1.36**	**233**	P	**Pn**	**19 56 06.4**	**+0.1**
ILW	**Iliamna West**	**1.39**	**234**	P	**Pn**	**19 56 06.9**	**+0.2**
TRAP	**Trapper Creek**	**1.48**	**12**	P	**Pn**	**19 56 08.4**	**+0.5**
SML	**Sawmill**	**1.54**	**52**	P	**Pn**	**19 56 08.5**	**-0.2**
SML				S	**Sn**	**19 56 28.1**	**+0.5**
OPT	**Oil Point**	**1.71**	**224**	P	**Pn**	**19 56 11.9**	**+1.0**
SCM	**Sheep Creek Mo**	**1.96**	**60**	P	**Pn**	**19 56 14.2**	**-0.1**
AUE	**Augustine Isla**	**1.98**	**220**	P	**Pn**	**19 56 15.6**	**+0.9**
AUNW	**Augustine NWes**	**2.00**	**221**	P	**Pn**	**19 56 16.0**	**+1.0**
AUW	**Augustine West**	**2.00**	**221**	P	**Pn**	**19 56 15.9**	**+1.0**
PPLA	**Purkeypile**	**2.10**	**344**	P	**Pn**	**19 56 17.0**	**+0.7**
JPK	**Jack Peak**	**2.10**	**84**	P	**Pn**	**19 56 15.4**	**-0.9**
FID	**Port Fidalgo**	**2.17**	**92**	P	**Pn**	**19 56 15.2**	**-2.1**
VLZ	**Valdez**	**2.24**	**82**	P	**Pn**	**19 56 17.1**	**-1.0**
SVW2	**Sparrevohn**	**2.29**	**277**	*e*P	**Pn**	**19 56 18.6**	**-0.3**
KLU	**Klutina**	**2.48**	**74**	P	**Pn**	**19 56 20.8**	**-0.7**
DIV	**Divide**	**2.51**	**82**	P	**Pn**	**19 56 20.9**	**-0.9**
FOPK	**Fourpeaked Vol**	**2.51**	**212**	P	**Pn**	**19 56 22.7**	**+0.8**
EYAK	**Cordova Ski Ar**	**2.56**	**96**	P	**Pn**	**19 56 20.8**	**-1.7**
TRF	**Thorofare Moun**	**2.58**	**6**	P	**Pn**	**19 56 24.6**	**+1.8**
RND	**Reindeer**	**2.69**	**20**	P	**Pn**	**19 56 26.4**	**+2.0**
MID	**Middleton Isla**	**2.71**	**121**	*e*P	**Pn**	**19 56 23.8**	**-0.9**
KAPH	**Katmai Pasha**	**2.90**	**219**	P	**Pn**	**19 56 28.0**	**+0.8**
MCK	**McKinley**	**2.99**	**17**	P	**Pn**	**19 56 30.3**	**+1.9**
BMRM	**Bremner River**	**3.07**	**86**	P	**Pn**	**19 56 28.0**	**-1.6**
TT01	**Tatalina**	**3.15**	**312**	P	**Pn**	**19 56 30.6**	**0.0**
KDAK	**Kodiak Island**	**3.24**	**196**	P	**Pn**	**19 56 31.1**	**-0.8**
	22nm,0.3s,baz=37,slow=7.8,SNR=225						
KDAK				S	**Sn**	**19 57 06.8**	**-2.4**
	77nm,0.3s,baz=7.9,slow=14,SNR=7.2						
KDAK	**Kodiak Island**	**3.24**	**196**	P	**Pn**	**19 56 31.0**	**-0.9**
PAX	**Paxson**	**3.30**	**49**	P	**Pn**	**19 56 33.2**	**+0.5**
KAKN	**Katmai Knife C**	**3.36**	**221**	P	**Pn**	**19 56 34.3**	**+0.7**
KCE	**Katmai Mt Cerb**	**3.44**	**221**	P	**Pn**	**19 56 34.6**	**0.0**
KABU	**Katmai Buttres**	**3.45**	**222**	P	**Pn**	**19 56 35.8**	**+1.0**
NICHA	**Nichawak Mount**	**3.49**	**98**	P	**Pn**	**19 56 32.8**	**-2.4**
OHAK	**Old Harbor**	**3.89**	**200**	*e*P	**Pn**	**19 56 39.8**	**-1.0**
MENT	**Mentasta**	**3.96**	**56**	*e*P	**Pn**	**19 56 41.7**	**0.0**
DOT	**Dot Lake**	**4.22**	**46**	*e*Pn	**Pn**	**19 56 44.9**	**-0.4**
COLA	**College**	**4.23**	**18**	*e*Pn	**Pn**	**19 56 46.0**	**+0.6**
COLA				*e*Sn	**Sn**	**19 57 35.0**	**+1.8**
ILAR	**Eielson Array**	**4.30**	**24**	P	**Pn**	**19 56 47.2**	**+0.9**
	6.9nm,0.3s,baz=209,slow=14,SNR=354						
ILAR				S	**Sn**	**19 57 38.5**	**+3.5**
	16nm,0.3s,baz=214,slow=23,SNR=10						
ILAR	**Eielson Array**	**4.30**	**24**	P	**Pn**	**19 56 47.2**	**+0.9**
ILAR				S	**Sn**	**19 57 38.5**	**+3.5**
EGAK	**Eagle**	**5.92**	**45**	*e*Pn	**Pn**	**19 57 08.0**	**-0.5**
	88nm,0.6s						
CHGN	**Chignik**	**6.05**	**224**	*e*P	**Pn**	**19 57 10.6**	**+0.2**
DAWY	**Dawson**	**6.21**	**54**	*e*Pn	**Pn**	**19 57 12.0**	**-0.4**
COLD	**Coldfoot**	**6.36**	**2**	*e*Pn	**Pn**	**19 57 16.2**	**+1.7**
	6μm,1.0s						
SDPT	**Sand Point**	**7.52**	**227**	*e*P	**Pn**	**19 57 30.1**	**-0.4**
SKAG	**Skagway**	**7.89**	**94**	*e*P	**Pn**	**19 57 34.6**	**-0.9**
SIT	**Sitka**	**8.91**	**109**	*e*P	**Pn**	**19 57 47.5**	**-1.9**
TNA	**Tin City**	**8.98**	**309**	*e*Pn	**Pn**	**19 57 51.7**	**+1.4**
	23nm,0.5s						
INK	**Inuvik**	**10.49**	**38**	P	**Pn**	**19 58 10.0**	**-0.9**
	0.3nm,0.3s,baz=195,slow=6.0,SNR=13						
INK				S	**Sn**	**20 00 12.3**	**+5.7**
	0.7nm,0.3s,baz=238,slow=16,SNR=4.8						
INK				LR	LR	20 02 14.5	
	comp=Z,151nm,19.8s,baz=318,slow=38						
INK				ScP	ScP	20 07 37.7	0.0
	0.1nm,0.3s,baz=284,slow=2.7,SNR=3.7						
INK	**Inuvik**	**10.49**	**38**	*e*Pn	**Pn**	**19 58 09.7**	**-1.2**
	11nm,0.8s						
INK				S	**Sn**	**20 00 12.3**	**+5.7**
INK				ScP	ScP	20 07 37.7	0.0
DLBC	**Dease Lake**	**10.83**	**94**	P	**Pn**	**19 58 15.4**	**-0.2**
	0.5nm,0.3s,baz=285,slow=12,SNR=2.2						
DLBC				LR	LR	20 02 59.8	
	comp=Z,257nm,18.4s,baz=288,slow=40						
DLBC	**Dease Lake**	**10.83**	**94**	*e*Pn	**Pn**	**19 58 15.2**	**-0.4**
CRAG	**Craig**	**10.83**	**112**	*e*Pn	**Pn**	**19 58 14.9**	**-0.7**
UNV	**Unalaska Valle**	**10.97**	**237**	*e*Pn	**Pn**	**19 58 16.6**	**-1.0**
BBB	**Bella Bella**	**15.22**	**115**	P	**Pn**	**19 59 15.1**	**+0.5**
	0.8nm,0.3s,baz=279,slow=4.8,SNR=3.1						
BBB				LR	LR	20 04 26.6	
	comp=Z,165nm,19.4s,baz=31,slow=34						
BBB	**Bella Bella**	**15.22**	**115**	P	**Pn**	**19 59 15.1**	**+0.5**
YKA	**Yellowknife Ar**	**17.14**	**69**	P	**Pn**	**19 59 37.5**	**-1.2**
	1.6nm,0.3s,baz=280,slow=9.9,SNR=132						
YKA				ScP	ScP	20 07 48.6	-0.2
	0.0nm,0.3s,baz=296,slow=2.5,SNR=7.2						
YKA	**Yellowknife Ar**	**17.14**	**69**	P	**Pn**	**19 59 37.5**	**-1.2**
YKA				ScP	ScP	20 07 48.6	-0.2
FX1	**Attu Island--F**	**20.97**	**264**	P	**P**	**20 00 20.4**	**-0.9**
	12nm,0.4s,baz=329,slow=5.3,SNR=15						
FX1				LR	LR	20 09 46.8	
	comp=Z,49nm,18.4s,MS2.9,baz=182,slow=40						
FX1	**Attu Island--F**	**20.97**	**264**	P	**P**	**20 00 20.4**	**-0.9**
RES	**Resolute Bay**	**23.99**	**33**	P	**P**	**20 00 51.7**	**-0.3**
	1.6nm,0.7s,mb3.6,baz=255,slow=10,SNR=7.5						
RES	**Resolute Bay**	**23.99**	**33**	*e*P	**P**	**20 00 51.6**	**-0.4**
	3.9nm,0.8s,mb3.9						
BMO	**Blue Mountains**	**25.47**	**114**	*e*P	**P**	**20 01 06.8**	**+1.1**
	5.6nm,0.5s,mb4.3						
CHMT	**Chamberlain Mo**	**25.78**	**106**	*e*P	**P**	**20 01 09.2**	**+0.6**
	2.5nm,0.8s,mb3.8						
FFC	**Flin Flon**	**26.24**	**81**	*e*P	**P**	**20 01 12.4**	**-0.2**
LRM	**Limekiln Ridge**	**26.96**	**106**	*e*P	**P**	**20 01 20.1**	**+0.9**
	139nm,1.3s,mb5.3						
QLMT	**Earthquake Lak**	**28.18**	**107**	*e*P	**P**	**20 01 31.6**	**+1.5**
	0.8nm,0.9s,mb3.4						
PETK	**Petropavlovsk-**	**28.38**	**277**	LR	LR	20 11 46.1	
	comp=Z,65nm,18.3s,MS3.3,baz=246,slow=34						
LKWY	**Lake**	**28.86**	**106**	P	**P**	**20 01 35.2**	**-1.0**
IMW	**Indian Meadow**	**29.12**	**107**	*e*P	**P**	**20 01 38.0**	**-0.4**
	11nm,0.8s,mb4.7						
TPAW	**Teton Pass**	**29.42**	**108**	*e*P	**P**	**20 01 42.7**	**+1.6**
	7.1nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	**30.29**	**123**	P	**P**	**20 01 51.0**	**+2.1**
	5.5nm,0.7s,mb4.4,baz=316,slow=9.3,SNR=34						
NVAR				LR	LR	20 12 22.9	
	comp=Z,184nm,20.5s,MS3.7,baz=323,slow=33						
NVAR	**Mina Array Bea**	**30.29**	**123**	P	**P**	**20 01 51.0**	**+2.1**
PD01	**Pinedale Array**	**30.61**	**107**	*e*P	**P**	**20 01 52.8**	**+1.1**
PD02	**Pinedale Array**	**30.62**	**107**	*e*P	**P**	**20 01 52.7**	**+1.0**
PDAR	**Pinedale Array**	**30.63**	**107**	P	**P**	**20 01 53.1**	**+1.3**
	3.3nm,0.5s,mb4.5,baz=329,slow=4.1,SNR=57						
PDAR	**Pinedale Array**	**30.63**	**107**	P	**P**	**20 01 53.1**	**+1.3**
DUG	**Dugway**	**31.18**	**114**	*e*P	**P**	**20 01 57.9**	**+1.2**
	5.9nm,0.9s,mb4.4						
ULM	**Lac du Bonnet**	**31.92**	**84**	P	**P**	**20 02 03.6**	**+0.5**
	4.0nm,0.5s,mb4.5,baz=300,slow=9.6,SNR=8.1						
ULM	**Lac du Bonnet**	**31.92**	**84**	P	**P**	**20 02 03.6**	**+0.5**
RSSD	**Black Hills**	**32.23**	**100**	*e*P	**P**	**20 02 06.8**	**+1.0**
	8.9nm,0.5s,mb4.8						
ARUT	**Antelope Range**	**32.89**	**117**	*e*P	**P**	**20 02 12.8**	**+1.1**
	7.2nm,0.7s,mb4.7						
SRU	**San Rafael**	**33.09**	**113**	*e*P	**P**	**20 02 15.2**	**+1.8**
	14nm,0.8s,mb5.0						
CCUT	**Cedar City**	**33.12**	**118**	*e*P	**P**	**20 02 15.7**	**+2.0**
	3.0nm,0.5s,mb4.5						
MVCO	**Mesa Verde**	**35.56**	**112**	*e*P	**P**	**20 02 36.0**	**+1.2**
	3.8nm,0.5s,mb4.6						
EYMN	**Ely**	**35.60**	**84**	*e*P	**P**	**20 02 35.1**	**+0.1**
	11nm,1.0s,mb4.7						
FRB	**Frobisher Bay**	**35.88**	**49**	P	**P**	**20 02 37.3**	**+0.1**
	3.5nm,0.5s,mb4.5,baz=308,slow=11,SNR=6.2						
FRB	**Frobisher Bay**	**35.88**	**49**	P	**P**	**20 02 37.3**	**+0.1**
MIDW	**Midway**	**37.20**	**221**	P	**P**	**20 02 49.9**	**+1.0**
ANMO	**Albuquerque**	**38.35**	**112**	P	**P**	**20 02 59.5**	**+1.0**
	0.7nm,0.3s,mb3.8,baz=342,slow=9.6,SNR=3.5						
ANMO	**Albuquerque**	**38.35**	**112**	P	**P**	**20 02 59.5**	**+1.0**
GDL2	**Guadalupe Moun**	**41.61**	**112**	*e*P	**P**	**20 03 26.9**	**+1.5**
	2.7nm,0.4s,mb4.2						
ASAJ	**Asahikawa**	**41.80**	**278**	P	**P**	**20 03 26.4**	**-0.4**
	14nm,1.1s,mb4.5,baz=90,slow=9.1,SNR=4.1						
ASAJ	**Asahikawa**	**41.80**	**278**	P	**P**	**20 03 26.4**	**-0.4**
SCHQ	**Schefferville**	**42.20**	**59**	P	**P**	**20 03 29.8**	**-0.3**
	4.6nm,0.9s,mb4.1,baz=333,slow=1.8,SNR=6.3						
SCHQ	**Schefferville**	**42.20**	**59**	P	**P**	**20 03 29.8**	**-0.3**
ERM	**Erimo**	**43.09**	**275**	*e*P	**P**	**20 03 38.1**	**+0.6**
TXAR	**Lajitas Array**	**44.35**	**114**	P	**P**	**20 03 48.6**	**+0.9**
	1.9nm,0.7s,mb4.0,baz=322,slow=6.2,SNR=24						
TXAR	**Lajitas Array**	**44.35**	**114**	P	**P**	**20 03 48.6**	**+0.9**
JCT	**Junction City**	**45.15**	**109**	*e*P	**P**	**20 03 54.8**	**+0.8**
	18nm,0.6s,mb5.1						
MDJ	**Mudanjiang**	**47.61**	**288**	P	**P**	**20 04 13.8**	**+0.7**
MDJ				pP	pP	20 04 25.3	-3.1
MDJ				sP	sP	20 04 30.3	-4.9
MDJ				ScP	ScP	20 09 34.9	+4.3
MDJ				PcS	PcS	20 09 39.3	+2.1
MDJ				S	**S**	**20 11 05.4**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
MDJ				pmax	pmax		
	comp=Z,52nm,4.7s						
MDJ		

MKAR				pP	pP	20 06 29.5	+0.8
GTA	**Gaotai**	**64.75**	**306**	*e*P	**P**	**20 06 15.8**	**+0.5**
GTA				pP	pP	20 06 28.6	-2.7
GTA				sP	sP	20 06 34.3	-3.7
GTA				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
WMQ	**Urumqi**	**65.32**	**317**	*e*P	**P**	**20 06 22.8**	**+3.8**
LZH	**Lanzhou**	**65.96**	**301**	*e*P	**P**	**20 06 23.3**	**+0.1**
LZH				pP	pP	20 06 36.5	-2.7
LZH				sP	sP	20 06 41.5	-4.4
LZH				pmax	pmax		
comp=Z,20nm,1.3s,mb5.0							
LZH	**Lanzhou**	**65.96**	**301**	*e*P	**P**	**20 06 23.2**	**0.0**
comp=Z,20nm,1.3s,mb5.0							
LZH				pP	pP	20 06 36.5	-2.7
LZH				sP	sP	20 06 41.5	-4.4
AKTO	**Aktyubinsk**	**66.61**	**340**	P	**P**	**20 06 25.6**	**-1.6**
comp=Z,2.7nm,0.5s,mb4.6,baz=41,slow=7.5,SNR=13							
AKTO				pP	pP	20 06 44.6	+1.4
comp=Z,1.7nm,0.4s,baz=49,slow=11,SNR=4.8							
AKTO	**Aktyubinsk**	**66.61**	**340**	P	**P**	**20 06 25.6**	**-1.6**
AKTO				pP	pP	20 06 44.6	+1.4
CLL	**Collm**	**67.40**	**11**	*i* pP	pP	20 06 49.9	+1.7
comp=Z,11nm,1.3s							
BAIF	**Baives**	**67.59**	**17**	*e*P	pP	20 06 51.4	+2.0
GIVF	**Givet**	**67.64**	**17**	*e*P	pP	20 06 51.5	+1.8
BRG	**Berggiesshubel**	**67.92**	**10**	*i* P	pP	20 06 53.2	+1.8
comp=Z,4.8nm,0.8s							
DPC	**Dobruska-Polom**	**68.63**	**9**	*e*pP	pP	20 06 58.8	+2.9
AKASG	**Malin Array Be**	**68.75**	**360**	P	**P**	**20 06 38.7**	**-1.9**
comp=Z,1.1nm,0.4s,mb4.1,baz=1.6,slow=6.3,SNR=6.8							
AKASG				pP	pP	20 06 56.9	+0.2
comp=Z,3.5nm,0.6s,baz=1.2,slow=6.4,SNR=6.2							
AKASG	**Malin Array Be**	**68.75**	**360**	P	**P**	**20 06 38.7**	**-1.9**
AKASG				pP	pP	20 06 56.9	+0.2
PRU	**Pruhonice**	**68.85**	**10**	*e*pP	pP	20 06 59.8	+2.5
OKC	**Ostrava-Krasne**	**69.27**	**8**	*e*pP	pP	20 07 02.6	+2.7
PAGF	**Fort de Pagny**	**69.28**	**16**	*e*P	pP	20 07 02.3	+2.3
comp=Z,3.7nm,0.7s							
SFTF	**Sexfontaines**	**69.52**	**17**	*e*P	pP	20 07 03.3	+1.7
KHC	**Kasperske Hory**	**69.61**	**11**	*e*pP	pP	20 07 03.7	+1.6
CDF	**Champ du Feu**	**69.62**	**15**	*e*P	pP	20 07 04.1	+1.9
HAU	**Haudompre**	**69.90**	**16**	*e*P	pP	20 07 05.7	+1.8
comp=Z,9.7nm,0.6s							
GERES	**GERESS Array B**	**69.91**	**11**	P	**P**	**20 06 46.7**	**-1.0**
comp=Z,0.4nm,0.8s,mb3.4,baz=356,slow=5.9,SNR=2.7							
GERES	**GERESS Array B**	**69.91**	**11**	P	**P**	**20 06 46.7**	**-1.0**
HINF	**Hinteralfeld**	**70.15**	**16**	*e*P	pP	20 07 07.2	+1.8
LOR	**Lormes**	**70.27**	**18**	*e*P	pP	20 07 07.9	+1.8
comp=Z,18nm,1.0s							
AAK	**Ala-Archa**	**70.41**	**326**	*e*P	**P**	**20 06 49.5**	**-1.4**
comp=Z,16nm,1.1s,mb4.9							
AAK				*e*	pP	20 07 09.5	+2.4
SSF	**Saint Saulge**	**70.41**	**18**	*e*P	pP	20 07 08.8	+1.7
CD2	**Chengdu**	**70.44**	**298**	*e*P	**P**	**20 06 53.3**	**+2.0**
CD2				pP	pP	20 07 06.8	-0.7
CD2				sP	sP	20 07 11.8	-2.3
CD2				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.9							
CD2				pmax	pmax		
comp=Z,30nm,5.2s							
EKS2	**Erkin-Say**	**70.57**	**327**	*e*P	**P**	**20 06 51.1**	**-0.8**
comp=Z,3.4nm,0.9s,mb4.3							
VYHS	**Vyhne**	**70.65**	**7**	*e*pP	pP	20 07 11.2	+2.7
AVF	**Avril sur Loir**	**70.65**	**18**	*e*P	pP	20 07 10.1	+1.6
comp=Z,16nm,0.8s							
KKAR	**Karatay Array**	**71.01**	**329**	*e*P	**P**	**20 06 53.1**	**-1.5**
comp=Z,1.4nm,0.6s,mb4.1							
KKAR				*e*	pP	20 07 12.2	+1.5
CABF	**La Chapelle**	**71.23**	**17**	*e*P	pP	20 07 14.2	+2.1
LPL	**La Plagne**	**72.39**	**16**	*e*P	pP	20 07 21.3	+2.2
VIVF	**Saint-Julien-l**	**72.74**	**18**	*e*P	pP	20 07 23.0	+1.8
KSH	**Kashi**	**72.88**	**324**	*e*P	**P**	**20 07 07.9**	**+2.1**
KSH				pP	pP	20 07 21.0	-1.1
KSH				sP	sP	20 07 26.4	-2.3
KSH				PP	PP	20 09 51.8	+3.8
KSH				S	S	20 16 27.3	0.0
KSH				SKS		20 17 04.3	
KSH				ScS	ScS	20 17 07.4	-0.8
KSH				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
KSH				pmax	pmax		
comp=Z,150nm,5.3s							
KSH				LR	LR		
comp=N,95nm,4.9s							
KSH				LR	LR		
comp=E,88nm,4.4s							
KSH				LR	LR		
comp=Z,280nm,6.5s							
GYA	**Guiyang**	**73.01**	**294**	*e*P	**P**	**20 07 09.0**	**+2.2**
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
MBDF	**Montbardon**	**73.17**	**16**	*e*P	pP	20 07 26.4	+2.7
ESDC	**Sonseca Array**	**76.20**	**26**	pP	pP	20 07 43.0	+1.6
comp=Z,2.4nm,0.9s,baz=350,slow=5.4,SNR=5.0							
ESDC	**Sonseca Array**	**76.20**	**26**	pP	pP	20 07 43.0	+1.6
BRTR	**Keskin Array B**	**79.66**	**356**	P	**P**	**20 07 44.4**	**+0.2**
comp=Z,0.4nm,0.7s,mb3.5,baz=329,slow=4.0,SNR=3.6							
BRTR				pP	pP	20 08 02.1	+1.4
comp=Z,0.9nm,0.8s,baz=10,slow=2.8,SNR=3.4							
BRTR	**Keskin Array B**	**79.66**	**356**	P	**P**	**20 07 44.4**	**+0.2**
BRTR				pP	pP	20 08 02.1	+1.4
TAPN	**Taplejung**	**80.09**	**310**	*e*P	**P**	**20 07 46.0**	**-0.8**
comp=Z,3.6nm,0.5s,mb4.5							
TAPN	**Taplejung**	**80.09**	**310**	*e*P	**P**	**20 07 46.0**	**-0.8**
comp=Z,3.6nm,0.5s,mb4.6							
GUN	**Gumba**	**80.26**	**311**	*e*P	**P**	**20 07 47.6**	**-0.1**
GUN	**Gumba**	**80.26**	**311**	*e*P	**P**	**20 07 47.6**	**-0.1**
JIRN	**Jiri**	**80.37**	**311**	*e*P	**P**	**20 07 48.3**	**0.0**
JIRN	**Jiri**	**80.37**	**311**	*e*P	**P**	**20 07 48.3**	**0.0**
KKN	**Kakani**	**80.59**	**312**	*e*P	**P**	**20 07 49.5**	**+0.1**
KKN	**Kakani**	**80.59**	**312**	*e*P	**P**	**20 07 49.5**	**+0.1**
DANN	**Dangsing**	**80.63**	**313**	*e*P	**P**	**20 07 49.7**	**+0.1**
comp=Z,20nm,0.7s,mb5.1							
DANN	**Dangsing**	**80.63**	**313**	*e*P	**P**	**20 07 49.7**	**+0.1**
comp=Z,20nm,0.7s,mb5.2							
GKN	**Gorkha**	**80.63**	**312**	*e*P	**P**	**20 07 49.2**	**-0.5**
comp=Z,5.2nm,0.5s,mb4.8							
GKN	**Gorkha**	**80.63**	**312**	*e*P	**P**	**20 07 49.2**	**-0.5**
comp=Z,5.2nm,0.5s,mb4.7							
ODAN	**Odare**	**80.65**	**310**	*e*P	**P**	**20 07 49.6**	**-0.2**
ODAN	**Odare**	**80.65**	**310**	*e*P	**P**	**20 07 49.6**	**-0.2**
DMN	**Daman**	**80.82**	**312**	*e*P	**P**	**20 07 50.3**	**-0.4**
DMN	**Daman**	**80.82**	**312**	*e*P	**P**	**20 07 50.3**	**-0.4**
RAMN	**Ramite**	**80.86**	**310**	*e*P	**P**	**20 07 50.2**	**-0.7**
comp=Z,10nm,1.1s,mb4.7							
RAMN	**Ramite**	**80.86**	**310**	*e*P	**P**	**20 07 50.2**	**-0.7**
comp=Z,10nm,1.1s,mb4.7							
KOLN	**Koldanda**	**81.21**	**313**	*e*P	**P**	**20 07 52.2**	**-0.6**
comp=Z,2.2nm,0.5s,mb4.4							
KOLN	**Koldanda**	**81.21**	**313**	*e*P	**P**	**20 07 52.2**	**-0.6**
comp=Z,2.2nm,0.5s,mb4.3							
CMAR	**Chiang Mai Arr**	**83.42**	**296**	P	**P**	**20 08 02.4**	**-2.0**
comp=Z,0.4nm,0.6s,mb3.6,baz=4.6,slow=5.7,SNR=6.3							
CMAR				LR	LR	20 47 52.7	
comp=Z,23nm,19.9s,MS3.6,baz=247,slow=38							
CMAR	**Chiang Mai Arr**	**83.42**	**296**	P	**P**	**20 08 02.4**	**-2.0**
LBTB	**Lobatse**	**144.05**	**5**	PKP	PKPdf	20 15 09.3	-2.6
comp=Z,1.5nm,0.5s,baz=65,slow=4.1,SNR=3.1							
LBTB	**Lobatse**	**144.05**	**5**	PKP	PKPdf	20 15 09.3	-2.6
BOSA	**Boshof**	**147.61**	**6**	PKPbc	PKPbc	20 15 19.8	-0.9
comp=Z,1.9nm,0.6s,baz=208,slow=13,SNR=8.9							
BOSA				pPKPbc	pPKPbc	20 15 39.0	+1.2
comp=Z,5.2nm,0.7s,baz=6.1,slow=5.4,SNR=6.0							
BOSA	**Boshof**	**147.61**	**6**	*e*PKPdf	PKPdf	20 15 19.1	+1.2
BOSA				PKPbc	PKPbc	20 15 19.8	-0.9
BOSA				*e*		20 15 38.8	
BOSA				pPKPbc	pPKPbc	20 15 39.0	+1.2
QSPA	**South Pole Qui**	**150.70**	**180**	PKPbc	PKPbc	20 15 26.6	-0.3
comp=Z,0.9nm,0.5s,baz=303,slow=1.8,SNR=9.1							
QSPA				pPKPbc	pPKPbc	20 15 46.2	+2.0
comp=Z,5.2nm,0.9s,baz=33,slow=0.8,SNR=8.2							
QSPA	**South Pole Qui**	**150.70**	**180**	*e*PKPbc	PKPbc	20 15 26.4	-0.4
QSPA				*e*		20 15 46.0	
QSPA				pPKPbc	pPKPbc	20 15 46.2	+2.0

DJA 13 20:05:22.0±17.0N×124.98E, h10km, MLv3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.08**	**292**	P	Pg	20 05 41.6	-1.1
KMSI				S	Sg	20 05 55.4	-1.4
MNI	**Manado**	**1.27**	**354**	P	Pn	20 05 45.2	-0.7
MNI				S	Sb	20 06 02.4	-0.1
GTOI	**Gorontalo**	**2.02**	**283**	P	Pn	20 05 58.5	+2.3
GTOI				S	Sn	20 06 25.0	+3.5
MRSI	**Marisa**	**3.06**	**276**	P	Pn	20 06 08.1	-2.3
TTSI	**Tana Toraja**	**6.07**	**238**	P	Pn	20 06 52.7	+0.9

IDC 13 20:37:14.0±17.0, 20.64S×174.42W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/19, mbtmp4.2/5, Error ellipse: s-maj=319.0km s-min=142.4km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.81**	**264**	P	P	20 44 24.9	+1.0
1.7nm,0.3s,baz=80,slow=10,SNR=4.9							
STKA	**Stephens Creek**	**40.76**	**245**	P	P	20 44 56.9	-0.1
1.9nm,0.4s,baz=74,slow=10,SNR=6.7							
ASAR	**Alice Springs**	**47.75**	**256**	P	P	20 45 52.2	-0.9
2.7nm,0.7s,baz=100,slow=7.7,SNR=31							
WRA	**Warramunga Arr**	**47.90**	**261**	P	P	20 45 53.7	-0.6
0.9nm,0.3s,baz=94,slow=8.1,SNR=56							
FITZ	**Fitzroy Crossi**	**56.33**	**262**	P	P	20 46 57.7	+0.6
1.0nm,0.3s,baz=91,slow=8.0,SNR=8.9							

*ISK **13** 20:38:27.1, 40.45N×34.53E, h16km, MD2.6*
*DDA **13** 20:38:27.8, 40.41N×34.42E, h11km±5km, Md3.1*
*ISCJB **13** 20:38:28.2±0.6, 40.42N±0.03×34.43E±0.04, h7km±5km, Error ellipse: s-maj=5.9km s-min=4.4km az=138.1*
*CSEM **13** 20:38:28.0±0.3, 40.42N×34.45E, h10km, MD2.6, Error ellipse: s-maj=8.6km s-min=5.4km az=42.0*

ISC 13 20:38:28.6±0.5, 40.42N±0.03×34.44E±0.04, h8km±6km, n21, σ1.10/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CORM	**Corum**	**0.28**	**149**	*e*PG	**Pg**	**20 38 33.2**	**-0.9**
CORM				*e*SG	**Sg**	**20 38 38.2**	**+0.4**
CORM	**Corum**	**0.28**	**149**	*e*Pg	**Pg**	**20 38 33.3**	**-0.8**
CORM				*e*Sg	**Sg**	**20 38 38.2**	**+0.4**
CTKT	**Corum**	**0.33**	**52**	*i* P	**Pg**	**20 38 34.7**	**-0.4**
CTKT				*i* S	**Sg**	**20 38 40.6**	**+1.0**
CTKT	**Corum**	**0.33**	**52**	*i* P	**Pg**	**20 38 34.7**	**-0.5**
CANT	**Cankiri**	**0.66**	**287**	*e*PG	**Pg**	**20 38 41.6**	**+0.3**
CANT				*e*SG	**Sg**	**20 38 51.7**	**+1.9**
ELDT	**Eldivan**	**0.78**	**276**	*i* P	**Pg**	**20 38 42.2**	**-1.3**
ELDT				*i* S	**Sg**	**20 38 54.0**	**+0.2**
ELDT	**Eldivan**	**0.78**	**276**	*i* P	**Pg**	**20 38 42.2**	**-1.4**
ELDT				*i* S	**Sg**	**20 38 54.0**	**+0.3**
CDAG	**Cicekdag**	**0.80**	**184**	*i* P	**Pg**	**20 38 42.9**	**-1.0**
CDAG				*i* S	**Sg**	**20 38 55.3**	**+1.0**
CDAG	**Cicekdag**	**0.80**	**184**	*i* P	**Pg**	**20 38 42.9**	**-1.0**
CDAG				*i* S	**Sg**	**20 38 55.3**	**+1.1**
ILGA	**Ilgaz**	**0.84**	**319**	*i* P	**Pg**	**20 38 44.6**	**-0.2**
ILGA				*i* S	**Sg**	**20 38 56.0**	**+0.3**
ILGA	**Ilgaz**	**0.84**	**319**	*i* P	**Pg**	**20 38 44.6**	**-0.2**
ILGA				*i* S	**Sg**	**20 38 56.0**	**+0.3**
YOZ	**Yozgat**	**1.03**	**139**	*e*PG	**Pg**	**20 38 47.4**	**-0.9**
YOZ	**Yozgat**	**1.03**	**139**	*e*Pg	**Pg**	**20 38 47.4**	**-0.9**
BBAL	**Bala**	**1.34**	**230**	*i* P	**Pn**	**20 38 51.3**	**-2.3**
BBAL				*i* S	**Sb**	**20 39 15.0**	**+3.8**
BBAL	**Bala**	**1.34**	**230**	*i* P	**Pn**	**20 38 51.3**	**-2.3**
LOD	**Lodumlu**	**1.39**	**248**	*e*PN	**Pn**	**20 38 53.4**	**-0.9**
LOD	**Lodumlu**	**1.39**	**248**	*e*Pn	**Pn**	**20 38 53.4**	**-0.9**
AFSR	**Af¯ar-Bala (A**	**1.43**	**228**	*e*PN	**Pn**	**20 38 53.6**	**-1.2**
AFSR				*e*SN	**Sn**	**20 39 14.1**	**+0.2**
AFSR	**Af¯ar-Bala (A**	**1.43**	**228**	*e*Pn	**Pn**	**20 38 53.7**	**-1.2**
AFSR				*e*Sn	**Sn**	**20 39 14.1**	**+0.2**
AVNT	**Avonos**	**1.67**	**169**	*i* P	**Pn**	**20 38 59.6**	**+1.5**
AVNT				*i* S	**Sn**	**20 39 21.4**	**+1.7**
AVNT	**Avonos**	**1.67**	**169**	*i* P	**Pn**	**20 38 59.6**	**+1.5**

KRSC 13 20:40:48.9±0.4, 53.52N×158.31E, h179km±58km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOK	**Koryaka**	**0.30**	**139**	*e*P	Pn	20 41 14.5	+1.6
AVH	**Avacha**	**0.36**	**135**	*e*P	Pn	20 41 14.7	+1.7
SDLR	**Sedlovina**	**0.42**	**125**	*e*P	Pn	20 41 14.5	+1.3
PET	**Petropavlovsk**	**0.54**	**157**	*e*P	Pn	20 41 14.8	+1.1
PET				*i* S	Sn	20 41 33.6	+0.9
NLC	**Nalytchevo**	**0.71**	**119**	*e*P	Pn	20 41 15.8	+1.2
NLC				*i* S	Sn	20 41 35.7	+1.5
RUS	**Russkaya**	**1.10**	**173**	*e*P	Pn	20 41 17.6	+0.4
RUS				*i* S	Sn	20 41 39.2	+0.3
SPN	**Mys Shipunski**	**1.11**	**112**	*e*P	Pn	20 41 18.0	+0.7
SPN				*i* S	Sn	20 41 38.7	-0.4
MIPR	**Malaya Ipel'ka**	**1.56**	**218**	*e*P	Pn	20 41 21.9	+0.6
MKZ	**Mys Kozlova**	**2.27**	**61**	*e*P	Pn	20 41 30.0	+1.2
MKZ				*i* S	Sn	20 41 59.7	0.0
KBTR	**Krutoberegovo**	**3.75**	**42**	*e*P	Pn	20 41 48.1	+1.5

IDC 13 20:40:57.4±3.0, 32.14S×177.71W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/16, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=74.0km s-min=45.1km az=126.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.43**	**213**	Pn	Pn	20 42 46.3	-0.7
0.3nm,0.3s,baz=0.0,slow=6.1,SNR=2.7							
URZ				Sn	Sn	20 44 20.5	+8.5
0.4nm,0.3s,baz=137,slow=16,SNR=3.0							
ASAR	**Alice Springs**	**43.29**	**269**	P	P	20 49 01.1	+0.2
0.5nm,0.5s,baz=106,slow=7.3,SNR=7.8							
WRA	**Warramunga Arr**	**44.44**	**274**	P	P	20 49 10.1	-0.1
0.9nm,0.3s,baz=111,slow=8.1,SNR=23							
FINES	**FINESS Array B**	**146.86**	**339**	PKPbc	PKPbc	21 00 40.1	-0.7
3.2nm,1.0s,baz=346,slow=0.6,SNR=3.2							

*IDC **13** 20:43:01.5±1.4, 39.62N×53.94E, h0km, mb3.7/13, mb1 3.9/17, mb1mx3.8/31, mbtmp3.8/17, ML3.9/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/42, Error ellipse: s-maj=29.4km s-min=11.4km az=157.0*
*ISCJB **13** 20:43:02.1±1.5, 39.94N±0.03×53.95E±0.04, h15km±14km, mb3.6/14, MS3.0/2, Error ellipse: s-maj=5.7km s-min=4.3km az=147.3*
*TEH **13** 20:43:06.9, 39.84N×53.93E, h19km*
*CSEM **13** 20:43:06.6±0.1, 39.87N×53.91E, h30km, mb3.8/8, Error ellipse: s-maj=4.0km s-min=3.3km az=83.0*
*MOS **13** 20:43:06.4±1.0, 40.07N×53.94E, h33km, mb4.0/11, Error ellipse: s-maj=9.8km s-min=8.9km az=96.0*
*THR **13** 20:43:06.6±1.0, 39.63N×53.57E, h15km, ML3.7*
*NEIC **13** 20:43:07.1±0.8, 39.95N×53.98E, h35km, mb4.0/8, Error ellipse: s-maj=17.8km s-min=6.8km az=173.0*
*NNC **13** 20:43:09.7±4.5, 40.24N×54.73E, h0km, mb4.0, Error ellipse: s-maj=43.3km s-min=28.0km az=68.0*

ISC 13 20:43:04.9±2.0, 39.91N±0.03×53.98E±0.04, h16km±15km, n159, σ1.09/177, mb3.6/14, MS3.0/2, 9C-7D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRVT	**Maraveh tapeh**	**2.79**	**143**	*e*Pn	**Pn**	**20 43 52.1**	**+3.2**
MRVT	**Maraveh tapeh**	**2.79**	**143**	*e*Pn	**Pn**	**20 43 52.1**	**+3.3**
BJRD	**Bojnurd**	**3.47**	**128**	*e*Pn	**Pn**	**20 44 04.2**	**+6.0**
BJRD	**Bojnurd**	**3.47**	**128**	*e*Pn	**Pn**	**20 44 04.2**	**+6.0**
ISHM	**Shahmirzad**	**4.13**	**188**	*e*Sn	**Sn**	**20 44 53.0**	**-2.3**
ISHM				*e*Pn	**Pn**	**20 44 07.4**	**+0.1**
ISHM				*e*		20 44 57.9	
comp=Z,4μm,0.3s							
ISFR	**Sfrayin**	**4.26**	**131**	*e*Pn	**Pn**	**20 44 10.3**	**+1.3**
ISFR				*e*		20 45 04.5	
comp=Z,2μm,0.2s							
ISFR	**Sfrayin**	**4.26**	**131**	*e*Pn	**Pn**	**20 44 10.3**	**+1.3**
IFIR	**Firoozkooh**	**4.37**	**193**	*e*Pn	**Pn**	**20 44 10.8**	**+0.2**
IFIR				*e*		20 44 12.1	
comp=Z,3μm,0.1s							
IFIR	**Firoozkooh**	**4.37**	**193**	*e*Pn	**Pn**	**20 44 10.8**	**+0.2**
IANJ	**Anjilo**	**4.44**	**181**	*e*Pn	**Pn**	**20 44 12.3**	**+0.8**
IANJ				*e*		20 44 12.9	
comp=Z,2μm,0.3s							
IANJ	**Anjilo**	**4.44**	**181**	*e*Pn	**Pn**	**20 44 12.3**	**+0.8**
DAMV	**Damavand**	**4.56**	**201**	*e*Pn	**Pn**	**20 44 12.1**	**-1.1**
DAMV	**Damavand**	**4.56**	**201**	*e*Pn	**Pn**	**20 44 12.1**	**-1.1**
CHTH	**Charan**	**4.59**	**210**	*e*Pn	**Pn**	**20 44 12.5**	**-1.0**
CHTH	**Charan**	**4.59**	**210**	*e*Pn	**Pn**	**20 44 12.5**	**-1.1**
IDMV	**Damavand**	**4.59**	**200**	*e*Pn	**Pn**	**20 44 13.8**	**+0.2**
IDMV				*e*		20 45 13.0	
comp=Z,660nm,0.1s							
IDMV	**Damavand**	**4.59**	**200**	*e*Pn	**Pn**	**20 44 13.8**	**+0.2**
ILAS	**Lasjerd**	**4.59**	**190**	*e*Pn	**Pn**	**20 44 14.1**	**+0.5**
ILAS				*e*		20 45 09.3	
comp=Z,1μm,0.2s							
ILAS	**Lasjerd**	**4.59**	**190**	*e*Pn	**Pn**	**20 44 14.1**	**+0.5**
THKV	**Tehran--Karaj**	**4.68**	**213**	*e*Pn	**Pn**	**20 44 13.9**	**-0.9**
THKV				AML	AML	20 45 09.3	
comp=E,91nm,0.3s							
IKRD	**Kardeh**	**4.75**	**130**	*e*Pn	**Pn**	**20 44 25.2**	**+9.5**
IKRD				*e*		20 45 31.1	
comp=Z,948nm,0.2s							
IKRD	**Kardeh**	**4.75**	**130**	*e*Pn	**Pn**	**20 44 25.2**	**+9.5**
GRMI	**Germi**	**4.84**	**259**	*e*Pn	**Pn**	**20 44 16.2**	**-0.8**
GRMI	**Germi**	**4.84**	**259**	*e*Pn	**Pn**	**20 44 16.2**	**-0.8**
IVRN	**Varamin**	**5.22**	**201**	*e*Pn	**Pn**	**20 44 22.1**	**-0.2**
IVRN				*e*		20 44 38.3	
comp=Z,483nm,0.2s							
IVRN	**Varamin**	**5.22**	**201**	*e*Pn	**Pn**	**20 44 22.1**	**-0.2**
IPAY	**Payeh**	**5.25**	**130**	*e*Pn	**Pn**	**20 44 24.0**	**+1.3**
IPAY				*e*		20 45 26.8	
comp=Z,1μm,0.2s							
IPAY	**Payeh**	**5.25**	**130**	*e*Pn	**Pn**	**20 44 24.0**	**+1.3**
ZNJK	**Zanjan**	**5.27**	**234**	*e*Pn	**Pn**	**20 44 21.1**	**-1.8**
ZNJK				AML	AML	20 45 25.8	
comp=N,70nm,0.1s							
ZNJK				AML	AML	20 45 29.2	
comp=E,51nm,0.7s							
ZNJK	**Zanjan**	**5.27**	**234**	*e*Pn	**Pn**	**20 44 21.1**	**-1.8**
IHRS	**Heris**	**5.62**	**256**	*e*Pn	**Pn**	**20 44 27.6**	**-0.1**
IHRS				*e*		20 45 49.5	
comp=Z,830nm,0.1s							
IHRS	**Heris**	**5.62**	**256**	*e*Pn	**Pn**	**20 44 27.6**	**-0.1**
ISFB	**Sefidab**	**5.72**	**195**	*e*Pn	**Pn**	**20 44 28.7**	**-0.4**
ISFB				*e*		20 44 29.6	
comp=Z,320nm,0.1s							
ISFB	**Sefidab**	**5.72**	**195**	*e*Pn	**Pn**	**20 44 28.7**	**-0.4**
IMYA	**Miami**	**6.00**	**125**	*e*Pn	**Pn**	**20 44 33.4**	**+0.4**
IMYA				*e*		20 46 54.1	
comp=Z,746nm,0.3s							
IMYA	**Miami**	**6.00**	**125**	*e*Pn	**Pn**	**20 44 33.4**	**+0.4**
IMRD	**Marand**	**6.53**	**262**	*e*Pn	**Pn**	**20 44 41.1**	**+0.9**
IMRD				*e*		20 46 20.2	
comp=Z,1μm,0.4s							
IMRD	**Marand**	**6.53**	**262**	*e*Pn	**Pn**	**20 44 41.1**	**+0.9**
ISHB	**Shabestar**	**6.70**	**259**	*e*Pn	**Pn**	**20 44 43.3**	**+0.7**
ISHB				*e*		20 44 56.6	
comp=Z,134nm,0.1s							
ISHB	**Shabestar**	**6.70**	**259**	*e*Pn	**Pn**	**20 44 43.3**	**+0.7**
GNI	**Garni**	**7.09**	**275**	Pn	**Pn**	**20 44 50.3**	**+2.4**
comp=Z,2.8nm,0.3s,baz=352,slow=1.7,SNR=18							
GNI				Sn	**Sn**	**20 46 08.4**	**+0.3**
comp=Z,1.1nm,0.3s,baz=335,slow=19,SNR=2.0							
GNI	**Garni**	**7.09**	**275**	*e*Pn	**Pn**	**20 44 50.0**	**+2.1**
comp=Z,9.7nm,0.6s							
GNI				Sn	**Sn**	**20 46 08.4**	**+0.3**
GNI	**Garni**	**7.09**	**275**	P	**Pn**	**20 44 50.3**	**+2.4**
GNI						20 46 08.4	
GNI				pmax	pmax		
comp=Z,3.0nm,0.3s							
GNI				smax			
comp=N,1.0nm,0.3s							
GNI	**Garni**	**7.09**	**275**	S	**Sn**	**20 46 08.4**	**+0.3**
comp=N,1.0nm,0.3s							
ICHK	**Chekchek**	**7.66**	**177**	*e*Pn	**Pn**	**20 44 55.8**	**+0.1**
ICHK				*e*		20 44 56.3	
comp=Z,134nm,0.2s							
ICHK	**Chekchek**	**7.66**	**177**	*e*Pn	**Pn**	**20 44 55.8**	**+0.1**
IBAF	**Bafgh**	**8.40**	**171**	*e*	**Pn**	**20 45 07.5**	**+1.5**
comp=Z,99nm,0.2s							
IBAF				*e*Pn	**Pn**	**20 45 06.4**	**+0.4**
KIV	**Kislovodsk**	**9.33**	**299**	*e*Pn	**Pn**	**20 45 15.4**	**-3.2**
comp=Z,7.9nm,0.4s							
KIV				*e*Sn	**Sn**	**20 46 58.6**	**-4.6**
**KI

ZRNK	Zerenda	16.61	33	⇑P		Pn	20 46 56.6 -0.2
	comp=Z,4.7nm,0.8s						
ARU	Arti	16.80	9	*e*Pn		Pn	20 46 58.5 -0.8
	comp=Z,16nm,0.4s						
ARU				*e*Sn		Sn	20 49 53.9 -12
ARU	Arti	16.80	9	*d i*P		Pn	20 47 03.9 +4.7
ARU				pmax	pmax		
	comp=Z,20nm,0.9s						
BRVK	Borovoye	17.23	35	*e*Pn		Pn	20 47 03.7 -1.0
	comp=Z,4.5nm,0.8s						
BRVK				*e*Sn		Sn	20 50 07.9 -8.0
BRVK	Borovoye	17.23	35	*de*P		Pn	20 47 04.8 +0.1
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK				MLR	MLR		
	comp=Z,100nm,16.0s						
BVA0	Borovoye Array	17.26	35	⇓P		Pn	20 47 04.6 -0.4
	comp=Z,0.4nm,0.6s,baz=225,slow=12,SNR=7.8						
BVA0				⇑S		Sn	20 50 12.6 -3.8
	comp=Z,0.5nm,0.6s,baz=232,slow=25,SNR=6.9						
BVAR	Borovoye Array	17.26	35	Pn		Pn	20 47 04.6 -0.3
	comp=Z,0.8nm,0.3s,baz=221,slow=12,SNR=23						
BVAR				Sn		Sn	20 50 10.7 -5.8
	comp=Z,0.6nm,0.3s,baz=232,slow=24,SNR=6.2						
BVAR				LR	LR		20 54 48.6
	comp=Z,88nm,18.6s,baz=43,slow=40						
BVAR	Borovoye Array	17.26	35	Pn		Pn	20 47 04.6 -0.3
BVAR				Sn		Sn	20 50 10.7 -5.8
BVAR	Borovoye Array	17.26	35	P		Pn	20 47 04.6 -0.4
BVAR							20 50 10.7
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,88nm,18.6s						
BVAR	Borovoye Array	17.26	35	P		Pn	20 47 04.6 -0.4
	comp=Z,0.4nm,0.6s,baz=225,SNR=7.8						
VOSK	Vostochnaya	17.32	37	⇓P		Pn	20 47 04.6 -1.2
	comp=Z,2.5nm,0.5s						
EIL	Elat	18.64	243	LR		LR	20 56 15.6
	comp=Z,49nm,18.7s,baz=18,slow=43						
OBN	Obninsk	19.14	328	*e*P		Pn	20 47 31.1 +3.1
OBN				*e*			20 50 56.5
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	Kurchatov	20.32	50	P		P	20 47 40.9 +0.9
	comp=Z,1.8nm,0.6s,baz=252,slow=12,SNR=11						
KURK				LR		LR	20 56 38.0
	comp=Z,56nm,20.6s,MS2.9,baz=285,slow=40						
KURK	Kurchatov	20.32	50	*e*P		P	20 47 40.7 +0.7
	comp=Z,5.5nm,1.0s						
KURK	Kurchatov	20.32	50	*d i*P		P	20 47 42.1 +2.0
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KURK				MLR	MLR		
	comp=Z,72nm,17.0s,MS3.1						
KURK	Kurchatov	20.32	50	*e*P		P	20 47 40.7 +0.6
	comp=Z,5.4nm,1.0s						
AKASG	Malin Array Be	20.38	310	P		P	20 47 40.2 -0.4
	comp=Z,4.6nm,0.5s,baz=106,slow=9.7,SNR=14						
AKASG	Malin Array Be	20.38	310	P		P	20 47 40.2 -0.4
AKASG	Malin Array Be	20.38	310	P		P	20 47 40.3 -0.4
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AKASG	Malin Array Be	20.38	310	P		P	20 47 40.3 -0.4
	comp=Z,5.0nm,0.5s						
AKBB	Malin Array Si	20.38	310	*e*P		P	20 47 40.0 -0.6
AKBB	Malin Array Si	20.38	310	*e*P		P	20 47 40.1 -0.6
AKBB	Malin Array Si	20.38	310	*e*P		P	20 47 40.1 -0.6
KIEV	Kiev	20.39	310	*e*P		P	20 47 39.8 -1.0
	comp=Z,11nm,0.5s						
KIEV	Kiev	20.39	310	*c i*P		P	20 47 41.1 +0.3
KIEV	Kiev	20.39	310	*e*P		P	20 47 39.8 -1.0
	comp=Z,11nm,0.5s						
MLR	Muntele Rosu	21.28	294	P		P	20 47 51.8 +1.4
	comp=Z,0.6nm,0.5s,mb3.2,baz=227,slow=9.3,SNR=6.7						
MLR	Muntele Rosu	21.28	294	P		P	20 47 51.8 +1.4
MLR	Muntele Rosu	21.28	294	P		P	20 47 51.8 +1.3
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	Muntele Rosu	21.28	294	⇑*i*P		P	20 47 55.2 +4.7
MLR	Muntele Rosu	21.28	294	P		P	20 47 51.8 +1.3
	comp=Z,1.0nm,0.5s,mb3.4						
BURAR	Bucovina Array	22.06	300	⇑*i*P		P	20 47 59.9 +1.1
BUR08	Bucovina Ar. S	22.08	300	*e*P		P	20 47 58.6 -0.4
BUR08	Bucovina Ar. S	22.08	300	*e*P		P	20 47 58.6 -0.4
KLMR	Klimovskoe	22.80	342	*e*P		P	20 48 04.3 -2.2
KLMR				pmax	pmax		
	comp=Z,50nm,1.1s						
ZAA0	Zalesovo Array	25.07	46	P		P	20 48 28.4 +0.2
ZALV	Zalesovo Beam	25.07	46	P		P	20 48 28.9 +0.7
	comp=Z,2.0nm,0.5s,mb3.9,baz=257,slow=11,SNR=6.5						
ZALV				LR		LR	20 59 42.7
	comp=Z,51nm,19.2s,MS3.0,baz=290,slow=40						
ZALV	Zalesovo Beam	25.07	46	P		P	20 48 28.9 +0.7
ZALV	Zalesovo Beam	25.07	46	P		P	20 48 28.9 +0.7
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
ZALV				MLR	MLR		
	comp=Z,51nm,19.2s,MS3.0						
ZALV	Zalesovo Beam	25.07	46	P		P	20 48 28.9 +0.7
	comp=Z,51nm,19.2s						
JOF	Joensuu	26.74	337	*e*P		P	20 48 38.6 -4.7
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
JOF	Joensuu	26.74	337	*ep*		P	20 48 38.6 -4.7
	comp=Z,2.0nm,0.6s,mb3.8						
FINES	FINESS Array B	27.49	331	P		P	20 48 50.3 +0.2
	comp=Z,0.8nm,0.5s,mb3.5,baz=134,slow=8.2,SNR=10						
FINES	FINESS Array B	27.49	331	P		P	20 48 50.3 +0.2
FINES	FINESS Array B	27.49	331	P		P	20 48 50.3 +0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	27.49	331	P		P	20 48 50.3 +0.2
	comp=Z,1.0nm,0.5s,mb3.6						
KAF	Kangasniemi	27.83	332	*e*P		P	20 48 47.2 -5.9
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
KAF	Kangasniemi	27.83	332	*ep*		P	20 48 47.2 -5.9
	comp=Z,1.6nm,0.7s,mb3.8						
GERES	GERESS Array B	29.84	301	P		P	20 49 11.1 0.0
	comp=Z,0.5nm,0.6s,mb3.4,baz=90,slow=9.3,SNR=5.5						
GERES	GERESS Array B	29.84	301	P		P	20 49 11.1 0.0
GERES	GERESS Array B	29.84	301	P		P	20 49 11.1 0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	29.84	301	P		P	20 49 11.1 0.0
	comp=Z,1.0nm,0.6s,mb3.7						
ARCES	ARCESS Array B	33.28	342	P		P	20 49 41.7 +0.6
	comp=Z,1.3nm,0.8s,mb3.9,baz=138,slow=9.2,SNR=6.0						
ARCES	ARCESS Array B	33.28	342	P		P	20 49 41.7 +0.6
ARCES	ARCESS Array B	33.28	342	P		P	20 49 41.7 +0.6
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	33.28	342	P		P	20 49 41.7 +0.6
	comp=Z,1.0nm,0.8s,mb3.8						
SONM	Songino Array	37.97	60	P		P	20 50 22.9 +1.2
	comp=Z,0.5nm,0.8s,mb3.3,baz=251,slow=9.0,SNR=3.3						
SONM	Songino Array	37.97	60	P		P	20 50 22.9 +1.2
SONM	Songino Array	37.97	60	P		P	20 50 22.9 +1.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	Songino Array	37.97	60	P		P	20 50 22.9 +1.2
	comp=Z,1.0nm,0.8s,mb3.6						
ULN	Ulaanbaatar	38.41	60	*e*P		P	20 50 26.6 +1.3
	comp=Z,1.2nm,0.7s,mb3.7						
ULN	Ulaanbaatar	38.41	60	*e*P		P	20 50 26.6 +1.3
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
ULN	Ulaanbaatar	38.41	60	*e*P		P	20 50 26.6 +1.3
	comp=Z,1.2nm,0.7s,mb3.7						
ESK	Eskdalemuir	40.30	312	*i*P		P	20 50 45.8 +4.8
SPITS	Spitsbergen Ar	41.32	349	P		P	20 50 51.0 +1.8
	comp=Z,3.8nm,0.7s,mb4.1,baz=168,slow=10.0,SNR=2.9						
SPITS	Spitsbergen Ar	41.32	349	P		P	20 50 51.0 +1.8
SPITS	Spitsbergen Ar	41.32	349	P		P	20 50 51.0 +1.8
SPITS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SPITS	Spitsbergen Ar	41.32	349	P		P	20 50 51.0 +1.8
	comp=Z,4.0nm,0.7s,mb4.2						
ESDC	Sonseca Array	43.82	289	P		P	20 51 09.1 -0.9
	comp=Z,0.8nm,0.6s,mb3.6,baz=57,slow=9.2,SNR=4.1						
ESDC	Sonseca Array	43.82	289	P		P	20 51 09.1 -0.9
ESDC	Sonseca Array	43.82	289	P		P	20 51 09.1 -0.9
TORD	Torodi Ar. Bea	52.93	255	P		P	20 52 18.9 -1.5
	comp=Z,0.3nm,0.6s,mb3.4,baz=36,slow=6.3,SNR=4.0						
TORD	Torodi Ar. Bea	52.93	255	P		P	20 52 18.9 -1.5
TORD	Torodi Ar. Bea	52.93	255	P		P	20 52 18.9 -1.6
ILAR	Eielson Array	74.37	9	P		P	20 54 42.2 +0.9
	comp=Z,0.4nm,1.1s,mb3.3,baz=325,slow=4.5,SNR=5.0						
ILAR	Eielson Array	74.37	9	P		P	20 54 42.2 +0.9
ILAR	Eielson Array	74.37	9	P		P	20 54 42.3 +1.0
ILAR	Eielson Array	74.37	9	P		P	20 54 42.2 +0.9
YKA	Yellowknife Ar	77.53	355	P		P	20 54 59.2 -0.1
	comp=Z,0.2nm,0.7s,mb3.2,baz=20,slow=5.6,SNR=3.0						
YKA	Yellowknife Ar	77.53	355	P		P	20 54 59.2 -0.1
YKA	Yellowknife Ar	77.53	355	P		P	20 54 59.2 -0.1

*ISCJB **13** 20:48:05.6±0.3,23°.70N±0°.02×121°.73E±0°.02,h46km±5km,*
Error ellipse: s-maj=3.2km s-min=2.2km az=41.1
*TAP **13** 20:48:05.3,23°.73N×121°.66E,h48km,ML3.8,C*
*JMA **13** 20:48:06.0±0.2,23°.87N×121°.73E,h83km,M3.0*

ISC 13 20:48:06.1±0.3,23°.70N±0°.02×121°.72E±0°.02,h42km±5km,
n63,σ0s81/119,11C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.17	272	*e*P	Pn	20 48 13.7	+0.3
	baz=259						
TEGC				*e*S	Sn	20 48 19.9	+1.5
	baz=259						
ESF	Shoufeng Towns	0.26	310	*e*P	Pn	20 48 13.4	-0.7
	baz=304						
ESF				*e*S	Sn	20 48 20.2	+0.5
	baz=304						
ESL	Shilin	0.29	293	⇑*i*P	Pn	20 48 13.5	-0.9
	baz=293						
ESL				*i* S	Sn	20 48 19.4	-0.8
	baz=293						
HWA	Hwalien	0.29	339	P	Pn	20 48 14.1	-0.4
	baz=359						
HWA				*e*S	Sn	20 48 22.0	+1.8
	baz=359						
TWD	Chiawan	0.39	343	⇓*i*P	Pn	20 48 15.0	-0.6
	baz=359						
TWD				*e*S	Sn	20 48 22.3	+0.1
	baz=359						
EHY	Hungye	0.42	242	P	Pn	20 48 14.9	-1.0
	baz=243						
EHY				S	Sn	20 48 21.6	-1.1
	baz=243						
TWF1	Yuli	0.52	228	*i* P	Pn	20 48 16.3	-1.0
	baz=230						
TWF1				S	Sn	20 48 24.3	-0.8
	baz=230						
WHF	Hehuan Shan	0.61	317	⇑*i*P	Pn	20 48 17.4	-1.0
	baz=316						
WHF				S	Sn	20 48 27.1	0.0
	baz=316						
CHKT	Chengkung	0.69	209	⇑*i*P	Pn	20 48 19.0	-0.4
	baz=193						
CHKT				S	Sn	20 48 29.0	+0.1
	baz=193						
ENA	Nanau	0.72	1	⇓*i*P	Pn	20 48 19.0	-0.9
	baz=16						
ENA				S	Sn	20 48 30.0	+0.2
	baz=16						
TWT	Tachien	0.74	318	⇑*i*P	Pn	20 48 19.7	-0.5
	baz=319						
TWT				*e*S	Sn	20 48 29.4	-0.9
	baz=319						
SMLT	Sun Moon Lake	0.77	283	⇑*i*P	Pn	20 48 20.1	-0.5
	baz=283						
SMLT				S	Sn	20 48 30.4	-0.7
	baz=283						
NNS	Nan Shan	0.80	337	⇑*i*P	Pn	20 48 19.9	-1.1
	baz=342						
NNS				*e*S	Sn	20 48 30.7	-1.0
	baz=342						
TYC	Yuchr	0.82	284	⇑*i*P	Pn	20 48 20.4	-0.7
	baz=290						
TYC				S	Sn	20 48 31.5	-0.6
	baz=290						
ELDTW	Lidau	0.82	232	⇓*i*P	Pn	20 48 20.2	-1.1
	baz=224						
ELDTW				*e*S	Sn	20 48 32.1	-0.2
	baz=224						
TWC	Suao	0.91	7	P	Pn	20 48 22.2	-0.3
	baz=21						
TWC				S	Sn	20 48 34.3	-0.1
	baz=21						
ENTT	Nioudou	0.94	351	⇑*i*P	Pn	20 48 21.9	-1.0
	baz=351						
ENTT				*e*S	Sn	20 48 34.4	-0.8
	baz=351						
CHN5	Tsauling	0.96	264	P	Pn	20 48 23.2	0.0
	baz=262						
CHN5				*e*S	Sn	20 48 34.9	-0.7
	baz=262						
WNT	Mingjian	0.97	281	P	Pn	20 48 23.3	+0.1
	baz=280						
WNT				*e*S	Sn	20 48 36.0	+0.3
	baz=280						
TWE	Neicheng	1.01	357	⇑*i*P	Pn	20 48 23.0	-0.9
	baz=355						
TWE				*e*S	Sn	20 48 37.0	+0.1
	baz=355						
NSK	Sanguang	1.02	341	⇑*i*P	Pn	20 48 23.2	-0.8
	baz=346						
NSK				S	Sn	20 48 36.3	-0.9
	baz=346						
STYT	Tauyuan	1.04	239	P	Pn	20 48 24.0	-0.2
	baz=231						
STYT				*e*S	Sn	20 48 38.1	+0.6
	baz=231						
TCU	Taichung	1.05	295	P	Pn	20 48 24.6	+0.2
	baz=296						
TCU				*e*S	Sn	20 48 38.7	+0.8
	baz=296						
ILA	Ilan	1.06	1	*e*P	Pn	20 48 24.1	-0.4
	baz=357						
ILA				*e*S	Sn	20 48 39.1	+1.1
	baz=357						
TWG	Pinlang	1.06	214	P	Pn	20 48 22.8	-1.8
	baz=209						
TWG				*e*S	Sn	20 48 38.0	-0.2
	baz=209						
WGK	Gukeng	1.06	269	P	Pn	20 48 24.4	-0.1
	baz=268						
WGK				*e*S	Sn	20 48 38.7	+0.5
	baz=268						
TWQ1	Liyutan	1.08	307	⇑*i*P	Pn	20 48 24.6	-0.2
	baz=309						
TWQ1				*e*S	Sn	20 48 38.5	0.0
	baz=309						
CHN4	Tsaushan	1.09	251	*e*P	Pn	20 48 26.0	+1.0
	baz=249						
CHN4				*e*S	Sn	20 48 39.5	+0.6
	baz=249						
NSY	Sanyi	1.13	309	P	Pn	20 48 25.3	-0.1
	baz=312						
NSY				*e*S	Sn	20 48 40.0	+0.3
	baz=312						
NSTT	Nanjuang	1.13	325	*e*P	Pn	20 48 25.8	+0.3
	baz=329						
NSTT				*e*S	Sn	20 48 40.0	+0.1
	baz=329						
CHN2	Minshiung	1.16	262	*e*P	Pn	20 48 25.4	-0.5
	baz=260						
CHN2				S	Sn	20 48 41.5	+1.1
	baz=260						
CHY	Chiayi	1.21	260	*e*P	Pn	20 48 26.6	0.0
	baz=258						
CHY				*e*S	Sn	20 48 42.3	+0.6
	baz=258						
CHN1	Nanshi	1.21	245	P	Pn	20 48 26.6	0.0
	baz=242						
CHN1				*e*S	Sn	20 48 43.0	+1.2
	baz=242						
SGST	Jiashian	1.22	240	P	Pn	20 48 27.3	+0.7
	baz=248						
SGST				*e*S	Sn	20 48 43.5	+1.6
	baz=248						
TWA	Mucha	1.28	354	*e*P	Pn	20 48 27.2	-0.3
	baz=351						
TWA				*e*S	Sn	20 48 43.3	-0.1
	baz=351						
HSN	Hsinchu	1.29	328	P	Pn	20 48 27.7	0.0
	baz=335						
HSN				*e*S	Sn	20 48 44.7	+1.0
	baz=335						
ECL	Taimali	1.31	213	P	Pn	20 48 26.2	-1.8
	baz=202						
ECL				*e*S	Sn	20 48 43.6	-0.6
	baz=202						
TWB1	Santiao Chiao	1.32	11	P	Pn	20 48 28.1	-0.1
	baz=15						
WTCT	Ta-ch'eng	1.33	277	P	Pn	20 48 28.3	+0.1
	baz=277						
WTCT				S	Sn	20 48 45.5	+0.8
	baz=277						
TAP1	Taipei	1.34	352	*e*P	Pn	20 48 29.0	+0.6
	baz=356						
NCU	National Centr	1.35	339	*e*P	Pn	20 48 28.6	+0.1
	baz=332						
NCU				*e*S	Sn	20 48 46.5	+1.3
	baz=332						
NWF	Wu-fen Shan	1.36	2	P	Pn	20 48 28.8	+0.1
	baz=355						
NWF				*e*S	Sn	20 48 46.4	+0.9
	baz=355						
WSF	Szhu	1.38	268	*e*P	Pn	20 48 28.3	-0.6
	baz=256						
WSF				*e*S	Sn	20 48 46.3	+0.5
	baz=256						
SSD	Sandimen	1.38	227	*e*P	Pn	20 48 28.9	-0.1
	baz=211						
SSD				*e*S	Sn	20 48 47.5	+1.5
	baz=211						
CHN3	Shinhua	1.39	244	*e*S	Sn	20 48 49.1	+2.8
	baz=240						
YOJ	Yonaguni jima	1.40	57	P	Pn	20 48 29.3	+0.1
YOJ				*e*S	Sn	20 48 46.7	+0.3
TWS1	Kuangyinshan	1.42	349	*e*P	Pn	20 48 29.1	-0.4
	baz=355						
TWS1				*e*S	Sn	20 48 47.9	+1.0
	baz=355						
CHN8	Yiju	1.43	256	*e*P	Pn	20 48 29.1	-0.5
	baz=254						
CHN8				*e*S	Sn	20 48 48.1	+0.9
	baz=254						
TWM1	Shoushan	1.48	234	P	Pn	20 48 31.8	+1.5
	baz=241						
TWM1				*e*S	Sn	20 48 52.5	+4.0
	baz=241						
SGLT	Jiouru	1.49	230	*e*P	Pn	20 48 32.8	+2.3
	baz=214						
SGLT				*e*S	Sn	20 48 53.6	+4.9
	baz=214						
SCLT	Jiali	1.50	250	*e*P	Pn	20 48 30.1	-0.4
	baz=247						
SCLT				*e*S	Sn	20 48 49.4	+0.5
	baz=247						
EAST	Anshuo	1.54	212	*e*P	Pn	20 48 31.1	0.0
	baz=203						
TAW	Tawu	1.54	210	*e*P	Pn	20 48 31.6	+0.5
	baz=205						
TAW				*e*S	Sn	20 48 49.5	-0.4
	baz=205						
LAY	Lan-yu	1.67	185	*e*P	Pn	20 48 32.1	-0.7
	baz=175						
SCZT	Fangliau	1.67	218	*e*P	Pn	20 48 33.5	+0.7
	baz=214						
HATJ	Hateruma jima	1.94	79	P	Pn	20 48 37.1	+0.5
HATJ				*e*S	Sn	20 49 00.4	+0.7
IRIF	Iriomote-Funau	1.94	71	P	Pn	20 48 37.1	+0.5
IRIF				*e*S	Sn	20 49 00.7	+0.9
TWK1	Hengchun	1.95	206	*e*P	Pn	20 48 35.2	-1.5
	baz=195						
PNG	Penghu	1.99	267	*e*P	Pn	20 48 37.1	-0.2
	baz=266						
PNG				*e*S	Sn	20 48 59.3	-1.7
	baz=266						
JKRS	Kuro-shima	2.16	75	P	Pn	20 48 40.4	+0.8
JKRS				*e*S	Sn	20 49 06.5	+1.3
JIJ	Ishigaki jima	2.31	73	P	Pn	20 48 41.7	0.0
JIJ				*e*S	Sn	20 49 08.4	-0.5
JTJ	Tarama	2.88	70	P	Pn	20 48 49.7	+0.2
JTJ				*e*S	Sn	20 49 22.4	-0.5
QZH	Quanzhou	3.11	294	Pn	Pn	20 48 49.0	-3.7
QZH				Sn	Sn	20 49 22.3	-6.3
QZH				smax			
	comp=N,190nm,0.2s						
QZH				smax			
	comp=E,120nm,0.3s						

*ISCJB **13** 20:53:10.5±0.8,43°.75S±0°.2×39°.1E±0°.3,h10km,mb3.9/7,*
MS3.8/9,Error ellipse: s-maj=34.2km s-min=13.1km
az=138.3
*IDC **13** 20:53:10.8±0.8,43°.73S×39°.16E,h0km,mb3.8/6,*
mb1 4.1/8,mb1mx3.8/20,mbtmp4.0/8,ML4.6/2,MS3.7/11,
Ms1 3.7/11,ms1mx3.5/23,Error ellipse: s-maj=47.2km
s-min=18.5km az=44.0
*NEIC **13** 20:53:12.2±0.6,43°.73S×39°.08E,h10km,mb4.3/3,Error*
ellipse: s-maj=28.1km s-min=11.2km az=49.0

ISC 13 20:53:12.4±0.8,43.7S±0°.2×39°.1E±0°.3,h10km,n25,
σ0s67/19,mb3.9/7,MS3.8/9,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	18.28	302	P	Pn	20 57 26.2	+0.1
	1.9nm,0.3s,baz=128,slow=16,SNR=17						
SUR				S	Sn	21 00 37.6	-13
	0.4nm,0.3s,baz=258,slow=20,SNR=2.7						
SUR				LR	LR	21 03 00.4	
	comp=Z,182nm,20.9s,baz=260,slow=32						
SUR	Sutherland	18.28	302	*e*Pn	Pn	20 57 25.7	-0.4
SUR				S	Sn	21 00 37.6	-13
BOSA	Boshof	18.73	319	P	Pn	20 57 31.7	+0.2
	1.3nm,0.3s,baz=151,slow=12,SNR=38						
BOSA				LR	LR	21 03 27.3	
	comp=Z,208nm,20.6s,baz=163,slow=33						
BOSA	Boshof	18.73	319	*e*P	Pn	20 57 31.4	-0.1
	12nm,0.7s						
BOSA				*e*		20 57 40.2	
LBTB	Lobatse	21.68	325	P	P	20 58 03.4	+0.1
	4.9nm,0.8s,mb4.0,baz=158,slow=11,SNR=10						
LBTB				LR	LR	21 04 54.7	
	comp=Z,238nm,21.7s,MS3.6,baz=165,slow=32						
LBTB	Lobatse	21.68	325	*e*P	P	20 58 02.8	-0.4
	42nm,1.5s,mb4.7						
LBTB				*e*		20 58 13.3	
MAW	Mawson	27.08	160	LR	LR	21 06 55.6	
	comp=Z,172nm,18.4s,MS3.6,baz=194,slow=30						
LSZ	Lusaka	29.84	338	*e*P	P	20 59 19.5	-0.2
	3.8nm,0.8s,mb4.2						
QSPA	South Pole Qui	46.50	180	P	P	21 01 39.0	-0.1
	1.4nm,0.9s,mb3.9,baz=200,slow=5.1,SNR=4.4						
QSPA	South Pole Qui	46.50	180	P	P	21 01 39.0	-0.1
DBIC	Dimbokro	63.96	310	P	P	21 03 46.0	+0.1
	2.7nm,0.8s,mb4.3,baz=139,slow=6.5,SNR=3.6						
DBIC				LR	LR	21 31 06.7	
	comp=Z,71nm,18.3s,MS3.9,baz=322,slow=36						
DBIC	Dimbokro	63.96	310	P	P	21 03 46.0	+0.1
TORD	Torodi Ar. Bea	66.09	320	P	P	21 03 60.0	+0.4
	1.6nm,0.8s,mb4.1,baz=161,slow=7.3,SNR=12						
TORD				LR	LR	21 29 39.9	
	comp=Z,79nm,20.2s,MS3.9,baz=170,slow=33						
TORD	Torodi Ar. Bea	66.09	320	P	P	21 03 60.0	+0.4
PLCA	Paso Flores	74.80	228	LR	LR	21 35 24.9	
	comp=Z,46nm,19.1s,MS3.8,baz=210,slow=34						
CPUP	Villa Florida	76.66	246	LR	LR	21 34 56.9	
	comp=Z,36nm,19.7s,MS3.7,baz=319,slow=33						
ASAR	Alice Springs	77.33	111	P	P	21 05 08.7	+1.4
	0.1nm,0.6s,mb2.9,baz=220,slow=6.5,SNR=3.4						
ASAR	Alice Springs	77.33	111	P	P	21 05 08.7	+1.4
WRA	Warramunga Arr	80.14	108	P	P	21 05 21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.46 269**		P	P	21 19 26.3	+1.0
	2.7nm,0.4s,baz=90,slow=10,SNR=8.9						
STKA	**Stephens Creek**	**39.93 250**		P	P	21 19 45.2	-0.8
	1.5nm,0.8s,baz=117,slow=9.0,SNR=3.1						
ASAR	**Alice Springs**	**47.76 260**		P	P	21 20 48.6	-0.4
	2.5nm,0.9s,baz=93,slow=7.6,SNR=20						
WRA	**Warramunga Arr**	**48.30 265**		P	P	21 20 53.3	+0.1
	0.8nm,0.4s,baz=104,slow=7.8,SNR=9.8						

*ISCJB **13** 21:21:00.4±2.3, 18°.2S±0°.4×179°.4W±0°.4, h545km±13km, mb3.8/9, Error ellipse: s-maj=79.7km s-min=21.4km az=140.1*

*NEIC **13** 21:21:00.8±1.9, 18°.25S×179°.30W, h539km±11km, mb4.3/2, Error ellipse: s-maj=61.7km s-min=16.3km az=142.0*

*IDC **13** 21:21:09.1±7.7, 18°.56S×179°.38W, h655km±91km, mb3.1/8, mb1 3.4/8, mb1mx3.2/16, mbtmp3.1/8, Error ellipse: s-maj=67.8km s-min=40.8km az=128.0*

ISC 13 21:21:00.6±2.3, 18°.3S±0°.4×179°.3W±0°.4, h541km±13km, n25, σ0^{0}59/21, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.59 281**		*e*Pn		**21 22 12.4**	**-0.1**
CTA	**Charters Tower**	**32.57 261**		P	P	**21 26 49.5**	**+1.8**
	7.1nm,0.6s,mb4.4,baz=98,slow=9.9,SNR=10.0						
CTA	**Charters Tower**	**32.57 261**		P	P	**21 26 49.5**	**+1.8**
CTAO	**Charters Tower**	**32.57 261**		*e*P	P	**21 26 49.3**	**+1.5**
	6.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**37.73 241**		P	P	**21 27 29.8**	**-0.7**
	1.4nm,0.4s,mb3.8,baz=83,slow=9.5,SNR=6.8						
STKA	**Stephens Creek**	**37.73 241**		P	P	**21 27 29.8**	**-0.7**
WB2	**Warramunga Arr**	**43.74 260**		*e*P	P	**21 28 18.4**	**-0.2**
WRAB	**Tennant Creek**	**43.74 260**		*e*P	P	**21 28 18.5**	**-0.1**
	4.0nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**43.75 260**		P	P	**21 28 18.9**	**+0.3**
	3.0nm,0.4s,mb4.1,baz=98,slow=6.0,SNR=30						
WRA	**Warramunga Arr**	**43.75 260**		P	P	**21 28 18.9**	**+0.3**
AS31	**Alice Springs**	**43.90 255**		*e*P	P	**21 28 19.4**	**-0.3**
ASAR	**Alice Springs**	**43.90 255**		P	P	**21 28 19.6**	**-0.1**
	9.0nm,0.7s,mb4.4,baz=90,slow=8.3,SNR=154						
ASAR	**Alice Springs**	**43.90 255**		P	P	**21 28 19.6**	**-0.1**
MJAR	**Matsushiro Arr**	**67.70 324**		P	P	**21 31 03.4**	**-0.8**
	0.7nm,0.6s,mb3.4,baz=154,slow=6.0,SNR=4.1						
MJAR	**Matsushiro Arr**	**67.70 324**		P	P	**21 31 03.4**	**-0.8**
ILAR	**Eielson Array**	**86.42 13**		P	P	**21 32 45.6**	**+0.3**
	0.2nm,0.5s,mb3.0,baz=227,slow=5.8,SNR=6.9						
ILAR	**Eielson Array**	**86.42 13**		P	P	**21 32 45.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**88.22 290**		P	P	**21 32 54.7**	**-0.2**
	0.8nm,0.9s,mb3.5,baz=92,slow=2.5,SNR=6.8						
CMAR	**Chiang Mai Arr**	**88.22 290**		P	P	**21 32 54.7**	**-0.2**
YKA	**Yellowknife Ar**	**95.00 25**		P	P	**21 33 25.2**	**+0.3**
	0.1nm,0.6s,mb3.1,baz=243,slow=4.0,SNR=2.8						
YKA	**Yellowknife Ar**	**95.00 25**		P	P	**21 33 25.2**	**+0.3**
BRTR	**Keskin Array B**	**144.44 314**		PKP	PKPdf	21 39 31.2	-4.4
	1.1nm,0.9s,baz=163,slow=4.7,SNR=4.6						
BRTR	**Keskin Array B**	**144.44 314**		PKP	PKPdf	21 39 31.2	-4.4
GERES	**GERESS Array B**	**147.73 344**		PKPbc	PKPbc	21 39 46.4	+1.9
	0.2nm,0.3s,baz=15,slow=4.1,SNR=4.1						
GERES	**GERESS Array B**	**147.73 344**		PKPbc	PKPbc	21 39 46.4	+1.9

IDC 13 21:48:02.9±6.8, 18°.84S×177°.68W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=297.8km s-min=37.1km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.15 260**		P	P	21 56 21.8	+0.2
	0.5nm,0.3s,baz=97,slow=7.7,SNR=3.9						
ASAR	**Alice Springs**	**45.21 255**		P	P	21 56 21.8	-0.3
	0.5nm,0.6s,baz=88,slow=8.2,SNR=12						
ILAR	**Eielson Array**	**86.64 13**		P	P	22 00 47.9	+0.1
	0.7nm,1.0s,baz=216,slow=5.5,SNR=6.6						

*IDC **13** 22:14:45.5±8.6, 33°.01S×178°.77W, h47km±82km, mb3.8/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=67.4km s-min=53.9km az=6.0*

ISC 13 22:14:42.1±2.1, 32°.99S±0°.09×178°.4W±0°.3, h35km, n11, σ0^{0}78/14, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.29 209**		PN	**Pn**	**22 15 57.8**	**-0.7**
MXZ				SN	**Sn**	**22 17 02.4**	**+4.2**
CNGZ	**Carnagh Statio**	**6.12 206**		PN	**Pn**	**22 16 10.3**	**+0.2**
CNGZ				SN	**Sn**	**22 17 22.8**	**+3.9**
MWZ	**Matawai**	**6.26 211**		PN	**Pn**	**22 16 12.6**	**+0.6**
MWZ				*e*SN	**Sn**	**22 17 22.0**	**-0.3**
URZ	**Urewera**	**6.39 213**		P	**Pn**	**22 16 14.9**	**+1.2**
	4.3nm,0.3s,baz=275,slow=6.0,SNR=13						
URZ				S	**Sn**	**22 17 25.1**	**-0.3**
	3.7nm,0.3s,baz=63,slow=23,SNR=6.0						
URZ	**Urewera**	**6.39 213**		PN	**Pn**	**22 16 14.1**	**+0.4**
MHGZ	**Mahia Peninsul**	**6.83 205**		PN	**Pn**	**22 16 18.6**	**-1.1**
KAHZ	**Kahuranaki**	**7.77 208**		PN	**Pn**	**22 16 33.3**	**+0.6**
CTA	**Charters Tower**	**33.94 283**		P	P	**22 21 23.3**	**+1.1**
	2.5nm,0.6s,mb4.3,baz=115,slow=8.9,SNR=2.6						
ASAR	**Alice Springs**	**42.67 270**		P	P	**22 22 34.9**	**-0.7**
	1.0nm,0.7s,mb3.6,baz=109,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	**43.89 275**		P	P	**22 22 44.8**	**-0.6**
	1.4nm,0.5s,mb4.0,baz=114,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**147.43 338**		PKPbc	PKPbc	22 34 22.4	+0.9
	0.8nm,0.5s,baz=60,slow=3.3,SNR=11						

CASC 13 22:15:49.9±2.4, 11°.22N×86°.14W, h7km±11km, MD3.8, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	**Las Lilas**	**0.78 119**		*i* P	Pg	22 16 04.3	-0.5
GBS3	**Finca Las Im¨¡**	**0.81 123**		*i* P	Pg	22 16 04.6	-0.8
TICN	**Ticuantepe**	**0.81 354**		*e*P	Pg	22 16 06.5	+1.0
NY14	**Universidad de**	**0.83 134**		⇓*i*P	Pg	22 16 05.3	-0.5
NY14				*i* S	Sg	22 16 19.1	+2.6
LAPC	**Finca la Perla**	**0.83 123**		*i* P	Pg	22 16 04.8	-1.1
TISN	**Laguna Tiscapa**	**0.92 352**		*e*P	Pg	22 16 08.0	+0.3
MGAN	**Managua**	**0.92 354**		*e*P	Pg	22 16 07.8	+0.2
XAVN	**Gruta Xavier**	**0.94 349**		*e*P	Pg	22 16 08.3	+0.3
CSAN		**0.99 344**		*e*P	Pg	22 16 06.5	-2.5
LIM1	**Limonal**	**1.02 121**		*i* P	Pg	22 16 08.0	-1.5
LIM1				*i* S	Sg	22 16 22.3	-0.4
APYN	**Apoyeque**	**1.02 349**		*e*P	Pg	22 16 09.3	-0.3
APYN				*e*S	Sg	22 16 23.9	+1.0
COPN	**Copaltepe**	**1.05 335**		*e*P	Pg	22 16 09.1	-1.0
HUEN		**1.11 358**		*e*P	Pg	22 16 10.4	-0.8
CUI	**Cuipilapa**	**1.11 120**		*i* P	Pg	22 16 09.4	-1.8
CUI				*i* S	Sg	22 16 25.3	-0.5
MIRN	**Miramar**	**1.33 335**		*e*P	Pn	22 16 13.4	-1.5
CNGN	**Cerro Negro**	**1.38 337**		*e*P	Pn	22 16 13.8	-1.8
LEON	**Leon**	**1.40 328**		*e*P	Pn	22 16 14.1	-1.7
JTS	**JuntasAbangare**	**1.49 128**		*e*P	Pn	22 16 15.9	-1.1
TEL3	**Telica 3**	**1.51 333**		*e*P	Pn	22 16 15.0	-2.3
JCR	**Jicaral**	**1.70 143**		*e*P	Pn	22 16 19.6	-0.4
JCR				*e*S	Sn	22 16 43.3	+1.3
CRIN	**San Cristobal**	**1.72 329**		*e*P	Pn	22 16 18.7	-1.5
CGA2	**Cerro Gallo 2**	**2.04 126**		*e*P	Pn	22 16 25.9	+1.3
LAJ	**Bijagual**	**2.40 124**		*e*P	Pn	22 16 26.5	-3.1
BUS	**Buena Vista**	**2.87 125**		*e*S	Sn	22 17 12.4	+1.5
ACR	**Cerro Adams**	**3.89 131**		*e*P	Pn	22 16 50.0	0.0

FUNV 13 22:18:29.3, 10°.92N×68°.68W, h9km, MW3.5, 2C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**0.22 320**		*e*P	Pg	22 18 34.7	+0.8
JACV				*e*S	Sg	22 18 37.4	+0.5
TURV	**Turiamo**	**0.95 119**		*e*P	Pg	22 18 46.3	-1.3
TURV				*e*S	Sg	22 19 00.1	0.0
TEPV	**Terepaima**	**1.07 208**		⇓*e*P	Pg	22 18 48.0	-1.9
TEPV				*e*S	Sg	22 19 03.0	-0.9
MAPV	**Macapo**	**1.10 168**		⇓*e*P	Pg	22 18 49.2	-1.3
MAPV				*e*S	Sg	22 19 04.2	-0.8
SIQV	**Siquisique**	**1.14 256**		*e*P	Pb	22 18 49.7	-1.4
SIQV				*e*S	Sg	22 19 06.2	+0.3
MONV	**Montecano**	**1.63 309**		⇑*e*P	Pn	22 18 56.9	-1.2
MONV				*e*S	Sn	22 19 18.2	-1.0
SANV	**Sanarito**	**1.64 211**		⇑*e*P	Pn	22 18 58.3	+0.1
SANV				*e*S	Sn	22 19 19.6	+0.1
FUNV	**FUNVISIS**	**1.90 103**		*e*P	Pn	22 19 01.7	-0.1
FUNV				*e*S	Sn	22 19 24.3	-1.5
DABV	**Dabajuro**	**1.92 270**		*e*P	Pn	22 19 00.8	-1.3
QARV	**Quebrada Arrib**	**1.94 249**		*e*P	Pn	22 19 01.3	-1.2
BAUV	**El Baul**	**2.06 162**		*e*P	Pn	22 19 03.3	-0.8
BIRV	**Birongo**	**2.41 100**		*e*P	Pn	22 19 07.8	-1.2
ORCV	**Isla La Orchil**	**2.60 70**		*e*P	Pn	22 19 09.9	-1.6
IMOV	**Isla Los Monje**	**2.60 304**		*e*P	Pn	22 19 10.8	-0.7
MERV	**Las Mercedes**	**2.88 125**		*e*P	Pn	22 19 15.0	-0.3
CUPV	**Cepira**	**2.97 106**		*e*P	Pn	22 19 16.2	-0.5
VIGV	**El Vigia**	**3.35 232**		*e*P	Pn	22 19 21.0	-0.9
SOCV	**Socops**	**3.38 219**		⇓*e*P	Pn	22 19 22.0	-0.3
VIRV	**Villa del Rosa**	**3.68 264**		⇓*e*P	Pn	22 19 24.7	-1.7
ELOV	**Elorza**	**3.97 192**		*e*P	Pn	22 19 29.5	-0.9
PCRV	**Puerto La Cruz**	**4.05 100**		*e*P	Pn	22 19 31.5	+0.1
LUEV	**Luepa**	**8.74 125**		*e*P	Pn	22 20 33.6	-2.4

*NEIC **13** 22:35:39.1±0.3, 14°.19S×166°.79E, h10km, mb4.7/12, Error ellipse: s-maj=10.5km s-min=8.6km az=115.0*

*ISCJB **13** 22:35:44.5±1.6, 14°.13S±0°.06×166°.49E±0°.07, h57km±14km, mb4.6/28, MS5.0/1, Error ellipse: s-maj=11.9km s-min=8.9km az=138.0*

*IDC **13** 22:35:50.5±2.9, 14°.07S×166°.35E, h87km±24km, mb4.2/15, mb1 4.2/17, mb1mx4.1/22, mbtmp4.2/17, MS5.0/1, Ms1 5.0/1, ms1mx4.2/17, Error ellipse: s-maj=18.0km s-min=14.4km az=72.0*

ISC 13 22:35:46.8±1.2, 14°.14S±0°.06×166°.54E±0°.07, h63km±11km, n102, σ1^{0}20/64, mb4.6/28, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.89 181**		*e*Pn	**Pn**	**22 37 34.4**	**-4.5**
	27nm,0.5s						
HNR	**Honiara**	**7.97 305**		P	**Pn**	**22 37 39.6**	**-0.4**
	34nm,0.3s,baz=133,slow=5.0,SNR=11						
HNR				S	**Sn**	**22 39 08.8**	**+0.1**
	baz=289,slow=22,SNR=3.0						
HNR	**Honiara**	**7.97 305**		*e*Pn	**Pn**	**22 37 38.2**	**-1.8**
	199nm,0.8s						
HNR				S	**Sn**	**22 39 08.8**	**+0.1**
MSVF	**Nonsavu**	**11.63 109**		*e*Pn	**Pn**	**22 38 29.7**	**-0.3**
	58nm,1.4s						
PMG	**Port Moresby**	**19.54 282**		P	**Pn**	**22 40 10.0**	**-1.2**
	0.4nm,0.3s,baz=93,slow=7.6,SNR=7.2						
PMG	**Port Moresby**	**19.54 282**		*e*P	**Pn**	**22 40 10.1**	**-1.1**
	60nm,1.4s						
CTA	**Charters Tower**	**20.26 250**		P	**P**	**22 40 18.6**	**+1.4**
	17nm,1.0s,baz=68,slow=12,SNR=7.9						
CTA	**Charters Tower**	**20.26 250**		*e*P	**P**	**22 40 17.9**	**+0.7**
	11nm,1.0s						
CTA	**Charters Tower**	**20.26 250**		P	**P**	**22 40 18.6**	**+1.4**
CTAO	**Charters Tower**	**20.26 250**		*e*P	**P**	**22 40 18.6**	**+1.4**
	120nm,2.0s						
AFI	**Afiamalu**	**21.04 92**		P	**P**	**22 40 29.5**	**+3.8**
	39nm,0.9s,mb4.7,baz=269,slow=7.9,SNR=3.4						
AFI	**Afiamalu**	**21.04 92**		P	**P**	**22 40 29.5**	**+3.8**
ARMA	**Armidale**	**21.24 218**		*e*P	**P**	**22 40 28.4**	**+0.7**
OUZ	**Omahuta**	**21.94 164**		*e*P	**P**	**22 40 37.7**	**+2.7**
	33nm,1.0s,mb4.7						
COEN	**Coen**	**22.67 268**		*e*P	**P**	**22 40 44.9**	**+1.9**
	106nm,1.1s,mb5.2						
URZ	**Urewera**	**25.79 161**		P	**P**	**22 41 15.7**	**+3.9**
	15nm,1.0s,mb4.5,baz=8,slow=7.0,SNR=5.7						
URZ	**Urewera**	**25.79 161**		P	**P**	**22 41 15.7**	**+3.9**
STKA	**Stephens Creek**	**28.85 228**		P	**P**	**22 41 39.9**	**+0.5**
	6.0nm,0.6s,mb4.5,baz=47,slow=8.7,SNR=21						
STKA	**Stephens Creek**	**28.85 228**		*e*P	**P**	**22 41 39.9**	**+0.6**
	4.7nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**28.85 228**		P	**P**	**22 41 39.9**	**+0.6**
RPZ	**Rata Peaks**	**29.73 173**		P	**P**	**22 41 49.5**	**+2.5**
	7.2nm,0.7s,mb4.5,baz=210,slow=5.8,SNR=4.4						
RPZ	**Rata Peaks**	**29.73 173**		P	**P**	**22 41 49.5**	**+2.5**
WRAB	**Tennant Creek**	**31.28 255**		*e*P	**P**	**22 41 59.9**	**-1.1**
WRA	**Warramunga Arr**	**31.29 255**		P	**P**	**22 42 00.1**	**-1.0**
	0.8nm,0.6s,mb3.7,baz=85,slow=8.8,SNR=9.4						
WRA	**Warramunga Arr**	**31.29 255**		P	**P**	**22 42 00.1**	**-1.0**
AS31	**Alice Springs**	**32.23 248**		*e*P	**P**	**22 42 07.8**	**-1.5**
ASAR	**Alice Springs**	**32.23 248**		P	**P**	**22 42 08.3**	**-0.9**
	1.6nm,0.7s,mb4.0,baz=74,slow=9.3,SNR=35						
ASAR	**Alice Springs**	**32.23 248**		P	**P**	**22 42 08.3**	**-0.9**
FORT	**Forrest**	**39.00 238**		*e*P	**P**	**22 43 07.1**	**-0.1**
	11nm,0.5s,mb4.8						
FORT				*e*		22 43 17.0	
FITZ	**Fitzroy Crossi**	**39.43 259**		*e*P	**P**	**22 43 18.3**	**+7.3**
	14nm,0.8s,mb4.7						
KLBR	**Kellerberrin**	**47.78 240**		*e*P	**P**	**22 44 17.5**	**-0.4**
	7.0nm,0.8s,mb4.7						
KLBR				*e*		22 44 27.6	
NWAO	**Narrogin (SRO)**	**48.45 238**		P	**P**	**22 44 23.2**	**+0.1**
	4.8nm,0.8s,mb4.6,baz=68,slow=5.4,SNR=3.9						
NWAO	**Narrogin (SRO)**	**48.45 238**		*e*P	**P**	**22 44 22.8**	**-0.3**
	4.4nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**57.06 333**		P	**P**	**22 45 27.0**	**+0.6**
	4.0nm,0.8s,mb4.5,baz=165,slow=7.2,SNR=7.1						
MJAR	**Matsushiro Arr**	**57.06 333**		P	**P**	**22 45 27.0**	**+0.6**
ASAJ	**Asahikawa**	**61.95 341**		P	**P**	**22 46 00.8**	**+0.9**
	46nm,1.4s,mb5.4,baz=172,slow=9.6,SNR=3.0						
ASAJ	**Asahikawa**	**61.95 341**		P	**P**	**22 46 00.8**	**+0.9**
VNDA	**Vanda**	**63.44 181**		*e*P	**P**	**22 46 08.4**	**-1.0**
	5.4nm,1.0s,mb4.6						
PETK	**Petropavlovsk-**	**67.40 354**		P	**P**	**22 46 35.8**	**+0.5**
	4.2nm,0.7s,mb4.6,baz=177,slow=6.6,SNR=4.2						
PETK	**Petropavlovsk-**	**67.40 354**		P	**P**	**22 46 35.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**74.06 294**		P	**P**	**22 47 18.4**	**+1.9**
	0.8nm,0.3s,mb4.1,baz=117,slow=4.1,SNR=12						
CMAR	**Chiang Mai Arr**	**74.06 294**		P	**P**	**22 47 18.4**	**+1.9**
CHTO	**Chiang Mai**	**74.19 294**		*e*P	**P**	**22 47 17.9**	**+0.7**
	3.0nm,1.1s,mb4.1						
QSPA	**South Pole Qui**	**75.89 180**		LR	LR	23 17 26.6	
	comp=Z,850nm,20.8s,baz=42,slow=33						
QSPA	**South Pole Qui**	**75.89 180**		*e*P	**P**	**22 47 25.2**	**-0.7**
	9.9nm,1.1s,mb4.7						
LZH	**Lanzhou**	**77.40 312**		*e*P	**P**	**22 47 37.0**	**+1.8**
	18nm,1.5s,mb4.8						
LZH				pP	pP	22 47 43.0	-10
LZH				sP	sP	22 47 46.0	-14
ULN	**Ulaanbaatar**	**81.24 324**		*e*P	**P**	**22 47 56.8**	**+0.9**
	9.9nm,1.3s,mb4.6						
YAK	**Yakutsk**	**81.26 343**		*e*P	**P**	**22 47 54.7**	**-0.9**
	31nm,1.1s,mb5.2						
SONM	**Songino Array**	**81.60 324**		P	**P**	**22 47 58.0**	**+0.3**
	1.8nm,0.9s,mb4.0,baz=123,slow=5.5,SNR=12						
SONM	**Songino Array**	**81.60 324**		P	**P**	**22 47 58.0**	**+0.3**
BILL	**Bilibino**	**81.95 360**		*e*P	**P**	**22 47 58.6**	**-0.5**
	8.2nm,1.0s,mb4.6						
SHL	**Shillong**	**82.66 299**		*e*PKP	**P**	**22 48 06.5**	**+2.7**
ILAR	**Eielson Array**	**86.19 18**		P	**P**	**22 48 19.0**	**-1.7**
	0.9nm,0.4s,mb4.3,baz=238,slow=5.1,SNR=16						
ILAR	**Eielson Array**	**86.19 18**		P	**P**	**22 48 19.0**	**-1.7**
SNAA	**Sanae**	**94.10 183**		*e*	**P**	**22 48 56.7**	**-1.2**
	baz=185,slow=5.3						
SNAA				*e*		22 50 37.4	
SNAA				*e*		22 51 56.2	
SNAA				*e*		22 54 10.1	
SNAA	**Sanae**	**94.10 183**		*e*P	**P**	**22 48 56.4**	**-1.6**
	2.7nm,0.9s,mb4.7						
VNA3	**Neumayer Olymp**	**94.79 181**		*e*	**P**	**22 48 59.5**	**-1.6**
	baz=185,slow=5.3						
VNA3				*e*		22 50 40.3	
VNA3				*e*		22 51 58.5	
VNA3				*e*		22 54 14.0	
VNA2	**Neumayer--Watz**	**95.05 182**		*e*	**P**	**22 49 01.3**	**-1.0**
	baz=185,slow=5.3						
VNA2				*e*		22 50 42.1	
VNA2				*e*		22 52 00.0	
VNA2				*e*		22 54 15.7	
MKAR	**Makanchi Array**	**96.29 317**		P	**P**	**22 49 08.9**	**+0.6**
	1.4nm,1.0s,mb4.4,baz=84,slow=6.2,SNR=8.3						
MKAR	**Makanchi Array**	**96.29 317**		P	**P**	**22 49 08.9**	**+0.6**
ZAA0	**Zalesovo Array**	**96.50 324**		*e*P	**P**	**22 49 07.7**	**-1.4**
ZALV	**Zalesovo Beam**	**96.50 324**		P	**P**	**22 49 08.3**	**-0.7**
	1.4nm,0.7s,mb4.5,baz=108,slow=4.8,SNR=9.5						
ZALV	**Zalesovo Beam**	**96.50 324**		P	**P**	**22 49 08.3**	**-0.7**
KEV	**Kevo**	**118.97 345**		*e*pkp	PKPdf	22 54 26.4	-1.2
ARCES	**ARCESS Array B**	**119.50 345**		PKP	PKPdf	22 54 27.9	-0.7
	2.2nm,0.6s,baz=81,slow=2.1,SNR=60						
ARCES	**ARCESS Array B**	**119.50 345**		PKP	PKPdf	22 54 27.9	-0.7
JOF	**Joensuu**	**122.07 338**		*e*pkp	PKPdf	22 54 32.0	-1.7
KAF	**Kangasniemi**	**124.39 339**		*e*pkp	PKPdf	22 54 36.3	-1.9
FINES	**FINESS Array B**	**124.91 338**		PKP	PKPdf	22 54 38.4	-0.8
	5.9nm,0.9s,baz=103,slow=1.2,SNR=12						
FINES	**FINESS Array B**	**124.91 338**		PKP	PKPdf	22 54 38.4	-0.8
NOA	**NORSAR Array B**	**129.87 345**		PKP	PKPdf	22 54 48.7	0.0
	1.7nm,0.9s,baz=31,slow=2.0,SNR=3.5						
NOA	**NORSAR Array B**	**129.87 345**		PKP	PKPdf	22 54 48.7	0.0
GERES	**GERESS Array B**	**138.80 333**		PKP	PKPdf	22 55 05.6	-0.2
	1.0nm,0.7s,baz=101,slow=1.4,SNR=4.1						
GERES	**GERESS Array B**	**138.80 333**		PKP	PKPdf	22 55 05.6	-0.2
CDF	**Champ du Feu**	**141.76 338**		*e*PKP1	PKPdf	22 55 12.8	+1.6
CDF	**Champ du Feu**	**141.76 338**		*e*P	PKPdf	22 55 12.8	+1.6
LOR	**Lormes**	**143.94 340**		*e*PKP1	PKPdf	22 55 15.8	+0.7
LOR	**Lormes**	**143.94 340**		*e*P	PKPdf	22 55 15.8	+0.7
ORIF	**Oris-en-Rattie**	**145.20 336**		*e*PKP1	PKPbc	22 55 17.6	+0.6
	38nm,0.9s						
ORIF	**Oris-en-Rattie**	**145.20 336**		*e*P	PKPbc	22 55 17.6	+0.6
TCF	**Toulx Ste Croi**	**145.34 341**		*e*PKP1	PKPbc	22 55 17.5	+0.1
	54nm,1.2s						
TCF	**Toulx Ste Croi**	**145.34 341**		*e*P	PKPbc	22 55 17.5	+0.1
SBF	**Sospel**	**145.40 333**		*e*PKP1	PKPbc	22 55 17.6	-0.1
	97nm,1.0s						
SBF	**Sospel**	**145.40 333**		*e*P	PKPdf	22 55 17.6	-0.1
PGF	**Pioggiola**	**145.69 330**		*e*PKP1	PKPbc	22 55 18.7	0.0
	58nm,1.1s						
PGF	**Pioggiola**	**145.69 330**		*e*P	PKPdf	22 55 18.7	+0.5
FRF	**La Foret Royal**	**145.99 333**		*e*PKP1	PKPbc	22 55 19.4	-0.1
FRF	**La Foret Royal**	**145.99 333**		*e*P	PKPbc	22 55 19.4	-0.1
LMR	**La Mourre**	**146.23 333**		*e*PKP1	PKPbc	22 55 20.4	+0.1
	232nm,1.7s						
LMR	**La Mourre**	**146.23 333**		*e*P	PKPbc	22 55 20.4	+0.1
LFF	**La Frestale**	**147.01 341**		*e*PKP1	PKPdf	22 55 21.5	+1.1
	86nm,1.2s						
LFF	**La Frestale**	**147.01 341**		*e*P	PKPdf	22 55 21.5	+1.1
MTLF	**Montolieu**	**147.93 338**		*e*PKP1	PKPbc	22 55 24.5	-0.5
	39nm,0.9s						
MTLF	**Montolieu**	**147.93 338**		*e*P	PKPbc	22 55 24.5	-0.5
MSKU	**Masuku**	**148.93 242**		PKPbc	PKPbc	22 55 28.5	0.0
	13nm,0.6s,baz=55,slow=2.1,SNR=3.7						
MSKU	**Masuku**	**148.93 242**		PKPbc	PKPbc	22 55 28.6	0.0
KEST	**Kesra**	**150.31 320**		PKPbc	PKPbc	22 55 31.7	+0.4
	5.5nm,1.0s,baz=315,slow=2.7,SNR=7.0						
KEST				PKPab	PKPab	22 55 36.8	-0.9
	3.5nm,0.7s,baz=204,slow=3.2,SNR=14						
KEST	**Kesra**	**150.31 320**		PKPbc	PKPbc	22 55 31.7	+0.4
KEST				PKPab	PKPab	22 55 36.8	-0.9
ESDC	**Sonseca Array**	**153.22 344**		PKPbc	PKPbc	22 55 38.9	+1.2
	1.4nm,1.0s,baz=186,slow=39,SNR=4.2						
ESDC	**Sonseca Array**	**153.22 344**		PKPbc	PKPbc	22 55 39.0	+1.2
TORD	**Torodi Ar. Bea**	**165.24 268**		PKP	PKPdf	22 55 44.4	-0.5
	0.5nm,0.8s,baz=330,slow=1.3,SNR=4.5						
TORD				PKPab	PKPab	22 56 43.5	+0.9
	0.9nm,1.0s,baz=119,slow=2.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**165.24 268**		PKP	PKPdf	22 55 44.4	-0.5
TORD				PKPab	PKPab	22 56 43.5	+0.9

*LDG **13** 22:37:19.2±0.2, 13°.79S×166°.79E, h10km, Mb5.2/4, Ms5.1/10, Error ellipse: s-maj=24.6km s-min=7.

STKA	**Stephens Creek**	**28.88 228**	P	**P**	**22 43 20.1 +0.3**
	comp=Z,20nm,0.6s,mb5.0,baz=39,slow=7.4,SNR=30				
STKA			LR	LR	22 55 03.6
	comp=Z,14μm,18.0s,MS5.6,baz=53,slow=37				
STKA	**Stephens Creek**	**28.88 228**	*e*P	**P**	**22 43 20.1 +0.2**
	comp=Z,13nm,0.5s,mb4.9				
STKA	**Stephens Creek**	**28.88 228**	*e*P	**P**	**22 43 20.1 +0.2**
	comp=Z,32nm,1.8s,mb4.8				
STKA	**Stephens Creek**	**28.88 228**	*e*P	**P**	**22 43 20.1 +0.2**
STKA			pmax	pmax	
	comp=Z,33nm,1.8s				
RPZ	**Rata Peaks**	**29.75 173**	P	**P**	**22 43 27.3 -0.1**
	comp=Z,23nm,0.8s,mb5.0,baz=308,slow=3.1,SNR=13				
RPZ			LR	LR	22 53 32.6
	comp=Z,4μm,21.9s,MS5.0,baz=346,slow=32				
RPZ	**Rata Peaks**	**29.75 173**	*e*P	**P**	**22 43 27.2 -0.2**
	comp=Z,224nm,2.1s,mb5.5				
TOO	**Toolangi**	**29.95 215**	*e*P	**P**	**22 43 31.0 +1.7**
	comp=Z,54nm,0.8s,mb5.3				
WB2	**Warramunga Arr**	**31.31 255**	*e*P	**P**	**22 43 36.3 -5.2**
WRAB	**Tennant Creek**	**31.31 255**	*e*P	**P**	**22 43 36.6 -4.9**
	comp=Z,90nm,2.0s,mb5.2				
WRAB	**Tennant Creek**	**31.31 255**	*e*P	**P**	**22 43 36.6 -4.9**
WRAB			pmax	pmax	
	comp=Z,90nm,2.0s,mb5.2				
WRAB	**Tennant Creek**	**31.31 255**	P	**P**	**22 43 41.3 -0.2**
	comp=Z,30nm,1.3s,mb5.0				
WRA	**Warramunga Arr**	**31.32 255**	P	**P**	**22 43 40.5 -1.0**
	comp=Z,13nm,1.0s,mb4.7,baz=84,slow=8.7,SNR=15				
WRA			LR	LR	22 55 36.0
	comp=Z,5μm,19.3s,MS5.2,baz=80,slow=35				
WRA	**Warramunga Arr**	**31.32 255**	P	**P**	**22 43 40.5 -1.0**
WRA	**Warramunga Arr**	**31.32 255**	P	**P**	**22 43 40.6 -1.0**
AS31	**Alice Springs**	**32.26 248**	*e*P	**P**	**22 43 49.1 -0.7**
ASAR	**Alice Springs**	**32.26 248**	P	**P**	**22 43 49.0 -0.8**
	comp=Z,7.0nm,0.7s,mb4.6,baz=76,slow=9.5,SNR=14				
ASAR	**Alice Springs**	**32.26 248**	P	**P**	**22 43 49.0 -0.8**
ASAR	**Alice Springs**	**32.26 248**	P	**P**	**22 43 49.1 -0.7**
RAR	**Rarotonga**	**32.79 107**	P	**P**	**22 43 56.4 +2.0**
	comp=Z,26nm,0.4s,mb5.5,baz=186,slow=4.6,SNR=4.2				
RAR			LR	LR	22 54 32.9
	comp=Z,3μm,19.9s,MS4.9,baz=286,slow=31				
RAR	**Rarotonga**	**32.79 107**	P	**P**	**22 43 56.5 +2.0**
RAR	**Rarotonga**	**32.79 107**	P	**P**	**22 43 56.5 +2.0**
MOO	**Moorlands**	**32.82 207**	*e*P	**P**	**22 43 56.4 +2.0**
	comp=Z,347nm,0.9s				
FORT	**Forrest**	**39.03 238**	*e*P	**P**	**22 44 47.3 -0.5**
	comp=Z,66nm,0.7s,mb5.5				
FORT			*e*	pP	22 44 58.6 -0.8
FORT	**Forrest**	**39.03 238**	*e*P	**P**	**22 44 47.1 -0.7**
	comp=Z,72nm,0.7s,mb5.5				
FORT			*e*	pP	22 44 59.2 -0.3
FITZ	**Fitzroy Crossi**	**39.47 259**	P	**P**	**22 44 50.2 -1.4**
	comp=Z,16nm,0.9s,mb4.8,baz=107,slow=8.6,SNR=16				
FITZ			LR	LR	22 58 35.2
	comp=Z,2μm,20.0s,MS4.8,baz=79,slow=32				
FITZ	**Fitzroy Crossi**	**39.47 259**	*e*P	**P**	**22 44 51.6 0.0**
	comp=Z,29nm,0.9s,mb5.0				
FITZ	**Fitzroy Crossi**	**39.47 259**	P	**P**	**22 44 50.2 -1.4**
PAE	**Paea**	**42.26 101**	*e*P	**P**	**22 45 15.6 +1.0**
	comp=Z,3.9nm,1.0s,mb4.0				
PPT2	**Papeete2**	**42.26 101**	*e*P	**P**	**22 45 15.1 +0.5**
	comp=Z,28nm,1.0s,mb4.8				
PPT	**Papeete**	**42.26 101**	*e*S	**S**	**22 51 31.5 -1.1**
	comp=Z,1μm,25.8s				
PPT			*e*LQ		22 55 07.4
	comp=Z,4μm,26.2s				
PPT			*e*LR	LR	22 56 56.7
	comp=Z,3μm,24.8s,baz=264				
TBI	**Tubuai**	**42.50 109**	*e*S	**S**	**22 51 35.2 -0.9**
	comp=Z,1μm,27.2s				
TBI			*e*LQ		22 55 12.1
	comp=Z,4μm,27.5s				
TBI			*e*LR	LR	22 57 01.4
	comp=Z,3μm,23.5s,baz=284				
MEH	**Mehetia**	**43.69 101**	*e*P	**P**	**22 45 26.1 -0.1**
PMOR	**Pomariorio Ree**	**44.02 97**	*e*P	**P**	**22 45 30.2 +1.3**
MBWA	**Marble Bar**	**45.05 254**	*e*P	**P**	**22 45 36.9 -0.2**
	comp=Z,16nm,0.6s,mb5.0				
MBWA			*e*	pP	22 45 47.8 -1.1
MBWA	**Marble Bar**	**45.05 254**	P	**P**	**22 45 39.2 +2.1**
	comp=Z,41nm,1.4s,mb5.1				
KAPI	**Kappang**	**46.96 276**	P	**P**	**22 45 53.2 +1.0**
	comp=Z,13nm,1.1s,mb4.8,baz=184,slow=9.1,SNR=3.6				
KAPI	**Kappang**	**46.96 276**	*e*P	**P**	**22 45 51.6 -0.7**
	comp=Z,40nm,1.1s,mb5.3				
KAPI	**Kappang**	**46.96 276**	P	sP	22 46 07.0 -2.0
	comp=Z,39nm,1.3s				
KLBR	**Kellerberrin**	**47.81 240**	*e*P	**P**	**22 45 57.9 -0.7**
	comp=Z,15nm,0.6s,mb5.2				
NWAO	**Narrogin (SRO)**	**48.48 238**	P	**P**	**22 46 03.8 0.0**
	comp=Z,20nm,0.7s,mb5.3,baz=64,slow=5.7,SNR=13				
NWAO	**Narrogin (SRO)**	**48.48 238**	*e*P	**P**	**22 46 03.4 -0.4**
	comp=Z,49nm,1.3s,mb5.4				
NWAO	**Narrogin (SRO)**	**48.48 238**	*e*P	**P**	**22 46 03.4 -0.4**
NWAO			pmax	pmax	
	comp=Z,49nm,1.3s				
JOW	**Kunigami**	**55.14 318**	LR	LR	23 08 01.4
	comp=Z,891nm,21.3s,MS4.8,baz=134,slow=33				
DRV	**Dumont d'Urvil**	**55.39 192**	P	**P**	**22 46 52.0 -2.6**
DRV			S	**S**	**22 54 45.0 +9.1**
DRV			SS	SS	22 58 30.0 +9.3
DRV			L		23 00 00.0
DRV			R		23 04 00.0
RKT	**Rikitea**	**55.82 108**	*e*S	**S**	**22 54 45.7 +2.8**
	comp=Z,1μm,29.2s				
RKT			*e*LR	LR	23 03 18.5
	comp=Z,3μm,25.2s,baz=272				
MJAR	**Matsushiro Arr**	**57.05 333**	P	**P**	**22 47 06.6 -0.2**
	comp=Z,11nm,0.8s,mb4.9,baz=169,slow=6.6,SNR=15				
MJAR	**Matsushiro Arr**	**57.05 333**	P	**P**	**22 47 06.6 -0.2**
MJAR	**Matsushiro Arr**	**57.05 333**	P	**P**	**22 47 06.6 -0.2**
MAJO	**Matsushiro**	**57.05 333**	*e*P	**P**	**22 47 06.0 -0.8**
	comp=Z,104nm,1.7s,mb5.6				
MAJO	**Matsushiro**	**57.05 333**	*e*P	**P**	**22 47 06.0 -0.8**
MAJO			pmax	pmax	
	comp=Z,104nm,1.7s,mb5.6				
MAT	**Matsushiro**	**57.05 333**	P	**P**	**22 47 06.3 -0.6**
MAT			S	**S**	**22 54 58.0 -0.7**
YUK	**Yuzh-Kuril'sk**	**60.88 343**	*i* P	**P**	**22 47 31.3 -1.9**
YUK			*i*		22 49 47.1
YUK			*e*S	**S**	**22 55 42.3 -5.7**
YUK			*i* SS	SS	22 59 55.5 +7.4
YUK			pmax	pmax	
	comp=E,292nm,1.5s				
YUK			pmax	pmax	
	comp=N,465nm,1.5s				
YUK			pmax	pmax	
	comp=Z,337nm,1.5s				
YUK			pmax	pmax	
	comp=Z,555nm,1.6s				
ASAJ	**Asahikawa**	**61.94 341**	P	**P**	**22 47 40.5 +0.1**
	comp=Z,11nm,0.7s,mb5.1,baz=180,slow=17,SNR=9.1				
ASAJ	**Asahikawa**	**61.94 341**	P	**P**	**22 47 40.5 +0.1**
SSE	**Sheshan**	**62.61 317**	P	**P**	**22 47 43.9 -1.3**
SSE			S	**S**	**22 56 11.6 +1.2**
SSE			sS	sS	22 56 26.5 -4.3
SSE			pmax	pmax	
	comp=Z,25nm,0.6s,mb5.5				
SSE			pmax	pmax	
	comp=Z,410nm,7.7s				
SSE			LR	LR	
	comp=N,430nm,20.0s,MS4.7				
SSE			LR	LR	
	comp=E,280nm,20.0s,MS4.7				
SSE			LR	LR	
	comp=Z,420nm,20.0s,MS4.6				
SSE	**Sheshan**	**62.61 317**	P	**P**	**22 47 43.9 -1.3**
	comp=Z,25nm,0.6s,mb5.5				
SSE			S	**S**	**22 56 11.6 +1.2**
SSE			sS	sS	22 56 26.5 -4.3
SSE			SS	SS	23 00 19.6 +3.9
SSE			LR	LR	
	comp=Z,420nm,20.0s,MS4.6				
KSRS	**Korea Array**	**62.85 326**	P	**P**	**22 47 47.8 +1.2**
	comp=Z,3.2nm,0.7s,mb4.5,baz=142,slow=7.0,SNR=6.6				
KSRS			LR	LR	23 13 57.7
	comp=Z,557nm,19.9s,MS4.7,baz=140,slow=35				
KSAR	**Wonju Array Be**	**62.87 326**	P	**P**	**22 47 47.9 +1.1**
KSAR	**Wonju Array Be**	**62.87 326**	P	**P**	**22 47 47.9 +1.2**
VNDA	**Vanda**	**63.46 181**	*e*P	**P**	**22 47 48.7 -1.4**
	comp=Z,91nm,1.6s,mb5.7				
VNDA	**Vanda**	**63.46 181**	*e*P	**P**	**22 47 48.7 -1.4**
VNDA			pmax	pmax	
	comp=Z,91nm,1.6s				
SBA	**Scott Base**	**63.75 180**	*e*P	**P**	**22 47 51.4 -0.6**
	comp=Z,172nm,1.7s,mb5.8				
SBA	**Scott Base**	**63.75 180**	*e*P	**P**	**22 47 51.4 -0.6**
SBA			pmax	pmax	
	comp=Z,172nm,1.7s,mb5.8				
CASY	**Casey**	**63.84 202**	*e*P	**P**	**22 47 55.1 +2.3**
YSS	**Yuzh-Sakhalins**	**64.44 342**⇑	*e*P	**P**	**22 47 57.7 +0.8**
YSS			*e*S	**S**	**22 56 37.0 +4.5**
NJ2	**Nanjing**	**64.77 316**	*e*P	**P**	**22 48 01.4 +2.0**
NJ2			pP	pP	22 48 14.4 +2.7
NJ2			sP	sP	22 48 19.6 +3.1
NJ2			PP	PP	22 50 26.3 +3.9
NJ2			pmax	pmax	
	comp=Z,20nm,1.0s,mb5.1				
NJ2			pmax	pmax	
	comp=Z,360nm,5.9s				
NJ2			LR	LR	
	comp=N,430nm,29.0s,MS5.1				
NJ2			LR	LR	
	comp=E,2μm,26.4s,MS5.1				
NJ2			LR	LR	
	comp=Z,810nm,28.6s,MS4.8				
QIZ	**Qiongzhong**	**64.85 299**	P	**P**	**22 48 00.5 +0.3**
QIZ			pP	pP	22 48 14.1 +1.6
QIZ			sP	sP	22 48 18.3 +1.0
QIZ			S	**S**	**22 56 37.9 -0.8**
QIZ			sS	sS	22 57 00.3 +1.2
QIZ			ScS	ScS	22 57 49.3 -2.7
QIZ			pmax	pmax	
	comp=Z,27nm,1.9s,mb5.0				
QIZ			pmax	pmax	
	comp=Z,330nm,9.9s				
QIZ			LR	LR	
	comp=N,280nm,18.9s				
QIZ			LR	LR	
	comp=E,180nm,24.2s				
QIZ			LR	LR	
	comp=Z,490nm,20.6s,MS4.7				
VLA	**Vladivostok**	**65.22 333**⇓	*e*P	**P**	**22 48 04.1 +2.0**
VLA			*e*S	S	22 56 43.0 +0.7
VLA			pmax	pmax	
	comp=Z,26nm,1.2s,mb5.1				
PET	**Petropavlovsk**	**67.21 355**	*e*P	**P**	**22 48 14.1 -0.5**
PET			*e*S	S	22 57 07.2 +1.1
PET			*e*SS	SS	23 01 33.6 +7.1
PET			pmax	pmax	
	comp=Z,500nm,7.6s				
PET			pmax	pmax	
	comp=Z,400nm,14.2s				
PETK	**Petropavlovsk-**	**67.38 354**	P	**P**	**22 48 15.9 +0.2**
	comp=Z,14nm,0.9s,mb5.0,baz=158,slow=8.7,SNR=7.4				
PETK	**Petropavlovsk-**	**67.38 354**	P	**P**	**22 48 15.9 +0.2**
PETK	**Petropavlovsk-**	**67.38 354**	P	**P**	**22 48 15.9 +0.2**
MDJ	**Mudanjiang**	**67.42 332**	P	**P**	**22 48 17.1 +0.9**
MDJ			pP	pP	22 48 31.1 +2.6
MDJ			sP	sP	22 48 37.1 +3.8
MDJ			S	S	22 57 10.4 +1.4
MDJ			ScS	ScS	22 58 10.9 0.0
MDJ			pmax	pmax	
	comp=Z,20nm,1.9s,mb4.8				
MDJ			pmax	pmax	
	comp=Z,390nm,6.6s				
MDJ			LR	LR	
	comp=N,410nm,17.6s				
MDJ			LR	LR	
	comp=E,280nm,23.8s				
MDJ			LR	LR	
	comp=Z,570nm,20.3s,MS4.8				
HABR	**Khabarovsk**	**68.31 338**	*c e*P	**P**	**22 48 21.8 +0.1**
HABR			*e**PP	pP	22 48 31.9 -2.2
HABR			*e**SP	sP	22 48 35.2 -3.7
HABR					22 48 46.1
HABR			*e*		22 50 51.6
HABR			*e*S	S	22 57 20.7 +1.2
HABR			*e**SS	sS	22 57 38.0 -2.1
HABR			*e*		22 58 17.9
HABR			*e*SS	SS	23 01 45.8 +2.0
HABR			pmax	pmax	
	comp=Z,76nm,1.5s,mb5.5				
HABR			pmax	pmax	
	comp=N,53nm,2.3s				
HABR			pmax	pmax	
	comp=E,32nm,1.9s				
HABR			MLR	MLR	
	comp=Z,452nm,19.0s,MS4.7				
CN2	**Changchun**	**68.77 329**	*e*P	**P**	**22 48 25.5 +0.8**
CN2			*e*pP	pP	22 48 41.9 +4.9
CN2			*e*S	S	22 57 24.3 -0.9
CN2			pmax	pmax	
	comp=Z,10.0nm,0.7s,mb4.8				
CN2			pmax	pmax	
	comp=Z,500nm,7.0s				
CN2			LR	LR	
	comp=N,400nm,20.0s,MS4.9				
CN2			LR	LR	
	comp=E,600nm,20.0s,MS4.9				
CN2			LR	LR	
	comp=Z,700nm,25.0s,MS4.8				
KLR	**Kul'dur**	**70.18 337**	*e*P	**P**	**22 48 30.2 -3.0**
KLR			*e*S	S	22 57 40.5 -1.0
KLR			pmax	pmax	
	comp=Z,110nm,1.8s,mb5.5				
KLR			pmax	pmax	
	comp=Z,2μm,10.5s				
GYA	**Guiyang**	**70.81 305**	*e*P	**P**	**22 48 38.3 +0.7**
GYA			pP	pP	22 48 53.4 +3.4
GYA			sP	sP	22 48 59.8 +5.0
GYA			PP	PP	22 51 18.9 +3.8
GYA			S	S	22 57 49.3 -0.5
GYA			sS	sS	22 58 13.3 +2.8
GYA			SKS		22 58 32.8
GYA			SS	SS	23 02 24.0 +0.9
GYA			pmax	pmax	
	comp=Z,20nm,1.0s,mb5.0				
GYA			pmax	pmax	
	comp=Z,140nm,5.3s				
GYA			LR	LR	
	comp=N,820nm,19.0s,MS5.1				
GYA			LR	LR	
	comp=E,600nm,20.4s,MS5.1				
GYA			LR	LR	
	comp=Z,740nm,21.4s,MS4.9				
BJI	**Beijing**	**71.36 321**	P	**P**	**22 48 41.8 +1.2**
BJI			pP	pP	22 48 53.5 +0.4
BJI			sP	sP	22 48 57.8 -0.1
BJI			S	S	22 57 59.8 +4.1
BJI			pmax	pmax	
	comp=Z,390nm,7.6s				
BJI			LR	LR	
	comp=N,500nm,16.3s				
BJI			LR	LR	
	comp=E,600nm,22.8s				
BJI			LR	LR	
	comp=Z,560nm,19.7s,MS4.8				
KMI	**Kunming**	**73.41 302**	P	**P**	**22 48 55.1 +2.0**
KMI			PcP	PcP	22 49 10.8 +1.6
KMI			sP	sP	22 49 16.5 +6.1
KMI			PP	PP	22 51 42.3 +5.0
KMI			S	S	22 58 21.3 +1.7
KMI			pmax	pmax	
	comp=Z,16nm,1.4s,mb4.8				
KMI			pmax	pmax	
	comp=Z,560nm,8.4s				
KMI			LR	LR	
	comp=N,260nm,16.2s,MS4.7				
KMI			LR	LR	
	comp=E,280nm,19.2s,MS4.7				
KMI			LR	LR	
	comp=Z,500nm,21.2s,MS4.8				
KMI	**Kunming**	**73.41 302**	P	**P**	**22 48 55.1 +2.0**
	comp=Z,16nm,1.4s,mb4.8				
KMI			PcP	PcP	22 49 10.8 +1.6
KMI			pP	pP	22 49 11.0 +5.4
KMI			sP	sP	22 49 16.5 +6.1
KMI			PP	PP	22 51 42.3 +5.0
KMI			PPP		22 53 27.1
KMI			S	S	22 58 21.2 +1.6
KMI			sS	sS	22 58 47.7 +7.3
KMI			PS		22 59 02.4
KMI			SS	SS	23 02 54.6 -8.3
KMI			SSS		23 06 19.0
KMI			LR	LR	
	comp=Z,500nm,21.2s,MS4.8				
KMI	**Kunming**	**73.41 302**	P	**P**	**22 48 55.1 +2.0**
KMI					22 49 10.8
KMI			*PP	pP	22 49 11.0 +5.4
KMI					22 51 42.3
KMI			PPP		22 53 27.1
KMI			S	S	22 58 21.2 +1.6
KMI			*SS	sS	22 58 47.7 +7.3
KMI			PS		22 59 02.4
KMI			SSS		23 06 19.0
KMI			pmax	pmax	
	comp=Z,16nm,1.4s,mb4.8				
KMI			MLR	MLR	
	comp=Z,500nm,21.2s,MS4.8				
CMAR	**Chiang Mai Arr**	**74.08 294**	P	**P**	**22 48 58.7 +1.5**
	comp=Z,6.3nm,1.0s,mb4.5,baz=120,slow=4.4,SNR=15				
CMAR	**Chiang Mai Arr**	**74.08 294**	P	**P**	**22 48 58.7 +1.5**
CMAR	**Chiang Mai Arr**	**74.08 294**	P	**P**	**22 48 58.7 +1.5**
CHTO	**Chiang Mai**	**74.21 294**	*e*P	**P**	**22 48 58.8 +0.8**
	comp=Z,6.6nm,0.8s,mb4.6				
CHTO	**Chiang Mai**	**74.21 294**	*e*P	**P**	**22 48 58.8 +0.8**
CHTO			pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.6				
HHC	**Hu-ho-hao-te**	**74.68 320**	*e*P	**P**	**22 49 01.8 +1.6**
HHC			pP	pP	22 49 15.3 +2.5
HHC			sP	sP	22 49 20.4 +2.9
HHC			PP	PP	22 51 51.3 +3.4
HHC			S	S	22 58 35.6 +2.3
HHC			sS	sS	22 58 55.6 +1.4
HHC			SKS		22 59 01.8
HHC			SS	SS	23 03 23.8 +2.0
HHC			pmax	pmax	
	comp=Z,21nm,1.3s,mb4.9				
HHC			pmax	pmax	
	comp=Z,290nm,4.9s				
HHC			LR	LR	
	comp=N,570nm,14.3s,MS5.2				
HHC			LR	LR	
	comp=E,500nm,12.7s,MS5.2				
HHC			LR	LR	
	comp=Z,800nm,17.7s,MS5.1				
CD2	**Chengdu**	**75.10 308**⇑	*i* P	**P**	**22 49 04.3 +1.4**
CD2			pP	pP	22 49 17.3 +1.9
CD2			sP	sP	22 49 22.8 +2.6
CD2			PP	PP	22 51 55.1 +3.5
CD2			S	S	22 58 38.4 0.0
CD2			sS	sS	22 59 00.6 +1.3
CD2			SS	SS	23 03 30.8 +2.3
CD2			pmax	pmax	
	comp=Z,20nm,0.8s,mb5.1				
CD2			pmax	pmax	
	comp=Z,490nm,9.6s				
CD2			LR	LR	
	comp=N,630nm,16.8s,MS5.1				
CD2			LR	LR	
	comp=E,550nm,18.0s,MS5.1				
CD2			LR	LR	
	comp=Z,610nm,20.4s,MS4.9				
QSPA	**South Pole Qui**	**75.91 180**	*e*P	**P**	**22 49 05.1 -1.6**
	comp=Z,32nm,1.0s,mb5.2				
QSPA			*e*pP	pP	22 49 11.5 -7.8
LZH	**Lanzhou**	**77.41 312**	*e*P	**P**	**22 49 17.4 +1.5**
LZH			pP	pP	22 49 29.3 +0.8
LZH			sP	sP	22 49 35.3 +2.1
LZH			S	S	22 59 04.3 +0.8
LZH			sS	sS	22 59 19.3 -5.2
LZH			SS	SS	23 04 01.0 -2.3
LZH			pmax	pmax	
	comp=Z,34nm,1.1s,mb5.2				
LZH			pmax	pmax	
	comp=Z,240nm,7.7s				
LZH			LR	LR	
	comp=N,260nm,16.0s,MS5.0				
LZH			LR	LR	
	comp=E,440nm,15.4s,MS5.0				
LZH			LR	LR	
	comp=Z,730nm,19.6s,MS5.0				
LZH	**Lanzhou**	**77.41 312**	*e*P	**P**	**22 49 17.4 +1.5**
	comp=Z,34nm,1.1s,mb5.2				
LZH			pP	pP	22 49 29.2 +0.7
LZH			sP	sP	22 49 35.3 +2.1
LZH			S	S	22 59 04.2 +0.7
LZH			sS	sS	22 59 19.2 -5.3
LZH			SS	SS	23 04 01.0 -2.3
LZH			LR	LR	
	comp=Z,730nm,19.6s,MS5.0				
LZH	**Lanzhou**	**77.41 312**	*e*P	**P**	**22 49 17.4 +1.5**
LZH			*PP	pP	22 49 29.2 +0.7
LZH			*SP	sP	22 49 35.3 +2.1
LZH			S	S	22 59 04.2 +0.7
LZH			*SS	sS	22 59 19.2 -5.3
LZH			SS	SS	23 04 01.0 -2.3
LZH			pmax	pmax	
	comp=Z,34nm,1.1s,mb5.2				
LZH			MLR	MLR	
	comp=Z,730nm,19.6s,MS5.0				
SEY	**Seymchan**	**77.60 353**⇑	*e*P	**P**	**22 49 16.7 +0.4**
CLNS	**Chul'man**	**78.71 338**	*e*P	**P**	**22 49 21.1 -1.5**
CLNS			pmax	pmax	
	comp=Z,21nm,1.0s,mb5.0				
CLNS			pmax	pmax	
	comp=N,19nm,1.0s				
CLNS			pmax	pmax	
	comp=E,9.0nm,1.2s				
KDAK	**Kodiak Island**	**79.13 21**	P	**P**	**22 49 26.9 +2.0**
	comp=E,3.0nm,0.5s,mb4.5,baz=96,slow=18,SNR=6.7				
KDAK	**Kodiak Island**	**79.13 21**	P	**P**	**22 49 26.9 +2.0**
KDAK	**Kodiak Island**	**79.13 21**	P	**P**	**22 49 27.0 +2.1**
ULN	**Ulaanbaatar**	**81.24 324**	*e*P	**P**	**22 49 36.7 +0.1**
	comp=E,85nm,1.8s,mb5.4				
ULN	**Ulaanbaatar**	**81.24 324**	*e*P	**P**	**22 49 36.7 +0.2**
ULN			pmax	pmax	
	comp=Z,85nm,1.8s,mb5.4				
YAK	**Yakutsk**	**81.25 343**	*e*P	**P**	**22 49 35.7 -0.5**
	comp=Z,81nm,1.0s,mb5.6				
YAK	**Yakutsk**	**81.25 343**	*c i* P	**P**	**22 49 35.6 -0.6**
YAK			*e*		22 49 41.4
YAK			*e**PP	pP	22 49 48.3 -0.6
YAK			*e*		22 52 37.3
YAK			*e*PPP		22 54 30.7
YAK			*e*S	S	22 59 37.9 -5.3
YAK			pmax	pmax	
	comp=Z,71nm,1.1s,mb5.5				
YAK			pmax	pmax	
	comp=N,24nm,1.3s				
YAK			pmax	pmax	
	comp=E,15nm,1.3s				
YAK			pmax	pmax	
	comp=Z,97nm,3.1s				
YAK			smax		
	comp=N,96nm,10.3s				
YAK			smax		
	comp=E,119nm,10.6s				
YAK			MLR	MLR	
	comp=Z,1μm,17.0s,MS5.4				
YAK			MLR	MLR	
	comp=N,963nm,22.0s,MS5.2				
YAK			MLR	MLR	
	comp=E,647nm,17.0s,MS5.2				
SONM	**Songino Array**	**81.60 324**	P	**P**	**22 49 39.1 +0.7**
	comp=E,4.0nm,1.1s,mb4.3,baz=142,slow=4.7,SNR=15				
SONM	**Songino Array**	**81.60 324**	P	**P**	**22 49 39.1 +0.7**
SONM	**Songino Array**	**81.60 324**	P	**P**	**22 49 39.1 +0.7**
GTA	**Gaotai**	**81.75 314**	⇑P	**P**	**22 49 40.6 +1.2**
GTA			pP	pP	22 49 53.9 +1.8
GTA			sP	sP	22 49 59.1 +2.3
GTA			PP	PP	22 52 49.8 +2.7
GTA			S	S	22 59 50.1 +0.7
GTA			SKS		22 59 53.4
GTA			sS	sS	23 00 11.8 +1.3
GTA			pmax	pmax	
	comp=Z,21nm,2.1s,mb4.7				
GTA			pmax	pmax	
	comp=Z,320nm,6.9s				
GTA			LR	LR	
	comp=N,340nm,20.4s,MS5.0				
GTA			LR	LR	
	comp=E,520nm,16.6s,MS5.0				
GTA			LR	LR	
	comp=Z,600nm,18.1s,MS5.0				
BILL	**Bilibino**	**81.93 360**	*e*P	**P**	**22 49 38.7 -1.0**
	comp=Z,19nm,0.7s,mb5.1				
BILL	**Bilibino**	**81.93 360**	*d i* P	**P**	**22 49 39.2 -0.5**
BILL			*e*		22 52 47.6
BILL			pmax	pmax	
	comp=Z,49nm,1.3s,mb5.3				
BILL			MLR	MLR	
	comp=Z,400nm,19.0s,MS4.8				

MAW	Mawson	82.19	202	P	P	22 49 40.8	-0.5	
	comp=Z,7.7nm,0.9s,mb4.6,baz=102,slow=7.9,SNR=6.1							
MAW	Mawson	82.19	202	eP	P	22 49 39.6	-1.7	
	comp=Z,1.8nm,0.9s,mb4.0							
MAW	Mawson	82.19	202	eP	P	22 49 39.6	-1.7	
MAW				pmax	pmax			
	comp=Z,2.0nm,0.9s							
PMR	Palmer	83.15	20	eP	P	22 49 46.5	+0.3	
	comp=Z,50nm,1.6s,mb5.3							
PMR	Palmer	83.15	20	eP	P	22 49 46.5	+0.3	
PMR				pmax	pmax			
	comp=Z,50nm,1.6s,mb5.3							
BOD	Bodaibo	83.63	335	eP	P	22 49 48.1	-0.6	
BOD				pmax	pmax			
	comp=Z,16nm,1.6s,mb4.9							
TRF	Thorofare Moun	84.17	18	eP	P	22 49 50.6	-0.8	
	comp=Z,57nm,1.7s,mb5.4							
LSA	Lhasa	84.66	302	P	P	22 49 54.3	-0.4	
ZAK	Zakamensk	84.66	325	eP	P	22 49 54.0	-0.2	
ZAK				pmax	pmax			
	comp=Z,16nm,1.3s,mb5.0							
MCK	McKinley	84.78	18	eP	P	22 49 53.5	-1.0	
	comp=Z,31nm,1.2s,mb5.3							
MCK	McKinley	84.78	18	eP	P	22 49 53.5	-1.0	
MCK				pmax	pmax			
	comp=Z,31nm,1.2s,mb5.3							
IRK	Irkutsk	85.05	327	eP	P	22 49 54.7	-1.4	
IRK				pmax	pmax			
	comp=Z,54nm,2.3s,mb5.3							
TLY	Talaya	85.11	326	eP	P	22 49 55.8	-0.6	
TLY				eS	SKSac	23 00 10.3	-7.2	
TLY				ePPS		23 01 12.0		
TLY				e		23 01 21.6		
TLY				pmax	pmax			
	comp=Z,19nm,1.3s,mb5.1							
COLA	College	85.94	18	eP	P	22 49 59.2	-1.0	
	comp=Z,8.8nm,0.9s,mb5.0							
COLA	College	85.94	18	eP	P	22 49 59.2	-1.0	
COLA				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb5.0							
ILAR	Eielson Array	86.16	18	P	P	22 49 59.5	-1.8	
	comp=Z,5.5nm,0.7s,mb4.9,baz=240,slow=5.1,SNR=28							
ILAR	Eielson Array	86.16	18	P	P	22 49 59.5	-1.8	
ILAR	Eielson Array	86.16	18	P	P	22 49 59.5	-1.8	
TAPN	Taplejung	86.79	299	eP	P	22 50 05.6	+0.3	
	comp=Z,26nm,1.1s,mb5.4							
TAPN	Taplejung	86.79	299	eP	P	22 50 05.6	+0.3	
	comp=Z,26nm,1.1s,mb5.4							
ODAN	Odare	86.92	299	eP	P	22 50 05.9	0.0	
	comp=Z,42nm,1.2s,mb5.6							
ODAN	Odare	86.92	299	eP	P	22 50 05.9	0.0	
	comp=Z,42nm,1.2s,mb5.5							
COLD	Coldfoot	87.02	15	eP	P	22 50 05.9	+0.4	
	comp=Z,4.4nm,0.4s,mb5.0							
NVAR	Mina Array Bea	87.39	49	P	P	22 50 08.7	+0.8	
	comp=Z,1.4nm,0.7s,mb4.3,baz=226,slow=6.0,SNR=5.3							
NVAR				LR	LR	23 22 44.2		
	comp=Z,3μm,19.2s,MS5.8,baz=97,slow=31							
NVAR	Mina Array Bea	87.39	49	P	P	22 50 08.7	+0.8	
RAMN	Ramite	87.61	298	eP	P	22 50 09.4	+0.1	
	comp=Z,49nm,1.4s,mb5.5							
RAMN	Ramite	87.61	298	eP	P	22 50 09.4	+0.1	
	comp=Z,49nm,1.4s,mb5.5							
EGAK	Eagle	87.97	20	eP	P	22 50 08.1	-2.0	
	comp=Z,5.3nm,0.8s,mb4.8							
JIRN	Jiri	88.17	299	eP	P	22 50 12.2	+0.3	
JIRN	Jiri	88.17	299	eP	P	22 50 12.2	+0.3	
GUN	Gumba	88.51	299	eP	P	22 50 13.7	+0.2	
	comp=Z,21nm,0.8s,mb5.5							
GUN	Gumba	88.51	299	eP	P	22 50 13.7	+0.2	
	comp=Z,21nm,0.8s,mb5.5							
PKI	Pulchoki	88.81	299	eP	P	22 50 14.9	0.0	
PKI	Pulchoki	88.81	299	eP	P	22 50 14.9	0.0	
PKI	Pulchoki	88.81	299	eP	P	22 50 14.9	0.0	
KKN	Kakani	88.98	299	eP	P	22 50 15.5	-0.2	
	comp=Z,29nm,1.0s,mb5.6							
KKN	Kakani	88.98	299	eP	P	22 50 15.5	-0.2	
	comp=Z,29nm,1.0s,mb5.6							
KKN	Kakani	88.98	299	eP	P	22 50 15.5	-0.2	
KKN				pmax	pmax			
	comp=Z,29nm,1.0s,mb5.6							
DMN	Daman	89.08	299	eP	P	22 50 16.4	+0.2	
	comp=Z,30nm,0.8s,mb5.7							
DMN	Daman	89.08	299	eP	P	22 50 16.4	+0.2	
	comp=Z,30nm,0.8s,mb5.7							
SYO	Syowa Base	89.10	197	eP	P	22 50 15.5	0.0	
GKN	Gorkha	89.59	299	eP	P	22 50 17.7	-0.9	
	comp=Z,26nm,0.9s,mb5.5							
GKN	Gorkha	89.59	299	eP	P	22 50 17.7	-0.9	
	comp=Z,26nm,0.9s,mb5.6							
KOLN	Koldanda	90.41	298	eP	P	22 50 21.7	-0.7	
KOLN	Koldanda	90.41	298	eP	P	22 50 21.7	-0.7	
DANN	Dangsing	90.42	299	eP	P	22 50 21.7	-0.8	
DANN	Dangsing	90.42	299	eP	P	22 50 21.7	-0.8	
WMQ	Urumqi	91.82	315	P	P	22 50 28.6	0.0	
WMQ				pP	pP	22 50 45.8	+4.4	
WMQ				sP	sP	22 50 52.4	+6.3	
WMQ				pmax	pmax			
	comp=Z,16nm,1.3s,mb5.2							
WMQ				pmax	pmax			
	comp=Z,320nm,5.6s							
WMQ				LR	LR			
	comp=N,520nm,24.0s							
WMQ				LR	LR			
	comp=E,540nm,36.0s							
WMQ				LR	LR			
	comp=Z,510nm,26.0s,MS4.8							
NVL	N'lazarevskaya	93.56	188	eP	P	22 50 39.3	+3.1	
NVL				eS	SKSac	23 01 06.5	-0.6	
NVL				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb5.1							
NVL				MLR	MLR			
	comp=Z,982nm,17.0s,MS5.3							
MAIT	Maitri	93.57	188	eP	P	22 50 34.8	-1.4	
SNAA	Sanae	94.12	183	eP	P	22 50 36.5	-2.3	
	comp=Z,23nm,1.1s,mb5.5							
SNAA	Sanae	94.12	183	eP	P	22 50 36.5	-2.2	
SNAA				pmax	pmax			
	comp=Z,23nm,1.1s							
MKAR	Makanchi Array	96.29	317	P	P	22 50 49.0	0.0	
	comp=Z,3.6nm,1.0s,mb4.8,baz=89,slow=6.3,SNR=9.0							
MKAR				PKKP	PKKPbc	23 07 35.4	-1.1	
	comp=Z,0.4nm,0.6s,baz=245,slow=3.4,SNR=4.8							
MKAR	Makanchi Array	96.29	317	P	P	22 50 49.0	0.0	
MKAR				PKKP	PKKPbc	23 07 35.4	-1.1	
MKAR	Makanchi Array	96.29	317	P	P	22 50 49.0	0.0	
ZAA0	Zalesovo Array	96.50	324	eP	P	22 50 48.1	-1.7	
ZALV	Zalesovo Beam	96.50	324	P	P	22 50 48.7	-1.1	
	comp=Z,4.1nm,0.9s,mb4.8,baz=119,slow=4.4,SNR=14							
ZALV	Zalesovo Beam	96.50	324	P	P	22 50 48.7	-1.1	
ZALV	Zalesovo Beam	96.50	324	P	P	22 50 48.7	-1.1	
TXAR	Lajitas Array	96.58	62	P	P	22 50 51.1	+0.3	
	comp=Z,0.6nm,1.0s,mb4.0,baz=230,slow=5.9,SNR=3.5							
TXAR	Lajitas Array	96.58	62	P	P	22 50 51.1	+0.3	
TXAR	Lajitas Array	96.58	62	P	P	22 50 51.1	+0.3	
YKA	Yellowknife Ar	97.32	27	P	P	22 50 51.1	-2.2	
	comp=Z,0.4nm,0.5s,mb4.1,baz=258,slow=4.9,SNR=6.1							
YKA				PKKP	PKKPbc	23 07 36.8	+2.5	
	comp=Z,0.3nm,0.8s,baz=77,slow=2.3,SNR=5.5							
YKA	Yellowknife Ar	97.32	27	P	P	22 50 51.1	-2.1	
YKA				PKKP	PKKPbc	23 07 36.8	+2.5	
YKA	Yellowknife Ar	97.32	27	P	P	22 50 51.2	-2.1	
KURK	Kurchatov	99.50	320	P	P	22 51 02.8	-0.6	
	comp=Z,0.5nm,0.8s,mb4.1,baz=110,slow=2.8,SNR=4.1							
KURK				LR	LR	23 39 00.2		
	comp=Z,381nm,18.4s,MS4.9,baz=95,slow=37							
KURK	Kurchatov	99.50	320	P	P	22 51 02.8	-0.6	
KURK	Kurchatov	99.50	320	eP	P	22 51 02.7	-0.6	
KURK				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.8							
BVAR	Borovoye Array	104.85	322	Pdiff	Pdif	22 51 26.7	-0.5	
	comp=Z,0.5nm,0.8s,baz=33,slow=3.5,SNR=3.6							
BVAR	Borovoye Array	104.85	322	Pdif	Pdif	22 51 26.7	-0.5	
BVAR	Borovoye Array	104.85	322	P	Pdif	22 51 26.7	-0.5	
FRB	Frobisher Bay	117.64	24	PKP	PKPdf	22 56 04.3	-1.7	
	comp=Z,2.4nm,0.5s,baz=18,slow=2.6,SNR=8.7							
FRB	Frobisher Bay	117.64	24	PKP	PKPdf	22 56 04.3	-1.7	
FRB	Frobisher Bay	117.64	24	PKIKP	PKPdf	22 56 04.3	-1.7	
LPAZ	La Paz	118.09	117	PKP	PKPdf	22 56 07.5	-0.8	
	comp=Z,0.9nm,0.6s,baz=274,slow=4.7,SNR=4.5							
LPAZ	La Paz	118.09	117	PKP	PKPdf	22 56 07.5	-0.8	
LPAZ	La Paz	118.09	117	PKIKP	PKPdf	22 56 07.5	-0.8	
KEV	Kevo	118.96	345	ePKIKP	PKPdf	22 56 08.1	-0.3	
KEV	Kevo	118.96	345	epkp	PKPdf	22 56 08.1	-0.3	
ARCES	ARCESS Array B	119.49	345	PKP	PKPdf	22 56 08.4	-1.0	
	comp=Z,3.7nm,0.6s,baz=62,slow=1.9,SNR=18							
ARCES	ARCESS Array B	119.49	345	PKP	PKPdf	22 56 08.4	-1.0	
ARCES	ARCESS Array B	119.49	345	PKIKP	PKPdf	22 56 08.5	-0.9	
ARE0	ARCESS Array S	119.49	345	ePKPdf	PKPdf	22 56 08.6	-0.8	
KLMR	Klimovskoe	119.83	333	ePKIKP	PKPdf	22 56 08.0	-2.3	
KLMR				pmax	pmax			
	comp=Z,25nm,1.5s							
CPUP	Villa Florida	121.36	133	PKP	PKPdf	22 56 12.7	-1.7	
	comp=Z,0.8nm,0.5s,baz=215,slow=5.8,SNR=3.7							
CPUP	Villa Florida	121.36	133	PKP	PKPdf	22 56 12.7	-1.7	
CPUP	Villa Florida	121.36	133	PKIKP	PKPdf	22 56 12.7	-1.7	
JOF	Joensuu	122.06	338	ePKIKP	PKPdf	22 56 11.8	-2.8	
JOF	Joensuu	122.06	338	epkp	PKPdf	22 56 11.8	-2.8	
SCHQ	Schefferville	122.16	33	PKP	PKPdf	22 56 15.5	+0.5	
	comp=Z,2.7nm,0.7s,baz=260,slow=18,SNR=2.3							
SCHQ	Schefferville	122.16	33	ePKPdf	PKPdf	22 56 13.6	-1.3	
SCHQ				PKP	PKPdf	22 56 15.5	+0.5	
GNI	Garni	123.22	309	ePKPdf	PKPdf	22 56 16.9	-0.6	
GNI	Garni	123.22	309	ePKIKP	PKPdf	22 56 16.9	-0.6	
BOSA	Boshof	123.39	221	PKP	PKPdf	22 56 17.9	-0.4	
	comp=Z,2.2nm,0.9s,baz=146,slow=9.0,SNR=3.1							
BOSA	Boshof	123.39	221	PKP	PKPdf	22 56 17.9	-0.4	
BOSA	Boshof	123.39	221	PKIKP	PKPdf	22 56 17.9	-0.4	
SDV	Santo Domingo	123.81	89	ePKPdf	PKPdf	22 56 16.9	-2.5	
OBN	Obninsk	123.82	328	i PKIKP	PKPdf	22 56 18.1	-0.1	
OBN				e		23 03 17.9		
OBN				ePS	PS	23 07 59.7	-0.1	
OBN				eSS	SS	23 14 47.7	+0.6	
OBN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KIV	Kislovodsk	123.93	314	i PKIKP	PKPdf	22 56 18.6	-0.1	
KIV				ePS	PS	23 08 01.9	+0.6	
KIV				eSS	SS	23 14 51.3	+1.8	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,300nm,22.0s,MS4.9							
VSR	Storozhevoye	123.99	323	ePKIKP	PKPdf	22 56 17.8	-0.8	
VSR				pmax	pmax			
	comp=N,4.0nm,0.9s							
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
FINES	FINESS Array B	124.90	338	PKP	PKPdf	22 56 19.3	-0.7	
	comp=Z,7.6nm,0.9s,baz=92,slow=2.6,SNR=9.7							
FINES	FINESS Array B	124.90	338	PKP	PKPdf	22 56 19.3	-0.7	
FINES	FINESS Array B	124.90	338	PKIKP	PKPdf	22 56 19.3	-0.7	
SAML	Samuel	125.58	112	ePKPdf	PKPdf	22 56 20.9	-1.9	
LBTB	Lobatse	125.58	225	PKP	PKPdf	22 56 25.3	+2.7	
	comp=Z,1.9nm,0.7s,baz=196,slow=1.8,SNR=4.2							
LBTB	Lobatse	125.58	225	PKP	PKPdf	22 56 25.3	+2.7	
LBTB	Lobatse	125.58	225	PKIKP	PKPdf	22 56 25.3	+2.8	
ANN	Anapa	127.31	316	i PKIKP	PKPdf	22 56 19.3	-5.9	
ANN				pmax	pmax			
	comp=Z,37nm,1.1s							
AKASG	Malin Array Be	129.85	326	PKP	PKPdf	22 56 28.7	-1.2	
	comp=Z,1.4nm,0.6s,baz=55,slow=1.4,SNR=9.0							
AKASG	Malin Array Be	129.85	326	PKP	PKPdf	22 56 28.6	-1.2	
AKASG	Malin Array Be	129.85	326	PKIKP	PKPdf	22 56 28.7	-1.1	
NB2	NORSAR Subarra	129.86	345	PKPdf	PKPdf	22 56 28.3	-1.2	
	comp=Z,7.0nm,1.2s,baz=31,slow=1.9							
NB2	NORSAR Subarra	129.86	345	PKPdf	PKPdf	22 56 28.3	-1.2	
	baz=31,slow=1.9							
NOA	NORSAR Array B	129.86	345	PKP	PKPdf	22 56 29.2	-0.3	
	comp=Z,3.6nm,0.9s,baz=30,slow=2.0,SNR=6.1							
NOA	NORSAR Array B	129.86	345	PKP	PKPdf	22 56 29.2	-0.3	
NOA	NORSAR Array B	129.86	345	PKIKP	PKPdf	22 56 29.2	-0.3	
KIEV	Kiev	129.86	326	∥i PKIKP	PKPdf	22 56 29.8	0.0	
BRTR	Keskin Array B	131.60	311	PKhKP	PKPpre	22 56 26.7		
	comp=Z,0.1nm,0.4s,baz=117,slow=35,SNR=3.0							
BRTR	Keskin Array B	131.60	311	PKPpre	PKPpre	22 56 26.7		
BRTR	Keskin Array B	131.60	311	PKIKP	PKPpre	22 56 26.7		
UZH	Uzhgorod	134.74	327	ePKIKP	PKPdf	22 56 37.6	-1.5	
STHS	Stebnicka Huta	134.80	328	ePKIKP	PKPdf	22 56 46.6	+7.4	
STHS	Stebnicka Huta	134.80	328	ePKP	PKPdf	22 56 46.6	+7.4	
STHS				e		23 00 27.6		
CRVS	Cervenica-Dubn	135.01	328	ePKIKP	PKPdf	22 56 40.1	+0.5	
CRVS	Cervenica-Dubn	135.01	328	ePKP	PKPdf	22 56 40.1	+0.5	
KECS	Kecovo	135.77	328	ePKIKP	pPKPdf	22 56 55.7	+1.5	
KECS	Kecovo	135.77	328	e	pPKPdf	22 56 55.7	+1.5	
KSP	Ksiaz	136.19	333	ePKP	PKPdf	22 56 41.0	-0.7	
KSP				LM		23 56 34.0		
	comp=Z,1.5nm,21.7s							
KSP	Ksiaz	136.19	333	ePKIKP	PKPdf	22 56 41.0	-0.7	
KSP				MLR	MLR			
	comp=Z,2μm,21.7s,MS5.7							
DPC	Dobruska-Polom	136.53	332	ePKIKP	pPKPdf	22 56 51.1	-4.5	
DPC	Dobruska-Polom	136.53	332	epPKP	pPKPdf	22 56 51.1	-4.5	
DPC				eSKP		23 00 19.5		
UPC	Upice	136.55	333	ePKIKP	PKPdf	22 56 46.4	+4.0	
UPC	Upice	136.55	333	ePKP	PKPdf	22 56 46.4	+4.0	
UPC				ePKS		23 00 26.0		
PVCC	Panska Ves	137.16	334	ePKIKP	PKPdf	22 56 44.0	+0.4	
PVCC	Panska Ves	137.16	334	ePKP	PKPdf	22 56 44.0	+0.4	
BRG	Berggiesshubel	137.17	335	ePKP	PKPdf	22 56 44.9	+1.3	
	comp=Z,3.6nm,1.0s							
BRG				e		22 56 58.4		
	comp=Z,20nm,1.5s							
BRG				e		23 00 22.4		
	comp=Z,8.9nm,1.3s							
BRG	Berggiesshubel	137.17	335	ePKIKP	PKPdf	22 56 44.8	+1.2	
BRG				e		22 56 58.4		
	comp=Z,4.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,20nm,1.5s							
BRG				pmax	pmax			
	comp=Z,9.0nm,1.3s							
CLL	Collm	137.22	336	i PKIKP	PKPdf	22 56 44.2	+0.6	
CLL				MLR	MLR			
	comp=Z,600nm,21.7s,MS5.3							
CLL	Collm	137.22	336	i PKPdf	PKPdf	22 56 44.2	+0.6	
CLL				LmV		23 58 00.0		
	comp=Z,600nm,21.7s							
PRU	Pruhonice	137.58	333	ePKIKP	PKPdf	22 56 48.1	+3.8	
PRU	Pruhonice	137.58	333	ePKP	PKPdf	22 56 48.1	+3.8	
PRU				ePKS		23 00 27.8		
KHC	Kasperske Hory	138.63	333	ePKIKP	PKPdf	22 56 43.0	-3.3	
KHC				e		22 56 48.7		
KHC	Kasperske Hory	138.63	333	ePKP	PKPdf	22 56 43.0	-3.3	
KHC				ex	x	22 56 48.7		
KHC				ex	x	22 58 04.5		
KHC				eSKP		23 00 25.7		
KHC				ePKS		23 00 31.5		
GERES	GERESS Array B	138.79	333	PKhKP	PKPpre	22 56 41.1		
	comp=Z,0.9nm,0.7s,baz=29,slow=3.0,SNR=5.6							
GERES				PKP	PKPdf	22 56 48.8	+2.1	
	comp=Z,1.6nm,0.6s,baz=23,slow=1.8,SNR=11							
GERES	GERESS Array B	138.79	333	PKPpre	PKPpre	22 56 41.1		
GERES				PKP	PKPdf	22 56 48.8	+2.1	
GERES	GERESS Array B	138.79	333	PKIKP	PKPpre	22 56 41.1		
GERES						22 56 48.8		
CABF	La Chapelle	143.70	337	ePKP1	PKPdf	22 56 54.4	-1.1	
	comp=Z,61nm,1.1s							
CABF	La Chapelle	143.70	337	eP	PKPdf	22 56 54.4	-1.1	
CABF	La Chapelle	143.70	337	ePKIKP	PKPdf	22 56 54.4	-1.1	
LDF	La Druitiere	143.91	345	ePKP1	PKPdf	22 56 54.0	-1.8	
LDF	La Druitiere	143.91	345	eP	PKPdf	22 56 54.0	-1.8	
LDF	La Druitiere	143.91	345	ePKIKP	PKPdf	22 56 54.0	-1.8	
LOR	Lormes	143.93	340	ePKP1	PKPdf	22 56 54.5	-1.4	
LOR				eR				
	comp=Z,910nm,20.5s							
LOR	Lormes	143.93	340	eP	PKPdf	22 56 54.5	-1.4	
LOR	Lormes	143.93	340	ePKIKP	PKPdf	22 56 54.5	-1.4	
SSF	Saint Saulge	144.23	340	ePKP1	PKPdf	22 56 54.8	-1.6	
	comp=Z,26nm,0.8s							
SSF	Saint Saulge	144.23	340	eP	PKPdf	22 56 54.8	-1.6	
SSF	Saint Saulge	144.23	340	ePKIKP	PKPdf	22 56 54.8	-1.6	
GRR	Gorron	144.28	346	ePKP1	PKPdf	22 56 55.0	-1.5	
GRR	Gorron	144.28	346	eP	PKPdf	22 56 55.0	-1.5	
GRR	Gorron	144.28	346	ePKIKP	PKPdf	22 56 55.0	-1.5	
HYF	Humbligny	144.33	341	ePKP1	PKPdf	22 56 55.4	-1.2	
HYF	Humbligny	144.33	341	eP	PKPdf	22 56 55.4	-1.2	
LPL	La Plagne	144.36	335	ePKP1	PKPdf	22 56 54.9	-1.8	
	comp=Z,25nm,0.9s							
LPL	La Plagne	144.36	335	eP	PKPdf	22 56 54.9	-1.8	
LPL	La Plagne	144.36	335	ePKIKP	PKPdf	22 56 54.9	-1.8	
LPG	La Plagne	144.36	335	ePKP1	PKPdf	22 56 55.1	-1.6	
	comp=Z,43nm,1.0s							
LPG	La Plagne	144.36	335	eP	PKPdf	22 56 55.1	-1.6	
LPG	La Plagne	144.36	335	ePKIKP	PKPdf	22 56 55.1	-1.6	
SMF	Signal de Mont	144.48	339	ePKP1	PKPdf	22 56 54.6	-2.3	
	comp=Z,122nm,1.5s							
SMF	Signal de Mont	144.48	339	eP	PKPdf	22 56 54.6	-2.3	
SMF	Signal de Mont	144.48	339	ePKIKP	PKPdf	22 56 54.6	-2.3	
AVF	Avril sur Loir	144.52	340	ePKP1	PKPdf	22 56 54.5	-2.4	
	comp=Z,60nm,1.3s							
AVF	Avril sur Loir	144.52	340	eP	PKPdf	22 56 54.5	-2.4	
AVF	Avril sur Loir	144.52	340	ePKIKP	PKPdf	22 56 54.5	-2.4	
SGMF	Saint Gilles	144.79	347	ePKP1	PKPdf	22 56 55.2	-2.1	
	comp=Z,208nm,1.4s							
SGMF	Saint Gilles	144.79	347	eP	PKPdf	22 56 55.2	-2.1	
SGMF	Saint Gilles	144.79	347	ePKIKP	PKPdf	22 56 55.2	-2.1	
ROSF	Rostrenen	144.86	348	ePKP1	PKPdf	22 56 55.5	-2.0	
	comp=Z,201nm,1.4s							
ROSF	Rostrenen	144.86	348	eP	PKPdf	22 56 55.5	-2.0	
ROSF	Rostrenen	144.86	348	ePKIKP	PKPdf	22 56 55.5	-2.0	
BGF	Bois d'Agland	144.89	340	ePKP1	PKPdf	22 56 56.1	-1.5	
	comp=Z,73nm,0.9s							
BGF	Bois d'Agland	144.89	340	eP	PKPdf	22 56 56.1	-1.5	
BGF	Bois d'Agland	144.89	340	ePKIKP	PKPdf	22 56 56.1	-1.5	
MBDF	Montbardon	144.99	335	ePKP1	PKPdf	22 56 56.4	-1.4	
	comp=Z,28nm,0.6s							
MBDF	Montbardon	144.99	335	eP	PKPdf	22 56 56.4	-1.4	
MBDF	Montbardon	144.99	335	ePKIKP	PKPdf	22 56 56.4	-1.4	
PLDF	La Plantade	145.14	339	PKP	PKPdf	22 56 57.6	-0.4	
ORIF	Oris-en-Rattie	145.19	336	ePKP1	PKPbc	22 56 57.5	-0.3	
	comp=Z,90nm,0.8s							
ORIF				eR				
	comp=Z,703nm,18.5s							
ORIF	Oris-en-Rattie	145.19	336	eP	PKPbc	22 56 57.5	-0.3	
ORIF	Oris-en-Rattie	145.19	336	ePKIKP	PKPdf	22 56 57.5	-0.7	
AGO	Saint Agoulin	145.24	340	PKP	PKPdf	22 56 57.6	-0.6	
SAOF	Saorge	145.24	333	PKP	PKPdf	22 56 57.5	-0.8	
AUTN	L'Aution	145.29	333	PKP	PKPdf	22 56 57.5	-0.9	
TCF	Toulx Ste Croi	145.33	341	ePKP1	PKPbc	22 56 57.6	-0.6	
	comp=Z,140nm,1.4s							
TCF	Toulx Ste Croi	145.33	341	eP	PKPbc	22 56 57.6	-0.6	
TCF	Toulx Ste Croi	145.33	341	ePKIKP	PKPdf	22 56 57.6	-0.8	
TOUF	Mont Tournerai	145.36	333	PKP	PKPdf	22 56 57.7	-0.8	
SBF	Sospel	145.39	333	ePKP1	PKPbc	22 56 57.6	-0.9	
	comp=Z,194nm,1.0s							
SBF	Sospel	145.39	333	eP	PKPbc	22 56 57.6	-0.9	
SBF	Sospel	145.39	333	ePKIKP	PKPdf	22 56 57.6	-0.9	
SSB	Saint Sauveur	145.41	337	ePKPdf	PKPdf	22 56 58.5	0.0	
SSB	Saint Sauveur	145.41	337	ePKIKP	PKPdf	22 56 58.6	+0.1	
MVIF	Mont Vial	145.49	333	PKP	PKPdf	22 56 57.5	-1.2	
PYM	Petit Puy Mans	145.54	339	PKP	PKPdf	22 56 59.7	+1.0	
PGF	Pioggiola	145.69	330	ePKP1	PKPbc	22 56 58.7	-0.7	
	comp=Z,62nm,0.8s							
PGF	Pioggiola	145.69	330	eP	PKPdf	22 56 58.7	-0.4	
PGF	Pioggiola	145.69	330	ePKP2	PKPdf	22 56 58.7	-0.4	
VIVF	Saint-Julien-l	145.71	337	ePKP1	PKPbc	22 56 59.1	-0.3	
	comp=Z,137nm,1.4s							
VIVF	Saint-Julien-l	145.71	337	eP	PKPdf	22 56 59.1	+0.1	
VIVF	Saint-Julien-l	145.71	337	ePKP2	PKPdf	22 56 59.1	+0.1	
MFF	Saint Martin d	145.75	344	ePKP1	PKPdf	22 56 57.7	-1.3	
	comp=Z,191nm,1.4s							
MFF	Saint Martin d	145.75	344	eP	PKPdf	22 56 57.7	-1.3	
MFF	Saint Martin d	145.75	344	ePKIKP	PKPdf	22 56 57.7	-1.3	
LBL	Lubilhac	145.91	339	PKP	PKPdf	22 57 00.8	+1.4	
FRF	La Foret Royal	145.98	334	ePKP1	PKPdf	22 56 59.4	-0.1	

SRU	**San Rafael**	**6.14**	**223**	*e*Pn	**Pn**	**22 40 28.8**	**-1.7**
	5.2nm,0.3s						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**22 41 10.1**	**-0.8**
	1.9nm,0.3s,baz=239,slow=10,SNR=11						
ULM				Lg		22 43 47.6	
	0.2nm,0.3s,baz=194,slow=19,SNR=3.2						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**22 41 10.1**	**-0.8**
ULM				Lg		22 43 47.6	
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**Pn**	**22 43 29.3**	**+0.1**
	0.1nm,0.3s,baz=160,slow=13,SNR=4.1						
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**Pn**	**22 43 29.3**	**+0.1**

*NEIC **13** 22:40:54.1±0.6, 14°.11S×166°.52E, h10km, mb4.5/3, Error ellipse: s-maj=24.9km s-min=12.7km az=133.0*
*ISCJB **13** 22:40:55.3±0.9, 14°.2S±0°.1×166°.6E±0°.2, h33km, mb4.2/13, Error ellipse: s-maj=27.6km s-min=14.4km az=36.6*
*IDC **13** 22:40:55.0±1.5, 13°.93S×166°.23E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.2/14, mbtmp4.2/9, Error ellipse: s-maj=55.9km s-min=27.2km az=124.0*
ISC 13 22:40:57.4±0.9, 14°.2S±0°.1×166°.6E±0°.2, h35km, n67, σ1§13/25, mb4.2/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**20.31**	**250**	*e*P	**P**	**22 45 28.5**	**-2.0**
	18nm,1.1s						
STKA	**Stephens Creek**	**28.87**	**228**	P	**P**	**22 46 53.6**	**+0.8**
	9.2nm,1.1s,mb4.4,baz=40,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**28.87**	**228**	P	**P**	**22 46 53.6**	**+0.8**
WRAB	**Tennant Creek**	**31.33**	**255**	P	**P**	**22 47 13.6**	**-1.1**
	6.6nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**31.34**	**255**	P	**P**	**22 47 14.6**	**-0.2**
	1.5nm,0.6s,mb4.0,baz=86,slow=9.5,SNR=3.0						
WRA	**Warramunga Arr**	**31.34**	**255**	P	**P**	**22 47 14.6**	**-0.2**
ASAR	**Alice Springs**	**32.27**	**248**	P	**P**	**22 47 23.4**	**+0.5**
	1.6nm,0.9s,mb3.9,baz=75,slow=9.3,SNR=2.4						
ASAR	**Alice Springs**	**32.27**	**248**	P	**P**	**22 47 23.4**	**+0.5**
MJAR	**Matsushiro Arr**	**57.12**	**333**	P	**P**	**22 50 40.6**	**+0.1**
	2.6nm,0.8s,mb4.3,baz=177,slow=8.6,SNR=4.6						
MJAR	**Matsushiro Arr**	**57.12**	**333**	P	**P**	**22 50 40.6**	**+0.1**
VNDA	**Vanda**	**63.40**	**181**	*e*P	**P**	**22 51 23.6**	**+0.7**
	2.2nm,0.6s,mb4.5						
PETK	**Petropavlovsk-**	**67.45**	**354**	P	**P**	**22 51 49.7**	**+0.4**
	2.3nm,0.5s,mb4.4,baz=166,slow=7.4,SNR=3.1						
PETK	**Petropavlovsk-**	**67.45**	**354**	P	**P**	**22 51 49.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P	**P**	**22 52 33.2**	**+2.5**
	1.3nm,0.9s,mb3.9,baz=119,slow=4.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P	**P**	**22 52 33.2**	**+2.5**
SONM	**Songino Array**	**81.67**	**324**	P	**P**	**22 53 13.5**	**+1.5**
	1.4nm,1.0s,mb3.8,baz=114,slow=3.6,SNR=3.8						
SONM	**Songino Array**	**81.67**	**324**	P	**P**	**22 53 13.5**	**+1.5**
ILAR	**Eielson Array**	**86.20**	**18**	P	**P**	**22 53 33.4**	**-1.4**
	2.0nm,0.6s,mb4.5,baz=237,slow=5.1,SNR=7.9						
ILAR	**Eielson Array**	**86.20**	**18**	P	**P**	**22 53 33.4**	**-1.4**
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**22 54 23.1**	**+0.5**
	0.7nm,0.7s,mb4.2,baz=85,slow=5.3,SNR=4.0						
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**22 54 23.1**	**+0.6**
ZALV	**Zalesovo Beam**	**96.57**	**324**	P	**P**	**22 54 22.9**	**-0.5**
	0.6nm,0.5s,mb4.3,baz=113,slow=6.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**96.57**	**324**	P	**P**	**22 54 22.9**	**-0.5**
YKA	**Yellowknife Ar**	**97.36**	**27**	P	**P**	**22 54 25.3**	**-1.4**
	0.2nm,0.6s,mb3.7,baz=256,slow=4.6,SNR=3.1						
YKA	**Yellowknife Ar**	**97.36**	**27**	P	**P**	**22 54 25.3**	**-1.4**
KEV	**Kevo**	**119.03**	**345**	*e*pkp	PKPdf	22 59 43.6	+1.8
ARCES	**ARCESS Array B**	**119.56**	**345**	PKP	PKPdf	22 59 42.2	-0.7
	2.5nm,0.6s,baz=77,slow=1.8,SNR=5.8						
ARCES	**ARCESS Array B**	**119.56**	**345**	PKP	PKPdf	22 59 42.2	-0.7
JOF	**Joensuu**	**122.13**	**338**	*e*pkp	PKPdf	22 59 49.9	+1.9
KAF	**Kangasniemi**	**124.45**	**339**	*e*pkp	PKPdf	22 59 54.7	+2.3
FINES	**FINESS Array B**	**124.97**	**338**	PKP	PKPdf	22 59 56.8	+3.4
	4.9nm,0.9s,baz=84,slow=2.6,SNR=7.0						
FINES	**FINESS Array B**	**124.97**	**338**	PKP	PKPdf	22 59 56.8	+3.4
AKASG	**Malin Array Be**	**129.92**	**326**	PKP	PKPdf	23 00 05.7	+2.5
	2.0nm,0.7s,baz=42,slow=3.9,SNR=5.0						
AKASG	**Malin Array Be**	**129.92**	**326**	PKP	PKPdf	23 00 05.7	+2.5
NOA	**NORSAR Array B**	**129.93**	**345**	PKP	PKPdf	23 00 05.0	+2.0
	3.5nm,0.9s,baz=34,slow=2.9,SNR=5.2						
NOA	**NORSAR Array B**	**129.93**	**345**	PKP	PKPdf	23 00 05.0	+2.0
BRTR	**Keskin Array B**	**131.66**	**311**	PKhKP	PKPpre	23 00 00.7	
	0.9nm,0.7s,baz=108,slow=2.8,SNR=4.1						
BRTR				PKP	PKPdf	23 00 10.3	+3.5
	2.5nm,0.8s,baz=100,slow=3.6,SNR=9.6						
BRTR	**Keskin Array B**	**131.66**	**311**	PKPpre	PKPpre	23 00 00.7	
BRTR				PKP	PKPdf	23 00 10.3	+3.5
EIL	**Elat**	**132.91**	**297**	PKhKP	PKPpre	23 00 00.7	
	3.4nm,0.8s,baz=65,slow=15,SNR=3.1						
EIL	**Elat**	**132.91**	**297**	PKPpre	PKPpre	23 00 07.6	
CRVS	**Cervenica-Dubn**	**135.08**	**328**	*e*PKP	PKPdf	23 00 18.9	+5.9
KECS	**Kecovo**	**135.84**	**328**	*e*PKP	PKPdf	23 00 21.6	+7.2
VYHS	**Vyhne**	**136.68**	**329**	*e*PKP	PKPdf	23 00 24.6	+8.6
KOLL	**Kolacno**	**136.84**	**329**	*e*PKP	PKPdf	23 00 25.1	+8.8
CLL	**Collm**	**137.29**	**336**	*e*(PKiKP)		23 00 21.0	
GERES	**GERESS Array B**	**138.86**	**333**	PKP	PKPdf	23 00 25.7	+5.7
	1.2nm,0.7s,baz=54,slow=2.3,SNR=6.8						
GERES	**GERESS Array B**	**138.86**	**333**	PKP	PKPdf	23 00 25.7	+5.7
LPG	**La Plagne**	**144.44**	**335**	*e*PKP1	PKPdf	23 00 30.6	+0.5
LPG	**La Plagne**	**144.44**	**335**	*e*P	PKPdf	23 00 30.6	+0.5
ORIF	**Oris-en-Rattie**	**145.26**	**336**	*e*PKP1	PKPbc	23 00 31.9	+0.6
	45nm,1.0s						
ORIF	**Oris-en-Rattie**	**145.26**	**336**	*e*P	PKPbc	23 00 31.9	+0.6
TCF	**Toulx Ste Croi**	**145.40**	**341**	*e*PKP1	PKPbc	23 00 31.9	+0.2
TCF	**Toulx Ste Croi**	**145.40**	**341**	*e*P	PKPbc	23 00 31.9	+0.2
SBF	**Sospel**	**145.47**	**333**	*e*PKP1	PKPbc	23 00 32.1	+0.1
	84nm,1.2s						
SBF	**Sospel**	**145.47**	**333**	*e*P	PKPdf	23 00 32.1	+0.2
PGF	**Pioggiola**	**145.76**	**330**	*e*PKP1	PKPbc	23 00 33.0	+0.1
	67nm,1.2s						
PGF	**Pioggiola**	**145.76**	**330**	*e*P	PKPdf	23 00 33.0	+0.5
FRF	**La Foret Royal**	**146.05**	**334**	*e*PKP1	PKPbc	23 00 33.6	-0.2
FRF	**La Foret Royal**	**146.05**	**334**	*e*P	PKPdf	23 00 33.6	+0.7
SMRF	**Simiane la Rot**	**146.16**	**335**	*e*PKP1	PKPbc	23 00 34.6	+0.5
SMRF	**Simiane la Rot**	**146.16**	**335**	*e*P	PKPbc	23 00 34.6	+0.5
MTLF	**Montolieu**	**147.99**	**338**	*e*PKP1	PKPbc	23 00 38.9	-0.4
	35nm,1.0s						
MTLF	**Montolieu**	**147.99**	**338**	*e*P	PKPbc	23 00 38.9	-0.4
KEST	**Kesra**	**150.38**	**320**	PKPbc	PKPbc	23 00 46.6	+1.1
	4.2nm,0.9s,baz=49,slow=2.1,SNR=5.3						
KEST	**Kesra**	**150.38**	**320**	PKPbc	PKPbc	23 00 46.6	+1.1
TORD	**Torodi Ar. Bea**	**165.30**	**268**	PKP	PKPdf	23 01 02.7	+3.7
	0.4nm,0.6s,baz=142,slow=1.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**165.30**	**268**	PKP	PKPdf	23 01 02.8	+3.7

JMA 13 22:59:46.1±0.4, 31°.81N×142°.80E, h48km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.84**	**298**	*e*S	Sn	23 01 02.8	+1.0
BSO1	**Boso 1**	**3.22**	**332**	P	Pn	23 00 35.7	+1.6
BSO3	**Boso 3**	**3.55**	**328**	P	Pn	23 00 40.7	+2.1
BSO4	**Boso 4**	**3.78**	**328**	P	Pn	23 00 44.3	+2.5
JOD2	**Odawara 2**	**4.63**	**319**	*e*S	Sn	23 01 48.7	+2.7
CBIJ	**Chichi jima**	**4.73**	**187**	*e*S	Sn	23 01 49.6	+1.2
JHU	**Hanno**	**4.98**	**325**	P	Pn	23 00 59.8	+1.5
JHU				*e*S	Sn	23 01 57.0	+2.4
JHO	**Hitachi**	**5.13**	**340**	P	Pn	23 01 01.3	+0.9
JHO				*e*S	Sn	23 01 58.0	-0.3
JRY	**Ryogami san**	**5.30**	**323**	P	Pn	23 01 05.4	+2.7
JRY				*e*S	Sn	23 02 04.3	+1.9
JAG	**Ashikaga**	**5.38**	**330**	P	Pn	23 01 05.8	+2.1
JAG				*e*S	Sn	23 02 05.4	+1.1
JMK	**Ichinoseki**	**7.24**	**350**	P	Pn	23 01 29.3	0.0
JMK				*e*S	Sn	23 02 46.5	-3.6

CASC 13 23:06:49.1±1.7, 13°.65N×91°.27W, h44km±25km, MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSG	**Pto de San Jos**	**0.56**	**58**	*e*P	Pn	23 07 01.8	+1.1
PSG				*e*S	Sn	23 07 09.8	+0.8
JAT	**Jato**	**0.75**	**332**	*e*P	Pn	23 07 03.7	+0.4
JAT				*e*S	Sn	23 07 12.9	-0.8
FUG	**Fuego 3**	**0.90**	**28**	*e*P	Pn	23 07 05.6	+0.2
FUG				*e*S	Sn	23 07 19.4	+2.2
IXG	**Ixpaco**	**0.95**	**57**	*e*P	Pn	23 07 06.0	0.0
IXG				*e*S	Sn	23 07 19.0	+0.5
FG6		**0.98**	**23**	*e*P	Pn	23 07 07.1	+0.7
FG6				*e*S	Sn	23 07 20.2	+1.0
PCG	**Pacaya**	**0.98**	**41**	*e*P	Pn	23 07 07.0	+0.6
PCG				*e*S	Sn	23 07 20.4	+1.1
NBG	**Las Nubes**	**1.30**	**44**	*e*P	Pn	23 07 12.2	+1.4
NBG				*e*S	Sn	23 07 29.9	+3.0
RTR	**El Retiro**	**1.60**	**81**	*e*P	Pn	23 07 15.2	+0.3
RBDL	**Robledal**	**1.61**	**73**	*e*P	Pn	23 07 15.3	+0.2
SBLS	**San Blas**	**1.61**	**83**	*e*P	Pn	23 07 15.1	0.0
SNJE	**San Jose**	**1.64**	**82**	*e*P	Pn	23 07 15.7	+0.3
BOQS	**Boqueron**	**1.94**	**87**	*e*P	Pn	23 07 20.2	+0.6
SNET	**Serv Nac Est T**	**1.99**	**89**	*e*S	Sn	23 07 43.9	0.0
MTO2	**Montecristo 2**	**2.00**	**68**	*e*P	Pn	23 07 20.5	+0.1
LFRS	**El Faro**	**2.15**	**90**	*e*P	Pn	23 07 22.5	0.0
SNVI	**San Vicente**	**2.37**	**91**	*e*P	Pn	23 07 26.7	+1.2
CAHU	**Cacacuatique**	**2.98**	**87**	*e*P	Pn	23 07 35.5	+1.6
CNCH	**Conchagua**	**3.37**	**96**	*e*P	Pn	23 07 39.5	+0.3
CNCH				*e*S	Sn	23 08 19.2	+1.2

*DDA **13** 23:09:10.8, 37°.06N×39°.13E, h7km±3km, Md3.0*
*ISCJB **13** 23:09:11.1±0.8, 37°.03N±0°.05×39°.07E±0°.04, h10km, Error ellipse: s-maj=6.9km s-min=4.6km az=170.2*
*CSEM **13** 23:09:12.3±0.6, 37°.13N×39°.09E, h2km, MD3.0, Error ellipse: s-maj=11.3km s-min=6.8km az=133.0*
*ISK **13** 23:09:13.2, 37°.22N×38°.98E, h2km, MD3.0*
ISC 13 23:09:11.0±0.8, 37°.08N±0°.05×39°.14E±0°.04, h1km±6km, n24, σ0§85/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.44**	**325**	*e*PG	**Pg**	**23 09 19.0**	**-0.4**
URFA				*e*SG	**Sg**	**23 09 24.3**	**-0.8**
URFA	**Urfa**	**0.44**	**325**	*e*Pg	**Pg**	**23 09 19.0**	**-0.4**
URFA				*e*Sg	**Sg**	**23 09 24.3**	**-0.8**
ATAB	**Bozova**	**0.77**	**300**	*i* P	**Pg**	**23 09 25.3**	**-0.6**
ATAB				*i* S	**Sg**	**23 09 38.0**	**+2.1**
ATAB	**Bozova**	**0.77**	**300**	*i* P	**Pg**	**23 09 25.3**	**-0.6**
ATAB				*i* S	**Sg**	**23 09 38.0**	**+2.1**
SVRC	**Sivrice-ELAZID**	**1.30**	**6**	*e*PN	**Pn**	**23 09 37.0**	**+0.6**
SVRC				*e*SN	**Sn**	**23 09 53.6**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.30**	**6**	*e*Pn	**Pn**	**23 09 37.0**	**+0.6**
SVRC				*e*Sn	**Sn**	**23 09 53.6**	**-0.8**
MARD	**Mardin**	**1.33**	**80**	*i* P	**Pg**	**23 09 35.7**	**-0.8**
MARD				*i* S	**Sg**	**23 09 55.5**	**+1.7**
MALT	**Malatya**	**1.35**	**336**	*e*PN	**Pn**	**23 09 37.1**	**0.0**
MALT	**Malatya**	**1.35**	**336**	*e*Pn	**Pn**	**23 09 37.1**	**0.0**
MYA	**Malataya**	**1.36**	**336**	*e*PN	**Pn**	**23 09 36.7**	**-0.5**
MYA	**Malataya**	**1.36**	**336**	*e*Pn	**Pn**	**23 09 36.7**	**-0.6**
ELZG	**Elazig**	**1.42**	**355**	*i* P	**Pn**	**23 09 38.4**	**+0.3**
ELZG				*i* S	**Sg**	**23 09 57.7**	**+1.1**
ELZG	**Elazig**	**1.42**	**355**	*i* P	**Pn**	**23 09 38.3**	**+0.3**
ELZG				*i* S	**Sg**	**23 09 57.7**	**+1.1**
GAZ	**Gaziantep**	**1.54**	**274**	*e*PN	**Pg**	**23 09 40.7**	**+0.1**
GAZ	**Gaziantep**	**1.54**	**274**	*e*Pn	**Pg**	**23 09 40.7**	**+0.1**
AKCD	**Akcadag**	**1.55**	**322**	*i* P	**Pn**	**23 09 39.8**	**+0.1**
AKCD				*i* S	**Sn**	**23 10 00.4**	**-0.1**
AKCD	**Akcadag**	**1.55**	**322**	*i* P	**Pn**	**23 09 39.8**	**0.0**
AKCD				*i* S	**Sn**	**23 10 00.4**	**-0.1**
KUZU	**Kuzuini**	**1.68**	**260**	*i* P	**Pg**	**23 09 42.3**	**-0.9**
KUZU				*i* S	**Sg**	**23 10 05.2**	**+0.2**
KUZU	**Kuzuini**	**1.68**	**260**	*i* P	**Pg**	**23 09 42.3**	**-0.9**
KUZU				*i* S	**Sg**	**23 10 05.2**	**+0.2**
PTK	**Pertek**	**1.82**	**6**	*e*PN	**Pg**	**23 09 45.7**	**-0.2**
PTK	**Pertek**	**1.82**	**6**	*e*Pn	**Pg**	**23 09 45.7**	**-0.2**
KMRS	**Kahramanmaras**	**1.83**	**284**	*e*PN	**Pn**	**23 09 44.6**	**+0.9**
KMRS	**Kahramanmaras**	**1.83**	**284**	*e*Pn	**Pn**	**23 09 44.6**	**+0.9**
BNGB	**Bing¶ll**	**2.26**	**32**	*e*PN	**Pg**	**23 09 53.0**	**-1.4**

*LDG **13** 23:17:13.8±0.3, 13°.89S×166°.71E, h10km, Mb5.1/3, Error ellipse: s-maj=39.6km s-min=11.8km az=86.0*
*NEIC **13** 23:17:13.9±0.2, 14°.15S×166°.73E, h10km, mb5.1/31, Error ellipse: s-maj=8.9km s-min=7.5km az=111.0*
*ISCJB **13** 23:17:16.6±1.1, 14°.23S±0°.04×166°.54E±0°.05, h33km±10km, mb4.9/67, MS4.5/27, Error ellipse: s-maj=8.2km s-min=6.0km az=138.5*
*MOS **13** 23:17:16.9±1.3, 14°.14S×166°.52E, h33km, mb5.3/27, MS4.5/4, Error ellipse: s-maj=10.2km s-min=8.0km az=36.7*
*BJI **13** 23:17:19.8, 13°.65S×166°.94E, h53km, mB5.2/21, mb4.8/36, Ms5.0/18, Ms7 4.8/20*
*GCMT **13** 23:17:21.4±0.3, 14°.26S×166°.56E, h24km, MW5.1, Moment Tensor Solution. s43,c57; s54,c79; Moment tensor: Scale 10^{16}Nm; M_{rr}5.21±.30; $M_{\theta\theta}$0.86±.23; $M_{\phi\phi}$-6.07±.20; $M_{r\theta}$1.98±.36; $M_{\theta\phi}$0.94±.14; $M_{\phi r}$-1.12±.23; Best double couple: $M_0$6.20000×10^{16} NP1:ϕ_s12.00000°, δ42.00000°, λ120.00000°. NP2:ϕ_s154.00000°, δ55.00000°, λ66.00000°. Principal axes: T 6.0200, Plg69.0000°, Azm10.0000°; N 0.3500, Plg19.0000°, Azm168.0000°; P -6.3700, Plg7.0000°, Azm261.0000°; Data Used: II IC G IU.*
*IDC **13** 23:17:23.8±2.8, 14°.11S×166°.43E, h79km±23km, mb4.3/18, mb1 4.4/20, mb1mx4.4/21, mbtmp4.4/20, MS4.5/18, Ms1 4.5/18, ms1mx4.3/35 Error ellipse: s-maj=15.8km s-min=12.8km az=71.0*
ISC 13 23:17:20.0±0.9, 14°.24S±0°.04×166°.55E±0°.04, h49km±8km, h59km±2.2km: pP-P, n360, σ1§07/178, mb4.9/67, MS4.5/27, 6C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.79**	**181**	*e*Pn	**Pn**	**23 19 09.7**	**-1.1**
	35nm,0.2s						
DZM				*e*LR	LR	23 20 45.0	
	3µm,24.2s						
DZM	**Mont Dzumac**	**7.79**	**181**	*e*P	**Pn**	**23 19 08.4**	**-2.4**
DZM				*e*S	**Sn**	**23 20 36.1**	**-1.6**
DZM	**Mont Dzumac**	**7.79**	**181**	*e*Pn	**Pn**	**23 19 08.6**	**-2.2**
	66nm,0.6s						
DZM				*e*S	**Sn**	**23 20 38.5**	**+0.8**
NOUC	**Port Laguerre**	**7.83**	**182**	*e*P	**Pn**	**23 19 10.0**	**-1.3**
NOUC				*e*S	**Sn**	**23 20 36.6**	**-1.9**
HNR	**Honiara**	**8.04**	**306**	P	**Pn**	**23 19 13.5**	**-0.6**
	61nm,0.3s,baz=165,slow=2.8,SNR=25						
HNR				S	**Sn**	**23 20 44.5**	**+0.8**
	35nm,0.3s,baz=357,slow=17,SNR=3.9						
HNR				LR	LR	23 22 01.2	
	comp=Z,2µm,19.8s,baz=137,slow=35						
HNR	**Honiara**	**8.04**	**306**	*e*Pn	**Pn**	**23 19 13.5**	**-0.7**
HNR				*e*S	**Sn**	**23 20 44.2**	**+0.5**
HNR				S	**Sn**	**23 20 44.5**	**+0.8**
HNR	**Honiara**	**8.04**	**306**	*e*P	**Pn**	**23 19 13.5**	**-0.7**
HNR				*e*S	**Sn**	**23 20 44.2**	**+0.5**
HNR				S	**Sn**	**23 20 44.5**	**+0.8**
MSVF	**Nonsavu**	**11.59**	**109**	Pn	**Pn**	**23 20 03.6**	**+0.7**
MSVF	**Nonsavu**	**11.59**	**109**	P	**Pn**	**23 20 03.6**	**+0.7**
PMG	**Port Moresby**	**19.57**	**282**	P	**Pn**	**23 21 44.7**	**-1.0**
	0.4nm,0.3s,baz=101,slow=7.5,SNR=12						
PMG	**Port Moresby**	**19.57**	**282**	P	**Pn**	**23 21 44.7**	**-1.0**
PMG				*e*Pn	**Pn**	**23 21 46.4**	**+0.7**
PMG	**Port Moresby**	**19.57**	**282**	*c i* P	**Pn**	**23 21 46.3**	**+0.6**
PMG				pmax	pmax		
	comp=Z,72nm,1.7s						
PMG	**Port Moresby**	**19.57**	**282**	P	**Pn**	**23 21 46.5**	**+0.8**
	comp=Z,47nm,1.1s						
CTA	**Charters Tower**	**20.24**	**250**	P	**P**	**23 21 53.3**	**+2.0**
	comp=Z,26nm,1.0s,baz=71,slow=13,SNR=14						
CTA				LR	LR	23 28 56.1	
	comp=Z,1µm,18.2s,MS4.3,baz=72,slow=34						
CTA	**Charters Tower**	**20.24**	**250**	*e*P	**P**	**23 21 52.7**	**+1.4**
	comp=Z,22nm,1.0s						
CTA				*e*		23 21 59.4	
CTA	**Charters Tower**	**20.24**	**250**	P	**P**	**23 21 53.3**	**+2.0**
CTA	**Charters Tower**	**20.24**	**250**	P	**P**	**23 21 53.3**	**+2.0**
CTAO	**Charters Tower**	**20.24**	**250**	*e*P	**P**	**23 21 52.7**	**+1.4**
	comp=Z,45nm,1.1s						
CTAO	**Charters Tower**	**20.24**	**250**	*e*P	**P**	**23 21 52.7**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,45nm,1.1s						
CTAO	**Charters Tower**	**20.24**	**250**	P	**P**	**23 21 52.7**	**+1.4**
	comp=Z,45nm,1.2s						
AFI	**Afiamalu**	**21.03**	**92**	P	**P**	**23 22 03.1**	**+3.3**
	comp=Z,35nm,0.7s,mb4.8,baz=215,slow=23,SNR=4.6						
AFI				LR	LR	23 28 16.2	
	comp=Z,936nm,18.4s,MS4.2,baz=292,slow=31						
AFI	**Afiamalu**	**21.03**	**92**	P	**P**	**23 22 03.1**	**+3.3**
AFI	**Afiamalu**	**21.03**	**92**	P	**P**	**23 22 03.1**	**+3.3**
ARMA	**Armidale**	**21.17**	**218**	*e*P	**P**	**23 22 02.7**	**+1.5**
OUZ	**Omahuta**	**21.84**	**164**	*e*P	**P**	**23 22 10.0**	**+1.6**
	comp=Z,70nm,0.9s,mb5.1						
COEN	**Coen**	**22.67**	**268**	P	**P**	**23 22 19.2**	**+1.8**
	comp=Z,52nm,1.1s,mb4.9						
RIV	**Riverview**	**23.98**	**213**	*e*P	pP	23 22 40.3	-2.3
URZ	**Urewera**	**25.69**	**161**	P	**P**	**23 22 49.7**	**+4.1**
	comp=Z,32nm,0.9s,mb4.9,baz=345,slow=7.5,SNR=14						
URZ				LR	LR	23 31 41.2	
	comp=Z,952nm,18.1s,MS4.4,baz=241,slow=33						
URZ	**Urewera**	**25.69**	**161**	*e*P	**P**	**23 22 46.4**	**+0.8**
	comp=Z,38nm,0.9s,mb4.9						
CNB	**Canberra Magne**	**26.07**	**213**	*e*P	pP	23 22 59.5	-2.1
	comp=Z,118nm,0.9s						
STKA	**Stephens Creek**	**28.79**	**228**	P	**P**	**23 23 14.6**	**+1.2**
	comp=Z,9.9nm,0.7s,mb4.7,baz=41,slow=7.3,SNR=18						
STKA				LR	LR	23 34 57.2	
	comp=Z,3µm,18.1s,MS4.9,baz=48,slow=37						
STKA	**Stephens Creek**	**28.79**	**228**	*e*P	**P**	**23 23 13.8**	**+0.4**
	comp=Z,11nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**28.79**	**228**	*e*P	**P**	**23 23 13.5**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**28.79**	**228**	*e*P	**P**	**23 23 13.5**	**+0.1**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RPZ	**Rata Peaks**	**29.63**	**173**	P	**P**	**23 23 23.0**	**+2.3**
	comp=Z,13nm,0.8s,mb4.7,baz=279,slow=2.3,SNR=7.5						
RPZ				LR	LR	23 32 35.9	
	comp=Z,489nm,19.1s,MS4.2,baz=194,slow=31						
RPZ	**Rata Peaks**	**29.63**	**173**	*e*P	**P**	**23 23 24.9**	**+4.3**
TOO	**Toolangi**	**29.84**	**215**	*e*P	pP	23 23 33.2	-2.1
	comp=Z,87nm,1.1s						
SMPI	**Sarmi**	**30.07**	**291**	P	pP	23 23 37.1	-0.6
	comp=Z,37nm,0.8s						
WRAB	**Tennant Creek**	**31.26**	**255**	*e*P	**P**	**23 23 34.1**	**-1.3**
	comp=Z,7.2nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**31.26**	**255**	*e*P	**P**	**23 23 34.1**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**31.26**	**255**	P	**P**	**23 23 43.5**	**+8.1**
	comp=Z,19nm,1.4s,mb4.7						
WRA	**Warramunga Arr**	**31.27**	**255**	P	**P**	**23 23 34.3**	**-1.2**
	comp=Z,2.7nm,0.8s,mb4.1,baz=84,slow=8.7,SNR=12						
WRA				LR	LR	23 35 57.4	
	comp=Z,998nm,18.3s,MS4.5,baz=75,slow=36						
WRA	**Warramunga Arr**	**31.27**	**255**	P	**P**	**23 23 34.3**	**-1.2**
WRA	**Warramunga Arr**	**31.27**	**255**	P	**P**	**23 23 34.3**	**-1.2**
AS31	**Alice Springs**	**32.20**	**248**	*e*P	**P**	**23 23 42.9**	**-0.8**
ASAR	**Alice Springs**	**32.20**	**248**	P	**P**	**23 23 43.0**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.3,baz=74,slow=9.3,SNR=44						
ASAR	**Alice Springs**	**32.20**	**248**	P	**P**	**23 23 43.0**	**-0.6**
ASAR	**Alice Springs**	**32.20**	**248**	P	**P**	**23 23 43.0**	**-0.6**
RAR	**Rarotonga**	**32.77**	**107**	LR	LR	23 34 14.4	
	comp=Z,576nm,21.3s,MS4.2,baz=272,slow=31						
BBOO	**Buckleboo**	**33.34**	**231**	*e*P	**P**	**23 23 53.9**	**+0.4**
	comp=Z,759nm,1.0s						
GUMO	**Guam**	**35.00**	**321**	LR	LR	23 36 26.6	
	comp=Z,373nm,18.3s,MS4.2,baz=156,slow=33						
FORT	**Forrest**	**38.95**	**238**	*e*P	**P**	**23 24 41.7**	**+0.2**
	comp=Z,20nm,0.6s,mb5.0						
FORT

HABR e*PP pP 23 28 24.9 -5.6
HABR e*SP sP 23 28 29.0 -7.0
HABR eS S 23 37 15.3 +0.9
HABR *SS sS 23 37 32.3 -5.4
HABR e 23 38 11.5
HABR eSS SS 23 41 39.7 +0.4
HABR pmax pmax
comp=N,15nm,1.8s
HABR pmax pmax
comp=Z,38nm,1.5s,mb5.2
HABR pmax pmax
comp=E,29nm,1.8s
HABR MLR MLR
comp=Z,123nm,15.0s,MS4.3
CN2 Changchun 68.87 329 eP P 23 28 20.0 +0.5
CN2 ePP pP 23 28 36.4 +3.0
CN2 eS S 23 37 18.8 -1.2
CN2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.6
CN2 LR LR
comp=E,200nm,15.0s,MS4.6
CN2 LR LR
comp=Z,200nm,15.0s,MS4.5
KLR Kul'dur 70.28 337 eP P 23 28 24.7 -3.4
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.2
GYA Guiyang 70.86 305 eP P 23 28 32.5 +0.4
GYA pP pP 23 28 50.3 +4.2
GYA sP sP 23 28 55.4 +3.8
GYA PP PP 23 31 12.3 +2.4
GYA S S 23 37 42.8 -1.3
GYA sS sS 23 38 11.0 +3.6
GYA SKS 23 38 27.3
GYA SS SS 23 42 20.3 +2.6
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,120nm,5.3s
GYA LR LR
comp=N,520nm,19.3s,MS4.9
GYA LR LR
comp=E,400nm,20.0s,MS4.9
GYA LR LR
comp=Z,540nm,21.1s,MS4.8
BJI Beijing 71.45 321 P P 23 28 36.0 +0.6
KMI Kunming 73.45 302 P P 23 28 49.8 +2.1
KMI pP pP 23 29 04.9 +3.2
KMI pmax pmax
comp=Z,14nm,0.6s,mb5.1
KMI Kunming 73.45 302 P P 23 28 49.7 +2.0
comp=Z,14nm,0.6s,mb5.1
KMI pP pP 23 29 04.9 +3.2
KMI Kunming 73.45 302 P P 23 28 49.7 +2.0
KMI *PP pP 23 29 04.9 +3.2
KMI pmax pmax
comp=Z,14nm,0.6s,mb5.1
CM31 Chiang Mai Arr 74.11 294 eP P 23 28 52.0 +0.4
CMAR Chiang Mai Arr 74.11 294 P P 23 28 52.6 +1.0
comp=Z,2.6nm,0.7s,mb4.3,baz=118,slow=4.4,SNR=20
CMAR Chiang Mai Arr 74.11 294 P P 23 28 52.6 +1.0
CMAR Chiang Mai Arr 74.11 294 P P 23 28 52.7 +1.1
CHTO Chiang Mai 74.24 294 eP P 23 28 53.5 +1.1
comp=Z,18nm,1.6s,mb4.8
CHTO Chiang Mai 74.24 294 eP P 23 28 53.5 +1.1
CHTO pmax pmax
comp=Z,19nm,1.6s,mb4.8
HHC Hu-ho-hao-te 74.76 320 eP P 23 28 55.8 +0.9
HHC pP pP 23 29 12.1 +3.1
HHC sP sP 23 29 19.3 +4.8
HHC PP PP 23 31 46.8 +3.9
HHC S S 23 38 26.3 -1.6
HHC SS SS 23 43 18.6 +1.8
HHC pmax pmax
comp=Z,12nm,1.0s,mb4.8
HHC pmax pmax
comp=Z,410nm,8.0s
HHC LR LR
comp=N,210nm,16.7s,MS4.7
HHC LR LR
comp=E,220nm,15.5s,MS4.7
HHC LR LR
comp=Z,250nm,16.7s,MS4.6
CD2 Chengdu 75.16 308 eP P 23 28 58.5 +1.0
CD2 pP pP 23 29 15.0 +3.5
CD2 sP sP 23 29 22.3 +5.3
CD2 PP PP 23 31 49.8 +3.4
CD2 S S 23 38 31.3 -1.4
CD2 sS sS 23 38 59.8 +3.5
CD2 SS SS 23 43 24.0 +0.8
CD2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CD2 pmax pmax
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,250nm,14.4s
CD2 LR LR
comp=Z,230nm,16.8s,MS4.5
QSPA South Pole Qui 75.79 180 eP P 23 28 59.3 -1.0
comp=Z,22nm,1.1s,mb5.0
LZH Lanzhou 77.47 312 eP P 23 29 12.6 +2.1
LZH pP pP 23 29 29.0 +4.4
LZH ePP PP 23 32 10.3 +4.4
LZH eS S 23 38 57.5 -0.4
LZH sS sS 23 39 26.8 +5.2
LZH eSS SS 23 44 01.3 +3.2
LZH pmax pmax
comp=Z,21nm,1.5s,mb4.8
LZH pmax pmax
comp=Z,97nm,7.6s
LZH LR LR
comp=N,310nm,16.2s,MS4.8
LZH LR LR
comp=E,250nm,15.6s,MS4.8
LZH LR LR
comp=Z,440nm,19.0s,MS4.8
LZH Lanzhou 77.47 312 eP P 23 29 12.6 +2.1
comp=Z,21nm,1.5s,mb4.8
LZH pP pP 23 29 29.0 +4.4
LZH sP sP 23 29 38.1 +8.0
LZH ePP PP 23 32 10.2 +4.3
LZH eS S 23 38 57.5 -0.4
LZH sS sS 23 39 26.7 +5.1
LZH eSS SS 23 44 01.3 +3.2
LZH LR LR
comp=Z,440nm,19.0s,MS4.8
LZH Lanzhou 77.47 312 eP P 23 29 12.6 +2.1
LZH *PP pP 23 29 29.0 +4.4
LZH e 23 32 10.2
LZH eS S 23 38 57.5 -0.4
LZH *SS sS 23 39 26.7 +5.1
LZH eSS SS 23 44 01.3 +3.2
LZH pmax pmax
comp=Z,21nm,1.5s,mb4.8
LZH MLR MLR
comp=Z,440nm,19.0s,MS4.8
SEY Seymchan 77.71 353⇓ eP P 23 29 10.9 -0.3
KDAK Kodiak Island 79.25 21 LR LR 23 58 43.1
comp=Z,423nm,19.8s,MS4.8,baz=243,slow=31
ULN Ulaanbaatar 81.33 324 eP P 23 29 31.1 -0.1
comp=Z,25nm,1.3s,mb5.0
ULN PP PP 23 32 30.3 -7.4
ULN Ulaanbaatar 81.33 324 eP P 23 29 31.1 -0.1
ULN pmax pmax
comp=Z,25nm,1.3s,mb5.0
YAK Yakutsk 81.36 343 eP P 23 29 30.1 -0.9
comp=Z,55nm,1.0s,mb5.4
YAK Yakutsk 81.36 343 eP P 23 29 29.6 -1.4
YAK pmax pmax
comp=Z,50nm,1.3s,mb5.3
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.4s
SONM Songino Array 81.69 324 P P 23 29 33.0 -0.1
comp=E,3.6nm,0.9s,mb4.3,baz=144,slow=4.4,SNR=23
SONM Songino Array 81.69 324 P P 23 29 33.0 -0.1
SONM Songino Array 81.69 324 P P 23 29 33.0 -0.1
GTA Gaotai 81.83 314 ⇓P P 23 29 35.8 +1.8
GTA pP pP 23 29 52.8 +4.6
GTA sP sP 23 29 59.1 +5.4
GTA S S 23 39 45.1 +1.3
GTA pmax pmax
comp=Z,14nm,1.7s,mb4.6
GTA pmax pmax
comp=Z,97nm,5.5s
GTA LR LR
comp=N,220nm,15.4s,MS4.8
GTA LR LR
comp=E,210nm,15.4s,MS4.8
GTA LR LR
comp=Z,210nm,16.6s,MS4.6
BILL Bilibino 82.05 360 eP P 23 29 32.9 -1.6
comp=Z,21nm,0.8s,mb5.1
BILL Bilibino 82.05 360c iP P 23 29 33.2 -1.3
BILL e*PP pP 23 29 45.2 -3.6
BILL e*SP sP 23 29 51.0 -3.2
BILL eS S 23 39 46.2 +1.3
BILL eSS SS 23 45 09.3 +4.0
BILL pmax pmax
comp=Z,37nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.2
MAW Mawson 82.08 202 P P 23 29 34.6 -0.3
comp=Z,4.7nm,0.9s,mb4.4,baz=94,slow=11,SNR=5.6
MAW Mawson 82.08 202 eP P 23 29 35.1 +0.2
comp=Z,1.7nm,0.9s,mb4.0
MAW Mawson 82.08 202 eP P 23 29 35.1 +0.2
MAW pmax pmax
comp=Z,2.0nm,0.9s
BOD Bodaibo 83.73 335 eP P 23 29 42.3 -1.2
BOD pmax pmax
comp=Z,10.0nm,1.6s,mb4.7
ZAK Zakamensk 84.75 325⇑ iP P 23 29 48.3 -0.5
ZAK pmax pmax
comp=Z,12nm,1.2s,mb4.9
MCK McKinley 84.90 18 eP P 23 29 48.4 -0.9
comp=Z,18nm,1.0s,mb5.2
MCK e pP 23 30 05.8 +2.3
MCK McKinley 84.90 18 eP P 23 29 48.4 -0.9
MCK e pP 23 30 05.8 +2.2
MCK pmax pmax
comp=Z,18nm,1.0s,mb5.2
TLY Talaya 85.20 326 eP P 23 29 51.1 +0.1
comp=Z,15nm,1.0s,mb5.1
TLY Talaya 85.20 326 eP P 23 29 50.0 -1.0
TLY e pP 23 30 07.0 +1.7
TLY pmax pmax
comp=Z,13nm,0.9s,mb5.1
OHCM Honcut 85.50 48 ePP PP 23 33 18.5 +6.4
COLA College 86.06 18 eP P 23 29 52.9 -2.1
comp=Z,7.4nm,0.8s,mb5.0
COLA College 86.06 18 eP P 23 29 52.9 -2.1
COLA pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
ILAR Eielson Array 86.28 18 P P 23 29 53.1 -3.0
comp=Z,5.4nm,0.6s,mb4.9,baz=239,slow=5.0,SNR=112
ILAR LR LR 00 03 00.5
comp=Z,374nm,19.9s,MS4.8,baz=135,slow=32
ILAR Eielson Array 86.28 18 P P 23 29 53.1 -3.0
ILAR Eielson Array 86.28 18 P P 23 29 53.1 -3.0
DOT Dot Lake 86.39 20 eP P 23 29 55.3 -1.3
comp=Z,32nm,2.8s,mb5.1
TAPN Taplejung 86.83 299 eP P 23 30 00.2 +0.5
comp=Z,32nm,1.3s,mb5.4
TAPN Taplejung 86.83 299 eP P 23 30 00.2 +0.5
comp=Z,32nm,1.3s,mb5.4
ODAN Odare 86.96 299 eP P 23 30 00.7 +0.4
ODAN Odare 86.96 299 eP P 23 30 00.7 +0.4
COLD Coldfoot 87.14 15 eP P 23 29 59.2 -1.0
comp=Z,6.4nm,1.0s,mb4.8
COLD e pP 23 30 18.0 +3.4
NVAR Mina Array Bea 87.48 49 P P 23 30 03.0 +0.4
comp=Z,0.7nm,0.7s,mb4.0,baz=235,slow=5.2,SNR=3.8
NVAR LR LR 00 01 37.1
comp=Z,700nm,19.1s,MS5.1,baz=116,slow=30
NVAR Mina Array Bea 87.48 49 P P 23 30 03.0 +0.5
RAMN Ramite 87.66 298 eP P 23 30 03.4 -0.3
comp=Z,6.8nm,0.6s,mb5.0
RAMN Ramite 87.66 298 eP P 23 30 03.4 -0.3
comp=Z,6.8nm,0.6s,mb5.0
JIRN Jiri 88.21 299 eP P 23 30 06.4 +0.1
JIRN Jiri 88.21 299 eP P 23 30 06.4 +0.1
GUN Gumba 88.55 299 eP P 23 30 08.0 +0.1
comp=Z,23nm,0.9s,mb5.5
GUN Gumba 88.55 299 eP P 23 30 08.0 +0.1
comp=Z,23nm,0.9s,mb5.5
DLBC Dease Lake 88.83 28 LR LR 00 08 28.2
comp=Z,185nm,18.1s,MS4.5,baz=169,slow=34
PKI Pulchoki 88.85 299 eP P 23 30 09.1 -0.2
PKI Pulchoki 88.85 299 eP P 23 30 09.1 -0.2
PKI Pulchoki 88.85 299 eP P 23 30 09.1 -0.2
KKN Kakani 89.02 299 eP P 23 30 09.9 -0.2
comp=Z,21nm,0.9s,mb5.5
KKN Kakani 89.02 299 eP P 23 30 09.9 -0.2
comp=Z,21nm,0.9s,mb5.5
KKN Kakani 89.02 299 eP P 23 30 09.9 -0.2
KKN pmax pmax
comp=Z,21nm,0.9s,mb5.5
DMN Daman 89.12 299 eP P 23 30 10.6 0.0
comp=Z,38nm,1.0s,mb5.7
DMN Daman 89.12 299 eP P 23 30 10.6 0.0
comp=Z,38nm,1.0s,mb5.7
GKN Gorkha 89.63 299 eP P 23 30 12.2 -0.8
comp=Z,32nm,1.1s,mb5.6
GKN Gorkha 89.63 299 eP P 23 30 12.2 -0.8
comp=Z,32nm,1.1s,mb5.6
KOLN Koldanda 90.45 298 eP P 23 30 16.4 -0.4
KOLN Koldanda 90.45 298 eP P 23 30 16.4 -0.4
DANN Dangsing 90.47 299 eP P 23 30 15.9 -1.0
comp=Z,15nm,0.9s,mb5.3
DANN Dangsing 90.47 299 eP P 23 30 15.9 -1.0
comp=Z,15nm,0.9s,mb5.3
WMQ Urumqi 91.89 315 P P 23 30 22.9 -0.2
WMQ pP pP 23 30 40.0 +2.5
WMQ sP sP 23 30 46.8 +3.9
WMQ pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
WMQ pmax pmax
comp=Z,280nm,5.4s
INK Inuvik 92.65 19 LR LR 00 06 40.5
comp=Z,258nm,19.7s,MS4.7,baz=153,slow=32
SNAA Sanae 94.00 183 e P 23 30 30.8 -1.6
SNAA e pP 23 30 48.5 +1.7
SNAA Sanae 94.00 183 eP P 23 30 30.3 -2.1
comp=Z,9.9nm,1.0s,mb5.2
SNAA Sanae 94.00 183 eP P 23 30 30.3 -2.1
SNAA pmax pmax
comp=Z,10.0nm,1.0s
PDAR Pinedale Array 95.13 47 LR LR 00 08 06.6
comp=Z,258nm,18.7s,MS4.7,baz=91,slow=32
MKAR Makanchi Array 96.37 317 P P 23 30 43.2 -0.3
comp=Z,2.9nm,0.9s,mb4.7,baz=98,slow=7.0,SNR=11
MKAR Makanchi Array 96.37 317 P P 23 30 43.2 -0.3
MKAR Makanchi Array 96.37 317 P P 23 30 43.3 -0.3
ZALV Zalesovo Beam 96.58 324 P P 23 30 43.2 -1.2
comp=Z,2.9nm,0.8s,mb4.8,baz=108,slow=4.1,SNR=13
ZALV Zalesovo Beam 96.58 324 P P 23 30 43.2 -1.2
ZALV Zalesovo Beam 96.58 324 P P 23 30 43.2 -1.2
TXAR Lajitas Array 96.66 62 P P 23 30 46.3 +1.0
comp=Z,0.4nm,0.7s,mb3.9,baz=221,slow=5.0,SNR=4.7
TXAR LR LR 00 06 21.0
comp=Z,245nm,18.8s,MS4.7,baz=70,slow=30
TXAR Lajitas Array 96.66 62 P P 23 30 46.3 +1.0
TXAR Lajitas Array 96.66 62 P P 23 30 46.3 +1.0
SDCO Great Sand Dun 96.98 53 epP pP 23 31 03.8 +2.8
SDCO ePP PP 23 34 38.5 -4.3
YKA Yellowknife Ar 97.43 27 P P 23 30 45.5 -2.5
comp=Z,0.3nm,0.5s,mb4.0,baz=257,slow=4.7,SNR=7.7
YKA Yellowknife Ar 97.43 27 P P 23 30 45.5 -2.5
YKA Yellowknife Ar 97.43 27 P P 23 30 45.6 -2.4
NVS Novosibirsk 97.70 325 eP P 23 30 48.0 -1.4
NVS pmax pmax
comp=Z,7.0nm,1.6s,mb4.9
NVS pmax pmax
comp=N,1.0nm,1.0s
NVS pmax pmax
comp=E,2.0nm,1.0s
RES Resolute Bay 105.90 16 ePKPdf PKiKP 23 35 36.4 -1.2
LHS Liberty Hill 116.50 58 ePP PP 23 36 57.0 -9.4
ARCES ARCESS Array B 119.60 345 PKP PKPdf 23 36 02.7 -1.1
comp=E,3.7nm,0.6s,baz=72,slow=1.7,SNR=31
ARCES ARCESS Array B 119.60 345 PKP PKPdf 23 36 02.7 -1.1
ARCES ARCESS Array B 119.60 345 PKIKP PKPdf 23 36 02.7 -1.1
KLMR Klimovskoe 119.93 333 ePKIKP PKPdf 23 36 01.9 -2.8
KLMR pmax pmax
comp=Z,28nm,1.8s
JOF Joensuu 122.17 338 ePKIKP PKPdf 23 36 06.2 -2.7
SCHQ Schefferville 122.27 33 PKP PKPdf 23 36 07.8 -1.5
comp=Z,6.5nm,0.9s,baz=129,slow=3.7,SNR=3.1
SCHQ Schefferville 122.27 33 PKP PKPdf 23 36 07.8 -1.5
BOSA Boshof 123.29 221 PKP PKPdf 23 36 11.8 -0.4
comp=Z,2.2nm,1.0s,baz=83,slow=12,SNR=2.0
BOSA Boshof 123.29 221 PKP PKPdf 23 36 11.8 -0.4
BOSA Boshof 123.29 221 PKIKP PKPdf 23 36 11.8 -0.4
OBN Obninsk 123.92 328⇑ iPKIKP PKPdf 23 36 11.8 -0.7
OBN e 23 36 16.3
OBN e 23 37 53.9
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.9
KIV Kislovodsk 124.00 314 ePKPdf PKPdf 23 36 13.9 +0.8
KIV Kislovodsk 124.00 314⇑ iPKIKP PKPdf 23 36 13.0 0.0
KIV e 23 36 21.6
KIV e 23 43 12.0
KIV ePS PS 23 47 59.4 +3.1
KIV eSS SS 23 54 46.4 +2.4
KIV pmax pmax
comp=Z,11nm,1.2s
VSR Storozhevoye 124.07 323 ePKIKP PKPdf 23 36 10.0 -2.9
VSR pmax pmax
comp=N,2.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 124.48 339 ePKIKP PKPdf 23 36 11.2 -2.2
FINES FINESS Array B 125.01 338 PKP PKPdf 23 36 13.7 -0.7
comp=Z,8.6nm,1.0s,baz=34,slow=2.2,SNR=11
FINES FINESS Array B 125.01 338 PKP PKPdf 23 36 13.7 -0.7
FINES FINESS Array B 125.01 338 PKIKP PKPdf 23 36 13.7 -0.7
VSU Vasula 126.67 335 i PKIKP PKPdf 23 36 21.1 +3.4
SJG San Juan 129.37 78 PKP PKPdf 23 36 22.4 -1.6
comp=Z,8.4nm,0.6s,baz=345,slow=7.1,SNR=3.2
SJG San Juan 129.37 78 PKP PKPdf 23 36 22.4 -1.6
SJG San Juan 129.37 78 PKIKP PKPdf 23 36 22.4 -1.6
AKASG Malin Array Be 129.94 326 PKP PKPdf 23 36 24.0 -0.1
comp=Z,2.0nm,0.7s,baz=57,slow=1.4,SNR=7.6
AKASG Malin Array Be 129.94 326 PKP PKPdf 23 36 24.0 -0.1
AKASG Malin Array Be 129.94 326 PKIKP PKPdf 23 36 24.0 -0.1
KIEV Kiev 129.95 326 i PKIKP PKPdf 23 36 24.2 0.0
NB2 NORSAR Subarra 129.97 345 PKPdf PKPdf 23 36 22.7 -1.2
comp=Z,6.5nm,1.2s,baz=27,slow=1.8
NOA NORSAR Array B 129.97 345 PKP PKPdf 23 36 22.3 -1.6
comp=Z,3.0nm,0.9s,baz=32,slow=2.0,SNR=6.2
NOA NORSAR Array B 129.97 345 PKP PKPdf 23 36 22.3 -1.6
NOA NORSAR Array B 129.97 345 PKIKP PKPdf 23 36 22.3 -1.6
BRTR Keskin Array B 131.66 311 PKP PKPdf 23 36 29.2 +1.5
comp=Z,1.0nm,0.7s,baz=124,slow=4.4,SNR=5.6
BRTR Keskin Array B 131.66 311 PKP PKPdf 23 36 29.2 +1.5
BRTR Keskin Array B 131.66 311 PKIKP PKPdf 23 36 29.2 +1.4
BUR08 Bucovina Ar. S 133.80 324 ePKPdf PKPdf 23 36 33.8 +2.3
PSZ Piszkesteto 136.53 327 ePKPdf PKPdf 23 36 37.7 +1.1
PSZ Piszkesteto 136.53 327 ePKIKP PKPdf 23 36 37.7 +1.1
DPC Dobruska-Polom 136.62 332 ePKIKP PKPdf 23 36 38.9 +2.2
DPC Dobruska-Polom 136.62 332 ePKP PKPdf 23 36 38.9 +2.2
DPC ex x 23 40 10.1
UPC Upice 136.65 333 ePKIKP PKPdf 23 36 37.5 +0.7
UPC Upice 136.65 333 ePKP PKPdf 23 36 37.5 +0.7
UPC ex x 23 40 09.8
PVCC Panska Ves 137.26 334 ePKIKP PKPdf 23 36 38.8 +0.9
PVCC Panska Ves 137.26 334 ePKP PKPdf 23 36 38.8 +0.9
BRG Berggiesshubel 137.27 335 ePKIKP PKPdf 23 36 38.1 +0.2
BRG pmax pmax
comp=Z,21nm,1.7s
CLL Collm 137.32 336 ePKIKP PKPdf 23 36 39.0 +1.0
CLL pmax pmax
comp=Z,12nm,1.1s
PRU Pruhonice 137.68 333 ePKIKP PKPdf 23 36 38.3 -0.4
PRU Pruhonice 137.68 333 ePKP PKPdf 23 36 38.3 -0.4
KHC Kasperske Hory 138.73 333 PKPdf PKPdf 23 36 42.8 +2.1
KHC Kasperske Hory 138.73 333 ePKIKP PKPdf 23 36 42.6 +1.9
KHC Kasperske Hory 138.73 333 ePKP PKPdf 23 36 42.6 +1.9
KHC eSKP 23 40 13.0
KHC ePKS 23 40 16.1
KHC ePKS 23 40 35.0
GERES GERESS Array B 138.89 333 PKhKP PKPpre 23 36 37.4
comp=Z,0.9nm,0.7s,baz=37,slow=3.3,SNR=6.7
GERES GERESS Array B 138.89 333 PKPpre PKPpre 23 36 37.4
GERES GERESS Array B 138.89 333 PKIKP PKPpre 23 36 37.4
GRFO Grafenberg 139.30 335 ePP PP 23 39 35.4 +0.3
GIVF Givet 141.25 341 ePKP1 PKPdf 23 36 45.4 +0.2
GIVF Givet 141.25 341 eP PKPdf 23 36 45.4 +0.2
GIVF Givet 141.25 341 ePKIKP PKPdf 23 36 45.4 +0.2
FUORN Ofenpass-Fuorn 142.09 333 ePKPdf PKPdf 23 36 42.8 -4.0
SFTF Sexfontaines 142.83 339 ePKP1 PKPdf 23 36 47.3 -0.8
comp=Z,76nm,1.3s
SFTF Sexfontaines 142.83 339 eP PKPdf 23 36 47.3 -0.8
SENIN Lac Senin/Sane 143.54 336 ePKPdf PKPdf 23 36 47.4 -2.0
SSF Saint Saulge 144.34 340 ePKP1 PKPdf 23 36 48.7 -2.1
comp=Z,42nm,1.0s
SSF Saint Saulge 144.34 340 eP PKPdf 23 36 48.7 -2.1
SSF Saint Saulge 144.34 340 ePKIKP PKPdf 23 36 48.7 -2.1
GRR Gorron 144.39 346 ePKP1 PKPdf 23 36 49.7 -1.1
GRR Gorron 144.39 346 eP PKPdf 23 36 49.7 -1.1
GRR Gorron 144.39 346 ePKIKP PKPdf 23 36 49.7 -1.1
HYF Humbligny 144.44 341 ePKP1 PKPdf 23 36 49.1 -1.8
HYF Humbligny 144.44 341 eP PKPdf 23 36 49.1 -1.8
LPL La Plagne 144.46 335 ePKP1 PKPdf 23 36 49.7 -1.3
comp=Z,19nm,0.8s
LPL La Plagne 144.46 335 eP PKPdf 23 36 49.7 -1.3
LPL La Plagne 144.46 335 ePKIKP PKPdf 23 36 49.7 -1.3
LPG La Plagne 144.47 335 ePKP1 PKPdf 23 36 49.7 -1.3
comp=Z,24nm,0.7s
LPG La Plagne 144.47 335 eP PKPdf 23 36 49.7 -1.3
LPG La Plagne 144.47 335 ePKIKP PKPdf 23 36 49.7 -1.3
SMF Signal de Mont 144.59 339 ePKP1 PKPdf 23 36 49.3 -1.9
comp=Z,44nm,1.1s
SMF Signal de Mont 144.59 339 eP PKPdf 23 36 49.3 -1.9
SMF Signal de Mont 144.59 339 ePKIKP PKPdf 23 36 49.3 -1.9
AVF Avril sur Loir 144.62 340 ePKP1 PKPdf 23 36 49.3 -2.0
comp=Z,32nm,1.0s
AVF Avril sur Loir 144.62 340 eP PKPdf 23 36 49.3 -2.0
AVF Avril sur Loir 144.62 340 ePKIKP PKPdf 23 36 49.3 -2.0
CEL Celeste 144.70 318 ePKPdf PKPdf 23 36 50.3 -1.3
BNI Bardonecchia 144.86 335 ePKPdf PKPdf 23 36 51.4 -0.4
BNI Bardonecchia 144.86 335 ePKIKP PKPdf 23 36 51.4 -0.3
SGMF Saint Gilles 144.90 347 ePKP1 PKPdf 23 36 49.3 -2.4
comp=Z,113nm,1.1s
SGMF Saint Gilles 144.90 347 eP PKPdf 23 36 49.3 -2.4
SGMF Saint Gilles 144.90 347 ePKIKP PKPdf 23 36 49.3 -2.4
ROSF Rostrenen 144.97 348 ePKP1 PKPdf 23 36 50.2 -1.6
comp=Z,21nm,1.3s
ROSF Rostrenen 144.97 348 eP PKPdf 23 36 50.2 -1.6
ROSF Rostrenen 144.97 348 ePKIKP PKPdf 23 36 50.2 -1.6
BGF Bois d'Agland 145.00 340 ePKP1 PKPdf 23 36 50.8 -1.1
comp=Z,109nm,1.2s
BGF Bois d'Agland 145.00 340 eP PKPdf 23 36 50.8 -1.1
BGF Bois d'Agland 145.00 340 ePKIKP PKPdf 23 36 50.8 -1.1
MBDF Montbardon 145.09 335 ePKP1 PKPbc 23 36 51.1 -0.5
comp=Z,36nm,0.8s
MBDF Montbardon 145.09 335 eP PKPbc 23 36 51.1 -0.5
MBDF Montbardon 145.09 335 ePKIKP PKPdf 23 36 51.1 -1.0
PLDF La Plantade 145.25 339 PKP PKPdf 23 36 52.3 -0.1
ORIF Oris-en-Rattie 145.29 336 ePKP1 PKPbc 23 36 52.3 0.0
comp=Z,93nm,0.8s
ORIF Oris-en-Rattie 145.29 336 eP PKPbc 23 36 52.3 0.0
ORIF Oris-en-Rattie 145.29 336 ePKIKP PKPdf 23 36 52.3 -0.2
SAOF Saorge 145.34 333 PKP PKPdf 23 36 52.0 -0.6
AGO Saint Agoulin 145.34 340 PKP PKPdf 23 36 52.1 -0.4
QUIF Quistinic 145.35 348 ePKP1 PKPbc 23 36 51.2 -1.2
QUIF Quistinic 145.35 348 eP PKPbc 23 36 51.2 -1.2
QUIF Quistinic 145.35 348 ePKIKP PKPdf 23 36 51.2 -1.3
AUTN L'Aution 145.39 333 PKP PKPdf 23 36 53.5 +0.8
TCF Toulx Ste Croi 145.44 341 ePKP1 PKPbc 23 36 52.3 -0.4
comp=Z,123nm,1.3s
TCF Toulx Ste Croi 145.44 341 eP PKPdf 23 36 52.3 -0.4
TCF Toulx Ste Croi 145.44 341 ePKIKP PKPdf 23 36 52.3 -0.4
TOUF Mont Tournerai 145.46 333 PKP PKPdf 23 36 52.8 0.0
SBF Sospel 145.49 333 ePKP1 PKPdf 23 36 51.5 -1.4
comp=Z,99nm,0.8s
SBF Sospel 145.49 333 eP PKPdf 23 36 51.5 -1.4
SBF Sospel 145.49 333 ePKP2 PKPdf 23 36 51.5 -1.4
LUCF Luceram 145.51 333 PKP PKPdf 23 36 52.7 -0.2
SSB Saint Sauveur 145.51 337 ePKPdf PKPdf 23 36 52.9 0.0
SSB Saint Sauveur 145.51 337 ePKIKP PKPdf 23 36 52.9 +0.1
MVIF Mont Vial 145.59 333 PKP PKPdf 23 36 53.8 +0.8
PYM Petit Puy Mans 145.65 339 PKP PKPdf 23 36 53.5 +0.4

PGF	Pioggiola	145.78 330	*e*PKP1	PKPdf	23 36 52.6	-0.8
	comp=Z,104nm,0.9s					
PGF	Pioggiola	145.78 330	*e*P	PKPdf	23 36 52.6	-0.8
PGF	Pioggiola	145.78 330	*e*PKP2	PKPdf	23 36 52.6	-0.8
VIVF	Saint-Julien-I	145.82 337	*e*PKP1	PKPdf	23 36 52.8	-0.6
	comp=Z,131nm,1.5s					
VIVF	Saint-Julien-I	145.82 337	*e*P	PKPdf	23 36 52.8	-0.6
VIVF	Saint-Julien-I	145.82 337	*e*PKP2	PKPdf	23 36 52.8	-0.6
CALN	Calern	145.82 333	PKP	PKPdf	23 36 53.6	+0.2
MFF	Saint Martin d	145.86 344	*e*PKP1	PKPdf	23 36 53.4	0.0
	comp=Z,77nm,1.0s					
MFF	Saint Martin d	145.86 344	*e*P	PKPdf	23 36 53.4	0.0
MFF	Saint Martin d	145.86 344	*e*PKP2	PKPdf	23 36 53.4	0.0
LBL	Lubilhac	146.02 339	PKP	PKPdf	23 36 54.6	+0.9
FRF	La Foret Royal	146.08 333	*e*PKP1	PKPdf	23 36 53.3	-0.6
	comp=Z,98nm,0.9s					
FRF	La Foret Royal	146.08 333	*e*P	PKPdf	23 36 53.3	-0.6
FRF	La Foret Royal	146.08 333	*e*PKP2	PKPdf	23 36 53.3	-0.6
SMRF	Simiane la Rot	146.19 335	*e*PKP1	PKPbc	23 36 55.0	-0.1
	comp=Z,74nm,0.9s					
SMRF	Simiane la Rot	146.19 335	*e*P	PKPbc	23 36 55.0	-0.1
LMR	La Mourre	146.32 333	*e*PKP1	PKPbc	23 36 55.0	-0.5
	comp=Z,140nm,1.2s					
LMR	La Mourre	146.32 333	*e*P	PKPbc	23 36 55.0	-0.5
LMR	La Mourre	146.32 333	*e*PKP2	PKPbc	23 36 55.0	-0.5
RJF	Les Rejaudoux	146.54 341	*e*PKP1	PKPbc	23 36 55.7	-0.4
	comp=Z,76nm,1.3s					
RJF	Les Rejaudoux	146.54 341	*e*P	PKPbc	23 36 55.7	-0.4
RJF	Les Rejaudoux	146.54 341	*e*PKP2	PKPbc	23 36 55.7	-0.4
CAF	Calviac	146.69 340	*e*PKP1	PKPbc	23 36 56.4	-0.1
CAF	Calviac	146.69 340	*e*P	PKPbc	23 36 56.4	-0.1
CAF	Calviac	146.69 340	*e*PKP2	PKPbc	23 36 56.4	-0.1
LASF	Ste Croix	146.79 337	*e*PKP1	PKPbc	23 36 56.6	-0.2
	comp=Z,63nm,0.9s					
LASF	Ste Croix	146.79 337	*e*P	PKPbc	23 36 56.6	-0.2
LFF	La Frestale	147.11 341	*e*PKP1	PKPbc	23 36 57.3	-0.4
LFF	La Frestale	147.11 341	*e*P	PKPbc	23 36 57.3	-0.4
LFF	La Frestale	147.11 341	*e*PKP2	PKPbc	23 36 57.3	-0.4
VSL	Villasalto	147.82 326	*e*PKPbc	PKPbc	23 36 59.6	-0.2
MTLF	Montolieu	148.03 338	*e*PKP1	PKPbc	23 37 00.0	-0.3
	comp=Z,103nm,1.1s					
MTLF	Montolieu	148.03 338	*e*P	PKPbc	23 37 00.0	-0.3
MTLF	Montolieu	148.03 338	*e*PKP2	PKPbc	23 37 00.0	-0.3
ETSF	Etsaut	149.36 341	*e*PKP1	PKPbc	23 37 03.0	-0.7
	comp=Z,71nm,1.0s					
ETSF	Etsaut	149.36 341	*e*P	PKPbc	23 37 03.0	-0.7
ETSF	Etsaut	149.36 341	*e*PKP2	PKPbc	23 37 03.0	-0.7
KEST	Kesra	150.39 320	PKPbc	PKPbc	23 37 07.0	+0.6
	comp=Z,6.4nm,0.7s,baz=349,slow=1.7,SNR=12					
KEST	Kesra	150.39 320	*e*PKPbc	PKPbc	23 37 05.2	-1.2
CMAH	Djebel Manchou	150.93 324	P	PKPbc	23 37 07.3	-0.4
CKFL	Kef-Lekhel	151.49 324	P	PKPbc	23 37 09.0	0.0
CASM	Ain Smara	151.72 324	P	PKPbc	23 37 09.1	-0.4
CTEI	Djebel Teioual	151.91 324	P	PKPbc	23 37 09.9	-0.1
SET	Setif	152.37 326	P	PKPbc	23 37 14.0	+3.0
CKHR	Kef el Ahmar	152.44 325	P	PKPab	23 37 16.4	-5.0
MVO	Moncorvo	152.59 349	*e*PKPbc	PKPbc	23 37 11.6	+0.2
PVRL	Vila Real	152.60 351	*e*PKPbc	PKPbc	23 37 10.9	-0.5
ESDC	Sonseca Array	153.32 344	PKPbc	PKPbc	23 37 12.2	-0.8
	comp=Z,2.2nm,0.7s,baz=19,slow=3.3,SNR=9.0					
ESDC	Sonseca Array	153.32 344	PKPbc	PKPbc	23 37 12.2	-0.8
MTE	Manteigas	153.43 350	*e*PKPbc	PKPbc	23 37 13.3	+0.1
PCBR	Castelo Branco	153.96 349	*e*PKPab	PKPab	23 37 24.9	-2.7
TORD	Torodi Ar. Bea	165.24 268	PKP	PKPdf	23 37 18.9	-1.0
	comp=Z,1.9nm,1.0s,baz=103,slow=0.6,SNR=8.9					
TORD			PKPab	PKPab	23 38 17.7	+0.2
	comp=Z,2.4nm,1.0s,baz=50,slow=2.3,SNR=7.5					
TORD	Torodi Ar. Bea	165.24 268	PKP	PKPdf	23 37 18.9	-1.0
TORD			PKPab	PKPab	23 38 17.7	+0.2

*IDC **13** 23:20:09.3±1.5, 14°.28S×166°.89E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.2/16, mbtmp4.1/11, Error ellipse: s-maj=54.1km s-min=23.1km az=132.0*
*NEIC **13** 23:20:11.5±0.4, 14°.20S×166°.81E, h10km, mb4.7/2, Error ellipse: s-maj=15.9km s-min=13.5km az=106.0*
*ISCJB **13** 23:20:13.5±0.5, 14°.19S±0°.09×166°.7E±0°.1, h33km, mb4.2/15, Error ellipse: s-maj=17.3km s-min=12.6km az=173.1*

ISC 13 23:20:15.2±0.5, 14°.20S±0°.09×166°.8E±0°.1, h35km, n67, σ0s85/31, mb4.2/15, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.20 305		Pn	Pn	23 22 12.5	+0.7
STKA	Stephens Creek	28.98 228		P	P	23 26 12.0	+0.4
	3.3nm,0.5s,mb4.3,baz=29,slow=8.2,SNR=5.5						
STKA	Stephens Creek	28.98 228		*e*P	P	23 26 11.6	0.0
WRA	Warramunga Arr	31.50 255		P	P	23 26 33.2	-0.8
	0.6nm,0.6s,mb3.6,baz=86,slow=9.2,SNR=4.6						
WRA	Warramunga Arr	31.50 255		P	P	23 26 33.2	-0.8
ASAR	Alice Springs	32.42 248		P	P	23 26 40.5	-1.6
	2.1nm,1.1s,mb3.9,baz=91,slow=3.5,SNR=4.2						
ASAR	Alice Springs	32.42 248		P	P	23 26 40.5	-1.6
MJAR	Matsushiro Arr	57.22 333		P	P	23 29 59.0	-0.1
	1.3nm,0.6s,mb4.2,baz=175,slow=8.2,SNR=5.5						
MJAR	Matsushiro Arr	57.22 333		P	P	23 29 59.0	-0.1
SBA	Scott Base	63.66 180		*e*P	P	23 30 44.5	+2.1
	5.3nm,0.8s,mb4.6						
PETK	Petropavlovsk-	67.49 354		P	P	23 31 07.9	+0.5
	3.9nm,0.8s,mb4.5,baz=154,slow=8.0,SNR=3.3						
PETK	Petropavlovsk-	67.49 354		P	P	23 31 07.9	+0.5
CMAR	Chiang Mai Arr	74.30 294		P	P	23 31 50.7	+1.2
	0.7nm,0.8s,mb3.6,baz=104,slow=6.6,SNR=3.2						
CMAR	Chiang Mai Arr	74.30 294		P	P	23 31 50.7	+1.2
QSPA	South Pole Qui	75.82 180		*e*P	P	23 31 57.3	+0.1
	6.8nm,1.1s,mb4.5						
YAK	Yakutsk	81.39 343		P	P	23 32 27.2	-0.8
	5.8nm,0.5s,mb4.8						
SONM	Songino Array	81.79 324		P	P	23 32 31.4	+0.9
	0.3nm,0.4s,mb3.5,baz=127,slow=3.8,SNR=4.2						
SONM	Songino Array	81.79 324		P	P	23 32 31.4	+0.9
BILL	Bilibino	82.02 360		*e*P	P	23 32 31.1	-0.1
	5.9nm,0.6s,mb4.7						
ILAR	Eielson Array	86.18 18		P	P	23 32 51.5	-0.9
	1.3nm,0.5s,mb4.4,baz=237,slow=5.2,SNR=12						
ILAR	Eielson Array	86.18 18		P	P	23 32 51.5	-0.9
SYO	Syowa Base	89.07 197		*e*P	P	23 33 10.2	+3.8
SYO	Syowa Base	89.07 197		*e*P	pP	23 33 17.8	+0.2
SNAA	Sanae	94.04 183		*e*	P	23 33 29.2	-0.3
VNA3	Neumayer Olymp	94.73 181		*e*	P	23 33 32.0	-0.6
VNA2	Neumayer--Watz	94.99 182		*e*	P	23 33 33.7	-0.1
	baz=181,slow=4.8						
MKAR	Makanchi Array	96.50 317		P	P	23 33 41.4	+0.4
	0.7nm,0.6s,mb4.3,baz=93,slow=6.9,SNR=4.2						
MKAR	Makanchi Array	96.50 317		P	P	23 33 41.4	+0.4
ZALV	Zalesovo Beam	96.69 324		P	P	23 33 41.0	-0.8
	0.4nm,0.3s,mb4.3,baz=101,slow=4.6,SNR=3.5						
ZALV	Zalesovo Beam	96.69 324		P	P	23 33 41.0	-0.8
YKA	Yellowknife Ar	97.30 27		P	P	23 33 44.1	-0.2
	0.2nm,0.4s,mb3.9,baz=255,slow=4.3,SNR=3.5						
YKA	Yellowknife Ar	97.30 27		P	P	23 33 44.1	-0.2
KEV	Kevo	119.10 345		*e*pkp	PKPdf	23 39 01.3	+1.5
ARCES	ARCESS Array B	119.63 345		PKP	PKPdf	23 39 00.1	-0.7
	2.3nm,0.8s,baz=74,slow=2.1,SNR=12						
ARCES	ARCESS Array B	119.63 345		PKP	PKPdf	23 39 00.1	-0.7
JOF	Joensuu	122.22 338		*e*pkp	PKPdf	23 39 04.9	-1.1
KAF	Kangasniemi	124.54 339		*e*pkp	PKPdf	23 39 09.2	-1.2
FINES	FINESS Array B	125.06 338		PKP	PKPdf	23 39 11.2	-0.3
	1.4nm,0.7s,baz=84,slow=3.0,SNR=4.8						
FINES	FINESS Array B	125.06 338		PKP	PKPdf	23 39 11.2	-0.2
GERES	GERESS Array B	138.96 333		PKP	PKPdf	23 39 40.0	+2.0
	0.4nm,0.6s,baz=342,slow=0.4,SNR=3.8						
GERES	GERESS Array B	138.96 333		PKP	PKPdf	23 39 40.0	+2.0
LDF	La Druitiere	144.04 345		*e*PKP1	PKPdf	23 39 46.7	-0.4
LDF	La Druitiere	144.04 345		*e*P	PKPdf	23 39 46.7	-0.4
SSF	Saint Saulge	144.38 340		*e*PKP1	PKPdf	23 39 49.8	+2.0
	38nm,1.2s						
SSF	Saint Saulge	144.38 340		*e*P	PKPdf	23 39 49.8	+2.0
GRR	Gorron	144.41 346		*e*PKP1	PKPdf	23 39 47.7	-0.1
GRR	Gorron	144.41 346		*e*P	PKPdf	23 39 47.7	-0.1
LPL	La Plagne	144.52 336		*e*PKP1	PKPdf	23 39 47.7	-0.4
LPL	La Plagne	144.52 336		*e*P	PKPdf	23 39 47.7	-0.4
LPG	La Plagne	144.53 336		*e*PKP1	PKPdf	23 39 47.8	-0.3
	3.9nm,0.6s						
LPG	La Plagne	144.53 336		*e*P	PKPdf	23 39 47.8	-0.3
BGF	Bois d'Agland	145.04 341		*e*PKP1	PKPbc	23 39 48.7	+0.4
	9.6nm,0.7s						
BGF	Bois d'Agland	145.04 341		*e*P	PKPbc	23 39 48.7	+0.4
ORIF	Oris-en-Rattie	145.35 336		*e*PKP1	PKPbc	23 39 50.3	+0.9
	16nm,0.8s						
ORIF	Oris-en-Rattie	145.35 336		*e*P	PKPbc	23 39 50.3	+0.9
SBF	Sospel	145.56 333		*e*PKP1	PKPbc	23 39 51.1	+1.0
	64nm,1.0s						
SBF	Sospel	145.56 333		*e*P	PKPdf	23 39 51.1	+1.2
PGF	Pioggiola	145.87 330		*e*PKP1	PKPbc	23 39 51.3	+0.2
	44nm,1.0s						
PGF	Pioggiola	145.87 330		*e*P	PKPdf	23 39 51.3	+0.8
MFF	Saint Martin d	145.89 344		*e*PKP1	PKPbc	23 39 51.3	+0.3
MFF	Saint Martin d	145.89 344		*e*P	PKPdf	23 39 51.3	+0.9
LFF	La Frestale	147.15 342		*e*PKP1	PKPbc	23 39 55.3	+0.5
LFF	La Frestale	147.15 342		*e*P	PKPbc	23 39 55.3	+0.5
MTLF	Montolieu	148.08 338		*e*PKP1	PKPbc	23 39 58.0	+0.7
	18nm,0.8s						
MTLF	Montolieu	148.08 338		*e*P	PKPbc	23 39 58.0	+0.7
KEST	Kesra	150.50 321		PKPbc	PKPbc	23 40 03.9	+0.2
	2.2nm,0.6s,baz=278,slow=4.4,SNR=3.5						
KEST	Kesra	150.50 321		PKPbc	PKPbc	23 40 03.9	+0.2

*ISCJB **13** 23:30:17.0±0.8, 23°.94S±0°.04×179°.71W±0°.07, h506km±10km, mb4.5/29, Error ellipse: s-maj=10.0km s-min=5.7km az=15.6*
*IDC **13** 23:30:17.5±1.3, 23°.82S×179°.70W, h497km±13km, mb4.0/16, mb1 4.1/17, mb1mx4.0/21, mbtmp4.0/17, Error ellipse: s-maj=15.7km s-min=12.1km az=147.0*
*NEIC **13** 23:30:18.0±0.7, 23°.91S×179°.68W, h507km±8km, mb4.9/17, Error ellipse: s-maj=10.9km s-min=8.2km az=130.0*

ISC 13 23:30:19.3±0.9, 24°.04S±0°.04×179°.74W±0°.08, h520km±10km, n94, σ1s14/81, mb4.5/28, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.60 341		*e*Pn	P	23 32 01.0	-1.4
	18nm,0.8s						
OUZ	Omahuta	12.56 206		*e*Pn	P	23 33 05.8	+2.4
	34nm,1.0s						
AFI	Afiamalu	12.57 38		P	P	23 32 58.5	-5.4
	7.8nm,0.3s,baz=62,slow=2.8,SNR=4.7						
AFI				S	S	23 35 11.5	-8.1
	5.1nm,0.3s,baz=52,slow=22,SNR=3.6						
AFI	Afiamalu	12.57 38		P	P	23 32 58.5	-5.4
AFI				S	S	23 35 11.5	-8.1
DZM	Mont Dzumac	12.87 276		*e*P	P	23 33 07.8	+0.9
DZM	Mont Dzumac	12.87 276		*e*P	P	23 33 08.0	+1.1
	18nm,0.8s						
PUZ	Puketiti	14.10 186		*e*PN	P	23 33 22.2	+2.6
PUZ				*e*SN	S	23 35 48.8	+0.7
URZ	Urewera	14.43 190		P	P	23 33 21.6	-1.5
	7.3nm,0.3s,baz=356,slow=4.1,SNR=35						
URZ				S	S	23 35 54.6	+0.1
	3.7nm,0.3s,baz=52,slow=21,SNR=16						
URZ	Urewera	14.43 190		*e*P	P	23 33 21.3	-1.7
	26nm,0.5s						
URZ				*e*S	S	23 35 55.5	+1.0
URZ	Urewera	14.43 190		PN	P	23 33 21.4	-1.6
URZ				*e*SN	S	23 35 51.2	-3.3
TSZ	Takapari Road	16.38 192		PN	P	23 33 40.1	-3.1
TSZ				*e*SN	S	23 36 26.9	-3.6
MRZ	Mangatainoka R	17.04 192		PN	P	23 33 46.7	-2.8
MRZ				*e*SN	S	23 36 37.2	-4.0
SNZO	South Karori	17.84 194		*e*P	P	23 33 56.1	-0.8
	32nm,0.8s						
NNZ	Nelson	18.07 197		PN	P	23 33 57.8	-1.3
NNZ				*e*SN	S	23 36 57.4	-0.8
THZ	Tophouse	18.71 197		PN	P	23 34 04.8	-0.1
THZ				*e*SN	S	23 37 06.3	-2.2
DSZ	Denniston Nort	19.02 200		PN	P	23 34 08.3	+0.7
KHZ	Kahutara	19.16 195		*e*P	P	23 34 08.7	-0.3
	34nm,0.6s						
WVZ	Waitaha Valley	20.55 200		PN	P	23 34 21.9	+0.3
RPZ	Rata Peaks	21.04 199		P	P	23 34 26.9	+0.9
	26nm,0.4s,mb5.2,baz=351,slow=1.5,SNR=24						
RPZ	Rata Peaks	21.04 199		P	P	23 34 26.9	+0.9
JCZ	Jackson Bay	22.10 202		*e*PN	P	23 34 35.1	-0.4
HNR	Honiara	24.22 303		P	P	23 34 53.7	-1.2
	37nm,0.6s,mb5.2,baz=220,slow=17,SNR=3.9						
HNR	Honiara	24.22 303		*e*P	P	23 34 53.2	-1.7
	27nm,0.6s,mb5.0						
ARMA	Armidale	26.20 250		*e*P	P	23 35 13.9	+1.7
EIDS	Eidsvold	26.52 261		*e*P	P	23 35 15.7	+0.6
	21nm,0.5s,mb5.0						
CNB	Canberra Magne	28.99 240		*e*P	P	23 35 38.4	+1.8
	74nm,0.6s,mb5.5						
CTA	Charters Tower	31.71 270		P	P	23 36 00.8	+0.5
	64nm,0.5s,mb5.4,baz=97,slow=11,SNR=133						
CTA	Charters Tower	31.71 270		*e*P	P	23 36 00.7	+0.4
	55nm,0.6s,mb5.3						
CTA	Charters Tower	31.71 270		P	P	23 36 00.8	+0.5
CTAO	Charters Tower	31.71 270		*e*P	P	23 36 00.8	+0.5
	63nm,0.6s,mb5.3						
TOO	Toolangi	32.57 237		*e*P	P	23 36 08.5	+1.1
	43nm,0.6s,mb5.2						
PMG	Port Moresby	34.76 289		P	P	23 36 25.7	-0.4
	49nm,0.8s,mb5.1,baz=103,slow=5.2,SNR=24						
PMG	Port Moresby	34.76 289		*e*P	P	23 36 25.6	-0.5
	56nm,0.9s,mb5.1						
STKA	Stephens Creek	34.89 248		P	P	23 36 27.7	+0.7
	6.8nm,0.6s,mb4.4,baz=89,slow=10,SNR=16						
STKA	Stephens Creek	34.89 248		*e*P	P	23 36 27.6	+0.6
	5.8nm,0.7s,mb4.2						
STKA	Stephens Creek	34.89 248		P	P	23 36 27.7	+0.7
AS31	Alice Springs	42.24 261		*e*P	P	23 37 26.8	0.0
ASAR	Alice Springs	42.24 261		P	P	23 37 26.8	0.0
	26nm,0.8s,mb4.8,baz=94,slow=7.4,SNR=193						
ASAR				ScP	ScP	23 42 12.4	+2.6
	2.4nm,0.9s,baz=107,slow=3.5,SNR=10						
ASAR	Alice Springs	42.24 261		P	P	23 37 26.8	0.0
ASAR				ScP	ScP	23 42 12.4	+2.6
WB2	Warramunga Arr	42.62 266		*e*P	P	23 37 29.2	-0.6
WRAB	Tennant Creek	42.62 266		*e*P	P	23 37 29.1	-0.7
	39nm,0.6s,mb5.1						
WRA	Warramunga Arr	42.63 266		P	P	23 37 29.3	-0.6
	51nm,0.6s,mb5.2,baz=103,slow=8.2,SNR=137						
WRA				ScP	ScP	23 42 14.7	+3.2
	2.2nm,0.7s,baz=100,slow=4.0,SNR=8.3						
WRA	Warramunga Arr	42.63 266		P	P	23 37 29.3	-0.6
WRA				ScP	ScP	23 42 14.7	+3.2
FORT	Forrest	46.48 250		*e*P	P	23 37 58.9	-0.5
	78nm,0.6s,mb5.4						
FORT	Forrest	46.48 250		*e*P	P	23 37 58.9	-0.5
	80nm,0.6s,mb5.4						
FITZ	Fitzroy Crossi	51.05 266		*e*P	P	23 38 33.5	0.0
	33nm,0.7s,mb4.8						
KLBR	Kellerberrin	55.15 247		*e*P	P	23 39 02.2	-0.4
	14nm,0.7s,mb4.3						
MBWA	Marble Bar	55.58 260		*e*P	P	23 39 05.3	-0.4
	23nm,0.8s,mb4.5						
QSPA	South Pole Qui	66.05 180		P	P	23 40 16.1	+2.4
	1.1nm,0.9s,mb3.4,baz=19,slow=3.3,SNR=3.7						
QSPA	South Pole Qui	66.05 180		P	P	23 40 16.1	+2.4
KSM	Kuching	72.36 280		*e*P	P	23 40 52.5	-0.2
	15nm,0.7s,mb4.5						
MAW	Mawson	77.71 200		P	P	23 41 23.0	+1.3
	1.4nm,0.7s,mb3.4,baz=151,slow=10,SNR=3.9						
MAW	Mawson	77.71 200		P	P	23 41 23.0	+1.3
PETK	Petropavlovsk-	79.28 346		P	P	23 41 29.5	-0.6
	2.8nm,0.6s,mb3.8,baz=146,slow=6.1,SNR=2.9						
PETK	Petropavlovsk-	79.28 346		P	P	23 41 29.5	-0.6
ISA	Isabella	82.94 46		*e*P	P	23 41 49.6	+0.1
	6.1nm,0.7s,mb4.2						
CMB	Columbia Colle	83.14 43		*e*P	P	23 41 50.5	+0.1
NVAR	Mina Array Bea	84.69 44		P	P	23 41 58.6	+0.6
	2.1nm,0.8s,mb3.7,baz=224,slow=9.2,SNR=6.9						
NVAR	Mina Array Bea	84.69 44		P	P	23 41 58.6	+0.6
TUC	Tucson	86.41 52		*e*P	P	23 42 07.3	+0.8
	7.9nm,0.9s,mb4.3						
PMR	Palmer	88.82 14		*e*P	P	23 42 15.9	-1.2
	6.2nm,0.8s,mb4.5						
CMAR	Chiang Mai Arr	89.79 290		P	P	23 42 24.2	+1.7
	1.5nm,0.7s,mb3.9,baz=138,slow=3.2,SNR=13						
CMAR	Chiang Mai Arr	89.79 290		P	P	23 42 24.2	+1.7
TXAR	Lajitas Array	90.30 58		P	P	23 42 25.7	+1.0
	3.1nm,0.7s,mb4.2,baz=215,slow=6.4,SNR=41						
TXAR	Lajitas Array	90.30 58		P	P	23 42 25.7	+1.0
ANMO	Albuquerque	90.86 52		P	P	23 42 27.6	+0.4
	1.3nm,0.6s,mb4.0,baz=187,slow=6.3,SNR=3.0						
ANMO	Albuquerque	90.86 52		P	P	23 42 27.6	+0.4
ILAR	Eielson Array	92.11 13		P	P	23 42 30.4	-1.8
	0.6nm,0.7s,mb3.7,baz=224,slow=5.6,SNR=11						
ILAR	Eielson Array	92.11 13		P	P	23 42 30.4	-1.8
PDAR	Pinedale Array	92.62 44		P	P	23 42 35.2	+0.2
	1.6nm,0.7s,mb4.2,baz=199,slow=4.9,SNR=8.9						
PDAR	Pinedale Array	92.62 44		P	P	23 42 35.2	+0.2
INK	Inuvik	98.09 16		P	Pdif	23 42 57.9	-2.0
	0.4nm,0.4s,baz=172,slow=3.9,SNR=3.7						
INK	Inuvik	98.09 16		P	Pdif	23 42 57.9	-2.0
FRB	Frobisher Bay	120.65 29		PKP	PKPdf	23 48 10.2	-0.9
	1.1nm,0.5s,baz=331,slow=4.0,SNR=5.1						
FRB	Frobisher Bay	120.65 29		PKP	PKPdf	23 48 10.2	-0.9
BOSA	Boshof	122.39 206		SKPbc		23 50 33.5	
	3.0nm,1.0s,baz=317,slow=22,SNR=3.5						
ARCES	ARCESS Array B	132.07 348		PKP	PKPdf	23 48 31.6	-1.2
	3.6nm,0.9s,baz=90,slow=2.5,SNR=7.5						
ARCES				SKPbc	SKPbc	23 51 10.6	+0.2
	3.6nm,0.8s,baz=347,slow=5.0,SNR=5.6						
ARCES	ARCESS Array B	132.07 348		PKP	PKPdf	23 48 31.6	-1.2
ARCES				SKPbc	SKPbc	23 51 10.6	+0.2
FINES	FINESS Array B	138.65 342		PKP	PKPdf	23 48 46.1	+0.9
	3.4nm,1.0s,baz=278,slow=1.3,SNR=3.6						
FINES				SKPbc	SKPbc	23 51 30.8	-0.1
	3.2nm,0.6s,baz=54,slow=4.4,SNR=15						
FINES	FINESS Array B	138.65 342		PKP	PKPdf	23 48 46.1	+0.9
FINES				SKPbc	SKPbc	23 51 30.8	-0.1
NB2	NORSAR Subarra	142.25 351		PKP	PKPdf	23 48 47.2	-4.5
	comp=Z,0.1nm,0.7s,baz=26,slow=3.7						
NOA	NORSAR Array B	142.25 351		PKP	PKPdf	23 48 47.9	-3.8
	comp=Z,1.3nm,0.8s,baz=17,slow=4.9,SNR=4.5						
NOA	NORSAR Array B	142.25 351		PKP	PKPdf	23 48 47.9	-3.8
HFS	Hagfors	142.72 349		PKP	PKPdf	23 48 48.5	-4.0
	comp=Z,3.4nm,0.4s,baz=58,slow=3.3,SNR=43						
HFS	Hagfors	142.72 349		PKP	PKPdf	23 48 48.5	-4.0
AKASG	Malin Array Be	145.21 327		SKPbc	SKPbc	23 51 47.9	+0.3
	comp=Z,2.0nm,0.6s,baz=47,slow=2.9,SNR=6.4						
AKASG	Malin Array Be	145.21 327		SKPbc	SKPbc	23 51 47.9	+0.3
BRTR	Keskin Array B	147.85 307		PKPbc	PKPbc	23 49 08.8	+3.2
	comp=Z,0.9nm,0.5s,baz=96,slow=2.0,SNR=7.0						
BRTR	Keskin Array B	147.85 307		PKPbc	PKPbc	23 49 08.8	+3.2
CLL	Collm	151.05 343		*e*PKPbc	PKPbc	23 49 13.0	0.0
GERES	GERESS Array B	153.06 340		PKPbc	PKPbc	23 49 17.5	0.0
	comp=Z,0.4nm,0.7s,baz=48,slow=1.5,SNR=4.1						
GERES	GERESS Array B	153.06 340		PKPbc	PKPbc	23 49 17.5	0.0
TORD	Torodi Ar. Bea	169.09 187		PKPab	PKPab	23 50 43.5	+1.2
	comp=Z,0.0nm,0.3s,baz=182,slow=1.3,SNR=4.1						
TORD	Torodi Ar. Bea	169.09 187		PKPab	PKPab	23 50 43.5	+1.2

IDC 13 23:41:04.0±2.2, 14°.01S×166°.61E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=103.5km s-min=26.6km az=137.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.02 181		*e*P	Pn	23 42 59.9	-2.0
DZM				*e*S	Sn	23 44 26.2	-7.1
STKA	Stephens Creek	28.98 228		P	P	23 47 06.3	+0.8
	1.4nm,0.6s,baz=45,slow=12,SNR=4.2						
WRA	Warramunga Arr	31.39 255		P	P	23 47 26.5	-0.4
	0.3nm,0.3s,baz=85,slow=9.4,SNR=4.6						
ASAR	Alice Springs	32.34 248		P	P	23 47 34.8	-0.5
	0.3nm,0.5s,baz=76,slow=9.3,SNR=9.4						
ILAR	Eielson Array	86.04 18		P	P	23 53 45.8	-0.3
	0.6nm,0.5s,baz=238,slow=5.2,SNR=19						
MKAR	Makanchi Array	96.24 317		P	P	23 54 35.3	+1.1
	0.2nm,0.5s,baz=75,slow=6.4,SNR=3.4						
ARCES	ARCESS Array B	119.39 345

MFT	Murefte	1.76	27	ePN	Pn	23 46 52.1	+0.6
MFT	Murefte	1.76	27	ePN	Pn	23 46 52.1	+0.6
DST	Dursunbey	1.89	78	ePN	Pn	23 46 53.9	+0.6
DST	Dursunbey	1.89	78	ePN	Pn	23 46 53.9	+0.6
KCTX	Karacabey (Bur	1.94	57	ePN	Pn	23 46 53.9	-0.1
KCTX	Karacabey (Bur	1.94	57	ePN	Pn	23 46 53.9	-0.1
KULA	Kula-Manisa	2.03	110	ePN	Pn	23 46 55.7	+0.6
KULA	Kula-Manisa	2.03	110	ePN	Pn	23 46 55.7	+0.5
TKR	Tekirdag	2.03	29	ePN	Pn	23 46 55.6	+0.4
TKR	Tekirdag	2.03	29	ePN	Pn	23 46 55.7	+0.5
APE	Apeiranthos	2.22	195	ePN	Pn	23 46 56.7	-1.1
APE	Apeiranthos	2.22	195	ePN	Pn	23 46 56.5	-1.3
MDNY	Mudanya-Bursa	2.34	60	ePN	Pn	23 47 00.3	+0.8
MDNY	Mudanya-Bursa	2.34	60	ePN	Pn	23 47 00.3	+0.8
ARMT	Armutlu	2.43	56	ePN	Pn	23 47 01.5	+0.8
ARMT	Armutlu	2.43	56	ePN	Pn	23 47 01.5	+0.8
SLVT	Silivri	2.51	37	ePN	Pn	23 47 02.4	+0.6
SLVT	Silivri	2.51	37	ePN	Pn	23 47 02.4	+0.5
GEMT	Gemlik	2.58	61	ePN	Pn	23 47 03.8	+1.1
GEMT	Gemlik	2.58	61	ePN	Pn	23 47 03.8	+1.0
EDRB	Edirne	2.65	8	ePN	Pn	23 47 04.2	+0.5
EDRB	Edirne	2.65	8	ePN	Pn	23 47 04.2	+0.5
CTKS	Kestanelik-??a	2.66	40	ePN	Pn	23 47 04.8	+0.9
CTKS	Kestanelik-??a	2.66	40	ePN	Pn	23 47 04.8	+0.9
BGKT	Bogazkoy	2.76	44	ePN	Pn	23 47 06.1	+0.9
BGKT	Bogazkoy	2.76	44	ePN	Pn	23 47 06.1	+0.9
YLV	Yalova	2.77	60	ePN	Pn	23 47 06.3	+1.0
YLV	Yalova	2.77	60	ePN	Pn	23 47 06.3	+1.0
NVR	Nevrokopi	2.79	320	ePN	Pn	23 47 05.7	0.0
NVR	Nevrokopi	2.79	320	ePN	Pn	23 47 05.7	0.0
ISK	Istanbul-Kandi	2.84	49	ePN	Pn	23 47 07.1	+0.7
ISK	Istanbul-Kandi	2.84	49	ePN	Pn	23 47 07.1	+0.7
AGG	Agios Georgios	3.04	267	ePN	Pn	23 47 08.9	-0.2
AGG	Agios Georgios	3.04	267	ePN	Pn	23 47 08.9	-0.2
THL	Klokotos Trika	3.28	277	ePN	Pn	23 47 12.6	+0.2
THL	Klokotos Trika	3.28	277	ePN	Pn	23 47 12.6	+0.2

IDC 13 23:48:48.9±2.8, 13°.86S×166°.44E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=188.9km s-min=31.3km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.96	228	P	P	23 54 49.9	-0.3
0.7nm,0.4s,baz=48,slow=15,SNR=3.0							
ASAR	Alice Springs	32.24	248	P	P	23 55 19.2	0.0
0.3nm,0.6s,baz=78,slow=9.6,SNR=3.6							
ILAR	Eielson Array	85.95	18	P	P	00 01 30.1	-0.5
0.5nm,0.8s,baz=237,slow=5.3,SNR=12							
ARCES	ARCESS Array B	119.21	345	PKP	PKPdf	00 07 39.1	-0.3
1.6nm,0.7s,baz=90,slow=1.5,SNR=6.2							
FINES	FINESS Array B	124.62	338	PKP	PKPdf	00 07 51.1	+1.1
2.4nm,1.0s,baz=350,slow=5.8,SNR=4.0							

*ISCJB **14** 00:03:34.9±0.7, 39°.25N±0°.05×73°.81E±0°.08, h10km, mb3.6/8, Error ellipse: s-maj=9.2km s-min=7.1km az=162.5*
*IDC **14** 00:03:35.2±1.0, 39°.32N×73°.82E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.5/27, mbtmp3.6/10, ML3.3/2, Error ellipse: s-maj=28.6km s-min=20.2km az=50.0*
*NEIC **14** 00:03:40.5±0.8, 39°.43N×73°.82E, h35km, Error ellipse: s-maj=14.0km s-min=11.9km az=49.0*
*NNC **14** 00:03:45.0±5.7, 39°.80N×73°.71E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=50.6km s-min=25.4km az=5.0*
ISC 14 00:03:36.5±0.7, 39°.30N±0°.05×73°.92E±0°.08, h10km, n35, σ1°.08/40, mb3.6/8, 9C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	3.36	7	ePn	Pn	00 04 29.9	+0.9
AAK				eS	Sb	00 05 17.3	+0.2
EKS2	Erkin-Say	3.37	358	ePn	Pn	00 04 30.6	+1.6
EKS2				eS	Sn	00 05 09.7	+0.7
TKM2	Tokmak 2	3.84	19	⇑Pn	Pn	00 04 38.1	+2.6
1.9nm,0.3s							
TKM2				⇓Pg	Pg	00 04 48.1	-1.9
4.7nm,0.4s							
TKM2				⇓Lg		00 05 30.3	
29nm,0.6s							
TKM2	Tokmak 2	3.84	19	ePn	Pn	00 04 35.7	+0.2
KNDC	Almaty	4.54	29	⇑Pn	Pb	00 04 55.3	-0.9
9.8nm,0.5s							
KNDC				⇑Lg		00 05 54.0	
109nm,0.9s							
KK31	Karatay Array	4.59	327	⇑Pn	Pn	00 04 46.6	+0.6
1.4nm,0.3s,baz=131,slow=12,SNR=14							
KK31				⇓Pg	Pb	00 04 57.5	+0.4
7.1nm,0.9s,baz=161,slow=17,SNR=8.0							
KK31				⇑Sn	Sn	00 05 40.4	+1.1
7.1nm,0.4s,baz=142,slow=26,SNR=2.7							
KK31				⇑Lg		00 05 54.6	
12nm,0.5s							
KKAR	Karatay Array	4.59	327	ePn	Pn	00 04 46.1	+0.2
KKAR				eS	Sn	00 05 40.0	+0.7
KURBB	Kurchatov Arra	11.78	15	⇑Lg		00 09 43.1	
1.4nm,1.1s							
KURK	Kurchatov	11.89	15	⇑Lg		00 09 44.6	
10nm,1.2s							
KURK	Kurchatov	11.89	15	Lg		00 09 44.2	
0.0nm,0.3s,baz=203,slow=30,SNR=7.3							
BVAR	Borovoye Array	13.95	351	Pn	Pn	00 06 51.4	-2.6
0.1nm,0.3s,baz=139,slow=14,SNR=5.3							
BVAR	Borovoye Array	13.95	351	Pn	Pn	00 06 51.4	-2.6
AB31	Akbulak array	14.10	319	Pn	Pn	00 06 55.1	-1.0
0.8nm,0.6s,baz=126,slow=13,SNR=13							
AB31				⇓Sn	Sn	00 09 21.8	-11
0.4nm,0.5s							
ABKAR	Akbulak array	14.10	319	ePn	Pn	00 06 53.4	-2.7
1.0nm,0.6s							
ABKAR				eS	Sn	00 09 24.1	-8.4
AKTO	Aktyubinsk	15.81	320	⇑Pn	Pn	00 07 18.2	-0.8
1.0nm,1.4s							
AKTO	Aktyubinsk	15.81	320	Pn	Pn	00 07 19.6	+0.5
0.2nm,0.3s,baz=108,slow=12,SNR=4.6							
AKTO	Aktyubinsk	15.81	320	Pn	Pn	00 07 19.6	+0.5
ZALV	Zalesovo Beam	16.43	23	Pn	Pn	00 07 25.8	-1.1
0.1nm,0.3s,baz=209,slow=15,SNR=2.3							
ZALV	Zalesovo Beam	16.43	23	Pn	Pn	00 07 25.8	-1.1
SONM	Songino Array	24.88	59	P	P	00 09 00.7	+1.5
0.1nm,0.5s,mb2.6,baz=247,slow=14,SNR=2.4							
SONM	Songino Array	24.88	59	P	P	00 09 00.7	+1.5
FINES	FINESS Array B	36.54	323	P	P	00 10 41.5	-0.4
1.6nm,0.9s,mb3.9,baz=120,slow=14,SNR=4.6							
FINES	FINESS Array B	36.54	323	P	P	00 10 41.5	-0.4
ARCES	ARCESS Array B	39.50	336	P	P	00 11 06.1	-0.7
1.7nm,0.8s,mb3.8,baz=107,slow=8.9,SNR=5.2							
ARCES	ARCESS Array B	39.50	336	P	P	00 11 06.1	-0.7
HFS	Hagfors	42.36	320	P	P	00 11 30.1	-0.3
3.2nm,1.0s,mb3.9,baz=112,slow=14,SNR=3.6							
HFS	Hagfors	42.36	320	P	P	00 11 30.1	-0.3
NOA	NORSAR Array B	43.60	321	P	P	00 11 39.7	-0.8
1.4nm,0.9s,mb3.7,baz=110,slow=8.3,SNR=2.6							
NOA	NORSAR Array B	43.60	321	P	P	00 11 39.7	-0.8
TORD	Torodi Ar. Bea	68.08	269	P	P	00 14 36.8	+0.1
0.3nm,0.4s,mb3.7,baz=49,slow=5.6,SNR=9.9							
TORD	Torodi Ar. Bea	68.08	269	P	P	00 14 36.8	+0.2
WRA	Warramunga Arr	81.57	124	P	P	00 15 55.0	+0.5
0.4nm,0.4s,mb3.7,baz=316,slow=6.7,SNR=3.0							
WRA	Warramunga Arr	81.57	124	P	P	00 15 55.0	+0.5
ASAR	Alice Springs	84.02	127	P	P	00 16 08.1	+0.9
0.2nm,0.6s,mb3.4,baz=318,slow=5.0,SNR=6.8							
ASAR	Alice Springs	84.02	127	P	P	00 16 08.1	+0.9

*ISCJB **14** 00:08:25.0±1.2, 13°.98N±0°.09×91°.10W±0°.07, h85km±14km, mb3.6/4, Error ellipse: s-maj=15.8km s-min=10.0km az=28.7*
*IDC **14** 00:08:27.3±2.6, 14°.02N×91°.13W, h85km±19km, mb3.2/3, mb1 3.6/7, mb1mx3.4/23, mbtmp3.4/7, MS3.6/1, Ms1 3.6/1, ms1mx3.0/24, Error ellipse: s-maj=27.0km s-min=17.7km az=19.0*
*NEIC **14** 00:08:27.5±1.4, 14°.01N×91°.01W, h85km±14km, Error ellipse: s-maj=24.9km s-min=12.8km az=214.0*
ISC 14 00:08:26.6±1.1, 13°.95N±0°.09×91°.11W±0°.07, h86km±13km, n19, σ0°.70/21, mb3.6/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	3.73	88	ePn	Pn	00 09 20.5	-1.4
CMIG	Matias Romero	4.79	311	P	Pn	00 09 37.1	+0.8
2.0nm,0.3s,baz=104,slow=8.7,SNR=20							
CMIG				S	Sn	00 10 30.1	-0.4
6.8nm,0.3s,baz=71,slow=23,SNR=7.1							
CMIG	Matias Romero	4.79	311	P	Pn	00 09 37.1	+0.8
CMIG				S	Sn	00 10 30.1	-0.4
TEIG	Tepich	6.80	23	P	Pn	00 10 03.7	0.0
7.5nm,0.3s,baz=204,slow=5.3,SNR=46							
TEIG				S	Sn	00 11 20.0	+0.3
baz=232,slow=19,SNR=2.3							
TEIG	Tepich	6.80	23	ePn	Pn	00 10 04.1	+0.3
122nm,0.5s							
TEIG				S	Sn	00 11 20.0	+0.3
JTS	JuntasAbangare	7.04	120	P	Pn	00 10 07.8	+0.8
0.9nm,0.3s,baz=310,slow=20,SNR=1.5							
JTS	JuntasAbangare	7.04	120	P	Pn	00 10 07.8	+0.8
TXAR	Lajitas Array	19.22	325	P	Pn	00 12 44.9	-0.8
0.1nm,0.3s,baz=147,slow=11,SNR=9.5							
TXAR	Lajitas Array	19.22	325	P	Pn	00 12 44.9	-0.8
TKL	Tuckaleechee C	22.60	16	P	P	00 13 20.3	+0.3
1.7nm,0.4s,mb3.7,baz=226,slow=9.3,SNR=4.9							
TKL				LR	LR	00 24 34.7	
comp=Z,152nm,18.6s,baz=223,slow=43							
TKL	Tuckaleechee C	22.60	16	P	P	00 13 20.3	+0.3
NVAR	Mina Array Bea	34.25	320	P	P	00 15 08.3	+4.1
1.2nm,0.8s,mb3.8,baz=138,slow=8.8,SNR=8.0							
NVAR	Mina Array Bea	34.25	320	P	P	00 15 08.3	+4.1
YKA	Yellowknife Ar	51.27	346	P	P	00 17 21.5	+0.2
0.5nm,0.7s,mb3.7,baz=149,slow=7.5,SNR=7.7							
YKA				PcP	PcP	00 18 35.4	+0.2
0.2nm,0.7s,baz=151,slow=4.0,SNR=5.5							
YKA	Yellowknife Ar	51.27	346	P	P	00 17 21.5	+0.2
YKA				PcP	PcP	00 18 35.5	+0.2
ILAR	Eielson Array	63.22	337	P	P	00 18 45.2	-0.2
0.3nm,0.7s,mb3.4,baz=119,slow=5.0,SNR=7.3							
ILAR	Eielson Array	63.22	337	P	P	00 18 45.2	-0.2
CMAR	Chiang Mai Arr	146.30	343	PKPbc	PKPbc	00 27 59.0	+0.8
1.6nm,0.6s,baz=337,slow=2.8,SNR=10							
CMAR	Chiang Mai Arr	146.30	343	PKPbc	PKPbc	00 27 59.0	+0.8

IDC 14 00:13:41.3±2.5, 13°.60S×166°.22E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/26, Error ellipse: s-maj=124.3km s-min=29.0km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.41	303	LR	LR	00 17 20.6	
comp=Z,43nm,18.1s,baz=153,slow=30							
STKA	Stephens Creek	28.98	227	P	P	00 19 42.5	-0.2
2.8nm,0.8s,baz=45,slow=7.1,SNR=4.7							
WRA	Warramunga Arr	31.13	254	P	P	00 20 02.3	+0.4
0.1nm,0.5s,baz=83,slow=8.9,SNR=2.2							
ASAR	Alice Springs	32.15	247	P	P	00 20 10.8	0.0
0.4nm,0.5s,baz=73,slow=9.5,SNR=12							
ILAR	Eielson Array	85.78	18	P	P	00 26 22.1	+0.1
0.6nm,0.5s,baz=239,slow=5.1,SNR=18							

IDC 14 00:24:13.9±6.1, 6°.99S×153°.92E, h47km±50km, mb3.6/6, mb1 3.9/7, mb1mx3.7/17, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=54.8km s-min=31.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.11	250	P	Pn	00 25 56.9	+1.4
2.3nm,0.3s,baz=112,slow=2.2,SNR=9.1							
PMG				S	Sn	00 27 14.6	-0.4
1.3nm,0.3s,baz=80,slow=22,SNR=5.7							
WRA	Warramunga Arr	22.95	234	P	P	00 29 15.0	+0.6
1.2nm,0.7s,baz=64,slow=11,SNR=5.0							
ASAR	Alice Springs	25.39	227	P	P	00 29 37.1	+0.1
1.3nm,0.5s,baz=58,slow=9.4,SNR=20							
FITZ	Fitzroy Crossi	29.68	246	P	P	00 30 14.3	-1.3
2.1nm,0.8s,baz=52,slow=9.9,SNR=2.3							
CMAR	Chiang Mai Arr	59.82	296	P	P	00 34 15.8	+0.8
0.9nm,0.4s,baz=118,slow=5.3,SNR=6.5							
ZALV	Zalesovo Beam	83.58	326	P	P	00 36 36.4	-0.6
0.6nm,0.5s,baz=115,slow=7.3,SNR=4.2							
ILAR	Eielson Array	83.76	22	P	P	00 36 37.4	-0.4
0.4nm,0.6s,baz=253,slow=4.8,SNR=8.9							
TORD	Torodi Ar. Bea	152.00	285	PKPbc	PKPbc	00 44 05.4	+0.4
1.3nm,0.7s,baz=63,slow=2.1,SNR=9.2							

*IDC **14** 00:27:44.2±1.3, 36°.61N×21°.85E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/27, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=31.8km s-min=24.4km az=110.0*
*ISCJB **14** 00:27:46.3±0.8, 36°.48N±0°.03×21°.68E±0°.04, h6km±4km, mb3.5/6, Error ellipse: s-maj=6.3km s-min=5.2km az=145.6*
*CSEM **14** 00:27:47.6±0.3, 36°.53N×21°.71E, h5km, ML3.3/8, Error ellipse: s-maj=6.2km s-min=3.6km az=48.0*
*ATH **14** 00:27:48.2, 36°.58N×21°.77E, h26km±1km, MD3.5/11, ML3.0*
*THE **14** 00:27:49.0, 36°.58N×21°.77E, h2km±2km, ML3.3/8, Error ellipse: s-maj=2.2km s-min=1.5km az=221.0*
ISC 14 00:27:46.7±0.9, 36°.50N±0°.04×21°.66E±0°.05, h5km±4km, n82, σ1°.11/111, mb3.5/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.40	9	P	Pg	00 27 55.0	+0.5
PYL				S	Sg	00 28 00.3	+0.5
PYL	PYLOS	0.40	9	P	Pg	00 27 55.0	+0.5
PYL				S	Sg	00 28 00.3	+0.5
ITM	Ithomi	0.71	17	ePN	Pg	00 28 00.1	-0.4
ITM				eSN	Sg	00 28 09.6	-0.2
ITM	Ithomi	0.71	17	P	Pg	00 28 00.2	-0.3
ITM				S	Sg	00 28 09.6	-0.2
ITM	Ithomi	0.71	17	P	Pg	00 28 00.2	-0.3
ITM				S	Sg	00 28 09.6	-0.2
VLX	Vlachokerasia	1.05	33	P	Pg	00 28 06.0	-0.8
VLX				S	Sg	00 28 19.3	-1.1
VLX	Vlachokerasia	1.05	33	P	Pg	00 28 06.0	-0.8
VLX				S	Sg	00 28 19.3	-1.1
VLI	Veliai	1.05	77	ePN	Pg	00 28 07.3	+0.4
VLI				eSN	Sg	00 28 20.1	-0.4
VLI	Veliai	1.05	77	P	Pg	00 28 07.2	+0.3
VLI				S	Sg	00 28 21.3	+0.8
VLI	Veliai	1.05	77	P	Pg	00 28 07.2	+0.3
VLI				eSn	Sg	00 28 20.1	-0.4
VLI				S	Sg	00 28 21.3	+0.8
KYTH	Kithira	1.13	101	ePN	Pg	00 28 08.9	+0.5
KYTH	Kithira	1.13	101	P	Pg	00 28 09.0	+0.6
KYTH	Kithira	1.13	101	P	Pg	00 28 09.0	+0.6
GUR	Goura	1.54	21	P	Pn	00 28 14.7	-0.1
GUR				S	Sn	00 28 36.2	+1.1
GUR	Goura	1.54	21	P	Pn	00 28 14.7	-0.1
GUR				S	Sn	00 28 36.2	+1.1
RLS	Riolos of Patr	1.57	354	ePN	Pn	00 28 15.6	+0.4
RLS	Riolos of Patr	1.57	354	ePn	Pn	00 28 15.6	+0.4
DIDY	Didyma	1.58	51	P	Pn	00 28 15.9	+0.5
DIDY				S	Sn	00 28 36.1	-0.1
DIDY	Didyma	1.58	51	P	Pn	00 28 15.9	+0.5
DIDY				S	Sn	00 28 36.1	-0.1
DID	Didima	1.62	51	P	Pn	00 28 16.2	+0.3
DID				S	Sn	00 28 38.1	+1.0
DID	Didima	1.62	51	P	Pn	00 28 16.2	+0.3
DID				S	Sn	00 28 38.1	+1.0
LAKA	Lakka	1.76	8	P	Pn	00 28 18.8	+1.0
LAKA	Lakka	1.76	8	P	Pn	00 28 18.8	+1.0
LTK	Loutraki	1.85	34	P	Pn	00 28 18.8	-0.2
LTK				S	Sn	00 28 42.8	0.0
LTK	Loutraki	1.85	34	P	Pn	00 28 18.8	-0.2
LTK				S	Sn	00 28 42.8	0.0
VLS	Valsamata	1.88	333	ePN	Pn	00 28 20.3	+0.8
VLS	Valsamata	1.88	333	P	Pn	00 28 19.1	-0.4
VLS				S	Sn	00 28 46.2	+2.5
VLS	Valsamata	1.88	333	P	Pn	00 28 19.1	-0.4
VLS				S	Sn	00 28 46.2	+2.5
KALE	Kalithea	1.93	11	P	Pn	00 28 21.5	+1.3
KALE				S	Sn	00 28 46.0	+1.2
KALE	Kalithea	1.93	11	P	Pn	00 28 21.5	+1.3
KALE				S	Sn	00 28 46.0	+1.2
NAIG	Nisos Aigina	1.93	49	ePB	Pn	00 28 19.5	-0.7
NAIG	Nisos Aigina	1.93	49	ePb	Pn	00 28 19.5	-0.7
EFP	Efpalio	1.94	6	P	Pn	00 28 21.6	+1.3
EFP	Efpalio	1.94	6	P	Pn	00 28 21.6	+1.3
DESF	Desfina	2.04	20	P	Pn	00 28 20.9	-0.7
DESF	Desfina	2.04	20	P	Pn	00 28 20.9	-0.7
VIL1	Vilia, Western	2.13	38	ePB	Pn	00 28 22.8	-0.1
VLY	Voula,Athens	2.18	51	ePB	Pn	00 28 23.5	-0.1
VLY	Voula,Athens	2.18	51	P	Pn	00 28 23.7	+0.1
VLY				S	Sn	00 28 49.4	-1.5
VLY	Voula,Athens	2.18	51	P	Pn	00 28 23.7	+0.1
VLY				S	Sn	00 28 49.4	-1.5
ATH	Athens Observa	2.21	47	ePB	Pb	00 28 23.8	-3.3
ATH	Athens Observa	2.21	47	ePb	Pb	00 28 23.8	-3.3
VAM	Vamos	2.33	117	ePN	Pn	00 28 26.8	+1.1
VAM	Vamos	2.33	117	P	Pn	00 28 27.1	+1.4
VAM	Vamos	2.33	117	ePn	Pn	00 28 26.8	+1.1
VAM	Vamos	2.33	117	P	Pn	00 28 27.1	+1.4
PTL	Penteli	2.34	48	ePN	Pn	00 28 25.5	-0.4
PTL	Penteli	2.34	48	ePn	Pn	00 28 25.5	-0.4
LKR	Lokris	2.40	26	ePN	Pn	00 28 26.0	-0.6
LKR	Lokris	2.40	26	P	Pn	00 28 26.2	-0.4
LKR	Lokris	2.40	26	P	Pn	00 28 26.2	-0.4
EVR	Evrytania	2.42	3	ePB	Pn	00 28 27.6	+0.7
EVR	Evrytania	2.42	3	P	Pb	00 28 29.6	-1.1
EVR	Evrytania	2.42	3	ePb	Pb	00 28 29.7	-1.0
LKD2	Lefkada island	2.42	341	P	Pn	00 28 28.3	+1.3
LKD2	Lefkada island	2.42	341	P	Pn	00 28 28.3	+1.3
AGG	Agios Georgios	2.58	12	ePN	Pn	00 28 29.6	+0.5
AGG	Agios Georgios	2.58	12	P	Pn	00 28 29.9	+0.8
AGG				S	Sn	00 28 59.6	-1.2
AGG	Agios Georgios	2.58	12	P	Pn	00 28 29.9	+0.8
AGG				S	Sn	00 28 59.6	-1.2
THL	Klokotos Trika	3.08	5	ePN	Pn	00 28 36.3	+0.4
THL	Klokotos Trika	3.08	5	ePn	Pn	00 28 36.3	+0.4
XOR	Xorichti	3.11	22	P	Pn	00 28 37.8	+1.4
XOR	Xorichti	3.11	22	P	Pn	00 28 37.8	+1.4
APE	Apeiranthos	3.16	78	ePN	Pn	00 28 37.0	-0.1
APE	Apeiranthos	3.16	78	ePn	Pn	00 28 36.6	-0.5
JAN	Janina	3.22	349	ePN	Pn	00 28 38.3	+0.4
JAN	Janina	3.22	349	ePn	Pn	00 28 38.3	+0.4
PLG	Polygyros	4.12	19	ePN	Pn	00 28 49.7	-0.6
PLG	Polygyros	4.12	19	ePn	Pn	00 28 49.7	-0.6
KARP	Karpathos	4.56	100	ePN	Pn	00 28 57.1	+0.8
KARP	Karpathos	4.56	100	ePn	Pn	00 28 56.1	-0.2
STON	Ston	7.06	336	ePn	Pn	00 29 25.5	-5.2
STON				Sn	Sn	00 30 42.4	-8.9
NVLJ	Novalja	9.57	329	ePn	Pn	00 30 02.3	-2.7
NVLJ				Sn	Sn	00 31 43.2	-10
MMAI	Mount Meron Ar	11.82	103	Pn	Pn	00 30 31.3	-4.7
0.4nm,0.3s,baz=304,slow=10,SNR=6.6							
AKH	Akhalkalaki	17.66	67	P	Pn	00 31 56.3	+2.9
ONI	Oni	17.86	63	P	Pn	00 32 03.9	+8.1
HFS	Hagfors	24.20	350	P	P	00 33 00.7	-3.2
1.0nm,0.5s,mb3.5,baz=153,slow=13,SNR=7.0							
FINES	FINESS Array B	25.12	5	P	P	00 33 09.4	-2.8
5.2nm,1.1s,mb4.0,baz=160,slow=13,SNR=5.8							
NOA	NORSAR Array B	25.45	348	P	P	00 33 12.4	-2.7
1.2nm,0.8s,mb3.5,baz=162,slow=8.6,SNR=3.3							
TORD	Torodi Ar. Bea	29.35	223	P	P	00 33 50.8	+0.1
0.2nm,0.6s,mb3.0,baz=39,slow=11,SNR=2.6							
ARCES	ARCESS Array B	33.16	2	P	P	00 34 22.0	-1.7
1.4nm,0.9s,mb3.9,baz=191,slow=9.2,SNR=3.1							
MKAR	Makanchi Array	45.43	57	P	P	00 36 03.3	-3.1
0.3nm,0.7s,mb3.2,baz=274,slow=8.2,SNR=3.3							

IDC 14 00:58:00.5±1.5, 31°.28S×176°.75W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.9/17, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=40.6km s-min=31.8km az=140.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.60	214	Pn	Pn	01 00 05.8	-0.4
0.9nm,0.3s,baz=287,slow=23,SNR=2.1							
URZ				Sn	Sn	01 01 42.3	-1.6
1.3nm,0.3s,baz=164,slow=23,SNR=8.0							
CTA	Charters Tower	35.00	280	P	P	01 04 56.1	+1.3
2.6nm,0.8s,baz=128,slow=11,SNR=5.2							
ASAR	Alice Springs	44.14	267	P	P	01 06 10.8	-0.1
1.0nm,0.6s,baz=104,slow=7.1,SNR=15							
WRA	Warramunga Arr	45.21	272	P	P	01 06 18.9	-0.6
1.2nm,0.4s,baz=112,slow=7.9,SNR=9.3							
ARCES	ARCESS Array B	139.68	348	PKP	PKPdf	01 17 29.4	+0.1
2.1nm,0.9s,baz=62,slow=2.9,SNR=5.6							
KAF	Kangasniemi	145.73	341	ep	PKPdf	01 17 38.5	-1.7
FINES	FINESS Array B	146.34	340	PKPbc	PKPbc	01 17 41.1	-1.3
4.9nm,0.5s,baz=50,slow=3.2,SNR=50							
NOA	NORSAR Array B	149.78	352	PKPbc	PKPbc	01 17 50.6	-1.0
1.2nm,0.7s,baz=13,slow=4.1,SNR=3.5							
TORD	Torodi

GNI					⇓iS	Sg	01 23 34.0	+1.6
GNI	Garni	1.55	14	ePn		Pn	01 23 08.6	-1.5
GNI	Garni	1.55	14	⇓P		Pn	01 23 10.4	+0.3
AKSZ	Araks	1.57	350	⇓iP		Pn	01 23 10.7	+0.3
AKSZ				⇓iS		Sg	01 23 34.1	+1.3
ARUZ	Aruch	1.64	356	⇓iP		Pn	01 23 10.6	-0.8
ARUZ				⇓iS		Sg	01 23 36.0	+0.9
ARUZ	Aruch	1.64	356	⇓P		Pn	01 23 10.6	-0.7
ARUZ				S		Sg	01 23 36.0	+0.9
KAPZ	Kaputan	1.71	12	⇓iP		Pn	01 23 13.3	+1.0
KAPZ				⇑iS		Sg	01 23 38.1	+0.6
KAPZ	Kaputan	1.71	12	⇓P		Pn	01 23 13.3	+1.0
AMBZ	Amberd	1.74	1	⇓iP		Pn	01 23 12.3	-0.4
AMBZ				⇓iS		Sg	01 23 39.4	+1.0
AMBZ	Amberd	1.74	1	⇓P		Pn	01 23 12.4	-0.3
SIRN	S¨–rnak	1.84	232	iP		Pn	01 23 15.1	+1.1
SIRN				iS		Sg	01 23 42.6	+1.2
SIRN	S¨–rnak	1.84	232	iP		Pn	01 23 15.1	+1.1
SIRN				iS		Sg	01 23 42.6	+1.1
VADZ	Vardenis	1.92	37	ePn		Pn	01 23 17.0	+1.8
VADZ				eS		Sg	01 23 44.0	-0.2
KARS	Kars	2.17	336	ePN		Pn	01 23 17.3	-1.3
KARS	Kars	2.17	336	ePn		Pn	01 23 17.3	-1.4
VRTB	Varto-Mus	2.23	284	ePN		Pn	01 23 18.6	-0.8
VRTB	Varto-Mus	2.23	284	ePn		Pn	01 23 18.7	-0.7
STE	Stepanavan	2.36	2	⇑P		Pn	01 23 23.0	+1.8
STEZ	Stepenevan	2.36	3	⇑iP		Pn	01 23 23.0	+1.8
BNGL	BINGOL	2.43	278	iP		Pn	01 23 22.0	-0.2
BNGL				iS		Sg	01 24 01.9	+1.5
BEST	Besiri	2.45	253	iP		Pn	01 23 24.1	+1.7
BEST				iS		Sg	01 24 02.4	+1.2
ERZM	Erzurum	2.56	300	iP		Pn	01 23 26.3	+2.4
ERZM				iS		Sg	01 24 06.7	+2.1
ERZM	Erzurum	2.56	300	iP		Pn	01 23 26.3	+2.4
EZM	Erzurum	2.56	300	ePN		Pn	01 23 23.1	-0.8
BNGB	Bing¨ℓl	2.80	278	ePN		Pn	01 23 26.6	-0.6
BINT	Bingol	2.94	276	ePn		Pn	01 23 26.6	-2.6
BCA	Borcka	3.44	325	ePN		Pn	01 23 35.7	-0.4
BCA	Borcka	3.44	325	ePn		Pn	01 23 35.7	-0.4
BAYT	Ayd¨–ntepe-Bay	3.62	300	ePN		Pn	01 23 38.1	-0.4
BAYT	Ayd¨–ntepe-Bay	3.62	300	ePn		Pn	01 23 38.1	-0.4
PTK	Pertek	3.79	275	ePN		Pn	01 23 40.8	-0.1
PTK	Pertek	3.79	275	ePn		Pn	01 23 40.8	-0.1
SVRC	Sivrice-ELAZID	3.88	268	ePN		Pn	01 23 42.0	-0.1
SVRC	Sivrice-ELAZID	3.88	268	ePn		Pn	01 23 42.0	-0.1
GUMT	Gumushane	4.10	298	ePN		Pn	01 23 45.0	-0.2
GUMT	Gumushane	4.10	298	ePn		Pn	01 23 45.0	-0.1

IDC **14** *01:36:07.9±2.0, 14°.10S×166°.67E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, MS4.2/2, Ms1 4.2/2, ms1mx3.2/26, Error ellipse: s-maj=104.4km s-min=26.2km az=137.0*

NEIC **14** *01:36:09.6±0.7, 14°.08S×166°.61E, h10km, mb4.0/1, Error ellipse: s-maj=22.1km s-min=13.7km az=107.0*

ISCJB **14** *01:36:11.4±1.2, 14°.25S±0°.08×166°.6E±0°.2, h33km, mb3.9/6, MS4.2/2, Error ellipse: s-maj=27.7km s-min=11.0km az=173.4*

ISC 14 01:36:13.3±1.2, 14°.16S±0°.08×166°.6E±0°.2, h35km, n18, σ0=58/13, mb3.9/6, MS4.2/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.87	181	ePn		Pn	01 38 05.4	+0.1
DZM	5.3nm,0.4s			eSn		Sn	01 39 33.1	-0.1
STKA	Stephens Creek	28.90	228	P		P	01 42 09.6	+0.6
STKA	1.9nm,0.5s,mb4.1,baz=46,slow=10,SNR=6.1 Stephens Creek	28.90	228	P		P	01 42 09.6	+0.6
WRA	Warramunga Arr	31.37	255	P		P	01 42 30.4	-0.6
WRA	0.3nm,0.3s,mb3.6,baz=85,slow=9.2,SNR=1.6 Warramunga Arr	31.37	255	P		P	01 42 30.4	-0.6
ASAR	Alice Springs	32.31	248	P		P	01 42 39.0	-0.2
ASAR	0.4nm,0.5s,mb3.5,baz=76,slow=9.4,SNR=13 Alice Springs	32.31	248	P		P	01 42 39.0	-0.2
GUMO	Guam	35.00	321	LR		LR	01 54 43.3	
FORT	comp=Z,2μm,21.1s,MS4.8,baz=121,slow=32 Forrest	39.06	238	eP		P	01 43 36.9	-0.2
FX1	2.0nm,0.5s,mb4.1 Attu Island--F	67.00	4	LR		LR	02 17 06.9	
ILAR	comp=Z,44nm,18.1s,MS3.7,baz=45,slow=37 Eielson Array	86.18	18	P		P	01 48 49.8	-0.7
ILAR	0.6nm,0.5s,mb4.1,baz=238,slow=5.1,SNR=27 Eielson Array	86.18	18	P		P	01 48 49.8	-0.7
MKAR	0.7nm,0.8s,mb4.1,baz=74,slow=4.4,SNR=4.1 Makanchi Array	96.37	317	P		P	01 49 39.7	+1.2
MKAR	0.7nm,0.8s,mb4.1,baz=74,slow=4.4,SNR=4.1 Makanchi Array	96.37	317	P		P	01 49 39.7	+1.2
ARCES	ARCESS Array B	119.55	345	PKP		PKPdf	01 54 58.5	-0.3
ARCES	0.9nm,0.7s,baz=70,slow=2.3,SNR=11 ARCESS Array B	119.55	345	PKP		PKPdf	01 54 58.5	-0.3
FINES	FINESS Array B	124.97	338	PKP		PKPdf	01 55 10.1	+0.7
FINES	1.7nm,0.8s,baz=103,slow=3.0,SNR=3.7 FINESS Array B	124.97	338	PKP		PKPdf	01 55 10.1	+0.7

IDC 14 01:37:03.0±14.0, 19°.41S×177°.82W, h528km±194km, mb2.8/4, mb1 3.2/4, mb1mx2.9/16, mbtmp2.8/4, Error ellipse: s-maj=305.5km s-min=35.4km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.93	261	P		P	01 44 30.8	-0.1
ASAR	0.2nm,0.2s,baz=96,slow=7.7,SNR=5.9 Alice Springs	44.94	256	P		P	01 44 30.9	-0.1
TXAR	1.0nm,0.8s,baz=90,slow=8.1,SNR=7.2 Lajitas Array	86.33	57	P		P	01 48 49.3	+0.1
PDAR	0.4nm,0.7s,baz=225,slow=7.5,SNR=5.7 Pinedale Array	88.05	43	P		P	01 48 57.4	+0.4
BRTR	0.2nm,0.5s,baz=206,slow=6.0,SNR=2.9 Keskin Array B	146.22	314	PKPbc		PKPbc	01 55 44.1	-0.3
GERES	0.4nm,0.4s,baz=133,slow=3.6,SNR=6.8 GERESS Array B	149.20	345	PKPbc		PKPbc	01 55 51.2	-0.5
	1.1nm,0.9s,baz=309,slow=4.6,SNR=5.9							

IDC 14 01:47:07.9±5.1, 30°.21S×178°.00W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/14, mbtmp3.5/2, Error ellipse: s-maj=321.1km s-min=69.2km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.12	267	P		P	01 55 10.0	-0.1
WRA	0.4nm,0.6s,baz=105,slow=7.4,SNR=5.9 Warramunga Arr	44.09	272	P		P	01 55 18.1	0.0
FINES	0.5nm,0.5s,baz=111,slow=8.2,SNR=6.3 FINESS Array B	144.97	340	PKP		PKPdf	02 06 45.7	-0.6
	0.4nm,0.4s,baz=64,slow=4.4,SNR=5.2							

ISCJB **14** *01:50:14.0±3.5, 57°.7S±0°.1×25°.8W±0°.2, h51km±33km, mb4.2/11, MS3.4/2, Error ellipse: s-maj=21.1km s-min=17.1km az=136.6*

NEIC **14** *01:50:16.9±0.7, 57°.71S×25°.78W, h60km±6km, mb4.2/8, Error ellipse: s-maj=10.7km s-min=8.2km az=66.0*

IDC **14** *01:50:17.4±0.7, 57°.74S×25°.75W, h63km±6km, mb4.0/8, mb1 4.0/9, mb1mx3.9/13, mbtmp3.9/9, MS3.5/2, Ms1 3.4/2, ms1mx3.0/13, Error ellipse: s-maj=21.2km s-min=17.3km az=69.0*

ISC 14 01:50:16.2±3.0, 57°.7S±0°.1×25°.7W±0°.2, h53km±29km, n57, σ0=64/27, mb4.2/11, MS3.4/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.96	157	e		Pn	01 53 43.8	-0.2
VNA3	Neumayer Olymp	15.17	160	e		Pn	01 53 46.2	-0.4
VNA3				eS		S	01 56 19.3	-28
VNA2	Neumayer--Watz	15.36	157	e		Pn	01 53 49.0	-0.1
VNA2				eS		S	01 56 24.5	-27
SNAA	Sanae	16.91	155	e		Pn	01 54 11.2	+2.5
SNAA				eS		S	01 57 00.5	-23
SNAA	Sanae	16.91	155	P		Pn	01 54 09.0	+0.3
SNAA	0.3nm,0.3s,baz=314,slow=13,SNR=28 Sanae	16.91	155	eP		Pn	01 54 08.6	-0.1
USHA	2.4nm,0.4s Ushuaia	23.59	259	LR		LR	02 02 24.5	
QSPA	comp=Z,104nm,21.4s,MS3.3,baz=302,slow=31 South Pole Qui	32.55	180	P		P	01 56 42.6	+1.1
	4.4nm,0.8s,mb4.4,baz=220,slow=1.2,SNR=16							
QSPA	South Pole Qui	32.55	180	eP		P	01 56 41.8	+0.3
	3.2nm,0.6s,mb4.4							
PLCA	Paso Flores	33.09	281	P		P	01 56 47.2	+0.6
	1.2nm,0.7s,mb3.9,baz=161,slow=12,SNR=3.2							
PLCA	Paso Flores	33.09	281	eP		P	01 56 47.0	+0.4
	1.1nm,0.7s,mb3.9							
MAW	Mawson	38.35	142	P		P	01 57 31.0	-0.4
	0.9nm,0.5s,mb3.8,baz=246,slow=12,SNR=1.6							
MAW	Mawson	38.35	142	P		P	01 57 31.0	-0.4
VNDA	Vanda	44.96	182	eP		P	01 58 25.8	+0.6
	2.3nm,0.7s,mb4.1							
BOSA	Boshof	45.65	73	P		P	01 58 31.4	+0.1
	2.1nm,1.1s,mb4.0,baz=204,slow=13,SNR=1.5							
BOSA				pP		pP	01 58 47.6	+2.3
	2.1nm,0.8s,baz=174,slow=13,SNR=2.7							
BOSA				LR		LR	02 14 25.0	
	comp=Z,52nm,18.1s,MS3.5,baz=346,slow=32							
BOSA	Boshof	45.65	73	P		P	01 58 31.4	+0.1
BOSA				pP		pP	01 58 47.6	+2.3
LBTB	Lobatse	48.77	70	pP		pP	01 59 11.7	+2.0
	3.2nm,0.9s,baz=214,slow=11,SNR=3.7							
LBTB	Lobatse	48.77	70	pP		pP	01 59 11.7	+2.0
LPAZ	La Paz	51.98	305	P		P	01 59 20.1	+0.3
	2.4nm,0.6s,mb4.3,baz=196,slow=6.9,SNR=15							
LPAZ	La Paz	51.98	305	eP		P	01 59 19.4	-0.4
	2.7nm,0.7s,mb4.3							
SAML	Samuel	56.53	314	eP		P	01 59 51.9	-1.0
	2.0nm,0.6s,mb4.3							
LSZ	Lusaka	58.27	67	eP		P	02 00 05.2	+0.1
	1.6nm,0.7s,mb4.2							
DBIC	Dimbokro	66.36	23	P		P	02 00 59.6	+0.4
	1.7nm,0.5s,mb4.3,baz=230,slow=4.5,SNR=8.9							
DBIC	Dimbokro	66.36	23	eP		P	02 00 59.2	0.0
	1.7nm,0.5s,mb4.3							
TORD	Torodi Ar. Bea	74.12	28	P		P	02 01 47.2	+0.6
	3.9nm,0.5s,mb4.6,baz=199,slow=6.8,SNR=79							
TORD				pP		pP	02 02 04.8	+3.2
	4.5nm,0.7s,baz=195,slow=6.6,SNR=11							
TORD	Torodi Ar. Bea	74.12	28	P		P	02 01 47.2	+0.6
TORD				pP		pP	02 02 04.8	+3.2
ASAR	Alice Springs	97.17	161	P		P	02 03 41.6	-1.1
	0.8nm,0.6s,mb4.3,baz=181,slow=4.0,SNR=19							
ASAR	Alice Springs	97.17	161	P		P	02 03 41.6	-1.1
WRA	Warramunga Arr	100.89	161	P		Pdif	02 03 57.5	-2.0
	0.3nm,0.6s,baz=204,slow=4.6,SNR=2.3							
WRA	Warramunga Arr	100.89	161	P		Pdif	02 03 57.5	-2.0
NVAR	Mina Array Bea	122.75	291	PKP		PKPdf	02 09 06.7	+1.5
	0.2nm,0.5s,baz=189,slow=4.6,SNR=2.4							
NVAR	Mina Array Bea	122.75	291	PKP		PKPdf	02 09 06.7	+1.5
TPAW	Teton Pass	123.09	300	ePKPdf		PKPdf	02 09 06.0	+0.3
FINES	FINESS Array B	125.48	28	PKP		PKPdf	02 09 09.2	-0.5
	0.7nm,0.4s,baz=163,slow=1.3,SNR=12							
FINES	FINESS Array B	125.48	28	PKP		PKPdf	02 09 09.2	-0.5
KAF	Kangasniemi	126.11	27	epkp		PKPdf	02 09 09.4	-1.4
ABKAR	Akbulak array	127.65	56	ePKPdf		PKPdf	02 09 13.7	-0.5
JOF	Joensuu	128.06	29	epkp		PKPdf	02 09 13.4	-1.1
AAK	Ala-Archa	129.77	71	ePKPdf		PKPdf	02 09 18.6	+0.1
ARCES	ARCESS Array B	132.18	22	PKP		PKPdf	02 09 21.8	-0.4
	1.5nm,0.8s,baz=225,slow=2.2,SNR=10							
ARCES	ARCESS Array B	132.18	22	PKP		PKPdf	02 09 21.8	-0.4
MKAR	Makanchi Array	136.65	72	PKP		PKPdf	02 09 32.3	+1.0
	0.6nm,0.8s,baz=236,slow=2.2,SNR=2.2							
MKAR	Makanchi Array	136.65	72	PKP		PKPdf	02 09 32.3	+1.0
KURK	Kurchatov	137.38	65	PKP		PKPdf	02 09 33.6	+1.2
	0.3nm,0.6s,baz=232,slow=2.1,SNR=4.5							
KURK	Kurchatov	137.38	65	PKP		PKPdf	02 09 33.6	+1.2
YKA	Yellowknife Ar	137.92	316	PKP		PKPdf	02 09 32.7	-0.4
	0.8nm,0.4s,baz=133,slow=1.9,SNR=20							
YKA				pPKP		pPKPdf	02 09 51.1	+2.1
	0.4nm,0.6s,baz=126,slow=2.3,SNR=2.8							
YKA	Yellowknife Ar	137.92	316	PKP		PKPdf	02 09 32.7	-0.4
YKA				pPKP		pPKPdf	02 09 51.0	+2.1
INK	Inuvik	147.58	319	PKPbc		PKPbc	02 09 51.9	-0.9
	3.2nm,0.5s,baz=59,slow=2.9,SNR=21							
INK	Inuvik	147.58	319	ePKPbc		PKPbc	02 09 52.4	-0.4
SONM	Songino Array	150.01	88	PKPbc		PKPbc	02 09 59.2	-0.3
	2.0nm,0.4s,baz=220,slow=3.5,SNR=20							
SONM				pPKPbc		pPKPbc	02 10 17.0	+1.7
	1.2nm,0.6s,baz=224,slow=2.7,SNR=5.5							
SONM	Songino Array	150.01	88	PKPbc		PKPbc	02 09 59.2	-0.3
SONM				pPKPbc		pPKPbc	02 10 17.0	+1.7
DOT	Dot Lake	150.30	308	ePKPbc		PKPbc	02 09 59.9	+0.2
ILAR	Eielson Array	151.79	309	PKPbc		PKPbc	02 10 02.9	-0.3
	11nm,1.1s,baz=134,slow=2.2,SNR=49							
ILAR	Eielson Array	151.79	309	PKPbc		PKPbc	02 10 02.9	-0.3
KDAK	Kodiak Island	152.23	293	PKPbc		PKPbc	02 10 04.5	+0.1
	3.5nm,0.4s,baz=140,slow=11,SNR=6.2							
KDAK	Kodiak Island	152.23	293	PKPbc		PKPbc	02 10 04.5	+0.1
MCK	McKinley	152.41	306	ePKPbc		PKPbc	02 10 04.5	-0.1

ISCJB **14** *01:51:44.4±0.3, 52°.5N±0°.1×172°.99W±0°.07, h117km±4km, mb3.9/16, Error ellipse: s-maj=18.2km s-min=5.2km az=163.9*

IDC **14** *01:51:45.0±1.1, 52°.61N×173°.14W, h109km±9km, mb3.6/8, mb1 3.9/9, mb1mx3.5/26, mbtmp3.6/9, Error ellipse: s-maj=33.6km s-min=15.4km az=155.0*

NEIC **14** *01:51:46.4, 52°.35N×172°.99W, h109km, mb4.0/11, After AEIC.*

ISC 14 01:51:45.4±0.4, 52°.4N±0°.1×172°.98W±0°.07, h112km±4km, h108km±1.7km: pP-P, n55, σ0=74/59, mb3.9/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	Flat Point	0.70	257	P		Pn	01 52 04.2	+0.3
KOKV	Korovin Volcan	0.73	264	P		Pn	01 52 04.3	+0.2
KOKV				S		Sn	01 52 18.4	+0.2
KOKL	Mount Kliuchef	0.76	262	P		Pn	01 52 04.6	+0.2
KOWE	Korovin West	0.78	265	P		Pn	01 52 04.8	+0.2
GSTR	Great Sitkin T	1.92	261	ePn		Pn	01 52 17.1	-0.4
GSTR				eSn		Sn	01 52 43.4	+1.5
GSMY	Great Sitkin M	1.93	259	P		Pn	01 52 16.7	-0.8
GSTD	Great Sitkin T	1.98	260	P		Pn	01 52 17.4	-0.8
GSTD				S		Sn	01 52 43.2	0.0
GSCK	Great Sitkin C	2.00	259	P		Pn	01 52 17.7	-0.7
GSCK				S		Sn	01 52 43.4	-0.2
ETKA	Kagalaska Isla	2.19	256	P		Pn	01 52 20.5	-0.3
KIKV	Kanaga Island	2.64	259	P		Pn	01 52 26.2	-0.5
KIMD	Kanaga Island	2.71	257	P		Pn	01 52 27.3	-0.2
TAFL	Tanaga Flats	3.11	259	P		Pn	01 52 32.9	+0.1
TAFP	Tanaga Falls P	3.13	262	P		Pn	01 52 32.6	-0.4
TAFP				S		Sn	01 53 09.0	-0.8
TASE	Tanaga Southea	3.17	261	P		Pn	01 52 33.8	+0.1
GANE	Gareloi Northe	3.63	262	P		Pn	01 52 39.9	+0.2
MSOM	Makushin Julie	3.89	67	P		Pn	01 52 43.6	+0.5
MSW	Makushin Switc	4.01	66	P		Pn	01 52 44.2	-0.6
UNV	Unalaska Valle	4.15	68	ePn		Pn	01 52 47.0	+0.4
UNV				eSn		Sn	01 53 34.5	+0.3
FX1	Attu Island--F	8.44	278	P		Pn	01 53 46.3	+1.6
	1.1nm,0.3s,baz=224,slow=22,SNR=11							
FX1	Attu Island--F	8.44	278	P		Pn	01 53 46.3	+1.6
KDAK	Kodiak Island	12.82	57	P		Pn	01 54 39.6	-3.7
	0.7nm,0.3s,baz=296,slow=11,SNR=9.3							
KDAK	Kodiak Island	12.82	57	P		Pn	01 54 39.6	-3.7
PETK	Petropavlovsk-	17.70	284	P		Pn	01 55 46.0	+1.4
	0.2nm,0.3s,baz=64,slow=23,SNR=1.0							
PETK	Petropavlovsk-	17.70	284	P		Pn	01 55 46.0	+1.4
ILAR	Eielson Array	18.19	37	P		P	01 55 47.1	-2.0
	0.8nm,0.3s,baz=232,slow=8.8,SNR=26							
ILAR	Eielson Array	18.19	37	P		P	01 55 47.1	-1.9
BILL	Bilibino	18.56	335	eP		P	01 55 54.6	+1.5
	7.6nm,1.0s							
EGAK	Eagle	20.39	40	eP		P	01 56 12.8	-0.2
	12nm,0.7s							
DAWY	Dawson	20.87	43	eP		P	01 56 17.1	-0.9
INK	Inuvik	24.53	35	P		P	01 56 53.4	-0.7
	1.6nm,0.7s,mb3.5,baz=248,slow=11,SNR=11							
INK	Inuvik	24.53	35	eP		P	01 56 52.9	-1.1
	1.7nm,0.6s,mb3.6							
YKA	Yellowknife Ar	31.86	49	P		P	01 57 58.5	-0.8
	0.2nm,0.4s,mb3.2,baz=272,slow=8.3,SNR=7.2							
YKA	Yellowknife Ar	31.86	49	P		P	01 57 58.5	-0.7
WVOR	Wild Horse Val	37.27	83	eP		P	01 58 46.8	+0.7
	3.4nm,0.8s,mb4.3							
MJAR	Matsushiro Arr	37.49	265	P		P	01 58 47.9	-0.2
	0.3nm,0.4s,mb3.6,baz=55,slow=8.8,SNR=5.4							
MJAR	Matsushiro Arr	37.49	265	P		P	01 58 47.9	-0.2
MCMT	McKenzie Canyo	39.42	76	eP		P	01 59 04.3	+0.2
	0.7nm,0.4s,mb3.8							
BOZ	Bozeman (W)	39.70	75	eP		P	01 59 06.3	-0.1
	0.7nm,0.7s,mb3.6							
NVAR	Mina Array Bea	39.88	88	P		P	01 59 09.4	+1.4
	1.7nm,0.7s,mb4.0,baz=302,slow=7.3,SNR=12							
NVAR				pP		pP	01 59 34.0	+0.8
	0.9nm,0.8s,baz=298,slow=8.1,SNR=3.1							
NVAR	Mina Array Bea	39.88	88	P		P	01 59 09.4	+1.5
NVAR				pP		pP	01 59 34.0	+0.8
DUG	Dugway	42.13	82	eP		P	01 59 26.1	-0.3
	1.0nm,0.5s,mb3.8							
BW06	Boulder Array	42.55	77	eP		P	01 59 29.9	+0.1
	1.4nm,0.8s,mb3.7							
PDAR	Pinedale Array	42.55	77	P		P	01 59 30.4	+0.6
	1.5nm,0.7s,mb3.8,baz=309,slow=3.1,SNR=12							
PDAR				pP		pP	01 59 55.6	+0.3
	1.7nm,0.7s,baz=302,slow=3.7,SNR=7.2							
PDAR	Pinedale Array	42.55	77	P		P	01 59 30.4	+0.6
PDAR				pP		pP	01 59 55.6	+0.3
TUC	Tucson	48.52	89	eP		P	02 00 17.4	+0.6
	2.1nm,0.7s,mb4.2							
MNTX	Cornudas Mount	52.24	85	eP		P	02 00 45.2	+0.3
	1.8nm,0.7s,mb4.2							
WMOK	Wichita Mounta	54.14	78	eP		P	02 00 58.7	0.0
	2.0nm,0.9s,mb4.2							
TXAR	Lajitas Array	54.95	86	P		P	02 01 05.1	+0.4
	3.3nm,0.7s,mb4.5,baz=300,slow=5.2,SNR=45							
TXAR				pP		pP	02 01 30.4	-0.9
	0.8nm,0.8s,baz=302,slow=5.6,SNR=2.4							
TXAR	Lajitas Array	54.95	86	P		P	02 01 05.1	+0.4
TXAR				pP		pP	02 01 30.4	-0.9
WRA	Warramunga Arr	85.35	229	P		P	02 04 08.7	-1.1
	0.7nm,0.8s,mb3.6,baz=34,slow=6.1,SNR=2.3							
WRA	Warramunga Arr	85.35	229	P		P	02 04 08.7	-1.1
ASAR	Alice Springs	88.78	227	P		P	02 04 26.2	-0.1
	1.1nm,0.7s,mb4.0,baz=25,slow=5.0,SNR=21							
ASAR	Alice Springs	88.78	227	P		P	02 04 26.2	-0.1
MAW	Mawson	149.55	219	PKPbc		PKPbc	02 11 20.4	+0.3
	2.7nm,0.9s,baz=90,slow=1.0,SNR=4.0							
MAW	Mawson	149.55	219	PKPbc		PKPbc	02 11 20.4	+0.3

ISCJB **14** *02:03:07.7±0.2, 56°.21N±0°.03×161°.24E±0°.05, h102km±2km, mb4.2/46, Error ellipse: s-maj=5.1km s-min=3.8km az=35.7*

MOS **14** *02:03:07.2±0.8, 56°.24N×161°.22E, h98km, mb4.3/24, Error ellipse: s-maj=12.4km s-min=6.5km az=80.8*

KRSC **14** *02:03:07.5±0.6, 56°.14N×161°.37E, h98km±27km, ML4.6*

IDC **14** *02:03:09.5±1.8, 56°.19N×160°.98E, h107km±16km, mb3.7/22, mb1 3.9/24, mb1mx3.8/32, mbtmp3.7/24, Error ellipse: s-maj=15.0km s-min=10.4km az=160.0*

NEIC **14** *02:03:10.6±0.7, 56°.18N×161°.03E, h118km±7km, mb4.2/25, Error ellipse: s-maj=7.9km s-min=4.8km az=169.0*

ISC 14 02:03:08.9±0.2, 56°.21N±0°.03×161°.24E±0°.05, h96km±2km, n158, σ0=87/189, mb4.2/46, 3C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	Zelenaya	0.31	232	P		Pn	02 03 22.9	-0.2
KLY	Klyuchi	0.35	288	iP		Pn	02 03 22.3	-0.9
KLY				iS		Sn	02 04 33.6	-0.3
KLY	Klyuchi	0.35	288	PN		Pn	02 03 22.3	-0.9
KLY				S		Sn	02 03 33.6	-0.3
KRSR	Krestovskiy	0.38	272	P		Pn	02 03 23.2	-0.2
KRSR				iS		Sn	02 03 34.8	+0.6
SMKR	Semkarok	0.40	18	iP		Pn	02 03 23.4	-0.1
SMKR				iS		Sn	02 03 35.1	+0.7
BZGR	Bezymyannyi-Gr	0.41	229	iP		Pn	02 03 23.5	-0.1
BZGR				iS		Sn	02 03 35.4	+0.9
SRKR	Sorokina	0.45	355	iP		Pn	02 03 23.9	0.0
BZWR	Bezymyannyi-We	0.48	240	iP		Pn	02 03 23.9	-0.2
BZWR				iS		Sn	02 03 35.9	+0.4
BZMR	Bezymyannaya	0.50	237	iP		Pn	02 03 24.0	-0.3
BZMR				iS		Sn	02 03 36.2	+0.5
KIRR	Kirishev	0.57	243	iP		Pn	02 03 24.2	-0.5
KIRR				iS		Sn	02 03 36.5	-0.1
KPT	Kopyto	0.62	247	iP		Pn	02 03 24.7	-0.5
KPT				iS		Sn	02 03 37.4	0.0
KMNR	Kamenistaya	0.72	232	iP		Pn	02 03 25.9	-0.3
KMNR				iS		Sn	02 03 39.6	+0.6
KOZR	Kozyr	0.77	260	PN		Pn	02 03 26.4	-0

YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,22nm,1.0s
ERM Erimo 18.41 227 *i* P **Pn 02 07 18.1 +0.6**
RSO Redoubt South 24.12 61 *e*P **P 02 08 17.6 +2.3**
comp=Z,48nm,0.8s,mb4.9
COLD Coldfoot 24.79 44 *e*P **P 02 08 21.0 -0.4**
comp=Z,2.8nm,0.8s,mb3.7
KDAK Kodiak Island 24.83 67 P **P 02 08 22.1 +0.3**
comp=Z,6.9nm,0.7s,mb4.2,baz=79,slow=1.7,SNR=5.1
KDAK Kodiak Island 24.83 67 P **P 02 08 22.1 +0.3**
KDAK Kodiak Island 24.83 67 *c*e**P P 02 08 22.6 +0.8**
MCK McKinley 25.43 52 *e*P **P 02 08 27.4 +0.2**
comp=Z,5.8nm,1.1s,mb3.9
MCK McKinley 25.43 52 *e*P **P 02 08 27.4 +0.2**
MCK pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
COLA College 25.79 50 *e*P **P 02 08 31.1 +0.6**
comp=Z,2.1nm,0.7s,mb3.7
COLA College 25.79 50 *e*P **P 02 08 31.1 +0.7**
COLA pmax pmax
comp=Z,2.0nm,0.7s,mb3.7
ILAR Eielson Array 26.21 50 P **P 02 08 33.8 -0.5**
comp=Z,2.6nm,0.6s,mb3.8,baz=261,slow=8.0,SNR=31
ILAR Eielson Array 26.21 50 P **P 02 08 33.8 -0.5**
ILAR Eielson Array 26.21 50 P **P 02 08 33.8 -0.4**
ILAR pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 31.03 41 P **P 02 09 17.0 +0.1**
comp=Z,1.1nm,0.7s,mb3.7,baz=267,slow=7.3,SNR=9.2
INK Inuvik 31.03 41 *e*P **P 02 09 16.9 0.0**
comp=Z,1.6nm,0.7s,mb3.9
INK Inuvik 31.03 41 P **P 02 09 17.0 0.0**
INK pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 33.94 279 P **P 02 09 42.5 -0.1**
comp=Z,1.0nm,0.5s,mb3.9,baz=58,slow=8.1,SNR=12
SONM PcP PcP 02 12 17.5 -1.1
comp=Z,0.8nm,0.8s,baz=56,slow=3.1,SNR=4.3
SONM ScP ScP 02 15 53.2 -1.1
comp=Z,0.7nm,0.7s,baz=61,slow=2.6,SNR=5.0
SONM Songino Array 33.94 279 P **P 02 09 42.5 -0.1**
SONM PcP PcP 02 12 17.5 -1.1
SONM ScP ScP 02 15 53.2 -1.1
SONM Songino Array 33.94 279 P **P 02 09 42.5 -0.1**
SONM 02 12 17.5
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.7s
DLBC Dease Lake 35.71 57 P **P 02 09 59.9 +2.2**
comp=N,3.5nm,0.6s,mb4.5,baz=235,slow=15,SNR=4.4
DLBC Dease Lake 35.71 57 P **P 02 09 59.9 +2.2**
RES Resolute Bay 40.19 24 P **P 02 10 35.0 -0.1**
comp=N,0.4nm,0.6s,mb3.5,baz=300,slow=8.1,SNR=3.7
RES Resolute Bay 40.19 24 *e*P **P 02 10 34.6 -0.5**
comp=N,0.9nm,0.6s,mb3.8
RES Resolute Bay 40.19 24 P **P 02 10 35.0 -0.1**
YKA Yellowknife Ar 40.45 45 P **P 02 10 37.6 +0.2**
comp=N,2.4nm,0.7s,mb4.1,baz=301,slow=8.1,SNR=25
YKA ScP ScP 02 16 17.3 -1.1
comp=N,0.5nm,0.9s,baz=305,slow=3.5,SNR=5.6
YKA Yellowknife Ar 40.45 45 P **P 02 10 37.6 +0.2**
YKA ScP ScP 02 16 17.3 -1.1
YKA Yellowknife Ar 40.45 45 P **P 02 10 37.6 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=N,1.0nm,0.9s
ZALV Zalesovo Beam 41.72 300 PcP PcP 02 12 41.4 -1.1
comp=N,0.4nm,0.5s,baz=116,slow=4.5,SNR=3.0
ZALV Zalesovo Beam 41.72 300 PcP PcP 02 12 41.4 -1.1
SPITS Spitsbergen Ar 44.17 350 P **P 02 11 07.6 +0.2**
comp=N,5.9nm,0.7s,mb4.4,baz=72,slow=8.0,SNR=2.9
SPITS Spitsbergen Ar 44.17 350 P **P 02 11 07.5 +0.2**
SPITS Spitsbergen Ar 44.17 350 P **P 02 11 07.6 +0.2**
SPITS pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 46.70 300 P **P 02 11 26.2 -1.4**
comp=Z,0.9nm,0.5s,mb3.8,baz=55,slow=7.8,SNR=12
KURK Kurchatov 46.70 300 *e*P **P 02 11 26.3 -1.3**
comp=Z,1.3nm,0.4s,mb4.0
KURK Kurchatov 46.70 300 *i* P **P 02 11 27.0 -0.6**
MKAR Makanchi Array 47.46 294 P **P 02 11 31.3 -2.3**
comp=Z,0.8nm,0.7s,mb3.6,baz=47,slow=5.6,SNR=7.0
MKAR Makanchi Array 47.46 294 P **P 02 11 31.3 -2.3**
MKAR Makanchi Array 47.46 294 *e*P **P 02 11 32.9 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 49.01 307 P **P 02 11 43.4 -2.0**
comp=Z,0.6nm,0.6s,mb3.7,baz=55,slow=13,SNR=3.5
BVAR Borovoye Array 49.01 307 P **P 02 11 43.4 -2.0**
BVAR Borovoye Array 49.01 307 P **P 02 11 43.4 -2.0**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
FFC Flin Flon 50.41 48 *e*P **P 02 11 56.1 +0.1**
comp=Z,2.4nm,0.7s,mb4.2
FFC Flin Flon 50.41 48 *e*P **P 02 11 56.1 +0.1**
FFC pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ARCES ARCESS Array B 50.53 341 P **P 02 11 55.9 -0.9**
comp=Z,4.3nm,1.1s,mb4.4,baz=30,slow=10,SNR=7.4
ARCES ARCESS Array B 50.53 341 P **P 02 11 55.9 -0.9**
ARCES ARCESS Array B 50.53 341 P **P 02 11 55.9 -0.8**
ARCES pmax pmax
comp=Z,4.0nm,1.1s
WVOR Wild Horse Val 51.06 70 *e*P **P 02 12 01.6 +0.5**
comp=Z,3.6nm,0.8s,mb4.5
WVOR Wild Horse Val 51.06 70 *e*P **P 02 12 01.6 +0.6**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
HRY Holter Researc 51.51 61 *e*P **P 02 12 04.8 +0.4**
comp=Z,4.1nm,0.7s,mb4.6
MCMT McKenzie Canyo 52.34 64 *e*P **P 02 12 10.4 0.0**
comp=Z,1.3nm,0.7s,mb4.1
BOZ Bozeman (W) 52.36 62 *e*P **P 02 12 11.2 +0.5**
comp=Z,1.6nm,0.8s,mb4.1
BOZ Bozeman (W) 52.36 62 *e*P **P 02 12 11.2 +0.5**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
HLID Hailey 54.44 66 *e*P **P 02 12 11.7 +0.4**
comp=Z,1.1nm,0.7s,mb4.0
RLMT Red Lodge 53.90 61 *e*P **P 02 12 22.9 +1.0**
comp=Z,7.0nm,0.9s,mb4.7
NVAR Mina Array Bea 54.12 73 P **P 02 12 25.0 +1.4**
comp=Z,4.5nm,0.8s,mb4.6,baz=302,slow=7.5,SNR=24
NVAR Mina Array Bea 54.12 73 P **P 02 12 25.0 +1.4**
TPAW Teton Pass 54.25 64 *e*P **P 02 12 25.8 +1.3**
comp=Z,3.3nm,0.6s,mb4.5
LOHW Long Hollow 54.33 63 *e*P **P 02 12 26.4 +1.3**
comp=Z,1.4nm,0.8s,mb4.0
AAK Ala-Archa 54.34 295 *i* P **P 02 12 25.8 +0.6**
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
PD02 Pinedale Array 55.46 63 *e*P **P 02 12 33.5 +0.2**
BW06 Boulder Array 55.47 63 *e*P **P 02 12 34.0 +0.6**
comp=Z,1.6nm,0.6s,mb4.2
PDAR Pinedale Array 55.47 63 P **P 02 12 34.3 +1.0**
comp=Z,2.8nm,0.6s,mb4.5,baz=319,slow=2.7,SNR=26
PDAR Pinedale Array 55.47 63 P **P 02 12 34.3 +1.0**
DUG Dugway 55.71 68 *e*P **P 02 12 36.1 +1.0**
comp=Z,3.8nm,0.9s,mb3.4
DUG Dugway 55.71 68 *e*P **P 02 12 36.1 +1.0**
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ABKAR Akbulak array 56.30 309 *e*P **P 02 12 38.5 -0.6**
comp=Z,0.5nm,0.4s,mb3.9
RSSD Black Hills 57.16 59 *e*P **P 02 12 45.8 +0.4**
comp=Z,3.5nm,0.6s,mb4.6
RSSD Black Hills 57.16 59 *e*P **P 02 12 45.8 +0.5**
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
FINES FINESS Array B 57.53 336 P **P 02 12 47.0 -0.6**
comp=Z,4.1nm,0.7s,mb4.6,baz=37,slow=9.2,SNR=22
FINES FINESS Array B 57.53 336 P **P 02 12 47.0 -0.6**
FINES FINESS Array B 57.53 336 P **P 02 12 47.0 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 60.26 327⇑ *e*P **P 02 13 05.6 -1.0**
OBN *e**PP pP 02 13 32.0 +1.7
OBN *e* 02 15 21.9
OBN *e*S **S 02 21 09.7 -3.0**
OBN *e*SS SS 02 25 06.6 -3.9
OBN pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
NB2 NORSAR Subarra 60.73 344 P **P 02 13 09.3 -0.4**
comp=Z,1.4nm,0.6s,mb4.2,baz=20,slow=6.9
NOA NORSAR Array B 60.73 344 P **P 02 13 09.4 -0.3**
comp=Z,1.6nm,0.6s,mb4.2,baz=19,slow=6.8,SNR=6.6
NOA NORSAR Array B 60.73 344 P **P 02 13 09.4 -0.3**
NOA NORSAR Array B 60.73 344 P **P 02 13 09.4 -0.3**
NOA pmax pmax
comp=Z,2.0nm,0.6s
VSR Storozhevoye 62.73 323 *e*P **P 02 13 23.4 +0.1**
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MNTX Cornudas Mount 66.07 69 *e*P **P 02 13 45.9 +0.6**
comp=Z,6.4nm,1.6s,mb4.2
AKASG Malin Array Be 66.28 329 P **P 02 13 44.9 -1.5**
comp=Z,0.4nm,0.4s,mb3.6,baz=25,slow=5.3,SNR=3.1
AKASG Malin Array Be 66.28 329 P **P 02 13 44.9 -1.5**
AKASG Malin Array Be 66.28 329 P **P 02 13 44.9 -1.5**
WMOK Wichita Mounta 67.00 62 *e*P **P 02 13 51.1 -0.2**
comp=Z,2.7nm,0.9s,mb4.1
WMOK Wichita Mounta 67.00 62 *e*P **P 02 13 51.1 -0.1**
WMOK pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
TXAR Lajitas Array 68.84 69 P **P 02 14 03.5 +0.6**
comp=Z,2.3nm,0.7s,mb4.1,baz=298,slow=4.3,SNR=33
TXAR Lajitas Array 68.84 69 P **P 02 14 03.5 +0.6**
TXAR Lajitas Array 68.84 69 P **P 02 14 03.5 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
JCT Junction City 69.91 65 *e*P **P 02 14 09.2 -0.3**
comp=Z,7.3nm,0.9s,mb4.5
JCT Junction City 69.91 65 *e*P **P 02 14 09.2 -0.2**
JCT pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
WVT Waverly 71.02 53 *e*P **P 02 14 15.6 -0.5**
comp=Z,2.0nm,0.6s,mb4.1
WVT Waverly 71.02 53 *e*P **P 02 14 15.6 -0.5**
WVT pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
GERES GERESS Array B 71.87 338 P **P 02 14 20.9 0.0**
comp=Z,0.4nm,0.7s,mb3.4,baz=17,slow=5.6,SNR=5.3
GERES GERESS Array B 71.87 338 P **P 02 14 20.9 0.0**
GERES GERESS Array B 71.87 338 P **P 02 14 21.0 0.0**
BRTR Keskin Array B 74.64 321 P **P 02 14 35.8 -1.6**
comp=Z,0.5nm,0.8s,mb3.3,baz=48,slow=4.0,SNR=1.8
BRTR Keskin Array B 74.64 321 P **P 02 14 35.8 -1.6**
BRTR Keskin Array B 74.64 321 P **P 02 14 35.8 -1.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 79.19 206 P **P 02 15 00.9 -2.0**
comp=Z,1.0nm,0.8s,mb3.7,baz=14,slow=5.9,SNR=7.0
WRA Warramunga Arr 79.19 206 P **P 02 15 00.9 -2.0**
WRA Warramunga Arr 79.19 206 P **P 02 15 01.0 -2.0**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 82.87 205 P **P 02 15 21.4 -1.1**
comp=Z,1.4nm,0.7s,mb3.9,baz=7.0,slow=4.4,SNR=14
ASAR Alice Springs 82.87 205 P **P 02 15 21.4 -1.1**
ASAR Alice Springs 82.87 205 P **P 02 15 21.4 -1.0**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
LCO Las Campanas 134.57 76 *e*PKPdf PKPdf 02 22 16.6 +1.1
QSPA South Pole Qui 145.96 180 PKPbc PKPbc 02 22 33.7 -1.7
comp=Z,2.4nm,0.7s,baz=312,slow=1.2,SNR=8.8
QSPA South Pole Qui 145.96 180 PKPbc PKPbc 02 22 33.7 -1.7
TRQA Tornquist 146.15 76 *e*PKPbc PKPbc 02 22 35.9 -1.4

*IDC **14** 02:11:09.3±1.5, 37°.65N×21°.52E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.5/4, Error ellipse: s-maj=60.8km s-min=28.0km az=130.0*
*ISCJB **14** 02:11:15.5±0.5, 37°.55N±0°.03×21°.33E±0°.05, h63km±5km, mb3.4/4, Error ellipse: s-maj=6.6km s-min=5.5km az=158.1*
*CSEM **14** 02:11:16.9±0.3, 37°.55N×21°.37E, h40km, ML2.9, Error ellipse: s-maj=6.6km s-min=4.3km az=57.0*
*ATH **14** 02:11:16.1, 37°.60N×21°.37E, h43km±1km, ML2.8*
ISC 14 02:11:16.5±0.5, 37°.56N±0°.03×21°.34E±0°.05, h56km±6km, n49, σ0°89/65, mb3.4/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.51**	**11**	*e*P	**Pn**	**02 11 27.1**	**-1.1**
RLS				*e*S	**Sn**	**02 11 35.7**	**-1.0**
RLS	**Riolos of Patr**	**0.51**	**11**	P	**Pn**	**02 11 27.2**	**-1.0**
ITM	**Ithomi**	**0.60**	**129**	*e*P	**Pn**	**02 11 28.6**	**-0.6**
ITM				*e*S	**Sn**	**02 11 38.6**	**+0.1**
ITM	**Ithomi**	**0.60**	**129**	*e*P	**Pn**	**02 11 28.5**	**-0.7**
ITM				*e*S	**Sn**	**02 11 38.6**	**+0.1**
PYL	**PYLOS**	**0.73**	**154**	P	**Pn**	**02 11 30.5**	**-0.4**
PYL				S	**Sn**	**02 11 41.3**	**-0.1**
LAKA	**Lakka**	**0.85**	**36**	P	**Pn**	**02 11 32.0**	**-0.4**
VLX	**Vlachokerasia**	**0.85**	**102**	P	**Pn**	**02 11 31.5**	**-0.8**
VLX				S	**Sn**	**02 11 42.3**	**-1.7**
VLS	**Valsamata**	**0.86**	**316**	*e*P	**Pn**	**02 11 32.9**	**+0.4**
VLS	**Valsamata**	**0.86**	**316**	*e*P	**Pn**	**02 11 32.9**	**+0.4**
GUR	**Goura**	**0.88**	**64**	P	**Pn**	**02 11 31.7**	**-1.1**
KALE	**Kalithea**	**1.05**	**37**	P	**Pn**	**02 11 35.0**	**+0.1**
DSF	**Desfina**	**1.27**	**47**	P	**Pn**	**02 11 38.5**	**+0.6**
DSF				S	**Sn**	**02 11 55.0**	**+1.1**
LTK	**Loutraki**	**1.37**	**70**	P	**Pn**	**02 11 39.2**	**-0.1**
LTK				S	**Sn**	**02 11 56.6**	**+0.2**
EVR	**Evrytania**	**1.41**	**15**	*e*P	**Pn**	**02 11 40.0**	**+0.2**
EVR	**Evrytania**	**1.41**	**15**	*e*P	**Pn**	**02 11 42.0**	**+2.2**
DID	**Didima**	**1.51**	**91**	P	**Pn**	**02 11 40.8**	**-0.4**
DID				S	**Sn**	**02 12 00.2**	**+0.4**
VLI	**Veliai**	**1.53**	**123**	*e*P	**Pn**	**02 11 42.8**	**+1.4**
VLI	**Veliai**	**1.53**	**123**	*e*P	**Pn**	**02 11 42.8**	**+1.4**
AGG	**Agios Georgios**	**1.66**	**28**	*e*P	**Pn**	**02 11 43.4**	**+0.2**
AGG				*e*S	**Sn**	**02 12 03.8**	**+0.4**
AGG	**Agios Georgios**	**1.66**	**28**	*e*P	**Pn**	**02 11 44.4**	**+1.2**
AGG				*e*S	**Sn**	**02 12 05.3**	**+1.9**
VIL1	**Vilia, Western**	**1.69**	**68**	*e*P	**Pn**	**02 11 43.5**	**-0.1**
LKR	**Lokris**	**1.71**	**50**	*e*P	**Pn**	**02 11 44.0**	**+0.2**
LKR	**Lokris**	**1.71**	**50**	*e*P	**Pn**	**02 11 44.0**	**+0.2**
NAIG	**Nisos Aigina**	**1.72**	**83**	*e*P	**Pn**	**02 11 44.5**	**+0.5**
NAIG	**Nisos Aigina**	**1.72**	**83**	*e*P	**Pn**	**02 11 43.5**	**-0.5**
KYTH	**Kithira**	**1.86**	**133**	*e*P	**Pn**	**02 11 47.6**	**+1.6**
KYTH	**Kithira**	**1.86**	**133**	*e*P	**Pn**	**02 11 47.9**	**+1.9**
ATH	**Athens Observa**	**1.93**	**77**	*e*P	**Pn**	**02 11 47.3**	**+0.4**
ATH	**Athens Observa**	**1.93**	**77**	*e*P	**Pn**	**02 11 47.3**	**+0.4**
VLY	**Voula,Athens**	**1.97**	**81**	*e*P	**Pn**	**02 11 47.7**	**+0.3**
VLY				*e*S	**Sn**	**02 12 11.4**	**+0.4**
VLY	**Voula,Athens**	**1.97**	**81**	*e*P	**Pn**	**02 11 46.7**	**-0.7**
PTL	**Penteli**	**2.06**	**75**	*e*P	**Pn**	**02 11 48.5**	**-0.1**
PTL				*e*S	**Sn**	**02 12 12.6**	**-0.6**
PTL	**Penteli**	**2.06**	**75**	*e*P	**Pn**	**02 11 48.0**	**-0.7**
THL	**Klokotos Trika**	**2.07**	**15**	*e*P	**Pn**	**02 11 49.4**	**+0.6**
THL	**Klokotos Trika**	**2.07**	**15**	*e*P	**Pn**	**02 11 49.4**	**+0.6**
NEO	**Neokhori**	**2.29**	**40**	*e*P	**Pn**	**02 11 52.1**	**+0.3**
NEO				*e*S	**Sn**	**02 12 19.0**	**+0.2**
NEO	**Neokhori**	**2.29**	**40**	*e*P	**Pn**	**02 11 52.1**	**+0.3**
NEO				*e*S	**Sn**	**02 12 19.0**	**+0.2**
VAM	**Vamos**	**3.15**	**132**	*e*P	**Pn**	**02 12 05.0**	**+1.4**
VAM	**Vamos**	**3.15**	**132**	*e*P	**Pn**	**02 12 03.4**	**-0.2**
APE	**Apeiranthos**	**3.38**	**97**	*e*P	**Pn**	**02 12 08.1**	**+1.4**
APE	**Apeiranthos**	**3.38**	**97**	*e*P	**Pn**	**02 12 06.1**	**-0.6**
TAR1	**Taranto**	**4.33**	**314**	*e*Pn	**Pn**	**02 12 19.5**	**-0.2**
STON	**Ston**	**5.99**	**333**	*i* Pn	**Pn**	**02 12 39.3**	**-3.2**
STON				Sn	**Sn**	**02 13 42.5**	**-7.2**
NVLJ	**Novalja**	**8.53**	**327**	*e*Pn	**Pn**	**02 13 18.1**	**+0.9**
NVLJ				Sn	**Sn**	**02 14 45.7**	**-6.3**
NVLJ	**Novalja**	**8.53**	**327**	*e*Pn	**Pn**	**02 13 18.1**	**+0.9**
FINES	**FINESS Array B**	**24.09**	**6**	P	**P**	**02 16 25.1**	**-1.4**
	0.8nm,0.5s,mb3.4,baz=169,slow=12,SNR=8.8						
TORD	**Torodi Ar. Bea**	**29.97**	**221**	P	**P**	**02 17 20.9**	**+1.3**
	0.3nm,0.6s,mb3.2,baz=37,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**45.08**	**58**	P	**P**	**02 19 25.4**	**-1.3**
	0.3nm,0.4s,mb3.4,baz=270,slow=7.9,SNR=9.8						
ZALV	**Zalesovo Beam**	**45.63**	**48**	P	**P**	**02 19 29.8**	**-1.3**
	0.3nm,0.3s,mb3.7,baz=279,slow=7.6,SNR=3.0						

*ISCJB **14** 02:23:24.0±0.2, 44°.58N±0°.01×6°.88E±0°.02, h24km±2km, Error ellipse: s-maj=3.0km s-min=2.0km az=153.0*
*CSEM **14** 02:23:23.8±0.1, 44°.57N×6°.89E, h12km, ML2.9/34, Error ellipse: s-maj=1.8km s-min=1.2km az=45.0*
*NEIC **14** 02:23:24.5, 44°.57N×6°.94E, h2km, ML2.8(LDG), After LDG.*
*ROM **14** 02:23:24.0±0.2, 44°.55N×6°.89E, h10km±1km, Md2.4/9, Ml2.6/8, Error ellipse: s-maj=2.8km s-min=1.2km az=60.0*
*LDG **14** 02:23:24.5±0.0, 44°.57N×6°.94E, h2km, Md2.6/3, Ml2.8/35, Error ellipse: s-maj=1.1km s-min=0.7km az=61.0*
*GEN **14** 02:23:24.5, 44°.54N×6°.89E, h10km, ML2.5*
*STR **14** 02:23:25.2±0.1, 44°.45N×6°.77E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 14 02:23:23.8±0.2, 44°.57N±0°.01×6°.89E±0°.02, h17km±1km, n166, σ0°95/329, 5C-1D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.11**	**211**	Pg	**Pg**	**02 23 26.8**	**-0.5**
SURF				Sg	**Sg**	**02 23 28.7**	**-1.0**
SURF	**Saint Ours**	**0.11**	**211**	Pg	**Pg**	**02 23 26.8**	**-0.5**
SURF				Sg	**Sg**	**02 23 28.7**	**-1.0**
PZZ	**Stroppo**	**0.17**	**112**⇑	*i*Pg	**Pg**	**02 23 28.3**	**+0.1**
PZZ				Sg	**Sg**	**02 23 31.1**	**-0.1**
	3μm,0.2s						
MBDF	**Montbardon**	**0.18**	**332**	*e*Pg	**Pg**	**02 23 28.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**02 23 31.3**	**0.0**
	2μm,0.3s						
MBDF	**Montbardon**	**0.18**	**332**	*e*Pg	**Pg**	**02 23 28.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**02 23 31.3**	**0.0**
MBDF	**Montbardon**	**0.18**	**332**	*e*Pg	**Pg**	**02 23 28.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**02 23 31.3**	**0.0**
	842nm,0.3s						
DOI	**San Damiano**	**0.27**	**105**⇑	*i*Pg	**Pg**	**02 23 29.7**	**+0.1**
DOI				Sg	**Sg**	**02 23 34.0**	**+0.4**
	937nm,0.2s						
DOI	**San Damiano**	**0.27**	**105**⇑	*i*Pg	**Pg**	**02 23 29.7**	**+0.1**
DOI				Sg	**Sg**	**02 23 34.0**	**+0.4**
	937nm,0.2s						
STV	**Sant Anna di V**	**0.45**	**136**	Pg	**Pg**	**02 23 32.7**	**-0.2**
STV				Sg	**Sg**	**02 23 38.8**	**-0.2**
	529nm,0.2s						
STV	**Sant Anna di V**	**0.45**	**136**	P	**Pg**	**02 23 32.7**	**-0.2**
STV				S	**Sg**	**02 23 38.2**	**-0.8**
STV				Sg	**Sg**	**02 23 38.8**	**-0.2**
	529nm,0.2s						
BNI	**Bardonecchia**	**0.50**	**343**	Pg	**Pg**	**02 23 34.6**	**+0.7**
BNI				Sg	**Sg**	**02 23 41.6**	**+0.9**
	72nm,0.5s						
BNI	**Bardonecchia**	**0.50**	**343**	Pg	**Pg**	**02 23 34.6**	**+0.7**
BNI				Sg	**Sg**	**02 23 41.6**	**+0.9**
	72nm,0.5s						
TOUF	**Mont Tournerai**	**0.61**	**155**	Pg	**Pg**	**02 23 35.9**	**0.0**
TOUF				Sg	**Sg**	**02 23 43.6**	**-0.5**
TOUF	**Mont Tournerai**	**0.61**	**155**	Pg	**Pg**	**02 23 35.9**	**0.0**
TOUF				Sg	**Sg**	**02 23 43.6**	**-0.5**
RSP	**Reno Superiore**	**0.64**	**25**	Pg	**Pg**	**02 23 37.1**	**+0.8**
RSP				Sg	**Sg**	**02 23 46.4**	**+1.6**
	148nm,0.3s						
RSP	**Reno Superiore**	**0.64**	**25**	P	**Pg**	**02 23 37.0**	**+0.7**
RSP				S	**Sg**	**02 23 45.4**	**+0.6**
RSP				Sg	**Sg**	**02 23 46.4**	**+1.6**
	148nm,0.3s						
AUTN	**L'Aution**	**0.69**	**146**	Pg	**Pg**	**02 23 37.2**	**-0.2**
AUTN				Sg	**Sg**	**02 23 46.2**	**-0.4**
AUTN	**L'Aution**	**0.69**	**146**	Pg	**Pg**	**02 23 37.2**	**-0.2**
AUTN				Sg	**Sg**	**02 23 46.2**	**-0.4**
LUCF	**Luceram**	**0.75**	**154**	Pg	**Pg**	**02 23 38.5**	**0.0**
LUCF				Sg	**Sg**	**02 23 48.3**	**-0.2**
LUCF	**Luceram**	**0.75**	**154**	Pg	**Pg**	**02 23 38.5**	**0.0**
LUCF				Sg	**Sg**	**02 23 48.3**	**-0.2**
SAOF	**Saorge**	**0.76**	**140**	Pg	**Pg**	**02 23 38.4**	**-0.2**
SAOF				Sg	**Sg**	**02 23 49.1**	**+0.5**
SAOF	**Saorge**	**0.76**	**140**	Pg	**Pg**	**02 23 38.4**	**-0.2**
SAOF				Sg	**Sg**	**02 23 49.1**	**+0.5**
MONE	**Monesi**	**0.79**	**128**	P	**Pb**	**02 23 38.8**	**-0.3**
MONE				S	**Sb**	**02 23 48.3**	**-1.2**
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**02 23 39.4**	**0.0**
ORIF				*e*Sg	**Sg**	**02 23 49.6**	**-0.3**
	85nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**02 23 39.4**	**0.0**
ORIF				*e*Sg	**Sg**	**02 23 49.6**	**-0.3**
ORIF	**Oris-en-Rattie**	**0.80**	**296**	*e*Pg	**Pg**	**02 23 39.4**	**0.0**
ORIF				*e*Sg	**Sg**	**02 23 49.6**	**-0.3**
	42nm,0.2s						
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**02 23 39.4**	**-0.2**
SBF				*e*Sg	**Sg**	**02 23 50.0**	**-0.3**
	92nm,0.2s						
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**02 23 39.4**	**-0.2**
SBF				*e*Sg	**Sg**	**02 23 50.0**	**-0.3**
SBF	**Sospel**	**0.81**	**151**	*e*Pg	**Pg**	**02 23 39.4**	**-0.2**
SBF				*e*Sg	**Sg**	**02 23 50.0**	**-0.3**
	46nm,0.2s						
RONM	**Roccetta Nervi**	**0.86**	**143**	P	**Pb**	**02 23 40.1**	**-0.2**
RONM				S	**Sb**	**02 23 50.3**	**-1.2**
REVF	**Revere**	**0.90**	**157**	Pg	**Pg**	**02 23 41.2**	**-0.1**
REVF				Sg	**Sg**	**02 23 53.3**	**+0.2**
REVF	**Revere**	**0.90**	**157**	Pg	**Pg**	**02 23 41.2**	**-0.1**
REVF				Sg	**Sg**	**02 23 53.3**	**+0.2**
LSD	**Lago del Serru**	**0.91**	**11**	Pg	**Pg**	**02 23 41.8**	**+0.4**
LSD				Sg	**Sg**	**02 23 53.9**	**+0.6**
LSD	**Lago del Serru**	**0.91**	**11**	Pg	**Pg**	**02 23 41.8**	**+0.4**
LSD				Sg	**Sg**	**02 23 53.9**	**+0.6**
LPG	**La Plagne**	**0.93**	**354**	*e*Pg	**Pg**	**02 23 42.7**	**+0.8**
LPG				*e*Sg	**Sg**	**02 23 54.2**	**+0.1**
	52nm,0.2s						
LPG	**La Plagne**	**0.93**	**354**	*e*Pg	**Pg**	**02 23 42.7**	**+0.8**
LPG				*e*Sg	**Sg**	**02 23 54.2**	**+0.1**
LPG	**La Plagne**	**0.93**	**354**	*e*Pg	**Pg**	**02 23 42.7**	**+0.8**
LPG				*e*Sg	**Sg**	**02 23 54.2**	**+0.1**
	26nm,0.2s						
NEGI	**Seborga**	**0.93**	**141**	P	**Pb**	**02 23 41.5**	**0.0**
NEGI				S	**Sb**	**02 23 52.5**	**-1.0**
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**02 23 42.8**	**+0.5**
LPL				*e*Sg	**Sg**	**02 23 54.9**	**+0.1**
	90nm,0.4s						
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**02 23 42.8**	**+0.5**
LPL				*e*Sg	**Sg**	**02 23 54.9**	**+0.1**
LPL	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**02 23 42.8**	**+0.5**
LPL				*e*Sg	**Sg**	**02 23 54.9**	**+0.1**
	45nm,0.4s						
RORO	**Rocca Rossa**	**0.96**	**118**⇓	*i*Pg	**Pb**	**02 23 41.8**	**-0.2**
RORO				Sg	**Sg**	**02 23 54.7**	**-0.4**
	121nm,0.2s						
RORO	**Rocca Rossa**	**0.96**	**118**	P	**Pb**	**02 23 41.8**	**-0.2**
RORO				S	**Sb**	**02 23 53.1**	**-1.3**
RORO				Sg	**Sg**	**02 23 54.7**	**-0.4**
	121nm,0.2s						
IMI	**Imperia**	**0.98**	**132**	Pg	**Pg**	**02 23 42.3**	**-0.5**
IMI				Sg

TRAV				S	Sb	02 23 58.7	-0.3
TRAV				Sg	Sg	02 23 59.3	-0.8
PCP	**Piancastagn**	**1.19**	**91**	⇑*i*Pg	Pg	02 23 46.1	-0.6
PCP				Sg	Sg	02 24 02.2	+0.1
PCP	**Piancastagn**	**1.19**	**91**	P	Pn	02 23 45.7	+0.1
PCP	**Piancastagn**	**1.19**	**91**	⇑*i*Pg	Pg	02 23 46.1	-0.6
PCP				Sg	Sg	02 24 02.2	+0.1
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	Pg	02 23 47.8	-0.4
LMR				*e*Sg	Sg	02 24 04.2	-0.6
57nm,0.2s							
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	Pg	02 23 47.8	-0.4
LMR				*e*Sg	Sg	02 24 04.2	-0.6
LMR	**La Mourre**	**1.27**	**193**	*e*Pg	Pg	02 23 47.8	-0.4
LMR				*e*Sg	Sg	02 24 04.2	-0.6
28nm,0.2s							
VIVF	**Saint-Julien-l**	**1.60**	**281**	*e*Pn	Pn	02 23 53.3	+1.9
VIVF	**Saint-Julien-l**	**1.60**	**281**	*e*Pg	Pg	02 23 55.4	+0.7
VIVF				*e*Sg	Sg	02 24 16.4	+0.9
22nm,0.3s							
VIVF	**Saint-Julien-l**	**1.60**	**281**	*e*Pn	Pn	02 23 53.3	+1.9
VIVF				*e*Pg	Pg	02 23 55.4	+0.7
VIVF				*e*Sg	Sg	02 24 16.4	+0.9
VIVF	**Saint-Julien-l**	**1.60**	**281**	*e*Pn	Pn	02 23 53.3	+1.9
VIVF	**Saint-Julien-l**	**1.60**	**281**	*e*Pg	Pg	02 23 55.4	+0.7
VIVF				*e*Sg	Sg	02 24 16.4	+0.9
11nm,0.3s							
CABF	**La Chapelle**	**2.12**	**345**	*e*Pn	Pn	02 24 00.9	+2.5
CABF				*e*Sn	Sn	02 24 24.7	+0.4
16nm,0.4s							
CABF	**La Chapelle**	**2.12**	**345**	*e*Pn	Pn	02 24 00.9	+2.5
CABF				*e*Sn	Sn	02 24 24.7	+0.4
CABF	**La Chapelle**	**2.12**	**345**	*e*Pn	Pn	02 24 00.9	+2.5
CABF				*e*Sn	Sn	02 24 24.7	+0.4
8.2nm,0.4s							
LASF	**Ste Croix**	**2.23**	**258**	*e*Pn	Pn	02 24 01.1	+1.1
LASF				*e*Sn	Sn	02 24 28.2	+1.1
4.7nm,0.3s							
LASF	**Ste Croix**	**2.23**	**258**	*e*Pn	Pn	02 24 01.1	+1.1
LASF				*e*Sn	Sn	02 24 28.2	+1.1
LASF	**Ste Croix**	**2.23**	**258**	*e*Pn	Pn	02 24 01.1	+1.1
LASF				*e*Sn	Sn	02 24 28.2	+1.1
2.3nm,0.3s							
PGF	**Pioggiola**	**2.54**	**142**	*e*Pn	Pn	02 24 05.4	+1.2
PGF				*e*Sn	Sn	02 24 34.0	-0.7
12nm,0.3s							
PGF	**Pioggiola**	**2.54**	**142**	*e*Pn	Pn	02 24 05.4	+1.2
PGF				*e*Sn	Sn	02 24 34.0	-0.7
PGF	**Pioggiola**	**2.54**	**142**	*e*Pn	Pn	02 24 05.4	+1.2
PGF				*e*Sn	Sn	02 24 34.0	-0.7
6.2nm,0.3s							
LBL	**Lubilhac**	**2.67**	**286**	Pn	Pn	02 24 06.6	+0.6
LBL	**Lubilhac**	**2.67**	**286**	Pn	Pn	02 24 06.6	+0.6
PLDF	**La Plantade**	**2.70**	**302**	Pn	Pn	02 24 08.1	+1.7
PLDF	**La Plantade**	**2.70**	**302**	Pn	Pn	02 24 08.1	+1.7
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pn	Pn	02 24 12.7	+2.5
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pg	Pg	02 24 20.3	-0.6
SMF				*e*Sg	Sg	02 24 58.5	-1.0
5.7nm,0.2s							
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pn	Pn	02 24 12.7	+2.5
SMF				*e*Pg	Pg	02 24 20.3	-0.6
SMF				*e*Sg	Sg	02 24 58.5	-1.0
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pn	Pn	02 24 12.7	+2.5
SMF	**Signal de Mont**	**2.98**	**315**	*e*Pg	Pg	02 24 20.3	-0.6
SMF				*e*Sg	Sg	02 24 58.5	-1.0
2.8nm,0.2s							
PYM	**Petit Puy Mans**	**2.99**	**295**	Pn	Pn	02 24 11.6	+1.2
PYM	**Petit Puy Mans**	**2.99**	**295**	Pn	Pn	02 24 11.6	+1.2
AGO	**Saint Agoulin**	**3.04**	**301**	Pn	Pn	02 24 12.2	+1.2
AGO	**Saint Agoulin**	**3.04**	**301**	Pn	Pn	02 24 12.2	+1.2
HINF	**Hinteralfeld**	**3.25**	**360**	*e*Pn	Pn	02 24 14.6	+0.7
HINF				*e*Sn	Sn	02 24 51.2	-0.9
3.8nm,0.3s							
HINF	**Hinteralfeld**	**3.25**	**360**	*e*Pn	Pn	02 24 14.6	+0.7
HINF				*e*Sn	Sn	02 24 51.2	-0.9
HINF	**Hinteralfeld**	**3.25**	**360**	*e*Pn	Pn	02 24 14.6	+0.7
HINF				*e*Sn	Sn	02 24 51.2	-0.9
1.9nm,0.3s							
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pn	Pn	02 24 17.6	+2.6
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pg	Pg	02 24 26.7	-0.8
AVF				*e*Sn	Sn	02 24 54.0	-0.1
AVF				*e*Sg	Sg	02 25 09.5	-1.1
6.0nm,0.4s							
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pn	Pn	02 24 17.6	+2.6
AVF				*e*Pg	Pg	02 24 26.7	-0.8
AVF				*e*Sn	Sn	02 24 54.0	-0.1
AVF				*e*Sg	Sg	02 25 09.5	-1.1
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pn	Pn	02 24 17.6	+2.6
AVF	**Avril sur Loir**	**3.33**	**313**	*e*Pg	Pg	02 24 26.7	-0.8
AVF				*e*Sn	Sn	02 24 54.0	-0.1
AVF				*e*Sg	Sg	02 25 09.5	-1.1
3.0nm,0.4s							
LOR	**Lormes**	**3.43**	**323**	*e*Pn	Pn	02 24 17.3	+0.9
LOR				*e*Sn	Sn	02 24 56.2	-0.4
LOR				*e*Sg	Sg	02 25 12.1	-1.7
5.4nm,0.4s							
LOR	**Lormes**	**3.43**	**323**	*e*Pn	Pn	02 24 17.3	+0.9
LOR				*e*Sn	Sn	02 24 56.2	-0.4
LOR				*e*Sg	Sg	02 25 12.1	-1.7
LOR	**Lormes**	**3.43**	**323**	*e*Pn	Pn	02 24 17.3	+0.9
LOR				*e*Sn	Sn	02 24 56.2	-0.4
LOR				*e*Sg	Sg	02 25 12.1	-1.7
2.7nm,0.4s							
SSF	**Saint Saulge**	**3.43**	**318**	*e*Pn	Pn	02 24 17.4	+0.9
SSF				*e*Sn	Sn	02 24 56.1	-0.7
SSF				*e*Sg	Sg	02 25 12.8	-1.2
6.8nm,0.4s							
SSF	**Saint Saulge**	**3.43**	**318**	*e*Pn	Pn	02 24 17.4	+0.9
SSF				*e*Sn	Sn	02 24 56.1	-0.7
SSF				*e*Sg	Sg	02 25 12.8	-1.2
SSF	**Saint Saulge**	**3.43**	**318**	*e*Pn	Pn	02 24 17.4	+0.9
SSF				*e*Sn	Sn	02 24 56.1	-0.7
SSF				*e*Sg	Sg	02 25 12.8	-1.2
3.4nm,0.4s							
CAF	**Calviac**	**3.46**	**278**	*e*Pn	Pn	02 24 18.0	+1.2
CAF				*e*Sg	Sg	02 25 14.3	-0.4
2.7nm,0.4s							
CAF	**Calviac**	**3.46**	**278**	*e*Pn	Pn	02 24 18.0	+1.2
CAF				*e*Sg	Sg	02 25 14.3	-0.4
CAF	**Calviac**	**3.46**	**278**	*e*Pn	Pn	02 24 18.0	+1.2
CAF				*e*Sg	Sg	02 25 14.3	-0.4
1.4nm,0.4s							
HAU	**Haudompre**	**3.46**	**354**	*e*Pn	Pn	02 24 17.1	+0.3
HAU				*e*Sn	Sn	02 24 56.3	-1.0
7.2nm,0.5s							
HAU	**Haudompre**	**3.46**	**354**	*e*Pn	Pn	02 24 17.1	+0.3
HAU				*e*Sn	Sn	02 24 56.3	-1.0
HAU	**Haudompre**	**3.46**	**354**	*e*Pn	Pn	02 24 17.1	+0.3
HAU				*e*Sn	Sn	02 24 56.3	-1.0
3.6nm,0.5s							
BGF	**Bois d'Agland**	**3.46**	**306**	*e*Pn	Pn	02 24 19.5	+2.6
BGF	**Bois d'Agland**	**3.46**	**306**	*e*Pg	Pg	02 24 29.3	-0.9
BGF				*e*Sg	Sg	02 25 13.9	-1.1
15nm,0.5s							
BGF	**Bois d'Agland**	**3.46**	**306**	*e*Pn	Pn	02 24 19.5	+2.6
BGF				*e*Pg	Pg	02 24 29.3	-0.9
BGF				*e*Sg	Sg	02 25 13.9	-1.1
BGF	**Bois d'Agland**	**3.46**	**306**	*e*Pn	Pn	02 24 19.5	+2.6
BGF	**Bois d'Agland**	**3.46**	**306**	*e*Pg	Pg	02 24 29.3	-0.9
BGF				*e*Sg	Sg	02 25 13.9	-1.1
7.6nm,0.5s							
MTLF	**Montolieu**	**3.59**	**252**	*e*Pn	Pn	02 24 19.9	+1.3
MTLF				*e*Sn	Sn	02 25 00.6	0.0
3.6nm,0.3s							
MTLF	**Montolieu**	**3.59**	**252**	*e*Pn	Pn	02 24 19.9	+1.3
MTLF				*e*Sn	Sn	02 25 00.6	0.0
MTLF	**Montolieu**	**3.59**	**252**	*e*Pn	Pn	02 24 19.9	+1.3
MTLF				*e*Sn	Sn	02 25 00.6	0.0
1.8nm,0.3s							
TCF	**Toulx Ste Croi**	**3.71**	**299**	*e*Pn	Pn	02 24 21.3	+1.0
TCF				*e*Sn	Sn	02 25 03.3	-0.4
TCF				*e*Sg	Sg	02 25 22.0	-1.0
1.0nm,0.2s							
TCF	**Toulx Ste Croi**	**3.71**	**299**	*e*Pn	Pn	02 24 21.3	+1.0
TCF				*e*Sn	Sn	02 25 03.3	-0.4
TCF				*e*Sg	Sg	02 25 22.0	-1.0
TCF	**Toulx Ste Croi**	**3.71**	**299**	*e*Pn	Pn	02 24 21.3	+1.0
TCF				*e*Sn	Sn	02 25 03.3	-0.4
TCF				*e*Sg	Sg	02 25 22.0	-1.0
0.5nm,0.2s							
CDF	**Champ du Feu**	**3.85**	**4**	*e*Pn	Pn	02 24 22.5	+0.3
CDF				*e*Sn	Sn	02 25 05.6	-1.4
3.0nm,0.3s							
CDF	**Champ du Feu**	**3.85**	**4**	*e*Pn	Pn	02 24 22.5	+0.3
CDF				*e*Sn	Sn	02 25 05.6	-1.4
CDF	**Champ du Feu**	**3.85**	**4**	*e*Pn	Pn	02 24 22.5	+0.3
CDF				*e*Sn	Sn	02 25 05.6	-1.4
1.5nm,0.3s							
SFTF	**Sexfontaines**	**3.85**	**341**	*e*Pn	Pn	02 24 22.8	+0.6
SFTF				*e*Sn	Sn	02 25 06.0	-1.1
7.8nm,0.3s							
SFTF	**Sexfontaines**	**3.85**	**341**	*e*Pn	Pn	02 24 22.8	+0.6
SFTF				*e*Sn	Sn	02 25 06.0	-1.1
SFTF	**Sexfontaines**	**3.85**	**341**	*e*Pn	Pn	02 24 22.8	+0.6
SFTF				*e*Sn	Sn	02 25 06.0	-1.1
3.9nm,0.3s							
RJF	**Les Rejaudoux**	**3.88**	**283**	*e*Pn	Pn	02 24 23.8	+1.1
RJF				*e*Sg	Sg	02 25 27.7	-0.8
1.6nm,0.3s							
RJF	**Les Rejaudoux**	**3.88**	**283**	*e*Pn	Pn	02 24 23.8	+1.1
RJF				*e*Sg	Sg	02 25 27.7	-0.8
RJF	**Les Rejaudoux**	**3.88**	**283**	*e*Pn	Pn	02 24 23.8	+1.1
RJF				*e*Sg	Sg	02 25 27.7	-0.8
0.8nm,0.3s							
HYF	**Humbligny**	**4.01**	**314**	*e*Pn	Pn	02 24 26.0	+1.6
HYF				*e*Sg	Sg	02 25 31.0	-1.4
HYF	**Humbligny**	**4.01**	**314**	*e*Pn	Pn	02 24 26.0	+1.6
HYF				*e*Sg	Sg	02 25 31.0	-1.4
HYF	**Humbligny**	**4.01**	**314**	*e*Pn	Pn	02 24 26.0	+1.6
HYF				*e*Sg	Sg	02 25 31.0	-1.4
PAGF	**Fort de Pagny**	**4.07**	**349**	*e*Pn	Pn	02 24 26.0	+0.8
PAGF				*e*Sn	Sn	02 25 11.0	-1.3
2.7nm,0.6s							
PAGF	**Fort de Pagny**	**4.07**	**349**	*e*Pn	Pn	02 24 26.0	+0.8
PAGF				*e*Sn	Sn	02 25 11.0	-1.3
PAGF	**Fort de Pagny**	**4.07**	**349**	*e*Pn	Pn	02 24 26.0	+0.8
PAGF				*e*Sn	Sn	02 25 11.0	-1.3
1.4nm,0.6s							
MEZF	**Maizieres J'vi**	**4.13**	**343**	*e*Pn	Pn	02 24 26.5	+0.4
MEZF				*e*Sn	Sn	02 25 12.5	-1.4
16nm,0.7s							
MEZF	**Maizieres J'vi**	**4.13**	**343**	*e*Pn	Pn	02 24 26.5	+0.4
MEZF				*e*Sn	Sn	02 25 12.5	-1.4
MEZF	**Maizieres J'vi**	**4.13**	**343**	*e*Pn	Pn	02 24 26.5	+0.4
MEZF				*e*Sn	Sn	02 25 12.5	-1.4
8.1nm,0.7s							
LFF	**La Frestale**	**4.39**	**277**	*e*Pn	Pn	02 24 30.4	+0.7
LFF				*e*Sg	Sg	02 25 43.6	-1.2
7.8nm,0.6s							
LFF	**La Frestale**	**4.39**	**277**	*e*Pn	Pn	02 24 30.4	+0.7
LFF				*e*Sg	Sg	02 25 43.6	-1.2
LFF	**La Frestale**	**4.39**	**277**	*e*Pn	Pn	02 24 30.4	+0.7
LFF				*e*Sg	Sg	02 25 43.6	-1.2
3.9nm,0.6s							
EPF	**Esparros**	**4.98**	**254**	*e*Pn	Pn	02 24 38.4	+0.6
EPF				*e*Sn	Sn	02 25 33.7	-1.3
0.8nm,0.4s							
EPF	**Esparros**	**4.98**	**254**	*e*Pn	Pn	02 24 38.4	+0.6
EPF				*e*Sn	Sn	02 25 33.7	-1.3
EPF	**Esparros**	**4.98**	**254**	*e*Pn	Pn	02 24 38.4	+0.6
EPF				*e*Sn	Sn	02 25 33.7	-1.3
0.4nm,0.4s							
MFF	**Saint Martin d**	**5.34**	**295**	*e*Pn	Pn	02 24 43.4	+0.8
MFF				*e*Sn	Sn	02 25 42.0	-1.7
0.5nm,0.3s							
MFF	**Saint Martin d**	**5.34**	**295**	*e*Pn	Pn	02 24 43.4	+0.8
MFF				*e*Sn	Sn	02 25 42.0	-1.7
MFF	**Saint Martin d**	**5.34**	**295**	*e*Pn	Pn	02 24 43.4	+0.8
MFF				*e*Sn	Sn	02 25 42.0	-1.7
0.2nm,0.3s							
ETSF	**Etsaut**	**5.65**	**255**	*e*Pn	Pn	02 24 47.9	+1.0
ETSF				*e*Sn	Sn	02 25 49.9	-1.5
0.9nm,0.3s							
ETSF	**Etsaut**	**5.65**	**255**	*e*Pn	Pn	02 24 47.9	+1.0
ETSF				*e*Sn	Sn	02 25 49.9	-1.5
ETSF	**Etsaut**	**5.65**	**255**	*e*Pn	Pn	02 24 47.9	+1.0
ETSF				*e*Sn	Sn	02 25 49.9	-1.5
0.4nm,0.3s							
BAIF	**Baives**	**5.79**	**343**	*e*Pn	Pn	02 24 49.3	+0.5
BAIF				*e*Sn	Sn	02 25 52.0	-2.7
6.1nm,0.6s							
BAIF	**Baives**	**5.79**	**343**	*e*Pn	Pn	02 24 49.3	+0.5
BAIF				*e*Sn	Sn	02 25 52.0	-2.7
BAIF	**Baives**	**5.79**	**343**	*e*Pn	Pn	02 24 49.3	+0.5
BAIF				*e*Sn	Sn	02 25 52.0	-2.7
LDF	**La Druitiere**	**6.29**	**312**	*e*Pn	Pn	02 24 56.0	+0.3
LDF				*e*Sn	Sn	02 26 04.7	-2.3
0.7nm,0.3s							
LDF	**La Druitiere**	**6.29**	**312**	*e*Pn	Pn	02 24 56.0	+0.3
LDF				*e*Sn	Sn	02 26 04.7	-2.3
LDF	**La Druitiere**	**6.29**	**312**	*e*Pn	Pn	02 24 56.0	+0.3
LDF				*e*Sn	Sn	02 26 04.7	-2.3
GRR	**Gorron**	**6.57**	**308**	*e*Pn	Pn	02 25 00.0	+0.4
GRR				*e*Sn	Sn	02 26 11.2	-2.8
0.9nm,0.3s							
GRR	**Gorron**	**6.57**	**308**	*e*Pn	Pn	02 25 00.0	+0.4
GRR				*e*Sn	Sn	02 26 11.2	-2.8
GRR	**Gorron**	**6.57**	**308**	*e*Pn	Pn	02 25 00.0	+0.4
GRR				*e*Sn	Sn	02 26 11.2	-2.8
FLN	**La Foliniere**	**6.58**	**312**	*e*Pn	Pn	02 25 00.4	+0.7
FLN				*e*Sn	Sn	02 26 11.6	-2.6
0.6nm,0.3s							
FLN	**La Foliniere**	**6.58**	**312**	*e*Pn	Pn	02 25 00.4	+0.7
FLN				*e*Sn	Sn	02 26 11.6	-2.6
FLN	**La Foliniere**	**6.58**	**312**	*e*Pn	Pn	02 25 00.4	+0.7
FLN				*e*Sn	Sn	02 26 11.6	-2.6
FLN	**La Foliniere**	**6.58**	**312**	*e*Pn	Pn	02 25 00.4	+0.7

TAP 14 02:28:18.3, 22°35N×121°36E, h70km, ML3.8, 5C-2D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.36**	**150**	*i* P	Pn	02 28 29.8	-0.1
	baz=149						
LAY				*i* S	Sn	02 28 38.4	0.0
	baz=149						
TAW	**Tawu**	**0.43**	**271**	P	Pn	02 28 30.4	0.0
	baz=271						
TAW				S	Sn	02 28 39.2	-0.1
	baz=271						
TTN	**Taitung**	**0.44**	**334**	*e*P	Pn	02 28 31.6	+1.0
	baz=327						
TTN				*e*S	Sn	02 28 39.9	+0.3
	baz=327						
ECL	**Taimali**	**0.44**	**303**	⇑P	Pn	02 28 30.5	-0.1
	baz=307						
ECL				*e*S	Sn	02 28 39.4	-0.2
	baz=307						
EAST	**Anshuo**	**0.47**	**274**	⇑*i*P	Pn	02 28 31.1	+0.3
	baz=274						
EAST				*e*S	Sn	02 28 40.1	+0.1
	baz=274						
TWG	**Pinlang**	**0.53**	**331**	⇑*i*P	Pn	02 28 31.5	+0.1
	baz=327						
TWG				S	Sn	02 28 40.9	-0.2
	baz=327						
TWK1	**Hengchun**	**0.65**	**231**	*i* P	Pn	02 28 33.3	+0.6
	baz=231						
TWK1				*e*S	Sn	02 28 44.0	+0.8
	baz=231						
HEN	**Hengchun**	**0.67**	**239**	*e*P	Pn	02 28 34.1	+1.2
	baz=243						
HEN				*e*S	Sn	02 28 45.0	+1.4
	baz=243						
SCZT	**Fangliau**	**0.68**	**272**	*e*P	Pn	02 28 33.4	+0.4
	baz=266						
SCZT				*e*S	Sn	02 28 44.3	+0.5
	baz=266						
CHKT	**Chengkung**	**0.74**	**1**	⇑P	Pn	02 28 34.0	+0.3
	baz=356						
CHKT				S	Sn	02 28 45.5	+0.5
	baz=356						
SSD	**Sandimen**	**0.78**	**300**	P	Pn	02 28 34.7	+0.6
	baz=301						
SSD				*e*S	Sn	02 28 46.1	+0.4
	baz=301						
ELDTW	**Lidau**	**0.89**	**339**	P	Pn	02 28 35.6	+0.1
	baz=340						
ELDTW				*e*S	Sn	02 28 48.7	+0.6
	baz=340						
TWP	**Hsiaoliuchiu**	**0.92**	**270**	*e*P	Pn	02 28 36.8	+1.0
	baz=260						
TWP				*e*S	Sn	02 28 50.0	+1.2
	baz=260						
STYT	**Tauyuan**	**0.98**	**326**	*e*P	Pn	02 28 37.4	+0.8
	baz=333						
STYT				*e*S	Sn	02 28 52.3	+2.2
	baz=333						
TWM1	**Shoushan**	**0.98**	**299**	*e*P	Pn	02 28 38.0	+1.4
	baz=299						
TWM1				*e*S	Sn	02 28 51.1	+0.9
	baz=299						
KAU	**Kaohsiung**	**0.99**	**283**	*e*P	Pn	02 28 37.7	+1.0
	baz=283						
KAU				*e*S	Sn	02 28 52.6	+2.3
	baz=283						
TWF1	**Yuli**	**1.00**	**357**	P	Pn	02 28 36.4	-0.3
	baz=351						
TWF1				*e*S	Sn	02 28 49.6	-0.9
	baz=351						
SGST	**Jiashian**	**1.02**	**316**	*e*P	Pn	02 28 37.7	+0.7
	baz=316						
SGST				*e*S	Sn	02 28 51.9	+0.9
	baz=316						
CHN1	**Nanshi**	**1.13**	**317**	⇓P	Pn	02 28 38.8	+0.4
	baz=318						
CHN1				S	Sn	02 28 54.0	+0.6
	baz=318						
EHY	**Hungye**	**1.15**	**358**	⇑*i*P	Pn	02 28 38.4	-0.3
	baz=359						
EHY				*e*S	Sn	02 28 53.0	-0.9
	baz=359						
CHN4	**Tsaushan**	**1.22**	**325**	⇓*i*P	Pn	02 28 40.0	+0.4
	baz=315						
CHN4				*e*S	Sn	02 28 56.6	+1.2
	baz=315						
TAI1	**Yung-k'ang**	**1.25**	**303**	*e*P	Pn	02 28 40.3	+0.4
	baz=304						
TAI1				*e*S	Sn	02 28 56.9	+0.7
	baz=304						
SCLT	**Jiali**	**1.35**	**308**	*e*P	Pn	02 28 41.6	+0.4
	baz=308						
SCLT				*e*S	Sn	02 28 59.1	+0.5
	baz=308						
CHN5	**Tsauling**	**1.39**	**333**	*e*P	Pn	02 28 42.0	+0.2
	baz=323						
CHN5				*e*S	Sn	02 29 00.5	+1.1
	baz=323						
CHN2	**Minshiung**	**1.43**	**325**	*e*P	Pn	02 28 42.5	+0.2
	baz=326						
CHN2				*e*S	Sn	02 29 01.2	+0.9
	baz=326						
CHY	**Chiayi**	**1.43**	**323**	*e*P	Pn	02 28 42.4	+0.1
	baz=324						
CHY				*e*S	Sn	02 29 00.7	+0.3
	baz=324						
CHN8	**Yiju**	**1.45**	**313**	*e*P	Pn	02 28 42.9	+0.3
	baz=314						
CHN8				*e*S	Sn	02 29 01.0	+0.2
	baz=314						
ESL	**Shilin**	**1.46**	**3**	*e*P	Pn	02 28 42.5	-0.2
	baz=4.0						
ESL				*e*S	Sn	02 28 59.7	-1.3
	baz=4.0						
WGK	**Gukeng**	**1.52**	**331**	*e*P	Pn	02 28 43.4	0.0
	baz=322						
SMLT	**Sun Moon Lake**	**1.58**	**345**	*e*P	Pn	02 28 45.1	+0.8
	baz=335						
SMLT				*e*S	Sn	02 29 06.8	+2.8
	baz=335						
TYC	**Yuchr**	**1.61**	**344**	*e*P	Pn	02 28 45.3	+0.6
	baz=345						
TYC				*e*S	Sn	02 29 06.4	+1.7
	baz=345						
WNT	**Mingjian**	**1.64**	**338**	*e*P	Pn	02 28 45.3	+0.2
	baz=327						
WNT				*e*S	Sn	02 29 05.9	+0.5
	baz=327						
TWD	**Chiawan**	**1.73**	**7**	*e*P	Pn	02 28 47.1	+0.8
TWD				*e*S	Sn	02 29 08.0	+0.4
WHF	**Hehuan Shan**	**1.79**	**357**	*e*P	Pn	02 28 48.4	+1.3
	baz=4.0						
WHF				*e*S	Sn	02 29 10.0	+1.1
	baz=4.0						
TCU	**Taichung**	**1.89**	**341**	*e*P	Pn	02 28 49.6	+1.1
	baz=331						
TCU				*e*S	Sn	02 29 12.2	+0.8
	baz=331						
TWT	**Tachien**	**1.90**	**355**	*e*P	Pn	02 28 50.4	+1.8
	baz=349						
TWT				*e*S	Sn	02 29 12.8	+1.2
	baz=349						
PNG	**Penghu**	**2.05**	**306**	*e*P	Pn	02 28 50.1	-0.6
	baz=315						
PNG				*e*S	Sn	02 29 14.6	-0.7
	baz=315						
NNS	**Nan Shan**	**2.08**	**0**	*e*P	Pn	02 28 52.6	+1.6
	baz=5.0						
NNS				*e*S	Sn	02 29 17.4	+1.5
	baz=5.0						
ENA	**Nanau**	**2.10**	**10**	*e*P	Pn	02 28 52.1	+0.9
	baz=357						
ENA				*e*S	Sn	02 29 16.7	+0.4
	baz=357						
NSY	**Sanyi**	**2.12**	**345**	*e*P	Pn	02 28 52.4	+0.8
	baz=346						
NSY				*e*S	Sn	02 29 18.8	+1.7
	baz=346						
ENTT	**Nioudou**	**2.29**	**5**	*e*P	Pn	02 28 54.7	+0.9
	baz=11						
ENTT				*e*S	Sn	02 29 21.8	+0.9
	baz=11						
NSTT	**Nanjuang**	**2.29**	**352**	*e*P	Pn	02 28 55.0	+1.1
	baz=353						
NSTT				*e*S	Sn	02 29 22.6	+1.5
	baz=353						
TWC	**Suao**	**2.29**	**11**	*e*P	Pn	02 28 55.2	+1.3
	baz=6.0						
TWC				*e*S	Sn	02 29 22.2	+1.1
	baz=6.0						
NSK	**Sanguang**	**2.31**	**0**	*e*P	Pn	02 28 55.8	+1.6
	baz=8.0						
NSK				*e*S	Sn	02 29 22.3	+0.7
	baz=8

comp=E,0.2nm,0.5s,mb2.8,baz=114,slow=8.3,SNR=1.2
ZALV Zalesovo Beam 26.68 335 P **P** **02 38 23.2 -1.0**
comp=E,0.3nm,0.5s,mb3.1,baz=116,slow=8.6,SNR=3.0
WRA Warramunga Arr 58.62 146 P **P** **02 42 42.4 -0.2**
comp=E,0.5nm,0.8s,mb3.6,baz=338,slow=7.4,SNR=2.2
ASAR Alice Springs 61.61 148 P **P** **02 43 02.6 -0.4**
comp=E,0.2nm,0.7s,mb3.4,baz=333,slow=7.5,SNR=3.3
YKA Yellowknife Ar 82.08 17 P **P** **02 45 07.0 +1.5**
comp=E,0.3nm,0.7s,mb3.4,baz=328,slow=5.2,SNR=5.2

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*CSEM **14** 02:32:51.7, 36°.32N×21°.12E, h5km, MD3.6, After ATH*
ATH 14 02:32:51.5, 36°.35N×21°.08E, h5km±3km, MD3.6/11, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.76**	**44**	*e*PB	Pb	02 33 06.7	-0.5
PYL				*e*SB	Sb	02 33 17.6	-0.3
PYL	**PYLOS**	**0.76**	**44**	*e*Pb	Pb	02 33 07.1	-0.1
PYL				*e*Sb	Sb	02 33 18.0	+0.1
ITM	**Ithomi**	**1.07**	**39**	*e*PB	Pb	02 33 12.3	-0.2
ITM				*e*SB	Sb	02 33 27.2	+0.4
ITM	**Ithomi**	**1.07**	**39**	*e*Pb	Pb	02 33 12.3	-0.2
ITM				*e*Sb	Sb	02 33 27.2	+0.4
VLX	**Vlachokerasia**	**1.46**	**45**	*e*PG	Pg	02 33 18.5	-0.9
VLX				*e*SB	Sb	02 33 38.9	+1.0
VLX	**Vlachokerasia**	**1.46**	**45**	*e*Pg	Pg	02 33 18.5	-0.9
VLX				*e*Sb	Sb	02 33 38.7	+0.8
VLI	**Veliai**	**1.54**	**76**	*e*PG	Pg	02 33 20.5	-0.5
VLI				*e*SB	Sb	02 33 42.5	+2.2
VLI	**Veliai**	**1.54**	**76**	*e*Pg	Pg	02 33 19.5	-1.5
VLI				*e*Sb	Sb	02 33 42.5	+2.2
RLS	**Riolos of Patr**	**1.73**	**10**	*e*PN	Pn	02 33 24.8	+2.5
RLS	**Riolos of Patr**	**1.73**	**10**	*e*Pn	Pn	02 33 26.8	+4.5
GUR	**Goura**	**1.88**	**32**	*e*PN	Pn	02 33 27.0	+2.8
GUR	**Goura**	**1.88**	**32**	*e*Pg	Pg	02 33 27.0	-0.5
DID	**Didima**	**2.08**	**56**	*e*PN	Pn	02 33 29.3	+2.3
DID				*e*SN	Sn	02 33 57.7	+4.4
DID	**Didima**	**2.08**	**56**	*e*Pb	Pb	02 33 28.0	-1.7
DID				*e*Sn	Sn	02 33 57.7	+4.4
EFP	**Efpalio**	**2.17**	**17**	*e*PN	Pn	02 33 31.5	+3.2
EFP	**Efpalio**	**2.17**	**17**	*e*Pg	Pg	02 33 32.5	-0.7
LTK	**Loutraki**	**2.25**	**42**	*e*PN	Pn	02 33 31.8	+2.4
LTK	**Loutraki**	**2.25**	**42**	*e*Pn	Pn	02 33 31.5	+2.1
VLY	**Voula,Athens**	**2.64**	**55**	*e*PN	Pn	02 33 37.5	+2.8
VLY	**Voula,Athens**	**2.64**	**55**	*e*Pn	Pn	02 33 37.5	+2.8
VAM	**Vamos**	**2.70**	**109**	*e*PN	Pn	02 33 39.3	+3.7
VAM	**Vamos**	**2.70**	**109**	*e*Pn	Pn	02 33 39.3	+3.7

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*CSEM **14** 02:47:12.8, 38°.70N×22°.52E, h16km, ML1.4/1, After THE*
THE 14 02:47:12.8, 38°.70N×22°.52E, h16km±1km, ML1.4/1, Error ellipse: s-maj=1.4km s-min=0.4km az=73.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.13**	**57**	P	Pg	02 47 16.4	0.0
AXAR				S	Sg	02 47 19.2	+0.3
AXAR	**Agios Charalam**	**0.13**	**57**	P	Pg	02 47 16.4	0.0
AXAR				S	Sg	02 47 19.2	+0.3
DESF	**Desfina**	**0.28**	**179**	P	Pg	02 47 18.7	-0.2
DESF				S	Sg	02 47 23.6	+0.6
DESF	**Desfina**	**0.28**	**179**	P	Pg	02 47 18.7	-0.2
DESF				S	Sg	02 47 23.6	+0.6
DSF	**Desfina**	**0.29**	**179**	P	Pg	02 47 19.0	+0.1
DSF				S	Sg	02 47 23.3	+0.3
DSF	**Desfina**	**0.29**	**179**	P	Pg	02 47 19.0	+0.1
DSF				S	Sg	02 47 23.3	+0.3
AGG	**Agios Georgios**	**0.36**	**335**	P	Pg	02 47 19.7	-0.5
AGG				S	Sg	02 47 25.8	+0.7
AGG	**Agios Georgios**	**0.36**	**335**	P	Pg	02 47 19.7	-0.5
AGG				S	Sg	02 47 25.8	+0.7
LKR	**Lokris**	**0.38**	**97**	P	Pg	02 47 20.3	-0.2
LKR				S	Sg	02 47 26.3	+0.7
LKR	**Lokris**	**0.38**	**97**	P	Pg	02 47 20.3	-0.2
LKR				S	Sg	02 47 26.3	+0.7
ATAL	**Atalanti**	**0.39**	**91**	P	Pg	02 47 20.8	+0.1
ATAL				S	Sg	02 47 26.6	+0.5
ATAL	**Atalanti**	**0.39**	**91**	P	Pg	02 47 20.8	+0.1
ATAL				S	Sg	02 47 26.6	+0.5
KALE	**Kalithea**	**0.43**	**225**	P	Pg	02 47 21.5	+0.1
KALE				S	Sg	02 47 27.8	+0.6
KALE	**Kalithea**	**0.43**	**225**	P	Pg	02 47 21.5	+0.1
KALE				S	Sg	02 47 27.8	+0.6

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*CSEM **14** 02:50:22.9, 38°.72N×22°.58E, h13km, ML1.2/2, After THE*
THE 14 02:50:22.9, 38°.72N×22°.58E, h13km±1km, ML1.2/2, Error ellipse: s-maj=1.4km s-min=0.4km az=49.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.08**	**52**	P	Pg	02 50 25.6	-0.1
AXAR				S	Sg	02 50 27.8	0.0
AXAR	**Agios Charalam**	**0.08**	**52**	P	Pg	02 50 25.6	-0.1
AXAR				S	Sg	02 50 27.8	0.0
DESF	**Desfina**	**0.30**	**186**	P	Pg	02 50 28.6	-0.6
DESF				S	Sg	02 50 33.7	+0.4
DESF	**Desfina**	**0.30**	**186**	P	Pg	02 50 28.6	-0.6
DESF				S	Sg	02 50 33.7	+0.4
DSF	**Desfina**	**0.31**	**187**	P	Pg	02 50 28.9	-0.3
DSF				S	Sg	02 50 34.2	+0.8
DSF	**Desfina**	**0.31**	**187**	P	Pg	02 50 28.9	-0.3
DSF				S	Sg	02 50 34.2	+0.8
LKR	**Lokris**	**0.34**	**101**	P	Pg	02 50 29.8	0.0
LKR				S	Sg	02 50 34.7	+0.3
LKR	**Lokris**	**0.34**	**101**	P	Pg	02 50 29.8	0.0
LKR				S	Sg	02 50 34.7	+0.3
ATAL	**Atalanti**	**0.35**	**94**	P	Pg	02 50 30.1	+0.1
ATAL				S	Sg	02 50 35.4	+0.7
ATAL	**Atalanti**	**0.35**	**94**	P	Pg	02 50 30.1	+0.1
ATAL				S	Sg	02 50 35.4	+0.7
AGG	**Agios Georgios**	**0.36**	**328**	P	Pg	02 50 30.1	-0.1
AGG				S	Sg	02 50 35.5	+0.4
AGG	**Agios Georgios**	**0.36**	**328**	P	Pg	02 50 30.1	-0.1
AGG				S	Sg	02 50 35.5	+0.4
KALE	**Kalithea**	**0.47**	**227**	P	Pg	02 50 32.0	-0.2
KALE				S	Sg	02 50 39.3	+0.8
KALE	**Kalithea**	**0.47**	**227**	P	Pg	02 50 32.0	-0.2
KALE				S	Sg	02 50 39.3	+0.8

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*CSEM **14** 02:59:08.1, 27°.42N×34°.51E, h28km, ML3.5, After SNSN*
SGS 14 02:59:08.1, 27°.42N×34°.51E, h29km, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		**0.91**	**16**	S	Sb	02 59 34.6	-2.5
RSHS		**0.91**	**16**	S	Sb	02 59 34.6	-2.5
BDAS	**Al Bad'**	**1.13**	**27**	P	Pn	02 59 26.3	-1.8
BDAS	**Al Bad'**	**1.13**	**27**	P	Pn	02 59 26.3	-1.7
DBAS	**Duba**	**1.32**	**99**	P	Pn	02 59 25.9	-4.6
DBAS	**Duba**	**1.32**	**99**	P	Pn	02 59 25.9	-4.6
DBAS				S	Sn	02 59 40.8	-6.3
JLOS		**1.57**	**33**	P	Pn	02 59 33.0	-1.1
JLOS		**1.57**	**33**	P	Pn	02 59 33.0	-1.0
JLOS				S	Sn	02 59 51.3	-2.1
HAQS	**Haql**	**1.66**	**12**	P	Pn	02 59 33.9	-1.4
HAQS	**Haql**	**1.66**	**12**	P	Pn	02 59 33.9	-1.4
HAQS				S	Sn	02 59 53.8	-1.9
WJHS		**1.82**	**112**	P	Pn	02 59 34.2	-3.2
WJHS		**1.82**	**112**	P	Pn	02 59 34.2	-3.2
WJHS				S	Sn	02 59 52.4	-7.1
HQLS		**1.94**	**14**	P	Pn	02 59 37.9	-1.2
HQLS		**1.94**	**14**	P	Pn	02 59 37.9	-1.1
HQLS				S	Sn	03 00 01.9	-0.5
TBKS	**Tabuk**	**1.97**	**66**	P	Pn	02 59 38.3	-1.2
BIDS	**Bi'r al Bayda'**	**2.25**	**104**	P	Pn	02 59 40.9	-2.5
BIDS	**Bi'r al Bayda'**	**2.25**	**104**	P	Pn	02 59 40.9	-2.5

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*ISCJB **14** 03:00:44.7±0.6, 10°.62N±0°.04×62°.45W±0°.03, h98km±6km, Error ellipse: s-maj=6.1km s-min=4.3km az=158.6*
*FUNV **14** 03:00:45.9, 10°.68N×62°.37W, h94km, MW2.9*
*TRN **14** 03:00:47.4, 10°.67N×62°.29W, h99km, MD2.8*
ISC 14 03:00:45.6±0.6, 10°.62N±0°.04×62°.44W±0°.03, h94km±6km, n23, σ0°89/37, 3C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.21**	**83⇑**	*e*P	**Pn**	**03 00 59.3**	**+0.3**
GUIV				*e*S	**Sn**	**03 01 08.3**	**-0.8**
GUNV	**Guanoco**	**0.68**	**227⇓**	*e*P	**Pn**	**03 01 03.6**	**+1.4**
GUNV				*e*S	**Sn**	**03 01 16.1**	**+1.5**
CRUV	**Carupano**	**0.79**	**274⇓**	*i/e*P	**Pn**	**03 01 03.5**	**+0.3**
CRUV				*e*S	**Sn**	**03 01 16.2**	**-0.3**
ITEV	**Isla Los Testi**	**1.00**	**317**	*e*P	**Pn**	**03 01 05.9**	**+0.4**
ITEV				*e*S	**Sn**	**03 01 19.8**	**-0.7**
TRN	**Trinidad (W)**	**1.02**	**88⇓**	*e*P	**Pn**	**03 01 06.5**	**+0.8**
TRN				*i* S	**Sn**	**03 01 20.1**	**-0.7**
TBH	**Brigand Hill**	**1.35**	**96**	*e*P	**Pn**	**03 01 10.5**	**+0.8**
TBH				*e*S	**Sn**	**03 01 27.4**	**-0.5**
GRW	**Mount Saint Ca**	**1.71**	**26**	*e*P	**Pn**	**03 01 15.0**	**+0.9**
GRW				*e*S	**Sn**	**03 01 35.6**	**-0.2**
TPR	**Prospect**	**1.73**	**71**	*e*P	**Pn**	**03 01 15.0**	**+0.7**
TPR				*e*S	**Sn**	**03 01 35.2**	**-1.0**
BOT	**Bacolet**	**1.77**	**72**	*e*P	**Pn**	**03 01 14.4**	**-0.6**
ORIV	**Oritupano**	**1.81**	**212⇑**	*i/e*P	**Pn**	**03 01 16.5**	**+1.0**
ORIV				*e*S	**Sn**	**03 01 38.8**	**+0.4**
GRIC	**Isle de Caille**	**1.85**	**27**	*e*P	**Pn**	**03 01 17.4**	**+1.4**
GRSS	**Sisters**	**1.85**	**26**	*e*P	**Pn**	**03 01 17.5**	**+1.5**
GRSS				*e*S	**Sn**	**03 01 37.9**	**-1.2**
TOSP	**Speyside**	**1.98**	**70**	*e*P	**Pn**	**03 01 17.4**	**-0.3**
PCRV	**Puerto La Cruz**	**2.21**	**259**	*e*P	**Pn**	**03 01 20.7**	**+0.1**
PCRV				*e*S	**Sn**	**03 01 46.4**	**-1.0**
RIOV	**Rio Grande**	**2.61**	**166**	*e*P	**Pn**	**03 01 26.8**	**+0.8**
RIOV				*e*S	**Sn**	**03 01 55.9**	**-1.2**
GURV	**El Guri**	**2.92**	**193**	*e*P	**Pn**	**03 01 30.1**	**+0.1**
CUPV	**Cœpira**	**3.34**	**261**	*e*P	**Pn**	**03 01 36.2**	**+0.4**
CUPV				*e*S	**Sn**	**03 02 13.7**	**-0.9**
BIRV	**Birongo**	**3.77**	**268**	*e*P	**Pn**	**03 01 42.5**	**+0.9**
MERV	**Las Mercedes**	**4.04**	**251**	*e*P	**Pn**	**03 01 44.6**	**-0.6**
LUEV	**Luepa**	**4.85**	**168**	*e*P	**Pn**	**03 01 55.1**	**-1.0**
TURV	**Turiamo**	**5.32**	**269**	*e*P	**Pn**	**03 02 03.0**	**+0.5**
BAUV	**El Baul**	**5.77**	**254**	*e*P	**Pn**	**03 02 07.4**	**-1.3**
BAUV				*e*S	**Sn**	**03 03 09.9**	**-3.7**
MAPV	**Macapo**	**5.98**	**263⇑**	*e*P	**Pn**	**03 02 10.3**	**-1.2**

IDC 14 03:09:09.2±5.0, 5°.26S×104°.91E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=268.0km s-min=30.2km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.13**	**120**	P	P	03 15 38.0	-0.6
	0.4nm,0.6s,baz=296,slow=9.5,SNR=1.4						
ASAR	**Alice Springs**	**33.38**	**126**	P	P	03 15 50.1	+0.5
	0.4nm,0.4s,baz=297,slow=8.1,SNR=7.7						
MKAR	**Makanchi Array**	**55.57**	**341**	P	P	03 18 46.4	0.0
	0.1nm,0.3s,baz=160,slow=7.6,SNR=3.9						

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*IDC **14** 03:17:15.0±1.4, 6°.20S×103°.26E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.8/22, mbtmp3.8/12, MS3.6/5, Ms1 3.6/5, ms1mx3.2/29, Error ellipse: s-maj=58.9km s-min=15.6km az=53.0*
*NEIC **14** 03:17:20.4±0.6, 6°.17S×103°.34E, h35km, mb4.0/1, Error ellipse: s-maj=27.9km s-min=7.4km az=51.0*
*ISCJB **14** 03:17:21.5±1.6, 6°.18S±0°.10×103°.4E±0°.1, h65km±11km, mb3.7/13, Error ellipse: s-maj=23.3km s-min=8.9km az=139.9*
*DJA **14** 03:17:21, 6°.22S×103°.39E, h25km, MLv4.4/8*
ISC 14 03:17:22.3±1.5, 6°.19S±0°.09×103°.4E±0°.1, h53km±12km, n44, σ0°55/40, mb3.8/13, MS3.6/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.35**	**31**	P	**Pn**	**03 17 44.3**	**-0.6**
LWLI				S	**Sn**	**03 18 01.9**	**+0.1**
MNAI	**Manna**	**1.86**	**347**	P	**Pn**	**03 17 52.1**	**+0.3**
KLI	**Kotabumi**	**1.99**	**49**	P	**Pn**	**03 17 53.8**	**+0.3**
KLSI		**2.02**	**43**	P	**Pn**	**03 17 53.3**	**-0.6**
BLSI	**Bandar Lampung**	**2.04**	**67**	P	**Pn**	**03 17 55.7**	**+1.4**
CGJI	**Cibinong**	**2.35**	**100**	P	**Pn**	**03 17 59.0**	**+0.5**
RBSI	**Rajabasa**	**2.39**	**82**	P	**Pn**	**03 18 07.9**	**+8.8**
KSI	**Kapahiang**	**2.63**	**343**	P	**Pn**	**03 18 02.6**	**+0.2**
SBJI	**Serang**	**2.75**	**89**	P	**Pn**	**03 18 10.4**	**+6.4**
DBJI	**Dramaga**	**3.39**	**96**	P	**Pn**	**03 18 20.6**	**+7.9**
CBJI	**Citeko**	**3.48**	**94**	P	**Pn**	**03 18 13.7**	**-0.2**
LEM	**Lembang**	**4.28**	**99**	P	**Pn**	**03 18 23.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**24.75**	**121**	P	**P**	**03 22 39.6**	**+0.6**
	2.2nm,0.8s,mb3.7,baz=306,slow=14,SNR=5.5						
FITZ	**Fitzroy Crossi**	**24.75**	**121**	P	**P**	**03 22 39.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**24.88**	**350**	P	**P**	**03 22 39.2**	**-0.9**
	0.8nm,0.3s,mb3.7,baz=178,slow=8.6,SNR=4.9						
CMAR				LR	LR	03 32 46.2	
	comp=Z,52nm,21.9s,MS3.0,baz=180,slow=37						
CMAR	**Chiang Mai Arr**	**24.88**	**350**	P	**P**	**03 22 39.2**	**-0.9**
NWAO	**Narrogin (SRO)**	**29.57**	**156**	LR	LR	03 34 28.9	
	comp=Z,69nm,18.4s,MS3.3,baz=197,slow=35						
WRA	**Warramunga Arr**	**33.04**	**117**	P	**P**	**03 23 52.1**	**-0.8**
	0.8nm,0.8s,mb3.7,baz=296,slow=9.2,SNR=3.9						
WRA	**Warramunga Arr**	**33.04**	**117**	P	**P**	**03 23 52.1**	**-0.8**
ASAR	**Alice Springs**	**34.12**	**124**	P	**P**	**03 24 02.2**	**0.0**
	0.2nm,0.7s,mb3.1,baz=296,slow=8.3,SNR=5.1						
ASAR	**Alice Springs**	**34.12**	**124**	P	**P**	**03 24 02.2**	**0.0**
STKA	**Stephens Creek**	**43.89**	**131**	P	**P**	**03 25 24.2**	**+0.4**
	3.2nm,0.7s,mb4.2,baz=304,slow=11,SNR=8.6						
STKA	**Stephens Creek**	**43.89**	**131**	P	**P**	**03 25 24.2**	**+0.4**
KSAR	**Wonju Array Be**	**49.07**	**26**	P	**P**	**03 26 04.7**	**+0.4**
KSRS	**Korea Array**	**49.10**	**26**	P	**P**	**03 26 04.7**	**+0.2**
	0.8nm,0.6s,mb4.0,baz=221,slow=8.5,SNR=3.0						
SONM	**Songino Array**	**53.86**	**3**	P	**P**	**03 26 40.3**	**+0.5**
	1.7nm,0.8s,mb4.0,baz=179,slow=8.4,SNR=14						
SONM				LR	LR	03 53 31.1	
	comp=Z,86nm,19.3s,MS3.8,baz=59,slow=40						
SONM	**Songino Array**	**53.86**	**3**	P	**P**	**03 26 40.3**	**+0.5**
MK31	**Makanchi Array**	**55.97**	**343**	*e*P	**P**	**03 26 55.0**	**-0.1**
MKAR	**Makanchi Array**	**55.97**	**343**	P	**P**	**03 26 54.6**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=146,slow=10,SNR=8.2						
MKAR	**Makanchi Array**	**55.97**	**343**	P	**P**	**03 26 54.6**	**-0.5**
KURK	**Kurchatov**	**60.57**	**342**	P	**P**	**03 27 27.2**	**+0.1**
	0.2nm,0.3s,mb3.7,baz=166,slow=6.5,SNR=1.6						
KURK	**Kurchatov**	**60.57**	**342**	P	**P**	**03 27 27.2**	**+0.1**
ZAA0	**Zalesovo Array**	**61.91**	**348**	*e*P	**P**	**03 27 36.3**	**+0.1**
ZAA0				*e*pP	pP	03 27 46.7	-4.1
ZALV	**Zalesovo Beam**	**61.91**	**348**	P	**P**	**03 27 35.7**	**-0.5**
	0.8nm,0.4s,mb4.2,baz=145,slow=5.4,SNR=7.6						
ZALV	**Zalesovo Beam**	**61.91**	**348**	P	**P**	**03 27 35.7**	**-0.5**
BVAR	**Borovoye Array**	**65.26**	**339**	P	**P**	**03 27 58.1**	**-0.1**
	0.3nm,0.4s,mb3.7,baz=190,slow=4.4,SNR=2.4						
BVAR	**Borovoye Array**	**65.26**	**339**	P	**P**	**03 27 58.1**	**-0.1**
ABKAR	**Akbulak array**	**66.90**	**331**	*e*P	**P**	**03 28 09.3**	**+0.3**
	0.7nm,0.6s,mb3.9						
ABKAR				*e*pP	pP	03 28 15.3	-8.5
MAW	**Mawson**	**67.13**	**196**	LR	LR	03 52 09.0	
	comp=Z,62nm,18.2s,MS3.9,baz=127,slow=31						
URZ	**Urewera**	**73.44**	**128**	LR	LR	04 03 11.5	
	comp=Z,88nm,18.7s,MS4.1,baz=199,slow=38						
BRTR	**Keskin Array B**	**78.61**	**312**	P	**P**	**03 29 18.9**	**+0.4**
	0.6nm,0.9s,mb3.5,baz=138,slow=9.4,SNR=2.7						
BRTR	**Keskin Array B**	**78.61**	**312**	P	**P**	**03 29 18.9**	**+0.4**
TXAR	**Lajitas Array**	**145.64**	**45**	PKPbc	PKPbc	03 36 57.0	+1.2
	0.4nm,0.5s,baz=321,slow=2.1,SNR=9.3						
TXAR	**Lajitas Array**	**145.64**	**45**	PKPbc	PKPbc	03 36 57.0	+1.2

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*ISCJB **14** 03:20:11.6±0.3, 79°.55N±0°.04×115°.1W±0°.2, h10km, mb4.2/40, Error ellipse: s-maj=6.6km s-min=5.2km az=12.9*
*IDC **14** 03:20:12.7±0.6, 79°.69N×115°.69W, h0km, mb3.9/20, mb1 4.1/23, mb1mx4.1/30, mbtmp3.9/23, ML3.9/2, Error ellipse: s-maj=18.6km s-min=11.9km az=95.0*
*OTT **14** 03:20:13.8±0.5, 79°.44N×115°.44W, h18km, mb4.9/4, Arctic Ocean, aftershock. 262km west from Isachsen, Nu*
*NEIC **14** 03:20:14.3±0.2, 79°.71N×115°.73W, h10km, mb4.0/23, ML4.3(OTT), Error ellipse: s-maj=6.6km s-min=4.4km az=108.0*
ISC 14 03:20:13.8±0.2, 79°.61N±0°.04×115°.3W±0°.2, h10km, n111, σ1°21/122, mb4.2/40, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**5.09**	**71**	PN	**Pn**	**03 21 30.1**	**+0.1**
EUNU				mb		03 21 31.2	
	comp=Z,9.0nm,0.2s						
EUNU				SN	**Sn**	**03 22 22.9**	**-5.8**
EUNU				Trac		03 22 30.0	
	comp=Z,71nm,0.7s						
RES	**Resolute Bay**	**6.66**	**127**	Pn	**Pn**	**03 21 49.8**	**-1.7**
	10nm,0.3s,baz=342,slow=10.0,SNR=408						
RES				Sn	**Sn**	**03 23 03.2**	**-4.0**
	6.0nm,0.3s,baz=278,slow=15,SNR=5.6						
RES	**Resolute Bay**	**6.66**	**127**	Pn	**Pn**	**03 21 49.8**	**-1.7**
	22nm,0.4s						
RES				Sn	**Sn**	**03 23 03.2**	**-4.0**
RES	**Resolute Bay**	**6.66**	**127**	PN	**Pn**	**03 21 49.5**	**-2.0**
RES				mb		03 21 52.5	
	comp=Z,26nm,0.2s						
RES				SN	**Sn**	**03 22 59.0**	**-8.3**
RES				Trac		03 23 05.4	
	comp=Z,20nm,0.2s						
CB31	**Cambridge Bay**	**10.86**	**160**	PN	**Pn**	**03 22 44.8**	**-4.1**
CB31				mb		03 22 46.4	
	comp=Z,45nm,0.3s						
CB31				SN	**Sn**	**03 24 38.2**	**-12**
CB31				Trac		03 24 45.4	
	comp=Z,31nm,0.4s						
INK	**Inuvik**	**12.32**	**213**	Pn	**Pn**	**03 23 05.0**	**-3.9**
	0.7nm,0.3s,baz=22,slow=14,SNR=17						
INK				Sn	**Sn**	**03 25 14.4**	**-11**
	1.1nm,0.3s,baz=265,slow=26,SNR=7.5						
INK	**Inuvik**	**12.32**	**213**	*e*Pn	**Pn**	**03 23 04.6**	**-4.3**
	3.8nm,0.6s						
INK				*e*Sn	**Sn**	**03 25 13.6**	**-12**
INK	**Inuvik**	**12.32**	**213**	PN	**Pn**	**03 23 04.5**	**-4.4**
INK				mb		03 23 07.8	
	comp=Z,6.1nm,0.6s						
INK				SN	**Sn**	**03 25 11.5**	**-14**
INK				Trac		03 25 18.4	
	comp=Z,5.0nm,0.4s						
JERN	**Jeri Cho Mine,**	**13.71**	**173**	PN	**Pn**	**03 23 23.3**	**-4.5**
JERN				mb		03 23 24.5	
	comp=Z,12nm,0.5s						
JERN				SN	**Sn**	**03 25 45.9**	**-14**
JERN				Trac		03 25 47.7	
	comp=Z,28nm,0.9s						
COLD	**Coldfoot**	**15.48**	**237**	*e*Pn	**Pn**	**03 23 49.6**	**-2.1**
	4.7nm,0.7s						
COLD				*e*P		03 23 54.9	
NUNN	**Nunuq Camp, NU**	**15.94**	**141**	PN	**Pn**	**03 23 52.1**	**-5.6**
NUNN				mb		03 23 53.6	
	comp=Z,39nm,1.1s						
EGAK	**Eagle**	**16.56**	**221**	*e*Pn	**Pn**	**03 24 01.8**	**-3.9**
	6.8nm,0.8s						
DAWY	**Dawson**	**17.05**	**218**	*e*Pn	**Pn**	**03 24 07.5**	**-4.3**
DAWY	**Dawson**	**17.05**	**218**	PN	**Pn**	**03 24 06.1**	**-5.7**
DAWY				SN	Sn	03 26 42.8	-38
YKW3	**Yellowknife Ar**	**17.14**	**179**	PN	**Pn**	**03 24 07.7**	**-5.2**
YKW3				mb		03 24 11.4	
	comp=Z,6.1nm,0.4s						
YKW3				SN	**Sn**	**03 27 05.8**	**-17**
YKW3				Trac		03 27 09.6	
	comp=Z,3.5nm,0.5s						
YKA	**Yellowknife Ar**	**17.21**	**179**	Pn	**Pn**	**03 24 08.7**	**-5.1**
	1.8nm,0.3s,baz=357,slow=12,SNR=78						
YKA				Sn	**Sn**	**03 27 07.2**	**-18**
	0.4nm,0.3s,baz=356,slow=22,SNR=6.5						
YKA	**Yellowknife Ar**	**17.21**	**179**	Pn	**Pn**	**03 24 08.7**	**-5.1**
ILAR	**Eielson Array**	**17.31**	**229**	Pn	**Pn**	**03 24 14.1**	**-0.9**
	0.1nm,0.3s,baz=14,slow=15,SNR=22						
ILAR				Sn	**Sn**	**03 27 15.1**	**-12**
	0.1nm,0.3s,baz=17,slow=22,SNR=4.9						
ILAR	**Eielson Array**	**17.31**	**229**	Pn	**Pn**	**03 24 14.1**	**-0.9**
ILAR				Sn	**Sn**	**03 27 15.1**	**-12**
COLA	**College**	**17.34**	**231**	*e*Pn	**Pn**	**03 24 15.8**	**+0.3**
DOT	**Dot Lake**	**18.01**	**224**	*e*P	**Pn**	**03 24 23.9**	**+0.2**
	6.1nm,1.4s						
SUMG	**Summit**	**18.16**	**70**	*e*P	**Pn**	**03 24 29.2**	**+3.7**
	14nm,0.8s						
SUMG	**Summit**	**18.16**	**70**	*i* P	**Pn**	**03 24 33.6**	**+8.0**
	15nm,0.8s						
MCK	**McKinley**	**18.58**	**231**	*e*P	**Pn**	**03 24 32.5**	**+1.8**
	5.4nm,0.6s						
TRF	**Thorofare Moun**	**19.04**	**232**	*e*P	**Pn**	**03 24 38.4**	**+2.2**
	5.0nm,0.7s						
ARVN	**Arviat, NU**	**19.66**	**149**	PN	**Pn**	**03 24 40.9**	**-2.8**
PPLA	**Purkeypile**	**19.84**	**234**	*e*P	**Pn**	**03 24 45.4**	**-0.5**
	6.7nm,0.8s						
FRB	**Frobisher Bay**	**20.59**	**113**	P	**P**	**03 24 52.8**	**+0.4**
	3.2nm,0.6s,baz=347,slow=13,SNR=5.0						
FRB	**Frobisher Bay**	**20.59**	**113**	P	**P**	**03 24 52.8**	**+0.4**
RC01	**Rabbit Creek A**	**21.22**	**229**	*e*P	**P**	**03 25 00.2**	**+1.0**
	10nm,0.6s,

MKAR	Makanchi Array	53.45	345	P		P	03 29 32.4 -0.9
	1.8nm,0.7s,mb4.1,baz=2.1,slow=6.1,SNR=8.6						
MKAR	Makanchi Array	53.45	345	P		P	03 29 32.4 -0.9
ESDC	Sonseca Array	54.94	61	P		P	03 29 45.4 +1.1
	0.4nm,0.5s,mb3.7,baz=350,slow=7.0,SNR=3.4						
ESDC	Sonseca Array	54.94	61	P		P	03 29 45.4 +1.1
MJAR	Matsushiro Arr	57.22	293	P		P	03 30 00.5 -0.1
	1.1nm,0.6s,mb4.1,baz=46,slow=4.7,SNR=4.8						
MJAR	Matsushiro Arr	57.22	293	P		P	03 30 00.5 -0.1
BR131	Keskin Array S	59.59	28	eP		P	03 30 16.1 -1.0
	0.7nm,0.7s,mb3.8						
BRTR	Keskin Array B	59.59	28	P		P	03 30 18.0 +0.9
	0.3nm,0.8s,mb3.4,baz=24,slow=3.9,SNR=2.8						
BRTR	Keskin Array B	59.59	28	P		P	03 30 18.0 +0.9
KEST	Kesra	60.80	50	P		P	03 30 27.4 +2.0
	1.4nm,0.9s,mb4.1,baz=1.1,slow=23,SNR=4.6						
KEST	Kesra	60.80	50	P		P	03 30 27.4 +2.0
DANN	Dangsing	71.74	342	eP		P	03 31 35.7 0.0
	33nm,0.8s,mb5.3						
DANN	Dangsing	71.74	342	eP		P	03 31 35.7 0.0
	33nm,0.8s,mb5.3						
GKN	Gorkha	72.04	342	eP		P	03 31 37.1 -0.4
	24nm,0.9s,mb5.1						
GKN	Gorkha	72.04	342	eP		P	03 31 37.1 -0.4
	24nm,0.9s,mb5.1						
GUN	Gumba	72.06	340	eP		P	03 31 38.0 +0.4
	33nm,1.0s,mb5.2						
GUN	Gumba	72.06	340	eP		P	03 31 38.0 +0.4
	33nm,1.0s,mb5.2						
KKN	Kakani	72.21	341	eP		P	03 31 38.5 0.0
KKN	Kakani	72.21	341	eP		P	03 31 38.5 0.0
JIRN	Jiri	72.29	340	eP		P	03 31 39.3 +0.3
	6.6nm,0.9s,mb4.6						
JIRN	Jiri	72.29	340	eP		P	03 31 39.3 +0.3
	6.6nm,0.9s,mb4.6						
DMN	Daman	72.40	341	eP		P	03 31 40.2 +0.6
DMN	Daman	72.40	341	eP		P	03 31 40.2 +0.6
PKI	Pulchoki	72.42	341	eP		P	03 31 40.0 +0.2
	24nm,1.0s,mb5.1						
PKI	Pulchoki	72.42	341	eP		P	03 31 40.0 +0.2
	24nm,1.0s,mb5.1						
TAPN	Taplejung	72.50	339	eP		P	03 31 39.9 -0.3
TAPN	Taplejung	72.50	339	eP		P	03 31 39.9 -0.3
RAMN	Ramite	72.97	340	eP		P	03 31 42.8 -0.2
	16nm,0.8s,mb5.0						
RAMN	Ramite	72.97	340	eP		P	03 31 42.8 -0.2
	16nm,0.8s,mb5.0						
ODAN	Odare	73.01	339	eP		P	03 31 43.6 +0.4
ODAN	Odare	73.01	339	eP		P	03 31 43.6 +0.4
CMAR	Chiang Mai Arr	80.39	327	P		P	03 32 24.5 -0.5
	0.8nm,0.3s,mb4.1,baz=343,slow=6.4,SNR=5.9						
CMAR	Chiang Mai Arr	80.39	327	P		P	03 32 24.5 -0.5
TORD	Torodi Ar. Bea	81.83	61	P		P	03 32 33.0 +0.2
	1.7nm,0.8s,mb4.0,baz=336,slow=5.3,SNR=12						
TORD	Torodi Ar. Bea	81.83	61	P		P	03 32 33.0 +0.2

*MOS **14** 03:21:14.6±0.8, 56°.13N×163°.95E, h16km, mb4.3/1, Error ellipse: s-maj=21.0km s-min=15.9km az=54.4*

KRSC 14 03:21:16.1±0.5, 56°.13N×163°.85E, h20km±20km, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.58	278	iP		Pb	03 21 26.7 -0.9
KBTR				iS		Sb	03 21 34.7 -0.7
KBTR	Krutoberegovo	0.58	278	PN		Pn	03 21 26.7 -2.5
KBTR				S		Sb	03 21 34.7 -0.7
SMKR	Semkarok	1.40	290	eP		Pn	03 21 39.7 -0.8
SMKR				iS		Sn	03 21 57.7 -0.6
BKI	Bering	1.52	127	iP		Pn	03 21 40.8 -1.3
BKI				iS		Sn	03 21 59.3 -1.9
BKI	Bering	1.52	127	PN		Pn	03 21 40.8 -1.3
BKI				S		Sn	03 21 59.3 -1.9
BDR	Baidarnaya	1.54	288	iP		Pn	03 21 42.5 +0.2
BDR				iS		Sn	03 22 01.9 +0.3
SRKR	Sorokina	1.58	291	eP		Pn	03 21 42.5 -0.4
KLY	Klyuchi	1.80	277	iP		Pn	03 21 45.0 -0.9
KLY				iS		Sn	03 22 06.4 -1.6
KLY	Klyuchi	1.80	277	PN		Pn	03 21 45.0 -0.9
KLY				S		Sn	03 22 06.4 -1.6
KPT	Kopyto	2.04	267	P		Pn	03 21 50.3 +1.0
KMNR	Kamenistaya	2.07	261	iP		Pn	03 21 51.9 +2.3
KMNR				eS		Sn	03 22 18.2 +3.5
KOZR	Kozyr	2.22	270	PN		Pn	03 21 53.1 +1.5
KOZR				S		Sn	03 22 20.4 +2.0
KOZ	Kozyrevsk	2.23	270	eP		Pn	03 21 53.1 +1.3
KOZ				iS		Sn	03 22 20.4 +1.7
TUMR	Tumrok	2.26	249	eP		Pn	03 21 54.3 +2.0
TUMR				iS		Sn	03 22 22.8 +3.3
SRDR	Sredinnyy	2.32	276	eP		Pn	03 21 54.4 +1.4
SRDR				iS		Sn	03 22 21.5 +0.6
ESO	Esso	2.90	268	P		Pn	03 22 03.2 +2.2
ESO	Esso	2.90	268	PN		Pn	03 22 03.2 +2.2
KII	Karymskiy	3.29	232	P		Pn	03 22 09.0 +2.6
SPN	Mys Shipunski	3.77	218	eP		Pn	03 22 13.5 +0.6
SPN				iS		Sn	03 22 55.0 -1.6
SPN	Mys Shipunski	3.77	218	PN		Pn	03 22 13.5 +0.6
NLC	Nalytchevo	3.95	223	P		Pn	03 22 16.6 +1.1
NLC				iS		Sn	03 23 02.2 +0.9
NLC	Nalytchevo	3.95	223	PN		Pn	03 22 16.6 +1.1
SDLR	Sedlovina	4.06	227	eP		Pn	03 22 18.9 +2.0
AVH	Avacha	4.13	228	P		Pn	03 22 20.4 +2.5
KOK	Koryaka	4.15	229	P		Pn	03 22 21.9 +3.7
PET	Petropavlovsk	4.34	226	P		Pn	03 22 23.6 +2.8
PET				iS		Sn	03 23 12.0 +1.3
PET	Petropavlovsk	4.34	226	ePN		Pn	03 22 23.2 +2.4
PET				pmax		pmax	
	comp=Z,36nm,0.4s						
RUS	Russkaya	4.85	222	eP		Pn	03 22 29.4 +1.6
RUS	Russkaya	4.85	222	PN		Pn	03 22 29.4 +1.6

*KNET **14** 03:27:42.0±0.6, 41°.56N×73°.07E, h14km±3km, ml2.8, Error ellipse: s-maj=6.7km s-min=3.3km az=148.0*
*ISCJB **14** 03:27:42.5±1.7, 41°.6N±0°.1×72°.90E±0°.08, h10km, Error ellipse: s-maj=21.1km s-min=8.4km az=170.0*
*NNC **14** 03:27:43.4±1.6, 41°.70N×72°.92E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=21.7km s-min=5.9km az=1.0*

ISC 14 03:27:43.1±1.6, 41°.6N±0°.1×72°.92E±0°.09, h10km, n12, σ1§08/14, 6C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.77	48	⇓P		Pg	03 27 56.0 -2.0
	44nm,0.2s,SNR=41						
AML				P			03 27 56.1
	SNR=41						
AML				⇑S		Sg	03 28 08.5 +0.3
	120nm,0.2s						
EKS2	Erkin-Say	1.22	31	P		Pn	03 28 04.5 -1.8
	SNR=22						
EKS2				P			03 28 04.5
	13nm,0.2s,SNR=22						
UCH	Uchtor	1.34	62	⇑P		Pn	03 28 06.6 -1.3
	14nm,0.2s,SNR=8.5						
UCH				P			03 28 07.9
	SNR=8.5						
UCH				⇓S		Sb	03 28 24.8 -0.6
	41nm,0.2s						
AAK	Ala-Archa	1.55	49	⇓P		Pn	03 28 09.9 -0.9
	34nm,0.2s,SNR=37						
AAK				P			03 28 10.3
	SNR=37						
AAK				⇓S		Sn	03 28 32.2 +1.2
	76nm,0.3s						
KZA	Kyzart	1.80	74	⇓S		Sn	03 28 38.0 +0.9
	90nm,0.3s						
KBK	Karagaybulak	1.83	55	⇑P		Pn	03 28 15.1 +0.5
	21nm,0.1s,SNR=8.7						
KBK				P			03 28 15.5
	SNR=8.7						
CHMS	Chumysh	1.94	44	⇓P		Pn	03 28 17.0 +0.9
	30nm,0.3s,SNR=15						
CHMS				P			03 28 17.3
	SNR=15						
USP	Ospenovka	2.02	35	P		Pn	03 28 17.9 +0.6
	SNR=38						
USP				⇓P			03 28 18.1
	20nm,0.2s,SNR=38						
KK31	Karatay Array	2.32	311	Pn		Pn	03 28 21.9 +0.6
	4.9nm,0.3s,baz=126,slow=12,SNR=134						
KK31				Lg			03 28 55.9
	70nm,0.5s,baz=132,slow=29,SNR=11						
TKM2	Tokmak 2	2.38	56	⇑P		Pn	03 28 23.4 +1.3
	47nm,0.4s,SNR=50						
TKM2				P			03 28 23.6
	SNR=50						
TKM2	Tokmak 2	2.38	56	⇑Pn		Pn	03 28 23.4 +1.2
	32nm,0.5s						
TKM2				⇓Lg			03 28 57.2
	77nm,0.8s						
KNDC	Almaty	3.40	61	⇑Lg			03 29 29.3
	67nm,0.8s						

*DDA **14** 03:51:01.6, 38°.86N×25°.91E, h7km±6km, Md3.1*
*CSEM **14** 03:51:02.9±0.6, 38°.81N×25°.93E, h2km, MD3.1, Error ellipse: s-maj=13.1km s-min=5.2km az=68.0*
*ISK **14** 03:51:04.2, 38°.89N×26°.09E, h2km, MD2.8*

ISC 14 03:51:03.2±1.5, 38°.82N±0°.04×25°.93E±0°.10, h4km±7km, n20, σ0§66/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.69	131	iP		Pg	03 51 15.1 -1.4
URLA				iS		Sg	03 51 25.7 +0.2
URLA	Izmir	0.69	131	iP		Pg	03 51 15.1 -1.4
URLA				iS		Sg	03 51 25.7 +0.2
AYVA	Ayvalik	0.77	50	iP		Pg	03 51 17.2 -0.8
AYVA				iS		Sg	03 51 27.8 -0.2
AYVA	Ayvalik	0.77	50	iP		Pg	03 51 17.2 -0.8
AYVA				iS		Sg	03 51 27.8 -0.3
BLCB	Balcova	0.97	116	ePG		Pg	03 51 22.4 +0.6
BLCB				eSG		Sg	03 51 35.5 +1.0
BLCB	Balcova	0.97	116	ePg		Pg	03 51 22.4 +0.5
BLCB				eSg		Sg	03 51 35.5 +1.0
EZN	Ezine	1.06	17	ePG		Pg	03 51 23.5 0.0
EZN				eSG		Sg	03 51 37.6 +0.5
EZN	Ezine	1.06	17	ePg		Pg	03 51 23.5 +0.1
EZN				eSg		Sg	03 51 37.6 +0.4
AKHS	Akhisar	1.48	87	iP		Pn	03 51 30.5 -0.1
AKHS				iS		Sb	03 51 50.1 -0.2
AKHS	Akhisar	1.48	87	iP		Pn	03 51 30.5 0.0
AKHS				iS		Sb	03 51 50.1 -0.2
BALY	Balya	1.61	54	iP		Pn	03 51 31.0 -1.3
BALY				iS		Sn	03 51 53.3 -0.2
BALY	Balya	1.61	54	iP		Pn	03 51 31.0 -1.3
BALY				iS		Sn	03 51 53.3 -0.2
GELI	Tayfur-Gelibol	1.64	15	ePN		Pn	03 51 33.4 +0.7
GELI	Tayfur-Gelibol	1.64	15	ePn		Pn	03 51 33.4 +0.6
BALB	Balikesir	1.73	61	ePN		Pn	03 51 34.2 +0.2
BALB	Balikesir	1.73	61	ePn		Pn	03 51 34.3 +0.3
GONE	Gonen-Balikesi	1.84	47	ePN		Pn	03 51 35.9 +0.4
GONE	Gonen-Balikesi	1.84	47	ePn		Pn	03 51 35.9 +0.4
KRBG	Karabiga-Canak	1.90	33	ePN		Pn	03 51 36.9 +0.5
KRBG	Karabiga-Canak	1.90	33	ePn		Pn	03 51 36.9 +0.5

*IDC **14** 03:53:07.0±1.1, 14°.76S×167°.42E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=36.9km s-min=27.2km az=125.0*
*ISCJB **14** 03:53:22.1±3.4, 15°.0S±0°.1×167°.2E±0°.2, h133km±28km, mb3.8/9, Error ellipse: s-maj=29.5km s-min=20.4km az=153.7*
*NEIC **14** 03:53:23.3±2.7, 15°.04S×167°.30E, h134km±22km, mb4.2/2, Error ellipse: s-maj=22.1km s-min=18.4km az=221.0*

ISC 14 03:53:23.4±3.1, 15°.0S±0°.1×167°.3E±0°.2, h134km±25km, n26, σ0§76/24, mb3.8/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.09	186	eP		Pn	03 55 03.5 -1.1
DZM				eS		Sn	03 56 23.8 -0.1
DZM	Mont Dzumac	7.09	186	ePn		Pn	03 55 03.9 -0.7
	17nm,0.5s						
DZM				eSn		Sn	03 56 24.6 +0.7
NOUC	Port Laguerre	7.14	187	eS		Sn	03 56 25.6 +0.7
URZ	Urewera	24.75	161	P		P	03 58 31.9 -0.5
	4.7nm,0.6s,mb4.2,baz=67,slow=3.3,SNR=2.9						
URZ	Urewera	24.75	161	P		P	03 58 31.9 -0.5
STKA	Stephens Creek	28.85	230	P		P	03 59 10.5 +1.2
	2.8nm,0.4s,mb4.3,baz=43,slow=8.8,SNR=8.7						
STKA	Stephens Creek	28.85	230	P		P	03 59 10.5 +1.2
WRA	Warramunga Arr	31.80	256	P		P	03 59 33.7 -1.7
	0.2nm,0.3s,mb3.3,baz=84,slow=8.4,SNR=2.3						
WRA	Warramunga Arr	31.80	256	P		P	03 59 33.7 -1.7
ASAR	Alice Springs	32.61	249	P		P	03 59 42.1 -0.4
	0.6nm,0.4s,mb3.7,baz=80,slow=9.1,SNR=16						
ASAR	Alice Springs	32.61	249	P		P	03 59 42.1 -0.4
QSPA	South Pole Qui	75.04	180	eP		P	04 04 50.0 +0.3
	3.4nm,0.8s,mb4.0						
SONM	Songino Array	82.72	324	P		P	04 05 33.0 +1.0
	0.3nm,0.4s,mb3.3,baz=149,slow=7.4,SNR=2.0						
SONM	Songino Array	82.72	324	P		P	04 05 33.0 +1.0
ILAR	Eielson Array	86.76	18	P		P	04 05 52.0 +0.1
	0.3nm,0.7s,mb3.2,baz=247,slow=4.9,SNR=4.9						
ILAR	Eielson Array	86.76	18	P		P	04 05 52.0 +0.1
SNAA	Sanae	93.29	183	e		P	04 06 22.3 -0.2
SNAA	Sanae	93.29	183	eP		P	04 06 21.8 -0.7
	1.2nm,0.6s,mb4.2						
VNA3	Neumayer Olymp	93.96	181	e		P	04 06 25.1 -0.5
VNA2	Neumayer-Watz	94.22	182	e		P	04 06 26.6 -0.2
	baz=186,slow=5.7						
MKAR	Makanchi Array	97.41	316	P		P	04 06 42.4 +0.8
	0.8nm,1.1s,mb4.0,baz=96,slow=5.4,SNR=4.2						
MKAR	Makanchi Array	97.41	316	P		P	04 06 42.4 +0.8
ARCES	ARCESS Array B	120.51	345	PKP	PKPdf		04 11 58.2 -0.2
	1.9nm,0.9s,baz=85,slow=2.9,SNR=5.6						
ARCES	ARCESS Array B	120.51	345	PKP	PKPdf		04 11 58.2 -0.2
TORD	Torodi Ar. Bea	165.92	264	PKP	PKPdf		04 13 13.2 -0.1
	0.3nm,0.6s,baz=310,slow=1.8,SNR=4.4						
TORD	Torodi Ar. Bea	165.92	264	PKP	PKPdf		04 13 13.2 -0.1

*ISCJB **14** 03:53:55.4±0.6, 32°.37N±0°.06×105°.00E±0°.07, h10km, mb3.6/6, Error ellipse: s-maj=10.9km s-min=5.2km az=41.8*
*IDC **14** 03:53:56.0±1.1, 32°.83N×106°.01E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=158.5km s-min=19.1km az=56.0*
*BJI **14** 03:53:59.1, 32°.19N×105°.13E, h20km, ML3.1/9*

ISC 14 03:53:58.2±0.6, 32°.39N±0°.04×104°.90E±0°.06, h10km, n9, σ1§11/16, mb3.6/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	1.77	214	Pn	Pn	03 54 29.0	+0.2
CD2				Pg	Pg	03 54 30.5	-1.6
CD2				Sn	Sn	03 54 53.5	+2.2
CD2				Sg	Sg	03 54 54.8	-0.2
CD2				smax			
	comp=N,590nm,0.8s						
CD2				smax			
	comp=E,1μm,0.7s						
XAN	Xi'an	3.75	63	Pn	Pn	03 54 50.5	-5.6
XAN				Sn	Sn	03 55 41.6	+1.3
XAN				Sg	Sg	03 55 58.4	-0.3
XAN				smax			
	comp=N,6.0nm,0.7s						
XAN				smax			
	comp=E,39nm,0.9s						
LZH	Lanzhou	3.79	347	Pg	Pg	03 55 10.5	-0.4
LZH				Sn	Sn	03 55 45.5	+4.2
LZH				Sg	Sg	03 55 58.4	-1.6
LZH				smax			
	comp=N,69nm,0.8s						
LZH				smax			
	comp=E,77nm,0.5s						
MKAR	Makanchi Array	22.49	316	P	P	03 59 01.3	+3.7
	comp=E,0.3nm,0.7s,mb2.8,baz=110,slow=9.0,SNR=4.2						
KURK	Kurchatov	26.65	321	P	P	03 59 37.7	+0.7
	comp=E,0.3nm,0.3s,mb3.3,baz=128,slow=8.4,SNR=4.4						
ARCES	ARCESS Array B	56.38	335	P	P	04 03 39.3	+0.2
	comp=E,2.5nm,0.9s,mb4.2,baz=92,slow=8.7,SNR=4.7						
FINES	FINESS Array B	56.89	326	P	P	04 03 43.0	+0.1
	comp=E,1.1nm,0.7s,mb4.0,baz=116,slow=4.4,SNR=5.2						
WRA	Warramunga Arr	59.17	147	P	P	04 03 58.1	-1.2
	comp=E,0.4nm,0.6s,mb3.6,baz=341,slow=7.6,SNR=3.5						
ASAR	Alice Springs	62.24	150	P	P	04 04 19.1	-1.1
	comp=E,0.2nm,0.5s,mb3.5,baz=340,slow=6.9,SNR=2.9						

*IDC **14** 04:37:28.8±0.5, 14°.04N×123°.70E, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.1/28, mbtmp4.2/20, ML5.1/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/31, Error ellipse: s-maj=17.1km s-min=10.1km az=65.0*
*NEIC **14** 04:37:30.0±4.1, 14°.04N×123°.71E, h8km±26km, mb4.6/13, Error ellipse: s-maj=9.9km s-min=4.5km az=65.0*
*MAN **14** 04:37:31, 14°.00N×123°.48E, h1km, mb4.6, ML3.6, MS3.6*
*ISCJB **14** 04:37:33.4±0.6, 14°.05N±0°.04×123°.55E±0°.05, h43km±6km, mb4.4/32, MS3.5/6, Error ellipse: s-maj=9.1km s-min=4.8km az=138.1*

ISC 14 04:37:33.3±1.0, 14°.07N±0°.04×123°.57E±0°.04, h27km±8km, n80, σ1§07/82, mb4.4/32, MS3.5/6, 2C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.74	130	eP	Pb	04 37 46.4	-1.2
PVCP				eS	Sb	04 37 57.8	+0.5
GQP	Guinayangan	1.10	262	⇑eP	Pn	04 37 51.6	-1.4
GQP				eS	Sn	04 38 06.7	-0.6
CNP	Catarman	1.88	145	eP	Pn	04 38 05.5	+1.8
CNP				eS	Sn	04 38 29.4	+2.8
LQP	Lukban	1.97	271	eP	Pn	04 38 03.6	-1.3
TGY	Tagaytay City	2.55	271	Pn	Pn	04 38 13.8	+0.8
	336nm,0.3s,baz=82,slow=2.2,SNR=26						
TGY				Lg		04 38 53.0	
	337nm,0.3s,baz=333,slow=23,SNR=4.9						
TGY	Tagaytay City	2.55	271	Pn	Pn	04 38 13.8	+0.8
TGY				Lg		04 38 53.0	
TGY	Tagaytay City	2.55	271	⇓eP	Pn	04 38 16.4	+3.5
RCP	Roxas	2.62	198	⇓eP	Pn	04 38 14.4	+0.4
RCP				eS	Sn	04 38 50.7	+5.8
PLP	Palo	3.20	154	⇓eP	Pn	04 38 23.5	+1.6
PLP				eS	Sn	04 39 03.3	+4.1
BCPH	Baguio City Da	3.69	309	⇑iP	Pn	04 38 28.7	+0.1
BCPH				iS	Sn	04 39 11.4	+0.3
LLP	Lapu-Lapu	3.75	174	eP	Pn	04 38 29.9	+0.4
LLP				eS	Sn	04 39 23.3	+11
TBP	Tagbilaran	4.36	176	eP	Pn	04 38 38.4	+0.5
DAV	Davao City (W)	7.23	164	LR	LR	04 42 32.5	
	comp=Z,684nm,19.1s,baz=348,slow=42						
KKM	Kota Kinabalu	10.77	223	ePn	Pn	04 40 05.0	-0.8
KAPI	Kappang	19.34	192	P	Pn	04 42 00.3	+2.3
	0.7nm,0.3s,baz=323,slow=4.1,SNR=5.8						
KAPI	Kappang	19.34	192	P	Pn	04 42 00.3	+2.3
GUMO	Guam	20.69	89	LR	LR	04 48 27.2	
	comp=Z,68nm,18.7s,MS3.0,baz=239,slow=32						
KSAR	Wonju Array Be	23.59	9	P	P	04 42 42.4	+0.3
KSRS	Korea Array	23.61	9	P	P	04 42 42.4	+0.1
	0.9nm,0.7s,mb3.3,baz=188,slow=10,SNR=2.5						
KSRS				LR	LR	04 51 08.9	
	comp=Z,58nm,20.4s,MS3.0,baz=346,slow=35						
CMAR	Chiang Mai Arr	24.03	284	P	P	04 42 48.4	+2.1
	2.3nm,0.4s,mb4.0,baz=90,slow=8.1,SNR=12						
CMAR	Chiang Mai Arr	24.03	284	P	P	04 42 48.4	+2.1
FITZ	Fitzroy Crossi	32.03	176	P	P	04 43 57.1	-0.7
	2.3nm,0.7s,mb4.1,baz=1.2,slow=10.0,SNR=6.8						
FITZ	Fitzroy Crossi	32.03	176	eP	P	04 43 55.7	-2.1
	5.4nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	32.03	176	P	P	04 43 57.1	-0.7
PMG	Port Moresby	33.04	134	eP	P	04 44 04.9	-1.8
	7.4nm,0.8s,mb4.7						
ASAJ	Asahikawa	34.07	25	P	P	04 44 13.9	-1.5
	5.0nm,0.9s,mb4.4,baz=258,slow=27,SNR=4.7						
ASAJ	Asahikawa	34.07	25	P	P	04 44 13.9	-1.5
MBWA	Marble Bar	35.21	186	eP	P	04 44 28.1	+2.7
	5.1nm,0.7s,mb4.6						
WRAB	Tennant Creek	35.42	162	eP	P	04 44 25.3	-2.0
	12nm,0.8s,mb4.9						
WRA	Warramunga Arr	35.42	162	P	P	04 44 25.5	-1.8
	11nm,0.7s,mb4.9,baz=341,slow=9.7,SNR=48						
WRA	Warramunga Arr	35.42	162	P	P	04 44 25.5	-1.8
WB2	Warramunga Arr	35.42	162	eP	P	04 44 25.7	-1.6
ULN	Ulaanbaatar	36.38	341	eP	P	04 44 35.5	+0.2
	12nm,1.1s,mb4.8						
SONM	Songino Array	36.57	340	P	P	04 44 37.3	+0.5
	2.5nm,0.6s,mb4.2,baz=160,slow=8.3,SNR=13						
SONM				LR	LR	05 01 15.8	
	comp=Z,73nm,21.2s,MS3.4,baz=79,slow=39						
SONM	Songino Array	36.57	340	P	P	04 44 37.3	+0.5
AS31	Alice Springs	38.84	165	eP	P	04 44 55.5	-0.8
ASAR	Alice Springs	38.84	165	P	P	04 44 55.6	-0.7
	2.6nm,0.6s,mb4.2,baz=15,slow=10.0,SNR=48						
ASAR				PcP	PcP	04 47 06.8	-0.5
	1.2nm,0.7s,baz=346,slow=2.4,SNR=5.2						
ASAR				S	S	04 50 53.2	+0.5
	0.4nm,0.8s,baz=348,slow=11,SNR=4.2						
ASAR	Alice Springs	38.84	165	P	P	04 44 55.6	-0.7
ASAR				PcP	PcP	04 47 06.8	-0.5
ASAR				S	S	04 50 53.2	+0.5
CTA	Charters Tower	40.62	146	P	P	04 45 11.7	+0.5
	5.9nm,0.9s,mb4.2,baz=332,slow=11,SNR=5.0						
CTA	Charters Tower	40.62	146	P	P	04 45 11.7	+0.5
FORT	Forrest	44.80	175	eP	P	04 45 44.4	-0.5
	7.9nm,0.7s,mb4.7						
KLBR	Kellerberrin	45.74	187	eP	P	04 45 51.6	-0.8
	15nm,1.3s,mb4.8						
NWAO	Narrogin (SRO)	47.12	187	P	P	04 46 02.8	-0.5
	6.6nm,0.8s,mb4.6,baz=3.0,slow=8.7,SNR=6.5						
NWAO	Narrogin (SRO)	47.12	187	P	P	04 46 02.8	-0.5
MK31	Makanchi Array	47.42	322	eP	P	04 46 06.7	+1.2
MKAR	Makanchi Array	47.42	322	P	P	04 46 06.1	+0.6
	1.4nm,0.7s,mb4.0,baz=115,slow=7.4,SNR=6.7						
MKAR				LR	LR	05 05 57.5	
	comp=Z,65nm,18.5s,MS3.6,baz=352,slow=36						
MKAR	Makanchi Array	47.42	322	P	P	04 46 06.0	+0.6
BBOO	Buckleboo	48.12	166	eP	P	04 46 10.2	-0.8
	263nm,0.9s						
STKA	Stephens Creek	48.84	160	P	P	04 46 15.8	-0.8
	5.7nm,0.7s,mb4.7,baz=333,slow=7.1,SNR=9.6						
STKA	Stephens

1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.81**	**151**	*eP*	Pn	04 41 05.8	+0.3
PVCP				*eS*	Sb	04 41 12.8	-3.5
GQP	**Guinayangan**	**1.33**	**252**	⇑*eP*	Pn	04 41 11.0	-1.6
GQP				*eS*	Sn	04 41 25.1	-4.3
BOAC	**Boac**	**2.04**	**246**	*eP*	Pn	04 41 23.4	+1.0
BOAC				*eS*	Sn	04 41 45.8	-1.1

*IDC **14** 04:43:15.3±0.9, 51°.53N×174°.21W, h0km, mb3.9/18, mb1 4.1/20, mb1mx4.0/30, mbtmp3.9/20, ML3.8/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/46, Error ellipse: s-maj=26.8km s-min=14.1km az=174.0*

*ISCJB **14** 04:43:18.4±1.5, 51°.33N±0°.07×174°.16W±0°.05, h33km±9km, mb4.4/43, MS3.8/2, Error ellipse: s-maj=11.2km s-min=5.0km az=172.7*

*NEIC **14** 04:43:19.2±1.4, 51°.38N×174°.19W, h26km±8km, mb3.9/5, ML3.6(AEIC), Error ellipse: s-maj=9.7km s-min=3.5km az=166.0*

ISC 14 04:43:19.0±1.6, 51°.38N±0°.06×174°.20W±0°.05, h24km±11km, n127, σ0.69/129, mb4.4/43, MS3.8/2,

Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Flat Point**	**0.90**	**4**	P	**Pn**	**04 43 37.5**	**+1.3**
KOKL	**Mount Kliuchef**	**0.95**	**0**	P	**Pn**	**04 43 38.0**	**+1.2**
KOKL				S	**Sn**	**04 43 50.5**	**+1.0**
GSMY	**Great Sitkin M**	**1.33**	**301**	P	**Pn**	**04 43 41.4**	**-0.7**
GSMY				S	**Sn**	**04 43 58.2**	**-0.8**
GSCK	**Great Sitkin C**	**1.38**	**298**	P	**Pn**	**04 43 41.8**	**-0.8**
GSTD	**Great Sitkin T**	**1.39**	**300**	P	**Pn**	**04 43 42.4**	**-0.4**
GSTD				S	**Sn**	**04 44 00.5**	**+0.1**
ETKA	**Kagalaska Isla**	**1.46**	**290**	P	**Pn**	**04 43 43.2**	**-0.6**
ETKA				S	**Sn**	**04 44 01.5**	**-0.6**
KIKV	**Kanaga Island**	**1.92**	**286**	P	**Pn**	**04 43 50.1**	**0.0**
KIMD	**Kanaga Island**	**1.93**	**283**	P	**Pn**	**04 43 49.7**	**-0.6**
KICM	**Kanaga Island**	**1.94**	**287**	P	**Pn**	**04 43 50.2**	**-0.2**
TAFL	**Tanaga Flats**	**2.34**	**281**	P	**Pn**	**04 43 56.1**	**+0.2**
TASE	**Tanaga Southea**	**2.43**	**282**	P	**Pn**	**04 43 57.6**	**+0.4**
TANO	**Tanaga North**	**2.50**	**284**	P	**Pn**	**04 43 58.3**	**+0.2**
GANE	**Gareloi Northe**	**2.89**	**281**	P	**Pn**	**04 44 03.9**	**+0.4**
AMKA	**Amchitka**	**4.07**	**273**	*ePn*	**Pn**	**04 44 19.1**	**-0.6**
AMKA				*eSg*	**Sn**	**04 45 16.7**	**+10**
FX1	**Attu Island--F**	**7.92**	**286**	Pn	**Pn**	**04 45 15.2**	**+2.6**
	0.8nm,0.3s,baz=70,slow=19,SNR=7.8						
FX1	**Attu Island--F**	**7.92**	**286**	Pn	**Pn**	**04 45 15.2**	**+2.6**
KDAK	**Kodiak Island**	**14.04**	**54**	Pn	**Pn**	**04 46 36.2**	**0.0**
	0.2nm,0.3s,baz=274,slow=15,SNR=4.9						
KDAK	**Kodiak Island**	**14.04**	**54**	Pn	**Pn**	**04 46 36.2**	**0.0**
PETK	**Petropavlovsk-**	**17.25**	**287**	LR	LR	04 53 34.7	
	comp=Z,34nm,19.7s,baz=219,slow=36						
MCK	**McKinley**	**18.19**	**37**	*eP*	**Pn**	**04 47 28.6**	**-0.9**
	9.7nm,0.9s						
COLA	**College**	**19.19**	**35**	*eP*	**Pn**	**04 47 42.1**	**+0.4**
	3.8nm,0.8s						
ILAR	**Eielson Array**	**19.49**	**36**	P	**Pn**	**04 47 41.9**	**-3.4**
	0.3nm,0.3s,baz=242,slow=8.8,SNR=25						
ILAR				LR	LR	04 56 02.8	
	comp=Z,96nm,18.3s,baz=261,slow=40						
ILAR	**Eielson Array**	**19.49**	**36**	P	**Pn**	**04 47 41.9**	**-3.4**
DOT	**Dot Lake**	**20.08**	**41**	*eP*	**P**	**04 47 49.8**	**-0.6**
	1.8nm,0.7s						
EGAK	**Eagle**	**21.69**	**39**	*eP*	**P**	**04 48 07.3**	**-0.5**
	18nm,0.8s,mb4.6						
INK	**Inuvik**	**25.83**	**34**	P	**P**	**04 48 46.9**	**-1.2**
	1.8nm,0.8s,mb3.6,baz=240,slow=6.7,SNR=5.4						
INK	**Inuvik**	**25.83**	**34**	*eP*	**P**	**04 48 47.6**	**-0.5**
	8.7nm,1.3s,mb4.1						
YKA	**Yellowknife Ar**	**33.13**	**47**	P	**P**	**04 49 52.6**	**-0.3**
	0.3nm,0.7s,mb3.3,baz=282,slow=7.7,SNR=4.3						
YKA				PcP	PcP	04 52 35.6	+0.4
	0.5nm,0.8s,baz=279,slow=2.6,SNR=4.1						
YKA	**Yellowknife Ar**	**33.13**	**47**	P	**P**	**04 49 52.6**	**-0.3**
YKA				PcP	PcP	04 52 35.6	+0.4
MAJO	**Matsushiro**	**36.64**	**265**	*eP*	**P**	**04 50 23.7**	**+0.3**
	7.4nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**40.69**	**86**	P	**P**	**04 50 57.1**	**-0.1**
	0.4nm,0.6s,baz=299,slow=8.6,SNR=3.6						
NVAR	**Mina Array Bea**	**40.69**	**86**	P	**P**	**04 50 57.1**	**-0.1**
FFC	**Flin Flon**	**41.78**	**56**	*eP*	**P**	**04 51 05.9**	**-0.2**
	3.4nm,0.8s,mb4.0						
KSRS	**Korea Array**	**42.52**	**274**	P	**P**	**04 51 13.4**	**+1.2**
	1.7nm,0.8s,mb3.8,baz=38,slow=6.5,SNR=4.0						
KSAR	**Wonju Array Be**	**42.55**	**274**	P	**P**	**04 51 13.4**	**+0.9**
PD01	**Pinedale Array**	**43.53**	**75**	*eP*	**P**	**04 51 20.8**	**+0.4**
BW06	**Boulder Array**	**43.55**	**75**	*eP*	**P**	**04 51 20.2**	**-0.4**
	3.5nm,1.0s,mb4.0						
PDAR	**Pinedale Array**	**43.55**	**75**	P	**P**	**04 51 20.8**	**+0.2**
	1.4nm,0.9s,mb3.7,baz=267,slow=2.8,SNR=7.8						
PDAR	**Pinedale Array**	**43.55**	**75**	P	**P**	**04 51 20.8**	**+0.2**
ULM	**Lac du Bonnet**	**47.25**	**59**	P	**P**	**04 51 49.7**	**-0.1**
	0.7nm,0.4s,mb4.0,baz=320,slow=7.9,SNR=3.8						
ULM	**Lac du Bonnet**	**47.25**	**59**	P	**P**	**04 51 49.7**	**-0.1**
ULN	**Ulaanbaatar**	**48.82**	**299**	*eP*	**P**	**04 52 01.4**	**-0.5**
	1.8nm,0.8s,mb4.2						
SONM	**Songino Array**	**49.20**	**299**	P	**P**	**04 52 04.6**	**-0.3**
	1.3nm,0.7s,mb4.0,baz=39,slow=9.2,SNR=9.9						
SONM	**Songino Array**	**49.20**	**299**	P	**P**	**04 52 04.6**	**-0.3**
TXAR	**Lajitas Array**	**55.80**	**85**	P	**P**	**04 52 53.9**	**-0.1**
	0.4nm,0.8s,mb3.5,baz=311,slow=9.6,SNR=4.3						
TXAR	**Lajitas Array**	**55.80**	**85**	P	**P**	**04 52 53.9**	**-0.1**
LZH	**Lanzhou**	**58.13**	**289**	*eP*	**P**	**04 53 07.0**	**-3.4**
	18nm,1.3s,mb4.9						
LZH				pP	pP	04 53 11.1	-6.8
LZH				sP	sP	04 53 14.2	-6.5
ARCES	**ARCESS Array B**	**58.54**	**352**	P	**P**	**04 53 11.4**	**-1.4**
	1.6nm,0.8s,mb4.1,baz=14,slow=7.2,SNR=5.3						
ARCES	**ARCESS Array B**	**58.54**	**352**	P	**P**	**04 53 11.4**	**-1.4**
WCI	**Wyandotte Cave**	**60.12**	**65**	*eP*	**P**	**04 53 23.9**	**-0.3**
	3.5nm,0.6s,mb4.6						
KURK	**Kurchatov**	**61.07**	**316**	P	**P**	**04 53 30.5**	**+0.1**
	1.0nm,0.8s,mb4.0,baz=44,slow=6.7,SNR=5.8						
KURK				PcP	PcP	04 54 13.7	+0.3
	0.9nm,0.7s,baz=55,slow=1.9,SNR=5.1						
KURK	**Kurchatov**	**61.07**	**316**	*eP*	**P**	**04 53 30.1**	**-0.3**
	1.3nm,0.6s,mb4.2						
KURK				PcP	PcP	04 54 13.7	+0.3
MK31	**Makanchi Array**	**62.25**	**311**	*eP*	**P**	**04 53 38.3**	**-0.2**
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**04 53 37.7**	**-0.8**
	1.4nm,0.9s,mb4.1,baz=69,slow=5.9,SNR=6.4						
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**04 53 37.7**	**-0.8**
BVAR	**Borovoye Array**	**62.71**	**322**	P	**P**	**04 53 40.3**	**-1.1**
	1.6nm,0.6s,mb4.3,baz=54,slow=7.5,SNR=8.0						
BVAR				PcP	PcP	04 54 20.1	+0.1
	2.2nm,0.7s,baz=56,slow=3.7,SNR=8.1						
BVAR	**Borovoye Array**	**62.71**	**322**	P	**P**	**04 53 40.3**	**-1.1**
BVAR				PcP	PcP	04 54 20.1	+0.1
NOA	**NORSAR Array B**	**67.85**	**357**	P	**P**	**04 54 13.4**	**-1.2**
	2.2nm,1.0s,mb4.2,baz=360,slow=6.2,SNR=3.1						
NOA	**NORSAR Array B**	**67.85**	**357**	P	**P**	**04 54 13.4**	**-1.2**
AAK	**Ala-Archa**	**69.03**	**313**	*eP*	**P**	**04 54 22.0**	**-0.3**
	11nm,0.9s,mb4.8						
AKTO	**Aktyubinsk**	**69.30**	**327**	P	**P**	**04 54 23.5**	**-0.4**
	1.9nm,0.7s,mb4.2,baz=51,slow=7.8,SNR=4.0						
AKTO	**Aktyubinsk**	**69.30**	**327**	P	**P**	**04 54 23.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**73.87**	**279**	P	**P**	**04 54 52.2**	**+0.3**
	0.7nm,0.4s,mb4.0,baz=26,slow=7.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**73.87**	**279**	P	**P**	**04 54 52.2**	**+0.3**
TAPN	**Taplejung**	**73.88**	**294**	*eP*	**P**	**04 54 52.4**	**+0.6**
TAPN	**Taplejung**	**73.88**	**294**	*eP*	**P**	**04 54 52.4**	**+0.6**
ODAN	**Odare**	**74.44**	**293**	*eP*	**P**	**04 54 55.3**	**+0.2**
ODAN	**Odare**	**74.44**	**293**	*eP*	**P**	**04 54 55.3**	**+0.2**
GUN	**Gumba**	**74.50**	**295**	*eP*	**P**	**04 54 56.0**	**+0.6**
	45nm,1.0s,mb5.4						
GUN	**Gumba**	**74.50**	**295**	*eP*	**P**	**04 54 56.0**	**+0.6**
	45nm,1.0s,mb5.3						
JIRN	**Jiri**	**74.51**	**295**	*eP*	**P**	**04 54 56.4**	**+0.9**
	9.7nm,0.8s,mb4.8						
JIRN	**Jiri**	**74.51**	**295**	*eP*	**P**	**04 54 56.4**	**+0.9**
	9.7nm,0.8s,mb4.8						
RAMN	**Ramite**	**74.82**	**294**	*eP*	**P**	**04 54 57.6**	**+0.3**
	40nm,0.9s,mb5.3						
RAMN	**Ramite**	**74.82**	**294**	*eP*	**P**	**04 54 57.6**	**+0.3**
	40nm,0.9s,mb5.3						
KKN	**Kakani**	**74.93**	**296**	*eP*	**P**	**04 54 58.6**	**+0.7**
KKN	**Kakani**	**74.93**	**296**	*eP*	**P**	**04 54 58.6**	**+0.7**
PKI	**Pulchoki**	**75.02**	**295**	*eP*	**P**	**04 54 59.2**	**+0.7**
PKI	**Pulchoki**	**75.02**	**295**	*eP*	**P**	**04 54 59.2**	**+0.7**
GKN	**Gorkha**	**75.13**	**296**	*eP*	**P**	**04 54 59.1**	**+0.1**
GKN	**Gorkha**	**75.13**	**296**	*eP*	**P**	**04 54 59.1**	**+0.1**
DMN	**Daman**	**75.17**	**296**	*eP*	**P**	**04 55 00.0**	**+0.7**
	35nm,1.1s,mb5.2						
DMN	**Daman**	**75.17**	**296**	*eP*	**P**	**04 55 00.0**	**+0.7**
	35nm,1.1s,mb5.2						
DANN	**Dangsing**	**75.35**	**297**	*eP*	**P**	**04 55 00.6**	**+0.3**
	39nm,0.8s,mb5.4						
KOLN	**Koldanda**	**75.89**	**297**	*eP*	**P**	**04 55 03.4**	**0.0**
	14nm,0.9s,mb4.9						
AKASG	**Malin Array Be**	**76.37**	**345**	P	**P**	**04 55 04.0**	**-1.7**
	1.4nm,0.7s,mb4.0,baz=9.0,slow=4.5,SNR=2.8						
AKASG	**Malin Array Be**	**76.37**	**345**	P	**P**	**04 55 04.0**	**-1.7**
CLL	**Collm**	**77.51**	**355**	*eP*	**P**	**04 55 12.0**	**-0.2**
KBL	**Kabul**	**78.06**	**311**	*eP*	**P**	**04 55 14.8**	**-0.8**
	6.1nm,0.9s,mb4.5						
GIVF	**Givet**	**78.90**	**1**	*eP*	**P**	**04 55 20.1**	**+0.2**
	14nm,0.9s,mb4.6						
GIVF	**Givet**	**78.90**	**1**	*eP*	**P**	**04 55 20.1**	**+0.2**
	14nm,0.9s,mb4.9						
BAIF	**Baives**	**78.93**	**1**	*eP*	**P**	**04 55 21.1**	**+1.0**
BAIF	**Baives**	**78.93**	**1**	*eP*	**P**	**04 55 21.1**	**+1.0**
KHC	**Kasperske Hory**	**79.65**	**355**	*eP*	**P**	**04 55 23.5**	**-0.5**
GERES	**GERESS Array B**	**79.93**	**355**	P	**P**	**04 55 25.4**	**-0.1**
	0.9nm,0.7s,mb3.8,baz=15,slow=5.5,SNR=9.5						
GERES	**GERESS Array B**	**79.93**	**355**	P	**P**	**04 55 25.4**	**-0.1**
BUR08	**Bucovina Ar. S**	**79.96**	**347**	*eP*	**P**	**04 55 25.1**	**-0.6**
LDF	**La Druitiere**	**80.28**	**4**	*eP*	**P**	**04 55 27.0**	**-0.4**
	3.7nm,0.6s,mb4.2						
LDF	**La Druitiere**	**80.28**	**4**	*eP*	**P**	**04 55 27.0**	**-0.4**
	3.7nm,0.6s,mb4.5						
PAGF	**Fort de Pagny**	**80.45**	**0**	*eP*	**P**	**04 55 28.9**	**+0.6**
	6.1nm,0.8s,mb4.3						
MEZF	**Maizieres J'vi**	**80.50**	**1**	*eP*	**P**	**04 55 29.0**	**+0.4**
MEZF	**Maizieres J'vi**	**80.50**	**1**	*eP*	**P**	**04 55 29.0**	**+0.4**
CDF	**Champ du Feu**	**80.58**	**359**	*eP*	**P**	**04 55 29.2**	**+0.2**
	9.9nm,0.9s,mb4.4						
CDF	**Champ du Feu**	**80.58**	**359**	*eP*	**P**	**04 55 29.2**	**+0.2**
	9.9nm,0.9s,mb4.7						
QUIF	**Quistinic**	**80.79**	**6**	*eP*	**P**	**04 55 31.1**	**+0.9**
QUIF	**Quistinic**	**80.79**	**6**	*eP*	**P**	**04 55 31.1**	**+0.9**
SFTF	**Sexfontaines**	**80.80**	**1**	*eP*	**P**	**04 55 30.4**	**+0.2**
	34nm,1.0s,mb4.9						
SFTF	**Sexfontaines**	**80.80**	**1**	*eP*	**P**	**04 55 30.4**	**+0.2**
	34nm,1.0s,mb5.2						
HAU	**Haudompre**	**81.00**	**360**	*eP*	**P**	**04 55 31.5**	**+0.2**
	10.0nm,0.8s,mb4.5						
HAU	**Haudompre**	**81.00**	**360**	*eP*	**P**	**04 55 31.5**	**+0.2**
	10.0nm,0.8s,mb4.8						
HINF	**Hinteralfeld**	**81.18**	**359**	*eP*	**P**	**04 55 32.8**	**+0.5**
	14nm,1.1s,mb4.5						
HINF	**Hinteralfeld**	**81.18**	**359**	*eP*	**P**	**04 55 32.8**	**+0.5**
	14nm,1.1s,mb4.8						
LOR	**Lormes**	**81.72**	**1**	*eP*	**P**	**04 55 35.3**	**+0.2**
LOR	**Lormes**	**81.72**	**1**	*eP*	**P**	**04 55 35.3**	**+0.2**
SSF	**Saint Saulge**	**81.92**	**2**	*eP*	**P**	**04 55 36.3**	**+0.1**
	13nm,0.9s,mb4.6						
SSF	**Saint Saulge**	**81.92**	**2**	*eP*	**P**	**04 55 36.3**	**+0.1**
	13nm,0.9s,mb4.9						
AVF	**Avril sur Loir**	**82.19**	**2**	*eP*	**P**	**04 55 37.7**	**+0.1**
	6.2nm,0.8s,mb4.3						
AVF	**Avril sur Loir**	**82.19**	**2**	*eP*	**P**	**04 55 37.7**	**+0.1**
	6.2nm,0.8s,mb4.6						
MFF	**Saint Martin d**	**82.27**	**4**	*eP*	**P**	**04 55 38.9**	**+0.9**
	26nm,1.0s,mb4.8						
MFF	**Saint Martin d**	**82.27**	**4**	*eP*	**P**	**04 55 38.9**	**+0.9**
	26nm,1.0s,mb5.1						
SMF	**Signal de Mont**	**82.34**	**1**	*eP*	**P**	**04 55 38.5**	**+0.1**
	27nm,1.1s,mb4.8						
SMF	**Signal de Mont**	**82.34**	**1**	*eP*	**P**	**04 55 38.5**	**+0.1**
	27nm,1.1s,mb5.1						
CABF	**La Chapelle**	**82.39**	**360**	*eP*	**P**	**04 55 39.2**	**+0.5**
CABF	**La Chapelle**	**82.39**	**360**	*eP*	**P**	**04 55 39.2**	**+0.5**
WRA	**Warramunga Arr**	**84.08**	**228**	LR	LR	05 30 36.1	
	comp=Z,28nm,19.6s,MS3.6,baz=160,slow=34						
SJG	**San Juan**	**86.79**	**65**	LR	LR	05 33 37.3	
	comp=Z,51nm,19.0s,MS4.0,baz=101,slow=35						
ASAR	**Alice Springs**	**87.50**	**226**	P	**P**	**04 56 04.0**	**-0.5**
	1.1nm,0.8s,mb4.1,baz=32,slow=4.6,SNR=11						
ASAR	**Alice Springs**	**87.50**	**226**	P	**P**	**04 56 04.0**	**-0.5**

*NEIC **14** 04:43:55.7, 32°.56N×115°.53W, h5km, ML3.3(ECX), ML3.3(PAS), After ECX.*

NEIC Felt at Mexicali.

ECX 14 04:43:55.7±0.5, 32°.56N×115°.53W, h5km, MD3.3, ML3.6, 7C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.19**	**300**	⇑*iP*	Pg	04 43 58.9	-0.4
SGL	**Mount Signal**	**0.19**	**300**	*iP*	Pg	04 43 58.9	-0.4
SNR	**Schaffner Ranc**	**0.32**	**15**	⇑*iP*	Pg	04 44 01.6	-0.2
SNR	**Schaffner Ranc**	**0.32**	**15**	*iP*	Pg	04 44 01.6	-0.2
COK	**Cook Ranch**	**0.33**	**331**	⇓*iP*	Pg	04 44 01.8	-0.4
YUH	**Yuha Desert**	**0.34**	**286**	⇑*iP*	Pg	04 44 01.5	-0.8
YUH	**Yuha Desert**	**0.34**	**286**	*iP*	Pg	04 44 01.5	-0.8
COA	**Coachella**	**0.46**	**48**	⇓*iP*	Pg	04 44 03.8	-0.8
RMX	**La Rumorosa**	**0.46**	**276**	⇑*eP*	Pg	04 44 04.1	-0.5
CRR	**Carrizo Plain**	**0.49**	**312**	⇑*iP*	Pg	04 44 04.4	-0.8
CRR	**Carrizo Plain**	**0.49**	**312**	*iP*	Pg	04 44 04.4	-0.8
RDX	**Rancho Dawling**	**0.72**	**209**	⇓*eP*	Pg	04 44 08.1	-1.3
RDX				*eS*	Sg	04 44 17.4	-1.3
RDX				⇑*e*		04 44 20.2	
	comp=N,2μm,0.4s						
RDX	**Rancho Dawling**	**0.72**	**209**	*eP*	Pg	04 44 08.1	-1.3
RDX				*eS*	Sg	04 44 17.4	-1.3
GLA	**Glamis**	**0.77**	**50**	*ePg*	Pg	04 44 08.2	-2.4
GLA				*eSg*	Sg	04 44 18.4	-2.2
BAR	**Barrett**	**0.97**	**278**	*ePg*	Pg	04 44 12.5	-1.8
BAR				*eSg*	Sg	04 44 25.5	-1.4
CBX	**Cerro Bola**	**0.99**	**256**	⇑*eP*	Pg	04 44 13.2	-1.4
CBX				*eS*	Sg	04 44 26.4	-1.0
ECNX	**Esteban Cantu**	**1.27**	**225**	*eP*	Pg	04 44 18.0	-2.1
ECNX				*eP*		04 44 16.3	
ECNX				*eS*	Sg	04 44 32.3	-4.3
ECNX				*eS*	Sg	04 44 35.4	-1.3
PBX	**Punta Banda**	**1.30**	**232**	⇓*eP*	Pn	04 44 18.3	-2.2
PBX				*eS*	Sg	04 44 35.9	-1.5
PFO	**Pinyon Flat Ob**	**1.30**	**324**	*ePn*	Pn	04 44 16.4	-4.2
PFO				*eSg*	Sg	04 44 32.8	-4.9
MWC	**Mount Wilson**	**2.69**	**309**	*ePn*	Pn	04 44 40.3	+0.7
GSC	**Goldstone**	**2.94**	**339**	*ePg*	Pg	04 44 50.5	-1.4
ISA	**Isabella**	**3.94**	**323**	*ePg*	Pg	04 45 08.8	-2.4
ISA				*eSg*	Sg	04 45 56.7	-5.7

*CSEM **14** 04:48:06.5, 38°.70N×22°.53E, h16km, ML1.4/2, After THE*

THE 14 04:48:06.5, 38°.70N×22°.53E, h16km±1km, ML1.4/2, Error ellipse: s-maj=1.4km s-min=0.4km az=67.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.12**	**58**	P	Pg	04 48 10.1	0.0
AXAR				S	Sg	04 48 12.8	+0.3
AXAR	**Agios Charalam**	**0.12**	**58**	P	Pg	04 48 10.1	0.0
AXAR				S	Sg	04 48 12.8	+0.3
DESF	**Desfina**	**0.29**	**180**	P	Pg	04 48 12.3	-0.4
DESF				S	Sg	04 48 17.1	+0.2
DESF	**Desfina**	**0.29**	**180**	P	Pg	04 48 12.3	-0.4
DESF				S	Sg	04 48 17.1	+0.2
DSF	**Desfina**	**0.29**	**180**	P	Pg	04 48 12.6	-0.1
DSF				S	Sg	04 48 17.6	+0.7
DSF	**Desfina**	**0.29**	**180**	P	Pg	04 48 12.6	-0.1
DSF				S	Sg	04 48 17.6	+0.7
AGG	**Agios Georgios**	**0.35**	**334**	P	Pg	04 48 13.6	-0.2
AGG				S	Sg	04 48 19.1	+0.3
AGG	**Agios Georgios**	**0.35**	**334**	P	Pg	04 48 13.6	-0.2
AGG				S	Sg	04 48 19.1	+0.3
LKR	**Lokris**	**0.37**	**98**	P	Pg	04 48 14.1	0.0
LKR				S	Sg	04 48 20.0	+0.8
LKR	**Lokris**	**0.37**	**98**	P	Pg	04 48 14.1	0.0
LKR				S	Sg	04 48 20.0	+0.8
ATAL	**Atalanti**	**0.38**	**91**	P	Pg	04 48 14.3	-0.1
ATAL				S	Sg	04 48 19.9	+0.3
ATAL	**Atalanti**	**0.38**	**91**	P	Pg	04 48 14.3	-0.1
ATAL				S	Sg	04 48 19.9	+0.3
KALE	**Kalithea**	**0.44**	**225**	P	Pg	04 48 15.3	0.0
KALE				S	Sg	04 48 21.9	+0.7
KALE	**Kalithea**	**0.44**	**225**	P	Pg	04 48 15.3	0.0
KALE				S	Sg	04 48 21.9	+0.7

*CSEM **14** 04:50:04.1, 38°.70N×22°.52E, h15km, ML1.0/1, After THE*

THE 14 04:50:04.1, 38°.70N×22°.52E, h15km±1km, ML1.0/1, Error ellipse: s-maj=1.8km s-min=0.5km az=76.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.12**	**60**	P	Pg	04 50 07.5	-0.2
AXAR				S	Sg	04 50 10.4	+0.4
AXAR	**Agios Charalam**	**0.12**	**60**	P	Pg	04 50 07.5	-0.2
AXAR				S	Sg	04 50 10.4	+0.4
DESF	**Desfina**	**0.29**	**178**	P	Pg	04 50 09.7	-0.5
DESF				S	Sg	04 50 14.8	+0.4
DESF	**Desfina**	**0.29**	**178**	P	Pg	04 50 09.7	-0.5
DESF				S	Sg	04 50 14.8	+0.4
DSF	**Desfina**	**0.29**	**179**	P	Pg	04 50 10.0	-0.2
DSF				S	Sg	04 50 14.8	+0.4
DSF	**Desfina**	**0.29**	**179**	P	Pg	04 50 10.0	-0.2
DSF				S	Sg	04 50 14.8	+0.4
AGG	**Agios Georgios**	**0.35**	**335**	P	Pg	04 50 11.1	-0.2
AGG				S	Sg	04 50 16.4	+0.2
AGG	**Agios Georgios**	**0.35**	**335**	P	Pg	04 50 11.1	-0.2
AGG				S	Sg	04 50 16.4	+0.2
LKR	**Lokris**	**0.38**	**98**	P	Pg	04 50 12.0	+0.2
LKR				S	Sg	04 50 17.3	+0.4
LKR	**Lokris**	**0.38**	**98**	P	Pg	04 50 12.0	+0.2
LKR				S	Sg	04 50 17.3	+0.4
KALE	**Kalithea**	**0.43**	**224**	P	Pg	04 50 12.7	-0.1
KALE				S	Sg	04 50 19.4	+0.8
KALE	**Kalithea**	**0.43**	**224**	P	Pg	04 50 12.7	-0.1
KALE				S	Sg	04 50 19.4	+0.8

*IDC **14** 04:50:01.9±1.1, 51°.48N×174°.03W, h0km, mb3.8/15, mb1 4.0/17, mb1mx3.9/29, mbtmp3.8/17, ML3.7/2, Error ellipse: s-maj=31.0km s-min=14.1km az=174.0*

*ISCJB **14** 04:50:03.8±1.6, 51°.49N±0°.08×174°.07W±0°.05, h22km±10km, mb4.2/37, Error ellipse: s-maj=14.2km s-min=4.9km az=176.0*

*NEIC **14** 04:50:04.8±1.5, 51°.32N×174°.12W, h23km±8km, mb3.9/8, ML3.4(AEIC), Error ellipse: s-maj=11.2km s-min=3.7km az=164.0*

ISC 14 04:50:06.0±1.5, 51°.41N±0°.07×174°.17W±0°.05, h26km±9km, n109, σ0.82/114, mb4.2/37, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Flat Point**	**0.87**	**3**	P	**Pb**	**04 50 24.3**	**+1.9**
KOKL	**Mount Kliuchef**	**0.92**	**359**	P	**Pn**	**04 50 24.7**	**+1.6**
KOSE	**Korovin Southe**	**0.94**	**4**	P	**Pn**	**04 50 25.2**	**+1.8**
KOKV	**Korovin Volcan**	**0.95**	**0**	P	**Pn**	**04 50 25.7**	**+2.0**
GSMY	**Great Sitkin M**	**1.33**	**299**	P	**Pn**	**04 50 28.1**	**-0.7**
GSTR	**Great Sitkin T**	**1.36**	**301**	*ePn*	**Pn**	**04 50 29.0**	**-0.2**
GSTR				*eSn*	**Sn**	**04 50 46.0**	**-0.4**
GSCK	**Great Sitkin C**	**1.38**	**297**	P	**Pn**	**04 50 28.5**	**-0.9**
GSTD	**Great Sitkin T**	**1.39**	**299**	P	**Pn**	**04 50 28.8**	**-0.9**
GSTD				S	**Sn**	**04 50 46.8**	**-0.2**
ETKA	**Kagalaska Isla**	**1.47**	**289**	P	**Pn**	**04 50 29.8**	**-0.9**
ETKA				S	**Sn**	**04 50 47.9**	**-1.1**
KIKV	**Kanaga Island**	**1.93**	**285**	P	**Pn**	**04 50 36.7**	**-0.4**
KIMD	**Kanaga Island**	**1.95**	**282**	P	**Pn**	**04 50 36.4**	**-0.8**
KIMD				S	**Sn**	**04 51 00.3**	**-0.5**
KICM	**Kanaga Island**	**1.95**	**286**	P	**Pn**	**04 50 36.1**	**-1.3**
**

JIRN Jiri 74.52 295 eP P 05 01 43.0 +0.9
8.7nm,0.8s,mb4.7
RAMN Ramite 74.83 294 eP P 05 01 44.4 +0.5
24nm,0.8s,mb5.2
RAMN Ramite 74.83 294 eP P 05 01 44.4 +0.5
24nm,0.8s,mb5.2
KKN Kakani 74.94 296 eP P 05 01 45.0 +0.5
KKN Kakani 74.94 296 eP P 05 01 45.0 +0.5
PKI Pulchoki 75.03 295 eP P 05 01 45.3 +0.2
PKI Pulchoki 75.03 295 eP P 05 01 45.3 +0.2
GKN Gorkha 75.13 296 eP P 05 01 46.2 +0.5
GKN Gorkha 75.13 296 eP P 05 01 46.2 +0.5
DANN Dangsing 75.36 297 eP P 05 01 47.5 +0.5
29nm,0.8s,mb5.2
DANN Dangsing 75.36 297 eP P 05 01 47.5 +0.5
29nm,0.8s,mb5.3
KOLN Koldanda 75.89 297 eP P 05 01 50.7 +0.7
5.9nm,0.7s,mb4.7
KOLN Koldanda 75.89 297 eP P 05 01 50.7 +0.7
5.9nm,0.7s,mb4.6
CLL Collm 77.48 355 eP P 05 01 59.0 +0.4
KBL Kabul 78.06 311 eP P 05 02 01.6 -0.5
4.7nm,0.6s,mb4.6
BAIF Baives 78.90 1 eP P 05 02 06.7 +0.2
13nm,1.0s,mb4.5
BAIF Baives 78.90 1 eP P 05 02 06.7 +0.2
13nm,1.0s,mb4.8
GERES GERESS Array B 79.90 355 P P 05 02 11.9 -0.1
1.0nm,0.8s,mb3.8,baz=5.7,slow=5.4,SNR=9.7
GERES GERESS Array B 79.90 355 P P 05 02 11.9 -0.1
BUR08 Bucovina Ar. S 79.94 347 eP P 05 02 12.1 0.0
PSZ Piszkesteto 80.32 350 eP P 05 02 14.3 +0.1
2.1nm,0.7s,mb4.2
PAGF Fort de Pagny 80.42 0 eP P 05 02 15.4 +0.7
7.8nm,0.9s,mb4.3
CDF Champ du Feu 80.55 359 eP P 05 02 15.5 0.0
13nm,1.0s,mb4.5
CDF Champ du Feu 80.55 359 eP P 05 02 15.5 0.0
13nm,1.0s,mb4.8
SFTF Sexfontaines 80.76 1 eP P 05 02 16.7 +0.1
SFTF Sexfontaines 80.76 1 eP P 05 02 16.7 +0.1
HAU Haudompre 80.97 360 eP P 05 02 17.8 +0.1
5.7nm,0.7s,mb4.3
HAU Haudompre 80.97 360 eP P 05 02 17.8 +0.1
5.7nm,0.7s,mb4.6
HINF Hinteralfeld 81.15 359 eP P 05 02 18.7 0.0
HINF Hinteralfeld 81.15 359 eP P 05 02 18.7 0.0
LOR Lormes 81.69 1 eP P 05 02 21.8 +0.3
7.3nm,0.8s,mb4.4
LOR Lormes 81.69 1 eP P 05 02 21.8 +0.3
7.3nm,0.8s,mb4.7
SSF Saint Saulge 81.89 2 eP P 05 02 22.9 +0.3
13nm,1.1s,mb4.5
SSF Saint Saulge 81.89 2 eP P 05 02 22.9 +0.3
13nm,1.0s,mb4.8
AVF Avril sur Loir 82.16 2 eP P 05 02 24.1 +0.1
11nm,0.9s,mb4.5
AVF Avril sur Loir 82.16 2 eP P 05 02 24.1 +0.1
11nm,0.9s,mb4.8
SMF Signal de Mont 82.31 1 eP P 05 02 24.8 0.0
SMF Signal de Mont 82.31 1 eP P 05 02 24.8 0.0
ASAR Alice Springs 87.54 226 P P 05 02 50.9 -0.3
0.4nm,0.9s,mb3.7,baz=40,slow=3.6,SNR=4.6
ASAR Alice Springs 87.54 226 P P 05 02 50.9 -0.4

MOS ***14*** *05:13:01.3±0.9, 58.°78S×26.°10W, h33km, mb5.3/9, Error ellipse: s-maj=27.1km s-min=13.3km az=100.8*
DJA ***14*** *05:13:01, 58.°73S×26.°37W, h10km, mb5.1/8*
ISCJB ***14*** *05:13:06.2±0.3, 58.°88S±0.°06×26.°0W±0.°1, h79km, mb4.8/25, Error ellipse: s-maj=9.1km s-min=6.8km az=135.3*
NEIC ***14*** *05:13:07.6±0.2, 58.°85S×26.°06W, mb5.0/18, Error ellipse: s-maj=7.7km s-min=6.6km az=9.0*
BJI ***14*** *05:13:07.7, 58.°80S×26.°10W, h77km, mB5.2/10, Ms5.3/8, Ms7 4.9/9*
IDC ***14*** *05:13:08.2±0.6, 58.°93S×26.°11W, h85km±5km, mb4.6/14, mb1 4.6/16, mb1mx4.5/19, mbtmp4.6/16, MS3.8/17, Ms1 3.8/17, ms1mx3.8/19, Error ellipse: s-maj=13.8km s-min=12.5km az=8.0*
ISC 14 05:13:08.1±0.3**, 58.°94S**±0.°05×**26.°0W**±0.°1**, h81**km**, h81**km±2.1km**: pP-P, n155,** σ**0.s86**/66**, mb4.8**/24**, 2C-1D,**
South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VNA1 Neumayer--Stat 13.89 155 eP Pn 05 16 20.2 -0.7
VNA1 e 05 18 39.0
VNA3 Neumayer Olymp 14.06 158 eP Pn 05 16 22.6 -0.5
VNA3 e 05 18 40.9
VNA2 Neumayer--Watz 14.29 155 eP Pn 05 16 26.0 -0.1
baz=308,slow=12
VNA2 e 05 18 49.2
SNAA Sanae 15.86 153 eP Pn 05 16 46.4 +0.3
SNAA e 05 19 24.0
SNAA Sanae 15.86 153 P Pn 05 16 46.1 0.0
2.2nm,0.3s,baz=318,slow=13,SNR=254
SNAA S S 05 19 29.7 -21
1.8nm,0.3s,baz=355,slow=20,SNR=6.4
SNAA LR LR 05 21 43.8
comp=Z,136nm,18.4s,baz=213,slow=32
SNAA ScP ScP 05 25 05.6 -0.3
0.0nm,0.3s,baz=294,slow=9.1,SNR=3.6
SNAA Sanae 15.86 153 ePn Pn 05 16 46.0 -0.1
161nm,1.4s
SNAA eS S 05 19 23.3 -27
SNAA S S 05 19 29.7 -21
SNAA ScP ScP 05 25 05.6 -0.3
SNAA Sanae 15.86 153 eP Pn 05 16 46.0 -0.1
SNAA pmax pmax
comp=Z,161nm,1.4s
PMSA Palmer Station 18.62 236 P Pn 05 17 19.9 0.0
comp=Z,1.2nm,0.3s,baz=87,slow=7.4,SNR=5.8
PMSA LR LR 05 23 30.5
comp=Z,339nm,19.3s,baz=129,slow=34
PMSA Palmer Station 18.62 236 P Pn 05 17 19.9 0.0
EFI East Falkland 19.47 278 P Pn 05 17 26.5 -3.6
comp=Z,68nm,0.8s
EFI ePn Pn 05 17 30.4 +0.3
EFI East Falkland 19.47 278 P Pn 05 17 26.5 -3.6
EFI pmax pmax
comp=Z,68nm,0.8s
MAIT Maitri 19.52 143 eP Pn 05 17 28.6 -1.9
NVL N'lazarevskaya 19.54 143 i P Pn 05 17 29.8 -1.0
NVL eS S 05 21 05.3 +0.6
NVL pmax pmax
comp=Z,69nm,1.5s
USHA Ushuaia 23.22 262 P P 05 18 07.1 -0.6
comp=Z,43nm,0.7s,mb4.9,baz=105,slow=9.8,SNR=30
USHA Ushuaia 23.22 262 P P 05 18 07.1 -0.6
SYO Syowa Base 28.99 137⇑eP P 05 18 54.6 -4.9
SYO Syowa Base 28.99 137⇓epP pP 05 19 17.2 -1.0
TRQA Tornquist 31.09 296 eP P 05 19 19.0 +0.6
comp=Z,26nm,0.8s,mb5.0
TRQA epP pP 05 19 37.3 +0.2
QSPA South Pole Qui 31.30 180 P P 05 19 20.2 +0.4
comp=Z,12nm,0.6s,mb4.8,baz=204,slow=3.7,SNR=81
QSPA South Pole Qui 31.30 180 eP P 05 19 20.9 +1.1
QSPA epP pP 05 19 40.6 +2.0
PLCA Paso Flores 33.20 283 P P 05 19 36.8 0.0
comp=Z,7.8nm,0.8s,mb4.6,baz=150,slow=7.3,SNR=23
PLCA ScP ScP 05 25 54.4 +0.2
comp=Z,1.3nm,0.8s,baz=200,slow=17,SNR=3.5
PLCA LR LR 05 33 39.3
comp=Z,94nm,19.6s,baz=243,slow=37
PLCA Paso Flores 33.20 283 P P 05 19 36.8 0.0
comp=Z,5.7nm,0.9s,mb4.4
PLCA epP pP 05 19 54.9 -0.7
PLCA ScP ScP 05 25 54.4 +0.2
PLCA Paso Flores 33.20 283 P P 05 19 36.8 0.0
PLCA e*PP pP 05 19 54.9 -0.7
PLCA pmax pmax
comp=Z,6.0nm,0.9s
MAW Mawson 37.48 141 P P 05 20 13.4 +0.2
comp=Z,16nm,0.8s,mb5.0,baz=248,slow=8.9,SNR=14
MAW LR LR 05 34 08.0
comp=Z,101nm,19.1s,baz=85,slow=34
MAW Mawson 37.48 141 P P 05 20 13.4 +0.2
comp=Z,4.6nm,0.6s,mb4.6
MAW Mawson 37.48 141 P P 05 20 13.4 +0.2
MAW pmax pmax
comp=Z,5.0nm,0.6s
CFAA Coronel Fontan 39.31 295 P P 05 20 28.2 -0.8
comp=Z,5.3nm,0.7s,mb4.5,baz=152,slow=7.9,SNR=88
CFAA LR LR 05 35 15.9
comp=Z,22nm,21.9s,baz=142,slow=34
CFAA Coronel Fontan 39.31 295 P P 05 20 28.2 -0.8
SUR Sutherland 40.91 71 P P 05 20 41.7 -0.5
comp=Z,23nm,0.9s,mb5.0,baz=221,slow=6.2,SNR=8.5
SUR LR LR 05 33 25.0
comp=Z,248nm,19.5s,baz=30,slow=30
SUR Sutherland 40.91 71 P P 05 20 41.7 -0.5
comp=Z,1.4nm,0.9s
LCO Las Campanas 42.64 295 eP P 05 20 56.8 +0.5
comp=Z,56nm,1.1s,mb5.2
LCO epP pP 05 21 16.4 +0.7
SBA Scott Base 43.23 184 eP P 05 21 02.7 +2.1
comp=Z,48nm,1.5s,mb5.0
SBA Scott Base 43.23 184 eP P 05 21 02.7 +2.2
SBA pmax pmax
comp=Z,48nm,1.5s,mb5.0
VNDA Vanda 43.71 182 eP P 05 21 05.8 +1.4
comp=Z,50nm,1.6s,mb5.0
VNDA Vanda 43.71 182 eP P 05 21 05.8 +1.5
VNDA pmax pmax
comp=Z,50nm,1.6s
BOSA Boshof 46.18 72 P P 05 21 24.6 +0.1
comp=Z,26nm,1.0s,mb4.9,baz=209,slow=7.6,SNR=24
BOSA PcP PcP 05 22 59.2 +0.2
comp=Z,6.0nm,1.0s,baz=237,slow=3.0,SNR=4.0
BOSA LR LR 05 36 38.4
comp=Z,109nm,20.1s,baz=202,slow=30
BOSA Boshof 46.18 72 eP P 05 21 24.2 -0.3
comp=Z,29nm,1.0s,mb5.0
BOSA PcP PcP 05 22 59.2 +0.2
BOSA Boshof 46.18 72 eP P 05 21 24.2 -0.3
BOSA 05 22 59.2
BOSA pmax pmax
comp=Z,29nm,1.0s,mb5.0
LBTB Lobatse 49.34 70 LR LR 05 38 09.0
comp=Z,234nm,22.0s,baz=232,slow=30
LBTB Lobatse 49.34 70 eP P 05 21 49.1 +0.1
comp=Z,41nm,0.8s,mb5.4
LBTB ePcP PcP 05 23 11.3 +0.9
LBTB Lobatse 49.34 70 eP P 05 21 49.1 +0.1
LBTB e 05 23 11.3
LBTB pmax pmax
comp=Z,41nm,0.8s,mb5.4
TSUM Tsumeb 50.64 57 eP P 05 21 59.8 +1.0
comp=Z,23nm,0.9s,mb5.2
LPAZ La Paz 52.56 306 P P 05 22 12.8 -0.3
comp=Z,2.4nm,0.5s,mb4.5,baz=101,slow=4.3,SNR=12
LPAZ LR LR 05 45 26.8
comp=Z,42nm,18.4s,baz=95,slow=37
LPAZ La Paz 52.56 306 eP P 05 22 13.1 -0.1
LPAZ La Paz 52.56 306 eP P 05 22 13.1 -0.1
SAML Samuel 57.28 315 eP P 05 22 45.4 -1.8
comp=Z,4.3nm,0.8s,mb4.5
LSZ Lusaka 58.91 66 eP P 05 22 58.9 +0.3
comp=Z,28nm,0.9s,mb5.3
LSZ Lusaka 58.91 66 eP P 05 22 58.9 +0.3
LSZ pmax pmax
comp=Z,28nm,0.9s,mb5.3
MSKU Masuku 64.94 45 P P 05 23 38.1 -0.9
comp=Z,43nm,0.9s,mb5.3,baz=214,slow=7.4,SNR=12
MSKU LR LR 05 45 05.3
comp=Z,148nm,20.8s,baz=184,slow=30
MSKU Masuku 64.94 45 P P 05 23 38.1 -0.9
ABPO Ambohimpanom 65.28 86 eP P 05 23 42.3 +1.1
comp=Z,14nm,1.1s,mb4.7
ABPO epP pP 05 24 01.2 -0.7
ABPO Ambohimpanom 65.28 86 eP P 05 23 42.3 +1.1
ABPO e*PP pP 05 24 01.2 -0.7
ABPO pmax pmax
comp=Z,14nm,1.1s,mb4.7
DBIC Dimbokro 67.57 23 P P 05 23 55.9 +0.1
comp=Z,6.6nm,0.7s,mb4.5,baz=166,slow=8.7,SNR=13
DBIC pP pP 05 24 17.4 +0.8
comp=Z,10nm,0.7s,baz=165,slow=7.7,SNR=6.4
DBIC LR LR 05 48 25.9
comp=Z,77nm,18.2s,baz=168,slow=31
DBIC Dimbokro 67.57 23 eP P 05 23 55.8 +0.1
comp=Z,72nm,1.6s,mb5.2
DBIC pP pP 05 24 17.4 +0.8
DBIC Dimbokro 67.57 23 eP P 05 23 55.8 +0.1
DBIC *PP pP 05 24 17.4 +0.8
DBIC pmax pmax
comp=Z,72nm,1.6s
OTAV Otavalo 71.77 303 eP P 05 24 22.4 +0.8
comp=Z,14nm,1.4s,mb4.6
ROSC El Rosal 74.22 309 LR LR 05 57 20.1
comp=Z,84nm,20.2s,baz=11,slow=36
TORD Torodi Ar. Bea 75.30 28 P P 05 24 42.6 +0.5
comp=Z,11nm,0.8s,mb4.6,baz=194,slow=6.6,SNR=56
TORD pP pP 05 25 04.5 +1.2
comp=Z,8.9nm,0.5s,baz=197,slow=6.3,SNR=9.2
TORD LR LR 05 50 37.4
comp=Z,144nm,19.1s,baz=15,slow=30
TORD Torodi Ar. Bea 75.30 28 P P 05 24 42.6 +0.5
TORD pP pP 05 25 04.5 +1.2
KMBO Kilima Mbogo 75.54 67 eP P 05 24 48.1 +4.4
comp=Z,3.9nm,1.1s,mb4.0
KMBO epP pP 05 25 08.6 +3.6
KMBO Kilima Mbogo 75.54 67 eP P 05 24 48.1 +4.4
KMBO pmax pmax
comp=Z,4.0nm,1.1s
RPZ Rata Peaks 76.73 193 LR LR 05 57 52.6
comp=Z,75nm,18.5s,baz=254,slow=35
RKT Rikitea 79.69 242 eLR LR 05 50 06.8
comp=Z,224nm,29.5s,baz=151
URZ Urewera 81.26 198 LR LR 05 55 18.7
comp=Z,107nm,19.6s,baz=166,slow=31
TBI Tubuai 85.73 230 eLR LR 05 52 52.0
comp=Z,97nm,23.2s
STKA Stephens Creek 88.94 170 P P 05 25 53.4 0.0
comp=Z,4.6nm,0.6s,mb4.7,baz=159,slow=5.0,SNR=12
STKA LR LR 06 06 53.2
comp=Z,99nm,18.3s,baz=204,slow=36
STKA Stephens Creek 88.94 170 P P 05 25 53.4 0.0
STKA Stephens Creek 88.94 170 P P 05 25 53.4 0.0
PPT Papeete 90.96 233 eLR LR 05 55 20.6
comp=Z,193nm,29.0s
TAOE Nuku Hiva Isla 94.50 245 eLR LR 05 57 05.9
comp=Z,179nm,29.4s
ASAR Alice Springs 96.04 162 P P 05 26 25.4 -0.9
comp=Z,3.0nm,0.7s,mb4.9,baz=184,slow=4.0,SNR=55
ASAR PP PP 05 30 18.1 -0.7
comp=Z,0.6nm,0.9s,baz=189,slow=8.5,SNR=4.8
ASAR PKKP PKKPbc 05 43 11.4 +1.0
comp=Z,0.3nm,0.6s,baz=22,slow=2.6,SNR=4.2
ASAR Alice Springs 96.04 162 P P 05 26 25.4 -0.9
ASAR PP PP 05 30 18.1 -0.7
ASAR PKKP PKKPbc 05 43 11.4 +1.0
ASAR Alice Springs 96.04 162 P P 05 26 25.4 -0.9
ASAR 05 30 18.1
DZM Mont Dzumac 98.64 192 eLR LR 05 58 54.3
comp=Z,90nm,23.6s
KEST Kesra 98.81 28 LR LR 06 03 41.0
comp=Z,44nm,18.2s,baz=288,slow=31
WRA Warramunga Arr 99.76 161 P Pdif 05 26 41.7 -1.4
comp=Z,0.6nm,0.9s,baz=195,slow=4.2,SNR=3.7
WRA Warramunga Arr 99.76 161 P Pdif 05 26 41.7 -1.5
WRA Warramunga Arr 99.76 161 P Pdif 05 26 41.7 -1.4
BRTR Keskin Array B 110.03 45 PP PP 05 32 03.2 -1.2
comp=Z,1.1nm,1.0s,baz=336,slow=13,SNR=3.9
BRTR Keskin Array B 110.03 45 PP PP 05 32 03.2 -1.2
GERES GERESS Array B 112.24 27 PP PP 05 32 18.1 -2.0
comp=Z,1.0nm,0.9s,baz=181,slow=7.9,SNR=5.5
GERES GERESS Array B 112.24 27 PP PP 05 32 18.1 -2.0
AKASG Malin Array Be 118.17 36 PKP PKPdf 05 31 42.8 -1.6
comp=Z,0.3nm,0.4s,baz=186,slow=3.7,SNR=2.9
AKASG Malin Array Be 118.17 36 PKP PKPdf 05 31 42.8 -1.6
AKASG Malin Array Be 118.17 36 PKIKP PKPdf 05 31 42.8 -1.6
PDAR Pinedale Array 122.37 300 PKP PKPdf 05 31 52.0 -0.8
comp=Z,0.3nm,0.5s,baz=161,slow=9.4,SNR=4.1
PDAR Pinedale Array 122.37 300 PKP PKPdf 05 31 52.0 -0.8
NB2 NORSAR Subarra 123.10 21 PKPdf PKPdf 05 31 53.5 0.0
comp=Z,4.1nm,1.0s,baz=202,slow=1.9
NOA NORSAR Array B 123.10 21 PKP PKPdf 05 31 53.0 -0.5
comp=Z,4.9nm,1.1s,baz=190,slow=1.8,SNR=4.8
NOA NORSAR Array B 123.10 21 PKP PKPdf 05 31 53.0 -0.5
NOA NORSAR Array B 123.10 21 PKIKP PKPdf 05 31 53.0 -0.5
CMAR Chiang Mai Arr 123.45 111 PKP PKPdf 05 31 55.5 0.0
comp=Z,3.0nm,0.7s,baz=234,slow=3.8,SNR=14
CMAR Chiang Mai Arr 123.45 111 PKP PKPdf 05 31 55.5 0.0
CMAR Chiang Mai Arr 123.45 111 PKIKP PKPdf 05 31 55.6 0.0
FRB Frobisher Bay 126.57 338 PKP PKPdf 05 31 58.9 -1.2
comp=Z,6.2nm,0.8s,baz=144,slow=6.6,SNR=11
FRB Frobisher Bay 126.57 338 PKP PKPdf 05 31 58.9 -1.2
FRB Frobisher Bay 126.57 338 PKIKP PKPdf 05 31 58.9 -1.2
FINES FINESS Array B 126.65 28 PKP PKPdf 05 31 59.6 -0.8
comp=Z,1.3nm,0.4s,baz=219,slow=1.4,SNR=20
FINES FINESS Array B 126.65 28 PKP PKPdf 05 31 59.6 -0.7
FINES FINESS Array B 126.65 28 PKIKP PKPdf 05 31 59.6 -0.7
KAF Kangasniemi 127.28 28 ePKIKP PKPdf 05 32 00.2 -1.3
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 127.28 28 epkp PKPdf 05 32 00.2 -1.3
comp=Z,2.3nm,0.7s
ABKAR Akbulak array 128.48 57 ePKPdf PKPdf 05 32 03.8 -0.4
JOF Joensuu 129.22 30 ePKIKP PKPdf 05 32 03.4 -1.8
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 129.22 30 epkp PKPdf 05 32 03.4 -1.8
comp=Z,2.8nm,0.7s
KMI Kunming 130.95 111 PKP PKPdf 05 32 10.8 +1.1
KMI Kunming 130.95 111 P PKPdf 05 32 10.7 +1.0
KMI Kunming 130.95 111 PKIKP PKPdf 05 32 10.7 +1.0
ARCES ARCESS Array B 133.40 22 PKP PKPdf 05 32 12.5 -0.4
comp=Z,2.2nm,0.6s,baz=180,slow=2.1,SNR=14
ARCES SKPbc SKPbc 05 35 32.6 -1.1
comp=Z,2.3nm,0.8s,baz=224,slow=3.6,SNR=5.6
ARCES ARCESS Array B 133.40 22 PKP PKPdf 05 32 12.5 -0.4
ARCES SKPbc SKPbc 05 35 32.6 -1.1
ARCES ARCESS Array B 133.40 22 PKIKP PKPdf 05 32 12.5 -0.4
GYA Guiyang 133.96 114 Pdif Pdif 05 29 15.0 -0.2
GYA PKP PKPdf 05 32 16.4 +1.0
GYA sPKP 05 32 46.5
GYA PP PP 05 34 52.0 +5.5
GYA PKS 05 35 52.3
GYA SKKS SKKSac 05 41 34.8 +0.6
GYA SS SS 05 52 31.5 +3.6
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=N,120nm,20.3s
GYA LR LR
comp=E,100nm,21.0s
GYA LR LR
comp=Z,140nm,22.1s
CD2 Chengdu 136.25 107 ePKP PKPdf 05 32 17.3 -2.2
CD2 PP PP 05 35 03.3 +2.3
CD2 PKS 05 35 52.1
CD2 SKKS SKKSac 05 41 43.3 -4.4
CD2 SS SS 05 52 54.4 -1.0
CD2 LR LR
comp=N,190nm,11.8s
CD2 LR LR
comp=Z,150nm,14.2s
MKAR Makanchi Array 137.17 74 PKhKP PKPpre 05 32 11.2
comp=Z,1.1nm,0.9s,baz=256,slow=4.9,SNR=4.1
MKAR PKP PKPdf 05 32 20.0 -0.6
comp=Z,1.1nm,0.9s,baz=270,slow=4.3,SNR=4.1
MKAR SKPbc SKPbc 05 35 45.8 -0.5
comp=Z,1.1nm,0.9s,baz=249,slow=10,SNR=3.8
MKAR Makanchi Array 137.17 74 PKPpre PKPpre 05 32 11.2
MKAR PKP PKPdf 05 32 20.0 -0.6
MKAR SKPbc SKPbc 05 35 45.8 -0.5
MKAR Makanchi Array 137.17 74 PKHKP PKPpre 05 32 11.2
MKAR 05 32 20.0
WMQ Urumqi 137.82 81 ePKP PKPdf 05 32 22.4 +0.4
YKA Yellowknife Ar 138.70 315 PKhKP PKPpre 05 32 14.6
comp=Z,1.4nm,0.9s,baz=119,slow=3.7,SNR=5.3
YKA PKP PKPdf 05 32 22.2 -0.7
comp=Z,1.1nm,0.5s,baz=127,slow=2.3,SNR=30
YKA SKPbc SKPbc 05 35 47.4 -2.7
comp=Z,0.9nm,0.8s,baz=122,slow=1.8,SNR=5.8
YKA Yellowknife Ar 138.70 315 PKPpre PKPpre 05 32 14.6
YKA PKP PKPdf 05 32 22.2 -0.7
YKA SKPbc SKPbc 05 35 47.4 -2.7
YKA Yellowknife Ar 138.70 315 PKHKP PKPpre 05 32 14.6
YKA 05 32 22.3
LZH Lanzhou 140.42 103 ePKP PKPdf 05 32 28.5 +1.5
LZH sPKP 05 32 58.0
LZH ePP PP 05 35 32.6 +5.7
LZH SKKS SKKSac 05 42 15.0 +2.8
LZH eSS SS 05 53 49.5 +4.8
LZH AMB AMB
comp=Z,97nm,9.0s
LZH LR LR
comp=N,190nm,18.4s
LZH LR LR
comp=E,170nm,16.4s
LZH LR LR
comp=Z,180nm,19.2s
LZH Lanzhou 140.42 103 ePKP PKPdf 05 32 28.5 +1.5
LZH pPKP pPKPdf 05 32 49.6 -0.1
LZH sPKP 05 32 58.0
LZH ePP PP 05 35 32.6 +5.7
LZH SKKS SKKSac 05 42 15.0 +2.8
LZH eSS SS 05 53 49.5 +4.8
LZH LR LR
comp=Z,180nm,19.2s
LZH Lanzhou 140.42 103 ePKIKP PKPdf 05 32 28.5 +1.5
LZH e 05 35 32.6
LZH eSS SS 05 53 49.5 +4.8
LZH MLR MLR
comp=Z,180nm,19.2s
GTA Gaotai 140.89 95 PKP PKPdf 05 32 26.6 -1.1
GTA PP PP 05 35 34.8 +5.0
GTA AMB AMB
comp=Z,140nm,8.3s
GTA LR LR
comp=N,200nm,16.4s
GTA LR LR
comp=E,160nm,16.4s
GTA LR LR
comp=Z,230nm,18.3s
NVS Novosibirsk 142.80 65 ePKHKP PKPpre 05 32 26.0
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,15nm,1.0s
ZAA0 Zalesovo Array 143.02 67 ePKPdf PKPpre 05 32 26.6
ZALV Zalesovo Beam 143.02 67 PKhKP PKPpre 05 32 26.7
comp=Z,2.1nm,0.5s,baz=237,slow=3.0,SNR=11
ZALV SKPbc SKPbc 05 36 00.2 -1.4
comp=Z,0.8nm,0.6s,baz=282,slow=7.2,SNR=3.6
ZALV Zalesovo Beam 143.02 67 PKPpre PKPpre 05 32 26.7
ZALV SKPbc SKPbc 05 36 00.2 -1.4
ZALV Zalesovo Beam 143.02 67 PKHKP PKPpre 05 32 26.7
HHC Hu-ho-hao-te 147.95 105 ePKPbc PKPbc 05 32 38.5 -4.6
HHC pPKP pPKPdf 05 33 01.8 -0.8
HHC sPKP 05 33 12.4
HHC PKS 05 36 12.0
HHC PP PP 05 36 14.3 +2.4
HHC SKS SKSdf 05 39 38.9 -1.8
HHC SKKS SKKSac 05 42 52.8 -2.2
HHC SS SS 05 55 11.4 +0.4
HHC AMB AMB
comp=Z,120nm,8.3s
HHC LR LR
comp=N,170nm,19.0s
HHC LR LR
comp=E,180nm,17.8s
HHC LR LR
comp=Z,130nm,19.0s
INK Inuvik 148.39 317 ePKPbc PKPbc 05 32 42.8 -0.5
INK Inuvik 148.39 317 ePKP2 PKPbc 05 32 42.8 -0.6
DAWY Dawson 149.13 308 ePKPbc PKPbc 05 32 44.2 -1.1
BJI Beijing 149.60 112 PKPbc PKPbc 05 32 46.8 -0.5
BJI PP PP 05 36 23.5 +2.1
BJI AMB AMB
comp=Z,150nm,4.8s
BJI LR LR
comp=N,190nm,9.3s
BJI LR LR
comp=E,160nm,8.7s
BJI LR LR
comp=Z,43nm,27.7s
ZAK Zakamensk 150.14 84⇑iPKIKP PKPbc 05 32 48.3 +0.1
ZAK pmax pmax
comp=Z,21nm,1.2s
SONM Songino Array 150.18 91 PKPbc PKPbc 05 32 48.4 -0.1
comp=Z,14nm,0.8s,baz=225,slow=2.3,SNR=71
SONM pPKPbc pPKPbc 05 33 11.4 +0.5
comp=Z,8.8nm,0.7s,baz=224,slow=2.8,SNR=7.6
SONM Songino Array 150.18 91 PKPbc PKPbc 05 32 48.4 -0.1
SONM pPKPbc pPKPbc 05 33 11.4 +0.5
SONM Songino Array 150.18 91 PKIKP PKPbc 05 32 48.4 0.0
ULN Ulaanbaatar 150.54 91 ePKPbc PKPbc 05 32 48.4 -0.9

ULN				*e*PKPab	PKPab	05 32 56.5	+0.1
ULN	**Ulaanbaatar**	**150.54**	**91**	*e*PKIKP	PKPbc	05 32 48.4	-0.9
ULN				*e*		05 32 56.5	
ULN	**Ulaanbaatar**	**150.54**	**91**	PKP	PKPbc	05 32 49.3	0.0
DOT	**Dot Lake**	**150.91**	**306**	*e*PKPbc	PKPbc	05 32 49.4	-0.3
TLY	**Talaya**	**151.08**	**82**	*e*PKIKP	PKPbc	05 32 49.4	-1.0
TLY				pmax	pmax		
	comp=Z,21nm,1.2s						
ILAR	**Eielson Array**	**152.44**	**307**	PKPbc	PKPbc	05 32 51.8	-1.3
	comp=Z,1.2nm,0.4s,baz=149,slow=3.4,SNR=43						
ILAR	**Eielson Array**	**152.44**	**307**	PKPbc	PKPbc	05 32 51.8	-1.3
ILAR	**Eielson Array**	**152.44**	**307**	PKIKP	PKPbc	05 32 51.8	-1.3
KSAR	**Wonju Array Be**	**152.67**	**130**	PKPbc	PKPbc	05 32 54.2	-0.3
KSAR				PKPab	PKPab	05 33 04.3	-1.2
KSAR	**Wonju Array Be**	**152.67**	**130**	PKIKP	PKPbc	05 32 54.2	-0.3
KSAR						05 33 04.4	
KSRS	**Korea Array**	**152.69**	**130**	PKPbc	PKPbc	05 32 54.2	-0.4
	comp=Z,2.3nm,0.9s,baz=211,slow=3.2,SNR=3.9						
KSRS				PKPab	PKPab	05 33 04.3	-1.3
	comp=Z,2.6nm,0.8s,baz=224,slow=3.5,SNR=4.9						
PPLA	**Purkeypile**	**154.18**	**302**	*e*PKPbc	PKPbc	05 32 56.4	-0.6
MJAR	**Matsushiro Arr**	**155.34**	**148**	PKPab	PKPab	05 33 15.4	-1.4
	comp=Z,1.2nm,0.7s,baz=182,slow=5.3,SNR=4.2						
MJAR	**Matsushiro Arr**	**155.34**	**148**	PKPab	PKPab	05 33 15.4	-1.4
MJAR	**Matsushiro Arr**	**155.34**	**148**	PKP2	PKPab	05 33 15.4	-1.5
BOD	**Bodaibo**	**159.23**	**76**	*e*PKP2	PKPab	05 33 32.2	-1.0
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MDJ	**Mudanjiang**	**159.37**	**123**	PKP	PKPdf	05 32 57.9	+1.9
MDJ				AMB	AMB		
	comp=Z,71nm,5.0s						

NEIC ***14*** *05:38:23.9±0.6, 24.°07N×122.°64E, h10km, MG3.4(JMA), Error ellipse: s-maj=8.7km s-min=8.1km az=212.0*
ISCJB ***14*** *05:38:25.6±0.6, 23.°92N±0.°02×122.°51E±0.°02, h5km±4km, mb3.6/10, Error ellipse: s-maj=2.8km s-min=2.5km az=159.1*
JMA ***14*** *05:38:26.8±0.4, 23.°98N×122.°48E, h19km, M3.4*
TAP ***14*** *05:38:27.6, 23.°98N×122.°49E, h26km, ML4.1, C*
IDC ***14*** *05:38:32.9±6.3, 24.°10N×122.°45E, h82km±59km, mb3.4/10, mb1 3.6/11, mb1mx3.5/24, mbtmp3.5/11, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.2/20, Error ellipse: s-maj=33.8km s-min=15.4km az=67.0*

ISC 14 05:38:26.2±0.4, 23.°94N±0.°02×122.°52E±0.°02, h9km±2km, n87, σ1°11/144, mb3.6/10, 2C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**41**	P	**Pg**	**05 38 39.9**	**+0.5**
YOJ				*e*S	**Sg**	**05 38 49.1**	**+0.7**
HWA	**Hwalien**	**0.83**	**273**	*e*P	**Pg**	**05 38 42.0**	**-0.2**
	baz=256						
TWD	**Chiawan**	**0.85**	**279**	*i* P	**Pg**	**05 38 42.7**	**+0.1**
	baz=277						
TWD				S	**Sg**	**05 38 54.3**	**+0.6**
	baz=277						
ENA	**Nanau**	**0.86**	**305**	⇑P	**Pg**	**05 38 43.0**	**+0.4**
	baz=303						
ENA				*e*S	**Sg**	**05 38 54.3**	**+0.4**
	baz=303						
NACB	**Ninganchiao**	**0.87**	**286**	*e*Pg	**Pg**	**05 38 43.0**	**0.0**
TWC	**Suao**	**0.90**	**318**	*i* P	**Pg**	**05 38 43.5**	**-0.1**
	baz=317						
TWC				S	**Sg**	**05 38 55.1**	**-0.2**
	baz=317						
ESL	**Shilin**	**1.00**	**263**	*e*P	**Pg**	**05 38 44.4**	**-1.0**
	baz=260						
ESL				*e*S	**Sg**	**05 38 57.6**	**-0.8**
	baz=260						
ILA	**Ilan**	**1.08**	**320**	*e*P	**Pg**	**05 38 46.9**	**0.0**
	baz=310						
ILA				*e*S	**Sg**	**05 39 01.5**	**+0.6**
	baz=310						
TWE	**Neicheng**	**1.10**	**315**	⇓P	**Pg**	**05 38 47.3**	**0.0**
	baz=315						
TWE				*e*S	**Sg**	**05 39 01.5**	**0.0**
	baz=315						
ENTT	**Nioudou**	**1.11**	**309**	⇓*e*P	**Pb**	**05 38 47.4**	**-0.1**
	baz=308						
ENTT				*e*S	**Sg**	**05 39 02.2**	**+0.2**
	baz=308						
NNS	**Nan Shan**	**1.16**	**296**	⇓P	**Pb**	**05 38 47.9**	**-0.4**
	baz=294						
NNS				*e*S	**Sb**	**05 39 02.7**	**-0.7**
	baz=294						
WHF	**Hehuan Shan**	**1.16**	**280**	⇓*e*P	**Pb**	**05 38 47.8**	**-0.6**
	baz=264						
WHF				*e*S	**Sb**	**05 39 03.1**	**-0.4**
	baz=264						
TWB1	**Santiao Chiao**	**1.17**	**336**	*e*P	**Pb**	**05 38 47.7**	**-0.8**
	baz=347						
TWB1				*e*S	**Sb**	**05 39 03.6**	**-0.1**
	baz=347						
IRIF	**Iriomote-Funau**	**1.18**	**70**	P	**Pb**	**05 38 48.6**	**0.0**
IRIF				*e*S	**Sb**	**05 39 04.5**	**+0.5**
EHY	**Hungye**	**1.18**	**249**	⇓P	**Pb**	**05 38 47.7**	**-1.0**
	baz=245						
EHY				*e*S	**Sb**	**05 39 02.6**	**-1.3**
	baz=245						
HATJ	**Hateruma jima**	**1.19**	**84**	P	**Pb**	**05 38 48.7**	**-0.1**
HATJ				*e*S	**Sb**	**05 39 04.6**	**+0.4**
YULB	**Yu-li**	**1.24**	**244**	*e*P	**Pn**	**05 38 48.5**	**-1.1**
YULB				*e*S	**Sb**	**05 39 04.5**	**-1.4**
TWF1	**Yuli**	**1.26**	**243**	*e*P	**Pn**	**05 38 48.9**	**-1.0**
	baz=239						
TWF1				S	**Sb**	**05 39 05.2**	**-1.2**
	baz=239						
TWT	**Tachien**	**1.26**	**284**	*e*P	**Pn**	**05 38 49.8**	**-0.1**
	baz=269						
TWT				*e*S	**Sb**	**05 39 06.5**	**0.0**
	baz=269						
YHNB	**Yeheng**	**1.27**	**305**	*e*Pg	**Pg**	**05 38 49.5**	**-1.0**
NSK	**Sanguang**	**1.28**	**305**	⇓*i*P	**Pn**	**05 38 49.9**	**-0.3**
	baz=291						
NSK				*e*S	**Sb**	**05 39 06.5**	**-0.6**
	baz=291						
NWF	**Wu-fen Shan**	**1.31**	**329**	⇓P	**Pn**	**05 38 50.1**	**-0.5**
	baz=329						
NWF				S	**Sb**	**05 39 08.5**	**+0.7**
	baz=329						
TWA	**Mucha**	**1.34**	**321**	*e*P	**Pn**	**05 38 51.2**	**+0.3**
	baz=320						
TWA				S	**Sb**	**05 39 09.0**	**+0.4**
	baz=320						
CHKT	**Chengkung**	**1.35**	**232**	*e*P	**Pn**	**05 38 49.4**	**-1.7**
	baz=229						
CHKT				*e*S	**Sb**	**05 39 05.6**	**-3.3**
	baz=229						
TATO	**Taipei**	**1.39**	**318**	*e*Pg	**Pg**	**05 38 51.7**	**-1.2**
TATO				*e*Sg	**Sg**	**05 39 09.9**	**-1.1**
JKRS	**Kuro-shima**	**1.40**	**78**	P	**Pn**	**05 38 51.8**	**0.0**
JKRS				*e*S	**Sb**	**05 39 11.0**	**+0.7**
TAP1	**Taipei**	**1.42**	**321**	*e*P	**Pn**	**05 38 52.4**	**+0.3**
	baz=320						
TAP1				*e*S	**Sn**	**05 39 11.1**	**+0.3**
	baz=320						
SSLB	**Suanglung**	**1.44**	**264**	*e*Pn	**Pn**	**05 38 51.1**	**-1.2**
SSLB				*e*Sn	**Sn**	**05 39 09.1**	**-2.3**
SMLT	**Sun Moon Lake**	**1.48**	**268**	⇓*e*P	**Pn**	**05 38 52.9**	**0.0**
	baz=266						
SMLT				*e*S	**Sn**	**05 39 10.9**	**-1.5**
	baz=266						
TYC	**Yuchr**	**1.52**	**269**	⇓P	**Pn**	**05 38 53.3**	**-0.2**
	baz=267						
TYC				*e*S	**Sn**	**05 39 12.9**	**-0.4**
	baz=267						
TWS1	**Kuangyinshan**	**1.53**	**319**	*e*P	**Pn**	**05 38 53.6**	**0.0**
	baz=319						
TWS1				*e*S	**Sn**	**05 39 14.2**	**+0.6**
	baz=319						
NSTT	**Nanjuang**	**1.54**	**297**	*e*P	**Pn**	**05 38 54.6**	**+0.8**
	baz=295						
NSTT				*e*S	**Sn**	**05 39 13.8**	**-0.1**
	baz=295						
JIJ	**Ishigaki jima**	**1.54**	**74**	P	**Pn**	**05 38 52.9**	**-0.9**
JIJ				*e*S	**Sn**	**05 39 12.3**	**-1.7**
ELDTW	**Lidau**	**1.57**	**242**	*e*P	**Pn**	**05 38 53.1**	**-1.0**
	baz=239						
TWY	**Chenhua**	**1.57**	**328**	*e*P	**Pn**	**05 38 55.5**	**+1.3**
	baz=328						
TWY				*e*S	**Sn**	**05 39 14.4**	**-0.2**
	baz=328						
NCU	**National Centr**	**1.59**	**310**	*e*P	**Pn**	**05 38 54.6**	**+0.2**
	baz=309						
NCU				*e*S	**Sn**	**05 39 13.8**	**-1.1**
	baz=309						
NSY	**Sanyi**	**1.67**	**287**	*e*P	**Pn**	**05 38 56.2**	**+0.7**
	baz=285						
NSY				*e*S	**Sn**	**05 39 17.2**	**+0.1**
	baz=285						
WNT	**Mingjian**	**1.68**	**268**	*e*P	**Pn**	**05 38 56.5**	**+0.9**
	baz=266						
WNT				*e*S	**Sn**	**05 39 17.9**	**+0.7**
	baz=266						
TCU	**Taichung**	**1.69**	**277**	*e*P	**Pn**	**05 38 57.1**	**+1.3**
	baz=275						
TCU				*e*S	**Sn**	**05 39 17.9**	**+0.2**
	baz=275						
CHN5	**Tsauling**	**1.72**	**259**	*e*P	**Pn**	**05 38 57.2**	**+1.0**
	baz=246						
CHN5				*e*S	**Sn**	**05 39 18.8**	**+0.5**
	baz=246						
TTN	**Taitung**	**1.73**	**227**	*e*P	**Pn**	**05 38 57.9**	**+1.6**
	baz=224						
TTN				*e*S	**Sn**	**05 39 16.8**	**-1.6**
	baz=224						
TWG	**Pinlang**	**1.73**	**230**	*e*P	**Pn**	**05 38 55.6**	**-0.8**
	baz=219						
TWG				*e*S	**Sn**	**05 39 16.0**	**-2.6**
	baz=219						
TWG	**Pinlang**	**1.73**	**230**	*e*Pn	**Pn**	**05 38 55.4**	**-1.0**
TWG				*e*Sn	**Sn**	**05 39 16.4**	**-2.2**
STYT	**Tauyuan**	**1.79**	**245**	*e*P	**Pn**	**05 38 57.3**	**+0.1**
	baz=233						
STYT				*e*S	**Sn**	**05 39 19.4**	**-0.6**
	baz=233						
WGK	**Gukeng**	**1.81**	**262**	*e*P	**Pn**	**05 38 58.7**	**+1.3**
	baz=260						
WGK				*e*S	**Sn**	**05 39 21.6**	**+1.2**
	baz=260						
TPUB	**Ta-pu**	**1.84**	**250**	*e*Pn	**Pn**	**05 38 58.8**	**+0.8**
TPUB				*e*Sn	**Sn**	**05 39 22.5**	**+1.1**
CHN4	**Tsaushan**	**1.86**	**252**	*e*P	**Pn**	**05 38 59.2**	**+1.1**
	baz=249						
CHN4				*e*S	**Sn**	**05 39 23.1**	**+1.3**
	baz=249						
CHN2	**Minshiung**	**1.91**	**258**	*e*P	**Pn**	**05 39 00.0**	**+1.1**
	baz=256						
CHN2				*e*S	**Sn**	**05 39 24.1**	**+1.0**
	baz=256						
ECL	**Taimali**	**1.96**	**227**	*e*P	**Pn**	**05 39 00.8**	**+1.3**
	baz=236						
CHY	**Chiayi**	**1.97**	**257**	*e*P	**Pn**	**05 38 60.0**	**+0.3**
	baz=255						
CHY				*e*S	**Sn**	**05 39 24.4**	**0.0**
	baz=255						
SGST	**Jiashian**	**1.97**	**245**	*e*P	**Pn**	**05 39 01.1**	**+1.4**
	baz=242						
SGST				*e*S	**Sn**	**05 39 25.0**	**+0.6**
	baz=242						
CHN1	**Nanshi**	**1.97**	**248**	⇑P	**Pn**	**05 39 01.1**	**+1.4**
	baz=236						
CHN1				*e*S	**Sn**	**05 39 26.0**	**+1.4**
	baz=236						
WTCT	**Ta-ch'eng**	**2.05**	**268**	*e*P	**Pn**	**05 39 00.9**	**+0.1**
	baz=280						
WTCT				*e*S	**Sn**	**05 39 27.2**	**+0.8**
	baz=280						
LAY	**Lan-yu**	**2.09**	**205**	*e*P	**Pn**	**05 38 59.3**	**-2.0**
	baz=204						
SSD	**Sandimen**	**2.10**	**236**	*e*P	**Pn**	**05 39 02.9**	**+1.4**
	baz=227						
SSD				*e*S	**Sn**	**05 39 28.5**	**+0.8**
	baz=227						
EAST	**Anshuo**	**2.18**	**225**	*e*P	**Pn**	**05 39 02.4**	**-0.2**
	baz=223						
EAST				*e*S	**Sn**	**05 39 27.9**	**-1.8**
	baz=223						
CHN8	**Yiju**	**2.19**	**255**	*e*P	**Pn**	**05 39 04.6**	**+1.8**
	baz=252						
CHN8				*e*S	**Sn**	**05 39 30.8**	**+0.8**
	baz=252						
TWM1	**Shoushan**	**2.22**	**240**	*e*P	**Pn**	**05 39 05.0**	**+1.9**
	baz=238						
TWM1				*e*S	**Sn**	**05 39 33.9**	**+3.2**
	baz=238						
SCLT	**Jiali**	**2.26**	**251**	*e*P	**Pn**	**05 39 04.7**	**+1.0**
	baz=248						
SCLT				*e*S	**Sn**	**05 39 33.4**	**+1.7**
	baz=248						
SCZT	**Fangliau**	**2.34**	**229**	*e*P	**Pn**	**05 39 06.7**	**+1.9**
	baz=219						
SCZT				*e*S	**Sn**	**05 39 35.4**	**+1.8**
	baz=219						
TWK1	**Hengchun**	**2.54**	**219**	*e*P	**Pn**	**05 39 09.5**	**+2.0**
	baz=217						
TWK1				*e*S	**Sn**	**05 39 37.1**	**-1.4**
	baz=217						
PNG	**Penghu**	**2.74**	**263**	*e*P	**Pn**	**05 39 10.5**	**+0.3**
	baz=260						
PNG				*e*S	**Sn**	**05 39 43.0**	**-0.5**
	baz=260						
QZH	**Quanzhou**	**3.71**	**286**	⇓*i*Pn	**Pn**	**05 39 21.3**	**-2.3**
QZH				Sn	**Sn**	**05 40 02.3**	**-5.2**
QZH				smax			
	comp=N,100nm,0.4s						
QZH				smax			
	comp=E,120nm,0.4s						
KNM	**Kinmen**	**3.76**	**278**	*e*P	**Pn**	**05 39 25.0**	**+0.8**
	baz=276						
KSAR	**Wonju Array Be**	**14.22**	**18**	P	**Pn**	**05 41 49.6**	**+1.9**
KSRS	**Korea Array**	**14.24**	**18**	P	**Pn**	**05 41 49.6**	**+1.6**
	comp=E,0.7nm,0.3s,baz=198,slow=11,SNR=15						
SONM	**Songino Array**	**27.07**	**336**	P	**P**	**05 44 06.3**	**-2.6**
	comp=E,0.3nm,0.4s,mb3.2,baz=148,slow=12,SNR=4.8						
SONM				LR	LR	05 55 06.2	
	comp=E,79nm,19.8s,baz=216,slow=37						
SONM	**Songino Array**	**27.07**	**336**	P	**P**	**05 44 06.3**	**-2.6**
MKAR	**Makanchi Array**	**39.36**	**316**	P	**P**	**05 45 52.8**	**-3.0**
	comp=E,0.9nm,0.6s,mb3.7,baz=100,slow=9.7,SNR=19						
MKAR	**Makanchi Array**	**39.36**	**316**	P	**P**	**05 45 52.8**	**-3.0**
ZALV	**Zalesovo Beam**	**41.11**	**327**	P	**P**	**05 46 06.2**	**-4.0**
	comp=E,1.1nm,0.6s,mb3.7,baz=122,slow=8.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.11**	**327**	P	**P**	**05 46 06.2**	**-4.0**
KURK	**Kurchatov**	**43.06**	**320**	P	**P**	**05 46 23.5**	**-2.7**
	comp=E,0.3nm,0.3s,mb3.5,baz=109,slow=10,SNR=4.8						
KURK	**Kurchatov**	**43.06**	**320**	P	**P**	**05 46 23.5**	**-2.7**
WRA	**Warramunga Arr**	**45.11**	**164**	P	**P**	**05 46 42.0**	**-0.9**
	comp=E,1.2nm,0.6s,mb3.9,baz=346,slow=8.8,SNR=11						
WRA				pP	pP	05 46 53.9	+8.1
	comp=E,0.5nm,0.7s,baz=346,slow=9.0,SNR=4.9						
WRA	**Warramunga Arr**	**45.11**	**164**	P	**P**	**05 46 42.0**	**-0.9**
WRA				pP	pP	05 46 53.9	+8.1
ASAR	**Alice Springs**	**48.60**	**166**	P	**P**	**05 47 10.1**	**-0.1**
	comp=E,0.6nm,0.5s,mb3.9,baz=353,slow=7.2,SNR=11						
ASAR				pP	pP	05 47 22.9	+10
	comp=E,0.4nm,0.4s,baz=342,slow=7.1,SNR=4.7						
ASAR	**Alice Springs**	**48.60**	**166**	P	**P**	**05 47 10.1**	**-0.1**
ASAR				pP	pP	05 47 22.9	+10
BVAR	**Borovoye Array**	**48.63**	**321**	P	**P**	**05 47 07.3**	**-2.8**
	comp=E,0.6nm,0.5s,mb3.9,baz=111,slow=8.8,SNR=4.4						
BVAR	**Borovoye Array**	**48.63**	**321**	P	**P**	**05 47 07.3**	**-2.8**
ILAR	**Eielson Array**	**68.87**	**27**	P	**P**	**05 49 27.1**	**-3.6**
	comp=E,0.1nm,0.5s,mb3.0,baz=284,slow=5.8,SNR=4.6						
ILAR	**Eielson Array**	**68.87**	**27**	P	**P**	**05 49 27.1**	**-3.6**
JOF	**Joensuu**	**69.51**	**331**	*e*p	**P**	**05 49 30.9**	**-3.9**
FINES	**FINESS Array B**	**72.27**	**330**	P	**P**	**05 49 48.6**	**-2.9**
	comp=E,1.6nm,0.9s,mb4.0,baz=30,slow=5.4,SNR=9.2						
FINES	**FINESS Array B**	**72.27**	**330**	P	**P**	**05 49 48.6**	**-2.9**
YKA	**Yellowknife Ar**	**82.72**	**23**	P	**P**	**05 50 47.1**	**-2.8**
	comp=E,0.5nm,0.7s,mb3.7,baz=308,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**82.72**	**23**	P	**P**	**05 50 47.1**	**-2.8**

MAN 14 06:06:39, 14.°15N×123.°52E, h1km, mb4.5, ML3.4, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.82**	**132**	*e*P	Pg	06 06 55.3	+0.4
PVCP				*e*S	Sg	06 07 06.7	+1.2
GQP	**Guinayangan**	**1.07**	**257**	⇑*e*P	Pg	06 07 00.2	+0.6
GQP				*e*S	Sg	06 07 15.4	+1.9
CNP	**Cataram**	**1.97**	**146**	*e*P	Pn	06 07 14.3	+0.7
CNP				*e*S	Sn	06 07 41.1	+2.1

IDC ***14*** *06:10:23.2±1.0, 4.°67N×96.°00E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/21, mbtmp3.8/9, MS3.6/2, Ms1 3.6/2, ms1mx2.8/40, Error ellipse: s-maj=49.0km s-min=17.9km az=54.0*
ISCJB ***14*** *06:10:28.2±1.0, 4.°72N±0.°07×96.°20E±0.°06, h47km±9km, mb3.9/10, MS3.5/2, Error ellipse: s-maj=13.4km s-min=8.6km az=28.5*
DJA ***14*** *06:10:28, 4.°75N×96.°15E, h18km, MLv4.3/6*
NEIC ***14*** *06:10:28.3±0.7, 4.°58N×96.°06E, h35km, mb4.2/1, Error ellipse: s-maj=17.7km s-min=11.0km az=223.0*

ISC 14 06:10:28.8±1.0, 4.°75N±0.°08×96.°14E±0.°06, h36km±10km, n32, σ0°86/33, mb3.9/10, MS3.5/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.93**	**59**	P	**Pn**	**06 10 44.5**	**-0.9**
BSI	**Banda Aceh**	**1.13**	**312**	P	**Pn**	**06 10 47.8**	**-0.3**
TPTI		**1.80**	**145**	P	**Pn**	**06 10 58.1**	**+0.7**
TSI	**Tuntungan**	**2.71**	**117**	P	**Pn**	**06 11 16.4**	**+6.5**
PSI	**Prapat**	**3.38**	**125**	P	**Pn**	**06 11 22.6**	**+3.5**
KULM	**Kulim**	**4.52**	**83**	*e*Pn	**Pn**	**06 11 35.0**	**+0.2**
KULM				*e*Sn	**Sn**	**06 12 26.3**	**0.0**
KULM	**Kulim**	**4.52**	**83**	P	**Pn**	**06 11 29.0**	**-5.8**
IPM	**Ipoh**	**4.87**	**93**	*e*Pn	**Pn**	**06 11 39.7**	**0.0**
IPM				*e*Sn	**Sn**	**06 12 34.9**	**0.0**
IPM	**Ipoh**	**4.87**	**93**	P	**Pn**	**06 11 40.0**	**+0.3**
MNSI	**Mandailing Nat**	**5.21**	**139**	P	**Pn**	**06 11 43.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**13.90**	**11**	Pn	**Pn**	**06 13 47.2**	**+3.8**
	0.1nm,0.3s,baz=205,slow=14,SNR=6.1						
CMAR	**Chiang Mai Arr**	**13.90**	**11**	Pn	**Pn**	**06 13 47.2**	**+3.8**
KAPI	**Kappang**	**25.50**	**112**	LR	LR	06 26 12.6	
	comp=Z,63nm,18.8s,MS3.2,baz=102,slow=37						
MKAR	**Makanchi Array**	**43.57**	**346**	P	**P**	**06 18 30.2**	**+1.0**
	0.7nm,0.7s,mb3.5,baz=169,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**43.57**	**346**	P	**P**	**06 18 30.2**	**+1.0**
SONM	**Songino Array**	**43.82**	**10**	P	**P**	**06 18 31.8**	**+0.6**
	0.9nm,0.7s,mb3.6,baz=191,slow=9.5,SNR=7.9						
SONM	**Songino Array**	**43.82**	**10**	P	**P**	**06 18 31.8**	**+0.6**
WRA	**Warramunga Arr**	**44.85**	**124**	P	**P**	**06 18 40.2**	**+0.4**
	1.4nm,0.7s,mb3.9,baz=301,slow=9.3,SNR=11						
WRA	**Warramunga Arr**	**44.85**	**124**	P	**P**	**06 18 40.2**	**+0.4**
WRAB	**Tennant Creek**	**44.85**	**124**	*e*P	**P**	**06 18 38.7**	**-1.2**
	2.3nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**46.40**	**129**	P	**P**	**06 18 52.8**	**+0.7**
	1.7nm,0.7s,mb4.1,baz=299,slow=8.1,SNR=21						
ASAR	**Alice Springs**	**46.40**	**129**	P	**P**	**06 18 52.8**	**+0.7**
ZALV	**Zalesovo Beam**	**49.91**	**351**	P	**P**	**06 19 19.4**	**+0.6**
	0.3nm,0.4s,mb3.7,baz=176,slow=8.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**49.91**	**351**	P	**P**	**06 19 19.4**	**+0.6**
STKA	**Stephens Creek**	**56.52**	**133**	P	**P**	**06 20 06.9**	**-0.8**
	2.2nm,0.7s,mb4.3,baz=309,slow=10.0,SNR=4.9						
STKA				LR	LR	06 48 39.8	
	comp=Z,90nm,19.1s,MS3.9,baz=53,slow=41						
STKA	**Stephens Creek**	**56.52**	**133**	P	**P**	**06 20 06.9**	**-0.8**
BRTR	**Keskin Array B**	**65.97**	**311**	P	**P**	**06 21 10.6**	**-1.1**
	1.0nm,1.0s,mb3.8,baz=82,slow=7.1,SNR=2.4						
BRTR	**Keskin Array B**	**65.97**	**311**	P	**P**	**06 21 10.6**	**-1.1**
ARCES	**ARCESS Array B**	**78.86**	**340**	P	**P**	**06 22 26.6**	**-1.3**
	1.1nm,0.8s,mb3.8,baz=93,slow=6.3,SNR=2.5						
ARCES	**ARCESS Array B**	**78.86**	**340**	P	**P**	**06 22 26.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**93.25**	**283**	P	**P**	**06 23 41.4**	**+0.9**
	0.3nm,0.6s,mb3.9,baz=99,slow=5.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**93.25**	**283**	P	**P**	**06 23 41.4**	**+0.9**

NEIC ***14*** *06:13:33.3, 38.°00S×176.°64E, h144km, MG3.9(WEL), After WEL.*

WEL 14 06:13:32.5±0.4, 37.°97S×176.°64E, h150km±3km, ML3.9/17, Error ellipse: s-maj=2.4km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.14**	**333**	PN	Pn	06 13 52.3	-0.4
OPRZ				SN	Sn	06 14 08.0	0.0
OPRZ	**Ohinepanea**	**0.14**	**333**	Pn	Pn	06 13 52.3	-0.4
OPRZ				Sn	Sn	06 14 08.0	0.0
EDRZ	**Edgecumbe**	**0.16**	**149**	PN	Pn	06 13 52.8	+0.1
EDRZ	**Edgecumbe**	**0.16**	**149**	Pn	Pn	06 13 52.8	+0.1
TARZ	**Mount Tarawera**	**0.28**	**201**	PN	Pn	06 13 53.3	+0.4
TARZ	**Mount Tarawera**	**0.28**	**201**	Pn	Pn	06 13 53.3	+0.4
URZ	**Urewera**	**0.47**	**128**	PN	Pn	06 13 53.1	-0.6
URZ				SN	Sn	06 14 08.1	-1.7
URZ	**Urewera**	**0.47**	**128**	Pn	Pn	06 13 53.1	-0.6
URZ				Sn	Sn	06 14 08.1	-1.8
ALRZ	**Allen Road**	**0.64**	**201**	PN	Pn	06 13 54.7	+0.1
ALRZ	**Allen Road**	**0.64**	**201**	Pn	Pn	06 13 54.7	+0.1
MWZ	**Matawai**	**0.79**	**118**	PN	Pn	06 13 55.1	-0.4
MWZ	**Matawai**	**0.79**	**118**	Pn	Pn	06 13 55.1	-0.4
TOZ	**Tahuroa Road**	**0.93**	**285**	PN	Pn	06 13 57.0	+0.3
TOZ				SN	Sn	06 14 15.9	+0.9
TOZ	**Tahuroa Road**	**0.93**	**285**	Pn	Pn	06 13 57.0	+0.4
TOZ				Sn	Sn	06 14 15.9	+0.9
RAHZ	**Arahi**	**1.01**	**160**	PN	Pn	06 13 57.8	+0.5
RAHZ				SN	Sn	06 14 17.2	+0.8
RAHZ	**Arahi**	**1.01**	**160**	Pn	Pn	06 13 57.8	+0.5
RATZ	**Rangitukua**	**1.12**	**217**	PN	Pn	06 13 58.5	+0.2
RATZ	**Rangitukua**	**1.12**	**217**	Pn	Pn	06 13 58.5	+0.2
NMHZ	**Naumai**	**1.14**	**173**	PN	Pn	06 13 59.1	+0.7
NMHZ	**Naumai**	**1.14**	**173**	Pn	Pn	06 13 59.1	+0.7
BKZ	**Black Stump Fm**	**1.20**	**185**	PN	Pn	06 13 58.8	-0

WAZ	Wanganui	2.20 215	Pn	Pn	06 14 09.5	-0.4
PRHZ	Porangahau	2.29 180	PN	Pn	06 14 10.1	-0.9
PRHZ	Porangahau	2.29 180	Pn	Pn	06 14 10.1	-0.9
DVHZ	Dannevirke	2.35 189	PN	Pn	06 14 10.4	-1.4
DVHZ	Dannevirke	2.35 189	Pn	Pn	06 14 10.4	-1.4
NEZ	North Egmont	2.38 236	PN	Pn	06 14 13.0	+0.9
NEZ	North Egmont	2.38 236	Pn	Pn	06 14 13.0	+0.9
DFE	Dawson Falls	2.40 235	PN	Pn	06 14 13.1	+0.7
DFE	Dawson Falls	2.40 235	Pn	Pn	06 14 13.1	+0.7
PKE	Pukeiti	2.41 239	PN	Pn	06 14 13.0	+0.6
PKE	Pukeiti	2.41 239	Pn	Pn	06 14 13.0	+0.6
POWZ	Post Office Ro	2.51 195	PN	Pn	06 14 12.4	-1.3
POWZ	Post Office Ro	2.51 195	Pn	Pn	06 14 12.4	-1.3
NRZ	Ngariki Road	2.52 236	*e*Pn	Pn	06 14 12.5	-1.3
BFZ	Birch Farm	2.73 186	PN	Pn	06 14 14.6	-1.7
BFZ	Birch Farm	2.73 186	Pn	Pn	06 14 14.6	-1.7
MRZ	Mangatainoka R	2.81 197	PN	Pn	06 14 15.5	-1.9
MRZ	Mangatainoka R	2.81 197	Pn	Pn	06 14 15.5	-1.9
TIWZ	Tintock	2.86 191	PN	Pn	06 14 16.4	-1.6
HOWZ	Holdsworth Sta	3.05 196	PN	Pn	06 14 18.1	-2.3
HOWZ	Holdsworth Sta	3.05 196	Pn	Pn	06 14 18.1	-2.3
OGWZ	Otaki Gorge	3.06 201	PN	Pn	06 14 18.5	-2.0
OGWZ	Otaki Gorge	3.06 201	Pn	Pn	06 14 18.5	-2.0
KIW	Kapiti Island	3.18 204	PN	Pn	06 14 19.6	-2.4
KIW	Kapiti Island	3.18 204	Pn	Pn	06 14 19.6	-2.4
TMWZ	Te Maipa	3.19 190	PN	Pn	06 14 19.9	-2.2
TMWZ	Te Maipa	3.19 190	Pn	Pn	06 14 19.9	-2.2
MTW	Mount Morrison	3.30 195	PN	Pn	06 14 20.9	-2.8
MTW	Mount Morrison	3.30 195	Pn	Pn	06 14 20.9	-2.8
CAW	Cannon Point	3.36 201	PN	Pn	06 14 21.8	-2.6
CAW	Cannon Point	3.36 201	Pn	Pn	06 14 21.8	-2.6
TRWZ	Traveller	3.50 192	PN	Pn	06 14 23.5	-2.7
TRWZ	Traveller	3.50 192	Pn	Pn	06 14 23.5	-2.7
DUWZ	D'Urville Isla	3.52 216	PN	Pn	06 14 23.8	-2.7
DUWZ	D'Urville Isla	3.52 216	Pn	Pn	06 14 23.8	-2.7
PAWZ	Paruwai Farm	3.53 195	PN	Pn	06 14 23.6	-3.0
PAWZ	Paruwai Farm	3.53 195	Pn	Pn	06 14 23.6	-3.0
MSWZ	Moikau Station	3.60 197	PN	Pn	06 14 24.4	-3.1
MSWZ	Moikau Station	3.60 197	Pn	Pn	06 14 24.4	-3.1
WEL	Wellington	3.61 203	PN	Pn	06 14 24.8	-2.8
WEL	Wellington	3.61 203	Pn	Pn	06 14 24.8	-2.8
SNZO	South Karori	3.65 203	PN	Pn	06 14 25.0	-3.1
SNZO	South Karori	3.65 203	Pn	Pn	06 14 25.0	-3.1
BHW	Baring Head	3.69 201	PN	Pn	06 14 25.5	-3.2
BHW	Baring Head	3.69 201	Pn	Pn	06 14 25.5	-3.2
TCW	Tory Channel	3.72 209	PN	Pn	06 14 25.8	-3.1
TCW	Tory Channel	3.72 209	Pn	Pn	06 14 25.8	-3.1
PLWZ	Palliser	3.75 196	PN	Pn	06 14 26.1	-3.3
PLWZ	Palliser	3.75 196	Pn	Pn	06 14 26.1	-3.3
TUWZ	Tuamarina	4.03 210	PN	Pn	06 14 29.7	-3.3
TUWZ	Tuamarina	4.03 210	Pn	Pn	06 14 29.7	-3.3
NNZ	Nelson	4.11 217	PN	Pn	06 14 30.8	-3.2
NNZ	Nelson	4.11 217	Pn	Pn	06 14 30.9	-3.2
QRZ	Quartz Range	4.27 227	PN	Pn	06 14 32.7	-3.5
QRZ	Quartz Range	4.27 227	Pn	Pn	06 14 32.7	-3.5
BSWZ	Blackbirch Sta	4.30 209	PN	Pn	06 14 33.2	-3.4
BSWZ	Blackbirch Sta	4.30 209	Pn	Pn	06 14 33.2	-3.4
THZ	Tophouse	4.75 216	PN	Pn	06 14 39.1	-3.4
THZ	Tophouse	4.75 216	Pn	Pn	06 14 39.1	-3.4
KHZ	Kahutara	5.04 207	PN	Pn	06 14 42.5	-3.8
KHZ	Kahutara	5.04 207	Pn	Pn	06 14 42.5	-3.8
DSZ	Denniston Nort	5.30 223	PN	Pn	06 14 45.5	-4.2
DSZ	Denniston Nort	5.30 223	Pn	Pn	06 14 45.5	-4.2
MQZ	McQueen's Vall	6.48 207	PN	Pn	06 14 59.7	-5.7
MQZ	McQueen's Vall	6.48 207	Pn	Pn	06 14 59.7	-5.7
WVZ	Waitaha Valley	6.80 220	*e*PN	Pn	06 15 06.1	-3.6
FOZ	Fox Glacier	7.68 221	Pn	Pn	06 15 16.9	-4.7
LBZ	Lake Benmore	8.04 215	Pn	Pn	06 15 21.2	-5.1
ODZ	Otahua Downs	8.37 211	PN	Pn	06 15 25.8	-4.9
ODZ	Otahua Downs	8.37 211	*e*Pn	Pn	06 15 26.3	-4.4
ODZ			*e*Sn	Sn	06 16 55.6	-8.1
TUZ	Tuapeka	9.53 211	*e*PN	Pn	06 15 41.9	-4.2
TUZ	Tuapeka	9.53 211	Pn	Pn	06 15 42.2	-3.9
RAO	Raoul Island	9.81 29	*e*Pn	Pn	06 15 50.5	+0.6

CSEM ***14*** *06:35:49.8±0.2, 41°.98N×20°.26E, h2km, ML3.0, Error ellipse: s-maj=3.4km s-min=2.7km az=48.0*
ISCJB ***14*** *06:35:49.5±0.3, 42°.00N±0°.02×20°.26E±0°.02, h8km±4km, Error ellipse: s-maj=3.2km s-min=2.5km az=140.5*
SKO ***14*** *06:35:50.0, 41°.94N×20°.11E, h0km, M2.0, ML2.4*
TIR ***14*** *06:35:49.0, 41°.98N×20°.23E, h0km, ML3.0*
PDG ***14*** *06:35:51.2±0.2, 42°.01N×20°.18E, h7km±1km, ML2.5/9, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
BEO ***14*** *06:35:51.0±0.3, 41°.98N×20°.24E, h11km±3km, ML2.2/1*

ISC 14 06:35:50.4±0.3, 41°.99N±0°.02×20°.26E±0°.02, h7km±4km, n57, σ1°10/111, 13C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.28**	**282**	*e*Pg	**Pg**	**06 35 55.0**	**-1.0**
PUK				*i* SG	**Sg**	**06 36 00.3**	**+0.6**
PUK	**Puka**	**0.28**	**282**	*e*Pg	**Pg**	**06 35 55.0**	**-1.0**
PUK				*i* Sg	**Sg**	**06 36 00.3**	**+0.6**
PHP	**Peshkopia**	**0.33**	**156**	*e*PG	**Pg**	**06 35 56.5**	**-0.3**
PHP				*i* SG	**Sg**	**06 36 02.2**	**+1.0**
PHP	**Peshkopia**	**0.33**	**156**	*e*Pg	**Pg**	**06 35 56.5**	**-0.3**
PHP				*i* Sg	**Sg**	**06 36 02.2**	**+1.0**
BCI	**Bajram Curri**	**0.41**	**339**	*e*PG	**Pg**	**06 35 57.6**	**-0.7**
BCI				*i* SG	**Sg**	**06 36 05.1**	**+1.4**
BCI	**Bajram Curri**	**0.41**	**339**	*e*Pg	**Pg**	**06 35 57.6**	**-0.7**
BCI				*i* Sg	**Sg**	**06 36 05.1**	**+1.4**
PVY	**Plav**	**0.65**	**341**	⇑*i*Pg	**Pg**	**06 36 02.3**	**-0.6**
PVY				*e*Sg	**Sg**	**06 36 12.1**	**+0.8**
PVY	**Plav**	**0.65**	**341**	⇑*i*Pg	**Pg**	**06 36 02.3**	**-0.6**
PVY				*e*Sg	**Sg**	**06 36 12.1**	**+0.8**
TIR	**Tirane**	**0.70**	**205**	*e*PG	**Pg**	**06 36 03.0**	**-1.0**
TIR				*i* SG	**Sg**	**06 36 14.7**	**+1.6**
TIR	**Tirane**	**0.70**	**205**	⇑*i*Pg	**Pg**	**06 36 03.1**	**-0.9**
TIR				*e*Sg	**Sg**	**06 36 14.4**	**+1.3**
TIR	**Tirane**	**0.70**	**205**	⇑*i*Pg	**Pg**	**06 36 03.1**	**-0.9**
TIR				*e*Sg	**Sg**	**06 36 14.4**	**+1.3**
ULC	**Ulcinj**	**0.76**	**269**	⇑*i*Pg	**Pg**	**06 36 04.2**	**-0.7**
ULC				*e*Sg	**Sg**	**06 36 15.4**	**+0.6**
ULC	**Ulcinj**	**0.76**	**269**	⇑*i*Pg	**Pg**	**06 36 04.2**	**-0.7**
ULC				*e*Sg	**Sg**	**06 36 15.4**	**+0.6**
PDG	**Podgorica**	**0.87**	**301**	*e*Pg	**Pg**	**06 36 06.7**	**-0.4**
PDG				*e*Sg	**Sg**	**06 36 18.6**	**+0.3**
PDG	**Podgorica**	**0.87**	**301**	*e*Pg	**Pg**	**06 36 06.7**	**-0.4**
PDG				*e*Sg	**Sg**	**06 36 18.3**	**0.0**
TTG	**Podgorica**	**0.87**	**301**	⇑*i*Pg	**Pg**	**06 36 05.2**	**-1.9**
TTG				*e*Sg	**Sg**	**06 36 18.3**	**0.0**
SKO	**Skopje**	**0.88**	**90**	*e*Pg	**Pg**	**06 36 08.1**	**+0.8**
SKO				*i* Sg	**Sg**	**06 36 21.6**	**+2.9**
SKO				*e*Lg		06 36 21.8	
	comp=N,73nm,0.4s						
SKO				*e*Lg		06 36 22.2	
	comp=E,58nm,0.3s						
SKO	**Skopje**	**0.88**	**90**	*e*Pg	**Pg**	**06 36 08.0**	**+0.7**
SKO				*i* Sg	**Sg**	**06 36 21.6**	**+2.9**
SKO				*e*Lg		06 36 21.7	
	comp=E,73nm,0.4s						
BEY	**Berane**	**0.93**	**343**	⇓*i*Pg	**Pg**	**06 36 07.5**	**-0.7**
BEY				*e*Sg	**Sg**	**06 36 20.9**	**+0.7**
IVA	**Berane**	**0.93**	**343**	⇓*i*Pg	**Pg**	**06 36 07.5**	**-0.7**
IVA				*e*Sg	**Sg**	**06 36 20.9**	**+0.7**
KRUS	**Krusevo**	**0.96**	**129**	*i* Pg	**Pg**	**06 36 07.6**	**-1.3**
KRUS				*i* Sg	**Sg**	**06 36 22.1**	**+0.7**
KRUS	**Krusevo**	**0.96**	**129**	*i* Pg	**Pg**	**06 36 07.5**	**-1.4**
KRUS				*i* Sg	**Sg**	**06 36 22.1**	**+0.7**
BUM	**Brajici-Budva**	**1.06**	**288**	⇑*i*Pg	**Pg**	**06 36 09.7**	**-1.1**
BUM				*e*Sg	**Sg**	**06 36 25.5**	**+0.9**
BUM	**Brajici-Budva**	**1.06**	**288**	⇑*i*Pg	**Pg**	**06 36 09.7**	**-1.1**
BUM				*e*Sg	**Sg**	**06 36 25.5**	**+0.9**
NKY	**Niksic**	**1.25**	**312**	⇓*i*Pg	**Pg**	**06 36 12.8**	**-1.6**
NKY				*e*Sg	**Sg**	**06 36 31.7**	**+1.1**
NKY	**Niksic**	**1.25**	**312**	⇓*i*Pg	**Pg**	**06 36 12.8**	**-1.6**
NKY				*e*Sg	**Sg**	**06 36 31.7**	**+1.1**
BIA	**Bitola**	**1.25**	**140**	*i* Pg	**Pg**	**06 36 13.7**	**-0.8**
BIA				*i* Sg	**Sg**	**06 36 31.8**	**+1.1**
BIA				*e*Lg		06 36 33.7	
	comp=E,24nm,0.2s						
BIA				*e*Lg		06 36 33.8	
	comp=N,18nm,0.2s						
BIA	**Bitola**	**1.25**	**140**	*i* Pg	**Pg**	**06 36 13.6**	**-0.8**
BIA				*i* Sg	**Sg**	**06 36 31.8**	**+1.1**
BIA				*e*Lg		06 36 33.7	
	comp=N,24nm,0.2s						
SJES	**Sjenica**	**1.29**	**351**	*i* Pg	**Pg**	**06 36 13.8**	**-1.4**
SJES				*e*Sg	**Sg**	**06 36 32.8**	**+0.8**
SJES	**Sjenica**	**1.29**	**351**	*i* Pg	**Pg**	**06 36 13.8**	**-1.4**
SJES				*e*Sg	**Sg**	**06 36 32.8**	**+0.8**
SELS	**Selova**	**1.39**	**27**	*e*Pg	**Pg**	**06 36 16.4**	**-0.6**
SELS				*e*Sg	**Sg**	**06 36 36.0**	**+1.0**
HCY	**Herceg Novi**	**1.39**	**290**	⇓*i*Pg	**Pg**	**06 36 15.0**	**-2.1**
HCY				*e*Sg	**Sg**	**06 36 36.1**	**+1.0**
HCY	**Herceg Novi**	**1.39**	**290**	⇓*i*Pg	**Pg**	**06 36 15.0**	**-2.1**
HCY				*e*Sg	**Sg**	**06 36 36.1**	**+1.0**
BARS	**Barje**	**1.42**	**54**	*e*Pg	**Pg**	**06 36 16.7**	**-0.9**
BARS				*e*Sg	**Sg**	**06 36 37.0**	**+1.0**
BARS	**Barje**	**1.42**	**54**	*e*Pg	**Pg**	**06 36 16.7**	**-0.9**
BARS				*e*Sg	**Sg**	**06 36 37.0**	**+1.0**
PLE	**Pljevlja**	**1.49**	**335**	⇑*i*Pg	**Pg**	**06 36 18.0**	**-1.0**
PLE				*e*Sg	**Sg**	**06 36 39.9**	**+1.6**
PLE	**Pljevlja**	**1.49**	**335**	⇑*i*Pg	**Pg**	**06 36 18.0**	**-1.0**
PLE				*e*Sg	**Sg**	**06 36 39.9**	**+1.6**
BRY	**Bratogost**	**1.57**	**306**	⇓*i*Pg	**Pg**	**06 36 18.5**	**-2.0**
BRY				*e*Sg	**Sg**	**06 36 42.2**	**+1.4**
BRY	**Bratogost**	**1.57**	**306**	⇓*i*Pg	**Pg**	**06 36 18.5**	**-2.0**
BRY				*e*Sg	**Sg**	**06 36 42.2**	**+1.4**
UPM	**Unac-Piva**	**1.57**	**321**	⇑*i*Pg	**Pg**	**06 36 19.7**	**-0.9**
UPM				*e*Sg	**Sg**	**06 36 42.3**	**+1.3**
UPM	**Unac-Piva**	**1.57**	**321**	⇑*i*Pg	**Pg**	**06 36 19.7**	**-0.9**
UPM				*e*Sg	**Sg**	**06 36 42.3**	**+1.3**
IVAS	**Ivanjica**	**1.59**	**357**	*e*Pg	**Pg**	**06 36 19.1**	**-1.9**
IVAS				*e*Sg	**Sg**	**06 36 41.3**	**-0.3**
IVAS	**Ivanjica**	**1.59**	**357**	*e*Pg	**Pg**	**06 36 19.1**	**-1.9**
IVAS				*e*Sg	**Sg**	**06 36 41.3**	**-0.3**
GRUS	**Gruza**	**1.93**	**10**	*e*Pn	**Pn**	**06 36 24.0**	**+0.3**
GRUS				*e*Sg	**Sg**	**06 36 51.2**	**-1.3**
BBLS	**Lazići**	**1.98**	**342**	*e*Pn	**Pn**	**06 36 25.9**	**+1.5**
BBLS				*e*Sg	**Sg**	**06 36 55.0**	**+0.9**
BBLS	**Lazići**	**1.98**	**342**	*e*Pn	**Pn**	**06 36 25.9**	**+1.5**
BBLS				*e*Sg	**Sg**	**06 36 55.0**	**+0.9**
STON	**Ston**	**2.09**	**296**	*i* Pn	**Pn**	**06 36 25.8**	**-0.1**
STON				Sn	**Sn**	**06 36 57.9**	**+5.7**
STON	**Ston**	**2.09**	**296**	*i* Pn	**Pn**	**06 36 25.7**	**-0.2**
DIVS	**Divibare**	**2.12**	**355**	*e*Pn	**Pn**	**06 36 27.3**	**+1.0**
DIVS				*e*Sg	**Sg**	**06 36 57.2**	**-1.4**
DIVS	**Divibare**	**2.12**	**355**	*e*Pn	**Pn**	**06 36 27.3**	**+1.0**
DIVS				*e*Sg	**Sg**	**06 36 57.2**	**-1.4**
ZAPS	**Zavoj**	**2.17**	**53**	*e*Pn	**Pn**	**06 36 26.2**	**-0.8**
ZAPS				*e*Sn	**Sn**	**06 36 55.4**	**+1.3**
ZAPS	**Zavoj**	**2.17**	**53**	*e*Pn	**Pn**	**06 36 26.2**	**-0.8**
ZAPS				*e*Sn	**Sn**	**06 36 55.4**	**+1.3**
TRUS	**Trudelj**	**2.24**	**3**	*e*Pn	**Pn**	**06 36 26.6**	**-1.3**
TRUS				*e*Sg	**Sg**	**06 37 03.2**	**+0.8**
BZS	**Buzias**	**3.76**	**15**	*e*Sn	**Sn**	**06 37 31.5**	**-1.7**
BZS	**Buzias**	**3.76**	**15**	*e*Sn	**Sn**	**06 37 31.5**	**-1.7**
NVLJ	**Novalja**	**4.70**	**305**	*e*Pn	**Pn**	**06 37 02.3**	**+0.6**
NVLJ				Sn	**Sn**	**06 37 56.9**	**+0.4**
NVLJ	**Novalja**	**4.70**	**305**	*e*Pn	**Pn**	**06 37 02.3**	**+0.5**
NVLJ				Sn	**Sn**	**06 37 56.9**	**+0.4**

IGQ 14 06:42:45.9, 1°.27S×81°.16W, h12km±4km, Mb4.4, Ms4.2, 3C-4D, Error ellipse: s-maj=7.1km s-min=5.9km az=148.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.48**	**63**	⇓P	Pg	06 42 56.3	+0.9
IGUA	**Igualata**	**2.53**	**95**	P	Pn	06 43 29.2	+2.4
IGUA	**Igualata**	**2.53**	**95**	S	Sn	06 43 59.8	+2.3
BIL2	**Estacion Bilba**	**2.66**	**94**	P	Pn	06 43 33.8	+5.1
BMAS	**Trigal station**	**2.69**	**95**	⇓P	Pn	06 43 31.5	+2.5
JUI6	**Juive**	**2.69**	**93**	P	Pn	06 43 31.3	+2.2
ARRY	**Arrayan**	**2.71**	**95**	⇑S	Sn	06 44 04.0	+1.9
ARRY	**Arrayan**	**2.71**	**95**	⇑P	Pn	06 43 31.8	+2.5
RETU	**Refugio**	**2.72**	**94**	P	Pn	06 43 33.5	+4.1
PAT1	**Patacocha**	**2.73**	**95**	⇑P	Pn	06 43 32.4	+2.8
RUN5	**Runtun**	**2.74**	**93**	P	Pn	06 43 33.0	+3.3
BRUN	**Tungurahua Vol**	**2.75**	**93**	P	Pn	06 43 32.7	+2.8
BMOR	**Cotopaxi Volca**	**2.75**	**79**	P	Pn	06 43 32.0	+2.1
BULB	**Ulba Tungurahu**	**2.75**	**93**	P	Pn	06 43 32.5	+2.5
NAS2	**Nasa**	**2.76**	**77**	P	Pn	06 43 32.6	+2.6
MOV1	**Cotopaxi Vol s**	**2.77**	**78**	P	Pn	06 43 32.4	+2.2
TERV	**Terraza Guagua**	**2.78**	**67**	P	Pn	06 43 33.1	+2.8
PINO	**Pino**	**2.78**	**67**	P	Pn	06 43 32.7	+2.4
PISA	**Pisayambo**	**2.78**	**86**	P	Pn	06 43 33.1	+2.8
BREF	**Cotopaxi Volca**	**2.78**	**78**	⇓P	Pn	06 43 33.0	+2.7
GGP	**Refugio Guagua**	**2.79**	**67**	P	Pn	06 43 32.3	+1.9
BVC2	**Cotopaxi Volca**	**2.81**	**78**	⇓P	Pn	06 43 33.3	+2.5
PITA	**Cotopaxi Volc**	**2.82**	**75**	P	Pn	06 43 33.7	+2.9
BTAM	**Cotopaxi Volca**	**2.82**	**78**	P	Pn	06 43 33.4	+2.5
VC1	**Cotopaxi 1**	**2.83**	**77**	P	Pn	06 43 34.6	+3.7
COV1	**Cotopaxi Volc**	**2.88**	**78**	P	Pn	06 43 33.3	+1.6
OTAV	**Otavalo**	**3.10**	**61**	P	Pn	06 43 37.2	+2.6
OTAV	**Otavalo**	**3.10**	**61**	S	Sn	06 44 17.4	+5.8

IDC ***14*** *06:44:33.7±1.7, 31°.17S×176°.90W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=39.4km s-min=36.0km az=115.0*
NEIC ***14*** *06:44:33.9±6.6, 31°.20S×176°.79W, h6km±39km, mb4.1/1, Error ellipse: s-maj=32.2km s-min=15.0km az=90.0*
ISCJB ***14*** *06:44:39.1±1.0, 31°.22S±0°.07×177°.3W±0°.2, h33km, mb3.9/4, Error ellipse: s-maj=21.3km s-min=10.2km az=9.9*

ISC 14 06:44:40.5±1.0, 31°.14S±0°.08×177°.2W±0°.2, h35km, n17, σ0°92/15, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.99**	**341**	Pn	**Pn**	**06 45 10.8**	**-0.9**
URZ	**Urewera**	**8.53**	**212**	Pn	**Pn**	**06 46 39.4**	**-2.0**
URZ				Sn	**Sn**	**06 48 16.7**	**+0.3**
	0.6nm,0.3s,baz=342,slow=14,SNR=4.0						
URZ	**Urewera**	**8.53**	**212**	Pn	**Pn**	**06 46 39.4**	**-2.0**
URZ				Sn	**Sn**	**06 48 16.7**	**+0.3**
	2.8nm,0.3s,baz=176,slow=13,SNR=12						
CTA	**Charters Tower**	**34.63**	**280**	P	**P**	**06 51 28.4**	**+1.8**
	1.2nm,0.5s,mb4.1,baz=94,slow=16,SNR=3.1						
CTA	**Charters Tower**	**34.63**	**280**	P	**P**	**06 51 28.4**	**+1.8**
ASAR	**Alice Springs**	**43.79**	**267**	P	**P**	**06 52 43.1**	**0.0**
	0.5nm,0.5s,mb3.5,baz=106,slow=7.3,SNR=9.1						
ASAR	**Alice Springs**	**43.79**	**267**	P	**P**	**06 52 43.1**	**0.0**
WRAB	**Tennant Creek**	**44.84**	**272**	*e*P	**P**	**06 52 51.8**	**+0.3**
	0.8nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**44.85**	**272**	P	**P**	**06 52 51.0**	**-0.5**
	0.9nm,0.3s,mb4.0,baz=111,slow=8.0,SNR=36						
WRA	**Warramunga Arr**	**44.85**	**272**	P	**P**	**06 52 51.0**	**-0.5**
SNAA	**Sanae**	**77.40**	**178**	*e*	**P**	**06 56 31.8**	**+0.4**
VNA3	**Neumayer Olymp**	**77.52**	**176**	*e*	**P**	**06 56 32.1**	**0.0**
VNA2	**Neumayer–Watz**	**77.97**	**177**	*e*	**P**	**06 56 35.1**	**+0.5**
	baz=230,slow=2.2						
FINES	**FINESS Array B**	**146.08**	**340**	PKPbc	PKPbc	07 04 13.8	-2.2
	3.1nm,0.7s,baz=66,slow=3.4,SNR=14						
FINES	**FINESS Array B**	**146.08**	**340**	PKPbc	PKPbc	07 04 13.8	-2.2
TORD	**Torodi Ar. Bea**	**162.06**	**176**	PKPab	PKPab	07 05 23.9	-1.2
	0.4nm,0.6s,baz=178,slow=3.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**162.06**	**176**	PKPab	PKPab	07 05 23.9	-1.2

IDC 14 06:56:58.6±2.7, 13°.71S×166°.35E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, MS3.3/2, Ms1 3.4/2, ms1mx2.8/26, Error ellipse: s-maj=129.4km s-min=29.2km az=137.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.58**	**303**	LR	LR	07 00 33.4	
	comp=Z,67nm,19.0s,baz=46,slow=28						
STKA	**Stephens Creek**	**29.00**	**227**	P	P	07 03 00.2	0.0
	0.8nm,0.4s,baz=30,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**31.23**	**254**	P	P	07 03 20.3	+0.2
	0.2nm,0.6s,baz=87,slow=10.0,SNR=4.0						
ASAR	**Alice Springs**	**32.22**	**247**	P	P	07 03 28.8	0.0
	0.3nm,0.5s,baz=73,slow=9.2,SNR=6.7						
ILAR	**Eielson Array**	**85.84**	**18**	P	P	07 09 39.8	+0.1
	0.5nm,0.6s,baz=238,slow=5.4,SNR=18						
TXAR	**Lajitas Array**	**96.57**	**62**	LR	LR	07 43 41.5	
	comp=Z,56nm,21.6s,baz=290,slow=29						

IDC 14 07:16:56.2±1.1, 29°.10S×61°.28E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/22, mbtmp3.9/4, MS3.5/3, Ms1 3.4/3, ms1mx3.1/32, Error ellipse: s-maj=48.6km s-min=27.6km az=20.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**31.48**	**262**	LR	LR	07 33 35.0	
	comp=Z,53nm,19.3s,baz=157,slow=32						
MAW	**Mawson**	**38.54**	**179**	LR	LR	07 35 11.4	
	comp=Z,58nm,20.6s,baz=267,slow=28						
QSPA	**South Pole Qui**	**61.06**	**180**	P	P	07 27 11.7	+0.4
	1.4nm,0.8s,baz=277,slow=8.1,SNR=6.8						
ASAR	**Alice Springs**	**64.36**	**104**	P	P	07 27 34.5	+0.4
	1.1nm,0.7s,baz=243,slow=5.7,SNR=18						
WRA	**Warramunga Arr**	**66.17**	**100**	P	P	07 27 45.7	-0.3
	1.1nm,0.9s,baz=248,slow=5.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**71.20**	**297**	P	P	07 28 17.4	+0.1
	1.5nm,0.8s,baz=117,slow=4.4,SNR=9.9						
KURK	**Kurchatov**	**80.93**	**11**	LR	LR	08 04 24.8	
	comp=Z,65nm,19.4s,baz=295,slow=35						

ISCJB ***14*** *07:27:29.6±0.2, 35°.90N±0°.02×27°.95E±0°.02, h77km±3km, mb3.5/10, Error ellipse: s-maj=2.8km s-min=2.5km az=16.7*
ISK ***14*** *07:27:31.1, 36°.03N×27°.83E, h76km, MD3.6*
DDA ***14*** *07:27:31.4, 36°.09N×27°.91E, h37km±3km, Md3.5*
NEIC ***14*** *07:27:31.7±0.5, 35°.88N×27°.96E, h84km±8km, mb4.4/10, MD3.6(ISK), Error ellipse: s-maj=8.8km s-min=5.3km az=188.0*
CSEM ***14*** *07:27:31.1±0.1, 35°.91N×27°.95E, h73km±1km, ML3.2, Mw3.4, Error ellipse: s-maj=2.9km s-min=2.5km az=29.0*
IDC ***14*** *07:27:32.6±1.9, 35°.82N×28°.17E, h94km±23km, mb3.3/8, mb1 3.6/16, mb1mx3.5/31, mbtmp3.5/16, Error ellipse: s-maj=16.2km s-min=14.3km az=62.0*
ATH ***14*** *07:27:32.5, 36°.21N×27°.53E, h29km±1km, ML3.2*
THE ***14*** *07:27:34.9, 36°.02N×27°.72E, h40km±5km, Error ellipse: s-maj=5.9km s-min=1.4km az=111.0*
HLW ***14*** *07:27:35.9, 35°.62N×28°.01E, h32km±19km, Md3.4, Ml3.7*
NIC ***14*** *07:27:36.6±0.1, 35°.90N×28°.46E, h35km, mb4.1, ML3.5, MW3.4*

ISC 14 07:27:31.0±0.2, 35°.91N±0°.02×27°.92E±0°.02, h70km±3km, n280, σ1°10/369, mb3.5/10, 3C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.34**	**29**	*e*PB	**Pn**	**07 27 42.8**	**+0.3**
ARG				*e*SB	**Sn**	**07 27 50.7**	**-0.2**
ARG	**Arkhangelos**	**0.34**	**29**	P	**Pn**	**07 27 42.8**	**+0.3**
ARG				S	**Sn**	**07 27 50.5**	**-0.4**
ARG	**Arkhangelos**	**0.34**	**29**	P	**Pn**	**07 27 42.8**	**+0.3**
ARG				*e*Sb	**Sn**	**07 27 50.7**	**-0.2**
KARP	**Karpathos**	**0.72**	**240**	*e*PN	**Pn**	**07 27 46.9**	**+0.8**
KARP				*e*SN	**Sn**	**07 27 57.6**	**+0.4**
KARP	**Karpathos**	**0.72**	**240**	P	**Pn**	**07 27 46.9**	**+0.8**
KARP				S	**Sn**	**07 27 57.6**	**+0.4**
KARP	**Karpathos**	**0.72**	**240**	P	**Pn**	**07 27 46.9**	**+0.8**
KARP				S	**Sn**	**07 27 57.6**	**+0.4**
DAT	**Datca**	**0.

VAM	**Vamos**	**3.07 262**	P		**Pn**	**07 28 19.9**	**+2.8**
VAM			S		**Sn**	**07 28 51.7**	**-1.0**
VAM	**Vamos**	**3.07 262**	*e*Pn		**Pn**	**07 28 18.6**	**+1.5**
VAM	**Vamos**	**3.07 262**	P		**Pn**	**07 28 19.9**	**+2.8**
VAM			S		**Sn**	**07 28 51.7**	**-1.0**
DEMI	**Demirci**	**3.19 11**	*i* P		**Pn**	**07 28 19.0**	**+0.3**
DEMI			*i* S		**Sn**	**07 28 54.4**	**-1.1**
DEMI	**Demirci**	**3.19 11**	*i* P		**Pn**	**07 28 19.0**	**+0.3**
DEMI			*i* S		**Sn**	**07 28 54.4**	**-1.1**
GVD	**Gavdhos**	**3.31 252**	*e*PN		**Pn**	**07 28 22.4**	**+2.0**
GVD			*e*SN		**Sn**	**07 28 58.9**	**+0.3**
GVD	**Gavdhos**	**3.31 252**	P		**Pn**	**07 28 22.1**	**+1.7**
GVD			S		**Sn**	**07 28 58.9**	**+0.3**
GVD	**Gavdhos**	**3.31 252**	*e*Pn		**Pn**	**07 28 22.1**	**+1.8**
GVD			*e*Sn		**Sn**	**07 28 56.2**	**-2.3**
GVD	**Gavdhos**	**3.31 252**	P		**Pn**	**07 28 22.1**	**+1.7**
GVD	**Gavdhos**	**3.31 252**	*e*Pn		**Pn**	**07 28 22.4**	**+2.0**
GVD			S		**Sn**	**07 28 58.9**	**+0.3**
SHUT	**Suhut-Afyon**	**3.37 38**	*e*PN		**Pn**	**07 28 22.0**	**+0.8**
SHUT	**Suhut-Afyon**	**3.37 38**	*e*Pn		**Pn**	**07 28 22.0**	**+0.8**
GDZ	**Gediz**	**3.40 21**	*i* P		**Pn**	**07 28 21.0**	**-0.7**
GDZ			*i* S		**Sn**	**07 28 58.5**	**-2.3**
GDZ	**Gediz**	**3.40 21**	*i* P		**Pn**	**07 28 21.0**	**-0.6**
GDZ			*i* S		**Sn**	**07 28 58.5**	**-2.3**
PRK	**Paraskevi**	**3.57 339**	P		**Pn**	**07 28 24.9**	**+0.9**
PRK			S		**Sn**	**07 29 03.6**	**-1.4**
PRK	**Paraskevi**	**3.57 339**	P		**Pn**	**07 28 24.9**	**+0.9**
PRK			S		**Sn**	**07 29 03.6**	**-1.4**
GAZI	**Gazipasa**	**3.58 84**	*i* P		**Pn**	**07 28 25.0**	**+1.0**
GAZI			*i* S		**Sn**	**07 29 02.4**	**-2.6**
GAZI	**Gazipasa**	**3.58 84**	*i* P		**Pn**	**07 28 25.0**	**+1.0**
GAZI			*i* S		**Sn**	**07 29 02.4**	**-2.6**
DURS	**Dursunbey**	**3.71 7**	*i* P		**Pn**	**07 28 25.9**	**+0.1**
DURS			*i* S		**Sn**	**07 29 07.5**	**-0.7**
DURS	**Dursunbey**	**3.71 7**	*i* P		**Pn**	**07 28 25.9**	**+0.1**
DURS			*i* S		**Sn**	**07 29 07.6**	**-0.6**
BALB	**Balikesir**	**3.72 360**	*e*PN		**Pn**	**07 28 26.0**	**0.0**
BALB	**Balikesir**	**3.72 360**	*e*Pn		**Pn**	**07 28 26.0**	**0.0**
PPCY	**Paphos**	**3.76 105**	P		**Pn**	**07 28 26.7**	**+0.2**
PPCY	**Paphos**	**3.76 105**	P		**Pn**	**07 28 26.7**	**+0.2**
BALY	**Balya**	**3.83 357**	*i* P		**Pn**	**07 28 27.8**	**+0.4**
BALY			*i* S		**Sn**	**07 29 10.6**	**-0.5**
BALY	**Balya**	**3.83 357**	*i* P		**Pn**	**07 28 27.8**	**+0.4**
BALY			*i* S		**Sn**	**07 29 10.6**	**-0.6**
VLY	**Voula,Athens**	**3.83 302**	P		**Pn**	**07 28 29.3**	**+1.8**
VLY			S		**Sn**	**07 29 10.7**	**-0.6**
VLY	**Voula,Athens**	**3.83 302**	P		**Pn**	**07 28 29.3**	**+1.8**
VLY			S		**Sn**	**07 29 10.7**	**-0.6**
ALFC	**Alevga**	**3.89 100**	P		**Pn**	**07 28 28.3**	**0.0**
17nm,0.2s							
ALFC			S		**Sn**	**07 29 08.9**	**-3.8**
ALFC	**Alevga**	**3.89 100**	P		**Pn**	**07 28 28.3**	**0.0**
17nm,0.2s							
ALFC			S		**Sn**	**07 29 08.9**	**-3.8**
ATH	**Athens Observa**	**3.94 303**	*e*PN		**Pn**	**07 28 27.7**	**-1.3**
ATH	**Athens Observa**	**3.94 303**	*e*Pn		**Pn**	**07 28 27.7**	**-1.3**
DID	**Didima**	**4.08 294**	P		**Pn**	**07 28 32.7**	**+1.8**
DID	**Didima**	**4.08 294**	P		**Pn**	**07 28 32.7**	**+1.8**
VLI	**Veliai**	**4.10 283**	P		**Pn**	**07 28 33.0**	**+1.8**
VLI	**Veliai**	**4.10 283**	P		**Pn**	**07 28 33.0**	**+1.8**
GONE	**Gonen-Balikesi**	**4.13 358**	*e*PN		**Pn**	**07 28 31.7**	**+0.1**
GONE	**Gonen-Balikesi**	**4.13 358**	*e*Pn		**Pn**	**07 28 31.7**	**+0.1**
SZAC	**Souni-Zanaja**	**4.22 104**	P		**Pn**	**07 28 33.2**	**+0.4**
SZAC	**Souni-Zanaja**	**4.22 104**	P		**Pn**	**07 28 33.2**	**+0.4**
KDHN	**Kadinhani**	**4.24 51**	*i* P		**Pn**	**07 28 34.0**	**+0.9**
KDHN			*i* S		**Sn**	**07 29 21.8**	**+0.5**
KDHN	**Kadinhani**	**4.24 51**	*i* P		**Pn**	**07 28 34.0**	**+0.9**
KDHN			*i* S		**Sn**	**07 29 21.8**	**+0.5**
MAMC	**Mammari**	**4.38 98**	P		**Pn**	**07 28 35.5**	**+0.5**
MAMC	**Mammari**	**4.38 98**	P		**Pn**	**07 28 35.5**	**+0.5**
CSS	**Prodhromos**	**4.52 101**	P		**Pn**	**07 28 37.3**	**+0.4**
3.2nm,0.3s							
CSS			S		**Sn**	**07 29 25.0**	**-3.1**
CSS	**Prodhromos**	**4.52 101**	*e*Pn		**Pn**	**07 28 37.5**	**+0.6**
CSS			*e*Sn		**Sn**	**07 29 16.8**	**-11**
CSS	**Prodhromos**	**4.52 101**	P		**Pn**	**07 28 37.3**	**+0.4**
3.2nm,0.3s							
CSS			S		**Sn**	**07 29 25.0**	**-3.1**
HMAT	**Matruh**	**4.86 188**	P		**Pn**	**07 28 37.7**	**-3.8**
HMAT			S		**Sn**	**07 29 31.5**	**-4.9**
PHNC	**Paralimni**	**5.07 99**	P		**Pn**	**07 28 46.7**	**+2.3**
2.6nm,0.3s							
PHNC			S		**Sn**	**07 29 40.0**	**-1.7**
PHNC	**Paralimni**	**5.07 99**	P		**Pn**	**07 28 46.7**	**+2.3**
2.6nm,0.3s							
PHNC			S		**Sn**	**07 29 40.0**	**-1.7**
HBRG	**Burj al 'Arab**	**5.56 163**	P		**Pn**	**07 28 50.8**	**-0.4**
baz=162							
BR131	**Keskin Array S**	**5.91 48**	*e*Pn		**Pn**	**07 28 56.8**	**+0.9**
2.0nm,0.3s							
BR131			*e*Sn		**Sn**	**07 30 01.9**	**-0.3**
BR131	**Keskin Array S**	**5.91 48**	*e*Pn		**Pn**	**07 28 56.8**	**+0.9**
2.0nm,0.3s							
BR131			*e*Sn		**Sn**	**07 30 02.0**	**-0.2**
BRTR	**Keskin Array B**	**5.91 48**	P		**Pn**	**07 28 57.0**	**+1.1**
0.8nm,0.3s,baz=218,slow=14,SNR=29							
BRTR			S		**Sn**	**07 30 03.0**	**+0.8**
0.6nm,0.3s,baz=216,slow=24,SNR=4.3							
BRTR	**Keskin Array B**	**5.91 48**	P		**Pn**	**07 28 57.0**	**+1.1**
BRTR			S		**Sn**	**07 30 03.0**	**+0.8**
BRTR	**Keskin Array B**	**5.91 48**	P		**Pn**	**07 28 57.0**	**+1.1**
BRTR			S		**Sn**	**07 30 03.0**	**+0.8**
HWQ	**Hawqa**	**6.78 102**	*e*P		**Pn**	**07 29 07.1**	**-0.7**
HWQ	**Hawqa**	**6.78 102**	*e*P		**Pn**	**07 29 07.1**	**-0.7**
KOT	**Kottamia**	**6.81 150**	P		**Pn**	**07 29 07.6**	**-0.7**
baz=149							
KOT			S		**Sn**	**07 30 17.8**	**-6.6**
baz=149							
KOT	**Kottamia**	**6.81 150**	P		**Pn**	**07 29 07.6**	**-0.7**
MMAI	**Mount Meron Ar**	**6.82 113**	P		**Pn**	**07 29 07.1**	**-1.3**
17nm,0.3s,baz=308,slow=12,SNR=20							
MMAI			S		**Sn**	**07 30 20.8**	**-3.8**
28nm,0.3s,baz=301,slow=31,SNR=12							
MMAI	**Mount Meron Ar**	**6.82 113**	P		**Pn**	**07 29 07.1**	**-1.3**
MMAI			S		**Sn**	**07 30 20.8**	**-3.8**
MMAI	**Mount Meron Ar**	**6.82 113**	P		**Pn**	**07 29 07.1**	**-1.3**
AMAG	**Maghara**	**6.87 138**	P		**Pn**	**07 29 08.9**	**-0.1**
baz=137							
AMAG	**Maghara**	**6.87 138**	P		**Pn**	**07 29 08.9**	**-0.2**
RCY	**Rachaya**	**6.95 108**	*e*P		**Pn**	**07 29 09.6**	**-0.6**
RCY	**Rachaya**	**6.95 108**	*e*P		**Pn**	**07 29 09.6**	**-0.5**
SWA2		**6.97 198**	P		**Pn**	**07 29 10.3**	**-0.1**
baz=200							
SWA2		**6.97 198**	P		**Pn**	**07 29 10.3**	**-0.1**
HSAF	**As Saff**	**6.98 153**	P		**Pn**	**07 29 09.6**	**-1.0**
baz=152							
HSAF	**As Saff**	**6.98 153**	P		**Pn**	**07 29 09.6**	**-1.0**
GLL	**Jalalah**	**7.08 152**	P		**Pn**	**07 29 11.1**	**-0.8**
baz=151							
GLL	**Jalalah**	**7.08 152**	P		**Pn**	**07 29 11.1**	**-0.8**
SUZ		**7.33 144**	P		**Pn**	**07 29 14.9**	**-0.5**
baz=143							
SUZ		**7.33 144**	P		**Pn**	**07 29 14.9**	**-0.5**
ZAF		**7.68 148**	P		**Pn**	**07 29 19.4**	**-0.7**
baz=147							
ZAF		**7.68 148**	P		**Pn**	**07 29 19.4**	**-0.7**
ZNM		**7.74 146**	P		**Pn**	**07 29 20.3**	**-0.7**
baz=145							
ZNM		**7.74 146**	P		**Pn**	**07 29 20.3**	**-0.7**
HNKL	**Nakhl**	**7.84 138**	P		**Pn**	**07 29 21.6**	**-0.8**
baz=136							
HNKL			S		**Sn**	**07 30 41.9**	**-7.7**
baz=136							
HNKL	**Nakhl**	**7.84 138**	P		**Pn**	**07 29 21.6**	**-0.8**
ASF	**Jabal al Asfar**	**8.33 114**	P		**Pn**	**07 29 29.5**	**+0.5**
1.1nm,0.3s,baz=342,slow=3.2,SNR=8.3							
ASF			S		**Sn**	**07 30 56.4**	**-5.1**
1.0nm,0.3s,baz=286,slow=7.4,SNR=3.4							
ASF	**Jabal al Asfar**	**8.33 114**	P		**Pn**	**07 29 29.5**	**+0.5**
ASF			S		**Sn**	**07 30 56.4**	**-5.1**
EIL	**Elat**	**8.59 134**	P		**Pn**	**07 29 32.8**	**+0.2**
1.2nm,0.3s,baz=1.6,slow=7.1,SNR=12							
EIL			S		**Sn**	**07 31 01.0**	**-6.8**
17nm,0.3s,baz=338,slow=14,SNR=14							
EIL	**Elat**	**8.59 134**	P		**Pn**	**07 29 32.8**	**+0.2**
EIL			S		**Sn**	**07 31 01.0**	**-6.8**
EIL	**Elat**	**8.59 134**	P		**Pn**	**07 29 32.8**	**+0.3**
HFRF	**Wahat Farafira**	**8.75 178**	P		**Pn**	**07 29 33.4**	**-1.3**
baz=178							
HFRF			AMP			07 31 00.0	
comp=E,40μm,0.3s,logA/T=5.1,baz=178							
HFRF	**Wahat Farafira**	**8.75 178**	P		**Pn**	**07 29 33.4**	**-1.3**
TR2		**8.97 145**	P		**Pn**	**07 29 37.1**	**-0.7**
baz=144							
TR2		**8.97 145**	P		**Pn**	**07 29 37.1**	**-0.7**
HKAT	**Jabal Katrina**	**8.98 143**	P		**Pn**	**07 29 37.4**	**-0.5**
baz=142							
HKAT	**Jabal Katrina**	**8.98 143**	P		**Pn**	**07 29 37.4**	**-0.6**
HDK1	**Dakhla**	**10.42 173**	P		**Pn**	**07 29 55.7**	**-1.8**
baz=172							
HDK1	**Dakhla**	**10.42 173**	P		**Pn**	**07 29 55.7**	**-1.8**
STON	**Ston**	**10.52 314**	*e*Pn		**Pn**	**07 29 57.9**	**-1.0**
STON			Sn		**Sn**	**07 31 50.0**	**-4.9**
STON	**Ston**	**10.52 314**	*e*Pn		**Pn**	**07 29 57.8**	**-1.0**
NVLJ	**Novalja**	**13.18 315**	*e*Pn		**Pn**	**07 30 34.8**	**-0.2**
NVLJ			Sn		**Sn**	**07 32 45.9**	**-14**
NVLJ	**Novalja**	**13.18 315**	*e*Pn		**Pn**	**07 30 34.8**	**-0.2**
VYHS	**Vyhne**	**14.24 335**	*e*P		**Pn**	**07 30 55.7**	**+6.7**
VYHS	**Vyhne**	**14.24 335**	*e*P		**Pn**	**07 30 55.7**	**+6.7**
comp=E,3.0nm,1.2s							
KEST	**Kesra**	**15.07 275**	P		**Pn**	**07 31 04.5**	**+4.6**
comp=E,0.2nm,0.3s,baz=298,slow=2.2,SNR=6.4							
KEST	**Kesra**	**15.07 275**	P		**Pn**	**07 31 04.5**	**+4.6**
KEST	**Kesra**	**15.07 275**	P		**Pn**	**07 31 04.4**	**+4.5**
KBA	**Koelnbreinsper**	**15.58 320** ⇑	*i*P		**Pn**	**07 31 10.5**	**+4.3**
comp=E,6.4nm,0.6s							
KBA	**Koelnbreinsper**	**15.58 320**	P		**Pn**	**07 31 10.5**	**+4.2**
comp=E,6.4nm,0.6s							
VRAC	**Vranov**	**15.74 332**	P		**Pn**	**07 31 12.6**	**+4.3**
comp=E,0.4nm,0.3s,baz=141,slow=10.0,SNR=9.1							
VRAC	**Vranov**	**15.74 332**	P		**Pn**	**07 31 12.6**	**+4.3**
VRAC	**Vranov**	**15.74 332**	P		**Pn**	**07 31 12.6**	**+4.3**
ABTA	**Abfaltersbach**	**15.81 318** ⇑	*i*P		**Pn**	**07 31 11.4**	**+2.2**
comp=E,8.8nm,0.8s							
ABTA	**Abfaltersbach**	**15.81 318**	P		**Pn**	**07 31 11.4**	**+2.2**
comp=E,8.8nm,0.8s							
GERES	**GERESS Array B**	**16.61 325**	P		**Pn**	**07 31 21.3**	**+2.1**
comp=E,0.2nm,0.3s,baz=136,slow=12,SNR=15							
GERES	**GERESS Array B**	**16.61 325**	P		**Pn**	**07 31 21.3**	**+2.1**
GERES	**GERESS Array B**	**16.61 325**	P		**Pn**	**07 31 21.3**	**+2.1**
DPC	**Dobruska-Polom**	**16.70 333**	*e*P		**Pn**	**07 31 23.7**	**+3.5**
DPC	**Dobruska-Polom**	**16.70 333**	P		**Pn**	**07 31 23.7**	**+3.5**
KHC	**Kasperske Hory**	**16.88 326**	*e*P		**Pn**	**07 31 24.6**	**+2.1**
KHC	**Kasperske Hory**	**16.88 326**	P		**Pn**	**07 31 24.6**	**+2.1**
MOTA	**Moosalm**	**16.94 318** ⇑	*i*P		**Pn**	**07 31 25.6**	**+2.3**
comp=E,2.8nm,0.7s							
MOTA	**Moosalm**	**16.94 318**	P		**Pn**	**07 31 25.6**	**+2.3**
comp=E,2.8nm,0.7s							
FETA	**Feichten**	**16.96 316** ⇓	*i*P		**Pn**	**07 31 27.1**	**+3.6**
comp=E,23nm,1.0s							
FETA	**Feichten**	**16.96 316**	P		**Pn**	**07 31 27.1**	**+3.5**
comp=E,23nm,1.0s							
DAVOX	**Davos/Dischmat**	**17.32 314**	P		**Pn**	**07 31 29.5**	**+1.6**
comp=E,0.4nm,0.3s,baz=150,slow=15,SNR=5.4							
DAVOX	**Davos/Dischmat**	**17.32 314**	P		**Pn**	**07 31 29.5**	**+1.6**
DAVOX	**Davos/Dischmat**	**17.32 314**	P		**Pn**	**07 31 29.5**	**+1.6**
SBF	**Sospel**	**17.58 303**	*e*P		**Pn**	**07 31 29.4**	**-1.8**
comp=E,54nm,0.8s							
SBF	**Sospel**	**17.58 303**	*e*P		**Pn**	**07 31 29.4**	**-1.8**
comp=E,54nm,0.8s							
SBF	**Sospel**	**17.58 303**	*e*P		**Pn**	**07 31 29.4**	**-1.8**
comp=E,27nm,0.8s							
MBDF	**Montbardon**	**18.33 305**	*e*P		**Pn**	**07 31 39.0**	**-1.3**
comp=E,18nm,0.7s							
MBDF	**Montbardon**	**18.33 305**	*e*P		**Pn**	**07 31 39.0**	**-1.3**
comp=E,18nm,0.7s							
MBDF	**Montbardon**	**18.33 305**	*e*P		**Pn**	**07 31 39.0**	**-1.3**
comp=E,9.1nm,0.7s							
LPG	**La Plagne**	**18.64 307**	*e*P		**Pn**	**07 31 43.5**	**-0.5**
comp=E,16nm,0.8s							
LPG	**La Plagne**	**18.64 307**	*e*P		**Pn**	**07 31 43.5**	**-0.5**
comp=E,16nm,0.8s							
LPG	**La Plagne**	**18.64 307**	*e*P		**Pn**	**07 31 43.5**	**-0.5**
comp=E,8.0nm,0.8s							
LPL	**La Plagne**	**18.66 307**	*e*P		**Pn**	**07 31 43.5**	**-0.7**
comp=E,11nm,0.7s							
LPL	**La Plagne**	**18.66 307**	*e*P		**Pn**	**07 31 43.5**	**-0.7**
comp=E,11nm,0.6s							
LPL	**La Plagne**	**18.66 307**	*e*P		**Pn**	**07 31 43.5**	**-0.7**
comp=E,5.6nm,0.7s							
CLL	**Collm**	**18.74 330**	*e*P		**Pn**	**07 31 45.0**	**-0.1**
ORIF	**Oris-en-Rattie**	**18.99 305**	*e*P		**Pn**	**07 31 47.7**	**-0.5**
comp=E,23nm,1.0s							
ORIF	**Oris-en-Rattie**	**18.99 305**	*e*P		**Pn**	**07 31 47.7**	**-0.5**
comp=E,23nm,1.0s							
ORIF	**Oris-en-Rattie**	**18.99 305**	*e*P		**Pn**	**07 31 47.7**	**-0.5**
comp=E,12nm,1.0s							
CABF	**La Chapelle**	**19.52 310**	*e*P		**Pn**	**07 31 52.7**	**-1.7**
comp=E,39nm,1.0s							
CABF	**La Chapelle**	**19.52 310**	*e*P		**Pn**	**07 31 52.7**	**-1.7**
comp=E,39nm,1.0s							
CABF	**La Chapelle**	**19.52 310**	*e*P		**Pn**	**07 31 52.7**	**-1.7**
comp=E,19nm,1.0s							
HINF	**Hinteralfeld**	**19.62 314**	*e*P		**Pn**	**07 31 52.9**	**-2.6**
HINF	**Hinteralfeld**	**19.62 314**	*e*P		**Pn**	**07 31 52.9**	**-2.6**
HINF	**Hinteralfeld**	**19.62 314**	*e*P		**Pn**	**07 31 52.9**	**-2.6**
CDF	**Champ du Feu**	**19.68 316**	*e*P		**Pn**	**07 31 56.2**	**0.0**
CDF	**Champ du Feu**	**19.68 316**	*e*P		**Pn**	**07 31 56.2**	**0.0**
CDF	**Champ du Feu**	**19.68 316**	*e*P		**Pn**	**07 31 56.2**	**0.0**
HAU	**Haudompre**	**20.00 314**	*e*P		**P**	**07 31 58.7**	**+0.9**
comp=E,18nm,0.7s							
HAU	**Haudompre**	**20.00 314**	*e*P		**P**	**07 31 58.7**	**+0.9**
comp=E,18nm,0.7s							
HAU	**Haudompre**	**20.00 314**	*e*P		**P**	**07 31 58.7**	**+0.9**
comp=E,9.1nm,0.7s							
PAGF	**Fort de Pagny**	**20.64 315**	*e*P		**P**	**07 32 05.2**	**+0.6**
PAGF	**Fort de Pagny**	**20.64 315**	*e*P		**P**	**07 32 05.2**	**+0.6**
SFTF	**Sexfontaines**	**20.87 313**	*e*P		**P**	**07 32 07.8**	**+0.7**
comp=E,32nm,0.8s							
SFTF	**Sexfontaines**	**20.87 313**	*e*P		**P**	**07 32 07.8**	**+0.7**
comp=E,32nm,0.8s							
SFTF	**Sexfontaines**	**20.87 313**	*e*P		**P**	**07 32 07.8**	**+0.7**
comp=E,16nm,0.8s							
SMF	**Signal de Mont**	**20.95 308**	*e*P		**P**	**07 32 07.7**	**-0.3**
SMF	**Signal de Mont**	**20.95 308**	*e*P		**P**	**07 32 07.7**	**-0.3**
SMF	**Signal de Mont**	**20.95 308**	*e*P		**P**	**07 32 07.7**	**-0.3**
MEZF	**Maizieres J'vi**	**21.00 314**	*e*P		**P**	**07 32 08.9**	**+0.4**
MEZF	**Maizieres J'vi**	**21.00 314**	*e*P		**P**	**07 32 08.9**	**+0.4**
MEZF	**Maizieres J'vi**	**21.00 314**	*e*P		**P**	**07 32 08.9**	**+0.4**
LOR	**Lormes**	**21.18 310**	*e*P		**P**	**07 32 10.7**	**+0.2**
LOR	**Lormes**	**21.18 310**	*e*P		**P**	**07 32 10.7**	**+0.2**
LOR	**Lormes**	**21.18 310**	*e*P		**P**	**07 32 10.7**	**+0.2**
AVF	**Avril sur Loir**	**21.32 308**	*e*P		**P**	**07 32 12.0**	**+0.1**
AVF	**Avril sur Loir**	**21.32 308**	*e*P		**P**	**07 32 12.0**	**+0.1**
AVF	**Avril sur Loir**	**21.32 308**	*e*P		**P**	**07 32 12.0**	**+0.1**
SSF	**Saint Saulge**	**21.32 309**	*e*P		**P**	**07 32 12.2**	**+0.2**
comp=E,8.7nm,0.6s,mb4.0							
SSF	**Saint Saulge**	**21.32 309**	*e*P		**P**	**07 32 12.2**	**+0.2**
comp=E,8.7nm,0.6s,mb4.3							
SSF	**Saint Saulge**	**21.32 309**	*e*P		**P**	**07 32 12.2**	**+0.2**
comp=E,4.3nm,0.6s,mb4.0							
BAIF	**Baives**	**22.25 317**	*e*P		**P**	**07 32 21.8**	**0.0**
BAIF	**Baives**	**22.25 317**	*e*P		**P**	**07 32 21.8**	**0.0**
BAIF	**Baives**	**22.25 317**	*e*P		**P**	**07 32 21.8**	**0.0**
LDF	**La Druitiere**	**24.16 310**	*e*P		**P**	**07 32 39.1**	**-1.3**
LDF	**La Druitiere**	**24.16 310**	*e*P		**P**	**07 32 39.1**	**-1.3**
LDF	**La Druitiere**	**24.16 310**	*e*P		**P**	**07 32 39.1**	**-1.3**
FLN	**La Foliniere**	**24.45 310**	*e*P		**P**	**07 32 41.9**	**-1.1**
comp=E,8.5nm,0.5s,mb4.0							
FLN	**La Foliniere**	**24.45 310**	*e*P		**P**	**07 32 41.9**	**-1.1**
comp=E,8.5nm,0.5s,mb4.3							
FLN	**La Foliniere**	**24.45 310**	*e*P		**P**	**07 32 41.9**	**-1.1**
comp=E,4.2nm,0.5s,mb4.0							
GRR	**Gorron**	**24.55 309**	*e*P		**P**	**07 32 42.5**	**-1.5**
GRR	**Gorron**	**24.55 309**	*e*P		**P**	**07 32 42.5**	**-1.5**
GRR	**Gorron**	**24.55 309**	*e*P		**P**	**07 32 42.5**	**-1.5**
ESDC	**Sonseca Array**	**25.40 288**	P		**P**	**07 32 52.6**	**+0.9**
comp=E,1.7nm,0.5s,mb3.7,baz=82,slow=9.9,SNR=13							
ESDC	**Sonseca Array**	**25.40 288**	P		**P**	**07 32 52.6**	**+0.9**
ESDC	**Sonseca Array**	**25.40 288**	P		**P**	**07 32 52.7**	**+0.9**
FINES	**FINESS Array B**	**25.58 358**	P		**P**	**07 32 52.2**	**-0.9**
comp=E,3.8nm,1.1s,mb3.8,baz=139,slow=18,SNR=3.3							
FINES	**FINESS Array B**	**25.58 358**	P		**P**	**07 32 52.2**	**-0.9**
FINES	**FINESS Array B**	**25.58 358**	P		**P**	**07 32 52.2**	**-0.9**
HFS	**Hagfors**	**25.92 344**	P		**P**	**07 32 55.8**	**-0.5**
comp=E,1.1nm,0.5s,mb3.5,baz=148,slow=12,SNR=5.7							
HFS	**Hagfors**	**25.92 344**	P		**P**	**07 32 55.8**	**-0.5**
HFS	**Hagfors**	**25.92 344**	P		**P**	**07 32 55.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**32.72 233**	P		**P**	**07 33 58.0**	**+1.0**
comp=E,0.3nm,0.4s,mb3.5,baz=36,slow=9.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**32.72 233**	P		**P**	**07 33 58.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**32.72 233**	P		**P**	**07 33 58.0**	**+1.0**
ARCES	**ARCESS Array B**	**33.70 358**	P		**P**	**07 34 05.1**	**+0.2**
comp=E,2.1nm,0.9s,mb4.0,baz=185,slow=9.7,SNR=4.1							
ARCES	**ARCESS Array B**	**33.70 358**	P		**P**	**07 34 05.2**	**+0.2**
ARCES	**ARCESS Array B**	**33.70 358**	P		**P**	**07 34 05.2**	**+0.2**
KURK	**Kurchatov**	**38.95 51**	P		**P**	**07 34 49.2**	**-0.7**
comp=E,0.3nm,0.8s,mb3.2,baz=286,slow=7.6,SNR=2.7							
KURK	**Kurchatov**	**38.95 51**	P		**P**	**07 34 49.2**	**-0.7**
KURK	**Kurchatov**	**38.95 51**	P		**P**	**07 34 49.2**	**-0.8**
YKA	**Yellowknife Ar**	**77.40 343**	P		**P**	**07 39 17.7**	**-0.3**
comp=E,0.1nm,0.5s,mb2.8,baz=29,slow=5.2,SNR=3.6							
YKA	**Yellowknife Ar**	**77.40 343**	P		**P**	**07 39 17.7**	**-0.3**
YKA	**Yellowknife Ar**	**77.40 343**	P		**P**	**07 39 17.7**	**-0.3**
ILAR	**Eielson Array**	**79.56 358**	P		**P**	**07 39 29.9**	**+0.1**
comp=E,0.1nm,0.6s,mb2.9,baz=332,slow=4.4,SNR=4.4							
ILAR	**Eielson Array**	**79.56 358**	P		**P**	**07 39 29.9**	**+0.1**
ILAR	**Eielson Array**	**79.56 358**	P		**P**	**07 39 30.0**	**+0.1**

BJI ***14*** *07:29:45.3,28°.87N×56°.78E,h3km,mb4.2/5*
THR ***14*** *07:29:46.7±0.9,29°.15N×56°.65E,h6km±8km,ML4.6*
ISCJB ***14*** *07:29:46.6±0.2,29°.14N±0°.02×56°.72E±0°.03,h10km, mb4.1/25,MS3.6/4,Error ellipse: s-maj=4.1km s-min=2.9km az=1.0*
NEIC ***14*** *07:29:47.8,29°.19N×56°.69E,h14km,mb4.4/10, ML4.6(THR),MN4.7(TEH),After THR.*
CSEM ***14*** *07:29:49.3±0.2,29°.13N×56°.60E,h10km,ML4.6,Error ellipse: s-maj=6.5km s-min=4.8km az=103.0*
IDC ***14*** *07:29:50.2±3.4,28°.95N×56°.66E,h38km±27km,mb3.8/18, mb1 3.9/21,mb1mx3.8/31,mbtmp3.8/21,ML4.0/2,MS3.4/8, Ms1 3.4/8,ms1mx3.2/37,Error ellipse: s-maj=20.6km s-min=13.3km az=154.0*
TEH ***14*** *07:29:51.7,29°.13N×56°.62E,h21km*
OMAN ***14*** *07:30:10.0±99.0,27°.81N×56°.70E,h44km±999km,Error ellipse: s-maj=366.8km s-min=25.1km az=8.0*
ISC 14 07:29:48.5±0.2,29°.12N±0°.02×56°.71E±0°.03,h10km,n203,σ1§42/209,mb4.1/25,MS3.6/4,2C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.86**	**3**	*e*Pg	**Pg**	**07 30 03.0**	**-2.0**
KRBR				AML	AML	07 30 15.7	
comp=E,25μm,0.1s							
KRBR				AML	AML	07 30 15.9	
comp=N,29μm,0.2s							
KRBR	**Kerman**	**0.86**	**3**	*e*Pg	**Pg**	**07 30 03.0**	**-2.1**
IBND	**Bandar-abas**	**1.67**	**185**	*e*Pn	**Pn**	**07 30 19.9**	**+2.1**
IBND				*e*Sg	**Sg**	**07 30 44.7**	**+2.5**
IBND				*e*		07 30 59.1	
comp=E,85μm,0.2s							

IFIR e 07 32 13.9
comp=Z,399nm,0.2s
IFIR Firoozkooh 7.31 334 *e*Pn **Pn 07 31 36.6 +1.3**
IKIA Kiasar 7.51 341 *e*Pn **Pn 07 31 39.2 +1.2**
IKIA *e* 07 34 00.1
comp=Z,562nm,0.2s
IKIA Kiasar 7.51 341 *e*Pn **Pn 07 31 39.2 +1.2**
ISRO Mashad 7.54 17 *e*Pn **Pn 07 31 39.7 +1.3**
ISRO Mashad 7.54 17 *e*Pn **Pn 07 31 39.7 +1.3**
IDMV Damavand 7.55 330 *e*Pn **Pn 07 31 39.1 +0.5**
IDMV *e* 07 34 01.4
comp=Z,695nm,0.4s
IDMV Damavand 7.55 330 *e*Pn **Pn 07 31 39.1 +0.5**
IPAY Payeh 7.56 14 *e*Pn **Pn 07 31 40.2 +1.5**
IPAY *e* 07 33 57.6
comp=Z,923nm,0.6s
IPAY Payeh 7.56 14 *e*Pn **Pn 07 31 40.2 +1.5**
IAKL Akhelmad 7.66 12 *e*Pn **Pn 07 31 41.6 +1.6**
IAKL *e* 07 33 59.8
comp=Z,794nm,0.4s
IALA Alasht 7.68 336 *e*Pn **Pn 07 31 41.5 +1.1**
IALA *e* 07 34 06.0
comp=Z,528nm,0.3s
IALA Alasht 7.68 336 *e*Pn **Pn 07 31 41.5 +1.1**
QRN Al-Qurain 7.71 269 *e*P **Pn 07 31 38.0 -2.8**
QRN AML AML 07 33 02.0
comp=Z,56nm,0.4s
IMYA Miami 7.75 21 *e*Pn **Pn 07 31 42.9 +1.6**
IMYA *e* 07 34 08.7
comp=Z,923nm,0.4s
IMYA Miami 7.75 21 *e*Pn **Pn 07 31 42.9 +1.6**
IGLO Ghaloghah 7.75 343 *e*Pn **Pn 07 31 42.1 +0.8**
IGLO *e* 07 32 30.6
comp=Z,1μm,0.3s
IKRD Kardeh 7.78 11 *e*Pn **Pn 07 31 46.0 +4.2**
IKRD *e* 07 34 19.1
comp=Z,681nm,0.6s
IKRD Kardeh 7.78 11 *e*Pn **Pn 07 31 46.0 +4.2**
KBD Kabd 7.88 273 *e*P **Pn 07 31 40.7 -2.5**
KBD Kabd 7.88 273 *e*P **Pn 07 31 40.7 -2.5**
IR3 Iran Long-Peri 7.96 324 *e*Pn **Pn 07 31 44.3 +0.2**
IR3 Iran Long-Peri 7.96 324 *e*Pn **Pn 07 31 44.3 +0.2**
ISFR Sfrayin 7.99 7 *e*Pn **Pn 07 31 46.3 +1.8**
ISFR *e* 07 32 27.1
comp=Z,1μm,0.4s
ISFR Sfrayin 7.99 7 *e*Pn **Pn 07 31 46.3 +1.8**
IPRN Peran 8.00 334 *e*Pn **Pn 07 31 45.4 +0.7**
IPRN *e* 07 32 23.0
comp=Z,827nm,0.2s
RDF Al-Radifah 8.02 271 *e*P **Pn 07 31 42.9 -2.2**
RDF AML AML 07 33 12.9
comp=Z,80nm,0.5s
RDF Al-Radifah 8.02 271 *e*P **Pn 07 31 42.9 -2.2**
MIB Mutribah 8.20 277 *e*P **Pn 07 31 45.4 -2.1**
MIB Mutribah 8.20 277 *e*P **Pn 07 31 45.4 -2.1**
NAY Al-Naaiem 8.28 273 *e*P **Pn 07 31 46.2 -2.4**
NAY AML AML 07 33 17.5
comp=Z,14nm,0.6s
NAY Al-Naaiem 8.28 273 *e*P **Pn 07 31 46.2 -2.4**
MRVT Maraveh tapeh 8.53 357 *e*Pn **Pn 07 31 52.0 0.0**
MRVT Maraveh tapeh 8.53 357 *e*Pn **Pn 07 31 52.5 +0.4**
MRVT Maraveh tapeh 8.53 357 *e*Pn **Pn 07 31 52.5 +0.5**
SNGE Sanandaj 9.92 309 *e*Pn **Pn 07 32 12.0 +0.9**
SNGE Sanandaj 9.92 309 *e*Pn **Pn 07 32 12.3 +1.2**
SNGE Sanandaj 9.92 309 *e*Pn **Pn 07 32 12.3 +1.2**
IGHG Ghaleghazi 10.07 304 *e*Pn **Pn 07 32 11.4 -1.8**
IGHG Ghaleghazi 10.07 304 *e*Pn **Pn 07 32 11.4 -1.8**
ZNJK Zanjan 10.10 320 *e*Pn **Pn 07 32 14.0 +0.4**
ZNJK Zanjan 10.10 320 *e*Pn **Pn 07 32 14.5 +0.9**
ZNJK Zanjan 10.10 320 *e*Pn **Pn 07 32 14.5 +0.9**
IDHR Dehrash 10.38 305 *e*Pn **Pn 07 32 14.8 -2.6**
IDHR *e* 07 32 21.3
comp=Z,583nm,0.1s
GNI Garni 14.75 321 Pn **Pn 07 33 19.3 +2.2**
comp=Z,0.5nm,0.3s,baz=32,slow=9.5,SNR=2.0
GNI LR LR 07 39 35.5
comp=Z,142nm,19.7s,baz=318,slow=39
GNI Garni 14.75 321 Pn **Pn 07 33 19.3 +2.2**
GNI Garni 14.75 321 Pn **Pn 07 33 19.3 +2.2**
ASF Jabal al Asfar 17.32 285 P **Pn 07 33 51.0 +0.7**
comp=Z,0.7nm,0.3s,baz=66,slow=10,SNR=4.6
ASF S **Sn 07 36 48.2 -15**
comp=Z,0.2nm,0.3s,baz=147,slow=17,SNR=2.7
ASF LR LR 07 42 10.4
comp=Z,56nm,19.8s,baz=93,slow=43
ASF Jabal al Asfar 17.32 285 P **Pn 07 33 51.0 +0.7**
ASF S **Sn 07 36 48.2 -15**
KKAR Karatay Array 17.83 35 *e*Pn **Pn 07 33 53.4 -3.2**
comp=Z,1.9nm,0.6s
MMAI Mount Meron Ar 18.66 287 P **Pn 07 34 08.2 +1.4**
comp=Z,4.2nm,0.3s,baz=98,slow=10,SNR=3.4
MMAI LR LR 07 42 48.0
comp=Z,61nm,18.2s,baz=340,slow=42
MMAI Mount Meron Ar 18.66 287 P **Pn 07 34 08.2 +1.4**
EIL Elat 18.97 277 P **Pn 07 34 08.4 -2.2**
comp=Z,0.4nm,0.3s,baz=34,slow=15,SNR=2.2
EIL LR LR 07 42 58.3
comp=Z,66nm,19.1s,baz=262,slow=42
EIL Elat 18.97 277 P **Pn 07 34 08.4 -2.2**
EIL Elat 18.97 277 P **Pn 07 34 08.4 -2.2**
EKS2 Erkin-Say 19.29 41 *e*P **Pn 07 34 13.1 -1.3**
comp=Z,20nm,1.3s
EKS2 Erkin-Say 19.29 41 *e*P **Pn 07 34 13.1 -1.2**
comp=Z,20nm,1.3s
AAK Ala-Archa 19.68 42 *e*P **Pn 07 34 16.9 -2.2**
comp=Z,45nm,1.0s
AAK Ala-Archa 19.68 42 *e*P **Pn 07 34 16.9 -2.2**
comp=Z,45nm,1.0s
TKM2 Tokmak 2 20.50 43 P **P 07 34 25.6 -1.1**
comp=Z,9.1nm,1.1s
TKM2 Tokmak 2 20.50 43 P **P 07 34 25.5 -1.1**
comp=Z,9.1nm,1.1s
CSS Prodhromos 20.64 292 *e*P **P 07 34 27.2 -0.9**
comp=Z,12nm,0.9s
CSS Prodhromos 20.64 292 *e*P **P 07 34 27.2 -0.9**
comp=Z,12nm,0.9s
AKTO Aktyubinsk 21.31 2 P **P 07 34 36.1 +0.8**
comp=Z,13nm,1.1s,mb4.1,baz=179,slow=9.9,SNR=15
AKTO Aktyubinsk 21.31 2 P **P 07 34 36.1 +0.8**
AKTO Aktyubinsk 21.31 2 P **P 07 34 36.1 +0.8**
BR131 Keskin Array S 21.71 305 *e*P **P 07 34 38.0 -1.7**
comp=Z,4.8nm,0.7s,mb4.0
BR131 Keskin Array S 21.71 305 *e*P **P 07 34 38.0 -1.7**
comp=Z,4.8nm,0.7s,mb4.0
BRTR Keskin Array B 21.71 305 P **P 07 34 38.1 -1.6**
comp=Z,2.5nm,0.7s,mb3.8,baz=112,slow=12,SNR=8.9
BRTR Keskin Array B 21.71 305 P **P 07 34 38.1 -1.6**
BRTR Keskin Array B 21.71 305 P **P 07 34 38.1 -1.6**
DANN Dangsing 23.72 85 *e*P **P 07 35 01.2 +0.4**
DANN Dangsing 23.72 85 *e*P **P 07 35 01.2 +0.4**
DANN Dangsing 23.72 85 *e*P **P 07 35 01.2 +0.4**
GKN Gorkha 24.54 86 *e*P **P 07 35 08.4 +0.1**
GKN Gorkha 24.54 86 *e*P **P 07 35 08.4 +0.1**
GKN Gorkha 24.54 86 *e*P **P 07 35 08.4 +0.1**
DMN Daman 25.01 87 *e*P **P 07 35 10.8 -1.8**
DMN Daman 25.01 87 *e*P **P 07 35 10.8 -1.8**
KKN Kakani 25.13 86 *e*P **P 07 35 12.5 -1.2**
KKN Kakani 25.13 86 *e*P **P 07 35 12.5 -1.2**
PKI Pulchoki 25.28 87 *e*P **P 07 35 14.0 -1.1**
comp=Z,19nm,0.6s,mb4.8
PKI Pulchoki 25.28 87 *e*P **P 07 35 14.0 -1.1**
comp=Z,19nm,0.6s,mb4.8
GUN Gumba 25.64 86 *e*P **P 07 35 18.8 +0.5**
comp=Z,35nm,0.9s,mb4.9
GUN Gumba 25.64 86 *e*P **P 07 35 18.8 +0.5**
comp=Z,35nm,0.9s,mb4.9
BRVK Borovoye 25.92 19 *e*P **P 07 35 20.8 +0.2**
comp=Z,6.3nm,0.9s,mb4.2
BRVK Borovoye 25.92 19 *e*P **P 07 35 20.8 +0.2**
comp=Z,6.3nm,0.9s,mb4.2
BVAR Borovoye Array 25.92 19 P **P 07 35 20.2 -0.4**
comp=Z,3.5nm,0.7s,mb4.0,baz=204,slow=8.1,SNR=20
BVAR PcP PcP 07 38 46.6 -2.5
comp=Z,0.5nm,0.4s,baz=180,slow=2.5,SNR=3.8
BVAR ScP ScP 07 42 24.3 -4.5
comp=Z,0.5nm,0.6s,baz=252,slow=3.0,SNR=4.0
BVAR Borovoye Array 25.92 19 P **P 07 35 20.2 -0.4**
BVAR PcP PcP 07 38 46.6 -2.5
BVAR ScP ScP 07 42 24.3 -4.5
BVAR Borovoye Array 25.92 19 P **P 07 35 20.2 -0.4**
MK31 Makanchi Array 26.62 41 *e*P **P 07 35 27.0 0.0**
MK31 Makanchi Array 26.62 41 *e*P **P 07 35 27.0 0.0**
MKAR Makanchi Array 26.62 41 P **P 07 35 27.3 +0.3**
comp=Z,1.6nm,0.7s,mb3.6,baz=231,slow=9.3,SNR=9.4
MKAR LR LR 07 47 47.5
comp=Z,82nm,18.9s,MS3.3,baz=291,slow=40
MKAR Makanchi Array 26.62 41 P **P 07 35 27.3 +0.3**
MKAR Makanchi Array 26.62 41 P **P 07 35 27.3 +0.3**
KURK Kurchatov 27.15 31 P **P 07 35 31.2 -0.5**
comp=Z,2.9nm,1.0s,mb3.8,baz=231,slow=8.8,SNR=10
KURK PcP PcP 07 38 49.4 -2.7
comp=Z,0.2nm,0.4s,baz=217,slow=3.9,SNR=3.4
KURK Kurchatov 27.15 31 P **P 07 35 31.2 -0.5**
KURK PcP PcP 07 38 49.4 -2.7
KURK Kurchatov 27.15 31 P **P 07 35 31.2 -0.6**
ZAA0 Zalesovo Array 32.14 32 *e*P **P 07 36 15.1 -0.9**
ZALV Zalesovo Beam 32.14 32 P **P 07 36 15.2 -0.7**
comp=Z,2.2nm,0.6s,mb4.2,baz=236,slow=9.2,SNR=11
ZALV Zalesovo Beam 32.14 32 P **P 07 36 15.2 -0.7**
VRAC Vranov 36.49 315 LR LR 07 53 53.1
comp=Z,236nm,19.7s,MS4.0,baz=166,slow=39
GTA Gaotai 36.77 62 *e*P **P 07 36 57.3 +1.1**
GTA pP pP 07 37 01.8 +2.5
GTA sP sP 07 37 03.4 +2.8
GTA pmax pmax
comp=Z,4.0nm,1.3s,mb4.1
JOF Joensuu 37.60 341 *e*p **P 07 37 00.5 -2.5**
comp=Z,2.4nm,0.7s,mb4.0
FINES FINESS Array B 38.15 337 P **P 07 37 05.2 -2.4**
comp=Z,2.1nm,0.9s,mb3.9,baz=123,slow=7.0,SNR=4.6
FINES FINESS Array B 38.15 337 P **P 07 37 05.2 -2.4**
GERES GERESS Array B 38.17 313 P **P 07 37 08.4 +0.4**
comp=Z,0.3nm,0.5s,mb3.3,baz=90,slow=6.9,SNR=5.5
GERES GERESS Array B 38.17 313 P **P 07 37 08.4 +0.4**
GERES GERESS Array B 38.17 313 P **P 07 37 08.4 +0.4**
KAF Kangasniemi 38.54 338 *e*p **P 07 37 10.7 -0.2**
comp=Z,2.2nm,0.8s,mb3.9
CMAR Chiang Mai Arr 39.89 96 LR LR 07 55 32.0
comp=Z,40nm,19.6s,MS3.3,baz=59,slow=39
MBDF Montbardon 42.18 306 *e*P **P 07 37 39.4 -1.9**
MBDF Montbardon 42.18 306 *e*P **P 07 37 39.4 -1.9**
LPG La Plagne 42.26 307 *e*P **P 07 37 40.3 -1.6**
comp=Z,16nm,1.1s,mb4.3
LPG La Plagne 42.26 307 *e*P **P 07 37 40.3 -1.6**
comp=Z,16nm,1.1s,mb4.6
LPG La Plagne 42.26 307 *e*P **P 07 37 40.3 -1.6**
comp=Z,16nm,1.1s,mb4.6
SONM Songino Array 42.34 50 P **P 07 37 41.6 -0.9**
comp=Z,1.7nm,0.9s,mb3.7,baz=269,slow=10,SNR=9.7
SONM LR LR 07 57 00.3
comp=Z,122nm,20.7s,MS3.8,baz=244,slow=38
SONM Songino Array 42.34 50 P **P 07 37 41.6 -0.9**
SONM Songino Array 42.34 50 P **P 07 37 41.6 -0.9**
KEV Kevo 44.08 346 *e*p **P 07 37 54.6 -1.6**
ESDC Sonseca Array 50.31 299 P **P 07 38 45.2 -0.1**
comp=Z,0.6nm,0.6s,mb3.8,baz=66,slow=6.7,SNR=3.5
ESDC Sonseca Array 50.31 299 P **P 07 38 45.2 -0.1**
ESDC Sonseca Array 50.31 299 P **P 07 38 45.2 -0.1**
TORD Torodi Ar. Bea 53.26 265 P **P 07 39 04.0 -3.6**
comp=Z,1.6nm,0.5s,mb4.2,baz=64,slow=6.9,SNR=19
TORD Torodi Ar. Bea 53.26 265 P **P 07 39 04.0 -3.6**
KSAR Wonju Array Be 58.81 62 P **P 07 39 45.4 -1.8**
KSAR Wonju Array Be 58.81 62 P **P 07 39 45.3 -1.8**
KSRS Korea Array 58.84 62 P **P 07 39 45.4 -2.0**
comp=Z,1.2nm,0.5s,mb4.2,baz=271,slow=6.5,SNR=4.7
DBIC Dimbokro 61.98 262 P **P 07 40 05.6 -3.6**
comp=Z,1.5nm,0.4s,mb4.5,baz=23,slow=7.7,SNR=6.0
DBIC Dimbokro 61.98 262 P **P 07 40 05.6 -3.6**
BOSA Boshof 64.81 210 P **P 07 40 25.5 -1.9**
comp=Z,3.5nm,0.9s,mb4.4,baz=34,slow=3.6,SNR=3.1
BOSA Boshof 64.81 210 *e*P **P 07 40 25.6 -1.8**
comp=Z,7.1nm,1.2s,mb4.6
TNA Tin City 79.56 17 P **P 07 41 52.4 -2.9**
ILAR Eielson Array 84.62 10 P **P 07 42 18.9 -2.9**
comp=Z,0.3nm,0.9s,mb3.4,baz=328,slow=3.2,SNR=4.0
ILAR Eielson Array 84.62 10 P **P 07 42 18.9 -2.9**
YKA Yellowknife Ar 88.44 356 P **P 07 42 38.2 -2.4**
comp=Z,0.3nm,0.5s,mb3.8,baz=2.8,slow=5.4,SNR=7.4
YKA Yellowknife Ar 88.44 356 P **P 07 42 38.2 -2.4**
WRA Warramunga Arr 89.30 113 P **P 07 42 42.2 -3.0**
comp=Z,0.5nm,0.5s,mb4.1,baz=315,slow=4.1,SNR=8.8
WRA Warramunga Arr 89.30 113 P **P 07 42 42.2 -3.0**
ASAR Alice Springs 90.89 117 P **P 07 42 50.0 -2.7**
comp=Z,0.7nm,0.6s,mb4.2,baz=308,slow=5.0,SNR=19
ASAR Alice Springs 90.89 117 P **P 07 42 50.0 -2.7**

*NNC **14** 08:18:12.5±7.5, 40°.32N×72°.50E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=71.5km s-min=33.0km az=21.0*
ISC 14 08:18:08.0±3.5, 39°.9N±0°.2×72°.4E±0°.1, h11km±13km, n11, σ1§17/14, 1C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.40**	**23**	P	**Pn**	**08 18 47.6**	**+0.4**
AML	SNR=63			P		08 18 47.6	
EKS2	**Erkin-Say**	**2.91**	**20**	P	**Pn**	**08 18 55.8**	**+1.6**
EKS2	SNR=5.2			P		08 18 55.8	
KZA	**Kyzart**	**3.03**	**44**	P	**Pn**	**08 18 54.7**	**-1.2**
KZA	SNR=7.5			P		08 18 54.7	
AAK	**Ala-Archa**	**3.12**	**29**	P	**Pn**	**08 18 58.0**	**+0.9**
AAK	SNR=24			P		08 18 58.0	
KK31	**Karatay Array**	**3.48**	**336**	⇑Pn	**Pn**	**08 19 05.3**	**+3.3**
KK31	0.7nm,0.2s,baz=151,slow=12,SNR=36			Pg	**Pg**	**08 19 14.3**	**-0.3**
KK31	1.6nm,0.3s,baz=152,slow=14,SNR=7.4 3.7nm,0.5s			⇓Sn	**Sn**	**08 19 41.4**	**-1.8**
KK31	5.1nm,0.3s,baz=145,slow=23,SNR=12			Lg		08 19 52.7	
CHMS	**Chumysh**	**3.53**	**29**	P	**Pn**	**08 19 03.2**	**+0.5**
CHMS	SNR=9.2			P		08 19 03.2	
USP	**Ospenovka**	**3.68**	**24**	P	**Pn**	**08 19 05.4**	**+0.6**
USP	SNR=6.8			P		08 19 05.4	
ULHL	**Ulahol**	**3.70**	**50**	P	**Pn**	**08 19 03.6**	**-1.5**
ULHL	SNR=12			P		08 19 03.6	
TKM2	**Tokmak 2**	**3.82**	**38**	P	**Pn**	**08 19 06.3**	**-0.5**
TKM2	SNR=7.0			P		08 19 06.3	
TKM2	**Tokmak 2**	**3.82**	**38**	⇓Pn	**Pn**	**08 19 06.3**	**-0.5**
TKM2	1.5nm,0.3s 5.1nm,0.6s			⇓Lg		08 20 08.3	
AB31	**Akbulak array**	**12.87**	**321**	Pn	**Pn**	**08 21 09.3**	**-1.4**
AB31	0.4nm,0.5s,baz=131,slow=13,SNR=10 0.8nm,0.6s,baz=145,slow=24,SNR=3.2			Sn	**Sn**	**08 23 34.8**	**+1.0**

IDC 14 08:38:36.5±2.3, 11°.14S×165°.46E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.5/17, mbtmp3.5/4, ML4.4/1, Error ellipse: s-maj=73.7km s-min=33.1km az=145.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.68**	**287**	Pn	Pn	08 40 02.4	+0.2
HNR	11nm,0.3s,baz=212,slow=1.6,SNR=7.9 16nm,0.3s,baz=139,slow=20,SNR=6.2			Sn	Sn	08 41 01.9	-6.3
WRA	**Warramunga Arr**	**31.18**	**250**	P	P	08 44 57.3	-0.3
	0.1nm,0.5s,baz=80,slow=9.1,SNR=3.3						
ASAR	**Alice Springs**	**32.50**	**243**	P	P	08 45 09.4	+0.4
	0.3nm,0.7s,baz=72,slow=8.9,SNR=6.2						
ILAR	**Eielson Array**	**83.69**	**19**	P	P	08 51 06.8	+0.1
	0.1nm,0.7s,baz=232,slow=5.6,SNR=5.0						

*IDC **14** 08:40:10.8±1.2, 24°.17S×179°.97W, h504km±11km, mb3.9/18, mb1 4.0/20, mb1mx3.9/22, mbtmp3.9/20, Error ellipse: s-maj=12.7km s-min=12.0km az=122.0*
*ISCJB **14** 08:40:11.1±1.1, 24°.18S±0°.06×179°.94E±0°.07, h520km±14km, mb4.5/25, Error ellipse: s-maj=10.7km s-min=7.9km az=43.1*

*NEIC **14** 08:40:12.3±1.0, 24°.21S×179°.97W, h526km±11km, mb4.7/8, Error ellipse: s-maj=10.6km s-min=9.0km az=152.0*
ISC 14 08:40:12.3±1.1, 24°.26S±0°.07×179°.97E±0°.07, h522km±13km, n86, σ0§93/72, mb4.5/25, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.63**	**277**	*e*P	**P**	**08 42 59.4**	**+1.9**
	17nm,0.6s						
DZM	**Mont Dzumac**	**12.63**	**277**	*e*S	**P**	**08 42 59.5**	**+2.0**
AFI	**Afiamalu**	**12.91**	**39**	P	**P**	**08 42 59.2**	**-1.3**
	1.0nm,0.3s,baz=243,slow=4.5,SNR=2.5						
AFI				S	**S**	**08 45 12.8**	**-6.2**
	1.7nm,0.3s,baz=150,slow=18,SNR=3.1						
AFI	**Afiamalu**	**12.91**	**39**	P	**P**	**08 42 59.2**	**-1.3**
AFI				S	**S**	**08 45 12.8**	**-6.2**
URZ	**Urewera**	**14.17**	**189**	P	**P**	**08 43 12.9**	**-0.4**
	2.5nm,0.3s,baz=56,slow=2.2,SNR=16						
URZ				S	**S**	**08 45 39.7**	**-2.9**
	4.1nm,0.3s,baz=212,slow=16,SNR=21						
URZ	**Urewera**	**14.17**	**189**	P	**P**	**08 43 12.9**	**-0.4**
URZ				S	**S**	**08 45 39.7**	**-2.9**
RPZ	**Rata Peaks**	**20.75**	**198**	P	**P**	**08 44 15.9**	**-0.4**
	4.0nm,0.4s,baz=21,slow=17,SNR=4.1						
RPZ	**Rata Peaks**	**20.75**	**198**	P	**P**	**08 44 15.9**	**-0.4**
HNR	**Honiara**	**24.13**	**304**	P	**P**	**08 44 46.1**	**-0.9**
	22nm,0.5s,mb5.1,baz=165,slow=3.4,SNR=3.7						
HNR	**Honiara**	**24.13**	**304**	P	**P**	**08 44 46.1**	**-0.9**
ARMA	**Armidale**	**25.87**	**250**	*e*P	**P**	**08 45 04.1**	**+1.8**
EIDS	**Eidsvold**	**26.23**	**262**	*e*P	**P**	**08 45 06.1**	**+0.7**
	59nm,0.6s,mb5.4						
EIDS	**Eidsvold**	**26.23**	**262**	*e*P	**P**	**08 45 06.1**	**+0.6**
	6.0nm,0.5s,mb4.5						
CMSA	**Cobar Meteorol**	**31.06**	**249**	*e*P	**P**	**08 45 48.1**	**+0.6**
	60nm,0.7s,mb5.2						
CTA	**Charters Tower**	**31.45**	**271**	P	**P**	**08 45 51.7**	**+0.7**
	50nm,0.4s,mb5.4,baz=94,slow=12,SNR=28						
CTA	**Charters Tower**	**31.45**	**271**	*e*P	**P**	**08 45 51.5**	**+0.5**
	37nm,0.3s,mb5.4						
CTA	**Charters Tower**	**31.45**	**271**	P	**P**	**08 45 51.7**	**+0.7**
CTAO	**Charters Tower**	**31.45**	**271**	*e*P	**P**	**08 45 51.9**	**+0.9**
	49nm,0.4s,mb5.4						
STKA	**Stephens Creek**	**34.56**	**249**	P	**P**	**08 46 17.9**	**+0.7**
	3.6nm,0.4s,mb4.3,baz=82,slow=8.0,SNR=9.8						
STKA	**Stephens Creek**	**34.56**	**249**	P	**P**	**08 46 17.9**	**+0.7**
PMG	**Port Moresby**	**34.59**	**290**	P	**P**	**08 46 17.7**	**+0.2**
	28nm,0.7s,mb4.9,baz=109,slow=3.9,SNR=16						
PMG	**Port Moresby**	**34.59**	**290**	*e*P	**P**	**08 46 17.7**	**+0.1**
	25nm,0.7s,mb4.8						
COEN	**Coen**	**36.15**	**280**	*e*P	**P**	**08 46 30.9**	**+0.3**
	132nm,1.2s,mb5.3						
BBOO	**Buckleboo**	**39.28**	**247**	*e*P	**P**	**08 46 55.2**	**-0.7**
	30nm,0.3s,mb5.3						
AS31	**Alice Springs**	**41.95**	**261**	*e*P	**P**	**08 47 17.4**	**0.0**
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**08 47 17.4**	**0.0**
	6.7nm,0.6s,mb4.4,baz=91,slow=7.4,SNR=146						
ASAR				ScP	ScP	08 52 03.6	+2.3
	3.1nm,0.9s,baz=120,slow=4.0,SNR=13						
ASAR				S	**S**	**08 52 54.3**	**-3.8**
	1.3nm,1.0s,baz=101,slow=18,SNR=6.6						
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**08 47 17.4**	**0.0**
ASAR				ScP	ScP	08 52 03.6	+2.3
ASAR				S	**S**	**08 52 54.3**	**-3.8**
WB2	**Warramunga Arr**	**42.34**	**267**	*e*P	**P**	**08 47 20.1**	**-0.4**
WB2				*e*ScP	ScP	08 52 06.5	+3.5
WRAB	**Tennant Creek**	**42.35**	**267**	*e*P	**P**	**08 47 19.9**	**-0.7**
	19nm,0.6s,mb4.8						
WRAB				*e*ScP	ScP	08 52 04.7	+1.7
WRAB				*e*S	**S**	**08 53 02.5**	**-1.4**
WRA	**Warramunga Arr**	**42.36**	**267**	P	**P**	**08 47 20.0**	**-0.6**
	17nm,0.4s,mb4.9,baz=103,slow=8.1,SNR=192						
WRA				ScP	ScP	08 52 06.5	+3.5
	5.8nm,0.9s,baz=102,slow=4.2,SNR=20						
WRA				S	**S**	**08 53 01.9**	**-2.2**
	4.1nm,1.2s,baz=108,slow=15,SNR=8.0						
WRA	**Warramunga Arr**	**42.36**	**267**	P	**P**	**08 47 20.0**	**-0.6**
WRA				ScP	ScP	08 52 06.5	+3.5
WRA				S	**S**	**08 53 01.9**	**-2.2**
FORT	**Forrest**	**46.16**	**250**	*e*P	**P**	**08 47 49.0**	**-0.9**
	19nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.77**	**266**	*e*P	**P**	**08 48 24.4**	**0.0**
	22nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.77**	**266**	*e*P	**P**	**08 48 24.4**	**0.0**
	15nm,0.9s,mb4.3						
MBWA	**Marble Bar**	**55.28**	**260**	*e*P	**P**	**08 48 56.1**	**-0.4**
MORW	**Morawa**	**56.73**	**250**	*e*P	**P**	**08 49 06.0**	**-0.4**
	27nm,0.5s,mb4.7						
QSPA	**South Pole Qui**	**65.83**	**180**	P	**P**	**08 50 06.8**	**+1.6**
	12nm,0.6s,mb4.6,baz=26,slow=1.4,SNR=50						
QSPA	**South Pole Qui**	**65.83**	**180**	P	**P**	**08 50 06.8**	**+1.6**
MJAR	**Matsushiro Arr**	**72.17**	**326**	P	**P**	**08 50 43.8**	**-0.2**
	1.0nm,0.8s,baz=165,slow=6.8,SNR=4.1						
MJAR	**Matsushiro Arr**	**72.17**	**326**	P	**P**	**08 50 43.8**	**-0.2**
MAW	**Mawson**	**77.41**	**200**	P	**P**	**08 51 13.7**	**+0.7**
	4.0nm,0.5s,mb4.1,baz=113,slow=6.0,SNR=16						
MAW	**Mawson**	**77.41**	**200**	*e*P	**P**	**08 51 13.6**	**+0.7**
	3.1nm,0.5s,mb4.0						
MAW	**Mawson**	**77.41**	**200**	P	**P**	**08 51 13.7**	**+0.7**
PETK	**Petropavlovsk-**	**79.44**	**347**	P	**P**	**08 51 24.1**	**+0.2**
	1.4nm,0.7s,mb3.4,baz=150,slow=6.1,SNR=3.1						
PETK	**Petropavlovsk-**	**79.44**	**347**	P	**P**	**08 51 24.1**	**+0.2**
SNAA	**Sanae**	**84.31**	**179**	*e*	**P**	**08 51 48.5**	**-0.1**
SNAA	**Sanae**	**84.31**	**179**	*e*P	**P**	**08 51 48.1**	**-0.5**
	1.3nm,0.3s,mb3.9						
VNA3	**Neumayer Olymp**	**84.52**	**177**	*e*	**P**	**08 51 49.6**	**0.0**
VNA2	**Neumayer--Watz**	**84.94**	**178**	*e*	**P**	**08 51 51.8**	**+0.1**
NVAR	**Mina Array Bea**	**85.03**	**44**	P	**P**	**08 51 53.0**	**+0.5**
	1.3nm,0.7s,mb3.5,baz=225,slow=8.8,SNR=11						
NVAR	**Mina Array Bea**	**85.03**	**44**	P	**P**	**08 51 53.0**	**+0.5**
PLCA	**Paso Flores**	**88.04**	**134**	P	**P**	**08 52 08.0**	**+1.1**
	1.0nm,0.6s,mb3.8,baz=259,slow=3.4,SNR=5.7						
PLCA	**Paso Flores**	**88.04**	**134**	P	**P**	**08 52 08.0**	**+1.1**
BBB	**Bella Bella**	**88.58**	**29**	P	**P**	**08 52 07.7**	**-1.3**
	22nm,0.8s,mb5.0,baz=233,slow=5.1,SNR=3.1						
BBB	**Bella Bella**	**88.58**	**29**	P	**P**	**08 52 07.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**08 52 16.1**	**+1.4**
	0.9nm,0.3s,mb4.0,baz=158,slow=3.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**08 52 16.1**	**+1.4**
TXAR	**Lajitas Array**	**90.64**	**58**	P	**P**	**08 52 20.3**	**+1.1**
	3.4nm,0.7s,mb4.4,baz=212,slow=6.7,SNR=36						
TXAR	**Lajitas Array**	**90.64**	**58**	P	**P**	**08 52 20.3**	**+1.1**
ILAR	**Eielson Array**	**92.38**	**14**	P	**P**	**08 52 25.1**	**-1.2**
	0.4nm,0.8s,mb3.5,baz=220,slow=5.9,SNR=7.2						
ILAR	**Eielson Array**	**92.38**	**14**	P	**P**	**08 52 25.1**	**-1.2**
PDAR	**Pinedale Array**	**92.97**	**44**	P	**P**	**08 52 29.6**	**+0.1**
	1.1nm,0.8s,mb4.0,baz=188,slow=3.7,SNR=5.9						
PDAR	**Pinedale Array**	**92.97**	**44**	P	**P**	**08 52 29.6**	**+0.1**
BVAR	**Borovoye Array**	**120.69**	**319**	PKP	PKPdf	08 58 03.7	-0.6
	0.9nm,0.3s,baz=117,slow=3.3,SNR=8.1						
BVAR	**Borovoye Array**	**120.69**	**319**	PKP	PKPdf	08 58 03.7	-0.6
BOSA	**Boshof**	**122.07**	**206**	PKP	PKPdf	08 58 08.4	+0.5
	2.1nm,0.8s,baz=297,slow=2.3,

KSP	**Ksiaz**	**150.61**	**339**	*e*P	PKPbc	08 59 05.3	+0.5
CLL	**Collm**	**151.19**	**343**	*i* PKPbc	PKPbc	08 59 06.4	+0.3
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**151.31**	**341**	*i* P	PKPbc	08 59 06.6	+0.2
	comp=Z,7.4nm,0.6s						
GERES	**GERESS Array B**	**153.18**	**340**	PKPbc	PKPbc	08 59 09.7	-0.9
	comp=Z,0.6nm,0.7s,baz=0.0,slow=3.2,SNR=5.0						
GERES	**GERESS Array B**	**153.18**	**340**	PKPbc	PKPbc	08 59 09.7	-0.9
TORD	**Torodi Ar. Bea**	**168.83**	**189**	PKP	PKPdf	08 59 18.6	-1.4
	comp=Z,1.7nm,1.1s,baz=114,slow=0.4,SNR=5.8						
TORD				PKPab	PKPab	09 00 33.6	-0.4
	comp=Z,2.2nm,0.7s,baz=190,slow=3.5,SNR=4.7						
TORD				pPKPab	pPKPab	09 02 29.7	-0.8
	comp=Z,0.5nm,0.9s,baz=182,slow=3.8,SNR=2.1						
TORD	**Torodi Ar. Bea**	**168.83**	**189**	PKP	PKPdf	08 59 18.6	-1.4
TORD				PKPab	PKPab	09 00 33.6	-0.4
TORD				pPKPab	pPKPab	09 02 29.7	-0.8

BJI ***14*** *08:41:23.7, 32.°43N×116.°00W, h14km, mB4.8/2, mb4.8/2, Ms4.7/3, Ms7 4.3/3*
ISCJB ***14*** *08:41:26.0±0.4, 32.°56N±0.°03×115.°47W±0.°03, h24km±4km, Error ellipse: s-maj=5.3km s-min=3.4km az=157.9*
IDC ***14*** *08:41:25.7±3.4, 32.°64N×115.°43W, h0km, mb3.7/1, mb1 3.5/5, mb1mx3.3/24, mbtmp3.1/5, ML3.2/4, Error ellipse: s-maj=51.2km s-min=13.4km az=41.0*
NEIC ***14*** *08:41:26.0, 32.°51N×115.°51W, h19km, ML4.1(PAS), ML3.9(ECX), After PAS.*
NEIC Felt [III] at Mexicali. Felt [II] at Calexico and El Centro, California. Also felt at Chula Vista, Imperial, Palm Springs, San Diego and Santee. Felt at Yuma, Arizona.
ECX ***14*** *08:41:27.7±0.6, 32.°56N×115.°53W, h10km, MD4.1*
ISC 14 08:41:26.3±0.4, 32.°54N±0.°03×115.°51W±0.°02, h13km±3km, n47, σ1§18/62, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.21**	**302**	⇑*i*P	**Pg**	**08 41 31.0**	**0.0**
SNR	**Schaffner Ranc**	**0.33**	**11**	⇓*i*P	**Pg**	**08 41 33.6**	**+0.6**
COK	**Cook Ranch**	**0.36**	**329**	⇑*i*P	**Pg**	**08 41 33.9**	**+0.3**
YUH	**Yuha Desert**	**0.37**	**288**	⇑*i*P	**Pg**	**08 41 33.5**	**-0.1**
COA	**Coachella**	**0.46**	**45**	⇓*i*P	**Pg**	**08 41 35.9**	**+0.5**
RMX	**La Rumorosa**	**0.48**	**278**	⇑*e*P	**Pg**	**08 41 36.0**	**+0.1**
RMX				*e*S	**Sg**	**08 41 42.8**	**+0.5**
CRR	**Carrizo Plain**	**0.52**	**312**	⇑*i*P	**Pg**	**08 41 36.5**	**-0.1**
RDX	**Rancho Dawling**	**0.71**	**211**	⇓*e*P	**Pg**	**08 41 40.3**	**+0.2**
RDX				*e*S	**Sg**	**08 41 49.5**	**+0.1**
GLA	**Glamis**	**0.77**	**48**	*e*Pg	**Pg**	**08 41 40.3**	**-1.0**
GLA				*e*Sg	**Sg**	**08 41 50.5**	**-0.8**
YMD	**Yuma Desert**	**0.81**	**89**	*e*P	**Pg**	**08 41 41.2**	**-0.9**
BAR	**Barrett**	**0.99**	**279**	*e*Pg	**Pg**	**08 41 44.8**	**-0.6**
BAR				*e*Sg	**Sg**	**08 41 57.8**	**-0.6**
CBX	**Cerro Bola**	**1.00**	**257**	⇑*e*P	**Pb**	**08 41 45.4**	**-0.1**
CBX				*e*S	**Sb**	**08 41 58.5**	**-0.1**
ECNX	**Esteban Cantu**	**1.27**	**227**	*e*P	**Pn**	**08 41 50.1**	**+0.3**
ECNX				*e*P		08 41 48.5	
ECNX				*e*S	**Sb**	**08 42 04.6**	**-1.9**
ECNX				*e*S	**Sb**	**08 42 07.3**	**+0.8**
PBX	**Punta Banda**	**1.30**	**233**	*e*P	**Pn**	**08 41 50.3**	**+0.1**
PBX				*e*S	**Sb**	**08 42 08.2**	**+1.0**
PFO	**Pinyon Flat Ob**	**1.33**	**324**	*e*Pn	**Pn**	**08 41 48.6**	**-2.0**
PFO				*e*Sn	**Sn**	**08 42 05.2**	**-3.0**
LDFC	**Landfair**	**2.56**	**7**	*e*Pn	**Pn**	**08 42 07.7**	**+0.2**
MWC	**Mount Wilson**	**2.72**	**309**	*e*Pn	**Pn**	**08 42 10.5**	**+0.9**
PASC	**Pasadena Art C**	**2.77**	**307**	*e*Pn	**Pn**	**08 42 09.6**	**-0.8**
GSC	**Goldstone**	**2.96**	**339**	*e*Pn	**Pn**	**08 42 12.1**	**-0.9**
OSI	**Osito Adit**	**3.39**	**309**	*e*Pn	**Pn**	**08 42 18.6**	**-0.3**
ISA	**Isabella**	**3.97**	**323**	*e*Pn	**Pn**	**08 42 26.2**	**-0.7**
WUAZ	**Wupatki**	**4.54**	**48**	*e*Pn	**Pn**	**08 42 31.4**	**-3.3**
CCUT	**Cedar City**	**5.30**	**19**	*e*Pn	**Pn**	**08 42 46.1**	**+0.9**
CCUT				*e*Sg	**Sg**	**08 44 18.8**	**+2.3**
ARUT	**Antelope Range**	**5.51**	**17**	*e*Pn	**Pn**	**08 42 46.4**	**-1.6**
	24nm,0.6s						
NVAR	**Mina Array Bea**	**6.30**	**340**	Pn	**Pn**	**08 42 59.8**	**+0.9**
	0.1nm,0.3s,baz=159,slow=15,SNR=2.7						
NVAR				Pg	**Pg**	**08 43 23.8**	**-3.2**
	0.4nm,0.3s,baz=158,slow=18,SNR=7.0						
NVAR				Lg		08 44 53.1	
	baz=150,slow=34,SNR=1.7						
NVAR	**Mina Array Bea**	**6.30**	**340**	Pn	**Pn**	**08 42 59.8**	**+0.9**
NVAR				Pg	**Pg**	**08 43 23.8**	**-3.2**
NVAR				Lg		08 44 53.1	
MSU	**Marysvale**	**6.55**	**24**	*e*Pn	**Pn**	**08 43 04.2**	**+1.9**
	13nm,0.7s						
CGIG		**6.79**	**107**	P	**Pn**	**08 43 07.9**	**+2.2**
CGIG				S	**Sg**	**08 45 03.4**	**-0.9**
LAZ	**Ladron**	**7.24**	**73**	*e*Pn	**Pn**	**08 43 11.3**	**-0.5**
	3.3nm,0.9s						
LENM	**Lemitar**	**7.32**	**75**	*e*Pn	**Pn**	**08 43 13.4**	**+0.4**
	5.9nm,0.5s						
LENM				*e*Sn	**Sn**	**08 44 33.7**	**-2.2**
MVCO	**Mesa Verde**	**7.41**	**49**	*e*Pn	**Pn**	**08 43 15.2**	**+1.1**
	15nm,0.6s						
BNM	**Barren Site**	**7.60**	**75**	*e*Pn	**Pn**	**08 43 14.0**	**-2.8**
	6.3nm,0.9s						
LPM	**Los Pinos Moun**	**7.63**	**74**	*e*Pn	**Pn**	**08 43 16.9**	**-0.2**
	3.5nm,0.6s						
SRU	**San Rafael**	**7.71**	**30**	*e*Pn	**Pn**	**08 43 15.9**	**-2.3**
	16nm,0.7s						
ANMO	**Albuquerque**	**7.91**	**70**	Pn	**Pn**	**08 43 22.9**	**+1.8**
	0.1nm,0.3s,baz=265,slow=12,SNR=4.4						
ANMO				Lg		08 45 30.9	
	0.2nm,0.3s,baz=349,slow=19,SNR=2.7						
ANMO	**Albuquerque**	**7.91**	**70**	*e*Pn	**Pn**	**08 43 22.1**	**+1.0**
	3.8nm,0.8s						
ANMO				Lg		08 45 30.9	
PV04	**Paradox Valley**	**7.95**	**41**	*e*Pn	**Pn**	**08 43 23.0**	**+1.5**
PV01	**Paradox Valley**	**7.96**	**43**	*e*Pn	**Pn**	**08 43 23.9**	**+2.2**
	922nm,0.8s						
MNTX	**Cornudas Mount**	**8.63**	**93**	*e*Pn	**Pn**	**08 43 30.2**	**-0.7**
	1.9nm,0.7s						
TXAR	**Lajitas Array**	**10.66**	**104**	Pn	**Pn**	**08 44 00.2**	**+1.5**
	0.2nm,0.3s,baz=283,slow=13,SNR=8.5						
TXAR				Sn	**Sn**	**08 45 57.2**	**-0.8**
	0.1nm,0.3s,baz=310,slow=20,SNR=3.3						
TXAR				Lg		08 47 03.6	
	0.1nm,0.3s,baz=291,slow=31,SNR=2.9						
TXAR	**Lajitas Array**	**10.66**	**104**	Pn	**Pn**	**08 44 00.2**	**+1.5**
TXAR				Sn	**Sn**	**08 45 57.2**	**-0.8**
TXAR				Lg		08 47 03.6	
PDAR	**Pinedale Array**	**11.24**	**23**	Pn	**Pn**	**08 44 08.6**	**+1.9**
	0.0nm,0.3s,baz=209,slow=10,SNR=3.5						
PDAR				Lg		08 47 27.3	
	0.0nm,0.3s,baz=201,slow=30,SNR=2.6						
PDAR	**Pinedale Array**	**11.24**	**23**	Pn	**Pn**	**08 44 08.6**	**+1.9**
PDAR				Lg		08 47 27.3	
ULM	**Lac du Bonnet**	**22.91**	**34**	P	**P**	**08 46 31.2**	**+1.5**
	2.0nm,0.8s,baz=222,slow=12,SNR=3.7						
ULM	**Lac du Bonnet**	**22.91**	**34**	P	**P**	**08 46 31.2**	**+1.5**
HHC	**Hu-ho-hao-te**	**95.03**	**326**	*e*P	**P**	**08 54 48.5**	**-0.4**
HHC				pP	pP	08 54 55.0	+1.9
HHC				sP	sP	08 54 57.5	+2.8
HHC				PP	PP	08 58 39.9	+2.5
HHC				SKS		09 05 22.1	
HHC				S	S	09 05 57.6	-5.7
HHC				SS	SS	09 12 26.9	-0.2
HHC				LR	LR		
	comp=N,120nm,16.7s						
HHC				LR	LR		
	comp=E,160nm,16.7s						
HHC				LR	LR		
	comp=Z,120nm,19.0s						
WMQ	**Urumqi**	**101.11**	**343**	*e*P	Pdif	08 55 16.1	0.0

ISCJB ***14*** *08:51:11.6±1.1, 39.°1N±0.°1×96.°95E±0.°08, h10km, mb3.4/2, Error ellipse: s-maj=18.9km s-min=9.2km az=178.1*
IDC ***14*** *08:51:13.5±1.4, 38.°85N×97.°09E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=51.7km s-min=24.4km az=58.0*
BJI ***14*** *08:51:18.8, 39.°41N×97.°03E, h11km, ML3.3/7*
ISC 14 08:51:14.3±1.0, 39.°0N±0.°1×96.°99E±0.°08, h10km, n7, σ1§43/8, mb3.4/2, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.24**	**78**	Pg	**Pg**	**08 51 58.1**	**+0.9**
GTA				Sg	**Sg**	**08 52 24.8**	**-1.4**
GTA				smax			
	comp=N,180nm,1.0s						
GTA				smax			
	comp=E,250nm,0.8s						
WMQ	**Urumqi**	**8.50**	**308**	Pn	Px	08 53 42.6	
WMQ				Sg	Sx	08 55 29.3	
WMQ				smax			
	comp=N,31nm,1.0s						
WMQ				smax			
	comp=E,36nm,0.8s						
SONM	**Songino Array**	**11.19**	**35**	Pn	**Pn**	**08 53 55.3**	**+1.1**
	comp=E,0.4nm,0.3s,baz=222,slow=15,SNR=11						
SONM				Lg		08 57 03.6	
	comp=E,0.2nm,0.3s,baz=214,slow=29,SNR=5.1						
MKAR	**Makanchi Array**	**13.31**	**311**	Pn	**Pn**	**08 54 20.7**	**-2.4**
	comp=E,0.1nm,0.3s,baz=122,slow=14,SNR=3.1						
MKAR				Sn	**Sn**	**08 56 45.2**	**-5.7**
	comp=E,0.1nm,0.3s,baz=124,slow=21,SNR=4.0						
MKAR				Lg		08 58 11.9	
	comp=E,0.0nm,0.3s,baz=121,slow=28,SNR=3.1						
ZALV	**Zalesovo Beam**	**17.13**	**335**	P	**Pn**	**08 55 16.0**	**+2.4**
	comp=E,0.1nm,0.3s,baz=158,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**68.24**	**142**	P	**P**	**09 02 15.9**	**+0.7**
	comp=E,0.5nm,1.0s,mb3.5,baz=335,slow=6.1,SNR=3.2						
ASAR	**Alice Springs**	**71.24**	**144**	P	**P**	**09 02 33.2**	**-0.4**
	comp=E,0.2nm,0.6s,mb3.2,baz=339,slow=6.2,SNR=3.0						

MOS ***14*** *09:43:08.8±0.9, 7.°32S×30.°04E, h10km, mb5.2/42, MS4.4/4, Error ellipse: s-maj=11.1km s-min=5.0km az=87.3*
ISCJB ***14*** *09:43:08.4±0.2, 7.°41S±0.°03×30.°04E±0.°05, h10km, mb5.0/104, MS4.5/33, Error ellipse: s-maj=6.6km s-min=3.8km az=9.4*
BJI ***14*** *09:43:09.4, 6.°94S×29.°35E, h22km, mB5.3/19, mb4.9/31, Ms5.2/19, Ms7 4.8/22*
IDC ***14*** *09:43:09.3±0.5, 7.°33S×30.°12E, h0km, mb4.7/20, mb1 4.7/20, mb1mx4.7/23, mbtmp4.7/20, MS4.5/25, Ms1 4.5/25, ms1mx4.4/36, Error ellipse: s-maj=18.8km s-min=14.0km az=82.0*
NEIC ***14*** *09:43:10.7±0.2, 7.°35S×30.°13E, h10km, mb5.1/38, Error ellipse: s-maj=6.8km s-min=5.9km az=80.0*
GCMT ***14*** *09:43:16.1±0.3, 7.°36S×30.°02E, h26km±1km, MW5.2, Moment Tensor Solution. s47,c65; s64,c94; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.44±.21; $M_{\theta\theta}$0.01±.14; $M_{\phi\phi}$3.43±.18; $M_{r\theta}$-1.42±.34; $M_{\theta\phi}$-1.78±.13; $M_{\phi r}$7.05±.66; Best double couple: $M_0$8.20000×10^{16} NP1:ϕ_s322.00000°, δ15.00000°, λ-115.00000°. NP2:ϕ_s168.00000°, δ76.00000°, λ-84.00000°. Principal axes: T 8.4400, Plg31.0000°, Azm252.0000°; N -0.5900, Plg6.0000°, Azm346.0000°; P -7.8600, Plg58.0000°, Azm86.0000°; Data Used: II IU IC G CN.*
SZGRF ***14*** *09:43:17.4, 6.°19S×29.°37E, h10km, mb5.1, Lake Tanganyika region*
DJA ***14*** *09:43:54, 10.°56S×27.°32E, h10km, mb4.6/7*
ISC 14 09:43:10.5±0.2, 7.°44S±0.°03×30.°11E±0.°05, h10km, (h15km±1.4km:pP-P), n335, σ0§88/320, mb5.0/104, MS4.5/33, 17C-22D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**6.82**	**5**	*e*P	**Pn**	**09 44 49.8**	**-0.9**
MBAR	**Mbarara**	**6.82**	**5**	Pn	**Pn**	**09 44 49.4**	**-1.3**
	2μm,0.6s,SNR=85						
LSZ	**Lusaka**	**8.01**	**193**	*e*P	**Pn**	**09 45 07.6**	**+0.5**
LSZ	**Lusaka**	**8.01**	**193**	*e*Pn	**Pn**	**09 45 07.3**	**+0.2**
LSZ				*e*S	**Sb**	**09 47 22.5**	**+17**
LSZ	**Lusaka**	**8.01**	**193**	*e*P	**Pn**	**09 45 07.3**	**+0.2**
LSZ	**Lusaka**	**8.01**	**193**	P	**Pn**	**09 45 08.0**	**+0.8**
	SNR=50						
KMBO	**Kilima Mbogo**	**9.49**	**49**	*e*P	**Pn**	**09 45 26.1**	**-1.2**
KMBO	**Kilima Mbogo**	**9.49**	**49**	*e*Pn	**Pn**	**09 45 25.4**	**-2.0**
KMBO				*e*Sn	**Sn**	**09 47 06.9**	**-7.2**
KMBO	**Kilima Mbogo**	**9.49**	**49**	*e*P	**Pn**	**09 45 25.4**	**-2.0**
KMBO				*e*		09 47 06.9	
KMBO	**Kilima Mbogo**	**9.49**	**49**	P	**Pn**	**09 45 26.0**	**-1.4**
	SNR=102						
MOPA	**Mopani**	**16.04**	**176**	*e*P	**Pn**	**09 46 54.3**	**-2.0**
MOPA				AMB	AMB	09 47 08.5	
	comp=Z,41nm,1.7s						
TSUM	**Tsumeb**	**16.88**	**225**	*e*P	**Pn**	**09 47 03.4**	**-3.6**
TSUM	**Tsumeb**	**16.88**	**225**	*e*Pn	**Pn**	**09 47 02.9**	**-4.1**
	comp=Z,75nm,0.8s						
TSUM				*e*Sn	**Sn**	**09 50 10.8**	**-3.8**
MSKU	**Masuku**	**17.41**	**288**	P	**Pn**	**09 47 08.4**	**-5.4**
	comp=Z,24nm,0.3s,baz=115,slow=10,SNR=22						
MSKU				S	**Sn**	**09 50 12.5**	**-15**
	comp=Z,17nm,0.3s,baz=150,slow=20,SNR=2.7						
MSKU				Lg		09 52 13.5	
	baz=304,slow=16,SNR=4.0						
MSKU				LR	LR	09 54 01.8	
	comp=Z,6μm,19.2s,baz=112,slow=38						
MSKU	**Masuku**	**17.41**	**288**	P	**Pn**	**09 47 08.4**	**-5.4**
MSKU				S	**Sn**	**09 50 12.6**	**-15**
MSKU				Lg		09 52 13.5	
LBTB	**Lobatse**	**18.00**	**193**	⇑*i*P	**Pn**	**09 47 18.1**	**-2.9**
LBTB				AMB	AMB	09 47 33.1	
	comp=Z,46nm,1.1s						
LBTB	**Lobatse**	**18.00**	**193**	P	**Pn**	**09 47 18.4**	**-2.6**
	comp=Z,1.7nm,0.3s,baz=19,slow=14,SNR=23						
LBTB				S	**Sn**	**09 50 28.9**	**-13**
	comp=Z,1.9nm,0.3s,baz=95,slow=24,SNR=4.0						
LBTB				Lg		09 52 34.8	
	comp=Z,1.8nm,0.3s,baz=289,slow=23,SNR=5.6						
LBTB				LR	LR	09 54 24.0	
	comp=Z,4μm,18.1s,baz=29,slow=37						
LBTB	**Lobatse**	**18.00**	**193**	*e*Pn	**Pn**	**09 47 18.4**	**-2.6**
	comp=Z,61nm,0.9s						
LBTB				S	**Sn**	**09 50 28.9**	**-13**
LBTB				*e*Sn	**Sn**	**09 50 30.5**	**-11**
LBTB				Lg		09 52 34.8	
LBTB	**Lobatse**	**18.00**	**193**	*e*P	**Pn**	**09 47 18.4**	**-2.6**
LBTB				pmax	pmax		
	comp=Z,61nm,0.9s						
SLR	**Silverton**	**18.28**	**185**	*e*P	**Pn**	**09 47 22.2**	**-2.2**
SLR				AMB	AMB	09 47 53.4	
	comp=Z,38nm,2.4s						
KSR	**Koster**	**18.57**	**189**	*e*P	**Pn**	**09 47 25.4**	**-2.5**
KSR				AMB	AMB	09 47 39.3	
	comp=Z,42nm,1.2s						
ERPM	**east rand prop**	**18.89**	**185**	*e*P	**Pn**	**09 47 29.8**	**-2.0**
ERPM				AMB	AMB	09 47 46.3	
	comp=Z,41nm,1.2s						
KLOF	**Kloof**	**18.96**	**187**	*e*P	**Pn**	**09 47 33.9**	**+1.3**
KLOF				AMB	AMB	09 47 59.8	
	comp=Z,43nm,1.2s						
PRYS	**Parys**	**19.56**	**187**	⇑*i*P	**Pn**	**09 47 40.5**	**+0.6**
PRYS				AMB	AMB	09 47 52.5	
	comp=Z,65nm,1.2s						
POGA	**Pongola**	**19.88**	**176**	*e*P	**Pn**	**09 47 44.0**	**+0.3**
POGA				AMB	AMB	09 48 08.6	
	comp=Z,36nm,2.3s						
ABPO	**Ambohimpanom**	**20.23**	**126**	*e*P	**P**	**09 47 48.9**	**+3.0**
	comp=Z,93nm,1.5s						
ABPO	**Ambohimpanom**	**20.23**	**126**	*e*P	**P**	**09 47 48.9**	**+2.9**
ABPO				pmax	pmax		
	comp=Z,93nm,1.5s						
BOSA	**Boshof**	**21.56**	**192**	*e*P	**P**	**09 48 01.0**	**+0.8**
BOSA				AMB	AMB	09 48 08.4	
	comp=Z,52nm,1.5s,mb4.7						
BOSA	**Boshof**	**21.56**	**192**	P	**P**	**09 48 00.9**	**+0.7**
	comp=Z,46nm,1.0s,mb4.9,baz=13,slow=11,SNR=38						
BOSA				S	**S**	**09 51 51.0**	**-8.2**
	comp=Z,23nm,0.9s,baz=299,slow=12,SNR=2.4						
BOSA				Lg		09 54 24.8	
	comp=Z,166nm,1.1s,baz=288,slow=20,SNR=2.2						
BOSA				LR	LR	09 56 14.2	
	comp=Z,818nm,19.7s,MS4.1,baz=18,slow=36						
BOSA	**Boshof**	**21.56**	**192**	*e*P	**P**	**09 48 01.0**	**+0.7**
	comp=Z,77nm,1.1s,mb5.0						
BOSA				S	**S**	**09 51 51.0**	**-8.2**
BOSA				Lg		09 54 24.8	
BOSA	**Boshof**	**21.56**	**192**	*e*P	**P**	**09 48 01.0**	**+0.8**
BOSA				S	**S**	**09 51 51.0**	**-8.2**
BOSA				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.0						
ATD	**Arta Tunnel**	**22.71**	**34**	Lg		09 55 04.4	
	comp=Z,4.4nm,0.3s,baz=74,slow=19,SNR=4.8						
ATD				LR	LR	09 56 32.6	
	comp=Z,775nm,20.4s,MS4.1,baz=22,slow=36						
KSD	**Kokstad**	**22.99**	**182**	*e*P	**P**	**09 48 08.4**	**-7.2**
KSD				AMB	AMB	09 48 26.3	
	comp=Z,203nm,3.9s						
PKA	**Prieska**	**23.17**	**196**	*e*P	**P**	**09 48 17.1**	**-0.3**
PKA				AMB	AMB	09 48 35.8	
	comp=Z,18nm,1.1s,mb4.4						
HVD	**Gariep Dam**	**23.45**	**190**	*e*P	**P**	**09 48 21.6**	**+1.3**
HVD				AMB	AMB	09 48 29.3	
	comp=Z,71nm,1.4s,mb4.9						
KOMG	**Komaggas**	**25.21**	**206**	*e*P	**P**	**09 48 36.8**	**+0.2**
KOMG				AMB	AMB	09 48 45.0	
	comp=Z,50nm,3.3s						
MSEY	**Mahe Island**	**25.38**	**85**	*e*P	**P**	**09 48 39.4**	**+1.1**
	comp=Z,50nm,1.5s,mb4.8						
MSEY	**Mahe Island**	**25.38**	**85**	*e*P	**P**	**09 48 39.4**	**+1.1**
MSEY				pmax	pmax		
	comp=Z,50nm,1.5s,mb4.8						
SOE	**Somerset East**	**25.50**	**189**	*e*P	**P**	**09 48 33.3**	**-5.9**
SOE				AMB	AMB	09 48 49.9	
	comp=Z,72nm,5.7s						
CVNA	**Calvinia**	**25.80**	**201**	*e*P	**P**	**09 48 42.7**	**+0.8**
CVNA				AMB	AMB	09 48 50.9	
	comp=Z,62nm,2.0s,mb4.8						
GRM	**Grahamstown**	**25.96**	**187**	*e*P	**P**	**09 48 39.7**	**-3.6**
GRM				AMB	AMB	09 48 53.3	
	comp=Z,58nm,2.5s,mb4.7						
SUR	**Sutherland**	**26.28**	**198**	*e*P	**P**	**09 48 49.2**	**+3.0**
SUR				AMB	AMB	09 48 56.6	
	comp=Z,49nm,2.3s,mb4.6						
SUR	**Sutherland**	**26.28**	**198**	P	**P**	**09 48 48.0**	**+1.7**
	comp=Z,28nm,1.1s,mb4.7,baz=344,slow=7.4,SNR=4.5						
SUR				Lg		09 56 51.9	
	comp=Z,88nm,1.1s,baz=234,slow=23,SNR=5.5						
SUR				LR	LR	09 59 19.6	
	comp=Z,3μm,18.3s,MS4.9,baz=25,slow=37						
SUR	**Sutherland**	**26.28**	**198**	*e*P	**P**	**09 48 50.2**	**+4.0**
	comp=Z,100nm,1.3s,mb5.2						
SUR				Lg		09 56 51.9	
CER	**Ceres**	**27.67**	**200**	*e*P	**P**	**09 49 02.4**	**+3.7**
RAYN	**Ar Rayn**	**34.25**	**26**	P	**P**	**09 49 57.0**	**+0.1**
	comp=Z,76nm,1.4s,mb5.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**34.86**	**306**	P	**P**	**09 50 02.0**	**-0.3**
	comp=Z,16nm,1.1s,mb4.9,baz=111,slow=7.2,SNR=13						
TORD				LR	LR	10 04 13.9	
	comp=Z,963nm,18.9s,MS4.6,baz=130,slow=36						
TORD	**Torodi Ar. Bea**	**34.86**	**306**	P	**P**	**09 50 02.0**	**-0.2**
DBIC	**Dimbokro**	**37.59**	**291**	P	**P**	**09 50 25.1**	**-0.6**
	comp=Z,4.7nm,0.5s,mb4.5,baz=98,slow=6.7,SNR=19						
DBIC				LR	LR	10 05 39.5	
	comp=Z,1μm,18.7s,MS4.7,baz=95,slow=36						
DBIC	**Dimbokro**	**37.59**	**291**	*e*P	**P**	**09 50 24.8**	**-0.9**
	comp=Z,23nm,0.9s,mb4.9						
DBIC	**Dimbokro**	**37.59**	**291**	*e*P	**P**	**09 50 24.8**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,23nm,0.9s						
RDF	**Al-Radifah**	**39.87**	**24**	*e*P	**P**	**09 50 45.1**	**+0.5**
RDF				AMb	AMB	09 50 47.7	
	comp=Z,54nm,1.3s,mb5.1						
NAY	**Al-Naaiem**	**40.03**	**24**	*e*P	**P**	**09 50 45.5**	**-0.4**
NAY				AMb	AMB	09 50 47.4	
	comp=Z,30nm,1.0s,mb5.0						
KBD	**Kabd**	**40.15**	**24**	*e*P	**P**	**09 50 46.8**	**-0.1**
KBD				AMb	AMB	09 50 48.7	
	comp=Z,58nm,1.2s,mb5.2						
MIB	**Mutribah**	**40.56**	**23**	*e*P	**P**	**09 50 50.3**	**0.0**
MIB				AMb	AMB	09 50 51.9	
	comp=Z,80nm,0.9s,mb5.3						
HOQ	**Hoqain**	**40.71**	**40**	P	**P**	**09 50 52.1**	**+0.5**
	SNR=5.7						
SMDO	**Samad**	**40.81**	**41**	P	**P**	**09 50 52.8**	**+0.4**
	SNR=5.8						
CSS	**Prodhromos**	**42.28**	**4**	*e*P	**P**	**09 51 04.2**	**-0.1**
	comp=Z,95nm,1.5s,mb5.2						
BRTR	**Keskin Array B**	**47.04**	**4**	P	**P**	**09 51 42.6**	**+0.4**
	comp=Z,27nm,0.7s,mb5.3,baz=178,slow=9.5,SNR=152						
BRTR				LR	LR	10 13 57.9	
	comp=Z,217nm,18.1s,MS4.2,baz=9.5,slow=39						
BRTR	**Keskin Array B**	**47.04**	**4**	P	**P**	**09 51 42.6**	**+0.4**
BRTR	**Keskin Array B**	**47.04**	**4**	P	**P**	**09 51 42.6**	**+0.4**
BR131	**Keskin Array S**	**47.04**	**4**	*e*P	**P**	**09 51 42.6**	**+0.4**
	comp=Z,20nm,0.7s,mb5.2						
KEST	**Kesra**	**47.18**	**337**	LR	LR	10 13 50.8	
	comp=Z,205nm,18.1s,MS4.1,baz=337,slow=39						
GNI	**Garni**	**49.24**	**15**	*de*P	**P**	**09 52 00.2**	**+0.9**
GNI				pmax	pmax		
	comp=Z,24nm,1.2s						
BBTS	**Babate**	**51.20**	**295**	LR	LR	10 13 38.8	
	comp=Z,644nm,18.7s,MS4.7,baz=132,slow=36						
KIV	**Kislovodsk**	**52.40**	**11**	*e*P	**P**	**09 52 23.2**	**+0.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
KIV				MLR	MLR		
	comp=Z,258nm,18.0s,MS4.3						
KIV	**Kislovodsk**	**52.40**	**11**	P	**P**	**09 52 24.1**	**+1.0**
	SNR=6.0						
MAK	**Makhachkala**	**52.60**	**16**	*e*P	**P**	**09 52 25.7**	**+1.2**
MLR	**Muntele Rosu**	**52.82**	**356**	⇑*i*

LPL pmax pmax
comp=Z,58nm,1.4s,mb5.4
TUE Stuetta 56.77 343 *eP* **P 09 52 54.7 0.0**
comp=Z,17nm,1.1s,mb5.0
MOA Molln 56.80 347⇑ *iP* **P 09 52 55.0 +0.1**
comp=Z,40nm,1.3s,mb5.3
DAVOX Davos/Dischmat 56.90 344 LR LR 10 18 45.3
comp=Z,310nm,18.8s,MS4.4,baz=264,slow=38
RJOB Jochberg 57.03 346 *eP* **P 09 52 56.0 -0.5**
STHS Stebnicka Huta 57.14 353 *eP* **P 09 52 57.6 +0.3**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
STHS Stebnicka Huta 57.14 353 *eP* **P 09 52 57.6 +0.3**
LVV L'vov 57.26 355 *eP* **P 09 52 53.9 -4.2**
DAVA Damuels 57.36 344⇑ *iP* **P 09 52 58.9 0.0**
comp=Z,25nm,1.6s,mb5.0
VRAC Vranov 57.73 350⇓ *iP* **P 09 53 01.0 -0.5**
VRAC Vranov 57.73 350⇓ *iP* **P 09 53 01.0 -0.5**
FUR Furstenfeldbru 57.80 345 *eP* **P 09 53 01.8 -0.2**
FUR Furstenfeldbru 57.80 345 *eP* **P 09 53 01.8 -0.2**
GEC2 GERESS Array S 57.87 347 *eP* **P 09 53 02.5 +0.1**
comp=Z,34nm,1.4s,mb5.2
GEC2 GERESS Array S 57.87 347 *eP* **P 09 53 02.5 +0.1**
GEC2 pmax pmax
comp=Z,34nm,1.4s,mb5.2
GERES GERESS Array B 57.87 347 P **P 09 53 02.5 +0.1**
comp=Z,3.9nm,0.7s,mb4.6,baz=166,slow=7.1,SNR=31
GERES LR LR 10 20 27.2
comp=Z,321nm,21.5s,MS4.4,baz=7.0,slow=39
GERES GERESS Array B 57.87 347 P **P 09 53 02.5 +0.1**
GERES GERESS Array B 57.87 347 P **P 09 53 02.5 +0.1**
KIEV Kiev 57.90 359 *eP* **P 09 53 01.9 -0.7**
comp=Z,24nm,0.7s,mb5.3
KIEV Kiev 57.90 359 *d iP* **P 09 53 02.0 -0.6**
AKASG Malin Array Be 57.91 359 P **P 09 53 02.1 -0.6**
comp=Z,18nm,0.6s,mb5.2,baz=182,slow=6.7,SNR=78
AKASG LR LR 10 20 43.2
comp=Z,141nm,18.1s,MS4.1,baz=320,slow=39
AKASG Malin Array Be 57.91 359 P **P 09 53 02.1 -0.6**
AKASG Malin Array Be 57.91 359 P **P 09 53 02.1 -0.5**
AKBB Malin Array Si 57.91 359 *eP* **P 09 53 01.9 -0.8**
AKBB Malin Array Si 57.91 359 *eP* **P 09 53 01.9 -0.7**
TREC Trest 57.92 349 *eP* **P 09 53 02.1 -0.7**
TREC Trest 57.92 349 *eP* **P 09 53 02.1 -0.7**
OKC Ostrava-Krasne 57.98 351 *eP* **P 09 53 02.6 -0.6**
OKC Ostrava-Krasne 57.98 351 *eP* **P 09 53 02.6 -0.6**
MORC Moravsky Berou 58.02 350 *eP* **P 09 53 03.1 -0.4**
comp=Z,16nm,1.1s,mb5.0
MORC Moravsky Berou 58.02 350⇑ *iP* **P 09 53 03.4 -0.1**
MORC Moravsky Berou 58.02 350⇑ *iP* **P 09 53 03.4 -0.1**
OJC Ojcow 58.12 352 *eP* **P 09 53 03.8 -0.3**
comp=Z,12nm,1.2s,mb4.8
OJC Ojcow 58.12 352 *eP* **P 09 53 03.8 -0.3**
OJC pmax pmax
comp=Z,12nm,1.2s,mb4.8
KHC Kasperske Hory 58.16 347 *eP* **P 09 53 03.0 -1.5**
comp=Z,35nm,1.3s,mb5.2
KHC Kasperske Hory 58.16 347 *eP* **P 09 53 04.3 -0.2**
KHC Kasperske Hory 58.16 347 *eP* **P 09 53 04.3 -0.2**
KHC *ex* x 09 53 22.5
WET Wettzell 58.33 347 *eP* **P 09 53 05.4 -0.3**
comp=Z,15nm,1.4s,mb4.8
WET Wettzell 58.33 347 *eP* **P 09 53 05.4 -0.3**
WET pmax pmax
comp=Z,15nm,1.4s,mb4.8
PRU Pruhonice 58.77 348 *eP* **P 09 53 08.4 -0.3**
PRU Pruhonice 58.77 348 *eP* **P 09 53 08.4 -0.3**
DPC Dobruska-Polom 58.78 350 *eP* **P 09 53 08.7 -0.1**
comp=Z,15nm,1.2s,mb4.9
DPC Dobruska-Polom 58.78 350 *eP* **P 09 53 08.7 -0.1**
DPC pmax pmax
comp=Z,15nm,1.2s,mb4.9
DPC Dobruska-Polom 58.78 350 *eP* **P 09 53 08.2 -0.6**
VSR Storozhevoye 58.94 7 *eP* **P 09 53 08.9 -0.9**
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
UPC Upice 58.99 350 *eP* **P 09 53 10.0 -0.2**
UPC Upice 58.99 350 *eP* **P 09 53 10.0 -0.2**
ROTZ Rotzenmuhle 59.07 347 *eP* **P 09 53 10.9 +0.1**
comp=Z,29nm,1.5s,mb5.1
GRF Grafenberg Arr 59.23 346 *eP* **P 09 53 12.2 +0.3**
comp=Z,36nm,1.2s,mb5.3
GRF Grafenberg Arr 59.23 346 *eP* **P 09 53 12.2 +0.3**
GRF pmax pmax
comp=Z,36nm,1.2s,mb5.3
NKC Novy Kostel 59.45 347 *eP* **P 09 53 12.8 -0.6**
NKC Novy Kostel 59.45 347 *eP* **P 09 53 12.8 -0.6**
TANN Tannenbergstha 59.62 347 *eP* **P 09 53 14.8 +0.2**
comp=Z,30nm,1.5s,mb5.1
BRG Berggiesshubel 59.73 348 *eP* **P 09 53 15.1 -0.3**
comp=Z,12nm,1.3s,mb4.8
BRG Berggiesshubel 59.73 348 *e* **P 09 53 15.1 -0.3**
comp=Z,12nm,1.3s,mb4.8
MOX Moxa 60.02 347 *eP* **P 09 53 17.8 +0.4**
comp=Z,27nm,1.5s,mb5.1
MOX Moxa 60.02 347 *eP* **P 09 53 17.8 +0.4**
MOX pmax pmax
comp=Z,27nm,1.5s,mb5.1
CLL Collm 60.34 348 *i* P **P 09 53 19.3 -0.2**
CLL pmax pmax
comp=Z,12nm,1.2s,mb4.8
CLL Collm 60.34 348 *i* P **P 09 53 19.3 -0.2**
comp=Z,12nm,1.2s,mb4.8
CLL *e*PP PP 09 55 29.0 -3.7
UBBA Unterbreizbach 60.57 346 *eP* **P 09 53 21.0 -0.1**
comp=Z,35nm,1.6s,mb5.2
CLZ Clausthal 61.43 346 *eP* **P 09 53 27.7 +0.8**
comp=Z,17nm,1.3s,mb5.0
CLZ Clausthal 61.43 346 *eP* **P 09 53 27.7 +0.8**
CLZ pmax pmax
comp=Z,17nm,1.3s,mb5.0
SUW Suwalki 61.50 355 *eP* **P 09 53 27.3 -0.1**
SUW Suwalki 61.50 355 *eP* **P 09 53 27.2 -0.1**
comp=Z,86nm,1.0s,mb5.8
SUW Suwalki 61.50 355 *eP* **P 09 53 27.3 0.0**
BUG Bochum--Univer 61.85 344 *eP* **P 09 53 29.9 +0.1**
NRDL Niedersach Rie 62.09 346 *eP* **P 09 53 32.4 +1.0**
AB31 Akbulak array 62.19 22 *eP* **P 09 53 30.4 -1.7**
AB31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.6
ABKAR Akbulak array 62.19 22 *eP* **P 09 53 31.4 -0.7**
comp=Z,0.9nm,0.4s,mb4.2
KK31 Karatay Array 62.25 32 *i* P **P 09 53 32.3 -0.4**
KK31 pmax pmax
comp=Z,42nm,1.2s,mb5.4
KKAR Karatay Array 62.25 32 *eP* **P 09 53 32.9 +0.2**
comp=Z,9.5nm,0.7s,mb5.0
KKAR Karatay Array 62.25 32 *eP* **P 09 53 32.9 +0.2**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KOLN Koldanda 62.41 53 *eP* **P 09 53 33.5 -0.5**
KOLN Koldanda 62.41 53 *eP* **P 09 53 33.5 -0.5**
OBN Obninsk 62.55 4⇑ *iP* **P 09 53 34.0 -0.4**
OBN *e* 09 55 51.0
OBN *e*S **S 10 02 01.8 -0.2**
OBN *e*SS SS 10 06 02.3 -4.2
OBN pmax pmax
comp=Z,84nm,2.5s,mb5.4
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.3
IIGN Ignalina 62.64 358 *eP* **P 09 53 35.5 +0.5**
IIGN AMB AMB 09 53 36.6
comp=Z,15nm,1.1s,mb5.0
DANN Dangsing 62.79 53 *eP* **P 09 53 35.8 -0.7**
comp=Z,34nm,0.7s,mb5.6
DANN Dangsing 62.79 53 *eP* **P 09 53 35.8 -0.7**
comp=Z,34nm,0.7s,mb5.6
ISAL Salakas 62.87 357 *eP* **P 09 53 37.0 +0.5**
ISAL AMB AMB 09 53 37.9
comp=Z,9.9nm,1.1s,mb4.9
IZAR Zarasai 63.04 358 *eP* **P 09 53 38.1 +0.5**
IZAR AMB AMB 09 53 39.0
comp=Z,10nm,1.2s,mb4.8
KSH Kashi 63.08 39 *eP* **P 09 53 34.0 -4.3**
KSH PcP PcP 09 54 14.3 -1.7
KSH PP PP 09 55 53.9 -3.3
KSH ScP ScP 09 58 13.6 -5.0
KSH PcS PcS 09 58 15.8 -3.6
KSH S **S 10 01 57.1 -12**
KSH ScS ScS 10 03 21.3 -10
KSH SS SS 10 06 02.6 -13

KSH pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
KSH pmax pmax
comp=Z,130nm,7.4s
KSH LR LR
comp=N,230nm,8.2s
KSH LR LR
comp=E,290nm,6.9s
KSH LR LR
comp=Z,220nm,6.6s
MOS Moscow 63.26 5 *eP* **P 09 53 38.0 -1.1**
MOS *e* 09 53 45.4
MOS *e* 09 54 15.2
MOS pmax pmax
comp=Z,37nm,0.7s,mb5.6
GKN Gorkha 63.33 54 *eP* **P 09 53 39.5 -0.7**
comp=Z,42nm,1.0s,mb5.5
GKN Gorkha 63.33 54 *eP* **P 09 53 39.5 -0.7**
comp=Z,42nm,1.0s,mb5.5
AML Almayashu 63.36 35 P **P 09 53 40.4 +0.3**
SNR=8.2
AML P 09 53 40.4
SNR=8.2
BSEG Bad Segeberg 63.38 347 *eP* **P 09 53 40.5 +0.6**
comp=Z,60nm,1.4s,mb5.5
BSEG Bad Segeberg 63.38 347 *eP* **P 09 53 40.5 +0.6**
BSEG pmax pmax
comp=Z,60nm,1.4s,mb5.5
DMN Daman 63.54 54 *eP* **P 09 53 41.3 -0.3**
DMN Daman 63.54 54 *eP* **P 09 53 41.3 -0.3**
EKS2 Erkin-Say 63.75 35 P **P 09 53 43.0 +0.4**
SNR=6.1
EKS2 P 09 53 43.0
SNR=6.1
EKS2 Erkin-Say 63.75 35 *eP* **P 09 53 42.9 +0.2**
comp=Z,37nm,1.9s,mb5.1
EKS2 Erkin-Say 63.75 35 *eP* **P 09 53 42.9 +0.3**
EKS2 pmax pmax
comp=Z,37nm,1.9s,mb5.1
KKN Kakani 63.76 54 *eP* **P 09 53 42.4 -0.6**
KKN Kakani 63.76 54 *eP* **P 09 53 42.4 -0.6**
KKN Kakani 63.76 54 *eP* **P 09 53 42.4 -0.6**
PKI Pulchoki 63.77 54 *eP* **P 09 53 42.2 -0.9**
PKI Pulchoki 63.77 54 *eP* **P 09 53 42.2 -0.9**
PKI Pulchoki 63.77 54 *eP* **P 09 53 42.2 -0.9**
MAW Mawson 64.00 167 P **P 09 53 46.2 +2.3**
comp=Z,7.7nm,0.8s,mb4.8,baz=0.4,slow=6.3,SNR=24
MAW LR LR 10 17 01.9
comp=Z,238nm,20.8s,MS4.4,baz=324,slow=32
MAW Mawson 64.00 167 *eP* **P 09 53 46.3 +2.4**
comp=Z,2.6nm,0.8s,mb4.3
MAW Mawson 64.00 167 *eP* **P 09 53 46.3 +2.4**
MAW pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 64.14 35 P **P 09 53 45.6 +0.4**
SNR=5.7
AAK P 09 53 45.6
SNR=5.7
AAK Ala-Archa 64.14 35 P **P 09 53 45.0 -0.2**
comp=Z,40nm,1.2s,mb5.3,SNR=5.3
AAK Ala-Archa 64.14 35 *eP* **P 09 53 44.9 -0.3**
comp=Z,320nm,2.4s,mb5.9
AAK Ala-Archa 64.14 35 *eP* **P 09 53 44.9 -0.3**
AAK pmax pmax
comp=Z,320nm,2.4s,mb5.9
AAK Ala-Archa 64.14 35 P **P 09 53 45.9 +0.7**
SNR=6.5
KZA Kyzart 64.22 36 P **P 09 53 46.7 +1.0**
SNR=11
KZA P 09 53 46.7
SNR=11
GUN Gumba 64.29 54 *eP* **P 09 53 45.8 -0.7**
comp=Z,83nm,1.1s,mb5.7
GUN Gumba 64.29 54 *eP* **P 09 53 45.8 -0.7**
comp=Z,83nm,1.1s,mb5.7
KBK Karagaybulak 64.41 35 P **P 09 53 47.8 +0.8**
SNR=7.4
KBK P 09 53 47.8
SNR=7.4
JIRN Jiri 64.44 55 *eP* **P 09 53 47.0 -0.5**
comp=Z,23nm,0.7s,mb5.3
JIRN Jiri 64.44 55 *eP* **P 09 53 47.0 -0.5**
comp=Z,23nm,0.7s,mb5.3
RAMN Ramite 64.49 56 *eP* **P 09 53 46.7 -1.1**
RAMN Ramite 64.49 56 *eP* **P 09 53 46.7 -1.1**
CHMS Chumysh 64.51 35 P **P 09 53 47.6 0.0**
SNR=5.9
CHMS P 09 53 47.6
SNR=5.9
USP Ospenovka 64.54 34 P **P 09 53 47.8 0.0**
SNR=12
USP P 09 53 47.8
SNR=12
ULHL Ulahol 64.90 36 P **P 09 53 50.8 +0.6**
SNR=10
ULHL P 09 53 50.8
SNR=10
TKM2 Tokmak 2 64.95 35 P **P 09 53 50.6 +0.1**
SNR=17
TKM2 P 09 53 50.6
SNR=17
TKM2 Tokmak 2 64.95 35 *eP* **P 09 53 50.6 +0.1**
comp=Z,43nm,1.4s,mb5.3
TKM2 Tokmak 2 64.95 35 *eP* **P 09 53 50.6 +0.1**
TKM2 pmax pmax
comp=Z,43nm,1.4s,mb5.3
ODAN Odare 65.10 56 *eP* **P 09 53 51.5 -0.3**
ODAN Odare 65.10 56 *eP* **P 09 53 51.5 -0.3**
TAPN Taplejung 65.55 56 *eP* **P 09 53 54.7 0.0**
TAPN Taplejung 65.55 56 *eP* **P 09 53 54.7 0.0**
ARU Arti 67.82 17 *eP* **P 09 54 08.0 -0.6**
comp=Z,12nm,0.7s,mb5.0
ARU Arti 67.82 17 *d iP* **P 09 54 07.9 -0.7**
ARU 09 56 34.9
ARU S S 10 03 08.2 +1.5
ARU SS SS 10 07 20.8 -7.7
ARU pmax pmax
comp=Z,23nm,1.2s,mb5.1
KLMR Klimovskoe 68.48 5 *eP* **P 09 54 10.6 -2.0**
KLMR pmax pmax
comp=Z,58nm,1.5s,mb5.4
HFS Hagfors 68.61 351 LR LR 10 27 41.6
comp=Z,330nm,19.3s,MS4.6,baz=341,slow=39
FINES FINESS Array B 68.74 358 P **P 09 54 13.8 -0.4**
comp=Z,6.8nm,0.6s,mb4.8,baz=164,slow=6.7,SNR=37
FINES FINESS Array B 68.74 358 P **P 09 54 13.8 -0.4**
FINES FINESS Array B 68.74 358 P **P 09 54 13.9 -0.4**
BRVK Borovoye 69.22 25 *eP* **P 09 54 16.7 -0.7**
comp=Z,6.5nm,1.1s,mb4.5
BRVK Borovoye 69.22 25 *de*P **P 09 54 16.6 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BVA0 Borovoye Array 69.24 25 *i* P **P 09 54 16.3 -1.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
KAF Kangasniemi 69.40 358 *eP* **P 09 54 17.1 -1.3**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KAF Kangasniemi 69.40 358 *ep* **P 09 54 17.1 -1.3**
comp=Z,9.8nm,0.7s,mb4.8
NB2 NORSAR Subarra 69.86 350 P **P 09 54 20.7 -0.5**
comp=Z,24nm,1.4s,baz=164,slow=5.9
NOA NORSAR Array B 69.86 350 P **P 09 54 21.2 0.0**
comp=Z,7.3nm,1.0s,mb4.5,baz=163,slow=5.7,SNR=5.5
NOA LR LR 10 27 51.6
comp=Z,133nm,21.5s,MS4.2,baz=280,slow=38
NOA NORSAR Array B 69.86 350 P **P 09 54 21.1 0.0**
NOA NORSAR Array B 69.86 350 P **P 09 54 21.2 0.0**
SOKR Solikamsk 70.10 14 *eP* **P 09 54 22.7 0.0**
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
JOF Joensuu 70.16 1 *eP* **P 09 54 22.1 -0.9**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
JOF Joensuu 70.16 1 *ep* **P 09 54 22.1 -0.9**
comp=Z,3.7nm,0.6s,mb4.5
MK31 Makanchi Array 71.07 35 *eP* **P 09 54 28.9 0.0**
MK31 Makanchi Array 71.07 35 *i P* **P 09 54 28.3 -0.6**
MK31 pmax pmax
comp=Z,24nm,0.8s,mb5.2
MKAR Makanchi Array 71.07 35 P **P 09 54 28.9 -0.1**
comp=Z,15nm,0.7s,mb5.0,baz=231,slow=7.7,SNR=104
MKAR LR LR 10 28 52.9
comp=Z,296nm,18.8s,MS4.6,baz=245,slow=39
MKAR Makanchi Array 71.07 35 *eP* **P 09 54 28.3 -0.6**
MKAR Makanchi Array 71.07 35 *eP* **P 09 54 28.3 -0.6**

KURK Kurchatov 71.43 30 *eP* **P 09 54 30.6 -0.5**
comp=Z,59nm,1.8s,mb5.2
KURK Kurchatov 71.43 30 P **P 09 54 31.7 +0.7**
comp=Z,70nm,1.3s,mb5.4,SNR=8.0
KURK Kurchatov 71.43 30 *de*P **P 09 54 31.1 +0.1**
KURK pmax pmax
comp=Z,30nm,1.7s,mb5.0
KURK Kurchatov 71.43 30 P **P 09 54 31.7 +0.6**
SNR=7.7
CMAR Chiang Mai Arr 72.58 68 P **P 09 54 38.7 +0.1**
comp=Z,5.0nm,0.9s,mb4.5,baz=258,slow=7.2,SNR=27
CMAR LR LR 10 27 16.6
comp=Z,132nm,18.4s,MS4.2,baz=236,slow=36
CMAR Chiang Mai Arr 72.58 68 P **P 09 54 38.7 +0.1**
CMAR Chiang Mai Arr 72.58 68 P **P 09 54 38.7 +0.1**
CHTO Chiang Mai 72.67 68 *eP* **P 09 54 38.8 -0.3**
comp=Z,11nm,1.0s,mb4.7
CHTO Chiang Mai 72.67 68 *eP* **P 09 54 38.8 -0.3**
CHTO pmax pmax
comp=Z,11nm,1.0s,mb4.7
WMQ Urumqi 72.78 40 P **P 09 54 39.6 +0.3**
WMQ pP pP 09 54 44.3 +1.8
WMQ PP PP 09 57 23.4 +2.0
WMQ S S 10 04 03.3 -1.8
WMQ pmax pmax
comp=Z,19nm,1.2s,mb4.9
WMQ pmax pmax
comp=Z,250nm,5.0s
WMQ LR LR
comp=N,270nm,20.6s,MS4.7
WMQ LR LR
comp=E,280nm,20.6s,MS4.7
WMQ LR LR
comp=Z,280nm,23.4s,MS4.5
NVS Novosibirsk 76.15 28 *eP* **P 09 54 57.8 -0.8**
NVS *e* 09 57 49.9
NVS pmax pmax
comp=N,18nm,1.4s
NVS pmax pmax
comp=Z,50nm,1.4s,mb5.2
NVS pmax pmax
comp=E,12nm,1.8s
ZAA0 Zalesovo Array 76.41 30 *eP* **P 09 54 59.1 -1.0**
ZALV Zalesovo Beam 76.41 30 P **P 09 54 59.4 -0.8**
comp=E,3.1nm,0.7s,mb4.4,baz=253,slow=5.3,SNR=20
ZALV PP PP 09 57 51.5 -0.4
comp=E,6.1nm,1.1s,baz=239,slow=8.4,SNR=8.7
ZALV LR LR 10 31 48.1
comp=E,359nm,18.1s,MS4.7,baz=69,slow=38
ZALV Zalesovo Beam 76.41 30 P **P 09 54 59.4 -0.8**
ZALV PP PP 09 57 51.5 -0.4
ZALV Zalesovo Beam 76.41 30 P **P 09 54 59.4 -0.7**
ZALV 09 57 51.5
ARCES ARCESS Array B 76.86 358 P **P 09 55 02.2 -0.2**
comp=E,4.8nm,0.6s,mb4.6,baz=172,slow=6.6,SNR=54
ARCES LR LR 10 29 12.2
comp=E,181nm,18.6s,MS4.4,baz=8.2,slow=36
ARCES ARCESS Array B 76.86 358 P **P 09 55 02.2 -0.2**
ARCES ARCESS Array B 76.86 358 P **P 09 55 02.2 -0.1**
KEV Kevo 77.05 359 *eP* **P 09 55 02.6 -0.8**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KEV Kevo 77.05 359 *ep* **P 09 55 02.6 -0.8**
comp=Z,4.3nm,0.6s,mb4.6
KMI Kunming 77.64 62 P **P 09 55 08.8 +1.1**
KMI pmax pmax
comp=Z,14nm,1.0s,mb4.8
KMI LR LR
comp=Z,170nm,30.5s,MS4.2
KMI Kunming 77.64 62 P **P 09 55 08.8 +1.1**
comp=Z,14nm,1.0s,mb4.8
KMI LR LR
comp=Z,170nm,30.5s,MS4.2
KMI Kunming 77.64 62 P **P 09 55 08.8 +1.1**
KMI pmax pmax
comp=Z,14nm,1.0s,mb4.8
KMI MLR MLR
comp=Z,170nm,30.5s,MS4.2
GTA Gaotai 79.33 48⇓ P **P 09 55 17.8 +1.1**
GTA pP pP 09 55 22.4 +2.4
GTA S S 10 05 17.0 -0.5
GTA SS SS 10 10 27.5 +2.7
GTA pmax pmax
comp=Z,12nm,1.4s,mb4.6
GTA pmax pmax
comp=Z,140nm,4.3s
GTA LR LR
comp=N,260nm,19.2s,MS4.8
GTA LR LR
comp=E,320nm,20.4s,MS4.8
GTA LR LR
comp=Z,300nm,19.7s,MS4.6
HVS Khovu-Aksy 79.75 35 *d iP* **P 09 55 19.4 +0.7**
HVS pmax pmax
comp=Z,131nm,1.2s,mb5.7
CD2 Chengdu 79.97 57 *eP* **P 09 55 20.8 +0.4**
CD2 PP PP 09 58 24.3 +2.0
CD2 S S 10 05 23.0 -1.6
CD2 SS SS 10 10 35.8 +1.1
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CD2 pmax pmax
comp=Z,50nm,4.8s
CD2 LR LR
comp=Z,160nm,14.3s,MS4.5
GYA Guiyang 81.39 62 *eP* **P 09 55 30.0 +1.9**
GYA PP PP 09 58 37.3 +3.1
GYA S S 10 05 38.9 -0.8
GYA SKS 10 05 43.4
GYA SS SS 10 10 57.8 +1.7
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,130nm,6.3s
GYA LR LR
comp=N,520nm,19.3s,MS5.0
GYA LR LR
comp=E,460nm,20.0s,MS5.0
GYA LR LR
comp=Z,530nm,21.1s,MS4.9
LZH Lanzhou 81.40 52 *eP* **P 09 55 29.5 +1.6**
LZH pP pP 09 55 33.3 +2.1
LZH PP PP 09 58 37.6 +3.6
LZH pmax pmax
comp=Z,27nm,1.3s,mb5.0
LZH pmax pmax
comp=Z,75nm,7.5s
LZH LR LR
comp=N,190nm,16.6s,MS4.6
LZH LR LR
comp=E,130nm,15.2s,MS4.6
LZH LR LR
comp=Z,390nm,19.6s,MS4.8
LZH Lanzhou 81.40 52 *eP* **P 09 55 29.5 +1.6**
comp=Z,27nm,1.3s,mb5.0
LZH pP pP 09 55 33.2 +2.0
LZH sP sP 09 55 35.0 +2.6
LZH PP PP 09 58 37.6 +3.6
LZH LR LR
comp=Z,390nm,19.6s,MS4.8
LZH Lanzhou 81.40 52 *eP* **P 09 55 29.5 +1.6**
LZH *PP pP 09 55 33.2 +2.0
LZH *SP sP 09 55 35.0 +2.6
LZH 09 58 37.6
LZH pmax pmax
comp=Z,27nm,1.3s,mb5.0
LZH MLR MLR
comp=Z,390nm,19.6s,MS4.8
BORG Borgarnes 81.43 340 LR LR 10 30 45.6
comp=Z,442nm,20.1s,MS4.8,baz=31,slow=35
NWAO Narrogin (SRO) 83.60 122 P **P 09 55 40.1 +0.5**
comp=Z,6.8nm,0.7s,mb4.9,baz=241,slow=2.7,SNR=3.9
NWAO Narrogin (SRO) 83.60 122 P **P 09 55 40.1 +0.5**
NWAO Narrogin (SRO) 83.60 122 P **P 09 55 40.1 +0.5**
ZAK Zakamensk 85.12 38 *eP* **P 09 55 47.6 +0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.4
SONM Songino Array 86.37 41 P **P 09 55 54.0 +1.0**
comp=Z,6.4nm,1.1s,mb4.8,baz=239,slow=5.2,SNR=20
SONM Songino Array 86.37 41 P **P 09 55 54.0 +1.0**
SONM Songino Array 86.37 41 P **P 09 55 54.0 +1.0**
ULN Ulaanbaatar 86.80 41 *eP* **P 09 55 56.0 +0.8**
comp=Z,13nm,1.3s,mb5.0
ULN Ulaanbaatar 86.80 41 *eP* **P 09 55 56.0 +0.8**
ULN pmax pmax
comp=Z,13nm,1.3s,mb5.0

HHC	**Hu-ho-hao-te**	**88.40**	**49**	*eP*	**P**		**09 56 02.3**	**-0.7**
HHC				PP	PP		09 59 32.6	+1.7
HHC				SKS			10 06 28.8	
HHC				S	S		10 06 46.8	-1.9
HHC				SS	SS		10 12 40.9	+2.1
HHC				pmax	pmax			
	comp=Z,17nm,0.5s,mb5.5							
HHC				pmax	pmax			
	comp=Z,140nm,5.5s							
HHC				LR	LR			
	comp=N,280nm,17.8s,MS5.0							
HHC				LR	LR			
	comp=E,380nm,17.8s,MS5.0							
HHC				LR	LR			
	comp=Z,500nm,17.8s,MS5.0							
BJI	**Beijing**	**91.73**	**50**	P	**P**		**09 56 18.5**	**-0.1**
BJI				PP	PP		09 59 56.9	-0.5
BJI				S	S		10 07 19.5	-0.1
BJI				SS	SS		10 13 28.0	+0.9
BJI				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb5.1							
BJI				pmax	pmax			
	comp=Z,120nm,5.8s							
BJI				LR	LR			
	comp=N,340nm,17.4s,MS4.9							
BJI				LR	LR			
	comp=E,230nm,17.4s,MS4.9							
BJI				LR	LR			
	comp=Z,330nm,26.1s							
FITZ	**Fitzroy Crossi**	**92.93**	**109**	P	**P**		**09 56 24.9**	**+0.2**
	comp=Z,3.0nm,0.6s,mb4.9,baz=248,slow=4.1,SNR=12							
FITZ	**Fitzroy Crossi**	**92.93**	**109**	P	**P**		**09 56 24.9**	**+0.2**
PLCA	**Paso Flores**	**93.20**	**228**	LR	LR		10 35 26.1	
	comp=Z,756nm,18.6s,MS5.2,baz=70,slow=34							
LPAZ	**La Paz**	**95.78**	**253**	P	**P**		**09 56 39.2**	**+1.4**
	comp=Z,1.0nm,0.9s,mb4.3,baz=69,slow=8.6,SNR=2.4							
LPAZ				LR	LR		10 36 02.8	
	comp=Z,310nm,20.9s,MS4.8,baz=110,slow=33							
LPAZ	**La Paz**	**95.78**	**253**	P	**P**		**09 56 39.2**	**+1.4**
LPAZ	**La Paz**	**95.78**	**253**	P	**P**		**09 56 39.2**	**+1.4**
CN2	**Changchun**	**98.95**	**47**	*eP*	**P**		**09 56 52.4**	**+1.0**
ASAR	**Alice Springs**	**99.53**	**115**	P	**P**		**09 56 55.0**	**+0.5**
	comp=Z,0.6nm,0.6s,mb4.2,baz=267,slow=4.0,SNR=8.7							
ASAR	**Alice Springs**	**99.53**	**115**	P	**P**		**09 56 55.0**	**+0.5**
ASAR	**Alice Springs**	**99.53**	**115**	P	**P**		**09 56 55.1**	**+0.6**
SCHQ	**Schefferville**	**100.03**	**324**	LR	LR		10 42 47.5	
	comp=Z,519nm,18.0s,MS5.1,baz=106,slow=36							
WRA	**Warramunga Arr**	**100.70**	**112**	P	Pdif		09 56 59.5	+0.5
	comp=Z,0.5nm,0.7s,baz=257,slow=2.7,SNR=8.7							
WRA	**Warramunga Arr**	**100.70**	**112**	P	Pdif		09 56 59.5	+0.5
WRA	**Warramunga Arr**	**100.70**	**112**	P	Pdif		09 56 59.5	+0.5
YKA	**Yellowknife Ar**	**119.32**	**342**	PKP	PKPdf		10 01 59.0	-0.8
	comp=Z,0.2nm,0.6s,baz=37,slow=2.2,SNR=5.8							
YKA	**Yellowknife Ar**	**119.32**	**342**	PKP	PKPdf		10 01 59.0	-0.8
YKA	**Yellowknife Ar**	**119.32**	**342**	PKIKP	PKPdf		10 01 59.0	-0.8
ILAR	**Eielson Array**	**122.73**	**358**	PKP	PKPdf		10 02 05.7	-0.7
	comp=Z,0.4nm,1.0s,baz=334,slow=3.2,SNR=4.3							
ILAR	**Eielson Array**	**122.73**	**358**	PKP	PKPdf		10 02 05.7	-0.7
ILAR	**Eielson Array**	**122.73**	**358**	PKIKP	PKPdf		10 02 05.7	-0.6
DZM	**Mont Dzumac**	**128.13**	**125**	*e*LR	LR		10 42 54.2	
	comp=Z,330nm,21.4s							
PDAR	**Pinedale Array**	**130.07**	**321**	PKP	PKPdf		10 02 20.9	-0.1
	comp=Z,0.8nm,1.0s,baz=92,slow=2.1,SNR=4.4							
PDAR	**Pinedale Array**	**130.07**	**321**	PKP	PKPdf		10 02 20.9	-0.1
TXAR	**Lajitas Array**	**131.43**	**303**	PKP	PKPdf		10 02 24.4	+0.3
	comp=Z,0.5nm,0.9s,baz=28,slow=6.3,SNR=3.4							
TXAR	**Lajitas Array**	**131.43**	**303**	PKP	PKPdf		10 02 24.4	+0.3
TXAR	**Lajitas Array**	**131.43**	**303**	PKIKP	PKPdf		10 02 24.4	+0.4
NVAR	**Mina Array Bea**	**138.00**	**322**	PKhKP	PKPpre		10 02 28.6	
	comp=Z,0.3nm,0.7s,baz=114,slow=2.3,SNR=2.7							
NVAR				PKP	PKPdf		10 02 36.4	+0.4
	comp=Z,0.9nm,0.9s,baz=76,slow=6.3,SNR=4.2							
NVAR	**Mina Array Bea**	**138.00**	**322**	PKPpre	PKPpre		10 02 28.6	
NVAR				PKP	PKPdf		10 02 36.4	+0.4
TBI	**Tubuai**	**149.40**	**181**	*e*LR	LR		10 52 46.2	
	comp=Z,177nm,25.8s							
PPT	**Papeete**	**155.15**	**181**	*e*LR	LR		10 55 25.4	
	comp=Z,282nm,23.8s							
TAOE	**Nuku Hiva Isla**	**161.13**	**211**	*e*LR	LR		10 58 04.0	
	comp=Z,278nm,24.4s							

*IDC **14** 09:46:31.5±0.9, 9°.28N×122°.67E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.7/5, MS3.3/4, Ms1 3.3/4, ms1mx2.8/35, Error ellipse: s-maj=53.8km s-min=20.5km az=65.0*

*ISCJB **14** 09:46:34.4±1.4, 9°.17N±0°.05×122°.49E±0°.07, h29km±10km, mb3.7/5, MS3.1/2, Error ellipse: s-maj=11.2km s-min=7.6km az=19.8*

*MAN **14** 09:46:34, 9°.25N×122°.45E, h31km, mb4.5, ML3.4, MS3.2*

ISC 14 09:46:34.8±1.7, 9°.18N±0°.05×122°.52E±0°.07, h22km±13km, n18, σ0s79/18, mb3.7/5, MS3.1/2, 4C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.73**	**77**	⇑*iP*	**Pb**	**09 46 47.9**	**-0.9**
SNPH				*i*S	**Sb**	**09 46 58.8**	**+0.6**
IPIL	**Ipil**	**1.38**	**178**	*eP*	**Pn**	**09 46 58.9**	**+0.1**
IPIL				*e*S	**Sn**	**09 47 09.7**	**-6.8**
TBP	**Tagbilaran**	**1.42**	**69**	*eP*	**Pn**	**09 46 58.9**	**-0.4**
TBP				*e*S	**Sn**	**09 47 17.0**	**-0.3**
PAGZ	**Pagadian**	**1.57**	**147**	*eP*	**Pn**	**09 47 02.2**	**+0.8**
LLP	**Lapu-Lapu**	**1.82**	**51**	⇑*eP*	**Pn**	**09 47 03.9**	**-0.9**
LLP				*e*S	**Sn**	**09 47 27.4**	**+0.1**
RCP	**Roxas**	**2.38**	**5**	⇑*eP*	**Pn**	**09 47 12.3**	**-0.2**
RCP				*e*S	**Sn**	**09 47 42.8**	**+1.8**
CTBH	**Cotabato--PC H**	**2.59**	**139**	⇑*iP*	**Pn**	**09 47 16.3**	**+0.9**
BUKP	**Musuan**	**2.83**	**117**	*eP*	**Pn**	**09 47 22.3**	**+3.7**
DAV	**Davao City (W)**	**3.68**	**124**	LR	LR	09 49 06.6	
	comp=Z,450nm,20.5s,baz=178,slow=43						
KAPI	**Kappang**	**14.37**	**191**	LR	LR	09 55 36.7	
	comp=Z,145nm,19.7s,baz=356,slow=38						
CMAR	**Chiang Mai Arr**	**24.65**	**294**	P	**P**	**09 51 54.4**	**+0.2**
	0.8nm,0.4s,mb3.6,baz=120,slow=8.4,SNR=5.5						
KSRS	**Korea Array**	**28.57**	**9**	LR	LR	10 06 07.2	
	comp=Z,32nm,19.5s,MS2.9,baz=190,slow=41						
MJAR	**Matsushiro Arr**	**30.74**	**25**	LR	LR	10 05 03.3	
	comp=Z,52nm,18.1s,MS3.2,baz=35,slow=36						
WRA	**Warramunga Arr**	**31.19**	**158**	P	**P**	**09 52 52.4**	**-0.2**
	1.0nm,0.5s,mb3.9,baz=332,slow=10,SNR=11						
ASAR	**Alice Springs**	**34.49**	**161**	P	**P**	**09 53 21.2**	**-0.1**
	0.7nm,0.6s,mb3.8,baz=340,slow=7.1,SNR=19						
ASAR				PcP	PcP	09 55 58.8	+2.4
	0.2nm,0.5s,baz=341,slow=2.8,SNR=4.6						
SONM	**Songino Array**	**40.87**	**343**	P	**P**	**09 54 14.6**	**-0.5**
	0.4nm,0.8s,mb3.1,baz=153,slow=8.8,SNR=3.2						
YKA	**Yellowknife Ar**	**96.23**	**23**	P	**P**	**09 59 60.0**	**-1.2**
	0.5nm,1.0s,mb3.9,baz=297,slow=5.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**117.20**	**290**	PKP	PKPdf	10 05 21.0	+1.6
	0.7nm,0.9s,baz=74,slow=3.4,SNR=2.1						

IDC 14 09:51:40.9±2.3, 6°.68S×129°.85E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.4/15, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=89.5km s-min=29.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.07**	**200**	Pn	Pn	09 54 34.6	+0.3
	0.2nm,0.3s,baz=25,slow=10,SNR=11						
FITZ				Sn	Sn	09 56 34.1	-16
	0.1nm,0.3s,baz=322,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	Pn	09 54 58.4	-0.7
	0.1nm,0.3s,baz=344,slow=14,SNR=9.4						
WRA				Sn	Sn	09 57 17.4	-17
	0.3nm,0.3s,baz=337,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**17.33**	**167**	Pn	Pn	09 55 44.7	+0.3
	0.1nm,0.3s,baz=340,slow=9.1,SNR=4.9						
ASAR				Sn	Sn	09 58 40.6	-17
	0.0nm,0.3s,baz=350,slow=26,SNR=3.0						
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	10 02 41.2	+0.1
	0.2nm,0.3s,baz=120,slow=6.7,SNR=5.0						

*SKO **14** 09:57:00.5, 39°.90N×22°.68E, h50km*

*ATH **14** 09:57:03.2, 39°.99N×22°.46E, h26km±1km, MD3.3/7*

*ISCJB **14** 09:57:04.3±0.5, 39°.98N±0°.03×22°.47E±0°.05, h19km±8km, Error ellipse: s-maj=7.4km s-min=4.2km az=31.2*

*CSEM **14** 09:57:04.4±0.4, 40°.00N×22°.43E, h35km±5km, MD3.3, Error ellipse: s-maj=14.1km s-min=8.3km az=114.0*

ISC 14 09:57:03.7±0.5, 39°.99N±0°.03×22°.48E±0°.05, h13km±5km, n18, σ0s69/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.56**	**221**	*e*PN	**Pg**	**09 57 13.9**	**-0.7**
THL				*e*SN	**Sg**	**09 57 22.3**	**+0.4**
THL	**Klokotos Trika**	**0.56**	**221**	*e*Pn	**Pg**	**09 57 13.9**	**-0.7**
THL				*e*Sn	**Sg**	**09 57 22.3**	**+0.4**
KZN	**Kozani**	**0.63**	**301**	*e*PN	**Pg**	**09 57 16.2**	**+0.1**
KZN				*e*SN	**Sg**	**09 57 24.9**	**+0.5**
KZN	**Kozani**	**0.63**	**301**	*e*Pn	**Pg**	**09 57 16.2**	**+0.1**
KZN				*e*Sn	**Sg**	**09 57 24.9**	**+0.5**
PLG	**Polygyros**	**0.83**	**62**	*e*PN	**Pg**	**09 57 19.3**	**-0.5**
PLG				*e*SN	**Sg**	**09 57 31.2**	**+0.5**
PLG	**Polygyros**	**0.83**	**62**	*e*Pn	**Pg**	**09 57 19.3**	**-0.5**
PLG				*e*Sn	**Sg**	**09 57 31.2**	**+0.5**
AGG	**Agios Georgios**	**0.97**	**187**	*e*PN	**Pg**	**09 57 21.7**	**-0.7**
AGG				*e*SN	**Sg**	**09 57 35.8**	**+0.7**
AGG	**Agios Georgios**	**0.97**	**187**	*e*Pn	**Pg**	**09 57 21.7**	**-0.7**
AGG				*e*Sn	**Sg**	**09 57 35.8**	**+0.7**
SOH	**Sokhos**	**1.07**	**38**	*e*PN	**Sg**	**09 57 23.4**	**-0.9**
SOH				*e*SN	**Sg**	**09 57 39.3**	**+1.1**
SOH	**Sokhos**	**1.07**	**38**	*e*Pn	**Pg**	**09 57 23.4**	**-0.9**
SOH				*e*Sn	**Sg**	**09 57 39.3**	**+1.1**
EVR	**Evrytania**	**1.19**	**206**	*e*PN	**Pn**	**09 57 25.8**	**-0.3**
EVR				*e*SN	**Sn**	**09 57 42.4**	**+0.3**
EVR	**Evrytania**	**1.19**	**206**	*e*Pn	**Pn**	**09 57 25.8**	**-0.3**
EVR				*e*Sn	**Sn**	**09 57 42.4**	**+0.3**
VAY	**Valandovo**	**1.33**	**3**	*e*Pn	**Pn**	**09 57 24.8**	**-3.3**
VAY				*e*Sg	**Sg**	**09 57 46.3**	**-0.5**
VAY	**Valandovo**	**1.33**	**3**	*e*Pn	**Pn**	**09 57 24.7**	**-3.4**
VAY				*e*Sg	**Sg**	**09 57 46.2**	**-0.5**
KRUS	**Krusevo**	**1.67**	**326**	*e*Pn	**Pn**	**09 57 33.2**	**+0.5**
KRUS	**Krusevo**	**1.67**	**326**	*e*Pn	**Pn**	**09 57 33.1**	**+0.4**
NVR	**Nevrokopi**	**1.72**	**37**	*e*PN	**Pn**	**09 57 34.4**	**0.0**
NVR				*e*SN	**Sn**	**09 57 55.5**	**+0.3**
NVR	**Nevrokopi**	**1.72**	**37**	*e*Pn	**Pn**	**09 57 33.4**	**0.0**
NVR				*e*Sn	**Sn**	**09 57 55.5**	**+0.3**

*DDA **14** 09:59:40.6, 37°.47N×36°.29E, h7km±3km, Md2.9*

*ISCJB **14** 09:59:41.5±0.6, 37°.46N±0°.04×36°.33E±0°.04, h2km±7km, Error ellipse: s-maj=7.0km s-min=4.8km az=146.8*

*ISK **14** 09:59:41.2, 37°.53N×36°.33E, h7km, MD2.7*

*CSEM **14** 09:59:41.5±0.2, 37°.48N×36°.32E, h2km, MD2.9, Error ellipse: s-maj=6.6km s-min=4.4km az=158.0*

ISC 14 09:59:41.9±0.5, 37°.48N±0°.03×36°.33E±0°.04, h2km±6km, n25, σ0s76/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.10**	**8**	*i*P	**Pg**	**09 59 43.1**	**-0.8**
ANDN				*i*S	**Sg**	**09 59 45.9**	**+0.6**
ANDN	**Andirin**	**0.10**	**8**	*i*P	**Pg**	**09 59 43.1**	**-0.8**
ANDN				*i*S	**Sg**	**09 59 45.9**	**+0.6**
KOZT	**Kozan**	**0.40**	**270**	*e*PG	**Pg**	**09 59 49.1**	**-0.5**
KOZT				*e*SG	**Sg**	**09 59 55.5**	**+0.8**
KOZT	**Kozan**	**0.40**	**270**	*e*Pg	**Pg**	**09 59 49.1**	**-0.5**
KOZT				*e*Sg	**Sg**	**09 59 55.5**	**+0.8**
KMRS	**Kahramanmaras**	**0.46**	**87**	*e*PG	**Pg**	**09 59 50.5**	**-0.2**
KMRS				*e*SG	**Sg**	**09 59 57.0**	**+0.4**
KMRS	**Kahramanmaras**	**0.46**	**87**	*e*Pg	**Pg**	**09 59 50.5**	**-0.2**
KMRS				*e*Sg	**Sg**	**09 59 57.0**	**+0.4**
CEYT	**Ceyhan**	**0.66**	**225**	*e*PG	**Pg**	**09 59 55.5**	**+1.0**
CEYT	**Ceyhan**	**0.66**	**225**	*e*Pg	**Pg**	**09 59 55.5**	**+1.0**
GAZ	**Gaziantep**	**0.77**	**113**	*e*PG	**Pg**	**09 59 56.9**	**+0.2**
GAZ	**Gaziantep**	**0.77**	**113**	*e*Pg	**Pg**	**09 59 56.9**	**+0.3**
KUZU	**Kuzuini**	**0.92**	**139**	*i*P	**Pg**	**09 59 59.4**	**-0.3**
KUZU				*i*S	**Sg**	**10 00 12.0**	**+0.4**
KUZU	**Kuzuini**	**0.92**	**139**	*i*P	**Pg**	**09 59 59.3**	**-0.3**
KUZU				*i*S	**Sg**	**10 00 12.0**	**+0.4**
COBT	**Iskenderun**	**0.96**	**183**	*i*P	**Pg**	**09 59 58.1**	**-2.2**
COBT				*i*S	**Sg**	**10 00 13.4**	**+0.7**
COBT	**Iskenderun**	**0.96**	**183**	*i*P	**Pg**	**09 59 58.1**	**-2.2**
COBT				*i*S	**Sg**	**10 00 13.4**	**+0.7**
SARI	**SarD1z-Kayseri**	**1.23**	**14**	*e*PG	**Pg**	**09 59 58.7**	**-6.8**
AKCD	**Akcadag**	**1.50**	**57**	*i*P	**Pn**	**10 00 09.2**	**-0.6**
AKCD				*i*S	**Sn**	**10 00 31.2**	**+1.2**
AKCD	**Akcadag**	**1.50**	**57**	*i*P	**Pn**	**10 00 09.2**	**-0.6**
AKCD				*i*S	**Sn**	**10 00 31.2**	**+1.2**
ATAB	**Bozova**	**1.56**	**90**	*i*P	**Pn**	**10 00 10.5**	**-0.2**
ATAB				*i*S	**Sn**	**10 00 32.0**	**+0.5**
ATAB	**Bozova**	**1.56**	**90**	*i*P	**Pn**	**10 00 10.5**	**-0.2**
ATAB				*i*S	**Sn**	**10 00 32.0**	**+0.5**
MALT	**Malatya**	**1.86**	**63**	*e*PN	**Pn**	**10 00 14.2**	**-0.5**
MALT	**Malatya**	**1.86**	**63**	*e*Pn	**Pn**	**10 00 14.2**	**-0.5**
MYA	**Malataya**	**1.86**	**62**	*e*PN	**Pn**	**10 00 14.0**	**-0.8**
MYA	**Malataya**	**1.86**	**62**	*e*Pn	**Pn**	**10 00 14.0**	**-0.8**
URFA	**Urfa**	**1.98**	**90**	*e*PN	**Pn**	**10 00 16.2**	**-0.3**
URFA	**Urfa**	**1.98**	**90**	*e*Pn	**Pn**	**10 00 16.2**	**-0.3**

*ISCJB **14** 10:00:35.1±0.4, 36°.50N±0°.03×71°.26E±0°.06, h157km±9km, Error ellipse: s-maj=8.9km s-min=4.5km az=153.6*

*NEIC **14** 10:00:35.8±0.6, 36°.45N×71°.32E, h136km±17km, mb4.6/13, Error ellipse: s-maj=13.4km s-min=6.5km az=73.0*

*NNC **14** 10:00:36.3±7.7, 37°.01N×70°.87E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=61.1km s-min=44.6km az=176.0*

ISC 14 10:00:36.1±0.4, 36°.52N±0°.03×71°.32E±0°.07, h145km±9km, n48, σ1s09/60, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.71**	**224**	*e*Pn	**Pn**	**10 01 19.5**	**-0.1**
KBL				*e*Sn	**Sn**	**10 01 51.5**	**-1.6**
CEP	**Cherat**	**2.73**	**170**	⇓P	**Pn**	**10 01 20.8**	**+0.9**
CEP				S	**Sn**	**10 01 55.0**	**+1.3**
CHCP	**Chirah Chowk**	**3.27**	**150**	P	**Pn**	**10 01 28.3**	**+1.5**
THW	**Thamme Wali**	**3.73**	**174**	P	**Pn**	**10 01 33.2**	**+0.4**
AML	**Almayashu**	**5.90**	**17**	P	**Pn**	**10 02 02.5**	**+1.2**
	SNR=100						
AML				P		10 02 02.5	
	SNR=100						
UCH	**Uchtor**	**6.21**	**23**	P	**Sn**	**10 03 13.3**	**-2.2**
	SNR=14						
UCH				P	**Sn**	**10 03 13.3**	**-2.2**
	SNR=14						
EKS2	**Erkin-Say**	**6.42**	**16**	P	**Pn**	**10 02 10.2**	**+2.0**
	SNR=21						
EKS2				P		10 02 10.2	
	SNR=21						
EKS2	**Erkin-Say**	**6.42**	**16**	*e*Pn	**Pn**	**10 02 09.6**	**+1.4**
	7.5nm,0.4s						
AAK	**Ala-Archa**	**6.58**	**21**	P	**Pn**	**10 02 11.9**	**+1.6**
	SNR=13						
AAK				P		10 02 11.9	
	SNR=13						
AAK	**Ala-Archa**	**6.58**	**21**	*e*Pn	**Pn**	**10 02 11.4**	**+1.1**
	43nm,0.3s						
KK31	**Karatay Array**	**6.60**	**355**	Pn	**Pn**	**10 02 10.2**	**-0.5**
	8.6nm,0.5s,baz=180,slow=13,SNR=187						
KK31				⇑Sn	**Sn**	**10 03 21.4**	**-3.4**
	10nm,0.5s,baz=188,slow=26,SNR=6.5						
KKAR	**Karatay Array**	**6.60**	**355**	*e*Pn	**Pn**	**10 02 10.2**	**-0.6**
	13nm,0.4s						
SDNR	**Sundarnagar**	**6.86**	**135**	*e*PKP	**Pn**	**10 02 14.0**	**-0.3**
SDNR				*ex*	**Sn**	**10 03 31.0**	**-0.2**
CHMS	**Chumysh**	**6.99**	**21**	P	**Pn**	**10 02 17.2**	**+1.3**
	SNR=7.5						
CHMS				P		10 02 17.2	
	SNR=7.5						
USP	**Ospenovka**	**7.17**	**19**	P	**Pn**	**10 02 19.0**	**+0.7**
	SNR=12						
USP				P		10 02 19.0	
	SNR=12						
TKM2	**Tokmak 2**	**7.19**	**26**	P	**Pn**	**10 02 19.9**	**+1.3**
	SNR=7.2						
TKM2				P		10 02 19.9	
	SNR=7.2						
TKM2	**Tokmak 2**	**7.19**	**26**	⇑Pn	**Pn**	**10 02 19.6**	**+1.0**
	3.0nm,0.6s						
TKM2				⇑Sn	**Sn**	**10 03 37.3**	**-1.6**
	4.9nm,0.5s						
TKM2	**Tokmak 2**	**7.19**	**26**	*e*Pn	**Pn**	**10 02 19.4**	**+0.8**
	3.1nm,0.4s						
SMLA	**Simla**	**7.25**	**136**	*i*P	**Pn**	**10 02 18.9**	**-0.6**
SMLA				*i*S	**Sn**	**10 03 37.2**	**-3.4**
SMLA				*i*S	**Sn**	**10 03 37.2**	**-3.4**
SMLA				⇓AML	AML	10 03 39.6	
	comp=N,494nm,0.4s						
SMLA				⇓AML	AML	10 03 40.1	
	comp=E,569nm,0.3s						

KHET	**Khetri**	**9.24**	**154**	*e*S	**Sn**	**10 04 18.0**	**-10**
AYAN	**Aya Nagar**	**9.39**	**147**	*e*S	**Sn**	**10 04 25.4**	**-6.9**
SONA	**Sohna**	**9.58**	**148**	*e*S	**Sn**	**10 04 25.8**	**-11**
DANN	**Dangsing**	**13.29**	**124**	*e*P	**Pn**	**10 03 38.0**	**-1.1**
	comp=E,16nm,0.3s						
DANN				*e*S	**Sn**	**10 05 59.4**	**-6.7**
DANN	**Dangsing**	**13.29**	**124**	*e*P	**Pn**	**10 03 38.0**	**-1.1**
	comp=E,16nm,0.3s						
DANN				*e*S	**Sn**	**10 05 59.4**	**-6.7**
KOLN	**Koldanda**	**13.57**	**127**	*e*P	**Pn**	**10 03 42.0**	**-0.7**
	comp=E,9.9nm,0.3s						
KOLN	**Koldanda**	**13.57**	**127**	*e*P	**Pn**	**10 03 42.0**	**-0.7**
	comp=E,9.9nm,0.3s						
GKN	**Gorkha**	**14.10**	**123**	*e*P	**Pn**	**10 03 48.5**	**-1.0**
	comp=E,27nm,0.4s						
GKN	**Gorkha**	**14.10**	**123**	*e*P	**Pn**	**10 03 48.5**	**-1.0**
	comp=E,27nm,0.4s						
DMN	**Daman**	**14.67**	**123**	*e*P	**Pn**	**10 03 56.5**	**-0.1**
	comp=E,9.0nm,0.3s						
DMN	**Daman**	**14.67**	**123**	*e*P	**Pn**	**10 03 56.5**	**-0.1**
	comp=E,9.0nm,0.3s						
KKN	**Kakani**	**14.67**	**122**	*e*P	**Pn**	**10 03 55.8**	**-0.8**
KKN	**Kakani**	**14.67**	**122**	*e*P	**Pn**	**10 03 55.8**	**-0.8**
PKI	**Pulchoki**	**14.90**	**123**	*e*P	**Pn**	**10 03 58.8**	**-0.7**
PKI	**Pulchoki**	**14.90**	**123**	*e*P	**Pn**	**10 03 58.8**	**-0.7**
GUN	**Gumba**	**15.01**	**121**	*e*P	**Pn**	**10 04 00.4**	**-0.4**
	comp=E,10nm,0.4s						
GUN	**Gumba**	**15.01**	**121**	*e*P	**Pn**	**10 04 00.4**	**-0.4**
	comp=E,10nm,0.4s						
AB31	**Akbulak array**	**15.19**	**330**	⇓Pn	**Pn**	**10 04 02.1**	**-0.8**
	comp=E,1.4nm,0.4s,baz=136,slow=13,SNR=96						
AB31				Sn	**Sn**	**10 06 43.9**	**-7.6**
	comp=E,0.9nm,0.5s,baz=152,slow=23,SNR=5.7						
ABKAR	**Akbulak array**	**15.19**	**330**	*e*P	**Pn**	**10 04 02.5**	**-0.4**
	comp=E,2.5nm,0.4s						
JIRN	**Jiri**	**15.38**	**121**	*e*P	**Pn**	**10 04 05.7**	**+0.3**
	comp=E,68nm,0.4s						
JIRN	**Jiri**	**15.38**	**121**	*e*P	**Pn**	**10 04 05.7**	**+0.3**
	comp=E,68nm,0.4s						
RAMN	**Ramite**	**16.11**	**122**	*e*P	**Pn**	**10 04 14.6**	**+0.2**
	comp=E,8.7nm,0.3s						
RAMN	**Ramite**	**16.11**	**122**	*e*P	**Pn**	**10 04 14.6**	**+0.2**
	comp=E,8.7nm,0.3s						
TAPN	**Taplejung**	**16.63**	**119**	*e*P	**Pn**	**10 04 21.5**	**+0.7**
TAPN	**Taplejung**	**16.63**	**119**	*e*P	**Pn**	**10 04 21.5**	**+0.7**
ODAN	**Odare**	**16.71**	**121**	*e*P	**Pn**	**10 04 22.8**	**+1.1**
	comp=E,20nm,0.7s						
ODAN	**Odare**	**16.71**	**121**	*e*P	**Pn**	**10 04 22.8**	**+1.1**
	comp=E,20nm,0.7s						
AKTO	**Aktyubinsk**	**16.89**	**330**	⇓Pn	**Pn**	**10 04 24.0**	**+0.3**
	comp=E,0.7nm,1.1s						
AKTO				⇑Sn	**Sn**	**10 07 24.6**	**-7.5**
	comp=E,0.5nm,0.8s						
ZAA0	**Zalesovo Array**	**19.79**	**24**	*e*P	**P**	**10 04 57.5**	**+2.7**

*NIED **14** 10:25:00, 36°.40N×141°.10E, h29km, Mw4.6 Best double couple: M0:8.69000×10^15 NP1:φs=51.00000°, δ71.00000°, λ109.00000°. NP2:φs184.00000°, δ27.00000°, λ46.00000°.*

*BJI **14** 10:25:36.1, 36°.38N×141°.42E, h27km, mB5.0/26, mb4.8/41, Ms4.4/31, Ms7 4.1/32*

*ISCJB **14** 10:25:40.5±0.5, 36°.43N±0°.03×141°.05E±0°.03, h37km±4km, mb4.8/130, MS4.0/28, Error ellipse: s-maj=5.4km s-min=3.7km az=155.1*

*IDC **14** 10:25:41.9±0.6, 36°.34N×140°.98E, h39km±4km, mb4.4/29, mb1 4.5/31, mb1mx4.5/33, mbtmp4.4/31, ML4.6/2, MS4.0/19, Ms1 4.1/19, ms1mx3.8/39, Error ellipse: s-maj=12.8km s-min=12.3km az=165.0*

*NEIC **14** 10:25:41.0, 36°.38N×141°.05E, h45km, mb4.9/69, MW4.6(NIED), After JMA.*

NEIC Recorded [3 JMA] in Ibaraki and Tochigi; [2 JMA] in Chiba and Fukushima; [1 JMA] in Gumma, Miyagi and Saitama.

*JMA **14** 10:25:41.0±0.1, 36°.38N×141°.05E, h45km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs42.00000°, δ67.00000°, λ93.00000°. NP2:φs215.00000°, δ23.00000°, λ83.00000°. Principal axes: T Plg68.0000°, Azm318.0000°; N Plg3.0000°, Azm221.0000°; P Plg22.0000°, Azm130.0000°;*

JMA Felt III J1.

*MOS **14** 10:25:41.7

comp=E,700nm,20.0s,baz=87,slow=36
KSRS Korea Array 10.53 280 P Pn 10 28 15.1 +5.0
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,700nm,20.0s
KSAR Wonju Array Be 10.55 280 Pn **Pn 10 28 15.1 +4.5**
KSAR Wonju Array Be 10.55 280 P **Pn 10 28 15.1 +4.5**
YSS Yuzh-Sakhalins 10.62 7 *e*Pn **Pn 10 28 09.8 -1.6**
YSS Yuzh-Sakhalins 10.62 7 *e*P **Pn 10 28 10.0 -1.4**
YSS *e*S **Sn 10 30 07.0 -2.0**
YSS pmax pmax
comp=N,50nm,0.8s
YSS pmax pmax
comp=Z,50nm,0.8s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS MLR MLR
comp=N,500nm,17.0s
YSS MLR MLR
comp=E,400nm,20.0s
MDJ Mudanjiang 11.94 317 P Pn 10 28 34.5 +5.1
MDJ pmax pmax
comp=Z,21nm,0.7s
MDJ pmax pmax
comp=Z,160nm,7.4s
MDJ LR LR
comp=N,410nm,16.5s
MDJ LR LR
comp=E,310nm,17.2s
MDJ LR LR
comp=Z,650nm,18.4s
HABR Khabarovsk 12.83 342 *e*P **Pn 10 28 39.4 -2.2**
HABR *e* 10 31 01.1
HABR pmax pmax
comp=E,29nm,1.7s
HABR pmax pmax
comp=N,34nm,3.1s
HABR pmax pmax
comp=Z,23nm,1.5s
HABR MLR MLR
comp=Z,438nm,16.0s
CN2 Changchun 14.00 307 *e*P **Pn 10 28 58.3 +0.7**
CN2 *e*S **Sn 10 31 34.5 +2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,500nm,15.0s
CN2 LR LR
comp=Z,500nm,19.0s
KLR Kul'dur 14.49 335 *e*P **Pn 10 29 05.8 +1.6**
KLR MLR MLR
comp=E,500nm,16.0s
KLR MLR MLR
comp=Z,900nm,16.0s
SNY Shenyang 14.56 297 ⇑P **Pn 10 29 05.8 +0.5**
SNY S **Sn 10 31 43.1 -2.3**
SNY pmax pmax
comp=Z,7.0nm,0.3s
SNY pmax pmax
comp=Z,290nm,3.3s
SNY LR LR
comp=N,580nm,11.6s
SNY LR LR
comp=E,710nm,14.5s
SNY LR LR
comp=Z,750nm,18.1s
NJ2 Nanjing 18.81 263 *e*P **Pn 10 30 00.1 +1.0**
NJ2 pP pP 10 30 04.9 -2.5
NJ2 sP sP 10 30 09.0 -2.7
NJ2 S **Sn 10 33 28.5 -0.1**
NJ2 sS sS 10 33 37.0 -7.8
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,350nm,4.4s
NJ2 LR LR
comp=N,450nm,24.3s
NJ2 LR LR
comp=E,430nm,25.2s
NJ2 LR LR
comp=Z,460nm,26.0s
BJI Beijing 19.82 288 P **Pn 10 30 08.9 -2.2**
BJI S **Sn 10 33 51.6 -1.2**
BJI pmax pmax
comp=Z,31nm,0.6s
BJI pmax pmax
comp=Z,110nm,4.8s
BJI LR LR
comp=N,320nm,16.6s
BJI LR LR
comp=E,350nm,16.6s
BJI LR LR
comp=Z,190nm,19.8s
PEA0B Petropavlovsk- 20.39 30 *e*P **P 10 30 16.7 +1.2**
PETK Petropavlovsk- 20.39 30 P **P 10 30 16.3 +0.8**
comp=Z,4.7nm,0.6s,baz=221,slow=7.7,SNR=12
PETK LR LR 10 38 43.3
comp=Z,59nm,18.1s,MS3.0,baz=27,slow=38
PETK Petropavlovsk- 20.39 30 P **P 10 30 16.3 +0.8**
PETK Petropavlovsk- 20.39 30 P **P 10 30 16.3 +0.8**
PETK pmax pmax
comp=Z,5.0nm,0.6s
PETK MLR MLR
comp=Z,59nm,18.1s,MS3.0
PET Petropavlovsk 20.72 31 *e*P **P 10 30 18.6 -0.5**
comp=Z,20nm,0.9s
PET Petropavlovsk 20.72 31 *e*P **P 10 30 18.7 -0.3**
PET *e*S **S 10 34 03.7 -4.7**
PET MLR MLR
comp=Z,100nm,17.0s,MS3.2
WHN Wuhan 22.95 263 P **P 10 30 42.0 -1.1**
WHN S **S 10 34 44.5 -6.5**
WHN LR LR
comp=Z,810nm,14.1s,MS4.3
CLNS Chul'man 23.13 337 *e*P **P 10 30 43.7 -1.0**
CLNS *e* 10 31 10.8
CLNS *e* 10 34 32.1
CLNS *e*S **S 10 34 53.7 +0.4**
CLNS *e* 10 41 54.2
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS pmax pmax
comp=Z,15nm,0.8s,mb4.5
CLNS pmax pmax
comp=E,8.0nm,1.2s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax
comp=N,136nm,15.1s
CLNS smax
comp=E,104nm,11.9s
CLNS MLR MLR
comp=Z,339nm,17.0s,MS3.9
CLNS MLR MLR
comp=N,336nm,18.0s,MS3.9
CLNS MLR MLR
comp=E,157nm,17.0s,MS3.9
HHC Hu-ho-hao-te 23.37 290 *e*P **P 10 30 46.5 -0.9**
HHC PP 10 31 17.8
HHC PcP PcP 10 34 35.3 +2.2
HHC S **S 10 34 55.4 -2.2**
HHC SS 10 35 43.0
HHC pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
HHC pmax pmax
comp=Z,110nm,7.0s
HHC LR LR
comp=N,150nm,16.6s,MS4.0
HHC LR LR
comp=E,390nm,15.5s,MS4.0
HHC LR LR
comp=Z,440nm,14.3s,MS4.1
YAK Yakutsk 26.61 348 *e*P **P 10 31 16.1 -0.6**
comp=Z,63nm,0.8s,mb5.2
YAK Yakutsk 26.61 348 *e*P **P 10 31 15.4 -1.2**
YAK pmax pmax
comp=N,33nm,1.0s
YAK pmax pmax
comp=Z,68nm,1.0s,mb5.1
YAK pmax pmax
comp=E,13nm,1.3s
ULN Ulaanbaatar 27.44 305 *e*P **P 10 31 23.7 -0.5**
comp=E,7.4nm,0.7s,mb4.3
ULN Ulaanbaatar 27.44 305 *e*P **P 10 31 23.7 -0.6**
ULN pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
SONM Songino Array 27.87 305 P **P 10 31 28.2 +0.1**
comp=Z,11nm,0.6s,mb4.6,baz=105,slow=8.8,SNR=74
SONM PcP PcP 10 34 43.7 +0.5
comp=Z,1.0nm,0.7s,baz=108,slow=2.6,SNR=4.6
SONM LR LR 10 43 00.5
comp=Z,311nm,18.6s,MS3.9,baz=197,slow=37
SONM Songino Array 27.87 305 P **P 10 31 28.2 +0.1**
SONM PcP PcP 10 34 43.7 +0.5
SONM Songino Array 27.87 305 P **P 10 31 28.2 +0.1**
SONM 10 34 43.7
SONM pmax pmax
comp=Z,11nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,311nm,18.6s
BOD Bodaibo 27.89 329 *e*P **P 10 31 27.6 -0.5**
BOD pmax pmax
comp=Z,13nm,0.8s,mb4.6
LZH Lanzhou 29.85 281 *e*P **P 10 31 49.5 +3.6**
LZH pP pP 10 31 54.8 -0.8
LZH sP sP 10 31 56.0 -3.8
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.6
LZH LR LR
comp=N,250nm,11.2s
LZH LR LR
comp=E,580nm,16.5s
LZH LR LR
comp=Z,510nm,13.5s,MS4.3
LZH Lanzhou 29.85 281 *e*P **P 10 31 49.5 +3.6**
comp=Z,13nm,1.0s,mb4.6
LZH pP pP 10 31 54.8 -0.8
LZH sP sP 10 31 56.0 -3.8
LZH LR LR
comp=Z,510nm,13.5s,MS4.3
LZH Lanzhou 29.85 281 *e*P **P 10 31 49.5 +3.6**
LZH *SP sP 10 31 56.0 -3.8
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.6
LZH MLR MLR
comp=Z,510nm,13.5s,MS4.3
ZAK Zakamensk 30.41 309 *e*P **P 10 31 50.0 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
TLY Talaya 30.50 312 *e*P **P 10 31 51.6 +0.3**
comp=Z,6.0nm,0.7s,mb4.4
TLY Talaya 30.50 312 *e*P **P 10 31 50.7 -0.7**
TLY pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
TLY MLR MLR
comp=Z,217nm,17.0s,MS3.9
GYA Guiyang 30.79 261 *e*P **P 10 31 55.0 +0.7**
GYA PcP PcP 10 34 52.3 +1.3
GYA S **S 10 36 55.9 +0.4**
GYA ScP ScP 10 38 33.0 +1.9
GYA SS SS 10 38 40.5 -27
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=N,480nm,16.3s,MS4.4
GYA LR LR
comp=E,460nm,17.0s,MS4.4
GYA LR LR
comp=Z,430nm,16.1s,MS4.2
CD2 Chengdu 31.35 271 *e*P **P 10 31 59.3 +0.2**
CD2 PP PP 10 33 01.1 -9.1
CD2 S **S 10 37 03.8 -0.3**
CD2 pmax pmax
comp=Z,30nm,0.9s,mb5.1
CD2 pmax pmax
comp=Z,260nm,9.5s
CD2 LR LR
comp=N,370nm,13.1s,MS4.3
CD2 LR LR
comp=E,320nm,15.5s,MS4.3
CD2 LR LR
comp=Z,450nm,15.5s,MS4.2
QIZ Qiongzhong 32.37 246 P **P 10 32 10.3 +2.1**
QIZ S **S 10 37 23.8 +3.6**
QIZ pmax pmax
comp=Z,25nm,2.2s,mb4.7
QIZ LR LR
comp=Z,290nm,18.0s,MS4.0
DAV Davao City (W) 32.42 209 LR LR 10 44 26.0
comp=Z,215nm,19.0s,MS3.9,baz=60,slow=35
KMI Kunming 34.54 262 P **P 10 32 31.3 +4.2**
KMI pmax pmax
comp=Z,13nm,0.9s,mb4.9
KMI LR LR
comp=N,280nm,13.4s,MS4.2
KMI LR LR
comp=E,260nm,17.3s,MS4.2
KMI LR LR
comp=Z,230nm,15.4s,MS4.0
KMI Kunming 34.54 262 P **P 10 32 31.2 +4.1**
comp=Z,13nm,0.9s,mb4.9
KMI LR LR
comp=Z,230nm,15.4s,MS4.0
KMI Kunming 34.54 262 P **P 10 32 31.2 +4.1**
KMI pmax pmax
comp=Z,13nm,0.9s,mb4.9
KMI MLR MLR
comp=Z,230nm,15.4s,MS4.0
BILL Bilibino 34.72 16 *e*P **P 10 32 27.1 -1.0**
comp=Z,3.8nm,0.7s,mb4.4
BILL Bilibino 34.72 16 ⇓ *i*P **P 10 32 27.6 -0.5**
BILL *e**PP pP 10 32 44.9 +6.9
BILL *e* 10 33 45.8
BILL *e*S **S 10 38 00.8 +5.2**
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,200nm,20.0s,MS3.9
HVS Khovu-Aksy 36.53 309 *i*P **P 10 32 43.8 0.0**
WMQ Urumqi 40.83 297 P **P 10 33 20.8 +0.8**
WMQ pP pP 10 33 25.3 -4.7
WMQ PP PP 10 34 58.4 +4.1
WMQ S **S 10 39 31.1 +2.3**
WMQ pmax pmax
comp=Z,32nm,0.9s,mb5.0
WMQ pmax pmax
comp=Z,270nm,5.4s
CMAR Chiang Mai Arr 41.02 256 P **P 10 33 21.1 -0.8**
comp=Z,1.6nm,0.6s,mb3.8,baz=49,slow=8.1,SNR=9.9
CMAR LR LR 10 52 15.3
comp=Z,84nm,18.2s,MS3.6,baz=234,slow=39
CMAR Chiang Mai Arr 41.02 256 P **P 10 33 21.1 -0.8**
CMAR Chiang Mai Arr 41.02 256 P **P 10 33 21.1 -0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR MLR MLR
comp=Z,84nm,18.2s
ZAA0 Zalesovo Array 42.10 313 *e*P **P 10 33 29.8 -0.4**
ZALV Zalesovo Beam 42.10 313 P **P 10 33 30.0 -0.2**
comp=Z,21nm,0.7s,mb4.9,baz=87,slow=6.7,SNR=106
ZALV PcP PcP 10 35 24.0 -0.3
comp=Z,2.5nm,0.6s,baz=88,slow=3.4,SNR=4.4
ZALV LR LR 10 51 53.4
comp=Z,134nm,18.0s,MS3.9,baz=254,slow=37
ZALV Zalesovo Beam 42.10 313 P **P 10 33 30.0 -0.2**
ZALV PcP PcP 10 35 24.0 -0.3
ZALV Zalesovo Beam 42.10 313 P **P 10 33 30.0 -0.2**
ZALV 10 35 24.0
ZALV pmax pmax
comp=Z,21nm,0.7s,mb4.9
ZALV pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
ZALV MLR MLR
comp=Z,134nm,18.0s,MS3.9
NVS Novosibirsk 43.04 314 *i*P **P 10 33 37.2 -0.6**
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,16nm,0.8s
NVS pmax pmax
comp=Z,23nm,0.8s,mb5.0
MK31 Makanchi Array 44.18 303 *e*P **P 10 33 45.8 -1.3**
MK31 Makanchi Array 44.18 303 *e*P **P 10 33 45.8 -1.3**
MKAR Makanchi Array 44.18 303 P **P 10 33 47.2 +0.1**
comp=Z,5.0nm,0.7s,mb4.4,baz=87,slow=9.9,SNR=12
MKAR PcP PcP 10 35 31.6 +0.1
comp=Z,2.3nm,0.7s,baz=72,slow=6.5,SNR=3.7
MKAR LR LR 10 52 57.5
comp=Z,250nm,19.4s,MS4.1,baz=101,slow=37
MKAR Makanchi Array 44.18 303 *e*P **P 10 33 47.6 +0.4**
MKAR PcP PcP 10 35 31.6 +0.1
MKAR Makanchi Array 44.18 303 *e*P **P 10 33 47.6 +0.5**
MKAR 10 35 31.6
KURK Kurchatov 46.06 309 P **P 10 34 02.3 +0.3**
comp=Z,45nm,0.6s,mb5.6,baz=84,slow=7.5,SNR=379
KURK pP pP 10 34 13.6 +1.5
comp=Z,12nm,0.6s,baz=82,slow=7.6,SNR=6.7
KURK LR LR 10 55 05.8
comp=Z,135nm,19.2s,MS3.9,baz=90,slow=38
KURK Kurchatov 46.06 309 *e*P **P 10 34 01.6 -0.5**
comp=Z,58nm,0.7s,mb5.6
KURK Kurchatov 46.06 309 P **P 10 34 02.3 +0.3**
KURK *PP pP 10 34 13.6 +1.5
KURK pmax pmax
comp=Z,45nm,0.6s,mb5.6
KURK pmax pmax
comp=Z,12nm,0.6s,mb5.0
KURK MLR MLR
comp=Z,135nm,19.2s,MS3.9
ODAN Odare 46.12 274 *e*P **P 10 34 03.1 +0.2**
comp=Z,11nm,0.4s,mb5.2
RAMN Ramite 46.72 274 *e*P **P 10 34 07.9 +0.3**
comp=Z,63nm,0.7s,mb5.6
RAMN Ramite 46.72 274 *e*P **P 10 34 07.9 +0.3**
comp=Z,63nm,0.7s,mb5.7
JIRN Jiri 46.75 276 *e*P **P 10 34 08.6 +0.8**
comp=Z,52nm,0.7s,mb5.6
JIRN Jiri 46.75 276 *e*P **P 10 34 08.6 +0.8**
comp=Z,52nm,0.7s,mb5.6
GUN Gumba 46.89 276 *e*P **P 10 34 09.5 +0.6**
GUN Gumba 46.89 276 *e*P **P 10 34 09.5 +0.6**
PKI Pulchoki 47.41 276 *e*P **P 10 34 13.2 +0.3**
PKI Pulchoki 47.41 276 *e*P **P 10 34 13.2 +0.3**
PKI Pulchoki 47.41 276 *e*P **P 10 34 13.2 +0.3**
KKN Kakani 47.42 276 *e*P **P 10 34 13.7 +0.7**
KKN Kakani 47.42 276 *e*P **P 10 34 13.7 +0.7**
KKN Kakani 47.42 276 *e*P **P 10 34 13.7 +0.7**
RSO Redoubt South 47.60 38 *e*P **P 10 34 15.2 +1.3**
DMN Daman 47.64 276 *e*P **P 10 34 15.1 +0.4**
DMN Daman 47.64 276 *e*P **P 10 34 15.1 +0.4**
KDAK Kodiak Island 47.79 42 *e*P **P 10 34 15.3 -0.1**
comp=Z,27nm,0.7s,mb5.4
KDAK Kodiak Island 47.79 42 *e*P **P 10 34 15.3 -0.1**
KDAK pmax pmax
comp=Z,27nm,0.7s,mb5.4
GKN Gorkha 47.85 277 *e*P **P 10 34 16.6 +0.3**
comp=Z,60nm,0.9s,mb5.6
GKN Gorkha 47.85 277 *e*P **P 10 34 16.6 +0.3**
comp=Z,60nm,0.9s,mb5.6
PPLA Purkeypile 47.87 35 *e*P **P 10 34 17.6 +1.7**
comp=Z,9.8nm,0.7s,mb5.0
DANN Dangsing 48.41 278 *e*P **P 10 34 21.4 +0.8**
comp=Z,75nm,0.8s,mb5.8
DANN Dangsing 48.41 278 *e*P **P 10 34 21.4 +0.8**
comp=Z,75nm,0.8s,mb5.8
TRF Thorofare Moun 48.74 34 *e*P **P 10 34 22.6 0.0**
comp=Z,76nm,1.8s,mb5.4
KOLN Koldanda 48.78 277 *e*P **P 10 34 24.0 +0.5**
comp=Z,20nm,0.8s,mb5.2
KOLN Koldanda 48.78 277 *e*P **P 10 34 24.0 +0.5**
comp=Z,20nm,0.8s,mb5.2
HNR Honiara 48.95 155 LR LR 10 55 30.0
comp=Z,168nm,18.6s,MS4.1,baz=192,slow=37
RC01 Rabbit Creek A 49.06 37 *e*P **P 10 34 24.7 -0.5**
comp=Z,52nm,1.8s,mb5.3
SEW Seward 49.26 38 *e*P **P 10 34 26.1 -0.6**
comp=Z,125nm,2.2s,mb5.5
PMR Palmer 49.33 36 *e*P **P 10 34 27.0 -0.2**
comp=Z,9.2nm,0.7s,mb4.9
PMR Palmer 49.33 36 *e*P **P 10 34 27.0 -0.2**
PMR pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
MCK McKinley 49.34 33 *e*P **P 10 34 27.2 -0.1**
comp=Z,9.2nm,0.8s,mb4.9
MCK McKinley 49.34 33 *e*P **P 10 34 27.2 0.0**
MCK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TKM2 Tokmak 2 49.64 299 P **P 10 34 31.2 +1.4**
SNR=12
TKM2 P 10 34 31.2
SNR=12
TKM2 Tokmak 2 49.64 299 *e*P **P 10 34 31.2 +1.3**
comp=Z,18nm,0.6s,mb5.3
TKM2 Tokmak 2 49.64 299 *i*P **P 10 34 31.2 +1.3**
SML Sawmill 49.69 36 *e*P **P 10 34 30.1 +0.2**
comp=Z,3.7nm,0.7s,mb4.5
SML Sawmill 49.69 36 *e*P **P 10 34 30.2 +0.2**
SML pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
COLA College 49.78 32 *e*P **P 10 34 30.9 +0.3**
comp=Z,12nm,0.7s,mb5.0
COLA College 49.78 32 *e*P **P 10 34 30.9 +0.3**
COLA pmax pmax
comp=Z,12nm,0.7s,mb5.0
KZA Kyzart 50.12 298 P **P 10 34 35.6 +2.1**
SNR=6.1
KZA P 10 34 35.6
SNR=6.1
KBK Karagaybulak 50.17 299 P **P 10 34 35.0 +1.1**
SNR=11
KBK P 10 34 35.0
SNR=11
ILAR Eielson Array 50.20 32 P **P 10 34 33.6 -0.1**
comp=Z,14nm,0.7s,mb5.1,baz=267,slow=5.9,SNR=182
ILAR pP pP 10 34 46.0 +2.0
comp=Z,2.6nm,0.7s,baz=262,slow=6.9,SNR=4.7
ILAR Eielson Array 50.20 32 P **P 10 34 33.6 -0.1**
ILAR pP pP 10 34 46.0 +2.0
ILAR Eielson Array 50.20 32 P **P 10 34 33.7 -0.1**
ILAR *PP pP 10 34 46.0 +2.0
ILAR pmax pmax
comp=Z,14nm,0.7s
ILAR pmax pmax
comp=Z,3.0nm,0.7s
USP Ospenovka 50.32 299 P **P 10 34 35.3 +0.3**
SNR=8.1
USP P 10 34 35.3
SNR=8.1
KSH Kashi 50.36 294 P **P 10 34 39.8 +4.4**
KSH pP pP 10 34 44.8 -0.8
KSH PcP PcP 10 35 57.6 +4.0
KSH PP PP 10 36 36.3 +5.4
KSH ScP ScP 10 39 51.6 +4.7
KSH PcS PcS 10 39 53.5 +2.7
KSH S **S 10 41 52.1 +6.0**
KSH ScS ScS 10 44 27.1 +3.3
KSH SS SS 10 45 24.3 +4.5
KSH pmax pmax
comp=Z,13nm,0.8s,mb5.0
KSH pmax pmax
comp=Z,88nm,3.7s
KSH LR LR
comp=N,120nm,5.0s
KSH LR LR
comp=E,190nm,6.1s
KSH LR LR
comp=Z,350nm,6.4s
AAK Ala-Archa 50.50 299 P **P 10 34 37.2 +0.8**
SNR=5.5
AAK P 10 34 37.2
SNR=5.5
AAK Ala-Archa 50.50 299 *e*P **P 10 34 37.1 +0.7**
comp=Z,33nm,0.7s,mb5.4
AAK Ala-Archa 50.50 299 *d i*P **P 10 34 37.1 +0.7**
AAK pmax pmax
comp=Z,18nm,0.9s,mb5.0
BVA0 Borovoye Array 50.75 313 *i*P **P 10 34 37.6 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BVAR Borovoye Array 50.75 313 P **P 10 34 38.0 -0.1**
comp=Z,9.2nm,0.7s,mb4.8,baz=78,slow=7.0,SNR=36
BVAR PcP PcP 10 35 54.9 +0.1
comp=Z,1.9nm,0.6s,baz=73,slow=4.4,SNR=2.6
BVAR pPcP 10 36 06.4
comp=Z,2.8nm,0.7s,baz=93,slow=5.9,SNR=3.7

BVAR LR LR 10 57 11.7
comp=Z,162nm,19.3s,MS4.0,baz=70,slow=37
BVAR Borovoye Array 50.75 313 P P 10 34 38.0 -0.1
BVAR PcP PcP 10 35 54.9 +0.1
BVAR pPcP 10 36 06.4
BVAR Borovoye Array 50.75 313 P P 10 34 38.0 -0.1
BVAR 10 35 54.9
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR MLR MLR
comp=Z,162nm,19.3s
BRVK Borovoye 50.81 313 *eP* **P 10 34 38.6 0.0**
comp=Z,14nm,0.7s,mb5.0
BRVK Borovoye 50.81 313 *eP* **P 10 34 38.7 +0.1**
BRVK pmax pmax
comp=Z,14nm,0.7s,mb5.0
PAX Paxson 50.94 34 *eP* **P 10 34 40.4 +1.0**
comp=Z,38nm,2.1s,mb5.0
PAX Paxson 50.94 34 *eP* **P 10 34 40.4 +1.0**
PAX pmax pmax
comp=Z,38nm,2.1s,mb5.0
DIV Divide 50.98 37 *eP* **P 10 34 41.0 +1.3**
comp=Z,13nm,0.8s,mb4.9
EKS2 Erkin-Say 51.00 299 P **P 10 34 41.1 +0.9**
SNR=5.5
EKS2 P 10 34 41.1
SNR=5.5
AML Almayashu 51.21 298 P **P 10 34 43.4 +1.6**
SNR=22
AML P 10 34 43.4
SNR=22
DOT Dot Lake 51.51 33 *eP* **P 10 34 44.0 +0.3**
comp=Z,4.4nm,0.7s,mb4.5
BMRM Bremner River 51.56 37 *eP* **P 10 34 44.5 +0.4**
comp=Z,14nm,0.8s,mb4.9
MENT Mentasta 51.74 34 *eP* **P 10 34 46.4 +1.0**
EGAK Eagle 52.65 32 *eP* **P 10 34 52.1 0.0**
comp=Z,10nm,0.6s,mb4.9
KK31 Karatay Array 53.16 300 *i* P **P 10 34 56.0 -0.2**
KK31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KKAR Karatay Array 53.16 300 *eP* **P 10 34 56.6 +0.4**
comp=Z,5.9nm,0.6s,mb4.7
KKAR Karatay Array 53.16 300 *eP* **P 10 34 56.6 +0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
INK Inuvik 55.09 27 *eP* **P 10 35 10.1 +0.1**
comp=Z,13nm,0.6s,mb5.1
INK Inuvik 55.09 27 *eP* **P 10 35 10.1 +0.2**
INK pmax pmax
comp=Z,13nm,0.6s
SVE Sverdlovsk 55.40 319⇓ *eP* **P 10 35 12.5 +0.2**
SVE pmax pmax
comp=Z,32nm,0.9s,mb5.3
WRAB Tennant Creek 56.38 188 *eP* **P 10 35 18.4 -1.3**
comp=Z,31nm,1.3s,mb5.2
WRAB Tennant Creek 56.38 188 *eP* **P 10 35 18.4 -1.3**
WRAB pmax pmax
comp=Z,31nm,1.3s,mb5.2
WB2 Warramunga Arr 56.39 188 *eP* **P 10 35 18.7 -1.1**
WRA Warramunga Arr 56.39 188 P **P 10 35 18.6 -1.1**
comp=Z,3.0nm,0.7s,mb4.5,baz=4.9,slow=7.4,SNR=39
WRA Warramunga Arr 56.39 188 P **P 10 35 18.6 -1.1**
WRA Warramunga Arr 56.39 188 P **P 10 35 18.6 -1.1**
WRA pmax pmax
comp=Z,3.0nm,0.7s
ARU Arti 56.61 319 *eP* **P 10 35 20.7 -0.2**
comp=Z,30nm,0.9s,mb5.3
ARU Arti 56.61 319 *c i* P **P 10 35 20.6 -0.4**
ARU *e* 10 37 24.6
ARU S **S 10 43 12.2 +1.8**
ARU SS SS 10 46 53.9 -3.8
ARU pmax pmax
comp=Z,34nm,1.0s,mb5.3
KBL Kabul 57.33 291 *eP* **P 10 35 26.0 -0.5**
comp=Z,3.9nm,0.4s,mb4.8
KBL Kabul 57.33 291 *eP* **P 10 35 26.0 -0.4**
KBL pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
AB31 Akbulak array 58.09 310 *i* P **P 10 35 30.7 -0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
ABKAR Akbulak array 58.09 310 *eP* **P 10 35 31.0 -0.5**
comp=Z,28nm,1.0s,mb5.2
AKTO Aktyubinsk 58.85 312 P **P 10 35 35.9 -0.9**
comp=Z,8.5nm,0.7s,mb4.9,baz=72,slow=8.7,SNR=28
AKTO Aktyubinsk 58.85 312 P **P 10 35 35.9 -0.9**
AKTO Aktyubinsk 58.85 312 P **P 10 35 36.3 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
AS31 Alice Springs 60.12 188 *eP* **P 10 35 45.1 -0.6**
ASAR Alice Springs 60.12 188 P **P 10 35 44.9 -0.9**
comp=Z,1.5nm,0.7s,mb4.2,baz=14,slow=5.6,SNR=36
ASAR Alice Springs 60.12 188 P **P 10 35 44.9 -0.9**
ASAR Alice Springs 60.12 188 P **P 10 35 44.9 -0.8**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
POO Poona 61.06 272 *e*PKP **P 10 35 49.5 -3.0**
POO *ex* x 10 39 10.0
RES Resolute Bay 63.29 14 LR LR 11 03 44.2
comp=Z,148nm,20.6s,MS4.1,baz=284,slow=36
RES Resolute Bay 63.29 14 *eP* **P 10 36 05.8 -0.7**
comp=Z,14nm,1.2s,mb5.0
RES Resolute Bay 63.29 14 *eP* **P 10 36 05.8 -0.7**
RES pmax pmax
comp=Z,14nm,1.2s,mb5.0
KEV Kevo 63.91 339 *eP* **P 10 36 10.1 -0.6**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KEV Kevo 63.91 339 *ep* **P 10 36 10.1 -0.6**
comp=Z,5.9nm,0.8s,mb4.7
ARCES ARCESS Array B 64.47 339 P **P 10 36 13.8 -0.5**
comp=Z,3.9nm,0.7s,mb4.5,baz=64,slow=8.2,SNR=12
ARCES LR LR 11 08 43.8
comp=Z,190nm,21.1s,MS4.3,baz=279,slow=40
ARCES ARCESS Array B 64.47 339 P **P 10 36 13.8 -0.5**
ARCES ARCESS Array B 64.47 339 P **P 10 36 13.8 -0.5**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,190nm,21.1s
YKA Yellowknife Ar 64.52 30 P **P 10 36 14.3 -0.4**
comp=Z,3.7nm,0.7s,mb4.5,baz=304,slow=6.7,SNR=74
YKA pP pP 10 36 27.2 +2.0
comp=Z,1.8nm,0.7s,baz=304,slow=6.8,SNR=8.5
YKA Yellowknife Ar 64.52 30 P **P 10 36 14.3 -0.4**
YKA pP pP 10 36 27.2 +2.0
YKA Yellowknife Ar 64.52 30 P **P 10 36 14.4 -0.3**
YKA *PP pP 10 36 27.2 +2.0
JOF Joensuu 66.36 332 *eP* **P 10 36 25.8 -0.9**
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
JOF Joensuu 66.36 332 *ep* **P 10 36 25.8 -0.9**
comp=Z,4.8nm,0.7s,mb4.6
DAG Danmarks Havn 66.37 355 *i* P **P 10 36 26.0 -0.6**
DAG *i* pP 10 36 38.3 +1.3
DAG pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
DAG Danmarks Havn 66.37 355 *i* P **P 10 36 26.0 -0.6**
comp=Z,7.4nm,0.8s,mb4.8
DAG *i* pP 10 36 38.3 +1.3
AFI Afiamalu 66.99 129 LR LR 10 59 36.7
comp=Z,125nm,20.9s,MS4.1,baz=322,slow=30
FORT Forrest 67.93 192 *eP* **P 10 36 36.6 -0.3**
comp=Z,18nm,0.6s,mb5.3
STKA Stephens Creek 67.93 179 P **P 10 36 36.2 -0.7**
comp=Z,2.1nm,1.0s,mb4.1,baz=341,slow=5.6,SNR=4.3
STKA Stephens Creek 67.93 179 P **P 10 36 36.2 -0.7**
STKA Stephens Creek 67.93 179 P **P 10 36 36.2 -0.7**
STKA pmax pmax
comp=Z,2.0nm,1.0s
OBN Obninsk 68.40 323⇑ *i P* **P 10 36 39.7 0.0**
OBN *e* 10 39 10.8
OBN *eS* S 10 45 35.2 -3.3
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KAF Kangasniemi 68.71 333 *eP* **P 10 36 39.9 -1.6**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KAF Kangasniemi 68.71 333 *ep* **P 10 36 39.9 -1.6**
comp=Z,8.3nm,0.7s,mb4.8
VSR Storozhevoye 69.19 319 *eP* **P 10 36 44.0 -0.7**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FINES FINESS Array B 69.22 332 P **P 10 36 44.2 -0.4**
comp=Z,10nm,0.7s,mb4.9,baz=63,slow=8.8,SNR=25
FINES LR LR 11 10 48.3
comp=Z,167nm,20.9s,MS4.3,baz=141,slow=39
FINES FINESS Array B 69.22 332 P **P 10 36 44.2 -0.4**
FINES FINESS Array B 69.22 332 P **P 10 36 44.3 -0.4**
FINES pmax pmax
comp=Z,11nm,0.7s
FINES MLR MLR
comp=Z,167nm,20.9s
KIV Kislovodsk 71.07 311 *eP* **P 10 36 57.0 +0.7**
comp=Z,16nm,0.8s,mb5.0
KIV Kislovodsk 71.07 311 *eP* **P 10 36 56.4 +0.1**
KIV pmax pmax
comp=Z,19nm,0.9s,mb5.0
SUMG Summit 71.31 360 *eP* **P 10 36 58.3 +1.0**
comp=Z,11nm,0.7s,mb4.9
SUMG Summit 71.31 360 *i* P **P 10 36 58.2 +0.9**
SUMG *i* 10 37 13.8
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 71.31 360 *i* P **P 10 36 58.2 +0.9**
comp=Z,10nm,0.8s,mb4.8
SUMG *i* 10 37 13.8
GNI Garni 71.82 307 P **P 10 37 02.1 +1.2**
comp=Z,3.5nm,0.5s,mb4.5,baz=48,slow=15,SNR=3.4
GNI Garni 71.82 307 P **P 10 37 02.1 +1.2**
GNI Garni 71.82 307 *d* iP **P 10 37 01.9 +1.0**
GNI pmax pmax
comp=Z,10.0nm,1.2s
WALA Waterton Lakes 72.12 42 *eP* **P 10 37 02.6 0.0**
comp=Z,0.1nm,0.6s
BMO Blue Mountains 72.60 47 *eP* **P 10 37 06.3 +0.8**
comp=Z,2.4nm,0.7s,mb4.2
BMO Blue Mountains 72.60 47 *eP* **P 10 37 06.3 +0.8**
BMO pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SLMT Seeley Lake 73.41 43 *eP* **P 10 37 10.4 +0.1**
ANN Anapa 73.73 314 *eP* **P 10 37 10.7 -1.5**
ANN *e*S S 10 46 42.0 +1.4
ANN pmax pmax
comp=Z,52nm,1.1s,mb5.4
FFC Flin Flon 74.41 32 *eP* **P 10 37 16.0 0.0**
comp=Z,11nm,0.9s,mb4.8
FFC Flin Flon 74.41 32 *cep* **P 10 37 16.4 +0.4**
CMB Columbia Colle 74.50 54 *eP* **P 10 37 16.9 +0.1**
comp=Z,3.7nm,0.6s,mb4.5
CMB Columbia Colle 74.50 54 *eP* **P 10 37 16.9 +0.1**
CMB pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AKASG Malin Array Be 74.59 322 P **P 10 37 16.4 -0.7**
comp=Z,6.9nm,0.6s,mb4.7,baz=47,slow=5.9,SNR=31
AKASG pP pP 10 37 28.4 +0.7
comp=Z,4.9nm,0.5s,baz=46,slow=6.0,SNR=11
AKASG LR LR 11 13 05.6
comp=Z,230nm,18.1s,MS4.5,baz=275,slow=38
AKASG Malin Array Be 74.59 322 P **P 10 37 16.4 -0.7**
AKASG pP pP 10 37 28.4 +0.6
AKASG Malin Array Be 74.59 322 P **P 10 37 16.4 -0.7**
AKASG *PP pP 10 37 28.4 +0.7
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG MLR MLR
comp=Z,230nm,18.1s
AKBB Malin Array Si 74.59 322 *eP* **P 10 37 16.5 -0.6**
AKBB Malin Array Si 74.59 322 *eP* **P 10 37 16.5 -0.6**
KIEV Kiev 74.60 322 *eP* **P 10 37 16.3 -0.9**
comp=Z,10.0nm,0.7s,mb4.8
KIEV Kiev 74.60 322 *d* iP **P 10 37 16.5 -0.7**
HRY Holter Researc 74.64 43 *eP* **P 10 37 18.3 +0.8**
NB2 NORSAR Subarra 74.64 337 P **P 10 37 16.5 -0.7**
comp=Z,5.1nm,0.7s,mb4.6,baz=40,slow=6.2
NOA NORSAR Array B 74.64 337 P **P 10 37 16.6 -0.5**
comp=Z,7.0nm,0.7s,mb4.7,baz=39,slow=5.7,SNR=22
NOA pP pP 10 37 28.3 +0.5
comp=Z,4.8nm,0.6s,baz=39,slow=5.8,SNR=8.2
NOA LR LR 11 13 07.3
comp=Z,210nm,18.6s,MS4.5,baz=10.0,slow=38
NOA NORSAR Array B 74.64 337 P **P 10 37 16.6 -0.5**
NOA pP pP 10 37 28.3 +0.5
NOA NORSAR Array B 74.64 337 P **P 10 37 16.6 -0.6**
NOA *PP pP 10 37 28.3 +0.5
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA pmax pmax
comp=Z,5.0nm,0.6s
NOA MLR MLR
comp=Z,210nm,18.6s
LRM Limekiln Ridge 74.83 44 *eP* **P 10 37 19.2 +0.7**
EGMT Eagleton 74.96 41 *eP* **P 10 37 19.7 +0.4**
comp=Z,6.5nm,0.7s,mb4.7
DLMT Dillon 75.02 44 *eP* **P 10 37 20.8 +1.1**
comp=Z,10nm,0.6s,mb4.9
MCMT McKenzie Canyo 75.20 45 *eP* **P 10 37 20.8 +0.1**
comp=Z,0.8nm,0.6s,mb3.8
BOZ Bozeman (W) 75.39 44 *eP* **P 10 37 22.1 +0.3**
comp=Z,4.8nm,0.6s,mb4.6
BOZ Bozeman (W) 75.39 44 *eP* **P 10 37 22.1 +0.3**
BOZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
NVAR Mina Array Bea 75.63 53 P **P 10 37 24.1 +0.8**
comp=Z,3.4nm,0.6s,mb4.5,baz=298,slow=5.5,SNR=37
NVAR Mina Array Bea 75.63 53 P **P 10 37 24.1 +0.8**
MIB Mutribah 75.68 296 *eP* **P 10 37 23.0 -0.8**
MIB AMb AMB 10 37 24.1
comp=Z,28nm,0.8s,mb5.2
QLMT Earthquake Lak 76.00 44 *eP* **P 10 37 26.1 +0.8**
comp=Z,0.4nm,0.6s
RDF Al-Radifah 76.01 296 *eP* **P 10 37 25.6 0.0**
RDF AMb AMB 10 37 26.6
comp=Z,44nm,0.8s,mb5.5
NAY Al-Naaiem 76.06 296 *eP* **P 10 37 25.2 -0.8**
NAY AMb AMB 10 37 25.9
comp=Z,13nm,0.8s,mb4.9
YMR Madison River 76.36 44 *eP* **P 10 37 28.1 +0.8**
comp=Z,5.2nm,0.6s,mb4.6
FLWY Flagg Ranch 76.87 45 *eP* **P 10 37 32.3 +2.0**
RLMT Red Lodge 77.03 43 *eP* **P 10 37 31.8 +0.7**
comp=Z,4.5nm,0.6s,mb4.6
TPAW Teton Pass 77.09 45 *eP* **P 10 37 32.9 +1.3**
comp=Z,3.1nm,0.6s,mb4.4
KIS Kishinev 77.16 319 *eP* **P 10 37 29.0 -2.8**
KIS Kishinev 77.16 319 *eP* **P 10 37 29.0 -2.8**
DUG Dugway 78.02 49 *eP* **P 10 37 37.9 +1.2**
comp=Z,4.8nm,0.6s,mb4.6
DUG Dugway 78.02 49 *eP* **P 10 37 37.9 +1.2**
DUG pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BORG Borgarnes 78.23 352 P **P 10 37 38.9 +1.5**
comp=Z,16nm,1.0s,mb4.9,baz=358,slow=5.1,SNR=3.0
BORG Borgarnes 78.23 352 P **P 10 37 38.9 +1.5**
BORG Borgarnes 78.23 352 P **P 10 37 38.9 +1.5**
BORG pmax pmax
comp=Z,16nm,1.0s
BW06 Boulder Array 78.34 45 *eP* **P 10 37 38.4 -0.1**
comp=Z,3.3nm,0.6s,mb4.4
PDAR Pinedale Array 78.34 45 P **P 10 37 38.8 +0.3**
comp=Z,4.3nm,0.6s,mb4.6,baz=269,slow=2.2,SNR=51
PDAR Pinedale Array 78.34 45 P **P 10 37 38.8 +0.3**
KWP Kalwaria Pacla 78.45 324 *eP* **P 10 37 39.3 +0.4**
KWP Kalwaria Pacla 78.45 324 *eP* **P 10 37 39.3 +0.4**
BUR08 Bucovina Ar. S 78.59 322 *eP* **P 10 37 39.7 -0.1**
JLU Jordanelle 78.59 48 *eP* **P 10 37 41.0 +1.1**
comp=Z,3.3nm,0.7s,mb4.4
BURAR Bucovina Array 78.60 322⇑ P **P 10 37 40.0 +0.2**
BURAR Bucovina Array 78.60 322⇑ *i* P **P 10 37 40.0 +0.2**
TESR 78.61 320⇑ *i* P **P 10 37 39.9 0.0**
DAU Daniels Canyon 78.82 48 *eP* **P 10 37 42.1 +1.0**
comp=Z,3.1nm,0.6s,mb4.4
DAU Daniels Canyon 78.82 48 *eP* **P 10 37 42.1 +0.9**
DAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MPU Maple Canyon 78.84 48 *eP* **P 10 37 42.4 +1.1**
comp=Z,5.2nm,0.7s,mb4.6
VRI Vrincioaia 78.99 320⇓ P **P 10 37 43.2 +1.2**
VRI Vrincioaia 78.99 320⇓ *i* P **P 10 37 43.2 +1.2**
BR131 Keskin Array S 79.02 311 *eP* **P 10 37 43.0 +0.7**
comp=Z,3.4nm,0.8s,mb4.3
BRTR Keskin Array B 79.02 311 P **P 10 37 41.8 -0.5**
comp=Z,2.5nm,0.7s,mb4.2,baz=97,slow=4.1,SNR=13
BRTR PP PP 10 40 38.0 -3.1
comp=Z,0.9nm,0.8s,baz=28,slow=6.5,SNR=3.6
BRTR Keskin Array B 79.02 311 P **P 10 37 41.8 -0.5**
BRTR PP PP 10 40 38.0 -3.1
BRTR Keskin Array B 79.02 311 P **P 10 37 41.8 -0.5**
BRTR 10 40 38.0
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
CCUT Cedar City 79.29 51 *eP* **P 10 37 44.6 +0.8**
comp=Z,6.5nm,1.3s,mb4.4
OJC Ojcow 79.38 326 *eP* **P 10 37 44.3 +0.3**
OJC Ojcow 79.38 326 *eP* **P 10 37 44.5 +0.5**
comp=Z,9.7nm,0.9s,mb4.7
OJC Ojcow 79.38 326 *eP* **P 10 37 44.5 +0.5**
OJC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MSU Marysvale 79.44 50 *eP* **P 10 37 45.5 +0.9**
MSU Marysvale 79.44 50 *eP* **P 10 37 45.5 +0.9**
CRVS Cervenica-Dubn 79.54 324 *eP* **P 10 37 44.8 -0.1**
CRVS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
CRVS Cervenica-Dubn 79.54 324 *eP* **P 10 37 44.8 -0.1**
SRU San Rafael 80.07 49 *eP* **P 10 37 48.9 +0.9**
comp=Z,9.3nm,0.6s,mb4.9
SRU San Rafael 80.07 49 *eP* **P 10 37 48.9 +0.9**
SRU pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ULM Lac du Bonnet 80.21 33 P **P 10 37 47.7 -0.9**
comp=Z,2.0nm,0.6s,mb4.2,baz=330,slow=8.4,SNR=4.3
ULM Lac du Bonnet 80.21 33 P **P 10 37 47.7 -0.9**
ULM Lac du Bonnet 80.21 33 P **P 10 37 47.7 -0.8**
ULM pmax pmax
comp=Z,2.0nm,0.6s
KECS Kecovo 80.30 324 *eP* **P 10 37 48.2 -0.8**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 80.30 324 *eP* **P 10 37 48.2 -0.8**
OKC Ostrava-Krasne 80.39 327 *eP* **P 10 37 49.1 -0.4**
OKC Ostrava-Krasne 80.39 327 *eP* **P 10 37 49.1 -0.4**
DRGR 80.41 322⇑ P **P 10 37 49.8 +0.1**
DRGR 80.41 322⇑ *i* P **P 10 37 49.8 +0.1**
KSP Ksiaz 80.46 328 *eP* **P 10 37 50.2 +0.3**
KSP Ksiaz 80.46 328 *eP* **P 10 37 49.7 -0.2**
KSP Ksiaz 80.46 328 *eP* **P 10 37 49.7 -0.2**
RSSD Black Hills 80.52 41 *eP* **P 10 37 50.3 0.0**
comp=Z,3.1nm,0.6s,mb4.4
RSSD Black Hills 80.52 41 *eP* **P 10 37 50.3 0.0**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MORC Moravsky Berou 80.70 327 *eP* **P 10 37 51.3 +0.1**
comp=Z,2.1nm,0.8s,mb4.1
MORC Moravsky Berou 80.70 327⇓ P **P 10 37 51.6 +0.4**
MORC Moravsky Berou 80.70 327⇓ *i* P **P 10 37 51.6 +0.4**
DPC Dobruska-Polom 80.81 328 *eP* **P 10 37 52.2 +0.4**
DPC Dobruska-Polom 80.81 328 *eP* **P 10 37 52.2 +0.4**
UPC Upice 80.83 328 *eP* **P 10 37 52.0 +0.1**
UPC Upice 80.83 328 *eP* **P 10 37 52.0 +0.1**
PSZ Piszkesteto 80.97 324 *eP* **P 10 37 52.5 -0.2**
comp=Z,6.3nm,0.7s,mb4.7
PSZ Piszkesteto 80.97 324 *eP* **P 10 37 52.5 -0.2**
PSZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
VYHS Vyhne 81.05 325 *eP* **P 10 37 53.3 +0.2**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VYHS Vyhne 81.05 325 *eP* **P 10 37 53.3 +0.2**
BRG Berggiesshubel 81.42 329 *i* P **P 10 37 54.8 -0.2**
comp=Z,7.4nm,0.9s,mb4.6
BRG *e* 10 38 09.4
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 81.42 329 *eP* **P 10 37 54.8 -0.2**
comp=Z,7.0nm,0.9s,mb4.6
BRG Berggiesshubel 81.42 329 *i* P **P 10 37 54.8 -0.2**
BRG *e* 10 38 09.4
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
PVCC Panska Ves 81.42 329 *eP* **P 10 37 55.1 +0.1**
PVCC Panska Ves 81.42 329 *eP* **P 10 37 55.1 +0.1**
PV10 Paradox Valley 81.44 48 *eP* **P 10 37 56.6 +1.2**
comp=Z,273nm,0.7s
VRAC Vranov 81.47 327 P **P 10 37 55.4 +0.1**
comp=Z,5.9nm,1.0s,mb4.5,baz=350,slow=1.7,SNR=7.0
VRAC Vranov 81.47 327 P **P 10 37 55.4 +0.1**
VRAC Vranov 81.47 327⇓ P **P 10 37 55.8 +0.5**
VRAC Vranov 81.47 327⇓ *i* P **P 10 37 55.8 +0.5**
CLL Collm 81.48 330 *eP* **P 10 37 54.7 -0.6**
comp=Z,11nm,0.8s,mb4.8
CLL Collm 81.48 330 *i* P **P 10 37 54.8 -0.5**
CLL pmax pmax
comp=Z,11nm,0.8s,mb4.8
CLL Collm 81.48 330 *eP* **P 10 37 52.0 -3.3**
CLL *i* Pmax 10 37 54.8
comp=Z,11nm,0.8s
PV04 Paradox Valley 81.51 48 *eP* **P 10 37 56.6 +0.9**
PRU Pruhonice 81.84 328 *eP* **P 10 37 57.1 -0.2**
PRU Pruhonice 81.84 328 *eP* **P 10 37 57.1 -0.2**
MMAI Mount Meron Ar 82.06 305 P **P 10 37 59.0 +0.3**
comp=Z,2.3nm,0.5s,mb4.4,baz=50,slow=7.7,SNR=3.4
MMAI Mount Meron Ar 82.06 305 P **P 10 37 59.0 +0.3**
CLZ Clausthal 82.10 332 *eP* **P 10 37 58.5 0.0**
CLZ Clausthal 82.10 332 *eP* **P 10 37 58.5 0.0**
TANN Tannenbergstha 82.38 330 *eP* **P 10 37 59.7 -0.4**
ISCO Idaho Springs 82.53 45 *eP* **P 10 38 01.8 +0.8**
comp=Z,1.9nm,0.7s,mb4.2
ISCO Idaho Springs 82.53 45 *eP* **P 10 38 01.8 +0.8**
ISCO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
NKC Novy Kostel 82.53 330 *eP* **P 10 38 00.6 -0.2**
NKC Novy Kostel 82.53 330 *eP* **P 10 38 00.6 -0.2**
MOX Moxa 82.55 330 *eP* **P 10 38 00.6 -0.3**
comp=Z,18nm,1.7s,mb4.8
MOX Moxa 82.55 330 *eP* **P 10 38 00.6 -0.3**
MOX pmax pmax
comp=Z,18nm,1.7s,mb4.8
IBBN Ibbenburen 82.70 333 *eP* **P 10 38 01.5 -0.2**
KHC Kasperske Hory 82.91 328 *eP* **P 10 38 02.7 -0.1**
KHC Kasperske Hory 82.91 328 *eP* **P 10 38 02.7 -0.1**
ROTZ Rotzenmuhle 82.99 329 *eP* **P 10 38 03.2 0.0**
comp=Z,6.0nm,0.8s,mb4.7
UBBA Unterbreizbach 83.05 331 *eP* **P 10 38 02.7 -0.8**
GEC2 GERESS Array S 83.07 328 *eP* **P 10 38 03.1 -0.6**
comp=Z,6.0nm,1.1s,mb4.5
GEC2 GERESS Array S 83.07 328 *eP* **P 10 38 03.1 -0.6**
GEC2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
GERES GERESS Array B 83.07 328 P **P 10 38 03.3 -0.4**
comp=Z,2.5nm,0.6s,mb4.4,baz=35,slow=5.2,SNR=24
GERES LR LR 11 14 34.1
comp=Z,231nm,21.7s,MS4.5,baz=103,slow=35
GERES GERESS Array B 83.07 328 P **P 10 38 03.3 -0.4**
GERES GERESS Array B 83.07 328 P **P 10 38 03.3 -0.4**
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES MLR MLR
comp=Z,231nm,21.7s
VTS Vitosha 83.07 319⇓ P **P 10 38 03.9 +0.1**
VTS Vitosha 83.07 319⇓ *i* P **P 10 38 03.9 +0.1**
WET Wettzell 83.19 329 *eP* **P 10 38 04.1 -0.2**
comp=Z,5.0nm,0.9s,mb4.5
WET Wettzell 83.19 329 *eP* **P 10 38 04.1 -0.2**
WET pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 83.45 330 *eP* **P 10 38 05.6 0.0**
comp=Z,26nm,1.2s,mb5.1
GRF Grafenberg Arr 83.45 330 *eP* **P 10 38 05.6 0.0**
GRF pmax pmax
comp=Z,26nm,1.2s,mb5.1
BUG Bochum--Univer 83.58 333 *eP* **P 10 38 06.0 -0.2**
PERS Pernice 84.12 326 *i* P **P 10 38 09.0 -0.1**
VAY Valandovo 84.30 318 *i* P **P 10 38 09.6 -0.5**
RJOB Jochberg 84.31 328 *eP* **P 10 38 10.0 0.0**
EIL Elat 84.44 303 P **P 10 38 11.1 0.0**
comp=Z,3.1nm,0.5s,mb4.7,baz=43,slow=8.8,SNR=3.4
EIL Elat 84.44 303 P **P 10 38 11.1 0.0**
VISS Visnje 84.88 325 *i* P **P 10 38 12.2 -0.7**
BOJS Bojanci 84.92 325 *i* P **P 10 38 14.5 +1.4**
KRUS Krusevo 84.97 319 *i* P **P 10 38 12.8 -0.7**
STU Stuttgart 84.99 330 *eP* **P 10 38 13.1 -0.4**

JAVS	Javornik	85.16 326	*i* P	P	10 38 13.3	-1.1
ANMO	Albuquerque	85.24 50	*e*P	P	10 38 15.2	+0.2
	comp=Z,4.1nm,1.3s,mb4.4					
ANMO	Albuquerque	85.24 50	*e*P	P	10 38 15.2	+0.2
ANMO			pmax	pmax		
	comp=Z,4.0nm,1.3s					
GIVF	Givet	85.57 333	*e*P	P	10 38 15.3	-1.0
GIVF	Givet	85.57 333	*e*P	P	10 38 15.3	-1.0
GIVF	Givet	85.57 333	*e*P	P	10 38 15.3	-1.0
BAIF	Baives	85.83 334	*e*P	P	10 38 16.9	-0.7
BAIF	Baives	85.83 334	*e*P	P	10 38 16.9	-0.7
BAIF	Baives	85.83 334	*e*P	P	10 38 16.9	-0.7
SCHQ	Schefferville	86.03 16	P	P	10 38 18.0	-0.5
	comp=Z,5.5nm,0.7s,mb4.9,baz=321,slow=4.8,SNR=6.3					
SCHQ	Schefferville	86.03 16	P	P	10 38 18.0	-0.5
CDF	Champ du Feu	86.04 331	*e*P	P	10 38 18.2	-0.5
	comp=Z,11nm,0.8s,mb4.9					
CDF	Champ du Feu	86.04 331	*e*P	P	10 38 18.2	-0.5
	comp=Z,11nm,0.8s,mb5.2					
CDF	Champ du Feu	86.04 331	*e*P	P	10 38 18.2	-0.5
CDF			pmax	pmax		
	comp=Z,11nm,0.8s,mb5.1					
PAGF	Fort de Pagny	86.52 332	*e*P	P	10 38 20.7	-0.3
	comp=Z,8.3nm,0.8s,mb4.7					
HINF	Hinteralfeld	86.69 331	*e*P	P	10 38 20.9	-1.0
HINF	Hinteralfeld	86.69 331	*e*P	P	10 38 20.9	-1.0
HINF	Hinteralfeld	86.69 331	*e*P	P	10 38 20.9	-1.0
HAU	Haudompre	86.73 331	*e*P	P	10 38 21.2	-0.9
HAU	Haudompre	86.73 331	*e*P	P	10 38 21.2	-0.9
HAU	Haudompre	86.73 331	*e*P	P	10 38 21.2	-0.9
SFTF	Sexfontaines	87.06 332	*e*P	P	10 38 23.2	-0.5
	comp=Z,19nm,0.9s,mb5.0					
SFTF	Sexfontaines	87.06 332	*e*P	P	10 38 23.2	-0.5
	comp=Z,19nm,0.9s,mb5.3					
LOR	Lormes	88.28 332	*e*P	P	10 38 29.4	-0.2
LOR	Lormes	88.28 332	*e*P	P	10 38 29.4	-0.2
LOR	Lormes	88.28 332	*e*P	P	10 38 29.4	-0.2
LDF	La Druitiere	88.57 335	*e*P	P	10 38 29.9	-1.0
	comp=Z,5.2nm,0.7s,mb4.7					
LDF	La Druitiere	88.57 335	*e*P	P	10 38 29.9	-1.0
	comp=Z,5.2nm,0.7s,mb5.0					
LDF	La Druitiere	88.57 335	*e*P	P	10 38 29.9	-1.0
LDF			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0					
LPG	La Plagne	88.62 330	*e*P	P	10 38 30.8	-0.4
	comp=Z,13nm,0.8s,mb5.0					
LPG	La Plagne	88.62 330	*e*P	P	10 38 30.8	-0.4
	comp=Z,13nm,0.8s,mb5.3					
LPG	La Plagne	88.62 330	*e*P	P	10 38 30.8	-0.4
LPG			pmax	pmax		
	comp=Z,13nm,0.8s,mb5.3					
AVF	Avril sur Loir	88.87 332	*e*P	P	10 38 31.4	-1.0
	comp=Z,32nm,1.0s,mb5.3					
AVF	Avril sur Loir	88.87 332	*e*P	P	10 38 31.4	-1.0
	comp=Z,32nm,1.0s,mb5.6					
AVF	Avril sur Loir	88.87 332	*e*P	P	10 38 31.4	-1.0
AVF			pmax	pmax		
	comp=Z,32nm,1.0s,mb5.6					
MBDF	Montbardon	89.24 329	*e*P	P	10 38 33.4	-0.7
MBDF	Montbardon	89.24 329	*e*P	P	10 38 33.4	-0.7
MBDF	Montbardon	89.24 329	*e*P	P	10 38 33.4	-0.7
ORIF	Oris-en-Rattie	89.45 330	*e*P	P	10 38 34.5	-0.6
ORIF	Oris-en-Rattie	89.45 330	*e*P	P	10 38 34.5	-0.6
ORIF	Oris-en-Rattie	89.45 330	*e*P	P	10 38 34.5	-0.6
TXAR	Lajitas Array	90.77 52	P	P	10 38 41.5	0.0
	comp=Z,1.4nm,0.8s,mb4.3,baz=291,slow=3.0,SNR=14					
TXAR	Lajitas Array	90.77 52	P	P	10 38 41.5	0.0
TXAR	Lajitas Array	90.77 52	P	P	10 38 41.6	+0.1
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
ESDC	Sonseca Array	97.70 333	LR	LR	11 30 59.1	
	comp=Z,168nm,18.9s,MS4.5,baz=105,slow=40					
TORD	Torodi Ar. Bea	117.54 314	PKP	PKPdf	10 44 23.2	-1.3
	comp=Z,0.6nm,0.7s,baz=12,slow=2.5,SNR=3.4					
TORD			pPKP	pPKPdf	10 44 36.7	+1.0
	comp=Z,0.5nm,0.6s,baz=354,slow=1.5,SNR=3.0					
TORD			PP	PP	10 45 26.6	-9.5
	comp=Z,0.9nm,0.8s,baz=27,slow=6.0,SNR=4.1					
TORD	Torodi Ar. Bea	117.54 314	PKP	PKPdf	10 44 23.2	-1.3
TORD			pPKP	pPKPdf	10 44 36.7	+1.0
TORD			PP	PP	10 45 26.6	-9.5
SUR	Sutherland	131.16 256	*e*PKPdf	PKPdf	10 44 50.3	+0.3
VNA2	Neumayer--Watz	141.62 196	*e*	PKPdf	10 45 05.1	-3.2
	baz=143,slow=3.5					
VNA2			*e*		10 45 11.3	
LPAZ	La Paz	147.29 60	PKPbc	PKPbc	10 45 22.3	+0.2
	comp=Z,4.7nm,0.6s,baz=296,slow=1.7,SNR=18					
LPAZ	La Paz	147.29 60	*e*PKPbc	PKPbc	10 45 22.2	+0.2

BJI 14 10:28:25.3,35.°40N×81.°14E,h9km,mb4.1/2,ML3.7/4, Ms3.7/1,Ms7 3.6/1,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	5.81	317	Pn	Pn	10 29 56.4	+4.8
KSH				Sn	Sn	10 30 59.3	+0.9
KSH				smax			
	comp=N,78nm,1.3s						
KSH				smax			
	comp=E,42nm,1.0s						
GTA	Gaotai	15.37	69	*e*P	Pn	10 32 08.3	+6.0
GTA				pP	pP	10 32 12.4	+2.8
GTA				sP	sP	10 32 15.3	+4.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				LR	LR		
	comp=N,190nm,17.1s						
GTA				LR	LR		
	comp=E,250nm,18.5s						
GTA				LR	LR		
	comp=Z,310nm,18.5s						

*ISCJB **14** 10:50:05.9±1.9, 16.°3S±0.°2×174.°1W±0.°2, h73km±18km, mb3.8/10, Error ellipse: s-maj=36.4km s-min=13.8km az=43.2*
*IDC **14** 10:50:07.3±3.0, 16.°56S×173.°94W, h75km±27km, mb3.7/9, mb1 4.0/10, mb1mx3.8/19, mbtmp3.7/10, Error ellipse: s-maj=41.4km s-min=14.7km az=139.0*
*NEIC **14** 10:50:07.7±1.5, 16.°43S×174.°06W, h77km±14km, mb3.8/2, Error ellipse: s-maj=25.5km s-min=11.0km az=12.0*
ISC 14 10:50:07.0±1.8, 16.°4S±0.°2×174.°1W±0.°2, h69km±17km, n43, σ0:99/24, mb3.8/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.29	43	P	Pn	10 50 57.9	+1.8
	104nm,0.3s,baz=36,slow=1.6,SNR=124						
AFI				S	Sn	10 51 32.7	-1.4
	127nm,0.3s,baz=53,slow=20,SNR=12						
AFI	Afiamalu	3.29	43	P	Pn	10 50 57.9	+1.8
AFI				S	Sn	10 51 32.7	-1.4
MSVF	Nonsavu	7.66	259	*e*Pn	Pn	10 52 05.7	+10
	21nm,1.0s						
URZ	Urewera	23.16	198	P	P	10 55 06.6	-1.0
	4.0nm,0.3s,mb4.2,baz=263,slow=6.5,SNR=11						
URZ	Urewera	23.16	198	P	P	10 55 06.6	-1.0
STKA	Stephens Creek	43.01	241	P	P	10 57 59.7	0.0
	1.1nm,0.3s,mb4.0,baz=65,slow=8.2,SNR=5.6						
STKA	Stephens Creek	43.01	241	*e*P	P	10 57 59.3	-0.4
	0.3nm,0.5s,mb3.3						
WRA	Warramunga Arr	49.00	258	P	P	10 58 46.9	-0.2
	0.3nm,0.3s,mb3.7,baz=90,slow=7.7,SNR=19						
WRA	Warramunga Arr	49.00	258	P	P	10 58 46.9	-0.2
ASAR	Alice Springs	49.21	253	P	P	10 58 48.2	-0.3
	1.9nm,0.5s,mb4.3,baz=89,slow=8.4,SNR=55						
ASAR	Alice Springs	49.21	253	P	P	10 58 48.2	-0.3
QSPA	South Pole Qui	73.70	180	*e*P	P	11 01 33.9	+1.1
	2.1nm,0.7s,mb4.0						
NVAR	Mina Array Bea	75.46	42	P	P	11 01 44.1	+0.4
	0.9nm,0.8s,mb3.5,baz=228,slow=9.1,SNR=5.2						
NVAR	Mina Array Bea	75.46	42	P	P	11 01 44.1	+0.4
TXAR	Lajitas Array	81.68	56	P	P	11 02 16.2	-1.9
	0.4nm,0.8s,mb3.3,baz=246,slow=6.8,SNR=2.8						
TXAR	Lajitas Array	81.68	56	P	P	11 02 16.2	-1.9
PDAR	Pinedale Array	83.40	42	P	P	11 02 27.6	+0.9
	2.4nm,0.7s,mb4.2,baz=208,slow=3.7,SNR=22						
PDAR	Pinedale Array	83.40	42	P	P	11 02 27.6	+0.9
ILAR	Eielson Array	83.50	11	P	P	11 02 27.0	+0.3
	1.2nm,0.5s,mb4.0,baz=219,slow=5.1,SNR=44						
ILAR	Eielson Array	83.50	11	P	P	11 02 27.0	+0.3
YKA	Yellowknife Ar	91.22	24	P	P	11 03 04.5	+0.4
	0.1nm,0.4s,mb3.3,baz=233,slow=4.5,SNR=3.5						
YKA	Yellowknife Ar	91.22	24	P	P	11 03 04.5	+0.4
ARCES	ARCESS Array B	125.45	352	PKP	PKPdf	11 08 59.7	+0.3
	6.1nm,1.1s,baz=14,slow=4.0,SNR=3.7						
ARCES	ARCESS Array B	125.45	352	PKP	PKPdf	11 08 59.7	+0.3
GIVF	Givet	146.32	1	*e*PKP1	PKPbc	11 09 40.4	+0.7
BAIF	Baives	146.35	2	*e*PKP1	PKPbc	11 09 40.6	+0.8
BRTR	Keskin Array B	146.47	320	PKPbc	PKPbc	11 09 41.5	+0.9
	1.8nm,0.8s,baz=128,slow=2.4,SNR=5.2						
BRTR	Keskin Array B	146.47	320	PKPbc	PKPbc	11 09 41.5	+0.9
GERES	GERESS Array B	146.98	351	PKPbc	PKPbc	11 09 42.5	+0.8
	1.8nm,0.8s,baz=27,slow=3.3,SNR=14						
GERES	GERESS Array B	146.98	351	PKPbc	PKPbc	11 09 42.5	+0.8
ROSF	Rostrenen	147.22	11	*e*PKP1	PKPbc	11 09 43.0	+0.6
FLN	La Foliniere	147.25	8	*e*PKP1	PKPbc	11 09 42.8	+0.4
	17nm,0.6s						
SGMF	Saint Gilles	147.43	11	*e*PKP1	PKPbc	11 09 43.3	+0.4
LDF	La Druitiere	147.47	7	*e*PKP1	PKPbc	11 09 43.3	+0.3
	8.0nm,0.5s						
GRR	Gorron	147.57	8	*e*PKP1	PKPbc	11 09 43.8	+0.5
	21nm,0.6s						
CDF	Champ du Feu	148.01	358	*e*PKP1	PKPbc	11 09 45.3	+0.8
SFTF	Sexfontaines	148.23	1	*e*PKP1	PKPbc	11 09 45.9	+0.8
	25nm,0.9s						
HAU	Haudompre	148.43	359	*e*PKP1	PKPbc	11 09 46.3	+0.7
	14nm,0.9s						
BGF	Bois d'Agland	149.77	4	*e*PKP1	PKPbc	11 09 49.6	+0.6
	17nm,0.8s						
CABF	La Chapelle	149.83	360	*e*PKP1	PKPbc	11 09 50.5	+1.3
	24nm,1.0s						
LPG	La Plagne	150.94	359	*e*PKP1	PKPbc	11 09 53.3	+1.4
	13nm,0.8s						
ORIF	Oris-en-Rattie	151.52	0	*e*PKP1	PKPbc	11 09 54.5	+1.3
MBDF	Montbardon	151.71	359	*e*PKP1	PKPbc	11 09 54.3	+0.6
	28nm,1.0s						

*NEIC **14** 10:50:18.4, 63.°63N×131.°50W, h1km, ML3.9(PGC), After PGC.*
PGC 14 10:50:18.4±0.0, 63.°63N×131.°50W, h1km, ML3.9/6, 8D, 295km Wsw of Norman Wells, Nt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHY	Whitehorse	3.38	210	Pn	Pn	10 51 11.1	-1.1
WHY				Pg	Pg	10 51 19.5	-3.5
WHY				Sg	Sg	10 52 00.4	-6.3
WHY	Whitehorse	3.38	210	⇑Pn	Pn	10 51 11.1	-1.1
WHY				⇓Pg	Pg	10 51 19.5	-3.5
WHY				⇑Sg	Sg	10 52 00.4	-6.3
DAWY	Dawson	3.52	281	*e*Pn	Pn	10 51 13.5	-0.6
DAWY				*e*Pg	Pg	10 51 22.1	-3.7
DAWY				*e*Sg	Sg	10 52 08.4	-3.0
DAWY	Dawson	3.52	281	⇑Pn	Pn	10 51 13.1	-1.1
DAWY				⇓Pg	Pg	10 51 21.9	-3.9
DAWY				⇓Sg	Sg	10 52 07.2	-4.2
HYT	Haines Junctio	3.98	228	Pn	Pn	10 51 19.9	-0.4
HYT				Pg	Pg	10 51 30.5	-4.0
HYT				Sg	Sg	10 52 20.6	-5.4
HYT	Haines Junctio	3.98	228	⇑Pn	Pn	10 51 19.9	-0.4
HYT				⇓Pg	Pg	10 51 30.5	-4.0
HYT				⇑Sg	Sg	10 52 20.6	-5.4
EGAK	Eagle	4.38	290	*e*Pn	Pn	10 51 25.8	-0.1
EGAK				*e*Pg	Pg	10 51 37.9	-4.2
INK	Inuvik	4.77	351	Pn	Pn	10 51 30.2	-1.0
INK				Sn	Sn	10 52 24.8	-2.3
INK	Inuvik	4.77	351	⇑Pn	Pn	10 51 30.2	-1.0
INK				⇑Sn	Sn	10 52 24.8	-2.3
PLBC	Pleasant Camp	4.79	211	Pn	Pn	10 51 31.0	-0.5
PLBC				Pg	Pg	10 51 44.9	-5.2
PLBC				Sg	Sg	10 52 44.4	-7.7
PLBC	Pleasant Camp	4.79	211	⇓Pn	Pn	10 51 31.0	-0.5
PLBC				⇑Pg	Pg	10 51 44.9	-5.2
PLBC				⇓Sg	Sg	10 52 44.4	-7.7
DLBC	Dease Lake	5.26	172	Pn	Pn	10 51 34.1	-3.9
DLBC				Sg	Sg	10 52 59.7	-7.4
DLBC	Dease Lake	5.26	172	⇑Pn	Pn	10 51 37.1	-0.9
DLBC				⇑Sg	Sg	10 52 59.7	-7.4
DOT	Dot Lake	5.60	276	*e*Pn	Pn	10 51 42.1	-0.5
	5.1nm,0.7s						
DOT				*e*Pg	Pg	10 51 59.5	-6.0
DOT				*e*Sg	Sg	10 53 09.4	-8.6
FNBB	Fort Nelson	6.27	135	Pn	Pn	10 51 50.8	-1.1
FNBB	Fort Nelson	6.27	135	⇑Pn	Pn	10 51 50.8	-1.1
PAX	Paxson	6.33	270	*e*Pn	Pn	10 51 52.8	+0.1
PAX				*e*Pg	Pg	10 52 12.7	-6.9
PAX				*e*Sg	Sg	10 53 36.5	-5.0
COLA	College	7.23	287	*e*Pn	Pn	10 52 05.9	+0.9
	3.5nm,0.8s						
COLA				*e*Pg	Pg	10 52 32.9	-3.8
COLA				*e*Sg	Sg	10 54 08.1	-2.2
YKW3	Yellowknife Ar	7.73	90	Pn	Pn	10 52 10.4	-1.5
YKW3				Sn	Sn	10 53 31.6	-8.3
YKW3	Yellowknife Ar	7.73	90	⇑Pn	Pn	10 52 10.4	-1.5
YKW3				⇓Sn	Sn	10 53 31.6	-8.3
JERN	Jeri Cho Mine,	8.85	65	⇑Pn	Pn	10 52 24.8	-2.4
JERN				⇓Sn	Sn	10 53 58.8	-8.7

*IDC **14** 10:55:14.2±0.8, 2.°48S×140.°28E, h0km, mb3.9/8, mb1 4.2/10, mb1mx4.1/15, mbtmp4.1/10, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/22, Error ellipse: s-maj=30.5km s-min=16.8km az=82.0*
*ISCJB **14** 10:55:17.3±0.7, 2.°57S±0.°07×140.°2E±0.°1, h33km, mb4.0/9, Error ellipse: s-maj=17.2km s-min=9.5km az=168.4*
*NEIC **14** 10:55:20.3±1.9, 2.°59S×140.°17E, h44km±19km, mb4.2/3, Error ellipse: s-maj=15.9km s-min=12.1km az=104.0*
ISC 14 10:55:17.1±4.1, 2.°54S±0.°07×140.°1E±0.°1, h15km±26km, n32, σ0:82/29, mb4.0/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.77	135	Pn	Pn	10 57 37.1	0.0
	0.8nm,0.3s,baz=333,slow=6.5,SNR=6.5						
PMG	Port Moresby	9.77	135	Pn	Pn	10 57 37.1	0.0
COEN	Coen	11.74	165	*e*Pn	Pn	10 58 05.0	+0.9
GUMO	Guam	16.70	16	LR	LR	11 04 46.6	
	comp=Z,51nm,20.9s,baz=276,slow=34						
WRAB	Tennant Creek	18.18	198	*e*P	Pn	10 59 29.2	+0.1
	10nm,0.8s						
WB2	Warramunga Arr	18.19	198	*e*P	Pn	10 59 28.7	-0.5
WRA	Warramunga Arr	18.19	198	P	Pn	10 59 28.3	-1.0
	1.3nm,0.3s,baz=23,slow=12,SNR=44						
WRA				S	Sn	11 02 39.7	-12
	0.1nm,0.3s,baz=15,slow=24,SNR=3.9						
WRA	Warramunga Arr	18.19	198	P	Pn	10 59 28.2	-1.0
WRA				S	Sn	11 02 39.7	-12
FITZ	Fitzroy Crossi	21.00	222	P	P	11 00 00.8	+0.7
	5.4nm,0.5s,baz=71,slow=8.4,SNR=16						
FITZ				LR	LR	11 08 52.2	
	comp=Z,59nm,18.1s,baz=68,slow=39						
FITZ	Fitzroy Crossi	21.00	222	*e*P	P	10 59 59.9	-0.1
	9.8nm,0.9s						
AS31	Alice Springs	21.84	195	*e*P	P	11 00 08.5	-0.7
ASAR	Alice Springs	21.84	195	P	P	11 00 08.7	-0.5
	5.3nm,0.6s,mb4.2,baz=30,slow=10,SNR=72						
ASAR				S	S	11 04 10.4	+0.2
	1.8nm,0.8s,baz=16,slow=25,SNR=5.5						
ASAR	Alice Springs	21.84	195	P	P	11 00 08.7	-0.5
ASAR				S	S	11 04 10.4	+0.2
EIDS	Eidsvold	25.03	156	*e*P	P	11 00 41.6	+1.0
	7.2nm,0.7s,mb4.3						
STKA	Stephens Creek	29.21	177	P	P	11 01 18.6	+0.4
	0.7nm,0.3s,mb3.8,baz=342,slow=9.6,SNR=2.2						
STKA	Stephens Creek	29.21	177	P	P	11 01 18.6	+0.4
CMAR	Chiang Mai Arr	45.58	299	P	P	11 03 37.9	+1.0
	1.5nm,0.9s,mb3.9,baz=116,slow=5.9,SNR=7.0						
CMAR	Chiang Mai Arr	45.58	299	P	P	11 03 37.9	+1.0
SONM	Songino Array	58.18	334	P	P	11 05 11.1	+0.7
	0.2nm,0.5s,mb3.4,baz=166,slow=5.8,SNR=3.1						
SONM	Songino Array	58.18	334	P	P	11 05 11.1	+0.7
MKAR	Makanchi Array	70.52	322	P	P	11 06 31.7	+0.4
	1.2nm,0.7s,mb3.9,baz=99,slow=7.5,SNR=8.0						
MKAR	Makanchi Array	70.52	322	P	P	11 06 31.7	+0.4
ZALV	Zalesovo Beam	72.50	329	P	P	11 06 42.5	-0.5
	1.0nm,0.5s,mb4.0,baz=112,slow=6.5,SNR=7.1						
ZALV	Zalesovo Beam	72.50	329	P	P	11 06 42.5	-0.5
ILAR	Eielson Array	85.10	24	P	P	11 07 49.5	-2.5
	1.2nm,0.7s,mb4.1,baz=258,slow=4.6,SNR=20						
ILAR	Eielson Array	85.10	24	P	P	11 07 49.5	-2.5
TORD	Torodi Ar. Bea	137.56	287	PKP	PKPdf	11 14 40.8	-0.7
	0.3nm,0.6s,baz=85,slow=2.3,SNR=2.4						
TORD	Torodi Ar. Bea	137.56	287	PKP	PKPdf	11 14 40.8	-0.7
DBIC	Dimbokro	144.86	278	PKPbc	PKPdf	11 14 53.4	-1.3
	2.6nm,0.5s,baz=100,slow=2.0,SNR=8.3						
DBIC	Dimbokro	144.86	278	*e*PKPbc	PKPdf	11 14 53.2	-1.5
LPAZ	La Paz	146.40	125	PKPbc	PKPbc	11 14 59.0	+0.5
	1.6nm,0.6s,baz=254,slow=4.2,SNR=7.6						
LPAZ	La Paz	146.40	125	*e*PKPbc	PKPbc	11 14 58.0	-0.5

IDC 14 11:03:11.1±2.2, 60.°33S×32.°13W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/10, mbtmp4.0/1, Error ellipse: s-maj=138.2km s-min=70.1km az=155.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	78.08	34	P	P	11 15 11.6	+0.1
	0.9nm,0.7s,baz=200,slow=6.0,SNR=6.0						
YKA	Yellowknife Ar	137.56	317	PKP	PKPdf	11 22 35.0	-0.2
	0.2nm,0.7s,baz=136,slow=1.9,SNR=5.7						
ZALV	Zalesovo Beam	146.40	72	PKPbc	PKPbc	11 22 51.8	-0.8
	0.2nm,0.3s,baz=259,slow=2.9,SNR=2.5						
ILAR	Eielson Array	150.81	307	PKPbc	PKPbc	11 23 03.4	-0.3
	0.7nm,0.7s,baz=145,slow=2.2,SNR=9.5						

*ISCJB **14** 11:26:05.8±0.8, 6.°91N±0.°08×73.°08W±0.°09, h164km±8km, Error ellipse: s-maj=17.7km s-min=8.4km az=39.1*
*FUNV **14** 11:26:08.0, 6.°92N×73.°10W, h168km, MW3.1*
*IDC **14** 11:26:11.3±5.0, 6.°77N×74.°20W, h176km±28km, mb2.9/1, mb1 3.2/1, mb1mx2.8/19, mbtmp2.9/1, Error ellipse: s-maj=419.0km s-min=34.3km az=91.0*
ISC 14 11:26:06.8±0.8, 6.°88N±0.°08×73.°05W±0.°09, h158km±8km, n16, σ0:97/19, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.22	37	⇑*e*P	Pn	11 26 35.8	+1.5
CAPV				*e*S	Sn	11 26 56.4	+1.0
ROSC	El Rosal	2.38	212	P	Pn	11 26 47.6	+0.8
	5.0nm,0.3s,baz=255,slow=23,SNR=20						
ROSC				S	Sn	11 27 15.9	-1.9
	12nm,0.3s,baz=76,slow=19,SNR=6.2						
VIGV	El Vigia	2.57	40	*e*P	Pn	11 26 50.6	+1.5
VIGV				*e*S	Sn	11 27 20.9	-0.9
SOCV	Socops	2.58	57	*e*P	Pn	11 26 50.7	+1.3
SOCV				*e*S	Sn	11 27 21.4	-0.8
ELOV	Elorza	3.54	88	*e*P	Pn	11 27 01.9	+0.6
VIRV	Villa del Rosa	3.66	10	*e*P	Pn	11 27 02.3	-0.6
VIRV				*e*S	Sn	11 27 42.8	-3.7
SANV	Sanarito	4.35	53	*e*P	Pn	11 27 11.4	-0.4
TEPV	Terepaima	4.90	51	*e*P	Pn	11 27 19.3	+0.3
BAUV	El Baul	5.37	67	*e*P	Pn	11 27 24.4	-0.8
MAPV	Macapo	5.41	57	*e*P	Pn	11 27 25.8	+0.1
MONV	Montecano	5.89	31	*e*P	Pn	11 27 31.5	-0.6
TURV	Turiamo	6.25	55	*e*P	Pn	11 27 36.4	-0.6
CUPV	Cœpira	7.85	66	*e*P	Pn	11 27 57.5	-0.6
YKA	Yellowknife Ar	63.24	340	P	P	11 36 18.7	+0.7
	0.2nm,0.5s,baz=132,slow=6.6,SNR=6.6						
ASAR	Alice Springs	149.20	234	PKPbc	PKPbc	11 45 36.7	-0.7
	0.2nm,0.7s,baz=123,slow=3.4,SNR=3.6						
WRA	Warramunga Arr	150.43	241	PKPbc	PKPbc	11 45 40.0	-0.5
	0.3nm,0.9s,baz=106,slow=2.6,SNR=6.6						

*NIED **14** 11:28:00, 32.°00N×130.°10E, h5km, Mw3.5 Best double couple: M0=2.01000×10^14 NP1:φ=96.00000°, δ=88.00000°, λ=22.00000°. NP2:φ=5.00000°, δ=68.00000°, λ=178.00000°.*
JMA 14 11:28:48.8, 31.°95N×130.°13E, h7km±1km, M3.5, 2C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	Okuchi	0.44	64	⇓P	Pg	11 28 57.6	+0.3
JZO				S	Sg	11 29 03.4	+0.3
JSJ	Shimokoshiki	0.45	233	⇓P	Pg	11 28 57.7	+0.3
JSJ				*e*S	Sg	11 29 03.9	+0.7
JHD	Hondo	0.51	1	⇑P	Pg	11 28 58.8	+0.1
JHD				S	Sg	11 29 06.2	+0.7
JSU	Suzuyama	0.52	148	⇑P	Pg	11 28 58.9	0.0
JSU				S	Sg	11 29 05.8	+0.1
JTZ	Takazaki	0.82	93	P	Pg	11 29 04.7	+0.2
JIU2	Izumi 2	0.83	44	⇓P	Pg	11 29 04.3	-0.5
JIU2				S	Sg	11 29 16.1	+0.5

IDC 14 11:39:44.2±1.3, 5.°50N×127.°56E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=71.5km s-min=27.7km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.14	165	P	P	11 45 20.4	+0.2
	0.4nm,0.4s,baz=343,slow=10,SNR=12						
MKAR	Makanchi Array	56.60	324	P	P	11 49 29.3	+0.5
	0.5nm,0.5s,baz=120,slow=8.1,SNR=12						
ILAR	Eielson Array	83.16	25	P	P	11 52 11.2	-0.6

UNCR Uncukul 0.64 136 *e*Pg Pg 11 54 15.5 -0.6
comp=Z,34nm,0.2s
UNCR *i* Sg Sg 11 54 24.0 -0.6
XNZR Khunzakh 0.74 149 *e*PG Pg 11 54 14.5 -3.4
XNZR *e*S Sb 11 54 29.0 +1.4
XNZR Khunzakh 0.74 149 *e*Pg Pg 11 54 14.5 -3.4
XNZR *e*Sg Sg 11 54 29.0 +1.3
BUJR Buynaksk 0.76 117 PG Pg 11 54 20.0 +1.7
BUJR *i* S Sb 11 54 30.8 +2.6
BUJR Buynaksk 0.76 117 Pg Pg 11 54 20.0 +1.7
BUJR *i* Sg Sg 11 54 30.8 +2.4
MAK Makhachkala 0.99 102 *e*PG Pg 11 54 22.5 -0.1
MAK *e* 11 54 38.0
MAK pmax pmax
comp=Z,163nm,0.3s
MAK Makhachkala 0.99 102 *e*Pg Pg 11 54 22.5 -0.1
comp=Z,163nm,0.3s
MAK *e*Sg Sg 11 54 38.0 +2.4
SNJR Sundja 1.01 265 *e*PG Pg 11 54 22.8 -0.4
SNJR *e*S Sb 11 54 37.0 +1.4
SNJR Sundja 1.01 265 *e*Pg Pg 11 54 22.8 -0.4
SNJR *e*Sg Sg 11 54 37.0 +0.5
VLKR Vladikavkaz 1.11 264 *e*PG Pg 11 54 24.4 -0.7
VLKR *e*S Sb 11 54 40.3 +1.8
VLKR Vladikavkaz 1.11 264 *e*Pg Pg 11 54 24.4 -0.7
VLKR *e*Sg Sg 11 54 40.3 +0.7
TRKR Terskaya 1.20 298 *e*PG Pg 11 54 25.5 -1.1
TRKR *e*S Sb 11 54 42.2 +1.4
TRKR Terskaya 1.20 298 *e*Pg Pg 11 54 25.5 -1.1
TRKR *e*Sg Sg 11 54 42.2 0.0
KMKR Kumukh 1.24 147 *e*PG Pg 11 54 27.5 +0.1
KMKR *e*S Sb 11 54 45.0 +2.9
KMKR pmax pmax
comp=Z,56nm,0.2s
KMKR Kumukh 1.24 147 *e*Pg Pg 11 54 27.5 +0.1
comp=Z,56nm,0.2s
KMKR *e*Sg Sg 11 54 45.0 +1.4
ARNR Ardon 1.40 271 *e*PG Pg 11 54 29.1 -1.3
ARNR *e*S Sn 11 54 48.5 +2.3
ARNR Ardon 1.40 271 *e*Pg Pg 11 54 29.1 -1.3
ARNR *e*Sg Sg 11 54 48.5 -0.1
KMSR Komsomolskaya 1.40 279 *e*PG Pg 11 54 29.2 -1.3
KMSR *e*S Sn 11 54 48.5 +2.2
KMSR Komsomolskaya 1.40 279 *e*Pg Pg 11 54 29.2 -1.3
KMSR *e*Sg Sg 11 54 48.5 -0.2
LACR Lac 1.43 257⇑ *i*PG Pg 11 54 28.0 -3.1
LACR *i* S Sn 11 54 47.7 +0.6
LACR Lac 1.43 257 *i*Pg Pg 11 54 28.0 -3.1
LACR *i* Sg Sg 11 54 47.7 -2.0
URKR Urkarakh 1.47 133 *e*PG Pg 11 54 32.0 +0.3
URKR *e*S Sn 11 54 53.5 +5.6
URKR Urkarakh 1.47 133 *e*Pg Pg 11 54 32.0 +0.3
URKR *e*Sg Sg 11 54 53.5 +2.7
PRTR Priterechnaya 1.50 293 *e*PG Pg 11 54 30.8 -1.7
PRTR *e*S Sn 11 54 51.4 +2.5
PRTR Priterechnaya 1.50 293 *e*Pg Pg 11 54 30.8 -1.7
PRTR *e*Sg Sg 11 54 51.4 -0.6
KORR Kora 1.56 267 *e*PG Pg 11 54 31.7 -1.7
KORR *e*S Sn 11 54 52.9 +2.8
KORR Kora 1.56 267 *e*Pg Pg 11 54 31.7 -1.7
KORR *e*Sg Sg 11 54 52.9 -0.8
LSNR Lesken 1.74 274 *e*PN Pn 11 54 34.5 +1.6
LSNR *e*S Sn 11 54 57.8 +3.2
LSNR Lesken 1.74 274 *e*Pn Pn 11 54 34.5 +1.6
LSNR *e*Sg Sg 11 54 57.8 -1.7
DIGR Digorskoe uzhe 1.93 263⇓ *i*PN Pn 11 54 36.9 +1.4
DIGR Digorskoe uzhe 1.93 263 *i* Pn Pn 11 54 36.9 +1.4
AKT Akhty 2.04 145 *e*PN Pn 11 54 41.0 +4.0
AKT *e*S Sn 11 55 09.8 +7.7
AKT pmax pmax
comp=Z,24nm,0.2s
AKT Akhty 2.04 145 *e*Pn Pn 11 54 41.0 +4.0
comp=Z,24nm,0.2s
AKT *e*Sg Sg 11 55 09.8 +0.6

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*IDC **14** 11:59:12.5±1.0, 30°.23N×67°.45E, h0km, mb3.5/10, mb1 3.7/10, mb1mx3.5/29, mbtmp3.6/10, MS3.2/3, Ms1 3.2/3, ms1mx2.8/35, Error ellipse: s-maj=28.1km s-min=21.9km az=85.0*
*ISCJB **14** 11:59:14.9±0.7, 30°.46N±0°.07×67°.82E±0°.07, h10km, mb3.6/10, MS3.2/2, Error ellipse: s-maj=11.6km s-min=7.5km az=38.4*
*NEIC **14** 11:59:16.6±0.8, 30°.42N×67°.88E, h10km, mb3.9/4, Error ellipse: s-maj=13.4km s-min=9.1km az=207.0*
ISC 14 11:59:16.8±0.5, 30°.47N±0°.06×67°.87E±0°.05, h10km, n48, σ1§50/48, mb3.6/10, MS3.2/2, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUE	**Quetta**	**0.84**	**251**	*e*P	**Pg**	**11 59 34.0**	**+0.9**
QUE				*e*S	**Sg**	**11 59 45.0**	**+0.9**
THW	**Thamme Wali**	**4.04**	**54**	P	**Pn**	**12 00 21.5**	**+2.9**
KBL	**Kabul**	**4.18**	**13**	*e*Pn	**Pn**	**12 00 22.9**	**+2.3**
CEP	**Cherat**	**4.79**	**45**	P	**Pn**	**12 00 32.8**	**+3.9**
CEP				S	**Sn**	**12 01 32.0**	**+7.5**
KKAR	**Karatay Array**	**12.79**	**9**	*e*Pn	**Pn**	**12 02 20.5**	**+1.9**
AAK	**Ala-Archa**	**13.25**	**22**	*e*Pn	**Pn**	**12 02 25.7**	**+0.8**
9.7nm,0.4s							
PYUN	**Piuthan**	**13.40**	**96**	*e*P	**Pn**	**12 02 31.4**	**+4.3**
PYUN	**Piuthan**	**13.40**	**96**	*e*P	**Pn**	**12 02 31.4**	**+4.3**
KOLN	**Koldanda**	**14.01**	**97**	*e*P	**Pn**	**12 02 37.8**	**+2.5**
6.9nm,0.4s							
KOLN	**Koldanda**	**14.01**	**97**	*e*P	**Pn**	**12 02 37.8**	**+2.5**
6.9nm,0.4s							
DANN	**Dangsing**	**14.01**	**95**	*e*P	**Pn**	**12 02 33.8**	**-1.5**
14nm,0.6s							
DANN	**Dangsing**	**14.01**	**95**	*e*P	**Pn**	**12 02 33.8**	**-1.5**
14nm,0.6s							
GKN	**Gorkha**	**14.84**	**95**	*e*P	**Pn**	**12 02 45.9**	**-0.8**
GKN	**Gorkha**	**14.84**	**95**	*e*P	**Pn**	**12 02 45.9**	**-0.8**
KKN	**Kakani**	**15.44**	**96**	*e*P	**Pn**	**12 02 54.1**	**-0.6**
KKN	**Kakani**	**15.44**	**96**	*e*P	**Pn**	**12 02 54.1**	**-0.6**
GUN	**Gumba**	**15.93**	**95**	*e*P	**Pn**	**12 02 59.5**	**-1.6**
GUN	**Gumba**	**15.93**	**95**	*e*P	**Pn**	**12 02 59.5**	**-1.6**
JIRN	**Jiri**	**16.26**	**95**	*e*P	**Pn**	**12 03 05.0**	**-0.3**
JIRN	**Jiri**	**16.26**	**95**	*e*P	**Pn**	**12 03 05.0**	**-0.3**
RAMN	**Ramite**	**16.80**	**97**	*e*P	**Pn**	**12 03 15.1**	**+3.0**
20nm,0.5s							
RAMN	**Ramite**	**16.80**	**97**	*e*P	**Pn**	**12 03 15.1**	**+3.0**
20nm,0.5s							
ODAN	**Odare**	**17.50**	**97**	*e*P	**Pn**	**12 03 24.6**	**+3.7**
ODAN	**Odare**	**17.50**	**97**	*e*P	**Pn**	**12 03 24.6**	**+3.7**
TAPN	**Taplejung**	**17.64**	**95**	*e*P	**Pn**	**12 03 24.7**	**+2.0**
TAPN	**Taplejung**	**17.64**	**95**	*e*P	**Pn**	**12 03 24.7**	**+2.0**
ABKAR	**Akbulak array**	**19.71**	**344**	*e*P	**Pn**	**12 03 45.7**	**-2.0**
0.6nm,0.3s							
MK31	**Makanchi Array**	**19.76**	**30**	*e*P	**Pn**	**12 03 47.3**	**-1.0**
MKAR	**Makanchi Array**	**19.76**	**30**	P	**Pn**	**12 03 47.4**	**-0.9**
0.7nm,0.6s,baz=210,slow=11,SNR=9.9							
MKAR				LR	LR	12 12 56.5	
comp=Z,46nm,18.2s,baz=302,slow=41							
MKAR	**Makanchi Array**	**19.76**	**30**	P	**Pn**	**12 03 47.4**	**-0.9**
AKTO	**Aktyubinsk**	**21.28**	**342**	P	**P**	**12 04 01.2**	**-2.0**
1.2nm,0.6s,mb3.4,baz=158,slow=16,SNR=5.1							
AKTO	**Aktyubinsk**	**21.28**	**342**	P	**P**	**12 04 01.2**	**-2.0**
KURK	**Kurchatov**	**21.77**	**19**	P	**P**	**12 04 08.6**	**+0.1**
2.6nm,0.9s,mb3.6,baz=210,slow=10,SNR=14							
KURK	**Kurchatov**	**21.77**	**19**	*e*P	**P**	**12 04 10.4**	**+1.9**
4.8nm,1.0s,mb3.9							
BVAR	**Borovoye Array**	**22.62**	**4**	P	**P**	**12 04 16.7**	**-0.8**
0.5nm,0.3s,mb3.4,baz=169,slow=11,SNR=8.3							
BVAR	**Borovoye Array**	**22.62**	**4**	P	**P**	**12 04 16.7**	**-0.8**
BRVK	**Borovoye**	**22.64**	**4**	*e*P	**P**	**12 04 16.8**	**-0.9**
6.2nm,1.1s,mb4.0							
ZAA0	**Zalesovo Array**	**26.48**	**23**	*e*P	**P**	**12 04 54.6**	**+0.7**
ZALV	**Zalesovo Beam**	**26.48**	**23**	P	**P**	**12 04 55.2**	**+1.4**
1.0nm,0.3s,mb3.8,baz=227,slow=10,SNR=8.8							
ZALV	**Zalesovo Beam**	**26.48**	**23**	P	**P**	**12 04 55.2**	**+1.4**
ASF	**Jabal al Asfar**	**26.48**	**282**	LR	LR	12 15 15.8	
comp=Z,51nm,18.2s,MS3.1,baz=120,slow=37							
EIL	**Elat**	**28.45**	**277**	LR	LR	12 18 13.3	
comp=Z,66nm,19.2s,MS3.2,baz=271,slow=41							
ARCES	**ARCESS Array B**	**45.84**	**341**	P	**P**	**12 07 37.5**	**-1.1**
2.3nm,0.9s,mb4.1,baz=127,slow=10,SNR=3.5							
TORD	**Torodi Ar. Bea**	**63.02**	**270**	P	**P**	**12 09 39.1**	**-5.3**
0.3nm,0.5s,mb3.7,baz=57,slow=5.8,SNR=4.6							
WRA	**Warramunga Arr**	**81.18**	**119**	P	**P**	**12 11 31.1**	**-1.8**
0.2nm,0.6s,mb3.2,baz=318,slow=4.9,SNR=4.1							
ASAR	**Alice Springs**	**83.09**	**122**	P	**P**	**12 11 41.9**	**-1.0**
0.2nm,0.6s,mb3.3,baz=312,slow=5.5,SNR=6.8							
YKA	**Yellowknife Ar**	**87.35**	**1**	P	**P**	**12 12 02.1**	**-1.5**
0.3nm,0.6s,mb3.7,baz=350,slow=4.9,SNR=7.4							
YKA	**Yellowknife Ar**	**87.35**	**1**	P	**P**	**12 12 02.1**	**-1.5**

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*NEIC **14** 12:33:28.5, 16°.48N×96°.23W, h72km, MD3.8(MEX), After MEX.*
MEX 14 12:33:28.5±0.5, 16°.48N×96°.22W, h71km±6km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.72**	**171**	*e*P	Pn	12 33 42.5	-1.2
HUIG				*i* S	Sn	12 33 53.1	-1.8
HUIG	**Huatulco**	**0.72**	**171**	*e*P	Pn	12 33 42.5	-1.2
HUIG				*i* S	Sn	12 33 53.1	-1.8
VHO	**Vista Hermosa**	**0.77**	**320**	*e*P	Pn	12 33 43.4	-0.9
VHO				*i* S	Sn	12 33 54.4	-1.4
VHO	**Vista Hermosa**	**0.77**	**320**	*e*P	Pn	12 33 43.4	-0.9
VHO				*i* S	Sn	12 33 54.4	-1.4
CMIG	**Matias Romero**	**1.42**	**65**	*i* P	Pn	12 33 50.7	-1.7
CMIG				*i* S	Sn	12 34 08.8	-1.6
CMIG	**Matias Romero**	**1.42**	**65**	*i* P	Pn	12 33 50.7	-1.7
CMIG				*i* S	Sn	12 34 08.8	-1.6
PNIG	**Pinotepa**	**1.83**	**267**	*i* P	Pn	12 33 56.7	-1.2
PNIG				*i* S	Sn	12 34 18.7	-2.3
PNIG	**Pinotepa**	**1.83**	**267**	*i* P	Pn	12 33 56.7	-1.2
PNIG				*i* S	Sn	12 34 18.0	-2.3
UTMO	**Huajuapan**	**2.02**	**312**	*i* P	Pn	12 33 59.6	-0.9
UTMO				*i* S	Sn	12 34 23.6	-1.2
PCIG		**2.99**	**105**	*i* P	Pn	12 34 12.6	-1.0
PCIG				*i* S	Sn	12 34 46.7	-1.6

IDC 14 12:46:15.2±1.6, 22°.74N×12°.17W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/24, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=53.2km s-min=28.0km az=78.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.27**	**124**	Pn	Pn	12 50 04.0	-1.3
0.1nm,0.3s,baz=313,slow=13,SNR=4.8							
DBIC	**Dimbokro**	**17.46**	**155**	Pn	Pn	12 50 19.1	-1.3
0.3nm,0.3s,baz=317,slow=13,SNR=6.0							
GERES	**GERESS Array B**	**33.15**	**32**	P	P	12 52 52.5	-0.7
1.0nm,0.8s,baz=220,slow=10,SNR=6.1							
HFS	**Hagfors**	**41.54**	**19**	P	P	12 54 03.9	-0.2
1.8nm,0.6s,baz=203,slow=11,SNR=7.6							
FINES	**FINESS Array B**	**46.73**	**24**	P	P	12 54 45.8	0.0
1.9nm,0.7s,baz=208,slow=7.6,SNR=6.1							
YKA	**Yellowknife Ar**	**75.63**	**332**	P	P	12 58 01.4	-0.5
0.2nm,0.7s,baz=56,slow=6.0,SNR=3.6							
MKAR	**Makanchi Array**	**76.71**	**45**	P	P	12 58 09.0	+0.7
0.4nm,0.5s,baz=294,slow=5.0,SNR=9.9							
WRA	**Warramunga Arr**	**148.72**	**91**	PKPbc	PKPbc	13 06 05.2	0.0
0.4nm,0.7s,baz=289,slow=2.4,SNR=6.7							
ASAR	**Alice Springs**	**148.85**	**98**	PKPbc	PKPbc	13 06 05.4	-0.1
0.5nm,0.7s,baz=286,slow=1.8,SNR=11							

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*IDC **14** 12:53:50.1±1.4, 6°.84S×152°.24E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/16, mbtmp3.8/9, ML2.6/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/18, Error ellipse: s-maj=43.5km s-min=19.6km az=119.0*
*ISCJB **14** 12:53:53.4±6.6, 6°.8S±0°.2×152°.1E±0°.1, h29km±47km, mb3.7/9, MS2.6/2, Error ellipse: s-maj=31.1km s-min=16.1km az=139.2*
*NEIC **14** 12:53:55.7±0.9, 6°.82S×152°.16E, h35km, mb3.8/3, Error ellipse: s-maj=27.2km s-min=11.6km az=119.0*
ISC 14 12:53:54.9±6.7, 6°.8S±0°.2×152°.2E±0°.1, h29km±48km, n24, σ0§62/22, mb3.8/9, MS2.6/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**243**	Pn	**Pn**	**12 55 16.6**	**+0.3**
1.1nm,0.3s,baz=41,slow=7.9,SNR=7.7							
PMG				Sn	**Sn**	**12 56 19.7**	**-0.1**
0.5nm,0.3s,baz=76,slow=12,SNR=4.8							
PMG	**Port Moresby**	**5.60**	**243**	*e*Pn	**Pn**	**12 55 15.6**	**-0.8**
18nm,1.0s							
PMG				Sn	**Sn**	**12 56 19.7**	**0.0**
CTA	**Charters Tower**	**14.38**	**203**	LR	LR	13 02 16.9	
comp=Z,33nm,18.6s,baz=42,slow=35							
GUMO	**Guam**	**21.55**	**340**	LR	LR	13 05 06.9	
comp=Z,7.1nm,19.5s,MS2.1,baz=105,slow=31							
WRAB	**Tennant Creek**	**21.67**	**231**	*e*P	**P**	**12 58 45.0**	**+1.6**
3.1nm,0.7s,mb3.9							
WRA	**Warramunga Arr**	**21.68**	**231**	P	**P**	**12 58 42.9**	**-0.6**
2.8nm,0.7s,mb3.8,baz=56,slow=9.8,SNR=25							
WRA	**Warramunga Arr**	**21.68**	**231**	P	**P**	**12 58 42.9**	**-0.6**
AS31	**Alice Springs**	**24.27**	**224**	*e*P	**P**	**12 59 09.8**	**0.0**
ASAR	**Alice Springs**	**24.27**	**224**	P	**P**	**12 59 09.9**	**+0.1**
2.4nm,0.6s,mb3.8,baz=56,slow=9.3,SNR=50							
ASAR	**Alice Springs**	**24.27**	**224**	P	**P**	**12 59 09.9**	**+0.1**
STKA	**Stephens Creek**	**26.81**	**200**	P	**P**	**12 59 32.5**	**-0.2**
3.3nm,0.9s,mb3.9,baz=20,slow=9.3,SNR=4.8							
STKA				LR	LR	13 08 39.3	
comp=Z,59nm,18.8s,MS3.2,baz=26,slow=33							
STKA	**Stephens Creek**	**26.81**	**200**	*e*P	**P**	**12 59 33.0**	**+0.2**
2.6nm,1.4s,mb3.6							
FITZ	**Fitzroy Crossi**	**28.20**	**244**	P	**P**	**12 59 44.5**	**-0.9**
3.0nm,0.6s,mb4.1,baz=84,slow=5.7,SNR=16							
FITZ	**Fitzroy Crossi**	**28.20**	**244**	*e*P	**P**	**12 59 44.2**	**-1.1**
2.8nm,0.6s,mb4.1							
CMAR	**Chiang Mai Arr**	**58.21**	**297**	P	**P**	**13 03 47.4**	**+0.4**
0.4nm,0.5s,mb3.7,baz=126,slow=5.5,SNR=4.5							
CMAR	**Chiang Mai Arr**	**58.21**	**297**	P	**P**	**13 03 47.4**	**+0.4**
SONM	**Songino Array**	**67.72**	**329**	P	**P**	**13 04 49.9**	**+0.3**
0.3nm,0.8s,mb3.4,baz=123,slow=5.3,SNR=3.0							
SONM	**Songino Array**	**67.72**	**329**	P	**P**	**13 04 49.9**	**+0.3**
ZALV	**Zalesovo Beam**	**82.50**	**327**	P	**P**	**13 06 14.6**	**-0.1**
0.4nm,0.5s,mb3.7,baz=120,slow=5.6,SNR=4.4							
ZALV	**Zalesovo Beam**	**82.50**	**327**	P	**P**	**13 06 14.6**	**-0.1**
ILAR	**Eielson Array**	**84.26**	**22**	P	**P**	**13 06 23.2**	**-0.3**
0.6nm,0.9s,mb3.7,baz=241,slow=5.0,SNR=5.0							
ILAR	**Eielson Array**	**84.26**	**22**	P	**P**	**13 06 23.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**150.29**	**285**	PKPbc	PKPbc	13 13 43.8	-0.7
1.3nm,0.6s,baz=69,slow=2.7,SNR=8.3							
TORD	**Torodi Ar. Bea**	**150.29**	**285**	PKPbc	PKPbc	13 13 43.8	-0.7

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*NIED **14** 13:14:00, 24°.40N×123°.00E, h77km, Mw4.2 Best double couple: M0=2.50000×10^15 NP1:φ=332.00000°, δ=83.00000°, λ=110.00000°. NP2:φ=81.00000°, δ=21.00000°, λ=20.00000°.*
*BJI **14** 13:14:09.8, 24°.10N×122°.76E, h33km, mB4.4/5, mb4.0/12, ML3.8/2, Ms4.0/2, Ms7 3.6/3*
*ISCJB **14** 13:14:10.6±0.2, 24°.32N±0°.02×123°.04E±0°.01, h56km±2km, mb3.9/25, MS3.7/8, Error ellipse: s-maj=3.5km s-min=2.0km az=165.4*
*TAP **14** 13:14:11.1, 24°.32N×122°.97E, h40km±1km, ML5.0, D*
*NEIC **14** 13:14:11.4±0.7, 24°.32N×123°.01E, h53km±7km, mb4.0/4, Error ellipse: s-maj=9.3km s-min=7.4km az=137.0*
NEIC Recorded [1 JMA] on Yonaguni-jima.
*JMA **14** 13:14:11.2±0.1, 24°.36N×123°.03E, h47km±2km, M4.3*
JMA Felt I J1.
*IDC **14** 13:14:13.7±2.8, 24°.41N×123°.03E, h72km±25km, mb3.7/18, mb1 3.8/20, mb1mx3.8/25, mbtmp3.7/20, MS3.6/11, Ms1 3.6/11, ms1mx3.3/40, Error ellipse: s-maj=16.9km s-min=13.2km az=66.0*
ISC 14 13:14:11.6±0.2, 24°.33N±0°.02×123°.04E±0°.01, h50km±3km, n144, σ1§21/203, mb3.9/25, MS3.7/8, 15C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.13**	**350**	P	**Pn**	**13 14 18.6**	**-1.0**
YOJ				S	**Sn**	**13 14 24.0**	**-1.2**
IRIF	**Iriomote-Funau**	**0.63**	**90**	P	**Pn**	**13 14 23.8**	**-0.7**
IRIF				S	**Sn**	**13 14 33.7**	**-0.1**
HATJ	**Hateruma jima**	**0.76**	**111**	P	**Pn**	**13 14 26.0**	**-0.1**
HATJ				S	**Sn**	**13 14 35.3**	**-1.3**
JKRS	**Kuro-shima**	**0.89**	**96**	P	**Pn**	**13 14 28.0**	**+0.1**
JKRS				S	**Sn**	**13 14 40.3**	**+0.5**
JIJ	**Ishigaki jima**	**1.01**	**88**	P	**Pn**	**13 14 28.9**	**-0.5**
JIJ				S	**Sn**	**13 14 42.2**	**-0.4**
TWC	**Suao**	**1.11**	**284**⇑	*i*P	**Pn**	**13 14 29.6**	**-1.3**
baz=295							
TWC				S	**Sn**	**13 14 43.0**	**-2.2**
baz=295							
TWB1	**Santiao Chiao**	**1.17**	**305**	*i* P	**Pn**	**13 14 30.8**	**-0.7**
baz=308							
TWB1				S	**Sn**	**13 14 44.7**	**-1.7**
baz=308							
ENA	**Nanau**	**1.18**	**275**	*i* P	**Pn**	**13 14 31.0**	**-0.8**
baz=285							
ENA				*e*S	**Sn**	**13 14 45.1**	**-1.8**
baz=285							
ILA	**Ilan**	**1.25**	**290**	P	**Pn**	**13 14 32.7**	**0.0**
baz=292							
ILA				*e*S	**Sn**	**13 14 47.8**	**-0.6**
baz=292							
TWE	**Neicheng**	**1.30**	**287**⇑	*i*P	**Pn**	**13 14 32.6**	**-0.8**
baz=300							
TWE				S	**Sn**	**13 14 48.4**	**-1.4**
baz=300							
NACB	**Ninganchiao**	**1.32**	**263**	*e*Pn	**Pn**	**13 14 33.0**	**-0.7**
TWD	**Chiawan**	**1.34**	**259**	P	**Pn**	**13 14 33.2**	**-0.7**
baz=246							
TWD				*e*S	**Sn**	**13 14 49.3**	**-1.2**
baz=246							
HWA	**Hwalien**	**1.35**	**255**	*e*P	**Pn**	**13 14 33.9**	**-0.2**
baz=255							
HWA				*e*S	**Sn**	**13 14 49.4**	**-1.6**
baz=255							
NWF	**Wu-fen Shan**	**1.36**	**303**⇑	*i*P	**Pn**	**13 14 34.0**	**-0.1**
baz=305							
NWF				S	**Sn**	**13 14 50.1**	**-0.9**
baz=305							
ENTT	**Nioudou**	**1.37**	**283**⇑	*i*P	**Pn**	**13 14 33.6**	**-0.7**
baz=292							
ENTT				*e*S	**Sn**	**13 14 50.9**	**-0.5**
baz=292							
TWA	**Mucha**	**1.47**	**296**⇑	*i*P	**Pn**	**13 14 35.5**	**-0.2**
baz=309							
TWA				S	**Sn**	**13 14 52.9**	**-0.8**
baz=309							
ESF	**Shoufeng Towns**	**1.47**	**252**	*e*S	**Sn**	**13 14 52.7**	**-1.1**
baz=241							
TEGC	**Jichi Village**	**1.50**	**246**	*e*S	**Sn**	**13 14 54.2**	**-0.4**
baz=245							
NNS	**Nan Shan**	**1.52**	**274**⇑	*i*P	**Pn**	**13 14 36.7**	**+0.3**
baz=275							
NNS				*e*S	**Sn**	**13 14 56.1**	**+1.1**
baz=275							
TAP1	**Taipei**	**1.54**	**297**	*e*P	**Pn**	**13 14 36.3**	**-0.4**
baz=308							
TAP1				*e*S	**Sn**	**13 14 54.8**	**-0.9**
baz=308							
TATO	**Taipei**	**1.55**	**295**	*e*Pn	**Pn**	**13 14 36.1**	**-0.6**
YHNB	**Yeheng**	**1.55**	**283**	*e*Pn	**Pn**	**13 14 36.3**	**-0.5**
JTJ	**Tarama**	**1.55**	**78**	P	**Pn**	**13 14 36.9**	**+0.1**
JTJ				S	**Sn**	**13 14 56.5**	**+0.8**
ESL	**Shilin**	**1.55**	**251**⇑	*i*P	**Pn**	**13 14 35.5**	**-1.3**
baz=250							
ESL				*e*S	**Sn**	**13 14 53.9**	**-1.9**
baz=250							
NSK	**Sanguang**	**1.56**	**283**⇑	*i*P	**Pn**	**13 14 37.0**	**0.0**
baz=293							
NSK				*e*S	**Sn**	**13 14 56.0**	**-0.1**
baz=293							
TWY	**Chenhua**	**1.61**	**306**	*e*P	**Pn**	**13 14 37.5**	**-0.1**
baz=298							
TWY				S	**Sn**	**13 14 57.4**	**+0.3**
baz=298							
WHF	**Hehuan Shan**	**1.63**	**264**	P	**Pn**	**13 14 37.8**	**0.0**
baz=250							
WHF				S	**Sn**	**13 14 57.8**	**+0.2**
baz=250							
TWS1	**Kuangyinshan**	**1.66**	**298**	*e*P	**Pn**	**13 14 38.4**	**+0.1**
baz=299							
TWS1				*e*S	**Sn**	**13 14 58.2**	**-0.2**
baz=299							
TWT	**Tachien**	**1.70**	**268**	P	**Pn**	**13 14 39.7**	**+0.9**
baz=268							
TWT				*e*S	**Sn**	**13 14 59.9**	**+0.5**
baz=268							
EHY	**Hungye**	**1.77**	**243**⇑	*i*P	**Pn**	**13 14 38.7**	**-1.1**
baz=241							
EHY				*e*S	**Sn**	**13 14 58.7**	**-2.5**
baz=241							
NCU	**National Centr**	**1.80**	**291**	P	**Pn**	**13 14 40.1**	**0.0**
baz=301							
NCU				*e*S	**Sn**	**13 15 01.6**	**-0.2**
baz=301							
YULB	**Yu-li**	**1.85**	**240**	*e*Pn	**Pn**	**13 14 39.4**	**-1.4**
YULB				*e*Sn	**Sn**	**13 14 55.2**	**-7.8**
TWF1	**Yuli**	**1.87**	**239**	*i* P	**Pn**	**13 14 40.0**	**-1.1**
baz=237							
TWF1				*e*S	**Sn**	**13 15 01.7**	**-1.8**
baz=237							
NSTT	**Nanjuang**	**1.88**	**279**	*e*P	**Pn**	**13 14 42.7**	**+1.4**
baz=292							
NSTT				*e*S	**Sn**	**13 15 05.7**	**+1.9**
baz=292							
HSN	**Hsinchu**	**1.94**	**284**	*e*P	**Pn**	**13 14 41.3**	**-0.8**
baz=286							
HSN				*e*S	**Sn**	**13 15 06.4**	**+1.2**
baz=286							
CHKT	**Chengkung**	**1.96**	**232**⇑	*i*P	**Pn**	**13 14 40.5**	**-1.9**
baz=220							
CHKT				*e*S	**Sn**	**13 15 02.0**	**-3.9**
baz=220							
SSLB	**Suanglung**	**1.98**	**254**	*e*Pn	**Pn**	**13 14 42.0**	**-0.6**
SMLT	**Sun Moon Lake**	**2.00**	**257**⇑	*i*P	**Pn**	**13 14 43.4**	**+0.4**
baz=247							
SMLT				*e*S	**Sn**	**13 15 07.1**	**+0.2**
baz=247							
TYC	**Yuchr**	**2.04**	**258**⇑	*i*P	**Pn**	**13 14 43.7**	**+0.3**
baz=248							
TYC				*e*S	**Sn**	**13 15 07.2**	**-0.4**
baz=248							
TWQ1	**Liyutan**	**2.06**	**271**	*e*P	**Pn**	**13 14 45.3**	**+1.5**
baz=271							
NSY	**Sanyi**	**2.08**	**273**	*e*P	**Pn**	**13 14 45.7**	**+1.7**
baz=273							
NSY				*e*S	**Sn**	**13 15 10.4**	**+1.8**
baz=273							
JMJ

baz=260
CHN1 Nanshi 2.57 244 P **Pn 13 14 51.8 +1.1**
baz=243
CHN1 S **Sn 13 15 22.1 +1.4**
baz=243
SGST Jiashian 2.57 241 P **Pn 13 14 51.7 +0.9**
baz=240
SGST S **Sn 13 15 22.2 +1.4**
baz=240
ECL Taimali 2.58 228 *i* P **Pn 13 14 48.9 -2.0**
baz=236
LAY Lan-yu 2.66 211 P **Pn 13 14 49.3 -2.7**
baz=209
LAY *e*S **Sn 13 15 17.4 -5.6**
baz=209
WSF Szhu 2.67 256 P **Pn 13 14 53.5 +1.5**
baz=269
WSF *e*S **Sn 13 15 24.7 +1.6**
baz=269
SSD Sandimen 2.71 235 P **Pn 13 14 52.5 -0.3**
baz=228
SSD *e*S **Sn 13 15 26.1 +1.8**
baz=228
CHN3 Shinhua 2.75 243 *e*P **Pn 13 14 55.3 +2.1**
baz=242
CHN3 *e*S **Sn 13 15 28.4 +3.2**
baz=242
CHN8 Yiju 2.77 250 P **Pn 13 14 54.3 +0.8**
baz=249
CHN8 S **Sn 13 15 26.7 +1.1**
baz=249
TAW Tawu 2.78 225 *e*P **Pn 13 14 52.0 -1.6**
baz=232
EAST Anshuo 2.79 226⇑ *i*P **Pn 13 14 52.2 -1.6**
baz=224
TWM1 Shoushan 2.83 238 P **Pn 13 14 56.2 +1.9**
baz=237
TWM1 *e*S **Sn 13 15 31.4 +4.2**
baz=237
SGLT Jiouru 2.83 236 P **Pn 13 14 57.0 +2.7**
baz=235
SGLT *e*S **Sn 13 15 30.7 +3.5**
baz=235
SCLT Jiali 2.85 247 *e*P **Pn 13 14 56.0 +1.4**
baz=246
SCLT *e*S **Sn 13 15 29.2 +1.6**
baz=246
TAI1 Yung-k'ang 2.88 244 *e*P **Pn 13 14 56.4 +1.4**
baz=255
TAI1 *e*S **Sn 13 15 30.3 +2.0**
baz=255
SCZT Fangliau 2.96 229 P **Pn 13 14 55.4 -0.6**
baz=221
SCZT *e*S **Sn 13 15 30.6 +0.4**
baz=221
TSEB Hengchuen, Pin 3.12 219 *e*P **Pn 13 14 58.3 0.0**
baz=211
TSEB S **Sn 13 15 33.5 -0.8**
baz=211
HEN Hengchun 3.14 223 *e*P **Pn 13 14 58.2 -0.3**
baz=213
HEN *e*S **Sn 13 15 34.0 -0.7**
baz=213
TWK1 Hengchun 3.14 221 *e*P **Pn 13 14 57.8 -0.8**
baz=212
TWK1 *e*S **Sn 13 15 32.7 -2.2**
baz=212
TWP Hsiaoliuchiu 3.15 232 *e*P **Pn 13 15 01.5 +2.7**
baz=246
TWP *e*S **Sn 13 15 39.9 +4.7**
baz=246
PNG Penghu 3.27 257 *e*P **Pn 13 15 00.7 +0.3**
baz=257
PNG *e*S **Sn 13 15 37.5 -0.6**
baz=257
JKE Kume jima 2 3.93 59 P **Pn 13 15 10.3 +0.9**
QZH Quanzhou 4.09 279 *i* Pn **Pn 13 15 09.5 -2.1**
QZH smax
comp=N,510nm,0.3s
QZH smax
comp=E,290nm,0.3s
KNM Kinmen 4.20 272 P **Pn 13 15 14.2 +1.1**
baz=272
KNM *e*S **Sn 13 16 00.2 -0.6**
baz=272
JIH Iheya 5.20 58 P **Pn 13 15 31.5 +4.7**
JOW Kunigami 5.34 61 P **Pn 13 15 30.4 +1.6**
comp=E,5.9nm,0.3s,baz=255,slow=21,SNR=9.1
JOW S **Sn 13 16 31.9 +2.9**
comp=E,4.2nm,0.3s,baz=141,slow=25,SNR=1.4
JOW Kunigami 5.34 61 *e*Pn **Pn 13 15 30.4 +1.6**
JOW S **Sn 13 16 31.9 +2.8**
JOW Kunigami 5.34 61 P **Pn 13 15 30.5 +1.7**
JTK Tokunoshima 6.33 56 P **Pn 13 15 42.3 -0.1**
WHN Wuhan 9.88 311 P **Pn 13 16 31.0 0.0**
KSAR Wonju Array Be 13.71 16 P **Pn 13 17 25.4 +2.2**
KSRS Korea Array 13.73 17 P **Pn 13 17 25.4 +1.9**
comp=E,0.1nm,0.3s,baz=203,slow=13,SNR=4.4
KSRS LR LR 13 22 45.0
comp=E,182nm,21.0s,baz=184,slow=38
BJI Beijing 16.69 341 P **Pn 13 18 06.8 +4.9**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI pmax pmax
comp=Z,110nm,3.1s
BJI LR LR
comp=Z,150nm,23.3s
CBIJ Chichi jima 17.48 77 LR LR 13 24 13.9
comp=Z,75nm,20.7s,baz=86,slow=34
MAJO Matsushiro 17.84 43 *e*P **Pn 13 18 13.5 -2.6**
MJAR Matsushiro Arr 17.84 43 LR LR 13 25 15.8
comp=Z,103nm,21.9s,baz=225,slow=37
HHC Hu-ho-hao-te 19.07 332 *e*P **Pn 13 18 32.6 +1.7**
HHC pP pP 13 18 42.4 +1.2
HHC sP sP 13 18 48.8 +1.2
HHC PP 13 18 51.1
HHC S **S 13 22 01.4 -2.0**
HHC SS 13 22 28.8
HHC PcP PcP 13 22 54.9 +2.1
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,81nm,4.6s
HHC LR LR
comp=N,140nm,14.3s
HHC LR LR
comp=E,140nm,16.7s
HHC LR LR
comp=Z,190nm,14.3s
CMAR Chiang Mai Arr 23.17 260 P **P 13 19 14.8 +0.8**
comp=Z,0.8nm,0.6s,mb3.3,baz=63,slow=7.6,SNR=6.9
CMAR PcP PcP 13 23 01.9 +0.9
comp=Z,0.3nm,0.6s,baz=28,slow=1.8,SNR=5.5
CMAR Chiang Mai Arr 23.17 260 P **P 13 19 14.8 +0.8**
CMAR PcP PcP 13 23 01.9 +0.9
GUMO Guam 23.22 113 LR LR 13 27 16.7
comp=Z,49nm,21.2s,MS2.9,baz=92,slow=34
GTA Gaotai 24.70 313 *e*P **P 13 19 30.0 +2.1**
GTA pmax pmax
comp=Z,3.0nm,1.1s,mb3.7
ASAJ Asahikawa 25.40 34 P **P 13 19 33.2 -1.0**
comp=Z,7.2nm,1.0s,mb4.2,baz=170,slow=28,SNR=6.9
ASAJ LR LR 13 29 34.4
comp=Z,92nm,19.0s,MS3.3,baz=16,slow=36
ASAJ Asahikawa 25.40 34 P **P 13 19 33.2 -1.0**
ULN Ulaanbaatar 26.69 336 *e*P **P 13 19 47.4 +1.6**
comp=Z,1.0nm,0.5s,mb3.6
SONM Songino Array 26.92 335 P **P 13 19 47.3 -0.6**
comp=Z,1.8nm,0.7s,mb3.7,baz=157,slow=7.9,SNR=19
SONM PcP PcP 13 23 08.9 0.0
comp=Z,0.2nm,0.5s,baz=132,slow=4.1,SNR=2.8
SONM Songino Array 26.92 335 P **P 13 19 47.3 -0.6**
SONM PcP PcP 13 23 08.9 0.0
KAPI Kappang 29.34 187 LR LR 13 32 55.9
comp=Z,42nm,20.9s,MS3.0,baz=190,slow=38
PETK Petropavlovsk- 38.81 33 LR LR 13 36 21.1
comp=Z,57nm,21.8s,MS3.4,baz=357,slow=34
MKAR Makanchi Array 39.42 315 P **P 13 21 35.6 -0.9**
comp=Z,1.3nm,0.6s,mb3.9,baz=99,slow=10.0,SNR=18
MKAR PcP PcP 13 23 43.2 -0.7
comp=Z,0.6nm,0.6s,baz=111,slow=1.9,SNR=4.1
MKAR Makanchi Array 39.42 315 P **P 13 21 35.6 -0.9**
MKAR PcP PcP 13 23 43.2 -0.6
ZALV Zalesovo Beam 41.05 326 P **P 13 21 48.8 -1.2**
comp=Z,1.1nm,0.4s,mb3.8,baz=120,slow=8.5,SNR=7.9
ZALV Zalesovo Beam 41.05 326 P **P 13 21 48.8 -1.1**
TKM2 Tokmak 2 43.01 308 *e*P **P 13 22 06.1 0.0**
comp=Z,1.8nm,0.6s,mb4.0
KURK Kurchatov 43.07 319 P **P 13 22 05.6 -0.8**
comp=Z,0.4nm,0.4s,mb3.5,baz=112,slow=11,SNR=12
KURK Kurchatov 43.07 319 P **P 13 22 07.1 +0.6**
WRA Warramunga Arr 45.36 165 P **P 13 22 24.9 -0.2**
comp=Z,3.4nm,0.7s,mb4.3,baz=347,slow=8.8,SNR=26
WRA Warramunga Arr 45.36 165 P **P 13 22 24.9 -0.2**
BRVK Borovoye 48.70 320 *e*P **P 13 22 51.9 +1.1**
comp=Z,1.1nm,0.4s,mb4.2
AS31 Alice Springs 48.86 167 *e*P **P 13 22 52.6 +0.3**
ASAR Alice Springs 48.87 167 P **P 13 22 52.5 +0.2**
comp=Z,0.8nm,0.4s,mb4.1,baz=348,slow=7.4,SNR=46
ASAR Alice Springs 48.87 167 P **P 13 22 52.5 +0.2**
ABKAR Akbulak array 54.55 314 *e*P **P 13 23 33.6 -0.8**
comp=Z,0.8nm,0.4s,mb4.1
STKA Stephens Creek 58.64 162 P **P 13 24 03.4 -0.3**
comp=Z,0.9nm,0.9s,mb3.8,baz=326,slow=11,SNR=2.1
STKA Stephens Creek 58.64 162 P **P 13 24 03.4 -0.3**
ILAR Eielson Array 68.31 27 P **P 13 25 04.9 -2.2**
comp=Z,0.3nm,0.5s,mb3.6,baz=272,slow=4.9,SNR=9.8
ILAR Eielson Array 68.31 27 P **P 13 25 04.9 -2.2**
JOF Joensuu 69.41 331 *e*p **P 13 25 13.3 -0.7**
comp=Z,1.6nm,0.5s,mb4.2
KEV Kevo 69.47 338 *e*p **P 13 25 12.9 -1.3**
comp=Z,3.1nm,0.7s,mb4.3
ARCES ARCESS Array B 70.03 338 P **P 13 25 17.2 -0.5**
comp=Z,3.0nm,0.9s,mb4.2,baz=46,slow=5.7,SNR=3.5
ARCES ARCESS Array B 70.03 338 P **P 13 25 17.2 -0.5**
FINES FINESS Array B 72.17 330 P **P 13 25 30.1 -0.7**
comp=Z,1.4nm,0.4s,mb4.2,baz=54,slow=6.9,SNR=20
FINES FINESS Array B 72.17 330 P **P 13 25 30.1 -0.7**
AKASG Malin Array Be 73.88 319 P **P 13 25 40.0 -1.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=25,slow=31,SNR=3.7
AKASG Malin Array Be 73.88 319 P **P 13 25 40.0 -1.1**
BRTR Keskin Array B 74.44 307 P **P 13 25 44.3 -0.3**
comp=Z,0.7nm,0.8s,mb3.6,baz=93,slow=3.0,SNR=3.5
BRTR Keskin Array B 74.44 307 P **P 13 25 44.3 -0.3**
HFS Hagfors 78.26 331 LR LR 13 59 57.2
comp=Z,185nm,20.8s,MS4.4,baz=63,slow=35
NOA NORSAR Array B 78.88 333 P **P 13 26 08.3 -0.9**
comp=Z,1.0nm,0.8s,mb3.8,baz=55,slow=5.9,SNR=3.3
NOA NORSAR Array B 78.88 333 P **P 13 26 08.3 -0.9**
RPZ Rata Peaks 80.78 147 LR LR 14 00 28.7
comp=Z,68nm,18.1s,MS4.0,baz=193,slow=34
YKA Yellowknife Ar 82.17 23 P **P 13 26 26.2 -0.6**
comp=Z,3.1nm,0.8s,mb4.3,baz=312,slow=5.0,SNR=49
YKA Yellowknife Ar 82.17 23 P **P 13 26 26.2 -0.6**
GERES GERESS Array B 83.79 321 P **P 13 26 35.3 -0.2**
comp=Z,0.6nm,0.6s,mb3.9,baz=90,slow=2.7,SNR=5.9
GERES GERESS Array B 83.79 321 P **P 13 26 35.3 -0.2**
DAVOX Davos/Dischmat 87.07 321 LR LR 14 12 03.1
comp=Z,170nm,20.9s,MS4.4,baz=262,slow=40
NVAR Mina Array Bea 95.16 44 P **P 13 27 31.0 +1.3**
comp=Z,0.5nm,0.7s,mb4.1,baz=282,slow=7.1,SNR=4.9
NVAR Mina Array Bea 95.16 44 P **P 13 27 31.0 +1.3**
PDAR Pinedale Array 97.52 36 LR LR 14 11 44.4
comp=Z,74nm,21.4s,MS4.1,baz=174,slow=35

DJA 14 13:50:51.7±18.8S×107.81E, h15km, MLv3.6/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.37**	**179**	P	Pg	13 51 00.0	+1.4
CISI				S	Sg	13 51 05.7	+1.9
LEM	**Lembang**	**0.40**	**331**	P	Pg	13 50 59.6	+0.5
LEM				S	Sg	13 51 06.4	+1.9
DBJI	**Dramaga**	**1.22**	**301**	S	Sb	13 51 28.8	-0.6
BJII	**Banjamegara**	**1.89**	**95**	P	Pn	13 51 28.0	+5.2
IGBI	**Denpasar**	**7.45**	**103**	P	Pn	13 52 38.9	-0.3

NNC 14 13:59:56.3±18.0, 37.88N×71.56E, h0km, mb3.6, mpv3.3, 3C-2D, Error ellipse: s-maj=147.4km s-min=91.8km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.28**	**352**	⇑Pn	Pn	14 01 19.9	+3.4
	1.4nm,0.3s,baz=171,slow=12,SNR=75						
KK31				⇑Sn	Sn	14 02 21.4	+3.4
	2.2nm,0.3s,baz=181,slow=27,SNR=8.3						
TKM2	**Tokmak 2**	**5.91**	**30**	⇑Pn	Pn	14 01 24.2	-0.8
	5.7nm,1.4s						
TKM2				⇓Sn	Sn	14 02 30.7	-2.7
	2.0nm,0.8s						
AB31	**Akbulak array**	**14.13**	**327**	⇓Pn	Pn	14 03 17.8	+0.2
	0.3nm,0.5s,baz=158,slow=10,SNR=6.8						
AB31				Sn	Sn	14 05 51.8	-3.2
	0.7nm,0.6s,baz=143,slow=23,SNR=6.4						

*ISCJB **14** 14:01:15.0±0.3, 33.°96N±0.°05×136.°72E±0.°07, h374km±2km, mb3.5/26, Error ellipse: s-maj=9.6km s-min=7.7km az=35.0*
*JMA **14** 14:01:15.2±0.3, 34.°03N×136.°66E, h373km±3km, M3.3*
*NEIC **14** 14:01:15.8±0.5, 33.°96N×136.°74E, h364km±5km, mb3.6/4, Error ellipse: s-maj=9.0km s-min=7.3km az=116.0*
*IDC **14** 14:01:16.0±1.3, 33.°99N×136.°72E, h365km±13km, mb3.3/23, mb1 3.5/26, mb1mx3.4/32, mbtmp3.3/26, Error ellipse: s-maj=11.9km s-min=9.3km az=93.0*
ISC 14 14:01:16.0±0.3, 33.°97N±0.°05×136.°72E±0.°07, h367km±2km, n80, σ0°80/87, mb3.5/26, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.35**	**133**	P	**Pn**	**14 02 02.6**	**+0.6**
TTO2				*e*S	**S**	**14 02 40.7**	**+1.8**
TTO1	**TONANKAI O.B.S**	**0.36**	**171**	P	**Pn**	**14 02 02.3**	**+0.2**
JIE	**Ise**	**0.42**	**359**	P	**Pn**	**14 02 02.2**	**+0.3**
JIE				S	**S**	**14 02 38.5**	**-0.4**
JKN2	**Miekihoku**	**0.45**	**306**	P	**Pn**	**14 02 02.0**	**0.0**
JKN2				S	**S**	**14 02 37.9**	**-1.1**
TK02	**Tokai 2**	**0.86**	**92**	P	**Pn**	**14 02 03.7**	**+0.6**
TK02				*e*S	**S**	**14 02 42.4**	**+1.5**
JWZ	**Kozaga**	**0.94**	**242**	P	**Pn**	**14 02 03.0**	**-0.4**
JWZ				S	**S**	**14 02 40.1**	**-1.4**
HMMJ	**Hamamatsu 2**	**1.21**	**43**	P	**Pn**	**14 02 04.6**	**+0.2**
JAO	**Obara**	**1.36**	**19**	P	**Pn**	**14 02 04.9**	**-0.2**
JNY	**Yasuok**	**1.67**	**34**	P	**Pn**	**14 02 06.7**	**-0.1**
JNY				*e*S	**S**	**14 02 47.8**	**+0.2**
JYN	**Shimob**	**2.14**	**44**	P	**Pn**	**14 02 09.8**	**0.0**
JKG	**Kaga**	**2.32**	**352**	P	**Pn**	**14 02 10.7**	**-0.3**
JOD2	**Odawara 2**	**2.34**	**56**	P	**Pn**	**14 02 11.5**	**+0.3**
JRY	**Ryogami san**	**2.71**	**41**	P	**Pn**	**14 02 14.0**	**-0.2**
JHU	**Hanno**	**2.82**	**48**	P	**Pn**	**14 02 14.6**	**-0.4**
MAJO	**Matsushiro**	**2.84**	**25**	*e*P	**Pn**	**14 02 14.5**	**-0.7**
MAT	**Matsushiro**	**2.84**	**25**	P	**Pn**	**14 02 14.5**	**-0.7**
MAT				S	**S**	**14 03 04.0**	**+1.1**
MJAR	**Matsushiro Arr**	**2.84**	**25**	P	**Pn**	**14 02 14.7**	**-0.5**
	7.7nm,0.3s,baz=206,slow=11,SNR=170						
MJAR	**Matsushiro Arr**	**2.84**	**25**	P	**Pn**	**14 02 14.7**	**-0.5**
BSO4	**Boso 4**	**3.16**	**70**	P	**Pn**	**14 02 16.8**	**-1.2**
JNU	**Nakatsue**	**4.95**	**262**	*e*P	**Pn**	**14 02 36.4**	**+0.5**
KSRS	**Korea Array**	**7.95**	**298**	P	**Pn**	**14 03 10.4**	**+0.7**
	0.3nm,0.3s,baz=111,slow=13,SNR=4.8						
KSAR	**Wonju Array Be**	**7.97**	**298**	P	**Pn**	**14 03 10.4**	**+0.4**
ERM	**Erimo**	**9.50**	**30**	*e*P	**Pn**	**14 03 26.0**	**-1.9**
ASAJ	**Asahikawa**	**11.11**	**23**	P	**Pn**	**14 03 45.0**	**-1.8**
	1.4nm,0.3s,baz=163,slow=16,SNR=19						
ASAJ	**Asahikawa**	**11.11**	**23**	*e*P	**Pn**	**14 03 46.1**	**-0.7**
YSS	**Yuzh-Sakhalins**	**13.75**	**18**	*e*P	**P**	**14 04 18.6**	**+2.6**
	40nm,1.0s						
SONM	**Songino Array**	**26.57**	**311**	P	**P**	**14 06 22.8**	**+1.0**
	1.2nm,0.8s,mb3.2,baz=116,slow=7.7,SNR=9.1						
SONM	**Songino Array**	**26.57**	**311**	P	**P**	**14 06 22.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**37.01**	**255**	P	**P**	**14 07 53.0**	**+0.8**
	1.3nm,0.5s,mb3.4,baz=49,slow=8.1,SNR=10						
CMAR	**Chiang Mai Arr**	**37.01**	**255**	P	**P**	**14 07 53.0**	**+0.8**
ZALV	**Zalesovo Beam**	**41.26**	**315**	P	**P**	**14 08 26.1**	**-0.3**
	0.7nm,0.4s,mb3.2,baz=95,slow=7.5,SNR=4.4						
ZALV				PcP	PcP	14 10 16.7	-0.5
	0.4nm,0.5s,baz=85,slow=3.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**41.26**	**315**	P	**P**	**14 08 26.1**	**-0.3**
ZALV				PcP	PcP	14 10 16.7	-0.5
MK31	**Makanchi Array**	**42.58**	**304**	*e*P	**P**	**14 08 37.2**	**0.0**
MKAR	**Makanchi Array**	**42.58**	**304**	P	**P**	**14 08 37.3**	**+0.1**
	0.9nm,0.4s,mb3.2,baz=86,slow=10,SNR=14						
MKAR	**Makanchi Array**	**42.58**	**304**	P	**P**	**14 08 37.3**	**+0.1**
KURK	**Kurchatov**	**44.88**	**310**	P	**P**	**14 08 55.1**	**-0.1**
	1.6nm,0.6s,mb3.3,baz=89,slow=6.9,SNR=13						
KURK	**Kurchatov**	**44.88**	**310**	*e*P	**P**	**14 08 54.5**	**-0.7**
	3.0nm,0.9s,mb3.4						
BVAR	**Borovoye Array**	**49.85**	**314**	P	**P**	**14 09 32.8**	**-0.2**
	0.8nm,0.6s,mb3.1,baz=79,slow=8.0,SNR=6.5						
BVAR	**Borovoye Array**	**49.85**	**314**	P	**P**	**14 09 32.8**	**-0.2**
BRVK	**Borovoye**	**49.91**	**314**	*e*P	**P**	**14 09 33.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.85**	**193**	P	**P**	**14 09 55.5**	**+0.1**
	1.4nm,0.5s,mb3.6,baz=20,slow=6.5,SNR=8.0						
FITZ	**Fitzroy Crossi**	**52.85**	**193**	P	**P**	**14 09 55.5**	**+0.1**
WRAB	**Tennant Creek**	**53.65**	**183**	*e*P	**P**	**14 10 00.3**	**-0.9**
	2.1nm,0.4s,mb3.8						
WB2	**Warramunga Arr**	**53.66**	**183**	*e*P	**P**	**14 10 00.4**	**-0.8**
WRA	**Warramunga Arr**	**53.66**	**183**	P	**P**	**14 10 00.6**	**-0.6**
	2.8nm,0.4s,mb3.9,baz=359,slow=7.6,SNR=52						
WRA	**Warramunga Arr**	**53.66**	**183**	P	**P**	**14 10 00.6**	**-0.6**
COLA	**College**	**53.69**	**31**	*e*P	**P**	**14 10 01.7**	**+0.9**
	3.1nm,0.9s,mb3.6						
ILAR	**Eielson Array**	**54.10**	**31**	P	**P**	**14 10 03.7**	**-0.1**
	0.9nm,0.6s,mb3.3,baz=261,slow=5.2,SNR=29						
ILAR	**Eielson Array**	**54.10**	**31**	P	**P**	**14 10 03.7**	**-0.1**
AS31	**Alice Springs**	**57.38**	**183**	*e*P	**P**	**14 10 26.6**	**-0.7**
ASAR	**Alice Springs**	**57.38**	**183**	P	**P**	**14 10 28.0**	**+0.7**
	1.2nm,0.5s,mb3.5,baz=11,slow=13,SNR=41						
ASAR	**Alice Springs**	**57.38**	**183**	P	**P**	**14 10 28.0**	**+0.7**
AKTO	**Aktyubinsk**	**57.88**	**312**	P	**P**	**14 10 32.4**	**+1.9**
	0.5nm,0.4s,mb3.2,baz=98,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**57.88**	**312**	P	**P**	**14 10 32.4**	**+1.9**
INK	**Inuvik**	**58.83**	**26**	P	**P**	**14 10 37.4**	**+0.7**
	1.0nm,0.5s,mb3.5,baz=307,slow=6.3,SNR=13						
INK	**Inuvik**	**58.83**	**26**	*e*P	**P**	**14 10 36.8**	**+0.1**
	1.1nm,0.5s,mb3.5						
ARCES	**ARCESS Array B**	**65.48**	**339**	P	**P**	**14 11 20.2**	**-0.2**
	1.3nm,0.7s,mb3.6,baz=67,slow=9.3,SNR=5.4						
ARCES	**ARCESS Array B**	**65.48**	**339**	P	**P**	**14 11 20.2**	**-0.2**
STKA	**Stephens Creek**	**65.66**	**175**	P	**P**	**14 11 22.2**	**+0.3**
	0.8nm,0.6s,mb3.6,baz=335,slow=9.2,SNR=4.8						
STKA	**Stephens Creek**	**65.66**	**175**	P	**P**	**14 11 22.2**	**+0.3**
YKA	**Yellowknife Ar**	**68.34**	**28**	P	**P**	**14 11 38.4**	**0.0**
	0.3nm,0.6s,mb3.2,baz=305,slow=6.4,SNR=6.0						
YKA	**Yellowknife Ar**	**68.34**	**28**	P	**P**	**14 11 38.4**	**+0.1**
KAF	**Kangasniemi**	**69.23**	**332**	*e*p	**P**	**14 11 42.5**	**-1.3**
	1.0nm,0.5s,mb3.8						
FINES	**FINESS Array B**	**69.69**	**331**	P	**P**	**14 11 45.8**	**-0.8**
	1.5nm,0.5s,mb4.0,baz=102,slow=8.0,SNR=3.5						
FINES	**FINESS Array B**	**69.69**	**331**	P	**P**	**14 11 45.8**	**-0.8**
AKASG	**Malin Array Be**	**74.31**	**321**	P	**P**	**14 12 13.5**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=51,slow=6.4,SNR=3.4						
AKASG	**Malin Array Be**	**74.31**	**321**	P	**P**	**14 12 13.5**	**-0.4**
NOA	**NORSAR Array B**	**75.46**	**336**	P	**P**	**14 12 19.6**	**-0.6**
	2.0nm,0.9s,mb3.9,baz=46,slow=5.5,SNR=4.6						
NOA	**NORSAR Array B**	**75.46**	**336**	P	**P**	**14 12 19.6**	**-0.6**
SLMT	**Seeley Lake**	**77.56**	**41**	*e*P	**P**	**14 12 32.5**	**+0.3**
NVAR	**Mina Array Bea**	**79.89**	**50**	P	**P**	**14 12 45.5**	**+0.6**
	0.9nm,0.7s,mb3.6,baz=296,slow=3.9,SNR=7.9						
NVAR	**Mina Array Bea**	**79.89**	**50**	P	**P**	**14 12 45.5**	**+0.6**
FRB	**Frobisher Bay**	**80.56**	**11**	P	**P**	**14 12 47.5**	**-0.5**
	1.3nm,0.7s,mb3.8,baz=342,slow=6.4,SNR=4.4						
FRB	**Frobisher Bay**	**80.56**	**11**	P	**P**	**14 12 47.5**	**-0.5**
PDAR	**Pinedale Array**	**82.53**	**43**	P	**P**	**14 12 59.5**	**+0.9**
	1.2nm,0.8s,mb3.8,baz=282,slow=2.4,SNR=11						
PDAR	**Pinedale Array**	**82.53**	**43**	P	**P**	**14 12 59.5**	**+0.9**
GERES	**GERESS Array B**	**83.20**	**326**	P	**P**	**14 13 01.6**	**-0.2**
	0.2nm,0.3s,mb3.4,baz=46,slow=8.4,SNR=2.2						
GERES	**GERESS Array B**	**83.20**	**326**	P	**P**	**14 13 01.6**	**-0.2**
TXAR	**Lajitas Array**	**95.02**	**50**	P	**P**	**14 13 59.3**	**+1.3**
	0.4nm,0.8s,mb3.5,baz=298,slow=2.7,SNR=5.1						
TXAR	**Lajitas Array**	**95.02**	**50**	P	**P**	**14 13 59.3**	**+1.3**

*NDI **14** 14:02:12.8±3.8, 27.°45N×88.°51E, h33km, ML3.3*
*DMN **14** 14:02:12.0±0.4, 27.°46N×88.°66E, h10km, Ml4.8/7, Error ellipse: s-maj=9.5km s-min=6.1km az=147.0*
*NEIC **14** 14:02:14.8±2.0, 27.°54N×88.°47E, h53km±33km, Error ellipse: s-maj=30.0km s-min=18.5km az=46.0*
*IDC **14** 14:02:17.9±4.0, 28.°57N×88.°66E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, Error ellipse: s-maj=86.6km s-min=36.4km az=53.0*
ISC 14 14:02:11.2±0.8, 27.°57N±0.°05×88.°60E±0.°03, h18km±5km, n39, σ1°03/57, mb3.6/3, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**0.23**	**177**	*ex*	**Pg**	**14 02 16.0**	**-0.7**
TAPN	**Taplejung**	**0.82**	**255**	*e*Pg	**Pg**	**14 02 28.2**	**+0.9**
TAPN				*e*Sg	**Sg**	**14 02 39.4**	**+1.2**
	4μm,0.3s						
TAPN	**Taplejung**	**0.82**	**255**	*e*Pg	**Pg**	**14 02 28.2**	**+0.9**
TAPN				*e*Sg	**Sg**	**14 02 39.4**	**+1.2**
SLGI	**Shiliguri**	**0.88**	**191**	*e*PKP	**Pb**	**14 02 28.4**	**+0.4**
SLGI				*ex*	**Sb**	**14 02 40.0**	**+0.6**
ODAN	**Odare**	**1.29**	**237**	*e*Pg	**Pg**	**14 02 35.5**	**-0.6**
ODAN				*e*Sg	**Sg**	**14 02 52.0**	**-1.0**
	9μm,0.2s						
ODAN	**Odare**	**1.29**	**237**	*e*Pg	**Pg**	**14 02 35.5**	**-0.6**
ODAN				*e*Sg	**Sg**	**14 02 52.0**	**-1.0**
RAMN	**Ramite**	**1.89**	**251**	*e*Pn	**Pn**	**14 02 43.2**	**+0.6**
RAMN				*e*Sg	**Sg**	**14 03 11.4**	**-0.6**
	2μm,0.3s						
RAMN	**Ramite**	**1.89**	**251**	*e*Pn	**Pn**	**14 02 43.2**	**+0.6**
RAMN				*e*Sg	**Sg**	**14 03 11.4**	**-0.6**
JIRN	**Jiri**	**2.14**	**273**	*e*Pn	**Pn**	**14 02 47.6**	**+1.5**
JIRN	**Jiri**	**2.14**	**273**	*e*Pn	**Pn**	**14 02 47.6**	**+1.5**
GUN	**Gumba**	**2.44**	**279**	*e*Pn	**Pn**	**14 02 51.7**	**+1.6**
GUN	**Gumba**	**2.44**	**279**	*e*Pn	**Pn**	**14 02 51.7**	**+1.6**
PKI	**Pulchoki**	**2.83**	**271**	*e*Pn	**Pn**	**14 02 56.3**	**+0.7**
PKI				*e*Sn	**Sn**	**14 03 28.6**	**-0.7**
	363nm,0.2s						
PKI	**Pulchoki**	**2.83**	**271**	*e*Pn	**Pn**	**14 02 56.3**	**+0.7**
PKI				*e*Sn	**Sn**	**14 03 28.6**	**-0.7**
KKN	**Kakani**	**2.96**	**275**	*e*Pn	**Pn**	**14 02 58.2**	**+0.9**
KKN	**Kakani**	**2.96**	**275**	*e*Pn	**Pn**	**14 02 58.2**	**+0.9**
DMN	**Daman**	**3.10**	**272**	*e*Pn	**Pn**	**14 03 00.7**	**+1.4**
DMN				*e*Sn	**Sn**	**14 03 35.8**	**-0.1**
	419nm,0.3s						
DMN	**Daman**	**3.10**	**272**	*e*Pn	**Pn**	**14 03 00.7**	**+1.4**
DMN				*e*Sn	**Sn**	**14 03 35.8**	**-0.1**
GKN	**Gorkha**	**3.54**	**278**	*e*Pn	**Pn**	**14 03 06.3**	**+1.0**
GKN				*e*Sn	**Sn**	**14 03 46.3**	**-0.4**
	285nm,0.3s						
GKN	**Gorkha**	**3.54**	**278**	*e*Pn	**Pn**	**14 03 06.3**	**+1.0**
GKN				*e*Sn	**Sn**	**14 03 46.3**	**-0.4**
SHL	**Shillong**	**3.55**	**123**	*e*PKP	**Pn**	**14 03 06.0**	**+0.5**
SHL				*e*PG	**Pg**	**14 03 18.5**	**-0.8**
SHL				*ex*	x	14 03 50.0	
SHL				*e*SG	**Sg**	**14 04 01.5**	**-3.8**
DANN	**Dangsing**	**4.35**	**281**	*e*Pn	**Pn**	**14 03 16.8**	**+0.3**
DANN				*e*Sn	**Sn**	**14 04 06.0**	**-0.8**
	110nm,0.2s						
DANN	**Dangsing**	**4.35**	**281**	*e*Pn	**Pn**	**14 03 16.8**	**+0.3**
DANN				*e*Sn	**Sn**	**14 04 06.0**	**-0.8**
AGT	**Agartala**	**4.38**	**146**	*ex*	x

Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.65**	**130**	PN	Pn	14 06 08.6	-0.4
MOVZ				SN	S	14 06 30.5	-1.3
WAZ	**Wanganui**	**0.77**	**187**	PN	Pn	14 06 09.8	+0.2
WAZ				SN	S	14 06 33.0	0.0
BHHZ	**Black Hill Sta**	**0.89**	**124**	PN	Pn	14 06 10.1	-0.2
BHHZ				SN	S	14 06 32.9	-1.1
BKZ	**Black Stump Fm**	**1.09**	**100**	PN	Pn	14 06 11.0	-0.6
BKZ				SN	S	14 06 34.8	-1.4
PNHZ	**Pukenui**	**1.25**	**138**	PN	Pn	14 06 13.0	+0.4
PNHZ				SN	S	14 06 38.5	+0.1
TSZ	**Takapari Road**	**1.25**	**149**	PN	Pn	14 06 12.9	+0.3
TSZ				SN	S	14 06 38.2	-0.2
MCHZ	**McNeill Hill**	**1.31**	**111**	PN	Pn	14 06 13.2	+0.1
NMHZ	**Naumai**	**1.33**	**95**	PN	Pn	14 06 13.7	+0.4
WPHZ	**Waipukurau**	**1.49**	**137**	PN	Pn	14 06 14.8	+0.2
POWZ	**Post Office Ro**	**1.49**	**160**	PN	Pn	14 06 13.5	-1.0
DVHZ	**Dannevirke**	**1.54**	**148**	PN	Pn	14 06 14.9	-0.1
DVHZ				SN	S	14 06 42.0	-0.5
RAHZ	**Arahi**	**1.54**	**88**	PN	Pn	14 06 14.8	-0.3
KAHZ	**Kahuranaki**	**1.59**	**121**	PN	Pn	14 06 15.9	+0.5
MRZ	**Mangatainoka R**	**1.71**	**168**	PN	Pn	14 06 16.0	-0.5
PXZ	**Pawanui**	**1.71**	**128**	PN	Pn	14 06 16.5	0.0
URZ	**Urewera**	**1.73**	**66**	PN	Pn	14 06 14.7	-2.0
PRHZ	**Porangahau**	**1.74**	**138**	PN	Pn	14 06 17.0	+0.3
OGWZ	**Otaki Gorge**	**1.83**	**179**	PN	Pn	14 06 17.2	-0.4
KIW	**Kapiti Island**	**1.88**	**185**	PN	Pn	14 06 17.3	-0.7
TIWZ	**Tintock**	**1.88**	**162**	PN	Pn	14 06 17.6	-0.4
BFZ	**Birch Farm**	**1.90**	**153**	PN	Pn	14 06 17.9	-0.4
HOWZ	**Holdsworth Sta**	**1.93**	**171**	PN	Pn	14 06 17.8	-0.7
KNZ	**Kokohu**	**2.00**	**92**	PN	Pn	14 06 18.5	-0.8
MWZ	**Matawai**	**2.00**	**72**	PN	Pn	14 06 17.6	-1.7
DUWZ	**D'Urville Isla**	**2.03**	**206**	PN	Pn	14 06 18.4	-1.1
CAW	**Cannon Point**	**2.12**	**181**	PN	Pn	14 06 19.5	-0.9
MHGZ	**Mahia Peninsul**	**2.18**	**95**	PN	Pn	14 06 20.7	-0.5
TMWZ	**Te Maipa**	**2.20**	**164**	PN	Pn	14 06 20.5	-0.8
WEL	**Wellington**	**2.31**	**186**	PN	Pn	14 06 21.2	-1.2
TCW	**Tory Channel**	**2.31**	**196**	PN	Pn	14 06 21.5	-0.9
SNZO	**South Karori**	**2.34**	**187**	PN	Pn	14 06 21.4	-1.3
PLWZ	**Palliser**	**2.58**	**178**	PN	Pn	14 06 23.9	-1.4
NNZ	**Nelson**	**2.59**	**210**	PN	Pn	14 06 23.6	-1.9
TUWZ	**Tuamarina**	**2.59**	**200**	PN	Pn	14 06 24.3	-1.2
PUZ	**Puketiti**	**2.63**	**71**	PN	Pn	14 06 23.8	-2.2
QRZ	**Quartz Range**	**2.70**	**226**	PN	Pn	14 06 23.9	-2.8
BSWZ	**Blackbirch Sta**	**2.88**	**199**	PN	Pn	14 06 27.5	-1.2
MXZ	**Matakaoa Point**	**2.89**	**61**	PN	Pn	14 06 26.5	-2.4
THZ	**Tophouse**	**3.24**	**211**	PN	Pn	14 06 30.5	-2.3
KHZ	**Kahutara**	**3.62**	**199**	PN	Pn	14 06 35.5	-2.0
DSZ	**Denniston Nort**	**3.73**	**221**	PN	Pn	14 06 35.4	-3.4

*IDC **14** 14:07:28.6±0.8, 6°.37S×130°.52E, h0km, mb4.0/11, mb1 4.2/14, mb1mx4.1/18, mbtmp4.1/14, ML4.6/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/25, Error ellipse: s-maj=35.5km s-min=14.0km az=75.0*

*NEIC **14** 14:07:34.0±1.8, 6°.44S×130°.46E, h37km±18km, mb4.2/1, Error ellipse: s-maj=14.0km s-min=11.6km az=75.0*

*ISCJB **14** 14:07:35.7±0.6, 6°.59S±0°.03×130°.76E±0°.05, h90km±8km, mb4.4/20, Error ellipse: s-maj=9.1km s-min=5.6km az=175.5*

*DJA **14** 14:07:36, 6°.53S×130°.89E, h133km, MLv4.4/7*

ISC 14 14:07:37.0±0.6, 6°.56S±0°.04×130°.70E±0°.05, h75km±7km, n62, σ1°31/74, mb4.4/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.22**	**66**	P	Pn	14 08 16.0	+4.3
TLE				S	Sn	14 08 39.4	+1.1
MSAI	**Masohi**	**3.65**	**331**	P	Pn	14 08 32.8	+1.7
AAI	**Ambon**	**3.79**	**319**	P	Pn	14 08 34.0	+0.9
FAKI	**Fak Fak**	**3.93**	**23**	P	Pn	14 08 34.8	-0.2
FAKI				S	Sn	14 09 18.7	-1.2
NLAI	**Namlea**	**4.88**	**312**	P	Pn	14 08 49.6	+1.7
LBMI	**Labuha**	**6.70**	**331**	P	Pn	14 09 14.1	+1.4
0.2nm41nm,0.9s							
BAKI	**Biak**	**7.58**	**46**	P	Pn	14 09 26.0	+1.1
BAKI				S	Sn	14 10 47.8	-1.6
KAPI	**Kappang**	**11.00**	**277**	LR	LR	14 13 42.5	
comp=Z,52nm,20.2s,baz=17,slow=35							
FITZ	**Fitzroy Crossi**	**12.49**	**203**	Pn	Pn	14 10 29.5	-2.2
2.8nm,0.3s,baz=39,slow=11,SNR=50							
FITZ				Sn	Sn	14 12 37.8	-11
3.7nm,0.3s,baz=329,slow=23,SNR=8.7							
FITZ	**Fitzroy Crossi**	**12.49**	**203**	*e*P	Pn	14 10 29.3	-2.5
16nm,0.2s							
FITZ				*e*S	Sn	14 12 38.1	-11
FITZ	**Fitzroy Crossi**	**12.49**	**203**	*e*Pn	Pn	14 10 28.9	-2.8
FITZ				Sn	Sn	14 12 37.8	-11
FITZ				*e*Sn	Sn	14 12 39.0	-10
FITZ	**Fitzroy Crossi**	**12.49**	**203**	P	Pn	14 10 29.3	-2.5
FITZ				S	Sn	14 12 39.1	-10
WRAB	**Tennant Creek**	**13.76**	**165**	*e*P	Pn	14 10 46.4	-2.3
6.7nm,0.4s							
WRAB				*e*S	Sn	14 13 12.0	-7.9
WRA	**Warramunga Arr**	**13.76**	**165**	Pn	Pn	14 10 47.0	-1.8
2.7nm,0.3s,baz=338,slow=14,SNR=58							
WRA				Sn	Sn	14 13 12.6	-7.5
3.8nm,0.3s,baz=338,slow=22,SNR=12							
WRA	**Warramunga Arr**	**13.76**	**165**	Pn	Pn	14 10 47.0	-1.8
WRA				Sn	Sn	14 13 12.6	-7.5
WB2	**Warramunga Arr**	**13.77**	**165**	*e*P	Pn	14 10 46.3	-2.5
WB2				*e*S	Sn	14 13 09.4	-11
COEN	**Coen**	**14.30**	**122**	*e*P	Pn	14 10 58.5	+2.7
36nm,0.7s							
COEN				*e*S	Sn	14 13 20.6	-13
COEN	**Coen**	**14.30**	**122**	*e*P	Pn	14 10 58.5	+2.7
37nm,0.6s							
COEN	**Coen**	**14.30**	**122**	P	Pn	14 10 58.8	+3.0
COEN				S	Sn	14 13 26.1	-7.1
AS31	**Alice Springs**	**17.28**	**170**	*e*P	Pn	14 11 32.8	-0.6
ASAR	**Alice Springs**	**17.28**	**170**	P	Pn	14 11 34.0	+0.6
2.8nm,0.3s,baz=352,slow=8.7,SNR=102							
ASAR				S	S	14 14 37.9	-12
1.0nm,0.3s,baz=352,slow=26,SNR=12							
ASAR	**Alice Springs**	**17.28**	**170**	P	Pn	14 11 34.0	+0.6
ASAR				S	S	14 14 37.9	-12
MBWA	**Marble Bar**	**17.98**	**215**	*e*P	Pn	14 11 41.8	-0.2
7.3nm,0.4s							
CTA	**Charters Tower**	**20.21**	**133**	P	P	14 12 10.1	+4.1
3.2nm,0.7s,baz=288,slow=13,SNR=5.6							
CTA	**Charters Tower**	**20.21**	**133**	P	P	14 12 10.1	+4.1
FORT	**Forrest**	**24.22**	**186**	*e*P	P	14 12 49.1	+2.4
11nm,0.5s,mb4.4							
BBOO	**Buckleboo**	**26.59**	**170**	*e*P	P	14 13 10.2	+2.0
22nm,0.5s,mb5.0							
STKA	**Stephens Creek**	**27.16**	**159**	P	P	14 13 16.0	+2.7
2.7nm,0.6s,mb4.0,baz=332,slow=9.9,SNR=13							
STKA				LR	LR	14 23 55.8	
comp=Z,55nm,19.4s,baz=204,slow=36							
STKA	**Stephens Creek**	**27.16**	**159**	*e*P	P	14 13 16.0	+2.6
2.0nm,0.6s,mb3.8							
STKA	**Stephens Creek**	**27.16**	**159**	P	P	14 13 16.0	+2.6
KLBR	**Kellerberrin**	**27.69**	**204**	*e*P	P	14 13 19.6	+1.5
29nm,1.5s,mb4.6							
NWAO	**Narrogin (SRO)**	**29.07**	**204**	P	P	14 13 32.1	+1.8
3.0nm,0.5s,mb4.2,baz=39,slow=19,SNR=6.7							
NWAO	**Narrogin (SRO)**	**29.07**	**204**	P	P	14 13 32.1	+1.8
CMAR	**Chiang Mai Arr**	**39.99**	**309**	P	P	14 15 04.3	-0.3
0.8nm,0.5s,mb3.8,baz=133,slow=6.7,SNR=6.5							
CMAR	**Chiang Mai Arr**	**39.99**	**309**	P	P	14 15 04.3	-0.3
MJAR	**Matsushiro Arr**	**43.45**	**9**	P	P	14 15 31.8	-0.8
0.4nm,0.3s,mb3.6,baz=191,slow=10,SNR=4.1							
MJAR	**Matsushiro Arr**	**43.45**	**9**	P	P	14 15 31.8	-0.8
ODAN	**Odare**	**53.50**	**310**	*e*P	P	14 16 49.3	-0.8
7.7nm,0.5s,mb5.0							
TAPN	**Taplejung**	**53.52**	**311**	*e*P	P	14 16 49.7	-0.5
5.4nm,0.3s,mb5.0							
RAMN	**Ramite**	**54.15**	**310**	*e*P	P	14 16 54.6	-0.2
21nm,0.5s,mb5.4							
JIRN	**Jiri**	**54.83**	**310**	*e*P	P	14 16 59.2	-0.5
GUN	**Gumba**	**55.20**	**311**	*e*P	P	14 17 01.4	-0.9
12nm,0.4s,mb5.3							
KKN	**Kakani**	**55.59**	**310**	*e*P	P	14 17 04.4	-0.7
7.6nm,0.6s,mb4.9							
GKN	**Gorkha**	**56.19**	**310**	*e*P	P	14 17 08.8	-0.6
12nm,0.5s,mb5.2							
KOLN	**Koldanda**	**56.86**	**309**	*e*P	P	14 17 13.3	-0.9
6.9nm,0.5s,mb4.9							
DANN	**Dangsing**	**57.03**	**310**	*e*P	P	14 17 14.2	-1.2
SONM	**Songino Array**	**58.25**	**341**	P	P	14 17 24.0	+0.4
0.3nm,0.5s,mb3.6,baz=167,slow=6.4,SNR=6.0							
SONM	**Songino Array**	**58.25**	**341**	P	P	14 17 24.0	+0.4
MK31	**Makanchi Array**	**68.25**	**326**	*e*P	P	14 18 29.8	+0.1
MKAR	**Makanchi Array**	**68.25**	**326**	P	P	14 18 30.0	+0.3
1.7nm,0.5s,mb4.1,baz=113,slow=8.8,SNR=44							
MKAR	**Makanchi Array**	**68.25**	**326**	P	P	14 18 30.0	+0.3
ZALV	**Zalesovo Beam**	**71.50**	**333**	P	P	14 18 49.0	-0.5
0.5nm,0.5s,mb3.6,baz=160,slow=5.4,SNR=4.0							
ZALV	**Zalesovo Beam**	**71.50**	**333**	P	P	14 18 49.0	-0.5
KURK	**Kurchatov**	**72.51**	**328**	P	P	14 18 55.4	-0.2
0.7nm,0.5s,mb3.8,baz=122,slow=5.1,SNR=13							
KURK	**Kurchatov**	**72.51**	**328**	P	P	14 18 55.4	-0.2
MAW	**Mawson**	**75.61**	**201**	P	P	14 19 15.9	+2.4
3.8nm,0.6s,mb4.3,baz=77,slow=7.2,SNR=11							
MAW	**Mawson**	**75.61**	**201**	P	P	14 19 15.9	+2.4
BVAR	**Borovoye Array**	**78.07**	**328**	P	P	14 19 28.1	+0.6
0.4nm,0.4s,mb3.5,baz=100,slow=7.3,SNR=4.1							
BVAR	**Borovoye Array**	**78.07**	**328**	P	P	14 19 28.1	+0.6
TORD	**Torodi Ar. Bea**	**129.41**	**282**	PKP	PKPdf	14 26 37.6	-0.4
0.3nm,0.4s,baz=81,slow=2.4,SNR=6.7							
TORD	**Torodi Ar. Bea**	**129.41**	**282**	PKP	PKPdf	14 26 37.6	-0.4
LPAZ	**La Paz**	**150.63**	**141**	*e*PKPbc	PKPbc	14 27 24.4	+3.0

*NIED **14** 14:34:00, 37°.20N×142°.20E, h17km, Mw4.0 Best double couple: M0:1.25000×10^15 NP1:φ=352.00000°, δ86.00000°, λ109.00000°. NP2:φ=93.00000°, δ20.00000°, λ12.00000°.*

*IDC **14** 14:34:29.2±0.7, 37°.13N×142°.20E, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.1/24, mbtmp4.0/17, ML3.9/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/37, Error ellipse: s-maj=18.3km s-min=15.7km az=144.0*

*JMA **14** 14:34:31.0±0.2, 37°.18N×142°.21E, h43km, M4.3*

*MOS **14** 14:34:31.6±0.9, 37°.20N×142°.32E, h33km, mb4.3/13, Error ellipse: s-maj=10.7km s-min=8.3km az=102.1*

*ISCJB **14** 14:34:32.1±0.4, 37°.23N±0°.04×142°.24E±0°.04, h33km, mb4.3/30, Error ellipse: s-maj=5.5km s-min=3.9km az=155.7*

*NEIC **14** 14:34:32.8±2.1, 37°.18N×142°.25E, h25km±14km, mb4.9/13, MW4.0(NIED), Error ellipse: s-maj=9.5km s-min=5.7km az=134.0*

ISC 14 14:34:34.5±0.4, 37°.24N±0°.04×142°.13E±0°.04, h35km, n114, σ1°08/124, mb4.2/30, 3C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.01**	**278**	P	Pn	14 34 49.9	-2.2
JFK				*e*S	Sn	14 35 03.1	-2.0
ONAJ	**Iwakimizuishiy**	**1.07**	**263**	P	Pn	14 34 50.8	-2.2
ONAJ				*e*S	Sn	14 35 04.8	-1.8
JMM	**Marumori**	**1.23**	**301**	↑P	Pn	14 34 53.4	-1.8
JMM				*e*S	Sn	14 35 09.2	-1.4
JIO	**Ouri**	**1.36**	**333**	↑P	Pn	14 34 55.2	-1.8
JFT	**Otama**	**1.46**	**282**	↑P	Pn	14 34 57.4	-0.8
JFT				*e*S	Sn	14 35 16.3	+0.2
JOU	**Okura**	**1.62**	**315**	P	Pn	14 34 59.9	-0.6
JOU				*e*S	Sn	14 35 21.3	+1.2
JMK	**Ichinoseki**	**1.86**	**338**	P	Pn	14 35 03.0	-0.8
JYS	**Shirataka**	**1.91**	**302**	P	Pn	14 35 04.9	+0.4
JYS				*e*S	Sn	14 35 29.4	+2.1
JFY	**Yanaizu**	**1.94**	**276**	P	Pn	14 35 05.3	+0.4
JFY				*e*S	Sn	14 35 29.1	+1.1
JYK	**Kaneyama**	**2.18**	**321**	P	Pn	14 35 08.0	-0.3
JAG	**Ashikaga**	**2.29**	**250**	P	Pn	14 35 08.5	-1.3
JAG				*e*S	Sn	14 35 35.1	-1.7
JOM	**Ohasama**	**2.33**	**344**	P	Pn	14 35 09.8	-0.5
MJAR	**Matsushiro Arr**	**3.22**	**259**	Pn	Pn	14 35 23.2	+0.7
12nm,0.3s,baz=86,slow=15,SNR=98							
MJAR				Sn	Sn	14 36 03.1	+3.6
11nm,0.3s,baz=237,slow=39,SNR=4.6							
MJAR				LR	LR	14 36 52.7	
comp=Z,614nm,18.3s,baz=85,slow=44							
MJAR	**Matsushiro Arr**	**3.22**	**259**	Pn	Pn	14 35 23.2	+0.7
MJAR				Sn	Sn	14 36 03.1	+3.6
MJAR	**Matsushiro Arr**	**3.22**	**259**	P	Pn	14 35 23.2	+0.7
MJAR						14 36 03.2	
MJAR				pmax	pmax		
comp=Z,12nm,0.3s							
MJAR				smax			
comp=N,11nm,0.3s							
MJAR				MLR	MLR		
comp=Z,614nm,18.3s							
MAJO	**Matsushiro**	**3.22**	**259**	*e*P	Pn	14 35 23.1	+0.5
MAJO	**Matsushiro**	**3.22**	**259**	*e*P	Pn	14 35 23.1	+0.6
MAT	**Matsushiro**	**3.22**	**259**	P	Pn	14 35 23.7	+1.2
MAT				*e*S	Sn	14 36 03.3	+3.7
ERM	**Erimo**	**4.84**	**9**	*e*P	Pn	14 35 43.8	-1.0
ERM	**Erimo**	**4.84**	**9**	*e*P	Pn	14 35 43.8	-1.0
ASAJ	**Asahikawa**	**6.88**	**3**	Pn	Pn	14 36 13.2	+0.3
comp=Z,1.9nm,0.3s,baz=158,slow=18,SNR=14							
ASAJ				Sn	Sn	14 37 29.4	-0.5
comp=Z,0.8nm,0.3s,baz=278,slow=29,SNR=6.2							
ASAJ				LR	LR	14 39 41.4	
comp=Z,64nm,20.8s,baz=338,slow=45							
ASAJ	**Asahikawa**	**6.88**	**3**	*e*P	Pn	14 36 11.7	-1.1
ASAJ				Sn	Sn	14 37 29.4	-0.5
ASAJ	**Asahikawa**	**6.88**	**3**	P	Pn	14 36 13.2	+0.4
ASAJ						14 37 29.4	
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ				smax			
comp=N,1.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,64nm,20.8s							
YUK	**Yuzh-Kuril'sk**	**7.36**	**22**	*i* P	Pn	14 36 17.6	-1.8
YUK				*i* S	Sn	14 37 36.9	-4.7
YUK				pmax	pmax		
comp=E,58nm,0.6s							
YUK				pmax	pmax		
comp=Z,71nm,0.6s							
YUK				pmax	pmax		
comp=N,57nm,0.6s							
YUK				pmax	pmax		
comp=Z,5μm,0.6s							
YUK				MLR	MLR		
comp=Z,96nm,19.0s							
YUK				MLR	MLR		
comp=N,201nm,19.0s							
YUK				MLR	MLR		
comp=E,150nm,19.0s							
YSS	**Yuzh-Sakhalins**	**9.72**	**3**	*e*P	Pn	14 36 51.5	-0.3
YSS	**Yuzh-Sakhalins**	**9.72**	**3**	*e*P	Pn	14 36 51.5	-0.2
JNU	**Nakatsue**	**10.08**	**249**	P	Pn	14 36 56.5	-0.2
KSRS	**Korea Array**	**11.31**	**275**	Pn	Pn	14 37 17.4	+3.8
comp=E,0.3nm,0.3s,baz=92,slow=14,SNR=11							
KSRS				LR	LR	14 41 26.4	
comp=E,154nm,18.4s,baz=85,slow=37							
KSRS	**Korea Array**	**11.31**	**275**	P	Pn	14 37 17.4	+3.8
KSRS				MLR	MLR		
comp=Z,154nm,18.4s							
KSAR	**Wonju Array Be**	**11.34**	**275**	Pn	Pn	14 37 17.4	+3.4
KSAR	**Wonju Array Be**	**11.34**	**275**	P	Pn	14 37 17.4	+3.4
PETK	**Petropavlovsk-**	**19.23**	**29**	LR	LR	14 46 50.4	
comp=Z,41nm,18.1s,baz=46,slow=38							
BOD	**Bodaibo**	**27.67**	**327**	*e*P	P	14 40 19.3	+0.5
BOD				pmax	pmax		
comp=Z,5.0nm,2.0s,mb3.8							
ULN	**Ulaanbaatar**	**27.72**	**304**	*e*P	P	14 40 19.3	0.0
comp=Z,1.8nm,0.6s,mb3.9							
ULN	**Ulaanbaatar**	**27.72**	**304**	*e*P	P	14 40 19.3	0.0
ULN				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.6							
SONM	**Songino Array**	**28.15**	**303**	P	P	14 40 23.8	+0.6
comp=Z,5.2nm,0.8s,mb4.2,baz=101,slow=8.9,SNR=36							
SONM	**Songino Array**	**28.15**	**303**	P	P	14 40 23.8	+0.6
SONM	**Songino Array**	**28.15**	**303**	P	P	14 40 23.8	+0.6
SONM				pmax	pmax		
comp=Z,5.0nm,0.8s							
ZAK	**Zakamensk**	**30.59**	**308**	*e*P	P	14 40 45.4	+0.6
ZAK				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.1							
LZH	**Lanzhou**	**30.60**	**280**	*e*P	P	14 40 49.0	+4.0
comp=Z,20nm,1.2s,mb4.8							
LZH				pP	pP	14 40 52.5	-2.6
LZH				sP	sP	14 40 55.0	-4.3
LZH	**Lanzhou**	**30.60**	**280**	*e*P	P	14 40 49.0	+4.0
LZH				*SP	sP	14 40 55.0	-4.3
LZH				pmax	pmax		
comp=Z,20nm,1.2s,mb4.8							
KMI	**Kunming**	**35.56**	**262**	P	P	14 41 23.4	-5.0
comp=Z,10.0nm,0.6s,mb4.9							
KMI				LR	LR		
comp=Z,60nm,20.2s							
KMI	**Kunming**	**35.56**	**262**	P	P	14 41 23.4	-5.0
KMI				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.9							
KMI				MLR	MLR		
comp=Z,60nm,20.2s							
CMAR	**Chiang Mai Arr**	**42.10**	**256**	P	P	14 42 23.4	+0.1
comp=Z,0.3nm,0.3s,mb3.4,baz=50,slow=6.1,SNR=4.7							
CMAR	**Chiang Mai Arr**	**42.10**	**256**	P	P	14 42 23.4	+0.1
CMAR	**Chiang Mai Arr**	**42.10**	**256**	P	P	14 42 23.4	+0.1
ZAA0	**Zalesovo Array**	**42.20**	**312**	*e*P	P	14 42 24.0	+0.3
ZALV	**Zalesovo Beam**	**42.20**	**312**	P	P	14 42 24.5	+0.9
comp=Z,1.6nm,0.4s,mb4.0,baz=95,slow=7.4,SNR=13							
ZALV	**Zalesovo Beam**	**42.20**	**312**	P	P	14 42 24.5	+0.9
ZALV	**Zalesovo Beam**	**42.20**	**312**	P	P	14 42 24.5	+0.8
ZALV				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.1							
NVS	**Novosibirsk**	**43.12**	**314**	*e*P	P	14 42 30.9	-0.2
MK31	**Makanchi Array**	**44.50**	**302**	*e*P	P	14 42 42.2	-0.1
MK31	**Makanchi Array**	**44.50**	**302**	*e*P	P	14 42 42.2	-0.1
MKAR	**Makanchi Array**	**44.50**	**302**	P	P	14 42 42.6	+0.3
comp=Z,3.2nm,0.7s,mb4.2,baz=83,slow=10,SNR=23							
MKAR	**Makanchi Array**	**44.50**	**302**	P	P	14 42 42.6	+0.3
MKAR	**Makanchi Array**	**44.50**	**302**	P	P	14 42 42.6	+0.3
MKAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
KURK	**Kurchatov**	**46.26**	**308**	*e*P	P	14 42 55.4	-0.8
comp=Z,11nm,0.6s,mb5.0							
KURK	**Kurchatov**	**46.26**	**308**	*e*P	P	14 42 55.4	-0.8
KURK				pmax	pmax		
comp=Z,11nm,0.6s,mb5.0							
TAPN	**Taplejung**	**46.50**	**274**	*e*P	P	14 43 00.3	+1.9
comp=Z,8.4nm,0.5s,mb5.0							
TAPN	**Taplejung**	**46.50**	**274**	*e*P	P	14 43 00.3	+1.9
comp=Z,8.4nm,0.5s,mb4.9							
ODAN	**Odare**	**46.97**	**274**	*e*P	P	14 43 02.2	+0.1
comp=Z,5.2nm,0.4s,mb4.8							
ODAN	**Odare**	**46.97**	**274**	*e*P	P	14 43 02.2	+0.1
comp=Z,5.2nm,0.4s,mb4.8							
RAMN	**Ramite**	**47.56**	**274**	*e*P	P	14 43 06.8	+0.1
comp=Z,16nm,0.8s,mb5.1							
RAMN	**Ramite**	**47.56**	**274**	*e*P	P	14 43 06.8	+0.1
comp=Z,16nm,0.8s,mb5.1							
JIRN	**Jiri**	**47.57**	**275**	*e*P	P	14 43 08.0	+1.3
JIRN	**Jiri**	**47.57**	**275**	*e*P	P	14 43 08.0	+1.3
GUN	**Gumba**	**47.70**	**276**	*e*P	P	14 43 09.5	+1.7
comp=Z,11nm,0.5s,mb5.2							
GUN	**Gumba**	**47.70**	**276**	*e*P	P	14 43 09.5	+1.7
comp=Z,11nm,0.5s,mb5.1							
KKN	**Kakani**	**48.23**	**276**	*e*P	P	14 43 13.0	+1.1
comp=Z,8.6nm,0.6s,mb5.0							
KKN	**Kakani**	**48.23**	**276**	*e*P	P	14 43 13.0	+1.1
comp=Z,8.6nm,0.6s,mb5.0							
KKN	**Kakani**	**48.23**	**276**	*e*P	P	14 43 13.0	+1.1
KKN				pmax	pmax		
comp=Z,9.0nm,0.6s,mb5.0							
COLA	**College**	**48.60**	**32**	*e*P	P	14 43 13.9	-0.3
comp=Z,2.5nm,0.9s,mb4.2							
GKN	**Gorkha**	**48.65**	**277**	*e*P	P	14 43 15.1	0.0
GKN	**Gorkha**	**48.65**	**277**	*e*P	P	14 43 15.1	0.0
ILAR	**Eielson Array**	**49.02**	**32**	P	P	14 43 17.6	+0.3
comp=Z,2.9nm,0.8s,mb4.4,baz=262,slow=6.0,SNR=38							
ILAR	**Eielson Array**	**49.02**	**32**	P	P	14 43 17.6	+0.3
ILAR	**Eielson Array**	**49.02**	**32**	P	P	14 43 17.7	+0.3
ILAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
DANN	**Dangsing**	**49.19**	**277**	*e*P	P	14 43 20.0	+0.8
comp=Z,19nm,0.8s,mb5.2							
DANN	**Dangsing**	**49.19**	**277**	*e*P	P	14 43 20.0	+0.8
comp=Z,19nm,0.8s,mb5.2							
WRAB	**Tennant Creek**	**57.33**	**189**	*e*P	P	14 44 17.6	-1.4
comp=Z,3.0nm,1.0s,mb4.3							
WRAB	**Tennant Creek**	**57.33**	**189**	*e*P	P	14 44 17.6	-1.4
WRAB				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
WB2	**Warramunga Arr**	**57.34**	**189**	*e*P	P	14 44 17.6	-1.4
WRA	**Warramunga Arr**	**57.34**	**189**	P	P	14 44 17.8	-1.3
comp=Z,1.2nm,0.7s,mb4.0,baz=6.4,slow=7.1,SNR=19							
WRA	**Warramunga Arr**	**57.34**	**189**	P	P	14 44 17.8	-1.3
WRA	**Warram

JTS	**JuntasAbangare**	**8.35 358**	*eP*		**Pn**	**14 42 35.5**	**-0.9**
JTS				Sn	**Sn**	**14 44 03.9**	**-6.4**
ROSC	**El Rosal**	**10.65 74**	LR		LR	14 47 02.5	
comp=Z,490nm,18.9s,baz=353,slow=37							
ATAH	**Atahualpa**	**10.89 145**	Pn		**Pn**	**14 43 11.3**	**-0.1**
0.9nm,0.3s,baz=318,slow=4.1,SNR=5.0							
ATAH			LR		LR	14 47 01.6	
comp=Z,1μm,19.1s,baz=323,slow=36							
ATAH	**Atahualpa**	**10.89 145**	Pn		**Pn**	**14 43 11.3**	**-0.1**
SDV	**Santo Domingo**	**15.52 63**	*eP*		**Pn**	**14 44 15.2**	**+0.8**
11nm,1.0s							
NNA	**Nana**	**15.79 151**	LR		LR	14 50 01.3	
comp=Z,119nm,19.4s,baz=316,slow=36							
CMIG	**Matias Romero**	**18.18 327**	P		**Pn**	**14 44 47.8**	**-0.1**
0.1nm,0.3s,baz=126,slow=14,SNR=4.5							
CMIG			LR		LR	14 50 24.1	
comp=Z,496nm,20.9s,baz=134,slow=32							
CMIG	**Matias Romero**	**18.18 327**	P		**Pn**	**14 44 47.8**	**-0.1**
TEIG	**Tepich**	**18.57 349**	LR		LR	14 51 11.2	
comp=Z,395nm,20.7s,baz=261,slow=34							
SAML	**Samuel**	**23.90 117**	P		**P**	**14 45 48.6**	**-0.6**
12nm,1.2s,mb4.2							
SJG	**San Juan**	**24.23 47**	P		**P**	**14 45 52.6**	**+0.4**
24nm,0.9s,mb4.7,baz=291,slow=5.8,SNR=6.2							
SJG			LR		LR	14 55 03.9	
comp=Z,221nm,20.8s,MS3.6,baz=244,slow=36							
SJG	**San Juan**	**24.23 47**	P		**P**	**14 45 52.6**	**+0.4**
LPAZ	**La Paz**	**24.30 139**	P		**P**	**14 45 54.4**	**+1.5**
2.6nm,0.5s,mb3.9,baz=305,slow=5.0,SNR=23							
LPAZ			LR		LR	14 56 12.0	
comp=Z,633nm,18.7s,MS4.1,baz=242,slow=39							
LPAZ	**La Paz**	**24.30 139**	*eP*		**P**	**14 45 54.2**	**+1.4**
2.6nm,0.5s,mb3.9							
TXAR	**Lajitas Array**	**32.78 328**	P		**P**	**14 47 08.7**	**+0.3**
0.4nm,0.7s,mb3.5,baz=149,slow=9.0,SNR=4.7							
TXAR			LR		LR	14 59 22.1	
comp=Z,188nm,21.3s,MS3.8,baz=180,slow=34							
TXAR	**Lajitas Array**	**32.78 328**	P		**P**	**14 47 08.7**	**+0.3**
PLCA	**Paso Flores**	**44.32 165**	P		**P**	**14 48 45.2**	**+0.1**
0.7nm,0.6s,mb3.5,baz=327,slow=7.9,SNR=4.6							
PLCA			LR		LR	15 02 27.7	
comp=Z,128nm,20.9s,MS3.8,baz=168,slow=30							
PLCA	**Paso Flores**	**44.32 165**	*eP*		**P**	**14 48 43.9**	**-1.2**
3.1nm,1.1s,mb4.0							
PDAR	**Pinedale Array**	**46.41 335**	LR		LR	15 09 34.2	
comp=Z,210nm,18.5s,MS4.1,baz=149,slow=38							
NVAR	**Mina Array Bea**	**47.68 324**	P		**P**	**14 49 13.3**	**+1.6**
0.6nm,0.9s,mb3.6,baz=134,slow=8.9,SNR=3.7							
NVAR			LR		LR	15 09 19.0	
comp=Z,172nm,19.4s,MS4.0,baz=41,slow=36							
NVAR	**Mina Array Bea**	**47.68 324**	P		**P**	**14 49 13.3**	**+1.6**
TAOE	**Nuku Hiva Isla**	**56.39 258**	*e*LR		LR	15 06 59.9	
296nm,24.4s							
YKA	**Yellowknife Ar**	**64.47 345**	P		**P**	**14 51 09.9**	**-1.5**
0.2nm,0.8s,mb3.2,baz=147,slow=6.1,SNR=3.1							
YKA	**Yellowknife Ar**	**64.47 345**	P		**P**	**14 51 09.9**	**-1.5**
PPT	**Papeete**	**66.84 250**	*e*S		S	15 00 47.0	+27
64nm,28.2s							
PPT			*e*LR		LR	15 11 45.2	
290nm,24.2s,baz=72							
TBI	**Tubuai**	**67.85 244**	*e*LR		LR	15 12 17.5	
144nm,30.0s							
ILAR	**Eielson Array**	**76.77 337**	LR		LR	15 26 55.7	
comp=Z,137nm,20.2s,MS4.3,baz=98,slow=36							
TORD	**Torodi Ar. Bea**	**85.95 77**	P		**P**	**14 53 15.4**	**-0.6**
0.2nm,0.6s,mb3.5,baz=268,slow=4.3,SNR=2.3							
TORD	**Torodi Ar. Bea**	**85.95 77**	P		**P**	**14 53 15.4**	**-0.6**
NOA	**NORSAR Array B**	**91.17 29**	LR		LR	15 32 31.7	
comp=Z,158nm,20.4s,MS4.4,baz=40,slow=34							
GERES	**GERESS Array B**	**94.04 41**	LR		LR	15 29 59.6	
comp=Z,149nm,19.0s,MS4.5,baz=293,slow=32							
FINES	**FINESS Array B**	**98.09 27**	LR		LR	15 36 07.1	
comp=Z,230nm,18.6s,MS4.7,baz=320,slow=34							
DZM	**Mont Dzumac**	**108.28 247**	*e*LR		LR	15 31 00.0	
57nm,27.0s							
ASAR	**Alice Springs**	**136.92 237**	PKP		PKPdf	14 59 58.4	-0.3
0.4nm,1.0s,baz=131,slow=2.8,SNR=3.6							
ASAR	**Alice Springs**	**136.92 237**	PKP		PKPdf	14 59 58.4	-0.4
WRA	**Warramunga Arr**	**137.96 242**	PKP		PKPdf	15 00 00.6	-0.2
0.3nm,0.8s,baz=100,slow=2.2,SNR=3.3							
WRA	**Warramunga Arr**	**137.96 242**	PKP		PKPdf	15 00 00.6	-0.2

JMA 14 14:40:50.9,35.°55N×139.°14E,h26km±1km,M3.1,1C-2D Broadband fault plane solution: P waves. NP1: ϕ_s38.00000°,δ64.00000°,λ99.00000°. **NP2:**ϕ_s197.00000°, δ28.00000°,λ72.00000°. **Principal axes:** T Plg70.0000°, Azm328.0000°; N Plg8.0000°, Azm214.0000°; P Plg18.0000°, Azm121.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.29**	**188**	⇑P	Pb	14 40 57.6	-0.2
JOD2				S	Sb	14 41 02.6	+0.1
JYN	**Shimob**	**0.49**	**264**	⇓P	Pb	14 41 00.7	-0.3
JYN				S	Sb	14 41 08.0	+0.2
JRY	**Ryogami san**	**0.50**	**337**	⇓P	Pb	14 41 01.1	-0.1
JRY				S	Sb	14 41 08.5	+0.3
JIZS	**Izushimoda**	**0.86**	**195**	P	Pb	14 41 06.6	-0.5
JIM2	**Oshima 3**	**0.86**	**164**	P	Pb	14 41 06.2	-1.0
SHZ3	**Shizuoka 3**	**0.90**	**238**	P	Pn	14 41 08.2	+0.3
MAT	**Matsushiro**	**1.25**	**323**	P	Pn	14 41 13.6	+1.0
MAT				S	Sn	14 41 29.7	+1.1

*IDC **14** 14:50:38.0±2.4,39.°03N×141.°05E,h0km,mb3.6/3, mb1 3.6/4,mb1mx3.2/24,mbtmp3.4/4,ML2.9/1 Error ellipse: s-maj=54.9km s-min=27.1km az=85.0*
*ISCJB **14** 14:50:40.7±0.5,38.°91N±0.°03×140.°63E±0.°04,h12km±4km, mb3.6/4,Error ellipse: s-maj=5.3km s-min=4.2km az=142.0*
*JMA **14** 14:50:41.1,38.°92N×140.°62E,h4km±1km,M2.9*
JMA Felt II J1.
ISC 14 14:50:41.1±0.4,38.°91N±0.°03×140.°63E±0.°03,h8km±5km, n14,σ0°62/24,mb3.6/4,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	**Kaneyama**	**0.21**	**272**	P	**Pg**	**14 50 45.1**	**-0.3**
JYK				S	**Sg**	**14 50 47.9**	**-0.3**
JMK	**Ichinoseki**	**0.47**	**85**	P	**Pg**	**14 50 50.0**	**-0.2**
JMK				S	**Sg**	**14 50 56.4**	**+0.1**
JRG	**Rokugo**	**0.48**	**1**	P	**Pg**	**14 50 50.5**	**-0.1**
JRG				S	**Sg**	**14 50 57.6**	**+0.6**
JOU	**Okura**	**0.55**	**177**	P	**Pg**	**14 50 51.9**	**+0.2**
JOU				*e*S	**Sg**	**14 50 59.3**	**+0.5**
JIO	**Ouri**	**0.73**	**129**	P	**Pg**	**14 50 54.7**	**-0.4**
JIO				*e*S	**Sg**	**14 51 04.5**	**-0.1**
JOM	**Ohasama**	**0.77**	**42**	P	**Pg**	**14 50 55.6**	**-0.3**
JOM				*e*S	**Sg**	**14 51 05.6**	**-0.2**
JYA	**Atsumi**	**0.78**	**246**	P	**Pg**	**14 50 55.9**	**-0.2**
JYA				S	**Sg**	**14 51 06.3**	**0.0**
JYS	**Shiratake**	**0.82**	**213**	P	**Pg**	**14 50 56.6**	**-0.2**
JYS				S	**Sg**	**14 51 07.7**	**+0.2**
MAT	**Matsushiro**	**3.04**	**220**	P	**Pn**	**14 51 30.7**	**+1.2**
MAT				*e*S	**Sn**	**14 52 04.6**	**-1.5**
MJAR	**Matsushiro Arr**	**3.04**	**220**	Pn	**Pn**	**14 51 30.9**	**+1.4**
1.2nm,0.3s,baz=5.2,slow=15,SNR=22							
MJAR				Sn	**Sn**	**14 52 15.1**	**+9.0**
1.6nm,0.3s,baz=214,slow=4.7,SNR=9.0							
ZALV	**Zalesovo Beam**	**40.21**	**311**	P	**P**	**14 58 17.6**	**-0.1**
0.2nm,0.3s,mb3.3,baz=81,slow=9.3,SNR=3.7							
KURK	**Kurchatov**	**44.30**	**307**	P	**P**	**14 58 51.1**	**0.0**
0.9nm,0.7s,mb3.6,baz=82,slow=8.5,SNR=9.1							
AKTO	**Aktyubinsk**	**56.97**	**311**	P	**P**	**15 00 30.5**	**+3.8**
0.5nm,0.5s,mb3.8,baz=66,slow=10.0,SNR=2.5							
WRA	**Warramunga Arr**	**58.84**	**187**	P	**P**	**15 00 39.5**	**-0.6**
0.5nm,0.9s,mb3.5,baz=4.2,slow=7.6,SNR=5.6							

*CSEM **14** 15:12:28.5±0.4,36.°22N×1.°73E,h20km,ML3.5, Error ellipse: s-maj=9.1km s-min=5.6km az=123.0*
*CRAAG **14** 15:12:28.4,36.°08N×1.°58E,Ml3.5*
*MDD **14** 15:12:28.1±1.0,36.°17N×1.°84E,h18km±9km,mb4.0/14, Error ellipse: s-maj=13.5km s-min=7.9km az=140.0, PRXIMO*
ISC 14 15:12:30.0±0.8,36.°38N±0.°07×1.°68E±0.°07,h20km±13km, n59,σ1°14/103,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHA	**Ech Chlef**	**0.34**	**228**	P	**Pb**	**15 12 36.6**	**-0.9**
ECHA	**Ech Chlef**	**0.34**	**228**	P	**Pb**	**15 12 36.6**	**-0.9**
ECHF	**Ech Chlef**	**0.36**	**231**	P	**Pb**	**15 12 36.6**	**-1.1**
EANR	**'Ain N'Sour**	**0.64**	**228**	P	**Pb**	**15 12 38.4**	**-4.1**
EANR	**'Ain N'Sour**	**0.64**	**228**	P	**Pb**	**15 12 38.4**	**-4.1**
EANR	**'Ain N'Sour**	**0.64**	**228**	P	**Pb**	**15 12 38.4**	**-4.1**
ETRT	**Tiaret**	**1.04**	**197**	P	**Pn**	**15 12 44.6**	**-4.8**
ETRT	**Tiaret**	**1.04**	**197**	P	**Pn**	**15 12 44.6**	**-4.8**
ETRT	**Tiaret**	**1.04**	**197**	P	**Pn**	**15 12 44.6**	**-4.8**
EIBI	**Ibiza**	**2.65**	**354**	P	**Pn**	**15 13 12.5**	**+0.9**
42nm,0.5s,SNR=7.9							
EIBI				S	**Sn**	**15 13 43.3**	**+0.1**
36nm,0.3s,SNR=7.9							
EIBI	**Ibiza**	**2.65**	**354**	P	**Pn**	**15 13 12.5**	**+0.9**
42nm,0.5s,SNR=7.9							
EIBI				S	**Sn**	**15 13 43.3**	**+0.1**
36nm,0.3s,SNR=7.9							
EMUR	**La Murta**	**2.75**	**303**	P	**Pn**	**15 13 12.4**	**-0.6**
1.0nm,0.4s,SNR=7.9							
EMUR				S	**Sn**	**15 13 46.2**	**+0.6**
12nm,0.3s							
EMUR	**La Murta**	**2.75**	**303**	P	**Pn**	**15 13 12.4**	**-0.6**
1.0nm,0.4s,SNR=7.9							
EMUR				S	**Sn**	**15 13 46.2**	**+0.5**
12nm,0.3s							
EBEN	**Beniarda**	**2.77**	**327**	P	**Pn**	**15 13 13.4**	**+0.1**
0.7nm,0.2s,SNR=9.2							
EBEN				S	**Sn**	**15 13 46.6**	**+0.5**
4.9nm,0.2s							
EBEN	**Beniarda**	**2.77**	**327**	P	**Pn**	**15 13 13.4**	**+0.2**
0.7nm,0.2s,SNR=9.2							
EBEN				S	**Sn**	**15 13 46.6**	**+0.5**
4.9nm,0.2s							
ENIJ	**Nijar**	**3.18**	**282**	P	**Pn**	**15 13 18.2**	**-0.7**
3.7nm,0.2s,SNR=7.9							
ENIJ				S	**Sn**	**15 13 52.3**	**-3.9**
4.6nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**3.18**	**282**	P	**Pn**	**15 13 18.2**	**-0.7**
3.7nm,0.2s,SNR=7.9							
ENIJ				S	**Sn**	**15 13 52.3**	**-3.9**
4.6nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**3.42**	**312**	P	**Pn**	**15 13 22.9**	**+0.7**
2.2nm,0.2s,SNR=19							
ETOB				S	**Sn**	**15 14 02.7**	**+0.6**
22nm,0.4s							
ETOB	**Tobarra**	**3.42**	**312**	P	**Pn**	**15 13 22.9**	**+0.7**
2.2nm,0.2s,SNR=19							
ETOB				S	**Sn**	**15 14 02.7**	**+0.6**
22nm,0.4s							
ETOS	**Mallorca**	**3.50**	**14**	P	**Pn**	**15 13 22.5**	**-0.7**
1.0nm,0.2s,SNR=4.5							
ETOS				S	**Sn**	**15 14 02.3**	**-1.7**
9.5nm,0.4s,SNR=7.9							
ETOS	**Mallorca**	**3.50**	**14**	P	**Pn**	**15 13 22.5**	**-0.7**
1.0nm,0.2s,SNR=4.5							
ETOS				S	**Sn**	**15 14 02.3**	**-1.7**
9.5nm,0.4s,SNR=7.9							
EHUE	**Huescar**	**3.70**	**294**	P	**Pn**	**15 13 26.8**	**+0.7**
1.4nm,0.3s,SNR=7.9							
EHUE				S	**Sn**	**15 14 06.9**	**-2.2**
2.0nm,0.3s,SNR=7.9							
EHUE	**Huescar**	**3.70**	**294**	P	**Pn**	**15 13 26.8**	**+0.7**
1.4nm,0.3s,SNR=7.9							
EHUE				S	**Sn**	**15 14 06.9**	**-2.2**
2.0nm,0.3s,SNR=7.9							
EBER	**Berja**	**3.71**	**279**	P	**Pn**	**15 13 25.1**	**-1.1**
9.1nm,0.3s,SNR=30							
EBER				S	**Sn**	**15 14 09.2**	**-0.1**
8.1nm,0.3s							
EBER	**Berja**	**3.71**	**279**	P	**Pn**	**15 13 25.1**	**-1.1**
9.1nm,0.3s,SNR=30							
EBER				S	**Sn**	**15 14 09.2**	**-0.1**
8.1nm,0.3s							
ECHE	**Chera**	**3.83**	**328**	P	**Pn**	**15 13 29.1**	**+1.3**
1.0nm,0.2s,SNR=7.9							
ECHE				S	**Sn**	**15 14 11.1**	**-1.0**
SNR=7.9							
ECHE	**Chera**	**3.83**	**328**	P	**Pn**	**15 13 29.1**	**+1.3**
1.0nm,0.2s,SNR=7.9							
ECHE				S	**Sn**	**15 14 11.1**	**-1.0**
SNR=7.9							
EVIA	**Vianos**	**4.02**	**305**	P	**Pn**	**15 13 31.0**	**+0.6**
2.2nm,0.3s,SNR=7.9							
EVIA				S	**Sn**	**15 14 18.7**	**+1.8**
6.1nm,0.3s,SNR=6.6							
EVIA	**Vianos**	**4.02**	**305**	P	**Pn**	**15 13 31.0**	**+0.6**
2.2nm,0.3s,SNR=7.9							
EVIA				S	**Sn**	**15 14 18.7**	**+1.9**
6.1nm,0.3s,SNR=6.6							
EQES	**Quesada**	**4.05**	**292**	P	**Pn**	**15 13 31.8**	**+0.8**
16nm,0.4s,SNR=7.9							
EQES				S	**Sn**	**15 14 18.7**	**+0.9**
28nm,0.3s,SNR=7.9							
EQES	**Quesada**	**4.05**	**292**	P	**Pn**	**15 13 31.8**	**+0.9**
16nm,0.4s,SNR=7.9							
EQES				S	**Sn**	**15 14 18.7**	**+0.9**
28nm,0.3s,SNR=7.9							
EGUA	**Guajares**	**4.25**	**278**	P	**Pn**	**15 13 33.7**	**+0.1**
37nm,0.7s,SNR=7.9							
EGUA				S	**Sn**	**15 14 21.9**	**-0.6**
24nm,0.4s,SNR=7.9							
EGUA	**Guajares**	**4.25**	**278**	P	**Pn**	**15 13 33.7**	**+0.2**
37nm,0.7s,SNR=7.9							
EGUA				S	**Sn**	**15 14 21.9**	**-0.6**
24nm,0.4s,SNR=7.9							
ECOG	**Cogollos-Vega**	**4.30**	**284**	P	**Pn**	**15 13 34.5**	**+0.1**
4.5nm,0.3s,SNR=7.9							
ECOG				S	**Sn**	**15 14 24.4**	**+0.5**
4.3nm,0.3s,SNR=7.9							
ECOG	**Cogollos-Vega**	**4.30**	**284**	P	**Pn**	**15 13 34.5**	**+0.2**
4.5nm,0.3s,SNR=7.9							
ECOG				S	**Sn**	**15 14 24.4**	**+0.5**
4.3nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**4.32**	**338**	P	**Pn**	**15 13 36.4**	**+1.8**
1.2nm,0.3s,SNR=17							
EMOS				S	**Sn**	**15 14 24.3**	**0.0**
9.9nm,0.3s							
EMOS	**Mosqueruela**	**4.32**	**338**	P	**Pn**	**15 13 36.4**	**+1.9**
1.2nm,0.3s,SNR=17							
EMOS				S	**Sn**	**15 14 24.3**	**0.0**
9.9nm,0.3s							
ERON	**Agron**	**4.46**	**280**	P	**Pn**	**15 13 37.1**	**+0.7**
2.0nm,0.2s,SNR=7.9							
ERON				S	**Sn**	**15 14 27.7**	**+0.1**
1.6nm,0.3s,SNR=7.9							
ERON	**Agron**	**4.46**	**280**	P	**Pn**	**15 13 37.1**	**+0.7**
2.0nm,0.2s,SNR=7.9							
ERON				S	**Sn**	**15 14 27.7**	**+0.1**
1.6nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**4.69**	**347**	P	**Pn**	**15 13 40.8**	**+1.3**
0.7nm,0.2s,SNR=7.9							
ERTA				S	**Sn**	**15 14 33.0**	**-0.3**
4.7nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**4.69**	**347**	P	**Pn**	**15 13 40.8**	**+1.2**
0.7nm,0.2s,SNR=7.9							
ERTA				S	**Sn**	**15 14 33.0**	**-0.4**
4.7nm,0.3s,SNR=7.9							
ELOJ	**Sierra Loja**	**4.75**	**281**	P	**Pn**	**15 13 41.3**	**+0.9**
1.6nm,0.2s,SNR=7.9							
ELOJ	**Sierra Loja**	**4.75**	**281**	P	**Pn**	**15 13 41.3**	**+0.9**
1.6nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**4.91**	**286**	P	**Pn**	**15 13 43.0**	**+0.4**
0.9nm,0.2s,SNR=7.9							
ELUQ				S	**Sn**	**15 14 41.2**	**+2.5**
6.1nm,0.3s,SNR=7.9							
ELUQ	**Luque**	**4.91**	**286**	P	**Pn**	**15 13 43.0**	**+0.4**
0.9nm,0.2s,SNR=7.9							
ELUQ				S	**Sn**	**15 14 41.2**	**+2.4**
6.1nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**4.99**	**355**	P	**Pn**	**15 13 44.8**	**+1.1**
0.5nm,0.2s,SNR=7.9							
EPOB				S	**Sn**	**15 14 39.5**	**-1.2**
10nm,0.5s,SNR=7.9							
EPOB	**Poblet**	**4.99**	**355**	P	**Pn**	**15 13 44.8**	**+1.1**
0.5nm,0.2s,SNR=7.9							
EPOB				S	**Sn**	**15 14 39.5**	**-1.2**
10nm,0.5s,SNR=7.9							
EMIJ	**Mijas**	**5.21**	**274**	P	**Pn**	**15 13 44.0**	**-2.7**
0.6nm,0.2s,SNR=6.0							
EMIJ				S	**Sn**	**15 14 39.6**	**-6.6**
8.6nm,0.6s							
EMIJ	**Mijas**	**5.21**	**274**	P	**Pn**	**15 13 44.0**	**-2.7**
0.6nm,0.2s,SNR=6.0							
EMIJ				S	**Sn**	**15 14 39.6**	**-6.5**
8.6nm,0.6s							
EADA	**Adamuz**	**5.30**	**292**	S	**Sn**	**15 14 45.9**	**-2.6**
0.7nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.30**	**292**	S	**Sn**	**15 14 45.9**	**-2.6**
0.7nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**5.40**	**6**	P	**Pn**	**15 13 50.8**	**+1.4**
0.8nm,0.2s,SNR=7.9							
CFON				S	**Sn**	**15 14 49.8**	**-1.2**
0.9nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**5.40**	**6**	P	**Pn**	**15 13 50.8**	**+1.4**
0.8nm,0.2s,SNR=7.9							
CFON				S	**Sn**	**15 14 49.8**	**-1.2**
0.9nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**5.53**	**359**	P	**Pn**	**15 13 52.4**	**+1.3**
0.5nm,0.2s,SNR=7.9							
EMIR				S	**Sn**	**15 14 52.9**	**-1.1**
0.6nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**5.53**	**359**	P	**Pn**	**15 13 52.4**	**+1.3**
0.5nm,0.2s,SNR=7.9							
EMIR				S	**Sn**	**15 14 52.9**	**-1.1**
0.6nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**5.54**	**308**	P	**Pn**	**15 13 52.2**	**+0.9**
0.6nm,0.2s,baz=123,slow=13,SNR=10							
ESDC	**Sonseca Array**	**5.54**	**308**	P	**Pn**	**15 13 52.2**	**+0.9**
0.6nm,0.2s,SNR=10							
CSOR	**Sort**	**6.00**	**356**	P	**Pn**	**15 13 58.2**	**+0.6**
0.6nm,0.2s,SNR=7.9							
CSOR				S	**Sn**	**15 15 03.5**	**-2.2**
1.0nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.82**	**284**	P	**Pn**	**15 14 07.9**	**-1.0**
0.3nm,0.3s,SNR=7.9							
EMIN				S	**Sn**	**15 15 22.7**	**-3.2**
0.7nm,0.4s,SNR=7.9							

IDC 14 15:21:57.2±2.5,14.°10S×166.°47E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.7/16,mbtmp3.7/4,MS3.2/4,Ms1 3.3/4, ms1mx3.0/22,Error ellipse: s-maj=117.6km s-min=29.7km az=137.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.89**	**305**	LR	LR	15 26 25.8	
comp=Z,52nm,18.9s,baz=341,slow=34							
CTA	**Charters Tower**	**20.21**	**250**	LR	LR	15 32 26.1	
comp=Z,67nm,19.2s,baz=55,slow=31							
AFI	**Afiamalu**	**21.11**	**92**	LR	LR	15 32 56.8	
comp=Z,60nm,20.3s,baz=191,slow=31							
STKA	**Stephens Creek**	**28.82**	**228**	P	P	15 27 56.8	-0.5
1.4nm,0.7s,baz=33,slow=13,SNR=4.1							
WRA	**Warramunga Arr**	**31.23**	**255**	P	P	15 28 18.7	0.0
0.6nm,0.9s,baz=87,slow=9.3,SNR=7.2							
ASAR	**Alice Springs**	**32.18**	**248**	P	P	15 28 27.5	+0.5
0.4nm,0.6s,baz=72,slow=9.7,SNR=13							
ILAR	**Eielson Array**	**86.17**	**18**	P	P	15 34 39.9	0.0
0.7nm,0.8s,baz=237,slow=5.7,SNR=11							
TXAR	**Lajitas Array**	**96.66**	**62**	LR	LR	16 09 55.7	
comp=Z,52nm,21.3s,baz=185,slow=30							

*NNC **14** 15:33:11.1±4.1,40.°05N×71.°48E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=37.0km s-min=17.4km az=0.0*
ISC 14 15:33:13.9±4.1,40.°2N±0.°2×71.°2E±0.°1,h11km±20km,n9, σ0°93/11,1C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.67**	**44**	P	**Pn**	**15 33 56.0**	**-0.8**
SNR=28							
AML				P		15 33 56.0	
SNR=28							
KK31	**Karatay Array**	**2.92**	**350**	Pn	**Pn**	**15 34 02.1**	**+1.9**
0.4nm,0.2s,baz=136,slow=11,SNR=122							
KK31				Pg	**Pg**	**15 34 09.4**	**-0.3**
3.9nm,0.4s,baz=164,slow=15,SNR=32							
KK31				⇓Lg		15 34 50.9	
7.5nm,0.3s,baz=171,slow=30,SNR=8.4							
EKS2	**Erkin-Say**	**3.11**	**38**	P	**Pn**	**15 34 03.6**	**+0.8**
SNR=17							
EKS2				P		15 34 03.6	
SNR=17							
KBK	**Karagaybulak**	**3.71**	**48**	P	**Pn**	**15 34 11.7**	**+0.5**
SNR=11							
KBK				P		15 34 11.7	
SNR=11							
CHMS	**Chumysh**	**3.84**	**43**	P	**Pn**	**15 34 13.2**	**+0.4**
SNR=5.2							
CHMS				P		15 34 13.2	
SNR=5.2							
USP	**Ospenovka**	**3.91**	**38**	P	**Pn**	**15 34 13.9**	**+0.1**
SNR=14							
USP				P		15 34 13.9	
SNR=14							
TKM2	**Tokmak 2**	**4.25**	**49**	P	**Pn**	**15 34 18.0**	**-0.5**
SNR=13							
TKM2				P		15 34 18.0	
SNR=13							
TKM2	**Tokmak 2**	**4.25**	**49**	⇑Pn	**Pn**	**15 34 17.8**	**-0.7**
4.0nm,0.3s							
TKM2				⇓Sn	**Sn**	**15 35 07.5**	**-0.6**
4.7nm,0.7s							
TKM2				⇓Lg		15 35 24.4	
3.7nm,0.5s							
AB31	**Akbulak array**	**12.05**	**322**	Pn	**Pn**	**15 36 03.6**	**-1.7**
0.1nm,0.2s,baz=121,slow=13,SNR=5.6							

IDC 14 15:35:42.1±9.9,3.°12S×126.°07E,h0km,mb3.3/2, mb1 3.4/3,mb1mx3.1/17,mbtmp3.2/3,ML2.9/1,Error ellipse: s-maj=194.5km s-min=139.8km az=73.0,Buru

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

KOLN	Koldanda	49.78 305	*e*P	P	16 01 07.3 +0.1
	9.7nm,0.4s,mb4.5				
DANN	Dangsing	49.87 305	*e*P	P	16 01 07.8 0.0
	16nm,0.5s,mb4.6				
MK31	Makanchi Array	59.56 325	*e*P	P	16 02 16.9 -0.1
MKAR	Makanchi Array	59.56 325	P	P	16 02 17.1 +0.1
	1.0nm,0.4s,mb3.8,baz=114,slow=8.0,SNR=29				
MKAR	Makanchi Array	59.56 325	P	P	16 02 17.1 +0.1
ZALV	Zalesovo Beam	62.42 332	P	P	16 02 35.3 -0.8
	0.3nm,0.3s,mb3.4,baz=115,slow=6.5,SNR=2.3				
ZALV	Zalesovo Beam	62.42 332	P	P	16 02 35.3 -0.8
KURK	Kurchatov	63.70 327	*e*P	P	16 02 44.4 -0.2
BRVK	Borovoye	69.36 327	*e*P	P	16 03 19.9 -0.5
	1.9nm,0.6s,mb3.9				
ARCES	ARCESS Array B	92.10 340	P	P	16 05 19.8 -0.8
	0.7nm,0.6s,mb3.8,baz=84,slow=3.8,SNR=6.4				
ARCES	ARCESS Array B	92.10 340	P	P	16 05 19.8 -0.8

*CSEM **14** 15:52:54.4, 36°.59N×21°.67E, h30km, MD4.2, After ATH*

ATH 14 15:52:54.3, 36°.60N×21°.66E, h30km, MD3.0/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.30	13	*e*PB	Pb	15 53 02.0	+0.2
PYL	PYLOS	0.30	13	*e*Pb	Pb	15 53 02.0	+0.2
ITM	Ithomi	0.62	20	*e*PN	Pn	15 53 07.2	+0.2
ITM				*e*SN	Sn	15 53 16.4	+0.5
ITM	Ithomi	0.62	20	*e*Pn	Pn	15 53 07.2	+0.2
ITM				*e*Sn	Sn	15 53 16.4	+0.5
VLX	Vlachokerasia	0.96	37	*e*PN	Pn	15 53 13.1	+1.4
VLX	Vlachokerasia	0.96	37	*e*Pn	Pn	15 53 13.4	+1.7
VLX				*e*Sn	Sn	15 53 25.5	+1.1
KYTH	Kithira	1.16	106	*e*PN	Pn	15 53 16.0	+1.6
KYTH	Kithira	1.16	106	*e*Pn	Pn	15 53 16.0	+1.6

*NEIC **14** 15:55:48.2, 16°.93N×99°.65W, h15km, MD3.2(MEX), After MEX.*

MEX 14 15:55:48.8±0.5, 16°.94N×99°.71W, h29km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.16	243	*i*P	Pb	15 55 53.7	-0.8
ACX				*i*S	Sb	15 55 57.8	-0.5
ACX	Acapulco	0.16	243	*i*P	Pb	15 55 53.7	-0.8
ACX				*i*S	Sb	15 55 57.8	-0.5
CAIG	El Cayaco	0.54	281	*e*P	Pb	15 55 57.5	-2.4
CAIG				*i*S	Sb	15 56 05.6	-1.9
CAIG	El Cayaco	0.54	281	*e*P	Pb	15 55 57.7	-2.2
CAIG				*i*S	Sb	15 56 05.6	-1.9
MEIG	Mezcala	0.98	5	*i*P	Pn	15 56 03.7	-2.9
MEIG				*i*S	Sn	15 56 16.6	-3.0
MEIG	Mezcala	0.98	5	*i*P	Pn	15 56 04.0	-2.6
MEIG				*i*S	Sn	15 56 16.6	-3.0
PNIG	Pinotepa	1.61	110	*i*P	Pn	15 56 09.6	-5.7
PNIG				*i*S	Sn	15 56 29.6	-5.6
PNIG	Pinotepa	1.61	110	*e*P	Pn	15 56 13.6	-1.8
ZIIG	Zihuatanejo	1.80	292	*i*P	Pn	15 56 16.1	-1.8
ZIIG				*i*S	Sn	15 56 37.4	-2.5
ZIIG	Zihuatanejo	1.80	292	*i*P	Pn	15 56 16.1	-1.8
ZIIG				*i*S	Sn	15 56 37.4	-2.5
UTMO	Huajuapan	2.02	64	*i*P	Pn	15 56 15.7	-5.3
UTMO				*i*S	Sn	15 56 41.1	-4.2
UTMO	Huajuapan	2.02	64	*i*P	Pn	15 56 18.5	-2.4
UTMO				*i*S	Sn	15 56 43.1	-2.1

*ISCJB **14** 15:58:59.8±0.5, 38°.21N±0°.02×26°.74E±0°.04, h2km±5km, Error ellipse: s-maj=5.1km s-min=3.6km az=152.1*
*ISK **14** 15:58:59.4, 38°.19N×26°.77E, h2km, MD3.0*
*ATH **14** 15:58:59.6, 38°.17N×26°.70E, h30km±7km, MD3.3/3*
*DDA **14** 15:58:59.4, 38°.20N×26°.74E, h7km±3km, Md2.9*
*CSEM **14** 15:59:00.5±0.3, 38°.20N×26°.72E, h14km, MD2.9, Error ellipse: s-maj=7.3km s-min=5.5km az=76.0*

ISC 14 15:59:00.4±0.4, 38°.21N±0°.02×26°.73E±0°.03, h6km±4km, n43, σ0°69/59, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.19	325	*i*P	Pg	15 59 02.8	-1.3
URLA				*i*S	Sg	15 59 06.4	-0.3
URLA	Izmir	0.19	325	*i*P	Pg	15 59 02.8	-1.4
URLA				*i*S	Sg	15 59 06.4	-0.3
BLCB	Balcova	0.30	53	PG	Pg	15 59 05.9	-0.3
BLCB	Balcova	0.30	53	*i*Pg	Pg	15 59 05.9	-0.4
IZM	Izmir	0.46	65	PG	Pg	15 59 09.0	-0.2
IZM				*e*SG	Sg	15 59 16.0	+0.7
IZM	Izmir	0.46	65	*i*Pg	Pg	15 59 09.0	-0.2
IZM				*e*Sg	Sg	15 59 16.0	+0.8
SMG	Samos	0.50	171	*e*PB	Pg	15 59 09.7	-0.3
SMG				*e*SB	Sg	15 59 17.7	+1.1
SMG	Samos	0.50	171	*e*Pb	Pg	15 59 09.7	-0.3
SMG				*e*Sb	Sg	15 59 17.7	+1.1
CHOS	Chios island	0.56	289	*e*PN	Pg	15 59 10.9	-0.3
CHOS				*e*SN	Sg	15 59 19.7	+1.1
CHOS	Chios island	0.56	289	*e*Pn	Pg	15 59 10.9	-0.3
GCAM	G?zelcaml?	0.64	142	*i*P	Pg	15 59 12.1	-0.6
GCAM				*i*S	Sg	15 59 21.1	+0.1
GCAM	G?zelcaml?	0.64	142	*i*P	Pg	15 59 12.1	-0.6
GCAM				*i*S	Sg	15 59 21.1	+0.1
AYDN	Tasoluk	1.06	121	*i*P	Pg	15 59 20.4	-0.2
AYDN				*i*S	Sg	15 59 34.5	+0.1
AYDN	Tasoluk	1.06	121	*i*P	Pg	15 59 20.4	-0.2
AYDN				*i*S	Sg	15 59 34.5	+0.2
AKHS	Akhisar	1.08	51	*i*P	Pg	15 59 16.9	-4.3
AKHS				*i*S	Sg	15 59 35.8	+0.6
AKS	Akhisar	1.08	51	*e*PG	Pg	15 59 20.8	-0.4
AKS	Akhisar	1.08	51	*e*Pg	Pg	15 59 20.8	-0.3
PRK	Paraskevi	1.10	341	*e*PN	Pg	15 59 20.9	-0.6
PRK	Paraskevi	1.10	341	*e*Pn	Pg	15 59 20.9	-0.6
AYVA	Ayvalik	1.10	358	*i*P	Pg	15 59 20.6	-1.0
AYVA				*i*S	Sg	15 59 37.4	+1.6
AYVA	Ayvalik	1.10	358	*i*P	Pg	15 59 20.6	-0.9
AYVA				*i*S	Sg	15 59 37.4	+1.5
BODT	Bodrum	1.23	158	*e*PN	Pn	15 59 23.3	-0.8
BODT	Bodrum	1.23	158	*e*Pn	Pn	15 59 23.3	-0.8
APE	Apeiranthos	1.48	220	*e*PN	Pn	15 59 28.0	+0.4
APE	Apeiranthos	1.48	220	*e*Pn	Pn	15 59 28.0	+0.4
KULA	Kula-Manisa	1.55	78	*e*PN	Pn	15 59 28.5	0.0
KULA	Kula-Manisa	1.55	78	*e*Pn	Pn	15 59 28.5	0.0
DAT	Datca	1.62	155	*e*PN	Pn	15 59 29.4	0.0
DAT	Datca	1.62	155	*e*Pn	Pn	15 59 29.4	-0.1
YER	Yerkesik	1.63	130	*e*PN	Pn	15 59 29.6	-0.1
YER	Yerkesik	1.63	130	*e*Pn	Pn	15 59 29.6	0.0
EZN	Ezine	1.65	349	*e*PN	Pn	15 59 30.5	+0.6
EZN	Ezine	1.65	349	*e*Pn	Pn	15 59 30.5	+0.6
BALY	Balya	1.68	24	*i*P	Pn	15 59 29.3	-1.1
BALY				*i*S	Sn	15 59 51.5	-0.8
BALY	Balya	1.68	24	*i*P	Pn	15 59 29.3	-1.1
BALY				*i*S	Sn	15 59 51.5	-0.7
BALB	Balikesir	1.69	32	*e*PN	Pn	15 59 30.7	+0.3
BALB	Balikesir	1.69	32	*e*Pn	Pn	15 59 30.7	+0.2
GONE	Gonen-Balikesi	1.98	22	*e*PN	Pn	15 59 35.0	+0.5
GONE	Gonen-Balikesi	1.98	22	*e*Pn	Pn	15 59 35.0	+0.5
GELI	Tayfur-Gelibol	2.20	355	*e*PN	Pn	15 59 38.2	+0.7
GELI	Tayfur-Gelibol	2.20	355	*e*Pn	Pn	15 59 38.2	+0.7
KCTX	Karacabey (Bur	2.41	31	*e*PN	Pn	15 59 41.0	+0.6
KCTX	Karacabey (Bur	2.41	31	*e*Pn	Pn	15 59 41.0	+0.6

*IDC **14** 15:59:48.8±0.8, 9°.67S×151°.60E, h0km, mb4.5/15, mb1 4.5/18, mb1mx4.5/18, mbtmp4.4/18, ML3.5/3, MS3.9/12, Ms1 3.9/12, ms1mx3.7/25, Error ellipse: s-maj=24.6km s-min=14.2km az=120.0*
*ISCJB **14** 15:59:50.0±1.6, 9°.70S±0°.05×151°.62E±0°.05, h20km±11km, mb4.8/57, MS4.0/17, Error ellipse: s-maj=8.6km s-min=8.3km az=146.9*
*MOS **14** 15:59:51.8±0.8, 9°.71S×151°.58E, h33km, mb5.0/17, Error ellipse: s-maj=9.7km s-min=8.3km az=73.3*
*BJI **14** 15:59:52.7, 9°.75S×151°.59E, h41km, mB5.0/24, mb4.7/35, Ms4.9/15, Ms7 4.5/16*
*NEIC **14** 15:59:53.6±2.0, 9°.67S×151°.58E, h33km±14km, mb5.0/24, Error ellipse: s-maj=7.1km s-min=5.9km az=161.0*
*DJA **14** 16:00:01, 9°.81S×151°.42E, h87km, mb4.8/14*

ISC 14 15:59:54.2±1.0, 9.75S±0°.05×151°.63E±0°.05, h37km±9km, h35km±2.1km: pP-P, n182, σ0°97/163, mb4.8/57, MS4.0/17, 5C, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.42	274	Pn	Pn	16 00 57.6	-1.2
	4.0nm,0.3s,baz=78,slow=6.6,SNR=29						
PMG	Port Moresby	4.42	274	*e*P	Pn	16 00 57.1	-1.6
PMG	Port Moresby	4.42	274	*e*P	Pn	16 00 57.1	-1.6
PMG	Port Moresby	4.42	274	P	Pn	16 00 57.4	-1.3
HNR	Honiara	8.21	89	Pn	Pn	16 01 54.7	+3.8
	1.0nm,0.3s,baz=242,slow=4.2,SNR=5.7						
HNR	Honiara	8.21	89	*e*P	Pn	16 01 51.6	+0.7
	101nm,1.1s						
HNR	Honiara	8.21	89	*e*P	Pn	16 01 51.6	+0.7
HNR				pmax	pmax		
	comp=Z,101nm,1.1s						
CTA	Charters Tower	11.52	206	Pn	Pn	16 02 36.1	-0.1
	comp=Z,0.4nm,0.3s,baz=27,slow=17,SNR=4.9						
CTA	Charters Tower	11.52	206	Pn	Pn	16 02 36.1	-0.1
CTA	Charters Tower	11.52	206	P	Pn	16 02 36.1	-0.1
CTAO	Charters Tower	11.52	206	*e*P	Pn	16 02 36.1	0.0
CTAO	Charters Tower	11.52	206	*e*P	Pn	16 02 36.1	-0.1
SMPI	Sarmi	14.97	300	P	Pn	16 03 28.3	+5.0
EIDS	Eidsvold	15.55	182	*e*P	Pn	16 03 30.5	-0.2
	comp=Z,77nm,0.8s						
RMQ	Roma	16.87	189	*e*P	Pn	16 03 48.9	+1.3
	comp=Z,17nm,0.9s						
BAKI	Biak	17.62	298	P	Pn	16 03 58.3	+1.3
	comp=Z,62nm,1.3s						
DZM	Mont Dzumac	18.77	133	*e*P	Pn	16 04 11.4	+0.4
	comp=Z,22nm,1.3s						
WRAB	Tennant Creek	19.51	237	*e*P	Pn	16 04 19.4	-0.4
	comp=Z,14nm,1.0s						
WRAB	Tennant Creek	19.51	237	*e*P	Pn	16 04 19.5	-0.4
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s						
WRAB	Tennant Creek	19.51	237	P	Pn	16 04 20.0	+0.1
	comp=Z,28nm,1.6s						
WB2	Warramunga Arr	19.52	237	*e*P	Pn	16 04 19.7	-0.2
WRA	Warramunga Arr	19.52	237	P	Pn	16 04 18.5	-1.5
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=19						
WRA				LR	LR	16 11 39.9	
	comp=Z,488nm,18.6s,baz=55,slow=36						
WRA	Warramunga Arr	19.52	237	P	Pn	16 04 18.5	-1.5
WRA	Warramunga Arr	19.52	237	P	Pn	16 04 18.5	-1.5
FAKI	Fak Fak	20.41	288	P	P	16 04 28.6	+0.4
	comp=Z,58nm,1.3s						
AS31	Alice Springs	21.86	229	*e*P	P	16 04 43.4	-0.4
ASAR	Alice Springs	21.87	229	P	P	16 04 43.7	-0.2
	comp=Z,1.8nm,0.8s,baz=66,slow=9.9,SNR=28						
ASAR	Alice Springs	21.87	229	P	P	16 04 43.7	-0.2
ASAR	Alice Springs	21.87	229	P	P	16 04 43.7	-0.2
CMSA	Cobar Meteorol	22.37	193	*e*P	P	16 04 48.7	-0.5
	comp=Z,47nm,1.0s,mb4.9						
STKA	Stephens Creek	23.91	201	P	P	16 05 04.5	-0.1
	comp=Z,6.5nm,0.7s,mb4.2,baz=17,slow=11,SNR=15						
STKA				LR	LR	16 14 59.0	
	comp=Z,332nm,18.0s,MS3.9,baz=26,slow=38						
STKA	Stephens Creek	23.91	201	*e*P	P	16 05 04.4	-0.2
	comp=Z,7.0nm,0.9s,mb4.1						
STKA	Stephens Creek	23.91	201	*e*P	P	16 05 04.1	-0.5
	comp=Z,2.3nm,1.0s						
STKA	Stephens Creek	23.91	201	*e*P	P	16 05 04.1	-0.5
STKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GUMO	Guam	24.13	344	LR	LR	16 12 38.1	
	comp=Z,165nm,19.8s,MS3.5,baz=92,slow=32						
LBMI	Labuha	25.65	289	P	P	16 05 21.6	+0.9
	comp=Z,1μmcomp=Z,72nm,1.2s,mb5.1						
FITZ	Fitzroy Crossi	26.53	249	P	P	16 05 28.3	-0.3
	comp=Z,5.4nm,0.8s,mb4.1,baz=78,slow=6.2,SNR=11						
FITZ				LR	LR	16 16 07.8	
	comp=Z,236nm,18.5s,MS3.8,baz=307,slow=37						
FITZ	Fitzroy Crossi	26.53	249	*e*P	P	16 05 26.9	-1.7
	comp=Z,12nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	26.53	249	P	P	16 05 28.3	-0.3
KDI	Kendari	29.35	279	P	P	16 05 54.8	+0.9
	comp=Z,19nm,1.2s,mb4.7						
KMSI	Cibinong	29.37	289	P	P	16 05 55.7	+1.7
	comp=Z,2μmcomp=Z,158nm,1.2s,mb5.6						
LUWI	Luwuk	29.97	285	P	P	16 05 59.1	-0.3
	comp=Z,930nmcomp=Z,69nm,1.2s,mb5.2						
GTOI	Gorontalo	30.29	288	P	P	16 06 03.2	+1.0
	comp=Z,94nm,1.2s,mb5.4						
KAPI	Kappang	31.95	276	P	P	16 06 15.8	-1.1
	comp=Z,13nm,0.9s,mb4.8,baz=96,slow=5.5,SNR=6.9						
KAPI	Kappang	31.95	276	P	P	16 06 15.8	-1.0
KAPI	Kappang	31.95	276	P	P	16 06 15.9	-0.9
	comp=Z,24nm,1.2s,mb4.9						
SPSI	Sidrap Palu	32.13	278	P	sP	16 06 34.4	+1.0
SMKI	Samarinda	35.47	283	P	P	16 06 49.7	+2.3
	comp=Z,30nm,1.4s,mb5.0						
AFI	Afiamalu	36.03	100	LR	LR	16 17 55.9	
	comp=Z,277nm,19.3s,MS4.0,baz=151,slow=30						
CBIJ	Chichi jima	37.75	346	LR	LR	16 20 26.0	
	comp=Z,292nm,22.0s,MS4.0,baz=323,slow=33						
NWAO	Narrogin (SRO)	39.19	229	LR	LR	16 23 59.8	
	comp=Z,339nm,18.5s,MS4.2,baz=315,slow=37						
JOW	Kunigami	42.84	329	LR	LR	16 22 36.7	
	comp=Z,155nm,18.8s,MS3.9,baz=133,slow=32						
MJAR	Matsushiro Arr	47.74	345	P	P	16 08 26.6	-0.9
	comp=Z,1.8nm,0.9s,mb4.1,baz=172,slow=11,SNR=3.9						
MJAR	Matsushiro Arr	47.74	345	P	P	16 08 26.6	-0.9
MJAR	Matsushiro Arr	47.74	345	P	P	16 08 26.6	-0.9
MAT	Matsushiro	47.74	345	P	P	16 08 26.1	-1.4
MAT				*e*S	S	16 15 23.0	+1.6
QIZ	Qiongzhong	50.14	305	P	P	16 08 45.8	-0.5
QIZ				S	S	16 15 56.1	+0.4
QIZ				pmax	pmax		
	comp=Z,34nm,2.1s,mb5.0						
QIZ				pmax	pmax		
	comp=Z,130nm,4.0s						
KSRS	Korea Array	51.94	336	P	P	16 08 59.0	-0.4
	comp=Z,2.6nm,0.8s,mb4.2,baz=154,slow=8.0,SNR=6.6						
KSRS				LR	LR	16 29 08.4	
	comp=Z,77nm,18.0s,MS3.8,baz=265,slow=34						
KSAR	Wonju Array Be	51.95	336	P	P	16 08 59.0	-0.4
KSAR	Wonju Array Be	51.95	336	P	P	16 08 59.1	-0.4
NJ2	Nanjing	52.05	324	*e*P	P	16 08 59.6	-0.7
NJ2				pP	pP	16 09 10.6	-0.7
NJ2				sP	sP	16 09 16.4	+0.8
NJ2				S	S	16 16 19.5	-2.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				pmax	pmax		
	comp=Z,150nm,4.7s						
NJ2				LR	LR		
	comp=N,290nm,24.2s,MS4.4						
NJ2				LR	LR		
	comp=E,310nm,24.3s,MS4.4						
NJ2				LR	LR		
	comp=Z,370nm,21.7s,MS4.4						
WHN	Wuhan	53.72	320	P	P	16 09 21.3	+8.5
GYA	Guiyang	56.58	311	P	P	16 09 35.4	+1.9
GYA				pP	pP	16 09 45.3	+0.8
GYA				sP	sP	16 09 51.3	+2.5
GYA				PP	PP	16 11 42.8	+3.0
GYA				ScP	ScP	16 14 25.6	-0.9
GYA				S	S	16 17 22.9	-0.1
GYA				SS	SS	16 21 11.0	-0.2
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				pmax	pmax		
	comp=Z,110nm,5.4s						
GYA				LR	LR		
	comp=N,450nm,19.3s,MS4.7						
GYA				LR	LR		
	comp=E,420nm,20.0s,MS4.7						
GYA				LR	LR		
	comp=Z,470nm,18.1s,MS4.6						
CN2	Changchun	58.36	338	*e*P	P	16 09 48.6	+2.9
KMI	Kunming	58.90	307	P	P	16 09 50.8	+1.0
KMI				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
KMI	Kunming	58.90	307	P	P	16 09 50.8	+1.0
	comp=Z,15nm,1.2s,mb4.9						
KMI	Kunming	58.90	307	P	P	16 09 50.8	+1.0
KMI				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
CMAR	Chiang Mai Arr	59.05	298	P	P	16 09 51.2	+0.3
	comp=Z,1.9nm,0.8s,mb4.2,baz=123,slow=5.1,SNR=14						
CMAR	Chiang Mai Arr	59.05	298	P	P	16 09 51.2	+0.3
CMAR	Chiang Mai Arr	59.05	298	P	P	16 09 51.3	+0.4
CHTO	Chiang Mai	59.19	299	*e*P	P	16 09 50.7	-1.2
	comp=Z,13nm,1.5s,mb4.8						
CHTO	Chiang Mai	59.19	299	*e*P	P	16 09 50.7	-1.2
CHTO				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.7						
CHTO	Chiang Mai	59.19	299	P	P	16 09 51.2	-0.7
	comp=Z,7.2nm,1.9s,mb4.4						
BJI	Beijing	59.42	329	P	P	16 09 54.3	+1.2
BJI				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.3						
BJI				LR	LR		
	comp=Z,68nm,25.2s,MS3.7						
XAN	Xi'an	59.48	319	P	P	16 09 52.6	-1.0
XAN				pP	pP	16 10 01.3	-3.4
XAN				sP	sP	16 10 07.3	-1.8
XAN				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
XAN				pmax	pmax		
	comp=Z,22nm,4.6s						
CD2	Chengdu	61.16	313	*e*P	P	16 10 05.5	+0.3
CD2				pP	pP	16 10 15.6	-0.7
CD2				sP	sP	16 10 19.5	-1.1
CD2				PP	PP	16 12 22.5	+2.2
CD2				S	S	16 18 21.3	-1.0
CD2				sS	sS	16 18 38.0	-2.7
CD2				SS	SS	16 22 22.9	-0.1
CD2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
CD2				pmax	pmax		
	comp=Z,60nm,4.4s						
CD2				LR	LR		
	comp=N,220nm,10.7s						
CD2				LR	LR		
	comp=E,210nm,9.5s						
CD2				LR	LR		
	comp=Z,210nm,12.0s,MS4.5						
HHC	Hu-ho-hao-te	62.43	327	*e*P	P	16 10 16.6	+3.0
HHC				pP	pP	16 10 27.0	+2.3
HHC				sP	sP	16 10 30.3	+1.3
HHC				PP	PP	16 12 36.1	+4.7
HHC				S	S	16 18 40.3	+2.2
HHC				sS	sS	16 18 56.0	-0.5
HHC				SS	SS	16 22 45.3	+2.6
HHC				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
HHC				pmax	pmax		
	comp=Z,120nm,4.4s						
HHC				LR	LR		
	comp=N,100nm,13.1s,MS4.3						
HHC				LR	LR		
	comp=E,97nm,13.1s,MS4.3						
HHC				LR	LR		
	comp=Z,140nm,15.5s,MS4.2						
PETK	Petropavlovsk-	62.82	4	P	P	16 10 15.7	-0.1
	comp=Z,4.1nm,0.6s,mb4.7,baz=159,slow=7.6,SNR=14						
PETK				LR	LR	16 34 40.9	
	comp=Z,41nm,20.9s,MS3.6,baz=357,slow=33						
PETK	Petropavlovsk-	62.82	4	P	P	16 10 15.7	-0.1
PETK	Petropavlovsk-	62.82	4	P	P	16 10 15.7	-0.1
LZH	Lanzhou	64.03	318	*e*P	P	16 10 25.4	+1.2
LZH				pP	pP	16 10 34.0	-1.4
LZH				sP	sP	16 10 38.0	-1.7
LZH				pmax	pmax		
	comp=Z,58nm,1.5s,mb5.4						
LZH				pmax	pmax		
	comp=Z,130nm,4.9s						
LZH	Lanzhou	64.03	318	*e*P	P	16 10 25.4	+1.2
	comp=Z,58nm,1.5s,mb5.4						
LZH				pP	pP	16 10 34.0	-1.4
LZH				sP	sP	16 10 38.0	-1.7
LZH	Lanzhou	64.03	318	*e*P	P	16 10 25.4	+1.2
LZH				*PP	pP	16 10 34.0	-1.4
LZH				*SP	sP	16 10 38.0	-1.7
LZH				pmax	pmax		
	comp=Z,58nm,1.5s,mb5.4						
FX1	Attu Island--F	65.04	14	P	P	16 10 30.6	+0.1
	comp=Z,10nm,0.5s,mb5.1,baz=80,slow=18,SNR=6.8						
FX1	Attu Island--F	65.04	14	P	P	16 10 30.6	+0.1
FX1	Attu Island--F	65.04	14	P	P	16 10 30.6	+0.1
VNDA	Vanda	67.97	178	*e*P	P	16 10 49.4	+0.5
	comp=Z,3.1nm,0.8s,mb4.4						
VNDA	Vanda	67.97	178	*e*P	P	16 10 49.4	+0.5
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA	Gaotai	68.54	319	*e*P	P	16 10 53.8	+0.7
GTA				pP	pP	16 11 06.3	+1.9
GTA				sP	sP	16 11 11.3	+2.7
GTA				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.5						
ULN	Ulaanbaatar	69.60	330	*e*P	P	16 11 00.1	+0.6
	comp=Z,12nm,1.4s,mb4.6						
ULN	Ulaanbaatar	69.60	330	*e*P	P	16 11 00.1	+0.6
ULN				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
ULN	Ulaanbaatar	69.60	330	P	P	16 11 00.4	+0.9
SONM	Songino Array	69.91	329	P	P	16 11 02.1	+0.7
	comp=Z,4.6nm,0.9s,mb4.4,baz=153,slow=4.4,SNR=28						
SONM				LR	LR	16 40 58.3	
	comp=Z,72nm,18.9s,MS3.9,baz=335,slow=35						
SONM	Songino Array	69.91	329	P	P	16 11 02.1	+0.7
SONM	Songino Array	69.91	329	P	P	16 11 02.1	+0.7
CLNS	Chul'man	69.92	345	*e*P	P	16 11 00.6	-0.6
CLNS				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
CLNS				pmax	pmax		
	comp=E,2.0nm,1.3s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.4s						
TAPN	Taplejung	72.02	303	*e*P	P	16 11 14.9	+0.2
	comp=N,53nm,1.1s,mb5.4						
TAPN	Taplejung	72.02	303	*e*P	P	16 11 14.9	+0.2
	comp=N,53nm,1.1s,mb5.4						
ODAN	Odare	72.11	302	*e*P	P	16 11 15.2	0.0
	comp=N,49nm,0.9s,mb5.4						
ODAN	Odare	72.11	302	*e*P	P	16 11 15.2	0.0
	comp=N,49nm,0.9s,mb5.4						
RAMN	Ramite	72.80	302

WMQ			pP	pP	16 12 02.6	-1.0
WMQ			sP	sP	16 12 06.5	-1.3
WMQ			pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6					
WMQ			pmax	pmax		
	comp=Z,250nm,6.0s					
QSPA	**South Pole Qui**	**80.25 180**	*e*P	**P**	**16 12 00.9**	**+0.4**
	comp=Z,24nm,1.3s,mb5.0					
MAW	**Mawson**	**80.59 203**	P	**P**	**16 12 03.3**	**+0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=111,slow=12,SNR=4.3					
MAW	**Mawson**	**80.59 203**	P	**P**	**16 12 03.3**	**+0.7**
MAW	**Mawson**	**80.59 203**	P	**P**	**16 12 03.3**	**+0.8**
MK31	**Makanchi Array**	**83.29 320**	*e*P	**P**	**16 12 17.0**	**0.0**
MK31	**Makanchi Array**	**83.29 320**	*e*P	**P**	**16 12 17.0**	**-0.1**
MKAR	**Makanchi Array**	**83.29 320**	P	**P**	**16 12 17.3**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.4,baz=102,slow=6.4,SNR=21					
MKAR	**Makanchi Array**	**83.29 320**	P	**P**	**16 12 17.3**	**+0.2**
MKAR	**Makanchi Array**	**83.29 320**	P	**P**	**16 12 17.3**	**+0.2**
SLKM	**Skilak Lake**	**83.61 25**	*e*P	**P**	**16 12 17.6**	**-0.8**
SLKM	**Skilak Lake**	**83.61 25**	*e*P	**P**	**16 12 17.6**	**-0.8**
ZAA0	**Zalesovo Array**	**84.61 327**	*e*P	**P**	**16 12 22.1**	**-1.6**
ZALV	**Zalesovo Beam**	**84.61 327**	P	**P**	**16 12 22.4**	**-1.2**
	comp=Z,11nm,0.7s,mb5.1,baz=110,slow=5.4,SNR=60					
ZALV	**Zalesovo Beam**	**84.61 327**	P	**P**	**16 12 22.4**	**-1.2**
ZALV	**Zalesovo Beam**	**84.61 327**	P	**P**	**16 12 22.4**	**-1.2**
PMR	**Palmer**	**84.64 24**	*e*P	**P**	**16 12 23.1**	**-0.5**
	comp=Z,5.8nm,0.8s,mb4.8					
PMR	**Palmer**	**84.64 24**	*e*P	**P**	**16 12 23.1**	**-0.5**
PMR			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8					
KSH	**Kashi**	**85.27 311**	P	**P**	**16 12 28.6**	**+1.3**
KSH			pP	pP	16 12 38.3	-0.6
KSH			sP	sP	16 12 42.6	-0.5
KSH			PP	PP	16 15 47.5	+1.9
KSH			SKS		16 22 47.6	
KSH			S	S	16 22 54.6	-0.7
KSH			sS	sS	16 23 12.3	-2.1
KSH			pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.6					
KSH			pmax	pmax		
	comp=Z,190nm,6.2s					
KSH			LR	LR		
	comp=N,130nm,7.6s					
KSH			LR	LR		
	comp=E,160nm,6.1s					
KSH			LR	LR		
	comp=Z,180nm,5.5s					
NVS	**Novosibirsk**	**85.82 327**	*e*P	**P**	**16 12 26.7**	**-3.0**
NVS			pmax	pmax		
	comp=Z,25nm,1.5s,mb5.2					
NVS			pmax	pmax		
	comp=N,9.0nm,1.4s					
NVS			pmax	pmax		
	comp=E,17nm,1.4s					
MCK	**McKinley**	**85.85 23**	*e*P	**P**	**16 12 28.5**	**-1.0**
	comp=E,22nm,1.2s,mb5.2					
MCK	**McKinley**	**85.85 23**	*e*P	**P**	**16 12 28.5**	**-1.1**
MCK			pmax	pmax		
	comp=Z,22nm,1.2s,mb5.3					
COLA	**College**	**86.84 22**	*e*P	**P**	**16 12 33.2**	**-1.2**
	comp=Z,9.3nm,0.8s,mb5.1					
COLA	**College**	**86.84 22**	*e*P	**P**	**16 12 33.3**	**-1.2**
COLA			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0					
KURK	**Kurchatov**	**86.94 322**	*e*P	**P**	**16 12 32.2**	**-3.1**
	comp=Z,3.6nm,0.9s,mb4.6					
KURK	**Kurchatov**	**86.94 322**	*ce*P	**P**	**16 12 34.8**	**-0.5**
KURK			pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.6					
ILAR	**Eielson Array**	**87.15 22**	P	**P**	**16 12 34.5**	**-1.5**
	comp=Z,6.2nm,0.7s,mb4.9,baz=247,slow=5.2,SNR=108					
ILAR			LR	LR	16 44 29.5	
	comp=Z,68nm,20.8s,MS4.0,baz=226,slow=31					
ILAR	**Eielson Array**	**87.15 22**	P	**P**	**16 12 34.5**	**-1.5**
ILAR	**Eielson Array**	**87.15 22**	P	**P**	**16 12 34.5**	**-1.5**
AAK	**Ala-Archa**	**87.22 314**	*e*P	**P**	**16 12 36.6**	**-0.2**
	comp=Z,53nm,1.6s,mb5.5					
AAK	**Ala-Archa**	**87.22 314**	*ce*P	**P**	**16 12 36.0**	**-0.8**
AAK			pmax	pmax		
	comp=Z,18nm,1.7s,mb5.0					
EGAK	**Eagle**	**89.33 23**	*e*P	**P**	**16 12 46.8**	**+0.5**
	comp=Z,5.3nm,0.8s,mb4.9					
DAWY	**Dawson**	**89.75 24**	*e*P	**P**	**16 12 49.3**	**+1.1**
BRVK	**Borovoye**	**92.55 323**	*e*P	**P**	**16 12 59.7**	**-1.9**
	comp=Z,3.5nm,1.0s,mb4.7					
BRVK	**Borovoye**	**92.55 323**	*ce*P	**P**	**16 13 00.2**	**-1.4**
BRVK			pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.8					
NVAR	**Mina Array Bea**	**96.03 52**	P	**P**	**16 13 19.7**	**+1.8**
	comp=Z,2.6nm,0.9s,mb4.7,baz=250,slow=6.4,SNR=16					
NVAR	**Mina Array Bea**	**96.03 52**	P	**P**	**16 13 19.7**	**+1.8**
YKA	**Yellowknife Ar**	**100.31 28**	P	Pdif	16 13 36.2	-0.6
	comp=Z,0.4nm,0.8s,baz=274,slow=4.6,SNR=5.1					
YKA	**Yellowknife Ar**	**100.31 28**	P	Pdif	16 13 36.2	-0.6
YKA	**Yellowknife Ar**	**100.31 28**	P	Pdif	16 13 36.2	-0.6
OBN	**Obninsk**	**112.18 326**	‖	PKIKP	PKiKP	16 18 24.4 -1.3
OBN			*e*		16 19 06.5	
OBN			*e*		16 25 09.6	
OBN			*e*SS	SS	16 34 47.9	+1.5
OBN			pmax	pmax		
	comp=Z,6.0nm,0.6ns					
OBN			MLR	MLR		
	comp=Z,100nm,17.0s,MS4.5					
CLL	**Collm**	**126.53 329**	*e*PKIKP	PKPdf	16 18 53.0	-0.3
GERES	**GERESS Array B**	**127.56 326**	PKP	PKPdf	16 18 55.6	+0.2
	comp=Z,0.6nm,0.7s,baz=48,slow=2.0,SNR=5.9					
GERES	**GERESS Array B**	**127.56 326**	PKP	PKPdf	16 18 55.6	+0.3
GERES	**GERESS Array B**	**127.56 326**	PKIKP	PKPdf	16 18 55.6	+0.2
LPAZ	**La Paz**	**132.92 123**	PKP	PKPdf	16 19 08.5	+2.0
	comp=Z,0.8nm,0.9s,baz=246,slow=4.2,SNR=3.9					
LPAZ	**La Paz**	**132.92 123**	PKIKP	PKPdf	16 19 08.5	+2.0
LPAZ	**La Paz**	**132.92 123**	PKIKP	PKPdf	16 19 08.5	+2.0
SDV	**Santo Domingo**	**138.31 88**	*e*PKPdf	PKPdf	16 19 16.9	+0.2
TAM	**Tamanrasset**	**145.07 296**	*e*PKP	PKPdf	16 19 28.9	+0.5
TAM	**Tamanrasset**	**145.07 296**	*e*PKIKP	PKPdf	16 19 28.9	+0.4
TORD	**Torodi Ar. Bea**	**150.35 279**	PKPbc	PKPbc	16 19 42.5	-0.1
	comp=Z,12nm,0.9s,baz=58,slow=1.9,SNR=45					
TORD	**Torodi Ar. Bea**	**150.35 279**	PKPbc	PKPbc	16 19 42.5	-0.1
DBIC	**Dimbokro**	**156.53 264**	PKPab	PKPab	16 20 15.3	+0.1
	comp=Z,5.1nm,0.8s,baz=90,slow=2.0,SNR=7.2					
DBIC	**Dimbokro**	**156.53 264**	PKPab	PKPab	16 20 15.3	+0.1
DBIC	**Dimbokro**	**156.53 264**	PKP2	PKPab	16 20 15.3	+0.1

NIED ***14*** *16:09:00, 43.°50N×146.°60E, h56km, Mw3.7 Best double couple: M0=4.27000×10^14 NP1:φs=38.00000°, δ=60.00000°, λ=78.00000°. NP2:φs=240.00000°, δ=32.00000°, λ=109.00000°.*
ISCJB ***14*** *16:09:33.1±0.9, 43.°60N±0.°07×146.°63E±0.°09, h59km±6km, mb3.7/8, Error ellipse: s-maj=15.4km s-min=6.4km az=138.3*
MOS ***14*** *16:09:34.3±1.5, 43.°76N×146.°55E, h64km, mb3.9/5, Error ellipse: s-maj=17.7km s-min=14.2km az=103.2*
JMA ***14*** *16:09:34.2±0.2, 43.°53N×146.°58E, h49km±2km, M4.0*
JMA Felt I J1.
IDC ***14*** *16:09:39.7±3.8, 44.°67N×146.°27E, h52km±54km, mb3.4/7, mb1 3.6/9, mb1mx3.3/24, mbtmp3.4/9, ML3.2/2, Error ellipse: s-maj=79.1km s-min=25.4km az=169.0*
NEIC ***14*** *16:09:39.3±2.3, 44.°74N×146.°26E, h45km±29km, MG4.0(JMA), Error ellipse: s-maj=33.9km s-min=18.5km az=173.0*

ISC 14 16:09:33.9±1.0, 43.°59N±0.°07×146.°64E±0.°09, h50km±7km, n44, σ0.85/48, mb3.7/8, 8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.69**	**251**	‖P	**Pn**	**16 09 47.1**	**-0.4**
NEM2				*e*S	**Sn**	**16 09 56.3**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**0.72**	**309**	*i* PN	**Pn**	**16 09 47.4**	**-0.5**
YUK				*i* S	**Sn**	**16 09 57.4**	**-0.6**
YUK				pmax	pmax		
	comp=E,886nm,0.1s						
YUK				pmax	pmax		
	comp=N,425nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=Z,266μm,0.2s						
YUK				smax			
	comp=E,6μm,0.2s						
YUK				smax			
	comp=N,5μm,0.3s						
JRA	**Rausu**	**1.15**	**288**	‖P	**Pn**	**16 09 53.8**	**+0.1**
JRA				*e*S	**Sn**	**16 10 08.4**	**+0.1**
JNK	**Nakash**	**1.39**	**271**	‖P	**Pn**	**16 09 56.7**	**-0.2**
JAK	**Akkeshi**	**1.54**	**248**	‖P	**Pn**	**16 09 58.5**	**-0.4**
JAK				*e*S	**Sn**	**16 10 16.3**	**-1.3**
KUR	**Kuril'sk**	**1.87**	**28**	PN	**Pn**	**16 10 04.0**	**+0.6**
KUR				*i* S	**Sn**	**16 10 25.1**	**-0.7**
KUR				pmax	pmax		
	comp=Z,60nm,0.6s						
KUR				smax			
	comp=N,570nm,0.4s						
KUR				smax			
	comp=E,230nm,0.3s						
JTKR	**Abashiri--Toko**	**2.01**	**282**	‖P	**Pn**	**16 10 06.3**	**+0.9**
JAR	**Ashorobuto**	**2.11**	**263**	‖P	**Pn**	**16 10 07.3**	**+0.6**
JAR				*e*S	**Sn**	**16 10 31.7**	**0.0**
JOB	**Onbets**	**2.16**	**253**	P	**Pn**	**16 10 07.7**	**+0.3**
JOB				*e*S	**Sn**	**16 10 33.0**	**+0.1**
JMP	**Maruseppu**	**2.41**	**281**	‖P	**Pn**	**16 10 12.0**	**+1.2**
JCH	**Churui**	**2.59**	**249**	P	**Pn**	**16 10 13.0**	**-0.3**
ASAJ	**Asahikawa**	**2.97**	**282**	P	**Pn**	**16 10 20.2**	**+1.7**
	comp=E,2.8nm,0.3s,baz=89,slow=17,SNR=23						
ASAJ	**Asahikawa**	**2.97**	**282**	*e*P	**Pn**	**16 10 20.1**	**+1.6**
ASAJ	**Asahikawa**	**2.97**	**282**	PN	**Pn**	**16 10 20.2**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**3.00**	**240**	*e*P	**Pn**	**16 10 22.2**	**+3.3**
ERM	**Erimo**	**3.00**	**240**	*d i*PN	**Pn**	**16 10 21.9**	**+2.9**
YSS	**Yuzh-Sakhalins**	**4.34**	**322**	*e*P	**Pn**	**16 10 37.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.34**	**322**	*e*PN	**Pn**	**16 10 37.8**	**+0.5**
MJAR	**Matsushiro Arr**	**9.55**	**225**	P	Px	16 12 03.5	
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=4.3						
MJAR	**Matsushiro Arr**	**9.55**	**225**	P	Px	16 12 03.5	
MJAR	**Matsushiro Arr**	**9.55**	**225**	PN	Px	16 12 03.5	
SONM	**Songino Array**	**28.19**	**293**	P	**P**	**16 15 21.6**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.4,baz=92,slow=8.6,SNR=4.7						
SONM	**Songino Array**	**28.19**	**293**	P	**P**	**16 15 21.6**	**0.0**
SONM	**Songino Array**	**28.19**	**293**	P	**P**	**16 15 21.6**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**41.84**	**36**	P	**P**	**16 17 18.4**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.3,baz=278,slow=9.6,SNR=9.0						
ILAR	**Eielson Array**	**41.84**	**36**	P	**P**	**16 17 18.4**	**0.0**
ILAR	**Eielson Array**	**41.84**	**36**	P	**P**	**16 17 18.5**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**44.33**	**298**	P	**P**	**16 17 38.2**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.5,baz=78,slow=6.7,SNR=7.3						
MKAR	**Makanchi Array**	**44.33**	**298**	P	**P**	**16 17 38.2**	**-0.7**
MKAR	**Makanchi Array**	**44.33**	**298**	P	**P**	**16 17 38.2**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**56.15**	**34**	P	**P**	**16 19 07.4**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=298,slow=6.5,SNR=5.4						
YKA	**Yellowknife Ar**	**56.15**	**34**	P	**P**	**16 19 07.4**	**-0.5**
YKA	**Yellowknife Ar**	**56.15**	**34**	P	**P**	**16 19 07.4**	**-0.5**
FINES	**FINESS Array B**	**64.85**	**333**	P	**P**	**16 20 06.9**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=37,slow=7.9,SNR=4.2						
FINES	**FINESS Array B**	**64.85**	**333**	P	**P**	**16 20 06.9**	**-0.4**
FINES	**FINESS Array B**	**64.85**	**333**	P	**P**	**16 20 06.9**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**69.59**	**312**	*e*P	**P**	**16 20 38.1**	**+0.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
NOA	**NORSAR Array B**	**69.62**	**339**	P	**P**	**16 20 36.1**	**-1.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=35,slow=6.1,SNR=3.1						
NOA	**NORSAR Array B**	**69.62**	**339**	P	**P**	**16 20 36.1**	**-1.4**
NOA	**NORSAR Array B**	**69.62**	**339**	P	**P**	**16 20 36.1**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.49**	**323**	P	**P**	**16 20 48.1**	**-0.9**
	comp=Z,0.4nm,0.3s,mb3.8,baz=40,slow=6.7,SNR=2.9						
AKASG	**Malin Array Be**	**71.49**	**323**	P	**P**	**16 20 48.1**	**-0.9**
AKASG	**Malin Array Be**	**71.49**	**323**	P	**P**	**16 20 48.1**	**-1.0**
ESK	**Eskdalemuir**	**78.20**	**343**	*i* P	**P**	**16 21 29.9**	**+2.2**

NIC 14 16:22:58.3±0.3, 34.°63N×31.°91E, h25km, ML2.7, MW2.5, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.44**	**54**	P	Pb	16 23 06.9	-0.6
AKMC	**Akamas**	**0.53**	**41**	P	Pb	16 23 08.2	-0.8
ALFC	**Alevga**	**0.78**	**47**	P	Pb	16 23 12.0	-1.1
	4.4nm,0.1s						
ALFC				S	Sb	16 23 22.7	-0.6
SZAC	**Souni-Zanaja**	**0.81**	**81**	P	Pb	16 23 13.8	0.0
SZAC				S	Sb	16 23 23.8	-0.6
MAMC	**Mammari**	**1.21**	**63**	P	Pn	16 23 18.3	-1.2
CSS	**Prodhromos**	**1.22**	**74**	‖P	Pn	16 23 18.1	-1.6
CSS				S	Sn	16 23 32.8	-2.6

CSEM ***14*** *16:23:34.6±0.3, 35.°80N×44.°25E, h2km, ML3.9, Error ellipse: s-maj=10.3km s-min=5.1km az=53.0*
ISK ***14*** *16:23:36.4, 36.°19N×44.°61E, h5km, MD4.0, ML4.0*
ISCJB ***14*** *16:23:37.4±0.5, 36.°03N±0.°03×44.°57E±0.°04, h10km, Error ellipse: s-maj=5.5km s-min=4.3km az=136.1*
TEH ***14*** *16:23:38.8, 35.°91N×44.°58E, h8km*

ISC 14 16:23:37.4±0.4, 35.°93N±0.°03×44.°56E±0.°04, h10km, n67, σ1.56/79, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**1.52**	**330**	*e*PN	**Pn**	**16 24 02.9**	**-1.6**
CUKT				*e*SN	**Sn**	**16 24 22.1**	**-2.3**
CUKT	**Cukurca**	**1.52**	**330**	*e*Pn	**Pn**	**16 24 02.9**	**-1.7**
CUKT				*e*Sn	**Sn**	**16 24 22.1**	**-2.3**
HAKT	**HAKKARI**	**1.76**	**337**	*i* P	**Pn**	**16 24 06.5**	**-1.4**
HAKT	**HAKKARI**	**1.76**	**337**	*i* P	**Pn**	**16 24 06.5**	**-1.4**
HAKT				*i* S	**Sn**	**16 24 32.0**	**+1.6**
HKR	**Hakkari**	**1.77**	**338**	*e*PN	**Pn**	**16 24 06.6**	**-1.4**
HKR				*e*SN	**Sn**	**16 24 28.6**	**-1.9**
HKR	**Hakkari**	**1.77**	**338**	*e*Pn	**Pn**	**16 24 06.6**	**-1.4**
HKR				*e*Sn	**Sn**	**16 24 28.7**	**-1.9**
IDHR	**Dehrash**	**1.94**	**129**	*e*Pn	**Pn**	**16 24 11.0**	**+0.7**
IDHR				*e*		16 24 41.7	
	comp=Z,39μm,0.3s						
IDHR	**Dehrash**	**1.94**	**129**	*e*Pn	**Pn**	**16 24 11.0**	**+0.7**
ILIN	**Lien**	**2.21**	**117**	*e*Pn	**Pn**	**16 24 15.5**	**+1.4**
ILIN				*e*		16 24 53.3	
	comp=Z,5μm,0.2s						
ILIN	**Lien**	**2.21**	**117**	*e*Pn	**Pn**	**16 24 15.5**	**+1.4**
IGHG	**Ghaleghazi**	**2.30**	**134**	*e*Pn	**Pn**	**16 24 16.3**	**+1.0**
IGHG				*e*Sg	**Sg**	**16 24 49.8**	**-1.3**
IGHG				*e*		16 25 04.4	
	comp=Z,9μm,0.5s						
IGHG	**Ghaleghazi**	**2.30**	**134**	*e*Pn	**Pn**	**16 24 16.3**	**+1.0**
IGHG				*e*Sg	**Sg**	**16 24 49.8**	**-1.3**
SIRN	**S¨–rnak**	**2.33**	**313**	*i* P	**Pn**	**16 24 15.1**	**-0.6**
SIRN	**S¨–rnak**	**2.33**	**313**	*i* P	**Pn**	**16 24 15.1**	**-0.6**
IVIS	**Veis**	**2.34**	**126**	*e*Pn	**Pn**	**16 24 17.0**	**+1.1**
IVIS				*e*Sg	**Sg**	**16 24 51.1**	**-1.5**
IVIS	**Veis**	**2.34**	**126**	*e*Pn	**Pn**	**16 24 17.0**	**+1.1**
IVIS				*e*Sg	**Sg**	**16 24 51.1**	**-1.5**
ISHB	**Shabestar**	**2.49**	**20**	*e*Pn	**Pn**	**16 24 19.9**	**+1.9**
ISHB				*e*		16 24 28.8	
	comp=Z,4μm,0.2s						
ISHB				*e*Sg	**Sg**	**16 24 57.1**	**-0.4**
ISHB	**Shabestar**	**2.49**	**20**	*e*Pn	**Pn**	**16 24 19.9**	**+1.9**
ISHB				*e*Sg	**Sg**	**16 24 57.1**	**-0.4**
ITBZ	**Tabriz**	**2.62**	**28**	*e*Pn	**Pn**	**16 24 22.0**	**+2.2**
ITBZ				*e*Sg	**Sg**	**16 25 00.5**	**-1.2**
ITBZ				*e*		16 25 09.8	
	comp=Z,2μm,0.2s						
ITBZ	**Tabriz**	**2.62**	**28**	*e*Pn	**Pn**	**16 24 22.0**	**+2.2**
ITBZ				*e*Sg	**Sg**	**16 25 00.5**	**-1.2**
BHD	**Baghdad**	**2.66**	**183**	*i* x	x	16 24 26.6	
BHD				*i* x	x	16 25 01.0	
GEVA	**Gevas**	**2.66**	**334**	*i* P	**Pn**	**16 24 21.1**	**+0.8**
GEVA	**Gevas**	**2.66**	**334**	*i* P	**Pn**	**16 24 21.1**	**+0.8**
TVAN	**Van**	**2.75**	**341**	*i* P	**Pn**	**16 24 20.7**	**-0.8**
TVAN	**Van**	**2.75**	**341**	*i* P	**Pn**	**16 24 20.7**	**-0.8**
VANB	**Van**	**2.82**	**341**	*e*PN	**Pn**	**16 24 20.8**	**-1.6**
VANB	**Van**	**2.82**	**341**	*e*Pn	**Pn**	**16 24 20.8**	**-1.6**
IMRD	**Marand**	**2.92**	**18**	*e*Pn	**Pn**	**16 24 25.8**	**+1.9**
IMRD				*e*		16 24 37.1	
	comp=Z,2μm,0.3s						
IMRD	**Marand**	**2.92**	**18**	*e*Pn	**Pn**	**16 24 25.8**	**+1.9**
IKOM	**Komasi**	**2.99**	**125**	*e*Pn	**Pn**	**16 24 25.7**	**+0.9**
IKOM				*e*		16 25 24.7	
	comp=Z,4μm,0.3s						
IKOM	**Komasi**	**2.99**	**125**	*e*Pn	**Pn**	**16 24 25.7**	**+0.9**
IHRS	**Heris**	**3.10**	**39**	*e*Pn	**Pn**	**16 24 28.4**	**+2.1**
IHRS				*e*		16 25 37.5	
	comp=Z,3μm,0.6s						
IHRS	**Heris**	**3.10**	**39**	*e*Pn	**Pn**	**16 24 28.4**	**+2.1**
ISRB	**Sarab**	**3.13**	**52**	*e*Pn	**Pn**	**16 24 28.9**	**+2.2**
ISRB				*e*		16 25 30.3	
	comp=Z,2μm,0.4s						
ISRB	**Sarab**	**3.13**	**52**	*e*Pn	**Pn**	**16 24 28.9**	**+2.2**
CLDR	**Caldiran**	**3.25**	**351**	*e*PN	**Pn**	**16 24 26.4**	**-1.9**
CLDR	**Caldiran**	**3.25**	**351**	*e*Pn	**Pn**	**16 24 26.4**	**-1.9**
BEST	**Besiri**	**3.28**	**308**	*i* P	**Pn**	**16 24 31.9**	**+3.0**
AGRB	**Hanur-Agry**	**3.84**	**342**	*e*PN	**Pn**	**16 24 35.9**	**-0.6**
AGRB	**Hanur-Agry**	**3.84**	**342**	*e*Pn	**Pn**	**16 24 35.9**	**-0.6**
VRTB	**Varto-Mus**	**4.06**	**323**	*e*PN	**Pn**	**16 24 39.4**	**-0.1**
VRTB	**Varto-Mus**	**4.06**	**323**	*e*Pn	**Pn**	**16 24 39.4**	**-0.1**
DIYA	**Diyarbakir**	**4.07**	**301**	*i* P	**Pb**	**16 24 47.4**	**-1.7**
GNI	**Garni**	**4.21**	**2**	*e*PN	**Pn**	**16 24 40.9**	**-0.7**
GNI	**Garni**	**4.21**	**2**	*e*Pn	**Pn**	**16 24 40.9**	**-0.7**
BNGB	**Bing¶‖**	**4.34**	**316**	*e*PN	**Pn**	**16 24 43.0**	**-0.4**
BINT	**Bingol**	**4.37**	**313**	*e*Pn	**Pn**	**16 24 43.0**	**-0.8**
URFA	**Urfa**	**4.85**	**290**	*e*PN	**Pn**	**16 24 53.1**	**+2.7**
SVRC	**Sivrice-ELAZID**	**4.85**	**302**	*e*PN	**Pn**	**16 24 51.6**	**+1.2**
PTK	**Pertek**	**5.06**	**307**	*e*PN	**Pn**	**16 24 54.4**	**+1.1**
PTK	**Pertek**	**5.06**	**307**	*e*Pn	**Pn**	**16 24 54.4**	**+1.1**
ERZN	**Erzincan**	**5.29**	**315**	*e*PN	**Pn**	**16 24 56.7**	**+0.3**
MALT	**Malatya**	**5.45**	**298**	*e*PN	**Pn**	**16 25 01.0**	**+2.5**
MYA	**Malataya**	**5.45**	**298**	*e*PN	**Pn**	**16 25 01.0**	**+2.4**
EZC	**Erzincan**	**5.61**	**314**	*e*PN	**Pn**	**16 25 02.4**	**+1.6**
EZC	**Erzincan**	**5.61**	**314**	*e*Pn	**Pn**	**16 24 56.7**	**-4.1**
AKCD	**Akcadag**	**5.80**	**296**	*i* P	**Pn**	**16 24 58.2**	**-5.2**
AKCD	**Akcadag**	**5.80**	**296**	*i* P	**Pn**	**16 24 58.2**	**-5.3**
GAZ	**Gaziantep**	**6.04**	**284**	*e*PN	**Pn**	**16 25 11.7**	**+5.0**
MIB	**Mutribah**	**6.54**	**158**	*e*P	**Pn**	**16 25 10.8**	**-2.9**
MIB				AML	AML	16 26 23.1	
	comp=Z,23nm,0.6s						
MIB	**Mutribah**	**6.54**	**158**	*e*P	**Pn**	**16 25 10.8**	**-2.9**
ANDN	**Andirin**	**6.80**	**286**	*i* P	**Pn**	**16 25 12.4**	**-4.7**
ANDN	**Andirin**	**6.80**	**286**	*i* P	**Pn**	**16 25 12.4**	**-4.7**
NAY	**Al-Naaiem**	**7.04**	**160**	*e*P	**Pn**	**16 25 17.3**	**-3.1**
NAY				AML	AML	16 26 34.6	
	comp=Z,6.0nm,0.4s						
NAY	**Al-Naaiem**	**7.04**	**160**	*e*P	**Pn**	**16 25 17.3**	**-3.2**
RDF	**Al-Radifah**	**7.43**	**159**	*e*P	**Pn**	**16 25 23.5**	**-2.3**
RDF	**Al-Radifah**	**7.43**	**159**	*e*P	**Pn**	**16 25 23.5**	**-2.3**

IDC 14 16:23:57.0±2.0, 8.°40S×129.°64E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.6/15, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=76.1km s-min=27.7km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.40**	**202**	Pn	Pn	16 26 26.6	-0.9
	1.0nm,0.3s,baz=38,slow=14,SNR=23						
FITZ				Sn	Sn	16 28 15.8	-9.1
	0.4nm,0.3s,baz=86,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**12.35**	**159**	Pn	Pn	16 26 55.1	+1.0
	0.6nm,0.3s,baz=342,slow=13,SNR=29						
WRA				Sn	Sn	16 29 05.4	-7.2
	0.2nm,0.3s,baz=332,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**15.72**	**165**	Pn	Pn	16 27 40.0	0.0
	0.2nm,0.3s,baz=349,slow=10,SNR=37						
ASAR				Sn	Sn	16 30 29.1	-5.9
	0.1nm,0.3s,baz=339,slow=25,SNR=4.1						
MKAR	**Makanchi Array**	**69.20**	**327**	P	P	16 35 05.7	+0.2
	0.5nm,0.8s,baz=116,slow=6.8,SNR=2.0						

ISCJB ***14*** *16:25:07.9±0.7, 2.°40S±0.°05×99.°72E±0.°06, h34km, mb3.9/6, Error ellipse: s-maj=8.8km s-min=7.1km az=166.1*
DJA ***14*** *16:25:11, 2.°30S×99.°86E, h39km, MLv4.4/5*
IDC ***14*** *16:25:12.2±1.7, 2.°14S×100.°37E, h34km±4km, mb3.4/6, mb1 3.6/6, mb1mx3.5/20, mbtmp3.5/6, Error ellipse: s-maj=70.3

ellipse: s-maj=16.7km s-min=15.6km az=81.0
*GCMT **14** 16:25:28.2±0.2, 41°.84S×84°.60E, h14km±1km, MW5.1, Moment Tensor Solution. s46,c64; s83,c140; Moment tensor: Scale 10^16Nm; Mrr-0.87±.14; Mθθ5.76±.18; Mφφ-4.89±.15; Mrθ0.62±.30; Mrφ0.23±.12; Mθφ0.09±.28; Best double couple: M0=5.40000×10^16 NP1:φ=134.00000°, δ86.00000°, λ3.00000°. NP2:φ=44.00000°, δ87.00000°, λ175.00000°. Principal axes: T 5.8200, Plg5.0000°, Azm359.0000°; N -0.9300, Plg85.0000°, Azm191.0000°; P -4.9000, Plg1.0000°, Azm89.0000°; Data Used: II IU IC G CN.*

ISC 14 16:25:25.1±0.7, 42°.0S±0°.1×84°.7E±0°.2, h10km, n44, σ0=86/25, mb4.3/14, MS4.3/19, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	27.26	81	LR	LR	16 39 39.3	
	comp=Z,620nm,20.4s,MS4.2,baz=52,slow=31						
MAW	Mawson	28.23	198	LR	LR	16 39 56.9	
	comp=Z,443nm,21.7s,MS4.0,baz=35,slow=31						
FITZ	Fitzroy Crossi	42.18	68	LR	LR	16 48 55.4	
	comp=Z,384nm,18.2s,MS4.3,baz=238,slow=34						
ASAR	Alice Springs	44.58	82	P	P	16 33 37.5	+0.2
	1.4nm,0.8s,mb3.9,baz=225,slow=7.0,SNR=9.6						
ASAR				PcP	PcP	16 35 19.8	-0.5
	0.9nm,0.7s,baz=224,slow=2.4,SNR=4.2						
ASAR	Alice Springs	44.58	82	P	P	16 33 37.5	+0.2
ASAR				PcP	PcP	16 35 19.8	-0.5
STKA	Stephens Creek	45.87	97	P	P	16 33 47.5	0.0
	1.0nm,0.6s,mb3.9,baz=214,slow=3.6,SNR=4.6						
STKA				LR	LR	16 49 15.5	
	comp=Z,451nm,21.7s,MS4.4,baz=217,slow=31						
STKA	Stephens Creek	45.87	97	P	P	16 33 47.5	0.0
WRA	Warramunga Arr	47.18	78	P	P	16 33 58.1	+0.3
	2.8nm,0.8s,mb4.2,baz=233,slow=8.7,SNR=9.4						
WRA				LR	LR	16 51 49.2	
	comp=Z,191nm,19.7s,MS4.1,baz=240,slow=34						
WRA	Warramunga Arr	47.18	78	P	P	16 33 58.1	+0.3
WB2	Warramunga Arr	47.19	78	*eP*	P	16 33 58.0	+0.1
WRAB	Tennant Creek	47.19	78	*eP*	P	16 33 58.3	+0.3
	8.7nm,1.2s,mb4.6						
QSPA	South Pole Qui	48.14	180	P	P	16 34 04.1	-0.5
	2.0nm,0.6s,mb4.4,baz=309,slow=0.5,SNR=15						
QSPA	South Pole Qui	48.14	180	*eP*	P	16 34 04.2	-0.4
	10nm,1.3s,mb4.7						
BOSA	Boshof	49.37	266	LR	LR	16 50 19.9	
	comp=Z,630nm,21.8s,MS4.6,baz=146,slow=30						
SNAA	Sanae	49.99	204	*e*	P	16 34 20.6	+1.7
SNAA	Sanae	49.99	204	P	P	16 34 18.3	-0.6
	0.7nm,0.7s,mb3.8,baz=135,slow=8.8,SNR=4.6						
SNAA	Sanae	49.99	204	P	P	16 34 18.3	-0.6
CTA	Charters Tower	55.88	87	P	P	16 35 02.4	-0.7
	1.6nm,0.4s,mb4.4,baz=212,slow=9.5,SNR=2.1						
CTA				LR	LR	16 57 32.6	
	comp=Z,165nm,18.3s,MS4.2,baz=245,slow=34						
CTA	Charters Tower	55.88	87	P	P	16 35 02.4	-0.7
CM31	Chiang Mai Arr	61.60	15	*eP*	P	16 35 41.4	-1.2
	2.8nm,0.8s,mb4.4						
CMAR	Chiang Mai Arr	61.60	15	P	P	16 35 42.2	-0.4
	1.4nm,0.8s,mb4.1,baz=212,slow=7.5,SNR=14						
CMAR				LR	LR	16 58 35.4	
	comp=Z,143nm,18.2s,MS4.2,baz=190,slow=32						
CMAR	Chiang Mai Arr	61.60	15	P	P	16 35 42.2	-0.4
URZ	Urewera	67.29	122	LR	LR	17 00 38.4	
	comp=Z,100nm,20.7s,MS4.0,baz=129,slow=32						
DZM	Mont Dzumac	69.64	102	*eS*	S	16 45 40.8	-2.5
	91nm,30.5s						
DZM				*eLR*	LR	16 57 31.1	
	349nm,27.9s						
HNR	Honiara	72.82	87	LR	LR	17 03 34.0	
	comp=Z,142nm,19.1s,MS4.3,baz=155,slow=32						
KBL	Kabul	77.52	347	*eP*	P	16 37 20.4	-0.2
	17nm,1.1s,mb4.9						
LZH	Lanzhou	79.68	16	*eP*	P	16 37 32.1	-0.4
	19nm,1.5s,mb4.8						
LZH				pP	pP	16 37 36.7	+0.9
LZH				sP	sP	16 37 39.2	+2.2
KKAR	Karatay Array	85.69	350	*eP*	P	16 38 02.7	-0.9
	6.5nm,0.9s,mb4.9						
KSRS	Korea Array	88.39	33	LR	LR	17 19 47.1	
	comp=Z,60nm,18.1s,MS4.0,baz=0.0,slow=37						
MKAR	Makanchi Array	88.45	358	LR	LR	17 15 32.7	
	comp=Z,200nm,19.6s,MS4.5,baz=181,slow=34						
SONM	Songino Array	91.51	14	P	P	16 38 33.0	+1.8
	1.0nm,1.1s,mb4.0,baz=182,slow=6.9,SNR=3.8						
SONM				LR	LR	17 14 51.3	
	comp=Z,125nm,20.0s,MS4.3,baz=242,slow=32						
SONM	Songino Array	91.51	14	P	P	16 38 33.0	+1.8
KURK	Kurchatov	92.50	356	P	P	16 38 37.6	+1.9
	0.4nm,0.3s,mb4.3,baz=189,slow=4.5,SNR=3.1						
KURK				LR	LR	17 16 51.5	
	comp=Z,169nm,20.0s,MS4.5,baz=185,slow=33						
KURK	Kurchatov	92.50	356	P	P	16 38 37.6	+1.9
TORD	Torodi Ar. Bea	93.54	284	LR	LR	17 17 55.5	
	comp=Z,147nm,20.1s,MS4.4,baz=345,slow=34						
BRTR	Keskin Array B	93.61	323	LR	LR	17 17 00.3	
	comp=Z,90nm,19.4s,MS4.2,baz=128,slow=33						
DBIC	Dimbokro	94.05	275	LR	LR	17 16 12.6	
	comp=Z,181nm,18.7s,MS4.6,baz=136,slow=32						
PLCA	Paso Flores	94.63	199	LR	LR	17 20 50.1	
	comp=Z,188nm,19.7s,MS4.6,baz=183,slow=35						
ZALV	Zalesovo Beam	95.59	0	LR	LR	17 21 20.3	
	comp=Z,96nm,19.3s,MS4.3,baz=72,slow=35						
PPT	Papeete	102.44	128	*eLR*	LR	17 12 49.2	
	189nm,28.0s						
RES	Resolute Bay	147.23	360	PKPbc	PKPbc	16 45 07.2	-0.1
	3.2nm,1.0s,baz=51,slow=6.5,SNR=5.2						
RES	Resolute Bay	147.23	360	PKPbc	PKPbc	16 45 07.2	-0.1
PDAR	Pinedale Array	169.45	81	PKPab	PKPab	16 46 47.8	+2.4
	0.8nm,0.9s,baz=283,slow=5.5,SNR=3.6						
PDAR	Pinedale Array	169.45	81	PKPab	PKPab	16 46 47.8	+2.4

*ISCJB **14** 16:42:04.2±0.9, 32°.9N±0°.1×92°.2E±0°.1, h33km, mb3.5/2, Error ellipse: s-maj=19.1km s-min=9.6km az=148.9*
*IDC **14** 16:42:05.7±8.6, 32°.90N×93°.04E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=254.0km s-min=40.1km az=96.0*
*NEIC **14** 16:42:06.6±0.9, 32°.93N×92°.20E, h35km, Error ellipse: s-maj=20.1km s-min=10.2km az=153.0*

ISC 14 16:42:06.5±0.9, 32°.9N±0°.1×92°.2E±0°.1, h35km, n26, σ0=98/26, mb3.5/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	7.41	226	*eP*	Pn	16 43 52.4	+0.2
JIRN	Jiri	7.41	226	*eP*	Pn	16 43 52.4	+0.2
GUN	Gumba	7.42	229	*eP*	Pn	16 43 53.0	+0.6
GUN	Gumba	7.42	229	*eP*	Pn	16 43 53.0	+0.6
RAMN	Ramite	7.71	221	*eP*	Pn	16 43 55.0	-1.2
	12nm,0.7s						
RAMN	Ramite	7.71	221	*eP*	Pn	16 43 55.0	-1.2
	12nm,0.7s						
KKN	Kakani	7.89	231	*eP*	Pn	16 43 59.9	+1.1
	9.7nm,0.7s						
KKN	Kakani	7.89	231	*eP*	Pn	16 43 59.9	+1.1
	9.7nm,0.7s						
PKI	Pulchoki	7.96	230	*eP*	Pn	16 44 00.0	+0.3
	12nm,0.6s						
PKI	Pulchoki	7.96	230	*eP*	Pn	16 44 00.0	+0.3
	12nm,0.6s						
DMN	Daman	8.13	231	*eP*	Pn	16 44 02.3	+0.2
DMN	Daman	8.13	231	*eP*	Pn	16 44 02.3	+0.2
GKN	Gorkha	8.19	235	*eP*	Pn	16 44 02.8	-0.1
	8.2nm,0.5s						
GKN	Gorkha	8.19	235	*eP*	Pn	16 44 02.8	-0.1
	8.2nm,0.5s						
DANN	Dangsing	8.61	240	*eP*	Pn	16 44 08.8	+0.1
	8.5nm,0.6s						
DANN	Dangsing	8.61	240	*eP*	Pn	16 44 08.8	+0.1
	8.5nm,0.6s						
KOLN	Koldanda	9.06	238	*eP*	Pn	16 44 13.3	-1.5
	3.9nm,0.4s						
KOLN	Koldanda	9.06	238	*eP*	Pn	16 44 13.3	-1.5
	3.9nm,0.4s						
CMAR	Chiang Mai Arr	15.61	156	Pn	Pn	16 45 42.7	-1.3
	0.0nm,0.3s,baz=336,slow=13,SNR=6.7						
CMAR	Chiang Mai Arr	15.61	156	Pn	Pn	16 45 42.7	-1.3
SONM	Songino Array	18.34	32	P	Pn	16 46 17.3	-0.6
	0.1nm,0.3s,baz=228,slow=13,SNR=4.4						
SONM	Songino Array	18.34	32	P	Pn	16 46 17.3	-0.6
WRA	Warramunga Arr	66.19	136	P	P	16 52 53.7	+2.8
	0.6nm,0.9s,mb3.6,baz=324,slow=7.6,SNR=3.4						
WRA	Warramunga Arr	66.19	136	P	P	16 52 53.6	+2.8
ASAR	Alice Springs	68.89	139	P	P	16 53 08.4	+0.6
	0.4nm,0.9s,mb3.4,baz=325,slow=6.1,SNR=5.9						
ASAR	Alice Springs	68.89	139	P	P	16 53 08.4	+0.6

*ISCJB **14** 16:54:46.9±0.3, 24°.83N±0°.07×94°.53E±0°.04, h80km, mb3.8/13, Error ellipse: s-maj=10.3km s-min=3.5km az=25.9*
*NEIC **14** 16:54:48.9±0.3, 24°.90N×94°.66E, mb4.0/4, Error ellipse: s-maj=9.6km s-min=4.4km az=213.0*
*IDC **14** 16:54:49.1±0.8, 24°.94N×94°.85E, h81km±7km, mb3.7/10, mb1 3.8/11, mb1mx3.6/25, mbtmp3.6/11, Error ellipse: s-maj=40.8km s-min=11.1km az=59.0*

ISC 14 16:54:49.1±0.3, 24°.86N±0°.07×94°.55E±0°.04, h82km, h82km±4.1km: pP-P, n64, σ1=26/83, mb3.8/13, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	0.56	262	*e*PKP	Pn	16 55 07.0	+3.5
IMP				*e*S	Sn	16 55 20.0	+5.8
SHL	Shillong	2.51	287	*e*PKP	Pn	16 55 31.0	+3.2
SHL				*e*PG	Pn	16 55 38.5	+11
SHL				*e*S	Sn	16 56 02.0	+4.4
SHL				*e*SG	Sn	16 56 14.0	+16
TAPN	Taplejung	6.63	293	*e*Pn	Pn	16 56 25.3	+1.5
TAPN				*e*Sn	Sn	16 57 37.4	-0.5
	176nm,0.6s						
TAPN	Taplejung	6.63	293	*e*Pn	Pn	16 56 25.3	+1.5
TAPN				*e*Sn	Sn	16 57 37.4	-0.5
ODAN	Odare	6.75	289	*e*Pn	Pn	16 56 27.7	+2.3
ODAN				*e*Sn	Sn	16 57 41.3	+0.5
	165nm,0.4s						
ODAN	Odare	6.75	289	*e*Pn	Pn	16 56 27.7	+2.3
ODAN				*e*Sn	Sn	16 57 41.3	+0.5
CHRT	Chiangrai	6.94	135	P	Pn	16 56 27.0	-1.1
	158nm,0.9s						
CHG	Chiang Mai	7.27	145	P	Pn	16 56 33.6	+0.9
CHTO	Chiang Mai	7.27	145	*e*Pn	Pn	16 56 32.7	+0.1
	6.1nm,0.7s						
KMI	Kunming	7.44	86	P	Pn	16 56 34.4	-0.5
	15nm,0.9s						
RAMN	Ramite	7.45	288	*e*Pn	Pn	16 56 37.1	+2.0
RAMN				*e*Sn	Sn	16 57 58.1	+0.1
	162nm,0.7s						
RAMN	Ramite	7.45	288	*e*Pn	Pn	16 56 37.1	+2.0
RAMN				*e*Sn	Sn	16 57 58.1	+0.1
CM31	Chiang Mai Arr	7.57	146	*e*Pn	Pn	16 56 37.6	+0.9
	3.4nm,0.5s						
CMAR	Chiang Mai Arr	7.57	146	P	Pn	16 56 37.4	+0.6
	0.3nm,0.3s,baz=323,slow=13,SNR=42						
CMAR	Chiang Mai Arr	7.57	146	P	Pn	16 56 37.4	+0.6
JIRN	Jiri	8.00	292	*e*Pn	Pn	16 56 44.5	+1.9
JIRN				*e*Sn	Sn	16 58 11.1	-0.4
	79nm,0.4s						
JIRN	Jiri	8.00	292	*e*Pn	Pn	16 56 44.5	+1.9
JIRN				*e*Sn	Sn	16 58 11.1	-0.4
GUN	Gumba	8.34	293	*e*Pn	Pn	16 56 48.6	+1.4
GUN				*e*Sn	Sn	16 58 18.5	-1.3
	140nm,0.5s						
GUN	Gumba	8.34	293	*e*Pn	Pn	16 56 48.6	+1.4
GUN				*e*Sn	Sn	16 58 18.5	-1.3
PKI	Pulchoki	8.64	290	*e*Pn	Pn	16 56 52.4	+1.2
PKI				*e*Sn	Sn	16 58 25.4	-1.6
	58nm,0.7s						
PKI	Pulchoki	8.64	290	*e*Pn	Pn	16 56 52.4	+1.2
PKI				*e*Sn	Sn	16 58 25.4	-1.6
KKN	Kakani	8.81	291	*e*Pn	Pn	16 56 54.7	+1.1
KKN				*e*Sn	Sn	16 58 30.3	-0.9
	78nm,0.8s						
KKN	Kakani	8.81	291	*e*Pn	Pn	16 56 54.7	+1.1
KKN				*e*Sn	Sn	16 58 30.3	-0.9
DMN	Daman	8.91	290	*e*Pn	Pn	16 56 55.6	+0.7
DMN				*e*Sn	Sn	16 58 31.9	-1.7
	48nm,0.7s						
DMN	Daman	8.91	290	*e*Pn	Pn	16 56 55.6	+0.7
DMN				*e*Sn	Sn	16 58 31.9	-1.7
GKN	Gorkha	9.42	292	*e*Pn	Pn	16 57 02.7	+0.8
GKN				*e*Sn	Sn	16 58 43.9	-2.1
	113nm,0.7s						
GKN	Gorkha	9.42	292	*e*Pn	Pn	16 57 02.7	+0.8
GKN				*e*Sn	Sn	16 58 43.9	-2.1
KOLN	Koldanda	10.24	289	*e*Pn	Pn	16 57 13.1	0.0
KOLN				*e*Sn	Sn	16 59 03.6	-2.5
	38nm,0.5s						
KOLN	Koldanda	10.24	289	*e*Pn	Pn	16 57 13.1	0.0
KOLN				*e*Sn	Sn	16 59 03.6	-2.5
DANN	Dangsing	10.26	292	*e*Pn	Pn	16 57 12.6	-0.7
DANN				*e*Sn	Sn	16 59 03.6	-3.0
	47nm,0.6s						
DANN	Dangsing	10.26	292	*e*Pn	Pn	16 57 12.6	-0.7
DANN				*e*Sn	Sn	16 59 03.6	-3.0
KUDL	Kundal	16.49	285	*ex*	x	17 01 29.6	
KHET	Khetri	17.08	285	*e*PKP	Pn	16 58 43.7	+1.0
KHET				AMb	AMB	16 58 47.4	
	comp=Z,4.2nm,0.4s						
KHET				*ex*	x	17 01 40.5	
MK31	Makanchi Array	23.98	339	*e*P	P	16 59 56.3	+0.5
MKAR	Makanchi Array	23.98	339	P	P	16 59 56.6	+0.8
	comp=Z,1.1nm,0.5s,mb3.4,baz=152,slow=7.9,SNR=10						
MKAR				pP		17 00 14.5	
	comp=Z,2.1nm,0.7s,baz=148,slow=10.0,SNR=8.1						
MKAR	Makanchi Array	23.98	339	P	P	16 59 56.6	+0.8
MKAR				pP		17 00 14.5	
SONM	Songino Array	24.78	19	P	P	17 00 02.1	-1.0
	comp=Z,0.6nm,0.5s,mb3.2,baz=202,slow=10,SNR=6.4						
SONM	Songino Array	24.78	19	P	P	17 00 02.1	-1.0
ULN	Ulaanbaatar	25.01	20	P	P	17 00 03.7	-1.4
	comp=Z,1.0nm,0.8s,mb3.3						
KURK	Kurchatov	28.59	339	P	P	17 00 36.5	-0.8
	comp=Z,0.3nm,0.2s,mb3.5,baz=153,slow=8.6,SNR=2.5						
KURK				pP	pP	17 00 54.3	-1.9
	comp=Z,1.2nm,0.7s,baz=148,slow=9.9,SNR=2.8						
KURK	Kurchatov	28.59	339	P	P	17 00 36.5	-0.8
KURK				pP	pP	17 00 54.3	-1.9
ZALV	Zalesovo Beam	29.95	348	P	P	17 00 49.8	+0.5
	comp=Z,0.5nm,0.5s,mb3.4,baz=167,slow=7.0,SNR=2.4						
ZALV				pP	pP	17 01 08.3	+0.2
	comp=Z,0.6nm,0.5s,baz=147,slow=8.1,SNR=2.4						
ZALV	Zalesovo Beam	29.95	348	P	P	17 00 49.8	+0.5
ZALV				pP	pP	17 01 08.3	+0.2
BVAR	Borovoye Array	33.50	333	PcP	PcP	17 04 00.9	+1.4
	comp=Z,0.3nm,0.5s,baz=149,slow=4.2,SNR=4.0						
BVAR	Borovoye Array	33.50	333	PcP	PcP	17 04 00.9	+1.4
ABKAR	Akbulak array	36.32	321	*e*P	P	17 01 46.0	+1.3
	comp=Z,1.1nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	52.35	142	P	P	17 03 52.0	-0.9
	comp=Z,2.2nm,0.8s,mb4.3,baz=311,slow=9.3,SNR=3.7						
FITZ	Fitzroy Crossi	52.35	142	*e*P	P	17 03 52.1	-0.8
	comp=Z,0.7nm,0.5s,mb4.0						
BRTR	Keskin Array B	52.64	302	pP	pP	17 04 15.7	+0.5
	comp=Z,0.7nm,0.8s,baz=113,slow=9.5,SNR=3.8						
BRTR	Keskin Array B	52.64	302	pP	pP	17 04 15.7	+0.5
AKASG	Malin Array Be	55.68	316	pP	pP	17 04 36.6	-0.5
	comp=Z,1.7nm,0.6s,baz=81,slow=6.4,SNR=4.3						
AKASG	Malin Array Be	55.68	316	pP	pP	17 04 36.6	-0.5
FINES	FINESS Array B	58.21	328	P	P	17 04 35.8	+1.4
	comp=Z,1.6nm,1.0s,mb4.0,baz=94,slow=8.5,SNR=3.1						
FINES	FINESS Array B	58.21	328	P	P	17 04 35.8	+1.4
WRA	Warramunga Arr	59.01	135	P	P	17 04 39.2	-1.3
	comp=Z,2.2nm,0.5s,mb4.4,baz=324,slow=7.3,SNR=22						
WRA	Warramunga Arr	59.01	135	P	P	17 04 39.2	-1.3
WRAB	Tennant Creek	59.01	135	*e*P	P	17 04 39.2	-1.3
	comp=Z,2.1nm,0.6s,mb4.3						
WB2	Warramunga Arr	59.02	135	*e*P	P	17 04 39.4	-1.1
ASAR	Alice Springs	61.50	139	P	P	17 04 56.5	-0.9
	comp=Z,1.3nm,0.6s,mb4.1,baz=320,slow=7.0,SNR=24						
ASAR				pP	pP	17 05 18.9	+0.7
	comp=Z,0.5nm,0.6s,baz=320,slow=7.0,SNR=3.2						
ASAR	Alice Springs	61.50	139	P	P	17 04 56.5	-0.9
ASAR				pP	pP	17 05 18.9	+0.7
PMG	Port Moresby	61.55	117	P	P	17 04 56.8	-1.3
	comp=Z,4.6nm,0.7s,mb4.7,baz=342,slow=6.4,SNR=5.3						
PMG	Port Moresby	61.55	117	P	P	17 04 56.8	-1.3
GERES	GERESS Array B	65.84	314	P	P	17 05 27.4	+1.7
	comp=Z,0.2nm,0.5s,mb3.2,baz=52,slow=6.4,SNR=2.7						
GERES				pP	pP	17 05 47.1	+0.3
	comp=Z,0.9nm,0.8s,baz=75,slow=5.7,SNR=4.9						
GERES	GERESS Array B	65.84	314	P	P	17 05 27.4	+1.7
GERES				pP	pP	17 05 47.1	+0.3

IDC 14 17:00:47.2±4.3, 20°.24S×175°.37W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.4/3, Error ellipse: s-maj=201.1km s-min=37.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.98	256	P	P	17 09 21.6	+1.4
	0.4nm,0.4s,baz=90,slow=7.5,SNR=23						
ASAR				PcP	PcP	17 10 51.2	-1.6
	1.0nm,1.3s,baz=104,slow=3.9,SNR=4.0						
WRA	Warramunga Arr	47.08	261	P	P	17 09 19.9	-1.2
	0.1nm,0.3s,baz=96,slow=7.4,SNR=2.9						
ILAR	Eielson Array	87.53	12	P	P	17 13 36.9	+0.5
	0.1nm,0.4s,baz=218,slow=5.5,SNR=8.3						

TRN 14 17:07:12.6, 15°.23N×61°.18W, h143km, MD3.7, M3.2(FDF), M3.0(FDF), 5C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	La Plaine	0.12	328	*e*P	Pn	17 07 33.3	+1.4
DLPL				*e*S	Sn	17 07 47.6	+1.1
DFBT	Forest Bistro	0.17	273	⇓*i*P	Pn	17 07 33.8	+1.8
DLVT	Layou Valley	0.29	315	*e*S	Sn	17 07 48.4	+1.2
FDF	Fort de France	0.50	177	⇓*e*P	Pn	17 07 34.3	+1.1
FDF				⇓*e*S	Sn	17 07 49.9	+1.1
MGG	Marie-Galante	0.69	349	*e*P	Pn	17 07 35.4	+1.0
BIM	Bigot	0.72	171	⇓*e*P	Pn	17 07 35.5	+1.0
BIM				⇓*e*S	Sn	17 07 53.5	+2.4
MVM	Montagne Vaucl	0.73	158	⇑*e*P	Pn	17 07 35.7	+1.1
MVM				⇑*e*S	Sn	17 07 52.2	+0.9
TBG	Guadaloupe-3	0.76	324	*e*P	Pn	17 07 35.5	+0.6
PHG	Guadaloupe-2	0.90	330	*e*P	Pn	17 07 37.1	+1.2
HMG	Houelmont	0.90	326	*e*P	Pn	17 07 36.9	+1.1
SCG	Saint Claude	0.93	329	⇑*i*P	Pn	17 07 37.4	+1.3
SCG				⇑*e*S	Sn	17 07 55.1	+1.1
BCG	Bois Riant Cap	0.95	334	*e*P	Pn	17 07 37.5	+1.2
LZG	Guadaloupe-1	1.07	328	⇑*i*P	Pn	17 07 38.4	+1.0
DEG	La Desirade	1.08	6	*e*P	Pn	17 07 38.5	+1.0
SLW	Petit Monier	1.23	169	*e*P	Pn	17 07 39.6	+0.7
SLW				*e*S	Sn	17 07 58.9	0.0
SLB	Belfond	1.40	174	*e*P	Pn	17 07 42.0	+1.3
SLB				*e*S	Sn	17 08 03.7	+1.6
MCLT	Moule a Chique	1.53	171	*e*P	Pn	17 07 43.9	+1.9
MCLT				*e*S	Sn	17 08 05.3	+0.8
SVV	Soufriere Volc	1.90	181	*e*P	Pn	17 07 47.3	+1.1
SVV				*e*S	Sn	17 08 13.0	+1.0
SVB	Belmont	1.95	182	*e*P	Pn	17 07 47.9	+1.1
SVB				*e*S	Sn	17 08 13.4	+0.5
FCV	Fort Charlotte	2.06	182	*e*S	Sn	17 08 16.1	+0.8
SKI	Saint Kitts	2.57	325	*e*P	Pn	17 07 55.3	+1.0
TOSP	Speyside	3.96	171	*e*P	Pn	17 08 13.3	+1.1

*ISCJB **14** 17:23:07.4±0.5, 18°.65N±0°.06×64°.22W±0°.02, h65km±5km, mb3.8/9, Error ellipse: s-maj=9.6km s-min=2.9km az=12.1*
*TRN **14** 17:23:07.6, 18°.57N×64°.25W, h44km, M3.5(FDF), MD3.6(RSPR)*
*IDC **14** 17:23:08.1±2.2, 18°.64N×64°.21W, h57km±24km, mb3.5/9, mb1 3.8/9, mb1mx3.6/21, mbtmp3.5/9, Error ellipse: s-maj=25.2km s-min=12.1km az=15.0*
*RSPR **14** 17:23:10.2, 18°.61N×64°.24W, h40km±2km, MD3.6/20*
*NEIC **14** 17:23:10.2, 18°.61N×64°.24W, h40km, mb4.0/1, MD3.6(RSPR), After RSPR.*
NEIC Felt on Saint John.

ISC 14 17:23:08.4±0.5, 18°.66N±0°.06×64°.22W±0°.02, h55km±6km, n90, σ0=70/132, mb3.8/9, 53C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.12	304	⇓*i*P	Pn	17 23 16.9	0.0
ABV	Anegada	0.12	304	⇓*i*P	Pn	17 23 16.9	0.0
TBVI	Tortola	0.45	237	⇑*i*P	Pn	17 23 18.4	-1.0
TBVI	Tortola	0.45	237	*i* Pu	Pn	17 23 18.4	-1.0
TBVI	Tortola	0.45	237	⇑*i*P	Pn	17 23 18.4	-1.0
STVI	Saint Thomas	0.76	246	⇑*e*P	Pn	17 23 22.3	-0.9
STVI	Saint Thomas	0.76	246	⇑*e*P	Pn	17 23 22.3	-0.9
STVI				*e*S	Sn	17 23 32.6	-1.3
STVI	Saint Thomas	0.76	246	⇑*e*P	Pn	17 23 22.3	-0.9
STVI				*e*S	Sn	17 23 32.6	-1.3
CDVI	St. Croix	1.04	210	⇑*e*P	Pn	17 23 26.6	-0.2
CDVI	St. Croix	1.04	210	⇑*e*P	Pn	17 23 26.6	-0.2
CDVI				*e*S	Sn	17 23 39.5	-0.9
CDVI	St. Croix	1.04	210	⇑*e*P	Pn	17 23 26.6	-0.2
CDVI				*e*S	Sn	17 23 39.5	-0.9
SMRT	St. Maarten	1.25	119	⇑*e*P	Pn	17 23 29.4	-0.2
SMRT	St. Maarten	1.25	119	⇑*e*P	Pn	17 23 29.4	-0.2
SMRT				*e*S	Sn	17

LSP	**Las Mesas**	**2.76 260**	⇑*eP*		**Pn**	**17 23 50.5**	**+0.2**
LSP			*e*S		**Sn**	**17 24 22.2**	**-0.2**
LSP	**Las Mesas**	**2.76 260**	⇑*eP*		**Pn**	**17 23 50.5**	**+0.2**
LSP			*e*S		**Sn**	**17 24 22.2**	**-0.2**
LSP	**Las Mesas**	**2.76 260**	⇑*eP*		**Pn**	**17 23 50.5**	**+0.2**
LSP			*e*S		**Sn**	**17 24 22.2**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.82 257**	⇑*eP*		**Pn**	**17 23 51.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.82 257**	⇑*eP*		**Pn**	**17 23 51.5**	**+0.5**
CRPR			*e*S		**Sn**	**17 24 23.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.82 257**	⇑*eP*		**Pn**	**17 23 51.5**	**+0.5**
CRPR			*e*S		**Sn**	**17 24 23.8**	**0.0**
LZG	**Guadaloupe-1**	**3.43 137**	*eP*		**Pn**	**17 23 59.4**	**+0.1**
BCG	**Bois Riant Cap**	**3.57 135**	*eP*		**Pn**	**17 24 02.1**	**+0.8**
SCG	**Saint Claude**	**3.57 137**	*eP*		**Pn**	**17 24 01.4**	**+0.1**
SCG			*e*S		**Sn**	**17 24 41.9**	**-0.3**
HMG	**Houelmont**	**3.59 137**	*eP*		**Pn**	**17 24 01.6**	**0.0**
HMG			*e*S		**Sn**	**17 24 41.9**	**-0.9**
PHG	**Guadaloupe-2**	**3.60 136**	*eP*		**Pn**	**17 24 01.8**	**0.0**
TBG	**Guadaloupe-3**	**3.72 138**	*eP*		**Pn**	**17 24 03.6**	**+0.2**
DEG	**La Desirade**	**3.81 127**	*eP*		**Pn**	**17 24 04.8**	**+0.1**
MGG	**Marie-Galante**	**3.89 134**	*eP*		**Pn**	**17 24 07.3**	**+1.6**
FDF	**Fort de France**	**4.89 143**	*eP*		**Pn**	**17 24 22.9**	**+3.5**
SDDR	**Presa de Saban**	**6.70 274**	*e*Pn		**Pn**	**17 24 44.5**	**+0.2**
	20nm,0.4s						
SDV	**Santo Domingo**	**11.54 213**	Pn		**Pn**	**17 25 50.7**	**+0.2**
	4.8nm,0.6s						
LPAZ	**La Paz**	**34.94 187**	P		**P**	**17 29 54.8**	**-0.5**
	1.5nm,0.8s,mb4.0,baz=16,slow=4.1,SNR=5.4						
LPAZ	**La Paz**	**34.94 187**	P		**P**	**17 29 55.0**	**-0.3**
	1.7nm,0.8s,mb4.0						
TXAR	**Lajitas Array**	**37.41 294**	P		**P**	**17 30 17.6**	**+1.2**
	0.4nm,0.5s,mb3.5,baz=140,slow=7.9,SNR=10.0						
TXAR	**Lajitas Array**	**37.41 294**	P		**P**	**17 30 17.6**	**+1.2**
ULM	**Lac du Bonnet**	**40.36 329**	P		**P**	**17 30 38.6**	**-2.2**
	1.9nm,0.6s,mb4.0,baz=114,slow=6.3,SNR=3.3						
ULM	**Lac du Bonnet**	**40.36 329**	P		**P**	**17 30 38.6**	**-2.2**
PDAR	**Pinedale Array**	**45.09 312**	P		**P**	**17 31 19.6**	**+0.4**
	1.2nm,0.8s,mb3.8,baz=119,slow=9.2,SNR=8.7						
PDAR			PcP		PcP	17 32 58.2	-0.9
	0.2nm,0.5s,baz=133,slow=5.0,SNR=3.2						
PDAR	**Pinedale Array**	**45.09 312**	P		**P**	**17 31 19.6**	**+0.4**
PDAR			PcP		PcP	17 32 58.2	-0.9
NVAR	**Mina Array Bea**	**50.68 305**	P		**P**	**17 32 03.4**	**+0.9**
	0.7nm,0.9s,mb3.6,baz=124,slow=3.9,SNR=4.0						
NVAR	**Mina Array Bea**	**50.68 305**	P		**P**	**17 32 03.4**	**+0.9**
YKA	**Yellowknife Ar**	**55.78 334**	P		**P**	**17 32 38.4**	**-1.1**
	1.4nm,0.7s,mb4.1,baz=109,slow=7.4,SNR=19						
YKA	**Yellowknife Ar**	**55.78 334**	P		**P**	**17 32 38.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**63.34 84**	P		**P**	**17 33 31.4**	**-1.0**
	0.6nm,0.9s,mb3.7,baz=274,slow=7.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**63.34 84**	P		**P**	**17 33 31.4**	**-1.0**
ILAR	**Eielson Array**	**70.17 333**	P		**P**	**17 34 14.2**	**-0.9**
	0.5nm,0.6s,mb3.6,baz=103,slow=4.3,SNR=9.4						
ILAR	**Eielson Array**	**70.17 333**	P		**P**	**17 34 14.2**	**-0.9**
ARCES	**ARCESS Array B**	**72.58 22**	P		**P**	**17 34 29.7**	**+0.2**
	0.6nm,0.5s,mb3.8,baz=276,slow=4.8,SNR=6.3						
ARCES	**ARCESS Array B**	**72.58 22**	P		**P**	**17 34 29.7**	**+0.2**

*ISCJB **14** 17:36:23.1±1.1, 52°.6N±0°.1×169°.5W±0°.1, h54km±7km, mb3.9/17, Error ellipse: s-maj=22.4km s-min=8.6km az=161.0*
*NEIC **14** 17:36:24.8±0.9, 52°.67N×169°.40W, h51km±6km, mb3.8/1, ML3.3(AEIC), Error ellipse: s-maj=16.5km s-min=6.8km az=167.0*
*IDC **14** 17:36:25.0±3.1, 52°.69N×169°.40W, h52km±27km, mb3.6/15, mb1 3.8/19, mb1mx3.7/32, mbtmp3.6/19, ML3.6/4, Error ellipse: s-maj=25.8km s-min=13.6km az=171.0*

ISC 14 17:36:24.2±1.1, 52°.6N±0°.1×169°.5W±0°.1, h47km±8km, n53, σ0°99/57, mb3.9/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.52**	**48**	P	**Pn**	**17 36 34.1**	**-1.5**
OKSP	**Okmok Steeple**	**0.96**	**49**	P	**Pn**	**17 36 40.5**	**-0.8**
OKSP				S	**Sn**	**17 36 52.6**	**-1.3**
OKWE	**Okmok W'ng Wal**	**1.14**	**41**	P	**Pn**	**17 36 44.5**	**+0.8**
OKAK	**Okmok**	**1.17**	**35**	P	**Pn**	**17 36 42.8**	**-1.4**
OKRE	**Okmok R'deer P**	**1.20**	**41**	P	**Pn**	**17 36 45.6**	**+1.0**
MSOM	**Makushin Julie**	**1.94**	**51**	P	**Pn**	**17 36 54.8**	**+0.2**
MREP	**Makushin Rep't**	**2.03**	**53**	P	**Pn**	**17 36 55.5**	**-0.4**
MREP				S	**Sn**	**17 37 22.7**	**+2.6**
MCIR	**Makushin Cirqu**	**2.05**	**49**	P	**Pn**	**17 36 56.9**	**+0.7**
MSW	**Makushin Switc**	**2.08**	**50**	P	**Pn**	**17 36 57.2**	**+0.6**
MSW				S	**Sn**	**17 37 22.5**	**+1.4**
UNV	**Unalaska Valle**	**2.17**	**55**	P	**Pn**	**17 36 57.6**	**-0.3**
UNV				S	**Sn**	**17 37 24.8**	**+1.3**
AKUT	**Akutan**	**2.69**	**54**	P	**Pn**	**17 37 04.5**	**-0.4**
FX1	**Attu Island--F**	**10.52 278**		P	**Pn**	**17 38 53.7**	**+1.5**
	1.0nm,0.3s,baz=90,slow=23,SNR=12						
FX1	**Attu Island--F**	**10.52 278**		P	**Pn**	**17 38 53.7**	**+1.5**
KDAK	**Kodiak Island**	**10.94**	**55**	P	**Pn**	**17 38 56.9**	**-1.0**
	0.4nm,0.3s,baz=137,slow=18,SNR=3.3						
KDAK	**Kodiak Island**	**10.94**	**55**	P	**Pn**	**17 38 56.9**	**-1.0**
ILAR	**Eielson Array**	**16.78**	**35**	P	**Pn**	**17 40 13.9**	**-1.6**
	0.1nm,0.3s,baz=224,slow=9.0,SNR=11						
ILAR	**Eielson Array**	**16.78**	**35**	P	**Pn**	**17 40 13.9**	**-1.6**
PETK	**Petropavlovsk-**	**19.72 285**		P	**Pn**	**17 40 50.2**	**-1.1**
	0.8nm,0.3s,baz=93,slow=13,SNR=20						
PETK	**Petropavlovsk-**	**19.72 285**		P	**Pn**	**17 40 50.2**	**-1.1**
INK	**Inuvik**	**23.17**	**34**	P	**P**	**17 41 25.0**	**-1.3**
	1.3nm,0.6s,mb3.6,baz=245,slow=11,SNR=9.5						
INK	**Inuvik**	**23.17**	**34**	*e*P	**P**	**17 41 24.9**	**-1.5**
	4.8nm,1.1s,mb3.8						
YKA	**Yellowknife Ar**	**30.13**	**49**	P	**P**	**17 42 29.8**	**+0.8**
	0.7nm,0.5s,mb3.7,baz=271,slow=7.8,SNR=34						
YKA	**Yellowknife Ar**	**30.13**	**49**	P	**P**	**17 42 29.8**	**+0.8**
PDAR	**Pinedale Array**	**40.43**	**79**	P	**P**	**17 43 57.8**	**+0.2**
	0.9nm,0.5s,mb3.7,baz=289,slow=3.7,SNR=10						
PDAR	**Pinedale Array**	**40.43**	**79**	P	**P**	**17 43 57.8**	**+0.2**
SONM	**Songino Array**	**51.10 301**		P	**P**	**17 45 22.5**	**+0.8**
	0.3nm,0.4s,mb3.6,baz=65,slow=5.2,SNR=6.4						
SONM	**Songino Array**	**51.10 301**		P	**P**	**17 45 22.5**	**+0.8**
JOW	**Kunigami**	**52.44 266**		P	**P**	**17 45 34.0**	**+2.1**
	15nm,0.4s,baz=94,slow=19,SNR=6.1						
JOW	**Kunigami**	**52.44 266**		P	**P**	**17 45 34.0**	**+2.1**
TXAR	**Lajitas Array**	**52.82 89**		P	**P**	**17 45 34.8**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=298,slow=5.4,SNR=5.1						
TXAR	**Lajitas Array**	**52.82 89**		P	**P**	**17 45 34.8**	**+0.1**
ARCES	**ARCESS Array B**	**57.66 354**		P	**P**	**17 46 09.1**	**+0.1**
	2.5nm,0.9s,mb4.2,baz=29,slow=8.6,SNR=5.4						
ARCES	**ARCESS Array B**	**57.66 354**		P	**P**	**17 46 09.1**	**+0.1**
KURK	**Kurchatov**	**62.13 318**		P	**P**	**17 46 40.9**	**+0.9**
	0.7nm,0.5s,mb4.1,baz=46,slow=7.3,SNR=8.2						
KURK	**Kurchatov**	**62.13 318**		P	**P**	**17 46 40.9**	**+0.9**
BVAR	**Borovoye Array**	**63.45 324**		P	**P**	**17 46 49.0**	**+0.4**
	1.2nm,0.6s,mb4.2,baz=49,slow=6.4,SNR=14						
BVAR	**Borovoye Array**	**63.45 324**		P	**P**	**17 46 49.0**	**+0.4**
MKAR	**Makanchi Array**	**63.58 313**		P	**P**	**17 46 49.5**	**0.0**
	0.4nm,0.7s,mb3.5,baz=44,slow=5.7,SNR=4.4						
MKAR	**Makanchi Array**	**63.58 313**		P	**P**	**17 46 49.5**	**0.0**
JOF	**Joensuu**	**63.64 350**	*ep*		**P**	**17 46 49.6**	**-0.2**
	2.0nm,0.7s,mb4.3						
KAF	**Kangasniemi**	**64.92 352**	*ep*		**P**	**17 46 56.9**	**-1.3**
	0.9nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**65.61 352**	P		**P**	**17 47 02.5**	**-0.1**
	1.3nm,0.6s,mb4.1,baz=19,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**65.61 352**	P		**P**	**17 47 02.5**	**-0.1**
NOA	**NORSAR Array B**	**66.68 360**	P		**P**	**17 47 08.8**	**-0.7**
	1.3nm,0.8s,mb4.0,baz=3.6,slow=7.1,SNR=2.9						
NOA	**NORSAR Array B**	**66.68 360**	P		**P**	**17 47 08.8**	**-0.7**
AKTO	**Aktyubinsk**	**69.75 330**	P		**P**	**17 47 29.1**	**+0.2**
	1.5nm,0.6s,mb4.1,baz=58,slow=6.5,SNR=6.1						
AKTO	**Aktyubinsk**	**69.75 330**	P		**P**	**17 47 29.1**	**+0.2**
AKASG	**Malin Array Be**	**75.84 348**	P		**P**	**17 48 04.4**	**-0.5**
	0.8nm,0.4s,mb4.0,baz=13,slow=5.5,SNR=5.7						
AKASG	**Malin Array Be**	**75.84 348**	P		**P**	**17 48 04.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**76.49 283**	P		**P**	**17 48 09.6**	**+0.4**
	2.2nm,0.8s,mb4.1,baz=24,slow=6.9,SNR=17						
CMAR	**Chiang Mai Arr**	**76.49 283**	P		**P**	**17 48 09.6**	**+0.4**
ASAR	**Alice Springs**	**90.50 230**	P		**P**	**17 49 19.6**	**-1.1**
	0.3nm,0.7s,mb3.7,baz=27,slow=4.8,SNR=7.5						
ASAR	**Alice Springs**	**90.50 230**	P		**P**	**17 49 19.6**	**-1.1**

WEL 14 17:45:34.8±0.6, 38°.51S×175°.74E, h162km±5km, ML3.5/12, Error ellipse: s-maj=3.8km s-min=3.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	**Whakapapa**	**0.71 192**		PN	Pn	17 45 58.9	+0.3
FWVZ	**Far West T-bar**	**0.76 191**		PN	Pn	17 45 59.2	+0.3
WNVZ	**Wahianoa**	**0.82 188**		PN	Pn	17 45 59.6	+0.3
MOVZ	**Moawhango**	**0.89 179**		PN	Pn	17 45 59.7	-0.2
MTVZ	**Mangateitei**	**0.90 193**		PN	Pn	17 46 00.1	+0.2
BHHZ	**Black Hill Sta**	**1.01 166**		PN	Pn	17 46 00.5	-0.2
NMHZ	**Naumai**	**1.02 125**		PN	Pn	17 46 01.7	+0.9
NMHZ				SN	Sn	17 46 21.0	+0.2
URZ	**Urewera**	**1.11 77**		PN	Pn	17 46 01.3	-0.2
URZ				SN	Sn	17 46 20.1	-2.0
RAHZ	**Arahi**	**1.13 111**		SN	Sn	17 46 21.8	-0.6
MCHZ	**McNeill Hill**	**1.19 141**		PN	Pn	17 46 03.0	+0.8
PNHZ	**Pukenui**	**1.45 166**		PN	Pn	17 46 04.3	-0.3
CKHZ	**Cape Kidnapper**	**1.55 138**		PN	Pn	17 46 06.0	+0.3
TSZ	**Takapari Road**	**1.55 174**		PN	Pn	17 46 05.4	-0.4
TSZ				SN	Sn	17 46 28.1	-1.6
KAHZ	**Kahuranaki**	**1.56 146**		PN	Pn	17 46 06.0	+0.2
KNZ	**Kokohu**	**1.60 109**		SN	Sn	17 46 28.6	-1.8
WPHZ	**Waipukurau**	**1.64 161**		PN	Pn	17 46 06.4	-0.3
PXZ	**Pawanui**	**1.75 150**		PN	Pn	17 46 07.4	-0.4
MHGZ	**Mahia Peninsul**	**1.81 111**		PN	Pn	17 46 08.8	+0.3
DVHZ	**Dannevirke**	**1.81 170**		PN	Pn	17 46 07.7	-0.8
PRHZ	**Porangahau**	**1.89 159**		PN	Pn	17 46 08.8	-0.5
PUZ	**Puketiti**	**2.03 78**		PN	Pn	17 46 10.6	-0.3
PUZ				SN	Sn	17 46 36.2	-2.6
MRZ	**Mangatainoka R**	**2.15 183**		PN	Pn	17 46 10.4	-1.9
BFZ	**Birch Farm**	**2.20 170**		PN	Pn	17 46 11.8	-1.1
TIWZ	**Tintock**	**2.26 177**		PN	Pn	17 46 12.5	-1.2
OGWZ	**Otaki Gorge**	**2.34 191**		PN	Pn	17 46 13.3	-1.3
HOWZ	**Holdsworth Sta**	**2.39 184**		PN	Pn	17 46 13.6	-1.5
KIW	**Kapiti Island**	**2.43 195**		PN	Pn	17 46 14.0	-1.6
CAW	**Cannon Point**	**2.64 191**		PN	Pn	17 46 16.4	-1.7
MTW	**Mount Morrison**	**2.65 184**		PN	Pn	17 46 14.3	-3.9
TRWZ	**Traveller**	**2.88 181**		PN	Pn	17 46 19.2	-1.9
TCW	**Tory Channel**	**2.92 202**		PN	Pn	17 46 19.7	-1.8
PLWZ	**Palliser**	**3.08 187**		PN	Pn	17 46 21.0	-2.4
THZ	**Tophouse**	**3.91 213**		PN	Pn	17 46 31.6	-2.4
KHZ	**Kahutara**	**4.25 203**		PN	Pn	17 46 35.8	-2.6

*IDC **14** 17:51:38.4±2.7, 37°.10N×142°.46E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/23, mbtmp3.3/3, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=55.5km s-min=33.5km az=40.0*
*JMA **14** 17:51:42.5±0.2, 37°.24N×142°.12E, h38km, M3.4*
*ISCJB **14** 17:51:43.7±1.2, 37°.25N±0°.05×142°.08E±0°.09, h33km, mb3.2/2, Error ellipse: s-maj=11.1km s-min=6.1km az=31.4*

ISC 14 17:51:44.7±1.1, 37°.25N±0°.05×142°.06E±0°.08, h35km, n16, σ1°05/24, mb3.2/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.95 277**		P	**Pn**	**17 52 00.4**	**-1.1**
JFK				S	**Sn**	**17 52 13.0**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.02 262**		P	**Pn**	**17 52 01.3**	**-1.2**
ONAJ				S	**Sn**	**17 52 14.7**	**-0.8**
JMM	**Marumori**	**1.18 302**		P	**Pn**	**17 52 03.7**	**-0.9**
JMM				S	**Sn**	**17 52 18.7**	**-0.7**
JIO	**Ouri**	**1.32 335**		P	**Pn**	**17 52 05.5**	**-1.2**
JIO				S	**Sn**	**17 52 22.1**	**-1.0**
JFT	**Otama**	**1.40 281**		P	**Pn**	**17 52 07.7**	**0.0**
JFT				S	**Sn**	**17 52 26.1**	**+1.2**
JOU	**Okura**	**1.56 316**		P	**Pn**	**17 52 10.3**	**+0.3**
JMK	**Ichinoseki**	**1.82 339**		P	**Pn**	**17 52 13.6**	**+0.1**
JMK				S	**Sn**	**17 52 35.7**	**+0.4**
JFY	**Yanaizu**	**1.88 275**		P	**Pn**	**17 52 15.2**	**+0.9**
JYK	**Kaneyama**	**2.13 322**		P	**Pn**	**17 52 19.0**	**+1.2**
JAG	**Ashikaga**	**2.25 249**		P	**Pn**	**17 52 18.9**	**-0.5**
JAG				*e*S	**Sn**	**17 52 45.5**	**-0.4**
JOM	**Ohasama**	**2.29 345**		P	**Pn**	**17 52 20.5**	**+0.5**
MJAR	**Matsushiro Arr**	**3.17 258**		Pn	**Pn**	**17 52 33.1**	**+1.1**
	2.2nm,0.3s,baz=94,slow=15,SNR=21						
MJAR				Sn	**Sn**	**17 53 16.1**	**+7.5**
	1.5nm,0.3s,baz=318,slow=30,SNR=6.2						
MAT	**Matsushiro**	**3.17 258**		P	**Pn**	**17 52 34.0**	**+2.0**
MAT				*e*S	**Sn**	**17 53 12.0**	**+3.4**
JOW	**Kunigami**	**15.62 232**		LR	LR	18 00 40.3	
	comp=Z,82nm,20.5s,baz=149,slow=34						
SONM	**Songino Array**	**28.09 303**		P	**P**	**17 57 34.7**	**+1.8**
	0.2nm,0.5s,mb3.0,baz=106,slow=10.0,SNR=4.3						
WRA	**Warramunga Arr**	**57.35 189**		P	**P**	**18 01 27.9**	**-1.4**
	0.3nm,0.8s,mb3.4,baz=6.1,slow=6.9,SNR=3.2						

MAN 14 18:08:30.7°.28N×125°.81E, h31km, mb4.9, ML3.8, MS3.8, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.35 237**	⇑*eP*		Pb	18 08 39.9	+1.6
DMPH				*e*S	Sb	18 08 42.6	-1.2
MATI	**Mati**	**0.56 126**		*e*P	Pb	18 08 42.9	+1.5
MATI				*e*S	Sb	18 08 51.4	+2.2
KCP	**Kidapawan**	**0.76 250**	⇑*eP*		Pn	18 08 49.7	+5.1
KCP				*i* S	Sb	18 09 00.5	+5.7
BUKP	**Musuan**	**0.95 309**		*e*P	Pn	18 08 46.9	-0.3
BUKP				*e*S	Sn	18 08 55.4	-4.4
CGP	**Cagayan de Oro**	**1.61 317**	⇑*i*P		Pn	18 08 57.2	+0.9

*ISCJB **14** 18:55:22.4±0.8, 13°.2N±0°.1×88°.96W±0°.05, h68km±6km, mb3.4/4, Error ellipse: s-maj=17.7km s-min=5.0km az=19.5*
*CASC **14** 18:55:23.3±2.6, 13°.24N×88°.96W, h60km±14km, MD3.8, ML4.2*
*IDC **14** 18:55:24.4±2.3, 13°.23N×88°.86W, h94km±18km, mb3.0/4, mb1 3.5/7, mb1mx3.3/21, mbtmp3.2/7, MS2.7/1, Ms1 2.7/1, ms1mx2.2/12, Error ellipse: s-maj=43.2km s-min=18.8km az=41.0*
*NEIC **14** 18:55:24.4±1.3, 13°.22N×88°.86W, h91km±11km, MD4.1(SNET), Error ellipse: s-maj=28.4km s-min=12.8km az=49.0*
NEIC Felt [II] at Zacatecoluca.

ISC 14 18:55:23.3±0.8, 13°.18N±0°.10×88°.96W±0°.05, h60km±7km, n42, σ1°09/47, mb3.4/4, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.29 342**		*e*P	**Pn**	**18 55 32.1**	**-1.3**
AIES				*e*S	**Sn**	**18 55 40.0**	**-0.6**
AIES				AML	AML	18 55 41.6	
	comp=Z,14μm,0.2s						
SNVI	**San Vicente**	**0.45 15**		*e*P	**Pn**	**18 55 34.4**	**-0.3**
SNVI				*e*S	**Sn**	**18 55 45.1**	**+2.1**
SNET	**Serv Nac Est T**	**0.57 332**		*e*P	**Pn**	**18 55 35.2**	**-0.8**
SNET				*e*S	**Sn**	**18 55 44.0**	**-1.4**
SNET				AML	AML	18 55 46.6	
	comp=Z,7μm,0.2s						
BOQS	**Boqueron**	**0.64 331**		*e*P	**Pn**	**18 55 36.3**	**-0.5**
BOQS				*e*S	**Sn**	**18 55 47.9**	**+1.3**
VSM	**San Miguel**	**0.71 69**		*e*P	**Pn**	**18 55 37.6**	**0.0**
BLLM	**Bellamira**	**0.75 69**		*e*P	**Pn**	**18 55 37.6**	**-0.5**
SBLS	**San Blas**	**0.92 316**		*e*P	**Pn**	**18 55 40.1**	**-0.2**
SNJE	**San Jose**	**0.93 318**		*e*P	**Pn**	**18 55 40.0**	**-0.5**
CAHU	**Cacacuatique**	**0.94 51**		*e*P	**Pn**	**18 55 40.7**	**+0.2**
RTR	**El Retiro**	**0.98 317**		*e*P	**Pn**	**18 55 40.9**	**-0.2**
CNCH	**Conchagua**	**1.10 85**		*e*P	**Pn**	**18 55 41.8**	**-0.8**
CNCH				*e*S	**Sn**	**18 55 57.2**	**+0.3**
MTO2	**Montecristo 2**	**1.28 342**		*e*P	**Pn**	**18 55 45.2**	**+0.2**
IXG	**Ixpaco**	**1.76 305**		*e*P	**Pn**	**18 55 51.4**	**-0.1**
IXG				*e*S	**Sn**	**18 56 12.9**	**+0.1**
NBG	**Las Nubes**	**1.95 316**		*e*P	**Pn**	**18 55 53.7**	**-0.3**
NBG				*e*S	**Sn**	**18 56 11.4**	**-5.9**
PCG	**Pacaya**	**2.01 307**		*e*P	**Pn**	**18 55 56.3**	**+1.5**
PCG				*e*S	**Sn**	**18 56 17.8**	**-1.2**
FUG	**Fuego 3**	**2.23 305**		*e*P	**Pn**	**18 55 58.6**	**+0.8**
FUG				*e*S	**Sn**	**18 56 21.1**	**-3.0**
FG6		**2.32 307**		*e*P	**Pn**	**18 56 00.3**	**+1.2**
FG6				*e*S	**Sn**	**18 56 24.7**	**-1.8**
JAT	**Jato**	**2.84 294**		*e*P	**Pn**	**18 56 08.6**	**+2.4**
JAT				*e*S	**Sn**	**18 56 39.5**	**+0.3**
JTS	**JuntasAbangare**	**4.86 126**		P	**Pn**	**18 56 34.2**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=315,slow=20,SNR=6.6						
JTS				S	**Sn**	**18 57 41.2**	**+12**
	comp=Z,3.0nm,0.3s,baz=302,slow=23,SNR=10.0						
JTS	**JuntasAbangare**	**4.86 126**		P	**Pn**	**18 56 34.2**	**+0.4**
JTS				S	**Sn**	**18 57 41.2**	**+12**
CMIG	**Matias Romero**	**6.92 305**		P	**Pn**	**18 57 03.4**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=152,slow=5.8,SNR=7.3						
CMIG				S	**Sn**	**18 58 21.6**	**+2.2**
	comp=Z,1.2nm,0.3s,baz=51,slow=18,SNR=3.7						
CMIG	**Matias Romero**	**6.92 305**		P	**Pn**	**18 57 03.4**	**+1.3**
CMIG				S	**Sn**	**18 58 21.6**	**+2.2**
TEIG	**Tepich**	**7.04 5**		P	**Pn**	**18 57 05.4**	**+1.3**
	comp=Z,4.1nm,0.3s,baz=220,slow=6.5,SNR=22						
TEIG				LR	LR	19 00 14.4	
	comp=Z,62nm,20.8s,baz=352,slow=42						
TEIG	**Tepich**	**7.04 5**		P	**Pn**	**18 57 05.0**	**+1.2**
TXAR	**Lajitas Array**	**21.09 322**		P	**P**	**19 00 02.5**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.1,baz=146,slow=12,SNR=6.3						
TXAR	**Lajitas Array**	**21.09 322**		P	**P**	**19 00 02.5**	**-0.3**
PDAR	**Pinedale Array**	**34.45 333**		P	**P**	**19 02 04.4**	**-0.7**
	comp=Z,0.3nm,0.8s,mb3.3,baz=139,slow=11,SNR=2.9						
PDAR				PcP	PcP	19 04 37.0	-2.5
	comp=Z,0.3nm,0.4s,baz=127,slow=5.8,SNR=3.7						
PDAR	**Pinedale Array**	**34.45 333**		P	**P**	**19 02 04.5**	**-0.7**
PDAR				PcP	PcP	19 04 37.0	-2.5
NVAR	**Mina Array Bea**	**36.19 319**		PcP	PcP	19 04 44.3	-0.4
	comp=Z,0.5nm,0.7s,baz=130,slow=2.7,SNR=4.6						
NVAR	**Mina Array Bea**	**36.19 319**		PcP	PcP	19 04 44.3	-0.4
YKA	**Yellowknife Ar**	**52.53 345**		P	**P**	**19 04 26.7**	**-3.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=142,slow=7.6,SNR=21						
YKA	**Yellowknife Ar**	**52.53 345**		P	**P**	**19 04 26.8**	**-3.5**
ILAR	**Eielson Array**	**64.77 336**		P	**P**	**19 05 51.5**	**-3.7**
	comp=Z,0.2nm,0.5s,mb3.4,baz=168,slow=4.3,SNR=7.2						
ILAR	**Eielson Array**	**64.77 336**		P	**P**	**19 05 51.5**	**-3.7**
SONM	**Songino Array**	**117.74 348**		PKP	PKPdf	19 13 59.1	-3.9
	comp=Z,0.2nm,0.7s,baz=354,slow=4.5,SNR=1.8						
SONM	**Songino Array**	**117.74 348**		PKP	PKPdf	19 13 59.0	-3.9
WRA	**Warramunga Arr**	**138.05 255**		PKP	PKPdf	19 14 40.6	-1.6
	comp=Z,0.3nm,0.7s,baz=89,slow=2.4,SNR=4.2						
WRA	**Warramunga Arr**	**138.05 255**		PKP	PKPdf	19 14 40.6	-1.6
ASAR	**Alice Springs**	**138.16 249**		PKP	PKPdf	19 14 40.7	-1.7
	comp=Z,0.1nm,0.7s,baz=82,slow=2.0,SNR=3.0						
ASAR	**Alice Springs**	**138.16 249**		PKP	PKPdf	19 14 40.6	-1.7
CMAR	**Chiang Mai Arr**	**147.62 346**		PKPbc	PKPbc	19 14 58.6	-3.2
	comp=Z,0.5nm,0.8s,baz=352,slow=5.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**147.62 346**		PKPbc	PKPbc	19 14 58.6	-3.2

*NIED **14** 19:24:00, 37°.10N×142°.30E, h26km, Mw4.0 Best double couple: M0:1.14000×10^15 NP1:φs351.00000°, δ73.00000°, λ101.00000°. NP2:φs136.00000°, δ20.00000°, λ57.00000°.*
*JMA **14** 19:24:02.0±0.2, 37°.11N×142°.33E, h18km±3km, M4.2*
*IDC **14** 19:24:02.1±0.7, 37°.09N×142°.18E, h0km, mb3.9/13, mb1 4.1/15, mb1mx4.0/25, mbtmp3.9/15, ML3.6/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/38, Error ellipse: s-maj=19.6km s-min=16.3km az=116.0*
*ISCJB **14** 19:24:02.4±1.5, 37°.14N±0°.04×142°.

MK31 Makanchi Array 44.59 302 *eP* **P** **19 32 16.2 -0.1**
MK31 Makanchi Array 44.59 302 *eP* **P** **19 32 16.2 -0.1**
MKAR Makanchi Array 44.59 302 P **P** **19 32 16.0 -0.3**
comp=Z,1.9nm,0.8s,mb4.1,baz=84,slow=9.6,SNR=16
MKAR Makanchi Array 44.59 302 P **P** **19 32 16.0 -0.3**
MKAR Makanchi Array 44.59 302 P **P** **19 32 16.0 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 46.35 308 *eP* **P** **19 32 29.8 -0.4**
comp=Z,5.8nm,0.6s,mb4.8
KURK *e* 19 34 03.0
KURK Kurchatov 46.35 308 *eP* **P** **19 32 29.8 -0.4**
KURK *e* 19 34 03.0
KURK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
TAPN Taplejung 46.58 274 *eP* **P** **19 32 34.3 +2.0**
comp=Z,6.6nm,0.5s,mb5.0
TAPN Taplejung 46.58 274 *eP* **P** **19 32 34.3 +2.0**
comp=Z,6.6nm,0.5s,mb5.0
ODAN Odare 47.05 274 *eP* **P** **19 32 39.9 +3.9**
comp=Z,7.2nm,0.6s,mb5.0
ODAN Odare 47.05 274 *eP* **P** **19 32 39.9 +3.9**
JIRN Jiri 47.65 275 *eP* **P** **19 32 41.6 +0.9**
JIRN Jiri 47.65 275 *eP* **P** **19 32 41.6 +0.9**
GUN Gumba 47.79 276 *eP* **P** **19 32 41.5 -0.2**
comp=Z,18nm,0.8s,mb5.2
GUN Gumba 47.79 276 *eP* **P** **19 32 41.5 -0.2**
KKN Kakani 48.31 276 *eP* **P** **19 32 46.3 +0.5**
comp=Z,7.0nm,0.7s,mb4.9
KKN Kakani 48.31 276 *eP* **P** **19 32 46.3 +0.5**
KKN Kakani 48.31 276 *eP* **P** **19 32 46.3 +0.5**
GKN Gorkha 48.73 277 *eP* **P** **19 32 49.3 +0.3**
comp=Z,24nm,1.2s,mb5.1
GKN Gorkha 48.73 277 *eP* **P** **19 32 49.3 +0.3**
comp=Z,24nm,1.2s,mb5.1
ILAR Eielson Array 49.02 32 P **P** **19 32 51.1 +0.4**
comp=Z,1.7nm,0.8s,mb4.1,baz=267,slow=6.5,SNR=23
ILAR Eielson Array 49.02 32 P **P** **19 32 51.1 +0.4**
ILAR Eielson Array 49.02 32 P **P** **19 32 51.2 +0.5**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
DANN Dangsing 49.27 278 *eP* **P** **19 32 53.5 +0.3**
comp=Z,17nm,0.8s,mb5.1
DANN Dangsing 49.27 278 *eP* **P** **19 32 53.5 +0.3**
KOLN Koldanda 49.66 277 *eP* **P** **19 32 57.6 +1.5**
KOLN Koldanda 49.66 277 *eP* **P** **19 32 57.6 +1.5**
TKM2 Tokmak 2 50.13 299 *eP* **P** **19 32 59.2 -0.3**
comp=Z,5.6nm,1.1s,mb4.4
TKM2 *e* 19 34 13.1
TKM2 Tokmak 2 50.13 299 *eP* **P** **19 32 59.2 -0.3**
TKM2 *e* 19 34 13.1
TKM2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
INK Inuvik 53.95 27 P **P** **19 33 28.5 +0.9**
comp=Z,1.5nm,0.8s,mb4.1,baz=311,slow=7.1,SNR=5.8
INK Inuvik 53.95 27 P **P** **19 33 28.5 +0.9**
INK Inuvik 53.95 27 P **P** **19 33 28.5 +0.9**
INK pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 57.31 189 P **P** **19 33 51.4 -0.8**
comp=Z,1.3nm,0.7s,mb4.1,baz=5.9,slow=6.9,SNR=16
WRA Warramunga Arr 57.31 189 P **P** **19 33 51.4 -0.8**
WRA Warramunga Arr 57.31 189 P **P** **19 33 51.4 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ABKAR Akbulak array 58.34 310 *eP* **P** **19 33 58.5 -0.7**
comp=Z,1.3nm,0.6s,mb4.1
ASAR Alice Springs 61.03 189 P **P** **19 34 17.1 -0.9**
comp=Z,0.3nm,0.5s,mb3.7,baz=12,slow=15,SNR=7.1
ASAR Alice Springs 61.03 189 P **P** **19 34 17.1 -0.9**
ASAR Alice Springs 61.03 189 P **P** **19 34 17.1 -0.9**
YKA Yellowknife Ar 63.35 30 P **P** **19 34 32.8 -0.3**
comp=Z,0.4nm,0.7s,mb3.6,baz=301,slow=6.9,SNR=6.4
YKA Yellowknife Ar 63.35 30 P **P** **19 34 32.8 -0.3**
YKA Yellowknife Ar 63.35 30 P **P** **19 34 32.8 -0.3**
FINES FINESS Array B 68.98 332 P **P** **19 35 08.7 -0.6**
comp=Z,2.1nm,0.9s,mb4.3,baz=69,slow=12,SNR=4.8
FINES FINESS Array B 68.98 332 P **P** **19 35 08.7 -0.6**
FINES FINESS Array B 68.98 332 P **P** **19 35 08.7 -0.6**
FINES pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 74.30 338 P **P** **19 35 41.0 -0.3**
comp=Z,0.9nm,0.8s,mb3.9,baz=37,slow=6.0,SNR=2.9
NOA NORSAR Array B 74.30 338 P **P** **19 35 41.0 -0.3**
NOA NORSAR Array B 74.30 338 P **P** **19 35 41.0 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 74.38 54 P **P** **19 35 44.2 +1.9**
comp=Z,0.5nm,0.7s,mb3.7,baz=301,slow=6.6,SNR=5.0
NVAR Mina Array Bea 74.38 54 P **P** **19 35 44.2 +1.9**
AKASG Malin Array Be 74.57 323 P **P** **19 35 42.4 -0.7**
comp=Z,1.3nm,0.5s,mb4.3,baz=45,slow=6.3,SNR=9.1
AKASG Malin Array Be 74.57 323 P **P** **19 35 42.4 -0.7**
AKASG Malin Array Be 74.57 323 P **P** **19 35 42.4 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
URZ Urewera 81.69 153 LR LR 20 11 15.7
comp=Z,105nm,18.7s,baz=282,slow=35
QSPA South Pole Qui 126.93 180 PKP PKPdf 19 43 04.7 -2.3
comp=Z,14nm,0.8s,baz=16,slow=2.0,SNR=34
QSPA South Pole Qui 126.93 180 PKP PKPdf 19 43 04.7 -2.3

ISCJB ***14*** *19:26:12.3±2.0, 77°.44N±0°.08×8°.9E±0°.5, h10km, Error ellipse: s-maj=18.4km s-min=8.9km az=156.4*
CSEM ***14*** *19:26:14.3±0.3, 77°.48N×8°.74E, h10km, ML2.2, Error ellipse: s-maj=9.6km s-min=4.3km az=91.0*
NAO ***14*** *19:26:15.5±4.1, 77°.68N×8°.39E, h24km±45km, ML2.8*
BER ***14*** *19:26:16.7±2.1, 77°.46N×8°.69E, h15km±29km, MD2.3, ML2.2, ML2.8(NAO)*
ISC 14 19:26:15.6±2.1, 77°.54N±0°.07×9°.3E±0°.7, h10km, n8, σ**1§36/11, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**1.49**	**108**	*eP*	**Pn**	**19 26 44.8**	**+2.4**
HSP				*eS*	**Sn**	**19 26 59.9**	**-1.9**
KBS	**Kingsbay**	**1.50**	**20**	Pg	**Pg**	**19 26 42.9**	**-1.4**
KBS				Lg		19 27 01.5	
KBS	**Kingsbay**	**1.50**	**20**	*eP*	**Pn**	**19 26 42.9**	**+0.4**
KBS				*eS*	**Sn**	**19 27 01.9**	**-0.2**
KBS				AML	AML	19 27 04.4	
	comp=Z,42nm,0.3s						
KBS	**Kingsbay**	**1.50**	**20**	*eP*	**Pn**	**19 26 42.9**	**+0.4**
	SNR=62						
KBS				Lg		19 27 01.5	
KBS				*eS*	**Sn**	**19 27 01.9**	**-0.1**
	comp=Z,42nm,0.3s,SNR=62						
SPA0	**Spitsbergen Ar**	**1.63**	**63**	Pg	**Pg**	**19 26 48.3**	**+1.4**
	baz=245,slow=14						
SPA0				Lg		19 27 11.2	
	baz=256,slow=28						
SPA0	**Spitsbergen Ar**	**1.63**	**63**	Pg	**Pg**	**19 26 48.3**	**+1.4**
	baz=245,slow=13,SNR=93						
SPA0				Lg		19 27 11.2	
	baz=256,slow=24,SNR=7.8						
ARA0	**ARCESS Array S**	**9.21**	**142**	Pn	**Pn**	**19 28 27.6**	**-0.7**
	baz=331,slow=12						
ARA0	**ARCESS Array S**	**9.21**	**142**	Pn	**Pn**	**19 28 27.5**	**-0.8**
	baz=331,slow=12,SNR=62						

IDC ***14*** *19:32:19.5±0.5, 2°.45N×127°.01E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.5/21, mbtmp4.5/20, ML4.3/1, MS3.7/4, Ms1 3.7/4, ms1mx3.4/26, Error ellipse: s-maj=22.1km s-min=9.5km az=75.0*
MOS ***14*** *19:32:22.3±1.0, 2°.34N×126°.91E, h33km, mb5.0/21, Error ellipse: s-maj=15.3km s-min=6.8km az=114.0*
ISCJB ***14*** *19:32:27.0±0.5, 2°.30N±0°.03×126°.88E±0°.04, h73km±4km, mb4.7/69, Error ellipse: s-maj=6.4km s-min=3.9km az=153.0*
BJI ***14*** *19:32:26.0, 1°.85N×126°.98E, h91km, mB5.0/21, mb4.7/30*
NEIC ***14*** *19:32:27.1±1.3, 2°.29N×126°.90E, h61km±12km, mb4.8/34, Error ellipse: s-maj=9.5km s-min=4.3km az=60.0*
DJA ***14*** *19:32:29.2±0.4, 2°N±3°×12°7E±°, h60km±4km, M4.7/1, mb4.8/21, mB5.1/7, MLv4.8/10, Mw(mB)4.5/7*
ISC 14 19:32:28.7±0.4, 2°.28N±0°.03×126°.90E±0°.04, h73km±4km, h95km±1.0km:pP-P, n236, σ**1§21/233, mb4.7/69, 7C-9D, Northern Molucca Sea**

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

TNTI Ternate 1.57 163 P **Pn** **19 32 52.9 -1.8**
TNTI S **Sn** **19 33 14.4 +0.1**
SGSI Sangihe 1.96 316 P **Pn** **19 32 57.4 -2.4**
SGSI S **Sn** **19 33 25.3 +1.8**
MNI Manado 2.22 248 P **Pn** **19 33 02.3 -1.1**
LBMI Labuha 2.96 168 P **Pn** **19 33 13.8 +0.3**
KMSI Cibinong 3.37 240 P **Pn** **19 33 19.7 +0.6**
GTOI Gorontalo 4.22 247 P **Pn** **19 33 30.3 -0.3**
MRSI Marisa 5.27 250 P **Pn** **19 33 46.4 +1.4**
0.9nm3μm238nm,0.7s
LUWI Luwuk 5.28 231 P **Pn** **19 33 46.3 +1.1**
2.1nm5μm328nm,1.1s
NLAI Namlea 5.49 178 P **Pn** **19 33 47.5 -0.4**
0.3nm1μm81nm,0.6s
CTBH Cotabato--PC H 5.57 332 *iP* **Pn** **19 33 47.6 -1.6**
BUKP Musuan 5.86 342 *eP* **Pn** **19 33 52.8 -0.2**
MSAI Masohi 5.95 160 P **Pn** **19 33 56.4 +2.2**
AAI Ambon 6.07 168 P **Pn** **19 33 57.9 +2.0**
PAGZ Pagadian 6.55 328 *eP* **Pn** **19 34 01.6 -0.9**
BUTP Butuan 6.76 349 *eP* **Pn** **19 34 06.5 +1.1**
IPIL Ipil 6.96 322 *eP* **Pn** **19 34 06.6 -1.5**
FAKI Fak Fak 7.43 134 P **Pn** **19 34 15.8 +1.2**
0.2nm53nm,1.0s
KDI Kendari 7.53 215 P **Pn** **19 34 14.5 -1.4**
0.2nm784nm70nm,0.8s
MSSI Masamba 8.14 234 P **Pn** **19 34 23.4 -0.8**
TTSI Tana Toraja 8.84 233 P **Pn** **19 34 33.1 -0.6**
1μm104nm,1.1s
MYLDM Lahad Datu 8.86 289 P **Pn** **19 34 34.4 +0.3**
MYLDM Lahad Datu 8.86 289 P **Pn** **19 34 35.7 +1.6**
138nm,1.5s
TSM Tawau 9.23 283 P **Pn** **19 34 38.0 -1.1**
SPSI Sidrap Palu 9.45 229 P **Pn** **19 34 41.7 -0.4**
546nm33nm,0.6s
BAKI Biak 9.83 110 P **Pn** **19 34 47.8 +0.5**
2μm213nm,1.1s
BKSI Bulukumba 10.14 222 P **Pn** **19 34 51.9 +0.3**
36nm,0.7s
KAPI Kappang 10.17 225 Pn **Pn** **19 34 50.4 -1.6**
2.7nm,0.3s,baz=54,slow=3.8,SNR=10
KAPI Kappang 10.17 225 Pn **Pn** **19 34 50.4 -1.6**
KAPI *e*Pn **Pn** **19 34 51.1 -0.9**
SDKM Sandakan 10.24 289 P **Pn** **19 34 52.7 -0.2**
KKM Kota Kinabalu 11.29 290 *e*Pn **Pn** **19 35 07.1 -0.2**
KKM Kota Kinabalu 11.29 290 P **Pn** **19 35 08.7 +1.4**
38nm,0.8s
KBKI Kotabaru 12.07 243 P Px 19 35 31.7
JAY Jayapura 14.60 109 P **Pn** **19 35 57.3 +5.7**
SBUM Sibu 14.67 271 P **Pn** **19 35 58.4 +5.9**
MTNI Mataram 15.23 224 P **Pn** **19 36 04.9 +5.2**
KHKI Kahang-Kahang 15.45 227 P **Pn** **19 36 06.5 +4.0**
KMMI Kalianget 15.89 234 P **Pn** **19 36 11.9 +3.8**
IGBI Denpasar 16.09 227 P **Pn** **19 36 13.7 +3.1**
KSM Kuching 16.60 268 P **Pn** **19 36 19.6 +2.6**
KSM Kuching 16.60 268 P **Pn** **19 36 19.5 +2.5**
31nm,1.5s
GMJI Gumukmas 17.03 232 P **Pn** **19 36 24.5 +2.2**
SJI Sawahan 18.08 236 P **Pn** **19 36 35.6 +0.5**
PCJI Pacitan 18.82 236 P **Pn** **19 36 43.7 -0.3**
74nm,0.5s
FITZ Fitzroy Crossi 20.29 183 P **P** **19 36 58.7 0.0**
9.6nm,0.5s,baz=19,slow=11,SNR=68
FITZ Fitzroy Crossi 20.29 183 *iP* **P** **19 36 58.0 -0.7**
18nm,0.5s
FITZ Fitzroy Crossi 20.29 183 *eP* **P** **19 36 58.2 -0.5**
12nm,0.6s
FITZ P 19 36 58.7
FITZ Fitzroy Crossi 20.29 183 P **P** **19 36 58.3 -0.4**
23nm,0.7s
TPUB Ta-pu 21.76 344 *eP* **P** **19 37 11.6 -2.8**
CBJI Citeko 21.80 247 P **P** **19 37 23.1 +8.1**
TNG Tangerang 21.90 247 P pP 19 37 30.2 -1.0
SSLB Suanglung 22.14 345 *e*Pn **P** **19 37 17.1 -1.4**
142nm,1.6s,mb5.0
COEN Coen 22.82 135 *eP* **P** **19 37 25.6 -0.1**
97nm,0.9s,mb5.1
COEN *e* 19 37 45.1
COEN Coen 22.82 135 P **P** **19 37 25.5 -0.2**
20nm,1.0s,mb4.4
WRAB Tennant Creek 23.25 162 *eP* **P** **19 37 28.8 -1.2**
31nm,0.9s,mb4.6
WRAB pP 19 37 48.8
WRAB Tennant Creek 23.25 162 *eP* **P** **19 37 28.8 -1.2**
WRAB pmax pmax
comp=Z,31nm,0.9s,mb4.6
WRAB Tennant Creek 23.25 162 P **P** **19 37 28.9 -1.1**
comp=Z,72nm,1.2s,mb4.9
WRA Warramunga Arr 23.26 162 P **P** **19 37 28.9 -1.1**
comp=Z,19nm,0.5s,mb4.7,baz=340,slow=11,SNR=109
WRA S **S** **19 41 46.7 +10**
comp=Z,2.9nm,1.1s,baz=343,slow=20,SNR=4.6
WRA Warramunga Arr 23.26 162 P **P** **19 37 28.9 -1.1**
WRA S **S** **19 41 46.7 +10**
WRA Warramunga Arr 23.26 162 P **P** **19 37 28.9 -1.1**
WB2 Warramunga Arr 23.26 162 *eP* **P** **19 37 27.8 -2.2**
PMG Port Moresby 23.29 120 P **P** **19 37 27.8 -2.6**
comp=Z,15nm,0.8s,mb4.4,baz=71,slow=14,SNR=6.6
PMG Port Moresby 23.29 120 *eP* **P** **19 37 27.6 -2.7**
PMG P 19 37 27.8
PMG Port Moresby 23.29 120 *eP* **P** **19 37 27.6 -2.7**
PMG Port Moresby 23.29 120 P **P** **19 37 28.5 -1.8**
comp=Z,17nm,0.8s,mb4.4
MBWA Marble Bar 24.33 196 *eP* **P** **19 37 39.0 -0.8**
comp=Z,27nm,1.3s,mb4.4
MBWA Marble Bar 24.33 196 P **P** **19 37 39.4 -0.4**
comp=Z,20nm,1.8s,mb4.2
AS31 Alice Springs 26.68 166 *eP* **P** **19 38 00.3 -0.7**
ASAR Alice Springs 26.68 166 P **P** **19 38 00.5 -0.5**
comp=Z,2.0nm,0.5s,mb3.9,baz=344,slow=7.7,SNR=64
ASAR PcP PcP 19 41 23.9 +0.7
comp=Z,2.6nm,0.7s,baz=348,slow=1.0,SNR=6.5
ASAR S **S** **19 42 43.3 +12**
comp=Z,1.4nm,0.9s,baz=346,slow=22,SNR=4.5
ASAR Alice Springs 26.68 166 P **P** **19 38 00.5 -0.5**
ASAR PcP PcP 19 41 23.9 +0.7
ASAR Alice Springs 26.68 166 P **P** **19 38 00.5 -0.5**
ASAR 19 41 23.9
CTA Charters Tower 29.24 140 P **P** **19 38 24.9 +0.9**
comp=Z,6.7nm,0.8s,mb4.3,baz=328,slow=12,SNR=6.8
CTA Charters Tower 29.24 140 P **P** **19 38 24.9 +0.9**
CTA Charters Tower 29.24 140 P **P** **19 38 24.9 +1.0**
CTAO Charters Tower 29.24 140 *eP* **P** **19 38 22.0 -1.9**
CTAO Charters Tower 29.24 140 *eP* **P** **19 38 22.0 -1.9**
GYA Guiyang 30.91 323 P **P** **19 38 40.0 +1.4**
GYA pP pP 19 39 02.4 +6.4
GYA PP PP 19 39 45.3 -4.4
GYA PcP PcP 19 41 33.5 -0.3
GYA S **S** **19 43 37.8 +0.1**
GYA ScP ScP 19 45 07.8 -2.6
GYA ScS ScS 19 49 02.0 -5.4
GYA pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
CHRT Chiangrai 31.74 305 *iP* **P** **19 38 45.0 -1.0**
CM31 Chiang Mai Arr 31.77 302 *eP* **P** **19 38 45.4 -0.9**
comp=Z,4.7nm,0.7s,mb4.3
CMAR Chiang Mai Arr 31.77 302 P **P** **19 38 45.9 -0.4**
comp=Z,4.5nm,0.8s,mb4.3,baz=116,slow=6.5,SNR=41
CMAR LR LR 19 52 26.0
comp=Z,85nm,21.5s,baz=110,slow=38
CMAR Chiang Mai Arr 31.77 302 P **P** **19 38 45.9 -0.4**
CMAR Chiang Mai Arr 31.77 302 P **P** **19 38 45.9 -0.4**
CHG Chiang Mai 31.93 303 *iP* **P** **19 38 47.0 -0.7**
comp=Z,16nm,0.7s,mb4.8
CHTO Chiang Mai 31.93 303 *eP* **P** **19 38 46.5 -1.2**
comp=Z,12nm,0.7s,mb4.7
CHTO *e*pP pP 19 39 08.0 +3.0
CHTO Chiang Mai 31.93 303 *eP* **P** **19 38 46.5 -1.2**
CHTO pmax pmax
comp=Z,12nm,0.7s,mb4.7
CHTO Chiang Mai 31.93 303 P **P** **19 38 47.2 -0.5**
comp=Z,20nm,0.7s,mb4.9
FORT Forrest 32.89 178 *eP* **P** **19 38 56.2 +0.2**
comp=Z,25nm,0.6s,mb5.2
FORT Forrest 32.89 178 *eP* **P** **19 38 55.2 -0.8**
comp=Z,30nm,0.8s,mb5.2
KLBR Kellerberrin 34.79 194 *eP* **P** **19 39 13.3 +0.9**
comp=Z,11nm,0.6s,mb4.8
KSAR Wonju Array Be 35.00 1 P **P** **19 39 15.6 +1.4**
KSAR Wonju Array Be 35.00 1 P **P** **19 39 15.6 +1.4**
KSRS Korea Array 35.02 1 P **P** **19 39 15.6 +1.3**
comp=Z,3.8nm,0.6s,mb4.4,baz=179,slow=10.0,SNR=14
MAJO Matsushiro 35.66 16 *eP* **P** **19 39 19.3 -0.6**
comp=Z,30nm,1.5s,mb5.0
MAJO Matsushiro 35.66 16 *eP* **P** **19 39 19.3 -0.5**

MAJO pmax pmax
comp=Z,30nm,1.5s,mb5.0
MAT Matsushiro 35.66 16 P **P** **19 39 18.5 -1.3**
MJAR Matsushiro Arr 35.66 16 P **P** **19 39 18.8 -1.0**
comp=Z,3.1nm,0.6s,mb4.4,baz=199,slow=8.2,SNR=14
MJAR LR LR 19 51 46.2
comp=Z,88nm,21.2s,baz=195,slow=33
MJAR Matsushiro Arr 35.66 16 P **P** **19 39 18.8 -1.1**
MJAR Matsushiro Arr 35.66 16 P **P** **19 39 18.8 -1.0**
CD2 Chengdu 35.91 325 *eP* **P** **19 39 23.3 +1.2**
CD2 pP pP 19 39 45.6 +6.0
CD2 sP sP 19 39 57.3 +9.2
CD2 PP PP 19 40 47.6 +2.6
CD2 S **S** **19 44 54.0 -1.1**
CD2 SS SS 19 47 21.6 -13
CD2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
CD2 pmax pmax
comp=Z,40nm,4.8s
CD2 LR LR
comp=N,280nm,10.7s
CD2 LR LR
comp=E,210nm,11.9s
CD2 LR LR
comp=Z,140nm,13.2s
BBOO Buckleboo 35.96 167 *eP* **P** **19 39 22.4 0.0**
comp=Z,127nm,0.7s
BBOO *e* pP 19 39 44.5 +4.5
EIDS Eidsvold 36.12 141 *eP* **P** **19 39 22.9 -1.0**
comp=Z,23nm,0.9s,mb5.1
NWAO Narrogin (SRO) 36.19 194 P **P** **19 39 25.1 +0.7**
comp=Z,9.4nm,0.7s,mb4.8,baz=17,slow=7.0,SNR=11
NWAO Narrogin (SRO) 36.19 194 P **P** **19 39 25.1 +0.7**
NWAO Narrogin (SRO) 36.19 194 P **P** **19 39 25.1 +0.7**
STKA Stephens Creek 36.72 159 P **P** **19 39 29.1 +0.1**
comp=Z,30nm,0.7s,mb5.3,baz=333,slow=8.5,SNR=89
STKA Stephens Creek 36.72 159 *iP* **P** **19 39 29.0 0.0**
comp=Z,26nm,0.8s,mb5.2
STKA Stephens Creek 36.72 159 *eP* **P** **19 39 29.0 0.0**
comp=Z,7.4nm,0.8s,mb4.7
STKA *e*pP pP 19 39 50.4 +3.9
STKA Stephens Creek 36.72 159 *eP* **P** **19 39 29.0 0.0**
STKA pmax pmax
comp=Z,7.0nm,0.8s
BJI Beijing 38.83 347 P **P** **19 39 47.8 +1.2**
BJI pP pP 19 40 08.9 +4.6
BJI PP PP 19 41 18.1 +1.2
BJI S **S** **19 45 36.3 -2.8**
BJI pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
BJI LR LR
comp=Z,86nm,22.7s
LZH Lanzhou 39.83 330 *eP* **P** **19 39 57.0 +1.9**
LZH pP pP 19 40 18.5 +5.7
LZH sP sP 19 40 30.3 +9.1
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.7
LZH Lanzhou 39.83 330 *eP* **P** **19 39 57.0 +1.9**
comp=Z,13nm,1.0s,mb4.7
LZH pP pP 19 40 18.5 +5.7
LZH sP sP 19 40 30.2 +9.0
LZH Lanzhou 39.83 330 *eP* **P** **19 39 57.0 +1.9**
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.7
ARMA Armidale 40.17 146 *iP* **P** **19 39 59.1 +1.1**
ARMA Armidale 40.17 146 *eP* **P** **19 39 57.1 -0.9**
comp=Z,46nm,0.9s,mb5.3
ARMA *e* 19 40 20.2
HHC Hu-ho-hao-te 40.82 342 *eP* **P** **19 40 04.9 +1.8**
HHC pP pP 19 40 25.9 +5.0
HHC PP PP 19 41 44.4 +5.8
HHC PcP PcP 19 42 05.8 +2.9
HHC S **S** **19 46 10.8 +1.9**
HHC SS SS 19 49 11.5 -1.2
HHC pmax pmax
comp=Z,15nm,0.6s,mb5.0
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=N,170nm,17.8s
HHC LR LR
comp=E,220nm,17.8s
HHC LR LR
comp=Z,220nm,21.4s
CN2 Changchun 41.36 358 *eP* **P** **19 40 09.8 +2.3**
MDJ Mudanjiang 42.23 3 P **P** **19 40 15.9 +1.3**
MDJ pmax pmax
comp=Z,14nm,0.9s,mb4.7
MDJ pmax pmax
comp=Z,61nm,5.3s
ASAJ Asahikawa 43.92 16 P **P** **19 40 31.1 +2.9**
comp=Z,7.7nm,0.8s,mb4.5,baz=252,slow=22,SNR=3.9
ASAJ Asahikawa 43.92 16 P **P** **19 40 31.1 +2.9**
GTA Gaotai 44.42 330 *eP* **P** **19 40 34.5 +2.2**
GTA pP pP 19 40 56.8 +6.4
GTA sP sP 19 41 09.1 +10
GTA pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
TAPN Taplejung 45.02 307 *eP* **P** **19 40 36.8 -0.5**
comp=Z,6.3nm,0.5s,mb4.6
TAPN Taplejung 45.02 307 *eP* **P** **19 40 36.8 -0.5**
comp=Z,6.3nm,0.5s,mb4.6
ODAN Odare 45.05 307 *eP* **P** **19 40 37.0 -0.6**
comp=Z,25nm,0.7s,mb5.1
ODAN Odare 45.05 307 *eP* **P** **19 40 37.0 -0.6**
comp=Z,25nm,0.7s,mb5.1
RAMN Ramite 45.73 306 *eP* **P** **19 40 42.5 -0.4**
comp=Z,16nm,0.6s,mb4.9
RAMN Ramite 45.73 306 *eP* **P** **19 40 42.5 -0.4**
comp=Z,16nm,0.6s,mb4.9
JIRN Jiri 46.36 307 *eP* **P** **19 40 47.3 -0.6**
comp=Z,13nm,0.6s,mb4.8
JIRN Jiri 46.36 307 *eP* **P** **19 40 47.3 -0.6**
comp=Z,13nm,0.6s,mb4.8
HABR Khabarovsk 46.55 7 *dP* **P** **19 40 47.4 -1.6**
HABR *e* 19 42 21.5
HABR 19 42 37.1
HABR *e*PPP 19 43 18.8
HABR *e*S **S** **19 47 36.4 +4.2**
HABR *e**SS sS 19 47 42.3 -21
HABR 19 50 43.9
HABR MLR MLR
comp=Z,51nm,20.0s
GUN Gumba 46.72 307 *eP* **P** **19 40 50.1 -0.6**
comp=Z,39nm,0.7s,mb5.3
GUN Gumba 46.72 307 *eP* **P** **19 40 50.1 -0.6**
comp=Z,39nm,0.7s,mb5.2
PKI Pulchoki 46.95 306 *eP* **P** **19 40 51.6 -0.9**
PKI Pulchoki 46.95 306 *eP* **P** **19 40 51.6 -0.9**
PKI Pulchoki 46.95 306 *eP* **P** **19 40 51.6 -0.9**
KLR Kul'dur 46.96 4 *eP* **P** **19 40 47.8 -4.4**
KKN Kakani 47.15 307 *eP* **P** **19 40 53.0 -1.0**
comp=Z,11nm,0.7s,mb4.7
KKN Kakani 47.15 307 *eP* **P** **19 40 53.0 -1.0**
comp=Z,11nm,0.7s,mb4.7
KKN Kakani 47.15 307 *eP* **P** **19 40 53.0 -1.0**
KKN pmax pmax
comp=Z,11nm,0.7s,mb4.7
DMN Daman 47.21 306 *eP* **P** **19 40 53.8 -0.7**
comp=Z,11nm,0.8s,mb4.6
DMN Daman 47.21 306 *eP* **P** **19 40 53.8 -0.7**
comp=Z,11nm,0.8s,mb4.6
GKN Gorkha 47.75 307 *eP* **P** **19 40 57.8 -0.9**
GKN Gorkha 47.75 307 *eP* **P** **19 40 57.8 -0.9**
KOLN Koldanda 48.49 306 *eP* **P** **19 41 04.0 -0.4**
comp=Z,32nm,0.7s,mb5.3
KOLN Koldanda 48.49 306 *eP* **P** **19 41 04.0 -0.4**
comp=Z,32nm,0.7s,mb5.2
ULN Ulaanbaatar 48.54 342 *eP* **P** **19 41 05.2 +0.7**
comp=Z,4.8nm,0.9s,mb4.4
ULN Ulaanbaatar 48.54 342 *eP* **P** **19 41 05.2 +0.8**
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
DANN Dangsing 48.60 307 *eP* **P** **19 41 04.4 -0.9**
comp=Z,33nm,0.6s,mb5.4
DANN Dangsing 48.60 307 *eP* **P** **19 41 04.4 -0.9**
comp=Z,33nm,0.6s,mb5.4
SONM Songino Array 48.72 342 P **P** **19 41 06.2 +0.4**
comp=Z,1.8nm,0.6s,mb4.2,baz=171,slow=7.4,SNR=9.4
SONM LR LR 20 04 05.4
comp=Z,119nm,19.8s,baz=121,slow=39
SONM Songino Array 48.72 342 P **P** **19 41 06.2 +0.4**
SONM Songino Array 48.72 342 P **P** **19 41 06.2 +0.4**
WMQ Urumqi 54.00 326 P **P** **19 41 47.4 +2.0**
WMQ pP pP 19 42 11.0 +7.0

WMQ			sP	sP	19 42 22.3	+10
WMQ			pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.7						
WMQ			pmax	pmax		
comp=Z,240nm,6.2s						
HVS	**Khovu-Aksy**	**56.12 335**	*e*P	**P**	**19 42 01.2**	**+0.7**
HVS			pmax	pmax		
comp=Z,12nm,0.9s,mb4.9						
BOD	**Bodaibo**	**56.31 352**	*e*P	**P**	**19 42 02.6**	**+0.8**
BOD			pmax	pmax		
comp=Z,6.0nm,1.6s,mb4.4						
PETK	**Petropavlovsk-**	**56.70 22**	P	**P**	**19 42 04.0**	**-0.6**
comp=Z,3.4nm,0.8s,mb4.4,baz=189,slow=5.0,SNR=6.2						
PETK	**Petropavlovsk-**	**56.70 22**	P	**P**	**19 42 04.0**	**-0.6**
PETK	**Petropavlovsk-**	**56.70 22**	P	**P**	**19 42 04.0**	**-0.6**
MK31	**Makanchi Array**	**58.84 326**	*e*P	**P**	**19 42 19.2**	**-0.5**
MK31	**Makanchi Array**	**58.84 326**	*e*P	**P**	**19 42 19.2**	**-0.5**
MKAR	**Makanchi Array**	**58.84 326**	P	**P**	**19 42 19.7**	**0.0**
comp=Z,2.3nm,0.6s,mb4.4,baz=123,slow=8.4,SNR=28						
MKAR	**Makanchi Array**	**58.84 326**	P	**P**	**19 42 19.7**	**0.0**
MKAR	**Makanchi Array**	**58.84 326**	P	**P**	**19 42 19.7**	**0.0**
KSH	**Kashi**	**59.19 316**	*e*P	**P**	**19 42 24.0**	**+1.7**
KSH			pP	pP	19 42 47.8	+6.7
KSH			sP	sP	19 42 59.3	+10
KSH			PcP	PcP	19 43 10.9	+0.8
KSH			PP	PP	19 44 37.3	+3.5
KSH			ScP	ScP	19 47 01.8	-2.7
KSH			PcS	PcS	19 47 11.5	-0.5
KSH			S	**S**	**19 50 22.6**	**-2.0**
KSH			ScS	ScS	19 52 01.5	-4.4
KSH			SS	SS	19 54 19.4	-0.7
KSH			pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.3						
KSH			pmax	pmax		
comp=Z,110nm,5.8s						
KSH			LR	LR		
comp=N,190nm,6.2s						
KSH			LR	LR		
comp=E,140nm,6.3s						
KSH			LR	LR		
comp=Z,160nm,5.7s						
YAK	**Yakutsk**	**59.64 2**	*e*P	**P**	**19 42 25.6**	**+0.7**
comp=Z,31nm,0.7s,mb5.5						
YAK	**Yakutsk**	**59.64 2**	*e*P	**P**	**19 42 25.1**	**+0.1**
YAK			pmax	pmax		
comp=Z,26nm,0.9s,mb5.3						
YAK			pmax	pmax		
comp=N,11nm,1.5s						
YAK			pmax	pmax		
comp=E,3.0nm,0.9s						
RPZ	**Rata Peaks**	**60.49 145**	P	**P**	**19 42 31.0**	**-0.1**
comp=E,15nm,0.8s,mb5.1,baz=54,slow=14,SNR=3.8						
RPZ	**Rata Peaks**	**60.49 145**	P	**P**	**19 42 31.0**	**-0.1**
TKM2	**Tokmak 2**	**60.94 319**	*e*P	**P**	**19 42 34.6**	**+0.4**
TKM2	**Tokmak 2**	**60.94 319**	*e*P	**P**	**19 42 34.7**	**+0.5**
ZALV	**Zalesovo Beam**	**61.95 333**	P	**P**	**19 42 40.4**	**-0.4**
comp=E,0.7nm,0.4s,mb4.1,baz=123,slow=5.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**61.95 333**	P	**P**	**19 42 40.4**	**-0.4**
ZALV	**Zalesovo Beam**	**61.95 333**	P	**P**	**19 42 40.4**	**-0.4**
KBL	**Kabul**	**62.54 308**	*e*P	**P**	**19 42 45.5**	**+0.3**
comp=E,5.2nm,0.6s,mb4.6						
KBL	**Kabul**	**62.54 308**	*e*P	**P**	**19 42 45.5**	**+0.4**
KBL			pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**63.05 328**	*e*P	**P**	**19 42 48.0**	**-0.2**
comp=Z,8.2nm,0.7s,mb4.8						
KURK	**Kurchatov**	**63.05 328**	*de*P	**P**	**19 42 48.1**	**-0.1**
KURK			pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6						
NVS	**Novosibirsk**	**63.23 333**	*e*P	**P**	**19 42 48.5**	**-0.8**
KKAR	**Karatay Array**	**64.40 317**	*e*P	**P**	**19 42 57.2**	**-0.1**
comp=Z,3.3nm,0.8s,mb4.2						
KKAR	**Karatay Array**	**64.40 317**	*e*P	**P**	**19 42 57.2**	**-0.1**
KKAR			pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**68.69 327**	*e*P	**P**	**19 43 23.9**	**-0.5**
comp=Z,26nm,1.8s,mb4.8						
BRVK	**Borovoye**	**68.69 327**	*de*P	**P**	**19 43 25.1**	**+0.7**
BRVK			pmax	pmax		
comp=Z,9.0nm,1.7s,mb4.3						
ABKAR	**Akbulak array**	**73.37 321**	*e*P	**P**	**19 43 53.0**	**+0.2**
comp=Z,2.3nm,0.6s,mb4.2						
SVE	**Sverdlovsk**	**75.28 329**	⇓*e*P	**P**	**19 44 04.0**	**+0.3**
SVE			pmax	pmax		
comp=Z,16nm,0.9s,mb4.8						
ARU	**Arti**	**76.24 328**	*e*P	**P**	**19 44 08.1**	**-1.2**
comp=Z,6.1nm,0.8s,mb4.4						
ARU	**Arti**	**76.24 328**	*d i*P	**P**	**19 44 09.2**	**0.0**
ARU					19 46 58.2	
ARU			PPP		19 48 46.0	
ARU			S	S	19 53 55.6	+7.8
ARU			SS	SS	19 58 40.1	-2.8
ARU			pmax	pmax		
comp=Z,26nm,2.5s,mb4.5						
VNDA	**Vanda**	**81.98 173**	*e*P	**P**	**19 44 40.9**	**+0.7**
comp=Z,6.4nm,1.0s,mb4.4						
VNDA	**Vanda**	**81.98 173**	*e*P	**P**	**19 44 40.9**	**+0.8**
VNDA			pmax	pmax		
comp=Z,6.0nm,1.0s						
DGRG	**David-gareji**	**82.14 311**	P	**P**	**19 44 42.8**	**+1.0**
MAW	**Mawson**	**82.46 200**	P	**P**	**19 44 44.0**	**+1.2**
comp=Z,4.7nm,0.7s,mb4.4,baz=42,slow=3.1,SNR=8.6						
MAW	**Mawson**	**82.46 200**	P	**P**	**19 44 44.0**	**+1.2**
MAW	**Mawson**	**82.46 200**	P	**P**	**19 44 44.0**	**+1.2**
MTA	**Mtatsminda**	**82.59 312**	P	**P**	**19 44 42.4**	**-1.7**
TBLG	**Delisi**	**82.63 312**	*e*P	**P**	**19 44 42.2**	**-2.1**
TBLG	**Delisi**	**82.63 312**	P	**P**	**19 44 42.2**	**-2.0**
KDAK	**Kodiak Island**	**83.02 32**	*ce*P	**P**	**19 44 48.0**	**+2.1**
ONI	**Oni**	**83.64 312**	P	**P**	**19 44 51.2**	**+1.7**
KIV	**Kislovodsk**	**84.25 314**	*e*P	**P**	**19 44 53.5**	**+0.9**
KIV			*e*		19 55 18.0	
KIV			pmax	pmax		
comp=Z,11nm,1.0s,mb4.6						
RC01	**Rabbit Creek A**	**84.80 29**	*e*P	**P**	**19 44 56.0**	**+1.0**
comp=Z,7.8nm,1.0s,mb4.6						
TBI	**Tubuai**	**85.06 114**	*e*LR	LR	19 45 06.3	
comp=Z,126nm,27.5s						
PMR	**Palmer**	**85.13 29**	P	**P**	**19 44 55.4**	**-1.2**
comp=Z,4.2nm,0.8s,mb4.4						
PMR	**Palmer**	**85.13 29**	P	**P**	**19 44 55.4**	**-1.2**
PMR			pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**86.33 25**	P	**P**	**19 45 01.9**	**-0.6**
comp=Z,0.4nm,0.7s,baz=233,slow=5.0,SNR=6.3						
ILAR	**Eielson Array**	**86.33 25**	P	**P**	**19 45 01.9**	**-0.6**
ILAR	**Eielson Array**	**86.33 25**	P	**P**	**19 45 01.9**	**-0.6**
KLMR	**Klimovskoe**	**86.74 331**	*e*P	**P**	**19 45 02.0**	**-2.5**
KLMR			pmax	pmax		
comp=Z,14nm,1.4s,mb4.7						
VSR	**Storozhevoye**	**86.81 321**	*e*P	**P**	**19 45 05.4**	**+0.3**
VSR			pmax	pmax		
comp=N,7.0nm,0.7s						
VSR			pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.8						
VSR			pmax	pmax		
comp=E,2.0nm,0.3s						
ANN	**Anapa**	**88.03 315**	*e*P	**P**	**19 45 16.2**	**+5.1**
ANN			pmax	pmax		
comp=Z,61nm,0.9s,mb5.6						
OBN	**Obninsk**	**88.34 325**	⇑*e*P	**P**	**19 45 12.4**	**+0.1**
OBN			*e*S	S	19 55 47.4	-4.1
OBN			pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.7						
OBN			MLR	MLR		
comp=Z,100nm,17.0s						
BRTR	**Keskin Array B**	**91.07 310**	P	**P**	**19 45 23.0**	**-2.5**
comp=Z,0.8nm,0.7s,mb4.0,baz=125,slow=5.7,SNR=6.0						
BRTR			LR	LR	20 29 11.0	
comp=Z,47nm,19.1s,baz=197,slow=38						
BRTR	**Keskin Array B**	**91.07 310**	P	**P**	**19 45 23.0**	**-2.5**
BRTR	**Keskin Array B**	**91.07 310**	P	**P**	**19 45 23.0**	**-2.5**
INK	**Inuvik**	**91.44 22**	P	**P**	**19 45 25.4**	**-1.1**
comp=Z,0.8nm,0.8s,mb3.9,baz=67,slow=0.5,SNR=3.3						
INK	**Inuvik**	**91.44 22**	P	**P**	**19 45 25.4**	**-1.1**
INK	**Inuvik**	**91.44 22**	P	**P**	**19 45 25.4**	**-1.1**
ARCES	**ARCESS Array B**	**91.86 340**	P	**P**	**19 45 26.0**	**-2.4**
comp=Z,5.2nm,1.0s,mb4.7,baz=72,slow=6.7,SNR=2.6						
ARCES	**ARCESS Array B**	**91.86 340**	P	**P**	**19 45 26.1**	**-2.4**
ARCES	**ARCESS Array B**	**91.86 340**	P	**P**	**19 45 26.1**	**-2.4**
QSPA	**South Pole Qui**	**92.20 180**	P	**P**	**19 45 31.2**	**+1.4**
comp=Z,1.5nm,0.7s,mb4.4,baz=286,slow=5.0,SNR=3.4						
QSPA	**South Pole Qui**	**92.20 180**	P	**P**	**19 45 31.2**	**+1.4**
FINES	**FINESS Array B**	**93.18 332**	P	**P**	**19 45 34.9**	**+0.2**
comp=Z,0.8nm,0.8s,mb4.1,baz=57,slow=5.1,SNR=2.9						
FINES	**FINESS Array B**	**93.18 332**	P	**P**	**19 45 34.9**	**+0.2**
FINES	**FINESS Array B**	**93.18 332**	P	**P**	**19 45 34.9**	**+0.2**
GRER		**95.36 316**	⇓*i*P	pP	19 46 01.3	-3.8
BURAR	**Bucovina Array**	**96.19 318**	⇓*i*P	**P**	**19 45 51.1**	**+2.3**
BUR08	**Bucovina Ar. S**	**96.19 318**	*e*P	**P**	**19 45 49.2**	**+0.3**
UZH	**Uzhgorod**	**97.91 320**	*e*P	pP	19 46 09.3	-7.3
DRGR		**98.02 318**	⇑*i*P	**P**	**19 45 59.7**	**+2.6**
YKA	**Yellowknife Ar**	**100.74 25**	P	Pdif	19 46 08.2	-0.8
comp=Z,0.2nm,0.8s,baz=301,slow=4.5,SNR=3.1						
YKA	**Yellowknife Ar**	**100.74 25**	P	Pdif	19 46 08.2	-0.8
YKA	**Yellowknife Ar**	**100.74 25**	P	Pdif	19 46 08.2	-0.8
TORD	**Torodi Ar. Bea**	**123.52 287**	PKP	PKPdf	19 51 19.0	+0.2
comp=Z,0.9nm,0.7s,baz=43,slow=2.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**123.52 287**	PKP	PKPdf	19 51 19.0	+0.2
TRQA	**Tornquist**	**143.48 168**	*e*PKPpre	PKPdf	19 51 53.5	-2.0
LCO	**Las Campanas**	**148.57 149**	*e*PKPbc	PKPbc	19 52 10.1	+2.1
LPAZ	**La Paz**	**159.69 134**	PKP	PKPdf	19 52 22.2	+2.0
comp=Z,1.2nm,0.9s,baz=311,slow=6.2,SNR=3.7						
LPAZ	**La Paz**	**159.69 134**	PKP	PKPdf	19 52 22.2	+2.0
LPAZ	**La Paz**	**159.69 134**	PKIKP	PKPdf	19 52 22.2	+2.0

*ISCJB **14** 19:32:51.3±2.5, 31°.51S±0°.08×177°.5W±0°.3, h15km±25km, mb4.6/5, Error ellipse: s-maj=47.0km s-min=7.3km az=82.8*
*IDC **14** 19:32:52.7±1.1, 31°.33S×177°.53W, h0km, mb4.6/5, mb1 4.7/6, mb1mx4.2/17, mbtmp4.5/6, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/23, Error ellipse: s-maj=38.5km s-min=28.6km az=157.0*
*NEIC **14** 19:32:53.7±1.1, 31°.27S×177°.34W, h10km, Error ellipse: s-maj=29.6km s-min=18.7km az=117.0*
ISC 14 19:32:53.7±2.9, **31°.45S**±0°.07×**177°.4W**±0°.3, **h15**km±24km, **n53**, σ0°**73**/32, **mb4.6**/5, **1C**, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.24**	**348**	*e*Pn	**Pn**	**19 33 28.4**	**-1.7**
RAO				*e*Sn	**Sn**	**19 33 51.2**	**-6.2**
MXZ	**Matakaoa Point**	**7.06**	**209**	PN	**Pn**	**19 34 36.6**	**+0.1**
MXZ				*e*SN	**Sn**	**19 35 55.8**	**-0.6**
PUZ	**Puketiti**	**7.52**	**207**	*e*PN	**Pn**	**19 34 42.8**	**+0.1**
PUZ				SN	**Sn**	**19 36 08.0**	**+0.3**
CNGZ	**Carnagh Statio**	**7.90**	**206**	PN	**Pn**	**19 34 48.6**	**+0.7**
MWZ	**Matawai**	**8.04**	**210**	PN	**Pn**	**19 34 49.7**	**-0.2**
MWZ				SN	**Sn**	**19 36 19.9**	**-0.6**
URZ	**Urewera**	**8.16**	**212**	Pn	**Pn**	**19 34 51.6**	**0.0**
1.0nm,0.3s,baz=256,slow=3.2,SNR=8.9							
URZ				Sn	**Sn**	**19 36 22.6**	**-1.0**
4.8nm,0.3s,baz=113,slow=22,SNR=12							
URZ	**Urewera**	**8.16**	**212**	*e*Sn	**Sn**	**19 36 24.4**	**+0.8**
URZ	**Urewera**	**8.16**	**212**	Pn	**Pn**	**19 34 51.6**	**0.0**
5.1nm,0.5s							
URZ				Sn	**Sn**	**19 36 22.6**	**-1.0**
URZ	**Urewera**	**8.16**	**212**	PN	**Pn**	**19 34 51.3**	**-0.2**
URZ				SN	**Sn**	**19 36 24.0**	**+0.4**
OUZ	**Omahuta**	**8.43**	**241**	*e*Pn	**Pn**	**19 35 02.8**	**+7.5**
23nm,0.8s							
MHGZ	**Mahia Peninsul**	**8.60**	**205**	PN	Px	19 34 56.6	
TSZ	**Takapari Road**	**10.15**	**210**	PN	Px	19 35 15.7	
BFZ	**Birch Farm**	**10.55**	**207**	PN	Px	19 35 21.3	
BFZ				SN	Sx	19 37 15.2	
TIWZ	**Tintock**	**10.78**	**208**	PN	Px	19 35 23.8	
TIWZ				SN	Sx	19 37 22.2	
MRZ	**Mangatainoka R**	**10.81**	**210**	PN	Px	19 35 24.8	
MRZ				SN	Sx	19 37 19.3	
HOWZ	**Holdsworth Sta**	**11.04**	**209**	SN	Sx	19 37 26.9	
NNZ	**Nelson**	**12.26**	**215**	SN	Sx	19 37 56.9	
CTZ	**Chatham Island**	**12.28**	**177**	SN	Sx	19 37 57.1	
THZ	**Tophouse**	**12.91**	**214**	PN	Px	19 35 55.5	
THZ				SN	Sx	19 38 11.9	
KHZ	**Kahutara**	**13.13**	**211**	*e*PN	Px	19 35 55.0	
DZM	**Mont Dzumac**	**17.18**	**299**	*e*P	**Pn**	**19 36 57.0**	**+3.8**
37nm,1.4s							
DZM				*e*LR	LR	19 41 08.7	
287nm,24.5s							
PPT	**Papeete**	**28.73**	**68**	*e*LR	LR	19 46 13.8	
100nm,26.5s							
CTA	**Charters Tower**	**34.50**	**280**	P	**P**	**19 39 42.8**	**+1.5**
12nm,0.6s,mb5.0,baz=96,slow=9.8,SNR=15							
CTA	**Charters Tower**	**34.50**	**280**	⇑*i*P	**P**	**19 39 42.6**	**+1.3**
8.3nm,0.6s,mb4.8							
CTA	**Charters Tower**	**34.50**	**280**	P	**P**	**19 39 42.8**	**+1.5**
CTAO	**Charters Tower**	**34.50**	**280**	*e*P	**P**	**19 39 42.3**	**+1.0**
ASAR	**Alice Springs**	**43.59**	**268**	P	**P**	**19 40 57.9**	**+0.6**
5.4nm,0.6s,mb4.5,baz=105,slow=7.4,SNR=16							
ASAR	**Alice Springs**	**43.59**	**268**	P	**P**	**19 40 57.9**	**+0.6**
WB2	**Warramunga Arr**	**44.66**	**273**	*e*P	**P**	**19 41 05.8**	**-0.1**
WB2				*e*		19 41 13.5	
WRAB	**Tennant Creek**	**44.67**	**273**	*e*P	**P**	**19 41 05.9**	**-0.1**
WRAB				*e*		19 41 19.6	
WRA	**Warramunga Arr**	**44.67**	**273**	P	**P**	**19 41 05.4**	**-0.6**
6.2nm,0.4s,mb4.8,baz=111,slow=8.0,SNR=20							
WRA	**Warramunga Arr**	**44.67**	**273**	P	**P**	**19 41 05.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.89**	**270**	P	**P**	**19 42 09.6**	**+0.4**
2.1nm,0.6s,mb4.2,baz=157,slow=12,SNR=4.7							
FITZ	**Fitzroy Crossi**	**52.89**	**270**	P	**P**	**19 42 09.6**	**+0.4**
GUMO	**Guam**	**57.59**	**315**	LR	LR	20 04 24.9	
comp=Z,70nm,18.2s,baz=147,slow=33							
PETK	**Petropavlovsk-**	**86.95**	**345**	P	**P**	**19 45 38.0**	**+0.5**
3.2nm,0.8s,mb4.6,baz=90,slow=4.3,SNR=3.1							
PETK	**Petropavlovsk-**	**86.95**	**345**	P	**P**	**19 45 38.0**	**+0.5**
MKAR	**Makanchi Array**	**118.85**	**309**	PKP	PKPdf	19 51 41.6	+0.6
0.4nm,0.6s,baz=214,slow=1.8,SNR=5.1							
MKAR	**Makanchi Array**	**118.85**	**309**	PKP	PKPdf	19 51 41.6	+0.6
ARCES	**ARCESS Array B**	**139.72**	**348**	PKP	PKPdf	19 52 23.0	+3.1
3.5nm,1.1s,baz=29,slow=2.1,SNR=4.1							
ARCES	**ARCESS Array B**	**139.72**	**348**	PKP	PKPdf	19 52 23.0	+3.1
JOF	**Joensuu**	**143.58**	**338**	*e*pkp	PKPdf	19 52 23.3	-3.7
1.6nm,0.7s							
KAF	**Kangasniemi**	**145.71**	**340**	*e*p	PKPdf	19 52 30.6	-0.1
FINES	**FINESS Array B**	**146.31**	**340**	PKPbc	PKPbc	19 52 34.2	+1.3
5.1nm,0.3s,baz=51,slow=3.8,SNR=70							
FINES	**FINESS Array B**	**146.31**	**340**	PKPbc	PKPbc	19 52 34.2	+1.3
NOA	**NORSAR Array B**	**149.86**	**352**	PKPbc	PKPbc	19 52 41.5	-0.9
0.7nm,0.6s,baz=15,slow=4.0,SNR=2.9							
NOA	**NORSAR Array B**	**149.86**	**352**	PKPbc	PKPbc	19 52 41.5	-0.9
AKASG	**Malin Array Be**	**152.45**	**322**	PKPbc	PKPbc	19 52 50.1	+1.3
2.4nm,0.8s,baz=53,slow=2.6,SNR=7.5							
AKASG	**Malin Array Be**	**152.45**	**322**	PKPbc	PKPbc	19 52 50.1	+1.3
BRTR	**Keskin Array B**	**153.55**	**297**	PKPbc	PKPbc	19 52 53.2	+1.6
1.0nm,0.5s,baz=142,slow=4.7,SNR=10							
BRTR	**Keskin Array B**	**153.55**	**297**	PKPbc	PKPbc	19 52 53.2	+1.6
TORD	**Torodi Ar. Bea**	**161.77**	**177**	PKPab	PKPab	19 53 42.7	+2.8
1.5nm,1.1s,baz=193,slow=2.3,SNR=6.2							
TORD	**Torodi Ar. Bea**	**161.77**	**177**	PKPab	PKPab	19 53 42.7	+2.8

NNC 14 19:42:42.9±10.0, **35°.49N**×**80°.84E**, **h0**km, **mb3.8**, **mpv3.5**, **1C-2D**, **Error ellipse: s-maj=90.0km s-min=80.3km az=126.0**, **Kashmir-Xizang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**8.46**	**333**	⇑Pn	Pn	19 44 46.5	-0.1
2.3nm,1.1s							
TKM2				⇓Sn	Sn	19 46 26.1	+3.4
2.4nm,0.8s							
KK31	**Karatay Array**	**11.03**	**317**	Pn	Pn	19 45 19.9	-1.9
1.6nm,0.8s,baz=126,slow=12,SNR=5.5							
MK31	**Makanchi Array**	**11.35**	**5**	Pn	Pn	19 45 29.1	+3.0
1.1nm,0.8s,baz=192,slow=12,SNR=34							
MK31				⇓Sn	Sn	19 47 31.5	-2.0
1.7nm,0.8s,baz=186,slow=25,SNR=5.6							

IDC 14 19:52:05.2±53.0, **15°.44S**×**168°.49E**, **h0**km, **mb4.1/3**, **mb1 4.3**/3, **mb1mx3.7**/16, **mbtmp4.1**/3, **Error ellipse: s-maj=905.2km s-min=107.3km az=68.0**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.45**	**232**	P	P	19 58 10.7	-0.1
1.5nm,0.4s,baz=55,slow=9.4,SNR=12							
WRA	**Warramunga Arr**	**32.80**	**257**	P	P	19 58 40.9	+0.3
0.7nm,0.4s,baz=89,slow=8.7,SNR=16							
ASAR	**Alice Springs**	**33.53**	**250**	P	P	19 58 46.8	-0.1
1.2nm,0.4s,baz=76,slow=9.4,SNR=44							

MEX 14 19:53:02.0±1.1, **18°.47N**×**102°.31W**, **h33**km±171km, **MD3.6**, **Michoacan**

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

MMIG	**Aquila**	**0.99 260**	*i* P	Pn	19 53 17.0	-2.7
MMIG			*i* S	Sn	19 53 30.7	-1.9
ZIIG	**Zihuatanejo**	**1.18 136**	*i* P	Pn	19 53 20.7	-1.5
ZIIG			*i* S	Sn	19 53 34.1	-2.9
EZ5V		**1.58 310**	*i* P	Pn	19 53 25.7	-2.0
EZ5V			*i* S	Sn	19 53 45.7	-1.4
R15V		**1.73 294**	*i* P	Pn	19 53 27.6	-2.1
R15V			*i* S	Sn	19 53 48.6	-2.1
SFJM	**Santa Fe**	**2.12 341**	*i* P	Pn	19 53 39.8	+4.6
SFJM			*i* S	Sn	19 53 59.5	-1.0

*IDC **14** 20:07:52.7±1.3, 18°.61S×168°.69E, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/18, mbtmp4.3/9, ML4.9/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/22, Error ellipse: s-maj=29.9km s-min=27.2km az=102.0*
*LDG **14** 20:07:58.0±0.2, 18°.00S×167°.65E, h10km, Mb4.5/1, Error ellipse: s-maj=36.0km s-min=4.7km az=97.0*
*NOU **14** 20:07:58.8±1.1, 17°.85S×167°.32E, h30km, MD3.5, ML4.2*
*ISCJB **14** 20:08:01.1±2.1, 18°.35S±0°.06×167°.9E±0°.2, h37km±16km, mb4.4/9, MS3.3/2, Error ellipse: s-maj=38.6km s-min=10.5km az=3.1*
*NEIC **14** 20:08:03.1±2.2, 18°.42S×167°.97E, h38km±17km, Error ellipse: s-maj=21.8km s-min=16.7km az=96.0*
ISC 14 20:08:02.4±2.0, **18°.37S**±0°.06×**168°.1E**±0°.2, **h41**km±13km, **n60**, σ0°**89**/32, **mb4.4**/9, **MS3.3**/2, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.94**	**197**	*e*P	**Pn**	**20 09 01.4**	**+1.1**
BAYA				*e*S	**Sn**	**20 09 46.7**	**+1.4**
DZM	**Mont Dzumac**	**4.00**	**203**	*e*P	**Pn**	**20 09 00.2**	**-1.0**
DZM				*e*S	**Sn**	**20 09 46.0**	**-0.9**
DZM				AMP		20 09 53.0	
comp=Z,1μm,4.2s							
DZM	**Mont Dzumac**	**4.00**	**203**	*e*Pn	**Pn**	**20 09 00.4**	**-0.8**
DZM				*e*Sn	**Sn**	**20 09 45.5**	**-1.3**
NOUC	**Port Laguerre**	**4.08**	**204**	*e*P	**Pn**	**20 09 01.5**	**-0.9**
NOUC				*e*S	**Sn**	**20 09 47.7**	**-1.2**
NOUC				AMP		20 10 07.3	
comp=Z,50nm,6.8s							
LASL	**Noumea**	**4.12**	**201**	*e*S	**Sn**	**20 09 50.0**	**+0.3**
NORM	**Noumea**	**4.13**	**201**	*e*S	**Sn**	**20 09 50.7**	**+0.6**
HNR	**Honiara**	**11.90**	**317**	Pn	**Pn**	**20 10 49.8**	**+0.3**
comp=Z,6.6nm,0.3s,baz=60,slow=1.8,SNR=6.2							
HNR				LR	LR	20 14 29.5	
comp=Z,84nm,18.6s,baz=172,slow=32							
HNR	**Honiara**	**11.90**	**317**	Pn	**Pn**	**20 10 49.9**	**+0.3**
CTA	**Charters Tower**	**20.70**	**262**	P	**P**	**20 12 40.7**	**+1.4**
comp=Z,2.4nm,0.6s,baz=69,slow=12,SNR=4.3							
CTA				LR	LR	20 19 22.8	
comp=Z,83nm,19.4s,MS3.1,baz=234,slow=32							
CTA	**Charters Tower**	**20.70**	**262**	P	**P**	**20 12 40.7**	**+1.4**
CMSA	**Cobar Meteorol**	**24.12**	**233**	*e*P	**P**	**20 13 15.0**	**+0.6**
comp=Z,44nm,0.6s,mb5.1							
RPZ	**Rata Peaks**	**25.39**	**175**	P	**P**	**20 13 18.4**	**-7.4**
comp=Z,9.3nm,0.9s,mb4.3,baz=299,slow=19,SNR=6.4							
STKA	**Stephens Creek**	**27.43**	**236**	P	**P**	**20 13 44.9**	**+0.6**
comp=Z,4.0nm,0.8s,mb4.0,baz=76,slow=9.5,SNR=12							
STKA	**Stephens Creek**	**27.43**	**236**	*e*P	**P**	**20 13 45.0**	**+0.7**
comp=Z,2.9nm,0.7s,mb3.9							
STKA	**Stephens Creek**	**27.43**	**236**	P	**P**	**20 13 44.9**	**+0.6**
WRA	**Warramunga Arr**	**31.91**	**262**	P	**P**	**20 14 22.8**	**-1.4**
comp=Z,0.3nm,0.3s,mb3.6,baz=86,slow=7.8,SNR=5.5							
WRA	**Warramunga Arr**	**31.91**	**262**	P	**P**	**20 14 22.8**	**-1.4**
BBOO	**Buckleboo**	**32.14**	**237**	*e*P	**P**	**20 14 26.3**	**+0.2**
comp=Z,38nm,0.8s,mb5.3							
AS31	**Alice Springs**	**32.31**	**255**	*e*P	**P**	**20 14 27.1**	**-0.6**
ASAR	**Alice Springs**	**32.31**	**255**	P	**P**	**20 14 27.2**	**-0.5**
comp=Z,4.4nm,0.6s,mb4.5,baz=84,slow=8.5,SNR=66							
ASAR	**Alice Springs**	**32.31**	**255**	P	**P**	**20 14 27.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**40.27**	**263**	P	**P**	**20 15 35.9**	**+0.2**
comp=Z,6.5nm,0.7s,mb4.5,baz=122,slow=5.5,SNR=17							
FITZ				LR	LR	20 30 57.4	
comp=Z,53nm,18.9s,MS3.4,baz=95,slow=34							
FITZ	**Fitzroy Crossi**	**40.27**	**263**	*e*P

UPR				S	Sg	20 18 20.0	-0.3
EFP	**Efpalio**	**0.60**	**329**	*e*PN	**Pg**	20 18 13.7	-0.4
EFP				*e*SN	**Sg**	20 18 22.1	+0.2
EFP	**Efpalio**	**0.60**	**329**	P	**Pg**	20 18 13.3	-0.8
EFP	**Efpalio**	**0.60**	**329**	*e*Pn	**Pg**	20 18 13.7	-0.4
EFP				S	**Sg**	20 18 21.5	-0.4
RLS	**Riolos of Patr**	**0.67**	**283**	*e*Pn	**Pg**	20 18 14.8	-0.6
RLS				*e*SN	**Sg**	20 18 24.5	+0.3
RLS	**Riolos of Patr**	**0.67**	**283**	P	**Pg**	20 18 14.7	-0.7
ITM	**Ithomi**	**0.79**	**202**	*e*PN	**Pg**	20 18 17.5	-0.2
ITM	**Ithomi**	**0.79**	**202**	*e*Pn	**Pg**	20 18 17.5	-0.2
DID	**Didima**	**0.85**	**118**	*e*PN	**Pg**	20 18 18.9	+0.1
DID				*e*SN	**Sg**	20 18 30.1	+0.3
DID	**Didima**	**0.85**	**118**	P	**Pg**	20 18 18.5	-0.3
DID	**Didima**	**0.85**	**118**	*e*Pn	**Pg**	20 18 18.9	+0.1
DID				S	**Sg**	20 18 30.1	+0.3
VIL1	**Vilia, Western**	**0.85**	**72**	*e*PN	**Pg**	20 18 18.4	-0.4
VIL1				*e*SN	**Sg**	20 18 30.0	+0.1
LKR	**Lokris**	**0.92**	**37**	*e*PB	**Pg**	20 18 18.9	-1.3
LKR				*e*SN	**Sg**	20 18 32.2	+0.1
LKR	**Lokris**	**0.92**	**37**	*e*Pb	**Pg**	20 18 18.9	-1.3
LKR				*e*Sn	**Sg**	20 18 32.2	+0.1
NAIG	**Nisos Aigina**	**0.95**	**99**	*e*PN	**Pg**	20 18 20.6	-0.2
NAIG	**Nisos Aigina**	**0.95**	**99**	*e*Pn	**Pg**	20 18 20.9	+0.1
EVR	**Evrytania**	**1.07**	**339**	*e*PN	**Pg**	20 18 22.4	-0.7
EVR	**Evrytania**	**1.07**	**339**	*e*Pn	**Pg**	20 18 22.4	-0.7
AGG	**Agios Georgios**	**1.11**	**1**	*e*PN	**Pg**	20 18 22.3	-1.5
AGG				*e*SN	**Sg**	20 18 38.0	-0.2
AGG	**Agios Georgios**	**1.11**	**1**	*e*Pn	**Pg**	20 18 22.1	-1.7
AGG				*e*Sn	**Sg**	20 18 38.0	-0.2
PYL	**PYLOS**	**1.11**	**204**	*e*PN	**Pg**	20 18 23.0	-0.7
PYL	**PYLOS**	**1.11**	**204**	P	**Pg**	20 18 22.8	-0.9
ATH	**Athens Observa**	**1.12**	**87**	*e*PN	**Pg**	20 18 23.5	-0.5
ATH	**Athens Observa**	**1.12**	**87**	*e*Pn	**Pg**	20 18 24.0	0.0
DYR	**Agios Nikonas**	**1.15**	**179**	P	**Pg**	20 18 23.2	-1.3
VLY	**Voula,Athens**	**1.19**	**92**	*e*PN	**Pn**	20 18 24.4	-0.9
VLY				*e*SN	**Sn**	20 18 41.1	-0.5
VLY	**Voula,Athens**	**1.19**	**92**	*e*Pn	**Pn**	20 18 24.4	-0.9
VLY				*e*Sn	**Sn**	20 18 41.1	-0.5
KFL	**Anninata**	**1.21**	**280**	P	**Pb**	20 18 25.4	-0.2
KFL				S	**Sb**	20 18 42.7	+1.3
PTL	**Penteli**	**1.25**	**83**	*e*PN	**Pn**	20 18 25.4	-0.8
PTL				*e*SN	**Sn**	20 18 42.1	-1.0
PTL	**Penteli**	**1.25**	**83**	*e*Pn	**Pn**	20 18 25.4	-0.8
PTL				*e*Sn	**Sn**	20 18 42.1	-1.0
VLI	**Veliai**	**1.30**	**157**	*e*PN	**Pn**	20 18 26.8	-0.1
VLI				*e*SN	**Sn**	20 18 44.8	+0.4
VLI	**Veliai**	**1.30**	**157**	*e*Pn	**Pn**	20 18 26.8	-0.1
VLI				*e*Sn	**Sn**	20 18 44.8	+0.4
VLS	**Valsamata**	**1.37**	**282**	*e*PN	**Pn**	20 18 27.7	-0.2
VLS	**Valsamata**	**1.37**	**282**	*e*Pn	**Pn**	20 18 27.2	-0.7
NEO	**Neokhori**	**1.57**	**27**	*e*PN	**Pn**	20 18 30.9	+0.3
NEO	**Neokhori**	**1.57**	**27**	*e*Pn	**Pn**	20 18 30.9	+0.3
THL	**Klokotos Trika**	**1.66**	**352**	*e*PN	**Pn**	20 18 31.5	-0.4
THL				*e*SN	**Sn**	20 18 53.5	0.0
THL	**Klokotos Trika**	**1.66**	**352**	*e*Pn	**Pn**	20 18 31.5	-0.4
THL				*e*Sn	**Sn**	20 18 53.5	0.0
KYTH	**Kithira**	**1.73**	**160**	*e*PN	**Pn**	20 18 33.5	+0.6
KYTH	**Kithira**	**1.73**	**160**	*e*Pn	**Pn**	20 18 33.8	+0.9
LIT	**Litokhoron**	**2.19**	**4**	*e*PB	**Pb**	20 18 38.7	-3.6
PLG	**Polygyros**	**2.61**	**20**	*e*PN	**Pn**	20 18 45.2	+0.2
KEK	**Kerkira**	**2.65**	**313**	*e*PN	**Pn**	20 18 45.7	+0.2
KEK	**Kerkira**	**2.65**	**313**	*e*Pn	**Pn**	20 18 45.7	+0.2
APE	**Apeiranthos**	**2.71**	**107**	‖*i*P	**Pn**	20 18 46.5	+0.3
APE	**Apeiranthos**	**2.71**	**107**	‖*i*P	**Pn**	20 18 46.5	+0.3
VAM	**Vamos**	**2.93**	**148**	*e*PN	**Pn**	20 18 50.0	+0.6
VAM	**Vamos**	**2.93**	**148**	*e*Pn	**Pn**	20 18 50.0	+0.6
CHOS	**Chios island**	**3.00**	**80**	*e*PN	**Pn**	20 18 50.4	+0.1
CHOS	**Chios island**	**3.00**	**80**	*e*Pn	**Pn**	20 18 50.3	0.0
SOH	**Sokhos**	**3.02**	**15**	*e*PN	**Pn**	20 18 51.1	+0.6
SOH	**Sokhos**	**3.02**	**15**	*e*Pn	**Pn**	20 18 51.1	+0.6
IDI	**Anoyia**	**3.35**	**141**	*e*Pn	**Pn**	20 18 54.8	-0.3
IDI				*e*Sn	**Sn**	20 19 33.6	-1.4
IDI	**Anoyia**	**3.35**	**141**	*e*Pn	**Pn**	20 18 54.8	-0.3
IDI				*e*Sn	**Sn**	20 19 33.6	-1.4
PRK	**Paraskevi**	**3.39**	**66**	*e*PN	**Pn**	20 18 56.6	+1.0
PRK	**Paraskevi**	**3.39**	**66**	*e*Pn	**Pn**	20 18 56.6	+1.0
VAY	**Valandovo**	**3.41**	**3**	*e*Pn	**Pn**	20 18 58.0	+2.1
VAY	**Valandovo**	**3.41**	**3**	*e*Pn	**Pn**	20 18 57.1	+1.2
VAY				*e*Sg	**Sn**	20 19 34.1	-2.4
VAY	**Valandovo**	**3.41**	**3**	*e*Pn	**Pn**	20 18 58.0	+2.1
KRUS	**Krusevo**	**3.54**	**347**	*e*Pn	**Pn**	20 18 59.6	+1.8
KRUS	**Krusevo**	**3.54**	**347**	*e*Pn	**Pn**	20 18 59.6	+1.8
SMG	**Samos**	**3.60**	**92**	*e*PN	**Pn**	20 18 58.9	+0.4
SMG	**Samos**	**3.60**	**92**	*e*Pn	**Pn**	20 18 58.6	+0.1
NVR	**Nevrokopi**	**3.64**	**19**	*e*PN	**Pn**	20 18 59.7	+0.6
NVR	**Nevrokopi**	**3.64**	**19**	*e*Pn	**Pn**	20 18 59.7	+0.6
NPS	**Neapolis**	**3.76**	**134**	*e*PN	**Pn**	20 19 01.6	+0.9
NPS	**Neapolis**	**3.76**	**134**	*e*Pn	**Pn**	20 19 01.6	+0.9
TIR	**Tirane**	**3.91**	**332**	*e*PN	**Pn**	20 19 03.6	+0.8
TIR	**Tirane**	**3.91**	**332**	*e*Pn	**Pn**	20 19 03.6	+0.8
TIR	**Tirane**	**3.91**	**332**	*e*Pn	**Pn**	20 19 03.6	+0.8
PLD	**Plovdiv**	**4.58**	**23**	*e*Pn	**Pn**	20 19 13.4	+1.5
PLD	**Plovdiv**	**4.58**	**23**	*e*Pn	**Pn**	20 19 13.4	+1.5
VTS	**Vitosha**	**4.72**	**8**	*e*Pn	**Pn**	20 19 15.5	+1.5
VTS	**Vitosha**	**4.72**	**8**	‖*i*P	**Pn**	20 19 14.9	+0.9
VTS	**Vitosha**	**4.72**	**8**	‖*i*P	**Pn**	20 19 14.9	+0.9
VTS	**Vitosha**	**4.72**	**8**	*e*Pn	**Pn**	20 19 15.5	+1.5
BARS	**Barje**	**4.91**	**356**	*e*Pn	**Pn**	20 19 17.9	+1.3
BARS	**Barje**	**4.91**	**356**	*e*Pn	**Pn**	20 19 17.9	+1.3
PDG	**Podgorica**	**5.08**	**334**	*e*Pn	**Pn**	20 19 18.9	+0.1
PDG	**Podgorica**	**5.08**	**334**	*e*Pn	**Pn**	20 19 18.9	+0.1
ZAPS	**Zavoj**	**5.36**	**3**	*e*Pn	**Pn**	20 19 24.3	+1.6
SJES	**Sjenica**	**5.63**	**342**	*e*Pn	**Pn**	20 19 28.2	+1.6
IVAS	**Ivanjica**	**5.89**	**345**	*e*Pn	**Pn**	20 19 30.8	+0.8
IVAS	**Ivanjica**	**5.89**	**345**	*e*Pn	**Pn**	20 19 30.8	+0.8
STON	**Ston**	**6.07**	**326**	*e*Pn	**Pn**	20 19 32.0	-0.4
STON				Sn	**Sn**	20 20 36.1	-6.0
STON	**Ston**	**6.07**	**326**	*e*Pn	**Pn**	20 19 32.0	-0.5
GRUS	**Gruza**	**6.09**	**349**	*e*Pn	**Pn**	20 19 34.3	+1.6
GRUS	**Gruza**	**6.09**	**349**	*e*Pn	**Pn**	20 19 34.3	+1.6
DIVS	**Divibare**	**6.42**	**345**	*e*Pn	**Pn**	20 19 37.9	+0.6
DIVS	**Divibare**	**6.42**	**345**	*e*Pn	**Pn**	20 19 37.9	+0.6
MLR	**Muntele Rosu**	**8.05**	**19**	P	**Pn**	20 20 02.4	+2.8
	0.1nm,0.3s,baz=153,slow=7.4,SNR=4.7						
MLR	**Muntele Rosu**	**8.05**	**19**	P	**Pn**	20 20 02.4	+2.8
MLR	**Muntele Rosu**	**8.05**	**19**	⇑*i*P	**Pn**	20 20 05.3	+5.7
NVLJ	**Novalja**	**8.68**	**322**	*e*Pn	**Pn**	20 20 06.9	-1.5
NVLJ				Sn	**Sn**	20 21 35.8	-11
NVLJ	**Novalja**	**8.68**	**322**	*e*Pn	**Pn**	20 20 06.8	-1.5
BRTR	**Keskin Array B**	**9.04**	**75**	P	**Pn**	20 20 15.2	+2.0
	0.3nm,0.3s,baz=252,slow=14,SNR=14						
BRTR	**Keskin Array B**	**9.04**	**75**	P	**Pn**	20 20 15.2	+2.0
BRTR	**Keskin Array B**	**9.04**	**75**	P	**Pn**	20 20 15.2	+2.0
MMAI	**Mount Meron Ar**	**11.75**	**111**	P	**Pn**	20 20 51.4	+1.0
	0.4nm,0.3s,baz=303,slow=12,SNR=3.3						
MMAI	**Mount Meron Ar**	**11.75**	**111**	P	**Pn**	20 20 51.4	+1.0
MMAI	**Mount Meron Ar**	**11.75**	**111**	P	**Pn**	20 20 51.4	+1.1
GERES	**GERESS Array B**	**12.58**	**333**	P	**Pn**	20 21 02.7	+1.1
	0.1nm,0.3s,baz=157,slow=13,SNR=3.0						
GERES	**GERESS Array B**	**12.58**	**333**	P	**Pn**	20 21 02.7	+1.1
GERES	**GERESS Array B**	**12.58**	**333**	P	**Pn**	20 21 02.7	+1.1
HFS	**Hagfors**	**22.91**	**349**	P	**P**	20 23 04.0	-2.4
	1.8nm,0.7s,mb3.6,baz=156,slow=11,SNR=6.3						
HFS	**Hagfors**	**22.91**	**349**	P	**P**	20 23 04.0	-2.4
HFS	**Hagfors**	**22.91**	**349**	P	**P**	20 23 04.0	-2.4
FINES	**FINESS Array B**	**23.67**	**5**	P	**P**	20 23 11.8	-2.5
	3.0nm,0.9s,mb3.7,baz=197,slow=14,SNR=3.1						
FINES	**FINESS Array B**	**23.67**	**5**	P	**P**	20 23 11.8	-2.5
FINES	**FINESS Array B**	**23.67**	**5**	P	**P**	20 23 11.9	-2.4
NOA	**NORSAR Array B**	**24.18**	**347**	P	**P**	20 23 16.7	-2.2
	1.0nm,0.8s,mb3.3,baz=149,slow=9.8,SNR=4.0						
NOA	**NORSAR Array B**	**24.18**	**347**	P	**P**	20 23 16.7	-2.2
NOA	**NORSAR Array B**	**24.18**	**347**	P	**P**	20 23 16.7	-2.2
TORD	**Torodi Ar. Bea**	**30.74**	**222**	P	**P**	20 24 18.1	-0.1
	0.4nm,0.4s,mb3.6,baz=35,slow=9.1,SNR=10						
TORD	**Torodi Ar. Bea**	**30.74**	**222**	P	**P**	20 24 18.1	-0.1
TORD	**Torodi Ar. Bea**	**30.74**	**222**	P	**P**	20 24 18.1	-0.1
ARCES	**ARCESS Array B**	**31.73**	**2**	P	**P**	20 24 25.7	-0.7
	1.3nm,0.8s,mb3.8,baz=204,slow=7.9,SNR=2.6						
ARCES	**ARCESS Array B**	**31.73**	**2**	P	**P**	20 24 25.8	-0.7
ARCES	**ARCESS Array B**	**31.73**	**2**	P	**P**	20 24 25.8	-0.6
MK31	**Makanchi Array**	**44.24**	**59**	*e*P	**P**	20 26 10.8	-1.3
MK31	**Makanchi Array**	**44.24**	**59**	*e*P	**P**	20 26 10.8	-1.4
MKAR	**Makanchi Array**	**44.24**	**59**	P	**P**	20 26 11.1	-1.1
	0.6nm,0.5s,mb3.6,baz=271,slow=7.5,SNR=17						
MKAR	**Makanchi Array**	**44.24**	**59**	P	**P**	20 26 11.1	-1.1
MKAR	**Makanchi Array**	**44.24**	**59**	P	**P**	20 26 11.1	-1.1
ZALV	**Zalesovo Beam**	**44.82**	**48**	P	**P**	20 26 15.4	-1.3
	2.1nm,0.5s,mb4.2,baz=272,slow=9.1,SNR=12						
ZALV	**Zalesovo Beam**	**44.82**	**48**	P	**P**	20 26 15.4	-1.3
ZALV	**Zalesovo Beam**	**44.82**	**48**	P	**P**	20 26 15.4	-1.3
WRA	**Warramunga Arr**	**119.12**	**93**	PKP	PKPdf	20 36 50.0	-2.3
	0.1nm,0.3s,baz=334,slow=1.8,SNR=3.7						
WRA	**Warramunga Arr**	**119.12**	**93**	PKP	PKPdf	20 36 50.0	-2.3
WRA	**Warramunga Arr**	**119.12**	**93**	PKIKP	PKPdf	20 36 50.0	-2.3
ASAR	**Alice Springs**	**120.75**	**97**	PKP	PKPdf	20 36 53.3	-2.0
	0.1nm,0.3s,baz=306,slow=1.7,SNR=3.9						
ASAR	**Alice Springs**	**120.75**	**97**	PKP	PKPdf	20 36 53.3	-2.0
ASAR	**Alice Springs**	**120.75**	**97**	PKIKP	PKPdf	20 36 53.3	-2.0

NIED ***14*** *20:29:00,39.˚20N×144.˚30E,h44km,Mw5.0 Best double couple: M0=4.07000×10^16 NP1:φs=355.00000°,δ74.00000°, λ129.00000°. NP2:φs=104.00000°,δ41.00000°,λ24.00000°.*

MOS ***14*** *20:29:29.8±0.7,39.˚24N×144.˚50E,h27km,mb5.5/114, MS4.3/29,Error ellipse: s-maj=6.3km s-min=3.7km az=105.0*

BJI ***14*** *20:29:29.3,39.˚23N×144.˚51E,h29km,mB5.3/38,mb5.2/64, Ms4.6/61,Ms7 4.5/52*

ISCJB ***14*** *20:29:30.1±0.1,39.˚15N±0.˚02×144.˚51E±0.˚02,h31km, mb5.3/279,MS4.5/46,Error ellipse: s-maj=2.6km s-min=1.7km az=153.5*

NEIC ***14*** *20:29:31.6±0.2,39.˚08N×144.˚50E,h33km±1km,mb5.4/152, MW5.0(NIED),Error ellipse: s-maj=3.8km s-min=2.5km az=151.0*

NEIC Recorded [3 JMA] in Iwate, [2 JMA] in Miyagi and [1 JMA] in Aomori, Fukushima and Tochigi. Also recorded [1 JMA] on Hokkaido.

IDC ***14*** *20:29:32.8±0.4,39.˚09N×144.˚57E,h47km±2km,mb4.7/26, mb1 4.8/29,mb1mx4.8/30,mbtmp4.7/29,MS4.3/22, Ms1 4.3/22,ms1mx4.2/47,Error ellipse: s-maj=10.6km s-min=8.8km az=131.0*

GCMT ***14*** *20:29:33.6±0.2,39.˚18N×144.˚58E,h48km,MW5.2, Moment Tensor Solution. s66,c99; s79,c136; Moment tensor: Scale 10^16Nm; Mrr6.25±.20; Mθθ-2.67±.14; Mφφ-3.58±.16; Mrθ-0.96±.12; Mθφ3.63±.10; Mφr3.15±.12; Best double couple: M0=7.30000×10^16 NP1:φs=127.00000°, δ34.00000°,λ71.00000°. NP2:φs=330.00000°,δ58.00000°, λ102.00000°. Principal axes: T 7.1700, Plg73.0000°, Azm272.0000°; N 0.2800, Plg11.0000°, Azm143.0000°; P -7.4500, Plg13.0000°, Azm51.0000°; Data Used: II IU IC G CN.*

JMA ***14*** *20:29:34.2±0.2,39.˚17N×144.˚31E,h51km,M5.2*

JMA Felt III J1.

SZGRF ***14*** *20:29:40.8,40.˚58N×144.˚15E,h34km,mb5.3,MS4.7,Off east coast of Honshu, Japan*

DJA ***14*** *20:29:51,39.˚28N×144.˚66E,h234km,mb5.0/26*

ISC 14 20:29:32.1±0.1,39.˚16N±0.˚02×144.˚51E±0.˚02,h33km, h33km±.6km;pP-P,n858,σ0s90/863,mb5.3/279,MS4.5/46, 130C-56D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MIYJ	**Miyakonagasawa**	**2.13**	**282**	‖P	**Pn**	**20 30 06.2**		**+0.9**
MIYJ				*e*S	**Sn**	20 30 29.4		-1.1
JTH	**Tanohata**	**2.19**	**292**	‖P	**Pn**	20 30 06.9		+0.8
JTH				*e*S	**Sn**	20 30 31.1		-0.9
OFUJ	**Ofunato**	**2.21**	**269**	‖P	**Pn**	20 30 07.2		+0.8
OFUJ				*e*S	**Sn**	20 30 31.8		-0.8
JOM	**Ohasama**	**2.52**	**278**	‖P	**Pn**	20 30 11.7		+1.1
JOM				S	**Sn**	20 30 39.9		-0.2
JIO	**Ouri**	**2.57**	**255**	‖P	**Pn**	20 30 11.5		+0.1
JMK	**Ichinoseki**	**2.57**	**266**	‖P	**Pn**	20 30 12.3		+0.9
JMK				*e*S	**Sn**	20 30 40.7		-0.8
JKZ	**Kuzumaki**	**2.59**	**289**	‖P	**Pn**	20 30 13.1		+1.4
JANG	**Nango**	**2.61**	**299**	‖P	**Pn**	20 30 12.3		+0.4
JRG	**Rokugo**	**3.02**	**276**	‖P	**Pn**	20 30 18.8		+1.3
JRG				S	**Sn**	20 30 52.9		+0.4
ERM	**Erimo**	**3.03**	**341**	Pn	**Pn**	20 30 18.5		+0.8
	7μm,0.6s							
ERM	**Erimo**	**3.03**	**341**	*e*Pn	**Pn**	20 30 18.6		+0.9
ERM	**Erimo**	**3.03**	**341**	*e*P	**Pn**	20 30 18.5		+0.8
ERM				pmax	pmax			
	comp=Z,400nm,0.6s							
JAH	**Hinai**	**3.16**	**290**	‖P	**Pn**	**20 30 21.1**		**+1.6**
JMM	**Marumori**	**3.19**	**247**	‖P	**Pn**	20 30 19.7		-0.2
JYK	**Kaneyama**	**3.24**	**267**	‖P	**Pn**	20 30 21.9		+1.3
JYK				S	**Sn**	20 30 59.0		+1.0
JFK	**Kawauchi**	**3.38**	**239**	‖P	**Pn**	20 30 21.9		-0.6
JOT	**Ohata**	**3.45**	**311**	P	**Pn**	20 30 24.9		+1.4
JOT				*e*S	**Sn**	20 31 02.2		-1.1
JCH	**Churui**	**3.56**	**346**	‖P	**Pn**	20 30 25.1		+0.2
JCH				*e*S	**Sn**	20 31 04.2		-1.6
ONAJ	**Iwakimizuishiy**	**3.58**	**236**	‖P	**Pn**	20 30 24.4		-0.8
JFT	**Otama**	**3.67**	**245**	‖P	**Pn**	20 30 27.1		+0.6
JFT				S	**Sn**	20 31 07.8		-0.8
JYA	**Atsumi**	**3.79**	**263**	P	**Pn**	20 30 29.3		+1.2
JKB	**Kayabe**	**3.80**	**317**	P	**Pn**	20 30 29.8		+1.5
JKB				*e*S	**Sn**	20 31 11.9		+0.1
JTB	**Tobi-shima**	**3.85**	**272**	‖P	**Pn**	20 30 29.8		+0.8
JBT2	**Biratori 2**	**3.96**	**336**	P	**Pn**	20 30 32.2		+1.7
JFY	**Yanaizu**	**4.17**	**247**	‖P	**Pn**	20 30 34.1		+0.8
JAW	**Awa shima**	**4.17**	**262**	‖P	**Pn**	20 30 34.7		+1.3
JNS	**Sasagawa**	**4.29**	**253**	‖P	**Pn**	20 30 35.9		+0.9
NEM2	**Nemuro 2**	**4.30**	**12**	P	**Pn**	20 30 34.1		-1.0
NEM2				S	**Sn**	20 31 20.1		-4.0
JHK	**Hiroka**	**4.73**	**248**	‖P	**Pn**	20 30 42.0		+0.9
JHK				S	**Sn**	20 31 32.9		-1.8
JOSM	**Okushiri--Mats**	**4.82**	**309**	P	**Pn**	20 30 43.6		+1.4
JOSM				*e*S	**Sn**	20 31 34.5		-2.3
JTKR	**Abashiri--Toko**	**4.83**	**355**	‖P	**Pn**	20 30 42.8		+0.4
JTKR				S	**Sn**	20 31 35.2		-1.9
JAG	**Ashikaga**	**4.85**	**237**	‖P	**Pn**	20 30 42.6		-0.1
YUK	**Yuzh-Kuril'sk**	**4.97**	**11**	*i* P	**Pn**	20 30 43.1		-1.3
YUK				*i* S	**Sn**	20 31 37.1		-3.6
YUK				pmax	pmax			
	comp=N,1μm,0.4s							
YUK				pmax	pmax			
	comp=Z,7μm,0.4s							
YUK				pmax	pmax			
	comp=E,1μm,0.2s							
YUK				smax				
	comp=N,17μm,0.4s							
YUK				smax				
	comp=E,11μm,0.4s							
YUK				MLR	MLR			
	comp=E,1μm,11.0s							
YUK				MLR	MLR			
	comp=Z,953nm,11.0s							
JSD	**Sado**	**5.02**	**259**	‖P	**Pn**	**20 30 45.6**		**+0.5**
JHR	**Hokuryu**	**5.03**	**336**	P	**Pn**	20 30 47.7		+2.5
JHR				*e*S	**Sn**	20 31 43.0		+0.9
TOK	**Tokyo**	**5.13**	**229**	P	**Pn**	20 30 46.1		-0.5
ASAJ	**Asahikawa**	**5.15**	**344**	P	**Pn**	20 30 48.0		+1.1
	comp=Z,59nm,0.3s,baz=204,slow=13,SNR=401							
ASAJ				S	**Sn**	20 31 43.8		-1.4
	comp=Z,54nm,0.3s,baz=108,slow=20,SNR=7.4							
ASAJ				LR	LR	20 33 40.2		
	comp=Z,3μm,19.9s,baz=173,slow=47							
ASAJ	**Asahikawa**	**5.15**	**344**	*e*Pn	**Pn**	20 30 48.0		+1.1
ASAJ				S	**Sn**	20 31 43.8		-1.4
ASAJ	**Asahikawa**	**5.15**	**344**	P	**Pn**	20 30 48.0		+1.1
ASAJ				S	**Sn**	20 31 43.8		-1.3
ASAJ				pmax	pmax			
	comp=Z,59nm,0.3s							
ASAJ				smax				
	comp=N,54nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,3μm,19.9s							
ASAJ	**Asahikawa**	**5.15**	**344**	P	**Pn**	**20 30 47.8**		**+0.9**
BSO1	**Boso 1**	**5.32**	**213**	‖P	**Pn**	20 30 47.0		-2.1
BSO1				*e*S	**Sn**	20 31 46.3		-2.9
JGK	**Kuni**	**5.32**	**243**	‖P	**Pn**	20 30 50.5		+1.3
BSO3	**Boso 3**	**5.40**	**218**	P	**Pn**	20 30 48.7		-1.6
JJN	**Nakama**	**5.41**	**250**	‖P	**Pn**	20 30 52.1		+1.7
JRY	**Ryogami san**	**5.45**	**237**	P	**Pn**	20 30 50.7		-0.3
JRY				S	**Sn**	20 31 49.5		-3.0
MJAR	**Matsushiro Arr**	**5.63**	**244**	P	**Pn**	20 30 54.4		+1.0
	comp=Z,112nm,0.3s,baz=55,slow=10,SNR=2912							
MJAR				S	**Sn**	20 31 57.5		+0.6
	comp=Z,14nm,0.3s,baz=70,slow=19,SNR=2.3							
MJAR	**Matsushiro Arr**	**5.63**	**244**	P	**Pn**	20 30 54.4		+1.0
MJAR				S	**Sn**	20 31 57.5		+0.6
MJAR	**Matsushiro Arr**	**5.63**	**244**	P	**Pn**	20 30 54.4		+1.0
MJAR				S	**Sn**	20 31 57.5		+0.6
MJAR				pmax	pmax			
	comp=Z,112nm,0.3s							
MJAR				smax				
	comp=N,14nm,0.3s							
MAJO	**Matsushiro**	**5.63**	**244**	*e*Pn	**Pn**	**20 30 55.0**		**+1.5**
MAJO	**Matsushiro**	**5.63**	**244**	*e*P	**Pn**	20 30 55.0		+1.5
MAT	**Matsushiro**	**5.63**	**244**	P	**Pn**	20 30 54.8		+1.3
MAT				S	**Sn**	20 31 57.6		+0.6
MAT	**Matsushiro**	**5.63**	**244**	P	**Pn**	20 30 54.9		+1.4
MAT				*e*S	**Sn**	20 31 58.1		+1.1
JNG	**Nsakai**	**5.77**	**244**	P	**Pn**	20 30 56.7		+1.3
JOD2	**Odawara 2**	**5.82**	**230**	P	**Pn**	20 30 54.6		-1.4
JOD2				*e*S	**Sn**	20 31 57.7		-3.9
JNT	**Takato**	**6.03**	**239**	P	**Pn**	20 31 00.6		+1.6
JTT	**Ttatey**	**6.22**	**248**	‖P	**Pn**	20 31 03.7		+2.1
JGN	**Niukaw**	**6.42**	**245**	P	**Pn**	20 31 05.7		+1.5
SHZ3	**Shizuoka 3**	**6.48**	**233**	P	**Pn**	20 31 05.3		+0.1
JNY	**Yasuok**	**6.52**	**236**	P	**Pn**	20 31 06.4		+0.7
KUR	**Kuril'sk**	**6.56**	**21**	⇑*i*P	**Pn**	20 31 05.2		-0.9
KUR				*i* S	**Sn**	20 32 14.4		-5.3
KUR				pmax	pmax			
	comp=Z,4μm,1.2s							
KUR				pmax	pmax			
	comp=N,3μm,2.2s							
KUR				pmax	pmax			
	comp=E,2μm,2.2s							
KUR				pmax	pmax			
	comp=Z,1μm,0.7s							
KUR				pmax	pmax			
	comp=N,1μm,0.5s							
KUR				pmax	pmax			
	comp=E,360nm,0.5s							
KUR				smax				
	comp=N,3μm,0.5s							
KUR				smax				
	comp=E,5μm,0.4s							
KUR				smax				
	comp=E,10μm,2.0s							
KUR				smax				
	comp=N,5μm,0.8s							
KUR				MLR	MLR			
	comp=N,6μm,16.0s							
KUR				MLR	MLR			
	comp=Z,4μm,16.0s							
KUR				MLR	MLR			
	comp=E,8μm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.89**	**351**	*e*Pn	**Pn**	**20 31 24.9**		**+0.4**
YSS	**Yuzh-Sakhalins**	**7.89**	**351**	⇑*e*P	**Pn**	20 31 24.9		+0.5
YSS				*e*S	**Sn**	20 32 49.0		-3.5
YSS				pmax	pmax			
	comp=N,60nm,0.9s							
YSS				pmax	pmax			

SNY				pmax	pmax	
	comp=Z,330nm,3.9s					
SNY				LR	LR	
	comp=Z,1μm,22.3s					
PEA0B	**Petropavlovsk-**	**16.64**	**29**	*e*Pn	**Pn**	**20 33 19.1 -3.4**
PETK	**Petropavlovsk-**	**16.64**	**29**	P	**Pn**	**20 33 19.5 -3.0**
	comp=Z,0.8nm,0.3s,baz=195,slow=11,SNR=17					
PETK				LR	LR	20 39 28.1
	comp=Z,908nm,21.6s,baz=235,slow=36					
PETK	**Petropavlovsk-**	**16.64**	**29**	P	**Pn**	**20 33 19.5 -3.0**
PETK	**Petropavlovsk-**	**16.64**	**29**	P	**Pn**	**20 33 19.5 -3.0**
PETK				pmax	pmax	
	comp=Z,1.0nm,0.3s					
PETK				MLR	MLR	
	comp=Z,908nm,21.6s					
PET	**Petropavlovsk**	**16.94**	**30**	*e*Pn	**Pn**	**20 33 27.3 +1.0**
	comp=Z,486nm,1.4s					
PET				*e*PP		20 33 36.5
PET	**Petropavlovsk**	**16.94**	**30**	*e*P	**Pn**	**20 33 28.9 +2.6**
PET				*e*S	**Sn**	**20 36 33.7 +0.4**
PET				pmax	pmax	
	comp=Z,1μm,2.0s					
PET				pmax	pmax	
	comp=Z,300nm,6.1s					
PET				pmax	pmax	
	comp=Z,39nm,0.9s					
PET				MLR	MLR	
	comp=Z,900nm,13.0s					
PET				MLR	MLR	
	comp=Z,700nm,15.0s					
DL2	**Dalian**	**17.78**	**276**	P	**Pn**	**20 33 40.5 +3.6**
DL2				S	**Sn**	**20 36 55.8 +1.9**
DL2				pmax	pmax	
	comp=Z,70nm,1.3s					
DL2				LR	LR	
	comp=N,630nm,16.6s					
JOW	**Kunigami**	**18.31**	**233**	P	**Pn**	**20 33 43.9 +0.4**
	comp=N,3.1nm,0.3s,baz=36,slow=12,SNR=10					
JOW	**Kunigami**	**18.31**	**233**	*e*P	**Pn**	**20 33 42.6 -0.9**
	comp=N,41nm,1.1s					
SSE	**Sheshan**	**20.67**	**254**	P	**P**	**20 34 08.3 -0.8**
SSE				sP	sP	20 34 20.3 -1.8
SSE				S	**S**	**20 38 03.1 +4.9**
SSE				sS	sS	20 38 12.8 +0.5
SSE				pmax	pmax	
	comp=Z,39nm,0.8s					
SSE				pmax	pmax	
	comp=Z,380nm,7.4s					
SSE				LR	LR	
	comp=N,630nm,20.0s,MS4.2					
SSE				LR	LR	
	comp=E,690nm,20.0s,MS4.2					
SSE				LR	LR	
	comp=Z,820nm,13.3s					
SSE	**Sheshan**	**20.67**	**254**	P	**P**	**20 34 08.3 -0.8**
	comp=Z,39nm,0.8s					
SSE				sP	sP	20 34 20.3 -1.8
SSE				S	**S**	**20 38 03.1 +4.9**
SSE				sS	sS	20 38 12.8 +0.5
SSE				LR	LR	
	comp=Z,820nm,13.3s,MS4.3					
BJI	**Beijing**	**21.82**	**281**	P	**P**	**20 34 20.4 -1.0**
BJI				S	**S**	**20 38 11.9 -8.7**
BJI				pmax	pmax	
	comp=Z,54nm,0.9s,mb5.0					
BJI				pmax	pmax	
	comp=Z,240nm,4.0s					
BJI				LR	LR	
	comp=N,1μm,16.7s,MS4.4					
BJI				LR	LR	
	comp=E,420nm,15.8s,MS4.4					
CLNS	**Chul'man**	**21.89**	**330**	*e*P	**P**	**20 34 21.7 -0.2**
CLNS				*e*		20 34 42.9
CLNS				*e*S	**S**	**20 38 19.4 -2.2**
CLNS				*e*		20 38 26.5
CLNS				pmax	pmax	
	comp=N,54nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,92nm,0.9s,mb5.2					
CLNS				pmax	pmax	
	comp=E,30nm,1.1s					
CLNS				pmax	pmax	
	comp=N,58nm,1.3s					
CLNS				pmax	pmax	
	comp=Z,51nm,1.1s,mb4.9					
CLNS				pmax	pmax	
	comp=E,39nm,1.0s					
CLNS				smax		
	comp=N,222nm,14.4s					
CLNS				smax		
	comp=E,558nm,13.5s					
CLNS				MLR	MLR	
	comp=E,278nm,22.0s					
CLNS				MLR	MLR	
	comp=Z,435nm,15.0s					
CLNS				MLR	MLR	
	comp=N,572nm,14.0s					
NJ2	**Nanjing**	**21.99**	**259**	*e*P	**P**	**20 34 23.3 0.0**
NJ2				pP		20 34 31.9
NJ2				sP	sP	20 34 36.3 -0.1
NJ2				S	**S**	**20 38 23.0 -1.1**
NJ2				sS	sS	20 38 30.5 -7.9
NJ2				pmax	pmax	
	comp=Z,100nm,1.2s,mb5.1					
NJ2				pmax	pmax	
	comp=Z,320nm,7.2s					
NJ2				LR	LR	
	comp=N,920nm,18.3s,MS4.5					
NJ2				LR	LR	
	comp=E,1μm,16.3s,MS4.5					
NJ2				LR	LR	
	comp=Z,1μm,19.8s,MS4.3					
FX1	**Attu Island--F**	**23.97**	**46**	P	**P**	**20 34 44.2 +1.0**
	comp=Z,47nm,0.8s,mb5.0,baz=350,slow=2.1,SNR=12					
FX1				LR	LR	20 42 28.1
	comp=Z,528nm,20.6s,MS4.0,baz=294,slow=32					
FX1	**Attu Island--F**	**23.97**	**46**	*e*P	**P**	**20 34 44.5 +1.3**
FX1	**Attu Island--F**	**23.97**	**46**	*e*P	**P**	**20 34 44.5 +1.3**
SMY	**Shemya**	**24.44**	**47**	*e*P	**P**	**20 34 48.9 +1.4**
	comp=Z,213nm,1.1s,mb5.5					
SMY	**Shemya**	**24.44**	**47**	*e*P	**P**	**20 34 48.9 +1.4**
SMY				pmax	pmax	
	comp=Z,213nm,1.1s,mb5.5					
NACB	**Ninganchiao**	**24.48**	**239**	*e*pP	pP	20 35 03.3 +5.7
YAK	**Yakutsk**	**24.63**	**343**	*e*P	**P**	**20 34 48.6 -0.5**
	comp=Z,213nm,0.9s,mb5.7					
YAK				*e*		20 34 57.4
YAK	**Yakutsk**	**24.63**	**343**	*e*P	**P**	**20 34 48.8 -0.4**
YAK				*e**PP		20 34 57.9
YAK				*e*PPP		20 35 26.3
YAK				*e*S	**S**	**20 39 04.6 -3.5**
YAK				*e**SS	sS	20 39 19.9 -3.9
YAK				*e*SSS		20 40 03.3
YAK				pmax	pmax	
	comp=E,24nm,1.4s					
YAK				pmax	pmax	
	comp=Z,70nm,0.8s,mb5.2					
YAK				pmax	pmax	
	comp=N,52nm,1.7s					
YAK				pmax	pmax	
	comp=Z,180nm,1.2s,mb5.5					
YAK				pmax	pmax	
	comp=N,75nm,1.2s					
YAK				pmax	pmax	
	comp=E,29nm,0.8s					
YAK				smax		
	comp=N,2μm,6.4s					
YAK				smax		
	comp=E,636nm,4.0s					
YAK				MLR	MLR	
	comp=N,186nm,10.0s,MS4.1					
YAK				MLR	MLR	
	comp=E,339nm,13.0s,MS4.1					
YAK				MLR	MLR	
	comp=Z,458nm,14.0s,MS4.1					
CIT	**Chita**	**24.98**	**311**	*e*P	**P**	**20 34 52.6 +0.2**
CIT				*e*		20 35 05.3
CIT				*e*		20 35 22.0
CIT				*e*		20 35 43.0
CIT				pmax	pmax	
	comp=Z,498nm,1.8s,mb5.7					
SSLB	**Suanglung**	**25.17**	**239**	*e*P	**P**	**20 34 54.6 +0.3**
	comp=Z,57nm,1.0s,mb5.1					
YULB	**Yu-li**	**25.21**	**238**	*e*P	**P**	**20 34 55.7 +0.9**
	comp=Z,49nm,0.9s,mb5.0					
HHC	**Hu-ho-hao-te**	**25.21**	**284**	*e*P	**P**	**20 34 54.8 +0.1**
HHC				pP	pP	20 35 03.8 -0.4
HHC				sP	sP	20 35 08.5 +0.2
HHC				PP		20 35 33.5
HHC				PcP	PcP	20 38 29.5 +2.0
HHC				S	**S**	**20 39 14.8 -3.0**
HHC				SS		20 40 16.6
HHC				pmax	pmax	
	comp=Z,30nm,1.1s,mb4.7					
HHC				pmax	pmax	
	comp=Z,320nm,3.9s					
HHC				LR	LR	
	comp=N,430nm,13.1s,MS4.3					
HHC				LR	LR	
	comp=E,580nm,15.5s,MS4.3					
HHC				LR	LR	
	comp=Z,750nm,17.6s,MS4.3					
GUMO	**Guam**	**25.47**	**179**	LR	LR	20 43 10.1
	comp=Z,431nm,20.7s,MS4.0,baz=10,slow=32					
TPUB	**Ta-pu**	**25.71**	**239**	*e*P	**P**	**20 34 59.9 +0.6**
	comp=Z,99nm,1.0s,mb5.3					
TWG	**Pinlang**	**25.75**	**238**	*e*P	**P**	**20 34 59.9 +0.2**
	comp=Z,86nm,0.9s,mb5.3					
WHN	**Wuhan**	**26.11**	**260**	⇑P	**P**	**20 35 02.9 0.0**
WHN				pP	pP	20 35 10.8 -1.6
WHN				S	**S**	**20 39 32.8 +0.7**
WHN				pmax	pmax	
	comp=Z,100nm,0.9s,mb5.3					
WHN				LR	LR	
	comp=N,640nm,9.3s					
WHN				LR	LR	
	comp=E,2μm,12.0s					
WHN				LR	LR	
	comp=Z,3μm,16.0s,MS4.9					
BTO	**Baotou**	**26.41**	**284**	*e*P	**P**	**20 35 05.4 -0.1**
BOD	**Bodaibo**	**27.16**	**323**	*e*P	**P**	**20 35 12.0 0.0**
BOD				pmax	pmax	
	comp=Z,38nm,0.9s,mb4.9					
ULN	**Ulaanbaatar**	**28.29**	**300**	*e*P	**P**	**20 35 23.1 +0.8**
	comp=Z,39nm,1.0s,mb5.0					
ULN	**Ulaanbaatar**	**28.29**	**300**	*e*P	**P**	**20 35 23.1 +0.8**
ULN				pmax	pmax	
	comp=Z,39nm,1.0s,mb5.0					
ULN	**Ulaanbaatar**	**28.29**	**300**	P	**P**	**20 35 22.9 +0.6**
	comp=Z,715nmcomp=Z,47nm,1.4s,mb4.9					
ULN	**Ulaanbaatar**	**28.29**	**300**	P	**P**	**20 35 23.5 +1.2**
	SNR=17					
SONM	**Songino Array**	**28.73**	**300**	P	**P**	**20 35 27.0 +0.8**
	comp=Z,9.3nm,0.8s,mb4.6,baz=88,slow=7.8,SNR=48					
SONM				sP	sP	20 35 44.6 +4.7
	comp=Z,28nm,1.0s,baz=95,slow=6.7,SNR=9.4					
SONM				LR	LR	20 47 37.0
	comp=Z,744nm,18.6s,MS4.3,baz=291,slow=38					
SONM	**Songino Array**	**28.73**	**300**	P	**P**	**20 35 27.0 +0.8**
SONM				sP	sP	20 35 44.6 +4.7
SONM	**Songino Array**	**28.73**	**300**	P	**P**	**20 35 27.0 +0.8**
SONM				pmax	pmax	
	comp=Z,9.0nm,0.8s					
SONM				pmax	pmax	
	comp=Z,28nm,1.0s					
SONM				MLR	MLR	
	comp=Z,744nm,18.6s					
XAN	**Xi'an**	**28.90**	**271**	P	**P**	**20 35 26.9 -1.0**
XAN				pP	pP	20 35 36.8 -0.7
XAN				sP	sP	20 35 39.8 -1.8
XAN				S	**S**	**20 40 22.1 +6.0**
XAN				LR	LR	
	comp=N,210nm,25.4s,MS4.0					
XAN				LR	LR	
	comp=E,480nm,25.4s,MS4.0					
IRK	**Irkutsk**	**30.58**	**309**	*e*P	**P**	**20 35 42.5 0.0**
IRK				pmax	pmax	
	comp=Z,44nm,1.7s,mb5.0					
TLY	**Talaya**	**30.88**	**307**	*e*P	**P**	**20 35 46.2 +1.0**
	comp=Z,34nm,1.0s,mb5.1					
TLY	**Talaya**	**30.88**	**307**	*e*P	**P**	**20 35 45.3 +0.1**
TLY				pmax	pmax	
	comp=Z,38nm,1.1s,mb5.1					
TLY				MLR	MLR	
	comp=Z,421nm,16.3s,MS4.2					
ZAK	**Zakamensk**	**30.96**	**305**	*e*P	**P**	**20 35 46.2 +0.3**
ZAK				*e*		20 35 59.5
ZAK				pmax	pmax	
	comp=Z,14nm,1.3s,mb4.6					
BILL	**Bilibino**	**31.31**	**16**	*e*P	**P**	**20 35 48.7 -0.1**
	comp=Z,45nm,1.1s,mb5.2					
BILL	**Bilibino**	**31.31**	**16**	⇑*i*P	**P**	**20 35 49.1 +0.3**
BILL				*e*		20 36 52.0
BILL				*e*S	**S**	**20 40 50.8 -2.3**
BILL				*e*SS	SS	20 42 38.4 -29
BILL				pmax	pmax	
	comp=Z,39nm,1.0s,mb5.2					
BILL				MLR	MLR	
	comp=Z,1μm,24.0s,MS4.4					
LZH	**Lanzhou**	**32.17**	**277**	*e*P	**P**	**20 35 57.0 +0.3**
LZH				pP	pP	20 36 09.0 +2.7
LZH				sP	sP	20 36 13.3 +2.9
LZH				*e*S	**S**	**20 41 09.3 +2.1**
LZH				sS	sS	20 41 22.0 -1.1
LZH				SS	SS	20 43 01.0 -25
LZH				pmax	pmax	
	comp=Z,51nm,1.0s,mb5.3					
LZH				pmax	pmax	
	comp=Z,290nm,4.0s					
LZH				LR	LR	
	comp=N,890nm,13.9s,MS4.7					
LZH				LR	LR	
	comp=E,790nm,14.5s,MS4.7					
LZH				LR	LR	
	comp=Z,790nm,20.3s					
LZH	**Lanzhou**	**32.17**	**277**	*e*P	**P**	**20 35 57.0 +0.3**
	comp=Z,51nm,1.0s,mb5.3					
LZH				pP	pP	20 36 09.0 +2.7
LZH				sP	sP	20 36 13.3 +2.9
LZH				*e*S	**S**	**20 41 09.2 +2.0**
LZH				sS	sS	20 41 22.0 -1.1
LZH				SS	SS	20 43 01.0 -25
LZH				LR	LR	
	comp=Z,790nm,20.3s,MS4.4					
LZH	**Lanzhou**	**32.17**	**277**	*e*P	**P**	**20 35 57.0 +0.3**
LZH				*PP	pP	20 36 09.0 +2.7
LZH				*e*S	**S**	**20 41 09.2 +2.0**
LZH				*SS	sS	20 41 22.0 -1.1
LZH				SS	SS	20 43 01.0 -25
LZH				pmax	pmax	
	comp=Z,51nm,1.0s,mb5.3					
LZH				MLR	MLR	
	comp=Z,790nm,20.3s,MS4.4					
MOY	**Mondy**	**32.52**	**307**	*e*P	**P**	**20 36 00.0 +0.4**
GYA	**Guiyang**	**34.00**	**260**	⇑*i*P	**P**	**20 36 13.4 +0.7**
GYA				pP	pP	20 36 22.5 +0.1
GYA				PP	PP	20 37 27.9 -2.1
GYA				PcP	PcP	20 38 51.3 +1.1
GYA				S	**S**	**20 41 34.6 -1.2**
GYA				sS	sS	20 41 50.0 -1.8
GYA				ScP	ScP	20 42 34.3 +1.8
GYA				SS	SS	20 43 42.1 -21
GYA				pmax	pmax	
	comp=Z,30nm,0.8s,mb5.3					
GYA				pmax	pmax	
	comp=Z,150nm,4.9s					
GYA				LR	LR	
	comp=N,850nm,17.3s,MS4.6					
GYA				LR	LR	
	comp=E,520nm,18.0s,MS4.6					
GYA				LR	LR	
	comp=Z,770nm,17.1s,MS4.5					
CD2	**Chengdu**	**34.14**	**269**	⇑*i*P	**P**	**20 36 13.8 -0.1**
CD2				pP	pP	20 36 23.5 -0.1
CD2				sP	sP	20 36 27.4 -0.3
CD2				PP	PP	20 37 28.3 -3.2
CD2				PcP	PcP	20 38 50.6 0.0
CD2				S	**S**	**20 41 36.3 -1.6**
CD2				sS	sS	20 41 51.9 -2.0
CD2				PcS	PcS	20 42 35.5 -1.3
CD2				SS	SS	20 43 47.6 -19
CD2				ScS	ScS	20 46 32.4 -2.8
CD2				pmax	pmax	
	comp=Z,30nm,0.7s,mb5.3					
CD2				pmax	pmax	
	comp=Z,160nm,6.0s					
CD2				LR	LR	
	comp=N,1μm,16.7s,MS4.8					
CD2				LR	LR	
	comp=E,1μm,16.7s,MS4.8					
CD2				LR	LR	
	comp=Z,840nm,16.6s,MS4.5					
GTA	**Gaotai**	**34.33**	**285**	⇑P	**P**	**20 36 16.8 +1.3**
GTA				pP	pP	20 36 26.4 +1.2
GTA				sP	sP	20 36 30.1 +0.9
GTA				PcP	PcP	20 38 51.3 +0.3
GTA				S	**S**	**20 41 43.4 +2.8**
GTA				sS	sS	20 41 59.3 +2.7
GTA				pmax	pmax	
	comp=Z,51nm,1.3s,mb5.3					
GTA				pmax	pmax	
	comp=Z,240nm,4.5s					
GTA				LR	LR	
	comp=N,940nm,22.8s,MS4.6					
GTA				LR	LR	
	comp=E,620nm,20.9s,MS4.6					
GTA				LR	LR	
	comp=Z,790nm,22.8s,MS4.4					
QIZ	**Qiongzhong**	**36.03**	**246**	P	**P**	**20 36 28.6 -1.7**
QIZ				S	**S**	**20 42 07.3 +0.2**
QIZ				sS	sS	20 42 21.0 -2.1
QIZ				PcS	PcS	20 42 42.6 -1.3
QIZ				pmax	pmax	
	comp=Z,22nm,1.5s,mb4.9					
QIZ				pmax	pmax	
	comp=Z,240nm,4.4s					
QIZ				LR	LR	
	comp=N,590nm,17.4s					
QIZ				LR	LR	
	comp=Z,920nm,15.9s,MS4.7					
HVS	**Khovu-Aksy**	**37.07**	**306**	*d i*P	**P**	**20 36 39.1 +0.3**
KMI	**Kunming**	**37.70**	**261**	P	**P**	**20 36 44.9 +0.4**
KMI				pP	pP	20 36 53.4 -0.9
KMI				sP	sP	20 36 57.8 -0.5
KMI				PcP	PcP	20 39 01.3 0.0
KMI				S	**S**	**20 42 31.0 -1.6**
KMI				sS	sS	20 42 44.9 -3.8
KMI				SS	SS	20 45 07.1 -12
KMI				pmax	pmax	
	comp=Z,54nm,1.1s,mb5.2					
KMI				pmax	pmax	
	comp=Z,290nm,4.0s					
KMI				LR	LR	
	comp=N,410nm,17.1s,MS4.5					
KMI				LR	LR	
	comp=E,550nm,14.5s,MS4.5					
KMI				LR	LR	
	comp=Z,680nm,16.4s,MS4.5					
KMI	**Kunming**	**37.70**	**261**	P	**P**	**20 36 44.9 +0.4**
	comp=Z,54nm,1.1s,mb5.2					
KMI				pP	pP	20 36 53.4 -0.9
KMI				sP	sP	20 36 57.7 -0.6
KMI				PcP	PcP	20 39 01.2 -0.1
KMI				S	**S**	**20 42 31.0 -1.6**
KMI				sS	sS	20 42 44.9 -3.8
KMI				SS	SS	20 45 07.1 -12
KMI				SSS		20 45 30.6
KMI				LR	LR	
	comp=Z,680nm,16.4s,MS4.5					
KMI	**Kunming**	**37.70**	**261**	P	**P**	**20 36 44.9 +0.4**
KMI				*PP	pP	20 36 53.4 -0.9
KMI				*SP	sP	20 36 57.7 -0.6
KMI						20 39 01.2
KMI				S	**S**	**20 42 31.0 -1.6**
KMI				*SS	sS	20 42 44.9 -3.8
KMI				SS	SS	20 45 07.1 -12
KMI				pmax	pmax	
	comp=Z,54nm,1.1s,mb5.2					
KMI				MLR	MLR	
	comp=Z,680nm,16.4s,MS4.5					
TNA	**Tin City**	**37.80**	**30**	*e*P	**P**	**20 36 44.1 -0.7**
	comp=Z,37nm,0.9s,mb5.1					
MYLDM	**Lahad Datu**	**41.21**	**222**	P	**P**	**20 37 15.6 +1.8**
	comp=Z,55nm,1.3s,mb5.0					
SMPI	**Sarmi**	**41.30**	**189**	P	**P**	**20 37 14.6 +0.1**
TNTI	**Ternate**	**41.30**	**207**	P	**P**	**20 37 15.2 +0.7**
	comp=Z,2μmcomp=Z,112nm,1.2s,mb5.4					
JAY	**Jayapura**	**41.62**	**186**	P	**P**	**20 37 18.7 +1.6**
	comp=Z,5μmcomp=Z,30nm,1.2s,mb4.8					
WMQ	**Urumqi**	**42.10**	**295**	P	**P**	**20 37 21.3 +0.5**
WMQ				pP	pP	20 37 31.0 +0.3
WMQ				sP	sP	20 37 35.0 +0.3
WMQ				PP	PP	20 39 02.3 +3.8
WMQ				S	**S**	**20 43 38.3 +0.3**
WMQ				sS	sS	20 43 54.3 +0.1
WMQ				pmax	pmax	
	comp=Z,53nm,1.0s,mb5.1					
WMQ				pmax	pmax	
	comp=Z,350nm,4.4s					
WMQ				LR	LR	
	comp=N,340nm,24.0s					
WMQ				LR	LR	
	comp=E,220nm,32.0s					
WMQ				LR	LR	
	comp=Z,240nm,26.4s,MS4.0					
ZAA0	**Zalesovo Array**	**42.34**	**311**	*e*P	**P**	**20 37 22.7 +0.1**
ZALV	**Zalesovo Beam**	**42.34**	**311**	P	**P**	**20 37 22.5 -0.1**
	comp=Z,20nm,0.6s,mb4.9,baz=89,slow=8.0,SNR=122					
ZALV				sP	sP	20 37 40.6 +4.2
	comp=Z,15nm,0.5s,baz=93,slow=8.4,SNR=9.7					
ZALV				PcP	PcP	20 39 14.8 -0.8
	comp=Z,13nm,0.8s,baz=97,slow=4.4,SNR=4.4					
ZALV				LR	LR	20 55 50.3
	comp=Z,248nm,19.0s,MS4.1,baz=75,slow=37					
ZALV	**Zalesovo Beam**	**42.34**	**311**	P	**P**	**20 37 22.5 -0.1**
ZALV				sP	sP	20 37 40.6 +4.2
ZALV				PcP	PcP	20 39 14.8 -0.8
ZALV	**Zalesovo Beam**	**42.34**	**311**	P	**P**	**20 37 22.5 -0.1**
ZALV						20 39 14.8
ZALV				pmax	pmax	
	comp=Z,20nm,0.6s,mb4.9					
ZALV				pmax	pmax	
	comp=Z,15nm,0.5s,mb4.9					
ZALV				pmax	pmax	
	comp=Z,13nm,0.8s,mb4.6					
ZALV				MLR	MLR	
	comp=Z,248nm,19.0s,MS4.1					
LBMI	**Labuha**	**42.57**	**206**	P	**P**	**20 37 25.4 +0.5**
	comp=Z,60nm,0.9s,mb5.3					
KMSI	**Cibinong**	**42.75**	**211**	P	**P**	**20 37 26.8 +0.4**
KMSI	**Cibinong**	**42.75**	**211**	P	**P**	**20 37 27.5 +1.1**
	comp=Z,195nm,0.9s,mb5.8					
CHRT	**Chiangrai**	**42.91**	**257**	⇑P	**P**	**20 37 27.5 -0.2**
	comp=Z,290nm,1.0s,mb6.0					
GTOI	**Gorontalo**	**43.09**	**212**	P	**P**	**20 37 29.7 +0.6**
	comp=Z,76nm,1.0s,mb5.4					
GTOI	**Gorontalo**	**43.09**	**212**	P	**P**	**20 37 30.4 +1.3**
	comp=Z,76nm,1.0s,mb5.4					
NVS	**Novosibirsk**	**43.18**	**312**	⇑*i*P	**P**	**20 37 29.4 0.0**
NVS				*e*S	**S**	**20 43 56.8 +3.2**
NVS				pmax	pmax	
	comp=N,12nm,1.7s					
NVS				pmax	pmax	
	comp=Z,82nm,1.7s,mb5.2					
NVS				pmax	pmax	
	comp=E,48nm,1.5s					
NVS				smax		
	comp=E,40nm,2.6s					
FAKI	**Fak Fak**	**43.37**	**198**	P	**P**	**20 37 32.4 +1.0**
	comp=E,36nm,1.3s,mb4.9					
OHAK	**Old Harbor**	**43.53**	**44**	*e*P	**P**	**20 37 31.9 -0.3**
	comp=E,44nm,1.2s,mb5.1					
MRSI	**Marisa**	**43.69**	**214**	P	**P**	**20 37 33.2 -0.8**
	comp=E,1μmcomp=E,107nm,1.3s,mb5.4					
MRSI	**Marisa**	**43.69**	**214**	P	**P**	**20 37 34.7 +0.7**
	comp=E,1μmcomp=E,107nm,1.3s,mb5.4					
RSO	**Redoubt South**	**43.72**	**40**	*e*P	**P**	**20 37 34.6 +1.0**
KDAK	**Kodiak Island**	**43.88**	**43**	LR	LR	20 55 15.9
	comp=E,787nm,21.0s,MS4.6,baz=254,slow=35					
KDAK	**Kodiak Island**	**43.88**	**43**	*e*P	**P**	**20 37 35.0 0.0**
	comp=E,61nm,1.1s,mb5.2					
KDAK	**Kodiak Island**	**43.88**	**43**	P	**P**	**20 37 34.3 -0.7**
	comp=E,274nm,1.0s,mb5.9,SNR=6.0					
KDAK	**Kodiak Island**	**43.88**	**43**	*e*P	**P**	**20 37 35.0 0.0**
KDAK				pmax	pmax	
	comp=Z,61nm,1.1s,mb5.2					
PPLA	**Purkeypile**	**44.02**	**36**	*e*P	**P**	**20 37 38.0 +1.9**
	comp=Z,249nm,1.8s,mb5.6					
CHG	**Chiang Mai**	**44.18**	**256**	⇑P	**P**	**20 37 38.2 +0.3**
	comp=Z,27nm,0.9s,mb5.0					
CHTO	**Chiang Mai**	**44.18**	**256**	*e*P	**P**	**20 37 38.1 +0.2**
	comp=Z,39nm,1.0s,mb5.1					
CHTO	**Chiang Mai**	**44.18**	**256**	*e*P	**P**	**20 37 38.1 +0.2**
CHTO				pmax	pmax	
	comp=Z,39nm,1.0s,mb5.1					
CHTO	**Chiang Mai**	**44.18**	**256**	P	**P**	**20 37 38.1 +0.2**
	comp=Z,447nmcomp=Z,52nm,1.0s,mb5.2					

CHTO Chiang Mai 44.18 256 P **P 20 37 38.6 +0.7**
SNR=9.9
CM31 Chiang Mai Arr 44.40 256 *e*P **P 20 37 39.8 +0.1**
comp=Z,12nm,0.8s,mb4.7
CMAR Chiang Mai Arr 44.40 256 P **P 20 37 40.0 +0.4**
comp=Z,10nm,0.8s,mb4.6,baz=46,slow=6.9,SNR=84
CMAR sP sP 20 37 58.6 +5.1
comp=Z,8.8nm,0.8s,baz=44,slow=8.4,SNR=8.5
CMAR PcP PcP 20 39 22.9 -0.2
comp=Z,7.7nm,1.0s,baz=6.8,slow=1.0,SNR=7.1
CMAR LR LR 20 59 02.0
comp=Z,312nm,18.2s,MS4.3,baz=61,slow=40
CMAR Chiang Mai Arr 44.40 256 P **P 20 37 40.0 +0.4**
CMAR sP sP 20 37 58.6 +5.1
CMAR PcP PcP 20 39 22.9 -0.2
CMAR Chiang Mai Arr 44.40 256 P **P 20 37 40.1 +0.5**
CMAR 20 39 23.0
CMAR pmax pmax
comp=Z,10.0nm,0.8s
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CMAR pmax pmax
comp=Z,8.0nm,1.0s
CMAR MLR MLR
comp=Z,313nm,18.2s
MSAI Masohi 44.67 202 P **P 20 37 43.0 +1.2**
comp=Z,465nmcomp=Z,17nm,1.6s,mb4.7
LUWI Luwuk 44.71 212 P **P 20 37 43.8 +1.7**
comp=Z,798nmcomp=Z,84nm,0.6s,mb5.7
TRF Thorofare Moun 44.90 35 *e*P **P 20 37 44.4 +1.3**
comp=Z,17nm,0.8s,mb4.9
SLKM Skilak Lake 44.97 39 *e*P **P 20 37 43.2 -0.5**
SLKM Skilak Lake 44.97 39 *e*P **P 20 37 43.2 -0.5**
MK31 Makanchi Array 45.09 301 *e*P **P 20 37 44.9 +0.1**
MK31 Makanchi Array 45.09 301 *e*P **P 20 37 44.9 0.0**
MKAR Makanchi Array 45.09 301 P **P 20 37 44.9 0.0**
comp=Z,33nm,0.7s,mb5.2,baz=83,slow=9.4,SNR=284
MKAR LR LR 20 57 25.8
comp=Z,383nm,19.3s,MS4.3,baz=74,slow=37
MKAR Makanchi Array 45.09 301 P **P 20 37 44.9 0.0**
MKAR Makanchi Array 45.09 301 P **P 20 37 44.9 0.0**
MKAR pmax pmax
comp=Z,33nm,0.7s
MKAR MLR MLR
comp=Z,383nm,19.3s
COLD Coldfoot 45.10 30 *e*P **P 20 37 45.4 +0.7**
comp=Z,31nm,1.2s,mb5.0
RC01 Rabbit Creek A 45.18 39 *e*P **P 20 37 45.5 +0.1**
comp=Z,26nm,1.1s,mb5.0
SEW Seward 45.37 40 *e*P **P 20 37 47.3 +0.4**
comp=Z,26nm,1.0s,mb5.0
SEW *ep*P pP 20 37 55.5 -1.3
PMR Palmer 45.45 38 *e*P **P 20 37 47.5 0.0**
comp=Z,16nm,0.9s,mb4.9
PMR Palmer 45.45 38 *e*P **P 20 37 47.5 0.0**
PMR pmax pmax
comp=Z,16nm,0.9s,mb4.8
MCK McKinley 45.50 35 *e*P **P 20 37 48.2 +0.4**
comp=Z,38nm,0.8s,mb5.4
MCK McKinley 45.50 35 *e*P **P 20 37 48.2 +0.4**
MCK pmax pmax
comp=Z,38nm,0.8s,mb5.4
SML Sawmill 45.83 38 *e*P **P 20 37 51.0 +0.5**
comp=Z,20nm,1.0s,mb5.0
SML Sawmill 45.83 38 *e*P **P 20 37 51.0 +0.6**
SML pmax pmax
comp=Z,20nm,1.0s,mb5.0
COLA College 45.97 33 *e*P **P 20 37 52.0 +0.4**
comp=Z,60nm,1.0s,mb5.5
COLA College 45.97 33 *e*P **P 20 37 52.0 +0.5**
COLA pmax pmax
comp=Z,60nm,1.0s,mb5.5
ILAR Eielson Array 46.38 33 P **P 20 37 54.5 -0.3**
comp=Z,13nm,0.9s,mb4.9,baz=264,slow=6.0,SNR=106
ILAR sP sP 20 38 12.6 +3.9
comp=Z,17nm,0.8s,baz=254,slow=5.9,SNR=9.1
ILAR Eielson Array 46.38 33 P **P 20 37 54.5 -0.3**
ILAR sP sP 20 38 12.6 +3.9
ILAR Eielson Array 46.38 33 P **P 20 37 54.5 -0.3**
ILAR pmax pmax
comp=Z,13nm,0.9s
ILAR pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 46.58 307 LR LR 20 59 03.5
comp=Z,180nm,18.2s,MS4.1,baz=80,slow=38
KURK Kurchatov 46.58 307 *e*P **P 20 37 56.4 -0.1**
comp=Z,92nm,0.9s,mb5.7
KURK Kurchatov 46.58 307 P **P 20 37 56.8 +0.3**
comp=Z,632nm,0.9s,mb6.5,SNR=74
KURK Kurchatov 46.58 307 *ce*P **P 20 37 56.2 -0.3**
KURK pmax pmax
comp=Z,80nm,0.7s,mb5.8
KURK Kurchatov 46.58 307 P **P 20 37 56.7 +0.2**
SNR=28
PAX Paxson 47.09 36 *e*P **P 20 38 01.0 +0.6**
comp=Z,36nm,1.5s,mb5.1
PAX Paxson 47.09 36 *e*P **P 20 38 01.0 +0.7**
PAX pmax pmax
comp=Z,36nm,1.5s,mb5.1
DIV Divide 47.10 38 *e*P **P 20 38 01.5 +1.0**
comp=Z,69nm,1.0s,mb5.5
KDI Kendari 47.42 210 P **P 20 38 03.0 -0.5**
comp=Z,678nmcomp=Z,36nm,1.1s,mb5.2
KDI Kendari 47.42 210 P **P 20 38 03.8 +0.3**
comp=Z,678nmcomp=Z,36nm,1.1s,mb5.2
DOT Dot Lake 47.67 35 *e*P **P 20 38 05.0 +0.1**
BMRM Bremner River 47.68 39 *e*P **P 20 38 06.5 +1.5**
comp=Z,42nm,1.0s,mb5.4
TTSI Tana Toraja 47.76 214 P **P 20 38 06.8 +0.7**
comp=Z,14nm,1.1s,mb4.9
MENT Mentasta 47.89 36 *e*P **P 20 38 07.8 +1.3**
PMG Port Moresby 48.38 177 P **P 20 38 08.7 -2.1**
comp=Z,9.7nm,0.7s,mb5.0,baz=349,slow=7.8,SNR=5.8
PMG Port Moresby 48.38 177 *e*P **P 20 38 10.0 -0.8**
PMG Port Moresby 48.38 177 *de*P **P 20 38 12.9 +2.1**
PMG pmax pmax
comp=Z,27nm,2.5s
PMG Port Moresby 48.38 177 P **P 20 38 10.7 -0.1**
comp=Z,27nm,0.9s,mb5.2
SPSI Sidrap Palu 48.61 214 P **P 20 38 13.2 +0.6**
comp=Z,36nm,0.9s,mb5.4
KSM Kuching 48.79 228 *e*P **P 20 38 11.8 -2.2**
KSM Kuching 48.79 228 P **P 20 38 14.6 +0.5**
comp=Z,34nm,0.8s,mb5.4
EGAK Eagle 48.83 33 *e*P **P 20 38 14.4 +0.6**
comp=Z,29nm,1.0s,mb5.3
BBSI Bau Bau 48.84 210 P **P 20 38 14.8 +0.4**
comp=Z,110nm,0.9s,mb5.9
STKI Sintang 49.27 226 P **P 20 38 17.9 +0.1**
comp=Z,35nm,1.6s,mb5.1
KAPI Kappang 49.56 213 *e*P **P 20 38 18.2 -1.7**
comp=Z,41nm,1.2s,mb5.3
KAPI *ep*P pP 20 38 30.9 +1.0
KAPI Kappang 49.56 213 P **P 20 38 18.5 -1.4**
comp=Z,36nm,0.9s,mb5.4
DAWY Dawson 49.68 34 *e*P **P 20 38 21.2 +0.9**
SNG Songkhla 50.66 243 P **P 20 38 29.0 +0.7**
comp=Z,200nm,0.9s,mb6.0
TKM2 Tokmak 2 50.79 298 P **P 20 38 29.9 +0.9**
SNR=5.8
TKM2 P 20 38 29.9
SNR=5.8
TKM2 Tokmak 2 50.79 298 *e*P **P 20 38 29.8 +0.8**
comp=Z,60nm,0.8s,mb5.6
TKM2 Tokmak 2 50.79 298 *i* P **P 20 38 29.8 +0.8**
BVAR Borovoye Array 50.97 312 LR LR 21 02 06.3
comp=Z,305nm,19.0s,MS4.3,baz=340,slow=38
BRVK Borovoye 51.02 312 P **P 20 38 31.8 +1.2**
comp=Z,389nm,0.9s,mb6.3,SNR=23
BRVK Borovoye 51.02 312 *e*P **P 20 38 31.0 +0.4**
comp=Z,50nm,0.8s,mb5.5
BRVK Borovoye 51.02 312 *ce*P **P 20 38 30.9 +0.3**
BRVK pmax pmax
comp=Z,83nm,1.2s,mb5.5
BRVK Borovoye 51.02 312 P **P 20 38 31.3 +0.8**
SNR=20
KBK Karagaybulak 51.33 298 P **P 20 38 33.6 +0.6**
SNR=50
KBK P 20 38 33.6
SNR=50
KZA Kyzart 51.33 297 P **P 20 38 34.7 +1.6**
SNR=9.7
KZA P 20 38 34.7
SNR=9.7
CHMS Chumysh 51.34 298 P **P 20 38 33.1 0.0**
SNR=8.9
CHMS P 20 38 33.1
SNR=8.9
INK Inuvik 51.37 28 *e*P **P 20 38 33.2 +0.3**
comp=Z,21nm,0.8s,mb5.1
INK *ep*P pP 20 38 42.7 -0.3
INK Inuvik 51.37 28 *e*P **P 20 38 33.3 +0.3**
INK *e**PP pP 20 38 42.7 -0.3
INK pmax pmax
comp=Z,21nm,0.8s
USP Ospenovka 51.41 299 P **P 20 38 33.9 +0.2**
SNR=30
USP P 20 38 33.9
SNR=30
FRU Bishkek 51.49 298 *e*P **P 20 38 33.5 -0.8**
FRU pmax pmax
comp=Z,120nm,2.1s,mb5.5
AAK Ala-Archa 51.65 298 P **P 20 38 35.7 +0.3**
SNR=13
AAK P 20 38 35.7
SNR=13
AAK Ala-Archa 51.65 298 P **P 20 38 35.0 -0.4**
comp=Z,117nm,0.5s,mb6.1,SNR=10
AAK Ala-Archa 51.65 298 *e*P **P 20 38 35.6 +0.2**
comp=Z,59nm,0.7s,mb5.6
AAK Ala-Archa 51.65 298 *e*P **P 20 38 35.6 +0.2**
AAK pmax pmax
comp=Z,59nm,0.7s,mb5.6
AAK Ala-Archa 51.65 298 P **P 20 38 35.0 -0.4**
comp=Z,81nm,1.6s,mb5.4
AAK Ala-Archa 51.65 298 P **P 20 38 34.6 -0.8**
comp=Z,81nm,1.6s,mb5.4
AAK Ala-Archa 51.65 298 P **P 20 38 35.9 +0.4**
SNR=11
KSH Kashi 51.78 294 P **P 20 38 40.4 +3.9**
KSH pP pP 20 38 50.8 +4.3
KSH sP sP 20 38 54.0 +3.5
KSH PcP PcP 20 39 52.5 +3.2
KSH PP PP 20 40 39.3 +5.1
KSH ScP ScP 20 43 45.8 +2.3
KSH PcS PcS 20 43 49.0 +1.7
KSH S **S** **20 46 00.8 +4.6**
KSH sS sS 20 46 16.8 +4.0
KSH ScS ScS 20 48 24.6 +0.6
KSH SS SS 20 49 35.3 +2.6
KSH pmax pmax
comp=Z,96nm,1.6s,mb5.5
KSH LR LR
comp=N,200nm,9.7s
KSH LR LR
comp=E,230nm,7.5s
KSH LR LR
comp=Z,370nm,15.5s,MS4.5
KULM Kulim 51.99 241 *e*P **P 20 38 37.8 -0.5**
comp=Z,81nm,1.2s,mb5.5
KULM *ep*P pP 20 38 48.4 0.0
KULM Kulim 51.99 241 P **P 20 38 38.3 0.0**
comp=Z,70nm,1.3s,mb5.4
EKS2 Erkin-Say 52.13 298 P **P 20 38 39.3 +0.3**
SNR=23
EKS2 P 20 38 39.3
SNR=23
EKS2 Erkin-Say 52.13 298 *e*P **P 20 38 39.1 +0.1**
comp=Z,19nm,0.7s,mb5.1
EKS2 Erkin-Say 52.13 298 *e*P **P 20 38 39.1 +0.1**
EKS2 pmax pmax
comp=Z,19nm,0.7s,mb5.1
IPM Ipoh 52.33 240 *e*P **P 20 38 40.6 -0.2**
comp=Z,63nm,1.1s,mb5.5
IPM Ipoh 52.33 240 P **P 20 38 40.6 -0.2**
comp=Z,71nm,1.3s,mb5.5
AML Almayashu 52.38 298 P **P 20 38 41.9 +1.0**
SNR=28
AML P 20 38 41.9
SNR=28
COEN Coen 52.85 182 *e*P **P 20 38 43.4 -1.1**
comp=Z,126nm,1.0s,mb5.8
COEN Coen 52.85 182 *e*P **P 20 38 43.4 -1.2**
comp=Z,174nm,1.0s,mb5.9
KKAR Karatay Array 54.18 300 *e*P **P 20 38 53.7 -0.4**
KKAR Karatay Array 54.18 300 *e*P **P 20 38 53.7 -0.4**
SDNR Sundarnagar 54.50 284 *e*PKP **P 20 38 56.0 -0.6**
SMLA Simla 54.52 284 *i* P **P 20 38 56.4 -0.4**
PSI Prapat 54.97 241 P **P 20 38 59.2 -1.0**
comp=Z,616nmcomp=Z,53nm,1.0s,mb5.5
SVE Sverdlovsk 55.18 318 *de*P **P 20 39 01.8 +0.7**
SVE *e* 20 42 15.1
SVE pmax pmax
comp=Z,89nm,1.3s,mb5.6
SVE MLR MLR
comp=Z,1μm,19.0s,MS5.0
ASOR Ausora 55.21 281 *e*PKP **P 20 39 01.5 -0.3**
ASOR AMb AMB 20 39 02.7
comp=Z,196nm,0.5s,mb6.4
DLBC Dease Lake 55.44 40 *e*P **P 20 39 05.0 +2.0**
BISR Bishrakh 55.55 281 *e*PKP **P 20 39 03.8 -0.5**
BISR AMb AMB 20 39 04.1
comp=Z,82nm,0.5s,mb6.0
NDI New Delhi 55.67 281 *e*PKP **P 20 39 03.5 -1.6**
AYAN Aya Nagar 55.84 281 *e*PKP **P 20 39 05.6 -0.6**
AYAN AMb AMB 20 39 06.7
comp=Z,51nm,0.9s,mb5.6
AGRA Agra 55.84 279 *e*PKP **P 20 39 05.7 -0.6**
BHGR Bahadurgarh 55.88 281 *e*PKP **P 20 39 06.6 0.0**
BHGR AMb AMB 20 39 09.3
comp=Z,328nm,0.0s
SOKR Solikamsk 56.14 322 *e*P **P 20 39 08.2 +0.2**
SOKR pmax pmax
comp=Z,40nm,1.3s,mb5.3
SOKR MLR MLR
comp=Z,550nm,22.0s,MS4.6
ARU Arti 56.39 318 *e*P **P 20 39 09.9 +0.1**
comp=Z,141nm,1.3s,mb5.8
ARU Arti 56.39 318 *c i*P **P 20 39 09.8 0.0**
ARU 20 40 04.7
ARU *e* 20 41 15.3
ARU PPP 20 42 27.6
ARU S **S** **20 47 00.2 +2.2**
ARU 20 48 55.8
ARU SS SS 20 50 45.0 +0.4
ARU pmax pmax
comp=Z,157nm,1.7s,mb5.8
ARU MLR MLR
comp=Z,896nm,17.0s,MS4.9
ARU Arti 56.39 318 P **P 20 39 09.8 0.0**
comp=Z,437nm,1.3s,mb6.3,SNR=31
KUDL Kundal 56.49 281 *e*PKP **P 20 39 10.5 -0.5**
KUDL AMb AMB 20 39 13.4
comp=Z,36nm,1.9s,mb5.1
KHET Khetri 57.05 281 *e*PKP **P 20 39 14.1 -0.9**
KHET AMb AMB 20 39 16.4
comp=Z,35nm,1.9s,mb5.0
ALE Alert 57.83 4 P **P 20 39 19.6 -0.1**
comp=Z,138nm,1.3s,mb5.8,SNR=11
ABKAR Akbulak array 58.44 310 *e*P **P 20 39 24.3 0.0**
AJM Ajmer 58.75 280 *ex* **P 20 39 25.0 -1.9**
SPA0 Spitsbergen Ar 58.91 349 *e*P **P 20 39 27.2 0.0**
KBL Kabul 58.93 291 *e*P **P 20 39 27.4 -0.7**
comp=Z,65nm,1.0s,mb5.6
KBL Kabul 58.93 291 *e*P **P 20 39 27.4 -0.7**
KBL pmax pmax
comp=Z,65nm,1.0s,mb5.6
CTA Charters Tower 58.96 178 P **P 20 39 25.9 -2.2**
comp=Z,2.4nm,0.5s,mb4.5,baz=344,slow=7.9,SNR=5.6
CTA LR LR 21 01 14.3
comp=Z,142nm,21.2s,MS4.1,baz=230,slow=32
CTA Charters Tower 58.96 178 P **P 20 39 25.9 -2.2**
CTA Charters Tower 58.96 178 P **P 20 39 26.0 -2.2**
CTA pmax pmax
comp=Z,2.0nm,0.5s
CTA MLR MLR
comp=Z,142nm,21.2s
CTAO Charters Tower 58.96 178 *ep*P pP 20 39 44.8 +6.4
CTAO Charters Tower 58.96 178 *e*P pP 20 39 44.8 +6.4
KBS Kingsbay 58.98 350 *e*P **P 20 39 28.3 +0.6**
comp=Z,46nm,0.9s,mb5.5
KBS *ep*P pP 20 39 38.0 +0.1
KBS Kingsbay 58.98 350 *e*P **P 20 39 28.3 +0.6**
KBS *e**PP pP 20 39 38.0 +0.1
KBS pmax pmax
comp=Z,46nm,0.9s,mb5.5
AKTO Aktyubinsk 59.07 312 P **P 20 39 28.6 -0.2**
comp=Z,34nm,0.7s,mb5.5,baz=73,slow=7.5,SNR=65
AKTO Aktyubinsk 59.07 312 P **P 20 39 28.6 -0.2**
AKTO Aktyubinsk 59.07 312 P **P 20 39 28.6 -0.2**
AKTO pmax pmax
comp=Z,34nm,0.7s,mb5.5
WRAB Tennant Creek 59.55 191 *e*P **P 20 39 29.9 -2.4**
comp=Z,36nm,1.0s,mb5.4
WRAB Tennant Creek 59.55 191 P **P 20 39 30.3 -2.0**
comp=Z,149nm,0.7s,mb6.1,SNR=9.9
WRAB Tennant Creek 59.55 191 *e*P **P 20 39 29.9 -2.4**
WRAB pmax pmax
comp=Z,36nm,1.0s,mb5.4
WRAB Tennant Creek 59.55 191 P **P 20 39 30.3 -2.0**
WB2 Warramunga Arr 59.56 191 *e*P **P 20 39 30.1 -2.2**
WRA Warramunga Arr 59.56 191 P **P 20 39 30.2 -2.2**
comp=Z,18nm,0.8s,mb5.2,baz=13,slow=7.2,SNR=91
WRA LR LR 21 05 30.3
comp=Z,80nm,19.4s,MS3.9,baz=0.0,slow=36
WRA Warramunga Arr 59.56 191 P **P 20 39 30.2 -2.2**
WRA Warramunga Arr 59.56 191 P **P 20 39 30.2 -2.1**
WRA pmax pmax
comp=Z,18nm,0.8s
WRA MLR MLR
comp=Z,81nm,19.4s
FITZ Fitzroy Crossi 59.64 201 *e*P **P 20 39 31.6 -1.3**
comp=Z,21nm,0.7s,mb5.3
FITZ Fitzroy Crossi 59.64 201 *e*P **P 20 39 30.4 -2.5**
comp=Z,33nm,1.3s,mb5.2
RES Resolute Bay 59.92 15 *e*P **P 20 39 33.7 -0.6**
comp=Z,52nm,0.8s,mb5.6
RES *ep*P pP 20 39 43.4 -1.1
RES Resolute Bay 59.92 15 *e*P **P 20 39 33.7 -0.5**
RES *e**PP pP 20 39 43.4 -1.0
RES pmax pmax
comp=Z,52nm,0.8s,mb5.6
HYB Hyderabad 60.69 269 *i* P **P 20 39 39.0 -1.3**
YKA Yellowknife Ar 60.73 32 P **P 20 39 39.6 -0.3**
comp=Z,3.6nm,0.9s,mb4.5,baz=299,slow=6.8,SNR=35
YKA sP sP 20 39 57.6 +3.5
comp=Z,6.7nm,0.7s,baz=297,slow=6.3,SNR=16
YKA Yellowknife Ar 60.73 32 P **P 20 39 39.6 -0.3**
YKA sP sP 20 39 57.6 +3.5
YKA Yellowknife Ar 60.73 32 P **P 20 39 39.6 -0.3**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA pmax pmax
comp=Z,7.0nm,0.7s
LVZ Lovozero 61.17 336 *d i*P **P 20 39 42.7 -0.1**
LVZ pmax pmax
comp=Z,16nm,0.8s,mb5.2
LVZ Lovozero 61.17 336 P **P 20 39 43.4 +0.6**
comp=Z,173nm,0.6s,mb6.4,SNR=6.0
APA Apatity 61.75 336 ‖ *i*P **P 20 39 46.5 -0.2**
APA *i* 20 40 29.5
APA pmax pmax
comp=Z,20nm,0.6s,mb5.4
APA MLR MLR
comp=Z,800nm,14.0s,MS5.0
KEV Kevo 62.31 340 *e*P **P 20 39 50.5 0.0**
comp=Z,55nm,1.1s,mb5.6
KEV *ep*P pP 20 40 00.7 0.0
KEV Kevo 62.31 340 *e*P **P 20 39 50.5 0.0**
KEV *e**PP pP 20 40 00.7 0.0
KEV pmax pmax
comp=Z,55nm,1.1s,mb5.6
KEV Kevo 62.31 340 *ep* **P 20 39 49.0 -1.5**
comp=Z,12nm,0.7s,mb5.1
ARCES ARCESS Array B 62.86 340 P **P 20 39 52.8 -1.3**
comp=Z,11nm,0.7s,mb5.1,baz=72,slow=12,SNR=22
ARCES ARCESS Array B 62.86 340 P **P 20 39 52.8 -1.3**
ARCES ARCESS Array B 62.86 340 P **P 20 39 52.8 -1.3**
ARCES pmax pmax
comp=Z,11nm,0.7s
ARE0 ARCESS Array S 62.86 340 *e*P **P 20 39 54.4 +0.3**
KLMR Klimovskoe 63.26 328 *e*P **P 20 39 53.7 -3.2**
KLMR pmax pmax
comp=Z,90nm,1.4s,mb5.7
KLMR pmax pmax
comp=Z,304nm,8.5s
AS31 Alice Springs 63.28 191 *e*P **P 20 39 55.8 -1.6**
ASAR Alice Springs 63.28 191 P **P 20 39 55.9 -1.6**
comp=Z,7.7nm,0.7s,mb5.0,baz=11,slow=6.5,SNR=69
ASAR pP pP 20 40 10.9 +3.2
comp=Z,7.4nm,0.8s,baz=11,slow=6.0,SNR=8.9
ASAR Alice Springs 63.28 191 P **P 20 39 55.9 -1.6**
ASAR Alice Springs 63.28 191 P **P 20 39 55.9 -1.5**
ASAR *PP pP 20 40 10.9 +3.2
ASAR pmax pmax
comp=Z,8.0nm,0.7s
ASAR pmax pmax
comp=Z,7.0nm,0.8s
NLWA Neilton Lookou 63.48 49 *ep*P pP 20 40 10.1 +1.2
POO Poona 63.71 273 ⇑ *ix* **P 20 39 57.5 -3.0**
comp=Z,90nm,1.0s,mb5.8
KTK1 Kautokeino 63.81 340 *e*P **P 20 40 00.6 +0.1**
DAG Danmarks Havn 63.85 356 *i* P **P 20 40 00.0 -0.6**
DAG pmax pmax
comp=Z,19nm,0.9s,mb5.1
DAG Danmarks Havn 63.85 356 *i* P **P 20 40 00.0 -0.6**
comp=Z,23nm,0.9s,mb5.2
DAG *i* 20 40 18.0
GNW Green Mountain 64.00 49 *e*P **P 20 40 02.5 +0.4**
comp=Z,35nm,1.5s,mb5.2
GNW *ep*P pP 20 40 12.6 +0.3
KAD Karad 64.15 272 *e*PKP **P 20 40 02.8 -0.7**
JCW Jim Creek 64.21 48 *ep*P pP 20 40 13.6 -0.1
JCW *es*P sP 20 40 21.4 +3.9
NOUC Port Laguerre 64.27 158 *e*P **P 20 40 03.6 -0.4**
NOUC *e*S sP 20 40 23.8 +5.7
DZM Mont Dzumac 64.28 157 *e*S **S** **20 48 40.4 +0.9**
comp=Z,117nm,29.3s
DZM *e*LR LR 20 59 18.5
comp=Z,255nm,23.2s
DZM Mont Dzumac 64.28 157 *e*P **P 20 40 03.3 -0.8**
DZM Mont Dzumac 64.28 157 *e*P **P 20 40 04.4 +0.3**
comp=Z,50nm,0.9s,mb5.5
TRO Tromso 64.48 342 *e*P **P 20 40 04.7 -0.1**
TRO *es*P sP 20 40 18.7 -0.3
MSVF Nonsavu 64.71 144 *e*P **P 20 40 08.1 +1.1**
comp=Z,41nm,1.5s,mb5.2
MSVF Nonsavu 64.71 144 *e*P **P 20 40 08.1 +1.2**
MSVF pmax pmax
comp=Z,41nm,1.5s,mb5.2
ABKT Ailbek 64.93 299 P **P 20 40 08.5 +0.2**
comp=Z,362nm,0.7s,mb6.5,SNR=26
LON Longmire 65.02 49 *e*P **P 20 40 07.8 -0.9**
LON Longmire 65.02 49 *e*P **P 20 40 07.8 -0.9**
JOF Joensuu 65.23 332 *e*P **P 20 40 08.4 -1.4**
JOF pmax pmax
comp=Z,22nm,0.7s,mb5.3
JOF Joensuu 65.23 332 *ep* **P 20 40 08.4 -1.4**
comp=Z,22nm,0.7s,mb5.3
ETW Entiat 65.43 48 *e*P **P 20 40 12.2 +0.8**
HOOD Mount Hood Mea 65.86 50 *e*P **P 20 40 13.9 -0.3**
comp=Z,70nm,1.0s,mb5.6
HOOD *ep*P pP 20 40 23.6 -0.9
RSW Rattlesnake Hi 66.50 49 *ep*P pP 20 40 29.4 +0.8
HAWA Hanford 66.54 49 *e*P **P 20 40 18.9 +0.4**
comp=Z,40nm,1.4s,mb5.2
HAWA *ep*P pP 20 40 29.3 +0.5
AFI Afiamalu 66.71 133 LR LR 21 04 21.9
comp=Z,181nm,20.6s,MS4.3,baz=321,slow=31
NEW Newport 66.90 46 *e*P **P 20 40 18.1 -2.7**
comp=Z,19nm,0.9s,mb5.1
NEW *ep*P pP 20 40 30.6 -0.5
NEW Newport 66.90 46 *e*P **P 20 40 18.1 -2.7**
NEW *e**PP pP 20 40 30.6 -0.5
NEW pmax pmax
comp=Z,19nm,0.9s
MOS Moscow 66.98 324 *e*P **P 20 40 20.1 -1.1**
MOS *e* 20 40 48.7
MOS pmax pmax
comp=Z,124nm,1.4s,mb5.8
MOS pmax pmax
comp=Z,200nm,1.7s,mb5.9
YBH Yreka Blue Hor 67.12 54 *ep*P pP 20 40 33.3 +0.7
YBH Yreka Blue Hor 67.12 54 *e*P pP 20 40 33.3 +0.7
KAF Kangasniemi 67.52 333 *e*P **P 20 40 22.2 -2.3**
KAF pmax pmax
comp=Z,32nm,0.6s,mb5.5
KAF Kangasniemi 67.52 333 *ep* **P 20 40 22.2 -2.3**
comp=Z,32nm,0.6s,mb5.5
PUL Pulkovo 67.59 330 *d i*P **P 20 40 25.1 +0.2**
PUL pmax pmax
comp=Z,116nm,1.2s,mb5.8
COCO West Island 67.67 231 *i* P **P 20 40 28.5 +2.5**
OBN Obninsk 67.84 324 *e*P **P 20 40 26.3 -0.3**
comp=Z,96nm,1.2s,mb5.7
OBN Obninsk 67.84 324 ⇑ *e*P **P 20 40 26.1 -0.5**
OBN *e*S S 20 49 14.5 -7.8

OBN pmax pmax
comp=Z,53nm,0.9s,mb5.6
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.7
WDC Whiskeytown Da 67.85 55 *e*P **P 20 40 27.5 +0.5**
WDC *e*pP pP 20 40 37.3 0.0
WDC Whiskeytown Da 67.85 55 *e*P **P 20 40 27.5 +0.6**
WDC *e**PP pP 20 40 37.3 +0.1
FINES FINESS Array B 68.06 333 P **P 20 40 27.6 -0.3**
comp=Z,53nm,0.6s,mb5.7,baz=47,slow=7.8,SNR=253
FINES LR LR 21 12 49.3
comp=Z,769nm,19.6s,MS4.9,baz=61,slow=38
FINES FINESS Array B 68.06 333 P **P 20 40 27.6 -0.3**
FINES FINESS Array B 68.06 333 P **P 20 40 27.6 -0.2**
FINES pmax pmax
comp=Z,53nm,0.6s
FINES MLR MLR
comp=Z,769nm,19.6s
MOR8 Moi Rana 68.20 340 *e*P **P 20 40 27.1 -1.6**
WALA Waterton Lakes 68.22 44 *e*P **P 20 40 29.6 +0.5**
comp=Z,0.5nm,0.8s
WALA *e*pP pP 20 40 38.6 -0.8
BSMT Bassoo Peak 68.43 45 *e*P **P 20 40 30.6 +0.2**
comp=Z,20nm,1.4s,mb5.0
BSMT *e*pP pP 20 40 40.9 +0.1
MOD Modoc 68.53 53 *e*P **P 20 40 32.1 +1.0**
comp=Z,16nm,0.9s,mb5.0
SUMG Summit 68.54 1 *e*P **P 20 40 31.7 +1.0**
comp=Z,36nm,1.0s,mb5.3
SUMG *e*pP pP 20 40 40.0 -1.1
SUMG Summit 68.54 1 *i*P **P 20 40 31.3 +0.6**
SUMG *i* 20 40 50.3
SUMG pmax pmax
comp=Z,24nm,0.9s
SUMG Summit 68.54 1 *i*P **P 20 40 31.3 +0.6**
comp=Z,24nm,0.9s,mb5.1
SUMG *i* 20 40 50.3
BMO Blue Mountains 68.69 49 *e*P **P 20 40 32.8 +0.6**
comp=Z,20nm,1.4s,mb4.8
BMO Blue Mountains 68.69 49 *e*P **P 20 40 32.8 +0.7**
BMO pmax pmax
comp=Z,20nm,1.4s,mb4.8
JTMT Jette 68.77 45 *e*pP pP 20 40 43.0 +0.1
VSR Storozhevoye 68.92 319 *e*P **P 20 40 33.1 -0.4**
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s,mb5.4
SWMT Swartz Lake 69.06 45 *e*P **P 20 40 35.0 +0.6**
WVOR Wild Horse Val 69.26 52 *e*P **P 20 40 36.4 +0.7**
comp=Z,22nm,1.1s,mb5.0
WVOR *e*pP pP 20 40 46.0 0.0
WVOR Wild Horse Val 69.26 52 *e*P **P 20 40 36.4 +0.7**
WVOR *e**PP pP 20 40 46.0 -0.1
WVOR pmax pmax
comp=Z,22nm,1.1s,mb5.0
MSO Missoula 69.49 46 *e*P **P 20 40 37.4 +0.3**
comp=Z,24nm,1.4s,mb4.9
SLMT Seeley Lake 69.50 45 *e*P **P 20 40 37.1 0.0**
CHMT Chamberlain Mo 69.82 46 *e*pP pP 20 40 48.6 -0.8
SCO Scoresbysund 70.22 355 *e*P **P 20 40 40.7 -0.5**
SCO *i* 20 40 59.4
SCO pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
SCO Scoresbysund 70.22 355 *i*P **P 20 40 40.7 -0.5**
comp=Z,7.0nm,1.2s,mb4.5
SCO *i* 20 40 59.4
WCN Washoe City 70.33 55 *e*P **P 20 40 42.0 -0.4**
comp=Z,29nm,1.3s,mb5.0
WCN *e*pP pP 20 40 52.8 0.0
WCN Washoe City 70.33 55 *e*P **P 20 40 42.0 -0.4**
WCN *e**PP pP 20 40 52.8 +0.1
WCN pmax pmax
comp=Z,29nm,1.3s,mb5.0
MFID Camas Ranch 70.39 50 *e*P **P 20 40 43.0 +0.4**
comp=Z,18nm,1.6s,mb4.8
MFID *e*pP pP 20 40 51.7 -1.3
FFC Flin Flon 70.59 34 *e*P **P 20 40 43.4 -0.2**
comp=Z,28nm,0.9s,mb5.2
FFC Flin Flon 70.59 34 P **P 20 40 43.4 -0.2**
comp=Z,175nm,0.9s,mb6.0,SNR=8.8
FFC Flin Flon 70.59 34 *i*P **P 20 40 43.5 -0.1**
CMB Columbia Colle 70.65 56 *e*P **P 20 40 44.9 +0.6**
comp=Z,48nm,1.4s,mb5.2
CMB Columbia Colle 70.65 56 *e*P **P 20 40 44.9 +0.6**
CMB pmax pmax
comp=Z,48nm,1.4s,mb5.2
HRY Holter Researc 70.73 45 *e*P **P 20 40 45.1 +0.4**
STKA Stephens Creek 70.73 183 P **P 20 40 43.0 -1.5**
comp=Z,8.9nm,0.7s,mb4.8,baz=350,slow=8.0,SNR=23
STKA Stephens Creek 70.73 183 ⇑*i*P **P 20 40 43.1 -1.5**
comp=Z,8.0nm,0.8s,mb4.7
STKA Stephens Creek 70.73 183 *e*P **P 20 40 43.1 -1.5**
comp=Z,2.0nm,0.8s,mb4.1
STKA Stephens Creek 70.73 183 P **P 20 40 43.1 -1.5**
STKA pmax pmax
comp=Z,9.0nm,0.7s
LRM Limekiln Ridge 70.92 46 *e*P **P 20 40 46.1 +0.3**
EGMT Eagleton 71.06 43 *e*P **P 20 40 47.0 +0.4**
comp=Z,41nm,0.8s,mb5.4
DLMT Dillon 71.11 47 *e*P **P 20 40 47.8 +0.9**
comp=Z,93nm,1.8s,mb5.4
HLID Hailey 71.14 49 *e*P **P 20 40 48.0 +0.8**
comp=Z,8.4nm,0.9s,mb4.7
DGRG David-gareji 71.22 308 P **P 20 40 47.2 -0.5**
FORT Forrest 71.25 195 *e*P **P 20 40 46.6 -1.2**
comp=Z,33nm,0.7s,mb5.4
BMN Battle Mountai 71.28 53 *e*P **P 20 40 49.2 +1.1**
comp=Z,27nm,0.8s,mb5.2
BMN Battle Mountai 71.28 53 *e*P **P 20 40 49.2 +1.1**
BMN pmax pmax
comp=Z,27nm,0.8s,mb5.2
MCMT McKenzie Canyo 71.29 47 *e*P **P 20 40 48.5 +0.5**
comp=Z,3.1nm,1.0s,mb4.2
KIV Kislovodsk 71.34 312 *e*P **P 20 40 48.5 +0.1**
comp=Z,163nm,0.8s,mb6.0
KIV Kislovodsk 71.34 312 *c i*P **P 20 40 48.9 +0.5**
KIV *e* 20 41 08.5
KIV *e*S S 20 50 04.2 +0.4
KIV pmax pmax
comp=Z,161nm,0.7s,mb6.1
KIV pmax pmax
comp=Z,53nm,4.0s
KIV MLR MLR
comp=Z,235nm,18.0s,MS4.5
KIV Kislovodsk 71.34 312 P **P 20 40 49.3 +1.0**
SNR=36
KIV Kislovodsk 71.34 312 P **P 20 40 49.0 +0.6**
comp=Z,1µm,0.8s,SNR=43
MTA Mtatsminda 71.43 309 P **P 20 40 49.4 +0.5**
TBLG Delisi 71.44 309 *e*P **P 20 40 49.7 +0.7**
TBLG Delisi 71.44 309 P **P 20 40 49.8 +0.7**
BOZ Bozeman (W) 71.48 46 *e*P **P 20 40 49.7 +0.5**
comp=Z,20nm,1.0s,mb5.0
BOZ Bozeman (W) 71.48 46 *e*P **P 20 40 49.7 +0.5**
BOZ pmax pmax
comp=Z,20nm,1.0s,mb5.0
GOR Gori 71.67 309 P **P 20 40 51.5 +1.1**
ONI Oni 71.70 310 P **P 20 40 51.5 +0.9**
NVAR Mina Array Bea 71.76 55 P **P 20 40 52.0 +0.9**
comp=Z,6.0nm,0.8s,mb4.6,baz=288,slow=6.2,SNR=44
NVAR sP sP 20 41 10.0 +4.7
comp=Z,14nm,0.8s,baz=283,slow=5.9,SNR=17
NVAR Mina Array Bea 71.76 55 P **P 20 40 52.0 +0.9**
NVAR sP sP 20 41 10.0 +4.7
BBOO Buckleboo 72.04 187 *e*P **P 20 40 51.4 -1.0**
MICGM Minsk 72.08 327 ⇑*i*P **P 20 40 51.0 -1.7**
QLMT Earthquake Lak 72.09 47 *e*P **P 20 40 53.7 +0.8**
QLMT *e*pP pP 20 41 01.6 -1.7
MNK Minsk 72.11 327 ⇑*i*P **P 20 40 51.0 -1.8**
MNK pmax pmax
comp=Z,220nm,1.0s,mb6.0
MTUM Tungsten Hills 72.22 56 *e*pP pP 20 41 04.4 +0.2
NACGM Naroch 72.27 328 *e* **P 20 40 51.0 -2.8**
GNI Garni 72.37 308 *e*P **P 20 40 55.3 +0.6**
comp=Z,21nm,0.8s,mb5.1
GNI Garni 72.37 308 *c e*P **P 20 40 55.7 +1.0**
GNI pmax pmax
comp=Z,46nm,1.2s
GNI Garni 72.37 308 P **P 20 40 56.3 +1.6**
SNR=7.4
AKH Akhalkalaki 72.38 309 P **P 20 40 55.8 +1.1**
YMR Madison River 72.45 46 *e*P **P 20 40 55.0 -0.1**
comp=Z,5.3nm,0.9s,mb4.5
GCMT Greycliff 72.48 45 *e*P **P 20 40 56.0 +0.9**
comp=Z,18nm,0.9s,mb5.0
YFT Old Faithful 72.66 47 *e*P **P 20 40 56.0 -0.3**
comp=Z,19nm,0.9s,mb5.0
YFT *e*pP pP 20 41 07.9 +1.2
FLWY Flagg Ranch 72.96 47 *e*P **P 20 40 59.8 +1.7**
comp=Z,164nm,2.0s,mb5.6
FLWY *e*pP pP 20 41 09.5 +1.0
DCID1 Drake Creek 72.99 47 *e*P **P 20 40 59.9 +1.6**
comp=Z,42nm,1.0s,mb5.3
RRI2 Red Ridge 73.06 48 *e*P **P 20 40 59.8 +1.1**
comp=Z,24nm,1.0s,mb5.1
RLMT Red Lodge 73.12 45 *e*P **P 20 40 59.3 +0.3**
comp=Z,48nm,1.6s,mb5.2
HFS Hagfors 73.13 337 P **P 20 40 57.8 -1.0**
comp=Z,24nm,0.9s,mb5.1,baz=66,slow=5.4,SNR=21
HFS sP sP 20 41 16.9 +3.8
comp=Z,21nm,0.7s,baz=38,slow=5.6,SNR=9.8
HFS LR LR 21 15 43.4
comp=Z,310nm,20.5s,MS4.6,baz=130,slow=38
HFS Hagfors 73.13 337 P **P 20 40 57.8 -1.0**
HFS sP sP 20 41 16.9 +3.8
HFS Hagfors 73.13 337 P **P 20 40 57.8 -1.0**
HFS *SP sP 20 41 16.9 +3.8
HFS pmax pmax
comp=Z,24nm,0.9s
HFS pmax pmax
comp=Z,21nm,0.7s
HFS MLR MLR
comp=Z,310nm,20.5s
MOOW Moose Ponds 73.14 47 *e*P **P 20 40 59.9 +0.7**
comp=Z,40nm,1.4s,mb5.2
NB2 NORSAR Subarra 73.14 338 P **P 20 40 58.4 -0.5**
comp=Z,34nm,1.0s,mb5.2,baz=38,slow=5.9
NOA NORSAR Array B 73.14 338 P **P 20 40 58.3 -0.6**
comp=Z,18nm,0.9s,mb5.0,baz=37,slow=6.0,SNR=36
NOA sP sP 20 41 17.3 +4.1
comp=Z,29nm,0.8s,baz=37,slow=6.0,SNR=15
NOA LR LR 21 17 06.9
comp=Z,268nm,18.2s,MS4.6,baz=5.0,slow=39
NOA NORSAR Array B 73.14 338 P **P 20 40 58.3 -0.6**
NOA sP sP 20 41 17.3 +4.1
NOA NORSAR Array B 73.14 338 P **P 20 40 58.3 -0.6**
NOA *SP sP 20 41 17.3 +4.1
NOA pmax pmax
comp=Z,18nm,0.9s
NOA pmax pmax
comp=Z,29nm,0.9s
NOA MLR MLR
comp=Z,268nm,18.2s
HVU Hansel Valley 73.17 50 *e*P **P 20 41 00.4 +1.0**
comp=Z,17nm,0.8s,mb5.0
HVU *e*pP pP 20 41 10.1 +0.3
HVU Hansel Valley 73.17 50 *e*P **P 20 41 00.4 +1.0**
HVU *e**PP pP 20 41 10.1 +0.3
HVU pmax pmax
comp=Z,17nm,0.8s,mb5.0
TPAW Teton Pass 73.19 47 *e*P **P 20 41 00.9 +1.5**
comp=Z,54nm,1.4s,mb5.3
SOC Sochi 73.27 313 *e*P **P 20 40 58.3 -1.6**
SOC *e*S S 20 50 23.6 -2.4
SOC *e* 20 50 57.1
SOC pmax pmax
comp=Z,44nm,0.6s,mb5.6
SOC MLR MLR
comp=Z,229nm,15.0s,MS4.6
ISA Isabella 73.28 58 *e*pP pP 20 41 09.9 -0.7
ISA Isabella 73.28 58 *e*P **P 20 41 09.9 +10**
LOHW Long Hollow 73.31 47 *e*P **P 20 41 01.0 +0.9**
comp=Z,41nm,1.8s,mb5.0
LOHW *e*pP pP 20 41 10.3 -0.3
SNOW Snow King Moun 73.31 47 *e*P **P 20 41 01.7 +1.5**
comp=Z,17nm,0.9s,mb5.0
REDW Red Top Meadow 73.32 47 *e*P **P 20 41 01.4 +1.1**
comp=Z,20nm,1.0s,mb5.0
HOQ Hoqain 73.44 287 P **P 20 41 01.3 0.0**
SNR=8.2
SFJD Kangerlussuaq 73.54 6 *i*P **P 20 41 00.2 -0.9**
SFJD *i* 20 41 17.8
SFJD pmax pmax
comp=Z,16nm,0.8s,mb5.0
SFJD Kangerlussuaq 73.54 6 *i*P **P 20 41 00.2 -0.9**
comp=Z,16nm,0.9s,mb5.0
SFJD *i* 20 41 17.8
JMDO Jabal Madar 73.56 286 P **P 20 41 02.0 +0.1**
SNR=10.0
HATD Hatta, Dubai 73.58 289 P **P 20 41 02.1 0.0**
SNR=11
DGMT Dagmar 73.65 40 *e*P **P 20 41 02.0 0.0**
comp=Z,29nm,0.9s,mb5.2
ASHO Ashiyiah 73.72 289 P **P 20 41 03.1 +0.2**
SNR=11
LAO LASA Array 73.76 43 *e*P **P 20 41 03.1 +0.3**
comp=Z,7.2nm,0.8s,mb4.7
LAO *e*pP pP 20 41 12.7 -0.5
ANN Anapa 73.79 315 *e*P **P 20 41 01.3 -1.7**
ANN *e*S S 20 50 31.7 -0.1
ANN pmax pmax
comp=Z,111nm,1.5s,mb5.6
NAZ Nazwa, Dubai 73.84 289 P **P 20 41 03.1 -0.5**
SNR=5.7
BSY Bisya 74.01 286 P **P 20 41 04.4 -0.2**
SNR=11
AKASG Malin Array Be 74.08 323 P **P 20 41 04.1 -0.5**
comp=Z,41nm,0.7s,mb5.5,baz=44,slow=5.8,SNR=120
AKASG Malin Array Be 74.08 323 P **P 20 41 04.1 -0.5**
AKASG Malin Array Be 74.08 323 P **P 20 41 04.1 -0.5**
AKASG pmax pmax
comp=Z,41nm,0.7s
AKBB Malin Array Si 74.08 323 *e*P **P 20 41 03.8 -0.7**
AKBB Malin Array Si 74.08 323 *e*P **P 20 41 03.8 -0.8**
KIEV Kiev 74.10 323 *e*P **P 20 41 03.9 -0.7**
comp=Z,61nm,0.9s,mb5.5
KIEV Kiev 74.10 323 *c i*P **P 20 41 03.9 -0.7**
DUG Dugway 74.12 51 *e*P **P 20 41 05.6 +0.6**
comp=Z,26nm,1.0s,mb5.1
DUG Dugway 74.12 51 *e*P **P 20 41 05.6 +0.6**
DUG pmax pmax
comp=Z,26nm,1.0s,mb5.1
ARQ Araqi 74.17 287 P **P 20 41 05.9 +0.4**
SNR=8.9
NOQ North Oquirrh 74.25 50 *e*P **P 20 41 06.3 +0.5**
comp=Z,61nm,1.2s,mb5.4
SUW Suwalki 74.39 328 *e*P **P 20 41 05.5 -0.8**
SUW *e*pP pP 20 41 14.0 -2.7
SUW *e*PcP PcP 20 41 19.8 -1.1
SUW *e*PP PP 20 43 42.5 -10
SUW *e*S S 20 50 37.5 -0.6
SUW LMZ 21 16 23.7
comp=Z,300nm,20.5s
SUW Suwalki 74.39 328 *e*P **P 20 41 05.6 -0.7**
comp=Z,66nm,1.0s,mb5.5
SUW Suwalki 74.39 328 *e*P **P 20 41 05.5 -0.8**
SUW *e**PP pP 20 41 14.0 -2.7
SUW *e* 20 41 19.8
SUW *e*S S 20 50 37.5 -0.6
SUW MLR MLR
comp=Z,300nm,20.5s,MS4.6
PD01 Pinedale Array 74.41 47 *e*P **P 20 41 06.4 -0.3**
PD01 *e*pP pP 20 41 16.4 -0.6
PD02 Pinedale Array 74.42 47 *e*P **P 20 41 06.3 -0.3**
PD02 *e*pP pP 20 41 16.2 -0.9
BW06 Boulder Array 74.43 47 *e*P **P 20 41 06.7 0.0**
comp=Z,10nm,0.8s,mb4.8
PDAR Pinedale Array 74.43 47 P **P 20 41 06.6 -0.1**
comp=Z,5.7nm,0.5s,mb4.7,baz=301,slow=0.6,SNR=71
PDAR sP sP 20 41 25.4 +4.4
comp=Z,8.5nm,0.6s,baz=276,slow=1.4,SNR=15
PDAR Pinedale Array 74.43 47 P **P 20 41 06.6 -0.1**
PDAR sP sP 20 41 25.4 +4.4
GSC Goldstone 74.58 57 *e*P **P 20 41 08.0 +0.2**
comp=Z,8.7nm,0.9s,mb4.7
GSC *e*pP pP 20 41 17.8 -0.4
GSC Goldstone 74.58 57 *e*P **P 20 41 08.0 +0.2**
GSC *e**PP pP 20 41 17.8 -0.4
GSC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KLBR Kellerberrin 74.66 203 *e*P **P 20 41 06.2 -1.8**
comp=Z,13nm,0.8s,mb4.9
JLU Jordanelle 74.69 50 *e*P **P 20 41 09.2 +0.9**
comp=Z,16nm,1.1s,mb4.9
JLU *e*pP pP 20 41 18.0 -0.7
DAU Daniels Canyon 74.92 50 *e*P **P 20 41 10.4 +0.8**
DAU Daniels Canyon 74.92 50 *e*P **P 20 41 10.4 +0.8**
MPU Maple Canyon 74.94 51 *e*P **P 20 41 10.6 +0.9**
comp=Z,20nm,0.8s,mb5.1
ARUT Antelope Range 75.22 53 *e*P **P 20 41 11.8 +0.4**
comp=Z,20nm,1.1s,mb5.0
ARUT *e*pP pP 20 41 21.6 -0.2
ARUT Antelope Range 75.22 53 *e*P **P 20 41 11.8 +0.4**
ARUT *e**PP pP 20 41 21.6 -0.2
ARUT pmax pmax
comp=Z,19nm,1.1s,mb4.9
CCUT Cedar City 75.41 53 *e*P **P 20 41 13.6 +1.1**
comp=Z,27nm,1.2s,mb5.0
SIM Simferopol' 75.50 317 *c i*P **P 20 41 07.5 -5.3**
SIM pmax pmax
comp=Z,42nm,0.8s,mb5.4
MSU Marysvale 75.55 52 *e*P **P 20 41 14.1 +0.8**
MSU Marysvale 75.55 52 *e*P **P 20 41 14.1 +0.8**
TMUT Trail Mountain 75.65 51 *e*P **P 20 41 14.6 +0.8**
comp=Z,10nm,0.8s,mb4.8
TMUT *e*pP pP 20 41 25.0 +0.7
SRU San Rafael 76.17 51 *e*P **P 20 41 17.2 +0.4**
comp=Z,41nm,0.7s,mb5.5
SRU San Rafael 76.17 51 *e*P **P 20 41 17.2 +0.4**
SRU pmax pmax
comp=Z,41nm,0.7s,mb5.5
ULM Lac du Bonnet 76.37 35 P **P 20 41 16.5 -1.2**
comp=Z,5.7nm,0.9s,mb4.5,baz=274,slow=7.6,SNR=6.9
ULM Lac du Bonnet 76.37 35 *e*P **P 20 41 17.1 -0.7**
ULM Lac du Bonnet 76.37 35 *e*P **P 20 41 17.1 -0.6**
RWWY Rawlins 76.46 47 *e*P **P 20 41 18.4 -0.1**
comp=Z,71nm,1.7s,mb5.3
RSSD Black Hills 76.61 44 *e*P **P 20 41 18.5 -0.7**
comp=Z,12nm,0.8s,mb4.9
RSSD Black Hills 76.61 44 *e*P **P 20 41 18.5 -0.7**
RSSD pmax pmax
comp=Z,12nm,0.8s,mb4.9
BSD Bornholm Skovb 76.70 333 *i*P **P 20 41 19.3 -0.2**
BSD *i* 20 41 38.1
BSD pmax pmax
comp=Z,39nm,0.9s,mb5.3
BSD Bornholm Skovb 76.70 333 *i*P **P 20 41 19.3 -0.2**
comp=Z,39nm,0.9s,mb5.3
BSD *i* 20 41 38.1
BHD Baghdad 76.77 302 *ex* **P 20 41 18.0 -2.3**
UMR Umm Al-Rimmam 76.79 297 *e*P **P 20 41 19.3 -1.2**
UMR AMb AMB 20 41 20.8
comp=Z,60nm,1.4s,mb5.3
KIS Kishinev 76.83 321 *e*P **P 20 41 19.0 -1.4**
KIS LRM 21 18 58.0
comp=Z,400nm,20.0s
KIS Kishinev 76.83 321 *e*P **P 20 41 19.0 -1.4**
KIS *e* 20 41 38.0
KIS MLR MLR
comp=Z,400nm,20.0s,MS4.7
MIB Mutribah 76.90 298 *e*P **P 20 41 19.9 -1.2**
MIB AMb AMB 20 41 21.3
comp=Z,80nm,1.1s,mb5.6
BEL Belsk 76.97 328 *e*P **P 20 41 21.6 +0.5**
BEL *e*PcP PcP 20 41 31.8 -0.2
BEL *e*S S 20 51 07.4 +0.7
BEL Belsk 76.97 328 *e*P **P 20 41 21.6 +0.5**
BEL *e* pP 20 41 31.8 +0.3
BEL *e*S S 20 51 07.4 +0.7
LVV L'vov 77.07 325 *i*P **P 20 41 21.3 -0.4**
LVV *e* 20 41 39.9
GKP Gorka Klasztor 77.29 331 *e*P **P 20 41 22.7 -0.1**
GKP *e*pP pP 20 41 29.6 -3.7
GKP *e*S S 20 51 10.0 -0.1
GKP Gorka Klasztor 77.29 331 *e*P **P 20 41 22.7 -0.1**
GKP *e**PP pP 20 41 29.6 -3.7
GKP *e*S S 20 51 10.0 -0.2
RDF Al-Radifah 77.29 297 *e*P **P 20 41 23.0 -0.3**
RDF AMb AMB 20 41 24.5
comp=Z,118nm,1.2s,mb5.7
NAY Al-Naaiem 77.30 297 *e*P **P 20 41 22.3 -1.0**
NAY AMb AMB 20 41 24.3
comp=Z,51nm,1.5s,mb5.2
IAS Iasi 77.31 321 P **P 20 41 23.0 -0.1**
MALT Malatya 77.36 309 P sP 20 41 44.8 +6.9
MUD Monsted U'grnd 77.52 336 *i*P **P 20 41 23.7 -0.4**
MUD *i* 20 41 42.1
MUD pmax pmax
comp=Z,16nm,0.9s,mb5.0
MUD Monsted U'grnd 77.52 336 *i*P **P 20 41 23.7 -0.4**
comp=Z,16nm,0.9s,mb5.0
MUD *i* 20 41 42.1
PV04 Paradox Valley 77.61 50 *e*P **P 20 41 25.4 +0.5**
PHWY Pilot Hill 77.71 46 *e*P **P 20 41 25.4 0.0**
comp=Z,22nm,1.5s,mb4.9
AGMN Agassiz Nation 77.79 36 *e*pP pP 20 41 35.2 -1.0
KWP Kalwaria Pacla 77.79 326 *e*P **P 20 41 26.1 +0.3**
KWP *e*S S 20 51 12.0 -3.7
KWP LMZ 21 16 34.8
comp=Z,300nm,22.3s
KWP Kalwaria Pacla 77.79 326 *e*P **P 20 41 26.1 +0.3**
comp=Z,144nm,1.1s,mb5.8
KWP Kalwaria Pacla 77.79 326 *e*P **P 20 41 26.1 +0.4**
KWP *e*S S 20 51 12.0 -3.8
KWP MLR MLR
comp=Z,300nm,22.3s,MS4.6
WUAZ Wupatki 77.93 54 *e*P **P 20 41 27.6 +0.8**
comp=Z,23nm,1.1s,mb5.0
WUAZ *e*pP pP 20 41 36.2 -1.1
PV01 Paradox Valley 77.97 50 *e*P **P 20 41 27.2 +0.2**
comp=Z,1µm,0.8s,mb6.8
BUR08 Bucovina Ar. S 78.11 323 *e*P **P 20 41 27.3 -0.2**
BURAR Bucovina Array 78.13 323 ⇑P **P 20 41 27.6 0.0**
BURAR Bucovina Array 78.13 323 ⇑*i*P **P 20 41 27.6 0.0**
TESR 78.23 321 ⇑*i*P **P 20 41 28.0 -0.2**
SMCO Snowmass 78.24 49 *e*P **P 20 41 28.7 +0.3**
comp=Z,4.7nm,0.9s,mb4.4
SMCO *e*pP pP 20 41 38.9 0.0
CFR Carcaliu 78.44 320 ⇓P **P 20 41 29.3 -0.1**
CFR Carcaliu 78.44 320 ⇓*i*P **P 20 41 29.3 -0.1**
KOLS Kolonicke sedl 78.50 325 *e*P **P 20 41 30.5 +0.8**
KOLS Kolonicke sedl 78.50 325 *e*P **P 20 41 30.5 +0.8**
PETR 78.51 321 ⇑*i*P **P 20 41 30.9 +1.1**
STHS Stebnicka Huta 78.59 326 *e*P **P 20 41 30.6 +0.4**
STHS pmax pmax
comp=Z,23nm,1.2s,mb5.0
STHS Stebnicka Huta 78.59 326 *e*P **P 20 41 30.6 +0.4**
STHS *e*sP sP 20 41 50.2 +5.7
OJC Ojcow 78.60 327 *e*P **P 20 41 30.3 +0.1**
OJC *e*pP pP 20 41 40.6 -0.1
OJC Ojcow 78.60 327 ⇑*i*P **P 20 41 30.3 +0.1**
OJC *e**PP pP 20 41 40.6 -0.1
ISCO Idaho Springs 78.62 48 *e*P **P 20 41 31.1 +0.6**
comp=Z,10nm,0.8s,mb4.8
ISCO Idaho Springs 78.62 48 *e*P **P 20 41 31.1 +0.6**
ISCO pmax pmax
comp=Z,11nm,0.8s,mb4.8
MVCO Mesa Verde 78.62 51 *e*P **P 20 41 31.2 +0.7**
comp=Z,24nm,0.8s,mb5.2
VRI Vrincioaia 78.66 321 ⇑P **P 20 41 30.7 +0.1**
VRI Vrincioaia 78.66 321 ⇑*i*P **P 20 41 30.7 +0.1**
PLOR Plostina 78.70 321 ⇓P **P 20 41 31.1 +0.3**
PLOR Plostina 78.70 321 ⇓*i*P **P 20 41 31.1 +0.3**
UZH Uzhgorod 78.72 325 *d i*P **P 20 41 30.0 -0.9**
UZH *e* 20 41 35.0
TIRR Tirgusor 78.81 319 ⇑P **P 20 41 31.8 +0.4**
TIRR Tirgusor 78.81 319 ⇑*i*P **P 20 41 31.8 +0.4**
GRER 78.88 320 ⇑*i*P **P 20 41 33.6 +1.8**
BMR Baia Mare 78.88 324 P **P 20 41 32.3 +0.5**
CRVS Cervenica-Dubn 78.88 326 *e*P **P 20 41 32.1 +0.3**
CRVS pmax pmax
comp=Z,35nm,1.6s,mb5.0
CRVS Cervenica-Dubn 78.88 326 *e*P **P 20 41 32.1 +0.3**
TRPA Tarpa 78.98 325 ⇑*i*P **P 20 41 32.7 +0.4**
NIE Niedzica 78.99 327 *e*P **P 20 41 33.0 +0.7**
NIE Niedzica 78.99 327 *e*P **P 20 41 33.0 +0.7**
RUE Ruedersdorf 79.20 332 *e*P **P 20 41 33.2 -0.2**
comp=Z,16nm,0.6s,mb5.1
DOPR Dopca 79.23 322 ⇑*i*P **P 20 41 34.4 +0.7**
BSEG Bad Segeberg 79.23 334 *e*P **P 20 41 33.7 +0.1**
comp=Z,92nm,1.2s,mb5.6
BSEG Bad Segeberg 79.23 334 *e*P **P 20 41 33.7 +0.1**
BSEG pmax pmax
comp=Z,92nm,1.2s,mb5.6
BR131 Keskin Array S 79.24 313 *e*P **P 20 41 34.1 +0.2**
comp=Z,5.1nm,0.6s,mb4.6
BRTR Keskin Array B 79.24 313 P **P 20 41 33.9 0.0**
comp=Z,6.6nm,0.6s,mb4.8,baz=94,slow=3.2,SNR=39
BRTR sP sP 20 41 53.0 +4.7
comp=Z,14nm,1.1s,baz=102,slow=2.9,SNR=7.2
BRTR PP PP 20 44 35.5 +2.3

comp=Z,1.4nm,0.8s,baz=153,slow=0.3,SNR=3.7
BRTR Keskin Array B 79.24 313 P **P 20 41 33.9 0.0**
BRTR sP sP 20 41 53.0 +4.7
BRTR PP PP 20 44 35.5 +2.3
BRTR Keskin Array B 79.24 313 P **P 20 41 33.9 0.0**
BRTR 20 44 35.5
BRTR pmax pmax
comp=Z,7.0nm,0.6s
BRTR pmax pmax
comp=Z,14nm,1.1s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ISR Istrita 79.28 320 ⇓P **P 20 41 34.8 +0.8**
ISR Istrita 79.28 320 ⇓*i*P **P 20 41 34.8 +0.8**
MLR Muntele Rosu 79.31 321 ⇑P **P 20 41 34.4 +0.2**
MLR Muntele Rosu 79.31 321 ⇑*i*P **P 20 41 34.3 +0.1**
KSP Ksiaz 79.55 330 *e*P **P 20 41 35.5 +0.2**
KSP *e*PcP PcP 20 41 39.4 -3.8
KSP *e*S S 20 51 33.1 -1.4
KSP LMZ 21 20 23.7
comp=Z,300nm,18.3s
KSP Ksiaz 79.55 330 *i* P **P 20 41 35.5 +0.2**
KSP *e*pP pP 20 41 45.5 -0.4
KSP *e* 20 41 54.3
KSP Ksiaz 79.55 330 ⇑*i*P **P 20 41 35.5 +0.2**
KSP *e**PP pP 20 41 45.5 -0.4
OKC Ostrava-Krasne 79.58 328 ⇑*i*P **P 20 41 35.6 0.0**
OKC *e**PP pP 20 41 44.7 -1.4
OKC Ostrava-Krasne 79.58 328 ⇑*i*P **P 20 41 35.6 0.0**
OKC *e*pP pP 20 41 44.7 -1.4
OKC *ex* x 20 41 54.6
KECS Kecovo 79.62 326 *e*P **P 20 41 35.9 +0.1**
KECS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KECS Kecovo 79.62 326 *e*P **P 20 41 35.9 +0.1**
KECS *e*sP sP 20 41 54.7 +4.5
LIKS Likavka 79.79 327 *e*P sP 20 41 56.3 +5.2
LIKS Likavka 79.79 327 *e*sP sP 20 41 56.3 +5.2
MORC Moravsky Berou 79.88 328 *e*P **P 20 41 37.4 +0.3**
comp=Z,37nm,0.9s,mb5.3
MORC Moravsky Berou 79.88 328 ⇑P **P 20 41 37.4 +0.2**
MORC Moravsky Berou 79.88 328 ⇑*i*P **P 20 41 37.3 +0.1**
DRGR 79.89 324 ⇓P **P 20 41 37.2 -0.1**
DRGR 79.89 324 ⇓*i*P **P 20 41 37.2 -0.1**
UPC Upice 79.92 329 ⇑*i*P **P 20 41 37.5 +0.1**
UPC *e**PP pP 20 41 47.4 -0.5
UPC Upice 79.92 329 ⇑*i*P **P 20 41 37.5 +0.1**
UPC *e*pP pP 20 41 47.4 -0.5
UPC *ex* x 20 41 56.6
DPC Dobruska-Polom 79.92 329 *e*P **P 20 41 37.2 -0.2**
comp=Z,50nm,0.9s,mb5.4
DPC Dobruska-Polom 79.92 329 ⇑*i*P **P 20 41 37.7 +0.3**
DPC *e**PP pP 20 41 48.0 +0.1
DPC Dobruska-Polom 79.92 329 ⇑*i*P **P 20 41 37.7 +0.3**
DPC *e*pP pP 20 41 48.0 +0.1
DPC *ex* x 20 41 57.0
SDCO Great Sand Dun 80.05 49 *e*P **P 20 41 38.0 -0.4**
comp=Z,22nm,1.5s,mb4.9
PSZ Piszkesteto 80.31 326 *e*P **P 20 41 39.8 +0.3**
comp=Z,60nm,1.1s,mb5.4
PSZ Piszkesteto 80.31 326 ⇓P **P 20 41 40.1 +0.6**
PSZ Piszkesteto 80.31 326 ⇑*e*P **P 20 41 39.9 +0.4**
PSZ Piszkesteto 80.31 326 ⇓*i*P **P 20 41 40.1 +0.6**
VYHS Vyhne 80.33 327 *e*P **P 20 41 39.4 -0.2**
VYHS pmax pmax
comp=Z,23nm,1.5s,mb4.9
VYHS Vyhne 80.33 327 *e*P **P 20 41 39.4 -0.2**
VYHS *e*sP sP 20 41 58.9 +4.9
TUC Tucson 80.36 56 *e*pP pP 20 41 49.9 -0.7
TUC Tucson 80.36 56 *e*P **P 20 41 49.9 +10**
BRG Berggiesshubel 80.43 331 ⇑*i*P **P 20 41 39.8 -0.4**
comp=Z,31nm,1.3s,mb5.1
BRG *i* pP pP 20 41 58.9 +8.2
comp=Z,34nm,1.2s
BRG Berggiesshubel 80.43 331 *e*P **P 20 41 40.0 -0.1**
comp=Z,31nm,1.3s,mb5.1
BRG Berggiesshubel 80.43 331 ⇑*i*P **P 20 41 39.8 -0.3**
BRG pmax pmax
comp=Z,31nm,1.3s,mb5.1
BRG pmax pmax
comp=Z,34nm,1.2s,mb5.2
CLL Collm 80.43 332 *e*P **P 20 41 39.7 -0.4**
comp=Z,50nm,1.1s,mb5.4
CLL *e*pP pP 20 41 49.6 -1.1
CLL Collm 80.43 332 ⇑*i*P **P 20 41 39.6 -0.5**
CLL pmax pmax
comp=Z,50nm,1.1s,mb5.4
CLL Collm 80.43 332 ⇑*i*P **P 20 41 39.6 -0.5**
comp=Z,50nm,1.1s,mb5.4
CLL *i* PcP PcP 20 41 48.8 +1.7
CLL *e*pP pP 20 41 59.0 +8.3
comp=Z,60nm,0.9s
CLL *e*sP sP 20 42 07.0 +12
CLL LmV 21 20 00.0
comp=Z,400nm,20.8s
PVCC Panska Ves 80.47 330 ⇑*i*P **P 20 41 40.5 +0.2**
PVCC *e**PP pP 20 41 48.7 -2.1
PVCC Panska Ves 80.47 330 ⇑*i*P **P 20 41 40.5 +0.2**
PVCC *e*pP pP 20 41 48.7 -2.1
PVCC *ex* x 20 41 59.5
NRDL Niedersach Rie 80.50 334 *e*P **P 20 41 40.2 -0.3**
VRAC Vranov 80.63 328 LR LR 21 21 26.3
comp=Z,380nm,21.2s,MS4.7,baz=354,slow=39
VRAC Vranov 80.63 328 ⇓P **P 20 41 41.5 +0.3**
VRAC Vranov 80.63 328 ⇓*i*P **P 20 41 41.5 +0.3**
ECSD EROS Data Cent 80.73 40 *e*P **P 20 41 40.9 -1.0**
comp=Z,22nm,0.8s,mb5.1
PRA Prague 80.89 330 ⇑P **P 20 41 42.0 -0.6**
PRA pP pP 20 41 53.0 -0.1
PRA *ex* x 20 42 02.0
GZR Gura Zlata 80.90 323 ⇓P **P 20 41 42.7 -0.1**
GZR Gura Zlata 80.90 323 ⇓*i*P **P 20 41 42.7 -0.1**
PRU Pruhonice 80.91 330 ⇑*i*P **P 20 41 42.7 0.0**
PRU *e**PP pP 20 41 52.8 -0.4
PRU Pruhonice 80.91 330 ⇑*i*P **P 20 41 42.7 0.0**
PRU *e*pP pP 20 41 52.8 -0.4
PRU *ex* x 20 42 01.7
CLZ Clausthal 80.94 333 *e*P **P 20 41 43.1 +0.2**
comp=Z,52nm,1.2s,mb5.3
CLZ Clausthal 80.94 333 *e*P **P 20 41 43.1 +0.2**
CLZ pmax pmax
comp=Z,52nm,1.2s,mb5.3
BUD Budapest 81.02 326 ⇑*e*P **P 20 41 43.6 +0.2**
TREC Trest 81.09 329 *e*P **P 20 41 43.8 +0.1**
TREC *e**PP pP 20 41 54.0 -0.2
TREC Trest 81.09 329 ⇑*e*P **P 20 41 43.8 +0.1**
TREC *e*pP pP 20 41 54.0 -0.2
TREC *ex* x 20 42 02.8
BZS Buzias 81.28 323 ⇑P **P 20 41 44.2 -0.5**
BZS Buzias 81.28 323 ⇑*i*P **P 20 41 44.2 -0.5**
ZST Bratislava 81.29 327 *e*P **P 20 41 45.2 +0.4**
ZST pmax pmax
comp=Z,23nm,1.4s,mb4.9
ZST Bratislava 81.29 327 *e*P **P 20 41 45.2 +0.4**
ZST *e*sP sP 20 42 04.6 +5.4
ANMO Albuquerque 81.35 52 *e*P **P 20 41 45.7 +0.3**
comp=Z,18nm,1.2s,mb4.9
ANMO *e*pP pP 20 41 55.8 0.0
ANMO Albuquerque 81.35 52 *e*P **P 20 41 45.7 +0.4**
ANMO *e**PP pP 20 41 55.8 -0.1
ANMO pmax pmax
comp=Z,18nm,1.2s
TANN Tannenbergstha 81.36 331 *e*P **P 20 41 45.1 0.0**
comp=Z,52nm,2.0s,mb5.1
IBBN Ibbenburen 81.45 335 *e*P **P 20 41 45.4 -0.1**
MOX Moxa 81.48 332 *e*P **P 20 41 45.7 0.0**
comp=Z,36nm,1.5s,mb5.1
MOX *e*pP pP 20 41 55.9 -0.4
MOX Moxa 81.48 332 *e*P **P 20 41 45.7 0.0**
MOX *e**PP pP 20 41 55.9 -0.4
MOX pmax pmax
comp=Z,36nm,1.5s,mb5.1
NKC Novy Kostel 81.51 331 ⇑*i*P **P 20 41 45.7 -0.2**
NKC *e**PP pP 20 41 56.0 -0.4
NKC Novy Kostel 81.51 331 ⇑*i*P **P 20 41 45.7 -0.2**
NKC *e*pP pP 20 41 56.0 -0.4
NKC *ex* x 20 42 04.8
BNM Barren Site 81.78 52 *e*P **P 20 41 47.9 +0.2**
comp=Z,2.2nm,0.6s,mb4.3
BNM *e*pP pP 20 41 57.8 -0.4
SOP Sopron 81.92 327 ⇑*e*P **P 20 41 48.5 +0.4**
UBBA Unterbreizbach 81.92 333 *e*P **P 20 41 47.7 -0.4**
MPEP Malo Peshtene 81.94 321 *e*P **P 20 41 47.5 -0.8**

KHC Kasperske Hory 81.97 330 *e*P **P 20 41 47.5 -0.8**
comp=Z,35nm,0.9s,mb5.3
KHC Kasperske Hory 81.97 330 ⇑*i*P **P 20 41 48.3 0.0**
KHC *e**PP pP 20 41 57.8 -1.1
KHC Kasperske Hory 81.97 330 ⇑*i*P **P 20 41 48.3 0.0**
KHC *e*pP pP 20 41 57.8 -1.1
KHC *ex* x 20 42 07.3
ROTZ Rotzenmuhle 81.98 331 *e*P **P 20 41 48.9 +0.5**
comp=Z,25nm,1.0s,mb5.1
CONA Conrad Observa 82.02 328 *i* P **P 20 41 49.0 +0.4**
comp=Z,35nm,1.3s,mb5.2,SNR=16
RAYN Ar Rayn 82.08 294 P **P 20 41 48.0 -1.4**
comp=Z,141nm,1.1s,mb5.8,SNR=21
GEC2 GERESS Array S 82.15 330 *e*P **P 20 41 49.1 -0.2**
comp=Z,13nm,0.8s,mb4.9
GEC2 GERESS Array S 82.15 330 *e*P **P 20 41 49.1 -0.2**
GEC2 pmax pmax
comp=Z,13nm,0.8s,mb4.9
GERES GERESS Array B 82.15 330 P **P 20 41 49.0 -0.4**
comp=Z,7.7nm,0.6s,mb4.8,baz=40,slow=5.7,SNR=76
GERES sP sP 20 42 07.8 +4.1
comp=Z,7.6nm,0.7s,baz=38,slow=5.0,SNR=13
GERES PP PP 20 44 58.1 +1.1
comp=Z,1.3nm,0.8s,baz=39,slow=11,SNR=4.4
GERES GERESS Array B 82.15 330 P **P 20 41 49.0 -0.4**
GERES sP sP 20 42 07.8 +4.1
GERES PP PP 20 44 58.1 +1.1
GERES GERESS Array B 82.15 330 P **P 20 41 49.0 -0.3**
GERES 20 44 58.1
GERES pmax pmax
comp=Z,8.0nm,0.6s
GERES pmax pmax
comp=Z,8.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.8s
PKSM Moragy 82.17 325 ⇓P **P 20 41 48.3 -1.1**
PKSM Moragy 82.17 325 ⇓*i*P **P 20 41 48.3 -1.1**
WET Wettzell 82.23 330 *e*P **P 20 41 50.0 +0.3**
comp=Z,22nm,1.1s,mb5.0
WET *e*pP pP 20 42 00.0 -0.3
WET Wettzell 82.23 330 *e*P **P 20 41 50.0 +0.3**
WET *e**PP pP 20 42 00.0 -0.3
WET pmax pmax
comp=Z,22nm,1.1s,mb5.0
BUG Bochum--Univer 82.34 335 *e*P **P 20 41 49.8 -0.4**
comp=Z,19nm,0.9s,mb5.0
GRF Grafenberg Arr 82.41 332 *e*P **P 20 41 51.0 +0.4**
comp=Z,88nm,1.3s,mb5.5
GRF *e*pP pP 20 42 00.6 -0.6
GRF *e* 20 42 09.6
GRF *e*L 21 20 39.1
comp=Z,320nm,20.8s
GRF Grafenberg Arr 82.41 332 *e*P **P 20 41 51.0 +0.4**
GRF *e**PP pP 20 42 00.6 -0.6
GRF pmax pmax
comp=Z,88nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,300nm,20.8s,MS4.6
GRFO Grafenberg 82.41 332 *e*P **P 20 41 50.9 +0.2**
comp=Z,58nm,1.2s,mb5.4
GRFO Grafenberg 82.41 332 *e*P **P 20 41 50.9 +0.3**
GRFO pmax pmax
comp=Z,58nm,1.2s,mb5.4
SCHQ Schefferville 82.60 18 P **P 20 41 49.8 -1.8**
comp=Z,7.7nm,0.9s,mb4.7,baz=351,slow=7.5,SNR=4.9
SCHQ Schefferville 82.60 18 P **P 20 41 49.8 -1.8**
CSS Prodhromos 82.64 309 *e*P **P 20 41 51.2 -0.9**
comp=Z,28nm,0.8s,mb5.3
ARSA Arzberg 82.69 328 ⇑*i*P **P 20 41 52.2 0.0**
comp=Z,13nm,0.7s,mb5.1
VTS Vitosha 82.77 321 ⇑P **P 20 41 52.9 +0.2**
VTS Vitosha 82.77 321 *e*P **P 20 41 49.8 -2.9**
VTS Vitosha 82.77 321 ⇑*i*P **P 20 41 52.9 +0.2**
TNS Taunus Mts 82.97 333 *e*P **P 20 41 53.4 -0.1**
comp=Z,48nm,1.7s,mb5.2
TNS Taunus Mts 82.97 333 *e*P **P 20 41 53.4 -0.1**
TNS pmax pmax
comp=Z,48nm,1.7s,mb5.2
MMB Musomiste 83.26 320 *e*P **P 20 41 55.0 -0.2**
PERS Pernice 83.35 328 *i* P **P 20 41 55.3 -0.3**
PERS *i* 20 42 14.1
SOKA Soboth 83.35 328 ⇑*i*P **P 20 41 55.3 -0.2**
comp=Z,38nm,0.7s,mb5.6
KKB Krupnik 83.37 320 *e*P **P 20 41 55.7 -0.1**
RJOB Jochberg 83.41 330 *e*P **P 20 41 56.2 +0.4**
BEBN Eben Emael 83.42 335 P **P 20 41 55.4 -0.4**
PPT Papeete 83.45 119 *e*LR LR 21 08 12.5
comp=Z,357nm,22.5s,baz=306
MEM Membach 83.47 335 P **P 20 41 55.7 -0.4**
FUR Furstenfeldbru 83.64 331 *e*P **P 20 41 57.2 +0.1**
comp=Z,34nm,0.7s,mb5.6
FUR Furstenfeldbru 83.64 331 *e*P **P 20 41 57.2 +0.1**
FUR pmax pmax
comp=Z,34nm,0.7s,mb5.6
OBKA Obir 83.69 328 ⇑*i*P **P 20 41 56.6 -0.7**
comp=Z,17nm,0.8s,mb5.2
KBA Koelnbreinsper 83.72 329 ⇑*i*P **P 20 41 57.6 +0.2**
comp=Z,20nm,0.8s,mb5.3,SNR=6.0
BCLA Clavier 83.86 335 P **P 20 41 57.5 -0.7**
BCLA E 20 42 16.7
STU Stuttgart 83.92 332 *e*P **P 20 41 58.3 -0.1**
STU Stuttgart 83.92 332 *e*P **P 20 41 58.3 -0.2**
comp=Z,44nm,0.8s,mb5.6
STU *e*pP pP 20 42 08.9 -0.1
STU Stuttgart 83.92 332 *e*P **P 20 41 58.3 -0.1**
STU *e**PP pP 20 42 08.9 -0.1
STU pmax pmax
comp=Z,43nm,0.8s,mb5.6
MYKA Terra Mystica 83.96 328 ⇓*i*P **P 20 41 57.7 -1.1**
comp=Z,15nm,0.7s,mb5.2
VAY Valandovo 84.04 320 *i* P **P 20 41 58.3 -0.9**
SNF Seneffe 84.12 336 P **P 20 41 59.2 -0.2**
VISS Visnje 84.13 327 *i* P **P 20 41 58.7 -0.9**
VISS *i* 20 42 17.5
BOJS Bojanci 84.19 327 *i* P **P 20 41 58.9 -1.0**
BOJS *i* pP 20 42 09.7 -0.8
BOJS *i* 20 42 18.4
WATA Walderalm 84.21 330 ⇓*i*P **P 20 41 59.9 -0.1**
comp=Z,18nm,0.7s,mb5.3
WLF Walferdange 84.23 334 P **P 20 42 01.2 +1.2**
comp=Z,30nm,2.1s,mb5.0
WLF XP sP 20 42 16.3 +1.8
WLF Walferdange 84.23 334 *e*P **P 20 42 00.5 +0.5**
LANF Langenberg 84.24 333 PKP **P 20 41 59.9 -0.2**
WTTA Wattenberg 84.25 330 ⇑*i*P **P 20 42 00.0 -0.1**
comp=Z,25nm,0.8s,mb5.4
GIVF Givet 84.29 335 *e*P **P 20 41 59.5 -0.8**
GIVF Givet 84.29 335 *e*P **P 20 41 59.5 -0.8**
GIVF Givet 84.29 335 *e*P **P 20 41 59.5 -0.8**
ABTA Abfaltersbach 84.32 329 ⇓*i*P **P 20 41 59.1 -1.5**
comp=Z,21nm,1.0s,mb5.2,SNR=10
TAOE Nuku Hiva Isla 84.36 106 *e*LR LR 21 08 30.0
comp=Z,378nm,21.9s
JAVS Javornik 84.38 328 *i* P **P 20 41 59.6 -1.3**
JAVS *i* pP 20 42 09.9 -1.5
JAVS *i* 20 42 18.3
MOTA Moosalm 84.39 330 ⇓*i*P **P 20 42 00.6 -0.2**
comp=Z,37nm,0.8s,mb5.6,SNR=22
RETA Reutte 84.40 331 *i* P **P 20 42 00.8 -0.1**
comp=Z,53nm,0.7s,mb5.8,SNR=54
BAIF Baives 84.53 336 ⇑*i*P **P 20 42 00.8 -0.7**
comp=Z,16nm,0.8s,mb4.9
BAIF Baives 84.53 336 ⇑*i*P **P 20 42 00.8 -0.7**
comp=Z,16nm,0.8s,mb5.2
BAIF Baives 84.53 336 ⇑*i*P **P 20 42 00.8 -0.7**
BAIF pmax pmax
comp=Z,16nm,0.8s,mb5.2
BFO Black Forest 84.60 332 P **P 20 42 01.6 -0.3**
comp=Z,201nm,1.0s,mb6.2,SNR=11
KRUS Krusevo 84.66 321 *i* P **P 20 42 01.4 -0.9**
FETA Feichten 84.80 330 *i* P **P 20 42 02.8 -0.2**
comp=Z,33nm,0.7s,mb5.6,SNR=30
DAVA Damuels 84.90 331 ⇑*i*P **P 20 42 03.2 -0.2**
comp=Z,62nm,0.8s,mb5.8,SNR=22
CDF Champ du Feu 84.91 333 ⇑*i*P **P 20 42 03.1 -0.4**
comp=Z,85nm,1.0s,mb5.5
CDF Champ du Feu 84.91 333 ⇑*i*P **P 20 42 03.1 -0.4**
comp=Z,85nm,1.0s,mb5.8
CDF Champ du Feu 84.91 333 ⇑*i*P **P 20 42 03.1 -0.4**
CDF pmax pmax
comp=Z,85nm,1.0s,mb5.8
ECH Echery 85.12 333 *e*P **P 20 42 03.5 -1.1**
comp=Z,47nm,1.0s,mb5.6
ECH Echery 85.12 333 *e*P **P 20 42 03.5 -1.0**
ECH pmax pmax
comp=Z,47nm,1.0s,mb5.6
ECH Echery 85.12 333 PKP **P 20 42 04.2 -0.3**
FUORN Ofenpass-Fuorn 85.31 330 *e*P **P 20 42 05.8 +0.3**
comp=Z,102nm,0.6s,mb6.1
DAVOX Davos/Dischmat 85.32 331 LR LR 21 22 35.6
comp=Z,329nm,18.8s,MS4.8,baz=264,slow=37
PAGF Fort de Pagny 85.33 334 ⇑*i*P **P 20 42 05.4 -0.1**
comp=Z,27nm,0.7s,mb5.2
MOF Molkenrain 85.44 333 PKP **P 20 42 05.7 -0.4**
THEF They Montfort 85.52 334 PKP **P 20 42 06.1 -0.4**
HINF Hinteralfeld 85.56 333 ⇑*i*P **P 20 42 05.8 -0.9**
comp=Z,46nm,1.1s,mb5.3
HINF Hinteralfeld 85.56 333 ⇑*i*P **P 20 42 05.8 -0.9**
comp=Z,46nm,1.1s,mb5.6
HINF Hinteralfeld 85.56 333 ⇑*i*P **P 20 42 05.8 -0.9**
HINF pmax pmax
comp=Z,46nm,1.1s,mb5.6
HAU Haudompre 85.58 333 ⇑*i*P **P 20 42 06.1 -0.7**
comp=Z,57nm,0.8s,mb5.6
HAU *e*R
comp=Z,408nm,22.2s
HAU Haudompre 85.58 333 ⇑*i*P **P 20 42 06.1 -0.7**
comp=Z,57nm,0.8s,mb5.8
HAU Haudompre 85.58 333 ⇑*i*P **P 20 42 06.1 -0.7**
HAU pmax pmax
comp=Z,57nm,0.8s,mb5.8
MEZF Maizieres J'vi 85.60 334 ⇑*i*P **P 20 42 06.6 -0.3**
comp=Z,50nm,0.8s,mb5.5
MEZF Maizieres J'vi 85.60 334 ⇑*i*P **P 20 42 06.6 -0.3**
comp=Z,50nm,0.8s,mb5.8
TUE Stuetta 85.78 331 *e*P **P 20 42 07.6 -0.3**
comp=Z,41nm,0.9s,mb5.7
SFTF Sexfontaines 85.86 334 ⇑*i*P **P 20 42 07.7 -0.5**
comp=Z,166nm,1.1s,mb5.9
SFTF Sexfontaines 85.86 334 ⇑*i*P **P 20 42 07.7 -0.5**
comp=Z,166nm,1.1s,mb6.2
LOMF Lomont 85.97 333 PKP **P 20 42 08.3 -0.5**
SENIN Lac Senin/Sane 86.64 332 *e*P **P 20 42 11.6 -0.5**
comp=Z,23nm,0.9s,mb5.4
CABF La Chapelle 86.87 333 ⇑*i*P **P 20 42 12.6 -0.6**
CABF La Chapelle 86.87 333 ⇑*i*P **P 20 42 12.6 -0.6**
CABF La Chapelle 86.87 333 ⇑*i*P **P 20 42 12.6 -0.6**
TXAR Lajitas Array 86.89 54 P **P 20 42 13.3 -0.3**
comp=Z,2.2nm,0.5s,mb4.6,baz=298,slow=3.0,SNR=26
TXAR Lajitas Array 86.89 54 P **P 20 42 13.3 -0.3**
TXAR Lajitas Array 86.89 54 P **P 20 42 13.4 -0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.5s
LOR Lormes 87.07 334 ⇑*i*P **P 20 42 13.6 -0.6**
comp=Z,139nm,1.0s,mb5.8
LOR *e*R
comp=Z,539nm,20.2s
LOR Lormes 87.07 334 ⇑*i*P **P 20 42 13.6 -0.6**
comp=Z,139nm,1.0s,mb6.1
LOR Lormes 87.07 334 ⇑*i*P **P 20 42 13.6 -0.6**
LOR pmax pmax
comp=Z,139nm,1.0s,mb6.1
FLN La Foliniere 87.12 338 *e*P **P 20 42 13.6 -0.8**
FLN La Foliniere 87.12 338 *e*P **P 20 42 13.6 -0.8**
FLN La Foliniere 87.12 338 *e*P **P 20 42 13.6 -0.8**
LDF La Druitiere 87.17 337 *e*P **P 20 42 13.7 -0.9**
comp=Z,13nm,0.6s,mb5.1
LDF La Druitiere 87.17 337 *e*P **P 20 42 13.7 -0.9**
comp=Z,13nm,0.6s,mb5.3
LDF La Druitiere 87.17 337 *e*P **P 20 42 13.7 -0.9**
LDF pmax pmax
comp=Z,13nm,0.6s,mb5.3
SSF Saint Saulge 87.37 334 ⇑*i*P **P 20 42 15.2 -0.4**
comp=Z,62nm,0.9s,mb5.5
SSF Saint Saulge 87.37 334 ⇑*i*P **P 20 42 15.2 -0.4**
comp=Z,62nm,0.9s,mb5.8
SSF Saint Saulge 87.37 334 ⇑*i*P **P 20 42 15.2 -0.4**
SSF pmax pmax
comp=Z,62nm,0.9s,mb5.8
HYF Humbligny 87.47 335 *e*P **P 20 42 16.1 0.0**
HYF Humbligny 87.47 335 *e*P **P 20 42 16.1 0.0**
GRR Gorron 87.57 338 ⇑*i*P **P 20 42 15.9 -0.7**
GRR Gorron 87.57 338 ⇑*i*P **P 20 42 15.9 -0.7**
GRR Gorron 87.57 338 ⇑*i*P **P 20 42 15.9 -0.7**
LPL La Plagne 87.57 332 *e*P **P 20 42 16.3 -0.3**
comp=Z,38nm,0.8s,mb5.4
LPL La Plagne 87.57 332 *e*P **P 20 42 16.3 -0.3**
comp=Z,38nm,0.8s,mb5.7
LPL La Plagne 87.57 332 *e*P **P 20 42 16.3 -0.3**
LPL pmax pmax
comp=Z,38nm,0.8s,mb5.7
LPG La Plagne 87.58 332 *e*P **P 20 42 16.4 -0.3**
comp=Z,54nm,0.8s,mb5.5
LPG La Plagne 87.58 332 *e*P **P 20 42 16.4 -0.3**
comp=Z,54nm,0.8s,mb5.8
LPG La Plagne 87.58 332 *e*P **P 20 42 16.4 -0.3**
LPG pmax pmax
comp=Z,54nm,0.8s,mb5.8
SMF Signal de Mont 87.62 334 ⇑*i*P **P 20 42 16.2 -0.6**
comp=Z,167nm,1.2s,mb5.9
SMF Signal de Mont 87.62 334 ⇑*i*P **P 20 42 16.2 -0.6**
comp=Z,167nm,1.2s,mb6.1
SMF Signal de Mont 87.62 334 ⇑*i*P **P 20 42 16.2 -0.6**
SMF pmax pmax
comp=Z,167nm,1.2s,mb6.1
AVF Avril sur Loir 87.66 334 ⇑*i*P **P 20 42 16.7 -0.3**
comp=Z,163nm,0.9s,mb6.0
AVF Avril sur Loir 87.66 334 ⇑*i*P **P 20 42 16.7 -0.3**
comp=Z,163nm,0.9s,mb6.3
AVF Avril sur Loir 87.66 334 ⇑*i*P **P 20 42 16.7 -0.3**
AVF pmax pmax
comp=Z,163nm,0.9s,mb6.3
CCM Cathedral Cave 87.67 41 *e*P **P 20 42 16.1 -1.1**
comp=Z,33nm,0.7s,mb5.7
CCM Cathedral Cave 87.67 41 *e*P **P 20 42 16.1 -1.1**
CCM pmax pmax
comp=Z,33nm,0.7s,mb5.7
SLM Saint Louis 87.73 40 *e*pP pP 20 42 27.1 -1.0
SLM Saint Louis 87.73 40 *e*P **P 20 42 27.1 +10**
BGF Bois d'Agland 88.03 335 ⇑*i*P **P 20 42 18.4 -0.4**
comp=Z,38nm,1.0s,mb5.3
BGF Bois d'Agland 88.03 335 ⇑*i*P **P 20 42 18.4 -0.4**
comp=Z,38nm,1.0s,mb5.6
BGF Bois d'Agland 88.03 335 ⇑*i*P **P 20 42 18.4 -0.4**
BGF pmax pmax
comp=Z,38nm,1.0s,mb5.6
FVM French Village 88.14 40 *e*P **P 20 42 18.3 -1.2**
comp=Z,82nm,1.8s,mb5.7
FVM French Village 88.14 40 *e*P **P 20 42 18.3 -1.2**
FVM pmax pmax
comp=Z,82nm,1.8s,mb5.7
SGMF Saint Gilles 88.18 339 *e*P **P 20 42 18.6 -0.9**
SGMF Saint Gilles 88.18 339 *e*P **P 20 42 18.6 -0.9**
SGMF Saint Gilles 88.18 339 *e*P **P 20 42 18.6 -0.9**
MBDF Montbardon 88.23 331 ⇑*i*P **P 20 42 19.7 -0.1**
comp=Z,24nm,0.8s,mb5.2
MBDF Montbardon 88.23 331 ⇑*i*P **P 20 42 19.7 -0.1**
comp=Z,24nm,0.8s,mb5.5
MBDF Montbardon 88.23 331 ⇑*i*P **P 20 42 19.7 -0.1**
MBDF pmax pmax
comp=Z,24nm,0.8s,mb5.5
PLDF La Plantade 88.28 334 PKP **P 20 42 19.8 -0.2**
ROSF Rostrenen 88.31 339 *e*P **P 20 42 19.3 -0.8**
ROSF Rostrenen 88.31 339 *e*P **P 20 42 19.3 -0.8**
ROSF Rostrenen 88.31 339 *e*P **P 20 42 19.3 -0.8**
AGO Saint Agoulin 88.38 334 PKP **P 20 42 20.2 -0.2**
JCT Junction City 88.48 51 *e*P **P 20 42 20.5 -0.8**
JCT *e*pP pP 20 42 30.5 -1.3
JCT Junction City 88.48 51 *e*P **P 20 42 20.5 -0.7**
JCT *e**PP pP 20 42 30.5 -1.4
OLIL Olney 88.70 38 *e*P **P 20 42 21.9 -0.2**
comp=Z,33nm,1.0s,mb5.6
VIVF Saint-Julien-I 88.88 333 ⇑*i*P **P 20 42 22.3 -0.5**
comp=Z,24nm,0.8s,mb5.3
VIVF Saint-Julien-I 88.88 333 ⇑*i*P **P 20 42 22.3 -0.5**
comp=Z,24nm,0.8s,mb5.6
VIVF Saint-Julien-I 88.88 333 ⇑*i*P **P 20 42 22.3 -0.5**
VIVF pmax pmax
comp=Z,25nm,0.8s,mb5.6
SIUC Southern Illin 88.95 40 *e*P **P 20 42 22.4 -0.9**
SIUC *e*pP pP 20 42 33.1 -0.8
MFF Saint Martin d 88.95 336 ⇑*i*P **P 20 42 22.7 -0.4**
MFF Saint Martin d 88.95 336 ⇑*i*P **P 20 42 22.7 -0.4**
MFF Saint Martin d 88.95 336 ⇑*i*P **P 20 42 22.7 -0.4**
MIAR Mount Ida 89.10 44 *e*P **P 20 42 23.7 -0.4**
comp=Z,11nm,0.9s,mb5.2
MIAR Mount Ida 89.10 44 *e*P **P 20 42 23.7 -0.4**
MIAR pmax pmax
comp=Z,11nm,0.9s,mb5.2
ERPA Erie 89.56 31 *e*pP pP 20 42 44.5 +7.8

RJF Les Rejaudoux 89.57 335⇑ *i*P P 20 42 25.8 -0.3
comp=Z,45nm,0.9s,mb5.5
RJF *e*R
comp=Z,659nm,22.2s
RJF Les Rejaudoux 89.57 335⇑ *i*P P 20 42 25.8 -0.3
comp=Z,45nm,0.9s,mb5.8
RJF Les Rejaudoux 89.57 335⇑ *i*P P 20 42 25.8 -0.3
RJF pmax pmax
comp=Z,45nm,0.9s,mb5.8
CAF Calviac 89.72 334⇑ *i*P P 20 42 27.0 +0.2
comp=Z,62nm,0.9s,mb5.7
CAF Calviac 89.72 334⇑ *i*P P 20 42 27.0 +0.2
comp=Z,62nm,0.9s,mb5.9
CAF Calviac 89.72 334⇑ *i*P P 20 42 27.0 +0.2
CAF pmax pmax
comp=Z,62nm,0.9s,mb5.9
LASF Ste Croix 89.85 333 *e*P P 20 42 27.1 -0.3
LASF Ste Croix 89.85 333 *e*P P 20 42 27.1 -0.3
ACSO Alum Creek Sta 89.86 34 *e*P P 20 42 26.5 -1.0
ACSO *e*pP pP 20 42 36.9 -1.2
ALLY Alegheny Colle 89.89 32 *e*P P 20 42 27.9 +0.3
comp=Z,48nm,1.0s,mb5.8
ALLY *e*pP pP 20 42 37.2 -1.0
WCI Wyandotte Cave 89.96 38 *e*P P 20 42 27.0 -1.0
WCI *e*pP pP 20 42 37.5 -1.2
WCI Wyandotte Cave 89.96 38 *e*P P 20 42 27.0 -1.1
WCI *e**PP pP 20 42 37.5 -1.2
LFF La Frestale 90.15 335⇑ *i*P P 20 42 28.8 0.0
comp=Z,60nm,0.8s,mb5.7
LFF La Frestale 90.15 335⇑ *i*P P 20 42 28.8 0.0
comp=Z,60nm,0.8s,mb6.0
LFF La Frestale 90.15 335⇑ *i*P P 20 42 28.8 0.0
LFF pmax pmax
comp=Z,61nm,0.8s,mb6.0
MTLF Montolieu 91.07 333 *e*P P 20 42 32.9 -0.2
comp=Z,66nm,1.3s,mb5.5
MTLF Montolieu 91.07 333 *e*P P 20 42 32.9 -0.2
comp=Z,66nm,1.3s,mb5.8
MTLF Montolieu 91.07 333 *e*P P 20 42 32.9 -0.2
MTLF pmax pmax
comp=Z,66nm,1.3s,mb5.8
ETSF Etsaut 92.40 335 *e*P P 20 42 39.3 +0.1
comp=Z,22nm,1.0s,mb5.2
ETSF Etsaut 92.40 335 *e*P P 20 42 39.3 +0.1
comp=Z,22nm,1.0s,mb5.5
ETSF Etsaut 92.40 335 *e*P P 20 42 39.3 +0.1
ETSF pmax pmax
comp=Z,23nm,1.0s,mb5.5
SWET Sewanee 92.54 39 *e*pP pP 20 42 49.4 -1.3
ESDC Sonseca Array 96.40 336 P **P 20 42 56.2 -1.5**
comp=Z,0.8nm,0.6s,mb4.3,baz=25,slow=3.9,SNR=5.0
ESDC LR LR 21 27 32.9
comp=Z,272nm,20.4s,MS4.7,baz=190,slow=36
ESDC Sonseca Array 96.40 336 P **P 20 42 56.2 -1.5**
FURI Furi 96.49 287 *e*P P 20 42 59.9 +1.4
comp=Z,14nm,0.9s,mb5.4
VNDA Vanda 116.90 176 *e*Pdif Pdif 20 44 28.6 -0.3
LSZ Lusaka 119.83 274 *e*PP PKPdf 20 48 18.1 -1.1
LSZ Lusaka 119.83 274 *e*PKIKP PKPdf 20 48 18.1 -1.1
SDV Santo Domingo 122.12 42 *e*PKPdf PKPdf 20 48 22.2 -1.5
MAW Mawson 122.52 207 PKP PKPdf 20 48 21.6 -1.2
comp=Z,6.2nm,0.8s,baz=276,slow=4.6,SNR=5.5
MAW Mawson 122.52 207 PKP PKPdf 20 48 21.6 -1.2
MAW Mawson 122.52 207 PKIKP PKPdf 20 48 21.6 -1.2
MAW pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 126.29 321 PKP PKPdf 20 48 30.3 -1.5
comp=Z,3.6nm,0.6s,baz=349,slow=4.3,SNR=7.2
DBIC Dimbokro 126.29 321 PKP PKPdf 20 48 30.3 -1.5
DBIC Dimbokro 126.29 321 PKIKP PKPdf 20 48 30.3 -1.5
DBIC pmax pmax
comp=Z,4.0nm,0.6s
QSPA South Pole Qui 128.90 180 PKP PKPdf 20 48 33.5 -1.3
comp=Z,9.5nm,0.6s,baz=138,slow=3.6,SNR=10
QSPA South Pole Qui 128.90 180 PKP PKPdf 20 48 33.5 -1.3
BOSA Boshof 129.32 263 PKP PKPdf 20 48 36.0 -1.1
comp=Z,3.7nm,0.6s,baz=63,slow=4.3,SNR=10
BOSA Boshof 129.32 263 PKP PKPdf 20 48 36.0 -1.1
BOSA Boshof 129.32 263 PKIKP PKPdf 20 48 36.0 -1.1
BOSA pmax pmax
comp=Z,4.0nm,0.6s
SNAA Sanae 143.49 197 *e* PKPpre 20 48 57.5
SNAA *e* 20 49 16.2
SNAA Sanae 143.49 197 PKhKP PKPpre 20 48 57.1
comp=Z,5.8nm,0.8s,baz=144,slow=3.8,SNR=21
SNAA Sanae 143.49 197 PKPpre PKPpre 20 48 57.1
SNAA Sanae 143.49 197 PKHKP PKPpre 20 48 57.1
SNAA pmax pmax
comp=Z,6.0nm,0.8s
VNA2 Neumayer--Watz 145.03 196 *e* PKPbc 20 49 03.0 -1.1
baz=91,slow=1.3
VNA2 *e* 20 49 13.7
VNA2 *e* 20 49 22.4
VNA3 Neumayer Olymp 145.24 194 *e* PKPbc 20 49 03.3 -1.5
VNA3 *e* 20 49 13.8
VNA3 *e* 20 49 22.7
VNA1 Neumayer--Stat 145.43 196 *e* PKPdf 20 49 04.3 -1.0
VNA1 *e* 20 49 15.2
VNA1 *e* 20 49 23.8
LCO Las Campanas 149.30 82 *e*PKPdf PKPdf 20 49 13.4 +0.4
CFAA Coronel Fontan 152.36 84 PKPbc PKPbc 20 49 23.3 -1.3
comp=Z,0.5nm,0.4s,baz=1.1,slow=3.9,SNR=4.3
CFAA Coronel Fontan 152.36 84 PKPbc PKPbc 20 49 23.3 -1.3
USHA Ushuaia 152.93 136 PKPbc PKPbc 20 49 24.0 -1.0
comp=Z,16nm,0.9s,baz=329,slow=2.4,SNR=5.6
USHA Ushuaia 152.93 136 PKPbc PKPbc 20 49 24.0 -1.0
PLCA Paso Flores 153.18 105 PKP PKPdf 20 49 15.8 -2.8
comp=Z,6.0nm,1.1s,baz=318,slow=0.7,SNR=4.7
PLCA PKPbc PKPbc 20 49 25.1 -1.0
comp=Z,3.6nm,0.9s,baz=291,slow=1.1,SNR=5.5
PLCA Paso Flores 153.18 105 PKP PKPdf 20 49 15.8 -2.8
PLCA PKPbc PKPbc 20 49 25.1 -1.0
PLCA Paso Flores 153.18 105 PKIKP PKPdf 20 49 15.8 -2.8
PLCA 20 49 25.1
PLCA pmax pmax
comp=Z,6.0nm,1.1s
PLCA pmax pmax
comp=Z,4.0nm,1.0s

ISCJB ***14*** *20:36:27.9±0.3, 60°.15S±0°.06×18°.7W±0°.1, h10km, mb5.0/28, MS5.2/172, Error ellipse: s-maj=9.8km s-min=6.1km az=137.1*
IDC ***14*** *20:36:28.4±0.5, 60°.04S×18°.77W, h0km, mb4.7/14, mb1 4.7/15, mb1mx4.7/16, mbtmp4.7/15, ML5.1/1, MS4.8/16, Ms1 4.8/16, ms1mx4.8/17, Error ellipse: s-maj=18.3km s-min=14.8km az=27.0*
BJI ***14*** *20:36:29.9, 60°.10S×18°.80W, h10km, mB5.6/22, Ms5.5/20, Ms7 5.2/23*
NEIC ***14*** *20:36:29.8±0.2, 60°.08S×18°.76W, h10km, mb5.3/18, MS5.2/145, Error ellipse: s-maj=8.2km s-min=6.1km az=203.0*
GCMT ***14*** *20:36:32.1±0.1, 60°.37S×18°.44W, h12km, MW5.5, Moment Tensor Solution. s67,c110; s33,c34; Moment tensor: Scale 10^17^Nm; M_{rr}-1.94±.03; $M_{\theta\theta}$-0.10±.03; $M_{\phi\phi}$2.03±.02; $M_{r\theta}$-0.40±.08; $M_{\theta\phi}$-0.15±.02; $M_{\phi r}$-0.06±.07; Best double couple: $M_0$2.00000×10^17^ NP1:ϕ_s164.00000°, δ46.00000°, λ-107.00000°. NP2:ϕ_s8.00000°, δ47.00000°, λ-73.00000°. Principal axes: T 2.0400, Plg0.0000°, Azm86.0000°; N -0.0200, Plg12.0000°, Azm176.0000°; P -2.0300, Plg78.0000°, Azm354.0000°; Data Used: IU II IC G CN. Surface waves: sta= 99, comp=189, per= 50.*
MOS ***14*** *20:36:33.0±2.0, 60°.19S×18°.79W, h33km, mb4.9/13 Error ellipse: s-maj=25.6km s-min=11.4km az=99.7*
ISC 14 20:36:29.8±0.3, 60°.13S±0°.05×18°.7W±0°.1, h10km, n337, σ0°97/83, mb5.0/28, MS5.2/172, 3C-4D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.40**	**162**	*e*	**Pn**	**20 39 12.2**	**-0.1**
VNA1				*e*S	**Sn**	**20 41 14.2**	**-5.3**
VNA3	**Neumayer Olymp**	**11.74**	**166**	*e*	**Pn**	**20 39 16.3**	**-0.7**
VNA3				*e*S	**Sn**	**20 41 14.2**	**-14**
VNA2	**Neumayer--Watz**	**11.78**	**162**	*e*	**Pn**	**20 39 16.7**	**-0.8**
VNA2				*e*S	**Sn**	**20 41 15.7**	**-13**
SNAA	**Sanae**	**13.20**	**158**	*e*	**Pn**	**20 39 36.0**	**-0.9**
SNAA				*e*S	**Sn**	**20 41 50.6**	**-13**
SNAA	**Sanae**	**13.20**	**158**	Pn	**Pn**	**20 39 36.6**	**-0.4**
	10nm,0.3s,baz=333,slow=14,SNR=261						
SNAA				Sn	**Sn**	**20 41 49.5**	**-14**
	baz=308,slow=16,SNR=4.4						
SNAA				LR	LR	20 42 55.0	
	comp=Z,570nm,21.9s,baz=14,slow=29						
SNAA	**Sanae**	**13.20**	**158**	Pn	**Pn**	**20 39 36.6**	**-0.4**
	7.3nm,0.6s						
SNAA	**Sanae**	**13.20**	**158**	P	**Pn**	**20 39 36.6**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,10.0nm,0.3s						
SNAA				MLR	MLR		
	comp=Z,570nm,21.9s						
MAIT	**Maitri**	**16.31**	**143**	*e*P	**Pn**	**20 40 16.2**	**-2.2**
MAIT				*e*		20 40 27.9	
MAIT				*e*S	Sn	20 42 55.4	-24
NVL	**N'lazarevskaya**	**16.33**	**143**	*c i*P	**Pn**	**20 40 19.1**	**+0.3**
NVL				MLR	MLR		
	comp=Z,3μm,14.0s						
PMSA	**Palmer Station**	**21.09**	**238**	P	**P**	**20 41 18.4**	**+4.6**
	comp=Z,63nm,1.1s,mb4.9,baz=125,slow=2.8,SNR=4.0						
PMSA				LR	LR	20 47 43.2	
	comp=Z,3μm,20.3s,MS4.7,baz=321,slow=32						
PMSA	**Palmer Station**	**21.09**	**238**	P	**P**	**20 41 18.4**	**+4.6**
EFI	**East Falkland**	**23.30**	**274**	*e*P	**P**	**20 41 36.2**	**-1.2**
	comp=Z,142nm,0.8s,mb5.5						
EFI				LR	LR		
	comp=Z,6μm,21.0s,MS5.0						
EFI	**East Falkland**	**23.30**	**274**	*e*P	**P**	**20 41 36.2**	**-1.3**
TRIS	**Tristan da Cun**	**23.45**	**13**	PFAKE		20 41 50.0	+11
TRIS				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
SYO	**Syowa Base**	**25.54**	**135**	*i e*P	**P**	**20 41 56.4**	**-1.6**
SYO	**Syowa Base**	**25.54**	**135**	*i i*P	**P**	**20 41 57.8**	**-0.2**
USHA	**Ushuaia**	**26.70**	**259**	P	**P**	**20 42 09.8**	**+1.1**
	comp=Z,7.8nm,0.8s,mb4.3,baz=118,slow=4.8,SNR=3.7						
USHA				LR	LR	20 50 13.4	
	comp=Z,9μm,20.9s,MS5.3,baz=76,slow=31						
USHA	**Ushuaia**	**26.70**	**259**	P	**P**	**20 42 09.8**	**+1.1**
QSPA	**South Pole Qui**	**30.10**	**180**	P	**P**	**20 42 41.1**	**+2.4**
	comp=Z,19nm,0.7s,mb5.0,baz=212,slow=4.6,SNR=50						
QSPA	**South Pole Qui**	**30.10**	**180**	*e*P	**P**	**20 42 40.9**	**+2.2**
	comp=Z,133nm,1.2s,mb5.5						
QSPA				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
MAW	**Mawson**	**34.14**	**138**	P	**P**	**20 43 15.6**	**+1.4**
	comp=Z,24nm,0.8s,mb5.1,baz=237,slow=9.2,SNR=24						
MAW				LR	LR	20 54 49.5	
	comp=Z,3μm,21.8s,MS5.0,baz=253,slow=32						
MAW	**Mawson**	**34.14**	**138**	*e*P	**P**	**20 43 15.1**	**+0.9**
	comp=Z,23nm,0.9s,mb5.1						
MAW	**Mawson**	**34.14**	**138**	*e*P	**P**	**20 43 14.8**	**+0.6**
	comp=Z,25nm,1.4s,mb5.0						
MAW	**Mawson**	**34.14**	**138**	*e*P	**P**	**20 43 14.8**	**+0.6**
MAW				pmax	pmax		
	comp=Z,25nm,1.4s						
TRQA	**Tornquist**	**34.99**	**289**	*e*P	**P**	**20 43 21.1**	**-0.9**
	comp=Z,12nm,0.9s,mb4.8						
TRQA				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
PLCA	**Paso Flores**	**37.08**	**278**	P	**P**	**20 43 38.8**	**-1.0**
	comp=Z,5.7nm,0.8s,mb4.5,baz=116,slow=6.9,SNR=7.9						
PLCA	**Paso Flores**	**37.08**	**278**	P	**P**	**20 43 38.8**	**-1.0**
	comp=Z,14nm,1.6s,mb4.5						
PLCA				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
PLCA	**Paso Flores**	**37.08**	**278**	P	**P**	**20 43 38.8**	**-0.9**
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SUR	**Sutherland**	**38.00**	**61**	P	**P**	**20 43 48.2**	**+0.6**
	comp=Z,15nm,1.0s,mb4.7,baz=192,slow=6.7,SNR=4.1						
SUR	**Sutherland**	**38.00**	**61**	P	**P**	**20 43 48.2**	**+0.6**
SUR				LR	LR		
	comp=Z,8μm,21.0s,MS5.5						
SPB	**Sao Paulo**	**41.65**	**318**	*e*P	**P**	**20 44 18.9**	**+0.9**
	comp=Z,25nm,0.9s,mb4.8						
SPB				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
SBA	**Scott Base**	**42.22**	**182**	*e*Pdif	**P**	**20 44 25.8**	**+3.7**
SBA	**Scott Base**	**42.22**	**182**	PFAKE		20 44 30.0	+7.8
SBA				LR	LR		
	comp=Z,823nm,20.0s,MS4.6						
SBA	**Scott Base**	**42.22**	**182**	*e*P	**P**	**20 44 25.8**	**+3.6**
VNDA	**Vanda**	**42.60**	**180**	PFAKE		20 44 40.0	+15
VNDA				LR	LR		
	comp=Z,928nm,19.0s,MS4.7						
FCH	**Farellones**	**42.78**	**285**	*e*P	**P**	**20 44 26.6**	**-0.6**
BOSA	**Boshof**	**43.19**	**63**	P	**P**	**20 44 30.3**	**-0.2**
	comp=Z,25nm,1.0s,mb4.9,baz=206,slow=8.2,SNR=16						
BOSA				LR	LR	20 58 36.6	
	comp=Z,4μm,19.9s,MS5.3,baz=206,slow=31						
BOSA	**Boshof**	**43.19**	**63**	P	**P**	**20 44 30.3**	**-0.2**
	comp=Z,32nm,1.5s,mb4.8						
BOSA	**Boshof**	**43.19**	**63**	P	**P**	**20 44 30.3**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
BOSA				MLR	MLR		
	comp=Z,4μm,19.9s,MS5.3						
CFAA	**Coronel Fontan**	**43.22**	**289**	P	**P**	**20 44 30.2**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=146,slow=7.6,SNR=12						
CFAA				LR	LR	21 01 21.7	
	comp=Z,447nm,21.1s,MS4.3,baz=146,slow=35						
CFAA	**Coronel Fontan**	**43.22**	**289**	P	**P**	**20 44 30.2**	**-0.5**
MIR	**Mirnyy**	**44.01**	**148**	*i i*P	**P**	**20 44 38.0**	**+1.3**
MIR				*e*S	**S**	**20 51 12.0**	**+3.8**
MIR				*e*SS	SS	20 54 38.0	+14
MIR				pmax	pmax		
	comp=Z,297nm,2.0s,mb5.7						
MIR				pmax	pmax		
	comp=Z,606nm,2.0s,mb6.0						
MIR				smax			
	comp=N,808nm,4.0s						
MIR				smax			
	comp=E,909nm,4.0s						
MIR				MLR	MLR		
	comp=N,3μm,18.0s,MS5.3						
MIR				MLR	MLR		
	comp=E,2μm,18.0s,MS5.3						
MIR				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.4						
SHEL	**Horse Pasture**	**45.11**	**18**	PFAKE		20 45 00.0	+14
SHEL				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
TLL	**Tololo Astrono**	**45.63**	**287**	*e*P	**P**	**20 44 49.7**	**-0.3**
LBTB	**Lobatse**	**46.45**	**61**	*e*P	**P**	**20 44 56.2**	**-0.4**
	comp=Z,90nm,1.4s,mb5.5						
LBTB				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
LBTB	**Lobatse**	**46.45**	**61**	*e*P	**P**	**20 44 56.2**	**-0.4**
LBTB				pmax	pmax		
	comp=Z,90nm,1.4s,mb5.5						
LBTB				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.6						
LCO	**Las Campanas**	**46.55**	**288**	*e*P	**P**	**20 44 57.0**	**-0.2**
	comp=Z,66nm,1.5s,mb5.3						
LCO				LR	LR		
	comp=Z,3μm,21.0s,MS5.2						
TSUM	**Tsumeb**	**48.38**	**48**	*e*P	**P**	**20 45 11.4**	**-0.2**
	comp=Z,16nm,1.4s,mb4.8						
TSUM				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
CASY	**Casey**	**48.43**	**155**	*e*P	**P**	**20 45 13.0**	**+1.6**
CASY	**Casey**	**48.43**	**155**	*e*P	**P**	**20 45 12.8**	**+1.4**
	comp=Z,64nm,1.1s,mb5.6						
CASY				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
PAF	**Port-aux-Franc**	**48.62**	**119**	PFAKE		20 45 30.0	+17
PAF				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
RCBR	**Riachuelo**	**55.73**	**339**	PFAKE		20 46 20.0	+14
RCBR				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
LSZ	**Lusaka**	**56.18**	**58**	*e*P	**P**	**20 46 09.2**	**-0.4**
	comp=Z,30nm,1.1s,mb5.2						
LSZ				LR	LR		
	comp=Z,3μm,22.0s,MS5.4						
LSZ	**Lusaka**	**56.18**	**58**	*e*P	**P**	**20 46 09.2**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
LSZ				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.4						
LPAZ	**La Paz**	**56.35**	**299**	P	**P**	**20 46 11.9**	**+1.2**
	comp=Z,7.5nm,0.7s,mb4.8,baz=157,slow=5.6,SNR=28						
LPAZ				LR	LR	21 08 42.9	
	comp=Z,978nm,21.8s,MS4.9,baz=135,slow=34						
LPAZ	**La Paz**	**56.35**	**299**	*e*P	**P**	**20 46 11.6**	**+0.8**
	comp=Z,138nm,1.6s,mb5.7						
LPAZ	**La Paz**	**56.35**	**299**	*e*P	**P**	**20 46 11.6**	**+0.8**
LPAZ				pmax	pmax		
	comp=Z,138nm,1.6s						
SAML	**Samuel**	**60.87**	**308**	*e*P	**P**	**20 46 41.5**	**-0.9**
	comp=Z,71nm,1.6s,mb5.5						
SAML				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
ABPO	**Ambohimpanom**	**61.75**	**79**	PFAKE		20 47 00.0	+12
ABPO				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
NNA	**Nana**	**64.07**	**292**	*e*P	**P**	**20 47 04.8**	**+1.1**
	comp=Z,70nm,1.4s,mb5.5						
NNA				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
NNA	**Nana**	**64.07**	**292**	*e*P	**P**	**20 47 04.8**	**+1.1**
NNA				pmax	pmax		
	comp=Z,70nm,1.4s						
NNA				MLR	MLR		
	comp=Z,1μm,22.0s						
RER	**Riviere de l'E**	**64.17**	**88**	PFAKE		20 47 20.0	+16
RER				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
DBIC	**Dimbokro**	**67.49**	**15**	P	**P**	**20 47 25.3**	**-0.3**
	comp=Z,7.9nm,1.0s,mb4.7,baz=162,slow=8.4,SNR=5.1						
DBIC				LR	LR	21 10 53.2	
	comp=Z,343nm,19.8s,MS4.6,baz=166,slow=31						
DBIC	**Dimbokro**	**67.49**	**15**	P	**P**	**20 47 25.3**	**-0.3**
DBIC	**Dimbokro**	**67.49**	**15**	P	**P**	**20 47 25.3**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DBIC				MLR	MLR		
	comp=Z,343nm,19.8s						
KMBO	**Kilima Mbogo**	**72.73**	**60**	P	**P**	**20 47 50.0**	**-7.9**
	comp=Z,87nm,2.1s,mb5.3						
KMBO				LR	LR		
	comp=Z,3μm,21.0s,MS5.5						
KMBO	**Kilima Mbogo**	**72.73**	**60**	P	**P**	**20 47 50.0**	**-7.9**
KMBO				pmax	pmax		
	comp=Z,87nm,2.1s						
KMBO				MLR	MLR		
	comp=Z,3μm,21.0s						
TORD	**Torodi Ar. Bea**	**74.86**	**21**	P	**P**	**20 48 09.6**	**-0.6**
	comp=Z,8.0nm,1.0s,mb4.6,baz=199,slow=3.2,SNR=27						
TORD				LR	LR	21 13 38.6	
	comp=Z,1μm,21.9s,MS5.1,baz=185,slow=30						
TORD	**Torodi Ar. Bea**	**74.86**	**21**	P	**P**	**20 48 09.6**	**-0.6**
OTAV	**Otavalo**	**75.60**	**297**	*e*P	**P**	**20 48 15.8**	**+1.2**
	comp=Z,71nm,1.4s,mb5.4						
OTAV				LR	LR		
	comp=Z,640nm,21.0s,MS4.9						
RPZ	**Rata Peaks**	**76.20**	**187**	LR	LR	21 16 09.1	
	comp=Z,266nm,21.6s,MS4.5,baz=88,slow=31						
ROSC	**El Rosal**	**77.94**	**303**	P	**P**	**20 48 27.1**	**-0.7**
	comp=Z,4.1nm,0.4s,mb4.7,baz=274,slow=23,SNR=5.9						
ROSC				LR	LR	21 22 21.3	
	comp=Z,993nm,20.5s,MS5.1,baz=185,slow=35						
ROSC	**El Rosal**	**77.94**	**303**	P	**P**	**20 48 27.1**	**-0.7**
MSEY	**Mahe Island**	**78.12**	**79**	PFAKE		20 48 40.0	+11
MSEY				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
SNZO	**South Karori**	**78.31**	**190**	PFAKE		20 48 40.0	+10
SNZO				LR	LR		
	comp=Z,716nm,20.0s,MS5.0						
GRGR	**Grenville**	**79.77**	**317**	PFAKE		20 48 50.0	+12
GRGR				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
SDV	**Santo Domingo**	**80.08**	**308**	PFAKE		20 48 50.0	+11
SDV				LR	LR		
	comp=Z,344nm,19.0s,MS4.7						
NWAO	**Narrogin (SRO)**	**80.46**	**144**	PFAKE		20 48 50.0	+8.6
NWAO				LR	LR		
	comp=Z,557nm,20.0s,MS4.9						
URZ	**Urewera**	**81.09**	**193**	*e*P	**P**	**20 48 45.6**	**+0.9**
FDF	**Fort de France**	**82.03**	**319**	PFAKE		20 49 00.0	+10
FDF				LR	LR		
	comp=Z,591nm,20.0s,MS5.0						
RKT	**Rikitea**	**82.29**	**236**	*e*LQ		21 11 08.9	
	comp=Z,1μm,33.0s						
RKT				*e*LR	LR	21 14 36.8	
	comp=Z,1μm,27.8s,baz=144						
BCIP	**Isla Barro Col**	**84.16**	**300**	PFAKE		20 49 10.0	+9.1
BCIP				LR	LR		
	comp=Z,658nm,20.0s,MS5.0						
DGAR	**Diego Garcia**	**84.22**	**95**	PFAKE		20 49 10.0	+8.7
DGAR				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
CAN	**Canberra**	**84.36**	**170**	PFAKE		20 49 10.0	+8.2
CAN				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
TAM	**Tamanrasset**	**84.97**	**22**	*e*P	**P**	**20 49 07.9**	**+3.1**
	comp=Z,21nm,1.7s,mb5.0						
TAM				LR	LR		
	comp=Z,751nm,20.0s,MS5.1						
TAM	**Tamanrasset**	**84.97**	**22**	*e*P	**P**	**20 49 07.9**	**+3.2**
TAM				pmax	pmax		
	comp=Z,21nm,1.7s,mb5.0						
TAM				MLR	MLR		
	comp=Z,751nm,20.0s,MS5.1						
SJG	**San Juan**	**86.87**	**315**	PFAKE		20 49 30.0	+16
SJG				LR	LR		
	comp=Z,900nm,21.0s,MS5.2						
STKA	**Stephens Creek**	**86.90**	**163**	P	**P**	**20 49 15.1**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.6,baz=166,slow=5.6,SNR=6.3						
STKA				LR	LR	21 25 44.6	
	comp=Z,1μm,19.8s,MS5.3,baz=196,slow=34						
STKA	**Stephens Creek**	**86.90**	**163**	P	**P**	**20 49 15.1**	**+0.6**
STKA	**Stephens Creek**	**86.90**	**163**	P	**P**	**20 49 15.1**	**+0.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA				MLR	MLR		
	comp=Z,1μm,19.8s						
JTS	**JuntasAbangare**	**87.43**	**296**	PFAKE		20 49 30.0	+13
JTS				LR	LR		
	comp=Z,406nm,19.0s,MS4.8						
JTS	**JuntasAbangare**	**87.43**	**296**	*d i*P	**P**	**20 49 17.1**	**0.0**
TBI	**Tubuai**	**87.65**	**224**	*e*LR	LR	21 17 04.9	
	comp=Z,702nm,32.5s,baz=167						
SDDR	**Presa de Saban**	**89.54**	**311**	PFAKE		20 49 40.0	+13
SDDR				LR	LR		
	comp=Z,529nm,20.0s,MS5.0						
MTDJ	**Mount Denham**	**91.30**	**306**	PFAKE		20 49 50.0	+15
MTDJ				LR	LR		
	comp=Z,989nm,20.0s,MS5.2						
COCO	**West Island**	**91.69**	**118**	PFAKE		20 49 50.0	+13
COCO				LR	LR		
	comp=Z,903nm,19.0s,MS5.2						
TGUH	**Tegucigalpa,Un**	**91.79**	**295**	PFAKE		20 49 50.0	+12
TGUH				LR	LR		
	comp=Z,511nm,20.0s,MS5.0						
GTBY	**Guantanamo Bay**	**91.87**	**308**	PFAKE		20 49 50.0	+12
GTBY				LR	LR		
	comp=Z,968nm,21.0s,MS5.2						
MBWA	**Marble Bar**	**92.23**	**142**	PFAKE		20 49 50.0	+10
MBWA				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
RAR	**Rarotonga**	**92.97**	**216**	LR	LR	21 23 14.9	
	comp=Z,385nm,20.0s,MS4.8,baz=227,slow=30						
PPT	**Papeete**	**93.01**	**226**	*e*LR	LR	21 19 35.5	
	comp=Z,748nm,22.5s,baz=167						
ASAR	**Alice Springs**	**93.55**	**155**	P	**P**	**20 49 45.2**	**-0.5**
	comp=Z,1.4nm,0.9s,mb4.4,baz=196,slow=3.7,SNR=9.2						
ASAR	**Alice Springs**	**93.55**	**155**	P	**P**	**20 49 45.2**	**-0.5**
ASAR	**Alice Springs**	**93.55**	**155**	P	**P**	**20 49 45.3**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
RTC	**Rabat Centre**	**94.29**	**10**	PFAKE		20 50

comp=Z,457nm,18.6s,MS5.0,baz=78,slow=32
DZM Mont Dzumac 97.99 185 *e*LR LR 21 22 01.4
comp=Z,300nm,30.5s
CTAO Charters Tower 99.14 166 PFAKE 20 50 20.0 +8.9
CTAO LR LR
comp=Z,2μm,20.0s,MS5.5
WDD Wield Dalam 99.50 27 PFAKE 20 50 20.0 +7.9
WDD LR LR
comp=Z,821nm,19.0s,MS5.2
VSL Villasalto 101.93 22 PFAKE 20 50 30.0 +6.3
VSL LR LR
comp=Z,726nm,19.0s,MS5.2
CEL Celeste 102.10 27 PFAKE 20 50 40.0 +16
CEL LR LR
comp=Z,532nm,20.0s,MS5.1
TIP Timpagrande 103.17 28 PFAKE 20 50 40.0 +11
TIP LR LR
comp=Z,286nm,19.0s,MS4.8
CUC Castrocucco 103.74 27 PFAKE 20 50 40.0 +8.3
CUC LR LR
comp=Z,403nm,21.0s,MS4.9
CSS Prodhromos 103.95 42 PFAKE 20 50 40.0 +7.3
CSS LR LR
comp=Z,795nm,21.0s,MS5.2
AQU L'Aquila 105.48 24 PFAKE 20 55 00.0 +8.1
AQU LR LR
comp=Z,579nm,20.0s,MS5.1
TIR Tirane 105.97 29 PFAKE 20 55 00.0 +7.2
TIR LR LR
comp=Z,478nm,19.0s,MS5.1
CNNC Cliffs of the 106.69 313 PFAKE 20 55 10.0 +16
CNNC LR LR
comp=Z,400nm,20.0s,MS5.0
GOGA Godfrey 107.21 308 PFAKE 20 55 10.0 +15
GOGA LR LR
comp=Z,613nm,20.0s,MS5.2
KAPI Kappang 107.35 136 PFAKE 20 55 10.0 +14
KAPI LR LR
comp=Z,438nm,20.0s,MS5.0
LRAL Lakeview Retre 108.31 305 PFAKE 20 55 10.0 +13
LRAL LR LR
comp=Z,602nm,21.0s,MS5.1
BR131 Keskin Array S 108.38 40 PFAKE 20 55 10.0 +13
BR131 LR LR
comp=Z,474nm,19.0s,MS5.1
TUE Stuetta 108.69 20 PFAKE 20 55 10.0 +12
TUE LR LR
comp=Z,535nm,19.0s,MS5.1
KULM Kulim 108.89 113 PFAKE 20 55 10.0 +11
KULM LR LR
comp=Z,902nm,22.0s,MS5.3
VBMS Vicksburg 109.07 302 PFAKE 20 55 10.0 +11
VBMS LR LR
comp=Z,531nm,19.0s,MS5.1
CBN Corbin 109.15 315 PFAKE 20 55 10.0 +11
CBN LR LR
comp=Z,459nm,20.0s,MS5.0
BLA Blacksburg 109.38 312 PFAKE 20 55 10.0 +11
BLA LR LR
comp=Z,445nm,22.0s,MS5.0
KSM Kuching 109.71 124 PFAKE 20 55 10.0 +9.2
KSM LR LR
comp=Z,380nm,19.0s,MS5.0
PMG Port Moresby 109.78 165 PFAKE 20 55 10.0 +9.1
PMG LR LR
comp=Z,1μm,19.0s,MS5.4
PLAL Pickwick Lake 110.44 305 PFAKE 20 55 10.0 +8.6
PLAL LR LR
comp=Z,1μm,21.0s,MS5.4
NATX Nacogdoches 110.48 298 PFAKE 20 55 10.0 +8.4
NATX LR LR
comp=Z,638nm,21.0s,MS5.2
OXF Oxford 110.58 304 PFAKE 20 55 10.0 +8.3
OXF LR LR
comp=Z,474nm,20.0s,MS5.1
HNR Honiara 110.66 179 PFAKE 20 55 10.0 +7.4
HNR LR LR
comp=Z,487nm,22.0s,MS5.0
JCT Junction City 111.71 293 PFAKE 20 55 20.0 +16
JCT LR LR
comp=Z,329nm,20.0s,MS4.9
PSZ Piszkesteto 112.18 27 PFAKE 20 55 20.0 +16
PSZ LR LR
comp=Z,252nm,22.0s,MS4.8
BINY Binghamton 112.22 318 PFAKE 20 55 20.0 +15
BINY LR LR
comp=Z,680nm,20.0s,MS5.2
MIAR Mount Ida 112.38 300 PFAKE 20 55 20.0 +15
MIAR LR LR
comp=Z,524nm,19.0s,MS5.1
GNI Garni 112.62 48 PFAKE 20 55 20.0 +15
GNI LR LR
comp=Z,1μm,20.0s,MS5.6
ACSO Alum Creek Sta 112.99 311 PFAKE 20 55 20.0 +14
ACSO LR LR
comp=Z,359nm,20.0s,MS5.0
NCB Newcomb 113.22 320 PFAKE 20 55 20.0 +14
NCB LR LR
comp=Z,605nm,19.0s,MS5.2
ERPA Erie 113.54 315 PFAKE 20 55 20.0 +13
ERPA LR LR
comp=Z,503nm,21.0s,MS5.1
PQI Presque Isle 113.76 325 *e*Pdif Pdif 20 51 15.1 -1.2
PQI *e*PKPdf PKiKP 20 55 07.0 -0.3
LONY Lake Ozonia 113.92 320 PFAKE 20 55 20.0 +12
LONY LR LR
comp=Z,622nm,20.0s,MS5.2
KWP Kalwaria Pacla 114.44 28 PFAKE 20 55 20.0 +12
KWP LR LR
comp=Z,412nm,20.0s,MS5.0
WMOK Wichita Mounta 114.83 297 PFAKE 20 55 20.0 +10
WMOK LR LR
comp=Z,629nm,22.0s,MS5.2
AAM Ann Arbor 115.04 312 PFAKE 20 55 20.0 +10
AAM LR LR
comp=Z,541nm,20.0s,MS5.2
KIV Kislovodsk 115.20 44 PFAKE 20 55 20.0 +10
KIV LR LR
comp=Z,505nm,19.0s,MS5.2
MNTX Cornudas Mount 115.33 290 PFAKE 20 55 20.0 +9.2
MNTX LR LR
comp=Z,568nm,20.0s,MS5.2
MAK Makhachkala 116.09 48 PKIKP PKPdf 20 55 13.4 +1.5
MAK *e* 20 58 49.4
MAK *e* 21 02 04.6
MAK *e* 21 02 26.1
MAK *e*PS PS 21 06 00.6 +2.6
MAK pmax pmax
comp=Z,169nm,0.9s
MAK MLR MLR
comp=Z,1μm,16.0s,MS5.7
KKM Kota Kinabalu 116.24 128 PFAKE 20 55 30.0 +17
KKM LR LR
comp=Z,679nm,22.0s,MS5.2
AMTX Amarillo 116.26 295 PFAKE 20 55 20.0 +7.5
AMTX LR LR
comp=Z,499nm,22.0s,MS5.1
KIEV Kiev 117.05 32 PFAKE 20 55 30.0 +17
KIEV LR LR
comp=Z,361nm,20.0s,MS5.0
KSU1 Kansas State U 117.52 301 PFAKE 20 55 30.0 +15
KSU1 LR LR
comp=Z,425nm,20.0s,MS5.1
GLMI Grayling 117.56 313 PFAKE 20 55 30.0 +15
GLMI LR LR
comp=Z,630nm,19.0s,MS5.3
JFWS Jewell Farm 118.09 308 PFAKE 20 55 30.0 +14
JFWS LR LR
comp=Z,404nm,19.0s,MS5.1
TUC Tucson 118.41 286 PFAKE 20 55 30.0 +13
TUC LR LR
comp=Z,428nm,20.0s,MS5.1
SCIA State Center 118.44 305 PFAKE 20 55 30.0 +14
SCIA LR LR
comp=Z,1μm,22.0s,MS5.6
ANMO Albuquerque 118.52 291 PFAKE 20 55 30.0 +13
ANMO LR LR
comp=Z,597nm,19.0s,MS5.2
CBKS Cedar Bluff 118.64 298 PFAKE 20 55 30.0 +13
CBKS LR LR
comp=Z,612nm,22.0s,MS5.2
NIL Nilore 119.46 73 PFAKE 20 55 30.0 +11
NIL LR LR
comp=Z,126nm,19.0s,MS4.6
CM31 Chiang Mai Arr 119.54 105 PFAKE 20 55 30.0 +11
CM31 LR LR
comp=Z,745nm,20.0s,MS5.3
CMAR Chiang Mai Arr 119.54 105 PKP PKPdf 20 55 19.4 0.0
comp=Z,1.7nm,0.8s,baz=232,slow=3.9,SNR=11
CMAR Chiang Mai Arr 119.54 105 PKP PKPdf 20 55 19.4 0.0
CMAR Chiang Mai Arr 119.54 105 PKIKP PKPdf 20 55 19.4 +0.1
CMAR pmax pmax
comp=Z,2.0nm,0.8s
KOLN Koldanda 119.73 85 *e*P PKPdf 20 55 19.9 +0.5
KOLN Koldanda 119.73 85 *e*P PKPdf 20 55 19.9 +0.5
CHTO Chiang Mai 119.85 105 PFAKE 20 55 30.0 +10
CHTO LR LR
comp=Z,486nm,20.0s,MS5.1
DANN Dangsing 120.29 85 *e*P PKPdf 20 55 20.9 +0.4
comp=Z,26nm,1.0s
DANN Dangsing 120.29 85 *e*P PKPdf 20 55 20.9 +0.4
DMN Daman 120.35 87 *e*P PKPdf 20 55 21.6 +1.0
DMN Daman 120.35 87 *e*P PKPdf 20 55 21.6 +1.0
SDCO Great Sand Dun 120.36 293 PFAKE 20 55 30.0 +10
SDCO LR LR
comp=Z,521nm,21.0s,MS5.2
GKN Gorkha 120.44 86 *e*P PKPdf 20 55 21.7 +0.9
GKN Gorkha 120.44 86 *e*P PKPdf 20 55 21.7 +0.9
PKI Pulchoki 120.47 87 *e*P PKPdf 20 55 21.8 +1.0
PKI Pulchoki 120.47 87 *e*P PKPdf 20 55 21.8 +1.0
PKI Pulchoki 120.47 87 *e*PKIKP PKPdf 20 55 21.8 +1.0
RAMN Ramite 120.55 89 *e*P PKPdf 20 55 21.1 +0.1
comp=Z,17nm,0.9s
RAMN Ramite 120.55 89 *e*P PKPdf 20 55 21.1 +0.1
KKN Kakani 120.58 87 *e*P PKPdf 20 55 21.2 +0.1
KKN Kakani 120.58 87 *e*P PKPdf 20 55 21.2 +0.1
KKN Kakani 120.58 87 *e*PKIKP PKPdf 20 55 21.2 +0.1
SCHQ Schefferville 120.85 330 PKP PKPdf 20 55 21.4 +0.8
comp=Z,3.9nm,0.9s,baz=43,slow=16,SNR=2.6
SCHQ Schefferville 120.85 330 PKP PKPdf 20 55 21.4 +0.8
SCHQ LR LR
comp=Z,825nm,20.0s,MS5.4
ODAN Odare 120.87 89 *e*P PKPdf 20 55 22.5 +0.9
ODAN Odare 120.87 89 *e*P PKPdf 20 55 22.5 +0.9
JIRN Jiri 120.93 88 *e*P PKPdf 20 55 21.8 +0.1
comp=Z,11nm,0.8s
JIRN Jiri 120.93 88 *e*P PKPdf 20 55 21.8 +0.1
GUN Gumba 120.98 87 *e*P PKPdf 20 55 22.4 +0.6
GUN Gumba 120.98 87 *e*P PKPdf 20 55 22.4 +0.6
WUAZ Wupatki 121.30 287 PFAKE 20 55 30.0 +7.8
WUAZ LR LR
comp=Z,868nm,22.0s,MS5.4
MVCO Mesa Verde 121.31 291 PFAKE 20 55 30.0 +7.8
MVCO LR LR
comp=Z,815nm,20.0s,MS5.4
ECSD EROS Data Cent 121.35 304 PFAKE 20 55 30.0 +8.0
ECSD LR LR
comp=Z,722nm,21.0s,MS5.3
TAPN Taplejung 121.44 89 *e*P PKPdf 20 55 23.4 +0.7
TAPN Taplejung 121.44 89 *e*P PKPdf 20 55 23.4 +0.7
ISCO Idaho Springs 122.07 295 *e*PKPdf PKPdf 20 55 24.2 +0.7
ISCO LR LR
comp=Z,500nm,19.0s,MS5.2
ISCO Idaho Springs 122.07 295 *e*PKIKP PKPdf 20 55 24.2 +0.7
ISCO MLR MLR
comp=Z,500nm,19.0s,MS5.2
PFO Pinyon Flat Ob 122.22 282 PFAKE 20 55 40.0 +16
PFO LR LR
comp=Z,424nm,22.0s,MS5.0
EYMN Ely 122.77 310 PFAKE 20 55 40.0 +15
EYMN LR LR
comp=Z,461nm,19.0s,MS5.2
OBN Obninsk 123.01 34 PFAKE 20 55 40.0 +15
OBN LR LR
comp=Z,597nm,20.0s,MS5.2
NB2 NORSAR Subarra 123.04 17 PKPdf PKPdf 20 55 22.6 -2.1
comp=Z,3.7nm,1.0s,baz=202,slow=1.9
NOA NORSAR Array B 123.04 17 PKP PKPdf 20 55 26.9 +2.2
comp=Z,1.8nm,0.9s,baz=173,slow=1.6,SNR=3.8
NOA NORSAR Array B 123.04 17 PKP PKPdf 20 55 26.9 +2.2
NOA NORSAR Array B 123.04 17 PKIKP PKPdf 20 55 26.9 +2.2
NOA pmax pmax
comp=Z,2.0nm,0.9s
SRU San Rafael 123.79 291 *e*PKPdf PKPdf 20 55 26.6 -0.3
SRU San Rafael 123.79 291 *e*PKIKP PKPdf 20 55 26.6 -0.2
MSU Marysvale 124.09 289 *e*PKP PKPdf 20 55 26.5 -1.0
MSU Marysvale 124.09 289 *e*PKIKP PKPdf 20 55 26.5 -0.9
MVU Marysvale 124.10 289 PFAKE 20 55 40.0 +13
MVU LR LR
comp=Z,728nm,20.0s,MS5.3
AGMN Agassiz Nation 124.75 308 PFAKE 20 55 40.0 +12
AGMN LR LR
comp=Z,546nm,20.0s,MS5.2
DAC Darwin (Calif) 124.91 283 PFAKE 20 55 40.0 +11
DAC LR LR
comp=Z,567nm,21.0s,MS5.2
KSH Kashi 125.48 71 *e*PKP PKPdf 20 55 30.9 +0.8
KSH PKS 20 59 06.0
KSH SKS SKSdf 21 02 37.5 -4.0
KSH AMB AMB
comp=Z,190nm,6.3s
KSH LR LR
comp=N,190nm,6.3s
KSH LR LR
comp=E,120nm,5.4s
KSH LR LR
comp=Z,180nm,6.2s
DUG Dugway 125.72 290 PFAKE 20 55 40.0 +9.5
DUG LR LR
comp=Z,433nm,19.0s,MS5.1
KKAR Karatay Array 125.77 65 *e*PKPdf PKPdf 20 55 31.0 +0.5
KKAR Karatay Array 125.77 65 *e*PKIKP PKPdf 20 55 31.0 +0.5
FINES FINESS Array B 126.06 25 PKP PKPdf 20 55 30.6 +0.2
comp=Z,4.9nm,1.0s,baz=46,slow=8.2,SNR=6.1
FINES FINESS Array B 126.06 25 PKP PKPdf 20 55 30.6 +0.2
FINES FINESS Array B 126.06 25 PKIKP PKPdf 20 55 30.7 +0.3
ABKAR Akbulak array 126.13 53 *e*PKP PKPdf 20 55 31.4 +0.4
TPH Tonopah 126.16 285 PFAKE 20 55 40.0 +8.6
TPH LR LR
comp=Z,459nm,19.0s,MS5.2
BW06 Boulder Array 126.23 294 PFAKE 20 55 40.0 +8.6
BW06 LR LR
comp=Z,441nm,22.0s,MS5.1
ULM Lac du Bonnet 126.32 309 PKP PKPdf 20 55 31.2 -0.1
comp=Z,4.0nm,0.8s,baz=0.7,slow=4.4,SNR=4.3
ULM Lac du Bonnet 126.32 309 PKP PKPdf 20 55 31.2 -0.1
ULM LR LR
comp=Z,675nm,20.0s,MS5.3
ULM Lac du Bonnet 126.32 309 PKIKP PKPdf 20 55 31.2 -0.1
ULM pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 126.92 67 PFAKE 20 55 40.0 +7.3
EKS2 LR LR
comp=Z,601nm,20.0s,MS5.3
AHID Auburn Hatcher 126.94 293 PFAKE 20 55 40.0 +7.3
AHID LR LR
comp=Z,457nm,22.0s,MS5.1
NVAR Mina Array Bea 126.96 284 PKP PKPdf 20 55 33.0 +0.1
comp=Z,1.5nm,0.7s,baz=159,slow=3.2,SNR=8.7
NVAR Mina Array Bea 126.96 284 PKP PKPdf 20 55 33.0 +0.1
KMI Kunming 127.04 104 PKP PKPdf 20 55 34.8 +1.3
KMI Kunming 127.04 104 P PKPdf 20 55 34.8 +1.3
KMI Kunming 127.04 104 PKIKP PKPdf 20 55 34.8 +1.3
AAK Ala-Archa 127.23 68 PFAKE 20 55 50.0 +17
AAK LR LR
comp=Z,653nm,20.0s,MS5.3
AAK Ala-Archa 127.23 68 *d i* PKIKP PKPdf 20 55 35.2 +1.9
LAO LASA Array 127.80 299 PFAKE 20 55 50.0 +16
LAO LR LR
comp=Z,700nm,21.0s,MS5.3
RLMT Red Lodge 127.93 296 PFAKE 20 55 50.0 +15
RLMT LR LR
comp=Z,558nm,21.0s,MS5.2
TKM2 Tokmak 2 127.96 68 PFAKE 20 55 50.0 +15
TKM2 LR LR
comp=Z,694nm,20.0s,MS5.3
BMN Battle Mountai 128.00 287 PFAKE 20 55 50.0 +15
BMN LR LR
comp=Z,354nm,20.0s,MS5.0
LKWY Lake 128.01 295 PFAKE 20 55 50.0 +15
LKWY LR LR
comp=Z,820nm,22.0s,MS5.4
DGMT Dagmar 128.31 302 PFAKE 20 55 50.0 +15
DGMT LR LR
comp=Z,769nm,20.0s,MS5.4
KLMR Klimovskoe 128.75 32 *e*PKIKP PKPdf 20 55 35.5 -0.1
KLMR pmax pmax
comp=Z,48nm,1.6s
HLID Hailey 129.09 291 PFAKE 20 55 50.0 +13
HLID LR LR
comp=Z,607nm,20.0s,MS5.3
BOZ Bozeman (W) 129.40 295 PFAKE 20 55 50.0 +13
BOZ LR LR
comp=Z,556nm,20.0s,MS5.2
DLMT Dillon 129.63 294 *e*PKPdf PKPdf 20 55 37.9 +0.1
LRM Limekiln Ridge 129.91 295 *e*PKPdf PKPdf 20 55 37.2 -1.1
GYA Guiyang 130.05 107 Pdif Pdif 20 52 28.9 +0.2
GYA PKP PKPdf 20 55 39.8 +0.6
GYA PP PP 20 57 56.6 +4.8
GYA PKS 20 59 15.4
GYA SKKS SKKSac 21 04 47.5 -0.8
GYA SS SS 21 15 20.4 +3.4
GYA AMB AMB
comp=Z,160nm,8.2s
GYA LR LR
comp=N,150nm,22.3s,MS4.8
GYA LR LR
comp=E,120nm,21.0s,MS4.8
GYA LR LR
comp=Z,170nm,23.1s,MS4.7
WVOR Wild Horse Val 130.22 287 PFAKE 20 55 50.0 +11
WVOR LR LR
comp=Z,446nm,21.0s,MS5.1
EGMT Eagleton 130.37 298 PFAKE 20 55 50.0 +11
EGMT LR LR
comp=Z,586nm,19.0s,MS5.3
CHMT Chamberlain Mo 131.10 295 *e*PKPdf PKPdf 20 55 40.7 +0.1
ARU Arti 131.20 46 PFAKE 20 55 50.0 +10
ARU LR LR
comp=Z,1μm,20.0s,MS5.6
ARU Arti 131.20 46 *i* PKIKP PKPdf 20 55 42.5 +2.1
ARU 20 57 59.5
ARU PPP 21 00 49.5
ARU MLR MLR
comp=Z,963nm,20.0s,MS5.5
MSO Missoula 131.35 294 *e*PKPdf PKPdf 20 55 40.8 -0.2
MSO LR LR
comp=Z,391nm,20.0s,MS5.1
BMO Blue Mountains 131.42 290 PFAKE 20 55 50.0 +8.8
BMO LR LR
comp=Z,361nm,20.0s,MS5.1
FFC Flin Flon 132.15 309 PFAKE 20 55 50.0 +7.8
FFC LR LR
comp=Z,374nm,20.0s,MS5.1
FFC Flin Flon 132.15 309 *i* PKIKP PKPdf 20 55 44.0 +1.8
CD2 Chengdu 132.34 101 *e*PKP PKPdf 20 55 43.8 +0.4
CD2 sPKP 20 55 50.3
CD2 PP PP 20 58 11.3 +4.6
CD2 SKS SKSdf 21 02 49.8 -4.7
CD2 SKKS SKKSac 21 04 58.0 -4.2
CD2 SS SS 21 15 47.3 +2.2
CD2 AMB AMB
comp=Z,220nm,9.6s
CD2 LR LR
comp=N,510nm,16.6s,MS5.5
CD2 LR LR
comp=E,680nm,20.2s,MS5.5
CD2 LR LR
comp=Z,420nm,20.2s,MS5.1
BRVK Borovoye 133.24 56 PFAKE 20 56 00.0 +16
BRVK LR LR
comp=Z,881nm,19.0s,MS5.5
BRVK Borovoye 133.24 56 *i* PKIKP PKPdf 20 55 47.1 +2.8
BVAR Borovoye Array 133.26 56 PKP PKPdf 20 55 44.6 +0.2
comp=Z,1.5nm,0.8s,baz=246,slow=1.5,SNR=5.8
BVAR Borovoye Array 133.26 56 PKP PKPdf 20 55 44.6 +0.2
BVAR Borovoye Array 133.26 56 PKIKP PKPdf 20 55 44.6 +0.2
BVAR pmax pmax
comp=Z,2.0nm,0.8s
LVZ Lovozero 133.50 25 PFAKE 20 56 00.0 +16
LVZ LR LR
comp=Z,579nm,19.0s,MS5.3
KEV Kevo 133.63 20 PFAKE 20 56 00.0 +15
KEV LR LR
comp=Z,398nm,19.0s,MS5.2
NEW Newport 133.86 294 PFAKE 20 56 00.0 +14
NEW LR LR
comp=Z,531nm,20.0s,MS5.2
MKAR Makanchi Array 134.01 70 PKP PKPdf 20 55 46.6 +0.6
comp=Z,1.2nm,0.9s,baz=258,slow=6.1,SNR=6.2
MKAR Makanchi Array 134.01 70 PKP PKPdf 20 55 46.6 +0.6
MKAR Makanchi Array 134.01 70 PKIKP PKPdf 20 55 46.7 +0.7
MKAR pmax pmax
comp=Z,1.0nm,0.9s
WMQ Urumqi 134.41 76 *e*PKP PKPdf 20 55 47.8 +0.9
WMQ PP PP 20 58 23.8 +3.9
WMQ SKS SKSdf 21 02 57.3 -0.2
WMQ SS SS 21 16 12.3 +2.1
WMQ AMB AMB
comp=Z,310nm,9.4s
WMQ LR LR
comp=N,550nm,26.6s,MS5.2
WMQ LR LR
comp=E,270nm,25.8s,MS5.2
WMQ LR LR
comp=Z,400nm,22.0s,MS5.1
YHNB Yeheng 135.13 124 PFAKE 20 56 00.0 +11
YHNB LR LR
comp=Z,456nm,20.0s,MS5.2
KURK Kurchatov 135.15 63 PKhKP PKPpre 20 55 41.2
comp=Z,0.4nm,0.3s,baz=242,slow=2.7,SNR=6.1
KURK PKP PKPdf 20 55 50.0 +2.0
comp=Z,0.6nm,0.3s,baz=244,slow=2.5,SNR=5.7
KURK Kurchatov 135.15 63 PKPpre PKPpre 20 55 41.2
KURK PKP PKPdf 20 55 50.0 +2.0
KURK LR LR
comp=Z,540nm,20.0s,MS5.3
KURK Kurchatov 135.15 63 PKHKP PKPpre 20 55 41.2
KURK 20 55 50.0
KURK pmax pmax
comp=Z,1.0nm,0.3s
LZH Lanzhou 136.55 97 *e*PKP PKPdf 20 55 48.5 -2.6
LZH sPKP 20 55 55.3
LZH SKKS SKKSac 21 05 28.8 +1.4
LZH SS SS 21 16 37.3 +1.6
LZH AMB AMB
comp=Z,280nm,9.2s
LZH LR LR
comp=N,150nm,17.5s,MS4.9
LZH LR LR
comp=E,140nm,18.0s,MS4.9
LZH LR LR
comp=Z,190nm,20.3s,MS4.8
LZH Lanzhou 136.55 97 *e*PKP PKPdf 20 55 48.5 -2.6
LZH pPKP pPKPdf 20 55 51.7 -2.9
LZH sPKP 20 55 55.2
LZH *e*P 20 56 06.3
LZH pP 20 56 11.0
LZH sP 20 56 13.5
LZH PP PP 20 58 30.0 -3.4
LZH SKKS SKKSac 21 05 28.7 +1.3
LZH SS SS 21 16 37.3 +1.6
LZH Lanzhou 136.55 97 *e*PKIKP PKPdf 20 55 48.5 -2.6
LZH 20 55 55.2
LZH 20 58 30.0
LZH SS SS 21 16 37.3 +1.6
GTA Gaotai 137.11 90 *e*PKP PKPdf 20 55 51.8 -0.3
GTA PP PP 20 58 39.8 +2.9
GTA SKS SKSdf 21 03 00.8 -1.6
GTA SKKS SKKSac 21 05 30.4 -0.2
GTA SS SS 21 16 45.3 +2.8
GTA AMB AMB
comp=Z,180nm,8.1s
GTA LR LR
comp=N,450nm,20.4s,MS5.3
GTA LR LR
comp=E,310nm,19.9s,MS5.3
GTA LR LR
comp=Z,430nm,21.9s,MS5.1
WAKE Wake Island 139.01 188 PFAKE 20 56 10.0 +14
WAKE LR LR
comp=Z,2μm,20.0s,MS5.8
ZALV Zalesovo Beam 140.14 64 PKhKP PKPpre 20 55 49.6
comp=Z,0.5nm,0.4s,baz=276,slow=1.3,SNR=4.5
ZALV Zalesovo Beam 140.14 64 PKPpre PKPpre 20 55 49.6
ZALV Zalesovo Beam 140.14 64 PKHKP PKPpre 20 55 49.7
ZALV pmax pmax
comp=Z,1.0nm,0.4s
NJ2 Nanjing 140.44 116 *e*PKP PKPdf 20 55 55.3 -3.1
NJ2 sPKP 20 56 08.6
NJ2 PP PP 20 58 58.0 +0.7
NJ2 SKS SKSdf 21 03 01.5 -6.9
NJ2 AMB AMB

comp=Z,300nm,8.7s
NJ2 LR LR
comp=N,340nm,24.4s
NJ2 LR LR
comp=E,230nm,16.7s
NJ2 LR LR
comp=Z,510nm,27.0s,MS5.1
YKA Yellowknife Ar 142.24 311 PKhKP PKPpre 20 55 54.8
comp=Z,1.5nm,0.7s,baz=120,slow=4.0,SNR=19
YKA Yellowknife Ar 142.24 311 PKPpre PKPpre 20 55 54.9
YKA Yellowknife Ar 142.24 311 PKHKP PKPpre 20 55 54.9
RES Resolute Bay 143.40 334 *e*PKP PKPpre 20 55 58.3
RES Resolute Bay 143.40 334 *e*PKHKP PKPpre 20 55 58.3
HHC Hu-ho-hao-te 144.06 100 *e*PKP PKPdf 20 56 03.3 -1.2
HHC PP PP 20 59 23.1 +3.7
HHC PKS 20 59 37.3
HHC SKS SKSdf 21 03 07.8 -5.8
HHC SKKS SKKSac 21 06 07.4 -3.7
HHC SS SS 21 18 02.3 -1.3
HHC AMB AMB
comp=Z,210nm,12.2s
HHC LR LR
comp=N,370nm,19.0s,MS5.3
HHC LR LR
comp=E,290nm,18.7s,MS5.3
HHC LR LR
comp=Z,390nm,19.0s,MS5.2
BJI Beijing 145.69 105 PKPbc PKPbc 20 56 08.3 +0.5
BJI SKS SKSdf 21 03 09.9 -6.1
BJI AMB AMB
comp=Z,260nm,7.2s
BJI LR LR
comp=N,110nm,17.0s,MS5.3
BJI LR LR
comp=E,410nm,16.2s,MS5.3
BJI LR LR
comp=Z,190nm,23.8s
WRAK Wrangell Islan 146.22 294 PFAKE 20 56 20.0 +12
WRAK LR LR
comp=Z,533nm,19.0s,MS5.3
MOY Mondy 146.29 77 *e*PKP2 PKPab 20 56 11.6 +1.5
DLBC Dease Lake 146.30 298 *e*PKP PKPdf 20 56 08.0 +0.2
SONM Songino Array 146.48 86 PKPbc PKPbc 20 56 10.0 +0.1
comp=Z,23nm,0.8s,baz=218,slow=2.9,SNR=54
SONM Songino Array 146.48 86 PKPbc PKPbc 20 56 10.0 +0.1
SONM Songino Array 146.48 86 PKP2 PKPbc 20 56 10.0 +0.1
SONM pmax pmax
comp=Z,23nm,0.8s
ZAK Zakamensk 146.60 81 *e*PKP2 PKPbc 20 56 10.4 +0.2
ZAK pmax pmax
comp=Z,26nm,1.3s
ULN Ulaanbaatar 146.83 87 *e*PKP PKPab 20 56 11.8 -0.5
ULN LR LR
comp=Z,463nm,20.0s,MS5.3
ULN Ulaanbaatar 146.83 87 *e*PKP2 PKPab 20 56 11.8 -0.5
ULN MLR MLR
comp=Z,463nm,20.0s,MS5.3
TLY Talaya 147.60 79 *e*PKP PKPdf 20 56 09.2 -1.0
TLY LR LR
comp=Z,424nm,19.0s,MS5.2
IRK Irkutsk 148.25 79 *e*PKIKP PKPdf 20 56 12.6 +1.3
IRK pmax pmax
comp=Z,107nm,2.0s
INCN Inchon 148.45 120 PFAKE 20 56 20.0 +7.9
INCN LR LR
comp=Z,647nm,22.0s,MS5.4
KSAR Wonju Array Be 148.95 122 PKPbc PKPbc 20 56 17.4 +0.4
KSAR Wonju Array Be 148.95 122 PKP2 PKPbc 20 56 17.4 +0.5
KSRS Korea Array 148.98 122 PKPbc PKPbc 20 56 17.4 +0.3
comp=Z,7.6nm,0.8s,baz=200,slow=2.4,SNR=18
KSRS Korea Array 148.98 122 PKP2 PKPbc 20 56 17.4 +0.4
KSRS pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 151.85 314 PKPbc PKPbc 20 56 21.8 -1.1
comp=Z,14nm,1.0s,baz=105,slow=3.3,SNR=17
INK Inuvik 151.85 314 PKIKP PKPbc 20 56 21.8 -1.1
INK pmax pmax
comp=Z,14nm,1.0s
MAJO Matsushiro 152.14 138 PFAKE 20 56 30.0 +12
MAJO LR LR
comp=Z,526nm,21.0s,MS5.3
MAT Matsushiro 152.14 138 PKP PKPbc 20 56 24.2 -0.4
MJAR Matsushiro Arr 152.14 138 PKPbc PKPbc 20 56 24.9 +0.3
comp=Z,6.4nm,0.9s,baz=197,slow=3.4,SNR=14
MJAR Matsushiro Arr 152.14 138 PKPbc PKPbc 20 56 24.9 +0.3
CN2 Changchun 152.99 111 *e*PKPbc PKPdf 20 56 22.1 +3.2
CN2 PP PP 21 00 18.3 +6.9
CN2 SS SS 21 19 50.3 +6.6
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,20.0s,MS5.3
CN2 LR LR
comp=E,200nm,20.0s,MS5.3
CN2 LR LR
comp=Z,300nm,25.0s,MS5.0
EGAK Eagle 153.80 305 PFAKE 20 56 30.0 +11
EGAK LR LR
comp=Z,531nm,20.0s,MS5.3
BMRM Bremner River 154.00 296 *e*P PKPbc 20 56 26.9 -0.9
PAX Paxson 155.08 300 *e*P PKPdf 20 56 34.2 +13
MDJ Mudanjiang 155.53 115 PKP PKPdf 20 56 23.3 +0.9
MDJ AMB AMB
comp=Z,120nm,6.3s
MDJ LR LR
comp=N,260nm,16.6s,MS5.3
MDJ LR LR
comp=E,360nm,19.9s,MS5.3
MDJ LR LR
comp=Z,530nm,19.9s,MS5.4
SEW Seward 155.90 292 *e*Pn PKPab 20 56 48.2 -1.4
SML Sawmill 155.98 296 *e*Pn PKPab 20 56 49.4 -0.5
SML Sawmill 155.98 296 *e*PKP2 PKPab 20 56 49.4 -0.5
ILAR Eielson Array 156.17 303 PKPbc PKPdf 20 56 33.0 +10
comp=Z,2.7nm,1.0s,baz=150,slow=1.3,SNR=11
ILAR PKPab PKPab 20 56 52.4 +1.7
comp=Z,2.6nm,0.8s,baz=83,slow=4.3,SNR=9.5
ILAR Eielson Array 156.17 303 PKPab PKPab 20 56 52.4 +1.7
ILAR Eielson Array 156.17 303 PKP2 PKPab 20 56 52.4 +1.8
RC01 Rabbit Creek A 156.38 294 *e*Pn PKPab 20 56 50.5 -1.2
KDAK Kodiak Island 156.46 285 PFAKE 20 56 30.0 +6.8
KDAK LR LR
comp=Z,667nm,20.0s,MS5.5
COLA College 156.59 304 PFAKE 20 56 30.0 +6.8
COLA LR LR
comp=Z,434nm,20.0s,MS5.3
TRF Thorofare Moun 157.31 299 *e*P PKPab 20 56 53.2 -2.4
ERM Erimo 158.72 140 PFAKE 20 56 40.0 +13
ERM LR LR
comp=Z,492nm,20.0s,MS5.3
KLR Kul'dur 159.93 110 *e*PKIKP PKPdf 20 56 23.7 -4.0
YSS Yuzh-Sakhalins 162.90 132 PFAKE 20 56 40.0 +9.1
YSS LR LR
comp=Z,168nm,19.0s
YAK Yakutsk 164.68 69 PFAKE 20 56 40.0 +7.9
YAK LR LR
comp=Z,549nm,22.0s
BILL Bilibino 171.77 347 PFAKE 20 56 50.0 +13
BILL LR LR
comp=Z,730nm,22.0s
BILL Bilibino 171.77 347⇑ *e*PKIKP PKPdf 20 56 37.6 +0.9
BILL *e* 21 01 51.9
BILL *e*S 21 03 33.9
BILL *e*SS SS 21 22 50.3 -7.5
BILL pmax pmax
comp=Z,19nm,2.6s
PET Petropavlovsk 172.73 167 PFAKE 20 56 50.0 +12
PET LR LR
comp=Z,642nm,20.0s

*KRSC **14** 20:38:34.7±2.5, 52°.55N×171°.93E, h25km±25km, ML4.5*
*ISCJB **14** 20:38:38.7±1.3, 52°.82N±0°.09×171°.83E±0°.05, h18km±10km, mb4.0/19, Error ellipse: s-maj=16.0km s-min=4.3km az=7.5*
*IDC **14** 20:38:38.2±0.9, 52°.82N×172°.02E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.0/26, mbtmp4.0/16, ML3.4/1, MS4.1/1, Ms1 4.2/1, ms1mx3.2/38, Error ellipse: s-maj=29.6km s-min=8.2km az=2.0*
*NEIC **14** 20:38:40.7±1.4, 52°.83N×171°.99E, h16km±9km, mb4.3/3, Error ellipse: s-maj=19.2km s-min=6.7km az=172.0*
*MOS **14** 20:38:40.9±1.2, 52°.86N×171°.86E, h33km, mb4.2/16, Error ellipse: s-maj=13.6km s-min=11.9km az=44.2*

ISC 14 20:38:40.5±2.0, 52°.8N±0°.1×171°.95E±0°.05, h18km±13km, n72, σ0^{s}96/83, mb4.1/19, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.74**	**85**	Pn	**Pn**	**20 38 54.8**	**-1.2**
	125nm,0.3s,baz=304,slow=5.6,SNR=310						
FX1				Sn	**Sn**	**20 39 05.0**	**-1.8**
	681nm,0.3s,baz=84,slow=18,SNR=63						
FX1	**Attu Island--F**	**0.74**	**85**	Pn	**Pn**	**20 38 54.8**	**-1.2**
FX1				Sn	**Sn**	**20 39 05.0**	**-1.8**
FX1	**Attu Island--F**	**0.74**	**85**	P	**Pb**	**20 38 54.8**	**0.0**
FX1						20 39 05.0	
FX1				pmax	pmax		
	comp=Z,125nm,0.3s						
FX1				smax			
	comp=N,681nm,0.3s						
SMY	**Shemya**	**1.31**	**94**	*e*Pn	**Pn**	**20 39 03.6**	**-0.3**
SMY				*e*Sn	**Sn**	**20 39 20.3**	**-0.6**
SMY	**Shemya**	**1.31**	**94**	*e*P	**Pn**	**20 39 03.6**	**-0.3**
SMY				*e*		20 39 20.3	
BKI	**Bering**	**4.25**	**306**	P	**Pn**	**20 39 42.3**	**-2.1**
BKI				S	**Sn**	**20 40 31.8**	**-1.7**
BKI	**Bering**	**4.25**	**306**	P	**Pn**	**20 39 42.3**	**-2.1**
BKI				S	**Sn**	**20 40 31.8**	**-1.7**
KBTR	**Krutoberegovo**	**6.30**	**306**	P	**Pn**	**20 40 13.2**	**+0.7**
KBTR				S	**Sn**	**20 41 24.8**	**+0.8**
KBTR	**Krutoberegovo**	**6.30**	**306**	P	**Pn**	**20 40 13.2**	**+0.7**
KBTR				S	**Sn**	**20 41 24.8**	**+0.8**
MKZ	**Mys Kozlova**	**6.32**	**290**	P	**Pn**	**20 40 13.4**	**+0.7**
MKZ				S	**Sn**	**20 41 24.4**	**+0.1**
MKZ	**Mys Kozlova**	**6.32**	**290**	P	**Pn**	**20 40 13.4**	**+0.7**
MKZ				S	**Sn**	**20 41 24.4**	**+0.1**
SPN	**Mys Shipunski**	**7.21**	**277**	S	**Sn**	**20 41 41.1**	**-5.3**
SDLR	**Sedlovina**	**7.89**	**278**	P	**Pn**	**20 40 33.6**	**-0.7**
SDLR				S	**Sn**	**20 41 59.6**	**-3.4**
AVH	**Avacha**	**7.98**	**278**	P	**Pn**	**20 40 35.2**	**-0.3**
PET	**Petropavlovsk**	**8.04**	**277**	P	**Pn**	**20 40 35.6**	**-0.8**
PET	**Petropavlovsk**	**8.04**	**277**	P	**Pn**	**20 40 35.6**	**-0.8**
PETK	**Petropavlovsk-**	**8.61**	**278**	Pn	**Pn**	**20 40 45.3**	**+1.1**
	comp=N,0.5nm,0.3s,baz=86,slow=19,SNR=6.8						
PETK				Sn	**Sn**	**20 42 19.1**	**-1.6**
	comp=N,0.9nm,0.3s,baz=336,slow=21,SNR=5.4						
PETK	**Petropavlovsk-**	**8.61**	**278**	Pn	**Pn**	**20 40 45.3**	**+1.1**
PETK				Sn	**Sn**	**20 42 19.1**	**-1.6**
PETK	**Petropavlovsk-**	**8.61**	**278**	P	**Pn**	**20 40 45.3**	**+1.1**
PETK						20 42 19.1	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				smax			
	comp=N,1.0nm,0.3s						
KDAK	**Kodiak Island**	**20.62**	**62**	P	**P**	**20 43 17.4**	**-1.1**
	comp=N,6.1nm,1.0s,baz=321,slow=11,SNR=5.2						
KDAK	**Kodiak Island**	**20.62**	**62**	P	**P**	**20 43 17.4**	**-1.1**
KDAK	**Kodiak Island**	**20.62**	**62**	P	**P**	**20 43 17.4**	**-1.1**
KDAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
COLA	**College**	**23.56**	**44**	*e*P	**P**	**20 43 50.2**	**+0.5**
	comp=Z,9.3nm,1.0s,mb4.2						
COLA	**College**	**23.56**	**44**	*e*P	**P**	**20 43 50.2**	**+0.5**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**23.94**	**44**	P	**P**	**20 43 52.8**	**-0.4**
	comp=Z,4.0nm,0.8s,mb3.9,baz=251,slow=7.8,SNR=18						
ILAR	**Eielson Array**	**23.94**	**44**	P	**P**	**20 43 52.8**	**-0.4**
ILAR	**Eielson Array**	**23.94**	**44**	P	**P**	**20 43 52.8**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PAX	**Paxson**	**24.33**	**49**	*e*P	**P**	**20 43 56.5**	**-0.3**
	comp=Z,7.2nm,1.1s,mb4.0						
PAX	**Paxson**	**24.33**	**49**	*e*P	**P**	**20 43 56.5**	**-0.3**
PAX				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.0						
MJAR	**Matsushiro Arr**	**28.65**	**249**	P	**P**	**20 44 36.4**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.6,baz=44,slow=6.2,SNR=3.8						
MJAR	**Matsushiro Arr**	**28.65**	**249**	P	**P**	**20 44 36.4**	**+0.4**
MJAR	**Matsushiro Arr**	**28.65**	**249**	P	**P**	**20 44 36.4**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**38.34**	**46**	P	**P**	**20 46 00.9**	**+1.0**
	comp=Z,1.7nm,0.7s,mb3.9,baz=290,slow=8.1,SNR=12						
YKA	**Yellowknife Ar**	**38.34**	**46**	P	**P**	**20 46 00.9**	**+1.0**
YKA	**Yellowknife Ar**	**38.34**	**46**	P	**P**	**20 46 00.9**	**+1.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**40.84**	**290**	P	**P**	**20 46 21.8**	**+1.0**
	comp=Z,1.2nm,0.6s,mb3.7,baz=61,slow=7.3,SNR=15						
SONM	**Songino Array**	**40.84**	**290**	P	**P**	**20 46 21.8**	**+1.0**
SONM	**Songino Array**	**40.84**	**290**	P	**P**	**20 46 21.8**	**+1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**48.93**	**78**	LR	LR	21 04 51.4	
	comp=Z,209nm,19.9s,baz=129,slow=32						
PDAR	**Pinedale Array**	**51.17**	**68**	P	**P**	**20 47 42.3**	**0.0**
	comp=Z,1.1nm,0.9s,mb3.8,baz=304,slow=4.1,SNR=5.3						
PDAR	**Pinedale Array**	**51.17**	**68**	P	**P**	**20 47 42.3**	**0.0**
ULM	**Lac du Bonnet**	**53.51**	**53**	P	**P**	**20 48 00.6**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=280,slow=17,SNR=3.3						
ULM	**Lac du Bonnet**	**53.51**	**53**	P	**P**	**20 48 00.6**	**+1.1**
ULM	**Lac du Bonnet**	**53.51**	**53**	P	**P**	**20 48 00.6**	**+1.1**
ULM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**54.55**	**302**	P	**P**	**20 48 06.6**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=49,slow=6.6,SNR=5.6						
MKAR	**Makanchi Array**	**54.55**	**302**	P	**P**	**20 48 06.6**	**-0.6**
MKAR	**Makanchi Array**	**54.55**	**302**	P	**P**	**20 48 06.6**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
JOF	**Joensuu**	**60.53**	**341**	*e*P	**P**	**20 48 49.3**	**+0.3**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
JOF	**Joensuu**	**60.53**	**341**	*e*p	**P**	**20 48 49.3**	**+0.3**
	comp=Z,4.3nm,0.6s,mb4.8						
SCHQ	**Schefferville**	**62.20**	**34**	P	**P**	**20 49 01.8**	**+1.4**
	comp=Z,5.3nm,1.0s,mb4.6,baz=43,slow=14,SNR=3.9						
SCHQ	**Schefferville**	**62.20**	**34**	P	**P**	**20 49 01.8**	**+1.4**
KAF	**Kangasniemi**	**62.23**	**343**	*e*P	**P**	**20 49 00.1**	**-0.4**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**62.23**	**343**	*e*p	**P**	**20 49 00.1**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**62.89**	**342**	P	**P**	**20 49 05.3**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.5,baz=25,slow=6.3,SNR=6.9						
FINES	**FINESS Array B**	**62.89**	**342**	P	**P**	**20 49 05.3**	**+0.4**
FINES	**FINESS Array B**	**62.89**	**342**	P	**P**	**20 49 05.3**	**+0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ABKAR	**Akbulak array**	**63.16**	**317**	*e*P	**P**	**20 49 07.0**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.3						
TXAR	**Lajitas Array**	**63.94**	**75**	P	**P**	**20 49 14.1**	**+1.7**
	comp=Z,0.5nm,0.8s,mb3.6,baz=332,slow=4.3,SNR=3.8						
TXAR	**Lajitas Array**	**63.94**	**75**	P	**P**	**20 49 14.1**	**+1.7**
TXAR	**Lajitas Array**	**63.94**	**75**	P	**P**	**20 49 14.1**	**+1.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**65.27**	**268**	P	**P**	**20 49 21.4**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=25,slow=5.8,SNR=5.3						
CMAR	**Chiang Mai Arr**	**65.27**	**268**	P	**P**	**20 49 21.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**65.27**	**268**	P	**P**	**20 49 21.5**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**65.44**	**350**	P	**P**	**20 49 21.9**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.5,baz=14,slow=6.9						
NOA	**NORSAR Array B**	**65.44**	**350**	P	**P**	**20 49 22.2**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.4,baz=14,slow=6.6,SNR=7.8						
NOA	**NORSAR Array B**	**65.44**	**350**	P	**P**	**20 49 22.2**	**+0.5**
NOA	**NORSAR Array B**	**65.44**	**350**	P	**P**	**20 49 22.2**	**+0.5**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**77.03**	**345**	P	**P**	**20 50 32.6**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=25,slow=7.3,SNR=7.0						
GERES	**GERESS Array B**	**77.03**	**345**	P	**P**	**20 50 32.6**	**+0.6**
GERES	**GERESS Array B**	**77.03**	**345**	P	**P**	**20 50 32.6**	**+0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**81.00**	**329**	P	**P**	**20 50 55.3**	**+1.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=66,slow=4.0,SNR=6.1						
BRTR	**Keskin Array B**	**81.00**	**329**	P	**P**	**20 50 55.3**	**+1.4**

*ISCJB **14** 20:50:33.8±0.5, 36°.95N±0°.03×2°.99W±0°.02, h2km±3km, Error ellipse: s-maj=5.9km s-min=3.2km az=170.8*
*CSEM **14** 20:50:34.4±0.2, 36°.88N×2°.94W, h2km, ML3.1/12, Error ellipse: s-maj=5.7km s-min=3.2km az=164.0*

*LDG **14** 20:50:34.9±0.2, 36°.79N×2°.92W, h2km, Ml3.0/4, Error ellipse: s-maj=4.1km s-min=2.5km az=155.0*
*MDD **14** 20:50:35.3±0.2, 36°.84N×2°.92W, h0km, mbLg2.6/20, Error ellipse: s-maj=2.2km s-min=1.7km az=13.0, PRXIMO*
MDD EMS: III BERJA.
*INMG **14** 20:50:35.2±1.3, 36°.83N×2°.93W, h1km±3km, ML2.7, Error ellipse: s-maj=2.1km s-min=1.6km az=146.0*

ISC 14 20:50:34.7±0.5, 36°.89N±0°.03×2°.94W±0°.02, h5km±3km, n93, σ1^{s}22/130, 5C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.04**	**77**	⇑Pg	**Pg**	**20 50 36.6**	**+0.6**
	3μm,0.2s,SNR=18						
EBER				Lg		20 50 37.8	
	3μm,0.1s,SNR=7.9						
EBER	**Berja**	**0.04**	**77**	Pg	**Pg**	**20 50 36.6**	**+0.7**
	3μm,0.2s,SNR=18						
EBER				Lg		20 50 37.8	
	3μm,0.1s,SNR=7.9						
EGUA	**Guajares**	**0.51**	**264**	⇑Pg	**Pg**	**20 50 44.3**	**-0.2**
	280nm,0.2s,SNR=18						
EGUA				Lg		20 50 50.9	
	SNR=7.9						
EGUA	**Guajares**	**0.51**	**264**	Pg	**Pg**	**20 50 44.3**	**-0.2**
	280nm,0.2s,SNR=18						
EGUA				Lg		20 50 50.9	
	SNR=7.9						
ENIJ	**Nijar**	**0.59**	**82**	⇑Pg	**Pg**	**20 50 45.6**	**-0.5**
	86nm,0.2s,SNR=18						
ENIJ				Lg		20 50 53.6	
	136nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**0.59**	**82**	Pg	**Pg**	**20 50 45.6**	**-0.5**
	86nm,0.2s,SNR=18						
ENIJ				Lg		20 50 53.6	
	136nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**0.63**	**308**	⇑Pg	**Pg**	**20 50 47.9**	**+1.0**
	68nm,0.4s,SNR=18						
ECOG				Lg		20 50 56.7	
	99nm,0.2s,SNR=12						
ECOG	**Cogollos-Vega**	**0.63**	**308**	Pg	**Pg**	**20 50 47.9**	**+1.0**
	68nm,0.4s,SNR=18						
ECOG				Lg		20 50 56.7	
	99nm,0.2s,SNR=12						
ERON	**Agron**	**0.71**	**281**	⇑Pg	**Pg**	**20 50 48.5**	**+0.2**
	89nm,0.2s,SNR=18						
ERON				Lg		20 50 58.9	
	80nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.71**	**281**	Pg	**Pg**	**20 50 48.5**	**+0.2**
	89nm,0.2s,SNR=18						
ERON				Lg		20 50 58.9	
	80nm,0.2s,SNR=7.9						
EQES	**Quesada**	**0.92**	**353**	Pg	**Pg**	**20 50 54.1**	**+1.8**
	8.5nm,0.2s,SNR=94						
EQES				Lg		20 51 06.7	
	18nm,0.2s,SNR=12						
EQES	**Quesada**	**0.92**	**353**	Pg	**Pg**	**20 50 54.1**	**+1.7**
	8.5nm,0.2s,SNR=94						
EQES				Lg		20 51 06.7	
	18nm,0.2s,SNR=12						
EALB	**Alboran**	**0.95**	**185**	Pg	**Pg**	**20 50 52.0**	**-1.0**
	110nm,0.3s,SNR=7.9						
EALB				Lg		20 51 03.4	
	201nm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.95**	**185**	Pg	**Pg**	**20 50 52.0**	**-1.0**
	110nm,0.3s,SNR=7.9						
EALB				Lg		20 51 03.4	
	201nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**0.96**	**16**	Pg	**Pg**	**20 50 54.4**	**+1.2**
	13nm,0.2s,SNR=7.9						
EHUE				Lg		20 51 08.1	
	13nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**0.96**	**16**	Pg	**Pg**	**20 50 54.4**	**+1.2**
	13nm,0.2s,SNR=7.9						
EHUE				Lg		20 51 08.1	
	13nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.01**	**285**	Pg	**Pg**	**20 50 54.0**	**0.0**
	8.6nm,0.2s,SNR=16						
ELOJ				Lg		20 51 08.7	
	17nm,0.2s,SNR=6.7						
ELOJ	**Sierra Loja**	**1.01**	**285**	Pg	**Pg**	**20 50 54.0**	**0.0**
	8.6nm,0.2s,SNR=16						
ELOJ				Lg		20 51 08.7	
	17nm,0.2s,SNR=6.7						
ELUQ	**Luque**	**1.25**	**303**	Pg	**Pg**	**20 51 00.3**	**+1.5**
	52nm,0.4s,SNR=7.9						
ELUQ				Lg		20 51 16.5	
	5.1nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**1.25**	**303**	Pg	**Pg**	**20 51 00.3**	**+1.5**
	52nm,0.4s,SNR=7.9						
ELUQ				Lg		20 51 16.5	
	5.1nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.51**	**258**	Pn	**Pn**	**20 50 58.7**	**-3.7**
	2.5nm,0.2s,SNR=20						
EMIJ				Sn	**Sn**	**20 51 17.4**	**-5.0**
	18nm,0.2s,SNR=9.7						
EMIJ	**Mijas**	**1.51**	**258**	Pn	**Pn**	**20 50 58.7**	**-3.7**
	2.5nm,0.2s,SNR=20						
EMIJ				Sn	**Sn**	**20 51 17.4**	**-5.0**
	18nm,0.2s,SNR=9.7						
EMUR	**La Murta**	**1.65**	**54**	Pn	**Pn**	**20 51 04.1**	**-0.3**
	12nm,0.2s,SNR=60						
EMUR				Pg	**Pg**	**20 51 06.7**	**+0.2**
	SNR=7.9						
EMUR				Sn	**Sn**	**20 51 26.4**	**+0.4**
	26nm,0.4s,SNR=9.4						
EMUR	**La Murta**	**1.65**	**54**	Pn	**Pn**	**20 51 04.1**	**-0.3**
	12nm,0.2s,SNR=60						
EVIA	**Vianos**	**1.78**	**11**	Pg	**Pg**	**20 51 08.5**	**-0.4**
	39nm,0.4s,SNR=53						
EVIA				Lg		20 51 32.4	
	227nm,0.6s,SNR=7.9						
EVIA	**Vianos**	**1.78**	**11**	Pg	**Pg**	**20 51 08.5**	**-0.4**
	39nm,0.4s,SNR=53						
EVIA				Lg		20 51 32.4	
	227nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**1.82**	**315**	Pn	**Pn**	**20 51 07.0**	**+0.3**
	0.2nm,0.2s,SNR=7.9						
EADA				Pg	**Pg**	**20 51 09.5**	**-0.1**
	5.4nm,0.2s,SNR=37						
EADA				Sn	**Sn**	**20 51 30.2**	**0.0**
	13nm,0.3s,SNR=4.0						
EADA				Lg		20 51 34.6	
	34nm,0.2s,SNR=4.6						
EADA	**Adamuz**	**1.82**	**315**	Pn	**Pn**	**20 51 07.0**	**+0.3**
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.07**	**32**	Pg	**Pg**	**20 51 13.3**	**-1.1**
	14nm,0.3s,SNR=47						
ETOB				Sn	**Sn**	**20 51 36.6**	**+0.3**
	12nm,0.3s,SNR=7.9						
ETOB				Lg		20 51 42.5	
	26nm,0.3s,SNR=9.4						
ETOB	**Tobarra**	**2.07**	**32**	Pg	**Pg**	**20 51 13.3**	**-1.1**
	14nm,0.3s,SNR=47						
ETOB				Sn	**Sn**	**20 51 36.6**	**+0.3**
	12nm,0.3s,SNR=7.9						
ETOB				Lg		20 51 42.5	
	26nm,0.3s,SNR=9.4						
EJIF	**Jimena Fronter**	**2.08**	**259**	Pg	**Pg**	**20 51 12.8**	**-1.8**
	5.2nm,0.4s,SNR=7.9						
EJIF				Sn	**Sn**	**20 51 35.6**	**-0.9**
	4.8nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.08**	**259**	Pg	**Pg**	**20 51 12.8**	**-1.8**
	5.2nm,0.4s,SNR=7.9						
EJIF				Sn	**Sn**	**20 51 35.6**	**-0.9**
	4.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.34**	**270**	Pg	**Pg**	**20 51 17.5**	**-2.0**
	2.9nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.34**	**270**	Pg	**Pg**	**20 51 17.5**	**-2.1**
	2.9nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.81**	**49**	Pn	**Pn**	**20 51 20.0**	**-0.3**
	0.4nm,0.3s,SNR=7.9						

ECHE	**Chera**	**3.11**	**29**	Pg	**Pg**	**20 51 33.7**	**-0.7**
	7.6nm,0.4s,SNR=6.5						
ECHE				Lg		20 52 15.3	
	2.8nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.11**	**29**	Pg	**Pg**	**20 51 33.7**	**-0.7**
	7.6nm,0.4s,SNR=6.5						
ECHE				Lg		20 52 15.3	
	2.8nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**3.50**	**293**	*e*Pn	**Pn**	**20 51 30.8**	**+1.0**
PBAR				*e*Sg	**Sg**	**20 52 27.9**	**+0.6**
PBAR				A		20 52 34.7	
	10nm,0.5s						
PBAR	**Barrancos**	**3.50**	**293**	Pn	**Pn**	**20 51 30.8**	**+1.0**
PBAR				Lg		20 52 27.9	
	10nm,0.5s						
PBAR	**Barrancos**	**3.50**	**293**	*e*Pn	**Pn**	**20 51 30.8**	**+1.0**
PBAR				*e*Sg	**Sg**	**20 52 27.9**	**+0.6**
	10nm,0.5s						
EBAD	**Badajoz**	**3.73**	**301**	Pn	**Pn**	**20 51 33.8**	**+1.0**
	0.6nm,0.3s,SNR=7.9						
EBAD				Pg	**Pg**	**20 51 44.2**	**-1.9**
	0.8nm,0.2s,SNR=5.5						
EBAD				Sn	**Sn**	**20 52 15.7**	**-1.4**
	11nm,0.4s,SNR=7.9						
EBAD				Lg		20 52 34.4	
	3.9nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**3.73**	**301**	Pn	**Pn**	**20 51 33.8**	**+0.9**
	0.6nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.85**	**279**	*e*Pn	**Pn**	**20 51 35.2**	**+0.6**
PVAQ				*e*Sn	**Sn**	**20 52 18.7**	**-1.5**
PVAQ	**Vaqueiros**	**3.85**	**279**	Pn	**Pn**	**20 51 35.2**	**+0.6**
PVAQ				Sn	**Sn**	**20 52 18.7**	**-1.5**
PVAQ	**Vaqueiros**	**3.85**	**279**	*e*Pn	**Pn**	**20 51 35.2**	**+0.6**
PVAQ				*e*Sn	**Sn**	**20 52 18.7**	**-1.5**
GUD	**Guadarrama**	**3.87**	**346**	Pn	**Pn**	**20 51 36.2**	**+1.4**
	1.5nm,0.2s,SNR=4.0						
GUD				Pg	**Pg**	**20 51 46.7**	**-2.1**
	2.0nm,0.2s,SNR=7.9						
GUD				Lg		20 52 38.8	
	3.9nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.87**	**346**	Pn	**Pn**	**20 51 36.2**	**+1.4**
	1.5nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**3.97**	**28**	Lg		20 52 41.7	
	SNR=7.9						
EMOS	**Mosqueruela**	**3.97**	**28**	Lg		20 52 41.7	
	SNR=7.9						
ETOR	**Torete**	**3.98**	**10**	Pn	**Pn**	**20 51 36.9**	**+0.5**
	1.2nm,0.2s,SNR=8.0						
ETOR				Pg	**Pg**	**20 51 49.3**	**-1.8**
	10nm,0.4s,SNR=9.7						
ETOR				Sn	**Sn**	**20 52 22.1**	**-1.4**
	10nm,0.3s,SNR=7.9						
ETOR				Lg		20 52 41.8	
	25nm,0.3s						
ETOR	**Torete**	**3.98**	**10**	Pn	**Pn**	**20 51 36.9**	**+0.5**
	1.2nm,0.2s,SNR=8.0						
EIBI	**Ibiza**	**4.00**	**56**	Pn	**Pn**	**20 51 37.2**	**+0.6**
	4.3nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**20 52 21.2**	**-2.7**
	5.3nm,0.5s,SNR=7.9						
EIBI	**Ibiza**	**4.00**	**56**	Pn	**Pn**	**20 51 37.2**	**+0.6**
	4.3nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**20 52 21.2**	**-2.7**
	5.3nm,0.5s,SNR=7.9						
EPLA	**Plasencia**	**4.02**	**323**	Pn	**Pn**	**20 51 37.6**	**+0.8**
	1.3nm,0.2s,SNR=7.9						
EPLA				Lg		20 52 42.2	
	2.1nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**4.02**	**323**	Pn	**Pn**	**20 51 37.7**	**+0.9**
	1.3nm,0.2s,SNR=7.9						
EPLA				Lg		20 52 42.2	
	2.1nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**4.08**	**288**	*e*Pn	**Pn**	**20 51 39.3**	**+1.5**
PBEJ	**Beja**	**4.08**	**288**	Pn	**Pn**	**20 51 39.3**	**+1.5**
PBEJ	**Beja**	**4.08**	**288**	*e*Pn	**Pn**	**20 51 39.3**	**+1.5**
PCVE	**Castro Verde**	**4.14**	**282**	*e*Pn	**Pn**	**20 51 39.6**	**+1.1**
PCVE				*e*Sn	**Sn**	**20 52 27.2**	**0.0**
PCVE	**Castro Verde**	**4.14**	**282**	Pn	**Pn**	**20 51 39.6**	**+1.1**
PCVE				Sn	**Sn**	**20 52 27.2**	**0.0**
PCVE	**Castro Verde**	**4.14**	**282**	*e*Pn	**Pn**	**20 51 39.6**	**+1.1**
PCVE				*e*Sn	**Sn**	**20 52 27.2**	**0.0**
PESTR	**Estremoz**	**4.18**	**300**	*e*Pn	**Pn**	**20 51 40.7**	**+1.6**
PESTR				A		20 52 59.7	
	9.8nm,0.5s						
PESTR	**Estremoz**	**4.18**	**300**	Pn	**Pn**	**20 51 40.7**	**+1.6**
PESTR	**Estremoz**	**4.18**	**300**	*e*Pn	**Pn**	**20 51 40.7**	**+1.6**
	9.8nm,0.5s						
PMRV	**Marv??o**	**4.33**	**307**	*e*Pn	**Pn**	**20 51 43.1**	**+1.9**
PMRV				*e*Sg	**Sg**	**20 52 54.4**	**+0.6**
PMRV				A		20 53 03.2	
	8.9nm,0.7s						
PMRV	**Marv??o**	**4.33**	**307**	Pn	**Pn**	**20 51 43.1**	**+1.9**
PMRV				Lg		20 52 54.4	
	8.9nm,0.7s						
PMRV	**Marv??o**	**4.33**	**307**	*e*Pn	**Pn**	**20 51 43.1**	**+1.9**
PMRV				*e*Sg	**Sg**	**20 52 54.4**	**+0.6**
	8.9nm,0.7s						
EVO	**Evora**	**4.34**	**294**	*e*Pn	**Pn**	**20 51 41.8**	**+0.4**
EVO				*e*Sn	**Sn**	**20 52 31.4**	**-1.0**
EVO				*e*Sg	**Sg**	**20 52 55.2**	**+0.9**
	21nm,0.4s						
EVOP	**Sao Brissos**	**4.42**	**293**	*e*Pn	**Pn**	**20 51 41.8**	**-0.7**
EVOP				*e*Sn	**Sn**	**20 52 31.4**	**-2.9**
EVOP				*e*Sg	**Sg**	**20 52 55.2**	**-1.6**
	10nm,0.4s						
PNCL	**Nicolau / Gran**	**4.61**	**287**	*e*Pn	**Pn**	**20 51 45.7**	**+0.7**
PNCL	**Nicolau / Gran**	**4.61**	**287**	*e*Pn	**Pn**	**20 51 45.7**	**+0.7**
PCBR	**Castelo Branco**	**4.63**	**311**	*e*Pn	**Pn**	**20 51 47.3**	**+2.1**
PCBR	**Castelo Branco**	**4.63**	**311**	Pn	**Pn**	**20 51 47.3**	**+2.1**
PCBR	**Castelo Branco**	**4.63**	**311**	*e*Pn	**Pn**	**20 51 47.3**	**+2.1**
ERTA	**Horta de San J**	**4.80**	**31**	Pn	**Pn**	**20 51 49.5**	**+2.0**
	0.4nm,0.2s,SNR=5.8						
ERTA	**Horta de San J**	**4.80**	**31**	Pn	**Pn**	**20 51 49.5**	**+1.9**
	0.4nm,0.2s,SNR=5.8						
MVO	**Moncorvo**	**5.33**	**325**	*e*Pn	**Pn**	**20 51 57.1**	**+2.3**
MVO	**Moncorvo**	**5.33**	**325**	Pn	**Pn**	**20 51 56.1**	**+1.3**
	SNR=7.9						
MVO				Sn	**Sn**	**20 52 56.0**	**-0.5**
	1.8nm,0.3s,SNR=4.0						
MVO				Lg		20 53 26.1	
	SNR=7.9						
MVO	**Moncorvo**	**5.33**	**325**	Pn	**Pn**	**20 51 56.1**	**+1.3**
	SNR=7.9						
MVO				Sn	**Sn**	**20 52 56.0**	**-0.5**
	1.8nm,0.3s,SNR=4.0						
MVO				Lg		20 53 26.1	
	SNR=7.9						
PVIS	**Viseu**	**5.44**	**316**	*e*Pn	**Pn**	**20 51 58.2**	**+1.8**
PVIS	**Viseu**	**5.44**	**316**	Pn	**Pn**	**20 51 58.2**	**+1.8**
POLO	**Lamas de Olo**	**5.86**	**321**	*e*Pn	**Pn**	**20 52 04.0**	**+1.9**
ETSF	**Etsaut**	**6.27**	**16**	*e*Pn	**Pn**	**20 52 07.5**	**-0.4**
ETSF				*e*Sn	**Sn**	**20 53 16.6**	**-3.3**
	1.4nm,0.4s						
ETSF	**Etsaut**	**6.27**	**16**	Pn	**Pn**	**20 52 07.5**	**-0.4**
ETSF				Sn	**Sn**	**20 53 16.6**	**-3.3**
	0.7nm,0.4s						
SJPF	**Ste Jean**	**6.35**	**11**	*e*Pn	**Pn**	**20 52 08.6**	**-0.4**
SJPF				*e*Sn	**Sn**	**20 53 18.4**	**-3.5**
	1.4nm,0.2s						
SJPF	**Ste Jean**	**6.35**	**11**	Pn	**Pn**	**20 52 08.6**	**-0.4**
SJPF				Sn	**Sn**	**20 53 18.4**	**-3.5**
	0.7nm,0.2s						
EPF	**Esparros**	**6.63**	**21**	*e*Pn	**Pn**	**20 52 12.3**	**-0.4**
EPF				*e*Sn	**Sn**	**20 53 24.9**	**-3.8**
	1.9nm,0.5s						
EPF	**Esparros**	**6.63**	**21**	Pn	**Pn**	**20 52 12.3**	**-0.4**
EPF				Sn	**Sn**	**20 53 24.9**	**-3.8**
	0.9nm,0.5s						

*ISCJB **14** 21:01:09.5±0.5, 38°.43N±0°.02×21°.98E±0°.03, h7km±5km, Error ellipse: s-maj=4.6km s-min=3.3km az=12.3*
*THE **14** 21:01:09.5, 38°.42N×21°.97E, h8km±2km, ML2.0/4, Error ellipse: s-maj=3.0km s-min=0.8km az=231.0*
*CSEM **14** 21:01:09.5±0.1, 38°.42N×21°.99E, h5km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.4km az=101.0*
*ATH **14** 21:01:10.0, 38°.42N×21°.92E, h8km±1km, MD2.7/7*
ISC 14 21:01:09.9±0.5, 38°.43N±0°.02×21°.97E±0°.04, h7km±6km, n30, σ0°.74/58, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.05**	**266**	*e*PG	**Pg**	**21 01 11.2**	**-0.3**
EFP				*e*SG	**Sg**	**21 01 12.8**	**+0.1**
EFP	**Efpalio**	**0.05**	**266**	P	**Pg**	**21 01 11.2**	**-0.3**
EFP				S	**Sg**	**21 01 11.9**	**-0.8**
EFP	**Efpalio**	**0.05**	**266**	*e*Pg	**Pg**	**21 01 11.3**	**-0.2**
EFP				S	**Sg**	**21 01 11.9**	**-0.8**
EFP				*e*Sg	**Sg**	**21 01 12.8**	**+0.1**
KALE	**Kalithea**	**0.14**	**107**	P	**Pg**	**21 01 12.5**	**-0.3**
KALE				S	**Sg**	**21 01 15.2**	**+0.5**
KALE	**Kalithea**	**0.14**	**107**	P	**Pg**	**21 01 12.5**	**-0.3**
KALE				S	**Sg**	**21 01 15.2**	**+0.5**
LAKA	**Lakka**	**0.19**	**179**	P	**Pg**	**21 01 13.4**	**-0.3**
LAKA				S	**Sg**	**21 01 16.8**	**+0.5**
LAKA	**Lakka**	**0.19**	**179**	P	**Pg**	**21 01 13.4**	**-0.3**
LAKA				S	**Sg**	**21 01 16.8**	**+0.5**
DESF	**Desfina**	**0.44**	**92**	P	**Pg**	**21 01 16.9**	**-1.5**
DESF				S	**Sg**	**21 01 24.0**	**-0.2**
DESF	**Desfina**	**0.44**	**92**	P	**Pg**	**21 01 16.9**	**-1.5**
DESF				S	**Sg**	**21 01 24.0**	**-0.2**
EVR	**Evrytania**	**0.50**	**345**	*e*PB	**Pg**	**21 01 19.2**	**-0.4**
EVR				*e*SB	**Sg**	**21 01 27.0**	**+0.8**
EVR	**Evrytania**	**0.50**	**345**	P	**Pg**	**21 01 18.9**	**-0.7**
EVR				S	**Sg**	**21 01 27.6**	**+1.4**
EVR	**Evrytania**	**0.50**	**345**	*e*Pb	**Pg**	**21 01 19.0**	**-0.6**
EVR				*e*Sb	**Sg**	**21 01 27.1**	**+0.9**
EVR				S	**Sg**	**21 01 27.6**	**+1.4**
RLS	**Riolos of Patr**	**0.55**	**227**	*e*PB	**Pg**	**21 01 20.2**	**-0.2**
RLS				*e*SB	**Sg**	**21 01 27.5**	**0.0**
RLS	**Riolos of Patr**	**0.55**	**227**	*e*Pb	**Pg**	**21 01 20.2**	**-0.2**
RLS				*e*Sb	**Sg**	**21 01 28.6**	**+1.1**
GUR	**Goura**	**0.57**	**149**	*e*PB	**Pg**	**21 01 20.5**	**-0.4**
GUR				*e*SB	**Sg**	**21 01 29.2**	**+0.8**
GUR	**Goura**	**0.57**	**149**	*e*Pb	**Pg**	**21 01 20.3**	**-0.6**
GUR				*e*Sb	**Sg**	**21 01 28.8**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	P	**Pg**	**21 01 20.9**	**-0.5**
MAKR				S	**Sg**	**21 01 30.2**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	P	**Pg**	**21 01 20.9**	**-0.5**
MAKR				S	**Sg**	**21 01 30.2**	**+1.1**
AXAR	**Agios Charalam**	**0.63**	**58**	P	**Pg**	**21 01 21.1**	**-1.0**
AXAR				S	**Sg**	**21 01 31.3**	**+0.9**
AXAR	**Agios Charalam**	**0.63**	**58**	P	**Pg**	**21 01 21.1**	**-1.0**
AXAR				S	**Sg**	**21 01 31.3**	**+0.9**
AGG	**Agios Georgios**	**0.65**	**25**	P	**Pg**	**21 01 21.4**	**-1.1**
AGG				S	**Sg**	**21 01 31.9**	**+0.9**
AGG	**Agios Georgios**	**0.65**	**25**	P	**Pg**	**21 01 21.4**	**-1.1**
AGG				S	**Sg**	**21 01 31.9**	**+0.9**
LKR	**Lokris**	**0.83**	**74**	P	**Pg**	**21 01 25.5**	**-0.4**
LKR	**Lokris**	**0.83**	**74**	P	**Pg**	**21 01 25.5**	**-0.4**
LTK	**Loutraki**	**0.88**	**117**	*e*PB	**Pg**	**21 01 27.5**	**+0.7**
LTK	**Loutraki**	**0.88**	**117**	*e*Pb	**Pg**	**21 01 27.5**	**+0.7**
VLX	**Vlachokerasia**	**1.11**	**163**	*e*PG	**Pg**	**21 01 30.5**	**-0.6**
VLX				*e*SB	**Sg**	**21 01 46.5**	**+1.0**
VLX	**Vlachokerasia**	**1.11**	**163**	*e*Pg	**Pg**	**21 01 30.3**	**-0.8**
VLX				*e*Sb	**Sg**	**21 01 46.8**	**+1.3**
ITM	**Ithomi**	**1.25**	**182**	*e*PB	**Pb**	**21 01 33.6**	**-0.2**
ITM				*e*SB	**Sb**	**21 01 50.3**	**+0.3**
ITM	**Ithomi**	**1.25**	**182**	*e*Pb	**Pb**	**21 01 33.6**	**-0.2**
ITM				*e*Sb	**Sb**	**21 01 50.3**	**+0.3**

BUC 14 21:04:54.1±0.7, 45°.40N×26°.94E, h5km±10km, MD2.3/3, 6C-4D, Error ellipse: s-maj=6.3km s-min=4.6km az=351.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.49**	**342**	⇑*P*	Pg	21 05 04.0	+0.6
VRI	**Vrincioaia**	**0.49**	**342**	S	Sg	21 05 11.7	+1.9
VRI	**Vrincioaia**	**0.49**	**342**	⇑*P*	Pg	21 05 04.0	+0.6
VRI				*i* S	Sg	21 05 11.7	+1.9
PLOR	**Plostina**	**0.49**	**336**	⇑*P*	Pg	21 05 03.9	+0.4
PLOR	**Plostina**	**0.49**	**336**	S	Sg	21 05 11.9	+2.0
PLOR	**Plostina**	**0.49**	**336**	⇑*P*	Pg	21 05 03.9	+0.4
PLOR				*i* S	Sg	21 05 11.9	+2.0
MLR	**Muntele Rosu**	**0.70**	**277**	⇓*P*	Pg	21 05 08.5	+0.9
MLR	**Muntele Rosu**	**0.70**	**277**	S	Sg	21 05 19.6	+2.8
MLR	**Muntele Rosu**	**0.70**	**277**	⇓*P*	Pg	21 05 08.5	+0.9
MLR				*i* S	Sg	21 05 19.6	+2.8
CFR	**Carcaliu**	**0.88**	**105**	⇑*P*	Pg	21 05 11.9	+1.0
CFR	**Carcaliu**	**0.88**	**105**	S	Sg	21 05 25.0	+2.8
CFR	**Carcaliu**	**0.88**	**105**	⇑*P*	Pg	21 05 11.9	+1.0
CFR				*i* S	Sg	21 05 25.0	+2.8
TLCR		**1.34**	**99**	⇓*P*	Pn	21 05 20.4	+0.9
TLCR		**1.34**	**99**	S	Sg	21 05 38.6	+1.4
TLCR		**1.34**	**99**	⇓*P*	Pn	21 05 20.4	+0.9
TLCR				*i* S	Sg	21 05 38.6	+1.4
TIRR	**Tirgusor**	**1.41**	**132**	S	Sb	21 05 40.4	+1.2
TIRR	**Tirgusor**	**1.41**	**132**	*i* S	Sb	21 05 40.4	+1.2

*ATH **14** 21:08:11.6, 36°.36N×21°.71E, h37km±1km, ML3.5*
*NEIC **14** 21:08:11.5, 36°.36N×21°.70E, h37km, MG3.5(ATH), After ATH.*
*BEO **14** 21:08:13.3±0.8, 36°.65N×21°.36E, h0km, ML3.6/8*
*ISCJB **14** 21:08:13.9±0.8, 36°.57N±0°.05×21°.60E±0°.07, h84km±5km, mb4.0/19, Error ellipse: s-maj=10.3km s-min=6.7km az=143.0*
*CSEM **14** 21:08:13.4±0.3, 36°.39N×21°.68E, h60km, Error ellipse: s-maj=10.3km s-min=4.9km az=56.0*
*IDC **14** 21:08:14.3±3.8, 36°.37N×21°.92E, h64km±34km, mb3.5/11, mb1 3.5/13, mb1mx3.4/28, mbtmp3.4/13, ML2.9/2, Error ellipse: s-maj=26.5km s-min=22.5km az=160.0*
ISC 14 21:08:13.9±0.7, 36°.45N±0°.04×21°.66E±0°.07, h63km±5km, n174, σ1°.21/197, mb4.0/19, 11C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.76**	**16**	*e*PN	**Pn**	**21 08 28.0**	**-1.0**
ITM				*e*SN	**Sn**	**21 08 40.2**	**+0.1**
ITM	**Ithomi**	**0.76**	**16**	P	**Pn**	**21 08 26.7**	**-2.3**
ITM	**Ithomi**	**0.76**	**16**	P	**Pn**	**21 08 26.7**	**-2.3**
ITM	**Ithomi**	**0.76**	**16**	*e*Pn	**Pn**	**21 08 28.0**	**-1.0**
ITM				*e*Sn	**Sn**	**21 08 40.2**	**+0.1**
RLS	**Riolos of Patr**	**1.62**	**354**	*e*PN	**Pn**	**21 08 40.8**	**+0.7**
RLS	**Riolos of Patr**	**1.62**	**354**	*e*Pn	**Pn**	**21 08 40.8**	**+0.7**
LAKA	**Lakka**	**1.81**	**8**	P	**Pn**	**21 08 42.9**	**+0.2**
LAKA	**Lakka**	**1.81**	**8**	P	**Pn**	**21 08 42.9**	**+0.2**
LTK	**Loutraki**	**1.89**	**33**	P	**Pn**	**21 08 47.0**	**+3.2**
LTK	**Loutraki**	**1.89**	**33**	P	**Pn**	**21 08 47.0**	**+3.2**
VLS	**Valsamata**	**1.93**	**334**	*e*PN	**Pn**	**21 08 45.0**	**+0.6**
VLS				*e*SN	**Sn**	**21 09 10.2**	**+2.7**
VLS	**Valsamata**	**1.93**	**334**	*e*Pn	**Pn**	**21 08 44.9**	**+0.5**
VLS				*e*Sn	**Sn**	**21 09 10.2**	**+2.7**
ATH	**Athens Observa**	**2.24**	**46**	*e*PN	**Pn**	**21 08 48.4**	**-0.1**
ATH	**Athens Observa**	**2.24**	**46**	P	**Pn**	**21 08 56.4**	**+7.9**
ATH	**Athens Observa**	**2.24**	**46**	*e*Pn	**Pn**	**21 08 48.4**	**-0.1**
VAM	**Vamos**	**2.31**	**116**	*e*PN	**Pn**	**21 08 48.4**	**-1.1**
VAM	**Vamos**	**2.31**	**116**	*e*Pn	**Pn**	**21 08 48.4**	**-1.1**
LKR	**Lokris**	**2.44**	**25**	*e*PN	**Pn**	**21 08 51.9**	**+0.6**
LKR	**Lokris**	**2.44**	**25**	*e*Pn	**Pn**	**21 08 50.9**	**-0.4**
AXAR	**Agios Charalam**	**2.45**	**19**	P	**Pn**	**21 08 59.4**	**+8.0**
EVR	**Evrytania**	**2.47**	**3**	*e*PN	**Pn**	**21 08 53.0**	**+1.3**
EVR	**Evrytania**	**2.47**	**3**	P	**Pn**	**21 08 59.4**	**+7.7**
EVR	**Evrytania**	**2.47**	**3**	*e*Pn	**Pn**	**21 08 53.1**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.59**	**8**	P	**Pn**	**21 08 55.7**	**+2.4**
MAKR	**Makrakomi, Fth**	**2.59**	**8**	P	**Pn**	**21 08 55.7**	**+2.4**
AGG	**Agios Georgios**	**2.62**	**11**	P	**Pn**	**21 08 56.8**	**+3.0**
AGG	**Agios Georgios**	**2.62**	**11**	P	**Pn**	**21 08 56.8**	**+3.0**
SIVA	**Sivas**	**2.93**	**118**	*e*PN	**Pn**	**21 08 57.0**	**-1.0**
SIVA	**Sivas**	**2.93**	**118**	*e*Pn	**Pn**	**21 08 57.0**	**-1.0**
NEO	**Neokhori**	**3.11**	**23**	*e*PN	**Pn**	**21 09 01.7**	**+1.3**
NEO	**Neokhori**	**3.11**	**23**	*e*Pn	**Pn**	**21 09 02.0**	**+1.6**
THL	**Klokotos Trika**	**3.12**	**5**	*e*PN	**Pn**	**21 09 01.8**	**+1.2**
THL	**Klokotos Trika**	**3.12**	**5**	*e*Pn	**Pn**	**21 09 01.8**	**+1.2**
JAN	**Janina**	**3.27**	**349**	P	**Pn**	**21 09 03.7**	**+1.1**
JAN	**Janina**	**3.27**	**349**	P	**Pn**	**21 09 03.7**	**+1.1**
NPS	**Neapolis**	**3.42**	**109**	*e*PN	**Pn**	**21 09 03.4**	**-1.3**
NPS	**Neapolis**	**3.42**	**109**	*e*Pn	**Pn**	**21 09 03.4**	**-1.3**
KZN	**Kozani**	**3.85**	**1**	*e*PN	**Pn**	**21 09 12.1**	**+1.5**
KZN				*e*SN	**Sn**	**21 09 56.4**	**+1.8**
KZN	**Kozani**	**3.85**	**1**	P	**Pn**	**21 09 11.5**	**+0.9**
KZN	**Kozani**	**3.85**	**1**	P	**Pn**	**21 09 11.5**	**+0.9**
KZN	**Kozani**	**3.85**	**1**	*e*Pn	**Pn**	**21 09 12.1**	**+1.5**
KZN				*e*Sn	**Sn**	**21 09 56.2**	**+1.6**
HORT	**Hortiatis**	**4.29**	**15**	P	**Pn**	**21 09 17.8**	**+1.2**
HORT	**Hortiatis**	**4.29**	**15**	P	**Pn**	**21 09 17.8**	**+1.2**
FNA	**Florina**	**4.34**	**357**	P	**Pn**	**21 09 19.6**	**+2.4**
FNA	**Florina**	**4.34**	**357**	P	**Pn**	**21 09 19.6**	**+2.4**
GRG	**Griva**	**4.54**	**7**	P	**Pn**	**21 09 20.4**	**+0.4**
GRG	**Griva**	**4.54**	**7**	P	**Pn**	**21 09 20.4**	**+0.4**
SOH	**Sokhos**	**4.56**	**16**	P	**Pn**	**21 09 28.1**	**+7.8**
BIA	**Bitola**	**4.57**	**357**	*e*Pn	**Pn**	**21 09 20.8**	**+0.3**
BIA				*e*Sg	**Sn**	**21 10 11.4**	**-0.8**
BIA	**Bitola**	**4.57**	**357**	*e*Pn	**Pn**	**21 09 20.7**	**+0.3**
SRS	**Serrai**	**4.90**	**17**	P	**Pn**	**21 09 21.8**	**-3.1**
SRS	**Serrai**	**4.90**	**17**	P	**Pn**	**21 09 21.8**	**-3.1**
VAY	**Valandovo**	**4.92**	**8**	⇑*i*Pn	**Pn**	**21 09 25.0**	**-0.2**
VAY				*e*Sn	**Sn**	**21 10 20.1**	**-0.6**
VAY	**Valandovo**	**4.92**	**8**	*e*Pn	**Pn**	**21 09 25.2**	**+0.1**
VAY				*e*Sg	**Sn**	**21 10 19.4**	**-1.3**
VAY	**Valandovo**	**4.92**	**8**	⇑*i*Pn	**Pn**	**21 09 25.0**	**-0.2**
VAY				*e*Sn	**Sn**	**21 10 20.1**	**-0.6**
KRUS	**Krusevo**	**4.93**	**356**	*e*Pn	**Pn**	**21 09 25.2**	**-0.1**
KRUS	**Krusevo**	**4.93**	**356**	*e*Pn	**Pn**	**21 09 25.2**	**-0.1**
TIR	**Tirane**	**5.09**	**345**	*e*Pn	**Pn**	**21 09 28.1**	**+0.6**
TIR				*e*Sn	**Sn**	**21 10 22.9**	**-2.0**
TIR	**Tirane**	**5.09**	**345**	*e*Pn	**Pn**	**21 09 28.1**	**+0.6**
TIR				*e*Sn	**Sn**	**21 10 22.9**	**-2.0**
NVR	**Nevrokopi**	**5.19**	**19**	P	**Pn**	**21 09 30.2**	**+1.4**
NVR	**Nevrokopi**	**5.19**	**19**	P	**Pn**	**21 09 30.2**	**+1.4**
MMB	**Musomiste**	**5.38**	**17**	*i* P	**Pn**	**21 09 31.8**	**+0.3**
MMB	**Musomiste**	**5.38**	**17**	*i* P	**Pn**	**21 09 31.8**	**+0.3**
MMB	**Musomiste**	**5.38**	**17**	*i* P	**Pn**	**21 09 31.8**	**+0.3**
KKB	**Krupnik**	**5.52**	**11**	*e*P	**Pn**	**21 09 34.0**	**+0.6**
KKB	**Krupnik**	**5.52**	**11**	*e*P	**Pn**	**21 09 34.0**	**+0.6**
KKB	**Krupnik**	**5.52**	**11**	*e*P	**Pn**	**21 09 34.0**	**+0.6**
RZN	**Rozhen**	**5.75**	**23**	*i* P	**Pn**	**21 09 37.7**	**+1.2**
RZN	**Rozhen**	**5.75**	**23**	*i* P	**Pn**	**21 09 37.7**	**+1.2**
KDZ	**Kurdzhali**	**5.96**	**28**	*e*P	**Pn**	**21 09 39.6**	**+0.2**
KDZ	**Kurdzhali**	**5.96**	**28**	*e*P	**Pn**	**21 09 39.6**	**+0.2**
VTS	**Vitosha**	**6.25**	**11**	⇑*i*Pn	**Pn**	**21 09 44.7**	**+1.3**
VTS				*e*Sn	**Sn**	**21 10 52.9**	**-0.5**
VTS	**Vitosha**	**6.25**	**11**	P	**Pn**	**21 09 44.8**	**+1.4**
VTS	**Vitosha**	**6.25**	**11**	*e*P	**Pn**	**21 09 44.7**	**+1.3**
VTS	**Vitosha**	**6.25**	**11**	*e*P	**Pn**	**21 09 44.7**	**+1.3**
VTS	**Vitosha**	**6.25**	**11**	⇑*i*Pn	**Pn**	**21 09 44.7**	**+1.3**
VTS				*e*Sn	**Sn**	**21 10 52.9**	**-0.5**
PDG	**Podgorica**	**6.26**	**343**	*e*Pn	**Pn**	**21 09 42.6**	**-0.9**
PDG				*e*Sn	**Sn**	**21 10 50.7**	**-2.8**
PDG	**Podgorica**	**6.26**	**343**	*e*Pn	**Pn**	**21 09 42.6**	**-0.9**
BARS	**Barje**	**6.36**	**1**	⇑*i*Pn	**Pn**	**21 09 44.9**	**0.0**
BARS				*e*Sn	**Sn**	**21 10 54.1**	**-2.0**
BARS	**Barje**	**6.36**	**1**	⇑*i*Pn	**Pn**	**21 09 44.9**	**0.0**
SELS	**Selova**	**6.78**	**357**	⇑*i*Pn	**Pn**	**21 09 49.5**	**-1.1**
ZAPS	**Zavoj**	**6.86**	**6**	*e*Pn	**Pn**	**21 09 53.1**	**+1.4**
SJES	**Sjenica**	**6.93**	**350**	*e*Pn	**Pn**	**21 09 52.4**	**-0.3**
SJES				*e*Sn	**Sn**	**21 11 05.2**	**-4.8**
STON	**Ston**	**7.11**	**336**	*e*Pn	**Pn**	**21 09 52.0**	**-3.1**
STON				Sn	**Sn**	**21 11 08.1**	**-6.3**
IVAS	**Ivanjica**	**7.21**	**351**	⇑*i*Pn	**Pn**	**21 09 55.1**	**-1.5**
IVAS	**Ivanjica**	**7.21**	**351**	⇑*i*Pn	**Pn**	**21 09 55.1**	**-1.5**
GRUS	**Gruza**	**7.47**	**

RAMN	**Ramite**	**55.14**	**80**	*e*P	**P**	**21 17 39.1**	**-0.8**
	comp=Z,6.2nm,0.7s,mb4.8						
ODAN	**Odare**	**55.81**	**80**	*e*P	**P**	**21 17 44.0**	**-0.7**
ODAN	**Odare**	**55.81**	**80**	*e*P	**P**	**21 17 44.0**	**-0.7**
ODAN	**Odare**	**55.81**	**80**	*e*P	**P**	**21 17 44.0**	**-0.7**
TAPN	**Taplejung**	**55.84**	**79**	*e*P	**P**	**21 17 45.0**	**+0.1**
TAPN	**Taplejung**	**55.84**	**79**	*e*P	**P**	**21 17 45.0**	**+0.1**
TAPN	**Taplejung**	**55.84**	**79**	*e*P	**P**	**21 17 45.0**	**+0.1**
SONM	**Songino Array**	**60.86**	**50**	P	**P**	**21 18 19.9**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.6,baz=279,slow=8.2,SNR=4.6						
SONM	**Songino Array**	**60.86**	**50**	P	**P**	**21 18 19.9**	**+0.3**
SONM	**Songino Array**	**60.86**	**50**	P	**P**	**21 18 19.9**	**+0.3**
YKA	**Yellowknife Ar**	**75.33**	**341**	P	**P**	**21 19 52.2**	**+2.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=31,slow=5.5,SNR=4.1						
YKA	**Yellowknife Ar**	**75.33**	**341**	P	**P**	**21 19 52.2**	**+2.3**
YKA	**Yellowknife Ar**	**75.33**	**341**	P	**P**	**21 19 52.2**	**+2.3**

NNC 14 21:19:36.8±12.0, 36°.30N×69°.12E, h0km, mb3.7, mpv3.2, 2C-1D, Error ellipse: s-maj=105.3km s-min=80.0km az=163.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.88**	**9**	Pn	Pn	21 21 19.3	+0.5
	0.8nm,0.4s,baz=192,slow=13,SNR=10						
KK31				⇑Sn	Sn	21 22 38.9	+1.0
	2.4nm,0.5s,baz=184,slow=24						
TKM2	**Tokmak 2**	**8.29**	**35**	⇓Pn	Pn	21 21 40.2	+2.0
TKM2				⇑Sn	Sn	21 23 14.3	+1.9
	5.0nm,0.8s						
AB31	**Akbulak array**	**14.58**	**335**	Pn	Pn	21 23 00.3	-4.0
	1.4nm,0.8s,baz=150,slow=12,SNR=11						

CSEM 14 21:25:46.2, 36°.58N×21°.65E, h27km, MD3.6, After ATH
ATH 14 21:25:46.2, 36°.58N×21°.64E, h27km±1km, MD2.8/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.33**	**15**	*e*PB	Pb	21 25 54.0	+0.3
PYL				*e*SB	Sb	21 25 59.3	+0.4
PYL	**PYLOS**	**0.33**	**15**	*e*Pb	Pb	21 25 54.0	+0.3
PYL				*e*Sb	Sb	21 25 59.3	+0.4
ITM	**Ithomi**	**0.64**	**21**	*e*PN	Pn	21 25 59.4	-0.1
ITM				*e*SN	Sn	21 26 08.8	0.0
ITM	**Ithomi**	**0.64**	**21**	*e*Pn	Pn	21 25 59.4	-0.1
ITM				*e*Sn	Sn	21 26 08.8	0.0
VLX	**Vlachokerasia**	**0.99**	**37**	*e*PN	Pn	21 26 04.9	+0.6
VLX				*e*SN	Sn	21 26 19.2	+1.9
VLX	**Vlachokerasia**	**0.99**	**37**	*e*Pn	Pn	21 26 04.8	+0.5
VLX				*e*Sn	Sn	21 26 19.2	+1.9
VLI	**Veliai**	**1.05**	**82**	*e*PN	Pn	21 26 06.5	+1.4
VLI				*e*SN	Sn	21 26 21.7	+2.8
VLI	**Veliai**	**1.05**	**82**	*e*Pn	Pn	21 26 06.5	+1.4
VLI				*e*Sn	Sn	21 26 21.7	+2.8
KYTH	**Kithira**	**1.17**	**104**	*e*PN	Pn	21 26 08.4	+1.7
KYTH	**Kithira**	**1.17**	**104**	*e*Pn	Pn	21 26 08.4	+1.7
GUR	**Goura**	**1.47**	**22**	*e*PN	Pn	21 26 13.1	+2.3
GUR	**Goura**	**1.47**	**22**	*e*Pn	Pn	21 26 13.1	+2.3
RLS	**Riolos of Patr**	**1.48**	**355**	*e*PN	Pn	21 26 13.6	+2.5
RLS	**Riolos of Patr**	**1.48**	**355**	*e*Pn	Pn	21 26 14.0	+2.9
DID	**Didima**	**1.58**	**54**	*e*PB	Pb	21 26 14.0	-0.7
DID	**Didima**	**1.58**	**54**	*e*Pn	Pn	21 26 12.0	-0.4

NNC 14 21:52:32.7±5.1, 39°.20N×73°.28E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=40.6km s-min=20.9km az=177.0
ISC 14 21:52:24.9±2.3, 38°.7N±0°.1×73°.2E±0°.1, h10km, n13, σ0s94/18, 5C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.45**	**6**	P	**Pn**	**21 53 17.9**	**-0.8**
	SNR=40						
AML				P		21 53 17.9	
	SNR=40						
UCH	**Uchtor**	**3.66**	**15**	P	**Pn**	**21 53 22.0**	**+0.5**
	SNR=6.8						
UCH				P		21 53 22.0	
	SNR=6.8						
KZA	**Kyzart**	**3.72**	**24**	P	**Pn**	**21 53 21.4**	**-0.8**
	SNR=23						
KZA				P		21 53 21.4	
	SNR=23						
EKS2	**Erkin-Say**	**3.98**	**6**	P	**Pn**	**21 53 25.4**	**-0.6**
	SNR=13						
EKS2				P		21 53 25.4	
	SNR=13						
AAK	**Ala-Archa**	**4.05**	**13**	P	**Pn**	**21 53 27.5**	**+0.6**
	SNR=9.4						
AAK				P		21 53 27.5	
	SNR=9.4						
KBK	**Karagaybulak**	**4.17**	**18**	P	**Pn**	**21 53 28.3**	**-0.2**
	SNR=8.9						
KBK				P		21 53 28.3	
	SNR=8.9						
ULHL	**Ulahol**	**4.23**	**32**	P	**Pn**	**21 53 30.1**	**+0.8**
	SNR=16						
ULHL				P		21 53 30.1	
	SNR=16						
CHMS	**Chumysh**	**4.45**	**15**	P	**Pn**	**21 53 35.2**	**+2.8**
	SNR=11						
CHMS				P		21 53 35.2	
	SNR=11						
TKM2	**Tokmak 2**	**4.59**	**22**	⇑Pn	**Pn**	**21 53 32.7**	**-1.5**
	11nm,0.6s						
TKM2				⇑Sn	**Sn**	**21 54 27.4**	**-0.3**
	9.9nm,0.6s						
USP	**Ospenovka**	**4.67**	**11**	P	**Pn**	**21 53 39.8**	**+4.5**
	SNR=19						
USP				P		21 53 39.8	
	SNR=19						
KK31	**Karatay Array**	**4.86**	**336**	⇑Pn	**Pn**	**21 53 42.4**	**+4.4**
	0.3nm,0.2s,baz=121,slow=13,SNR=28						
KK31				⇓Pg	**Pg**	**21 53 52.7**	**-5.3**
	1.0nm,0.3s,baz=145,slow=16,SNR=7.1						
KK31				⇑Sn	**Sn**	**21 54 34.5**	**+0.2**
	3.4nm,0.3s,baz=138,slow=24,SNR=4.9						
KK31				⇓Lg		21 54 50.1	
	2.8nm,0.3s						
KNDC	**Almaty**	**5.33**	**31**	⇑Pn	**Pn**	**21 53 49.9**	**+5.5**
	4.1nm,0.3s						
KNDC				⇓Sn	**Sn**	**21 54 46.1**	**+0.2**
	84nm,0.9s						
AB31	**Akbulak array**	**14.22**	**322**	⇓Pn	**Pn**	**21 55 50.9**	**+4.7**
	0.1nm,0.2s,baz=129,slow=13,SNR=8.4						
AB31				Sn	**Sn**	**21 58 19.4**	**-4.5**
	0.4nm,0.6s,baz=128,slow=24,SNR=4.0						

ISCJB 14 22:05:07.3±1.1, 24°.06N±0°.05×122°.85E±0°.02, h7km±8km, Error ellipse: s-maj=8.1km s-min=3.1km az=179.3
JMA 14 22:05:08.1±0.1, 24°.08N×122°.88E, h9km, M2.6
TAP 14 22:05:09.4, 24°.11N×122°.80E, h22km±1km, ML2.8, C
ISC 14 22:05:07.5±0.6, 24°.07N±0°.05×122°.85E±0°.02, h8km±5km, n22, σ0s68/33, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**21**	P	**Pg**	**22 05 16.1**	**+0.5**
YOJ				S	**Sg**	**22 05 21.5**	**+0.4**
IRIF	**Iriomote-Funau**	**0.85**	**72**	P	**Pg**	**22 05 23.4**	**-0.4**
IRIF				S	**Sg**	**22 05 34.9**	**+0.1**
HATJ	**Hateruma jima**	**0.88**	**91**	P	**Pg**	**22 05 24.2**	**-0.1**
HATJ				S	**Sg**	**22 05 35.6**	**-0.1**
TWC	**Suao**	**1.06**	**301**	P	**Pg**	**22 05 27.6**	**-0.1**
	baz=300						
TWC				*e*S	**Sg**	**22 05 41.5**	**0.0**
	baz=300						
ENA	**Nanau**	**1.07**	**290**	*e*P	**Pg**	**22 05 28.0**	**0.0**
	baz=296						
ENA				*e*S	**Sg**	**22 05 42.1**	**+0.1**
	baz=296						
JKRS	**Kuro-shima**	**1.07**	**81**	P	**Pg**	**22 05 27.9**	**-0.2**
JKRS				S	**Sg**	**22 05 42.2**	**+0.1**
TWD	**Chiawan**	**1.14**	**271**	P	**Pg**	**22 05 29.5**	**+0.1**
	baz=268						
JIJ	**Ishigaki jima**	**1.22**	**76**	P	**Pb**	**22 05 29.7**	**-1.1**
JIJ				S	**Sb**	**22 05 45.3**	**-1.4**
TWE	**Neicheng**	**1.25**	**301**	*e*P	**Pn**	**22 05 31.9**	**+0.5**
	baz=301						
TWE				*e*S	**Sb**	**22 05 47.4**	**-0.3**
	baz=301						
ENTT	**Nioudou**	**1.30**	**296**	P	**Pn**	**22 05 32.3**	**+0.3**
	baz=295						
ENTT				*e*S	**Sb**	**22 05 48.3**	**-0.7**
	baz=295						
ESL	**Shilin**	**1.32**	**259**	*e*P	**Pn**	**22 05 31.8**	**-0.5**
	baz=257						
NWF	**Wu-fen Shan**	**1.39**	**316**	*e*P	**Pn**	**22 05 31.4**	**-1.8**
	baz=316						
NNS	**Nan Shan**	**1.39**	**286**	*e*P	**Pn**	**22 05 33.5**	**+0.2**
	baz=284						
WHF	**Hehuan Shan**	**1.45**	**273**	*e*P	**Pn**	**22 05 34.2**	**+0.2**
	baz=271						
NSK	**Sanguang**	**1.48**	**294**	*e*P	**Pn**	**22 05 35.2**	**+0.7**
	baz=293						
NSK				*e*S	**Sn**	**22 05 53.6**	**-0.5**
	baz=293						
TWF1	**Yuli**	**1.59**	**244**	*e*P	**Pn**	**22 05 35.4**	**-0.6**
	baz=229						
JTJ	**Tarama**	**1.78**	**71**	P	**Pn**	**22 05 39.5**	**+0.9**
JTJ				*e*S	**Sn**	**22 06 03.0**	**+1.5**
SMLT	**Sun Moon Lake**	**1.79**	**264**	*e*P	**Pn**	**22 05 38.9**	**+0.2**
	baz=262						
TYC	**Yuchr**	**1.83**	**265**	*e*P	**Pn**	**22 05 39.9**	**+0.7**
	baz=263						
ELDTW	**Lidau**	**1.89**	**243**	*e*P	**Pn**	**22 05 39.2**	**-0.9**
	baz=241						
CHN5	**Tsauling**	**2.04**	**257**	*e*P	**Pn**	**22 05 43.0**	**+0.9**
	baz=245						
CHN1	**Nanshi**	**2.30**	**248**	*e*P	**Pn**	**22 05 46.8**	**+1.0**
	baz=246						

ISCJB 14 22:29:11.2±0.7, 58°.52S±0°.09×25°.2W±0°.3, h10km, mb4.1/6, Error ellipse: s-maj=20.5km s-min=10.6km az=157.5
IDC 14 22:29:11.7±0.7, 58°.52S×25°.16W, h0km, mb4.2/6, mb1 4.2/7, mb1mx4.0/14, mbtmp4.1/7, ML4.2/1, Error ellipse: s-maj=29.6km s-min=23.8km az=80.0
NEIC 14 22:29:16.8±0.5, 58°.55S×25°.26W, h35km, mb4.0/4, Error ellipse: s-maj=17.6km s-min=12.7km az=61.0
ISC 14 22:29:13.2±0.7, 58°.52S±0°.09×25°.2W±0°.3, h10km, n29, σ0s70/22, mb4.1/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.09**	**156**	*e*	**Pn**	**22 32 33.4**	**+0.8**
VNA3	**Neumayer Olymp**	**14.29**	**159**	*e*	**Pn**	**22 32 34.8**	**-0.5**
VNA3				*e*S	**Sn**	**22 34 57.8**	**-16**
VNA2	**Neumayer--Watz**	**14.49**	**156**	*e*	**Pn**	**22 32 37.4**	**-0.6**
VNA2				*e*		22 51 53.9	
VNA2				*e*S		22 53 54.4	
SNAA	**Sanae**	**16.04**	**154**	*e*	**Pn**	**22 32 58.8**	**+0.3**
SNAA				*e*S	**Sn**	**22 35 43.7**	**-12**
SNAA				*e*		22 52 12.6	
SNAA	**Sanae**	**16.04**	**154**	Pn	**Pn**	**22 32 58.7**	**+0.2**
	1.0nm,0.3s,baz=321,slow=14,SNR=133						
SNAA				Sn	**Sn**	**22 35 46.2**	**-10**
	0.0nm,0.3s,baz=317,slow=19,SNR=3.4						
SNAA	**Sanae**	**16.04**	**154**	*e*Pn	**Pn**	**22 32 59.1**	**+0.6**
	4.6nm,0.4s						
QSPA	**South Pole Qui**	**31.72**	**180**	P	**P**	**22 35 37.6**	**+1.1**
	1.2nm,0.3s,mb4.2,baz=228,slow=1.3,SNR=5.8						
QSPA	**South Pole Qui**	**31.72**	**180**	*e*P	**P**	**22 35 37.1**	**+0.6**
	2.2nm,0.2s,mb4.6						
PLCA	**Paso Flores**	**33.53**	**282**	P	**P**	**22 35 53.2**	**+0.5**
	2.0nm,0.7s,mb4.1,baz=129,slow=4.6,SNR=4.3						
PLCA	**Paso Flores**	**33.53**	**282**	*e*P	**P**	**22 35 52.1**	**-0.6**
	1.6nm,0.6s,mb4.1						
BOSA	**Boshof**	**45.63**	**72**	*e*P	**P**	**22 37 33.7**	**+0.1**
LPAZ	**La Paz**	**52.68**	**305**	P	**P**	**22 38 27.9**	**+0.3**
	0.8nm,0.5s,mb3.9,baz=103,slow=6.4,SNR=7.1						
LPAZ	**La Paz**	**52.68**	**305**	*e*P	**P**	**22 38 27.7**	**+0.1**
	0.7nm,0.4s,mb3.9						
DBIC	**Dimbokro**	**67.02**	**22**	P	**P**	**22 40 05.8**	**-0.3**
	4.3nm,1.0s,mb4.4,baz=201,slow=8.6,SNR=2.6						
DBIC	**Dimbokro**	**67.02**	**22**	P	**P**	**22 40 05.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**74.72**	**27**	P	**P**	**22 40 53.6**	**+0.6**
	0.9nm,0.6s,mb3.9,baz=203,slow=6.3,SNR=18						
TORD	**Torodi Ar. Bea**	**74.72**	**27**	P	**P**	**22 40 53.6**	**+0.6**
ASAR	**Alice Springs**	**96.30**	**161**	P	**P**	**22 42 40.2**	**-1.6**
	0.3nm,0.5s,mb4.0,baz=151,slow=2.9,SNR=4.2						
ASAR	**Alice Springs**	**96.30**	**161**	P	**P**	**22 42 40.2**	**-1.6**
PDAR	**Pinedale Array**	**122.54**	**300**	PKP	PKPdf	22 48 07.0	-0.8
	0.3nm,0.6s,baz=99,slow=5.8,SNR=3.0						
PDAR	**Pinedale Array**	**122.54**	**300**	PKP	PKPdf	22 48 07.0	-0.8
NVAR	**Mina Array Bea**	**123.31**	**290**	PKP	PKPdf	22 48 11.5	+2.0
	0.3nm,0.5s,baz=191,slow=3.2,SNR=2.9						
NVAR	**Mina Array Bea**	**123.31**	**290**	PKP	PKPdf	22 48 11.5	+2.0
YKA	**Yellowknife Ar**	**138.71**	**315**	PKP	PKPdf	22 48 37.3	-0.5
	0.6nm,0.6s,baz=126,slow=2.3,SNR=9.3						
YKA	**Yellowknife Ar**	**138.71**	**315**	PKP	PKPdf	22 48 37.3	-0.5
SONM	**Songino Array**	**149.74**	**89**	PKPbc	PKPbc	22 49 01.8	-0.3
	0.5nm,0.5s,baz=215,slow=3.8,SNR=7.0						
SONM	**Songino Array**	**149.74**	**89**	PKPbc	PKPbc	22 49 01.8	-0.3
ILAR	**Eielson Array**	**152.53**	**308**	PKPbc	PKPbc	22 49 08.2	+0.2
	1.6nm,0.6s,baz=141,slow=5.1,SNR=34						
ILAR	**Eielson Array**	**152.53**	**308**	PKPbc	PKPbc	22 49 08.2	+0.2

ISCJB 14 23:01:39.9±0.7, 24°.56N±0°.05×122°.95E±0°.02, h83km±7km, Error ellipse: s-maj=8.2km s-min=3.6km az=177.7
JMA 14 23:01:39.2±0.2, 24°.70N×122°.98E, h89km±2km, M2.2
TAP 14 23:01:39.5, 24°.65N×122°.85E, h101km, ML3.3, D
ISC 14 23:01:40.5±0.7, 24°.57N±0°.05×122°.95E±0°.02, h80km±7km, n31, σ1s01/57, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.12**	**153**	P	**Pn**	**23 01 52.2**	**+0.2**
YOJ				S	**Sn**	**23 02 02.2**	**+1.8**
IRIF	**Iriomote-Funau**	**0.75**	**108**	P	**Pn**	**23 01 56.2**	**-0.5**
IRIF				S	**Sn**	**23 02 09.2**	**+0.5**
HATJ	**Hateruma jima**	**0.93**	**123**	P	**Pn**	**23 01 58.9**	**+0.1**
HATJ				S	**Sn**	**23 02 13.4**	**+1.0**
TWB1	**Santiao Chiao**	**0.98**	**297**	*e*P	**Pn**	**23 01 58.5**	**-0.7**
	baz=290						
TWC	**Suao**	**1.00**	**272**	*i* P	**Pn**	**23 01 59.0**	**-0.6**
	baz=266						
TWC				*i* S	**Sn**	**23 02 13.1**	**-0.7**
	baz=266						
JKRS	**Kuro-shima**	**1.02**	**109**	P	**Pn**	**23 01 59.7**	**-0.1**
JKRS				S	**Sn**	**23 02 14.3**	**+0.1**
JIJ	**Ishigaki jima**	**1.11**	**101**	P	**Pn**	**23 02 00.2**	**-0.6**
JIJ				S	**Sn**	**23 02 15.7**	**-0.4**
ENA	**Nanau**	**1.11**	**263**	P	**Pn**	**23 02 00.7**	**-0.1**
	baz=252						
ENA				*e*S	**Sn**	**23 02 16.4**	**+0.3**
	baz=252						
NWF	**Wu-fen Shan**	**1.17**	**295**	*e*P	**Pn**	**23 02 01.0**	**-0.6**
	baz=292						
TWE	**Neicheng**	**1.18**	**278**	P	**Pn**	**23 02 01.2**	**-0.5**
	baz=267						
TWE				*e*S	**Sn**	**23 02 17.2**	**-0.4**
	baz=267						
ENTT	**Nioudou**	**1.26**	**273**	*e*P	**Pn**	**23 02 02.9**	**+0.1**
	baz=265						
TWA	**Mucha**	**1.31**	**288**	*e*P	**Pn**	**23 02 02.9**	**-0.4**
	baz=276						
TWD	**Chiawan**	**1.33**	**249**	*e*P	**Pn**	**23 02 04.0**	**+0.5**
	baz=236						
TWD				S	**Sn**	**23 02 19.9**	**-1.1**
	baz=236						
NNS	**Nan Shan**	**1.44**	**265**	*e*P	**Pn**	**23 02 05.7**	**+0.6**
	baz=253						
NNS				*e*S	**Sn**	**23 02 23.2**	**-0.4**
	baz=253						
NSK	**Sanguang**	**1.45**	**274**	P	**Pn**	**23 02 05.1**	**-0.1**
	baz=263						
NSK				*e*S	**Sn**	**23 02 23.3**	**-0.5**
	baz=263						
ESL	**Shilin**	**1.58**	**242**	*e*P	**Pn**	**23 02 06.1**	**-0.7**
	baz=236						
ESL				*e*S	**Sn**	**23 02 25.6**	**-1.1**
	baz=236						
WHF	**Hehuan Shan**	**1.59**	**255**	*e*P	**Pn**	**23 02 07.9**	**+0.9**
	baz=249						
WHF				S	**Sn**	**23 02 26.6**	**-0.5**
	baz=249						
JTJ	**Tarama**	**1.60**	**87**	P	**Pn**	**23 02 06.3**	**-0.8**
JTJ				S	**Sn**	**23 02 26.5**	**-0.7**
TWT	**Tachien**	**1.65**	**259**	*e*P	**Pn**	**23 02 08.9**	**+1.1**
	baz=250						
TWT				S	**Sn**	**23 02 28.2**	**-0.2**
	baz=250						
EHY	**Hungye**	**1.83**	**235**	P	**Pn**	**23 02 09.5**	**-0.6**
	baz=237						
EHY				S	**Sn**	**23 02 29.8**	**-2.8**
	baz=237						
TWF1	**Yuli**	**1.94**	**232**	P	**Pn**	**23 02 11.0**	**-0.6**
	baz=235						
TWF1				S	**Sn**	**23 02 34.2**	**-1.0**
	baz=235						
SMLT	**Sun Moon Lake**	**1.99**	**250**	*e*P	**Pn**	**23 02 13.5**	**+1.3**
	baz=241						
SMLT				*e*S	**Sn**	**23 02 37.4**	**+0.9**
	baz=241						
TYC	**Yuchr**	**2.02**	**251**	*e*P	**Pn**	**23 02 13.5**	**+0.9**
	baz=242						
TYC				*e*S	**Sn**	**23 02 38.1**	**+0.9**
	baz=242						
CHKT	**Chengkung**	**2.06**	**225**	*e*P	**Pn**	**23 02 11.8**	**-1.4**
	baz=218						
CHKT				S	**Sn**	**23 02 35.9**	**-2.3**
	baz=218						
ELDTW	**Lidau**	**2.24**	**233**	P	**Pn**	**23 02 14.8**	**-0.8**
	baz=230						
ELDTW				S	**Sn**	**23 02 41.1**	**-1.4**
	baz=230						
CHN5	**Tsauling**	**2.29**	**245**	*e*P	**Pn**	**23 02 17.3**	**+1.0**
	baz=241						
CHN5				*e*S	**Sn**	**23 02 44.7**	**+1.0**
	baz=241						
TWG	**Pinlang**	**2.45**	**225**	*e*P	**Pn**	**23 02 17.4**	**-1.0**
	baz=226						
TWG				*e*S	**Sn**	**23 02 45.8**	**-1.7**
	baz=226						
CHN4	**Tsaushan**	**2.47**	**241**	*e*P	**Pn**	**23 02 20.4**	**+1.7**
	baz=236						
CHN4				*e*S	**Sn**	**23 02 49.8**	**+1.8**
	baz=236						
CHN1	**Nanshi**	**2.61**	**239**	*e*P	**Pn**	**23 02 21.8**	**+1.2**
	baz=234						
CHN1				*e*S	**Sn**	**23 02 52.8**	**+1.5**
	baz=234						
SGST	**Jiashian**	**2.62**	**236**	*e*P	**Pn**	**23 02 22.4**	**+1.6**
	baz=241						
SGST				*e*S	**Sn**	**23 02 54.2**	**+2.5**
	baz=241						
SSD	**Sandimen**	**2.79**	**230**	P	**Pn**	**23 02 24.4**	**+1.3**
	baz=226						

IDC 14 23:58:36.6±3.5, 31°.22S×176°.96W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/16, mbtmp4.0/4, ML3.7/1, Error ellipse: s-maj=77.1km s-min=37.6km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.56**	**213**	Pn	Pn	00 00 40.6	-1.2
	0.8nm,0.3s,baz=90,slow=3.0,SNR=5.4						
URZ				Sn	Sn	00 02 18.1	-0.9
	2.2nm,0.3s,baz=198,slow=19,SNR=8.8						
STKA	**Stephens Creek**	**35.18**	**258**	P	P	00 05 34.2	+1.9
	1.6nm,0.7s,baz=86,slow=9.8,SNR=5.5						
ASAR	**Alice Springs**	**43.97**	**267**	P	P	00 06 45.4	-0.4
	1.1nm,0.6s,baz=105,slow=7.1,SNR=15						
WRA	**Warramunga Arr**	**45.03**	**272**	P	P	00 06 53.5	-0.8
	2.6nm,0.6s,baz=111,slow=7.8,SNR=14						
FINES	**FINESS Array B**	**146.22**	**340**	PKPbc	PKPbc	00 18 17.4	-0.8
	2.7nm,0.7s,baz=63,slow=1.5,SNR=2.5						

CSEM 14 23:58:56.0, 38°.72N×14°.23E, h26km, After ROM
ROM 14 23:58:56.0±3.3, 38°.72N×14°.23E, h26km±2km, Ml3.5/19, 4C-2D, Error ellipse: s-maj=4.8km s-min=2.7km az=167.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACL	**Alicudi**	**0.21**	**153**	⇓*i*Pg	Pb	23 59 00.5	-1.4
	32μm,0.5s						
IACL	**Alicudi**	**0.21**	**153**	⇓*i*Pg	Pb	23 59 00.5	-1.4
	32μm,0.5s						
IFIL	**Filicudi I Eol**	**0.31**	**121**	⇑*i*Pg	Pb	23 59 03.3	+0.2
IFIL				Sg	Sb	23 59 07.9	-0.1
	9μm,0.4s						
IFIL	**Filicudi I Eol**	**0.31**	**121**	⇑*i*Pg	Pb	23 59 03.3	+0.2
IFIL				Sg	Sb	23 59 07.9	-0.1
	9μm,0.4s						
LLI	**Lipari**	**0.63**	**116**	Pg	Pb	23 59 09.3	+1.0
LLI				Sg	Sb	23 59 19.3	+2.6
	7μm,0.5s						
LLI	**Lipari**	**0.63**	**116**	Pg	Pb	23 59 09.3	+1.0
LLI				Sg	Sb	23 59 19.3	+2.6
	7μm,0.5s						
VPL	**Vulcano Piano**	**0.68**	**120**	Pg	Pb	23 59 10.0	+0.7
VPL				Sg	Sb	23 59 19.8	+1.5
	4μm,0.9s						
VPL	**Vulcano Piano**	**0.68**	**120**	Pg	Pb	23 59 10.0	+0.7
VPL				Sg	Sb	23 59 19.8	+1.5
	4μm,0.9s						
GIB	**Gibilmanna**	**0.75**	**192**	Pg	Pb	23 59 09.1	-1.3
GIB	**Gibilmanna**	**0.75**	**192**	Pg	Pb	23 59 09.1	-1.3
STR4	**STROMBOLI 4**	**0.77**	**86**	Pg	Pb	23 59 11.8	+1.1
USI	**Ustica**	**0.82**	**269**	Pg	Pb	23 59 11.3	-0.3
	646nm,0.4s						
USI	**Ustica**	**0.82**	**269**	Pg	Pb	23 59 11.3	-0.3
	646nm,0.4s						
MNO	**Monte Soro**	**0.87**	**155**	Pg	Pb	23 59 13.6	+1.2
	1μm,0.8s						
MNO	**Monte Soro**	**0.87**	**155**	Pg	Pb	23 59 13.6	+1.2
	1μm,0.8s						
MILZ	**Milazzo**	**0.91**	**120**	Pg	Pb	23 59 12.8	-0.2
MILZ				Sg	Sb	23 59 25.1	+0.4
	2μm,0.8s						
MILZ	**Milazzo**	**0.91**	**120**	Pg	Pb	23 59 12.8	-0.2
MILZ				Sg	Sb	23 59 25.1	+0.4
	2μm,0.8s						
ALJA	**Alia**	**1.04**	**201**	Pg	Pn	23 59 16.3	+1.3
ALJA				Sg	Sb	23 59 30.5	+1.9
	6μm,1.2s						
ALJA	**Alia**	**1.04**	**201**	Pg	Pn	23 59 16.3	+1.3
ALJA				Sg	Sb	23 59 30.5	+1.9
	6μm,1.2s						
GALF	**Gagliano Caste**	**1.05**	**165**	Pg	Pn	23 59 15.8	+0.8
	842nm,0.5s						
GALF	**Gagliano Caste**	**1.05**	**165**	Pg	Pn	23 59 15.8	+0.8
	842nm,0.5s						
RESU	**Resuttano

MPAZ	Palizzi	1.59 118	Pg	Pn	23 59 23.3	+0.8
	435nm,0.7s					
MPAZ	Palizzi	1.59 118	Pg	Pn	23 59 23.3	+0.8
	435nm,0.7s					
HAGA	Augusta	1.61 153	Pg	Pn	23 59 23.3	+0.5
HAGA	Augusta	1.61 153	Pg	Pn	23 59 23.3	+0.5
CARO	Carolei	1.64 71	Pg	Pn	23 59 24.5	+1.4
	276nm,0.5s					
CARO	Carolei	1.64 71	Pg	Pn	23 59 24.5	+1.4
	276nm,0.5s					
AGST	Augusta-Monte	1.66 151	Pg	Pn	23 59 24.1	+0.6
	278nm,0.7s					
AGST	Augusta-Monte	1.66 151	Pg	Pn	23 59 24.1	+0.6
	278nm,0.7s					
GRI	Girifalco	1.71 86	Pg	Pn	23 59 24.7	+0.5
	40nm,0.2s					
GRI	Girifalco	1.71 86	Pg	Pn	23 59 24.7	+0.5
	40nm,0.2s					
PLAC	Placanica	1.75 98⇑	iPg	Pn	23 59 26.1	+1.4
PLAC			Sg	Sn	23 59 48.2	+2.0
	330nm,0.8s					
PLAC	Placanica	1.75 98⇑	iPg	Pn	23 59 26.1	+1.4
PLAC			Sg	Sn	23 59 48.2	+2.0
	330nm,0.8s					

IDC 15 00:00:32.8±27.0, 21°10S×173°63W, h0^{km}, mb4.3/4, mb1 4.5/4, mb1mx4.0/18, mbtmp4.3/4, Error ellipse: s-maj=498.3km s-min=146.4km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.50	264	P	P	00 07 49.0	+0.4
	5.9nm,0.5s,baz=88,slow=9.6,SNR=8.6						
STKA	Stephens Creek	41.23	245	P	P	00 08 19.8	+0.2
	2.3nm,0.5s,baz=106,slow=9.4,SNR=8.9						
ASAR	Alice Springs	48.36	257	P	P	00 09 16.2	-0.3
	3.0nm,0.7s,baz=95,slow=7.6,SNR=21						
WRA	Warramunga Arr	48.56	262	P	P	00 09 17.7	-0.5
	0.9nm,0.3s,baz=101,slow=8.4,SNR=8.9						

TRN 15 00:06:45.5, 18°76N×64°64W, h34^{km}, MD2.7(RSPR)
ISCJB 15 00:06:46.5±1.3, 18°87N±0°09×64°69W±0°07, h30^{km}±8^{km}, Error ellipse: s-maj=14.8km s-min=10.0km az=160.2
NEIC 15 00:06:47.0, 18°89N×64°64W, h9^{km}, MD2.8(RSPR), After RSPR.
RSPR 15 00:06:47.0, 18°89N×64°64W, h9^{km}±1^{km}, MD2.9/5
ISC 15 00:06:46.6±1.4, 18°86N±0°09×64°68W±0°07, h28^{km}±8^{km}, n21, σ0°31/34, 11C-8D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.36	111⇑	eP	Pb	00 06 54.6	-0.1
ABV				eS	Sb	00 07 00.7	+0.4
ABV	Anegada	0.36	111⇑	eP	Pb	00 06 54.6	-0.1
ABV				eS	Sb	00 07 00.7	+0.4
TBVI	Tortola	0.45	172⇑	eP	Pb	00 06 56.0	-0.1
TBVI				eS	Sb	00 07 03.1	+0.5
TBVI	Tortola	0.45	172⇑	iP	Pb	00 06 56.0	-0.1
TBVI				eS	Sb	00 07 02.4	-0.2
TBVI	Tortola	0.45	172⇑	eP	Pb	00 06 56.0	-0.1
TBVI				eS	Sb	00 07 02.4	-0.2
TBVI	Tortola	0.45	172⇑	iP	Pb	00 06 56.1	0.0
TBVI				eS	Sb	00 07 02.4	-0.2
STVI	Saint Thomas	0.57	207⇓	eP	Pb	00 06 57.8	-0.3
STVI	Saint Thomas	0.57	207⇓	eP	Pb	00 06 57.8	-0.3
STVI	Saint Thomas	0.57	207	eS	Sb	00 07 06.0	+0.1
STVI	Saint Thomas	0.57	207⇓	eP	Pb	00 06 57.8	-0.3
STVI				eS	Sb	00 07 06.0	+0.1
STVI	Saint Thomas	0.57	207⇓	eP	Pb	00 06 57.8	-0.3
STVI				eS	Sb	00 07 06.0	+0.1
CDVI	St. Croix	1.11	184⇓	eP	Pn	00 07 06.1	-0.2
CDVI	St. Croix	1.11	184⇓	eP	Pn	00 07 06.1	-0.2
CDVI				eS	Sn	00 07 20.6	0.0
CBYP	Canovanas	1.26	242⇑	eP	Pn	00 07 08.6	+0.3
CBYP	Canovanas	1.26	242⇓	eP	Pn	00 07 08.4	+0.1
CBYP	Canovanas	1.26	242⇑	eP	Pn	00 07 08.6	+0.3
CBYP				eS	Sn	00 07 25.1	+0.7
CBYP	Canovanas	1.26	242⇓	eP	Pn	00 07 08.4	+0.1
CBYP				eS	Sn	00 07 24.5	+0.2
CPD	Cerro la Pandu	1.43	235⇑	eP	Pn	00 07 10.2	-0.4
CPD	Cerro la Pandu	1.43	235⇑	eP	Pn	00 07 10.0	-0.7
CPD	Cerro la Pandu	1.43	235⇑	eP	Pn	00 07 10.2	-0.4
CPD				eS	Sn	00 07 29.0	+0.5
CPD	Cerro la Pandu	1.43	235⇑	eP	Pn	00 07 10.2	-0.5
CPD				eS	Sn	00 07 28.2	-0.3

IDC 15 00:25:58.1±9.5, 16°53S×176°21W, h0^{km}, mb3.5/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.5/2, Error ellipse: s-maj=406.2km s-min=64.7km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.96	258	P	P	00 34 31.2	0.0
	0.2nm,0.5s,baz=92,slow=7.3,SNR=2.4						
ASAR	Alice Springs	47.19	253	P	P	00 34 32.8	-0.1
	0.6nm,0.5s,baz=89,slow=7.8,SNR=10						
BRTR	Keskin Array B	145.24	318	PKPbc	PKPbc	00 45 37.1	-0.6
	0.4nm,0.5s,baz=65,slow=1.7,SNR=5.8						

IDC 15 00:31:45.2±5.8, 4°08S×153°90E, h285^{km}±46^{km}, mb2.7/3, mb1 3.1/4, mb1mx2.9/16, mbtmp2.9/4, Error ellipse: s-maj=145.1km s-min=32.2km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.53	231	P	Pn	00 33 46.2	+0.9
	1.9nm,0.3s,baz=36,slow=13,SNR=7.1						
PMG				S	S	00 35 22.3	-0.3
	1.8nm,0.3s,baz=323,slow=21,SNR=5.6						
WRA	Warramunga Arr	24.74	229	P	P	00 36 41.4	+0.1
	0.2nm,0.3s,baz=54,slow=9.7,SNR=5.8						
ASAR	Alice Springs	27.42	223	P	P	00 37 04.8	-0.4
	0.2nm,0.3s,baz=56,slow=8.7,SNR=3.6						
ILAR	Eielson Array	81.08	22	P	P	00 43 28.0	-0.4
	0.2nm,0.6s,baz=242,slow=5.8,SNR=4.2						
TORD	Torodi Ar. Bea	151.11	290	PKPbc	PKPbc	00 51 05.9	+0.3
	0.2nm,0.4s,baz=72,slow=1.9,SNR=8.3						

IDC 15 00:33:16.0±6.8, 25°61S×179°91E, h463^{km}±83^{km}, mb3.6/8, mb1 3.8/10, mb1mx3.6/18, mbtmp3.6/10, Error ellipse: s-maj=39.1km s-min=21.8km az=23.0
ISCJB 15 00:33:17.5±2.8, 25°6S±0°1×179°8E±0°1, h492^{km}±34^{km}, mb4.3/15, Error ellipse: s-maj=21.9km s-min=14.7km az=145.4
NEIC 15 00:33:18.3±1.6, 25°74S×179°86E, h495^{km}±20^{km}, mb4.5/6, Error ellipse: s-maj=17.2km s-min=12.4km az=206.0
ISC 15 00:33:18.1±2.2, 25°7S±0°1×179°9E±0°1, h490^{km}±26^{km}, n33, σ0°92/35, mb4.3/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	12.74	190	P	P	00 36 03.7	-0.6
	0.8nm,0.3s,baz=17,slow=17,SNR=3.5						
URZ				S	S	00 38 21.1	-0.3
	0.5nm,0.3s,baz=336,slow=19,SNR=4.8						
URZ	Urewera	12.74	190	P	P	00 36 03.7	-0.6
URZ				S	S	00 38 21.1	-0.3
DZM	Mont Dzumac	12.82	284	eP	P	00 36 06.0	+0.5
	8.7nm,0.8s						
RPZ	Rata Peaks	19.36	200	P	P	00 37 10.7	-0.5
	0.7nm,0.3s,baz=56,slow=17,SNR=2.9						
RPZ	Rata Peaks	19.36	200	P	P	00 37 10.7	-0.5
ARMA	Armidale	25.34	253	eP	P	00 38 07.1	+1.9
ARMA	Armidale	25.34	253	eP	P	00 38 05.0	-0.2
	6.5nm,0.6s,mb4.2						
CNB	Canberra Magne	27.90	243	eP	P	00 38 30.5	+2.9
	93nm,1.7s,mb4.9						
TOO	Toolangi	31.42	239	eP	P	00 38 59.7	+1.6
	33nm,0.8s,mb4.8						
CTA	Charters Tower	31.43	273	P	P	00 38 58.6	+0.1
	9.4nm,0.4s,mb4.5,baz=100,slow=11,SNR=19						
CTA	Charters Tower	31.43	273	eP	P	00 38 58.9	+0.4
	6.3nm,0.3s,mb4.5						
CTA	Charters Tower	31.43	273	P	P	00 38 58.6	+0.1
CTAO	Charters Tower	31.43	273	eP	P	00 38 58.6	+0.1
	9.2nm,0.3s,mb4.7						
STKA	Stephens Creek	33.99	251	P	P	00 39 20.9	+0.8
	6.3nm,0.4s,mb4.4,baz=95,slow=11,SNR=45						
STKA	Stephens Creek	33.99	251	eP	P	00 39 20.7	+0.5
	5.8nm,0.4s,mb4.4						
STKA	Stephens Creek	33.99	251	eP	P	00 39 20.6	+0.4
	1.3nm,0.4s,mb3.7						
PMG	Port Moresby	35.02	292	P	P	00 39 27.9	-1.1
	5.3nm,0.5s,mb4.2,baz=180,slow=4.0,SNR=4.7						
PMG	Port Moresby	35.02	292	P	P	00 39 27.9	-1.1
COEN	Coen	36.34	282	eP	P	00 39 39.7	-0.3
	31nm,0.4s,mb5.1						
ASAR	Alice Springs	41.67	263	P	P	00 40 23.0	-0.2
	6.5nm,0.4s,mb4.5,baz=91,slow=7.5,SNR=113						
ASAR	Alice Springs	41.67	263	P	P	00 40 23.0	-0.2
WB2	Warramunga Arr	42.20	268	eP	P	00 40 27.1	-0.3
WRAB	Tennant Creek	42.21	268	eP	P	00 40 27.0	-0.4
	7.1nm,0.3s,mb4.6						
WRA	Warramunga Arr	42.22	268	P	P	00 40 26.9	-0.6
	7.0nm,0.3s,mb4.5,baz=100,slow=7.6,SNR=50						
WRA	Warramunga Arr	42.22	268	P	P	00 40 26.9	-0.6
FORT	Forrest	45.61	251	eP	P	00 40 52.7	-1.1
	8.1nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	50.61	267	eP	P	00 41 31.5	+0.1
	5.9nm,0.8s,mb4.0						
NVAR	Mina Array Bea	86.12	44	P	P	00 45 07.2	+0.7
	0.8nm,0.8s,mb3.4,baz=233,slow=6.7,SNR=5.0						
NVAR	Mina Array Bea	86.12	44	P	P	00 45 07.2	+0.7
TXAR	Lajitas Array	91.47	58	P	P	00 45 32.9	+1.2
	0.4nm,0.6s,mb3.5,baz=212,slow=5.7,SNR=5.5						
TXAR	Lajitas Array	91.47	58	P	P	00 45 32.9	+1.2
ILAR	Eielson Array	93.80	14	P	P	00 45 40.0	-1.5
	1.0nm,1.2s,mb3.7,baz=211,slow=4.7,SNR=4.1						
ILAR	Eielson Array	93.80	14	P	P	00 45 40.0	-1.5

TRN 15 00:38:58.0, 15°82N×61°59W, h14^{km}, MD2.7, M2.9(FDF), M2.5(FDF), 2C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.06	301⇓	iP	Pg	00 39 00.1	-0.7
TBG				eS	Sg	00 39 02.8	+0.1
HMG	Houelmont	0.20	326⇓	iP	Pg	00 39 02.3	-0.2
PHG	Guadaloupe-2	0.20	345	eP	Pg	00 39 02.5	-0.1
DOG	Dongo Capester	0.21	352	eP	Pg	00 39 02.6	-0.2
SCG	Saint Claude	0.23	337⇓	iP	Pg	00 39 02.9	-0.1
BCG	Bois Riant Cap	0.27	353	eP	Pg	00 39 03.4	-0.3
DVCT	Vielle Casse P	0.27	139⇑	iP	Pg	00 39 04.0	+0.3
DVCT				eS	Sg	00 39 07.5	-0.1
MGG	Marie-Galante	0.28	69⇑	iP	Pg	00 39 02.7	-1.2
DWS	Wesley	0.36	133⇓	iP	Pg	00 39 05.4	-0.1
DWS				eS	Sg	00 39 10.2	-0.2
LZG	Guadaloupe-1	0.37	331⇓	iP	Pg	00 39 05.1	-0.4
MDN	Morne-Daniel	0.53	159⇓	iP	Pg	00 39 06.5	-2.1
MDN				eS	Sg	00 39 13.8	-1.9
DLPL	La Plaine	0.58	146	eS	Sg	00 39 14.2	-3.1
DBCT	Belle View Cho	0.59	157	eP	Pg	00 39 07.5	-2.2
DFBT	Forest Bistro	0.62	159⇓	eP	Pg	00 39 07.7	-2.5
DFBT				eS	Sg	00 39 15.6	-2.7
DSTT	Stowe	0.63	154	eP	Pg	00 39 08.1	-2.3
DEG	La Desirade	0.71	46	eP	Pg	00 39 09.5	-2.3
FDF	Fort de France	1.16	159	eP	Pn	00 39 16.4	-3.5
FDF				eS	Sb	00 39 32.0	-2.8
BIM	Bigot	1.39	159	eP	Pn	00 39 20.9	-2.1
MVM	Montagne Vaucl	1.42	152	eP	Pn	00 39 20.7	-2.8
MVM				eS	Sn	00 39 35.9	-6.2

IDC 15 00:50:18.5±12.0, 41°29S×124°89E, h0^{km}, mb3.9/2, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML4.0/1, MS3.3/2, Ms1 3.2/2, ms1mx2.9/16, Error ellipse: s-maj=181.6km s-min=38.5km az=15.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	10.34	321	Pn	Pn	00 52 46.2	-1.8
	1.8nm,0.3s,baz=141,slow=11,SNR=9.9						
NWAO				Sn	Sn	00 54 45.4	+0.8
	0.8nm,0.3s,baz=196,slow=20,SNR=5.9						
STKA	Stephens Creek	16.35	60	Pn	Pn	00 54 08.3	-1.1
	0.3nm,0.3s,baz=230,slow=12,SNR=9.5						
STKA				LR	LR	00 59 54.1	
	comp=Z,78nm,21.1s,baz=207,slow=35						
ASAR	Alice Springs	19.12	26	P	Pn	00 54 43.2	-0.6
	0.1nm,0.3s,baz=201,slow=11,SNR=9.5						
WRA	Warramunga Arr	22.74	24	P	P	00 55 21.6	-0.6
	2.1nm,0.6s,baz=198,slow=12,SNR=11						
FITZ	Fitzroy Crossi	23.11	2	P	P	00 55 27.8	+1.7
	5.2nm,1.1s,baz=197,slow=11,SNR=3.5						
CTA	Charters Tower	27.86	47	LR	LR	01 07 37.4	
	comp=Z,76nm,18.7s,baz=51,slow=37						

LDG 15 01:33:28.3±0.1, 44°56N×6°91E, h2^{km}, Md1.6/3, Ml1.7/5, Error ellipse: s-maj=3.3km s-min=1.3km az=82.0
STR 15 01:33:28.7±0.4, 44°47N×6°70E, h5^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
CSEM 15 01:33:28.1±0.1, 44°57N×6°87E, h10^{km}, ML1.6/8, Error ellipse: s-maj=3.4km s-min=1.8km az=71.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.09	206	Pg	Pg	01 33 30.9	+0.3
SURF				Sg	Sg	01 33 32.7	+0.3
SURF	Saint Ours	0.09	206	Pg	Pg	01 33 30.9	+0.3
SURF				Sg	Sg	01 33 32.7	+0.3
MBDF	Montbardon	0.18	336	ePg	Pg	01 33 32.5	+0.6
MBDF				eSg	Sg	01 33 35.2	+0.7
	20nm,0.2s						
MBDF	Montbardon	0.18	336	ePg	Pg	01 33 32.5	+0.6
MBDF				eSg	Sg	01 33 35.2	+0.7
	9.8nm,0.2s						
TOUF	Mont Tournerai	0.61	154	Pg	Pg	01 33 39.8	-0.2
TOUF				Sg	Sg	01 33 48.7	+0.7
TOUF	Mont Tournerai	0.61	154	Pg	Pg	01 33 39.8	-0.2
TOUF				Sg	Sg	01 33 48.7	+0.7
AUTN	L'Aution	0.70	145	Pg	Pg	01 33 42.4	+0.9
AUTN				Sg	Sg	01 33 51.9	+1.3
AUTN	L'Aution	0.70	145	Pg	Pg	01 33 42.4	+0.9
AUTN				Sg	Sg	01 33 51.9	+1.3
SAOF	Saorge	0.76	139	Pg	Pg	01 33 43.7	+0.9
SAOF	Saorge	0.76	139	Pg	Pg	01 33 43.7	+0.9
ORIF	Oris-en-Rattie	0.79	297	ePg	Pg	01 33 43.2	-0.1
ORIF				eSg	Sg	01 33 53.6	0.0
	3.3nm,0.2s						
ORIF	Oris-en-Rattie	0.79	297	ePg	Pg	01 33 43.2	-0.1
ORIF				eSg	Sg	01 33 53.6	0.0
	1.6nm,0.2s						
SBF	Sospel	0.81	150	ePg	Pg	01 33 43.3	-0.4
SBF				eSg	Sg	01 33 53.9	-0.4
	8.4nm,0.4s						
SBF	Sospel	0.81	150	ePg	Pg	01 33 43.3	-0.4
SBF				eSg	Sg	01 33 53.9	-0.4
	4.2nm,0.4s						
LPG	La Plagne	0.94	355	ePg	Pg	01 33 46.6	+0.5
LPG				eSg	Sg	01 33 58.1	-0.2
	2.2nm,0.4s						
LPG	La Plagne	0.94	355	ePg	Pg	01 33 46.6	+0.5
LPG				eSg	Sg	01 33 58.1	-0.2
	1.1nm,0.4s						
LPL	La Plagne	0.96	354	ePg	Pg	01 33 46.7	+0.2
LPL				eSg	Sg	01 33 58.7	-0.2
	2.7nm,0.4s						
LPL	La Plagne	0.96	354	ePg	Pg	01 33 46.7	+0.2
LPL				eSg	Sg	01 33 58.7	-0.2
	1.4nm,0.4s						
FRF	La Foret Royal	1.02	189	ePg	Pg	01 33 47.2	-0.4
FRF				eSg	Sg	01 34 01.4	+0.5
	2.6nm,0.3s						
FRF	La Foret Royal	1.02	189	ePg	Pg	01 33 47.2	-0.4
FRF				eSg	Sg	01 34 01.4	+0.5
	1.3nm,0.3s						
SMRF	Simiane la Rot	1.10	238	ePg	Pg	01 33 49.8	+0.6
SMRF				eSg	Sg	01 34 05.1	+1.6
	2.5nm,0.3s						
SMRF	Simiane la Rot	1.10	238	ePg	Pg	01 33 49.8	+0.6
SMRF				eSg	Sg	01 34 05.1	+1.6
	1.2nm,0.3s						
LMR	La Mourre	1.26	192	ePg	Pg	01 33 51.7	-0.6
LMR				eSg	Sg	01 34 08.1	-0.5
	2.3nm,0.3s						
LMR	La Mourre	1.26	192	ePg	Pg	01 33 51.7	-0.6
LMR				eSg	Sg	01 34 08.1	-0.5
	1.1nm,0.3s						

IDC 15 01:34:01.2±1.3, 36°63N×21°87E, h0^{km}, mb3.6/6, mb1 3.6/7, mb1mx3.5/25, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=31.5km s-min=24.2km az=109.0
ISCJB 15 01:34:02.8±0.7, 36°50N±0°03×21°62E±0°04, h4^{km}±4^{km}, mb3.5/6, Error ellipse: s-maj=5.6km s-min=4.7km az=164.3
CSEM 15 01:34:04.2±0.2, 36°53N×21°66E, h5^{km}, ML3.0, Error ellipse: s-maj=5.2km s-min=3.8km az=54.0
ATH 15 01:34:05.2, 36°60N×21°74E, h24^{km}, ML3.0
NEIC 15 01:34:05.1, 36°59N×21°74E, h24^{km}, ML3.0(ATH), After ATH.
THE 15 01:34:06.0, 36°57N×21°78E, h4^{km}±1^{km}, ML3.3/9, Error ellipse: s-maj=1.4km s-min=0.8km az=46.0
ISC 15 01:34:03.8±0.8, 36°51N±0°03×21°63E±0°04, h5^{km}±4^{km}, n114, σ1°02/151, mb3.5/6, 2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.40	13	ePB	Pg	01 34 11.9	+0.5
PYL				eSB	Sg	01 34 17.2	+0.6
PYL	PYLOS	0.40	13	P	Pg	01 34 12.0	+0.6
PYL				S	Sg	01 34 17.4	+0.8
PYL	PYLOS	0.40	13	P	Pg	01 34 12.0	+0.6
PYL				S	Sg	01 34 17.4	+0.8
ITM	Ithomi	0.71	19	ePN	Pg	01 34 17.5	+0.1
ITM				eSN	Sg	01 34 25.8	-0.8
ITM	Ithomi	0.71	19	P	Pg	01 34 17.3	-0.1
ITM				S	Sg	01 34 26.9	+0.3
ITM	Ithomi	0.71	19	P	Pg	01 34 17.3	-0.1
ITM				S	Sg	01 34 26.9	+0.3
VLX	Vlachokerasia	1.05	35	ePN	Pg	01 34 23.2	-0.7
VLX				eSN	Sg	01 34 36.5	-1.0
VLX	Vlachokerasia	1.05	35	P	Pg	01 34 23.2	-0.7
VLX				S	Sg	01 34 37.2	-0.3
VLX	Vlachokerasia	1.05	35	P	Pg	01 34 23.2	-0.7
VLX				S	Sg	01 34 37.2	-0.3
VLI	Veliai	1.07	78	ePN	Pg	01 34 24.2	-0.1
VLI	Veliai	1.07	78	P	Pg	01 34 24.3	0.0
VLI				S	Sg	01 34 38.1	-0.1
VLI	Veliai	1.07	78	P	Pg	01 34 24.3	0.0
VLI				S	Sg	01 34 38.1	-0.1
KYTH	Kithira	1.16	101	ePN	Pg	01 34 25.9	0.0
KYTH	Kithira	1.16	101	P	Pg	01 34 25.9	0.0
KYTH	Kithira	1.16	101	P	Pg	01 34 25.9	0.0
GUR	Goura	1.53	22	ePN	Pn	01 34 31.8	+0.1
GUR				eSN	Sn	01 34 50.2	-1.9
GUR	Goura	1.53	22	P	Pn	01 34 32.0	+0.2
GUR				S	Sn	01 34 52.3	+0.2
GUR	Goura	1.53	22	P	Pn	01 34 32.0	+0.2
GUR				eSn	Sn	01 34 50.2	-1.9
GUR				S	Sn	01 34 52.3	+0.2
RLS	Riolos of Patr	1.55	355	ePN	Pn	01 34 32.8	+0.8
RLS				eSN	Sn	01 34 52.5	0.0
RLS	Riolos of Patr	1.55	355	P	Pn	01 34 32.7	+0.7
RLS	Riolos of Patr	1.55	355	P	Pn	01 34 32.7	+0.7
RLS				eSn	Sn	01 34 52.8	+0.3
DIDY	Didyma	1.59	52	P	Pn	01 34 32.4	-0.2
DIDY	Didyma	1.59	52	P	Pn	01 34 32.4	-0.2
DID	Didima	1.63	52	ePN	Pn	01 34 32.9	-0.1
DID	Didima	1.63	52	P	Pn	01 34 32.8	-0.2
DID				S	Sn	01 34 53.7	-0.6
DID	Didima	1.63	52	ePn	Pn	01 34 32.9	-0.1
DID				S	Sn	01 34 53.7	-0.6
KFL	Anninata	1.73	337	P	Pn	01 34 36.5	+2.0
KFL				S	Sn	01 34 59.7	+2.7
KFL	Anninata	1.73	337	P	Pn	01 34 36.5	+2.0
KFL				S	Sn	01 34 59.7	+2.7
LAKA	Lakka	1.75	9	P	Pn	01 34 35.7	+1.0
LAKA				S	Sn	01 34 58.1	+0.7
LAKA	Lakka	1.75	9	P	Pn	01 34 35.7	+1.0
LAKA				S	Sn	01 34 58.1	+0.7
UPR	University Cam	1.78	4	ePN	Pn	01 34 35.5	+0.4
UPR	University Cam	1.78	4	ePn	Pn	01 34 35.8	+0.7
LTK	Loutraki	1.85	35	ePN	Pn	01 34 35.7	-0.4
LTK	Loutraki	1.85	35	P	Pn	01 34 36.0	-0.1
LTK				S	Sn	01 34 59.6	-0.3
LTK	Loutraki	1.85	35	ePn	Pn	01 34 35.7	-0.4
LTK	Loutraki	1.85	35	P	Pn	01 34 36.0	-0.1
LTK				S	Sn	01 34 59.6	-0.3
VLS	Valsamata	1.86	334	ePB	Pn	01 34 36.9	+0.6
VLS				eSN	Sn	01 35 00.5	+0.4
TRIZ	Trizonia	1.89	11	P	Pn	01 34 37.3	+0.7
TRIZ	Trizonia	1.89	11	P	Pn	01 34 37.3	+0.7
KALE	Kalithea	1.92	12	P	Pn	01 34 38.5	+1.4
KALE				S	Sn	01 35 02.2	+0.5
KALE	Kalithea	1.92	12	P	Pn	01 34 38.5	+1.4
KALE				S	Sn	01 35 02.2	+0.5
EFP	Efpalio	1.93	6	ePB	Pn	01 34 36.6	-0.6
EFP	Efpalio	1.93	6	P	Pn	01 34 38.4	+1.2
EFP	Efpalio	1.93	6	P	Pn	01 34 38.4	+1.2
NAIG	Nisos Aigina	1.94	49	ePN	Pn	01 34 37.0	-0.3
NAIG	Nisos Aigina	1.94	49	ePn	Pn	01 34 37.0	-0.3
DESF	Desfina	2.03	20	P	Pn	01 34 37.8	-0.8
DESF				S	Sn	01 35 05.1	+0.7
DESF	Desfina	2.03	20	P	Pn	01 34 37.8	-0.8
DESF				S	Sn	01 35 05.1	+0.7
VIL1	Vilia, Western	2.13	39	ePB	Pn	01 34 39.3	-0.7
VLY	Voula,Athens	2.19	52	ePN	Pn	01 34 40.4	-0.3
VLY	Voula,Athens	2.19	52	P	Pn	01 34 39.7	-1.1
VLY	Voula,Athens	2.19	52	P	Pn	01 34 39.7	-1.1
VLY	Voula,Athens	2.19	52	ePn	Pn	01 34 40.4	-0.3
ATH	Athens Observa	2.21	48	ePN	Pn	01 34 40.8	-0.3
PTL	Penteli	2.35	49	ePN	Pn	01 34 42.4	-0.6
PTL	Penteli	2.35	49	ePn	Pn	01 34 42.4	-0.6
VAM	Vamos	2.36	117	ePN	Pn	01 34 44.1	+1.0
VAM	Vamos	2.36	117	ePn	Pn	01 34 44.1	+1.0

MMAI	**Mount Meron Ar**	**11.85 103**	Pn	**Pn**	**01 36 48.9**	**-4.5**
MMAI			Sn	**Sn**	**01 38 55.8**	**-10**
HFS	**Hagfors**	**24.19 350**	P	**P**	**01 39 17.6**	**-3.2**
1.1nm,0.4s,mb3.6,baz=155,slow=11,SNR=14						
HFS	**Hagfors**	**24.19 350**	P	**P**	**01 39 17.6**	**-3.2**
FINES	**FINESS Array B**	**25.11 5**	P	**P**	**01 39 25.6**	**-3.6**
0.8nm,0.4s,mb3.6,baz=167,slow=12,SNR=11						
FINES	**FINESS Array B**	**25.11 5**	P	**P**	**01 39 25.6**	**-3.6**
NOA	**NORSAR Array B**	**25.43 348**	P	**P**	**01 39 30.1**	**-2.0**
0.5nm,0.7s,mb3.2,baz=157,slow=10,SNR=3.3						
NOA	**NORSAR Array B**	**25.43 348**	P	**P**	**01 39 30.1**	**-2.0**
TORD	**Torodi Ar. Bea**	**29.35 223**	P	**P**	**01 40 07.8**	**+0.2**
0.2nm,0.7s,mb3.0,baz=18,slow=9.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**29.35 223**	P	**P**	**01 40 07.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**29.35 223**	P	**P**	**01 40 07.8**	**+0.2**
ARCES	**ARCESS Array B**	**33.15 2**	P	**P**	**01 40 38.4**	**-2.2**
1.4nm,0.8s,mb4.0,baz=196,slow=9.4,SNR=2.7						
ARCES	**ARCESS Array B**	**33.15 2**	P	**P**	**01 40 38.5**	**-2.2**
MKAR	**Makanchi Array**	**45.44 57**	P	**P**	**01 42 20.0**	**-3.4**
0.2nm,0.4s,mb3.3,baz=272,slow=7.8,SNR=9.4						
MKAR	**Makanchi Array**	**45.44 57**	P	**P**	**01 42 20.0**	**-3.4**

*ISCJB **15** 01:34:38.9±0.6, 27.°00S±0.°03×26.°72E±0.°03, h7km±3km, mb3.9/10, Error ellipse: s-maj=5.2km s-min=3.6km az=35.7*
*PRE **15** 01:34:38.4±1.0, 26.°91S×26.°72E, h2km, ML4.0*
*IDC **15** 01:34:41.0±0.7, 26.°91S×26.°70E, h0km, mb3.9/10, mb1 4.1/13, mb1mx4.0/24, mbtmp4.0/13, ML4.4/1, Error ellipse: s-maj=20.1km s-min=10.5km az=108.0*
*NEIC **15** 01:34:41.6±0.5, 26.°88S×26.°70E, h5km, Error ellipse: s-maj=15.8km s-min=9.2km az=106.0*
ISC 15 01:34:39.8±0.6, 26.°97S±0.°02×26.°75E±0.°03, h1km±4km, n58, σ1°17/70, mb4.0/10, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**0.05**	**116**	*eP*	**Pg**	**01 34 41.1**	**+0.3**
MOAB				*eS*	**Sg**	**01 34 42.4**	**+0.9**
MOAB				AML	AML	01 34 45.0	
comp=Z,20μm,0.3s							
PRYS	**Parys**	**0.55**	**86**	*eP*	**Pg**	**01 34 49.4**	**-0.9**
PRYS				*eS*	**Sg**	**01 34 56.8**	**-0.6**
PRYS				AML	AML	01 35 01.8	
comp=Z,4μm,0.6s							
KSR	**Koster**	**1.12**	**7**	*eP*	**Pg**	**01 34 58.7**	**-2.5**
KSR				*eS*	**Sg**	**01 35 14.1**	**-1.6**
KSR				AML	AML	01 35 21.0	
comp=Z,2μm,0.2s							
ERPM	**east rand prop**	**1.47**	**65**	*eP*	**Pn**	**01 35 07.1**	**-0.3**
ERPM				*eS*	**Sb**	**01 35 27.5**	**+0.3**
ERPM				AML	AML	01 35 30.1	
comp=Z,550nm,0.3s							
SLR	**Silverton**	**1.84**	**49**	*eP*	**Pn**	**01 35 11.8**	**-0.7**
SLR				*eS*	**Sn**	**01 35 35.9**	**-0.5**
SLR				AML	AML	01 35 40.4	
comp=Z,839nm,0.2s							
BOSA	**Boshof**	**2.11**	**218**	*eP*	**Pn**	**01 35 16.3**	**+0.2**
BOSA				*eS*	**Sn**	**01 35 43.7**	**+0.6**
BOSA				AML	AML	01 35 59.2	
comp=Z,587nm,0.5s							
BOSA	**Boshof**	**2.11**	**218**	Pn	**Pn**	**01 35 18.3**	**+2.1**
comp=Z,37nm,0.3s,baz=41,slow=15,SNR=518							
BOSA				Pg	**Pg**	**01 35 21.2**	**+1.0**
comp=Z,43nm,0.3s,baz=41,slow=18,SNR=100							
BOSA				Lg		01 35 48.2	
comp=Z,159nm,0.3s,baz=323,slow=16,SNR=20							
BOSA				Rg		01 35 57.8	
comp=Z,535nm,0.4s,baz=320,slow=6.6,SNR=14							
BOSA	**Boshof**	**2.11**	**218**	Pn	**Pn**	**01 35 18.3**	**+2.1**
BOSA				Pg	**Pg**	**01 35 21.2**	**+1.0**
BOSA				Lg		01 35 48.2	
BOSA				Rg		01 35 57.8	
LBTB	**Lobatse**	**2.20**	**332**	*eP*	**Pn**	**01 35 16.6**	**-0.9**
LBTB				*eS*	**Sn**	**01 35 42.7**	**-2.6**
LBTB				AML	AML	01 35 50.2	
comp=Z,1μm,0.5s							
LBTB	**Lobatse**	**2.20**	**332**	Pn	**Pn**	**01 35 19.2**	**+1.8**
comp=Z,70nm,0.3s,baz=164,slow=14,SNR=417							
LBTB				Lg		01 35 48.7	
comp=Z,350nm,0.3s,baz=66,slow=23,SNR=54							
LBTB				Rg		01 35 57.4	
comp=Z,281nm,0.4s,baz=304,slow=18,SNR=22							
LBTB	**Lobatse**	**2.20**	**332**	Pn	**Pn**	**01 35 19.2**	**+1.8**
LBTB				Lg		01 35 48.7	
LBTB				Rg		01 35 57.4	
HVD	**Gariep Dam**	**3.79**	**197**	*eP*	**Pn**	**01 35 39.3**	**0.0**
HVD				*eS*	**Sn**	**01 36 23.5**	**-1.0**
HVD				AML	AML	01 36 48.0	
comp=Z,150nm,0.4s							
KSD	**Kokstad**	**4.26**	**147**	*eP*	**Pn**	**01 35 45.6**	**-0.3**
KSD				*eS*	**Sn**	**01 36 34.3**	**-1.9**
KSD				AML	AML	01 36 54.8	
comp=Z,390nm,0.4s							
POGA	**Pongola**	**4.35**	**96**	*eP*	**Pn**	**01 35 47.8**	**+0.7**
POGA				*eS*	**Sn**	**01 36 38.0**	**-0.4**
POGA				AML	AML	01 36 59.7	
comp=Z,345nm,0.5s							
PKA	**Prieska**	**4.43**	**232**	*eP*	**Pn**	**01 35 47.2**	**-0.9**
PKA				*eS*	**Sn**	**01 36 37.9**	**-2.5**
PKA				AML	AML	01 37 16.9	
comp=Z,142nm,0.6s							
SOE	**Somerset East**	**5.82**	**190**	*eP*	**Pn**	**01 36 07.1**	**-0.1**
SOE				*eS*	**Sn**	**01 37 12.8**	**-1.8**
SOE				AML	AML	01 37 46.7	
comp=Z,72nm,0.8s							
GRM	**Grahamstown**	**6.33**	**182**	*eP*	**Pn**	**01 36 14.6**	**+0.4**
GRM				*eS*	**Sn**	**01 37 25.1**	**-2.0**
GRM				AML	AML	01 37 42.3	
comp=Z,27nm,0.4s							
SUR	**Sutherland**	**7.47**	**222**	*eP*	**Pn**	**01 36 30.3**	**+0.5**
SUR				*eS*	**Sn**	**01 37 51.0**	**-4.2**
SUR				AML	AML	01 38 54.2	
comp=Z,66nm,0.6s							
SUR	**Sutherland**	**7.47**	**222**	Pn	**Pn**	**01 36 31.8**	**+1.9**
comp=Z,7.0nm,0.3s,baz=55,slow=15,SNR=39							
SUR				Sn	**Sn**	**01 37 54.3**	**-0.9**
comp=Z,5.3nm,0.3s,baz=140,slow=20,SNR=8.4							
SUR				Lg		01 38 35.6	
comp=Z,16nm,0.3s,baz=132,slow=22,SNR=7.1							
SUR	**Sutherland**	**7.47**	**222**	*ePn*	**Pn**	**01 36 31.2**	**+1.4**
SUR				*eS*	**Sn**	**01 37 54.2**	**-1.0**
SUR				Lg		01 38 35.6	
CVNA	**Calvinia**	**7.58**	**232**	*eP*	**Pn**	**01 36 31.1**	**-0.3**
CVNA				*eS*	**Sn**	**01 37 53.1**	**-4.9**
CVNA				AML	AML	01 37 59.0	
comp=Z,31nm,0.3s							
KOMG	**Komaggas**	**8.63**	**249**	*eP*	**Pn**	**01 36 45.2**	**-0.6**
KOMG				*eS*	**Sn**	**01 38 18.2**	**-5.7**
KOMG				AML	AML	01 39 17.6	
comp=Z,52nm,0.6s							
ELIM	**Elim**	**9.70**	**217**	*eP*	**Pn**	**01 37 00.4**	**-0.1**
ELIM				*eS*	**Sn**	**01 38 44.4**	**-5.6**
ELIM				AML	AML	01 38 59.2	
comp=Z,10.0nm,0.4s							
TSUM	**Tsumeb**	**11.43**	**311**	*ePn*	**Pn**	**01 37 24.1**	**-0.2**
LSZ	**Lusaka**	**11.71**	**7**	*ePn*	**Pn**	**01 37 26.1**	**-1.9**
LSZ				*eSn*	**Sn**	**01 39 29.5**	**-10**
TORD	**Torodi Ar. Bea**	**46.71**	**325**	P	**P**	**01 43 10.5**	**0.0**
comp=Z,1.1nm,0.5s,mb4.3,baz=146,slow=6.2,SNR=25							
TORD	**Torodi Ar. Bea**	**46.71**	**325**	P	**P**	**01 43 10.5**	**0.0**
SNAA	**Sanae**	**47.67**	**192**	*e*	**P**	**01 43 18.5**	**+1.2**
VNA2	**Neumayer--Watz**	**48.02**	**194**	*e*	**P**	**01 43 22.1**	**+2.0**
baz=14,slow=5.8							
VNA3	**Neumayer Olymp**	**48.77**	**195**	*e*	**P**	**01 43 27.3**	**+1.5**
MMAI	**Mount Meron Ar**	**60.21**	**8**	P	**P**	**01 44 50.9**	**+1.5**
comp=Z,0.7nm,0.4s,mb4.0,baz=190,slow=7.0,SNR=4.0							
MMAI	**Mount Meron Ar**	**60.21**	**8**	P	**P**	**01 44 50.9**	**+1.5**
BRTR	**Keskin Array B**	**66.66**	**6**	P	**P**	**01 45 32.9**	**+1.0**
comp=Z,0.4nm,0.8s,mb3.7,baz=175,slow=8.7,SNR=3.4							
BRTR	**Keskin Array B**	**66.66**	**6**	P	**P**	**01 45 32.9**	**+1.0**
MLR	**Muntele Rosu**	**72.11**	**359**	P	**P**	**01 46 07.2**	**+1.7**
comp=Z,0.4nm,0.6s,mb3.8,baz=158,slow=13,SNR=5.0							
MLR	**Muntele Rosu**	**72.11**	**359**	P	**P**	**01 46 07.2**	**+1.7**
ESDC	**Sonseca Array**	**72.22**	**336**	P	**P**	**01 46 07.0**	**+0.7**
comp=Z,0.2nm,0.4s,mb3.6,baz=151,slow=6.5,SNR=6.5							
ESDC	**Sonseca Array**	**72.22**	**336**	P	**P**	**01 46 07.0**	**+0.7**
AKASG	**Malin Array Be**	**77.35**	**2**	P	**P**	**01 46 36.5**	**+0.7**
comp=Z,0.5nm,0.3s,mb4.0,baz=180,slow=5.0,SNR=4.2							
AKASG	**Malin Array Be**	**77.35**	**2**	P	**P**	**01 46 36.5**	**+0.7**
LPAZ	**La Paz**	**86.97**	**253**	P	**P**	**01 47 27.6**	**+0.3**
comp=Z,1.1nm,0.6s,mb4.3,baz=110,slow=5.9,SNR=7.1							
LPAZ	**La Paz**	**86.97**	**253**	P	**P**	**01 47 27.6**	**+0.3**

FINES	**FINESS Array B**	**88.09**	**360**	P	**P**	**01 47 32.4**	**+1.0**
comp=Z,2.3nm,0.9s,mb4.5,baz=188,slow=5.4,SNR=6.1						
FINES	**FINESS Array B**	**88.09**	**360**	P	**P**	**01 47 32.4**	**+1.0**
MKAR	**Makanchi Array**	**88.90**	**35**	P	**P**	**01 47 36.2**	**+0.6**
comp=Z,0.6nm,1.0s,mb3.8,baz=241,slow=3.2,SNR=3.6							
MKAR	**Makanchi Array**	**88.90**	**35**	P	**P**	**01 47 36.2**	**+0.6**
ASAR	**Alice Springs**	**93.52**	**119**	P	**P**	**01 47 59.4**	**+1.6**
comp=Z,0.2nm,0.5s,mb3.7,baz=232,slow=4.6,SNR=4.2							
ASAR	**Alice Springs**	**93.52**	**119**	P	**P**	**01 47 59.4**	**+1.6**
YKA	**Yellowknife Ar**	**136.31**	**335**	PKP	PKPdf	01 54 04.2	+1.7
comp=Z,0.2nm,0.7s,baz=61,slow=3.1,SNR=2.8							
YKA	**Yellowknife Ar**	**136.31**	**335**	PKP	PKPdf	01 54 04.2	+1.7
TXAR	**Lajitas Array**	**136.47**	**285**	PKP	PKPdf	01 54 05.3	+1.5
comp=Z,0.2nm,0.7s,baz=93,slow=3.2,SNR=4.2							
TXAR	**Lajitas Array**	**136.47**	**285**	PKP	PKPdf	01 54 05.3	+1.5
ILAR	**Eielson Array**	**141.97**	**356**	PKhKP	PKPpre	01 54 08.5	
comp=Z,0.2nm,0.5s,baz=341,slow=3.7,SNR=6.1							
ILAR	**Eielson Array**	**141.97**	**356**	PKPpre	PKPpre	01 54 08.5	
DLBC	**Dease Lake**	**144.59**	**339**	PKP	PKPdf	01 54 18.8	+1.3
comp=Z,1.4nm,0.5s,baz=33,slow=3.5,SNR=8.5							
DLBC	**Dease Lake**	**144.59**	**339**	PKP	PKPdf	01 54 18.8	+1.3
NVAR	**Mina Array Bea**	**148.62**	**300**	PKPbc	PKPbc	01 54 31.8	+3.1
comp=Z,1.4nm,0.6s,baz=65,slow=5.1,SNR=15							
NVAR	**Mina Array Bea**	**148.62**	**300**	PKPbc	PKPbc	01 54 31.8	+3.1

IDC 15 02:09:55.2±11.0, 46.°98N×152.°29E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/23, mbtmp3.9/4, Error ellipse: s-maj=293.2km s-min=36.4km az=167.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**36.72**	**39**	P	P	02 17 03.6	0.0
0.3nm,0.9s,baz=259,slow=8.8,SNR=3.9							
MKAR	**Makanchi Array**	**46.33**	**297**	P	P	02 18 22.6	+0.1
1.0nm,0.8s,baz=54,slow=7.3,SNR=7.7							
FINES	**FINESS Array B**	**63.59**	**334**	P	P	02 20 27.4	+0.2
2.8nm,0.9s,baz=28,slow=9.7,SNR=5.5							
AKASG	**Malin Array Be**	**71.04**	**326**	P	P	02 21 14.3	-0.3
1.9nm,0.6s,baz=34,slow=6.2,SNR=5.2							

IDC 15 02:42:32.7±2.4, 5.°68S×130.°94E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=112.1km s-min=27.1km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.39**	**202**	Pn	Pn	02 45 43.8	-0.4
0.1nm,0.3s,baz=34,slow=13,SNR=7.3							
FITZ				Sn	Sn	02 47 58.6	-15
0.5nm,0.3s,baz=125,slow=15,SNR=6.1							
WRA	**Warramunga Arr**	**14.55**	**167**	Pn	Pn	02 45 59.5	-0.6
0.3nm,0.3s,baz=348,slow=11,SNR=11							
WRA				Sn	Sn	02 48 34.0	-8.2
0.5nm,0.3s,baz=338,slow=22,SNR=7.8							
ASAR	**Alice Springs**	**18.11**	**171**	P	Pn	02 46 46.3	+0.5
0.4nm,0.3s,baz=350,slow=11,SNR=20							
ASAR				S	Sn	02 50 04.8	-3.8
0.1nm,0.3s,baz=358,slow=26,SNR=4.1							
MKAR	**Makanchi Array**	**67.65**	**326**	P	P	02 53 31.7	+0.1
0.6nm,0.4s,baz=113,slow=8.2,SNR=17							

*IDC **15** 02:50:20.1±1.5, 19.°48S×168.°84E, h38km±7km, mb3.9/6, mb1 4.2/6, mb1mx3.9/16, mbtmp4.0/6, MS3.4/5, Ms1 3.4/5, ms1mx3.0/24, Error ellipse: s-maj=83.2km s-min=20.8km az=158.0*
*NOU **15** 02:50:22.5±0.8, 20.°30S×168.°46E, h30km, MD2.5, ML3.6*
ISC 15 02:50:21.6±2.6, 21.°13S±0.°6×169.°1E±0.°3, h58km±27km, h40km±2.1km: pP-P, n15, σ1s13/13, mb4.0/6, MS3.3/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.26**	**243**	*eS*	**Sn**	**02 51 24.8**	**+1.6**
DZM	**Mont Dzumac**	**2.60**	**248**	*ePn*	**Pn**	**02 51 01.4**	**+0.3**
157nm,0.2s							
DZM				*eSn*	**Sn**	**02 51 29.9**	**-1.6**
1μm,0.2s							
NORM	**Noumea**	**2.62**	**245**	*eP*	**Pn**	**02 51 02.3**	**+0.8**
NORM				*eS*	**Sn**	**02 51 30.9**	**-1.3**
NORM				AMP		02 51 33.2	
comp=Z,1μm,0.2s							
NOUC	**Port Laguerre**	**2.73**	**249**	*eP*	**Pn**	**02 51 03.4**	**+0.4**
NOUC				*eS*	**Sn**	**02 51 34.2**	**-0.7**
NOUC				AMP		02 51 34.8	
comp=Z,238nm,1.3s							
URZ	**Urewera**	**18.44**	**160**	LR	LR	03 00 29.3	
comp=Z,70nm,18.2s,baz=56,slow=30							
CTA	**Charters Tower**	**21.36**	**269**	P	**P**	**02 55 05.0**	**+0.8**
comp=Z,9.9nm,0.8s,mb4.2,baz=92,slow=13,SNR=6.8							
RPZ	**Rata Peaks**	**22.59**	**176**	LR	LR	03 03 36.5	
comp=Z,76nm,20.4s,MS3.1,baz=207,slow=33							
STKA	**Stephens Creek**	**26.73**	**241**	P	**P**	**02 56 01.4**	**+5.8**
comp=Z,2.9nm,0.8s,mb3.9,baz=84,slow=10,SNR=6.5							
STKA				LR	LR	03 05 04.0	
comp=Z,68nm,19.4s,MS3.2,baz=29,slow=32							
WRA	**Warramunga Arr**	**32.49**	**266**	P	**P**	**02 56 46.5**	**-0.3**
comp=Z,0.6nm,0.4s,mb3.8,baz=92,slow=8.5,SNR=17							
WRA				pP	pP	02 56 57.6	-3.7
comp=Z,0.7nm,0.4s,baz=91,slow=8.5,SNR=5.3							
ASAR	**Alice Springs**	**32.54**	**259**	P	**P**	**02 56 48.6**	**+1.4**
comp=Z,4.5nm,0.7s,mb4.5,baz=85,slow=9.0,SNR=53							
ASAR				pP	pP	02 56 60.0	-1.9
comp=Z,5.3nm,0.8s,baz=82,slow=9.1,SNR=18							
TBI	**Tubuai**	**38.38**	**101**	*e*LR	LR	03 08 34.4	
comp=Z,32nm,29.0s							
PPT2	**Papeete2**	**39.12**	**92**	*e*LR	LR	03 09 21.2	
comp=Z,76nm,28.8s							
FITZ	**Fitzroy Crossi**	**40.91**	**266**	P	**P**	**02 57 58.7**	**+0.3**
comp=Z,2.3nm,0.7s,mb3.9,baz=127,slow=6.6,SNR=5.7							
FITZ				pP	pP	02 58 10.0	-3.3
comp=Z,3.5nm,0.8s,baz=126,slow=7.5,SNR=3.8							
FITZ				LR	LR	03 14 48.6	
comp=Z,51nm,19.1s,MS3.4,baz=240,slow=36							
NWAO	**Narrogin (SRO)**	**47.21**	**244**	LR	LR	03 18 26.4	
comp=Z,54nm,18.8s,MS3.5,baz=173,slow=35							
NVAR	**Mina Array Bea**	**90.18**	**49**	P	**P**	**03 03 13.2**	**-2.4**
comp=Z,0.4nm,0.7s,mb3.9,baz=211,slow=3.2,SNR=2.7							
NVAR				pP	pP	03 03 23.7	-8.5
comp=Z,0.9nm,0.8s,baz=234,slow=7.7,SNR=5.2							

*BJI **15** 03:00:30.9, 21.°74N×144.°40E, h141km, mB4.9/19, mb4.7/33*
*ISCJB **15** 03:00:36.5±0.2, 22.°17N±0.°04×143.°60E±0.°03, h132km, mb4.5/83, Error ellipse: s-maj=5.1km s-min=3.7km az=13.0*
*IDC **15** 03:00:36.9±0.5, 22.°23N×143.°73E, h127km±4km, mb4.2/27, mb1 4.3/29, mb1mx4.3/32, mbtmp4.2/29, Error ellipse: s-maj=12.6km s-min=7.7km az=88.0*
*NEIC **15** 03:00:37.4±0.2, 22.°20N×143.°75E, mb4.8/38, Error ellipse: s-maj=5.2km s-min=4.5km az=72.0*
*MOS **15** 03:00:37.9±1.0, 22.°22N×143.°67E, h150km, mb4.7/33, Error ellipse: s-maj=12.0km s-min=6.2km az=113.6*
ISC 15 03:00:38.3±0.2, 22.°22N±0.°04×143.°68E±0.°03, h134km, h134km±2.5km: pP-P, n444, σ0s58/438, mb4.5/83, 122C-113D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.04**	**345**	P	**Pn**	**03 01 50.9**	**-1.1**
70nm,0.3s,baz=166,slow=19,SNR=17							
CBIJ				S	**Sn**	**03 02 48.0**	**-1.3**
104nm,0.3s,baz=308,slow=23,SNR=9.2							
CBIJ	**Chichi jima**	**5.04**	**345**	P	**Pn**	**03 01 50.9**	**-1.1**
CBIJ				S	**Sn**	**03 02 48.0**	**-1.3**
MJAR	**Matsushiro Arr**	**15.04**	**343**	P	**Pn**	**03 04 02.8**	**-1.0**
0.7nm,0.3s,baz=163,slow=10,SNR=8.4							
MJAR	**Matsushiro Arr**	**15.04**	**343**	P	**Pn**	**03 04 02.8**	**-1.0**
MJAR	**Matsushiro Arr**	**15.04**	**343**	P	**Pn**	**03 04 02.8**	**-1.0**
MAJO	**Matsushiro**	**15.04**	**343**	*ePn*	**Pn**	**03 04 04.0**	**+0.2**
20nm,1.2s							
MAJO	**Matsushiro**	**15.04**	**343**	*eP*	**Pn**	**03 04 04.0**	**+0.2**
MAJO				pmax	pmax		
comp=Z,20nm,1.2s							
MAT	**Matsushiro**	**15.04**	**343**	P	**Pn**	**03 04 03.5**	**-0.3**
MAT				*eS*	**S**	**03 06 49.2**	**-8.9**
KSRS	**Korea Array**	**20.38**	**322**	P	**P**	**03 05 04.5**	**+0.2**
comp=Z,8.8nm,0.4s,baz=148,slow=9.1,SNR=11							
NACB	**Ninganchiao**	**20.39**	**280**	*eP*	**P**	**03 05 06.3**	**+1.7**
comp=Z,7.0nm,0.5s							

KSAR	**Wonju Array Be**	**20.39**	**322**	P	**P**	**03 05 04.5**	**0.0**
KSAR	**Wonju Array Be**	**20.39**	**322**	P	**P**	**03 05 04.6**	**+0.1**
SSLB	**Suanglung**	**20.97**	**279**	*eP*	**P**	**03 05 12.8**	**+1.9**
comp=Z,48nm,0.6s							
TPUB	**Ta-pu**	**21.28**	**277**	*eP*	**P**	**03 05 13.7**	**-0.4**
NJ2	**Nanjing**	**24.11**	**299**	*eP*	**P**	**03 05 44.4**	**+2.8**
NJ2				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.3							
MDJ	**Mudanjiang**	**25.17**	**336**	P	**P**	**03 05 51.8**	**+0.8**
MDJ				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.1							
MDJ				pmax	pmax		
comp=Z,130nm,4.6s							
CN2	**Changchun**	**26.28**	**329**	*eP*	**P**	**03 06 03.6**	**+2.5**
CN2				*e*pP	pP	03 06 33.0	+3.5
CN2				*e*S	**S**	**03 10 24.5**	**+0.7**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.6							
CN2				pmax	pmax		
comp=Z,130nm,3.0s							
PMG	**Port Moresby**	**31.62**	**173**	*eP*	**P**	**03 06 47.4**	**-1.2**
comp=Z,6.1nm,0.4s,mb4.7							
PMG	**Port Moresby**	**31.62**	**173**	*eP*	**P**	**03 06 47.6**	**-1.0**
HHC	**Hu-ho-hao-te**	**32.82**	**312**	*eP*	**P**	**03 06 58.8**	**-0.1**
HHC				pP	pP	03 07 29.5	+1.6
HHC				sP	sP	03 07 45.1	+1.8
HHC				PP	PP	03 08 14.3	-1.4
HHC				S	**S**	**03 12 03.8**	**-2.4**
HHC				pmax	pmax		
comp=Z,14nm,0.9s,mb4.7							
HHC				pmax	pmax		
comp=Z,140nm,4.0s							
HHC				LR	LR		
comp=N,95nm,14.3s							
HHC				LR	LR		
comp=E,110nm,9.6s							
HHC				LR	LR		
comp=Z,63nm,11.9s							
GYA	**Guiyang**	**33.91**	**285**	P	**P**	**03 07 09.6**	**+1.0**
GYA				pP	pP	03 07 40.3	+2.7
GYA				sP	sP	03 07 58.9	+5.9
GYA				PP	PP	03 08 27.3	-0.7
GYA				PcP	PcP	03 09 44.5	+0.4
GYA				S	**S**	**03 12 22.1**	**-1.3**
GYA				ScP	ScP	03 13 15.6	-1.0
GYA				ScS	ScS	03 17 15.9	-2.9
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.6							
GYA				pmax	pmax		
comp=Z,90nm,4.7s							
CD2	**Chengdu**	**36.58**	**292**	*eP*	**P**	**03 07 31.6**	**+0.2**
CD2				pP	pP	03 08 02.5	+1.8
CD2				sP	sP	03 08 18.0	+1.9
CD2				PP	PP	03 09 01.0	+3.7
CD2				S	**S**	**03 13 03.3**	**-0.9**
CD2				pmax	pmax		
comp=Z,20nm,1.1s,mb4.7							
CD2				pmax	pmax		
comp=Z,60nm,5.2s							
LZH	**Lanzhou**	**37.17**	**301**	*eP*	**P**	**03 07 37.8**	**+1.5**
LZH				pP	pP	03 08 08.8	+3.1
LZH				sP	sP	03 08 25.3	+4.3
LZH				pmax	pmax		
comp=Z,21nm,1.3s,mb4.6							
LZH	**Lanzhou**	**37.17**	**301**	*eP*	**P**	**03 07 37.8**	**+1.5**
comp=Z,21nm,1.3s,mb4.6							
LZH				pP	pP	03 08 08.7	+3.0
LZH				sP	sP	03 08 25.2	+4.2
LZH	**Lanzhou**	**37.17**	**301**	*eP*	**P**	**03 07 37.8**	**+1.5**
LZH				*pP	pP	03 08 08.7	+3.0
LZH				*sP	sP	03 08 25.2	+4.2
LZH				pmax	pmax		
comp=Z,21nm,1.3s,mb4.6							
KMI	**Kunming**	**37.50**	**283**	P	**P**	**03 07 39.8**	**+0.5**
KMI				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.4							
KMI	**Kunming**	**37.50**	**283**	P	**P**	**03 07 39.7**	**+0.4**
comp=Z,8.0nm,0.8s,mb4.4							
KMI	**Kunming**	**37.50**	**283**	P	**P**	**03 07 39.7**	**+0.4**
KMI				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.4							
ULN	**Ulaanbaatar**	**38.85**	**320**	*eP*	**P**	**03 07 50.4**	**+0.1**
comp=Z,5.5nm,0.8s,mb4.2							
ULN	**Ulaanbaatar**	**38.85**	**320**	*eP*	**P**	**03 07 50.4**	**+0.1**
ULN				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.2							
SONM	**Songino Array**	**39.23**	**320**	P	**P**	**03 07 54.0**	**+0.6**
comp=Z,5.9nm,0.6s,mb4.4,baz=129,slow=7.4,SNR=61							
SONM				PcP	PcP	03 09 59.3	-0.5
comp=Z,0.5nm,0.5s,baz=134,slow=4.2,SNR=3.4							
SONM	**Songino Array**	**39.23**	**320**	P	**P**	**03 07 54.0**	**+0.6**
SONM				PcP	PcP	03 09 59

comp=Z,5.7nm,0.3s,mb4.6
ODAN Odare 51.06 287 *e*P P 03 09 26.4 -0.7
comp=Z,5.7nm,0.3s,mb4.7
RAMN Ramite 51.75 287 *e*P P 03 09 32.5 +0.2
comp=Z,6.4nm,0.4s,mb4.6
RAMN Ramite 51.75 287 *e*P P 03 09 32.5 +0.2
comp=Z,6.4nm,0.4s,mb4.6
JIRN Jiri 52.02 288 *e*P P 03 09 35.1 +0.9
comp=Z,24nm,0.5s,mb5.1
JIRN Jiri 52.02 288 *e*P P 03 09 35.1 +0.9
comp=Z,24nm,0.5s,mb5.1
GUN Gumba 52.26 289 *e*P P 03 09 37.2 +1.2
comp=Z,14nm,0.3s,mb5.0
GUN Gumba 52.26 289 *e*P P 03 09 37.2 +1.2
comp=Z,14nm,0.3s,mb5.1
PKI Pulchoki 52.72 288 *e*P P 03 09 39.6 +0.2
comp=Z,8.2nm,0.5s,mb4.7
PKI Pulchoki 52.72 288 *e*P P 03 09 39.6 +0.2
comp=Z,8.2nm,0.5s,mb4.7
PKI Pulchoki 52.72 288 *e*P P 03 09 39.6 +0.2
PKI pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
KKN Kakani 52.80 289 *e*P P 03 09 40.6 +0.6
comp=Z,5.4nm,0.3s,mb4.8
KKN Kakani 52.80 289 *e*P P 03 09 40.6 +0.6
comp=Z,5.4nm,0.3s,mb4.8
KKN Kakani 52.80 289 *e*P P 03 09 40.6 +0.6
KKN pmax pmax
comp=Z,5.0nm,0.3s,mb4.7
DMN Daman 52.98 288 *e*P P 03 09 41.7 +0.4
comp=Z,7.2nm,0.4s,mb4.8
DMN Daman 52.98 288 *e*P P 03 09 41.7 +0.4
comp=Z,7.2nm,0.4s,mb4.8
GKN Gorkha 53.34 289 *e*P P 03 09 44.4 +0.5
comp=Z,10nm,0.4s,mb4.9
GKN Gorkha 53.34 289 *e*P P 03 09 44.4 +0.5
comp=Z,10nm,0.4s,mb4.9
STKA Stephens Creek 53.83 182 P P 03 09 46.0 -1.3
comp=Z,3.3nm,0.4s,mb4.4,baz=359,slow=5.4,SNR=24
STKA Stephens Creek 53.83 182 *e*P P 03 09 45.6 -1.6
comp=Z,2.8nm,0.4s,mb4.3
STKA Stephens Creek 53.83 182 P P 03 09 46.0 -1.3
STKA Stephens Creek 53.83 182 P P 03 09 46.0 -1.2
ZAA0 Zalesovo Array 54.09 321 *e*P P 03 09 48.5 -0.4
ZALV Zalesovo Beam 54.09 321 P P 03 09 48.4 -0.5
comp=Z,8.8nm,0.5s,mb4.8,baz=103,slow=7.5,SNR=52
ZALV PcP PcP 03 10 51.0 -1.0
comp=Z,3.6nm,0.6s,baz=116,slow=3.5,SNR=7.3
ZALV pPcP 03 11 26.2
comp=Z,2.1nm,0.6s,baz=120,slow=4.3,SNR=5.0
ZALV Zalesovo Beam 54.09 321 P P 03 09 48.4 -0.5
ZALV PcP PcP 03 10 51.0 -1.0
ZALV pPcP 03 11 26.2
ZALV Zalesovo Beam 54.09 321 P P 03 09 48.4 -0.5
ZALV 03 10 51.0
KOLN Koldanda 54.28 289 *e*P P 03 09 51.4 +0.6
comp=Z,4.7nm,0.3s,mb4.7
KOLN Koldanda 54.28 289 *e*P P 03 09 51.4 +0.6
comp=Z,4.7nm,0.3s,mb4.7
MK31 Makanchi Array 54.68 312 *e*P P 03 09 53.8 +0.5
MK31 *e* 03 10 54.1
MK31 Makanchi Array 54.68 312 *ce*P P 03 09 53.4 0.0
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
MKAR Makanchi Array 54.68 312 P P 03 09 53.6 +0.3
comp=Z,3.6nm,0.4s,mb4.4,baz=86,slow=9.0,SNR=131
MKAR pP pP 03 10 22.3 -2.4
comp=Z,1.4nm,0.6s,baz=83,slow=9.9,SNR=3.3
MKAR PcP PcP 03 10 53.9 -0.6
comp=Z,3.9nm,0.4s,baz=84,slow=3.3,SNR=16
MKAR pPcP 03 11 29.7
comp=Z,1.5nm,0.6s,baz=79,slow=5.4,SNR=4.0
MKAR Makanchi Array 54.68 312 P P 03 09 53.6 +0.3
MKAR pP pP 03 10 22.3 -2.4
MKAR PcP PcP 03 10 53.9 -0.6
MKAR pPcP 03 11 29.7
MKAR Makanchi Array 54.68 312 P P 03 09 53.6 +0.2
MKAR 03 10 53.9
FORT Forrest 54.79 196 *e*P P 03 09 53.4 -0.8
comp=Z,9.1nm,0.6s,mb4.7
NVS Novosibirsk 55.17 322 *e*P P 03 09 55.7 -1.0
KURK Kurchatov 57.41 317 P P 03 10 13.0 +0.3
comp=Z,36nm,0.6s,mb5.4,baz=93,slow=7.5,SNR=297
KURK Kurchatov 57.41 317 *e*P P 03 10 12.6 -0.1
comp=Z,22nm,0.8s,mb5.0
KURK Kurchatov 57.41 317 *e*P P 03 10 12.6 -0.1
KURK pmax pmax
comp=Z,22nm,0.8s,mb5.0
KDAK Kodiak Island 57.51 35 P P 03 10 12.9 -0.4
comp=Z,4.2nm,0.5s,mb4.5,baz=276,slow=8.6,SNR=8.2
KDAK Kodiak Island 57.51 35 P P 03 10 12.9 -0.4
KDAK Kodiak Island 57.51 35 *i*P P 03 10 12.8 -0.5
MORW Morawa 57.53 209 *e*P P 03 10 13.5 -0.2
comp=Z,46nm,0.5s,mb5.6
KSH Kashi 59.32 304 *e*P P 03 10 30.3 +4.1
KSH pP pP 03 11 03.5 +5.5
KSH PcP PcP 03 11 15.8 +3.0
KSH sP sP 03 11 19.4 +6.7
KSH PP PP 03 12 45.3 +6.8
KSH ScP ScP 03 15 01.5 +0.4
KSH PcS PcS 03 15 16.8 +1.9
KSH S **S** **03 18 27.8 +3.6**
KSH sS sS 03 19 25.8 +6.7
KSH ScS ScS 03 20 02.6 -0.8
KSH SS SS 03 22 26.8 +5.9
KSH pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
KSH pmax pmax
comp=Z,110nm,4.9s
KSH LR LR
comp=N,130nm,6.4s
KSH LR LR
comp=E,130nm,5.3s
KSH LR LR
comp=Z,130nm,6.2s
TKM2 Tokmak 2 59.39 308 *e*P P 03 10 27.6 +1.0
comp=Z,4.7nm,0.6s,mb4.5
TKM2 Tokmak 2 59.39 308 *e*P P 03 10 27.6 +1.0
TKM2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
AAK Ala-Archa 60.21 307 *e*P P 03 10 30.8 -1.4
AAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
NWAO Narrogin (SRO) 60.37 206 P P 03 10 32.8 -0.4
comp=Z,5.0nm,0.5s,mb4.6,baz=42,slow=5.8,SNR=5.2
NWAO Narrogin (SRO) 60.37 206 P P 03 10 32.8 -0.5
NWAO Narrogin (SRO) 60.37 206 P P 03 10 32.8 -0.5
ILAR Eielson Array 61.37 27 P P 03 10 38.1 -1.5
comp=Z,2.5nm,0.8s,mb4.1,baz=259,slow=5.2,SNR=39
ILAR pP pP 03 11 08.5 -3.1
comp=Z,0.6nm,0.8s,baz=270,slow=5.6,SNR=2.9
ILAR PcP PcP 03 11 19.0 -1.6
comp=Z,0.8nm,0.7s,baz=264,slow=4.6,SNR=7.3
ILAR Eielson Array 61.37 27 P P 03 10 38.1 -1.5
ILAR pP pP 03 11 08.5 -3.1
ILAR PcP PcP 03 11 19.0 -1.6
ILAR Eielson Array 61.37 27 P P 03 10 38.2 -1.4
ILAR 03 11 19.0
VOSK Vostochnaya 62.22 319 P P 03 10 44.6 -0.9
VOSK pmax pmax
comp=Z,7.0nm,0.4s,mb4.8
BVA0 Borovoye Array 62.57 319 *i*P P 03 10 47.7 -0.2
BVA0 pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
BVAR Borovoye Array 62.57 319 P P 03 10 48.0 +0.2
comp=Z,29nm,0.4s,mb5.4,baz=91,slow=7.4,SNR=225
BVAR pP pP 03 11 16.7 -3.3
comp=Z,2.5nm,0.5s,baz=79,slow=7.7,SNR=1.8
BVAR Borovoye Array 62.57 319 P P 03 10 48.0 +0.2
BVAR pP pP 03 11 16.7 -3.3
BVAR Borovoye Array 62.57 319 P P 03 10 48.0 +0.1
BRVK Borovoye 62.64 319 *e*P P 03 10 48.3 0.0
comp=Z,19nm,0.6s,mb5.1
BRVK Borovoye 62.64 319 *e*P P 03 10 48.3 0.0
BRVK pmax pmax
comp=Z,19nm,0.6s,mb5.1
KKAR Karatay Array 63.09 308 *e*P P 03 10 52.0 +0.5
comp=Z,3.2nm,0.5s,mb4.4
KKAR Karatay Array 63.09 308 *e*P P 03 10 52.0 +0.5
KKAR pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
DAWY Dawson 64.54 28 *e*P P 03 11 01.0 +0.4
KBL Kabul 65.48 299 *e*P P 03 11 07.7 +0.4
comp=Z,18nm,0.9s,mb4.9
KBL Kabul 65.48 299 *e*P P 03 11 07.7 +0.4
KBL pmax pmax
comp=Z,18nm,0.9s,mb4.9
INK Inuvik 66.91 24 P P 03 11 15.2 -0.5
comp=Z,4.1nm,0.8s,mb4.3,baz=288,slow=6.9,SNR=23
INK Inuvik 66.91 24 *e*P P 03 11 15.3 -0.4
comp=Z,7.7nm,1.0s,mb4.5
INK Inuvik 66.91 24 *e*P P 03 11 15.3 -0.4
INK pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 69.11 324 *e*P P 03 11 29.1 -0.6
comp=Z,12nm,0.6s,mb4.8
ARU Arti 69.11 324 *e*P P 03 11 29.1 -0.6
ARU pmax pmax
comp=Z,12nm,0.6s,mb4.8
AB31 Akbulak array 69.49 316 *i*P P 03 11 31.6 -0.6
AB31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
ABKAR Akbulak array 69.49 316 *e*P P 03 11 31.8 -0.4
comp=Z,9.3nm,0.5s,mb4.8
YKA Yellowknife Ar 75.78 28 P P 03 12 08.4 -0.7
comp=Z,2.9nm,0.6s,mb4.1,baz=293,slow=5.8,SNR=27
YKA Yellowknife Ar 75.78 28 P P 03 12 08.4 -0.7
YKA Yellowknife Ar 75.78 28 P P 03 12 08.4 -0.7
RES Resolute Bay 76.46 13 P P 03 12 12.7 -0.1
comp=Z,2.7nm,0.6s,mb4.0,baz=315,slow=7.1,SNR=24
RES pP pP 03 12 45.1 -1.0
comp=Z,2.1nm,0.9s,baz=319,slow=7.5,SNR=3.6
RES Resolute Bay 76.46 13 *e*P P 03 12 12.3 -0.5
comp=Z,3.2nm,0.7s,mb4.1
RES pP pP 03 12 45.1 -1.0
RES Resolute Bay 76.46 13 *e*P P 03 12 12.3 -0.5
RES *PP pP 03 12 45.1 -1.0
RES pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
APA Apatity 77.06 338 *e*P P 03 12 16.0 -0.2
APA pmax pmax
comp=Z,14nm,0.8s,mb4.6
KLMR Klimovskoe 77.47 331 *e*P P 03 12 14.4 -4.2
KLMR pmax pmax
comp=Z,19nm,1.7s,mb4.5
KEV Kevo 78.01 341 *e*P P 03 12 19.4 -2.1
KEV pmax pmax
comp=Z,11nm,0.8s,mb4.5
KEV Kevo 78.01 341 *e*p P 03 12 19.4 -2.1
comp=Z,11nm,0.8s,mb4.5
G06A Carlson Farm, 78.39 46 ⇓P P 03 12 24.6 +0.6
baz=78
ARCES ARCESS Array B 78.57 342 P P 03 12 24.3 -0.3
comp=Z,5.2nm,0.6s,mb4.4,baz=55,slow=7.8,SNR=37
ARCES ARCESS Array B 78.57 342 P P 03 12 24.3 -0.3
ARCES ARCESS Array B 78.57 342 P P 03 12 24.3 -0.3
ARE0 ARCESS Array S 78.57 342 *e*P P 03 12 24.6 +0.1
ARE0 *e*pP pP 03 12 57.4 -0.7
K05A Summer Lake 79.07 48 ⇓P P 03 12 28.1 +0.3
baz=79
KTK1 Kautokeino 79.54 342 *e*P P 03 12 29.4 -0.5
I07A Izee 79.55 47 ⇓P P 03 12 30.4 0.0
baz=79
E09A Wood Farm, Sta 79.58 44 ⇓P P 03 12 30.4 -0.1
baz=79
NEW Newport 79.59 42 ⇓P P 03 12 30.3 -0.2
baz=79
JOF Joensuu 80.04 335 *e*P P 03 12 31.2 -1.4
JOF pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
JOF Joensuu 80.04 335 *e*p P 03 12 31.2 -1.4
comp=Z,10.0nm,0.5s,mb4.7
A12A Yaak River Ran 80.24 41 ⇓P P 03 12 34.1 +0.1
baz=80
C11A Tepee Creek (N 80.29 42 ⇓P P 03 12 33.4 -0.8
baz=80
F10A Beaver Ranch, E 80.37 44 ⇑P P 03 12 34.5 -0.2
baz=80
TRO Tromso 80.37 343 *e*P P 03 12 33.4 -0.9
J08A Circle Bar Ran 80.51 47 ⇑P P 03 12 35.5 0.0
baz=80
BMO Blue Mountains 80.74 45 *e*P P 03 12 36.8 +0.1
comp=Z,23nm,1.8s,mb4.5
BMO Blue Mountains 80.74 45 *e*P P 03 12 36.8 +0.1
BMO pmax pmax
comp=Z,23nm,1.8s,mb4.5
C12B Naegeli Ranch, 80.82 42 ⇑P P 03 12 36.9 -0.2
baz=81
B13A Whitefish 81.18 41 ⇑P P 03 12 38.9 -0.1
baz=81
E12A Beaver Dam Sad 81.27 43 ⇑P P 03 12 39.4 -0.1
baz=81
OBN Obninsk 81.31 326 *e*P P 03 12 39.0 -0.5
OBN *e* 03 15 48.7
OBN *e*S S 03 22 37.2 -1.8
OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
C13A Hot Springs 81.39 42 ⇑P P 03 12 39.9 -0.2
baz=81
A14A Double T Ranch 81.58 40 ⇑P P 03 12 40.9 -0.2
baz=81
VSR Storozhevoye 81.59 322 *e*P P 03 12 40.2 -0.9
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,5.0nm,0.6s
D13A Huson 81.70 43 ⇑P P 03 12 41.3 -0.5
baz=82
F12A Elk City 81.73 44 ⇑P P 03 12 41.4 -0.5
baz=82
C14A Swan Lake 81.87 42 ⇓P P 03 12 42.3 -0.3
baz=82
A15A Johnson Ranch, 81.99 40 ⇓P P 03 12 43.3 0.0
baz=82
E13A Victor 82.13 43 ⇑P P 03 12 43.9 -0.1
baz=82
MFID Camas Ranch 82.27 46 ⇑P P 03 12 44.7 -0.2
baz=82
D14A Greenough 82.30 42 ⇓P P 03 12 44.5 -0.4
baz=82
F13A Darby 82.31 44 ⇓P P 03 12 44.6 -0.4
baz=82
B15A Bradely Ranch, 82.37 41 ⇑P P 03 12 45.1 -0.1
baz=82
KIV Kislovodsk 82.39 314 *e*P P 03 12 45.9 +0.4
comp=E,26nm,1.2s,mb4.7
KIV Kislovodsk 82.39 314 *e*P P 03 12 45.8 +0.4
KIV pmax pmax
comp=Z,18nm,1.0s,mb4.7
KAF Kangasniemi 82.44 335 *e*P P 03 12 42.2 -3.1
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
KAF Kangasniemi 82.44 335 *e*p P 03 12 42.2 -3.1
comp=Z,2.8nm,0.5s,mb4.2
GNI Garni 82.46 310 *e*P P 03 12 47.0 +1.1
GNI pmax pmax
comp=Z,9.0nm,1.7s
NVAR Mina Array Bea 82.46 52 P P 03 12 46.4 +0.4
comp=Z,3.9nm,0.7s,mb4.2,baz=281,slow=5.5,SNR=29
NVAR pP pP 03 13 16.8 -2.9
comp=Z,0.9nm,0.8s,baz=332,slow=44,SNR=2.1
NVAR Mina Array Bea 82.46 52 P P 03 12 46.4 +0.4
NVAR pP pP 03 13 16.8 -2.9
H12A Diamond D Ranc 82.47 45 ⇓P P 03 12 45.8 0.0
baz=82
C15A Salmond Ranch, 82.57 41 ⇑P P 03 12 45.9 -0.4
baz=82
E14A Clinton 82.58 43 ⇑P P 03 12 46.1 -0.2
baz=82
I12A Atlanta 82.58 46 ⇑P P 03 12 46.2 -0.3
baz=82
G13A Cobalt 82.65 44 ⇑P P 03 12 46.6 -0.1
baz=82
A16A West Butte Ran 82.68 40 ⇑P P 03 12 46.6 -0.2
baz=82
H13A Challis 82.85 45 ⇓P P 03 12 47.4 -0.4
baz=83
VES Vestal, Richgr 82.86 54 ⇑P P 03 12 46.9 -1.1
baz=83
SBC Santa Barbara 82.91 56 ⇑P P 03 12 47.7 -0.6
baz=83
FINES FINESS Array B 82.91 335 P P 03 12 46.4 -1.4
comp=Z,6.1nm,0.3s,mb4.8,baz=66,slow=4.9,SNR=58
FINES pP pP 03 13 19.6 -1.9
comp=Z,1.4nm,0.3s,baz=68,slow=5.1,SNR=2.4
FINES FINESS Array B 82.91 335 P P 03 12 46.4 -1.4
FINES pP pP 03 13 19.6 -1.9
FINES FINESS Array B 82.91 335 P P 03 12 46.4 -1.3
FINES *PP pP 03 13 19.6 -1.9
C16A Fuhringer Ranc 83.08 41 ⇓P P 03 12 48.4 -0.5
baz=83
E15A Deer Lodge 83.11 43 ⇓P P 03 12 49.0 -0.1
baz=83
HLID Hailey 83.16 46 ⇓P P 03 12 49.0 -0.4
baz=83
I13A Wildhorse Cree 83.21 45 ⇓P P 03 12 49.7 +0.1
baz=83
A17A Triple J Farms 83.21 40 ⇑P P 03 12 49.1 -0.5
baz=83
J13A Cove Ranch, Pi 83.38 46 ⇓P P 03 12 50.8 +0.2
baz=83
CWC Cottonwood Cre 83.38 53 ⇑P P 03 12 50.6 -0.1
baz=83
ISA Isabella 83.39 54 ⇓P P 03 12 50.3 -0.5
baz=83
H14A Leadore 83.41 44 ⇑P P 03 12 50.4 -0.3
baz=83
B17A L&G Farms, Che 83.44 40 ⇓P P 03 12 50.7 -0.1
baz=83,SNR=7.0
F15A Butte 83.45 43 ⇑P P 03 12 50.5 -0.4
baz=83
HRY Holter Researc 83.50 42 *e*P P 03 12 51.5 +0.4
I14A Mackay 83.64 45 ⇓P P 03 12 52.1 +0.2
baz=84
A18A Metzger Ranch, 83.73 40 ⇑P P 03 12 52.4 +0.1
baz=84
G15A Dillon 83.74 44 ⇑P P 03 12 52.3 0.0
baz=84
C17A Wharram Farm, 83.75 41 ⇓P P 03 12 52.2 -0.1
baz=84
J14A Carey 83.85 46 ⇑P P 03 12 52.8 -0.2
baz=84
H15A Lima 83.88 44 ⇓P P 03 12 52.9 -0.2
baz=84
MPMC Manual Prospec 83.97 54 ⇑P P 03 12 53.7 0.0
baz=84
B18A Beardsley Farm 84.01 40 ⇓P P 03 12 53.6 0.0
baz=84
D17A Six Diamond Ra 84.01 41 ⇓P P 03 12 53.7 0.0
baz=84
F16A Kennard Place, 84.03 43 ⇓P P 03 12 53.9 +0.1
baz=84
EDW2 Edwards Air Fo 84.05 55 ⇑P P 03 12 53.5 -0.7
baz=84
BOZ Bozeman (W) 84.08 43 ⇓P P 03 12 53.9 -0.2
baz=84
G16A Moss Hill, Enn 84.15 43 ⇓P P 03 12 54.0 -0.4
baz=84
EGMT Eagleton 84.19 40 ⇑P P 03 12 54.4 -0.1
baz=84
I15A Monteview 84.24 45 ⇓P P 03 12 54.7 -0.2
baz=84
K14A Jones Ranch, D 84.40 46 ⇓P P 03 12 55.9 +0.2
baz=84
R11A Troy Canyon, C 84.46 51 ⇓P P 03 12 56.4 +0.3
baz=84
B19A Brinkman Farms 84.47 40 ⇓P P 03 12 56.0 0.0
baz=84
D18A Linhart Farms, 84.53 41 ⇑P P 03 12 56.9 +0.6
baz=84
J15A Blackfoot 84.53 45 ⇓P P 03 12 57.1 +0.7
baz=84
L14A Malta 84.58 47 ⇓P P 03 12 57.4 +0.8
baz=84
F17A Fitzpatrick Pl 84.58 42 ⇑P P 03 12 56.9 +0.3
baz=84
H16A Russell Place, 84.74 44 ⇑P P 03 12 57.8 +0.4
baz=85
C19A Slack Wire Ran 84.74 40 ⇓P P 03 12 57.5 +0.1
baz=85
E18A Harlowton 84.75 42 ⇑P P 03 12 57.9 +0.5
baz=85,SNR=7.4
K15A Arbon 84.77 46 ⇓P P 03 12 57.9 +0.3
baz=85
GSC Goldstone 84.78 54 ⇑P P 03 12 57.8 0.0
baz=85
A20A Cobblestone Ra 84.87 39 ⇑P P 03 12 58.1 +0.1
baz=85
I16A Newdale 84.95 45 ⇓P P 03 12 58.4 -0.1
baz=85
B20A Solberg Farm, 85.03 39 ⇑P P 03 12 59.0 +0.2
baz=85
D19A Cripps Ranch, 85.11 41 ⇓P P 03 12 59.2 +0.1
baz=85,SNR=5.8
J16A Bone 85.13 45 ⇓P P 03 12 59.7 +0.3
baz=85
FFC Flin Flon 85.14 32 *e*P P 03 12 59.3 +0.1
comp=Z,10nm,0.8s,mb4.6
FFC Flin Flon 85.14 32 *ce*P P 03 12 59.7 +0.5
MURC Murrieta 85.16 56 ⇑P P 03 12 59.3 -0.4
baz=85
L15A Malad City 85.16 47 ⇓P P 03 12 59.6 0.0
baz=85
F18A Big Timber 85.17 42 ⇑P P 03 12 59.6 +0.1
baz=85
K16A Soda Springs 85.34 46 ⇑P P 03 13 01.0 +0.5
baz=85
C20A Veseth Ranch, 85.38 40 ⇓P P 03 13 00.7 +0.2
baz=85,SNR=6.4
TUQ Turquoise Moun 85.39 54 ⇑P P 03 13 00.7 -0.2
baz=85
SUMG Summit 85.44 1 *e*P P 03 13 01.2 +0.9
comp=Z,307nm,2.9s,mb5.5
SUMG Summit 85.44 1 *e*P P 03 13 01.2 +0.8
SUMG pmax pmax
comp=Z,307nm,2.9s
SUMG Summit 85.44 1 *i*P P 03 13 01.0 +0.7
comp=Z,9.1nm,0.8s,mb4.6
E19A Rath Farm, Rou 85.49 41 ⇑P P 03 13 01.2 +0.1
baz=85
G18A Lazy EL Ranch, 85.53 43 ⇓P P 03 13 01.3 -0.1
baz=85
D20A Manuel Ranch, 85.59 41 ⇓P P 03 13 01.6 0.0
baz=85,SNR=8.0
B21A Ellsworth Farm 85.62 39 ⇑P P 03 13 01.7 0.0
baz=85
DUG Dugway 85.65 48 ⇑P P 03 13 02.3 +0.2
baz=86
DUG Dugway 85.65 48 *e*P P 03 13 02.1 +0.1
comp=Z,3.9nm,0.6s,mb4.3
DUG Dugway 85.65 48 *e*P P 03 13 02.1 +0.1
DUG pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
F19A Roth Farm, Mol 85.67 42 ⇓P P 03 13 02.5 +0.4
baz=86
R13A O'Grain Ranch, 85.69 51 ⇑P P 03 13 02.5 +0.2
baz=86
PFO Pinyon Flat Ob 85.72 56 ⇓P P 03 13 02.2 -0.3
baz=86
H18A Shoshone NF, C 85.76 43 ⇓P P 03 13 03.3 +0.8
baz=86
L16A Fish Haven 85.80 46 ⇑P P 03 13 03.0 +0.3
baz=86
RLMT Red Lodge 85.81 43 ⇑P P 03 13 03.3 +0.6
baz=86,SNR=9.3
RLMT Red Lodge 85.81 43 *e*P P 03 13 03.6 +0.9
comp=Z,5.0nm,0.7s,mb4.3
GMRC Granite Mounta 85.85 54 ⇑P P 03 13 02.5 -0.7
baz=86
C21A Desert Coulee 85.86 40 ⇓P P 03 13 03.0 +0.1
baz=86
E20A Meyer Farm, Mu 85.87 41 ⇓P P 03 13 02.7 -0.3
baz=86
BELC Belle Mtn. Jos 85.91 55 ⇑P P 03 13 02.9 -0.5
baz=86
A22A Carney Farms, 85.98 38 ⇓P P 03 13 03.0 -0.5
baz=86
MONP Monument Peak 86.04 56 ⇓P P 03 13 04.0 -0.1
baz=86
I18A Diamond G Ranc 86.11 44 ⇑P P 03 13 04.0 -0.2
baz=86
L17A Cokeville 86.14 46 ⇑P P 03 13 04.2 -0.2
baz=86
F20A Billings 86.19 42 ⇓P P 03 13 04.5 -0.1
baz=86
H19A Powell 86.19 43 ⇓P P 03 13 04.9 +0.3
baz=86
J18A Kendall Valley 86.20 45 ⇑P P 03 13 04.9 +0.2
baz=86,SNR=6.4
B22A Reddig Ranch S 86.28 39 ⇑P P 03 13 04.9 -0.1
baz=86
D21A La Casta Ranch 86.29 40 ⇓P P 03 13 05.0 -0.1
baz=86
P15A Leamington 86.29 49 ⇓P P 03 13 05.4 +0.2
baz=86
N16A Rees Ranch, Co 86.29 47 ⇑P P 03 13 05.4 +0.2
baz=86
CCUT Cedar City 86.39 51 *e*P P 03 13 06.5 +0.8

comp=Z,42nm,2.7s,mb4.7
JLU Jordanelle 86.41 48 *e*P **P 03 13 06.6 +0.9**
comp=Z,5.3nm,0.9s,mb4.3
G20A Bridger 86.42 42 ⇑P **P 03 13 05.5 -0.2**
baz=86
K18A Toltan Ranch, 86.44 45 ⇓P **P 03 13 05.9 0.0**
baz=86
BC3 Big Chuckawall 86.47 55 ⇓P **P 03 13 05.8 -0.4**
baz=86
IRM Iron Mountain 86.49 55 ⇓P **P 03 13 06.1 -0.2**
baz=86
M17A Scullys Gap (B 86.55 46 ⇑P **P 03 13 06.2 -0.3**
baz=86
N17A Moffit Pass 86.68 47 ⇑P **P 03 13 06.3 -0.8**
baz=86
BW06 Boulder Array 86.70 45 ⇑P **P 03 13 06.9 -0.2**
baz=86
PDAR Pinedale Array 86.70 45 P **P 03 13 06.8 -0.4**
comp=Z,0.9nm,0.7s,mb3.7,baz=250,slow=1.8,SNR=7.3
PDAR Pinedale Array 86.70 45 P **P 03 13 06.8 -0.4**
D22A Cohagen 86.73 40 ⇑P **P 03 13 07.5 +0.3**
baz=86
L18A Fontenelle, Gr 86.77 46 ⇑P **P 03 13 07.6 +0.1**
baz=87
B23A Brockton 86.78 38 ⇓P **P 03 13 06.8 -0.6**
baz=87
J19A Crowheart 86.80 44 ⇑P **P 03 13 07.8 +0.1**
baz=87
R15A Junction 86.88 50 ⇓P **P 03 13 08.1 0.0**
baz=87
LAO LASA Array 86.93 40 ⇓P **P 03 13 08.6 +0.4**
baz=87
M18A Lyman 86.97 46 ⇑P **P 03 13 08.4 -0.1**
baz=87
C23A Lambert 87.00 39 ⇓P **P 03 13 08.5 +0.1**
baz=87
G21A Lodge Grass 87.05 42 ⇓P **P 03 13 08.9 +0.1**
baz=87
W13A Hualapai Mount 87.05 53 ⇑P **P 03 13 08.9 -0.1**
baz=87
O17A Robinson Place 87.08 48 ⇑P **P 03 13 09.0 0.0**
baz=87
K19A Absolon Red Bu 87.14 45 ⇑P **P 03 13 09.0 -0.3**
baz=87
PDMCI Parker Dam,Lak 87.19 54 ⇓P **P 03 13 09.5 -0.2**
baz=87
GLA Glamis 87.19 55 ⇑P **P 03 13 09.7 -0.1**
baz=87
E22A Miles City 87.22 40 ⇑P **P 03 13 09.4 -0.2**
baz=87
D23A Lindsay 87.30 40 ⇑P **P 03 13 10.1 +0.2**
baz=87
AKASG Malin Array Be 87.35 325 P **P 03 13 08.1 -2.0**
comp=Z,1.9nm,0.5s,mb4.2,baz=51,slow=5.2,SNR=10
AKASG pP pP 03 13 43.0 -1.1
comp=Z,1.2nm,0.6s,baz=51,slow=5.1,SNR=3.6
AKASG Malin Array Be 87.35 325 P **P 03 13 08.1 -2.0**
AKASG pP pP 03 13 43.0 -1.1
AKASG Malin Array Be 87.35 325 P **P 03 13 08.1 -2.0**
AKASG *PP pP 03 13 43.1 -1.1
Q16A Castle Valley 87.35 49 ⇓P **P 03 13 10.6 +0.2**
baz=87,SNR=5.1
F22A Rosebud 87.36 41 ⇑P **P 03 13 10.2 -0.1**
baz=87
H21A Big Horn, Sher 87.44 42 ⇓P **P 03 13 11.0 +0.4**
baz=87
K20A Yellowstone Ra 87.55 45 ⇓P **P 03 13 11.0 -0.3**
baz=87
S16A Weppner Ranch, 87.58 50 ⇑P **P 03 13 11.4 -0.1**
baz=87
U15A North Rim 87.64 52 ⇑P **P 03 13 12.1 +0.2**
baz=88,SNR=6.4
P18A Preston Nutter 87.67 48 ⇑P **P 03 13 11.7 -0.2**
baz=88
I21A Big Trails, Te 87.67 43 ⇑P **P 03 13 11.5 -0.3**
baz=88
SRU San Rafael 87.71 49 *e*P **P 03 13 12.2 +0.1**
comp=Z,47nm,2.2s,mb4.9
SRU San Rafael 87.71 49 *e*P **P 03 13 12.2 +0.1**
SRU pmax pmax
comp=Z,47nm,2.2s,mb4.9
R17A Hanksville Air 87.89 49 ⇓P **P 03 13 12.7 -0.2**
baz=88,SNR=5.4
Q18A Rafter H Ranch 87.99 48 ⇑P **P 03 13 13.1 -0.3**
baz=88
Z13A Yuma Proving G 88.02 55 ⇓P **P 03 13 13.8 +0.1**
baz=88,SNR=8.3
113A Mohawk Valley, 88.12 55 ⇑P **P 03 13 13.7 -0.5**
baz=88
I22A 9 Mile Ranch, 88.14 43 ⇑P **P 03 13 13.5 -0.5**
baz=88
Y14A Wickenburg 88.20 54 ⇑P **P 03 13 14.5 0.0**
baz=88,SNR=7.5
M20A Sweetwater, Wa 88.20 46 ⇓P **P 03 13 14.3 0.0**
baz=88
K21A Alcova 88.27 44 ⇑P **P 03 13 14.8 +0.2**
baz=88
J22A Midwest 88.38 43 ⇓P **P 03 13 15.4 +0.2**
baz=88
N20A Spence Gulch, 88.46 46 ⇓P **P 03 13 15.6 +0.1**
baz=88
T17A Navajo Res., N 88.47 51 ⇑P **P 03 13 15.9 +0.2**
baz=88
R18A Canyonlands Na 88.48 49 ⇓P **P 03 13 15.4 -0.3**
baz=88
H23A Clabaugh Cattl 88.49 42 ⇑P **P 03 13 15.4 -0.3**
baz=88
Z14A Wintersburg 88.49 55 ⇓P **P 03 13 15.9 0.0**
baz=88
P19A Cripple Cowboy 88.53 48 ⇑P **P 03 13 15.9 -0.1**
baz=88,SNR=5.1
U16A Tuba City 88.61 51 ⇓P **P 03 13 16.3 -0.1**
baz=88
NB2 NORSAR Subarra 88.62 339 P **P 03 13 13.8 -2.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=42,slow=5.1
NOA NORSAR Array B 88.62 339 P **P 03 13 14.2 -1.8**
comp=Z,1.2nm,0.7s,mb3.9,baz=43,slow=4.7,SNR=7.7
NOA pP pP 03 13 48.1 -2.0
comp=Z,0.6nm,0.8s,baz=51,slow=4.2,SNR=1.5
NOA NORSAR Array B 88.62 339 P **P 03 13 14.2 -1.8**
NOA pP pP 03 13 48.1 -2.0
NOA NORSAR Array B 88.62 339 P **P 03 13 14.2 -1.7**
NOA *PP pP 03 13 48.1 -2.0
Q19A Hogan Spring (88.66 48 ⇓P **P 03 13 17.0 +0.4**
baz=88
WUAZ Wupatki 88.71 52 ⇑P **P 03 13 17.4 +0.5**
baz=89
K22A Casper 88.72 44 ⇓P **P 03 13 17.2 +0.5**
baz=88
U17A Shonto 88.75 51 ⇓P **P 03 13 17.2 +0.2**
baz=89
114A Black Gap (USA 88.80 55 ⇑P **P 03 13 17.6 +0.3**
baz=89
O20A White River Ci 88.80 47 ⇑P **P 03 13 17.4 +0.2**
baz=89
H24A Dirks Ranch, A 88.92 41 ⇑P **P 03 13 18.4 +0.7**
baz=89
R19A Curley Farm, L 88.97 49 ⇑P **P 03 13 17.9 -0.1**
baz=89
N21A Black Mountain 88.99 46 ⇓P **P 03 13 18.3 +0.2**
baz=89
P20A De Beque 89.00 47 ⇓P **P 03 13 17.8 -0.3**
baz=89
T18A Mexican Hat 89.06 50 ⇑P **P 03 13 18.2 -0.3**
baz=89
L22A Ellis Ranch, M 89.09 44 ⇑P **P 03 13 18.2 -0.3**
baz=89
V17A Tonalea, Kykot 89.09 52 ⇓P **P 03 13 18.8 +0.2**
baz=89
X16A Lo Mia Camp, P 89.15 53 ⇓P **P 03 13 19.0 0.0**
baz=89
214A Organ Pipe Nat 89.20 56 ⇑P **P 03 13 19.6 +0.4**
baz=89
O21A Pagoda 89.28 46 ⇓P **P 03 13 19.8 +0.3**
baz=89
Q20A Ridgley Place, 89.32 48 ⇓P **P 03 13 19.6 0.0**
baz=89,SNR=6.7
U18A Rough Rock, Ch 89.40 51 ⇑P **P 03 13 20.5 +0.4**
baz=89
R20A Redvale 89.63 49 ⇓P **P 03 13 21.0 -0.1**
baz=90
P21A Newcastle 89.63 47 ⇑P **P 03 13 21.1 0.0**
baz=90
X17A Forest Lakes 89.66 53 ⇓P **P 03 13 21.7 +0.4**
baz=90
V18A Ganado 89.67 51 ⇑P **P 03 13 21.6 +0.3**
baz=90
N22A Wattenberg Ran 89.68 46 ⇑P **P 03 13 21.7 +0.4**
baz=90
S20A Disappointment 89.81 49 ⇑P **P 03 13 21.9 -0.1**
baz=90
T19A Beclabito 89.81 50 ⇑P **P 03 13 22.2 +0.2**
baz=90,SNR=5.4
Y17A Roosevelt 89.92 53 ⇓P **P 03 13 22.7 +0.1**
baz=90
O22A Kremmling 89.93 46 ⇓P **P 03 13 22.3 -0.2**
baz=90
U19A Dine' College, 89.93 51 ⇑P **P 03 13 22.7 +0.1**
baz=90
N23A Red Feather La 89.97 45 ⇑P **P 03 13 23.4 +0.8**
baz=90
P22A Eagle 90.06 47 ⇑P **P 03 13 23.6 +0.5**
baz=90
R21A Cimarron 90.11 48 ⇑P **P 03 13 23.8 +0.4**
baz=90,SNR=6.0
X18A Snowflake 90.20 52 ⇓P **P 03 13 24.1 +0.2**
baz=90
S21A Coal Bank Pass 90.28 49 ⇓P **P 03 13 24.2 0.0**
baz=90
BRTR Keskin Array B 90.31 314 P **P 03 13 22.9 -1.4**
comp=Z,2.4nm,0.7s,mb4.2,baz=84,slow=3.6,SNR=16
BRTR Keskin Array B 90.31 314 P **P 03 13 22.9 -1.4**
BRTR Keskin Array B 90.31 314 P **P 03 13 22.9 -1.4**
Q22A Crested Butte, 90.32 47 ⇑P **P 03 13 24.8 +0.5**
baz=90,SNR=5.8
W19A Sanders 90.34 52 ⇑P **P 03 13 25.1 +0.6**
baz=90
U20A Newcomb 90.38 50 ⇑P **P 03 13 24.8 +0.1**
baz=90
Y18A Canyon Day Jun 90.48 53 ⇑P **P 03 13 25.8 +0.6**
baz=90
V20A Brimhall 90.69 51 ⇑P **P 03 13 26.4 +0.2**
baz=90
ISCO Idaho Springs 90.73 46 ⇓P **P 03 13 26.6 +0.4**
baz=90
X19A St. Johns 90.73 52 ⇓P **P 03 13 27.1 +0.7**
baz=91
ULM Lac du Bonnet 90.76 34 P **P 03 13 24.4 -1.7**
comp=Z,1.2nm,0.5s,mb4.2,baz=312,slow=4.9,SNR=3.3
ULM Lac du Bonnet 90.76 34 P **P 03 13 24.4 -1.7**
ULM Lac du Bonnet 90.76 34 P **P 03 13 24.4 -1.7**
P23A Jefferson 90.79 47 ⇑P **P 03 13 27.5 +1.0**
baz=91
K26A Motz Farm, Whi 90.83 43 ⇓P **P 03 13 26.6 0.0**
baz=91
S22A 4UR Ranch, Cre 90.91 48 ⇓P **P 03 13 27.7 +0.6**
baz=91
O24A Longmont 90.93 46 ⇑P **P 03 13 27.5 +0.4**
baz=91
U21A Nageezi 90.97 50 ⇑P **P 03 13 27.4 0.0**
baz=91
W20A Ramah 90.98 51 ⇑P **P 03 13 27.6 +0.1**
baz=91
Q23A Hartsel 91.03 47 ⇑P **P 03 13 28.0 +0.4**
baz=91
118A Homack Ranch, 91.05 54 ⇓P **P 03 13 28.2 +0.4**
baz=91
T22A Edith 91.22 49 ⇓P **P 03 13 28.4 -0.1**
baz=91
X20A Quemado 91.26 52 ⇑P **P 03 13 29.2 +0.5**
baz=91
P24A Kohler Place, 91.34 46 ⇑P **P 03 13 29.7 +0.6**
baz=91
R23A Moffat 91.39 48 ⇑P **P 03 13 30.3 +1.0**
baz=91
KWP Kalwaria Pacla 91.40 326 *e*P **P 03 13 27.6 -1.5**
comp=Z,3.5nm,0.8s,mb4.4
KWP Kalwaria Pacla 91.40 326 *e*P **P 03 13 27.6 -1.5**
KWP pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
Q24A Divide 91.46 47 ⇓P **P 03 13 30.1 +0.5**
baz=91
119A Ashpeak Ranch, 91.49 54 ⇓P **P 03 13 30.6 +0.7**
baz=91
O25A Wiggins 91.56 45 ⇓P **P 03 13 30.7 +0.6**
baz=91
318A Bisbee 91.58 55 ⇑P **P 03 13 31.0 +0.7**
baz=91
Y20A Horse Springs, 91.64 52 ⇑P **P 03 13 30.9 +0.3**
baz=92
X21A Alamocita Cree 91.82 52 ⇓P **P 03 13 32.2 +0.8**
baz=92
SDCO Great Sand Dun 91.83 48 ⇑P **P 03 13 31.5 +0.1**
baz=92
R24A Sanders Place, 91.86 47 ⇓P **P 03 13 32.2 +0.7**
baz=92
Z20A Nine Sixteen R 91.86 53 ⇑P **P 03 13 32.4 +0.8**
baz=92
219A White Tail Can 91.88 54 ⇓P **P 03 13 32.3 +0.6**
baz=92
O26A Horse Wrangler 92.03 45 ⇓P **P 03 13 32.4 +0.2**
baz=92
S24A Houchin Ranch, 92.08 48 ⇑P **P 03 13 32.6 +0.1**
baz=92
Q25A Bedland, Calha 92.09 46 ⇓P **P 03 13 33.0 +0.5**
baz=92
120A U Bar Ranch, L 92.09 54 ⇓P **P 03 13 33.1 +0.5**
baz=92
Y21A Point of Rocks 92.11 52 ⇓P **P 03 13 33.2 +0.5**
baz=92
319A Douglas 92.15 55 ⇓P **P 03 13 33.2 +0.2**
baz=92
Z21A St. Cloud Mine 92.45 53 ⇓P **P 03 13 34.7 +0.4**
baz=92
220A Playas Peak, P 92.47 54 ⇓P **P 03 13 34.6 +0.2**
baz=92
S25A Robets Cordova 92.60 47 ⇓P **P 03 13 34.6 -0.3**
baz=92
W23A Werner Place, 92.65 50 ⇓P **P 03 13 35.2 0.0**
baz=92
Y22A Socorro 92.66 52 ⇓P **P 03 13 35.1 -0.2**
baz=92
121A Cookes Peak, D 92.73 53 ⇓P **P 03 13 36.0 +0.4**
baz=93
320A Kipp Ranch, An 92.74 55 ⇓P **P 03 13 36.0 +0.3**
baz=93
R26A Arlington 92.94 47 ⇑P **P 03 13 36.1 -0.4**
baz=93
MNTX Cornudas Mount 94.92 53 ⇑P **P 03 13 45.5 -0.1**
baz=95
125A Gardner Draw, 94.97 52 ⇑P **P 03 13 46.0 +0.1**
baz=95
TXAR Lajitas Array 97.38 54 P **P 03 13 56.0 -0.9**
comp=Z,0.3nm,0.7s,mb3.8,baz=293,slow=4.7,SNR=3.1
TXAR Lajitas Array 97.38 54 P **P 03 13 56.0 -0.9**
TXAR Lajitas Array 97.38 54 P **P 03 13 56.0 -0.9**
SNAA Sanae 126.96 193 *e* PKPdf 03 19 23.9 -1.6
VNA2 Neumayer--Watz 128.44 192 *e* PKPdf 03 19 28.6 +0.3
baz=18,slow=0.4
TORD Torodi Ar. Bea 128.76 310 PKP PKPdf 03 19 29.8 -0.8
comp=Z,0.9nm,0.4s,baz=49,slow=1.2,SNR=35
TORD pPKP pPKPdf 03 20 05.2 -1.2
comp=Z,0.4nm,0.5s,baz=61,slow=1.2,SNR=2.7
TORD Torodi Ar. Bea 128.76 310 PKP PKPdf 03 19 29.8 -0.8
TORD pPKP pPKPdf 03 20 05.2 -1.2
VNA1 Neumayer--Stat 128.83 192 *e* PKPdf 03 19 30.4 +1.3
DBIC Dimbokro 137.87 309 PKP PKPdf 03 19 48.0 +0.2
comp=Z,3.4nm,0.9s,baz=58,slow=4.4,SNR=4.4
DBIC Dimbokro 137.87 309 PKP PKPdf 03 19 48.0 +0.2
DBIC Dimbokro 137.87 309 PKIKP PKPdf 03 19 48.0 +0.2
PLCA Paso Flores 145.75 131 PKPbc PKPbc 03 20 01.3 -0.4
comp=Z,10.0nm,0.5s,baz=240,slow=4.8,SNR=33
PLCA Paso Flores 145.75 131 PKPbc PKPbc 03 20 01.3 -0.4
LPAZ La Paz 149.44 85 PKP PKPdf 03 20 07.7 -0.1
comp=Z,8.5nm,0.7s,baz=191,slow=4.5,SNR=5.2
LPAZ PKPbc PKPbc 03 20 12.9 +0.6
comp=Z,5.9nm,0.5s,baz=336,slow=2.1,SNR=31
LPAZ La Paz 149.44 85 PKP PKPdf 03 20 07.7 -0.1
LPAZ *e*PKPdf PKPdf 03 20 08.3 +0.5
LPAZ *e*PKPbc PKPbc 03 20 12.9 +0.6
LPAZ *e*PKPab PKPab 03 20 18.6 +1.0
LPAZ La Paz 149.44 85 PKHKP PKPdf 03 20 07.7 -0.1
LPAZ *e* 03 20 08.3
LPAZ *e* 03 20 12.9
SAML Samuel 151.03 67 *e*PKPdf PKPdf 03 20 09.7 -0.7
SAML *e*PKPbc PKPbc 03 20 15.2 -1.1
SAML *e*PKPab PKPab 03 20 22.5 -1.8

IDC 15 03:09:35.0±8.9, 6°60S×129°64E, h145km±90km, mb3.5/3, mb1 3.5/6, mb1mx3.4/15, mbtmp3.4/6, Error ellipse: s-maj=71.7km s-min=26.8km az=55.0, Banda Sea
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC

FITZ Fitzroy Crossi 12.08 198 P Pn 03 12 24.3 +1.9
0.3nm,0.3s,baz=31,slow=13,SNR=8.1
FITZ S Sn 03 14 34.8 -1.1
0.9nm,0.3s,baz=190,slow=14,SNR=7.1
WRA Warramunga Arr 14.02 161 P Pn 03 12 45.6 -1.8
1.1nm,0.3s,baz=340,slow=13,SNR=20
WRA S Sn 03 15 13.5 -9.2
1.6nm,0.3s,baz=333,slow=22,SNR=10
ASAR Alice Springs 17.45 167 P Pn 03 13 29.4 -0.2
0.4nm,0.3s,baz=345,slow=10,SNR=20
ASAR S S 03 16 37.0 -5.7
0.2nm,0.3s,baz=343,slow=24,SNR=4.9
STKA Stephens Creek 27.51 158 P P 03 15 07.8 -0.1
0.7nm,0.3s,baz=332,slow=9.6,SNR=6.7
SONM Songino Array 57.95 342 P P 03 19 11.7 -0.3
0.3nm,0.5s,baz=146,slow=8.2,SNR=3.5
MKAR Makanchi Array 67.70 327 P P 03 20 16.8 +0.3
1.2nm,0.4s,baz=118,slow=7.4,SNR=36

ISCJB ***15*** *03:42:13.1±1.3, 2°49S±0°03×140°14E±0°05, h3km±8km, mb4.6/35, MS3.8/8, Error ellipse: s-maj=8.8km s-min=5.3km az=7.5*
DJA ***15*** *03:42:15, 2°57S×140°30E, h15km, mb4.6/7*
IDC ***15*** *03:42:16.2±4.7, 2°52S×140°19E, h16km±29km, mb4.2/11, mb1 4.3/13, mb1mx4.3/15, mbtmp4.2/13, ML4.4/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/26, Error ellipse: s-maj=22.6km s-min=12.3km az=95.0*
MOS ***15*** *03:42:17.6±1.0, 2°47S×140°10E, h33km, mb4.8/10, Error ellipse: s-maj=16.4km s-min=8.1km az=109.7*
BJI ***15*** *03:42:18.8, 2°83S×140°30E, h67km, mB5.1/20, mb4.8/34, Ms4.9/10, MS7 4.5/8*
NEIC ***15*** *03:42:21.7±1.7, 2°53S×140°01E, h54km±16km, mb4.7/16, Error ellipse: s-maj=12.2km s-min=9.5km az=76.0*
NEIC Felt in the Jayapura area.
ISC 15 03:42:14.5±1.4, 2°54S±0°03×140°18E±0°05, h3km±9km, h46km±3.1km: pP-P, n121, σ1.910/120, mb4.6/35, MS3.8/8, 2D, Near north coast of Irian Jaya
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC

JAY Jayapura 0.53 87 P **Pg 03 42 24.4 -0.2**
SMPI Sarmi 1.57 290 P **Pn 03 42 42.8 -0.5**
SMPI S **Sn 03 43 06.9 +2.8**
WAMI Wamena 1.98 228 P **Pn 03 42 46.9 -2.1**
WAMI S **Sn 03 43 14.2 -0.2**
BAKI Biak 4.29 288 P **Pn 03 43 19.7 -1.0**
FAKI Fak Fak 7.93 267 P **Pn 03 44 09.5 -1.3**
41nm,0.9s
PMG Port Moresby 9.73 135 Pn **Pn 03 44 33.9 -1.5**
0.4nm,0.3s,baz=306,slow=19,SNR=2.3
PMG Port Moresby 9.73 135 *e*Pn **Pn 03 44 41.8 +6.3**
PMG Port Moresby 9.73 135 *d*P **Pn 03 44 42.0 +6.5**
PMG Port Moresby 9.73 135 P **Pn 03 44 32.0 -3.5**
21nm,0.9s
COEN Coen 11.72 166 *e*P **Pn 03 45 06.2 +3.4**
54nm,0.8s
COEN Coen 11.72 166 *e*Pn **Pn 03 45 08.3 +5.5**
MTSU Mount Surprise 16.02 166 *e*P **Pn 03 46 05.5 +4.5**
23nm,0.9s
GUMO Guam 16.69 16 LR LR 03 50 47.6
comp=Z,206nm,20.2s,baz=144,slow=31
WRAB Tennant Creek 18.20 198 *e*Pn **Pn 03 46 28.9 +0.5**
33nm,1.1s
WRAB *e*S **Sn 03 49 48.9 -3.1**
WRAB Tennant Creek 18.20 198 *e*P **Pn 03 46 28.9 +0.5**
WRAB *e*S **Sn 03 49 48.9 -3.2**
WRAB pmax pmax
comp=Z,33nm,1.1s
WRAB Tennant Creek 18.20 198 P **Pn 03 46 25.7 -2.7**
comp=Z,55nm,1.3s
WB2 Warramunga Arr 18.21 198 *e*Pn **Pn 03 46 29.0 +0.5**
WB2 *e*S **Sn 03 49 51.7 -0.6**
WRA Warramunga Arr 18.21 198 P **Pn 03 46 28.8 +0.2**
comp=Z,1.4nm,0.3s,baz=19,slow=12,SNR=27
WRA S **Sn 03 49 46.9 -5.5**
comp=Z,0.2nm,0.3s,baz=18,slow=21,SNR=3.9
WRA LR LR 03 53 59.0
comp=Z,177nm,19.0s,baz=20,slow=38
WRA Warramunga Arr 18.21 198 P **Pn 03 46 28.8 +0.2**
WRA S **Sn 03 49 46.9 -5.5**
WRA Warramunga Arr 18.21 198 P **Pn 03 46 28.8 +0.3**
WRA S **Sn 03 49 46.9 -5.5**
CTA Charters Tower 18.42 162 P **Pn 03 46 33.5 +2.5**
comp=Z,0.2nm,0.3s,baz=319,slow=11,SNR=2.2
CTA Charters Tower 18.42 162 P **Pn 03 46 33.5 +2.5**
CTA Charters Tower 18.42 162 P **Pn 03 46 33.6 +2.5**
TTSI Tana Toraja 20.34 268 P **P 03 46 52.3 0.0**
comp=Z,2μmcomp=Z,22nm,1.7s
FITZ Fitzroy Crossi 21.04 222 P **P 03 46 59.7 0.0**
comp=Z,11nm,0.8s,mb4.2,baz=53,slow=11,SNR=10
FITZ S **S 03 50 54.5 -0.2**
comp=Z,11nm,0.8s,baz=204,slow=20,SNR=5.0
FITZ LR LR 03 56 47.2
comp=Z,190nm,18.0s,MS3.5,baz=43,slow=41
FITZ Fitzroy Crossi 21.04 222 *e*P **P 03 46 59.8 +0.1**
comp=Z,31nm,0.9s,mb4.6
FITZ Fitzroy Crossi 21.04 222 *e*P **P 03 46 59.8 +0.1**
comp=Z,21nm,0.9s,mb4.5
FITZ *e*S **S 03 50 53.8 -0.8**
FITZ Fitzroy Crossi 21.04 222 P **P 03 46 59.2 -0.5**
comp=Z,24nm,1.1s,mb4.5
AS31 Alice Springs 21.86 196 *e*P **P 03 47 08.9 +0.4**
ASAR Alice Springs 21.86 196 P **P 03 47 08.8 +0.3**
comp=Z,6.8nm,0.7s,mb4.2,baz=27,slow=10.0,SNR=40
ASAR S **S 03 51 11.0 +0.2**
comp=Z,5.9nm,0.9s,baz=15,slow=24,SNR=4.5
ASAR Alice Springs 21.86 196 P **P 03 47 08.8 +0.3**
ASAR S **S 03 51 10.9 +0.1**
ASAR Alice Springs 21.86 196 P **P 03 47 08.8 +0.3**
ASAR S **S 03 51 11.0 +0.2**
MYLDM Lahad Datu 22.98 290 P **P 03 47 20.6 +0.1**
EIDS Eidsvold 25.01 156 *e*P **P 03 47 42.9 +3.1**
comp=Z,56nm,0.6s,mb5.3
EIDS Eidsvold 25.01 156 *e*P **P 03 47 43.4 +3.6**
comp=Z,51nm,1.5s,mb4.8
RMQ Roma 25.19 162 *e*P **P 03 47 46.9 +5.5**
comp=Z,24nm,0.8s,mb4.8
STKA Stephens Creek 29.21 178 P **P 03 48 17.2 -0.3**
comp=Z,3.3nm,1.0s,mb4.0,baz=353,slow=10,SNR=3.9
STKA LR LR 04 00 35.6
comp=Z,146nm,20.9s,MS3.6,baz=193,slow=38
STKA Stephens Creek 29.21 178 *e*P **P 03 48 17.3 -0.2**
comp=Z,3.3nm,1.1s,mb4.0
STKA Stephens Creek 29.21 178 *e*P **P 03 48 19.4 +1.9**
comp=Z,0.9nm,1.0s,mb3.5
STKA Stephens Creek 29.21 178 *e*P **P 03 48 19.4 +1.9**
STKA pmax pmax
comp=Z,1.0nm,1.0s
NWAO Narrogin (SRO) 37.10 213 LR LR 04 06 38.7
comp=Z,154nm,19.1s,MS3.8,baz=232,slow=39
MJAR Matsushiro Arr 38.92 357 P **P 03 49 39.7 -2.0**
comp=Z,1.2nm,0.8s,mb3.7,baz=181,slow=10,SNR=5.8
MJAR Matsushiro Arr 38.92 357 P **P 03 49 39.7 -2.0**
MJAR Matsushiro Arr 38.92 357 P **P 03 49 39.7 -1.9**
NJ2 Nanjing 39.91 331 *e*P **P 03 49 52.6 +2.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
KSAR Wonju Array Be 41.39 345 P **P 03 50 01.6 -0.4**
KSAR Wonju Array Be 41.39 345 P **P 03 50 01.7 -0.4**
KSRS Korea Array 41.39 345 P **P 03 50 01.6 -0.4**
comp=Z,3.1nm,0.8s,mb4.0,baz=158,slow=8.0,SNR=8.6
GYA Guiyang 43.35 314 P **P 03 50 20.0 +1.7**
GYA pP pP 03 50 33.3 +14
GYA PP PP 03 52 04.9 +5.8
GYA ScP ScP 03 55 53.8 -5.8
GYA S **S 03 56 42.3 -4.6**
GYA ScS ScS 04 00 12.3 -7.6
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
GYA pmax pmax
comp=Z,90nm,4.8s
KMI Kunming 45.54 309 P **P 03 50 36.6 +0.8**
KMI pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KMI Kunming 45.54 309 P **P 03 50 36.6 +0.8**
comp=Z,8.0nm,0.7s,mb4.8
KMI Kunming 45.54 309 P **P 03 50 36.6 +0.8**
KMI pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CMAR Chiang Mai Arr 45.63 299 P **P 03 50 37.0 +0.3**
comp=Z,2.6nm,0.4s,mb4.5,baz=117,slow=5.9,SNR=20
CMAR Chiang Mai Arr 45.63 299 P **P 03 50 37.0 +0.3**

CMAR	**Chiang Mai Arr**	**45.63 299**	P	**P**	**03 50 37.0 +0.3**
CHTO	**Chiang Mai**	**45.77 299**	*e*P	**P**	**03 50 37.9 +0.1**
	comp=Z,11nm,1.3s,mb4.6				
CHTO	**Chiang Mai**	**45.77 299**	*e*P	**P**	**03 50 37.9 +0.1**
CHTO			pmax	pmax	
	comp=Z,11nm,1.3s,mb4.6				
XAN	**Xi'an**	**46.79 324**	P	**P**	**03 50 45.3 -0.2**
XAN			pmax	pmax	
	comp=Z,2.0nm,1.1s,mb4.0				
CD2	**Chengdu**	**48.05 317**	*e*P	**P**	**03 50 55.6 +0.2**
CD2			pmax	pmax	
	comp=Z,10.0nm,0.6s,mb5.0				
CD2			pmax	pmax	
	comp=Z,30nm,5.8s				
YSS	**Yuzh-Sakhalins**	**49.34 2**	P	**P**	**03 51 04.0 -1.0**
HHC	**Hu-ho-hao-te**	**50.46 332**	*e*P	**P**	**03 51 16.8 +3.1**
HHC			pP	pP	03 51 29.3 +15
HHC			PP	PP	03 53 13.4 +4.0
HHC			S	**S**	**03 58 26.8 -1.3**
HHC			SS	SS	04 01 57.9 -4.3
HHC			pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.8				
HHC			pmax	pmax	
	comp=Z,83nm,5.8s				
HHC			LR	LR	
	comp=N,170nm,10.6s				
HHC			LR	LR	
	comp=E,190nm,16.9s				
HHC			LR	LR	
	comp=Z,94nm,11.0s,MS4.1				
LZH	**Lanzhou**	**51.24 322**	*e*P	**P**	**03 51 21.8 +2.2**
LZH			pP	pP	03 51 35.3 +15
LZH			pmax	pmax	
	comp=Z,19nm,1.2s,mb4.9				
LZH	**Lanzhou**	**51.24 322**	*e*P	**P**	**03 51 21.7 +2.1**
	comp=Z,19nm,1.2s,mb4.9				
LZH			pP	pP	03 51 35.2 +15
LZH			sP	sP	03 51 41.8 +21
LZH	**Lanzhou**	**51.24 322**	*e*P	**P**	**03 51 21.7 +2.1**
LZH			*PP	pP	03 51 35.2 +15
LZH			pmax	pmax	
	comp=Z,19nm,1.2s,mb4.9				
GTA	**Gaotai**	**55.82 323**	*e*P	**P**	**03 51 54.3 +1.1**
GTA			pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.9				
PETK	**Petropavlovsk-**	**57.37 12**	LR	LR	04 13 54.8
	comp=Z,34nm,21.5s,MS3.4,baz=142,slow=33				
ULN	**Ulaanbaatar**	**57.94 334**	*e*P	**P**	**03 52 08.6 +0.5**
	comp=Z,2.6nm,0.8s,mb4.3				
ULN	**Ulaanbaatar**	**57.94 334**	*e*P	**P**	**03 52 08.6 +0.5**
ULN			pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.4				
SONM	**Songino Array**	**58.20 334**	P	**P**	**03 52 09.6 -0.4**
	comp=Z,0.4nm,0.6s,mb3.6,baz=145,slow=7.7,SNR=4.6				
SONM	**Songino Array**	**58.20 334**	P	**P**	**03 52 09.6 -0.4**
SONM	**Songino Array**	**58.20 334**	P	**P**	**03 52 09.6 -0.3**
RAR	**Rarotonga**	**61.23 113**	LR	LR	04 12 59.2
	comp=Z,141nm,19.4s,MS4.1,baz=357,slow=30				
ZAK	**Zakamensk**	**61.47 334**	*e*P	**P**	**03 52 31.3 -1.1**
ZAK			pmax	pmax	
	comp=Z,4.0nm,1.4s,mb4.4				
WMQ	**Urumqi**	**65.80 321**	P	**P**	**03 53 01.6 +0.5**
WMQ			pmax	pmax	
	comp=Z,20nm,1.0s,mb5.1				
WMQ			pmax	pmax	
	comp=Z,280nm,6.0s				
MK31	**Makanchi Array**	**70.56 322**	*e*P	**P**	**03 53 30.9 0.0**
MK31	**Makanchi Array**	**70.56 322**	*e*P	**P**	**03 53 30.9 0.0**
MKAR	**Makanchi Array**	**70.56 322**	P	**P**	**03 53 31.2 +0.2**
	comp=Z,11nm,0.9s,mb4.8,baz=115,slow=7.7,SNR=73				
MKAR	**Makanchi Array**	**70.56 322**	*e*P	**P**	**03 53 31.2 +0.3**
MKAR	**Makanchi Array**	**70.56 322**	*e*P	**P**	**03 53 31.2 +0.3**
KSH	**Kashi**	**72.04 313**	*e*P	**P**	**03 53 42.3 +2.2**
KSH			PcP	PcP	03 54 00.8 +2.2
KSH			PP	PP	03 56 23.5 +3.3
KSH			S	S	04 02 57.8 -5.0
KSH			SKS		04 03 37.8
KSH			ScS	ScS	04 03 40.8 -6.5
KSH			SS	SS	04 07 36.1 -3.8
KSH			pmax	pmax	
	comp=Z,17nm,1.2s,mb4.8				
KSH			pmax	pmax	
	comp=Z,140nm,5.5s				
KSH			LR	LR	
	comp=N,100nm,4.4s				
KSH			LR	LR	
	comp=E,160nm,5.5s				
KSH			LR	LR	
	comp=Z,150nm,5.8s				
ZAA0	**Zalesovo Array**	**72.53 329**	*e*P	**P**	**03 53 41.7 -1.1**
ZALV	**Zalesovo Beam**	**72.53 329**	P	**P**	**03 53 41.7 -1.0**
	comp=Z,6.1nm,0.8s,mb4.6,baz=107,slow=5.7,SNR=28				
ZALV	**Zalesovo Beam**	**72.53 329**	P	**P**	**03 53 41.7 -1.0**
ZALV	**Zalesovo Beam**	**72.53 329**	P	**P**	**03 53 41.7 -1.0**
TKM2	**Tokmak 2**	**73.44 316**	*e*P	**P**	**03 53 48.7 +0.4**
	comp=Z,8.0nm,0.9s,mb4.7				
TKM2	**Tokmak 2**	**73.44 316**	*e*P	**P**	**03 53 48.7 +0.4**
TKM2			pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.7				
NVS	**Novosibirsk**	**73.78 330**	*e*P	**P**	**03 53 48.7 -1.4**
AAK	**Ala-Archa**	**74.11 316**	*e*P	**P**	**03 53 52.8 +0.5**
	comp=Z,43nm,1.4s,mb5.2				
AAK	**Ala-Archa**	**74.11 316**	*e*P	**P**	**03 53 52.8 +0.5**
AAK			pmax	pmax	
	comp=Z,43nm,1.4s,mb5.2				
KURK	**Kurchatov**	**74.43 325**	*e*P	**P**	**03 53 52.8 -1.2**
	comp=Z,16nm,1.1s,mb4.8				
KURK			*e*		03 54 10.2
KURK	**Kurchatov**	**74.43 325**	*d i*P	**P**	**03 53 53.5 -0.4**
KURK			pmax	pmax	
	comp=Z,25nm,1.7s,mb4.9				
EKS2	**Erkin-Say**	**74.62 315**	*e*P	**P**	**03 53 56.1 +0.9**
	comp=Z,10nm,1.1s,mb4.7				
EKS2	**Erkin-Say**	**74.62 315**	*e*P	**P**	**03 53 56.2 +1.0**
EKS2			pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.7				
KKAR	**Karatay Array**	**77.04 315**	*e*P	**P**	**03 54 09.2 +0.2**
	comp=Z,2.0nm,0.7s,mb4.2				
KKAR	**Karatay Array**	**77.04 315**	*e*P	**P**	**03 54 09.3 +0.2**
KKAR			pmax	pmax	
	comp=Z,2.0nm,0.7s,mb4.2				
BRVK	**Borovoye**	**80.09 325**	*e*P	**P**	**03 54 25.7 0.0**
	comp=Z,11nm,1.0s,mb4.8				
BRVK	**Borovoye**	**80.09 325**	*e*P	**P**	**03 54 26.0 +0.3**
BRVK			pmax	pmax	
	comp=Z,13nm,1.2s,mb4.7				
RC01	**Rabbit Creek A**	**82.71 27**	*e*P	**P**	**03 54 38.8 -0.6**
	comp=Z,7.2nm,0.7s,mb4.8				
MAW	**Mawson**	**82.83 202**	LR	LR	04 31 58.3
	comp=Z,49nm,18.8s,MS3.9,baz=306,slow=36				
PMR	**Palmer**	**83.15 27**	*e*P	**P**	**03 54 41.0 -0.7**
	comp=Z,102nm,2.7s,mb5.4				
PMR	**Palmer**	**83.15 27**	*e*P	**P**	**03 54 41.0 -0.7**
PMR			pmax	pmax	
	comp=Z,102nm,2.7s,mb5.4				
DIV	**Divide**	**84.56 28**	*e*P	**P**	**03 54 49.4 +0.5**
	comp=Z,205nm,2.7s				
ILAR	**Eielson Array**	**85.07 24**	P	**P**	**03 54 49.6 -1.8**
	comp=Z,2.3nm,0.8s,mb4.3,baz=261,slow=4.3,SNR=28				
ILAR			LR	LR	04 33 48.5
	comp=Z,60nm,18.4s,MS4.0,baz=279,slow=36				
ILAR	**Eielson Array**	**85.07 24**	P	**P**	**03 54 49.6 -1.8**
ILAR	**Eielson Array**	**85.07 24**	P	**P**	**03 54 49.7 -1.7**
ABKAR	**Akbulak array**	**85.54 320**	*e*P	**P**	**03 54 53.4 -0.7**
	comp=Z,3.4nm,0.8s,mb4.6				
DAWY	**Dawson**	**88.08 26**	*e*P	**P**	**03 55 06.6 +0.5**
YKA	**Yellowknife Ar**	**99.25 27**	P	**P**	**03 55 56.8 -0.7**
	comp=Z,0.2nm,0.6s,mb3.8,baz=289,slow=5.8,SNR=4.1				
YKA	**Yellowknife Ar**	**99.25 27**	P	**P**	**03 55 56.8 -0.7**
YKA	**Yellowknife Ar**	**99.25 27**	P	**P**	**03 55 56.8 -0.7**
TORD	**Torodi Ar. Bea**	**137.62 287**	PKP	PKPdf	04 01 40.0 -1.2
	comp=Z,1.1nm,0.9s,baz=63,slow=1.6,SNR=6.7				
TORD	**Torodi Ar. Bea**	**137.62 287**	PKP	PKPdf	04 01 40.0 -1.2
DBIC	**Dimbokro**	**144.92 278**	PKP	PKPdf	04 01 53.2 -1.2
	comp=Z,14nm,0.7s,baz=85,slow=4.4,SNR=19				
DBIC	**Dimbokro**	**144.92 278**	PKP	PKPdf	04 01 53.2 -1.2
DBIC	**Dimbokro**	**144.92 278**	PKIKP	PKPdf	04 01 53.2 -1.1
ROSC	**El Rosal**	**145.49 85**	PKPbc	PKPbc	04 01 55.7 +0.4
	comp=Z,2.9nm,0.5s,baz=270,slow=15,SNR=5.2				
ROSC	**El Rosal**	**145.49 85**	*e*PKPbc	PKPbc	04 01 57.3 +1.9
LPAZ	**La Paz**	**146.35 125**	PKPbc	PKPbc	04 01 59.0 +1.1
	comp=Z,8.1nm,1.0s,baz=216,slow=1.6,SNR=16				
LPAZ	**La Paz**	**146.35 125**	*e*PKPdf	PKPdf	04 01 58.3 +1.7
LPAZ			PKPbc	PKPbc	04 01 59.0 +1.1
LPAZ			*e*PKPbc	PKPbc	04 01 60.0 +2.1
SDV	**Santo Domingo**	**148.72 77**	*e*PKPbc	PKPbc	04 02 04.6 +0.1
CDVI	**St. Croix**	**151.23 57**	*e*PKPdf	PKPdf	04 02 06.2 +1.7

CSEM ***15*** *03:46:37.7, 36°.86N×24°.37W, h5km, ML2.9, After PDA*
PDA 15 03:46:37.7±1.0, 36°.86N×24°.37W, h5km, MD3.9, ML2.9,
Error ellipse: s-maj=6.3km s-min=5.1km az=73.0,
Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.58**	**284**	*i* P	Pg	03 46 47.2	-1.6
PSMN				*e*S	Sg	03 46 55.0	-1.3
PSMN				A		03 46 58.0	
	149nm,0.2s						
PSMA	**Santa Maria**	**0.62**	**283**	*i* P	Pg	03 46 47.8	-1.9
PSMA				*e*S	Sg	03 46 56.1	-1.7
PSMA				A		03 46 59.6	
	188nm,0.2s						
PSMA	**Santa Maria**	**0.62**	**283**	*i* P	Pg	03 46 47.8	-1.9
PSMA				*e*S	Sg	03 46 56.2	-1.6
PSMA				A		03 46 59.6	
	188nm,0.2s						
BART	**Pico Bartolome**	**1.11**	**325**	*e*P	Pg	03 46 54.8	-4.3
BART				*e*S	Sg	03 47 07.9	-5.7
BART				A		03 47 09.4	
	84nm,0.1s						
BART	**Pico Bartolome**	**1.11**	**325**	*e*P	Pg	03 46 54.9	-4.2
BART				*e*S	Sg	03 47 08.2	-5.4
BART				A		03 47 09.4	
	84nm,0.1s						
BART	**Pico Bartolome**	**1.11**	**325**	*e*P	Pg	03 46 54.9	-4.2
BART				*e*S	Sg	03 47 08.2	-5.4
GRON	**Grota Negra**	**1.30**	**315**	*i* P	Pn	03 46 56.3	-6.2
GRON				*e*S	Sg	03 47 10.8	-8.6
GRON				A		03 47 14.6	
	27nm,0.1s						
PDA	**Ponta Delgada**	**1.36**	**311**	*i* P	Pn	03 46 58.2	-5.1
PDA				*e*S	Sb	03 47 14.0	-7.3
PDA				A		03 47 15.9	
	35nm,0.1s						
PSET	**Sete Cidades**	**1.44**	**312**	*e*P	Pn	03 46 59.9	-4.6
PSET				*e*S	Sb	03 47 16.1	-7.6
PSET				A		03 47 20.3	
	102nm,0.3s						
PSET	**Sete Cidades**	**1.44**	**312**	*e*P	Pn	03 46 59.9	-4.6
PSET				*e*S	Sb	03 47 16.1	-7.6
ADH	**Angra Heroismo**	**2.89**	**309**	*e*P	Pn	03 47 20.6	-3.8
ADH				*e*S	Sn	03 47 50.9	-8.6
ADH				A		03 47 57.2	
	11nm,0.2s						
ADH	**Angra Heroismo**	**2.89**	**309**	*e*P	Pn	03 47 20.6	-3.8
ADH				*e*S	Sn	03 47 51.3	-8.2
ADH				A		03 47 57.2	
	11nm,0.2s						
ADH	**Angra Heroismo**	**2.89**	**309**	*e*P	Pn	03 47 20.6	-3.8
ADH				*e*S	Sn	03 47 51.3	-8.2
PMAN	**Manadas**	**3.44**	**302**	*e*P	Pn	03 47 27.8	-4.1
PMAN				*e*S	Sn	03 48 04.5	-8.5
PMAN				A		03 48 06.7	
	20nm,0.2s						
PMAN	**Manadas**	**3.44**	**302**	*e*P	Pn	03 47 27.8	-4.1
PMAN				*e*S	Sn	03 48 04.5	-8.5
ROSA	**Rosais**	**3.58**	**302**	*e*P	Pn	03 47 30.0	-3.9
ROSA	**Rosais**	**3.58**	**302**	*e*P	Pn	03 47 29.7	-4.2
ROSA	**Rosais**	**3.58**	**302**	*e*P	Pn	03 47 29.7	-4.2
PCAN	**Candelaria**	**3.64**	**297**	*e*P	Pn	03 47 30.4	-4.2
PCAN				*e*S	Sn	03 48 09.5	-8.4
PCAN				A		03 48 13.5	
	15nm,0.2s						
PCAN	**Candelaria**	**3.64**	**297**	*e*P	Pn	03 47 30.2	-4.4
PCAN				*e*S	Sn	03 48 09.5	-8.4
PCAN				A		03 48 13.5	
	15nm,0.2s						
PCAN	**Candelaria**	**3.64**	**297**	*e*P	Pn	03 47 30.2	-4.4
PCAN				*e*S	Sn	03 48 09.5	-8.4
HOR	**Horta**	**3.77**	**297**	*e*P	Pn	03 47 32.3	-4.1
HOR	**Horta**	**3.77**	**297**	*e*P	Pn	03 47 32.3	-4.1
CALA	**Caldeira**	**3.84**	**298**	*e*P	Pn	03 47 33.6	-3.8
CALA	**Caldeira**	**3.84**	**298**	*e*P	Pn	03 47 33.5	-3.9
CALA	**Caldeira**	**3.84**	**298**	*e*P	Pn	03 47 33.5	-3.9

ISCJB ***15*** *03:53:03.1±0.6, 31°.76N±0°.03×116°.07W±0°.03, h23km±4km,*
Error ellipse: s-maj=5.8km s-min=4.2km az=175.5
ECX ***15*** *03:53:04.6±0.4, 31°.80N×116°.12W, h9km, MD3.0, ML3.3*
ISC 15 03:53:03.5±0.6, 31°.77N±0°.04×116°.09W±0°.03, h19km±4km,
n23, σ0°.75/40, 17C-19D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dawling**	**0.20**	**39**	⇑*i*P	**Pg**	**03 53 08.8**	**+0.2**
RDX				*e*S	**Sg**	**03 53 12.3**	**+0.2**
RDX				⇑*e*		03 53 13.3	
	comp=N,5μm,0.3s						
ECNX	**Esteban Cantu**	**0.45**	**255**	⇑*i*P	**Pg**	**03 53 12.3**	**-0.3**
ECNX				⇑*i*P		03 53 13.1	
ECNX				*e*S	**Sg**	**03 53 18.5**	**-0.3**
ECNX				*e*S	**Sg**	**03 53 19.8**	**+1.0**
PBX	**Punta Banda**	**0.54**	**267**	⇑*i*P	**Pg**	**03 53 13.9**	**-0.5**
PBX				*e*S	**Sg**	**03 53 21.2**	**-0.5**
PBX				⇓*e*		03 53 21.9	
	comp=N,3μm,0.2s						
CBX	**Cerro Bola**	**0.73**	**318**	⇑*e*P	**Pb**	**03 53 16.7**	**-0.9**
CBX				*e*S	**Sb**	**03 53 26.2**	**-1.0**
CBX				⇓*e*		03 53 28.6	
	comp=E,1μm,0.4s						
CBX				⇑*e*		03 53 31.8	
	comp=N,2μm,0.6s						
RMX	**La Rumorosa**	**0.83**	**1**	⇑*e*P	**Pb**	**03 53 19.0**	**-0.3**
RMX				*e*S	**Sb**	**03 53 29.7**	**-0.4**
DVTC	**Desert V Tower**	**0.89**	**360**	⇓P	**Pb**	**03 53 20.1**	**-0.1**
	baz=0.9						
DVTC				⇓S	**Sb**	**03 53 31.1**	**-0.6**
	baz=0.9						
MONP	**Monument Peak**	**1.15**	**346**	⇑P	**Pn**	**03 53 24.3**	**-0.3**
	baz=1.1,SNR=53						
MONP				⇑S	**Sb**	**03 53 38.8**	**-0.6**
	baz=1.1						
SWSC	**Sam W. Stewart**	**1.19**	**12**	⇑P	**Pn**	**03 53 22.7**	**-2.5**
	baz=1.2,SNR=39						
SWSC				⇓S	**Sb**	**03 53 38.9**	**-1.7**
	baz=1.2						
109C	**Camp Elliot, M**	**1.41**	**323**	⇓P	**Pn**	**03 53 27.8**	**-0.3**
	baz=1.3						
109C				⇓S	**Sn**	**03 53 45.4**	**-0.8**
	baz=1.3						
GLA	**Glamis**	**1.67**	**40**	P	**Pn**	**03 53 31.8**	**+0.1**
	baz=1.7,SNR=29						
GLA				⇓S	**Sn**	**03 53 51.5**	**-1.1**
	baz=1.7						
PFO	**Pinyon Flat Ob**	**1.86**	**351**	⇓P	**Pn**	**03 53 34.8**	**+0.4**
	baz=1.8,SNR=50						
PFO				⇓Sb	**Sb**	**03 54 00.2**	**+0.5**
	baz=1.8						
BC3	**Big Chuckawall**	**1.96**	**16**	⇑P	**Pn**	**03 53 36.3**	**+0.6**
	baz=2.0,SNR=28						
MURC	**Murrieta**	**2.05**	**333**	⇓P	**Pn**	**03 53 37.8**	**+0.9**
	baz=2.0,SNR=12						
MURC				⇓Sb	**Sb**	**03 54 06.1**	**+0.9**
	baz=2.0						
113A	**Mohawk Valley,**	**2.21**	**63**	P	**Pn**	**03 53 39.6**	**+0.5**
	baz=2.3,SNR=38						
113A				⇓S	**Sn**	**03 54 05.2**	**-0.7**
	baz=2.3						
BELC	**Belle Mtn. Jos**	**2.23**	**2**	⇓P	**Pn**	**03 53 39.9**	**+0.5**
	baz=2.2,SNR=15						
Z13A	**Yuma Proving G**	**2.50**	**55**	⇓P	**Pn**	**03 53 43.8**	**+0.6**
	baz=2.6,SNR=30						
Z13A				⇑S	**Sn**	**03 54 13.9**	**+0.7**
	baz=2.6						
CIS	**Catalina Islan**	**2.54**	**311**	⇓S	**Sn**	**03 54 14.7**	**+0.5**
	baz=2.5						
BBRC	**Big Bear Solar**	**2.58**	**345**	⇑Sb	**Sb**	**03 54 21.6**	**+1.1**
	baz=2.5						
BFSC	**Mount Baldy Ra**	**2.79**	**332**	⇑Sb	**Sb**	**03 54 27.4**	**+0.9**
	baz=2.7						
214A	**Organ Pipe Nat**	**2.80**	**85**	⇓S	**Sn**	**03 54 20.1**	**-0.3**
	baz=2.9						
114A	**Black Gap (USA**	**2.89**	**69**	P	**Pn**	**03 53 48.9**	**+0.4**
	baz=3.0,SNR=8.3						
114A				⇓S	**Sn**	**03 54 22.8**	**+0.1**
	baz=3.0						
Z14A	**Wintersburg**	**3.09**	**58**	⇑P	**Pn**	**03 53 52.1**	**+0.8**
	baz=3.2,SNR=8.3						
Z14A				⇑S	**Sn**	**03 54 28.0**	**+0.2**
	baz=3.2						
EDW2	**Edwards Air Fo**	**3.48**	**333**	⇓Sb	**Sb**	**03 54 47.9**	**+1.4**
	baz=3.4						

PDG ***15*** *04:02:47.0±0.2, 43°.23N×17°.46E, h4km, ML2.6/9, Error ellipse: s-maj=1.2km s-min=1.5km az=0.0*
BEO ***15*** *04:02:47.9±0.6, 43°.38N×17°.47E, h3km±4km, ML2.7/9*
ISCJB ***15*** *04:02:48.0±0.3, 43°.33N±0°.02×17°.60E±0°.03, h10km, Error ellipse: s-maj=3.9km s-min=2.0km az=40.8*
CSEM ***15*** *04:02:48.1±0.2, 43°.36N×17°.55E, h2km, ML2.6/9, Error ellipse: s-maj=5.8km s-min=2.7km az=37.0*
VIE ***15*** *04:02:48.4±0.5, 43°.51N×17°.98E, h10km, mb2.6/2, ML2.1/3, Error ellipse: s-maj=11.8km s-min=3.6km az=63.0 51 km SW of Sarajevo*
ISC 15 04:02:47.9±0.8, 43°.33N±0°.03×17°.53E±0°.04, h1km±6km,
n54, σ1°.15/101, 10C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.47**	**164**	*e*Pg	**Pg**	**04 02 55.0**	**-2.0**
STON				Sg	**Sg**	**04 03 02.9**	**-0.2**
STON	**Ston**	**0.47**	**164**	*e*Pg	**Pg**	**04 02 54.9**	**-2.1**
STON				Sg	**Sg**	**04 03 02.8**	**-0.3**
BRY	**Bratogost**	**0.85**	**120**	⇓*i*Pg	**Pg**	**04 03 02.4**	**-1.9**
BRY				*e*Sg	**Sg**	**04 03 16.4**	**+1.0**
UPM	**Unac-Piva**	**1.01**	**97**	⇓*i*Pg	**Pg**	**04 03 06.2**	**-1.2**
UPM				*e*Sg	**Sg**	**04 03 22.8**	**+2.3**
UPM	**Unac-Piva**	**1.01**	**97**	⇓*i*Pg	**Pg**	**04 03 06.2**	**-1.2**
UPM				*e*Sg	**Sg**	**04 03 22.8**	**+2.3**
HCY	**Herceg Novi**	**1.13**	**141**	⇑*i*Pg	**Pg**	**04 03 06.9**	**-2.7**
HCY				*e*Sg	**Sg**	**04 03 24.4**	**+0.1**
NKY	**Niksic**	**1.19**	**115**	⇓*i*Pg	**Pn**	**04 03 09.4**	**-2.4**
NKY				*e*Sg	**Sg**	**04 03 28.1**	**+1.9**
NKY	**Niksic**	**1.19**	**115**	⇓*i*Pg	**Pn**	**04 03 09.4**	**-2.4**
NKY				*e*Sg	**Sg**	**04 03 28.1**	**+1.9**
BUM	**Brajici-Budva**	**1.44**	**135**	⇑*i*Pg	**Pg**	**04 03 13.2**	**-1.9**
BUM				*e*Sg	**Sg**	**04 03 35.5**	**+1.4**
BLY	**Banja Luka**	**1.44**	**350**	*e*Pg	**Pn**	**04 03 13.2**	**-2.0**
BLY				*e*Sg	**Sn**	**04 03 33.4**	**-1.4**
BLY	**Banja Luka**	**1.44**	**350**	*e*Pg	**Pn**	**04 03 13.2**	**-2.0**
BLY				*e*Sg	**Sn**	**04 03 33.4**	**-1.4**
BBLS	**Lazići**	**1.47**	**68**	*e*Pg	**Pn**	**04 03 15.2**	**-0.3**
BBLS				*e*Sg	**Sn**	**04 03 35.4**	**0.0**
BBLS	**Lazići**	**1.47**	**68**	*e*Pg	**Pn**	**04 03 15.2**	**-0.3**
BBLS				*e*Sg	**Sn**	**04 03 35.4**	**0.0**
PDG	**Podgorica**	**1.56**	**125**	*e*Pg	**Pn**	**04 03 16.1**	**-0.7**
PDG				*e*Sg	**Sg**	**04 03 39.4**	**+1.5**
PDG	**Podgorica**	**1.56**	**125**	*e*Pg	**Pn**	**04 03 16.1**	**-0.7**
PDG				*e*Sg	**Sg**	**04 03 39.4**	**+1.5**
TTG	**Podgorica**	**1.56**	**125**	⇑*i*Pg	**Pn**	**04 03 15.6**	**-1.2**
TTG				*e*Sg	**Sg**	**04 03 39.6**	**+1.6**
SJES	**Sjenica**	**1.79**	**91**	*e*Pn	**Pn**	**04 03 20.2**	**+0.2**
SJES				*e*Sg	**Sg**	**04 03 46.4**	**+1.1**
BEY	**Berane**	**1.79**	**104**	*e*Pn	**Pn**	**04 03 46.4**	**+0.4**
BEY				*e*Sn	**Sg**	**04 03 46.4**	**+0.9**
IVA	**Berane**	**1.80**	**104**	*e*Pn	**Pn**	**04 03 20.4**	**+0.3**
IVA				*e*Sn	**Sg**	**04 03 46.4**	**+0.8**
ULC	**Ulcinj**	**1.86**	**137**	⇑*i*Pn	**Pn**	**04 03 19.9**	**-1.1**
ULC				*e*Sn	**Sg**	**04 03 46.6**	**-1.1**
ULC	**Ulcinj**	**1.86**	**137**	⇑*i*Pn	**Pn**	**04 03 19.9**	**-1.1**
ULC				*e*Sn	**Sg**	**04 03 46.6**	**-1.1**
IVAS	**Ivanjica**	**1.93**	**82**	*e*Pn	**Pn**	**04 03 22.8**	**+0.9**
IVAS				*e*Sg	**Sg**	**04 03 50.0**	**+0.1**
IVAS	**Ivanjica**	**1.93**	**82**	*e*Pn	**Pn**	**04 03 22.8**	**+0.9**
IVAS				*e*Sg	**Sg**	**04 03 50.0**	**+0.1**
PVY	**Plav**	**1.93**	**112**	⇑*i*Pn	**Pn**	**04 03 22.2**	**+0.3**
PVY				*e*Sn	**Sg**	**04 03 49.7**	**-0.2**
PVY	**Plav**	**1.93**	**112**	⇑*i*Pn	**Pn**	**04 03 22.2**	**+0.3**
PVY				*e*Sn	**Sg**	**04 03 49.7**	**-0.2**
DIVS	**Divibare**	**1.95**	**66**	*e*Pn	**Pn**	**04 03 22.1**	**0.0**
DIVS				*e*Sg	**Sg**	**04 03 50.2**	**-0.2**
DIVS	**Divibare**	**1.95**	**66**	*e*Pn	**Pn**	**04 03 22.1**	**0.0**
DIVS				*e*Sg	**Sg**	**04 03 50.2**	**-0.2**
TRUS	**Trudelj**	**2.27**	**66**	*e*Pn	**Pn**	**04 03 25.7**	**-0.9**
TRUS				*e*Sg	**Sg**	**04 04 00.9**	**+0.1**
TRUS	**Trudelj**	**2.27**	**66**	*e*Pn	**Pn**	**04 03 25.7**	**-0.9**
TRUS				*e*Sg	**Sg**	**04 04 00.9**	**+0.1**
NVLJ	**Novalja**	**2.28**	**304**	*i* Pn	**Pn**	**04 03 27.6**	**+0.8**
NVLJ				Sn	**Sn**	**04 03 57.9**	**+2.4**
NVLJ	**Novalja**	**2.28**	**304**	*i* Pn	**Pn**	**04 03 27.5**	**+0.8**
NVLJ				Sn	**Sn**	**04 03 57.9**	**+2.4**
GRUS	**Gruza**	**2.38**	**75**	*e*Pn	**Pn**	**04 03 28.3**	**+0.2**
GRUS				*e*Sg	**Sg**	**04 04 03.4**	**-1.1**
GRUS	**Gruza**	**2.38**	**75**	*e*Pn	**Pn**	**04 03 28.3**	**+0.2**
GRUS				*e*Sg	**Sg**	**04 04 03.4**	**-1.1**
TIR	**Tirane**	**2.63**	**138**	*e*Pn	**Pn**	**04 03 32.3**	**+0.8**
TIR				*e*Sg	**Sg**	**04 04 13.7**	**+1.3**
BOJS	**Bojanci**	**2.72**	**324**	*i* Pn	**Pn**	**04 03 33.3**	**+0.5**
BOJS				*i* Sn	**Sn**	**04 04 09.2**	**+2.9**
BOJS	**Bojanci**	**2.72**	**324**	*i* Pn	**Pn**	**04 03 33.3**	**+0.6**
BOJS				*i* Sn	**Sn**	**04 04 09.2**	**+2.9**
BARS	**Barje**	**3.18**	**98**	*e*Pn	**Pn**	**04 03 39.2**	**+0.1**
BARS

EVR				S	Sg	04 32 09.9	0.0
EVR	Evrytania	1.40	53	P	Pn	04 31 50.1	-1.2
EVR	Evrytania	1.40	53	*e*Pb	Pb	04 31 50.5	-1.1
EVR				*e*Sb	Sb	04 32 09.5	-0.4
EVR				S	Sg	04 32 09.9	0.0
IGT	Igoumenitsa	1.46	359	P	Pn	04 31 52.0	0.0
IGT				S	Sb	04 32 12.1	+0.7
IGT	Igoumenitsa	1.46	359	P	Pn	04 31 52.0	0.0
IGT				S	Sb	04 32 12.1	+0.7
ITM	Ithomi	1.52	126	*e*PB	Pb	04 31 53.9	+0.3
ITM				*e*SB	Sb	04 32 14.8	+1.5
ITM	Ithomi	1.52	126	*e*Pb	Pb	04 31 53.9	+0.3
ITM				*e*Sb	Sb	04 32 14.8	+1.5
GUR	Goura	1.56	94	P	Pn	04 31 52.4	-1.0
GUR				S	Sn	04 32 12.8	-1.3
GUR	Goura	1.56	94	P	Pn	04 31 52.4	-1.0
GUR				S	Sn	04 32 12.8	-1.3
THL	Klokotos Trika	1.96	40	*e*PN	Pn	04 31 59.2	+0.3
THL				*e*SN	Sn	04 32 24.3	+0.3
THL	Klokotos Trika	1.96	40	*e*Pn	Pn	04 31 59.2	+0.3
THL				*e*Sn	Sn	04 32 24.3	+0.3
LKR	Lokris	2.14	74	*e*PN	Pn	04 32 02.0	+0.6
LKR				*e*SN	Sn	04 32 29.4	+1.0
LKR	Lokris	2.14	74	*e*Pn	Pn	04 32 02.0	+0.6
LKR				*e*Sn	Sn	04 32 29.4	+1.0
NEO	Neokhori	2.54	60	*e*PB	Pn	04 32 07.1	+0.2
NEO	Neokhori	2.54	60	*e*Pb	Pn	04 32 07.1	+0.2

DJA 15 04:58:34.4°23S×128°41E, h25km, MLv3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.58	338	P	Pb	04 58 47.4	+1.8
AAI				S	Sb	04 58 53.9	+0.5
MSAI	Masohi	1.02	31	P	Pn	04 58 54.6	+1.9
MSAI				S	Sb	04 59 07.5	+1.5
NLAI	Namlea	1.64	307	P	Pn	04 59 01.2	0.0
LBMI	Labuha	3.68	346	P	Pn	04 59 29.4	0.0
FAKI	Fak Fak	4.05	71	P	Pn	04 59 32.0	-2.4
KDI	Kendari	5.78	272	P	Pn	04 59 59.2	+0.9
	0.1nm11nm,0.7s						
LUWI	Luwuk	6.46	299	P	Pn	05 00 08.5	+0.9

*IDC **15** 05:06:03.0±4.4, 36°.09N×76°.80E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=92.9km s-min=36.4km az=123.0*
*ISCJB **15** 05:06:15.7±2.7, 36°.6N±0°.1×76°.9E±0°.1, h112km±23km, mb3.9/5, Error ellipse: s-maj=22.7km s-min=15.6km az=168.3*
*NEIC **15** 05:06:15.2±3.2, 36°.40N×76°.96E, h98km±25km, mb4.2/2, Error ellipse: s-maj=33.4km s-min=13.3km az=197.0*
ISC 15 05:06:16.2±2.4, 36°.5N±0°.1×76°.9E±0°.1, h101km±20km, n17, σ1§11/20, mb3.9/5, 2C-2D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.36	344	*e*Pn	Pn	05 07 49.5	+2.2
TKM2	Tokmak 2	6.45	352	⇑Pn	Pn	05 07 49.0	+0.5
	1.2nm,0.7s						
TKM2				⇑Lg		05 09 33.4	
	3.3nm,1.0s						
KK31	Karatay Array	8.18	325	⇓Pn	Pn	05 08 10.0	-2.0
	0.2nm,0.2s,baz=133,slow=12,SNR=7.9						
KK31				⇓Sn	Sn	05 09 40.9	-1.8
	0.7nm,0.4s,baz=141,slow=23,SNR=7.0						
MK31	Makanchi Array	11.01	20	*e*Pn	Pn	05 08 51.1	+0.6
MKAR	Makanchi Array	11.01	20	Pn	Pn	05 08 50.5	0.0
	0.3nm,0.3s,baz=199,slow=12,SNR=21						
MKAR				Sn	Sn	05 10 50.8	-0.7
	0.2nm,0.3s,baz=200,slow=27,SNR=5.4						
MKAR	Makanchi Array	11.01	20	Pn	Pn	05 08 50.5	0.0
MKAR				Sn	Sn	05 10 50.8	-0.7
ABKAR	Akbulak array	17.71	321	*e*Pn	Pn	05 10 16.9	+0.8
AKTO	Aktyubinsk	19.42	322	P	P	05 10 34.6	+0.3
	0.2nm,0.3s,baz=118,slow=13,SNR=3.5						
AKTO	Aktyubinsk	19.42	322	P	P	05 10 34.6	+0.3
FINES	FINESS Array B	40.15	325	P	P	05 13 42.8	+0.9
	1.8nm,0.4s,mb4.3,baz=114,slow=8.8,SNR=18						
FINES	FINESS Array B	40.15	325	P	P	05 13 42.8	+0.9
ARCES	ARCESS Array B	42.97	336	P	P	05 14 06.2	+1.3
	1.7nm,1.0s,mb3.7,baz=100,slow=8.3,SNR=7.6						
ARCES	ARCESS Array B	42.97	336	P	P	05 14 06.2	+1.3
MAJO	Matsushiro	48.50	71	P	P	05 14 47.8	-1.0
	1.5nm,0.3s,mb4.3						
TORD	Torodi Ar. Bea	70.46	272	P	P	05 17 19.5	-0.6
	0.2nm,0.7s,mb3.1,baz=51,slow=5.0,SNR=2.6						
TORD	Torodi Ar. Bea	70.46	272	P	P	05 17 19.5	-0.6
WRAB	Tennant Creek	78.08	126	*e*P	P	05 18 03.2	-0.8
	3.8nm,1.0s,mb4.1						

*IDC **15** 05:17:39.5±0.6, 26°.25S×176°.89W, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.5/18, mbtmp4.4/13, ML4.9/1, MS4.0/19, Ms1 4.0/19, ms1mx3.8/32, Error ellipse: s-maj=24.7km s-min=16.9km az=156.0*
*NEIC **15** 05:17:45.4±1.4, 26°.56S×176°.89W, h40km±13km, mb4.9/25, Error ellipse: s-maj=14.7km s-min=9.6km az=158.0*
*ISCJB **15** 05:17:46.1±1.6, 26°.44S±0°.07×177°.10W±0°.06, h51km±14km, mb4.8/41, MS4.1/20, Error ellipse: s-maj=12.9km s-min=8.4km az=158.7*
*BJI **15** 05:17:50.7, 26°.54S×177°.03W, h95km, mB5.3/14, mb5.1/22*
ISC 15 05:17:48.0±1.4, 26°.46S±0°.07×177°.06W±0°.06, h55km±12km, h98km±.6km: pP-P, n361, σ0§47/311, mb4.8/41, MS4.1/20, 120C-109D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.88	195	*e*Pn	Pn	05 18 31.1	-0.4
RAO				*e*Sn	Sn	05 19 10.9	+5.9
MSVF	Nonsavu	9.79	331	*e*Pn	Pn	05 20 06.1	-0.1
OUZ	Omahuta	11.86	220	*e*Pn	Pn	05 20 41.6	+7.3
URZ	Urewera	12.75	201	Pn	Pn	05 20 41.4	-5.1
	0.7nm,0.3s,baz=42,slow=15,SNR=5.2						
URZ				Sn	Sn	05 22 59.9	-7.0
	4.6nm,0.3s,baz=56,slow=22,SNR=10.0						
URZ	Urewera	12.75	201	Pn	Pn	05 20 40.5	-6.0
URZ				Pn	Pn	05 20 41.4	-5.1
URZ				Sn	Sn	05 22 59.9	-7.0
AFI	Afiamalu	13.43	23	Pn	Pn	05 20 43.8	-12
	28nm,0.3s,baz=150,slow=2.4,SNR=48						
AFI				Sn	Sn	05 22 59.8	-24
	3.5nm,0.3s,baz=60,slow=22,SNR=4.7						
AFI				LR	LR	05 24 49.1	
	comp=Z,233nm,20.4s,baz=198,slow=33						
AFI	Afiamalu	13.43	23	Pn	Pn	05 20 43.8	-12
AFI				Sn	Sn	05 22 59.8	-24
DZM	Mont Dzumac	15.66	283	*e*LR	LR	05 24 59.1	
	1μm,25.1s						
DZM	Mont Dzumac	15.66	283	*e*P	Pn	05 21 35.1	+10
DZM	Mont Dzumac	15.66	283	Pn	Pn	05 21 28.1	+2.9
	52nm,1.1s						
RAR	Rarotonga	16.65	75	Pn	Pn	05 21 30.0	-7.7
	4.4nm,0.3s,baz=257,slow=4.4,SNR=6.0						
RAR				LR	LR	05 26 16.6	
	comp=Z,352nm,18.6s,baz=270,slow=31						
RAR	Rarotonga	16.65	75	Pn	Pn	05 21 30.0	-7.7
RPZ	Rata Peaks	19.74	206	LR	LR	05 29 45.2	
	comp=Z,556nm,20.2s,baz=213,slow=36						
TBI	Tubuai	25.20	89	*e*LQ		05 27 57.7	
	660nm,28.8s						
TBI				*e*LR	LR	05 29 15.5	
	756nm,27.2s,baz=252						
PPT2	Papeete2	26.92	76	*e*LQ		05 28 38.1	
	996nm,26.2s						
PPT2				*e*LR	LR	05 29 58.9	
	874nm,25.8s,baz=246						
HNR	Honiara	27.58	304	LR	LR	05 32 23.7	
	comp=Z,462nm,21.5s,MS4.0,baz=331,slow=32						
CTA	Charters Tower	34.21	273	P	P	05 24 29.6	+1.0
	4.4nm,0.5s,mb4.6,baz=93,slow=13,SNR=5.3						
CTA	Charters Tower	34.21	273	P	P	05 24 29.6	+1.0
CTAO	Charters Tower	34.21	273	*e*P	P	05 24 29.9	+1.4
	23nm,0.8s,mb5.2						
STKA	Stephens Creek	36.35	251	P	P	05 24 48.2	+1.4
	1.5nm,0.9s,mb3.9,baz=153,slow=18,SNR=3.4						
STKA				LR	LR	05 38 08.6	
	comp=Z,454nm,19.4s,MS4.3,baz=291,slow=34						
STKA	Stephens Creek	36.35	251	P	P	05 24 48.2	+1.4
RKT	Rikitea	38.23	94	*e*LR	LR	05 35 11.5	
	474nm,28.2s						
TAOE	Nuku Hiva Isla	39.09	70	*e*LR	LR	05 35 16.1	
	395nm,29.3s						
TAOE	Nuku Hiva Isla	39.09	70	*e*P	P	05 25 02.7	-7.5
AS31	Alice Springs	44.30	262	*e*P	P	05 25 52.3	-0.3
ASAR	Alice Springs	44.30	262	P	P	05 25 52.4	-0.3
	5.2nm,0.8s,mb4.3,baz=107,slow=7.8,SNR=26						
ASAR	Alice Springs	44.30	262	P	P	05 25 52.4	-0.3
WB2	Warramunga Arr	44.92	268	*e*P	P	05 25 56.9	-0.7
WRAB	Tennant Creek	44.92	268	*e*P	P	05 25 57.2	-0.4
	87nm,2.3s,mb5.2						
WRA	Warramunga Arr	44.93	268	P	P	05 25 57.1	-0.6
	2.8nm,0.8s,mb4.2,baz=98,slow=7.6,SNR=10						
WRA				LR	LR	05 43 35.8	
	comp=Z,161nm,19.4s,MS4.0,baz=95,slow=34						
WRA	Warramunga Arr	44.93	268	P	P	05 25 57.1	-0.6
FORT	Forrest	47.97	251	*e*P	P	05 26 19.3	-2.1
	13nm,0.8s,mb5.0						
FITZ	Fitzroy Crossi	53.31	266	P	P	05 27 01.8	0.0
	1.9nm,0.5s,mb4.3,baz=163,slow=5.9,SNR=13						
FITZ	Fitzroy Crossi	53.31	266	P	P	05 27 01.8	-0.1
GUMO	Guam	54.35	312	LR	LR	05 47 32.4	
	comp=Z,146nm,20.2s,MS4.0,baz=283,slow=33						
QSPA	South Pole Qui	63.64	180	P	P	05 28 14.0	+1.2
	9.2nm,0.9s,mb4.8,baz=35,slow=3.9,SNR=24						
QSPA	South Pole Qui	63.64	180	P	P	05 28 14.0	+1.2
MJAR	Matsushiro Arr	75.51	324	LR	LR	05 58 24.0	
	comp=Z,60nm,18.1s,MS3.9,baz=75,slow=32						
MAW	Mawson	76.28	200	P	P	05 29 30.9	+0.5
	6.3nm,0.5s,mb4.8,baz=133,slow=9.4,SNR=28						
MAW				LR	LR	06 00 19.9	
	comp=Z,104nm,18.6s,MS4.2,baz=22,slow=34						
MAW	Mawson	76.28	200	P	P	05 29 30.9	+0.5
MAW				*e*P		05 29 31.3	
USHA	Ushuaia	78.71	146	LR	LR	05 55 54.8	
	comp=Z,130nm,21.8s,MS4.2,baz=163,slow=29						
SYO	Syowa Base	81.13	193	⇓*e*P	P	05 29 54.6	-2.5
SYO	Syowa Base	81.13	193	⇓*e*P	P	05 30 06.6	+10
KSRS	Korea Array	81.91	319	LR	LR	06 06 20.4	
	comp=Z,38nm,18.5s,MS3.8,baz=323,slow=36						
SNAA	Sanae	82.06	178	*e*	P	05 29 52.4	-10
SNAA	Sanae	82.06	178	LR	LR	06 00 54.9	
	comp=Z,35nm,19.6s,MS3.7,baz=27,slow=32						
OSI	Osito Adit	82.09	45	⇑P	P	05 30 03.1	+0.5
	baz=82						
VNA3	Neumayer Olymp	82.17	176	*e*	P	05 30 02.2	-0.3
VNA3				*e*		05 30 10.6	
MONP	Monument Peak	82.51	48	⇑P	P	05 30 05.1	+0.2
	baz=83						
BFSC	Mount Baldy Ra	82.54	46	⇑P	P	05 30 04.9	0.0
	baz=83						
VNA2	Neumayer--Watz	82.61	177	*e*	P	05 30 04.9	+0.1
VNA2				*e*	pP	05 30 16.5	-3.9
VES	Vestal, Richgr	82.65	44	⇑P	P	05 30 05.0	-0.5
	baz=83						
EDW2	Edwards Air Fo	82.73	45	⇓P	P	05 30 05.5	-0.4
	baz=83						
ISA	Isabella	82.92	44	⇑P	P	05 30 07.1	+0.2
	baz=83,SNR=5.5						
ISA	Isabella	82.92	44	*e*P	P	05 30 07.0	+0.1
	11nm,1.1s,mb4.8						
BELC	Belle Mtn. Jos	83.47	47	⇑P	P	05 30 09.9	+0.1
	baz=84						
BC3	Big Chuckawall	83.62	48	⇑P	P	05 30 10.6	+0.1
	baz=84						
GLA	Glamis	83.67	48	⇓P	P	05 30 11.2	+0.3
	baz=84						
GSC	Goldstone	83.75	46	⇑P	P	05 30 11.0	-0.2
	baz=84						
GSC	Goldstone	83.75	46	*e*P	P	05 30 11.1	0.0
	7.6nm,1.0s,mb4.8						
HEC	Hector,Ludlow	83.76	46	⇑P	P	05 30 11.3	+0.1
	baz=84						
MPMC	Manual Prospec	83.79	45	⇓P	P	05 30 11.7	+0.3
	baz=84,SNR=5.1						
MLAC	Mammoth Lakes	83.95	43	⇓P	P	05 30 11.9	-0.3
	baz=84						
IRM	Iron Mountain	84.13	47	⇓P	P	05 30 13.4	+0.3
	baz=84,SNR=6.3						
GMRC	Granite Mounta	84.17	47	⇓P	P	05 30 13.5	+0.2
	baz=84						
113A	Mohawk Valley,	84.22	49	⇑P	P	05 30 13.7	+0.1
	baz=84						
Y12C	Blythe	84.29	48	⇑P	P	05 30 13.8	-0.2
	baz=84						
NJ2	Nanjing	84.34	310	*e*P	P	05 30 13.9	-0.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
214A	Organ Pipe Nat	84.39	50	⇓P	P	05 30 14.8	+0.3
	baz=84						
TUQ	Turquoise Moun	84.40	46	⇑P	P	05 30 14.7	+0.2
	baz=84,SNR=5.1						
FURC	Furnace Creek,	84.44	45	⇓P	P	05 30 14.6	-0.1
	baz=84						
GRAC	Grapevine Rang	84.45	44	⇓P	P	05 30 15.0	+0.3
	baz=84						
SHOC	Shoshone	84.45	45	⇓P	P	05 30 14.8	+0.1
	baz=84						
WCN	Washoe City	84.48	41	⇓P	P	05 30 15.4	+0.6
	baz=84						
Z13A	Yuma Proving G	84.55	49	⇑P	P	05 30 15.7	+0.4
	baz=85						
PLCA	Paso Flores	84.58	133	LR	LR	06 01 59.6	
	comp=Z,87nm,18.8s,MS4.2,baz=200,slow=31						
LDFC	Landfair	84.71	47	*e*P	P	05 30 16.7	+0.6
	comp=Z,23nm,1.0s,mb5.3						
NVAR	Mina Array Bea	84.78	42	P	P	05 30 16.3	0.0
	comp=Z,6.6nm,1.0s,mb4.7,baz=218,slow=8.4,SNR=16						
NVAR	Mina Array Bea	84.78	42	P	P	05 30 16.3	0.0
114A	Black Gap (USA	84.81	50	⇑P	P	05 30 17.1	+0.5
	baz=85						
PDMCI	Parker Dam,Lak	84.88	48	⇓P	P	05 30 17.2	+0.3
	baz=85						
Z14A	Wintersburg	85.12	49	⇓P	P	05 30 18.3	+0.2
	baz=85						
Y14A	Wickenburg	85.42	49	⇑P	P	05 30 19.7	0.0
	baz=86,SNR=6.5						
W13A	Hualapai Mount	85.52	47	⇓P	P	05 30 20.4	+0.3
	baz=86,SNR=5.9						
MDJ	Mudanjiang	85.87	325	P	P	05 30 21.8	+0.2
MDJ				PP	PP	05 33 40.9	-1.3
MDJ				S	S	05 40 38.9	-12
MDJ				SS	SS	05 46 27.6	-2.0
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb5.0						
MDJ				pmax	pmax		
	comp=Z,83nm,4.7s						
MDJ				LR	LR		
	comp=N,76nm,4.7s						
MDJ				LR	LR		
	comp=E,190nm,5.4s						
MDJ				LR	LR		
	comp=Z,200nm,5.6s						
TUC	Tucson	86.00	51	*e*P	P	05 30 22.1	-0.5
	comp=Z,64nm,2.4s,mb5.4						
318A	Bisbee	86.07	52	⇑P	P	05 30 23.5	+0.6
	baz=86,SNR=7.9						
218A	Dragoon	86.33	52	⇑P	P	05 30 24.7	+0.5
	baz=86						
R11A	Troy Canyon, C	86.40	44	⇓P	P	05 30 24.0	-0.3
	baz=86						
319A	Douglas	86.54	52	⇑P	P	05 30 25.4	+0.2
	baz=87						
Y17A	Roosevelt	86.75	50	⇓P	P	05 30 26.7	+0.5
	baz=87,SNR=7.9						
X16A	Lo Mia Camp, P	86.75	49	⇓P	P	05 30 27.0	+0.7
	baz=87,SNR=14						
118A	Homack Ranch,	86.76	51	⇑P	P	05 30 26.9	+0.6
	baz=87,SNR=8.5						
219A	White Tail Can	86.90	52	⇓P	P	05 30 27.2	+0.2
	baz=87						
320A	Kipp Ranch, An	87.05	53	⇑P	P	05 30 28.3	+0.6
	baz=87,SNR=5.4						
X17A	Forest Lakes	87.14	49	⇑P	P	05 30 28.7	+0.6
	baz=87						
119A	Ashpeak Ranch,	87.29	51	⇓P	P	05 30 29.3	+0.4
	baz=87						
R13A	O'Grain Ranch,	87.31	45	⇑P	P	05 30 29.2	+0.4
	baz=87						
CCUT	Cedar City	87.32	46	*e*P	P	05 30 29.4	+0.6
	comp=Z,34nm,2.1s,mb5.2						
U15A	North Rim	87.35	47	⇑P	P	05 30 29.7	+0.6
	baz=87						
Y18A	Canyon Day Jun	87.35	50	⇑P	P	05 30 30.1	+0.9
	baz=87,SNR=16						
220A	Playas Peak, P	87.36	52	⇓P	P	05 30 29.8	+0.6
	baz=88,SNR=5.9						
WUAZ	Wupatki	87.43	48	⇓P	P	05 30 29.7	+0.2
	baz=88						
WUAZ	Wupatki	87.43	48	*e*P	P	05 30 30.0	+0.5
	comp=Z,6.7nm,0.9s,mb4.9						
CN2	Changchun	87.53	322	*e*P	P	05 30 30.5	+0.8
CN2				*e*pP	pP	05 30 56.3	+11
CN2				*e*S	S	05 41 01.1	-5.5
CN2				SS	SS	05 46 51.1	-2.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,200nm,20.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,20.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS4.5						
Z19A	T-Link Ranch,	87.61	51	⇓P	P	05 30 30.9	+0.6
	baz=88						
W17A	Winslow	87.62	49	⇓P	P	05 30 31.0	+0.6
	baz=88						
120A	U Bar Ranch, L	87.64	52	⇑P	P	05 30 30.9	+0.3
	baz=88,SNR=5.2						
X18A	Snowflake	87.83	50	⇓P	P	05 30 31.5	+0.1
	baz=88						
J08A	Circle Bar Ran	87.84	39	⇓P	P	05 30 31.1	-0.1
	baz=88						
V17A	Tonalea, Kykot	87.88	48	⇓P	P	05 30 31.9	+0.3
	baz=88						
U16A	Tuba City	87.95	48	⇑P	P	05 30 32.1	+0.2
	baz=88						
Z20A	Nine Sixteen R	87.98	51	⇓P	P	05 30 32.7	+0.5
	baz=88						
Y19A	Nutrioso	87.99	50	⇑P	P	05 30 32.7	+0.6
	baz=88						
X19A	St. Johns	88.22	50	⇑P	P	05 30 34.1	+0.8
	baz=88						
121A	Cookes Peak, D	88.23	52	⇑P	P	05 30 34.0	+0.7
	baz=88						
W18A	Petrified Fore	88.31	49	⇓P	P	05 30 34.2	+0.6
	baz=88						
R15A	Junction	88.40	45	⇑P	P	05 30 34.3	+0.3
	baz=88						
V18A	Ganado	88.51	49	⇓P	P	05 30 34.9	+0.3
	baz=89						
U17A	Shonto	88.52	48	⇑P	P	05 30 34.9	+0.3
	baz=89						
S16A	Weppner Ranch,	88.56	46	⇓P	P	05 30 34.6	-0.2
	baz=89						
Y20A	Horse Springs,	88.57	51	⇓P	P	05 30 35.3	+0.4
	baz=89						
MSU	Marysvale	88.64	45	*e*P	P	05 30 35.9	+0.7
T17A	Navajo Res., N	88.66	47	⇑P	P	05 30 35.6	+0.3
	baz=89						
Z21A	St. Cloud Mine	88.73	52	⇓P	P	05 30 36.0	+0.3
	baz=89						
X20A	Quemado	88.83	50	⇓P	P	05 30 36.7	+0.5
	baz=89,SNR=5.1						
122A	Conniff Cattle	88.88	52	⇑P	P	05 30 36.9	+0.5
	baz=89						
223A	Chaparral, Ant	88.92	53	⇑P	P	05 30 36.8	+0.1
	baz=89						
U18A	Rough Rock, Ch	88.95	48	⇓P	P	05 30 36.7	+0.1
	baz=89						
Y21A	Point of Rocks	89.11	51	⇓P	P	05 30 38.1	+0.7
	baz=89,SNR=12						
W20A	Ramah	89.15	50	⇑P	P	05 30 38.2	+0.5
	baz=89,SNR=13						
Z22A	Elephant Butte	89.20	52	⇑P	P	05 30 37.9	0.0
	baz=89						
DUG	Dugway	89.23	44	⇓P	P	05 30 37.9	+0.1
	baz=89						
X21A	Alamocita Cree	89.27	51	⇑P	P	05 30 38.6	+0.4
	baz=89,SNR=13						
324A	Moseley Ranch,	89.31	54	⇓P	P	05 30 38.6	+0.1
	baz=89						
U19A	Dine' College,	89.32	48	⇓P	P	05 30 38.3	-0.1
	baz=89,SNR=7.1						
626A	Big Bend Ranch	89.32	56	⇓P	P	05 30 38.3	-0.3
	baz=89						
425A	Indio Mountain	89.33	55	⇑P	P	05 30 38.5	0.0
	baz=89						
T18A	Mexican Hat	89.35	47	⇑P	P	05 30 38.4	-0.1
	baz=89,SNR=6.1						
MFID	Camas Ranch	89.38	40	⇓P	P	05 30 38.3	-0.1
	baz=89						
MNTX	Cornudas Mount	89.51	54	⇑P	P	05 30 39.2	-0.2
	baz=90						
MNTX	Cornudas Mount	89.51	54	*e*P	P	05 30 38.6	-0.8
	comp=Z,3.3nm,1.1s,mb4.6						
Q16A	Castle Valley	89.52	45	⇓P	P	05 30 39.4	+0.2
	baz=90						
V20A	Brimhall	89.55	49	⇑P	P	05 30 39.6	+0.2
	baz=90						
TXAR	Lajitas Array	89.56	57	P	P	05 30 39.5	-0.1
	comp=Z,1.6nm,0.9s,mb4.4,baz=214,slow=6.7,SNR=16						
TXAR	Lajitas Array	89.56	57	P	P	05 30 39.5	-0.1
Y22A	Socorro	89.57	51	⇓P	P	05 30 39.9	+0.3
	baz=90,SNR=10						
224A	Cornudas Mount	89.61	54	⇑P	P	05 30 40.1	+0.3
	baz=90						
325A	Bean Ranch, Si	89.64	54	⇑P	P	05 30 40.0	0.0
	baz=90						
LENM	Lemitar	89.69	51	*e*P	P	05 30 40.7	+0.6
LAZ	Ladron	89.70	51	*e*P	P	05 30 40.9	+0.7
	comp=Z,5.8nm,1.2s,mb4.8						
TMUT	Trail Mountain	89.71	45	*e*P	P	05 30 40.8	+0.7
	comp=Z,8.5nm,0.8s,mb5.1						
Z23A	Rita Site, Whi	89.73	52	⇑P	P	05 30 40.0	-0.4
	baz=90						
W21A	San Fidel	89.73	50	⇑P	P	05 30 40.8	+0.4
	baz=90						
T19A	Beclabito	89.74	48	⇑P	P	05 30 40.6	+0.3
	baz=90						
627A	Terlingua Ranc	89.83	57	⇑P	P	05 30 40.8	-0.1
	baz=90						
U20A	Newcomb	89.83	49	⇓P	P	05 30 40.4	-0.3
	baz=90						
X22A	Bernardo	89.84	51	⇓P	P	05 30 40.8	-0.1
	baz=90						
BNM	Barren Site	89.92	51	*e*P	P	05 30 41.7	+0.4
	comp=Z,6.0nm,1.2s,mb4.8						
426A	McDonald Obser	89.97	55	⇓P	P	05 30 41.4	-0.1
	baz=90				

GYA LR LR
comp=E,520nm,21.0s,MS5.2
GYA LR LR
comp=Z,670nm,19.1s,MS5.1
Z24A Sheeppen Canyo 90.38 53 ⇑P **P 05 30 43.8 +0.4**
baz=90
K14A Jones Ranch, D 90.40 42 ⇑P **P 05 30 43.1 -0.2**
baz=90
R19A Curley Farm, L 90.40 47 ⇑P **P 05 30 42.5 -0.8**
baz=90
U21A Nageezi 90.44 49 ⇓P **P 05 30 43.9 +0.3**
baz=90,SNR=16
X23A Hourglass Bar 90.46 51 ⇓P **P 05 30 43.8 0.0**
baz=90,SNR=5.4
ANMO Albuquerque 90.46 51 LR LR 06 03 46.5
comp=Z,108nm,20.4s,MS4.3,baz=214,slow=31
ANMO Albuquerque 90.46 51 *e*P **P 05 30 43.7 0.0**
comp=Z,7.8nm,1.0s,mb5.0
P18A Preston Nutter 90.51 45 ⇑P **P 05 30 44.0 +0.2**
baz=91
GDL2 Guadalupe Moun 90.51 54 *e*P **P 05 30 44.3 +0.2**
O17A Robinson Place 90.52 45 ⇑P **P 05 30 44.1 +0.2**
baz=91
427A Hayter Ranch, 90.53 56 ⇑P **P 05 30 44.1 0.0**
baz=91
125A Gardner Draw, 90.54 54 ⇑P **P 05 30 43.9 -0.2**
baz=91
L15A Malad City 90.55 42 ⇓P **P 05 30 43.6 -0.4**
baz=91
H12A Diamond D Ranc 90.62 39 ⇓P **P 05 30 44.0 -0.3**
baz=91,SNR=9.0
528A Cox Ranch, San 90.63 56 ⇑P **P 05 30 44.5 -0.1**
baz=91
Y24A Capitan 90.64 52 ⇓P **P 05 30 44.5 -0.1**
baz=91
J14A Carey 90.66 41 ⇑P **P 05 30 44.6 +0.2**
baz=91,SNR=5.2
I13A Wildhorse Cree 90.66 40 ⇑P **P 05 30 44.9 +0.5**
baz=91
V22A San Miguel Ran 90.67 50 ⇓P **P 05 30 45.0 +0.3**
S20A Disappointment 90.73 48 ⇑P **P 05 30 45.0 0.0**
baz=91
Q19A Hogan Spring (90.76 46 ⇑P **P 05 30 44.6 -0.4**
baz=91
W23A Werner Place, 90.79 51 ⇑P **P 05 30 45.0 -0.2**
baz=91
C09A Chrisman Ranch 90.81 35 ⇓P **P 05 30 45.1 +0.1**
baz=91
Z25A Roswell 90.81 53 ⇓P **P 05 30 45.4 0.0**
baz=91
T21A Navajo Lake 90.83 49 ⇓P **P 05 30 45.6 +0.2**
baz=91
K15A Arbon 90.86 42 ⇓P **P 05 30 45.4 0.0**
baz=91
N17A Moffit Pass 90.89 44 ⇑P **P 05 30 45.8 +0.2**
baz=91
CFAA Coronel Fontan 90.90 126 LR LR 06 01 57.1
comp=Z,9.1nm,20.6s,MS3.2,baz=229,slow=29
R20A Redvale 90.92 47 ⇑P **P 05 30 45.7 -0.1**
baz=91
U22A Llaves 90.95 49 ⇑P **P 05 30 45.9 -0.1**
baz=91
H13A Challis 90.97 39 ⇓P **P 05 30 45.7 -0.2**
baz=91
126A Clayton Basin, 90.99 54 ⇓P **P 05 30 46.0 -0.3**
baz=91
428A Kincaid Ranch, 91.00 56 ⇑P **P 05 30 45.9 -0.4**
baz=91
S21A Coal Bank Pass 91.02 48 ⇑P **P 05 30 46.2 -0.1**
baz=91
I14A Mackay 91.06 40 ⇑P **P 05 30 46.4 +0.1**
baz=91
V23A Ortiz Mt. (NFS 91.08 50 ⇓P **P 05 30 46.6 0.0**
baz=91
L16A Fish Haven 91.14 43 ⇓P **P 05 30 46.1 -0.5**
baz=91
F12A Elk City 91.14 38 ⇑P **P 05 30 46.2 -0.4**
baz=91
Y25A Mesa, Roswell 91.17 52 ⇓P **P 05 30 46.7 -0.4**
baz=91
328A Wristen Ranch, 91.23 55 ⇑P **P 05 30 47.0 -0.4**
baz=91
T22A Edith 91.26 49 ⇓P **P 05 30 47.2 -0.2**
baz=91
M17A Scullys Gap (B 91.29 44 ⇑P **P 05 30 47.3 -0.2**
baz=91
CPRX Cap Rock 91.30 54 *e*P **P 05 30 47.5 -0.2**
comp=Z,5.0nm,0.9s,mb4.8
G13A Cobalt 91.31 39 ⇓P **P 05 30 47.0 -0.4**
baz=91
P19A Cripple Cowboy 91.32 46 ⇑P **P 05 30 47.4 -0.2**
baz=91
W24A Lazy 6 Ranch, 91.33 51 ⇑P **P 05 30 47.7 -0.1**
baz=91
J15A Blackfoot 91.34 41 ⇑P **P 05 30 47.9 +0.3**
baz=91
Z26A Caprock 91.34 53 ⇓P **P 05 30 47.4 -0.5**
baz=91
Q20A Ridgley Place, 91.39 47 ⇓P **P 05 30 47.5 -0.5**
baz=92
127A Arkansas Junct 91.49 54 ⇑P **P 05 30 48.3 -0.3**
baz=92
K16A Soda Springs 91.51 42 ⇑P **P 05 30 48.6 +0.2**
baz=92
H14A Leadore 91.51 40 ⇓P **P 05 30 48.2 -0.2**
baz=92,SNR=5.4
R21A Cimarron 91.56 47 ⇑P **P 05 30 48.7 -0.1**
baz=92,SNR=7.0
P20A De Beque 91.63 46 ⇑P **P 05 30 49.0 -0.1**
baz=92
M18A Lyman 91.64 44 ⇑P **P 05 30 49.2 +0.2**
baz=92
I15A Monteview 91.66 41 ⇓P **P 05 30 49.3 +0.2**
baz=92
F13A Darby 91.67 38 ⇑P **P 05 30 48.3 -0.8**
baz=92,SNR=6.3
V24A Rampart Ranch, 91.70 51 ⇓P **P 05 30 49.4 -0.1**
baz=92
S22A 4UR Ranch, Cre 91.70 48 ⇑P **P 05 30 49.5 0.0**
baz=92,SNR=7.1
J16A Bone 91.75 42 ⇑P **P 05 30 49.4 -0.2**
baz=92,SNR=7.0
Q21A Lamborn Mesa, 91.80 47 ⇓P **P 05 30 50.1 +0.3**
baz=92
K17A Gardner Place, 91.87 42 ⇓P **P 05 30 50.3 +0.2**
baz=92
C11A Tepee Creek (N 91.88 36 ⇓P **P 05 30 50.0 0.0**
baz=92
Z27A Tatum 91.91 54 ⇑P **P 05 30 50.5 0.0**
baz=92
H15A Lima 91.93 40 ⇑P **P 05 30 50.8 +0.5**
baz=92
MCMT McKenzie Canyo 91.94 40 *e*P **P 05 30 50.5 +0.1**
comp=Z,2.1nm,1.0s,mb4.4
W25A X Bar L Ranch, 92.00 51 ⇓P **P 05 30 50.8 -0.1**
baz=92
R22A Saguache, Gunn 92.01 48 ⇑P **P 05 30 50.9 0.0**
baz=92
I16A Newdale 92.18 41 ⇓P **P 05 30 51.4 -0.1**
baz=92,SNR=5.8
V25A Rancho No Teng 92.21 51 ⇑P **P 05 30 51.3 -0.5**
baz=92
C12B Naegeli Ranch, 92.22 36 ⇓P **P 05 30 51.0 -0.5**
baz=92
F14A Wisdom 92.22 39 ⇑P **P 05 30 51.6 0.0**
baz=92
Y27A Causey 92.24 53 ⇑P **P 05 30 51.8 -0.3**
baz=92
Q22A Crested Butte, 92.25 47 ⇑P **P 05 30 52.1 +0.2**
baz=92
REDW Red Top Meadow 92.26 42 *e*P **P 05 30 51.8 -0.1**
comp=Z,32nm,2.0s,mb5.3
K18A Toltan Ranch, 92.34 43 ⇑P **P 05 30 51.9 -0.3**
baz=92,SNR=6.6
G15A Dillon 92.34 40 ⇑P **P 05 30 51.8 -0.4**
baz=92,SNR=7.8
J17A Brown Place, J 92.34 42 ⇑P **P 05 30 51.8 -0.4**
baz=92
SNOW Snow King Moun 92.37 42 *e*P **P 05 30 52.3 -0.1**
comp=Z,7.7nm,1.1s,mb5.0
N20A Spence Gulch, 92.44 45 ⇑P **P 05 30 51.8 -1.0**
baz=92
L19A Farson 92.46 44 ⇓P **P 05 30 52.7 -0.1**
baz=92
MSO Missoula 92.51 38 ⇑P **P 05 30 52.4 -0.5**
baz=93
E14A Clinton 92.52 38 ⇓P **P 05 30 52.7 -0.3**
baz=93
MSTX Muleshoe 92.56 53 ⇑P **P 05 30 52.7 -0.8**
baz=93
SDCO Great Sand Dun 92.60 49 ⇑P **P 05 30 53.3 -0.2**
baz=93
R23A Moffat 92.61 48 ⇓P **P 05 30 53.5 -0.1**
baz=93
U25A Circle Dot Ran 92.64 50 ⇓P **P 05 30 54.0 +0.1**
baz=93
X27A F and S Farms, 92.67 52 ⇓P **P 05 30 53.6 -0.4**
baz=93
J18A Kendall Valley 92.67 42 ⇓P **P 05 30 53.2 -0.6**
baz=93,SNR=12
C13A Hot Springs 92.68 37 ⇑P **P 05 30 54.0 +0.3**
baz=93
BW06 Boulder Array 92.70 43 ⇑P **P 05 30 53.5 -0.4**
baz=93
PDAR Pinedale Array 92.70 43 P **P 05 30 53.0 -1.0**
comp=Z,2.3nm,0.8s,mb4.6,baz=224,slow=4.1,SNR=16
PDAR LR LR 06 04 02.5
comp=Z,75nm,21.1s,MS4.1,baz=38,slow=30
PDAR Pinedale Array 92.70 43 P **P 05 30 53.0 -1.0**
F15A Butte 92.74 39 ⇑P **P 05 30 53.4 -0.6**
baz=93
S24A Houchin Ranch, 92.74 49 ⇑P **P 05 30 54.2 0.0**
baz=93
P22A Eagle 92.74 47 ⇑P **P 05 30 54.6 +0.4**
baz=93
QLMT Earthquake Lak 92.76 40 *e*P **P 05 30 54.6 +0.4**
comp=Z,0.7nm,0.7s,mb4.2
G16A Moss Hill, Enn 92.77 40 ⇓P **P 05 30 53.9 -0.3**
baz=93
H16A Russell Place, 92.79 41 ⇓P **P 05 30 54.2 -0.1**
baz=93
KMI Kunming 92.80 297 P **P 05 30 56.0 +1.2**
KMI S S 05 41 50.0 -6.1
KMI LR LR
comp=Z,41nm,31.3s,MS3.7
KMI Kunming 92.80 297 P **P 05 30 56.0 +1.2**
KMI S S 05 41 50.0 -6.1
KMI LR LR
comp=Z,40nm,31.3s,MS3.7
N21A Black Mountain 92.88 45 ⇑P **P 05 30 54.3 -0.5**
baz=93
CMAR Chiang Mai Arr 92.89 289 P **P 05 30 56.1 +0.8**
comp=Z,0.5nm,0.3s,mb4.4,baz=134,slow=6.5,SNR=3.7
CMAR Chiang Mai Arr 92.89 289 P **P 05 30 56.1 +0.8**
D14A Greenough 92.90 38 ⇓P **P 05 30 54.1 -0.7**
baz=93
YMR Madison River 92.94 41 *e*P **P 05 30 55.8 +0.8**
comp=Z,2.1nm,0.6s,mb4.7
I18A Diamond G Ranc 93.07 42 ⇓P **P 05 30 55.3 -0.3**
baz=93
U26A Atchley Ranch, 93.10 51 ⇓P **P 05 30 55.6 -0.4**
baz=93
BOZ Bozeman (W) 93.11 40 ⇓P **P 05 30 55.2 -0.6**
baz=93,SNR=5.5
BOZ Bozeman (W) 93.11 40 *e*P **P 05 30 55.2 -0.6**
comp=Z,38nm,2.3s,mb5.4
R24A Sanders Place, 93.12 49 ⇑P **P 05 30 56.0 0.0**
baz=93
O22A Kremmling 93.18 46 ⇑P **P 05 30 56.0 -0.2**
baz=93
F16A Kennard Place, 93.20 40 ⇓P **P 05 30 56.1 -0.1**
baz=93
S25A Robets Cordova 93.28 49 ⇑P **P 05 30 56.6 -0.1**
baz=93
J19A Crowheart 93.29 43 ⇑P **P 05 30 56.4 -0.2**
baz=93
K20A Yellowstone Ra 93.39 44 ⇓P **P 05 30 56.1 -1.0**
baz=93
ISCO Idaho Springs 93.60 47 ⇓P **P 05 30 58.3 +0.1**
baz=94
O23A Lake Granby, G 93.62 47 ⇑P **P 05 30 58.5 +0.3**
baz=94
I19A Meeteetse 93.75 42 ⇑P **P 05 30 58.6 -0.1**
baz=94
F17A Fitzpatrick Pl 93.82 40 ⇓P **P 05 30 58.9 -0.1**
baz=94
ILAR Eielson Array 93.91 12 P **P 05 30 56.3 -2.7**
comp=Z,0.3nm,0.7s,mb3.8,baz=227,slow=4.5,SNR=6.0
ILAR Eielson Array 93.91 12 P **P 05 30 56.3 -2.7**
J20A Shoshoni 93.93 43 ⇑P **P 05 30 59.5 -0.1**
baz=94
K21A Alcova 94.05 44 ⇑P **P 05 31 00.5 +0.4**
baz=94
A14A Double T Ranch 94.07 36 ⇑P **P 05 30 59.8 -0.3**
baz=94
HHC Hu-ho-hao-te 94.10 314 *e*P **P 05 31 01.3 +0.9**
HHC pP pP 05 31 27.3 +11
HHC sP sP 05 31 37.5 +15
HHC PP PP 05 34 50.1 +2.3
HHC SKS 05 41 25.4
HHC S S 05 42 00.1 -6.7
HHC SS SS 05 48 25.3 -3.7
HHC pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
HHC pmax pmax
comp=Z,170nm,3.3s
HHC LR LR
comp=N,130nm,13.1s,MS4.7
HHC LR LR
comp=E,140nm,15.7s,MS4.7
HHC LR LR
comp=Z,110nm,15.5s,MS4.4
G18A Lazy EL Ranch, 94.12 41 ⇓P **P 05 31 00.4 0.0**
baz=94
RLMT Red Lodge 94.19 41 ⇑P **P 05 31 00.9 +0.1**
baz=94
L22A Ellis Ranch, M 94.25 45 ⇓P **P 05 31 01.1 0.0**
baz=94
R26A Arlington 94.27 49 ⇓P **P 05 31 01.4 +0.1**
baz=94
J21A Lysite 94.32 43 ⇓P **P 05 31 01.0 -0.4**
baz=94
P25A Willow Gulch B 94.41 48 ⇓P **P 05 31 01.1 -0.8**
baz=94
ATAH Atahualpa 94.55 100 LR LR 06 04 24.8
comp=Z,138nm,18.3s,MS4.5,baz=333,slow=30
H20A Greybull 94.60 42 ⇓P **P 05 31 01.5 -1.1**
baz=95
I21A Big Trails, Te 94.66 43 ⇓P **P 05 31 02.4 -0.5**
baz=95
CD2 Chengdu 94.70 302 *e*P **P 05 31 03.3 -0.1**
CD2 pP pP 05 31 29.3 +10
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
CD2 pmax pmax
comp=Z,30nm,5.0s
C17A Wharram Farm, 94.74 38 ⇓P **P 05 31 02.6 -0.6**
baz=95
L23A Garrett 94.75 45 ⇓P **P 05 31 03.0 -0.4**
baz=95
F19A Roth Farm, Mol 94.78 41 ⇑P **P 05 31 02.8 -0.6**
baz=95
G20A Bridger 94.87 41 ⇑P **P 05 31 03.3 -0.5**
baz=95
J22A Midwest 94.95 44 ⇑P **P 05 31 03.7 -0.5**
baz=95
M24A Cheyenne 94.98 46 ⇓P **P 05 31 04.2 -0.3**
baz=95
A18A Metzger Ranch, 95.97 38 ⇓P **P 05 31 08.7 0.0**
baz=96
K26A Motz Farm, Whi 96.66 45 ⇑P **P 05 31 12.0 -0.1**
baz=97
RSSD Black Hills 96.83 44 *e*P **P 05 31 11.2 -1.5**
comp=Z,3.9nm,1.0s,mb4.8
LZH Lanzhou 97.04 307 *e*P **P 05 31 14.3 +0.4**
LZH pP pP 05 31 40.3 +11
LZH pmax pmax
comp=Z,17nm,1.3s,mb5.3
LZH Lanzhou 97.04 307 *e*P **P 05 31 14.2 +0.3**
comp=Z,17nm,1.3s,mb5.3
LZH pP pP 05 31 40.2 +10
LZH sP sP 05 31 50.7 +15
LPAZ La Paz 98.96 113 LR LR 06 06 50.9
comp=Z,66nm,18.1s,MS4.2,baz=54,slow=30
INK Inuvik 99.77 15 LR LR 06 07 00.5
comp=Z,86nm,21.0s,MS4.2,baz=69,slow=30
USIN University of 105.31 55 *e*Pdif Pdif 05 31 45.8 -4.9
WMQ Urumqi 111.41 309 *e*PKP PKiKP 05 36 15.0 -0.8
ZALV Zalesovo Beam 115.61 320 PKP PKPdf 05 36 21.1 -2.4
comp=Z,1.2nm,0.5s,baz=182,slow=1.5,SNR=6.6
ZALV Zalesovo Beam 115.61 320 PKP PKPdf 05 36 21.1 -2.4
MKAR Makanchi Array 115.84 311 PKP PKPdf 05 36 22.2 -1.9
comp=Z,1.2nm,0.7s,baz=72,slow=1.8,SNR=15
MKAR Makanchi Array 115.84 311 PKP PKPdf 05 36 22.2 -1.9
KKAR Karatay Array 123.52 306 *e*PKPdf PKPdf 05 36 37.7 -1.4
BRVK Borovoye 124.18 318 *e*PKPdf PKPdf 05 36 38.7 -1.3
ARCES ARCESS Array B 134.91 349 PKP PKPdf 05 36 57.3 -2.6
comp=Z,3.1nm,0.8s,baz=49,slow=3.9,SNR=6.4
ARCES ARCESS Array B 134.91 349 PKP PKPdf 05 36 57.3 -2.6
FINES FINESS Array B 141.70 342 PKhKP PKPpre 05 37 06.6
comp=Z,1.1nm,0.6s,baz=46,slow=5.5,SNR=3.3
FINES PKP PKPdf 05 37 13.1 +0.5
comp=Z,2.6nm,0.8s,baz=130,slow=2.2,SNR=3.5
FINES FINESS Array B 141.70 342 PKPpre PKPpre 05 37 06.6
FINES PKP PKPdf 05 37 13.1 +0.5
NB2 NORSAR Subarra 144.97 353 PKP PKPdf 05 37 15.8 -2.6
comp=Z,1.7nm,0.8s,baz=19,slow=3.6
NOA NORSAR Array B 144.97 353 PKP PKPdf 05 37 16.1 -2.3
comp=Z,9.2nm,0.8s,baz=13,slow=2.4,SNR=23
NOA NORSAR Array B 144.97 353 PKP PKPdf 05 37 16.1 -2.3
NAO01 NORSAR Array S 145.20 353 *e*PKPbc PKPbc 05 37 17.2 -1.3
MICGM Minsk 146.52 334 *e* PKPdf 05 37 21.0 -0.2
AKASG Malin Array Be 148.55 327 PKPbc PKPbc 05 37 26.8 -1.6
comp=Z,3.8nm,0.6s,baz=44,slow=3.9,SNR=20
AKASG Malin Array Be 148.55 327 PKPbc PKPbc 05 37 26.8 -1.6
AKBB Malin Array Si 148.55 327 *e*PKPbc PKPbc 05 37 26.8 -1.6
KIEV Kiev 148.57 327 *e*PKPbc PKPbc 05 37 26.8 -1.7
ANDN Andirin 149.73 300 *i* P PKPbc 05 37 31.2 -0.6
AVNT Avonos 150.60 303 *i* P PKPbc 05 37 32.8 -1.1
GULE Gulek 151.01 300 *i* P PKPbc 05 37 34.6 -0.2
BR131 Keskin Array S 151.23 305 *e*PKPdf PKPbc 05 37 34.1 -1.1
BRTR Keskin Array B 151.23 305 PKPbc PKPbc 05 37 34.2 -1.0
comp=Z,4.5nm,0.9s,baz=134,slow=3.7,SNR=17
BRTR PKPab PKPab 05 37 43.0 -0.4
comp=Z,7.9nm,1.0s,baz=98,slow=2.7,SNR=9.5
BRTR Keskin Array B 151.23 305 PKPbc PKPbc 05 37 34.2 -1.0
BRTR PKPab PKPab 05 37 43.0 -0.4
KWP Kalwaria Pacla 152.28 332 *e*PKPbc PKPbc 05 37 36.7 -0.6
BUR08 Bucovina Ar. S 152.56 326 *e*PKPdf PKPdf 05 37 30.9 -0.1
BUR08 *e*PKPbc PKPbc 05 37 38.8 +0.7
BUR08 *e*PKPab PKPab 05 37 50.1 +1.5
OJC Ojcow 152.97 336 *e*PKP PKPbc 05 37 37.9 -0.9
NIE Niedzica 153.42 334 *e*PKP PKPbc 05 37 39.7 -0.2
KSP Ksiaz 153.60 341 *e*PKPbc PKPbc 05 37 39.5 -0.7
KSP *e*PKPab PKPab 05 37 50.5 -2.4
CLL Collm 154.03 345 *e*PKPbc PKPbc 05 37 40.0 -1.1
CLL *ep*PKPbc pPKPbc 05 37 48.0 -9.4
comp=Z,9.0nm,0.8s
BRG Berggiesshubel 154.21 344 *e*PKP PKPbc 05 37 40.7 -0.8
comp=Z,8.5nm,1.2s
TORD Torodi Ar. Bea 166.71 175 PKP PKPdf 05 37 46.7 -1.3
comp=Z,1.6nm,0.9s,baz=278,slow=2.6,SNR=6.0
TORD PKPab PKPab 05 38 50.3 -0.4
comp=Z,2.3nm,0.9s,baz=196,slow=2.0,SNR=6.0
TORD Torodi Ar. Bea 166.71 175 PKP PKPdf 05 37 46.7 -1.3
TORD PKPab PKPab 05 38 50.3 -0.4

IDC ***15*** *05:23:30.3±0.8, 59°.03S×25°.29W, h0km, mb4.5/6, mb1 4.5/7, mb1mx4.2/15, mbtmp4.5/7, ML4.3/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/23, Error ellipse: s-maj=35.9km s-min=23.2km az=100.0*
ISCJB ***15*** *05:23:32.5±5.3, 59°.0S±0°.1×25°.3W±0°.3, h24km±37km, mb4.5/8, MS3.6/3, Error ellipse: s-maj=27.5km s-min=18.0km az=138.1*
NEIC ***15*** *05:23:36.1±3.0, 59°.06S×25°.33W, h42km±26km, mb4.5/3, Error ellipse: s-maj=21.0km s-min=14.7km az=51.0*
ISC 15 05:23:36.3±2.2, 59°.1S±0°.1×25°.4W±0°.3, h40km±20km, n31, σ0=83/23, mb4.5/8, MS3.6/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.63**	**155**	*e*		**Pn**	**05 26 46.8**	**+0.2**
VNA1				*e*			05 29 08.7	
VNA3	**Neumayer Olymp**	**13.81**	**158**	*e*		**Pn**	**05 26 48.8**	**-0.3**
VNA3				*e*			05 29 06.7	
VNA2	**Neumayer--Watz**	**14.02**	**155**	*e*		**Pn**	**05 26 52.2**	**+0.2**
VNA2				*e*			05 29 16.6	
SNAA	**Sanae**	**15.59**	**153**	*e*		**Pn**	**05 27 12.2**	**-0.5**
SNAA	**Sanae**	**15.59**	**153**	Pn		**Pn**	**05 27 12.9**	**+0.2**
	1.2nm,0.3s,baz=312,slow=13,SNR=97							
SNAA				Sn		**Sn**	**05 29 57.6**	**-6.4**
	0.1nm,0.3s,baz=291,slow=12,SNR=4.5							
SNAA				LR		LR	05 31 54.2	
	comp=Z,50nm,21.8s,baz=205,slow=32							
SNAA	**Sanae**	**15.59**	**153**	*e*Pn		**Pn**	**05 27 11.9**	**-0.8**
	16nm,0.6s							
SNAA				Sn		**Sn**	**05 29 57.6**	**-6.4**
USHA	**Ushuaia**	**23.55**	**261**	P		**P**	**05 28 43.3**	**+0.6**
	5.5nm,1.0s,mb3.9,baz=108,slow=9.3,SNR=3.8							
USHA				LR		LR	05 35 26.9	
	comp=Z,159nm,21.3s,MS3.5,baz=48,slow=30							
USHA	**Ushuaia**	**23.55**	**261**	P		**P**	**05 28 43.3**	**+0.6**
QSPA	**South Pole Qui**	**31.17**	**180**	P		**P**	**05 29 52.3**	**+1.5**
	5.9nm,0.7s,mb4.6,baz=198,slow=1.9,SNR=7.6							
QSPA	**South Pole Qui**	**31.17**	**180**	*e*P		**P**	**05 29 51.9**	**+1.1**
TRQA	**Tornquist**	**31.47**	**296**	*e*P		**P**	**05 29 52.8**	**-0.9**
	5.7nm,0.8s,mb4.5							
BOSA	**Boshof**	**45.89**	**71**	LR		LR	05 46 18.8	
	comp=Z,61nm,20.5s,MS3.5,baz=171,slow=30							
MSKU	**Masuku**	**64.79**	**44**	LR		LR	05 56 11.4	
	comp=Z,60nm,21.7s,MS3.8,baz=82,slow=30							
DBIC	**Dimbokro**	**67.56**	**22**	P		**P**	**05 34 28.8**	**+0.4**
	2.8nm,0.7s,mb4.4,baz=175,slow=2.4,SNR=3.8							
DBIC	**Dimbokro**	**67.56**	**22**	P		**P**	**05 34 28.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**75.25**	**27**	P		**P**	**05 35 15.2**	**+0.5**
	5.6nm,0.6s,mb4.7,baz=199,slow=6.3,SNR=89							
TORD	**Torodi Ar. Bea**	**75.25**	**27**	P		**P**	**05 35 15.2**	**+0.5**
STKA	**Stephens Creek**	**88.75**	**169**	P		**P**	**05 36 25.5**	**+0.1**
	1.3nm,0.5s,mb4.5,baz=171,slow=9.4,SNR=3.7							
STKA	**Stephens Creek**	**88.75**	**169**	P		**P**	**05 36 25.5**	**+0.1**
ASAR	**Alice Springs**	**95.81**	**161**	P		**P**	**05 36 57.1**	**-1.1**
	1.3nm,0.8s,mb4.4,baz=192,slow=3.4,SNR=12							
ASAR	**Alice Springs**	**95.81**	**161**	P		**P**	**05 36 57.1**	**-1.1**
WB2	**Warramunga Arr**	**99.53**	**161**	*e*P		**P**	**05 37 16.1**	**+1.1**
WRAB	**Tennant Creek**	**99.54**	**161**	*e*P		**P**	**05 37 13.3**	**-1.7**
	2.8nm,0.9s,mb4.7							
FINES	**FINESS Array B**	**126.60**	**28**	PKP		PKPdf	05 42 32.2	-1.3
	1.7nm,0.7s,baz=198,slow=1.2,SNR=3.8							
FINES	**FINESS Array B**	**126.60**	**28**	PKP		PKPdf	05 42 32.2	-1.3
YKA	**Yellowknife Ar**	**139.04**	**315**	PKP		PKPdf	05 42 55.7	-1.1
	2.5nm,0.7s,baz=125,slow=2.4,SNR=27							
YKA	**Yellowknife Ar**	**139.04**	**315**	PKP		PKPdf	05 42 55.7	-1.1
SONM	**Songino Array**	**149.83**	**90**	PKPbc		PKPbc	05 43 20.6	-0.1
	2.8nm,0.8s,baz=241,slow=2.9,SNR=15							
SONM	**Songino Array**	**149.83**	**90**	PKPbc		PKPbc	05 43 20.6	-0.1
ILAR	**Eielson Array**	**152.79**	**307**	PKPbc		PKPbc	05 43 26.3	-0.8
	1.5nm,0.9s,baz=145,slow=0.9,SNR=7.7							
ILAR	**Eielson Array**	**152.79**	**307**	PKPbc		PKPbc	05 43 26.3	-0.8

NIED ***15*** *05:31:00, 27°.60N×127°.50E, h116km, Mw5.0 Best double couple: M0=3.24000×10^16 NP1:φ=24.00000°, δ=86.00000°, λ=-63.00000°. NP2:φ=122.00000°, δ=27.00000°, λ=-171.00000°.*
SZGRF ***15*** *05:31:16.9, 26°.86N×131°.22E, h33km, mb5.2, Southeast of Ryukyu Islands, Japan*
BJI ***15*** *05:31:33.5, 27°.20N×127°.78E, h124km, mB4.9/35, mb4.8/52*
MOS ***15*** *05:31:38.4±1.2, 27°.69N×127°.49E, h132km, mb4.7/41, Error ellipse: s-maj=8.7km s-min=5.8km az=107.0*
ISCJB ***15*** *05:31:39.2±0.1, 27°.53N±0°.02×127°.38E±0°.02, h135km, mb4.7/100, Error ellipse: s-maj=3.3km s-min=2.7km az=163.6*
IDC ***15*** *05:31:39.2±0.3, 27°.65N×127°.57E, h130km±3km, mb4.2/19, mb1 4.4/21, mb1mx4.3/24, mbtmp4.2/21, MS3.6/10, Ms1 3.6/10, ms1mx3.4/37, Error ellipse: s-maj=13.8km s-min=7.1km az=59.0*
JMA ***15*** *05:31:39.8±0.2, 27°.65N×127°.52E, h122km±3km, M4.6*
JMA Felt I J1.
NEIC ***15*** *05:31:40.4±0.2, 27°.63N×127°.35E, mb4.9/53, MW4.9(NIED), Error ellipse: s-maj=5.4km s-min=4.0km az=153.0*
NEIC Felt at Chatan and Yomitan, Okinawa. Recorded [1 JMA] on Kume-jima, Okinawa and Tokuno-shima.
GCMT ***15*** *05:31:41.3±0.3, 27°.52N×127°.44E, h151km±3km, MW5.0, Moment Tensor Solution. s30,c34; s69,c106; Moment tensor: Scale 10^16Nm; Mrr=1.15±.17; Mθθ=0.21±.19; Mφφ=0.94±.22; Mrθ=-1.89±.12; Mrφ=-0.82±.18; Mθφ=-3.90±.15; Best double couple: M0=4.50000×10^16 NP1:φ=135.00000°, δ=12.00000°, λ=-156.00000°. NP2:φ=21.00000°, δ=85.00000°,*

λ-79.00000°. Principal axes: T 4.0100, Plg39.0000°, Azm101.0000°; N 0.9100, Plg11.0000°, Azm200.0000°; P -4.9200, Plg49.0000°, Azm304.0000°; Data Used: II IC G IU CN.

ISC 15 05:31:40.7±0.1,27°57N±0°02×127°41E±0°02,h137km, h137km±2.5km:pP-P,n454,σ0∓91/478,mb4.7/100,96C-79D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.72**	**137**	P	**Pn**	**05 31 59.9**	**-2.1**
JIH				S	**Sn**	**05 32 14.9**	**-3.3**
JOW	**Kunigami**	**1.06**	**133**	P	**Pn**	**05 32 02.8**	**-2.0**
JOW	9μm,0.3s,baz=309,slow=3.3,SNR=4261			S	**Sn**	**05 32 19.6**	**-3.5**
JOW	**Kunigami**	**1.06**	**133**	*e*Pn	**Pn**	**05 32 02.8**	**-2.0**
JOW	5μm,0.3s,baz=108,slow=25,SNR=18			S	**Sn**	**05 32 19.6**	**-3.5**
JOW				*e*Sn	**Sn**	**05 32 22.4**	**-0.7**
JOW	**Kunigami**	**1.06**	**133**	P	**Pn**	**05 32 02.7**	**-2.1**
JOW				S	**Sn**	**05 32 19.6**	**-3.5**
JKE	**Kume jima 2**	**1.35**	**204**	P	**Pn**	**05 32 06.8**	**-0.9**
NAH1	**Naha**	**1.38**	**169**	P	**Pn**	**05 32 07.0**	**-1.0**
NAH1				S	**Sn**	**05 32 26.4**	**-2.4**
JTK	**Tokunoshima**	**1.39**	**80**	P	**Pn**	**05 32 05.0**	**-3.0**
JTK				S	**Sn**	**05 32 23.3**	**-5.6**
JJT2	**Tamagusuku 2**	**1.45**	**168**	P	**Pn**	**05 32 08.1**	**-0.7**
JJT2				S	**Sn**	**05 32 28.7**	**-1.5**
JAM	**Amami Oshima**	**2.12**	**66**	P	**Pn**	**05 32 13.2**	**-3.2**
JAM				S	**Sn**	**05 32 38.6**	**-5.3**
JZK	**Kikaishima**	**2.39**	**71**	P	**Pn**	**05 32 17.4**	**-2.4**
JZK				S	**Sn**	**05 32 45.9**	**-3.9**
JNN	**Nakanoshima**	**3.14**	**43**	P	**Pn**	**05 32 27.0**	**-2.3**
JKC	**Kuchinoerabu**	**3.78**	**40**	P	**Pn**	**05 32 35.3**	**-2.4**
JKC				S	**Sn**	**05 33 18.9**	**-3.0**
JTN	**Tanegashima 3**	**4.39**	**45**	P	**Pn**	**05 32 43.2**	**-2.5**
TATO	**Taipei**	**5.91**	**245**	*e*Pn	**Pn**	**05 33 05.0**	**-1.1**
YHNB	**Yeheng**	**6.14**	**243**	*e*Pn	**Pn**	**05 33 09.0**	**-0.2**
NACB	**Ninganchiao**	**6.23**	**238**	*e*Pn	**Pn**	**05 33 08.4**	**-2.0**
JNU	**Nakatsue**	**6.30**	**28**	*e*Pn	**Pn**	**05 33 09.8**	**-1.4**
SSE	**Sheshan**	**6.47**	**304**	*e*P	**Pn**	**05 33 14.5**	**+0.9**
SSE	comp=Z,78nm,1.1s			pmax	pmax		
SSE	comp=Z,140nm,8.2s			pmax	pmax		
SSE	comp=N,390nm,7.6s			LR	LR		
SSE	comp=E,740nm,7.7s			LR	LR		
SSE	comp=Z,980nm,9.0s			LR	LR		
SSE	**Sheshan**	**6.47**	**304**	*e*Pn	**Pn**	**05 33 14.5**	**+0.9**
SSE	comp=Z,78nm,1.1s			Sn	**Sn**	**05 34 38.4**	**+12**
YULB	**Yu-li**	**6.91**	**234**	*e*Pn	**Pn**	**05 33 15.4**	**-4.1**
SSLB	**Suanglung**	**6.93**	**239**	*e*Pn	**Pn**	**05 33 17.5**	**-2.3**
SSLB				*e*Sn	**Sn**	**05 34 35.0**	**-2.4**
TWG	**Pinlang**	**7.43**	**232**	*e*Pn	**Pn**	**05 33 22.0**	**-4.5**
TWG				*e*Sn	**Sn**	**05 34 44.3**	**-5.2**
TPUB	**Ta-pu**	**7.45**	**237**	*e*Pn	**Pn**	**05 33 24.5**	**-2.4**
TPUB				*e*Sn	**Sn**	**05 34 49.8**	**-0.2**
NJ2	**Nanjing**	**8.67**	**303**	*e*P	**Pn**	**05 33 43.5**	**+0.4**
NJ2				sP		05 34 12.5	
NJ2				S	**Sn**	**05 35 21.5**	**+2.2**
NJ2	comp=Z,110nm,1.0s			pmax	pmax		
NJ2	comp=Z,430nm,5.9s			pmax	pmax		
NJ2	comp=N,630nm,8.2s			LR	LR		
NJ2	comp=E,510nm,9.9s			LR	LR		
NJ2	comp=Z,4μm,10.7s			LR	LR		
KSAR	**Wonju Array Be**	**9.86**	**2**	P	**Pn**	**05 33 57.9**	**-1.0**
KSAR	**Wonju Array Be**	**9.86**	**2**	P	**Pn**	**05 33 57.9**	**-1.0**
KSRS	**Korea Array**	**9.87**	**2**	P	**Pn**	**05 33 57.9**	**-1.2**
KSRS	comp=Z,0.8nm,0.3s,baz=179,slow=13,SNR=37 **Korea Array**	**9.87**	**2**	P	**Pn**	**05 33 57.9**	**-1.2**
KSRS	comp=Z,1.0nm,0.3s			pmax	pmax		
WHN	**Wuhan**	**11.80**	**288**	⇑P	**Pn**	**05 34 26.1**	**+1.4**
WHN				S	**Sn**	**05 36 36.3**	**+1.3**
WHN	comp=Z,190nm,1.8s			pmax	pmax		
WHN	comp=N,2μm,7.2s			LR	LR		
WHN	comp=E,750nm,5.2s			LR	LR		
WHN	comp=Z,1μm,5.0s			LR	LR		
MAJO	**Matsushiro**	**12.80**	**43**	*e*Pn	**Pn**	**05 34 33.9**	**-3.7**
MAJO	**Matsushiro**	**12.80**	**43**	*e*P	**Pn**	**05 34 33.9**	**-3.7**
MAT	**Matsushiro**	**12.80**	**43**	P	**Pn**	**05 34 32.4**	**-5.2**
MAT				S	**Sn**	**05 36 56.0**	**-2.8**
MJAR	**Matsushiro Arr**	**12.80**	**43**	P	**Pn**	**05 34 34.1**	**-3.5**
MJAR	comp=Z,0.4nm,0.3s,baz=235,slow=14,SNR=23			LR	LR	05 39 45.7	
MJAR	comp=Z,56nm,18.2s,baz=265,slow=38 **Matsushiro Arr**	**12.80**	**43**	P	**Pn**	**05 34 34.1**	**-3.5**
MJAR	**Matsushiro Arr**	**12.80**	**43**	P	**Pn**	**05 34 34.1**	**-3.5**
MJAR	comp=Z,56nm,18.2s			MLR	MLR		
CBIJ	**Chichi jima**	**13.14**	**89**	P	**Pn**	**05 34 42.0**	**-0.2**
CBIJ	comp=Z,8.5nm,0.3s,baz=273,slow=17,SNR=4.2			LR	LR	05 39 08.3	
CBIJ	comp=Z,374nm,19.0s,baz=284,slow=35 **Chichi jima**	**13.14**	**89**	P	**Pn**	**05 34 42.0**	**-0.2**
SNY	**Shenyang**	**14.57**	**349**	⇓P	**Pn**	**05 35 03.5**	**+3.3**
SNY				S	**Sn**	**05 37 47.5**	**+6.0**
SNY	comp=Z,290nm,6.6s			pmax	pmax		
SNY	comp=N,270nm,5.4s			LR	LR		
SNY	comp=E,380nm,4.8s			LR	LR		
SNY	comp=Z,340nm,5.7s			LR	LR		
TGY	**Tagaytay City**	**14.69**	**206**	P	**Pn**	**05 35 04.4**	**+2.5**
TGY	comp=Z,31nm,0.3s,baz=278,slow=17,SNR=3.6						
TGY	**Tagaytay City**	**14.69**	**206**	P	**Pn**	**05 35 04.4**	**+2.5**
TGY	**Tagaytay City**	**14.69**	**206**	P	**Pn**	**05 35 04.4**	**+2.5**
TGY	comp=Z,31nm,0.3s			pmax	pmax		
BJI	**Beijing**	**15.54**	**326**	P	**Pn**	**05 35 12.9**	**+0.7**
BJI				S	**S**	**05 38 05.5**	**-4.7**
BJI	comp=Z,77nm,1.5s			pmax	pmax		
BJI	comp=Z,620nm,6.2s			pmax	pmax		
CN2	**Changchun**	**16.28**	**355**	*e*P	**Pn**	**05 35 22.4**	**+1.1**
CN2				*e*S	**S**	**05 38 19.8**	**-2.8**
CN2	comp=Z,50nm,0.5s			pmax	pmax		
CN2	comp=Z,400nm,3.0s			pmax	pmax		
MDJ	**Mudanjiang**	**17.11**	**5**	P	**Pn**	**05 35 32.0**	**+0.7**
MDJ				sP	sP	05 36 09.3	-3.0
MDJ				S	**S**	**05 38 37.5**	**-4.1**
MDJ				PcP	PcP	05 40 02.9	-4.8
MDJ				PcS	PcS	05 43 41.1	-2.6
MDJ				ScS	ScS	05 47 04.0	-5.5
MDJ	comp=Z,11nm,0.9s			pmax	pmax		
MDJ	comp=Z,120nm,5.8s			pmax	pmax		
XAN	**Xi'an**	**17.13**	**297**	P	**Pn**	**05 35 31.9**	**+0.1**
XAN	comp=Z,32nm,1.1s			pmax	pmax		
XAN	comp=Z,130nm,4.7s			pmax	pmax		
GYA	**Guiyang**	**18.52**	**271**	⇑*i*P	**P**	**05 35 47.6**	**+1.1**
GYA				PP		05 36 08.8	
GYA				sP	sP	05 36 25.8	-2.3
GYA				S	**S**	**05 39 05.4**	**-5.3**
GYA				PcP	PcP	05 40 11.8	+1.4
GYA	comp=Z,10.0nm,0.7s			pmax	pmax		
GYA	comp=Z,120nm,4.5s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**18.60**	**319**	⇓P	**P**	**05 35 48.3**	**+1.1**
HHC				sP	sP	05 36 25.6	-3.2
HHC				S	**S**	**05 39 07.8**	**-4.2**
HHC				PcP	PcP	05 40 11.6	+1.3
HHC				ScP	ScP	05 43 34.5	+1.4
HHC	comp=Z,88nm,1.3s			pmax	pmax		
HHC	comp=Z,370nm,4.1s			pmax	pmax		
BTO	**Baotou**	**19.36**	**317**	*e*P	**P**	**05 35 54.5**	**-1.0**
CD2	**Chengdu**	**20.90**	**285**	*e*P	**P**	**05 36 11.3**	**-0.9**
CD2				pP		05 36 35.3	
CD2				sP	sP	05 36 51.5	-2.6
CD2				S	**S**	**05 39 51.1**	**-6.4**
CD2	comp=Z,160nm,1.1s			pmax	pmax		
CD2	comp=Z,210nm,4.8s			pmax	pmax		
CD2	comp=N,480nm,10.8s			LR	LR		
CD2	comp=Z,410nm,12.0s			LR	LR		
LZH	**Lanzhou**	**21.71**	**299**	P	**P**	**05 36 20.8**	**0.0**
LZH				pP		05 36 41.8	
LZH				sP	sP	05 37 01.4	-1.5
LZH				*e*S	**S**	**05 40 15.4**	**+2.9**
LZH				sS	sS	05 40 56.1	+0.9
LZH	comp=Z,42nm,1.1s,mb4.8			pmax	pmax		
LZH	comp=Z,360nm,7.0s			pmax	pmax		
LZH	comp=N,520nm,10.7s			LR	LR		
LZH	comp=E,490nm,9.8s			LR	LR		
LZH	comp=Z,450nm,12.6s			LR	LR		
LZH	**Lanzhou**	**21.71**	**299**	P	**P**	**05 36 20.8**	**0.0**
LZH	comp=Z,42nm,1.1s,mb4.8			pP		05 36 41.7	
LZH				sP	sP	05 37 01.4	-1.5
LZH				*e*S	**S**	**05 40 15.4**	**+2.9**
LZH				sS	sS	05 40 56.1	+0.9
LZH				LR	LR		
LZH	comp=Z,450nm,12.6s						
LZH	**Lanzhou**	**21.71**	**299**	P	**P**	**05 36 20.8**	**0.0**
LZH				*SP	sP	05 37 01.4	-1.5
LZH				*e*S	**S**	**05 40 15.4**	**+2.9**
LZH				*SS	sS	05 40 56.1	+0.9
LZH	comp=Z,42nm,1.1s,mb4.8			pmax	pmax		
LZH	comp=Z,450nm,12.6s			MLR	MLR		
KLR	**Kul'dur**	**21.89**	**8**	*e*P	**P**	**05 36 19.0**	**-3.5**
KMI	**Kunming**	**22.23**	**269**	P	**P**	**05 36 26.0**	**-0.4**
KMI				pP		05 36 53.9	
KMI				PP		05 36 58.8	
KMI				sP	sP	05 37 08.3	-0.3
KMI				S	**S**	**05 40 16.3**	**-4.9**
KMI				sS	sS	05 41 00.5	-5.3
KMI				SS		05 41 06.8	
KMI	comp=Z,7.0nm,0.8s,mb4.1			pmax	pmax		
KMI	comp=Z,170nm,4.6s			pmax	pmax		
KMI	comp=N,330nm,13.0s			LR	LR		
KMI	comp=E,190nm,11.5s			LR	LR		
KMI	comp=Z,210nm,12.5s			LR	LR		
KMI	**Kunming**	**22.23**	**269**	P	**P**	**05 36 26.0**	**-0.4**
KMI	comp=Z,7.0nm,0.8s,mb4.1			pP		05 36 53.9	
KMI				PP		05 36 58.7	
KMI				sP	sP	05 37 08.2	-0.4
KMI				S	**S**	**05 40 16.3**	**-4.9**
KMI				sS	sS	05 41 00.5	-5.3
KMI				SS		05 41 06.7	
KMI				SSS		05 41 25.2	
KMI				LR	LR		
KMI	comp=Z,210nm,12.5s						
KMI	**Kunming**	**22.23**	**269**	P	**P**	**05 36 26.0**	**-0.4**
KMI				*PP		05 36 53.9	
KMI				pP		05 36 58.7	
KMI				*SP	sP	05 37 08.2	-0.4
KMI				S	**S**	**05 40 16.3**	**-4.9**
KMI				*SS	sS	05 41 00.5	-5.3
KMI				SS		05 41 06.7	
KMI				pmax	pmax		
KMI	comp=Z,7.0nm,0.8s,mb4.1			MLR	MLR		
KMI	comp=Z,210nm,12.5s						
YSS	**Yuzh-Sakhalins**	**22.81**	**28**	P	**P**	**05 36 33.0**	**+1.4**
ULN	**Ulaanbaatar**	**25.74**	**327**	*e*P	**P**	**05 36 56.6**	**-1.7**
ULN	comp=Z,80nm,1.1s,mb5.3			pmax	pmax		
ULN	**Ulaanbaatar**	**25.74**	**327**	*e*P	**P**	**05 36 56.6**	**-1.7**
ULN	comp=Z,80nm,1.1s,mb5.3			pmax	pmax		
GTA	**Gaotai**	**25.77**	**304**	P	**P**	**05 36 57.9**	**-0.7**
GTA				pP	pP	05 37 30.0	+2.4
GTA				sP	sP	05 37 38.1	-5.4
GTA				S	**S**	**05 41 18.8**	**+1.3**
GTA				PcS	PcS	05 44 05.8	+0.3
GTA	comp=Z,44nm,1.1s,mb5.0			pmax	pmax		
GTA	comp=Z,220nm,10.0s			pmax	pmax		
GTA	comp=N,270nm,16.6s			LR	LR		
GTA	comp=E,220nm,18.5s			LR	LR		
GTA	comp=Z,270nm,19.5s			LR	LR		
SONM	**Songino Array**	**26.04**	**327**	P	**P**	**05 36 59.7**	**-1.3**
SONM	comp=Z,45nm,0.9s,mb5.1,baz=142,slow=10,SNR=79			pP	pP	05 37 29.4	-0.5
SONM	comp=Z,19nm,0.9s,baz=139,slow=8.4,SNR=6.9			PcP	PcP	05 40 26.4	+1.2
SONM	comp=Z,0.3nm,0.5s,baz=142,slow=3.3,SNR=3.6			LR	LR	05 48 51.2	
SONM	comp=Z,57nm,18.4s,baz=170,slow=40 **Songino Array**	**26.04**	**327**	P	**P**	**05 36 59.7**	**-1.3**
SONM				pP	pP	05 37 29.4	-0.5
SONM				PcP	PcP	05 40 26.4	+1.2
SONM	**Songino Array**	**26.04**	**327**	P	**P**	**05 36 59.7**	**-1.2**
SONM				*PP	pP	05 37 29.4	-0.5
SONM						05 40 26.4	
SONM	comp=Z,45nm,0.9s			pmax	pmax		
SONM	comp=Z,19nm,0.9s			pmax	pmax		
SONM	comp=Z,57nm,18.4s			MLR	MLR		
CHTO	**Chiang Mai**	**27.52**	**258**	*e*P	**P**	**05 37 15.3**	**+0.8**
CHTO	comp=Z,20nm,1.4s,mb4.7 **Chiang Mai**	**27.52**	**258**	*e*P	**P**	**05 37 15.3**	**+0.7**
CHTO	comp=Z,20nm,1.4s,mb4.7			pmax	pmax		
CMAR	**Chiang Mai Arr**	**27.67**	**257**	P	**P**	**05 37 15.2**	**-0.6**
CMAR	comp=Z,1.7nm,0.7s,mb3.9,baz=54,slow=7.5,SNR=8.4			PcP	PcP	05 40 31.2	+1.6
CMAR	comp=Z,1.5nm,0.5s,baz=45,slow=1.3,SNR=10			ScP	ScP	05 43 58.9	+1.3
CMAR	comp=Z,0.8nm,0.5s,baz=62,slow=0.7,SNR=9.1			LR	LR	05 48 23.3	
CMAR	comp=Z,60nm,19.8s,baz=241,slow=36 **Chiang Mai Arr**	**27.67**	**257**	P	**P**	**05 37 15.2**	**-0.6**
CMAR				PcP	PcP	05 40 31.2	+1.6
CMAR				ScP	ScP	05 43 58.9	+1.3
CMAR	**Chiang Mai Arr**	**27.67**	**257**	P	**P**	**05 37 15.3**	**-0.6**
CMAR						05 40 31.2	
CMAR	comp=Z,2.0nm,0.7s			pmax	pmax		
CMAR	comp=Z,2.0nm,0.5s			pmax	pmax		
CMAR	comp=N,1.0nm,0.5s			pmax	pmax		
CMAR	comp=Z,60nm,19.8s			MLR	MLR		
SHL	**Shillong**	**31.77**	**275**	*e*PKP	**P**	**05 37 54.0**	**+1.9**
PETK	**Petropavlovsk-**	**33.96**	**33**	P	**P**	**05 38 07.3**	**-3.5**
PETK	comp=Z,5.7nm,0.9s,mb4.3,baz=178,slow=15,SNR=4.3 **Petropavlovsk-**	**33.96**	**33**	P	**P**	**05 38 07.2**	**-3.5**
PETK	**Petropavlovsk-**	**33.96**	**33**	P	**P**	**05 38 07.3**	**-3.4**
PETK	comp=Z,6.0nm,0.9s,mb4.3			pmax	pmax		
TAPN	**Taplejung**	**35.12**	**279**	*e*P	**P**	**05 38 21.2**	**+0.1**
	comp=Z,10nm,0.6s,mb4.7						
TAPN	**Taplejung**	**35.12**	**279**	*e*P	**P**	**05 38 21.2**	**+0.1**
	comp=Z,10nm,0.6s,mb4.6						
ODAN	**Odare**	**35.49**	**278**	*e*P	**P**	**05 38 23.9**	**-0.3**
	comp=Z,18nm,0.5s,mb5.0						
ODAN	**Odare**	**35.49**	**278**	*e*P	**P**	**05 38 23.9**	**-0.3**
	comp=Z,18nm,0.5s,mb5.0						
WMQ	**Urumqi**	**35.72**	**308**	P	**P**	**05 38 25.5**	**-0.4**
WMQ				pP	pP	05 38 53.4	-2.4
WMQ				sP	sP	05 39 08.1	-3.5
WMQ				PP	PP	05 39 50.5	+0.7
WMQ				S	**S**	**05 43 52.3**	**-0.2**
WMQ				sS	sS	05 44 40.8	-3.9
WMQ	comp=Z,22nm,1.2s,mb4.7			pmax	pmax		
WMQ	comp=Z,160nm,5.0s			pmax	pmax		
WMQ	comp=N,93nm,20.2s			LR	LR		
WMQ	comp=E,280nm,28.0s			LR	LR		
WMQ	comp=Z,130nm,21.4s			LR	LR		
RAMN	**Ramite**	**36.17**	**279**	*e*P	**P**	**05 38 29.5**	**-0.5**
RAMN	**Ramite**	**36.17**	**279**	*e*P	**P**	**05 38 29.5**	**-0.5**
JIRN	**Jiri**	**36.40**	**280**	*e*P	**P**	**05 38 32.5**	**+0.5**
	comp=Z,5.8nm,0.4s,mb4.6						
JIRN	**Jiri**	**36.40**	**280**	*e*P	**P**	**05 38 32.5**	**+0.5**
	comp=Z,5.8nm,0.4s,mb4.6						
GUN	**Gumba**	**36.63**	**280**	*e*P	**P**	**05 38 35.0**	**+1.1**
	comp=Z,13nm,0.4s,mb4.9						
GUN	**Gumba**	**36.63**	**280**	*e*P	**P**	**05 38 35.0**	**+1.1**
	comp=Z,13nm,0.4s,mb4.9						
PKI	**Pulchoki**	**37.10**	**280**	*e*P	**P**	**05 38 37.6**	**-0.3**
PKI	**Pulchoki**	**37.10**	**280**	*e*P	**P**	**05 38 37.6**	**-0.3**
PKI	**Pulchoki**	**37.10**	**280**	*e*P	**P**	**05 38 37.6**	**-0.3**
KKN	**Kakani**	**37.18**	**280**	*e*P	**P**	**05 38 38.1**	**-0.4**
	comp=Z,5.5nm,0.2s,mb4.8						
KKN	**Kakani**	**37.18**	**280**	*e*P	**P**	**05 38 38.1**	**-0.4**
	comp=Z,5.5nm,0.2s,mb4.8						
KKN	**Kakani**	**37.18**	**280**	*e*P	**P**	**05 38 38.1**	**-0.4**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.2s,mb4.9						
DMN	**Daman**	**37.36**	**280**	*e*P	**P**	**05 38 40.0**	**-0.1**
	comp=Z,28nm,1.1s,mb4.8						
DMN	**Daman**	**37.36**	**280**	*e*P	**P**	**05 38 40.0**	**-0.1**
	comp=Z,28nm,1.1s,mb4.8						
GKN	**Gorkha**	**37.70**	**281**	*e*P	**P**	**05 38 42.4**	**-0.6**
	comp=Z,14nm,0.5s,mb4.9						
GKN	**Gorkha**	**37.70**	**281**	*e*P	**P**	**05 38 42.4**	**-0.6**
	comp=Z,14nm,0.4s,mb5.0						
DANN	**Dangsing**	**38.41**	**282**	*e*P	**P**	**05 38 49.0**	**+0.1**
	comp=Z,18nm,0.5s,mb5.0						
DANN	**Dangsing**	**38.41**	**282**	*e*P	**P**	**05 38 49.0**	**+0.1**
	comp=Z,18nm,0.4s,mb5.0						
KOLN	**Koldanda**	**38.65**	**281**	*e*P	**P**	**05 38 50.4**	**-0.5**
	comp=Z,9.6nm,0.5s,mb4.7						
KOLN	**Koldanda**	**38.65**	**281**	*e*P	**P**	**05 38 50.4**	**-0.5**
	comp=Z,9.6nm,0.5s,mb4.7						
MK31	**Makanchi Array**	**40.10**	**311**	*e*P	**P**	**05 39 01.5**	**-1.2**
MK31	**Makanchi Array**	**40.10**	**311**	*e*P	**P**	**05 39 01.5**	**-1.2**
MKAR	**Makanchi Array**	**40.10**	**311**	P	**P**	**05 39 01.4**	**-1.3**
	comp=Z,4.1nm,0.6s,mb4.2,baz=92,slow=10.0,SNR=73						
MKAR				pP	pP	05 39 32.2	-0.9
	comp=Z,5.5nm,0.7s,baz=99,slow=10,SNR=6.3						
MKAR				PcP	PcP	05 41 03.9	-0.7
	comp=Z,5.4nm,0.6s,baz=83,slow=2.6,SNR=19						
MKAR				ScP	ScP	05 44 41.5	+0.6
	comp=Z,2.1nm,1.0s,baz=95,slow=4.0,SNR=7.8						
MKAR	**Makanchi Array**	**40.10**	**311**	P	**P**	**05 39 01.4**	**-1.3**
MKAR				pP	pP	05 39 32.2	-0.9
MKAR				PcP	PcP	05 41 03.9	-0.7
MKAR				ScP	ScP	05 44 41.5	+0.6
MKAR	**Makanchi Array**	**40.10**	**311**	P	**P**	**05 39 01.4**	**-1.3**
MKAR				*PP	pP	05 39 32.3	-0.8
MKAR						05 41 03.9	
MKAR	comp=Z,4.0nm,0.6s			pmax	pmax		
MKAR	comp=Z,6.0nm,0.7s			pmax	pmax		
MKAR	comp=Z,5.0nm,0.6s			pmax	pmax		
MKAR	comp=N,2.0nm,1.0s			pmax	pmax		
ZAA0	**Zalesovo Array**	**40.75**	**322**	*e*P	**P**	**05 39 05.9**	**-2.0**
ZALV	**Zalesovo Beam**	**40.75**	**322**	P	**P**	**05 39 05.8**	**-2.1**
	comp=N,6.0nm,0.5s,mb4.5,baz=109,slow=8.6,SNR=26						
ZALV				pP	pP	05 39 37.6	-0.7
	comp=N,13nm,0.8s,baz=111,slow=8.1,SNR=9.0						
ZALV				PcP	PcP	05 41 05.5	-1.0
	comp=N,4.0nm,0.5s,baz=108,slow=4.8,SNR=11						
ZALV				ScP	ScP	05 44 41.8	-1.5
	comp=N,2.8nm,0.7s,baz=108,slow=4.8,SNR=9.1						
ZALV	**Zalesovo Beam**	**40.75**	**322**	P	**P**	**05 39 05.8**	**-2.1**
ZALV				pP	pP	05 39 37.6	-0.7
ZALV				PcP	PcP	05 41 05.5	-1.0
ZALV				ScP	ScP	05 44 41.8	-1.5
ZALV	**Zalesovo Beam**	**40.75**	**322**	P	**P**	**05 39 05.8**	**-2.1**
ZALV				*PP	pP	05 39 37.7	-0.6
ZALV						05 41 05.5	
ZALV	comp=Z,6.0nm,0.5s,mb4.5			pmax	pmax		
ZALV	comp=Z,13nm,0.9s,mb4.6			pmax	pmax		
ZALV	comp=Z,4.0nm,0.5s,mb4.3			pmax	pmax		
ZALV	comp=N,3.0nm,0.7s			pmax	pmax		
KURK	**Kurchatov**	**43.35**	**316**	LR	LR	05 59 08.0	
	comp=N,63nm,21.8s,baz=330,slow=38						
KURK	**Kurchatov**	**43.35**	**316**	*e*P	**P**	**05 39 27.3**	**-1.7**
	comp=N,33nm,1.4s,mb4.8						
KURK	**Kurchatov**	**43.35**	**316**	*e*P	**P**	**05 39 27.9**	**-1.1**
KURK				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.4						
KSH	**Kashi**	**43.96**	**299**	P	**P**	**05 39 37.3**	**+3.2**
KSH				pP	pP	05 40 05.3	+0.3
KSH				sP	sP	05 40 21.3	+0.9
KSH				PP	PP	05 41 22.9	+3.8
KSH				ScP	ScP	05 44 58.3	+1.8
KSH				PcS	PcS	05 45 12.6	+1.9
KSH				S	**S**	**05 45 58.8**	**+3.3**
KSH				sS	sS	05 46 49.5	+0.4
KSH	comp=Z,10.0nm,1.0s,mb4.4			pmax	pmax		
KSH	comp=Z,160nm,4.8s			pmax	pmax		
KSH	comp=N,110nm,5.5s			LR	LR		
KSH	comp=E,110nm,4.8s			LR	LR		
KSH	comp=Z,230nm,6.0s			LR	LR		
COEN	**Coen**	**44.02**	**158**	*e*P	**P**	**05 39 35.5**	**+0.8**
	comp=Z,38nm,0.6s,mb5.2						
TKM2	**Tokmak 2**	**44.32**	**304**	*e*P	**P**	**05 39 36.9**	**0.0**
	comp=Z,25nm,1.4s,mb4.7						
TKM2	**Tokmak 2**	**44.32**	**304**	*e*P	**P**	**05 39 36.9**	**0.0**
TKM2				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.7						
FRU	**Bishkek**	**45.03**	**304**	*e*P	**P**	**05 39 42.0**	**-0.5**
FRU				*e*	pP	05 40 13.0	-0.5
FRU				*i*		05 41 21.0	
FRU				*i*		05 41 31.0	
AAK	**Ala-Archa**	**45.12**	**304**	*de*P	**P**	**05 39 41.9**	**-1.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**45.43**	**182**	*e*P	**P**	**05 39 46.2**	**+0.4**
	comp=Z,11nm,0.6s,mb4.7						
EKS2	**Erkin-Say**	**45.65**	**304**	*e*P	**P**	**05 39 47.1**	**-0.3**
	comp=Z,3.2nm,0.9s,mb4.0						
EKS2	**Erkin-Say**	**45.65**	**304**	*e*P	**P**	**05 39 47.1**	**-0.3**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
WRAB	**Tennant Creek**	**47.69**	**171**	*e*P	**P**	**05 40 03.9**	**+0.4**
	comp=Z,14nm,1.0s,mb4.5						
WRAB				*e*pP	pP	05 40 34.4	-0.4
WRAB	**Tennant Creek**	**47.69**	**171**	*e*P	**P**	**05 40 03.9**	**+0.5**
WRAB				*e**PP	pP	05 40 34.4	-0.4
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**47.70**	**171**	P	**P**	**05 40 03.6**	**+0.1**
	comp=Z,6.8nm,0.7s,mb4.4,baz=353,slow=8.5,SNR=45						
WRA				pP	pP	05 40 33.4	-1.5
	comp=Z,10nm,1.0s,baz=350,slow=8.4,SNR=8.4						
WRA				LR	LR	06 01 26.9	
	comp=Z,59nm,19.2s,baz=135,slow=37						

WRA Warramunga Arr 47.70 171 P **P** **05 40 03.6 +0.1**
WRA pP pP 05 40 33.4 -1.5
WRA Warramunga Arr 47.70 171 P **P** **05 40 03.6 +0.1**
WRA *PP pP 05 40 33.4 -1.4
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA pmax pmax
comp=Z,11nm,1.0s
WRA MLR MLR
comp=Z,59nm,19.2s
WB2 Warramunga Arr 47.70 171 *e*P **P** **05 40 03.8 +0.3**
KKAR Karatay Array 48.05 304 *e*P **P** **05 40 06.0 -0.1**
KKAR Karatay Array 48.05 304 *e*P **P** **05 40 06.0 -0.1**
BVAR Borovoye Array 48.80 318 LR LR 06 00 57.7
comp=Z,130nm,20.7s,baz=95,slow=36
BRVK Borovoye 48.86 318 *e*P **P** **05 40 10.8 -1.3**
comp=Z,19nm,1.0s,mb4.7
BRVK Borovoye 48.86 318 *ce*P **P** **05 40 11.0 -1.1**
BRVK pmax pmax
comp=Z,13nm,1.2s,mb4.4
POO Poona 49.78 272 ⇑ *i*P **P** **05 40 16.0 -3.6**
comp=Z,40nm,1.0s,mb5.0
KBL Kabul 49.90 293 *e*P **P** **05 40 20.5 +0.2**
comp=Z,43nm,1.4s,mb4.9
KBL *e*PcP PcP 05 41 39.1 +0.5
KBL Kabul 49.90 293 *e*P **P** **05 40 20.5 +0.2**
KBL *e* 05 41 39.1
KBL pmax pmax
comp=Z,43nm,1.4s,mb4.9
CTA Charters Tower 50.76 157 *e*P **P** **05 40 27.3 +0.5**
comp=Z,7.1nm,0.9s,mb4.3
CTAO Charters Tower 50.76 157 *e*P **P** **05 40 27.2 +0.4**
comp=Z,33nm,1.3s,mb4.8
CTAO *e*pP pP 05 40 57.2 -1.3
CTAO Charters Tower 50.76 157 *e*P **P** **05 40 27.2 +0.4**
CTAO *e**PP pP 05 40 57.2 -1.3
CTAO pmax pmax
comp=Z,33nm,1.3s,mb4.8
AS31 Alice Springs 51.31 172 *e*P **P** **05 40 31.6 +0.7**
ASAR Alice Springs 51.32 172 P **P** **05 40 31.6 +0.7**
comp=Z,3.3nm,0.5s,mb4.2,baz=358,slow=11,SNR=50
ASAR pP pP 05 41 01.5 -1.1
comp=Z,4.9nm,0.9s,baz=358,slow=8.4,SNR=6.0
ASAR ScP ScP 05 45 28.6 +1.0
comp=Z,1.0nm,0.9s,baz=4.8,slow=5.7,SNR=5.1
ASAR Alice Springs 51.32 172 P **P** **05 40 31.6 +0.7**
ASAR pP pP 05 41 01.5 -1.1
ASAR ScP ScP 05 45 28.6 +1.0
ASAR Alice Springs 51.32 172 P **P** **05 40 31.6 +0.7**
ASAR *PP pP 05 41 01.5 -1.1
ASAR pmax pmax
comp=Z,3.0nm,0.5s
ASAR pmax pmax
comp=Z,5.0nm,0.9s
ASAR pmax pmax
comp=N,1.0nm,0.9s
SVE Sverdlovsk 54.76 322 *e*P **P** **05 40 54.6 -1.2**
SVE pmax pmax
comp=Z,24nm,1.5s,mb4.7
ABKAR Akbulak array 55.20 313 *e*P **P** **05 40 58.1 -1.0**
ABKAR *e*PcP PcP 05 41 57.6 -0.8
ARU Arti 55.90 321 *d i*P **P** **05 41 03.1 -0.8**
ARU *PP pP 05 41 34.3 -1.8
ARU 05 41 59.2
ARU S **S** **05 48 40.8 +0.2**
ARU SS SS 05 52 25.8 -2.2
ARU pmax pmax
comp=Z,15nm,1.2s,mb4.7
FORT Forrest 58.02 179 *e*P **P** **05 41 19.5 +0.4**
comp=Z,6.4nm,0.4s,mb4.8
STKA Stephens Creek 60.64 166 P **P** **05 41 37.3 +0.2**
comp=Z,7.9nm,0.6s,mb4.7,baz=355,slow=5.8,SNR=34
STKA LR LR 06 05 36.6
comp=Z,78nm,20.6s,baz=26,slow=34
STKA Stephens Creek 60.64 166 *e*P **P** **05 41 37.2 +0.2**
comp=Z,6.6nm,0.6s,mb4.6
STKA Stephens Creek 60.64 166 P **P** **05 41 37.3 +0.2**
STKA Stephens Creek 60.64 166 P **P** **05 41 37.3 +0.3**
STKA pmax pmax
comp=Z,8.0nm,0.6s
CMSA Cobar Meteorol 61.30 162 *e*P **P** **05 41 42.6 +1.1**
comp=Z,28nm,0.5s,mb5.3
RSO Redoubt South 61.48 34 *e*P **P** **05 41 42.5 +0.1**
KDAK Kodiak Island 61.89 37 *i*P **P** **05 41 44.0 -1.2**
RC01 Rabbit Creek A 62.87 33 *e*P **P** **05 41 50.6 -1.1**
comp=Z,3.4nm,0.5s,mb4.4
MCK McKinley 62.88 30 *e*P **P** **05 41 50.7 -1.0**
comp=Z,23nm,1.0s,mb5.0
MCK McKinley 62.88 30 *e*P **P** **05 41 50.7 -1.0**
MCK pmax pmax
comp=Z,23nm,1.0s,mb5.0
PMR Palmer 63.09 32 *e*P **P** **05 41 51.4 -1.7**
comp=Z,18nm,1.3s,mb4.7
PMR Palmer 63.09 32 *e*P **P** **05 41 51.4 -1.7**
PMR pmax pmax
comp=Z,18nm,1.3s,mb4.7
SEW Seward 63.16 34 *e*P **P** **05 41 52.2 -1.4**
comp=Z,20nm,1.2s,mb4.8
SML Sawmill 63.43 32 *e*P **P** **05 41 54.2 -1.2**
comp=Z,1.4nm,0.5s,mb4.0
SML Sawmill 63.43 32 *e*P **P** **05 41 54.2 -1.2**
SML pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
ILAR Eielson Array 63.62 28 P **P** **05 41 54.5 -2.1**
comp=Z,1.8nm,0.5s,mb4.2,baz=258,slow=5.5,SNR=77
ILAR Eielson Array 63.62 28 P **P** **05 41 54.5 -2.1**
ILAR Eielson Array 63.62 28 P **P** **05 41 54.5 -2.1**
ILAR pmax pmax
comp=Z,2.0nm,0.5s
PAX Paxson 64.54 30 *e*P **P** **05 42 01.9 -0.7**
comp=Z,3.1nm,0.6s,mb4.3
PAX Paxson 64.54 30 *e*P **P** **05 42 01.9 -0.7**
PAX pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
DIV Divide 64.76 32 *e*P **P** **05 42 03.6 -0.5**
comp=Z,13nm,0.7s,mb4.9
KLMR Klimovskoe 65.33 327 *e*P **P** **05 42 03.3 -4.5**
KLMR pmax pmax
comp=Z,11nm,1.3s,mb4.5
MENT Mentasta 65.33 30 *e*P **P** **05 42 07.5 -0.3**
BMRM Bremner River 65.35 32 *e*P **P** **05 42 07.3 -0.6**
comp=Z,47nm,1.5s,mb5.1
DAWY Dawson 66.94 28 *e*P **P** **05 42 17.4 -0.6**
KIV Kislovodsk 67.83 309 *e*P **P** **05 42 24.3 +0.3**
KIV pmax pmax
comp=Z,16nm,1.1s,mb4.7
INK Inuvik 67.96 23 *e*P **P** **05 42 23.3 -1.0**
comp=Z,22nm,1.0s,mb4.8
INK Inuvik 67.96 23 *e*P **P** **05 42 23.3 -1.0**
INK pmax pmax
comp=Z,22nm,1.0s
VSR Storozhevoye 67.98 317 *e*P **P** **05 42 23.4 -1.3**
VSR pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,3.0nm,0.5s
OBN Obninsk 68.33 322 ⇑ *i*P **P** **05 42 26.3 -0.6**
OBN *i* 05 42 50.8
OBN *e* 05 44 57.2
OBN pmax pmax
comp=Z,13nm,1.8s,mb4.4
ARCES ARCESS Array B 68.50 338 P **P** **05 42 27.9 +0.2**
comp=Z,2.2nm,0.9s,mb3.9,baz=69,slow=6.6,SNR=3.8
ARCES ARCESS Array B 68.50 338 P **P** **05 42 27.9 +0.2**
ARCES ARCESS Array B 68.50 338 P **P** **05 42 27.9 +0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 71.35 330 P **P** **05 42 43.0 -2.2**
comp=Z,3.8nm,0.6s,mb4.3,baz=54,slow=7.1,SNR=14
FINES FINESS Array B 71.35 330 P **P** **05 42 43.0 -2.2**
FINES FINESS Array B 71.35 330 P **P** **05 42 43.0 -2.2**
FINES pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 74.05 319 P **P** **05 42 59.3 -2.1**
comp=Z,2.7nm,0.7s,mb4.1,baz=54,slow=5.3,SNR=8.7
AKASG pP pP 05 43 34.5 -0.7
comp=Z,7.7nm,0.9s,baz=55,slow=5.9,SNR=6.0
AKASG Malin Array Be 74.05 319 P **P** **05 42 59.3 -2.1**
AKASG pP pP 05 43 34.5 -0.7
AKASG Malin Array Be 74.05 319 P **P** **05 42 59.3 -2.0**
AKASG *PP pP 05 43 34.6 -0.6
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 74.06 319 *e*P **P** **05 42 59.1 -2.3**
comp=Z,14nm,1.1s,mb4.6
KIEV Kiev 74.06 319 *e*P **P** **05 42 59.1 -2.3**
KIEV pmax pmax
comp=Z,14nm,1.1s,mb4.6
RES Resolute Bay 74.38 11 LR LR 06 20 01.3
comp=Z,70nm,19.3s,baz=265,slow=39
RES Resolute Bay 74.38 11 *e*P **P** **05 43 01.4 -1.5**
comp=Z,9.1nm,1.0s,mb4.5
RES Resolute Bay 74.38 11 *e*P **P** **05 43 01.4 -1.5**
RES pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
BR131 Keskin Array S 75.64 307 *e*P **P** **05 43 10.2 -0.5**
comp=Z,1.5nm,0.5s,mb3.9
BRTR Keskin Array B 75.64 307 P **P** **05 43 09.7 -1.1**
comp=Z,1.6nm,0.4s,mb4.0,baz=125,slow=3.4,SNR=21
BRTR pP pP 05 43 44.5 -0.3
comp=Z,7.6nm,0.9s,baz=98,slow=4.6,SNR=8.5
BRTR Keskin Array B 75.64 307 P **P** **05 43 09.7 -1.1**
BRTR pP pP 05 43 44.5 -0.3
BRTR Keskin Array B 75.64 307 P **P** **05 43 09.7 -1.0**
BRTR *PP pP 05 43 44.5 -0.2
BRTR pmax pmax
comp=Z,2.0nm,0.4s
BRTR pmax pmax
comp=Z,8.0nm,0.9s
YKA Yellowknife Ar 77.63 25 P **P** **05 43 20.7 -0.7**
comp=Z,7.9nm,0.6s,mb4.6,baz=304,slow=5.8,SNR=74
YKA Yellowknife Ar 77.63 25 P **P** **05 43 20.8 -0.7**
YKA Yellowknife Ar 77.63 25 P **P** **05 43 20.8 -0.6**
NB2 NORSAR Subarra 77.80 333 P **P** **05 43 20.2 -2.2**
comp=Z,10.0nm,1.0s,mb4.4,baz=47,slow=5.6
NOA NORSAR Array B 77.80 333 P **P** **05 43 21.5 -0.9**
comp=Z,7.9nm,1.1s,mb4.3,baz=51,slow=5.3,SNR=7.8
NOA LR LR 06 22 22.6
comp=Z,57nm,20.4s,baz=65,slow=39
NOA NORSAR Array B 77.80 333 P **P** **05 43 21.5 -0.9**
NOA NORSAR Array B 77.80 333 P **P** **05 43 21.5 -0.9**
NOA pmax pmax
comp=Z,8.0nm,1.1s
NOA MLR MLR
comp=Z,57nm,20.4s
CRVS Cervenica-Dubn 79.34 320 *e*P **P** **05 43 31.5 +0.4**
CRVS Cervenica-Dubn 79.34 320 *e*P **P** **05 43 31.5 +0.4**
OJC Ojcow 79.62 322 *e*P **P** **05 43 33.0 +0.4**
OJC *e*pP pP 05 44 08.0 +1.1
OJC Ojcow 79.62 322 *e*P **P** **05 43 33.0 +0.4**
OJC *e**PP pP 05 44 08.0 +1.1
VYHS Vyhne 81.05 320 *e*P **P** **05 43 40.9 +0.6**
VYHS Vyhne 81.05 320 *e*P **P** **05 43 40.9 +0.6**
KSP Ksiaz 81.19 323 *e*P **P** **05 43 41.2 +0.2**
KSP Ksiaz 81.19 323 *e*P **P** **05 43 41.2 +0.2**
DPC Dobruska-Polom 81.44 323 *e*P **P** **05 43 39.2 -3.1**
DPC Dobruska-Polom 81.44 323 *e*P **P** **05 43 39.2 -3.1**
E03A Lebam 82.34 41 ⇓ P **P** **05 43 46.8 -0.3**
baz=82
BSEG Bad Segeberg 82.41 328 *e*P **P** **05 43 47.3 0.0**
comp=Z,63nm,1.4s,mb5.0
BSEG Bad Segeberg 82.41 328 *e*P **P** **05 43 47.3 0.0**
BSEG pmax pmax
comp=Z,63nm,1.4s,mb5.0
BRG Berggiesshubel 82.41 324 *i*P **P** **05 43 48.7 +1.4**
comp=Z,8.5nm,1.2s,mb4.3
BRG Berggiesshubel 82.41 324 *i*P **P** **05 43 48.7 +1.4**
comp=Z,14nm,1.3s,mb4.4
BRG Berggiesshubel 82.41 324 *e*P **P** **05 43 48.1 +0.8**
comp=Z,14nm,1.3s,mb4.4
BRG Berggiesshubel 82.41 324 *i*P **P** **05 43 48.7 +1.4**
BRG pmax pmax
comp=Z,14nm,1.3s,mb4.4
PRU Pruhonice 82.59 323 *e*P **P** **05 43 50.3 +2.0**
PRU Pruhonice 82.59 323 *e*P **P** **05 43 50.3 +2.0**
CLL Collm 82.64 325 *e*P **P** **05 43 49.4 +0.8**
comp=Z,13nm,1.2s,mb4.5
CLL Collm 82.64 325 *i*P **P** **05 43 49.7 +1.1**
CLL pmax pmax
comp=Z,13nm,1.2s,mb4.5
CLL Collm 82.64 325 *i*P **P** **05 43 49.4 +0.8**
comp=Z,13nm,1.2s,mb4.5
CLL *i*pP pP 05 44 24.6 +1.5
NRDL Niedersach Rie 83.38 327 *e*P **P** **05 43 52.2 -0.1**
comp=Z,24nm,1.3s,mb4.8
TANN Tannenbergstha 83.44 324 *e*P **P** **05 43 53.0 +0.3**
comp=Z,13nm,1.5s,mb4.4
KHC Kasperske Hory 83.60 323 *e*P **P** **05 43 52.7 -0.8**
KHC Kasperske Hory 83.60 323 *e*P **P** **05 43 52.7 -0.8**
ETW Entiat 83.61 39 *e*P **P** **05 43 53.5 -0.1**
CLZ Clausthal 83.65 326 *e*P **P** **05 43 53.9 +0.2**
comp=Z,39nm,1.2s,mb5.0
CLZ Clausthal 83.65 326 *e*P **P** **05 43 53.9 +0.2**
CLZ pmax pmax
comp=Z,39nm,1.2s,mb5.0
GEC2 GERESS Array S 83.70 323 *e*P **P** **05 43 54.6 +0.6**
comp=Z,11nm,1.3s,mb4.4
GEC2 GERESS Array S 83.70 323 *e*P **P** **05 43 54.6 +0.6**
GEC2 pmax pmax
comp=Z,11nm,1.3s,mb4.4
GERES GERESS Array B 83.70 323 P **P** **05 43 54.9 +0.8**
comp=Z,2.0nm,0.8s,mb3.9,baz=60,slow=3.2,SNR=15
GERES GERESS Array B 83.70 323 P **P** **05 43 54.9 +0.9**
GERES GERESS Array B 83.70 323 P **P** **05 43 54.9 +0.9**
GERES pmax pmax
comp=Z,2.0nm,0.8s
MOX Moxa 83.74 325 *e*P **P** **05 43 54.5 +0.3**
comp=Z,14nm,1.5s,mb4.5
MOX Moxa 83.74 325 *e*P **P** **05 43 54.5 +0.3**
MOX pmax pmax
comp=Z,14nm,1.5s,mb4.5
ROTZ Rotzenmuhle 83.96 324 *e*P **P** **05 43 55.5 +0.2**
comp=Z,49nm,1.7s,mb5.0
WET Wettzell 83.97 323 *e*P **P** **05 43 55.8 +0.4**
comp=Z,55nm,2.2s,mb4.9
WET Wettzell 83.97 323 *e*P **P** **05 43 55.8 +0.4**
WET pmax pmax
comp=Z,55nm,2.2s,mb4.9
UBBA Unterbreizbach 84.46 326 *e*P **P** **05 43 57.4 -0.4**
comp=Z,14nm,1.6s,mb4.4
GRF Grafenberg Arr 84.52 324 *e*P **P** **05 43 58.2 +0.1**
comp=Z,42nm,1.5s,mb5.0
GRF Grafenberg Arr 84.52 324 *e*P **P** **05 43 58.2 +0.1**
GRF pmax pmax
comp=Z,42nm,1.5s,mb5.0
GRFO Grafenberg 84.52 324 *e*P **P** **05 43 58.2 +0.1**
comp=Z,35nm,1.4s,mb4.9
GRFO Grafenberg 84.52 324 *e*P **P** **05 43 58.3 +0.2**
GRFO pmax pmax
comp=Z,35nm,1.4s,mb4.9
IBBN Ibbenburen 84.63 328 *e*P **P** **05 43 58.2 -0.4**
comp=Z,40nm,1.1s,mb5.1
C09A Chrisman Ranch 84.64 38 ⇑ P **P** **05 43 58.4 -0.3**
baz=84
HAWA Hanford 84.75 40 *e*P **P** **05 43 59.7 +0.3**
comp=Z,20nm,1.3s,mb4.7
G06A Carlson Farm, 84.77 41 ⇓ P **P** **05 43 59.5 0.0**
baz=85
RJOB Jochberg 84.83 322 *e*P **P** **05 44 00.6 +0.8**
comp=Z,18nm,1.2s,mb4.7
NEW Newport 84.99 37 ⇑ P **P** **05 44 00.4 -0.1**
baz=85
NEW Newport 84.99 37 *e*P **P** **05 44 00.8 +0.2**
comp=Z,24nm,1.4s,mb4.7
NEW Newport 84.99 37 *e*P **P** **05 44 00.8 +0.3**
NEW pmax pmax
comp=Z,24nm,1.4s
A12A Yaak River Ran 85.36 36 ⇑ P **P** **05 44 02.4 0.0**
baz=85
FUR Furstenfeldbru 85.40 323 *e*P **P** **05 44 03.1 +0.5**
comp=Z,54nm,1.5s,mb5.1
FUR Furstenfeldbru 85.40 323 *e*P **P** **05 44 03.1 +0.5**
FUR pmax pmax
comp=Z,54nm,1.5s,mb5.1
BUG Bochum--Univer 85.41 327 *e*P **P** **05 44 02.1 -0.5**
comp=Z,48nm,1.8s,mb4.9
E09A Wood Farm, Sta 85.46 39 ⇓ P **P** **05 44 03.2 +0.3**
baz=85
ABTA Abfaltersbach 85.57 321 ⇑ *i*P **P** **05 44 02.7 -0.8**
comp=Z,8.7nm,0.8s,mb4.5
C11A Tepee Creek (N 85.71 37 ⇓ P **P** **05 44 04.5 +0.4**
baz=86
A13A Flathead Natio 86.01 36 ⇑ P **P** **05 44 05.3 -0.2**
baz=86
I07A Izee 86.09 42 ⇑ P **P** **05 44 06.4 +0.4**
baz=86
C12B Naegeli Ranch, 86.21 37 ⇓ P **P** **05 44 06.8 +0.2**
baz=86
F10A Beach Ranch, E 86.29 39 ⇓ P **P** **05 44 06.7 -0.4**
baz=86
B13A Whitefish 86.33 36 ⇓ P **P** **05 44 07.4 +0.2**
baz=86
A14A Double T Ranch 86.50 35 ⇑ P **P** **05 44 08.3 +0.4**
baz=86
C13A Hot Springs 86.70 37 ⇑ P **P** **05 44 09.0 0.0**
baz=86
A15A Johnson Ranch, 86.84 35 ⇓ P **P** **05 44 09.5 -0.1**
baz=87
E12A Beaver Dam Sad 86.94 38 ⇑ P **P** **05 44 10.3 +0.1**
baz=87
B14A Marquette Ranc 86.96 36 ⇑ P **P** **05 44 10.6 +0.4**
baz=87
C14A Swan Lake 87.08 36 ⇑ P **P** **05 44 11.1 +0.2**
baz=87
SWMT Swartz Lake 87.11 37 *e*P **P** **05 44 11.4 +0.4**
J08A Circle Bar Ran 87.12 42 ⇓ P **P** **05 44 11.8 +0.7**
baz=87,SNR=8.0
D13A Huson 87.13 37 ⇓ P **P** **05 44 11.1 0.0**
baz=87
B15A Bradely Ranch, 87.36 35 ⇑ P **P** **05 44 12.1 0.0**
baz=87
F12A Elk City 87.52 38 ⇓ P **P** **05 44 12.9 0.0**
baz=87
SLMT Seeley Lake 87.55 37 *e*P **P** **05 44 13.1 0.0**
MSO Missoula 87.57 37 ⇑ P **P** **05 44 13.2 0.0**
baz=87
MSO Missoula 87.57 37 *e*P **P** **05 44 13.5 +0.3**
comp=Z,9.1nm,1.4s,mb4.4
D14A Greenough 87.64 37 ⇑ P **P** **05 44 13.3 -0.3**
baz=88,SNR=7.1
C15A Salmond Ranch, 87.68 36 ⇓ P **P** **05 44 14.1 +0.5**
baz=88
E13A Victor 87.68 38 ⇓ P **P** **05 44 13.7 0.0**
baz=88
FFC Flin Flon 87.72 26 *e*P **P** **05 44 13.1 -0.7**
comp=Z,40nm,1.3s,mb5.1
FFC Flin Flon 87.72 26 *e*P **P** **05 44 13.1 -0.7**
FFC pmax pmax
comp=Z,40nm,1.3s,mb5.1
B16A M & M Farms, S 87.73 35 ⇓ P **P** **05 44 13.4 -0.5**
baz=88
A17A Triple J Farms 87.89 34 ⇓ P **P** **05 44 14.7 0.0**
baz=88,SNR=9.7
F13A Darby 88.01 38 ⇑ P **P** **05 44 14.8 -0.5**
baz=88
E14A Clinton 88.07 37 ⇑ P **P** **05 44 15.0 -0.5**
baz=88
C16A Fuhringer Ranc 88.10 35 ⇑ P **P** **05 44 15.7 0.0**
baz=88,SNR=10
D15A Lincoln 88.19 36 ⇑ P **P** **05 44 16.1 0.0**
baz=88
B17A L&G Farms, Che 88.27 35 ⇓ P **P** **05 44 16.6 +0.1**
baz=88,SNR=15
A18A Metzger Ranch, 88.33 34 ⇑ P **P** **05 44 16.8 +0.1**
baz=88,SNR=13
H12A Diamond D Ranc 88.49 39 ⇑ P **P** **05 44 17.9 +0.4**
baz=88,SNR=11
G13A Cobalt 88.50 39 ⇑ P **P** **05 44 17.6 -0.1**
baz=88
F14A Wisdom 88.52 38 ⇓ P **P** **05 44 18.1 +0.4**
baz=88,SNR=6.3
E15A Deer Lodge 88.52 37 ⇑ P **P** **05 44 18.0 +0.3**
baz=88,SNR=6.2
MFID Camas Ranch 88.63 41 ⇑ P **P** **05 44 18.8 +0.5**
baz=88,SNR=5.2
D16A Dana Ranch, Ca 88.70 36 ⇓ P **P** **05 44 18.7 +0.1**
baz=88,SNR=7.2
B18A Beardsley Farm 88.71 34 ⇑ P **P** **05 44 18.6 +0.1**
baz=88,SNR=9.6
C17A Wharram Farm, 88.72 35 ⇓ P **P** **05 44 18.4 -0.2**
baz=88
HRY Holter Researc 88.77 36 *e*P **P** **05 44 19.4 +0.6**
I12A Atlanta 88.80 40 ⇓ P **P** **05 44 19.1 +0.1**
baz=89
H13A Challis 88.81 39 ⇑ P **P** **05 44 19.3 +0.2**
baz=89,SNR=5.7
E16A East Helena 88.96 36 ⇓ P **P** **05 44 19.7 -0.1**
baz=89
EGMT Eagleton 88.97 34 ⇑ P **P** **05 44 19.7 0.0**
baz=89,SNR=8.4
F15A Butte 88.97 37 ⇑ P **P** **05 44 19.9 +0.1**
baz=89
LRM Limekiln Ridge 89.01 37 *e*P **P** **05 44 20.9 +0.9**
D17A Six Diamond Ra 89.07 35 ⇑ P **P** **05 44 20.6 +0.3**
baz=89,SNR=6.0
B19A Brinkman Farms 89.08 34 ⇑ P **P** **05 44 20.5 +0.2**
baz=89,SNR=6.2
DLMT Dillon 89.22 38 *e*P **P** **05 44 21.4 +0.4**
comp=Z,25nm,1.4s,mb5.0
H14A Leadore 89.28 39 ⇑ P **P** **05 44 21.2 -0.1**
baz=89
A20A Cobblestone Ra 89.29 33 ⇑ P **P** **05 44 21.4 +0.1**
baz=89,SNR=6.5
I13A Wildhorse Cree 89.30 39 ⇓ P **P** **05 44 22.5 +1.1**
baz=89,SNR=14
HLID Hailey 89.35 40 ⇑ P **P** **05 44 22.5 +0.9**
baz=89,SNR=7.5
HLID Hailey 89.35 40 *e*P **P** **05 44 22.7 +1.1**
comp=Z,9.6nm,1.3s,mb4.6
G15A Dillon 89.41 38 ⇑ P **P** **05 44 22.5 +0.6**
baz=89,SNR=16
E17A Martinsdale 89.44 36 ⇑ P **P** **05 44 22.0 0.0**
baz=89
F16A Kennard Place, 89.47 37 ⇓ P **P** **05 44 22.8 +0.6**
baz=89,SNR=5.9
D18A Linhart Farms, 89.50 35 ⇑ P **P** **05 44 22.8 +0.6**
baz=89,SNR=6.5
C19A Slack Wire Ran 89.52 34 ⇑ P **P** **05 44 22.9 +0.6**
baz=89,SNR=9.6
BOZ Bozeman (W) 89.56 37 ⇑ P **P** **05 44 23.2 +0.6**
baz=89,SNR=7.2
J13A Cove Ranch, Pi 89.59 40 ⇑ P **P** **05 44 23.6 +0.9**
baz=89,SNR=7.2
I14A Mackay 89.66 39 ⇓ P **P** **05 44 24.0 +0.9**
baz=90,SNR=12
H15A Lima 89.67 38 ⇑ P **P** **05 44 23.2 0.0**
baz=90
A21A Bergtoll Ranch 89.69 32 ⇑ P **P** **05 44 23.4 +0.2**
baz=90,SNR=5.9
G16A Moss Hill, Enn 89.74 37 ⇓ P **P** **05 44 23.8 +0.3**
baz=90,SNR=5.5
E18A Harlowton 89.86 36 ⇑ P **P** **05 44 24.5 +0.6**
baz=90,SNR=15
F17A Fitzpatrick Pl 89.91 36 ⇑ P **P** **05 44 24.6 +0.4**
baz=90,SNR=5.9
D19A Cripps Ranch, 89.98 35 ⇓ P **P** **05 44 24.9 +0.4**
baz=90,SNR=14
J14A Carey 90.01 40 ⇑ P **P** **05 44 25.2 +0.5**
baz=90
B21A Ellsworth Farm 90.04 33 ⇓ P **P** **05 44 24.4 -0.3**
baz=90
C20A Veseth Ranch, 90.05 34 ⇑ P **P** **05 44 25.0 +0.2**
baz=90,SNR=13
NVAR Mina Array Bea 90.11 46 P **P** **05 44 25.7 +0.4**
comp=Z,0.7nm,0.6s,mb3.8,baz=280,slow=7.1,SNR=3.7
NVAR Mina Array Bea 90.11 46 P **P** **05 44 25.7 +0.4**
I15A Monteview 90.16 39 ⇓ P **P** **05 44 25.7 +0.3**
baz=90
A22A Carney Farms, 90.17 32 ⇓ P **P** **05 44 25.2 -0.1**
baz=90,SNR=12
QLMT Earthquake Lak 90.20 38 *e*P **P** **05 44 27.0 +1.4**
G17A Pierce Place, 90.25 37 ⇓ P **P** **05 44 26.3 +0.5**
baz=90
H16A Russell Place, 90.38 38 ⇑ P **P** **05 44 27.5 +1.1**
baz=90,SNR=7.0
F18A Big Timber 90.40 36 ⇑ P **P** **05 44 27.0 +0.5**
baz=90,SNR=8.8
D20A Manuel Ranch, 90.41 34 ⇓ P **P** **05 44 26.9 +0.4**
baz=90,SNR=10.0
E19A Rath Farm, Rou 90.51 35 ⇓ P **P** **05 44 27.4 +0.4**
baz=90,SNR=7.8
J15A Blackfoot 90.57 39 ⇓ P **P** **05 44 28.5 +1.1**
baz=90
KMBO Kilima Mbogo 90.65 269 *e*P **P** **05 44 29.1 +0.9**
comp=Z,24nm,1.3s,mb5.1
KMBO Kilima Mbogo 90.65 269 *e*P **P** **05 44 29.1 +0.8**
KMBO pmax pmax
comp=Z,25nm,1.3s
K14A Jones Ranch, D 90.69 40 ⇑ P **P** **05 44 28.6 +0.6**
baz=90
YFT Old Faithful 90.77 38 *e*P **P** **05 44 31.9 +3.6**
comp=Z,14nm,1.0s,mb4.9
I16A Newdale 90.79 38 ⇑ P **P** **05 44 29.1 +0.8**
baz=91
E20A Meyer Farm, Mu 90.81 35 ⇑ P **P** **05 44 28.6 +0.2**

	baz=91,SNR=7.6							
F19A	Roth Farm, Mol	90.83	36	⇑P		P	05 44 28.5	0.0
	baz=91							
H17A	Grant Village	90.94	37	⇓P		P	05 44 31.6	+2.6
	baz=91,SNR=8.4							
K15A	Arbon	90.97	40	⇓P		P	05 44 29.5	+0.3
	baz=91							
B23A	Brockton	90.97	32	⇑P		P	05 44 29.0	-0.1
	baz=91							
L14A	Malta	90.98	40	⇓P		P	05 44 30.1	+0.9
	baz=91							
D21A	La Casta Ranch	90.99	34	⇓P		P	05 44 29.3	+0.1
	baz=91,SNR=14							
FLWY	Flagg Ranch	91.08	38	eP		P	05 44 31.8	+2.1
	comp=Z,16nm,1.1s,mb5.0							
A24A	Westby	91.10	31	⇑P		P	05 44 29.6	-0.1
	baz=91							
J16A	Bone	91.11	39	⇓P		P	05 44 30.5	+0.7
	baz=91,SNR=5.1							
RLMT	Red Lodge	91.16	36	⇓P		P	05 44 30.7	+0.6
	baz=91,SNR=8.3							
RLMT	Red Lodge	91.16	36	eP		P	05 44 30.9	+0.9
	comp=Z,31nm,1.5s,mb5.1							
H18A	Shoshone NF, C	91.25	37	⇓P		P	05 44 30.9	+0.5
	baz=91							
MOOW	Moose Ponds	91.28	38	eP		P	05 44 32.1	+1.5
	comp=Z,12nm,1.6s,mb4.7							
F20A	Billings	91.28	35	⇑P		P	05 44 30.4	-0.1
	baz=91							
D22A	Cohagen	91.33	33	⇑P		P	05 44 30.8	0.0
	baz=91							
TPAW	Teton Pass	91.33	38	eP		P	05 44 31.7	+0.8
	comp=Z,8.6nm,1.3s,mb4.6							
DGMT	Dagmar	91.34	31	⇓P		P	05 44 30.7	-0.1
	baz=91							
DGMT	Dagmar	91.34	31	eP		P	05 44 31.2	+0.4
	comp=Z,42nm,1.2s,mb5.3							
C23A	Lambert	91.35	32	⇓P		P	05 44 31.3	+0.4
	baz=91,SNR=5.0							
K16A	Soda Springs	91.41	39	⇑P		P	05 44 32.6	+1.3
	baz=91,SNR=5.2							
LOHW	Long Hollow	91.44	38	eP		P	05 44 32.6	+1.2
	comp=Z,27nm,2.0s,mb4.9							
REDW	Red Top Meadow	91.47	38	eP		P	05 44 33.3	+1.8
	comp=Z,11nm,1.4s,mb4.7							
L15A	Malad City	91.49	40	⇓P		P	05 44 31.9	+0.2
	baz=91							
J17A	Brown Place, J	91.55	38	⇑P		P	05 44 32.4	+0.5
	baz=91							
H19A	Powell	91.61	36	⇑P		P	05 44 32.8	+0.6
	baz=91,SNR=5.9							
LAO	LASA Array	91.64	34	⇓P		P	05 44 32.8	+0.6
	baz=91,SNR=6.7							
LAO	LASA Array	91.64	34	eP		P	05 44 33.0	+0.8
	comp=Z,12nm,0.9s,mb4.9							
LAO				epP		pP	05 45 07.3	+0.1
G20A	Bridger	91.64	36	⇓P		P	05 44 32.1	-0.1
	baz=92							
F21A	Absaloka Mine,	91.79	35	⇓P		P	05 44 32.8	-0.1
	baz=92							
D23A	Lindsay	91.79	33	⇓P		P	05 44 33.0	+0.1
	baz=92							
I18A	Diamond G Ranc	91.81	38	⇓P		P	05 44 33.6	+0.5
	baz=92							
R11A	Troy Canyon, C	91.87	44	⇓P		P	05 44 34.2	+0.7
	baz=92							
J18A	Kendall Valley	92.03	38	⇓P		P	05 44 34.4	+0.3
	baz=92							
MPMC	Manual Prospec	92.03	47	⇑P		P	05 44 34.6	+0.4
	baz=92							
I19A	Meeteetse	92.03	37	⇑P		P	05 44 34.6	+0.5
	baz=92							
G21A	Lodge Grass	92.16	35	⇑P		P	05 44 34.5	-0.2
	baz=92							
FURC	Furnace Creek,	92.19	47	⇑P		P	05 44 34.9	-0.1
	baz=92							
D24A	Glendive	92.25	32	⇑P		P	05 44 35.1	+0.1
	baz=92							
F22A	Rosebud	92.25	34	⇑P		P	05 44 35.0	0.0
	baz=92							
H20A	Greybull	92.25	36	⇓P		P	05 44 34.9	-0.2
	baz=92							
DUG	Dugway	92.40	42	⇑P		P	05 44 36.1	+0.2
	baz=92							
DUG	Dugway	92.40	42	eP		P	05 44 37.0	+1.2
	comp=Z,3.8nm,0.8s,mb4.5							
DUG	Dugway	92.40	42	eP		P	05 44 37.1	+1.2
DUG				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
K18A	Toltan Ranch,	92.40	39	⇑P		P	05 44 36.4	+0.6
	baz=92							
J19A	Crowheart	92.52	38	⇓P		P	05 44 36.8	+0.5
	baz=92							
O15A	The Old Anders	92.55	41	⇓P		P	05 44 36.8	+0.2
	baz=92							
I20A	Worland	92.55	37	⇓P		P	05 44 36.7	+0.2
	baz=92							
BW06	Boulder Array	92.58	38	⇓P		P	05 44 36.5	-0.2
	baz=92							
BW06	Boulder Array	92.58	38	eP		P	05 44 36.9	+0.2
	comp=Z,4.2nm,1.1s,mb4.5							
PDAR	Pinedale Array	92.58	38	P		P	05 44 36.8	+0.1
	comp=Z,2.0nm,0.8s,mb4.3,baz=282,slow=1.4,SNR=13							
PDAR	Pinedale Array	92.58	38	P		P	05 44 36.8	+0.1
G22A	Birney	92.63	35	⇑P		P	05 44 36.8	0.0
	baz=92							
H21A	Big Horn, Sher	92.65	36	⇑P		P	05 44 36.6	-0.3
	baz=92							
F23A	Volborg	92.72	34	⇑P		P	05 44 36.7	-0.5
	baz=92							
M17A	Scullys Gap (B	92.81	40	⇑P		P	05 44 38.1	+0.3
	baz=93							
L18A	Fontenelle, Gr	92.87	39	⇓P		P	05 44 38.7	+0.7
	baz=93							
GSC	Goldstone	92.93	48	⇓P		P	05 44 39.1	+0.7
	baz=93							
J20A	Shoshoni	92.98	37	⇑P		P	05 44 38.9	+0.4
	baz=93							
H22A	Clearmont	93.03	35	⇑P		P	05 44 38.5	-0.2
	baz=93							
N17A	Moffit Pass	93.07	40	⇑P		P	05 44 39.2	+0.3
	baz=93							
I21A	Big Trails, Te	93.09	36	⇑P		P	05 44 38.6	-0.3
	baz=93							
G23A	Biddle	93.09	34	⇓P		P	05 44 38.6	-0.3
	baz=93							
F24A	Ekalaka	93.10	33	⇑P		P	05 44 38.8	-0.2
	baz=93							
L19A	Farson	93.13	39	⇑P		P	05 44 39.5	+0.3
	baz=93							
K20A	Yellowstone Ra	93.31	38	⇑P		P	05 44 40.0	-0.1
	baz=93							
J21A	Lysite	93.33	37	⇓P		P	05 44 40.4	+0.3
	baz=93							
TUQ	Turquoise Moun	93.42	47	⇑P		P	05 44 40.8	+0.1
	baz=93							
I22A	9 Mile Ranch,	93.45	36	⇑P		P	05 44 40.7	+0.1
	baz=93							
ULM	Lac du Bonnet	93.55	26	P		P	05 44 39.8	-1.2
	comp=Z,5.4nm,0.8s,mb4.7,baz=305,slow=5.9,SNR=7.7							
ULM	Lac du Bonnet	93.55	26	eP		P	05 44 40.0	-0.9
	comp=Z,19nm,1.3s,mb5.1							
ULM	Lac du Bonnet	93.55	26	eP		P	05 44 40.0	-1.0
ULM				pmax		pmax		
	comp=Z,19nm,1.3s							
O17A	Robinson Place	93.61	41	⇓P		P	05 44 41.9	+0.4
	baz=93							
L20A	Wamsutter	93.75	38	⇑P		P	05 44 42.7	+0.7
	baz=94							
J22A	Midwest	93.79	36	⇑P		P	05 44 41.9	-0.3
	baz=94							
H24A	Dirks Ranch, A	93.83	34	⇓P		P	05 44 42.2	-0.2
	baz=94							
K21A	Alcova	93.92	37	⇑P		P	05 44 43.0	+0.2
	baz=94							
N19A	John Jarvie Ra	94.04	39	⇑P		P	05 44 43.7	+0.3
	baz=94							
Q16A	Castle Valley	94.19	42	⇓P		P	05 44 44.8	+0.7
	baz=94							
M20A	Sweetwater, Wa	94.19	38	⇑P		P	05 44 44.2	+0.1
	baz=94							
K22A	Casper	94.29	37	⇓P		P	05 44 44.5	0.0
	baz=94							
I24A	Kuemmerle Ranc	94.43	35	⇑P		P	05 44 45.1	0.0
	baz=94							
O19A	Miners Draw (B	94.47	40	⇑P		P	05 44 45.4	0.0
	baz=94							
M21A	Separation Pea	94.56	38	⇓P		P	05 44 45.8	0.0
	baz=94							
N20A	Spence Gulch,	94.59	39	⇓P		P	05 44 46.2	+0.3
	baz=94							
Q18A	Rafter H Ranch	94.68	41	⇑P		P	05 44 46.5	+0.1
	baz=94							
R17A	Hanksville Air	94.79	42	⇓P		P	05 44 47.5	+0.6
	baz=95							
P19A	Cripple Cowboy	94.99	40	⇓P		P	05 44 48.0	+0.2
	baz=95							
L23A	Garrett	95.11	37	⇑P		P	05 44 48.1	-0.1
	baz=95							
M22A	Cedar Creek Ra	95.12	38	⇓P		P	05 44 49.3	+1.0
	baz=95							
S18A	Hurst Farm, Bl	95.69	42	⇓P		P	05 44 51.5	+0.5
	baz=96							
R19A	Curley Farm, L	95.73	41	⇓P		P	05 44 51.9	+0.7
	baz=96							
P22A	Eagle	96.28	39	⇓P		P	05 44 53.6	-0.1
	baz=96							
R20A	Redvale	96.31	41	⇓P		P	05 44 53.5	-0.3
	baz=96							
V17A	Tonalea, Kykot	96.56	44	⇑P		P	05 44 55.9	+0.9
	baz=96							
S20A	Disappointment	96.56	41	⇓P		P	05 44 55.4	+0.4
	baz=96							
U18A	Rough Rock, Ch	96.60	43	⇑P		P	05 44 56.6	+1.4
	baz=96							
R21A	Cimarron	96.67	40	⇑P		P	05 44 56.9	+1.4
	baz=96							
Q22A	Crested Butte,	96.70	40	⇓P		P	05 44 56.8	+1.3
	baz=96							
W17A	Winslow	96.96	45	⇓P		P	05 44 57.9	+1.0
	baz=97							
S21A	Coal Bank Pass	97.01	41	⇑P		P	05 44 57.5	+0.5
	baz=97							
TORD	Torodi Ar. Bea	113.63	300	PKiKP		PKiKP	05 50 02.4	-1.1
	comp=Z,0.4nm,0.4s,baz=48,slow=1.8,SNR=14							
TORD	Torodi Ar. Bea	113.63	300	PKiKP		PKiKP	05 50 02.4	-1.1
DBIC	Dimbokro	122.68	299	PKP		PKPdf	05 50 19.6	-1.3
	comp=Z,1.3nm,0.4s,baz=338,slow=3.7,SNR=7.1							
DBIC	Dimbokro	122.68	299	PKP		PKPdf	05 50 19.6	-1.3
DBIC	Dimbokro	122.68	299	PKIKP		PKPdf	05 50 19.7	-1.2
DBIC				pmax		pmax		
	comp=Z,1.0nm,0.4s							
SDV	Santo Domingo	139.77	28	ePKPdf		PKPdf	05 50 53.2	0.0
ATAH	Atahualpa	148.21	55	PKPbc		PKPbc	05 51 12.1	+0.8
	comp=Z,5.1nm,0.8s,baz=315,slow=2.9,SNR=5.9							
ATAH	Atahualpa	148.21	55	PKPbc		PKPbc	05 51 12.1	+0.8

GUC 15 05:41:39.0±0.6, 24°.10S×67°.62W, h211km±7km, ML4.0, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.30	336	iS	S	05 42 39.9	+2.0
PB04	Plate Boundary	2.51	316	⇑iP	Pn	05 42 30.1	+6.4
PB04				iS	S	05 43 09.5	+11
PB04				AML	AML	05 43 12.8	
	comp=N,206nm,0.2s						
ANCH	Antofagasta	2.59	279	⇑iP	Pn	05 42 26.1	+1.5
ANCH				iS	S	05 43 01.5	+1.3
MECH	Mejillones	2.78	290	⇑iP	Pn	05 42 28.8	+2.1
MECH				iS	S	05 43 05.7	+1.7
MECH				AML	AML	05 43 09.5	
	comp=N,180nm,0.5s						
PB07	Plate Boundary	3.15	318	⇑iP	Pn	05 42 33.0	+1.9
PB07				iS	S	05 43 14.4	+2.5
PB07				AML	AML	05 43 15.8	
	comp=N,165nm,0.4s						
PB01	Plate Boundary	3.50	330	⇑iP	Pn	05 42 36.4	+1.3
PB01				iS	S	05 43 21.2	+2.0
PB01				AML	AML	05 43 22.8	
	comp=E,105nm,0.1s						

ISCJB 15 05:44:18.3±0.9, 12°.97N±0°.09×89°.24W±0°.05, h49km±14km, mb3.1/2, Error ellipse: s-maj=16.2km s-min=4.0km az=24.2
CASC 15 05:44:18.8±1.9, 13°.02N×89°.26W, h40km±29km, MD3.6, ML3.8
IDC 15 05:44:19.4±1.4, 14°.60N×88°.31W, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=62.2km s-min=18.5km az=49.0
NEIC 15 05:44:28.4±1.0, 14°.32N×88°.77W, h78km±14km, MD3.9(SNET), Error ellipse: s-maj=23.6km s-min=10.0km az=221.0
NEIC Felt [II] at San Salvador, El Salvador.

ISC 15 05:44:19.2±0.8, 13°.00N±0°.07×89°.25W±0°.04, h40km±20km, n35, σ0s81/46, mb3.1/2, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	Las Flores	0.49	23	eP	Pn	05 44 29.2	-0.7
AIES				eS	Sn	05 44 37.4	0.0
AIES				AML	AML	05 44 39.0	
	comp=Z,9μm,0.3s						
SNET	Serv Nac Est T	0.69	2	eP	Pn	05 44 31.5	-1.0
SNET				eS	Sn	05 44 41.8	-0.2
SNET				AML	AML	05 44 44.5	
	comp=Z,5μm,0.2s						
SNVI	San Vicente	0.73	33	eS	Sn	05 44 43.2	+0.1
BOQS	Boqueron	0.73	358	eP	Pn	05 44 32.5	-0.7
BOQS				eS	Sn	05 44 42.8	-0.4
SBLS	San Blas	0.91	337	eP	Pn	05 44 34.8	-0.7
SNJE	San Jose	0.93	338	eP	Pn	05 44 35.3	-0.5
SNJE				eS	Sn	05 44 49.2	+1.2
RTR	El Retiro	0.97	337	eP	Pn	05 44 35.7	-0.7
VSM	San Miguel	1.04	66	eP	Pn	05 44 37.4	0.0
BLLM	Bellamira	1.08	66	eP	Pn	05 44 37.7	-0.2
BLLM				eS	Sn	05 44 52.3	+0.6
RBDL	Robledal	1.19	339	eP	Pn	05 44 38.8	-0.6
CAHU	Cacacuatique	1.27	53	eP	Pn	05 44 40.2	-0.2
MTO2	Montecristo 2	1.40	356	⇑eP	Pn	05 44 41.7	-0.6
CNCH	Conchagua	1.41	79	eP	Pn	05 44 42.0	-0.4
CNCH				eS	Sn	05 45 00.9	+1.2
NBG	Las Nubes	1.91	326	eP	Pn	05 44 50.6	+1.4
NBG				eS	Sn	05 45 12.4	+0.4
PCG	Pacaya	1.91	317	eP	Pn	05 44 50.4	+1.1
PCG				eS	Sn	05 45 12.6	+0.4
FUG	Fuego 3	2.11	313	eP	Pn	05 44 52.4	+0.3
FUG				eS	Sn	05 45 17.0	-0.2
CRIN	San Cristobal	2.17	98	eP	Pn	05 44 52.3	-0.5
TGUH	Tegucigalpa,Un	2.19	61	ePn	Pn	05 44 52.6	-0.6
TGUH	Tegucigalpa,Un	2.19	61	eP	Pn	05 44 52.8	-0.4
TGUH				eS	Sn	05 45 25.2	+6.1
FG6		2.22	315	eP	Pn	05 44 55.2	+1.7
FG6				eS	Sn	05 45 19.8	+0.1
TP2	Tecpan 2	2.47	316	eP	Pn	05 44 57.4	+0.4
TP2				eS	Sn	05 45 27.1	+1.2
CNGN	Cerro Negro	2.54	101	eP	Pn	05 44 56.9	-1.1
CNGN				AML	AML	05 45 38.9	
	comp=E,219nm,0.1s						
JAT	Jato	2.67	300	eP	Pn	05 44 60.0	+0.3
JAT				eS	Sn	05 45 28.7	-2.0
JTS	JuntasAbangare	5.00	122	Pn	Px	05 45 41.9	
	comp=E,3.3nm,0.3s,baz=306,slow=18,SNR=15						
JTS				Sn	Sx	05 46 45.2	
	comp=E,2.1nm,0.3s,baz=131,slow=21,SNR=9.0						
JTS	JuntasAbangare	5.00	122	ePn	Px	05 45 41.6	
	comp=E,12nm,0.6s						
JTS				Sn	Sx	05 46 45.2	
CMIG	Matias Romero	6.79	307	Pn	Pn	05 46 01.1	+4.7
	comp=E,0.4nm,0.3s,baz=123,slow=8.6,SNR=4.4						
CMIG				Sn	Sn	05 47 17.1	+4.5
	comp=E,0.7nm,0.3s,baz=77,slow=16,SNR=4.9						
CMIG	Matias Romero	6.79	307	Pn	Pn	05 46 01.1	+4.7
CMIG				Sn	Sn	05 47 17.1	+4.5
TEIG	Tepich	7.25	7	ePn	Pn	05 45 53.3	-9.3
BCIP	Isla Barro Col	9.99	111	ePn	Px	05 46 52.1	
BCIP				eSn	Sn	05 48 32.5	+1.3
TXAR	Lajitas Array	21.06	323	P	P	05 48 59.3	-0.6
	comp=E,0.2nm,0.6s,mb2.6,baz=143,slow=10,SNR=6.1						
TXAR	Lajitas Array	21.06	323	P	P	05 48 59.3	-0.6
LPAZ	La Paz	35.81	144	P	pP	05 51 27.8	+1.6
	comp=E,2.3nm,1.1s,baz=344,slow=9.3,SNR=6.3						
LPAZ	La Paz	35.81	144	P	pP	05 51 27.8	+1.6
YKA	Yellowknife Ar	52.63	346	P	P	05 53 24.8	-4.1
	comp=E,0.3nm,0.5s,mb3.5,baz=142,slow=7.5,SNR=5.5						
YKA	Yellowknife Ar	52.63	346	P	P	05 53 24.8	-4.1

IDC 15 05:45:05.3±3.7, 4°.26S×151°.00E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/15, mbtmp3.7/2, Error ellipse: s-maj=151.6km s-min=46.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.51	225	P	P	05 50 07.4	+0.7
	0.8nm,0.4s,baz=50,slow=10,SNR=22						
ASAR	Alice Springs	25.39	219	P	P	05 50 33.9	-0.7
	1.4nm,0.7s,baz=52,slow=9.4,SNR=15						
TORD	Torodi Ar. Bea	148.44	288	PKPbc	PKPbc	06 04 54.6	-0.4
	0.2nm,0.6s,baz=94,slow=4.6,SNR=2.3						

ISCJB 15 05:45:12.7±0.6, 42°.58N±0°.04×23°.85E±0°.04, h10km, Error ellipse: s-maj=6.3km s-min=3.6km az=26.5
SOF 15 05:45:12.9, 42°.61N×23°.91E, h16km, MD2.5
CSEM 15 05:45:13.1±0.3, 42°.62N×23°.89E, h2km, MD2.5, Error ellipse: s-maj=7.6km s-min=3.8km az=29.0
BEO 15 05:45:14.1±0.4, 42°.52N×23°.85E, h0km, ML1.7/4
SKO 15 05:45:14.2, 42°.57N×23°.89E, h0km

ISC 15 05:45:13.3±0.6, 42°.59N±0°.04×23°.88E±0°.04, h10km, n20, σ0s54/29, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGB	Panagyurishte	0.21	100	iP	Pg	05 45 18.3	+0.6
PGB	Panagyurishte	0.21	100	iP	Pg	05 45 18.3	+0.6
VTS	Vitosha	0.50	271	ePg	Pg	05 45 23.0	+0.1
VTS				eSg	Sg	05 45 29.4	-0.1
VTS	Vitosha	0.50	271	P	Pg	05 45 22.9	0.0
VTS	Vitosha	0.50	271	P	Pg	05 45 22.9	0.0
VTS				eSg	Sg	05 45 29.4	-0.1
MPEP	Malo Peshtene	0.78	352	iP	Pg	05 45 28.1	-0.1
PLD	Plovdiv	0.78	128	ePg	Pg	05 45 28.1	-0.1
PLD				eSg	Sg	05 45 37.8	-0.6
PLD	Plovdiv	0.78	128	iP	Pg	05 45 27.9	-0.3
PLD	Plovdiv	0.78	128	iP	Pg	05 45 27.9	-0.3
PLD				eSg	Sg	05 45 37.8	-0.6
KKB	Krupnik	0.93	220	iP	Pg	05 45 31.7	+0.5
KKB	Krupnik	0.93	220	iP	Pg	05 45 31.7	+0.5
MMB	Musomiste	1.00	187	iP	Pg	05 45 33.6	+1.1
MMB	Musomiste	1.00	187	iP	Pg	05 45 33.6	+1.1
RZN	Rozhen	1.09	145	iP	Pb	05 45 33.9	-0.3
RZN	Rozhen	1.09	145	iP	Pb	05 45 33.9	-0.3
ZAPS	Zavoj	1.15	307	ePg	Pg	05 45 34.9	-0.4
ZAPS				eSg	Sg	05 45 51.1	+1.0
BARS	Barje	1.54	279	ePg	Pg	05 45 42.1	-0.7
BARS				eSg	Sg	05 46 02.1	-0.7
BARS	Barje	1.54	279	ePg	Pg	05 45 42.1	-0.7
BARS				eSg	Sg	05 46 02.1	-0.7
VAY	Valandovo	1.60	218	ePn	Pg	05 45 44.1	+0.2
VAY				eSg	Sg	05 46 04.3	-0.3
VAY	Valandovo	1.60	218	ePn	Pg	05 45 44.1	+0.2
VAY				eSg	Sg	05 46 04.3	-0.3

IDC 15 05:47:27.1±1.8, 39°.59N×70°.23E, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.6/29, mbtmp3.7/10, ML3.4/5, Error ellipse: s-maj=31.8km s-min=15.1km az=150.0
NNC 15 05:47:27.5±1.8, 39°.77N×70°.13E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=17.7km s-min=8.8km az=8.0
NEIC 15 05:47:30.0±0.7, 39°.51N×70°.14E, h35km, mb4.0/9, Error ellipse: s-maj=12.4km s-min=8.7km az=67.0

ISC 15 05:47:29.9±1.7, 39°.58N±0°.04×69°.99E±0°.06, h34km±14km, n63, σ1s46/69, mb3.7/6, 5C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	3.55	6	Pn	Pn	05 48 24.7	+2.2
	8.7nm,0.4s,baz=191,slow=14,SNR=266						
KK31				Lg		05 49 12.1	
	78nm,0.5s,baz=185,slow=28,SNR=21						
KKAR	Karatay Array	3.55	6	ePn	Pn	05 48 24.0	+1.5
KKAR				eSn	Sb	05 49 14.5	+0.1
AML	Almayashu	3.80	47	P	Pn	05 48 27.0	+1.0
	SNR=108						
AML				P		05 48 27.0	
	SNR=108						
EKS2	Erkin-Say	4.21	42	P	Pn	05 48 32.4	+0.8
	SNR=9.3						
EKS2				P		05 48 32.4	
	SNR=9.3						
EKS2	Erkin-Say	4.21	42	ePn	Pn	05 48 32.3	+0.8
EKS2				eSn	Sn	05 49 15.8	-3.6
AAK	Ala-Archa	4.57	47	P	Pn	05 48 37.7	+1.1
	SNR=22						
AAK				P		05 48 37.7	
	SNR=22						
AAK	Ala-Archa	4.57	47	ePn	Pn	05 48 37.5	+0.9
AAK				eSn	Sn	05 49 22.8	-5.8
KZA	Kyzart	4.71	56	P	Pn	05 48 39.9	+1.5
	SNR=39						
KZA				P		05 48 39.9	
	SNR=39						
KBK	Karagaybulak	4.85	49	P	Pn	05 48 42.0	+1.7
	SNR=15						
KBK				P		05 48 42.0	
	SNR=15						
CHMS	Chumysh	4.96	45	P	Pn	05 48 43.0	+1.1
	SNR=7.7						
CHMS				P		05 48 43.0	
	SNR=7.7						
USP	Ospenovka	5.01	41	P	Pn	05 48 42.8	+0.3
	SNR=13						
USP				P		05 48 42.8	
	SNR=13						
KBL	Kabul	5.08	189	Pn	Pn	05 48 43.6	0.0
	19nm,0.6s						
KBL				eSn	Sn	05 49 48.2	+7.1
TKM2	Tokmak 2	5.39	50	P	Pn	05 48 48.5	+0.8
	SNR=25						
TKM2				P		05 48 48.5	
	SNR=25						
TKM2	Tokmak 2	5.39	50	⇓Pn	Pn	05 48 47.5	-0.3
	10.0nm,0.3s						
TKM2				⇑Sn	Sn	05 49 47.9	-0.6
	19nm,0.8s						
TKM2				⇓Lg		05 50 12.1	
	22nm,0.8s						
TKM2	Tokmak 2	5.39	50	ePn	Pn	05 48 48.3	+0.5
	23nm,0.4s						
ULHL	Ulahol	5.44	59	P	Pn	05 48 49.6	+1.2
	SNR=6.2						
ULHL				P		05 48 49.6	
	SNR=6.2						
MK31	Makanchi Array	11.51	47	⇓Pn	Pn	05 50 12.1	+0.5
	0.7nm,0.6s,baz=232,slow=14,SNR=11						
MK31				⇑Lg		05 53 22.2	
	4.4nm,0.9s						
MKAR	Makanchi Array	11.51	47	Pn	Pn	05 50 10.8	-0.8
	0.2nm,0.3s,baz=233,slow=14,SNR=12						
MKAR				Lg		05 53 28.6	
	0.2nm,0.3s,baz=256,slow=26,SNR=4.2						
MKAR	Makanchi Array	11.51	47	Pn	Pn	05 50 10.8	-0.8
MKAR				Lg	

0.3nm,0.3s,baz=172,slow=12,SNR=7.7
BVAR Borovoye Array 13.46 1 Pn **Pn 05 50 36.2 -2.0**
BRVK Borovoye 13.49 1 ⇓Pn **Pn 05 50 36.9 -1.7**
8.0nm,1.3s
BRVK ⇓Lg 05 54 29.6
2.6nm,0.6s
AKTO Aktyubinsk 13.75 326 Pn **Pn 05 50 42.1 -0.1**
0.4nm,0.3s,baz=152,slow=19,SNR=5.8
AKTO Aktyubinsk 13.75 326 Pn **Pn 05 50 42.1 -0.1**
DANN Dangsing 15.98 130 *eP* **Pn 05 51 07.8 -4.2**
7.4nm,0.5s
DANN Dangsing 15.98 130 *eP* **Pn 05 51 07.8 -4.2**
7.4nm,0.5s
GKN Gorkha 16.75 129 *eP* **Pn 05 51 18.6 -3.3**
6.5nm,0.3s
GKN Gorkha 16.75 129 *eP* **Pn 05 51 18.6 -3.3**
6.5nm,0.3s
KKN Kakani 17.30 128 *eP* **Pn 05 51 26.6 -2.1**
7.9nm,0.6s
KKN Kakani 17.30 128 *eP* **Pn 05 51 26.6 -2.1**
7.9nm,0.6s
ZALV Zalesovo Beam 17.55 30 P **Pn 05 51 29.9 -1.7**
0.1nm,0.3s,baz=236,slow=11,SNR=4.8
ZALV Zalesovo Beam 17.55 30 P **Pn 05 51 29.9 -1.7**
GUN Gumba 17.58 127 *eP* **Pn 05 51 31.5 -0.7**
4.5nm,0.4s
GUN Gumba 17.58 127 *eP* **Pn 05 51 31.5 -0.7**
4.5nm,0.4s
JIRN Jiri 17.95 127 *eP* **Pn 05 51 36.2 -0.5**
5.7nm,0.4s
JIRN Jiri 17.95 127 *eP* **Pn 05 51 36.2 -0.5**
5.7nm,0.4s
RAMN Ramite 18.71 127 *eP* **Pn 05 51 44.7 -1.3**
4.2nm,0.5s
RAMN Ramite 18.71 127 *eP* **Pn 05 51 44.7 -1.3**
4.2nm,0.5s
TAPN Taplejung 19.12 124 *eP* **Pn 05 51 54.2 +3.2**
2.9nm,0.5s
TAPN Taplejung 19.12 124 *eP* **Pn 05 51 54.2 +3.2**
2.9nm,0.5s
ODAN Odare 19.27 126 *eP* **Pn 05 51 54.2 +1.5**
5.2nm,0.5s
ODAN Odare 19.27 126 *eP* **Pn 05 51 54.2 +1.5**
5.2nm,0.5s
BRTR Keskin Array B 27.87 282 P **P 05 53 20.9 +4.6**
0.6nm,0.8s,mb3.3,baz=90,slow=9.9,SNR=4.1
BRTR Keskin Array B 27.87 282 P **P 05 53 20.9 +4.6**
ARCES ARCESS Array B 38.01 336 P **P 05 54 47.6 +3.4**
3.1nm,1.0s,mb4.0,baz=110,slow=7.8,SNR=3.6
ARCES ARCESS Array B 38.01 336 P **P 05 54 47.6 +3.4**
NB2 NORSAR Subarra 41.47 321 P **P 05 55 15.1 +2.0**
comp=Z,1.1nm,0.5s,mb3.7,baz=93,slow=8.6
NOA NORSAR Array B 41.47 321 P **P 05 55 15.5 +2.4**
comp=Z,1.3nm,0.7s,mb3.7,baz=95,slow=8.4,SNR=4.2
NOA NORSAR Array B 41.47 321 P **P 05 55 15.5 +2.4**
TORD Torodi Ar. Bea 65.05 267 P **P 05 58 09.9 +2.9**
comp=Z,0.4nm,0.7s,mb3.6,baz=57,slow=5.2,SNR=5.9
TORD Torodi Ar. Bea 65.05 267 P **P 05 58 09.9 +2.9**
CHGN Chignik 76.07 25 *eP* **P 05 59 12.5 -1.0**
YKA Yellowknife Ar 78.21 2 P **P 05 59 29.5 +4.1**
comp=Z,0.1nm,0.3s,mb3.2,baz=349,slow=5.1,SNR=3.7
YKA Yellowknife Ar 78.21 2 P **P 05 59 29.6 +4.1**
WRAB Tennant Creek 84.29 122 *eP* **P 05 59 55.3 -3.0**
comp=Z,5.5nm,1.1s,mb4.6

ISCJB ***15*** *05:48:52.2±1.0, 57.°1S±0.°1×24.°8W±0.°5, h10km, mb4.5/3, MS3.3/2, Error ellipse: s-maj=40.8km s-min=13.5km az=158.0*
IDC ***15*** *05:48:52.6±0.9, 57.°04S×24.°79W, h0km, mb4.5/3, mb1 4.5/4, mb1mx4.0/13, mbtmp4.3/4, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/17, Error ellipse: s-maj=38.8km s-min=25.8km az=72.0*
NEIC ***15*** *05:48:53.9±0.6, 57.°04S×24.°79W, h10km, mb3.8/1, Error ellipse: s-maj=29.6km s-min=13.3km az=70.0*
ISC 15 05:48:54.2±1.0, 57.°1S±0.°1×24.°7W±0.°5, h10km, n19, σ0 33/12, mb4.5/3, MS3.3/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.35**	**159**	*e*	**Pn**	**05 52 30.7**	**+0.1**
VNA3	**Neumayer Olymp**	**15.59**	**162**	*e*	**Pn**	**05 52 33.2**	**-0.5**
VNA2	**Neumayer--Watz**	**15.74**	**159**	*e*	**Pn**	**05 52 35.4**	**-0.3**
baz=331,slow=15							
SNAA	**Sanae**	**17.26**	**157**	*e*	**Pn**	**05 52 55.3**	**+0.3**
SNAA	**Sanae**	**17.26**	**157**	P	**Pn**	**05 52 56.1**	**+1.1**
0.3nm,0.3s,baz=337,slow=14,SNR=25							
SNAA	**Sanae**	**17.26**	**157**	*e*Pn	**Pn**	**05 52 55.3**	**+0.3**
9.4nm,1.1s							
PMSA	**Palmer Station**	**20.30**	**232**	LR	LR	05 58 46.7	
comp=Z,128nm,19.0s,MS3.3,baz=96,slow=29							
QSPA	**South Pole Qui**	**33.18**	**180**	P	**P**	**05 55 30.5**	**+0.1**
1.6nm,0.5s,mb4.2,baz=172,slow=1.9,SNR=6.1							
QSPA				LR	LR	06 08 36.1	
comp=Z,59nm,18.1s,MS3.3,baz=197,slow=36							
QSPA	**South Pole Qui**	**33.18**	**180**	P	**P**	**05 55 30.5**	**+0.1**
LPAZ	**La Paz**	**52.07**	**303**	P	**P**	**05 58 04.1**	**0.0**
6.0nm,0.4s,mb4.9,baz=162,slow=4.0,SNR=60							
LPAZ	**La Paz**	**52.07**	**303**	P	**P**	**05 58 04.1**	**0.0**
TORD	**Torodi Ar. Bea**	**73.31**	**27**	P	**P**	**06 00 25.6**	**0.0**
2.5nm,0.6s,mb4.4,baz=200,slow=6.8,SNR=38							
TORD	**Torodi Ar. Bea**	**73.31**	**27**	P	**P**	**06 00 25.6**	**0.0**
YKA	**Yellowknife Ar**	**137.84**	**316**	PKP	PKPdf	06 08 17.3	+0.1
0.6nm,0.7s,baz=118,slow=2.3,SNR=9.3							
YKA	**Yellowknife Ar**	**137.84**	**316**	PKP	PKPdf	06 08 17.3	+0.1
SONM	**Songino Array**	**149.43**	**86**	PKPbc	PKPbc	06 08 42.1	-0.2
1.6nm,0.6s,baz=223,slow=2.9,SNR=12							
SONM	**Songino Array**	**149.43**	**86**	PKPbc	PKPbc	06 08 42.1	-0.2
ILAR	**Eielson Array**	**151.81**	**310**	PKPbc	PKPbc	06 08 47.2	-0.3
1.2nm,0.9s,baz=129,slow=2.0,SNR=12							
ILAR				PKPab	PKPab	06 08 57.3	+0.6
5.0nm,1.1s,baz=128,slow=1.3,SNR=12							
ILAR	**Eielson Array**	**151.81**	**310**	PKPbc	PKPbc	06 08 47.2	-0.3
ILAR				PKPab	PKPab	06 08 57.3	+0.6

TRN 15 06:17:45.5, 14.°06N×60.°49W, h31km, MD2.9, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.56**	**232**	*eP*	Pb	06 17 57.9	+1.0
MCLT				*eS*	Sb	06 18 07.8	+3.1
SLB	**Belfond**	**0.58**	**247**	*eP*	Pb	06 17 58.2	+0.9
SLB				*eS*	Sb	06 18 08.4	+3.1
SVV	**Soufriere Volc**	**1.02**	**224**	*eS*	Sn	06 18 19.2	+2.4
SVB	**Belmont**	**1.07**	**223**	*eP*	Pn	06 18 06.3	+1.9
SVB				*eS*	Sn	06 18 19.5	+1.2

ISCJB ***15*** *06:30:29.1±1.4, 18.°40S±0.°07×176.°15W±0.°09, h256km±13km, mb4.2/19, Error ellipse: s-maj=15.6km s-min=9.4km az=32.4*
NEIC ***15*** *06:30:30.4±1.4, 18.°35S×176.°16W, h254km±13km, mb4.4/5, Error ellipse: s-maj=20.8km s-min=9.9km az=143.0*
IDC ***15*** *06:30:31.2±2.1, 18.°43S×176.°05W, h266km±19km, mb4.0/16, mb1 4.2/17, mb1mx4.1/20, mbtmp4.0/17, Error ellipse: s-maj=18.2km s-min=10.7km az=140.0*
ISC 15 06:30:30.5±1.4, 18.°47S±0.°08×176.°10W±0.°10, h258km±14km, n108, σ0 84/55, mb4.2/19, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.15**	**43**	P	**Pn**	**06 32 00.6**	**-0.1**
18nm,0.3s,baz=189,slow=1.3,SNR=34							
AFI				S	**S**	**06 33 07.4**	**-5.6**
33nm,0.3s,baz=43,slow=20,SNR=7.8							
AFI	**Afiamalu**	**6.15**	**43**	P	**Pn**	**06 32 00.6**	**-0.1**
AFI				S	**S**	**06 33 07.4**	**-5.6**
PUZ	**Puketiti**	**20.15**	**193**	*e*PN	**P**	**06 34 45.4**	**-0.1**
PUZ				*e*SN	**S**	**06 38 10.5**	**-6.5**
URZ	**Urewera**	**20.59**	**195**	P	**P**	**06 34 50.5**	**+0.3**
56nm,0.4s,baz=0.0,slow=3.6,SNR=80							
URZ				S	**S**	**06 38 21.6**	**-3.0**
7.0nm,0.7s,baz=232,slow=21,SNR=5.9							
URZ	**Urewera**	**20.59**	**195**	*e*P	**P**	**06 34 50.2**	**+0.1**
61nm,0.4s							
URZ				S	**S**	**06 38 21.6**	**-3.0**
URZ				*e*S	**S**	**06 38 21.7**	**-2.9**
URZ	**Urewera**	**20.59**	**195**	*e*PN	**P**	**06 34 48.6**	**-1.5**
CTA	**Charters Tower**	**35.52**	**261**	P	**P**	**06 37 03.9**	**+0.5**
3.2nm,0.5s,mb4.1,baz=86,slow=11,SNR=8.2							
CTA	**Charters Tower**	**35.52**	**261**	P	**P**	**06 37 03.9**	**+0.5**
STKA	**Stephens Creek**	**40.30**	**242**	P	**P**	**06 37 45.1**	**+2.1**
1.8nm,0.5s,mb3.6,baz=109,slow=11,SNR=8.7							
STKA				PcP	PcP	06 39 41.4	+0.2
2.2nm,0.7s,baz=86,slow=9.0,SNR=3.6							
STKA	**Stephens Creek**	**40.30**	**242**	*e*P	**P**	**06 37 45.5**	**+2.4**
0.5nm,0.6s							
STKA				PcP	PcP	06 39 41.4	+0.2
WAKE	**Wake Island**	**41.16**	**335**	*e*P	**P**	**06 37 48.9**	**-1.2**
235nm,0.4s							
WB2	**Warramunga Arr**	**46.68**	**260**	*e*P	**P**	**06 38 33.3**	**-0.6**
WRA	**Warramunga Arr**	**46.69**	**260**	P	**P**	**06 38 33.3**	**-0.8**
4.3nm,0.5s,mb4.1,baz=96,slow=6.0,SNR=71							
WRA				PcP	PcP	06 40 02.7	-0.5
1.1nm,1.0s,baz=96,slow=3.9,SNR=5.2							
WRA				S	**S**	**06 44 58.7**	**-5.1**
0.7nm,0.8s,baz=98,slow=12,SNR=3.6							
WRA	**Warramunga Arr**	**46.69**	**260**	P	**P**	**06 38 33.3**	**-0.8**
WRA				PcP	PcP	06 40 02.7	-0.5
WRA				S	**S**	**06 44 58.7**	**-5.1**
AS31	**Alice Springs**	**46.76**	**255**	*e*P	**P**	**06 38 33.8**	**-0.6**
ASAR	**Alice Springs**	**46.76**	**255**	P	**P**	**06 38 34.6**	**+0.1**
27nm,0.6s,mb4.7,baz=90,slow=8.2,SNR=362							
ASAR				PcP	PcP	06 40 02.9	-0.5
1.4nm,0.6s,baz=101,slow=4.3,SNR=5.9							
ASAR				S	**S**	**06 44 59.4**	**-5.2**
2.1nm,0.9s,baz=90,slow=16,SNR=14							
ASAR	**Alice Springs**	**46.76**	**255**	P	**P**	**06 38 34.6**	**+0.1**
ASAR				PcP	PcP	06 40 02.9	-0.5
ASAR				S	**S**	**06 44 59.4**	**-5.2**
FITZ	**Fitzroy Crossi**	**55.10**	**260**	P	**P**	**06 39 36.9**	**+0.4**
4.4nm,0.4s,mb4.2,baz=88,slow=4.1,SNR=25							
FITZ	**Fitzroy Crossi**	**55.10**	**260**	*e*P	**P**	**06 39 36.7**	**+0.2**
4.1nm,0.3s,mb4.3							
MJAR	**Matsushiro Arr**	**69.68**	**322**	P	**P**	**06 41 12.0**	**-0.4**
5.3nm,0.7s,mb4.4,baz=166,slow=6.5,SNR=9.8							
MJAR	**Matsushiro Arr**	**69.68**	**322**	P	**P**	**06 41 12.0**	**-0.4**
PETK	**Petropavlovsk-**	**74.80**	**344**	P	**P**	**06 41 42.0**	**-0.2**
5.0nm,0.6s,mb4.3,baz=101,slow=9.4,SNR=5.0							
PETK	**Petropavlovsk-**	**74.80**	**344**	P	**P**	**06 41 42.0**	**-0.2**
KSRS	**Korea Array**	**76.59**	**317**	P	**P**	**06 41 53.4**	**+0.7**
3.0nm,0.7s,mb4.1,baz=128,slow=5.5,SNR=8.2							
KSAR	**Wonju Array Be**	**76.61**	**317**	P	**P**	**06 41 53.4**	**+0.6**
NVAR	**Mina Array Bea**	**78.32**	**43**	P	**P**	**06 42 02.8**	**+0.5**
2.6nm,0.7s,mb4.1,baz=227,slow=9.2,SNR=8.1							
NVAR	**Mina Array Bea**	**78.32**	**43**	P	**P**	**06 42 02.8**	**+0.5**
TMUT	**Trail Mountain**	**83.46**	**45**	*e*P	**P**	**06 42 30.5**	**+1.2**
3.3nm,0.6s,mb4.3							
SRU	**San Rafael**	**83.83**	**45**	*e*P	**P**	**06 42 31.6**	**+0.4**
5.4nm,0.8s,mb4.4							
JLU	**Jordanelle**	**83.95**	**44**	*e*P	**P**	**06 42 32.0**	**+0.2**
2.5nm,0.4s,mb4.4							
TXAR	**Lajitas Array**	**84.45**	**57**	P	**P**	**06 42 35.3**	**+0.7**
3.6nm,0.9s,mb4.2,baz=214,slow=8.0,SNR=32							
TXAR	**Lajitas Array**	**84.45**	**57**	P	**P**	**06 42 35.3**	**+0.7**
MCK	**McKinley**	**84.62**	**12**	*e*P	**P**	**06 42 33.1**	**-1.4**
8.6nm,0.9s,mb4.6							
ILAR	**Eielson Array**	**85.95**	**12**	P	**P**	**06 42 39.8**	**-1.4**
2.0nm,0.5s,mb4.2,baz=233,slow=5.8,SNR=89							
ILAR	**Eielson Array**	**85.95**	**12**	P	**P**	**06 42 39.8**	**-1.4**
PDAR	**Pinedale Array**	**86.26**	**43**	P	**P**	**06 42 43.1**	**-0.1**
0.8nm,0.5s,mb3.8,baz=205,slow=3.5,SNR=9.0							
PDAR	**Pinedale Array**	**86.26**	**43**	P	**P**	**06 42 43.1**	**-0.1**
VNA3	**Neumayer Olymp**	**90.03**	**176**	*e*	**P**	**06 43 00.3**	**-0.2**
VNA2	**Neumayer--Watz**	**90.50**	**176**	*e*	**P**	**06 43 02.8**	**+0.1**
baz=204,slow=3.6							
CMAR	**Chiang Mai Arr**	**91.14**	**289**	P	**P**	**06 43 08.1**	**+1.4**
1.1nm,0.5s,mb3.9,baz=100,slow=3.2,SNR=6.3							
CMAR	**Chiang Mai Arr**	**91.14**	**289**	P	**P**	**06 43 08.1**	**+1.4**
YKA	**Yellowknife Ar**	**93.93**	**24**	P	**P**	**06 43 17.6**	**-0.9**
0.8nm,0.6s,mb3.9,baz=243,slow=4.5,SNR=12							
YKA	**Yellowknife Ar**	**93.93**	**24**	P	**P**	**06 43 17.6**	**-0.9**
SONM	**Songino Array**	**95.41**	**319**	P	**P**	**06 43 26.0**	**+0.4**
0.3nm,0.4s,mb3.8,baz=119,slow=7.6,SNR=2.7							
SONM	**Songino Array**	**95.41**	**319**	P	**P**	**06 43 26.0**	**+0.4**
ZALV	**Zalesovo Beam**	**110.03**	**322**	PKiKP	PKiKP	06 48 29.2	-1.8
0.9nm,0.4s,baz=84,slow=2.1,SNR=5.7							
ZALV	**Zalesovo Beam**	**110.03**	**322**	PKiKP	PKiKP	06 48 29.2	-1.8
MKAR	**Makanchi Array**	**111.10**	**314**	PKiKP	PKiKP	06 48 31.4	-1.9
0.6nm,0.3s,baz=175,slow=0.6,SNR=30							
MKAR	**Makanchi Array**	**111.10**	**314**	PKiKP	PKiKP	06 48 31.4	-1.9
ARCES	**ARCESS Array B**	**127.24**	**351**	PKP	PKPdf	06 49 02.9	-0.7
1.7nm,0.5s,baz=2.0,slow=1.2,SNR=20							
ARCES	**ARCESS Array B**	**127.24**	**351**	PKP	PKPdf	06 49 02.9	-0.7
FINES	**FINESS Array B**	**134.30**	**345**	PKP	PKPdf	06 49 17.2	+0.1
1.8nm,0.7s,baz=45,slow=3.0,SNR=5.8							
FINES	**FINESS Array B**	**134.30**	**345**	PKP	PKPdf	06 49 17.2	+0.1
AKASG	**Malin Array Be**	**142.05**	**334**	PKhKP	PKPpre	06 49 25.7	
1.1nm,0.4s,baz=40,slow=4.0,SNR=5.4							
AKASG				PKP	PKPdf	06 49 31.1	-0.6
0.5nm,0.4s,baz=34,slow=3.1,SNR=3.3							
AKASG	**Malin Array Be**	**142.05**	**334**	PKPpre	PKPpre	06 49 25.7	
AKASG				PKP	PKPdf	06 49 31.1	-0.6
BUR08	**Bucovina Ar. S**	**146.09**	**334**	*e*PKPdf	PKPdf	06 49 39.1	+0.3
BUR08				*e*PKPbc	PKPbc	06 49 40.1	-0.1
BUR08				*e*PKPab	PKPab	06 49 41.0	-0.3
KSP	**Ksiaz**	**146.22**	**346**	*e*PKP	PKPdf	06 49 40.1	+1.2
CLL	**Collm**	**146.45**	**350**	*i* PKPbc	PKPbc	06 49 40.5	-0.5
comp=Z,17nm,1.0s							
CRVS	**Cervenica-Dubn**	**146.48**	**339**	*e*PKP	PKPbc	06 49 40.7	-0.5
UPC	**Upice**	**146.60**	**346**	*e*PKP	PKPbc	06 49 41.0	-0.5
DPC	**Dobruska-Polom**	**146.68**	**345**	*e*PKP	PKPbc	06 49 41.4	-0.3
DPC				*ex*	x	06 49 43.6	
BRG	**Berggieshubel**	**146.69**	**348**	*i* P	PKPbc	06 49 41.2	-0.6
comp=Z,7.0nm,0.6s							
BR131	**Keskin Array S**	**146.72**	**316**	*e*PKPbc	PKPbc	06 49 41.6	-0.6
BRTR	**Keskin Array B**	**146.72**	**316**	PKPbc	PKPbc	06 49 41.6	-0.6
comp=Z,4.0nm,0.7s,baz=138,slow=4.8,SNR=19							
BRTR	**Keskin Array B**	**146.72**	**316**	PKPbc	PKPbc	06 49 41.6	-0.6
PVCC	**Panska Ves**	**146.90**	**348**	*e*PKP	PKPbc	06 49 42.1	-0.2
KECS	**Kecovo**	**147.17**	**339**	*e*PKP	PKPbc	06 49 43.0	-0.2
PRU	**Pruhonice**	**147.42**	**347**	*e*PKP	PKPbc	06 49 43.3	-0.5
NKC	**Novy Kostel**	**147.58**	**350**	*e*PKP	PKPbc	06 49 43.6	-0.6
VYHS	**Vyhne**	**147.69**	**341**	*e*PKP	PKPbc	06 49 44.2	-0.3
KHC	**Kasperske Hory**	**148.43**	**348**	*e*PKP	PKPbc	06 49 46.0	-0.4
KHC				*ex*	x	06 49 50.4	
GIVF	**Givet**	**148.43**	**359**	*e*PKP1	PKPbc	06 49 45.8	-0.6
comp=Z,11nm,0.5s							
GIVF	**Givet**	**148.43**	**359**	*e*P	PKPbc	06 49 45.8	-0.6
BAIF	**Baives**	**148.48**	**360**	*e*PKP1	PKPbc	06 49 46.0	-0.5
comp=Z,14nm,0.6s							
BAIF	**Baives**	**148.48**	**360**	*e*P	PKPbc	06 49 46.0	-0.5
GERES	**GERESS Array B**	**148.68**	**348**	PKPbc	PKPbc	06 49 46.6	-0.5
comp=Z,2.8nm,0.7s,baz=1.7,slow=2.6,SNR=15							
GERES	**GERESS Array B**	**148.68**	**348**	PKPbc	PKPbc	06 49 46.6	-0.5
FLN	**La Foliniere**	**149.57**	**6**	*e*PKP1	PKPbc	06 49 48.3	-1.0
comp=Z,25nm,0.5s							
FLN	**La Foliniere**	**149.57**	**6**	*e*P	PKPbc	06 49 48.3	-1.0
LDF	**La Druitiere**	**149.77**	**5**	*e*PKP1	PKPbc	06 49 48.6	-1.2
comp=Z,9.7nm,0.4s							
LDF	**La Druitiere**	**149.77**	**5**	*e*P	PKPbc	06 49 48.6	-1.2
SGMF	**Saint Gilles**	**149.83**	**9**	*e*PKP1	PKPbc	06 49 48.8	-1.1
SGMF	**Saint Gilles**	**149.83**	**9**	*e*P	PKPbc	06 49 48.8	-1.1
GRR	**Gorron**	**149.91**	**6**	*e*PKP1	PKPbc	06 49 49.2	-0.9
comp=Z,34nm,0.6s							
GRR	**Gorron**	**149.91**	**6**	*e*P	PKPbc	06 49 49.2	-0.9
PAGF	**Fort de Pagny**	**149.95**	**358**	*e*PKP1	PKPbc	06 49 49.8	-0.4
CDF	**Champ du Feu**	**150.01**	**356**	*e*PKP1	PKPbc	06 49 49.7	-0.6
comp=Z,13nm,0.8s							
CDF	**Champ du Feu**	**150.01**	**356**	*e*P	PKPbc	06 49 49.7	-0.6
SFTF	**Sexfontaines**	**150.32**	**358**	*e*PKP1	PKPbc	06 49 50.6	-0.5
comp=Z,14nm,0.5s							
SFTF	**Sexfontaines**	**150.32**	**358**	*e*P	PKPbc	06 49 50.6	-0.5
HAU	**Haudompre**	**150.47**	**357**	*e*PKP1	PKPbc	06 49 50.7	-0.8
comp=Z,11nm,0.6s							
HAU	**Haudompre**	**150.47**	**357**	*e*P	PKPbc	06 49 50.7	-0.8
WTTA	**Wattenberg**	**150.59**	**349**	⇓*i*PKPbc	PKPbc	06 49 51.2	-0.6
comp=Z,15nm,0.5s							
HINF	**Hinteralfeld**	**150.63**	**356**	*e*PKP1	PKPbc	06 49 50.9	-0.9
comp=Z,7.1nm,0.6s							
HINF	**Hinteralfeld**	**150.63**	**356**	*e*P	PKPbc	06 49 50.9	-0.9
FETA	**Feichten**	**150.97**	**350**	⇑*i*PKPbc	PKPbc	06 49 51.9	-0.8
comp=Z,8.2nm,1.1s							
LOR	**Lormes**	**151.28**	**0**	*e*PKP1	PKPbc	06 49 52.7	-0.7
comp=Z,10nm,0.5s							
LOR	**Lormes**	**151.28**	**0**	*e*P	PKPbc	06 49 52.7	-0.7
SSF	**Saint Saulge**	**151.48**	**1**	*e*PKP1	PKPbc	06 49 53.1	-0.7
comp=Z,8.7nm,0.6s							
SSF	**Saint Saulge**	**151.48**	**1**	*e*P	PKPbc	06 49 53.1	-0.7
MFF	**Saint Martin d**	**151.75**	**6**	*e*PKP1	PKPbc	06 49 53.4	-1.0
MFF	**Saint Martin d**	**151.75**	**6**	*e*P	PKPbc	06 49 53.4	-1.0
CABF	**La Chapelle**	**151.88**	**357**	*e*PKP1	PKPbc	06 49 54.5	-0.2
comp=Z,21nm,0.9s							
CABF	**La Chapelle**	**151.88**	**357**	*e*P	PKPbc	06 49 54.5	-0.2
BGF	**Bois d'Agland**	**151.97**	**2**	*e*PKP1	PKPbc	06 49 54.1	-0.9
BGF	**Bois d'Agland**	**151.97**	**2**	*e*P	PKPbc	06 49 54.1	-0.9
TORD	**Torodi Ar. Bea**	**174.30**	**158**	PKP	PKPdf	06 50 07.8	-2.3
comp=Z,0.5nm,0.7s,baz=274,slow=1.9,SNR=2.7							
TORD				PKPab	PKPab	06 51 43.4	-0.2
comp=Z,0.4nm,0.9s,baz=200,slow=4.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**174.30**	**158**	PKP	PKPdf	06 50 07.8	-2.3
TORD				PKPab	PKPab	06 51 43.4	-0.2

ISK ***15*** *07:23:45.0, 39.°77N×42.°17E, h5km, MD3.4*
DDA ***15*** *07:23:45.9, 39.°72N×42.°16E, h5km±5km, Md3.5, Ml3.3*
CSEM ***15*** *07:23:46.0±0.1, 39.°80N×42.°18E, h2km, ML3.3, Error ellipse: s-maj=4.3km s-min=2.9km az=29.0*
ISCJB ***15*** *07:23:47.0±0.3, 39.°75N±0.°02×42.°15E±0.°03, h10km, Error ellipse: s-maj=3.3km s-min=2.6km az=35.7*
ISC 15 07:23:46.8±0.4, 39.°75N±0.°02×42.°16E±0.°03, h0km±4km, n57, σ1 °16/80, 1C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.36**	**326**	⇓*i*P	**Pg**	**07 23 53.3**	**-0.4**
HOMI				*i* S	**Sg**	**07 23 59.1**	**+0.8**
TUTA	**Tutak**	**0.61**	**124**	⇑*i*P	**Pg**	**07 23 57.9**	**-0.6**
TUTA				*i* S	**Sg**	**07 24 08.2**	**+1.9**
TUTA	**Tutak**	**0.61**	**124**	*i* P	**Pg**	**07 23 57.9**	**-0.6**
TUTA				*i* S	**Sg**	**07 24 08.2**	**+1.9**
ERZM	**Erzurum**	**0.64**	**285**	*i* P	**Pg**	**07 23 58.1**	**-0.9**
ERZM				*i* S	**Sg**	**07 24 07.9**	**+0.7**
ERZM	**Erzurum**	**0.64**	**285**	*i* P	**Pg**	**07 23 58.1**	**-0.9**
ERZM				*i* S	**Sg**	**07 24 07.9**	**+0.7**
EZM	**Erzurum**	**0.64**	**285**	*e*PG	**Pg**	**07 23 58.4**	**-0.7**
EZM				*e*SG	**Sg**	**07 24 08.8**	**+1.5**
AGRB	**Hanur-Agry**	**0.66**	**105**	*e*PG	**Pg**	**07 23 59.0**	**-0.5**
AGRB				*e*SG	**Sg**	**07 24 09.3**	**+1.3**
AGRB	**Hanur-Agry**	**0.66**	**105**	*e*Pg	**Pg**	**07 23 59.0**	**-0.5**
AGRB				*e*Sg	**Sg**	**07 24 09.3**	**+1.3**
VRTB	**Varto-Mus**	**0.80**	**223**	*e*PG	**Pg**	**07 24 01.8**	**-0.3**
VRTB				*e*SG	**Sg**	**07 24 14.2**	**+1.6**
VRTB	**Varto-Mus**	**0.80**	**223**	*e*Pg	**Pg**	**07 24 01.8**	**-0.4**
VRTB				*e*Sg	**Sg**	**07 24 14.2**	**+1.7**
BNGL	**BINGOL**	**1.12**	**225**	⇓*i*P	**Pg**	**07 24 05.6**	**-2.6**
BNGL				*i* S	**Sg**	**07 24 21.9**	**-0.8**
KARS	**Kars**	**1.13**	**38**	*e*PN	**Pg**	**07 24 07.0**	**-1.4**
KARS	**Kars**	**1.13**	**38**	*e*Pn	**Pg**	**07 24 07.0**	**-1.4**
DDEM	**Demirkent**	**1.19**	**345**	⇓*i*P	**Pg**	**07 24 08.3**	**-1.3**
DDEM				*e*S	**Sg**	**07 24 27.3**	**+2.3**
DDEM	**Demirkent**	**1.19**	**345**	*i* P	**Pg**	**07 24 08.3**	**-1.3**
DYDN	**Diyadin**	**1.19**	**99**	*e*P	**Pg**	**07 24 08.6**	**-1.1**
DYDN				*e*S	**Sg**	**07 24 24.5**	**-0.7**
DYDN	**Diyadin**	**1.19**	**99**	*e*P	**Pg**	**07 24 08.6**	**-1.1**
DYDN				*e*S	**Sg**	**07 24 24.5**	**-0.7**
TATV	**Tatvan**	**1.24**	**176**	*e*P	**Pg**	**07 24 10.1**	**-0.4**
TATV				*e*S	**Sg**	**07 24 27.7**	**+1.1**
TATV	**Tatvan**	**1.24**	**176**	*e*P	**Pg**	**07 24 10.1**	**-0.4**
TATV				*e*S	**Sg**	**07 24 27.7**	**+1.1**
KOPT	**Kop Dagi**	**1.31**	**283**	*e*P	**Pg**	**07 24 12.4**	**+0.5**
KOPT				*e*S	**Sg**	**07 24 33.7**	**+4.8**
KOPT	**Kop Dagi**	**1.31**	**283**	*e*P	**Pg**	**07 24 12.4**	**+0.5**
DBAD	**Bademkaya**	**1.32**	**344**

comp=Z,5.8nm,1.1s,mb3.9,baz=123,slow=10,SNR=24
MKAR Makanchi Array 22.60 319 P P 07 30 08.5 -0.8
ZALV Zalesovo Beam 26.38 334 P P 07 30 44.8 -0.2
comp=Z,1.0nm,0.4s,mb3.7,baz=127,slow=9.3,SNR=6.1
ZALV Zalesovo Beam 26.38 334 P P 07 30 44.8 -0.2
KURK Kurchatov 26.87 323 P P 07 30 49.7 +0.2
comp=Z,1.5nm,0.6s,baz=128,slow=9.0,SNR=9.9
KURK LR LR 07 42 00.7
comp=Z,64nm,18.9s,baz=0.0,slow=38
KURK Kurchatov 26.87 323 P P 07 30 49.7 +0.2
BVAR Borovoye Array 32.41 322 P P 07 31 39.3 +0.7
comp=Z,0.7nm,0.5s,mb3.7,baz=116,slow=8.4,SNR=4.7
BVAR Borovoye Array 32.41 322 P P 07 31 39.3 +0.7
WRA Warramunga Arr 58.84 146 P P 07 35 05.5 -2.3
comp=Z,2.4nm,0.7s,mb4.3,baz=338,slow=7.6,SNR=14
WRA Warramunga Arr 58.84 146 P P 07 35 05.5 -2.3
WB2 Warramunga Arr 58.85 146 *eP* **P 07 35 05.8 -2.0**
ASAR Alice Springs 61.85 148 P P 07 35 26.3 -2.0
comp=Z,0.7nm,0.6s,mb4.0,baz=338,slow=6.9,SNR=12
ASAR Alice Springs 61.85 148 P P 07 35 26.3 -2.0
YKA Yellowknife Ar 81.58 17 P P 07 37 28.8 +2.3
comp=Z,0.2nm,0.5s,mb3.3,baz=330,slow=5.5,SNR=5.1
YKA Yellowknife Ar 81.58 17 P P 07 37 28.8 +2.3

*NNC **15** 07:29:01.5±2.3, 39.°70N×76.°98E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=23.9km s-min=14.0km az=172.0*
ISC 15 07:29:12.5±3.3, 40.°4N±0.°2×76.°6E±0.°2, h10km, n18, σ1§12/15, 8C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.88**	**352**	P	**Pn**	**07 29 45.2**	**+0.5**
	SNR=92						
ULHL				P		07 29 45.2	
	SNR=92						
KZA	**Kyzart**	**1.98**	**330**	P	**Pn**	**07 29 45.6**	**-0.3**
	SNR=60						
KZA				P		07 29 45.6	
	SNR=60						
UCH	**Uchtor**	**2.42**	**320**	P	**Pn**	**07 29 56.2**	**+4.1**
	SNR=9.9						
UCH				P		07 29 56.2	
	SNR=9.9						
KBK	**Karagaybulak**	**2.59**	**332**	P	**Pn**	**07 29 59.9**	**+5.5**
	SNR=10.0						
KBK				P		07 29 59.9	
	SNR=10.0						
TKM2	**Tokmak 2**	**2.65**	**344**	P	**Pn**	**07 29 55.7**	**+0.5**
	SNR=23						
TKM2				P		07 29 55.7	
	SNR=23						
TKM2	**Tokmak 2**	**2.65**	**344**	⇑Pn	**Pn**	**07 29 55.4**	**+0.3**
	5.9nm,0.3s						
TKM2				⇑Pg	**Pg**	**07 30 02.9**	**-0.2**
	12nm,0.4s						
TKM2				⇑Lg		07 30 48.1	
	46nm,0.5s						
AAK	**Ala-Archa**	**2.75**	**326**	P	**Pn**	**07 29 56.0**	**-0.6**
	SNR=8.3						
AAK				P		07 29 56.0	
	SNR=8.3						
AML	**Almayashu**	**2.80**	**310**	P	**Pn**	**07 29 54.7**	**-2.6**
	SNR=16						
AML				P		07 29 54.7	
	SNR=16						
EKS2	**Erkin-Say**	**3.11**	**318**	P	**Pn**	**07 30 00.5**	**-1.0**
	SNR=5.7						
EKS2				P		07 30 00.5	
	SNR=5.7						
USP	**Ospenovka**	**3.28**	**332**	P	**Pn**	**07 30 05.4**	**+1.5**
	SNR=6.1						
USP				P		07 30 05.4	
	SNR=6.1						
KK31	**Karatay Array**	**5.30**	**303**	⇑Pn	**Pn**	**07 30 33.4**	**+1.8**
	0.5nm,0.3s,baz=129,slow=12,SNR=3.1						
KK31				⇑Pg	**Pg**	**07 30 49.3**	**-4.6**
	2.2nm,0.4s,baz=142,slow=15,SNR=22						
KK31				⇑Lg		07 32 06.7	
	3.8nm,0.4s,baz=117,slow=29,SNR=4.0						
MK31	**Makanchi Array**	**7.63**	**31**	⇓Pn	**Pn**	**07 31 03.2**	**-0.4**
	0.3nm,0.4s,baz=203,slow=15,SNR=6.9						
MK31				⇓Pg	**Pg**	**07 31 28.6**	**-10**
	0.5nm,0.4s,baz=202,slow=12,SNR=4.1						
MK31				⇓Lg		07 33 13.5	
	3.8nm,0.8s,baz=204,slow=25						
KURBB	**Kurchatov Arra**	**10.34**	**7**	⇓Lg		07 34 50.2	
	1.3nm,0.6s						
KURK	**Kurchatov**	**10.44**	**7**	⇑Lg		07 34 53.1	
	11nm,1.2s						
VOSK	**Vostochnaya**	**12.93**	**345**	⇓Lg		07 36 15.9	
	7.1nm,1.2s						
BVA0	**Borovoye Array**	**13.34**	**344**	⇓Lg		07 36 28.6	
	1.0nm,1.0s						
BRVK	**Borovoye**	**13.39**	**343**	⇓Lg		07 36 30.5	
	18nm,1.5s						
ZRNK	**Zerenda**	**13.60**	**340**	⇑Lg		07 36 37.2	
	8.8nm,1.4s						

*CSEM **15** 07:37:25.3, 36.°64N×21.°50E, h31km, MD2.9, After ATH*
ATH 15 07:37:25.3, 36.°64N×21.°50E, h31km±2km, MD2.9/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.32**	**37**	*e*PB	Pb	07 37 33.7	+0.6
PYL				*e*SB	Sb	07 37 38.9	+0.5
PYL	**PYLOS**	**0.32**	**37**	*e*Pb	Pb	07 37 33.7	+0.6
PYL				*e*Sb	Sb	07 37 38.9	+0.5
ITM	**Ithomi**	**0.64**	**32**	*e*PN	Pn	07 37 38.8	+0.6
ITM				*e*SN	Sn	07 37 48.1	+0.8
ITM	**Ithomi**	**0.64**	**32**	*e*Pn	Pn	07 37 38.8	+0.6
ITM				*e*Sn	Sn	07 37 48.1	+0.8
VLX	**Vlachokerasia**	**1.01**	**44**	*e*PN	Pn	07 37 45.2	+1.8
VLX				*e*SN	Sn	07 37 58.4	+1.9
VLX	**Vlachokerasia**	**1.01**	**44**	*e*Pn	Pn	07 37 45.2	+1.8
VLX				*e*Sn	Sn	07 37 58.4	+1.9
VLI	**Veliai**	**1.16**	**86**	*e*PN	Pn	07 37 47.3	+2.0
VLI				*e*SN	Sn	07 38 03.2	+3.1
VLI	**Veliai**	**1.16**	**86**	*e*Pn	Pn	07 37 47.3	+2.0
VLI				*e*Sn	Sn	07 38 03.2	+3.1
KYTH	**Kithira**	**1.29**	**106**	*e*PB	Pb	07 37 48.3	-0.6
KYTH	**Kithira**	**1.29**	**106**	*e*Pb	Pb	07 37 48.3	-0.6

*DDA **15** 07:39:36.7, 38.°12N×27.°24E, h8km±3km, Md2.6*
*CSEM **15** 07:39:36.9±0.2, 38.°13N×27.°25E, h15km, MD2.6, Error ellipse: s-maj=6.3km s-min=4.6km az=52.0*
*ISCJB **15** 07:39:37.0±0.6, 38.°13N±0.°03×27.°27E±0.°06, h11km±8km, Error ellipse: s-maj=8.5km s-min=5.6km az=172.2*
ISC 15 07:39:37.2±0.7, 38.°14N±0.°04×27.°28E±0.°06, h14km±8km, n14, σ0§81/24, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.26**	**357**	*e*PG	**Pg**	**07 39 42.6**	**-0.2**
IZM				*e*SG	**Sg**	**07 39 46.5**	**-0.1**
IZM	**Izmir**	**0.26**	**357**	*e*Pg	**Pg**	**07 39 42.6**	**-0.2**
IZM				*e*Sg	**Sg**	**07 39 46.5**	**-0.1**
BLCB	**Balcova**	**0.31**	**323**	*e*PG	**Pg**	**07 39 43.1**	**-0.6**
BLCB	**Balcova**	**0.31**	**323**	*e*Pg	**Pg**	**07 39 43.1**	**-0.6**
GCAM	**G?zelcaml?**	**0.44**	**185**	⇑*i*P	**Pg**	**07 39 45.4**	**-0.5**
GCAM				*i* S	**Sg**	**07 39 51.4**	**-0.4**
GCAM	**G?zelcaml?**	**0.44**	**185**	*i* P	**Pg**	**07 39 45.4**	**-0.5**
GCAM				*i* S	**Sg**	**07 39 51.4**	**-0.4**
URLA	**Izmir**	**0.58**	**293**	*e*P	**Pg**	**07 39 47.5**	**-1.1**
URLA				*e*S	**Sg**	**07 39 58.2**	**+1.9**
URLA	**Izmir**	**0.58**	**293**	*e*P	**Pg**	**07 39 47.5**	**-1.1**
URLA				*e*S	**Sg**	**07 39 58.2**	**+1.8**
AYDN	**Tasoluk**	**0.67**	**135**	⇓*i*P	**Pg**	**07 39 50.5**	**+0.2**
AYDN				*e*S	**Sg**	**07 39 59.9**	**+0.7**
AYDN	**Tasoluk**	**0.67**	**135**	*i* P	**Pg**	**07 39 50.5**	**+0.2**
AYDN				*e*S	**Sg**	**07 39 59.9**	**+0.7**
MANT	**Manisa**	**1.07**	**70**	*e*P	**Pb**	**07 39 58.7**	**+1.3**
MANT				*e*S	**Sb**	**07 40 10.7**	**-0.5**
MANT	**Manisa**	**1.07**	**70**	*e*P	**Pb**	**07 39 58.7**	**+1.3**
MANT				*e*S	**Sb**	**07 40 10.7**	**-0.5**
KULA	**Kula-Manisa**	**1.15**	**70**	*e*PN	**Pn**	**07 39 58.3**	**-0.5**
KULA	**Kula-Manisa**	**1.15**	**70**	*e*Pn	**Pn**	**07 39 58.3**	**-0.5**

*IDC **15** 07:41:54.8±1.1, 22.°13N×143.°19E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, Error ellipse:*
s-maj=45.2km s-min=20.5km az=85.0
*NEIC **15** 07:41:56.3±0.6, 22.°13N×143.°22E, h10km, Error ellipse: s-maj=25.3km s-min=13.8km az=91.0*
*ISCJB **15** 07:41:57.9±0.8, 22.°1N±0.°1×143.°2E±0.°2, h33km, mb3.8/8, Error ellipse: s-maj=32.0km s-min=17.5km az=1.1*
ISC 15 07:42:00.1±0.8, 22.°1N±0.°1×143.°2E±0.°2, h35km, n17, σ0§53/17, mb3.8/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.69**	**192**	P	**P**	**07 49 53.2**	**-0.4**
	0.3nm,0.2s,mb3.6,baz=6.4,slow=8.7,SNR=18						
WRA	**Warramunga Arr**	**42.69**	**192**	P	**P**	**07 49 53.2**	**-0.4**
ASAR	**Alice Springs**	**46.39**	**192**	P	**P**	**07 50 23.6**	**+0.4**
	0.2nm,0.4s,mb3.4,baz=17,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**46.39**	**192**	P	**P**	**07 50 23.6**	**+0.4**
MKAR	**Makanchi Array**	**54.43**	**312**	P	**P**	**07 51 22.9**	**-0.9**
	0.2nm,0.5s,mb3.3,baz=90,slow=7.8,SNR=6.2						
MKAR	**Makanchi Array**	**54.43**	**312**	P	**P**	**07 51 22.9**	**-0.9**
KURK	**Kurchatov**	**57.19**	**317**	P	**P**	**07 51 43.6**	**+0.1**
	0.8nm,0.4s,mb4.1,baz=92,slow=7.6,SNR=18						
KURK	**Kurchatov**	**57.19**	**317**	P	**P**	**07 51 43.6**	**+0.1**
RSO	**Redoubt South**	**58.25**	**32**	*e*P	**P**	**07 51 50.5**	**-0.3**
	27nm,0.5s						
BVAR	**Borovoye Array**	**62.37**	**319**	P	**P**	**07 52 19.3**	**+0.2**
	1.4nm,0.3s,mb4.5,baz=99,slow=8.0,SNR=13						
BVAR	**Borovoye Array**	**62.37**	**319**	P	**P**	**07 52 19.3**	**+0.2**
YKA	**Yellowknife Ar**	**76.08**	**28**	P	**P**	**07 53 43.6**	**-0.2**
	0.3nm,0.5s,mb3.5,baz=292,slow=5.9,SNR=7.3						
YKA	**Yellowknife Ar**	**76.08**	**28**	P	**P**	**07 53 43.6**	**-0.2**
ARCES	**ARCESS Array B**	**78.54**	**341**	P	**P**	**07 53 58.5**	**+1.1**
	2.9nm,1.0s,mb4.2,baz=70,slow=7.8,SNR=4.0						
ARCES	**ARCESS Array B**	**78.54**	**341**	P	**P**	**07 53 58.5**	**+1.1**
FINES	**FINESS Array B**	**82.82**	**334**	P	**P**	**07 54 20.6**	**0.0**
	0.8nm,0.4s,mb4.1,baz=46,slow=4.0,SNR=4.1						
FINES	**FINESS Array B**	**82.82**	**334**	P	**P**	**07 54 20.6**	**0.0**

*ISCJB **15** 08:10:17.1±0.9, 22.°23S±0.°05×179.°43W±0.°08, h567km±13km, mb4.1/23, Error ellipse: s-maj=12.0km s-min=7.3km az=15.8*
*NEIC **15** 08:10:19.3±0.7, 22.°18S×179.°45W, h583km±8km, mb4.6/8, Error ellipse: s-maj=13.2km s-min=8.9km az=128.0*
*IDC **15** 08:10:23.3±1.9, 22.°21S×179.°70W, h623km±23km, mb3.5/17, mb1 3.7/17, mb1mx3.6/19, mbtmp3.5/17, Error ellipse: s-maj=16.4km s-min=11.3km az=160.0*
ISC 15 08:10:19.5±0.9, 22.°34S±0.°05×179.°39W±0.°10, h587km±11km, n91, σ1§08/67, mb4.2/22, 7C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.18**	**332**	*e*P	**P**	**08 11 52.9**	**-0.3**
	42nm,0.5s						
AFI	**Afiamalu**	**11.07**	**42**	P	**P**	**08 12 45.5**	**-3.4**
	11nm,0.3s,baz=69,slow=2.7,SNR=21						
AFI				S	**S**	**08 14 43.1**	**-8.5**
	1.9nm,0.3s,baz=225,slow=23,SNR=2.7						
AFI	**Afiamalu**	**11.07**	**42**	P	**P**	**08 12 45.5**	**-3.4**
AFI				S	**S**	**08 14 43.1**	**-8.5**
OUZ	**Omahuta**	**14.22**	**204**	*e*P	**P**	**08 13 22.9**	**+2.4**
	25nm,0.5s						
PUZ	**Puketiti**	**15.81**	**187**	PN	**P**	**08 13 34.5**	**-0.8**
PUZ				*e*SN	**S**	**08 16 14.5**	**-0.7**
URZ	**Urewera**	**16.15**	**190**	P	**P**	**08 13 37.0**	**-1.5**
	8.7nm,0.3s,baz=6.9,slow=3.5,SNR=54						
URZ				S	**S**	**08 16 18.1**	**-2.6**
	1.5nm,0.3s,baz=197,slow=20,SNR=12						
URZ	**Urewera**	**16.15**	**190**	*e*P	**P**	**08 13 38.3**	**-0.2**
	89nm,0.7s						
URZ				S	**S**	**08 16 18.1**	**-2.6**
URZ	**Urewera**	**16.15**	**190**	PN	**P**	**08 13 35.7**	**-2.8**
URZ				*e*SN	**S**	**08 16 19.5**	**-1.2**
MWZ	**Matawai**	**16.16**	**189**	*e*PN	**P**	**08 13 37.6**	**-1.0**
MWZ				*e*SN	**S**	**08 16 20.8**	**-0.1**
TCW	**Tory Channel**	**19.56**	**194**	PN	**P**	**08 14 10.9**	**+1.3**
TKZ	**Tophouse**	**20.42**	**197**	PN	**P**	**08 14 17.0**	**-0.3**
KHZ	**Kahutara**	**20.87**	**195**	PN	**P**	**08 14 20.0**	**-1.5**
RPZ	**Rata Peaks**	**22.74**	**198**	P	**P**	**08 14 39.5**	**+1.4**
	18nm,0.7s,mb4.8,baz=139,slow=1.1,SNR=9.5						
RPZ	**Rata Peaks**	**22.74**	**198**	P	**P**	**08 14 39.5**	**+1.4**
ARMA	**Armidale**	**27.12**	**247**	⇓*i*P	**P**	**08 15 18.5**	**+1.5**
EIDS	**Eidsvold**	**27.15**	**258**	*e*P	**P**	**08 15 17.6**	**+0.3**
	28nm,1.3s,mb4.7						
MGCD	**Mangrove Creek**	**28.17**	**241**	⇓*i*P	**P**	**08 15 27.3**	**+1.3**
	44nm,0.5s,mb5.3						
CNB	**Canberra Magne**	**30.14**	**238**	⇓*i*P	**P**	**08 15 44.5**	**+1.5**
	251nm,0.6s						
TOO	**Toangi**	**33.78**	**235**	⇓*i*P	**P**	**08 16 14.8**	**+1.0**
	109nm,0.6s						
PMG	**Port Moresby**	**34.55**	**286**	P	**P**	**08 16 19.6**	**-1.1**
	16nm,0.8s,mb4.7,baz=98,slow=6.5,SNR=10						
PMG	**Port Moresby**	**34.55**	**286**	P	**P**	**08 16 19.6**	**-1.1**
STKA	**Stephens Creek**	**35.84**	**246**	P	**P**	**08 16 31.7**	**+0.6**
	15nm,0.5s,mb4.8,baz=92,slow=9.6,SNR=67						
STKA	**Stephens Creek**	**35.84**	**246**	⇓*i*P	**P**	**08 16 31.6**	**+0.6**
	11nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**35.84**	**246**	*e*P	**P**	**08 16 31.7**	**+0.7**
	3.3nm,0.6s,mb4.0						
BBOO	**Buckleboo**	**40.59**	**245**	⇓*i*P	**P**	**08 17 09.1**	**-0.3**
	62nm,0.7s,mb5.2						
AS31	**Alice Springs**	**42.86**	**259**	*e*P	**P**	**08 17 27.0**	**-0.4**
ASAR	**Alice Springs**	**42.86**	**259**	P	**P**	**08 17 27.1**	**-0.3**
	8.2nm,0.8s,mb4.3,baz=100,slow=7.8,SNR=106						
ASAR				PcP	PcP	08 19 05.3	+0.6
	1.0nm,1.1s,baz=110,slow=3.7,SNR=5.0						
ASAR				S	**S**	**08 23 07.2**	**-3.3**
	3.6nm,0.9s,baz=95,slow=16,SNR=22						
ASAR	**Alice Springs**	**42.86**	**259**	P	**P**	**08 17 27.1**	**-0.3**
ASAR				PcP	PcP	08 19 05.3	+0.6
ASAR				S	**S**	**08 23 07.2**	**-3.3**
WB2	**Warramunga Arr**	**43.08**	**264**	*e*P	**P**	**08 17 28.2**	**-1.0**
WRAB	**Tennant Creek**	**43.09**	**264**	*e*P	**P**	**08 17 28.9**	**-0.3**
	2.1nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**08 17 28.4**	**-0.9**
	0.7nm,0.3s,mb3.7,baz=93,slow=8.5,SNR=58						
WRA				S	**S**	**08 23 08.6**	**-5.3**
	1.1nm,0.7s,baz=100,slow=13,SNR=8.8						
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**08 17 28.4**	**-0.9**
WRA				S	**S**	**08 23 08.6**	**-5.3**
FITZ	**Fitzroy Crossi**	**51.53**	**264**	P	**P**	**08 18 32.2**	**-0.1**
	0.7nm,0.3s,mb3.5,baz=124,slow=13,SNR=7.7						
FITZ	**Fitzroy Crossi**	**51.53**	**264**	P	**P**	**08 18 32.2**	**-0.1**
QSPA	**South Pole Qui**	**67.73**	**180**	P	**P**	**08 20 21.8**	**+3.0**
	2.1nm,0.7s,mb3.7,baz=46,slow=1.5,SNR=8.2						
QSPA	**South Pole Qui**	**67.73**	**180**	*e*P	**P**	**08 20 21.8**	**+3.0**
	2.6nm,0.7s,mb3.8						
MJAR	**Matsushiro Arr**	**70.94**	**325**	P	**P**	**08 20 37.8**	**-0.7**
	4.5nm,0.7s,mb4.1,baz=165,slow=6.3,SNR=11						
MJAR	**Matsushiro Arr**	**70.94**	**325**	P	**P**	**08 20 37.8**	**-0.7**
KSRS	**Korea Array**	**77.42**	**320**	P	**P**	**08 21 15.1**	**0.0**
	1.1nm,0.6s,mb3.5,baz=135,slow=6.0,SNR=4.3						
KSAR	**Wonju Array Be**	**77.44**	**320**	P	**P**	**08 21 15.1**	**-0.1**
PETK	**Petropavlovsk-**	**77.73**	**346**	P	**P**	**08 21 16.1**	**-0.2**
	6.9nm,0.7s,mb4.2,baz=145,slow=7.7,SNR=4.6						
PETK	**Petropavlovsk-**	**77.73**	**346**	P	**P**	**08 21 16.1**	**-0.2**
NVAR	**Mina Array Bea**	**83.25**	**44**	P	**P**	**08 21 46.0**	**+0.8**
	1.8nm,0.9s,mb3.6,baz=227,slow=8.4,SNR=5.8						
NVAR	**Mina Array Bea**	**83.25**	**44**	P	**P**	**08 21 46.0**	**+0.8**
TRF	**Thorofare Moun**	**88.52**	**13**	*e*P	**P**	**08 22 09.3**	**-0.4**
	9.5nm,0.7s,mb4.7						
PLCA	**Paso Flores**	**88.94**	**134**	*e*P	**P**	**08 22 22.2**	**+10**
	17nm,0.8s,mb4.9						
TXAR	**Lajitas Array**	**89.13**	**58**	P	**P**	**08 22 15.4**	**+1.9**
	1.2nm,0.9s,mb3.7,baz=223,slow=6.0,SNR=10						
TXAR	**Lajitas Array**	**89.13**	**58**	P	**P**	**08 22 15.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P	**P**	**08 22 14.9**	**-0.5**
	2.4nm,0.6s,mb4.2,baz=136,slow=3.1,SNR=18						
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P	**P**	**08 22 14.9**	**-0.5**
ILAR	**Eielson Array**	**90.39**	**13**	P	**P**	**08 22 17.6**	**-0.8**
	0.9nm,0.8s,mb3.7,baz=223,slow=4.0,SNR=8.0						
ILAR	**Eielson Array**	**90.39**	**13**	P	**P**	**08 22 17.6**	**-0.8**
PDAR	**Pinedale Array**	**91.18**	**44**	P	**P**	**08 22 23.5**	**+0.9**
	0.6nm,0.8s,mb3.6,baz=191,slow=4.5,SNR=4.4						
PDAR	**Pinedale Array**	**91.18**	**44**	P	**P**	**08 22 23.5**	**+0.9**
SONM	**Songino Array**	**96.29**	**319**	P	**P**	**08 22 46.3**	**+0.6**
	0.2nm,0.5s,mb3.6,baz=115,slow=3.9,SNR=2.4						
SONM	**Songino Array**	**96.29**	**319**	P	**P**	**08 22 46.4**	**+0.6**
YKA	**Yellowknife Ar**	**98.72**	**25**	P	Pdif	08 22 56.1	-0.6
	0.1nm,0.7s,baz=244,slow=4.6,SNR=3.1						
YKA	**Yellowknife Ar**	**98.72**	**25**	P	Pdif	08 22 56.1	-0.6
ZALV	**Zalesovo Beam**	**111.11**	**321**	PKiKP	PKiKP	08 27 45.6	-1.1
	0.8nm,0.5s,baz=216,slow=1.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**111.11**	**321**	PKiKP	PKiKP	08 27 45.6	-1.1
MKAR	**Makanchi Array**	**111.51**	**313**	PKiKP	PKiKP	08 27 46.8	-0.9
	0.5nm,0.5s,baz=180,slow=1.0,SNR=13						
MKAR	**Makanchi Array**	**111.51**	**313**	PKiKP	PKiKP	08 27 46.8	-0.9
ARCES	**ARCESS Array B**	**130.48**	**349**	PKP	PKPdf	08 28 22.8	-0.5
	1.4nm,0.5s,baz=88,slow=2.8,SNR=12						
ARCES	**ARCESS Array B**	**130.48**	**349**	PKP	PKPdf	08 28 22.8	-0.5
FINES	**FINESS Array B**	**137.15**	**342**	PKhKP	PKPpre	08 28 28.9	
	1.3nm,0.7s,baz=38,slow=3.4,SNR=3.8						
FINES				PKP	PKPdf	08 28 35.4	-0.6
	1.2nm,0.6s,baz=103,slow=3.6,SNR=4.7						
FINES	**FINESS Array B**	**137.15**	**342**	PKPpre	PKPpre	08 28 28.9	
FINES				PKP	PKPdf	08 28 35.4	-0.6
NOA	**NORSAR Array B**	**140.63**	**352**	PKhKP	PKPpre	08 28 37.4	
	1.1nm,0.8s,baz=15,slow=4.9,SNR=3.5						
NOA	**NORSAR Array B**	**140.63**	**352**	PKPpre	PKPpre	08 28 37.4	
AKASG	**Malin Array Be**	**143.95**	**329**	PKP	PKPdf	08 28 47.0	-1.5
	6.4nm,0.5s,baz=43,slow=4.1,SNR=27						
AKASG	**Malin Array Be**	**143.95**	**329**	PKP	PKPdf	08 28 47.0	-1.5
BR131	**Keskin Array S**	**147.06**	**309**	*e*PKPbc	PKPbc	08 28 57.3	0.0
BRTR	**Keskin Array B**	**147.06**	**309**	PKPbc	PKPbc	08 28 57.0	-0.3
	3.2nm,0.7s,baz=138,slow=4.7,SNR=13						
BRTR	**Keskin Array B**	**147.06**	**309**	PKPbc	PKPbc	08 28 57.0	-0.3
KWP	**Kalwaria Pacla**	**147.66**	**333**	*e*PKPbc	PKPbc	08 28 59.1	+0.6
KWP				*e*PKPab	PKPab	08 29 03.2	+0.2
BUR08	**Bucovina Ar. S**	**147.97**	**328**	*e*PKPbc	PKPbc	08 29 01.0	+1.7
STHS	**Stebnicka Huta**	**148.44**	**334**	*e*PKP	PKPab	08 29 07.7	+1.5
CRVS	**Cervenica-Dubn**	**148.75**	**333**	*e*PKP	PKPbc	08 29 01.0	-0.3
KSP	**Ksiaz**	**149.03**	**341**	*e*PKP	PKPbc	08 29 02.4	+0.5
UPC	**Upice**	**149.41**	**341**	⇑*e*PKP	PKPbc	08 29 03.3	+0.5
DPC	**Dobruska-Polom**	**149.45**	**340**	⇑*e*PKP	PKPbc	08 29 03.6	+0.7
DPC				*e*PKPAB	PKPab	08 29 11.0	+0.7
KECS	**Kecovo**	**149.48**	**334**	*e*PKP	PKPbc	08 29 03.7	+0.7
CLL	**Collm**	**149.52**	**345**	⇑*i*PKPbc	PKPbc	08 29 03.2	+0.2
	comp=Z,20nm,0.9s						
CLL				⇓*i*PKPab	PKPab	08 29 10.1	-0.5
	comp=Z,7.0nm,0.7s						
BRG	**Berggiesshubel**	**149.68**	**343**	⇑*i*P	PKPbc	08 29 03.5	+0.1
	comp=Z,14nm,0.6s						
PVCC	**Panska Ves**	**149.82**	**342**	⇑*e*PKP	PKPbc	08 29 04.2	+0.4
VYHS	**Vyhne**	**150.13**	**335**	*e*PKP	PKPbc	08 29 04.0	-0.6
PRU	**Pruhonice**	**150.31**	**342**	⇑*e*PKP	PKPbc	08 29 05.1	+0.2
KHC	**Kasperske Hory**	**151.36**	**342**	⇑*e*PKP	PKPbc	08 29 07.5	+0.2
KHC				*e*PKPAB	PKPab	08 29 18.6	+0.3
GERES	**GERESS Array B**	**151.58**	**342**	PKPbc	PKPbc	08 29 08.0	+0.2
	comp=Z,2.0nm,0.5s,baz=29,slow=1.8,SNR=14						
GERES				PKPab	PKPab	08 29 19.2	-0.1
	comp=Z,0.7nm,0.5s,baz=28,slow=6.3,SNR=5.8						
GERES	**GERESS Array B**	**151.58**	**342**	PKPbc	PKPbc	08 29 08.0	+0.2
GERES				PKPab	PKPab	08 29 19.2	-0.1
TORD	**Torodi Ar. Bea**	**170.80**	**187**	PKP	PKPdf	08 29 21.4	-0.3
	comp=Z,0.6nm,0.8s,baz=16,slow=0.9,SNR=3.2						
TORD				SKP		08 31 48.5	
	comp=Z,0.7nm,0.5s,baz=62,slow=7.3,SNR=11						
TORD	**Torodi Ar. Bea**	**170.80**	**187**	PKP	PKPdf	08 29 21.4	-0.3
TORD				SKP		08 31 48.5	

GUC 15 08:19:33.8±0.7, 32.°66S×71.°67W, h21km±12km, MD3.8, ML3.0, 10C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.37**	**176**	⇓*i*P	Pb	08 19 41.7	+0.1
IHA				*i* S	Sb	08 19 47.0	0.0
ROCH	**El Roble**	**0.64**	**119**	⇓*i*P	Pb	08 19 46.1	-0.1
ROCH				*i* S	Sb	08 19 55.4	+0.7
ROCH				AML	AML	08 19 55.5	
	comp=E,1μm,0.1s						
PTCH	**Petorca**	**0.74**	**58**	⇑*i*P	Pb	08 19 47.9	-0.1
PTCH				*i* S	Sb	08 19 58.3	+0.6
PTCH				AML	AML	08 20 03.3	
	comp=N,958nm,0.4s		

MKAR Makanchi Array 22.95 321 P **P** **08 30 21.0 +0.4**
comp=E,0.7nm,0.5s,mb3.3,baz=121,slow=11,SNR=8.4
MKAR Makanchi Array 22.95 321 P **P** **08 30 21.0 +0.4**
ZALV Zalesovo Beam 26.90 335 P **P** **08 30 57.5 +0.2**
comp=E,0.4nm,0.4s,mb3.3,baz=132,slow=8.8,SNR=4.6
ZALV Zalesovo Beam 26.90 335 P **P** **08 30 57.5 +0.2**
KURK Kurchatov 27.27 325 P **P** **08 31 00.4 -0.3**
comp=E,0.4nm,0.4s,mb3.3,baz=131,slow=9.9,SNR=3.5
KURK Kurchatov 27.27 325 P **P** **08 31 00.4 -0.3**
ARCES ARCESS Array B 57.45 336 P **P** **08 35 04.4 -0.6**
comp=E,5.6nm,1.1s,mb4.5,baz=88,slow=7.5,SNR=3.6
ARCES ARCESS Array B 57.45 336 P **P** **08 35 04.4 -0.6**
WRAB Tennant Creek 58.42 145 *e*P **P** **08 35 11.8 -0.5**
comp=E,2.3nm,0.6s,mb4.4
WRA Warramunga Arr 58.42 145 P **P** **08 35 11.6 -0.7**
comp=E,1.8nm,0.7s,mb4.2,baz=337,slow=7.5,SNR=17
WRA Warramunga Arr 58.42 145 P **P** **08 35 11.6 -0.7**
ASAR Alice Springs 61.40 148 P **P** **08 35 31.9 -0.8**
comp=E,0.2nm,0.3s,mb3.7,baz=339,slow=6.8,SNR=5.4
ASAR Alice Springs 61.40 148 P **P** **08 35 31.9 -0.8**
ILAR Eielson Array 70.58 25 P **P** **08 36 30.3 -1.0**
comp=E,0.3nm,1.0s,mb3.2,baz=311,slow=7.4,SNR=4.4
ILAR Eielson Array 70.58 25 P **P** **08 36 30.3 -1.0**
YKA Yellowknife Ar 82.37 17 P **P** **08 37 38.0 -0.1**
comp=E,0.2nm,0.6s,mb3.2,baz=332,slow=5.6,SNR=4.2
YKA Yellowknife Ar 82.37 17 P **P** **08 37 38.0 -0.1**

IDC 15 08:31:35.5±1.7, 20°.84S×174°.61W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML2.6/1, Error ellipse: s-maj=63.7km s-min=21.1km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.41**	**22**	Pn		Pn	08 33 22.9	-2.0
	5.6nm,0.3s,baz=220,slow=4.4,SNR=12							
AFI					Sn	Sn	08 34 28.3	-21
	2.4nm,0.3s,baz=98,slow=19,SNR=5.9							
PMG	**Port Moresby**	**38.52**	**281**	P		P	08 38 59.9	0.0
	6.8nm,0.9s,baz=137,slow=5.1,SNR=3.3							
STKA	**Stephens Creek**	**40.51**	**245**	P		P	08 39 16.1	-0.3
	1.7nm,0.7s,baz=78,slow=8.5,SNR=5.0							
ASAR	**Alice Springs**	**47.53**	**257**	P		P	08 40 12.3	-0.5
	2.2nm,0.7s,baz=101,slow=7.5,SNR=40							
WRA	**Warramunga Arr**	**47.69**	**262**	P		P	08 40 14.2	0.0
	0.7nm,0.6s,baz=98,slow=7.9,SNR=12							
MJAR	**Matsushiro Arr**	**72.40**	**322**	P		P	08 43 04.0	+0.5
	1.2nm,0.8s,baz=162,slow=5.7,SNR=4.9							
NVAR	**Mina Array Bea**	**79.13**	**42**	P		P	08 43 42.4	+0.4
	0.7nm,0.6s,baz=216,slow=9.0,SNR=3.7							
ILAR	**Eielson Array**	**87.98**	**12**	P		P	08 44 27.6	+0.8
	0.3nm,0.9s,baz=223,slow=5.7,SNR=5.3							
AKASG	**Malin Array Be**	**144.79**	**334**	PKP		PKPdf	08 51 13.3	-0.9
	1.7nm,0.5s,baz=40,slow=4.1,SNR=7.9							

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*IDC **15** 08:41:53.0±0.6, 12°.53N×145°.20E, h0km, mb4.1/19, mb1 4.3/19, mb1mx4.2/26, mbtmp4.1/19, MS3.6/12, Ms1 3.7/12, ms1mx3.5/31, Error ellipse: s-maj=22.2km s-min=13.3km az=84.0*
*NEIC **15** 08:41:54.6±0.3, 12°.53N×145°.21E, h10km, mb4.7/5, Error ellipse: s-maj=9.7km s-min=6.7km az=84.0*

ISC 15 08:41:54.0±5.7, 12°.51N±0°.06×145°.24E±0°.10, h6km±35km, n82, σ0§77/69, mb4.4/27, MS3.6/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.13**	**341**	Pn		**Pn**	**08 42 17.7**	**+1.3**
	85nm,0.3s,baz=174,slow=8.7,SNR=47							
GUMO					Sn	**Sn**	**08 42 33.1**	**+0.9**
	247nm,0.3s,baz=192,slow=23,SNR=16							
GUMO	**Guam**	**1.13**	**341**	Pn		**Pn**	**08 42 17.7**	**+1.3**
GUMO					Sn	**Sn**	**08 42 33.1**	**+0.9**
CBIJ	**Chichi jima**	**14.79**	**349**	LR		LR	08 49 56.7	
	comp=Z,145nm,18.6s,baz=137,slow=33							
PMG	**Port Moresby**	**21.86**	**175**	P		**P**	**08 46 47.9**	**+0.3**
	3.3nm,0.5s,mb4.0,baz=257,slow=19,SNR=3.1							
PMG	**Port Moresby**	**21.86**	**175**	*e*P		**P**	**08 46 47.7**	**+0.1**
	18nm,0.9s,mb4.5							
MJAR	**Matsushiro Arr**	**24.75**	**346**	P		**P**	**08 47 14.0**	**-2.4**
	1.9nm,0.7s,mb3.7,baz=174,slow=11,SNR=5.7							
MJAR					LR	LR	08 56 38.6	
	comp=Z,145nm,18.6s,MS3.5,baz=160,slow=36							
MJAR	**Matsushiro Arr**	**24.75**	**346**	P		**P**	**08 47 14.0**	**-2.4**
SSLB	**Suanglung**	**25.61**	**299**	*e*P		**P**	**08 47 23.9**	**-0.5**
	27nm,0.9s,mb4.8							
HNR	**Honiara**	**26.25**	**146**	LR		LR	08 57 27.9	
	comp=Z,84nm,18.7s,MS3.3,baz=139,slow=36							
KSRS	**Korea Array**	**29.27**	**331**	P		**P**	**08 47 55.9**	**-1.2**
	1.5nm,0.6s,mb3.9,baz=146,slow=10,SNR=5.5							
KSRS					LR	LR	08 59 33.2	
	comp=Z,61nm,19.5s,MS3.2,baz=135,slow=36							
KSAR	**Wonju Array Be**	**29.28**	**331**	P		**P**	**08 47 55.9**	**-1.3**
WRAB	**Tennant Creek**	**33.98**	**199**	*e*P		**P**	**08 48 39.0**	**+0.4**
	3.4nm,0.6s,mb4.5							
WB2	**Warramunga Arr**	**33.99**	**199**	*e*P		**P**	**08 48 39.3**	**+0.6**
WRA	**Warramunga Arr**	**33.99**	**199**	P		**P**	**08 48 37.9**	**-0.8**
	1.8nm,0.8s,mb4.0,baz=24,slow=9.7,SNR=9.6							
WRA					LR	LR	09 02 13.3	
	comp=Z,94nm,20.9s,MS3.5,baz=225,slow=36							
WRA	**Warramunga Arr**	**33.99**	**199**	P		**P**	**08 48 37.9**	**-0.8**
ASAR	**Alice Springs**	**37.63**	**197**	P		**P**	**08 49 10.1**	**+0.2**
	0.6nm,0.8s,mb3.4,baz=14,slow=8.6,SNR=7.3							
ASAR	**Alice Springs**	**37.63**	**197**	P		**P**	**08 49 10.1**	**+0.2**
DZM	**Mont Dzumac**	**40.17**	**149**	*e*LR		LR	09 00 20.2	
	94nm,20.8s							
STKA	**Stephens Creek**	**44.27**	**184**	LR		LR	09 08 46.9	
	comp=Z,132nm,19.1s,MS3.9,baz=206,slow=36							
CMAR	**Chiang Mai Arr**	**44.91**	**284**	P		**P**	**08 50 10.6**	**+0.6**
	1.2nm,0.4s,mb4.1,baz=87,slow=5.9,SNR=6.8							
CMAR					LR	LR	09 08 36.3	
	comp=Z,62nm,18.8s,MS3.6,baz=251,slow=36							
CMAR	**Chiang Mai Arr**	**44.91**	**284**	P		**P**	**08 50 10.6**	**+0.6**
SONM	**Songino Array**	**47.81**	**325**	P		**P**	**08 50 32.1**	**-0.3**
	0.9nm,0.6s,mb4.0,baz=137,slow=7.2,SNR=7.4							
SONM					LR	LR	09 11 19.6	
	comp=Z,74nm,18.0s,MS3.7,baz=260,slow=37							
SONM	**Songino Array**	**47.81**	**325**	P		**P**	**08 50 32.1**	**-0.3**
TAPN	**Taplejung**	**55.62**	**295**	*e*P		**P**	**08 51 31.4**	**+0.3**
	31nm,1.1s,mb5.3							
TAPN	**Taplejung**	**55.62**	**295**	*e*P		**P**	**08 51 31.4**	**+0.3**
	31nm,1.1s,mb5.2							
ODAN	**Odare**	**55.88**	**294**	*e*P		**P**	**08 51 33.2**	**+0.3**
ODAN	**Odare**	**55.88**	**294**	*e*P		**P**	**08 51 33.2**	**+0.3**
RAMN	**Ramite**	**56.59**	**294**	*e*P		**P**	**08 51 38.1**	**+0.1**
	8.9nm,0.5s,mb5.0							
RAMN	**Ramite**	**56.59**	**294**	*e*P		**P**	**08 51 38.1**	**+0.1**
	8.9nm,0.5s,mb5.0							
JIRN	**Jiri**	**56.98**	**295**	*e*P		**P**	**08 51 41.3**	**+0.5**
JIRN	**Jiri**	**56.98**	**295**	*e*P		**P**	**08 51 41.3**	**+0.5**
GUN	**Gumba**	**57.27**	**295**	*e*P		**P**	**08 51 43.3**	**+0.5**
	61nm,1.2s,mb5.5							
GUN	**Gumba**	**57.27**	**295**	*e*P		**P**	**08 51 43.3**	**+0.5**
	61nm,1.2s,mb5.5							
PKI	**Pulchoki**	**57.67**	**295**	*e*P		**P**	**08 51 45.7**	**0.0**
PKI	**Pulchoki**	**57.67**	**295**	*e*P		**P**	**08 51 45.7**	**0.0**
KKN	**Kakani**	**57.80**	**295**	*e*P		**P**	**08 51 46.5**	**0.0**
KKN	**Kakani**	**57.80**	**295**	*e*P		**P**	**08 51 46.5**	**0.0**
DMN	**Daman**	**57.94**	**295**	*e*P		**P**	**08 51 47.6**	**0.0**
DMN	**Daman**	**57.94**	**295**	*e*P		**P**	**08 51 47.6**	**0.0**
GKN	**Gorkha**	**58.37**	**295**	*e*P		**P**	**08 51 50.5**	**-0.1**
GKN	**Gorkha**	**58.37**	**295**	*e*P		**P**	**08 51 50.5**	**-0.1**
DANN	**Dangsing**	**59.16**	**296**	*e*P		**P**	**08 51 56.4**	**+0.3**
	24nm,0.6s,mb5.4							
DANN	**Dangsing**	**59.16**	**296**	*e*P		**P**	**08 51 56.4**	**+0.3**
	24nm,0.6s,mb5.4							
KOLN	**Koldanda**	**59.28**	**295**	*e*P		**P**	**08 51 57.0**	**+0.1**
	18nm,0.9s,mb5.1							
KOLN	**Koldanda**	**59.28**	**295**	*e*P		**P**	**08 51 57.0**	**+0.1**
	18nm,0.9s,mb5.1							
MK31	**Makanchi Array**	**62.51**	**316**	*e*P		**P**	**08 52 18.5**	**0.0**
MKAR	**Makanchi Array**	**62.51**	**316**	P		**P**	**08 52 18.6**	**0.0**
	0.9nm,0.5s,mb4.2,baz=97,slow=8.3,SNR=25							
MKAR	**Makanchi Array**	**62.51**	**316**	P		**P**	**08 52 18.6**	**0.0**
ZALV	**Zalesovo Beam**	**62.70**	**325**	P		**P**	**08 52 19.6**	**-0.1**
	0.6nm,0.4s,mb4.0,baz=93,slow=6.4,SNR=2.5							
ZALV					LR	LR	09 20 03.1	
	comp=Z,40nm,19.9s,MS3.6,baz=191,slow=36							
ZALV	**Zalesovo Beam**	**62.70**	**325**	P		**P**	**08 52 19.6**	**-0.1**
KURK	**Kurchatov**	**65.64**	**320**	P		**P**	**08 52 37.7**	**-1.3**
	1.2nm,0.4s,mb4.3,baz=104,slow=6.5,SNR=8.8							
KURK					LR	LR	09 22 04.7	
	comp=Z,63nm,18.4s,MS3.9,baz=80,slow=37							
KURK	**Kurchatov**	**65.64**	**320**	P		**P**	**08 52 37.7**	**-1.3**
COLD	**Coldfoot**	**68.80**	**22**	*e*P		**P**	**08 52 59.7**	**+0.9**
	6.8nm,1.0s,mb4.5							
ILAR	**Eielson Array**	**69.38**	**25**	P		**P**	**08 53 01.0**	**-1.4**
	1.9nm,0.8s,mb4.1,baz=251,slow=5.5,SNR=37							
ILAR	**Eielson Array**	**69.38**	**25**	P		**P**	**08 53 01.0**	**-1.4**
PPT2	**Papeete2**	**70.96**	**114**	*e*LR		LR	09 14 22.3	
	68nm,28.2s							
BVAR	**Borovoye Array**	**70.99**	**322**	LR		LR	09 24 19.2	
	comp=Z,75nm,18.1s,MS4.0,baz=341,slow=36							
TBI	**Tubuai**	**73.13**	**119**	*e*LR		LR	09 15 22.6	
	35nm,30.2s							
INK	**Inuvik**	**75.22**	**22**	P		**P**	**08 53 37.7**	**+0.4**
	3.4nm,1.1s,mb4.2,baz=234,slow=8.5,SNR=5.7							
INK	**Inuvik**	**75.22**	**22**	P		**P**	**08 53 37.7**	**+0.4**
DLBC	**Dease Lake**	**76.69**	**33**	P		**P**	**08 53 47.5**	**+1.7**
	3.0nm,1.0s,mb4.2,baz=298,slow=15,SNR=5.0							
DLBC	**Dease Lake**	**76.69**	**33**	P		**P**	**08 53 47.5**	**+1.7**
TAOE	**Nuku Hiva Isla**	**77.10**	**102**	*e*LR		LR	09 17 16.4	
	189nm,30.9s							
AKTO	**Aktyubinsk**	**78.71**	**319**	LR		LR	09 31 41.3	
	comp=Z,72nm,19.3s,MS4.0,baz=285,slow=38							
YKA	**Yellowknife Ar**	**83.64**	**27**	P		**P**	**08 54 23.2**	**0.0**
	0.9nm,0.8s,mb4.0,baz=284,slow=5.1,SNR=9.9							
YKA	**Yellowknife Ar**	**83.64**	**27**	P		**P**	**08 54 23.2**	**0.0**
RES	**Resolute Bay**	**85.51**	**13**	P		**P**	**08 54 33.5**	**+1.0**
	2.7nm,1.1s,mb4.4,baz=279,slow=8.8,SNR=5.0							
RES	**Resolute Bay**	**85.51**	**13**	P		**P**	**08 54 33.5**	**+1.0**
ARCES	**ARCESS Array B**	**88.21**	**342**	P		**P**	**08 54 45.6**	**-0.2**
	4.5nm,0.9s,mb4.7,baz=60,slow=7.2,SNR=4.8							
ARCES	**ARCESS Array B**	**88.21**	**342**	P		**P**	**08 54 45.6**	**-0.2**
FINES	**FINESS Array B**	**92.28**	**335**	P		**P**	**08 55 03.6**	**-1.3**
	1.4nm,0.6s,mb4.5,baz=41,slow=6.1,SNR=4.7							
FINES	**FINESS Array B**	**92.28**	**335**	P		**P**	**08 55 03.6**	**-1.3**
PDAR	**Pinedale Array**	**92.46**	**45**	P		**P**	**08 55 05.8**	**-0.4**
	0.3nm,0.8s,mb3.6,baz=289,slow=5.6,SNR=2.2							
PDAR	**Pinedale Array**	**92.46**	**45**	P		**P**	**08 55 05.8**	**-0.4**
BRTR	**Keskin Array B**	**98.06**	**314**	P		**P**	**08 55 32.0**	**+0.2**
	0.6nm,0.3s,mb4.6,baz=52,slow=2.4,SNR=3.8							
BRTR	**Keskin Array B**	**98.06**	**314**	P		**P**	**08 55 32.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**135.77**	**304**	PKP		PKPdf	09 01 15.8	-0.9
	0.2nm,0.5s,baz=27,slow=3.2,SNR=2.2							
TORD	**Torodi Ar. Bea**	**135.77**	**304**	PKP		PKPdf	09 01 15.8	-0.9
DBIC	**Dimbokro**	**144.69**	**301**	PKP		PKPdf	09 01 31.9	-0.9
	4.5nm,0.7s,baz=22,slow=5.8,SNR=9.2							
DBIC	**Dimbokro**	**144.69**	**301**	PKP		PKPdf	09 01 31.9	-0.9
LPAZ	**La Paz**	**147.48**	**101**	PKPbc		PKPbc	09 01 41.4	+1.4
	1.6nm,0.7s,baz=257,slow=7.4,SNR=7.9							
LPAZ	**La Paz**	**147.48**	**101**	PKPbc		PKPbc	09 01 41.4	+1.4
LPAZ				*e*PKPab		PKPab	09 01 42.2	+0.2

IDC 15 09:20:12.3±1.9, 53°.61N×86°.95E, h0km, mb1 2.9/2, mb1mx2.8/27, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=20.1km s-min=2.4km az=105.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.31**	**286**	Pg		Pg	09 20 35.7	-1.6
	0.9nm,0.3s,baz=102,slow=17,SNR=18							
ZALV					Lg		09 20 54.9	
	1.3nm,0.3s,baz=112,slow=29,SNR=13							
KURK	**Kurchatov**	**5.89**	**244**	Pn		Pn	09 21 43.0	+2.4
	0.0nm,0.3s,baz=60,slow=14,SNR=7.6							
KURK					Lg		09 23 20.4	
	0.0nm,0.3s,baz=62,slow=33,SNR=3.9							
MKAR	**Makanchi Array**	**7.45**	**205**	Pn		Pn	09 22 03.6	+1.5
	0.1nm,0.3s,baz=26,slow=12,SNR=4.7							
MKAR					Lg		09 24 07.0	
	0.0nm,0.3s,baz=26,slow=30,SNR=5.9							

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*IDC **15** 09:24:18.7±1.0, 38°.84N×141°.10E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/24, mbtmp3.5/7, ML2.6/2, Error ellipse: s-maj=32.6km s-min=19.6km az=90.0*
*ISCJB **15** 09:24:21.0±0.4, 38°.94N±0°.03×140°.93E±0°.04, h23km±4km, mb3.4/6, Error ellipse: s-maj=5.4km s-min=4.0km az=139.2*
*JMA **15** 09:24:21.3, 38°.94N×140°.90E, h8km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs=261.00000°, δ55.00000°, λ74.00000°. NP2: φs=107.00000°, δ38.00000°, λ112.00000°. Principal axes: T Plg74.0000°, Azm126.0000°; N Plg13.0000°, Azm270.0000°; P Plg9.0000°, Azm2.0000°;*
JMA Felt II J1.
*NEIC **15** 09:24:21.4, 38°.94N×140°.90E, h8km, MG3.4(JMA), After JMA.*

ISC 15 09:24:21.2±0.4, 38°.93N±0°.03×140°.91E±0°.03, h12km±4km, n28, σ0§70/40, mb3.4/6, 1C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.24**	**85**	P		**Pg**	**09 24 26.3**	**0.0**
JMK					S	**Sg**	**09 24 29.9**	**+0.1**
JYK	**Kaneyama**	**0.43**	**268**	⇓P		**Pg**	**09 24 29.7**	**+0.1**
JYK					S	**Sg**	**09 24 35.1**	**-0.2**
JRG	**Rokugo**	**0.51**	**336**	⇓P		**Pg**	**09 24 31.1**	**-0.1**
JRG					S	**Sg**	**09 24 38.2**	**+0.2**
JIO	**Ouri**	**0.59**	**144**	⇓P		**Pg**	**09 24 32.6**	**-0.1**
JIO					S	**Sg**	**09 24 40.5**	**+0.1**
JOU	**Okura**	**0.60**	**199**	⇓P		**Pg**	**09 24 33.0**	**+0.2**
JOU					S	**Sg**	**09 24 41.0**	**+0.4**
OFUJ	**Ofunato**	**0.61**	**76**	⇑P		**Pg**	**09 24 33.0**	**-0.1**
OFUJ					S	**Sg**	**09 24 41.3**	**+0.1**
JOM	**Ohasama**	**0.62**	**29**	⇓P		**Pg**	**09 24 32.9**	**-0.3**
JOM					S	**Sg**	**09 24 41.4**	**0.0**
JYS	**Shirataka**	**0.97**	**223**	⇓P		**Pg**	**09 24 39.6**	**-0.2**
JYS					S	**Sg**	**09 24 52.7**	**+0.2**
JYA	**Atsumi**	**0.99**	**250**	⇓P		**Pg**	**09 24 39.9**	**-0.4**
JYA					S	**Sg**	**09 24 52.8**	**-0.4**
MJAR	**Matsushiro Arr**	**3.20**	**223**	Pn		**Pn**	**09 25 09.9**	**-1.5**
	0.2nm,0.3s,baz=23,slow=17,SNR=3.0							
MJAR					Sn	**Sn**	**09 26 00.3**	**+11**
	1.0nm,0.3s,baz=302,slow=19,SNR=4.3							
MJAR	**Matsushiro Arr**	**3.20**	**223**	Pn		**Pn**	**09 25 09.8**	**-1.5**
MJAR					Sn	**Sn**	**09 26 00.3**	**+11**
MAJO	**Matsushiro**	**3.20**	**223**	Pn		**Pn**	**09 25 11.9**	**+0.6**
MAT	**Matsushiro**	**3.20**	**223**	P		**Pn**	**09 25 12.6**	**+1.2**
MAT					S	**Sn**	**09 25 55.8**	**+6.3**
ERM	**Erimo**	**3.53**	**28**	Pn		**Pn**	**09 25 15.4**	**-0.4**
ASAJ	**Asahikawa**	**5.33**	**13**	Pn		**Pn**	**09 25 41.6**	**+1.0**
	0.3nm,0.3s,baz=222,slow=13,SNR=2.6							
ASAJ	**Asahikawa**	**5.33**	**13**	Pn		**Pn**	**09 25 41.6**	**+1.0**
MKAR	**Makanchi Array**	**42.80**	**300**	P		**P**	**09 32 20.2**	**+1.7**
	0.1nm,0.5s,mb2.9,baz=78,slow=7.5,SNR=2.7							
MKAR	**Makanchi Array**	**42.80**	**300**	P		**P**	**09 32 20.2**	**+1.7**
KURK	**Kurchatov**	**44.47**	**307**	P		**P**	**09 32 32.1**	**+0.1**
	0.3nm,0.3s,mb3.5,baz=82,slow=8.4,SNR=4.6							
KURK	**Kurchatov**	**44.47**	**307**	P		**P**	**09 32 32.1**	**+0.2**
ILAR	**Eielson Array**	**48.12**	**33**	P		**P**	**09 32 59.4**	**-1.1**
	0.2nm,0.8s,mb3.2,baz=274,slow=5.5,SNR=4.2							
ILAR	**Eielson Array**	**48.12**	**33**	P		**P**	**09 32 59.4**	**-1.1**
WRA	**Warramunga Arr**	**58.88**	**187**	P		**P**	**09 34 19.6**	**-0.3**
	0.3nm,0.4s,mb3.6,baz=4.7,slow=7.4,SNR=10							
WRA	**Warramunga Arr**	**58.88**	**187**	P		**P**	**09 34 19.6**	**-0.3**
ASAR	**Alice Springs**	**62.61**	**187**	P		**P**	**09 34 45.7**	**+0.4**
	0.1nm,0.3s,mb3.4,baz=1.0,slow=5.8,SNR=3.1							
ASAR	**Alice Springs**	**62.61**	**187**	P		**P**	**09 34 45.7**	**+0.4**
STKA	**Stephens Creek**	**70.45**	**179**	P		**P**	**09 35 32.4**	**-2.9**
	1.7nm,1.1s,mb3.9,baz=326,slow=3.6,SNR=2.5							
STKA	**Stephens Creek**	**70.45**	**179**	P		**P**	**09 35 32.4**	**-2.9**

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*NNC **15** 09:26:37.9±3.6, 53°.77N×87°.83E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=39.0km s-min=22.2km az=24.0*
*IDC **15** 09:26:44.2±2.4, 54°.19N×86°.31E, h0km, mb1 2.9/2, mb1mx2.8/27, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=19.8km s-min=6.8km az=72.0*

ISC 15 09:26:49.5±4.4, 54°.2N±0°.2×85°.8E±0°.4, h10km, n6, σ1§00/7, 2C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.60**	**250**	Pg		**Pg**	**09 27 00.1**	**-1.0**
	1.6nm,0.3s,baz=74,slow=17,SNR=26							
ZALV					Lg		09 27 14.8	
	1.4nm,0.3s,baz=72,slow=31,SNR=4.4							
KURK	**Kurchatov**	**5.57**	**235**	⇑Pn		**Pn**	**09 28 13.6**	**+1.3**
	1.6nm,1.1s							
KURK					⇓Lg		09 30 01.2	
	4.4nm,1.1s							
KURK	**Kurchatov**	**5.57**	**235**	Pn		**Pn**	**09 28 14.2**	**+1.8**
	0.1nm,0.3s,baz=54,slow=13,SNR=15							
KURK					Lg		09 29 56.0	
	0.0nm,0.3s,baz=60,slow=32,SNR=6.5							
KURBB	**Kurchatov Arra**	**5.67**	**234**	⇓Pn		**Pn**	**09 28 14.2**	**+0.4**
	0.8nm,1.1s							
KURBB					⇓Lg		09 30 04.3	
	0.5nm,0.7s							
MK31	**Makanchi Array**	**7.70**	**198**	⇓Pn		**Pn**	**09 28 35.8**	**-5.7**
	0.2nm,0.5s,baz=25,slow=13,SNR=8.2							
MK31					⇑Lg		09 30 43.5	
	4.9nm,1.2s,baz=26,slow=30,SNR=6.3							
MKAR	**Makanchi Array**	**7.70**	**198**	Pn		**Pn**	**09 28 40.4**	**-1.1**
	0.1nm,0.3s,baz=24,slow=13,SNR=7.8							
MKAR					Sn	**Sn**	**09 30 09.0**	**+0.3**
	0.0nm,0.3s,baz=21,slow=26,SNR=2.6							
MKAR					Lg		09 30 53.4	
	0.0nm,0.3s,baz=28,slow=29,SNR=13							

IDC 15 09:46:34.5±1.7, 1°.97N×128°.13E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/17, mbtmp3.5/4, Error ellipse: s-maj=158.6km s-min=21.6km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.61**	**165**	P		P	09 51 37.9	+0.9
	0.2nm,0.4s,baz=344,slow=10,SNR=6.3							
STKA	**Stephens Creek**	**36.00**	**160**	P		P	09 53 36.5	-1.0
	0.7nm,0.8s,baz=324,slow=17,SNR=2.5							
MKAR	**Makanchi Array**	**59.79**	**325**	P		P	09 56 41.8	+0.2
	0.4nm,0.6s,baz=115,slow=8.1,SNR=7.6							
KURK	**Kurchatov**	**63.97**	**327**	P		P	09 57 09.8	+0.1
	0.4nm,0.5s,baz=126,slow=6.1,SNR=6.3							

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*NOU **15** 09:52:40.5±1.1, 13°.74S×167°.86E, h30km, MD4.4, ML3.0*
*IDC **15** 09:52:44.0±2.4, 14°.34S×166°.88E, h17km±11km, mb4.5/15, mb1 4.6/17, mb1mx4.5/20, mbtmp4.5/17, ML5.3/1, MS4.6/24, Ms1 4.6/24, ms1mx4.4/33, Error ellipse: s-maj=28.9km s-min=17.0km az=139.0*
*LDG **15** 09:52:44.1±0.3, 13°.85S×166°.80E, h10km, Mb5.2/3, Ms4.6/9, Error ellipse: s-maj=36.7km s-min=10.8km az=86.0*
*MOS **15** 09:52:46.6±1.0, 14°.12S×166°.50E, h33km, mb5.1/34, MS4.5/9, Error ellipse: s-maj=11.2km s-min=8.6km az=39.3*
*ISCJB **15** 09:52:46.0±0.3, 14°.26S±0°.03×166°.67E±0°.05, h33km, mb5.0/65, MS4.6/33, Error ellipse: s-maj=7.6km s-min=3.9km az=176.2*
*DJA **15** 09:52:47, 14°.35S×166°.58E, h12km, mb5.0/16*
*NEIC **15** 09:52:48.6±1.4, 14°.19S×166°.67E, h43km±11km, mb5.1/24, MS4.9/1, Error ellipse: s-maj=10.1km s-min=7.5km az=94.0*
*GCMT **15** 09:52:49.9±0.2, 14°.22S×166°.47E, h26km, MW5.2, Moment Tensor Solution. s51,c69; s71,c105; Moment tensor: Scale 10^{16}Nm; M_{rr}6.18±.22; $M_{\theta\theta}$-0.15±.16; $M_{\phi\phi}$-6.03±.16; $M_{r\theta}$4.73±.40; $M_{\theta\phi}$1.37±.13; $M_{\phi r}$-4.71±.31; Best double couple: $M_0$9.10000×10^{16} NP1:ϕ_s5.00000°, δ26.00000°, λ126.00000°. NP2:ϕ_s145.00000°, δ69.00000°, λ74.00000°. Principal axes: T 9.5500, Plg62.0000°, Azm30.0000°; N -0.8600, Plg15.0000°, Azm151.0000°; P -8.6900, Plg22.0000°, Azm248.0000°; Data Used: II IU IC CN G.*
*BJI **15** 09:52:55.8, 13°.30S×166°.32E, h71km, mB5.1/29, mb5.0/41, Ms5.2/24, Ms7 4.8/24*

ISC 15 09:52:48.3±0.3, 14°.21S±0°.03×166°.66E±0°.05, h35km, (h73km±1.8km:pP-P), n266, σ1§09/166, mb5.0/65, MS4.6/33, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.83**	**181**	*e*Pn

comp=Z,8.0nm,0.7s
STKA MLR MLR
comp=Z,4μm,18.2s
RPZ Rata Peaks 29.65 174 P **P** **09 58 51.1 +0.6**
comp=Z,19nm,0.9s,mb4.8,baz=124,slow=13,SNR=3.8
RPZ LR LR 10 09 17.4
comp=Z,1μm,19.3s,MS4.5,baz=355,slow=34
RPZ Rata Peaks 29.65 174 P **P** **09 58 51.1 +0.6**
WRAB Tennant Creek 31.37 255 *e*P **P** **09 59 04.5 -1.5**
comp=Z,15nm,1.1s,mb4.8
WRAB Tennant Creek 31.37 255 *e*P **P** **09 59 04.5 -1.5**
WRAB pmax pmax
comp=Z,15nm,1.1s,mb4.7
WRAB Tennant Creek 31.37 255 P **P** **09 59 04.7 -1.3**
comp=Z,23nm,1.6s,mb4.8
WRA Warramunga Arr 31.38 255 P **P** **09 59 04.1 -2.0**
comp=Z,7.5nm,0.9s,mb4.5,baz=86,slow=9.3,SNR=49
WRA LR LR 10 11 25.9
comp=Z,2μm,18.0s,MS4.8,baz=80,slow=36
WRA Warramunga Arr 31.38 255 P **P** **09 59 04.1 -2.0**
WRA Warramunga Arr 31.38 255 P **P** **09 59 04.1 -2.0**
WRA pmax pmax
comp=Z,8.0nm,0.9s
WRA MLR MLR
comp=Z,2μm,18.0s
AS31 Alice Springs 32.31 248 *e*P **P** **09 59 12.6 -1.6**
ASAR Alice Springs 32.31 248 P **P** **09 59 12.6 -1.7**
comp=Z,4.4nm,0.7s,mb4.4,baz=73,slow=9.3,SNR=61
ASAR Alice Springs 32.31 248 P **P** **09 59 12.6 -1.7**
ASAR Alice Springs 32.31 248 P **P** **09 59 12.6 -1.6**
ASAR pmax pmax
comp=Z,4.0nm,0.7s
RAR Rarotonga 32.68 107 LR LR 10 09 57.9
comp=Z,605nm,18.8s,MS4.3,baz=268,slow=32
BBOO Buckleboo 33.44 231 *e*P **P** **09 59 23.9 -0.1**
comp=Z,125nm,0.6s,mb6.0
BBOO Buckleboo 33.44 231 *e*P **P** **09 59 24.0 +0.1**
comp=Z,378nm,0.7s
FORT Forrest 39.06 238 *e*P **P** **10 00 11.7 -0.3**
comp=Z,40nm,0.7s,mb5.3
FITZ Fitzroy Crossi 39.53 259 LR LR 10 16 35.8
comp=Z,2μm,18.2s,MS4.9,baz=86,slow=36
FITZ Fitzroy Crossi 39.53 259 *e*P **P** **10 00 15.9 -0.2**
comp=Z,25nm,0.8s,mb5.0
FITZ Fitzroy Crossi 39.53 259 *e*P **P** **10 00 15.7 -0.5**
comp=Z,12nm,0.8s,mb4.7
FITZ Fitzroy Crossi 39.53 259 P **P** **10 00 16.4 +0.3**
comp=Z,19nm,0.9s,mb4.8
NLAI Namlea 40.52 282 P **P** **10 00 30.5 +6.1**
LBMI Labuha 41.00 286 P **P** **10 00 36.3 +7.9**
PPT2 Papeete2 42.16 101 *e*S **S** **10 06 56.6 +0.9**
comp=Z,291nm,24.8s
PPT2 *e*LQ 10 10 42.2
comp=Z,967nm,26.0s
PPT2 *e*LR LR 10 12 32.4
comp=Z,766nm,25.5s
TBI Tubuai 42.39 109 *e*S **S** **10 07 02.4 +3.4**
comp=Z,257nm,28.0s
TBI *e*LQ 10 10 45.3
comp=Z,864nm,28.0s
TBI *e*LR LR 10 12 36.4
comp=Z,724nm,24.2s
MBWA Marble Bar 45.11 254 *e*P **P** **10 01 01.6 +0.1**
LUWI Luwuk 45.31 283 P **P** **10 01 09.5 +6.3**
MEEK Meekatharra 46.44 247 *e*P **P** **10 01 11.5 -0.5**
comp=Z,92nm,0.6s,mb5.9
BMNI Bima 47.29 271 P **P** **10 01 20.1 +1.3**
comp=Z,978nmcomp=Z,38nm,1.3s,mb5.2
KLBR Kellerberrin 47.84 240 *e*P **P** **10 01 22.2 -0.7**
comp=Z,18nm,0.8s,mb5.2
NWAO Narrogin (SRO) 48.51 239 LR LR 10 22 06.1
comp=Z,1μm,18.6s,MS4.9,baz=355,slow=36
MTNI Mataram 49.72 271 P pP 10 01 53.7 +5.7
MTNI Mataram 49.72 271 P **P** **10 01 38.6 +1.1**
comp=Z,10μmcomp=Z,50nm,1.0s,mb5.5
IGBI Denpasar 50.68 270 P pP 10 01 56.1 +0.8
IGBI Denpasar 50.68 270 P **P** **10 01 45.5 +0.7**
comp=Z,85nm,0.8s,mb5.7
JAGI Jajag, Banyuwa 51.71 270 P **P** **10 01 52.1 -0.4**
comp=Z,54nm,1.6s,mb5.2
TAOE Nuku Hiva Isla 52.30 90 *e*LR LR 10 17 10.1
comp=Z,849nm,23.2s
PWJI Pagerwojo 54.08 270 P **P** **10 02 11.3 +1.3**
comp=Z,34nm,1.6s,mb5.0
SJI Sawahan 54.17 271 P **P** **10 02 12.8 +2.1**
comp=Z,3μmcomp=Z,37nm,2.5s,mb4.9
PCJI Pacitan 54.65 270 P **P** **10 02 15.7 +1.5**
comp=Z,90nm,1.1s,mb5.7
RKT Rikitea 55.71 108 *e*S **S** **10 10 08.7 +2.6**
comp=Z,323nm,29.2s
RKT *e*LQ 10 16 27.8
comp=Z,363nm,29.2s
RKT *e*LR LR 10 18 48.8
comp=Z,634nm,23.0s
MJAR Matsushiro Arr 57.17 333 P **P** **10 02 31.2 -0.5**
comp=Z,9.4nm,0.7s,mb4.9,baz=174,slow=8.1,SNR=21
MJAR LR LR 10 24 20.0
comp=Z,128nm,19.3s,MS4.0,baz=195,slow=33
MJAR Matsushiro Arr 57.17 333 P **P** **10 02 31.2 -0.5**
MJAR Matsushiro Arr 57.17 333 P **P** **10 02 31.2 -0.5**
MJAR pmax pmax
comp=Z,9.0nm,0.7s
MAJO Matsushiro 57.17 333 *e*P **P** **10 02 31.7 -0.1**
comp=Z,14nm,0.7s,mb5.1
MAJO Matsushiro 57.17 333 *e*P **P** **10 02 31.7 0.0**
MAJO pmax pmax
comp=Z,14nm,0.7s,mb5.1
MAT Matsushiro 57.17 333 P **P** **10 02 31.3 -0.4**
MAT *e*S **S** **10 10 21.0 -3.9**
JNU Nakatsue 58.15 325 *e*P **P** **10 02 38.0 -0.7**
comp=Z,19nm,1.0s,mb5.1
LEM Lembang 58.38 271 P **P** **10 02 48.0 +7.2**
ASAJ Asahikawa 62.05 341 LR LR 10 27 28.2
comp=Z,379nm,18.2s,MS4.6,baz=348,slow=34
KSRS Korea Array 62.97 326 P **P** **10 03 11.7 +0.1**
comp=Z,5.1nm,0.9s,mb4.6,baz=137,slow=6.9,SNR=13
KSRS LR LR 10 26 19.5
comp=Z,146nm,19.7s,MS4.2,baz=145,slow=32
KSRS Korea Array 62.97 326 P **P** **10 03 11.7 +0.2**
KSRS pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
KSAR Wonju Array Be 62.99 326 P **P** **10 03 11.7 0.0**
KSAR Wonju Array Be 62.99 326 P **P** **10 03 11.7 +0.1**
VNDA Vanda 63.37 181 *e*P **P** **10 03 14.8 +1.2**
comp=Z,41nm,1.8s,mb5.3
VNDA Vanda 63.37 181 *e*P **P** **10 03 14.8 +1.2**
VNDA pmax pmax
comp=Z,41nm,1.8s
CASY Casey 63.79 202 *e*P **P** **10 03 16.6 +0.1**
comp=Z,8.6nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 64.55 342 *e*P **P** **10 03 22.8 +1.1**
comp=Z,63nm,1.3s,mb5.5
YSS Yuzh-Sakhalins 64.55 342 *e*P **P** **10 03 22.0 +0.3**
YSS pmax pmax
comp=Z,80nm,1.4s,mb5.6
NJ2 Nanjing 64.89 316 *e*P **P** **10 03 25.3 +1.1**
NJ2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
QIZ Qiongzhong 64.97 299 P **P** **10 03 23.8 -1.2**
QIZ pP pP 10 03 42.3 +6.5
QIZ sP sP 10 03 51.5 +12
QIZ S **S** **10 12 00.8 -4.0**
QIZ pmax pmax
comp=Z,150nm,3.7s
WHN Wuhan 67.15 312 P pP 10 03 51.5 +1.9
PETK Petropavlovsk- 67.48 354 P **P** **10 03 40.4 0.0**
comp=Z,11nm,0.8s,mb4.9,baz=162,slow=8.1,SNR=9.5
PETK LR LR 10 28 09.9
comp=Z,259nm,20.1s,MS4.5,baz=173,slow=31
PETK Petropavlovsk- 67.48 354 P **P** **10 03 40.4 0.0**
PETK Petropavlovsk- 67.48 354 P **P** **10 03 40.4 0.0**
PETK pmax pmax
comp=Z,11nm,0.8s,mb4.9
MDJ Mudanjiang 67.54 332 P **P** **10 03 42.4 +1.4**
MDJ pP pP 10 04 00.8 +9.0
MDJ sP sP 10 04 08.8 +13
MDJ PP PP 10 06 11.5 +1.1
MDJ S S 10 12 33.4 -1.7
MDJ pmax pmax
comp=Z,22nm,1.2s,mb5.1
MDJ pmax pmax
comp=Z,160nm,6.2s
MDJ LR LR
comp=N,100nm,29.7s
MDJ LR LR
comp=E,110nm,24.5s
MDJ LR LR
comp=Z,120nm,20.7s
HABR Khabarovsk 68.43 338 *e*P **P** **10 03 45.8 -0.7**
HABR *e**SP sP 10 03 59.9 -1.5
HABR 10 04 09.0
HABR *e* 10 06 18.8
HABR *e*S S 10 12 50.3 +4.7
HABR *e**SS sS 10 13 08.5 +5.1
HABR *e* 10 13 44.2
HABR pmax pmax
comp=N,13nm,1.3s
HABR pmax pmax
comp=Z,33nm,1.1s,mb5.3
HABR pmax pmax
comp=E,11nm,0.8s
HABR MLR MLR
comp=Z,83nm,15.0s,MS4.1
CN2 Changchun 68.89 329 *e*P **P** **10 03 49.6 +0.1**
CN2 *e*pP pP 10 04 09.5 +9.2
CN2 *e*S S 10 12 47.3 -4.0
CN2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,18.0s,MS4.8
CN2 LR LR
comp=E,200nm,18.0s,MS4.8
CN2 LR LR
comp=Z,200nm,18.0s,MS4.4
PSI Prapat 69.19 279 P **P** **10 03 57.5 +5.5**
comp=Z,14nm,1.1s,mb4.8
KLR Kul'dur 70.29 337 *e*P **P** **10 03 54.0 -4.0**
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.4
GYA Guiyang 70.93 305 P **P** **10 04 03.9 +1.5**
GYA pP pP 10 04 24.0 +11
GYA sP sP 10 04 31.3 +14
GYA PP PP 10 06 42.8 +2.7
GYA S S 10 13 12.3 -3.6
GYA sS sS 10 13 45.0 +11
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=N,550nm,18.3s,MS5.0
GYA LR LR
comp=E,500nm,19.0s,MS5.0
GYA LR LR
comp=Z,570nm,18.1s,MS4.9
BJI Beijing 71.49 321 P **P** **10 04 06.4 +0.9**
BJI pP pP 10 04 24.3 +8.0
BJI sP sP 10 04 33.0 +13
BJI pmax pmax
comp=Z,19nm,1.0s,mb5.0
BJI pmax pmax
comp=Z,170nm,4.0s
BJI LR LR
comp=N,360nm,18.9s,MS4.8
BJI LR LR
comp=E,280nm,19.4s,MS4.8
BJI LR LR
comp=Z,150nm,18.5s,MS4.3
XAN Xi'an 72.90 313 P **P** **10 04 14.4 +0.4**
XAN pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
XAN pmax pmax
comp=Z,20nm,3.8s
KMI Kunming 73.53 302 P **P** **10 04 20.4 +2.5**
KMI pP pP 10 04 39.3 +10
KMI S S 10 13 41.4 -4.3
KMI SS SS 10 18 25.3 -4.0
KMI pmax pmax
comp=Z,13nm,0.9s,mb4.9
KMI LR LR
comp=N,350nm,11.4s,MS5.0
KMI LR LR
comp=E,300nm,13.2s,MS5.0
KMI LR LR
comp=Z,290nm,11.1s,MS4.8
KMI Kunming 73.53 302 P **P** **10 04 20.4 +2.5**
comp=Z,13nm,0.9s,mb4.9
KMI pP pP 10 04 39.2 +10
KMI S S 10 13 41.4 -4.3
KMI SS SS 10 18 25.2 -4.1
KMI SSS 10 21 37.1
KMI LR LR
comp=Z,290nm,11.1s,MS4.8
KMI Kunming 73.53 302 P **P** **10 04 20.4 +2.5**
KMI *PP pP 10 04 39.2 +10
KMI S S 10 13 41.4 -4.3
KMI SS SS 10 18 25.2 -4.1
KMI SSS 10 21 37.1
KMI pmax pmax
comp=Z,13nm,0.9s,mb4.9
KMI MLR MLR
comp=Z,290nm,11.1s,MS4.8
CMAR Chiang Mai Arr 74.19 294 P **P** **10 04 23.5 +1.5**
comp=Z,2.4nm,0.5s,mb4.4,baz=113,slow=5.4,SNR=8.9
CMAR Chiang Mai Arr 74.19 294 P **P** **10 04 23.5 +1.5**
CMAR Chiang Mai Arr 74.19 294 P **P** **10 04 23.5 +1.5**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
HHC Hu-ho-hao-te 74.80 320 *e*P **P** **10 04 26.8 +1.8**
HHC pP pP 10 04 46.6 +11
HHC sP sP 10 04 55.0 +15
HHC PP PP 10 07 16.5 +3.6
HHC S S 10 13 56.3 -3.1
HHC SKS 10 14 23.0
HHC pmax pmax
comp=Z,26nm,0.8s,mb5.2
HHC pmax pmax
comp=Z,110nm,5.9s
HHC LR LR
comp=N,270nm,14.7s,MS4.8
HHC LR LR
comp=E,180nm,12.2s,MS4.8
HHC LR LR
comp=Z,210nm,16.2s,MS4.5
CD2 Chengdu 75.22 308 *e*P **P** **10 04 27.8 +0.1**
CD2 pP pP 10 04 47.9 +9.3
CD2 sP sP 10 04 56.4 +14
CD2 S S 10 13 59.3 -5.2
CD2 sS sS 10 14 33.9 +11
CD2 pmax pmax
comp=Z,40nm,0.8s,mb5.4
CD2 pmax pmax
comp=Z,130nm,4.8s
CD2 LR LR
comp=N,270nm,10.8s
CD2 LR LR
comp=E,280nm,16.8s
CD2 LR LR
comp=Z,280nm,14.4s,MS4.7
QSPA South Pole Qui 75.82 180 LR LR 10 33 23.6
comp=Z,243nm,20.1s,MS4.5,baz=281,slow=32
QSPA South Pole Qui 75.82 180 *e*P **P** **10 04 31.5 +1.2**
comp=Z,14nm,1.0s,mb4.9
LZH Lanzhou 77.53 312 P **P** **10 04 43.1 +2.4**
LZH pP pP 10 05 00.5 +8.9
LZH sP sP 10 05 08.1 +12
LZH pmax pmax
comp=Z,30nm,1.0s,mb5.2
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=N,490nm,19.1s,MS5.0
LZH LR LR
comp=E,340nm,17.8s,MS5.0
LZH LR LR
comp=Z,570nm,19.6s,MS4.9
LZH Lanzhou 77.53 312 P **P** **10 04 43.1 +2.4**
comp=Z,30nm,1.0s,mb5.2
LZH pP pP 10 05 00.5 +8.9
LZH sP sP 10 05 08.1 +12
LZH *e*S S 10 14 34.1 +4.5
LZH sS sS 10 15 03.4 +16
LZH LR LR
comp=Z,570nm,19.6s,MS4.9
LZH Lanzhou 77.53 312 P **P** **10 04 43.1 +2.4**
LZH *PP pP 10 05 00.5 +8.9
LZH *e*S S 10 14 34.1 +4.5
LZH *SS sS 10 15 03.4 +16
LZH pmax pmax
comp=Z,30nm,1.0s,mb5.2
LZH MLR MLR
comp=Z,570nm,19.6s,MS4.9
CLNS Chul'man 78.82 338 *e*P **P** **10 04 48.7 +1.4**
CLNS pmax pmax
comp=Z,21nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.9s
YAK Yakutsk 81.36 343 *e*P **P** **10 05 00.0 -0.9**
comp=E,48nm,1.0s,mb5.4
YAK Yakutsk 81.36 343 *e*P **P** **10 04 59.6 -1.3**
YAK pmax pmax
comp=Z,35nm,1.0s,mb5.2
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.4s
ULN Ulaanbaatar 81.36 324 *e*P **P** **10 05 01.1 -0.2**
comp=E,18nm,1.0s,mb5.0
ULN Ulaanbaatar 81.36 324 *e*P **P** **10 05 01.1 -0.2**
ULN pmax pmax
comp=Z,18nm,1.0s,mb5.0
ULN Ulaanbaatar 81.36 324 P **P** **10 05 02.8 +1.5**
SONM Songino Array 81.72 324 P **P** **10 05 03.5 +0.4**
comp=Z,4.5nm,0.9s,mb4.4,baz=142,slow=6.0,SNR=28
SONM LR LR 10 40 59.8
comp=Z,160nm,19.1s,MS4.4,baz=184,slow=35
SONM Songino Array 81.72 324 P **P** **10 05 03.5 +0.4**
SONM Songino Array 81.72 324 P **P** **10 05 03.5 +0.3**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM MLR MLR
comp=Z,160nm,19.1s
GTA Gaotai 81.88 314 *e*P **P** **10 05 06.0 +1.8**
GTA pP pP 10 05 26.8 +12
GTA sP sP 10 05 34.8 +16
GTA PP PP 10 08 17.4 +5.3
GTA pmax pmax
comp=Z,18nm,1.1s,mb4.9
GTA pmax pmax
comp=Z,130nm,8.1s
GTA LR LR
comp=N,150nm,16.2s,MS4.6
GTA LR LR
comp=E,170nm,18.1s,MS4.6
GTA LR LR
comp=Z,210nm,16.2s,MS4.6
BILL Bilibino 82.02 360 *e*P **P** **10 05 03.6 -0.6**
comp=Z,15nm,0.7s,mb5.0
BILL Bilibino 82.02 360⇓ *i*P **P** **10 05 03.8 -0.5**
BILL *e* 10 05 09.0
BILL pmax pmax
comp=Z,33nm,1.2s,mb5.1
MAW Mawson 82.14 202 LR LR 10 36 07.6
comp=Z,360nm,20.5s,MS4.7,baz=100,slow=32
PMR Palmer 83.21 20 *e*P **P** **10 05 10.7 +0.1**
comp=Z,58nm,2.0s,mb5.3
PMR Palmer 83.21 20 *e*P **P** **10 05 10.7 +0.1**
PMR pmax pmax
comp=Z,58nm,2.0s,mb5.3
BOD Bodaibo 83.75 335 *e*P **P** **10 05 12.6 -0.9**
BOD pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
TRF Thorofare Moun 84.23 18 *e*P **P** **10 05 14.8 -1.0**
comp=Z,342nm,2.7s,mb6.0
BMRM Bremner River 84.31 22 *e*P **P** **10 05 14.4 -1.8**
ZAK Zakamensk 84.78 325 *e*P **P** **10 05 18.4 -0.5**
ZAK pmax pmax
comp=Z,13nm,1.2s,mb4.9
MCK McKinley 84.84 18 *e*P **P** **10 05 19.0 +0.1**
comp=Z,86nm,1.9s,mb5.6
MCK McKinley 84.84 18 *e*P **P** **10 05 19.0 +0.1**
MCK pmax pmax
comp=Z,86nm,1.9s,mb5.6
TLY Talaya 85.23 326 *e*P **P** **10 05 21.1 0.0**
TLY *e* pP 10 05 33.2 +1.0
TLY pmax pmax
comp=Z,14nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,63nm,17.0s,MS4.1
COLA College 86.00 18 *e*P **P** **10 05 23.6 -1.1**
comp=Z,6.6nm,0.9s,mb4.9
COLA College 86.00 18 *e*P **P** **10 05 23.6 -1.0**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
ILAR Eielson Array 86.22 18 P **P** **10 05 23.8 -1.9**
comp=Z,2.8nm,0.6s,mb4.7,baz=241,slow=5.0,SNR=78
ILAR LR LR 10 39 04.1
comp=Z,472nm,19.7s,MS4.9,baz=51,slow=32
ILAR Eielson Array 86.22 18 P **P** **10 05 23.8 -1.9**
ILAR Eielson Array 86.22 18 P **P** **10 05 23.8 -1.9**
ILAR pmax pmax
comp=Z,3.0nm,0.6s
COLD Coldfoot 87.08 15 *e*P **P** **10 05 30.3 +0.4**
comp=Z,8.0nm,1.1s,mb4.9
NVAR Mina Array Bea 87.38 49 P **P** **10 05 31.6 -0.4**
comp=Z,0.4nm,0.4s,mb4.0,baz=294,slow=2.9,SNR=3.0
NVAR LR LR 10 37 19.6
comp=Z,956nm,19.6s,MS5.2,baz=122,slow=31
NVAR Mina Array Bea 87.38 49 P **P** **10 05 31.6 -0.4**
WMQ Urumqi 91.94 315 *e*P **P** **10 05 53.8 +0.5**
WMQ pP pP 10 06 14.5 +10
WMQ sP sP 10 06 22.8 +14
WMQ PP PP 10 09 35.8 +2.6
WMQ S S 10 16 45.8 -6.6
WMQ sS sS 10 17 21.5 +11
WMQ pmax pmax
comp=Z,11nm,1.0s,mb5.1
WMQ pmax pmax
comp=Z,200nm,5.2s
WMQ LR LR
comp=N,110nm,19.4s,MS4.5
WMQ LR LR
comp=E,130nm,21.8s,MS4.5
WMQ LR LR
comp=Z,130nm,21.6s,MS4.3
KRAR Krasnoyarsk 92.85 327⇑ *e*P **P** **10 05 55.1 -2.0**
KRAR pmax pmax
comp=Z,31nm,0.5s,mb6.0
SNAA Sanae 94.03 183 *e* **P** **10 06 01.6 -0.9**
SNAA Sanae 94.03 183 LR LR 10 46 20.7
comp=Z,92nm,18.9s,MS4.3,baz=204,slow=34
SNAA Sanae 94.03 183 *e*P **P** **10 06 01.3 -1.2**
comp=Z,17nm,1.5s,mb5.2
SNAA Sanae 94.03 183 *e*P **P** **10 06 01.3 -1.2**
SNAA pmax pmax
comp=Z,17nm,1.5s
VNA3 Neumayer Olymp 94.72 181 *e* **P** **10 06 05.1 -0.5**
VNA2 Neumayer--Watz 94.98 182 *e* **P** **10 06 06.9 +0.1**
baz=166,slow=5.0
PDAR Pinedale Array 95.03 47 LR LR 10 43 28.2
comp=Z,261nm,18.8s,MS4.7,baz=268,slow=32
VNA1 Neumayer--Stat 95.28 182 *e* **P** **10 06 08.7 +0.5**
MK31 Makanchi Array 96.42 317 *e*P **P** **10 06 13.7 0.0**
MK31 Makanchi Array 96.42 317 *e*P **P** **10 06 13.7 0.0**
MKAR Makanchi Array 96.42 317 P **P** **10 06 13.7 -0.1**
comp=Z,3.0nm,0.9s,mb4.7,baz=96,slow=6.8,SNR=15
MKAR PP PP 10 10 05.7 -2.4
comp=Z,0.9nm,1.0s,baz=78,slow=8.9,SNR=4.0
MKAR Makanchi Array 96.42 317 P **P** **10 06 13.7 -0.1**
MKAR PP PP 10 10 05.7 -2.4
MKAR Makanchi Array 96.42 317 P **P** **10 06 13.7 0.0**
MKAR 10 10 05.7
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 96.55 62 LR LR 10 41 11.0
comp=Z,271nm,20.7s,MS4.7,baz=240,slow=30
ZAA0 Zalesovo Array 96.62 324 *e*P **P** **10 06 13.6 -0.8**
ZALV Zalesovo Beam 96.62 324 P **P** **10 06 13.1 -1.4**
comp=Z,2.2nm,0.6s,mb4.7,baz=114,slow=4.9,SNR=13
ZALV LR LR 10 48 59.7
comp=Z,96nm,19.4s,MS4.3,baz=251,slow=35
ZALV Zalesovo Beam 96.62 324 P **P** **10 06 13.1 -1.4**
ZALV Zalesovo Beam 96.62 324 P **P** **10 06 13.1 -1.4**
ZALV pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
ZALV MLR MLR
comp=Z,96nm,19.4s,MS4.3
YKA Yellowknife Ar 97.36 27 P **P** **10 06 15.0 -2.6**
comp=Z,0.3nm,0.6s,mb3.9,baz=256,slow=4.3,SNR=3.8
YKA PKiKP PKiKP 10 10 50.8 -1.7
comp=Z,0.2nm,0.6s,baz=233,slow=1.1,SNR=4.5

YKA	**Yellowknife Ar**	**97.36**	**27**	P	**P**	**10 06 15.0**	**-2.6**
YKA				PKiKP	PKiKP	10 10 50.8	-1.7
YKA	**Yellowknife Ar**	**97.36**	**27**	P	**P**	**10 06 15.0**	**-2.6**
NVS	**Novosibirsk**	**97.74**	**325**	*e*P	**P**	**10 06 17.2**	**-2.3**
KURK	**Kurchatov**	**99.62**	**320**	P	Pdif	10 06 26.7	-1.4
	comp=Z,0.5nm,0.7s,baz=105,slow=3.7,SNR=3.5						
KURK	**Kurchatov**	**99.62**	**320**	P	Pdif	10 06 26.7	-1.4
KURK	**Kurchatov**	**99.62**	**320⇓**	*e*P	Pdif	10 06 27.0	-1.1
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.6						
ARCES	**ARCESS Array B**	**119.60**	**345**	PKP	PKPdf	10 11 32.3	-1.5
	comp=Z,3.2nm,0.6s,baz=75,slow=1.8,SNR=19						
ARCES	**ARCESS Array B**	**119.60**	**345**	PKP	PKPdf	10 11 32.3	-1.5
ARCES	**ARCESS Array B**	**119.60**	**345**	PKIKP	PKPdf	10 11 32.3	-1.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN	**Obninsk**	**123.94**	**328**	*i* PKIKP	PKPdf	10 11 40.5	-2.1
OBN				*i* SS	SS	10 30 28.0	+15
OBN				pmax	pmax		
	comp=Z,8.0nm,1.5s						
VSR	**Storozhevoye**	**124.11**	**323**	*e*PKIKP	PKPdf	10 11 42.2	-0.8
VSR				pmax	pmax		
	comp=N,5.0nm,0.7s						
VSR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,1.0nm,0.2s						
FINES	**FINESS Array B**	**125.02**	**338**	PKP	PKPdf	10 11 42.1	-2.3
	comp=E,1.5nm,0.6s,baz=29,slow=3.2,SNR=3.6						
FINES	**FINESS Array B**	**125.02**	**338**	PKP	PKPdf	10 11 42.1	-2.3
FINES	**FINESS Array B**	**125.02**	**338**	PKIKP	PKPdf	10 11 42.1	-2.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**129.97**	**345**	PKPdf	PKPdf	10 11 52.9	-1.0
	comp=Z,4.4nm,1.1s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.97**	**345**	PKP	PKPdf	10 11 52.2	-1.7
	comp=Z,1.5nm,0.7s,baz=30,slow=2.0,SNR=5.3						
NOA				SKP		10 15 25.8	
	comp=Z,2.6nm,0.9s,baz=32,slow=2.9,SNR=4.5						
NOA	**NORSAR Array B**	**129.97**	**345**	PKP	PKPdf	10 11 52.2	-1.6
NOA				SKP		10 15 25.8	
NOA	**NORSAR Array B**	**129.97**	**345**	PKIKP	PKPdf	10 11 52.2	-1.7
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				pmax	pmax		
	comp=N,3.0nm,0.9s						
AKASG	**Malin Array Be**	**129.97**	**326**	PKP	PKPdf	10 11 51.6	-2.6
	comp=N,1.0nm,0.6s,baz=29,slow=2.2,SNR=6.1						
AKASG				SKP		10 15 26.3	
	comp=N,1.4nm,0.7s,baz=46,slow=4.3,SNR=4.4						
AKASG	**Malin Array Be**	**129.97**	**326**	PKP	PKPdf	10 11 51.6	-2.6
AKASG				SKP		10 15 26.3	
AKASG	**Malin Array Be**	**129.97**	**326**	PKIKP	PKPdf	10 11 51.6	-2.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG				pmax	pmax		
	comp=N,1.0nm,0.7s						
BRTR	**Keskin Array B**	**131.72**	**311**	PKP	PKPdf	10 11 56.0	-1.8
	comp=N,0.8nm,0.8s,baz=9.7,slow=8.8,SNR=3.5						
BRTR				SKP		10 15 33.0	
	comp=N,2.2nm,0.7s,baz=104,slow=3.4,SNR=10						
BRTR	**Keskin Array B**	**131.72**	**311**	PKP	PKPdf	10 11 56.0	-1.8
BRTR				SKP		10 15 33.0	
BRTR	**Keskin Array B**	**131.72**	**311**	PKIKP	PKPdf	10 11 56.1	-1.8
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR				pmax	pmax		
	comp=N,2.0nm,0.7s						
BRG	**Berggiesshubel**	**137.29**	**335**	*e*PKP	PKPdf	10 12 10.7	+2.8
	comp=N,4.9nm,1.2s						
BRG	**Berggiesshubel**	**137.29**	**335**	*e*PKIKP	PKPdf	10 12 10.7	+2.8
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KHC	**Kasperske Hory**	**138.75**	**333**	*e*PKP	PKPdf	10 12 12.5	+1.8
GERES	**GERESS Array B**	**138.91**	**333**	PKP	PKPdf	10 12 08.8	-2.2
	comp=Z,0.2nm,0.5s,baz=159,slow=27,SNR=3.7						
GERES	**GERESS Array B**	**138.91**	**333**	PKP	PKPdf	10 12 08.8	-2.2
GERES	**GERESS Array B**	**138.91**	**333**	PKIKP	PKPdf	10 12 08.8	-2.2
SSF	**Saint Saulge**	**144.34**	**340**	*e*PKP1	PKPdf	10 12 19.2	-1.6
	comp=Z,28nm,1.1s						
SSF	**Saint Saulge**	**144.34**	**340**	*e*P	PKPdf	10 12 19.2	-1.6
SSF	**Saint Saulge**	**144.34**	**340**	*e*PKIKP	PKPdf	10 12 19.2	-1.6
GRR	**Gorron**	**144.38**	**346**	*e*PKP1	PKPdf	10 12 20.4	-0.4
GRR	**Gorron**	**144.38**	**346**	*e*P	PKPdf	10 12 20.4	-0.4
GRR	**Gorron**	**144.38**	**346**	*e*PKIKP	PKPdf	10 12 20.4	-0.4
LPL	**La Plagne**	**144.47**	**335**	*e*PKP1	PKPdf	10 12 20.2	-0.9
	comp=Z,11nm,0.7s						
LPL	**La Plagne**	**144.47**	**335**	*e*P	PKPdf	10 12 20.2	-0.9
LPL	**La Plagne**	**144.47**	**335**	*e*PKIKP	PKPdf	10 12 20.2	-0.9
LPG	**La Plagne**	**144.48**	**335**	*e*PKP1	PKPdf	10 12 20.3	-0.8
LPG	**La Plagne**	**144.48**	**335**	*e*P	PKPdf	10 12 20.3	-0.8
LPG	**La Plagne**	**144.48**	**335**	*e*PKIKP	PKPdf	10 12 20.3	-0.8
AVF	**Avril sur Loir**	**144.63**	**340**	*e*PKP1	PKPdf	10 12 19.9	-1.4
	comp=Z,43nm,1.2s						
AVF	**Avril sur Loir**	**144.63**	**340**	*e*P	PKPdf	10 12 19.9	-1.4
AVF	**Avril sur Loir**	**144.63**	**340**	*e*PKIKP	PKPdf	10 12 19.9	-1.4
SGMF	**Saint Gilles**	**144.89**	**347**	*e*PKP1	PKPdf	10 12 20.0	-1.7
SGMF	**Saint Gilles**	**144.89**	**347**	*e*P	PKPdf	10 12 20.0	-1.7
SGMF	**Saint Gilles**	**144.89**	**347**	*e*PKIKP	PKPdf	10 12 20.0	-1.7
ROSF	**Rostrenen**	**144.96**	**348**	*e*PKP1	PKPdf	10 12 20.7	-1.1
ROSF	**Rostrenen**	**144.96**	**348**	*e*P	PKPdf	10 12 20.7	-1.1
ROSF	**Rostrenen**	**144.96**	**348**	*e*PKIKP	PKPdf	10 12 20.7	-1.1
BGF	**Bois d'Agland**	**145.00**	**340**	*e*PKP1	PKPbc	10 12 21.4	+0.1
	comp=Z,35nm,0.7s						
BGF	**Bois d'Agland**	**145.00**	**340**	*e*P	PKPbc	10 12 21.4	+0.1
BGF	**Bois d'Agland**	**145.00**	**340**	*e*PKIKP	PKPdf	10 12 21.4	-0.5
MBDF	**Montbardon**	**145.10**	**335**	*e*PKP1	PKPbc	10 12 21.7	0.0
	comp=Z,31nm,1.0s						
MBDF	**Montbardon**	**145.10**	**335**	*e*P	PKPbc	10 12 21.7	0.0
MBDF	**Montbardon**	**145.10**	**335**	*e*PKIKP	PKPdf	10 12 21.7	-0.5
PLDF	**La Plantade**	**145.26**	**339**	PKP	PKPdf	10 12 22.7	+0.3
ORIF	**Oris-en-Rattie**	**145.31**	**336**	*e*PKP1	PKPbc	10 12 22.8	+0.5
	comp=Z,100nm,1.0s						
ORIF				*e*R			
	comp=Z,202nm,22.0s						
ORIF	**Oris-en-Rattie**	**145.31**	**336**	*e*P	PKPbc	10 12 22.8	+0.5
ORIF	**Oris-en-Rattie**	**145.31**	**336**	*e*PKIKP	PKPdf	10 12 22.8	+0.3
AGO	**Saint Agoulin**	**145.35**	**340**	PKP	PKPdf	10 12 22.8	+0.2
SBF	**Sospel**	**145.51**	**333**	*e*PKP1	PKPbc	10 12 22.9	-0.1
	comp=Z,246nm,1.1s						
SBF	**Sospel**	**145.51**	**333**	*e*P	PKPdf	10 12 22.9	0.0
SBF	**Sospel**	**145.51**	**333**	*e*PKIKP	PKPdf	10 12 22.9	0.0
PYM	**Petit Puy Mans**	**145.66**	**340**	PKP	PKPdf	10 12 23.1	0.0
PGF	**Pioggiola**	**145.81**	**330**	*e*PKP1	PKPdf	10 12 21.7	-1.8
	comp=Z,46nm,0.9s						
PGF	**Pioggiola**	**145.81**	**330**	*e*P	PKPdf	10 12 21.7	-1.8
PGF	**Pioggiola**	**145.81**	**330**	*e*PKIKP	PKPdf	10 12 21.7	-1.8
MFF	**Saint Martin d**	**145.86**	**344**	*e*PKP1	PKPdf	10 12 23.3	-0.1
	comp=Z,28nm,0.9s						
MFF	**Saint Martin d**	**145.86**	**344**	*e*P	PKPdf	10 12 23.3	-0.1
MFF	**Saint Martin d**	**145.86**	**344**	*e*PKP2	PKPdf	10 12 23.3	-0.1
LBL	**Lubilhac**	**146.03**	**339**	PKP	PKPab	10 12 25.6	+0.5
FRF	**La Foret Royal**	**146.10**	**334**	*e*PKP1	PKPdf	10 12 24.2	+0.3
	comp=Z,52nm,0.9s						
FRF	**La Foret Royal**	**146.10**	**334**	*e*P	PKPdf	10 12 24.2	+0.3
FRF	**La Foret Royal**	**146.10**	**334**	*e*PKP2	PKPdf	10 12 24.2	+0.3
SMRF	**Simiane la Rot**	**146.21**	**335**	*e*PKP1	PKPbc	10 12 24.5	-0.6
	comp=Z,90nm,1.2s						
SMRF	**Simiane la Rot**	**146.21**	**335**	*e*P	PKPdf	10 12 24.5	+0.4
LMR	**La Mourre**	**146.34**	**333**	*e*PKP1	PKPbc	10 12 25.5	0.0
	comp=Z,77nm,1.0s						
LMR	**La Mourre**	**146.34**	**333**	*e*P	PKPbc	10 12 25.5	0.0
LMR	**La Mourre**	**146.34**	**333**	*e*PKP2	PKPbc	10 12 25.5	0.0
RJF	**Les Rejaudoux**	**146.54**	**341**	*e*PKP1	PKPbc	10 12 26.3	+0.2
RJF				*e*R			
	comp=Z,315nm,21.5s						
RJF	**Les Rejaudoux**	**146.54**	**341**	*e*P	PKPbc	10 12 26.3	+0.2
RJF	**Les Rejaudoux**	**146.54**	**341**	*e*PKP2	PKPbc	10 12 26.3	+0.2
LASF	**Ste Croix**	**146.80**	**337**	*e*PKP1	PKPbc	10 12 27.2	+0.3
	comp=Z,47nm,0.9s						
LASF	**Ste Croix**	**146.80**	**337**	*e*P	PKPbc	10 12 27.2	+0.3
LFF	**La Frestale**	**147.11**	**341**	*e*PKP1	PKPbc	10 12 27.8	+0.1
LFF	**La Frestale**	**147.11**	**341**	*e*P	PKPbc	10 12 27.8	+0.1
LFF	**La Frestale**	**147.11**	**341**	*e*PKP2	PKPbc	10 12 27.8	+0.1
MTLF	**Montolieu**	**148.04**	**338**	*e*PKP1	PKPbc	10 12 30.6	+0.3
MTLF	**Montolieu**	**148.04**	**338**	*e*P	PKPbc	10 12 30.6	+0.3
MTLF	**Montolieu**	**148.04**	**338**	*e*PKP2	PKPbc	10 12 30.6	+0.3
KEST	**Kesra**	**150.43**	**321**	PKPbc	PKPbc	10 12 36.1	-0.5
	comp=Z,5.4nm,1.0s,baz=256,slow=1.7,SNR=6.0						
KEST	**Kesra**	**150.43**	**321**	PKPbc	PKPbc	10 12 36.1	-0.5
ESDC	**Sonseca Array**	**153.32**	**344**	PKPbc	PKPbc	10 12 42.1	-0.9
	comp=Z,0.3nm,0.3s,baz=17,slow=1.5,SNR=5.3						
ESDC	**Sonseca Array**	**153.32**	**344**	PKPbc	PKPbc	10 12 42.1	-0.9
TORD	**Torodi Ar. Bea**	**165.35**	**268**	PKP	PKPdf	10 12 49.2	-0.8
	comp=Z,0.7nm,0.8s,baz=66,slow=0.8,SNR=4.3						
TORD				PKPab	PKPab	10 13 47.6	-0.4
	comp=Z,1.6nm,1.0s,baz=93,slow=3.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**165.35**	**268**	PKP	PKPdf	10 12 49.2	-0.8
TORD				PKPab	PKPab	10 13 47.6	-0.4

*ISCJB **15** 09:56:49.7±0.7,24°.64N±0°.05×122°.35E±0°.02,h80km±7km,*
Error ellipse: s-maj=8.2km s-min=3.5km az=177.7
*TAP **15** 09:56:49.6,24°.65N×122°.33E,h81km±1km,ML3.2,D*
*JMA **15** 09:56:50.0±0.2,24°.83N×122°.41E,h74km±3km,M2.1*
ISC 15 09:56:50.0±0.7,**24°.65N**±0°.05×**122°.35E**±0°.02,**h80**km±7km,
n27,σ0°.47/50,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.46**	**265**	P	**Pn**	**09 57 03.2**	**-0.1**
	baz=264						
TWC				S	**Sn**	**09 57 13.0**	**-0.2**
	baz=264						
TWB1	**Santiao Chiao**	**0.49**	**318**	*e*P	**Pn**	**09 57 03.7**	**+0.1**
	baz=319						
TWB1				*e*S	**Sn**	**09 57 13.7**	**0.0**
	baz=319						
ILA	**Ilan**	**0.56**	**282**	*e*P	**Pn**	**09 57 04.2**	**-0.1**
	baz=282						
ILA				*e*S	**Sn**	**09 57 15.0**	**+0.2**
	baz=282						
ENA	**Nanau**	**0.59**	**249**	*i* P	**Pn**	**09 57 04.5**	**-0.1**
	baz=246						
ENA				*e*S	**Sn**	**09 57 15.9**	**+0.6**
	baz=246						
TWE	**Neicheng**	**0.62**	**277**	P	**Pn**	**09 57 04.9**	**0.0**
	baz=276						
TWE				*e*S	**Sn**	**09 57 15.9**	**0.0**
	baz=276						
YOJ	**Yonaguni jima**	**0.63**	**107**	P	**Pn**	**09 57 04.8**	**-0.1**
YOJ				*e*S	**Sn**	**09 57 15.8**	**-0.2**
NWF	**Wu-fen Shan**	**0.67**	**310**	*e*P	**Pn**	**09 57 05.0**	**-0.3**
	baz=310						
NWF				*e*S	**Sn**	**09 57 17.3**	**+0.6**
	baz=310						
ENTT	**Nioudou**	**0.71**	**270**	*i* P	**Pn**	**09 57 06.2**	**+0.5**
	baz=268						
ENTT				*e*S	**Sn**	**09 57 17.6**	**+0.1**
	baz=268						
TWA	**Mucha**	**0.77**	**296**	P	**Pn**	**09 57 05.8**	**-0.6**
	baz=295						
TWA				S	**Sn**	**09 57 18.0**	**-0.5**
	baz=295						
TWD	**Chiawan**	**0.89**	**231**	*e*P	**Pn**	**09 57 06.7**	**-1.0**
	baz=229						
TWD				*e*S	**Sn**	**09 57 20.2**	**-0.7**
	baz=229						
NSK	**Sanguang**	**0.90**	**272**	P	**Pn**	**09 57 07.9**	**0.0**
	baz=271						
NSK				S	**Sn**	**09 57 21.3**	**+0.1**
	baz=271						
NNS	**Nan Shan**	**0.91**	**257**	P	**Pn**	**09 57 07.8**	**-0.1**
	baz=256						
NNS				S	**Sn**	**09 57 21.3**	**-0.1**
	baz=256						
HWA	**Hwalien**	**0.95**	**226**	*e*P	**Pn**	**09 57 08.1**	**-0.3**
	baz=224						
TWS1	**Kuangyinshan**	**0.96**	**298**	*e*P	**Pn**	**09 57 08.4**	**-0.1**
	baz=298						
TWS1				*e*S	**Sn**	**09 57 22.5**	**+0.2**
	baz=298						
WHF	**Hehuan Shan**	**1.10**	**243⇓**	*i* P	**Pn**	**09 57 10.1**	**-0.2**
	baz=242						
WHF				S	**Sn**	**09 57 25.5**	**-0.1**
	baz=242						
TWT	**Tachien**	**1.14**	**250**	P	**Pn**	**09 57 11.1**	**+0.4**
	baz=249						
TWT				S	**Sn**	**09 57 26.5**	**+0.3**
	baz=249						
ESL	**Shilin**	**1.18**	**225**	*e*P	**Pn**	**09 57 10.9**	**-0.3**
	baz=224						
NSTT	**Nanjuang**	**1.23**	**270**	*e*P	**Pn**	**09 57 11.7**	**0.0**
	baz=268						
NSTT				*e*S	**Sn**	**09 57 28.1**	**0.0**
	baz=268						
IRIF	**Iriomote-Funau**	**1.30**	**104**	*e*S	**Sn**	**09 57 29.7**	**-0.1**
HATJ	**Hateruma jima**	**1.45**	**114**	P	**Pn**	**09 57 15.2**	**+0.5**
HATJ				*e*S	**Sn**	**09 57 34.3**	**+0.9**
EHY	**Hungye**	**1.47**	**220**	*e*P	**Pn**	**09 57 13.2**	**-1.8**
	baz=218						
SMLT	**Sun Moon Lake**	**1.52**	**240**	*e*P	**Pn**	**09 57 16.3**	**+0.7**
	baz=239						
SMLT				*e*S	**Sn**	**09 57 35.4**	**+0.5**
	baz=239						
TYC	**Yuchr**	**1.55**	**242**	P	**Pn**	**09 57 16.0**	**+0.1**
	baz=240						
TYC				*e*S	**Sn**	**09 57 35.5**	**0.0**
	baz=240						
JKRS	**Kuro-shima**	**1.57**	**105**	P	**Pn**	**09 57 16.6**	**+0.4**
JKRS				*e*S	**Sn**	**09 57 36.3**	**+0.3**
JIJ	**Ishigaki jima**	**1.66**	**99**	P	**Pn**	**09 57 17.0**	**-0.4**
JIJ				*e*S	**Sn**	**09 57 37.3**	**-0.8**
CHN5	**Tsauling**	**1.85**	**236**	*e*P	**Pn**	**09 57 20.2**	**+0.4**
	baz=235						
CHN5				*e*S	**Sn**	**09 57 43.5**	**+0.9**
	baz=235						
JTJ	**Tarama**	**2.14**	**90**	P	**Pn**	**09 57 24.1**	**+0.3**
JTJ				*e*S	**Sn**	**09 57 49.8**	**+0.2**

*IDC **15** 10:02:34.3±1.0,14°.31S×166°.86E,h0km,mb4.1/15,*
mb1 4.2/16,mb1mx4.2/20,mbtmp4.1/16,ML5.0/1,Error
ellipse: s-maj=29.2km s-min=18.5km az=125.0
*ISCJB **15** 10:02:38.9±2.2,14°.27S±0°.07×166°.7E±0°.1,h39km±19km,*
mb4.0/14,Error ellipse: s-maj=21.9km s-min=11.2km
az=167.1
*NEIC **15** 10:02:41.3±1.5,14°.30S×166°.73E,h47km±13km,Error*
ellipse: s-maj=14.5km s-min=10.8km az=88.0
ISC 15 10:02:41.8±1.8,**14°.26S**±0°.07×**166°.7E**±0°.1,**h49**km±16km,
n37,σ0°.82/36,mb4.0/14,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.78**	**182**	*e*P	**Pn**	**10 04 32.1**	**-0.3**
DZM				*e*S	**Sn**	**10 05 59.7**	**+0.6**
DZM	**Mont Dzumac**	**7.78**	**182**	*e*Pn	**Pn**	**10 04 31.5**	**-0.9**
	16nm,0.7s						
HNR	**Honiara**	**8.16**	**305**	Pn	**Pn**	**10 04 38.1**	**+0.3**
	21nm,0.3s,baz=166,slow=11,SNR=4.1						
HNR	**Honiara**	**8.16**	**305**	Pn	**Pn**	**10 04 38.1**	**+0.3**
CTA	**Charters Tower**	**20.37**	**251**	P	**P**	**10 07 14.8**	**+0.3**
	2.7nm,0.6s,baz=58,slow=13,SNR=3.1						
CTA	**Charters Tower**	**20.37**	**251**	P	**P**	**10 07 14.8**	**+0.3**
CTAO	**Charters Tower**	**20.37**	**251**	P	**P**	**10 07 13.2**	**-1.3**
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**10 08 37.0**	**+1.0**
	1.6nm,0.5s,mb4.0,baz=8.5,slow=7.5,SNR=4.4						
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**10 08 37.0**	**+1.0**
WRA	**Warramunga Arr**	**31.41**	**255**	P	**P**	**10 08 57.4**	**-1.2**
	0.9nm,0.6s,mb3.8,baz=86,slow=9.5,SNR=16						
WRA	**Warramunga Arr**	**31.41**	**255**	P	**P**	**10 08 57.4**	**-1.2**
ASAR	**Alice Springs**	**32.33**	**248**	P	**P**	**10 09 05.6**	**-1.0**
	0.8nm,0.7s,mb3.7,baz=72,slow=9.3,SNR=24						
ASAR	**Alice Springs**	**32.33**	**248**	P	**P**	**10 09 05.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**39.56**	**259**	P	**P**	**10 10 07.7**	**-0.9**
	3.0nm,0.9s,mb4.0,baz=66,slow=11,SNR=3.6						
FITZ	**Fitzroy Crossi**	**39.56**	**259**	P	**P**	**10 10 07.7**	**-0.9**
MJAR	**Matsushiro Arr**	**57.23**	**333**	P	**P**	**10 12 24.1**	**-0.1**
	1.3nm,0.5s,mb4.2,baz=176,slow=8.4,SNR=5.0						
MJAR	**Matsushiro Arr**	**57.23**	**333**	P	**P**	**10 12 24.1**	**-0.1**
KSRS	**Korea Array**	**63.04**	**326**	P	**P**	**10 13 04.6**	**+0.6**
	1.0nm,0.6s,mb4.1,baz=133,slow=6.3,SNR=3.5						
KSAR	**Wonju Array Be**	**63.05**	**326**	P	**P**	**10 13 04.6**	**+0.6**
PETK	**Petropavlovsk-**	**67.53**	**354**	P	**P**	**10 13 33.0**	**+0.2**
	4.7nm,0.8s,mb4.6,baz=176,slow=7.3,SNR=4.1						
PETK	**Petropavlovsk-**	**67.53**	**354**	P	**P**	**10 13 33.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**74.25**	**294**	P	**P**	**10 14 15.9**	**+1.7**
	0.6nm,0.3s,mb4.0,baz=130,slow=5.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**74.25**	**294**	P	**P**	**10 14 15.9**	**+1.7**
QSPA	**South Pole Qui**	**75.77**	**180**	P	**P**	**10 14 22.5**	**+0.5**
	1.4nm,0.4s,mb4.3,baz=52,slow=1.2,SNR=5.6						
QSPA	**South Pole Qui**	**75.77**	**180**	P	**P**	**10 14 22.5**	**+0.5**
SONM	**Songino Array**	**81.79**	**324**	P	**P**	**10 14 56.7**	**+1.2**
	0.7nm,0.8s,mb3.6,baz=147,slow=6.4,SNR=5.6						
SONM	**Songino Array**	**81.79**	**324**	P	**P**	**10 14 56.7**	**+1.2**
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**10 15 16.9**	**-0.9**
	1.1nm,0.7s,mb4.2,baz=241,slow=5.2,SNR=30						
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**10 15 16.9**	**-0.9**
MKAR	**Makanchi Array**	**96.48**	**317**	P	**P**	**10 16 05.8**	**-0.2**
	0.5nm,0.8s,mb4.0,baz=100,slow=6.6,SNR=5.0						
MKAR	**Makanchi Array**	**96.48**	**317**	P	**P**	**10 16 05.8**	**-0.2**
ZALV	**Zalesovo Beam**	**96.69**	**324**	P	**P**	**10 16 06.0**	**-0.7**
	0.4nm,0.5s,mb4.2,baz=123,slow=5.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**96.69**	**324**	P	**P**	**10 16 06.0**	**-0.7**
YKA	**Yellowknife Ar**	**97.38**	**27**	P	**P**	**10 16 08.7**	**-0.9**
	0.1nm,0.6s,mb3.4,baz=261,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**97.38**	**27**	P	**P**	**10 16 08.7**	**-0.9**
ARCES	**ARCESS Array B**	**119.66**	**345**	PKP	PKPdf	10 21 25.3	-0.5
	3.0nm,1.0s,baz=72,slow=4.0,SNR=5.5						
ARCES	**ARCESS Array B**	**119.66**	**345**	PKP	PKPdf	10 21 25.3	-0.5

*IDC **15** 10:03:18.4±1.1,14°.14S×166°.79E,h0km,mb4.2/13,*
mb1 4.3/13,mb1mx4.2/19,mbtmp4.2/13,MS3.9/6,
Ms1 3.9/6,ms1mx3.5/33,Error ellipse: s-maj=33.2km
s-min=21.5km az=117.0
*ISCJB **15** 10:03:20.7±5.2,14°.06S±0°.10×166°.6E±0°.1,h20km±36km,*
mb4.2/13,MS3.8/5,Error ellipse: s-maj=21.4km
s-min=12.0km az=142.5
*NEIC **15** 10:03:24.9±1.8,14°.05S×166°.57E,h38km±15km,mb4.0/1,*
Error ellipse: s-maj=16.9km s-min=12.4km az=85.0
ISC 15 10:03:25.8±2.0,**14°.10S**±0°.08×**166°.6E**±0°.1,**h45**km±16km,
n52,σ0°.90/35,mb4.2/13,MS3.8/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.93**	**181**	Pn	**Pn**	**10 05 19.1**	**+0.6**
HNR	**Honiara**	**8.00**	**305**	Pn	**Pn**	**10 05 23.8**	**+4.3**
	baz=215,slow=16,SNR=2.0						
HNR				Sn	**Sn**	**10 06 49.2**	**+0.5**
	2.8nm,0.3s,baz=36,slow=23,SNR=2.5						
HNR				LR	LR	10 07 45.6	
	comp=Z,493nm,20.9s,baz=169,slow=33						
HNR	**Honiara**	**8.00**	**305**	Pn	**Pn**	**10 05 17.6**	**-1.8**
HNR				Sn	**Sn**	**10 06 49.2**	**+0.5**
EIDS	**Eidsvold**	**18.39**	**230**	P	**Pn**	**10 07 37.5**	**0.0**
CTA	**Charters Tower**	**20.33**	**250**	P	**P**	**10 07 56.9**	**-1.4**
	4.0nm,0.7s,baz=69,slow=13,SNR=3.6						
CTA				LR	LR	10 14 42.6	
	comp=Z,435nm,18.8s,MS3.8,baz=36,slow=33						
CTA	**Charters Tower**	**20.33**	**250**	P	**P**	**10 07 56.9**	**-1.4**
CTAO	**Charters Tower**	**20.33**	**250**	*e*P	**P**	**10 07 56.6**	**-1.7**
	9.1nm,1.1s						
AFI	**Afiamalu**	**20.98**	**92**	LR	LR	10 13 54.5	
	comp=Z,271nm,20.2s,MS3.6,baz=248,slow=31						
URZ	**Urewera**	**25.80**	**161**	LR	LR	10 17 48.2	
	comp=Z,127nm,19.1s,MS3.5,baz=134,slow=34						
STKA	**Stephens Creek**	**28.92**	**228**	P	**P**	**10 09 21.1**	**+0.4**
	1.7nm,0.6s,mb4.0,baz=57,slow=10,SNR=2.9						
STKA				LR	LR	10 19 51.1	
	comp=Z,398nm,20.0s,MS4.0,baz=294,slow=34						
STKA	**Stephens Creek**	**28.92**	**228**	P	**P**	**10 09 21.1**	**+0.4**
RPZ	**Rata Peaks**	**29.76**	**173**	LR	LR	10 19 20.7	
	comp=Z,368nm,18.4s,MS4.0,baz=46,slow=32						
WRAB	**Tennant Creek**	**31.34**	**255**	*e*P	**P**	**10 09 42.1**	**-0.2**
WRA	**Warramunga Arr**	**31.36**	**255**	P	**P**	**10 09 42.6**	**+0.2**
	1.3nm,0.9s,mb3.8,baz=83,slow=9.0,SNR=4.7						
WRA	**Warramunga Arr**	**31.36**	**255**	P	**P**	**10 09 42.6**	**+0.2**
ASAR	**Alice Springs**	**32.30**	**248**	P	**P**	**10 09 50.4**	**-0.2**

FITZ	**Fitzroy Crossi**	**53.57**	**261**	P	**P**	**10 14 47.1**	**+0.1**
TXAR	**Lajitas Array**	**85.81**	**57**	P	**P**	**10 17 58.1**	**+0.6**
	0.2nm,0.7s,baz=215,slow=7.7,SNR=2.9						
TXAR	**Lajitas Array**	**85.81**	**57**	P	**P**	**10 17 58.1**	**+0.6**
ILAR	**Eielson Array**	**86.42**	**13**	P	**P**	**10 17 59.0**	**-0.6**
	0.2nm,0.4s,mb3.1,baz=224,slow=5.2,SNR=4.3						
ILAR	**Eielson Array**	**86.42**	**13**	P	**P**	**10 17 59.0**	**-0.6**

BJI ***15*** *10:12:02.2, 6°.00S×105°.30E, h10km, mB5.2/3, mb4.6/9, Ms5.1/2, Ms7 4.9/2*
IDC ***15*** *10:12:02.8±0.6, 5°.86S×105°.39E, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.4/21, mbtmp4.5/14, Error ellipse: s-maj=28.3km s-min=13.3km az=48.0*
NEIC ***15*** *10:12:04.0±0.3, 5°.92S×105°.37E, h10km, mb4.7/9, Error ellipse: s-maj=14.1km s-min=6.6km az=49.0*
ISCJB ***15*** *10:12:05.7±0.7, 6°.09S±0°.04×105°.35E±0°.04, h27km±4km, mb4.6/28, Error ellipse: s-maj=8.4km s-min=4.3km az=143.1*
DJA ***15*** *10:12:05, 6°.10S×105°.34E, h10km, MLv4.7/20*
MOS ***15*** *10:12:06.4±1.3, 5°.87S×105°.43E, h33km, mb5.0/8, Error ellipse: s-maj=20.6km s-min=11.0km az=131.5*
ISC 15 10:12:05.0±0.8, 6°.10S±0°.03×105°.30E±0°.04, h12km±4km, n123, σ1°.32/109, mb4.6/28, 6C-5D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBSI	**Rajabasa**	**0.51**	**60**	P	**Pg**	**10 12 14.3**	**-0.7**
RBSI				S	**Sg**	**10 12 21.0**	**-0.8**
CGJI	**Cibinong**	**0.64**	**142**	P	**Pg**	**10 12 16.8**	**-0.8**
CGJI				S	**Sg**	**10 12 26.3**	**+0.2**
BLSI	**Bandar Lampung**	**0.73**	**356**	P	**Pg**	**10 12 19.6**	**+0.4**
BLSI				S	**Sg**	**10 12 30.0**	**+1.2**
SBJI	**Serang**	**0.83**	**91**	P	**Pg**	**10 12 19.8**	**-1.3**
KLI	**Kotabumi**	**1.30**	**340**	P	**Pn**	**10 12 30.4**	**+1.3**
KLI				S	**Sb**	**10 12 47.8**	**+1.6**
TNG	**Tangerang**	**1.34**	**93**	P	**Pn**	**10 12 29.4**	**-0.2**
TNG				P		10 12 29.4	
TNG				S	**Sb**	**10 12 45.2**	**-2.1**
TNG				S	**Sb**	**10 12 47.5**	**+0.2**
DBJI	**Dramaga**	**1.51**	**107**	P	**Pn**	**10 12 32.0**	**+0.1**
DBJI				S	**Sn**	**10 12 53.5**	**+1.9**
SKJI	**Sukabumi**	**1.54**	**126**	P	**Pn**	**10 12 32.7**	**+0.4**
SKJI				S	**Sn**	**10 12 54.3**	**+2.0**
CBJI	**Citeko**	**1.58**	**102**	P	**Pn**	**10 12 35.5**	**+2.7**
LWLI	**Liwa**	**1.64**	**311**	P	**Pn**	**10 12 35.9**	**+2.3**
LEM	**Lembang**	**2.42**	**108**	P	**Pn**	**10 12 46.7**	**+2.3**
CISI	**Cisompet, Garu**	**2.89**	**120**	P	**Pn**	**10 12 51.8**	**+0.9**
MNAI	**Manna**	**2.90**	**306**	P	**Pn**	**10 12 52.9**	**+1.8**
KSI	**Kapahiang**	**3.63**	**312**	P	**Pn**	**10 13 06.2**	**+5.1**
PPBI	**Pangkal Pinang**	**4.00**	**12**	P	**Pn**	**10 13 07.9**	**+1.7**
TPI	**Tanjungpandan**	**4.07**	**35**	P	**Pn**	**10 13 07.8**	**+0.7**
XMIS	**Christmas Isla**	**4.37**	**175**	P	**Pn**	**10 13 08.9**	**-2.3**
SMRI	**Semarang**	**5.20**	**101**	P	**Pb**	**10 13 38.1**	**+2.2**
UGM	**Wanagama**	**5.49**	**109**	P	**Pn**	**10 13 31.2**	**+4.5**
	0.7nm181nm,1.2s						
PCJI	**Pacitan**	**6.19**	**110**	P	**Pb**	**10 13 49.9**	**-3.0**
SJI	**Sawahan**	**6.62**	**105**	P	**Pn**	**10 13 47.4**	**+5.1**
	0.3nm47nm,1.4s						
PWJI	**Pagerwojo**	**6.73**	**107**	P	**Pn**	**10 13 47.3**	**+3.5**
	0.3nm86nm,0.8s						
JAGI	**Jajag, Banyuwa**	**9.09**	**106**	P	**Pn**	**10 14 16.2**	**0.0**
MBWA	**Marble Bar**	**20.48**	**138**	*e*P	**P**	**10 16 42.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**23.16**	**123**	P	**P**	**10 17 10.5**	**-1.1**
	10nm,1.0s,mb4.2,baz=280,slow=6.1,SNR=6.5						
FITZ	**Fitzroy Crossi**	**23.16**	**123**	*e*P	**P**	**10 17 11.2**	**-0.4**
	16nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.16**	**123**	P	**P**	**10 17 10.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**25.19**	**346**	P	**P**	**10 17 28.1**	**-2.5**
	4.5nm,1.0s,mb4.0,baz=176,slow=9.2,SNR=7.8						
CMAR	**Chiang Mai Arr**	**25.19**	**346**	P	**P**	**10 17 28.1**	**-2.5**
WRA	**Warramunga Arr**	**31.39**	**119**	P	**P**	**10 18 25.5**	**-0.5**
	9.5nm,0.8s,mb4.7,baz=294,slow=10.0,SNR=31						
WRA				PcP	PcP	10 21 19.9	+0.1
	0.7nm,0.6s,baz=310,slow=2.0,SNR=5.8						
WRA	**Warramunga Arr**	**31.39**	**119**	P	**P**	**10 18 25.5**	**-0.5**
WRA				PcP	PcP	10 21 19.9	+0.1
WRA	**Warramunga Arr**	**31.39**	**119**	P	**P**	**10 18 25.5**	**-0.6**
WRA						10 21 19.9	
WRAB	**Tennant Creek**	**31.39**	**119**	*e*P	**P**	**10 18 25.6**	**-0.6**
	10nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**31.39**	**119**	*e*P	**P**	**10 18 25.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
AS31	**Alice Springs**	**32.59**	**125**	*e*P	**P**	**10 18 36.3**	**-0.2**
ASAR	**Alice Springs**	**32.59**	**125**	P	**P**	**10 18 36.6**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.5,baz=299,slow=7.6,SNR=32						
ASAR				PcP	PcP	10 21 23.6	+0.6
	comp=Z,1.2nm,0.9s,baz=310,slow=2.7,SNR=6.1						
ASAR	**Alice Springs**	**32.59**	**125**	P	**P**	**10 18 36.6**	**+0.1**
ASAR				PcP	PcP	10 21 23.6	+0.6
ASAR	**Alice Springs**	**32.59**	**125**	P	**P**	**10 18 36.7**	**+0.1**
ASAR						10 21 23.6	
SSLB	**Suanglung**	**33.41**	**27**	*e*P	**P**	**10 18 41.5**	**-2.2**
	comp=Z,35nm,1.1s,mb5.2						
COEN	**Coen**	**38.06**	**105**	*e*P	**P**	**10 19 23.1**	**-0.7**
	comp=Z,60nm,0.8s,mb5.4						
COEN	**Coen**	**38.06**	**105**	*e*P	**P**	**10 19 22.9**	**-0.9**
	comp=Z,153nm,1.2s,mb5.6						
MTSU	**Mount Surprise**	**39.88**	**111**	*e*P	**P**	**10 19 39.1**	**0.0**
	comp=Z,26nm,1.2s,mb4.8						
CTA	**Charters Tower**	**42.11**	**113**	P	**P**	**10 19 57.5**	**+0.1**
	comp=Z,12nm,0.9s,mb4.5,baz=280,slow=8.9,SNR=7.0						
CTA	**Charters Tower**	**42.11**	**113**	P	**P**	**10 19 57.5**	**+0.1**
CTA	**Charters Tower**	**42.11**	**113**	P	**P**	**10 19 57.5**	**+0.1**
CTAO	**Charters Tower**	**42.11**	**113**	*e*P	**P**	**10 19 57.0**	**-0.4**
	comp=Z,28nm,1.4s,mb4.7						
CTAO	**Charters Tower**	**42.11**	**113**	*e*P	**P**	**10 19 57.0**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.7						
STKA	**Stephens Creek**	**42.50**	**132**	P	**P**	**10 20 01.1**	**+0.7**
	comp=Z,22nm,0.8s,mb4.8,baz=302,slow=7.7,SNR=28						
STKA	**Stephens Creek**	**42.50**	**132**	*e*P	**P**	**10 20 01.0**	**+0.6**
	comp=Z,16nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**42.50**	**132**	*e*P	**P**	**10 20 00.5**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**42.50**	**132**	*e*P	**P**	**10 20 00.5**	**+0.1**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMSA	**Cobar Meteorol**	**45.44**	**129**	*e*P	**P**	**10 20 24.8**	**+0.7**
	comp=Z,81nm,0.9s,mb5.5						
GTA	**Gaotai**	**45.56**	**354**	*e*P	**P**	**10 20 24.8**	**0.0**
GTA				pP	pP	10 20 30.3	+1.7
GTA				sP	sP	10 20 33.3	+3.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
KSAR	**Wonju Array Be**	**48.17**	**24**	P	**P**	**10 20 45.6**	**+0.3**
KSAR	**Wonju Array Be**	**48.17**	**24**	P	**P**	**10 20 45.6**	**+0.3**
KSRS	**Korea Array**	**48.20**	**24**	P	**P**	**10 20 45.6**	**+0.1**
	comp=Z,2.1nm,0.9s,mb4.2,baz=206,slow=8.3,SNR=7.2						
SONM	**Songino Array**	**53.71**	**1**	P	**P**	**10 21 26.5**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.2,baz=167,slow=8.5,SNR=22						
SONM				PcP	PcP	10 22 32.2	-0.7
	comp=Z,0.9nm,0.6s,baz=189,slow=3.1,SNR=4.4						
SONM	**Songino Array**	**53.71**	**1**	P	**P**	**10 21 26.5**	**-0.2**
SONM				PcP	PcP	10 22 32.2	-0.7
SONM	**Songino Array**	**53.71**	**1**	P	**P**	**10 21 26.5**	**-0.3**
SONM						10 22 32.2	
MKAR	**Makanchi Array**	**56.48**	**341**	P	**P**	**10 21 44.5**	**-2.3**
	comp=Z,3.0nm,1.0s,mb4.3,baz=152,slow=7.9,SNR=5.6						
MKAR				PcP	PcP	10 22 43.4	-0.1
	comp=Z,1.1nm,0.8s,baz=128,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**56.48**	**341**	P	**P**	**10 21 44.5**	**-2.3**
MKAR				PcP	PcP	10 22 43.4	-0.1
MKAR	**Makanchi Array**	**56.48**	**341**	P	**P**	**10 21 44.6**	**-2.2**
MKAR						10 22 43.4	
KURK	**Kurchatov**	**61.09**	**341**	*e*P	**P**	**10 22 16.3**	**-2.5**
	comp=Z,3.3nm,0.9s,mb4.5						
KURK	**Kurchatov**	**61.09**	**341**	⇑*i*P	**P**	**10 22 17.1**	**-1.7**
KURK				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb4.5						
ZAA0	**Zalesovo Array**	**62.26**	**346**	*e*P	**P**	**10 22 23.8**	**-2.8**
ZALV	**Zalesovo Beam**	**62.26**	**346**	P	**P**	**10 22 24.1**	**-2.5**
	comp=Z,6.3nm,0.9s,mb4.7,baz=134,slow=4.3,SNR=22						
ZALV	**Zalesovo Beam**	**62.26**	**346**	P	**P**	**10 22 24.1**	**-2.5**
ZALV	**Zalesovo Beam**	**62.26**	**346**	P	**P**	**10 22 24.1**	**-2.5**
ABKAR	**Akbulak array**	**67.78**	**330**	*e*P	**P**	**10 23 00.1**	**-2.5**
	comp=Z,4.7nm,0.8s,mb4.6						
GNI	**Garni**	**72.13**	**315**	⇑*e*P	**P**	**10 23 30.0**	**+0.4**
GNI				pmax	pmax		
	comp=Z,19nm,1.2s						
ARU	**Arti**	**73.09**	**335**	*d i*P	**P**	**10 23 33.1**	**-1.9**
ARU				S	S	10 33 00.6	-1.5
ARU				SS	SS	10 37 40.5	-2.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
LBTB	**Lobatse**	**78.13**	**246**	P	**P**	**10 24 06.0**	**+1.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=87,slow=8.3,SNR=4.5						
LBTB	**Lobatse**	**78.13**	**246**	P	**P**	**10 24 06.0**	**+1.4**
LBTB	**Lobatse**	**78.13**	**246**	P	**P**	**10 24 06.0**	**+1.4**
BOSA	**Boshof**	**78.38**	**242**	P	**P**	**10 24 07.1**	**+1.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=90,slow=6.1,SNR=5.1						
BOSA	**Boshof**	**78.38**	**242**	P	**P**	**10 24 07.1**	**+1.2**
BOSA	**Boshof**	**78.38**	**242**	P	**P**	**10 24 07.1**	**+1.2**
BR131	**Keskin Array S**	**79.97**	**312**	*e*P	**P**	**10 24 13.4**	**-0.9**
	comp=Z,3.1nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**79.97**	**312**	P	**P**	**10 24 13.6**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.2,baz=134,slow=7.1,SNR=11						
BRTR	**Keskin Array B**	**79.97**	**312**	P	**P**	**10 24 13.6**	**-0.7**
BRTR	**Keskin Array B**	**79.97**	**312**	P	**P**	**10 24 13.6**	**-0.7**
VSR	**Storozhevoye**	**80.15**	**324**	*e*P	**P**	**10 24 13.7**	**-1.3**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
VSR				pmax	pmax		
	comp=N,4.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.9s						
OBN	**Obninsk**	**83.06**	**327**	⇑*i*P	**P**	**10 24 30.0**	**-0.3**
OBN				*e*		10 27 38.5	
OBN				pmax	pmax		
	comp=Z,45nm,2.5s,mb5.1						
KLMR	**Klimovskoe**	**83.82**	**333**	*e*P	**P**	**10 24 31.2**	**-2.9**
KLMR				pmax	pmax		
	comp=Z,22nm,1.5s,mb5.1						
QSPA	**South Pole Qui**	**83.89**	**180**	*e*P	**P**	**10 24 34.7**	**+0.5**
	comp=Z,4.8nm,0.9s,mb4.6						
AKASG	**Malin Array Be**	**85.94**	**322**	P	**P**	**10 24 44.0**	**-1.1**
	comp=Z,3.7nm,0.7s,mb4.7,baz=83,slow=5.2,SNR=12						
AKASG	**Malin Array Be**	**85.94**	**322**	P	**P**	**10 24 44.0**	**-1.1**
AKASG	**Malin Array Be**	**85.94**	**322**	P	**P**	**10 24 44.0**	**-1.0**
KIEV	**Kiev**	**85.95**	**322**	⇑*i*P	**P**	**10 24 44.1**	**-1.0**
VRI	**Vrincioaia**	**86.44**	**317**	⇓*i*P	**P**	**10 24 49.1**	**+1.5**
PLOR	**Plostina**	**86.48**	**317**	⇓*i*P	**P**	**10 24 48.5**	**+0.7**
TESR		**86.63**	**317**	⇓*i*P	**P**	**10 24 49.0**	**+0.5**
MLR	**Muntele Rosu**	**86.89**	**316**	⇓*i*P	**P**	**10 24 49.4**	**-0.4**
BURAR	**Bucovina Array**	**87.81**	**318**	⇑*i*P	**P**	**10 24 55.1**	**+0.9**
BUR08	**Bucovina Ar. S**	**87.83**	**318**	*e*P	**P**	**10 24 54.3**	**0.0**
VTS	**Vitosha**	**88.29**	**313**	⇑*i*P	**P**	**10 24 56.6**	**0.0**
SNAA	**Sanae**	**89.87**	**197**	*e*	**P**	**10 25 05.5**	**+2.0**
FINES	**FINESS Array B**	**90.18**	**332**	P	**P**	**10 25 04.2**	**-0.8**
	comp=Z,4.8nm,0.9s,mb4.8,baz=79,slow=9.9,SNR=7.5						
FINES	**FINESS Array B**	**90.18**	**332**	P	**P**	**10 25 04.2**	**-0.8**
FINES	**FINESS Array B**	**90.18**	**332**	P	**P**	**10 25 04.3**	**-0.8**
VNA2	**Neumayer--Watz**	**91.52**	**198**	*e*	**P**	**10 25 14.5**	**+3.3**
	baz=95,slow=4.4						
YKA	**Yellowknife Ar**	**116.59**	**19**	PKP	PKPdf	10 30 47.3	-1.4
	comp=Z,0.4nm,0.7s,baz=354,slow=2.0,SNR=8.6						
YKA	**Yellowknife Ar**	**116.59**	**19**	PKP	PKPdf	10 30 47.3	-1.4
YKA	**Yellowknife Ar**	**116.59**	**19**	PKIKP	PKPdf	10 30 47.3	-1.4
ULM	**Lac du Bonnet**	**132.55**	**18**	PKP	PKPdf	10 31 18.9	-0.7
	comp=Z,3.1nm,0.9s,baz=1.7,slow=8.6,SNR=4.6						
ULM	**Lac du Bonnet**	**132.55**	**18**	PKP	PKPdf	10 31 18.9	-0.8
ULM	**Lac du Bonnet**	**132.55**	**18**	PKIKP	PKPdf	10 31 18.9	-0.7
RSSD	**Black Hills**	**134.23**	**30**	*e*PKPdf	PKPdf	10 31 20.5	-2.4
RSSD	**Black Hills**	**134.23**	**30**	*e*PKIKP	PKPdf	10 31 20.5	-2.5
TXAR	**Lajitas Array**	**144.21**	**46**	PKP	PKPdf	10 31 39.8	-1.8
	comp=Z,1.9nm,0.9s,baz=278,slow=1.1,SNR=16						
TXAR	**Lajitas Array**	**144.21**	**46**	PKP	PKPdf	10 31 39.8	-1.8
TXAR	**Lajitas Array**	**144.21**	**46**	PKIKP	PKPdf	10 31 39.8	-1.8
JCT	**Junction City**	**146.17**	**41**	*e*PKPbc	PKPbc	10 31 45.2	-0.7
JCT	**Junction City**	**146.17**	**41**	*e*PKP2	PKPbc	10 31 45.2	-0.7
MIAR	**Mount Ida**	**146.75**	**29**	*e*PKPbc	PKPbc	10 31 46.2	-1.3
MIAR	**Mount Ida**	**146.75**	**29**	*e*PKP2	PKPbc	10 31 46.2	-1.3
WVT	**Waverly**	**147.78**	**20**	*e*PKPbc	PKPbc	10 31 48.9	-1.4
WVT	**Waverly**	**147.78**	**20**	*e*PKP2	PKPbc	10 31 48.9	-1.4
ELN	**Prospectdale**	**148.53**	**9**	*e*PKPbc	PKPbc	10 31 49.9	-2.3
OXF	**Oxford**	**148.63**	**24**	*e*PKPdf	PKPdf	10 31 47.4	-1.5
OXF	**Oxford**	**148.63**	**24**	*e*PKIKP	PKPdf	10 31 47.4	-1.5
SWET	**Sewanee**	**149.23**	**18**	*e*PKPdf	PKPdf	10 31 49.1	-0.8
CPCT	**Cooper Cave**	**149.42**	**16**	*e*PKPdf	PKPdf	10 31 51.3	+1.1

BJI ***15*** *10:25:36.9, 48°.75N×142°.51E, h16km, mB4.8/1, mb4.4/8, ML4.7/2, Ms4.0/3, Ms7 3.8/3*
IDC ***15*** *10:25:36.9±0.5, 48°.56N×142°.45E, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.3/26, mbtmp4.1/21, ML4.0/3, MS3.8/2, Ms1 3.9/2, ms1mx3.0/43, Error ellipse: s-maj=15.7km s-min=13.4km az=133.0*
MOS ***15*** *10:25:36.9±0.9, 48°.61N×142°.45E, h11km, mb4.5/23, Error ellipse: s-maj=10.6km s-min=6.2km az=96.7*
MOS Felt (III-IV) at Makarov, Krasnogorsk, (III) at Gorny, Tumanovo, (II-III) at Uglegorsk, Shakhtersk.
SKHL ***15*** *10:25:36.2±0.4, 48°.50N×142°.40E, h10km, mb4.6/8, ms4.1/3*
ISCJB ***15*** *10:25:38.6±0.9, 48°.58N±0°.02×142°.50E±0°.05, h22km±6km, mb4.3/36, MS3.8/2, Error ellipse: s-maj=6.0km s-min=4.1km az=169.9*
NEIC ***15*** *10:25:42.5±0.7, 48°.55N×142°.48E, h40km±8km, mb4.6/7, Error ellipse: s-maj=8.1km s-min=4.9km az=147.0*
ISC 15 10:25:39.6±0.9, 48°.60N±0°.02×142°.46E±0°.05, h15km±5km, n123, σ0°.99/140, mb4.3/36, MS3.8/2, 6C-7D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.54**	**332**	⇑*i*PN	**Pg**	**10 25 49.9**	**-0.5**
UGL				*e*S	**Sg**	**10 25 57.3**	**-0.3**
UGL				pmax	pmax		
	comp=Z,697nm,0.4s						
UGL				smax			
	comp=N,11μm,0.5s						
UGL				smax			
	comp=E,18μm,0.5s						
UGL	**Uglegorsk**	**0.54**	**332**	⇑*i*Pg	**Pg**	**10 25 49.5**	**-0.9**
UGL				AMB	AMB	10 25 50.0	
	comp=E,697nm,0.4s						
UGL				*e*Sg	**Sg**	**10 25 58.5**	**+0.8**
UGL				A		10 26 02.0	
	comp=E,11μm,0.5s						
UGL				A		10 26 02.0	
	comp=E,18μm,0.5s						
YSS	**Yuzh-Sakhalins**	**1.66**	**173**	*e*Pn	**Pn**	**10 26 06.8**	**-1.3**
YSS				*e*Sn	**Sn**	**10 26 29.8**	**+0.7**
YSS	**Yuzh-Sakhalins**	**1.66**	**173**	⇑*i*PN	**Pn**	**10 26 06.6**	**-1.5**
YSS				*e*		10 26 28.2	
YSS				smax			
	comp=E,4μm,4.0s						
YSS	**Yuzh-Sakhalins**	**1.66**	**173**	⇑*i*Pg	**Pn**	**10 26 06.6**	**-1.5**
YSS				*e*Sg	**Sn**	**10 26 28.2**	**-0.9**
YSS				A		10 26 32.7	
	comp=E,4μm,0.6s						
YSS				A		10 26 33.0	
	comp=E,4μm,4.0s						
YSS				AMS	AMS	10 27 03.0	
	comp=E,2μm,7.0s						
YSS				AMS	AMS	10 27 03.0	
	comp=E,2μm,7.0s						
YSS				AMS	AMS	10 27 03.0	
	comp=E,2μm,7.0s						
TYV	**Tymovskoe**	**2.27**	**3**	*e*Pg	**Pn**	**10 26 16.6**	**+0.1**
TYV				*e*Sg	**Sn**	**10 26 45.5**	**+1.3**
GRNR	**Gornyy**	**4.48**	**301**	*e*P	**Pn**	**10 26 47.0**	**+0.1**
GRNR				AMB	AMB	10 26 48.6	
	comp=E,42nm,0.6s						
GRNR				AMB	AMB	10 26 48.6	
	comp=E,36nm,0.6s						
GRNR				*e*Pg	**Pg**	**10 27 05.0**	**-0.3**
GRNR				AMB	AMB	10 27 06.5	
	comp=E,78nm,0.8s						
GRNR				*e*S	**Sn**	**10 27 37.0**	**-1.6**
GRNR				*e*Sg	**Sg**	**10 28 08.0**	**+4.7**
GRNR				A		10 28 14.0	
	comp=E,238nm,0.9s						
ASAJ	**Asahikawa**	**4.48**	**179**	Pn	**Pn**	**10 26 46.9**	**-0.1**
	comp=E,16nm,0.3s,baz=345,slow=10,SNR=68						
ASAJ				Sn	**Sn**	**10 27 37.1**	**-1.7**
	comp=E,8.9nm,0.3s,baz=54,slow=33,SNR=5.8						
ASAJ	**Asahikawa**	**4.48**	**179**	Pn	**Pn**	**10 26 46.9**	**-0.1**
ASAJ				Sn	**Sn**	**10 27 37.1**	**-1.7**
ASAJ	**Asahikawa**	**4.48**	**179**	PN	**Pn**	**10 26 46.9**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
NKL	**Nikolayevsk**	**4.69**	**347**	*e*P	**Pn**	**10 26 45.0**	**-4.8**
NKL				AMB	AMB	10 26 46.0	
	comp=Z,28nm,0.4s						
NKL				*e*Pg	**Pg**	**10 27 03.5**	**-6.0**
NKL				AMB	AMB	10 27 07.3	
	comp=Z,63nm,0.7s						
NKL				*e*S	**Sn**	**10 27 39.2**	**-4.7**
NKL				*e*Sg	**Sg**	**10 28 09.3**	**-0.9**
NKL				A		10 28 25.8	
	comp=Z,190nm,0.9s						
NKL				A		10 28 25.8	
	comp=Z,130nm,0.9s						
NKL				AMS	AMS	10 29 05.0	
	comp=Z,800nm,8.0s						
NKL				AMS	AMS	10 29 05.0	
	comp=Z,600nm,8.0s						
HABR	**Khabarovsk**	**4.92**	**271**	*e*PN	**Pn**	**10 26 50.2**	**-2.7**
HABR				pmax	pmax		
	comp=N,16nm,1.9s						
HABR				pmax	pmax		
	comp=Z,19nm,1.9s						
HABR				pmax	pmax		
	comp=E,24nm,1.9s						
HABR				MLR	MLR		
	comp=Z,317nm,14.0s						
OKH	**Okha**	**4.97**	**3**	*e*P	**Pn**	**10 26 54.8**	**+1.2**
OKH				*e*Sg	**Sg**	**10 28 33.0**	**+14**
OKH				A		10 28 36.0	
	comp=Z,84nm,0.8s						
KUR	**Kuril'sk**	**5.01**	**130**	AMB	AMB	10 26 58.3	
	comp=Z,20nm,0.2s						
KUR				AMB	AMB	10 26 58.3	
	comp=Z,60nm,0.2s						
KUR				AMB	AMB	10 26 58.3	
	comp=Z,20nm,0.1s						
KUR				*e*S	**Sn**	**10 27 49.5**	**-2.2**
KUR				A		10 27 52.0	
	comp=Z,230nm,0.4s						
KUR				A		10 27 52.0	
	comp=Z,160nm,0.4s						
KUR				*e*S	**Sn**	**10 27 52.5**	**+0.8**
KUR				A		10 27 57.1	
	comp=Z,430nm,0.5s						
KUR				A		10 27 57.1	
	comp=Z,280nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.14**	**151**	*d i*PN	**Pn**	**10 26 55.1**	**-0.8**
YUK				pmax	pmax		
	comp=N,17nm,0.2s						
YUK				pmax	pmax		
	comp=Z,59nm,0.2s						
YUK				pmax	pmax		
	comp=E,22nm,0.1s						
YUK				pmax	pmax		
	comp=Z,5μm,0.3s						
TEY	**Ternei**	**5.37**	**231**	*e*P	**Pn**	**10 27 01.4**	**+2.3**
TEY				AMB	AMB	10 27 02.0	
	comp=Z,64nm,0.7s						
TEY				AMB	AMB	10 27 02.0	
	comp=Z,81nm,0.6s						
TEY				AMB	AMB	10 27 02.0	
	comp=Z,51nm,0.6s						
TEY				*e*S	**Sn**	**10 28 04.0**	**+3.4**
TEY				A		10 28 05.3	
	comp=Z,385nm,0.8s						
TEY				A		10 28 05.3	
	comp=Z,208nm,0.8s						
ERM	**Erimo**	**6.60**	**175**	*e*Pn	**Pn**	**10 27 17.7**	**+1.7**
	comp=Z,89nm,1.1s						
ERM	**Erimo**	**6.60**	**175**	⇓*e*PN	**Pn**	**10 27 17.7**	**+1.7**
KLR	**Kul'dur**	**7.08**	**279**	*e*PN	**Pn**	**10 27 23.8**	**+1.2**
KLR				MLR	MLR		
	comp=N,500nm,11.0s						
KLR				MLR	MLR		
	comp=E,900nm,11.0s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s						
KLR	**Kul'dur**	**7.08**	**279**	*e*P	**Pn**	**10 27 23.8**	**+1.2**
EKMR	**Ekimchan**	**7.50**	**310**	*e*P	**Pn**	**10 27 25.5**	**-2.8**
EKMR				AMB	AMB	10 27 33.5	
	comp=Z,4.0nm,0.5s						
EKMR				AMB	AMB	10 27 33.5	
	comp=Z,5.0nm,0.5s						
EKMR				AMB	AMB	10 27 33.5	
	comp=Z,8.0nm,0.5s						
EKMR				*e*S	**Sn**	**10 28 58.5**	**+5.6**
EKMR				*e*Sg	Sn	10 29 48.0	+55
EKMR				A		10 29 51.1	
	comp=Z,150nm,1.0s						
EKMR				A		10 29 51.1	
	comp=Z,37nm,1.0s						
EKMR				A		10 29 51.1	
	comp=Z,100nm,1.0s						
PETK	**Petropavlovsk-**	**10.64

ZALV Zalesovo Beam 35.58 301 PcP PcP 10 35 04.3 -0.2
COLD Coldfoot 37.96 36 *e*P **P** **10 32 56.5 +0.3**
comp=Z,7.2nm,0.9s,mb4.4
TRF Thorofare Moun 38.42 42 *e*P **P** **10 32 59.4 -0.7**
COLA College 39.23 39 *e*P **P** **10 33 06.9 +0.1**
comp=Z,8.5nm,0.9s,mb4.5
COLA College 39.23 39 *e*P **P** **10 33 06.9 +0.1**
COLA pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
MK31 Makanchi Array 39.62 291 *e*P **P** **10 33 10.3 0.0**
MK31 Makanchi Array 39.62 291 *e*P **P** **10 33 10.3 0.0**
MKAR Makanchi Array 39.62 291 P **P** **10 33 10.6 +0.3**
comp=Z,1.5nm,0.8s,mb3.8,baz=68,slow=7.9,SNR=14
MKAR PcP PcP 10 35 17.1 0.0
comp=Z,2.0nm,0.8s,baz=53,slow=2.9,SNR=9.7
MKAR LR LR 10 50 28.9
comp=Z,134nm,19.1s,MS3.8,baz=286,slow=38
MKAR Makanchi Array 39.62 291 P **P** **10 33 10.6 +0.3**
MKAR PcP PcP 10 35 17.1 0.0
MKAR Makanchi Array 39.62 291 P **P** **10 33 10.6 +0.3**
MKAR 10 35 17.1
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,134nm,19.1s
ILAR Eielson Array 39.65 39 P **P** **10 33 10.1 -0.2**
comp=Z,2.6nm,0.7s,mb4.1,baz=281,slow=9.4,SNR=45
ILAR Eielson Array 39.65 39 P **P** **10 33 10.1 -0.2**
ILAR Eielson Array 39.65 39 P **P** **10 33 10.1 -0.2**
ILAR pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 40.24 298 P **P** **10 33 15.8 +0.5**
comp=Z,0.8nm,0.7s,mb3.6,baz=69,slow=8.8,SNR=4.9
KURK PcP PcP 10 35 18.9 -0.1
comp=Z,2.9nm,0.8s,baz=67,slow=3.2,SNR=15
KURK Kurchatov 40.24 298 P **P** **10 33 15.8 +0.5**
KURK PcP PcP 10 35 18.9 -0.1
KURK Kurchatov 40.24 298⇑ *e*P **P** **10 33 14.6 -0.7**
KURK pmax pmax
comp=Z,7.0nm,2.5s,mb4.0
EGAK Eagle 42.04 38 *e*P **P** **10 33 29.6 -0.4**
comp=Z,15nm,0.8s,mb4.7
BVAR Borovoye Array 43.99 304 P **P** **10 33 46.2 +0.3**
comp=Z,0.6nm,0.6s,mb3.5,baz=49,slow=18,SNR=4.1
BVAR PcP PcP 10 35 31.5 +0.2
comp=Z,1.9nm,0.6s,baz=64,slow=3.4,SNR=9.0
BVAR Borovoye Array 43.99 304 P **P** **10 33 46.2 +0.3**
BVAR PcP PcP 10 35 31.5 +0.2
BVAR Borovoye Array 43.99 304 P **P** **10 33 46.2 +0.3**
BVAR 10 35 31.5
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 44.03 304⇓ *e*P **P** **10 33 46.8 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
CMAR Chiang Mai Arr 46.19 245 P **P** **10 34 03.5 -0.3**
comp=Z,2.3nm,1.0s,mb4.1,baz=28,slow=8.0,SNR=9.8
CMAR Chiang Mai Arr 46.19 245 P **P** **10 34 03.5 -0.3**
CMAR Chiang Mai Arr 46.19 245 P **P** **10 34 03.5 -0.3**
CMAR pmax pmax
comp=Z,2.0nm,1.0s
ARU Arti 48.62 313 *d i*P **P** **10 34 22.1 -0.1**
ARU 10 36 12.4
ARU S **S** **10 41 24.0 +0.8**
ARU SS SS 10 44 51.3 -1.5
ARU pmax pmax
comp=Z,9.0nm,1.7s,mb4.5
ABKAR Akbulak array 51.56 304 *e*P **P** **10 34 44.6 0.0**
comp=Z,1.5nm,0.6s,mb4.1
YKA Yellowknife Ar 53.60 34 P **P** **10 34 59.1 -0.5**
comp=Z,2.2nm,0.6s,mb4.2,baz=305,slow=7.1,SNR=32
YKA Yellowknife Ar 53.60 34 P **P** **10 34 59.1 -0.5**
YKA Yellowknife Ar 53.60 34 P **P** **10 34 59.1 -0.5**
YKA pmax pmax
comp=Z,2.0nm,0.6s
KLMR Klimovskoe 54.59 324 *e*P **P** **10 35 01.8 -5.0**
KLMR pmax pmax
comp=Z,21nm,1.4s,mb5.0
JOF Joensuu 56.27 329 *e*P **P** **10 35 17.9 -0.9**
JOF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
JOF Joensuu 56.27 329 *e*p **P** **10 35 17.9 -0.9**
comp=Z,5.5nm,0.6s,mb4.8
KAF Kangasniemi 58.50 330 *e*P **P** **10 35 34.2 -0.4**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KAF Kangasniemi 58.50 330 *e*p **P** **10 35 34.2 -0.4**
comp=Z,4.6nm,0.6s,mb4.7
FINES FINESS Array B 59.06 330 P **P** **10 35 38.6 +0.1**
comp=Z,8.0nm,0.7s,mb4.9,baz=44,slow=7.3,SNR=14
FINES FINESS Array B 59.06 330 P **P** **10 35 38.6 +0.1**
FINES FINESS Array B 59.06 330 P **P** **10 35 38.6 +0.1**
FINES pmax pmax
comp=Z,8.0nm,0.7s
OBN Obninsk 59.49 320⇓ *i*P **P** **10 35 40.7 -0.9**
OBN *i* 10 37 57.1
OBN pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
VSR Storozhevoye 60.96 316 *e*P **P** **10 35 51.5 -0.2**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
FFC Flin Flon 63.71 36 *e*P **P** **10 36 09.4 -0.6**
comp=Z,7.4nm,0.9s,mb4.7
FFC Flin Flon 63.71 36 *i* P **P** **10 36 10.7 +0.7**
NB2 NORSAR Subarra 63.88 336 P **P** **10 36 11.0 0.0**
comp=Z,3.3nm,0.8s,mb4.4,baz=36,slow=6.5
NOA NORSAR Array B 63.88 336 P **P** **10 36 11.0 0.0**
comp=Z,2.3nm,0.8s,mb4.3,baz=34,slow=6.4,SNR=6.2
NOA LR LR 11 09 05.2
comp=Z,70nm,18.2s,MS3.9,baz=180,slow=41
NOA NORSAR Array B 63.88 336 P **P** **10 36 11.0 0.0**
NOA NORSAR Array B 63.88 336 P **P** **10 36 11.0 0.0**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,70nm,18.2s
KIV Kislovodsk 64.16 308 *e*P **P** **10 36 14.1 +0.9**
KIV pmax pmax
comp=Z,12nm,0.8s,mb5.0
AKASG Malin Array Be 65.75 320 P **P** **10 36 23.0 -0.4**
comp=Z,1.2nm,0.6s,mb4.1,baz=38,slow=6.4,SNR=7.4
AKASG Malin Array Be 65.75 320 P **P** **10 36 23.0 -0.4**
AKASG Malin Array Be 65.75 320 P **P** **10 36 23.0 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
KIEV Kiev 65.77 320 *d i*P **P** **10 36 23.3 -0.2**
NVAR Mina Array Bea 67.72 57 P **P** **10 36 36.9 +0.7**
comp=Z,2.6nm,0.8s,mb4.3,baz=305,slow=3.9,SNR=9.4
NVAR Mina Array Bea 67.72 57 P **P** **10 36 36.9 +0.7**
WRA Warramunga Arr 68.61 188 P **P** **10 36 40.2 -1.5**
comp=Z,2.0nm,1.0s,mb4.0,baz=3.5,slow=6.8,SNR=10
WRA Warramunga Arr 68.61 188 P **P** **10 36 40.2 -1.5**
WRA Warramunga Arr 68.61 188 P **P** **10 36 40.3 -1.5**
WRA pmax pmax
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 69.21 49 P **P** **10 36 45.7 +0.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=325,slow=1.4,SNR=21
PDAR Pinedale Array 69.21 49 P **P** **10 36 45.8 +0.3**
ULM Lac du Bonnet 69.53 36 P **P** **10 36 46.5 -0.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=327,slow=7.7,SNR=4.3
ULM Lac du Bonnet 69.53 36 P **P** **10 36 46.5 -0.7**
ULM Lac du Bonnet 69.53 36 P **P** **10 36 46.6 -0.7**
ULM pmax pmax
comp=Z,2.0nm,0.7s
RSSD Black Hills 70.84 44 *e*P **P** **10 36 55.4 0.0**
comp=Z,5.4nm,0.8s,mb4.5
RSSD Black Hills 70.84 44 *e*P **P** **10 36 55.4 0.0**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 71.49 329 *e*P **P** **10 37 00.0 +0.8**
CLL Collm 71.49 329 *e*P **P** **10 36 59.4 +0.2**
comp=Z,6.0nm,0.8s,mb4.6
BRTR Keskin Array B 71.88 310 P **P** **10 37 00.9 -0.9**
comp=Z,0.4nm,0.8s,mb3.4,baz=125,slow=7.7,SNR=3.9
BRTR Keskin Array B 71.88 310 P **P** **10 37 00.9 -0.9**
BRTR Keskin Array B 71.88 310 P **P** **10 37 00.9 -0.9**
ASAR Alice Springs 72.34 188 P **P** **10 37 04.2 -0.3**
comp=Z,1.9nm,0.7s,mb4.1,baz=1.9,slow=5.0,SNR=28
ASAR Alice Springs 72.34 188 P **P** **10 37 04.2 -0.3**
ASAR Alice Springs 72.34 188 P **P** **10 37 04.2 -0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 73.33 327 P **P** **10 37 10.1 -0.1**
comp=Z,0.9nm,0.7s,mb3.8,baz=22,slow=4.6,SNR=6.1
GERES GERESS Array B 73.33 327 P **P** **10 37 10.1 -0.1**
GERES GERESS Array B 73.33 327 P **P** **10 37 10.1 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 82.54 54 P **P** **10 38 02.4 +0.7**
comp=Z,1.9nm,0.8s,mb4.2,baz=285,slow=3.9,SNR=16
TXAR Lajitas Array 82.54 54 P **P** **10 38 02.4 +0.7**
TXAR Lajitas Array 82.54 54 P **P** **10 38 02.4 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.8s

NOU ***15*** *10:32:29.9±1.6, 13°.73S×167°.29E, h30km, MD4.4, ML4.5, MS2.0*
IDC ***15*** *10:32:30.6±0.6, 14°.24S×166°.74E, h0km, mb4.6/19, mb1 4.7/21, mb1mx4.6/24, mbtmp4.6/21, ML3.0/1, MS4.2/15, Ms1 4.3/15, ms1mx4.0/29, Error ellipse: s-maj=19.7km s-min=14.6km az=123.0*
ISCJB ***15*** *10:32:32.3±2.2, 14°.16S±0°.04×166°.51E±0°.06, h14km±13km, mb4.9/53, MS4.3/22, Error ellipse: s-maj=9.5km s-min=6.9km az=158.5*
LDG ***15*** *10:32:32.1±0.3, 13°.95S×166°.76E, h10km, Mb5.0/3, Ms4.5/2, Error ellipse: s-maj=35.4km s-min=10.5km az=87.0*
MOS ***15*** *10:32:35.6±1.0, 14°.05S×166°.44E, h33km, mb5.2/19, Error ellipse: s-maj=10.9km s-min=8.8km az=27.0*
NEIC ***15*** *10:32:39.1±0.2, 14°.05S×166°.47E, mb5.0/22, Error ellipse: s-maj=8.1km s-min=7.4km az=144.0*
BJI ***15*** *10:32:40.7, 13°.62S×166°.48E, h59km, mB5.2/21, mb4.9/35, Ms5.2/17, Ms7 4.7/19*
ISC 15 10:32:35.2±2.4, 14°.20S±0°.04×166°.56E±0°.06, h22km±16km, h52km±2.1km:pP-P, n259, σ1º05/146, mb4.9/53, MS4.3/22, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.83**	**181**	*e*Pn			**Pn**	**10 34 27.9**	**+0.1**
	29nm,0.3s								
DZM				*e*Sn			**Sn**	**10 35 51.0**	**-4.7**
	35nm,0.3s								
DZM				*e*LR		LR		10 36 14.3	
	3μm,24.6s								
DZM	**Mont Dzumac**	**7.83**	**181**	*e*P			**Pn**	**10 34 27.2**	**-0.6**
DZM				*e*S			**Sn**	**10 35 53.7**	**-2.1**
DZM				AMP				10 36 21.8	
	comp=Z,503nm,0.0s								
NOUC	**Port Laguerre**	**7.86**	**182**	*e*P			**Pn**	**10 34 28.4**	**+0.2**
NOUC				*e*S			**Sn**	**10 35 55.8**	**-0.8**
NOUC				AMP				10 36 17.4	
	comp=Z,23nm,16.9s								
BAYA	**Yate Dam**	**7.91**	**178**	*e*S			**Sn**	**10 35 56.6**	**-1.4**
HNR	**Honiara**	**8.02**	**306**	Pn			**Pn**	**10 34 29.5**	**-1.0**
	comp=Z,21nm,0.3s,baz=148,slow=4.8,SNR=11								
HNR				Sn			**Sn**	**10 35 59.1**	**-1.5**
	comp=Z,7.1nm,0.3s,baz=84,slow=22,SNR=2.5								
HNR				LR			LR	10 37 09.5	
	comp=Z,1μm,18.4s,baz=141,slow=34								
HNR	**Honiara**	**8.02**	**306**	Pn			**Pn**	**10 34 29.5**	**-1.0**
HNR				Sn			**Sn**	**10 35 59.1**	**-1.5**
HNR	**Honiara**	**8.02**	**306**	P			**Pn**	**10 34 29.5**	**-1.0**
HNR								10 35 59.2	
MSVF	**Nonsavu**	**11.59**	**109**	*e*Pn			**Pn**	**10 35 25.5**	**+6.1**
MSVF	**Nonsavu**	**11.59**	**109**	*e*P			**Pn**	**10 35 25.5**	**+6.1**
EIDS	**Eidsvold**	**18.30**	**230**	*e*P			**Pn**	**10 36 49.0**	**+1.3**
	comp=Z,36nm,1.3s								
PMG	**Port Moresby**	**19.57**	**282**	P			**Pn**	**10 37 03.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=74,slow=10,SNR=4.9								
PMG	**Port Moresby**	**19.57**	**282**	P			**Pn**	**10 37 03.1**	**-0.2**
PMG	**Port Moresby**	**19.57**	**282**⇑	*e*P			**Pn**	**10 37 02.7**	**-0.6**
PMG				pmax			pmax		
	comp=Z,44nm,1.7s								
PMG	**Port Moresby**	**19.57**	**282**	P			**Pn**	**10 37 09.5**	**+6.2**
	comp=Z,31nm,1.2s								
CTA	**Charters Tower**	**20.26**	**250**	P			**P**	**10 37 10.9**	**+1.6**
	comp=Z,25nm,1.1s,baz=72,slow=12,SNR=16								
CTA				LR			LR	10 44 04.1	
	comp=Z,770nm,20.5s,MS4.0,baz=66,slow=34								
CTA	**Charters Tower**	**20.26**	**250**	*e*P			**P**	**10 37 10.3**	**+1.0**
	comp=Z,15nm,1.2s								
CTA				*e*S			**S**	**10 41 00.5**	**+4.8**
CTA	**Charters Tower**	**20.26**	**250**	P			**P**	**10 37 10.9**	**+1.6**
CTA	**Charters Tower**	**20.26**	**250**	P			**P**	**10 37 10.9**	**+1.6**
CTAO	**Charters Tower**	**20.26**	**250**	*e*P			**P**	**10 37 11.0**	**+1.7**
	comp=Z,42nm,1.2s								
CTAO	**Charters Tower**	**20.26**	**250**	*e*P			**P**	**10 37 11.0**	**+1.7**
CTAO				pmax			pmax		
	comp=Z,42nm,1.2s								
CTAO	**Charters Tower**	**20.26**	**250**	P			**P**	**10 37 11.4**	**+2.1**
RMQ	**Roma**	**20.66**	**231**	*e*P			**P**	**10 37 15.5**	**+2.0**
	comp=Z,151nm,1.4s								
AFI	**Afiamalu**	**21.02**	**92**	P			**P**	**10 37 20.4**	**+2.9**
	comp=Z,38nm,0.9s,mb4.8,baz=298,slow=20,SNR=4.8								
AFI				LR			LR	10 43 28.2	
	comp=Z,459nm,19.7s,MS3.9,baz=272,slow=32								
AFI	**Afiamalu**	**21.02**	**92**	P			**P**	**10 37 20.4**	**+2.9**
OUZ	**Omahuta**	**21.87**	**164**	*e*P			**P**	**10 37 31.4**	**+4.9**
	comp=Z,50nm,1.0s,mb4.9								
COEN	**Coen**	**22.68**	**268**	*e*P			**P**	**10 37 36.9**	**+1.5**
	comp=Z,275nm,1.5s,mb5.5								
URZ	**Urewera**	**25.72**	**161**	P			**P**	**10 38 07.7**	**+3.8**
	comp=Z,23nm,0.8s,mb4.7,baz=1.0,slow=6.0,SNR=7.6								
URZ				LR			LR	10 47 00.5	
	comp=Z,445nm,19.6s,MS4.0,baz=345,slow=34								
URZ	**Urewera**	**25.72**	**161**	*e*P			**P**	**10 38 08.6**	**+4.7**
STKA	**Stephens Creek**	**28.82**	**228**	P			**P**	**10 38 33.0**	**+1.1**
	comp=Z,5.4nm,0.6s,mb4.4,baz=29,slow=8.1,SNR=13								
STKA				LR			LR	10 50 05.3	
	comp=Z,1μm,18.7s,MS4.6,baz=52,slow=36								
STKA	**Stephens Creek**	**28.82**	**228**	*e*P			**P**	**10 38 32.8**	**+0.9**
	comp=Z,4.3nm,0.5s,mb4.4								
STKA				*e*S			**S**	**10 43 27.5**	**+6.8**
STKA	**Stephens Creek**	**28.82**	**228**	*e*P			**P**	**10 38 32.8**	**+0.9**
	comp=Z,11nm,1.9s,mb4.2								
STKA	**Stephens Creek**	**28.82**	**228**	*e*P			**P**	**10 38 32.8**	**+0.9**
STKA				pmax			pmax		
	comp=Z,11nm,1.9s								
RPZ	**Rata Peaks**	**29.66**	**173**	P			**P**	**10 38 42.3**	**+3.1**
	comp=Z,21nm,0.8s,mb4.9,baz=167,slow=7.4,SNR=4.6								
RPZ	**Rata Peaks**	**29.66**	**173**	P			**P**	**10 38 42.3**	**+3.1**
WB2	**Warramunga Arr**	**31.28**	**255**	*e*P			**P**	**10 38 53.0**	**-0.8**
WRA	**Warramunga Arr**	**31.29**	**255**	P			**P**	**10 38 53.1**	**-0.8**
	comp=Z,5.3nm,0.9s,mb4.4,baz=86,slow=9.3,SNR=32								
WRA				ScP			ScP	10 45 30.6	+0.6
	comp=Z,0.4nm,0.8s,baz=92,slow=3.1,SNR=2.4								
WRA				LR			LR	10 51 14.1	
	comp=Z,718nm,18.2s,MS4.4,baz=85,slow=36								
WRA	**Warramunga Arr**	**31.29**	**255**	P			**P**	**10 38 53.1**	**-0.8**
WRA				ScP			ScP	10 45 30.6	+0.6
WRA	**Warramunga Arr**	**31.29**	**255**	P			**P**	**10 38 53.1**	**-0.8**
AS31	**Alice Springs**	**32.22**	**248**	*e*P			**P**	**10 39 01.2**	**-0.8**
ASAR	**Alice Springs**	**32.22**	**248**	P			**P**	**10 39 01.2**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.2,baz=72,slow=9.5,SNR=46								
ASAR				ScP			ScP	10 45 32.9	-0.2
	comp=Z,0.6nm,1.0s,baz=62,slow=3.0,SNR=4.0								
ASAR	**Alice Springs**	**32.22**	**248**	P			**P**	**10 39 01.2**	**-0.9**
ASAR				ScP			ScP	10 45 32.9	-0.2
ASAR	**Alice Springs**	**32.22**	**248**	P			**P**	**10 39 01.2**	**-0.9**
RAR	**Rarotonga**	**32.77**	**107**	LR			LR	10 49 24.9	
	comp=Z,289nm,20.5s,MS4.0,baz=262,slow=31								
BBOO	**Buckleboo**	**33.37**	**231**	*e*P			**P**	**10 39 12.8**	**+0.8**
	comp=Z,78nm,0.6s,mb5.8								
BBOO	**Buckleboo**	**33.37**	**231**	*e*P			**P**	**10 39 12.5**	**+0.6**
	comp=Z,285nm,0.8s								
GUMO	**Guam**	**34.98**	**321**	LR			LR	10 53 09.1	
	comp=Z,206nm,19.1s,MS3.9,baz=239,slow=35								
FORT	**Forrest**	**38.98**	**238**	*e*P			**P**	**10 39 59.3**	**-0.7**
	comp=Z,17nm,0.6s,mb5.0								
FORT	**Forrest**	**38.98**	**238**	*e*P			**P**	**10 39 59.6**	**-0.4**
	comp=Z,21nm,0.7s,mb5.0								
FITZ	**Fitzroy Crossi**	**39.44**	**259**	P			**P**	**10 40 03.4**	**-0.6**
	comp=Z,11nm,0.9s,mb4.6,baz=108,slow=7.3,SNR=14								
FITZ	**Fitzroy Crossi**	**39.44**	**259**	*e*P			**P**	**10 40 03.9**	**-0.1**
	comp=Z,19nm,0.9s,mb4.8								
FITZ	**Fitzroy Crossi**	**39.44**	**259**	*e*P			**P**	**10 40 03.7**	**-0.3**
PPT2	**Papeete2**	**42.25**	**101**	*e*S			**S**	**10 46 49.0**	**+2.1**
	comp=Z,134nm,24.8s								
PPT2				*e*LQ				10 50 31.8	
	comp=Z,448nm,29.8s								
PPT2				*e*LR			LR	10 52 21.4	
	comp=Z,349nm,26.0s,baz=262								
TBI	**Tubuai**	**42.48**	**109**	*e*S			**S**	**10 46 51.5**	**+1.3**
	comp=Z,113nm,27.5s								
TBI				*e*LQ				10 50 33.8	
	comp=Z,385nm,28.5s								
TBI				*e*LR			LR	10 52 25.5	
	comp=Z,261nm,23.2s								
MEEK	**Meekatharra**	**46.36**	**247**	*e*P			**P**	**10 41 00.3**	**+0.3**
	comp=Z,54nm,0.5s,mb5.7								
NWAO	**Narrogin (SRO)**	**48.43**	**238**	P			**P**	**10 41 15.6**	**-0.5**
	comp=Z,17nm,0.9s,mb5.1,baz=60,slow=8.6,SNR=4.8								
NWAO				LR			LR	11 01 53.9	
	comp=Z,473nm,18.8s,MS4.5,baz=326,slow=36								
NWAO	**Narrogin (SRO)**	**48.43**	**238**	P			**P**	**10 41 15.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**48.43**	**238**	P			**P**	**10 41 15.6**	**-0.5**
TAOE	**Nuku Hiva Isla**	**52.40**	**90**	*e*LR			LR	10 56 58.4	
	comp=Z,392nm,24.2s								
RKT	**Rikitea**	**55.80**	**108**	*e*S			**S**	**10 49 57.2**	**0.0**
	comp=Z,718nm,33.2s								
RKT				*e*LR			LR	10 58 41.0	
	comp=Z,281nm,24.0s								
MJAR	**Matsushiro Arr**	**57.12**	**333**	P			**P**	**10 42 19.6**	**-0.5**
	comp=Z,7.6nm,0.8s,mb4.8,baz=170,slow=8.6,SNR=22								
MJAR				LR			LR	11 03 17.5	
	comp=Z,71nm,19.2s,MS3.8,baz=250,slow=32								
MJAR	**Matsushiro Arr**	**57.12**	**333**	P			**P**	**10 42 19.6**	**-0.5**
MJAR	**Matsushiro Arr**	**57.12**	**333**	P			**P**	**10 42 19.6**	**-0.5**
MAJO	**Matsushiro**	**57.13**	**333**	*e*P			**P**	**10 42 20.0**	**-0.1**
	comp=Z,16nm,1.0s,mb5.0								
MAJO	**Matsushiro**	**57.13**	**333**	*e*P			**P**	**10 42 20.0**	**-0.1**
MAJO				pmax			pmax		
	comp=Z,17nm,1.0s,mb5.0								
JNU	**Nakatsue**	**58.10**	**325**	*e*P			**P**	**10 42 26.7**	**-0.4**
	comp=Z,9.0nm,0.9s,mb4.8								
ASAJ	**Asahikawa**	**62.02**	**341**	P			**P**	**10 42 54.1**	**+0.4**
	comp=Z,18nm,1.0s,mb5.2,baz=251,slow=21,SNR=5.8								
ASAJ	**Asahikawa**	**62.02**	**341**	P			**P**	**10 42 54.1**	**+0.4**
KSRS	**Korea Array**	**62.92**	**326**	P			**P**	**10 43 00.1**	**+0.1**
	comp=Z,4.2nm,0.9s,mb4.6,baz=135,slow=7.2,SNR=11								
KSAR	**Wonju Array Be**	**62.93**	**326**	P			**P**	**10 43 00.1**	**+0.1**
KSAR	**Wonju Array Be**	**62.93**	**326**	P			**P**	**10 43 00.1**	**+0.1**
VNDA	**Vanda**	**63.37**	**181**	*e*P			**P**	**10 43 04.0**	**+1.6**
	comp=Z,12nm,0.9s,mb5.0								
VNDA	**Vanda**	**63.37**	**181**	*e*P			**P**	**10 43 04.0**	**+1.6**
VNDA				pmax			pmax		
	comp=Z,12nm,0.9s								
CASY	**Casey**	**63.75**	**202**	*e*P			**P**	**10 43 04.1**	**-0.9**
	comp=Z,22nm,1.2s,mb5.1								
NJ2	**Nanjing**	**64.82**	**316**	*e*P			**P**	**10 43 13.3**	**+0.7**
NJ2				pmax			pmax		
	comp=Z,10.0nm,0.6s,mb5.0								
PETK	**Petropavlovsk-**	**67.47**	**354**	P			**P**	**10 43 29.2**	**+0.1**
	comp=Z,13nm,0.8s,mb5.0,baz=156,slow=8.1,SNR=8.8								
PETK	**Petropavlovsk-**	**67.47**	**354**	P			**P**	**10 43 29.2**	**+0.1**
PETK	**Petropavlovsk-**	**67.47**	**354**	P			**P**	**10 43 29.2**	**+0.1**
MDJ	**Mudanjiang**	**67.50**	**332**	P			**P**	**10 43 30.6**	**+1.1**
MDJ				pP			pP	10 43 44.6	+8.1
MDJ				sP			sP	10 43 50.8	+12
MDJ				PcP			PcP	10 43 57.3	+0.6
MDJ				PP			PP	10 45 57.5	-1.1
MDJ				S			S	10 52 23.3	-1.3
MDJ				pmax			pmax		
	comp=Z,16nm,1.1s,mb5.0								
MDJ				pmax			pmax		
	comp=Z,110nm,5.7s								
MDJ				LR			LR		
	comp=N,240nm,5.6s								
MDJ				LR			LR		
	comp=E,150nm,5.6s								
MDJ				LR			LR		
	comp=Z,170nm,5.0s								
HABR	**Khabarovsk**	**68.39**	**338**	*e*P			**P**	**10 43 33.6**	**-1.4**
HABR				*e*PP			pP	10 43 47.1	+5.1
HABR				S			S	10 52 31.1	-4.0
HABR				*e*SS			sS	10 52 55.0	+8.3
HABR				*e*				10 53 27.4	
HABR				*e*SS			SS	10 56 55.4	-3.9
HABR				pmax			pmax		
	comp=Z,53nm,1.6s,mb5.3								
HABR				pmax			pmax		
	comp=N,20nm,2.0s								
HABR				pmax			pmax		
	comp=E,15nm,1.1s								
HABR				MLR			MLR		
	comp=Z,75nm,15.0s,MS4.0								
CN2	**Changchun**	**68.84**	**329**	*e*P			**P**	**10 43 38.4**	**+0.5**
CN2				*e*S			S	10 52 36.0	-4.7
CN2				pmax			pmax		
	comp=Z,20nm,1.1s,mb5.0								
CN2				pmax			pmax		
	comp=Z,200nm,4.0s								
CN2				LR			LR		
	comp=N,200nm,18.0s,MS4.5								
CN2				LR			LR		
	comp=E,200nm,18.0s,MS4.5								
CN2				LR			LR		
	comp=Z,200nm,17.0s,MS4.4								
KLR	**Kul'dur**	**70.25**	**337**	*e*P			**P**	**10 43 40.0**	**-6.5**
GYA	**Guiyang**	**70.85**	**305**	P			**P**	**10 43 51.3**	**+0.6**
GYA				pP			pP	10 44 07.8	+10
GYA				sP			sP	10 44 13.4	+13
GYA				PP			PP	10 46 30.0	+2.0
GYA				S			S	10 53 01.3	-3.7
GYA				sS			sS	10 53 25.9	+9.3
GYA				SS			SS	10 57 34.5	-3.6
GYA				pmax			pmax		
	comp=Z,20nm,1.0s,mb5.0								
GYA				pmax			pmax		
	comp=Z,130nm,5.4s								
GYA				LR			LR		
	comp=N,540nm,18.8s,MS5.0								
GYA				LR			LR		
	comp=E,490nm,19.3s,MS5.0								
GYA				LR			LR		
	comp=Z,550nm,18.9s,MS4.8								
BJI	**Beijing**	**71.43**	**321**	P			**P**	**10 43 54.8**	**+0.9**
BJI				pmax			pmax		
	comp=Z,15nm,0.8s,mb5.0								
BJI				LR			LR		
	comp=Z,61nm,19.0s,MS3.9								
KMI	**Kunming**	**73.44**	**302**	P			**P**	**10 44 08.3**	**+2.1**
KMI				pP			pP	10 44 23.5	+10
KMI				S			S	10 53 32.1	-2.7
KMI				SS			SS	10 58 15.3	-2.5
KMI				pmax			pmax		
	comp=Z,11nm,0.9s,mb4.8								
KMI				LR			LR		
	comp=Z,44nm,16.4s,MS3.8								
KMI	**Kunming**	**73.44**	**302**	P			**P**	**10 44 08.2**	**+2.0**
	comp=Z,11nm,0.9

comp=N,140nm,15.5s,MS4.6
HHC LR LR
comp=E,210nm,14.3s,MS4.6
HHC LR LR
comp=Z,180nm,11.9s,MS4.6
CD2 Chengdu 75.14 308 *e*P **P** **10 44 16.8 +0.8**
CD2 pP pP 10 44 33.3 +10
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CD2 pmax pmax
comp=Z,30nm,5.2s
QSPA South Pole Qui 75.82 180 P **P** **10 44 18.9 -0.2**
comp=Z,11nm,0.9s,mb4.8,baz=21,slow=2.6,SNR=26
QSPA South Pole Qui 75.82 180 P **P** **10 44 18.9 -0.2**
LZH Lanzhou 77.46 312 *e*P **P** **10 44 30.6 +1.5**
LZH pP pP 10 44 45.8 +10
LZH sP sP 10 44 52.1 +13
LZH sS sS 10 54 41.3 +11
LZH pmax pmax
comp=Z,31nm,1.1s,mb5.2
LZH pmax pmax
comp=Z,140nm,5.3s
LZH LR LR
comp=N,420nm,16.1s,MS5.0
LZH LR LR
comp=E,320nm,15.8s,MS5.0
LZH LR LR
comp=Z,470nm,17.6s,MS4.9
LZH Lanzhou 77.46 312 *e*P **P** **10 44 30.6 +1.5**
comp=Z,31nm,1.1s,mb5.2
LZH pP pP 10 44 45.8 +10
LZH sP sP 10 44 52.1 +13
LZH *e*S S 10 54 21.2 +2.3
LZH sS sS 10 54 41.2 +11
LZH LR LR
comp=Z,470nm,17.6s,MS4.9
LZH Lanzhou 77.46 312 *e*P **P** **10 44 30.6 +1.5**
LZH *PP pP 10 44 45.8 +10
LZH *e*S S 10 54 21.2 +2.3
LZH *SS sS 10 54 41.2 +11
LZH pmax pmax
comp=Z,31nm,1.1s,mb5.2
LZH MLR MLR
comp=Z,470nm,17.6s,MS4.9
ULN Ulaanbaatar 81.31 324 *e*P **P** **10 44 50.1 +0.3**
comp=Z,10nm,1.0s,mb4.7
ULN Ulaanbaatar 81.31 324 *e*P **P** **10 44 50.1 +0.3**
ULN pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
YAK Yakutsk 81.33 343 *e*P **P** **10 44 48.9 -0.7**
comp=Z,43nm,0.9s,mb5.4
YAK Yakutsk 81.33 343 *e*P **P** **10 44 48.1 -1.5**
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.3
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.4s
SONM Songino Array 81.67 324 P **P** **10 44 51.8 +0.1**
comp=E,2.5nm,0.8s,mb4.2,baz=150,slow=5.7,SNR=18
SONM Songino Array 81.67 324 P **P** **10 44 51.8 +0.1**
SONM Songino Array 81.67 324 P **P** **10 44 51.8 +0.1**
GTA Gaotai 81.81 314 P **P** **10 44 53.8 +1.2**
GTA pP pP 10 45 08.6 +8.8
GTA sP sP 10 45 15.8 +13
GTA S S 10 55 02.3 -2.5
GTA pmax pmax
comp=Z,11nm,1.2s,mb4.7
BILL Bilibino 82.02 360 *e*P **P** **10 44 52.5 -0.6**
comp=Z,16nm,0.6s,mb5.1
BILL Bilibino 82.02 360 ⇑*i*P **P** **10 44 52.2 -0.9**
BILL *i* 10 45 10.6
BILL *i* 10 48 00.8
BILL pmax pmax
comp=Z,40nm,1.2s,mb5.2
SLKM Skilak Lake 82.08 20 *e*P **P** **10 44 53.0 -0.5**
SLKM Skilak Lake 82.08 20 *e*P **P** **10 44 53.0 -0.5**
MAW Mawson 82.11 202 P **P** **10 44 53.5 -0.3**
comp=Z,4.1nm,1.0s,mb4.3,baz=92,slow=12,SNR=3.7
MAW Mawson 82.11 202 *e*P **P** **10 44 54.0 +0.3**
MAW Mawson 82.11 202 *e*P **P** **10 44 54.1 +0.3**
PMR Palmer 83.24 20 *e*P **P** **10 44 59.1 -0.5**
comp=Z,40nm,1.8s,mb5.1
PMR Palmer 83.24 20 *e*P **P** **10 44 59.1 -0.4**
PMR pmax pmax
comp=Z,40nm,1.8s,mb5.2
BOD Bodaibo 83.71 335 *e*P **P** **10 45 00.7 -1.3**
BOD pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
TRF Thorofare Moun 84.25 18 *e*P **P** **10 45 03.3 -1.4**
comp=Z,10nm,0.9s,mb5.0
ZAK Zakamensk 84.73 325 *e*P **P** **10 45 07.3 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
MCK McKinley 84.87 18 *e*P **P** **10 45 07.0 -0.8**
comp=Z,19nm,1.0s,mb5.2
MCK McKinley 84.87 18 *e*P **P** **10 45 07.0 -0.8**
MCK pmax pmax
comp=Z,19nm,1.0s,mb5.2
COLA College 86.03 18 *e*P **P** **10 45 11.7 -1.8**
comp=Z,7.7nm,0.9s,mb4.9
COLA College 86.03 18 *e*P **P** **10 45 11.7 -1.9**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ILAR Eielson Array 86.24 18 P **P** **10 45 12.6 -2.0**
comp=Z,4.5nm,0.6s,mb4.8,baz=239,slow=5.2,SNR=119
ILAR PKiKP PKiKP 10 50 19.4 -3.1
comp=Z,0.2nm,0.7s,baz=264,slow=2.9,SNR=4.8
ILAR LR LR 11 19 42.1
comp=Z,229nm,18.4s,MS4.6,baz=130,slow=33
ILAR Eielson Array 86.24 18 P **P** **10 45 12.6 -2.0**
ILAR PKiKP PKiKP 10 50 19.4 -3.1
ILAR Eielson Array 86.24 18 P **P** **10 45 12.6 -2.0**
COLD Coldfoot 87.11 15 *e*P **P** **10 45 19.0 +0.2**
comp=Z,7.8nm,1.0s,mb4.9
NVAR Mina Array Bea 87.45 49 P **P** **10 45 21.8 +0.7**
comp=Z,1.0nm,0.8s,mb4.1,baz=243,slow=6.5,SNR=4.6
NVAR LR LR 11 17 19.5
comp=Z,442nm,20.1s,MS4.9,baz=142,slow=31
NVAR Mina Array Bea 87.45 49 P **P** **10 45 21.8 +0.7**
WMQ Urumqi 91.87 315 *e*P **P** **10 45 42.0 +0.2**
WMQ S S 10 56 33.0 -8.9
WMQ pmax pmax
comp=Z,10.0nm,0.5s,mb5.4
WMQ pmax pmax
comp=Z,260nm,5.2s
WMQ LR LR
comp=N,83nm,21.0s,MS4.3
WMQ LR LR
comp=E,68nm,19.0s,MS4.3
WMQ LR LR
comp=Z,55nm,20.8s,MS4.0
SNAA Sanae 94.03 183 *e* **P** **10 45 49.3 -2.0**
SNAA Sanae 94.03 183 P **P** **10 45 50.2 -1.1**
comp=Z,2.3nm,1.0s,mb4.6,baz=174,slow=7.5,SNR=8.3
SNAA Sanae 94.03 183 P **P** **10 45 50.2 -1.1**
comp=Z,9.7nm,1.1s,mb5.2
SNAA Sanae 94.03 183 P **P** **10 45 50.2 -1.1**
SNAA pmax pmax
comp=Z,10.0nm,1.1s
VNA3 Neumayer Olymp 94.72 181 *e* **P** **10 45 53.7 -0.8**
VNA2 Neumayer--Watz 94.98 182 *e* **P** **10 45 55.0 -0.7**
baz=151,slow=6.3
PDAR Pinedale Array 95.10 47 LR LR 11 20 38.0
comp=Z,133nm,19.1s,MS4.4,baz=258,slow=30
VNA1 Neumayer--Stat 95.28 182 *e* **P** **10 45 56.9 -0.1**
MKAR Makanchi Array 96.35 317 P **P** **10 46 02.2 0.0**
comp=Z,1.6nm,0.7s,mb4.5,baz=101,slow=6.3,SNR=5.5
MKAR Makanchi Array 96.35 317 P **P** **10 46 02.2 0.0**
MKAR Makanchi Array 96.35 317 P **P** **10 46 02.2 -0.1**
ZALV Zalesovo Beam 96.56 324 LR LR 11 32 58.2
comp=Z,46nm,18.6s,MS4.0,baz=57,slow=38
TXAR Lajitas Array 96.63 62 LR LR 11 20 38.0
comp=Z,138nm,20.2s,MS4.4,baz=275,slow=30
YKA Yellowknife Ar 97.40 27 P **P** **10 46 04.4 -2.2**
comp=Z,0.5nm,0.7s,mb4.1,baz=263,slow=4.3,SNR=5.7
YKA PKiKP PKiKP 10 50 39.7 -1.8
comp=Z,0.2nm,0.6s,baz=249,slow=1.4,SNR=5.0
YKA Yellowknife Ar 97.40 27 P **P** **10 46 04.5 -2.2**
YKA PKiKP PKiKP 10 50 39.7 -1.8
YKA Yellowknife Ar 97.40 27 P **P** **10 46 04.5 -2.1**
ARU Arti 111.67 325 *i* PKIKP PKiKP 10 51 10.0 +2.2
ARU 10 57 50.6
ARU SS SS 11 07 41.9 +18
ARCES ARCESS Array B 119.57 345 PKP PKPdf 10 51 21.7 -1.0
comp=Z,5.3nm,0.7s,baz=61,slow=1.6,SNR=19
ARCES ARCESS Array B 119.57 345 PKP PKPdf 10 51 21.7 -1.0
ARCES ARCESS Array B 119.57 345 PKIKP PKPdf 10 51 21.7 -1.0
OBN Obninsk 123.89 328 *e*PKIKP PKPdf 10 51 30.0 -1.3
OBN *i* SS SS 11 09 58.8 -3.8
OBN pmax pmax
comp=Z,8.0nm,1.2s
VSR Storozhevoye 124.05 323 *e*PKIKP PKPdf 10 51 29.9 -1.9
VSR pmax pmax
comp=Z,6.0nm,0.5s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,2.0nm,0.5s
FINES FINESS Array B 124.98 338 PKP PKPdf 10 51 32.2 -1.1
comp=E,2.4nm,0.7s,baz=77,slow=3.0,SNR=4.8
FINES FINESS Array B 124.98 338 PKP PKPdf 10 51 32.2 -1.1
FINES FINESS Array B 124.98 338 PKIKP PKPdf 10 51 32.2 -1.0
AKASG Malin Array Be 129.92 326 PKP PKPdf 10 51 42.4 -0.6
comp=E,1.3nm,0.8s,baz=90,slow=1.9,SNR=4.6
AKASG Malin Array Be 129.92 326 PKP PKPdf 10 51 42.4 -0.6
AKASG Malin Array Be 129.92 326 PKIKP PKPdf 10 51 42.4 -0.6
NB2 NORSAR Subarra 129.94 345 PKPdf PKPdf 10 51 42.3 -0.4
comp=Z,9.6nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.94 345 PKPdf PKPdf 10 51 42.3 -0.4
baz=31,slow=1.9
NOA NORSAR Array B 129.94 345 PKP PKPdf 10 51 42.5 -0.2
comp=Z,1.8nm,0.7s,baz=32,slow=2.0,SNR=7.0
NOA SKP 10 55 16.2
comp=Z,2.2nm,0.9s,baz=30,slow=3.6,SNR=5.9
NOA NORSAR Array B 129.94 345 PKP PKPdf 10 51 42.5 -0.2
NOA SKP 10 55 16.2
NOA NORSAR Array B 129.94 345 PKIKP PKPdf 10 51 42.5 -0.2
BRTR Keskin Array B 131.65 311 PKP PKPdf 10 51 45.3 -1.3
comp=Z,0.5nm,0.8s,baz=112,slow=3.9,SNR=2.8
BRTR SKP 10 55 22.8
comp=Z,2.0nm,0.7s,baz=98,slow=3.7,SNR=8.8
BRTR Keskin Array B 131.65 311 PKP PKPdf 10 51 45.3 -1.3
BRTR SKP 10 55 22.8
BRTR Keskin Array B 131.65 311 PKIKP PKPdf 10 51 45.3 -1.3
BRG Berggiesshubel 137.24 335 *e*PKP PKPdf 10 51 58.8 +2.1
comp=Z,6.2nm,1.2s
BRG Berggiesshubel 137.24 335 *e*PKIKP PKPdf 10 51 58.8 +2.0
BRG pmax pmax
comp=Z,6.0nm,1.2s
CLL Collm 137.30 336 *e*(PKiKP) PKPdf 10 52 02.0 +5.2
CLL Lm 11 59 00.0
comp=Z,100nm,19.0s
GERES GERESS Array B 138.87 333 PKP PKPdf 10 52 00.1 +0.2
comp=Z,0.5nm,0.4s,baz=48,slow=1.5,SNR=2.3
GERES SKP 10 55 35.2
comp=Z,0.3nm,0.4s,baz=187,slow=22,SNR=4.5
GERES GERESS Array B 138.87 333 PKP PKPdf 10 52 00.1 +0.2
GERES SKP 10 55 35.2
GERES GERESS Array B 138.87 333 PKIKP PKPdf 10 52 00.1 +0.3
GIVF Givet 141.22 341 *e*PKP1 PKPdf 10 52 03.0 -1.0
GIVF Givet 141.22 341 *e*P PKPdf 10 52 03.0 -1.0
GIVF Givet 141.22 341 *e*PKIKP PKPdf 10 52 03.0 -1.0
BAIF Baives 141.45 342 *e*PKP1 PKPdf 10 52 03.5 -1.0
BAIF Baives 141.45 342 *e*P PKPdf 10 52 03.5 -1.0
BAIF Baives 141.45 342 *e*PKIKP PKPdf 10 52 03.5 -1.0
LDF La Druitiere 143.99 345 *e*PKP1 PKPdf 10 52 07.4 -1.6
LDF La Druitiere 143.99 345 *e*P PKPdf 10 52 07.4 -1.6
LDF La Druitiere 143.99 345 *e*PKIKP PKPdf 10 52 07.4 -1.6
SSF Saint Saulge 144.31 340 *e*PKP1 PKPdf 10 52 07.2 -2.4
comp=Z,48nm,1.3s
SSF Saint Saulge 144.31 340 *e*P PKPdf 10 52 07.2 -2.4
SSF Saint Saulge 144.31 340 *e*PKIKP PKPdf 10 52 07.2 -2.4
GRR Gorron 144.36 346 *e*PKP1 PKPdf 10 52 08.2 -1.5
GRR Gorron 144.36 346 *e*P PKPdf 10 52 08.2 -1.5
GRR Gorron 144.36 346 *e*PKIKP PKPdf 10 52 08.2 -1.5
LPL La Plagne 144.43 335 *e*PKP1 PKPdf 10 52 08.0 -1.9
LPL La Plagne 144.43 335 *e*P PKPdf 10 52 08.0 -1.9
LPL La Plagne 144.43 335 *e*PKIKP PKPdf 10 52 08.0 -1.9
LPG La Plagne 144.44 335 *e*PKP1 PKPdf 10 52 08.2 -1.7
comp=Z,17nm,0.8s
LPG La Plagne 144.44 335 *e*P PKPdf 10 52 08.2 -1.7
LPG La Plagne 144.44 335 *e*PKIKP PKPdf 10 52 08.2 -1.7
SMF Signal de Mont 144.56 339 *e*PKP1 PKPdf 10 52 07.9 -2.2
comp=Z,28nm,0.9s
SMF Signal de Mont 144.56 339 *e*P PKPdf 10 52 07.9 -2.2
SMF Signal de Mont 144.56 339 *e*PKIKP PKPdf 10 52 07.9 -2.2
AVF Avril sur Loir 144.60 340 *e*PKP1 PKPdf 10 52 07.8 -2.3
comp=Z,73nm,1.4s
AVF Avril sur Loir 144.60 340 *e*P PKPdf 10 52 07.8 -2.3
AVF Avril sur Loir 144.60 340 *e*PKIKP PKPdf 10 52 07.8 -2.3
SGMF Saint Gilles 144.87 347 *e*PKP1 PKPdf 10 52 08.4 -2.1
comp=Z,88nm,1.1s
SGMF Saint Gilles 144.87 347 *e*P PKPdf 10 52 08.4 -2.1
SGMF Saint Gilles 144.87 347 *e*PKIKP PKPdf 10 52 08.4 -2.1
ROSF Rostrenen 144.94 348 *e*PKP1 PKPdf 10 52 08.7 -2.0
ROSF Rostrenen 144.94 348 *e*P PKPdf 10 52 08.7 -2.0
ROSF Rostrenen 144.94 348 *e*PKIKP PKPdf 10 52 08.7 -2.0
BGF Bois d'Agland 144.97 340 *e*PKP1 PKPdf 10 52 09.3 -1.5
comp=Z,32nm,0.7s
BGF Bois d'Agland 144.97 340 *e*P PKPdf 10 52 09.3 -1.5
BGF Bois d'Agland 144.97 340 *e*PKIKP PKPdf 10 52 09.3 -1.5
MBDF Montbardon 145.06 335 *e*PKP1 PKPbc 10 52 09.7 -0.7
MBDF Montbardon 145.06 335 *e*P PKPbc 10 52 09.7 -0.7
MBDF Montbardon 145.06 335 *e*PKIKP PKPdf 10 52 09.7 -1.3
ORIF Oris-en-Rattie 145.27 336 *e*PKP1 PKPbc 10 52 10.8 -0.3
comp=Z,49nm,0.8s
ORIF Oris-en-Rattie 145.27 336 *e*PKP PKPbc 10 52 10.8 -0.3
ORIF Oris-en-Rattie 145.27 336 *e*PKIKP PKPdf 10 52 10.8 -0.5
QUIF Quistinic 145.32 348 *e*PKP1 PKPbc 10 52 08.4 -2.7
QUIF Quistinic 145.32 348 *e*P PKPbc 10 52 08.4 -2.7
QUIF Quistinic 145.32 348 *e*PKP2 PKPab 10 52 08.4 -2.8
SBF Sospel 145.47 333 *e*PKP1 PKPbc 10 52 10.7 -1.0
comp=Z,248nm,1.2s
SBF Sospel 145.47 333 *e*P PKPdf 10 52 10.7 -1.0
SBF Sospel 145.47 333 *e*PKIKP PKPdf 10 52 10.7 -1.0
PGF Pioggiola 145.76 330 *e*PKP1 PKPbc 10 52 09.2 -3.5
comp=Z,97nm,1.1s
PGF Pioggiola 145.76 330 *e*P PKPdf 10 52 09.2 -3.1
PGF Pioggiola 145.76 330 *e*PKIKP PKPdf 10 52 09.2 -3.1
MFF Saint Martin d 145.83 344 *e*PKP1 PKPdf 10 52 11.0 -1.2
comp=Z,46nm,1.0s
MFF Saint Martin d 145.83 344 *e*P PKPdf 10 52 11.0 -1.2
MFF Saint Martin d 145.83 344 *e*PKP2 PKPdf 10 52 11.0 -1.2
FRF La Foret Royal 146.05 333 *e*PKP1 PKPdf 10 52 12.5 -0.2
comp=Z,68nm,1.0s
FRF La Foret Royal 146.05 333 *e*P PKPdf 10 52 12.5 -0.2
FRF La Foret Royal 146.05 333 *e*PKP2 PKPdf 10 52 12.5 -0.2
SMRF Simiane la Rot 146.17 335 *e*PKP1 PKPdf 10 52 12.6 -0.3
SMRF Simiane la Rot 146.17 335 *e*P PKPdf 10 52 12.6 -0.3
LMR La Mourre 146.29 333 *e*PKP1 PKPdf 10 52 13.4 +0.3
comp=Z,129nm,1.2s
LMR La Mourre 146.29 333 *e*P PKPdf 10 52 13.4 +0.3
LMR La Mourre 146.29 333 *e*PKP2 PKPdf 10 52 13.4 +0.3
RJF Les Rejaudoux 146.51 341 *e*PKP1 PKPbc 10 52 14.3 -0.5
RJF Les Rejaudoux 146.51 341 *e*P PKPbc 10 52 14.3 -0.5
RJF Les Rejaudoux 146.51 341 *e*PKP2 PKPbc 10 52 14.3 -0.5
LASF Ste Croix 146.76 337 *e*PKP1 PKPbc 10 52 15.2 -0.4
comp=Z,132nm,1.3s
LASF Ste Croix 146.76 337 *e*P PKPbc 10 52 15.2 -0.4
LFF La Frestale 147.08 341 *e*PKP1 PKPbc 10 52 15.9 -0.6
LFF La Frestale 147.08 341 *e*P PKPbc 10 52 15.9 -0.6
LFF La Frestale 147.08 341 *e*PKP2 PKPbc 10 52 15.9 -0.6
MTLF Montolieu 148.00 338 *e*PKP1 PKPbc 10 52 18.5 -0.6
comp=Z,26nm,0.8s
MTLF Montolieu 148.00 338 *e*P PKPbc 10 52 18.5 -0.6
MTLF Montolieu 148.00 338 *e*PKP2 PKPbc 10 52 18.5 -0.6
ETSF Etsaut 149.33 341 *e*PKP1 PKPbc 10 52 22.8 +0.3
ETSF Etsaut 149.33 341 *e*P PKPbc 10 52 22.8 +0.3
ETSF Etsaut 149.33 341 *e*PKP2 PKPbc 10 52 22.8 +0.3
SJPF Ste Jean 149.33 342 *e*PKP1 PKPbc 10 52 21.3 -1.2
SJPF Ste Jean 149.33 342 *e*P PKPbc 10 52 21.3 -1.2
SJPF Ste Jean 149.33 342 *e*PKP2 PKPbc 10 52 21.3 -1.2
KEST Kesra 150.37 320 PKPbc PKPbc 10 52 25.5 +0.2
comp=Z,4.5nm,0.7s,baz=9,3,slow=4.0,SNR=4.5
KEST Kesra 150.37 320 PKPbc PKPbc 10 52 25.5 +0.2
ESDC Sonseca Array 153.29 344 PKPbc PKPbc 10 52 31.2 -0.7
comp=Z,1.1nm,0.6s,baz=359,slow=3.0,SNR=3.5
ESDC Sonseca Array 153.29 344 PKPbc PKPbc 10 52 31.2 -0.7
TORD Torodi Ar. Bea 165.25 268 PKP PKPdf 10 52 37.4 -1.5
comp=Z,1.1nm,1.0s,baz=72,slow=2.2,SNR=4.5
TORD PKPab PKPab 10 53 35.5 -0.9
comp=Z,1.6nm,1.0s,baz=161,slow=0.6,SNR=5.5
TORD Torodi Ar. Bea 165.25 268 PKP PKPdf 10 52 37.4 -1.5
TORD PKPab PKPab 10 53 35.5 -0.9
DBIC Dimbokro 168.72 229 PKP PKPdf 10 52 40.9 -0.6
comp=Z,9.5nm,1.3s,baz=143,slow=5.1,SNR=2.3
DBIC Dimbokro 168.72 229 PKP PKPdf 10 52 40.9 -0.6
DBIC Dimbokro 168.72 229 PKIKP PKPdf 10 52 40.9 -0.6

MAN 15 10:39:27.7±46N×121°26E, h30km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZMPH	**Zamboanga City**	**0.94**	**122**	⇑*i*P	Pn	10 39 44.2	0.0
ZMPH				*i* S	Sn	10 39 56.6	-0.2
IPIL	**Ipil**	**1.34**	**76**	*e*P	Pn	10 39 49.8	+0.1
IPIL				*e*S	Sn	10 39 53.9	-13
PAGZ	**Pagadian**	**2.14**	**79**	*e*P	Pn	10 40 02.8	+2.1
PAGZ				*e*S	Sn	10 40 11.6	-15

IDC ***15*** *10:49:27.2±1.2, 11°.32S×164°.62E, h0km, mb3.9/8, mb1 4.1/9, mb1mx4.0/18, mbtmp3.9/9, ML5.0/1, Error ellipse: s-maj=40.4km s-min=23.1km az=137.0*
ISCJB ***15*** *10:49:31.5±2.4, 11°.3S±0°.1×164°.4E±0°.1, h34km±20km, mb3.8/8, Error ellipse: s-maj=22.0km s-min=13.5km az=140.0*
NEIC ***15*** *10:49:34.0±1.5, 11°.23S×164°.43E, h42km±13km, Error ellipse: s-maj=14.5km s-min=12.2km az=57.0*
ISC 15 10:49:34.1±1.9, 11°.25±0°.1×164°.4E±0°.1, h42km±16km, n21, σ0s58/23, mb3.8/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.75**	**292**	Pn	**Pn**	**10 50 43.3**	**0.0**
	64nm,0.3s,baz=143,slow=7.0,SNR=16						
HNR				Sn	**Sn**	**10 51 37.0**	**-0.1**
	12nm,0.3s,baz=55,slow=18,SNR=3.1						
HNR	**Honiara**	**4.75**	**292**	Pn	**Pn**	**10 50 43.3**	**0.0**
HNR				Sn	**Sn**	**10 51 37.0**	**-0.1**
DZM	**Mont Dzumac**	**10.95**	**170**	*e*Pn	**Pn**	**10 52 08.6**	**+0.3**
CTAO	**Charters Tower**	**19.57**	**241**	*e*Pn	**Pn**	**10 53 59.8**	**-0.4**
WRAB	**Tennant Creek**	**30.19**	**250**	*e*P	**P**	**10 55 40.6**	**-0.1**
WRA	**Warramunga Arr**	**30.20**	**250**	P	**P**	**10 55 41.1**	**+0.3**
	2.2nm,0.9s,mb3.9,baz=78,slow=9.0,SNR=28						
WRA	**Warramunga Arr**	**30.20**	**250**	P	**P**	**10 55 41.1**	**+0.3**
ASAR	**Alice Springs**	**31.55**	**243**	P	**P**	**10 55 52.5**	**-0.2**
	0.9nm,0.8s,mb3.6,baz=66,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**31.55**	**243**	P	**P**	**10 55 52.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**38.08**	**255**	P	**P**	**10 56 48.8**	**-0.3**
	4.1nm,0.8s,mb4.2,baz=87,slow=7.4						
FITZ	**Fitzroy Crossi**	**38.08**	**255**	P	**P**	**10 56 48.8**	**-0.3**
SONM	**Songino Array**	**78.05**	**324**	P	**P**	**11 01 29.2**	**+0.9**
	0.4nm,0.8s,mb3.4,baz=126,slow=3.9,SNR=2.5						
SONM	**Songino Array**	**78.05**	**324**	P	**P**	**11 01 29.2**	**+0.9**
MAW	**Mawson**	**84.06**	**202**	P	**P**	**11 01 59.9**	**-0.1**
	3.2nm,1.0s,mb4.4,baz=104,slow=19,SNR=2.8						
MAW	**Mawson**	**84.06**	**202**	P	**P**	**11 01 59.9**	**-0.1**
ILAR	**Eielson Array**	**84.10**	**19**	P	**P**	**11 01 59.6**	**-0.5**
	0.6nm,1.0s,mb3.7,baz=214,slow=5.3,SNR=8.0						
ILAR	**Eielson Array**	**84.10**	**19**	P	**P**	**11 01 59.6**	**-0.5**
MKAR	**Makanchi Array**	**92.77**	**317**	P	**P**	**11 02 43.3**	**+1.3**
	0.1nm,0.5s,mb3.5,baz=104,slow=6.1,SNR=3.9						
MKAR	**Makanchi Array**	**92.77**	**317**	P	**P**	**11 02 43.3**	**+1.3**
YKA	**Yellowknife Ar**	**95.73**	**27**	P	**P**	**11 02 54.1**	**-1.1**
	0.2nm,0.8s,mb3.6,baz=274,slow=4.9,SNR=3.8						
YKA	**Yellowknife Ar**	**95.73**	**27**	P	**P**	**11 02 54.1**	**-1.1**

IDC 15 11:03:40.0±7.4, 18°.14S×177°.09W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.5/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/17, Error ellipse: s-maj=327.2km s-min=36.0km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**27.39**	**199**	LR	LR	11 18 10.7	
	comp=Z,217nm,20.9s,baz=36,slow=32						
WRA	**Warramunga Arr**	**45.83**	**260**	P	P	11 12 03.8	-0.3
	0.2nm,0.5s,baz=96,slow=7.2,SNR=6.9						
ASAR	**Alice Springs**	**45.94**	**254**	P	P	11 12 05.2	+0.2
	0.7nm,0.6s,baz=88,slow=8.7,SNR=18						
ILAR	**Eielson Array**	**85.84**	**12**	P	P	11 16 21.1	+0.1
	0.4nm,1.1s,baz=224,slow=7.4,SNR=3.0						

IDC ***15*** *11:07:47.4±0.6, 30°.94S×176°.60W, h0km, mb4.5/14, mb1 4.7/14, mb1mx4.6/16, mbtmp4.5/14, MS3.9/6, Ms1 3.9/6, ms1mx3.5/24, Error ellipse: s-maj=22.4km s-min=19.4km az=150.0*
NEIC ***15*** *11:07:47.6±0.4, 31°.39S×176°.54W, h10km, mb4.9/6, Error ellipse: s-maj=11.0km s-min=9.1km az=127.0*
ISCJB ***15*** *11:07:50.6±0.5, 31°.35S±0°.06×176°.72W±0°.09, h33km, mb4.7/21, MS3.9/5, Error ellipse: s-maj=12.2km s-min=8.2km az=25.1*
ISC 15 11:07:52.7±0.5, 31°.23S±0°.06×176°.69W±0°.09, h35km, n87, σ1s22/57, mb4.7/21, MS3.9/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.24**	**331**	Pn	**Pn**	**11 08 26.4**	**-0.8**
URZ	**Urewera**	**8.67**	**214**	Pn	**Pn**	**11 09 51.6**	**-4.0**
	1.4nm,0.3s,baz=56,slow=7.3,SNR=9.7						
URZ				Sn	**Sn**	**11 11 30.4**	**-1.7**
	4.5nm,0.3s,baz=190,slow=20,SNR=8.6						
URZ	**Urewera**	**8.67**	**214**	Pn	**Pn**	**11 09 51.6**	**-4.0**
URZ				Sn	**Sn**	**11 11 30.4**	**-1.6**
RPZ	**Rata Peaks**	**15.79**	**214**	Pn	**Pn**	**11 11 27.8**	**-4.5**
	4.0nm,0.3s,baz=19,slow=3.4,SNR=15						
RPZ				Sn	**Sn**	**11 14 14.8**	**-11**
	0.7nm,0.3s,baz=287,slow=15,SNR=3.1						
RPZ	**Rata Peaks**	**15.79**	**214**	*e*Pn	**Pn**	**11 11 28.2**	**-4.0**
RPZ				Sn	**Sn**	**11 14 14.8**	**-11**
DZM	**Mont Dzumac**	**17.60**	**297**	*e*P	**Pn**	**11 11 56.9**	**+1.7**
	92nm,1.4s						
DZM				*e*LR	LR	11 16 02.6	
	599nm,27.6s						
DZM	**Mont Dzumac**	**17.60**	**297**	*e*P	**Pn**	**11 11 56.9**	**+1.7**
DZM	**Mont Dzumac**	**17.60**	**297**	*e*Pn	**Pn**	**11 11 57.1**	**+1.9**
	48nm,1.2s						
RAR	**Rarotonga**	**18.14**	**61**	LR	LR	11 16 44.6	
	comp=Z,314nm,18.7s,baz=60,slow=30						
TBI	**Tubuai**	**25.40**	**79**	*e*LR	LR	11 19 17.7	
	439nm,28.0s,baz=250						
TBI				*e*T		11 38 59.4	
	48nm,0.4s						
PAE	**Paea**	**28.04**	**68**	*e*T		11 42 18.1	
	7.1nm,0.4s						
PPT2	**Papeete2**	**28.09**	**67**	*e*LR	LR	11 20 27.3	
	341nm,26.5s,baz=245						
PPT2				*e*T		11 42 16.0	
	6.3nm,0.4s						
MEH	**Mehetia**	**29.14**	**70**	*e*T		11 43 42.5	
	20nm,0.4s						
HNR	**Honiara**	**30.69**	**310**	LR	LR	11 23 50.0	
	comp=Z,80nm,19.9s,MS3.4,baz=160,slow=32						
PMOR	**Pomariorio Ree**	**30.89**	**65**	*e*T		11 45 55.6	
	3.0nm,0.4s						
CMSA	**Cobar Meteorol**	**32.01**	**259**	*e*P	**P**	**11 14 17.6**	**+1.8**
	71nm,1.8s,mb5.2						
QLP	**Quilpie**	**34.39**	**268**	*e*P	**P**	**11 14 37.2**	**+0.6**
CTA	**Charters Tower**	**35.04**	**279**	P	**P**	**11 14 43.3**	**+1.1**
	16nm,0.6s,mb5.2,baz=102,slow=10,SNR=29						
CTA				LR	LR	11 26 55.2	
	comp=Z,215nm,19.2s,MS3.9,baz=50,slow=33						
CTA	**Charters Tower**	**35.04**	**279**	P	**P**	**11 14 43.3**	**+1.1**
CTAO	**Charters Tower**	**35.04**	**279**	*e*P	**P**	**11 14 42.8**	**+0.5**
	19nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**35.39**	**258**	P	**P**	**11 14 46.7**	**+1.5**
	5.8nm,0.8s,mb4.6,baz=91,slow=8.9,SNR=12						
STKA	**Stephens Creek**	**35.39**	**258**	*e*P	**P**	**11 14 46.4**	**+1.2**
	8.6nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**35.39**	**258**	*e*P	**P**	**11 14 45.7**	**+0.5**
	9.0nm,1.6s,mb4.5						
MTSU	**Mount Surprise**	**37.55**	**281**	*e*P	**P**	**11 15 04.8**	**+1.1**
	48nm,1.6s,mb5.0						
RKT	**Rikitea**	**37.81**	**88**	*e*LR	LR	11 25 13.7	
	262nm,25.2s						
RKT				*e*T		11 54 27.4	
	2.3nm,0

WRAB Tennant Creek 45.25 272 *eP* **P 11 16 05.5 -1.3**
36nm,1.4s,mb5.0
WRA Warramunga Arr 45.25 272 P **P 11 16 06.2 -0.7**
6.3nm,0.5s,mb4.7,baz=111,slow=8.0,SNR=124
WRA LR LR 11 33 30.3
comp=Z,165nm,21.2s,MS3.9,baz=125,slow=34
WRA Warramunga Arr 45.25 272 P **P 11 16 06.2 -0.7**
RPN Rapa Nui 58.14 104 LR LR 11 36 26.3
comp=Z,105nm,18.4s,MS4.0,baz=317,slow=30
QSPA South Pole Qui 58.89 180 P **P 11 17 50.5 +3.1**
6.2nm,0.6s,mb4.8,baz=34,slow=1.6,SNR=47
QSPA South Pole Qui 58.89 180 P **P 11 17 50.5 +3.1**
MAW Mawson 71.93 200 P **P 11 19 14.5 +2.5**
9.7nm,1.1s,mb4.7,baz=109,slow=5.9,SNR=6.4
MAW Mawson 71.93 200 P **P 11 19 14.5 +2.5**
USHA Ushuaia 74.61 145 LR LR 11 46 40.4
comp=Z,78nm,18.1s,MS4.0,baz=180,slow=31
SNAA Sanae 77.30 178 *e* **P 11 19 42.3 -0.7**
SNAA Sanae 77.30 178 *eP* **P 11 19 40.8 -2.3**
10nm,1.2s,mb4.6
VNA3 Neumayer Olymp 77.40 176 *e* **P 11 19 44.8 +1.2**
VNA3 *e* pP 11 19 54.3 -0.3
VNA2 Neumayer--Watz 77.85 176 *e* **P 11 19 47.9 +1.8**
baz=176,slow=4.4
VNA2 *e* pP 11 19 57.0 -0.1
VNA1 Neumayer--Stat 78.07 176 *e* **P 11 19 49.0 +1.6**
VNA1 *e* 11 20 06.8
MJAR Matsushiro Arr 79.56 325 P **P 11 19 56.1 +0.2**
1.5nm,0.9s,mb3.9,baz=170,slow=1.2,SNR=4.2
MJAR Matsushiro Arr 79.56 325 P **P 11 19 56.1 +0.2**
TWG Pinlang 80.25 304 *eP* **P 11 19 58.0 -1.9**
KSRS Korea Array 85.70 319 P **P 11 20 27.5 -0.3**
1.8nm,0.7s,mb4.4,baz=140,slow=5.5,SNR=8.5
IPM Ipoh 85.72 278 *eP* **P 11 20 28.1 -0.5**
8.2nm,0.6s,mb5.1
KSAR Wonju Array Be 85.72 319 P **P 11 20 27.5 -0.4**
PETK Petropavlovsk- 86.90 345 P **P 11 20 34.0 +0.7**
6.1nm,0.9s,mb4.8,baz=174,slow=7.2,SNR=3.2
PETK Petropavlovsk- 86.90 345 P **P 11 20 34.0 +0.7**
NVAR Mina Array Bea 88.09 42 P **P 11 20 38.6 -0.8**
0.8nm,0.7s,mb4.1,baz=216,slow=6.3,SNR=5.2
NVAR Mina Array Bea 88.09 42 P **P 11 20 38.6 -0.8**
CN2 Changchun 91.48 322 *eP* **P 11 20 55.8 +0.7**
CN2 pmax pmax
comp=Z,20nm,1.1s,mb5.4
TXAR Lajitas Array 91.89 57 P **P 11 20 57.2 -0.2**
comp=Z,1.6nm,1.1s,mb4.3,baz=208,slow=5.0,SNR=7.3
TXAR Lajitas Array 91.89 57 P **P 11 20 57.2 -0.2**
CMAR Chiang Mai Arr 94.73 289 P **P 11 21 11.8 +1.0**
comp=Z,0.7nm,0.3s,mb4.5,baz=152,slow=4.9,SNR=5.1
CMAR Chiang Mai Arr 94.73 289 P **P 11 21 11.8 +1.0**
PDAR Pinedale Array 95.96 43 P **P 11 21 14.8 -1.0**
comp=Z,0.2nm,0.5s,mb3.8,baz=245,slow=1.9,SNR=2.4
PDAR Pinedale Array 95.96 43 P **P 11 21 14.8 -1.0**
ILAR Eielson Array 98.48 12 P **P 11 21 24.7 -1.9**
comp=Z,1.0nm,1.2s,mb4.2,baz=225,slow=3.7,SNR=2.9
ILAR Eielson Array 98.48 12 P **P 11 21 24.7 -1.9**
MKAR Makanchi Array 119.16 309 PKP PKPdf 11 26 36.7 -0.9
comp=Z,0.4nm,0.8s,baz=243,slow=1.4,SNR=3.9
MKAR Makanchi Array 119.16 309 PKP PKPdf 11 26 36.7 -0.9
KURK Kurchatov 122.43 313 PKP PKPdf 11 26 42.9 -0.8
comp=Z,1.4nm,0.8s,baz=105,slow=1.9,SNR=8.6
KURK Kurchatov 122.43 313 PKP PKPdf 11 26 42.9 -0.8
BVAR Borovoye Array 127.78 315 PKP PKPdf 11 26 51.8 -2.1
comp=Z,1.3nm,0.8s,baz=93,slow=3.0,SNR=5.3
BVAR Borovoye Array 127.78 315 PKP PKPdf 11 26 51.8 -2.1
ARCES ARCESS Array B 139.63 348 PKP PKPdf 11 27 14.9 -0.8
comp=Z,2.1nm,0.8s,baz=336,slow=2.7,SNR=4.0
ARCES ARCESS Array B 139.63 348 PKP PKPdf 11 27 14.9 -0.8
JOF Joensuu 143.60 339 *ep* PKPdf 11 27 19.6 -3.3
comp=Z,8.7nm,0.9s
KAF Kangasniemi 145.70 341 *ep* PKPdf 11 27 25.5 -1.1
comp=Z,7.8nm,0.6s
FINES FINESS Array B 146.30 340 PKPbc PKPbc 11 27 28.1 -0.8
comp=Z,10nm,0.6s,baz=44,slow=3.3,SNR=22
FINES FINESS Array B 146.30 340 PKPbc PKPbc 11 27 28.1 -0.8
OBN Obninsk 146.49 325 PKPbc PKPbc 11 27 29.6 +0.1
NB2 NORSAR Subarra 149.73 352 PKP PKPbc 11 27 37.6 -0.4
comp=Z,1.1nm,0.7s,baz=9.8,slow=2.7
NOA NORSAR Array B 149.73 352 PKPbc PKPbc 11 27 37.6 -0.4
comp=Z,2.9nm,0.9s,baz=14,slow=4.2,SNR=4.6
NOA NORSAR Array B 149.73 352 PKPbc PKPbc 11 27 37.6 -0.4
AKASG Malin Array Be 152.64 323 PKPbc PKPbc 11 27 44.7 -0.4
comp=Z,4.6nm,0.8s,baz=53,slow=1.8,SNR=9.2
AKASG Malin Array Be 152.64 323 PKPbc PKPbc 11 27 44.7 -0.4
BRTR Keskin Array B 153.98 297 PKPbc PKPbc 11 27 48.5 +0.1
comp=Z,1.0nm,0.9s,baz=71,slow=6.2,SNR=3.1
BRTR PKPab PKPab 11 28 01.6 -0.3
comp=Z,0.9nm,0.6s,baz=99,slow=1.6,SNR=5.1
BRTR Keskin Array B 153.98 297 PKPbc PKPbc 11 27 48.5 +0.1
BRTR PKPab PKPab 11 28 01.6 -0.3
BUR08 Bucovina Ar. S 156.57 321 *e*PKPab PKPab 11 28 12.3 -0.4
TORD Torodi Ar. Bea 161.94 175 PKPab PKPab 11 28 37.2 +0.6
comp=Z,1.9nm,0.7s,baz=189,slow=3.9,SNR=11
TORD Torodi Ar. Bea 161.94 175 PKPab PKPab 11 28 37.2 +0.6

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*ISK **15** 11:13:49.6, 39°.47N×25°.83E, h15km, MD2.8*
*CSEM **15** 11:13:49.7±0.7, 39°.47N×25°.74E, h20km, MD2.8, Error ellipse: s-maj=20.3km s-min=6.5km az=91.0*
*DDA **15** 11:13:50.0, 39°.45N×25°.93E, h7km±7km, Md3.1*
*ISCJB **15** 11:13:50.2±1.6, 39°.46N±0°.04×25°.7E±0°.2, h28km±9km, Error ellipse: s-maj=20.3km s-min=6.7km az=179.8*
ISC 15 11:13:49.8±1.7, 39°.46N±0°.05×25°.8E±0°.2, h18km±7km, n15, σ0°73/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.45**	**32**	*i* P		**Pg**	**11 13 58.4**	**-0.6**
BOZC				*i* S		**Sg**	**11 14 05.5**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.09**	**31**	*e*PG		**Pg**	**11 14 10.9**	**0.0**
GELI				*e*SG		**Sg**	**11 14 25.7**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.09**	**31**	*e*Pg		**Pg**	**11 14 10.9**	**0.0**
GELI				*e*Sg		**Sg**	**11 14 25.7**	**+0.5**
URLA	**Izmir**	**1.28**	**149**	*i* P		**Pn**	**11 14 11.7**	**-1.1**
URLA				*i* S		**Sn**	**11 14 31.0**	**+1.4**
URLA	**Izmir**	**1.28**	**149**	*i* P		**Pn**	**11 14 11.7**	**-1.1**
URLA				*i* S		**Sn**	**11 14 31.0**	**+1.4**
ERIK	**Erikli-Kesan**	**1.34**	**26**	*e*PN		**Pn**	**11 14 13.5**	**-0.2**
ERIK				*e*SN		**Sn**	**11 14 31.9**	**+0.9**
ERIK	**Erikli-Kesan**	**1.34**	**26**	*e*Pn		**Pn**	**11 14 13.5**	**-0.1**
ERIK				*e*Sn		**Sn**	**11 14 31.9**	**+0.9**
BALY	**Balya**	**1.47**	**79**	*i* P		**Pn**	**11 14 14.8**	**-0.6**
BALY				*i* S		**Sn**	**11 14 33.4**	**-0.8**
BALY	**Balya**	**1.47**	**79**	*i* P		**Pn**	**11 14 14.8**	**-0.6**
BALY				*i* S		**Sn**	**11 14 33.4**	**-0.8**
BLCB	**Balcova**	**1.48**	**136**	*e*PN		**Pn**	**11 14 16.3**	**+0.8**
BLCB	**Balcova**	**1.48**	**136**	*e*Pn		**Pn**	**11 14 16.3**	**+0.8**
KRBG	**Karabiga-Canak**	**1.51**	**52**	*e*PN		**Pn**	**11 14 15.4**	**-0.5**
KRBG	**Karabiga-Canak**	**1.51**	**52**	*e*Pn		**Pn**	**11 14 15.4**	**-0.6**
GONE	**Gonen-Balikesi**	**1.60**	**68**	*e*PN		**Pn**	**11 14 16.9**	**-0.3**
GONE	**Gonen-Balikesi**	**1.60**	**68**	*e*Pn		**Pn**	**11 14 16.9**	**-0.3**

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*IDC **15** 11:15:23.6±0.9, 41°.55N×79°.44E, h0km, mb3.6/8, mb1 3.8/12, mb1mx3.7/29, mbtmp3.7/12, ML3.8/4, Error ellipse: s-maj=21.0km s-min=16.7km az=76.0*
*ISCJB **15** 11:15:24.3±0.6, 41°.64N±0°.05×79°.77E±0°.05, h10km, mb3.5/7, Error ellipse: s-maj=7.8km s-min=4.2km az=141.0*
*MOS **15** 11:15:27.6±1.3, 41°.71N×79°.57E, h33km, mb4.1/1, Error ellipse: s-maj=15.8km s-min=8.1km az=103.4*
*NEIC **15** 11:15:29.4±0.8, 41°.68N×79°.52E, h35km, Error ellipse: s-maj=12.1km s-min=9.9km az=166.0*
*BJI **15** 11:15:29.4, 41°.65N×79°.89E, h20km, ML3.6/8*
*NNC **15** 11:15:30.1±1.9, 42°.26N×79°.42E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=19.0km s-min=7.5km az=159.0*
ISC 15 11:15:26.4±0.6, 41°.66N±0°.05×79°.74E±0°.05, h10km, n75, σ1°33/84, mb3.5/7, 8C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.58**	**308**	⇑Pg		**Pn**	**11 16 07.4**	**-0.8**
	213nm,0.8s							
KNDC				⇓Lg			11 16 35.5	
	769nm,0.5s							
AAA	**Alma-Ata**	**2.62**	**309**	*i* PN		**Pn**	**11 16 08.2**	**-0.6**
AAA				pmax		pmax		
	comp=Z,764nm,0.3s							
ULHL	**Ulahol**	**2.68**	**284**	P		**Pn**	**11 16 08.3**	**-1.2**
	SNR=186							
ULHL				P			11 16 08.3	
	SNR=186							
TKM2	**Tokmak 2**	**3.33**	**294**	P		**Pn**	**11 16 17.3**	**-1.1**
	SNR=58							
TKM2				P			11 16 17.3	
	SNR=58							
TKM2	**Tokmak 2**	**3.33**	**294**	⇑Pn		**Pn**	**11 16 17.4**	**-1.0**
	comp=Z,28nm,0.4s							
TKM2				⇓Lg			11 17 01.6	
	comp=Z,321nm,0.7s							
TKM2	**Tokmak 2**	**3.33**	**294**	*e*Pn		**Pn**	**11 16 17.0**	**-1.4**
TKM2				*e*Sn		**Sn**	**11 16 58.7**	**+0.7**
TKM2	**Tokmak 2**	**3.33**	**294**	*e*PN		**Pn**	**11 16 17.0**	**-1.4**
TKM2				*e*			11 16 58.7	
KZA	**Kyzart**	**3.38**	**279**	P		**Pn**	**11 16 20.3**	**+1.1**
	SNR=14							
KZA				P			11 16 20.3	
	SNR=14							
KSH	**Kashi**	**3.58**	**235**	Pg		**Pn**	**11 16 19.4**	**-2.5**
KSH				Sg		**Sn**	**11 16 45.0**	**-19**
KSH				smax				
	comp=N,19nm,0.5s							
KSH				smax				
	comp=E,21nm,0.6s							
KSH	**Kashi**	**3.58**	**235**	Pn		**Pg**	**11 16 36.0**	**+1.1**
KSH				Sn		**Sg**	**11 17 23.3**	**+2.0**
KSH				smax				
	comp=N,110nm,0.8s							
KSH				smax				
	comp=E,110nm,0.6s							
KBK	**Karagaybulak**	**3.70**	**287**	P		**Pn**	**11 16 22.8**	**-0.8**
	SNR=15							
KBK				P			11 16 22.8	
	SNR=15							
UCH	**Uchtor**	**3.94**	**280**	P		**Pb**	**11 16 36.1**	**+0.2**
	SNR=5.4							
UCH				P			11 16 36.1	
	SNR=5.4							
AAK	**Ala-Archa**	**4.02**	**286**	P		**Pn**	**11 16 28.2**	**+0.2**
	SNR=11							
AAK				P			11 16 28.2	
	SNR=11							
AAK	**Ala-Archa**	**4.02**	**286**	*e*Pn		**Pn**	**11 16 27.0**	**-1.0**
AAK	**Ala-Archa**	**4.02**	**286**	*i* PN		**Pn**	**11 16 26.7**	**-1.3**
USP	**Ospenovka**	**4.20**	**294**	P		**Pn**	**11 16 30.1**	**-0.3**
	SNR=5.9							
USP				P			11 16 30.1	
	SNR=5.9							
AML	**Almayashu**	**4.54**	**278**	P		**Pn**	**11 16 36.2**	**+1.1**
	SNR=7.1							
AML				P			11 16 36.2	
	SNR=7.1							
EKS2	**Erkin-Say**	**4.55**	**285**	P		**Pb**	**11 16 41.5**	**-4.8**
	SNR=25							
EKS2				P			11 16 41.5	
	SNR=25							
EKS2	**Erkin-Say**	**4.55**	**285**	Pn		**Pb**	**11 16 40.3**	**-5.9**
EKS2	**Erkin-Say**	**4.55**	**285**	PN		**Pb**	**11 16 40.3**	**-5.9**
MK31	**Makanchi Array**	**5.45**	**19**	Pn		**Pn**	**11 16 49.3**	**+1.7**
	comp=E,4.2nm,0.4s,baz=204,slow=13,SNR=426							
MK31				⇓Sn		**Sn**	**11 17 51.0**	**+0.6**
	comp=E,82nm,0.8s,baz=200,slow=23,SNR=19							
MK31	**Makanchi Array**	**5.45**	**19**	*e*Pn		**Pn**	**11 16 49.2**	**+1.6**
MK31				*e*Sn		**Sn**	**11 17 51.3**	**+0.9**
MK31	**Makanchi Array**	**5.45**	**19**	*e*PN		**Pn**	**11 16 49.2**	**+1.6**
MK31				*e*			11 17 51.3	
MKAR	**Makanchi Array**	**5.45**	**19**	Pn		**Pn**	**11 16 49.2**	**+1.6**
	comp=E,3.3nm,0.3s,baz=206,slow=15,SNR=398							
MKAR				Sn		**Sn**	**11 17 50.8**	**+0.4**
	comp=E,10nm,0.3s,baz=191,slow=18,SNR=25							
MKAR	**Makanchi Array**	**5.45**	**19**	Pn		**Pn**	**11 16 49.2**	**+1.6**
MKAR				Sn		**Sn**	**11 17 50.8**	**+0.4**
MKAR	**Makanchi Array**	**5.45**	**19**	PN		**Pn**	**11 16 49.2**	**+1.6**
MKAR							11 17 50.8	
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.3s							
MKAR				smax				
	comp=N,10.0nm,0.3s							
KK31	**Karatay Array**	**6.99**	**285**	⇓Pg		**Pb**	**11 17 30.3**	**+2.5**
	comp=N,4.4nm,0.6s,baz=88,slow=16,SNR=31							
KK31				⇑Lg		**Sb**	**11 18 58.0**	**+6.7**
	comp=N,10.0nm,0.5s,baz=91,slow=26,SNR=3.8							
KK31	**Karatay Array**	**6.99**	**285**	PN		**Pb**	**11 17 29.4**	**+1.6**
KK31				*e*		**Sb**	**11 18 58.1**	**+6.9**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.3s							
KK31				pmax		pmax		
	comp=Z,13nm,0.5s							
KURBB	**Kurchatov Arra**	**9.01**	**355**	⇓Lg			11 19 57.6	
	comp=Z,9.1nm,0.9s							
KURK	**Kurchatov**	**9.10**	**355**	⇓Lg			11 20 00.8	
	comp=Z,57nm,1.4s							
KURK	**Kurchatov**	**9.10**	**355**	Pn		**Pn**	**11 17 37.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=182,slow=13,SNR=3.1							
KURK				Lg			11 20 03.7	
	comp=Z,0.3nm,0.3s,baz=197,slow=30,SNR=8.5							
KURK	**Kurchatov**	**9.10**	**355**	Pn		**Pn**	**11 17 37.1**	**-0.5**
KURK				Lg			11 20 03.7	
KURK	**Kurchatov**	**9.10**	**355**	⇑*e*P		**Pn**	**11 17 38.8**	**+1.2**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
VOSK	**Vostochnaya**	**12.56**	**335**	⇓Pn		**Pn**	**11 18 21.5**	**-3.5**
	comp=Z,3.0nm,1.1s							
VOSK				⇓Lg			11 21 49.1	
	comp=Z,6.7nm,0.9s							
VOSK	**Vostochnaya**	**12.56**	**335**	P		**Pn**	**11 18 27.9**	**+2.9**
VOSK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
VOSK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ZAA0	**Zalesovo Array**	**12.76**	**14**	*e*Pn		**Pn**	**11 18 28.4**	**+0.7**
ZALV	**Zalesovo Beam**	**12.76**	**14**	Pn		**Pn**	**11 18 27.8**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=201,slow=12,SNR=22							
ZALV				Sn		**Sn**	**11 20 42.6**	**-7.1**
	comp=Z,0.5nm,0.3s,baz=196,slow=21,SNR=8.1							
ZALV	**Zalesovo Beam**	**12.76**	**14**	Pn		**Pn**	**11 18 27.8**	**+0.1**
ZALV				Sn		**Sn**	**11 20 42.6**	**-7.1**
ZALV	**Zalesovo Beam**	**12.76**	**14**	P		**Pn**	**11 18 27.8**	**+0.1**
ZALV							11 20 42.6	
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ZALV				smax				
	comp=N,1.0nm,0.3s							
BVA0	**Borovoye Array**	**13.01**	**334**	⇓Pn		**Pn**	**11 18 26.7**	**-4.4**
	comp=N,0.2nm,0.5s,baz=144,slow=13,SNR=7.1							
BVA0				⇑Lg			11 22 03.7	
	comp=N,2.7nm,1.3s							
BVA0	**Borovoye Array**	**13.01**	**334**	*i* P		**Pn**	**11 18 31.4**	**+0.3**
BVA0				pmax		pmax		
	comp=Z,2.0nm,1.1s							
BVAR	**Borovoye Array**	**13.01**	**334**	Pn		**Pn**	**11 18 28.4**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=228,slow=42,SNR=3.1							
BVAR				Lg			11 22 06.0	
	comp=Z,0.2nm,0.3s,baz=132,slow=25,SNR=3.1							
BVAR	**Borovoye Array**	**13.01**	**334**	Pn		**Pn**	**11 18 28.4**	**-2.6**
BVAR				Lg			11 22 06.0	
BVAR	**Borovoye Array**	**13.01**	**334**	P		**Pn**	**11 18 28.4**	**-2.7**
BRVK	**Borovoye**	**13.07**	**334**	*e*Pn		**Pn**	**11 18 32.8**	**+0.8**
	comp=Z,3.4nm,0.6s							
BRVK	**Borovoye**	**13.07**	**334**	⇑*e*P		**Pn**	**11 18 30.9**	**-1.0**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.7s							
ZRNK	**Zerenda**	**13.43**	**331**	⇑Pn		**Pn**	**11 18 32.4**	**-4.4**
	comp=Z,3.9nm,0.7s							
ZRNK				⇑Lg			11 22 16.6	
	comp=Z,13nm,1.2s							
ZRNK	**Zerenda**	**13.43**	**331**	P		**Pn**	**11 18 41.9**	**+5.1**
ZRNK							11 21 11.3	
ZRNK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ZRNK				smax				
	comp=Z,2.0nm,0.7s							
ZRNK				pmax		pmax		
	comp=Z,13nm,1.2s							
ABKAR	**Akbulak array**	**15.81**	**305**	Pn		**Pn**	**11 19 09.4**	**+0.6**
	comp=Z,1.1nm,0.6s							
SONM	**Songino Array**	**19.86**	**63**	P		**Pn**	**11 19 59.9**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=261,slow=11,SNR=8.8							
SONM	**Songino Array**	**19.86**	**63**	P		**Pn**	**11 19 59.9**	**+1.0**
SONM	**Songino Array**	**19.86**	**63**	P		**Pn**	**11 19 59.9**	**+1.0**
SONM				pmax		pmax		
	comp=Z,2.0nm,1.0s							
ARU	**Arti**	**20.16**	**324**	P		**P**	**11 20 08.7**	**+8.2**
BRTR	**Keskin Array B**	**34.70**	**282**	P		**P**	**11 22 14.4**	**-1.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=92,slow=7.4,SNR=4.1							
BRTR	**Keskin Array B**	**34.70**	**282**	P		**P**	**11 22 14.4**	**-1.8**
BRTR	**Keskin Array B**	**34.70**	**282**	P		**P**	**11 22 14.4**	**-1.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**37.44**	**320**	P		**P**	**11 22 36.8**	**-2.5**
	comp=Z,1.2nm,0.7s,mb3.8,baz=108,slow=13,SNR=2.3							
FINES	**FINESS Array B**	**37.44**	**320**	P		**P**	**11 22 36.8**	**-2.5**
FINES	**FINESS Array B**	**37.44**	**320**	P		**P**	**11 22 36.8**	**-2.6**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
HABR	**Khabarovsk**	**38.91**	**61**	*e*P		Px	11 23 04.5	
HABR				*e*			11 24 20.4	
HABR				*e*S		**S**	**11 28 48.1**	**-2.0**
HABR				*SS		sS	11 29 04.4	+9.2
HABR							11 32 57.9	
HABR				MLR		MLR		
	comp=Z,66nm,17.0s							
CLL	**Collm**	**45.48**	**306**	*eP*		**P**	**11 23 48.0**	**+2.6**
ILAR	**Eielson Array**	**67.81**	**20**	P		**P**	**11 26 22.8**	**-1.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=311,slow=3.9,SNR=6.0							
ILAR	**Eielson Array**	**67.81**	**20**	P		**P**	**11 26 22.8**	**-1.2**
ILAR	**Eielson Array**	**67.81**	**20**	P		**P**	**11 26 22.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**72.49**	**272**	P		**P**	**11 26 50.0**	**-3.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=41,slow=5.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**72.49**	**272**	P		**P**	**11 26 50.0**	**-3.4**
YKA	**Yellowknife Ar**	**75.56**	**7**	P		**P**	**11 27 08.9**	**-1.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=347,slow=5.6,SNR=8.7							
YKA	**Yellowknife Ar**	**75.56**	**7**	P		**P**	**11 27 08.9**	**-1.7**
YKA	**Yellowknife Ar**	**75.56**	**7**	P		**P**	**11 27 08.9**	**-1.8**
WRA	**Warramunga Arr**	**79.40**	**129**	P		**P**	**11 27 33.2**	**+0.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=328,slow=5.5,SNR=5.0							
WRA	**Warramunga Arr**	**79.40**	**129**	P		**P**	**11 27 33.2**	**+0.5**
WRA	**Warramunga Arr**	**79.40**	**129**	P		**P**	**11 27 33.2**	**+0.5**
ASAR	**Alice Springs**	**82.07**	**131**	P		**P**	**11 27 47.4**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=324,slow=5.4,SNR=6.3							
ASAR	**Alice Springs**	**82.07**	**131**	P		**P**	**11 27 47.4**	**+0.5**
ASAR	**Alice Springs**	**82.07**	**131**	P		**P**	**11 27 47.4**	**+0.5**

IDC 15 11:28:23.1±2.0, 30°.98S×176°.86W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/14, mbtmp3.7/3, Error ellipse: s-maj=70.6km s-min=41.3km az=12.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.31**	**257**	P		P	11 35 18.8	-1.2
	1.3nm,0.7s,baz=76,slow=11,SNR=3.6							
ASAR	**Alice Springs**	**44.06**	**267**	P		P	11 36 33.5	+0.6
	0.6nm,0.7s,baz=105,slow=7.4,SNR=12							
WRA	**Warramunga Arr**	**45.10**	**272**	P		P	11 36 41.4	+0.1
	0.5nm,0.3s,baz=111,slow=8.1,SNR=22							
FINES	**FINESS Array B**	**146.02**	**340**	PKPbc		PKPbc	11 48 03.2	-0.9
	2.4nm,0.8s,baz=64,slow=4.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**162.20**	**175**	PKPab		PKPab	11 49 13.5	-0.3
	0.4nm,0.8s,baz=146,slow=2.8,SNR=3.6							

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*CSEM **15** 11:42:33.7±0.9, 39°.83N×26°.19E, h8km, MD2.6, Error ellipse: s-maj=17.5km s-min=5.9km az=60.0*
*ISCJB **15** 11:42:34.9±0.6, 39°.87N±0°.05×26°.29E±0°.05, h10km, Error ellipse: s-maj=6.6km s-min=5.5km az=162.1*
*ISK **15** 11:42:34.4, 39°.86N×26°.28E, h6km, MD2.6*
*DDA **15** 11:42:34.2, 39°.74N×26°.09E, h25km, Md2.8*
ISC 15 11:42:35.4±0.8, 39°.86N±0°.05×26°.30E±0°.05, h6km±8km, n15, σ0°70/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.04**	**154**	*e*PG		**Pg**	**11 42 36.1**	**-0.6**
EZN				*e*SG		**Sg**	**11 42 37.5**	**-0.2**
EZN	**Ezine**	**0.04**	**154**	*e*Pg		**Pg**	**11 42 36.1**	**-0.6**
EZN				*e*Sg		**Sg**	**11 42 37.5**	**-0.1**
BOZC	**Bozcaada**	**0.19**	**264**	*i* P		**Pg**	**11 42 38.8**	**-0.5**
BOZC				*i* S		**Sg**	**11 42 43.0**	**+1.1**
GELI	**Tayfur-Gelibol**	**0.55**	**14**	*e*PG		**Pg**	**11 42 45.9**	**-0.1**
GELI				*e*SG		**Sg**	**11 42 54.2**	**+1.0**
GELI	**Tayfur-Gelibol**	**0.55**	**14**	*e*Pg		**Pg**	**11 42 45.9**	**-0.1**
GELI				*e*Sg		**Sg**	**11 42 54.2**	**+1.0**
ERIK	**Erikli-Kesan**	**0.82**	**11**	*e*PG		**Pg**	**11 42 50.5**	**-0.8**
ERIK	**Erikli-Kesan**	**0.82**	**11**	*e*Pg		**Pg**	**11 42 50.5**	**-0.7**
BALY	**Balya**	**1.02**	**96**	*i* P		**Pg**	**11 42 55.5**	**+0.5**
BALY				*i* S		**Sg**	**11 43 09.5**	**+1.2**
BALY	**Balya**	**1.02**	**96**	*i* P		**Pg**	**11 42 55.5**	**+0.5**
BALY				*i* S		**Sg**	**11 43 09.5**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.06**	**39**	*e*PG		**Pg**	**11 42 55.0**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.06**	**39**	*e*Pg		**Pg**	**11 42 55.0**	**-0.8**
GONE	**Gonen-Balikesi**	**1.08**	**80**	*e*PN		**Pg**	**11 42 55.7**	**-0.5**
GONE	**Gonen-Balikesi**	**1.08**	**80**	*e*Pn		**Pg**	**11 42 55.7**	**-0.4**
EDC	**Edincik**	**1.29**	**68**	*e*PN		**Pn**	**11 42 59.7**	**-0.3**
EDC	**Edincik**	**1.29**	**68**	*e*Pn		**Pn**	**11 42 59.7**	**-0.3**

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*NIED **15** 12:14:00, 37°.80N×139°.70E, h5km, Mw3.9 Best double couple: M0 9.06000×10^14 NP1:φs 165.00000°, δ69.00000°, λ66.00000°. NP2:φs 36.00000°, δ32.00000°, λ137.00000°.*
*ISCJB **15** 12:14:48.5±0.6, 37°.86N±0°.03×139°.69E±0°.04, h12km±4km, mb4.0/19, Error ellipse: s-

MKAR Makanchi Array 42.52 301 P P 12 22 44.0 -1.2
MKAR PcP PcP 12 24 39.1 +1.3
KURK Kurchatov 44.35 307 *eP* **P 12 22 58.9 -1.0**
3.9nm,0.8s,mb4.2
TKM2 Tokmak 2 48.03 297 *eP* **P 12 23 29.4 +0.4**
3.0nm,0.6s,mb4.5
ILAR Eielson Array 49.56 33 P P 12 23 40.3 -0.1
1.7nm,1.0s,mb4.0,baz=266,slow=6.2,SNR=13
ILAR Eielson Array 49.56 33 P P 12 23 40.3 -0.1
KKAR Karatay Array 51.53 299 *eP* **P 12 23 55.2 -0.4**
2.4nm,0.6s,mb4.3
ABKAR Akbulak array 56.36 309 *eP* **P 12 24 30.4 -0.6**
1.4nm,0.5s,mb4.2
WRA Warramunga Arr 57.69 186 P P 12 24 39.5 -1.0
0.6nm,0.5s,mb3.9,baz=1.0,slow=7.5,SNR=18
WRA Warramunga Arr 57.69 186 P P 12 24 39.5 -1.0
ASAR Alice Springs 61.42 186 P P 12 25 06.1 -0.1
0.8nm,0.9s,mb3.9,baz=0.5,slow=8.5,SNR=9.5
ASAR Alice Springs 61.42 186 P P 12 25 06.1 -0.1
ARCES ARCESS Array B 62.75 339 P P 12 25 14.6 -0.1
2.4nm,0.9s,mb4.3,baz=69,slow=6.9,SNR=5.7
ARCES ARCESS Array B 62.75 339 P P 12 25 14.6 -0.1
YKA Yellowknife Ar 63.80 30 P P 12 25 21.7 0.0
0.8nm,0.9s,mb3.7,baz=298,slow=6.4,SNR=5.7
YKA Yellowknife Ar 63.80 30 P P 12 25 21.7 0.0
FINES FINESS Array B 67.45 332 P P 12 25 44.8 -0.6
2.3nm,0.9s,mb4.2,baz=113,slow=11,SNR=2.7
FINES FINESS Array B 67.45 332 P P 12 25 44.8 -0.6
AKASG Malin Array Be 72.81 321 P P 12 26 17.6 -0.8
0.4nm,0.4s,mb3.7,baz=47,slow=6.4,SNR=4.0
AKASG Malin Array Be 72.81 321 P P 12 26 17.6 -0.8
NOA NORSAR Array B 72.91 337 P P 12 26 19.1 +0.4
0.6nm,0.6s,mb3.7,baz=40,slow=8.1,SNR=2.3
NOA NORSAR Array B 72.91 337 P P 12 26 19.1 +0.4
NVAR Mina Array Bea 75.60 52 P P 12 26 35.3 +0.4
3.1nm,1.0s,mb4.2,baz=274,slow=6.0,SNR=8.0
NVAR Mina Array Bea 75.60 52 P P 12 26 35.3 +0.4
BRTR Keskin Array B 77.28 311 P P 12 26 45.8 +1.4
0.7nm,0.6s,mb3.8,baz=58,slow=4.7,SNR=3.6
BRTR Keskin Array B 77.28 311 P P 12 26 45.8 +1.4
PDAR Pinedale Array 78.08 45 P P 12 26 49.5 +0.7
1.5nm,1.0s,mb3.9,baz=295,slow=1.9,SNR=6.8
PDAR Pinedale Array 78.08 45 P P 12 26 49.5 +0.7
TXAR Lajitas Array 90.71 51 P P 12 27 53.4 +0.3
0.5nm,0.7s,mb3.9,baz=294,slow=3.6,SNR=8.4
TXAR Lajitas Array 90.71 51 P P 12 27 53.4 +0.3
LPAZ La Paz 147.44 56 PKPbc PKPbc 12 34 35.0 +0.7
1.6nm,0.8s,baz=345,slow=2.0,SNR=6.7
LPAZ La Paz 147.44 56 PKPbc PKPbc 12 34 35.0 +0.7

IDC 15 12:21:54.6±9.1, 30°.28N×69°.16E, h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/26, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=306.2km s-min=38.1km az=88.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.38**	**28**	P	Pn	12 26 22.0	-1.0
	0.1nm,0.3s,baz=210,slow=12,SNR=4.2						
ZALV	**Zalesovo Beam**	**26.23**	**21**	P	P	12 27 31.1	+0.1
	0.4nm,0.4s,baz=224,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**82.05**	**123**	P	P	12 34 17.1	+0.2
	0.1nm,0.5s,baz=302,slow=5.4,SNR=5.0						

IDC 15 12:22:32.9±18.0, 57°.41S×26°.77W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.4/11, mbtmp3.6/1, Error ellipse: s-maj=1185.0km s-min=68.8km az=142.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**74.13**	**29**	P	P	12 34 10.9	+0.1
	0.3nm,0.5s,baz=207,slow=6.1,SNR=7.4						
YKA	**Yellowknife Ar**	**137.33**	**317**	PKP	PKPdf	12 41 56.0	-0.6
	0.2nm,0.7s,baz=126,slow=2.2,SNR=4.1						
ILAR	**Eielson Array**	**151.18**	**310**	PKPbc	PKPbc	12 42 26.3	-0.1
	0.5nm,0.4s,baz=150,slow=2.0,SNR=14						

TRN ***15*** *12:41:21.8, 19°.17N×64°.81W, h46km, MD3.0(RSPR)*
RSPR 15 12:41:23.2, 19°.17N×64°.77W, h66km±8km, MD3.0/3, 6C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.60**	**137**	⇑*eP*	Pn	12 41 35.9	-0.8
ABV				*eS*	Sn	12 41 45.8	-0.8
ABV	**Anegada**	**0.60**	**137**	⇑*eP*	Pn	12 41 35.9	-0.8
ABV				*eS*	Sn	12 41 45.8	-0.8
TBVI	**Tortola**	**0.77**	**169**	*eS*	Sn	12 41 49.8	0.0
TBVI	**Tortola**	**0.77**	**169**	*eS*	Sn	12 41 49.8	0.0
STVI	**Saint Thomas**	**0.83**	**192**	⇓*eP*	Pn	12 41 38.5	-0.9
STVI	**Saint Thomas**	**0.83**	**192**	⇓*eP*	Pn	12 41 38.5	-0.9
STVI				*eS*	Sn	12 41 50.6	-0.8
CBYP	**Canovanas**	**1.36**	**229**	⇑*eP*	Pn	12 41 46.0	-0.2
CBYP	**Canovanas**	**1.36**	**229**	⇑*eP*	Pn	12 41 46.0	-0.2
CBYP				*eS*	Sn	12 42 03.2	-0.3
HUMP	**Col San Antoni**	**1.45**	**225**	*eS*	Sn	12 42 04.5	-1.0
HUMP	**Col San Antoni**	**1.45**	**225**	*eS*	Sn	12 42 04.5	-1.0
CPD	**Cerro la Pandu**	**1.57**	**224**	⇑*eP*	Pn	12 41 48.0	-1.0
CPD	**Cerro la Pandu**	**1.57**	**224**	⇑*eP*	Pn	12 41 48.0	-1.0

IDC 15 13:07:06.9±15.0, 6°.48S×129°.97E, h160km±165km, mb3.0/1, mb1 3.2/4, mb1mx3.0/15, mbtmp3.1/4, ML3.3/3, Error ellipse: s-maj=121.6km s-min=57.6km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.30**	**200**	P	Pn	13 09 57.7	+0.9
	0.1nm,0.3s,baz=22,slow=16,SNR=3.7						
FITZ				S	Sn	13 12 01.5	-12
	0.1nm,0.3s,baz=91,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**14.04**	**163**	P	Pn	13 10 17.5	-1.5
	0.1nm,0.3s,baz=343,slow=12,SNR=13						
WRA				S	Sn	13 12 45.4	-9.4
	0.3nm,0.3s,baz=349,slow=19,SNR=3.6						
ASAR	**Alice Springs**	**17.50**	**168**	P	Pn	13 11 00.6	-0.7
	0.3nm,0.3s,baz=345,slow=10,SNR=50						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	13 17 47.5	+0.1
	0.2nm,0.5s,baz=115,slow=7.2,SNR=3.7						

IDC 15 13:21:24.4±1.4, 22°.88S×114°.58W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.9/13, mbtmp3.6/5, MS3.7/6, Ms1 3.8/6, ms1mx3.4/20, Error ellipse: s-maj=45.7km s-min=39.0km az=50.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.37**	**133**	LR	LR	13 24 52.8	
	comp=Z,1μm,18.8s,baz=333,slow=33						
RKT	**Rikitea**	**18.78**	**265**	*e*LR	LR	13 29 51.9	
	198nm,27.2s						
RKT				*e*T		13 44 32.7	
	2.3nm,0.3s						
TAOE	**Nuku Hiva Isla**	**28.20**	**296**	*e*LR	LR	13 34 23.6	
	415nm,25.3s						
TBI	**Tubuai**	**32.04**	**262**	*e*LR	LR	13 35 55.1	
	92nm,25.8s						
PPT2	**Papeete2**	**33.20**	**273**	*e*LQ		13 35 21.8	
	223nm,23.8s						
PPT2				*e*LR	LR	13 36 16.6	
	137nm,28.0s						
PLCA	**Paso Flores**	**40.96**	**126**	LR	LR	13 41 42.8	
	comp=Z,159nm,21.5s,baz=346,slow=30						
LPAZ	**La Paz**	**44.11**	**90**	P	P	13 29 36.1	+1.2
	0.3nm,0.3s,baz=225,slow=7.1,SNR=3.9						
LPAZ				LR	LR	13 43 28.3	
	comp=Z,58nm,21.2s,baz=237,slow=30						
ROSC	**El Rosal**	**48.02**	**60**	LR	LR	13 45 43.5	
	comp=Z,54nm,19.4s,baz=185,slow=30						
TXAR	**Lajitas Array**	**52.96**	**12**	P	P	13 30 43.2	+0.4
	0.1nm,0.7s,baz=203,slow=5.9,SNR=2.4						
AFI	**Afiamalu**	**54.72**	**269**	LR	LR	13 49 44.9	
	comp=Z,65nm,18.8s,baz=92,slow=31						
URZ	**Urewera**	**59.55**	**238**	LR	LR	13 52 02.4	
	comp=Z,88nm,19.0s,baz=102,slow=31						
NVAR	**Mina Array Bea**	**61.08**	**357**	P	P	13 31 41.3	+1.1
	0.8nm,0.7s,baz=188,slow=9.1,SNR=4.4						
PDAR	**Pinedale Array**	**65.48**	**4**	P	P	13 32 09.0	-0.2
	0.5nm,0.7s,baz=161,slow=5.7,SNR=5.1						
YKA	**Yellowknife Ar**	**85.08**	**360**	P	P	13 34 00.3	-1.3
	0.6nm,0.9s,baz=174,slow=5.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**145.69**	**340**	PKPbc	PKPbc	13 41 04.1	-0.8
	0.3nm,0.4s,baz=51,slow=3.9,SNR=2.3						
BRTR	**Keskin Array B**	**148.29**	**51**	PKPbc	PKPbc	13 41 10.8	-2.0
	1.2nm,0.8s,baz=333,slow=1.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**148.37**	**268**	PKPbc	PKPbc	13 41 12.1	-1.5
	0.2nm,0.3s,baz=31,slow=2.0,SNR=4.2						
MKAR	**Makanchi Array**	**152.53**	**334**	PKP	PKPdf	13 41 15.6	-0.1
	0.2nm,0.6s,baz=41,slow=2.7,SNR=2.8						
MKAR				PKPbc	PKPbc	13 41 25.1	+2.4
	0.2nm,0.5s,baz=49,slow=2.2,SNR=5.2						

IDC 15 13:34:34.3±2.5, 14°.90S×167°.30E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, MS2.8/1, Ms1 2.8/1, ms1mx2.5/22, Error ellipse: s-maj=102.1km s-min=27.9km az=135.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.02**	**306**	LR	LR	13 39 27.6	
	comp=Z,59nm,20.0s,baz=296,slow=32						
STKA	**Stephens Creek**	**28.91**	**230**	P	P	13 40 34.5	-0.6
	0.7nm,0.6s,baz=147,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**31.82**	**256**	P	P	13 41 01.1	+0.2
	0.2nm,0.8s,baz=86,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**32.64**	**249**	P	P	13 41 08.6	+0.4
	0.3nm,0.6s,baz=75,slow=9.1,SNR=10						
ILAR	**Eielson Array**	**86.68**	**18**	P	P	13 47 19.6	+0.1
	0.5nm,0.6s,baz=240,slow=5.3,SNR=14						
MKAR	**Makanchi Array**	**97.35**	**316**	P	P	13 48 09.5	0.0
	0.2nm,0.7s,baz=101,slow=5.3,SNR=2.9						

ISCJB ***15*** *13:46:24.2±0.3, 50°.34N±0°.02×18°.78E±0°.02, h0km, mb3.2/2, Error ellipse: s-maj=3.6km s-min=2.1km az=17.4*
CSEM ***15*** *13:46:26.3±0.2, 50°.31N×18°.83E, h1km, ML3.2/3, Error ellipse: s-maj=4.6km s-min=2.7km az=13.0*
IDC ***15*** *13:46:26.8±1.8, 49°.97N×19°.19E, h0km, mb3.2/2, mb1 3.6/8, mb1mx3.4/24, mbtmp3.5/8, ML3.2/4, Error ellipse: s-maj=30.1km s-min=9.3km az=132.0*
WAR ***15*** *13:46:27.5, 50°.23N×18°.92E*
IPEC ***15*** *13:46:27.3±0.2, 50°.27N×18°.86E, h3km±1km, ML3.2/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
LDG ***15*** *13:46:27.2±0.1, 50°.19N×18°.94E, h2km, Ml3.9/14, Error ellipse: s-maj=4.3km s-min=1.7km az=13.0*
PRU ***15*** *13:46:27.7, 50°.29N×18°.82E, h0km*
NEIC ***15*** *13:46:28.3, 50°.28N×18°.86E, h1km, ML3.5(SZGRF), After SZGRF.*
BGR ***15*** *13:46:28.3±0.4, 50°.28N×18°.86E, h1km, ML3.5/8, Error ellipse: s-maj=6.7km s-min=3.3km az=10.0*
VIE ***15*** *13:46:29.3±0.7, 49°.66N×18°.93E, h2km±3km, mb2.5/3, ML3.4/6, Error ellipse: s-maj=5.8km s-min=3.9km az=16.0*
51 km NNE of Zilina Suspected Mining induced.
ISC 15 13:46:26.6±0.3, 50°.29N±0°.02×18°.84E±0°.02, h0km, n166, σ1°.25/250, mb3.2/2, 8C-18D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.47**	**244**	*e*Pg	**Pg**	**13 46 37.8**	**+2.3**
RAC				*e*Sg	**Sg**	**13 46 45.1**	**+3.6**
RAC	**Raciborz**	**0.47**	**244**	*e*Pg	**Pg**	**13 46 37.8**	**+2.3**
RAC				*e*Sg	**Sg**	**13 46 45.1**	**+3.6**
OJC	**Ojcow**	**0.62**	**96**	*i* Pg	**Pg**	**13 46 38.9**	**+0.5**
OJC				*e*Sg	**Sg**	**13 46 47.2**	**+0.8**
OJC				i		13 46 47.4	
OJC	**Ojcow**	**0.62**	**96**	*e*Pg	**Pg**	**13 46 39.0**	**+0.6**
OJC				*e*Sg	**Sg**	**13 46 47.3**	**+0.9**
OJC	**Ojcow**	**0.62**	**96**	Pg	**Pg**	**13 46 39.0**	**+0.6**
OJC				Sg	**Sg**	**13 46 47.3**	**+0.9**
OKC	**Ostrava-Krasne**	**0.64**	**225**	*e*Pg	**Pg**	**13 46 40.0**	**+1.2**
OKC				*e*Sg	**Sg**	**13 46 49.1**	**+2.1**
OKC	**Ostrava-Krasne**	**0.64**	**225**	*e*PG	**Pg**	**13 46 39.9**	**+1.1**
OKC				*e*SG	**Sg**	**13 46 47.5**	**+0.5**
	274nm,0.4s						
OKC	**Ostrava-Krasne**	**0.64**	**225**	*e*Pg	**Pg**	**13 46 39.8**	**+1.0**
	baz=46						
OKC				Sg	**Sg**	**13 46 49.1**	**+2.1**
MORC	**Moravsky Berou**	**0.98**	**239**	*e*Pg	**Pg**	**13 46 46.0**	**+0.6**
MORC				*e*Sg	**Sg**	**13 46 59.1**	**+1.0**
MORC	**Moravsky Berou**	**0.98**	**239**	*e*Pg	**Pg**	**13 46 46.1**	**+0.7**
MORC				*e*Sg	**Sg**	**13 46 59.2**	**+1.0**
MORC	**Moravsky Berou**	**0.98**	**239**	⇓*iP*	**Pg**	**13 46 46.1**	**+0.7**
MORC	**Moravsky Berou**	**0.98**	**239**	⇓*iP*	**Pg**	**13 46 46.1**	**+0.7**
MORC				*e*Sg	**Sg**	**13 46 59.1**	**+1.0**
LIKS	**Likavka**	**1.25**	**172**	*e*PG	**Pg**	**13 46 50.5**	**-0.1**
LIKS				*e*SG	**Sg**	**13 47 07.1**	**+0.3**
LIKS	**Likavka**	**1.25**	**172**	*e*Pg	**Pg**	**13 46 50.5**	**-0.1**
LIKS				*e*Sg	**Sg**	**13 47 07.1**	**+0.3**
NIE	**Niedzica**	**1.29**	**132**	*i* Pg	**Pg**	**13 46 50.8**	**-0.5**
NIE				*e*Sg	**Sg**	**13 47 08.2**	**+0.2**
NIE				e		13 47 09.5	
NIE	**Niedzica**	**1.29**	**132**	*i* Pg	**Pg**	**13 46 50.8**	**-0.5**
NIE				*e*Sg	**Sg**	**13 47 08.2**	**+0.2**
KRLC	**Kraliky**	**1.34**	**262**	*e*PG	**Pg**	**13 46 52.2**	**-0.1**
KRLC				*e*SG	**Sg**	**13 47 09.4**	**-0.3**
DPC	**Dobruska-Polom**	**1.62**	**273**	*e*Pg	**Pn**	**13 46 57.3**	**+0.9**
DPC				*e*Sg	**Sn**	**13 47 19.5**	**+1.6**
DPC	**Dobruska-Polom**	**1.62**	**273**	*e*PG	**Pn**	**13 46 57.0**	**+0.7**
DPC				*e*SG	**Sn**	**13 47 18.4**	**+0.5**
	409nm,0.4s						
DPC	**Dobruska-Polom**	**1.62**	**273**	*e*Pn	**Pn**	**13 46 57.0**	**+0.7**
	baz=92						
DPC	**Dobruska-Polom**	**1.62**	**273**	Pg	**Pn**	**13 46 57.3**	**+1.0**
DPC				Sg	**Sn**	**13 47 19.5**	**+1.6**
KSP	**Ksiaz**	**1.72**	**290**	*e*Pn	**Pn**	**13 47 00.8**	**+3.0**
KSP				*e*Sn	**Sn**	**13 47 24.3**	**+3.9**
KSP				*e*Sg	**Sg**	**13 47 27.1**	**+5.3**
KSP	**Ksiaz**	**1.72**	**290**	*e*Pg	**Pg**	**13 47 00.5**	**+1.0**
KSP				*e*Sg	**Sg**	**13 47 24.1**	**+2.3**
KSP	**Ksiaz**	**1.72**	**290**	*e*Pn	**Pn**	**13 46 57.8**	**+0.1**
KSP				*i* Pg	**Pg**	**13 47 00.8**	**+1.3**
KSP				*e*Sg	**Sg**	**13 47 23.9**	**+2.1**
KSP	**Ksiaz**	**1.72**	**290**	*e*Pn	**Pn**	**13 46 57.8**	**+0.1**
KOLL	**Kolacno**	**1.73**	**190**	*e*PG	**Pg**	**13 47 02.9**	**+3.1**
KOLL				*e*SN	**Sn**	**13 47 21.0**	**+0.2**
KOLL	**Kolacno**	**1.73**	**190**	*e*Pg	**Pg**	**13 47 02.9**	**+3.1**
KOLL				*e*Sn	**Sn**	**13 47 21.0**	**+0.2**
VRAC	**Vranov**	**1.76**	**237**	Pn	**Pn**	**13 46 58.9**	**+0.7**
	6.8nm,0.3s,baz=60,slow=15,SNR=29						
VRAC				Sn	**Sn**	**13 47 21.8**	**+0.5**
	39nm,0.3s,baz=80,slow=14,SNR=18						
VRAC	**Vranov**	**1.76**	**237**	Pn	**Pn**	**13 46 58.9**	**+0.7**
VRAC				Sn	**Sn**	**13 47 21.8**	**+0.5**
VRAC	**Vranov**	**1.76**	**237**	⇓*iP*	**Sn**	**13 47 16.4**	**-4.9**
VRAC	**Vranov**	**1.76**	**237**	*e*Pn	**Pn**	**13 46 58.7**	**+0.4**
	baz=56						
VRAC				Sn	**Sn**	**13 47 21.8**	**+0.5**
VRAC				*e*Sg	**Sg**	**13 47 22.1**	**-0.9**
	269nm,0.6s,baz=56						
STHS	**Stebnicka Huta**	**1.78**	**118**	*e*PN	**Pn**	**13 46 58.6**	**0.0**
STHS				*e*SN	**Sg**	**13 47 24.6**	**+0.8**
STHS	**Stebnicka Huta**	**1.78**	**118**	*e*Pn	**Pn**	**13 46 58.6**	**0.0**
STHS				*e*Sn	**Sg**	**13 47 24.6**	**+0.8**
VYHS	**Vyhne**	**1.80**	**180**	*e*PN	**Pn**	**13 46 57.9**	**-0.9**
VYHS				*e*SN	**Sn**	**13 47 21.5**	**-0.8**
VYHS	**Vyhne**	**1.80**	**180**	*e*Pn	**Pn**	**13 46 57.9**	**-0.9**
VYHS				*e*Sn	**Sn**	**13 47 21.5**	**-0.8**
UPC	**Upice**	**1.82**	**278**	*e*SG	**Sn**	**13 47 25.0**	**+2.0**
BEL	**Belsk**	**1.98**	**38**	*e*Pn	**Pg**	**13 47 09.7**	**+5.2**
BEL				*e*Sn	**Sg**	**13 47 37.2**	**+7.0**
BEL				*e*Sg	**Sg**	**13 47 45.5**	**+15**
SMOL	**Smolenice**	**2.00**	**208**	*e*PN	**Pn**	**13 47 01.2**	**-0.4**
SMOL	**Smolenice**	**2.00**	**208**	*e*Pn	**Pn**	**13 47 01.2**	**-0.4**
KRUC	**Moravsky**	**2.01**	**233**	*e*Pn	**Pn**	**13 47 02.1**	**+0.4**
	baz=52						
KRUC				*e*Sn	**Sn**	**13 47 28.7**	**+1.2**
	112nm,0.5s,baz=52						
KECS	**Kecovo**	**2.10**	**149**	*e*PN	**Pn**	**13 47 02.0**	**-1.0**
KECS	**Kecovo**	**2.10**	**149**	*e*Pn	**Pn**	**13 47 02.0**	**-1.0**
CRVS	**Cervenica-Dubn**	**2.20**	**128**	*e*PN	**Pn**	**13 47 04.2**	**-0.1**
CRVS				*e*SN	**Sn**	**13 47 32.1**	**0.0**
CRVS	**Cervenica-Dubn**	**2.20**	**128**	*e*Pn	**Pn**	**13 47 04.2**	**-0.1**
CRVS				*e*Sn	**Sn**	**13 47 32.1**	**0.0**
PSZ	**Piszkesteto**	**2.47**	**163**	*e*Pn	**Pn**	**13 47 07.4**	**-0.6**
PSZ				*e*Pg	**Pg**	**13 47 14.1**	**+0.2**
PSZ	**Piszkesteto**	**2.47**	**163**	*e*Pn	**Pn**	**13 47 09.0**	**+0.9**
PSZ				*e*Pg	**Pg**	**13 47 14.9**	**+1.0**
PSZ				*e*S	**Sg**	**13 47 45.6**	**-0.3**
PSZ	**Piszkesteto**	**2.47**	**163**	⇑*iP*	**Pn**	**13 47 07.5**	**-0.6**
PSZ	**Piszkesteto**	**2.47**	**163**	⇑*iP*	**Pn**	**13 47 07.5**	**-0.6**
KWP	**Kalwaria Pacla**	**2.58**	**103**	*e*Pn	**Pn**	**13 47 11.9**	**+2.3**
KWP				*e*Pg	**Pg**	**13 47 18.4**	**+2.4**
KWP				*e*Sn	**Sn**	**13 47 47.7**	**+6.0**
KWP				*e*Sg	**Sg**	**13 47 56.4**	**+6.9**
KWP	**Kalwaria Pacla**	**2.58**	**103**	*e*Pn	**Pn**	**13 47 10.1**	**+0.5**
KWP	**Kalwaria Pacla**	**2.58**	**103**	⇓*iP*	**Pn**	**13 47 11.9**	**+2.3**
KWP	**Kalwaria Pacla**	**2.58**	**103**	*e*Pn	**Pn**	**13 47 10.1**	**+0.5**
KWP	**Kalwaria Pacla**	**2.58**	**103**	⇓*iP*	**Pn**	**13 47 11.9**	**+2.3**
PVCC	**Panska Ves**	**2.75**	**277**	*e*SG	**Sb**	**13 47 54.3**	**+3.6**
	238nm,0.5s						
PRU	**Pruhonice**	**2.78**	**265**	*e*PG	**Pb**	**13 47 17.3**	**+0.1**
PRU				*e*SG	**Sb**	**13 47 53.6**	**+1.8**
	93nm,0.6s						
BUD	**Budapest**	**2.81**	**178**	*e*Pn	**Pn**	**13 47 15.4**	**+2.7**
BUD				*e*Sg	**Sg**	**13 48 04.1**	**+7.3**
BUD	**Budapest**	**2.81**	**178**	*e*Pn	**Pn**	**13 47 15.4**	**+2.7**
PKSG		**2.91**	**186**	*e*Pn	**Pn**	**13 47 14.8**	**+0.6**
PKSG				*e*Sn	**Sn**	**13 47 46.7**	**-3.1**
SOP	**Sopron**	**3.01**	**211**	*e*PB	**Pb**	**13 47 19.6**	**-1.4**
SOP				*e*		13 48 10.0	
SOP	**Sopron**	**3.01**	**211**	*e*Pn	**Pb**	**13 47 19.6**	**-1.4**
CONA	**Conrad Observa**	**3.07**	**221**	⇑*iPn*	**Pn**	**13 47 13.4**	**-2.9**
CONA	**Conrad Observa**	**3.07**	**221**	Pn	**Pn**	**13 47 13.4**	**-2.9**
GKP	**Gorka Klasztor**	**3.15**	**342**	*e*Pg	**Pg**	**13 47 34.8**	**+7.9**
GKP				*e*Sg	**Sg**	**13 48 23.8**	**+16**
BRG	**Berggiesshubel**	**3.18**	**283**	PG	**Pb**	**13 47 26.8**	**+2.9**
BRG				SG	**Sg**	**13 48 09.0**	**+0.3**
	90nm,0.5s						
BRG	**Berggiesshubel**	**3.18**	**283**	*e*Sg	**Sg**	**13 48 08.9**	**+0.3**
BRG	**Berggiesshubel**	**3.18**	**283**	Sg	**Sg**	**13 48 08.9**	**+0.2**
TRPA	**Tarpa**	**3.25**	**130**	⇑*iP*	**Pn**	**13 47 18.0**	**-0.7**
TRPA	**Tarpa**	**3.25**	**130**	⇑*iP*	**Pn**	**13 47 18.0**	**-0.7**
TRPA	**Tarpa**	**3.25**	**130**	*e*Pn	**Pn**	**13 47 18.3**	**-0.4**
FBE	**Freiberg**	**3.55**	**282**	*e*Sg	**Sg**	**13 48 20.5**	**-0.2**
FBE	**Freiberg**	**3.55**	**282**	Sg	**Sg**	**13 48 20.5**	**-0.2**
KHC	**Kasperske Hory**	**3.61**	**253**	*e*Pn	**Pn**	**13 47 24.2**	**+0.5**
KHC				*e*S	**Sb**	**13 48 20.0**	**+4.5**
KHC	**Kasperske Hory**	**3.61**	**253**	*e*PN	**Pn**	**13 47 24.0**	**+0.3**
KHC				*e*PG	**Pb**	**13 47 32.6**	**+1.4**
KHC				*e*SG	**Sb**	**13 48 20.3**	**+4.8**
	188nm,0.5s						
KHC	**Kasperske Hory**	**3.61**	**253**	*e*Pn	**Pn**	**13 47 24.2**	**+0.5**
GERES	**GERESS Array B**	**3.65**	**249**	Pn	**Pn**	**13 47 25.7**	**+1.4**
	0.4nm,0.3s,baz=64,slow=15,SNR=6.1						
GERES				Pg	**Pg**	**13 47 35.0**	**-1.5**
	2.4nm,0.3s,baz=64,slow=18,SNR=20						
GERES				Lg		13 48 18.4	
	17nm,0.3s,baz=67,slow=25,SNR=14						
GERES	**GERESS Array B**	**3.65**	**249**	Pn	**Pn**	**13 47 25.6**	**+1.4**
GERES				Pg	**Pg**	**13 47 35.0**	**-1.5**
GERES				Lg		13 48 18.4	
GERES	**GERESS Array B**	**3.65**	**249**	Pn	**Pn**	**13 47 25.6**	**+1.4**
GERES	**GERESS Array B**	**3.65**	**249**	Pg	**Pg**	**13 47 35.0**	**-1.4**
ARSA	**Arzberg**	**3.75**	**217**	⇓*iPn*	**Pn**	**13 47 22.2**	**-3.4**
ARSA	**Arzberg**	**3.75**	**217**	Pn	**Pn**	**13 47 22.2**	**-3.5**
CLL	**Collm**	**3.84**	**288**	*e*Pg	**Pg**	**13 47 42.0**	**+1.8**
CLL				*e*		13 47 46.0	
CLL				*e*Sg	**Sg**	**13 48 31.0**	**+1.0**
	comp=Z,78nm,0.9s						
MOA	**Molln**	**3.87**	**233**	⇑*iPn*	**Pn**	**13 47 27.4**	**+0.1**
MOA				⇓*iSg*	**Sb**	**13 48 27.8**	**+4.7**
	comp=Z,110nm,0.5s						
MOA	**Molln**	**3.87**	**233**	Pn	**Pn**	**13 47 27.4**	**0.0**
MOA				Sg	**Sb**	**13 48 27.8**	**+4.6**
	comp=Z,110nm,0.5s						
PKSM	**Moragy**	**4.08**	**182**	⇓*iP*	**Pn**	**13 47 29.9**	**-0.3**
PKSM	**Moragy**	**4.08**	**182**	⇓*iP*	**Pn**	**13 47 29.9**	**-0.3**
PKSM	**Moragy**	**4.08**	**182**	*e*Pn	**Pn**	**13 47 30.5**	**+0.3**
TANN	**Tannenbergstha**	**4.09**	**274**	*e*Sg	**Sg**	**13 48 36.5**	**-1.4**
TANN	**Tannenbergstha**	**4.09**	**274**	Sg	**Sg**	**13 48 36.5**	**-1.4**
NKC	**Novy Kostel**	**4.10**	**272**	*e*SG	**Sb**	**13 48 36.4**	**+6.6**
DRGR		**4.34**	**142**	⇓*iP*	**Pn**	**13 47 33.7**	**-0.1**
DRGR		**4.34**	**142**	⇓*iP*	**Pn**	**13 47 33.7**	**-0.1

LPG				*e*Sn	**Sn**	**13 50 22.3**	**-7.9**
	comp=Z,2.0nm,0.4s						
LPG	**La Plagne**	**9.43**	**244**	*e*Pn	**Pn**	**13 48 41.8**	**-1.8**
LPG				*e*Sn	**Sn**	**13 50 22.3**	**-7.9**
LPG	**La Plagne**	**9.43**	**244**	*e*Pn	**Pn**	**13 48 41.8**	**-1.8**
LPL	**La Plagne**	**9.43**	**244**	*e*Pn	**Pn**	**13 48 41.6**	**-2.0**
LPL				*e*Sn	**Sn**	**13 50 22.4**	**-7.8**
	comp=Z,2.2nm,0.4s						
LPL	**La Plagne**	**9.43**	**244**	*e*Pn	**Pn**	**13 48 41.6**	**-2.0**
LPL				*e*Sn	**Sn**	**13 50 22.4**	**-7.8**
LPL	**La Plagne**	**9.43**	**244**	*e*Pn	**Pn**	**13 48 41.6**	**-2.0**
HFS	**Hagfors**	**10.29**	**345**	Pn	**Pn**	**13 48 56.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=120,slow=17,SNR=4.1						
HFS				Sn	**Sn**	**13 50 45.4**	**-5.9**
	comp=Z,0.3nm,0.3s,baz=160,slow=22,SNR=2.0						
HFS	**Hagfors**	**10.29**	**345**	Pn	**Pn**	**13 48 56.0**	**+0.7**
HFS				Sn	**Sn**	**13 50 45.4**	**-5.9**
HFS	**Hagfors**	**10.29**	**345**	Pn	**Pn**	**13 48 56.0**	**+0.7**
LOR	**Lormes**	**10.34**	**259**	*e*Pn	**Pn**	**13 48 54.0**	**-2.1**
LOR				*e*Sg	Sn	13 51 51.6	+59
	comp=Z,1.8nm,0.3s						
LOR	**Lormes**	**10.34**	**259**	*e*Pn	**Pn**	**13 48 54.0**	**-2.1**
LOR				*e*Sg	Sn	13 51 51.6	+59
LOR	**Lormes**	**10.34**	**259**	*e*Pn	**Pn**	**13 48 54.0**	**-2.1**
SSF	**Saint Saulge**	**10.64**	**258**	*e*Pn	**Pn**	**13 48 58.5**	**-1.7**
SSF				*e*Sg	Sn	13 52 01.1	+61
	comp=Z,4.8nm,0.6s						
SSF	**Saint Saulge**	**10.64**	**258**	*e*Pn	**Pn**	**13 48 58.5**	**-1.7**
SSF				*e*Sg	Sn	13 52 01.1	+61
SSF	**Saint Saulge**	**10.64**	**258**	*e*Pn	**Pn**	**13 48 58.5**	**-1.7**
NOA	**NORSAR Array B**	**11.59**	**341**	Pn	**Pn**	**13 49 12.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=148,slow=12,SNR=3.9						
NOA	**NORSAR Array B**	**11.59**	**341**	Pn	**Pn**	**13 49 12.2**	**-1.0**
NOA	**NORSAR Array B**	**11.59**	**341**	Pn	**Pn**	**13 49 12.2**	**-0.9**
FINES	**FINESS Array B**	**11.89**	**17**	Pn	**Pn**	**13 49 14.9**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=194,slow=12,SNR=8.5						
FINES				Sn	**Sn**	**13 51 21.1**	**-9.2**
	comp=Z,0.4nm,0.3s,baz=195,slow=22,SNR=2.6						
FINES	**FINESS Array B**	**11.89**	**17**	Pn	**Pn**	**13 49 14.9**	**-2.2**
FINES				Sn	**Sn**	**13 51 21.1**	**-9.2**
FINES	**FINESS Array B**	**11.89**	**17**	Pn	**Pn**	**13 49 14.9**	**-2.2**
ARCES	**ARCESS Array B**	**19.57**	**7**	Pn	**Pn**	**13 50 54.2**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=4.6						
ARCES	**ARCESS Array B**	**19.57**	**7**	Pn	**Pn**	**13 50 54.2**	**-2.7**
TORD	**Torodi Ar. Bea**	**39.60**	**207**	P	**P**	**13 53 59.2**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.0,baz=14,slow=7.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**39.60**	**207**	P	**P**	**13 53 59.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**39.60**	**207**	P	**P**	**13 53 59.2**	**-0.5**
YKA	**Yellowknife Ar**	**61.67**	**337**	P	**P**	**13 56 47.4**	**+1.7**
	comp=Z,0.2nm,0.7s,mb3.4,baz=31,slow=6.9,SNR=3.1						
YKA	**Yellowknife Ar**	**61.67**	**337**	P	**P**	**13 56 47.4**	**+1.7**
YKA	**Yellowknife Ar**	**61.67**	**337**	P	**P**	**13 56 47.4**	**+1.7**

IDC 15 13:52:40.4±3.5, 9.75N×92.22E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, Error ellipse: s-maj=135.1km s-min=24.6km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.88**	**349**	P	P	13 59 59.1	0.0
	0.5nm,0.7s,baz=174,slow=8.6,SNR=7.4						
SONM	**Songino Array**	**39.81**	**15**	P	P	14 00 15.3	+0.1
	0.3nm,0.5s,baz=199,slow=7.9,SNR=3.2						
WRA	**Warramunga Arr**	**50.89**	**126**	P	P	14 01 43.6	0.0
	0.3nm,0.5s,baz=305,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**52.56**	**130**	P	P	14 01 56.1	0.0
	0.1nm,0.6s,baz=303,slow=7.8,SNR=4.6						

IDC 15 13:59:16.5±1.6, 7.79S×120.66E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, ML2.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=171.3km s-min=22.2km az=58.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.34**	**155**	Pn	Pn	14 01 59.8	-0.1
	0.1nm,0.3s,baz=340,slow=15,SNR=2.7						
WRA	**Warramunga Arr**	**17.94**	**134**	P	Pn	14 03 27.6	+0.1
	0.1nm,0.3s,baz=306,slow=13,SNR=5.1						
WRA				S	Sn	14 06 57.9	+10
	0.0nm,0.3s,baz=262,slow=7.1,SNR=2.7						
ASAR	**Alice Springs**	**20.27**	**143**	P	P	14 03 53.9	+0.2
	1.0nm,0.8s,baz=327,slow=12,SNR=12						
SONM	**Songino Array**	**56.80**	**349**	LR	LR	14 32 50.5	
	comp=Z,40nm,18.2s,baz=5.0,slow=36						
MKAR	**Makanchi Array**	**64.15**	**332**	P	P	14 09 52.9	+0.1
	0.2nm,0.6s,baz=131,slow=7.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**68.51**	**338**	P	P	14 10 20.5	0.0
	0.6nm,0.7s,baz=123,slow=5.3,SNR=2.9						

ISCJB ***15*** *14:27:09.4±0.3, 17.30N±0.04×96.65W±0.04, h66km±3km, mb4.1/26, Error ellipse: s-maj=7.4km s-min=3.9km az=40.5*

NEIC ***15*** *14:27:10.3, 17.07N×97.01W, h65km, mb4.4/32, MD4.4(MEX), After MEX.*

NEIC Felt [II] at Oaxaca. Also felt at Huixtepec, Mitla and San Agustin de las Juntas.

IDC ***15*** *14:27:10.3±0.6, 17.29N×96.69W, h66km±4km, mb3.8/10, mb1 4.1/14, mb1mx3.9/25, mbtmp3.9/14, MS3.4/3, Ms1 3.4/3, ms1mx3.0/27, Error ellipse: s-maj=13.3km s-min=6.5km az=22.0*

MEX ***15*** *14:27:10.4±0.9, 17.08N×97.00W, h65km±5km, MD4.4*

BJI ***15*** *14:27:11.5, 17.40N×96.50W, h57km, mB5.3/2, Ms5.4/2, Ms7 4.9/2*

ISC 15 14:27:10.3±0.3, 17.31N±0.03×96.62W±0.03, h59km±3km, h65km±2.5km: pP-P, n230, σ0.89/247, mb4.2/26, MS4.1/2, 56C-58D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.25**	**205**	*e*P	**Pn**	**14 27 19.9**	**0.0**
OXX				*i* S	**Sn**	**14 27 26.9**	**+0.1**
OXX	**Oaxaca**	**0.25**	**205**	*e*P	**Pn**	**14 27 19.9**	**0.0**
OXX				*i* S	**Sn**	**14 27 26.9**	**+0.1**
VHO	**Vista Hermosa**	**0.26**	**206**	*i* P	**Pn**	**14 27 19.5**	**-0.5**
VHO				*i* S	**Sn**	**14 27 27.0**	**0.0**
VHO	**Vista Hermosa**	**0.26**	**206**	*i* P	**Pn**	**14 27 19.5**	**-0.5**
VHO				*i* S	**Sn**	**14 27 27.0**	**0.0**
UTMO	**Huajuapan**	**1.25**	**295**	*e*P	**Pn**	**14 27 28.3**	**-3.3**
UTMO				*i* S	**Sn**	**14 27 42.0**	**-5.4**
UTMO	**Huajuapan**	**1.25**	**295**	⇓*e*P	**Pn**	**14 27 28.3**	**-3.3**
UTMO				*i* S	**Sn**	**14 27 42.0**	**-5.4**
TPIG	**Tehuac#an**	**1.31**	**327**	*e*P	**Pn**	**14 27 32.3**	**-0.2**
TPIG				*e*S	**Sn**	**14 27 49.6**	**+0.5**
TPIG	**Tehuac#an**	**1.31**	**327**	*e*P	**Pn**	**14 27 32.3**	**-0.2**
TPIG				*e*S	**Sn**	**14 27 49.6**	**+0.5**
HUIG	**Huatulco**	**1.60**	**162**	*e*P	**Pn**	**14 27 35.9**	**-0.5**
HUIG				*e*S	**Sn**	**14 27 52.7**	**-3.4**
HUIG	**Huatulco**	**1.60**	**162**	*e*P	**Pn**	**14 27 35.9**	**-0.5**
HUIG				*e*S	**Sn**	**14 27 52.7**	**-3.4**
CMIG	**Matias Romero**	**1.67**	**97**	P	**Pn**	**14 27 40.0**	**+2.7**
	55nm,0.3s,baz=271,slow=12,SNR=327						
CMIG				S	**Sn**	**14 27 59.6**	**+2.0**
	142nm,0.3s,baz=268,slow=15,SNR=13						
CMIG	**Matias Romero**	**1.67**	**97**	*e*P	**Pn**	**14 27 40.4**	**+3.2**
CMIG				S	**Sn**	**14 27 59.6**	**+2.0**
CMIG				*i* S	**Sn**	**14 28 04.2**	**+6.6**
CMIG	**Matias Romero**	**1.67**	**97**	*e*P	**Pn**	**14 27 40.4**	**+3.2**
CMIG				*i* S	**Sn**	**14 28 04.2**	**+6.6**
PNIG	**Pinotepa**	**1.71**	**238**	*e*P	**Pn**	**14 27 30.5**	**-7.3**
PNIG				*i* S	**Sn**	**14 27 46.5**	**-12**
PNIG	**Pinotepa**	**1.71**	**238**	*e*P	**Pn**	**14 27 30.5**	**-7.3**
PNIG				*i* S	**Sn**	**14 27 46.5**	**-12**
PPM	**Popocatepetl**	**2.59**	**313**	*e*P	**Pn**	**14 27 49.6**	**-0.2**
PPM				*i* S	**Sn**	**14 28 08.8**	**-11**
PPM				*i* S	**Sn**	**14 28 18.0**	**-2.2**
PPM	**Popocatepetl**	**2.59**	**313**	*e*P	**Pn**	**14 27 49.6**	**-0.2**
PPM				*e*P		14 27 49.6	
PPM				*i* S	**Sn**	**14 28 18.0**	**-2.2**
PPM				*i* S	**Sn**	**14 28 20.1**	**-0.1**
MEIG	**Mezcala**	**2.93**	**283**	*e*P	**Pn**	**14 27 50.3**	**-4.1**
MEIG				*e*S	**Sn**	**14 28 19.4**	**-9.1**
MEIG	**Mezcala**	**2.93**	**283**	*e*P	**Pn**	**14 27 50.3**	**-4.1**
MEIG				*e*S	**Sn**	**14 28 19.4**	**-9.1**
ACX	**Acapulco**	**3.13**	**262**	*e*P	**Pn**	**14 27 50.2**	**-7.0**
ACX				*i* S	**Sn**	**14 28 14.7**	**-19**
ACX	**Acapulco**	**3.13**	**262**	*i* P	**Pn**	**14 27 50.2**	**-7.0**
ACX				*i* S	**Sn**	**14 28 23.9**	**-10**
TGIG		**3.38**	**98**	*e*P	**Pn**	**14 28 04.5**	**+3.9**
TGIG				*i* S	**Sn**	**14 28 45.9**	**+6.4**
TGIG		**3.38**	**98**	*e*P	**Pn**	**14 28 04.5**	**+3.9**
TGIG				*i* S	**Sn**	**14 28 45.9**	**+6.4**
CAIG	**El Cayaco**	**3.50**	**266**	*e*P	**Pn**	**14 27 55.7**	**-6.5**
CAIG				*e*S	**Sn**	**14 28 31.9**	**-11**
CAIG	**El Cayaco**	**3.50**	**266**	⇑*i*P	**Pn**	**14 27 55.5**	**-6.7**
CAIG				*e*S	**Sn**	**14 28 31.9**	**-11**
PCIG		**3.63**	**116**	*e*P	**Pn**	**14 28 07.7**	**+3.7**
PCIG				*e*S	**Sn**	**14 28 50.1**	**+4.5**
PCIG		**3.63**	**116**	*e*P	**Pn**	**14 28 07.7**	**+3.7**
PCIG				*e*S	**Sn**	**14 28 50.1**	**+4.5**
CCIG	**Comitan**	**4.41**	**103**	*e*P	**Pn**	**14 28 19.2**	**+4.5**
CCIG	**Comitan**	**4.41**	**103**	*e*P	**Pn**	**14 28 19.2**	**+4.5**
ZIIG	**Zihuatanejo**	**4.64**	**274**	*e*P	**Pn**	**14 28 12.6**	**-5.3**
ZIIG	**Zihuatanejo**	**4.64**	**274**	*e*P	**Pn**	**14 28 12.6**	**-5.3**
SFJM	**Santa Fe**	**6.85**	**298**	*e*P	**Pn**	**14 28 45.1**	**-3.1**
SFJM				*e*S	**Sn**	**14 29 59.3**	**-5.6**
TEIG	**Tepich**	**8.42**	**69**	P	**Pn**	**14 29 09.9**	**+0.3**
	14nm,0.3s,baz=282,slow=0.9,SNR=46						
TEIG				S	**Sn**	**14 30 43.8**	**+0.6**
	16nm,0.3s,baz=348,slow=19,SNR=6.5						
TEIG	**Tepich**	**8.42**	**69**	*e*P	**Pn**	**14 29 09.5**	**-0.1**
	72nm,0.4s						
TEIG				S	**Sn**	**14 30 43.8**	**+0.6**
JTS	**JuntasAbangare**	**13.30**	**120**	P	**Pn**	**14 30 16.4**	**+0.1**
	0.9nm,0.3s,baz=306,slow=18,SNR=2.3						
JTS	**JuntasAbangare**	**13.30**	**120**	P	**Pn**	**14 30 16.4**	**+0.1**
628A	**Black Gap, Mar**	**13.42**	**336**	⇓P	**Pn**	**14 30 19.0**	**+1.1**
	baz=13						
JCT	**Junction City**	**13.43**	**348**	⇑P	**Pn**	**14 30 19.1**	**+1.1**
	baz=13						
JCT	**Junction City**	**13.43**	**348**	P	**Pn**	**14 30 18.7**	**+0.6**
	20nm,0.7s						
627A	**Terlingua Ranc**	**13.59**	**334**	⇑P	**Pn**	**14 30 21.4**	**+1.1**
	baz=14						
TXAR	**Lajitas Array**	**13.61**	**333**	P	**Pn**	**14 30 21.4**	**+1.0**
	0.1nm,0.3s,baz=151,slow=15,SNR=5.3						
TXAR	**Lajitas Array**	**13.61**	**333**	P	**Pn**	**14 30 21.4**	**+1.0**
626A	**Big Bend Ranch**	**14.00**	**332**	⇓P	**Pn**	**14 30 27.3**	**+1.6**
	baz=14						
527A	**Woodward Ranch**	**14.29**	**335**	⇑P	**Pn**	**14 30 30.5**	**+1.0**
	baz=14						
428A	**Kincaid Ranch,**	**14.46**	**339**	⇓P	**Pn**	**14 30 31.9**	**+0.2**
	baz=14						
427A	**Hayter Ranch,**	**14.83**	**337**	⇑P	**Pn**	**14 30 37.3**	**+0.7**
	baz=15						
426A	**McDonald Obser**	**14.92**	**334**	⇑P	**Pn**	**14 30 38.8**	**+1.0**
	baz=15						
328A	**Wristen Ranch,**	**15.10**	**339**	⇓P	**Pn**	**14 30 41.0**	**+1.0**
	baz=15						
425A	**Indio Mountain**	**15.43**	**332**	⇑P	**Pn**	**14 30 45.7**	**+1.3**
	baz=15						
326A	**Caldwell Ranch**	**15.47**	**336**	⇑P	**Pn**	**14 30 45.9**	**+1.0**
	baz=15						
325A	**Bean Ranch, Si**	**15.93**	**333**	⇓P	**Pn**	**14 30 51.4**	**+0.7**
	baz=16						
226A	**Malaga, Loving**	**16.18**	**337**	⇑P	**Pn**	**14 30 54.0**	**+0.2**
	baz=16						
324A	**Moseley Ranch,**	**16.21**	**332**	⇓P	**Pn**	**14 30 54.4**	**+0.1**
	baz=16						
MNTX	**Cornudas Mount**	**16.39**	**333**	⇑P	**Pn**	**14 30 56.6**	**+0.1**
	baz=16						
MNTX	**Cornudas Mount**	**16.39**	**333**	P	**Pn**	**14 30 58.6**	**+2.1**
	38nm,1.6s						
MNTX				*e*		14 31 12.6	
GDL2	**Guadalupe Moun**	**16.40**	**336**	P	**Pn**	**14 30 56.5**	**-0.1**
	12nm,0.8s						
GDL2				*e*		14 31 13.2	
127A	**Arkansas Junct**	**16.47**	**340**	⇑P	**Pn**	**14 30 57.5**	**0.0**
	baz=16						
225A	**Deer Hill, Car**	**16.51**	**335**	⇑P	**Pn**	**14 30 58.3**	**+0.3**
	baz=16						
126A	**Clayton Basin,**	**16.67**	**338**	⇑P	**Pn**	**14 31 00.2**	**+0.2**
	baz=17						
224A	**Cornudas Mount**	**16.77**	**333**	⇑P	**Pn**	**14 31 01.7**	**+0.5**
	baz=17						
125A	**Gardner Draw,**	**16.92**	**336**	⇓P	**Pn**	**14 31 03.5**	**+0.3**
	baz=17						
CPRX	**Cap Rock**	**16.97**	**339**	P	**Pn**	**14 31 02.9**	**-0.8**
	11nm,0.8s						
Z27A	**Tatum**	**17.01**	**341**	⇑P	**Pn**	**14 31 04.1**	**-0.1**
	baz=17						
Z26A	**Caprock**	**17.22**	**339**	⇓P	**Pn**	**14 31 06.9**	**+0.1**
	baz=17						
MIAR	**Mount Ida**	**17.38**	**8**	*e*P	**Pn**	**14 31 09.1**	**+0.3**
	71nm,0.9s						
WMOK	**Wichita Mounta**	**17.47**	**354**	*e*P	**Pn**	**14 31 09.0**	**-0.8**
	11nm,0.9s						
MSTX	**Muleshoe**	**17.49**	**343**	⇑P	**Pn**	**14 31 09.9**	**-0.2**
	baz=18						
Z25A	**Roswell**	**17.50**	**337**	⇓P	**Pn**	**14 31 10.1**	**-0.2**
	baz=18						
Y27A	**Causey**	**17.52**	**342**	⇑P	**Pn**	**14 31 10.5**	**-0.1**
	baz=18						
222A	**Williams Famil**	**17.53**	**329**	⇓P	**Pn**	**14 31 10.6**	**0.0**
	baz=18						
Z24A	**Sheeppen Canyo**	**17.79**	**335**	⇑P	**Pn**	**14 31 14.0**	**+0.1**
	baz=18						
UALR	**University of**	**17.81**	**12**	*e*P	**Pn**	**14 31 12.5**	**-1.6**
	42nm,0.8s						
LRAL	**Laview Retre**	**17.90**	**27**	*e*P	**Pn**	**14 31 15.2**	**0.0**
	9.3nm,0.4s						
AMTX	**Amarillo**	**18.08**	**346**	⇑P	**Pn**	**14 31 17.2**	**-0.2**
	baz=18						
AMTX	**Amarillo**	**18.08**	**346**	*e*P	**Pn**	**14 31 16.8**	**-0.5**
	20nm,0.9s						
Z23A	**Rita Site, Whi**	**18.09**	**333**	⇓P	**Pn**	**14 31 17.7**	**+0.2**
	baz=18						
220A	**Playas Peak, P**	**18.10**	**326**	⇓P	**Pn**	**14 31 17.6**	**-0.1**
	baz=18						
121A	**Cookes Peak, D**	**18.21**	**328**	⇓P	**Pn**	**14 31 18.8**	**-0.2**
	baz=18						
X27A	**F and S Farms,**	**18.22**	**343**	⇓P	**Pn**	**14 31 18.8**	**-0.2**
	baz=18						
OXF	**Oxford**	**18.31**	**19**	*e*P	**Pn**	**14 31 19.2**	**-0.9**
	79nm,1.2s						
X26A	**CR and CF Fran**	**18.34**	**341**	⇑P	**Pn**	**14 31 20.3**	**-0.2**
	baz=18						
Y24A	**Capitan**	**18.34**	**336**	⇑P	**Pn**	**14 31 20.7**	**+0.1**
	baz=18						
Z22A	**Elephant Butte**	**18.41**	**332**	⇓P	**Pn**	**14 31 21.1**	**-0.3**
	baz=18						
TUL1	**Tulsa**	**18.54**	**2**	⇓P	**Pn**	**14 31 22.1**	**-0.9**
	baz=18,SNR=14						
219A	**White Tail Can**	**18.58**	**324**	⇓P	**Pn**	**14 31 23.4**	**+0.1**
	baz=19						
318A	**Bisbee**	**18.59**	**322**	⇓P	**Pn**	**14 31 23.5**	**+0.1**
	baz=19						
Y23A	**Lovelace Mesa,**	**18.60**	**335**	⇑P	**Pn**	**14 31 23.4**	**-0.1**
	baz=19						
W27A	**Bowe Ranch, En**	**18.60**	**343**	⇑P	**Pn**	**14 31 23.0**	**-0.6**
	baz=19						
120A	**U Bar Ranch, L**	**18.66**	**327**	⇑P	**Pn**	**14 31 24.5**	**+0.2**
	baz=19						
Z21A	**St. Cloud Mine**	**18.79**	**330**	⇓P	**Pn**	**14 31 25.2**	**-0.7**
	baz=19						
W26A	**Owens Ranch, T**	**18.82**	**342**	⇓P	**Pn**	**14 31 25.5**	**-0.8**
	baz=19						
HBAR	**Harrisburg**	**18.93**	**15**	*e*P	**Pn**	**14 31 28.0**	**+0.4**
Y22A	**Socorro**	**18.99**	**333**	⇑P	**Pn**	**14 31 27.1**	**-1.2**
	baz=19						
BNM	**Barren Site**	**19.02**	**334**	*e*P	**Pn**	**14 31 29.0**	**+0.3**
	7.1nm,1.2s						
Z20A	**Nine Sixteen R**	**19.08**	**328**	⇑P	**Pn**	**14 31 28.7**	**-0.7**
	baz=19						
W25A	**X Bar L Ranch,**	**19.16**	**340**	⇓P	**Pn**	**14 31 29.2**	**-1.1**
	baz=19						
119A	**Ashpeak Ranch,**	**19.18**	**326**	⇓P	**Pn**	**14 31 29.8**	**-0.8**
	baz=19						
PLAL	**Pickwick Lake**	**19.18**	**22**	*e*P	**Pn**	**14 31 29.1**	**-1.5**
	42nm,0.6s						
LENM	**Lemitar**	**19.18**	**333**	*e*P	pP	14 31 44.0	+2.1
X23A	**Hourglass Bar**	**19.22**	**335**	⇑P	**Pn**	**14 31 30.1**	**-0.9**
	baz=19						
Y21A	**Point of Rocks**	**19.36**	**331**	⇑P	**Pn**	**14 31 31.6**	**-1.1**
	baz=19						
118A	**Homack Ranch,**	**19.45**	**324**	⇑P	**Pn**	**14 31 32.4**	**-1.4**
	baz=19						
LAZ	**Ladron**	**19.46**	**333**	*e*P	**Pn**	**14 31 34.7**	**+0.8**
	6.0nm,0.9s						
LAZ				*e*		14 31 47.2	
W24A	**Lazy 6 Ranch,**	**19.48**	**338**	⇑P	**Pn**	**14 31 32.7**	**-1.4**
	baz=20						
GNAR	**Gosnell**	**19.49**	**16**	*e*P	**Pn**	**14 31 33.8**	**-0.4**
Y20A	**Horse Springs,**	**19.61**	**330**	⇓P	**Pn**	**14 31 33.9**	**-1.9**
	baz=20						
HALT	**Halls**	**19.62**	**18**	*e*P	**Pn**	**14 31 34.5**	**-1.4**
ANMO	**Albuquerque**	**19.65**	**335**	P	**Pn**	**14 31 33.0**	**-3.1**
	0.1nm,0.3s,baz=135,slow=13,SNR=2.3						
ANMO				LR	LR	14 39 51.4	
	comp=Z,98nm,19.5s,baz=286,slow=39						
ANMO	**Albuquerque**	**19.65**	**335**	P	**Pn**	**14 31 37.4**	**+1.3**
	4.0nm,0.8s						
ANMO				*e*		14 31 48.6	
TUC	**Tucson**	**19.68**	**322**	*e*P	**Pn**	**14 31 34.3**	**-2.3**
	2.9nm,0.9s						
TUC				*e*		14 31 48.9	
W23A	**Werner Place,**	**19.71**	**336**	⇑P	**Pn**	**14 31 35.5**	**-1.3**
	baz=20						
V25A	**Rancho No Teng**	**19.78**	**340**	⇑P	**Pn**	**14 31 35.6**	**-2.1**
	baz=20						
X21A	**Alamocita Cree**	**19.78**	**332**	⇓P	**Pn**	**14 31 35.8**	**-1.9**
	baz=20						
V24A	**Rampart Ranch,**	**19.89**	**339**	⇑P	**Pn**	**14 31 37.5**	**-1.5**
	baz=20						
GOGA	**Godfrey**	**19.93**	**34**	*e*P	**Pn**	**14 31 37.4**	**-2.0**
	16nm,0.6s						
U26A	**Atchley Ranch,**	**20.03**	**343**	⇑P	**P**	**14 31 39.1**	**+0.7**
	baz=20,SNR=11						
Y19A	**Nutrioso**	**20.09**	**328**	⇓P	**P**	**14 31 39.5**	**+0.5**
	baz=20						
X20A	**Quemado**	**20.19**	**330**	⇑P	**P**	**14 31 40.9**	**+0.7**
	baz=20						
PARMO	**Parma**	**20.21**	**16**	*e*P	**P**	**14 31 40.9**	**+0.5**
SWET	**Sewanee**	**20.22**	**26**	*e*P	**P**	**14 31 40.7**	**+0.2**
	38nm,0.6s						
U25A	**Circle Dot Ran**	**20.23**	**342**	⇑P	**P**	**14 31 40.9**	**+0.3**
	baz=20,SNR=7.8						
W21A	**San Fidel**	**20.28**	**333**	⇓P	**P**	**14 31 42.4**	**+1.2**
	baz=20						
WVT	**Waverly**	**20.30**	**21**	*e*P	**P**	**14 31 41.4**	**+0.1**
	45nm,0.8s						
V22A	**San Miguel Ran**	**20.66**	**336**	⇓P	**P**	**14 31 45.1**	**-0.1**
	baz=21						
214A	**Organ Pipe Nat**	**20.68**	**318**	⇓P	**P**	**14 31 46.3**	**+0.8**
	baz=21						
Y17A	**Roosevelt**	**20.73**	**325**	⇓P	**P**	**14 31 46.4**	**+0.4**
	baz=21						
U23A	**El Rito**	**20.76**	**338**	⇑P	**P**	**14 31 46.6**	**+0.3**
	baz=21						
X18A	**Snowflake**	**20.89**	**328**	⇑P	**P**	**14 31 47.7**	**0.0**
	baz=21						
T25A	**Trinidad**	**20.92**	**342**	⇑P	**P**	**14 31 48.6**	**+0.6**
	baz=21						
CPCT	**Cooper Cave**	**21.03**	**28**	*e*P	**P**	**14 31 47.0**	**-2.2**
U22A	**Llaves**	**21.05**	**336**	⇑P	**P**	**14 31 49.5**	**+0.1**
	baz=21						
T24A	**Torres, Weston**	**21.05**	**341**	⇑P	**P**	**14 31 49.9**	**+0.5**
	baz=21						
CCM	**Cathedral Cave**	**21.20**	**12**	*e*P	**P**	**14 31 50.4**	**-0.6**
	12nm,0.8s,mb4.3						
V20A	**Brimhall**	**21.22**	**333**	⇑P	**P**	**14 31 51.0**	**-0.2**
	baz=21						
SIUC	**Southern Illin**	**21.35**	**16**	*e*P	**P**	**14 31 54.2**	**+1.7**
	29nm,0.9s,mb4.6						
U21A	**Nageezi**	**21.41**	**335**	⇓P	**P**	**14 31 53.8**	**+0.5**
	baz=21						
S25A	**Robets Cordova**	**21.41**	**343**	⇑P	**P**	**14 31 53.4**	**+0.1**
	baz=21						
TKL	**Tuckaleechee C**	**21.55**	**30**	P	**P**	**14 31 54.4**	**-0.4**
	20nm,0.6s,mb4.8,baz=187,slow=12,SNR=18						
TKL	**Tuckaleechee C**	**21.55**	**30**	*e*P	**P**	**14 31 53.9**	**-0.9**
X16A	**Lo Mia Camp, P**	**21.59**	**325**	⇓P	**P**	**14 31 55.6**	**+0.3**
	baz=22						
CBKS	**Cedar Bluff**	**21.60**	**353**	⇑P	**P**	**14 31 55.2**	**-0.1**
	baz=22						
T22A	**Edith**	**21.63**	**337**	⇑P	**P**	**14 31 56.0**	**+0.4**
	baz=22						
W17A	**Winslow**	**21.71**	**327**	⇓P	**P**	**14 31 56.8**	**+0.3**
	baz=22						
Z14A	**Wintersburg**	**21.71**	**320**	⇓P	**P**	**14 31 56.8**	**+0.3**
	baz=22						
KSU1	**Kansas State U**	**21.71**	**0**	P	**P**	**14 31 55.5**	**-1.0**
	24nm,0.8s,mb4.7						
R26A	**Arlington**	**21.76**	**345**	⇓P	**P**	**14 31 57.6**	**+0.7**
	baz=22,SN

SRU	**San Rafael**	**24.88**	**334**	*e*P	pP	14 32 42.9	+1.0
ARUT	**Antelope Range**	**25.20**	**327**	*e*P	**P**	**14 32 31.1**	**+0.7**
	3.3nm,0.8s,mb3.9						
ARUT				*e*	pP	14 32 46.1	+1.4
SDV	**Santo Domingo**	**26.63**	**105**	*e*P	**P**	**14 32 46.8**	**+3.2**
	10nm,0.7s,mb4.5						
R11A	**Troy Canyon, C**	**26.75**	**325**	⇓P	**P**	**14 32 45.3**	**+0.8**
	baz=27						
CWC	**Cottonwood Cre**	**26.91**	**319**	⇓P	**P**	**14 32 47.4**	**+1.6**
	baz=27						
PDAR	**Pinedale Array**	**27.67**	**339**	P	**P**	**14 32 55.1**	**+2.5**
	0.1nm,0.3s,mb2.9,baz=9.3,slow=23,SNR=2.3						
PDAR				pP	pP	14 33 08.5	+1.4
	1.4nm,0.8s,baz=149,slow=13,SNR=6.4						
PDAR	**Pinedale Array**	**27.67**	**339**	P	**P**	**14 32 55.1**	**+2.5**
PDAR				pP	pP	14 33 08.6	+1.4
NVAR	**Mina Array Bea**	**28.34**	**322**	P	**P**	**14 32 59.6**	**+1.0**
	1.4nm,0.7s,mb3.7,baz=140,slow=9.6,SNR=9.5						
NVAR				pP	pP	14 33 15.3	+2.2
	2.9nm,0.7s,baz=137,slow=10.0,SNR=8.0						
NVAR				LR	LR	14 45 23.6	
	comp=Z,100nm,21.0s,MS3.4,baz=130,slow=39						
NVAR	**Mina Array Bea**	**28.34**	**322**	P	**P**	**14 32 59.6**	**+1.0**
NVAR				pP	pP	14 33 15.3	+2.2
ATAH	**Atahualpa**	**30.23**	**142**	LR	LR	14 42 55.2	
	comp=Z,47nm,21.6s,baz=248,slow=31						
G15A	**Dillon**	**30.79**	**338**	⇓P	**P**	**14 33 21.5**	**+1.2**
	baz=31						
AGMN	**Agassiz Nation**	**30.91**	**1**	*e*P	**P**	**14 33 20.5**	**-0.8**
	8.0nm,0.8s,mb4.6						
ACCN	**Adirondack Com**	**32.47**	**32**	*e*P	pP	14 33 46.9	-2.8
ULM	**Lac du Bonnet**	**32.87**	**1**	P	**P**	**14 33 37.3**	**-1.1**
	3.8nm,0.8s,mb4.4,baz=213,slow=7.6,SNR=5.5						
ULM				pP	pP	14 33 53.6	+0.5
	1.7nm,0.5s,baz=206,slow=9.5,SNR=2.3						
ULM				sP	sP	14 34 00.5	+0.5
	4.7nm,0.6s,baz=184,slow=8.2,SNR=5.0						
ULM	**Lac du Bonnet**	**32.87**	**1**	P	**P**	**14 33 37.3**	**-1.1**
ULM				pP	pP	14 33 53.6	+0.5
ULM				sP	sP	14 34 00.5	+0.5
SAML	**Samuel**	**42.10**	**126**	*e*P	**P**	**14 34 55.5**	**-1.4**
	1.5nm,0.8s,mb3.7						
LPAZ	**La Paz**	**43.62**	**138**	P	**P**	**14 35 09.8**	**+0.7**
	0.3nm,0.5s,mb3.3,baz=310,slow=7.9,SNR=3.6						
LPAZ	**La Paz**	**43.62**	**138**	P	**P**	**14 35 09.8**	**+0.7**
SCHQ	**Schefferville**	**43.88**	**24**	P	**P**	**14 35 11.3**	**+0.6**
	5.8nm,0.5s,mb4.6,baz=222,slow=5.8,SNR=26						
SCHQ	**Schefferville**	**43.88**	**24**	P	**P**	**14 35 11.3**	**+0.6**
YKA	**Yellowknife Ar**	**46.87**	**349**	P	**P**	**14 35 32.9**	**-1.4**
	1.0nm,0.6s,mb3.9,baz=155,slow=7.4,SNR=13						
YKA				pP	pP	14 35 49.6	+0.1
	1.1nm,0.6s,baz=155,slow=7.4,SNR=9.2						
YKA				sP	sP	14 35 58.9	+2.6
	0.8nm,0.6s,baz=153,slow=7.3,SNR=3.6						
YKA	**Yellowknife Ar**	**46.87**	**349**	P	**P**	**14 35 32.9**	**-1.4**
YKA				pP	pP	14 35 49.6	+0.1
YKA				sP	sP	14 35 58.9	+2.6
CFAA	**Coronel Fontan**	**55.74**	**151**	P	**P**	**14 36 41.0**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=317,slow=6.2,SNR=6.9						
CFAA	**Coronel Fontan**	**55.74**	**151**	P	**P**	**14 36 41.0**	**-0.1**
CPUP	**Villa Florida**	**57.78**	**138**	P	**P**	**14 36 54.4**	**-1.3**
	1.4nm,0.7s,mb4.1,baz=270,slow=5.5,SNR=4.6						
CPUP	**Villa Florida**	**57.78**	**138**	P	**P**	**14 36 54.4**	**-1.3**
ILAR	**Eielson Array**	**58.07**	**337**	P	**P**	**14 36 56.5**	**-0.7**
	1.2nm,0.7s,mb4.0,baz=141,slow=4.7,SNR=24						
ILAR				pP	pP	14 37 13.2	+0.3
	2.9nm,1.0s,baz=131,slow=4.3,SNR=11						
ILAR				sP	sP	14 37 21.0	+1.5
	1.6nm,1.0s,baz=151,slow=5.0,SNR=4.4						
ILAR	**Eielson Array**	**58.07**	**337**	P	**P**	**14 36 56.5**	**-0.7**
ILAR				pP	pP	14 37 13.2	+0.3
ILAR				sP	sP	14 37 21.0	+1.5
PLCA	**Paso Flores**	**62.62**	**158**	P	**P**	**14 37 28.1**	**-0.4**
	5.9nm,0.8s,mb4.8,baz=324,slow=7.9,SNR=12						
PLCA				sP	sP	14 37 53.0	+2.1
	2.5nm,0.7s,baz=345,slow=10,SNR=3.7						
PLCA	**Paso Flores**	**62.62**	**158**	P	**P**	**14 37 28.1**	**-0.4**
PLCA				sP	sP	14 37 53.0	+2.1
HHC	**Hu-ho-hao-te**	**116.50**	**336**	*e*PKP	PKPdf	14 45 46.9	-1.0
HHC				PP	PP	14 46 55.9	+1.8
HHC				PKS		14 49 22.4	
HHC				SKS	SKSdf	14 52 53.9	-1.2
HHC				SKKS	SKKSac	14 53 45.1	-6.1
HHC				SS	SS	15 02 52.3	-1.8
HHC				AMB	AMB		
	comp=Z,70nm,4.6s						
HHC				LR	LR		
	comp=N,130nm,10.7s,MS5.0						
HHC				LR	LR		
	comp=E,180nm,13.1s,MS5.0						
HHC				LR	LR		
	comp=Z,120nm,14.3s,MS4.7						
WMQ	**Urumqi**	**119.05**	**356**	*e*PKP	PKPdf	14 45 53.3	+0.6
LZH	**Lanzhou**	**123.48**	**340**	*e*PKP	PKPdf	14 46 06.3	+4.9
LZH				sPKP		14 46 20.8	
LZH	**Lanzhou**	**123.48**	**340**	*e*PKP	PKPdf	14 46 06.3	+4.9
LZH				pPKP	pPKPdf	14 46 16.9	-1.8
LZH				sPKP		14 46 20.7	
STKA	**Stephens Creek**	**125.70**	**243**	PKP	PKPdf	14 46 03.5	-2.2
	comp=Z,0.6nm,0.5s,baz=54,slow=8.7,SNR=4.0						
STKA	**Stephens Creek**	**125.70**	**243**	PKP	PKPdf	14 46 03.5	-2.2
WRA	**Warramunga Arr**	**131.79**	**258**	PKP	PKPdf	14 46 15.5	-2.1
	comp=Z,0.8nm,0.8s,baz=81,slow=1.7,SNR=6.3						
WRA				pPKP	pPKPdf	14 46 35.1	+0.2
	comp=Z,1.3nm,0.8s,baz=85,slow=2.0,SNR=6.6						
WRA	**Warramunga Arr**	**131.79**	**258**	PKP	PKPdf	14 46 15.5	-2.1
WRA				pPKP	pPKPdf	14 46 35.1	+0.2
ASAR	**Alice Springs**	**132.45**	**254**	PKP	PKPdf	14 46 15.8	-3.0
	comp=Z,0.5nm,0.8s,baz=45,slow=2.7,SNR=4.4						
ASAR				pPKP	pPKPdf	14 46 36.2	+0.2
	comp=Z,0.4nm,0.9s,baz=94,slow=3.7,SNR=2.4						
ASAR	**Alice Springs**	**132.45**	**254**	PKP	PKPdf	14 46 15.8	-3.0
ASAR				pPKP	pPKPdf	14 46 36.2	+0.2

CSEM ***15*** *14:32:29.9±0.4, 43°.31N×46°.27E, h2km, mb3.8, Error ellipse: s-maj=10.5km s-min=3.2km az=22.0*
MOS ***15*** *14:32:30.7±1.7, 43°.27N×46°.28E, h17km, mb3.8/1, Error ellipse: s-maj=11.0km s-min=7.7km az=28.3*

ISC 15 14:32:29.1±0.8, 43°.41N±0°.04×46°.38E±0°.04, h2km±4km, n47, σ1.9±12/86, 2C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.47**	**259**	⇑*i*PG		**Pg**	**14 32 37.9**	**-0.1**
GRO				*e*S		**Sg**	**14 32 44.8**	**+0.8**
GRO	**Groznyy**	**0.47**	**259**	*i* Pg		**Pg**	**14 32 37.9**	**-0.1**
DBC	**Dubki**	**0.51**	**140**	*i* PG		**Pg**	**14 32 38.6**	**-0.3**
DBC				*i* S		**Sg**	**14 32 46.0**	**+0.5**
DBC	**Dubki**	**0.51**	**140**	*i* Pg		**Pg**	**14 32 38.6**	**-0.3**
DBC				*i* Sg		**Sg**	**14 32 46.0**	**+0.5**
KRNR	**Karanay**	**0.70**	**146**	*e*PG		**Pg**	**14 32 43.0**	**+0.5**
KRNR				*e*S		**Sg**	**14 32 52.0**	**+0.4**
KRNR				pmax	pmax			
	comp=Z,29nm,0.2s							
KRNR	**Karanay**	**0.70**	**146**	*e*Pg		**Pg**	**14 32 43.0**	**+0.5**
	comp=Z,29nm,0.2s							
KRNR				*e*Sg		**Sg**	**14 32 52.0**	**+0.4**
BUJR	**Buynaksk**	**0.79**	**137**	*e*PG		**Pg**	**14 32 47.0**	**+2.7**
BUJR				*i* S		**Sg**	**14 32 57.2**	**+2.7**
BUJR	**Buynaksk**	**0.79**	**137**	*e*Pg		**Pg**	**14 32 47.0**	**+2.7**
BUJR				*i* Sg		**Sg**	**14 32 57.2**	**+2.7**
XNZR	**Khunzakh**	**0.90**	**164**	*e*PG		**Pg**	**14 32 45.0**	**-1.3**
XNZR				*e*S		**Sg**	**14 32 56.8**	**-1.2**
XNZR	**Khunzakh**	**0.90**	**164**	*e*Pg		**Pg**	**14 32 45.0**	**-1.3**
XNZR				*e*Sg		**Sg**	**14 32 56.8**	**-1.2**
ARKR	**Arakani**	**0.93**	**151**	PG		**Pg**	**14 32 46.7**	**-0.1**
ARKR				*e*S		**Sg**	**14 32 59.0**	**+0.2**
ARKR	**Arakani**	**0.93**	**151**	Pg		**Pg**	**14 32 46.7**	**-0.1**
ARKR				*e*Sg		**Sg**	**14 32 59.0**	**+0.2**
SNJR	**Sundja**	**1.19**	**254**	*e*PG		**Pg**	**14 32 50.8**	**-1.1**
SNJR				*e*S		**Sg**	**14 33 07.1**	**-0.3**
SNJR	**Sundja**	**1.19**	**254**	*e*Pg		**Pg**	**14 32 50.8**	**-1.1**
SNJR				*e*Sg		**Sg**	**14 33 07.1**	**-0.3**
VLKR	**Vladikavkaz**	**1.29**	**254**	*e*PG		**Pn**	**14 32 52.3**	**-1.9**
VLKR				*e*S		**Sg**	**14 33 09.9**	**-0.7**
VLKR	**Vladikavkaz**	**1.29**	**254**	*e*Pg		**Pn**	**14 32 52.3**	**-1.9**
VLKR				*e*Sg		**Sg**	**14 33 09.9**	**-0.7**
KMKR	**Kumukh**	**1.39**	**157**	*e*PG		**Pn**	**14 32 54.5**	**-0.9**
KMKR				*e*S		**Sg**	**14 33 12.5**	**-1.0**
KMKR				pmax	pmax			
	comp=Z,110nm,0.3s							
KMKR	**Kumukh**	**1.39**	**157**	*e*Pg		**Pn**	**14 32 54.5**	**-0.9**
	comp=Z,110nm,0.3s							
KMKR				*e*Sg		**Sg**	**14 33 12.5**	**-1.0**
KMSR	**Komsomolskaya**	**1.52**	**269**	⇑*i*PG		**Pg**	**14 32 57.8**	**-0.4**
KMSR				*e*S		**Sg**	**14 33 19.3**	**+1.4**
KMSR	**Komsomolskaya**	**1.52**	**269**	*i* Pg		**Pg**	**14 32 57.8**	**-0.4**
ARNR	**Ardon**	**1.55**	**262**	⇓*i*PG		**Pn**	**14 32 57.2**	**-0.4**
ARNR				*e*S		**Sn**	**14 33 18.2**	**-0.1**
ARNR	**Ardon**	**1.55**	**262**	*i* Pg		**Pn**	**14 32 57.2**	**-0.4**
ARNR				*e*Sg		**Sn**	**14 33 18.2**	**-0.1**
PRTR	**Priterechnaya**	**1.56**	**283**	*e*PG		**Pg**	**14 32 58.8**	**-0.2**
PRTR				*i* S		**Sg**	**14 33 21.8**	**+2.6**
PRTR	**Priterechnaya**	**1.56**	**283**	*e*Pg		**Pg**	**14 32 58.8**	**-0.2**
LACR	**Lac**	**1.63**	**250**	⇓*i*PG		**Pn**	**14 32 57.5**	**-1.3**
LACR				*i* S		**Sn**	**14 33 18.3**	**-2.1**
LACR	**Lac**	**1.63**	**250**	*i* Pg		**Pn**	**14 32 57.5**	**-1.3**
LACR				*i* Sg		**Sn**	**14 33 18.3**	**-2.1**
KORR	**Kora**	**1.72**	**260**	*e*PN		**Pn**	**14 32 59.4**	**-0.6**
KORR				*e*S		**Sn**	**14 33 22.5**	**0.0**
KORR	**Kora**	**1.72**	**260**	*e*Pn		**Pn**	**14 32 59.4**	**-0.6**
KORR				*e*Sg		**Sn**	**14 33 22.5**	**0.0**
LSNR	**Lesken**	**1.87**	**267**	*e*PN		**Pn**	**14 33 02.3**	**+0.2**
LSNR				*e*S		**Sn**	**14 33 27.5**	**+1.1**
LSNR	**Lesken**	**1.87**	**267**	*e*Pn		**Pn**	**14 33 02.3**	**+0.2**
LSNR				*e*Sg		**Sn**	**14 33 27.5**	**+1.1**
TBLG	**Delisi**	**2.07**	**216**	*e*PN		**Pn**	**14 33 03.3**	**-1.5**
TBLG				*e*S		**Sn**	**14 33 31.7**	**+0.5**
TBLG	**Delisi**	**2.07**	**216**	P		**Pn**	**14 33 03.4**	**-1.5**
TBLG				S		**Sn**	**14 33 31.8**	**+0.6**
TBLG	**Delisi**	**2.07**	**216**	P		**Pn**	**14 33 03.4**	**-1.4**
TBLG				*e*Sg		**Sn**	**14 33 31.7**	**+0.5**
MTA	**Mtatsminda**	**2.08**	**215**	P		**Pn**	**14 33 04.6**	**-0.3**
MTA				S		**Sn**	**14 33 31.4**	**0.0**
MTA	**Mtatsminda**	**2.08**	**215**	P		**Pn**	**14 33 04.6**	**-0.3**
MTA				S		**Sn**	**14 33 31.4**	**0.0**
DGRG	**David-gareji**	**2.10**	**201**	P		**Pn**	**14 33 04.2**	**-0.9**
DGRG				S		**Sg**	**14 33 35.6**	**-0.8**
DGRG	**David-gareji**	**2.10**	**201**	P		**Pn**	**14 33 04.2**	**-1.0**
DIGR	**Digorskoe uzhe**	**2.11**	**257**	⇓*i*PN		**Pn**	**14 33 04.1**	**-1.3**
DIGR	**Digorskoe uzhe**	**2.11**	**257**	*i* Pn		**Pn**	**14 33 04.1**	**-1.3**
GOR	**Gori**	**2.20**	**230**	P		**Pn**	**14 33 07.3**	**+0.7**
GOR				S		**Sn**	**14 33 36.1**	**+1.8**
GOR	**Gori**	**2.20**	**230**	P		**Pn**	**14 33 07.3**	**+0.7**
GOR				S		**Sn**	**14 33 36.1**	**+1.8**
KSMR	**Kasumkent**	**2.22**	**144**	*e*PN		**Pg**	**14 33 11.5**	**-0.1**
KSMR				*e*S		**Sg**	**14 33 41.5**	**+1.1**
KSMR	**Kasumkent**	**2.22**	**144**	*e*Sb		**Sg**	**14 33 41.5**	**+1.1**
ONI	**Oni**	**2.30**	**250**	P		**Pn**	**14 33 07.9**	**0.0**
ONI				S		**Sn**	**14 33 39.0**	**+2.2**
ONI	**Oni**	**2.30**	**250**	P		**Pn**	**14 33 07.9**	**0.0**
ONI				S		**Sn**	**14 33 39.0**	**+2.2**
AKH	**Akhalkalaki**	**2.93**	**228**	P		**Pn**	**14 33 18.0**	**+1.4**
AKH				S		**Sn**	**14 33 55.1**	**+2.8**
AKH	**Akhalkalaki**	**2.93**	**228**	P		**Pn**	**14 33 18.0**	**+1.4**

ISCJB ***15*** *14:34:51.6±2.9, 33°.9S±0°.2×178°.1W±0°.5, h33km, mb4.0/5, Error ellipse: s-maj=58.7km s-min=9.5km az=22.1*
IDC ***15*** *14:34:51.4±2.2, 33°.87S×178°.50W, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/17, mbtmp4.1/5, ML3.7/1, Error ellipse: s-maj=54.3km s-min=33.5km az=132.0*
NEIC ***15*** *14:34:56.0±1.5, 33°.79S×178°.46W, h35km, mb4.1/1, Error ellipse: s-maj=34.9km s-min=14.1km az=119.0*

ISC 15 14:34:53.4±3.4, 33°.9S±0°.2×178°.1W±0°.5, h35km, n18, σ0.70/16, mb4.0/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.66**	**2**	P		**Pn**	**14 36 01.0**	**-0.2**
URZ	**Urewera**	**5.83**	**221**	Pn		**Pn**	**14 36 18.1**	**+0.8**
	2.2nm,0.3s,baz=55,slow=2.4,SNR=7.8							
URZ				Sn		**Sn**	**14 37 22.4**	**-0.4**
	5.5nm,0.3s,baz=285,slow=22,SNR=11							
URZ	**Urewera**	**5.83**	**221**	*e*P		**Pn**	**14 36 17.6**	**+0.4**
URZ				Sn		**Sn**	**14 37 22.4**	**-0.4**
CTA	**Charters Tower**	**34.46**	**284**	P		**P**	**14 41 39.8**	**+2.0**
	2.8nm,0.7s,mb4.3,baz=101,slow=6.8,SNR=3.1							
CTA	**Charters Tower**	**34.46**	**284**	P		**P**	**14 41 39.8**	**+2.0**
AS31	**Alice Springs**	**42.98**	**271**	*e*P		**P**	**14 42 49.0**	**-0.2**
ASAR	**Alice Springs**	**42.98**	**271**	P		**P**	**14 42 49.0**	**-0.3**
	1.7nm,0.7s,mb3.9,baz=112,slow=7.4,SNR=33							
ASAR	**Alice Springs**	**42.98**	**271**	P		**P**	**14 42 49.0**	**-0.3**
WB2	**Warramunga Arr**	**44.27**	**276**	*e*P		**P**	**14 42 59.3**	**-0.4**
WRAB	**Tennant Creek**	**44.28**	**276**	*e*P		**P**	**14 42 59.2**	**-0.5**
	2.1nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**44.28**	**276**	P		**P**	**14 42 59.3**	**-0.5**
	1.4nm,0.6s,mb3.9,baz=119,slow=7.5,SNR=13							
WRA	**Warramunga Arr**	**44.28**	**276**	P		**P**	**14 42 59.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.38**	**273**	P		**P**	**14 44 02.5**	**+0.3**
	2.4nm,0.9s,mb4.1,baz=127,slow=10,SNR=3.3							
FITZ	**Fitzroy Crossi**	**52.38**	**273**	*e*P		**P**	**14 44 02.5**	**+0.2**
KURK	**Kurchatov**	**123.40**	**312**	PKP		PKPdf	14 53 48.7	+2.6
	0.3nm,0.7s,baz=116,slow=1.9,SNR=2.9							
KURK	**Kurchatov**	**123.40**	**312**	PKP		PKPdf	14 53 48.7	+2.6
FINES	**FINESS Array B**	**148.40**	**338**	PKPbc		PKPbc	14 54 38.5	+3.2
	0.7nm,0.4s,baz=46,slow=5.5,SNR=5.9							
FINES	**FINESS Array B**	**148.40**	**338**	PKPbc		PKPbc	14 54 38.5	+3.3

IDC 15 14:37:28.3±1.8, 0°.51N×124°.48E, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.7/18, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=129.6km s-min=29.3km az=68.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.53**	**177**	P		Pn	14 41 47.0	+0.3
	0.2nm,0.3s,baz=9.5,slow=13,SNR=11							
WRA	**Warramunga Arr**	**22.51**	**155**	P		P	14 42 28.6	-1.1
	2.4nm,0.5s,baz=334,slow=9.9,SNR=37							
ASAR	**Alice Springs**	**25.72**	**160**	P		P	14 43 00.1	-0.4
	0.9nm,0.3s,baz=332,slow=7.6,SNR=55							
STKA	**Stephens Creek**	**36.06**	**155**	P		P	14 44 32.5	+0.7
	0.8nm,0.4s,baz=321,slow=9.2,SNR=6.5							
FINES	**FINESS Array B**	**93.58**	**332**	P		P	14 50 46.6	+0.4
	1.7nm,0.6s,baz=66,slow=3.5,SNR=6.2							

DDA 15 14:38:41.5, 38°.26N×38°.11E, h7km±1km, Md2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.15**	**285**	*i* P		Pg	14 38 44.9	+0.3
AKCD				*i* S		Sg	14 38 47.7	+0.9
MALT	**Malatya**	**0.26**	**77**	*e*PG		Pg	14 38 47.0	+0.4
MALT				*e*SG		Sg	14 38 51.5	+1.3
MYA	**Malataya**	**0.26**	**74**	*e*PG		Pg	14 38 47.2	+0.5
PTK	**Pertek**	**1.19**	**57**	*e*PG		Pg	14 38 55.3	-9.1

NEIC ***15*** *14:45:46.5, 16°.12N×97°.14W, h12km, MD3.7(MEX), After MEX.*

MEX 15 14:45:46.2±0.7, 16°.13N×97°.14W, h10km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.98**	**285**	*e*P		Pg	14 46 01.9	-3.2
PNIG				*i* S		Sg	14 46 15.0	-2.9
PNIG	**Pinotepa**	**0.98**	**285**	*e*P		Pg	14 46 01.9	-3.2
PNIG				*i* S		Sg	14 46 15.0	-2.9
VHO	**Vista Hermosa**	**1.01**	**23**	*e*P		Pg	14 46 02.3	-3.4
VHO				*i* S		Sg	14 46 15.2	-3.7
VHO	**Vista Hermosa**	**1.01**	**23**	*e*P		Pg	14 46 02.3	-3.4
VHO				*i* S		Sg	14 46 15.2	-3.7
OXX	**Oaxaca**	**1.02**	**23**	*e*P		Pg	14 46 03.6	-2.4
OXX				*i* S		Sg	14 46 15.8	-3.5
OXX	**Oaxaca**	**1.02**	**23**	*e*P		Pg	14 46 03.6	-2.4
OXX				*i* S		Sg	14 46 15.8	-3.5
HUIG	**Huatulco**	**1.06**	**110**	*e*P		Pg	14 46 03.4	-3.2
HUIG				*i* S		Sg	14 46 16.7	-3.6
HUIG	**Huatulco**	**1.06**	**110**	*e*P		Pg	14 46 03.4	-3.2
HUIG				*i* S		Sg	14 46 16.7	-3.6
UTMO	**Huajuapan**	**1.80**	**340**	*i* P		Pn	14 46 14.9	-2.5
UTMO				*i* S		Sn	14 46 36.2	-4.1
UTMO	**Huajuapan**	**1.80**	**340**	*i* P		Pn	14 46 14.9	-2.5
UTMO				*i* S		Sn	14 46 36.2	-4.1
CMIG	**Matias Romero**	**2.37**	**66**	*e*P		Pn	14 46 21.7	-3.4
CMIG				*i* S		Sn	14 46 48.8	-5.4
CMIG	**Matias Romero**	**2.37**	**66**	*e*P		Pn	14 46 21.7	-3.4
CMIG				*i* S		Sn	14 46 49.5	-4.7

IDC 15 15:16:06.9±3.2, 31°.11S×177°.44W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=68.5km s-min=47.0km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.43**	**211**	Pn		Pn	15 18 09.5	-0.8
	0.4nm,0.3s,baz=66,slow=10.0,SNR=5.5							
URZ				Sn		Sn	15 19 39.5	-6.6
	1.0nm,0.3s,baz=124,slow=18,SNR=2.9							
CTA	**Charters Tower**	**34.39**	**280**	P		P	15 22 57.6	+1.6
	1.4nm,0.4s,baz=90,slow=3.0,SNR=3.8							
ASAR	**Alice Springs**	**43.56**	**267**	P		P	15 24 12.4	-0.3
	0.5nm,0.6s,baz=106,slow=7.6,SNR=14							
WRA	**Warramunga Arr**	**44.61**	**273**	P		P	15 24 20.6	-0.6
	0.7nm,0.4s,baz=111,slow=8.0,SNR=30							
FINES	**FINESS Array B**	**145.98**	**340**	PKPbc		PKPbc	15 35 47.0	-0.8
	2.4nm,0.9s,baz=43,slow=6.3,SNR=4.1							

IDC 15 15:20:18.7±3.2, 31°.29S×176°.33W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.9/18, mbtmp4.0/5, ML3.8/2, Error ellipse: s-maj=67.4km s-min=42.1km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.80**	**216**	Pn		Pn	15 22 28.8	+1.7
	0.5nm,0.3s,baz=283,slow=3.4,SNR=3.8							
URZ				Sn		Sn	15 24 04.1	-2.9
	0.8nm,0.3s,baz=350,slow=16,SNR=2.5							
RPZ	**Rata Peaks**	**15.91**	**215**	Pn		Pn	15 24 02.6	-1.4
	0.7nm,0.3s,baz=54,slow=17,SNR=3.8							
CTA	**Charters Tower**	**35.36**	**279**	P		P	15 27 17.8	+1.7
	2.7nm,0.5s,baz=97,slow=8.1,SNR=3.5							
ASAR	**Alice Springs**	**44.50**	**267**	P		P	15 28 31.4	-0.7
	0.5nm,0.8s,baz=105,slow=7.4,SNR=8.7							
WRA	**Warramunga Arr**	**45.57**	**272**	P		P	15 28 39.5	-1.1
	0.5nm,0.3s,baz=112,slow=8.0,SNR=16							
FINES	**FINESS Array B**	**146.47**	**341**	PKPbc		PKPbc	15 40 00.4	-0.6
	1.2nm,0.7s,baz=6.5,slow=4.9,SNR=4.3							

MOS ***15*** *15:48:15.1±0.9, 51°.73N×178°.44E, h33km, mb4.6/35, Error ellipse: s-maj=11.7km s-min=8.9km az=66.6*
BJI ***15*** *15:48:17.5, 51°.98N×178°.59E, h62km, mB5.1/10, mb4.6/19, Ms4.6/7, Ms7 4.3/6*
IDC ***15*** *15:48:18.9±0.6, 51°.62N×178°.53E, h54km±4km, mb3.9/21, mb1 4.1/24, mb1mx4.0/32, mbtmp4.0/24, MS3.3/8, Ms1 3.3/8, ms1mx3.1/43, Error ellipse: s-maj=16.4km s-min=8.4km az=2.0*
NEIC ***15*** *15:48:18.8±0.3, 51°.62N×178°.44E, mb4.5/50, ML4.5(AEIC), Error ellipse: s-maj=10.8km s-min=3.9km az=178.0*
ISCJB ***15*** *15:48:20.4±0.5, 51°.75N±0°.06×178°.55E±0°.03, h83km±3km, mb4.4/70, Error ellipse: s-maj=10.3km s-min=3.0km az=5.2*

ISC 15 15:48:21.8±0.4, 51°.80N±0°.06×178°.56E±0°.03, h77km±3km, h62km±8.0km: pP-P, n491, σ0.71/496, mb4.4/70, 139C-151D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**1.67**	**90**	P		**Pn**	**15 48 48.4**	**-0.8**
TANO	**Tanaga North**	**2.06**	**86**	P		**Pn**	**15 48 53.8**	**-0.6**
TANO				S		**Sn**	**15 49 21.0**	**+2.1**
TASE	**Tanaga Southea**	**2.11**	**88**	P		**Pn**	**15 48 54.3**	**-0.8**
TAFP	**Tanaga Falls P**	**2.15**	**86**	P		**Pn**	**15 48 54.7**	**-0.9**
TAFP				S		**Sn**	**15 49 21.1**	**+0.2**
KIMD	**K

BMRM **Bremner River** 22.07 51 eP P 15 53 10.5 +0.5
comp=Z,23nm,0.7s,mb4.6
MENT **Mentasta** 22.82 46 eP P 15 53 19.0 +1.1
DOT **Dot Lake** 22.83 44 eP P 15 53 16.9 -1.0
comp=Z,12nm,1.0s,mb4.2
DAWY **Dawson** 24.94 44 eP P 15 53 38.1 +0.7
ASAJ **Asahikawa** 25.07 266 P P 15 53 38.4 -0.4
comp=Z,5.4nm,0.7s,mb4.1,baz=45,slow=5.7,SNR=3.4
ASAJ LR LR 16 01 13.2
comp=Z,76nm,21.6s,baz=149,slow=31
ASAJ **Asahikawa** 25.07 266 P P 15 53 38.4 -0.4
ASAJ **Asahikawa** 25.07 266 P P 15 53 38.4 -0.4
ASAJ pmax pmax
comp=Z,5.0nm,0.7s
INK **Inuvik** 28.07 36 P P 15 54 06.8 +1.3
comp=Z,2.8nm,0.5s,mb4.0,baz=251,slow=8.2,SNR=17
INK ScP ScP 16 00 51.0 -0.6
comp=Z,2.1nm,1.1s,baz=254,slow=5.3,SNR=3.7
INK LR LR 16 05 32.7
comp=Z,58nm,21.0s,baz=295,slow=37
INK **Inuvik** 28.07 36 eP P 15 54 06.6 +1.1
comp=Z,2.9nm,0.6s,mb4.0
INK ScP ScP 16 00 51.0 -0.6
INK **Inuvik** 28.07 36 P P 15 54 06.8 +1.3
INK pmax pmax
comp=Z,3.0nm,0.5s
INK pmax pmax
comp=N,2.0nm,1.1s
INK MLR MLR
comp=Z,58nm,21.0s
DLBC **Dease Lake** 29.50 57 P P 15 54 20.3 +2.0
comp=Z,2.6nm,0.7s,mb4.0,baz=284,slow=13,SNR=4.5
DLBC LR LR 16 06 33.4
comp=Z,65nm,18.1s,baz=182,slow=37
DLBC **Dease Lake** 29.50 57 P P 15 54 20.3 +2.0
MJAR **Matsushiro Arr** 32.24 258 LR LR 16 07 15.9
comp=Z,32nm,19.4s,baz=75,slow=35
YKA **Yellowknife Ar** 36.13 46 P P 15 55 16.7 +0.7
comp=Z,5.5nm,0.5s,mb4.7,baz=282,slow=7.9,SNR=50
YKA ScP ScP 16 01 19.4 +0.3
comp=Z,0.4nm,0.7s,baz=297,slow=3.1,SNR=6.5
YKA **Yellowknife Ar** 36.13 46 P P 15 55 16.7 +0.7
YKA ScP ScP 16 01 19.4 +0.3
YKA **Yellowknife Ar** 36.13 46 P P 15 55 16.7 +0.7
YKA pmax pmax
comp=Z,6.0nm,0.5s
BOD **Bodaibo** 36.40 305 eP P 15 55 17.2 -1.1
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CBIJ **Chichi jima** 36.79 242 LR LR 16 08 48.7
comp=Z,61nm,20.3s,baz=30,slow=34
KSRS **Korea Array** 37.99 268 LR LR 16 08 22.9
comp=Z,31nm,20.6s,baz=79,slow=32
NEW **Newport** 40.27 69 ⇑P P 15 55 50.5 -0.4
baz=40
YBH **Yreka Blue Hor** 40.44 80 eP P 15 55 54.0 +1.6
comp=Z,14nm,0.9s,mb4.8
YBH **Yreka Blue Hor** 40.44 80 eP P 15 55 54.0 +1.6
YBH pmax pmax
comp=Z,14nm,0.9s
E09A **Wood Farm, Sta** 40.57 72 ⇓P P 15 55 53.0 -0.3
baz=40
A12A **Yaak River Ran** 40.78 67 ⇑P P 15 55 55.4 +0.3
baz=41
K05A **Summer Lake** 40.98 78 ⇓P P 15 55 58.6 +1.7
baz=41
C11A **Tepee Creek (N** 40.99 69 ⇓P P 15 55 57.3 +0.5
baz=41
I07A **Izee** 41.07 75 ⇑P P 15 55 58.0 +0.6
baz=41
F10A **Beach Ranch, E** 41.40 72 ⇑P P 15 56 00.6 +0.4
baz=41
A13A **Flathead Natio** 41.49 66 ⇑P P 15 56 00.2 -0.7
C12B **Naegeli Ranch,** 41.51 69 ⇑P P 15 56 01.0 0.0
baz=42,SNR=9.2
WALA **Waterton Lakes** 41.71 66 eP P 15 56 02.2 -0.5
comp=Z,0.3nm,0.9s
B13A **Whitefish** 41.74 67 ⇓P P 15 56 02.1 -0.9
baz=42
MOD **Modoc** 41.81 79 eP P 15 56 04.9 +1.2
comp=Z,7.8nm,0.6s,mb4.6
BSMT **Bassoo Peak** 41.83 68 eP P 15 56 03.3 -0.3
comp=Z,6.3nm,0.6s,mb4.5
BMO **Blue Mountains** 41.96 73 eP P 15 56 04.6 -0.1
comp=Z,4.3nm,0.7s,mb4.3
A14A **Double T Ranch** 42.03 66 ⇓P P 15 56 05.2 -0.1
baz=42,SNR=13
C13A **Hot Springs** 42.04 68 ⇓P P 15 56 05.1 -0.3
baz=42
J08A **Circle Bar Ran** 42.09 76 ⇑P P 15 56 05.8 -0.1
baz=42
E12A **Beaver Dam Sad** 42.13 70 ⇑P P 15 56 05.8 -0.3
baz=42
D13A **Huson** 42.42 69 ⇓P P 15 56 07.7 -0.8
baz=42
A15A **Johnson Ranch,** 42.42 66 ⇑P P 15 56 07.9 -0.6
baz=42
B14A **Marquette Ranc** 42.43 67 ⇓P P 15 56 08.2 -0.4
baz=42
C14A **Swan Lake** 42.47 68 ⇑P P 15 56 08.5 -0.4
baz=42
WVOR **Wild Horse Val** 42.52 77 eP P 15 56 09.8 +0.5
comp=Z,6.5nm,0.7s,mb4.5
WVOR **Wild Horse Val** 42.52 77 eP P 15 56 09.8 +0.5
WVOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
F12A **Elk City** 42.67 71 ⇓P P 15 56 10.3 -0.2
baz=43
MSO **Missoula** 42.86 69 ⇑P P 15 56 11.1 -0.9
baz=43
B15A **Bradely Ranch,** 42.86 66 ⇓P P 15 56 11.2 -0.9
baz=43,SNR=6.1
SLMT **Seeley Lake** 42.90 68 eP P 15 56 11.6 -0.8
comp=Z,3.4nm,0.6s,mb4.2
E13A **Victor** 42.92 69 ⇑P P 15 56 11.9 -0.7
baz=43
D14A **Greenough** 42.97 68 ⇓P P 15 56 12.1 -0.9
baz=43,SNR=5.2
BEKR **Beckworth** 42.98 81 ⇑P P 15 56 11.6 -1.6
baz=43
A16A **West Butte Ran** 43.08 65 ⇓P P 15 56 12.8 -1.0
baz=43,SNR=5.7
C15A **Salmond Ranch,** 43.12 67 ⇓P P 15 56 14.0 -0.1
baz=43,SNR=9.5
F13A **Darby** 43.20 70 ⇑P P 15 56 14.4 -0.3
baz=43
B16A **M & M Farms, S** 43.29 66 ⇑P P 15 56 14.3 -1.2
baz=43
E14A **Clinton** 43.34 69 ⇓P P 15 56 15.2 -0.7
baz=43,SNR=5.3
D15A **Lincoln** 43.56 68 ⇓P P 15 56 16.9 -0.8
baz=44
H12A **Diamond D Ranc** 43.58 72 ⇓P P 15 56 17.2 -0.6
baz=44
A17A **Triple J Farms** 43.58 65 ⇑P P 15 56 17.0 -0.8
baz=44,SNR=9.6
C16A **Fuhringer Ranc** 43.60 66 ⇓P P 15 56 17.2 -0.8
baz=44
G13A **Cobalt** 43.64 71 ⇓P P 15 56 18.1 -0.2
baz=44,SNR=8.3
WCN **Washoe City** 43.70 81 ⇓P P 15 56 17.9 -1.0
baz=44,SNR=6.9
WCN **Washoe City** 43.70 81 P P 15 56 18.0 -0.9
comp=Z,14nm,0.9s,mb4.7
WCN **Washoe City** 43.70 81 P P 15 56 18.0 -0.9
WCN pmax pmax
comp=Z,14nm,0.9s,mb4.7
F14A **Wisdom** 43.74 70 ⇓P P 15 56 18.6 -0.6
baz=44
E15A **Deer Lodge** 43.83 69 ⇓P P 15 56 19.3 -0.6
baz=44
I12A **Atlanta** 43.84 73 ⇑P P 15 56 19.6 -0.4
baz=44,SNR=12
B17A **L&G Farms, Che** 43.87 65 ⇓P P 15 56 19.6 -0.6
baz=44
H13A **Challis** 43.92 72 ⇑P P 15 56 20.0 -0.6
baz=44
G14A **Jackson** 44.01 71 ⇓P P 15 56 20.4 -0.9
baz=44
A18A **Metzger Ranch,** 44.07 64 ⇑P P 15 56 21.0 -0.7
baz=44
D16A **Dana Ranch, Ca** 44.13 67 ⇑P P 15 56 21.4 -0.8
baz=44
HRY **Holter Researc** 44.14 68 eP P 15 56 21.8 -0.5
comp=Z,10nm,0.6s,mb4.7
C17A **Wharram Farm,** 44.25 66 ⇑P P 15 56 22.3 -0.9
baz=44,SNR=5.4

E16A **East Helena** 44.33 68 ⇓P P 15 56 22.6 -1.2
baz=44
I13A **Wildhorse Cree** 44.38 72 ⇑P P 15 56 24.1 -0.2
baz=44,SNR=20
B18A **Beardsley Farm** 44.39 65 ⇑P P 15 56 23.7 -0.6
baz=44
HLID **Hailey** 44.40 73 ⇓P P 15 56 24.5 +0.1
baz=44,SNR=9.4
HLID **Hailey** 44.40 73 eP P 15 56 24.3 -0.1
comp=Z,4.3nm,0.8s,mb4.2
H14A **Leadore** 44.42 71 ⇑P P 15 56 24.3 -0.3
baz=44,SNR=5.9
D17A **Six Diamond Ra** 44.55 67 ⇑P P 15 56 24.6 -1.0
baz=44
ULN **Ulaanbaatar** 44.59 295 eP P 15 56 25.9 0.0
comp=Z,3.9nm,1.0s,mb4.1
ULN **Ulaanbaatar** 44.59 295 eP P 15 56 25.9 0.0
ULN pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
MCMT **McKenzie Canyo** 44.60 71 eP P 15 56 25.5 -0.5
comp=Z,2.5nm,0.4s,mb4.3
G15A **Dillon** 44.62 70 ⇑P P 15 56 25.1 -1.1
baz=45,SNR=5.2
J13A **Cove Ranch, Pi** 44.64 73 ⇓P P 15 56 26.3 -0.1
baz=45,SNR=12
I14A **Mackay** 44.76 72 ⇓P P 15 56 27.4 +0.1
baz=45,SNR=6.7
F16A **Kennard Place,** 44.77 69 ⇓P P 15 56 26.8 -0.6
baz=45,SNR=6.9
B19A **Brinkman Farms** 44.83 64 ⇑P P 15 56 26.9 -0.9
baz=45
E17A **Martinsdale** 44.84 68 ⇑P P 15 56 27.6 -0.3
baz=45
H15A **Lima** 44.84 71 ⇑P P 15 56 26.8 -1.1
baz=45
BOZ **Bozeman (W)** 44.85 69 ⇑P P 15 56 27.4 -0.6
baz=45,SNR=18
BOZ **Bozeman (W)** 44.85 69 eP P 15 56 27.7 -0.2
comp=Z,5.6nm,0.6s,mb4.5
BOZ **Bozeman (W)** 44.85 69 eP P 15 56 27.7 -0.3
BOZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
SONM **Songino Array** 44.98 295 P P 15 56 29.5 +0.5
comp=Z,1.7nm,0.6s,mb4.0,baz=62,slow=7.9,SNR=13
SONM ScP ScP 16 01 55.7 +1.6
comp=Z,0.4nm,0.8s,baz=49,slow=4.4,SNR=3.0
SONM LR LR 16 14 05.6
comp=Z,61nm,19.6s,baz=157,slow=34
SONM **Songino Array** 44.98 295 P P 15 56 29.5 +0.5
SONM ScP ScP 16 01 55.7 +1.6
SONM **Songino Array** 44.98 295 P P 15 56 29.5 +0.5
SONM pmax pmax
comp=Z,2.0nm,0.6s
G16A **Moss Hill, Enn** 44.98 70 ⇓P P 15 56 28.2 -0.9
baz=45,SNR=9.0
J14A **Carey** 45.07 73 ⇓P P 15 56 28.9 -0.9
baz=45
NVAR **Mina Array Bea** 45.12 81 P P 15 56 31.3 +1.0
comp=Z,15nm,0.9s,mb4.7,baz=294,slow=7.5,SNR=55
NVAR ScP ScP 16 01 56.4 +1.5
comp=Z,0.3nm,0.4s,baz=305,slow=3.8,SNR=4.5
NVAR **Mina Array Bea** 45.12 81 P P 15 56 31.3 +1.0
NVAR ScP ScP 16 01 56.4 +1.5
C19A **Slack Wire Ran** 45.16 65 ⇓P P 15 56 29.9 -0.5
baz=45,SNR=6.3
A20A **Cobblestone Ra** 45.16 63 ⇑P P 15 56 29.6 -0.8
baz=45,SNR=6.4
F17A **Fitzpatrick Pl** 45.26 68 ⇓P P 15 56 30.5 -0.8
baz=45
E18A **Harlowton** 45.32 67 ⇓P P 15 56 31.5 -0.2
baz=45,SNR=5.8
B20A **Solberg Farm,** 45.35 64 ⇓P P 15 56 31.2 -0.7
baz=45
QLMT **Earthquake Lak** 45.43 70 eP P 15 56 32.6 0.0
comp=Z,0.4nm,0.5s,mb3.4
G17A **Pierce Place,** 45.55 69 ⇓P P 15 56 32.8 -0.7
baz=46
D19A **Cripps Ranch,** 45.57 66 ⇓P P 15 56 33.0 -0.7
baz=46
H16A **Russell Place,** 45.61 70 ⇑P P 15 56 33.6 -0.4
baz=46,SNR=10.0
C20A **Veseth Ranch,** 45.76 65 ⇓P P 15 56 34.7 -0.5
baz=46
F18A **Big Timber** 45.81 68 ⇓P P 15 56 35.0 -0.6
baz=46
I16A **Newdale** 45.95 71 ⇑P P 15 56 36.8 +0.1
baz=46
HHC **Hu-ho-hao-te** 45.99 284 eP P 15 56 36.8 -0.3
HHC pP pP 15 56 55.4 -0.6
HHC sP sP 15 57 04.3 -0.4
HHC PP PP 15 58 26.3 +0.4
HHC sS sS 16 03 46.9 -1.5
HHC SS SS 16 06 32.8 -8.6
HHC pmax pmax
comp=Z,200nm,4.8s
HHC LR LR
comp=N,140nm,14.3s
HHC LR LR
comp=E,130nm,15.5s
HHC LR LR
comp=Z,110nm,15.5s
L14A **Malta** 46.00 74 ⇓P P 15 56 37.4 +0.3
baz=46
E19A **Rath Farm, Rou** 46.02 66 ⇓P P 15 56 37.6 +0.3
baz=46
K15A **Arbon** 46.03 73 ⇓P P 15 56 37.8 +0.4
baz=46,SNR=9.2
D20A **Manuel Ranch,** 46.03 65 ⇑P P 15 56 38.4 +1.1
baz=46
TIN **Tinemaha** 46.04 83 ⇓P P 15 56 38.1 +0.6
baz=46
SMMC **Simmler** 46.07 86 ⇑P P 15 56 38.3 +0.6
baz=46
H17A **Grant Village** 46.18 70 ⇑P P 15 56 39.4 +0.9
baz=46
A22A **Carney Farms,** 46.21 62 ⇓P P 15 56 38.0 -0.7
baz=46
J16A **Bone** 46.23 72 ⇑P P 15 56 39.4 +0.5
baz=46
G18A **Lazy EL Ranch,** 46.23 68 ⇑P P 15 56 38.7 -0.2
baz=46
F19A **Roth Farm, Mol** 46.28 67 ⇓P P 15 56 39.1 -0.2
baz=46
FLWY **Flagg Ranch** 46.29 70 eP P 15 56 39.7 +0.4
comp=Z,6.4nm,0.8s,mb4.4
VES **Vestal, Richgr** 46.29 85 ⇓P P 15 56 39.1 -0.4
baz=46
RRI2 **Red Ridge** 46.36 71 eP P 15 56 41.1 +1.2
comp=Z,5.8nm,0.6s,mb4.5
E20A **Meyer Farm, Mu** 46.37 66 ⇑P P 15 56 39.6 -0.4
baz=46
HVU **Hansel Valley** 46.43 74 eP P 15 56 40.8 +0.3
comp=Z,4.7nm,0.6s,mb4.4
HVU **Hansel Valley** 46.43 74 eP P 15 56 40.8 +0.3
HVU pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
TPAW **Teton Pass** 46.49 71 eP P 15 56 41.7 +0.8
K16A **Soda Springs** 46.50 72 ⇑P P 15 56 42.0 +0.9
baz=46,SNR=8.4
RLMT **Red Lodge** 46.51 68 ⇑P P 15 56 40.9 -0.2
baz=46,SNR=5.9
CWC **Cottonwood Cre** 46.52 83 ⇑P P 15 56 41.9 +0.6
baz=46,SNR=5.8
L15A **Malad City** 46.52 74 ⇑P P 15 56 41.3 0.0
baz=46
H18A **Shoshone NF, C** 46.54 69 ⇑P P 15 56 41.1 -0.2
baz=46
GRAC **Grapevine Rang** 46.60 82 ⇓P P 15 56 42.3 +0.4
baz=46
F20A **Billings** 46.76 67 ⇑P P 15 56 42.5 -0.6
baz=47
R11A **Troy Canyon, C** 46.84 80 ⇑P P 15 56 44.1 +0.3
baz=47,SNR=14
H19A **Powell** 46.94 69 ⇑P P 15 56 44.1 -0.4
baz=47
B23A **Brockton** 47.01 62 ⇑P P 15 56 43.9 -1.1
baz=47
I18A **Diamond G Ranc** 47.03 70 ⇓P P 15 56 44.9 -0.3
baz=47
G20A **Bridger** 47.06 68 ⇓P P 15 56 44.8 -0.6
baz=47,SNR=10.0
D22A **Cohagen** 47.10 64 ⇑P P 15 56 45.0 -0.6
baz=47
MPMC **Manual Prospec** 47.13 83 ⇓P P 15 56 46.4 +0.4
baz=47
NJ2 **Nanjing** 47.16 269 eP P 15 56 49.6 +3.3
NJ2 pmax pmax
comp=Z,20nm,0.8s,mb4.9

J18A **Kendall Valley** 47.20 71 ⇓P P 15 56 46.3 -0.2
baz=47
FURC **Furnace Creek,** 47.25 82 ⇓P P 15 56 47.3 +0.2
baz=47
C23A **Lambert** 47.28 63 ⇓P P 15 56 46.7 -0.4
baz=47
A24A **Westby** 47.29 61 ⇓P P 15 56 46.7 -0.5
baz=47
I19A **Meeteetse** 47.31 69 ⇑P P 15 56 46.7 -0.6
baz=47
OSI **Osito Adit** 47.31 86 ⇓P P 15 56 47.4 -0.1
baz=47
F21A **Absaloka Mine,** 47.34 66 ⇑P P 15 56 46.8 -0.7
baz=47
LAO **LASA Array** 47.34 65 ⇑P P 15 56 47.1 -0.4
baz=47
DUG **Dugway** 47.37 76 ⇑P P 15 56 48.2 +0.4
baz=47,SNR=8.5
DUG **Dugway** 47.37 76 eP P 15 56 48.3 +0.4
comp=Z,6.6nm,0.5s,mb4.6
DUG **Dugway** 47.37 76 eP P 15 56 48.3 +0.4
DUG pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
M16A **Huntsville** 47.39 74 ⇑P P 15 56 47.5 -0.5
baz=47
K18A **Toltan Ranch,** 47.53 71 ⇑P P 15 56 49.4 +0.3
baz=48,SNR=5.2
EDW2 **Edwards Air Fo** 47.59 85 ⇓P P 15 56 49.0 -0.7
baz=48
H20A **Greybull** 47.62 68 ⇑P P 15 56 49.4 -0.4
baz=48
D23A **Lindsay** 47.63 64 ⇑P P 15 56 49.5 -0.3
baz=48
G21A **Lodge Grass** 47.64 67 ⇑P P 15 56 49.1 -0.7
baz=48
E22A **Miles City** 47.64 65 ⇓P P 15 56 49.6 -0.3
baz=48
J19A **Crowheart** 47.73 70 ⇑P P 15 56 49.7 -0.9
baz=48
BW06 **Boulder Array** 47.74 71 ⇓P P 15 56 50.1 -0.5
baz=48,SNR=10
PDAR **Pinedale Array** 47.74 71 P P 15 56 50.5 -0.2
comp=Z,6.0nm,0.8s,mb4.5,baz=314,slow=3.3,SNR=48
PDAR ScP ScP 16 02 07.1 +1.3
comp=Z,0.7nm,0.9s,baz=311,slow=4.2,SNR=4.8
PDAR **Pinedale Array** 47.74 71 P P 15 56 50.5 -0.2
PDAR ScP ScP 16 02 07.1 +1.3
I20A **Worland** 47.86 69 ⇑P P 15 56 50.4 -1.2
baz=48
M17A **Scullys Gap (B** 47.87 73 ⇑P P 15 56 50.8 -1.0
baz=48
R13A **O'Grain Ranch,** 47.93 79 ⇓P P 15 56 52.3 +0.1
baz=48
L18A **Fontenelle, Gr** 47.97 72 ⇑P P 15 56 52.1 -0.3
baz=48
SHOC **Shoshone** 47.98 83 ⇓P P 15 56 53.2 +0.5
baz=48,SNR=6.3
GSC **Goldstone** 48.05 84 ⇓P P 15 56 53.3 +0.1
baz=48,SNR=7.8
GSC **Goldstone** 48.05 84 eP P 15 56 53.8 +0.6
comp=Z,18nm,0.8s,mb5.0
GSC **Goldstone** 48.05 84 eP P 15 56 53.8 +0.6
GSC pmax pmax
comp=Z,18nm,0.8s,mb5.0
P15A **Leamington** 48.08 76 ⇓P P 15 56 53.3 0.0
baz=48
H21A **Big Horn, Sher** 48.09 68 ⇓P P 15 56 53.0 -0.3
baz=48
K19A **Absolon Red Bu** 48.12 71 ⇑P P 15 56 52.8 -0.8
baz=48,SNR=7.0
G22A **Birney** 48.16 66 ⇓P P 15 56 53.5 -0.5
baz=48
J20A **Shoshoni** 48.25 70 ⇓P P 15 56 54.7 +0.1
baz=48
M18A **Lyman** 48.25 73 ⇑P P 15 56 54.7 0.0
baz=48
I21A **Big Trails, Te** 48.43 69 ⇓P P 15 56 55.4 -0.6
baz=48
E24A **Baker** 48.49 64 ⇓P P 15 56 55.6 -0.8
baz=48
H22A **Clearmont** 48.50 67 ⇑P P 15 56 54.9 -1.6
baz=48
K20A **Yellowstone Ra** 48.52 70 ⇓P P 15 56 55.4 -1.3
baz=48
O17A **Robinson Place** 48.62 74 ⇑P P 15 56 55.6 -1.9
baz=48
J21A **Lysite** 48.62 69 ⇓P P 15 56 56.6 -0.9
baz=49
HEC **Hector,Ludlow** 48.65 84 ⇑P P 15 56 57.4 -0.4
baz=49
M19A **Rock Springs** 48.74 72 ⇓P P 15 56 57.5 -0.9
baz=49
N18A **Larsen Ranch,** 48.77 73 ⇑P P 15 56 57.9 -0.7
baz=49
I22A **9 Mile Ranch,** 48.85 68 ⇓P P 15 56 59.1 -0.1
baz=49
R15A **Junction** 48.94 78 ⇓P P 15 57 00.4 +0.5
baz=49
GMRC **Granite Mounta** 49.10 83 ⇓P P 15 57 01.6 +0.3
baz=49,SNR=8.1
N19A **John Jarvie Ra** 49.11 73 ⇓P P 15 57 01.0 -0.2
baz=49
J22A **Midwest** 49.14 69 ⇓P P 15 57 00.9 -0.5
baz=49,SNR=6.2
Q16A **Castle Valley** 49.16 76 ⇑P P 15 57 01.9 +0.2
baz=49
M20A **Sweetwater, Wa** 49.33 72 ⇑P P 15 57 02.7 -0.2
baz=49
R16A **Teasdale** 49.38 77 ⇑P P 15 57 04.0 +0.7
baz=49
BELC **Belle Mtn. Jos** 49.41 84 ⇑P P 15 57 03.6 0.0
baz=49
SRU **San Rafael** 49.43 75 eP P 15 57 04.3 +0.6
comp=Z,4.5nm,0.5s,mb4.7
SRU **San Rafael** 49.43 75 eP P 15 57 04.3 +0.6
SRU pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
H24A **Dirks Ranch, A** 49.43 66 ⇓P P 15 57 02.3 -1.3
baz=49
L21A **Rawlins** 49.51 71 ⇓P P 15 57 03.9 -0.4
baz=49
O19A **Miners Draw (B** 49.52 73 ⇑P P 15 57 04.4 0.0
baz=49,SNR=9.3
K22A **Casper** 49.58 69 ⇑P P 15 57 04.2 -0.6
baz=50
S16A **Weppner Ranch,** 49.67 78 ⇑P P 15 57 06.1 +0.6
baz=50
Q18A **Rafter H Ranch** 49.67 75 ⇓P P 15 57 06.1 +0.6
baz=50
J23A **Dilts Ranch, B** 49.68 68 ⇓P P 15 57 05.5 0.0
baz=50
N20A **Spence Gulch,** 49.69 72 ⇓P P 15 57 05.3 -0.3
baz=50
M21A **Separation Pea** 49.74 71 ⇓P P 15 57 05.8 -0.2
baz=50
R17A **Hanksville Air** 49.76 76 ⇓P P 15 57 05.7 -0.5
baz=50
IRM **Iron Mountain** 49.82 84 ⇓P P 15 57 06.5 -0.2
baz=50
W13A **Hualapai Mount** 49.98 82 ⇓P P 15 57 07.7 -0.2
baz=50
P19A **Cripple Cowboy** 50.02 74 ⇓P P 15 57 07.9 -0.2
baz=50
U15A **North Rim** 50.08 79 ⇓P P 15 57 09.5 +0.8
baz=50,SNR=12
O20A **White River Ci** 50.14 73 ⇓P P 15 57 08.9 -0.2
baz=50
N21A **Black Mountain** 50.18 72 ⇑P P 15 57 09.0 -0.3
baz=50
S17A **Black Ridge (B** 50.20 77 ⇓P P 15 57 09.8 +0.2
baz=50,SNR=7.6
J24A **Dixon Ranch, L** 50.24 68 ⇓P P 15 57 09.4 -0.4
baz=50
R18A **Canyonlands Na** 50.27 76 ⇓P P 15 57 09.5 -0.5
baz=50
Q19A **Hogan Spring (** 50.28 75 ⇑P P 15 57 10.3 +0.1
baz=50
M22A **Cedar Creek Ra** 50.31 71 ⇑P P 15 57 10.3 -0.1
baz=50
PDMCI **Parker Dam,Lak** 50.35 83 ⇓P P 15 57 10.4 -0.4
baz=50
L23A **Garrett** 50.39 69 ⇑P P 15 57 10.2 -0.8
baz=50,SNR=5.8
P20A **De Beque** 50.46 74 ⇑P P 15 57 11.2 -0.2
baz=50
Y12C **Blythe** 50.48 84 ⇑P P 15 57 11.7 0.0
baz=50
K24A **Anderson Ranch** 50.53 68 ⇓P P 15 57 11.6 -0.4

baz=50
O21A Pagoda 50.55 72 ⇑P P 15 57 12.1 -0.1
baz=50
T17A Navajo Res., N 50.62 78 ⇓P P 15 57 12.0 -0.7
baz=50
S18A Hurst Farm, Bl 50.66 77 ⇑P P 15 57 13.0 0.0
baz=51,SNR=5.6
R19A Curley Farm, L 50.71 75 ⇑P P 15 57 13.4 0.0
baz=51
GLA Glamis 50.77 84 ⇓P P 15 57 13.7 -0.1
baz=51
N22A Wattenberg Ran 50.78 71 ⇑P P 15 57 13.5 -0.3
baz=51
ULM Lac du Bonnet 50.81 56 P **P 15 57 13.1 -0.9**
comp=Z,2.2nm,0.4s,mb4.5,baz=290,slow=8.2,SNR=6.1
ULM Lac du Bonnet 50.81 56 P **P 15 57 13.1 -0.9**
ULM Lac du Bonnet 50.81 56 P **P 15 57 13.1 -0.9**
ULM pmax pmax
comp=Z,2.0nm,0.4s
PV04 Paradox Valley 50.86 75 *e*P **P 15 57 14.2 -0.3**
U17A Shonto 50.96 78 ⇑P P 15 57 15.3 0.0
baz=51
U16A Tuba City 50.98 79 ⇑P P 15 57 15.1 -0.3
baz=51
T18A Mexican Hat 51.09 77 ⇑P P 15 57 15.7 -0.5
baz=51
O22A Kremmling 51.13 72 ⇓P P 15 57 16.3 -0.2
baz=51
S19A Harvey Farm, M 51.14 76 ⇓P P 15 57 16.3 -0.3
baz=51
K25A Mack Ranch, Ha 51.14 68 ⇓P P 15 57 15.8 -0.7
baz=51
WUAZ Wupatki 51.24 80 ⇓P P 15 57 17.5 +0.1
baz=51
WUAZ Wupatki 51.24 80 *e*P **P 15 57 17.8 +0.4**
comp=Z,3.6nm,0.7s,mb4.5
Y14A Wickenburg 51.29 82 ⇓P P 15 57 17.6 -0.2
baz=51
R20A Redvale 51.31 75 ⇓P P 15 57 17.9 0.0
baz=51
Z13A Yuma Proving G 51.39 83 ⇑P P 15 57 18.2 -0.4
baz=51
O23A Lake Granby, G 51.47 71 ⇑P P 15 57 19.3 +0.3
baz=51,SNR=6.8
K26A Motz Farm, Whi 51.48 67 ⇑P P 15 57 19.3 +0.3
baz=51
V17A Tonalea, Kykot 51.52 79 ⇑P P 15 57 20.2 +0.7
baz=51,SNR=8.1
S20A Disappointment 51.55 75 ⇓P P 15 57 20.0 +0.4
baz=52
U18A Rough Rock, Ch 51.56 78 ⇑P P 15 57 20.2 +0.5
baz=52
N24A Carr 51.68 70 ⇓P P 15 57 20.9 +0.3
baz=52
Q22A Crested Butte, 51.75 73 ⇑P P 15 57 21.3 +0.1
baz=52
T19A Beclabito 51.80 77 ⇓P P 15 57 21.7 +0.1
baz=52
MVCO Mesa Verde 51.87 76 ⇑P P 15 57 22.3 +0.2
baz=52
ISCO Idaho Springs 51.91 72 ⇓P P 15 57 22.6 +0.3
baz=52
X16A Lo Mia Camp, P 51.93 81 ⇓P P 15 57 23.2 +0.7
baz=52,SNR=7.1
V18A Ganado 51.99 78 ⇑P P 15 57 23.1 +0.1
baz=52
S21A Coal Bank Pass 52.00 75 ⇓P P 15 57 23.4 +0.4
baz=52
O24A Longmont 52.02 71 ⇑P P 15 57 23.6 +0.4
baz=52
114A Black Gap (USA 52.17 83 ⇓P P 15 57 24.5 +0.1
baz=52
R22A Saguache, Gunn 52.25 74 ⇓P P 15 57 25.4 +0.5
baz=52
Q23A Hartsel 52.36 73 ⇑P P 15 57 26.3 +0.7
baz=52
S22A 4UR Ranch, Cre 52.52 74 ⇑P P 15 57 26.8 -0.1
baz=52
ZALV Zalesovo Beam 52.53 312 P **P 15 57 25.2 -1.5**
comp=Z,0.3nm,0.3s,mb3.8,baz=65,slow=6.8,SNR=2.9
ZALV ScP ScP 16 02 28.8 +2.7
comp=Z,0.5nm,0.4s,baz=45,slow=4.3,SNR=2.7
ZALV Zalesovo Beam 52.53 312 P **P 15 57 25.2 -1.5**
ZALV ScP ScP 16 02 28.8 +2.7
ZALV Zalesovo Beam 52.53 312 P **P 15 57 25.2 -1.5**
ZALV pmax pmax
comp=N,1.0nm,0.4s
T21A Navajo Lake 52.59 76 ⇓P P 15 57 28.1 +0.6
baz=52
W19A Sanders 52.72 79 ⇑P P 15 57 28.9 +0.5
baz=53
214A Organ Pipe Nat 52.76 84 ⇑P P 15 57 29.0 +0.3
baz=53
X18A Snowflake 52.77 80 ⇓P P 15 57 29.4 +0.7
baz=53
Y17A Roosevelt 52.78 81 ⇑P P 15 57 29.4 +0.5
baz=53,SNR=9.5
V20A Brimhall 52.82 77 ⇑P P 15 57 29.4 +0.2
baz=53
R23A Moffat 52.83 73 ⇑P P 15 57 29.7 +0.5
baz=53
U21A Nageezi 52.89 76 ⇑P P 15 57 30.3 +0.6
baz=53
P25A Willow Gulch B 52.95 71 ⇓P P 15 57 30.7 +0.7
baz=53
T22A Edith 52.96 75 ⇓P P 15 57 30.8 +0.6
baz=53
Y18A Canyon Day Jun 53.22 80 ⇑P P 15 57 32.9 +0.8
baz=53,SNR=5.0
R24A Sanders Place, 53.23 73 ⇑P P 15 57 32.6 +0.5
baz=53
X19A St. Johns 53.24 79 ⇑P P 15 57 32.8 +0.6
baz=53
Z17A San Carlos Hig 53.28 81 ⇑P P 15 57 32.7 +0.2
baz=53
Q25A Bedland, Calha 53.29 72 ⇑P P 15 57 32.5 -0.1
baz=53
SDCO Great Sand Dun 53.31 74 ⇑P P 15 57 32.9 +0.1
baz=53
U22A Llaves 53.41 76 ⇑P P 15 57 34.1 +0.6
baz=53
S24A Houchin Ranch, 53.56 73 ⇓P P 15 57 35.0 +0.5
baz=54
X20A Quemado 53.65 78 ⇓P P 15 57 35.6 +0.5
baz=54
LZH Lanzhou 53.68 284 *e*P **P 15 57 36.4 +1.0**
LZH pP pP 15 57 55.4 +0.6
LZH pmax pmax
comp=Z,20nm,1.2s,mb5.0
LZH Lanzhou 53.68 284 *e*P **P 15 57 36.4 +1.0**
comp=Z,20nm,1.2s,mb5.0
LZH pP pP 15 57 55.4 +0.6
LZH sP sP 15 58 04.2 +0.7
LZH Lanzhou 53.68 284 *e*P **P 15 57 36.4 +1.0**
LZH *PP pP 15 57 55.4 +0.6
LZH pmax pmax
comp=Z,20nm,1.2s,mb5.0
V22A San Miguel Ran 53.69 76 ⇓P P 15 57 35.7 +0.2
baz=54
R25A Fountain Ranch 53.77 72 ⇓P P 15 57 36.5 +0.4
baz=54
GTA Gaotai 53.88 290 *e*P **P 15 57 36.9 +0.1**
GTA pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
S25A Robets Cordova 54.01 73 ⇑P P 15 57 38.2 +0.4
baz=54
T24A Torres, Weston 54.03 74 ⇑P P 15 57 38.6 +0.6
baz=54
118A Homack Ranch, 54.04 81 ⇑P P 15 57 38.5 +0.4
baz=54,SNR=10
X21A Alamocita Cree 54.14 78 ⇓P P 15 57 39.9 +1.1
baz=54,SNR=8.8
Y20A Horse Springs, 54.15 79 ⇓P P 15 57 39.8 +0.9
baz=54,SNR=7.0
R26A Arlington 54.16 72 ⇓P P 15 57 39.1 +0.2
baz=54
119A Ashpeak Ranch, 54.36 81 ⇓P P 15 57 41.1 +0.7
baz=54
T25A Trinidad 54.37 73 ⇑P P 15 57 41.4 +1.0
baz=54
218A Dragoon 54.45 82 ⇑P P 15 57 41.7 +0.7
baz=54,SNR=6.9
Y21A Point of Rocks 54.51 78 ⇓P P 15 57 41.6 +0.1
baz=54
Z20A Nine Sixteen R 54.56 80 ⇓P P 15 57 42.3 +0.4
baz=54,SNR=8.2
X22A Bernardo 54.57 77 ⇓P P 15 57 42.3 +0.3
baz=54
V24A Rampart Ranch, 54.80 75 ⇓P P 15 57 44.2 +0.6
baz=55
318A Bisbee 54.85 82 ⇓P P 15 57 43.9 -0.1
baz=55
U25A Circle Dot Ran 54.86 74 ⇑P P 15 57 44.0 0.0
baz=55
219A White Tail Can 54.91 81 ⇑P P 15 57 44.7 +0.3
baz=55,SNR=5.6
120A U Bar Ranch, L 54.92 80 ⇓P P 15 57 45.0 +0.6
baz=55,SNR=5.8
Z21A St. Cloud Mine 54.99 79 ⇑P P 15 57 45.5 +0.6
baz=55
Y22A Socorro 54.99 78 ⇑P P 15 57 45.3 +0.3
baz=55
W24A Lazy 6 Ranch, 55.06 76 ⇓P P 15 57 45.8 +0.4
baz=55
V25A Rancho No Teng 55.12 75 ⇑P P 15 57 46.2 +0.4
baz=55
U26A Atchley Ranch, 55.26 74 ⇑P P 15 57 46.9 0.0
baz=55
220A Playas Peak, P 55.43 81 ⇓P P 15 57 48.5 +0.3
baz=55,SNR=15
121A Cookes Peak, D 55.45 80 ⇓P P 15 57 48.5 +0.2
baz=55
Z22A Elephant Butte 55.45 79 ⇑P P 15 57 48.9 +0.6
baz=55
Y23A Lovelace Mesa, 55.54 77 ⇓P P 15 57 49.4 +0.5
baz=56
W25A X Bar L Ranch, 55.63 75 ⇓P P 15 57 50.0 +0.5
baz=56
221A Mesquite Ranch 55.81 80 ⇓P P 15 57 51.2 +0.3
baz=56
Y24A Capitan 55.92 77 ⇓P P 15 57 52.3 +0.6
baz=56
X25A Clemmons Ranch 55.98 76 ⇓P P 15 57 52.7 +0.6
baz=56
222A Williams Famil 56.16 80 ⇑P P 15 57 53.0 -0.4
baz=56
123A Bell Site, Whi 56.31 79 ⇑P P 15 57 55.1 +0.7
baz=56
Y25A Mesa, Roswell 56.37 76 ⇑P P 15 57 54.9 0.0
baz=56
Z24A Sheeppen Canyo 56.37 77 ⇑P P 15 57 55.1 +0.2
baz=56
X26A CR and CF Fran 56.47 75 ⇓P P 15 57 56.3 +0.8
baz=56
W27A Bowe Ranch, En 56.57 74 ⇓P P 15 57 56.6 +0.4
baz=56
Z25A Roswell 56.80 77 ⇑P P 15 57 58.1 +0.2
baz=57
224A Cornudas Mount 57.15 79 ⇓P P 15 58 00.8 +0.5
baz=57
Z26A Caprock 57.25 76 ⇓P P 15 58 01.3 +0.3
baz=57
125A Gardner Draw, 57.27 77 ⇑P P 15 58 01.8 +0.6
baz=57
CD2 Chengdu 57.28 280 *e*P **P 15 58 03.4 +2.1**
CD2 pP pP 15 58 20.6 -0.2
CD2 sP sP 15 58 28.5 -1.0
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
CD2 pmax pmax
comp=Z,30nm,5.2s
Y27A Causey 57.32 75 ⇓P P 15 58 01.8 +0.3
baz=57
ARCES ARCESS Array B 57.38 349 P **P 15 58 02.5 +1.1**
comp=Z,4.1nm,1.1s,mb4.4,baz=24,slow=6.0,SNR=5.3
ARCES ARCESS Array B 57.38 349 P **P 15 58 02.5 +1.1**
ARCES ARCESS Array B 57.38 349 P **P 15 58 02.5 +1.1**
ARCES pmax pmax
comp=Z,4.0nm,1.1s
MNTX Cornudas Mount 57.49 79 ⇓P P 15 58 03.4 +0.6
baz=57,SNR=12
MSTX Muleshoe 57.50 75 ⇓P P 15 58 03.9 +1.1
baz=57
AMTX Amarillo 57.52 74 ⇓P P 15 58 03.2 +0.3
baz=57
KURK Kurchatov 57.52 312 P **P 15 58 03.4 +0.6**
comp=Z,3.2nm,0.6s,mb4.6,baz=43,slow=6.6,SNR=24
KURK pP pP 15 58 17.6 -4.7
comp=Z,2.0nm,0.5s,baz=42,slow=6.7,SNR=5.3
KURK Kurchatov 57.52 312 *e*P **P 15 58 02.1 -0.6**
comp=Z,5.0nm,0.8s,mb4.6
KURK pP pP 15 58 17.6 -4.7
KURK Kurchatov 57.52 312 P **P 15 58 03.4 +0.7**
KURK *PP pP 15 58 17.6 -4.7
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
225A Deer Hill, Car 57.55 78 ⇑P P 15 58 03.4 +0.2
baz=58
324A Moseley Ranch, 57.61 79 ⇓P P 15 58 03.9 +0.2
baz=58
Z27A Tatum 57.68 76 ⇑P P 15 58 03.3 -0.8
baz=58
WMQ Urumqi 57.72 301 *e*P **P 15 58 06.5 +2.3**
325A Bean Ranch, Si 57.97 79 ⇓P P 15 58 06.5 +0.4
baz=58,SNR=6.2
226A Malaga, Loving 58.02 78 ⇓P P 15 58 06.5 0.0
baz=58
425A Indio Mountain 58.37 79 ⇓P P 15 58 09.5 +0.5
baz=58,SNR=6.8
MK31 Makanchi Array 58.47 307 *e*P **P 15 58 08.8 -0.6**
MK31 Makanchi Array 58.47 307 *e*P **P 15 58 08.8 -0.6**
MKAR Makanchi Array 58.47 307 P **P 15 58 08.6 -0.8**
comp=Z,1.2nm,0.5s,mb4.2,baz=50,slow=5.7,SNR=20
MKAR Makanchi Array 58.47 307 P **P 15 58 08.6 -0.8**
MKAR Makanchi Array 58.47 307 P **P 15 58 08.6 -0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
326A Caldwell Ranch 58.61 78 ⇑P P 15 58 11.0 +0.4
baz=58
GYA Guiyang 58.65 274 *e*P **P 15 58 11.0 +0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
426A McDonald Obser 59.04 79 ⇓P P 15 58 13.7 +0.1
baz=59,SNR=5.4
328A Wristen Ranch, 59.28 77 ⇑P P 15 58 15.2 0.0
baz=59
427A Hayter Ranch, 59.29 78 ⇓P P 15 58 15.2 -0.1
baz=59
VOSK Vostochnaya 59.46 318 P **P 15 58 15.9 -0.3**
VOSK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BRVK Borovoye 59.51 318 *e*P **P 15 58 17.0 +0.5**
comp=Z,3.9nm,0.6s,mb4.6
BRVK Borovoye 59.51 318 *e*P **P 15 58 17.0 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
527A Woodward Ranch 59.66 79 ⇓P P 15 58 17.5 -0.4
baz=60
626A Big Bend Ranch 59.77 80 ⇓P P 15 58 18.7 +0.1
baz=60,SNR=9.6
428A Kincaid Ranch, 59.82 78 ⇑P P 15 58 19.2 +0.3
baz=60
ZRNK Zerenda 60.11 319 P **P 15 58 20.5 -0.1**
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
528A Cox Ranch, San 60.15 78 ⇑P P 15 58 21.8 +0.5
baz=60
TXAR Lajitas Array 60.21 80 P **P 15 58 21.9 +0.3**
comp=Z,4.5nm,0.7s,mb4.6,baz=298,slow=5.0,SNR=37
TXAR sP sP 15 58 43.2 -6.7
comp=Z,1.7nm,0.6s,baz=297,slow=5.7,SNR=4.4
TXAR Lajitas Array 60.21 80 P **P 15 58 21.9 +0.3**
TXAR sP sP 15 58 43.2 -6.7
TXAR Lajitas Array 60.21 80 P **P 15 58 21.9 +0.3**
TXAR pmax pmax
comp=Z,5.0nm,0.7s
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TUL1 Tulsa 60.27 69 ⇓P P 15 58 21.2 -0.8
baz=60
627A Terlingua Ranc 60.29 79 ⇑P P 15 58 22.4 +0.1
baz=60,SNR=7.9
628A Black Gap, Mar 60.57 79 ⇑P P 15 58 24.1 0.0
baz=60,SNR=8.4
SCHQ Schefferville 60.67 37 P **P 15 58 24.8 +0.4**
comp=Z,2.8nm,0.6s,mb4.5,baz=305,slow=8.8,SNR=13
SCHQ Schefferville 60.67 37 P **P 15 58 24.8 +0.4**
SFIN Scholer Farm 61.97 60 ⇑P P 15 58 32.8 -0.7
baz=62
KMI Kunming 62.04 276 P **P 15 58 33.5 -0.6**
KMI pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
KMI Kunming 62.04 276 P **P 15 58 33.5 -0.6**
KMI pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
FINES FINESS Array B 64.99 346 P **P 15 58 53.5 +0.6**
comp=Z,1.3nm,0.6s,mb3.9,baz=23,slow=11,SNR=5.9
FINES FINESS Array B 64.99 346 P **P 15 58 53.5 +0.6**
FINES FINESS Array B 64.99 346 P **P 15 58 53.5 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.6s
EKS2 Erkin-Say 65.64 308 *e*P **P 15 58 58.0 +0.5**
comp=Z,1.4nm,0.6s,mb4.0
EKS2 Erkin-Say 65.64 308 *e*P **P 15 58 58.0 +0.5**
EKS2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
AKTO Aktyubinsk 66.37 323 P **P 15 59 03.0 +1.1**
AKTO Aktyubinsk 66.37 323 P **P 15 59 03.0 +1.1**
AKTO Aktyubinsk 66.37 323 P **P 15 59 03.1 +1.1**
AB31 Akbulak array 66.59 321 *e*P **P 15 59 04.0 +0.6**
ABKAR Akbulak array 66.59 321 *e*P **P 15 59 04.0 +0.6**
comp=Z,1.3nm,0.5s,mb4.0
KK31 Karatay Array 66.87 311 *i*P **P 15 59 04.9 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
KKAR Karatay Array 66.87 311 *e*P **P 15 59 05.0 -0.3**
comp=Z,1.6nm,0.5s,mb4.1
KKAR Karatay Array 66.87 311 *e*P **P 15 59 05.0 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
NOA NORSAR Array B 67.05 353 P **P 15 59 08.3 +2.1**
comp=Z,0.9nm,0.6s,mb3.8,baz=8.5,slow=6.3,SNR=3.8
NOA NORSAR Array B 67.05 353 P **P 15 59 08.3 +2.1**
NOA NORSAR Array B 67.05 353 P **P 15 59 08.3 +2.1**
NOA pmax pmax
comp=Z,1.0nm,0.6s
KMSC Kings Mountain 68.91 60 ⇓P P 15 59 17.6 -0.6
baz=69
CMAR Chiang Mai Arr 69.34 274 P **P 15 59 21.0 -0.1**
comp=Z,0.3nm,0.3s,mb3.5,baz=24,slow=5.9,SNR=4.1
CMAR pP pP 15 59 35.4 -5.9
comp=Z,0.4nm,0.3s,baz=28,slow=6.5,SNR=2.0
CMAR Chiang Mai Arr 69.34 274 P **P 15 59 21.0 -0.1**
CMAR pP pP 15 59 35.4 -5.9
CMAR Chiang Mai Arr 69.34 274 P **P 15 59 21.0 -0.1**
CMAR *PP pP 15 59 35.4 -5.8
TAPN Taplejung 69.51 288 *e*P **P 15 59 22.2 +0.1**
comp=Z,11nm,0.7s,mb4.8
TAPN Taplejung 69.51 288 *e*P **P 15 59 22.2 +0.1**
comp=Z,11nm,0.7s,mb4.8
JSC Jenkinsville 69.60 60 *e*P **P 15 59 22.2 -0.3**
JSC Jenkinsville 69.60 60 *e*P **P 15 59 22.2 -0.3**
ODAN Odare 70.07 288 *e*P **P 15 59 25.6 +0.1**
comp=Z,3.3nm,0.5s,mb4.4
ODAN Odare 70.07 288 *e*P **P 15 59 25.6 +0.1**
comp=Z,3.3nm,0.5s,mb4.4
GUN Gumba 70.17 290 *e*P **P 15 59 26.5 +0.4**
comp=Z,12nm,0.5s,mb5.0
GUN Gumba 70.17 290 *e*P **P 15 59 26.5 +0.4**
comp=Z,12nm,0.5s,mb5.0
JIRN Jiri 70.17 290 *e*P **P 15 59 26.8 +0.7**
comp=Z,7.0nm,0.8s,mb4.6
JIRN Jiri 70.17 290 *e*P **P 15 59 26.8 +0.7**
comp=Z,7.0nm,0.8s,mb4.5
RAMN Ramite 70.46 289 *e*P **P 15 59 28.5 +0.6**
comp=Z,15nm,0.6s,mb5.0
RAMN Ramite 70.46 289 *e*P **P 15 59 28.5 +0.6**
comp=Z,15nm,0.6s,mb5.0
KKN Kakani 70.61 290 *e*P **P 15 59 29.3 +0.5**
comp=Z,9.5nm,0.8s,mb4.7
KKN Kakani 70.61 290 *e*P **P 15 59 29.3 +0.5**
comp=Z,9.5nm,0.8s,mb4.7
KKN Kakani 70.61 290 *e*P **P 15 59 29.3 +0.5**
KKN pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
PKI Pulchoki 70.69 290 *e*P **P 15 59 29.7 +0.4**
PKI Pulchoki 70.69 290 *e*P **P 15 59 29.7 +0.4**
PKI Pulchoki 70.69 290 *e*P **P 15 59 29.7 +0.4**
GKN Gorkha 70.82 291 *e*P **P 15 59 30.1 0.0**
comp=Z,7.7nm,0.6s,mb4.7
GKN Gorkha 70.82 291 *e*P **P 15 59 30.1 0.0**
comp=Z,7.7nm,0.6s,mb4.7
DMN Daman 70.84 290 *e*P **P 15 59 30.6 +0.4**
DMN Daman 70.84 290 *e*P **P 15 59 30.6 +0.4**
DANN Dangsing 71.07 292 *e*P **P 15 59 31.7 +0.2**
comp=Z,13nm,0.9s,mb4.8
DANN Dangsing 71.07 292 *e*P **P 15 59 31.7 +0.2**
comp=Z,13nm,0.9s,mb4.8
KOLN Koldanda 71.60 292 *e*P **P 15 59 35.3 +0.6**
comp=Z,4.3nm,0.5s,mb4.5
KOLN Koldanda 71.60 292 *e*P **P 15 59 35.3 +0.6**
comp=Z,4.3nm,0.5s,mb4.5
AKASG Malin Array Be 74.61 340 P **P 15 59 51.4 -0.8**
comp=Z,1.3nm,0.5s,mb3.9,baz=20,slow=6.2,SNR=4.0
AKASG Malin Array Be 74.61 340 P **P 15 59 51.4 -0.8**
AKASG Malin Array Be 74.61 340 P **P 15 59 51.4 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
BUR08 Bucovina Ar. S 78.34 342 P **P 16 00 15.9 +2.6**
WRA Warramunga Arr 81.21 222 P **P 16 00 29.8 +0.9**
comp=Z,0.4nm,0.7s,mb3.3,baz=33,slow=6.2,SNR=4.4
WRA pP pP 16 00 42.3 -7.3
comp=Z,0.5nm,0.7s,baz=33,slow=6.2,SNR=3.4
WRA Warramunga Arr 81.21 222 P **P 16 00 29.8 +0.9**
WRA pP pP 16 00 42.3 -7.3
WRA Warramunga Arr 81.21 222 P **P 16 00 29.8 +0.8**
WRA *PP pP 16 00 42.3 -7.3
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 84.72 220 P **P 16 00 46.1 -0.8**
comp=Z,0.3nm,0.7s,mb3.3,baz=20,slow=4.6,SNR=4.1
ASAR pP pP 16 01 00.5 -7.3
comp=Z,0.4nm,0.7s,baz=26,slow=5.5,SNR=2.8
ASAR Alice Springs 84.72 220 P **P 16 00 46.1 -0.8**
ASAR pP pP 16 01 00.5 -7.3
ASAR Alice Springs 84.72 220 P **P 16 00 46.2 -0.8**
ASAR *PP pP 16 01 00.5 -7.3
MAW Mawson 145.81 218 PKPbc PKPbc 16 07 47.7 -2.9
comp=Z,2.0nm,0.9s,baz=117,slow=4.5,SNR=4.0
MAW Mawson 145.81 218 PKPbc PKPbc 16 07 47.7 -2.9
BOSA Boshof 149.45 309 PKPbc PKPbc 16 08 02.6 +0.9
comp=Z,1.5nm,0.5s,baz=84,slow=2.3,SNR=5.3
BOSA Boshof 149.45 309 PKPbc PKPbc 16 08 02.6 +0.9

ISCJB ***15*** *15:50:14.3±0.9,31°.61N±0°.04×104°.34E±0°.06,h1km±7km, mb3.3/5, Error ellipse: s-maj=9.1km s-min=5.5km az=26.3*
IDC ***15*** *15:50:15.7±1.1,32°.02N×104°.97E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.4/26,mbtmp3.4/6,ML4.0/1,Error ellipse: s-maj=71.5km s-min=19.3km az=59.0*
NEIC ***15*** *15:50:17.3±0.6,32°.02N×104°.94E,h10km,Error ellipse: s-maj=22.6km s-min=10.0km az=68.0*
BJI ***15*** *15:50:19.8,31°.57N×104°.07E,h14km,ML3.3/13*
ISC 15 15:50:16.9±0.8,31°.55N±0°.03×104°.24E±0°.05,h0km±6km, n18,σ1.9 18/25,mb3.3/5,Sichuan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.76**	**213**	Pg	**Pg**	**15 50 32.4**	**+0.9**
CD2				Sg	**Sg**	**15 50 42.3**	**+0.9**
CD2				smax			
	comp=N,850nm,0.8s						
CD2				smax			
	comp=E,380nm,0.5s						
LZH	**Lanzhou**	**4.54**	**356**	*e*Pg	**Pg**	**15 51 48.0**	**+4.2**
LZH				Sg	**Sg**	**15 52 42.9**	**+0.3**
LZH				smax			
	comp=N,24nm,0.5s						
LZH				smax			
	comp=E,32nm,0.5s						
LZH				LR	LR		
	comp=N,220nm,5.3s						
LZH				LR	LR		
	comp=E,190nm,5.1s						
LZH				LR	LR		
	comp=Z,230nm,5.6s						
XAN	**Xi'an**	**4.66**	**57**	Pn	**Pn**	**15 51 30.9**	**+2.5**
XAN				Pg	**Pg**	**15 51 45.4**	**-0.7**
XAN				Sn	**Sn**	**15 52 24.8**	**+1.7**
XAN				Sg	**Sg**	**15 52 45.3**	**-1.1**
XAN				smax			
	comp=N,57nm,0.5s						
XAN				smax			
	comp=E,33nm,0.6s						
GYA	**Guiyang**	**5.50**	**157**	Pn	**Pn**	**15 51 45.4**	**+5.4**
GYA				Sn	**Sn**	**15 52 44.3**	**+0.3**

GYA Sg **Sg** **15 53 12.5 -1.1**
GYA smax
comp=N,30nm,0.6s
GYA smax
comp=E,30nm,0.6s
CMAR Chiang Mai Arr 13.89 201 Pn **Pn** **15 53 43.5 +8.4**
comp=E,0.2nm,0.3s,baz=8.1,slow=8.9,SNR=10
CMAR Chiang Mai Arr 13.89 201 Pn **Pn** **15 53 43.5 +8.4**
CN2 Changchun 20.70 48 *eP* **P** **15 55 00.4 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 22.72 318 P **P** **15 55 19.6 -0.6**
comp=Z,0.4nm,0.8s,mb3.0,baz=127,slow=9.3,SNR=5.6
MKAR Makanchi Array 22.72 318 P **P** **15 55 19.6 -0.6**
ZALV Zalesovo Beam 26.37 334 P **P** **15 55 52.5 -2.1**
comp=Z,0.7nm,0.5s,mb3.5,baz=148,slow=8.5,SNR=5.3
ZALV Zalesovo Beam 26.37 334 P **P** **15 55 52.5 -2.1**
KURK Kurchatov 26.96 323 P **P** **15 55 58.9 -1.0**
comp=Z,0.2nm,0.5s,mb3.1,baz=108,slow=3.0,SNR=5.2
KURK Kurchatov 26.96 323 P **P** **15 55 58.9 -1.0**
WRA Warramunga Arr 58.78 147 P **P** **16 00 16.3 -0.6**
comp=Z,0.2nm,0.5s,mb3.4,baz=339,slow=7.8,SNR=5.4
WRA Warramunga Arr 58.78 147 P **P** **16 00 16.3 -0.6**
WB2 Warramunga Arr 58.78 147 *eP* **P** **16 00 16.6 -0.4**
ASAR Alice Springs 61.81 149 P **P** **16 00 37.0 -0.6**
comp=Z,0.3nm,0.9s,mb3.5,baz=329,slow=6.3,SNR=3.6
ASAR Alice Springs 61.81 149 P **P** **16 00 37.0 -0.6**

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*IDC **15** 15:55:47.1±1.6,5°.32N×94°.24E,h0km,mb3.8/6,mb1 3.9/7, mb1mx3.6/23,mbtmp3.7/7,ML4.2/1, Error ellipse: s-maj=77.9km s-min=20.1km az=56.0*

NEIC 15 15:56:12.6±0.6,6°.12N×95°.45E,h200km,mb3.7/1,Error ellipse: s-maj=25.9km s-min=8.4km az=60.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.72**	**15**	Pn	Pn	15 59 06.9	+0.2
0.4nm,0.3s,baz=221,slow=7.6,SNR=4.5							
CMAR	**Chiang Mai Arr**	**12.72**	**15**	Pn	Pn	15 59 06.9	+0.2
MK31	**Makanchi Array**	**42.08 347**		*eP*	P	16 03 44.3	-0.4
MKAR	**Makanchi Array**	**42.08 347**		P	P	16 03 44.4	-0.3
0.2nm,0.4s,baz=174,slow=8.6,SNR=6.5							
MKAR	**Makanchi Array**	**42.08 347**		P	P	16 03 44.4	-0.3
WRA	**Warramunga Arr**	**46.20 125**		P	P	16 04 18.0	+0.2
0.7nm,0.6s,baz=307,slow=9.5,SNR=12							
WRA	**Warramunga Arr**	**46.20 125**		P	P	16 04 18.0	+0.2
WB2	**Warramunga Arr**	**46.21 125**		*eP*	P	16 04 18.0	+0.1
AS31	**Alice Springs**	**47.80 130**		*eP*	P	16 04 30.3	0.0
ASAR	**Alice Springs**	**47.80 130**		P	P	16 04 30.2	0.0
0.5nm,0.4s,baz=299,slow=7.8,SNR=26							
ASAR	**Alice Springs**	**47.80 130**		P	P	16 04 30.2	0.0
ZALV	**Zalesovo Beam**	**48.46 352**		P	P	16 04 34.7	0.0
0.6nm,0.5s,baz=178,slow=7.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**48.46 352**		P	P	16 04 34.7	0.0
ABKAR	**Akbulak array**	**52.38 331**		*eP*	P	16 05 04.3	+0.2
0.7nm,0.4s							
FINES	**FINESS Array B**	**74.86 332**		P	P	16 07 31.0	+0.1
2.1nm,0.9s,baz=99,slow=6.4,SNR=6.0							
FINES	**FINESS Array B**	**74.86 332**		P	P	16 07 31.0	+0.1
ARCES	**ARCESS Array B**	**77.34 340**		P	P	16 07 45.5	+0.7
1.0nm,0.7s,baz=98,slow=6.5,SNR=2.7							
ARCES	**ARCESS Array B**	**77.34 340**		P	P	16 07 45.5	+0.7

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*IDC **15** 16:05:02.2±0.9,1°.91N×126°.62E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.6/19,mbtmp3.7/8,ML3.3/1,MS2.7/1, Ms1 2.7/1,ms1mx2.5/28, Error ellipse: s-maj=60.3km s-min=16.1km az=70.0*
*NEIC **15** 16:05:03.8±0.5,1°.93N×126°.61E,h10km,mb4.5/2,Error ellipse: s-maj=37.7km s-min=8.2km az=70.0*
*DJA **15** 16:05:06,2°.02N×126°.71E,h20km,MLv4.2/8*
*ISCJB **15** 16:05:07.5±1.1,1°.96N±0°.08×126°.68E±0°.09,h54km±11km, mb3.8/8,Error ellipse: s-maj=17.3km s-min=9.2km az=143.5*

ISC 15 16:05:08.0±1.3,1°.98N±0°.08×126°.8E±0°.1,h41km±13km, n28,σ0s74/28,mb3.8/8,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.35 153**		P	Pn	**16 05 30.6**	**+0.2**
MNI	**Manado**	**1.98 254**		P	Pn	**16 05 37.8**	**-1.3**
SGSI	**Sangihe**	**2.09 324**		P	Pn	**16 05 40.1**	**-0.5**
LBMI	**Labuha**	**2.71 164**		P	Pn	**16 05 49.8**	**+0.7**
KMSI	**Cibinong**	**3.10 243**		P	Pn	**16 05 54.7**	**+0.3**
GTOI	**Gorontalo**	**3.97 250**		P	Pn	**16 06 07.5**	**+1.1**
LUWI	**Luwuk**	**4.98 233**		P	Pn	**16 06 20.4**	**+0.1**
MRSI	**Marisa**	**5.03 253**		P	Pn	**16 06 21.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.98 183**		P	Pn	**16 09 34.6**	**-4.4**
0.1nm,0.3s,baz=0.0,slow=10,SNR=2.7							
FITZ				LR	LR	16 16 47.7	
comp=Z,21nm,19.4s,baz=273,slow=35							
FITZ	**Fitzroy Crossi**	**19.98 183**		*eP*	Pn	**16 09 35.4**	**-3.6**
WRAB	**Tennant Creek**	**23.02 161**		*eP*	P	**16 10 08.7**	**-0.9**
5.0nm,0.6s,mb4.1							
WRA	**Warramunga Arr**	**23.02 161**		P	P	**16 10 08.2**	**-1.5**
3.1nm,0.7s,mb3.9,baz=339,slow=11,SNR=49							
WRA	**Warramunga Arr**	**23.02 161**		P	P	**16 10 08.2**	**-1.5**
WB2	**Warramunga Arr**	**23.03 161**		*eP*	P	**16 10 09.1**	**-0.7**
AS31	**Alice Springs**	**26.42 165**		*eP*	P	**16 10 42.1**	**+1.1**
ASAR	**Alice Springs**	**26.42 165**		P	P	**16 10 40.9**	**-0.1**
0.6nm,0.3s,mb3.5,baz=346,slow=13,SNR=25							
ASAR	**Alice Springs**	**26.42 165**		P	P	**16 10 40.9**	**-0.1**
STKA	**Stephens Creek**	**36.50 158**		P	P	**16 12 10.1**	**+0.7**
1.8nm,0.9s,mb4.0,baz=342,slow=9.6,SNR=3.9							
STKA	**Stephens Creek**	**36.50 158**		*eP*	P	**16 12 10.5**	**+1.0**
MK31	**Makanchi Array**	**59.00 326**		*eP*	P	**16 15 03.3**	**-0.3**
MKAR	**Makanchi Array**	**59.00 326**		P	P	**16 15 03.5**	**-0.1**
0.3nm,0.4s,mb3.7,baz=122,slow=8.1,SNR=13							
MKAR	**Makanchi Array**	**59.00 326**		P	P	**16 15 03.5**	**-0.1**
KURK	**Kurchatov**	**63.22 328**		P	P	**16 15 32.2**	**+0.1**
1.4nm,0.4s,mb4.4,baz=128,slow=6.2,SNR=5.8							
KURK	**Kurchatov**	**63.22 328**		*eP*	P	**16 15 31.9**	**-0.2**
5.6nm,0.9s,mb4.7							
BVAR	**Borovoye Array**	**68.79 327**		P	P	**16 16 08.4**	**+0.6**
0.2nm,0.5s,mb3.3,baz=134,slow=10,SNR=3.5							
BVAR	**Borovoye Array**	**68.79 327**		P	P	**16 16 08.4**	**+0.6**
ILAR	**Eielson Array**	**86.67 25**		P	P	**16 17 47.6**	**+0.5**
0.4nm,0.9s,mb3.6,baz=251,slow=5.6,SNR=3.1							
ILAR	**Eielson Array**	**86.67 25**		P	P	**16 17 47.6**	**+0.5**

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*ISCJB **15** 16:10:51.6±0.5,59°.8S±0°.1×28°.8W±0°.2,h10km,mb4.3/11, MS3.2/6,Error ellipse: s-maj=18.4km s-min=11.5km az=141.0*
*IDC **15** 16:10:51.3±0.6,59°.85S×28°.84W,h0km,mb4.3/9, mb1 4.3/10,mb1mx4.3/14,mbtmp4.2/10,ML3.0/1,MS3.5/6, Ms1 3.5/6,ms1mx3.2/20,Error ellipse: s-maj=24.8km s-min=17.7km az=47.0*
*NEIC **15** 16:10:59.9±2.6,59°.89S×28°.84W,h68km±23km,mb4.3/3, Error ellipse: s-maj=15.5km s-min=10.3km az=224.0*

ISC 15 16:10:53.5±0.5,59°.8S±0°.1×28°.8W±0°.2,h10km,n38, σ0s74/26,mb4.3/11,MS3.2/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**14.15 151**		*e*	Pn	**16 14 22.6**	**+9.0**
SNAA	**Sanae**	**15.77 149**		*e*	Pn	**16 14 36.7**	**+1.5**
SNAA	**Sanae**	**15.77 149**		Pn	Pn	**16 14 36.0**	**+0.8**
0.1nm,0.3s,baz=311,slow=10,SNR=9.2							
SNAA	**Sanae**	**15.77 149**		*eP*	Pn	**16 14 35.8**	**+0.6**
18nm,1.4s							
PMSA	**Palmer Station**	**16.95 238**		LR	LR	16 20 04.0	
comp=Z,168nm,20.5s,baz=86,slow=33							
USHA	**Ushuaia**	**21.72 266**		LR	LR	16 21 50.2	
comp=Z,116nm,18.8s,MS3.3,baz=286,slow=30							
QSPA	**South Pole Qui**	**30.42 180**		P	P	**16 17 05.9**	**+0.6**
1.3nm,0.4s,mb4.0,baz=195,slow=7.9,SNR=6.3							
QSPA				PcP	PcP	16 20 04.0	-0.3
1.1nm,0.4s,baz=193,slow=3.7,SNR=4.0							
QSPA				LR	LR	16 28 26.1	
comp=Z,102nm,18.6s,MS3.5,baz=220,slow=35							
QSPA	**South Pole Qui**	**30.42 180**		P	P	**16 17 05.9**	**+0.6**
QSPA				PcP	PcP	16 20 04.0	-0.3
MAW	**Mawson**	**37.68 141**		P	P	**16 18 08.7**	**+0.5**
3.6nm,0.9s,mb4.1,baz=247,slow=7.7,SNR=3.4							
MAW	**Mawson**	**37.68 141**		P	P	**16 18 08.7**	**+0.4**
CFAA	**Coronel Fontan**	**38.46 299**		P	P	**16 18 14.8**	**-0.4**
0.1nm,0.4s,baz=183,slow=8.6,SNR=3.4							
CFAA				LR	LR	16 30 51.0	
comp=Z,3.5nm,20.2s,MS2.2,baz=294,slow=31							
CFAA	**Coronel Fontan**	**38.46 299**		P	P	**16 18 14.8**	**-0.4**
CPUP	**Villa Florida**	**38.82 317**		P	P	**16 18 18.6**	**+0.4**
3.2nm,0.7s,mb4.2,baz=151,slow=7.1,SNR=9.9							
CPUP				LR	LR	16 33 13.7	
comp=Z,30nm,19.4s,MS3.1,baz=174,slow=35							
CPUP	**Villa Florida**	**38.82 317**		P	P	**16 18 18.6**	**+0.4**
SUR	**Sutherland**	**42.53 72**		LR	LR	16 33 45.3	
comp=Z,47nm,18.7s,MS3.4,baz=314,slow=32							
BOSA	**Boshof**	**47.79 74**		P	P	**16 19 30.4**	**-0.3**
1.8nm,0.5s,mb4.3,baz=174,slow=9.5,SNR=6.4							
BOSA	**Boshof**	**47.79 74**		P	P	**16 19 30.4**	**-0.3**
LBTB	**Lobatse**	**50.97 72**		P	P	**16 19 55.0**	**0.0**
6.4nm,1.0s,mb4.5,baz=188,slow=11,SNR=5.5							
LBTB	**Lobatse**	**50.97 72**		*eP*	P	**16 19 55.1**	**+0.1**
LPAZ	**La Paz**	**51.98 309**		P	P	**16 20 03.5**	**+0.8**
1.3nm,0.7s,mb4.0,baz=139,slow=8.3,SNR=6.7							
LPAZ	**La Paz**	**51.98 309**		P	P	**16 20 03.5**	**+0.8**
SAML	**Samuel**	**56.95 318**		*eP*	P	**16 20 38.9**	**+0.1**
3.5nm,0.8s,mb4.4							
LSZ	**Lusaka**	**60.56 68**		*eP*	P	**16 21 03.8**	**-0.1**
2.6nm,0.8s,mb4.4							
DBIC	**Dimbokro**	**68.96 26**		LR	LR	16 43 15.0	
comp=Z,48nm,21.2s,MS3.7,baz=149,slow=28							
TORD	**Torodi Ar. Bea**	**76.76 31**		P	P	**16 22 45.2**	**+0.4**
7.6nm,0.7s,mb4.8,baz=196,slow=6.3,SNR=52							
TORD	**Torodi Ar. Bea**	**76.76 31**		P	P	**16 22 45.2**	**+0.4**
STKA	**Stephens Creek**	**88.30 172**		P	P	**16 23 43.5**	**-1.4**
1.8nm,0.8s,mb4.3,baz=185,slow=11,SNR=3.7							
STKA	**Stephens Creek**	**88.30 172**		P	P	**16 23 43.5**	**-1.4**
ASAR	**Alice Springs**	**95.62 164**		P	P	**16 24 17.4**	**-1.6**
0.7nm,1.0s,mb4.0,baz=189,slow=4.1,SNR=7.1							
ASAR	**Alice Springs**	**95.62 164**		P	P	**16 24 17.4**	**-1.6**
YKA	**Yellowknife Ar**	**138.34 316**		PKP	PKPdf	16 30 14.8	-2.4
0.3nm,0.6s,baz=117,slow=2.3,SNR=6.7							
YKA	**Yellowknife Ar**	**138.34 316**		PKP	PKPdf	16 30 14.8	-2.4
ZALV	**Zalesovo Beam**	**144.66 69**		PKP	PKPdf	16 30 25.8	-3.1
1.2nm,0.6s,baz=257,slow=3.8,SNR=6.2							
ZALV	**Zalesovo Beam**	**144.66 69**		PKP	PKPdf	16 30 25.8	-3.1
SONM	**Songino Array**	**151.55 95**		PKPbc	PKPbc	16 30 45.8	-0.7
0.2nm,0.3s,baz=232,slow=3.5,SNR=3.3							
SONM				PKPab	PKPab	16 30 54.0	-1.3
0.7nm,0.6s,baz=224,slow=4.1,SNR=4.8							
SONM	**Songino Array**	**151.55 95**		PKPbc	PKPbc	16 30 45.8	-0.8
SONM				PKPab	PKPab	16 30 54.0	-1.3
ILAR	**Eielson Array**	**151.84 307**		PKPbc	PKPbc	16 30 44.8	-1.9
1.5nm,0.9s,baz=118,slow=0.4,SNR=17							
ILAR	**Eielson Array**	**151.84 307**		PKPbc	PKPbc	16 30 44.8	-1.9

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*ISCJB **15** 16:26:34.5±0.6,59°.9S±0°.1×28°.6W±0°.3,h10km,mb4.1/9, MS3.4/4,Error ellipse: s-maj=21.2km s-min=13.2km az=148.6*
*IDC **15** 16:26:34.3±0.7,59°.87S×28°.72W,h0km,mb4.1/8, mb1 4.1/9,mb1mx4.0/14,mbtmp4.0/9,ML2.8/1,MS3.5/5, Ms1 3.5/5,ms1mx3.2/16,Error ellipse: s-maj=24.9km s-min=21.0km az=61.0*
*NEIC **15** 16:26:40.3±0.6,59°.90S×28°.62W,h35km,mb4.4/2,Error ellipse: s-maj=26.6km s-min=16.4km az=57.0*

ISC 15 16:26:36.3±0.6,59°.9S±0°.1×28°.6W±0°.3,h10km,n32, σ0s76/19,mb4.1/9,MS3.4/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.66 149**		Pn	Pn	**16 30 16.7**	**0.0**
0.0nm,0.3s,baz=314,slow=17,SNR=2.6							
SNAA	**Sanae**	**15.66 149**		*eP*	Pn	**16 30 15.8**	**-0.9**
PMSA	**Palmer Station**	**17.02 238**		LR	LR	16 36 17.2	
comp=Z,191nm,18.0s,baz=271,slow=34							
USHA	**Ushuaia**	**21.83 266**		LR	LR	16 37 21.2	
comp=Z,96nm,19.6s,MS3.2,baz=1.2,slow=30							
QSPA	**South Pole Qui**	**30.36 180**		P	P	**16 32 49.0**	**+1.4**
0.6nm,0.5s,mb3.6,baz=161,slow=3.7,SNR=11							
QSPA				PcP	PcP	16 35 46.9	-0.1
0.6nm,0.5s,baz=293,slow=1.7,SNR=5.3							
QSPA	**South Pole Qui**	**30.36 180**		P	P	**16 32 49.0**	**+1.4**
QSPA				PcP	PcP	16 35 46.9	-0.1
CPUP	**Villa Florida**	**38.94 317**		P	P	**16 34 01.7**	**-0.5**
1.8nm,0.5s,mb4.0,baz=142,slow=7.6,SNR=6.0							
CPUP				LR	LR	16 49 52.4	
comp=Z,27nm,18.8s,MS3.1,baz=188,slow=36							
CPUP	**Villa Florida**	**38.94 317**		P	P	**16 34 01.7**	**-0.5**
BOSA	**Boshof**	**47.70 74**		P	P	**16 35 13.3**	**+0.5**
1.3nm,0.4s,mb4.3,baz=191,slow=5.3,SNR=7.8							
BOSA	**Boshof**	**47.70 74**		*eP*	P	**16 35 13.2**	**+0.4**
9.9nm,1.3s,mb4.7							
LBTB	**Lobatse**	**50.88 71**		P	P	**16 35 37.0**	**-0.2**
1.4nm,0.5s,mb4.1,baz=234,slow=12,SNR=3.3							
LBTB				LR	LR	16 53 11.3	
comp=Z,77nm,18.4s,MS3.8,baz=286,slow=31							
LBTB	**Lobatse**	**50.88 71**		P	P	**16 35 37.0**	**-0.2**
LPAZ	**La Paz**	**52.11 309**		P	P	**16 35 47.5**	**+1.0**
0.6nm,0.5s,mb3.8,baz=152,slow=4.6,SNR=3.7							
LPAZ	**La Paz**	**52.11 309**		P	P	**16 35 47.5**	**+1.0**
SAML	**Samuel**	**57.07 318**		*eP*	P	**16 36 21.8**	**-0.8**
1.6nm,0.7s,mb4.2							
MSKU	**Masuku**	**66.53 47**		LR	LR	17 02 05.8	
comp=Z,48nm,20.5s,MS3.7,baz=174,slow=32							
TORD	**Torodi Ar. Bea**	**76.75 30**		P	P	**16 38 28.2**	**+0.5**
5.0nm,0.6s,mb4.6,baz=196,slow=6.5,SNR=38							
TORD	**Torodi Ar. Bea**	**76.75 30**		P	P	**16 38 28.2**	**+0.5**
STKA	**Stephens Creek**	**88.22 172**		P	P	**16 39 27.1**	**-0.3**
1.0nm,0.7s,mb4.2,baz=144,slow=9.4,SNR=4.0							
STKA	**Stephens Creek**	**88.22 172**		P	P	**16 39 27.1**	**-0.3**
ASAR	**Alice Springs**	**95.53 164**		P	P	**16 40 00.3**	**-1.1**
0.3nm,0.6s,mb3.9,baz=186,slow=4.4,SNR=7.2							
ASAR	**Alice Springs**	**95.53 164**		P	P	**16 40 00.3**	**-1.1**
YKA	**Yellowknife Ar**	**138.47 316**		PKP	PKPdf	16 45 58.3	-2.1
0.2nm,0.6s,baz=139,slow=2.0,SNR=3.8							
YKA	**Yellowknife Ar**	**138.47 316**		PKP	PKPdf	16 45 58.3	-2.1
ZALV	**Zalesovo Beam**	**144.57 69**		PKP	PKPdf	16 46 09.0	-2.6
0.7nm,0.4s,baz=246,slow=6.1,SNR=4.7							
ZALV	**Zalesovo Beam**	**144.57 69**		PKP	PKPdf	16 46 09.0	-2.6
INK	**Inuvik**	**148.21 317**		PKPbc	PKPbc	16 46 18.4	-2.3
1.0nm,0.7s,baz=136,slow=1.7,SNR=6.3							
INK	**Inuvik**	**148.21 317**		PKPbc	PKPbc	16 46 18.4	-2.3
SONM	**Songino Array**	**151.43 95**		PKPbc	PKPbc	16 46 28.7	-0.4
0.2nm,0.4s,baz=259,slow=4.5,SNR=3.7							
SONM				PKPab	PKPab	16 46 37.5	-0.1
0.3nm,0.5s,baz=261,slow=5.1,SNR=4.8							
SONM	**Songino Array**	**151.43 95**		PKPbc	PKPbc	16 46 28.7	-0.4
SONM				PKPab	PKPab	16 46 37.5	-0.1
ILAR	**Eielson Array**	**151.97 307**		PKPbc	PKPbc	16 46 27.9	-2.0
0.5nm,0.6s,baz=180,slow=0.8,SNR=15							
ILAR	**Eielson Array**	**151.97 307**		PKPbc	PKPbc	16 46 27.9	-2.0

IDC 15 16:37:28.3±3.4,20°.82S×176°.19W,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.5/16,mbtmp3.5/2,Error ellipse: s-maj=200.6km s-min=52.1km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.09 257**		P	P	16 45 54.8	+0.3
0.5nm,0.5s,baz=95,slow=7.8,SNR=20							
ASAR				PcP	PcP	16 47 29.1	-1.7
0.2nm,0.6s,baz=99,slow=4.2,SNR=6.2							
WRA	**Warramunga Arr**	**46.23 262**		P	P	16 45 55.6	0.0
0.2nm,0.4s,baz=96,slow=7.4,SNR=16							
AKASG	**Malin Array Be**	**144.09 332**		PKP	PKPdf	16 57 05.6	-0.2
1.0nm,0.4s,baz=42,slow=4.0,SNR=6.3							
BRTR	**Keskin Array B**	**148.30 313**		PKPbc	PKPbc	16 57 17.0	+0.3
0.5nm,0.5s,baz=88,slow=2.8,SNR=2.8							

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*ISCJB **15** 16:50:42.9±0.5,16°.20S±0°.09×67°.5E±0°.1,h10km, mb4.4/24,MS3.8/14,Error ellipse: s-maj=14.7km s-min=12.5km az=177.9*
*IDC **15** 16:50:43.6±0.7,16°.23S×67°.54E,h0km,mb4.0/10, mb1 4.2/10,mb1mx4.0/21,mbtmp4.0/10,MS3.7/14, Ms1 3.7/14,ms1mx3.6/30,Error ellipse: s-maj=24.3km s-min=20.1km az=169.0*
*NEIC **15** 16:50:45.0±0.4,16°.17S×67°.51E,h10km,mb5.0/12,Error ellipse: s-maj=11.8km s-min=10.4km az=92.0*

ISC 15 16:50:45.0±0.5,16°.20S±0°.09×67°.5E±0°.1,h10km,n69, σ0s86/52,mb4.4/24,MS3.8/14,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**40.06 250**		P	P	**16 58 21.5**	**+0.8**
2.1nm,0.7s,mb4.0,baz=113,slow=7.7,SNR=2.7							
LBTB	**Lobatse**	**40.06 250**		P	P	**16 58 21.5**	**+0.8**
BOSA	**Boshof**	**40.76 245**		LR	LR	17 14 03.7	
comp=Z,83nm,18.1s,MS3.6,baz=91,slow=34							
CMAR	**Chiang Mai Arr**	**46.31 43**		P	P	**16 59 11.9**	**+0.7**
0.9nm,0.8s,mb3.8,baz=235,slow=9.7,SNR=11							
CMAR				LR	LR	17 15 19.6	
comp=Z,94nm,19.4s,MS3.8,baz=61,slow=32							
CMAR	**Chiang Mai Arr**	**46.31 43**		P	P	**16 59 11.9**	**+0.7**
KOLN	**Koldanda**	**46.41 20**		*eP*	P	**16 59 12.1**	**+0.2**
5.4nm,0.6s,mb4.6							
KOLN	**Koldanda**	**46.41 20**		*eP*	P	**16 59 12.1**	**+0.2**
5.4nm,0.6s,mb4.7							
RAMN	**Ramite**	**46.73 24**		*eP*	P	**16 59 16.1**	**+1.7**
14nm,0.8s,mb5.0							
RAMN	**Ramite**	**46.73 24**		*eP*	P	**16 59 16.1**	**+1.7**
14nm,0.8s,mb5.0							
DMN	**Daman**	**46.78 22**		*eP*	P	**16 59 14.7**	**-0.1**
15nm,0.9s,mb4.9							
DMN	**Daman**	**46.78 22**		*eP*	P	**16 59 14.7**	**-0.1**
15nm,0.9s,mb4.9							
ODAN	**Odare**	**46.96 25**		*eP*	P	**16 59 16.6**	**+0.4**
ODAN	**Odare**	**46.96 25**		*eP*	P	**16 59 16.6**	**+0.4**
GKN	**Gorkha**	**46.98 21**		*eP*	P	**16 59 16.2**	**-0.1**
15nm,0.8s,mb5.0							
GKN	**Gorkha**	**46.98 21**		*eP*	P	**16 59 16.2**	**-0.1**
15nm,0.8s,mb5.0							
DANN	**Dangsing**	**47.00 20**		*eP*	P	**16 59 16.1**	**-0.4**
14nm,0.9s,mb4.9							
DANN	**Dangsing**	**47.00 20**		*eP*	P	**16 59 16.1**	**-0.4**
14nm,0.9s,mb4.9							
KKN	**Kakani**	**47.01 22**		*eP*	P	**16 59 16.7**	**+0.2**
22nm,1.1s,mb5.0							
KKN	**Kakani**	**47.01 22**		*eP*	P	**16 59 16.7**	**+0.2**
22nm,1.1s,mb5.0							
JIRN	**Jiri**	**47.22 23**		*eP*	P	**16 59 19.1**	**+0.9**
JIRN	**Jiri**	**47.22 23**		*eP*	P	**16 59 19.1**	**+0.9**
GUN	**Gumba**	**47.33 22**		*eP*	P	**16 59 19.5**	**+0.4**
22nm,1.1s,mb5.0							
GUN	**Gumba**	**47.33 22**		*eP*	P	**16 59 19.5**	**+0.4**
22nm,1.1s,mb5.0							
TAPN	**Taplejung**	**47.53 25**		*eP*	P	**16 59 21.3**	**+0.7**
14nm,1.1s,mb4.9							
TAPN	**Taplejung**	**47.53 25**		*eP*	P	**16 59 21.3**	**+0.7**
14nm,1.1s,mb4.9							
MAW	**Mawson**	**51.45 182**		LR	LR	17 16 19.8	
comp=Z,63nm,20.5s,MS3.6,baz=195,slow=30							
AAK	**Ala-Archa**	**58.90 6**		*eP*	P	**17 00 44.9**	**+0.9**
14nm,1.1s,mb4.9							
TGY	**Tagaytay City**	**60.78 63**		LR	LR	17 26 06.9	
comp=Z,7.9nm,18.3s,MS2.9,baz=239,slow=35							
ASAR	**Alice Springs**	**62.40 109**		P	P	**17 01 07.9**	**-0.6**
2.7nm,0.9s,mb4.4,baz=268,slow=6.4,SNR=22							
ASAR	**Alice Springs**	**62.40 109**		P	P	**17 01 07.9**	**-0.6**
AS31	**Alice Springs**	**62.40 109**		*eP*	P	**17 01 08.4**	**0.0**
WRA	**Warramunga Arr**	**63.29 104**		P	P	**17 01 14.3**	**-0.1**
5.0nm,1.0s,mb4.6,baz=268,slow=5.7,SNR=4.8							
WRA	**Warramunga Arr**	**63.29 104**		P	P	**17 01 14.3**	**-0.1**
WB2	**Warramunga Arr**	**63.30 104**		*eP*	P	**17 01 14.2**	**-0.3**
WRAB	**Tennant Creek**	**63.30 104**		*eP*	P	**17 01 14.1**	**-0.5**
5.7nm,0.8s,mb4.8							
BRTR	**Keskin Array B**	**63.97 331**		P	P	**17 01 19.0**	**+0.5**
0.4nm,0.6s,mb3.6,baz=126,slow=7.3,SNR=3.9							
BRTR				LR	LR	17 27 43.0	
comp=Z,64nm,18.3s,MS3.8,baz=298,slow=35							
BRTR	**Keskin Array B**	**63.97 331**		P	P	**17 01 19.0**	**+0.5**
MK31	**Makanchi Array**	**64.10 11**		*eP*	P	**17 01 18.3**	**-0.9**
MKAR	**Makanchi Array**	**64.10 11**		P	P	**17 01 19.8**	**+0.6**
2.0nm,0.9s,mb4.1,baz=188,slow=7.4,SNR=6.7							
MKAR				LR	LR	17 27 15.3	
comp=Z,74nm,18.3s,MS3.9,baz=162,slow=34							
MKAR	**Makanchi Array**	**64.10 11**		P	P	**17 01 19.8**	**+0.6**
ABKAR	**Akbulak array**	**65.51 355**		*eP*	P	**17 01 28.0**	**-0.3**
1.3nm,0.7s,mb4.1							
KURK	**Kurchatov**	**67.34 8**		P	P	**17 01 39.2**	**-0.8**
7.7nm,1.3s,mb4.6							
SNAA	**Sanae**	**68.57 199**		P	P	**17 01 48.6**	**+1.1**
0.5nm,0.8s,mb3.5,baz

HNR	Honiara	8.08 306	Pn	Pn	17 09 55.9	+0.3
	13nm,0.3s,baz=48,slow=0.9,SNR=9.5					
HNR			Sn	Sn	17 11 22.1	-3.7
	7.0nm,0.3s,baz=202,slow=19,SNR=3.3					
HNR			LR	LR	17 12 43.0	
	comp=Z,236nm,20.2s,baz=157,slow=35					
HNR	Honiara	8.08 306	Pn	Pn	17 09 56.0	+0.3
HNR			Sn	Sn	17 11 22.1	-3.7
CTA	Charters Tower	20.27 251	P	P	17 12 35.1	+1.9
	3.0nm,0.7s,baz=70,slow=15,SNR=3.2					
CTA			LR	LR	17 19 17.2	
	comp=Z,193nm,20.1s,MS3.5,baz=298,slow=33					
CTA	Charters Tower	20.27 251	P	P	17 12 35.1	+1.9
AFI	Afiamalu	20.98 92	LR	LR	17 18 35.1	
	comp=Z,117nm,20.5s,MS3.2,baz=96,slow=31					
STKA	Stephens Creek	28.80 228	P	P	17 13 56.8	+1.4
	1.7nm,0.5s,mb4.0,baz=38,slow=6.9,SNR=7.7					
STKA			LR	LR	17 25 55.2	
	comp=Z,472nm,18.5s,MS4.1,baz=114,slow=37					
STKA	Stephens Creek	28.80 228	*e*P	P	17 13 56.7	+1.2
	0.9nm,0.9s,mb3.5					
WRAB	Tennant Creek	31.30 255	*e*P	P	17 14 15.9	-1.8
	6.9nm,1.2s,mb4.4					
WRA	Warramunga Arr	31.31 255	P	P	17 14 17.0	-0.8
	1.8nm,0.9s,mb3.9,baz=86,slow=9.3,SNR=14					
WRA	Warramunga Arr	31.31 255	P	P	17 14 17.0	-0.8
AS31	Alice Springs	32.23 248	*e*P	P	17 14 25.3	-0.6
ASAR	Alice Springs	32.23 248	P	P	17 14 25.4	-0.5
	1.1nm,0.7s,mb3.8,baz=73,slow=9.4,SNR=23					
ASAR	Alice Springs	32.23 248	P	P	17 14 25.4	-0.5
FITZ	Fitzroy Crossi	39.46 259	LR	LR	17 31 55.9	
	comp=Z,175nm,18.0s,MS3.9,baz=25,slow=36					
PPT2	Papeete2	42.21 101	*e*LR	LR	17 27 47.6	
	76nm,25.8s					
TBI	Tubuai	42.43 109	*e*LR	LR	17 27 44.5	
	66nm,24.2s					
MJAR	Matsushiro Arr	57.19 333	P	P	17 17 44.1	-0.2
	2.2nm,0.7s,mb4.3,baz=168,slow=9.5,SNR=6.4					
MJAR	Matsushiro Arr	57.19 333	P	P	17 17 44.1	-0.2
KSRS	Korea Array	62.99 326	P	P	17 18 24.9	+0.9
	1.0nm,0.7s,mb4.0,baz=123,slow=6.6,SNR=3.7					
KSAR	Wonju Array Be	63.00 326	P	P	17 18 24.9	+0.8
PETK	Petropavlovsk-	67.53 354	P	P	17 18 52.6	-0.4
	3.6nm,0.8s,mb4.5,baz=180,slow=9.4,SNR=2.6					
PETK	Petropavlovsk-	67.53 354	P	P	17 18 52.6	-0.4
CMAR	Chiang Mai Arr	74.16 294	P	P	17 19 35.1	+1.0
	0.3nm,0.3s,mb3.7,baz=116,slow=4.0,SNR=4.7					
CMAR	Chiang Mai Arr	74.16 294	P	P	17 19 35.1	+1.0
QSPA	South Pole Qui	75.76 180	*e*P	P	17 19 42.8	+0.5
	15nm,1.5s,mb4.7					
SONM	Songino Array	81.73 324	P	P	17 20 16.4	+0.8
	0.4nm,0.7s,mb3.5,baz=113,slow=6.9,SNR=3.5					
SONM	Songino Array	81.73 324	P	P	17 20 16.4	+0.8
ILAR	Eielson Array	86.29 18	P	P	17 20 36.9	-1.5
	1.6nm,0.7s,mb4.3,baz=238,slow=5.3,SNR=31					
ILAR	Eielson Array	86.29 18	P	P	17 20 36.9	-1.5
PDAR	Pinedale Array	95.11 47	P	P	17 21 20.3	+0.1
	0.4nm,0.7s,mb4.0,baz=239,slow=4.9,SNR=3.6					
PDAR	Pinedale Array	95.11 47	P	P	17 21 20.3	+0.1
MKAR	Makanchi Array	96.42 317	P	P	17 21 26.1	0.0
	0.4nm,0.7s,mb3.9,baz=87,slow=7.8,SNR=4.2					
MKAR	Makanchi Array	96.42 317	P	P	17 21 26.1	0.0
ZALV	Zalesovo Beam	96.63 324	P	P	17 21 26.0	-0.8
	0.3nm,0.4s,mb4.0,baz=104,slow=4.9,SNR=2.9					
ZALV	Zalesovo Beam	96.63 324	P	P	17 21 26.1	-0.8
ARCES	ARCESS Array B	119.64 345	PKP	PKPdf	17 26 45.4	-0.8
	2.8nm,0.9s,baz=64,slow=2.1,SNR=4.7					
ARCES	ARCESS Array B	119.64 345	PKP	PKPdf	17 26 45.4	-0.8
SSF	Saint Saulge	144.38 340	*e*PKP1	PKPdf	17 27 31.3	-1.9
	29nm,1.3s					
BGF	Bois d'Agland	145.04 340	*e*PKP1	PKPbc	17 27 33.5	-0.2
ORIF	Oris-en-Rattie	145.33 336	*e*PKP1	PKPbc	17 27 35.0	+0.3
	12nm,0.8s					

IDC ***15*** *17:22:11.9±1.6,2°92S×130°15E,h0km,mb3.8/5, mb1 3.9/7,mb1mx3.8/17,mbtmp3.8/7,ML3.7/2,Error ellipse: s-maj=83.4km s-min=19.2km az=68.0*
ISCJB ***15*** *17:22:14.8±0.7,2°99S±0°09×130°1E±0°2,h33km,mb3.8/5, Error ellipse: s-maj=26.9km s-min=9.1km az=157.6*
NEIC ***15*** *17:22:17.0±0.5,3°02S×130°07E,h35km,mb4.3/1,Error ellipse: s-maj=21.6km s-min=7.5km az=67.0*
ISC 15 17:22:17.1±0.7,3°03S±0°09×130°1E±0°2,h35km,n19, σ0°70/23,mb3.8/5,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.59	196	Pn	Pn	17 25 53.8	-0.5
	0.2nm,0.3s,baz=22,slow=12,SNR=6.5						
FITZ	Fitzroy Crossi	15.59	196	Pn	Pn	17 25 53.8	-0.5
COEN	Coen	16.90	131	*e*P	Pn	17 26 10.6	-0.4
WRAB	Tennant Creek	17.31	166	*e*P	Pn	17 26 15.7	-0.4
WRA	Warramunga Arr	17.32	166	P	Pn	17 26 15.5	-0.7
	0.3nm,0.3s,baz=350,slow=11,SNR=16						
WRA				S	S	17 29 19.9	-16
	0.1nm,0.3s,baz=347,slow=24,SNR=3.8						
WRA	Warramunga Arr	17.32	166	P	Pn	17 26 15.5	-0.7
WRA				S	S	17 29 19.9	-16
AS31	Alice Springs	20.84	170	*e*P	P	17 26 57.1	+1.2
ASAR	Alice Springs	20.85	170	P	P	17 26 57.0	+1.1
	3.1nm,0.4s,baz=351,slow=10,SNR=73						
ASAR				S	S	17 30 45.3	-1.3
	1.5nm,0.9s,baz=351,slow=22,SNR=8.0						
ASAR	Alice Springs	20.85	170	P	P	17 26 57.0	+1.1
ASAR				S	S	17 30 45.3	-1.3
STKA	Stephens Creek	30.68	161	P	P	17 28 29.4	+0.9
	0.6nm,0.4s,mb3.8,baz=338,slow=11,SNR=3.5						
STKA	Stephens Creek	30.68	161	P	P	17 28 29.4	+0.9
CMAR	Chiang Mai Arr	37.35	306	P	P	17 29 26.9	+0.3
	1.3nm,0.9s,mb3.7,baz=142,slow=7.2,SNR=7.0						
CMAR	Chiang Mai Arr	37.35	306	P	P	17 29 26.9	+0.3
MKAR	Makanchi Array	64.98	326	P	P	17 32 53.2	-0.1
	0.2nm,0.4s,mb3.5,baz=120,slow=7.9,SNR=7.3						
MKAR	Makanchi Array	64.98	326	P	P	17 32 53.2	-0.1
ZALV	Zalesovo Beam	68.08	333	P	P	17 33 12.8	-0.3
	0.3nm,0.3s,mb3.7,baz=132,slow=2.2,SNR=3.5						
ZALV	Zalesovo Beam	68.08	333	P	P	17 33 12.8	-0.3
KURK	Kurchatov	69.20	328	*e*P	P	17 33 20.2	+0.1
	3.7nm,1.1s,mb4.2						
BRVK	Borovoye	74.84	327	*e*P	P	17 33 53.3	-0.5

ISCJB ***15*** *17:26:09.7±0.6,39°58N±0°03×32°82E±0°03,h2km±5km, Error ellipse: s-maj=4.3km s-min=3.7km az=176.7*
ISK ***15*** *17:26:09.4,39°58N×32°84E,h7km,MD3.4*
DDA ***15*** *17:26:09.7,39°55N×32°83E,h8km±3km,Md3.2*
CSEM ***15*** *17:26:09.8±0.1,39°59N×32°84E,h2km,MD3.4,Error ellipse: s-maj=3.2km s-min=2.8km az=161.0*
ISC 15 17:26:10.2±0.5,39°59N±0°03×32°83E±0°03,h3km±4km, n63,σ0°84/79,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	Bala	0.23	101	*i*P	Pg	17 26 14.8	0.0
BBAL				*i*S	Sg	17 26 18.8	+1.0
BBAL	Bala	0.23	101	*i*P	Pg	17 26 14.8	+0.1
BBAL				*i*S	Sg	17 26 18.8	+1.0
AFSR	Af´ar-Bala (A	0.23	126	*e*PG	Pg	17 26 13.8	-1.0
AFSR				*e*SG	Sg	17 26 18.0	+0.2
AFSR	Af´ar-Bala (A	0.23	126	*e*Pg	Pg	17 26 13.8	-1.0
AFSR				*e*Sg	Sg	17 26 18.0	+0.2
LOD	Lodumlu	0.31	351	*e*PG	Pg	17 26 15.2	-1.0
LOD				*e*SG	Sg	17 26 20.8	+0.7
LOD	Lodumlu	0.31	351	*e*Pg	Pg	17 26 15.2	-0.9
LOD				*e*Sg	Sg	17 26 20.8	+0.7
ELDT	Eldivan	1.01	27	*i*P	Pg	17 26 29.6	0.0
ELDT				*i*S	Sg	17 26 45.4	+2.5
ELDT	Eldivan	1.01	27	*i*P	Pg	17 26 29.6	-0.1
ELDT				*i*S	Sg	17 26 45.3	+2.5
SVRH	Sivrihisar-ESK	1.02	263	*e*PG	Pg	17 26 29.6	-0.2
SVRH	Sivrihisar-ESK	1.02	263	*e*Pg	Pg	17 26 29.6	-0.1
KIZT	Kizilcal	1.02	226	*e*PG	Pg	17 26 29.5	-0.2
KIZT				*e*SG	Sg	17 26 44.0	+1.1
KIZT	Kizilcal	1.02	226	*e*Pg	Pg	17 26 29.5	-0.2
KIZT				*e*Sg	Sg	17 26 44.0	+1.1
CANT	Cankiri	1.19	31	*e*PN	Pn	17 26 32.5	-1.2
CDAG	Cicekdag	1.20	88	*i*P	Pg	17 26 31.9	-1.3
CDAG				*i*S	Sg	17 26 48.9	+0.2
CDAG	Cicekdag	1.20	88	*i*P	Pg	17 26 31.9	-1.2
CDAG				*i*S	Sg	17 26 48.9	+0.3
KDHN	Kadinhani	1.20	208	*i*P	Pg	17 26 32.4	-0.8
KDHN	Kadinhani	1.20	208	*i*P	Pg	17 26 32.4	-0.8
LADK	Ladik-KONYA	1.43	195	*e*Pn	Pn	17 26 36.2	-0.8
LADK	Ladik-KONYA	1.43	195	*e*Pn	Pn	17 26 36.2	-0.8
SULT	Sultanhani-AKS	1.49	159	*e*PN	Pn	17 26 37.1	-0.7
SULT	Sultanhani-AKS	1.49	159	*e*Pn	Pn	17 26 37.1	-0.7
CORM	Corum	1.51	66	*e*PN	Pn	17 26 37.3	-0.8
CORM	Corum	1.51	66	*e*Pn	Pn	17 26 37.3	-0.8
ESKT	Eskisehir	1.53	268	*e*PN	Pn	17 26 37.8	-0.6
ESKT	Eskisehir	1.53	268	*i*P	Pn	17 26 38.3	-0.1
ESKT				*i*S	Sn	17 27 02.9	+4.2
ESKT	Eskisehir	1.53	268	*e*Pn	Pn	17 26 37.8	-0.6
SEYT	Eskypehyr	1.53	268	*i*P	Pn	17 26 38.3	-0.1
SEYT				*i*S	Sn	17 27 02.9	+4.1
MDUB	Mudurnu	1.53	306	*e*PN	Pn	17 26 38.0	-0.4
MDUB	Mudurnu	1.53	306	*e*Pn	Pn	17 26 38.0	-0.4
SAFT	Safranbolu	1.66	356	*e*PN	Pn	17 26 39.6	-0.6
SAFT	Safranbolu	1.66	356	*e*Pn	Pn	17 26 39.6	-0.5
KONT	Konya--Tatoy	1.68	193	*e*PN	Pn	17 26 39.7	-0.7
KONT	Konya--Tatoy	1.68	193	*e*Pn	Pn	17 26 39.7	-0.7
TOS	Tosya	1.71	32	*e*PN	Pn	17 26 40.3	-0.7
TOS	Tosya	1.71	32	*e*Pn	Pn	17 26 40.3	-0.7
AVNT	Avonos	1.77	116	*i*P	Pn	17 26 42.8	+1.0
AVNT				*i*S	Sn	17 27 06.8	+2.0
AVNT	Avonos	1.77	116	*i*P	Pn	17 26 42.8	+1.1
AVNT				*i*S	Sn	17 27 06.8	+2.0
CTKT	Corum	1.83	55	*i*P	Pn	17 26 42.8	+0.3
CTKT	Corum	1.83	55	*i*P	Pn	17 26 42.8	+0.3
BORA	Eskisehir	1.85	280	*i*P	Pn	17 26 44.6	+1.8
BORA	Eskisehir	1.85	280	*i*P	Pn	17 26 44.6	+1.8
YOZ	Yozgat	1.93	88	*e*PN	Pn	17 26 43.3	-0.6
YOZ	Yozgat	1.93	88	*e*Pn	Pn	17 26 43.3	-0.6
GULT	Gulveren	1.96	296	*e*PN	Pn	17 26 44.2	-0.2
GULT	Gulveren	1.96	296	*e*Pn	Pn	17 26 44.2	-0.2
KDZE	Karadeniz Ereo	2.02	329	*e*PN	Pn	17 26 45.0	-0.2
KDZE	Karadeniz Ereo	2.02	329	*e*Pn	Pn	17 26 45.0	-0.2
ALT	Altintas	2.17	257	*e*PN	Pn	17 26 47.2	0.0
ALT	Altintas	2.17	257	*e*Pn	Pn	17 26 47.2	0.0
CAVI	Cavuskoy	2.38	286	*e*PN	Pn	17 26 50.3	+0.2
CAVI	Cavuskoy	2.38	286	*e*Pn	Pn	17 26 50.3	+0.3
BNN	Bunyan	2.46	106	*e*PN	Pn	17 26 51.4	+0.2
BNN	Bunyan	2.46	106	*e*Pn	Pn	17 26 51.4	+0.2
SUTC	Sutluce-Ispart	2.55	215	*e*PN	Pn	17 26 53.0	+0.7
SUTC	Sutluce-Ispart	2.55	215	*e*Pn	Pn	17 26 53.0	+0.6
HDMB	Hadim	2.63	186	*e*PN	Pn	17 26 53.9	+0.3
HDMB	Hadim	2.63	186	*e*Pn	Pn	17 26 53.9	+0.3
DIKM	Dikmen	2.77	41	*e*PN	Pn	17 26 55.5	+0.1
DIKM	Dikmen	2.77	41	*e*Pn	Pn	17 26 55.5	0.0
SARI	SarD1z-Kayseri	3.15	106	*e*PN	Pn	17 26 59.7	-0.9
KOZT	Kozan	3.16	131	*e*PN	Pn	17 27 00.8	+0.1
KULA	Kula-Manisa	3.41	253	*e*PN	Pn	17 27 05.5	+1.2
KULA	Kula-Manisa	3.41	253	*e*Pn	Pn	17 27 05.5	+1.2

NEIC ***15*** *17:29:14.7,40°43S×174°48E,h71km,ML3.7(WEL),After WEL.*
WEL 15 17:29:14.7±0.1,40°43S×174°48E,h70km±2km,ML3.7/18, 1C,Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	Kapiti Island	0.54	143	⇑PN	Pn	17 29 27.7	-0.2
KIW				SN	Sn	17 29 36.9	-0.7
KIW	Kapiti Island	0.54	143	Pn	Pn	17 29 27.7	-0.2
KIW				Sn	Sn	17 29 36.9	-0.7
DUWZ	D'Urville Isla	0.56	229	PN	Pn	17 29 27.7	-0.4
DUWZ				SN	Sn	17 29 37.8	-0.2
DUWZ	D'Urville Isla	0.56	229	Pn	Pn	17 29 27.7	-0.4
DUWZ				Sn	Sn	17 29 37.8	-0.2
OGWZ	Otaki Gorge	0.65	126	PN	Pn	17 29 28.9	-0.2
OGWZ				SN	Sn	17 29 39.3	-0.3
OGWZ	Otaki Gorge	0.65	126	Pn	Pn	17 29 28.9	-0.2
WAZ	Wanganui	0.78	30	PN	Pn	17 29 30.4	-0.1
WAZ				SN	Sn	17 29 42.6	+0.4
WAZ	Wanganui	0.78	30	Pn	Pn	17 29 30.4	-0.1
WAZ				Sn	Sn	17 29 42.6	+0.4
TCW	Tory Channel	0.79	191	PN	Pn	17 29 30.7	0.0
TCW				SN	Sn	17 29 42.3	-0.2
TCW	Tory Channel	0.79	191	Pn	Pn	17 29 30.7	0.0
CAW	Cannon Point	0.81	147	PN	Pn	17 29 30.7	-0.2
CAW	Cannon Point	0.81	147	Pn	Pn	17 29 30.7	-0.2
MRZ	Mangatainoka R	0.87	106	PN	Pn	17 29 31.2	-0.3
MRZ				SN	Sn	17 29 43.3	-0.8
MRZ	Mangatainoka R	0.87	106	Pn	Pn	17 29 31.2	-0.3
WEL	Wellington	0.88	166	PN	Pn	17 29 31.9	+0.2
WEL	Wellington	0.88	166	Pn	Pn	17 29 31.9	+0.2
SNZO	South Karori	0.89	169	PN	Pn	17 29 31.9	0.0
SNZO	South Karori	0.89	169	Pn	Pn	17 29 31.9	0.0
HOWZ	Holdsworth Sta	0.92	121	PN	Pn	17 29 31.6	-0.5
HOWZ	Holdsworth Sta	0.92	121	Pn	Pn	17 29 31.6	-0.5
POWZ	Post Office Ro	0.99	88	PN	Pn	17 29 33.1	+0.1
POWZ	Post Office Ro	0.99	88	Pn	Pn	17 29 33.1	+0.1
BHW	Baring Head	1.02	163	PN	Pn	17 29 33.5	+0.1
BHW	Baring Head	1.02	163	Pn	Pn	17 29 33.5	+0.1
MTW	Mount Morrison	1.06	133	PN	Pn	17 29 33.5	-0.5
MTW	Mount Morrison	1.06	133	Pn	Pn	17 29 33.5	-0.5
TUWZ	Tuamarina	1.08	202	PN	Pn	17 29 33.8	-0.3
TUWZ	Tuamarina	1.08	202	Pn	Pn	17 29 33.8	-0.3
TIWZ	Tintock	1.13	108	PN	Pn	17 29 35.5	+0.7
TIWZ	Tintock	1.13	108	Pn	Pn	17 29 35.5	+0.7
DFE	Dawson Falls	1.14	345	PN	Pn	17 29 34.9	-0.1
DFE	Dawson Falls	1.14	345	Pn	Pn	17 29 34.9	-0.1
MSWZ	Moikau Station	1.14	149	PN	Pn	17 29 34.7	-0.3
MSWZ	Moikau Station	1.14	149	Pn	Pn	17 29 34.7	-0.3
NNZ	Nelson	1.14	226	PN	Pn	17 29 35.0	0.0
NNZ	Nelson	1.14	226	Pn	Pn	17 29 35.0	0.0
RAEZ	Rainy Point	1.15	357	PN	Pn	17 29 35.0	0.0
RAEZ	Rainy Point	1.15	357	Pn	Pn	17 29 35.0	0.0
NRZ	Ngariki Road	1.17	339	PN	Pn	17 29 35.0	-0.3
NRZ	Ngariki Road	1.17	339	Pn	Pn	17 29 35.0	-0.3
PAWZ	Paruwai Farm	1.19	143	PN	Pn	17 29 34.9	-0.6
PAWZ	Paruwai Farm	1.19	143	Pn	Pn	17 29 35.0	-0.6
NEZ	North Egmont	1.20	346	PN	Pn	17 29 35.3	-0.4
NEZ	North Egmont	1.20	346	Pn	Pn	17 29 35.3	-0.4
TSZ	Takapari Road	1.20	72	PN	Pn	17 29 35.4	-0.3
TSZ	Takapari Road	1.20	72	Pn	Pn	17 29 35.4	-0.3
NWEZ	Newall Road	1.25	338	PN	Pn	17 29 36.0	-0.4
NWEZ	Newall Road	1.25	338	Pn	Pn	17 29 36.0	-0.4
DREZ	Durham Road	1.26	350	PN	Pn	17 29 36.3	-0.2
DREZ	Durham Road	1.26	350	Pn	Pn	17 29 36.3	-0.2
TMWZ	Te Maipa	1.27	123	PN	Pn	17 29 36.6	0.0
TMWZ	Te Maipa	1.27	123	Pn	Pn	17 29 36.6	0.0
PLWZ	Palliser	1.28	153	PN	Pn	17 29 36.0	-0.7
PLWZ	Palliser	1.28	153	Pn	Pn	17 29 36.0	-0.7
PKE	Pukeiti	1.29	343	PN	Pn	17 29 36.4	-0.5
PKE	Pukeiti	1.29	343	Pn	Pn	17 29 36.4	-0.5
MTVZ	Mangateitei	1.29	36	PN	Pn	17 29 36.9	0.0
MTVZ	Mangateitei	1.29	36	Pn	Pn	17 29 36.9	0.0
DVHZ	Dannevirke	1.30	85	PN	Pn	17 29 36.0	-0.9
DVHZ	Dannevirke	1.30	85	Pn	Pn	17 29 36.0	-0.9
PKVZ	Pokaka	1.32	31	PN	Pn	17 29 37.1	-0.2
PKVZ	Pokaka	1.32	31	Pn	Pn	17 29 37.1	-0.2
VRZ	Vera Road	1.32	10	PN	Pn	17 29 37.0	-0.3
VRZ	Vera Road	1.32	10	Pn	Pn	17 29 37.0	-0.3
CMWZ	Cape Campbell	1.33	188	PN	Pn	17 29 38.5	+1.2
CMWZ	Cape Campbell	1.33	188	Pn	Pn	17 29 38.5	+1.2
TRWZ	Traveller	1.33	137	PN	Pn	17 29 37.9	+0.5
TRWZ	Traveller	1.33	137	Pn	Pn	17 29 37.9	+0.5
BSWZ	Blackbirch Sta	1.36	199	PN	Pn	17 29 38.2	+0.5
BSWZ	Blackbirch Sta	1.36	199	Pn	Pn	17 29 38.2	+0.5
MHEZ	Mangahewa	1.36	355	PN	Pn	17 29 37.9	+0.1
MHEZ	Mangahewa	1.36	355	Pn	Pn	17 29 37.9	+0.1
BFZ	Birch Farm	1.37	101	PN	Pn	17 29 37.7	-0.2
BFZ	Birch Farm	1.37	101	Pn	Pn	17 29 37.8	-0.2
TRVZ	Turoa	1.40	36	PN	Pn	17 29 38.7	+0.3
TRVZ	Turoa	1.40	36	Pn	Pn	17 29 38.7	+0.3
WNVZ	Wahianoa	1.40	38	PN	Pn	17 29 38.7	+0.4
WNVZ	Wahianoa	1.40	38	Pn	Pn	17 29 38.7	+0.4
MOVZ	Moawhango	1.42	44	PN	Pn	17 29 38.3	-0.2
MOVZ	Moawhango	1.42	44	Pn	Pn	17 29 38.3	-0.2
PNHZ	Pukenui	1.42	69	PN	Pn	17 29 37.9	-0.7
PNHZ	Pukenui	1.42	69	Pn	Pn	17 29 37.9	-0.7
DRZ	Dome Shelter	1.43	36	PN	Pn	17 29 39.9	+1.2
DRZ	Dome Shelter	1.43	36	Pn	Pn	17 29 39.9	+1.2
FWVZ	Far West T-bar	1.44	36	PN	Pn	17 29 38.9	+0.1
FWVZ	Far West T-bar	1.44	36	Pn	Pn	17 29 38.9	+0.1
TUVZ	Tukino	1.47	38	PN	Pn	17 29 39.7	+0.4
TUVZ	Tukino	1.47	38	Pn	Pn	17 29 39.7	+0.4
WPVZ	Whakapapa	1.48	34	PN	Pn	17 29 39.3	0.0
WPVZ	Whakapapa	1.48	34	Pn	Pn	17 29 39.3	0.0
NGZ	Ngauruhoe	1.52	35	PN	Pn	17 29 40.1	+0.1
NGZ	Ngauruhoe	1.52	35	Pn	Pn	17 29 40.1	+0.1
QRZ	Quartz Range	1.53	254	PN	Pn	17 29 39.3	-0.7
QRZ	Quartz Range	1.53	254	Pn	Pn	17 29 39.3	-0.7
BHHZ	Black Hill Sta	1.54	53	PN	Pn	17 29 39.6	-0.5
BHHZ	Black Hill Sta	1.54	53	Pn	Pn	17 29 39.6	-0.5
TWVZ	Taurewa	1.55	29	PN	Pn	17 29 39.9	-0.3
TWVZ	Taurewa	1.55	29	Pn	Pn	17 29 39.9	-0.3
WPHZ	Waipukurau	1.55	77	PN	Pn	17 29 39.7	-0.5
WPHZ	Waipukurau	1.55	77	Pn	Pn	17 29 39.7	-0.5
WTVZ	West Tongariro	1.57	33	PN	Pn	17 29 40.5	0.0
WTVZ	West Tongariro	1.57	33	Pn	Pn	17 29 40.5	0.0
KRVZ	Karewarewa	1.61	34	PN	Pn	17 29 41.1	0.0
KRVZ	Karewarewa	1.61	34	Pn	Pn	17 29 41.1	0.0
PRHZ	Porangahau	1.66	85	PN	Pn	17 29 41.4	-0.3
PRHZ	Porangahau	1.66	85	Pn	Pn	17 29 41.5	-0.3
KATZ	Kakaramea	1.73	33	PN	Pn	17 29 43.0	+0.3
KATZ	Kakaramea	1.73	33	Pn	Pn	17 29 43.0	+0.3
THZ	Tophouse	1.78	221	PN	Pn	17 29 43.9	+0.5
THZ	Tophouse	1.78	221	Pn	Pn	17 29 43.9	+0.5
RATZ	Rangitukua	1.85	33	PN	Pn	17 29 45.5	+1.2
RATZ	Rangitukua	1.85	33	Pn	Pn	17 29 45.5	+1.2
HIZ	Hauiti	1.94	9	PN	Pn	17 29 45.0	-0.5
HIZ	Hauiti	1.94	9	Pn	Pn	17 29 45.0	-0.5
KAHZ	Kahuranaki	1.95	72	PN	Pn	17 29 44.6	-1.0
KAHZ	Kahuranaki	1.95	72	Pn	Pn	17 29 44.6	-1.0
MCHZ	McNeill Hill	1.97	61	PN	Pn	17 29 45.0	-0.9
MCHZ	McNeill Hill	1.97	61	Pn	Pn	17 29 45.0	-0.9
KHZ	Kahutara	2.10	199	PN	Pn	17 29 47.7	0.0
KHZ	Kahutara	2.10	199	Pn	Pn	17 29 47.7	0.0
DSZ	Denniston Nort	2.41	236	PN	Pn	17 29 51.5	-0.3
DSZ	Denniston Nort	2.41	236	Pn	Pn	17 29 51.5	-0.3
TOZ	Tahuroa Road	2.81	17	PN	Pn	17 29 56.8	-0.6
TOZ	Tahuroa Road	2.81	17	Pn	Pn	17 29 56.8	-0.6
MHGZ	Mahia Peninsul	2.94	65	PN	Pn	17 29 56.8	-2.2
MHGZ	Mahia Peninsul	2.94	65	Pn	Pn	17 29 56.8	-2.2
URZ	Urewera	2.98	44	PN	Pn	17 29 56.9	-2.7
URZ	Urewera	2.98	44	Pn	Pn	17 29 56.9	-2.7
MWZ	Matawai	3.16	49	PN	Pn	17 29 59.4	-2.6
MWZ	Matawai	3.16	49	Pn	Pn	17 29 59.4	-2.6
MKAZ	Moumakai	3.36	9	PN	Pn	17 30 04.3	-0.5
MKAZ	Moumakai	3.36	9	Pn	Pn	17 30 04.3	-0.5
MTAZ	Motutapu	3.66	5	PN	Pn	17 30 08.4	-0.4
MTAZ	Motutapu	3.66	5	Pn	Pn	17 30 08.4	-0.4
PUZ	Puketiti	3.76	52	PN	Pn	17 30 06.7	-3.6
PUZ	Puketiti	3.76	52	Pn	Pn	17 30 06.7	-3.6
KUZ	Kuaotunu	3.81	15	PN	Pn	17 30 09

ARSA				⇑iSn	Sn	17 45 17.3	-0.1
ARSA	**Arzberg**	**2.53**	**318**	Pn	Pn	17 44 45.9	-0.4
ARSA				Sn	Sn	17 45 17.3	-0.1
BZS	**Buzias**	**2.54**	**84**	⇓iP	Pn	17 44 51.3	+4.8
BZS	**Buzias**	**2.54**	**84**	⇓iP	Pn	17 44 51.3	+4.8
BZS				S	Sn	17 45 24.5	+6.9
STON	**Ston**	**2.55**	**185**	ePn	Pn	17 44 46.3	-0.3
STON				Sn	Sn	17 45 16.9	-0.9
PSZ	**Piszkesteto**	**2.82**	**27**	⇑ePB	Pb	17 44 57.6	+2.0
PSZ				eSg	Sg	17 45 36.0	+0.4
PSZ	**Piszkesteto**	**2.82**	**27**	⇓iP	Pn	17 44 48.3	-2.1
PSZ	**Piszkesteto**	**2.82**	**27**	⇓iP	Pn	17 44 48.3	-2.1
PSZ				S	Sn	17 45 21.2	-3.5
CONA	**Conrad Observa**	**2.93**	**330**	⇑iPn	Pn	17 44 51.5	-0.4
CONA				⇑iSn	Sn	17 45 26.0	-1.1
CONA	**Conrad Observa**	**2.93**	**330**	Pn	Pn	17 44 51.5	-0.3
CONA				Sn	Sn	17 45 26.0	-1.2
GZR	**Gura Zlata**	**3.35**	**89**	⇑iP	Pn	17 45 02.6	+4.9
GZR	**Gura Zlata**	**3.35**	**89**	⇑iP	Pn	17 45 02.6	+4.9
MOA	**Molln**	**3.56**	**315**	⇓iPn	Pn	17 44 59.9	-0.6
MOA				⇓iSn	Sn	17 45 42.2	-0.6
MOA	**Molln**	**3.56**	**315**	Pn	Pn	17 44 59.9	-0.6
MOA				Sn	Sn	17 45 42.2	-0.5

JMA 15 17:52:27.4±0.9, 44°.91N×149°.07E, h30km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.85**	**238**	P	Pn	17 53 09.2	-1.6
NEM2				eS	Sn	17 53 39.5	-4.6
JRA	**Rausu**	**2.99**	**252**	P	Pn	17 53 13.7	+1.0
JNK	**Nakash**	**3.40**	**249**	P	Pn	17 53 19.1	+0.8
JNK				eS	Sn	17 53 57.5	0.0
JAK	**Akkeshi**	**3.69**	**240**	P	Pn	17 53 21.6	-0.8
JAK				eS	Sn	17 54 02.4	-2.4
JTKR	**Abashiri--Toko**	**3.81**	**258**	P	Pn	17 53 27.6	+3.6
JAR	**Ashorobuto**	**4.14**	**249**	P	Pn	17 53 30.6	+2.0
JAR				eS	Sn	17 54 17.2	+1.2
JMP	**Maruseppu**	**4.19**	**260**	P	Pn	17 53 30.9	+1.8
JOB	**Onbets**	**4.28**	**244**	P	Pn	17 53 30.6	+0.1
JOB				eS	Sn	17 54 17.7	-1.7
JKK2	**Kamakawa 2**	**4.65**	**259**	P	Pn	17 53 37.9	+2.4
JCH	**Churui**	**4.73**	**243**	P	Pn	17 53 36.6	0.0
JCH				eS	Sn	17 54 28.8	-1.6
JNBK	**Urakawa-nobuka**	**5.29**	**242**	P	Pn	17 53 44.0	-0.3
JKB	**Kayabe**	**6.59**	**246**	P	Pn	17 54 02.0	-0.1
JKB				eS	Sn	17 55 12.7	-3.5
JYM2	**Yakumo 2**	**6.91**	**249**	P	Pn	17 54 07.1	+0.5
JANG	**Nango**	**7.18**	**233**	eS	Sn	17 55 23.7	-7.1
JTH	**Tanohata**	**7.29**	**230**	eS	Sn	17 55 24.0	-9.3
JRG	**Rokugo**	**8.34**	**232**	eS	Sn	17 55 54.0	-5.3
JIO	**Ouri**	**8.66**	**225**	eS	Sn	17 55 57.3	-10

*ISCJB **15** 18:06:05.6±0.8, 2°.9N±0°.1×129°.0E±0°.2, h200km, mb3.8/19, Error ellipse: s-maj=33.1km s-min=9.6km az=154.2*
*IDC **15** 18:06:06.8±14.0, 2°.88N×128°.95E, h194km±140km, mb3.3/9, mb1 3.5/9, mb1mx3.4/18, mbtmp3.3/9, MS3.2/1, Ms1 3.2/1, ms1mx2.4/31, Error ellipse: s-maj=77.3km s-min=16.1km az=58.0*
*NEIC **15** 18:06:07.3±0.5, 2°.85N×128°.88E, h200km, mb4.2/10, Error ellipse: s-maj=22.6km s-min=6.7km az=65.0*

ISC 15 18:06:07.3±0.8, 2°.9N±0°.1×128°.9E±0°.2, h200km, n43, σ0°58/42, mb3.8/19, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.08**	**189**	P	P	18 10 34.8	-1.4
1.4nm,0.5s,mb3.7,baz=11,slow=5.2							
FITZ	**Fitzroy Crossi**	**21.08**	**189**	P	P	18 10 34.8	-1.4
WRA	**Warramunga Arr**	**23.27**	**167**	P	P	18 10 57.5	+0.2
0.9nm,0.4s,mb3.7,baz=342,slow=10,SNR=35							
WRA	**Warramunga Arr**	**23.27**	**167**	P	P	18 10 57.5	+0.2
ASAR	**Alice Springs**	**26.80**	**170**	P	P	18 11 29.7	+0.6
0.4nm,0.4s,mb3.4,baz=352,slow=7.7,SNR=14							
ASAR	**Alice Springs**	**26.80**	**170**	P	P	18 11 29.7	+0.6
CMAR	**Chiang Mai Arr**	**33.20**	**300**	P	P	18 12 26.3	+0.8
0.8nm,0.7s,mb3.4,baz=111,slow=7.2,SNR=9.0							
CMAR	**Chiang Mai Arr**	**33.20**	**300**	P	P	18 12 26.3	+0.8
KSRS	**Korea Array**	**34.44**	**359**	LR	LR	18 29 36.8	
comp=Z,38nm,18.0s,baz=135,slow=41							
STKA	**Stephens Creek**	**36.58**	**162**	eP	P	18 12 55.0	+0.7
0.7nm,0.4s,mb3.6,baz=345,slow=11,SNR=5.2							
STKA	**Stephens Creek**	**36.58**	**162**	eP	P	18 12 55.0	+0.8
0.4nm,0.9s,mb3.0							
TAPN	**Taplejung**	**46.30**	**306**	eP	P	18 14 13.2	-0.1
4.7nm,0.7s,mb4.0							
TAPN	**Taplejung**	**46.30**	**306**	eP	P	18 14 13.2	-0.1
4.7nm,0.7s,mb3.9							
ODAN	**Odare**	**46.36**	**305**	eP	P	18 14 14.0	+0.2
5.4nm,0.6s,mb4.1							
ODAN	**Odare**	**46.36**	**305**	eP	P	18 14 14.0	+0.2
5.4nm,0.6s,mb4.0							
RAMN	**Ramite**	**47.04**	**305**	eP	P	18 14 19.7	+0.6
9.1nm,0.5s,mb4.3							
RAMN	**Ramite**	**47.04**	**305**	eP	P	18 14 19.7	+0.6
9.1nm,0.5s,mb4.4							
JIRN	**Jiri**	**47.66**	**305**	eP	P	18 14 24.3	+0.5
2.7nm,0.3s,mb4.0							
JIRN	**Jiri**	**47.66**	**305**	eP	P	18 14 24.3	+0.5
2.7nm,0.3s,mb4.0							
GUN	**Gumba**	**48.01**	**306**	eP	P	18 14 26.5	0.0
9.7nm,0.6s,mb4.3							
GUN	**Gumba**	**48.01**	**306**	eP	P	18 14 26.5	0.0
9.7nm,0.6s,mb4.3							
PKI	**Pulchoki**	**48.26**	**305**	eP	P	18 14 29.0	+0.6
PKI	**Pulchoki**	**48.26**	**305**	eP	P	18 14 29.0	+0.6
KKN	**Kakani**	**48.45**	**305**	eP	P	18 14 29.8	-0.1
KKN	**Kakani**	**48.45**	**305**	eP	P	18 14 29.8	-0.1
DMN	**Daman**	**48.52**	**305**	eP	P	18 14 30.4	0.0
DMN	**Daman**	**48.52**	**305**	eP	P	18 14 30.4	0.0
SONM	**Songino Array**	**48.84**	**340**	P	P	18 14 32.9	+0.4
0.4nm,0.6s,mb2.9,baz=163,slow=10,SNR=2.9							
SONM	**Songino Array**	**48.84**	**340**	P	P	18 14 32.9	+0.4
GKN	**Gorkha**	**49.06**	**305**	eP	P	18 14 33.7	-0.8
1.6nm,0.3s,mb3.8							
GKN	**Gorkha**	**49.06**	**305**	eP	P	18 14 33.7	-0.8
1.6nm,0.3s,mb3.8							
KOLN	**Koldanda**	**49.82**	**304**	eP	P	18 14 40.2	-0.1
9.8nm,0.5s,mb4.4							
KOLN	**Koldanda**	**49.82**	**304**	eP	P	18 14 40.2	-0.1
9.8nm,0.5s,mb4.4							
DANN	**Dangsing**	**49.91**	**305**	eP	P	18 14 40.4	-0.5
11nm,0.5s,mb4.4							
DANN	**Dangsing**	**49.91**	**305**	eP	P	18 14 40.4	-0.5
11nm,0.5s,mb4.4							
MKAR	**Makanchi Array**	**59.52**	**325**	P	P	18 15 49.9	+0.3
1.2nm,0.6s,mb3.7,baz=114,slow=8.5,SNR=18							
MKAR	**Makanchi Array**	**59.52**	**325**	P	P	18 15 49.9	+0.3
ZALV	**Zalesovo Beam**	**62.36**	**332**	P	P	18 16 07.8	-0.8
0.5nm,0.4s,mb3.5,baz=116,slow=6.9,SNR=3.7							
ZALV	**Zalesovo Beam**	**62.36**	**332**	P	P	18 16 07.8	-0.8
KURK	**Kurchatov**	**63.66**	**327**	eP	P	18 16 16.9	-0.2
2.2nm,0.4s,mb4.1							
BRVK	**Borovoye**	**69.32**	**327**	eP	P	18 16 53.0	0.0
0.9nm,0.5s,mb3.7							
ARCES	**ARCESS Array B**	**92.02**	**340**	P	P	18 18 52.1	-1.0
2.2nm,0.9s,mb4.1,baz=71,slow=5.9,SNR=3.1							
ARCES	**ARCESS Array B**	**92.02**	**340**	P	P	18 18 52.1	-1.0

*MDD **15** 18:09:39.3±1.3, 36°.79N×12°.59W, h0km, mb4.5/29, Error ellipse: s-maj=11.6km s-min=9.7km az=45.0, PRXIMO*
*IGIL **15** 18:09:39.6, 36°.79N×12°.63W, h0km, ML3.7*
*INMG **15** 18:09:40.4±1.5, 36°.59N×12°.98W, h10km, ML3.4, Error ellipse: s-maj=3.9km s-min=1.9km az=130.0*
*CSEM **15** 18:09:42.9±0.3, 36°.95N×12°.29W, h10km, ML4.1/18, Error ellipse: s-maj=5.4km s-min=4.0km az=50.0*
*LDG **15** 18:09:43.5±0.4, 37°.08N×12°.13W, h20km, Ml3.8/6, Error ellipse: s-maj=7.2km s-min=5.1km az=51.0*

ISC 15 18:09:43.4±0.6, 36°.97N±0°.03×12°.26W±0°.04, h10km, n165, σ1°05/305, 2C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.75**	**86**	ePn	Pn	18 10 27.2	-0.3
PFVI				eSn	Sn	18 11 01.8	+1.0
PFVI				A		18 11 07.0	
75nm,0.4s							
PFVI	**Vila Bisbo**	**2.75**	**86**	⇑P	Pn	18 10 27.2	-0.4
34nm,0.3s,SNR=18							
PFVI				S	Sn	18 11 01.7	+1.0
183nm,0.2s,SNR=8.5							
PFVI	**Vila Bisbo**	**2.75**	**86**	P	Pn	18 10 27.2	-0.3
34nm,0.3s,SNR=18							
PFVI				eSn	Sn	18 11 01.8	+1.0
75nm,0.4s							
PTEO	**Sao Teotonio**	**2.88**	**77**	ePn	Pn	18 10 29.4	+0.1
PTEO				eSn	Sn	18 11 05.6	+1.7
PTEO				A		18 11 08.9	
81nm,0.5s							
PTEO	**Sao Teotonio**	**2.88**	**77**	P	Pn	18 10 29.4	+0.1
PTEO				S	Sn	18 11 05.6	+1.7
40nm,0.5s							
PTEO	**Sao Teotonio**	**2.88**	**77**	ePn	Pn	18 10 29.4	+0.1
PTEO				eSn	Sn	18 11 05.6	+1.7
81nm,0.5s							
MORF	**Marmelete**	**2.90**	**82**	ePn	Pn	18 10 29.5	-0.1
MORF				eSn	Sn	18 11 05.9	+1.4
MORF				A		18 11 08.0	
102nm,0.5s							
MORF	**Marmelete**	**2.90**	**82**	P	Pn	18 10 29.5	-0.1
MORF				S	Sn	18 11 05.9	+1.4
102nm,0.5s							
MORF	**Marmelete**	**2.90**	**82**	ePn	Pn	18 10 29.5	-0.1
MORF				eSn	Sn	18 11 05.9	+1.4
102nm,0.5s							
LIS	**Lisbon**	**3.01**	**54**	eS	Sn	18 11 09.1	+1.8
LIS				AML	AML	18 11 11.4	
comp=N,261nm,0.3s							
LIS	**Lisbon**	**3.01**	**54**	S	Sn	18 11 09.1	+1.8
LIS	**Lisbon**	**3.01**	**54**	eS	Sn	18 11 09.1	+1.8
PMAFR	**Mafra**	**3.07**	**49**	ePn	Pn	18 10 32.7	+0.7
PMAFR				eSn	Sn	18 11 11.8	+3.0
PMAFR				A		18 11 13.3	
comp=N,231nm,0.2s							
PMAFR	**Mafra**	**3.07**	**49**	⇑P	Pn	18 10 32.7	+0.7
comp=N,36nm,0.1s,SNR=18							
PMAFR				S	Sn	18 11 11.8	+3.1
comp=N,241nm,0.2s,SNR=22							
PMAFR	**Mafra**	**3.07**	**49**	P	Pn	18 10 32.7	+0.7
comp=N,36nm,0.1s,SNR=18							
PMAFR				S	Sn	18 11 11.8	+3.0
comp=N,241nm,0.2s,SNR=22							
PNCL	**Nicolau / Gran**	**3.17**	**68**	ePn	Pn	18 10 33.7	+0.3
PNCL				eSn	Sn	18 11 13.5	+2.2
PNCL				A		18 11 14.3	
comp=N,69nm,0.2s							
PCVE	**Castro Verde**	**3.43**	**78**	ePn	Pn	18 10 37.2	+0.3
PCVE				eSn	Sn	18 11 18.6	+1.1
PCVE				A		18 11 20.8	
comp=N,35nm,0.2s							
PCVE	**Castro Verde**	**3.43**	**78**	P	Pn	18 10 37.2	+0.3
PCVE				S	Sn	18 11 18.6	+1.1
comp=N,35nm,0.2s							
PCVE	**Castro Verde**	**3.43**	**78**	ePn	Pn	18 10 37.2	+0.3
PCVE				eSn	Sn	18 11 18.6	+1.1
comp=N,35nm,0.2s							
MOE	**Montemor**	**3.46**	**62**	ePn	Pn	18 10 37.9	+0.6
MOE				eSn	Sn	18 11 20.2	+1.8
MOE	**Montemor**	**3.46**	**62**	P	Pn	18 10 37.9	+0.6
MOE				S	Sn	18 11 20.2	+1.8
MOE	**Montemor**	**3.46**	**62**	ePn	Pn	18 10 37.9	+0.6
MOE				eSn	Sn	18 11 20.2	+1.8
PBDV	**Barranco-do-Ve**	**3.47**	**84**	ePn	Pn	18 10 37.5	+0.1
PBDV				eSn	Sn	18 11 20.0	+1.5
PBDV				A		18 11 24.0	
comp=N,45nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.47**	**84**	P	Pn	18 10 37.5	+0.1
PBDV				S	Sn	18 11 20.0	+1.5
comp=N,45nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.47**	**84**	ePn	Pn	18 10 37.5	+0.1
PBDV				eSn	Sn	18 11 20.0	+1.5
comp=N,45nm,0.3s							
EVOP	**Sao Brissos**	**3.62**	**63**	eP	Pn	18 10 39.6	0.0
EVOP				eSn	Sn	18 11 20.0	-2.4
comp=N,34nm,0.2s							
ALMR	**Almeirim**	**3.63**	**52**	eP	Pn	18 10 40.1	+0.5
ALMR				eS	Sn	18 11 24.6	+2.1
ALMR				AML	AML	18 11 26.0	
comp=E,104nm,0.2s							
ALMR	**Almeirim**	**3.63**	**52**	eP	Pn	18 10 40.1	+0.4
ALMR				eS	Sn	18 11 24.6	+2.1
ALMR	**Almeirim**	**3.63**	**52**	P	Pn	18 10 40.1	+0.4
ALMR				S	Sn	18 11 24.6	+2.1
ALMR	**Almeirim**	**3.63**	**52**	eP	Pn	18 10 40.1	+0.4
ALMR				eS	Sn	18 11 24.6	+2.1
PBEJ	**Beja**	**3.65**	**72**	ePn	Pn	18 10 40.5	+0.6
PBEJ				eSn	Sn	18 11 23.9	+1.0
PBEJ				A		18 11 26.0	
comp=E,41nm,0.2s							
PBEJ	**Beja**	**3.65**	**72**	P	Pn	18 10 40.5	+0.6
PBEJ				S	Sn	18 11 23.9	+1.0
comp=E,20nm,0.2s							
PBEJ	**Beja**	**3.65**	**72**	ePn	Pn	18 10 40.5	+0.6
PBEJ				eSn	Sn	18 11 23.9	+1.0
comp=E,41nm,0.2s							
PVAQ	**Vaqueiros**	**3.65**	**82**	ePn	Pn	18 10 40.1	+0.2
PVAQ				eSn	Sn	18 11 24.1	+1.1
PVAQ				A		18 11 26.7	
comp=E,45nm,0.4s							
PVAQ	**Vaqueiros**	**3.65**	**82**	P	Pn	18 10 40.1	+0.2
PVAQ				S	Sn	18 11 24.1	+1.1
comp=E,45nm,0.4s							
PVAQ	**Vaqueiros**	**3.65**	**82**	ePn	Pn	18 10 40.1	+0.2
PVAQ				eSn	Sn	18 11 24.1	+1.1
comp=E,45nm,0.4s							
EVO	**Evora**	**3.71**	**64**	eP	Pn	18 10 39.6	-1.1
EVO				eSn	Sn	18 11 20.0	-4.4
comp=E,68nm,0.2s							
EVO	**Evora**	**3.71**	**64**	ePn	Pn	18 10 41.0	+0.3
EVO				eSn	Sn	18 11 25.9	+1.5
EVO	**Evora**	**3.71**	**64**	P	Pn	18 10 41.0	+0.3
EVO				S	Sn	18 11 25.9	+1.5
EVO	**Evora**	**3.71**	**64**	ePn	Pn	18 10 41.0	+0.3
EVO				eSn	Sn	18 11 25.9	+1.5
EGRO	**El Granado**	**3.85**	**80**	P	Pn	18 10 42.9	+0.3
comp=E,3.3nm,0.1s,SNR=12							
EGRO				S	Sn	18 11 28.2	+0.3
comp=E,48nm,0.2s,SNR=78							
EGRO	**El Granado**	**3.85**	**80**	P	Pn	18 10 42.9	+0.2
comp=E,3.3nm,0.1s,SNR=12							
EGRO				S	Sn	18 11 28.2	+0.3
comp=E,48nm,0.2s,SNR=78							
PTOM	**Tomar**	**4.02**	**48**	ePn	Pn	18 10 45.9	+0.9
PTOM				eSn	Sn	18 11 35.4	+3.4
PTOM				A		18 11 39.5	
comp=E,62nm,0.3s							
PTOM	**Tomar**	**4.02**	**48**	P	Pn	18 10 45.9	+0.9
PTOM				S	Sn	18 11 35.4	+3.4
comp=E,31nm,0.3s							
PTOM	**Tomar**	**4.02**	**48**	ePn	Pn	18 10 45.9	+0.9
PTOM				eSn	Sn	18 11 35.4	+3.4
comp=E,62nm,0.3s							
PESTR	**Estremoz**	**4.15**	**61**	ePn	Pn	18 10 46.8	+0.1
PESTR				eSn	Sn	18 11 36.3	+1.0
PESTR				A		18 11 42.4	
comp=E,20nm,0.3s							
PESTR	**Estremoz**	**4.15**	**61**	P	Pn	18 10 46.8	+0.1
PESTR				S	Sn	18 11 36.3	+1.0
comp=E,10nm,0.3s							
PESTR	**Estremoz**	**4.15**	**61**	ePn	Pn	18 10 46.8	+0.1
PESTR				eSn	Sn	18 11 36.3	+1.0
comp=E,20nm,0.3s							
PBAR	**Barrancos**	**4.32**	**72**	ePn	Pn	18 10 49.4	+0.3
PBAR				eSn	Sn	18 11 40.5	+1.1
PBAR				A		18 11 48.6	
comp=E,15nm,0.2s							
PBAR	**Barrancos**	**4.32**	**72**	P	Pn	18 10 49.4	+0.3
PBAR				S	Sn	18 11 40.5	+1.1
comp=E,15nm,0.2s							
PBAR	**Barrancos**	**4.32**	**72**	ePn	Pn	18 10 49.4	+0.3
PBAR				eSn	Sn	18 11 40.5	+1.1
comp=E,15nm,0.2s							
EBAD	**Badajoz**	**4.51**	**65**	P	Pn	18 10 51.8	0.0
comp=E,7.6nm,0.1s,SNR=52							
EBAD				S	Sn	18 11 44.7	+0.4
comp=E,45nm,0.2s,SNR=8.2							
EBAD	**Badajoz**	**4.51**	**65**	P	Pn	18 10 51.8	0.0
comp=E,7.6nm,0.1s,SNR=52							
EBAD				S	Sn	18 11 44.7	+0.4
comp=E,45nm,0.2s,SNR=8.2							
EMIN	**Mina Concepcio**	**4.52**	**78**	P	Pn	18 10 51.7	-0.2
comp=E,5.2nm,0.2s,SNR=64							
EMIN				S	Sn	18 11 44.9	+0.5
comp=E,13nm,0.2s,SNR=10							
EMIN	**Mina Concepcio**	**4.52**	**78**	P	Pn	18 10 51.7	-0.2
comp=E,5.2nm,0.2s,SNR=64							
EMIN				S	Sn	18 11 44.9	+0.5
comp=E,13nm,0.2s,SNR=10							
PMRV	**Marv??o**	**4.55**	**56**	ePn	Pn	18 10 52.3	0.0
PMRV				eSn	Sn	18 11 47.2	+2.0
PMRV				A		18 11 48.1	
comp=E,25nm,0.3s							
PMRV	**Marv??o**	**4.55**	**56**	P	Pn	18 10 52.3	0.0
PMRV				S	Sn	18 11 47.2	+2.0
comp=E,25nm,0.3s							
PMRV	**Marv??o**	**4.55**	**56**	ePn	Pn	18 10 52.3	0.0
PMRV				eSn	Sn	18 11 47.2	+2.0
comp=E,25nm,0.3s							
PCBR	**Castelo Branco**	**4.72**	**51**	ePn	Pn	18 10 55.0	+0.4
PCBR				eSn	Sn	18 11 51.5	+2.1
PCBR				A		18 11 56.8	
comp=E,16nm,0.3s							
PCBR	**Castelo Branco**	**4.72**	**51**	P	Pn	18 10 55.0	+0.4
PCBR				S	Sn	18 11 51.5	+2.1
comp=E,7.9nm,0.3s							
PCBR	**Castelo Branco**	**4.72**	**51**	ePn	Pn	18 10 55.0	+0.4
PCBR				eSn	Sn	18 11 51.5	+2.1
comp=E,16nm,0.3s							
MTE	**Manteigas**	**5.03**	**46**	ePn	Pn	18 10 59.4	+0.5
MTE				eSn	Sn	18 11 58.4	+1.4
MTE				A		18 12 02.2	
comp=E,27nm,0.3s							
MTE	**Manteigas**	**5.03**	**46**	P	Pn	18 10 59.4	+0.5
MTE				S	Sn	18 11 58.4	+1.4
comp=E,13nm,0.3s							
MTE	**Manteigas**	**5.03**	**46**	ePn	Pn	18 10 59.4	+0.5
MTE				eSn	Sn	18 11 58.4	+1.4
comp=E,27nm,0.3s							
PVIS	**Viseu**	**5.06**	**41**	ePn	Pn	18 10 59.4	+0.2
PVIS				eSn	Sn	18 11 58.6	+0.9
PVIS				A		18 12 01.2	
comp=E,33nm,0.1s							
PVIS	**Viseu**	**5.06**	**41**	P	Pn	18 10 59.4	+0.2
PVIS				S	Sn	18 11 58.6	+0.9
comp=E,16nm,0.1s							
PVIS	**Viseu**	**5.06**	**41**	ePn	Pn	18 10 59.4	+0.2
PVIS				eSn	Sn	18 11 58.6	+0.9
comp=E,33nm,0.1s							
ESPR	**Espera**	**5.13**	**89**	P	Pn	18 11 00.0	-0.2
comp=E,4.4nm,0.3s,SNR=16							
ESPR				S	Sn	18 11 59.2	-0.3
comp=E,143nm,0.3s,SNR=6.0							
ESPR	**Espera**	**5.13**	**89**	P	Pn	18 11 00.0	-0.3
comp=E,4.4nm,0.3s,SNR=16							
ESPR				S	Sn	18 11 59.2	-0.3
comp=E,143nm,0.3s,SNR=6.0							
EJIF	**Jimena Fronter**	**5.48**	**93**	P	Pn	18 11 05.4	+0.4
comp=E,3.0nm,0.3s,SNR=7.9							
EJIF				S	Sn	18 12 06.7	-1.4
comp=E,9.5nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	**5.48**	**93**	P	Pn	18 11 05.4	+0.4
comp=E,3.0nm,0.3s,SNR=7.9							
EJIF				S	Sn	18 12 06.7	-1.4
comp=E,9.5nm,0.3s,SNR=7.9							
PVRL	**Vila Real**	**5.56**	**38**	ePn	Pn	18 11 06.5	+0.3
PVRL				eSn	Sn	18 12 10.9	+0.8
PVRL				A		18 12 14.8	
comp=E,27nm,0.1s							
PVRL	**Vila Real**	**5.56**	**38**	P	Pn	18 11 06.5	+0.3
PVRL				S	Sn	18 12 10.9	+0.8
comp=E,14nm,0.1s							
PVRL	**Vila Real**	**5.56**	**38**	ePn	Pn	18 11 06.5	+0.3
PVRL				eSn	Sn	18 12 10.9	+0.8
comp=E,27nm,0.1s							
POLO	**Lamas de Olo**	**5.60**	**37**	ePn	Pn	18 11 06.2	-0.5
POLO				eSn	Sn	18 12 10.7	-0.3
POLO				A		18 12 15.8	
comp=E,8.3nm,0.3s							
POLO	**Lamas de Olo**	**5.60**	**37**	ePn	Pn	18 11 06.2	-0.5
POLO				eSn	Sn	18 12 10.7	-0.3
comp=E,8.3nm,0.3s							
EPLA	**Plasencia**	**5.74**	**56**	P	Pn	18 11 07.9	-0.8
comp=E,15nm,0.3s,SNR=6.8							
EPLA				S	Sn	18 12 15.1	+0.5
comp=E,21nm,0.2s,SNR=7.1							
EPLA	**Plasencia**	**5.74**	**56**	P	Pn	18 11 07.9	-0.8
comp=E,15nm,0.3s,SNR=6.8							
EPLA				S	Sn	18 12 15.1	+0.5
comp=E,21nm,0.2s,SNR=7.1							
PCAB	**Cabril**	**5.75**	**33**	ePn	Pn	18 11 09.3	+0.5
PCAB				eSn	Sn	18 12 14.6	-0.3
PCAB	**Cabril**	**5.75**	**33**	P	Pn	18 11 09.3	+0.5
PCAB				S	Sn	18 12 14.6	-0.3
PCAB	**Cabril**	**5.75**	**33**	ePn	Pn	18 11 09.3	+0.5
PCAB				eSn	Sn	18 12 14.6	-0.3
MVO	**Moncorvo**	**5.84**	**43**	ePn	Pn	18 11 10.3	+0.3
MVO				eSn	Sn	18 12 17.1	+0.2
MVO				A		18 12 21.6	
comp=E,25nm,0.3s							
MVO	**Moncorvo**	**5.84**	**43**	P	Pn	18 11 09.8	-0.1
comp=E,6.3nm,0.2s,SNR=14							
MVO				S	Sn	18 12 17.6	+0.7
comp=E,20nm,0.1s,SNR=7.6							
MVO	**Moncorvo**	**5.84**	**43**	P	Pn	18 11 09.9	-0.1
comp=E,6.3nm,0.2s,SNR=14							
MVO	**Moncorvo**	**5.84**	**43**	ePn	Pn	18 11 10.3	+0.3
MVO				eSn	Sn	18 12 17.1	+0.2
comp=E,25nm,0.3s				

STS S **Sn** **18 12 30.9 -3.7**
comp=E,14nm,0.1s,SNR=7.9
STS Santiago 6.56 25 P **Pn** **18 11 18.6 -1.2**
comp=E,3.5nm,0.1s,SNR=7.9
ERUA La Rua 6.70 34 P **Pn** **18 11 22.3 +0.5**
comp=E,1.9nm,0.2s,SNR=7.9
ERUA S **Sn** **18 12 36.8 -1.3**
comp=E,5.6nm,0.1s,SNR=7.9
ERUA La Rua 6.70 34 P **Pn** **18 11 22.3 +0.5**
comp=E,1.9nm,0.2s,SNR=7.9
ERUA S **Sn** **18 12 36.8 -1.3**
comp=E,5.6nm,0.1s,SNR=7.9
ERON Agron 6.76 87 P **Pn** **18 11 23.1 +0.4**
comp=E,1.4nm,0.3s,SNR=7.9
ERON S **Sn** **18 12 38.4 -1.3**
comp=E,3.5nm,0.3s,SNR=7.9
ERON Agron 6.76 87 P **Pn** **18 11 23.1 +0.4**
comp=E,1.4nm,0.3s,SNR=7.9
ERON S **Sn** **18 12 38.4 -1.4**
comp=E,3.5nm,0.3s,SNR=7.9
EQUE Quentar 7.05 85 P **Pn** **18 11 26.9 +0.3**
comp=E,1.3nm,0.3s,SNR=42
EQUE S **Sn** **18 12 46.6 -0.2**
comp=E,3.1nm,0.2s,SNR=7.9
EQUE Quentar 7.05 85 P **Pn** **18 11 26.9 +0.2**
comp=E,1.3nm,0.3s,SNR=42
EQUE S **Sn** **18 12 46.6 -0.2**
comp=E,3.1nm,0.2s,SNR=7.9
ESDC Sonseca Array 7.05 65 P **Pn** **18 11 26.4 -0.3**
comp=E,16nm,0.1s,baz=252,slow=13,SNR=25
ESDC S **Sn** **18 12 46.9 -0.1**
comp=E,7.5nm,0.2s,baz=250,slow=23,SNR=5.9
ESDC Sonseca Array 7.05 65 P **Pn** **18 11 26.4 -0.3**
comp=E,16nm,0.1s,slow=13,SNR=25
ESDC S **Sn** **18 12 46.9 0.0**
comp=E,7.5nm,0.2s,baz=250,slow=23,SNR=5.9
GUD Guadarrama 7.31 57 P **Pn** **18 11 30.5 +0.3**
comp=E,4.2nm,0.2s,SNR=7.9
GUD S **Sn** **18 12 53.1 -0.1**
comp=E,5.5nm,0.2s,SNR=7.9
GUD Guadarrama 7.31 57 P **Pn** **18 11 30.5 +0.3**
comp=E,4.2nm,0.2s,SNR=7.9
GUD S **Sn** **18 12 53.1 -0.1**
comp=E,5.5nm,0.2s,SNR=7.9
EQES Quesada 7.36 81 P **Pn** **18 11 30.5 -0.4**
comp=E,0.7nm,0.2s,SNR=7.9
EQES S **Sn** **18 12 53.1 -1.4**
comp=E,6.2nm,0.3s,SNR=7.9
EQES Quesada 7.36 81 P **Pn** **18 11 30.5 -0.4**
comp=E,0.7nm,0.2s,SNR=7.9
EQES S **Sn** **18 12 53.1 -1.3**
comp=E,6.2nm,0.3s,SNR=7.9
EBER Berja 7.50 88 P **Pn** **18 11 31.4 -1.5**
comp=E,6.9nm,0.8s,SNR=7.9
EBER S **Sn** **18 12 57.5 -0.4**
comp=E,15nm,0.7s,SNR=7.9
EBER Berja 7.50 88 P **Pn** **18 11 31.4 -1.4**
comp=E,6.9nm,0.8s,SNR=7.9
EBER S **Sn** **18 12 57.5 -0.5**
comp=E,15nm,0.7s,SNR=7.9
EHUE Huescar 7.74 81 P **Pn** **18 11 35.8 -0.3**
comp=E,0.9nm,0.2s,SNR=7.9
EHUE S **Sn** **18 13 02.7 -1.0**
comp=E,5.6nm,0.3s,SNR=7.9
EHUE Huescar 7.74 81 P **Pn** **18 11 35.8 -0.3**
comp=E,0.9nm,0.2s,SNR=7.9
EHUE S **Sn** **18 13 02.7 -1.1**
comp=E,5.6nm,0.3s,SNR=7.9
EVIA Vianos 7.90 75 P **Pn** **18 11 37.5 -0.8**
comp=E,1.5nm,0.1s,SNR=7.9
EVIA S **Sn** **18 13 05.2 -2.5**
comp=E,5.5nm,0.2s,SNR=7.9
EVIA Vianos 7.90 75 P **Pn** **18 11 37.5 -0.8**
comp=E,1.5nm,0.1s,SNR=7.9
EVIA S **Sn** **18 13 05.2 -2.5**
comp=E,5.5nm,0.2s,SNR=7.9
ETOB Tobarra 8.64 76 P **Pn** **18 11 48.0 -0.5**
comp=E,1.3nm,0.2s,SNR=7.9
ETOB S **Sn** **18 13 24.0 -1.9**
comp=E,3.8nm,0.4s,SNR=7.9
ETOB Tobarra 8.64 76 P **Pn** **18 11 48.0 -0.4**
comp=E,1.3nm,0.2s,SNR=7.9
ETOB S **Sn** **18 13 24.0 -1.9**
comp=E,3.8nm,0.4s,SNR=7.9
ETOR Torete 8.83 61 P **Pn** **18 11 50.4 -0.7**
comp=E,45nm,0.2s,SNR=70
ETOR S **Sn** **18 13 27.4 -3.1**
comp=E,14nm,0.3s,SNR=7.9
ETOR Torete 8.83 61 P **Pn** **18 11 50.4 -0.7**
comp=E,45nm,0.2s,SNR=70
ELAN Lanestosa 9.20 44 P **Pn** **18 11 56.5 +0.3**
comp=E,1.5nm,0.3s,SNR=7.9
ELAN S **Sn** **18 13 38.2 -1.5**
comp=E,18nm,0.7s,SNR=7.9
ELAN Lanestosa 9.20 44 P **Pn** **18 11 56.5 +0.3**
comp=E,1.5nm,0.3s,SNR=7.9
ELAN S **Sn** **18 13 38.2 -1.5**
comp=E,18nm,0.7s,SNR=7.9
ECHE Chera 9.25 70 P **Pn** **18 11 57.5 +0.6**
comp=E,1.8nm,0.3s,SNR=4.0
ECHE Chera 9.25 70 P **Pn** **18 11 57.5 +0.6**
comp=E,1.8nm,0.3s,SNR=4.0
EMOS Mosqueruela 9.82 66 P **Pn** **18 12 05.5 +1.0**
comp=E,2.9nm,0.5s,SNR=7.9
EMOS S **Sn** **18 13 52.2 -2.6**
comp=E,5.2nm,0.4s,SNR=7.9
EMOS Mosqueruela 9.82 66 P **Pn** **18 12 05.5 +0.9**
comp=E,2.9nm,0.5s,SNR=7.9
EMOS S **Sn** **18 13 52.2 -2.6**
comp=E,5.2nm,0.4s,SNR=7.9
IEPA Eparoz 10.24 52 P **Pn** **18 12 11.9 +1.5**
comp=E,3.2nm,0.3s,SNR=7.9
IEPA S **Sn** **18 14 02.8 -2.4**
comp=E,5.7nm,0.6s,SNR=7.9
IEPA Eparoz 10.24 52 P **Pn** **18 12 11.9 +1.5**
comp=E,3.2nm,0.3s,SNR=7.9
IEPA S **Sn** **18 14 02.8 -2.4**
comp=E,5.7nm,0.6s,SNR=7.9
IELO Elcoad 10.29 52 P **Pn** **18 12 11.6 +0.5**
comp=E,2.9nm,0.3s,SNR=7.9
IELO S **Sn** **18 14 03.5 -2.9**
comp=E,2.3nm,0.3s,SNR=7.9
IELO Elcoad 10.29 52 P **Pn** **18 12 11.6 +0.5**
comp=E,2.9nm,0.3s,SNR=7.9
IELO S **Sn** **18 14 03.5 -3.0**
comp=E,2.3nm,0.3s,SNR=7.9
EALK Alkurruntz 10.33 50 P **Pn** **18 12 12.2 +0.7**
comp=E,2.8nm,0.3s,SNR=7.9
EALK S **Sn** **18 14 05.2 -2.1**
comp=E,18nm,0.6s,SNR=7.9
EALK Alkurruntz 10.33 50 P **Pn** **18 12 12.2 +0.7**
comp=E,2.8nm,0.3s,SNR=7.9
EALK S **Sn** **18 14 05.2 -2.1**
comp=E,18nm,0.6s,SNR=7.9
SJPF Ste Jean 10.44 51 *e*Pn **Pn** **18 12 07.1 -6.0**
SJPF Ste Jean 10.44 51 *e*P **Pn** **18 12 13.6 +0.5**
SJPF *e*Sn **Sn** **18 13 56.1 -14**
comp=E,2.5nm,0.4s
SJPF Ste Jean 10.44 51 P **Pn** **18 12 13.6 +0.5**
SJPF S **Sn** **18 13 56.1 -14**
comp=E,1.2nm,0.4s
SJPF Ste Jean 10.44 51 *e*P **Pn** **18 12 13.6 +0.5**
ETSF Etsaut 10.75 53 *e*Pn **Pn** **18 12 11.9 -5.5**
ETSF Etsaut 10.75 53 *e*P **Pn** **18 12 17.7 +0.3**
ETSF *e*Sn **Sn** **18 14 03.5 -14**
comp=E,3.2nm,0.5s
ETSF Etsaut 10.75 53 P **Pn** **18 12 17.7 +0.3**
ETSF S **Sn** **18 14 03.5 -14**
comp=E,1.6nm,0.5s
ETSF Etsaut 10.75 53 *e*P **Pn** **18 12 17.7 +0.3**
EIBI Ibiza 10.93 75 P **Pn** **18 12 19.9 +0.1**
comp=E,5.0nm,0.2s,SNR=7.9
EIBI Ibiza 10.93 75 P **Pn** **18 12 19.9 +0.1**
comp=E,5.0nm,0.2s,SNR=7.9
EBIE Bielsa 11.11 55 P **Pn** **18 12 23.1 +0.9**
comp=E,3.0nm,0.3s,SNR=11
EBIE S **Sn** **18 14 24.0 -2.4**
comp=E,2.0nm,0.4s,SNR=7.9
EBIE Bielsa 11.11 55 P **Pn** **18 12 23.1 +0.9**
comp=E,3.0nm,0.3s,SNR=11
EBIE S **Sn** **18 14 24.0 -2.4**
comp=E,2.0nm,0.4s,SNR=7.9
EPOB Poblet 11.24 63 P **Pn** **18 12 22.8 -1.2**
comp=E,1.8nm,0.2s,SNR=7.9
EPOB Poblet 11.24 63 P **Pn** **18 12 22.8 -1.2**
comp=E,1.8nm,0.2s,SNR=7.9
EPF Esparros 11.39 54 *e*Pn **Pn** **18 12 20.3 -5.8**
EPF Esparros 11.39 54 *e*P **Pn** **18 12 27.0 +0.9**
EPF *e*Sn **Sn** **18 14 18.8 -15**
comp=E,5.8nm,0.6s
EPF Esparros 11.39 54 P **Pn** **18 12 27.0 +0.9**
EPF S **Sn** **18 14 18.8 -15**
comp=E,2.9nm,0.6s
EPF Esparros 11.39 54 *e*P **Pn** **18 12 27.0 +0.9**
EMIR Miracle 11.74 61 P **Pn** **18 12 30.4 -0.5**
comp=E,2.1nm,0.3s,SNR=4.0
EMIR Miracle 11.74 61 P **Pn** **18 12 30.4 -0.5**
comp=E,2.1nm,0.3s,SNR=4.0
CLLI Llivia 12.25 59 P **Pn** **18 12 38.1 +0.2**
comp=E,2.5nm,0.5s,SNR=7.9
CLLI S **Sn** **18 14 49.5 -5.0**
comp=E,4.5nm,0.7s,SNR=7.9
CLLI Llivia 12.25 59 P **Pn** **18 12 38.1 +0.2**
comp=E,2.5nm,0.5s,SNR=7.9
QUIF Quistinic 12.82 29 *e*Pn **Pn** **18 12 39.7 -5.9**
QUIF Quistinic 12.82 29 *e*P **Pn** **18 12 45.6 0.0**
QUIF *e*Sn **Sn** **18 14 52.6 -16**
comp=E,2.1nm,0.3s
QUIF Quistinic 12.82 29 P **Pn** **18 12 45.6 0.0**
QUIF S **Sn** **18 14 52.6 -16**
comp=E,1.1nm,0.3s
QUIF Quistinic 12.82 29 *e*P **Pn** **18 12 45.6 0.0**
ROSF Rostrenen 13.13 27 *e*Pn **Pn** **18 12 44.1 -5.7**
ROSF *e*Sn **Sn** **18 15 00.1 -16**
comp=E,1.2nm,0.3s
ROSF Rostrenen 13.13 27 P **Pn** **18 12 44.1 -5.7**
ROSF S **Sn** **18 15 00.1 -16**
comp=E,0.6nm,0.3s

*ISCJB **15** 18:15:40.7±1.5, 43°.62N±0°.09×127°.2W±0°.2, h10km, mb3.0/2, Error ellipse: s-maj=19.1km s-min=10.4km az=155.6*
*NEIC **15** 18:15:40.9±1.5, 43°.50N×127°.35W, h10km, ML3.6, Error ellipse: s-maj=19.4km s-min=11.2km az=59.0*
*IDC **15** 18:15:42.3±2.3, 43°.86N×126°.86W, h0km, mb3.1/2, mb1 3.6/5, mb1mx3.4/24, mbtmp3.1/5, ML2.9/1, Error ellipse: s-maj=47.6km s-min=18.3km az=51.0*
ISC 15 18:15:41.7±1.5, 43°.58N±0°.09×127°.3W±0°.2, h10km, n20, σ1§15/20, mb3.0/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMO	**Hull Mountain**	**3.35**	**105**	*e*P	**Pn**	**18 16 31.6**	**-2.5**
YBH	**Yreka Blue Hor**	**3.88**	**117**	*e*P	**Pn**	**18 16 39.1**	**-2.3**
HOOD	**Mount Hood Mea**	**4.43**	**65**	*e*P	**Pn**	**18 16 49.3**	**+0.4**
LON	**Longmire**	**5.04**	**49**	*e*P	**Pn**	**18 16 57.6**	**+0.4**
	20nm,0.5s						
PGC	**Sidney**	**5.75**	**27**	*e*P	**Pn**	**18 17 06.0**	**-1.0**
JCW	**Jim Creek**	**5.96**	**37**	*e*P	**Pn**	**18 17 10.3**	**+0.4**
	9.7nm,0.3s						
RSW	**Rattlesnake Hi**	**6.18**	**60**	*e*P	**Pn**	**18 17 13.3**	**+0.4**
	35nm,0.3s						
HAWA	**Hanford**	**6.21**	**60**	*e*P	**Pn**	**18 17 13.3**	**0.0**
	15nm,0.3s						
ETW	**Entiat**	**6.36**	**48**	*e*P	**Pn**	**18 17 16.2**	**+0.9**
	10nm,0.5s						
BMO	**Blue Mountains**	**7.32**	**77**	*e*P	**Pn**	**18 17 27.5**	**-1.1**
	2.0nm,0.5s						
NVAR	**Mina Array Bea**	**8.55**	**124**	Pn	**Pn**	**18 17 47.9**	**+2.4**
	0.1nm,0.3s,baz=291,slow=15,SNR=2.2						
NVAR	**Mina Array Bea**	**8.55**	**124**	Pn	**Pn**	**18 17 47.9**	**+2.4**
PDAR	**Pinedale Array**	**13.01**	**87**	Pn	**Pn**	**18 18 47.7**	**+1.2**
	baz=277,slow=17,SNR=2.6						
PDAR	**Pinedale Array**	**13.01**	**87**	Pn	**Pn**	**18 18 47.7**	**+1.2**
YKA	**Yellowknife Ar**	**20.37**	**17**	P	**P**	**18 20 17.4**	**-0.6**
	0.0nm,0.3s,baz=205,slow=11,SNR=9.0						
YKA	**Yellowknife Ar**	**20.37**	**17**	P	**P**	**18 20 17.4**	**-0.6**
TXAR	**Lajitas Array**	**23.66**	**119**	P	**P**	**18 20 54.2**	**+0.9**
	0.3nm,0.7s,mb2.8,baz=317,slow=9.7,SNR=3.5						
TXAR	**Lajitas Array**	**23.66**	**119**	P	**P**	**18 20 54.2**	**+0.9**
ILAR	**Eielson Array**	**23.92**	**339**	P	**P**	**18 20 55.5**	**+0.1**
	0.7nm,0.8s,mb3.2,baz=148,slow=8.3,SNR=13						
ILAR	**Eielson Array**	**23.92**	**339**	P	**P**	**18 20 55.5**	**+0.1**

IDC 15 18:26:51.3±3.3, 31°.81S×177°.42W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=77.4km s-min=47.7km az=124.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.85**	**213**	Pn	Pn	18 28 44.8	-1.9
	0.9nm,0.3s,baz=34,slow=1.3,SNR=3.1						
URZ				Sn	Sn	18 30 23.7	+7.5
	1.9nm,0.3s,baz=300,slow=20,SNR=6.7						
ASAR	**Alice Springs**	**43.55**	**268**	P	P	18 34 57.5	+0.4
	0.9nm,0.9s,baz=106,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**44.66**	**273**	P	P	18 35 05.9	-0.1
	0.5nm,0.4s,baz=112,slow=8.0,SNR=26						
FINES	**FINESS Array B**	**146.63**	**340**	PKPbc	PKPbc	18 46 33.3	-0.8
	2.1nm,0.8s,baz=69,slow=5.1,SNR=4.4						

*NOU **15** 18:32:55.5±2.0, 19°.88S×169°.64E, h30km, MD3.2, MS2.1*
*ISCJB **15** 18:32:57.9±1.9, 20°.9S±0°.1×169°.9E±0°.1, h137km±14km, mb3.8/11, Error ellipse: s-maj=23.4km s-min=15.3km az=28.7*
*NEIC **15** 18:32:58.2±1.9, 20°.83S×169°.87E, h128km±14km, mb3.8/1, Error ellipse: s-maj=19.7km s-min=11.4km az=219.0*
*IDC **15** 18:32:60.0±6.3, 20°.87S×169°.85E, h144km±53km, mb3.7/10, mb1 3.8/11, mb1mx3.7/19, mbtmp3.7/11, Error ellipse: s-maj=31.2km s-min=18.5km az=44.0*
ISC 15 18:32:58.6±1.9, 20°.9S±0°.1×169°.9E±0°.1, h131km±13km, n35, σ0§88/37, mb3.8/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.05**	**245**	*e*P	**Pn**	**18 33 47.4**	**+1.6**
BAYA				*e*S	**Sn**	**18 34 21.8**	**-0.6**
PLUM	**Mont Dore**	**3.31**	**245**	*e*S	**Sn**	**18 34 29.7**	**+1.3**
DZM	**Mont Dzumac**	**3.40**	**249**	*e*P	**Pn**	**18 33 48.7**	**-1.8**
DZM				*e*S	**Sn**	**18 34 29.4**	**-1.2**
DZM				AMP		18 34 44.0	
	comp=Z,1μm,6.8s						
DZM	**Mont Dzumac**	**3.40**	**249**	*e*P	**Pn**	**18 33 50.1**	**-0.3**
NORM	**Noumea**	**3.42**	**246**	*e*P	**Pn**	**18 33 50.1**	**-0.7**
NORM				*e*S	**Sn**	**18 34 30.5**	**-0.6**
NOUC	**Port Laguerre**	**3.54**	**249**	*e*P	**Pn**	**18 33 51.7**	**-0.5**
NOUC				*e*S	**Sn**	**18 34 35.0**	**+1.3**
NOUC				AMP		18 34 54.8	
	comp=Z,71nm,10.2s						
URZ	**Urewera**	**18.42**	**162**	P	**P**	**18 37 04.6**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=295,slow=10.0,SNR=3.1						
URZ	**Urewera**	**18.42**	**162**	P	**P**	**18 37 04.6**	**+0.9**
CTA	**Charters Tower**	**22.13**	**268**	P	**P**	**18 37 44.6**	**+0.9**
	comp=Z,2.9nm,0.8s,mb3.8,baz=98,slow=12,SNR=4.9						
CTA	**Charters Tower**	**22.13**	**268**	P	**P**	**18 37 44.6**	**+0.9**
PMG	**Port Moresby**	**24.67**	**294**	P	**P**	**18 38 07.3**	**-0.1**
	comp=Z,5.2nm,0.7s,mb4.2,baz=85,slow=7.9,SNR=5.1						
PMG	**Port Moresby**	**24.67**	**294**	P	**P**	**18 38 07.3**	**-0.1**
STKA	**Stephens Creek**	**27.52**	**241**	P	**P**	**18 38 33.7**	**+0.9**
	comp=Z,0.8nm,0.5s,mb3.7,baz=90,slow=14,SNR=5.6						
STKA				PcP	PcP	18 41 47.4	-0.4
	comp=Z,0.6nm,0.4s,baz=31,slow=5.9,SNR=3.0						
STKA	**Stephens Creek**	**27.52**	**241**	*e*P	**P**	**18 38 33.1**	**+0.2**
STKA				PcP	PcP	18 41 47.4	-0.4
WRA	**Warramunga Arr**	**33.27**	**265**	P	**P**	**18 39 22.5**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.5,baz=95,slow=8.3,SNR=20						
WRA				PcP	PcP	18 42 02.3	-0.8
	comp=Z,0.3nm,0.4s,baz=94,slow=3.3,SNR=7.4						
WRA	**Warramunga Arr**	**33.27**	**265**	P	**P**	**18 39 22.5**	**-1.2**
WRA				PcP	PcP	18 42 02.3	-0.8
AS31	**Alice Springs**	**33.34**	**258**	*e*P	**P**	**18 39 24.0**	**-0.2**
ASAR	**Alice Springs**	**33.34**	**258**	P	**P**	**18 39 24.1**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.7,baz=93,slow=8.9,SNR=55						
ASAR				pP	pP	18 39 53.1	+0.4
	comp=Z,1.3nm,0.7s,baz=83,slow=8.7,SNR=6.6						
ASAR				PcP	PcP	18 42 02.2	-1.0
	comp=Z,0.7nm,0.7s,baz=107,slow=3.4,SNR=8.6						
ASAR	**Alice Springs**	**33.34**	**258**	P	**P**	**18 39 24.1**	**-0.1**
ASAR				pP	pP	18 39 53.1	+0.4
ASAR				PcP	PcP	18 42 02.2	-1.0
FITZ	**Fitzroy Crossi**	**41.69**	**266**	P	**P**	**18 40 34.9**	**+0.3**
	comp=Z,1.8nm,0.9s,mb3.7,baz=120,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**41.69**	**266**	P	**P**	**18 40 34.9**	**+0.3**
VNDA	**Vanda**	**56.82**	**182**	*e*P	**P**	**18 42 28.9**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.7						
QSPA	**South Pole Qui**	**69.19**	**180**	P	**P**	**18 43 50.6**	**+0.2**
	comp=Z,4.7nm,0.7s,mb4.3,baz=12,slow=1.8,SNR=26						
QSPA	**South Pole Qui**	**69.19**	**180**	P	**P**	**18 43 50.6**	**+0.2**
MAW	**Mawson**	**77.14**	**202**	P	**P**	**18 44 38.0**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.0,baz=72,slow=6.4,SNR=4.1						
MAW	**Mawson**	**77.14**	**202**	P	**P**	**18 44 38.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**79.71**	**294**	P	**P**	**18 44 53.4**	**+1.2**
	comp=Z,0.9nm,0.9s,mb3.4,baz=138,slow=4.1,SNR=5.8						
CMAR	**Chiang Mai Arr**	**79.71**	**294**	P	**P**	**18 44 53.4**	**+1.2**
SNAA	**Sanae**	**87.56**	**182**	*e*	**P**	**18 45 29.6**	**-1.7**
VNA3	**Neumayer Olymp**	**88.12**	**180**	*e*	**P**	**18 45 33.0**	**-1.0**
VNA2	**Neumayer--Watz**	**88.42**	**181**	*e*	**P**	**18 45 35.1**	**-0.3**
	baz=188,slow=4.5						
NVAR	**Mina Array Bea**	**89.44**	**48**	P	**P**	**18 45 40.9**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=227,slow=8.4,SNR=6.2						
NVAR	**Mina Array Bea**	**89.44**	**48**	P	**P**	**18 45 40.9**	**+0.2**
GERES	**GERESS Array B**	**146.21**	**331**	PKPbc	PKPbc	18 52 22.5	-0.9
	comp=Z,1.0nm,0.7s,baz=29,slow=3.0,SNR=8.8						
GERES	**GERESS Array B**	**146.21**	**331**	PKPbc	PKPbc	18 52 22.5	-0.9

*TEH **15** 18:37:21.4, 26°.87N×55°.93E, h26km*
*CSEM **15** 18:37:21.5±0.2, 26°.83N×55°.81E, h2km, ML3.1, Error ellipse: s-maj=7.1km s-min=5.0km az=85.0*
*OMAN **15** 18:37:21.9±0.1, 26°.87N×56°.05E, h6km±61km, Error ellipse: s-maj=39.5km s-min=14.1km az=254.0*
*SGS **15** 18:37:21.4, 26°.82N×55°.97E, h10km*
*ISCJB **15** 18:37:21.2±1.1, 26°.87N±0°.03×55°.78E±0°.06, h13km±10km, Error ellipse: s-maj=9.5km s-min=5.5km az=168.8*
*KISR **15** 18:37:23.3±0.7, 27°.53N×55°.38E, h34km±999km, ML3.1*
ISC 15 18:37:21.7±1.2, 26°.82N±0°.03×55°.81E±0°.09, h4km±13km, n27, σ1§06/39, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.66**	**29**	*e*Pg	**Pg**	**18 37 33.8**	**-0.5**
BNDS				*e*Sg	**Sg**	**18 37 43.3**	**+0.4**
IBND	**Bandar-abas**	**0.90**	**46**	*e*Pg	**Pg**	**18 37 38.1**	**-0.8**
IBND				*e*Sg	**Sg**	**18 37 49.7**	**-0.9**
IBND				*e*		18 37 56.2	
	comp=Z,11μm,0.1s						
BANOM	**Banah**	**1.00**	**154**	P	**Pg**	**18 37 40.4**	**-0.4**
	SNR=326						
BANOM				⇓S	**Sg**	**18 37 53.9**	**+0.2**
BANOM	**Banah**	**1.00**	**154**	P	**Pg**	**18 37 40.4**	**-0.4**
	SNR=326						
BANOM				S	**Sg**	**18 37 53.9**	**+0.2**
ASHO	**Ashiyiah**	**2.14**	**174**	P	**Pn**	**18 37 58.6**	**+0.4**
	SNR=26						
ASHO	**Ashiyiah**	**2.14**	**174**	P	**Pn**	**18 37 58.6**	**+0.4**
	SNR=26						
ASUD	**Al Ashush, Dub**	**2.23**	**191**	P	**Pn**	**18 38 00.7**	**+1.3**
	SNR=26						
ASUD	**Al Ashush, Dub**	**2.23**	**191**	P	**Pn**	**18 38 00.7**	**+1.3**
	SNR=26						
KRBR	**Kerman**	**3.26**	**15**	*e*Pn	**Pn**	**18 38 14.0**	**+0.5**
ISRV	**Sarvestan**	**3.49**	**318**	*e*Pn	**Pn**	**18 38 17.9**	**+1.2**
ISRV				*e*		18 39 18.3	
	comp=Z,298nm,0.2s						
IMEH	**Mehriz**	**4.67**	**347**	*e*Pn	**Pn**	**18 38 33.3**	**+0.4**
IMEH				*e*		18 38 39.5	
	comp=Z,141nm,0.2s						
IBAF	**Bafgh**	**4.75**	**357**	*e*Pn	**Pn**	**18 38 33.3**	**-0.8**
IBAF				*e*		18 38 36.0	
	comp=Z,134nm,0.1s						
IBAF				*e*Sn	**Sn**	**18 39 26.8**	**-2.9**
BTHS		**5.27**	**239**	P	**Pn**	**18 38 40.3**	**-0.9**
BTHS		**5.27**	**239**	P	**Pn**	**18 38 40.3**	**-0.9**
ISAD	**Sadrabad**	**5.40**	**340**	*e*Pn	**Pn**	**18 38 45.2**	**+2.2**
ISAD				*e*		18 39 57.0	
	comp=Z,111nm,0.3s						
ICHK	**Chekchek**	**5.54**	**348**	*e*Pn	**Pn**	**18 38 44.6**	**-0.3**
ICHK				*e*		18 40 41.0	
	comp=Z,92nm,0.1s						
NASN	**Na'in**	**6.50**	**337**	*e*Pn	**Pn**	**18 38 59.4**	**+1.3**
IZEF	**Zefreh**	**6.76**	**334**	*e*	**Pn**	**18 39 05.7**	**+4.0**
	comp=Z,64nm,0.2s						
IZEF				*e*Pn	**Pn**	**18 39 01.6**	**-0.1**
HRDDS		**6.95**	**237**	S	**Sn**	**18 40 20.7**	**-3.1**
IPIR	**Pirpir**	**7.24**	**325**	*e*Pn	**Pn**	**18 39 08.4**	**+0.2**
IKLH	**Kolahrood**	**7.44**	**331**	*e*Pn	**Pn**	**18 39 12.4**	**+1.4**
IKLH				*e*		18 39 13.6	
	comp=Z,53nm,0.1s						
RDF	**Al-Radifah**	**7.61**	**288**	*e*P	**Pn**	**18 39 13.8**	**+0.5**
RDF				*e*S	**Sn**	**18 40 36.1**	**-3.8**
RDF	**Al-Radifah**	**7.61**	**288**	*e*P	**Pn**	**18 39 13.8**	**+0.5**
RDF				*e*S	**Sn**	**18 40 36.2**	**-3.7**
NAY	**Al-Naaiem**	**7.95**	**290**	*e*P	**Pn**	**18 39 17.7**	**-0.3**
NAY				*e*S	**Sn**	**18 40 43.9**	**-4.4**
NAY				AML	AML	18 40 47.2	
	comp=Z,1.4nm,0.4s						
NAY	**Al-Naaiem**	**7.95**	**290**	*e*P	**Pn**	**18 39 17.7**	**-0.3**
NAY				*e*S	**Sn**	**18 40 43.9**	**-4.5**
MIB	**Mutribah**	**8.04**	**294**	*e*P	**Pn**	**18 39 18.7**	**-0.4**
MIB				*e*S	**Sn**	**18 40 45.4**	**-5.1**
MIB				AML	AML	18 40 49.4	
	comp=Z,3.7nm,0.4s						
MIB	**Mutribah**	**8.04**	**294**	*e*P	**Pn**	**18 39 18.7**	**-0.5**
MIB				*e*S	**Sn**	**18 40 45.4**	**-5.1**

IDC 15 18:38:09.0±1.3, 3°.40N×127°.60E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/19, mbtmp3.5/6, MS4.0/2, Ms1 4.0/2, ms1mx2.9/17, Error ellipse: s-maj=91.4km s-min=18.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.45**	**185**	P	P	18 42 59.3	+0.2
	0.8nm,0.4s,baz=4.4,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**24.12**	**164**	P	P	18 43 25.8	-0.9
	0.3nm,0.4s,baz=344,slow=10,SNR=10.0						
CBIJ	**Chichi jima**	**27.38**	**29**	LR	LR	18 52 49.7	
	comp=Z,175nm,21.6s,baz=154,slow=32						
ASAR	**Alice Springs**	**27.59**	**167**	P	P	18 43 59.1	+0.9
	0.1nm,0.6s,baz=348,slow=7.5,SNR=3.1						
STKA	**Stephens Creek**	**37.52**	**160**	P	P	18 45 25.0	+0.2
	0.4nm,0.3s,baz=326,slow=11,SNR=4.0						
SONM	**Songino Array**	**47.89**	**341**	P	P	18 46 48.8	0.0
	0.4nm,0.7s,baz=142,slow=7.7,SNR=3.5						
PETK	**Petropavlovsk-**	**55.41**	**22**	LR	LR	19 07 47.6	
	comp=Z,249nm,21.5s,baz=98,slow=32						
MKAR	**Makanchi Array**	**58.32**	**325**	P	P	18 48 05.8	+0.1
	1.2nm,0.6s,baz=118,slow=7.8,SNR=20						

*IDC **15** 18:43:35.3±0.5, 12°.11N×144°.13E, h0km, mb4.4/21, mb1 4.5/21, mb1mx4.5/26, mbtmp4.4/21, MS3.5/4, Ms1 3.6/4, ms1mx3.2/25, Error ellipse: s-maj=19.1km s-min=10.6km az=91.0*
*NEIC **15** 18:43:36.3±4.1, 12°.08N×144°.15E, h7km±25km, mb5.0/30, Error ellipse: s-maj=7.5km s-min=5.4km az=84.0*
*MOS **15** 18:43:38.7±0.9, 12°.05N×144°.17E, h39km, mb5.1/22, Error ellipse: s-maj=13.3km s-min=7.2km az=106.7*
*ISCJB **15** 18:43:39.8±1.2

PMG	**Port Moresby**	**21.54 172**	P	**P**	**18 48 26.4**	**-0.7**
PMG	**Port Moresby**	**21.54 172**‖	*e*P	**P**	**18 48 26.3**	**-0.8**
PMG			pmax	pmax		
	comp=Z,13nm,1.4s					
PMG	**Port Moresby**	**21.54 172**	P	pP	18 48 39.5	+1.7
	comp=Z,17nm,1.2s					
MSAI	**Masohi**	**21.60 226**	P	**P**	**18 48 36.0**	**+8.2**
	comp=Z,2μmcomp=Z,101nm,0.8s,mb5.3					
AAI	**Ambon**	**22.36 226**	P	**P**	**18 48 36.1**	**+0.2**
MRSI	**Marisa**	**24.95 244**	P	**P**	**18 49 03.4**	**+2.5**
	comp=Z,655nmcomp=Z,71nm,1.0s,mb5.1					
MJAR	**Matsushiro Arr**	**24.96 348**	P	**P**	**18 48 58.8**	**-2.0**
	comp=Z,5.0nm,1.0s,mb4.0,baz=177,slow=11,SNR=8.4					
MJAR	**Matsushiro Arr**	**24.96 348**	P	**P**	**18 48 58.8**	**-2.0**
MJAR	**Matsushiro Arr**	**24.96 348**	P	**P**	**18 48 58.8**	**-1.9**
SSLB	**Suanglung**	**24.99 301**	*e*P	**P**	**18 48 58.6**	**-2.5**
	comp=Z,20nm,0.7s,mb4.8					
LUWI	**Luwuk**	**24.99 240**	P	**P**	**18 49 03.6**	**+2.3**
	comp=Z,50nm,1.0s,mb5.0					
MYLDM	**Lahad Datu**	**26.34 257**	P	**P**	**18 49 18.5**	**+5.0**
	comp=Z,56nm,1.1s,mb5.0					
KSRS	**Korea Array**	**29.20 333**	P	**P**	**18 49 38.5**	**-0.3**
	comp=Z,1.5nm,0.6s,mb3.9,baz=144,slow=9.1,SNR=5.1					
KSAR	**Wonju Array Be**	**29.20 333**	P	**P**	**18 49 38.5**	**-0.3**
KSAR	**Wonju Array Be**	**29.20 333**	P	**P**	**18 49 38.6**	**-0.3**
ASAJ	**Asahikawa**	**31.96 358**	P	**P**	**18 50 02.9**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.4,baz=202,slow=11,SNR=2.7					
ASAJ	**Asahikawa**	**31.96 358**	P	**P**	**18 50 02.9**	**-0.2**
CTA	**Charters Tower**	**32.02 176**	P	**P**	**18 50 03.8**	**-0.1**
	comp=Z,4.6nm,0.9s,mb4.3,baz=354,slow=10,SNR=3.7					
CTA		LR	LR		19 01 40.2	
	comp=Z,90nm,20.2s,MS3.5,baz=55,slow=34					
CTA	**Charters Tower**	**32.02 176**	P	**P**	**18 50 03.8**	**-0.1**
CTA	**Charters Tower**	**32.02 176**	P	**P**	**18 50 03.8**	**-0.1**
WRAB	**Tennant Creek**	**33.27 197**	*e*P	**P**	**18 50 13.9**	**-0.9**
	comp=Z,8.3nm,0.9s,mb4.7					
WRAB	**Tennant Creek**	**33.27 197**	*e*P	**P**	**18 50 13.9**	**-0.9**
WRAB			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7					
WB2	**Warramunga Arr**	**33.27 197**	*e*P	**P**	**18 50 13.7**	**-1.1**
WRA	**Warramunga Arr**	**33.28 197**	P	**P**	**18 50 14.0**	**-0.8**
	comp=Z,4.3nm,0.8s,mb4.4,baz=21,slow=9.7,SNR=38					
WRA	**Warramunga Arr**	**33.28 197**	P	**P**	**18 50 14.0**	**-0.8**
WRA	**Warramunga Arr**	**33.28 197**	P	**P**	**18 50 14.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**35.16 212**	P	**P**	**18 50 30.8**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.3,baz=27,slow=13,SNR=6.1					
FITZ	**Fitzroy Crossi**	**35.16 212**	*e*P	**P**	**18 50 30.9**	**-0.3**
	comp=Z,7.2nm,0.9s,mb4.6					
FITZ	**Fitzroy Crossi**	**35.16 212**	P	**P**	**18 50 30.8**	**-0.4**
AS31	**Alice Springs**	**36.93 196**	*e*P	**P**	**18 50 45.6**	**-0.7**
ASAR	**Alice Springs**	**36.94 196**	P	**P**	**18 50 46.2**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.3,baz=19,slow=11,SNR=60					
ASAR	**Alice Springs**	**36.94 196**	P	**P**	**18 50 46.2**	**-0.1**
ASAR	**Alice Springs**	**36.94 196**	P	**P**	**18 50 46.2**	**-0.1**
LZH	**Lanzhou**	**43.51 310**	*e*P	**P**	**18 51 40.0**	**-0.7**
	comp=Z,17nm,1.0s,mb4.7					
LZH			pP	pP	18 51 45.7	-7.2
LZH			sP	sP	18 51 48.5	-10
LZH	**Lanzhou**	**43.51 310**	*e*P	**P**	**18 51 40.0**	**-0.7**
LZH			*SP	sP	18 51 48.5	-10
LZH			pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7					
STKA	**Stephens Creek**	**43.78 183**	P	**P**	**18 51 41.9**	**-0.9**
	comp=Z,5.0nm,1.0s,mb4.2,baz=9.0,slow=8.1,SNR=7.8					
STKA	**Stephens Creek**	**43.78 183**	*e*P	**P**	**18 51 42.0**	**-0.8**
	comp=Z,2.6nm,0.8s,mb4.0					
STKA	**Stephens Creek**	**43.78 183**	P	**P**	**18 51 41.9**	**-0.9**
STKA	**Stephens Creek**	**43.78 183**	P	**P**	**18 51 41.9**	**-0.9**
CM31	**Chiang Mai Arr**	**44.07 284**	*e*P	**P**	**18 51 45.5**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.2					
CMAR	**Chiang Mai Arr**	**44.07 284**	P	**P**	**18 51 45.4**	**-0.1**
	comp=Z,3.9nm,0.9s,mb4.1,baz=84,slow=5.8,SNR=23					
CMAR			LR	LR	19 10 02.8	
	comp=Z,62nm,19.3s,MS3.5,baz=255,slow=36					
CMAR	**Chiang Mai Arr**	**44.07 284**	P	**P**	**18 51 45.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.07 284**	P	**P**	**18 51 45.4**	**-0.1**
BBOO	**Buckleboo**	**45.31 190**	*e*P	**P**	**18 51 54.2**	**-0.9**
	comp=Z,250nm,0.8s					
FORT	**Forrest**	**45.36 200**	*e*P	**P**	**18 51 50.9**	**-4.6**
	comp=Z,21nm,0.8s,mb5.0					
PSI	**Prapat**	**45.81 262**	P	**P**	**18 52 03.1**	**+3.7**
ULN	**Ulaanbaatar**	**47.28 326**	*e*P	**P**	**18 52 09.7**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.1					
ULN	**Ulaanbaatar**	**47.28 326**	*e*P	**P**	**18 52 09.7**	**-0.7**
ULN			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9					
SONM	**Songino Array**	**47.62 326**	P	**P**	**18 52 12.7**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=146,slow=7.0,SNR=13					
SONM			PcP	PcP	18 53 43.3	+1.1
	comp=Z,0.8nm,0.6s,baz=113,slow=3.3,SNR=2.8					
SONM	**Songino Array**	**47.62 326**	P	**P**	**18 52 12.7**	**-0.4**
SONM			PcP	PcP	18 53 43.2	+1.1
SONM	**Songino Array**	**47.62 326**	P	**P**	**18 52 12.7**	**-0.3**
SONM					18 53 43.3	
TOO	**Toolangi**	**49.40 179**	*e*P	**P**	**18 52 27.9**	**+1.2**
	comp=Z,26nm,1.1s,mb5.2					
KLBR	**Kellerberrin**	**50.30 210**	*e*P	**P**	**18 52 33.0**	**-0.8**
	comp=Z,16nm,0.8s,mb5.1					
ZAK	**Zakamensk**	**50.76 327**	*e*P	**P**	**18 52 38.2**	**+1.2**
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1					
YAK	**Yakutsk**	**50.97 351**	*e*P	**P**	**18 52 38.9**	**+0.5**
	comp=Z,7.0nm,0.6s,mb4.8					
YAK	**Yakutsk**	**50.97 351**	*e*P	**P**	**18 52 38.9**	**+0.5**
YAK			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8					
TAPN	**Taplejung**	**54.91 295**	*e*P	**P**	**18 53 08.8**	**+0.7**
	comp=Z,16nm,0.8s,mb5.1					
TAPN	**Taplejung**	**54.91 295**	*e*P	**P**	**18 53 08.8**	**+0.7**
	comp=Z,16nm,0.8s,mb5.1					
ODAN	**Odare**	**55.16 294**	*e*P	**P**	**18 53 10.4**	**+0.5**
	comp=Z,11nm,0.6s,mb5.1					
ODAN	**Odare**	**55.16 294**	*e*P	**P**	**18 53 10.4**	**+0.5**
	comp=Z,11nm,0.6s,mb5.1					
RAMN	**Ramite**	**55.88 294**	*e*P	**P**	**18 53 15.8**	**+0.8**
	comp=Z,21nm,0.9s,mb5.2					
RAMN	**Ramite**	**55.88 294**	*e*P	**P**	**18 53 15.8**	**+0.8**
	comp=Z,21nm,0.9s,mb5.2					
JIRN	**Jiri**	**56.28 295**	*e*P	**P**	**18 53 18.7**	**+0.8**
	comp=Z,8.8nm,0.6s,mb5.0					
JIRN	**Jiri**	**56.28 295**	*e*P	**P**	**18 53 18.7**	**+0.8**
	comp=Z,8.8nm,0.6s,mb5.0					
GUN	**Gumba**	**56.58 295**	*e*P	**P**	**18 53 20.8**	**+0.8**
	comp=Z,42nm,0.8s,mb5.5					
GUN	**Gumba**	**56.58 295**	*e*P	**P**	**18 53 20.8**	**+0.8**
	comp=Z,42nm,0.8s,mb5.5					
PKI	**Pulchoki**	**56.97 295**	*e*P	**P**	**18 53 23.0**	**+0.2**
	comp=Z,13nm,0.7s,mb5.0					
PKI	**Pulchoki**	**56.97 295**	*e*P	**P**	**18 53 23.0**	**+0.2**
	comp=Z,13nm,0.7s,mb5.1					
PKI	**Pulchoki**	**56.97 295**	*e*P	**P**	**18 53 23.0**	**+0.2**
PKI			pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1					
KKN	**Kakani**	**57.10 295**	*e*P	**P**	**18 53 23.9**	**+0.2**
	comp=Z,16nm,0.8s,mb5.1					
KKN	**Kakani**	**57.10 295**	*e*P	**P**	**18 53 23.9**	**+0.2**
	comp=Z,16nm,0.8s,mb5.1					
KKN	**Kakani**	**57.10 295**	*e*P	**P**	**18 53 23.9**	**+0.2**
KKN			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1					
DMN	**Daman**	**57.24 295**	*e*P	**P**	**18 53 25.1**	**+0.4**
	comp=Z,26nm,1.0s,mb5.2					
DMN	**Daman**	**57.24 295**	*e*P	**P**	**18 53 25.1**	**+0.4**
	comp=Z,26nm,1.0s,mb5.2					
GKN	**Gorkha**	**57.68 296**	*e*P	**P**	**18 53 27.9**	**+0.1**
	comp=Z,26nm,0.9s,mb5.3					
GKN	**Gorkha**	**57.68 296**	*e*P	**P**	**18 53 27.9**	**+0.1**
	comp=Z,26nm,0.9s,mb5.2					
BILL	**Bilibino**	**57.74 10**‖	*i*P	**P**	**18 53 27.3**	**-0.2**
BILL			pmax	pmax		
	comp=Z,16nm,2.1s,mb4.7					
DANN	**Dangsing**	**58.47 296**	*e*P	**P**	**18 53 33.9**	**+0.6**
	comp=Z,28nm,0.7s,mb5.4					
DANN	**Dangsing**	**58.47 296**	*e*P	**P**	**18 53 33.9**	**+0.6**
	comp=Z,28nm,0.7s,mb5.4					
KOLN	**Koldanda**	**58.58 295**	*e*P	**P**	**18 53 34.7**	**+0.6**
	comp=Z,20nm,0.8s,mb5.2					
KOLN	**Koldanda**	**58.58 295**	*e*P	**P**	**18 53 34.7**	**+0.6**
	comp=Z,20nm,0.8s,mb5.2					
URZ	**Urewera**	**58.76 150**	P	**P**	**18 53 36.3**	**+1.3**
	comp=Z,16nm,1.0s,mb5.0,baz=281,slow=10,SNR=2.4					
URZ	**Urewera**	**58.76 150**	P	**P**	**18 53 36.3**	**+1.3**
PYUN	**Piuthan**	**59.14 296**	*e*P	**P**	**18 53 38.0**	**+0.1**
	comp=Z,87nm,0.9s,mb5.8					
PYUN	**Piuthan**	**59.14 296**	*e*P	**P**	**18 53 38.0**	**+0.1**
	comp=Z,87nm,0.9s,mb5.8					
MK31	**Makanchi Array**	**62.16 317**	*e*P	**P**	**18 53 56.9**	**-1.3**
MK31	**Makanchi Array**	**62.16 317**	*e*P	**P**	**18 53 56.9**	**-1.3**
MKAR	**Makanchi Array**	**62.16 317**	P	**P**	**18 53 58.0**	**-0.2**
	comp=Z,2.9nm,0.7s,mb4.5,baz=90,slow=8.2,SNR=30					
MKAR	**Makanchi Array**	**62.16 317**	P	**P**	**18 53 58.0**	**-0.2**
MKAR	**Makanchi Array**	**62.16 317**	P	**P**	**18 53 58.0**	**-0.2**
ZAA0	**Zalesovo Array**	**62.50 325**	*e*P	**P**	**18 53 59.1**	**-1.2**
ZALV	**Zalesovo Beam**	**62.50 325**	P	**P**	**18 53 59.6**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.5,baz=109,slow=7.3,SNR=14					
ZALV			PcP	PcP	18 54 39.5	+0.3
	comp=Z,1.9nm,0.6s,baz=116,slow=3.8,SNR=5.2					
ZALV			LR	LR	19 22 19.1	
	comp=Z,27nm,18.9s,MS3.4,baz=54,slow=37					
ZALV	**Zalesovo Beam**	**62.50 325**	P	**P**	**18 53 59.5**	**-0.8**
ZALV			PcP	PcP	18 54 39.5	+0.3
ZALV	**Zalesovo Beam**	**62.50 325**	P	**P**	**18 53 59.6**	**-0.7**
ZALV					18 54 39.5	
NVS	**Novosibirsk**	**63.65 326**	*e*P	**P**	**18 54 08.5**	**+0.5**
NVS			pmax	pmax		
	comp=Z,17nm,1.8s,mb4.8					
NVS			pmax	pmax		
	comp=N,10.0nm,1.7s					
NVS			pmax	pmax		
	comp=E,12nm,1.8s					
KURK	**Kurchatov**	**65.35 320**	*e*P	**P**	**18 54 18.0**	**-1.1**
	comp=E,11nm,0.8s,mb5.0					
KURK	**Kurchatov**	**65.35 320**⇑	*i*P	**P**	**18 54 18.6**	**-0.5**
KURK			pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0					
AAK	**Ala-Archa**	**67.04 311**‖	*e*P	**P**	**18 54 30.9**	**+0.8**
AAK			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6					
POO	**Poona**	**67.85 285**	*e*PKP	**P**	**18 54 31.0**	**-4.7**
PMR	**Palmer**	**68.40 28**	*e*P	**P**	**18 54 38.4**	**+0.1**
PMR	**Palmer**	**68.40 28**	*e*P	**P**	**18 54 38.4**	**+0.1**
SML	**Sawmill**	**68.82 28**	*e*P	**P**	**18 54 40.4**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.2					
SML	**Sawmill**	**68.82 28**	*e*P	**P**	**18 54 40.4**	**-0.5**
SML			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2					
KK31	**Karatay Array**	**69.99 312**	*i*P	**P**	**18 54 49.1**	**+0.6**
KK31			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6					
KKAR	**Karatay Array**	**69.99 312**	*e*P	**P**	**18 54 47.9**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.3					
KKAR	**Karatay Array**	**69.99 312**	*e*P	**P**	**18 54 47.9**	**-0.6**
KKAR			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
ILAR	**Eielson Array**	**70.19 25**	P	**P**	**18 54 48.0**	**-1.3**
	comp=Z,2.8nm,0.8s,mb4.3,baz=252,slow=5.7,SNR=43					
ILAR	**Eielson Array**	**70.19 25**	P	**P**	**18 54 48.0**	**-1.3**
ILAR	**Eielson Array**	**70.19 25**	P	**P**	**18 54 48.0**	**-1.3**
VOSK	**Vostochnaya**	**70.35 322**	P	**P**	**18 54 49.4**	**-1.1**
VOSK			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2					
BRVK	**Borovoye**	**70.80 322**	*e*P	**P**	**18 54 51.7**	**-1.6**
	comp=Z,6.6nm,0.6s,mb4.7					
BRVK	**Borovoye**	**70.80 322**⇑	*e*P	**P**	**18 54 51.8**	**-1.5**
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8					
KBL	**Kabul**	**71.12 302**	*e*P	**P**	**18 54 56.7**	**+1.1**
	comp=Z,6.1nm,0.9s,mb4.5					
KBL	**Kabul**	**71.12 302**	*e*P	**P**	**18 54 56.7**	**+1.1**
KBL			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
ZRNK	**Zerenda**	**71.56 322**	*i*P	**P**	**18 54 57.1**	**-0.8**
ZRNK			pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6					
INK	**Inuvik**	**75.99 22**	*e*P	**P**	**18 55 23.6**	**0.0**
	comp=Z,9.8nm,0.9s,mb4.7					
INK	**Inuvik**	**75.99 22**	*e*P	**P**	**18 55 23.6**	**+0.1**
INK			pmax	pmax		
	comp=Z,10.0nm,0.9s					
AB31	**Akbulak array**	**77.25 318**	P	**P**	**18 55 30.2**	**-0.8**
AB31			pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7					
ABKAR	**Akbulak array**	**77.25 318**	*e*P	**P**	**18 55 30.2**	**-0.8**
	comp=Z,6.6nm,0.6s,mb4.7					
ARU	**Arti**	**77.66 325**	*e*P	**P**	**18 55 31.4**	**-1.7**
	comp=Z,7.7nm,0.7s,mb4.7					
ARU	**Arti**	**77.66 325**	*d i*P	**P**	**18 55 32.9**	**-0.3**
ARU					18 58 25.0	
ARU			S	S	19 05 24.5	+2.8
ARU			pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8					
YKA	**Yellowknife Ar**	**84.47 27**	P	**P**	**18 56 09.9**	**+0.6**
	comp=Z,2.0nm,0.5s,mb4.5,baz=287,slow=5.2,SNR=28					
YKA	**Yellowknife Ar**	**84.47 27**	P	**P**	**18 56 09.9**	**+0.6**
YKA	**Yellowknife Ar**	**84.47 27**	P	**P**	**18 56 09.9**	**+0.6**
RES	**Resolute Bay**	**86.15 13**	*e*P	**P**	**18 56 18.1**	**+0.6**
	comp=Z,17nm,0.8s,mb5.3					
RES	**Resolute Bay**	**86.15 13**	*e*P	**P**	**18 56 18.1**	**+0.6**
RES			pmax	pmax		
	comp=Z,17nm,0.8s,mb5.3					
NEW	**Newport**	**86.76 41**	*e*P	**P**	**18 56 22.0**	**+1.0**
	comp=Z,7.3nm,0.8s,mb5.0					
NEW	**Newport**	**86.76 41**	*e*P	**P**	**18 56 22.0**	**+1.0**
NEW			pmax	pmax		
	comp=Z,7.0nm,0.8s					
BMO	**Blue Mountains**	**87.48 45**	*e*P	**P**	**18 56 26.2**	**+1.7**
	comp=Z,3.7nm,0.7s,mb4.7					
BMO	**Blue Mountains**	**87.48 45**	*e*P	**P**	**18 56 26.2**	**+1.6**
BMO			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.8					
ARCES	**ARCESS Array B**	**88.33 342**	P	**P**	**18 56 27.6**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.7,baz=77,slow=5.4,SNR=7.2					
ARCES	**ARCESS Array B**	**88.33 342**	P	**P**	**18 56 27.6**	**-0.5**
ARCES	**ARCESS Array B**	**88.33 342**	P	**P**	**18 56 27.6**	**-0.5**
NVAR	**Mina Array Bea**	**88.34 51**	P	**P**	**18 56 30.2**	**+1.4**
	comp=Z,2.8nm,0.8s,mb4.5,baz=258,slow=6.0,SNR=11					
NVAR	**Mina Array Bea**	**88.34 51**	P	**P**	**18 56 30.2**	**+1.4**
MFID	**Camas Ranch**	**88.88 46**	P	**P**	**18 56 34.2**	**+2.9**
	comp=Z,8.4nm,0.8s,mb5.1					
JOF	**Joensuu**	**89.40 335**	*e*P	**P**	**18 56 32.4**	**-0.8**
JOF			pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.1					
JOF	**Joensuu**	**89.40 335**	*e*p	**P**	**18 56 32.4**	**-0.8**
	comp=Z,6.9nm,0.7s,mb5.1					
VSR	**Storozhevoye**	**89.91 323**	*e*P	**P**	**18 56 36.0**	**+0.1**
VSR			pmax	pmax		
	comp=N,3.0nm,0.7s					
VSR			pmax	pmax		
	comp=E,3.0nm,0.7s					
VSR			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.2					
OBN	**Obninsk**	**90.03 327**⇑	*i*P	**P**	**18 56 37.4**	**+1.1**
OBN			pmax	pmax		
	comp=Z,29nm,2.5s,mb5.2					
KAF	**Kangasniemi**	**91.83 335**	*e*P	**P**	**18 56 42.8**	**-1.8**
KAF			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0					
KAF	**Kangasniemi**	**91.83 335**	*e*p	**P**	**18 56 42.8**	**-1.8**
	comp=Z,7.4nm,0.8s,mb5.1					
FINES	**FINESS Array B**	**92.27 335**	P	**P**	**18 56 44.8**	**-1.8**
	comp=Z,5.1nm,0.6s,mb5.0,baz=62,slow=4.9,SNR=14					
FINES	**FINESS Array B**	**92.27 335**	P	**P**	**18 56 44.8**	**-1.7**
FINES	**FINESS Array B**	**92.27 335**	P	**P**	**18 56 44.8**	**-1.8**
FFC	**Flin Flon**	**93.41 32**	*i*P	**P**	**18 56 57.1**	**+5.1**
PDAR	**Pinedale Array**	**93.46 45**	P	**P**	**18 56 54.1**	**+1.6**
	comp=Z,0.5nm,0.7s,mb4.1,baz=274,slow=5.3,SNR=2.6					
PDAR	**Pinedale Array**	**93.46 45**	P	**P**	**18 56 54.1**	**+1.6**
BRTR	**Keskin Array B**	**97.65 313**	P	**P**	**18 57 13.1**	**+1.5**
	comp=Z,0.8nm,0.7s,mb4.3,baz=91,slow=3.6,SNR=3.5					
BRTR	**Keskin Array B**	**97.65 313**	P	**P**	**18 57 13.1**	**+1.4**
BRTR	**Keskin Array B**	**97.65 313**	P	**P**	**18 57 13.1**	**+1.4**
LONY	**Lake Ozonia**	**113.50 29**	*e*Pdif	Pdif	18 58 19.2	-2.6
TORD	**Torodi Ar. Bea**	**135.19 303**	PKP	PKPdf	19 02 58.2	+1.1
	comp=Z,0.6nm,0.9s,baz=20,slow=3.2,SNR=3.3					
TORD	**Torodi Ar. Bea**	**135.19 303**	PKP	PKPdf	19 02 58.2	+1.1
DBIC	**Dimbokro**	**144.07 300**	PKP	PKPdf	19 03 11.2	-2.1
	comp=Z,4.6nm,0.8s,baz=169,slow=1.5,SNR=6.9					
DBIC	**Dimbokro**	**144.07 300**	PKP	PKPdf	19 03 11.2	-2.1
DBIC	**Dimbokro**	**144.07 300**	PKIKP	PKPdf	19 03 11.3	-2.1
LPAZ	**La Paz**	**148.36 101**	PKPbc	PKPbc	19 03 27.0	+3.1
	comp=Z,5.0nm,1.0s,baz=10.0,slow=0.8,SNR=12					
LPAZ	**La Paz**	**148.36 101**	*e*PKPbc	PKPbc	19 03 26.6	+2.7
CPUP	**Villa Florida**	**155.24 128**	PKPab	PKPab	19 03 56.8	+1.2
	comp=Z,0.4nm,0.4s,baz=318,slow=6.6,SNR=3.7					
CPUP	**Villa Florida**	**155.24 128**	PKPab	PKPab	19 03 56.8	+1.2
CPUP	**Villa Florida**	**155.24 128**	PKP2	PKPab	19 03 56.8	+1.2

*CSEM **15** 18:53:28.1, 36°.56N×21°.65E, h18km, MD3.5, After ATH*
ATH 15 18:53:28.0, 36°.56N×21°.65E, h18km±1km, MD3.5/11,

Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.34**	**12**	*e*PB	Pg	18 53 35.7	+0.4
PYL				*e*SB	Sg	18 53 40.7	+0.5
PYL	**PYLOS**	**0.34**	**12**	*e*Pb	Pg	18 53 35.7	+0.4
PYL				*e*Sb	Sg	18 53 40.7	+0.5
ITM	**Ithomi**	**0.66**	**20**	*e*PN	Pn	18 53 40.8	-1.6
ITM				*e*SN	Sb	18 53 50.2	+0.5
ITM	**Ithomi**	**0.66**	**20**	*e*Pn	Pn	18 53 40.8	-1.6
ITM				*e*Sn	Sb	18 53 50.2	+0.5
VLX	**Vlachokerasia**	**1.00**	**36**	*e*PN	Pn	18 53 47.0	-0.1
VLX				*e*SN	Sn	18 54 00.7	0.0
VLX	**Vlachokerasia**	**1.00**	**36**	*e*Pn	Pn	18 53 47.0	-0.1
VLX				*e*Sn	Sn	18 54 00.5	-0.2
VLI	**Veliai**	**1.05**	**81**	*e*PN	Pn	18 53 48.0	+0.2
VLI				*e*SN	Sn	18 54 03.2	+1.3
VLI	**Veliai**	**1.05**	**81**	*e*Pn	Pn	18 53 48.0	+0.2
VLI				*e*Sn	Sn	18 54 03.2	+1.3
KYTH	**Kithira**	**1.15**	**104**	*e*PN	Pn	18 53 49.8	+0.6
KYTH	**Kithira**	**1.15**	**104**	*e*Pn	Pn	18 53 49.8	+0.6
GUR	**Goura**	**1.48**	**22**	*e*PN	Pn	18 53 55.8	+2.1
GUR	**Goura**	**1.48**	**22**	*e*Pn	Pn	18 53 55.8	+2.1
RLS	**Riolos of Patr**	**1.50**	**354**	*e*PN	Pn	18 53 56.7	+2.7
RLS	**Riolos of Patr**	**1.50**	**354**	*e*Pn	Pn	18 53 56.7	+2.7
DID	**Didima**	**1.58**	**53**	*e*PN	Pn	18 53 57.0	+1.9
DID	**Didima**	**1.58**	**53**	*e*Pn	Pn	18 53 57.0	+1.9
LTK	**Loutraki**	**1.80**	**35**	*e*PN	Pn	18 54 00.7	+2.6
LTK	**Loutraki**	**1.80**	**35**	*e*Pn	Pn	18 54 01.0	+2.9
EFP	**Efpalio**	**1.88**	**6**	*e*PN	Pn	18 54 01.8	+2.7
EFP	**Efpalio**	**1.88**	**6**	*e*Pn	Pn	18 54 02.2	+3.1
VIL1	**Vilia, Western**	**2.09**	**39**	*e*PN	Pn	18 54 04.7	+2.6

*CSEM **15** 18:57:07.1±0.1, 38°.71N×22°.55E, h20km, ML1.8/5, Error ellipse: s-maj=2.9km s-min=2.7km az=58.0*
*ATH **15** 18:57:07.7, 38°.73N×22°.55E, h18km±2km, MD3.3/9*
THE 15 18:57:07.7, 38°.70N×22°.54E, h16km±1km, ML1.8/5, Error ellipse: s-maj=1.3km s-min=0.4km az=16.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.12**	**54**	P	Pg	18 57 11.2	0.0
AXAR				S	Sg	18 57 13.9	+0.3
AXAR	**Agios Charalam**	**0.12**	**54**	P	Pg	18 57 11.2	0.0
AXAR				S	Sg	18 57 13.9	+0.3
DESF	**Desfina**	**0.29**	**181**	P	Pg	18 57 13.1	-0.7
DESF	**Desfina**	**0.29**	**181**	P	Pg	18 57 13.1	-0.7
AGG	**Agios Georgios**	**0.36**	**333**	P	Pg	18 57 14.8	-0.4
AGG				S	Sg	18 57 20.3	+0.1
AGG	**Agios Georgios**	**0.36**	**333**	P	Pg	18 57 14.8	-0.4
AGG				S	Sg	18 57 20.3	+0.1
LKR	**Lokris**	**0.36**	**97**	*e*PB	Pg	18 57 14.9	-0.3
LKR				*e*SB	Sg	18 57 20.8	+0.6
LKR	**Lokris**	**0.36**	**97**	P	Pg	18 57 15.0	-0.2
LKR				S	Sg	18 57 20.9	+0.7
LKR	**Lokris**	**0.36**	**97**	P	Pg	18 57 15.0	-0.2
LKR				S	Sg	18 57 20.9	+0.7
ATAL	**Atalanti**	**0.38**	**91**	P	Pg	18 57 15.4	0.0
ATAL				S	Sg	18 57 21.0	+0.4
ATAL	**Atalanti**	**0.38**	**91**	P	Pg	18 57 15.4	0.0
ATAL				S	Sg	18 57 21.0	+0.4
KALE	**Kalithea**	**0.44

GDZ	**Gediz**	**0.09**	**140**	*i* P	**Pg**	**18 58 46.7**	**-0.4**
GDZ				*i* S	**Sg**	**18 58 48.7**	**+0.1**
DEMI	**Demirci**	**0.55**	**258**	*i* P	**Pg**	**18 58 55.8**	**+0.3**
DEMI				*i* S	**Sg**	**18 59 03.0**	**+0.4**
DEMI	**Demirci**	**0.55**	**258**	*i* P	**Pg**	**18 58 55.8**	**+0.3**
DEMI				*i* S	**Sg**	**18 59 03.0**	**+0.4**
ALT	**Altintas**	**0.56**	**101**	*e*PG	**Pg**	**18 58 55.4**	**-0.2**
ALT				*e*SG	**Sg**	**18 59 03.4**	**+0.4**
ALT	**Altintas**	**0.56**	**101**	*e*Pg	**Pg**	**18 58 55.4**	**-0.3**
ALT				*e*Sg	**Sg**	**18 59 03.4**	**+0.4**
DST	**Dursunbey**	**0.75**	**306**	*e*PG	**Pg**	**18 58 58.4**	**-0.9**
DST				*e*SG	**Sg**	**18 59 09.4**	**+0.2**
DST	**Dursunbey**	**0.75**	**306**	*e*Pg	**Pg**	**18 58 58.4**	**-1.0**
DST				*e*Sg	**Sg**	**18 59 09.4**	**+0.2**
KHAL	**Karahalli**	**0.79**	**175**	*i* P	**Pg**	**18 59 00.2**	**+0.1**
KHAL				*i* S	**Sg**	**18 59 10.3**	**0.0**
KHAL	**Karahalli**	**0.79**	**175**	*i* P	**Pg**	**18 59 00.2**	**+0.1**
KHAL				*i* S	**Sg**	**18 59 10.4**	**0.0**
MANT	**Manisa**	**0.94**	**225**	*i* P	**Pg**	**18 59 02.5**	**-0.4**
MANT				*i* S	**Sg**	**18 59 14.4**	**-0.8**
MANT	**Manisa**	**0.94**	**225**	*i* P	**Pg**	**18 59 02.5**	**-0.4**
MANT				*i* S	**Sg**	**18 59 14.4**	**-0.8**
SHUT	**Suhut-Afyon**	**1.08**	**124**	*e*PN	**Pg**	**18 59 06.3**	**+0.7**
SHUT	**Suhut-Afyon**	**1.08**	**124**	*e*Pn	**Pg**	**18 59 06.3**	**+0.7**
BORA	**Eskisehir**	**1.08**	**48**	*i* P	**Pg**	**18 59 05.5**	**-0.2**
BORA				*i* S	**Sg**	**18 59 20.3**	**+0.5**
BORA	**Eskisehir**	**1.08**	**48**	*i* P	**Pg**	**18 59 05.5**	**-0.2**
BORA				*i* S	**Sg**	**18 59 20.3**	**+0.5**
CAVI	**Cavuskoy**	**1.09**	**18**	*e*PN	**Pg**	**18 59 06.1**	**+0.2**
CAVI	**Cavuskoy**	**1.09**	**18**	*e*Pn	**Pg**	**18 59 06.1**	**+0.2**
ESKT	**Eskisehir**	**1.18**	**72**	*e*PN	**Pn**	**18 59 07.0**	**-0.7**
ESKT	**Eskisehir**	**1.18**	**72**	*e*Pn	**Pn**	**18 59 07.0**	**-0.7**
AKHS	**Akhisar**	**1.27**	**258**	*i* P	**Pn**	**18 59 09.9**	**+0.9**
AKHS				*i* S	**Sb**	**18 59 26.2**	**+0.6**
AKHS	**Akhisar**	**1.27**	**258**	*i* P	**Pn**	**18 59 09.9**	**+0.9**
AKHS				*i* S	**Sb**	**18 59 26.2**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**342**	*e*PN	**Pn**	**18 59 08.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**342**	*e*Pn	**Pn**	**18 59 08.7**	**-0.3**
BALB	**Balikesir**	**1.27**	**293**	*e*PN	**Pn**	**18 59 08.9**	**-0.2**
BALB	**Balikesir**	**1.27**	**293**	*e*Pn	**Pn**	**18 59 08.9**	**-0.1**
ADVT	**Abdulvahap**	**1.30**	**11**	*e*PN	**Pn**	**18 59 08.8**	**-0.5**
ADVT	**Abdulvahap**	**1.30**	**11**	*e*Pn	**Pn**	**18 59 08.8**	**-0.5**
KCTX	**Karacabey (Bur**	**1.37**	**324**	*e*PN	**Pn**	**18 59 11.0**	**+0.7**
KCTX	**Karacabey (Bur**	**1.37**	**324**	*e*Pn	**Pn**	**18 59 11.0**	**+0.7**
ARMT	**Armutlu**	**1.46**	**344**	*e*PN	**Pn**	**18 59 12.1**	**+0.4**
ARMT	**Armutlu**	**1.46**	**344**	*e*Pn	**Pn**	**18 59 12.1**	**+0.5**
GULT	**Gulveren**	**1.53**	**34**	*e*PN	**Pn**	**18 59 12.4**	**-0.2**
GULT	**Gulveren**	**1.53**	**34**	*e*Pn	**Pn**	**18 59 12.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.60**	**304**	*e*PN	**Pn**	**18 59 13.7**	**+0.3**
GONE	**Gonen-Balikesi**	**1.60**	**304**	*e*Pn	**Pn**	**18 59 13.7**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.67**	**79**	*e*PN	**Pn**	**18 59 13.9**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.67**	**79**	*e*Pn	**Pn**	**18 59 13.9**	**-0.5**
EDC	**Edincik**	**1.68**	**315**	*e*PN	**Pn**	**18 59 13.7**	**-0.9**
EDC	**Edincik**	**1.68**	**315**	*e*Pn	**Pn**	**18 59 13.7**	**-0.9**
KIZT	**Kizilcal**	**1.95**	**97**	*e*PN	**Pn**	**18 59 18.6**	**+0.3**
KIZT	**Kizilcal**	**1.95**	**97**	*e*Pn	**Pn**	**18 59 18.6**	**+0.3**

*ISCJB **15** 19:40:23.8±1.3, 16°.4S±0°.1×174°.4W±0°.1, h126km±13km, mb4.2/17, Error ellipse: s-maj=21.7km s-min=10.4km az=43.6*
*IDC **15** 19:40:26.0±2.4, 16°.46S×174°.36W, h135km±21km, mb3.9/16, mb1 4.1/17, mb1mx4.0/22, mbtmp4.0/17, MS3.5/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=18.4km s-min=12.3km az=133.0*
*NEIC **15** 19:40:26.3±1.4, 16°.48S×174°.33W, h140km±13km, mb4.8/4, Error ellipse: s-maj=17.9km s-min=9.6km az=136.0*
ISC 15 19:40:25.0±1.2, 16°.5S±0°.1×174°.4W±0°.1, h124km±12km, n51, σ1§00/49, mb4.2/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.55**	**45**	P	**Pn**	**19 41 20.3**	**+1.6**
	348nm,0.3s,baz=193,slow=2.3,SNR=101						
AFI				S	**Sn**	**19 41 58.8**	**-1.4**
	363nm,0.3s,baz=40,slow=22,SNR=19						
AFI	**Afiamalu**	**3.55**	**45**	P	**Pn**	**19 41 20.3**	**+1.6**
AFI				S	**Sn**	**19 41 58.8**	**-1.4**
MSVF	**Nonsavu**	**7.38**	**259**	*e*P	**Pn**	**19 42 18.1**	**+7.9**
	62nm,1.4s						
RAR	**Rarotonga**	**14.58**	**111**	P	**Pn**	**19 43 53.1**	**+7.7**
	1.0nm,0.3s,baz=307,slow=2.6,SNR=3.8						
RAR	**Rarotonga**	**14.58**	**111**	P	**Pn**	**19 43 53.1**	**+7.6**
DZM	**Mont Dzumac**	**18.97**	**250**	*e*P	**P**	**19 44 36.2**	**-0.5**
DZM	**Mont Dzumac**	**18.97**	**250**	*e*P	**P**	**19 44 38.0**	**+1.3**
	75nm,1.3s						
URZ	**Urewera**	**22.98**	**197**	P	**P**	**19 45 18.6**	**-0.3**
	11nm,0.6s,mb4.4,baz=13,slow=14,SNR=7.6						
URZ	**Urewera**	**22.98**	**197**	P	**P**	**19 45 18.6**	**-0.3**
RPZ	**Rata Peaks**	**29.86**	**202**	P	**P**	**19 46 21.5**	**+0.9**
	3.4nm,0.4s,mb4.3,baz=21,slow=8.6,SNR=3.4						
RPZ				LR	LR	19 57 17.4	
	comp=Z,87nm,18.0s,baz=202,slow=34						
RPZ	**Rata Peaks**	**29.86**	**202**	P	**P**	**19 46 21.5**	**+0.9**
ARMA	**Armidale**	**34.02**	**240**	*e*P	**P**	**19 46 57.2**	**0.0**
CNB	**Canberra Magne**	**37.38**	**233**	*e*P	**P**	**19 47 26.3**	**+0.4**
	94nm,1.1s						
PMG	**Port Moresby**	**38.12**	**276**	P	**P**	**19 47 33.8**	**+1.5**
	7.4nm,0.7s,mb4.6,baz=98,slow=3.9,SNR=4.9						
PMG	**Port Moresby**	**38.12**	**276**	P	**P**	**19 47 33.8**	**+1.5**
STKA	**Stephens Creek**	**42.72**	**241**	P	**P**	**19 48 09.8**	**-0.2**
	18nm,0.9s,mb4.8,baz=78,slow=8.1,SNR=27						
STKA	**Stephens Creek**	**42.72**	**241**	*e*P	**P**	**19 48 09.8**	**-0.2**
	14nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**42.72**	**241**	*e*P	**P**	**19 48 09.3**	**-0.7**
	4.9nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**48.72**	**258**	P	**P**	**19 48 55.3**	**-2.0**
	0.9nm,0.3s,mb4.1,baz=94,slow=6.8,SNR=52						
WRA				PcP	PcP	19 50 20.0	-0.6
	0.6nm,0.5s,baz=95,slow=3.6,SNR=5.3						
WRA	**Warramunga Arr**	**48.72**	**258**	P	**P**	**19 48 55.3**	**-2.0**
WRA				PcP	PcP	19 50 20.0	-0.6
AS31	**Alice Springs**	**48.92**	**253**	*e*P	**P**	**19 48 57.5**	**-1.3**
ASAR	**Alice Springs**	**48.92**	**253**	P	**P**	**19 48 57.8**	**-1.0**
	11nm,0.6s,mb5.0,baz=88,slow=8.1,SNR=202						
ASAR				PcP	PcP	19 50 20.8	-0.5
	0.6nm,0.4s,baz=101,slow=3.8,SNR=4.2						
ASAR	**Alice Springs**	**48.92**	**253**	P	**P**	**19 48 57.8**	**-1.0**
ASAR				PcP	PcP	19 50 20.8	-0.5
FITZ	**Fitzroy Crossi**	**57.10**	**259**	P	**P**	**19 49 58.1**	**-0.9**
	2.8nm,1.1s,mb4.2,baz=231,slow=9.5,SNR=12						
FITZ	**Fitzroy Crossi**	**57.10**	**259**	*e*P	**P**	**19 49 58.3**	**-0.6**
	11nm,1.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**57.10**	**259**	P	**P**	**19 49 58.1**	**-0.9**
MBWA	**Marble Bar**	**62.20**	**254**	*e*P	**P**	**19 50 32.6**	**-1.2**
MJAR	**Matsushiro Arr**	**69.17**	**321**	P	**P**	**19 51 17.9**	**-0.2**
	0.4nm,0.4s,mb3.6,baz=124,slow=2.0,SNR=4.0						
MJAR	**Matsushiro Arr**	**69.17**	**321**	P	**P**	**19 51 17.9**	**-0.2**
QSPA	**South Pole Qui**	**73.59**	**180**	P	**P**	**19 51 45.0**	**+1.0**
	11nm,1.0s,mb4.5,baz=37,slow=1.8,SNR=22						
QSPA	**South Pole Qui**	**73.59**	**180**	P	**P**	**19 51 45.0**	**+1.0**
NVAR	**Mina Array Bea**	**75.72**	**42**	P	**P**	**19 51 57.2**	**+0.2**
	1.2nm,0.7s,mb3.7,baz=221,slow=8.7,SNR=6.8						
NVAR	**Mina Array Bea**	**75.72**	**42**	P	**P**	**19 51 57.2**	**+0.2**
KSRS	**Korea Array**	**76.28**	**316**	P	**P**	**19 52 01.8**	**+1.6**
	1.8nm,0.9s,mb3.8,baz=104,slow=5.1,SNR=4.5						
KSAR	**Wonju Array Be**	**76.30**	**316**	P	**P**	**19 52 01.8**	**+1.5**
BMRM	**Bremner River**	**80.76**	**14**	*e*P	**P**	**19 52 24.0**	**-0.2**
	21nm,1.3s,mb4.8						
MCMT	**McKenzie Canyo**	**82.65**	**39**	*e*P	**P**	**19 52 34.8**	**+0.2**
ILAR	**Eielson Array**	**83.66**	**11**	P	**P**	**19 52 38.1**	**-1.1**
	0.8nm,0.3s,mb4.0,baz=214,slow=5.3,SNR=24						
ILAR	**Eielson Array**	**83.66**	**11**	P	**P**	**19 52 38.1**	**-1.1**
PDAR	**Pinedale Array**	**83.66**	**42**	P	**P**	**19 52 39.3**	**-0.5**
	1.4nm,0.7s,mb3.9,baz=206,slow=2.2,SNR=12						
PDAR	**Pinedale Array**	**83.66**	**42**	P	**P**	**19 52 39.3**	**-0.5**
MAW	**Mawson**	**86.50**	**199**	P	**P**	**19 52 53.3**	**-0.3**
	1.2nm,0.5s,mb4.0,baz=76,slow=6.9,SNR=3.6						
MAW	**Mawson**	**86.50**	**199**	P	**P**	**19 52 53.3**	**-0.3**
YKA	**Yellowknife Ar**	**91.43**	**24**	P	**P**	**19 53 16.6**	**-0.1**
	0.3nm,0.7s,mb3.5,baz=232,slow=4.2,SNR=5.0						
YKA	**Yellowknife Ar**	**91.43**	**24**	P	**P**	**19 53 16.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**92.08**	**289**	P	**P**	**19 53 22.1**	**+1.4**
	0.2nm,0.3s,mb3.8,baz=133,slow=3.8,SNR=3.5						
CMAR	**Chiang Mai Arr**	**92.08**	**289**	P	**P**	**19 53 22.1**	**+1.4**
BRTR	**Keskin Array B**	**146.38**	**319**	PKPbc	PKPbc	19 59 51.1	-0.5
	1.8nm,0.9s,baz=49,slow=2.3,SNR=6.7						
BRTR	**Keskin Array B**	**146.38**	**319**	PKPbc	PKPbc	19 59 51.1	-0.5
TORD	**Torodi Ar. Bea**	**174.95**	**130**	PKP	PKPdf	20 00 18.9	-2.2
	0.9nm,0.9s,baz=324,slow=3.0,SNR=4.3						
TORD				PKPab	PKPab	20 01 55.7	-0.8
	0.8nm,0.8s,baz=244,slow=4.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**174.95**	**130**	PKP	PKPdf	20 00 18.9	-2.2
TORD				PKPab	PKPab	20 01 55.7	-0.8

*IDC **15** 19:46:08.1±2.1, 7°.83S×154°.85E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/16, mbtmp3.6/7, ML2.4/1, Error ellipse: s-maj=60.3km s-min=28.0km az=126.0*
*NEIC **15** 19:46:14.2±1.5, 7°.80S×154°.61E, h35km, Error ellipse: s-maj=39.7km s-min=17.1km az=127.0*
ISC 15 19:46:12.2±1.3, 8°.0S±0°.2×155°.0E±0°.1, h35km, n16, σ1§02/16, mb3.5/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.90**	**259**	Pn	**Pn**	**19 48 01.9**	**-2.7**
	0.3nm,0.3s,baz=67,slow=10.0,SNR=1.9						
PMG				Sn	**Sn**	**19 49 33.4**	**+0.6**
	1.8nm,0.3s,baz=206,slow=20,SNR=9.4						
PMG	**Port Moresby**	**7.90**	**259**	*e*P	**Pn**	**19 48 01.3**	**-3.3**
PMG				Sn	**Sn**	**19 49 33.4**	**+0.6**
WRA	**Warramunga Arr**	**23.29**	**237**	P	**P**	**19 51 16.3**	**-0.9**
	0.6nm,0.7s,mb3.2,baz=59,slow=9.6,SNR=4.7						
WRA	**Warramunga Arr**	**23.29**	**237**	P	**P**	**19 51 16.3**	**-0.9**
ASAR	**Alice Springs**	**25.55**	**230**	P	**P**	**19 51 39.2**	**+1.3**
	0.4nm,0.8s,mb3.0,baz=60,slow=8.8,SNR=3.3						
ASAR	**Alice Springs**	**25.55**	**230**	P	**P**	**19 51 39.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**61.22**	**296**	P	**P**	**19 56 23.9**	**-0.2**
	0.4nm,0.9s,mb3.5,baz=134,slow=2.6,SNR=2.7						
CMAR	**Chiang Mai Arr**	**61.22**	**296**	P	**P**	**19 56 23.9**	**-0.2**
SONM	**Songino Array**	**70.16**	**327**	P	**P**	**19 57 22.1**	**+0.9**
	0.4nm,0.4s,mb3.7,baz=113,slow=5.6,SNR=6.2						
SONM	**Songino Array**	**70.16**	**327**	P	**P**	**19 57 22.1**	**+0.9**
MKAR	**Makanchi Array**	**84.14**	**319**	P	**P**	**19 58 39.8**	**+0.1**
	0.6nm,0.7s,mb3.8,baz=99,slow=6.3,SNR=6.4						
MKAR	**Makanchi Array**	**84.14**	**319**	P	**P**	**19 58 39.8**	**+0.1**
ZALV	**Zalesovo Beam**	**84.99**	**326**	P	**P**	**19 58 43.2**	**-0.6**
	0.3nm,0.4s,mb3.8,baz=93,slow=7.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**84.99**	**326**	P	**P**	**19 58 43.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**153.28**	**283**	PKPbc	PKPbc	20 06 08.3	+0.7
	0.8nm,0.6s,baz=53,slow=2.2,SNR=8.5						
TORD				PKPab	PKPab	20 06 21.9	+2.4
	0.5nm,0.8s,baz=100,slow=3.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**153.28**	**283**	PKPbc	PKPbc	20 06 08.3	+0.7
TORD				PKPab	PKPab	20 06 21.9	+2.4

IDC 15 19:50:17.6±4.6, 30°.83S×176°.85W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=180.2km s-min=51.5km az=159.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.93**	**212**	Sn	Sn	19 53 59.4	-10
	0.4nm,0.3s,baz=209,slow=19,SNR=3.6						
CTA	**Charters Tower**	**34.84**	**279**	P	P	19 57 12.4	+1.8
	3.4nm,1.0s,baz=135,slow=5.7,SNR=2.7						
ASAR	**Alice Springs**	**44.08**	**267**	P	P	19 58 26.5	-1.1
	0.2nm,0.6s,baz=107,slow=7.1,SNR=6.1						
WRA	**Warramunga Arr**	**45.10**	**272**	P	P	19 58 35.1	-0.7
	0.3nm,0.4s,baz=112,slow=7.9,SNR=16						
FINES	**FINESS Array B**	**145.89**	**341**	PKPbc	PKPbc	20 09 57.4	-0.8
	3.8nm,1.1s,baz=60,slow=3.9,SNR=11						

*ISCJB **15** 19:54:23.1±0.6, 0°.7N±0°.2×123°.6E±0°.5, h300km, mb3.5/8, Error ellipse: s-maj=70.5km s-min=9.8km az=157.1*
*NEIC **15** 19:54:24.6±0.5, 0°.71N×123°.69E, h300km, mb3.6/3, Error ellipse: s-maj=61.7km s-min=9.0km az=68.0*
*IDC **15** 19:54:27.0±10.0, 0°.68N×123°.64E, h323km±123km, mb3.1/5, mb1 3.2/6, mb1mx3.0/18, mbtmp3.1/6, Error ellipse: s-maj=97.7km s-min=19.7km az=61.0*
ISC 15 19:54:24.8±0.6, 0°.7N±0°.2×123°.6E±0°.5, h300km, n17, σ0§76/17, mb3.5/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.77**	**174**	P	**P**	**19 58 23.7**	**+0.9**
	baz=359,slow=9.3						
FITZ	**Fitzroy Crossi**	**18.77**	**174**	P	**P**	**19 58 23.7**	**+0.9**
WRAB	**Tennant Creek**	**23.03**	**153**	*e*P	**P**	**19 59 04.4**	**+0.1**
	4.6nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**23.03**	**153**	P	**P**	**19 59 03.5**	**-0.9**
	3.2nm,0.3s,mb4.1,baz=335,slow=10.0,SNR=65						
WRA	**Warramunga Arr**	**23.03**	**153**	P	**P**	**19 59 03.5**	**-0.9**
WB2	**Warramunga Arr**	**23.04**	**153**	*e*P	**P**	**19 59 04.3**	**-0.1**
AS31	**Alice Springs**	**26.18**	**158**	*e*P	**P**	**19 59 31.0**	**-1.6**
ASAR	**Alice Springs**	**26.18**	**158**	P	**P**	**19 59 33.4**	**+0.7**
	0.6nm,0.6s,mb3.2,baz=341,slow=7.9,SNR=14						
ASAR	**Alice Springs**	**26.18**	**158**	P	**P**	**19 59 33.4**	**+0.7**
STKA	**Stephens Creek**	**36.58**	**154**	P	**P**	**20 01 03.6**	**+0.8**
	0.9nm,0.4s,mb3.5,baz=338,slow=9.7,SNR=5.8						
ULN	**Ulaanbaatar**	**49.15**	**345**	*e*P	**P**	**20 02 43.1**	**+0.4**
	1.2nm,0.8s,mb3.3						
SONM	**Songino Array**	**49.29**	**345**	P	**P**	**20 02 44.7**	**+0.9**
	0.3nm,0.6s,mb2.8,baz=158,slow=7.1,SNR=3.2						
SONM	**Songino Array**	**49.29**	**345**	P	**P**	**20 02 44.7**	**+0.9**
MK31	**Makanchi Array**	**58.37**	**328**	*e*P	**P**	**20 03 49.0**	**-0.2**
MKAR	**Makanchi Array**	**58.37**	**328**	P	**P**	**20 03 48.5**	**-0.6**
	0.3nm,0.4s,mb3.1,baz=123,slow=8.0,SNR=10						
MKAR	**Makanchi Array**	**58.37**	**328**	P	**P**	**20 03 48.5**	**-0.6**
KURK	**Kurchatov**	**62.70**	**330**	*e*P	**P**	**20 04 17.6**	**-0.6**
	0.5nm,0.4s,mb3.5						

*NEIC **15** 20:01:36.6±0.8, 6°.75S×129°.64E, h35km, mb4.2/2, Error ellipse: s-maj=38.2km s-min=10.6km az=71.0*
*IDC **15** 20:01:44.7±7.2, 7°.24S×129°.26E, h110km±66km, mb3.4/3, mb1 3.8/6, mb1mx3.5/15, mbtmp3.7/6, Error ellipse: s-maj=93.3km s-min=26.2km az=61.0*
ISC 15 20:01:46.9±2.9, 7°.5S±0°.1×129°.0E±0°.2, h132km±30km, n19, σ1§36/24, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.08**	**197**	P	**Pn**	**20 04 24.4**	**+2.8**
	1.2nm,0.3s,baz=30,slow=10,SNR=28						
FITZ				S	**Sn**	**20 06 22.9**	**-1.0**
	1.8nm,0.3s,baz=82,slow=20,SNR=4.3						
FITZ	**Fitzroy Crossi**	**11.08**	**197**	P	**Pn**	**20 04 24.4**	**+2.8**
FITZ				S	**Sn**	**20 06 22.9**	**-1.0**
WRAB	**Tennant Creek**	**13.43**	**158**	*e*P	**Pn**	**20 04 51.1**	**-1.1**
	6.1nm,0.5s						
WRAB				*e*S	**Sn**	**20 07 11.3**	**-9.2**
WRA	**Warramunga Arr**	**13.43**	**158**	P	**Pn**	**20 04 51.6**	**-0.7**
	2.9nm,0.3s,baz=337,slow=13,SNR=107						
WRA				S	**Sn**	**20 07 15.1**	**-5.6**
	2.5nm,0.3s,baz=330,slow=22,SNR=10						
WRA	**Warramunga Arr**	**13.43**	**158**	P	**Pn**	**20 04 51.6**	**-0.7**
WRA				S	**Sn**	**20 07 15.1**	**-5.6**
WB2	**Warramunga Arr**	**13.44**	**158**	*e*P	**Pn**	**20 04 51.0**	**-1.3**
AS31	**Alice Springs**	**16.78**	**164**	*e*P	**Pn**	**20 05 36.2**	**+2.2**
ASAR	**Alice Springs**	**16.78**	**164**	P	**Pn**	**20 05 36.4**	**+2.3**
	1.3nm,0.3s,baz=354,slow=10,SNR=74						
ASAR				S	**S**	**20 08 40.3**	**-0.8**
	0.7nm,0.3s,baz=346,slow=26,SNR=6.2						
ASAR	**Alice Springs**	**16.78**	**164**	P	**Pn**	**20 05 36.4**	**+2.3**
ASAR				S	**S**	**20 08 40.3**	**-0.8**
STKA	**Stephens Creek**	**26.97**	**156**	P	**P**	**20 07 18.1**	**+1.9**
	0.9nm,0.6s,mb3.6,baz=333,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**26.97**	**156**	*e*P	**P**	**20 07 17.4**	**+1.2**
	0.1nm,0.5s,mb2.7						
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**20 12 32.3**	**0.0**
	0.3nm,0.4s,mb3.4,baz=120,slow=6.8,SNR=11						
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**20 12 32.3**	**0.0**
ZALV	**Zalesovo Beam**	**71.57**	**334**	P	**P**	**20 12 53.0**	**-0.5**
	0.5nm,0.4s,mb3.6,baz=137,slow=4.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**71.57**	**334**	P	**P**	**20 12 53.0**	**-0.5**
VNDA	**Vanda**	**72.11**	**173**	*e*P	**P**	**20 12 51.9**	**-4.5**
	0.8nm,0.4s,mb3.8						
BRVK	**Borovoye**	**78.02**	**328**	*e*P	**P**	**20 13 29.8**	**-0.8**
	2.3nm,0.7s,mb3.9						
TORD	**Torodi Ar. Bea**	**127.96**	**281**	PKP	PKPdf	20 20 38.4	+0.2
	0.3nm,0.5s,baz=72,slow=2.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**127.96**	**281**	PKP	PKPdf	20 20 38.4	+0.2

GUC 15 20:26:54.7±0.5, 34°.70S×72°.23W, h27km±2km, MD3.5, ML2.9, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.01**	**43**	*i* P	Pn	20 27 12.5	-0.6
LNV				*i* S	Sb	20 27 26.2	-0.1
CACH	**El Canelo**	**1.47**	**67**	*i* P	Pn	20 27 20.5	+1.1
CACH				*i* S	Sn	20 27 40.0	+2.2
COCH	**Cobquecura**	**1.50**	**197**	*e*P	Pn	20 27 20.5	+0.7
COCH				*e*S	Sn	20 27 39.4	+0.9
CHCH	**Chadas Angostu**	**1.51**	**60**	*i* P	Pn	20 27 20.8	+0.7
CHCH				*i* S	Sn	20 27 40.2	+1.4
RCDM	**Rinconada Maip**	**1.69**	**45**	*e*P	Pn	20 27 22.9	+0.5
RCDM				*i* S	Sn	20 27 44.8	+1.6
RCDM				AML	AML	20 27 46.7	
	comp=E,180nm,0.1s						
LMEL	**Las Melosas**	**1.88**	**64**	*i* P	Pn	20 27 26.9	+1.8
LMEL				*i* S	Sn	20 27 51.2	+3.2
LMEL				AML	AML	20 27 52.8	
	comp=N,507nm,0.2s						
CLCH	**Cerro Calan**	**1.92**	**48**	*i* P	Pn	20 27 26.8	+1.3
CLCH				*i* S	Sn	20 27 51.6	+2.8
CLCH				AML	AML	20 27 54.9	
	comp=N,125nm,0.3s						
ROCH	**El Roble**	**2.00**	**31**	*e*P	Pn	20 27 27.6	+0.9
ROCH				AML	AML	20 27 59.8	
	comp=E,92nm,0.3s						
PEL	**Peldehue**	**2.02**	**40**	*e*P	Pn	20 27 28.4	+1.4
PEL				*e*S	Sn	20 27 53.7	+2.5
PEL				AML	AML	20 28 03.9	
	comp=N,155nm,0.5s						

IDC 15 20:27:34.4±58.0, 17°.82S×175°.57E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=1020.0km s-min=145.7km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.70**	**239**	P	P	20 34 17.6	+0.3
	1.0nm,0.7s,baz=99,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**39.00**	**260**	P	P	20 35 02.6	-0.2
	0.1nm,0.5s,baz=91,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	**39.29**	**254**	P	P	20 35 05.1	-0.1
	1.2nm,0.4s,baz=89,slow=8.2,SNR=31						

*CSEM **15** 20:38:26.9±1.3, 36°.43N×27°.97E, h2km, ML2.1, Error ellipse: s-maj=25.4km s-min=9.3km az=2.0*
*DDA **15** 20:38:27.6, 36°.37N×27°.63E, h19km, Md2.8*
*ISK **15** 20:38:29.4, 36°.46N×27°.63E, h12km, ML2.1*
ISC 15 20:38:27.1±2.4, 36°.5N±0°.1×27°.97E±0°.06, h10km, n9, σ1§21/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.42**	**311**	*e*PG	**Pg**	**20 38 35.9**	**+0.7**
DAT				*e*SG	**Sg**	**20 38 39.6**	**-1.2**
DAT	**Datca**	**0.42**	**311**	*e*Pg	**Pg**	**20 38 35.9**	**+0.6**
DAT				*e*Sg	**Sg**	**20 38 39.6**	**-1.2**
TURN	**Turunc**	**0.66**	**51**	*i* P	**Pg**	**20 38 39.8**	**0.0**
TURN				*i* S	**Sg**	**20 38

3.7nm,0.6s,mb4.3
KOLN Koldanda 47.72 306 *e*P **P 20 53 31.0 -2.0**
10nm,0.5s,mb4.9
KOLN Koldanda 47.72 306 *e*P **P 20 53 31.0 -2.0**
10nm,0.5s,mb4.9
DANN Dangsing 47.83 307 *e*P **P 20 53 34.7 +0.9**
12nm,0.7s,mb4.8
DANN Dangsing 47.83 307 *e*P **P 20 53 34.7 +0.9**
12nm,0.7s,mb4.8
MKAR Makanchi Array 58.14 326 P **P 20 54 50.0 +0.6**
0.7nm,0.4s,mb4.0,baz=119,slow=7.6,SNR=30
MKAR PcP PcP 20 55 42.1 +1.7
0.9nm,0.8s,baz=139,slow=4.9,SNR=7.0
MKAR Makanchi Array 58.14 326 P **P 20 54 50.0 +0.6**
MKAR PcP PcP 20 55 42.1 +1.7
KURK Kurchatov 62.36 328 *e*P **P 20 55 18.5 +0.3**
1.8nm,0.5s,mb4.4,baz=127,slow=6.2,SNR=16
KURK Kurchatov 62.36 328 *e*P **P 20 55 18.8 +0.6**
3.9nm,0.6s,mb4.6
BVAR Borovoye Array 67.93 327 P **P 20 55 54.6 +0.4**
0.4nm,0.4s,mb3.6,baz=152,slow=9.8,SNR=5.8
BVAR Borovoye Array 67.93 327 P **P 20 55 54.6 +0.4**
BRVK Borovoye 68.00 327 *e*P **P 20 55 54.6 0.0**
0.6nm,0.6s,mb3.6
AKASG Malin Array Be 92.39 321 P **P 20 58 06.2 +0.3**
0.3nm,0.3s,mb4.0,baz=73,slow=4.3,SNR=3.3
AKASG Malin Array Be 92.39 321 P **P 20 58 06.2 +0.3**

CSEM ***15*** *20:47:25.9±1.0, 39.°06N×41.°76E, h20km, MD2.6, Error ellipse: s-maj=30.2km s-min=15.2km az=175.0*
ISK ***15*** *20:47:26.5, 39.°13N×41.°85E, h18km, MD2.6*
ISCJB ***15*** *20:47:28.0±0.7, 39.°18N±0.°04×41.°79E±0.°05, h10km, Error ellipse: s-maj=6.9km s-min=4.5km az=152.9*
DDA ***15*** *20:47:28.1, 39.°22N×41.°73E, h2km, Md2.8*
ISC 15 20:47:28.4±0.7, 39.°17N±0.°04×41.°82E±0.°05, h2km±16km, n12, σ1°09/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.28**	**268**	*e*PG	**Pg**	**20 47 33.7**	**-0.1**
VRTB				*e*SG	**Sg**	**20 47 38.6**	**+1.1**
VRTB	**Varto-Mus**	**0.28**	**268**	*e*Pg	**Pg**	**20 47 33.7**	**-0.1**
VRTB				*e*Sg	**Sg**	**20 47 38.6**	**+1.1**
BNGL	**BINGOL**	**0.57**	**247**	*i* P	**Pg**	**20 47 37.6**	**-1.6**
BNGL				*i* S	**Sg**	**20 47 46.2**	**-0.4**
TUTA	**Tutak**	**0.80**	**73**	*i* P	**Pg**	**20 47 44.3**	**+0.5**
TUTA				*i* S	**Sg**	**20 47 58.4**	**+4.2**
TUTA	**Tutak**	**0.80**	**73**	*i* P	**Pg**	**20 47 44.3**	**+0.5**
TUTA				*i* S	**Sg**	**20 47 58.4**	**+4.2**
EZM	**Erzurum**	**0.81**	**334**	*e*PG	**Pg**	**20 47 43.6**	**-0.4**
EZM				*e*SG	**Sg**	**20 47 56.3**	**+1.8**
HOMI	**Horasan**	**0.87**	**4**	*i* P	**Pg**	**20 47 44.5**	**-0.6**
HOMI				*i* S	**Sg**	**20 48 01.5**	**+5.0**
BNGB	**Bing¨¶l**	**0.91**	**259**	*e*PG	**Pg**	**20 47 44.3**	**-1.4**
AGRB	**Hanur-Agry**	**0.99**	**66**	*e*PG	**Pg**	**20 47 46.2**	**-1.2**
AGRB	**Hanur-Agry**	**0.99**	**66**	*e*Pg	**Pg**	**20 47 46.2**	**-1.2**
BINT	**Bingol**	**1.08**	**254**	*e*Pg	**Pg**	**20 47 44.3**	**-4.7**
BEST	**Besiri**	**1.35**	**199**	*i* P	**Pn**	**20 47 54.3**	**+0.1**
BEST				*i* S	**Sg**	**20 48 13.4**	**+1.7**

ISCJB ***15*** *20:56:34.7±1.5, 51.°2N±0.°1×174.°04W±0.°09, h52km±11km, mb3.8/5, Error ellipse: s-maj=23.4km s-min=9.4km az=173.2*
NEIC ***15*** *20:56:35.9, 51.°34N×174.°24W, h0km, ML3.2(AEIC), After AEIC.*
IDC ***15*** *20:56:40.1±1.1, 52.°87N×174.°69W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/26, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=34.9km s-min=20.9km az=158.0*
ISC 15 20:56:35.2±2.2, 51.°3N±0.°1×174.°03W±0.°08, h32km±20km, n30, σ0°89/31, mb3.8/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Flat Point**	**1.02**	**358**	P	**Pn**	**20 56 53.7**	**+0.5**
KOKL	**Mount Kliuchef**	**1.08**	**354**	P	**Pn**	**20 56 54.4**	**+0.4**
GSMY	**Great Sitkin M**	**1.49**	**303**	P	**Pn**	**20 56 58.9**	**-0.8**
GSMY				S	**Sn**	**20 57 18.3**	**+0.3**
GSTR	**Great Sitkin T**	**1.52**	**304**	*e*P	**Pn**	**20 56 58.2**	**-1.9**
GSCK	**Great Sitkin C**	**1.53**	**301**	P	**Pn**	**20 56 59.3**	**-0.9**
GSCK				S	**Sn**	**20 57 19.2**	**+0.2**
GSTD	**Great Sitkin T**	**1.54**	**302**	P	**Pn**	**20 56 59.9**	**-0.5**
GSTD				S	**Sn**	**20 57 19.4**	**0.0**
ETKA	**Kagalaska Isla**	**1.60**	**293**	P	**Pn**	**20 57 00.8**	**-0.5**
ETKA				S	**Sn**	**20 57 21.1**	**+0.3**
KIKV	**Kanaga Island**	**2.06**	**289**	P	**Pn**	**20 57 08.2**	**+0.7**
KIMD	**Kanaga Island**	**2.07**	**285**	P	**Pn**	**20 57 07.7**	**0.0**
KICM	**Kanaga Island**	**2.08**	**290**	P	**Pn**	**20 57 07.9**	**+0.1**
TAFP	**Tanaga Falls P**	**2.55**	**286**	P	**Pn**	**20 57 15.0**	**+0.8**
TAFP				S	**Sn**	**20 57 44.6**	**+0.4**
TASE	**Tanaga Southea**	**2.57**	**285**	P	**Pn**	**20 57 15.5**	**+1.0**
KDAK	**Kodiak Island**	**14.03**	**54**	Pn	**Pn**	**20 59 53.2**	**+1.8**
2.0nm,0.3s,baz=284,slow=3.8,SNR=3.7							
KDAK	**Kodiak Island**	**14.03**	**54**	Pn	**Pn**	**20 59 53.2**	**+1.8**
ILAR	**Eielson Array**	**19.53**	**36**	P	**Pn**	**21 00 58.4**	**-2.6**
0.3nm,0.3s,baz=237,slow=9.5,SNR=19							
ILAR	**Eielson Array**	**19.53**	**36**	P	**Pn**	**21 00 58.4**	**-2.6**
PDAR	**Pinedale Array**	**43.47**	**75**	P	**P**	**21 04 42.9**	**+7.9**
0.3nm,0.4s,mb3.3,baz=305,slow=3.2,SNR=3.9							
PDAR	**Pinedale Array**	**43.47**	**75**	P	**P**	**21 04 42.9**	**+7.9**
ARCES	**ARCESS Array B**	**58.68**	**352**	P	**P**	**21 06 28.6**	**-0.1**
2.1nm,0.8s,mb4.2,baz=34,slow=6.6,SNR=3.0							
ARCES	**ARCESS Array B**	**58.68**	**352**	P	**P**	**21 06 28.6**	**-0.1**
KURK	**Kurchatov**	**61.23**	**316**	P	**P**	**21 06 47.2**	**+0.7**
0.9nm,0.3s,mb4.4,baz=45,slow=6.6,SNR=4.1							
KURK	**Kurchatov**	**61.23**	**316**	P	**P**	**21 06 47.2**	**+0.7**
MKAR	**Makanchi Array**	**62.42**	**311**	P	**P**	**21 06 53.5**	**-1.1**
0.2nm,0.3s,mb3.7,baz=49,slow=6.1,SNR=8.4							
MKAR	**Makanchi Array**	**62.42**	**311**	P	**P**	**21 06 53.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**74.00**	**280**	P	**P**	**21 08 12.9**	**+5.4**
0.4nm,0.7s,mb3.5,baz=27,slow=6.1,SNR=3.5							
CMAR	**Chiang Mai Arr**	**74.00**	**280**	P	**P**	**21 08 12.9**	**+5.4**
WRA	**Warramunga Arr**	**84.08**	**228**	P	pP	21 09 16.8	+4.2
0.2nm,0.7s,baz=30,slow=6.3,SNR=3.5							
WRA	**Warramunga Arr**	**84.08**	**228**	P	pP	21 09 16.8	+4.2
ASAR	**Alice Springs**	**87.49**	**226**	P	pP	21 09 35.3	+5.7
0.3nm,0.7s,baz=27,slow=2.9,SNR=4.1							
ASAR	**Alice Springs**	**87.49**	**226**	P	pP	21 09 35.3	+5.7

BJI ***15*** *21:18:01.5, 3.°68S×100.°87E, h55km, mB5.3/39, mb5.2/44, Ms5.1/47, Ms7 4.9/44*
MOS ***15*** *21:18:07.3±0.9, 2.°65S×101.°24E, h33km, mb5.6/54, MS4.6/12, Error ellipse: s-maj=9.5km s-min=4.8km az=115.6*
ISCJB ***15*** *21:18:09.2±0.2, 2.°82S±0.°03×101.°01E±0.°02, h51km, mb5.3/145, MS4.6/50, Error ellipse: s-maj=4.5km s-min=2.5km az=40.7*
DJA ***15*** *21:18:10.3±0.3, 3.°S±2.°×10.°1E±.°, h46km±3km, M5.2/8, mB5.7/46, mb5.4/58, MLv5.7/18, Mw(mB)5.2/46*
NEIC ***15*** *21:18:10.1±0.8, 2.°83S×101.°04E, h49km±7km, mb5.3/34, MS4.6/1, MW5.2, Error ellipse: s-maj=6.6km s-min=4.3km az=60.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^16 Nm; Mrr 3.94; Mθθ 2.58; Mφφ -6.53; Mrθ 4.39; Mrφ 1.87; Mθφ -1.59; Best double couple: M0 7.60000×10^16 NP1:φs 135.00000°, δ68.00000°, λ49.00000°. NP2: φs 22.00000°, δ45.00000°, λ149.00000°. Principal axes: T 7.7000, Plg49.0000°, Azm359.0000°; N -0.2300, Plg37.0000°, Azm152.0000°; P -7.4900, Plg13.0000°, Azm253.0000°;*
NEIC Felt [III] at Mukomuko and [II] at Bengkulu and Kapahiang.
IDC ***15*** *21:18:10.8±1.2, 2.°75S×101.°15E, h50km±9km, mb4.8/32, mb1 4.8/32, mb1mx4.8/32, mbtmp4.8/32, MS4.4/21, Ms1 4.4/21, ms1mx4.3/24 Error ellipse: s-maj=13.6km s-min=8.1km az=59.0*
GCMT ***15*** *21:18:13.2±0.2, 3.°00S×100.°88E, h50km±1km, MW5.3, Moment Tensor Solution. s73,c111; s75,c137; Moment tensor: Scale 10^17 Nm; Mrr 0.00; Mθθ 0.00; Mφφ 0.00; Mrθ 0.00; Mθφ 0.00; Mφr 0.00; Best double couple: M0 1.10000×10^17 NP1:φs 328.00000°, δ26.00000°, λ110.00000°. NP2: φs 126.00000°, δ66.00000°, λ80.00000°. Principal axes: T 1.0400, Plg68.0000°, Azm18.0000°; N 0.0500, Plg9.0000°, Azm130.0000°; P -1.0900, Plg20.0000°, Azm223.0000°; Data Used: II IU IC G CN.*
SZGRF ***15*** *21:18:30.2, 3.°28N×101.°46E, h33km, mb5.3, MS4.5, Malay Peninsula*
ISC 15 21:18:11.1±0.2, 2.°83S±0.°03×101.°00E±0.°02, h53km, h53km±1.7km: pP-P, n696, σ1°09/502, mb5.3/144, MS4.6/50, 141C-95D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.87**	**32**	P	**Pn**	**21 18 27.2**	**0.0**
KSI	**Kapahiang**	**1.79**	**117**	P	**Pn**	**21 18 38.8**	**-0.8**
PPI	**Padang Panjang**	**2.44**	**346**	P	**Pn**	**21 18 49.1**	**+0.7**
MNAI	**Manna**	**2.48**	**128**	P	**Pn**	**21 18 49.0**	**0.0**
BKNI	**Bangkinang**	**3.14**	**1**	P	**Pn**	**21 18 59.5**	**+1.4**
LWLI	**Liwa**	**3.75**	**125**	P	**Pn**	**21 19 07.9**	**+1.5**
MNSI	**Mandailing Nat**	**3.87**	**339**	P	**Pn**	**21 19 08.6**	**+0.5**
KLI	**Kotabumi**	**4.35**	**118**	P	**Pn**	**21 19 17.0**	**+2.4**
BLSI	**Bandar Lampung**	**4.93**	**121**	P	**Pn**	**21 19 24.1**	**+1.5**
4.3nm722nm,0.7s							
PPBI	**Pangkal Pinang**	**5.18**	**83**	P	**Pn**	**21 19 28.2**	**+2.2**
1.8nm6μm157nm,0.8s							
MYKOM	**Kota Tinggi**	**5.41**	**32**	P	**Pn**	**21 19 30.2**	**+1.0**
3.8nm408nm,0.8s							
PSI	**Prapat**	**5.97**	**340**	P	**Pn**	**21 19 36.1**	**-0.8**
1.0nm4μm200nm,0.9s							
CGJI	**Cibinong**	**6.00**	**129**	P	**Pn**	**21 19 36.2**	**-1.1**
468nm,0.7s							
TSI	**Tuntungan**	**6.74**	**339**	P	**Pn**	**21 19 49.4**	**+1.9**
2.7nm4μm331nm,0.8s							
DBJI	**Dramaga**	**6.82**	**123**	P	**Pn**	**21 19 49.6**	**+1.0**
6μm433nm,1.0s							
TPTI		**7.15**	**328**	P	**Pn**	**21 19 53.6**	**+0.4**
1.3nm131nm,0.6s							
IPM	**Ipoh**	**7.26**	**0**	*e*Pn	**Pn**	**21 19 57.2**	**+2.6**
IPM				*e*Sn	**Sn**	**21 21 20.3**	**+4.5**
IPM	**Ipoh**	**7.26**	**0**	P	**Pn**	**21 19 57.7**	**+3.0**
0.8nm3μm203nm,0.8s							
LEM	**Lembang**	**7.70**	**121**	P	**Pn**	**21 20 01.9**	**+1.3**
2.5nm5μm332nm,1.3s							
KULM	**Kulim**	**8.08**	**358**	P	**Pn**	**21 20 08.1**	**+2.3**
KULM	**Kulim**	**8.08**	**358**	*e*Pn	**Pn**	**21 20 07.8**	**+2.0**
KULM				*e*Sn	**Sn**	**21 21 36.6**	**+0.9**
KULM	**Kulim**	**8.08**	**358**	P	**Pn**	**21 20 07.7**	**+1.9**
3μm216nm,1.7s							
CISI	**Cisompet, Garu**	**8.25**	**125**	P	**Pn**	**21 20 06.8**	**-1.4**
6μm392nm,0.6s							
XMIS	**Christmas Isla**	**8.89**	**149**	*e*Pn	**Pn**	**21 20 10.0**	**-7.0**
XMIS				*e*Sn	**Sn**	**21 21 40.4**	**-15**
XMIS	**Christmas Isla**	**8.89**	**149**	P	**Pn**	**21 20 10.0**	**-7.0**
8μm403nm,0.8s							
BJII	**Banjamegara**	**9.76**	**118**	P	**Pn**	**21 20 30.0**	**+1.1**
17nm,1.4s							
BSI	**Banda Aceh**	**10.04**	**325**	P	**Pn**	**21 20 32.4**	**-0.3**
943nm71nm,1.0s							
COCO	**West Island**	**10.17**	**204**	*e*Pn	**Pn**	**21 20 30.9**	**-3.5**
319nm,0.3s							
COCO				*e*Sn	**Sn**	**21 22 19.6**	**-7.6**
COCO	**West Island**	**10.17**	**204**	*e*P	**Pn**	**21 20 30.9**	**-3.6**
COCO				pmax	pmax		
comp=Z,319nm,0.3s							
COCO	**West Island**	**10.17**	**204**	P	**Pn**	**21 20 31.1**	**-3.4**
comp=Z,552nm,1.0s							
COCO	**West Island**	**10.17**	**204**	Pn	**Pn**	**21 20 31.7**	**-2.8**
comp=Z,4μm,0.4s,SNR=48							
COCO	**West Island**	**10.17**	**204**	P	**Pn**	**21 20 31.9**	**-2.6**
SNR=6.6							
KSM	**Kuching**	**10.24**	**65**	P	**Pn**	**21 20 38.5**	**+3.0**
KSM	**Kuching**	**10.24**	**65**	*e*Pn	**Pn**	**21 20 35.7**	**+0.2**
KSM				Sn	**Sn**	**21 22 27.1**	**-1.9**
KSM	**Kuching**	**10.24**	**65**	P	**Pn**	**21 20 40.3**	**+4.8**
comp=Z,82nm,1.1s							
PBKI	**Pangkalan Bun**	**10.66**	**90**	P	**Pn**	**21 20 44.5**	**+3.3**
comp=Z,2μmcomp=Z,196nm,1.4s							
UGM	**Wanagama**	**10.74**	**118**	*e*Pn	**Pn**	**21 20 40.5**	**-1.8**
STKI	**Sintang**	**10.87**	**75**	P	**Pn**	**21 20 48.1**	**+4.1**
comp=Z,8μmcomp=Z,98nm,1.3s							
PCJI	**Pacitan**	**11.45**	**118**	P	**Pn**	**21 20 51.2**	**-0.7**
comp=Z,2μmcomp=Z,163nm,0.8s							
SJI	**Sawahan**	**11.78**	**115**	P	**Pn**	**21 20 56.3**	**-0.1**
comp=Z,3μmcomp=Z,171nm,1.1s							
PWJI	**Pagerwojo**	**11.93**	**116**	P	**Pn**	**21 20 58.0**	**-0.5**
comp=Z,2μmcomp=Z,122nm,1.1s							
SBUM	**Sibu**	**12.39**	**65**	P	**Pn**	**21 21 09.0**	**+4.2**
SBUM	**Sibu**	**12.39**	**65**	P	**Pn**	**21 21 08.9**	**+4.1**
comp=Z,2μmcomp=Z,139nm,1.4s							
KRKI	**Karangkates**	**12.57**	**115**	P	**Pn**	**21 21 08.6**	**+1.4**
comp=Z,214nm,0.5s							
GMJI	**Gumukmas**	**13.51**	**114**	P	**Pn**	**21 21 20.2**	**+0.1**
comp=Z,1μmcomp=Z,74nm,1.3s							
KMMI	**Kalianget**	**13.58**	**108**	P	**Pn**	**21 21 23.3**	**+2.2**
comp=Z,157nm,1.3s							
BBKI	**Banjar Baru**	**13.84**	**93**	P	**Pn**	**21 21 28.8**	**+4.2**
comp=Z,4μmcomp=Z,300nm,1.2s							
JAGI	**Jajag, Banyuwa**	**14.23**	**114**	P	**Pn**	**21 21 27.0**	**-2.9**
comp=Z,3μmcomp=Z,151nm,0.7s							
KBKI	**Kotabaru**	**15.16**	**92**	P	**Pn**	**21 21 44.3**	**+2.4**
comp=Z,1μmcomp=Z,89nm,1.5s							
KHKI	**Kahang-Kahang**	**15.54**	**111**	P	**Pn**	**21 21 45.4**	**-1.5**
comp=Z,1μmcomp=Z,92nm,1.0s							
MTNI	**Mataram**	**16.16**	**112**	P	**Pn**	**21 21 57.2**	**+2.5**
comp=Z,4μmcomp=Z,74nm,1.6s							
SMKI	**Samarinda**	**16.38**	**82**	P	**Pn**	**21 22 02.2**	**+4.7**
comp=Z,6μmcomp=Z,187nm,1.7s							
KKM	**Kota Kinabalu**	**17.57**	**60**	P	**Pn**	**21 22 13.3**	**+0.9**
KKM	**Kota Kinabalu**	**17.57**	**60**	*e*Pn	**Pn**	**21 22 12.3**	**-0.1**
KKM	**Kota Kinabalu**	**17.57**	**60**	P	**Pn**	**21 22 16.7**	**+4.3**
comp=Z,2μmcomp=Z,116nm,1.6s							
MJSI	**Majene**	**17.97**	**93**	P	**Pn**	**21 22 18.1**	**+0.8**
comp=Z,3μmcomp=Z,273nm,0.9s							
SDKM	**Sandakan**	**18.24**	**63**	P	**Pn**	**21 22 21.7**	**+1.2**
TSM	**Tawau**	**18.29**	**67**	P	**Pn**	**21 22 22.0**	**+0.8**
UBT	**Ubonrachathani**	**18.40**	**12**	⇓P	**Pn**	**21 22 21.5**	**-0.9**
KDM	**Kudat**	**18.54**	**58**	P	**Pn**	**21 22 25.5**	**+1.3**
SPSI	**Sidrap Palu**	**18.77**	**94**	P	**Pn**	**21 22 26.3**	**-0.7**
comp=Z,1μmcomp=Z,103nm,0.9s							
MYLDM	**Lahad Datu**	**19.21**	**66**	P	**Pn**	**21 22 32.5**	**+0.3**
MYLDM	**Lahad Datu**	**19.21**	**66**	P	**Pn**	**21 22 33.6**	**+1.3**
comp=Z,4μmcomp=Z,197nm,1.6s							
BKSI	**Bulukumba**	**19.24**	**98**	P	**Pn**	**21 22 31.9**	**-0.6**
comp=Z,3μmcomp=Z,230nm,1.7s							
MSSI	**Masamba**	**19.31**	**90**	P	**Pn**	**21 22 33.5**	**+0.1**
comp=Z,3μmcomp=Z,338nm,1.1s							
BDT	**Bhumibol Dam**	**20.05**	**354**	P	**P**	**21 22 36.0**	**-3.9**
comp=Z,20nm,0.9s							
WSI	**Waingapu**	**20.34**	**110**	P	**P**	**21 22 44.6**	**+1.4**
comp=Z,6μmcomp=Z,530nm,0.8s							
MRSI	**Marisa**	**21.19**	**81**	P	**P**	**21 22 52.7**	**+0.3**
comp=Z,165nm,1.3s,mb5.2							
CM31	**Chiang Mai Arr**	**21.25**	**355**	*e*P	**P**	**21 22 49.6**	**-3.3**
comp=Z,22nm,0.7s,mb4.6							
CM31				*e*S	**S**	**21 26 49.5**	**+3.3**
CMAR	**Chiang Mai Arr**	**21.25**	**355**	P	**P**	**21 22 50.4**	**-2.5**
comp=Z,22nm,0.7s,mb4.6,baz=184,slow=9.9,SNR=112							
CMAR				PcP	PcP	21 26 57.2	+0.8
comp=Z,2.3nm,0.6s,baz=210,slow=3.0,SNR=7.7							
CMAR				ScP	ScP	21 30 29.1	0.0
comp=Z,1.5nm,0.7s,baz=197,slow=4.5,SNR=7.8							
CMAR	**Chiang Mai Arr**	**21.25**	**355**	P	**P**	**21 22 50.4**	**-2.5**
CMAR				PcP	PcP	21 26 57.2	+0.8
CMAR				ScP	ScP	21 30 29.1	0.0
CMAR	**Chiang Mai Arr**	**21.25**	**355**	P	**P**	**21 22 50.4**	**-2.5**
CMAR						21 26 57.2	
CHG	**Chiang Mai**	**21.60**	**355**	⇑P	**P**	**21 22 53.6**	**-3.1**
comp=Z,24nm,0.9s,mb4.6							
CHTO	**Chiang Mai**	**21.60**	**355**	*e*P	**P**	**21 22 53.5**	**-3.2**
comp=Z,18nm,0.7s,mb4.6							
CHTO				*e*PcP	PcP	21 26 57.1	0.0
CHTO	**Chiang Mai**	**21.60**	**355**	*e*P	**P**	**21 22 53.5**	**-3.2**
CHTO				*e*		21 26 57.1	
CHTO				pmax	pmax		
comp=Z,18nm,0.7s,mb4.6							
CHTO	**Chiang Mai**	**21.60**	**355**	P	**P**	**21 22 53.9**	**-2.8**
comp=Z,30nm,1.1s,mb4.7							
CHTO	**Chiang Mai**	**21.60**	**355**	P	**P**	**21 22 58.2**	**+1.5**
SNR=5.8							
KDI	**Kendari**	**21.61**	**94**	P	**P**	**21 22 57.8**	**+0.9**
comp=Z,1μmcomp=Z,117nm,1.2s,mb5.2							
LUWI	**Luwuk**	**21.83**	**86**	P	**P**	**21 23 01.0**	**+1.7**
comp=Z,3μmcomp=Z,242nm,1.2s,mb5.5							
GTOI	**Gorontalo**	**22.27**	**81**	P	**P**	**21 23 05.4**	**+1.4**
comp=Z,3μmcomp=Z,290nm,1.1s,mb5.6							
CHRT	**Chiangrai**	**22.59**	**357**	P	**P**	**21 23 04.0**	**-3.2**
comp=Z,395nm,0.9s,mb5.8							
KMSI	**Cibinong**	**23.22**	**82**	P	**P**	**21 23 17.1**	**+3.1**
comp=Z,328nm,0.9s,mb5.8							
QIZ	**Qiongzhong**	**23.40**	**21**	P	**P**	**21 23 18.8**	**+3.3**
QIZ				S	**S**	**21 27 31.3**	**+6.6**
QIZ				pmax	pmax		
comp=Z,300nm,8.0s							
QIZ				LR	LR		
comp=N,1μm,20.9s							
QIZ				LR	LR		
comp=Z,2μm,21.1s,MS4.5							
MNI	**Manado**	**24.21**	**80**	P	**P**	**21 23 27.5**	**+4.5**
comp=Z,4μmcomp=Z,532nm,0.9s,mb6.0							
CTBH	**Cotabato--PC H**	**25.26**	**67**	⇑P	**P**	**21 23 33.7**	**+1.1**
SGSI	**Sangihe**	**25.36**	**75**	P	**P**	**21 23 36.8**	**+3.3**
comp=Z,473nm,1.1s,mb5.9							
MBWA	**Marble Bar**	**25.78**	**136**	*e*P	**P**	**21 23 37.1**	**0.0**
comp=Z,174nm,1.3s,mb5.4							
MBWA				*e*		21 23 55.8	
MBWA	**Marble Bar**	**25.78**	**136**	P	**P**	**21 23 37.6**	**+0.5**
comp=Z,1μmcomp=Z,122nm,1.3s,mb5.3							
MBWA	**Marble Bar**	**25.78**	**136**	P	pP	21 23 56.5	+5.9
SNR=6.2							
TGY	**Tagaytay City**	**25.96**	**49**	P	**P**	**21 23 38.8**	**-0.1**
comp=Z,442nm,0.4s,mb6.3,baz=232,slow=2.5,SNR=8.8							
TGY	**Tagaytay City**	**25.96**	**49**	P	**P**	**21 23 38.8**	**-0.1**
TGY	**Tagaytay City**	**25.96**	**49**	P	**P**	**21 23 38.8**	**0.0**
DAV	**Davao City (W)**	**26.43**	**68**	LR	LR	21 34 23.2	
comp=Z,2μm,21.0s,MS4.6,baz=164,slow=37							
DAV	**Davao City (W)**	**26.43**	**68**	P	**P**	**21 23 40.5**	**-2.7**
TRD	**Trivandrum**	**26.48**	**295**	⇑*e*x	x	21 24 04.7	
TRD				*e*x	x	21 28 20.7	
LBMI	**Labuha**	**26.58**	**86**	P	**P**	**21 23 44.4**	**-0.1**
comp=Z,2μmcomp=Z,178nm,1.1s,mb5.5							
KMI	**Kunming**	**27.84**	**3**	P	**P**	**21 23 55.5**	**-0.1**
KMI				pP	pP	21 24 10.0	+0.9
KMI				sP	sP	21 24 16.0	+0.6
KMI				PP	PP	21 24 49.8	-10
KMI				S	**S**	**21 28 38.7**	**+3.5**
KMI				SS		21 30 04.1	
KMI				SSS		21 30 28.4	
KMI				LR	LR		
comp=Z,2μm,17.4s,MS4.8							
KMI	**Kunming**	**27.84**	**3**	P	**P**	**21 23 55.5**	**-0.1**
KMI				*PP	pP	21 24 10.0	+0.9
KMI						21 24 49.8	
KMI				S	**S**	**21 28 38.7**	**+3.5**
KMI				SS		21 30 04.1	
KMI				pmax	pmax		
comp=Z,20nm,0.7s,mb4.9							
KMI				MLR	MLR		
comp=Z,2μm,17.4s,MS4.8							
FITZ	**Fitzroy Crossi**	**28.52**	**124**	P	**P**	**21 24 01.1**	**-0.7**
comp=Z,23nm,0.8s,mb4.9,baz=296,slow=6.7,SNR=26							
FITZ	**Fitzroy Crossi**	**28.52**	**124**	*e*P	**P**	**21 24 00.8**	**-1.0**
comp=Z,95nm,1.4s,mb5.3							
FITZ	**Fitzroy Crossi**	**28.52**	**124**	P	**P**	**21 24 01.1**	**-0.7**
GYA	**Guiyang**	**29.63**	**10**	⇑*i*P	**P**	**21 24 10.5**	**-1.0**
GYA				PP	PP	21 25 16.0	-3.3
GYA				S	**S**	**21 29 09.0**	**+5.7**
GYA				sS	sS	21 29 33.3	+7.0
GYA				ScP	ScP	21 30 50.8	-2.1
GYA				SS	SS	21 30 51.5	-20
GYA				ScS	ScS	21 34 45.0	-2.8
GYA				pmax	pmax		
comp=Z,20nm,0.9s,mb4.8							
GYA				pmax	pmax		
comp=Z,150nm,4.9s							
GYA				LR	LR		
comp=N,940nm,15.8s,MS4.6							
GYA				LR	LR		
comp=E,790nm,16.3s,MS4.6							
GYA				LR	LR		
comp=Z,850nm,15.9s,MS4.5							
HYB	**Hyderabad**	**29.92**	**313**	*i* P	**P**	**21 24 13.5**	**-0.7**
YULB	**Yu-li**	**32.72**	**36**	*e*P	**P**	**21 24 39.0**	**+0.1**
comp=Z,66nm,1.4s,mb5.4							
KAD	**Karad**	**33.17**	**308**	*e*PKP	**P**	**21 24 41.3**	**-1.5**
KAD				AMb	AMB	21 24 46.9	
comp=Z,32nm,1.3s,mb5.1							
NWAO	**Narrogin (SRO)**	**33.59**	**155**	P	**P**	**21 24 46.5**	**+0.2**
comp=Z,7.7nm,0.8s,mb4.7,baz=339,slow=11,SNR=3.1							
NWAO				LR	LR	21 36 42.7	
comp=Z,1μm,21.9s,MS4.6,baz=332,slow=33							
NWAO	**Narrogin (SRO)**	**33.59**	**155**	P	**P**	**21 24 46.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**33.59**	**155**	P	**P**	**21 24 46.5**	**+0.3**
ALBI	**Allahabad**	**33.60**	**327**	*e*PKP	**P**	**21 24 46.0**	**-0.4**
CD2	**Chengdu**	**33.66**	**4**	⇑*i*P	**P**	**21 24 50.9**	**+4.1**
CD2				S	**S**	**21 30 13.6**	**+7.5**
CD2				sS	sS	21

XAN LR LR
comp=E,220nm,13.3s,MS4.7
XAN LR LR
comp=Z,480nm,20.0s
FORT Forrest 37.77 140 *e*P **P 21 25 22.9 +0.8**
comp=Z,25nm,0.6s,mb5.1
FORT Forrest 37.77 140 *e*P **P 21 25 22.6 +0.5**
FORT *e*PcP PcP 21 27 37.0 -1.2
ASAR Alice Springs 37.96 126 P **P 21 25 23.0 -0.9**
comp=Z,34nm,1.0s,mb5.0,baz=301,slow=7.9,SNR=157
ASAR PcP PcP 21 27 39.1 +0.2
comp=Z,8.1nm,0.8s,baz=320,slow=3.5,SNR=5.9
ASAR S **S 21 31 08.0 -4.3**
comp=Z,15nm,1.1s,baz=298,slow=13,SNR=19
ASAR Alice Springs 37.96 126 P **P 21 25 23.0 -0.9**
ASAR PcP PcP 21 27 39.1 +0.2
ASAR S **S 21 31 08.0 -4.3**
ASAR Alice Springs 37.96 126 P **P 21 25 23.0 -0.9**
ASAR 21 27 39.2
ASAR S **S 21 31 08.0 -4.3**
AS31 Alice Springs 37.96 126 *e*P **P 21 25 22.8 -1.1**
AS31 *e*S **S 21 31 08.1 -4.2**
ASOR Ausora 38.52 326 *e*PKP **P 21 25 28.8 +0.3**
ASOR AMb AMB 21 25 31.3
comp=Z,293nm,0.1s
NJ2 Nanjing 38.61 25 *e*P **P 21 25 29.0 -0.2**
NJ2 pP pP 21 25 43.1 +0.1
NJ2 PP PP 21 27 03.0 +4.5
NJ2 S **S 21 31 25.0 +3.1**
NJ2 sS sS 21 31 49.8 +4.6
NJ2 pmax pmax
comp=Z,20nm,1.0s,mb4.8
NJ2 pmax pmax
comp=Z,210nm,6.9s
NJ2 LR LR
comp=N,1μm,25.4s,MS4.7
NJ2 LR LR
comp=E,530nm,21.8s,MS4.7
NJ2 LR LR
comp=Z,5μm,23.0s,MS5.3
AYAN Aya Nagar 38.67 325 *e*PKP **P 21 25 29.9 +0.2**
AYAN AMb AMB 21 25 33.6
comp=Z,62nm,1.0s,mb5.3
NDI New Delhi 38.77 326 *e*PKP **P 21 25 29.5 -1.1**
LZH Lanzhou 38.81 4 ⇓P **P 21 25 30.1 -0.7**
LZH pP pP 21 25 46.6 +2.0
LZH *e*S **S 21 31 30.3 +5.6**
LZH sS sS 21 31 55.4 +7.4
LZH ScS ScS 21 35 34.1 -1.9
LZH pmax pmax
comp=Z,41nm,1.1s,mb5.1
LZH pmax pmax
comp=Z,180nm,4.1s
LZH LR LR
comp=N,1μm,16.3s,MS5.1
LZH LR LR
comp=E,2μm,16.4s,MS5.1
LZH LR LR
comp=Z,3μm,17.6s,MS5.1
LZH Lanzhou 38.81 4 ⇓P **P 21 25 30.1 -0.7**
comp=Z,41nm,1.1s,mb5.1
LZH pP pP 21 25 46.6 +2.0
LZH sP sP 21 25 52.6 +1.8
LZH ScP ScP 21 31 24.7 -0.5
LZH *e*S **S 21 31 30.2 +5.5**
LZH sS sS 21 31 55.4 +7.4
LZH ScS ScS 21 35 34.1 -1.9
LZH LR LR
comp=Z,3μm,17.6s,MS5.1
LZH Lanzhou 38.81 4 ⇓P **P 21 25 30.1 -0.7**
LZH *PP pP 21 25 46.6 +2.0
LZH *e*S **S 21 31 30.2 +5.5**
LZH 21 35 34.1
LZH pmax pmax
comp=Z,41nm,1.1s,mb5.1
LZH MLR MLR
comp=Z,3μm,17.6s,MS5.1
SSE Sheshan 38.84 28 *e*P **P 21 25 27.9 -3.2**
SSE pP pP 21 25 40.8 -4.1
SSE sP sP 21 25 48.1 -3.1
SSE PcP PcP 21 27 38.4 -3.1
SSE S **S 21 31 23.0 -2.3**
SSE pmax pmax
comp=Z,23nm,0.7s,mb5.0
SSE pmax pmax
comp=Z,210nm,5.0s
SSE LR LR
comp=N,890nm,19.2s,MS4.6
SSE LR LR
comp=E,220nm,19.1s,MS4.6
SSE LR LR
comp=Z,890nm,20.8s,MS4.6
SSE Sheshan 38.84 28 *e*P **P 21 25 27.9 -3.2**
comp=Z,23nm,0.7s,mb5.0
SSE pP pP 21 25 40.7 -4.2
SSE sP sP 21 25 48.1 -3.1
SSE PcP PcP 21 27 38.4 -3.1
SSE S **S 21 31 23.0 -2.3**
SSE sS sS 21 31 45.2 -3.4
SSE LR LR
comp=Z,890nm,20.8s,MS4.6
KHET Khetri 39.13 323 *e*PKP **P 21 25 33.9 +0.2**
KHET AMb AMB 21 25 36.8
comp=Z,35nm,1.4s,mb4.9
RTK Rohtak 39.49 325 *e*PKP **P 21 25 36.6 0.0**
RTK AMb AMB 21 25 38.5
comp=Z,107nm,0.7s,mb5.7
JOW Kunigami 39.54 40 P **P 21 25 36.2 -0.9**
comp=Z,18nm,0.4s,mb5.2,baz=251,slow=9.2,SNR=17
JOW LR LR 21 40 10.1
comp=Z,592nm,19.8s,MS4.4,baz=211,slow=34
JOW Kunigami 39.54 40 P **P 21 25 36.2 -0.9**
DDI Dehra Dun 39.59 328 *e*PKP **P 21 25 38.0 +0.6**
DDI *ex* x 21 25 57.2
KKR Kurukshetra 39.97 326 *e*PKP **P 21 25 40.9 +0.3**
KKR AMb AMB 21 25 42.8
comp=Z,337nm,1.0s,mb6.0
SMLA Simla 40.69 328 *i* P **P 21 25 45.9 -0.6**
SMLA *i* x x 21 31 37.2
SDNR Sundarnagar 41.09 328 *e*PKP **P 21 25 50.0 +0.3**
BHK Bhakra 41.32 327 *e*PKP **P 21 25 51.0 -0.6**
GTA Gaotai 42.05 359 P **P 21 25 56.8 -0.7**
GTA S **S 21 32 13.3 +0.4**
GTA sS sS 21 32 42.8 +6.4
GTA ScS ScS 21 35 52.1 -3.2
GTA pmax pmax
comp=Z,12nm,1.0s,mb4.5
GTA pmax pmax
comp=Z,210nm,7.1s
GTA LR LR
comp=N,1μm,19.5s,MS4.8
GTA LR LR
comp=E,630nm,18.5s,MS4.8
GTA LR LR
comp=Z,1μm,20.9s,MS4.8
BBOO Buckleboo 44.36 136 *e*P **P 21 26 16.7 +0.4**
comp=Z,701nm,1.0s,mb6.3
BBOO *e*PcP PcP 21 27 59.5 -0.2
HHC Hu-ho-hao-te 44.53 11 *e*P **P 21 26 16.6 -0.9**
HHC pP pP 21 26 31.6 0.0
HHC PP PP 21 28 03.4 +1.1
HHC PcS PcS 21 31 50.1 -3.2
HHC S **S 21 32 50.0 +0.8**
HHC sS sS 21 33 17.3 +4.4
HHC pmax pmax
comp=Z,28nm,1.0s,mb5.0
HHC pmax pmax
comp=Z,250nm,4.8s
HHC LR LR
comp=N,1μm,13.5s,MS5.0
HHC LR LR
comp=E,830nm,14.0s,MS5.0
HHC LR LR
comp=Z,1μm,14.5s,MS4.9
BJI Beijing 44.88 17 P **P 21 26 19.8 -0.5**
BJI pP pP 21 26 33.3 -1.1
BJI PP PP 21 28 11.1 +5.1
BJI pmax pmax
comp=Z,46nm,1.4s,mb5.1
BJI pmax pmax
comp=Z,200nm,9.0s
BJI LR LR
comp=N,2μm,18.6s,MS5.0
BJI LR LR
comp=E,490nm,18.6s,MS5.0
BJI LR LR
comp=Z,1μm,21.3s,MS4.8
JNU Nakatsue 45.57 36 *e*P **P 21 26 25.9 +0.1**
comp=Z,75nm,1.5s,mb5.4
PMG Port Moresby 46.32 100 P **P 21 26 30.9 -1.3**
comp=Z,16nm,0.8s,mb5.0,baz=281,slow=4.1,SNR=4.8
PMG Port Moresby 46.32 100 *e*P **P 21 26 30.0 -2.2**
comp=Z,15nm,0.8s,mb5.0
PMG Port Moresby 46.32 100 *ce*P **P 21 26 29.8 -2.4**
PMG pmax pmax
comp=Z,17nm,1.0s
PMG Port Moresby 46.32 100 P **P 21 26 32.2 0.0**
comp=Z,20nm,0.9s,mb5.1
GUMO Guam 46.48 68 P **P 21 26 29.9 -3.4**
comp=Z,44nm,0.3s,mb5.8,baz=212,slow=6.8,SNR=8.0
GUMO LR LR 21 45 25.6
comp=Z,254nm,20.3s,MS4.2,baz=223,slow=35
GUMO Guam 46.48 68 P **P 21 26 29.9 -3.4**
GUMO Guam 46.48 68 P **P 21 26 29.9 -3.4**
KSAR Wonju Array Be 47.21 29 P **P 21 26 38.2 -0.4**
KSAR Wonju Array Be 47.21 29 P **P 21 26 38.3 -0.4**
KSRS Korea Array 47.24 29 P **P 21 26 38.2 -0.6**
comp=Z,8.8nm,0.8s,mb4.7,baz=226,slow=8.0,SNR=29
KSRS LR LR 21 48 40.0
comp=Z,435nm,18.0s,MS4.5,baz=236,slow=39
CTA Charters Tower 47.34 115 P **P 21 26 39.4 -0.7**
comp=Z,48nm,0.9s,mb5.4,baz=291,slow=9.2,SNR=26
CTA Charters Tower 47.34 115 *e*P **P 21 26 39.3 -0.7**
comp=Z,26nm,0.8s,mb5.2
CTA Charters Tower 47.34 115 P **P 21 26 39.4 -0.7**
CTA Charters Tower 47.34 115 P **P 21 26 39.4 -0.6**
CTAO Charters Tower 47.34 115 *e*P **P 21 26 39.4 -0.6**
comp=Z,54nm,0.9s,mb5.5
CTAO Charters Tower 47.34 115 *e*P **P 21 26 39.4 -0.6**
CTAO pmax pmax
comp=Z,54nm,0.9s,mb5.5
CTAO Charters Tower 47.34 115 P **P 21 26 39.0 -1.0**
comp=Z,69nm,1.2s,mb5.5
KBL Kabul 47.79 324 *e*P **P 21 26 43.2 0.0**
comp=Z,17nm,0.8s,mb5.1
KBL Kabul 47.79 324 *e*P **P 21 26 43.2 0.0**
KBL pmax pmax
comp=Z,17nm,0.8s,mb5.1
STKA Stephens Creek 47.86 132 P **P 21 26 44.0 +0.2**
comp=Z,34nm,0.8s,mb5.4,baz=307,slow=7.2,SNR=70
STKA S **S 21 33 35.6 -1.6**
comp=Z,5.3nm,0.9s,baz=27,slow=18,SNR=5.9
STKA Stephens Creek 47.86 132 *e*P **P 21 26 43.5 -0.3**
comp=Z,44nm,0.8s,mb5.5
STKA Stephens Creek 47.86 132 *e*P **P 21 26 43.6 -0.3**
comp=Z,41nm,1.5s,mb5.2
STKA S **S 21 33 35.6 -1.6**
STKA Stephens Creek 47.86 132 *e*P **P 21 26 43.6 -0.2**
STKA S **S 21 33 35.6 -1.7**
STKA pmax pmax
comp=Z,41nm,1.5s
WMQ Urumqi 47.96 347 P **P 21 26 44.8 +0.5**
WMQ PP PP 21 28 37.5 +0.6
WMQ S **S 21 33 39.1 +0.9**
WMQ sS sS 21 34 05.9 +3.8
WMQ pmax pmax
comp=Z,340nm,5.0s
WMQ LR LR
comp=N,510nm,30.0s
WMQ LR LR
comp=E,410nm,24.0s
WMQ LR LR
comp=Z,490nm,29.0s,MS4.3
KSH Kashi 48.01 334 ⇑ *i*P **P 21 26 43.6 -1.3**
KSH PcP PcP 21 28 10.3 -1.9
KSH PP PP 21 28 36.1 -1.3
KSH ScP ScP 21 31 58.3 -4.1
KSH PcS PcS 21 32 05.0 -2.9
KSH S **S 21 33 36.3 -2.9**
KSH sS sS 21 34 03.1 +0.1
KSH ScS ScS 21 36 27.8 -5.7
KSH SS SS 21 37 02.3 -6.6
KSH pmax pmax
comp=Z,42nm,0.8s,mb5.5
KSH pmax pmax
comp=Z,300nm,3.9s
KSH LR LR
comp=N,180nm,5.1s
KSH LR LR
comp=E,190nm,5.7s
KSH LR LR
comp=Z,440nm,21.9s,MS4.4
CBIJ Chichi jima 49.62 50 LR LR 21 45 36.7
comp=Z,359nm,19.9s,MS4.4,baz=277,slow=33
KZA Kyzart 50.43 335 P **P 21 27 04.2 +0.9**
SNR=27
KZA P 21 27 04.2
SNR=27
SONM Songino Array 50.68 5 P **P 21 27 05.2 +0.1**
comp=Z,49nm,0.6s,mb5.6,baz=186,slow=8.9,SNR=58
SONM PcP PcP 21 28 21.4 -0.3
comp=Z,7.4nm,0.5s,baz=191,slow=4.0,SNR=8.5
SONM LR LR 21 51 19.5
comp=Z,706nm,18.1s,MS4.7,baz=356,slow=39
SONM Songino Array 50.68 5 P **P 21 27 05.2 +0.1**
SONM PcP PcP 21 28 21.4 -0.3
SONM Songino Array 50.68 5 P **P 21 27 05.2 +0.2**
SONM 21 28 21.4
ULN Ulaanbaatar 50.77 5 *e*P **P 21 27 04.7 -1.0**
comp=Z,41nm,0.8s,mb5.4
ULN Ulaanbaatar 50.77 5 *e*P **P 21 27 04.7 -1.0**
ULN pmax pmax
comp=Z,41nm,0.8s,mb5.4
ULN Ulaanbaatar 50.77 5 P **P 21 27 05.8 +0.1**
comp=Z,736nmcomp=Z,56nm,0.9s,mb5.5
ULN Ulaanbaatar 50.77 5 P **P 21 27 06.0 +0.3**
SNR=14
TKM2 Tokmak 2 50.99 336 P **P 21 27 08.1 +0.6**
SNR=48
TKM2 P 21 27 08.1
SNR=48
TKM2 Tokmak 2 50.99 336 *e*P **P 21 27 07.6 +0.1**
comp=Z,49nm,0.8s,mb5.5
TKM2 Tokmak 2 50.99 336 *i* P **P 21 27 08.0 +0.5**
KBK Karagaybulak 51.04 335 P **P 21 27 08.7 +0.9**
SNR=39
KBK P 21 27 08.7
SNR=39
AML Almayashu 51.14 334 P **P 21 27 09.8 +1.2**
SNR=7.5
AML P 21 27 09.8
SNR=7.5
AAK Ala-Archa 51.21 335 P **P 21 27 09.9 +0.7**
SNR=18
AAK P 21 27 09.9
SNR=18
AAK Ala-Archa 51.21 335 *e*P **P 21 27 09.8 +0.6**
comp=Z,1μm,2.3s,mb6.4
AAK Ala-Archa 51.21 335 *c i*P **P 21 27 09.8 +0.7**
AAK pmax pmax
comp=Z,151nm,2.5s,mb5.5
AAK Ala-Archa 51.21 335 P **P 21 27 09.5 +0.4**
comp=Z,4μmcomp=Z,148nm,2.2s,mb5.5
AAK Ala-Archa 51.21 335 P **P 21 27 10.2 +1.1**
SNR=18
FRU Bishkek 51.32 335 ⇑ *i*P **P 21 27 09.0 -1.0**
FRU *i* pP 21 27 22.0 -2.3
FRU *i* S **S 21 34 27.0 +1.7**
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
CN2 Changchun 51.36 23 *e*P **P 21 27 08.5 -1.7**
CN2 *ep*P pP 21 27 24.1 -0.4
CN2 pmax pmax
comp=Z,30nm,0.6s,mb5.4
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,1μm,17.0s,MS5.0
CN2 LR LR
comp=E,700nm,17.0s,MS5.0
CN2 LR LR
comp=Z,800nm,20.0s,MS4.7
CHMS Chumysh 51.40 335 P **P 21 27 10.4 -0.1**
SNR=21
CHMS P 21 27 10.4
SNR=21
EKS2 Erkin-Say 51.54 334 P **P 21 27 12.5 +0.9**
SNR=128
EKS2 P 21 27 12.5
SNR=128
EKS2 Erkin-Say 51.54 334 *e*P **P 21 27 12.4 +0.9**
comp=Z,104nm,0.8s,mb5.8
EKS2 Erkin-Say 51.54 334 *e*P **P 21 27 12.4 +0.8**
EKS2 pmax pmax
comp=Z,104nm,0.8s,mb5.8
USP Ospenovka 51.73 335 P **P 21 27 13.0 +0.1**
SNR=54
USP P 21 27 13.0
SNR=54
MKAR Makanchi Array 52.10 344 P **P 21 27 15.4 -0.3**
comp=Z,63nm,0.7s,mb5.7,baz=148,slow=8.0,SNR=180
MKAR S **S 21 34 36.7 +0.9**
comp=Z,0.6nm,0.8s,baz=163,slow=16,SNR=3.9
MKAR LR LR 21 54 11.5
comp=Z,382nm,21.6s,MS4.4,baz=154,slow=42
MKAR Makanchi Array 52.10 344 P **P 21 27 15.4 -0.3**
MKAR S **S 21 34 36.7 +0.9**
MKAR Makanchi Array 52.10 344 P **P 21 27 15.4 -0.3**
MKAR S **S 21 34 36.7 +0.9**
MAJO Matsushiro 52.30 38 *e*P **P 21 27 16.4 -1.1**
comp=Z,88nm,1.8s,mb5.4
MAJO Matsushiro 52.30 38 *e*P **P 21 27 16.4 -1.0**
MAJO pmax pmax
comp=Z,88nm,1.8s,mb5.4
MAT Matsushiro 52.30 38 P **P 21 27 16.0 -1.4**
MAT *e*S **S 21 34 26.0 -13**
MJAR Matsushiro Arr 52.30 38 P **P 21 27 16.2 -1.2**
comp=Z,6.9nm,0.7s,mb4.7,baz=214,slow=7.8,SNR=21
MJAR ScP ScP 21 32 21.0 0.0
comp=Z,1.4nm,0.8s,baz=228,slow=6.0,SNR=4.2
MJAR LR LR 21 49 25.2
comp=Z,227nm,21.4s,MS4.2,baz=235,slow=36
MJAR Matsushiro Arr 52.30 38 P **P 21 27 16.2 -1.2**
MJAR ScP ScP 21 32 21.0 0.0
MJAR Matsushiro Arr 52.30 38 P **P 21 27 16.3 -1.1**
ZAK Zakamensk 53.04 2 ⇑ *i*P **P 21 27 22.2 -0.4**
ZAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
KKAR Karatay Array 53.35 332 *e*P **P 21 27 24.6 -0.3**
KKAR Karatay Array 53.35 332 *e*P **P 21 27 24.6 -0.4**
VLA Vladivostok 53.55 28 ⇓ *e*P **P 21 27 24.7 -1.8**
VLA *e* 21 28 30.1
VLA *e*S **S 21 34 53.7 -2.1**
VLA pmax pmax
comp=Z,66nm,1.6s,mb5.3
MDJ Mudanjiang 53.70 25 P **P 21 27 27.5 -0.1**
MDJ pP pP 21 27 41.0 -1.0
MDJ sP sP 21 27 46.8 -1.3
MDJ PP PP 21 29 25.4 -3.6
MDJ S **S 21 34 53.6 -4.2**
MDJ sS sS 21 35 19.3 -2.7
MDJ ScS ScS 21 37 11.0 -1.4
MDJ SS SS 21 38 37.1 -2.2
MDJ pmax pmax
comp=Z,11nm,0.8s,mb4.8
MDJ pmax pmax
comp=Z,190nm,7.2s
MDJ LR LR
comp=N,430nm,20.6s,MS4.8
MDJ LR LR
comp=E,730nm,20.6s,MS4.8
MDJ LR LR
comp=Z,950nm,22.6s,MS4.8
MOY Mondy 54.29 360 *e*P **P 21 27 32.7 +1.0**
MOY pmax pmax
comp=Z,78nm,2.1s,mb5.3
TLY Talaya 54.35 2 *e*P **P 21 27 33.0 +0.8**
TLY Talaya 54.35 2 *e*P **P 21 27 31.2 -1.0**
TLY *e*S **S 21 35 16.0 +10**
TLY *e*SS SS 21 38 50.0 +0.7
TLY pmax pmax
comp=Z,38nm,0.8s,mb5.4
TLY MLR MLR
comp=Z,948nm,18.0s,MS4.9
TLY Talaya 54.35 2 P **P 21 27 33.3 +1.2**
SNR=6.3
TLY Talaya 54.35 2 P **P 21 27 32.4 +0.2**
comp=Z,277nm,0.9s,mb6.2,SNR=5.2
CAN Canberra 54.92 132 *e*P **P 21 27 37.5 +0.8**
CAN Canberra 54.92 132 *e*P **P 21 27 37.5 +0.9**
IRK Irkutsk 54.94 2 *e*P **P 21 27 36.2 -0.2**
IRK pmax pmax
comp=Z,96nm,2.2s,mb5.4
ARMA Armidale 55.11 125 *e*P **P 21 27 39.3 +1.2**
ARMA Armidale 55.11 125 *e*P **P 21 27 39.2 +1.1**
comp=Z,37nm,0.9s,mb5.4
KURK Kurchatov 56.68 343 P **P 21 27 48.8 -0.2**
comp=Z,21nm,0.5s,mb5.4,baz=157,slow=6.7,SNR=29
KURK S **S 21 35 36.4 -1.0**
comp=Z,0.8nm,0.9s,baz=140,slow=13,SNR=3.5
KURK Kurchatov 56.68 343 S **S 21 35 36.4 -1.0**
KURK Kurchatov 56.68 343 *ce*P **P 21 27 48.3 -0.6**
KURK pmax pmax
comp=Z,94nm,1.7s,mb5.5
ABKT Ailbek 56.72 320 P **P 21 27 49.7 +0.2**
comp=Z,108nm,1.0s,mb5.8,SNR=7.5
ZALV Zalesovo Beam 58.17 349 P **P 21 27 58.5 -0.8**
comp=Z,176nm,0.9s,mb6.1,baz=172,slow=5.0,SNR=174
ZALV S **S 21 35 56.4 -0.4**
comp=Z,1.8nm,0.8s,baz=140,slow=16,SNR=5.8
ZALV LR LR 21 56 26.5
comp=Z,287nm,21.1s,MS4.4,baz=333,slow=40
ZALV Zalesovo Beam 58.17 349 P **P 21 27 58.5 -0.8**
ZALV S **S 21 35 56.4 -0.4**
ZALV Zalesovo Beam 58.17 349 P **P 21 27 58.5 -0.8**
ZALV S **S 21 35 56.4 -0.4**
HNR Honiara 58.92 99 P **P 21 28 03.4 -1.9**
comp=Z,71nm,0.8s,mb5.8,baz=260,slow=6.6,SNR=4.3
HNR LR LR 21 53 13.4
comp=Z,190nm,21.0s,MS4.2,baz=114,slow=36
HNR Honiara 58.92 99 P **P 21 28 03.4 -1.9**
HNR Honiara 58.92 99 P **P 21 28 03.4 -1.9**
KRAR Krasnoyarsk 59.02 355 ⇑ *e*P **P 21 28 05.1 -0.1**
KRAR pmax pmax
comp=Z,14nm,0.6s,mb5.2
HABR Khabarovsk 59.07 26 *e*P **P 21 28 02.9 -2.8**
HABR *e**PP pP 21 28 16.9 -3.4
HABR 21 30 13.9
HABR PPP 21 31 36.6
HABR *e*S **S 21 36 06.3 -2.4**
HABR *e**SS sS 21 36 29.9 -3.3
HABR *e*SS SS 21 40 01.9 -1.7
HABR pmax pmax
comp=Z,64nm,1.8s,mb5.3
HABR pmax pmax
comp=E,65nm,2.8s
HABR pmax pmax
comp=N,11nm,1.1s
HABR MLR MLR
comp=Z,631nm,20.0s,MS4.7
NVS Novosibirsk 59.33 348 ⇑ *i*P **P 21 28 06.0 -1.3**
NVS *e* pP 21 28 19.8 -2.1
NVS *e*S **S 21 36 07.8 -4.0**
NVS pmax pmax
comp=Z,91nm,1.4s,mb5.6
NVS pmax pmax
comp=N,66nm,1.5s
NVS pmax pmax
comp=E,41nm,1.4s
NVS smax
comp=E,29nm,1.9s
NVS smax
comp=N,25nm,2.1s
ASAJ Asahikawa 59.74 34 P **P 21 28 10.6 +0.2**
comp=N,14nm,0.4s,mb5.4,baz=238,slow=8.1,SNR=36
ASAJ LR LR 21 52 33.5
comp=N,236nm,20.7s,MS4.3,baz=184,slow=35
ASAJ Asahikawa 59.74 34 P **P 21 28 10.6 +0.2**
RAYN Ar Rayn 60.01 299 P **P 21 28 13.0 +0.3**
comp=N,42nm,1.1s,mb5.4,SNR=6.2
UMR Umm Al-Rimmam 60.25 306 *e*P **P 21 28 14.2 0.0**
UMR AMb AMB 21 28 16.3
comp=Z,68nm,1.1s,mb5.6
NAY Al-Naaiem 60.51 306 *e*P **P 21 28 15.6 -0.4**
NAY AMb AMB 21 28 17.8
comp=Z,34nm,1.3s,mb5.3
MIB Mutribah 60.65 307 *e*P **P 21 28 16.9 0.0**
MIB AMb AMB 21 28 19.6
comp=Z,91nm,1.0s,mb5.9
BOD Bodaibo 61.36 8 *e*P **P 21 28 20.3 -0.9**
BOD pmax pmax
comp=Z,28nm,0.9s,mb5.4
BRVK Borovoye 61.37 339 *e*P **P 21 28 19.4 -1.9**
comp=Z,24nm,0.8s,mb5.4
BRVK Borovoye 61.37 339 *c i*P **P 21 28 19.3 -2.0**
BRVK pmax pmax

comp=Z,40nm,1.2s,mb5.4
BRVK Borovoye 61.37 339 P **P** **21 28 19.9 -1.5**
SNR=10
YUK Yuzh-Kuril'sk 61.54 35*d* *i*P **P** **21 28 21.7 -1.0**
YUK S S 21 37 08.8 +28
YUK MLR MLR
comp=N,591nm,18.0s
YUK MLR MLR
comp=Z,412nm,18.0s,MS4.6
YSS Yuzh-Sakhalins 61.66 31 *e*P **P** **21 28 21.7 -1.8**
comp=Z,34nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 61.66 31 *e*P **P** **21 28 22.0 -1.5**
YSS *e* pP 21 28 36.2 -1.9
YSS pmax pmax
comp=Z,50nm,1.1s,mb5.6
ABKAR Akbulak array 62.84 331 *e*P **P** **21 28 30.4 -0.9**
comp=Z,35nm,0.5s,mb5.7
BHD Baghdad 64.30 309 *ex* x 21 28 36.3
BHD *ex* x 21 37 09.5
DZM Mont Dzumac 66.21 113 *e*P **P** **21 28 53.0 -0.9**
comp=Z,91nm,1.4s,mb5.6
DZM *e*LR LR 21 48 55.5
comp=Z,504nm,24.6s
DZM Mont Dzumac 66.21 113 *e*P **P** **21 28 53.5 -0.4**
comp=Z,24nm,1.1s,mb5.1
MAK Makhachkala 66.24 320 *e*P **P** **21 28 57.1 +3.5**
MAK *e* 21 29 22.0
MAK *e* 21 31 18.2
MAK *e*PPP 21 32 56.7
MAK *e*S S 21 37 43.5 +4.6
MAK *e* 21 38 46.4
MAK pmax pmax
comp=Z,228nm,1.4s,mb6.0
GNI Garni 66.81 316 *e*P **P** **21 28 58.0 +0.7**
comp=Z,14nm,0.8s,mb5.0
GNI Garni 66.81 316⇑ *e*P **P** **21 28 57.4 +0.1**
GNI pmax pmax
comp=Z,30nm,2.5s
DGRG David-gareji 66.95 318 P **P** **21 28 58.7 +0.5**
MTA Mtatsminda 67.45 318 P **P** **21 29 02.2 +0.9**
TBLG Delisi 67.50 318 *e*P **P** **21 29 02.6 +0.9**
TBLG Delisi 67.50 318 P **P** **21 29 02.7 +1.0**
SVE Sverdlovsk 67.83 337⇓ *i*P **P** **21 29 02.9 -0.5**
SVE pmax pmax
comp=Z,62nm,1.1s,mb5.5
SVE MLR MLR
comp=Z,473nm,25.0s,MS4.6
GOR Gori 68.03 318 P **P** **21 29 06.5 +1.5**
YAK Yakutsk 68.30 14 *e*P **P** **21 29 04.2 -2.0**
YAK Yakutsk 68.30 14*c* *i*P **P** **21 29 04.4 -1.8**
YAK *e**PP pP 21 29 28.9 +7.8
YAK *e* 21 31 42.9
YAK *e*PPP 21 33 17.6
YAK *e*S S 21 38 00.5 -2.4
YAK *e**SS sS 21 38 43.6 +16
YAK *e* 21 38 54.0
YAK *e*SS SS 21 42 27.8 +0.7
YAK pmax pmax
comp=Z,65nm,0.9s,mb5.7
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=E,20nm,1.2s
YAK pmax pmax
comp=Z,151nm,3.8s
YAK pmax pmax
comp=N,176nm,4.2s
YAK pmax pmax
comp=E,47nm,2.9s
YAK smax
comp=E,135nm,3.7s
YAK smax
comp=N,184nm,3.5s
ARU Arti 68.36 336 *e*P **P** **21 29 05.9 -0.9**
ARU Arti 68.36 336*c* *i*P **P** **21 29 05.8 -1.0**
ARU *e* 21 31 35.6
ARU PPP 21 33 13.4
ARU S S 21 38 05.7 +1.8
ARU pmax pmax
comp=Z,47nm,1.2s,mb5.4
ARU Arti 68.36 336 P **P** **21 29 05.2 -1.6**
comp=Z,216nm,0.8s,mb6.2,SNR=13
MAW Mawson 69.73 195 P **P** **21 29 17.4 +2.3**
comp=Z,4.3nm,0.8s,mb4.5,baz=32,slow=8.3,SNR=5.1
MAW LR LR 21 53 33.2
comp=Z,625nm,21.6s,MS4.8,baz=35,slow=30
MAW Mawson 69.73 195 *e*P **P** **21 29 15.3 +0.2**
MAW Mawson 69.73 195 *e*P **P** **21 29 15.3 +0.2**
KIV Kislovodsk 69.82 319 *e*P **P** **21 29 16.4 +0.3**
KIV Kislovodsk 69.82 319 *e*P **P** **21 29 16.6 +0.5**
KIV *e* pP 21 29 32.6 +1.6
KIV *e*S S 21 38 21.3 -0.3
KIV pmax pmax
comp=Z,27nm,0.9s,mb5.2
KIV MLR MLR
comp=Z,90nm,18.0s,MS4.1
SOKR Solikamsk 71.20 338*c* *i*P **P** **21 29 23.8 -0.4**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.3
SOKR MLR MLR
comp=Z,430nm,22.0s,MS4.7
SOC Sochi 71.64 318 *e*P **P** **21 29 26.6 -0.5**
SOC *e*PPP 21 33 54.9
SOC *e*S S 21 38 39.2 -3.5
SOC *e* 21 39 32.0
SOC pmax pmax
comp=Z,34nm,0.8s,mb5.3
PETK Petropavlovsk- 73.06 32 P **P** **21 29 34.7 -0.7**
comp=Z,8.7nm,0.5s,mb4.9,baz=240,slow=3.7,SNR=13
PETK LR LR 22 06 08.4
comp=Z,218nm,18.2s,MS4.5,baz=218,slow=40
PETK Petropavlovsk- 73.06 32 P **P** **21 29 34.7 -0.7**
PETK Petropavlovsk- 73.06 32 P **P** **21 29 34.7 -0.7**
CSS Prodhromos 73.52 308 *e*P **P** **21 29 38.7 +0.2**
comp=Z,54nm,1.3s,mb5.3
ANN Anapa 73.61 318 *e*P **P** **21 29 40.2 +1.3**
ANN *e**PP pP 21 29 54.9 +1.0
ANN *e*S S 21 39 07.2 +2.0
ANN pmax pmax
comp=Z,72nm,1.2s,mb5.5
RPZ Rata Peaks 73.69 135 P **P** **21 29 39.2 -0.1**
comp=Z,9.6nm,0.5s,mb5.0,baz=313,slow=5.0,SNR=3.5
RPZ Rata Peaks 73.69 135 P **P** **21 29 39.2 -0.1**
BR131 Keskin Array S 74.61 312 *e*P **P** **21 29 44.4 -0.4**
comp=Z,7.2nm,0.6s,mb4.8
BRTR Keskin Array B 74.61 312 P **P** **21 29 44.2 -0.6**
comp=Z,9.2nm,0.5s,mb4.9,baz=140,slow=7.0,SNR=58
BRTR LR LR 22 04 15.4
comp=Z,78nm,18.6s,MS4.0,baz=207,slow=37
BRTR Keskin Array B 74.61 312 P **P** **21 29 44.2 -0.6**
BRTR Keskin Array B 74.61 312 P **P** **21 29 44.3 -0.5**
VSR Storozhevoye 75.03 325 *e*P **P** **21 29 45.7 -1.2**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,60nm,0.9s,mb5.5
BOSA Boshof 76.13 241 P **P** **21 29 54.8 +1.0**
comp=Z,4.1nm,0.6s,mb4.6,baz=136,slow=4.7,SNR=15
BOSA LR LR 22 00 04.4
comp=Z,284nm,18.2s,MS4.6,baz=112,slow=33
BOSA Boshof 76.13 241 P **P** **21 29 54.8 +1.0**
BOSA Boshof 76.13 241 P **P** **21 29 54.8 +1.0**
MSVF Nonsavu 76.81 107 *e*P **P** **21 29 57.0 -0.8**
comp=Z,45nm,1.3s,mb5.2
MSVF Nonsavu 76.81 107 *e*P **P** **21 29 57.0 -0.8**
MSVF pmax pmax
comp=Z,45nm,1.3s,mb5.2
URZ Urewera 77.35 128 P **P** **21 29 59.7 -0.7**
comp=Z,4.4nm,0.3s,mb4.9,baz=137,slow=13,SNR=6.2
URZ LR LR 22 01 01.5
comp=Z,198nm,21.2s,MS4.4,baz=288,slow=33
URZ Urewera 77.35 128 P **P** **21 29 59.7 -0.7**
MOS Moscow 77.72 329 *e*P **P** **21 30 00.4 -1.7**
MOS *e* pP 21 30 15.6 -1.6
MOS *e* 21 40 51.8
MOS pmax pmax
comp=Z,99nm,1.0s,mb5.7
MOS pmax pmax
comp=Z,200nm,1.4s,mb5.8
OBN Obninsk 78.02 328 *e*P **P** **21 30 03.0 -0.8**
comp=Z,45nm,0.8s,mb5.5
OBN Obninsk 78.02 328*c* *i*P **P** **21 30 03.3 -0.5**
OBN *i* pP 21 30 17.7 -1.2
OBN *i* 21 33 00.2
OBN *i*S S 21 39 55.4 +2.0
OBN pmax pmax
comp=Z,143nm,1.8s,mb5.6
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.5
OBN Obninsk 78.02 328 P **P** **21 30 03.5 -0.3**
comp=Z,384nm,1.0s,mb6.3,SNR=6.1
KLMR Klimovskoe 79.01 334*c* *i*P **P** **21 30 08.7 -0.4**
KLMR pmax pmax
comp=Z,64nm,1.3s,mb5.4
TIRR Tirgusor 79.64 316⇑ *i*P **P** **21 30 07.9 -5.0**
TIRR Tirgusor 79.64 316⇑ *i*P **P** **21 30 07.9 -5.0**
KIS Kishinev 80.01 319 *e*P **P** **21 30 15.0 +0.1**
KIS Kishinev 80.01 319 *e*P **P** **21 30 15.0 +0.1**
KIS *e* pP 21 30 27.0 -3.0
GHRR 80.72 317⇓ *i*P **P** **21 30 17.9 -0.8**
AKASG Malin Array Be 80.75 322 P **P** **21 30 17.8 -0.9**
comp=Z,4.5nm,0.7s,mb4.5,baz=85,slow=5.1,SNR=19
AKASG PP PP 21 33 27.1 +3.8
comp=Z,1.8nm,0.6s,baz=87,slow=6.7,SNR=5.1
AKASG Malin Array Be 80.75 322 P **P** **21 30 17.8 -0.9**
AKASG PP PP 21 33 27.1 +3.8
AKASG Malin Array Be 80.75 322 P **P** **21 30 17.8 -0.9**
AKASG 21 33 27.2
KIEV Kiev 80.75 322⇑ *i*P **P** **21 30 18.9 +0.1**
ISR Istrita 81.09 316⇑ *i*P **P** **21 30 21.1 +0.4**
ISR Istrita 81.09 316⇑ *i*P **P** **21 30 21.1 +0.4**
VRI Vrincioaia 81.14 317⇑ *i*P **P** **21 30 21.2 +0.3**
VRI Vrincioaia 81.14 317⇑ *i*P **P** **21 30 21.2 +0.3**
VNDA Vanda 81.16 169 *e*P **P** **21 30 19.3 -1.2**
comp=Z,24nm,1.3s,mb5.0
VNDA Vanda 81.16 169 *e*P **P** **21 30 19.3 -1.1**
VNDA pmax pmax
comp=Z,24nm,1.3s
PLOR Plostina 81.19 317⇑ *i*P **P** **21 30 21.6 +0.4**
PLOR Plostina 81.19 317⇑ *i*P **P** **21 30 21.6 +0.4**
TESR 81.34 318⇑ *i*P **P** **21 30 22.4 +0.4**
MLR Muntele Rosu 81.58 317⇑ *i*P **P** **21 30 22.0 -1.3**
MLR Muntele Rosu 81.58 317⇑ *i*P **P** **21 30 22.0 -1.3**
BURAR Bucovina Array 82.54 319⇑ *i*P **P** **21 30 29.2 +1.0**
BURAR Bucovina Array 82.54 319⇑ *i*P **P** **21 30 29.2 +1.0**
BUR08 Bucovina Ar. S 82.56 319 *e*P **P** **21 30 28.8 +0.5**
MICGM Minsk 82.57 326 *e*P **P** **21 30 27.0 -1.2**
MNK Minsk 82.60 326 *e*P **P** **21 30 27.0 -1.4**
VTS Vitosha 82.94 313⇑ *i*P **P** **21 30 30.2 -0.2**
VTS Vitosha 82.94 313⇑ *i*P **P** **21 30 30.1 -0.3**
NACGM Naroch 83.29 326 *e* **P** **21 30 30.0 -2.0**
JOF Joensuu 83.39 334 *e*P **P** **21 30 31.6 -0.7**
JOF pmax pmax
comp=Z,12nm,0.6s,mb5.1
JOF Joensuu 83.39 334 *e*p **P** **21 30 31.6 -0.7**
comp=Z,12nm,0.6s,mb5.1
BILL Bilibino 83.59 20 *e*P **P** **21 30 33.1 -0.1**
comp=Z,14nm,1.0s,mb5.1
BILL Bilibino 83.59 20⇑ *i*P **P** **21 30 33.2 0.0**
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
IIGN Ignalina 83.71 326 *e*P **P** **21 30 34.8 +0.6**
IIGN AMB AMB 21 30 36.9
comp=Z,20nm,0.7s,mb5.4
IZAR Zarasai 83.80 327 *e*P **P** **21 30 34.5 0.0**
IZAR AMB AMB 21 30 37.1
comp=Z,10.0nm,0.9s,mb5.0
ISAL Salakas 83.82 327 *e*P **P** **21 30 34.9 +0.3**
ISAL AMB AMB 21 30 37.3
comp=Z,18nm,1.2s,mb5.1
LVZ Lovozero 83.90 340 *e*P **P** **21 30 34.6 -0.2**
comp=Z,29nm,0.6s,mb5.6
LVZ Lovozero 83.90 340 *e*P **P** **21 30 34.6 -0.2**
LVZ pmax pmax
comp=Z,29nm,0.6s,mb5.6
LVZ Lovozero 83.90 340 P **P** **21 30 34.0 -0.8**
comp=Z,282nm,0.6s,mb6.6,SNR=6.4
DRGR 84.05 317⇓ *i*P **P** **21 30 36.8 +0.8**
DRGR 84.05 317⇓ *i*P **P** **21 30 36.8 +0.8**
APA Apatity 84.22 339⇑ *i*P **P** **21 30 36.0 -0.4**
APA *i* pP 21 30 50.0 -1.7
APA *e*S S 21 40 56.0 -1.3
APA pmax pmax
comp=Z,22nm,0.9s,mb5.3
APA MLR MLR
comp=Z,900nm,12.0s,MS5.4
VSU Vasula 84.22 329*c* *e*P **P** **21 30 36.5 -0.2**
VSU pmax pmax
comp=Z,147nm,2.5s,mb5.7
TRPA Tarpa 84.41 319⇓ *i*P **P** **21 30 37.9 +0.1**
KWP Kalwaria Pacla 84.58 320 *e*P **P** **21 30 37.9 -0.7**
KWP *e*PcP PcP 21 30 40.1 -2.0
KWP *e*S S 21 41 03.7 +2.2
KWP LMZ 22 16 43.6
comp=Z,100nm,24.3s
KWP Kalwaria Pacla 84.58 320 *e*P **P** **21 30 38.8 +0.2**
comp=Z,58nm,1.5s,mb5.5
KWP Kalwaria Pacla 84.58 320 *e*P **P** **21 30 37.9 -0.7**
KWP *e*S S 21 41 03.7 +2.1
KWP MLR MLR
comp=Z,100nm,24.3s,MS4.1
BZS Buzias 84.59 316⇑ *i*P **P** **21 30 38.6 -0.2**
BZS Buzias 84.59 316⇑ *i*P **P** **21 30 38.6 -0.2**
UZH Uzhgorod 84.66 319 *e*P **P** **21 30 37.0 -2.1**
SUW Suwalki 85.14 325 *e*P **P** **21 30 41.2 -0.2**
SUW *e*PcP PcP 21 30 42.3 -2.2
SUW *e*SKSac SKSac 21 40 37.8 -24
SUW *e*S S 21 41 05.6 -1.4
SUW LMZ 22 07 39.2
comp=Z,200nm,29.5s
SUW Suwalki 85.14 325 *e*P **P** **21 30 41.0 -0.4**
comp=Z,90nm,1.0s,mb5.8
SUW Suwalki 85.14 325 *e*P **P** **21 30 41.2 -0.2**
SUW *e*S S 21 41 05.6 -1.3
SUW MLR MLR
comp=Z,200nm,29.5s,MS4.3
CRVS Cervenica-Dubn 85.25 319 *e*P **P** **21 30 43.3 +1.3**
CRVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CRVS Cervenica-Dubn 85.25 319 *e*P **P** **21 30 43.3 +1.3**
FINES FINESS Array B 85.31 332 P **P** **21 30 41.8 -0.2**
comp=Z,5.0nm,0.5s,mb4.9,baz=122,slow=6.0,SNR=37
FINES FINESS Array B 85.31 332 P **P** **21 30 41.8 -0.2**
FINES FINESS Array B 85.31 332 P **P** **21 30 41.8 -0.2**
KAF Kangasniemi 85.37 333 *e*P **P** **21 30 42.1 -0.3**
KAF pmax pmax
comp=Z,25nm,0.8s,mb5.4
KAF Kangasniemi 85.37 333 *e*p **P** **21 30 42.1 -0.3**
comp=Z,24nm,0.8s,mb5.4
STHS Stebnicka Huta 85.48 320 *e*P **P** **21 30 44.9 +1.7**
STHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
STHS Stebnicka Huta 85.48 320 *e*P **P** **21 30 44.9 +1.7**
KECS Kecovo 85.82 319 *e*P **P** **21 30 45.5 +0.6**
KECS pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
KECS Kecovo 85.82 319 *e*P **P** **21 30 45.5 +0.6**
NIE Niedzica 86.08 320 *e*P **P** **21 30 47.2 +1.1**
NIE Niedzica 86.08 320 *e*P **P** **21 30 47.2 +1.1**
PSZ Piszkesteto 86.12 318 *e*P **P** **21 30 46.1 -0.3**
comp=Z,9.9nm,1.0s,mb5.0
PSZ Piszkesteto 86.12 318⇑ P **P** **21 30 46.9 +0.5**
PSZ Piszkesteto 86.12 318⇑ *e*P **P** **21 30 46.7 +0.3**
PSZ Piszkesteto 86.12 318⇑ *i*P **P** **21 30 46.9 +0.5**
BEL Belsk 86.16 322 *e*P **P** **21 30 45.2 -1.3**
BEL *e*PcP PcP 21 30 48.1 -1.0
BEL *e*pP pP 21 30 59.7 -2.1
BEL *e*SKSac SKSac 21 41 10.0 +1.9
BEL *e*S S 21 41 19.8 +2.6
BEL LMZ 22 15 58.1
comp=Z,300nm,21.0s
BEL Belsk 86.16 322 *e*P **P** **21 30 45.2 -1.3**
BEL *e**PP pP 21 30 59.7 -2.1
BEL *e* 21 41 10.0
BEL *e*S S 21 41 19.8 +2.7
BEL MLR MLR
comp=Z,300nm,21.0s,MS4.7
OJC Ojcow 86.53 321 *e*P **P** **21 30 49.4 +1.1**
OJC Ojcow 86.53 321 *e*P **P** **21 30 49.4 +1.1**
PKSM Moragy 86.74 316⇑ P **P** **21 30 48.6 -0.8**
PKSM Moragy 86.74 316⇑ *i*P **P** **21 30 48.6 -0.8**
VYHS Vyhne 86.91 319 *e*P **P** **21 30 50.9 +0.7**
VYHS pmax pmax
comp=Z,14nm,1.5s,mb5.0
VYHS Vyhne 86.91 319 *e*P **P** **21 30 50.9 +0.7**
QSPA South Pole Qui 87.13 180 P **P** **21 30 51.4 +0.7**
comp=Z,1.4nm,0.3s,mb4.6,baz=85,slow=3.6,SNR=3.7
QSPA South Pole Qui 87.13 180 P **P** **21 30 51.4 +0.7**
KEV Kevo 87.14 340 *e*P **P** **21 30 50.0 -0.9**
KEV pmax pmax
comp=Z,19nm,0.9s,mb5.3
KEV Kevo 87.14 340 *e*p **P** **21 30 50.0 -0.9**
comp=Z,19nm,0.9s,mb5.3
OKC Ostrava-Krasne 87.53 320 *e*P **P** **21 30 54.2 +1.0**
OKC *e* pP 21 31 08.2 -0.4
OKC Ostrava-Krasne 87.53 320 *e*P **P** **21 30 54.2 +1.0**
OKC *e*pP pP 21 31 08.2 -0.4
ARCES ARCESS Array B 87.59 340 P **P** **21 30 53.2 +0.1**
comp=Z,10nm,0.5s,mb5.3,baz=104,slow=6.4,SNR=38
ARCES LR LR 22 13 45.9
comp=Z,279nm,19.8s,MS4.7,baz=225,slow=38
ARCES ARCESS Array B 87.59 340 P **P** **21 30 53.2 +0.2**
ARCES ARCESS Array B 87.59 340 P **P** **21 30 53.2 +0.1**
ARE0 ARCESS Array S 87.59 340 *e*P **P** **21 30 53.4 +0.3**
MORC Moravsky Berou 87.91 320 *e*P **P** **21 30 54.7 -0.3**
comp=Z,16nm,1.1s,mb5.2
MORC Moravsky Berou 87.91 320⇓ P **P** **21 30 51.7 -3.3**
MORC Moravsky Berou 87.91 320⇓ *i*P **P** **21 30 51.7 -3.3**
ZST Bratislava 88.02 318 *e*P **P** **21 30 56.0 +0.4**
ZST pmax pmax
comp=Z,29nm,1.4s,mb5.3
ZST Bratislava 88.02 318 *e*P **P** **21 30 56.0 +0.4**
KTK1 Kautokeino 88.25 339 *e*P **P** **21 30 56.4 +0.1**
GKP Gorka Klasztor 88.51 323 *e*P **P** **21 30 58.1 +0.3**
GKP *e*PcP PcP 21 30 59.3 -0.1
GKP *e*SKSac SKSac 21 41 18.3 -4.0
GKP LMZ 22 17 41.1
comp=Z,200nm,22.0s
GKP Gorka Klasztor 88.51 323 *e*P **P** **21 30 58.1 +0.3**
GKP *e* 21 41 18.3
GKP MLR MLR
comp=Z,200nm,22.0s,MS4.5
DPC Dobruska-Polom 88.76 320 *e*P **P** **21 31 00.0 +1.0**
DPC *e* pP 21 31 16.0 +1.6
DPC Dobruska-Polom 88.76 320 *e*P **P** **21 31 00.0 +1.0**
DPC *ex* x 21 31 16.0
KSP Ksiaz 88.83 321 *e*P **P** **21 30 59.6 +0.3**
KSP *e*PcP PcP 21 31 01.1 +0.3
KSP LMZ 22 17 30.7
comp=Z,200nm,22.4s
KSP Ksiaz 88.83 321 *e*P **P** **21 31 00.0 +0.7**
KSP Ksiaz 88.83 321 *e*P **P** **21 31 00.0 +0.7**
UPC Upice 88.97 320 *e*P **P** **21 31 01.1 +1.1**
UPC *e* 21 31 10.0
UPC Upice 88.97 320 *e*P **P** **21 31 01.1 +1.1**
UPC *e*pP pP 21 31 10.0 -5.4
ARSA Arzberg 88.98 317⇑ *i*PcP PcP 21 31 00.7 -1.0
comp=Z,20nm,1.2s
TREC Trest 89.19 319 *e*P **P** **21 31 02.6 +1.5**
TREC Trest 89.19 319 *e*P **P** **21 31 02.6 +1.5**
SOKA Soboth 89.27 317⇑ *i*PcP PcP 21 31 03.3 +0.4
comp=Z,19nm,1.2s
PRU Pruhonice 89.86 320 *e*P **P** **21 31 04.4 +0.2**
PRU *e* pP 21 31 16.2 -3.4
PRU Pruhonice 89.86 320 *e*P **P** **21 31 04.4 +0.2**
PRU *e*pP pP 21 31 16.2 -3.4
TRO Tromso 89.87 340 *e*P **P** **21 31 03.9 +0.1**
PVCC Panska Ves 89.89 320 *e*P **P** **21 31 05.1 +0.8**
PVCC *e* pP 21 31 21.1 +1.4
PVCC Panska Ves 89.89 320 *e*P **P** **21 31 05.1 +0.8**
PVCC *e*pP pP 21 31 21.1 +1.4
BRG Berggiesshubel 90.31 321 *i*P **P** **21 31 06.8 +0.5**
comp=Z,19nm,1.1s,mb5.3
BRG Berggiesshubel 90.31 321 *e*P **P** **21 31 07.2 +0.9**
comp=Z,84nm,2.1s,mb5.7
BRG Berggiesshubel 90.31 321 *i*P **P** **21 31 06.8 +0.5**
GEC2 GERESS Array S 90.33 319 *e*P **P** **21 31 07.3 +0.9**
comp=Z,38nm,1.5s,mb5.5
GEC2 GERESS Array S 90.33 319 *e*P **P** **21 31 07.3 +0.9**
GEC2 pmax pmax
comp=Z,38nm,1.5s,mb5.5
GERES GERESS Array B 90.33 319 P **P** **21 31 07.3 +0.9**
comp=Z,5.2nm,1.0s,mb4.8,baz=92,slow=4.0,SNR=31
GERES GERESS Array B 90.33 319 P **P** **21 31 07.3 +0.9**
GERES GERESS Array B 90.33 319 P **P** **21 31 07.3 +0.9**
KHC Kasperske Hory 90.43 319 *e*P **P** **21 31 06.7 -0.2**
KHC Kasperske Hory 90.43 319 *e*P **P** **21 31 08.0 +1.1**
KHC *e* pP 21 31 25.0 +2.7
KHC Kasperske Hory 90.43 319 *e*P **P** **21 31 08.0 +1.1**
KHC *ex* x 21 31 25.0
RJOB Jochberg 90.86 318 *e*P **P** **21 31 10.2 +1.3**
comp=Z,31nm,1.7s,mb5.4
WET Wettzell 90.89 319 *e*P **P** **21 31 09.9 +0.9**
comp=Z,24nm,1.3s,mb5.4
WET Wettzell 90.89 319 *e*P **P** **21 31 09.9 +0.9**
WET pmax pmax
comp=Z,24nm,1.3s,mb5.4
CLL Collm 90.93 321 *e*P **P** **21 31 09.6 +0.4**
comp=Z,17nm,1.2s,mb5.2
CLL Collm 90.93 321 *i*P **P** **21 31 09.5 +0.3**
CLL pmax pmax
comp=Z,17nm,1.2s,mb5.2
CLL Collm 90.93 321 *i*P **P** **21 31 09.5 +0.3**
comp=Z,17nm,1.2s,mb5.2
CLL *e*pP pP 21 31 21.0 -3.6
CLL *e*S S 21 42 08.0 +5.8
CLL *e*PS PS 21 43 16.0 -0.8
CLL L 22 19 00.0
comp=Z,200nm,21.6s
NKC Novy Kostel 91.22 320 *e*P **P** **21 31 11.9 +1.4**
NKC Novy Kostel 91.22 320 *e*P **P** **21 31 11.9 +1.4**
TANN Tannenbergstha 91.23 320 *e*P **P** **21 31 11.3 +0.8**
comp=Z,22nm,1.6s,mb5.2
ROTZ Rotzenmuhle 91.36 320 *e*P **P** **21 31 12.4 +1.2**
comp=Z,19nm,1.4s,mb5.2
SPB4 Spitsbergen Ar 91.65 348 *e*P **P** **21 31 09.9 -2.1**
MOX Moxa 91.78 320 *e*P **P** **21 31 13.8 +0.7**
comp=Z,28nm,1.6s,mb5.3
MOX Moxa 91.78 320 *e*P **P** **21 31 13.8 +0.7**
MOX pmax pmax
comp=Z,28nm,1.6s,mb5.3
GRF Grafenberg Arr 91.99 319 *e*P **P** **21 31 15.0 +0.9**
comp=Z,17nm,1.3s,mb5.2
GRF *e*L 22 19 43.5
comp=Z,186nm,22.0s
GRF Grafenberg Arr 91.99 319 *e*P **P** **21 31 15.0 +0.9**
GRF pmax pmax
comp=Z,17nm,1.3s,mb5.2
GRF MLR MLR
comp=Z,200nm,22.0s,MS4.5
NC602 NORSAR Array S 92.18 331 *e*P **P** **21 31 15.0 +0.3**
FETA Feichten 92.23 317⇑ *i*PcP PcP 21 31 15.8 -0.2
comp=Z,8.1nm,1.1s
NB2 NORSAR Subarra 92.35 331 P **P** **21 31 15.1 -0.4**
comp=Z,7.5nm,0.8s,mb5.1,baz=96,slow=4.4
NOA NORSAR Array B 92.35 331 P **P** **21 31 15.3 -0.2**
comp=Z,4.9nm,0.8s,mb4.9,baz=92,slow=4.8,SNR=14
NOA LR LR 22 17 51.2
comp=Z,193nm,18.9s,MS4.6,baz=95,slow=39
NOA NORSAR Array B 92.35 331 P **P** **21 31 15.3 -0.2**
NOA NORSAR Array B 92.35 331 P **P** **21 31 15.3 -0.2**
CLZ Clausthal 92.59 322 *e*P **P** **21 31 17.5 +0.7**
comp=Z,116nm,3.0s
CLZ Clausthal 92.59 322 *e*P **P** **21 31 17.5 +0.7**
CLZ pmax pmax
comp=Z,116nm,3.0s
BSEG Bad Segeberg 92.67 324 *e*P **P** **21 31 17.4 +0.3**
comp=Z,52nm,1.8s,mb5.7
BSEG Bad Segeberg 92.67 324 *e*P **P** **21 31 17.4 +0.3**
BSEG pmax pmax
comp=Z,52nm,1.8s,mb5.7
NRDL Niedersach Rie 92.77 322 *e*P **P** **21 31 17.4 -0.2**
comp=Z,14nm,1.1s,mb5.3
KEST Kesra 92.98 305 P **P** **21 31 20.4 +1.4**
comp=Z,3.9nm,1.1s,mb4.8,baz=6.3,slow=2.7,SNR=4.2
KEST LR LR 22 11 16.3
comp=Z,72nm,21.9s,MS4.1,baz=339,slow=34
KEST Kesra 92.98 305 P **P** **21 31 20.4 +1.4**
STU Stuttgart 93.30 319 *e*P **P** **21 31 22.8 +2.6**
comp=Z,16nm,1.1s,mb5.4
TNS Taunus Mts 93.79 320 *e*P **P** **21 31 23.4 +1.0**
comp=Z,15nm,1.1s,mb5.3
TNS Taunus Mts 93.79 320 *e*P **P** **21 31 23.4 +1.0**
TNS pmax pmax
comp=Z,15nm,1.1s,mb5.3
IBBN Ibbenburen 94.21 322 *e*P **P** **21 31 24.8 +0.5**
comp=Z,148nm,2.4s,mb6.0
BUG Bochum--Univer 94.53 321 *e*P **P** **21 31 26.5 +0.8**
comp=Z,8.0nm,0.9s,mb5.2
TORD Torodi Ar. Bea 99.69 283 P Pdif 21 31 50.5 +1.5
comp=Z,0.5nm,0.9s,baz=93,slow=6.0,SNR=3.0

TORD				PKiKP	PKiKP	21 36 18.7	0.0
	comp=Z,0.3nm,0.7s,baz=94,slow=2.5,SNR=5.7						
TORD				PKKPbc	PKKPbc	21 48 11.4	+0.5
	comp=Z,0.3nm,0.4s,baz=305,slow=3.2,SNR=9.3						
TORD				LR	LR	22 14 21.3	
	comp=Z,103nm,21.6s,MS4.3,baz=100,slow=34						
TORD	**Torodi Ar. Bea**	**99.69**	**283**	P	Pdif	21 31 50.5	+1.5
TORD				PKiKP	PKiKP	21 36 18.7	0.0
TORD				PKKPbc	PKKPbc	21 48 11.4	+0.5
ILAR	**Eielson Array**	**101.86**	**24**	P	Pdif	21 31 56.0	-2.6
	comp=Z,0.3nm,0.6s,baz=282,slow=3.9,SNR=3.0						
ILAR				PP	PP	21 36 07.5	-2.1
	comp=Z,0.5nm,0.7s,baz=305,slow=7.0,SNR=5.5						
ILAR				PKKPbc	PKKPbc	21 48 04.2	-2.2
	comp=Z,0.3nm,0.6s,baz=136,slow=1.7,SNR=5.0						
ILAR	**Eielson Array**	**101.86**	**24**	P	Pdif	21 31 56.0	-2.6
ILAR				PP	PP	21 36 07.5	-2.1
ILAR				PKKPbc	PKKPbc	21 48 04.2	-2.2
ILAR	**Eielson Array**	**101.86**	**24**	P	Pdif	21 31 56.0	-2.6
ILAR						21 36 07.5	
TBI	**Tubuai**	**106.72**	**115**	eLR	LR	21 32 40.0	
	comp=Z,264nm,27.2s						
TBI	**Tubuai**	**106.72**	**115**	eLR	LR	22 07 33.1	
	comp=Z,274nm,29.8s						
PPT2	**Papeete2**	**107.58**	**109**	eLR	LR	22 08 07.1	
	comp=Z,180nm,24.0s						
YKA	**Yellowknife Ar**	**114.87**	**17**	PKP	PKiKP	21 36 44.2	-1.4
	comp=Z,0.7nm,0.7s,baz=333,slow=1.9,SNR=4.2						
YKA	**Yellowknife Ar**	**114.87**	**17**	PKP	PKiKP	21 36 44.2	-1.4
YKA	**Yellowknife Ar**	**114.87**	**17**	PKIKP	PKiKP	21 36 44.2	-1.4
FRB	**Frobisher Bay**	**118.74**	**355**	PKP	PKPdf	21 36 52.2	-0.7
	comp=Z,1.2nm,0.6s,baz=74,slow=7.4,SNR=3.1						
FRB	**Frobisher Bay**	**118.74**	**355**	PKP	PKPdf	21 36 52.2	-0.7
FRB	**Frobisher Bay**	**118.74**	**355**	PKIKP	PKPdf	21 36 52.3	-0.7
C09A	**Chrisman Ranch**	**123.89**	**31**	⇑P	PKPdf	21 37 02.4	-1.0
	baz=124						
NEW	**Newport**	**124.17**	**30**	⇓P	PKPdf	21 37 03.5	-0.4
	baz=124						
G06A	**Carlson Farm,**	**124.21**	**35**	⇑P	PKPdf	21 37 02.9	-1.2
	baz=124						
A12A	**Yaak River Ran**	**124.43**	**29**	⇓P	PKPdf	21 37 05.0	+0.6
	baz=124						
E09A	**Wood Farm, Sta**	**124.78**	**32**	⇑P	PKPdf	21 37 05.0	-0.2
	baz=125						
C11A	**Tepee Creek (N**	**124.88**	**30**	⇓P	PKPdf	21 37 05.5	+0.2
	baz=125						
A13A	**Flathead Natio**	**125.01**	**28**	⇑P	PKPdf	21 37 05.3	-0.1
	baz=125						
C12B	**Naegeli Ranch,**	**125.36**	**29**	⇑P	PKPdf	21 37 06.6	+0.5
	baz=125						
B13A	**Whitefish**	**125.38**	**28**	⇓P	PKPdf	21 37 06.1	-0.1
	baz=125						
A14A	**Double T Ranch**	**125.44**	**27**	⇓P	PKPdf	21 37 05.8	-0.5
	baz=125						
K05A	**Summer Lake**	**125.53**	**37**	⇑P	PKPdf	21 37 06.9	+0.2
	baz=126						
I07A	**Izee**	**125.55**	**35**	⇑P	PKPdf	21 37 07.1	+0.4
	baz=126						
F10A	**Beach Ranch, E**	**125.62**	**32**	⇑P	PKPdf	21 37 06.6	-0.1
	baz=126						
A15A	**Johnson Ranch,**	**125.75**	**27**	⇑P	PKPdf	21 37 06.4	-0.4
	baz=126						
C13A	**Hot Springs**	**125.82**	**29**	⇑P	PKPdf	21 37 06.6	-0.4
	baz=126						
B14A	**Marquette Ranc**	**125.95**	**28**	⇑P	PKPdf	21 37 07.0	-0.3
	baz=126						
C14A	**Swan Lake**	**126.15**	**28**	⇓P	PKPdf	21 37 07.3	-0.4
	baz=126						
A16A	**West Butte Ran**	**126.28**	**26**	⇓P	PKPdf	21 37 07.7	-0.2
	baz=126						
D13A	**Huson**	**126.28**	**29**	⇑P	PKPdf	21 37 07.1	-0.9
	baz=126						
B15A	**Bradely Ranch,**	**126.31**	**27**	⇑P	PKPdf	21 37 07.6	-0.4
	baz=126						
J08A	**Circle Bar Ran**	**126.58**	**35**	⇑P	PKPdf	21 37 09.3	+0.7
	baz=126						
B16A	**M & M Farms, S**	**126.62**	**27**	⇓P	PKPdf	21 37 08.3	-0.2
	baz=127						
SLMT	**Seeley Lake**	**126.64**	**29**	*e*PKPdf	PKPdf	21 37 08.7	0.0
A17A	**Triple J Farms**	**126.67**	**26**	⇑P	PKPdf	21 37 08.5	-0.2
	baz=127						
C15A	**Salmond Ranch,**	**126.68**	**28**	⇑P	PKPdf	21 37 08.4	-0.3
	baz=127						
MSO	**Missoula**	**126.72**	**29**	⇑P	PKPdf	21 37 08.8	0.0
	baz=127						
D14A	**Greenough**	**126.75**	**29**	⇑P	PKPdf	21 37 08.3	-0.5
	baz=127						
F12A	**Elk City**	**126.80**	**31**	⇑P	PKPdf	21 37 08.6	-0.4
	baz=127						
E13A	**Victor**	**126.87**	**30**	⇑P	PKPdf	21 37 08.7	-0.4
	baz=127						
A18A	**Metzger Ranch,**	**127.05**	**25**	⇓P	PKPdf	21 37 09.7	+0.3
	baz=127						
C16A	**Fuhringer Ranc**	**127.06**	**27**	⇓P	PKPdf	21 37 09.0	-0.4
	baz=127						
B17A	**L&G Farms, Che**	**127.12**	**26**	⇓P	PKPdf	21 37 09.5	0.0
	baz=127						
SCHQ	**Schefferville**	**127.22**	**351**	PKP	PKPdf	21 37 09.9	+0.4
	comp=Z,3.5nm,0.6s,baz=286,slow=2.8,SNR=6.9						
SCHQ	**Schefferville**	**127.22**	**351**	PKP	PKPdf	21 37 09.9	+0.4
E14A	**Clinton**	**127.23**	**29**	⇓P	PKPdf	21 37 09.5	-0.2
	baz=127						
F13A	**Darby**	**127.25**	**31**	⇑P	PKPdf	21 37 08.9	-1.0
	baz=127						
D15A	**Lincoln**	**127.25**	**28**	⇓P	PKPdf	21 37 09.7	-0.1
	baz=127						
B18A	**Beardsley Farm**	**127.48**	**25**	⇑P	PKPdf	21 37 10.1	-0.1
	baz=127						
C17A	**Wharram Farm,**	**127.63**	**27**	⇓P	PKPdf	21 37 10.5	0.0
	baz=128						
E15A	**Deer Lodge**	**127.64**	**29**	⇑P	PKPdf	21 37 11.1	+0.6
	baz=128						
F14A	**Wisdom**	**127.71**	**30**	⇓P	PKPdf	21 37 11.5	+0.8
	baz=128						
D16A	**Dana Ranch, Ca**	**127.72**	**28**	⇓P	PKPdf	21 37 11.2	+0.5
	baz=128						
G13A	**Cobalt**	**127.78**	**31**	⇑P	PKPdf	21 37 11.5	+0.6
	baz=128						
EGMT	**Eagleton**	**127.78**	**26**	⇑P	PKPdf	21 37 10.7	-0.1
	baz=128						
B19A	**Brinkman Farms**	**127.79**	**25**	⇓P	PKPdf	21 37 10.8	0.0
	baz=128						
H12A	**Diamond D Ranc**	**127.82**	**32**	⇑P	PKPdf	21 37 11.2	+0.3
	baz=128						
A20A	**Cobblestone Ra**	**127.88**	**24**	⇓P	PKPdf	21 37 10.5	-0.5
	baz=128						
E16A	**East Helena**	**128.02**	**28**	⇓P	PKPdf	21 37 11.2	-0.1
	baz=128						
D17A	**Six Diamond Ra**	**128.02**	**27**	⇓P	PKPdf	21 37 11.1	-0.2
	baz=128						
MFID	**Camas Ranch**	**128.04**	**34**	⇑P	PKPdf	21 37 11.4	0.0
	baz=128						
G14A	**Jackson**	**128.07**	**31**	⇓P	PKPdf	21 37 11.9	+0.5
	baz=128						
H13A	**Challis**	**128.12**	**32**	⇑P	PKPdf	21 37 10.8	-0.8
	baz=128						
I12A	**Atlanta**	**128.17**	**33**	⇓P	PKPdf	21 37 11.6	-0.1
	baz=128						
B20A	**Solberg Farm,**	**128.19**	**24**	⇑P	PKPdf	21 37 11.1	-0.4
	baz=128						
C19A	**Slack Wire Ran**	**128.31**	**26**	⇓P	PKPdf	21 37 11.7	-0.1
	baz=128						
E17A	**Martinsdale**	**128.46**	**28**	⇑P	PKPdf	21 37 12.2	+0.1
	baz=128						
H14A	**Leadore**	**128.55**	**31**	⇑P	PKPdf	21 37 11.6	-0.8
	baz=128						
A22A	**Carney Farms,**	**128.58**	**22**	⇓P	PKPdf	21 37 12.2	-0.1
	baz=128						
F16A	**Kennard Place,**	**128.59**	**29**	⇓P	PKPdf	21 37 12.0	-0.4
	baz=128						
G15A	**Dillon**	**128.61**	**30**	⇓P	PKPdf	21 37 12.3	-0.2
	baz=129						
I13A	**Wildhorse Cree**	**128.64**	**32**	⇑P	PKPdf	21 37 12.4	-0.1
	baz=129						
BOZ	**Bozeman (W)**	**128.69**	**29**	⇑P	PKPdf	21 37 12.5	-0.1
	baz=129						
HLID	**Hailey**	**128.72**	**33**	⇑P	PKPdf	21 37 12.6	-0.1
	baz=129						
C20A	**Veseth Ranch,**	**128.77**	**25**	⇑P	PKPdf	21 37 13.0	+0.3
	baz=129						
E18A	**Harlowton**	**128.81**	**27**	⇑P	PKPdf	21 37 12.7	-0.1
	baz=129						
D19A	**Cripps Ranch,**	**128.82**	**26**	⇓P	PKPdf	21 37 12.5	-0.3
	baz=129						
G16A	**Moss Hill, Enn**	**128.90**	**29**	⇑P	PKPdf	21 37 13.6	+0.6
	baz=129						
H15A	**Lima**	**128.92**	**31**	⇑P	PKPdf	21 37 13.9	+0.8
	baz=129						
J13A	**Cove Ranch, Pi**	**128.96**	**33**	⇓P	PKPdf	21 37 12.9	-0.3
	baz=129						
F17A	**Fitzpatrick Pl**	**128.96**	**28**	⇓P	PKPdf	21 37 13.2	+0.1
	baz=129						
I14A	**Mackay**	**128.98**	**32**	⇓P	PKPdf	21 37 13.4	+0.2
	baz=129						
A24A	**Westby**	**129.34**	**21**	⇑P	PKPdf	21 37 13.8	0.0
	baz=129						
G17A	**Piece Place,**	**129.35**	**29**	⇑P	PKPdf	21 37 14.6	+0.8
	baz=129						
B23A	**Brockton**	**129.36**	**22**	⇓P	PKPdf	21 37 14.3	+0.5
	baz=129						
H16A	**Russell Place,**	**129.56**	**30**	⇑P	PKPdf	21 37 14.8	+0.6
	baz=130						
NVAR	**Mina Array Bea**	**129.60**	**40**	PKP	PKPdf	21 37 15.8	+1.2
	comp=Z,1.7nm,0.5s,baz=298,slow=2.2,SNR=13						
NVAR				SKPbc		21 40 31.8	
	comp=Z,1.6nm,0.7s,baz=274,slow=3.6,SNR=7.5						
NVAR	**Mina Array Bea**	**129.60**	**40**	PKP	PKPdf	21 37 15.8	+1.2
NVAR				SKPbc		21 40 31.8	
D22A	**Cohagen**	**129.97**	**24**	⇓P	PKPdf	21 37 16.2	+1.2
	baz=130						
LAO	**LASA Array**	**130.32**	**24**	⇑P	PKPdf	21 37 17.0	+1.3
	baz=130						
K15A	**Arbon**	**130.32**	**32**	⇓P	PKPdf	21 37 16.4	+0.6
	baz=130						
D23A	**Lindsay**	**130.34**	**23**	⇑P	PKPdf	21 37 16.9	+1.2
	baz=130						
G20A	**Bridger**	**130.61**	**27**	⇑P	PKPdf	21 37 15.5	-0.7
	baz=131						
F21A	**Absaloka Mine,**	**130.62**	**26**	⇓P	PKPdf	21 37 15.8	-0.4
	baz=131						
E22A	**Miles City**	**130.63**	**24**	⇓P	PKPdf	21 37 16.2	-0.1
	baz=131						
ULM	**Lac du Bonnet**	**130.64**	**14**	PKP	PKPdf	21 37 16.0	-0.2
	comp=Z,5.7nm,0.6s,baz=4.9,slow=2.7,SNR=15						
ULM	**Lac du Bonnet**	**130.64**	**14**	PKP	PKPdf	21 37 16.0	-0.2
ULM	**Lac du Bonnet**	**130.64**	**14**	PKIKP	PKPdf	21 37 16.0	-0.2
H19A	**Powell**	**130.67**	**28**	⇑P	PKPdf	21 37 16.3	-0.1
	baz=131						
D24A	**Glendive**	**130.73**	**23**	⇑P	PKPdf	21 37 16.5	+0.1
	baz=131						
J17A	**Brown Place, J**	**130.79**	**30**	⇓P	PKPdf	21 37 15.5	-1.1
	baz=131						
ARVC	**Arvin**	**131.06**	**44**	⇓P	PKPdf	21 37 17.1	-0.3
	baz=131						
E24A	**Baker**	**131.19**	**23**	⇓P	PKPdf	21 37 17.3	-0.1
	baz=131						
H20A	**Greybull**	**131.27**	**27**	⇑P	PKPdf	21 37 16.9	-0.6
	baz=131						
R11A	**Troy Canyon, C**	**131.37**	**39**	⇓P	PKPdf	21 37 17.5	-0.4
	baz=131						
G22A	**Birney**	**131.46**	**26**	⇑P	PKPdf	21 37 17.1	-0.7
	baz=131						
I20A	**Worland**	**131.62**	**28**	⇑P	PKPdf	21 37 17.2	-1.0
	baz=132						
J19A	**Crowheart**	**131.69**	**29**	⇑P	PKPdf	21 37 17.2	-1.2
	baz=132						
F24A	**Ekalaka**	**131.73**	**24**	⇑P	PKPdf	21 37 18.0	-0.4
	baz=132						
MDND	**Maddock**	**131.76**	**19**	⇓P	PKPdf	21 37 17.9	-0.4
	baz=132						
EDW2	**Edwards Air Fo**	**131.78**	**44**	⇑P	PKPdf	21 37 18.2	-0.6
	baz=132						
PDAR	**Pinedale Array**	**131.81**	**30**	PKP	PKPdf	21 37 18.4	-0.2
	comp=Z,1.0nm,0.5s,baz=83,slow=1.0,SNR=12						
PDAR				SKPbc	SKPbc	21 40 38.7	-1.4
	comp=Z,3.9nm,1.1s,baz=300,slow=2.0,SNR=13						
PDAR	**Pinedale Array**	**131.81**	**30**	PKP	PKPdf	21 37 18.4	-0.2
PDAR				SKPbc	SKPbc	21 40 38.7	-1.4
DUG	**Dugway**	**131.85**	**35**	⇑P	PKPdf	21 37 18.8	0.0
	baz=132						
DUG	**Dugway**	**131.85**	**35**	*e*PKPdf	PKPdf	21 37 19.4	+0.6
DUG	**Dugway**	**131.85**	**35**	*e*PKIKP	PKPdf	21 37 19.4	+0.6
J20A	**Shoshoni**	**132.09**	**29**	⇑P	PKPdf	21 37 18.7	-0.4
	baz=132						
I21A	**Big Trails, Te**	**132.11**	**28**	⇓P	PKPdf	21 37 18.6	-0.5
	baz=132						
K19A	**Absolon Red Bu**	**132.12**	**30**	⇑P	PKPdf	21 37 19.0	-0.2
	baz=132						
H24A	**Dirks Ranch, A**	**132.58**	**25**	⇓P	PKPdf	21 37 19.2	-0.8
	baz=132						
J22A	**Midwest**	**132.79**	**27**	⇑P	PKPdf	21 37 19.6	-0.8
	baz=133						
O17A	**Robinson Place**	**133.02**	**33**	⇑P	PKPdf	21 37 21.2	+0.2
	baz=133						
K21A	**Alcova**	**133.03**	**29**	⇑P	PKPdf	21 37 21.3	+0.4
	baz=133						
I24A	**Kuemmerle Ranc**	**133.26**	**25**	⇑P	PKPdf	21 37 21.4	+0.1
	baz=133						
L21A	**Rawlins**	**133.49**	**29**	⇓P	PKPdf	21 37 21.4	-0.4
	baz=133						
PFO	**Pinyon Flat Ob**	**133.53**	**44**	⇑P	PKPdf	21 37 22.0	-0.2
	baz=134						
P18A	**Preston Nutter**	**133.69**	**34**	⇑P	PKPdf	21 37 21.5	-0.8
	baz=134						
K23A	**Bowen Ranch, D**	**133.70**	**27**	⇓P	PKPdf	21 37 22.3	+0.1
	baz=134						
M21A	**Separation Pea**	**133.76**	**30**	⇓P	PKPdf	21 37 22.2	-0.1
	baz=134						
O19A	**Miners Draw (B**	**133.82**	**32**	⇓P	PKPdf	21 37 22.7	+0.2
	baz=134						
Q18A	**Rafter H Ranch**	**134.11**	**34**	⇓P	PKPdf	21 37 22.4	-0.7
	baz=134						
L23A	**Garrett**	**134.16**	**28**	⇓P	PKPdf	21 37 22.6	-0.5
	baz=134						
S16A	**Weppner Ranch,**	**134.20**	**37**	⇑P	PKPdf	21 37 23.7	+0.4
	baz=134						
N21A	**Black Mountain**	**134.31**	**30**	⇑P	PKPdf	21 37 23.5	+0.1
	baz=134						
Q19A	**Hogan Spring (**	**134.70**	**34**	⇓P	PKPdf	21 37 24.1	-0.1
	baz=135						
R18A	**Canyonlands Na**	**134.74**	**35**	⇑P	PKPdf	21 37 24.3	0.0
	baz=135						
N23A	**Red Feather La**	**134.99**	**29**	⇑P	PKPdf	21 37 24.1	-0.6
	baz=135						
M24A	**Cheyenne**	**135.08**	**28**	⇓P	PKPdf	21 37 24.9	+0.1
	baz=135						
T17A	**Navajo Res., N**	**135.16**	**37**	⇑P	PKPdf	21 37 24.7	-0.4
	baz=135						
R19A	**Curley Farm, L**	**135.17**	**34**	⇑P	PKPdf	21 37 24.7	-0.4
	baz=135						
O23A	**Lake Granby, G**	**135.53**	**30**	⇓P	PKPdf	21 37 25.1	-0.6
	baz=136						
T18A	**Mexican Hat**	**135.61**	**36**	⇑P	PKPdf	21 37 24.8	-1.1
	baz=136						
Z13A	**Yuma Proving G**	**135.69**	**43**	⇑P	PKPdf	21 37 25.9	-0.4
	baz=136						
MVCO	**Mesa Verde**	**136.35**	**35**	⇓P	PKPdf	21 37 27.4	+0.1
	baz=136						
ECSD	**EROS Data Cent**	**136.38**	**19**	*e*PKPdf	PKPdf	21 37 26.6	-0.6
S21A	**Coal Bank Pass**	**136.43**	**34**	⇓P	PKPdf	21 37 27.5	+0.1
	baz=136						
V18A	**Ganado**	**136.53**	**37**	⇓P	PKPdf	21 37 27.7	0.0
	baz=136						
W18A	**Petrified Fore**	**137.05**	**38**	⇓P	PKPdf	21 37 27.4	-1.2
	baz=137						
V19A	**Window Rock**	**137.07**	**37**	⇓P	PKPdf	21 37 27.7	-1.0
	baz=137						
Y17A	**Roosevelt**	**137.27**	**40**	⇑P	PKPdf	21 37 28.1	-1.0
	baz=137						
U21A	**Nageezi**	**137.38**	**35**	⇓P	PKPdf	21 37 27.0	-2.2
	baz=137						
T22A	**Edith**	**137.39**	**34**	⇓P	PKPdf	21 37 27.2	-2.1
	baz=137						
SDCO	**Great Sand Dun**	**137.61**	**32**	⇓P	PKPdf	21 37 27.7	-1.9
	baz=138						
W20A	**Ramah**	**137.79**	**37**	⇑P	PKPdf	21 37 28.1	-2.0
	baz=138						
BGNE	**Belgrade**	**137.91**	**22**	⇑P	PKPdf	21 37 28.2	-1.9
	baz=138						
R25A	**Fountain Ranch**	**137.93**	**30**	⇑P	PKPdf	21 37 28.3	-1.9
	baz=138						
Y19A	**Nutrioso**	**138.11**	**39**	⇓P	PKPdf	21 37 28.4	-2.3
	baz=138						
V22A	**San Miguel Ran**	**138.17**	**35**	⇑P	PKPdf	21 37 28.7	-2.0
	baz=138						
R26A	**Arlington**	**138.22**	**29**	⇓P	PKPdf	21 37 29.3	-1.4
	baz=138						
T24A	**Torres, Weston**	**138.34**	**32**	⇓P	PKPdf	21 37 29.0	-2.0
	baz=138						
118A	**Homack Ranch,**	**138.50**	**41**	⇑P	PKPdf	21 37 29.4	-2.1
	baz=138						
Z19A	**T-Link Ranch,**	**138.54**	**40**	⇓P	PKPdf	21 37 29.7	-1.8
	baz=138						
X21A	**Alamocita Cree**	**138.69**	**37**	⇑P	PKPdf	21 37 30.7	-1.0
	baz=139						
Y20A	**Horse Springs,**	**138.69**	**38**	⇓P	PKPdf	21 37 30.7	-1.0
	baz=139						
Y21A	**Point of Rocks**	**139.05**	**37**	⇓P	PKPdf	21 37 31.3	-1.1
	baz=139						
Z20A	**Nine Sixteen R**	**139.08**	**39**	⇑P	PKPdf	21 37 31.6	-0.8
	baz=139						
ANMO	**Albuquerque**	**139.12**	**35**	PKP	PKPdf	21 37 33.6	+1.1
	comp=Z,1.4nm,0.6s,baz=270,slow=3.9,SNR=4.9						
ANMO				SKPbc	SKPbc	21 41 03.6	+0.3
	comp=Z,6.2nm,1.2s,baz=308,slow=5.0,SNR=10						
ANMO	**Albuquerque**	**139.12**	**35**	PKP	PKPdf	21 37 33.6	+1.1
ANMO				SKPbc	SKPbc	21 41 03.6	+0.3
ANMO	**Albuquerque**	**139.12**	**35**	PKIKP	PKPdf	21 37 33.6	+1.1
U25A	**Circle Dot Ran**	**139.19**	**32**	⇑P	PKPdf	21 37 32.1	-0.5
	baz=139						
318A	**Bisbee**	**139.23**	**42**	⇑P	PKPdf	21 37 31.7	-1.1
	baz=139						
219A	**White Tail Can**	**139.37**	**41**	⇓P	PKPdf	21 37 31.9	-1.1
	baz=139						
120A	**U Bar Ranch, L**	**139.43**	**40**	⇑P	PKPdf	21 37 31.9	-1.2
	baz=139						
Y22A	**Socorro**	**139.53**	**37**	⇑P	PKPdf	21 37 32.2	-1.1
	baz=140						
W24A	**Lazy 6 Ranch,**	**139.53**	**34**	⇑P	PKPdf	21 37 31.7	-1.5
	baz=140						
U26A	**Atchley Ranch,**	**139.54**	**31**	⇓P	PKPdf	21 37 31.8	-1.4
	baz=140						
Y25A	**Mesa, Roswell**	**140.87**	**35**	⇑P	PKPdf	21 37 32.6	-3.1
	baz=141						
X26A	**CR and CF Fran**	**140.90**	**33**	⇓P	PKPdf	21 37 32.5	-3.2
	baz=141						
Z24A	**Sheeppen Canyo**	**140.90**	**36**	⇑P	PKPdf	21 37 33.4	-2.4
	baz=141						
W27A	**Bowe Ranch, En**	**140.92**	**32**	⇑P	PKPdf	21 37 33.7	-2.1
	baz=141						
MSTX	**Muleshoe**	**141.90**	**33**	⇑P	PKPdf	21 37 35.4	-2.1
	baz=142						
MNTX	**Cornudas Mount**	**142.04**	**38**	⇓P	PKPdf	21 37 35.8	-2.1
	baz=142						
225A	**Deer Hill, Car**	**142.09**	**37**	⇑P	PKPdf	21 37 36.1	-1.8
	baz=142						
324A	**Moseley Ranch,**	**142.15**	**38**	⇑P	PKPdf	21 37 35.6	-2.4
	baz=142						
Z27A	**Tatum**	**142.15**	**34**	⇓P	PKPdf	21 37 36.0	-2.0
	baz=142						
325A	**Bean Ranch, Si**	**142.51**	**38**	⇓P	PKPdf	21 37 36.1	-2.6
	baz=142						
226A	**Malaga, Loving**	**142.55**	**36**	⇓P	PKPdf	21 37 36.6	-2.2
	baz=142						
425A	**Indio Mountain**	**142.91**	**39**	⇓P	PKPdf	21 37 36.7	-2.7
	baz=143						
326A	**Caldwell Ranch**	**143.16**	**37**	⇓P	PKPdf	21 37 37.3	-2.6
	baz=143						
CCM	**Cathedral Cave**	**143.19**	**16**	*e*PKPdf	PKPpre	21 37 34.0	
CCM	**Cathedral Cave**	**143.19**	**16**	*e*PKHKP	PKPpre	21 37 34.0	
WMOK	**Wichita Mounta**	**143.31**	**28**	*e*PKPdf	PKPdf	21 37 35.8	-4.2
WMOK	**Wichita Mounta**	**143.31**	**28**	*e*PKIKP	PKPdf	21 37 35.8	-4.2
426A	**McDonald Obser**	**143.58**	**38**	⇑P	PKPdf	21 37 38.1	-2.5
	baz=144						
TUL1	**Tulsa**	**143.60**	**23**	⇓P	PKPdf	21 37 37.2	-3.3
	baz=144						
328A	**Wristen Ranch,**	**143.80**	**36**	⇑P	PKPdf	21 37 38.6	-2.4
	baz=144						
427A	**Hayter Ranch,**	**143.84**	**37**	⇓P	PKPdf	21 37 39.7	-1.4
	baz=144						
WCI	**Wyandotte Cave**	**144.15**	**10**	*e*PKPdf	PKPdf	21 37 38.7	-2.7
WCI	**Wyandotte Cave**	**144.15**	**10**	*e*PKIKP	PKPdf	21 37 38.7	-2.7
527A	**Woodward Ranch**	**144.21**	**38**	⇓P	PKPdf	21 37 40.4	-1.3
	baz=144						
CFAA	**Coronel Fontan**	**144.25**	**196**	PKP	PKPdf	21 37 40.8	-1.0
	comp=Z,0.6nm,0.4s,baz=150,slow=3.8,SNR=10						
CFAA	**Coronel Fontan**	**144.25**	**196**	PKP	PKPdf	21 37 40.8	-1.0
626A	**Big Bend Ranch**	**144.29**	**39**	⇓P	PKPdf	21 37 40.5	-1.4
	baz=144						
428A	**Kincaid Ranch,**	**144.35**	**36**	⇑P	PKPdf	21 37 41.2	-0.8
	baz=144						
528A	**Cox Ranch, San**	**144.70**	**37**	⇓P	PKPdf	21 37 41.5	-1.1
	baz=145						
TXAR	**Lajitas Array**	**144.74**	**39**	PKP	PKPdf	21 37 41.5	-1.1
	comp=Z,13nm,0.4s,baz=278,slow=1.1,SNR=132						
TXAR				SKPbc	SKPbc	21 41 18.3	+0.6
	comp=Z,1.3nm,0.8s,baz=222,slow=1.2,SNR=5.2						
TXAR	**Lajitas Array**	**144.74**	**39**	PKP	PKPdf	21 37 41.5	-1.1
TXAR				SKPbc	SKPbc	21 41 18.3	+0.6
TXAR	**Lajitas Array**	**144.74**	**39**	PKIKP	PKPdf	21 37 41.6	-1.1
627A	**Terlingua Ranc**	**144.83**	**39**	⇑P	PKPdf	21 37 42.2	-0.6
	baz=145						
628A	**Black Gap, Mar**	**

PALP	Palanan	4.66	22	eP	Pn	21 19 48.3	+0.6
BATP	Bataraza	4.77	215	eP	Pn	21 19 47.2	-2.1
MSLP	Maasin	4.91	121	eP	Pn	21 19 51.7	+0.6
PAGZ	Pagadian	5.57	150	eP	Pn	21 20 02.3	+2.1
DAV	Davao City (W)	7.46	138	LR	LR	21 24 31.1	
	comp=Z,648nm,18.9s,baz=349,slow=47						
YULB	Yu-li	10.63	3	ePn	Pn	21 21 09.1	-0.6
SSLB	Suanglung	11.01	2	ePn	Pn	21 21 12.4	-2.4
NACB	Ninganchiao	11.43	5	ePn	Pn	21 21 20.4	-0.2
YHNB	Yeheng	11.90	3	ePn	Pn	21 21 26.3	-0.7
BTM	Bintulu	12.03	219	P	Pn	21 21 24.6	-4.3
JOW	Kunigami	15.78	26	P	Pn	21 22 23.8	+4.5
	1.4nm,0.3s,baz=166,slow=9.2,SNR=5.2						
JOW	Kunigami	15.78	26	P	Pn	21 22 23.8	+4.5
CM31	Chiang Mai Arr	21.61	288	eP	P	21 23 26.8	0.0
GUMO	Guam	23.65	85	LR	LR	21 32 33.1	
	comp=Z,105nm,18.6s,baz=246,slow=35						
GUMO	Guam	23.65	85	eP	P	21 23 46.5	-1.4
KSAR	Wonju Array Be	25.46	14	P	P	21 24 02.8	-1.4
KSRS	Korea Array	25.48	14	P	P	21 24 02.8	-1.6
	0.9nm,0.7s,baz=202,slow=9.3,SNR=3.5						
LZH	Lanzhou	27.73	330	eP	P	21 24 26.0	+1.3
	24nm,1.0s,mb4.8						
LZH				pP	pP	21 24 39.5	+4.1
LZH				sP	sP	21 24 46.3	+6.3
GTA	Gaotai	32.31	329	eP	P	21 25 06.5	+1.3
GTA				pP	pP	21 25 12.8	-3.2
GTA				sP	sP	21 25 16.4	-4.2
GTA				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.7						
MBWA	Marble Bar	33.68	181	eP	P	21 25 18.2	+0.9
PMG	Port Moresby	34.35	129	P	P	21 25 22.8	-0.4
	comp=Z,3.8nm,0.5s,mb4.6,baz=315,slow=5.7,SNR=3.4						
PMG	Port Moresby	34.35	129	eP	P	21 25 22.7	-0.5
	comp=Z,10nm,0.9s,mb4.8						
COEN	Coen	34.69	139	eP	P	21 25 26.2	+0.1
	comp=Z,60nm,1.0s,mb5.5						
WRA	Warramunga Arr	35.17	157	P	P	21 25 30.1	0.0
	comp=Z,30nm,0.7s,mb5.3,baz=337,slow=9.5,SNR=18						
WRA	Warramunga Arr	35.17	157	P	P	21 25 30.1	0.0
WB2	Warramunga Arr	35.17	157	eP	P	21 25 30.1	-0.1
ASAJ	Asahikawa	36.54	27	P	P	21 25 40.8	-0.9
	comp=Z,12nm,0.9s,mb4.7,baz=290,slow=7.3,SNR=5.2						
ASAJ	Asahikawa	36.54	27	eP	P	21 25 40.6	-1.1
	comp=Z,5.1nm,0.8s,mb4.4						
ULN	Ulaanbaatar	36.81	345	eP	P	21 25 43.9	-0.1
	comp=Z,2.9nm,0.6s,mb4.3						
SONM	Songino Array	36.96	344	P	P	21 25 45.1	-0.1
	comp=Z,4.2nm,0.6s,mb4.5,baz=165,slow=8.9,SNR=8.2						
SONM	Songino Array	36.96	344	P	P	21 25 45.1	-0.1
ASAR	Alice Springs	38.44	160	P	P	21 25 59.0	+1.0
	comp=Z,9.4nm,0.6s,mb4.7,baz=338,slow=6.8,SNR=9.8						
ASAR	Alice Springs	38.44	160	P	P	21 25 59.0	+1.0
TLY	Talaya	41.20	344	eP	P	21 26 20.6	-0.1
CTA	Charters Tower	41.24	142	P	P	21 26 22.4	+1.0
	comp=Z,3.9nm,0.8s,mb4.1,baz=313,slow=11,SNR=4.0						
CTA	Charters Tower	41.24	142	P	P	21 26 22.4	+1.0
NWAO	Narrogin (SRO)	45.51	184	P	P	21 26 56.9	+1.3
	comp=Z,12nm,0.9s,mb4.8,baz=12,slow=13,SNR=3.9						
NWAO	Narrogin (SRO)	45.51	184	eP	P	21 26 56.8	+1.3
	comp=Z,11nm,0.7s,mb4.9						
MKAR	Makanchi Array	46.76	324	P	P	21 27 06.5	+1.3
	comp=Z,13nm,0.8s,mb4.9,baz=127,slow=8.5,SNR=102						
MKAR	Makanchi Array	46.76	324	P	P	21 27 06.5	+1.3
YAK	Yakutsk	49.66	6	eP	P	21 27 25.9	-1.6
	comp=Z,7.1nm,0.6s,mb4.9						
ZAA0	Zalesovo Array	49.87	333	eP	P	21 27 28.6	-0.6
ZALV	Zalesovo Beam	49.87	333	P	P	21 27 29.0	-0.2
	comp=Z,4.9nm,0.4s,mb4.9,baz=123,slow=6.7,SNR=32						
ZALV	Zalesovo Beam	49.87	333	P	P	21 27 29.0	-0.2
PETK	Petropavlovsk-	49.92	28	P	P	21 27 30.1	+0.5
	comp=Z,4.4nm,0.8s,mb4.6,baz=213,slow=6.9,SNR=3.2						
PETK	Petropavlovsk-	49.92	28	P	P	21 27 30.1	+0.5
KURK	Kurchatov	50.94	327	P	P	21 27 38.2	+0.9
	comp=Z,37nm,1.0s,mb5.3,baz=120,slow=8.3,SNR=73						
KURK	Kurchatov	50.94	327	P	P	21 27 38.2	+0.9
KURK	Kurchatov	50.94	327	P	P	21 27 38.6	+1.3
	SNR=19						
MSVF	Nonsavu	64.28	117	eP	P	21 29 11.6	-0.1
	comp=Z,9.2nm,0.9s,mb4.8						
MCK	McKinley	78.90	27	eP	P	21 30 38.3	-0.7
	comp=Z,11nm,1.2s,mb4.7						
SML	Sawmill	79.40	29	eP	P	21 30 42.1	+0.4
ILAR	Eielson Array	79.67	26	P	P	21 30 42.3	-0.8
	comp=Z,1.4nm,1.1s,mb3.8,baz=266,slow=5.3,SNR=7.5						
ILAR	Eielson Array	79.67	26	P	P	21 30 42.3	-0.8
BRTR	Keskin Array B	79.67	308	P	P	21 30 45.3	+1.6
	comp=Z,3.7nm,0.8s,mb4.4,baz=106,slow=4.7,SNR=2.1						
BRTR	Keskin Array B	79.67	308	P	P	21 30 45.3	+1.6
ARCES	ARCESS Array B	79.95	339	P	P	21 30 44.8	+0.3
	comp=Z,2.4nm,0.6s,mb4.3,baz=89,slow=6.6,SNR=6.3						
ARCES	ARCESS Array B	79.95	339	P	P	21 30 44.8	+0.3
FINES	FINESS Array B	81.08	331	P	P	21 30 50.0	-0.7
	comp=Z,3.6nm,0.7s,mb4.4,baz=94,slow=4.2,SNR=6.0						
FINES	FINESS Array B	81.08	331	P	P	21 30 50.0	-0.7
INK	Inuvik	84.04	21	P	P	21 31 05.4	-0.6
	baz=282,slow=6.6						
INK	Inuvik	84.04	21	P	P	21 31 05.4	-0.6
NOA	NORSAR Array B	88.08	333	P	P	21 31 25.8	-0.3
	comp=Z,1.2nm,0.7s,mb4.2,baz=68,slow=4.6,SNR=4.2						
NOA	NORSAR Array B	88.08	333	P	P	21 31 25.8	-0.3
YKA	Yellowknife Ar	93.71	22	P	P	21 31 52.0	-0.3
	comp=Z,1.6nm,0.9s,mb4.5,baz=308,slow=4.2,SNR=18						
YKA	Yellowknife Ar	93.71	22	P	P	21 31 52.0	-0.3
TXAR	Lajitas Array	120.23	45	PKP	PKPdf	21 37 28.2	+0.8
	comp=Z,0.4nm,0.7s,baz=36,slow=2.3,SNR=4.6						
TXAR	Lajitas Array	120.23	45	PKP	PKPdf	21 37 28.2	+0.8
PLCA	Paso Flores	150.43	163	PKPbc	PKPbc	21 38 29.0	+1.5
	comp=Z,9.5nm,1.1s,baz=216,slow=4.9,SNR=4.7						
PLCA	Paso Flores	150.43	163	PKPbc	PKPbc	21 38 29.0	+1.5

*IDC **15** 21:21:12.7±0.7, 30°.91S×176°.74W, h0km, mb4.5/8, mb1 4.7/8, mb1mx4.4/17, mbtmp4.5/8, MS3.5/1, Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=26.6km s-min=22.3km az=38.0*
*NEIC **15** 21:21:14.0±0.5, 31°.02S×176°.82W, h10km, mb4.5/2, Error ellipse: s-maj=13.5km s-min=10.6km az=84.0*

ISC 15 21:21:13.2±4.8, 31°.01S±0°.06×176°.9W±0°.1, h2km±29km, n42, σ1°01/34, mb4.4/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.97	333	ePn	Pn	21 21 47.1	-0.5
RAO				eSn	Sn	21 22 11.5	-1.2
URZ	Urewera	8.76	213	Sn	Sn	21 24 54.8	-5.4
	2.4nm,0.3s,baz=168,slow=20,SNR=11						
URZ	Urewera	8.76	213	ePn	Pn	21 23 20.1	-0.7
URZ				Sn	Sn	21 24 54.8	-5.4
URZ				eSn	Sn	21 24 57.4	-2.8
SNZO	South Karori	12.31	211	Pn	Pn	21 24 08.3	-1.2
DZM	Mont Dzumac	17.36	297	eP	Pn	21 25 22.8	+6.2
	67nm,1.2s						
DZM				eLR	LR	21 29 36.5	
	498nm,29.4s						
DZM	Mont Dzumac	17.36	297	ePn	Pn	21 25 18.9	+2.3
	27nm,0.9s						
RAR	Rarotonga	18.18	62	LR	LR	21 30 25.3	
	comp=Z,174nm,20.5s,baz=205,slow=31						
PPT2	Papeete2	28.16	68	eLR	LR	21 33 49.7	
	196nm,26.8s						
CTA	Charters Tower	34.84	279	P	P	21 28 08.4	+2.6
	16nm,0.9s,mb5.0,baz=98,slow=10,SNR=4.2						
CTA	Charters Tower	34.84	279	P	P	21 28 08.4	+2.6
CTA	Charters Tower	34.84	279	ePCP	P	21 28 08.1	+2.3
CTAO	Charters Tower	34.84	279	ePcP	P	21 28 08.1	+2.3
ASAR	Alice Springs	44.04	267	P	P	21 29 22.9	+0.4
	4.3nm,0.7s,mb4.3,baz=107,slow=7.3,SNR=11						
ASAR	Alice Springs	44.04	267	P	P	21 29 22.9	+0.4
WB2	Warramunga Arr	45.07	272	eP	P	21 29 31.1	+0.3
WRAB	Tennant Creek	45.08	272	eP	P	21 29 31.2	+0.4
	6.1nm,0.7s,mb4.5						
WRA	Warramunga Arr	45.08	272	P	P	21 29 31.2	+0.3
	3.1nm,0.5s,mb4.4,baz=111,slow=8.0,SNR=7.9						
WRA	Warramunga Arr	45.08	272	P	P	21 29 31.2	+0.3
QSPA	South Pole Qui	59.10	180	P	P	21 31 15.7	+1.3
	7.6nm,0.7s,mb4.9,baz=37,slow=1.3,SNR=8.6						
QSPA	South Pole Qui	59.10	180	P	P	21 31 15.7	+1.3
PMSA	Palmer Station	71.31	155	P	P	21 32 35.4	+1.5
	12nm,0.6s,mb5.0,baz=154,slow=6.5,SNR=6.2						
PMSA	Palmer Station	71.31	155	P	P	21 32 35.4	+1.5
SNAA	Sanae	77.52	178	P	P	21 33 09.5	-0.5
	1.7nm,1.0s,mb3.9,baz=201,slow=4.9,SNR=4.0						
SNAA	Sanae	77.52	178	P	P	21 33 09.5	-0.5
VNA3	Neumayer Olymp	77.63	176	e	P	21 33 09.9	-0.7
VNA2	Neumayer--Watz	78.08	176	e	P	21 33 12.7	-0.4
	baz=176,slow=3.9						
VNA1	Neumayer--Stat	78.30	176	e	P	21 33 14.2	-0.1
NVAR	Mina Array Bea	88.04	42	P	P	21 34 04.3	-0.6
	2.0nm,0.9s,mb4.3,baz=193,slow=7.9,SNR=7.2						
NVAR	Mina Array Bea	88.04	42	P	P	21 34 04.3	-0.6
TXAR	Lajitas Array	91.91	57	P	P	21 34 22.7	-0.5
	0.4nm,0.8s,mb3.8,baz=189,slow=6.2,SNR=5.2						
TXAR	Lajitas Array	91.91	57	P	P	21 34 22.7	-0.5
CMAR	Chiang Mai Arr	94.51	289	P	P	21 34 39.4	+3.9
	0.9nm,0.9s,mb4.2,baz=114,slow=4.0,SNR=4.8						
CMAR	Chiang Mai Arr	94.51	289	P	P	21 34 39.4	+3.9
FINES	FINESS Array B	146.04	340	PKPbc	PKPbc	21 40 52.9	-1.1
	6.2nm,0.8s,baz=58,slow=2.9,SNR=16						
FINES	FINESS Array B	146.04	340	PKPbc	PKPbc	21 40 52.9	-1.1
NB2	NORSAR Subarra	149.49	352	PKP	PKPbc	21 41 02.3	-1.0
	comp=Z,0.9nm,0.7s,baz=12,slow=2.7						
NOA	NORSAR Array B	149.49	352	PKPbc	PKPbc	21 41 01.9	-1.3
	comp=Z,1.9nm,0.8s,baz=13,slow=4.1,SNR=3.7						
NOA	NORSAR Array B	149.49	352	PKPbc	PKPbc	21 41 01.9	-1.3
AKASG	Malin Array Be	152.36	323	PKPbc	PKPbc	21 41 09.3	-1.1
	comp=Z,0.6nm,0.4s,baz=33,slow=2.0,SNR=6.8						
AKASG				PKPab	PKPab	21 41 20.8	+0.3
	comp=Z,0.2nm,0.3s,baz=42,slow=2.8,SNR=8.1						
AKASG	Malin Array Be	152.36	323	PKPbc	PKPbc	21 41 09.3	-1.1
AKASG				PKPab	PKPab	21 41 20.8	+0.3
TORD	Torodi Ar. Bea	162.18	175	PKPab	PKPab	21 42 02.5	-0.9
	comp=Z,1.9nm,0.7s,baz=184,slow=2.9,SNR=12						
TORD	Torodi Ar. Bea	162.18	175	PKPab	PKPab	21 42 02.5	-0.9

IDC 15 21:34:11.1±2.5, 13°.88S×166°.31E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=107.5km s-min=28.4km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.85	227	P	P	21 40 11.6	+0.3
	1.0nm,0.6s,baz=52,slow=8.1,SNR=6.5						
WRA	Warramunga Arr	31.14	254	P	P	21 40 31.1	-0.7
	0.1nm,0.3s,baz=85,slow=9.6,SNR=7.7						
ASAR	Alice Springs	32.12	248	P	P	21 40 40.4	0.0
	0.3nm,0.6s,baz=70,slow=9.5,SNR=4.9						
ILAR	Eielson Array	86.02	18	P	P	21 46 52.4	-0.6
	0.7nm,0.7s,baz=235,slow=5.2,SNR=12						
MKAR	Makanchi Array	95.95	317	P	P	21 47 41.9	+1.9
	0.3nm,0.6s,baz=97,slow=6.0,SNR=3.2						

DDA 15 21:43:28.3, 39°.69N×42°.04E, h18km, Md2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	Horasan	0.37	344	iP	Pg	21 43 35.9	-0.2
HOMI				iS	Sg	21 43 42.4	+1.1
EZM	Erzurum	0.56	293	ePG	Pg	21 43 42.6	+3.0
EZM				eSG	Sg	21 43 52.8	+5.7
TUTA	Tutak	0.66	115	iP	Pb	21 43 40.8	-0.4
TUTA				iS	Sb	21 43 52.0	+1.9
AGRB	Hanur-Agry	0.74	98	ePG	Pg	21 43 42.0	-0.8
AGRB				eSG	Sg	21 43 54.6	+1.8
DDEM	Demirkent	1.22	350	iP	Pn	21 43 50.7	+0.3
DDEM				iS	Sb	21 44 11.2	+5.0

*ISCJB **15** 21:45:35.3±1.8, 6°.52S±0°.07×127°.5E±0°.1, h396km±23km, mb3.4/5, Error ellipse: s-maj=19.2km s-min=7.7km az=150.0*
*NEIC **15** 21:45:38.8±1.2, 6°.61S×127°.51E, h430km±19km, mb4.1/4, Error ellipse: s-maj=14.5km s-min=8.1km az=220.0*
*IDC **15** 21:45:39.1±2.7, 6°.58S×127°.57E, h430km±34km, mb3.0/4, mb1 3.1/8, mb1mx3.0/16, mbtmp3.0/8, Error ellipse: s-maj=32.3km s-min=12.2km az=72.0*

ISC 15 21:45:38.7±1.1, 6°.61S±0°.07×127°.5E±0°.1, h427km±17km, n25, σ0°57/31, mb3.4/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.57	189	P	P	21 48 12.5	-0.6
	0.2nm,0.3s,baz=9.5,slow=11,SNR=5.9						
FITZ	Fitzroy Crossi	11.57	189	P	P	21 48 12.5	-0.6
WRAB	Tennant Creek	14.81	154	eP	P	21 48 48.9	+0.5
WRAB				eS	S	21 51 25.4	+0.2
WRA	Warramunga Arr	14.82	154	P	P	21 48 49.0	+0.5
	0.7nm,0.3s,baz=329,slow=11,SNR=31						
WRA				S	S	21 51 24.6	-0.6
	0.3nm,0.3s,baz=329,slow=20,SNR=8.8						
WRA	Warramunga Arr	14.82	154	P	P	21 48 49.0	+0.5
WRA				S	S	21 51 24.6	-0.6
WB2	Warramunga Arr	14.82	154	eP	P	21 48 48.6	+0.1
WB2				eS	S	21 51 25.1	-0.3
MBWA	Marble Bar	16.31	207	eP	P	21 49 03.2	-1.2
	3.2nm,0.6s						
KKM	Kota Kinabalu	16.89	318	eP	P	21 49 11.2	+0.6
COEN	Coen	17.04	117	eP	P	21 49 12.2	0.0
	11nm,0.5s						
ASAR	Alice Springs	18.04	161	P	P	21 49 23.8	+1.2
	0.3nm,0.3s,baz=353,slow=13,SNR=13						
ASAR				S	S	21 52 27.8	+0.4
	0.2nm,0.3s,baz=350,slow=23,SNR=6.5						
ASAR	Alice Springs	18.04	161	P	P	21 49 23.8	+1.2
ASAR				S	S	21 52 27.8	+0.4
KSM	Kuching	18.96	294	eP	P	21 49 32.1	0.0
	6.2nm,0.6s						
PMG	Port Moresby	19.64	99	P	P	21 49 37.8	-0.5
	1.1nm,0.3s,baz=276,slow=9.2,SNR=2.7						
PMG	Port Moresby	19.64	99	P	P	21 49 37.8	-0.5
CTAO	Charters Tower	22.59	128	eP	P	21 50 04.3	-0.8
STKA	Stephens Creek	28.37	154	P	P	21 50 57.3	+1.0
	0.5nm,0.3s,mb3.3,baz=318,slow=12,SNR=2.7						
STKA	Stephens Creek	28.37	154	eP	P	21 50 57.2	+0.9
MJAR	Matsushiro Arr	44.08	12	P	P	21 53 06.7	-0.4
	1.7nm,0.6s,mb3.6,baz=193,slow=9.7,SNR=6.2						
MJAR	Matsushiro Arr	44.08	12	P	P	21 53 06.7	-0.4
MK31	Makanchi Array	66.57	328	eP	P	21 55 44.7	-0.1
MKAR	Makanchi Array	66.57	328	P	P	21 55 45.3	+0.5
	0.3nm,0.6s,mb3.1,baz=120,slow=7.5,SNR=7.4						
MKAR	Makanchi Array	66.57	328	P	P	21 55 45.3	+0.5
ZALV	Zalesovo Beam	70.16	335	P	P	21 56 06.3	-0.4
	0.6nm,0.5s,mb3.4,baz=138,slow=7.0,SNR=4.5						
ZALV	Zalesovo Beam	70.16	335	P	P	21 56 06.3	-0.4
KURK	Kurchatov	70.92	330	eP	P	21 56 11.2	-0.1
	1.2nm,0.6s,mb3.6						

*ISCJB **15** 21:54:12.0±2.1, 44°.23N±0°.08×128°.8W±0°.1, h0km±20km, Error ellipse: s-maj=17.4km s-min=11.8km az=144.2*
*IDC **15** 21:54:13.1±4.3, 44°.14N×128°.93W, h0km, mb3.1/2, mb1 3.6/4, mb1mx3.4/24, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=104.0km s-min=23.0km az=53.0*
*NEIC **15** 21:54:17.9±3.0, 44°.28N×128°.54W, h10km, ML3.2, Error ellipse: s-maj=36.6km s-min=10.4km az=83.0*

ISC 15 21:54:14.8±2.7, 44°.23N±0°.08×128°.8W±0°.1, h8km±25km, n19, σ0°75/24, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.54	111	ePn	Pn	21 55 05.0	-5.0
KEBM				eSn	Sn	21 55 45.3	-6.8
COR	Corvallis	3.98	83	ePn	Pn	21 55 15.7	-0.4
COR				eSn	Sn	21 56 03.2	+0.3
NLWA	Neilton Lookou	4.70	46	ePn	Pn	21 55 26.1	+0.2
YBH	Yreka Blue Hor	5.14	117	ePn	Pn	21 55 29.8	-2.3
HOOD	Mount Hood Mea	5.23	75	ePn	Pn	21 55 32.9	-0.4
	37nm,0.8s						
HOOD				eSn	Sn	21 56 34.2	+0.5
LON	Longmire	5.55	60	ePn	Pn	21 55 37.5	-0.1
	7.2nm,0.6s						
PGC	Sidney	5.78	38	ePn	Pn	21 55 40.5	-0.3
PGC				eSn	Sn	21 56 45.1	-2.2
JCW	Jim Creek	6.22	48	ePn	Pn	21 55 47.5	+0.6
	12nm,0.3s						
JCW				eSn	Sn	21 56 58.6	+0.5
BMO	Blue Mountains	8.26	82	ePn	Pn	21 56 15.1	+0.2
NEW	Newport	9.06	59	ePn	Pn	21 56 25.9	+0.1
NVAR	Mina Array Bea	9.81	123	Pn	Pn	21 56 36.5	+0.4
	0.1nm,0.3s,baz=308,slow=13,SNR=4.9						
NVAR	Mina Array Bea	9.81	123	Pn	Pn	21 56 36.5	+0.4
BSMT	Bassoo Peak	10.42	65	ePn	Pn	21 56 44.8	+0.4
HLID	Hailey	10.44	89	ePn	Pn	21 56 44.3	-0.3
	3.3nm,1.0s						
WALA	Waterton Lakes	11.34	60	ePn	Pn	21 56 57.7	+0.8
ANMO	Albuquerque	19.53	111	P	Pn	21 58 44.5	+0.7
	0.1nm,0.3s,baz=299,slow=10,SNR=4.2						
ANMO	Albuquerque	19.53	111	P	Pn	21 58 44.5	+0.7
YKA	Yellowknife Ar	20.09	19	P	P	21 58 48.7	+0.3
	1.0nm,0.8s,baz=209,slow=11,SNR=9.0						
ILAR	Eielson Array	22.93	340	P	P	21 59 19.1	+0.1
	0.8nm,1.0s,baz=148,slow=8.6,SNR=5.4						

*IDC **15** 22:09:59.9±1.4, 11°.22S×117°.91E, h0km, mb3.7/2, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML4.2/3, Error ellipse: s-maj=55.1km s-min=23.3km az=56.0*
*ISCJB **15** 22:10:00.3±0.6, 11°.75±0°.1×117°.57E±0°.09, h33km, mb3.8/2, Error ellipse: s-maj=19.4km s-min=6.0km az=40.1*
*DJA **15** 22:10:13, 10°.47S×117°.16E, h216km, MLv4.3/11*

ISC 15 22:10:03.2±0.7, 11°.6S±0°.1×117°.57E±0°.09, h35km, n16, σ0°71/22, mb3.8/2, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	Mataram	3.27	335	P	Pn	22 10 52.4	+0.4
IGBI	Denpasar	3.66	319	P	Pn	22 10 57.6	+0.2
KHKI	Kahang-Kahang	3.76	329	P	Pn	22 11 00.3	+1.5
NBBI	Negara	4.34	318	P	Pn	22 11 07.3	+0.5
JAGI	Jajag, Banyuwa	4.59	313	P	Pn	22 11 09.1	-1.1
JAGI				S	Sn	22 11 57.9	-4.5
GMJI	Gumukmas	5.25	309	P	Pn	22 11 18.4	-0.8
GMJI				S	Sn	22 12 13.9	-4.7
BLJI	Banyuglugur	5.49	314	P	Pn	22 11 22.5	-0.1
PWJI	Pagerwojo	6.71	302	P	Pn	22 11 39.7	+0.4
	0.4nm2μm32nm,0.6s						
PWJI				S	Sn	22 12 42.1	-13
	0.4nm2μm32nm,0.6s						
BKSI	Bulukumba	6.74	22	P	Pn	22 11 38.8	-1.0
	0.1nm27nm,0.9s						
SJI	Sawahan	6.90	303	P	Pn	22 11 41.9	0.0
	0.6nm4μm80nm,0.3s						
PCJI	Pacitan	7.16	298	P	Pn	22 11 44.9	-0.6
FITZ	Fitzroy Crossi	10.12	131	Pn	Pn	22 12 25.5	-0.6
	2.4nm,0.3s,baz=324,slow=12,SNR=56						
FITZ				Sn	Sn	22 14 11.2	-7.2
	0.4nm,0.3s,baz=184,slow=19,SNR=2.8						
WRA	Warramunga Arr	18.12	119	P	Pn	22 14 12.4	+0.1
	0.8nm,0.3s,baz=284,slow=14,SNR=8.8						
WRA				S	S	22 17 22.9	-15
	0.2nm,0.3s,baz=293,slow=26,SNR=3.9						
ASAR	Alice Springs	19.62	130	P	Pn	22 14 30.9	+0.6
	0.5nm,0.3s,baz=304,slow=10,SNR=28						
ASAR				S	S	22 17 59.8	-8.7
	0.1nm,0.3s,baz=301,slow=22,SNR=3.4						
NWAO	Narrogin (SRO)	21.21	181	P	P	22 14 52.1	+6.1
	7.7nm,0.9s,mb4.0,baz=13,slow=11,SNR=3.6						
MKAR	Makanchi Array	66.16	334	P	P	22 20 47.7	+0.6
	0.5nm,0.8s,mb3.6,baz=145,slow=6.7,SNR=3.3						

*CSEM **15** 22:24:18.7±0.6, 34°.75N×23°.70E, h21km±2km, ML2.9/1, Error ellipse: s-maj=10.1km s-min=7.5km az=57.0*
*ATH **15** 22:24:18.1, 34°.71N×23°.74E, h28km±1km, MD3.6/5*
*THE **15** 22:24:20.0, 34°.75N×23°.77E, h22km±1km, ML2.9/1, Error ellipse: s-maj=2.2km s-min=1.2km az=235.0*

ISC 15 22:24:18.6±2.1, 34°.72N±0°.09×23°.7E±0°.1, h24km±7km, n16, σ0°43/29, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.34	69	ePB	Pb	22 24 26.2	+0.1
GVD				eSB	Sb	22 24 31.3	+0.1
GVD	Gavdhos	0.34	69	P	Pb	22 24 26.3	+0.2
GVD				S	Sb	22 24 31.3	+0.1
GVD	Gavdhos	0.34	69	P	Pb	22 24 26.3	+0.2
GVD				S	Sb	22 24 31.3	+0.1
VAM	Vamos	0.80	30	ePN	Pn	22 24 33.8	-0.6
VAM				eSN	Sn	22 24 45.6	+0.1
VAM	Vamos	0.80	30	P	Pb	22 24 33.3	-0.6
VAM				S	Sb	22 24 44.8	+0.6
VAM	Vamos	0.80	30	P	Pb	22 24 33.3	-0.6
VAM	Vamos	0.80	30	ePn	Pn	22 24 33.8	-0.6
VAM				S	Sb	22 24 44.8	+0.6
VAM				eSn	Sn	22 24 45.6	+0.1
SIVA	Sivas	0.96	71	ePN	Pn	22 24 36.3	-0.2
SIVA				e

TXAR	Lajitas Array	36.58	312	P	P	22 53 05.9	+2.2
SCHQ	Schefferville	48.15	5	P	P	22 54 29.0	-7.7
2.3nm,0.7s,mb3.9,baz=178,slow=8.6,SNR=2.8							
SCHQ	Schefferville	48.15	5	P	P	22 54 29.0	-7.7
YKA	Yellowknife Ar	63.33	340	P	P	22 56 23.3	-1.2
0.1nm,0.6s,mb2.8,baz=134,slow=6.8,SNR=4.0							
YKA	Yellowknife Ar	63.33	340	P	P	22 56 23.3	-1.2
WRA	Warramunga Arr	150.45	241	PKPbc	PKPbc	23 05 47.3	+1.0
0.4nm,0.3s,baz=111,slow=1.9,SNR=4.7							
WRA	Warramunga Arr	150.45	241	PKPbc	PKPbc	23 05 47.3	+1.0

DJA 15 23:07:41,8°.25S×116°.08E,h128km,MLv3.5/7,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	Mataram	0.39	167	P	Pn	23 08 01.2	+1.9
MTNI				S	Sn	23 08 16.5	+3.3
KHKI	Kahang-Kahang	0.48	256	P	Pn	23 08 02.3	+2.6
KHKI				S	Sn	23 08 17.3	+3.4
IGBI	Denpasar	1.08	239	P	Pn	23 08 05.8	+1.3
NBBI	Negara	1.45	265	P	Pn	23 08 10.1	+1.7
JAGI	Jajag, Banyuwa	1.92	263	P	Pn	23 08 14.9	+1.0
JAGI				S	Sn	23 08 40.1	+1.0
BMNI	Bima	2.60	97	P	Pn	23 08 23.3	+0.9
BMNI				S	Sn	23 08 55.8	+1.5
GMJI	Gumukmas	2.61	269	P	Pn	23 08 23.6	+1.1
GMJI				S	Sn	23 08 54.0	-0.4
TNG	Tangerang	9.59	282	P	Pn	23 09 51.5	-4.4
TNG				P	Pn	23 09 51.5	-4.4

*IDC **15** 23:15:04.4±1.3,6°.02S×130°.68E,h0km,mb4.0/4, mb1 4.3/7,mb1mx4.1/15,mbtmp4.2/7,ML4.4/3,Error ellipse: s-maj=76.6km s-min=20.3km az=72.0*
*NEIC **15** 23:15:12.1±2.0,6°.41S×130°.05E,h46km±22km,mb3.6/3, Error ellipse: s-maj=17.5km s-min=13.9km az=52.0*
*ISCJB **15** 23:15:15.1±2.2,6°.53S±0°.07×130°.13E±0°.09,h97km±23km, mb3.9/5,Error ellipse: s-maj=15.3km s-min=10.7km az=171.4*
ISC 15 23:15:18.4±2.3,6°.65S±0°.09×130°.20E±0°.10,h120km±25km, n23,σ1°.53/33,mb3.9/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.22	201	Pn	Pn	23 18 10.7	+2.2
1.8nm,0.3s,baz=36,slow=12,SNR=50							
FITZ				Sn	Sn	23 20 23.7	+0.6
1.3nm,0.3s,baz=34,slow=18,SNR=5.2							
FITZ	Fitzroy Crossi	12.22	201	Pn	Pn	23 18 10.7	+2.2
FITZ				Sn	Sn	23 20 23.7	+0.6
WRAB	Tennant Creek	13.80	163	ePn	Pn	23 18 28.5	-0.5
4.2nm,0.5s							
WRAB				eSn	Sn	23 20 55.8	-5.6
WRA	Warramunga Arr	13.81	163	Pn	Pn	23 18 28.6	-0.5
1.6nm,0.3s,baz=347,slow=14,SNR=18							
WRA				Sn	Sn	23 20 55.6	-5.9
1.5nm,0.3s,baz=331,slow=23,SNR=8.5							
WRA	Warramunga Arr	13.81	163	Pn	Pn	23 18 28.6	-0.5
WRA				Sn	Sn	23 20 55.6	-5.9
WB2	Warramunga Arr	13.81	163	ePn	Pn	23 18 28.0	-1.1
WB2				eSn	Sn	23 20 54.3	-7.3
COEN	Coen	14.68	121	ePn	Pn	23 18 40.2	0.0
COEN				eSn	Sn	23 21 05.4	-17
AS31	Alice Springs	17.29	169	ePn	Pn	23 19 15.1	+2.7
AS31				eSn	Sn	23 22 19.6	-5.6
ASAR	Alice Springs	17.29	169	P	Pn	23 19 15.2	+2.8
1.6nm,0.3s,baz=348,slow=11,SNR=76							
ASAR				S	S	23 22 23.3	-1.8
0.4nm,0.3s,baz=358,slow=26,SNR=6.4							
ASAR	Alice Springs	17.29	169	P	Pn	23 19 15.2	+2.8
ASAR				S	S	23 22 23.3	-1.8
MBWA	Marble Bar	17.63	214	ePn	Pn	23 19 15.3	-1.2
1.6nm,0.3s							
KSM	Kuching	21.43	291	eP	P	23 19 55.2	-1.9
STKA	Stephens Creek	27.26	158	P	P	23 20 53.4	+2.0
0.8nm,0.4s,mb3.6,baz=326,slow=8.3,SNR=5.4							
STKA	Stephens Creek	27.26	158	eP	P	23 20 54.0	+2.6
0.2nm,0.5s,mb2.9							
NWAO	Narrogin (SRO)	28.79	203	eP	P	23 21 07.5	+2.5
20nm,1.2s,mb4.6							
ARMA	Armidale	31.04	142	eP	P	23 21 28.6	+3.6
MAJO	Matsushiro	43.62	9	P	P	23 23 12.0	+1.1
MKAR	Makanchi Array	68.05	327	P	P	23 26 05.1	+0.2
1.9nm,0.5s,mb4.2,baz=121,slow=8.2,SNR=40							
MKAR	Makanchi Array	68.05	327	P	P	23 26 05.1	+0.2
ZALV	Zalesovo Beam	71.36	334	P	P	23 26 23.5	-1.6
0.8nm,0.7s,mb3.7,baz=116,slow=6.5,SNR=4.8							
ZALV	Zalesovo Beam	71.36	334	P	P	23 26 23.5	-1.6
AKTO	Aktyubinsk	83.92	322	P	P	23 27 34.8	-0.1
0.6nm,0.6s,mb3.6,baz=90,slow=8.1,SNR=3.4							
AKTO	Aktyubinsk	83.92	322	P	P	23 27 34.8	-0.1

*IDC **16** 00:20:39.9±0.6,52°.37N×172°.59W,h0km,mb4.2/19, mb1 4.4/20,mb1mx4.2/30,mbtmp4.1/20,ML3.7/1,MS3.4/3, Ms1 3.4/3,ms1mx2.9/43,Error ellipse: s-maj=21.5km s-min=13.6km az=164.0*
*ISCJB **16** 00:20:44.0±0.5,52°.32N±0°.05×172°.53W±0°.04,h39km±4km, mb4.4/51,MS3.4/2,Error ellipse: s-maj=8.9km s-min=3.8km az=166.0*
*NEIC **16** 00:20:44.5±0.9,52°.26N×172°.53W,h30km±7km,mb4.5/39, ML4.4(PMR),ML3.9(AEIC),Error ellipse: s-maj=6.6km s-min=2.4km az=165.0*
ISC 16 00:20:45.1±1.4,52°.29N±0°.06×172°.54W±0°.04, h34km±10km,n365,σ0°.54/359,mb4.4/51,MS3.4/2, 130C-115D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	Flat Point	0.96	270	P	Pn	00 21 00.6	-1.4
KOKL	Mount Kliuchef	1.02	273	P	Pn	00 21 01.7	-1.2
GSTR	Great Sitkin T	2.17	266	ePn	Pn	00 21 19.2	+0.4
GSMY	Great Sitkin M	2.18	265	P	Pn	00 21 18.4	-0.5
GSMY				S	Sn	00 21 49.6	+5.0
GSTD	Great Sitkin T	2.23	265	P	Pn	00 21 19.4	-0.1
GSCK	Great Sitkin C	2.25	264	P	Pn	00 21 19.4	-0.4
NIKO	Nikolski	2.35	72	P	Pn	00 21 19.8	-1.4
NIKO				S	Sn	00 21 51.4	+2.5
ETKA	Kagalaska Isla	2.42	261	P	Pn	00 21 22.1	-0.1
ADK	Adak	2.59	263	P	Pn	00 21 24.1	-0.3
ADK				S	Sn	00 21 57.0	+2.4
OKSP	Okmok Steeple	2.76	68	P	Pn	00 21 26.3	-0.5
OKSP				S	Sn	00 22 04.6	+5.7
OKAK	Okmok	2.84	61	P	Pn	00 21 26.9	-1.1
OKWE	Okmok W'ng Wal	2.86	64	P	Pn	00 21 28.2	0.0
KIKV	Kanaga Island	2.88	264	P	Pn	00 21 28.5	0.0
KICM	Kanaga Island	2.89	265	P	Pn	00 21 29.5	+0.8
OKRE	Okmok R'deer P	2.92	63	P	Pn	00 21 29.2	+0.1
KIMD	Kanaga Island	2.95	262	P	Pn	00 21 29.4	+0.1
TASE	Tanaga Southea	3.42	265	P	Pn	00 21 35.5	-0.4
MSOM	Makushin Julie	3.71	63	P	Pn	00 21 39.8	0.0
UNV	Unalaska Valle	3.96	64	P	Pn	00 21 43.0	-0.3
AKUT	Akutan	4.47	63	eP	Pn	00 21 51.4	+1.1
SPIA	Saint Paul Isl	5.08	14	P	Pn	00 21 58.8	+0.2
TNA	Tin City	13.52	8	ePn	Pn	00 23 54.1	0.0
15nm,0.8s							
RSO	Redoubt South	13.64	45	ePn	Pn	00 23 56.7	+1.0
41nm,0.8s							
SLKM	Skilak Lake	14.78	47	ePn	Pn	00 24 12.8	+1.4
SEW	Seward	14.98	49	Pn	Pn	00 24 14.5	+0.5
TRF	Thorofare Moun	16.18	38	ePn	Pn	00 24 30.6	+1.1
32nm,1.4s							
COLA	College	17.85	36	ePn	Pn	00 24 51.3	+0.9
11nm,1.0s							
PETK	Petropavlovsk-	18.00	284	Pn	Pn	00 24 53.3	+1.0
1.0nm,0.3s,baz=80,slow=18,SNR=3.8							
PETK	Petropavlovsk-	18.00	284	Pn	Pn	00 24 53.3	+1.0
ILAR	Eielson Array	18.15	37	Pn	Pn	00 24 52.9	-1.1
0.1nm,0.3s,baz=231,slow=10,SNR=23							
ILAR				LR	LR	00 31 47.7	
comp=Z,74nm,20.0s,baz=297,slow=37							
ILAR	Eielson Array	18.15	37	Pn	Pn	00 24 52.9	-1.1
COLD	Coldfoot	18.55	28	eP	Pn	00 24 59.6	+0.6
17nm,1.1s							
DOT	Dot Lake	18.72	42	eP	Pn	00 25 01.0	+0.1
3.5nm,1.0s							
BILL	Bilibino	18.81	335	eP	Pn	00 25 02.6	+0.6
33nm,0.9s							
EGAK	Eagle	20.33	40	eP	P	00 25 18.3	+0.3
11nm,0.8s							
DAWY	Dawson	20.80	43	eP	P	00 25 23.7	+0.8
SKAG	Skagway	21.83	56	eP	P	00 25 34.5	+0.4
6.9nm,0.8s,mb4.1							
INK	Inuvik	24.50	34	P	P	00 25 59.4	-1.3
8.3nm,0.9s,mb4.3,baz=244,slow=9.8,SNR=22							
INK				LR	LR	00 36 25.9	
comp=Z,108nm,20.5s,MS3.3,baz=291,slow=39							
INK	Inuvik	24.50	34	eP	P	00 25 59.1	-1.6
11nm,1.0s,mb4.4							
DLBC	Dease Lake	24.59	59	P	P	00 26 02.4	+0.8
10.0nm,0.8s,mb4.4,baz=291,slow=10,SNR=20							
DLBC	Dease Lake	24.59	59	eP	P	00 26 02.2	+0.6
BBB	Bella Bella	26.89	72	P	P	00 26 22.6	+0.2
12nm,0.9s,mb4.5,baz=180,slow=4.0,SNR=2.2							
BBB	Bella Bella	26.89	72	P	P	00 26 22.6	+0.2
YKA	Yellowknife Ar	31.76	48	P	P	00 27 03.4	-2.1
1.0nm,0.8s,mb3.7,baz=279,slow=8.5,SNR=18							
YKA				PcP	PcP	00 29 55.8	-0.1
0.6nm,0.9s,baz=280,slow=2.6,SNR=7.4							
YKA	Yellowknife Ar	31.76	48	P	P	00 27 03.4	-2.1
YKA				PcP	PcP	00 29 55.9	-0.1
ETW	Entiat	33.31	77	eP	P	00 27 20.1	+0.8
20nm,0.9s,mb5.0							
HAWA	Hanford	34.38	78	eP	P	00 27 29.3	+0.8
16nm,0.8s,mb5.0							
OD2	Odessa Site #2	34.38	76	eP	P	00 27 27.9	-0.6
16nm,1.0s,mb4.9							
C09A	Chrisman Ranch	34.45	75	⇑P	P	00 27 29.3	+0.2
baz=34							
NEW	Newport	34.91	74	⇓P	P	00 27 33.3	+0.2
baz=35,SNR=9.8							
NEW	Newport	34.91	74	eP	P	00 27 33.1	0.0
13nm,0.8s,mb4.9							
E09A	Wood Farm, Sta	35.15	77	⇓P	P	00 27 35.0	-0.2
baz=35							
A12A	Yaak River Ran	35.46	72	⇑P	P	00 27 37.6	-0.2
baz=35							
K05A	Summer Lake	35.48	85	⇓P	P	00 27 39.1	+1.0
baz=35							
I07A	Izee	35.59	82	⇑P	P	00 27 39.5	+0.6
baz=35							
C11A	Tepee Creek (N	35.62	74	⇑P	P	00 27 39.3	0.0
baz=36							
F10A	Beach Ranch, E	35.97	78	⇓P	P	00 27 42.3	0.0
baz=36							
C12B	Naegeli Ranch,	36.15	74	⇑P	P	00 27 43.8	0.0
baz=36							
A13A	Flathead Natio	36.19	72	⇓P	P	00 27 44.2	+0.1
baz=36							
B13A	Whitefish	36.42	72	⇓P	P	00 27 46.2	+0.1
baz=36							
BSMT	Bassoo Peak	36.49	73	eP	P	00 27 46.6	0.0
11nm,1.0s,mb4.7							
J08A	Circle Bar Ran	36.61	82	⇑P	P	00 27 48.3	+0.5
baz=36							
C13A	Hot Springs	36.70	73	⇓P	P	00 27 48.9	+0.5
baz=36							
E12A	Beaver Dam Sad	36.74	76	⇑P	P	00 27 48.8	0.0
baz=37							
A14A	Double T Ranch	36.75	71	⇓P	P	00 27 48.9	+0.1
baz=37,SNR=7.0							
WVOR	Wild Horse Val	37.02	83	eP	P	00 27 52.1	+0.8
8.5nm,0.9s,mb4.6							
D13A	Huson	37.05	74	⇓P	P	00 27 51.1	-0.4
baz=37							
B14A	Marquette Ranc	37.13	72	⇓P	P	00 27 52.0	0.0
baz=37							
C14A	Swan Lake	37.14	73	⇑P	P	00 27 52.3	+0.1
baz=37							
A15A	Johnson Ranch,	37.14	71	⇓P	P	00 27 51.7	-0.5
baz=37							
F12A	Elk City	37.26	77	⇑P	P	00 27 53.3	0.0
baz=37							
MSO	Missoula	37.49	74	⇓P	P	00 27 55.2	0.0
baz=37							
MSO	Missoula	37.49	74	eP	P	00 27 55.3	+0.1
3.3nm,0.9s,mb4.2							
E13A	Victor	37.55	75	⇓P	P	00 27 55.2	-0.4
baz=37							
SLMT	Seeley Lake	37.55	74	eP	P	00 27 55.1	-0.5
8.5nm,1.1s,mb4.4							
B15A	Bradely Ranch,	37.56	71	⇓P	P	00 27 55.4	-0.3
baz=37,SNR=6.0							
D14A	Greenough	37.62	74	⇑P	P	00 27 56.0	-0.3
baz=38,SNR=15							
MJAR	Matsushiro Ar	37.75	265	PcP	PcP	00 30 14.6	+0.8
1.8nm,0.4s,baz=108,slow=1.5,SNR=5.4							
MJAR	Matsushiro Ar	37.75	265	PcP	PcP	00 30 14.6	+0.8
F13A	Darby	37.80	76	⇓P	P	00 27 57.8	+0.1
baz=38,SNR=12							
C15A	Salmond Ranch,	37.80	72	⇑P	P	00 27 57.9	+0.1
baz=38,SNR=12							
E14A	Clinton	37.97	75	⇑P	P	00 27 59.3	+0.1
baz=38							
B16A	M & M Farms, S	38.01	71	⇓P	P	00 27 59.2	-0.3
baz=38							
H12A	Diamond D Ranc	38.15	78	⇑P	P	00 28 00.8	+0.1
baz=38							
D15A	Lincoln	38.22	73	⇓P	P	00 28 01.2	-0.1
baz=38,SNR=8.6							
G13A	Cobalt	38.23	77	⇑P	P	00 28 00.9	-0.5
baz=38							
C16A	Fuhringer Ranc	38.29	72	⇓P	P	00 28 01.7	-0.2
baz=38,SNR=10.0							
A17A	Triple J Farms	38.33	70	⇓P	P	00 28 01.9	-0.3
baz=38							
F14A	Wisdom	38.36	75	⇓P	P	00 28 02.7	+0.2
baz=38,SNR=7.1							
I12A	Atlanta	38.39	79	⇓P	P	00 28 02.8	0.0
baz=38							
E15A	Deer Lodge	38.47	74	⇑P	P	00 28 03.1	-0.3
baz=38							
H13A	Challis	38.50	78	⇑P	P	00 28 03.5	-0.1
baz=38							
B17A	L&G Farms, Che	38.60	71	⇑P	P	00 28 04.0	-0.4
baz=38							
G14A	Jackson	38.61	76	⇓P	P	00 28 04.8	+0.2
baz=38							
D16A	Dana Ranch, Ca	38.80	73	⇓P	P	00 28 06.0	-0.2
baz=39							
I13A	Wildhorse Cree	38.94	78	⇓P	P	00 28 07.5	+0.2
baz=39,SNR=8.9							
C17A	Wharram Farm,	38.95	71	⇓P	P	00 28 07.1	-0.3
baz=39							
HLID	Hailey	38.95	79	⇑P	P	00 28 07.3	-0.3
baz=39							
HLID	Hailey	38.95	79	eP	P	00 28 08.1	+0.5
9.8nm,1.4s,mb4.3							
E16A	East Helena	38.98	73	⇓P	P	00 28 07.4	-0.3
baz=39							
H14A	Leadore	39.00	77	⇑P	P	00 28 07.7	-0.2
baz=39							
DLMT	Dillon	39.06	76	eP	P	00 28 08.4	+0.1
2.7nm,0.8s,mb4.0							
B18A	Beardsley Farm	39.14	70	⇑P	P	00 28 08.4	-0.6
baz=39							
J13A	Cove Ranch, Pi	39.19	79	⇑P	P	00 28 09.9	+0.4
baz=39,SNR=10							
MCMT	McKenzie Canyo	39.20	76	eP	P	00 28 09.9	+0.4
4.0nm,0.8s,mb4.2							
G15A	Dillon	39.23	76	⇑P	P	00 28 09.3	-0.5
baz=39,SNR=6.3							
I14A	Mackay	39.33	78	⇑P	P	00 28 11.1	+0.5
baz=39,SNR=10							
EGMT	Eagleton	39.34	70	⇑P	P	00 28 10.3	-0.3
baz=39							
EGMT	Eagleton	39.34	70	eP	P	00 28 11.1	+0.5
24nm,1.4s,mb4.7							
F16A	Kennard Place,	39.41	74	⇑P	P	00 28 11.1	-0.2
baz=39							
H15A	Lima	39.43	77	⇑P	P	00 28 11.1	-0.4
baz=39,SNR=5.3							
BOZ	Bozeman (W)	39.48	75	⇓P	P	00 28 11.4	-0.4
baz=39,SNR=5.6							
BOZ	Bozeman (W)	39.48	75	eP	P	00 28 12.0	+0.1
4.6nm,0.9s,mb4.2							
E17A	Martinsdale	39.50	73	⇑P	P	00 28 11.7	-0.4
baz=39,SNR=7.8							
B19A	Brinkman Farms	39.59	69	⇓P	P	00 28 12.3	-0.5
baz=39,SNR=7.6							
G16A	Moss Hill, Enn	39.60	75	⇑P	P	00 28 12.7	-0.2
baz=39							
NVAR	Mina Array Bea	39.61	88	P	P	00 28 14.2	+1.1
2.2nm,0.8s,mb3.9,baz=296,slow=7.8,SNR=14							
NVAR				PcP	PcP	00 30 20.9	+1.3
0.8nm,0.8s,baz=287,slow=2.5,SNR=4.5							
NVAR	Mina Array Bea	39.61	88	P	P	00 28 14.2	+1.1
NVAR				PcP	PcP	00 30 20.9	+1.3
J14A	Carey	39.63	79	⇑P	P	00 28 13.0	-0.2
baz=40							
D18A	Linhart Farms,	39.73	72	⇑P	P	00 28 14.2	+0.2
baz=40,SNR=8.7							
C19A	Slack Wire Ran	39.89	70	⇓P	P	00 28 15.3	0.0
baz=40,SNR=15							
F17A	Fitzpatrick Pl	39.91	74	⇑P	P	00 28 15.0	-0.4
baz=40							
A20A	Cobblestone Ra	39.95	68	⇑P	P	00 28 15.4	-0.4
baz=40							
E18A	Harlowton	40.00	72	⇓P	P	00 28 16.2	0.0
baz=40							
B20A	Solberg Farm,	40.12	69	⇓P	P	00 28 16.8	-0.4
baz=40							
G17A	Pierce Place,	40.18	75	⇑P	P	00 28 17.2	-0.6
baz=40							
H16A	Russell Place,	40.22	76	⇓P	P	00 28 17.9	-0.2
baz=40,SNR=7.4							
J15A	Blackfoot	40.24	78	⇓P	P	00 28 18.4	+0.2
baz=40							
D19A	Cripps Ranch,	40.29	71	⇑P	P	00 28 18.4	-0.2
baz=40							
FFC	Flin Flon	40.42	58	eP	P	00 28 18.0	-1.5
4.7nm,0.9s,mb4.2							
F18A	Big Timber	40.47	73	⇑P	P	00 28 20.3	+0.2
baz=40							
C20A	Veseth Ranch,	40.51	70	⇓P	P	00 28 20.4	0.0
baz=40							
L14A	Malta	40.53	80	⇑P	P	00 28 20.9	+0.2
baz=40							
I16A	Newdale	40.54	77	⇑P	P	00 28 21.1	+0.4
baz=40							
K15A	Arbon	40.59	79	⇑P	P	00 28 21.1	0.0
baz=40							
E19A	Rath Farm, Rou	40.72	72	⇑P	P	00 28 22.4	+0.3
baz=40							
D20A	Manuel Ranch,	40.76	71	⇑P	P	00 28 22.4	-0.1
baz=41							
H17A	Grant Village	40.79	76	⇑P	P	00 28 22.8	+0.1
baz=41							
J16A	Bone	40.80	78	⇓P	P	00 28 23.1	+0.2
baz=41							
FLWY	Flagg Ranch	40.89	76	eP	P	00 28 24.8	+1.2
7.4nm,0.9s,mb4.3							
RRI2	Red Ridge	40.94	77	eP	P	00 28 24.9	+0.9
12nm,0.9s,mb4.5							
F19A	Roth Farm, Mol	40.95	73	⇓P	P	00 28 23.7	-0.3
baz=41							
C21A	Desert Coulee	40.97	69	⇑P	P	00 28 24.1	-0.1
baz=41							
A22A	Carney Farms,	41.04	67	⇑P	P	00 28 24.4	-0.4
baz=41							
K16A	Soda Springs	41.07	78	⇑P	P	00 28 24.1	-1.0
baz=41,SNR=11							
L15A	Malad City	41.07	80	⇓P	P	00 28 25.2	+0.1
baz=41							
E20A	Meyer Farm, Mu	41.08	71	⇓P	P	00 28 24.6	-0.5
baz=41							
RLMT	Red Lodge	41.16	74	⇑P	P	00 28 26.0	+0.2
baz=41,SNR=12							
RLMT	Red Lodge	41.16	74	eP	P	00 28 26.1	+0.2
47nm,1.0s,mb5.1							
H18A	Shoshone NF, C	41.17	75	⇑P	P	00 28 26.2	+0.3
baz=41,SNR=5.6							
ISA	Isabella	41.28	92	⇓P	P	00 28 27.0	+0.1
baz=41							
R11A	Troy Canyon, C	41.33	86	⇓P	P	00 28 27.2	-0.1
baz=41							
AHID	Auburn Hatcher	41.40	78	eP	P	00 28 27.8	0.0
9.1nm,1.0s,mb4.4							
D21A	La Casta Ranch	41.43	70	⇓P	P	00 28 27.6	-0.4
baz=41							
H19A	Powell	41.58	74	⇓P	P	00 28 29.5	+0.3
baz=41,SNR=7.8							
I18A	Diamond G Ranc	41.63	76	⇓P	P	00 28 29.6	-0.1
baz=42							
L16A	Fish Haven	41.64	79	⇑P	P	00 28 30.2	+0.4
baz=42							
A23A	Redstone	41.64	67	⇓P	P	00 28 29.3	-0.4
baz=42							
C22A	Vida	41.71	69	⇓P	P	00 28 30.0	-0.3
baz=42							
G20A	Bridger	41.73	73	⇑P	P	00 28 30.2	-0.2
baz=42,SNR=7.5							
FURC	Furnace Creek,	41.74	90	⇑P	P	00 28 30.5	-0.2
baz=42							
J18A	Kendall Valley	41.79	77	⇓P	P	00 28 30.7	-0.3
baz=42							
B23A	Brockton	41.84	67	⇓P	P	00 28 30.8	-0.5
baz=42,SNR=8.9							
D22A	Cohagen	41.86	70	⇓P	P	00 28 31.2	-0.3
baz=42							
DUG	Dugway	41.89	82	⇑P	P	00 28 32.0	+0.2
baz=42							
DUG	Dugway	41.89	82	eP	P	00 28 32.3	+0.5
11nm,1.1s,mb4.4							
C23A	Lambert	42.08	68	⇑P	P	00 28 33.1	-0.2
baz=42,SNR=9.9							
LAO	LASA Array	42.08	70	⇑P	P	00 28 33.1	-0.3
baz=42							
A24A	Westby	42.15	66	⇓P	P	00 28 33.5	-0.4
baz=42							
H20A	Greybull	42.27	74	⇓P	P	00 28 34.5	-0.4
baz=42							
PD01	Pinedale Array	42.30	77	eP	P	00 28 35.2	0.0
PD02	Pinedale Array	42.31	77	eP	P	00 28 35.2	0.0
G21A	Lodge Grass	42.32	73	⇑P	P	00 28 34.8	-0.5
baz=42							
BW06	Boulder Array	42.33	77	⇓P	P	00 28 35.2	-0.1
baz=42,SNR=11							
PDAR	Pinedale Array	42.33	77	P	P	00 28 35.5	+0.2
6.9nm,0.8s,mb4.3,baz=309,slow=4.1,SNR=48							
PDAR	Pinedale Array	42.33	77	P	P	00 28 35.5	+0.2
J19A	Crowheart	42.34	76	⇑P	P	00 28 35.4	-0.1
baz=42							
E22A	Miles City	42.38	70	⇓P	P	00 28 35.6	-0.1
baz=42							
D23A	Lindsay	42.40	69	⇑P	P	00 28 35.4	-0.5
baz=42							
M17A	Scullys Gap (B	42.42	79	⇑P	P	00 28 36.2	+0.1
baz=42							
R13A	O'Grain Ranch,	42.43	85	⇓P	P	00 28 36.1	-0.1
baz=42							
L18A	Fontenelle, Gr	42.53	78	⇑P	P

baz=43
P17A **Butcher Ranch,** 43.59 82 ⇓P P 00 28 45.4 -0.3
baz=43
N19A **John Jarvie Ra** 43.67 79 ⇑P P 00 28 46.2 -0.1
baz=44
J22A **Midwest** 43.78 74 ⇑P P 00 28 47.0 -0.1
baz=44,SNR=8.2
K21A **Alcova** 43.78 76 ⇓P P 00 28 46.5 -0.6
baz=44,SNR=7.2
P18A **Preston Nutter** 43.80 81 ⇓P P 00 28 47.9 +0.6
baz=44
R16A **Teasdale** 43.88 83 ⇓P P 00 28 48.8 +0.9
baz=44
G24A **Alzada** 43.88 71 ⇑P P 00 28 47.4 -0.5
baz=44
M20A **Sweetwater, Wa** 43.90 78 ⇓P P 00 28 48.4 +0.3
baz=44
SRU **San Rafael** 43.95 82 *e*P P 00 28 48.3 -0.2
10nm,0.8s,mb4.6
O19A **Miners Draw (B** 44.06 80 ⇓P P 00 28 49.7 +0.3
baz=44
L21A **Rawlins** 44.11 77 ⇑P P 00 28 49.3 -0.5
baz=44,SNR=11
H24A **Dirks Ranch, A** 44.14 72 ⇓P P 00 28 50.2 +0.2
baz=44
S16A **Weppner Ranch,** 44.17 84 ⇓P P 00 28 50.7 +0.4
baz=44
Q18A **Rafter H Ranch** 44.19 82 ⇑P P 00 28 50.4 -0.1
baz=44,SNR=6.7
K22A **Casper** 44.20 75 ⇑P P 00 28 50.6 +0.1
baz=44
N20A **Spence Gulch,** 44.25 78 ⇑P P 00 28 51.0 +0.1
baz=44
R17A **Hanksville Air** 44.27 83 ⇓P P 00 28 51.4 +0.3
baz=44,SNR=7.9
M21A **Separation Pea** 44.33 77 ⇓P P 00 28 51.4 -0.1
baz=44
P19A **Cripple Cowboy** 44.56 80 ⇑P P 00 28 53.1 -0.3
baz=44
U15A **North Rim** 44.57 86 ⇑P P 00 28 54.3 +0.8
baz=44,SNR=6.2
I24A **Kuemmerle Ranc** 44.61 73 ⇓P P 00 28 53.5 -0.3
baz=44
L22A **Ellis Ranch, M** 44.63 76 ⇑P P 00 28 53.9 0.0
baz=44
O20A **White River Ci** 44.70 79 ⇑P P 00 28 54.4 0.0
baz=44,SNR=9.4
S17A **Black Ridge (B** 44.71 84 ⇑P P 00 28 55.1 +0.5
baz=45,SNR=12
N21A **Black Mountain** 44.75 78 ⇑P P 00 28 54.7 -0.2
baz=45
R18A **Canyonlands Na** 44.78 82 ⇓P P 00 28 54.9 -0.3
baz=45
Q19A **Hogan Spring (** 44.81 81 ⇓P P 00 28 55.1 -0.3
baz=45,SNR=9.6
L23A **Garrett** 45.01 75 ⇑P P 00 28 56.5 -0.5
baz=45,SNR=7.5
O21A **Pagoda** 45.11 79 ⇑P P 00 28 57.8 +0.1
baz=45
T17A **Navajo Res., N** 45.12 84 ⇓P P 00 28 58.4 +0.5
baz=45
S18A **Hurst Farm, Bl** 45.16 83 ⇑P P 00 28 58.3 +0.1
baz=45,SNR=11
MDND **Maddock** 45.20 65 ⇓P P 00 28 58.2 -0.2
baz=45
R19A **Curley Farm, L** 45.23 82 ⇓P P 00 28 58.7 0.0
baz=45
N22A **Wattenberg Ran** 45.36 77 ⇑P P 00 28 59.5 -0.2
baz=45
PV04 **Paradox Valley** 45.38 82 *e*P P 00 28 59.5 -0.4
M23A **Laramie** 45.39 76 ⇑P P 00 28 59.6 -0.4
baz=45
Q20A **Ridgley Place,** 45.40 81 ⇑P P 00 28 59.9 -0.2
baz=45
U16A **Tuba City** 45.47 86 ⇑P P 00 29 00.1 -0.6
baz=45
P21A **Newcastle** 45.55 79 ⇑P P 00 29 01.2 -0.1
baz=45
T18A **Mexican Hat** 45.59 84 ⇑P P 00 29 01.2 -0.5
baz=45,SNR=16
N23A **Red Feather La** 45.61 77 ⇓P P 00 29 01.5 -0.2
baz=45
S19A **Harvey Farm, M** 45.65 82 ⇓P P 00 29 02.0 -0.1
baz=46,SNR=9.0
O22A **Kremmling** 45.70 78 ⇓P P 00 29 02.5 0.0
baz=46
Z13A **Yuma Proving G** 45.88 91 ⇓P P 00 29 04.7 +0.7
baz=46
ULM **Lac du Bonnet** 45.90 60 P P 00 29 02.3 -1.6
4.3nm,1.0s,mb4.3,baz=280,slow=9.6,SNR=4.4
ULM **Lac du Bonnet** 45.90 60 P P 00 29 02.3 -1.6
V17A **Tonalea, Kykot** 46.02 86 ⇓P P 00 29 05.7 +0.7
baz=46
O23A **Lake Granby, G** 46.05 78 ⇓P P 00 29 05.6 +0.5
baz=46,SNR=11
U18A **Rough Rock, Ch** 46.06 84 ⇑P P 00 29 05.7 +0.4
baz=46
S20A **Disappointment** 46.07 82 ⇑P P 00 29 05.1 -0.3
baz=46
R21A **Cimarron** 46.22 81 ⇓P P 00 29 06.6 +0.1
baz=46
Q22A **Crested Butte,** 46.29 80 ⇑P P 00 29 07.4 +0.3
baz=46
T19A **Beclabito** 46.31 83 ⇑P P 00 29 07.3 0.0
baz=46,SNR=18
MVCO **Mesa Verde** 46.38 83 ⇑P P 00 29 07.9 0.0
baz=46
X16A **Lo Mia Camp, P** 46.42 88 ⇑P P 00 29 08.7 +0.6
baz=46
ISCO **Idaho Springs** 46.48 78 ⇑P P 00 29 09.2 +0.5
baz=46
V18A **Ganado** 46.49 85 ⇓P P 00 29 09.4 +0.8
baz=46
S21A **Coal Bank Pass** 46.52 82 ⇑P P 00 29 09.4 +0.5
baz=46,SNR=7.3
U19A **Dine' College,** 46.55 84 ⇑P P 00 29 09.2 0.0
baz=46
P23A **Jefferson** 46.62 78 ⇑P P 00 29 10.5 +0.8
baz=46
R22A **Saguache, Gunn** 46.79 80 ⇓P P 00 29 11.2 +0.2
baz=47
Q23A **Hartsel** 46.92 79 ⇑P P 00 29 12.6 +0.6
baz=47,SNR=6.5
AGMN **Agassiz Nation** 47.01 63 *e*P P 00 29 11.4 -1.2
10nm,1.0s,mb4.7
S22A **4UR Ranch, Cre** 47.05 81 ⇓P P 00 29 13.8 +0.7
baz=47
T21A **Navajo Lake** 47.11 82 ⇓P P 00 29 13.9 +0.4
baz=47
O25A **Wiggins** 47.18 76 ⇑P P 00 29 14.3 +0.3
baz=47
Y17A **Roosevelt** 47.27 88 ⇑P P 00 29 14.8 -0.1
baz=47
V20A **Brimhall** 47.32 84 ⇓P P 00 29 15.0 -0.2
baz=47
R23A **Moffat** 47.38 80 ⇑P P 00 29 15.7 +0.1
baz=47
U21A **Nageezi** 47.41 83 ⇓P P 00 29 16.3 +0.4
baz=47,SNR=8.8
T22A **Edith** 47.48 82 ⇓P P 00 29 16.7 +0.2
baz=47
BRSD **Miller** 47.55 69 ⇑P P 00 29 16.1 -0.8
baz=47
Y18A **Canyon Day Jun** 47.71 87 ⇑P P 00 29 18.6 +0.3
baz=48
X19A **St. Johns** 47.73 86 ⇑P P 00 29 19.1 +0.7
baz=48
W20A **Ramah** 47.75 85 ⇓P P 00 29 19.3 +0.8
baz=48
R24A **Sanders Place,** 47.78 79 ⇑P P 00 29 19.4 +0.7
baz=48,SNR=5.2
SDCO **Great Sand Dun** 47.86 80 ⇓P P 00 29 19.8 +0.5
baz=48,SNR=11
SDCO **Great Sand Dun** 47.86 80 *e*P P 00 29 19.5 +0.1
6.8nm,1.0s,mb4.6
Q25A **Bedland, Calha** 47.87 78 ⇓P P 00 29 19.9 +0.5
baz=48
U22A **Llaves** 47.93 82 ⇓P P 00 29 20.6 +0.7
baz=48
S24A **Houchin Ranch,** 48.10 80 ⇑P P 00 29 21.8 +0.6
baz=48,SNR=6.7
V22A **San Miguel Ran** 48.20 83 ⇑P P 00 29 22.4 +0.4
baz=48
TUC **Tucson** 48.25 89 *e*P P 00 29 22.7 +0.2
7.6nm,1.3s,mb4.6
R25A **Fountain Ranch** 48.34 79 ⇑P P 00 29 23.2 +0.2
baz=48
U23A **El Rito** 48.36 82 ⇓P P 00 29 23.9 +0.6
baz=48,SNR=7.2
S25A **Robets Cordova** 48.56 79 ⇑P P 00 29 25.2 +0.4
baz=48
T24A **Torres, Weston** 48.57 80 ⇑P P 00 29 25.2 +0.3
baz=48
Y20A **Horse Springs,** 48.64 86 ⇓P P 00 29 25.8 +0.4
baz=48
X21A **Alamocita Cree** 48.64 85 ⇑P P 00 29 25.8 +0.4
baz=48
R26A **Arlington** 48.74 78 ⇑P P 00 29 25.9 -0.2
baz=49
V23A **Ortiz Mt. (NFS** 48.75 82 ⇓P P 00 29 26.6 +0.4
baz=49
T25A **Trinidad** 48.91 80 ⇑P P 00 29 28.0 +0.5
baz=49,SNR=9.9
Z20A **Nine Sixteen R** 49.05 87 ⇑P P 00 29 28.9 +0.3
baz=49
LAZ **Ladron** 49.06 84 *e*P P 00 29 29.7 +1.0
3.7nm,1.1s,mb4.3
ANMO **Albuquerque** 49.11 83 P P 00 29 28.0 -1.0
0.3nm,0.3s,mb3.8,baz=322,slow=5.1,SNR=2.7
ANMO PcP PcP 00 30 52.1 -0.1
1.6nm,0.9s,baz=309,slow=4.7,SNR=4.5
ANMO **Albuquerque** 49.11 83 P P 00 29 28.0 -1.0
ANMO PcP PcP 00 30 52.1 -0.1
V24A **Rampart Ranch,** 49.32 82 ⇑P P 00 29 30.4 -0.2
baz=49
318A **Bisbee** 49.34 89 ⇑P P 00 29 30.8 0.0
baz=49
U25A **Circle Dot Ran** 49.40 80 ⇑P P 00 29 31.6 +0.4
baz=49,SNR=7.6
Z21A **St. Cloud Mine** 49.48 86 ⇓P P 00 29 32.2 +0.3
baz=49
Y22A **Socorro** 49.48 85 ⇓P P 00 29 32.1 +0.2
baz=49
X23A **Hourglass Bar** 49.53 84 ⇓P P 00 29 32.3 +0.1
baz=49
BNM **Barren Site** 49.55 84 *e*P P 00 29 32.8 +0.4
3.6nm,0.8s,mb4.5
W24A **Lazy 6 Ranch,** 49.58 82 ⇓P P 00 29 32.7 +0.1
baz=49
V25A **Rancho No Teng** 49.64 81 ⇓P P 00 29 33.4 +0.4
baz=50
U26A **Atchley Ranch,** 49.80 80 ⇑P P 00 29 34.3 +0.1
baz=50,SNR=7.2
319A **Douglas** 49.82 89 ⇑P P 00 29 34.7 +0.2
baz=50
220A **Playas Peak, P** 49.92 88 ⇓P P 00 29 33.7 -1.5
baz=50,SNR=8.1
121A **Cookes Peak, D** 49.94 87 ⇓P P 00 29 33.9 -1.4
baz=50,SNR=9.4
Z22A **Elephant Butte** 49.95 85 ⇑P P 00 29 33.7 -1.7
baz=50
Y23A **Lovelace Mesa,** 50.05 84 ⇓P P 00 29 34.6 -1.5
baz=50
W25A **X Bar L Ranch,** 50.15 82 ⇑P P 00 29 35.6 -1.3
baz=50,SNR=9.7
FRB **Frobisher Bay** 50.16 34 P P 00 29 36.8 +0.2
3.2nm,1.0s,mb4.3,baz=320,slow=8.8,SNR=3.7
FRB **Frobisher Bay** 50.16 34 P P 00 29 36.8 +0.2
Z26A **Caprock** 51.76 83 ⇓P P 00 29 48.6 -0.5
baz=52
125A **Gardner Draw,** 51.77 84 ⇑P P 00 29 49.2 +0.1
baz=52
Y27A **Causey** 51.84 82 ⇓P P 00 29 49.8 +0.1
baz=52
MNTX **Cornudas Mount** 51.99 86 ⇓P P 00 29 50.8 +0.1
baz=52
MNTX **Cornudas Mount** 51.99 86 *e*P P 00 29 49.8 -0.9
4.2nm,1.0s,mb4.3
MSTX **Muleshoe** 52.02 82 ⇑P P 00 29 51.5 +0.5
baz=52
225A **Deer Hill, Car** 52.04 85 ⇓P P 00 29 51.6 +0.4
baz=52
126A **Clayton Basin,** 52.16 84 ⇑P P 00 29 51.9 -0.2
baz=52
Z27A **Tatum** 52.20 83 ⇑P P 00 29 52.2 -0.1
baz=52
325A **Bean Ranch, Si** 52.47 86 ⇓P P 00 29 54.5 +0.2
baz=52
426A **McDonald Obser** 53.53 86 ⇑P P 00 30 02.3 +0.1
baz=53
428A **Kincaid Ranch,** 54.31 84 ⇑P P 00 30 07.9 0.0
baz=54
528A **Cox Ranch, San** 54.65 85 ⇑P P 00 30 10.1 -0.3
baz=54
TXAR **Lajitas Array** 54.70 86 P P 00 30 10.5 -0.2
4.8nm,0.8s,mb4.6,baz=297,slow=4.8,SNR=19
TXAR **Lajitas Array** 54.70 86 P P 00 30 10.5 -0.2
627A **Terlingua Ranc** 54.78 86 ⇓P P 00 30 11.3 0.0
baz=55
628A **Black Gap, Mar** 55.06 86 ⇑P P 00 30 13.0 -0.4
baz=55
JCT **Junction City** 56.25 83 ⇓P P 00 30 21.6 -0.3
baz=56
KURK **Kurchatov** 61.12 317 P P 00 30 55.3 -0.1
1.7nm,0.8s,mb4.2,baz=40,slow=7.1,SNR=11
KURK PP PP 00 33 10.9 +1.2
1.5nm,0.9s,baz=47,slow=8.9,SNR=4.3
KURK **Kurchatov** 61.12 317 P P 00 30 55.3 -0.1
KURK PP PP 00 33 10.9 +1.2
MKAR **Makanchi Array** 62.43 312 P P 00 31 05.1 +0.8
0.6nm,0.7s,mb3.8,baz=23,slow=4.0,SNR=4.5
MKAR **Makanchi Array** 62.43 312 P P 00 31 05.1 +0.8
NOA **NORSAR Array B** 66.98 358 P P 00 31 34.6 +0.9
0.7nm,0.7s,mb3.8,baz=3.5,slow=6.6,SNR=2.4
NOA **NORSAR Array B** 66.98 358 P P 00 31 34.6 +0.9
AAK **Ala-Archa** 69.17 313 *e*P P 00 31 47.5 -0.3
12nm,0.9s,mb4.8
ABKAR **Akbulak array** 69.45 326 *e*P P 00 31 49.6 +0.2
2.9nm,0.9s,mb4.2
KKAR **Karatay Array** 70.53 316 *e*P P 00 31 56.6 +0.5
0.3nm,0.4s,mb3.6
CMAR **Chiang Mai Arr** 74.73 280 P P 00 32 20.6 -0.8
1.0nm,0.4s,mb4.1,baz=18,slow=7.8,SNR=6.3
CMAR **Chiang Mai Arr** 74.73 280 P P 00 32 20.6 -0.8
GERES **GERESS Array B** 79.11 356 P P 00 32 44.6 -1.0
0.3nm,0.6s,mb3.4,baz=26,slow=9.4,SNR=4.8
GERES **GERESS Array B** 79.11 356 P P 00 32 44.6 -1.0
WRA **Warramunga Arr** 85.45 229 P P 00 33 18.9 -0.2
0.8nm,0.5s,mb4.1,baz=39,slow=5.9,SNR=7.8
WRA **Warramunga Arr** 85.45 229 P P 00 33 18.9 -0.2
BRTR **Keskin Array B** 85.58 340 P P 00 33 19.4 -0.1
1.1nm,0.9s,mb4.1,baz=20,slow=3.9,SNR=4.0
BRTR **Keskin Array B** 85.58 340 P P 00 33 19.4 -0.1
AS31 **Alice Springs** 88.87 228 *e*P P 00 33 35.4 -0.1
ASAR **Alice Springs** 88.88 228 P P 00 33 35.9 +0.4
4.6nm,0.8s,mb4.9,baz=32,slow=4.4,SNR=44
ASAR **Alice Springs** 88.88 228 P P 00 33 35.9 +0.4
STKA **Stephens Creek** 92.91 218 P P 00 33 55.5 +1.4
0.4nm,0.4s,mb4.2,baz=69,slow=8.6,SNR=3.9
STKA **Stephens Creek** 92.91 218 P P 00 33 55.5 +1.4
PLCA **Paso Flores** 127.58 110 PKP PKPdf 00 39 46.9 +1.1
2.4nm,0.8s,baz=19,slow=3.7,SNR=3.9
PLCA **Paso Flores** 127.58 110 PKP PKPdf 00 39 46.9 +1.1
LBTB **Lobatse** 149.48 326 *e*PKPdf PKPdf 00 40 27.8 +1.9
MAW **Mawson** 149.60 219 PKPbc PKPbc 00 40 30.0 +0.7
3.8nm,0.8s,baz=107,slow=3.4,SNR=4.8
MAW **Mawson** 149.60 219 PKPbc PKPbc 00 40 30.0 +0.7
BOSA **Boshof** 152.90 324 PKPbc PKPbc 00 40 38.1 -0.1
2.6nm,0.8s,baz=153,slow=2.3,SNR=3.2
BOSA **Boshof** 152.90 324 PKPbc PKPbc 00 40 38.1 -0.1

ISCJB ***16*** *00:24:17.2±0.3, 13°.61N±0°.04×90°.05W±0°.03, h103km±2km, mb4.3/31, Error ellipse: s-maj=7.8km s-min=2.9km az=38.0*
NEIC ***16*** *00:24:17.0, 13°.61N×90°.08W, h81km, mb4.5/20, MD4.8(SNET), After SNET.*
NEIC Felt [III] at San Salvador.
CASC ***16*** *00:24:18.4±1.3, 13°.58N×90°.04W, h82km±4km, MD4.3, ML4.4, mb4.5(NEIC)*
IDC ***16*** *00:24:22.4±2.4, 13°.87N×89°.63W, h127km±19km, mb3.9/17, mb1 4.1/19, mb1mx3.9/28, mbtmp3.9/19, MS3.3/5, Ms1 3.3/5, ms1mx2.9/26, Error ellipse: s-maj=22.8km s-min=15.1km az=50.0*

ISC 16 00:24:18.3±0.3, 13°.63N±0°.04×90°.04W±0°.03, h97km±2km, n132, σ1§03/126, mb4.3/31, 3C-9D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONS	**Sonsonate**	0.34	71	⇓*e*P	Pn	00 24 31.0	-1.8
SONS				*e*S	Sn	00 24 41.1	-2.4
SONS				AML	AML	00 24 41.7	
	comp=Z,52μm,0.3s						
SBLS	**San Blas**	0.46	62	⇓*i*P	Pn	00 24 32.4	-1.1
RTR	**El Retiro**	0.47	55	⇓*i*P	Pn	00 24 32.6	-1.0
SNJE	**San Jose**	0.49	60	⇓*i*P	Pn	00 24 32.6	-1.1
RBDL	**Robledal**	0.59	36	⇓*i*P	Pn	00 24 33.8	-0.8
BOQS	**Boqueron**	0.75	82	⇑*i*P	Pn	00 24 35.1	-0.8
BOQS				*e*S	Sn	00 24 48.7	-0.4
SNET	**Serv Nac Est T**	0.79	86	*e*P	Pn	00 24 35.3	-1.0
SNET				AML	AML	00 24 51.2	
	comp=Z,26μm,0.3s						
PSG	**Pto de San Jos**	0.79	294	*e*P	Pn	00 24 35.8	-0.5
PSG				*e*S	Sn	00 24 49.6	-0.2
PCG	**Pacaya**	0.94	324	*e*P	Pn	00 24 37.6	-0.2
PCG				*e*S	Sn	00 24 53.0	+0.5
LFRS	**El Faro**	0.95	90	*e*P	Pn	00 24 37.3	-0.7
LBRS	**Las Brisas**	0.98	83	⇓*e*P	Pn	00 24 37.7	-0.5
NBG	**Las Nubes**	1.00	343	*e*P	Pn	00 24 39.2	+0.6
NBG				*e*S	Sn	00 24 54.8	+1.1
MTO2	**Montecristo 2**	1.01	41	⇓*i*P	Pn	00 24 38.6	-0.1
MTO2				*e*S	Sn	00 24 54.3	+0.3
FUG	**Fuego 3**	1.13	317	*e*P	Pn	00 24 39.4	-0.5
FUG				*e*S	Sn	00 24 57.4	+1.2
FG6		1.23	319	*e*P	Pn	00 24 41.1	-0.1
FG6				*e*S	Sn	00 24 59.9	+1.5
JAT	**Jato**	1.69	294	*e*P	Pn	00 24 46.5	-0.4
JAT				*e*S	Sn	00 25 08.0	-0.5
VSM	**San Miguel**	1.73	96	*e*P	Pn	00 24 47.4	+0.1
BLLM	**Bellamira**	1.77	96	*e*P	Pn	00 24 47.5	-0.2
CAHU	**Cacacuatique**	1.79	85	⇓*e*P	Pn	00 24 48.1	+0.1
CNCH	**Conchagua**	2.18	99	⇓*e*P	Pn	00 24 53.1	+0.1
TGUH	**Tegucigalpa,Un**	2.73	81	*e*Pn	Pn	00 25 00.6	+0.3
TGUH				*e*Sn	Sn	00 25 24.8	-7.9
CRIN	**San Cristobal**	3.06	107	*e*P	Pn	00 25 05.4	+0.6
CRIN				*e*S	Sn	00 25 40.9	+0.3
TEL3	**Telica 3**	3.29	108	*e*P	Pn	00 25 07.9	0.0
LEON	**Leon**	3.30	111	*e*P	Pn	00 25 07.4	-0.6
CNGN	**Cerro Negro**	3.45	109	*e*P	Pn	00 25 09.8	-0.2
CNGN				*e*S	Sn	00 25 49.6	-0.3
MIRN	**Miramar**	3.45	110	*e*P	Pn	00 25 10.1	0.0
COPN	**Copaltepe**	3.66	113	*e*P	Pn	00 25 12.6	-0.3
CSAN		3.81	112	*e*P	Pn	00 25 17.2	+2.3
XAVN	**Gruta Xavier**	3.91	112	*e*P	Pn	00 25 16.4	+0.1
TISN	**Laguna Tiscapa**	3.96	111	*e*P	Pn	00 25 16.9	-0.1
MGAN	**Managua**	3.98	111	*e*P	Pn	00 25 17.1	-0.1
MGAN				AML	AML	00 26 02.1	
	comp=N,453nm,0.3s						
TICN	**Ticuantepe**	4.04	113	*e*P	Pn	00 25 18.2	+0.2
GBS2	**Las Lilas**	5.27	121	*i*P	Pn	00 25 35.0	+0.2
GBS3	**Finca Las Im˜¡**	5.30	122	*i*P	Pn	00 25 35.6	+0.5
NY14	**Universidad de**	5.31	123	*i*P	Pn	00 25 36.9	+1.7
LAPC	**Finca la Perla**	5.33	122	*i*P	Pn	00 25 35.6	+0.2
GB1A	**Borinquen Arri**	5.33	121	*i*P	Pn	00 25 36.4	+0.9
LIM1	**Limonal**	5.51	121	*i*P	Pn	00 25 38.0	0.0
CUI	**Cuipilapa**	5.61	121	*i*P	Pn	00 25 40.2	+0.9
CMIG	**Matias Romero**	5.80	307	P	Pn	00 25 41.5	-0.4
	comp=N,6.9nm,0.3s,baz=106,slow=8.1,SNR=39						
CMIG				S	Sn	00 26 47.6	+0.5
	comp=N,8.0nm,0.3s,baz=280,slow=18,SNR=2.4						
CMIG				LR	LR	00 28 32.6	
	comp=N,101nm,20.2s,baz=110,slow=42						
CMIG	**Matias Romero**	5.80	307	P	Pn	00 25 41.5	-0.4
CMIG				S	Sn	00 26 47.6	+0.5
JTS	**JuntasAbangare**	5.98	123	P	Pn	00 25 45.1	+0.7
	comp=N,31nm,0.3s,baz=310,slow=20,SNR=167						
JTS				S	Sn	00 26 47.3	-4.2
	comp=N,8.9nm,0.3s,baz=283,slow=19,SNR=3.6						
JTS	**JuntasAbangare**	5.98	123	P	Pn	00 25 45.1	+0.7
JTS				S	Sn	00 26 47.3	-4.2
JCR	**Jicaral**	6.12	127	⇑*e*P	Pn	00 25 47.4	+1.2
CGA2	**Cerro Gallo 2**	6.53	123	*e*P	Pn	00 25 53.1	+1.2
TEIG	**Tepich**	6.78	14	P	Pn	00 25 56.6	+1.5
	comp=N,6.9nm,0.3s,baz=214,slow=1.4,SNR=17						
TEIG	**Tepich**	6.78	14	*e*Pn	Pn	00 25 55.5	+0.3
	comp=N,32nm,0.6s						
TEIG				Sn	Sn	00 27 13.0	+2.1
LAJ	**Bijagual**	6.90	122	*e*P	Pn	00 25 54.7	-2.1
QCR	**Quepos**	7.11	125	⇑*e*P	Pn	00 26 01.6	+1.8
BUS	**Buena Vista**	7.37	123	*e*P	Pn	00 26 05.5	+2.3
ACR	**Cerro Adams**	8.36	126	*e*P	Pn	00 26 18.7	+1.9
BCIP	**Isla Barro Col**	10.94	113	*e*P	Pn	00 26 52.4	+0.5
VBMS	**Vicksburg**	18.51	359	*e*P	Pn	00 28 30.0	+1.7
	comp=N,62nm,0.7s						
JCT	**Junction City**	19.04	333	P	Pn	00 28 33.5	-1.1
	comp=N,5.4nm,0.6s						
LRAL	**Lakeview Retre**	19.52	8	P	Pn	00 28 40.4	+0.2
SDV	**Santo Domingo**	19.61	102	P	Pn	00 28 38.6	-2.8
	comp=N,6.5nm,0.6s						
TXAR	**Lajitas Array**	20.09	323	P	P	00 28 46.8	+2.5
	comp=N,4.1nm,0.6s,baz=147,slow=11,SNR=51						
TXAR				PcP	PcP	00 32 57.8	+1.9
	comp=N,1.2nm,0.6s,baz=131,slow=2.7,SNR=11						
TXAR	**Lajitas Array**	20.09	323	P	P	00 28 46.8	+2.5
TXAR				PcP	PcP	00 32 57.8	+1.9
OXF	**Oxford**	20.80	1	*e*P	P	00 28 52.2	+0.3
	comp=N,18nm,0.5s						
MIAR	**Mount Ida**	21.07	352	*e*P	P	00 28 54.2	-0.5
	comp=N,9.7nm,0.6s,mb4.3						
PLAL	**Pickwick Lake**	21.34	4	*e*P	P	00 28 57.8	+0.2
	comp=N,16nm,0.6s,mb4.5						
SWET	**Sewanee**	21.82	9	*e*P	P	00 29 03.5	+0.9
	comp=N,19nm,0.7s,mb4.5						
JSC	**Jenkinsville**	22.05	20	*e*P	P	00 29 04.5	-0.7
CPCT	**Cooper Cave**	22.29	12	*e*P	P	00 29 06.7	-1.0
WMOK	**Wichita Mounta**	22.46	341	*e*P	P	00 29 08.2	-1.3
	comp=N,12nm,0.8s,mb4.3						
WVT	**Waverly**	22.50	5	*e*P	P	00 29 10.6	+0.7
	comp=N,13nm,0.8s,mb4.3						
TKL	**Tuckaleechee C**	22.65	13	P	P	00 29 12.2	+0.7
	comp=N,13nm,0.7s,mb4.3,baz=178,slow=11,SNR=16						
TKL	**Tuckaleechee C**	22.65	13	P	P	00 29 12.2	+0.7
MNTX	**Cornudas Mount**	22.84	324	*e*P	P	00 29 12.5	-0.9
	comp=N,1.5nm,0.5s,mb3.6						
SJG	**San Juan**	23.40	76	LR	LR	00 37 04.8	
	comp=N,50nm,18.2s,baz=91,slow=33						
AMTX	**Amarillo**	23.64	336	*e*P	P	00 29 21.1	+0.4
	comp=N,9.0nm,0.6s,mb4.3						
ATAH	**Atahualpa**	23.65	150	LR	LR	00 36 54.8	
	comp=N,66nm,22.0s,baz=196,slow=32						
SIUC	**Southern Illin**	24.00	2	*e*P	P	00 29 24.7	+0.7
	comp=N,23nm,0.8s,mb4.5						
CCM	**Cathedral Cave**	24.35	358	*e*P	P	00 29 26.8	-0.4
	comp=N,11nm,0.8s,mb4.2						
WCI	**Wyandotte Cave**	24.73	7	*e*P	P	00 29 30.5	-0.1
	comp=N,29nm,0.7s,mb4.8						
OLIL	**Olney**	25.07	4	*e*P	P	00 29 34.7	+1.0
	comp=N,20nm,0.6s,mb4.7						
ANMO	**Albuquerque**	25.90	328	P	P	00 29 43.3	+2.0
	comp=N,1.2nm,0.6s,mb3.5,baz=140,slow=13,SNR=5.6						
ANMO	**Albuquerque**	25.90	328	P	P	00 29 43.3	+2.0
SADO	**Sadowa**	32.40	15	P	P	00 30 37.9	-0.9
	comp=N,19nm,1.0s,mb4.8,baz=227,slow=5.9,SNR=4.0						
SADO				LR	LR	00 46 22.9	
	comp=N,67nm,18.6s,baz=198,slow=41						
SADO	**Sadowa**	32.40	15	P	P	00 30 37.9	-0.9
PDAR	**Pinedale Array**	33.57	334	P	P	00 30 51.4	+2.4
	comp=N,0.3nm,0.4s,mb3.5,baz=144,slow=10.0,SNR=3.9						
PDAR				PcP	PcP	00 33 27.2	-0.2
	comp=N,0.5nm,0.5s,baz=123,slow=6.4,SNR=6.8						
PDAR	**Pinedale Array**	33.57	334	P	P	00 30 51.4	+2.4
PDAR				PcP	PcP	00 33 27.2	-0.2
SAML	**Samuel**	34.84	129	*e*P	P	00 30 58.9	-1.4
	comp=N,3.2nm,0.9s,mb4.2						
AGMN	**Agassiz Nation**	34.90	353	*e*P	P	00 30 59.3	-1.1
	comp=N,28nm,0.6s,mb5.3						
NVAR	**Mina Array Bea**	35.17	320	P	P	00 31 06.0	+3.1
	comp=N,11nm,0.7s,mb4.8,baz=135,slow=8.2,SNR=73						
NVAR				PcP	PcP	00 33 34.2	+2.0
	comp=N,2.9nm,0.7s,baz=132,slow=4.1,SNR=15						
NVAR	**Mina Array Bea**	35.17	320	P	P	00 31 06.0	+3.1
NVAR				PcP	PcP	00 33 34.2	+2.0
DGMT	**Dagmar**	36.67	344	*e*P	P	00 31 16.3	+0.7
	comp=N,6.4nm,0.6s,mb4.7						
ULM	**Lac du Bonnet**	36.83	354	P	P	00 31 15.6	-1.3
	comp=N,12nm,0.6s,mb5.0,baz=169,slow=8.9,SNR=20						
ULM	**Lac du Bonnet**	36.83	354	*e*P	P	00 31 15.4	-1.5
	comp=N,13nm,0.9s,mb4.9						
SCHQ	**Schefferville**	44.94	19	P	P	00 32 22.4	-0.9
	comp=N,10nm,0.5s,mb4.8,baz=218,slow=6.5,SNR=38						
SCHQ	**Schefferville**	44.94	19	P	P	00 32 22.4	-0.9
YKA	**Yellowknife Ar**	51.84	346	P	P	00 33 15.4	-0.8
	comp=N,2.0nm,0.6s,mb4.3,baz=145,slow=7.7,SNR=42						
YKA				PcP	PcP	00 34 27.7	-0.1
	comp=N,0.2nm,0.6s,baz=150,slow=4.4,SNR=3.7						
YKA	**Yellowknife Ar**	51.84	346	P	P	00 33 15.4	-0.8

YKA				PcP	PcP	00 34 27.7	-0.2
FRB	**Frobisher Bay**	**52.27**	**12**	P	**P**	**00 33 17.9**	**-1.5**
	comp=N,4.4nm,0.5s,mb4.7,baz=206,slow=8.0,SNR=15						
FRB	**Frobisher Bay**	**52.27**	**12**	P	**P**	**00 33 17.9**	**-1.5**
DLBC	**Dease Lake**	**53.78**	**335**	P	**P**	**00 33 29.9**	**-0.6**
	comp=N,1.9nm,0.7s,mb4.3,baz=129,slow=2.6,SNR=4.6						
DLBC	**Dease Lake**	**53.78**	**335**	P	**P**	**00 33 29.9**	**-0.6**
RES	**Resolute Bay**	**61.11**	**359**	P	**P**	**00 34 20.6**	**-1.2**
	comp=N,2.2nm,0.5s,mb4.5,baz=186,slow=10,SNR=34						
RES	**Resolute Bay**	**61.11**	**359**	*eP*	**P**	**00 34 20.6**	**-1.2**
	comp=N,2.5nm,0.5s,mb4.5						
INK	**Inuvik**	**61.34**	**343**	P	**P**	**00 34 23.1**	**-0.3**
	comp=N,1.1nm,0.6s,mb4.1,baz=125,slow=4.9,SNR=6.8						
INK	**Inuvik**	**61.34**	**343**	P	**P**	**00 34 23.1**	**-0.3**
ILAR	**Eielson Array**	**63.94**	**336**	P	**P**	**00 34 40.1**	**-0.6**
	comp=N,0.5nm,0.6s,mb3.5,baz=155,slow=4.8,SNR=12						
ILAR	**Eielson Array**	**63.94**	**336**	P	**P**	**00 34 40.1**	**-0.6**
KDAK	**Kodiak Island**	**64.03**	**328**	P	**P**	**00 34 41.8**	**+0.3**
	comp=N,11nm,1.0s,mb4.6,baz=135,slow=7.1,SNR=2.1						
KDAK	**Kodiak Island**	**64.03**	**328**	P	**P**	**00 34 41.8**	**+0.3**
ESDC	**Sonseca Array**	**78.45**	**52**	P	**P**	**00 36 07.9**	**-0.9**
	comp=N,0.2nm,0.4s,mb3.2,baz=286,slow=5.4,SNR=3.5						
ESDC	**Sonseca Array**	**78.45**	**52**	P	**P**	**00 36 07.9**	**-0.9**
ARCES	**ARCESS Array B**	**85.89**	**19**	P	**P**	**00 36 45.6**	**-1.4**
	comp=N,3.9nm,1.1s,mb4.2,baz=290,slow=5.7,SNR=3.7						
ARCES	**ARCESS Array B**	**85.89**	**19**	P	**P**	**00 36 45.6**	**-1.4**
TORD	**Torodi Ar. Bea**	**88.61**	**77**	P	**P**	**00 36 58.1**	**-3.1**
	comp=N,0.3nm,0.8s,mb3.4,baz=282,slow=5.8,SNR=4.1						
TORD				LR	LR	01 10 56.2	
	comp=N,45nm,19.3s,baz=330,slow=32						
TORD	**Torodi Ar. Bea**	**88.61**	**77**	P	**P**	**00 36 58.1**	**-3.1**
ZALV	**Zalesovo Beam**	**112.56**	**3**	PKiKP	PKiKP	00 42 42.7	-0.5
	comp=N,0.5nm,0.6s,baz=345,slow=2.2,SNR=3.1						
ZALV				PP	PP	00 43 28.6	-1.3
	comp=N,0.4nm,0.4s,baz=350,slow=7.6,SNR=3.9						
ZALV	**Zalesovo Beam**	**112.56**	**3**	PKiKP	PKiKP	00 42 42.7	-0.5
ZALV				PP	PP	00 43 28.6	-1.4
KURK	**Kurchatov**	**115.17**	**8**	PKP	PKiKP	00 42 48.4	+0.1
	comp=N,0.1nm,0.3s,baz=349,slow=2.5,SNR=5.3						
KURK	**Kurchatov**	**115.17**	**8**	PKP	PKiKP	00 42 48.4	+0.1
SONM	**Songino Array**	**117.08**	**348**	PKP	PKPdf	00 42 52.7	+0.6
	comp=N,1.8nm,0.5s,baz=29,slow=3.3,SNR=3.3						
SONM	**Songino Array**	**117.08**	**348**	PKP	PKPdf	00 42 52.7	+0.6
KSRS	**Korea Array**	**117.92**	**326**	PKP	PKPdf	00 42 55.0	+1.0
	comp=N,1.5nm,0.6s,baz=20,slow=3.0,SNR=4.6						
KSAR	**Wonju Array Be**	**117.95**	**326**	PKP	PKPdf	00 42 55.0	+1.0
BOSA	**Boshof**	**118.48**	**115**	PKP	PKPdf	00 42 55.9	+0.7
	comp=N,1.5nm,0.4s,baz=255,slow=3.8,SNR=5.5						
BOSA	**Boshof**	**118.48**	**115**	PKP	PKPdf	00 42 55.9	+0.7
MKAR	**Makanchi Array**	**119.47**	**6**	PKP	PKPdf	00 42 55.5	-1.2
	comp=N,0.2nm,0.5s,baz=331,slow=3.1,SNR=3.4						
MKAR	**Makanchi Array**	**119.47**	**6**	PKP	PKPdf	00 42 55.5	-1.2
WB2	**Warramunga Arr**	**137.13**	**255**	ePKPdf	PKPdf	00 43 31.6	+0.6
WRA	**Warramunga Arr**	**137.14**	**255**	PKhKP	PKPpre	00 43 22.9	
	comp=N,0.2nm,0.4s,baz=89,slow=3.2,SNR=7.9						
WRA				PKP	PKPdf	00 43 30.8	-0.2
	comp=N,2.8nm,0.9s,baz=87,slow=1.7,SNR=14						
WRA	**Warramunga Arr**	**137.14**	**255**	PKPpre	PKPpre	00 43 22.9	
WRA				PKP	PKPdf	00 43 30.8	-0.2
ASAR	**Alice Springs**	**137.33**	**250**	PKhKP	PKPpre	00 43 25.2	
	comp=N,0.2nm,0.4s,baz=107,slow=3.8,SNR=3.6						
ASAR				PKP	PKPdf	00 43 32.2	+1.0
	comp=N,1.0nm,0.9s,baz=109,slow=2.5,SNR=7.1						
ASAR	**Alice Springs**	**137.33**	**250**	PKPpre	PKPpre	00 43 25.2	
ASAR				PKP	PKPdf	00 43 32.2	+1.0
FITZ	**Fitzroy Crossi**	**145.43**	**258**	PKPbc	PKPbc	00 43 47.2	+1.1
	comp=N,3.9nm,0.5s,baz=78,slow=4.1,SNR=25						
FITZ	**Fitzroy Crossi**	**145.43**	**258**	PKPbc	PKPbc	00 43 47.2	+1.1
CMAR	**Chiang Mai Arr**	**146.91**	**344**	PKPbc	PKPbc	00 43 50.0	-0.4
	comp=N,3.4nm,0.7s,baz=341,slow=3.5,SNR=15						
CMAR	**Chiang Mai Arr**	**146.91**	**344**	PKPbc	PKPbc	00 43 50.0	-0.4

GEN ***16*** *00:34:31.4, 47°.57N×9°.22E, h3km, ML2.8*
ZUR ***16*** *00:34:32.8, 47°.44N×9°.20E, h8km, ML2.9/26*
CSEM ***16*** *00:34:32.6±0.1, 47°.45N×9°.19E, h15km, ML3.3/31, Error ellipse: s-maj=1.5km s-min=1.3km az=5.0*
LDG ***16*** *00:34:32.6±0.1, 47°.47N×9°.25E, h2km, Ml3.1/33, Error ellipse: s-maj=1.1km s-min=1.0km az=77.0*
NEIC ***16*** *00:34:33.3, 47°.45N×9°.20E, h7km, ML3.1(LDG), ML2.9(ZUR), After ZUR.*
BGR ***16*** *00:34:33.2±0.5, 47°.44N×9°.18E, h10km, ML2.8/8, Error ellipse: s-maj=6.7km s-min=4.4km az=31.0*
LEDBW ***16*** *00:34:33.3±0.2, 47°.45N±0°.01×9°.198E±0°.009, h7km±4km, ML2.9, Error ellipse: s-maj=4.0km s-min=3.0km az=18.0*
VIE ***16*** *00:34:33.3±0.3, 47°.43N×9°.24E, h14km±1km, mb2.3/10, ML3.1/14, Error ellipse: s-maj=1.9km s-min=1.7km az=137.0 11 km W of St.Gallen*
ISCJB ***16*** *00:34:33.5±0.2, 47°.43N±0°.01×9°.17E±0°.02, h20km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=20.7*
PRU ***16*** *00:34:34.1, 47°.56N×9°.43E, h5km*
STR ***16*** *00:34:34.2±0.3, 47°.44N×9°.11E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 16 00:34:32.7±0.1, 47°.446N±0°.009×9°.17E±0°.01, h16km±1km, n326, σ1°03/618, 43C-49D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WEIN	**Weingarten**	**0.15**	**303**	⇓*i*Pg		**Pg**	**00 34 36.6**	**-0.1**
	13μm,0.3s							
WEIN				*i* Sg		**Sg**	**00 34 39.6**	**+0.2**
	13μm,0.3s							
WEIN	**Weingarten**	**0.15**	**303**	⇓*i*Pg		**Pg**	**00 34 36.6**	**-0.1**
	13μm,0.3s							
WEIN				*i* Sg		**Sg**	**00 34 39.6**	**+0.2**
	13μm,0.3s							
WILA	**Wila**	**0.18**	**260**	⇑*i*Pg		**Pg**	**00 34 37.3**	**+0.1**
	14μm,0.4s							
WILA				*i* Sg		**Sg**	**00 34 41.1**	**+0.9**
	14μm,0.4s							
WILA	**Wila**	**0.18**	**260**	⇑*i*P*		**Pg**	**00 34 37.3**	**+0.2**
WILA	**Wila**	**0.18**	**260**	⇑*i*Pg		**Pg**	**00 34 37.3**	**+0.2**
WILA				x		**Sg**	**00 34 41.1**	**+0.9**
WILA	**Wila**	**0.18**	**260**	⇑*i*Pg		**Pg**	**00 34 37.3**	**+0.1**
	14μm,0.4s							
WILA				*i* Sg		**Sg**	**00 34 41.1**	**+0.9**
	14μm,0.4s							
LIENZ	**Kamor/St.Gall**	**0.26**	**125**	⇓*i*Pg		**Pg**	**00 34 38.3**	**-0.2**
	3μm,0.9s							
LIENZ				*i* Sg		**Sg**	**00 34 42.8**	**+0.5**
	3μm,0.9s							
LIENZ	**Kamor/St.Gall**	**0.26**	**125**	⇓P*		**Pg**	**00 34 38.3**	**-0.1**
LIENZ				S*		**Sg**	**00 34 42.7**	**+0.4**
LIENZ	**Kamor/St.Gall**	**0.26**	**125**	⇓Pg		**Pg**	**00 34 38.3**	**-0.1**
LIENZ				Sx		**Sg**	**00 34 42.7**	**+0.4**
LIENZ	**Kamor/St.Gall**	**0.26**	**125**	⇓*i*Pg		**Pg**	**00 34 38.3**	**-0.2**
	3μm,0.9s							
LIENZ				*i* Sg		**Sg**	**00 34 42.8**	**+0.5**
	3μm,0.9s							
SISB	**Singen-Schiene**	**0.28**	**330**	P		**Pg**	**00 34 38.9**	**+0.2**
SISB	**Singen-Schiene**	**0.28**	**330**	⇓P*		**Pg**	**00 34 38.9**	**+0.1**
SISB				S*		**Sg**	**00 34 43.6**	**+0.8**
SISB	**Singen-Schiene**	**0.28**	**330**	⇓Pg		**Pg**	**00 34 38.9**	**+0.1**
SISB				Sg		**Sg**	**00 34 43.6**	**+0.8**
STEIN	**Stein am Rhein**	**0.30**	**317**	⇓*i*Pg		**Pg**	**00 34 39.5**	**+0.3**
	784nm,0.5s							
STEIN				*i* Sg		**Sg**	**00 34 44.6**	**+1.1**
	784nm,0.5s							
STEIN	**Stein am Rhein**	**0.30**	**317**	⇓*i*Pg		**Pg**	**00 34 39.5**	**+0.3**
	784nm,0.5s							
STEIN				*i* Sg		**Sg**	**00 34 44.6**	**+1.1**
	784nm,0.5s							
TRULL	**Truellikon**	**0.39**	**302**	⇓*i*Pg		**Pg**	**00 34 41.2**	**+0.5**
	1μm,0.3s							
TRULL				*i* Sg		**Sg**	**00 34 47.1**	**+1.1**
	1μm,0.3s							
TRULL	**Truellikon**	**0.39**	**302**	⇓*i*Pg		**Pg**	**00 34 41.2**	**+0.5**
	1μm,0.3s							
TRULL				*i* Sg		**Sg**	**00 34 47.1**	**+1.1**
	1μm,0.3s							
ZUR	**Degenried**	**0.41**	**259**	⇑*i*Pg		**Pg**	**00 34 41.7**	**+0.7**
	3μm,0.2s							
ZUR				*i* Sg		**Sg**	**00 34 48.1**	**+1.5**
	3μm,0.2s							
ZUR	**Degenried**	**0.41**	**259**	⇑P*		**Pg**	**00 34 41.7**	**+0.6**
ZUR				S*		**Sg**	**00 34 48.2**	**+1.6**
ZUR	**Degenried**	**0.41**	**259**	⇑Pg		**Pg**	**00 34 41.7**	**+0.6**
ZUR				Sg		**Sg**	**00 34 48.2**	**+1.6**
ZUR	**Degenried**	**0.41**	**259**	⇑*i*Pg		**Pg**	**00 34 41.7**	**+0.7**
ZUR				*i* Sg		**Sg**	**00 34 48.1**	**+1.5**
PLONS	**Plons/SG**	**0.42**	**160**	⇓*i*Pg		**Pg**	**00 34 41.4**	**+0.2**
	518nm,0.5s							
PLONS				*e*Sg		**Sg**	**00 34 47.9**	**+1.0**
	518nm,0.5s							
FLACH	**Flaach**	**0.43**	**287**	⇑*i*Pg		**Pg**	**00 34 42.0**	**+0.6**
	621nm,0.2s							
FLACH				*i* Sg		**Sg**	**00 34 48.6**	**+1.4**
	621nm,0.2s							
FLACH	**Flaach**	**0.43**	**287**	⇑*i*Pg		**Pg**	**00 34 42.0**	**+0.6**
	621nm,0.2s							
FLACH				*i* Sg		**Sg**	**00 34 48.6**	**+1.4**
	621nm,0.2s							
DAVA	**Damuels**	**0.51**	**108**	⇓*e*Pg		**Pg**	**00 34 42.7**	**0.0**
	SNR=32							
DAVA				⇑*i*Sg		**Sg**	**00 34 50.1**	**+0.5**
	240nm,0.2s							
DAVA	**Damuels**	**0.51**	**108**	P		**Pg**	**00 34 42.8**	**0.0**
DAVA	**Damuels**	**0.51**	**108**	P		**Pg**	**00 34 42.8**	**0.0**
SLE	**Schleitheim**	**0.56**	**305**	⇓*i*Pg		**Pb**	**00 34 44.1**	**-0.1**
	919nm,0.5s							
SLE				*e*Sg		**Sg**	**00 34 52.0**	**+0.7**
	919nm,0.5s							
SLE	**Schleitheim**	**0.56**	**305**	⇓P*		**Pb**	**00 34 44.1**	**-0.1**
SLE				S*		**Sb**	**00 34 52.0**	**0.0**
SLE	**Schleitheim**	**0.56**	**305**	Sg		**Sb**	**00 34 52.0**	**0.0**
SLE	**Schleitheim**	**0.56**	**305**	⇓Pg		**Pb**	**00 34 44.1**	**-0.1**
SLE	**Schleitheim**	**0.56**	**305**	⇓*i*Pg		**Pb**	**00 34 44.1**	**-0.1**
	919nm,0.5s							
SLE				*e*Sg		**Sg**	**00 34 52.0**	**+0.7**
	919nm,0.5s							
MUO	**Muotathal**	**0.60**	**218**	*e*Pg		**Pg**	**00 34 44.9**	**+0.3**
	857nm,0.5s							
MUO	**Muotathal**	**0.60**	**218**	*e*Pg		**Pg**	**00 34 44.9**	**+0.3**
	857nm,0.5s							
LLS	**Linth-Limmern**	**0.61**	**191**	*e*Sg		**Pg**	**00 34 45.3**	**+0.6**
	290nm,0.6s							
LLS	**Linth-Limmern**	**0.61**	**191**	*e*Pg		**Sg**	**00 34 53.4**	**+0.6**
	290nm,0.6s							
GUT	**Gutenstein**	**0.63**	**356**	P		**Pg**	**00 34 45.0**	**0.0**
GUT	**Gutenstein**	**0.63**	**356**	⇓*i*P*		**Pg**	**00 34 45.0**	**-0.1**
GUT				*i* S*		**Sb**	**00 34 53.8**	**0.0**
GUT				SmS			00 34 57.5	
GUT	**Gutenstein**	**0.63**	**356**	⇓*i*Pg		**Pg**	**00 34 45.0**	**-0.1**
GUT				*i* Sg		**Sb**	**00 34 53.8**	**0.0**
GUT				SmS			00 34 57.5	
GUT	**Gutenstein**	**0.63**	**356**	Pb		**Pg**	**00 34 45.0**	**0.0**
UBR	**Ueberruh**	**0.68**	**69**	⇑*i*P*		**Pb**	**00 34 46.1**	**0.0**
UBR				PmP			00 34 47.2	
UBR				S*		**Sb**	**00 34 55.7**	**+0.5**
UBR				SmS			00 35 00.1	
UBR	**Ueberruh**	**0.68**	**69**	⇑*i*Pg		**Pb**	**00 34 46.1**	**0.0**
UBR	**Ueberruh**	**0.68**	**69**	Px		**Pg**	**00 34 47.2**	**+1.2**
UBR				Sg		**Sb**	**00 34 55.7**	**+0.5**
UBR				SmS			00 35 00.1	
UBR	**Ueberruh**	**0.68**	**69**	Pb		**Pb**	**00 34 46.1**	**0.0**
UBR				Sb		**Sb**	**00 34 55.7**	**+0.5**
SPAK	**Spaichingen-Ko**	**0.71**	**338**	P		**Pg**	**00 34 46.9**	**+0.3**
SPAK	**Spaichingen-Ko**	**0.71**	**338**	⇓P*		**Pb**	**00 34 46.7**	**+0.1**
SPAK				PmP			00 34 48.6	
SPAK	**Spaichingen-Ko**	**0.71**	**338**	⇓Pg		**Pb**	**00 34 46.7**	**+0.1**
SPAK	**Spaichingen-Ko**	**0.71**	**338**	Pb		**Pb**	**00 34 46.7**	**0.0**
SPAK	**Spaichingen-Ko**	**0.71**	**338**	P		**Pg**	**00 34 46.9**	**+0.3**
SPAK	**Spaichingen-Ko**	**0.71**	**338**	Pg		**Pg**	**00 34 47.2**	**+0.6**
SPAK				Sg		**Sg**	**00 34 57.3**	**+1.4**
SULZ	**Cheisacher**	**0.72**	**277**	⇑*i*Pg		**Pg**	**00 34 47.4**	**+0.5**
	1μm,0.2s							
SULZ	**Cheisacher**	**0.72**	**277**	P*		**Pb**	**00 34 47.6**	**+0.6**
SULZ				S*		**Sb**	**00 34 57.8**	**+1.1**
SULZ				SmS			00 35 00.6	
SULZ	**Cheisacher**	**0.72**	**277**	Sg		**Sb**	**00 34 57.8**	**+1.1**
SULZ				Sx		**Sx**	00 35 00.6	
SULZ	**Cheisacher**	**0.72**	**277**	Pg		**Pb**	**00 34 47.6**	**+0.6**
SULZ	**Cheisacher**	**0.72**	**277**	⇑*i*Pg		**Pg**	**00 34 47.4**	**+0.5**
SULZ				Sb		**Sb**	**00 34 57.8**	**+1.2**
OBER	**Oberstdorf**	**0.76**	**92**	⇑P*		**Pg**	**00 34 47.5**	**-0.1**
OBER				PmP			00 34 50.0	
OBER				S*		**Sb**	**00 34 58.2**	**+0.6**
OBER				SmS			00 35 02.5	
OBER	**Oberstdorf**	**0.76**	**92**	⇑Pg		**Pg**	**00 34 47.5**	**-0.1**
OBER				Sg		**Sb**	**00 34 58.2**	**+0.6**
OBER	**Oberstdorf**	**0.76**	**92**	Pb		**Pb**	**00 34 47.5**	**-0.1**
OBER				Sb		**Sb**	**00 34 58.2**	**+0.5**
BNALP	**Bannalp**	**0.77**	**222**	⇑*i*Pg		**Pg**	**00 34 48.4**	**+0.7**
	825nm,0.5s							
BNALP				*i* Sg		**Sg**	**00 34 59.7**	**+1.8**
	825nm,0.5s							
BNALP	**Bannalp**	**0.77**	**222**	⇑*i*Pg		**Pg**	**00 34 48.4**	**+0.7**
	825nm,0.5s							
BNALP				*i* Sg		**Sg**	**00 34 59.7**	**+1.8**
	825nm,0.5s							
DAVOX	**Davos/Dischmat**	**0.82**	**144**	⇓*i*Pg		**Pg**	**00 34 48.7**	**0.0**
	355nm,0.4s							
DAVOX				*e*Sg		**Sg**	**00 35 00.1**	**+0.6**
	355nm,0.4s							
DAVOX	**Davos/Dischmat**	**0.82**	**144**	⇓*i*Pg		**Pg**	**00 34 48.7**	**0.0**
	355nm,0.4s							
DAVOX				*e*Sg		**Sg**	**00 35 00.1**	**+0.6**
	355nm,0.4s							
FELD	**Feldberg im Sc**	**0.90**	**299**	Pg		**Pg**	**00 34 51.2**	**+1.0**
FELD				Sg		**Sg**	**00 35 02.8**	**+0.8**
HASLI	**Hasliberg/Brie**	**0.98**	**226**	*e*Pg		**Pg**	**00 34 51.9**	**+0.2**
	767nm,0.2s							
HASLI	**Hasliberg/Brie**	**0.98**	**226**	*e*Pg		**Pg**	**00 34 51.9**	**+0.2**
VDL	**Val di Lei**	**0.98**	**169**	*e*Pg		**Pg**	**00 34 51.8**	**+0.1**
	388nm,0.3s							
VDL	**Val di Lei**	**0.98**	**169**	*e*Pg		**Pg**	**00 34 51.8**	**+0.1**
KIZ	**Kirchzarten**	**0.99**	**302**	P		**Pb**	**00 34 52.1**	**+0.6**
KIZ	**Kirchzarten**	**0.99**	**302**	⇓Pn		**Pn**	**00 34 51.9**	**-0.1**
KIZ				Pg		**Pg**	**00 34 52.8**	**+0.9**
KIZ				S*		**Sg**	**00 35 05.5**	**+0.6**
KIZ				SmS			00 35 07.0	
KIZ	**Kirchzarten**	**0.99**	**302**	⇓Pn		**Pn**	**00 34 51.9**	**-0.1**
KIZ				Sg		**Sg**	**00 35 05.5**	**+0.6**
KIZ	**Kirchzarten**	**0.99**	**302**	Px		**Pg**	**00 34 52.8**	**+0.9**
KIZ				SmS			00 35 07.0	
KIZ	**Kirchzarten**	**0.99**	**302**	P		**Pb**	**00 34 52.1**	**+0.6**
KIZ	**Kirchzarten**	**0.99**	**302**	Pg		**Pg**	**00 34 52.8**	**+0.9**
KIZ				Sb		**Sb**	**00 35 05.5**	**+1.2**
BALST	**Balsthal**	**1.01**	**264**	⇑*i*Pg		**Pg**	**00 34 52.6**	**+0.3**
	683nm,0.3s							
BALST	**Balsthal**	**1.01**	**264**	⇑*i*Pg		**Pg**	**00 34 52.6**	**+0.3**
BUCH	**Bad Urach**	**1.01**	**7**	P		**Pn**	**00 34 52.1**	**-0.1**
BUCH	**Bad Urach**	**1.01**	**7**	⇓Pn		**Pn**	**00 34 52.1**	**-0.1**
BUCH				Pg		**Pg**	**00 34 52.9**	**+0.6**
BUCH				S*		**Sg**	**00 35 05.9**	**+0.3**
BUCH				*i* SmS			00 35 07.8	
BUCH	**Bad Urach**	**1.01**	**7**	⇓Pn		**Pn**	**00 34 52.1**	**-0.1**
BUCH				Sg		**Sg**	**00 35 05.9**	**+0.3**
BUCH	**Bad Urach**	**1.01**	**7**	P		**Pg**	**00 34 52.9**	**+0.6**
BUCH				*i* SmS			00 35 07.8	
BUCH	**Bad Urach**	**1.01**	**7**	Pn		**Pn**	**00 34 52.1**	**-0.1**
BUCH	**Bad Urach**	**1.01**	**7**	Pg		**Pg**	**00 34 52.9**	**+0.6**
BUCH				Sb		**Sg**	**00 35 05.9**	**+0.3**
FBB	**Freiburg im Br**	**1.05**	**302**	P		**Pb**	**00 34 54.1**	**+1.6**
FBB	**Freiburg im Br**	**1.05**	**302**	P		**Pb**	**00 34 54.1**	**+1.6**
BFO	**Black Forest**	**1.05**	**328**	P		**Pb**	**00 34 53.0**	**+0.5**
BFO				*e*S		**Sb**	**00 35 07.3**	**+1.3**
BFO	**Black Forest**	**1.05**	**328**	⇓*i*P		**Pn**	**00 34 52.9**	**+0.2**
BFO				Pg		**Pg**	**00 34 53.5**	**+0.4**
BFO				S		**Sn**	**00 35 07.3**	**+0.2**
BFO	**Black Forest**	**1.05**	**328**	⇓*i*Pn		**Pn**	**00 34 52.9**	**+0.2**
BFO				Sn		**Sn**	**00 35 07.3**	**+0.2**
BFO	**Black Forest**	**1.05**	**328**	P		**Pg**	**00 34 53.5**	**+0.4**
BFO	**Black Forest**	**1.05**	**328**	P		**Pb**	**00 34 52.9**	**+0.4**
RETA	**Reutte**	**1.08**	**87**	*e*Pg		**Pg**	**00 34 53.3**	**-0.3**
	SNR=45							
RETA				⇑*i*Sg		**Sg**	**00 35 08.6**	**+0.9**
	22nm,0.2s							
RETA	**Reutte**	**1.08**	**87**	P		**Pb**	**00 34 53.2**	**+0.2**
RETA	**Reutte**	**1.08**	**87**	P		**Pb**	**00 34 53.2**	**+0.2**
RETA				Sg		**Sg**	**00 35 08.6**	**+1.0**
	22nm,0.2s							
TUBL	**Tuebingen-Lenn**	**1.08**	**357**	P		**Pb**	**00 34 53.8**	**+0.8**
TUBL	**Tuebingen-Lenn**	**1.08**	**357**	⇓P		**Pn**	**00 34 53.6**	**+0.4**
TUBL				S		**Sn**	**00 35 07.5**	**-0.2**
TUBL				Sg		**Sg**	**00 35 09.2**	**+1.5**
TUBL				SmS			00 35 09.9	
TUBL	**Tuebingen-Lenn**	**1.08**	**357**	⇓Pn		**Pn**	**00 34 53.6**	**+0.4**
TUBL				Sn		**Sn**	**00 35 07.5**	**-0.2**
TUBL				Sx		**Sx**	00 35 09.2	
TUBL				SmS			00 35 09.9	
TUBL	**Tuebingen-Lenn**	**1.08**	**357**	P		**Pb**	**00 34 53.6**	**+0.6**
TUBL				Sg		**Sg**	**00 35 09.2**	**+1.5**
FUORN	**Ofenpass-Fuorn**	**1.11**	**138**	⇑*i*Pg		**Pg**	**00 34 54.1**	**-0.1**
	178nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**1.11**	**138**	⇑*i*Pg		**Pg**	**00 34 54.1**	**-0.1**
	178nm,0.7s							
BBS	**Basel-Blauen**	**1.13**	**272**	P		**Pn**	**00 34 54.9**	**+1.1**
BBS	**Basel-Blauen**	**1.13**	**272**	⇑Pn		**Pn**	**00 34 54.8**	**+0.9**
BBS				Pg		**Pg**	**00 34 55.4**	**+0.9**
BBS	**Basel-Blauen**	**1.13**	**272**	⇑Pn		**Pn**	**00 34 54.8**	**+0.9**
BBS	**Basel-Blauen**	**1.13**	**272**	P		**Pg**	**00 34 55.4**	**+0.9**
BBS	**Basel-Blauen**	**1.13**	**272**	Pg		**Pg**	**00 34 53.8**	**-0.7**
BBS	**Basel-Blauen**	**1.13**	**272**	Pn		**Pn**	**00 34 54.8**	**+1.0**
BBS				Sg		**Sg**	**00 35 10.0**	**+0.7**
FETA	**Feichten**	**1.14**	**111**	⇑*e*Pg		**Pg**	**00 34 54.7**	**-0.1**
	SNR=19							
FETA				⇓*i*Sg		**Sg**	**00 35 10.0**	**+0.4**
	38nm,0.2s							
FETA	**Feichten**	**1.14**	**111**	P		**Pn**	**00 34 55.7**	**+1.7**
FETA	**Feichten**	**1.14**	**111**	Pg		**Pg**	**00 34 54.7**	**0.0**
	SNR=19							
FETA	**Feichten**	**1.14**	**111**	P		**Pn**	**00 34 55.7**	**+1.7**
FETA				Sg		**Sg**	**00 35 10.0**	**+0.4**
	38nm,0.2s							
BERNI	**Berninapass**	**1.19**	**150**	⇓*i*Pg		**Pg**	**00 34 55.3**	**-0.3**
	219nm,0.6s							
BERNI	**Berninapass**	**1.19**	**150**	⇓*i*Pg		**Pg**	**00 34 55.3**	**-0.3**
	219nm,0.6s							
LBG	**Lerchenberg**	**1.25**	**348**	P		**Pn**	**00 34 55.7**	**+0.3**
LBG	**Lerchenberg**	**1.25**	**348**	P		**Pn**	**00 34 55.7**	**+0.3**
LBG				⇓Pg		**Pg**	**00 34 56.6**	**-0.1**
LBG				S		**Sb**	**00 35 11.7**	**+0.1**
LBG	**Lerchenberg**	**1.25**	**348**	Pn		**Pn**	**00 34 55.7**	**+0.3**
LBG				Sn		**Sb**	**00 35 11.7**	**+0.1**
LBG	**Lerchenberg**	**1.25**	**348**	⇓P		**Pg**	**00 34 56.6**	**-0.1**
LBG	**Lerchenberg**	**1.25**	**348**	P		**Pn**	**00 34 55.7**	**+0.3**
LIBD	**Limburg**	**1.27**	**304**	Pg		**Pg**	**00 34 58.3**	**+1.1**
LIBD				Sg		**Sg**	**00 35 15.0**	**+1.2**
MOTA	**Moosalm**	**1.31**	**94**	⇑*e*Pn		**Pn**	**00 34 57.4**	**+1.0**
	SNR=13							
MOTA				⇓*i*Pg		**Pg**	**00 34 58.0**	**0.0**
MOTA				⇑*i*Sn		**Sn**	**00 35 15.1**	**+1.6**
MOTA				⇓*i*Sg		**Sg**	**00 35 16.4**	**+1.2**
	52nm,0.2s							
MOTA	**Moosalm**	**1.31**	**94**	P		**Pn**	**00 34 57.9**	**+1.5**
MOTA	**Moosalm**	**1.31**	**94**	Pn		**Pn**	**00 34 57.3**	**+0.9**
	SNR=13							
BOURR	**Bourrignon**	**1.32**	**268**	⇑*i*Pn		**Pn**	**00 34 57.4**	**+0.9**
	535nm,0.5s							
BOURR	**Bourrignon**	**1.32**

DIX	**Grande Dixence**	**1.83**	**222**	*e*Pn	**Pn**	**00 35 05.7**	**+2.3**
SIND	**Sindeldorf**	**1.93**	**8**	P	**Pn**	**00 35 04.3**	**-0.5**
SIND	**Sindeldorf**	**1.93**	**8**	⇓P	**Pn**	**00 35 04.3**	**-0.5**
SIND				Pg	**Pg**	**00 35 09.2**	**-0.5**
SIND				S	**Sn**	**00 35 27.7**	**-1.0**
SIND				Sg	**Sg**	**00 35 34.0**	**-0.6**
SIND	**Sindeldorf**	**1.93**	**8**	⇓Pn	**Pn**	**00 35 04.3**	**-0.5**
SIND				Sn	**Sn**	**00 35 27.7**	**-1.0**
SIND	**Sindeldorf**	**1.93**	**8**	Px	**Pg**	**00 35 09.2**	**-0.5**
SIND				Sx	**Sg**	**00 35 34.0**	**-0.6**
SIND	**Sindeldorf**	**1.93**	**8**	P	**Pn**	**00 35 04.3**	**-0.5**
SIND				S	**Sn**	**00 35 27.7**	**-1.0**
SIND				Sg	**Sg**	**00 35 34.0**	**-0.7**
HAU	**Haudompre**	**1.99**	**287**	*e*Pn	**Pn**	**00 35 06.1**	**+0.5**
HAU	**Haudompre**	**1.99**	**287**	*e*Pg	**Pg**	**00 35 10.3**	**-0.6**
HAU				*e*Sn	**Sn**	**00 35 30.4**	**+0.2**
HAU				*e*Sg	**Sg**	**00 35 36.5**	**-0.2**
	78nm,0.3s						
HAU	**Haudompre**	**1.99**	**287**	Pn	**Pn**	**00 35 05.4**	**-0.2**
HAU				*e*Pn	**Pn**	**00 35 06.1**	**+0.5**
HAU				*e*Pg	**Pg**	**00 35 10.3**	**-0.6**
HAU				*e*Sn	**Sn**	**00 35 30.4**	**+0.2**
HAU				*e*Sg	**Sg**	**00 35 36.5**	**-0.2**
HAU	**Haudompre**	**1.99**	**287**	Pn	**Pn**	**00 35 05.4**	**-0.2**
HAU	**Haudompre**	**1.99**	**287**	*e*Pg	**Pg**	**00 35 10.3**	**-0.6**
HAU				*e*Sn	**Sn**	**00 35 30.4**	**+0.2**
HAU				*e*Sg	**Sg**	**00 35 36.5**	**-0.2**
	39nm,0.3s						
KTD	**Kalmit**	**2.01**	**339**	P	**Pg**	**00 35 12.2**	**+0.9**
OG01	**Vacheresse**	**2.04**	**238**	Pg	**Pg**	**00 35 12.2**	**+0.3**
OG01				Sg	**Sg**	**00 35 39.5**	**+1.2**
OG01	**Vacheresse**	**2.04**	**238**	Pg	**Pg**	**00 35 12.2**	**+0.3**
OG01				Sg	**Sg**	**00 35 39.5**	**+1.2**
TRAV	**Traversella**	**2.17**	**208**	P	**Pn**	**00 35 08.9**	**+0.8**
TOD	**Tromm**	**2.18**	**354**	P	**Pg**	**00 35 15.5**	**+1.0**
GIMEL	**St. Georges /**	**2.19**	**246**	*e*Pn	**Pn**	**00 35 09.7**	**+1.3**
	112nm,0.3s						
GIMEL	**St. Georges /**	**2.19**	**246**	*e*Pn	**Pn**	**00 35 09.7**	**+1.3**
CABF	**La Chapelle**	**2.27**	**250**	*e*Pn	**Pn**	**00 35 10.3**	**+0.8**
CABF	**La Chapelle**	**2.27**	**250**	*e*Pg	**Pg**	**00 35 16.2**	**0.0**
CABF				*e*Sn	**Sn**	**00 35 37.6**	**+0.5**
CABF				*e*Sg	**Sg**	**00 35 46.1**	**+0.4**
	43nm,0.3s						
CABF	**La Chapelle**	**2.27**	**250**	Pn	**Pn**	**00 35 09.4**	**-0.1**
CABF				*e*Pn	**Pn**	**00 35 10.3**	**+0.8**
CABF				Pg	**Pg**	**00 35 15.4**	**-0.8**
CABF				*e*Pg	**Pg**	**00 35 16.2**	**0.0**
CABF				*e*Sn	**Sn**	**00 35 37.6**	**+0.5**
CABF				Sg	**Sg**	**00 35 43.5**	**-2.2**
CABF				*e*Sg	**Sg**	**00 35 46.1**	**+0.4**
CABF	**La Chapelle**	**2.27**	**250**	Pn	**Pn**	**00 35 09.4**	**-0.1**
CABF	**La Chapelle**	**2.27**	**250**	*e*Pg	**Pg**	**00 35 16.2**	**0.0**
CABF				*e*Sn	**Sn**	**00 35 37.6**	**+0.5**
CABF				*e*Sg	**Sg**	**00 35 46.1**	**+0.4**
	22nm,0.3s						
THEF	**They Montfort**	**2.29**	**291**	Pg	**Pg**	**00 35 16.5**	**0.0**
THEF				Sg	**Sg**	**00 35 46.9**	**+0.7**
THEF	**They Montfort**	**2.29**	**291**	Pg	**Pg**	**00 35 16.5**	**0.0**
THEF				Sg	**Sg**	**00 35 46.9**	**+0.7**
ABTA	**Abfaltersbach**	**2.38**	**106**	⇑*e*Pg	**Pg**	**00 35 17.2**	**-1.2**
	SNR=13						
ABTA				⇑*i*Sg	**Sg**	**00 35 48.1**	**-1.2**
	30nm,0.4s						
ABTA	**Abfaltersbach**	**2.38**	**106**	Pg	**Pg**	**00 35 17.2**	**-1.2**
	SNR=13						
ABTA				Sg	**Sg**	**00 35 48.1**	**-1.3**
	30nm,0.4s						
LPL	**La Plagne**	**2.56**	**222**	*e*Pn	**Pn**	**00 35 14.4**	**+0.9**
LPL	**La Plagne**	**2.56**	**222**	*e*Pg	**Pg**	**00 35 21.3**	**-0.5**
LPL				*e*Sg	**Sg**	**00 35 55.2**	**+0.1**
	20nm,0.4s						
LPL	**La Plagne**	**2.56**	**222**	*e*Pn	**Pn**	**00 35 14.4**	**+0.9**
LPL				Pn	**Pn**	**00 35 16.9**	**+3.4**
LPL				Pg	**Pg**	**00 35 18.4**	**-3.4**
LPL				*e*Pg	**Pg**	**00 35 21.3**	**-0.5**
LPL				*e*Sg	**Sg**	**00 35 55.2**	**+0.1**
LPL				Sg	**Sg**	**00 35 57.0**	**+1.9**
LPL	**La Plagne**	**2.56**	**222**	*e*Pn	**Pn**	**00 35 14.4**	**+0.9**
LPL	**La Plagne**	**2.56**	**222**	*e*Pg	**Pg**	**00 35 21.3**	**-0.5**
LPL				*e*Sg	**Sg**	**00 35 55.2**	**+0.1**
	9.8nm,0.4s						
PAGF	**Fort de Pagny**	**2.57**	**297**	*e*Pn	**Pn**	**00 35 13.6**	**0.0**
PAGF	**Fort de Pagny**	**2.57**	**297**	*e*Pg	**Pg**	**00 35 21.0**	**-0.9**
PAGF				*e*Sg	**Sg**	**00 35 54.4**	**-0.8**
	6.6nm,0.3s						
PAGF	**Fort de Pagny**	**2.57**	**297**	*e*Pn	**Pn**	**00 35 13.6**	**0.0**
PAGF				*e*Pg	**Pg**	**00 35 21.0**	**-0.9**
PAGF				*e*Sg	**Sg**	**00 35 54.4**	**-0.8**
PAGF	**Fort de Pagny**	**2.57**	**297**	*e*Pn	**Pn**	**00 35 13.6**	**0.0**
PAGF	**Fort de Pagny**	**2.57**	**297**	*e*Pg	**Pg**	**00 35 21.0**	**-0.9**
PAGF				*e*Sg	**Sg**	**00 35 54.4**	**-0.8**
	3.3nm,0.3s						
LPG	**La Plagne**	**2.57**	**222**	*e*Pn	**Pn**	**00 35 14.6**	**+1.0**
LPG	**La Plagne**	**2.57**	**222**	*e*Pg	**Pg**	**00 35 21.5**	**-0.5**
LPG				*e*Sg	**Sg**	**00 35 55.4**	**+0.2**
	13nm,0.3s						
LPG	**La Plagne**	**2.57**	**222**	*e*Pn	**Pn**	**00 35 14.6**	**+1.0**
LPG				Pn	**Pn**	**00 35 16.9**	**+3.3**
LPG				*e*Pg	**Pg**	**00 35 21.5**	**-0.5**
LPG				*e*Sg	**Sg**	**00 35 55.4**	**+0.2**
LPG				Sg	**Sg**	**00 35 56.0**	**+0.8**
LPG	**La Plagne**	**2.57**	**222**	*e*Pn	**Pn**	**00 35 14.6**	**+1.0**
LPG	**La Plagne**	**2.57**	**222**	*e*Pg	**Pg**	**00 35 21.5**	**-0.5**
LPG				*e*Sg	**Sg**	**00 35 55.4**	**+0.2**
	6.7nm,0.3s						
GRFO	**Grafenberg**	**2.63**	**30**	*e*Pn	**Pn**	**00 35 15.8**	**+1.4**
GRFO				*e*Pg	**Pg**	**00 35 23.3**	**+0.2**
GRFO				*e*Sg	**Sg**	**00 35 57.4**	**+0.3**
GRA1	**Grafenberg Arr**	**2.63**	**30**	Pn	**Pn**	**00 35 13.2**	**-1.2**
GRF	**Grafenberg Arr**	**2.63**	**30**	*e*Pn	**Pn**	**00 35 13.2**	**-1.2**
RSP	**Reno Superiore**	**2.65**	**211**	P	**Pn**	**00 35 15.9**	**+1.1**
RSP				S	**Sn**	**00 35 46.0**	**-0.6**
TNS	**Taunus Mts**	**2.82**	**350**	P	**Pn**	**00 35 18.2**	**+1.1**
TNS	**Taunus Mts**	**2.82**	**350**	P	**Pn**	**00 35 17.5**	**+0.5**
TNS				*e*Sg	**Sg**	**00 36 03.2**	**-0.1**
TNS	**Taunus Mts**	**2.82**	**350**	Px	**Pn**	**00 35 17.5**	**+0.5**
KBA	**Koelnbreinsper**	**2.86**	**96**	⇓*i*Pn	**Pn**	**00 35 18.4**	**+0.7**
KBA				⇓*i*Pg	**Pg**	**00 35 27.0**	**-0.6**
KBA	**Koelnbreinsper**	**2.86**	**96**	*e*Pg	**Pg**	**00 35 24.4**	**-3.2**
KBA				*e*Sg	**Sg**	**00 36 02.1**	**-2.6**
KBA	**Koelnbreinsper**	**2.86**	**96**	Pg	**Pg**	**00 35 24.4**	**-3.2**
KBA				Sg	**Sg**	**00 36 02.1**	**-2.6**
SFTF	**Sexfontaines**	**2.89**	**287**	*e*Pn	**Pn**	**00 35 18.3**	**+0.3**
SFTF	**Sexfontaines**	**2.89**	**287**	*e*Pg	**Pg**	**00 35 26.8**	**-1.3**
SFTF				*e*Sn	**Sn**	**00 35 51.8**	**-0.6**
SFTF				*e*Sg	**Sg**	**00 36 04.5**	**-1.0**
	29nm,0.4s						
SFTF	**Sexfontaines**	**2.89**	**287**	*e*Pn	**Pn**	**00 35 18.3**	**+0.3**
SFTF				*e*Pg	**Pg**	**00 35 26.8**	**-1.3**
SFTF				*e*Sn	**Sn**	**00 35 51.8**	**-0.6**
SFTF				*e*Sg	**Sg**	**00 36 04.5**	**-1.0**
SFTF	**Sexfontaines**	**2.89**	**287**	*e*Pn	**Pn**	**00 35 18.3**	**+0.3**
SFTF	**Sexfontaines**	**2.89**	**287**	*e*Pg	**Pg**	**00 35 26.8**	**-1.3**
SFTF				*e*Sn	**Sn**	**00 35 51.8**	**-0.6**
SFTF				*e*Sg	**Sg**	**00 36 04.5**	**-1.0**
	15nm,0.4s						
MEZF	**Maizieres J'vi**	**2.96**	**292**	*e*Pn	**Pn**	**00 35 18.9**	**-0.2**
MEZF	**Maizieres J'vi**	**2.96**	**292**	*e*Pg	**Pg**	**00 35 28.4**	**-1.1**
MEZF				*e*Sn	**Sn**	**00 35 53.3**	**-1.0**
MEZF				*e*Sg	**Sg**	**00 36 07.0**	**-0.9**
	24nm,0.4s						
MEZF	**Maizieres J'vi**	**2.96**	**292**	*e*Pn	**Pn**	**00 35 18.9**	**-0.2**
MEZF				*e*Pg	**Pg**	**00 35 28.4**	**-1.1**
MEZF				*e*Sn	**Sn**	**00 35 53.3**	**-1.0**
MEZF				Sg	**Sg**	**00 36 06.6**	**-1.3**
MEZF				*e*Sg	**Sg**	**00 36 07.0**	**-0.9**
MEZF	**Maizieres J'vi**	**2.96**	**292**	*e*Pn	**Pn**	**00 35 18.9**	**-0.2**
MEZF	**Maizieres J'vi**	**2.96**	**292**	*e*Pg	**Pg**	**00 35 28.4**	**-1.1**
MEZF				*e*Sn	**Sn**	**00 35 53.3**	**-1.0**
MEZF				*e*Sg	**Sg**	**00 36 07.0**	**-0.9**
	12nm,0.4s						
WLF	**Walferdange**	**2.99**	**319**	Sx	**Sg**	**00 36 07.3**	**-1.6**
WET	**Wettzell**	**3.00**	**54**	*e*Pn	**Pn**	**00 35 19.6**	**0.0**
WET				*e*Sn	**Sn**	**00 35 53.8**	**-1.4**
WET				*e*Sg	**Sg**	**00 36 06.6**	**-2.4**
MBDF	**Montbardon**	**3.19**	**212**	*e*Pn	**Pn**	**00 35 22.8**	**+0.6**
MBDF	**Montbardon**	**3.19**	**212**	*e*Pg	**Pg**	**00 35 32.8**	**-1.1**
MBDF				*e*Sg	**Sg**	**00 36 14.7**	**-0.5**
	22nm,0.7s						
MBDF	**Montbardon**	**3.19**	**212**	*e*Pn	**Pn**	**00 35 22.8**	**+0.6**
MBDF				Pn	**Pn**	**00 35 26.4**	**+4.2**
MBDF				*e*Pg	**Pg**	**00 35 32.8**	**-1.1**
MBDF				*e*Sg	**Sg**	**00 36 14.7**	**-0.5**
	11nm,0.7s						
GEC2	**GERESS Array S**	**3.34**	**64**	*e*Pn	**Pn**	**00 35 24.8**	**+0.6**
GEC2				*e*Sn	**Sn**	**00 36 03.4**	**-0.1**
KHC	**Kasperske Hory**	**3.39**	**59**	*e*Pn	**Pn**	**00 35 25.3**	**+0.4**
KHC				*e*Pg	**Pg**	**00 35 37.1**	**-0.6**
KHC				*e*S	**Sg**	**00 36 21.3**	**-0.2**
KHC	**Kasperske Hory**	**3.39**	**59**	*e*PN	**Pn**	**00 35 25.1**	**+0.2**
KHC				*e*PG	**Pg**	**00 35 31.4**	**-6.2**
KHC				*e*SN	**Sn**	**00 36 03.0**	**-1.7**
KHC				*e*SG	**Sg**	**00 36 15.1**	**-6.4**
	15nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.41**	**223**	*e*Pn	**Pn**	**00 35 25.6**	**+0.4**
ORIF	**Oris-en-Rattie**	**3.41**	**223**	*e*Pg	**Pg**	**00 35 36.4**	**-1.6**
ORIF				*e*Sg	**Sg**	**00 36 21.3**	**-0.9**
	31nm,0.8s						
ORIF	**Oris-en-Rattie**	**3.41**	**223**	*e*Pn	**Pn**	**00 35 25.6**	**+0.4**
ORIF				Pn	**Pn**	**00 35 26.9**	**+1.7**
ORIF				*e*Pg	**Pg**	**00 35 36.4**	**-1.6**
ORIF				Sg	**Sg**	**00 36 18.6**	**-3.6**
ORIF				*e*Sg	**Sg**	**00 36 21.3**	**-0.9**
ORIF	**Oris-en-Rattie**	**3.41**	**223**	*e*Pn	**Pn**	**00 35 25.6**	**+0.4**
ORIF	**Oris-en-Rattie**	**3.41**	**223**	*e*Pg	**Pg**	**00 35 36.4**	**-1.6**
ORIF				*e*Sg	**Sg**	**00 36 21.3**	**-0.9**
	15nm,0.8s						
MOA	**Molln**	**3.47**	**81**	⇑*i*Pn	**Pn**	**00 35 26.8**	**+0.8**
MOA				⇓*i*Sn	**Sn**	**00 36 07.7**	**+1.1**
MOA	**Molln**	**3.47**	**81**	*e*Pg	**Pg**	**00 35 36.3**	**-2.8**
MOA				*e*Sn	**Sn**	**00 36 07.6**	**+1.0**
MOA				*e*Sg	**Sg**	**00 36 22.0**	**-2.0**
NKC	**Novy Kostel**	**3.53**	**37**	*e*SG	**Sg**	**00 36 20.8**	**-5.2**
	16nm,0.3s						
MOX	**Moxa**	**3.58**	**26**	*e*Pn	**Pn**	**00 35 25.9**	**-1.7**
MOX				*e*Sn	**Sn**	**00 36 08.1**	**-1.3**
MOX				*e*Sg	**Sg**	**00 36 25.4**	**-2.3**
LOR	**Lormes**	**3.62**	**269**	*e*Pn	**Pn**	**00 35 28.6**	**+0.6**
LOR	**Lormes**	**3.62**	**269**	*e*Pg	**Pg**	**00 35 40.8**	**-1.2**
LOR				*e*Sg	**Sg**	**00 36 27.2**	**-1.6**
	18nm,0.2s						
LOR	**Lormes**	**3.62**	**269**	*e*Pn	**Pn**	**00 35 28.6**	**+0.6**
LOR				*e*Pg	**Pg**	**00 35 40.8**	**-1.2**
LOR				Sg	**Sg**	**00 36 24.1**	**-4.7**
LOR				*e*Sg	**Sg**	**00 36 27.2**	**-1.6**
LOR	**Lormes**	**3.62**	**269**	*e*Pn	**Pn**	**00 35 28.6**	**+0.6**
LOR	**Lormes**	**3.62**	**269**	*e*Pg	**Pg**	**00 35 40.8**	**-1.2**
LOR				*e*Sg	**Sg**	**00 36 27.2**	**-1.6**
	8.9nm,0.2s						
TANN	**Tannenbergstha**	**3.68**	**35**	*e*Pg	**Pg**	**00 35 40.9**	**-2.2**
TANN				*e*Sg	**Sg**	**00 36 28.8**	**-2.0**
SMF	**Signal de Mont**	**3.73**	**260**	*e*Pn	**Pn**	**00 35 30.1**	**+0.5**
SMF	**Signal de Mont**	**3.73**	**260**	*e*Pg	**Pg**	**00 35 42.9**	**-1.3**
SMF				*e*Sg	**Sg**	**00 36 31.3**	**-1.2**
	12nm,0.3s						
SMF	**Signal de Mont**	**3.73**	**260**	*e*Pn	**Pn**	**00 35 30.1**	**+0.5**
SMF				*e*Pg	**Pg**	**00 35 42.9**	**-1.3**
SMF				Sn	**Sn**	**00 36 08.1**	**-5.1**
SMF				Sg	**Sg**	**00 36 29.6**	**-2.9**
SMF				*e*Sg	**Sg**	**00 36 31.3**	**-1.2**
SMF	**Signal de Mont**	**3.73**	**260**	*e*Pn	**Pn**	**00 35 30.1**	**+0.5**
SMF	**Signal de Mont**	**3.73**	**260**	*e*Pg	**Pg**	**00 35 42.9**	**-1.3**
SMF				*e*Sg	**Sg**	**00 36 31.3**	**-1.2**
	5.8nm,0.3s						
SBF	**Sospel**	**3.79**	**199**	*e*Pn	**Pn**	**00 35 30.7**	**+0.4**
SBF				*e*Sn	**Sn**	**00 36 13.5**	**-1.0**
	7.1nm,0.4s						
SBF	**Sospel**	**3.79**	**199**	*e*Pn	**Pn**	**00 35 30.7**	**+0.4**
SBF				*e*Sn	**Sn**	**00 36 13.5**	**-1.0**
SBF	**Sospel**	**3.79**	**199**	*e*Pn	**Pn**	**00 35 30.7**	**+0.4**
SBF				*e*Sn	**Sn**	**00 36 13.5**	**-1.0**
	3.5nm,0.4s						
MEM	**Membach**	**3.79**	**328**	P	**Pn**	**00 35 31.8**	**+1.4**
SSF	**Saint Saulge**	**3.88**	**266**	*e*Pn	**Pn**	**00 35 33.0**	**+1.4**
SSF	**Saint Saulge**	**3.88**	**266**	*e*Pg	**Pg**	**00 35 45.2**	**-1.8**
SSF				*e*Sg	**Sg**	**00 36 35.7**	**-1.5**
	7.2nm,0.3s						
SSF	**Saint Saulge**	**3.88**	**266**	*e*Pn	**Pn**	**00 35 33.0**	**+1.4**
SSF				Pn	**Pn**	**00 35 33.5**	**+1.9**
SSF				*e*Pg	**Pg**	**00 35 45.2**	**-1.8**
SSF				Sn	**Sn**	**00 36 12.6**	**-4.2**
SSF				*e*Sg	**Sg**	**00 36 35.7**	**-1.5**
SSF				Sg	**Sg**	**00 36 36.7**	**-0.5**
SSF	**Saint Saulge**	**3.88**	**266**	*e*Sg	**Sg**	**00 36 35.7**	**-1.5**
	3.6nm,0.3s						
GIVF	**Givet**	**3.92**	**314**	*e*Pn	**Pn**	**00 35 32.0**	**-0.1**
GIVF				*e*Sg	**Sg**	**00 36 35.8**	**-2.6**
	10nm,0.5s						
GIVF	**Givet**	**3.92**	**314**	*e*Pn	**Pn**	**00 35 32.0**	**-0.1**
GIVF				*e*Sg	**Sg**	**00 36 35.8**	**-2.6**
AVF	**Avril sur Loir**	**4.03**	**263**	*e*Pn	**Pn**	**00 35 34.4**	**+0.7**
AVF	**Avril sur Loir**	**4.03**	**263**	*e*Pg	**Pg**	**00 35 48.2**	**-1.6**
AVF				*e*Sg	**Sg**	**00 36 40.1**	**-1.9**
	7.7nm,0.5s						
AVF	**Avril sur Loir**	**4.03**	**263**	Pn	**Pn**	**00 35 34.5**	**+0.8**
AVF				*e*Pg	**Pg**	**00 35 48.2**	**-1.6**
AVF				Sg	**Sg**	**00 36 37.2**	**-4.8**
AVF				*e*Sg	**Sg**	**00 36 40.1**	**-1.9**
AVF	**Avril sur Loir**	**4.03**	**263**	*e*Sg	**Sg**	**00 36 40.1**	**-1.9**
	3.8nm,0.5s						
VIVF	**Saint-Julien-l**	**4.06**	**232**	*e*Pn	**Pn**	**00 35 34.1**	**0.0**
VIVF				*e*Sn	**Sn**	**00 36 20.7**	**-0.6**
VIVF				*e*Sg	**Sg**	**00 36 41.7**	**-1.4**
	5.0nm,0.2s						
VIVF	**Saint-Julien-l**	**4.06**	**232**	*e*Pn	**Pn**	**00 35 34.1**	**0.0**
VIVF				Pn	**Pn**	**00 35 35.0**	**+0.9**
VIVF				Sn	**Sn**	**00 36 18.1**	**-3.2**
VIVF				*e*Sn	**Sn**	**00 36 20.7**	**-0.6**
VIVF				Sg	**Sg**	**00 36 39.7**	**-3.4**
VIVF				*e*Sg	**Sg**	**00 36 41.7**	**-1.4**
VIVF	**Saint-Julien-l**	**4.06**	**232**	*e*Pn	**Pn**	**00 35 34.1**	**0.0**
VIVF				*e*Sn	**Sn**	**00 36 20.7**	**-0.6**
VIVF				Sg	**Sg**	**00 36 39.7**	**-3.4**
BAIF	**Baives**	**4.20**	**310**	*e*Pn	**Pn**	**00 35 38.1**	**+2.1**
BAIF				*e*Sg	**Sg**	**00 36 44.8**	**-2.7**
	8.8nm,0.6s						
BAIF	**Baives**	**4.20**	**310**	Pn	**Pn**	**00 35 38.0**	**+2.0**
BAIF				Sn	**Sn**	**00 36 25.1**	**+0.4**
BAIF				Sg	**Sg**	**00 36 44.7**	**-2.8**
BAIF	**Baives**	**4.20**	**310**	Sn	**Sn**	**00 36 25.1**	**+0.4**
BAIF				*e*Sg	**Sg**	**00 36 44.8**	**-2.7**
	4.4nm,0.6s						
FRF	**La Foret Royal**	**4.27**	**205**	*e*Pn	**Pn**	**00 35 37.2**	**+0.2**
FRF				*e*Sn	**Sn**	**00 36 25.1**	**-1.4**
	3.1nm,0.3s						
FRF	**La Foret Royal**	**4.27**	**205**	*e*Pn	**Pn**	**00 35 37.2**	**+0.2**
FRF				*e*Sn	**Sn**	**00 36 25.1**	**-1.4**
FRF				Sn	**Sn**	**00 36 27.1**	**+0.6**
FRF	**La Foret Royal**	**4.27**	**205**	*e*Pn	**Pn**	**00 35 37.2**	**+0.2**
FRF				*e*Sn	**Sn**	**00 36 25.1**	**-1.4**
	1.5nm,0.3s						
SMRF	**Simiane la Rot**	**4.29**	**217**	*e*Pn	**Pn**	**00 35 37.7**	**+0.4**
SMRF				*e*Sn	**Sn**	**00 36 25.9**	**-1.0**
	3.0nm,0.4s						
SMRF	**Simiane la Rot**	**4.29**	**217**	*e*Pn	**Pn**	**00 35 37.7**	**+0.4**
SMRF				*e*Sn	**Sn**	**00 36 25.9**	**-1.0**
SMRF				Sn	**Sn**	**00 36 26.1**	**-0.8**
SMRF	**Simiane la Rot**	**4.29**	**217**	*e*Pn	**Pn**	**00 35 37.7**	**+0.4**
SMRF				*e*Sn	**Sn**	**00 36 25.9**	**-1.0**
	1.5nm,0.4s						
PRU	**Pruhonice**	**4.37**	**52**	*e*SG	**Sg**	**00 36 47.1**	**-5.8**
	7.2nm,0.4s						
BGF	**Bois d'Agland**	**4.42**	**261**	*e*Pn	**Pn**	**00 35 39.4**	**+0.3**
BGF	**Bois d'Agland**	**4.42**	**261**	*e*Pg	**Pg**	**00 35 55.5**	**-1.8**
BGF				*e*Sg	**Sg**	**00 36 52.8**	**-1.7**
	19nm,0.5s						
BGF	**Bois d'Agland**	**4.42**	**261**	Pn	**Pn**	**00 35 38.5**	**-0.6**
BGF				*e*Pn	**Pn**	**00 35 39.4**	**+0.3**
BGF				*e*Pg	**Pg**	**00 35 55.5**	**-1.8**
BGF				Sn	**Sn**	**00 36 28.1**	**-2.0**
BGF				Sg	**Sg**	**00 36 51.2**	**-3.3**
BGF				*e*Sg	**Sg**	**00 36 52.8**	**-1.7**
BGF	**Bois d'Agland**	**4.42**	**261**	Pn	**Pn**	**00 35 38.5**	**-0.6**
HYF	**Humbligny**	**4.45**	**270**	*e*Pn	**Pn**	**00 35 39.6**	**+0.2**
HYF	**Humbligny**	**4.45**	**270**	*e*Pn	**Pn**	**00 35 39.6**	**+0.2**
HYF				*e*Pg	**Pg**	**00 35 55.8**	**-2.0**
HYF				*e*Sg	**Sg**	**00 36 53.4**	**-2.0**
LMR	**La Mourre**	**4.52**	**206**	*e*Pn	**Pn**	**00 35 40.3**	**-0.1**
LMR				*e*Sn	**Sn**	**00 36 31.2**	**-1.4**
	1.3nm,0.2s						
LMR	**La Mourre**	**4.52**	**206**	*e*Pn	**Pn**	**00 35 40.3**	**-0.1**
LMR				*e*Sn	**Sn**	**00 36 31.2**	**-1.4**
LMR	**La Mourre**	**4.52**	**206**	*e*Pn	**Pn**	**00 35 40.3**	**-0.1**
LMR				*e*Sn	**Sn**	**00 36 31.2**	**-1.4**
	0.6nm,0.2s						
CONA	**Conrad Observa**	**4.54**	**81**	⇓*i*Pn	**Pn**	**00 35 42.1**	**+1.4**
CONA				⇑*i*Sn	**Sn**	**00 36 31.8**	**-1.4**
CONA				⇓*i*Sg	**Sg**	**00 37 02.1**	**+3.6**
	6.7nm,0.5s						
CLL	**Collm**	**4.60**	**31**	*i* Pn	**Pn**	**00 35 35.6**	**-6.0**
CLL				*e*		00 35 39.0	
CLL				*e*Pg	**Pg**	**00 36 00.0**	**-0.8**
CLL				*e*Sg	**Sg**	**00 36 58.0**	**-2.4**
	comp=Z,17nm,1.1s						
BRG	**Berggiesshubel**	**4.64**	**41**	PG	**Pg**	**00 36 00.3**	**-1.3**
BRG				SG	**Sg**	**00 37 00.1**	**-1.6**
	comp=Z,6.0nm,0.4s						
LASF	**Ste Croix**	**5.02**	**230**	*e*Pn	**Pn**	**00 35 47.5**	**+0.2**
LASF	**Ste Croix**	**5.02**	**230**	*e*Pg	**Pg**	**00 36 06.4**	**-2.4**
LASF				*e*Sn	**Sn**	**00 36 43.1**	**-1.8**
LASF				*e*Sg	**Sg**	**00 37 11.7**	**-2.1**
	comp=Z,6.0nm,0.5s						
LASF	**Ste Croix**	**5.02**	**230**	*e*Pn	**Pn**	**00 35 47.5**	**+0.2**
LASF				*e*Pg	**Pg**	**00 36 06.4**	**-2.4**
LASF				Sn	**Sn**	**00 36 42.7**	**-2.2**
LASF				*e*Sn	**Sn**	**00 36 43.1**	**-1.8**
LASF				Sg	**Sg**	**00 37 07.8**	**-6.0**
LASF				*e*Sg	**Sg**	**00 37 11.7**	**-2.1**
DPC	**Dobruska-Polom**	**5.54**	**56**	*e*SG	**Sg**	**00 37 23.9**	**-6.4**
	comp=Z,4.1nm,0.4s						
CAF	**Calviac**	**5.54**	**246**	*e*Pn	**Pn**	**00 35 54.7**	**+0.2**
CAF				*e*Sg	**Sg**	**00 37 28.0**	**-2.5**
	comp=Z,1.4nm,0.3s						
CAF	**Calviac**	**5.54**	**246**	*e*Pn	**Pn**	**00 35 54.7**	**+0.2**
CAF				Pn	**Pn**	**00 35 55.5**	**+1.0**
CAF				Sn	**Sn**	**00 36 55.2**	**-2.6**
CAF				*e*Sg	**Sg**	**00 37 28.0**	**-2.5**
CAF				Sg	**Sg**	**00 37 28.3**	**-2.2**
RJF	**Les Rejaudoux**	**5.71**	**251**	*e*Pn	**Pn**	**00 35 56.9**	**0.0**
RJF				*e*Sg	**Sg**	**00 37 33.4**	**-2.7**
	comp=Z,3.6nm,0.4s						
RJF	**Les Rejaudoux**	**5.71**	**251**	*e*Pn	**Pn**	**00 35 56.9**	**0.0**
RJF				*e*Sg	**Sg**	**00 37 33.4**	**-2.7**
LDF	**La Druitiere**	**6.34**	**284**	*e*Pn	**Pn**	**00 36 05.3**	**-0.1**
LDF				*e*Sg	**Sg**	**00 37 52.3**	**-3.8**
	comp=Z,6.7nm,0.5s						
LDF	**La Druitiere**	**6.34**	**284**	*e*Pn	**Pn**	**00 36 05.3**	**-0.1**
LDF				*e*Sg	**Sg**	**00 37 52.3**	**-3.8**
MFF	**Saint Martin d**	**6.43**	**266**	*e*Pn	**Pn**	**00 36 06.6**	**0.0**
MFF				*e*Sg	**Sg**	**00 37 55.3**	**-3.6**
	comp=Z,0.9nm,0.3s						
MFF	**Saint Martin d**	**6.43**	**266**	*e*Pn	**Pn**	**00 36 06.6**	**0.0**
MFF

FLACH	Flaach	0.43 286	⇑iPg	Pg	00 41 05.8	+0.5
	173nm,0.2s					
FLACH			iSg	Sg	00 41 12.3	+1.2
	173nm,0.2s					
FLACH	Flaach	0.43 286	⇑iPg	Pg	00 41 05.8	+0.5
	173nm,0.2s					
FLACH			iSg	Sg	00 41 12.3	+1.2
	173nm,0.2s					
DAVA	Damuels	0.51 109	⇑iPg	Pg	00 41 06.6	-0.2
DAVA			⇑iSg	Sg	00 41 13.9	+0.4
	58nm,0.2s					
DAVA	Damuels	0.51 109	Pg	Pg	00 41 06.6	-0.2
DAVA			Sg	Sg	00 41 13.6	+0.1
SLE	Schleitheim	0.56 304	⇓iPg	Pg	00 41 07.9	+0.2
	214nm,0.5s					
SLE			eSg	Sg	00 41 15.7	+0.5
	214nm,0.5s					
SLE	Schleitheim	0.56 304	⇓P*	Pg	00 41 07.9	+0.2
SLE			S*	Sg	00 41 15.7	+0.5
SLE			SmS		00 41 20.2	
SLE	Schleitheim	0.56 304	Sg	Sg	00 41 15.7	+0.5
SLE			SmS		00 41 20.2	
SLE	Schleitheim	0.56 304	⇓Pg	Pg	00 41 07.9	+0.2
SLE	Schleitheim	0.56 304	Pb	Pg	00 41 07.9	+0.2
SLE			eSg	Sg	00 41 15.7	+0.5
	214nm,0.5s					
GUT	Gutenstein	0.62 356	P	Pg	00 41 08.7	-0.2
GUT			S	Sg	00 41 17.5	+0.4
GUT	Gutenstein	0.62 356	⇓iP*	Pg	00 41 08.8	-0.1
GUT			PmP		00 41 11.0	
GUT			iS*	Sg	00 41 17.6	+0.4
GUT			SmS		00 41 21.4	
GUT	Gutenstein	0.62 356	⇓iPg	Pg	00 41 08.8	-0.1
GUT			iSg	Sg	00 41 17.6	+0.4
GUT	Gutenstein	0.62 356	Pb	Pg	00 41 08.8	-0.1
GUT			Sb	Sg	00 41 17.5	+0.4
UBR	Ueberruh	0.67 70	P	Pg	00 41 09.8	-0.1
UBR			S	Sg	00 41 19.4	+0.7
UBR	Ueberruh	0.67 70	⇑iP*	Pg	00 41 09.9	0.0
UBR			S*	Sg	00 41 19.5	+0.8
UBR			SmS		00 41 23.8	
UBR	Ueberruh	0.67 70	⇑iPg	Pg	00 41 09.9	0.0
UBR			Sg	Sg	00 41 19.5	+0.8
UBR			SmS		00 41 23.8	
UBR	Ueberruh	0.67 70	P	Pg	00 41 09.8	-0.1
UBR			Sb	Sg	00 41 19.5	+0.8
SPAK	Spaichingen-Ko	0.70 338	P	Pg	00 41 10.4	0.0
SPAK	Spaichingen-Ko	0.70 338	P*	Pg	00 41 10.4	0.0
SPAK			PmP		00 41 12.3	
SPAK	Spaichingen-Ko	0.70 338	Pg	Pg	00 41 10.4	0.0
SPAK	Spaichingen-Ko	0.70 338	P	Pg	00 41 10.4	0.0
SULZ	Cheisacher	0.73 276	ePg	Pg	00 41 11.3	+0.4
	308nm,0.6s					
SULZ	Cheisacher	0.73 276	ePg	Pg	00 41 11.3	+0.4
	308nm,0.6s					
OBER	Oberstdorf	0.76 93	P*	Pg	00 41 11.2	-0.3
OBER			S*	Sg	00 41 22.1	+0.5
OBER	Oberstdorf	0.76 93	Pg	Pg	00 41 11.2	-0.3
OBER			Sg	Sg	00 41 22.1	+0.5
OBER	Oberstdorf	0.76 93	Pb	Pg	00 41 11.2	-0.3
OBER			Sb	Sg	00 41 22.1	+0.6
BNALP	Bannalp	0.78 222	⇑iPg	Pg	00 41 12.2	+0.4
	178nm,0.3s					
BNALP			eSg	Sg	00 41 23.5	+1.5
	178nm,0.3s					
BNALP	Bannalp	0.78 222	⇑iPg	Pg	00 41 12.2	+0.4
	178nm,0.3s					
BNALP			eSg	Sg	00 41 23.5	+1.5
	178nm,0.3s					
DAVOX	Davos/Dischmat	0.83 144	⇓iPg	Pg	00 41 12.5	-0.3
	79nm,0.5s					
DAVOX			eSg	Sg	00 41 24.1	+0.5
	79nm,0.5s					
DAVOX	Davos/Dischmat	0.83 144	⇓iPg	Pg	00 41 12.5	-0.3
	79nm,0.5s					
DAVOX			eSg	Sg	00 41 24.1	+0.5
	79nm,0.5s					
FELD	Feldberg im Sc	0.90 299	Pg	Pg	00 41 15.3	+1.1
HASLI	Hasliberg/Brie	0.99 226	ePg	Pg	00 41 15.9	+0.1
	165nm,0.6s					
HASLI	Hasliberg/Brie	0.99 226	ePg	Pg	00 41 15.9	+0.1
	165nm,0.6s					
KIZ	Kirchzarten	0.99 301	P	Pb	00 41 15.9	+0.3
KIZ			S	Sg	00 41 29.1	+0.3
KIZ	Kirchzarten	0.99 301	⇓Pn	Pn	00 41 15.9	-0.2
KIZ			Pg	Pg	00 41 16.4	+0.5
KIZ			PmP		00 41 16.9	
KIZ			S*	Sg	00 41 29.1	+0.3
KIZ	Kirchzarten	0.99 301	⇓Pn	Pn	00 41 15.9	-0.2
KIZ			Sg	Sg	00 41 29.1	+0.3
KIZ	Kirchzarten	0.99 301	Px	Pg	00 41 16.4	+0.5
KIZ	Kirchzarten	0.99 301	Pn	Pb	00 41 15.9	+0.3
KIZ	Kirchzarten	0.99 301	Pg	Pg	00 41 16.4	+0.6
KIZ			Sb	Sg	00 41 29.1	+0.3
BUCH	Bad Urach	1.00 7	P	Pb	00 41 15.8	-0.1
BUCH			S	Sb	00 41 29.7	+0.7
BUCH	Bad Urach	1.00 7	⇓Pn	Pn	00 41 15.9	-0.5
BUCH			PmP		00 41 16.7	
BUCH			S*	Sg	00 41 29.7	+0.4
BUCH			SmS		00 41 31.5	
BUCH	Bad Urach	1.00 7	⇓Pn	Pn	00 41 15.9	-0.5
BUCH			Sg	Sg	00 41 29.7	+0.4
BUCH	Bad Urach	1.00 7	Pn	Pn	00 41 15.9	-0.5
BUCH			Sb	Sb	00 41 29.7	+0.7
BALST	Balsthal	1.01 264	ePg	Pg	00 41 16.4	+0.1
	174nm,0.3s					
BALST	Balsthal	1.01 264	ePg	Pg	00 41 16.4	+0.1
	174nm,0.3s					
BFO	Black Forest	1.05 327	Pg	Pg	00 41 17.1	+0.1
BFO			S	Sb	00 41 30.6	+0.4
BFO	Black Forest	1.05 327	Pn	Pn	00 41 16.8	-0.2
BFO			Pg	Pg	00 41 17.3	+0.3
BFO			S	Sb	00 41 30.6	+0.4
BFO	Black Forest	1.05 327	Pn	Pn	00 41 16.8	-0.2
BFO			Sn	Sb	00 41 30.6	+0.4
BFO	Black Forest	1.05 327	P	Pg	00 41 17.3	+0.3
BFO	Black Forest	1.05 327	Pn	Pn	00 41 16.8	-0.2
TUBL	Tuebingen-Lenn	1.07 357	P	Pb	00 41 17.4	+0.3
TUBL			S	Sb	00 41 31.2	+0.2
TUBL	Tuebingen-Lenn	1.07 357	P*	Pg	00 41 17.5	0.0
TUBL			Pg	Pg	00 41 18.0	+0.5
TUBL			S*	Sg	00 41 31.3	-0.2
TUBL	Tuebingen-Lenn	1.07 357	Pg	Pg	00 41 17.5	0.0
TUBL			Sg	Sg	00 41 31.3	-0.2
TUBL	Tuebingen-Lenn	1.07 357	P	Pg	00 41 18.0	+0.5
TUBL	Tuebingen-Lenn	1.07 357	P	Pb	00 41 17.4	+0.3
TUBL	Tuebingen-Lenn	1.07 357	Pg	Pg	00 41 18.0	+0.5
TUBL			Sb	Sb	00 41 31.3	+0.3
RETA	Reutte	1.08 88	⇑iPg	Pg	00 41 17.4	-0.2
RETA			⇑iSg	Sg	00 41 32.2	+0.6
	6.3nm,0.2s					
RETA	Reutte	1.08 88	Pg	Pg	00 41 17.4	-0.1
RETA			Sg	Sg	00 41 32.2	+0.6
	6.3nm,0.2s					
BBS	Basel-Blauen	1.13 271	P	Pg	00 41 19.1	+0.5
BBS	Basel-Blauen	1.13 271	Pg	Pg	00 41 19.1	+0.5
BBS	Basel-Blauen	1.13 271	P	Pg	00 41 19.1	+0.5
BBS	Basel-Blauen	1.13 271	Pg	Pg	00 41 19.1	+0.5
BBS			Sg	Sg	00 41 34.9	+1.6
FETA	Feichten	1.14 112	⇓iPg	Pg	00 41 18.4	-0.4
FETA			⇓iSg	Sg	00 41 33.8	+0.1
	8.9nm,0.2s					
FETA	Feichten	1.14 112	Pg	Pg	00 41 18.4	-0.4
FETA			Sg	Sg	00 41 33.8	+0.1
	8.9nm,0.2s					
BERNI	Berninapass	1.19 151	⇓iPg	Pg	00 41 19.1	-0.6
	49nm,0.5s					
BERNI	Berninapass	1.19 151	⇓iPg	Pg	00 41 19.1	-0.6
	49nm,0.5s					
LBG	Lerchenberg	1.24 348	P	Pg	00 41 20.4	-0.2
LBG			S	Sb	00 41 35.3	-0.5
LBG	Lerchenberg	1.24 348	P	Pn	00 41 19.6	-0.1
LBG			⇓Pg	Pg	00 41 20.4	-0.2
LBG			S	Sb	00 41 35.3	-0.5
LBG	Lerchenberg	1.24 348	⇓P	Pg	00 41 20.4	-0.2
LBG			Sn	Sb	00 41 35.3	-0.5
LBG	Lerchenberg	1.24 348	Px	Pn	00 41 19.6	-0.1
LBG	Lerchenberg	1.24 348	P	Pn	00 41 19.6	-0.1
MOTA	Moosalm	1.31 94	⇓iPn	Pn	00 41 20.9	+0.2
MOTA			⇑iPg	Pg	00 41 21.6	-0.5
MOTA			⇓iSn	Sn	00 41 38.9	+0.9
MOTA			⇑iSg	Sg	00 41 39.3	+0.1
	13nm,0.1s					
MOTA	Moosalm	1.31 94	Pn	Pn	00 41 20.9	+0.2
STU	Stuttgart	1.32 1	P	Pn	00 41 21.7	+0.9
STU			Sg	Sg	00 41 39.5	+0.1
STU			S	Sb	00 41 39.7	+1.6
STU	Stuttgart	1.32 1	Pg	Pg	00 41 21.8	-0.4
STU			Sg	Sg	00 41 39.7	+0.4
STU	Stuttgart	1.32 1	Px	Pg	00 41 21.8	-0.4
STU			S	Sg	00 41 39.7	+0.4
STU	Stuttgart	1.32 1	Pg	Pg	00 41 21.8	-0.4
STU			Sg	Sg	00 41 39.5	+0.1
BOURR	Bourrignon	1.32 268	⇑iPn	Pn	00 41 21.3	+0.5
	107nm,0.5s					
BOURR	Bourrignon	1.32 268	⇑iPn	Pn	00 41 21.3	+0.5
	107nm,0.5s					
HDH	Heidenheim-Cha	1.33 31	P	Pn	00 41 20.1	-0.8
HDH			S	Sb	00 41 37.9	-0.4
HDH	Heidenheim-Cha	1.33 31	P	Pn	00 41 20.1	-0.7
HDH			Pg	Pg	00 41 21.8	-0.5
HDH			S	Sb	00 41 38.0	-0.3
HDH			Sg	Sg	00 41 39.7	+0.1
HDH	Heidenheim-Cha	1.33 31	Pn	Pn	00 41 20.1	-0.7
HDH			Sx	Sx	00 41 38.0	
HDH	Heidenheim-Cha	1.33 31	P	Pg	00 41 21.8	-0.5
HDH			S	Sg	00 41 39.7	+0.1
HDH	Heidenheim-Cha	1.33 31	P	Pn	00 41 20.1	-0.8
HDH	Heidenheim-Cha	1.33 31	Pg	Pg	00 41 21.8	-0.5
HDH			S	Sb	00 41 38.0	-0.3
MOF	Molkenrain	1.44 287	Pg	Pg	00 41 25.3	+0.9
MOF			Sg	Sg	00 41 43.4	+0.3
MOF	Molkenrain	1.44 287	Pg	Pg	00 41 25.3	+0.9
MOF			Sg	Sg	00 41 43.4	+0.3
ECH	Echery	1.56 300	P	Pg	00 41 27.2	+0.5
ECH			S	Sg	00 41 46.6	-0.4
ECH	Echery	1.56 300	Pg	Pg	00 41 27.2	+0.5
ECH			Sg	Sg	00 41 46.6	-0.4
ECH	Echery	1.56 300	Px	Pg	00 41 27.2	+0.5
ECH			Sx	Sg	00 41 46.6	-0.4
ECH	Echery	1.56 300	P	Pg	00 41 27.2	+0.5
ECH			Sg	Sg	00 41 46.4	-0.6
ECH	Echery	1.56 300	Pg	Pg	00 41 27.2	+0.5
ECH			Sg	Sg	00 41 46.4	-0.6
FUR	Furstenfeldbru	1.59 62	Pg	Pg	00 41 26.5	-0.7
FUR	Furstenfeldbru	1.59 62	ePg	Pg	00 41 26.5	-0.7
FUR			eSg	Sg	00 41 48.5	+0.5
FUR	Furstenfeldbru	1.59 62	Pg	Pg	00 41 26.5	-0.7
FUR			Sg	Sg	00 41 48.3	+0.5
CDF	Champ du Feu	1.60 308	ePn	Pn	00 41 25.0	+0.4
CDF	Champ du Feu	1.60 308	ePg	Pg	00 41 27.6	+0.1
CDF			eSg	Sg	00 41 48.3	+0.1
	16nm,0.3s					
CDF	Champ du Feu	1.60 308	ePn	Pn	00 41 25.0	+0.4
CDF			ePg	Pg	00 41 27.6	+0.1
CDF			eSg	Sg	00 41 48.3	+0.1
CDF	Champ du Feu	1.60 308	ePn	Pn	00 41 25.0	+0.4
CDF	Champ du Feu	1.60 308	ePg	Pg	00 41 27.6	+0.1
CDF			eSg	Sg	00 41 48.3	+0.1
	7.8nm,0.3s					
LOMF	Lomont	1.60 267	Pn	Pg	00 41 27.4	-0.1
LOMF	Lomont	1.60 267	Pn	Pg	00 41 27.4	-0.1
HINF	Hinteralfeld	1.61 284	ePg	Pn	00 41 25.4	+0.6
HINF			eSg	Sg	00 41 48.8	+0.1
	30nm,0.4s					
HINF	Hinteralfeld	1.61 284	ePg	Pn	00 41 25.4	+0.6
HINF			eSg	Sg	00 41 48.8	+0.1
HINF	Hinteralfeld	1.61 284	ePg	Pn	00 41 25.4	+0.6
HINF			eSg	Sg	00 41 48.8	+0.1
	15nm,0.4s					
WATA	Walderalm	1.64 93	⇓iPg	Pg	00 41 27.6	-0.6
WATA			⇓iSn	Sn	00 41 46.6	+0.7
WATA			⇓iSg	Sg	00 41 50.0	+0.6
	5.1nm,0.1s					
WATA	Walderalm	1.64 93	Pg	Pg	00 41 27.6	-0.6
WATA			Sn	Sn	00 41 46.6	+0.7
WATA			Sg	Sg	00 41 50.0	+0.6
	5.1nm,0.1s					
TORNY	Torny/Romont	1.66 247	⇑iPn	Pn	00 41 26.1	+0.7
	116nm,0.4s					
TORNY	Torny/Romont	1.66 247	⇑iPn	Pn	00 41 26.1	+0.7
	116nm,0.4s					
WTTA	Wattenberg	1.68 96	⇑iPg	Pg	00 41 28.3	-0.8
WTTA			⇑iSg	Sg	00 41 51.0	+0.1
	5.1nm,0.1s					
WTTA	Wattenberg	1.68 96	Pg	Pg	00 41 28.3	-0.8
WTTA	Wattenberg	1.68 96	ePg	Pg	00 41 28.3	-0.8
WTTA			eSg	Sg	00 41 51.2	+0.3
WTTA	Wattenberg	1.68 96	Pg	Pg	00 41 28.3	-0.8
WTTA			Sg	Sg	00 41 51.0	+0.1
	5.1nm,0.1s					
LANF	Langenberg	1.78 330	Pg	Pg	00 41 30.6	-0.4
LANF	Langenberg	1.78 330	Pg	Pg	00 41 30.6	-0.4
SIND	Sindeldorf	1.92 8	P	Pn	00 41 27.9	-1.1
SIND			S	Sg	00 41 57.7	-0.8
SIND	Sindeldorf	1.92 8	P	Pn	00 41 28.0	-1.0
SIND			Pg	Pg	00 41 33.0	-0.6
SIND			Sg	Sg	00 41 57.7	-0.8
SIND	Sindeldorf	1.92 8	Pn	Pn	00 41 28.0	-1.0
SIND			S	Sg	00 41 57.7	-0.8
SIND	Sindeldorf	1.92 8	P	Pg	00 41 33.0	-0.6
SIND	Sindeldorf	1.92 8	P	Pn	00 41 28.0	-1.0
SIND	Sindeldorf	1.92 8	Pg	Pg	00 41 33.0	-0.6
HAU	Haudompre	1.99 287	ePn	Pn	00 41 30.4	+0.5
HAU	Haudompre	1.99 287	ePg	Pg	00 41 34.6	-0.3
HAU			eSn	Sn	00 41 54.6	0.0
HAU			eSg	Sg	00 42 00.8	+0.1
	22nm,0.4s					
HAU	Haudompre	1.99 287	ePn	Pn	00 41 30.4	+0.5
HAU			ePg	Pg	00 41 34.6	-0.3
HAU			eSn	Sn	00 41 54.6	0.0
HAU			eSg	Sg	00 42 00.8	+0.1
HAU	Haudompre	1.99 287	ePn	Pn	00 41 30.4	+0.5
HAU	Haudompre	1.99 287	ePg	Pg	00 41 34.6	-0.3
HAU			eSn	Sn	00 41 54.6	0.0
HAU			eSg	Sg	00 42 00.8	+0.1
	11nm,0.4s					
TOD	Tromm	2.17 354	Pg	Pg	00 41 38.6	+0.2
TOD			Sg	Sg	00 42 06.5	0.0
CABF	La Chapelle	2.27 249	ePn	Pn	00 41 34.6	+0.7
CABF	La Chapelle	2.27 249	ePg	Pg	00 41 40.2	-0.2
CABF			eSg	Sg	00 42 10.4	+0.6
	6.7nm,0.2s					
CABF	La Chapelle	2.27 249	ePn	Pn	00 41 34.6	+0.7
CABF			ePg	Pg	00 41 40.2	-0.2
CABF			eSg	Sg	00 42 10.4	+0.6
CABF	La Chapelle	2.27 249	ePn	Pn	00 41 34.6	+0.7
CABF	La Chapelle	2.27 249	ePg	Pg	00 41 40.2	-0.2
CABF			eSg	Sg	00 42 10.4	+0.6
	3.3nm,0.2s					
THEF	They Montfort	2.28 291	Pn	Pn	00 41 35.6	+1.6
THEF			Sg	Sg	00 42 10.5	+0.3
THEF	They Montfort	2.28 291	Pn	Pn	00 41 35.6	+1.6
THEF			Sg	Sg	00 42 10.5	+0.3
ABTA	Abfaltersbach	2.39 106	⇓iPg	Pg	00 41 41.1	-1.4
ABTA	Abfaltersbach	2.39 106	Pg	Pg	00 41 41.1	-1.4
PAGF	Fort de Pagny	2.57 297	ePn	Pn	00 41 37.9	0.0
PAGF	Fort de Pagny	2.57 297	ePg	Pg	00 41 45.5	-0.4
PAGF			eSg	Sg	00 42 18.7	-0.5
	0.7nm,0.2s					
PAGF	Fort de Pagny	2.57 297	ePn	Pn	00 41 37.9	0.0
PAGF			ePg	Pg	00 41 45.5	-0.4
PAGF			eSg	Sg	00 42 18.7	-0.5
PAGF	Fort de Pagny	2.57 297	ePn	Pn	00 41 37.9	0.0
PAGF	Fort de Pagny	2.57 297	ePg	Pg	00 41 45.5	-0.4
PAGF			eSg	Sg	00 42 18.7	-0.5
	0.3nm,0.2s					
LPL	La Plagne	2.57 222	ePn	Pn	00 41 38.7	+0.8
LPL	La Plagne	2.57 222	ePg	Pg	00 41 45.7	-0.3
LPL			eSg	Sg	00 42 19.6	+0.3
	3.2nm,0.4s					
LPL	La Plagne	2.57 222	ePn	Pn	00 41 38.7	+0.8
LPL			ePg	Pg	00 41 45.7	-0.3
LPL			eSg	Sg	00 42 19.6	+0.3
LPL	La Plagne	2.57 222	ePn	Pn	00 41 38.7	+0.8
LPL	La Plagne	2.57 222	ePg	Pg	00 41 45.7	-0.3
LPL			eSg	Sg	00 42 19.6	+0.3
	1.6nm,0.4s					
LPG	La Plagne	2.57 221	ePn	Pn	00 41 38.9	+0.9
LPG	La Plagne	2.57 221	ePg	Pg	00 41 45.7	-0.4
LPG			eSg	Sg	00 42 19.7	+0.2
	3.0nm,0.3s					
LPG	La Plagne	2.57 221	ePn	Pn	00 41 38.9	+0.9
LPG			ePg	Pg	00 41 45.7	-0.4
LPG			eSg	Sg	00 42 19.7	+0.2
LPG	La Plagne	2.57 221	ePn	Pn	00 41 38.9	+0.9
LPG	La Plagne	2.57 221	ePg	Pg	00 41 45.7	-0.4
LPG			eSg	Sg	00 42 19.7	+0.2
	1.5nm,0.3s					
GRA1	Grafenberg Arr	2.62 30	Pn	Pn	00 41 37.2	-1.4
GRA1	Grafenberg Arr	2.62 30	Pn	Pn	00 41 37.2	-1.4
GRA1			Sn	Sn	00 42 08.6	-1.6
GRF	Grafenberg Arr	2.62 30	ePn	Pn	00 41 37.2	-1.5
GRF			eSn	Sn	00 42 08.6	-1.6
RUP	Ruppelstein	2.65 329	Pg	Pg	00 41 46.9	-0.7
TNS	Taunus Mts	2.81 350	Pn	Pn	00 41 41.8	+0.5
TNS	Taunus Mts	2.81 350	ePn	Pn	00 41 41.8	+0.5
TNS	Taunus Mts	2.81 350	Pn	Pn	00 41 41.8	+0.5
KBA	Koelnbreinsper	2.86 96	Sg	Sg	00 42 25.9	-2.8
KBA	Koelnbreinsper	2.86 96	eSg	Sg	00 42 25.9	-2.9
KBA	Koelnbreinsper	2.86 96	Sg	Sg	00 42 25.9	-2.8
SFTF	Sexfontaines	2.89 287	ePn	Pn	00 41 42.7	+0.4
SFTF	Sexfontaines	2.89 287	ePg	Pg	00 41 51.1	-1.0
SFTF			eSn	Sn	00 42 16.2	-0.6
SFTF			eSg	Sg	00 42 28.9	-0.6
	6.7nm,0.3s					
SFTF	Sexfontaines	2.89 287	ePn	Pn	00 41 42.7	+0.4
SFTF			ePg	Pg	00 41 51.1	-1.0
SFTF			eSn	Sn	00 42 16.2	-0.6
SFTF			eSg	Sg	00 42 28.9	-0.6
SFTF	Sexfontaines	2.89 287	ePn	Pn	00 41 42.7	+0.4
SFTF	Sexfontaines	2.89 287	ePg	Pg	00 41 51.1	-1.0
SFTF			eSn	Sn	00 42 16.2	-0.6
SFTF			eSg	Sg	00 42 28.9	-0.6
	3.3nm,0.3s					
MEZF	Maizieres J'vi	2.96 292	ePn	Pn	00 41 43.3	0.0
MEZF	Maizieres J'vi	2.96 292	ePg	Pg	00 41 52.8	-0.7
MEZF			eSn	Sn	00 42 17.6	-1.0
MEZF			eSg	Sg	00 42 31.4	-0.5
	2.9nm,0.3s					
MEZF	Maizieres J'vi	2.96 292	ePn	Pn	00 41 43.3	0.0
MEZF			ePg	Pg	00 41 52.8	-0.7
MEZF			eSn	Sn	00 42 17.6	-1.0
MEZF			eSg	Sg	00 42 31.4	-0.5
MEZF	Maizieres J'vi	2.96 292	ePn	Pn	00 41 43.3	0.0
MEZF	Maizieres J'vi	2.96 292	ePg	Pg	00 41 52.8	-0.7
MEZF			eSn	Sn	00 42 17.6	-1.0
MEZF			eSg	Sg	00 42 31.4	-0.5
	1.5nm,0.3s					
WET	Wettzell	3.00 54	Pn	Pn	00 41 43.4	-0.4
WET	Wettzell	3.00 54	ePn	Pn	00 41 43.4	-0.4
WET	Wettzell	3.00 54	Pn	Pn	00 41 43.4	-0.4
MBDF	Montbardon	3.20 212	ePn	Pn	00 41 47.2	+0.6
MBDF	Montbardon	3.20 212	ePg	Pg	00 41 57.2	-0.8
MBDF			eSg	Sg	00 42 39.2	-0.2
	6.4nm,0.7s					
MBDF	Montbardon	3.20 212	ePn	Pn	00 41 47.2	+0.6
MBDF			ePg	Pg	00 41 57.2	-0.8
MBDF			eSg	Sg	00 42 39.2	-0.2
MBDF	Montbardon	3.20 212	ePn	Pn	00 41 47.2	+0.6
MBDF	Montbardon	3.20 212	ePg	Pg	00 41 57.2	-0.8
MBDF			eSg	Sg	00 42 39.2	-0.2
	3.2nm,0.7s					
GEC2	GERESS Array S	3.33 64	Pn	Pn	00 41 48.8	+0.3
GEC2	GERESS Array S	3.33 64	ePn	Pn	00 41 48.8	+0.4
GEC2			eSn	Sn	00 42 27.1	-0.7
GEC2	GERESS Array S	3.33 64	Pn	Pn	00 41 48.8	+0.3
GEC2			Sn	Sn	00 42 27.1	-0.7
ORIF	Oris-en-Rattie	3.42 223	ePn	Pn	00 41 49.8	+0.3
ORIF	Oris-en-Rattie	3.42 223	ePg	Pg	00 42 00.9	-1.3
ORIF			eSg	Sg	00 42 45.7	-0.7
	3.3nm,0.4s					
ORIF	Oris-en-Rattie	3.42 223	ePn	Pn	00 41 49.8	+0.3
ORIF			ePg	Pg	00 42 00.9	-1.3
ORIF			eSg	Sg	00 42 45.7	-0.7
ORIF	Oris-en-Rattie	3.42 223	ePn	Pn	00 41 49.8	+0.3
ORIF	Oris-en-Rattie	3.42 223	ePg	Pg	00 42 00.9	-1.3
ORIF			eSg	Sg	00 42 45.7	-0.7
	1.6nm,0.4s					
LOR	Lormes	3.62 269	ePn	Pn	00 41 53.0	+0.7
LOR	Lormes	3.62 269	ePg	Pg	00 42 05.2	-0.9
LOR			eSg	Sg	00 42 51.5	-1.4
	5.0nm,0.3s					
LOR	Lormes	3.62 269	ePn	Pn	00 41 53.0	+0.7
LOR			ePg	Pg	00 42 05.2	-0.9
LOR			eSg	Sg	00 42 51.5	-1.4
LOR	Lormes	3.62 269	ePn	Pn	00 41 53.0	+0.7
LOR	Lormes	3.62 269	ePg	Pg	00 42 05.2	-0.9
LOR			eSg	Sg	00 42 51.5	-1.4
	2.5nm,0.3s					
SMF	Signal de Mont	3.73 259	ePn	Pn	00 41 54.5	+0.6
SMF	Signal de Mont	3.73 259	ePg	Pg	00 42 07.2	-1.1
SMF			eSg	Sg	00 42 55.6	-1.1
	2.7nm,0.3s					
SMF	Signal de Mont	3.73 259	ePn	Pn	00 41 54.5	+0.6
SMF			ePg	Pg	00 42 07.2	-1.1
SMF			eSg	Sg	00 42 55.6	-1.1
SMF	Signal de Mont	3.73 259	ePn	Pn	00 41 54.5	+0.6
SMF	Signal de Mont	3.73 259	ePg	Pg	00 42 07.2	-1.1
SMF			eSg	Sg	00 42 55.6	-1.1
	1.4nm,0.3s					
SSF	Saint Saulge	3.88 266	ePn	Pn	00 41 57.4	+1.5
SSF	Saint Saulge	3.88 266	ePg	Pg	00 42 09.6	-1.5
SSF			eSg	Sg	00 43 00.1	-1.2
	1.8nm,0.3s					
SSF	Saint Saulge	3.88 266	ePn	Pn	00 41 57.4	+1.5
SSF			ePg	Pg	00 42 09.6	-1.5
SSF			eSg	Sg	00 43 00.1	-1.2
SSF	Saint Saulge	3.88 266	ePn	Pn	00 41 57.4	+1.5
SSF	Saint Saulge	3.88 266	ePg	Pg	00 42 09.6	-1.5
SSF			eSg	Sg	00 43 00.1	-1.2
	0.9nm,0.3s					
GIVF	Givet	3.91 314	ePn	Pn	00 41 56.4	0.0
GIVF			eSg	Sg	00 43 00.2	-2.2

ISC 16 00:49:18.8±0.3, 38°71N±0°02×22°55E±0°02, h10km±3km, n68, σ0°76/121, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.10**	**55**	P	**Pg**	**00 49 21.4**	**0.0**
AXAR				S	**Sg**	**00 49 23.7**	**+0.4**
AXAR	**Agios Charalam**	**0.10**	**55**	P	**Pg**	**00 49 21.4**	**0.0**
AXAR				S	**Sg**	**00 49 23.7**	**+0.4**
DESF	**Desfina**	**0.30**	**183**	P	**Pg**	**00 49 23.4**	**-1.3**
DESF				S	**Sg**	**00 49 28.6**	**-0.1**
DESF	**Desfina**	**0.30**	**183**	P	**Pg**	**00 49 23.4**	**-1.3**
DESF				S	**Sg**	**00 49 28.6**	**-0.1**
LKR	**Lokris**	**0.35**	**99**	*e*PB	**Pg**	**00 49 25.5**	**-0.3**
LKR				*e*SB	**Sg**	**00 49 31.0**	**+0.5**
LKR	**Lokris**	**0.35**	**99**	P	**Pg**	**00 49 25.2**	**-0.6**
LKR				S	**Sg**	**00 49 30.6**	**+0.1**
LKR	**Lokris**	**0.35**	**99**	P	**Pg**	**00 49 25.2**	**-0.6**
LKR				S	**Sg**	**00 49 30.6**	**+0.1**
LKR				*e*Sb	**Sg**	**00 49 31.0**	**+0.5**
AGG	**Agios Georgios**	**0.36**	**331**	P	**Pg**	**00 49 25.6**	**-0.3**
AGG				S	**Sg**	**00 49 31.4**	**+0.7**
AGG	**Agios Georgios**	**0.36**	**331**	P	**Pg**	**00 49 25.6**	**-0.3**
AGG				S	**Sg**	**00 49 31.4**	**+0.7**
ATAL	**Atalanti**	**0.37**	**92**	P	**Pg**	**00 49 25.7**	**-0.3**
ATAL				S	**Sg**	**00 49 31.3**	**+0.4**
ATAL	**Atalanti**	**0.37**	**92**	P	**Pg**	**00 49 25.7**	**-0.3**
ATAL				S	**Sg**	**00 49 31.3**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.45**	**313**	P	**Pg**	**00 49 27.5**	**-0.1**
MAKR				S	**Sg**	**00 49 34.5**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.45**	**313**	P	**Pg**	**00 49 27.5**	**-0.1**
MAKR				S	**Sg**	**00 49 34.5**	**+1.0**
KALE	**Kalithea**	**0.45**	**226**	P	**Pg**	**00 49 27.1**	**-0.6**
KALE				S	**Sg**	**00 49 34.2**	**+0.5**
KALE	**Kalithea**	**0.45**	**226**	P	**Pg**	**00 49 27.1**	**-0.6**
KALE				S	**Sg**	**00 49 34.2**	**+0.5**
TRIZ	**Trizonia**	**0.51**	**228**	P	**Pg**	**00 49 27.3**	**-1.4**
TRIZ				S	**Sg**	**00 49 35.2**	**-0.2**
TRIZ	**Trizonia**	**0.51**	**228**	P	**Pg**	**00 49 27.3**	**-1.4**
TRIZ				S	**Sg**	**00 49 35.2**	**-0.2**
EFP	**Efpalio**	**0.58**	**241**	*e*PN	**Pg**	**00 49 29.9**	**-0.2**
EFP				*e*SN	**Sg**	**00 49 38.8**	**+1.1**
EFP	**Efpalio**	**0.58**	**241**	P	**Pg**	**00 49 29.5**	**-0.6**
EFP				S	**Sg**	**00 49 38.5**	**+0.8**
EFP	**Efpalio**	**0.58**	**241**	P	**Pg**	**00 49 29.5**	**-0.6**
EFP	**Efpalio**	**0.58**	**241**	*e*Pn	**Pg**	**00 49 29.9**	**-0.2**
EFP				S	**Sg**	**00 49 38.5**	**+0.8**
EVR	**Evrytania**	**0.62**	**290**	*e*PN	**Pg**	**00 49 31.4**	**+0.6**
EVR				*e*SN	**Sg**	**00 49 39.6**	**+0.7**
EVR	**Evrytania**	**0.62**	**290**	P	**Pg**	**00 49 30.6**	**-0.2**
EVR				S	**Sg**	**00 49 39.1**	**+0.2**
EVR	**Evrytania**	**0.62**	**290**	P	**Pg**	**00 49 30.6**	**-0.2**
EVR	**Evrytania**	**0.62**	**290**	*e*Pn	**Pg**	**00 49 31.4**	**+0.6**
EVR				S	**Sg**	**00 49 39.1**	**+0.2**
LAKA	**Lakka**	**0.65**	**224**	P	**Pg**	**00 49 30.8**	**-0.6**
LAKA				S	**Sg**	**00 49 40.8**	**+0.9**
LAKA	**Lakka**	**0.65**	**224**	P	**Pg**	**00 49 30.8**	**-0.6**
LAKA				S	**Sg**	**00 49 40.8**	**+0.9**
LTK	**Loutraki**	**0.76**	**154**	*e*PN	**Pg**	**00 49 33.7**	**+0.3**
LTK				*e*SN	**Sg**	**00 49 44.4**	**+1.1**
LTK	**Loutraki**	**0.76**	**154**	P	**Pg**	**00 49 32.5**	**-0.9**
LTK				S	**Sg**	**00 49 44.8**	**+1.5**
LTK	**Loutraki**	**0.76**	**154**	P	**Pg**	**00 49 32.5**	**-0.9**
LTK	**Loutraki**	**0.76**	**154**	*e*Pn	**Pg**	**00 49 33.7**	**+0.3**
LTK				*e*Sn	**Sg**	**00 49 44.4**	**+1.1**
LTK				S	**Sg**	**00 49 44.8**	**+1.5**
GUR	**Goura**	**0.79**	**192**	*e*PB	**Pg**	**00 49 33.5**	**-0.5**
GUR				*e*SN	**Sg**	**00 49 45.5**	**+1.2**
GUR	**Goura**	**0.79**	**192**	P	**Pg**	**00 49 33.2**	**-0.8**
GUR				S	**Sg**	**00 49 45.7**	**+1.4**
GUR	**Goura**	**0.79**	**192**	P	**Pg**	**00 49 33.2**	**-0.8**
GUR	**Goura**	**0.79**	**192**	*e*Pb	**Pg**	**00 49 33.5**	**-0.5**
GUR				S	**Sg**	**00 49 45.7**	**+1.4**
NEO	**Neokhori**	**0.79**	**41**	*e*PN	**Pg**	**00 49 33.6**	**-0.5**
NEO				*e*SN	**Sg**	**00 49 44.7**	**+0.3**
NEO	**Neokhori**	**0.79**	**41**	P	**Pg**	**00 49 33.3**	**-0.8**
NEO				S	**Sg**	**00 49 44.3**	**-0.1**
NEO	**Neokhori**	**0.79**	**41**	P	**Pg**	**00 49 33.3**	**-0.8**
NEO	**Neokhori**	**0.79**	**41**	*e*Pn	**Pg**	**00 49 33.6**	**-0.5**
NEO				S	**Sg**	**00 49 44.3**	**-0.1**
NEO				*e*Sn	**Sg**	**00 49 44.7**	**+0.3**
MRKA	**Markates**	**0.81**	**90**	P	**Pg**	**00 49 33.9**	**-0.5**
MRKA				S	**Sg**	**00 49 46.1**	**+1.2**
MRKA	**Markates**	**0.81**	**90**	P	**Pg**	**00 49 33.9**	**-0.5**
MRKA				S	**Sg**	**00 49 46.1**	**+1.2**
VIL1	**Vilia, Western**	**0.81**	**132**	*e*PN	**Pg**	**00 49 33.5**	**-1.0**
XOR	**Xorichti**	**0.82**	**37**	P	**Pg**	**00 49 33.5**	**-1.2**
XOR				S	**Sg**	**00 49 46.6**	**+1.2**
XOR	**Xorichti**	**0.82**	**37**	P	**Pg**	**00 49 33.5**	**-1.2**
XOR				S	**Sg**	**00 49 46.6**	**+1.2**
SKIA	**Skiathos**	**0.85**	**57**	P	**Pg**	**00 49 34.4**	**-0.7**
SKIA				S	**Sg**	**00 49 46.3**	**+0.2**
SKIA	**Skiathos**	**0.85**	**57**	P	**Pg**	**00 49 34.4**	**-0.7**
SKIA				S	**Sg**	**00 49 46.3**	**+0.2**
THL	**Klokotos Trika**	**0.95**	**334**	*e*PN	**Pg**	**00 49 36.4**	**-0.7**
THL	**Klokotos Trika**	**0.95**	**334**	P	**Pg**	**00 49 36.3**	**-0.8**
THL				S	**Sg**	**00 49 49.7**	**+0.2**
THL	**Klokotos Trika**	**0.95**	**334**	P	**Pg**	**00 49 36.3**	**-0.8**
THL				S	**Sg**	**00 49 49.7**	**+0.2**
RLS	**Riolos of Patr**	**1.07**	**233**	*e*PN	**Pg**	**00 49 39.0**	**-0.4**
RLS	**Riolos of Patr**	**1.07**	**233**	*e*Pn	**Pg**	**00 49 39.0**	**-0.4**
ATH	**Athens Observa**	**1.17**	**128**	P	**Pb**	**00 49 41.1**	**0.0**
ATH				S	**Sb**	**00 49 57.0**	**+0.7**
ATH	**Athens Observa**	**1.17**	**128**	P	**Pb**	**00 49 41.1**	**0.0**
ATH				S	**Sb**	**00 49 57.0**	**+0.7**
NAIG	**Nisos Aigina**	**1.20**	**142**	*e*PN	**Pn**	**00 49 41.7**	**+0.1**
NAIG	**Nisos Aigina**	**1.20**	**142**	*e*Pn	**Pn**	**00 49 41.9**	**+0.3**
PTL	**Penteli**	**1.22**	**122**	*e*PN	**Pn**	**00 49 41.5**	**-0.4**
PTL	**Penteli**	**1.22**	**122**	*e*Pn	**Pn**	**00 49 41.5**	**-0.4**
VLY	**Voula,Athens**	**1.30**	**131**	*e*PN	**Pn**	**00 49 42.6**	**-0.3**
VLY	**Voula,Athens**	**1.30**	**131**	P	**Pn**	**00 49 42.6**	**-0.3**
VLY				S	**Sb**	**00 50 00.9**	**+1.0**
VLY	**Voula,Athens**	**1.30**	**131**	P	**Pn**	**00 49 42.6**	**-0.3**
VLY				S	**Sb**	**00 50 00.9**	**+1.0**
DID	**Didima**	**1.32**	**156**	P	**Pn**	**00 49 42.5**	**-0.6**
DID				S	**Sb**	**00 50 00.6**	**+0.2**
DID	**Didima**	**1.32**	**156**	P	**Pn**	**00 49 42.5**	**-0.6**
DID				S	**Sb**	**00 50 00.6**	**+0.2**
VLX	**Vlachokerasia**	**1.34**	**186**	P	**Pn**	**00 49 43.6**	**+0.1**
VLX				S	**Sb**	**00 50 01.3**	**+0.1**
VLX	**Vlachokerasia**	**1.34**	**186**	P	**Pn**	**00 49 43.6**	**+0.1**
VLX				S	**Sb**	**00 50 01.3**	**+0.1**
ITM	**Ithomi**	**1.61**	**198**	*e*PN	**Pn**	**00 49 49.0**	**+1.9**
ITM	**Ithomi**	**1.61**	**198**	*e*Pn	**Pn**	**00 49 49.0**	**+1.9**
VLI	**Veliai**	**2.01**	**171**	*e*PB	**Pb**	**00 49 53.5**	**-1.9**
VLI	**Veliai**	**2.01**	**171**	*e*Pb	**Pb**	**00 49 53.5**	**-1.9**

IDC 16 01:16:27.2±5.1, 29°17S×177°48W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/14, mbtmp3.4/2, Error ellipse: s-maj=234.6km s-min=81.0km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.64**	**265**	P	P	01 24 33.1	-0.6
	0.3nm,0.6s,baz=96,slow=7.6,SNR=3.6						
WRA	**Warramunga Arr**	**44.52**	**271**	P	P	01 24 41.3	+0.5
	0.3nm,0.4s,baz=111,slow=8.0,SNR=10.0						
FINES	**FINESS Array B**	**144.14**	**341**	PKP	PKPdf	01 36 03.4	-0.9
	1.2nm,0.6s,baz=33,slow=3.3,SNR=6.2						

*IDC **16** 01:42:21.3±2.5, 18°58S×168°41E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.9/14, mbtmp3.7/4, Error ellipse: s-maj=126.7km s-min=30.0km az=144.0*
*ISCJB **16** 01:42:25.7±1.7, 18°5S±0°1×168°1E±0°3, h33km, mb3.6/4, Error ellipse: s-maj=41.1km s-min=10.8km az=14.9*

ISC 16 01:42:27.3±1.7, 18°5S±0°1×168°2E±0°3, h35km, n7, σ0°65/7, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.95**	**205**	*e*P	**Pn**	**01 43 26.2**	**+0.6**
DZM				*e*S	**Sn**	**01 44 10.3**	**-0.3**
NOUC	**Port Laguerre**	**4.04**	**206**	*e*S	**Sn**	**01 44 12.4**	**-0.4**
STKA	**Stephens Creek**	**27.46**	**236**	P	**P**	**01 48 11.3**	**+1.1**
	1.1nm,0.7s,mb3.5,baz=60,slow=8.1,SNR=3.7						
WRA	**Warramunga Arr**	**32.00**	**262**	P	**P**	**01 48 49.7**	**-0.9**
	0.4nm,0.7s,mb3.3,baz=99,slow=8.7,SNR=3.3						
ASAR	**Alice Springs**	**32.39**	**255**	P	**P**	**01 48 54.2**	**+0.3**
	0.9nm,0.6s,mb3.8,baz=87,slow=8.9,SNR=9.4						
ILAR	**Eielson Array**	**89.79**	**18**	P	**P**	**01 55 21.2**	**-0.5**
	0.4nm,0.9s,mb3.8,baz=238,slow=4.9,SNR=8.9						
ARCES	**ARCESS Array B**	**124.08**	**345**	PKP	PKPdf	02 01 21.4	+0.1
	2.2nm,0.8s,baz=64,slow=2.1,SNR=4.4						

*IDC **16** 01:43:07.6±1.9, 18°.10S×168°.03E, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/13, mbtmp3.9/5, MS3.5/4, Ms1 3.5/4, ms1mx3.3/20, Error ellipse: s-maj=117.7km s-min=25.2km az=147.0*
*ISCJB **16** 01:43:10.3±1.1, 18°.5S±0°.1×168°.1E±0°.2, h33km, mb3.9/5, MS3.3/2, Error ellipse: s-maj=30.8km s-min=11.1km az=23.0*

ISC 16 01:43:12.1±1.1, 18°.5S±0°.1×168°.2E±0°.2, h35km, n13, σ0°60/7, mb3.9/5, MS3.3/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.92**	**205**	*e*Pn	**Pn**	**01 44 09.7**	**-0.2**
	46nm,0.3s						
DZM				*e*Sn	**Sn**	**01 44 54.5**	**-0.2**
	59nm,0.3s						
HNR	**Honiara**	**12.07**	**317**	LR	LR	01 49 23.8	
	comp=Z,275nm,19.4s,baz=232,slow=32						
AFI	**Afiamalu**	**19.74**	**80**	LR	LR	01 53 39.5	
	comp=Z,168nm,19.4s,baz=276,slow=32						
CTA	**Charters Tower**	**20.79**	**262**	LR	LR	01 54 22.1	
	comp=Z,140nm,21.4s,MS3.3,baz=244,slow=33						
STKA	**Stephens Creek**	**27.44**	**236**	P	**P**	**01 48 55.9**	**+1.1**
	2.4nm,0.8s,mb3.8,baz=90,slow=9.5,SNR=4.2						
STKA				LR	LR	01 57 57.2	
	comp=Z,97nm,19.8s,MS3.4,baz=24,slow=32						
WRA	**Warramunga Arr**	**31.99**	**262**	P	**P**	**01 49 35.0**	**-0.3**
	0.7nm,0.8s,mb3.5,baz=90,slow=8.0,SNR=3.5						
ASAR	**Alice Springs**	**32.38**	**255**	P	**P**	**01 49 38.5**	**-0.2**
	1.9nm,0.6s,mb4.1,baz=84,slow=9.0,SNR=5.6						
TBI	**Tubuai**	**39.72**	**104**	*e*LR	LR	02 01 40.7	
	72nm,26.5s						
PPT2	**Papeete2**	**40.08**	**96**	*e*LR	LR	02 01 53.3	
	73nm,23.5s						
NVAR	**Mina Array Bea**	**89.04**	**49**	P	**P**	**01 56 04.2**	**+0.6**
	0.7nm,0.8s,mb4.0,baz=224,slow=7.6,SNR=3.3						
ILAR	**Eielson Array**	**89.82**	**18**	P	**P**	**01 56 05.8**	**-0.8**
	0.4nm,0.7s,mb3.9,baz=237,slow=5.0,SNR=8.1						
YKA	**Yellowknife Ar**	**100.46**	**27**	P	Pdif	01 56 55.6	-0.1
	0.1nm,0.3s,baz=257,slow=4.7,SNR=3.0						
ARCES	**ARCESS Array B**	**124.11**	**345**	PKP	PKPdf	02 02 06.6	+0.3
	7.2nm,1.1s,baz=56,slow=2.3,SNR=4.1						

*ISCJB **16** 01:57:31.7±1.3, 34°.73N±0°.07×25°.46E±0°.05, h12km±6km, Error ellipse: s-maj=12.3km s-min=5.7km az=165.8*
*ATH **16** 01:57:31.3, 34°.67N×25°.42E, h24km±2km, MD3.6/5*
*CSEM **16** 01:57:33.8±0.7, 34°.77N×25°.45E, h26km±2km, ML2.6/2, Error ellipse: s-maj=16.4km s-min=6.6km az=167.0*
*THE **16** 01:57:33.4, 34°.80N×25°.45E, h6km±2km, ML2.6/2, Error ellipse: s-maj=3.2km s-min=1.1km az=335.0*

ISC 16 01:57:32.4±1.3, 34°73N±0°07×25°46E±0°05, h13km±6km, n28, σ0°75/43, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.54**	**13**	*e*PN	**Pg**	**01 57 43.1**	**0.0**
NPS	**Neapolis**	**0.54**	**13**	P	**Pg**	**01 57 43.2**	**+0.1**
NPS				S	**Sg**	**01 57 50.8**	**+0.4**
NPS	**Neapolis**	**0.54**	**13**	P	**Pg**	**01 57 43.2**	**+0.1**
NPS				S	**Sg**	**01 57 50.8**	**+0.4**
SIVA	**Sivas**	**0.61**	**298**	*e*PN	**Pg**	**01 57 43.8**	**-0.5**
SIVA				*e*SN	**Sg**	**01 57 52.2**	**-0.2**
SIVA	**Sivas**	**0.61**	**298**	P	**Pg**	**01 57 44.0**	**-0.3**
SIVA				S	**Sg**	**01 57 52.5**	**+0.1**
SIVA	**Sivas**	**0.61**	**298**	P	**Pg**	**01 57 44.0**	**-0.3**
SIVA				*e*Sn	**Sg**	**01 57 52.2**	**-0.2**
SIVA				S	**Sg**	**01 57 52.5**	**+0.1**
GVD	**Gavdhos**	**1.14**	**276**	P	**Pg**	**01 57 53.2**	**-1.2**
GVD				S	**Sg**	**01 58 10.6**	**+1.4**
GVD	**Gavdhos**	**1.14**	**276**	P	**Pg**	**01 57 53.2**	**-1.2**
GVD				S	**Sg**	**01 58 10.6**	**+1.4**
VAM	**Vamos**	**1.24**	**303**	*e*PN	**Pn**	**01 57 55.0**	**-0.4**
VAM				*e*SN	**Sn**	**01 58 12.8**	**+0.9**
VAM	**Vamos**	**1.24**	**303**	P	**Pn**	**01 57 54.7**	**-0.7**
VAM				S	**Sn**	**01 58 12.8**	**+0.9**
VAM	**Vamos**	**1.24**	**303**	P	**Pn**	**01 57 54.7**	**-0.7**
VAM	**Vamos**	**1.24**	**303**	*e*Pn	**Pn**	**01 57 55.0**	**-0.4**
VAM				S	**Sn**	**01 58 12.8**	**+0.9**
KARP	**Karpathos**	**1.61**	**59**	*e*PN	**Pn**	**01 58 01.3**	**+0.8**
KARP	**Karpathos**	**1.61**	**59**	P	**Pn**	**01 58 01.3**	**+0.8**
KARP				S	**Sn**	**01 58 22.1**	**+1.0**
KARP	**Karpathos**	**1.61**	**59**	P	**Pn**	**01 58 01.3**	**+0.8**
KARP				S	**Sn**	**01 58 22.1**	**+1.0**
THR1	**Thera Island**	**1.64**	**360**	P	**Pn**	**01 58 01.6**	**+0.7**
THR1	**Thera Island**	**1.64**	**360**	P	**Pn**	**01 58 01.6**	**+0.7**
THR2	**Thira island,**	**1.71**	**359**	P	**Pn**	**01 58 01.4**	**-0.5**
THR2	**Thira island,**	**1.71**	**359**	P	**Pn**	**01 58 01.4**	**-0.5**
NIS1	**Nisyros Isl.**	**2.33**	**36**	P	**Pn**	**01 58 10.2**	**-0.2**
NIS1	**Nisyros Isl.**	**2.33**	**36**	P	**Pn**	**01 58 10.2**	**-0.2**
APE	**Apeiranthos**	**2.33**	**1**	P	**Pn**	**01 58 09.1**	**-1.4**
APE				S	**Sn**	**01 58 38.2**	**-0.8**
APE	**Apeiranthos**	**2.33**	**1**	P	**Pn**	**01 58 09.1**	**-1.4**
APE				S	**Sn**	**01 58 38.2**	**-0.8**
KYTH	**Kithira**	**2.51**	**309**	*e*PN	**Pn**	**01 58 12.9**	**0.0**
KYTH	**Kithira**	**2.51**	**309**	P	**Pn**	**01 58 12.9**	**0.0**
KYTH	**Kithira**	**2.51**	**309**	P	**Pn**	**01 58 12.9**	**0.0**
ARG	**Arkhangelos**	**2.63**	**55**	P	**Pn**	**01 58 14.2**	**-0.3**
ARG	**Arkhangelos**	**2.63**	**55**	P	**Pn**	**01 58 14.2**	**-0.3**

IDC 16 02:02:32.0±5.8, 29°97S×177°40W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/14, mbtmp3.5/2, Error ellipse: s-maj=393.3km s-min=70.8km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.65**	**266**	P	P	02 10 37.9	-0.7
	0.3nm,0.5s,baz=103,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**44.60**	**271**	P	P	02 10 46.9	+0.6
	0.2nm,0.3s,baz=110,slow=8.6,SNR=6.1						
FINES	**FINESS Array B**	**144.91**	**341**	PKP	PKPdf	02 22 09.7	-0.7
	2.6nm,1.0s,baz=64,slow=3.2,SNR=5.3						

IDC 16 02:16:33.1±1.5, 23°53S×115°06W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.6/4, MS3.7/3, Ms1 3.8/3, ms1mx3.3/17, Error ellipse: s-maj=53.8km s-min=38.4km az=32.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.30**	**126**	LR	LR	02 20 03.4	
	comp=Z,968nm,18.9s,baz=339,slow=33						
RPN				T		02 24 42.0	
	15nm,0.3s,baz=278,slow=19,SNR=5.5						
PLCA	**Paso Flores**	**40.94**	**126**	LR	LR	02 37 05.0	
	comp=Z,94nm,20.4s,baz=180,slow=30						
LPAZ	**La Paz**	**44.56**	**90**	P	P	02 24 47.9	+0.8
	2.3nm,1.0s,baz=273,slow=6.8,SNR=5.6						
LPAZ				LR	LR	02 38 46.5	
	comp=Z,85nm,20.8s,baz=70,slow=30						
NVAR	**Mina Array Bea**	**61.70**	**357**	P	P	02 26 54.4	+1.4
	1.3nm,0.7s,baz=190,slow=8.5,SNR=10						
PDAR	**Pinedale Array**	**66.15**	**4**	P	P	02 27 21.8	-0.4
	0.3nm,0.8s,baz=181,slow=5.4,SNR=2.6						
YKA	**Yellowknife Ar**	**85.72**	**0**	P	P	02 29 12.1	-1.3
	0.2nm,0.6s,baz=176,slow=5.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**146.13**	**339**	PKPbc	PKPbc	02 36 14.7	-0.1
	0.5nm,0.4s,baz=34,slow=1.5,SNR=3.1						
CMAR	**Chiang Mai Arr**	**147.90**	**267**	PKPbc	PKPbc	02 36 20.6	-0.3
	1.1nm,0.3s,baz=78,slow=1.3,SNR=4.7						
BRTR	**Keskin Array B**	**149.04**	**51**	PKPbc	PKPbc	02 36 23.2	-0.1
	1.0nm,0.8s,baz=328,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**152.91**	**333**	PKPbc	PKPbc	02 36 31.6	-0.6
	1.5nm,0.9s,baz=9.4,slow=2.6,SNR=6.5						

IDC 16 02:29:14.3±1.5, 54°83N×157°64E, h287km±16km, mb3.0/7, mb1 3.4/7, mb1mx3.1/24, mbtmp3.0/7, Error ellipse: s-maj=34.9km s-min=20.8km az=134.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.73**	**179**	P	Pn	02 29 58.0	+0.1
	3.9nm,0.3s,baz=65,slow=6.9,SNR=28						
ILAR	**Eielson Array**	**28.66**	**47**	P	P	02 34 43.7	-0.8
	0.5nm,0.4s,baz=263,slow=7.8,SNR=15						
YKA	**Yellowknife Ar**	**42.87**	**43**	P	P	02 36 44.1	-0.1
	0.3nm,0.4s,baz=303,slow=8.3,SNR=4.9						
NVAR	**Mina Array Bea**	**56.50**	**70**	P	P	02 38 27.6	+0.8
	0.4nm,0.7s,baz=310,slow=7.0,SNR=3.5						
PDAR	**Pinedale Array**	**57.93**	**60**	P	P	02 38 37.5	+0.9
	0.7nm,0.4s,baz=349,slow=1.7,SNR=11						
FINES	**FINESS Array B**	**57.94**	**335**	P	P	02 38 36.6	+0.3
	2.5nm,1.0s,baz=32,slow=7.5,SNR=3.7						
TXAR	**Lajitas Array**	**71.27**	**66**	P	P	02 40 02.5	-0.1
	0.1nm,0.4s,baz=300,slow=5.0,SNR=4.7						
WRA	**Warramunga Arr**	**77.09**	**202**	P	P	02 40 35.7	-0.2
	0.5nm,1.1s,baz=16,slow=5.9,SNR=4.8						

*IDC **16** 02:30:10.6±1.8, 37°.61N×15°.20E, h0km, mb3.8/5, mb1 3.7/13, mb1mx3.6/31, mbtmp3.6/13, ML3.4/8, Error ellipse: s-maj=27.8km s-min=21.9km az=160.0*
*PDG **16** 02:30:12.9±0.6, 37°.43N×15°.03E, h72km±7km, ML4.0/9, Error ellipse: s-maj=4.7km s-min=3.3km az=90.0*
*BEO **16** 02:30:13.4±0.7, 37°.65N×15°.10E, h0km, ML4.1/4*
*CSEM **16** 02:30:14.9±0.1, 37°.65N×15°.08E, h20km, MD3.0/7, Error ellipse: s-maj=3.9km s-min=2.8km az=110.0*
*NEIC **16** 02:30:14.0, 37°.66N×14°.96E, h11km, ML4.0(ROM), After ROM.*
NEIC Felt [III] at Biancavilla. Also felt at Belpasso and Siracusa.
*ROM **16** 02:30:14.0±0.1, 37°.66N×14°.97E, h5km±1km, Md3.0/7, Ml2.9/6, Error ellipse: s-maj=1.7km s-min=1.0km az=77.0*
*THE **16** 02:30:17.8, 37°.56N×15°.37E, h22km±45km, Error ellipse: s-maj=54.5km s-min=2.9km az=258.0*

ISC 16 02:30:15.5±0.3, 37°65N±0°02×15°13E±0°03, h22km±4km, n201, σ1°24/295, mb3.8/5, 24C-13D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAGA	**Augusta**	**0.37**	**176**	Pg	**Pb**	**02 30 23.0**	**-0.4**
HAGA				Sg	**Sb**	**02 30 30.0**	**+1.3**
HAGA	**Augusta**	**0.37**	**176**	Pg	**Pb**	**02 30 23.0**	**-0.4**
HAGA				Sg	**Sb**	**02 30 30.0**	**+1.3**
HCRL	**Carlentini**	**0.38**	**192**	Pg	**Pb**	**02 30 22.4**	**-1.2**
HCRL				Sg	**Sb**	**02 30 29.1**	**+0.1**
	594nm,0.7s						
HCRL	**Carlentini**	**0.38**	**192**	Pg	**Pb**	**02 30 22.4**	**-1.2**
HCRL				Sg	**Sb**	**02 30 29.1**	**+0.1**
	594nm,0.7s						
AGST	**Augusta-Monte**	**0.40**	**169**	Pg	**Pb**	**02 30 23.7**	**-0.3**
AGST				Sg	**Sb**	**02 30 31.3**	**+1.6**
AGST	**Augusta-Monte**	**0.40**	**169**	Pg	**Pb**	**02 30 23.7**	**-0.3**
GALF	**Gagliano Caste**	**0.45**	**278**	Pg	**Pb**	**02 30 21.6**	**-3.1**
GALF				Sg	**Sb**	**02 30 25.7**	**-5.3**
GALF	**Gagliano Caste**	**0.45**	**278**	Pg	**Pb**	**02 30 21.6**	**-3.1**
SSY	**Sortino**	**0.50**	**185**	Pg	**Pb**	**02 30 24.9**	**-0.7**
SSY				Sg	**Sb**	**02 30 33.4**	**+0.9**
	934nm,0.5s						
SSY	**Sortino**	**0.50**	**185**	Pg	**Pb**	**02 30 24.9**	**-0.7**
SSY				Sg	**Sb**	**02 30 33.4**	**+0.9**
	934nm,0.5s						
MTTG	**Motta San Giov**	**0.57**	**52**	Pg	**Pb**	**02 30 28.1**	**+1.3**
MTTG	**Motta San Giov**	**0.57**	**52**	Pg	**Pb**	**02 30 28.1**	**+1.3**
HVZN	**Vizzini**	**0.58**	**215**	Pg	**Pb**	**02 30 24.7**	**-2.2**
HVZN				Sg	**Sb**	**02 30 33.3**	**-1.3**
HVZN	**Vizzini**	**0.58**	**215**	Pg	**Pb**	**02 30 24.7**	**-2.2**
HVZN				Sg	**Sb**	**02 30 33.3**	**-1.3**
MILZ	**Milazzo**	**0.62**	**8**	Pg	**Pb**	**02 30 27.1**	**-0.6**
	187nm,0.6s						
MILZ	**Milazzo**	**0.62**	**8**	Pg	**Pb**	**02 30 27.1**	**-0.6**
	187nm,0.6s						
MSRU	**Castanea**	**0.68**	**26**	Pg	**Pb**	**02 30 28.8**	**+0.1**
	435nm,0.5s						
MSRU	**Castanea**	**0.68**	**26**	Pg	**Pb**	**02 30 28.8**	**+0.1**
	435nm,0.5s						
HAVL	**Avola**	**0.69**	**180**	Pg	**Pb**	**02 30 28.1**	**-0.8**
HAVL				Sg	**Sb**	**02 30 39.1**	**+1.1**

ITM Ithomi 5.43 93 P **Pn 02 31 35.3 +0.2**
ITM S **Sn 02 32 35.1 -1.8**
ITM Ithomi 5.43 93 P **Pn 02 31 35.3 +0.2**
ITM S **Sn 02 32 35.1 -1.8**
ITM Ithomi 5.43 93 P **Pn 02 31 35.3 +0.2**
ITM S **Sn 02 32 35.1 -1.8**
HCY Herceg Novi 5.44 27⇑*i*Pn **Pn 02 31 35.3 +0.1**
HCY *e*Sn **Sn 02 32 37.7 +0.6**
HCY Herceg Novi 5.44 27⇑*i*Pn **Pn 02 31 35.3 +0.1**
HCY *e*Sn **Sn 02 32 37.7 +0.6**
BUM Brajici-Budva 5.47 31⇑*i*Pn **Pn 02 31 36.2 +0.6**
BUM *e*Sn **Sn 02 32 39.2 +1.4**
BUM Brajici-Budva 5.47 31⇑*i*Pn **Pn 02 31 36.2 +0.6**
BUM *e*Sn **Sn 02 32 39.2 +1.4**
STON Ston 5.57 20 *e*Pn **Pn 02 31 36.1 -0.9**
STON Sn **Sn 02 32 37.3 -3.0**
KALE Kalithea 5.59 80 P **Pn 02 31 38.4 +1.2**
KALE S **Sn 02 32 39.0 -1.7**
KALE Kalithea 5.59 80 P **Pn 02 31 38.4 +1.2**
KALE S **Sn 02 32 39.0 -1.7**
KALE Kalithea 5.59 80 P **Pn 02 31 38.4 +1.2**
KALE S **Sn 02 32 39.0 -1.7**
MAKR Makrakomi, Fth 5.67 74 P **Pn 02 31 40.7 +2.3**
MAKR S **Sn 02 32 44.3 +1.5**
MAKR Makrakomi, Fth 5.67 74 P **Pn 02 31 40.7 +2.3**
MAKR S **Sn 02 32 44.3 +1.5**
MAKR Makrakomi, Fth 5.67 74 P **Pn 02 31 40.7 +2.3**
MAKR S **Sn 02 32 44.3 +1.5**
GUR Goura 5.72 85 P **Pn 02 31 41.2 +2.1**
GUR S **Sn 02 32 44.7 +0.7**
GUR Goura 5.72 85 P **Pn 02 31 41.2 +2.1**
GUR S **Sn 02 32 44.7 +0.7**
PDG Podgorica 5.73 32 *e*Pn **Pn 02 31 38.6 -0.5**
PDG *e*Sn **Sn 02 32 42.6 -1.6**
PDG Podgorica 5.73 32⇑*i*Pn **Pn 02 31 38.9 -0.2**
PDG *e*Sn **Sn 02 32 44.6 +0.4**
TTG Podgorica 5.73 32⇑*i*Pn **Pn 02 31 38.9 -0.2**
TTG *e*Sn **Sn 02 32 44.6 +0.4**
VLX Vlachokerasia 5.77 91 P **Pn 02 31 40.8 +1.0**
VLX S **Sn 02 32 45.8 +0.5**
VLX Vlachokerasia 5.77 91 P **Pn 02 31 40.8 +1.0**
VLX S **Sn 02 32 45.8 +0.5**
KZN Kozani 5.81 61 P **Pn 02 31 42.4 +2.1**
KZN Kozani 5.81 61 P **Pn 02 31 42.4 +2.1**
KZN Kozani 5.81 61 P **Pn 02 31 42.4 +2.1**
BRY Bratogost 5.86 25⇑*i*Pn **Pn 02 31 40.9 0.0**
BRY *e*Sn **Sn 02 32 47.5 +0.2**
BRY Bratogost 5.86 25⇑*i*Pn **Pn 02 31 40.9 0.0**
BRY *e*Sn **Sn 02 32 47.5 +0.2**
NKY Niksic 5.94 29⇓*i*Pn **Pn 02 31 42.3 +0.2**
NKY *e*Sn **Sn 02 32 50.4 +0.9**
NKY Niksic 5.94 29⇓*i*Pn **Pn 02 31 42.3 +0.2**
NKY *e*Sn **Sn 02 32 50.4 +0.9**
PVY Plav 6.18 35⇓*i*Pn **Pn 02 31 46.0 +0.7**
PVY *e*Sn **Sn 02 32 55.8 +0.6**
PVY Plav 6.18 35⇓*i*Pn **Pn 02 31 46.0 +0.7**
PVY *e*Sn **Sn 02 32 55.8 +0.6**
UPM Unac-Piva 6.25 26⇓*i*Pn **Pn 02 31 47.4 +1.1**
UPM *e*Sn **Sn 02 32 57.8 +0.8**
UPM Unac-Piva 6.25 26⇓*i*Pn **Pn 02 31 47.4 +1.1**
UPM *e*Sn **Sn 02 32 57.8 +0.8**
VLI Veliai 6.30 96 P **Pn 02 31 48.1 +1.0**
VLI Veliai 6.30 96 P **Pn 02 31 48.1 +1.0**
VLI Veliai 6.30 96 P **Pn 02 31 48.1 +1.0**
BEY Berane 6.36 33⇑*i*Pn **Pn 02 31 49.1 +1.3**
BEY *e*Sn **Sn 02 33 00.4 +0.6**
IVA Berane 6.36 33⇑*i*Pn **Pn 02 31 49.1 +1.3**
IVA *e*Sn **Sn 02 33 00.4 +0.6**
DID Didima 6.44 89 P **Pn 02 31 49.0 0.0**
DID S **Sn 02 33 01.3 -0.5**
DID Didima 6.44 89 P **Pn 02 31 49.0 0.0**
DID S **Sn 02 33 01.3 -0.5**
KYTH Kithira 6.48 100 P **Pn 02 31 50.4 +0.9**
KYTH Kithira 6.48 100 P **Pn 02 31 50.4 +0.9**
KYTH Kithira 6.48 100 P **Pn 02 31 50.4 +0.9**
SJES Sjenica 6.71 32 *e*Pn **Pn 02 31 53.1 +0.5**
SJES *e*Sn **Sn 02 33 07.1 -1.2**
SJES Sjenica 6.71 32 *e*Pn **Pn 02 31 53.1 +0.5**
SJES *e*Sn **Sn 02 33 07.1 -1.2**
NVLJ Novalja 6.91 358 *e*Pn **Pn 02 31 56.6 +1.3**
NVLJ Novalja 6.91 358 *e*Pn **Pn 02 31 56.6 +1.3**
IVAS Ivanjica 7.04 31 *e*Pn **Pn 02 31 57.4 +0.2**
SELS Selova 7.20 38 *e*Pn **Pn 02 31 57.9 -1.4**
BLY Banja Luka 7.26 12 *e*Pn **Pn 02 32 01.5 +1.4**
BLY Banja Luka 7.26 12 *e*Pn **Pn 02 32 01.5 +1.4**
BARS Barje 7.26 43 *e*Pn **Pn 02 32 00.0 -0.2**
BARS *e*Sn **Sn 02 33 20.0 -1.9**
BARS Barje 7.26 43 *e*Pn **Pn 02 32 00.0 -0.2**
BARS *e*Sn **Sn 02 33 20.0 -1.9**
DIVS Divibare 7.42 28 *e*Pn **Pn 02 32 02.1 -0.2**
DIVS *e*Sn **Sn 02 33 24.3 -1.4**
DIVS Divibare 7.42 28 *e*Pn **Pn 02 32 02.1 -0.2**
DIVS *e*Sn **Sn 02 33 24.3 -1.4**
GRUS Gruza 7.53 32⇑*i*Pn **Pn 02 32 04.6 +0.7**
GRUS *e*Sn **Sn 02 33 27.1 -1.5**
GRUS Gruza 7.53 32⇑*i*Pn **Pn 02 32 04.6 +0.7**
VAM Vamos 7.64 104 P **Pn 02 32 05.0 -0.4**
VAM Vamos 7.64 104 P **Pn 02 32 05.0 -0.4**
VAM Vamos 7.64 104 P **Pn 02 32 05.0 -0.4**
TRUS Trudelj 7.68 30 *e*Pn **Pn 02 32 04.3 -1.7**
TRUS Trudelj 7.68 30 *e*Pn **Pn 02 32 04.3 -1.7**
BOJS Bojanci 7.85 1 *i*Pn **Pn 02 32 11.1 +3.0**
VTS Vitosha 7.92 49 *e*Pn **Pn 02 32 09.4 +0.3**
VTS *e*Sn **Sn 02 33 37.1 -0.9**
VTS Vitosha 7.92 49⇑*i*P **Pn 02 32 08.4 -0.7**
VTS Vitosha 7.92 49⇑*i*P **Pn 02 32 08.4 -0.7**
VTS Vitosha 7.92 49 *e*Pn **Pn 02 32 09.4 +0.3**
VTS *e*Sn **Sn 02 33 37.1 -0.9**
ZAPS Zavoj 8.02 43 *e*Pn **Pn 02 32 08.7 -1.8**
ZAPS *e*Sn **Sn 02 33 36.6 -3.8**
ZAPS Zavoj 8.02 43 *e*Pn **Pn 02 32 08.7 -1.8**
SVIS Svilajnac 8.05 33 *e*Pn **Pn 02 32 10.4 -0.6**
SVIS *e*Sn **Sn 02 33 38.7 -2.6**
BOLS Boljevac 8.05 38 *e*Pn **Pn 02 32 09.7 -1.4**
BOLS Boljevac 8.05 38 *e*Pn **Pn 02 32 09.7 -1.4**
VISS Visnje 8.15 359 *i*Pn **Pn 02 32 13.2 +0.9**
VISS Visnje 8.15 359 *i*Pn **Pn 02 32 13.2 +0.9**
JAVS Javornik 8.27 355 *i*Pn **Pn 02 32 16.8 +2.7**
APE Apeiranthos 8.31 91⇓*i*P **Pn 02 32 14.1 -0.4**
APE Apeiranthos 8.31 91 S **Sn 02 33 44.5 -3.1**
APE Apeiranthos 8.31 91⇓*i*P **Pn 02 32 14.1 -0.4**
NPS Neapolis 8.78 103 P **Pn 02 32 22.6 +1.6**
NPS Neapolis 8.78 103 P **Pn 02 32 22.6 +1.6**
NPS Neapolis 8.78 103 P **Pn 02 32 22.6 +1.6**
PKSM Moragy 8.94 16 *e*Pn **Pn 02 32 21.8 -1.4**
PKSM Moragy 8.94 16⇑*i*P **Pn 02 32 22.9 -0.3**
PKSM Moragy 8.94 16⇑*i*P **Pn 02 32 22.9 -0.3**
ABTA Abfaltersbach 9.29 349⇑*i*Pn **Pn 02 32 29.9 +1.9**
3.6nm,0.6s
ABTA Abfaltersbach 9.29 349 Pn **Pn 02 32 29.9 +1.9**
3.6nm,0.6s
BZS Buzias 9.32 29 *e*Pn **Pn 02 32 28.2 -0.2**
BZS *e*Sn **Sn 02 34 07.7 -4.7**
BZS Buzias 9.32 29⇑*i*P **Pn 02 32 28.6 +0.2**
BZS Buzias 9.32 29 S **Sn 02 34 07.7 -4.7**
BZS Buzias 9.32 29 *e*Pn **Pn 02 32 28.2 -0.2**
BZS Buzias 9.32 29⇑*i*P **Pn 02 32 28.6 +0.2**
KBA Koelnbreinsper 9.51 353⇓*i*Pn **Pn 02 32 34.1 +3.1**
3.5nm,0.6s
GZR Gura Zlata 9.62 34⇓*i*P **Pn 02 32 32.3 -0.3**
GZR Gura Zlata 9.62 34⇓*i*P **Pn 02 32 32.3 -0.3**
DAVOX Davos/Dischmat 9.91 339 Pn **Pn 02 32 37.4 +0.8**
0.1nm,0.3s,baz=148,slow=19,SNR=2.5
DAVOX Davos/Dischmat 9.91 339 Pn **Pn 02 32 37.4 +0.8**
DAVOX Davos/Dischmat 9.91 339 Pn **Pn 02 32 37.4 +0.9**
MOA Molln 10.21 357⇑*i*Pn **Pn 02 32 42.1 +1.5**
5.9nm,0.6s
MOA Molln 10.21 357 Pn **Pn 02 32 42.1 +1.5**
5.9nm,0.6s
GERES GERESS Array B 11.23 355 Pn **Pn 02 32 54.7 +0.1**
0.2nm,0.3s,baz=171,slow=13,SNR=8.4
GERES GERESS Array B 11.23 355 Pn **Pn 02 32 54.7 +0.1**
GERES GERESS Array B 11.23 355 Pn **Pn 02 32 54.7 +0.1**
MLR Muntele Rosu 11.26 43 Pn **Pn 02 32 57.5 +2.5**
baz=231,slow=19
MLR Muntele Rosu 11.26 43 Pn **Pn 02 32 57.5 +2.5**
MLR Muntele Rosu 11.26 43⇑*i*P **Pn 02 32 53.8 -1.2**
MLR Muntele Rosu 11.26 43⇑*i*P **Pn 02 32 53.8 -1.2**
MLR Muntele Rosu 11.26 43 Pn **Pn 02 32 57.5 +2.5**
KHC Kasperske Hory 11.53 355 *e*P **Pn 02 33 00.0 +1.4**

VRAC Vranov 11.70 5 Pn **Pn 02 33 01.1 +0.2**
0.1nm,0.3s,baz=185,slow=18,SNR=3.3
VRAC Vranov 11.70 5 Pn **Pn 02 33 01.1 +0.2**
VRAC Vranov 11.70 5 Pn **Pn 02 33 01.1 +0.2**
BURAR Bucovina Array 12.41 33⇑*i*P **Pn 02 33 10.6 -0.1**
BURAR Bucovina Array 12.41 33⇑*i*P **Pn 02 33 10.6 -0.1**
CLL Collm 13.74 354 *e*PP 02 33 36.0
BRTR Keskin Array B 14.61 76 Pn **Pn 02 33 38.1 -2.6**
0.0nm,0.3s,baz=270,slow=13,SNR=3.4
BRTR Keskin Array B 14.61 76 Pn **Pn 02 33 38.1 -2.7**
ESDC Sonseca Array 15.05 284 Pn **Pn 02 33 46.0 -0.7**
0.1nm,0.3s,baz=80,slow=17,SNR=3.0
ESDC Sonseca Array 15.05 284 Pn **Pn 02 33 46.0 -0.7**
ESDC Sonseca Array 15.05 284 Pn **Pn 02 33 46.0 -0.7**
AKASG Malin Array Be 16.47 33 Pn **Pn 02 34 01.9 -3.0**
0.4nm,0.3s,baz=224,slow=9.8,SNR=3.9
AKASG Malin Array Be 16.47 33 Pn **Pn 02 34 01.9 -3.0**
MMAI Mount Meron Ar 17.17 100 Pn **Pn 02 34 09.5 -4.4**
0.4nm,0.3s,baz=273,slow=13,SNR=3.5
MMAI Sn **Sn 02 37 10.8 -14**
2.7nm,0.3s,baz=300,slow=17,SNR=7.0
MMAI Mount Meron Ar 17.17 100 Pn **Pn 02 34 09.5 -4.4**
MMAI Sn **Sn 02 37 10.8 -14**
EIL Elat 18.30 110 P **Pn 02 34 27.4 -0.6**
1.4nm,0.3s,baz=288,slow=3.0,SNR=14
EIL S **Sn 02 37 37.3 -14**
0.9nm,0.3s,baz=323,slow=20,SNR=7.9
EIL Elat 18.30 110 P **Pn 02 34 27.4 -0.6**
EIL S **Sn 02 37 37.3 -14**
EIL Elat 18.30 110 P **Pn 02 34 27.4 -0.5**
HFS Hagfors 22.52 358 P **P 02 35 10.7 -2.6**
2.1nm,0.7s,mb3.7,baz=179,slow=13,SNR=5.2
HFS Hagfors 22.52 358 P **P 02 35 10.7 -2.6**
NOA NORSAR Array B 23.54 355 P **P 02 35 21.0 -3.0**
1.6nm,1.0s,mb3.4,baz=168,slow=10,SNR=3.0
NOA NORSAR Array B 23.54 355 P **P 02 35 21.0 -3.0**
FINES FINESS Array B 24.78 13 P **P 02 35 33.5 -1.9**
3.0nm,0.7s,mb3.9,baz=189,slow=9.5,SNR=9.4
FINES FINESS Array B 24.78 13 P **P 02 35 33.5 -1.9**
FINES FINESS Array B 24.78 13 P **P 02 35 33.5 -1.8**
ARCES ARCESS Array B 32.43 7 P **P 02 36 41.2 -2.2**
2.9nm,0.9s,mb4.1,baz=195,slow=10,SNR=4.3
ARCES ARCESS Array B 32.43 7 P **P 02 36 41.2 -2.2**
ARCES ARCESS Array B 32.43 7 P **P 02 36 41.2 -2.2**
MKAR Makanchi Array 49.19 57 P **P 02 39 01.7 +0.1**
0.4nm,0.6s,mb3.6,baz=288,slow=6.5,SNR=4.5
MKAR Makanchi Array 49.19 57 P **P 02 39 01.7 +0.1**
MKAR Makanchi Array 49.19 57 P **P 02 39 01.7 0.0**

MOS ***16*** *02:48:29.7±0.8, 2.89N×128.2°E, h147km, mb4.6/17, Error ellipse: s-maj=17.8km s-min=7.7km az=110.1*
BJI ***16*** *02:48:29.9, 3.00N×128.20E, h131km, mB5.0/8, mb4.7/18*
ISCJB ***16*** *02:48:31.0±0.7, 2.87N±0.04×128.21E±0.05, h156km±7km, mb4.5/54, Error ellipse: s-maj=8.7km s-min=6.3km az=150.1*
IDC ***16*** *02:48:31.2±2.0, 2.84N×128.17E, h144km±17km, mb4.1/23, mb1 4.2/23, mb1mx4.1/25, mbtmp4.1/23, Error ellipse: s-maj=19.1km s-min=8.5km az=77.0*
NEIC ***16*** *02:48:33.2±1.8, 2.82N×128.30E, h166km±17km, mb4.7/26, Error ellipse: s-maj=8.7km s-min=5.4km az=69.0*
DJA ***16*** *02:48:34.1±0.7, 3.1N±6.1×12.8E±.1°, h111km±7km, M4.8/2, mb4.8/12, mB5.2/10, MLv5.1/11, Mw(mB)4.5/10*
ISC 16 02:48:31.6±0.7, 2.88N±0.04×128.23E±0.05, h145km±6km, n160, σ1°01/154, mb4.5/53, 7C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.26**	**202**	P	**Pn**	**02 49 09.6**	**0.0**
SGSI	**Sangihe**	**2.82**	**287**	P	**Pn**	**02 49 16.0**	**-0.4**
SGSI				S	**Sn**	**02 49 48.7**	**-0.2**
LBMI	**Labuha**	**3.57**	**192**	P	**Pn**	**02 49 27.1**	**+1.0**
MNI	**Manado**	**3.68**	**247**	P	**Pn**	**02 49 26.8**	**-0.7**
MNI				S	**Sn**	**02 50 09.2**	**-0.5**
KMSI	**Cibinong**	**4.83**	**242**	P	**Pn**	**02 49 42.7**	**+0.1**
KMSI				S	**Sn**	**02 50 37.5**	**0.0**
GTOI	**Gorontalo**	**5.67**	**247**	P	**Pn**	**02 49 54.1**	**+0.2**
1.9nm6μm441nm,0.8s							
NLAI	**Namlea**	**6.18**	**191**	P	**Pn**	**02 50 01.2**	**+0.5**
0.4nm1μm44nm,0.8s							
MSAI	**Masohi**	**6.22**	**174**	P	**Pn**	**02 50 03.0**	**+1.8**
0.1nm1μm18nm,0.8s							
LUWI	**Luwuk**	**6.71**	**235**	P	**Pn**	**02 50 08.0**	**+0.3**
3.0nm8μm156nm,0.6s							
MRSI	**Marisa**	**6.72**	**249**	P	**Pn**	**02 50 08.9**	**+0.9**
1.8nm6μm375nm,0.8s							
FAKI	**Fak Fak**	**7.02**	**145**	P	**Pn**	**02 50 13.8**	**+1.9**
0.3nm1μm70nm,1.1s							
KDI	**Kendari**	**8.81**	**220**	P	**Pn**	**02 50 34.8**	**-1.1**
2μm59nm,0.7s							
MYLDM	**Lahad Datu**	**9.97**	**284**	P	**Pn**	**02 50 55.4**	**+4.0**
TTSI	**Tana Toraja**	**10.26**	**235**	P	**Pn**	**02 50 53.7**	**-1.5**
1μm82nm,0.8s							
SPSI	**Sidrap Palu**	**10.85**	**231**	P	**Pn**	**02 51 02.8**	**-0.2**
708nm42nm,0.8s							
BKSI	**Bukukumba**	**11.49**	**225**	P	**Pn**	**02 51 12.9**	**+1.5**
540nm28nm,0.7s							
KSM	**Kuching**	**17.96**	**266**	P	**Pn**	**02 52 32.8**	**+0.3**
13nm,0.8s							
JAGI	**Jajag, Banyuwa**	**18.01**	**231**	P	**P**	**02 52 33.7**	**+2.3**
40nm,1.1s							
GMJI	**Gumukmas**	**18.45**	**233**	P	**P**	**02 52 39.1**	**+2.9**
FITZ	**Fitzroy Crossi**	**21.00**	**187**	P	**P**	**02 53 01.7**	**-2.0**
1.2nm,0.3s,mb3.7,baz=24,slow=9.6,SNR=4.6							
FITZ	**Fitzroy Crossi**	**21.00**	**187**	*e*P	**P**	**02 53 02.4**	**-1.3**
1.4nm,0.4s,mb3.6							
SSLB	**Suanglung**	**21.95**	**342**	*e*P	**P**	**02 53 13.7**	**0.0**
9.7nm,0.6s,mb4.4							
NACB	**Ninganchiao**	**22.12**	**344**	*e*P	**P**	**02 53 15.7**	**+0.2**
7.1nm,0.3s,mb4.6							
YHNB	**Yeheng**	**22.65**	**344**	*e*P	**P**	**02 53 21.0**	**+0.3**
22nm,0.5s,mb4.8							
WRAB	**Tennant Creek**	**23.45**	**165**	*e*P	**P**	**02 53 27.0**	**-1.0**
12nm,0.6s,mb4.5							
WRAB	**Tennant Creek**	**23.45**	**165**	*e*P	**P**	**02 53 27.0**	**-1.0**
WRAB				pmax	pmax		
comp=Z,12nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**23.46**	**165**	P	**P**	**02 53 27.2**	**-0.9**
comp=Z,12nm,0.5s,mb4.5,baz=345,slow=9.9,SNR=64							
WRA				S	**S**	**02 57 32.4**	**+1.6**
comp=Z,2.5nm,1.0s,baz=336,slow=20,SNR=4.6							
WRA				ScP	ScP	03 00 32.8	-2.3
comp=Z,0.9nm,0.8s,baz=354,slow=2.9,SNR=6.3							
WRA	**Warramunga Arr**	**23.46**	**165**	P	**P**	**02 53 27.2**	**-0.9**
WRA				S	**S**	**02 57 32.4**	**+1.6**
WRA				ScP	ScP	03 00 32.8	-2.2
WRA	**Warramunga Arr**	**23.46**	**165**	P	**P**	**02 53 27.2**	**-0.9**
WRA				S	**S**	**02 57 32.4**	**+1.5**
WB2	**Warramunga Arr**	**23.46**	**165**	*e*P	**P**	**02 53 27.0**	**-1.1**
JOW	**Kunigami**	**23.82**	**0**	P	**P**	**02 53 31.7**	**+0.4**
comp=Z,11nm,0.5s,mb4.7,baz=190,slow=11,SNR=5.5							
JOW	**Kunigami**	**23.82**	**0**	P	**P**	**02 53 31.7**	**+0.4**
AS31	**Alice Springs**	**26.95**	**168**	*e*P	**P**	**02 53 58.9**	**-0.7**
AS31				*e*PcP	PcP	02 57 17.8	-0.2
ASAR	**Alice Springs**	**26.96**	**168**	P	**P**	**02 53 59.0**	**-0.7**
comp=Z,1.2nm,0.4s,mb3.9,baz=355,slow=7.7,SNR=24							
ASAR				PcP	PcP	02 57 17.8	-0.2
comp=Z,1.3nm,0.5s,baz=5.6,slow=1.8,SNR=8.3							
ASAR				ScP	ScP	03 00 43.7	-1.2
comp=Z,1.6nm,0.8s,baz=347,slow=1.8,SNR=11							
ASAR	**Alice Springs**	**26.96**	**168**	P	**P**	**02 53 59.0**	**-0.7**
ASAR				PcP	PcP	02 57 17.8	-0.2
ASAR				ScP	ScP	03 00 43.7	-1.2
ASAR	**Alice Springs**	**26.96**	**168**	P	**P**	**02 53 59.0**	**-0.7**
ASAR						02 57 17.8	
CBIJ	**Chichi jima**	**27.54**	**28**	P	**P**	**02 54 05.9**	**+1.0**
comp=Z,28nm,0.3s,mb5.4,baz=172,slow=17,SNR=5.7							
CBIJ	**Chichi jima**	**27.54**	**28**	P	**P**	**02 54 05.9**	**+1.0**
WHN	**Wuhan**	**30.49**	**336**	P	**P**	**02 54 33.8**	**+2.8**
CMAR	**Chiang Mai Arr**	**32.59**	**300**	P	**P**	**02 54 50.8**	**+1.2**
comp=Z,1.6nm,0.4s,mb4.1,baz=119,slow=7.5,SNR=8.9							
CMAR	**Chiang Mai Arr**	**32.59**	**300**	P	**P**	**02 54 50.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**32.59**	**300**	P	**P**	**02 54 50.8**	**+1.2**
KSAR	**Wonju Array Be**	**34.40**	**360**	P	**P**	**02 55 05.2**	**+0.3**
KSAR	**Wonju Array Be**	**34.40**	**360**	P	**P**	**02 55 05.2**	**+0.3**
KSRS	**Korea Array**	**34.41**	**360**	P	**P**	**02 55 05.2**	**+0.2**
comp=Z,5.2nm,0.4s,mb4.6,baz=176,slow=9.7,SNR=16							
MAJO	**Matsushiro**	**34.74**	**14**	*e*P	**P**	**02 55 06.8**	**-1.1**
MAJO	**Matsushiro**	**34.74**	**14**	*e*P	**P**	**02 55 06.8**	**-1.1**
MAT	**Matsushiro**	**34.74**	**14**	P	**P**	**02 55 06.3**	**-1.6**
MJAR	**Matsushiro Arr**	**34.74**	**14**	P	**P**	**02 55 06.5**	**-1.4**
comp=Z,3.3nm,0.3s,mb4.4,baz=187,slow=9.8,SNR=11							
MJAR	**Matsushiro Arr**	**34.74**	**14**	P	**P**	**02 55 06.5**	**-1.4**

MJAR Matsushiro Arr 34.74 14 P **P 02 55 06.5 -1.4**
XAN Xi'an 35.86 332 P **P 02 55 17.6 +0.1**
XAN pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
STKA Stephens Creek 36.82 161 P **P 02 55 25.1 -0.5**
comp=Z,3.8nm,0.3s,mb4.5,baz=337,slow=8.3,SNR=21
STKA PcP PcP 02 57 44.6 -0.1
comp=Z,1.2nm,0.4s,baz=357,slow=4.8,SNR=2.6
STKA Stephens Creek 36.82 161 *e*P **P 02 55 25.0 -0.7**
comp=Z,1.4nm,0.7s,mb3.7
STKA PcP PcP 02 57 44.6 -0.1
STKA Stephens Creek 36.82 161 *e*P **P 02 55 25.0 -0.7**
STKA 02 57 44.6
STKA pmax pmax
comp=Z,1.0nm,0.7s
LZH Lanzhou 40.00 329 *e*P **P 02 55 54.3 +2.1**
LZH pmax pmax
comp=Z,21nm,1.0s,mb4.7
LZH pmax pmax
comp=Z,63nm,6.2s
LZH Lanzhou 40.00 329 *e*P **P 02 55 54.3 +2.1**
comp=Z,21nm,1.0s,mb4.7
LZH pP pP 02 55 58.1 -26
LZH sP sP 02 56 00.5 -40
LZH *e*PP PP 02 56 32.4 -55
LZH Lanzhou 40.00 329 *e*P **P 02 55 54.3 +2.1**
LZH pmax pmax
comp=Z,21nm,1.0s,mb4.7
GTA Gaotai 44.60 328⇑P **P 02 56 30.5 +1.1**
GTA pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
TAPN Taplejung 45.73 306 *e*P **P 02 56 39.7 +1.2**
TAPN Taplejung 45.73 306 *e*P **P 02 56 39.7 +1.2**
ODAN Odare 45.78 305 *e*P **P 02 56 40.1 +1.2**
comp=Z,26nm,0.6s,mb5.0
ODAN Odare 45.78 305 *e*P **P 02 56 40.1 +1.2**
comp=Z,26nm,0.6s,mb5.0
HABR Khabarovsk 45.80 6 P **P 02 56 38.3 -0.4**
HABR *e*S **S 03 03 17.0 +5.6**
HABR MLR MLR
comp=Z,86nm,16.0s
RAMN Ramite 46.46 305 *e*P **P 02 56 45.4 +1.1**
RAMN Ramite 46.46 305 *e*P **P 02 56 45.4 +1.1**
JIRN Jiri 47.08 306 *e*P **P 02 56 50.3 +1.2**
comp=Z,15nm,0.4s,mb5.0
JIRN Jiri 47.08 306 *e*P **P 02 56 50.3 +1.2**
comp=Z,15nm,0.4s,mb5.0
GUN Gumba 47.44 306 *e*P **P 02 56 52.9 +1.1**
comp=Z,44nm,0.6s,mb5.3
GUN Gumba 47.44 306 *e*P **P 02 56 52.9 +1.1**
comp=Z,44nm,0.6s,mb5.3
PKI Pulchoki 47.68 305 *e*P **P 02 56 54.5 +0.8**
comp=Z,8.5nm,0.3s,mb4.8
PKI Pulchoki 47.68 305 *e*P **P 02 56 54.5 +0.8**
comp=Z,8.5nm,0.3s,mb4.8
PKI Pulchoki 47.68 305 *e*P **P 02 56 54.5 +0.8**
PKI pmax pmax
comp=Z,9.0nm,0.3s,mb4.9
KKN Kakani 47.87 306 *e*P **P 02 56 55.9 +0.7**
comp=Z,14nm,0.4s,mb4.9
KKN Kakani 47.87 306 *e*P **P 02 56 55.9 +0.7**
comp=Z,14nm,0.4s,mb4.9
KKN Kakani 47.87 306 *e*P **P 02 56 55.9 +0.7**
KKN pmax pmax
comp=Z,14nm,0.4s,mb4.9
DMN Daman 47.94 305 *e*P **P 02 56 56.6 +0.9**
comp=Z,41nm,0.9s,mb5.1
DMN Daman 47.94 305 *e*P **P 02 56 56.6 +0.9**
comp=Z,41nm,0.9s,mb5.1
ULN Ulaanbaatar 48.40 341 *e*P **P 02 56 59.4 +0.6**
comp=Z,12nm,0.9s,mb4.5
ULN Ulaanbaatar 48.40 341 *e*P **P 02 56 59.4 +0.6**
ULN pmax pmax
comp=Z,12nm,0.9s,mb4.5
GKN Gorkha 48.48 305 *e*P **P 02 57 00.3 +0.5**
comp=Z,9.7nm,0.4s,mb4.8
GKN Gorkha 48.48 305 *e*P **P 02 57 00.3 +0.5**
comp=Z,9.7nm,0.4s,mb4.8
SONM Songino Array 48.59 340 P **P 02 57 00.9 +0.7**
comp=Z,3.7nm,0.8s,mb4.0,baz=152,slow=8.6,SNR=12
SONM PcP PcP 02 58 24.5 +0.7
comp=Z,1.4nm,0.7s,baz=159,slow=6.8,SNR=4.8
SONM Songino Array 48.59 340 P **P 02 57 00.9 +0.7**
SONM PcP PcP 02 58 24.5 +0.7
SONM Songino Array 48.59 340 P **P 02 57 00.9 +0.6**
SONM 02 58 24.5
KOLN Koldanda 49.24 305 *e*P **P 02 57 06.7 +1.1**
comp=Z,34nm,0.5s,mb5.2
KOLN Koldanda 49.24 305 *e*P **P 02 57 06.7 +1.1**
comp=Z,34nm,0.5s,mb5.2
DANN Dangsing 49.33 305 *e*P **P 02 57 07.3 +1.0**
comp=Z,22nm,0.3s,mb5.2
DANN Dangsing 49.33 305 *e*P **P 02 57 07.3 +1.0**
comp=Z,22nm,0.3s,mb5.3
PETK Petropavlovsk- 55.66 21 P **P 02 57 53.4 +0.9**
comp=Z,15nm,0.9s,mb4.8,baz=189,slow=5.0,SNR=5.5
PETK Petropavlovsk- 55.66 21 P **P 02 57 53.4 +0.9**
PETK Petropavlovsk- 55.66 21 P **P 02 57 53.4 +0.9**
MK31 Makanchi Array 59.11 325 *e*P **P 02 58 16.8 0.0**
MK31 Makanchi Array 59.11 325 *ce*P **P 02 58 16.9 +0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
MKAR Makanchi Array 59.11 325 P **P 02 58 17.0 +0.3**
comp=Z,6.4nm,0.5s,mb4.7,baz=114,slow=7.8,SNR=136
MKAR PcP PcP 02 59 03.6 -0.3
comp=Z,2.0nm,0.6s,baz=117,slow=6.8,SNR=6.3
MKAR Makanchi Array 59.11 325 P **P 02 58 17.0 +0.3**
MKAR PcP PcP 02 59 03.6 -0.3
MKAR Makanchi Array 59.11 325 P **P 02 58 17.0 +0.2**
MKAR 02 59 03.6
TKM2 Tokmak 2 61.37 318 *e*P **P 02 58 32.9 +0.6**
comp=Z,3.1nm,0.4s,mb4.5
TKM2 Tokmak 2 61.37 318 *e*P **P 02 58 32.9 +0.6**
TKM2 pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
AAK Ala-Archa 61.99 318⇑*e*P **P 02 58 36.9 +0.5**
AAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.3
ZAA0 Zalesovo Array 62.02 333 *e*P **P 02 58 35.4 -1.0**
ZALV Zalesovo Beam 62.02 333 P **P 02 58 35.3 -1.1**
comp=Z,1.6nm,0.4s,mb4.2,baz=127,slow=6.3,SNR=13
ZALV Zalesovo Beam 62.02 333 P **P 02 58 35.3 -1.1**
ZALV Zalesovo Beam 62.02 333 P **P 02 58 35.3 -1.1**
KURK Kurchatov 63.26 327 P **P 02 58 44.5 -0.2**
comp=Z,3.9nm,0.4s,mb4.6,baz=124,slow=6.0,SNR=27
KURK Kurchatov 63.26 327 P **P 02 58 44.5 -0.2**
KURK Kurchatov 63.26 327 *ce*P **P 02 58 44.3 -0.4**
KURK pmax pmax
comp=Z,11nm,1.2s,mb4.6
NVS Novosibirsk 63.31 333 *e*P **P 02 58 43.3 -1.6**
NVS pmax pmax
comp=Z,22nm,1.7s,mb4.7
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.3s
KK31 Karatay Array 64.87 317 *ce*P **P 02 58 54.8 -0.6**
KK

ARU	**Arti**	**76.45**	**328**	*d i*P		**P**	**03 00 04.2**	**-1.0**
ARU							03 02 54.5	
ARU					SS	SS	03 14 29.4	-7.0
ARU					pmax	pmax		
	comp=Z,14nm,1.7s,mb4.3							
KDAK	**Kodiak Island**	**81.81**	**32**	P		**P**	**03 00 35.1**	**+0.8**
	comp=Z,3.5nm,0.3s,mb4.5,baz=318,slow=0.7,SNR=19							
KDAK	**Kodiak Island**	**81.81**	**32**	*e*P		**P**	**03 00 35.0**	**+0.8**
	comp=Z,20nm,1.1s,mb4.7							
KDAK	**Kodiak Island**	**81.81**	**32**	*e*P		**P**	**03 00 35.0**	**+0.8**
KDAK					pmax	pmax		
	comp=Z,20nm,1.1s,mb4.7							
PPLA	**Purkeypile**	**82.70**	**27**	*e*P		**P**	**03 00 39.7**	**+0.9**
	comp=Z,20nm,1.4s,mb4.7							
COLD	**Coldfoot**	**84.09**	**23**	*e*P		**P**	**03 00 46.7**	**+0.9**
	comp=Z,12nm,1.1s,mb4.5							
MCK	**McKinley**	**84.25**	**26**	*e*P		**P**	**03 00 46.0**	**-0.8**
	comp=Z,7.4nm,0.9s,mb4.4							
MCK	**McKinley**	**84.25**	**26**	*e*P		**P**	**03 00 46.0**	**-0.7**
MCK					pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4							
ILAR	**Eielson Array**	**85.22**	**25**	P		**P**	**03 00 50.5**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=252,slow=4.7,SNR=9.4							
ILAR	**Eielson Array**	**85.22**	**25**	P		**P**	**03 00 50.5**	**-1.1**
ILAR	**Eielson Array**	**85.22**	**25**	P		**P**	**03 00 50.5**	**-1.0**
OBN	**Obninsk**	**88.61**	**325**	P		**P**	**03 01 07.0**	**-1.1**
INK	**Inuvik**	**90.40**	**22**	P		**P**	**03 01 15.5**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.8,baz=249,slow=7.7,SNR=6.3							
INK	**Inuvik**	**90.40**	**22**	P		**P**	**03 01 15.5**	**-0.7**
INK	**Inuvik**	**90.40**	**22**	P		**P**	**03 01 15.5**	**-0.7**
BRTR	**Keskin Array B**	**91.72**	**310**	P		**P**	**03 01 21.6**	**-1.4**
	comp=Z,0.6nm,0.9s,mb3.6,baz=74,slow=1.8,SNR=3.5							
BRTR	**Keskin Array B**	**91.72**	**310**	P		**P**	**03 01 21.6**	**-1.4**
BRTR	**Keskin Array B**	**91.72**	**310**	P		**P**	**03 01 21.6**	**-1.3**
ARCES	**ARCESS Array B**	**91.76**	**340**	P		**P**	**03 01 21.2**	**-1.3**
	comp=Z,1.3nm,0.5s,mb4.3,baz=75,slow=6.2,SNR=12							
ARCES	**ARCESS Array B**	**91.76**	**340**	P		**P**	**03 01 21.2**	**-1.3**
ARCES	**ARCESS Array B**	**91.76**	**340**	P		**P**	**03 01 21.2**	**-1.3**
FINES	**FINESS Array B**	**93.28**	**332**	P		**P**	**03 01 27.7**	**-1.9**
	comp=Z,2.7nm,1.0s,mb4.3,baz=79,slow=3.0,SNR=3.5							
FINES	**FINESS Array B**	**93.28**	**332**	P		**P**	**03 01 27.7**	**-1.9**
FINES	**FINESS Array B**	**93.28**	**332**	P		**P**	**03 01 27.7**	**-2.0**
HFS	**Hagfors**	**99.46**	**333**	P		Pdif	03 01 55.7	-2.0
	comp=Z,1.7nm,0.8s,baz=95,slow=3.6,SNR=4.8							
HFS	**Hagfors**	**99.46**	**333**	P		Pdif	03 01 55.8	-2.0
HFS	**Hagfors**	**99.46**	**333**	P		Pdif	03 01 55.8	-2.0
YKA	**Yellowknife Ar**	**99.64**	**25**	P		Pdif	03 01 58.3	-0.2
	comp=Z,0.4nm,0.7s,baz=304,slow=4.2,SNR=7.3							
YKA	**Yellowknife Ar**	**99.64**	**25**	P		Pdif	03 01 58.4	-0.2
YKA	**Yellowknife Ar**	**99.64**	**25**	P		Pdif	03 01 58.4	-0.2
TXAR	**Lajitas Array**	**120.92**	**53**	PKP		PKPdf	03 07 08.0	+0.5
	comp=Z,0.2nm,0.5s,baz=242,slow=1.5,SNR=6.7							
TXAR	**Lajitas Array**	**120.92**	**53**	PKP		PKPdf	03 07 08.0	+0.5
TXAR	**Lajitas Array**	**120.92**	**53**	PKIKP		PKPdf	03 07 08.0	+0.5
SCHQ	**Schefferville**	**121.15**	**10**	PKP		PKPdf	03 07 07.3	+0.2
	comp=Z,2.6nm,0.8s,baz=0.0,slow=4.0,SNR=7.0							
SCHQ	**Schefferville**	**121.15**	**10**	PKP		PKPdf	03 07 07.3	+0.2
TORD	**Torodi Ar. Bea**	**124.61**	**288**	PKP		PKPdf	03 07 14.4	-0.5
	comp=Z,1.1nm,0.7s,baz=67,slow=1.5,SNR=21							
TORD	**Torodi Ar. Bea**	**124.61**	**288**	PKP		PKPdf	03 07 14.4	-0.5

ISCJB ***16*** *02:54:28.6±0.4, 50°.23N±0°.03×18°.90E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.2km az=13.5*
IDC ***16*** *02:54:29.4±1.6, 50°.07N×19°.02E, h0km, mb3.1/1, mb1 3.2/4, mb1mx3.1/21, mbtmp3.1/4, ML2.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/20, Error ellipse: s-maj=28.8km s-min=11.2km az=142.0*
WAR ***16*** *02:54:29.5, 50°.24N×18°.93E*
CSEM ***16*** *02:54:29.5±0.2, 50°.25N×18°.88E, h2km, ML2.7/3, Error ellipse: s-maj=5.5km s-min=2.5km az=5.0*
IPEC ***16*** *02:54:29.3±0.2, 50°.27N×18°.89E, h3km±1km, ML2.7/3, Error ellipse: s-maj=2.5km s-min=1.1km az=169.0*
PRU ***16*** *02:54:30.2, 50°.29N×18°.83E, h0km*
VIE ***16*** *02:54:31.4±1.1, 49°.70N×18°.96E, h0km, mb2.0/2, ML2.9/4, Error ellipse: s-maj=6.7km s-min=5.3km az=111.0 53 km ESE of Ostrava Suspected Mining induced.*

ISC 16 02:54:29.4±0.4, 50°.26N±0°.03×18°.88E±0°.02, h0km, n58, σ1°19/93, 11C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.47**	**249**	*e*Pg	**Pg**	**02 54 39.8**	**+1.3**
RAC				*e*Sg	**Sg**	02 54 46.9	+2.3
OJC	**Ojcow**	**0.59**	**93**	*i* Pg	**Pg**	02 54 40.7	0.0
OJC				*e*Sg	**Sg**	02 54 48.6	+0.3
OJC	**Ojcow**	**0.59**	**93**	*e*Pg	**Pg**	02 54 40.7	0.0
	baz=276						
OJC				*e*Sg	**Sg**	02 54 48.6	+0.3
OKC	**Ostrava-Krasne**	**0.63**	**229**	*e*PG	**Pg**	02 54 42.1	+0.6
OKC				*e*SG	**Sg**	02 54 50.7	+1.0
	101nm,0.7s						
OKC	**Ostrava-Krasne**	**0.63**	**229**	*e*Pg	**Pg**	02 54 42.0	+0.5
	baz=47						
MORC	**Moravsky Berou**	**0.99**	**242**	⇓*i*P	**Pg**	02 54 48.3	0.0
MORC	**Moravsky Berou**	**0.99**	**242**	⇓*i*P	**Pg**	02 54 48.3	0.0
MORC				*e*Sg	**Sg**	02 55 00.8	-0.3
	151nm,0.5s,baz=60						
MORC				S	**Sg**	02 55 02.1	+1.0
LIKS	**Likavka**	**1.22**	**173**	*e*PG	**Pg**	02 54 52.7	0.0
LIKS				*e*SG	**Sg**	02 55 12.2	+3.8
NIE	**Niedzica**	**1.25**	**132**	*e*Pg	**Pg**	02 54 52.8	-0.5
NIE				*e*Sg	**Sg**	02 55 10.2	+0.7
NIE	**Niedzica**	**1.25**	**132**	*e*Pg	**Pg**	02 54 52.8	-0.5
NIE				*e*Sg	**Sg**	02 55 10.2	+0.7
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*PG	**Pn**	02 54 59.2	-0.3
DPC				*e*SG	**Sn**	02 55 20.9	-0.4
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*Pn	**Pn**	02 54 59.0	-0.5
	baz=92						
DPC				*e*Sg	**Sn**	02 55 21.0	-0.3
	baz=92						
STHS	**Stebnicka Huta**	**1.74**	**118**	*e*PN	**Pn**	02 55 00.5	-0.4
STHS				*e*SN	**Sg**	02 55 27.4	+2.0
STHS	**Stebnicka Huta**	**1.74**	**118**	*e*Pn	**Pn**	02 55 00.5	-0.4
STHS				*e*Sn	**Sg**	02 55 27.4	+2.0
KSP	**Ksiaz**	**1.75**	**291**	*e*Pn	**Pn**	02 55 02.2	+1.2
KSP				*e*Sn	**Sn**	02 55 26.6	+2.5
KSP				*e*Sg	**Sg**	02 55 29.2	+3.5
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**	02 55 02.9	-0.1
KSP				*e*Sg	**Sg**	02 55 26.1	+0.4
VRAC	**Vranov**	**1.76**	**238**	Pg	**Pg**	02 55 01.9	-1.2
	3.1nm,0.3s,baz=62,slow=15,SNR=13						
VRAC				Lg		02 55 25.6	
	10nm,0.3s,baz=73,slow=18,SNR=21						
VRAC	**Vranov**	**1.76**	**238**	⇓*i*P	**Pn**	02 55 01.7	+0.6
VRAC	**Vranov**	**1.76**	**238**	*e*Pn	**Pn**	02 55 01.3	+0.2
	baz=56						
VRAC	**Vranov**	**1.76**	**238**	⇓*i*P	**Pn**	02 55 01.7	+0.6
VRAC				S	**Sn**	02 55 24.3	+0.1
VRAC				*e*Sg	**Sn**	02 55 24.6	+0.4
	74nm,0.6s,baz=56						
VYHS	**Vyhne**	**1.76**	**181**	*e*PN	**Pn**	02 55 00.2	-0.9
VYHS				*e*SN	**Sn**	02 55 21.7	-2.5
VYHS	**Vyhne**	**1.76**	**181**	*e*Pn	**Pn**	02 55 00.2	-0.9
VYHS				*e*Sn	**Sn**	02 55 21.7	-2.5
UPC	**Upice**	**1.85**	**279**	*e*SG	**Sn**	02 55 26.4	-0.1
KRUC	**Moravsky**	**2.01**	**234**	*e*Pn	**Pn**	02 55 04.1	-0.4
	baz=52						
KRUC				*e*Sn	**Sn**	02 55 31.2	+0.9
	31nm,0.5s,baz=52						
KECS	**Kecovo**	**2.06**	**149**	*e*PN	**Pn**	02 55 03.5	-1.7
KECS				*e*PG	**Pg**	02 55 08.5	-0.3
KECS	**Kecovo**	**2.06**	**149**	*e*Pn	**Pn**	02 55 03.5	-1.7
CRVS	**Cervenica-Dubn**	**2.16**	**128**	*e*PN	**Pn**	02 55 06.5	0.0
CRVS				*e*SN	**Sg**	02 55 38.5	-0.1
CRVS	**Cervenica-Dubn**	**2.16**	**128**	*e*Pn	**Pn**	02 55 06.5	0.0
ZST	**Bratislava**	**2.37**	**210**	*e*PN	**Pg**	02 55 12.4	-2.4
ZST				*e*SN	**Sn**	02 55 37.9	-1.3
ZST	**Bratislava**	**2.37**	**210**	*e*Pn	**Pg**	02 55 12.4	-2.4
ZST				*e*Sn	**Sn**	02 55 37.9	-1.3
PSZ	**Piszkesteto**	**2.43**	**164**	*e*Pn	**Pg**	02 55 16.0	0.0
PSZ				*e*Sn	**Sg**	02 55 48.5	+1.0
PSZ	**Piszkesteto**	**2.43**	**164**	⇑*i*P	**Pn**	02 55 11.4	+1.1
PSZ	**Piszkesteto**	**2.43**	**164**	⇑*i*P	**Pn**	02 55 11.4	+1.1
PSZ				S	**Sn**	02 55 42.5	+1.8
KWP	**Kalwaria Pacla**	**2.55**	**103**	*e*Pn	**Pn**	02 55 17.0	-1.2
KWP				*e*Sn	**Sg**	02 55 49.3	-1.9
KWP				*e*Sg	**Sg**	02 55 57.5	+6.3
KWP	**Kalwaria Pacla**	**2.55**	**103**	⇑*i*P	**Pn**	02 55 13.2	+1.3
KWP	**Kalwaria Pacla**	**2.55**	**103**	⇑*i*P	**Sg**	02 55 49.2	-2.0
KWP	**Kalwaria Pacla**	**2.55**	**103**	⇑*i*P	**Pn**	02 55 13.2	+1.3
PVCC	**Panska Ves**	**2.77**	**277**	*e*SG	**Sg**	**02 55 56.8**	**-1.7**
	39nm,0.7s						
BUD	**Budapest**	**2.78**	**178**	⇓*e*Pn	**Pg**	**02 55 18.8**	**-3.8**
BUD	**Budapest**	**2.78**	**178**	⇓*e*Pn	**Pg**	**02 55 18.8**	**-3.8**
PRU	**Pruhonice**	**2.81**	**266**	*e*PG	**Pn**	**02 55 18.8**	**+3.3**
PRU				*e*SG	**Sg**	**02 55 56.0**	**-3.5**
	23nm,0.8s						
CONA	**Conrad Observa**	**3.06**	**222**	⇑*i*Sn	**Sn**	**02 55 50.2**	**-6.0**
TRPA	**Tarpa**	**3.21**	**130**	⇑*i*P	**Pn**	**02 55 20.1**	**-0.8**
TRPA	**Tarpa**	**3.21**	**130**	⇑*i*P	**Pn**	**02 55 20.1**	**-0.8**
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PN	**Pn**	**02 55 26.0**	**-0.7**
KHC				*e*PG	**Pn**	**02 55 33.0**	**+6.3**
KHC				*e*SN	**Sn**	**02 56 11.0**	**+0.9**
KHC				*e*SG	**Sg**	**02 56 23.3**	**-2.4**
	24nm,0.7s						
GERES	**GERESS Array B**	**3.66**	**249**	Pn	**Pn**	**02 55 27.2**	**+0.1**
	0.2nm,0.3s,baz=70,slow=14,SNR=7.3						
GERES				Pg	**Pg**	**02 55 36.0**	**-3.5**
	0.9nm,0.3s,baz=67,slow=18,SNR=22						
GERES				Lg		02 56 26.7	
	5.3nm,0.3s,baz=68,slow=29,SNR=13						
MOA	**Molln**	**3.88**	**233**	⇑*i*Sg	**Sg**	**02 56 30.3**	**-3.5**
	18nm,0.5s						
MOA	**Molln**	**3.88**	**233**	Sg	**Sg**	**02 56 30.3**	**-3.5**
	18nm,0.5s						
CLL	**Collm**	**3.88**	**288**	*e*Pg	**Pg**	**02 55 45.0**	**+1.3**
CLL				*e*Sg	**Sg**	**02 56 33.0**	**-0.9**
	comp=Z,11nm,0.6s						
BURAR	**Bucovina Array**	**4.94**	**120**	⇓*i*P	**Pn**	**02 55 45.0**	**+0.2**
BURAR	**Bucovina Array**	**4.94**	**120**	⇓*i*P	**Pn**	**02 55 45.0**	**+0.2**
BZS	**Buzias**	**4.99**	**157**	⇑*i*P	**Pn**	**02 55 45.2**	**-0.3**
BZS	**Buzias**	**4.99**	**157**	⇑*i*P	**Pn**	**02 55 45.2**	**-0.3**
GZR	**Gura Zlata**	**5.53**	**150**	⇓*i*P	**Pn**	**02 55 53.3**	**+0.5**
GZR	**Gura Zlata**	**5.53**	**150**	⇓*i*P	**Pn**	**02 55 53.3**	**+0.5**
DAVOX	**Davos/Dischmat**	**6.92**	**243**	Pn	**Pn**	**02 56 12.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=25,slow=14,SNR=2.9						
DAVOX				Lg		02 58 11.6	
	baz=18,slow=20						
FINES	**FINESS Array B**	**11.91**	**17**	Pn	**Pn**	**02 57 16.7**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=198,slow=11,SNR=6.3						
TORD	**Torodi Ar. Bea**	**39.59**	**207**	P	**P**	**03 02 01.5**	**-0.9**
	comp=Z,0.3nm,1.0s,baz=23,slow=9.4,SNR=2.8						
TORD				LR	LR	03 17 58.7	
	comp=Z,57nm,18.7s,baz=315,slow=36						

IDC ***16*** *03:05:33.7±1.9, 36°.54S×179°.58E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/13, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=44.6km s-min=34.1km az=134.0*
ISCJB ***16*** *03:05:37.3±1.3, 36°.89S±0°.08×179°.8E±0°.1, h65km±13km, mb3.5/2, Error ellipse: s-maj=14.2km s-min=12.5km az=39.3*
WEL ***16*** *03:05:37.3±0.4, 36°.68S×179°.85E, h33km, ML3.9/4, Error ellipse: s-maj=4.2km s-min=3.0km az=90.0*
NEIC ***16*** *03:05:37.3, 36°.68S×179°.84E, h33km, ML3.9(WEL), After WEL.*

ISC 16 03:05:37.8±1.3, 36°.82S±0°.08×179°.82E±0°.10, h48km±16km, n41, σ1°06/45, mb3.4/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.42**	**238**	PN	**Pn**	**03 06 00.6**	**-0.6**
MXZ				SN	**Sn**	03 06 19.4	+0.7
MXZ	**Matakaoa Point**	**1.42**	**238**	Pn	**Pn**	03 06 00.6	-0.6
MXZ				Sn	**Sn**	03 06 19.4	+0.7
PUZ	**Puketiti**	**1.76**	**224**	PN	**Pn**	03 06 06.5	+0.6
PUZ				SN	**Sn**	03 06 28.5	+1.3
PUZ	**Puketiti**	**1.76**	**224**	Pn	**Pn**	03 06 06.5	+0.6
PUZ				Sn	**Sn**	03 06 28.5	+1.3
CNGZ	**Carnagh Statio**	**2.10**	**217**	PN	**Pn**	03 06 11.8	+1.3
CNGZ	**Carnagh Statio**	**2.10**	**217**	Pn	**Pn**	03 06 11.8	+1.3
MWZ	**Matawai**	**2.37**	**230**	PN	**Pn**	03 06 14.6	+0.4
MWZ				SN	**Sn**	03 06 43.4	+1.4
MWZ	**Matawai**	**2.37**	**230**	Pn	**Pn**	03 06 14.6	+0.4
MWZ				Sn	**Sn**	03 06 43.4	+1.4
URZ	**Urewera**	**2.59**	**235**	PN	**Pn**	03 06 17.5	+0.3
URZ	**Urewera**	**2.59**	**235**	Pn	**Pn**	03 06 17.8	+0.5
	17nm,0.3s,baz=66,slow=3.7,SNR=147						
URZ				Sn	**Sn**	03 06 48.5	+1.1
	11nm,0.3s,baz=235,slow=20,SNR=9.9						
URZ	**Urewera**	**2.59**	**235**	*e*Pn	**Pn**	03 06 17.6	+0.4
URZ				*e*S	**Sn**	03 06 47.2	-0.2
PRGZ	**Paritu Road**	**2.60**	**215**	PN	**Pn**	03 06 17.8	+0.4
PRGZ	**Paritu Road**	**2.60**	**215**	Pn	**Pn**	03 06 17.8	+0.4
EDRZ	**Edgecumbe**	**2.77**	**241**	PN	**Pn**	03 06 20.1	+0.4
EDRZ	**Edgecumbe**	**2.77**	**241**	Pn	**Pn**	03 06 20.1	+0.4
KNZ	**Kokohu**	**2.78**	**217**	PN	**Pn**	03 06 19.5	-0.3
KNZ	**Kokohu**	**2.78**	**217**	Pn	**Pn**	03 06 19.5	-0.3
MHGZ	**Mahia Peninsul**	**2.78**	**212**	PN	**Pn**	03 06 20.5	+0.7
MHGZ	**Mahia Peninsul**	**2.78**	**212**	Pn	**Pn**	03 06 20.5	+0.7
KUZ	**Kuaotunu**	**3.29**	**270**	PN	**Pn**	03 06 25.7	-1.1
KUZ	**Kuaotunu**	**3.29**	**270**	Pn	**Pn**	03 06 25.7	-1.1
MKAZ	**Moumakai**	**3.73**	**264**	PN	**Pn**	03 06 33.0	+0.1
KAHZ	**Kahuranaki**	**3.77**	**217**	*e*PN	**Pn**	03 06 31.9	-1.5
PXZ	**Pawanui**	**3.96**	**215**	SN	**Sn**	03 07 20.6	-0.6
PNHZ	**Pukenui**	**4.20**	**221**	SN	**Sn**	03 07 26.0	-1.1
TSZ	**Takapari Road**	**4.43**	**222**	SN	**Sn**	03 07 31.6	-1.1
HOWZ	**Holdsworth Sta**	**5.28**	**218**	*e*PN	**Pn**	03 06 51.5	-2.6
HOWZ	**Holdsworth Sta**	**5.28**	**218**	Pn	**Pn**	03 06 52.0	-2.1
MTW	**Mount Morrison**	**5.49**	**216**	*e*PN	**Pn**	03 06 54.4	-2.5
MTW	**Mount Morrison**	**5.49**	**216**	Pn	**Pn**	03 06 54.6	-2.3
THZ	**Tophouse**	**7.29**	**225**	*e*PN	**Pn**	03 07 18.1	-3.6
CTZ	**Chatham Island**	**7.43**	**160**	*e*PN	**Pn**	03 07 24.5	+1.0
CTZ	**Chatham Island**	**7.43**	**160**	Pn	**Pn**	03 07 24.7	+1.2
ASAR	**Alice Springs**	**41.40**	**275**	P	**P**	**03 13 20.1**	**+0.6**
	0.6nm,0.6s,mb3.4,baz=116,slow=8.1,SNR=5.9						
ASAR	**Alice Springs**	**41.40**	**275**	P	**P**	**03 13 20.1**	**+0.6**
WRA	**Warramunga Arr**	**42.97**	**280**	P	**P**	**03 13 32.5**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=120,slow=7.7,SNR=10						
WRA	**Warramunga Arr**	**42.97**	**280**	P	**P**	**03 13 32.5**	**+0.2**
FINES	**FINESS Array B**	**150.35**	**335**	PKPbc	PKPbc	03 25 25.4	+2.6
	4.0nm,1.1s,baz=29,slow=3.2,SNR=3.7						
FINES	**FINESS Array B**	**150.35**	**335**	PKPbc	PKPbc	03 25 25.4	+2.6
TORD	**Torodi Ar. Bea**	**156.37**	**185**	PKPab	PKPab	03 25 59.1	+3.2
	0.8nm,1.1s,baz=176,slow=3.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**156.37**	**185**	PKPab	PKPab	03 25 59.1	+3.2

IDC 16 03:09:36.9±4.8, 27°.80S×67°.52W, h136km±47km, mb3.5/2, mb1 3.7/2, mb1mx3.3/13, mbtmp3.5/2, Error ellipse: s-maj=44.6km s-min=38.7km az=11.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.84**	**189**	P	Pn	03 10 35.7	+1.1
	0.4nm,0.3s,baz=6.9,slow=14,SNR=84						
CFAA				S	Sn	03 11 19.7	+0.2
	4.5nm,0.3s,baz=142,slow=12,SNR=32						
TORD	**Torodi Ar. Bea**	**78.38**	**68**	P	P	03 21 22.4	-0.3
	1.5nm,0.6s,baz=245,slow=3.4,SNR=36						
PDAR	**Pinedale Array**	**80.17**	**330**	P	P	03 21 31.8	0.0
	0.4nm,0.7s,baz=123,slow=6.6,SNR=3.2						
WRA	**Warramunga Arr**	**128.04**	**206**	PKP	PKPdf	03 28 27.1	-0.3
	0.5nm,0.9s,baz=162,slow=1.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**146.93**	**30**	PKPbc	PKPbc	03 29 02.9	0.0
	0.9nm,0.4s,baz=329,slow=3.9,SNR=5.6						
MKAR	**Makanchi Array**	**149.68**	**43**	PKPbc	PKPbc	03 29 10.5	+0.2
	0.3nm,0.6s,baz=290,slow=3.4,SNR=4.4						

IDC ***16*** *03:42:39.0±0.8, 12°.00N×143°.25E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/23, mbtmp4.0/11, ML4.0/1, Error ellipse: s-maj=28.2km s-min=18.1km az=114.0*
ISCJB ***16*** *03:42:42.3±0.7, 12°.0N±0°.1×143°.2E±0°.1, h33km, mb4.0/10, Error ellipse: s-maj=21.4km s-min=7.7km az=136.1*
NEIC ***16*** *03:42:44.4±2.4, 11°.98N×143°.27E, h37km±23km, Error ellipse: s-maj=28.9km s-min=15.0km az=104.0*

ISC 16 03:42:44.4±2.6, 12°.0N±0°.1×143°.3E±0°.2, h36km±25km, n22, σ0°90/24, mb4.0/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.25**	**44**	Pn	**Pn**	**03 43 19.0**	**-0.2**
	43nm,0.3s,baz=290,slow=3.5,SNR=13						
GUMO				Sn	**Sn**	**03 43 46.6**	**+0.9**
	73nm,0.3s,baz=11,slow=23,SNR=11						
GUMO	**Guam**	**2.25**	**44**	*e*Pn	**Pn**	03 43 19.0	-0.2
GUMO				*e*S	**Sn**	03 43 45.1	-0.6
WRA	**Warramunga Arr**	**32.91**	**196**	P	**P**	03 49 15.2	-0.2
	1.1nm,0.7s,mb3.9,baz=20,slow=9.8,SNR=19						
WRA	**Warramunga Arr**	**32.91**	**196**	P	**P**	**03 49 15.2**	**-0.2**
ASAR	**Alice Springs**	**36.58**	**194**	P	**P**	**03 49 47.2**	**+0.1**
	0.4nm,0.6s,mb3.4,baz=22,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**36.58**	**194**	P	**P**	**03 49 47.2**	**+0.1**
MKAR	**Makanchi Array**	**61.56**	**317**	P	**P**	**03 52 59.7**	**+1.6**
	0.4nm,0.8s,mb3.6,baz=90,slow=6.5,SNR=3.2						
MKAR	**Makanchi Array**	**61.56**	**317**	P	**P**	**03 52 59.7**	**+1.6**
ZALV	**Zalesovo Beam**	**62.02**	**325**	P	**P**	**03 53 01.0**	**0.0**
	0.5nm,0.4s,mb4.0,baz=119,slow=8.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**62.02**	**325**	P	**P**	**03 53 01.0**	**0.0**
KURK	**Kurchatov**	**64.81**	**321**	P	**P**	**03 53 19.7**	**+0.2**
	1.0nm,0.7s,mb3.9,baz=104,slow=6.6,SNR=8.3						
KURK	**Kurchatov**	**64.81**	**321**	P	**P**	**03 53 19.7**	**+0.2**
ILAR	**Eielson Array**	**70.69**	**25**	P	**P**	**03 53 55.4**	**-1.0**
	1.4nm,0.5s,mb4.2,baz=251,slow=6.0,SNR=33						
ILAR	**Eielson Array**	**70.69**	**25**	P	**P**	**03 53 55.4**	**-1.0**
YKA	**Yellowknife Ar**	**85.01**	**27**	P	**P**	**03 55 15.8**	**-0.2**
	0.3nm,0.6s,mb3.6,baz=292,slow=5.1,SNR=5.0						
YKA	**Yellowknife Ar**	**85.01**	**27**	P	**P**	**03 55 15.8**	**-0.2**
ARCES	**ARCESS Array B**	**88.12**	**342**	P	**P**	**03 55 30.5**	**-0.5**
	6.0nm,1.1s,mb4.8,baz=68,slow=7.7,SNR=5.4						
ARCES	**ARCESS Array B**	**88.12**	**342**	P	**P**	**03 55 30.5**	**-0.5**
NVAR	**Mina Array Bea**	**89.16**	**51**	P	**P**	**03 55 38.4**	**+1.8**
	0.8nm,0.5s,mb4.3,baz=273,slow=4.9,SNR=5.6						
NVAR	**Mina Array Bea**	**89.16**	**51**	P	**P**	**03 55 38.4**	**+1.8**
FINES	**FINESS Array B**	**91.94**	**335**	P	**P**	**03 55 47.5**	**-1.6**
	1.1nm,0.7s,mb4.3,baz=61,slow=4.8,SNR=6.8						
FINES	**FINESS Array B**	**91.94**	**335**	P	**P**	**03 55 47.5**	**-1.6**

IDC 16 03:47:37.3±1.2, 30°.69S×176°.71W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.1/15, mbtmp4.1/5, MS3.4/6, Ms1 3.4/6, ms1mx3.3/26, Error ellipse: s-maj=39.7km s-min=29.7km az=178.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.35**	**296**	*e*LR	LR	03 56 15.4	
	253nm,24.9s						
RAR	**Rarotonga**	**17.90**	**62**	LR	LR	03 56 10.9	
	comp=Z,143nm,19.7s,baz=259,slow=29						
TBI	**Tubuai**	**25.31**	**80**	*e*LR	LR	03 58 58.1	
	158nm,27.8s						
PPT2	**Papeete2**	**27.90**	**68**	*e*LR	LR	04 00 16.7	
	117nm,26.5s						
CTA	**Charters Tower**	**34.94**	**279**	LR	LR	04 06 09.2	
	comp=Z,91nm,19.4s,baz=51,slow=32						
STKA	**Stephens Creek**	**35.49**	**257**	P	P	03 54 37.0	+1.3
	5.3nm,1.1s,baz=107,slow

ellipse: s-maj=215.9km s-min=68.4km az=137.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.12**	**34**	P	Pn	04 18 50.9	-0.2
	0.0nm,0.3s,baz=222,slow=16,SNR=2.6						
KURK	**Kurchatov**	**14.30**	**16**	P	Pn	04 19 17.3	-0.8
	0.0nm,0.3s,baz=204,slow=11,SNR=4.3						
ZALV	**Zalesovo Beam**	**18.89**	**23**	P	P	04 20 09.4	0.0
	0.4nm,0.3s,baz=222,slow=10,SNR=13						
TORD	**Torodi Ar. Bea**	**66.90**	**269**	P	P	04 26 34.8	+0.1
	0.2nm,0.3s,baz=47,slow=6.0,SNR=6.0						

*IDC **16** 04:26:22.8±4.9, 26°.68S×177°.20W, h51km±41km, mb4.2/13, mb1 4.3/14, mb1mx4.2/18, mbtmp4.2/14, ML3.0/1, Error ellipse: s-maj=21.8km s-min=18.4km az=117.0*

*ISCJB **16** 04:26:29.5±1.3, 26°.78S±0°.08×177°.4W±0°.1, h120km±11km, mb4.2/14, Error ellipse: s-maj=18.8km s-min=12.3km az=167.6*

*NEIC **16** 04:26:29.4±1.1, 26°.82S×177°.29W, h112km±9km, mb4.6/3, Error ellipse: s-maj=13.4km s-min=10.7km az=89.0*

ISC 16 04:26:30.3±1.2, 26.77S±0°.07×177.4W±0°.1, h114km±10km, h112km±6.0km; pP-P, n61, σ0.87/41, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.52**	**191**	*e*Pn	**Pn**	**04 27 08.1**	**-2.1**
RAO				*e*S	**Sn**	**04 27 41.9**	**+1.1**
MSVF	**Nonsavu**	**9.95**	**334**	*e*Pn	**Pn**	**04 28 51.0**	**+0.8**
	12nm,0.7s						
URZ	**Urewera**	**12.37**	**201**	S	**Sn**	**04 31 24.8**	**-14**
	3.8nm,0.3s,baz=249,slow=22,SNR=13						
AFI	**Afiamalu**	**13.82**	**23**	P	**Pn**	**04 29 32.2**	**-9.1**
	4.8nm,0.3s,baz=9.9,slow=19,SNR=6.0						
AFI				S	**Sn**	**04 31 52.4**	**-21**
	3.0nm,0.3s,baz=19,slow=18,SNR=4.1						
AFI	**Afiamalu**	**13.82**	**23**	P	**Pn**	**04 29 32.2**	**-9.1**
AFI				S	**Sn**	**04 31 52.4**	**-21**
DZM	**Mont Dzumac**	**15.48**	**284**	Pn	**Pn**	**04 30 11.2**	**+8.9**
CTA	**Charters Tower**	**33.96**	**273**	P	**P**	**04 33 03.9**	**+0.9**
	4.6nm,0.4s,mb4.6,baz=102,slow=11,SNR=11						
CTA	**Charters Tower**	**33.96**	**273**	P	**P**	**04 33 03.9**	**+0.9**
PMG	**Port Moresby**	**37.72**	**291**	P	**P**	**04 33 35.8**	**+0.8**
	8.8nm,0.7s,mb4.7,baz=118,slow=6.3,SNR=5.1						
PMG	**Port Moresby**	**37.72**	**291**	*e*P	**P**	**04 33 35.6**	**+0.5**
	6.1nm,0.7s,mb4.5						
AS31	**Alice Springs**	**43.99**	**263**	*e*P	**P**	**04 34 26.6**	**+0.1**
ASAR	**Alice Springs**	**44.00**	**263**	P	**P**	**04 34 26.1**	**-0.4**
	1.7nm,0.5s,mb4.1,baz=94,slow=7.5,SNR=26						
ASAR	**Alice Springs**	**44.00**	**263**	P	**P**	**04 34 26.1**	**-0.4**
WB2	**Warramunga Arr**	**44.65**	**268**	*e*P	**P**	**04 34 31.1**	**-0.7**
WRAB	**Tennant Creek**	**44.65**	**268**	*e*P	**P**	**04 34 31.1**	**-0.7**
	4.7nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**44.66**	**268**	P	**P**	**04 34 30.7**	**-1.1**
	6.8nm,0.8s,mb4.5,baz=106,slow=7.6,SNR=52						
WRA	**Warramunga Arr**	**44.66**	**268**	P	**P**	**04 34 30.7**	**-1.1**
QSPA	**South Pole Qui**	**63.33**	**180**	P	**P**	**04 36 47.5**	**+0.9**
	1.9nm,0.6s,mb4.2,baz=59,slow=1.7,SNR=10						
QSPA	**South Pole Qui**	**63.33**	**180**	P	**P**	**04 36 47.5**	**+0.9**
MJAR	**Matsushiro Arr**	**75.61**	**324**	P	**P**	**04 38 01.8**	**-0.8**
	1.0nm,0.4s,mb3.9,baz=165,slow=6.3,SNR=6.2						
MJAR	**Matsushiro Arr**	**75.61**	**324**	P	**P**	**04 38 01.8**	**-0.8**
MAW	**Mawson**	**75.90**	**200**	P	**P**	**04 38 04.2**	**+0.3**
	2.5nm,0.9s,mb3.9,baz=102,slow=9.3,SNR=4.2						
MAW	**Mawson**	**75.90**	**200**	P	**P**	**04 38 04.2**	**+0.3**
SNAA	**Sanae**	**81.76**	**178**	*e*	**P**	**04 38 32.0**	**-3.9**
SNAA				*e*	pP	04 39 03.4	-1.6
VNA3	**Neumayer Olymp**	**81.88**	**176**	*e*	**P**	**04 38 36.3**	**-0.2**
VNA3				*e*	pP	04 39 02.3	-3.3
KSRS	**Korea Array**	**81.97**	**319**	P	**P**	**04 38 37.5**	**+0.1**
	3.4nm,0.6s,mb4.3,baz=136,slow=6.6,SNR=13						
KSAR	**Wonju Array Be**	**81.98**	**319**	P	**P**	**04 38 37.5**	**0.0**
VNA2	**Neumayer--Watz**	**82.32**	**177**	*e*	**P**	**04 38 39.3**	**+0.5**
	baz=188,slow=4.6						
VNA2				*e*	pP	04 39 07.7	-0.2
PETK	**Petropavlovsk-**	**82.45**	**345**	P	**P**	**04 38 39.5**	**0.0**
	3.4nm,0.7s,mb4.3,baz=110,slow=8.3,SNR=4.0						
PETK	**Petropavlovsk-**	**82.45**	**345**	P	**P**	**04 38 39.5**	**0.0**
VNA1	**Neumayer--Stat**	**82.55**	**176**	*e*	pP	04 39 09.0	-0.1
NVAR	**Mina Array Bea**	**85.19**	**43**	P	**P**	**04 38 54.4**	**+0.5**
	1.3nm,0.8s,mb3.9,baz=228,slow=8.6,SNR=8.3						
NVAR	**Mina Array Bea**	**85.19**	**43**	P	**P**	**04 38 54.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**92.74**	**289**	P	**P**	**04 39 31.8**	**+1.7**
	0.7nm,0.4s,mb4.4,baz=124,slow=4.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**92.74**	**289**	P	**P**	**04 39 31.8**	**+1.7**
PDAR	**Pinedale Array**	**93.11**	**43**	P	**P**	**04 39 31.1**	**0.0**
	0.5nm,0.8s,mb3.9,baz=183,slow=3.0,SNR=4.8						
PDAR	**Pinedale Array**	**93.11**	**43**	P	**P**	**04 39 31.1**	**0.0**
ILAR	**Eielson Array**	**94.27**	**13**	P	**P**	**04 39 34.6**	**-1.3**
	0.6nm,0.8s,mb4.0,baz=218,slow=5.0,SNR=9.6						
ILAR	**Eielson Array**	**94.27**	**13**	P	**P**	**04 39 34.6**	**-1.3**
MKAR	**Makanchi Array**	**115.84**	**311**	PKP	PKPdf	04 44 58.0	-1.2
	0.4nm,0.6s,baz=202,slow=2.1,SNR=4.8						
MKAR	**Makanchi Array**	**115.84**	**311**	PKP	PKPdf	04 44 58.0	-1.2
ARCES	**ARCESS Array B**	**135.16**	**349**	PKP	PKPdf	04 45 34.4	-1.1
	3.4nm,1.0s,baz=5.7,slow=1.2,SNR=6.6						
ARCES	**ARCESS Array B**	**135.16**	**349**	PKP	PKPdf	04 45 34.4	-1.1
FINES	**FINESS Array B**	**141.91**	**342**	PKhKP	PKPpre	04 45 42.6	
	1.3nm,0.5s,baz=97,slow=2.6,SNR=8.8						
FINES	**FINESS Array B**	**141.91**	**342**	PKPpre	PKPpre	04 45 42.6	
NB2	**NORSAR Subarra**	**145.25**	**353**	PKPbc	PKPbc	04 45 53.4	-0.4
	comp=Z,2.2nm,0.6s,baz=19,slow=3.4						
NOA	**NORSAR Array B**	**145.25**	**353**	PKPbc	PKPbc	04 45 53.4	-0.4
	comp=Z,5.4nm,0.8s,baz=16,slow=2.6,SNR=11						
NOA	**NORSAR Array B**	**145.25**	**353**	PKPbc	PKPbc	04 45 53.4	-0.4
HFS	**Hagfors**	**145.79**	**350**	PKPbc	PKPbc	04 45 54.5	-1.0
	comp=Z,4.7nm,0.6s,baz=90,slow=3.0,SNR=14						
HFS	**Hagfors**	**145.79**	**350**	PKPbc	PKPbc	04 45 54.5	-1.0
AKASG	**Malin Array Be**	**148.67**	**327**	PKPbc	PKPbc	04 46 03.1	-0.7
	comp=Z,3.1nm,0.6s,baz=44,slow=4.1,SNR=6.8						
AKASG	**Malin Array Be**	**148.67**	**327**	PKPbc	PKPbc	04 46 03.1	-0.7
ASF	**Jabal al Asfar**	**149.78**	**289**	PKPbc	PKPbc	04 46 05.2	-2.0
	comp=Z,1.0nm,0.3s,baz=358,slow=3.4,SNR=3.1						
ASF	**Jabal al Asfar**	**149.78**	**289**	PKPbc	PKPbc	04 46 05.2	-2.0
MMAI	**Mount Meron Ar**	**151.00**	**290**	PKPbc	PKPbc	04 46 11.0	+1.0
	comp=Z,4.0nm,0.5s,baz=70,slow=4.9,SNR=7.9						
MMAI	**Mount Meron Ar**	**151.00**	**290**	PKPbc	PKPbc	04 46 11.0	+1.0
BRTR	**Keskin Array B**	**151.19**	**305**	PKPbc	PKPbc	04 46 09.7	-0.6
	comp=Z,1.3nm,0.7s,baz=124,slow=3.2,SNR=7.5						
BRTR				PKPab	PKPab	04 46 18.6	0.0
	comp=Z,1.9nm,0.7s,baz=82,slow=3.1,SNR=7.1						
BRTR	**Keskin Array B**	**151.19**	**305**	PKPbc	PKPbc	04 46 09.7	-0.6
BRTR				PKPab	PKPab	04 46 18.6	0.0
CLL	**Collm**	**154.26**	**345**	*e*PKPbc	PKPbc	04 46 17.0	+0.4
CLL				*e*PKPab	PKPab	04 46 30.0	-1.0
TORD	**Torodi Ar. Bea**	**166.42**	**176**	PKP	PKPdf	04 46 22.0	-0.8
	comp=Z,0.8nm,1.1s,baz=156,slow=1.9,SNR=3.1						
TORD				PKPab	PKPab	04 47 24.6	-0.1
	comp=Z,0.6nm,0.8s,baz=199,slow=3.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**166.42**	**176**	PKP	PKPdf	04 46 22.0	-0.8
TORD				PKPab	PKPab	04 47 24.6	-0.1

*IDC **16** 04:38:54.0±1.2, 34°.38N×23°.63E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.6/28, mbtmp3.7/10, ML4.0/4, Error ellipse: s-maj=26.6km s-min=22.2km az=147.0*

*CSEM **16** 04:38:56.8±0.5, 34°.44N×23°.62E, h15km, MD3.5, Error ellipse: s-maj=11.1km s-min=8.6km az=5.0*

*ISCJB **16** 04:38:57.0±1.5, 34°.41N±0°.06×23°.65E±0°.06, h31km±9km, mb3.7/5, Error ellipse: s-maj=11.0km s-min=8.1km az=20.2*

*ATH **16** 04:38:58.5, 34°.74N×23°.61E, h13km±2km, MD3.5/7*

*NEIC **16** 04:38:58.5, 34°.74N×23°.61E, h13km, ML3.5(ATH), After ATH.*

*THE **16** 04:38:59.1, 34°.64N×23°.60E, h4km±4km, ML3.2/1, Error ellipse: s-maj=6.3km s-min=2.2km az=156.0*

ISC 16 04:38:56.9±1.4, 34°.47N±0°.06×23°.62E±0°.06, h11km±7km, n78, σ1.22/90, mb3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.53**	**46**	*e*PB	**Pg**	**04 39 06.8**	**-0.6**
GVD				*e*SB	**Sg**	**04 39 12.2**	**-2.2**
GVD	**Gavdhos**	**0.53**	**46**	P	**Pg**	**04 39 06.7**	**-0.7**
GVD				S	**Sg**	**04 39 16.0**	**+1.6**
GVD	**Gavdhos**	**0.53**	**46**	*e*Pg	**Pg**	**04 39 06.9**	**-0.5**
GVD	**Gavdhos**	**0.53**	**46**	*e*Pg	**Pg**	**04 39 06.9**	**-0.5**
GVD				*e*Sb	**Sg**	**04 39 12.2**	**-2.2**
GVD				S	**Sg**	**04 39 16.0**	**+1.6**
VAM	**Vamos**	**1.05**	**27**	*e*PB	**Pg**	**04 39 14.3**	**-2.9**
VAM				*e*SB	**Sg**	**04 39 26.1**	**-4.8**
VAM	**Vamos**	**1.05**	**27**	P	**Pg**	**04 39 14.4**	**-2.8**
VAM				S	**Sg**	**04 39 30.7**	**-0.2**
VAM	**Vamos**	**1.05**	**27**	P	**Pg**	**04 39 14.4**	**-2.8**
VAM				S	**Sg**	**04 39 30.7**	**-0.2**
SIVA	**Sivas**	**1.12**	**60**	*e*PB	**Pg**	**04 39 18.1**	**-0.4**
SIVA	**Sivas**	**1.12**	**60**	P	**Pb**	**04 39 18.3**	**0.0**
SIVA				S	**Sg**	**04 39 33.8**	**+0.7**
SIVA	**Sivas**	**1.12**	**60**	*e*Pb	**Pg**	**04 39 18.1**	**-0.4**
SIVA				S	**Sg**	**04 39 33.8**	**+0.7**
NPS	**Neapolis**	**1.82**	**64**	*e*PN	**Pn**	**04 39 30.1**	**+2.0**
NPS	**Neapolis**	**1.82**	**64**	*e*Pn	**Pn**	**04 39 30.1**	**+2.0**
KYTH	**Kithira**	**1.87**	**345**	*e*PB	**Pn**	**04 39 29.0**	**+0.2**
KYTH	**Kithira**	**1.87**	**345**	P	**Pn**	**04 39 29.6**	**+0.8**
KYTH	**Kithira**	**1.87**	**345**	P	**Pn**	**04 39 29.6**	**+0.8**
VLI	**Veliai**	**2.31**	**346**	*e*PN	**Pn**	**04 39 34.8**	**-0.1**
VLI	**Veliai**	**2.31**	**346**	P	**Pn**	**04 39 34.8**	**-0.1**
VLI	**Veliai**	**2.31**	**346**	P	**Pn**	**04 39 34.8**	**-0.1**
THR2	**Thira island,**	**2.47**	**36**	P	**Pn**	**04 39 37.8**	**+0.8**
THR2	**Thira island,**	**2.47**	**36**	P	**Pn**	**04 39 37.8**	**+0.8**
PYL	**PYLOS**	**2.87**	**328**	*e*PB	**Pn**	**04 39 42.7**	**+0.2**
APE	**Apeiranthos**	**3.02**	**30**	*e*P	**Pn**	**04 39 45.0**	**+0.3**
APE	**Apeiranthos**	**3.02**	**30**	*e*PN	**Pn**	**04 39 45.5**	**+0.8**
APE	**Apeiranthos**	**3.02**	**30**	P	**Pn**	**04 39 43.9**	**-0.8**
APE				S	**Sn**	**04 40 20.4**	**-0.5**
APE	**Apeiranthos**	**3.02**	**30**	P	**Pn**	**04 39 43.9**	**-0.8**
APE	**Apeiranthos**	**3.02**	**30**	*e*Pn	**Pn**	**04 39 45.5**	**+0.8**
APE				S	**Sn**	**04 40 20.4**	**-0.5**
DID	**Didima**	**3.05**	**354**	P	**Pn**	**04 39 44.7**	**-0.3**
DID				S	**Sn**	**04 40 19.5**	**-2.0**
DID	**Didima**	**3.05**	**354**	P	**Pn**	**04 39 44.7**	**-0.3**
DID				S	**Sn**	**04 40 19.5**	**-2.0**
VLX	**Vlachokerasia**	**3.07**	**341**	P	**Pn**	**04 39 45.6**	**+0.3**
VLX	**Vlachokerasia**	**3.07**	**341**	P	**Pn**	**04 39 45.6**	**+0.3**
KARP	**Karpathos**	**3.10**	**69**	P	**Pn**	**04 39 48.5**	**+2.8**
KARP	**Karpathos**	**3.10**	**69**	P	**Pn**	**04 39 48.5**	**+2.8**
VLY	**Voula,Athens**	**3.38**	**2**	P	**Pn**	**04 39 49.4**	**-0.2**
VLY	**Voula,Athens**	**3.38**	**2**	P	**Pn**	**04 39 49.4**	**-0.2**
GUR	**Goura**	**3.61**	**344**	P	**Pn**	**04 39 53.4**	**+0.6**
GUR	**Goura**	**3.61**	**344**	P	**Pn**	**04 39 53.4**	**+0.6**
DAT	**Datca**	**3.94**	**54**	*e*P	**Pn**	**04 40 00.9**	**+3.6**
DAT	**Datca**	**3.94**	**54**	*e*P	**Pn**	**04 40 00.9**	**+3.7**
BODT	**Bodrum**	**3.96**	**48**	*e*P	**Pn**	**04 39 56.1**	**-1.5**
BODT	**Bodrum**	**3.96**	**48**	*e*P	**Pn**	**04 39 56.1**	**-1.5**
YER	**Yerkesik**	**4.63**	**54**	*e*P	**Pn**	**04 40 08.6**	**+1.8**
YER	**Yerkesik**	**4.63**	**54**	*e*P	**Pn**	**04 40 08.6**	**+1.8**
GLHS	**Glhisar (BURDU**	**5.48**	**59**	*e*P	**Pn**	**04 40 18.8**	**+0.4**
GLHS	**Glhisar (BURDU**	**5.48**	**59**	*e*P	**Pn**	**04 40 18.8**	**+0.4**
ELL	**Elmali**	**5.60**	**64**	*e*P	**Pn**	**04 40 20.5**	**+0.4**
ELL	**Elmali**	**5.60**	**64**	*e*P	**Pn**	**04 40 20.5**	**+0.3**
KULA	**Kula-Manisa**	**5.72**	**44**	*e*P	**Pn**	**04 40 18.2**	**-3.6**
BRTR	**Keskin Array B**	**9.57**	**54**	Pn	**Pn**	**04 41 15.4**	**+0.9**
	0.1nm,0.3s,baz=234,slow=15,SNR=4.5						
BRTR	**Keskin Array B**	**9.57**	**54**	Pn	**Pn**	**04 41 15.4**	**+0.9**
BRTR	**Keskin Array B**	**9.57**	**54**	Pn	**Pn**	**04 41 15.4**	**+0.9**
MMAI	**Mount Meron Ar**	**9.92**	**95**	Pn	**Pn**	**04 41 17.7**	**-1.6**
	0.8nm,0.3s,baz=278,slow=11,SNR=2.7						
MMAI	**Mount Meron Ar**	**9.92**	**95**	Pn	**Pn**	**04 41 17.7**	**-1.6**
MMAI	**Mount Meron Ar**	**9.92**	**95**	Pn	**Pn**	**04 41 17.7**	**-1.7**
VRAC	**Vranov**	**15.71**	**343**	Pn	**Pn**	**04 42 40.8**	**+2.8**
	0.5nm,0.3s,baz=128,slow=5.7,SNR=4.6						
VRAC	**Vranov**	**15.71**	**343**	Pn	**Pn**	**04 42 40.8**	**+2.8**
GERES	**GERESS Array B**	**16.14**	**336**	Pn	**Pn**	**04 42 45.8**	**+2.2**
	0.1nm,0.3s,baz=144,slow=12,SNR=5.8						
GERES	**GERESS Array B**	**16.14**	**336**	Pn	**Pn**	**04 42 45.8**	**+2.2**
GERES	**GERESS Array B**	**16.14**	**336**	Pn	**Pn**	**04 42 45.8**	**+2.2**
KHC	**Kasperske Hory**	**16.43**	**336**	*e*P	**Pn**	**04 42 48.5**	**+1.2**
AKASG	**Malin Array Be**	**16.73**	**12**	Pn	**Pn**	**04 42 50.6**	**-0.5**
	1.1nm,0.3s,baz=206,slow=10,SNR=4.1						
AKASG	**Malin Array Be**	**16.73**	**12**	Pn	**Pn**	**04 42 50.6**	**-0.5**
AKASG	**Malin Array Be**	**16.73**	**12**	Pn	**Pn**	**04 42 50.6**	**-0.5**
CLL	**Collm**	**18.51**	**339**	*e*pP	pP	04 43 14.0	-2.2
HFS	**Hagfors**	**26.48**	**349**	P	**P**	**04 44 32.5**	**-1.3**
	1.6nm,0.5s,mb3.8,baz=147,slow=8.5,SNR=13						
HFS	**Hagfors**	**26.48**	**349**	P	**P**	**04 44 32.5**	**-1.3**
HFS	**Hagfors**	**26.48**	**349**	P	**P**	**04 44 32.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**29.08**	**228**	P	**P**	**04 44 56.1**	**-1.3**
	0.7nm,0.7s,mb3.5,baz=36,slow=8.3,SNR=8.9						
TORD	**Torodi Ar. Bea**	**29.08**	**228**	P	**P**	**04 44 56.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**29.08**	**228**	P	**P**	**04 44 56.2**	**-1.3**
MKAR	**Makanchi Array**	**45.21**	**56**	P	**P**	**04 47 13.3**	**-0.5**
	0.6nm,0.5s,mb3.7,baz=266,slow=7.4,SNR=14						
MKAR	**Makanchi Array**	**45.21**	**56**	P	**P**	**04 47 13.3**	**-0.5**
MKAR	**Makanchi Array**	**45.21**	**56**	P	**P**	**04 47 13.3**	**-0.5**
ZALV	**Zalesovo Beam**	**46.39**	**46**	P	**P**	**04 47 21.9**	**-1.2**
	0.6nm,0.4s,mb3.9,baz=280,slow=8.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**46.39**	**46**	P	**P**	**04 47 21.9**	**-1.2**
ZALV	**Zalesovo Beam**	**46.39**	**46**	P	**P**	**04 47 21.9**	**-1.2**
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**04 49 08.6**	**-0.9**
	0.3nm,0.4s,mb3.7,baz=282,slow=8.7,SNR=3.2						
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**04 49 08.6**	**-0.9**
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**04 49 08.6**	**-0.9**

*ISCJB **16** 04:53:35.7±0.4, 9°.46N±0°.04×84°.20W±0°.04, h63km±4km, mb3.7/9, Error ellipse: s-maj=7.1km s-min=5.1km az=39.9*

*CASC **16** 04:53:35.2±6.0, 9°.35N×84°.29W, h30km±20km, MD4.1*

*IDC **16** 04:53:36.1±3.5, 10°.08N×83°.93W, h26km±25km, mb3.6/9, mb1 3.9/10, mb1mx3.8/20, mbtmp3.7/10, ML4.1/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/36, Error ellipse: s-maj=49.0km s-min=25.7km az=20.0*

*NEIC **16** 04:53:37.0, 9.56N×84°.22W, h45km, MD5.0(HDC), MD4.6(UCR), After UCR.*

NEIC Felt in the Valle Central.

ISC 16 04:53:36.8±0.4, 9.49N±0°.04×84°.18W±0°.04, h55km±5km, n69, σ0.93/75, mb3.7/9, MS3.4/2, 7C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.06**	**167**	*i*P	**Pn**	**04 53 44.9**	**-0.3**
BUS	**Buena Vista**	**0.42**	**80**	*e*P	**Pn**	**04 53 47.8**	**+0.2**
BUS	**Buena Vista**	**0.42**	**80**	*e*P	**Pn**	**04 53 47.8**	**+0.3**
SJS	**Escuela Geolog**	**0.47**	**15**	*i*P	**Pn**	**04 53 46.9**	**-1.2**
SJS				*e*S	**Sn**	**04 53 52.3**	**-3.9**
URSC	**Urasca**	**0.53**	**49**	*i*P	**Pn**	**04 53 48.2**	**-0.5**
URSC	**Urasca**	**0.53**	**49**	*i*P	**Pn**	**04 53 48.2**	**-0.5**
CGA2	**Cerro Gallo 2**	**0.60**	**332**	*i*P	**Pn**	**04 53 48.0**	**-1.6**
CGA2	**Cerro Gallo 2**	**0.60**	**332**	*i*P	**Pn**	**04 53 48.0**	**-1.6**
JCR	**Jicaral**	**0.99**	**292**	*e*P	**Pn**	**04 53 53.7**	**-0.8**
JCR	**Jicaral**	**0.99**	**292**	*e*P	**Pn**	**04 53 53.6**	**-0.9**
JCR				*e*S	**Sn**	**04 54 07.3**	**-0.3**
CASO	**Castillo**	**1.09**	**330**	*i*P	**Pn**	**04 53 55.1**	**-0.8**
CASO				*i*S	**Sn**	**04 54 09.9**	**-0.1**
JTS	**JuntasAbangare**	**1.10**	**317**	Pg	**Pn**	**04 53 55.3**	**-0.8**
	848nm,0.3s,baz=290,slow=22,SNR=5144						
JTS				Lg		04 54 09.2	
	1μm,0.3s,baz=313,slow=19,SNR=31						
JTS	**JuntasAbangare**	**1.10**	**317**	*e*Pg	**Pn**	**04 53 55.1**	**-1.0**
JTS				Lg		04 54 09.2	
JTS				*e*S	**Sn**	**04 54 09.4**	**-1.0**
TRTC	**Tortuguero**	**1.18**	**23**	*i*P	**Pn**	**04 53 56.9**	**-0.2**
TRTC				*e*S	**Sn**	**04 54 12.2**	**+0.1**
CHPA	**Chiripa**	**1.19**	**323**	*i*P	**Pn**	**04 53 56.9**	**-0.3**
CHPA				*i*S	**Sn**	**04 54 13.0**	**+0.5**
ACR	**Cerro Adams**	**1.30**	**130**	*e*P	**Pn**	**04 53 59.8**	**+1.1**
ACR	**Cerro Adams**	**1.30**	**130**	*e*P	**Pn**	**04 53 59.7**	**+1.1**
PTEN	**Parque Tenorio**	**1.46**	**327**	*i*P	**Pn**	**04 54 00.5**	**-0.3**
PTEN				*i*S	**Sn**	**04 54 19.6**	**+0.8**
CUI	**Cuipilapa**	**1.52**	**320**	*i*P	**Pn**	**04 54 01.4**	**-0.2**
CUI				*i*S	**Sn**	**04 54 20.4**	**+0.2**
COLC	**Colonia**	**1.55**	**319**	*i*P	**Pn**	**04 54 01.7**	**-0.3**
GUAB	**Guayabo de Bag**	**1.59**	**320**	*i*P	**Pn**	**04 54 02.2**	**-0.5**
GUAB				*i*S	**Sn**	**04 54 23.2**	**+1.0**
MESS	**Mesas**	**1.60**	**321**	*i*P	**Pn**	**04 54 02.3**	**-0.4**
LIM1	**Limonal**	**1.60**	**319**	*i*P	**Pn**	**04 54 02.3**	**-0.5**
GPS2	**Hotel Rinc¨‡n**	**1.71**	**318**	*i*P	**Pn**	**04 54 03.6**	**-0.6**
GPS3	**Bodega del ICE**	**1.72**	**317**	*i*P	**Pn**	**04 54 03.8**	**-0.6**
GPS3				*i*S	**Sn**	**04 54 24.8**	**-0.4**
GPS1	**Guardaparques**	**1.72**	**318**	*i*P	**Pn**	**04 54 04.3**	**-0.2**
NY14	**Universidad de**	**1.76**	**311**	*i*P	**Pn**	**04 54 05.0**	**0.0**
NY14				*i*S	**Sn**	**04 54 27.4**	**+1.0**
LAPC	**Finca la Perla**	**1.77**	**316**	*i*P	**Pn**	**04 54 03.9**	**-1.2**
GB1A	**Borinquen Arri**	**1.79**	**318**	*i*P	**Pn**	**04 54 05.2**	**-0.1**
GBS3	**Finca Las Im¨¡**	**1.80**	**316**	*i*P	**Pn**	**04 54 05.2**	**-0.2**
GBS2	**Las Lilas**	**1.84**	**317**	*i*P	**Pn**	**04 54 05.0**	**-1.0**
CONN	**Concepcion**	**2.51**	**326**	*e*P	Px	04 54 37.1	
TICN	**Ticuantepe**	**3.24**	**322**	*e*P	**Pn**	**04 54 27.0**	**+1.9**
TISN	**Laguna Tiscapa**	**3.34**	**322**	*e*P	**Pn**	**04 54 27.8**	**+1.2**
XAVN	**Gruta Xavier**	**3.38**	**322**	*e*P	**Pn**	**04 54 28.2**	**+1.1**
HUEN		**3.44**	**326**	*e*P	**Pn**	**04 54 29.3**	**+1.3**
COPN	**Copaltepe**	**3.58**	**319**	*e*P	**Pn**	**04 54 31.4**	**+1.6**
CNGN	**Cerro Negro**	**3.88**	**321**	*e*P	**Pn**	**04 54 35.4**	**+1.4**
TEL3	**Telica 3**	**4.03**	**320**	*e*P	**Pn**	**04 54 37.5**	**+1.5**
CRIN	**San Cristobal**	**4.26**	**319**	*e*P	**Pn**	**04 54 40.5**	**+1.3**
BCIP	**Isla Barro Col**	**4.30**	**94**	*e*Pn	**Pn**	**04 54 41.5**	**+1.9**
ICCO	**Coco Island**	**4.84**	**216**	*i*eP	**Pn**	**04 54 47.4**	**+0.2**
ICCO				*e*Sg	**Sn**	**04 55 41.8**	**-0.2**
TGUH	**Tegucigalpa,Un**	**5.46**	**327**	*e*Pn	**Pn**	**04 54 55.0**	**-0.6**
	139nm,0.7s						
TGUH				*e*S	Sn	04 56 19.7	+23
TEIG	**Tepich**	**11.39**	**340**	LR	LR	05 00 51.7	
	comp=Z,107nm,19.7s,baz=183,slow=40						
TEIG	**Tepich**	**11.39**	**340**	Pn	**Pn**	**04 56 18.1**	**+1.3**
TEIG				*e*S	Sn	04 58 43.6	+21
CMIG	**Matias Romero**	**12.87**	**307**	Pn	**Pn**	**04 56 37.0**	**0.0**
	1.0nm,0.3s,baz=124,slow=9.6,SNR=15						
CMIG	**Matias Romero**	**12.87**	**307**	Pn	**Pn**	**04 56 37.0**	**0.0**
ATAH	**Atahualpa**	**17.49**	**161**	LR	LR	05 03 46.9	
	comp=Z,88nm,19.6s,baz=134,slow=34						
TKL	**Tuckaleechee C**	**26.05**	**1**	LR	LR	05 09 52.3	
	comp=Z,53nm,19.0s,MS3.1,baz=333,slow=38						
TXAR	**Lajitas Array**	**26.89**	**320**	P	**P**	**04 59 12.5**	**-0.2**
	0.6nm,0.8s,mb3.2,baz=136,slow=9.8,SNR=5.9						
TXAR				PcP	PcP	05 02 36.5	+2.6
	0.3nm,0.7s,baz=152,slow=4.1,SNR=3.6						
TXAR	**Lajitas Array**	**26.89**	**320**	P	**P**	**04 59 12.5**	**-0.2**
TXAR				PcP	PcP	05 02 36.5	+2.6
ULM	**Lac du Bonnet**	**41.78**	**

GID *i* S **Sg** **05 20 32.9 +1.0**
26μm,0.7s,SNR=66
RGN Rugen 1.01 186 *e*Pn **Pg** **05 20 22.0 +1.2**
RGN *e*Sg **Sg** **05 20 38.8 +4.8**
RGN Rugen 1.01 186 *e*Pg **Pg** **05 20 22.3 +1.5**
RGN *e*Sg **Sg** **05 20 37.3 +3.4**
RGN Rugen 1.01 186 *e*P **Pg** **05 20 22.3 +1.5**
RGN *e*S **Sg** **05 20 36.9 +2.9**
RGN Rugen 1.01 186 *e*Pn **Pg** **05 20 22.0 +1.2**
RGN Rugen 1.01 186 P **Pg** **05 20 22.3 +1.5**
RGN S **Sg** **05 20 36.8 +2.9**
RGN Sg **Sg** **05 20 37.3 +3.4**
FABU Falkenberg 1.52 344 P **Pn** **05 20 29.8 +1.2**
FABU Falkenberg 1.52 344 *e*P **Pn** **05 20 30.0 +1.5**
FABU *e*S **Sn** **05 20 49.8 +1.4**
FABU Falkenberg 1.52 344 P **Pn** **05 20 29.8 +1.2**
SNR=66
FABU S **Sn** **05 20 49.7 +1.3**
VXJU Vaexsjoe 1.59 30 P **Pn** **05 20 30.1 +0.5**
VXJU Vaexsjoe 1.59 30⇑*e*P **Pn** **05 20 30.0 +0.5**
VXJU Vaexsjoe 1.59 30⇑P **Pn** **05 20 30.0 +0.5**
VXJU S **Sn** **05 20 51.3 +1.2**
SNR=66
GNOU Gnosjoe 1.75 4 P **Pn** **05 20 32.7 +0.9**
GNOU S **Sg** **05 20 56.8 -0.8**
GNOU Gnosjoe 1.75 4 *e*P **Pn** **05 20 32.7 +0.9**
GNOU Gnosjoe 1.75 4 P **Pn** **05 20 32.6 +0.9**
GNOU S **Sg** **05 20 56.8 -0.8**
SNR=49
BORU Boraas 2.13 349⇓P **Pn** **05 20 37.6 +0.6**
BORU Boraas 2.13 349⇓*e*P **Pn** **05 20 37.5 +0.6**
BORU Boraas 2.13 349⇓P **Pn** **05 20 37.5 +0.6**
OSKU Oskarshamn 2.19 40⇓P **Pn** **05 20 38.5 +0.7**
OSKU Oskarshamn 2.19 40⇓*e*P **Pn** **05 20 38.5 +0.7**
OSKU Oskarshamn 2.19 40⇓P **Pn** **05 20 38.5 +0.7**
EKSU Eksjoe 2.26 25 P **Pn** **05 20 39.6 +0.9**
EKSU Eksjoe 2.26 25 *e*P **Pn** **05 20 40.1 +1.4**
EKSU Eksjoe 2.26 25 P **Pn** **05 20 39.6 +0.9**
SNR=49
BSEG Bad Segeberg 2.46 230 *e*P **Pn** **05 20 42.8 +1.3**
BSEG Bad Segeberg 2.46 230 *e*Pn **Pn** **05 20 42.8 +1.4**
BSEG Bad Segeberg 2.46 230 Pn **Pn** **05 20 42.8 +1.3**
MUD Monsted U'grnd 2.60 292 *e*P **Pn** **05 20 44.3 +0.9**
MUD *e*Sg **Sg** **05 21 23.8 -0.9**
MUD Monsted U'grnd 2.60 292 *i* P **Pn** **05 20 44.2 +0.8**
MUD Monsted U'grnd 2.60 292 *e*Pn **Pn** **05 20 44.2 +0.8**
MUD *e*Sg **Sg** **05 21 25.0 +0.3**
MUD Monsted U'grnd 2.60 292 *i* P **Pn** **05 20 44.2 +0.8**
MUD Monsted U'grnd 2.60 292 *e*P **Pn** **05 20 44.2 +0.8**
MUD *e*S **Sn** **05 21 15.7 +0.7**
MUD Monsted U'grnd 2.60 292 *i* P **Pn** **05 20 44.2 +0.8**
SNR=49
MUD S **Sn** **05 21 15.6 +0.7**
MUD *e*Sg **Sg** **05 21 23.8 -0.9**
SNR=92
BYXU Byxelkrok 2.61 47 P **Pn** **05 20 44.3 +0.8**
BYXU Byxelkrok 2.61 47⇑*e*P **Pn** **05 20 44.3 +0.7**
BYXU Byxelkrok 2.61 47 ⇑P **Pn** **05 20 44.3 +0.7**
TJOU Tjoern 2.69 338 P **Pn** **05 20 46.0 +1.3**
TJOU Tjoern 2.69 338⇓*e*P **Pn** **05 20 46.0 +1.3**
TJOU Tjoern 2.69 338 ⇓P **Pn** **05 20 46.0 +1.3**
RUE Ruedersdorf 3.08 177 *e*Pn **Pn** **05 20 50.9 +0.8**
RUE *e*Pg **Pg** **05 21 00.7 +0.3**
RUE *e*Sn **Sn** **05 21 26.9 0.0**
RUE Ruedersdorf 3.08 177 *e*Pn **Pn** **05 20 50.9 +0.9**
RUE Ruedersdorf 3.08 177 *e*P **Pn** **05 20 50.9 +0.9**
RUE *e*S **Sn** **05 21 26.0 -0.9**
RUE Ruedersdorf 3.08 177 P **Pn** **05 20 50.9 +0.9**
RUE Ruedersdorf 3.08 177 *e*Pg **Pg** **05 21 00.7 +0.3**
RUE S **Sn** **05 21 25.9 -1.0**
GKP Gorka Klasztor 3.16 135 *e*Pn **Pn** **05 20 52.3 +1.2**
GKP *e*Pg **Pg** **05 21 03.4 +1.5**
GKP *e*Sn **Sn** **05 21 31.1 +2.3**
GKP *e*Sg **Sg** **05 21 42.0 -0.8**
comp=N,3μm,0.4s
GKP Gorka Klasztor 3.16 135 *e*P **Pn** **05 20 52.3 +1.2**
GKP *e* 05 21 31.1
GKP smax
comp=N,3μm,0.4s
GKP Gorka Klasztor 3.16 135 *e*P **Pn** **05 20 52.3 +1.2**
GKP Gorka Klasztor 3.16 135 *e*Pg **Pg** **05 21 03.4 +1.5**
GKP *e*S **Sn** **05 21 31.1 +2.3**
comp=N,3μm,0.4s
GKP *e*Sg **Sg** **05 21 42.0 -0.8**
comp=N,1.5nm,0.4s
PHL Hel 3.20 105 *e*Pn **Pn** **05 20 53.2 +1.6**
PHL *e*Pg **Pg** **05 20 59.1 -3.5**
PHL *e*Sn **Sn** **05 21 41.9 +12**
PHL *e*Sg **Sg** **05 21 49.8 +5.9**
PHL Hel 3.20 105 *e*Pn **Pn** **05 20 53.2 +1.6**
HLG Helgoland 3.53 249 *e*Pn **Pn** **05 20 57.5 +1.4**
HLG Helgoland 3.53 249 Pn **Pn** **05 20 57.5 +1.4**
ASSE Asse, Remlinge 3.82 207 *e*Pn **Pn** **05 21 01.7 +1.5**
ASSE Asse, Remlinge 3.82 207 Pn **Pn** **05 21 01.7 +1.6**
HOMB Homborsund 3.87 317 *e*P **Pn** **05 21 00.7 -0.1**
HOMB *e*S **Sn** **05 21 43.8 -2.5**
HOMB Homborsund 3.87 317 *e*P **Pn** **05 21 00.7 -0.1**
SNR=49
HOMB *e*S **Sn** **05 21 43.8 -2.4**
SNR=49
FINU Finntorp 3.90 352 ⇑P **Pn** **05 21 01.0 -0.3**
SNR=49
CLZ Clausthal 4.16 208 *e*P **Pn** **05 21 05.9 +1.1**
CLZ *e* 05 21 52.5
CLZ Clausthal 4.16 208 *e*Pn **Pn** **05 21 05.9 +1.1**
CLZ *e*Sn **Sn** **05 21 52.5 -0.9**
CLZ Clausthal 4.16 208 Pn **Pn** **05 21 05.9 +1.1**
CLZ Sn **Sn** **05 21 52.5 -0.9**
CLL Collm 4.26 184 *i* P **Pn** **05 21 05.8 -0.5**
CLL pmax pmax
comp=Z,56nm,0.8s
CLL Collm 4.26 184 *e*Pn **Pn** **05 21 06.0 -0.3**
CLL *e*Sn **Sn** **05 21 53.9 -2.1**
CLL Collm 4.26 184 *i* Pn **Pn** **05 21 05.8 -0.5**
comp=Z,56nm,0.8s
CLL *e* 05 21 09.0
CLL *e*Pg **Pg** **05 21 23.0 0.0**
CLL *e*Sn **Sn** **05 21 54.0 -2.0**
CLL *e*Sg **Sg** **05 22 29.0 +11**
comp=Z,750nm,0.9s
CLL Collm 4.26 184 *i* P **Pn** **05 21 05.8 -0.5**
comp=Z,56nm,0.8s
CLL Sn **Sn** **05 21 53.9 -2.1**
SNART Snartemo 4.44 312 *e*P **Pn** **05 21 08.5 -0.1**
SNART *e*S **Sn** **05 21 56.9 -3.4**
SNART AML AML 05 22 32.5
comp=Z,1μm,0.5s
SNART Snartemo 4.44 312 *e*P **Pn** **05 21 08.5 -0.1**
SNART *e*S **Sn** **05 21 56.9 -3.4**
SNART AML AML 05 22 32.5
comp=Z,1μm,0.5s
SNART Snartemo 4.44 312 *i* P **Pn** **05 21 08.5 -0.2**
SNR=49
SNART *e*S **Sn** **05 21 56.6 -3.7**
comp=Z,1μm,0.5s,SNR=49
HFS Hagfors 4.60 1 Pn **Pn** **05 21 11.6 +0.8**
baz=172,slow=14
HFS Pg **Pg** **05 21 24.2 -5.1**
baz=180,slow=18
HFS Sn **Sn** **05 22 03.3 -0.9**
baz=176,slow=28
HFS Lg 05 22 24.6
baz=173,slow=37
HFS Hagfors 4.60 1 Pn **Pn** **05 21 11.4 +0.6**
comp=Z,12nm,0.3s,baz=181,slow=14,SNR=593
HFS Pg **Pg** **05 21 24.3 -5.1**
comp=Z,141nm,0.3s,baz=175,slow=19,SNR=56
HFS Sn **Sn** **05 22 04.3 +0.1**
comp=Z,56nm,0.3s,baz=192,slow=24,SNR=11
HFS Lg 05 22 24.4
comp=Z,396nm,0.3s,baz=174,slow=30,SNR=13
HFS Hagfors 4.60 1 Pn **Pn** **05 21 11.4 +0.6**
HFS Pg **Pg** **05 21 24.3 -5.1**
HFS Sn **Sn** **05 22 04.3 +0.1**
HFS Lg 05 22 24.4
HFS Hagfors 4.60 1 P **Pn** **05 21 11.4 +0.6**
HFS 05 22 04.3
HFS Hagfors 4.60 1 *e*P **Pn** **05 21 11.5 +0.7**
HFS *e*S **Sn** **05 22 03.0 -1.2**
HFS Hagfors 4.60 1 P **Pn** **05 21 11.4 +0.6**
HFS Sn **Sn** **05 22 03.3 -0.9**
baz=176,slow=25,SNR=50
HFS S **Sn** **05 22 04.3 +0.1**

KONO Kongsberg 4.62 335 *e*P **Pn** **05 21 10.9 -0.2**
KONO *e*S **Sn** **05 22 05.0 +0.4**
KONO AML AML 05 22 26.7
comp=Z,2μm,0.4s
KONO Kongsberg 4.62 335 *e*Pn **Pn** **05 21 10.4 -0.6**
KONO *e*Sg **Sg** **05 22 24.4 -5.0**
KONO Kongsberg 4.62 335 *e*P **Pn** **05 21 10.4 -0.7**
KONO Kongsberg 4.62 335 *e*P **Pn** **05 21 10.8 -0.3**
KONO *e*S **Sn** **05 22 02.6 -2.0**
KONO Kongsberg 4.62 335 *e*Pn **Pn** **05 21 10.4 -0.7**
KONO Kongsberg 4.62 335 *e*P **Pn** **05 21 10.9 -0.2**
SNR=49
KONO *e*S **Sn** **05 22 05.1 +0.4**
comp=Z,2μm,0.4s,SNR=49
OSL Oslo 4.64 342 *e*P **Pn** **05 21 11.4 -0.1**
OSL *e*Sg **Sg** **05 22 24.3 -6.1**
OSL Oslo 4.64 342 *e*P **Pn** **05 21 11.4 -0.1**
OSL *e* 05 22 24.3
OSL Oslo 4.64 342 *e*P **Pn** **05 21 11.4 -0.1**
SNR=49
BRG Berggiesshubel 4.69 177⇑ *i*PN **Pn** **05 21 11.8 -0.4**
comp=Z,116nm,0.6s
BRG PG **Pg** **05 21 31.6 +0.4**
BRG SN **Sn** **05 22 04.2 -2.4**
BRG *e* 05 22 35.8
comp=Z,306nm,0.6s
BRG
comp=Z,910nm,10.7s
BRG
comp=N,629nm,9.1s
BRG
comp=E,415nm,9.1s
BRG Berggiesshubel 4.69 177⇑ *i*P **Pn** **05 21 11.8 -0.4**
BRG 05 22 04.2
BRG pmax pmax
comp=Z,116nm,0.6s
BRG pmax pmax
comp=Z,306nm,0.6s
BRG MLR MLR
comp=Z,910nm,10.7s
BRG MLR MLR
comp=N,629nm,9.1s
BRG MLR MLR
comp=E,415nm,9.1s
BRG smax
comp=N,3.0nm,0.5s
BRG Berggiesshubel 4.69 177 *e*Pn **Pn** **05 21 11.6 -0.6**
BRG *e*Sn **Sn** **05 22 04.0 -2.7**
BRG Berggiesshubel 4.69 177 *i* P **Pn** **05 21 11.8 -0.4**
comp=N,116nm,0.6s
BRG S **Sn** **05 22 04.2 -2.4**
comp=N,3.0nm,0.5s
IBBN Ibbenburen 4.70 229 *e*Pn **Pn** **05 21 13.5 +1.2**
IBBN Ibbenburen 4.70 229 Pn **Pn** **05 21 13.5 +1.2**
BACU Backbrunna 4.73 23 P **Pn** **05 21 13.5 +0.8**
BACU Backbrunna 4.73 23 P **Pn** **05 21 13.5 +0.9**
SNR=49
WIT Witteveen 4.86 238⇑ *e*Pn **Pn** **05 21 19.6 +5.1**
KSP Ksiaz 5.00 159 *e*Pn **Pn** **05 21 16.6 +0.1**
KSP *e*Pg **Pg** **05 21 43.1 +5.9**
KSP *e*Sn **Sn** **05 22 11.3 -3.0**
KSP *e*Sg **Sg** **05 22 54.7 +13**
comp=N,400nm,0.8s
KSP Ksiaz 5.00 159 *e*Pn **Pn** **05 21 16.5 0.0**
KSP *e* 05 21 20.4
KSP *e*Pg **Pg** **05 21 39.3 +2.1**
KSP *e*Sn **Sn** **05 22 11.2 -3.1**
KSP *e*Sg **Sg** **05 22 47.9 +5.9**
KSP Ksiaz 5.00 159 *e*P **Pn** **05 21 20.4 +3.9**
KSP *e* 05 22 11.2
KSP Ksiaz 5.00 159 *e*Pn **Pn** **05 21 16.5 0.0**
KSP *e* 05 21 20.4
KSP *e*Pg **Pg** **05 21 39.3 +2.1**
KSP *e*Sn **Sn** **05 22 11.2 -3.1**
KSP *e*Sg **Sg** **05 22 43.8 +1.8**
KSP Ksiaz 5.00 159 *e*Pn **Pn** **05 21 16.5 0.0**
KSP Ksiaz 5.00 159 *e*P **Pn** **05 21 20.4 +3.9**
KSP Ksiaz 5.00 159 *e*Pg **Pg** **05 21 39.3 +2.1**
KSP *e*S **Sn** **05 22 11.2 -3.1**
MOX Moxa 5.05 194 *e*P **Pn** **05 21 15.9 -1.1**
MOX *e* 05 22 12.3
MOX Moxa 5.05 194 *e*Pn **Pn** **05 21 15.9 -1.1**
MOX *e*Sn **Sn** **05 22 12.3 -3.0**
MOX Moxa 5.05 194 Pn **Pn** **05 21 15.9 -1.1**
MOX Sn **Sn** **05 22 12.3 -3.0**
PVCC Panska Ves 5.07 172 *e*P **Pn** **05 21 16.8 -0.6**
PVCC *e* 05 22 14.0
PVCC Panska Ves 5.07 172 *e*PN **Pn** **05 21 16.8 -0.6**
PVCC *e*SN **Sn** **05 22 14.0 -2.0**
PVCC AMS AMS 05 23 40.0
comp=N,1μm,7.5s
PVCC Panska Ves 5.07 172 *e*P **Pn** **05 21 16.8 -0.6**
PVCC *e*S **Sn** **05 22 14.0 -2.0**
TANN Tannenbergstha 5.18 187 *e*Pn **Pn** **05 21 17.8 -1.1**
TANN Tannenbergstha 5.18 187 Pn **Pn** **05 21 17.8 -1.1**
UPC Upice 5.27 162 *e*P **Pn** **05 21 19.7 -0.5**
UPC Upice 5.27 162 *e*PN **Pn** **05 21 19.7 -0.5**
UPC Upice 5.27 162 *e*P **Pn** **05 21 19.7 -0.5**
SLIT Slitere, Latvi 5.28 63 *e*P **Pn** **05 21 19.7 -0.5**
SLIT *e*S **Sn** **05 22 18.7 -2.4**
SLIT Slitere, Latvi 5.28 63 *e*P **Pn** **05 21 20.3 0.0**
SNR=51
NC602 NORSAR Array S 5.30 349 *e*P **Pn** **05 21 20.8 +0.3**
NC602 *e*Sg **Sg** **05 22 45.0 -6.5**
NC602 NORSAR Array S 5.30 349 *e*P **Pn** **05 21 20.8 +0.3**
SNR=49
NKC Novy Kostel 5.37 187 AMS AMS 05 24 10.0
comp=N,600nm,9.3s
DPC Dobruska-Polom 5.48 161 *e*Pn **Pn** **05 21 22.8 -0.2**
DPC *e*Sn **Sn** **05 22 25.1 -0.9**
DPC Dobruska-Polom 5.48 161 *e*P **Pn** **05 21 22.9 -0.1**
DPC *e* 05 22 23.7
DPC Dobruska-Polom 5.48 161 *e*PN **Pn** **05 21 22.9 -0.1**
DPC *e*SN **Sn** **05 22 23.7 -2.3**
DPC AMS AMS 05 24 40.0
comp=N,700nm,7.4s
DPC Dobruska-Polom 5.48 161 *e*P **Pn** **05 21 22.9 -0.1**
DPC *e*S **Sn** **05 22 23.7 -2.3**
DPC *e*Sn **Sn** **05 22 25.1 -0.9**
NAO01 NORSAR Array S 5.49 346 *e*Pn **Pn** **05 21 22.5 -0.5**
NAO01 *e*Sg **Sg** **05 22 52.6 -4.7**
NAO01 NORSAR Array S 5.49 346 *e*Pn **Pn** **05 21 22.5 -0.5**
BUG Bochum--Univer 5.55 225 *e*P **Pn** **05 21 24.7 +0.8**
BUG *e* 05 22 24.7
BUG Bochum--Univer 5.55 225 *e*Pn **Pn** **05 21 24.7 +0.8**
BUG *e*Sn **Sn** **05 22 24.7 -3.1**
BUG Bochum--Univer 5.55 225 *e*P **Pn** **05 21 24.7 +0.8**
BUG *e*S **Sn** **05 22 24.7 -3.0**
PRU Pruhonice 5.61 173 *e*P **Pn** **05 21 24.3 -0.4**
PRU *e* 05 22 25.6
PRU smax
comp=N,2.0nm,0.3s
PRU Pruhonice 5.61 173 *e*PN **Pn** **05 21 24.3 -0.4**
PRU *e*SN **Sn** **05 22 25.6 -3.6**
PRU AMS AMS 05 24 20.0
comp=N,1μm,6.4s
PRU Pruhonice 5.61 173 *e*P **Pn** **05 21 24.3 -0.4**
NB2 NORSAR Subarra 5.64 349 Pn **Pn** **05 21 25.1 0.0**
baz=168,slow=14
NB2 Pg **Pg** **05 21 41.6 -7.6**
NB2 Lg 05 22 57.1
baz=165,slow=37
NB2 NORSAR Subarra 5.64 349 *e*P **Pn** **05 21 25.1 0.0**
NB2 *e* 05 21 41.6
NB2 *e* 05 22 57.1
NB2 NORSAR Subarra 5.64 349 P **Pn** **05 21 25.1 0.0**
NOA NORSAR Array B 5.64 349 Pn **Pn** **05 21 25.1 0.0**
comp=N,15nm,0.3s,baz=167,slow=12,SNR=234
NOA Pg **Pg** **05 21 41.1 -8.1**
comp=N,63nm,0.3s,baz=169,slow=16,SNR=26
NOA Lg 05 22 53.2
comp=N,192nm,0.3s,baz=96,slow=19,SNR=12
NOA NORSAR Array B 5.64 349 Pn **Pn** **05 21 25.1 0.0**
NOA Pg **Pg** **05 21 41.1 -8.1**
NOA Lg 05 22 53.2
NOA NORSAR Array B 5.64 349 P **Pn** **05 21 25.1 0.0**
NOA NORSAR Array B 5.64 349 *e*P **Pn** **05 21 22.5 -2.6**
NOA *e*S **Sn** **05 22 23.2 -6.6**
NOA NORSAR Array B 5.64 349 P **Pn** **05 21 25.1 0.0**
BEL Belsk 5.71 128 *e*P **Pn** **05 21 26.6 +0.5**
BEL Belsk 5.71 128 *e*Pn **Pn** **05 21 26.7 +0.6**
BEL *e*Pg **Pg** **05 21 57.0 +6.4**
BEL *e*Sn **Sn** **05 22 30.5 -1.1**

BEL *e*Sg **Sg** **05 23 17.1 +13**
comp=N,4μm,0.8s
BEL Belsk 5.71 128 *e*P **Pn** **05 21 26.7 +0.6**
BEL *e* 05 22 30.5
BEL smax
comp=N,4μm,0.8s
BEL Belsk 5.71 128 *e*P **Pn** **05 21 26.6 +0.5**
BEL *e*S **Sn** **05 22 30.5 -1.1**
comp=N,4μm,0.8s
ODD1 Odda 5.72 323 *e*P **Pn** **05 21 25.1 -1.1**
ODD1 *e*S **Sn** **05 22 30.5 -1.3**
ODD1 AML AML 05 23 02.3
comp=Z,1μm,0.4s
ODD1 Odda 5.72 323 *e*P **Pn** **05 21 25.1 -1.1**
ODD1 *e*S **Sn** **05 22 30.5 -1.3**
ODD1 AML AML 05 23 02.3
comp=Z,1μm,0.4s
ODD1 Odda 5.72 323 *e*P **Pn** **05 21 25.1 -1.1**
SNR=49
ODD1 S **Sn** **05 22 30.5 -1.3**
comp=Z,1μm,0.4s
KMY Karmoy 5.78 313 *e*P **Pn** **05 21 26.8 -0.3**
KMY *e*S **Sn** **05 22 27.7 -5.7**
KMY AML AML 05 23 16.7
comp=Z,395nm,0.5s
KMY Karmoy 5.78 313 *e*P **Pn** **05 21 26.8 -0.3**
KMY *e*S **Sn** **05 22 27.7 -5.7**
KMY AML AML 05 23 16.7
comp=Z,395nm,0.5s
KMY Karmoy 5.78 313 *e*P **Pn** **05 21 26.8 -0.3**
SNR=49
AAL Aland 5.79 34 *e*P **Pn** **05 21 27.3 +0.1**
AAL *e*S **Sn** **05 22 30.9 -2.7**
AAL Aland 5.79 34 P **Pn** **05 21 27.2 0.0**
SUW Suwalki 5.81 101 *e*Pn **Pn** **05 21 27.4 0.0**
SUW *e*Pg **Pg** **05 21 46.7 -5.8**
SUW *e*Sg **Sg** **05 23 05.9 -1.8**
comp=Z,4μm,0.5s
SUW Suwalki 5.81 101 *e*Pn **Pn** **05 21 26.7 -0.7**
SUW *e*S **Sb** **05 22 53.8 +1.6**
SUW Suwalki 5.81 101 *e*P **Pn** **05 21 27.4 -0.1**
SUW Suwalki 5.81 101 *e*P **Pn** **05 21 27.5 0.0**
SUW *e*S **Sn** **05 22 33.2 -0.9**
SUW Suwalki 5.81 101 *e*Pn **Pn** **05 21 26.7 -0.8**
SUW Suwalki 5.81 101 *e*P **Pn** **05 21 27.6 +0.1**
SNR=51
SUW S **Sn** **05 22 33.1 -0.9**
ROTZ Rotzenmuhle 5.85 188 *e*Pn **Pn** **05 21 27.2 -0.8**
ROTZ Rotzenmuhle 5.85 188 Pn **Pn** **05 21 27.2 -0.8**
HOBG Hohbusch 5.88 222 *e*Pn **Pn** **05 21 30.1 +1.6**
BNS Bensberg 5.96 222 *e*Pn **Pn** **05 21 31.0 +1.4**
GRA1 Grafenberg Arr 6.03 194 Pn **Pn** **05 21 29.3 -1.3**
GRF Grafenberg Arr 6.03 194 *e*P **Pn** **05 21 29.3 -1.3**
GRF Grafenberg Arr 6.03 194 *e*Pn **Pn** **05 21 29.3 -1.2**
GRFO Grafenberg 6.03 194 *e*Pn **Pn** **05 21 29.4 -1.2**
GRFO *e*Sn **Sn** **05 22 44.5 +4.9**
GRFO Grafenberg 6.03 194 *e*P **Pn** **05 21 29.4 -1.2**
GRFO *e* 05 22 44.5
GRFO Grafenberg 6.03 194 *e*P **Pn** **05 21 29.4 -1.2**
TNS Taunus Mts 6.15 212 *e*P **Pn** **05 21 33.1 +0.9**
TNS Taunus Mts 6.15 212 *e*Pn **Pn** **05 21 33.1 +0.9**
TNS Taunus Mts 6.15 212 Pn **Pn** **05 21 33.1 +0.9**
RAC Raciborz 6.17 151 *e*P **Pn** **05 21 30.8 -1.6**
RAC Raciborz 6.17 151 *e*P **Pn** **05 21 30.8 -1.6**
RAC *e*Sg **Sg** **05 23 20.2 +0.9**
KOE Koeppel 6.21 217 *e*Pn **Pn** **05 21 34.4 +1.5**
MORC Moravsky Berou 6.28 155 *e*Pn **Pn** **05 21 33.9 -0.1**
MORC *e*Sn **Sn** **05 22 44.2 -1.6**
MORC Moravsky Berou 6.28 155 *e*P **Pn** **05 21 33.9 -0.1**
MORC *e* 05 22 44.2
MORC Moravsky Berou 6.28 155⇑ *i*P **Pn** **05 21 34.3 +0.3**
MORC Moravsky Berou 6.28 155 S **Sn** **05 22 43.1 -2.7**
MORC Moravsky Berou 6.28 155 *e*P **Pn** **05 21 33.9 -0.1**
MORC *e*S **Sn** **05 22 44.2 -1.6**
OKC Ostrava-Krasne 6.38 152 *e*P **Pn** **05 21 35.4 +0.1**
OKC Ostrava-Krasne 6.38 152 *e*PN **Pn** **05 21 35.4 +0.1**
OKC Ostrava-Krasne 6.38 152 *e*P **Pn** **05 21 35.4 +0.1**
STB Steinbach 6.38 222 *e*Pn **Pn** **05 21 37.4 +2.0**
STB *e*Sn **Sn** **05 22 48.5 +0.2**
comp=Z,211nm,1.1s
WET Wettzell 6.43 184 *e*P **Pn** **05 21 36.7 +0.7**
WET Wettzell 6.43 184 *e*Pn **Pn** **05 21 36.7 +0.7**
WET Wettzell 6.43 184 Pn **Pn** **05 21 36.7 +0.7**
KHC Kasperske Hory 6.43 180 *e*Pn **Pn** **05 21 35.0 -1.1**
KHC *e*Sn **Sn** **05 22 47.2 -2.2**
KHC Kasperske Hory 6.43 180 *e*P **Pn** **05 21 35.5 -0.5**
KHC *e* 05 22 45.6
KHC smax
comp=N,3.0nm,0.3s
KHC Kasperske Hory 6.43 180 *e*PN **Pn** **05 21 35.5 -0.5**
KHC *ex* x 05 21 46.0
KHC *e*SN **Sn** **05 22 45.6 -3.8**
KHC AMS AMS 05 24 30.0
comp=N,700nm,8.1s
KHC Kasperske Hory 6.43 180 *e*Pn **Pn** **05 21 35.0 -1.0**
KHC Kasperske Hory 6.43 180 *e*P **Pn** **05 21 35.5 -0.5**
KHC *e*Sn **Sn** **05 22 47.2 -2.2**
MTSE Matsula 6.44 56 *e*P **Pn** **05 21 35.9 -0.3**
MTSE *e*S **Sn** **05 22 44.6 -5.1**
MTSE Matsula 6.44 56 P **Pn** **05 21 35.8 -0.4**
BER Bergen 6.51 321 *e*P **Pn** **05 21 36.2 -0.8**
BER *e*S **Sn** **05 22 49.1 -2.1**
BER AML AML 05 23 30.7
comp=Z,840nm,0.4s
BER Bergen 6.51 321 *e*P **Pn** **05 21 36.2 -0.8**
BER *e*S **Sn** **05 22 49.1 -2.1**
BER AML AML 05 23 30.7
comp=Z,840nm,0.4s
BER Bergen 6.51 321 *e*P **Pn** **05 21 36.2 -0.8**
SNR=47
BER S **Sn** **05 22 49.1 -2.1**
comp=Z,840nm,0.4s
RUND Rundenannen 6.52 322 *e*P **Pn** **05 21 36.5 -0.7**
RUND *e*S **Sn** **05 22 45.9 -5.6**
RUND AML AML 05 23 35.2
comp=Z,610nm,0.5s
RUND Rundenannen 6.52 322 *e*P **Pn** **05 21 36.5 -0.7**
RUND *e*S **Sn** **05 22 45.9 -5.6**
RUND AML AML 05 23 35.2
comp=Z,610nm,0.5s
RUND Rundenannen 6.52 322 P **Pn** **05 21 36.4 -0.8**
BGG Burgeitz 6.53 217 *e*Pn **Pn** **05 21 38.1 +0.8**
BGG Burgeitz 6.53 217 Pn **Pn** **05 21 38.1 +0.8**
VRAC Vranov 6.53 162 Pn **Pn** **05 21 38.2 +0.8**
comp=Z,30nm,0.3s,baz=336,slow=14,SNR=35
VRAC Sn **Sn** **05 22 47.2 -4.7**
comp=Z,13nm,0.3s,baz=60,slow=20,SNR=2.9
VRAC LR LR 05 24 28.3
comp=Z,131nm,18.8s,baz=301,slow=42
VRAC Vranov 6.53 162 Pn **Pn** **05 21 38.2 +0.8**
VRAC Sn **Sn** **05 22 47.2 -4.7**
VRAC Vranov 6.53 162 P **Pn** **05 21 38.2 +0.8**
VRAC 05 22 47.2
VRAC Vranov 6.53 162⇓ *i*P **Pn** **05 21 38.1 +0.7**
VRAC Vranov 6.53 162 *e*Pn **Pn** **05 21 37.5 +0.1**
VRAC Vranov 6.53 162 P **Pn** **05 21 38.2 +0.8**
VRAC S **Sn** **05 22 49.1 -2.8**
VRAC *e*Sn **Sn** **05 22 50.1 -1.8**
KLL Kalltalsperre 6.55 224 *e*Pn **Pn** **05 21 39.1 +1.5**
KLL *e*Sn **Sn** **05 22 52.3 0.0**
comp=Z,79nm,0.4s
OJC Ojcow 6.56 142 *e*Pn **Pn** **05 21 37.3 -0.5**
OJC *e* 05 21 39.2
OJC *e*PP 05 21 39.2
OJC *e*Sn **Sn** **05 22 47.9 -4.6**
OJC Ojcow 6.56 142 *e*Pn **Pn** **05 21 36.9 -0.8**
OJC Ojcow 6.56 142 *e*P **Pn** **05 21 37.3 -0.5**
OJC *e* 05 22 47.9
OJC Ojcow 6.56 142 *e*Pn **Pn** **05 21 36.9 -0.9**
OJC Ojcow 6.56 142 *e*P **Pn** **05 21 37.3 -0.5**
DREG Dreilaegerbach 6.57 225 *e*Pn **Pn** **05 21 38.8 +0.9**
DREG Dreilaegerbach 6.57 225 Pn **Pn** **05 21 38.8 +0.9**
TOD Tromm 6.61 208 *e*P **Pn** **05 21 38.6 +0.1**
HGN Heimansgroeve 6.61 227⇑ *e*Pn **Pn** **05 21 38.9 +0.4**
HGN Heimansgroeve 6.61 227 Pn **Pn** **05 21 38.9 +0.4**
HGN *e*S **Sn** **05 22 51.7 -2.2**
comp=Z,120nm,0.8s
ASK Askoy 6.63 322 *e*P **Pn** **05 21 37.6 -1.1**
ASK *e*S **Sn** **05 22 47.4 -6.7**
ASK *e*Sg **Sg** **05 23 27.7 -6.1**
ASK AML AML 05 23 41.7
comp=Z,614nm,0.9s

ASK	**Askoy**	**6.63 322**	*e*P	**Pn**	**05 21 37.6**	**-1.1**
ASK			*e*S	**Sn**	**05 22 47.4**	**-6.7**
ASK			*e*		05 23 27.7	
ASK			AML	AML	05 23 41.7	
	comp=Z,614nm,0.9s					
BEBN	**Eben Emael**	**6.69 228**	PN	**Pn**	**05 21 41.2**	**+1.5**
BEBN			SN	**Sn**	**05 22 53.7**	**-2.2**
	comp=E,66nm,0.0s					
MEM	**Membach**	**6.70 225**	PN	**Pn**	**05 21 40.2**	**+0.5**
MEM			SN	**Sn**	**05 22 51.0**	**-5.1**
	comp=E,119nm,0.0s					
MEM	**Membach**	**6.70 225**	⇑*e*Pn	**Pn**	**05 21 40.1**	**+0.4**
MEM	**Membach**	**6.70 225**	Pn	**Pn**	**05 21 40.1**	**+0.4**
GEC2	**GERESS Array S**	**6.72 179**	*e*P	**Pn**	**05 21 39.4**	**-0.6**
GEC2	**GERESS Array S**	**6.72 179**	*e*Pn	**Pn**	**05 21 39.4**	**-0.6**
GEC2	**GERESS Array S**	**6.72 179**	Pn	**Pn**	**05 21 39.4**	**-0.6**
GERES	**GERESS Array B**	**6.72 179**	Pn	**Pn**	**05 21 39.5**	**-0.5**
	comp=E,3.7nm,0.3s,baz=2.8,slow=13,SNR=46					
GERES			Sn	**Sn**	**05 22 53.7**	**-2.8**
	comp=E,14nm,0.3s,baz=1.2,slow=26,SNR=6.3					
GERES	**GERESS Array B**	**6.72 179**	Pn	**Pn**	**05 21 39.5**	**-0.5**
GERES			Sn	**Sn**	**05 22 53.7**	**-2.8**
GERES	**GERESS Array B**	**6.72 179**	P	**Pn**	**05 21 39.5**	**-0.5**
GERES					05 22 53.7	
GERES	**GERESS Array B**	**6.72 179**	P	**Pn**	**05 21 39.5**	**-0.5**
GERES			S	**Sn**	**05 22 53.7**	**-2.8**
ABH	**Alteburg**	**6.73 215**	*e*P	**Pn**	**05 21 42.1**	**+1.9**
HYA	**Hoyanger**	**6.82 329**	*e*P	**Pn**	**05 21 41.6**	**+0.3**
HYA			*e*Sg	**Sg**	**05 23 31.2**	**-8.8**
HYA			AML	AML	05 23 42.2	
	comp=Z,889nm,0.5s					
HYA	**Hoyanger**	**6.82 329**	*e*P	**Pn**	**05 21 41.6**	**+0.3**
HYA			*e*		05 23 31.2	
HYA			AML	AML	05 23 42.2	
	comp=Z,889nm,0.5s					
HYA	**Hoyanger**	**6.82 329**	*e*P	**Pn**	**05 21 41.6**	**+0.3**
	SNR=47					
DOMB	**Dombas**	**6.91 342**	*e*P	**Pn**	**05 21 42.7**	**+0.2**
DOMB	**Dombas**	**6.91 342**	*e*P	**Pn**	**05 21 42.7**	**+0.2**
DOMB	**Dombas**	**6.91 342**	P	**Pn**	**05 21 42.6**	**+0.1**
RAF	**Rauma**	**7.00 35**	*e*P	**Pn**	**05 21 43.4**	**-0.4**
RAF			*e*S	**Sn**	**05 22 58.2**	**-5.2**
RAF			MSG		05 23 40.3	
	comp=Z,2μm,0.4s					
RAF	**Rauma**	**7.00 35**	*e*P	**Pn**	**05 21 43.8**	**0.0**
	SNR=51					
RUP	**Ruppelstein**	**7.05 216**	*e*P	**Pn**	**05 21 45.8**	**+1.3**
KTD	**Kalmit**	**7.07 210**	*e*P	**Pn**	**05 21 46.0**	**+1.3**
BCLA	**Clavier**	**7.13 227**	PN	**Pn**	**05 21 46.3**	**+0.6**
BCLA			SN	**Sn**	**05 23 03.6**	**-3.1**
	comp=N,65nm,0.0s					
ISAL	**Salakas**	**7.16 85**	*e*P	**Pn**	**05 21 45.4**	**-0.6**
ISAL			AMB	AMB	05 21 48.5	
	comp=Z,60nm,0.5s					
ISAL			*e*S	**Sb**	**05 23 42.2**	**+11**
ISAL	**Salakas**	**7.16 85**	*e*P	**Pn**	**05 21 45.4**	**-0.6**
	comp=Z,60nm,0.5s,SNR=45					
SUE	**Sulen**	**7.19 324**	*e*P	**Pn**	**05 21 46.3**	**0.0**
SUE			*e*Sg	**Sg**	**05 23 43.4**	**-8.4**
SUE			AML	AML	05 24 02.1	
	comp=Z,395nm,0.6s					
SUE	**Sulen**	**7.19 324**	*e*P	**Pn**	**05 21 46.3**	**0.0**
SUE			*e*		05 23 43.4	
SUE			AML	AML	05 24 02.1	
	comp=Z,395nm,0.6s					
SUE	**Sulen**	**7.19 324**	*e*P	**Pn**	**05 21 46.3**	**-0.1**
	SNR=47					
IZAR	**Zarasai**	**7.21 83**	*e*P	**Pn**	**05 21 46.5**	**-0.3**
IZAR			AMB	AMB	05 21 49.2	
	comp=Z,74nm,0.6s					
IZAR	**Zarasai**	**7.21 83**	*e*P	**Pn**	**05 21 46.5**	**-0.3**
	SNR=45					
IIGN	**Ignalina**	**7.24 86**	*e*P	**Pn**	**05 21 46.4**	**-0.7**
IIGN			AMB	AMB	05 21 49.3	
	comp=Z,54nm,0.4s					
UCC	**Uccle**	**7.27 233**	PN	**Pn**	**05 21 48.5**	**+1.0**
STU	**Stuttgart**	**7.29 203**	*e*Pn	**Pn**	**05 21 46.3**	**-1.5**
STU			*e*Sn	**Sn**	**05 23 12.9**	**+2.4**
STU	**Stuttgart**	**7.29 203**	*e*P	**Pn**	**05 21 46.3**	**-1.5**
STU			*e*		05 23 12.9	
STU	**Stuttgart**	**7.29 203**	*e*P	**Pn**	**05 21 46.3**	**-1.5**
LIKS	**Likavka**	**7.36 150**	*e*P	**Pn**	**05 21 50.1**	**+1.3**
LIKS			*e*		05 23 09.4	
LIKS	**Likavka**	**7.36 150**	*e*Pn	**Pn**	**05 21 50.1**	**+1.3**
LIKS			*e*SN	**Sn**	**05 23 09.4**	**-2.8**
LIKS	**Likavka**	**7.36 150**	*e*P	**Pn**	**05 21 50.1**	**+1.3**
WLF	**Walferdange**	**7.40 220**	PN	**Pn**	**05 21 49.5**	**+0.1**
WLF			SN	**Sn**	**05 23 06.8**	**-6.4**
	comp=E,60nm,0.0s					
WLF	**Walferdange**	**7.40 220**	*e*Pn	**Pn**	**05 21 49.6**	**+0.2**
WLF	**Walferdange**	**7.40 220**	*e*P	**Pn**	**05 21 49.6**	**+0.3**
WLF	**Walferdange**	**7.40 220**	*e*P	**Pn**	**05 21 49.6**	**+0.3**
NIE	**Niedzica**	**7.41 143**	*e*Pn	**Pn**	**05 21 50.1**	**+0.6**
NIE			*e*PP		05 21 59.6	
NIE			*e*Sn	**Sn**	**05 23 09.6**	**-4.0**
NIE	**Niedzica**	**7.41 143**	*e*P	**Pn**	**05 21 50.1**	**+0.6**
NIE			*e*		05 23 09.6	
NIE	**Niedzica**	**7.41 143**	*e*P	**Pn**	**05 21 50.1**	**+0.6**
LANF	**Langenberg**	**7.45 210**	*e*P	**Pn**	**05 21 51.5**	**+1.5**
LANF	**Langenberg**	**7.45 210**	*e*P	**Pn**	**05 21 51.5**	**+1.5**
MEF	**Metsahovi**	**7.45 47**	*e*P	**Pn**	**05 21 49.9**	**-0.1**
MEF			*e*S	**Sn**	**05 23 08.9**	**-5.5**
MEF			MSG		05 23 56.8	
	comp=Z,2μm,0.5s					
MEF	**Metsahovi**	**7.45 47**	*e*P	**Pn**	**05 21 50.4**	**+0.4**
	SNR=51					
SMOL	**Smolenice**	**7.45 159**	*e*P	**Pn**	**05 21 52.3**	**+2.3**
SMOL	**Smolenice**	**7.45 159**	*e*PN	**Pn**	**05 21 52.3**	**+2.3**
SMOL	**Smolenice**	**7.45 159**	*e*P	**Pn**	**05 21 52.3**	**+2.3**
FOO	**Floro**	**7.50 327**	*e*P	**Pn**	**05 21 48.8**	**-1.9**
FOO	**Floro**	**7.50 327**	*e*P	**Pn**	**05 21 48.8**	**-1.9**
FOO	**Floro**	**7.50 327**	*e*P	**Pn**	**05 21 48.8**	**-1.9**
	SNR=47					
SNF	**Seneffe**	**7.51 232**	PN	**Pn**	**05 21 51.5**	**+0.6**
GIVF	**Givet**	**7.58 228**	*e*Pn	**Pn**	**05 21 52.2**	**+0.5**
GIVF			*e*Sn	**Sn**	**05 23 11.4**	**-6.2**
	comp=Z,85nm,0.3s					
GIVF	**Givet**	**7.58 228**	*e*Pn	**Pn**	**05 21 52.2**	**+0.5**
GIVF			*e*Sn	**Sn**	**05 23 11.4**	**-6.2**
GIVF	**Givet**	**7.58 228**	*e*P	**Pn**	**05 21 52.2**	**+0.5**
GIVF			*e*		05 23 11.4	
GIVF	**Givet**	**7.58 228**	*e*Pn	**Pn**	**05 21 52.2**	**+0.5**
NACGM	**Naroch**	**7.62 89**	*e*	**Pn**	**05 21 49.0**	**-3.3**
NACGM	**Naroch**	**7.62 89**	*e*P	**Pg**	**05 22 17.0**	**-10**
DOU	**Dourbes**	**7.68 228**	PN	**Pn**	**05 21 54.0**	**+0.9**
DOU			SN	**Sn**	**05 23 15.6**	**-4.4**
	comp=E,51nm,0.0s					
MOL	**Molde**	**7.68 339**	*e*Pn	**Pn**	**05 21 52.0**	**-1.1**
MOL			*e*Sg	**Sg**	**05 23 56.8**	**-11**
MOL			AML	AML	05 24 09.0	
	comp=Z,579nm,0.6s					
MOL	**Molde**	**7.68 339**	*e*P	**Pn**	**05 21 52.0**	**-1.1**
MOL			*e*		05 23 56.8	
MOL			AML	AML	05 24 09.0	
	comp=Z,579nm,0.6s					
MOL	**Molde**	**7.68 339**	P	**Pn**	**05 21 52.0**	**-1.1**
ZST	**Bratislava**	**7.69 162**	*e*P	**Pn**	**05 21 54.2**	**+0.8**
ZST	**Bratislava**	**7.69 162**	*e*PN	**Pn**	**05 21 54.2**	**+0.8**
ZST	**Bratislava**	**7.69 162**	*e*P	**Pn**	**05 21 54.2**	**+0.8**
MOA	**Molln**	**7.73 176**	⇓*i*Pn	**Pn**	**05 21 53.6**	**-0.3**
	SNR=11					
MOA	**Molln**	**7.73 176**	Pn	**Pn**	**05 21 53.6**	**-0.2**
	SNR=11					
STHS	**Stebnicka Huta**	**7.75 139**	*e*P	**Pn**	**05 21 54.6**	**+0.5**
STHS			*e*		05 23 13.5	
STHS	**Stebnicka Huta**	**7.75 139**	*e*PN	**Pn**	**05 21 54.6**	**+0.5**
STHS			*e*SN	**Sn**	**05 23 13.5**	**-8.3**
STHS	**Stebnicka Huta**	**7.75 139**	*e*P	**Pn**	**05 21 54.6**	**+0.5**
CONA	**Conrad Observa**	**7.77 168**	⇓*i*Pn	**Pn**	**05 21 54.5**	**+0.1**
	SNR=35					
CONA			⇓*i*Sn	**Sn**	**05 23 19.8**	**-2.6**
CONA	**Conrad Observa**	**7.77 168**	Pn	**Pn**	**05 21 54.5**	**+0.1**
	SNR=35					
CONA			Sn	**Sn**	**05 23 19.8**	**-2.6**
VSU	**Vasula**	**7.79 63**	Pn	**Pn**	**05 21 54.1**	**-0.5**
VSU			Pg	Pn	05 22 19.0	+24
VSU			Lg		05 24 01.3	
VSU	**Vasula**	**7.79 63**	*i*P	**Pn**	**05 21 53.9**	**-0.7**
VSU	**Vasula**	**7.79 63**	*e*P	**Pn**	**05 21 54.3**	**-0.3**
VSU			*e*S	**Sn**	**05 23 15.7**	**-7.0**
VSU	**Vasula**	**7.79 63**	Pn	**Pn**	**05 21 54.1**	**-0.5**
	SNR=50					
VSU	**Vasula**	**7.79 63**	*e*P	**Pn**	**05 21 54.4**	**-0.2**
	SNR=51					
AEU	**East Anglia Un**	**7.79 253**	*e*P	**Pn**	**05 21 55.7**	**+1.0**
VYHS	**Vyhne**	**7.79 153**	*e*P	**Pn**	**05 21 54.8**	**+0.1**
VYHS	**Vyhne**	**7.79 153**	*e*PN	**Pn**	**05 21 54.8**	**+0.1**
VYHS	**Vyhne**	**7.79 153**	*e*P	**Pn**	**05 21 54.8**	**+0.1**
BAIF	**Baives**	**7.87 230**	*e*Pn	**Pn**	**05 21 55.7**	**-0.1**
BAIF			*e*Sn	**Sn**	**05 23 18.8**	**-6.0**
	comp=Z,123nm,0.7s					
BAIF	**Baives**	**7.87 230**	*e*Pn	**Pn**	**05 21 55.7**	**-0.1**
BAIF			*e*Sn	**Sn**	**05 23 18.8**	**-6.0**
BAIF	**Baives**	**7.87 230**	*e*P	**Pn**	**05 21 55.7**	**-0.1**
BAIF			*e*		05 23 18.8	
BAIF	**Baives**	**7.87 230**	*e*Pn	**Pn**	**05 21 55.7**	**-0.1**
BFO	**Black Forest**	**7.91 206**	*e*Pn	**Pn**	**05 21 55.0**	**-1.3**
BFO	**Black Forest**	**7.91 206**	*e*P	**Pn**	**05 21 55.1**	**-1.2**
BFO	**Black Forest**	**7.91 206**	*e*Pn	**Pn**	**05 21 55.1**	**-1.1**
BFO	**Black Forest**	**7.91 206**	Pn	**Pn**	**05 21 55.1**	**-1.2**
SPAK	**Spaichingen-Ko**	**8.01 203**	*e*P	**Pn**	**05 21 56.2**	**-1.5**
SOP	**Sopron**	**8.10 165**	⇑*e*Pn	**Pn**	**05 22 03.9**	**+4.9**
CDF	**Champ du Feu**	**8.12 211**	*e*Pn	**Pn**	**05 21 58.9**	**-0.2**
CDF			*e*Sn	**Sn**	**05 23 24.6**	**-6.2**
	comp=Z,116nm,0.7s					
CDF	**Champ du Feu**	**8.12 211**	*e*Pn	**Pn**	**05 21 58.9**	**-0.2**
CDF			*e*Sn	**Sn**	**05 23 24.6**	**-6.2**
CDF	**Champ du Feu**	**8.12 211**	*e*P	**Pn**	**05 21 58.9**	**-0.2**
CDF			*e*		05 23 24.6	
CDF	**Champ du Feu**	**8.12 211**	*e*Pn	**Pn**	**05 21 58.9**	**-0.2**
KWP	**Kalwaria Pacla**	**8.15 133**	*e*Pn	**Pn**	**05 22 00.1**	**+0.5**
KWP			*e*Pg	Pn	05 22 40.9	+41
KWP			*e*Sn	**Sn**	**05 23 30.4**	**-1.3**
KWP			*e*Sg	Sn	05 24 29.4	+58
	comp=Z,400nm,0.7s					
KWP	**Kalwaria Pacla**	**8.15 133**	*e*Pn	**Pn**	**05 22 00.0**	**+0.4**
	comp=Z,107nm,0.7s					
KWP			*e*Sn	**Sn**	**05 23 29.7**	**-2.0**
KWP	**Kalwaria Pacla**	**8.15 133**	*e*P	**Pn**	**05 22 00.2**	**+0.6**
KWP			*e*		05 23 30.4	
KWP			smax			
	comp=N,400nm,0.7s					
KWP	**Kalwaria Pacla**	**8.15 133**	⇓*i*P	**Pn**	**05 22 00.0**	**+0.4**
KWP	**Kalwaria Pacla**	**8.15 133**	S	**Sn**	**05 23 26.6**	**-5.1**
KWP	**Kalwaria Pacla**	**8.15 133**	*e*P	**Pn**	**05 22 00.2**	**+0.6**
KWP			*e*S	**Sn**	**05 23 30.4**	**-1.3**
	comp=N,400nm,0.7s					
PVF	**Pernaja**	**8.24 48**	*e*P	**Pn**	**05 22 00.0**	**-0.8**
PVF			*e*S	**Sn**	**05 23 26.2**	**-7.6**
PVF			MSG		05 24 18.8	
	comp=Z,1μm,0.4s					
PVF	**Pernaja**	**8.24 48**	P	**Pn**	**05 22 00.0**	**-0.8**
CRVS	**Cervenica-Dubn**	**8.25 140**	*e*P	**Pn**	**05 22 01.4**	**+0.4**
CRVS			*e*		05 23 28.5	
CRVS	**Cervenica-Dubn**	**8.25 140**	*e*PN	**Pn**	**05 22 01.4**	**+0.4**
CRVS			*e*SN	**Sn**	**05 23 28.5**	**-5.7**
CRVS	**Cervenica-Dubn**	**8.25 140**	*e*P	**Pn**	**05 22 01.4**	**+0.4**
RETA	**Reutte**	**8.25 193**	⇑*i*Pn	**Pn**	**05 21 59.6**	**-1.4**
RETA			⇓*i*Sn	**Sn**	**05 23 30.6**	**-3.7**
RETA	**Reutte**	**8.25 193**	Pn	**Pn**	**05 21 59.6**	**-1.5**
RETA			Sn	**Sn**	**05 23 30.6**	**-3.7**
KECS	**Kecovo**	**8.28 146**	*e*P	**Pn**	**05 22 01.7**	**+0.3**
KECS			*e*		05 23 28.2	
KECS	**Kecovo**	**8.28 146**	*e*PN	**Pn**	**05 22 01.6**	**+0.2**
KECS			*e*SN	**Sn**	**05 23 28.2**	**-6.7**
KECS	**Kecovo**	**8.28 146**	*e*P	**Pn**	**05 22 01.7**	**+0.3**
MNK	**Minsk**	**8.30 91**	*e*P	**Pn**	**05 22 01.0**	**-0.7**
MNK			*e*S	**Sn**	**05 23 33.0**	**-2.4**
MNK	**Minsk**	**8.30 91**	*e*P	**Pn**	**05 22 01.0**	**-0.7**
ECH	**Echery**	**8.33 211**	*e*Pn	**Pn**	**05 22 02.1**	**+0.1**
	comp=Z,13nm,0.7s					
ECH			*e*Sn	**Sn**	**05 23 37.1**	**+1.1**
ECH	**Echery**	**8.33 211**	*e*P	**Pn**	**05 22 02.1**	**+0.1**
ECH			*e*		05 23 37.1	
ECH			pmax	pmax		
	comp=Z,13nm,0.7s					
ECH	**Echery**	**8.33 211**	*e*P	**Pn**	**05 22 02.1**	**+0.1**
	comp=Z,13nm,0.7s					
ECH	**Echery**	**8.33 211**	*e*P	**Pn**	**05 22 03.3**	**+1.3**
MICGM	**Minsk**	**8.33 91**	*e*P	**Pn**	**05 22 01.0**	**-1.0**
MOTA	**Moosalm**	**8.35 191**	⇑*i*Pn	**Pn**	**05 22 01.3**	**-1.2**
MOTA			⇑*i*Sn	**Sn**	**05 23 33.7**	**-3.0**
MOTA	**Moosalm**	**8.35 191**	Pn	**Pn**	**05 22 01.3**	**-1.1**
MOTA			Sn	**Sn**	**05 23 33.7**	**-3.0**
WTTA	**Wattenberg**	**8.38 189**	⇑*i*Pn	**Pn**	**05 22 02.4**	**-0.4**
WTTA	**Wattenberg**	**8.38 189**	Pn	**Pn**	**05 22 02.4**	**-0.4**
ARSA	**Arzberg**	**8.41 171**	*e*Pn	**Pn**	**05 22 04.3**	**+1.1**
FELD	**Feldberg im Sc**	**8.41 206**	*e*P	**Pn**	**05 22 02.2**	**-1.0**
PAGF	**Fort de Pagny**	**8.48 218**	*e*Pn	**Pn**	**05 22 04.3**	**+0.1**
PAGF			*e*Sn	**Sn**	**05 23 33.2**	**-6.7**
	comp=Z,196nm,1.6s					
PAGF	**Fort de Pagny**	**8.48 218**	*e*Pn	**Pn**	**05 22 04.3**	**+0.1**
PAGF			*e*Sn	**Sn**	**05 23 33.2**	**-6.7**
PAGF	**Fort de Pagny**	**8.48 218**	*e*Pn	**Pn**	**05 22 04.3**	**+0.1**
KBA	**Koelnbreinsper**	**8.49 181**	⇑*i*Pn	**Pn**	**05 22 05.0**	**+0.8**
KBA	**Koelnbreinsper**	**8.49 181**	Pn	**Pn**	**05 22 05.0**	**+0.8**
KOLS	**Kolonicke sedl**	**8.53 137**	*e*P	**Pn**	**05 22 06.1**	**+1.3**
KOLS	**Kolonicke sedl**	**8.53 137**	*e*PN	**Pn**	**05 22 06.1**	**+1.3**
KOLS	**Kolonicke sedl**	**8.53 137**	*e*P	**Pn**	**05 22 06.1**	**+1.3**
DAVA	**Damuels**	**8.58 197**	⇑*i*Pn	**Pn**	**05 22 05.0**	**-0.5**
DAVA			⇓*i*Sn	**Sn**	**05 23 38.6**	**-3.6**
DAVA	**Damuels**	**8.58 197**	Pn	**Pn**	**05 22 05.0**	**-0.5**
DAVA			Sn	**Sn**	**05 23 38.6**	**-3.6**
LVV	**L'vov**	**8.59 128**	*e*P	**Pn**	**05 22 06.0**	**+0.4**
LVV			*e*S	**Sn**	**05 23 52.6**	**+10**
LVV			MLR	MLR		
	comp=Z,600nm,2.5s					
LVV			MLR	MLR		
	comp=N,1μm,2.7s					
LVV			MLR	MLR		
	comp=E,2μm,2.7s					
LVV	**L'vov**	**8.59 128**	*e*P	**Pn**	**05 22 06.0**	**+0.4**
	comp=E,600nm,2.5s					
PSZ	**Piszkesteto**	**8.61 150**	*e*Pn	**Pn**	**05 22 06.3**	**+0.5**
PSZ	**Piszkesteto**	**8.61 150**	⇑P	**Pn**	**05 22 06.4**	**+0.5**
PSZ			S	**Sn**	**05 23 39.7**	**-3.2**
PSZ	**Piszkesteto**	**8.61 150**	*e*Pn	**Pn**	**05 22 07.9**	**+2.0**
PSZ	**Piszkesteto**	**8.61 150**	⇑*i*P	**Pn**	**05 22 06.4**	**+0.5**
PSZ	**Piszkesteto**	**8.61 150**	S	**Sn**	**05 23 39.7**	**-3.2**
PSZ	**Piszkesteto**	**8.61 150**	*e*Pn	**Pn**	**05 22 06.3**	**+0.4**
ELSH	**Elham, Standar**	**8.61 244**	*e*P	**Pn**	**05 22 06.6**	**+0.7**
THEF	**They Montfort**	**8.68 215**	*e*P	**Pn**	**05 22 07.9**	**+1.0**
THEF	**They Montfort**	**8.68 215**	*e*P	**Pn**	**05 22 07.9**	**+1.0**
FETA	**Feichten**	**8.72 193**	⇑*i*Pn	**Pn**	**05 22 07.2**	**-0.1**
FETA	**Feichten**	**8.72 193**	Pn	**Pn**	**05 22 07.2**	**-0.2**
PKSG		**8.72 158**	⇓*e*Pn	**Pn**	**05 22 08.3**	**+0.9**
HAU	**Haudompre**	**8.76 213**	*e*Pn	**Pn**	**05 22 06.9**	**-1.1**
HAU			*e*Sn	**Sn**	**05 23 39.7**	**-6.9**
HAU			*e*Sg	Sn	05 24 36.2	+50
	comp=E,113nm,0.8s					
HAU	**Haudompre**	**8.76 213**	*e*Pn	**Pn**	**05 22 06.9**	**-1.1**
HAU			*e*Sn	**Sn**	**05 23 39.7**	**-6.9**
HAU			*e*Sg	Sn	05 24 36.2	+50
HAU	**Haudompre**	**8.76 213**	*e*P	**Pn**	**05 22 06.9**	**-1.1**
HAU			*e*		05 23 39.7	
HAU	**Haudompre**	**8.76 213**	*e*Pn	**Pn**	**05 22 06.9**	**-1.1**
MEZF	**Maizieres J'vi**	**8.77 220**	*e*Pn	**Pn**	**05 22 07.5**	**-0.6**
MEZF			*e*Sn	**Sn**	**05 23 40.5**	**-6.4**
	comp=E,96nm,0.7s					
MEZF	**Maizieres J'vi**	**8.77 220**	*e*Pn	**Pn**	**05 22 07.5**	**-0.6**
MEZF			*e*Sn	**Sn**	**05 23 40.5**	**-6.4**
MEZF	**Maizieres J'vi**	**8.77 220**	*e*Pn	**Pn**	**05 22 07.5**	**-0.6**
HINF	**Hinteralfeld**	**8.78 211**	*e*Pn	**Pn**	**05 22 06.9**	**-1.3**
HINF			*e*Sn	**Sn**	**05 23 39.6**	**-7.4**
HINF			*e*Sg	Sn	05 24 37.0	+50
	comp=E,201nm,1.2s					
HINF	**Hinteralfeld**	**8.78 211**	*e*Pn	**Pn**	**05 22 06.9**	**-1.3**
HINF			*e*Sn	**Sn**	**05 23 39.6**	**-7.4**
HINF			*e*Sg	Sn	05 24 37.0	+50
HINF	**Hinteralfeld**	**8.78 211**	*e*P	**Pn**	**05 22 06.9**	**-1.3**
HINF			*e*		05 23 39.6	
HINF	**Hinteralfeld**	**8.78 211**	*e*Pn	**Pn**	**05 22 06.9**	**-1.3**
BUD	**Budapest**	**8.78 155**	⇑*e*Pn	**Pn**	**05 22 09.1**	**+0.9**
BUD	**Budapest**	**8.78 155**	⇑*e*Pn	**Pn**	**05 22 09.1**	**+0.9**
UZH	**Uzhgorod**	**8.79 138**	*e*P	**Pn**	**05 22 07.7**	**-0.6**
UZH			*e*S	**Sn**	**05 23 46.4**	**-0.9**
UZH			MLR	MLR		
	comp=N,1μm,12.0s					
UZH			MLR	MLR		
	comp=E,1μm,12.0s					
UZH			MLR	MLR		
	comp=Z,1μm,12.0s					
UZH	**Uzhgorod**	**8.79 138**	*e*P	**Pn**	**05 22 07.7**	**-0.6**
UZH			*e*S	**Sn**	**05 23 46.4**	**-0.9**
FIA0	**FINESS Array S**	**8.83 43**	Pn	**Pn**	**05 22 08.6**	**-0.4**
	baz=235,slow=12					
FIA0			Sn	**Sn**	**05 23 42.0**	**-6.4**
	baz=236,slow=22					
FIA0			Lg		05 24 33.4	
	baz=236,slow=28					
FIA0	**FINESS Array S**	**8.83 43**	*e*P	**Pn**	**05 22 08.8**	**-0.2**
FIA0			*e*S	**Sn**	**05 23 42.3**	**-6.1**
FIA0			MSG		05 24 35.8	
	comp=Z,1μm,0.5s					
FIA0	**FINESS Array S**	**8.83 43**	P	**Pn**	**05 22 08.7**	**-0.2**
FINES	**FINESS Array B**	**8.83 43**	Pn	**Pn**	**05 22 08.5**	**-0.4**
	comp=Z,12nm,0.3s,baz=242,slow=11,SNR=194					
FINES			Sn	**Sn**	**05 23 43.1**	**-5.3**
	comp=Z,42nm,0.3s,baz=250,slow=22,SNR=15					
FINES			Lg		05 24 33.2	
	comp=Z,169nm,0.3s,baz=249,slow=26,SNR=34					
FINES			LR	LR	05 25 22.7	
	comp=Z,131nm,22.0s,baz=334,slow=36					
FINES	**FINESS Array B**	**8.83 43**	Pn	**Pn**	**05 22 08.5**	**-0.4**
FINES			Sn	**Sn**	**05 23 43.1**	**-5.3**
FINES			Lg		05 24 33.2	
FINES	**FINESS Array B**	**8.83 43**	P	**Pn**	**05 22 08.5**	**-0.4**
FINES	**FINESS Array B**	**8.83 43**	P	**Pn**	**05 22 08.5**	**-0.4**
VAF	**Ylistaro**	**8.85 28**	*e*P	**Pn**	**05 22 09.3**	**+0.2**
VAF			*e*S	**Sn**	**05 23 43.5**	**-5.1**
VAF			MSG		05 24 42.6	
	comp=Z,866nm,0.5s					
VAF	**Ylistaro**	**8.85 28**	P	**Pn**	**05 22 09.2**	**+0.1**
KEF	**Keuruu**	**8.86 37**	*e*P	**Pn**	**05 22 08.4**	**-0.9**
KEF			*e*S	**Sn**	**05 23 42.4**	**-6.7**
KEF			MSG		05 24 41.7	
	comp=Z,1μm,0.5s					
KEF	**Keuruu**	**8.86 37**	P	**Pn**	**05 22 08.4**	**-0.9**
VJF	**Virojoki**	**8.96 50**	*e*P	**Pn**	**05 22 08.6**	**-2.2**
VJF			*e*S	**Sn**	**05 23 43.0**	**-8.6**
VJF			MSG		05 24 43.1	
	comp=Z,1μm,0.5s					
XAL	**Allendale**	**9.02 272**	*e*P	**Pn**	**05 22 10.9**	**-0.6**
SFTF	**Sexfontaines**	**9.02 219**	*e*Sn	**Sn**	**05 23 46.3**	**-6.9**
	comp=Z,584nm,1.6s					
SFTF	**Sexfontaines**	**9.02 219**	*e*Sn	**Sn**	**05 23 46.3**	**-6.9**
NSS	**Namsos**	**9.04 356**	*e*Sg	Sx	05 24 42.8	
NSS			AML	AML	05 24 56.2	
	comp=Z,674nm,0.6s					
NSS	**Namsos**	**9.04 356**	*e*	Sx	05 24 42.8	
NSS			AML	AML	05 24 56.2	
	comp=Z,674nm,0.6s					
KBI1	**Birley Grange**	**9.07 262**	*e*P	**Pn**	**05 22 12.2**	**0.0**
DAVOX	**Davos/Dischmat**	**9.07 196**	Pn	**Pn**	**05 22 11.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=13,slow=19,SNR=4.9					
DAVOX			Sn	**Sn**	**05 23 50.3**	**-4.1**
	comp=Z,5.4nm,0.3s,baz=164,slow=22,SNR=6.1					
DAVOX			LR	LR	05 25 22.3	
	comp=Z,81nm,18.4s,baz=100,slow=36					
DAVOX	**Davos/Dischmat**	**9.07 196**	Pn	**Pn**	**05 22 11.7**	**-0.6**
DAVOX			Sn	**Sn**	**05 23 50.3**	**-4.1**
DAVOX	**Davos/Dischmat**	**9.07 196**	P	**Pn**	**05 22 11.7**	**-0.6**
DAVOX					05 23 50.3	
DAVOX	**Davos/Dischmat**	**9.07 196**	P	**Pn**	**05 22 11.7**	**-0.6**
LRW	**Lerwick**	**9.07 306**	*e*P	**Pn**	**05 22 14.0**	**+1.8**
ESY	**Stoneypath**	**9.11 279**	*e*P	**Pn**	**05 22 12.0**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**9.17 194**	*e*Pn	**Pn**	**05 22 15.9**	**+2.3**
TRPA	**Tarpa**	**9.29 139**	⇓*i*P	**Pn**	**05 22 15.0**	**-0.3**
TRPA	**Tarpa**	**9.29 139**	S	**Sn**	**05 23 54.0**	**-5.7**
TRPA	**Tarpa**	**9.29 139**

BUR08 **Bucovina Ar. S** 10.74 133 *e*Pn Pn 05 22 33.7 -1.4
BUR08 **Bucovina Ar. S** 10.74 133 *e*Pn Pn 05 22 33.7 -1.4
KPL **Plockton** 10.75 287 *e*P Pn 05 22 34.9 -0.3
BURAR **Bucovina Array** 10.77 133 ⇓P Pn 05 22 34.1 -1.4
BURAR S Sn 05 24 30.1 -5.8
BURAR **Bucovina Array** 10.77 133 ⇓*i*P Pn 05 22 34.1 -1.4
SMF **Signal de Mont** 10.78 218 *e*Pn Pn 05 22 34.3 -1.3
SMF *e*Sn Sn 05 24 27.4 -8.8
SMF *e*Sg Sn 05 25 40.0 +64
comp=Z,289nm,1.5s
SMF **Signal de Mont** 10.78 218 *e*Pn Pn 05 22 34.3 -1.3
SMF *e*Sn Sn 05 24 27.4 -8.8
SMF *e*Sg Sn 05 25 40.0 +64
SMF **Signal de Mont** 10.78 218 *e*P Pn 05 22 34.3 -1.3
SMF *e* 05 24 27.4
SMF **Signal de Mont** 10.78 218 *e*Pn Pn 05 22 34.3 -1.3
STOK **Stokkvaagen** 10.82 359 *e*Pn Pn 05 22 36.2 0.0
STOK *e*Sn Sn 05 24 26.4 -11
STOK AML AML 05 25 51.9
comp=Z,569nm,0.9s
STOK **Stokkvaagen** 10.82 359 *e*P Pn 05 22 36.2 0.0
STOK *e*S Sn 05 24 26.4 -11
STOK AML AML 05 25 51.9
comp=Z,569nm,0.9s
STOK **Stokkvaagen** 10.82 359 P Pn 05 22 36.1 0.0
FLOS **Flostrand** 10.82 360 *e*Pn Pn 05 22 36.3 +0.2
FLOS *e*Sn Sn 05 24 27.3 -10
FLOS AML AML 05 25 55.0
comp=Z,1μm,0.6s
FLOS **Flostrand** 10.82 360 *e*P Pn 05 22 36.3 +0.2
FLOS *e*S Sn 05 24 27.3 -10
FLOS AML AML 05 25 55.0
comp=Z,1μm,0.6s
AVF **Avril sur Loir** 10.83 220 *e*Pn Pn 05 22 35.0 -1.3
AVF *e*Sn Sn 05 24 29.0 -8.5
AVF *e*Sg Sn 05 25 41.3 +64
comp=Z,78nm,1.1s
AVF **Avril sur Loir** 10.83 220 *e*Pn Pn 05 22 35.0 -1.3
AVF *e*Sn Sn 05 24 29.0 -8.5
AVF *e*Sg Sn 05 25 41.3 +64
AVF **Avril sur Loir** 10.83 220 *e*P Pn 05 22 35.0 -1.3
AVF *e* 05 24 29.0
AVF **Avril sur Loir** 10.83 220 *e*Pn Pn 05 22 35.0 -1.3
LDF **La Druitiere** 10.89 236 *e*Pn Pn 05 22 36.0 -1.1
LDF *e*Sn Sn 05 24 31.6 -7.3
comp=Z,47nm,0.5s
LDF **La Druitiere** 10.89 236 *e*Pn Pn 05 22 36.0 -1.1
LDF *e*Sn Sn 05 24 31.6 -7.3
LDF **La Druitiere** 10.89 236 *e*P Pn 05 22 36.0 -1.1
LDF *e* 05 24 31.6
LDF **La Druitiere** 10.89 236 *e*Pn Pn 05 22 36.0 -1.1
LPL **La Plagne** 10.93 206 *e*Pn Pn 05 22 35.5 -2.1
LPL *e*Sg Sn 05 25 45.0 +65
comp=Z,186nm,1.7s
LPL **La Plagne** 10.93 206 *e*Pn Pn 05 22 35.5 -2.1
LPL *e*Sg Sn 05 25 45.0 +65
LPL **La Plagne** 10.93 206 *e*P Pn 05 22 35.5 -2.1
LPL **La Plagne** 10.93 206 *e*Pn Pn 05 22 35.5 -2.1
LPG **La Plagne** 10.94 206 *e*Pn Pn 05 22 35.1 -2.7
LPG *e*Sg Sn 05 25 44.8 +65
comp=Z,92nm,1.2s
LPG **La Plagne** 10.94 206 *e*Pn Pn 05 22 35.1 -2.7
LPG *e*Sg Sn 05 25 44.8 +65
LPG **La Plagne** 10.94 206 *e*P Pn 05 22 35.1 -2.7
LPG **La Plagne** 10.94 206 *e*Pn Pn 05 22 35.1 -2.7
FLN **La Foliniere** 10.94 237 *e*Pn Pn 05 22 36.4 -1.5
FLN *e*Sn Sn 05 24 32.7 -7.5
comp=Z,64nm,0.5s
FLN **La Foliniere** 10.94 237 *e*Pn Pn 05 22 36.4 -1.5
FLN *e*Sn Sn 05 24 32.7 -7.5
FLN **La Foliniere** 10.94 237 *e*P Pn 05 22 36.4 -1.5
FLN *e* 05 24 32.7
FLN **La Foliniere** 10.94 237 *e*Pn Pn 05 22 36.4 -1.5
NVLJ **Novalja** 11.04 175 *e*Pn Pn 05 22 41.1 +1.9
NVLJ Sn Sn 05 24 31.4 -11
NVLJ **Novalja** 11.04 175 *e*Pn Pn 05 22 41.0 +1.9
FRGS **Fruska Gora** 11.15 156 *e*Pn Pn 05 22 41.6 +0.9
BZS **Buzias** 11.19 149 *e*Pn Pn 05 22 42.1 +0.8
BZS *e*Sn Sn 05 24 40.7 -5.7
BZS **Buzias** 11.19 149 ⇓P Pn 05 22 42.6 +1.3
BZS S Sn 05 24 41.8 -4.6
BZS **Buzias** 11.19 149 ⇓*i*P Pn 05 22 42.6 +1.3
BZS **Buzias** 11.19 149 P Pn 05 22 42.6 +1.3
BGF **Bois d'Agland** 11.21 221 *e*Pn Pn 05 22 40.5 -1.1
BGF *e*Sn Sn 05 24 38.4 -8.5
comp=Z,44nm,0.5s
BGF **Bois d'Agland** 11.21 221 *e*Pn Pn 05 22 40.5 -1.1
BGF *e*Sn Sn 05 24 38.4 -8.5
BGF **Bois d'Agland** 11.21 221 *e*P Pn 05 22 40.5 -1.1
BGF *e* 05 24 38.4
BGF **Bois d'Agland** 11.21 221 *e*Pn Pn 05 22 40.5 -1.1
HEX **Exmoor** 11.28 254 *e*P Pn 05 22 42.9 +0.5
GMM **Mts of Mourne** 11.28 271 *e*P Pn 05 22 42.4 0.0
OUL **Oulu** 11.34 28 *e*P Pn 05 22 40.0 -3.2
OUL **Oulu** 11.34 28 *e*P Pn 05 22 40.0 -3.2
OUL **Oulu** 11.34 28 *e*P Pn 05 22 40.0 -3.2
OUL **Oulu** 11.34 28 *e*P Pn 05 22 40.5 -2.7
OUL *e*S Sn 05 24 40.6 -9.2
GRR **Gorron** 11.38 237 *e*Pn Pn 05 22 42.5 -1.4
GRR *e*Sn Sn 05 24 42.9 -8.1
comp=Z,105nm,0.7s
GRR **Gorron** 11.38 237 *e*Pn Pn 05 22 42.5 -1.4
GRR *e*Sn Sn 05 24 42.9 -8.1
GRR **Gorron** 11.38 237 *e*P Pn 05 22 42.5 -1.4
GRR *e* 05 24 42.9
GRR **Gorron** 11.38 237 *e*Pn Pn 05 22 42.5 -1.4
MBDF **Montbardon** 11.66 204 *e*Pn Pn 05 22 45.5 -2.2
MBDF *e*Sg Sn 05 26 07.1 +69
comp=Z,146nm,1.5s
MBDF **Montbardon** 11.66 204 *e*Pn Pn 05 22 45.5 -2.2
MBDF *e*Sg Sn 05 26 07.1 +69
MBDF **Montbardon** 11.66 204 *e*P Pn 05 22 45.5 -2.2
MBDF **Montbardon** 11.66 204 *e*Pn Pn 05 22 45.5 -2.2
HTL **Hartland** 11.69 254 *e*P Pn 05 22 48.5 +0.5
JOF **Joensuu** 11.70 44 *e*P Pn 05 22 46.1 -2.0
JOF *e*S Sn 05 24 49.9 -8.6
JOF MSG 05 26 09.6
comp=Z,504nm,0.5s
ORIF **Oris-en-Rattie** 11.70 208 *e*Pn Pn 05 22 45.7 -2.5
ORIF *e*Sg Sn 05 26 08.7 +70
comp=Z,180nm,1.5s
ORIF **Oris-en-Rattie** 11.70 208 *e*Pn Pn 05 22 45.7 -2.5
ORIF *e*Sg Sn 05 26 08.7 +70
ORIF **Oris-en-Rattie** 11.70 208 *e*P Pn 05 22 45.7 -2.5
ORIF **Oris-en-Rattie** 11.70 208 *e*Pn Pn 05 22 45.7 -2.5
GZR **Gura Zlata** 11.75 146 ⇓P Pn 05 22 50.3 +1.4
GZR S Sn 05 24 54.9 -5.0
GZR **Gura Zlata** 11.75 146 ⇓*i*P Pn 05 22 50.3 +1.4
GZR **Gura Zlata** 11.75 146 P Pn 05 22 50.3 +1.4
DSB **Dublin** 11.81 267 *e*Pn Pn 05 22 49.6 -0.1
DSB **Dublin** 11.81 267 *e*Pn Pn 05 22 49.6 -0.1
DLF **Lyons Farm** 11.88 267 *e*P Pn 05 22 50.0 -0.7
DLF *e*S Sn 05 24 48.0 -15
LOT **Lotru** 12.03 143 *e*P Pn 05 22 54.1 +1.4
LOT **Lotru** 12.03 143 *e*P Pn 05 22 54.1 +1.4
LOT **Lotru** 12.03 143 ⇑*i*P Pn 05 22 54.2 +1.5
LOT **Lotru** 12.03 143 S Sn 05 25 02.8 -3.9
LOT **Lotru** 12.03 143 *e*P Pn 05 22 54.1 +1.4
TRUS **Trudelj** 12.17 156 *e*Pn Pn 05 22 54.6 -0.1
DOPR **Dopca** 12.17 137 ⇓*i*P Pn 05 22 56.3 +1.6
DIVS **Divibare** 12.20 157 *e*Pn Pn 05 22 56.5 +1.5
TESR 12.24 132 ⇑*i*P Pn 05 22 54.8 -0.8
TESR 12.24 132 S Sn 05 25 04.6 -7.4
BBLS **Lazići** 12.30 160 *e*Pn Pn 05 22 57.8 +1.4
SGMF **Saint Gilles** 12.30 240 *e*Pn Pn 05 22 55.7 -0.7
SGMF *e*Sn Sn 05 25 04.8 -8.6
comp=Z,48nm,0.7s
SGMF **Saint Gilles** 12.30 240 *e*Pn Pn 05 22 55.7 -0.7
SGMF *e*Sn Sn 05 25 04.8 -8.6
SGMF **Saint Gilles** 12.30 240 *e*P Pn 05 22 55.7 -0.7
SGMF *e* 05 25 04.8
SGMF **Saint Gilles** 12.30 240 *e*Pn Pn 05 22 55.7 -0.7
MFF **Saint Martin d** 12.39 229 *e*Pn Pn 05 22 56.7 -0.9
MFF *e*Sn Sn 05 25 07.2 -8.3
comp=Z,14nm,0.4s
MFF **Saint Martin d** 12.39 229 *e*Pn Pn 05 22 56.7 -0.9
MFF *e*Sn Sn 05 25 07.2 -8.3
MFF **Saint Martin d** 12.39 229 *e*P Pn 05 22 56.7 -0.9
MFF *e* 05 25 07.2
MFF **Saint Martin d** 12.39 229 *e*Pn Pn 05 22 56.7 -0.9
STEI **Steigen** 12.45 3 *e*Pn Pn 05 22 58.2 -0.2
STEI **Steigen** 12.45 3 *e*P Pn 05 22 58.2 -0.2
STEI **Steigen** 12.45 3 P Pn 05 22 58.1 -0.3
GRUS **Gruza** 12.56 155 *e*Pn Pn 05 23 01.1 +1.1
RNF **Rovaniemi** 12.60 23 *e*P Pn 05 22 56.5 -3.9
RNF *e*S Sn 05 25 09.9 -11
ROSF **Rostrenen** 12.60 242 *e*Pn Pn 05 22 59.7 -0.8
ROSF *e*Sn Sn 05 25 12.1 -8.7
comp=Z,34nm,0.5s
ROSF **Rostrenen** 12.60 242 *e*Pn Pn 05 22 59.7 -0.8
ROSF *e*Sn Sn 05 25 12.1 -8.7
ROSF **Rostrenen** 12.60 242 *e*P Pn 05 22 59.7 -0.8
ROSF *e* 05 25 12.1
ROSF **Rostrenen** 12.60 242 *e*Pn Pn 05 22 59.7 -0.8
LOF **Lofoten** 12.63 0 *e*Pn Pn 05 22 57.8 -3.0
LOF *e*Sn Sn 05 25 06.7 -15
LOF AML AML 05 26 44.0
comp=Z,148nm,0.8s
LOF **Lofoten** 12.63 0 *e*P Pn 05 22 57.8 -3.0
LOF *e* 05 25 06.7
LOF AML AML 05 26 44.0
comp=Z,148nm,0.8s
PLOR **Plostina** 12.77 134 ⇑P Pn 05 23 02.0 -0.8
PLOR **Plostina** 12.77 134 ⇑*i*P Pn 05 23 02.0 -0.8
PLOR **Plostina** 12.77 134 P Pn 05 23 02.0 -0.8
RJF **Les Rejaudoux** 12.77 222 *e*Pn Pn 05 23 01.8 -1.0
RJF *e*Sn Sn 05 25 15.7 -9.2
comp=Z,24nm,0.7s
RJF **Les Rejaudoux** 12.77 222 *e*Pn Pn 05 23 01.8 -1.0
RJF *e*Sn Sn 05 25 15.7 -9.2
RJF **Les Rejaudoux** 12.77 222 *e*P Pn 05 23 01.8 -1.0
RJF *e* 05 25 15.7
RJF **Les Rejaudoux** 12.77 222 *e*Pn Pn 05 23 01.8 -1.0
MLR **Muntele Rosu** 12.79 137 Pn Pn 05 22 59.3 -3.7
comp=Z,0.1nm,0.3s,baz=330,slow=20,SNR=2.9
MLR LR LR 05 28 28.7
comp=Z,94nm,18.4s,baz=146,slow=40
MLR **Muntele Rosu** 12.79 137 Pn Pn 05 22 59.3 -3.7
MLR **Muntele Rosu** 12.79 137 ⇓P Pn 05 23 03.9 +0.8
MLR **Muntele Rosu** 12.79 137 ⇓*i*P Pn 05 23 03.9 +0.8
MLR **Muntele Rosu** 12.79 137 P Pn 05 23 03.9 +0.8
VRI **Vrincioaia** 12.79 134 ⇓P Pn 05 23 03.7 +0.6
VRI **Vrincioaia** 12.79 134 ⇓*i*P Pn 05 23 03.7 +0.6
VRI **Vrincioaia** 12.79 134 P Pn 05 23 03.7 +0.6
MSF **Maaselka** 12.82 30 *e*P Pn 05 23 00.6 -2.8
MSF *e*S Sn 05 25 15.1 -11
KIS **Kishinev** 12.83 126 *e*P Pn 05 23 02.0 -1.6
KIS *i*S Sn 05 25 15.0 -11
KIS *i*Lg2 05 26 57.0
KIS LRM 05 28 54.0
comp=Z,500nm,12.0s
KIS **Kishinev** 12.83 126 *e*P Pn 05 23 02.0 -1.6
KIS MLR MLR
comp=N,700nm,11.0s
KIS MLR MLR
comp=Z,500nm,11.0s
KIS MLR MLR
comp=E,600nm,9.0s
KIS MLR MLR
comp=Z,500nm,12.0s
KIS **Kishinev** 12.83 126 *e*P Pn 05 23 02.0 -1.6
comp=Z,500nm,12.0s
QUIF **Quistinic** 12.83 240 *e*Pn Pn 05 23 02.3 -1.3
QUIF *e*Sn Sn 05 25 17.6 -8.7
comp=Z,71nm,0.8s
QUIF **Quistinic** 12.83 240 *e*Pn Pn 05 23 02.3 -1.3
QUIF *e*Sn Sn 05 25 17.6 -8.7
QUIF **Quistinic** 12.83 240 *e*P Pn 05 23 02.3 -1.3
QUIF *e* 05 25 17.6
QUIF **Quistinic** 12.83 240 *e*Pn Pn 05 23 02.3 -1.3
CAF **Calviac** 12.89 219 *e*Pn Pn 05 23 03.4 -1.1
CAF *e*Sn Sn 05 25 18.9 -9.0
comp=Z,14nm,0.8s
CAF **Calviac** 12.89 219 *e*Pn Pn 05 23 03.4 -1.1
CAF *e*Sn Sn 05 25 18.9 -9.0
CAF **Calviac** 12.89 219 *e*P Pn 05 23 03.4 -1.1
CAF *e* 05 25 18.9
CAF **Calviac** 12.89 219 *e*Pn Pn 05 23 03.4 -1.1
LEOM **Leova** 12.96 128 S Sn 05 25 19.2 -10
SJES **Sjenica** 12.99 159 *e*Pn Pn 05 23 07.9 +2.0
OBN **Obninsk** 13.12 82 *e*Pn Pn 05 23 02.8 -4.8
comp=Z,315nm,0.5s
OBN **Obninsk** 13.12 82 *de*P Pn 05 23 02.6 -5.0
OBN *e*S Sn 05 25 29.2 -4.3
OBN pmax pmax
comp=Z,267nm,0.6s
OBN MLR MLR
comp=Z,200nm,15.0s
KU6 **Riekki** 13.15 30 *e*P Pn 05 23 04.8 -3.0
KU6 *e*S Sn 05 25 22.3 -12
KU6 MSG 05 26 57.5
comp=Z,467nm,0.5s
LANU **Lannavaara** 13.15 14 *e*P Pn 05 23 05.2 -2.7
LANU *e*S Sn 05 25 24.3 -10
ISR **Istrita** 13.33 136 ⇑*i*P Pn 05 23 12.0 +1.5
LFF **La Frestale** 13.37 223 *e*Pn Pn 05 23 09.4 -1.7
LFF *e*Sn Sn 05 25 29.9 -10
comp=Z,33nm,0.7s
LFF **La Frestale** 13.37 223 *e*Pn Pn 05 23 09.4 -1.7
LFF *e*Sn Sn 05 25 29.9 -10
LFF **La Frestale** 13.37 223 *e*P Pn 05 23 09.4 -1.7
LFF *e* 05 25 29.9
LFF **La Frestale** 13.37 223 *e*Pn Pn 05 23 09.4 -1.7
ZAPS **Zavoj** 13.63 151 *e*Pn Pn 05 23 16.9 +2.3
HEF **Hetta** 13.72 16 *e*P Pn 05 23 12.3 -3.4
HEF *e*S Sn 05 25 37.8 -10
HEF MSG 05 27 13.2
comp=Z,778nm,0.9s
BARS **Barje** 13.84 154 *e*Pn Pn 05 23 17.3 -0.2
KIF **Kilpisjarvi** 13.90 11 *e*P Pn 05 23 15.3 -2.9
KIF *e*S Sn 05 25 41.6 -11
KIF MSG 05 27 20.4
comp=Z,465nm,0.6s
CFR **Carcaliu** 13.93 132 ⇓*i*P Pn 05 23 16.9 -1.8
KTK1 **Kautokeino** 14.22 14 *e*Pn Pn 05 23 19.7 -2.7
KTK1 **Kautokeino** 14.22 14 *e*P Pn 05 23 19.7 -2.7
TRO **Tromso** 14.34 8 *e*Pn Pn 05 23 21.8 -2.3
TRO AML AML 05 27 33.0
comp=Z,227nm,0.8s
TRO **Tromso** 14.34 8 *e*P Pn 05 23 21.8 -2.3
TRO AML AML 05 27 33.0
comp=Z,227nm,0.8s
VRF **Varrio** 14.36 25 *e*P Pn 05 23 19.0 -5.3
VRF *e*S Sn 05 25 50.4 -13
VRF MSG 05 27 31.7
comp=Z,304nm,0.5s
TIRR **Tirgusor** 14.63 133 ⇑P Pn 05 23 27.5 -0.7
TIRR **Tirgusor** 14.63 133 ⇑*i*P Pn 05 23 27.5 -0.7
KLMR **Klimovskoe** 14.64 58 *e*P Pn 05 23 21.4 -6.9
KLMR pmax pmax
comp=Z,37nm,0.6s
ARA0 **ARCESS Array S** 15.03 16 Pn Pn 05 23 29.0 -4.6
baz=202,slow=12
ARA0 Sn Sn 05 26 06.0 -14
baz=199,slow=22
ARA0 Lg 05 27 44.2
baz=180,slow=28
ARA0 **ARCESS Array S** 15.03 16 *e*P Pn 05 23 29.0 -4.6
ARA0 *e*S Sn 05 26 06.0 -14
ARA0 *e* 05 27 44.2
ARCES **ARCESS Array B** 15.03 16 Pn Pn 05 23 29.0 -4.5
comp=Z,2.7nm,0.3s,baz=202,slow=12,SNR=69
ARCES Sn Sn 05 26 07.5 -12
comp=Z,7.1nm,0.3s,baz=205,slow=23,SNR=4.1
ARCES Lg 05 27 44.7
comp=Z,15nm,0.3s,baz=208,slow=26,SNR=19
ARCES LR LR 05 30 17.2
comp=Z,90nm,19.4s,baz=177,slow=41
ARCES **ARCESS Array B** 15.03 16 Pn Pn 05 23 29.0 -4.5
ARCES Sn Sn 05 26 07.5 -12
ARCES Lg 05 27 44.7
ARCES **ARCESS Array B** 15.03 16 P Pn 05 23 29.0 -4.6
ARE0 **ARCESS Array S** 15.03 16 *e*Pn Pn 05 23 29.5 -4.1
ARE0 **ARCESS Array S** 15.03 16 *e*Pn Pn 05 23 30.9 -2.7
ARE0 **ARCESS Array S** 15.03 16 *e*P Pn 05 23 29.5 -4.1
APA **Apatity** 15.22 30 ⇑*e*P Pn 05 23 31.3 -4.8
APA pmax pmax
comp=Z,18nm,0.6s
APA MLR MLR
comp=Z,900nm,4.4s
KEV **Kevo** 15.48 18 *e*Pn Pn 05 23 35.1 -4.3
comp=Z,657nm,2.7s
KEV **Kevo** 15.48 18 *e*P Pn 05 23 35.1 -4.3
KEV pmax pmax
comp=Z,657nm,2.7s
KEV **Kevo** 15.48 18 *e*P Pn 05 23 34.8 -4.6
KEV *e*S Sn 05 26 17.8 -13
KEV MSG 05 28 09.3
comp=Z,364nm,0.8s
VOR **Voronezh** 15.67 93 P Pn 05 23 40.0 -2.0
VOR pmax pmax
comp=Z,250nm,1.0s
LVZ **Lovozero** 15.80 30 *e*Pn Pn 05 23 38.6 -4.9
comp=Z,382nm,2.4s
LVZ **Lovozero** 15.80 30 *c e*P Pn 05 23 38.0 -5.6
VSR **Storozhevoye** 15.87 95 *e*P Pn 05 23 37.9 -6.7
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,60nm,0.6s
VSR MLR MLR
comp=N,90nm,5.0s
VSR MLR MLR
comp=E,530nm,11.0s
VSR MLR MLR
comp=Z,710nm,11.0s
SIM **Simferopol'** 16.85 120 P Pn 05 23 51.8 -5.4
SIM pmax pmax
comp=Z,42nm,0.5s
SIM MLR MLR
comp=Z,150nm,8.9s
ANN **Anapa** 18.62 115 *e*P Pn 05 24 14.7 -4.4
ANN *e*S Sn 05 27 43.1 -4.0
ANN pmax pmax
comp=Z,50nm,1.1s
ANN MLR MLR
comp=E,225nm,12.0s
ANN MLR MLR
comp=Z,333nm,12.0s
ESDC **Sonseca Array** 19.68 223 P Pn 05 24 31.6 -0.2
comp=Z,0.2nm,0.3s,baz=112,slow=17,SNR=2.8
ESDC **Sonseca Array** 19.68 223 P Pn 05 24 31.6 -0.2
ESDC **Sonseca Array** 19.68 223 P Pn 05 24 31.6 -0.2
KEST **Kesra** 20.03 190 P P 05 24 37.1 +2.9
comp=Z,0.1nm,0.3s,baz=71,slow=17,SNR=2.4
KEST LR LR 05 31 58.1
comp=Z,37nm,19.0s,baz=222,slow=36
KEST **Kesra** 20.03 190 P P 05 24 37.1 +2.9
BR131 **Keskin Array S** 20.73 131 *e*P P 05 24 42.7 +0.9
comp=Z,4.2nm,0.8s
BR131 **Keskin Array S** 20.73 131 *e*P P 05 24 42.7 +0.9
comp=Z,4.2nm,0.8s
BRTR **Keskin Array B** 20.73 131 P P 05 24 42.9 +1.1
comp=Z,2.1nm,0.6s,baz=324,slow=8.2,SNR=16
BRTR **Keskin Array B** 20.73 131 P P 05 24 42.9 +1.1
BRTR **Keskin Array B** 20.73 131 P P 05 24 42.9 +1.1
BRTR **Keskin Array B** 20.73 131 P P 05 24 42.8 +1.0
KIV **Kislovodsk** 21.96 110 *e*P P 05 24 55.3 +0.3
comp=Z,11nm,0.6s,mb4.5
KIV **Kislovodsk** 21.96 110 *e*P P 05 24 55.1 +0.1
KIV *e*S S 05 28 57.0 -0.2
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.4
KIV MLR MLR
comp=Z,56nm,14.0s,MS3.1
KIV **Kislovodsk** 21.96 110 *e*P P 05 24 55.3 +0.3
comp=Z,11nm,0.6s,mb4.5
KIV *e*S S 05 28 57.0 -0.2
comp=Z,56nm,14.0s
SPA0 **Spitsbergen Ar** 22.75 2 P P 05 25 04.1 +0.9
baz=143,slow=11
SPA0 **Spitsbergen Ar** 22.75 2 *e*P P 05 25 04.1 +0.9
SPA0 **Spitsbergen Ar** 22.75 2 P P 05 25 04.1 +0.9
baz=143,slow=11,SNR=47
SPITS **Spitsbergen Ar** 22.75 2 P P 05 25 04.5 +1.3
comp=Z,9.4nm,0.8s,mb4.3,baz=161,slow=12,SNR=8.1
SPITS **Spitsbergen Ar** 22.75 2 P P 05 25 04.5 +1.3
SPITS **Spitsbergen Ar** 22.75 2 P P 05 25 04.5 +1.3
SPITS **Spitsbergen Ar** 22.75 2 P P 05 25 04.5 +1.3
ONI **Oni** 23.30 111 P P 05 25 11.0 +1.8
AKH **Akhalkalaki** 24.16 113 P P 05 25 19.3 +1.9
ARU **Arti** 24.88 69 *e*P P 05 25 23.9 0.0
comp=Z,60nm,0.5s,mb5.4
ARU **Arti** 24.88 69 *d i*P P 05 25 24.0 +0.2
ARU *e*PPP 05 26 03.9
ARU S S 05 29 48.6 +2.0
ARU SSS 05 30 50.2
ARU pmax pmax
comp=Z,51nm,0.6s,mb5.2
ARU **Arti** 24.88 69 *i*P P 05 25 24.0 +0.2
comp=Z,51nm,0.6s,mb5.2
ARU S S 05 29 48.6 +2.0
DGRG **David-gareji** 25.12 111 P P 05 25 28.8 +2.7
GNI **Garni** 25.72 114 ⇑*e*P P 05 25 30.0 -1.7
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI **Garni** 25.72 114 *e*P P 05 25 30.0 -1.7
comp=Z,9.0nm,0.8s,mb4.3
SVE **Sverdlovsk** 25.86 67 ⇑*e*P P 05 25 33.5 +0.8
SVE pmax pmax
comp=Z,28nm,0.8s,mb4.8
SVE **Sverdlovsk** 25.86 67 *e*P P 05 25 33.5 +0.8
comp=Z,28nm,0.8s,mb4.8
AKTK **Aktyubinsk** 26.91 82 P P 05 25 42.3 +0.1
AKTO **Aktyubinsk** 26.91 82 P P 05 25 42.2 0.0
comp=Z,5.5nm,0.5s,mb4.4,baz=301,slow=9.3,SNR=23
AKTO LR LR 05 36 20.6
comp=Z,48nm,19.6s,MS3.1,baz=21,slow=36
AKTO **Aktyubinsk** 26.91 82 P P 05 25 42.2 0.0
AKTO **Aktyubinsk** 26.91 82 P P 05 25 42.3 +0.1
AKTO **Aktyubinsk** 26.91 82 P P 05 25 42.2 0.0
MMAI **Mount Meron Ar** 27.22 137 P P 05 25 46.2 +0.9
comp=Z,6.0nm,0.6s,mb4.3,baz=333,slow=8.4,SNR=6.7
MMAI **Mount Meron Ar** 27.22 137 P P 05 25 46.2 +0.9
MMAI **Mount Meron Ar** 27.22 137 P P 05 25 46.2 +0.9
ASF **Jabal al Asfar** 28.56 135 P P 05 25 58.3 +1.1
comp=Z,3.2nm,0.8s,mb4.1,baz=315,slow=2.9,SNR=2.5
ASF LR LR 05 39 39.0
comp=Z,50nm,19.6s,MS3.1,baz=38,slow=41
ASF **Jabal al Asfar** 28.56 135 P P 05 25 58.3 +1.1
ASF **Jabal al Asfar** 28.56 135 P P 05 25 58.3 +1.1
ABKAR **Akbulak array** 28.57 83 *e*P P 05 25 54.4 -2.8
comp=Z,4.9nm,0.5s,mb4.5
BRVK **Borovoye** 32.44 70 *e*P P 05 26 31.1 -0.1
comp=Z,10nm,1.0s,mb4.6
BRVK **Borovoye** 32.44 70 *c i*P P 05 26 32.3 +1.1
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BRVK **Borovoye** 32.44 70 *i*P P 05 26 32.3 +1.1
comp=Z,8.0nm,0.9s,mb4.5
BVA0 **Borovoye Array** 32.51 70 *i*P P 05 26 32.9 +1.0
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BVA0 **Borovoye Array** 32.51 70 *i*P P 05 26 32.9 +1.0
comp=Z,1.0nm,0.6s,mb3.9
BVAR **Borovoye Array** 32.51 70 P P 05 26 33.1 +1.2
comp=Z,6.0nm,0.5s,mb4.8,baz=288,slow=7.8,SNR=63
BVAR LR LR 05 40 16.2
comp=Z,162nm,20.2s,MS3.7,baz=99,slow=37
BVAR **Borovoye Array** 32.51 70 P P 05 26 33.1 +1.2
BVAR **Borovoye Array** 32.51 70 P P 05 26 33.1 +1.2
BVAR **Borovoye Array** 32.51 70 P P 05 26 33.1 +1.2
KURK **Kurchatov** 38.08 69 P P 05 27 20.2 +0.5
comp=Z,11nm,0.7s,mb4.7,baz=304,slow=8.5,SNR=87
KURK **Kurchatov** 38.08 69 *e*P P 05 27 19.8 +0.1
comp=Z,7.9nm,0.6s,mb4.6
KURK **Kurchatov** 38.08 69 *c i*P P 05 27 20.0 +0.2
KURK pmax pmax
comp=Z,14nm,0.9s,mb4.7
KURK **Kurchatov** 38.08 69 *i*P P 05 27 20.0 +0.2
comp=Z,14nm,0.9s,mb4.7
KK31 **Karatay Array** 38.10 85 *c e*P P 05 27 21.5 +1.4
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
KK31 **Karatay Array** 38.10 85 *e*P P 05 27 21.5 +1.4
comp=Z,1.0nm,0.3s,mb4.0
KKAR **Karatay Array** 38.10 85 *e*P P 05 27 20.9 +0.8
comp=Z,2.1nm,0.6s,mb4.0
KKAR **Karatay Array** 38.10 85 *e*P P 05 27 20.9 +0.8
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
KKAR **Karatay Array** 38.10 85 *e*P P 05 27 20.9 +0.8
comp=Z,2.1nm,0.6s,mb4.0
NVS **Novosibirsk** 38.27 61 *e*P P 05 27 21.1 -0.3
NVS pmax pmax
comp=Z,14nm,0.8s,mb4.7
NVS pmax pmax
comp=N,3.0nm,0.8s

NVS pmax pmax
comp=E,7.0nm,0.8s
NVS Novosibirsk 38.27 61 *e*P **P 05 27 21.1 -0.3**
comp=E,3.0nm,0.8s,mb4.1
ZAA0 Zalesovo Array 39.53 62 *e*P **P 05 27 32.6 +0.7**
ZAA0 Zalesovo Array 39.53 62 *e*P **P 05 27 32.6 +0.7**
ZALV Zalesovo Beam 39.53 62 P **P 05 27 33.0 +1.1**
comp=E,11nm,0.7s,mb4.7,baz=296,slow=9.7,SNR=48
ZALV Zalesovo Beam 39.53 62 P **P 05 27 33.0 +1.1**
ZALV Zalesovo Beam 39.53 62 P **P 05 27 33.0 +1.1**
ZALV Zalesovo Beam 39.53 62 P **P 05 27 33.0 +1.1**
EKS2 Erkin-Say 40.23 83 P **P 05 27 40.2 +2.4**
SNR=16
EKS2 P 05 27 40.2
SNR=16
EKS2 Erkin-Say 40.23 83 *e*P **P 05 27 39.7 +1.9**
comp=E,18nm,0.8s,mb4.8
EKS2 Erkin-Say 40.23 83 *e*P **P 05 27 39.7 +1.8**
EKS2 pmax pmax
comp=Z,18nm,0.8s,mb4.8
EKS2 Erkin-Say 40.23 83 *e*P **P 05 27 39.7 +1.8**
comp=Z,18nm,0.8s,mb4.8
USP Ospenovka 40.25 81 P **P 05 27 39.8 +1.8**
SNR=16
USP P 05 27 39.8
SNR=16
AML Almayashu 40.53 83 P **P 05 27 43.4 +3.0**
SNR=6.1
AML P 05 27 43.4
SNR=6.1
AAK Ala-Archa 40.65 82 P **P 05 27 44.0 +2.6**
SNR=13
AAK P 05 27 44.0
SNR=13
AAK Ala-Archa 40.65 82 *e*P **P 05 27 43.2 +1.9**
comp=Z,44nm,0.6s,mb5.3
AAK Ala-Archa 40.65 82*c i*P **P 05 27 42.7 +1.3**
AAK Ala-Archa 40.65 82 *i*P **P 05 27 42.7 +1.3**
KBK Karagaybulak 40.89 82 P **P 05 27 46.1 +2.7**
SNR=6.6
KBK P 05 27 46.1
SNR=6.6
TKM2 Tokmak 2 41.09 81 *e*P **P 05 27 46.4 +1.5**
comp=Z,4.6nm,0.9s,mb4.1
TKM2 Tokmak 2 41.09 81 *e*P **P 05 27 46.4 +1.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
TKM2 Tokmak 2 41.09 81 *e*P **P 05 27 46.4 +1.5**
comp=Z,4.6nm,0.9s,mb4.1
MK31 Makanchi Array 42.34 72 *e*P **P 05 27 56.0 +0.9**
MK31 Makanchi Array 42.34 72*ce*P **P 05 27 56.1 +0.9**
MK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
MK31 Makanchi Array 42.34 72 *e*P **P 05 27 56.0 +0.8**
MKAR Makanchi Array 42.34 72 P **P 05 27 56.1 +1.0**
comp=Z,3.7nm,0.4s,mb4.3,baz=306,slow=7.1,SNR=86
MKAR LR LR 05 48 26.0
comp=Z,38nm,19.2s,MS3.3,baz=176,slow=40
MKAR Makanchi Array 42.34 72 P **P 05 27 56.1 +1.0**
MKAR Makanchi Array 42.34 72 P **P 05 27 56.1 +0.9**
MKAR Makanchi Array 42.34 72 P **P 05 27 56.1 +0.9**
TORD Torodi Ar. Bea 43.30 197 P **P 05 28 04.6 +1.4**
comp=Z,2.1nm,0.7s,mb4.0,baz=7.0,slow=8.4,SNR=13
TORD Torodi Ar. Bea 43.30 197 P **P 05 28 04.6 +1.4**
TORD Torodi Ar. Bea 43.30 197 P **P 05 28 04.6 +1.4**
KSH Kashi 43.56 85⇑*i*P **P 05 28 07.4 +2.3**
KSH pP pP 05 28 11.8 +3.6
KSH sP sP 05 28 14.3 +4.8
KSH PP PP 05 29 51.1 +4.9
KSH PcP PcP 05 29 54.4 +1.8
KSH ScP ScP 05 33 44.1 +0.3
KSH PcS PcS 05 33 45.9 +0.6
KSH S **S 05 34 36.5 +2.6**
KSH sS sS 05 34 44.5 +5.4
KSH SS SS 05 37 45.3 -2.9
KSH ScS ScS 05 38 03.8 -0.7
KSH pmax pmax
comp=Z,21nm,0.7s,mb5.0
KSH pmax pmax
comp=Z,230nm,4.8s
KSH LR LR
comp=N,33nm,3.4s
KSH LR LR
comp=E,21nm,3.8s
KSH LR LR
comp=Z,120nm,5.2s
WMQ Urumqi 47.17 72 *e*P **P 05 28 34.0 +0.3**
BOD Bodaibo 50.23 43 *e*P **P 05 28 57.1 +0.1**
BOD pmax pmax
comp=Z,5.0nm,1.7s,mb4.3
BOD Bodaibo 50.23 43 *e*P **P 05 28 57.1 +0.1**
comp=Z,5.0nm,1.7s,mb4.3
SONM Songino Array 53.93 56 P **P 05 29 25.9 +1.2**
comp=Z,0.8nm,0.4s,mb4.0,baz=292,slow=9.1,SNR=11
SONM Songino Array 53.93 56 P **P 05 29 25.9 +1.2**
SONM Songino Array 53.93 56 P **P 05 29 25.9 +1.2**
SONM Songino Array 53.93 56 P **P 05 29 25.9 +1.2**
YKA Yellowknife Ar 55.53 334 P **P 05 29 37.2 +1.1**
comp=Z,3.5nm,0.7s,mb4.5,baz=34,slow=7.4,SNR=31
YKA Yellowknife Ar 55.53 334 P **P 05 29 37.2 +1.1**
YKA Yellowknife Ar 55.53 334 P **P 05 29 37.2 +1.1**
YKA Yellowknife Ar 55.53 334 P **P 05 29 37.2 +1.1**
DANN Dangsing 56.09 88 *e*P **P 05 29 41.7 +1.2**
comp=Z,9.1nm,0.4s,mb5.2
DANN Dangsing 56.09 88 *e*P **P 05 29 41.7 +1.2**
comp=Z,9.1nm,0.4s,mb5.2
DANN Dangsing 56.09 88 *e*P **P 05 29 41.7 +1.2**
comp=Z,9.1nm,0.4s,mb5.2
GTA Gaotai 56.73 68 *e*P **P 05 29 46.8 +1.9**
GTA pP pP 05 29 50.3 +2.2
GTA sP sP 05 29 52.5 +3.1
GTA pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
GKN Gorkha 56.85 88 *e*P **P 05 29 46.7 +0.7**
comp=Z,23nm,0.4s,mb5.5
GKN Gorkha 56.85 88 *e*P **P 05 29 46.7 +0.7**
comp=Z,23nm,0.4s,mb5.6
GKN Gorkha 56.85 88 *e*P **P 05 29 46.7 +0.7**
comp=Z,23nm,0.4s,mb5.6
KKN Kakani 57.38 88 *e*P **P 05 29 50.1 +0.4**
comp=Z,3.7nm,0.2s,mb5.1
KKN Kakani 57.38 88 *e*P **P 05 29 50.1 +0.4**
comp=Z,3.7nm,0.2s,mb5.1
KKN Kakani 57.38 88 *e*P **P 05 29 50.1 +0.4**
KKN pmax pmax
comp=Z,4.0nm,0.2s,mb5.1
KKN Kakani 57.38 88 *e*P **P 05 29 50.1 +0.4**
comp=Z,3.7nm,0.2s,mb5.1
DMN Daman 57.42 88 *e*P **P 05 29 51.2 +1.2**
comp=Z,10.0nm,0.5s,mb5.1
DMN Daman 57.42 88 *e*P **P 05 29 51.2 +1.2**
comp=Z,10.0nm,0.5s,mb5.1
DMN Daman 57.42 88 *e*P **P 05 29 51.2 +1.2**
comp=Z,10.0nm,0.5s,mb5.1
GUN Gumba 57.63 87 *e*P **P 05 29 52.9 +1.4**
comp=Z,11nm,0.4s,mb5.2
GUN Gumba 57.63 87 *e*P **P 05 29 52.9 +1.4**
comp=Z,11nm,0.4s,mb5.2
GUN Gumba 57.63 87 *e*P **P 05 29 52.9 +1.4**
comp=Z,11nm,0.4s,mb5.2
JIRN Jiri 57.99 87 *e*P **P 05 29 55.5 +1.4**
comp=Z,12nm,0.7s,mb5.1
JIRN Jiri 57.99 87 *e*P **P 05 29 55.5 +1.4**
comp=Z,12nm,0.7s,mb5.0
JIRN Jiri 57.99 87 *e*P **P 05 29 55.5 +1.4**
comp=Z,12nm,0.7s,mb5.0
RAMN Ramite 58.77 87 *e*P **P 05 30 00.7 +1.2**
comp=Z,7.4nm,0.4s,mb5.1
RAMN Ramite 58.77 87 *e*P **P 05 30 00.7 +1.2**
comp=Z,7.4nm,0.4s,mb5.1
RAMN Ramite 58.77 87 *e*P **P 05 30 00.7 +1.2**
comp=Z,7.4nm,0.4s,mb5.1
ILAR Eielson Array 59.07 350 P **P 05 30 02.5 +1.5**
comp=Z,0.3nm,0.6s,mb3.5,baz=0.6,slow=4.4,SNR=6.6
ILAR PcP PcP 05 30 50.3 +0.6
comp=Z,0.3nm,0.8s,baz=352,slow=5.3,SNR=2.8
ILAR Eielson Array 59.07 350 P **P 05 30 02.5 +1.5**
ILAR PcP PcP 05 30 50.3 +0.6
ILAR Eielson Array 59.07 350 P **P 05 30 02.5 +1.5**
ILAR 05 30 50.3
ILAR Eielson Array 59.07 350 P **P 05 30 02.5 +1.5**
TAPN Taplejung 59.09 86 *e*P **P 05 30 04.0 +2.3**
comp=Z,7.0nm,0.5s,mb5.0
TAPN Taplejung 59.09 86 *e*P **P 05 30 04.0 +2.3**
comp=Z,7.0nm,0.5s,mb5.0
TAPN Taplejung 59.09 86 *e*P **P 05 30 04.0 +2.3**
comp=Z,7.0nm,0.5s,mb5.0
ODAN Odare 59.29 87 *e*P **P 05 30 04.5 +1.4**
comp=Z,37nm,0.7s,mb5.5
ODAN Odare 59.29 87 *e*P **P 05 30 04.5 +1.4**
comp=Z,37nm,0.7s,mb5.5
ODAN Odare 59.29 87 *e*P **P 05 30 04.5 +1.4**
comp=Z,37nm,0.7s,mb5.5
ULM Lac du Bonnet 59.35 315 LR LR 05 57 27.1
comp=Z,60nm,18.1s,MS3.8,baz=220,slow=38
LZH Lanzhou 61.33 67 *e*P **P 05 30 17.3 +0.4**
LZH pP pP 05 30 21.8 +1.7
LZH sP sP 05 30 24.3 +3.0
LZH pmax pmax
comp=Z,14nm,1.2s,mb5.0
LZH Lanzhou 61.33 67 *e*P **P 05 30 17.2 +0.3**
comp=Z,14nm,1.2s,mb5.0
LZH pP pP 05 30 21.8 +1.7
LZH sP sP 05 30 24.3 +3.0
LZH Lanzhou 61.33 67 *e*P **P 05 30 17.2 +0.3**
LZH *PP pP 05 30 21.8 +1.7
LZH *SP sP 05 30 24.3 +3.0
LZH pmax pmax
comp=Z,14nm,1.2s,mb5.0
LZH Lanzhou 61.33 67 *e*P **P 05 30 17.2 +0.3**
comp=Z,14nm,1.2s,mb5.0
HHC Hu-ho-hao-te 61.59 59 *e*P **P 05 30 17.8 -0.9**
HHC pP pP 05 30 22.4 +0.5
HHC PP PP 05 32 33.8 0.0
HHC S **S 05 38 35.0 -5.4**
HHC ScS ScS 05 40 04.8 -5.2
HHC SS SS 05 42 36.8 -4.0
HHC pmax pmax
comp=Z,12nm,1.3s,mb4.9
HHC pmax pmax
comp=Z,250nm,4.8s
HHC LR LR
comp=N,270nm,12.6s,MS4.7
HHC LR LR
comp=E,180nm,13.1s,MS4.7
HHC LR LR
comp=Z,200nm,10.0s,MS4.6
CD2 Chengdu 65.26 71 *e*P **P 05 30 42.1 -1.0**
CD2 pP pP 05 30 46.8 +0.5
CD2 sP sP 05 30 49.5 +2.0
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CD2 pmax pmax
comp=Z,30nm,5.2s
GYA Guiyang 70.33 72 P **P 05 31 13.8 -1.3**
GYA PP PP 05 33 51.3 +0.9
GYA S S 05 40 24.3 -2.9
GYA SS SS 05 44 54.6 -2.5
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GYA pmax pmax
comp=Z,110nm,5.8s
GYA LR LR
comp=N,480nm,18.7s,MS4.8
GYA LR LR
comp=E,300nm,19.3s,MS4.8
GYA LR LR
comp=Z,470nm,18.8s,MS4.8
KSRS Korea Array 71.86 50 LR LR 06 04 57.9
comp=Z,36nm,19.6s,MS3.6,baz=55,slow=38
CHTO Chiang Mai 72.15 83 *e*P **P 05 31 27.5 +1.3**
comp=Z,2.6nm,0.6s,mb4.3
CHTO Chiang Mai 72.15 83 *e*P **P 05 31 27.5 +1.4**
CHTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CMAR Chiang Mai Arr 72.43 83 P **P 05 31 29.4 +1.5**
comp=Z,2.0nm,0.7s,mb4.2,baz=311,slow=7.6,SNR=11
CMAR Chiang Mai Arr 72.43 83 P **P 05 31 29.4 +1.5**
CMAR Chiang Mai Arr 72.43 83 P **P 05 31 29.4 +1.6**
TXAR Lajitas Array 79.95 308 P **P 05 32 12.2 +1.7**
comp=Z,0.2nm,0.7s,baz=196,slow=42,SNR=3.5
TXAR Lajitas Array 79.95 308 P **P 05 32 12.2 +1.7**
TXAR Lajitas Array 79.95 308 P **P 05 32 12.2 +1.7**
ASAR Alice Springs 126.31 79 PKP PKPdf 05 39 04.7 +0.7
comp=Z,0.4nm,0.8s,baz=232,slow=36,SNR=3.5
ASAR Alice Springs 126.31 79 PKP PKPdf 05 39 04.7 +0.7
ASAR Alice Springs 126.31 79 PKIKP PKPdf 05 39 04.7 +0.8

*ISCJB **16** 05:52:57.7±1.0, 37.°51N±0.°05×55.°04E±0.°04, h11km±7km,*
Error ellipse: s-maj=8.6km s-min=4.3km az=150.1
*TEH **16** 05:52:58.2, 37.°53N×55.°00E, h2km*
*CSEM **16** 05:52:58.1±0.2, 37.°46N×55.°06E, h2km, ML3.1, Error*
ellipse: s-maj=5.2km s-min=3.1km az=151.0
ISC 16 05:52:58.3±0.9, 37.°50N±0.°04×55.°01E±0.°04, h5km±7km,
n49, σ0s89/57, 1C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.87**	**79**	*e*Pg	**Pg**	**05 53 14.8**	**-0.2**
MRVT				*e*Sg	**Sg**	**05 53 26.2**	**-0.2**
IGLO	**Ghaloghah**	**1.37**	**224**	*e*Pg	**Pn**	**05 53 23.0**	**-1.1**
IGLO				*e*Sg	**Sg**	**05 53 42.6**	**+0.3**
IGLO				*e*		05 53 47.9	
comp=Z,12μm,0.2s							
ISHV	**Shirvan**	**2.14**	**88**	*e*Pn	**Pn**	**05 53 35.0**	**+0.3**
ISHV				*e*		05 54 07.6	
comp=Z,7μm,0.2s							
ISHV	**Shirvan**	**2.14**	**88**	*e*Pn	**Pn**	**05 53 35.0**	**+0.3**
ISHM	**Shahmirzad**	**2.18**	**220**	*e*Pn	**Pn**	**05 53 36.2**	**+1.0**
ISHM				*e*Sg	**Sg**	**05 54 06.7**	**-1.6**
ISHM				*e*		05 54 17.8	
comp=Z,5μm,0.2s							
ISHM	**Shahmirzad**	**2.18**	**220**	*e*Pn	**Pn**	**05 53 36.2**	**+1.0**
ISHM				*e*Sg	**Sg**	**05 54 06.7**	**-1.6**
IANJ	**Anjilo**	**2.21**	**204**	*e*Pn	**Pn**	**05 53 36.2**	**+0.6**
IANJ				*e*		05 54 15.8	
comp=Z,2μm,0.2s							
IANJ	**Anjilo**	**2.21**	**204**	*e*Pn	**Pn**	**05 53 36.2**	**+0.6**
IALA	**Alasht**	**2.26**	**232**	*e*Pn	**Pn**	**05 53 36.4**	**0.0**
IALA				*e*		05 54 12.3	
comp=Z,6μm,0.1s							
IALA	**Alasht**	**2.26**	**232**	*e*Pn	**Pn**	**05 53 36.4**	**0.0**
ISFR	**Sfrayin**	**2.42**	**100**	*e*Pn	**Pn**	**05 53 39.0**	**+0.4**
ISFR				*e*		05 54 26.4	
comp=Z,4μm,0.2s							
ISFR	**Sfrayin**	**2.42**	**100**	*e*Pn	**Pn**	**05 53 39.0**	**+0.4**
IPRN	**Peran**	**2.48**	**241**	*e*Pn	**Pn**	**05 53 40.1**	**+0.7**
IPRN				*e*Sg	**Sg**	**05 54 16.9**	**-1.1**
IPRN				*e*		05 54 28.1	
comp=Z,4μm,0.3s							
IFIR	**Firoozkooh**	**2.59**	**225**	*e*Pn	**Pn**	**05 53 42.1**	**+1.2**
IFIR				*e*		05 54 22.1	
comp=Z,2μm,0.2s							
IFIR	**Firoozkooh**	**2.59**	**225**	*e*Pn	**Pn**	**05 53 42.1**	**+1.2**
ILAS	**Lasjerd**	**2.68**	**219**	*e*Pn	**Pn**	**05 53 42.6**	**+0.5**
ILAS				*e*		05 54 34.5	
comp=Z,1μm,0.2s							
ILAS	**Lasjerd**	**2.68**	**219**	*e*Pn	**Pn**	**05 53 42.6**	**+0.5**
IKRD	**Kardeh**	**2.89**	**103**	*e*Pn	**Pg**	**05 53 56.0**	**+2.3**
IKRD				*e*		05 55 02.8	
comp=Z,489nm,0.3s							
IEMG	**Emamgholi**	**2.90**	**90**	*e*Pn	**Pn**	**05 53 45.5**	**+0.4**
IEMG				*e*		05 53 55.4	
comp=Z,1μm,0.2s							
IEMG	**Emamgholi**	**2.90**	**90**	*e*Pn	**Pn**	**05 53 45.5**	**+0.4**
DAMV	**Damavand**	**3.08**	**234**	*e*Pn	**Pn**	**05 53 50.2**	**+2.6**
IPAY	**Payeh**	**3.36**	**107**	*e*Pn	**Pn**	**05 53 51.6**	**+0.2**
IPAY				*e*		05 54 49.7	
comp=Z,583nm,0.2s							
IPAY	**Payeh**	**3.36**	**107**	*e*Pn	**Pn**	**05 53 51.6**	**+0.2**
IVRN	**Varamin**	**3.64**	**228**	*e*Pn	**Pn**	**05 53 55.7**	**+0.3**
IMOG	**Moghan**	**3.74**	**110**	*e*Pn	**Pn**	**05 53 56.1**	**-0.6**
IMOG				*e*		05 55 06.4	
comp=Z,408nm,0.3s							
IMOG	**Moghan**	**3.74**	**110**	*e*Pn	**Pn**	**05 53 56.1**	**-0.6**
ISRO	**Mashad**	**3.77**	**107**	*e*Pn	**Pn**	**05 53 57.3**	**+0.3**
ISRO	**Mashad**	**3.77**	**107**	*e*Pn	**Pn**	**05 53 57.3**	**+0.3**
ISFB	**Sefidab**	**3.86**	**216**	*e*Pn	**Pn**	**05 53 58.2**	**-0.1**
ISFB	**Sefidab**	**3.86**	**216**	*e*Pn	**Pn**	**05 53 58.2**	**-0.1**
TABS	**Tabas**	**4.20**	**155**	*e*Pn	**Pn**	**05 54 02.2**	**-0.9**
IMYA	**Miami**	**4.24**	**104**	*e*Pn	**Pn**	**05 54 03.7**	**+0.2**
IMYA				*e*		05 55 25.0	
comp=Z,390nm,0.4s							
IMYA	**Miami**	**4.24**	**104**	*e*Pn	**Pn**	**05 54 03.7**	**+0.2**
NASN	**Na'in**	**5.02**	**202**	*e*Pn	**Pn**	**05 54 15.1**	**+0.8**
ICHK	**Chekchek**	**5.26**	**186**	*e*Pn	**Pn**	**05 54 17.5**	**-0.1**
ICHK				*e*		05 54 23.4	
comp=Z,219nm,0.2s							
ICHK	**Chekchek**	**5.26**	**186**	*e*Pn	**Pn**	**05 54 17.5**	**-0.1**
ITEG	**Tejag**	**5.51**	**145**	*e*Pn	**Pn**	**05 54 20.4**	**-0.7**
ITEG				*e*		05 54 21.0	
comp=Z,546nm,0.1s							
ITEG	**Tejag**	**5.51**	**145**	*e*Pn	**Pn**	**05 54 20.4**	**-0.7**
IMON	**Monand**	**5.74**	**137**	*e*Pn	**Pn**	**05 54 23.4**	**-0.7**
IMON				*e*		05 55 13.8	
comp=Z,451nm,0.1s							
IMON	**Monand**	**5.74**	**137**	*e*Pn	**Pn**	**05 54 23.4**	**-0.7**
SHRT	**Shahrakht**	**5.77**	**130**	*e*Pn	**Pn**	**05 54 23.5**	**-1.1**
IKOO	**Kooshah**	**6.03**	**146**	*e*Pn	**Pn**	**05 54 27.3**	**-0.8**
IKOO				*e*		05 54 31.8	
comp=Z,101nm,0.2s							
IKOO	**Kooshah**	**6.03**	**146**	*e*Pn	**Pn**	**05 54 27.3**	**-0.8**
IDAH	**Dahanechah**	**6.19**	**139**	*e*Pn	**Pn**	**05 54 30.3**	**-0.1**
IDAH				*e*		05 54 41.1	
comp=Z,66nm,0.2s							
IDAH	**Dahanechah**	**6.19**	**139**	*e*Pn	**Pn**	**05 54 30.3**	**-0.1**
AB31	**Akbulak array**	**12.29**	**15**	Pn	**Pn**	**05 55 54.1**	**+0.2**
comp=Z,0.7nm,0.6s,baz=199,slow=13,SNR=16							
AB31				⇑Sn	**Sn**	**05 58 08.4**	**-2.7**
comp=Z,1.2nm,0.7s,baz=194,slow=25,SNR=5.7							
AB31	**Akbulak array**	**12.29**	**15**	Pn	**Pn**	**05 55 54.1**	**+0.3**
comp=Z,0.7nm,0.6s,baz=199,SNR=16							
AKTO	**Aktyubinsk**	**13.11**	**8**	⇓Pn	**Pn**	**05 56 05.7**	**+0.5**
comp=Z,0.3nm,0.8s							
AKTO				⇓Sn	**Sn**	**05 58 30.9**	**-0.4**
comp=Z,0.5nm,1.2s							
AKTO	**Aktyubinsk**	**13.11**	**8**	Pn	**Pn**	**05 56 05.7**	**+0.6**
comp=Z,0.3nm,0.8s							
AKTO				Sn	**Sn**	**05 58 30.9**	**-0.4**
comp=Z,0.5nm,1.2s							

*IDC **16** 06:02:46.1±2.3, 6.°71S×130.°60E, h0km, mb3.8/1,*
mb1 4.4/3, mb1mx3.9/13, mbtmp4.1/3, ML4.5/2, Error
ellipse: s-maj=134.2km s-min=31.4km az=70.0
*DJA **16** 06:02:50, 6.°16S×131.°57E, h103km, ML4.4/5*
ISC 16 06:02:48.5±0.7, 6.°34S±0.°07×131.°44E±0.°08, h84km±20km,
n12, σ1s41/19, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.47**	**62**	P	**Pn**	**06 03 15.7**	**+2.1**
TLE				S	**Sn**	**06 03 30.2**	**-2.4**
FAKI	**Fak Fak**	**3.49**	**13**	P	**Pn**	**06 03 43.0**	**+2.4**
FAKI				S	**Sn**	**06 04 19.9**	**-1.0**
MSAI	**Masohi**	**3.88**	**320**	P	**Pn**	**06 03 45.9**	**-0.1**
MSAI	**Masohi**	**3.88**	**320**	P	**Sn**	**06 04 39.1**	**+8.6**
80nm,0.6s,2μm							
NLAI	**Namlea**	**5.31**	**305**	P	**Pn**	**06 04 05.3**	**0.0**
0.4nm4μm41nm,0.7s							
FITZ	**Fitzroy Crossi**	**12.99**	**205**	P	**Pn**	**06 05 54.9**	**+5.1**
1μm53nm,0.7s							
FITZ				S	**Sn**	**06 08 11.6**	**-1.0**
1μm53nm,0.7s							
COEN	**Coen**	**13.81**	**124**	P	**Pn**	**06 05 59.4**	**-1.2**
12nm,0.9s							
COEN				S	**Sn**	**06 08 19.9**	**-13**
12nm,0.9s							
WRAB	**Tennant Creek**	**13.81**	**168**	P	**Pn**	**06 06 01.7**	**+1.1**
WRA	**Warramunga Arr**	**13.81**	**168**	Pn	**Pn**	**06 06 00.8**	**+0.2**
2.5nm,0.3s,baz=347,slow=14,SNR=59							
WRA				Sn	**Sn**	**06 08 26.6**	**-6.0**
3.8nm,0.3s,baz=356,slow=23,SNR=9.5							
ASAR	**Alice Springs**	**17.39**	**172**	P	**Pn**	**06 06 47.9**	**+2.1**
1.2nm,0.3s,baz=357,slow=13,SNR=34							
ASAR				S	**S**	**06 09 52.4**	**-10**
0.9nm,0.3s,baz=347,slow=27,SNR=5.7							
MBWA	**Marble Bar**	**18.59**	**216**	P	**Pn**	**06 07 06.7**	**+6.4**
MBWA				S	**S**	**06 10 25.4**	**-1.3**
MKAR	**Makanchi Array**	**68.47**	**326**	P	**P**	**06 13 49.2**	**+7.6**
0.4nm,0.4s,baz=116,slow=7.2,SNR=7.7							

GUC 16 06:03:02.5±0.4, 31.°72S×70.°13W, h147km±3km, MD3.5,
ML3.3, 9C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.87**	**231**	⇓*i*P	Pn	06 03 26.5	+0.6
PTCH				*i* S	Sn	06 03 44.0	+0.2
PTCH				AML	AML	06 03 45.4	
comp=N,1μm,0.4s							
CMCH	**Combarbala**	**0.93**	**306**	⇑*i*P	Pn	06 03 26.6	+0.3
CMCH				*i* S	Sn	06 03 45.2	+0.7
CMCH				AML	AML	06 03 46.4	
comp=E,2μm,0.8s							
JACH	**Jahuel**	**1.04**	**202**	⇑*i*P	Pn	06 03 27.8	+0.6
JACH				*i* S	Sn	06 03 46.9	+0.6
ROCH	**El Roble**	**1.46**	**211**	⇑*i*P	Pn	06 03 32.3	+1.0
ROCH				⇑*i*P		06 03 32.5	
ROCH				*i* S	Sn	06 03 55.0	+1.5
ROCH				*i* S	Sn	06 03 55.0	+1.5
ROCH				AML	AML	06 03 57.1	
comp=N,346nm,0.5s							
PEL	**Peldehue**	**1.50**	**198**	⇓*i*P	Pn	06 03 32.1	+0.3
PEL				*i* S	Sn	06 03 54.7	+0.4
PEL				AML	AML	06 03 56.4	
comp=N,384nm,0.2s							
FCH	**Farellones**	**1.61**	**185**	⇑*i*P	Pn	06 03 30.6	-2.4
FCH				*i* S	Sn	06 03 54.6	-1.8
FCH				AML	AML	06 04 00.1	
comp=E,228nm,0.2s							
CLCH	**Cerro Calan**	**1.71**	**192**	⇑*i*P	Pn	06 03 34.7	+0.6
CLCH				*i* S	Sn	06 03 59.1	+0.7
CLCH				AML	AML	06 04 02.2	
comp=E,258nm,0.7s							
ANTU	**Antumapu**	**1.90**	**193**	⇑*i*P	Pn	06 03 36.8	+0.6
ANTU				*i* S	Sn	06 04 02.7	+0.6
ANTU				AML	AML	06 04 04.3	
comp=E,306nm,0.4s							
PCH	**Pirque**	**1.93**	**190**	⇓*i*P	Pn	06 03 37.1	+0.6
PCH				*i* S	Sn	06 04 03.5	+0.7
SJCH	**San Jose de Ma**	**1.93**	**186**	⇑*i*P	Pn	06 03 37.1	+0.5
SJCH				AML	AML	06 04 08.3	
comp=N,68nm,0.2s							
LSCH	**La Serena**	**2.04**	**332**	*i* P	Pn	06 03 38.4	+0.4
LSCH				*i* S	Sn	06 04 05.2	0.0
LSCH				AML	AML	06 04 05.9	
comp=N,49nm,0.1s							
TACH	**Talagante**	**2.05**	**199**	*e*P	Pn	06 03 38.5	+0.5
TACH				*i* S	Sn	06 04 05.7	+0.4
CACH	**El Canelo**	**2.42**	**189**	⇓*i*P	Pn	06 03 43.6	+1.1
CACH				*i* S	Sn	06 04 15.0	+1.6
LNV	**Longovilo**	**2.48**	**206**	⇑*i*P	Pn	06 03 43.5	+0.3
LNV				*i* S	Sn	06 04 14.9	+0.3

NNC 16 06:03:47.0±3.7, 54.°05N×85.°91E, h0km, mb3.6, mpv3.0,
4C-6D, Error ellipse: s-maj=30.4km s-min=24.4km
az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.58**	**236**	⇑Pn	Pn	06 05 11.6	+0.5
3.4nm,1.2s							
KURK				⇓Lg		06 06 43.7	
1.6nm,0.6s							
KURBB	**Kurchatov Arra**	**5.68**	**236**	⇑Pn	Pn	06 05 13.2	+0.7
0.3nm,0.5s							
KURBB				⇓Sn	Sn	06 06 19.5	+1.1
0.4nm,0.7s							
KURBB				⇑Lg		06 06 44.7	
0.5nm,0.7s							
MK31	**Makanchi Array**	**7.62**	**199**	⇓Pn	Pn	06 05 39.2	0.0
0.9nm,0.5s,baz=25,slow=13,SNR=48							
MK31				⇑Sn	Sn	06 07 07.9	+1.7
6.1nm,1.3s,baz=20,slow=27,SNR=5.3							
VOSK	**Vostochnaya**	**9.03**	**268**	⇓Pn	Pn	06 05 58.3	-0.1
1.2nm,0.5s							
VOSK				⇓Sn	Sn	06 07 41.7	+1.1
1.2nm,0.6s							
ZRNK	**Zerenda**	**10.13**	**271**	⇓Pn	Pn	06 06 12.7	-0.9
1.6nm,0.5s							

IDC 16 06:13:12.9±48.0, 18.°10S×174.°68W, h0km, mb3.9/3,
mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse:
s-maj=913.8km s-min=159.4km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.67**	**242**	P	P	06 21 04.0	+0.7
0.9nm,0.4s,baz=76,slow=9.0,SNR=6.8							
WRA	**Warramunga Arr**	**48.09**	**259**	P	P	06 21 54.2	-0.4

0.5nm,0.4s,baz=98,slow=8.1,SNR=23
ASAR Alice Springs 48.16 254 P P 06 21 54.9 -0.3
0.7nm,0.4s,baz=95,slow=7.9,SNR=12

*ISCJB **16** 06:40:28.7±1.3,36°.77N±0°.08×27°.90E±0°.05,h28km±10km, Error ellipse: s-maj=13.5km s-min=7.2km az=176.8*
*CSEM **16** 06:40:28.3±0.7,36°.73N×27°.87E,h30km,MD2.7, Error ellipse: s-maj=19.8km s-min=11.2km az=176.0*
*ISK **16** 06:40:30.4,36°.94N×27°.73E,h2km,ML2.4*
*DDA **16** 06:40:30.9,36°.91N×27°.70E,h7km±3km,Md2.7*

ISC 16 06:40:29.0±1.1,36°.79N±0°.08×27°.90E±0°.05,h25km±9km, n12,σ1º13/21,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.26**	**256**	*e*PG	**Pb**	**06 40 36.2**	**+0.8**
DAT				*e*SG	**Sb**	**06 40 40.4**	**+0.6**
DAT	**Datca**	**0.26**	**256**	*e*Pg	**Pb**	**06 40 36.2**	**+0.8**
DAT				*e*Sg	**Sb**	**06 40 40.4**	**+0.6**
YER	**Yerkesik**	**0.46**	**42**	*e*PG	**Pb**	**06 40 40.7**	**+2.2**
YER	**Yerkesik**	**0.46**	**42**	*e*Pg	**Pb**	**06 40 40.7**	**+2.2**
BODT	**Bodrum**	**0.54**	**300**	*e*PG	**Pb**	**06 40 38.2**	**-1.7**
BODT				*e*SG	**Sb**	**06 40 44.1**	**-3.1**
BODT	**Bodrum**	**0.54**	**300**	*e*Pg	**Pb**	**06 40 38.2**	**-1.7**
TURN	**Turunc**	**0.57**	**82**	*i* P	**Pb**	**06 40 39.6**	**-0.7**
TURN				*i* S	**Sb**	**06 40 47.3**	**-0.8**
TURN	**Turunc**	**0.57**	**82**	*i* P	**Pb**	**06 40 39.6**	**-0.8**
TURN				*i* S	**Sb**	**06 40 47.3**	**-0.8**
AYDN	**Tasoluk**	**0.87**	**359**	*i* P	**Pn**	**06 40 46.3**	**+0.7**
AYDN				*i* S	**Sb**	**06 40 56.5**	**0.0**
AYDN	**Tasoluk**	**0.87**	**359**	*i* P	**Pn**	**06 40 46.3**	**+0.7**
AYDN				*i* S	**Sb**	**06 40 56.5**	**0.0**
GCAM	**G?zelcaml?**	**1.05**	**330**	*i* P	**Pn**	**06 40 47.6**	**-0.5**
GCAM				*i* S	**Sn**	**06 41 02.3**	**+0.4**
GCAM	**G?zelcaml?**	**1.05**	**330**	*i* P	**Pn**	**06 40 47.6**	**-0.5**
GCAM				*i* S	**Sn**	**06 41 02.3**	**+0.4**

*IDC **16** 06:42:26.6±1.8,51°.90N×174°.25W,h0km,mb3.6/8, mb1 3.9/10,mb1mx3.7/27,mbtmp3.7/10,ML3.9/2, Error ellipse: s-maj=48.5km s-min=20.1km az=3.0*
*NEIC **16** 06:42:28.8,51°.38N×174°.47W,h7km,ML3.3(AEIC), After AEIC.*

ISC 16 06:42:26.3±1.6,51°.24N±0°.06×174°.26W±0°.07,h15km±9km, n36,σ1º13/39,mb3.6/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.97**	**2**	P	**Pb**	**06 42 44.6**	**-0.2**
ATKA				S	**Sb**	**06 42 57.7**	**+0.3**
KOFP	**Flat Point**	**1.05**	**5**	P	**Pb**	**06 42 47.0**	**+0.9**
KOKL	**Mount Kliuchef**	**1.09**	**2**	P	**Pb**	**06 42 47.4**	**+0.6**
KOKV	**Korovin Volcan**	**1.13**	**3**	P	**Pb**	**06 42 48.4**	**+0.9**
KOKV				S	**Sb**	**06 43 02.8**	**+0.8**
GSMY	**Great Sitkin M**	**1.38**	**307**	P	**Pn**	**06 42 50.9**	**-0.1**
GSMY				S	**Sn**	**06 43 08.2**	**-0.8**
GSTR	**Great Sitkin T**	**1.42**	**308**	*e*Pg	**Pg**	**06 42 51.2**	**-2.3**
GSCK	**Great Sitkin C**	**1.42**	**304**	P	**Pn**	**06 42 51.2**	**-0.2**
GSTD	**Great Sitkin T**	**1.44**	**306**	P	**Pn**	**06 42 51.6**	**-0.1**
GSTD				S	**Sn**	**06 43 09.8**	**-0.4**
TAFP	**Tanaga Falls P**	**2.42**	**287**	P	**Pn**	**06 43 06.4**	**+1.2**
TAFP				S	**Sn**	**06 43 35.0**	**+0.5**
TASE	**Tanaga Southea**	**2.44**	**286**	P	**Pn**	**06 43 07.0**	**+1.5**
GANE	**Gareloi Northe**	**2.88**	**283**	P	**Pn**	**06 43 13.5**	**+1.9**
NIKO	**Nikolski**	**3.76**	**60**	*e*Pn	**Pn**	**06 43 29.2**	**+5.6**
KDAK	**Kodiak Island**	**14.15**	**54**	Pn	**Pn**	**06 45 43.2**	**-2.7**
0.2nm,0.3s,baz=280,slow=12,SNR=4.4							
KDAK	**Kodiak Island**	**14.15**	**54**	Pn	**Pn**	**06 45 43.2**	**-2.7**
ILAR	**Eielson Array**	**19.63**	**36**	P	**Pn**	**06 46 50.9**	**-4.4**
0.4nm,0.3s,baz=238,slow=9.0,SNR=50							
ILAR	**Eielson Array**	**19.63**	**36**	P	**Pn**	**06 46 50.9**	**-4.4**
EGAK	**Eagle**	**21.82**	**39**	*e*P	**P**	**06 47 17.0**	**-0.6**
INK	**Inuvik**	**25.97**	**34**	P	**P**	**06 47 56.5**	**-1.2**
0.7nm,0.6s,mb3.4,baz=230,slow=12,SNR=4.4							
INK	**Inuvik**	**25.97**	**34**	P	**P**	**06 47 56.5**	**-1.2**
YKA	**Yellowknife Ar**	**33.26**	**47**	PcP	PcP	06 51 45.3	+1.0
0.3nm,0.8s,baz=284,slow=2.6,SNR=6.3							
YKA	**Yellowknife Ar**	**33.26**	**47**	PcP	PcP	06 51 45.3	+1.0
PDAR	**Pinedale Array**	**43.62**	**75**	P	**P**	**06 50 30.9**	**+1.2**
0.7nm,0.9s,mb3.4,baz=289,slow=4.5,SNR=3.8							
PDAR	**Pinedale Array**	**43.62**	**75**	P	**P**	**06 50 30.9**	**+1.2**
SONM	**Songino Array**	**49.24**	**299**	P	**P**	**06 51 14.3**	**+0.6**
0.4nm,0.6s,mb3.6,baz=36,slow=6.9,SNR=3.8							
SONM	**Songino Array**	**49.24**	**299**	P	**P**	**06 51 14.3**	**+0.6**
TXAR	**Lajitas Array**	**55.84**	**84**	P	**P**	**06 52 05.8**	**+2.9**
0.2nm,0.7s,mb3.3,baz=287,slow=6.5,SNR=2.5							
TXAR	**Lajitas Array**	**55.84**	**84**	P	**P**	**06 52 05.8**	**+2.9**
ARCES	**ARCESS Array B**	**58.68**	**352**	P	**P**	**06 52 20.9**	**-1.4**
1.4nm,0.7s,mb4.1,baz=3.1,slow=8.3,SNR=3.4							
ARCES	**ARCESS Array B**	**58.68**	**352**	P	**P**	**06 52 20.9**	**-1.4**
KURK	**Kurchatov**	**61.15**	**316**	*e*P	**P**	**06 52 38.5**	**-1.1**
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	**06 52 46.6**	**-0.9**
0.4nm,0.5s,mb3.8,baz=46,slow=6.9,SNR=7.5							
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	**06 52 46.6**	**-0.9**
BVAR	**Borovoye Array**	**62.80**	**322**	P	**P**	**06 52 50.3**	**-0.3**
0.9nm,0.5s,mb4.1,baz=53,slow=6.0,SNR=7.0							
BVAR	**Borovoye Array**	**62.80**	**322**	P	**P**	**06 52 50.3**	**-0.3**
GERES	**GERESS Array B**	**80.07**	**355**	P	**P**	**06 54 33.8**	**-1.1**
0.2nm,0.3s,mb3.5,baz=10,slow=8.1,SNR=4.3							
GERES	**GERESS Array B**	**80.07**	**355**	P	**P**	**06 54 33.8**	**-1.1**

*IDC **16** 07:34:45.2±2.6,48°.66N×128°.90W,h0km,mb3.5/2, mb1 3.7/8,mb1mx3.5/26,mbtmp3.4/8,ML3.0/5,MS3.5/7, Ms1 3.4/7,ms1mx3.2/26,Error ellipse: s-maj=48.7km s-min=14.1km az=62.0*
*PGC **16** 07:34:46.6±1.3,48°.80N×128°.72W,h10km,ML3.0/8, Mw3.6,208km west of Tofino, Bc Vancouver Island Region*
*NEIC **16** 07:34:46.6,48°.80N×128°.72W,h10km,MW3.6(PGC), After PGC.*
*ISCJB **16** 07:34:47.1±0.8,48°.93N±0°.04×128°.47W±0°.07,h10km, mb3.5/2,MS3.5/4, Error ellipse: s-maj=7.8km s-min=4.8km az=147.0*

ISC 16 07:34:49.0±0.8,48°.99N±0°.04×128°.40W±0°.08,h10km,n45, σ1º03/60,mb3.5/2,MS3.5/4,6D,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.22**	**43**	Pn	**Pn**	**07 35 11.2**	**-0.8**
EDB				Sn	**Sn**	**07 35 28.8**	**+0.2**
EDB	**Eliza Dome**	**1.22**	**43**	⇑Pn	**Pn**	**07 35 11.2**	**-0.8**
EDB				⇑Sn	**Sn**	**07 35 28.8**	**+0.2**
BPBC	**Brooks Peninsu**	**1.24**	**19**	Pn	**Pn**	**07 35 11.1**	**-1.2**
BPBC				Sn	**Sn**	**07 35 29.5**	**+0.4**
BPBC	**Brooks Peninsu**	**1.24**	**19**	⇓Pn	**Pn**	**07 35 11.1**	**-1.2**
BPBC				⇓Sn	**Sn**	**07 35 29.5**	**+0.4**
ETB	**Estevan Point**	**1.28**	**72**	Pn	**Pn**	**07 35 12.6**	**-0.4**
ETB				Sn	**Sn**	**07 35 30.9**	**+0.8**
ETB	**Estevan Point**	**1.28**	**72**	⇑Pn	**Pn**	**07 35 12.6**	**-0.4**
ETB				⇑Sn	**Sn**	**07 35 30.9**	**+0.8**
MAYB	**Maynard**	**1.62**	**29**	Pn	**Pn**	**07 35 17.2**	**-0.4**
MAYB				Sn	**Sn**	**07 35 39.2**	**+0.7**
MAYB	**Maynard**	**1.62**	**29**	⇑Pn	**Pn**	**07 35 17.2**	**-0.4**
MAYB				⇓Sn	**Sn**	**07 35 39.2**	**+0.7**
HOLB	**Holberg**	**1.66**	**6**	Pn	**Pn**	**07 35 17.0**	**-1.2**
HOLB	**Holberg**	**1.66**	**6**	⇑Pn	**Pn**	**07 35 17.0**	**-1.2**
WOSB	**Woss**	**1.67**	**45**	Pn	**Pn**	**07 35 18.3**	**0.0**
WOSB	**Woss**	**1.67**	**45**	Pn	**Pn**	**07 35 18.3**	**0.0**
GDR	**Gold River**	**1.74**	**62**	Pn	**Pn**	**07 35 18.8**	**-0.4**
GDR	**Gold River**	**1.74**	**62**	⇑Pn	**Pn**	**07 35 18.8**	**-0.4**
PHC	**Port Hardy**	**1.83**	**20**	Pn	**Pn**	**07 35 19.7**	**-0.8**
PHC				Sn	**Sn**	**07 35 43.6**	**0.0**
PHC	**Port Hardy**	**1.83**	**20**	⇑Pn	**Pn**	**07 35 19.7**	**-0.8**
PHC				⇓Sn	**Sn**	**07 35 43.6**	**0.0**
OZB	**Mount Ozzard**	**1.92**	**90**	Pn	**Pn**	**07 35 20.2**	**-1.4**
OZB				Sn	**Sn**	**07 35 44.7**	**-1.1**
OZB	**Mount Ozzard**	**1.92**	**90**	Pn	**Pn**	**07 35 20.2**	**-1.4**
OZB				⇑Sn	**Sn**	**07 35 44.7**	**-1.1**
BTB	**Buttle Lake**	**1.95**	**75**	Pn	**Pn**	**07 35 21.9**	**-0.2**
BTB				Sn	**Sn**	**07 35 48.0**	**+1.5**
BTB	**Buttle Lake**	**1.95**	**75**	⇓Pn	**Pn**	**07 35 22.0**	**-0.1**
BTB				⇓Sn	**Sn**	**07 35 48.0**	**+1.5**
BMSB	**Bamfield Mari**	**2.16**	**93**	⇑Pn	**Pn**	**07 35 23.6**	**-1.4**
BMSB				⇑Sn	**Sn**	**07 35 50.6**	**-1.2**
BBB	**Bella Bella**	**3.21**	**3**	Pn	**Pn**	**07 35 39.3**	**0.0**
16nm,0.3s,baz=198,slow=12,SNR=117							
BBB				Sn	**Sn**	**07 36 16.2**	**-1.3**
13nm,0.3s,baz=303,slow=22,SNR=7.4							
BBB				LR	LR	07 37 02.5	
comp=Z,192nm,18.1s,baz=201,slow=38							
BBB	**Bella Bella**	**3.21**	**3**	Pn	**Pn**	**07 35 39.3**	**0.0**
BBB				Sn	**Sn**	**07 36 16.2**	**-1.3**
PGC	**Sidney**	**3.29**	**94**	*e*Pn	**Pn**	**07 35 41.5**	**+1.0**
PGC				*e*S	**Sn**	**07 36 29.7**	**+10**
JCW	**Jim Creek**	**4.37**	**98**	*e*Pn	**Pn**	**07 35 55.2**	**-0.2**
LON	**Longmire**	**4.97**	**114**	*e*Pn	**Pn**	**07 36 05.2**	**+1.6**
4.8nm,0.7s							
ETW	**Entiat**	**5.56**	**101**	*e*Pn	**Pn**	**07 36 12.2**	**+0.5**
ETW				*e*Sn	**Sn**	**07 37 16.1**	**+0.5**
DLBC	**Dease Lake**	**9.52**	**355**	Pn	**Pn**	**07 37 07.9**	**+2.0**
0.1nm,0.3s,baz=165,slow=12,SNR=3.0							
DLBC				LR	LR	07 40 39.5	
comp=Z,198nm,18.1s,baz=82,slow=36							
DLBC	**Dease Lake**	**9.52**	**355**	Pn	**Pn**	**07 37 07.9**	**+2.0**
NVAR	**Mina Array Bea**	**12.82**	**142**	Pn	**Pn**	**07 37 49.9**	**-1.3**
0.0nm,0.3s,baz=321,slow=13,SNR=3.2							
NVAR	**Mina Array Bea**	**12.82**	**142**	Pn	**Pn**	**07 37 49.9**	**-1.3**
PDAR	**Pinedale Array**	**14.51**	**108**	Pn	**Pn**	**07 38 17.8**	**+3.6**
0.0nm,0.3s,baz=289,slow=8.5,SNR=2.5							
PDAR	**Pinedale Array**	**14.51**	**108**	Pn	**Pn**	**07 38 17.8**	**+3.6**
YKA	**Yellowknife Ar**	**15.55**	**24**	Pn	**Pn**	**07 38 28.8**	**+0.9**
0.0nm,0.3s,baz=207,slow=13,SNR=3.7							
YKA	**Yellowknife Ar**	**15.55**	**24**	Pn	**Pn**	**07 38 28.8**	**+0.9**
ILAR	**Eielson Array**	**18.64**	**335**	P	**Pn**	**07 39 07.8**	**+1.1**
0.0nm,0.3s,baz=152,slow=12,SNR=5.0							
ILAR	**Eielson Array**	**18.64**	**335**	P	**Pn**	**07 39 07.8**	**+1.1**
INK	**Inuvik**	**19.54**	**354**	LR	LR	07 47 04.6	
comp=Z,183nm,18.2s,baz=3.1,slow=37							
ULM	**Lac du Bonnet**	**21.02**	**74**	P	**P**	**07 39 35.3**	**+2.7**
6.7nm,0.8s,mb4.0,baz=282,slow=9.8,SNR=11							
ULM				LR	LR	07 47 59.1	
comp=Z,163nm,18.8s,MS3.4,baz=183,slow=37							
ULM	**Lac du Bonnet**	**21.02**	**74**	P	**P**	**07 39 35.3**	**+2.7**
ANMO	**Albuquerque**	**21.41**	**123**	P	**P**	**07 39 37.2**	**+0.4**
0.4nm,0.6s,mb3.0,baz=304,slow=14,SNR=3.3							
ANMO	**Albuquerque**	**21.41**	**123**	P	**P**	**07 39 37.2**	**+0.4**
TXAR	**Lajitas Array**	**27.24**	**127**	LR	LR	07 51 23.5	
comp=Z,37nm,18.0s,MS3.0,baz=0.0,slow=37							
SCHQ	**Schefferville**	**37.33**	**57**	LR	LR	07 57 11.2	
comp=Z,89nm,18.1s,MS3.6,baz=58,slow=36							
PETK	**Petropavlovsk-**	**44.73**	**305**	LR	LR	08 02 03.4	
comp=Z,109nm,18.5s,MS3.8,baz=86,slow=37							

*IDC **16** 07:47:23.8±0.9,51°.40N×174°.21W,h0km,mb3.7/12, mb1 4.0/14,mb1mx3.9/28,mbtmp3.8/14,ML4.2/2,MS3.3/2, Ms1 3.4/2,ms1mx2.9/37,Error ellipse: s-maj=28.0km s-min=16.9km az=159.0*
*ISCJB **16** 07:47:27.0±2.0,51°.26N±0°.06×174°.10W±0°.06, h31km±14km,mb4.1/17,Error ellipse: s-maj=9.3km s-min=6.3km az=175.4*
*NEIC **16** 07:47:28.9,51°.37N×174°.37W,h3km,ML3.4(AEIC),After AEIC.*

ISC 16 07:47:27.9±2.0,51°.30N±0°.08×174°.16W±0°.06, h24km±13km,n51,σ0º87/56,mb4.1/17,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.90**	**359**	P	**Pb**	**07 47 44.7**	**-0.2**
ATKA				S	**Sb**	**07 47 57.3**	**+0.9**
KOFP	**Flat Point**	**0.97**	**2**	P	**Pn**	**07 47 47.0**	**+0.9**
KOKL	**Mount Kliuchef**	**1.02**	**359**	P	**Pn**	**07 47 47.5**	**+0.8**
KOKL				S	**Sb**	**07 48 00.2**	**+0.4**
GSMY	**Great Sitkin M**	**1.39**	**303**	P	**Pn**	**07 47 50.8**	**-1.0**
GSMY				S	**Sn**	**07 48 08.2**	**-1.2**
GSTR	**Great Sitkin T**	**1.42**	**305**	*e*Pn	**Pn**	**07 47 52.0**	**-0.2**
GSCK	**Great Sitkin C**	**1.43**	**300**	P	**Pn**	**07 47 51.1**	**-1.3**
GSTD	**Great Sitkin T**	**1.45**	**302**	P	**Pn**	**07 47 51.9**	**-0.7**
GSTD				S	**Sn**	**07 48 10.6**	**-0.1**
KIMD	**Kanaga Island**	**1.97**	**285**	P	**Pn**	**07 47 59.2**	**-0.6**
TASE	**Tanaga Southea**	**2.48**	**284**	P	**Pn**	**07 48 06.8**	**+0.1**
TASE				S	**Sn**	**07 48 36.7**	**+0.6**
AMKA	**Amchitka**	**4.10**	**274**	*e*Pn	**Pn**	**07 48 32.9**	**+3.9**
KDAK	**Kodiak Island**	**14.07**	**54**	Pn	**Pn**	**07 50 44.7**	**-0.7**
0.3nm,0.3s,baz=265,slow=11,SNR=6.0							
KDAK	**Kodiak Island**	**14.07**	**54**	Pn	**Pn**	**07 50 44.7**	**-0.7**
MCK	**McKinley**	**18.23**	**37**	*e*P	**Pn**	**07 51 38.8**	**-0.2**
ILAR	**Eielson Array**	**19.54**	**36**	P	**Pn**	**07 51 51.4**	**-3.3**
0.8nm,0.3s,baz=243,slow=9.8,SNR=43							
ILAR				LR	LR	08 00 19.4	
comp=Z,21nm,18.5s,baz=266,slow=40							
ILAR	**Eielson Array**	**19.54**	**36**	P	**Pn**	**07 51 51.4**	**-3.3**
EGAK	**Eagle**	**21.73**	**39**	*e*P	**P**	**07 52 17.2**	**+0.1**
DAWY	**Dawson**	**22.20**	**42**	*e*P	**P**	**07 52 22.9**	**+0.9**
INK	**Inuvik**	**25.88**	**34**	P	**P**	**07 52 56.9**	**-0.5**
0.7nm,0.5s,mb3.4,baz=264,slow=10,SNR=8.3							
INK	**Inuvik**	**25.88**	**34**	P	**P**	**07 52 56.9**	**-0.5**
DLBC	**Dease Lake**	**25.97**	**57**	P	**P**	**07 52 57.5**	**-0.7**
2.9nm,0.9s,mb3.8,baz=304,slow=12,SNR=2.4							
DLBC	**Dease Lake**	**25.97**	**57**	P	**P**	**07 52 57.5**	**-0.7**
YKA	**Yellowknife Ar**	**33.17**	**47**	P	**P**	**07 54 00.2**	**-1.8**
0.2nm,0.5s,mb3.3,baz=283,slow=8.4,SNR=5.0							
YKA				PcP	PcP	07 56 44.9	+0.7
0.2nm,0.7s,baz=290,slow=3.1,SNR=4.9							
YKA	**Yellowknife Ar**	**33.17**	**47**	P	**P**	**07 54 00.2**	**-1.8**
YKA				PcP	PcP	07 56 45.0	+0.8
PDAR	**Pinedale Array**	**43.54**	**75**	P	**P**	**07 55 29.6**	**+0.2**
0.9nm,0.8s,mb3.5,baz=307,slow=4.4,SNR=7.7							
PDAR	**Pinedale Array**	**43.54**	**75**	P	**P**	**07 55 29.6**	**+0.2**
SONM	**Songino Array**	**49.26**	**299**	P	**P**	**07 56 14.3**	**+0.2**
0.9nm,0.8s,mb3.9,baz=41,slow=8.4,SNR=6.5							
SONM	**Songino Array**	**49.26**	**299**	P	**P**	**07 56 14.3**	**+0.2**
TXAR	**Lajitas Array**	**55.78**	**85**	P	**P**	**07 57 03.9**	**+1.2**
0.5nm,0.8s,mb3.6,baz=310,slow=7.0,SNR=3.6							
TXAR	**Lajitas Array**	**55.78**	**85**	P	**P**	**07 57 03.9**	**+1.2**
ARCES	**ARCESS Array B**	**58.62**	**352**	P	**P**	**07 57 20.6**	**-1.6**
2.3nm,0.8s,mb4.3,baz=25,slow=9.0,SNR=3.7							
ARCES	**ARCESS Array B**	**58.62**	**352**	P	**P**	**07 57 20.6**	**-1.6**
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	**07 57 47.0**	**-0.8**
0.4nm,0.5s,mb3.8,baz=42,slow=5.6,SNR=8.6							
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	**07 57 47.0**	**-0.8**
NOA	**NORSAR Array B**	**67.93**	**357**	P	**P**	**07 58 23.1**	**-0.9**
1.0nm,0.8s,mb3.9,baz=6.2,slow=3.6,SNR=2.8							
NOA				LR	LR	08 30 02.4	
comp=Z,65nm,18.2s,baz=105,slow=38							
NOA	**NORSAR Array B**	**67.93**	**357**	P	**P**	**07 58 23.1**	**-0.9**
TAPN	**Taplejung**	**73.93**	**294**	*e*P	**P**	**07 59 01.9**	**+0.9**
17nm,0.9s,mb5.0							
ODAN	**Odare**	**74.49**	**294**	*e*P	**P**	**07 59 05.4**	**+1.2**
GUN	**Gumba**	**74.55**	**295**	*e*P	**P**	**07 59 05.4**	**+0.8**
43nm,1.0s							
JIRN	**Jiri**	**74.57**	**295**	*e*P	**P**	**07 59 05.4**	**+0.8**
18nm,0.8s,mb5.1							
RAMN	**Ramite**	**74.87**	**294**	*e*P	**P**	**07 59 07.2**	**+0.8**
27nm,0.9s,mb5.2							
PKI	**Pulchoki**	**75.08**	**295**	*e*P	**P**	**07 59 08.2**	**+0.6**
GKN	**Gorkha**	**75.18**	**296**	*e*P	**P**	**07 59 08.7**	**+0.5**
DMN	**Daman**	**75.22**	**296**	*e*P	**P**	**07 59 09.5**	**+1.1**
DANN	**Dangsing**	**75.41**	**297**	*e*P	**P**	**07 59 10.1**	**+0.6**
30nm,0.9s,mb5.2							
KOLN	**Koldanda**	**75.94**	**297**	*e*P	**P**	**07 59 13.4**	**+0.8**
7.1nm,0.6s,mb4.8							
GERES	**GERESS Array B**	**80.00**	**355**	P	**P**	**07 59 34.3**	**-0.5**
0.6nm,0.7s,mb3.6,baz=8.9,slow=4.3,SNR=5.5							
GERES	**GERESS Array B**	**80.00**	**355**	P	**P**	**07 59 34.3**	**-0.5**
WRA	**Warramunga Arr**	**84.05**	**228**	P	**P**	**07 59 54.9**	**-1.4**
0.3nm,0.6s,mb3.6,baz=32,slow=6.1,SNR=4.4							
WRA	**Warramunga Arr**	**84.05**	**228**	P	**P**	**07 59 54.9**	**-1.4**
ASAR	**Alice Springs**	**87.47**	**226**	P	**P**	**08 00 13.1**	**0.0**
0.5nm,0.8s,mb3.8,baz=29,slow=4.6,SNR=5.9							
ASAR	**Alice Springs**	**87.47**	**226**	P	**P**	**08 00 13.1**	**0.0**

*IDC **16** 08:12:52.0±1.1,51°.93N×173°.90W,h0km,mb3.4/7, mb1 3.9/9,mb1mx3.6/27,mbtmp3.6/9,ML4.3/2,Error ellipse: s-maj=47.7km s-min=20.3km az=142.0*
*ISCJB **16** 08:13:01.7±0.5,52°.2N±0°.2×173°.89W±0°.09,h87km±4km, mb3.3/7,Error ellipse: s-maj=30.0km s-min=5.2km az=164.4*
*NEIC **16** 08:13:03.1,51°.83N×173°.78W,h52km,ML3.7(AEIC),After AEIC.*

ISC 16 08:13:02.7±0.5,52°.2N±0°.2×173°.90W±0°.09,h82km±5km, n41,σ0º77/45,mb3.3/7,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Flat Point**	**0.16**	**312**	P	**Pn**	**08 13 14.6**	**+0.1**
ATKA	**Atka Island**	**0.18**	**282**	P	**Pn**	**08 13 13.1**	**-1.5**
ATKA				S	**Sn**	**08 13 21.6**	**-1.8**
KOSE	**Korovin Southe**	**0.20**	**333**	P	**Pn**	**08 13 14.9**	**+0.2**
KOKL	**Mount Kliuchef**	**0.24**	**311**	P	**Pn**	**08 13 15.0**	**+0.2**
GSTR	**Great Sitkin T**	**1.33**	**268**	P	**Pn**	**08 13 26.0**	**+0.1**
GSMY	**Great Sitkin M**	**1.33**	**266**	P	**Pn**	**08 13 25.7**	**-0.2**
GSTD	**Great Sitkin T**	**1.39**	**266**	P	**Pn**	**08 13 26.4**	**-0.2**
GSTD				S	**Sn**	**08 13 44.9**	**+0.3**
GSCK	**Great Sitkin C**	**1.40**	**265**	P	**Pn**	**08 13 26.7**	**-0.1**
ETKA	**Kagalaska Isla**	**1.58**	**260**	P	**Pn**	**08 13 29.0**	**0.0**
ETKA				S	**Sn**	**08 13 49.4**	**+0.5**
ADAG	**Mount Adagdak**	**1.68**	**265**	P	**Pn**	**08 13 30.9**	**+0.6**
KIRH	**Kanaga Island**	**1.99**	**264**	P	**Pn**	**08 13 34.7**	**+0.3**
KIKV	**Kanaga Island**	**2.04**	**263**	P	**Pn**	**08 13 35.2**	**+0.1**
KICM	**Kanaga Island**	**2.05**	**264**	P	**Pn**	**08 13 35.5**	**+0.3**
KIMD	**Kanaga Island**	**2.10**	**260**	P	**Pn**	**08 13 36.2**	**+0.3**
TAFL	**Tanaga Flats**	**2.50**	**262**	P	**Pn**	**08 13 42.0**	**+0.6**
TASE	**Tanaga Southea**	**2.58**	**264**	P	**Pn**	**08 13 42.5**	**+0.2**
TANO	**Tanaga North**	**2.62**	**266**	P	**Pn**	**08 13 43.1**	**+0.3**
GAEA	**Gareloi East**	**3.02**	**265**	P	**Pn**	**08 13 48.2**	**-0.1**
GANE	**Gareloi Northe**	**3.03**	**265**	P	**Pn**	**08 13 48.5**	**+0.1**
GALAA	**Gareloi Lava P**	**3.04**	**264**	P	**Pn**	**08 13 48.7**	**+0.2**
NIKO	**Nikolski**	**3.19**	**73**	*e*Pn	**Pn**	**08 13 50.6**	**+0.1**
NIKO				*e*Sn	**Sn**	**08 14 29.7**	**+2.3**
MSOM	**Makushin Julie**	**4.52**	**66**	P	**Pn**	**08 14 09.6**	**+1.0**
UNV	**Unalaska Valle**	**4.78**	**66**	P	**Pn**	**08 14 12.4**	**+0.3**
KDAK	**Kodiak Island**	**13.45**	**57**	Pn	**Pn**	**08 16 06.7**	**-3.0**
0.4nm,0.3s,baz=278,slow=21,SNR=11							
KDAK	**Kodiak Island**	**13.45**	**57**	Pn	**Pn**	**08 16 06.7**	**-3.0**
ILAR	**Eielson Array**	**18.75**	**37**	P	**Pn**	**08 17 15.1**	**-0.9**
1.0nm,0.3s,baz=227,slow=9.3,SNR=68							
ILAR	**Eielson Array**	**18.75**	**37**	P	**Pn**	**08 17 15.1**	**-0.9**
INK	**Inuvik**	**25.08**	**35**	P	**P**	**08 18 20.0**	**+0.9**
0.8nm,0.5s,mb3.4,baz=228,slow=5.6,SNR=8.4							
INK	**Inuvik**	**25.08**	**35**	P	**P**	**08 18 20.0**	**+0.9**
YKA	**Yellowknife Ar**	**32.46**	**48**	P	**P**	**08 19 23.9**	**-0.8**
0.1nm,0.5s,mb2.8,baz=273,slow=8.6,SNR=5.6							
YKA	**Yellowknife Ar**	**32.46**	**48**	P	**P**	**08 19 23.9**	**-0.8**
NVAR	**Mina Array Bea**	**40.45**	**87**	P	**P**	**08 20 33.1**	**+0.2**
0.2nm,0.5s,mb3.2,baz=293,slow=11,SNR=2.6							
NVAR	**Mina Array Bea**	**40.45**	**87**	P	**P**	**08 20 33.1**	**+0.2**
PDAR	**Pinedale Array**	**43.17**	**76**	P	**P**	**08 20 55.3**	**+0.3**
1.0nm,0.6s,mb3.7,baz=304,slow=3.7,SNR=11							
PDAR	**Pinedale Array**	**43.17**	**76**	P	**P**	**08 20 55.3**	**+0.3**
TXAR	**Lajitas Array**	**55.54**	**85**	P	**P**	**08 22 28.0**	**-1.3**
0.2nm,0.5s,mb3.4,baz=320,slow=5.9,SNR=5.4							
TXAR	**Lajitas Array**	**55.54**	**85**	P	**P**	**08 22 28.0**	**-1.3**
WRA	**Warramunga Arr**	**84.75

mb3.5/4, Error ellipse: s-maj=49.3km s-min=26.2km az=30.4

ISC 16 09:05:53.7±3.4, **6°.9S**±0°.2×**147°.8E**±0°.3, **h58**km±32km, **n15**, σ0$\hat{=}$**77**/17, **mb3.6/4, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.52**	**194**	Pn	**Pn**	**09 06 31.7**	**-0.6**
	41nm,0.3s,baz=30,slow=12,SNR=49						
PMG				Sn	**Sn**	**09 07 04.0**	**+2.1**
	40nm,0.3s,baz=157,slow=20,SNR=14						
PMG				LR	LR	09 07 14.0	
	comp=Z,373nm,20.8s,baz=91,slow=35						
PMG	**Port Moresby**	**2.52**	**194**	Pn	**Pn**	**09 06 31.7**	**-0.6**
PMG				*e*Pg	**Pn**	**09 06 32.1**	**-0.2**
PMG				*e*Sn	**Sn**	**09 06 59.7**	**-2.1**
PMG				Sn	**Sn**	**09 07 04.0**	**+2.1**
WRAB	**Tennant Creek**	**18.35**	**224**	*e*P	**Pn**	**09 10 04.8**	**+0.7**
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**18.36**	**224**	P	**Pn**	**09 10 03.7**	**-0.6**
	0.2nm,0.3s,baz=51,slow=11,SNR=13						
WRA	**Warramunga Arr**	**18.36**	**224**	P	**Pn**	**09 10 03.7**	**-0.6**
AS31	**Alice Springs**	**21.31**	**217**	*e*P	**P**	**09 10 35.6**	**-0.2**
ASAR	**Alice Springs**	**21.32**	**217**	P	**P**	**09 10 35.9**	**0.0**
	1.6nm,0.7s,mb3.5,baz=55,slow=9.3,SNR=33						
ASAR	**Alice Springs**	**21.32**	**217**	P	**P**	**09 10 35.9**	**0.0**
STKA	**Stephens Creek**	**25.47**	**192**	P	**P**	**09 11 16.0**	**-0.4**
	0.9nm,0.6s,mb3.5,baz=15,slow=7.6,SNR=5.2						
STKA	**Stephens Creek**	**25.47**	**192**	*e*P	**P**	**09 11 15.9**	**-0.5**
	0.9nm,1.1s,mb3.2						
KKAR	**Karatay Array**	**85.50**	**314**	*e*P	**P**	**09 18 25.5**	**0.0**
	0.5nm,0.3s,mb4.2						
ILAR	**Eielson Array**	**86.04**	**23**	P	**P**	**09 18 28.0**	**+0.4**
	0.2nm,0.7s,mb3.5,baz=238,slow=5.2,SNR=3.7						
ILAR	**Eielson Array**	**86.04**	**23**	P	**P**	**09 18 28.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**146.07**	**283**	PKPbc	PKPbc	09 25 29.6	+1.3
	0.2nm,0.4s,baz=84,slow=4.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**146.07**	**283**	PKPbc	PKPbc	09 25 29.6	+1.3

*IDC **16** 09:06:37.8±1.7, 1°.14S×130°.27E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.8/2, Error ellipse: s-maj=113.6km s-min=19.2km az=71.0*

*NEIC **16** 09:06:43.1±1.2, 1°.23S×130°.17E, h35km, mb3.6/1, Error ellipse: s-maj=56.5km s-min=14.5km az=73.0*

*DJA **16** 09:06:48, 4°.29S×130°.93E, h200km, MLv3.4/4*

*ISCJB **16** 09:06:49.0±1.1, 1°.45S±0°.07×130°.48E±0°.07, h127km±8km, mb3.5/4, Error ellipse: s-maj=12.3km s-min=11.7km az=174.1*

ISC 16 09:06:48.8±1.5, **1°.3S**±0°.1×**130°.46E**±0°.08, **h98**km±13km, **n17**, σ1$\hat{=}$**62**/26, **mb3.5/4, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.41**	**132**	P	**Pn**	**09 07 25.5**	**-1.2**
FAKI				S	**Sn**	**09 07 56.7**	**+0.9**
MSAI	**Masohi**	**2.55**	**217**	P	**Pn**	**09 07 29.9**	**+1.3**
MSAI				S	**Sn**	**09 07 59.1**	**0.0**
FITZ	**Fitzroy Crossi**	**17.37**	**196**	Pn	**Pn**	**09 10 42.3**	**-2.7**
	0.1nm,0.3s,baz=45,slow=10.0,SNR=3.7						
FITZ				Sn	**Sn**	**09 13 48.4**	**-10**
	0.1nm,0.3s,baz=90,slow=14,SNR=2.3						
FITZ	**Fitzroy Crossi**	**17.37**	**196**	Pn	**Pn**	**09 10 42.3**	**-2.7**
FITZ				*e*Pn	**Pn**	**09 10 44.0**	**-1.1**
FITZ				Sn	**Sn**	**09 13 48.4**	**-10**
WRAB	**Tennant Creek**	**18.92**	**169**	*e*P	**Pn**	**09 11 00.9**	**-2.7**
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**18.92**	**169**	P	**Pn**	**09 11 00.6**	**-3.1**
	0.5nm,0.3s,baz=351,slow=13,SNR=15						
WRA				S	**S**	**09 14 21.8**	**-10**
	0.3nm,0.3s,baz=194,slow=19,SNR=7.4						
WRA	**Warramunga Arr**	**18.92**	**169**	P	**Pn**	**09 11 00.6**	**-3.1**
WRA				S	**S**	**09 14 21.8**	**-10**
WB2	**Warramunga Arr**	**18.93**	**169**	*e*P	**Pn**	**09 11 01.9**	**-1.8**
AS31	**Alice Springs**	**22.49**	**172**	P	**P**	**09 11 42.4**	**+2.1**
ASAR	**Alice Springs**	**22.50**	**172**	P	**P**	**09 11 42.4**	**+2.1**
	1.9nm,0.5s,mb3.6,baz=353,slow=12,SNR=19						
ASAR				S	**S**	**09 15 48.0**	**+7.9**
	0.6nm,0.7s,baz=354,slow=23,SNR=5.9						
ASAR	**Alice Springs**	**22.50**	**172**	P	**P**	**09 11 42.4**	**+2.1**
ASAR				S	**S**	**09 15 48.0**	**+7.9**
STKA	**Stephens Creek**	**32.19**	**162**	P	**P**	**09 13 09.4**	**+1.9**
	0.6nm,0.6s,mb3.5,baz=315,slow=14,SNR=3.3						
STKA	**Stephens Creek**	**32.19**	**162**	P	**P**	**09 13 09.4**	**+1.9**
STKA				*e*P		09 13 10.3	
MKAR	**Makanchi Array**	**63.78**	**325**	P	**P**	**09 17 09.8**	**-0.6**
	0.2nm,0.6s,mb3.1,baz=132,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**63.78**	**325**	P	**P**	**09 17 09.8**	**-0.6**
KURK	**Kurchatov**	**67.95**	**327**	P	**P**	**09 17 37.4**	**+0.3**
	0.5nm,0.5s,mb3.6,baz=127,slow=6.1,SNR=6.0						
KURK	**Kurchatov**	**67.95**	**327**	P	**P**	**09 17 37.4**	**+0.3**

*ISCJB **16** 09:38:47.8±1.9, 12°.70N±0°.10×143°.5E±0°.2, h85km±20km, mb3.6/9, Error ellipse: s-maj=32.3km s-min=14.9km az=13.8*

*IDC **16** 09:38:50.0±2.0, 12°.72N×143°.62E, h89km±20km, mb3.3/8, mb1 3.5/8, mb1mx3.4/21, mbtmp3.3/8, Error ellipse: s-maj=30.7km s-min=17.4km az=106.0*

*NEIC **16** 09:38:49.6±1.4, 12°.71N×143°.60E, h87km±15km, mb4.2/1, Error ellipse: s-maj=24.1km s-min=10.7km az=101.0*

ISC 16 09:38:49.6±1.8, **12°.71N**±0°.10×**143°.6E**±0°.2, **h86**km±18km, **n20**, σ0$\hat{=}$**64**/24, **mb3.6**/9, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.53**	**55**	P	**Pn**	**09 39 15.4**	**-0.1**
	87nm,0.3s,baz=192,slow=5.1,SNR=40						
GUMO				S	**Sn**	**09 39 34.9**	**-0.2**
	240nm,0.3s,baz=164,slow=20,SNR=20						
GUMO	**Guam**	**1.53**	**55**	P	**Pn**	**09 39 15.4**	**-0.1**
GUMO				*e*Pn	**Pn**	**09 39 15.5**	**-0.1**
GUMO				S	**Sn**	**09 39 35.0**	**-0.2**
GUMO				*e*Sn	**Sn**	**09 39 35.7**	**+0.6**
WRAB	**Tennant Creek**	**33.69**	**196**	*e*P	**P**	**09 45 22.5**	**0.0**
	3.2nm,1.0s,mb4.1						
WB2	**Warramunga Arr**	**33.69**	**196**	*e*P	**P**	**09 45 22.4**	**-0.3**
WRA	**Warramunga Arr**	**33.70**	**196**	P	**P**	**09 45 22.5**	**-0.2**
	0.7nm,0.7s,mb3.6,baz=19,slow=9.7,SNR=8.9						
WRA	**Warramunga Arr**	**33.70**	**196**	P	**P**	**09 45 22.5**	**-0.2**
ASAR	**Alice Springs**	**37.37**	**195**	P	**P**	**09 45 54.5**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=15,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**37.37**	**195**	P	**P**	**09 45 54.5**	**+0.4**
SONM	**Songino Array**	**46.74**	**326**	P	**P**	**09 47 10.7**	**+0.5**
	0.3nm,0.4s,mb3.3,baz=150,slow=8.2,SNR=4.4						
SONM	**Songino Array**	**46.74**	**326**	P	**P**	**09 47 10.7**	**+0.6**
MKAR	**Makanchi Array**	**61.26**	**317**	P	**P**	**09 48 56.6**	**+0.8**
	0.5nm,0.6s,mb3.7,baz=90,slow=9.3,SNR=6.4						
MKAR	**Makanchi Array**	**61.26**	**317**	P	**P**	**09 48 56.6**	**+0.8**
ZALV	**Zalesovo Beam**	**61.61**	**325**	P	**P**	**09 48 56.8**	**-1.2**
	0.5nm,0.4s,mb3.9,baz=96,slow=10,SNR=2.5						
ZALV	**Zalesovo Beam**	**61.61**	**325**	P	**P**	**09 48 56.8**	**-1.2**
ILAR	**Eielson Array**	**69.89**	**25**	P	**P**	**09 49 49.9**	**-1.2**
	0.2nm,0.5s,mb3.2,baz=259,slow=5.7,SNR=4.1						
ILAR	**Eielson Array**	**69.89**	**25**	P	**P**	**09 49 49.9**	**-1.2**
YKA	**Yellowknife Ar**	**84.21**	**27**	P	**P**	**09 51 11.9**	**+0.6**
	0.2nm,0.5s,mb3.2,baz=286,slow=5.1,SNR=4.5						
YKA	**Yellowknife Ar**	**84.21**	**27**	P	**P**	**09 51 11.9**	**+0.6**
NVAR	**Mina Array Bea**	**88.44**	**51**	P	**P**	**09 51 33.2**	**+0.6**
	0.7nm,0.7s,mb3.8,baz=270,slow=4.7,SNR=6.7						
NVAR	**Mina Array Bea**	**88.44**	**51**	P	**P**	**09 51 33.2**	**+0.6**

*BJI **16** 10:19:35.7, 16°.27S×66°.14E, h10km, mB5.2/24, mb4.7/37, Ms5.0/24, Ms7 4.6/24*

*MOS **16** 10:19:38.6±1.4, 16°.18S×67°.14E, h10km, mb5.1/29, MS4.3/5, Error ellipse: s-maj=10.3km s-min=6.8km az=100.1*

*ISCJB **16** 10:19:38.0±0.2, 16°.34S±0°.05×67°.12E±0°.05, h10km, mb4.7/86, MS4.4/39, Error ellipse: s-maj=6.6km s-min=6.4km az=179.5*

*IDC **16** 10:19:38.1±0.4, 16°.30S×67°.18E, h0km, mb4.4/23, mb1 4.5/23, mb1mx4.4/26, mbtmp4.4/23, MS4.3/25, Ms1 4.3/25, ms1mx4.2/35, Error ellipse: s-maj=14.7km s-min=14.1km az=30.0*

*NEIC **16** 10:19:40.0±0.2, 16°.29S×67°.13E, h10km, mb5.1/36, Error ellipse: s-maj=8.3km s-min=7.4km az=159.0*

*GCMT **16** 10:19:43.7±0.2, 16°.20S×67°.04E, h16km±1km, MW5.2, Moment Tensor Solution. s57,c80; s92,c154; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.56±.19; $M_{\theta\theta}$-7.38±.19; $M_{\phi\phi}$7.94±.20; $M_{r\theta}$-0.03±.49; $M_{r\phi}$3.42±.16; $M_{\theta\phi}$-0.87±.51; Best double couple: $M_0$8.40000×10^{16} NP1:ϕ_s237.00000°, δ85.00000°, λ3.00000°. NP2:ϕ_s147.00000°, δ87.00000°, λ175.00000°. Principal axes: T 8.7500, Plg5.0000°, Azm102.0000°; N -0.6400, Plg85.0000°, Azm295.0000°; P -8.1100, Plg1.0000°, Azm192.0000°; Data Used: II IU IC G CN.*

ISC 16 10:19:40.0±0.2, **16°.35S**±0°.05×**67°.09E**±0°.05, **h10**km, (**h14**km±1.3km:**pP-P**), **n295**, σ1$\hat{=}$**20**/238, **mb4.7**/86, **MS4.4**/39, **19C-8D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**9.92**	**245**	*e*Pn	**Pn**	**10 21 56.7**	**-5.9**
MSEY	**Mahe Island**	**16.27**	**314**	*e*Pn	**Pn**	**10 23 26.9**	**-1.8**
	281nm,1.8s						
MSEY	**Mahe Island**	**16.27**	**314**	*e*P	**Pn**	**10 23 26.9**	**-1.8**
MSEY				pmax	pmax		
	comp=Z,281nm,1.8s						
ABPO	**Ambohimpanom**	**19.11**	**259**	*e*P	**Pn**	**10 24 03.4**	**-0.5**
	comp=Z,120nm,1.3s						
ABPO	**Ambohimpanom**	**19.11**	**259**	*e*P	**Pn**	**10 24 03.4**	**-0.6**
ABPO				pmax	pmax		
	comp=Z,120nm,1.3s						
KMBO	**Kilima Mbogo**	**33.06**	**294**	*e*P	**P**	**10 26 16.3**	**+0.3**
	comp=Z,8.8nm,0.8s,mb4.7						
KMBO	**Kilima Mbogo**	**33.06**	**294**	*e*P	**P**	**10 26 16.3**	**+0.2**
KMBO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LSZ	**Lusaka**	**37.41**	**266**	*e*P	**P**	**10 26 53.5**	**-0.1**
	comp=Z,14nm,1.1s,mb4.7						
LSZ				*e*PP	PP	10 28 20.0	+1.1
LSZ	**Lusaka**	**37.41**	**266**	*e*P	**P**	**10 26 53.5**	**0.0**
LSZ				*e*		10 28 20.0	
LSZ				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
LBTB	**Lobatse**	**39.64**	**250**	P	**P**	**10 27 11.9**	**-0.2**
	comp=Z,6.6nm,0.7s,mb4.5,baz=68,slow=5.7,SNR=7.9						
LBTB	**Lobatse**	**39.64**	**250**	P	**P**	**10 27 11.9**	**-0.2**
LBTB				*e*P		10 27 12.1	
LBTB	**Lobatse**	**39.64**	**250**	P	**P**	**10 27 11.9**	**-0.3**
LBTB				*e*		10 27 12.1	
BOSA	**Boshof**	**40.34**	**245**	P	**P**	**10 27 18.6**	**+0.7**
	comp=Z,7.0nm,0.9s,mb4.4,baz=100,slow=6.4,SNR=6.5						
BOSA				LR	LR	10 40 03.4	
	comp=Z,482nm,21.1s,MS4.3,baz=86,slow=30						
BOSA	**Boshof**	**40.34**	**245**	P	**P**	**10 27 18.6**	**+0.7**
BOSA	**Boshof**	**40.34**	**245**	P	**P**	**10 27 18.6**	**+0.6**
KSM	**Kuching**	**46.19**	**72**	*e*P	**P**	**10 28 03.0**	**-2.5**
	comp=Z,17nm,1.0s,mb4.9						
CMAR	**Chiang Mai Arr**	**46.69**	**44**	P	**P**	**10 28 08.8**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=236,slow=8.0,SNR=13						
CMAR				LR	LR	10 45 33.1	
	comp=Z,290nm,18.7s,MS4.3,baz=228,slow=33						
CMAR	**Chiang Mai Arr**	**46.69**	**44**	P	**P**	**10 28 08.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**46.69**	**44**	P	**P**	**10 28 08.8**	**-0.4**
KOLN	**Koldanda**	**46.69**	**20**	*e*P	**P**	**10 28 09.4**	**+0.3**
	comp=Z,17nm,0.8s,mb5.0						
KOLN	**Koldanda**	**46.69**	**20**	*e*P	**P**	**10 28 09.4**	**+0.3**
	comp=Z,17nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**46.94**	**43**	*e*P	**P**	**10 28 10.9**	**-0.3**
	comp=Z,5.5nm,1.1s,mb4.4						
CHTO	**Chiang Mai**	**46.94**	**43**	*e*P	**P**	**10 28 10.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
RAMN	**Ramite**	**47.03**	**24**	*e*P	**P**	**10 28 12.1**	**+0.4**
	comp=Z,44nm,0.9s,mb5.4						
RAMN	**Ramite**	**47.03**	**24**	*e*P	**P**	**10 28 12.1**	**+0.4**
	comp=Z,44nm,0.9s,mb5.4						
DMN	**Daman**	**47.06**	**22**	*e*P	**P**	**10 28 12.2**	**+0.2**
	comp=Z,54nm,1.2s,mb5.4						
DMN	**Daman**	**47.06**	**22**	*e*P	**P**	**10 28 12.2**	**+0.2**
	comp=Z,54nm,1.2s,mb5.4						
TSUM	**Tsumeb**	**47.10**	**259**	*e*P	**P**	**10 28 12.9**	**+0.3**
	comp=Z,6.4nm,1.1s,mb4.5						
GKN	**Gorkha**	**47.26**	**21**	*e*P	**P**	**10 28 13.7**	**+0.2**
	comp=Z,50nm,1.0s,mb5.4						
GKN	**Gorkha**	**47.26**	**21**	*e*P	**P**	**10 28 13.7**	**+0.2**
	comp=Z,50nm,1.0s,mb5.4						
ODAN	**Odare**	**47.26**	**25**	*e*P	**P**	**10 28 13.3**	**-0.3**
ODAN	**Odare**	**47.26**	**25**	*e*P	**P**	**10 28 13.3**	**-0.3**
DANN	**Dangsing**	**47.28**	**20**	*e*P	**P**	**10 28 13.8**	**+0.1**
	comp=Z,72nm,1.4s,mb5.4						
DANN	**Dangsing**	**47.28**	**20**	*e*P	**P**	**10 28 13.8**	**+0.1**
	comp=Z,72nm,1.4s,mb5.4						
JIRN	**Jiri**	**47.51**	**23**	*e*P	**P**	**10 28 15.1**	**-0.4**
	comp=Z,24nm,0.9s,mb5.2						
JIRN	**Jiri**	**47.51**	**23**	*e*P	**P**	**10 28 15.1**	**-0.4**
	comp=Z,24nm,0.9s,mb5.2						
GUN	**Gumba**	**47.62**	**23**	*e*P	**P**	**10 28 16.4**	**+0.1**
	comp=Z,56nm,1.1s,mb5.5						
GUN	**Gumba**	**47.62**	**23**	*e*P	**P**	**10 28 16.4**	**+0.1**
	comp=Z,56nm,1.1s,mb5.5						
TAPN	**Taplejung**	**47.83**	**25**	*e*P	**P**	**10 28 18.1**	**+0.1**
TAPN	**Taplejung**	**47.83**	**25**	*e*P	**P**	**10 28 18.1**	**+0.1**
SHL	**Shillong**	**48.16**	**31**	*e*PKP	**P**	**10 28 23.6**	**+3.1**
KBL	**Kabul**	**50.65**	**2**	*e*P	**P**	**10 28 38.0**	**-1.4**
	comp=Z,24nm,1.4s,mb4.9						
KBL	**Kabul**	**50.65**	**2**	*e*P	**P**	**10 28 38.0**	**-1.4**
KBL				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
MAW	**Mawson**	**51.29**	**182**	P	**P**	**10 28 44.5**	**+0.6**
	comp=Z,12nm,1.3s,mb4.7,baz=76,slow=9.8,SNR=4.2						
MAW				LR	LR	10 45 14.8	
	comp=Z,192nm,20.7s,MS4.1,baz=4.4,slow=30						
MAW	**Mawson**	**51.29**	**182**	P	**P**	**10 28 44.5**	**+0.6**
MAW	**Mawson**	**51.29**	**182**	P	**P**	**10 28 44.5**	**+0.6**
LSA	**Lhasa**	**51.33**	**27**	P	**P**	**10 28 44.3**	**-0.4**
BHD	**Baghdad**	**53.90**	**336**	*ex*	**P**	**10 29 05.5**	**+1.9**
BHD				*ex*	x	10 36 44.5	
KMI	**Kunming**	**53.91**	**41**	P	**P**	**10 29 08.3**	**+4.4**
KMI				pP	pP	10 29 10.4	+3.3
KMI				PP	PP	10 31 10.4	+5.1
KMI				S	**S**	**10 36 42.3**	**+2.9**
KMI				SS	SS	10 40 23.5	+2.5
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KMI				LR	LR		
	comp=N,300nm,23.3s,MS4.5						
KMI				LR	LR		
	comp=E,280nm,19.7s,MS4.5						
KMI				LR	LR		
	comp=Z,240nm,21.7s,MS4.2						
KMI	**Kunming**	**53.91**	**41**	P	**P**	**10 29 08.2**	**+4.3**
	comp=Z,4.0nm,0.6s,mb4.5						
KMI				pP	pP	10 29 10.4	+3.3
KMI				PP	PP	10 31 10.4	+5.1
KMI				S	**S**	**10 36 42.3**	**+2.9**
KMI				sS	sS	10 36 47.0	+2.3
KMI				SS	SS	10 40 23.5	+2.5
KMI				LR	LR		
	comp=Z,240nm,21.7s,MS4.2						
KMI	**Kunming**	**53.91**	**41**	P	**P**	**10 29 08.2**	**+4.3**
KMI				*PP	pP	10 29 10.4	+3.3
KMI						10 31 10.4	
KMI				S	**S**	**10 36 42.3**	**+2.9**
KMI				*SS	sS	10 36 47.0	+2.3
KMI				SS	SS	10 40 23.5	+2.5
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KMI				MLR	MLR		
	comp=Z,240nm,21.7s,MS4.2						
QIZ	**Qiongzhong**	**54.82**	**52**	P	**P**	**10 29 01.6**	**-9.0**
QIZ				S	**S**	**10 36 35.3**	**-17**
QIZ				LR	LR		
	comp=N,490nm,11.4s						
QIZ				LR	LR		
	comp=Z,390nm,4.7s						
SYO	**Syowa Base**	**55.40**	**192**	*e*P	**P**	**10 29 13.0**	**-1.0**
SYO	**Syowa Base**	**55.40**	**192**	*e*P	**P**	**10 29 16.4**	**+2.4**
FITZ	**Fitzroy Crossi**	**55.75**	**101**	P	**P**	**10 29 17.3**	**-0.1**
	comp=Z,8.5nm,0.9s,mb4.8,baz=267,slow=6.4,SNR=9.0						
FITZ	**Fitzroy Crossi**	**55.75**	**101**	*e*P	**P**	**10 29 17.1**	**-0.3**
	comp=Z,17nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**55.75**	**101**	*e*P	**P**	**10 29 17.3**	**0.0**
	comp=Z,13nm,1.0s,mb4.9						
KSH	**Kashi**	**56.19**	**8**	P	**P**	**10 29 15.9**	**-4.2**
KSH				pP	pP	10 29 20.5	-2.8
KSH				sP	sP	10 29 22.9	-1.6
KSH				PcP	PcP	10 30 16.0	-1.8
KSH				PP	PP	10 31 21.3	-4.2
KSH				ScP	ScP	10 34 12.9	-4.3
KSH				PcS	PcS	10 34 14.6	-3.5
KSH				S	**S**	**10 36 57.6**	**-12**
KSH				ScS	ScS	10 39 01.1	-8.4
KSH				SS	SS	10 40 42.8	-14
KSH				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KSH				LR	LR		
	comp=N,140nm,5.8s						
KSH				LR	LR		
	comp=E,390nm,12.6s						
KSH				LR	LR		
	comp=Z,190nm,6.8s						
ASF	**Jabal al Asfar**	**56.26**	**329**	P	**P**	**10 29 22.2**	**+1.5**
	comp=Z,2.7nm,0.8s,mb4.3,baz=90,slow=5.1,SNR=4.6						
ASF	**Jabal al Asfar**	**56.26**	**329**	P	**P**	**10 29 22.2**	**+1.5**
ASF	**Jabal al Asfar**	**56.26**	**329**	P	**P**	**10 29 22.2**	**+1.5**
FORT	**Forrest**	**57.08**	**116**	*e*P	**P**	**10 29 26.7**	**0.0**
	comp=Z,17nm,0.8s,mb5.1						
GYA	**Guiyang**	**57.36**	**43**	P	**P**	**10 29 31.0**	**+2.4**
GYA				PP	PP	10 31 41.4	+5.2
GYA				ScP	ScP	10 34 23.8	+1.1
GYA				S	**S**	**10 37 27.6**	**+2.2**
GYA				SS	SS	10 41 17.3	+2.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,530nm,19.7s,MS4.8						
GYA				LR	LR		
	comp=E,490nm,20.3s,MS4.8						
GYA				LR	LR		
	comp=Z,570nm,19.8s,MS4.7						
CD2	**Chengdu**	**58.75**	**37**	P	**P**	**10 29 41.3**	**+3.0**
CD2				pP	pP	10 29 45.8	+4.3
CD2				sP	sP	10 29 49.0	+6.3
CD2				PP	PP	10 31 53.4	+5.0
CD2				S	**S**	**10 37 45.6**	**+2.2**
CD2				sS	sS	10 37 53.3	+4.6
CD2				SS	SS	10 41 41.0	+4.0
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
CD2				pmax	pmax		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,280nm,18.0s,MS4.7						
CD2				LR	LR		
	comp=E,420nm,14.4s,MS4.7						
CD2				LR	LR		
	comp=Z,230nm,16.8s,MS4.4						
EKS2	**Erkin-Say**	**59.04**	**6**	*e*P	**P**	**10 29 39.4**	**-0.6**
	comp=Z,12nm,1.0s,mb4.9						
EKS2	**Erkin-Say**	**59.04**	**6**	*e*P	**P**	**10 29 39.4**	**-0.7**
EKS2				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
AAK	**Ala-Archa**	**59.09**	**6**	*e*P	**P**	**10 29 40.0**	**-0.4**
	comp=Z,55nm,1.1s,mb5.5						
AAK	**Ala-Archa**	**59.09**	**6**	*e*P	**P**	**10 29 39.4**	**-1.0**
AAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
KK31	**Karatay Array**	**59.24**	**3**	*i* P	**P**	**10 29 42.9**	**+1.4**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KKAR	**Karatay Array**	**59.24**	**3**	*e*P	**P**	**10 29 40.1**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.8						
KKAR	**Karatay Array**	**59.24**	**3**	*e*P	**P**	**10 29 40.1**	**-1.4**
TKM2	**Tokmak 2**	**59.50**	**7**	*e*P	**P**	**10 29 41.9**	**-1.3**
	comp=Z,12nm,0.6s,mb5.1						
TKM2	**Tokmak 2**	**59.50**	**7**	*e*P	**P**	**10 29 41.9**	**-1.3**
TKM2				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
GNI	**Garni**	**59.94**	**340**	*e*P	**P**	**10 29 44.8**	**-1.6**
	comp=Z,15nm,0.8s,mb5.1						
GNI	**Garni**	**59.94**	**340**	*e*P	**P**	**10 29 47.1**	**+0.8**
GNI				pmax	pmax		
	comp=Z,33nm,1.7s						
MAK	**Makhachkala**	**61.71**	**344**	*e*P	**P**	**10 29 56.7**	**-1.6**
MAK				S	**S**	**10 38 19.8**	**-1.2**
MAK				pmax	pmax		
	comp=Z,49nm,0.6s,mb5.8						
MAK				MLR	MLR		
	comp=Z,362nm,19.0s,MS4.5						
LZH	**Lanzhou**	**62.68**	**33**	*e*P	**P**	**10 30 05.6**	**+0.6**
LZH				pP	pP	10 30 09.5	+1.3
LZH				sP	sP	10 30 11.9	+2.5
LZH				PP	PP	10 32 24.8	+1.7
LZH				*e*S	**S**	**10 38 34.3**	**+0.7**
LZH				sS	sS	10 38 42.5	+3.6
LZH				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
LZH				pmax	pmax		
	comp=Z,97nm,6.1s						
LZH				LR	LR		
	comp=N,260nm,15.8s,MS4.7						
LZH				LR	LR		
	comp=E,240nm,14.2s,MS4.7						
LZH				LR	LR		
	comp=Z,460nm,17.3s,MS4.7						
LZH	**Lanzhou**	**62.68**	**33**	*e*P	**P**	**10 30 05.6**	**+0.6**
	comp=Z,18nm,1.2s,mb5.1						
LZH				pP	pP	10 30 09.5	+1.3
LZH				sP	sP	10 30 11.9	+2.5
LZH				PP	PP	10 32 24.8	+1.7
LZH				*e*S	**S**	**10 38 34.3**	**+0.7**
LZH		

WRAB pmax pmax
comp=Z,23nm,0.9s,mb5.2
WRAB Tennant Creek 63.64 104 P **P 10 30 10.8 -1.0**
comp=Z,146nm,0.9s,SNR=7.8
BBOO Buckleboo 63.83 119 *eP* **P 10 30 12.2 -0.6**
comp=Z,43nm,1.1s,mb5.4
BRTR Keskin Array B 63.92 332 P **P 10 30 12.9 -0.2**
comp=Z,2.0nm,0.8s,mb4.2,baz=169,slow=10,SNR=8.7
BRTR LR LR 10 56 39.8
comp=Z,183nm,19.1s,MS4.3,baz=328,slow=35
BRTR Keskin Array B 63.92 332 P **P 10 30 12.9 -0.2**
BRTR Keskin Array B 63.92 332 P **P 10 30 12.9 -0.2**
BR131 Keskin Array S 63.92 332 *eP* **P 10 30 14.3 +1.2**
comp=Z,3.5nm,0.8s,mb4.4
XAN Xi'an 64.02 38 P **P 10 30 15.3 +1.4**
XAN pP pP 10 30 21.0 +3.9
XAN pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
KIV Kislovodsk 64.03 341 *eP* **P 10 30 15.2 +1.4**
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.8
MKAR Makanchi Array 64.33 12 P **P 10 30 13.5 -2.1**
comp=Z,2.0nm,0.7s,mb4.3,baz=214,slow=7.2,SNR=11
MKAR LR LR 10 56 59.2
comp=Z,168nm,21.1s,MS4.2,baz=179,slow=35
MKAR Makanchi Array 64.33 12 P **P 10 30 13.6 -2.1**
MKAR Makanchi Array 64.33 12 P **P 10 30 13.6 -2.0**
MK31 Makanchi Array 64.33 12 *eP* **P 10 30 14.5 -1.1**
MK31 Makanchi Array 64.33 12 *eP* **P 10 30 14.5 -1.1**
AB31 Akbulak array 65.62 355 *i P* **P 10 30 22.4 -1.6**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ABKAR Akbulak array 65.62 355 *eP* **P 10 30 22.1 -1.9**
comp=Z,3.6nm,0.6s,mb4.6
AKTO Aktyubinsk 66.97 354 LR LR 10 58 23.8
comp=Z,90nm,19.1s,MS4.0,baz=192,slow=35
AKTO Aktyubinsk 66.97 354 *i P* **P 10 30 31.1 -1.6**
AKTO pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
KURK Kurchatov 67.54 8 *eP* **P 10 30 36.9 +0.6**
comp=Z,25nm,1.2s,mb5.1
KURK Kurchatov 67.54 8⇑*iP* **P 10 30 34.9 -1.4**
KURK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SNAA Sanae 68.30 199 *e* **P 10 30 42.3 +1.4**
SNAA *e* 10 30 49.1
SNAA Sanae 68.30 199 P **P 10 30 42.5 +1.6**
comp=Z,3.4nm,0.9s,mb4.4,baz=96,slow=5.6,SNR=6.9
SNAA Sanae 68.30 199 *eP* **P 10 30 42.4 +1.5**
comp=Z,12nm,1.0s,mb4.9
SNAA Sanae 68.30 199 *eP* **P 10 30 42.4 +1.5**
SNAA pmax pmax
comp=Z,12nm,1.0s
QIS Mount Isa 68.41 106 *eP* **P 10 30 42.0 -0.5**
STKA Stephens Creek 68.58 118 P **P 10 30 41.2 -2.2**
comp=Z,2.9nm,0.9s,mb4.2,baz=294,slow=4.7,SNR=6.7
STKA LR LR 10 55 15.6
comp=Z,688nm,21.8s,MS4.8,baz=230,slow=31
STKA Stephens Creek 68.58 118 *eP* **P 10 30 41.2 -2.2**
comp=Z,5.0nm,0.9s,mb4.4
STKA Stephens Creek 68.58 118 *eP* **P 10 30 42.0 -1.4**
comp=Z,1.6nm,1.0s,mb3.9
STKA Stephens Creek 68.58 118 *eP* **P 10 30 42.0 -1.4**
STKA pmax pmax
comp=Z,2.0nm,1.0s
VOSK Vostochnaya 68.87 3 P **P 10 30 43.8 -0.7**
VOSK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
NJ2 Nanjing 69.10 46 *eP* **P 10 30 46.5 0.0**
NJ2 pP pP 10 30 51.3 +1.6
NJ2 sP sP 10 30 53.4 +2.5
NJ2 S S 10 39 50.0 -2.1
NJ2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
NJ2 pmax pmax
comp=Z,140nm,4.9s
NJ2 LR LR
comp=N,640nm,28.7s,MS4.8
NJ2 LR LR
comp=E,500nm,27.6s,MS4.8
NJ2 LR LR
comp=Z,130nm,23.4s,MS4.1
BVA0 Borovoye Array 69.15 2 *i P* **P 10 30 45.0 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
BRVK Borovoye 69.18 2 *eP* **P 10 30 44.8 -1.7**
comp=Z,18nm,1.4s,mb4.8
BRVK Borovoye 69.18 2 *eP* **P 10 30 44.8 -1.7**
BRVK pmax pmax
comp=Z,18nm,1.4s,mb4.8
VNA2 Neumayer--Watz 69.59 200 *e* **P 10 30 52.0 +3.1**
baz=76,slow=6.2
VNA2 *e* 10 30 58.7
TIRR Tirgusor 70.04 332⇑P **P 10 30 59.6 +7.6**
TIRR Tirgusor 70.04 332⇑*iP* **P 10 30 59.6 +7.6**
HHC Hu-ho-hao-te 70.28 34 *eP* **P 10 30 56.6 +3.0**
HHC pP pP 10 31 00.8 +4.0
HHC sP sP 10 31 04.3 +6.3
HHC PP PP 10 33 33.6 +4.2
HHC S S 10 40 06.5 +0.9
HHC sS sS 10 40 15.3 +4.3
HHC ScS ScS 10 40 55.1 -1.4
HHC SS SS 10 44 40.1 +3.6
HHC pmax pmax
comp=Z,21nm,1.2s,mb4.9
HHC pmax pmax
comp=Z,160nm,4.6s
HHC LR LR
comp=N,200nm,11.8s,MS4.8
HHC LR LR
comp=E,280nm,12.8s,MS4.8
HHC LR LR
comp=Z,160nm,12.2s,MS4.5
VNA3 Neumayer Olymp 70.37 200 *e* **P 10 30 56.6 +2.9**
VNA3 *e* 10 31 02.8
CFR Carcaliu 70.72 332⇓P **P 10 31 00.9 +4.8**
CFR Carcaliu 70.72 332⇓*iP* **P 10 31 00.9 +4.8**
TORD Torodi Ar. Bea 70.97 290 P **P 10 30 56.8 -1.5**
comp=Z,2.9nm,1.1s,mb4.1,baz=94,slow=3.8,SNR=8.8
TORD LR LR 11 00 57.4
comp=Z,317nm,19.1s,MS4.6,baz=120,slow=35
TORD Torodi Ar. Bea 70.97 290 P **P 10 30 56.8 -1.5**
ISR Istrita 71.40 331⇓P **P 10 31 01.5 +1.2**
ISR Istrita 71.40 331⇓*iP* **P 10 31 01.5 +1.2**
VSR Storozhevoye 71.58 342 *eP* **P 10 31 01.0 -0.2**
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
QLP Quilpie 71.59 113 *eP* **P 10 31 01.6 -0.3**
ZAA0 Zalesovo Array 71.65 11 *eP* **P 10 31 01.8 +0.2**
ZALV Zalesovo Beam 71.65 11 P **P 10 30 59.8 -1.7**
comp=Z,5.5nm,0.7s,mb4.6,baz=205,slow=6.3,SNR=16
ZALV LR LR 11 00 58.8
comp=Z,144nm,20.6s,MS4.2,baz=68,slow=35
ZALV Zalesovo Beam 71.65 11 P **P 10 30 59.8 -1.7**
ZALV Zalesovo Beam 71.65 11 P **P 10 30 59.8 -1.7**
VRI Vrincioaia 71.88 332⇑P **P 10 31 04.2 +1.1**
VRI Vrincioaia 71.88 332⇑*iP* **P 10 31 04.2 +1.1**
PLOR Plostina 71.91 332⇑P **P 10 31 03.3 0.0**
PLOR Plostina 71.91 332⇑*iP* **P 10 31 03.3 0.0**
MLR Muntele Rosu 71.96 331⇓P **P 10 31 08.7 +5.1**
MLR Muntele Rosu 71.96 331⇓*iP* **P 10 31 08.6 +5.0**
CMSA Cobar Meteorol 72.08 118 *eP* **P 10 31 04.6 -0.2**
comp=Z,57nm,1.0s,mb5.5
NVS Novosibirsk 72.23 10 *eP* **P 10 31 04.3 -0.7**
NVS pmax pmax
comp=Z,63nm,2.1s,mb5.2
NVS pmax pmax
comp=N,23nm,1.8s
BJI Beijing 72.34 38 P **P 10 31 07.4 +1.4**
BJI S S 10 40 34.0 +4.5
BJI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BJI LR LR
comp=Z,89nm,29.5s,MS3.9
ARU Arti 72.86 355*d iP* **P 10 31 07.9 -0.8**
ARU 10 33 46.7
ARU S S 10 40 34.5 -0.2
ARU pmax pmax
comp=Z,13nm,1.7s,mb4.6
SONM Songino Array 72.92 27 P **P 10 31 08.8 -0.4**
comp=Z,3.1nm,0.8s,mb4.3,baz=206,slow=6.3,SNR=19
SONM LR LR 11 01 56.5
comp=Z,299nm,19.7s,MS4.6,baz=212,slow=35
SONM Songino Array 72.92 27 P **P 10 31 08.8 -0.4**
SONM Songino Array 72.92 27 P **P 10 31 08.9 -0.4**
SVE Sverdlovsk 73.10 356 *eP* **P 10 31 10.8 +0.7**
ULN Ulaanbaatar 73.23 27 *eP* **P 10 31 12.6 +1.5**
comp=Z,34nm,1.9s,mb5.0
ULN Ulaanbaatar 73.23 27 *eP* **P 10 31 12.6 +1.5**
ULN pmax pmax
comp=Z,34nm,1.9s,mb5.0
ZAK Zakamensk 73.67 23 *eP* **P 10 31 20.1 +6.4**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
QSPA South Pole Qui 73.73 180 P **P 10 31 14.6 +0.9**
comp=Z,3.1nm,0.8s,mb4.3,baz=305,slow=3.5,SNR=8.4
QSPA South Pole Qui 73.73 180 *eP* **P 10 31 14.1 +0.3**
comp=Z,12nm,1.0s,mb4.8
BURAR Bucovina Array 73.88 332⇑P **P 10 31 22.1 +7.1**
BURAR Bucovina Array 73.88 332⇑*iP* **P 10 31 22.1 +7.1**
BZS Buzias 74.15 329⇑P **P 10 31 19.7 +3.1**
BZS Buzias 74.15 329⇑*iP* **P 10 31 19.7 +3.1**
DRGR 74.44 330⇑P **P 10 31 24.6 +6.3**
DRGR 74.44 330⇑*iP* **P 10 31 24.6 +6.3**
AKASG Malin Array Be 74.57 336 P **P 10 31 18.9 0.0**
comp=Z,1.5nm,0.5s,mb4.2,baz=114,slow=16,SNR=6.1
AKASG LR LR 11 00 02.0
comp=Z,78nm,20.3s,MS4.0,baz=325,slow=32
AKASG Malin Array Be 74.57 336 P **P 10 31 18.9 0.0**
AKASG Malin Array Be 74.57 336 P **P 10 31 18.9 0.0**
AKBB Malin Array Si 74.57 336 *eP* **P 10 31 19.4 +0.5**
AKBB Malin Array Si 74.57 336 *eP* **P 10 31 19.4 +0.5**
KIEV Kiev 74.57 336 *eP* **P 10 31 19.7 +0.8**
comp=Z,12nm,0.9s,mb4.8
KIEV Kiev 74.57 336 *eP* **P 10 31 19.7 +0.8**
KIEV pmax pmax
comp=Z,12nm,0.9s,mb4.8
DBIC Dimbokro 74.74 282 P **P 10 31 19.9 -0.8**
comp=Z,5.7nm,0.7s,mb4.6,baz=99,slow=7.1,SNR=6.8
DBIC LR LR 11 02 46.6
comp=Z,214nm,18.1s,MS4.5,baz=96,slow=35
DBIC Dimbokro 74.74 282 P **P 10 31 19.9 -0.8**
DBIC Dimbokro 74.74 282 P **P 10 31 20.0 -0.7**
LIC Lamto 74.75 281 *eP* **P 10 31 19.7 -1.2**
comp=Z,22nm,0.7s,mb4.9
LIC Lamto 74.75 281 *eP* **P 10 31 19.7 -1.2**
comp=Z,22nm,0.7s,mb5.2
TLY Talaya 74.86 23 *eP* **P 10 31 29.1 +8.5**
TLY *e*S S 10 40 56.2 -1.3
TLY *e*PS 10 41 27.9
TLY *e*SSS 10 49 02.8
TLY pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
TLY MLR MLR
comp=Z,120nm,16.0s,MS4.3
VNDA Vanda 75.18 167 *eP* **P 10 31 26.0 +3.8**
comp=Z,3.7nm,1.1s,mb4.2
VNDA Vanda 75.18 167 *eP* **P 10 31 26.0 +3.8**
VNDA pmax pmax
comp=Z,4.0nm,1.1s
KEST Kesra 75.27 315 LR LR 11 02 21.6
comp=Z,142nm,20.9s,MS4.2,baz=251,slow=34
OBN Obninsk 75.75 342 P **P 10 31 27.0 +1.4**
OBN *e* pP 10 31 29.8 +0.9
OBN 10 31 42.0
OBN *e* 10 41 31.4
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
PKSM Moragy 76.06 328⇑P **P 10 31 27.8 +0.2**
PKSM Moragy 76.06 328⇑*iP* **P 10 31 27.8 +0.2**
KSAR Wonju Array Be 78.26 45 P **P 10 31 41.0 +0.9**
KSAR Wonju Array Be 78.26 45 P **P 10 31 41.1 +0.9**
KSRS Korea Array 78.29 45 P **P 10 31 41.0 +0.7**
comp=Z,1.4nm,0.8s,mb3.9,baz=253,slow=6.2,SNR=3.4
KSRS LR LR 11 04 29.4
comp=Z,116nm,21.8s,MS4.2,baz=54,slow=34
CONA Conrad Observa 78.62 328⇑*iP* **P 10 31 41.4 -0.5**
comp=Z,14nm,1.3s,mb4.7
MORC Moravsky Berou 79.00 330⇑P **P 10 31 44.0 0.0**
MORC Moravsky Berou 79.00 330⇑*iP* **P 10 31 44.0 0.0**
PGF Pioggiola 79.25 320 *eP* **P 10 31 43.7 -1.8**
comp=Z,152nm,1.3s,mb5.5
PGF Pioggiola 79.25 320 *eP* **P 10 31 43.7 -1.8**
comp=Z,152nm,1.3s,mb5.8
PGF Pioggiola 79.25 320 *eP* **P 10 31 43.7 -1.8**
PGF pmax pmax
comp=Z,152nm,1.3s,mb5.8
DPC Dobruska-Polom 79.97 330 *eP* **P 10 31 53.0 +3.8**
DPC Dobruska-Polom 79.97 330 *eP* **P 10 31 53.0 +3.8**
KLMR Klimovskoe 80.06 347 *eP* **P 10 31 49.1 -0.4**
KLMR pmax pmax
comp=Z,25nm,1.2s,mb5.0
CN2 Changchun 80.11 39 *eP* **P 10 31 57.9 +7.7**
CN2 *e*S S 10 41 54.6 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.3s,mb5.2
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,17.0s,MS4.5
GERES GERESS Array B 80.32 327 P **P 10 31 52.8 +1.7**
comp=Z,0.3nm,0.4s,mb3.6,baz=143,slow=7.1,SNR=3.0
GERES GERESS Array B 80.32 327 P **P 10 31 52.8 +1.7**
GERES GERESS Array B 80.32 327 P **P 10 31 52.8 +1.7**
KHC Kasperske Hory 80.56 328 *eP* **P 10 31 54.7 +2.3**
KHC Kasperske Hory 80.56 328 *eP* **P 10 31 54.7 +2.3**
PRU Pruhonice 80.61 329 *eP* **P 10 31 52.1 -0.6**
PRU Pruhonice 80.61 329 *eP* **P 10 31 52.1 -0.6**
MBDF Montbardon 81.80 321 *eP* **P 10 31 58.2 -0.9**
MBDF Montbardon 81.80 321 *eP* **P 10 31 58.2 -0.9**
MBDF Montbardon 81.80 321 *eP* **P 10 31 58.2 -0.9**
NKC Novy Kostel 81.82 328 *eP* **P 10 32 03.2 +4.1**
NKC Novy Kostel 81.82 328 *eP* **P 10 32 03.2 +4.1**
CLL Collm 82.20 329 *eP* **P 10 32 04.0 +2.9**
CLL pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
CLL Collm 82.20 329 *e*(P) **P 10 32 04.0 +2.9**
comp=Z,8.0nm,1.2s,mb4.5
CLL *e*S S 10 42 24.0 +7.8
CLL LmH 10 57 00.0
comp=N,100nm,18.5s
CLL LmH 10 57 00.0
comp=E,100nm,18.4s
CLL LmV 11 03 00.0
comp=Z,100nm,19.2s
GUMO Guam 82.40 73 LR LR 11 04 19.2
comp=Z,132nm,20.6s,MS4.3,baz=180,slow=33
ORIF Oris-en-Rattie 82.44 321 *eP* **P 10 32 01.7 -0.8**
comp=Z,46nm,1.3s,mb5.0
ORIF Oris-en-Rattie 82.44 321 *eP* **P 10 32 01.7 -0.8**
comp=Z,46nm,1.3s,mb5.2
ORIF Oris-en-Rattie 82.44 321 *eP* **P 10 32 01.7 -0.8**
ORIF pmax pmax
comp=Z,46nm,1.3s,mb5.2
MDJ Mudanjiang 83.07 40 P **P 10 32 06.1 +0.3**
MDJ pP pP 10 32 09.4 +0.3
MDJ sP sP 10 32 10.8 +0.5
MDJ PP PP 10 35 21.3 +4.3
MDJ S S 10 42 28.1 +2.7
MDJ pmax pmax
comp=Z,11nm,1.7s,mb4.6
MDJ pmax pmax
comp=Z,140nm,4.9s
MDJ LR LR
comp=N,200nm,31.5s,MS4.4
MDJ LR LR
comp=E,160nm,31.9s,MS4.4
MDJ LR LR
comp=Z,61nm,30.1s,MS3.8
BOD Bodaibo 83.42 23 *eP* **P 10 32 05.7 -1.6**
BOD pmax pmax
comp=Z,6.0nm,1.9s,mb4.3
FINES FINESS Array B 84.11 342 P **P 10 32 11.7 +1.0**
comp=Z,1.7nm,0.8s,mb4.2,baz=139,slow=11,SNR=2.8
FINES LR LR 11 10 08.0
comp=Z,157nm,19.4s,MS4.4,baz=327,slow=36
FINES FINESS Array B 84.11 342 P **P 10 32 11.7 +1.0**
FINES FINESS Array B 84.11 342 P **P 10 32 11.7 +1.0**
MJAR Matsushiro Arr 85.16 50 P **P 10 32 15.7 -0.9**
comp=Z,4.4nm,1.1s,mb4.5,baz=230,slow=6.0,SNR=4.7
MJAR LR LR 11 07 11.6
comp=Z,115nm,18.4s,MS4.3,baz=270,slow=34
MJAR Matsushiro Arr 85.16 50 P **P 10 32 15.7 -0.9**
MJAR Matsushiro Arr 85.16 50 P **P 10 32 15.7 -1.0**
ESDC Sonseca Array 86.41 313 P **P 10 32 23.4 +0.6**
comp=Z,0.3nm,0.4s,mb3.9,baz=138,slow=16,SNR=4.0
ESDC LR LR 11 08 20.3
comp=Z,132nm,19.5s,MS4.3,baz=100,slow=34
ESDC Sonseca Array 86.41 313 P **P 10 32 23.4 +0.6**
CLNS Chul'man 87.28 28 *eP* **P 10 32 31.6 +5.0**
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,1.0s
BBTS Babate 88.12 286 LR LR 11 09 42.0
comp=E,321nm,19.5s,MS4.8,baz=106,slow=34
RPZ Rata Peaks 88.58 135 LR LR 11 05 19.2
comp=E,172nm,18.1s,MS4.5,baz=141,slow=31
NOA NORSAR Array B 88.99 336 LR LR 11 12 55.3
comp=E,116nm,18.2s,MS4.3,baz=180,slow=36
ARCES ARCESS Array B 90.54 346 LR LR 11 11 57.2
comp=E,157nm,19.2s,MS4.5,baz=185,slow=35
DZM Mont Dzumac 92.30 114 *e*LR LR 11 02 34.3
comp=E,522nm,24.3s
URZ Urewera 94.94 132 LR LR 11 03 52.7
comp=E,78nm,21.9s,MS4.1,baz=241,slow=28
SPITS Spitsbergen Ar 98.54 351 LR LR 11 17 37.4
comp=E,120nm,20.5s,MS4.4,baz=135,slow=35
LPAZ La Paz 125.20 236 PKP PKPdf 10 38 42.5 +0.7
comp=E,1.7nm,0.9s,baz=54,slow=9.5,SNR=6.8
LPAZ La Paz 125.20 236 PKP PKPdf 10 38 42.5 +0.7
LPAZ *e*PKPdf PKPdf 10 38 44.6 +2.8
LPAZ La Paz 125.20 236 PKIKP PKPdf 10 38 42.6 +0.8
LPAZ *e* 10 38 44.6
INK Inuvik 126.43 9 *e*PKPdf PKPdf 10 38 41.9 -0.7
INK Inuvik 126.43 9 *e*PKIKP PKPdf 10 38 41.9 -0.7
ILAR Eielson Array 126.44 17 PKP PKPdf 10 38 42.2 -0.5
comp=E,1.8nm,1.0s,baz=269,slow=4.5,SNR=7.1
ILAR Eielson Array 126.44 17 PKP PKPdf 10 38 42.2 -0.5
ILAR Eielson Array 126.44 17 PKIKP PKPdf 10 38 42.2 -0.5
TBI Tubuai 126.77 137 *e*LR LR 11 18 26.5
comp=E,84nm,24.8s
PPT2 Papeete2 130.58 131 *e*LR LR 11 20 13.4
comp=E,238nm,27.0s
YKA Yellowknife Ar 133.90 1 PKP PKPdf 10 38 57.9 +1.0
comp=E,0.8nm,0.7s,baz=344,slow=2.5,SNR=7.8
YKA PP PP 10 41 26.2 +0.1
comp=E,1.6nm,1.1s,baz=1.6,slow=6.7,SNR=6.0
YKA Yellowknife Ar 133.90 1 PKP PKPdf 10 38 58.0 +1.0
YKA PP PP 10 41 26.2 +0.1
YKA Yellowknife Ar 133.90 1 PKIKP PKPdf 10 38 58.0 +1.1
YKA 10 41 26.3
ULM Lac du Bonnet 143.50 342 PKP PKPdf 10 39 17.0 +2.1
comp=E,1.7nm,0.6s,baz=49,slow=3.0,SNR=3.1
ULM Lac du Bonnet 143.50 342 PKP PKPdf 10 39 17.0 +2.1
ULM Lac du Bonnet 143.50 342 PKIKP PKPdf 10 39 17.0 +2.1
ACSO Alum Creek Sta 144.79 319 *e*PKPdf PKPdf 10 39 18.1 +0.7
DGMT Dagmar 147.18 349 *e*PKPbc PKPab 10 39 26.4 +1.4
JFWS Jewell Farm 147.21 328 *e*PKPbc PKPbc 10 39 24.3 +0.6
JFWS Jewell Farm 147.21 328 *e*PKP2 PKPbc 10 39 24.3 +0.6
NEW Newport 147.99 5 *e*PKPbc PKPbc 10 39 26.5 +0.9
NEW Newport 147.99 5 *e*PKP2 PKPbc 10 39 26.5 +0.9
ETW Entiat 148.24 10 *e*PKPbc PKPab 10 39 28.6 -0.6
EGMT Eagleton 148.31 356 *e*PKPdf PKPdf 10 39 22.8 -0.4
EGMT *e*PKPbc PKPbc 10 39 25.8 -0.7
EGMT *e*PKPab PKPab 10 39 29.0 -0.5
BSMT Bassoo Peak 148.55 2 *e*PKPab PKPab 10 39 30.6 +0.1
OD2 Odessa Site #2 148.68 8 *e*PKPbc PKPbc 10 39 29.1 +1.7
LON Longmire 148.80 12 *e*PKPdf PKPdf 10 39 24.5 +0.5
LON *e*PKPbc PKPbc 10 39 29.1 +1.3
LON *e*PKPab PKPab 10 39 31.9 +0.4
LON Longmire 148.80 12 *e*PKIKP PKPdf 10 39 24.5 +0.5
LON *e* 10 39 29.1
LON *e* 10 39 32.0
OLIL Olney 148.86 321 *e*PKPdf PKPdf 10 39 27.5 +3.2
OLIL *e*PKPbc PKPbc 10 39 31.6 +3.3
OLIL *e*PKPab PKPab 10 39 36.2 +4.1
SWMT Swartz Lake 148.92 1 *e*PKPab PKPab 10 39 31.1 -0.9
SLMT Seeley Lake 149.20 1 *e*PKPbc PKPbc 10 39 27.9 -0.9
SLMT *e*PKPab PKPab 10 39 32.7 -0.4
ECSD EROS Data Cent 149.40 336 *e*PKPdf PKPdf 10 39 25.3 +0.3
ECSD *e*PKPbc PKPbc 10 39 29.4 0.0
SWET Sewanee 149.45 313 *e*PKPbc PKPbc 10 39 30.7 +0.9
CHMT Chamberlain Mo 149.53 0 *e*PKPbc PKPab 10 39 32.6 -1.8
MSO Missoula 149.60 1 *e*PKPdf PKPdf 10 39 27.9 +2.7
MSO *e*PKPbc PKPbc 10 39 32.6 +2.8
MSO *e*PKPab PKPab 10 39 37.0 +2.2
WVT Waverly 150.25 316 *e*PKPdf PKPdf 10 39 26.8 +0.2
WVT *e*PKPbc PKPbc 10 39 33.7 +1.9
WVT Waverly 150.25 316 *e*PKIKP PKPdf 10 39 26.8 +0.2
WVT *e* 10 39 33.7
LRM Limekiln Ridge 150.62 359 *e*PKPab PKPab 10 39 39.1 +0.1
FVM French Village 150.75 322 *e*PKPdf PKPdf 10 39 28.1 +0.7
FVM *e*PKPbc PKPbc 10 39 32.3 -0.6
FVM *e*PKPab PKPab 10 39 40.1 +0.3
FVM French Village 150.75 322 *e*PKIKP PKPdf 10 39 28.1 +0.8
FVM *e* 10 39 32.3
BOZ Bozeman (W) 150.78 358 *e*PKPdf PKPdf 10 39 27.9 +0.7
BOZ *e*PKPbc PKPbc 10 39 35.8 +3.2
BOZ *e*PKPab PKPab 10 39 40.0 +0.4
BOZ Bozeman (W) 150.78 358 *e*PKIKP PKPdf 10 39 27.9 +0.8
BOZ *e* 10 39 35.8
CCM Cathedral Cave 151.18 323 *e*PKPbc PKPbc 10 39 34.2 +0.3
BMO Blue Mountains 151.35 7 *e*PKPbc PKPbc 10 39 33.7 -0.4
BMO *e*PKPab PKPab 10 39 40.9 -1.2
QLMT Earthquake Lak 151.59 358 *e*PKPbc PKPbc 10 39 34.5 -0.1
QLMT *e*PKPdf PKPab 10 39 42.9 -0.1
MCMT McKenzie Canyo 151.62 360 *e*PKPdf PKPdf 10 39 28.2 -0.2
MCMT *e*PKPbc PKPbc 10 39 36.2 +1.5
FLWY Flagg Ranch 152.30 357 *e*PKPab PKPab 10 39 45.0 -1.0
HUMO Hull Mountain 152.46 16 *e*PKPbc PKPbc 10 39 37.8 +1.1
HLID Hailey 152.85 2 *e*PKPbc PKPbc 10 39 36.7 -0.8
TPAW Teton Pass 152.90 357 *e*PKPab PKPab 10 39 48.5 -0.1
REDW Red Top Meadow 153.02 357 *e*PKPdf PKPdf 10 39 30.3 -0.2
REDW *e*PKPbc PKPbc 10 39 38.8 +0.9
REDW *e*PKPab PKPab 10 39 48.5 -0.6
PD02 Pinedale Array 153.51 354 *e*PKPbc PKPbc 10 39 41.9 +2.9
PD02 *e*PKPab PKPab 10 39 50.7 -0.5
PD01 Pinedale Array 153.51 355 *e*PKPdf PKPdf 10 39 30.6 -0.7
PD01 *e*PKPbc PKPbc 10 39 39.4 +0.4
PD01 *e*PKPab PKPab 10 39 49.5 -1.7
PDAR Pinedale Array 153.52 354 *e*PKPbc PKPbc 10 39 38.0 -0.9
comp=E,3.1nm,0.8s,baz=72,slow=1.9,SNR=13
PDAR Pinedale Array 153.52 354 PKPbc PKPbc 10 39 38.0 -0.9
NVAR Mina Array Bea 157.50 11 PKPbc PKPdf 10 39 55.7 +19
comp=E,0.7nm,0.8s,baz=282,slow=2.0,SNR=5.4
NVAR PKPab PKPab 10 40 08.0 -0.4
comp=E,0.8nm,0.8s,baz=59,slow=0.9,SNR=4.1
NVAR Mina Array Bea 157.50 11 PKPab PKPab 10 40 08.0 -0.4
TXAR Lajitas Array 164.54 328 PKP PKPdf 10 39 46.0 +1.3
comp=E,0.5nm,0.9s,baz=186,slow=6.3,SNR=4.0
TXAR PKPab PKPab 10 40 40.5 +1.2
comp=E,1.7nm,1.0s,baz=92,slow=4.1,SNR=6.7
TXAR Lajitas Array 164.54 328 PKP PKPdf 10 39 46.0 +1.3
TXAR PKPab PKPab 10 40 40.5 +1.2
TXAR Lajitas Array 164.54 328 PKIKP PKPdf 10 39 46.0 +1.4

IDC ***16*** *10:24:27.4±2.4, 19°.47N×66°.07W, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.1/3, Error ellipse: s-maj=87.6km s-min=19.0km az=83.0*
ISCJB ***16*** *10:24:28.3±1.6, 19°.53N±0°.04×66°.34W±0°.05, h9km±11km, mb3.1/3, Error ellipse: s-maj=8.2km s-min=6.4km az=163.6*
NEIC ***16*** *10:24:30.5, 19°.62N×66°.41W, h46km, MD3.3(RSPR), After RSPR.*
RSPR ***16*** *10:24:30.5, 19°.62N×66°.41W, h46km±16km, MD3.3/9*
ISC 16 10:24:28.8±1.2, 19°.46N±0°.04×66°.32W±0°.05, h4km±7km, n28, σ0=50/48, mb3.1/3, 21C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.18**	**201**⇑	*eP*	**Pg**	**10 24 51.5**	**-0.1**
AOPR	**Arecibo Observ**	**1.18**	**201**⇑	*eP*	**Pg**	**10 24 51.5**	**-0.1**
AOPR				*eS*	**Sg**	**10 25 07.2**	**+0.4**
CBYP	**Canovanas**	**1.26**	**160**⇑	*eP*	**Pg**	**10 24 53.1**	**+0.1**
CBYP	**Canovanas**	**1.26**	**160**⇑	*eP*	**Pg**	**10 24 53.1**	**+0.1**
LRS	**Lares**	**1.27**	**203**	*e*Pn	**Pn**	**10 24 53.4**	**0.0**
SJG	**San Juan**	**1.35**	**173**⇑	*eP*	**Pn**	**10 24 54.0**	**-0.5**
SJG	**San Juan**	**1.35**	**173**⇑	*eP*	**Pn**	**10 24 54.0**	**-0.5**
SJG				*eS*	**Sb**	**10 25 12.7**	**+0.3**
SJG	**San Juan**	**1.35**	**173**	Pn	**Pn**	**10 24 53.8**	**-0.7**
	16nm,0.3s,baz=343,slow=15,SNR=12						

SJG Sn **Sn** **10 25 12.8 -0.1**
34nm,0.3s,baz=259,slow=20,SNR=19
SJG San Juan 1.35 173⇑ *e*P **Pn** **10 24 54.0 -0.5**
SJG *e*S **Sb** **10 25 12.4 0.0**
SJG *e*S **Sb** **10 25 12.7 +0.3**
SJG *e*Sn **Sn** **10 25 13.6 +0.7**
HUMP Col San Antoni 1.38 161⇑ *e*P **Pn** **10 24 54.5 -0.4**
HUMP Col San Antoni 1.38 161⇑ *e*P **Pn** **10 24 54.5 -0.4**
HUMP *e*S **Sb** **10 25 14.0 +0.7**
CELP Cerrillos 1.40 190⇑ *e*P **Pn** **10 24 54.7 -0.5**
CELP *e*S **Sb** **10 25 13.3 -0.5**
CELP Cerrillos 1.40 190⇑ *e*P **Pn** **10 24 54.7 -0.5**
CELP *e*Pn **Pn** **10 24 55.5 +0.3**
CELP *e*Sn **Sn** **10 25 13.3 -0.9**
OBIP Obispado Ponce 1.44 191⇑ *e*P **Pn** **10 24 55.3 -0.4**
OBIP Obispado Ponce 1.44 191⇑ *e*P **Pn** **10 24 55.3 -0.4**
OBIP *e*S **Sb** **10 25 14.7 -0.2**
CPD Cerro la Pandu 1.47 165⇑ *e*P **Pn** **10 24 55.9 -0.2**
CPD Cerro la Pandu 1.47 165⇑ *e*P **Pn** **10 24 55.9 -0.2**
CPD *e*S **Sn** **10 25 15.5 -0.3**
LSP Las Mesas 1.47 210 *e*Pn **Pn** **10 24 55.9 -0.3**
LSP *e*Sn **Sn** **10 25 15.9 0.0**
MTP Monte Pirata 1.54 152⇑ *e*P **Pn** **10 24 56.5 -0.6**
MTP Monte Pirata 1.54 152⇑ *e*P **Pn** **10 24 56.5 -0.6**
MTP *e*Pn **Pn** **10 24 56.8 -0.2**
MTP *e*S **Sn** **10 25 17.8 +0.3**
MTP *e*Sn **Sn** **10 25 20.9 +3.4**
ICM Isla Caja Muer 1.57 187⇑ *e*P **Pn** **10 24 57.4 -0.2**
ICM Isla Caja Muer 1.57 187⇑ *e*P **Pn** **10 24 57.4 -0.2**
CRPR Cabo Rojo, PR 1.63 208 *e*Pn **Pn** **10 24 59.1 +0.8**
CRPR *e*Sn **Sn** **10 25 20.5 +0.7**
STVI Saint Thomas 1.70 130⇑ *e*P **Pn** **10 24 59.4 +0.1**
STVI Saint Thomas 1.70 130⇑ *e*P **Pn** **10 24 59.4 +0.1**
STVI *e*Pn **Pn** **10 25 00.1 +0.8**
STVI *e*S **Sn** **10 25 21.5 0.0**
STVI *e*Sn **Sn** **10 25 21.8 +0.3**
TXAR Lajitas Array 35.28 293 P **P** **10 31 26.0 +1.0**
0.2nm,0.7s,mb3.1,baz=109,slow=11,SNR=3.1
YKA Yellowknife Ar 54.21 335 P **P** **10 33 55.1 -0.3**
0.1nm,0.5s,mb3.0,baz=108,slow=7.5,SNR=4.6
ILAR Eielson Array 68.56 333 P **P** **10 35 32.4 -0.1**
0.2nm,0.6s,mb3.2,baz=120,slow=5.3,SNR=5.0

*ISCJB **16** 10:42:49.9±1.2, 19°.6S±0°.2×178°.2W±0°.1, h477km±16km, mb3.6/9, Error ellipse: s-maj=31.4km s-min=12.3km az=144.5*
*IDC **16** 10:42:50.6±1.9, 19°.41S×178°.27W, h475km±21km, mb3.2/6, mb1 3.6/8, mb1mx3.3/17, mbtmp3.3/8, Error ellipse: s-maj=19.0km s-min=11.2km az=130.0*
*NEIC **16** 10:42:53.2±1.2, 19°.77S×177°.97W, h517km±12km, mb3.8/2, Error ellipse: s-maj=31.4km s-min=14.4km az=150.0*
ISC 16 10:42:50.5±1.2, 19°.6S±0°.2×178°.2W±0°.1, h473km±16km, n33, σ0s66/29, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.03**	**296**	*e*P	**P**	**10 44 17.5**	**+10**
AFI	**Afiamalu**	**8.31**	**48**	P	**P**	**10 44 50.7**	**+0.9**
	2.5nm,0.3s,baz=68,slow=22,SNR=3.6						
AFI				S	**S**	**10 46 26.7**	**-0.9**
	4.5nm,0.3s,baz=61,slow=20,SNR=5.3						
AFI	**Afiamalu**	**8.31**	**48**	P	**P**	**10 44 50.7**	**+0.9**
AFI				S	**S**	**10 46 26.7**	**-0.9**
URZ	**Urewera**	**19.07**	**191**	P	**P**	**10 46 41.9**	**-0.1**
	1.8nm,0.3s,baz=263,slow=5.5,SNR=9.1						
URZ				S	**S**	**10 49 55.2**	**+4.6**
	1.1nm,0.3s,baz=82,slow=22,SNR=10						
URZ	**Urewera**	**19.07**	**191**	P	**P**	**10 46 41.9**	**-0.1**
URZ				S	**S**	**10 49 55.2**	**+4.6**
WB2	**Warramunga Arr**	**44.57**	**261**	*e*P	**P**	**10 50 19.4**	**-0.2**
WRAB	**Tennant Creek**	**44.57**	**261**	*e*P	**P**	**10 50 19.4**	**-0.2**
	3.7nm,1.0s,mb3.8						
WRA	**Warramunga Arr**	**44.58**	**261**	P	**P**	**10 50 19.4**	**-0.3**
	0.8nm,0.3s,mb3.6,baz=97,slow=7.7,SNR=66						
WRA	**Warramunga Arr**	**44.58**	**261**	P	**P**	**10 50 19.4**	**-0.3**
AS31	**Alice Springs**	**44.59**	**256**	*e*P	**P**	**10 50 19.6**	**-0.1**
ASAR	**Alice Springs**	**44.59**	**256**	P	**P**	**10 50 19.4**	**-0.2**
	1.7nm,0.6s,mb3.6,baz=87,slow=8.3,SNR=24						
ASAR				PcP	PcP	10 51 50.8	-2.0
	0.7nm,0.7s,baz=108,slow=3.5,SNR=6.3						
ASAR				S	**S**	**10 56 18.9**	**-1.5**
	0.5nm,0.6s,baz=93,slow=16,SNR=4.6						
ASAR	**Alice Springs**	**44.59**	**256**	P	**P**	**10 50 19.4**	**-0.2**
ASAR				PcP	PcP	10 51 50.8	-2.0
ASAR				S	**S**	**10 56 18.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**53.00**	**262**	*e*P	**P**	**10 51 23.1**	**+0.6**
	3.8nm,0.9s,mb3.7						
NVAR	**Mina Array Bea**	**80.46**	**44**	P	**P**	**10 54 12.9**	**+0.7**
	1.1nm,0.8s,mb3.4,baz=222,slow=7.8,SNR=6.6						
NVAR	**Mina Array Bea**	**80.46**	**44**	P	**P**	**10 54 12.9**	**+0.7**
TXAR	**Lajitas Array**	**86.69**	**57**	P	**P**	**10 54 43.0**	**-0.5**
	0.9nm,0.8s,mb3.6,baz=218,slow=6.4,SNR=11						
TXAR	**Lajitas Array**	**86.69**	**57**	P	**P**	**10 54 43.0**	**-0.5**
ILAR	**Eielson Array**	**87.45**	**13**	P	**P**	**10 54 46.2**	**0.0**
	0.5nm,0.6s,mb3.4,baz=216,slow=6.0,SNR=14						
ILAR	**Eielson Array**	**87.45**	**13**	P	**P**	**10 54 46.2**	**0.0**
PDAR	**Pinedale Array**	**88.40**	**43**	P	**P**	**10 54 51.0**	**-0.3**
	0.5nm,0.6s,mb3.4,baz=215,slow=3.1,SNR=4.6						
PDAR	**Pinedale Array**	**88.40**	**43**	P	**P**	**10 54 51.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**10 54 59.1**	**+1.4**
	0.8nm,0.6s,mb3.7,baz=134,slow=3.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**10 54 59.1**	**+1.4**
MKAR	**Makanchi Array**	**110.45**	**314**	PKiKP	PKiKP	11 00 25.5	-2.8
	0.3nm,0.6s,baz=97,slow=1.3,SNR=3.1						
MKAR	**Makanchi Array**	**110.45**	**314**	PKiKP	PKiKP	11 00 25.5	-2.8
AKASG	**Malin Array Be**	**142.13**	**332**	PKhKP	PKPpre	11 01 23.4	
	2.3nm,0.4s,baz=44,slow=4.4,SNR=12						
AKASG	**Malin Array Be**	**142.13**	**332**	PKPpre	PKPpre	11 01 23.4	
BRTR	**Keskin Array B**	**146.10**	**313**	PKPbc	PKPbc	11 01 36.2	-0.9
	1.0nm,0.5s,baz=144,slow=5.9,SNR=4.9						
BRTR	**Keskin Array B**	**146.10**	**313**	PKPbc	PKPbc	11 01 36.2	-0.9
MMAI	**Mount Meron Ar**	**147.22**	**301**	PKPbc	PKPbc	11 01 40.0	-0.4
	0.8nm,0.4s,baz=66,slow=4.9,SNR=3.1						
MMAI	**Mount Meron Ar**	**147.22**	**301**	PKPbc	PKPbc	11 01 40.0	-0.4
GERES	**GERESS Array B**	**149.27**	**345**	PKPbc	PKPbc	11 01 44.0	-1.0
	0.4nm,0.4s,baz=321,slow=1.7,SNR=6.0						
GERES	**GERESS Array B**	**149.27**	**345**	PKPbc	PKPbc	11 01 44.0	-1.0

*IDC **16** 11:22:03.2±2.2, 6°.62S×129°.17E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=94.9km s-min=27.9km az=75.0*
*NEIC **16** 11:22:04.8±1.1, 6°.62S×129°.22E, h10km, mb3.8/1, Error ellipse: s-maj=24.1km s-min=13.3km az=68.0*
*ISCJB **16** 11:22:06.0±1.3, 6°.7S±0°.1×129°.2E±0°.2, h33km, mb3.6/2, Error ellipse: s-maj=30.0km s-min=16.3km az=158.8*
ISC 16 11:22:08.4±1.3, 6°.7S±0°.1×129°.2E±0°.2, h35km, n11, σ0s47/12, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.86**	**197**	Pn	**Pn**	**11 24 55.4**	**+0.3**
	0.6nm,0.3s,baz=21,slow=12,SNR=28						
FITZ				Sn	Sx	11 26 51.4	
	0.7nm,0.3s,baz=133,slow=22,SNR=9.9						
FITZ	**Fitzroy Crossi**	**11.86**	**197**	Pn	**Pn**	**11 24 55.4**	**+0.3**
FITZ				*e*Pn	**Pn**	**11 24 55.8**	**+0.6**
FITZ				Sn	Sx	11 26 51.4	
WRAB	**Tennant Creek**	**14.08**	**160**	*e*Pn	**Pn**	**11 25 25.1**	**-0.2**
WRA	**Warramunga Arr**	**14.08**	**160**	Pn	**Pn**	**11 25 24.6**	**-0.9**
	0.1nm,0.3s,baz=337,slow=13,SNR=12						
WRA				Sn	Sx	11 27 49.9	
	0.8nm,0.3s,baz=331,slow=22,SNR=13						
WRA	**Warramunga Arr**	**14.08**	**160**	Pn	**Pn**	**11 25 24.6**	**-0.9**
WRA				Sn	Sx	11 27 49.9	
WB2	**Warramunga Arr**	**14.09**	**160**	*e*Pn	**Pn**	**11 25 26.0**	**+0.5**
ASAR	**Alice Springs**	**17.47**	**166**	P	**Pn**	**11 26 09.2**	**-0.1**
	0.2nm,0.3s,baz=335,slow=9.6,SNR=39						
ASAR				S	Sx	11 29 11.4	
	0.3nm,0.3s,baz=313,slow=18,SNR=6.7						
ASAR	**Alice Springs**	**17.47**	**166**	P	**Pn**	**11 26 09.2**	**-0.1**
ASAR				S	Sx	11 29 11.4	
CTAO	**Charters Tower**	**21.23**	**130**	*e*P	**P**	**11 26 52.0**	**+0.6**
	3.5nm,0.8s,mb3.7						
MKAR	**Makanchi Array**	**67.54**	**327**	P	**P**	**11 33 00.9**	**-0.2**
	0.2nm,0.5s,mb3.4,baz=130,slow=7.2,SNR=5.7						
MKAR	**Makanchi Array**	**67.54**	**327**	P	**P**	**11 33 00.9**	**-0.2**

*ISCJB **16** 11:22:19.0±0.2, 47°.23N±0°.02×9°.94E±0°.02, h14km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=8.5*

*LDG **16** 11:22:19.4±0.1, 47°.26N×10°.10E, h2km, Ml2.8/21, Error ellipse: s-maj=1.5km s-min=1.1km az=83.0*
*CSEM **16** 11:22:19.8±0.1, 47°.25N×9°.97E, h12km, ML2.7/22, Error ellipse: s-maj=2.2km s-min=1.6km az=179.0*
*STR **16** 11:22:19.7±0.6, 47°.26N×9°.99E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **16** 11:22:20.3, 47°.20N×10°.10E, h10km, ML2.8(LDG), ML2.6(LEDBW), After LEDBW.*
*LEDBW **16** 11:22:20.3±0.4, 47°.23N±0°.03×10°.05E±0°.02, h10km, ML2.6, Error ellipse: s-maj=8.0km s-min=4.0km az=165.0*
*BGR **16** 11:22:21.0±0.4, 47°.27N×9°.98E, h10km, ML2.5/5, Error ellipse: s-maj=4.4km s-min=3.3km az=13.0*
BGR Felt.
*ZUR **16** 11:22:20.3, 47°.28N×10°.01E, h3km±1km, ML2.5/8*
*VIE **16** 11:22:20.1±0.1, 47°.26N×9°.99E, h7km±1km, mb2.0/9, ML2.7/10, Error ellipse: s-maj=1.0km s-min=0.7km az=167.0 10 km E of Damls felt 3 ems98 at Goetzis / VORARLBERG*
ISC 16 11:22:20.0±0.2, 47°.25N±0°.01×9°.97E±0°.01, h14km±2km, n172, σ0s98/323, 19C-14D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVA	**Damuels**	**0.07**	**302**	*e*Pg	**Pg**	**11 22 22.4**	**-0.5**
	586nm,0.2s,SNR=1353						
DAVA				⇑*i*Sg	**Sg**	**11 22 23.9**	**-1.0**
	2μm,0.2s						
DAVA	**Damuels**	**0.07**	**302**	*e*Pg	**Pg**	**11 22 22.4**	**-0.5**
DAVA				*e*Sg	**Sg**	**11 22 24.0**	**-1.0**
DAVA	**Damuels**	**0.07**	**302**	Pg	**Pg**	**11 22 22.4**	**-0.5**
	586nm,0.1s,SNR=1000						
DAVA				Sg	**Sg**	**11 22 24.0**	**-0.9**
OBER	**Oberstdorf**	**0.27**	**54**	⇑P*	**Pg**	**11 22 25.3**	**-0.5**
OBER	**Oberstdorf**	**0.27**	**54**	⇑Pg	**Pg**	**11 22 25.3**	**-0.5**
OBER	**Oberstdorf**	**0.27**	**54**	Pb	**Pg**	**11 22 25.3**	**-0.5**
LIENZ	**Kamor/St.Gall**	**0.33**	**278**	*e*Pg	**Pg**	**11 22 27.4**	**+0.7**
	574nm,0.5s						
LIENZ	**Kamor/St.Gall**	**0.33**	**278**	*e*Pg	**Pg**	**11 22 27.4**	**+0.7**
	574nm,0.5s						
UBR	**Ueberruh**	**0.44**	**12**	⇑*i*P*	**Pg**	**11 22 29.4**	**+0.6**
UBR				S*	**Sg**	**11 22 36.1**	**+1.3**
UBR	**Ueberruh**	**0.44**	**12**	⇑*i*Pg	**Pg**	**11 22 29.4**	**+0.6**
UBR				Sg	**Sg**	**11 22 36.1**	**+1.3**
UBR	**Ueberruh**	**0.44**	**12**	Pb	**Pg**	**11 22 29.4**	**+0.6**
UBR				Sb	**Sg**	**11 22 36.1**	**+1.3**
PLONS	**Plons/SG**	**0.45**	**244**	⇑*i*Pg	**Pg**	**11 22 29.9**	**+1.0**
	250nm,0.7s						
DAVOX	**Davos/Dischmat**	**0.47**	**187**	⇓*i*Pg	**Pg**	**11 22 30.3**	**+0.9**
	378nm,0.4s						
DAVOX	**Davos/Dischmat**	**0.47**	**187**	⇓*i*Pg	**Pg**	**11 22 30.3**	**+0.9**
	378nm,0.4s						
FETA	**Feichten**	**0.57**	**113**	⇑*e*Pg	**Pg**	**11 22 30.9**	**-0.3**
	7.8nm,0.2s,SNR=16						
FETA				⇑*i*Sg	**Sg**	**11 22 39.1**	**+0.4**
	12nm,0.2s						
FETA	**Feichten**	**0.57**	**113**	Pg	**Pg**	**11 22 30.9**	**-0.3**
	7.8nm,0.2s,SNR=16						
FETA				Sg	**Sg**	**11 22 39.1**	**+0.4**
	12nm,0.2s						
RETA	**Reutte**	**0.59**	**66**	⇓*e*Pg	**Pg**	**11 22 31.3**	**-0.2**
	10nm,0.1s,SNR=8.9						
RETA				⇑*i*Sg	**Sg**	**11 22 39.5**	**+0.1**
	18nm,0.2s						
RETA	**Reutte**	**0.59**	**66**	Pg	**Pg**	**11 22 31.3**	**-0.3**
	10nm,0.1s,SNR=8.9						
RETA				Sg	**Sg**	**11 22 39.5**	**+0.1**
	18nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**0.66**	**162**	⇓*i*Pg	**Pg**	**11 22 33.4**	**+0.5**
	98nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**0.66**	**162**	⇓*i*Pg	**Pg**	**11 22 33.4**	**+0.5**
	98nm,0.5s						
WILA	**Wila**	**0.74**	**283**	⇑*i*Pg	**Pg**	**11 22 35.7**	**+1.3**
	2um,0.2s						
WILA	**Wila**	**0.74**	**283**	⇑*i*Pg	**Pg**	**11 22 35.7**	**+1.3**
	2um,0.2s						
MOTA	**Moosalm**	**0.78**	**83**	*e*Pg	**Pg**	**11 22 34.5**	**-0.6**
	13nm,0.1s,SNR=37						
MOTA				⇑*i*Sg	**Sg**	**11 22 45.6**	**+0.3**
	30nm,0.3s						
MOTA	**Moosalm**	**0.78**	**83**	Pg	**Pg**	**11 22 34.5**	**-0.6**
	13nm,0.1s,SNR=37						
MOTA				Sg	**Sg**	**11 22 45.6**	**+0.2**
	30nm,0.3s						
SISB	**Singen-Schiene**	**0.81**	**303**	P*	**Pg**	**11 22 36.8**	**+1.1**
SISB				S*	**Sg**	**11 22 48.6**	**+2.2**
SISB	**Singen-Schiene**	**0.81**	**303**	Pg	**Pg**	**11 22 36.8**	**+1.1**
SISB				Sg	**Sg**	**11 22 48.6**	**+2.2**
SISB	**Singen-Schiene**	**0.81**	**303**	Pb	**Pg**	**11 22 36.8**	**+1.1**
SISB				Sb	**Sg**	**11 22 48.6**	**+2.3**
VDL	**Val di Lei**	**0.84**	**205**	*e*Pg	**Pg**	**11 22 37.1**	**+0.7**
	112nm,0.2s						
GUT	**Gutenstein**	**1.00**	**325**	⇓*i*P*	**Pg**	**11 22 39.7**	**+0.3**
GUT				S*	**Sg**	**11 22 53.4**	**+0.9**
GUT	**Gutenstein**	**1.00**	**325**	⇓*i*P	**Pg**	**11 22 39.7**	**+0.3**
GUT				S	**Sg**	**11 22 53.4**	**+0.9**
GUT	**Gutenstein**	**1.00**	**325**	Pb	**Pg**	**11 22 39.7**	**+0.3**
GUT				Sb	**Sg**	**11 22 53.4**	**+0.9**
SLE	**Schleitheim**	**1.12**	**298**	⇑*i*Pg	**Pg**	**11 22 42.4**	**+0.7**
	330nm,0.3s						
SLE	**Schleitheim**	**1.12**	**298**	⇑*i*Pg	**Pg**	**11 22 42.4**	**+0.7**
	330nm,0.3s						
WTTA	**Wattenberg**	**1.14**	**89**	⇑*e*Pg	**Pg**	**11 22 41.9**	**0.0**
	15nm,0.2s,SNR=19						
WTTA				⇓*i*Sg	**Sg**	**11 22 56.9**	**+0.1**
	36nm,0.2s						
WTTA	**Wattenberg**	**1.14**	**89**	*e*Pn	**Pg**	**11 22 42.0**	**+0.1**
WTTA				*e*Sg	**Sg**	**11 22 58.7**	**+1.9**
WTTA	**Wattenberg**	**1.14**	**89**	Pg	**Pg**	**11 22 41.9**	**0.0**
	15nm,0.2s,SNR=19						
WTTA				Sg	**Sg**	**11 22 56.9**	**+0.2**
	36nm,0.2s						
SPAK	**Spaichingen-Ko**	**1.17**	**317**	⇓Pg	**Pg**	**11 22 43.7**	**+1.2**
SPAK	**Spaichingen-Ko**	**1.17**	**317**	⇓P	**Pg**	**11 22 43.7**	**+1.2**
SPAK	**Spaichingen-Ko**	**1.17**	**317**	Pg	**Pg**	**11 22 42.5**	**0.0**
SPAK				Sg	**Sg**	**11 22 58.4**	**+0.6**
SCE	**Schlegeis**	**1.21**	**99**	⇑*i*Pg	**Pg**	**11 22 43.4**	**+0.1**
SCE	**Schlegeis**	**1.21**	**99**	Pg	**Pg**	**11 22 43.4**	**+0.1**
BUCH	**Bad Urach**	**1.27**	**341**	P	**Pn**	**11 22 44.1**	**+0.8**
BUCH				Pg	**Pg**	**11 22 45.0**	**+0.6**
BUCH				S	**Sn**	**11 23 00.9**	**+0.9**
BUCH				Sg	**Sg**	**11 23 02.3**	**+1.3**
BUCH	**Bad Urach**	**1.27**	**341**	Pn	**Pn**	**11 22 44.1**	**+0.8**
BUCH				Sn	**Sn**	**11 23 00.9**	**+0.9**
BUCH	**Bad Urach**	**1.27**	**341**	P	**Pg**	**11 22 45.0**	**+0.6**
BUCH				S	**Sg**	**11 23 02.3**	**+1.3**
BUCH	**Bad Urach**	**1.27**	**341**	P	**Pn**	**11 22 44.1**	**+0.8**
FUR	**Furstenfeldbru**	**1.27**	**43**	*e*Pg	**Pg**	**11 22 44.8**	**+0.3**
FUR				*e*Sg	**Sg**	**11 23 01.9**	**+0.8**
FUR	**Furstenfeldbru**	**1.27**	**43**	Pg	**Pg**	**11 22 44.8**	**+0.3**
FUR				Sg	**Sg**	**11 23 01.9**	**+0.8**
HDH	**Heidenheim-Cha**	**1.34**	**7**	P	**Pn**	**11 22 44.5**	**+0.2**
HDH				Pg	**Pg**	**11 22 45.7**	**-0.2**
HDH				S	**Sn**	**11 23 02.3**	**+0.4**
HDH				Sg	**Sg**	**11 23 04.4**	**+1.0**
HDH	**Heidenheim-Cha**	**1.34**	**7**	Pn	**Pn**	**11 22 44.5**	**+0.2**
HDH				Sn	**Sn**	**11 23 02.3**	**+0.4**
HDH	**Heidenheim-Cha**	**1.34**	**7**	Px	**Pg**	**11 22 45.7**	**-0.2**
HDH				S	**Sg**	**11 23 04.4**	**+1.0**
HDH	**Heidenheim-Cha**	**1.34**	**7**	P	**Pn**	**11 22 44.5**	**+0.2**
TUBL	**Tuebingen-Lenn**	**1.41**	**335**	Pg	**Pg**	**11 22 47.7**	**+0.6**
TUBL				Sg	**Sg**	**11 23 06.4**	**+1.1**
TUBL	**Tuebingen-Lenn**	**1.41**	**335**	P	**Pg**	**11 22 47.7**	**+0.6**
TUBL				S	**Sg**	**11 23 06.4**	**+1.1**
TUBL	**Tuebingen-Lenn**	**1.41**	**335**	Pg	**Pg**	**11 22 47.7**	**+0.6**
TUBL				Sg	**Sg**	**11 23 06.4**	**+1.1**
FELD	**Feldberg im Sc**	**1.47**	**296**	Pg	**Pg**	**11 22 47.4**	**-0.9**
FELD				Sg	**Sg**	**11 23 08.7**	**+1.3**
BFO	**Black Forest**	**1.55**	**315**	P	**Pn**	**11 22 48.1**	**+1.0**
BFO				*e*Pg	**Pg**	**11 22 49.7**	**0.0**
BFO				S	**Sn**	**11 23 07.1**	**+0.3**
BFO				*e*Sg	**Sg**	**11 23 10.5**	**+0.7**
BFO	**Black Forest**	**1.55**	**315**	Pn	**Pn**	**11 22 48.1**	**+1.0**
BFO				Sn	**Sn**	**11 23 07.1**	**+0.3**
BFO	**Black Forest**	**1.55**	**315**	Px	**Pg**	**11 22 49.8**	**+0.1**
BFO				S	**Sg**	**11 23 10.4**	**+0.6**
BFO	**Black Forest**	**1.55**	**315**	P	**Pn**	**11 22 48.1**	**+1.1**
BALST	**Balsthal**	**1.55**	**274**	⇑*i*Pn	**Pn**	**11 22 48.9**	**+1.8**
	446nm,0.4s						
BALST	**Balsthal**	**1.55**	**274**	⇑*i*Pn	**Pn**	**11 22 48.9**	**+1.8**
	446nm,0.4s						
KIZ	**Kirchzarten**	**1.56**	**298**	P	**Pn**	**11 22 49.3**	**+2.1**
KIZ				Pg	**Pg**	**11 22 50.5**	**+0.6**
KIZ				Sg	**Sg**	**11 23 11.1**	**+1.0**
KIZ	**Kirchzarten**	**1.56**	**298**	Pn	**Pn**	**11 22 49.3**	**+2.1**
KIZ				S	**Sg**	**11 23 11.1**	**+1.0**
KIZ	**Kirchzarten**	**1.56**	**298**	P	**Pg**	**11 22 50.5**	**+0.6**
KIZ	**Kirchzarten**	**1.56**	**298**	P	**Pn**	**11 22 49.3**	**+2.1**
STU	**Stuttgart**	**1.61**	**341**	Sg	**Sg**	**11 23 12.2**	**+0.4**
STU	**Stuttgart**	**1.61**	**341**	Sx	**Sg**	**11 23 12.2**	**+0.4**
STU	**Stuttgart**	**1.61**	**341**	Sg	**Sg**	**11 23 12.2**	**+0.4**
BBS	**Basel-Blauen**	**1.69**	**278**	P	**Pn**	**11 22 50.1**	**+1.2**
BBS				Sg	**Sg**	**11 23 15.7**	**+1.5**
BBS	**Basel-Blauen**	**1.69**	**278**	Pn	**Pn**	**11 22 50.1**	**+1.2**
BBS				S	**Sg**	**11 23 15.7**	**+1.5**
BBS	**Basel-Blauen**	**1.69**	**278**	P	**Pn**	**11 22 50.1**	**+1.1**
BBS	**Basel-Blauen**	**1.69**	**278**	Pg	**Pg**	**11 22 52.1**	**-0.3**
BBS				Sg	**Sg**	**11 23 14.6**	**+0.4**
ABTA	**Abfaltersbach**	**1.81**	**105**	⇑*e*Pg	**Pg**	**11 22 54.8**	**0.0**
	2.2nm,0.2s,SNR=8.0						
ABTA				⇓*i*Sg	**Sg**	**11 23 19.9**	**+1.6**
	9.1nm,0.2s						
ABTA	**Abfaltersbach**	**1.81**	**105**	Pg	**Pg**	**11 22 54.8**	**0.0**
	2.2nm,0.2s,SNR=8.0						
ABTA				Sg	**Sg**	**11 23 19.9**	**+1.6**
	9.1nm,0.2s						
MOF	**Molkenrain**	**2.01**	**288**	Pg	**Pg**	**11 22 57.4**	**-1.2**
MOF				Sg	**Sg**	**11 23 25.8**	**+1.1**
MOF	**Molkenrain**	**2.01**	**288**	Pg	**Pg**	**11 22 57.4**	**-1.2**
MOF				Sg	**Sg**	**11 23 25.8**	**+1.1**
SIND	**Sindeldorf**	**2.12**	**354**	P	**Pn**	**11 22 54.9**	**+0.1**
SIND				S	**Sn**	**11 23 19.6**	**-1.3**
SIND	**Sindeldorf**	**2.12**	**354**	P	**Pn**	**11 22 54.9**	**+0.1**
SIND				S	**Sn**	**11 23 19.6**	**-1.3**
SIND	**Sindeldorf**	**2.12**	**354**	P	**Pn**	**11 22 54.9**	**0.0**
SIND				S	**Sn**	**11 23 19.6**	**-1.3**
ECH	**Echery**	**2.13**	**298**	⇓P	**Pn**	**11 22 55.6**	**+0.6**
ECH				Sg	**Sg**	**11 23 27.9**	**-0.5**
ECH	**Echery**	**2.13**	**298**	⇓P	**Pn**	**11 22 55.6**	**+0.6**
ECH				S	**Sg**	**11 23 27.9**	**-0.5**
ECH	**Echery**	**2.13**	**298**	P	**Pn**	**11 22 55.6**	**+0.6**
ECH	**Echery**	**2.13**	**298**	Pg	**Pg**	**11 23 00.7**	**-0.1**
ECH				Sg	**Sg**	**11 23 29.0**	**+0.6**
ECH	**Echery**	**2.13**	**298**	Pg	**Pg**	**11 23 00.7**	**-0.1**
ECH				Sg	**Sg**	**11 23 29.0**	**+0.6**
LOMF	**Lomont**	**2.14**	**274**	Pg	**Pg**	**11 23 01.6**	**+0.5**
LOMF	**Lomont**	**2.14**	**274**	P	**Pg**	**11 23 01.6**	**+0.5**
LOMF	**Lomont**	**2.14**	**274**	Pg	**Pg**	**11 23 01.6**	**+0.6**
LOMF				Sg	**Sg**	**11 23 30.1**	**+1.3**
LOMF	**Lomont**	**2.14**	**274**	Pg	**Pg**	**11 23 00.6**	**-0.4**
LOMF				Sg	**Sg**	**11 23 30.1**	**+1.3**
CDF	**Champ du Feu**	**2.15**	**304**	*e*Pn	**Pn**	**11 22 56.9**	**+1.5**
CDF	**Champ du Feu**	**2.15**	**304**	*e*Pg	**Pg**	**11 23 01.0**	**-0.3**
CDF				*e*Sg	**Sg**	**11 23 29.3**	**0.0**
	26nm,0.5s						
CDF	**Champ du Feu**	**2.15**	**304**	*e*Pn	**Pn**	**11 22 56.9**	**+1.5**
CDF				*e*Pg	**Pg**	**11 23 01.0**	**-0.3**
CDF				*e*Sg	**Sg**	**11 23 29.3**	**0.0**
CDF	**Champ du Feu**	**2.15**	**304**	*e*Pn	**Pn**	**11 22 56.9**	**+1.5**
CDF	**Champ du Feu**	**2.15**	**304**	*e*Pg	**Pg**	**11 23 01.0**	**-0.3**
CDF				*e*Sg	**Sg**	**11 23 29.3**	**0.0**
	13nm,0.5s						
HINF	**Hinteralfeld**	**2.19**	**286**	*e*Pn	**Pn**	**11 22 56.3**	**+0.5**
HINF				*e*Sn	**Sn**	**11 23 22.5**	**-0.1**
HINF				*e*Sg	**Sg**	**11 23 30.4**	**+0.2**
	27nm,0.3s						
HINF	**Hinteralfeld**	**2.19**	**286**	*e*Pn	**Pn**	**11 22 56.3**

11nm,0.5s
MEZF Maizieres J'vi 3.54 293 *e*Pn **Pn 11 23 14.2 -0.2**
MEZF *e*Sg **Sg 11 24 12.6 -1.0**
MEZF Maizieres J'vi 3.54 293 *e*Pn **Pn 11 23 14.2 -0.2**
MEZF *e*Sg **Sg 11 24 12.6 -1.0**
5.6nm,0.5s
MOX Moxa 3.57 17 *e*Sg **Sg 11 24 12.6 -1.9**
MOX Moxa 3.57 17 Sg **Sg 11 24 12.6 -1.9**
TANN Tannenbergstha 3.57 27 *e*Sg **Sg 11 24 12.6 -2.0**
ORIF Oris-en-Rattie 3.68 232 *e*P **Pn 11 23 20.1 +3.8**
ORIF *e*Sn **Sn 11 23 58.7 -0.7**
1.5nm,0.4s
ORIF Oris-en-Rattie 3.68 232 *e*P **Pn 11 23 20.1 +3.8**
ORIF *e*Sn **Sn 11 23 58.7 -0.7**
ORIF Oris-en-Rattie 3.68 232 *e*P **Pn 11 23 20.1 +3.8**
ORIF *e*Sn **Sn 11 23 58.7 -0.7**
0.8nm,0.4s
LOR Lormes 4.16 272 *e*Pn **Pn 11 23 23.0 0.0**
LOR *e*Sn **Sn 11 24 10.3 -1.0**
LOR *e*Sg **Sg 11 24 32.6 -0.9**
6.0nm,0.2s
LOR Lormes 4.16 272 *e*Pn **Pn 11 23 23.0 0.0**
LOR *e*Sn **Sn 11 24 10.3 -1.0**
LOR *e*Sg **Sg 11 24 32.6 -0.9**
LOR Lormes 4.16 272 *e*Pn **Pn 11 23 23.0 0.0**
LOR *e*Sn **Sn 11 24 10.3 -1.0**
LOR *e*Sg **Sg 11 24 32.6 -0.9**
3.0nm,0.2s
SMF Signal de Mont 4.24 264 *e*Pn **Pn 11 23 24.2 +0.1**
SMF Signal de Mont 4.24 264 *e*Pg **Pg 11 23 39.5 -1.7**
SMF *e*Sn **Sn 11 24 12.3 -1.0**
SMF *e*Sg **Sg 11 24 35.2 -0.9**
6.7nm,0.4s
SMF Signal de Mont 4.24 264 *e*Pn **Pn 11 23 24.2 +0.1**
SMF *e*Pg **Pg 11 23 39.5 -1.7**
SMF *e*Sn **Sn 11 24 12.3 -1.0**
SMF *e*Sg **Sg 11 24 35.2 -0.9**
3.3nm,0.4s
VIVF Saint-Julien-l 4.39 239 *e*Pn **Pn 11 23 27.9 +1.7**
VIVF *e*Sn **Sn 11 24 16.0 -1.1**
1.4nm,0.3s
VIVF Saint-Julien-l 4.39 239 *e*Pn **Pn 11 23 27.9 +1.7**
VIVF *e*Sn **Sn 11 24 16.0 -1.1**
VIVF Saint-Julien-l 4.39 239 *e*Pn **Pn 11 23 27.9 +1.7**
VIVF *e*Sn **Sn 11 24 16.0 -1.1**
0.7nm,0.3s
SSF Saint Saulge 4.41 270 *e*Pn **Pn 11 23 27.6 +1.2**
SSF *e*Sn **Sn 11 24 16.3 -1.2**
SSF *e*Sg **Sg 11 24 40.5 -1.1**
4.6nm,0.4s
SSF Saint Saulge 4.41 270 *e*Pn **Pn 11 23 27.6 +1.2**
SSF *e*Sn **Sn 11 24 16.3 -1.2**
SSF *e*Sg **Sg 11 24 40.5 -1.1**
SSF Saint Saulge 4.41 270 *e*Pn **Pn 11 23 27.6 +1.2**
SSF *e*Sn **Sn 11 24 16.3 -1.2**
SSF *e*Sg **Sg 11 24 40.5 -1.1**
2.3nm,0.4s
GIVF Givet 4.45 312 *e*Pn **Pn 11 23 26.3 -0.6**
GIVF *e*Sg **Sg 11 24 40.2 -2.4**
3.0nm,0.3s
GIVF Givet 4.45 312 *e*Pn **Pn 11 23 26.3 -0.6**
GIVF *e*Sg **Sg 11 24 40.2 -2.4**
GIVF Givet 4.45 312 *e*Pn **Pn 11 23 26.3 -0.6**
GIVF *e*Sg **Sg 11 24 40.2 -2.4**
1.5nm,0.3s
AVF Avril sur Loir 4.55 267 *e*Pn **Pn 11 23 28.2 -0.1**
AVF Avril sur Loir 4.55 267 *e*Pg **Pg 11 23 45.0 -2.1**
AVF *e*Sg **Sg 11 24 44.7 -1.2**
1.2nm,0.3s
AVF Avril sur Loir 4.55 267 *e*Pn **Pn 11 23 28.2 -0.1**
AVF *e*Pg **Pg 11 23 45.0 -2.1**
AVF *e*Sg **Sg 11 24 44.7 -1.2**
AVF Avril sur Loir 4.55 267 *e*Pn **Pn 11 23 28.2 -0.1**
AVF Avril sur Loir 4.55 267 *e*Pg **Pg 11 23 45.0 -2.1**
AVF *e*Sg **Sg 11 24 44.7 -1.2**
0.6nm,0.3s
BAIF Baives 4.74 308 *e*Pn **Pn 11 23 30.6 -0.3**
BAIF *e*Sg **Sg 11 24 49.6 -2.5**
4.1nm,0.6s
BAIF Baives 4.74 308 *e*Pn **Pn 11 23 30.6 -0.3**
BAIF *e*Sg **Sg 11 24 49.6 -2.5**
BAIF Baives 4.74 308 *e*Pn **Pn 11 23 30.6 -0.3**
BAIF *e*Sg **Sg 11 24 49.6 -2.5**
2.0nm,0.6s
BGF Bois d'Agland 4.93 265 *e*Pn **Pn 11 23 33.6 +0.1**
BGF *e*Sn **Sn 11 24 28.8 -1.5**
BGF *e*Sg **Sg 11 24 56.3 -1.9**
4.0nm,0.3s
BGF Bois d'Agland 4.93 265 *e*Pn **Pn 11 23 33.6 +0.1**
BGF *e*Sn **Sn 11 24 28.8 -1.5**
BGF *e*Sg **Sg 11 24 56.3 -1.9**
BGF Bois d'Agland 4.93 265 *e*Pn **Pn 11 23 33.6 +0.1**
BGF *e*Sn **Sn 11 24 28.8 -1.5**
BGF *e*Sg **Sg 11 24 56.3 -1.9**
2.0nm,0.3s

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*SKHL **16** 11:30:51.9±0.6, 46°.68N×153°.88E, h54km±15km, mb5.1/2, Ms3.7/1*
*JMA **16** 11:30:57.6±0.8, 46°.74N×153°.06E, h30km, M4.6*
*MOS **16** 11:30:58.5±1.4, 46°.88N×152°.92E, h49km, mb4.3/1, Error ellipse: s-maj=14.3km s-min=10.8km az=54.1*
*ISCJB **16** 11:30:59.8±0.9, 46°.69N±0°.07×152°.8E±0°.1, h67km±8km, mb3.7/19, Error ellipse: s-maj=15.7km s-min=6.7km az=41.7*
*IDC **16** 11:31:02.9±2.9, 46°.86N×152°.78E, h75km±25km, mb3.5/17, mb1 3.7/19, mb1mx3.7/26, mbtmp3.6/19, MS3.2/5, Ms1 3.2/5, ms1mx2.8/38, Error ellipse: s-maj=18.6km s-min=13.5km az=153.0*
*NEIC **16** 11:31:04.2±1.3, 46°.94N×152°.84E, h86km±11km, mb4.1/1, Error ellipse: s-maj=14.7km s-min=8.5km az=139.0*
ISC 16 11:31:02.1±0.8, **46°.69N**±0°.07×**152°.7E**±0°.1, **h70**km±7km, **n93**, σ1§34/99, **mb3.7**/19, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.67**	**248**	*e*PN	**Pn**	**11 31 58.2**	**+1.8**
KUR				*e*S	**Sn**	**11 32 47.5**	**+9.1**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,380nm,0.5s						
KUR				smax			
	comp=E,440nm,0.5s						
KUR	**Kuril'sk**	**3.67**	**248**	*e*P	**Pn**	**11 31 58.2**	**+1.8**
KUR				AMB	AMB	11 31 58.8	
	comp=E,80nm,0.5s						
KUR				*e*S	**Sn**	**11 32 47.5**	**+9.1**
KUR				A		11 32 57.0	
	comp=E,380nm,0.5s						
KUR				A		11 32 57.0	
	comp=E,440nm,0.5s						
SKR	**Severo-Kuril's**	**4.59**	**28**	*e*PN	**Pn**	**11 32 14.9**	**+6.0**
SKR				*e*S	**Sn**	**11 33 02.0**	**+1.1**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**244**	*i* PN	**Pn**	**11 32 23.6**	**+2.2**
YUK				pmax	pmax		
	comp=N,56nm,0.3s						
YUK				pmax	pmax		
	comp=E,39nm,0.1s						
YUK				pmax	pmax		
	comp=Z,141nm,0.3s						
YUK				pmax	pmax		
	comp=Z,21μm,0.2s						
YUK				MLR	MLR		
	comp=N,356nm,17.0s						
YUK				MLR	MLR		
	comp=E,280nm,17.0s						
YUK				MLR	MLR		
	comp=Z,220nm,17.0s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**244**	*e*P	**Pn**	**11 32 23.6**	**+2.2**
YUK				AMB	AMB	11 32 30.6	
	comp=Z,60nm,0.3s						
YUK				AMB	AMB	11 32 30.6	
	comp=Z,40nm,0.3s						
YUK				AMB	AMB	11 32 30.6	
	comp=Z,140nm,0.3s						
YUK				AMB	AMB	11 32 45.6	
	comp=Z,790nm,0.2s						
YUK				AMS	AMS	11 37 04.6	
	comp=Z,356nm,17.0s						
YUK				AMS	AMS	11 37 04.6	
	comp=Z,280nm,17.0s						
YUK				AMS	AMS	11 37 04.6	
	comp=Z,220nm,17.0s						
NEM2	**Nemuro 2**	**5.95**	**239**	P	**Pn**	**11 32 25.8**	**-1.6**
NEM2				*e*S	**Sn**	**11 33 31.4**	**-2.7**
JRA	**Rausu**	**6.01**	**246**	P	**Pn**	**11 32 30.1**	**+1.8**
JNK	**Nakash**	**6.44**	**244**	P	**Pn**	**11 32 34.7**	**+0.5**
JTKR	**Abashiri--Toko**	**6.77**	**250**	P	**Pn**	**11 32 40.2**	**+1.5**
JAK	**Akkeshi**	**6.78**	**240**	P	**Pn**	**11 32 37.6**	**-1.3**
JAK				*e*S	**Sn**	**11 33 51.0**	**-3.6**
YSS	**Yuzh-Sakhalins**	**6.83**	**276**	*e*PN	**Pn**	**11 32 40.3**	**+0.8**
YSS				*e*		11 34 02.0	
YSS	**Yuzh-Sakhalins**	**6.83**	**276**	*e*P	**Pn**	**11 32 40.3**	**+0.8**
YSS				*e*S	**Sn**	**11 34 02.0**	**+6.2**
JAR	**Ashorobuto**	**7.18**	**245**	P	**Pn**	**11 32 45.0**	**+0.7**
PETK	**Petropavlovsk-**	**7.19**	**25**	P	**Pn**	**11 32 42.4**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=212,slow=14,SNR=5.8						
PETK	**Petropavlovsk-**	**7.19**	**25**	P	**Pn**	**11 32 42.4**	**-2.0**
PETK	**Petropavlovsk-**	**7.19**	**25**	PN	**Pn**	**11 32 42.4**	**-2.0**
JOB	**Onbets**	**7.35**	**242**	P	**Pn**	**11 32 46.5**	**-0.2**
JOB				*e*S	**Sn**	**11 34 06.2**	**-2.4**
ASAJ	**Asahikawa**	**7.56**	**254**	P	**Pn**	**11 32 52.8**	**+3.2**
	comp=Z,1.2nm,0.3s,baz=92,slow=13,SNR=10						
ASAJ	**Asahikawa**	**7.56**	**254**	P	**Pn**	**11 32 52.8**	**+3.2**
ASAJ	**Asahikawa**	**7.56**	**254**	PN	**Pn**	**11 32 52.8**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.56**	**254**	P	**Pn**	**11 32 52.7**	**+3.2**
JKK2	**Kamakawa 2**	**7.56**	**252**	P	**Pn**	**11 32 51.6**	**+2.0**
JCH	**Churui**	**7.80**	**242**	P	**Pn**	**11 32 51.9**	**-0.9**
JCH				*e*S	**Sn**	**11 34 16.3**	**-3.3**
TYV	**Tymovskoe**	**7.84**	**306**	*e*P	**Pn**	**11 32 54.0**	**+0.7**
JNBK	**Urakawa-nobuka**	**8.37**	**242**	P	**Pn**	**11 32 59.1**	**-1.4**
JNB	**Noboribetsu**	**9.33**	**247**	P	**Pn**	**11 33 13.4**	**-0.3**
JKB	**Kayabe**	**9.64**	**244**	P	**Pn**	**11 33 16.2**	**-1.8**
JKB				*e*S	**Sn**	**11 34 58.5**	**-6.1**
JYM2	**Yakumo 2**	**9.94**	**247**	P	**Pn**	**11 33 21.3**	**-0.6**
JANG	**Nango**	**10.28**	**236**	P	**Pn**	**11 33 22.2**	**-4.4**
JRG	**Rokugo**	**11.44**	**235**	P	**Pn**	**11 33 39.2**	**-3.3**
MJAR	**Matsushiro Arr**	**14.82**	**232**	P	**Pn**	**11 34 33.8**	**+6.2**
	comp=Z,0.4nm,0.3s,baz=33,slow=8.3,SNR=7.3						
MJAR				LR	LR	11 40 23.6	
	comp=Z,41nm,21.5s,baz=105,slow=38						
MJAR	**Matsushiro Arr**	**14.82**	**232**	P	**Pn**	**11 34 33.8**	**+6.2**
MJAR	**Matsushiro Arr**	**14.82**	**232**	P	**Pn**	**11 34 33.8**	**+6.2**
KSRS	**Korea Array**	**20.51**	**252**	P	**P**	**11 35 39.1**	**+4.8**
	comp=Z,0.9nm,0.4s,baz=51,slow=11,SNR=7.4						
KSRS				LR	LR	11 44 11.9	
	comp=Z,31nm,19.4s,baz=115,slow=38						
KSRS	**Korea Array**	**20.51**	**252**	P	**P**	**11 35 39.2**	**+4.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KSRS				MLR	MLR		
	comp=Z,31nm,19.4s						
KSAR	**Wonju Array Be**	**20.54**	**252**	P	**P**	**11 35 39.1**	**+4.5**
KSAR	**Wonju Array Be**	**20.54**	**252**	P	**P**	**11 35 39.2**	**+4.5**
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**11 37 15.0**	**+1.6**
	comp=Z,0.5nm,0.8s,mb3.3,baz=75,slow=7.6,SNR=2.7						
SONM				LR	LR	11 51 16.5	
	comp=Z,64nm,19.4s,baz=170,slow=39						
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**11 37 15.0**	**+1.6**
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**11 37 15.0**	**+1.6**
ILAR	**Eielson Array**	**36.77**	**39**	P	**P**	**11 38 00.6**	**-1.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=263,slow=6.8,SNR=7.5						
ILAR	**Eielson Array**	**36.77**	**39**	P	**P**	**11 38 00.6**	**-1.8**
ILAR	**Eielson Array**	**36.77**	**39**	P	**P**	**11 38 00.6**	**-1.8**
ZALV	**Zalesovo Beam**	**42.42**	**306**	P	**P**	**11 38 48.1**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=48,slow=6.4,SNR=2.4						
ZALV				PcP	PcP	11 40 41.8	+0.6
	comp=Z,0.7nm,0.6s,baz=30,slow=4.0,SNR=3.6						
ZALV				LR	LR	11 59 11.2	
	comp=Z,34nm,18.3s,baz=87,slow=40						
ZALV	**Zalesovo Beam**	**42.42**	**306**	P	**P**	**11 38 48.1**	**-1.3**
ZALV				PcP	PcP	11 40 41.8	+0.6
ZALV	**Zalesovo Beam**	**42.42**	**306**	P	**P**	**11 38 48.1**	**-1.3**
ZALV						11 40 41.8	
MKAR	**Makanchi Array**	**46.72**	**297**	P	**P**	**11 39 23.4**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.5,baz=70,slow=7.3,SNR=8.8						
MKAR				PcP	PcP	11 40 56.1	-0.1
	comp=Z,0.4nm,0.6s,baz=60,slow=3.5,SNR=6.2						
MKAR	**Makanchi Array**	**46.72**	**297**	P	**P**	**11 39 23.4**	**-0.4**
MKAR				PcP	PcP	11 40 56.1	-0.1
MKAR	**Makanchi Array**	**46.72**	**297**	P	**P**	**11 39 23.4**	**-0.4**
MKAR						11 40 56.1	
KURK	**Kurchatov**	**47.17**	**304**	P	**P**	**11 39 26.8**	**-0.4**
	comp=Z,0.8nm,0.4s,mb3.8,baz=70,slow=8.4,SNR=4.3						
KURK	**Kurchatov**	**47.17**	**304**	P	**P**	**11 39 26.8**	**-0.4**
KURK	**Kurchatov**	**47.17**	**304**	P	**P**	**11 39 26.8**	**-0.4**
BVAR	**Borovoye Array**	**50.68**	**309**	P	**P**	**11 39 53.4**	**-0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=55,slow=7.5,SNR=8.8						
BVAR				PcP	PcP	11 41 10.8	+0.4
	comp=Z,1.2nm,0.5s,baz=64,slow=3.4,SNR=4.3						
BVAR	**Borovoye Array**	**50.68**	**309**	P	**P**	**11 39 53.4**	**-0.6**
BVAR				PcP	PcP	11 41 10.8	+0.4
BVAR	**Borovoye Array**	**50.68**	**309**	P	**P**	**11 39 53.4**	**-0.6**
BVAR						11 41 10.8	
YKA	**Yellowknife Ar**	**51.15**	**37**	P	**P**	**11 39 57.1**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.4,baz=296,slow=6.8,SNR=5.9						
YKA				PcP	PcP	11 41 12.0	+0.1
	comp=Z,0.2nm,0.4s,baz=303,slow=3.8,SNR=7.2						
YKA	**Yellowknife Ar**	**51.15**	**37**	P	**P**	**11 39 57.1**	**-0.2**
YKA				PcP	PcP	11 41 12.0	+0.1
YKA	**Yellowknife Ar**	**51.15**	**37**	P	**P**	**11 39 57.2**	**-0.2**
YKA						11 41 12.0	
CMAR	**Chiang Mai Arr**	**52.08**	**256**	P	**P**	**11 40 06.9**	**+2.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=36,slow=7.3,SNR=8.0						
CMAR	**Chiang Mai Arr**	**52.08**	**256**	P	**P**	**11 40 06.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**52.08**	**256**	P	**P**	**11 40 06.9**	**+2.0**
SUMG	**Summit**	**60.78**	**4**	*i* P	**P**	**11 41 06.2**	**+0.2**
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SUMG	**Summit**	**60.78**	**4**	*i* P	**P**	**11 41 06.2**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**62.71**	**62**	P	**P**	**11 41 18.8**	**-0.7**
	comp=Z,0.2nm,0.7s,mb3.2,baz=298,slow=7.7,SNR=4.4						
NVAR	**Mina Array Bea**	**62.71**	**62**	P	**P**	**11 41 18.8**	**-0.7**
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**11 41 26.8**	**-0.7**
	comp=Z,2.9nm,0.4s,mb4.5,baz=34,slow=7.4,SNR=20						
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**11 41 26.8**	**-0.7**
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**11 41 26.8**	**-0.7**
PDAR	**Pinedale Array**	**65.01**	**54**	P	**P**	**11 41 34.6**	**+0.1**
	comp=Z,0.4nm,0.9s,mb3.3,baz=328,slow=2.3,SNR=4.1						
PDAR	**Pinedale Array**	**65.01**	**54**	P	**P**	**11 41 34.6**	**+0.1**
NOA	**NORSAR Array B**	**68.20**	**341**	P	**P**	**11 41 54.1**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.3,baz=28,slow=6.2,SNR=8.5						
NOA	**NORSAR Array B**	**68.20**	**341**	P	**P**	**11 41 54.1**	**-0.4**
NOA	**NORSAR Array B**	**68.20**	**341**	P	**P**	**11 41 54.1**	**-0.4**
WRAB	**Tennant Creek**	**68.35**	**199**	*e*P	**P**	**11 41 57.5**	**+1.7**
	comp=Z,2.5nm,0.9s,mb4.0						
WRAB	**Tennant Creek**	**68.35**	**199**	*e*P	**P**	**11 41 57.5**	**+1.7**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**68.36**	**199**	P	**P**	**11 41 56.1**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=341,slow=7.9,SNR=4.8						
WRA	**Warramunga Arr**	**68.36**	**199**	P	**P**	**11 41 56.1**	**+0.2**
WRA	**Warramunga Arr**	**68.36**	**199**	P	**P**	**11 41 56.1**	**+0.2**
AKASG	**Malin Array Be**	**71.44**	**326**	P	**P**	**11 42 13.8**	**-0.8**
	comp=Z,1.7nm,0.3s,mb4.3,baz=32,slow=6.4,SNR=5.9						
AKASG	**Malin Array Be**	**71.44**	**326**	P	**P**	**11 42 13.8**	**-0.8**
AKASG	**Malin Array Be**	**71.44**	**326**	P	**P**	**11 42 13.8**	**-0.8**
ASAR	**Alice Springs**	**72.06**	**198**	P	**P**	**11 42 20.0**	**+1.6**
	comp=Z,0.7nm,0.7s,mb3.6,baz=13,slow=5.6,SNR=13						
ASAR	**Alice Springs**	**72.06**	**198**	P	**P**	**11 42 20.0**	**+1.6**
ASAR	**Alice Springs**	**72.06**	**198**	P	**P**	**11 42 20.0**	**+1.6**
TXAR	**Lajitas Array**	**77.77**	**60**	P	**P**	**11 42 51.7**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.1,baz=297,slow=4.7,SNR=10						
TXAR	**Lajitas Array**	**77.77**	**60**	P	**P**	**11 42 51.7**	**+0.1**
TXAR	**Lajitas Array**	**77.77**	**60**	P	**P**	**11 42 51.7**	**+0.1**
BRTR	**Keskin Array B**	**78.25**	**316**	P	**P**	**11 42 54.7**	**+0.7**
	comp=Z,1.1nm,0.9s,mb3.6,baz=68,slow=6.7,SNR=3.4						
BRTR	**Keskin Array B**	**78.25**	**316**	P	**P**	**11 42 54.7**	**+0.7**
BRTR	**Keskin Array B**	**78.25**	**316**	P	**P**	**11 42 54.7**	**+0.7**
DAVOX	**Davos/Dischmat**	**81.38**	**335**	LR	LR	12 21 33.7	
	comp=Z,55nm,19.1s,baz=264,slow=37						
TORD	**Torodi Ar. Bea**	**115.00**	**329**	PKP	PKiKP	11 49 33.9	-1.4
	comp=Z,0.2nm,0.5s,baz=338,slow=1.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**115.00**	**329**	PKP	PKiKP	11 49 33.9	-1.4

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*ISCJB **16** 11:31:25.9±0.8, 31°.82N±0°.04×104°.49E±0°.07, h9km±6km, mb3.5/8, Error ellipse: s-maj=10.0km s-min=5.1km az=22.5*
*IDC **16** 11:31:26.6±1.0, 31°.85N×104°.39E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/27, mbtmp3.5/8, ML3.4/2, Error ellipse: s-maj=49.0km s-min=18.5km az=63.0*
*NEIC **16** 11:31:28.4±0.4, 31°.85N×104°.36E, h10km, mb3.9/2, Error ellipse: s-maj=15.7km s-min=7.5km az=73.0*
*BJI **16** 11:31:29.5, 31°.85N×104°.28E, h10km, ML3.4/14*
ISC 16 11:31:28.6±0.8, **31°.78N**±0°.04×**104°.44E**±0°.06, **h14**km±6km, **n23**, σ1§05/32, **mb3.5**/8, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.05**	**214**	Pn	**Pn**	**11 31 47.0**	**-1.9**
CD2				Pg	**Pg**	**11 31 49.5**	**+0.7**
CD2				Sn	**Sn**	**11 32 00.5**	**-2.8**
CD2				Sg	**Sg**	**11 32 02.5**	**0.0**
CD2				smax			
	comp=N,670nm,0.7s						
CD2				smax			
	comp=E,1μm,0.8s						
LZH	**Lanzhou**	**4.32**	**354**	*e*Pg	**Pn**	**11 32 39.8**	**+5.9**
LZH				Sg	**Sg**	**11 33 49.0**	**+1.6**
LZH				smax			
	comp=N,61nm,0.8s						
LZH				smax			
	comp=E,98nm,1.0s						
LZH	**Lanzhou**	**4.32**	**354**	*e*Pn	**Pn**	**11 32 39.8**	**+5.9**
LZH				Pg	**Pg**	**11 32 51.0**	**-0.4**
LZH				Sg	**Sg**	**11 33 49.0**	**+1.6**
XAN	**Xi'an**	**4.39**	**58**	Pn	**Pn**	**11 32 39.6**	**+4.7**
XAN				Pg	**Pg**	**11 32 51.9**	**-0.9**
XAN				Sn	**Sn**	**11 33 31.6**	**+5.8**
XAN				Sg	**Sg**	**11 33 48.6**	**-1.1**
XAN				smax			
	comp=N,91nm,0.6s						
XAN				smax			
	comp=E,26nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.16**	**202**	Pn	**Pn**	**11 34 50.2**	**+1.3**
	comp=E,0.1nm,0.3s,baz=14,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**14.16**	**202**	Pn	**Pn**	**11 34 50.2**	**+1.3**
SONM	**Songino Array**	**16.10**	**5**	Pn	**Pn**	**11 35 15.1**	**+0.6**
	comp=E,0.1nm,0.3s,baz=196,slow=8.5,SNR=3.3						
SONM	**Songino Array**	**16.10**	**5**	Pn	**Pn**	**11 35 15.1**	**+0.6**
MKAR	**Makanchi Array**	**22.66**	**318**	P	**P**	**11 36 28.8**	**-0.5**
	comp=E,0.7nm,0.7s,mb3.2,baz=115,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**22.66**	**318**	P	**P**	**11 36 28.8**	**-0.5**
ZALV	**Zalesovo Beam**	**26.24**	**333**	P	**P**	**11 37 02.1**	**-0.9**
	comp=E,0.5nm,0.4s,mb3.4,baz=127,slow=11,SNR=3.5						
ZALV	**Zalesovo Beam**	**26.24**	**333**	P	**P**	**11 37 02.1**	**-0.9**
KURK	**Kurchatov**	**26.88**	**322**	P	**P**	**11 37 08.2**	**-0.7**
	comp=E,0.4nm,0.2s,mb3.5,baz=134,slow=8.5,SNR=5.9						
KURK	**Kurchatov**	**26.88**	**322**	P	**P**	**11 37 08.2**	**-0.7**
ABKAR	**Akbulak array**	**37.44**	**311**	*e*P	**P**	**11 38 40.9**	**-0.5**
	comp=E,0.3nm,0.4s,mb3.5						
WRAB	**Tennant Creek**	**58.88**	**147**	*e*P	**P**	**11 41 28.5**	**+1.4**
	comp=E,3.9nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**58.88**	**147**	P	**P**	**11 41 28.1**	**+1.0**
	comp=E,0.5nm,0.7s,mb3.7,baz=339,slow=7.7,SNR=14						
WRA	**Warramunga Arr**	**58.88**	**147**	P	**P**	**11 41 28.1**	**+1.0**
WB2	**Warramunga Arr**	**58.89**	**147**	*e*P	**P**	**11 41 28.1**	**+0.9**
ASAR	**Alice Springs**	**61.92**	**149**	P	**P**	**11 41 48.4**	**+0.5**
	comp=E,0.2nm,0.5s,mb3.5,baz=337,slow=6.3,SNR=7.3						
ASAR	**Alice Springs**	**61.92**	**149**	P	**P**	**11 41 48.4**	**+0.5**
YKA	**Yellowknife Ar**	**80.96**	**17**	P	**P**	**11 43 42.4**	**+0.1**
	comp=E,0.1nm,0.4s,mb3.1,baz=324,slow=5.1,SNR=5.0						
YKA	**Yellowknife Ar**	**80.96**	**17**	P	**P**	**11 43 42.5**	**+0.1**

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*VIE **16** 12:00:15.7±0.3, 50°.21N×12°.74E, h0km±2km, ML2.5/2, Error ellipse: s-maj=3.9km s-min=1.0km az=43.0 20 km E of Klingenthal Suspected Mining explosion.*
ISC 16 12:00:13.8±2.3, **50°.26N**±0°.07×**12°.5E**±0°.2, **h0**km, **n4**, σ0§35/10, **3C-3D**, **Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**2.50**	**75**	*e*Pn	**Pg**	**12 01 02.0**	**+0.4**
KSP				*e*Sn	**Sg**	**12 01 34.2**	**+0.2**
KSP	**Ksiaz**	**2.50**	**75**	*e*Pg	**Pg**	**12 01 01.9**	**+0.3**
KSP				*e*Sg	**Sg**	**12 01 33.5**	**-0.4**
MOA	**Molln**	**2.68**	**153**	↓*i*Pn	**Pn**	**12 00 58.4**	**+0.4**
MOA				↑*i*Sg	**Sg**	**12 01 39.8**	**+0.1**
	6.7nm,0.6s						
CONA	**Conrad Observa**	**3.21**	**135**	↓*i*Pn	**Pn**	**12 01 05.3**	**-0.2**
CONA				↑*i*Pg	**Pg**	**12 01 14.7**	**-0.7**
CONA				↓*i*Sn	**Sn**	**12 01 44.2**	**-0.2**
CONA				↑*i*Sg	**Sg**	**12 01 57.3**	**+0.3**
	10nm,0.5s						

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*ISCJB **16** 12:03:38.9±1.7, 21°.47S±0°.10×68°.3W±0°.2, h139km±16km, mb3.9/5, Error ellipse: s-maj=26.6km s-min=15.2km az=169.3*
*NEIC **16** 12:03:39.8±1.8, 21°.44S×68°.29W, h133km±17km, mb3.6/1, Error ellipse: s-maj=23.2km s-min=16.6km az=67.0*
*IDC **16** 12:03:44.9±6.6, 21°.12S×67°.93W, h165km±48km, mb3.8/5, mb1 4.0/6, mb1mx3.7/15, mbtmp3.8/6, Error ellipse: s-maj=66.0km s-min=27.7km az=28.0*
ISC 16 12:03:40.7±1.7, **21°.45S**±0°.10×**68°.1W**±0°.2, **h138**km±15km, **n18**, σ0§70/19, **mb3.9**/5,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAR				*e*Sg	**Sg**	**12 08 39.3**	**-0.6**
IPAR				*e*		12 08 41.4	
	comp=Z,3μm,0.4s						
IMEH	**Mehriz**	**3.41**	**25**	Pn	**Pn**	**12 08 44.5**	**+1.0**
IMEH	**Mehriz**	**3.41**	**25**	*e*Pn	**Pn**	**12 08 44.5**	**+1.0**
IMEH				*e*		12 09 54.2	
	comp=Z,374nm,0.3s						
IBAF	**Bafgh**	**3.99**	**34**	Pn	**Pn**	**12 08 52.4**	**+0.9**
IBAF	**Bafgh**	**3.99**	**34**	*e*Pn	**Pn**	**12 08 52.4**	**+0.9**
IBAF				*e*		12 09 07.7	
	comp=Z,273nm,0.2s						
ICHK	**Chekchek**	**4.13**	**17**	Pn	**Pn**	**12 08 53.7**	**+0.2**
ICHK	**Chekchek**	**4.13**	**17**	*e*Pn	**Pn**	**12 08 53.7**	**+0.2**
IZEF	**Zefreh**	**4.62**	**353**	Pn	**Pn**	**12 09 00.7**	**+0.5**
IZEF	**Zefreh**	**4.62**	**353**	*e*Pn	**Pn**	**12 09 00.8**	**+0.6**
IZEF				*e*		12 10 32.4	
	comp=Z,158nm,0.0s						
BRTR	**Keskin Array B**	**19.62**	**311**	P	**Pn**	**12 12 20.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=15,SNR=2.9						
BRTR	**Keskin Array B**	**19.62**	**311**	P	**Pn**	**12 12 20.9**	**+0.6**
KKAR	**Karatay Array**	**20.47**	**39**	*e*P	**P**	**12 12 27.6**	**-0.5**
	comp=Z,1.1nm,0.5s						
ABKAR	**Akbulak array**	**21.61**	**12**	*e*P	**P**	**12 12 40.4**	**0.0**
	comp=Z,0.4nm,0.3s,mb3.3						
AKTO	**Aktyubinsk**	**22.45**	**8**	P	**P**	**12 12 49.5**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.3,baz=220,slow=11,SNR=4.6						
AKTO	**Aktyubinsk**	**22.45**	**8**	P	**P**	**12 12 49.5**	**+0.2**
BVAR	**Borovoye Array**	**27.87**	**23**	P	**P**	**12 13 40.0**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.5,baz=226,slow=8.0,SNR=4.0						
BVAR	**Borovoye Array**	**27.87**	**23**	P	**P**	**12 13 40.0**	**0.0**
MKAR	**Makanchi Array**	**29.45**	**43**	P	**P**	**12 13 53.9**	**-0.2**
	comp=Z,2.5nm,1.2s,mb3.8,baz=234,slow=8.9,SNR=4.3						
MKAR	**Makanchi Array**	**29.45**	**43**	P	**P**	**12 13 53.9**	**-0.2**
KURK	**Kurchatov**	**29.62**	**34**	P	**P**	**12 13 54.7**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.5,baz=231,slow=8.7,SNR=7.3						
KURK	**Kurchatov**	**29.62**	**34**	P	**P**	**12 13 54.7**	**-1.0**
ZALV	**Zalesovo Beam**	**34.61**	**33**	P	**P**	**12 14 38.8**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.3,baz=236,slow=9.4,SNR=11						
ZALV	**Zalesovo Beam**	**34.61**	**33**	P	**P**	**12 14 38.8**	**-0.5**
FINES	**FINESS Array B**	**37.68**	**339**	P	**P**	**12 15 04.7**	**-0.9**
	comp=Z,1.1nm,0.6s,mb3.8,baz=130,slow=13,SNR=3.6						
FINES	**FINESS Array B**	**37.68**	**339**	P	**P**	**12 15 04.7**	**-0.9**
HFS	**Hagfors**	**41.42**	**331**	P	**P**	**12 15 35.5**	**-1.2**
	comp=Z,1.1nm,0.6s,mb3.7,baz=74,slow=18,SNR=3.1						
HFS	**Hagfors**	**41.42**	**331**	P	**P**	**12 15 35.5**	**-1.2**
SONM	**Songino Array**	**45.38**	**49**	P	**P**	**12 16 09.1**	**+0.3**
	comp=Z,0.4nm,0.9s,mb3.3,baz=248,slow=7.6,SNR=3.1						
SONM	**Songino Array**	**45.38**	**49**	P	**P**	**12 16 09.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**49.90**	**263**	P	**P**	**12 16 44.9**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.7,baz=54,slow=7.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**49.90**	**263**	P	**P**	**12 16 44.9**	**+0.5**
YKA	**Yellowknife Ar**	**88.99**	**354**	P	**P**	**12 20 45.0**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.8,baz=7.4,slow=4.6,SNR=8.0						
YKA	**Yellowknife Ar**	**88.99**	**354**	P	**P**	**12 20 45.0**	**0.0**

*ISK **16** 12:07:47.7, 35°.08N×26°.37E, h32km, MD3.8*
*ISCJB **16** 12:07:53.8±0.3, 35°.37N±0°.02×26°.63E±0°.03, h40km±6km, mb3.8/8, Error ellipse: s-maj=3.7km s-min=3.5km az=42.9*
*NEIC **16** 12:07:53.5, 35°.61N×26°.52E, h26km, ML3.4(ATH), After ATH.*
*DDA **16** 12:07:54.0, 35°.62N×26°.79E, h6km±1km, Md3.3*
*ATH **16** 12:07:53.5, 35°.61N×26°.52E, h26km±1km, MD3.4/8*
*THE **16** 12:07:54.5, 35°.55N×26°.53E, h8km±4km, ML3.8/3, Error ellipse: s-maj=5.4km s-min=0.8km az=158.0*
*HLW **16** 12:07:55.7, 35°.60N×26°.73E, h14km±9km, Md4.2, Ml3.4*
*CSEM **16** 12:07:55.2±0.2, 35°.45N×26°.56E, h37km±1km, ML3.8/3, Error ellipse: s-maj=3.4km s-min=2.9km az=25.0*
*IDC **16** 12:07:57.5±2.7, 35°.35N×26°.74E, h54km±27km, mb3.6/8, mb1 3.6/13, mb1mx3.6/27, mbtmp3.6/13, ML3.9/5, Error ellipse: s-maj=21.2km s-min=15.4km az=146.0*

ISC 16 12:07:54.9±0.6, **35°.41**N±0°.02×**26°.57E**±0°.03, **h30**km±5km, **n156**, σ1°**16**/203, **mb3.8**/8, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.50**	**74**	*e*PN	**Pb**	**12 08 04.6**	**-0.8**
KARP				*e*SN	**Sb**	12 08 12.2	-0.3
KARP	**Karpathos**	**0.50**	**74**	P	**Pb**	**12 08 04.6**	**-0.8**
KARP				S	**Sb**	12 08 11.8	-0.7
KARP	**Karpathos**	**0.50**	**74**	P	**Pb**	**12 08 04.6**	**-0.8**
KARP				S	**Sb**	12 08 11.8	-0.7
KARP				*e*Sn	**Sb**	12 08 12.2	-0.3
NPS	**Neapolis**	**0.80**	**259**	*e*PN	**Pn**	12 08 09.3	-0.8
NPS				*e*SN	**Sb**	12 08 20.2	-0.6
NPS	**Neapolis**	**0.80**	**259**	P	**Pn**	12 08 09.6	-0.5
NPS				S	**Sb**	12 08 21.5	+0.7
NPS	**Neapolis**	**0.80**	**259**	*e*Pn	**Pn**	12 08 09.3	-0.8
NPS	**Neapolis**	**0.80**	**259**	P	**Pn**	12 08 09.6	-0.5
NPS				*e*Sn	**Sb**	12 08 20.2	-0.6
NPS				S	**Sb**	12 08 21.5	+0.7
NIS1	**Nisyros Isl.**	**1.28**	**22**	P	**Pn**	12 08 15.7	-1.1
NIS1	**Nisyros Isl.**	**1.28**	**22**	P	**Pn**	12 08 15.7	-1.1
THR6	**Thira Island,**	**1.34**	**315**	P	**Pn**	12 08 16.5	-1.0
THR6	**Thira Island,**	**1.34**	**315**	P	**Pn**	12 08 16.5	-1.0
THR2	**Thira island,**	**1.38**	**319**	P	**Pn**	12 08 17.4	-0.7
THR2	**Thira island,**	**1.38**	**319**	P	**Pn**	12 08 17.4	-0.7
SIVA	**Sivas**	**1.50**	**255**	*e*PN	**Pn**	12 08 21.3	+1.6
SIVA	**Sivas**	**1.50**	**255**	P	**Pn**	12 08 21.2	+1.5
SIVA	**Sivas**	**1.50**	**255**	P	**Pn**	12 08 21.2	+1.5
ARG	**Arkhangelos**	**1.50**	**57**	*e*PN	**Pn**	12 08 20.3	+0.6
ARG				*e*SN	**Sn**	12 08 39.0	+0.8
ARG	**Arkhangelos**	**1.50**	**57**	P	**Pn**	12 08 20.0	+0.3
ARG				S	**Sn**	12 08 39.1	+0.9
ARG	**Arkhangelos**	**1.50**	**57**	P	**Pn**	12 08 20.0	+0.3
ARG	**Arkhangelos**	**1.50**	**57**	*e*Pn	**Pn**	12 08 20.3	+0.6
ARG				*e*Sn	**Sn**	12 08 39.0	+0.8
BODT	**Bodrum**	**1.75**	**20**	*e*PN	**Pn**	12 08 21.4	-1.8
BODT				*e*SN	**Sn**	12 08 46.8	+2.3
BODT	**Bodrum**	**1.75**	**20**	*e*Pn	**Pn**	12 08 21.4	-1.8
BODT				*e*Sn	**Sn**	12 08 46.8	+2.3
APE	**Apeiranthos**	**1.85**	**333**	*e*PN	**Pn**	12 08 23.4	-1.2
APE				*e*SN	**Sn**	12 08 45.0	-2.0
APE	**Apeiranthos**	**1.85**	**333**	P	**Pn**	12 08 23.4	-1.2
APE				S	**Sn**	12 08 45.8	-1.2
APE	**Apeiranthos**	**1.85**	**333**	P	**Pn**	12 08 23.4	-1.2
APE				*e*Sn	**Sn**	12 08 45.0	-2.0
APE				S	**Sn**	12 08 45.8	-1.2
VAM	**Vamos**	**1.94**	**271**	*e*PN	**Pn**	12 08 26.6	+0.9
VAM	**Vamos**	**1.94**	**271**	P	**Pn**	12 08 26.3	+0.6
VAM	**Vamos**	**1.94**	**271**	P	**Pn**	12 08 26.3	+0.6
VAM	**Vamos**	**1.94**	**271**	*e*Pn	**Pn**	12 08 26.6	+0.9
KARN	**Karanos**	**2.17**	**270**	*e*PN	**Pn**	12 08 29.3	+0.4
KARN	**Karanos**	**2.17**	**270**	P	**Pn**	12 08 28.8	-0.1
KARN	**Karanos**	**2.17**	**270**	P	**Pn**	12 08 28.8	-0.1
KARN	**Karanos**	**2.17**	**270**	*e*Pn	**Pn**	12 08 29.3	+0.4
TURN	**Turunc**	**2.20**	**48**	*i*P	**Pn**	12 08 25.3	-4.0
TURN				*i*S	**Sn**	12 08 48.5	-6.9
TURN	**Turunc**	**2.20**	**48**	*i*P	**Pn**	12 08 25.3	-4.0
YER	**Yerkesik**	**2.21**	**38**	*e*PN	**Pn**	12 08 28.9	-0.6
YER				*e*SN	**Sn**	12 08 57.1	+1.5
YER	**Yerkesik**	**2.21**	**38**	*e*Pn	**Pn**	12 08 28.9	-0.5
YER				*e*Sn	**Sn**	12 08 57.2	+1.5
SMG	**Samos**	**2.30**	**5**	*e*PN	**Pn**	12 08 29.2	-1.6
SMG	**Samos**	**2.30**	**5**	*e*Pn	**Pn**	12 08 29.2	-1.6
GCAM	**G?zelcaml?**	**2.34**	**13**	*i*P	**Pn**	12 08 32.7	+1.4
GCAM	**G?zelcaml?**	**2.34**	**13**	*i*P	**Pn**	12 08 32.7	+1.4
AYDN	**Tasoluk**	**2.48**	**25**	*i*P	**Pn**	12 08 33.5	+0.3
AYDN				*i*S	**Sn**	12 09 03.4	+1.0
AYDN	**Tasoluk**	**2.48**	**25**	*i*P	**Pn**	12 08 33.5	+0.3
AYDN				*i*S	**Sn**	12 09 03.4	+1.0
AKAS	**Kas**	**2.60**	**71**	*i*P	**Pn**	12 08 35.9	+1.1
AKAS				*i*S	**Sn**	12 09 06.9	+1.6
AKAS	**Kas**	**2.60**	**71**	*i*P	**Pn**	12 08 35.9	+1.1
AKAS				*i*S	**Sn**	12 09 06.9	+1.6
GLHS	**Glhisar (BURDU**	**2.94**	**53**	*e*PN	**Pn**	12 08 38.6	-0.8
GLHS	**Glhisar (BURDU**	**2.94**	**53**	*e*Pn	**Pn**	12 08 38.6	-0.9
BLCB	**Balcova**	**2.99**	**7**	*e*PN	**Pn**	12 08 39.1	-1.1
BLCB	**Balcova**	**2.99**	**7**	*e*Pn	**Pn**	12 08 39.1	-1.1
CHOS	**Chios island**	**3.00**	**352**	P	**Pn**	12 08 39.3	-1.0
CHOS	**Chios island**	**3.00**	**352**	P	**Pn**	12 08 39.3	-1.0
KYTH	**Kithira**	**3.00**	**288**	*e*PN	**Pn**	12 08 40.2	-0.1
KYTH	**Kithira**	**3.00**	**288**	*e*Pn	**Pn**	12 08 40.2	-0.1
DNZL	**Cakiroluk**	**3.02**	**41**	*i*P	**Pn**	12 08 42.1	+1.5
DNZL	**Cakiroluk**	**3.02**	**41**	*i*P	**Pn**	12 08 42.2	+1.5
GOLH	**Golhisar**	**3.02**	**52**	*i*P	**Pn**	12 08 41.5	+0.8
GOLH				*i*S	**Sn**	12 09 19.8	+4.0
GOLH	**Golhisar**	**3.02**	**52**	*i*P	**Pn**	12 08 41.5	+0.8
GOLH				*i*S	**Sn**	12 09 19.8	+4.0
IZM	**Izmir**	**3.03**	**10**	*e*PN	**Pn**	**12 08 39.3**	**-1.4**
IZM	**Izmir**	**3.03**	**10**	*e*Pn	**Pn**	**12 08 39.3**	**-1.5**
DENT	**Denizli**	**3.06**	**40**	*e*PN	**Pn**	**12 08 40.7**	**-0.6**
DENT	**Denizli**	**3.06**	**40**	*e*Pn	**Pn**	**12 08 40.7**	**-0.5**
VLI	**Veliai**	**3.22**	**295**	*e*PN	**Pn**	**12 08 43.3**	**-0.1**
VLI				*e*SN	**Sn**	12 09 19.2	-1.5
VLI	**Veliai**	**3.22**	**295**	P	**Pn**	12 08 43.2	-0.2
VLI				S	**Sn**	12 09 19.7	-1.0
VLI	**Veliai**	**3.22**	**295**	P	**Pn**	12 08 43.2	-0.2
VLI				*e*Sn	**Sn**	12 09 19.2	-1.5
VLI				S	**Sn**	12 09 19.7	-1.0
MANT	**Manisa**	**3.46**	**27**	*i*P	**Pn**	12 08 47.8	+1.1
MANT				*i*S	**Sn**	12 09 26.6	0.0
MANT	**Manisa**	**3.46**	**27**	*i*P	**Pn**	12 08 47.8	+1.1
MANT				*i*S	**Sn**	12 09 26.5	-0.1
KULA	**Kula-Manisa**	**3.52**	**28**	*e*PN	**Pn**	12 08 47.3	-0.1
KULA	**Kula-Manisa**	**3.52**	**28**	*e*Pn	**Pn**	12 08 47.3	-0.2
KHAL	**Karahalli**	**3.77**	**38**	*i*P	**Pn**	12 08 51.5	+0.6
KHAL				*i*S	**Sn**	12 09 31.6	-2.5
KHAL	**Karahalli**	**3.77**	**38**	*i*P	**Pn**	12 08 51.5	+0.6
KHAL				*i*S	**Sn**	12 09 31.6	-2.6
DEMI	**Demirci**	**4.01**	**25**	*i*P	**Pn**	12 08 55.3	+1.1
DEMI				*i*S	**Sn**	12 09 41.4	+1.3
DEMI	**Demirci**	**4.01**	**25**	*i*P	**Pn**	12 08 55.3	+1.1
DEMI				*i*S	**Sn**	12 09 41.4	+1.3
SUTC	**Sutluce-Ispart**	**4.12**	**59**	*e*PN	**Pn**	12 08 54.9	-0.8
SUTC	**Sutluce-Ispart**	**4.12**	**59**	*e*Pn	**Pn**	12 08 54.9	-0.9
HMAT	**Matruh**	**4.33**	**174**	S	**Sn**	**12 09 51.8**	**+3.8**
	baz=176						
HMAT	**Matruh**	**4.33**	**174**	S	**Sn**	**12 09 51.8**	**+3.7**
DST	**Dursunbey**	**4.49**	**21**	*e*PN	**Pn**	12 09 00.6	-0.2
DST	**Dursunbey**	**4.49**	**21**	*e*Pn	**Pn**	12 09 00.6	-0.2
ALT	**Altintas**	**4.60**	**37**	*e*PN	**Pn**	12 09 02.4	0.0
ALT	**Altintas**	**4.60**	**37**	*e*Pn	**Pn**	12 09 02.4	0.0
GAZI	**Gazipasa**	**4.74**	**78**	*i*P	**Pn**	12 09 05.5	+1.3
GAZI				*i*S	**Sn**	12 09 56.9	-1.3
GAZI	**Gazipasa**	**4.74**	**78**	*i*P	**Pn**	12 09 05.5	+1.2
GAZI				*i*S	**Sn**	12 09 56.8	-1.3
LEF	**Lefka**	**5.18**	**91**	*e*PN	**Pn**	12 09 06.6	-3.7
LEF	**Lefka**	**5.18**	**91**	*e*Pn	**Pn**	12 09 06.6	-3.7
KONT	**Konya--Tatoy**	**5.29**	**60**	*e*PN	**Pn**	12 09 11.6	-0.3
KONT	**Konya--Tatoy**	**5.29**	**60**	*e*Pn	**Pn**	12 09 11.6	-0.3
CSS	**Prodhromos**	**5.55**	**93**	*e*PN	**Pn**	12 09 12.2	-3.2
EREN	**Erenkoy**	**6.20**	**87**	*e*PN	**Pn**	12 09 22.1	-2.3
EREN	**Erenkoy**	**6.20**	**87**	*e*Pn	**Pn**	12 09 22.1	-2.3
SWA2		**6.22**	**189**	P	**Pn**	12 09 27.9	+3.2
	baz=191						
MERS	**Mersin**	**6.59**	**75**	*e*PN	**Pn**	12 09 29.2	-0.6
MERS	**Mersin**	**6.59**	**75**	*e*Pn	**Pn**	12 09 29.2	-0.6
KOT	**Kottamia**	**7.04**	**140**	P	**Pn**	12 09 36.4	+0.5
	baz=141						
KOT				S	**Sn**	12 10 53.5	-1.4
	baz=141						
KOT	**Kottamia**	**7.04**	**140**	P	**Pn**	12 09 36.4	+0.5
KOT				S	**Sn**	12 10 53.5	-1.3
BR131	**Keskin Array S**	**7.07**	**50**	*e*Pn	**Pn**	12 09 38.8	+2.5
BR131				*e*Sn	**Sn**	12 10 55.7	+0.1
BRTR	**Keskin Array B**	**7.07**	**50**	P	**Pn**	12 09 38.0	+1.8
	0.4nm,0.3s,baz=221,slow=15,SNR=6.2						
BRTR	**Keskin Array B**	**7.07**	**50**	P	**Pn**	12 09 38.0	+1.8
BRTR	**Keskin Array B**	**7.07**	**50**	P	**Pn**	12 09 38.0	+1.7
HSAF	**As Saff**	**7.14**	**143**	P	**Pn**	12 09 38.3	+1.0
	baz=144						
HSAF	**As Saff**	**7.14**	**143**	P	**Pn**	12 09 38.3	+1.0
HHAG	**Hagoal**	**7.16**	**138**	P	**Pn**	12 09 38.3	+0.7
	baz=139						
HHAG				AMP		12 10 00.0	
	comp=E,30μm,0.2s,logA/T=5.2,baz=139						
HHAG				S	**Sn**	12 10 56.4	-1.6
	baz=139						
HHAG	**Hagoal**	**7.16**	**138**	P	**Pn**	12 09 38.3	+0.7
GLL	**Jalalah**	**7.26**	**142**	P	**Pn**	12 09 39.7	+0.8
	baz=143						
GLL	**Jalalah**	**7.26**	**142**	P	**Pn**	12 09 39.7	+0.8
AMAG	**Maghara**	**7.33**	**129**	P	**Pn**	12 09 40.0	+0.2
	baz=130						
AMAG	**Maghara**	**7.33**	**129**	P	**Pn**	12 09 40.0	+0.2
SUZ		**7.66**	**135**	P	**Pn**	12 09 45.0	+0.6
	baz=136						
SUZ				S	**Sn**	12 11 07.9	-2.3
	baz=136						
SUZ		**7.66**	**135**	P	**Pn**	12 09 45.0	+0.6
MMAI	**Mount Meron Ar**	**7.70**	**106**	P	**Pn**	12 09 45.7	+0.8
	comp=E,5.3nm,0.3s,baz=303,slow=13,SNR=10						
MMAI				S	**Sn**	12 11 08.5	-2.5
	comp=E,10nm,0.3s,baz=312,slow=27,SNR=8.5						
MMAI	**Mount Meron Ar**	**7.70**	**106**	P	**Pn**	12 09 45.7	+0.8
MMAI				S	**Sn**	12 11 08.5	-2.5
MMAI	**Mount Meron Ar**	**7.70**	**106**	P	**Pn**	12 09 45.7	+0.8
HWQ	**Hawqa**	**7.79**	**96**	*e*P	**Pn**	12 09 46.7	+0.5
HWQ	**Hawqa**	**7.79**	**96**	*e*P	**Pn**	12 09 46.7	+0.5
ZAF		**7.93**	**139**	P	**Pn**	12 09 48.5	+0.4
	baz=140						
ZAF		**7.93**	**139**	P	**Pn**	12 09 48.5	+0.4
HNKL	**Nakhl**	**8.30**	**129**	P	**Pn**	12 09 53.0	-0.2
	baz=130						
HNKL	**Nakhl**	**8.30**	**129**	P	**Pn**	12 09 53.0	-0.2
EIL	**Elat**	**9.10**	**127**	P	**Pn**	12 10 05.0	+0.9
	comp=E,1.6nm,0.3s,baz=357,slow=18,SNR=18						
EIL				S	**Sn**	12 11 40.1	-5.4
	comp=E,4.0nm,0.3s,baz=321,slow=23,SNR=7.1						
EIL	**Elat**	**9.10**	**127**	P	**Pn**	12 10 05.0	+0.9
EIL				S	**Sn**	12 11 40.1	-5.4
EIL	**Elat**	**9.10**	**127**	P	**Pn**	12 10 05.0	+0.9
HBST	**Basata**	**9.26**	**130**	P	**Pn**	12 10 06.3	-0.1
	baz=131						
HBST	**Basata**	**9.26**	**130**	P	**Pn**	12 10 06.3	-0.1
HKAT	**Jabal Katrina**	**9.32**	**135**	P	**Pn**	12 10 07.2	+0.1
	baz=136						
HKAT	**Jabal Katrina**	**9.32**	**135**	P	**Pn**	12 10 07.2	0.0
TR1		**9.69**	**138**	P	**Pn**	12 10 12.4	+0.2
	baz=139						
TR1		**9.69**	**138**	P	**Pn**	12 10 12.4	+0.1
AKASG	**Malin Array Be**	**15.40**	**6**	P	**Pn**	12 11 32.1	+2.3
	comp=E,1.2nm,0.3s,baz=195,slow=11,SNR=4.2						
AKASG	**Malin Array Be**	**15.40**	**6**	P	**Pn**	12 11 32.1	+2.3
AKASG	**Malin Array Be**	**15.40**	**6**	P	**Pn**	12 11 32.1	+2.3
GERES	**GERESS Array B**	**16.44**	**329**	P	**Pn**	12 11 45.2	+2.1
	comp=E,0.2nm,0.3s,baz=146,slow=12,SNR=4.9						
GERES	**GERESS Array B**	**16.44**	**329**	P	**Pn**	12 11 45.2	+2.1
GERES	**GERESS Array B**	**16.44**	**329**	P	**Pn**	12 11 45.2	+2.0
TORD	**Torodi Ar. Bea**	**31.54**	**232**	P	**P**	**12 14 16.1**	**+1.6**
	comp=E,0.5nm,0.4s,mb3.7,baz=34,slow=8.8,SNR=13						
TORD	**Torodi Ar. Bea**	**31.54**	**232**	P	**P**	12 14 16.1	+1.6
TORD	**Torodi Ar. Bea**	**31.54**	**232**	P	**P**	12 14 16.1	+1.6
KURK	**Kurchatov**	**40.12**	**51**	P	**P**	**12 15 27.4**	**-0.4**
	comp=E,1.6nm,0.6s,mb4.0,baz=272,slow=8.6,SNR=17						
KURK	**Kurchatov**	**40.12**	**51**	P	**P**	12 15 27.4	-0.4
KURK	**Kurchatov**	**40.12**	**51**	P	**P**	12 15 27.4	-0.3
DBIC	**Dimbokro**	**40.63**	**233**	P	**P**	**12 15 33.0**	**+0.8**
	comp=E,1.9nm,0.7s,mb3.8,baz=27,slow=7.2,SNR=2.8						
DBIC	**Dimbokro**	**40.63**	**233**	P	**P**	12 15 33.0	+0.8
DBIC	**Dimbokro**	**40.63**	**233**	P	**P**	12 15 33.0	+0.7
MKAR	**Makanchi Array**	**42.67**	**57**	P	**P**	12 15 49.3	+0.6
	comp=E,1.4nm,0.3s,mb4.1,baz=268,slow=8.4,SNR=39						
MKAR	**Makanchi Array**	**42.67**	**57**	P	**P**	12 15 49.3	+0.6
MKAR	**Makanchi Array**	**42.67**	**57**	P	**P**	12 15 49.3	+0.7
ZALV	**Zalesovo Beam**	**44.00**	**46**	P	**P**	12 15 58.2	-1.0
	comp=E,0.9nm,0.4s,mb3.9,baz=264,slow=6.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**44.00**	**46**	P	**P**	12 15 58.2	-1.0
ZALV	**Zalesovo Beam**	**44.00**	**46**	P	**P**	12 15 58.2	-1.0
SONM	**Songino Array**	**58.43**	**51**	P	**P**	12 17 47.7	+0.1
	comp=E,0.6nm,0.4s,mb4.0,baz=285,slow=7.6,SNR=11						
SONM	**Songino Array**	**58.43**	**51**	P	**P**	12 17 47.7	+0.1
SONM	**Songino Array**	**58.43**	**51**	P	**P**	12 17 47.7	+0.1
YKA	**Yellowknife Ar**	**77.56**	**343**	P	**P**	12 19 46.1	-1.4
	comp=E,0.3nm,0.5s,mb3.5,baz=31,slow=5.2,SNR=6.7						
YKA	**Yellowknife Ar**	**77.56**	**343**	P	**P**	12 19 46.1	-1.4
YKA	**Yellowknife Ar**	**77.56**	**343**	P	**P**	12 19 46.1	-1.4
ILAR	**Eielson Array**	**80.02**	**357**	P	**P**	**12 19 59.6**	**-1.3**
	comp=E,0.1nm,0.4s,mb3.1,baz=340,slow=3.5,SNR=4.7						
ILAR	**Eielson Array**	**80.02**	**357**	P	**P**	12 19 59.6	-1.3
ILAR	**Eielson Array**	**80.02**	**357**	P	**P**	12 19 59.6	-1.3

*IDC **16** 12:42:16.7±1.4, 33°.15N×80°.08W, h0km, mb3.3/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.4/6, ML3.9/1, Error ellipse: s-maj=52.5km s-min=12.6km az=47.0*
*ISCJB **16** 12:42:17.2±0.4, 33°.08N±0°.03×80°.11W±0°.04, h15km±4km, mb3.4/5, Error ellipse: s-maj=7.0km s-min=4.1km az=144.0*
*NEIC **16** 12:42:17.5, 33°.07N×80°.19W, h16km, MN3.6, After CERI.*
NEIC Felt [III] at Ladson and Summerville; [II] at Charleston, Columbia, Goose Creek, Johns Island, Lexington, Moncks Corner, North Charleston and Ridgeville. Also felt at Adams Run, Aiken, Anderson, Beaufort, Charleston AFB, Darlington, Florence, Georgetown, Greenwood, Greer, Hollywood, Irmo, Liberty Hill, Mount Pleasant, North Augusta, Plum Branch, Sullivans Island, Wadmalaw Island, Walterboro and West Columbia. Felt at Byron, Duluth, Lawrenceville, Molena, Rincon, Savannah, Union Point and Woodbine, Georgia. Also felt at Charlotte, Gastonia, Ocean Isle Beach, Southport and Youngsville, North Carolina.

ISC 16 12:42:17.5±0.4, **33°.12N**±0°.03×**80°.13W**±0°.04, **h6**km±3km, **n45**, σ1°**14**/67, **mb3.4**/5, **South Carolina**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NHSC	**New Hope**	**0.04**	**256**	*e*Pg	**Pg**	**12 42 19.8**	**+0.9**
NHSC				*e*Sg	**Sg**	12 42 21.8	+2.0
TRSC	**Trident Resrch**	**0.26**	**162**	P	**Pg**	12 42 22.3	-0.3
TRSC				*e*S	**Sg**	12 42 25.8	-0.2
ADSC	**Addlestone Acy**	**0.32**	**163**	P	**Pg**	12 42 23.4	-0.3
ADSC				*e*S	**Sg**	12 42 27.7	-0.2
C2SC	**The Citadel Si**	**0.35**	**156**	P	**Pg**	12 42 24.1	-0.1
C2SC				*e*S	**Sg**	12 42 28.9	+0.1
C1SC	**The Citadel Si**	**0.35**	**156**	P	**Pg**	12 42 24.1	-0.2
COW	**Cow Castle Cre**	**0.55**	**299**	*e*Pg	**Pg**	12 42 28.4	+0.3
COW				*e*Sg	**Sg**	12 42 38.1	+2.9
JSC	**Jenkinsville**	**1.50**	**321**	*e*Pn	**Pn**	12 42 44.8	-0.1
JSC				*e*Sn	**Sn**	12 43 07.0	+2.3
SMNC	**South Mountain**	**2.76**	**334**	P	**Pn**	12 43 02.7	+0.4
TRYN	**Tryon Peak**	**2.77**	**321**	P	**Pn**	12 43 02.4	0.0
GOGA	**Godfrey**	**2.81**	**277**	*e*Pn	**Pn**	12 43 02.3	-0.7
GOGA				*e*Pg	**Pg**	12 43 08.6	-2.8
GOGA				*e*Sn	**Sn**	12 43 37.1	-0.1
CNNC	**Cliffs of the**	**2.81**	**41**	*e*Pn	**Pn**	12 43 00.9	-2.1
CNNC				*e*Sn	**Sn**	12 43 36.6	-0.7
TVNC	**Taylorsville**	**3.04**	**343**	P	**Pn**	12 43 06.8	+0.6
MGNC	**Mount Gibbes**	**3.16**	**326**	P	**

*NEIC **16** 13:36:07.9±0.4, 36.°90N×135.°28E, h377km±6km, mb3.4/3, Error ellipse: s-maj=10.1km s-min=8.3km az=50.0*
*JMA **16** 13:36:07.7±0.1, 36.°86N×135.°26E, h371km±2km, M3.1*

ISC 16 13:36:07.8±0.3, 36.°83N±0.°06×135.°27E±0.°07, h374km±4km, n44, σ0°61/53, mb3.4/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.02**	**123**	P	**Pn**	**13 36 56.1**	**0.0**
JJH	**Hakui**	**1.21**	**85**	P	**Pn**	**13 36 56.9**	**+0.1**
JWT	**Wachi**	**1.55**	**176**	P	**Pn**	**13 36 58.7**	**+0.1**
JWT				*e*S	**S**	**13 37 38.2**	**-1.3**
JGM	**Miyama**	**1.62**	**134**	P	**Pn**	**13 36 59.1**	**+0.1**
JGM				*e*S	**S**	**13 37 39.5**	**-0.7**
JHG	**Hegura jima**	**1.66**	**52**	P	**Pn**	**13 36 59.3**	**+0.3**
SAI	**Saigo**	**1.68**	**249**	P	**Pn**	**13 36 59.3**	**0.0**
JSZ	**Suzu**	**1.78**	**69**	P	**Pn**	**13 37 00.0**	**+0.2**
MAJO	**Matsushiro**	**2.38**	**96**	*e*P	**Pn**	**13 37 04.2**	**+0.3**
MAT	**Matsushiro**	**2.38**	**96**	P	**Pn**	**13 37 03.9**	**+0.1**
MAT				*e*S	**S**	**13 37 48.5**	**-0.6**
MAT	**Matsushiro**	**2.38**	**96**	P	**Pn**	**13 37 04.3**	**+0.5**
MAT				*e*S	**S**	**13 37 49.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.38**	**96**	P	**Pn**	**13 37 04.5**	**+0.6**
	1.6nm,0.3s,baz=276,slow=11,SNR=28						
MJAR				S	**S**	**13 37 50.3**	**+1.3**
	0.3nm,0.3s,baz=284,slow=15,SNR=7.1						
MJAR	**Matsushiro Arr**	**2.38**	**96**	P	**Pn**	**13 37 04.5**	**+0.6**
MJAR				S	**S**	**13 37 50.3**	**+1.3**
JHS	**Saijyo**	**2.53**	**224**	P	**Pn**	**13 37 05.2**	**+0.1**
JWY	**Kouya**	**2.62**	**174**	P	**Pn**	**13 37 06.1**	**+0.2**
JWY				*e*S	**S**	**13 37 51.1**	**-1.5**
JSD	**Sado**	**2.67**	**62**	P	**Pn**	**13 37 06.0**	**0.0**
JIE	**Ise**	**2.70**	**154**	P	**Pn**	**13 37 07.0**	**+0.5**
JYN	**Shimob**	**2.96**	**116**	P	**Pn**	**13 37 08.7**	**+0.1**
JRY	**Ryogami san**	**3.04**	**104**	P	**Pn**	**13 37 09.9**	**+0.7**
JWZ	**Kozaga**	**3.31**	**174**	P	**Pn**	**13 37 11.6**	**-0.2**
TTO1	**TONANKAI O.B.S**	**3.43**	**158**	P	**Pn**	**13 37 13.5**	**+0.7**
JOD2	**Odawara 2**	**3.46**	**116**	P	**Pn**	**13 37 13.5**	**+0.4**
JOD2				*e*S	**S**	**13 38 05.8**	**0.0**
JTO	**Tosashimizu**	**4.45**	**208**	P	**Pn**	**13 37 23.3**	**+0.5**
BSO1	**Boso 1**	**5.12**	**113**	P	**Pn**	**13 37 28.3**	**-1.5**
BSO1				*e*S	**S**	**13 38 32.6**	**-3.7**
JMK	**Ichinoseki**	**5.16**	**64**	P	**Pn**	**13 37 29.9**	**-0.1**
KSRS	**Korea Array**	**5.91**	**278**	P	**Pn**	**13 37 39.1**	**+0.9**
	0.4nm,0.3s,baz=95,slow=12,SNR=9.6						
KSAR	**Wonju Array Be**	**5.94**	**278**	P	**Pn**	**13 37 39.1**	**+0.6**
ERM	**Erimo**	**8.00**	**47**	*e*P	**Pn**	**13 38 01.7**	**-0.4**
ASAJ	**Asahikawa**	**9.17**	**35**	P	**Pn**	**13 38 15.3**	**-0.4**
	3.9nm,0.3s,baz=237,slow=10,SNR=39						
ASAJ	**Asahikawa**	**9.17**	**35**	*e*P	**Pn**	**13 38 15.2**	**-0.5**
ULN	**Ulaanbaatar**	**23.46**	**307**	*e*P	**P**	**13 40 44.5**	**-0.8**
SONM	**Songino Array**	**23.88**	**306**	P	**P**	**13 40 48.7**	**-0.3**
	1.1nm,0.8s,mb3.1,baz=105,slow=9.8,SNR=8.9						
SONM	**Songino Array**	**23.88**	**306**	P	**P**	**13 40 48.7**	**-0.3**
MKAR	**Makanchi Array**	**40.04**	**301**	P	**P**	**13 43 07.8**	**-0.1**
	0.4nm,0.5s,mb2.9,baz=86,slow=11,SNR=7.1						
MKAR	**Makanchi Array**	**40.04**	**301**	P	**P**	**13 43 07.8**	**-0.1**
KURK	**Kurchatov**	**42.17**	**308**	*e*P	**P**	**13 43 24.0**	**-1.0**
BRVK	**Borovoye**	**47.11**	**312**	*e*P	**P**	**13 44 03.5**	**0.0**
	0.8nm,0.4s,mb3.3						
ABKAR	**Akbulak array**	**54.27**	**309**	*e*P	**P**	**13 44 56.0**	**-0.3**
	0.5nm,0.4s,mb3.2						
WRAB	**Tennant Creek**	**56.46**	**181**	*e*P	**P**	**13 45 12.5**	**+0.4**
	1.3nm,0.4s,mb3.6						
WRA	**Warramunga Arr**	**56.47**	**181**	P	**P**	**13 45 12.4**	**+0.2**
	1.2nm,0.4s,mb3.6,baz=358,slow=7.5,SNR=48						
WRA				PcP	PcP	13 46 05.1	+1.1
	0.1nm,0.3s,baz=357,slow=4.6,SNR=3.5						
WRA	**Warramunga Arr**	**56.47**	**181**	P	**P**	**13 45 12.4**	**+0.2**
WRA				PcP	PcP	13 46 05.2	+1.2
ASAR	**Alice Springs**	**60.18**	**181**	P	**P**	**13 45 38.0**	**+0.5**
	0.3nm,0.3s,mb3.2,baz=354,slow=6.1,SNR=18						
ASAR	**Alice Springs**	**60.18**	**181**	P	**P**	**13 45 38.0**	**+0.5**
FINES	**FINESS Array B**	**66.63**	**330**	P	**P**	**13 46 18.9**	**+0.1**
	4.3nm,1.1s,mb4.1,baz=99,slow=4.5,SNR=3.2						
FINES	**FINESS Array B**	**66.63**	**330**	P	**P**	**13 46 18.9**	**+0.1**

*IDC **16** 13:39:12.6±6.4, 42.°37N×143.°69E, h101km±39km, mb3.2/5, mb1 3.4/5, mb1mx3.1/23, mbtmp3.2/5, Error ellipse: s-maj=59.3km s-min=29.3km az=172.0*
*ISCJB **16** 13:39:17.0±0.5, 43.°03N±0.°05×143.°54E±0.°06, h120km±3km, mb3.5/5, Error ellipse: s-maj=8.9km s-min=6.6km az=148.5*
*NEIC **16** 13:39:18.4±0.8, 43.°07N×143.°55E, h119km±8km, Error ellipse: s-maj=19.6km s-min=16.7km az=82.0*
*JMA **16** 13:39:18.5±0.1, 43.°03N×143.°48E, h110km±1km, M2.9*
JMA Felt I J1.

ISC 16 13:39:18.1±0.5, 43.°03N±0.°05×143.°53E±0.°06, h114km±3km, n30, σ0°55/41, mb3.5/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.26**	**119**	P	**Pn**	**13 39 34.8**	**+0.7**
JOB				*e*S	**Sn**	**13 39 46.8**	**+0.7**
JAR	**Ashorobuto**	**0.32**	**33**	P	**Pn**	**13 39 34.2**	**-0.1**
JAR				*e*S	**Sn**	**13 39 46.1**	**-0.5**
JCH	**Churui**	**0.43**	**196**	P	**Pn**	**13 39 34.7**	**-0.2**
JCH				*e*S	**Sn**	**13 39 46.6**	**-0.9**
JFR	**Furan**	**0.70**	**281**	P	**Pn**	**13 39 36.5**	**-0.2**
JAK	**Akkeshi**	**0.86**	**92**	P	**Pn**	**13 39 38.3**	**+0.1**
JAK				*e*S	**Sn**	**13 39 53.2**	**-0.1**
JBT2	**Biratori 2**	**0.89**	**254**	P	**Pn**	**13 39 38.4**	**-0.1**
JBT2				*e*S	**Sn**	**13 39 53.2**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.94**	**218**	P	**Pn**	**13 39 38.9**	**-0.1**
JNBK				*e*S	**Sn**	**13 39 53.8**	**-1.0**
JTKR	**Abashiri--Toko**	**0.98**	**16**	P	**Pn**	**13 39 39.6**	**+0.2**
JTKR				*e*S	**Sn**	**13 39 55.3**	**-0.2**
JMP	**Maruseppu**	**0.98**	**353**	P	**Pn**	**13 39 39.7**	**+0.3**
JMP				*e*S	**Sn**	**13 39 55.1**	**-0.4**
JKK2	**Kamakawa 2**	**1.02**	**326**	P	**Pn**	**13 39 39.8**	**+0.1**
JNK	**Nakash**	**1.03**	**57**	P	**Pn**	**13 39 40.2**	**+0.3**
JEM	**Erimo**	**1.05**	**195**	P	**Pn**	**13 39 41.0**	**+0.9**
ERM	**Erimo**	**1.05**	**195**	*e*P	**Pn**	**13 39 41.2**	**+1.1**
JAB	**Ashibetsu**	**1.06**	**297**	P	**Pn**	**13 39 40.7**	**+0.5**
ASAJ	**Asahikawa**	**1.28**	**328**	P	**Pn**	**13 39 43.2**	**+0.7**
	26nm,0.3s,baz=179,slow=8.7,SNR=96						
ASAJ				S	**Sn**	**13 40 08.8**	**+7.6**
	1.9nm,0.3s,baz=12,slow=20,SNR=2.4						
ASAJ	**Asahikawa**	**1.28**	**328**	*e*P	**Pn**	**13 39 43.1**	**+0.5**
ASAJ				S	**Sn**	**13 40 08.8**	**+7.6**
JRA	**Rausu**	**1.47**	**51**	P	**Pn**	**13 39 45.5**	**+0.7**
JHR	**Hokuryu**	**1.50**	**299**	P	**Pn**	**13 39 45.7**	**+0.7**
NEM2	**Nemuro 2**	**1.65**	**78**	P	**Pn**	**13 39 46.7**	**-0.2**
NEM2				*e*S	**Sn**	**13 40 08.2**	**-0.7**
MKAR	**Makanchi Array**	**42.57**	**297**	P	**P**	**13 47 02.4**	**0.0**
	0.4nm,0.8s,mb3.2,baz=85,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**42.57**	**297**	P	**P**	**13 47 02.4**	**0.0**
ILAR	**Eielson Array**	**43.62**	**36**	P	**P**	**13 47 10.3**	**-0.3**
	0.5nm,0.8s,mb3.3,baz=276,slow=9.0,SNR=3.5						
ILAR	**Eielson Array**	**43.62**	**36**	P	**P**	**13 47 10.3**	**-0.3**
BRVK	**Borovoye**	**47.96**	**309**	*e*P	**P**	**13 47 45.1**	**+0.3**
RES	**Resolute Bay**	**56.40**	**16**	P	**P**	**13 48 46.0**	**-0.9**
	1.1nm,0.6s,mb4.1,baz=286,slow=7.1,SNR=6.1						
RES	**Resolute Bay**	**56.40**	**16**	P	**P**	**13 48 46.0**	**-0.9**
YKA	**Yellowknife Ar**	**57.85**	**32**	P	**P**	**13 48 57.3**	**+0.1**
	0.1nm,0.5s,mb3.1,baz=308,slow=6.8,SNR=3.1						
YKA	**Yellowknife Ar**	**57.85**	**32**	P	**P**	**13 48 57.3**	**0.0**
FINES	**FINESS Array B**	**64.29**	**332**	P	**P**	**13 49 40.0**	**-0.8**
	0.9nm,0.5s,mb3.9,baz=36,slow=5.2,SNR=6.2						
FINES	**FINESS Array B**	**64.29**	**332**	P	**P**	**13 49 40.0**	**-0.8**

GUC 16 13:48:10.5±0.4, 40.°62S×73.°09W, h52km±2km, ML4.2, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSCH	**Osorno**	**0.05**	**324**	*e*P	Pn	13 48 18.6	+0.2
OSCH				*i* S	Sn	13 48 24.6	+0.5
OSCH				AML	AML	13 48 25.5	
	comp=E,49μm,0.3s						
PUYE	**Entre Lagos**	**0.38**	**101**	⇓*i*P	Pn	13 48 20.9	+0.4
PUYE				*e*S	Sn	13 48 28.5	+0.7
PUYE				AML	AML	13 48 30.0	
	comp=N,33μm,0.1s						
PMCH	**Puerto Montt**	**0.89**	**171**	*e*P	Pn	13 48 27.1	+0.3
PMCH				*i* S	Sn	13 48 39.6	+1.0
PMCH				AML	AML	13 48 42.0	
	comp=E,11μm,0.3s						
ILCA	**Isla Las Cabra**	**1.50**	**164**	⇓*i*P	Pn	13 48 35.7	+0.7
ILCA				*i* S	Sn	13 48 54.2	+0.7
HUNY	**Huinay**	**1.83**	**164**	*e*P	Pn	13 48 40.8	+1.2
HUNY				*e*S	Sn	13 49 03.2	+1.6
HUNY				AML	AML	13 49 07.5	
	comp=E,2μm,0.3s						
TMU	**Temuco**	**1.92**	**12**	*e*P	Pn	13 48 41.2	+0.5
TMU				*i* S	Sn	13 49 04.3	+0.7

*ISCJB **16** 13:48:18.4±0.3, 39.°63N±0.°01×2.°86W±0.°02, h1km±2km, Error ellipse: s-maj=2.6km s-min=1.7km az=145.0*
*CSEM **16** 13:48:21.0±0.1, 39.°58N×2.°76W, h10km, ML3.8/29, Error ellipse: s-maj=2.2km s-min=1.5km az=140.0*
*NEIC **16** 13:48:21.7±0.8, 39.°55N×2.°76W, h15km±10km, ML3.5(LDG), Error ellipse: s-maj=9.5km s-min=6.3km az=191.0*
*INMG **16** 13:48:22.5±1.4, 39.°58N×2.°75W, h8km±2km, ML3.2, Error ellipse: s-maj=1.8km s-min=1.4km az=89.0*
*MDD **16** 13:48:22.9±0.3, 39.°57N×2.°74W, h11km, mbLg3.3/37, Error ellipse: s-maj=3.0km s-min=2.3km az=111.0, PRXIMO*
MDD EMS: SENTIDO LEVEMENTE EN LA ZONA EPICENTRAL.
*LDG **16** 13:48:22.5±0.1, 39.°57N×2.°74W, h2km, Ml3.5/9, Error ellipse: s-maj=2.0km s-min=1.2km az=120.0*

ISC 16 13:48:20.9±0.3, 39.°60N±0.°01×2.°77W±0.°02, h10km±2km, n173, σ1°05/332, 3C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**0.93**	**275**	⇓Pg	**Pg**	**13 48 40.1**	**+1.3**
	268nm,0.1s,baz=94,slow=18,SNR=18						
ESDC				Lg		13 48 52.9	
	218nm,0.3s,baz=91,slow=27,SNR=2641						
ESDC	**Sonseca Array**	**0.93**	**275**	Pg	**Pg**	**13 48 40.1**	**+1.3**
	268nm,0.1s,SNR=18						
ESDC				Lg		13 48 52.9	
	217nm,0.3s,SNR=1000						
ESLA	**Sonseca Array**	**0.93**	**275**	*e*Pg	**Pg**	**13 48 40.1**	**+1.3**
ESLA				*e*Sg	**Sg**	**13 48 53.1**	**+2.2**
ESLA	**Sonseca Array**	**0.93**	**275**	*e*Pg	**Pg**	**13 48 40.1**	**+1.3**
ESLA				*e*Sg	**Sg**	**13 48 53.1**	**+2.2**
EVIA	**Vianos**	**0.98**	**168**	⇑Pg	**Pg**	**13 48 40.0**	**+0.3**
	348nm,0.2s,SNR=18						
EVIA				Lg		13 48 53.1	
	280nm,0.3s,SNR=8.0						
EVIA	**Vianos**	**0.98**	**168**	Pg	**Pg**	**13 48 40.0**	**+0.3**
	348nm,0.2s,SNR=18						
EVIA				Lg		13 48 53.1	
	280nm,0.3s,SNR=8.0						
PAB	**San Pablo**	**1.23**	**268**	*e*Pg	**Pg**	**13 48 45.1**	**+0.6**
PAB				*e*Sg	**Sg**	**13 49 01.8**	**+1.4**
PAB	**San Pablo**	**1.23**	**268**	*e*Pg	**Pg**	**13 48 45.1**	**+0.6**
PAB				*e*Sg	**Sg**	**13 49 01.8**	**+1.4**
ETOR	**Torete**	**1.34**	**24**	⇑Pn	**Pn**	**13 48 45.3**	**-0.3**
	40nm,0.2s,SNR=18						
ETOR				⇑Pg	**Pg**	**13 48 46.9**	**+0.2**
	172nm,0.3s,SNR=18						
ETOR				Sn	**Sn**	**13 49 01.7**	**-1.7**
	297nm,0.2s,SNR=7.9						
ETOR				Lg		13 49 04.6	
	2μm,0.3s,SNR=5.0						
ETOR	**Torete**	**1.34**	**24**	Pn	**Pn**	**13 48 45.3**	**-0.3**
	40nm,0.2s,SNR=18						
ETOB	**Tobarra**	**1.34**	**135**	Pg	**Pg**	**13 48 47.0**	**+0.3**
	44nm,0.1s,SNR=7.9						
ETOB				Lg		13 49 03.5	
	302nm,0.1s,SNR=7.9						
ECHE	**Chera**	**1.39**	**90**	Pg	**Pg**	**13 48 47.7**	**+0.1**
	57nm,0.3s,SNR=106						
ECHE				Lg		13 49 06.4	
	40nm,0.2s,SNR=12						
ECHE	**Chera**	**1.39**	**90**	Pg	**Pg**	**13 48 47.7**	**+0.1**
	57nm,0.3s,SNR=106						
ECHE				Lg		13 49 06.4	
	40nm,0.2s,SNR=12						
GUD	**Guadarrama**	**1.49**	**315**	Pn	**Pn**	**13 48 49.1**	**+1.4**
	0.3nm,0.2s,SNR=7.9						
GUD				Pg	**Pg**	**13 48 50.5**	**+0.9**
	7.5nm,0.1s,SNR=7.9						
GUD				Sn	**Sn**	**13 49 08.4**	**+1.2**
	76nm,0.2s,SNR=7.9						
GUD				Lg		13 49 10.8	
	355nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**1.49**	**315**	Pn	**Pn**	**13 48 49.1**	**+1.4**
	0.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**1.78**	**176**	Pn	**Pn**	**13 48 51.8**	**0.0**
	3.1nm,0.1s,SNR=7.9						
EHUE				Pg	**Pg**	**13 48 54.8**	**-0.4**
	110nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**13 49 14.4**	**0.0**
	SNR=7.9						
EHUE				Lg		13 49 18.1	
	110nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**1.78**	**176**	Pn	**Pn**	**13 48 51.8**	**+0.1**
	3.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.81**	**188**	Pn	**Pn**	**13 48 52.4**	**+0.4**
	1.5nm,0.1s,SNR=7.9						
EQES				Pg	**Pg**	**13 48 55.4**	**-0.2**
	23nm,0.2s,SNR=7.9						
EQES				Lg		13 49 18.7	
	59nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**2.35**	**211**	Pg	**Pg**	**13 49 05.8**	**-0.2**
	56nm,0.4s,SNR=7.9						
ELUQ				Lg		13 49 36.5	
	128nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.35**	**211**	Pg	**Pg**	**13 49 05.8**	**-0.1**
	56nm,0.4s,SNR=7.9						
ELUQ				Lg		13 49 36.5	
	128nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.40**	**195**	Pg	**Pg**	**13 49 05.8**	**-1.1**
	43nm,0.2s,SNR=16						
ECOG				Lg		13 49 37.4	
	64nm,0.2s,SNR=9.7						
ECOG	**Cogollos-Vega**	**2.40**	**195**	Pg	**Pg**	**13 49 05.8**	**-1.1**
	43nm,0.2s,SNR=16						
ECOG				Lg		13 49 37.4	
	64nm,0.2s,SNR=9.7						
CART	**Cartagena**	**2.44**	**145**	*e*Pg	**Pg**	**13 49 07.6**	**0.0**
CART	**Cartagena**	**2.44**	**145**	*e*Pg	**Pg**	**13 49 07.6**	**0.0**
EPLA	**Plasencia**	**2.60**	**281**	Pn	**Pn**	**13 49 03.1**	**+0.2**
	16nm,0.2s,SNR=10						
EPLA				Pg	**Pg**	**13 49 09.1**	**-1.6**
	1.1nm,0.1s,SNR=18						
EPLA				Lg		13 49 41.6	
	92nm,0.4s,SNR=7.7						
EPLA	**Plasencia**	**2.60**	**281**	Pn	**Pn**	**13 49 03.1**	**+0.2**
	16nm,0.2s,SNR=10						
ENIJ	**Nijar**	**2.66**	**170**	Pg	**Pg**	**13 49 10.9**	**-0.9**
	24nm,0.4s,SNR=7.9						
ENIJ				Sn	**Sn**	**13 49 36.1**	**+0.2**
	23nm,0.3s,SNR=7.9						
ENIJ				Lg		13 49 45.8	
	23nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.66**	**170**	Pg	**Pg**	**13 49 10.9**	**-0.9**
	24nm,0.4s,SNR=7.9						
ENIJ				Sn	**Sn**	**13 49 36.1**	**+0.2**
	23nm,0.3s,SNR=7.9						
ENIJ				Lg		13 49 45.8	
	23nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.67**	**204**	Pn	**Pn**	**13 49 04.8**	**+0.8**
	0.7nm,0.1s,SNR=8.6						
ELOJ				Pg	**Pg**	**13 49 11.4**	**-0.8**
	3.3nm,0.2s,SNR=6.2						
ELOJ				Sn	**Sn**	**13 49 35.1**	**-1.3**
	6.1nm,0.2s,SNR=4.0						
ELOJ				Lg		13 49 46.3	
	10nm,0.2s,SNR=5.9						
ELOJ	**Sierra Loja**	**2.67**	**204**	Pn	**Pn**	**13 49 04.8**	**+0.8**
	0.7nm,0.1s,SNR=8.6						
ERON	**Agron**	**2.70**	**198**	Pn	**Pn**	**13 49 05.3**	**+1.0**
	0.9nm,0.2s,SNR=7.9						
ERON				Pg	**Pg**	**13 49 11.8**	**-0.8**
	2.9nm,0.2s,SNR=7.9						
ERON				Sn	**Sn**	**13 49 39.3**	**+2.3**
	3.3nm,0.2s,SNR=7.9						
ERON				Lg		13 49 49.3	
	13nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.70**	**198**	Pn	**Pn**	**13 49 05.3**	**+1.0**
	0.9nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.83**	**193**	Pg	**Pg**	**13 49 14.0**	**-1.2**
	9.3nm,0.2s,SNR=7.9						
EGUA				Lg		13 49 52.0	
	72nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**2.83**	**193**	Pg	**Pg**	**13 49 14.0**	**-1.1**
	9.3nm,0.2s,SNR=7.9						
EGUA				Lg		13 49 52.0	
	72nm,0.4s,SNR=7.9						
IUNC	**Unciti**	**3.30**	**16**	Pn	**Pn**	**13 49 13.9**	**+1.3**
	0.4nm,0.1s,SNR=4.0						
IUNC				Pg	**Pg**	**13 49 24.0**	**-0.1**
	8.2nm,0.2s,SNR=6.6						
IUNC				Lg		13 50 08.3	
	52nm,0.3s,SNR=7.9						
IUNC	**Unciti**	**3.30**	**16**	Pn	**Pn**	**13 49 13.9**	**+1.3**
	0.4nm,0.1s,SNR=4.0						
IEPA	**Eparoz**	**3.38**	**19**	Pn	**Pn**	**13 49 15.9**	**+2.3**
	3.9nm,0.3s,SNR=7.9						
IEPA				Pg	**Pg**	**13 49 26.0**	**+0.4**
	4.0nm,0.2s,SNR=7.9						
IEPA				Sn	**Sn**	**13 49 55.0**	**+1.3**
	14nm,0.3s,SNR=7.9						
IEPA				Lg		13 50 10.9	
	64nm,0.4s,SNR=7.9						
IEPA	**Eparoz**	**3.38**	**19**	Pn	**Pn**	**13 49 15.9**	**+2.3**
	3.9nm,0.3s,SNR=7.9						
IEPA	**Eparoz**	**3.38**	**19**	Pg	**Pg**	**13 49 26.0**	**+0.4**
	4.0nm,0.2s,SNR=7.9						
IEPA				Sn	**Sn**	**13 49 55.0**	**+1.3**
	14nm,0.3s,SNR=7.9						
IEPA				Lg		13 50 10.9	
	64nm,0.4s,SNR=7.9						
IPRE	**Itoiz**	**3.38**	**18**	Pn	**Pn**	**13 49 14.0**	**+0.4**
	0.3nm,0.1s,SNR=4.0						
IPRE				Pg	**Pg**	**13 49 25.6**	**-0.1**
	2.1nm,0.1s,SNR=6.9						
IPRE				Sn	**Sn**	**13 49 53.3**	**-0.5**
	0.7nm,0.1s,SNR=4.7						
IPRE				Lg		13 50 09.4	
	23nm,0.5s,SNR=5.1						
IPRE	**Itoiz**	**3.38**	**18**	Pn	**Pn**	**13 49 14.0**	**+0.3**
	0.3nm,0.1s,SNR=4.0						
IELO	**Elcoad**	**3.44**	**19**	Pn	**Pn**	**13 49 15.1**	**+0.5**
	1.4nm,0.3s,SNR=7.9						
IELO				Pg	**Pg**	**13 49 26.9**	**0.0**
	2.0nm,0.2s,SNR=7.9						
IELO				Sn	**Sn**	**13 49 55.4**	**0.0**
	2.7nm,0.4s,SNR=7.9						
IELO				Lg		13 50 12.5	
	29nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**3.44**	**19**	Pn	**Pn**	**13 49 15.1**	**+0.5**
	1.4nm,0.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.47**	**18**	Pn	**Pn**	**13 49 15.8**	**+0.9**
	0.9nm,0.1s,SNR=7.0						
EORO				Pg	**Pg**	**13 49 27.4**	**-0.1**
	12nm,0.2s,SNR=34						
EORO				Sn	**Sn**	**13 49 56.6**	**+0.5**
	5.2nm,0.2s,SNR=7.9						
EORO				Lg		13 50 13.1	
	134nm,0.7s,SNR=9.4						
EORO	**Oroz-Betelu**	**3.47**	**18**	Pn	**Pn**	**13 49 15.8**	**+0.8**
	0.9nm,0.1s,SNR=7.0						
PMRV	**Marv??o**	**3.58**	**269**	*e*Pn	**Pn**	**13 49 17.3**	**+0.8**
PMRV				*e*Sn	**Sn**	**13 49 59.4**	**+0.6**
PMRV				*e*Sg	**Sg**	**13 50 15.1**	**-0.9**
PMRV				A		13 50 28.0	
	57nm,0.6s						
PMRV	**Marv??o**	**3.58**	**269**	Pn	**Pn**	**13 49 17.3**	**+0.8**
PMRV				Sn	**Sn**	**13 49 59.4**	**+0.6**
PMRV				Lg		13 50 15.1	
	57nm,0.6s						
PMRV	**Marv??o**	**3.58**	**269**	*e*Pn	**Pn**	**13 49 17.3**	**+0.8**
PMRV				*e*Sn	**Sn**	**13 49 59.4**	**+0.6**
PMRV				*e*Sg	**Sg**	**13 50 15.1**	**-0.9**
	57nm,0.6s						
MVO	**Moncorvo**	**3.61**	**297**	*e*Pn	**Pn**	**13 49 18.7**	**+1.8**
MVO	**Moncorvo**	**3.61**	**297**	*e*Pg	**Pg**	**13 49 30.0**	**-0.2**
MVO				*e*Sn	**Sn**	**13 49 59.3**	**-0.3**
MVO				*e*Sg	**Sg**	**13 50 17.1**	**+0.1**
MVO				A		13 50 25.1	
	55nm,0.6s						
MVO	**Moncorvo**	**3.61**	**297**	Pn	**Pn**	**13 49 18.8**	**+1.9**
	0.5nm,0.2s,SNR=11						
MVO				Pg	**Pg**	**13 49 28.9**	**-1.2**
	2.4nm,0.1s,SNR=8.2						
MVO				Sn	**Sn**	**13 49 58.8**	**-0.7**
	14nm,0.5s,SNR=5.8						
MVO				Lg		13 50 16.9	
	65nm,0.3s,SNR=11						
MVO	**Moncorvo**	**3.61**	**297**	Pn	**Pn**	**13 49 18.8**	**+1.9**
	0.5nm,0.2s,SNR=11						
MVO	**Moncorvo**	**3.61**	**297**	*e*Pg	**Pg**	**13 49 30.0**	**-0.2**
MVO				Sn	**Sn**	**13 49 58.8**	**-0.8**
	14nm,0.5s,SNR=5.8						
MVO				Lg		13 50 16.9	
	65nm,0.3s,SNR=11						
MVO				*e*Sg	**Sg**	**13 50 17.1**	**+0.1**
	55nm,0.6s						
PBAR	**Barrancos**	**3.62**	**248**	*e*Pn	**Pn**	**13 49 18.1**	**+1.1**
PBAR	**Barrancos**	**3.62**	**248**	*e*Pg	**Pg**	**13 49 30.0**	**-0.4**
PBAR				*e*

MTE			Pg	Pg	13 49 29.1	-3.8
MTE			Lg		13 50 22.7	
	27nm,0.4s					
MTE	**Manteigas**	**3.76 284**	*e*Pn	**Pn**	**13 49 20.1**	**+1.2**
MTE	**Manteigas**	**3.76 284**	*e*Pg	**Pg**	**13 49 29.1**	**-3.8**
MTE			*e*Sg	**Sg**	**13 50 22.7**	**+1.1**
	54nm,0.4s					
PESTR	**Estremoz**	**3.82 261**	*e*Pn	**Pn**	**13 49 20.7**	**+1.0**
PESTR			*e*Sn	**Sn**	**13 50 04.3**	**-0.3**
PESTR			*e*Sg	**Sg**	**13 50 20.1**	**-3.4**
PESTR			A		13 50 27.5	
	44nm,0.3s					
PESTR	**Estremoz**	**3.82 261**	Pn	**Pn**	**13 49 20.7**	**+1.0**
PESTR			Sn	**Sn**	**13 50 04.3**	**-0.3**
PESTR			Lg		13 50 20.1	
	22nm,0.3s					
PESTR	**Estremoz**	**3.82 261**	*e*Pn	**Pn**	**13 49 20.7**	**+1.0**
PESTR			*e*Sn	**Sn**	**13 50 04.3**	**-0.3**
PESTR			*e*Sg	**Sg**	**13 50 20.1**	**-3.4**
	44nm,0.3s					
EMIR	**Miracle**	**4.00 53**	Pn	**Pn**	**13 49 22.6**	**+0.4**
	0.5nm,0.1s,SNR=7.9					
EMIR			Sn	**Sn**	**13 50 06.0**	**-3.0**
	4.1nm,0.3s,SNR=7.9					
EMIR			Lg		13 50 24.5	
	74nm,0.7s,SNR=6.0					
EMIR	**Miracle**	**4.00 53**	Pn	**Pn**	**13 49 22.6**	**+0.4**
	0.5nm,0.1s,SNR=7.9					
EMIR			Sn	**Sn**	**13 50 06.0**	**-3.0**
	4.1nm,0.3s,SNR=7.9					
EMIR			Lg		13 50 24.5	
	74nm,0.7s,SNR=6.0					
CSOR	**Sort**	**4.05 45**	Pn	**Pn**	**13 49 23.7**	**+0.8**
	0.8nm,0.2s,SNR=7.9					
CSOR			Sn	**Sn**	**13 50 09.9**	**-0.4**
	1.9nm,0.3s,SNR=7.9					
CSOR			Lg		13 50 29.0	
	27nm,0.3s,SNR=11					
CSOR	**Sort**	**4.05 45**	Pn	**Pn**	**13 49 23.7**	**+0.8**
	0.8nm,0.2s,SNR=7.9					
CSOR			Sn	**Sn**	**13 50 09.9**	**-0.5**
	1.9nm,0.3s,SNR=7.9					
CSOR			Lg		13 50 29.0	
	27nm,0.3s,SNR=11					
PVIS	**Viseu**	**4.09 288**	*e*Pn	**Pn**	**13 49 24.3**	**+0.9**
PVIS			*e*Sg	**Sg**	**13 50 31.3**	**-0.9**
PVIS			A		13 50 34.3	
	26nm,0.4s					
PVIS	**Viseu**	**4.09 288**	Pn	**Pn**	**13 49 24.3**	**+0.9**
PVIS			Lg		13 50 31.3	
	13nm,0.4s					
PVIS	**Viseu**	**4.09 288**	*e*Pn	**Pn**	**13 49 24.3**	**+0.9**
PVIS			*e*Sg	**Sg**	**13 50 31.3**	**-0.9**
	26nm,0.4s					
PVRL	**Vila Real**	**4.13 296**	*e*Pn	**Pn**	**13 49 26.5**	**+2.5**
PVRL			*e*Sg	**Sg**	**13 50 31.9**	**-1.8**
PVRL			A		13 50 40.5	
	42nm,0.4s					
PVRL	**Vila Real**	**4.13 296**	Pn	**Pn**	**13 49 26.5**	**+2.5**
PVRL			Lg		13 50 31.9	
	21nm,0.4s					
PVRL	**Vila Real**	**4.13 296**	*e*Pn	**Pn**	**13 49 26.5**	**+2.5**
PVRL			*e*Sg	**Sg**	**13 50 31.9**	**-1.8**
	42nm,0.4s					
EPF	**Esparros**	**4.15 33**	*e*Pn	**Pn**	**13 49 25.1**	**+0.8**
EPF	**Esparros**	**4.15 33**	*e*Pg	**Pg**	**13 49 39.8**	**-0.7**
EPF			*e*Sn	**Sn**	**13 50 11.6**	**-1.3**
EPF			*e*Sg	**Sg**	**13 50 31.2**	**-3.1**
	86nm,0.6s					
EPF	**Esparros**	**4.15 33**	*e*Pn	**Pn**	**13 49 25.1**	**+0.8**
EPF			*e*Pg	**Pg**	**13 49 39.8**	**-0.7**
EPF			*e*Sn	**Sn**	**13 50 11.6**	**-1.3**
EPF			*e*Sg	**Sg**	**13 50 31.2**	**-3.1**
EPF	**Esparros**	**4.15 33**	Pn	**Pn**	**13 49 25.1**	**+0.8**
EPF			Pg	**Pg**	**13 49 39.8**	**-0.7**
EPF			Sn	**Sn**	**13 50 11.6**	**-1.3**
EPF			Lg		13 50 31.2	
	43nm,0.6s					
EPF	**Esparros**	**4.15 33**	*e*Pn	**Pn**	**13 49 25.1**	**+0.8**
EPF	**Esparros**	**4.15 33**	*e*Pg	**Pg**	**13 49 39.8**	**-0.7**
EPF			*e*Sn	**Sn**	**13 50 11.6**	**-1.3**
EPF			*e*Sg	**Sg**	**13 50 31.2**	**-3.1**
	43nm,0.6s					
EVO	**Evora**	**4.22 257**	*e*Pn	**Pn**	**13 49 26.5**	**+1.3**
EVO	**Evora**	**4.22 257**	*e*Pg	**Pg**	**13 49 42.6**	**+0.8**
EVO			*e*Sn	**Sn**	**13 50 15.0**	**+0.5**
EVO			*e*Sg	**Sg**	**13 50 36.7**	**+0.3**
	214nm,0.6s					
EVO	**Evora**	**4.22 257**	*e*Sn	**Sn**	**13 50 13.8**	**-0.7**
EVO			*e*Sg	**Sg**	**13 50 36.5**	**+0.1**
EVO			A		13 50 40.9	
	42nm,0.4s					
EVO	**Evora**	**4.22 257**	Sn	**Sn**	**13 50 13.8**	**-0.7**
EVO			Lg		13 50 36.5	
	42nm,0.4s					
EVO	**Evora**	**4.22 257**	*e*Sn	**Sn**	**13 50 13.8**	**-0.7**
EVO			*e*Sg	**Sg**	**13 50 36.5**	**+0.1**
	42nm,0.4s					
POLO	**Lamas de Olo**	**4.23 296**	*e*Pn	**Pn**	**13 49 26.6**	**+1.3**
POLO			*e*Sn	**Sn**	**13 50 13.2**	**-1.5**
POLO			*e*Sg	**Sg**	**13 50 35.2**	**-1.4**
POLO			A		13 50 43.4	
	22nm,0.4s					
POLO	**Lamas de Olo**	**4.23 296**	*e*Pn	**Pn**	**13 49 26.6**	**+1.3**
POLO			*e*Sn	**Sn**	**13 50 13.2**	**-1.5**
POLO			*e*Sg	**Sg**	**13 50 35.2**	**-1.4**
	22nm,0.4s					
PBEJ	**Beja**	**4.28 250**	*e*Sn	**Sn**	**13 50 15.9**	**-0.1**
PBEJ			*e*Sg	**Sg**	**13 50 37.5**	**-0.9**
PBEJ			A		13 50 40.3	
	28nm,0.3s					
PBEJ	**Beja**	**4.28 250**	Sn	**Sn**	**13 50 15.9**	**-0.1**
PBEJ			Lg		13 50 37.5	
	14nm,0.3s					
PBEJ	**Beja**	**4.28 250**	*e*Sn	**Sn**	**13 50 15.9**	**-0.1**
PBEJ			*e*Sg	**Sg**	**13 50 37.5**	**-0.9**
	28nm,0.3s					
EVOP	**Sao Brissos**	**4.30 257**	*e*Pn	**Pn**	**13 49 26.5**	**+0.1**
EVOP			*e*Pg	**Pg**	**13 49 42.6**	**-0.8**
EVOP			*e*Sn	**Sn**	**13 50 15.0**	**-1.6**
EVOP			*e*Sg	**Sg**	**13 50 36.7**	**-2.5**
EVOP	**Sao Brissos**	**4.30 257**	*e*Pn	**Pn**	**13 49 26.5**	**+0.1**
EVOP	**Sao Brissos**	**4.30 257**	*e*Pg	**Pg**	**13 49 42.6**	**-0.8**
EVOP			*e*Sn	**Sn**	**13 50 15.0**	**-1.6**
EVOP			*e*Sg	**Sg**	**13 50 36.7**	**-2.5**
	107nm,0.6s					
ERUA	**La Rua**	**4.33 312**	Lg		13 50 39.7	
	36nm,0.4s,SNR=7.9					
ERUA	**La Rua**	**4.33 312**	Lg		13 50 39.7	
	36nm,0.4s,SNR=7.9					
PTOM	**Tomar**	**4.36 272**	*e*Sn	**Sn**	**13 50 17.6**	**-0.4**
PTOM			*e*Sg	**Sg**	**13 50 42.3**	**+1.4**
PTOM			A		13 50 49.3	
	45nm,0.5s					
PTOM	**Tomar**	**4.36 272**	Sn	**Sn**	**13 50 17.6**	**-0.4**
PTOM			Lg		13 50 42.3	
	23nm,0.5s					
PTOM	**Tomar**	**4.36 272**	*e*Sn	**Sn**	**13 50 17.6**	**-0.4**
PTOM			*e*Sg	**Sg**	**13 50 42.3**	**+1.4**
	45nm,0.5s					
PVAQ	**Vaqueiros**	**4.46 242**	*e*Pn	**Pn**	**13 49 28.6**	**+0.1**
PVAQ			*e*Sn	**Sn**	**13 50 20.8**	**+0.4**
PVAQ			*e*Sg	**Sg**	**13 50 43.3**	**-0.8**
PVAQ			A		13 50 51.3	
	51nm,0.5s					
PVAQ	**Vaqueiros**	**4.46 242**	Pn	**Pn**	**13 49 28.6**	**+0.1**
PVAQ			Sn	**Sn**	**13 50 20.8**	**+0.4**
PVAQ			Lg		13 50 43.3	
	51nm,0.5s					
PVAQ	**Vaqueiros**	**4.46 242**	*e*Pn	**Pn**	**13 49 28.6**	**+0.1**
PVAQ			*e*Sn	**Sn**	**13 50 20.8**	**+0.4**
PVAQ			*e*Sg	**Sg**	**13 50 43.3**	**-0.8**
	51nm,0.5s					
MOE	**Montemor**	**4.48 258**	*e*Sn	**Sn**	**13 50 19.8**	**-1.1**
MOE			*e*Sg	**Sg**	**13 50 44.4**	**-0.3**
MOE	**Montemor**	**4.48 258**	Sn	**Sn**	**13 50 19.8**	**-1.1**
MOE			Lg		13 50 44.4	
MOE	**Montemor**	**4.48 258**	*e*Sn	**Sn**	**13 50 19.8**	**-1.1**
MOE			*e*Sg	**Sg**	**13 50 44.4**	**-0.3**
CFON	**Fontmartina**	**4.51 60**	Pn	**Pn**	**13 49 30.1**	**+0.9**
	1.6nm,0.1s,SNR=7.9					
CFON			Lg		13 50 42.6	
	49nm,0.5s,SNR=7.9					
CFON	**Fontmartina**	**4.51 60**	Pn	**Pn**	**13 49 30.1**	**+0.9**
	1.6nm,0.1s,SNR=7.9					
CFON			Lg		13 50 42.6	
	49nm,0.5s,SNR=7.9					
PCAB	**Cabril**	**4.53 300**	*e*Pn	**Pn**	**13 49 30.1**	**+0.7**
PCAB	**Cabril**	**4.53 300**	*e*Pg	**Pg**	**13 49 45.5**	**-2.1**
PCAB			*e*Sg	**Sg**	**13 50 45.8**	**-0.4**
PCAB			A		13 50 52.5	
	45nm,0.5s					
PCAB	**Cabril**	**4.53 300**	Pn	**Pn**	**13 49 30.1**	**+0.7**
PCAB			Pg	**Pg**	**13 49 45.5**	**-2.1**
PCAB			Lg		13 50 45.8	
	22nm,0.5s					
PCAB	**Cabril**	**4.53 300**	*e*Pn	**Pn**	**13 49 30.1**	**+0.7**
PCAB	**Cabril**	**4.53 300**	*e*Pg	**Pg**	**13 49 45.5**	**-2.1**
PCAB			*e*Sg	**Sg**	**13 50 45.8**	**-0.4**
	45nm,0.5s					
PCVE	**Castro Verde**	**4.57 246**	*e*Pn	**Pn**	**13 49 30.6**	**+0.5**
PCVE			*e*Sn	**Sn**	**13 50 21.6**	**-1.6**
PCVE			*e*Sg	**Sg**	**13 50 45.8**	**-1.9**
PCVE			A		13 50 49.7	
	33nm,0.4s					
PCVE	**Castro Verde**	**4.57 246**	Pn	**Pn**	**13 49 30.6**	**+0.5**
PCVE			Sn	**Sn**	**13 50 21.6**	**-1.6**
PCVE			Lg		13 50 45.8	
	33nm,0.4s					
PCVE	**Castro Verde**	**4.57 246**	*e*Pn	**Pn**	**13 49 30.6**	**+0.5**
PCVE			*e*Sn	**Sn**	**13 50 21.6**	**-1.6**
PCVE			*e*Sg	**Sg**	**13 50 45.8**	**-1.9**
	33nm,0.4s					
CLLI	**Llivia**	**4.60 50**	Pn	**Pn**	**13 49 31.2**	**+0.8**
	0.4nm,0.3s,SNR=7.9					
CLLI			Sn	**Sn**	**13 50 22.1**	**-1.7**
	0.1nm,0.2s,SNR=7.9					
CLLI	**Llivia**	**4.60 50**	Pn	**Pn**	**13 49 31.2**	**+0.8**
	0.4nm,0.3s,SNR=7.9					
CLLI			Sn	**Sn**	**13 50 22.1**	**-1.7**
	0.1nm,0.2s,SNR=7.9					
PBDV	**Barranco-do-Ve**	**4.69 242**	*e*Pn	**Pn**	**13 49 32.9**	**+1.2**
PBDV			*e*Sn	**Sn**	**13 50 25.3**	**-0.7**
PBDV			*e*Sg	**Sg**	**13 50 50.5**	**-0.9**
PBDV			A		13 51 00.7	
	37nm,0.4s					
PBDV	**Barranco-do-Ve**	**4.69 242**	Pn	**Pn**	**13 49 32.9**	**+1.2**
PBDV			Sn	**Sn**	**13 50 25.3**	**-0.7**
PBDV			Lg		13 50 50.5	
	37nm,0.4s					
PBDV	**Barranco-do-Ve**	**4.69 242**	*e*Pn	**Pn**	**13 49 32.9**	**+1.2**
PBDV			*e*Sn	**Sn**	**13 50 25.3**	**-0.7**
PBDV			*e*Sg	**Sg**	**13 50 50.5**	**-0.9**
	37nm,0.4s					
PNCL	**Nicolau / Gran**	**4.74 254**	*e*Pn	**Pn**	**13 49 33.3**	**+1.0**
PNCL			*e*Sn	**Sn**	**13 50 26.2**	**-1.1**
PNCL			*e*Sg	**Sg**	**13 50 52.8**	**-0.2**
PNCL			A		13 50 56.5	
	20nm,0.6s					
PNCL	**Nicolau / Gran**	**4.74 254**	*e*Pn	**Pn**	**13 49 33.3**	**+1.0**
PNCL			*e*Sn	**Sn**	**13 50 26.2**	**-1.1**
PNCL			*e*Sg	**Sg**	**13 50 52.8**	**-0.2**
	20nm,0.6s					
PGAV	**Gavieira, Arco**	**4.80 301**	*e*Pn	**Pn**	**13 49 35.2**	**+2.0**
PGAV	**Gavieira, Arco**	**4.80 301**	*e*Pg	**Pg**	**13 49 52.5**	**-0.4**
PGAV			*e*Sg	**Sg**	**13 50 55.4**	**+0.3**
PGAV			A		13 51 02.6	
	39nm,1.0s					
PGAV	**Gavieira, Arco**	**4.80 301**	*e*Pn	**Pn**	**13 49 35.2**	**+2.0**
PGAV	**Gavieira, Arco**	**4.80 301**	*e*Pg	**Pg**	**13 49 52.5**	**-0.4**
PGAV			*e*Sg	**Sg**	**13 50 55.4**	**+0.3**
	39nm,1.0s					
PMAFR	**Mafra**	**5.10 265**	*e*Sn	**Sn**	**13 50 32.8**	**-3.4**
PMAFR			*e*Sg	**Sg**	**13 51 06.4**	**+1.8**
PMAFR			A		13 51 11.9	
	33nm,0.3s					
PMAFR	**Mafra**	**5.10 265**	*e*Sn	**Sn**	**13 50 32.8**	**-3.4**
PMAFR			Lg		13 51 05.6	
	6.7nm,0.1s,SNR=7.9					
PMAFR			*e*Sg	**Sg**	**13 51 06.4**	**+1.8**
	33nm,0.3s					
PTEO	**Sao Teotonio**	**5.10 248**	*e*Pn	**Pn**	**13 49 38.3**	**+1.0**
PTEO			*e*Sn	**Sn**	**13 50 35.7**	**-0.5**
PTEO			*e*Sg	**Sg**	**13 51 03.6**	**-1.0**
PTEO			A		13 51 17.6	
	45nm,0.8s					
PTEO	**Sao Teotonio**	**5.10 248**	Pn	**Pn**	**13 49 38.3**	**+1.0**
PTEO			Sn	**Sn**	**13 50 35.7**	**-0.5**
PTEO			Lg		13 51 03.6	
	22nm,0.8s					
PTEO	**Sao Teotonio**	**5.10 248**	*e*Pn	**Pn**	**13 49 38.3**	**+1.0**
PTEO			*e*Sn	**Sn**	**13 50 35.7**	**-0.5**
PTEO			*e*Sg	**Sg**	**13 51 03.6**	**-1.0**
	45nm,0.8s					
MORF	**Marmelete**	**5.15 246**	*e*Sn	**Sn**	**13 50 36.4**	**-1.1**
MORF			*e*Sg	**Sg**	**13 51 07.2**	**+0.8**
MORF			A		13 51 15.9	
	13nm,0.3s					
MORF	**Marmelete**	**5.15 246**	Sn	**Sn**	**13 50 36.4**	**-1.1**
MORF			Lg		13 51 07.2	
	13nm,0.3s					
MORF	**Marmelete**	**5.15 246**	*e*Sn	**Sn**	**13 50 36.4**	**-1.1**
EZAM	**Zamans**	**5.17 301**	Lg		13 51 05.0	
	54nm,0.5s,SNR=7.9					
EZAM	**Zamans**	**5.17 301**	Lg		13 51 05.0	
	54nm,0.5s,SNR=7.9					
MTLF	**Montolieu**	**5.29 43**	*e*Pn	**Pn**	**13 49 40.5**	**+0.5**
MTLF			*e*Sn	**Sn**	**13 50 38.8**	**-2.1**
MTLF			*e*Sg	**Sg**	**13 51 05.3**	**-5.5**
	18nm,0.5s					
MTLF	**Montolieu**	**5.29 43**	*e*Pn	**Pn**	**13 49 40.5**	**+0.5**
MTLF			*e*Sn	**Sn**	**13 50 38.8**	**-2.1**
MTLF			*e*Sg	**Sg**	**13 51 05.3**	**-5.5**
MTLF	**Montolieu**	**5.29 43**	Pn	**Pn**	**13 49 40.5**	**+0.5**
MTLF			Sn	**Sn**	**13 50 38.8**	**-2.1**
MTLF			Lg		13 51 05.3	
	9.1nm,0.5s					
MTLF	**Montolieu**	**5.29 43**	*e*Pn	**Pn**	**13 49 40.5**	**+0.5**
MTLF			*e*Sn	**Sn**	**13 50 38.8**	**-2.1**
PFVI	**Vila Bisbo**	**5.36 245**	*e*Pn	**Pn**	**13 49 41.0**	**+0.1**
PFVI			*e*Sn	**Sn**	**13 50 41.8**	**-0.8**
PFVI			*e*Sg	**Sg**	**13 51 13.2**	**+0.2**
PFVI			A		13 51 21.4	
	24nm,0.6s					
PFVI	**Vila Bisbo**	**5.36 245**	Pn	**Pn**	**13 49 42.4**	**+1.5**
	SNR=7.9					
PFVI			Sn	**Sn**	**13 50 40.6**	**-2.0**
	SNR=7.9					
PFVI			Lg		13 51 12.9	
	48nm,0.5s,SNR=7.9					
PFVI	**Vila Bisbo**	**5.36 245**	*e*Pn	**Pn**	**13 49 41.0**	**+0.1**
PFVI			*e*Sn	**Sn**	**13 50 41.8**	**-0.8**
PFVI			Lg		13 51 12.9	
	48nm,0.5s,SNR=7.9					
LFF	**La Frestale**	**5.94 25**	*e*Pn	**Pn**	**13 49 49.4**	**+0.6**
LFF			*e*Sn	**Sn**	**13 50 54.4**	**-2.5**
	8.2nm,0.3s					
LFF	**La Frestale**	**5.94 25**	*e*Pn	**Pn**	**13 49 49.4**	**+0.6**
LFF			*e*Sn	**Sn**	**13 50 54.4**	**-2.5**
LFF	**La Frestale**	**5.94 25**	Pn	**Pn**	**13 49 49.4**	**+0.6**
LFF			Sn	**Sn**	**13 50 54.4**	**-2.5**
	4.1nm,0.3s					
LFF	**La Frestale**	**5.94 25**	*e*Pn	**Pn**	**13 49 49.4**	**+0.6**
CAF	**Calviac**	**6.42 32**	*e*Pn	**Pn**	**13 49 56.0**	**+0.6**
CAF			*e*Sn	**Sn**	**13 51 05.9**	**-2.8**
	3.4nm,0.3s					
CAF	**Calviac**	**6.42 32**	*e*Pn	**Pn**	**13 49 56.0**	**+0.6**
CAF			*e*Sn	**Sn**	**13 51 05.9**	**-2.8**
CAF	**Calviac**	**6.42 32**	Pn	**Pn**	**13 49 56.0**	**+0.6**
CAF			Sn	**Sn**	**13 51 05.9**	**-2.8**
	1.7nm,0.3s					
CAF	**Calviac**	**6.42 32**	*e*Pn	**Pn**	**13 49 56.0**	**+0.6**
TCF	**Toulx Ste Croi**	**7.62 27**	*e*Pn	**Pn**	**13 50 12.6**	**+0.7**
TCF			*e*Sn	**Sn**	**13 51 34.1**	**-4.1**
	4.0nm,0.5s					
TCF	**Toulx Ste Croi**	**7.62 27**	*e*Pn	**Pn**	**13 50 12.6**	**+0.7**
TCF			*e*Sn	**Sn**	**13 51 34.1**	**-4.1**
TCF	**Toulx Ste Croi**	**7.62 27**	Pn	**Pn**	**13 50 12.6**	**+0.7**
TCF			Sn	**Sn**	**13 51 34.1**	**-4.1**
	2.0nm,0.5s					
TCF	**Toulx Ste Croi**	**7.62 27**	*e*Pn	**Pn**	**13 50 12.6**	**+0.7**

*ISCJB **16** 14:02:10.2±0.3,35°.41N±0°.02×52°.74E±0°.03,h10km, Error ellipse: s-maj=3.4km s-min=3.0km az=169.6*
*CSEM **16** 14:02:10.1±0.2,35°.40N×52°.74E, h0km±4km, ML3.6*
*THR **16** 14:02:10.3±1.3,35°.18N×52°.69E, h14km, ML3.5*

*TEH **16** 14:02:11.3,35°.41N×52°.75E, h2km*

ISC 16 14:02:11.2±0.3,35°.42N±0°.02×52°.75E±0°.03,h10km,n46,
σ0.93/63,6C,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAS	**Lasjerd**	**0.17**	**102↑**	*e*Pg	**Pg**	**14 02 14.3**	**-0.6**
ILAS				*e*Sg	**Sg**	**14 02 16.7**	**-0.7**
ILAS				*e*		14 02 17.5	
	comp=Z,68μm,0.1s						
ILAS	**Lasjerd**	**0.17**	**102↑**	*e*Pg	**Pg**	**14 02 14.3**	**-0.6**
ILAS				*e*Sg	**Sg**	**14 02 16.7**	**-0.7**
IFIR	**Firoozkooh**	**0.22**	**0**	*e*Pg	**Pg**	**14 02 15.7**	**-0.1**
IFIR				*e*Sg	**Sg**	**14 02 19.5**	**+0.6**
IFIR				*e*		14 02 21.1	
	comp=Z,56μm,0.1s						
IFIR	**Firoozkooh**	**0.22**	**0**	*e*Pg	**Pg**	**14 02 15.7**	**-0.1**
IFIR				*e*Sg	**Sg**	**14 02 19.5**	**+0.6**
ISHM	**Shahmirzad**	**0.59**	**48↑**	*e*Pg	**Pg**	**14 02 21.8**	**-0.8**
ISHM				*e*Sg	**Sg**	**14 02 30.6**	**+0.3**
ISHM				*e*		14 02 32.4	
	comp=Z,99μm,0.1s						
ISHM	**Shahmirzad**	**0.59**	**48↑**	*e*Pg	**Pg**	**14 02 21.8**	**-0.8**
ISHM				*e*Sg	**Sg**	**14 02 30.6**	**+0.3**
IALA	**Alasht**	**0.67**	**4**	*e*Pg	**Pg**	**14 02 22.9**	**-1.2**
IALA				*e*Sg	**Sg**	**14 02 32.0**	**-0.8**
IALA				*e*		14 02 34.1	
	comp=Z,39μm,0.1s						
IALA	**Alasht**	**0.67**	**4**	*e*Pg	**Pg**	**14 02 22.9**	**-1.2**
IALA				*e*Sg	**Sg**	**14 02 32.0**	**-0.8**
DAMV	**Damavand**	**0.67**	**289**	*e*Pg	**Pg**	**14 02 24.1**	**0.0**
DAMV	**Damavand**	**0.67**	**289**	*e*Pg	**Pg**	**14 02 24.1**	**-0.1**
IPRN	**Peran**	**0.89**	**338**	*e*Pg	**Pg**	**14 02 27.8**	**-0.5**
IPRN				*e*Sg	**Sg**	**14 02 39.4**	**-0.5**
IPRN				*e*		14 02 44.1	
	comp=Z,43μm,0.2s						
IANJ	**Anjilo**	**0.95**	**87**	*e*Pg	**Pg**	**14 02 28.5**	**-1.0**
IANJ				*e*		14 02 42.9	
	comp=Z,28μm,0.1s						
IANJ	**Anjilo**	**0.95**	**87**	*e*Pg	**Pg**	**14 02 28.5**	**-1.0**
ISFB	**Sefidab**	**1.14**	**202↑**	*e*Pg	**Pg**	**14 02 31.5**	**-1.7**
ISFB				*e*Sg	**Sg**	**14 02 47.0**	**-1.0**
ISFB				*e*		14 02 51.4	
	comp=Z,31μm,0.1s						
ISFB	**Sefidab**	**1.14**	**202↑**	*e*Pg	**Pg**	**14 02 31.5**	**-1.7**
ISFB				*e*Sg	**Sg**	**14 02 47.0**	**-1.0**
IGLO	**Ghaloghah**	**1.39**	**39**	*e*Pn	**Pn**	**14 02 37.4**	**+0.8**
IGLO				*e*		14 03 00.8	
	comp=Z,21μm,0.2s						
CHTH	**Charan**	**1.41**	**291**	*e*Pg	**Pg**	**14 02 37.2**	**-1.0**
CHTH				AML	AML	14 03 01.1	
	comp=E,1μm,0.4s						
IR3	**Iran Long-Peri**	**1.41**	**273**	*e*Pg	**Pn**	**14 02 36.5**	**-0.4**
IR3				*e*Sg	**Sg**	**14 02 56.0**	**-0.6**
IR3				*e*		14 02 57.5	
	comp=Z,99nm,0.3s						
IR3	**Iran Long-Peri**	**1.41**	**273**	*e*Pg	**Pn**	**14 02 36.5**	**-0.4**
IR3				*e*Sg	**Sg**	**14 02 56.0**	**-0.6**
THKV	**Tehran--Karaj**	**1.60**	**289**	*e*Pg	**Pg**	**14 02 40.9**	**-1.1**
THKV				*e*Sg	**Sg**	**14 03 03.1**	**+0.4**
THKV	**Tehran--Karaj**	**1.60**	**289**	*e*Pg	**Pg**	**14 02 40.9**	**-1.1**
THKV				*e*Sg	**Sg**	**14 03 03.1**	**+0.3**
IMHD	**Mahdasht**	**1.72**	**280**	*e*Pn	**Pn**	**14 02 42.1**	**+0.9**
IMHD				*e*		14 03 09.6	
	comp=Z,25μm,0.1s						
IMHD	**Mahdasht**	**1.72**	**280**	*e*Pn	**Pn**	**14 02 42.1**	**+0.9**
ASAO	**Ashtian**	**2.40**	**250**	*e*Pg	**Pn**	**14 02 51.3**	**+0.8**
ASAO				*e*Sg	**Sn**	**14 03 22.0**	**+2.0**
ASAO				AML	AML	14 03 29.7	
	comp=N,264nm,0.3s						
ASAO	**Ashtian**	**2.40**	**250**	*e*Pg	**Pn**	**14 02 51.3**	**+0.8**
ASAO				*e*Sg	**Sn**	**14 03 22.0**	**+2.0**
NASN	**Na'in**	**2.61**	**179**	*e*PN5	**Pn**	**14 02 53.5**	**+0.1**
NASN				AML	AML	14 03 43.7	
	comp=E,134nm,0.3s						
NASN	**Na'in**	**2.61**	**179**	*e*Pg	**Pn**	**14 02 53.5**	**+0.1**
ICHK	**Chekchek**	**3.45**	**156**	*e*Pn	**Pn**	**14 03 05.1**	**+0.1**
ICHK				*e*		14 04 11.2	
	comp=Z,2μm,0.3s						
ICHK	**Chekchek**	**3.45**	**156**	*e*Pn	**Pn**	**14 03 05.1**	**+0.1**
MRVT	**Maraveh tapeh**	**3.50**	**49**	*e*Pn	**Pn**	**14 03 08.4**	**+2.8**
MRVT				AML	AML	14 04 16.1	
	comp=E,75nm,0.6s						
MRVT				AML	AML	14 04 17.7	
	comp=N,63nm,0.5s						
MRVT	**Maraveh tapeh**	**3.50**	**49**	*e*Pn	**Pn**	**14 03 08.4**	**+2.8**
ZNJK	**Zanjan**	**3.52**	**292**	*e*Pn	**Pn**	**14 03 08.5**	**+2.5**
TABS	**Tabas**	**4.01**	**115**	*e*Pn	**Pn**	**14 03 13.3**	**+0.6**
TABS	**Tabas**	**4.01**	**115**	*e*Pn	**Pn**	**14 03 13.3**	**+0.6**
IMEH	**Mehriz**	**4.31**	**158**	*e*Pn	**Pn**	**14 03 16.9**	**+0.1**
IMEH				*e*		14 04 39.0	
	comp=Z,891nm,0.3s						
IMEH	**Mehriz**	**4.31**	**158**	*e*Pn	**Pn**	**14 03 16.9**	**+0.1**
IBAF	**Bafgh**	**4.48**	**148**	*e*Pn	**Pn**	**14 03 19.6**	**+0.4**
IBAF				*e*		14 04 39.6	
	comp=Z,640nm,0.3s						
IBAF	**Bafgh**	**4.48**	**148**	*e*Pn	**Pn**	**14 03 19.6**	**+0.4**
ISFR	**Sfrayin**	**4.55**	**67**	*e*Pn	**Pn**	**14 03 21.1**	**+1.1**
ISFR				*e*		14 04 48.0	
	comp=Z,734nm,0.3s						
ISFR	**Sfrayin**	**4.55**	**67**	*e*Pn	**Pn**	**14 03 21.1**	**+1.1**
**

TORD	**Torodi Ar. Bea**	**76.80**	**30**	P	**P**	**14 26 47.2**	**+0.3**
ASAR	**Alice Springs**	**95.56**	**164**	P	**P**	**14 28 19.3**	**-1.2**
	0.3nm,0.7s,mb3.8,baz=179,slow=4.3,SNR=5.7						
ASAR	**Alice Springs**	**95.56**	**164**	P	**P**	**14 28 19.3**	**-1.2**
YKA	**Yellowknife Ar**	**138.39**	**316**	PKP	PKPdf	14 34 17.5	-1.8
	0.2nm,0.7s,baz=142,slow=1.8,SNR=3.2						
YKA	**Yellowknife Ar**	**138.39**	**316**	PKP	PKPdf	14 34 17.5	-1.8
ZALV	**Zalesovo Beam**	**144.66**	**69**	PKP	PKPdf	14 34 28.0	-2.8
	0.5nm,0.5s,baz=290,slow=4.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**144.66**	**69**	PKP	PKPdf	14 34 28.0	-2.8
SONM	**Songino Array**	**151.53**	**95**	PKPab	PKPab	14 34 56.4	-0.6
	0.4nm,0.8s,baz=225,slow=3.9,SNR=3.6						
SONM	**Songino Array**	**151.53**	**95**	PKPab	PKPab	14 34 56.4	-0.6
ILAR	**Eielson Array**	**151.88**	**307**	PKPbc	PKPbc	14 34 47.1	-1.6
	0.9nm,0.9s,baz=152,slow=0.9,SNR=7.5						
ILAR	**Eielson Array**	**151.88**	**307**	PKPbc	PKPbc	14 34 47.1	-1.6

IDC 16 14:30:45.5±1.9, 11°.78S×122°.08E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.4/14, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=150.5km s-min=26.5km az=55.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.16**	**152**	Pn	Pn	14 32 32.5	+0.9
	0.3nm,0.3s,baz=336,slow=11,SNR=16						
FITZ				Sn	Sn	14 33 47.2	-6.5
	1.6nm,0.3s,baz=197,slow=16,SNR=14						
WRA	**Warramunga Arr**	**14.31**	**126**	Pn	Pn	14 34 08.2	-1.2
	0.1nm,0.3s,baz=297,slow=13,SNR=7.3						
WRA				Sn	Sn	14 36 39.8	-9.3
	0.1nm,0.3s,baz=299,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**16.31**	**138**	Pn	Pn	14 34 36.0	-0.1
	0.1nm,0.3s,baz=310,slow=11,SNR=13						
ASAR				Sn	Sn	14 37 28.0	-10
	0.0nm,0.3s,baz=306,slow=22,SNR=3.7						
MKAR	**Makanchi Array**	**68.31**	**332**	P	P	14 41 48.5	+0.1
	0.8nm,1.0s,baz=142,slow=7.3,SNR=2.9						

IDC 16 14:42:42.7±3.9, 46°.85S×101°.69E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/11, mbtmp3.5/4, MS3.5/3, Ms1 3.6/3, ms1mx3.1/13, Error ellipse: s-maj=98.3km s-min=44.9km az=17.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.27**	**46**	LR	LR	14 52 08.5	
	comp=Z,70nm,19.9s,baz=298,slow=31						
STKA	**Stephens Creek**	**33.89**	**78**	P	P	14 49 27.2	+0.2
	1.0nm,0.8s,baz=234,slow=8.7,SNR=3.3						
ASAR	**Alice Springs**	**34.64**	**59**	P	P	14 49 33.6	0.0
	0.4nm,1.0s,baz=210,slow=7.3,SNR=3.4						
ASAR				PcP	PcP	14 52 07.7	-0.2
	0.5nm,1.0s,baz=208,slow=1.8,SNR=4.4						
WRA	**Warramunga Arr**	**37.79**	**56**	P	P	14 50 00.5	-0.1
	0.3nm,0.7s,baz=218,slow=8.5,SNR=2.8						
CTA	**Charters Tower**	**44.93**	**69**	LR	LR	15 08 00.0	
	comp=Z,84nm,18.9s,baz=46,slow=34						
CMAR	**Chiang Mai Arr**	**65.05**	**357**	P	P	14 53 24.6	+0.1
	0.7nm,0.9s,baz=188,slow=5.5,SNR=4.9						
CMAR				LR	LR	15 19 20.2	
	comp=Z,39nm,18.6s,baz=21,slow=34						

*CSEM **16** 14:49:14.8±0.2, 41°.26N×23°.21E, h14km, ML1.6/5, Error ellipse: s-maj=3.4km s-min=2.2km az=173.0*
*ISCJB **16** 14:49:15.1±0.6, 41°.24N±0°.04×23°.22E±0°.03, h6km±7km, Error ellipse: s-maj=6.2km s-min=3.8km az=179.7*
*THE **16** 14:49:15.6, 41°.23N×23°.23E, h2km±30km, ML1.6/5, Error ellipse: s-maj=30.3km s-min=0.5km az=0.0*
*SKO **16** 14:49:16.3, 41°.31N×23°.20E, h2km, M1.1, ML1.4*
*ATH **16** 14:49:16.9, 41°.16N×23°.40E, h22km, MD2.6/3*

ISC 16 14:49:15.3±1.1, 41°.25N±0°.04×23°.22E±0°.03, h12km±23km, n27, σ0°39/50, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.26**	**250**	P	**Pg**	**14 49 20.4**	**-0.2**
KNT				S	**Sg**	**14 49 24.0**	**-0.1**
KNT	**Kendrikon**	**0.26**	**250**	P	**Pg**	**14 49 20.4**	**-0.2**
KNT				S	**Sg**	**14 49 24.0**	**-0.1**
SRS	**Serrai**	**0.32**	**115**	P	**Pg**	**14 49 21.3**	**-0.3**
SRS				S	**Sg**	**14 49 25.7**	**-0.2**
SRS	**Serrai**	**0.32**	**115**	P	**Pg**	**14 49 21.3**	**-0.3**
SRS				S	**Sg**	**14 49 25.7**	**-0.2**
SOH	**Sokhos**	**0.44**	**166**	*e*PB	**Pg**	**14 49 24.4**	**+0.4**
SOH				*e*SB	**Sg**	**14 49 29.8**	**-0.1**
SOH	**Sokhos**	**0.44**	**166**	P	**Pg**	**14 49 23.8**	**-0.2**
SOH				S	**Sg**	**14 49 29.8**	**-0.1**
SOH	**Sokhos**	**0.44**	**166**	P	**Pg**	**14 49 23.8**	**-0.2**
SOH	**Sokhos**	**0.44**	**166**	*e*Pb	**Pg**	**14 49 24.4**	**+0.4**
SOH				S	**Sg**	**14 49 29.8**	**-0.1**
VAY	**Valandovo**	**0.49**	**278**	*e*Pg	**Pg**	**14 49 24.7**	**-0.2**
VAY				*e*Sg	**Sg**	**14 49 31.8**	**+0.3**
VAY				*e*Lg		14 49 33.9	
	comp=N,22nm,0.3s						
VAY				*e*Lg		14 49 34.0	
	comp=E,9.7nm,0.3s						
VAY	**Valandovo**	**0.49**	**278**	*e*Pg	**Pg**	**14 49 24.6**	**-0.3**
VAY				*e*Sg	**Sg**	**14 49 31.7**	**+0.3**
VAY				*e*Lg		14 49 33.8	
	comp=E,22nm,0.3s						
NVR	**Nevrokopi**	**0.50**	**78**	*e*PB	**Pg**	**14 49 25.4**	**+0.4**
NVR				*e*SB	**Sg**	**14 49 31.5**	**-0.1**
NVR	**Nevrokopi**	**0.50**	**78**	P	**Pg**	**14 49 24.8**	**-0.2**
NVR				S	**Sg**	**14 49 31.9**	**+0.3**
NVR	**Nevrokopi**	**0.50**	**78**	P	**Pg**	**14 49 24.8**	**-0.2**
NVR	**Nevrokopi**	**0.50**	**78**	*e*Pb	**Pg**	**14 49 25.4**	**+0.4**
NVR				*e*Sb	**Sg**	**14 49 31.5**	**-0.1**
NVR				S	**Sg**	**14 49 31.9**	**+0.3**
THE	**Thessaloniki**	**0.65**	**197**	P	**Pg**	**14 49 27.8**	**0.0**
THE				S	**Sg**	**14 49 36.4**	**+0.1**
THE	**Thessaloniki**	**0.65**	**197**	P	**Pg**	**14 49 27.8**	**0.0**
THE				S	**Sg**	**14 49 36.4**	**+0.1**
HORT	**Hortiatis**	**0.66**	**188**	P	**Pg**	**14 49 28.0**	**-0.1**
HORT	**Hortiatis**	**0.66**	**188**	P	**Pg**	**14 49 28.0**	**-0.1**
GRG	**Griva**	**0.68**	**245**	P	**Pg**	**14 49 28.3**	**-0.2**
GRG				S	**Sg**	**14 49 38.2**	**+0.8**
GRG	**Griva**	**0.68**	**245**	P	**Pg**	**14 49 28.3**	**-0.2**
GRG				S	**Sg**	**14 49 38.2**	**+0.8**
PLG	**Polygyros**	**0.89**	**169**	*e*PN	**Pg**	**14 49 31.7**	**-0.8**
PLG	**Polygyros**	**0.89**	**169**	P	**Pg**	**14 49 31.7**	**-0.8**
PLG				S	**Sg**	**14 49 44.0**	**-0.2**
PLG	**Polygyros**	**0.89**	**169**	P	**Pg**	**14 49 31.7**	**-0.8**
PLG				S	**Sg**	**14 49 44.0**	**-0.2**
KAVA	**Kavala**	**1.01**	**104**	P	**Pg**	**14 49 34.3**	**-0.5**
KAVA				S	**Sg**	**14 49 48.9**	**+0.9**
KAVA	**Kavala**	**1.01**	**104**	P	**Pg**	**14 49 34.3**	**-0.5**
KAVA				S	**Sg**	**14 49 48.9**	**+0.9**
OUR	**Ouranopolis**	**1.09**	**147**	P	**Pg**	**14 49 36.3**	**+0.1**
OUR				S	**Sg**	**14 49 50.8**	**+0.5**
OUR	**Ouranopolis**	**1.09**	**147**	P	**Pg**	**14 49 36.3**	**+0.1**
OUR				S	**Sg**	**14 49 50.8**	**+0.5**

*IDC **16** 14:50:41.6±5.0, 52°.44N×173°.28W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/25, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=114.8km s-min=56.0km az=100.0*
*NEIC **16** 14:50:46.0, 52°.22N×172°.58W, h1km, ML2.9(AEIC), After AEIC.*
*ISCJB **16** 14:50:47.1±0.9, 52°.3N±0°.2×172°.51W±0°.10, h33km, mb3.3/3, Error ellipse: s-maj=31.6km s-min=6.1km az=168.9*

ISC 16 14:50:48.9±0.9, 52°.4N±0°.2×172°.7W±0°.1, h35km, n11, σ1°04/15, mb3.3/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Flat Point**	**0.89**	**265**	P	**Pn**	**14 51 03.6**	**-1.2**
KOFP				S	**Sn**	**14 51 16.6**	**+0.2**
KOKV	**Korovin Volcan**	**0.92**	**270**	P	**Pn**	**14 51 04.5**	**-0.7**
KOKV				S	**Sn**	**14 51 20.4**	**+3.1**
KOKL	**Mount Kliuchef**	**0.94**	**268**	P	**Pn**	**14 51 04.8**	**-0.8**
ATKA	**Atka Island**	**0.95**	**261**	P	**Pn**	**14 51 03.7**	**-2.1**
ATKA				S	**Sn**	**14 51 18.3**	**+0.2**
GSTD	**Great Sitkin T**	**2.16**	**263**	P	**Pn**	**14 51 23.0**	**+0.6**
GSTD				S	**Sn**	**14 51 51.7**	**+3.7**
GSCK	**Great Sitkin C**	**2.18**	**262**	P	**Pn**	**14 51 22.9**	**+0.3**
KIMD	**Kanaga Island**	**2.88**	**260**	P	**Pn**	**14 51 32.8**	**+0.5**
ILAR	**Eielson Array**	**18.13**	**37**	P	**Pn**	**14 54 57.8**	**+0.3**
	0.0nm,0.3s,baz=232,slow=9.8,SNR=5.9						
YKA	**Yellowknife Ar**	**31.76**	**48**	P	**P**	**14 57 08.3**	**-1.0**
	0.1nm,0.5s,mb2.9,baz=279,slow=7.7,SNR=2.9						
PDAR	**Pinedale Array**	**42.38**	**77**	P	**P**	**14 58 40.5**	**+1.0**
	0.6nm,0.7s,mb3.4,baz=297,slow=4.8,SNR=5.6						
TXAR	**Lajitas Array**	**54.77**	**86**	P	**P**	**15 00 15.6**	**+0.6**
	0.5nm,0.6s,mb3.7,baz=303,slow=5.0,SNR=7.9						
TXAR				PcP	PcP	15 01 17.0	-0.1
	0.3nm,0.7s,baz=228,slow=1.1,SNR=2.6						

*IDC **16** 15:16:44.6±7.2, 37°.00N×72°.00E, h176km±59km, mb3.1/3, mb1 3.1/7, mb1mx2.9/28, mbtmp3.0/7, Error ellipse: s-maj=62.4km s-min=31.8km az=152.0*
*ISCJB **16** 15:16:45.4±0.6, 37°.22N±0°.04×71°.97E±0°.08, h189km±9km, mb3.3/3, Error ellipse: s-maj=10.9km s-min=4.9km az=155.4*
*NEIC **16** 15:16:46.4±0.6, 37°.21N×71°.99E, h183km±8km, mb4.3/12, Error ellipse: s-maj=9.2km s-min=5.0km az=61.0*
*NNC **16** 15:16:52.1±2.6, 37°.73N×71°.80E, h196km±24km, mb2.5, mpv3.6, Error ellipse: s-maj=24.8km s-min=14.3km az=9.0*

ISC 16 15:16:46.1±0.6, 37°.20N±0°.04×71°.96E±0°.08, h180km±9km, n53, σ0°87/61, mb3.3/3, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.56**	**223**	*e*Pn	**Pn**	**15 17 43.8**	**+2.1**
AML	**Almayashu**	**5.10**	**15**	P	**Pn**	**15 18 01.4**	**+0.2**
	SNR=52						
AML				P		15 18 01.4	
	SNR=52						
UCH	**Uchtor**	**5.39**	**21**	P	**Pn**	**15 18 05.7**	**+0.7**
	SNR=5.4						
UCH				P		15 18 05.7	
	SNR=5.4						
EKS2	**Erkin-Say**	**5.63**	**14**	P	**Pn**	**15 18 08.6**	**+0.5**
	SNR=12						
EKS2				P		15 18 08.6	
	SNR=12						
EKS2	**Erkin-Say**	**5.63**	**14**	*e*P	**Pn**	**15 18 08.3**	**+0.2**
	9.3nm,0.6s						
EKS2				*e*S	**Sn**	**15 19 05.8**	**-6.9**
THN	**Thein Dam**	**5.67**	**146**	*e*PKP	**Pn**	**15 18 08.0**	**-0.8**
THN				*e*S	**Sn**	**15 19 12.1**	**-1.7**
AAK	**Ala-Archa**	**5.76**	**19**	P	**Pn**	**15 18 10.5**	**+0.7**
	SNR=20						
AAK				P		15 18 10.5	
	SNR=20						
AAK	**Ala-Archa**	**5.76**	**19**	*e*P	**Pn**	**15 18 10.3**	**+0.4**
	58nm,0.5s						
KBK	**Karagaybulak**	**5.91**	**22**	P	**Pn**	**15 18 13.2**	**+1.4**
	SNR=6.0						
KBK				P		15 18 13.2	
	SNR=6.0						
KK31	**Karatay Array**	**6.00**	**350**	P	**Pn**	**15 18 12.6**	**-0.3**
	4.0nm,0.3s,baz=158,slow=10,SNR=138						
KK31				⇑S	**Sn**	**15 19 15.7**	**-5.7**
	3.5nm,0.2s,baz=306,slow=40,SNR=11						
KKAR	**Karatay Array**	**6.00**	**350**	*e*P	**Pn**	**15 18 12.6**	**-0.3**
	14nm,0.3s						
KKAR				*e*S	**Sn**	**15 19 15.3**	**-6.1**
CHMS	**Chumysh**	**6.17**	**19**	P	**Pn**	**15 18 15.2**	**0.0**
	SNR=7.2						
CHMS				P		15 18 15.2	
	SNR=7.2						
TKM2	**Tokmak 2**	**6.35**	**25**	⇑P	**Pn**	**15 18 18.1**	**+0.5**
	2.0nm,0.5s						
TKM2				⇑S	**Sn**	**15 19 28.1**	**-1.7**
	3.2nm,0.9s						
TKM2	**Tokmak 2**	**6.35**	**25**	*e*P	**Pn**	**15 18 17.6**	**0.0**
	2.3nm,0.4s						
USP	**Ospenovka**	**6.36**	**17**	P	**Pn**	**15 18 18.1**	**+0.4**
	SNR=6.2						
USP				P		15 18 18.1	
	SNR=6.2						
MKAR	**Makanchi Array**	**12.27**	**35**	P	**Pn**	**15 19 36.2**	**+1.4**
	0.0nm,0.3s,baz=227,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**12.27**	**35**	P	**Pn**	**15 19 36.2**	**+1.4**
DANN	**Dangsing**	**13.27**	**128**	*e*P	**Pn**	**15 19 47.0**	**-0.7**
	5.0nm,0.3s						
DANN	**Dangsing**	**13.27**	**128**	*e*P	**Pn**	**15 19 47.0**	**-0.7**
	5.0nm,0.3s						
KOLN	**Koldanda**	**13.59**	**130**	*e*P	**Pn**	**15 19 51.9**	**+0.3**
KOLN	**Koldanda**	**13.59**	**130**	*e*P	**Pn**	**15 19 51.9**	**+0.3**
GKN	**Gorkha**	**14.07**	**127**	*e*P	**Pn**	**15 19 57.4**	**-0.2**
	8.7nm,0.4s						
GKN				*e*S	**Sn**	**15 22 21.6**	**-13**
GKN	**Gorkha**	**14.07**	**127**	*e*P	**Pn**	**15 19 57.4**	**-0.2**
	8.7nm,0.4s						
GKN				*e*S	**Sn**	**15 22 21.6**	**-13**
KKN	**Kakani**	**14.63**	**126**	*e*P	**Pn**	**15 20 04.1**	**-0.5**
	4.2nm,0.4s						
KKN	**Kakani**	**14.63**	**126**	*e*P	**Pn**	**15 20 04.1**	**-0.5**
	4.2nm,0.4s						
PKI	**Pulchoki**	**14.86**	**126**	*e*P	**Pn**	**15 20 07.8**	**+0.4**
PKI	**Pulchoki**	**14.86**	**126**	*e*P	**Pn**	**15 20 07.8**	**+0.4**
AB31	**Akbulak array**	**14.87**	**328**	⇑P	**Pn**	**15 20 07.0**	**-0.4**
	1.0nm,0.5s,baz=135,slow=12,SNR=46						
AB31				S	**Sn**	**15 22 46.5**	**-6.6**
	0.2nm,0.2s,baz=12,slow=51,SNR=5.5						
ABKAR	**Akbulak array**	**14.87**	**328**	*e*P	**Pn**	**15 20 06.8**	**-0.6**
	1.6nm,0.4s						
GUN	**Gumba**	**14.94**	**124**	*e*P	**Pn**	**15 20 08.2**	**-0.2**
	4.4nm,0.3s						
GUN	**Gumba**	**14.94**	**124**	*e*P	**Pn**	**15 20 08.2**	**-0.2**
	4.4nm,0.3s						
JIRN	**Jiri**	**15.31**	**124**	*e*P	**Pn**	**15 20 13.4**	**+0.5**
	14nm,0.5s						
JIRN	**Jiri**	**15.31**	**124**	*e*P	**Pn**	**15 20 13.4**	**+0.5**
	14nm,0.5s						
VOSK	**Vostochnaya**	**15.54**	**358**	⇓P	**Pn**	**15 20 12.4**	**-3.0**
	1.5nm,1.0s						
BVA0	**Borovoye Array**	**15.86**	**357**	⇑P	**Pn**	**15 20 18.4**	**-1.0**
	0.2nm,0.9s,baz=166,slow=15,SNR=8.2						
BVAR	**Borovoye Array**	**15.86**	**357**	P	**Pn**	**15 20 19.4**	**0.0**
	0.3nm,0.3s,baz=164,slow=12,SNR=11						
BVAR	**Borovoye Array**	**15.86**	**357**	P	**Pn**	**15 20 19.4**	**0.0**
ZRNK	**Zerenda**	**15.88**	**353**	⇓P	**Pn**	**15 20 18.7**	**-1.0**
	1.4nm,0.7s						
RAMN	**Ramite**	**16.05**	**125**	*e*P	**Pn**	**15 20 22.8**	**+0.8**
	13nm,0.6s						
RAMN	**Ramite**	**16.05**	**125**	*e*P	**Pn**	**15 20 22.8**	**+0.8**
	13nm,0.6s						
TAPN	**Taplejung**	**16.53**	**122**	*e*P	**Pn**	**15 20 28.9**	**+1.2**
	2.8nm,0.3s						
TAPN	**Taplejung**	**16.53**	**122**	*e*P	**Pn**	**15 20 28.9**	**+1.2**
	2.8nm,0.3s						
AKTO	**Aktyubinsk**	**16.58**	**327**	⇓P	**Pn**	**15 20 28.0**	**-0.2**
	0.4nm,0.9s						
AKTO	**Aktyubinsk**	**16.58**	**327**	P	**Pn**	**15 20 28.5**	**+0.4**
	0.2nm,0.3s,baz=135,slow=17,SNR=6.4						
AKTO	**Aktyubinsk**	**16.58**	**327**	P	**Pn**	**15 20 28.5**	**+0.4**
ZALV	**Zalesovo Beam**	**18.96**	**24**	P	**P**	**15 20 54.0**	**+0.6**
	0.5nm,0.3s,baz=212,slow=9.9,SNR=8.5						
ZALV	**Zalesovo Beam**	**18.96**	**24**	P	**P**	**15 20 54.0**	**+0.6**
HFS	**Hagfors**	**43.00**	**321**	P	**P**	**15 24 27.9**	**+0.7**
	0.7nm,0.4s,mb3.7,baz=89,slow=15,SNR=4.2						
HFS	**Hagfors**	**43.00**	**321**	P	**P**	**15 24 27.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**66.51**	**269**	P	**P**	**15 27 15.8**	**-0.9**
	0.2nm,0.5s,mb3.2,baz=48,slow=7.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**66.51**	**269**	P	**P**	**15 27 15.8**	**-0.9**
YKA	**Yellowknife Ar**	**80.51**	**3**	P	**P**	**15 28 37.7**	**+0.2**
	0.3nm,0.6s,mb3.1,baz=348,slow=5.5,SNR=6.7						
YKA	**Yellowknife Ar**	**80.51**	**3**	P	**P**	**15 28 37.8**	**+0.2**

*ISCJB **16** 15:44:01.0±0.8, 22°.5S±0°.2×173°.61W±0°.10, h33km, mb4.2/6, Error ellipse: s-maj=33.7km s-min=13.2km az=179.4*
*IDC **16** 15:44:04.1±1.6, 22°.59S×173°.62W, h41km±9km, mb3.9/5, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, ML4.5/1, Error ellipse: s-maj=86.5km s-min=26.5km az=163.0*
*NEIC **16** 15:44:04.0±0.8, 22°.36S×173°.59W, mb4.4/1, Error ellipse: s-maj=31.7km s-min=13.3km az=178.0*

ISC 16 15:44:03.2±0.8, 22°.5S±0°.2×173°.62W±0°.10, h35km, (h45km±1.5km:pP-P), n19, σ0°69/15, mb4.2/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.15**	**300**	*e*P	**Pn**	**15 46 12.1**	**-0.8**
RAR	**Rarotonga**	**12.92**	**87**	P	**Pn**	**15 47 03.8**	**-0.6**
	2.6nm,0.3s,baz=283,slow=14,SNR=13						
RAR	**Rarotonga**	**12.92**	**87**	*e*P	**Pn**	**15 47 03.6**	**-0.8**
TBI	**Tubuai**	**22.26**	**97**	*e*LR	LR	15 54 03.6	
	56nm,29.0s						
PPT2	**Papeete2**	**23.09**	**82**	*e*LR	LR	15 54 35.3	
	32nm,21.8s						
CTA	**Charters Tower**	**37.39**	**266**	P	**P**	**15 51 13.2**	**+0.2**
	2.8nm,0.6s,mb4.3,baz=114,slow=8.2,SNR=4.0						
CTA				pP	pP	15 51 24.5	+1.3
	2.3nm,0.6s,baz=85,slow=12,SNR=1.9						
CTA	**Charters Tower**	**37.39**	**266**	P	**P**	**15 51 13.2**	**+0.2**
CTA				pP	pP	15 51 24.5	+1.3
STKA	**Stephens Creek**	**40.68**	**247**	pP	pP	15 51 54.5	+3.8
	1.3nm,0.7s,baz=95,slow=11,SNR=2.4						
STKA	**Stephens Creek**	**40.68**	**247**	pP	pP	15 51 54.5	+3.8
AS31	**Alice Springs**	**48.06**	**258**	*e*P	**P**	**15 52 40.2**	**+0.7**
ASAR	**Alice Springs**	**48.06**	**258**	P	**P**	**15 52 39.6**	**0.0**
	2.6nm,0.9s,mb4.3,baz=95,slow=6.8,SNR=23						
ASAR				pP	pP	15 52 52.0	+2.0
	1.6nm,0.7s,baz=101,slow=7.2,SNR=9.1						
ASAR	**Alice Springs**	**48.06**	**258**	P	**P**	**15 52 39.6**	**0.0**
ASAR				pP	pP	15 52 52.0	+2.0
WRAB	**Tennant Creek**	**48.38**	**263**	P	**P**	**15 52 41.5**	**-0.6**
	2.9nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**48.39**	**263**	P	**P**	**15 52 41.4**	**-0.7**
	2.8nm,0.9s,mb4.3,baz=100,slow=8.6,SNR=18						
WRA				pP	pP	15 52 53.4	+0.9
	2.4nm,0.6s,baz=100,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**48.39**	**263**	P	**P**	**15 52 41.4**	**-0.7**
WRA				pP	pP	15 52 53.4	+0.9
ILAR	**Eielson Array**	**89.42**	**11**	P	**P**	**15 56 56.8**	**+1.0**
	0.5nm,1.1s,mb3.8,baz=216,slow=4.5,SNR=4.6						
ILAR	**Eielson Array**	**89.42**	**11**	P	**P**	**15 56 56.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**94.62**	**288**	P	**P**	**15 57 21.9**	**+1.0**
	0.9nm,1.1s,mb4.1,baz=96,slow=5.5,SNR=3.4						
CMAR	**Chiang Mai Arr**	**94.62**	**288**	P	**P**	**15 57 21.9**	**+1.0**

GUC 16 15:47:24.1±0.5, 34°.26S×71°.76W, h39km±1km, MD3.5, ML2.7, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.42**	**44**	⇓*i*P	Pn	15 47 33.6	-0.1
LNV				*i* S	Sn	15 47 40.8	+0.4
CACH	**El Canelo**	**0.97**	**82**	⇓*i*P	Pn	15 47 42.5	+1.3
CACH				*i* S	Sn	15 47 56.7	+3.0
CHCH	**Chadas Angostu**	**0.97**	**71**	⇑*i*P	Pn	15 47 42.1	+0.9
CHCH				*i* S	Sn	15 47 55.3	+1.5
RCDM	**Rinconada Maip**	**1.10**	**46**	⇑*i*P	Pn	15 47 43.6	+0.6
RCDM				*i* S	Sn	15 47 58.2	+1.2
RCDM				AML	AML	15 47 59.5	
	comp=E,478nm,0.1s						
ANTU	**Antumapu**	**1.16**	**54**	⇓*i*P	Pn	15 47 44.9	+1.1
ANTU				*i* S	Sn	15 48 00.5	+2.0
ANTU				AML	AML	15 48 02.5	
	comp=E,332nm,0.5s						
CLCH	**Cerro Calan**	**1.33**	**50**	⇑*i*P	Pn	15 47 47.5	+1.3
CLCH				*i* S	Sn	15 48 05.4	+2.8
CLCH				AML	AML	15 48 06.6	
	comp=N,200nm,0.6s						
LMEL	**Las Melosas**	**1.35**	**73**	⇓*i*P	Pn	15 47 47.8	+1.3
LMEL				*i* S	Sn	15 48 06.0	+2.8
LMEL				AML	AML	15 48 08.8	
	comp=N,312nm,0.1s						
PEL	**Peldehue**	**1.43**	**39**	⇑*i*P	Pn	15 47 48.9	+1.5
PEL				*i* S	Sn	15 48 07.5	+2.5
PEL				AML	AML	15 48 14.1	
	comp=E,176nm,0.3s						
ROCH	**El Roble**	**1.43**	**26**	*i* P	Pn	15 47 48.0	+0.5
ROCH				*i* S	Sn	15 48 07.3	+2.3
ROCH				AML	AML	15 48 11.3	
	comp=N,108nm,0.4s						

IDC 16 16:02:41.1±6.5, 18°.96S×178°.16W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=279.7km s-min=38.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.68**	**261**	P	P	16 10 56.4	+0.3
	0.5nm,0.3s,baz=97,slow=7.3,SNR=61						
ASAR	**Alice Springs**	**44.74**	**255**	P	P	16 10 56.1	-0.4
	1.2nm,0.7s,baz=89,slow=8.6,SNR=34						
ILAR	**Eielson Array**	**86.85**	**13**	P	P	16 15 27.1	+0.1
	0.3nm,0.8s,baz=223,slow=5.5,SNR=4.6						

IDC 16 16:13:26.1±4.2, 14°.56S×69°.58W, h191km±74km, mb3.1/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=188.0km s-min=41.1km az=22.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.22**	**141**	P	Pn	16 14 07.2	+1.0
	8.2nm,0.3s,baz=318,slow=8.7,SNR=103						
LPAZ				S	Sn	16 14 39.0	+1.5
	2.6nm,0.3s,baz=180,slow=23,SNR=22						
TORD	**Torodi Ar. Bea**	**75.74

KHC *e*SG **Sg** **16 43 29.1 -0.3**
comp=Z,4.9nm,0.4s
CONA Conrad Observa 3.56 182 ⇑*i*Pn **Pn** **16 42 54.8 +0.5**
CONA ⇓*i*Sg **Sg** **16 43 52.4 +0.2**
comp=Z,7.4nm,0.5s
CONA Conrad Observa 3.56 182 Pn **Pn** **16 42 54.8 +0.5**
CONA Sg **Sg** **16 43 52.4 +0.2**
comp=Z,7.4nm,0.5s
MOA Molln 3.82 199 ⇑*i*Pn **Pn** **16 42 58.8 +0.8**
MOA ⇑*i*Sg **Sg** **16 44 01.8 +1.2**
comp=Z,3.5nm,0.3s
MOA Molln 3.82 199 Pn **Pn** **16 42 58.8 +0.9**
MOA Sg **Sg** **16 44 01.8 +1.2**
comp=Z,3.5nm,0.3s

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*ISCJB **16** 17:26:27.9±0.5, 11°.64S±0°.10×13°.38W±0°.09, h10km, mb4.3/19, MS4.1/21, Error ellipse: s-maj=15.5km s-min=11.0km az=150.1*
*IDC **16** 17:26:28.5±0.7, 11°.62S×13°.47W, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, MS4.0/21, Ms1 4.0/21, ms1mx4.0/27, Error ellipse: s-maj=27.9km s-min=17.6km az=126.0*
*NEIC **16** 17:26:29.4±0.6, 11°.63S×13°.41W, h10km, mb4.7/13, Error ellipse: s-maj=18.2km s-min=13.4km az=148.0*
*GCMT **16** 17:26:34.5±0.2, 11°.63S×13°.44W, h16km±1km, MW5.0, Moment Tensor Solution. s42,c50; s90,c127; Moment tensor: Scale 10^16Nm; Mrr-0.08±.12; Mθθ-1.61±.12; Mφφ1.69±.13; Mrθ0.92±.29; Mθφ3.40±.10; Mφr-1.10±.32; Best double couple: Mo4.00000×10^16 NP1:φs256.00000°, δ72.00000°, λ-8.00000°. NP2:φs348.00000°, δ82.00000°, λ-162.00000°. Principal axes: T 3.8700, Plg7.0000°, Azm121.0000°; N 0.3200, Plg70.0000°, Azm11.0000°; P -4.1900, Plg18.0000°, Azm213.0000°; Data Used: II IU IC G CN.*

ISC 16 17:26:29.8±0.5, 11°.64S±0°.10×13°.38W±0°.09, h10km, n48, σ1°38/33, mb4.3/19, MS4.1/21, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**20.07**	**25**	P	**P**	**17 31 02.7**	**-0.8**
	9.3nm,0.9s,baz=180,slow=10,SNR=7.0						
DBIC	**Dimbokro**	**20.07**	**25**	*e*P	**P**	**17 31 02.6**	**-0.9**
	28nm,1.4s						
RCBR	**Riachuelo**	**22.99**	**283**	*e*P	**P**	**17 31 34.4**	**-0.5**
	30nm,1.1s,mb4.6						
BBTS	**Babate**	**26.32**	**353**	LR	LR	17 41 07.4	
	comp=Z,457nm,18.2s,MS4.1,baz=137,slow=33						
MSKU	**Masuku**	**28.55**	**72**	LR	LR	17 41 59.8	
	comp=Z,188nm,18.2s,MS3.7,baz=70,slow=32						
TORD	**Torodi Ar. Bea**	**28.81**	**32**	P	**P**	**17 32 27.8**	**-0.5**
	1.4nm,0.6s,mb3.9,baz=213,slow=9.9,SNR=11						
TORD				LR	LR	17 42 05.0	
	comp=Z,324nm,19.5s,MS3.9,baz=285,slow=32						
TORD	**Torodi Ar. Bea**	**28.81**	**32**	P	**P**	**17 32 27.8**	**-0.5**
BOSA	**Boshof**	**39.80**	**121**	P	**P**	**17 34 03.0**	**-0.2**
	2.7nm,0.8s,mb4.0,baz=328,slow=8.7,SNR=4.5						
BOSA				LR	LR	17 47 27.8	
	comp=Z,420nm,20.9s,MS4.3,baz=324,slow=32						
BOSA	**Boshof**	**39.80**	**121**	P	**P**	**17 34 03.0**	**-0.2**
LSZ	**Lusaka**	**40.55**	**100**	*e*P	**P**	**17 34 07.6**	**-2.1**
	4.1nm,1.0s,mb4.0						
CPUP	**Villa Florida**	**43.83**	**244**	P	**P**	**17 34 35.8**	**-0.5**
	0.3nm,0.3s,mb3.5,baz=111,slow=2.7,SNR=2.2						
CPUP				LR	LR	17 49 47.2	
	comp=Z,314nm,18.2s,MS4.3,baz=70,slow=32						
CPUP	**Villa Florida**	**43.83**	**244**	*e*P	**P**	**17 34 35.4**	**-0.9**
	34nm,1.1s,mb5.0						
SAML	**Samuel**	**49.03**	**268**	*e*P	**P**	**17 35 18.2**	**+0.9**
	8.2nm,1.0s,mb4.7						
KEST	**Kesra**	**51.78**	**24**	LR	LR	17 57 42.7	
	comp=Z,124nm,18.2s,MS4.0,baz=183,slow=36						
LPAZ	**La Paz**	**53.21**	**258**	P	**P**	**17 35 49.3**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=81,slow=14,SNR=6.5						
LPAZ	**La Paz**	**53.21**	**258**	*e*P	**P**	**17 35 47.5**	**-1.3**
	8.5nm,1.3s,mb4.5						
LCO	**Las Campanas**	**55.94**	**243**	*e*P	**P**	**17 36 07.4**	**-1.1**
	7.9nm,0.8s,mb4.8						
PLCA	**Paso Flores**	**57.73**	**229**	LR	LR	17 55 34.6	
	comp=Z,95nm,20.7s,MS3.9,baz=83,slow=30						
SNAA	**Sanae**	**60.34**	**176**	P	**P**	**17 36 39.2**	**+0.7**
	1.7nm,1.0s,mb4.0,baz=284,slow=12,SNR=3.4						
SNAA	**Sanae**	**60.34**	**176**	*e*P	**P**	**17 36 38.3**	**-0.2**
	15nm,1.1s,mb4.9						
LRS	**Lares**	**60.55**	**299**	*e*P	**P**	**17 36 45.1**	**+4.2**
ROSC	**El Rosal**	**62.79**	**282**	LR	LR	18 00 47.2	
	comp=Z,191nm,20.9s,MS4.2,baz=34,slow=33						
MMAI	**Mount Meron Ar**	**64.30**	**45**	LR	LR	18 07 39.8	
	comp=Z,38nm,18.1s,MS3.6,baz=205,slow=38						
GERES	**GERESS Array B**	**64.80**	**19**	P	**P**	**17 37 09.0**	**+0.4**
	0.2nm,0.4s,mb3.5,baz=196,slow=8.3,SNR=3.7						
GERES				LR	LR	18 03 24.6	
	comp=Z,120nm,21.5s,MS4.1,baz=230,slow=34						
GERES	**GERESS Array B**	**64.80**	**19**	P	**P**	**17 37 09.0**	**+0.4**
ASF	**Jabal al Asfar**	**64.87**	**46**	LR	LR	18 03 38.4	
	comp=Z,109nm,18.9s,MS4.1,baz=310,slow=34						
OTAV	**Otavalo**	**65.66**	**276**	P	**P**	**17 37 17.6**	**+2.6**
	6.0nm,1.0s,mb4.6						
BRTR	**Keskin Array B**	**67.20**	**38**	P	**P**	**17 37 26.3**	**+2.1**
	1.5nm,1.1s,mb4.0,baz=201,slow=5.9,SNR=5.3						
BRTR				LR	LR	18 08 31.8	
	comp=Z,44nm,18.9s,MS3.7,baz=337,slow=38						
BRTR	**Keskin Array B**	**67.20**	**38**	P	**P**	**17 37 26.3**	**+2.1**
KIEV	**Kiev**	**72.30**	**27**	*e*P	**P**	**17 37 57.9**	**+2.5**
	9.5nm,1.0s,mb4.7						
AKASG	**Malin Array Be**	**72.31**	**27**	P	**P**	**17 37 57.5**	**+2.0**
	2.5nm,0.9s,mb4.1,baz=225,slow=7.7,SNR=5.2						
AKASG				LR	LR	18 11 36.6	
	comp=Z,89nm,19.5s,MS4.0,baz=265,slow=37						
AKASG	**Malin Array Be**	**72.31**	**27**	P	**P**	**17 37 57.5**	**+2.0**
AKBB	**Malin Array Si**	**72.31**	**27**	*e*P	**P**	**17 37 52.9**	**-2.6**
MAW	**Mawson**	**74.08**	**157**	LR	LR	18 02 40.2	
	comp=Z,142nm,19.1s,MS4.3,baz=132,slow=29						
GNI	**Garni**	**74.47**	**42**	LR	LR	18 10 49.4	
	comp=Z,57nm,20.4s,MS3.9,baz=94,slow=36						
NOA	**NORSAR Array B**	**75.02**	**12**	LR	LR	18 09 56.9	
	comp=Z,123nm,18.1s,MS4.2,baz=340,slow=35						
QSPA	**South Pole Qui**	**78.50**	**180**	*e*P	**P**	**17 38 32.6**	**+1.9**
	4.5nm,0.8s,mb4.5						
SSPA	**Standing Stone**	**79.00**	**316**	*e*P	**P**	**17 38 41.6**	**+7.6**
	31nm,0.9s,mb5.2						
FINES	**FINESS Array B**	**79.18**	**18**	P	**P**	**17 38 34.2**	**-0.4**
	2.9nm,0.9s,mb4.2,baz=224,slow=3.8,SNR=2.5						
FINES				LR	LR	18 14 55.4	
	comp=Z,161nm,18.5s,MS4.4,baz=170,slow=37						
FINES	**FINESS Array B**	**79.18**	**18**	P	**P**	**17 38 34.2**	**-0.4**
SCHQ	**Schefferville**	**79.98**	**332**	LR	LR	18 09 02.8	
	comp=Z,98nm,18.6s,MS4.2,baz=42,slow=32						
WVT	**Waverly**	**84.55**	**308**	*e*P	**P**	**17 39 02.2**	**-1.2**
	5.5nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**85.38**	**13**	LR	LR	18 15 59.4	
	comp=Z,162nm,18.3s,MS4.5,baz=218,slow=35						
ULM	**Lac du Bonnet**	**94.10**	**320**	LR	LR	18 14 38.0	
	comp=Z,152nm,19.2s,MS4.5,baz=31,slow=31						
TXAR	**Lajitas Array**	**95.85**	**299**	P	**P**	**17 39 55.9**	**-1.1**
	0.3nm,0.8s,mb3.8,baz=123,slow=7.6,SNR=3.1						
TXAR				LR	LR	18 20 06.3	
	comp=Z,51nm,18.8s,MS4.0,baz=340,slow=34						
TXAR	**Lajitas Array**	**95.85**	**299**	P	**P**	**17 39 55.9**	**-1.1**
ASAR	**Alice Springs**	**132.51**	**138**	PKP	PKPdf	17 45 47.3	+1.8
	0.3nm,0.9s,baz=194,slow=2.7,SNR=2.9						
ASAR	**Alice Springs**	**132.51**	**138**	PKP	PKPdf	17 45 47.3	+1.8

IDC 16 17:29:46.5±3.0, 50°.87N×174°.70E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.2/27, mbtmp3.2/4, ML2.8/2, Error ellipse: s-maj=47.9km s-min=20.6km az=36.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**2.23**	**335**	Pn	Pn	17 30 23.5	-1.2
	4.3nm,0.3s,baz=93,slow=12,SNR=14						
FX1				Sn	Sn	17 30 49.6	-3.3
	61nm,0.3s,baz=174,slow=23,SNR=42						
PETK	**Petropavlovsk-**	**10.73**	**289**	Pn	Pn	17 32 20.9	-0.2
	0.3nm,0.3s,baz=103,slow=19,SNR=5.8						
PETK				Sn	Sn	17 34 17.2	-4.6
	0.4nm,0.3s,baz=107,slow=37,SNR=5.9						
ILAR	**Eielson Array**	**24.25**	**40**	P	P	17 35 03.8	-0.9
	0.2nm,0.5s,baz=253,slow=6.5,SNR=5.6						
YKA	**Yellowknife Ar**	**38.52**	**45**	P	P	17 37 10.0	+0.1
	0.3nm,0.6s,baz=291,slow=8.6,SNR=4.8						

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*ISCJB **16** 18:10:10.9±1.0, 18°.7S±0°.3×177°.5W±0°.2, h607km±22km, mb3.5/5, Error ellipse: s-maj=53.9km s-min=16.9km az=161.9*
*NEIC **16** 18:10:11.1±0.8, 18°.61S×177°.39W, h603km±12km, mb4.0/1, Error ellipse: s-maj=36.6km s-min=16.2km az=158.0*
*IDC **16** 18:10:12.6±1.7, 17°.88S×178°.08W, h574km±21km, mb2.8/4, mb1 3.1/5, mb1mx2.9/17, mbtmp2.9/5, Error ellipse: s-maj=92.9km s-min=16.1km az=154.0*

ISC 16 18:10:11.6±1.0, 18°.6S±0°.3×177°.5W±0°.2, h603km±21km, n14, σ0°47/16, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.35**	**281**	*e*Pn	**P**	**18 11 39.9**	**+0.1**
AFI	**Afiamalu**	**7.19**	**50**	P	**P**	**18 12 02.7**	**-0.9**
	6.3nm,0.3s,baz=268,slow=3.9,SNR=6.6						
AFI				S	**S**	**18 13 35.5**	**+0.4**
	2.1nm,0.3s,baz=18,slow=20,SNR=2.9						
AFI	**Afiamalu**	**7.19**	**50**	P	**P**	**18 12 02.7**	**-0.9**
AFI				S	**S**	**18 13 35.5**	**+0.4**
STKA	**Stephens Creek**	**39.09**	**242**	P	**P**	**18 16 48.4**	**-0.2**
	1.0nm,0.6s,mb3.5,baz=68,slow=5.4,SNR=3.5						
STKA	**Stephens Creek**	**39.09**	**242**	P	**P**	**18 16 48.4**	**-0.2**
WRA	**Warramunga Arr**	**45.39**	**260**	P	**P**	**18 17 38.3**	**+0.3**
	0.5nm,0.3s,mb3.5,baz=97,slow=7.6,SNR=36						
WRA	**Warramunga Arr**	**45.39**	**260**	P	**P**	**18 17 38.3**	**+0.3**
ASAR	**Alice Springs**	**45.47**	**255**	P	**P**	**18 17 39.0**	**+0.5**
	0.4nm,0.4s,mb3.3,baz=88,slow=8.6,SNR=18						
ASAR				PcP	PcP	18 19 06.8	+2.4
	0.4nm,0.6s,baz=102,slow=5.1,SNR=7.0						
ASAR				S	**S**	**18 23 36.6**	**-0.8**
	0.6nm,0.7s,baz=88,slow=17,SNR=6.6						
ASAR	**Alice Springs**	**45.47**	**255**	P	**P**	**18 17 39.0**	**+0.5**
ASAR				PcP	PcP	18 19 06.8	+2.4
ASAR				S	**S**	**18 23 36.6**	**-0.8**
QSPA	**South Pole Qui**	**71.45**	**180**	*e*P	**P**	**18 20 31.8**	**+0.1**
	5.9nm,1.1s,mb4.0						
TXAR	**Lajitas Array**	**85.61**	**57**	P	**P**	**18 21 53.7**	**+6.0**
	0.4nm,0.7s,mb3.2,baz=207,slow=8.1,SNR=5.2						
TXAR	**Lajitas Array**	**85.61**	**57**	P	**P**	**18 21 53.7**	**+6.0**
GERES	**GERESS Array B**	**148.51**	**346**	PKPbc	PKPbc	18 28 51.0	-0.3
	0.3nm,0.5s,baz=305,slow=5.9,SNR=3.1						
GERES	**GERESS Array B**	**148.51**	**346**	PKPbc	PKPbc	18 28 51.0	-0.3

IDC 16 18:42:20.8±2.9, 9°.78S×152°.68E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.3/15, mbtmp3.3/4, ML1.7/1, Error ellipse: s-maj=58.7km s-min=38.0km az=131.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**273**	Pn	Pn	18 43 43.2	-0.2
	0.2nm,0.3s,baz=263,slow=8.1,SNR=2.0						
PMG				Sn	Sn	18 44 48.4	+1.5
	0.2nm,0.3s,baz=94,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**20.38**	**238**	P	P	18 46 58.4	-0.9
	0.7nm,0.7s,baz=63,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**22.63**	**230**	P	P	18 47 24.1	+0.6
	0.3nm,0.8s,baz=59,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**83.99**	**319**	P	P	18 54 53.4	+0.3
	0.5nm,0.8s,baz=101,slow=6.0,SNR=3.3						

MAN 16 19:08:43, 7°.04N×123°.36E, h1km, mb4.7, ML3.6, MS3.6, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.81**	**2**	*e*P	Pg	19 08 59.6	+1.1
PAGZ				*e*S	Sg	19 09 05.6	-3.4
CTBH	**Cotabato--PC H**	**0.90**	**78**	⇑*i*P	Pg	19 09 01.5	+1.2
CTBH				*i* S	Sg	19 09 13.5	+1.6
IPIL	**Ipil**	**1.08**	**314**	*e*P	Pg	19 09 05.1	+1.4
IPIL				*e*S	Sg	19 09 14.9	-2.9
ZMPH	**Zamboanga City**	**1.29**	**266**	⇑*i*P	Pg	19 09 08.9	+1.1
ZMPH				*i* S	Sg	19 09 26.8	+2.3
BUKP	**Musuan**	**1.88**	**64**	*e*P	Pn	19 09 17.9	+1.5
BUKP				*e*S	Sn	19 09 35.2	-5.6
CGP	**Cagayan de Oro**	**1.93**	**43**	⇓*e*P	Pn	19 09 17.3	+0.3
CGP				*i* S	Sn	19 09 40.7	-1.3
SNPH	**Sibulan**	**2.29**	**357**	⇑*e*P	Pn	19 09 24.9	+2.9
SNPH				*e*S	Sn	19 09 53.0	+2.1

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*ISCJB **16** 19:09:55.5±0.3, 23°.46N±0°.02×121°.73E±0°.02, h33km±15km, Error ellipse: s-maj=3.8km s-min=2.7km az=139.3*
*TAP **16** 19:09:55.3, 23°.49N×121°.64E, h49km, ML3.3, C*
*JMA **16** 19:09:56.5±0.4, 23°.44N×121°.84E, h83km, M2.4*

ISC 16 19:09:55.7±0.4, 23°.47N±0°.02×121°.72E±0°.02, h32km±3km, n43, σ0°79/78, 4C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.36**	**276**	⇑*i*P	**Pb**	**19 10 04.2**	**0.0**
	baz=272						
EHY				S	**Sb**	**19 10 10.3**	**+0.3**
	baz=272						
TWF1	**Yuli**	**0.40**	**254**	P	**Pb**	**19 10 04.6**	**-0.1**
	baz=255						
TWF1				S	**Sb**	**19 10 11.4**	**+0.5**
	baz=255						
ESL	**Shilin**	**0.43**	**323**	⇑*i*P	**Pb**	**19 10 04.8**	**-0.4**
	baz=326						
ESL				S	**Sb**	**19 10 11.9**	**+0.1**
	baz=326						
CHKT	**Chengkung**	**0.49**	**222**	*e*P	**Pb**	**19 10 06.3**	**+0.3**
	baz=205						
CHKT				S	**Sb**	**19 10 13.7**	**+0.6**
	baz=205						
HWA	**Hwalien**	**0.52**	**349**	*e*P	**Pb**	**19 10 06.6**	**+0.1**
	baz=1.0						
TWD	**Chiawan**	**0.62**	**350**	P	**Pb**	**19 10 07.6**	**-0.6**
	baz=6.0						
ELDTW	**Lidau**	**0.70**	**247**	P	**Pn**	**19 10 08.1**	**-1.2**
	baz=236						
ELDTW				S	**Sb**	**19 10 17.9**	**-0.9**
	baz=236						
WHF	**Hehuan Shan**	**0.79**	**329**	⇓*i*P	**Pn**	**19 10 09.8**	**-0.8**
	baz=334						
SMLT	**Sun Moon Lake**	**0.86**	**299**	*i* P	**Pn**	**19 10 10.9**	**-0.5**
	baz=301						
SMLT				*e*S	**Sn**	**19 10 22.7**	**-0.2**
	baz=301						
TWG	**Pinlang**	**0.87**	**223**	P	**Pn**	**19 10 10.5**	**-1.2**
	baz=215						
TWG				S	**Sn**	**19 10 22.2**	**-1.2**
	baz=215						
TYC	**Yuchr**	**0.90**	**299**	⇑*i*P	**Pn**	**19 10 11.5**	**-0.6**
	baz=301						
TYC				S	**Sn**	**19 10 23.4**	**-0.6**
	baz=301						
TWT	**Tachien**	**0.93**	**328**	P	**Pn**	**19 10 12.2**	**-0.3**
	baz=332						
TWT				S	**Sn**	**19 10 23.4**	**-1.2**
	baz=332						
STYT	**Tauyuan**	**0.93**	**251**	P	**Pn**	**19 10 12.2**	**-0.4**
	baz=243						
STYT				S	**Sn**	**19 10 24.5**	**-0.3**
	baz=243						
ENA	**Nanau**	**0.96**	**1**	*e*P	**Pn**	**19 10 12.3**	**-0.6**
	baz=18						
ENA				*e*S	**Sn**	**19 10 24.9**	**-0.6**
	baz=18						
CHN5	**Tsauling**	**0.96**	**278**	⇑*i*P	**Pn**	**19 10 12.7**	**-0.2**
	baz=276						
CHN5				*e*S	**Sn**	**19 10 25.6**	**+0.1**
	baz=276						
NNS	**Nan Shan**	**1.02**	**342**	P	**Pn**	**19 10 13.2**	**-0.6**
	baz=355						
NNS				*e*S	**Sn**	**19 10 26.3**	**-0.6**
	baz=355						
WNT	**Mingjian**	**1.03**	**294**	*e*P	**Pn**	**19 10 14.1**	**+0.2**
	baz=294						
WNT				*e*S	**Sn**	**19 10 27.9**	**+0.6**
	baz=294						
WTP	**Ta-pu**	**1.04**	**258**	⇓*i*P	**Pn**	**19 10 14.1**	**+0.1**
	baz=254						
WTP				*e*S	**Sn**	**19 10 27.5**	**+0.2**
	baz=254						
CHN4	**Tsaushan**	**1.04**	**264**	P	**Pn**	**19 10 14.0**	**0.0**
	baz=261						
CHN4				*e*S	**Sn**	**19 10 28.5**	**+1.1**
	baz=261						
WGK	**Gukeng**	**1.08**	**282**	*e*P	**Pn**	**19 10 14.4**	**-0.1**
	baz=281						
WGK				*e*S	**Sn**	**19 10 28.8**	**+0.3**
	baz=281						
SGST	**Jiashian**	**1.11**	**250**	P	**Pn**	**19 10 15.6**	**+0.6**
	baz=246						
SGST				*e*S	**Sn**	**19 10 30.4**	**+1.3**
	baz=246						
ECL	**Taimali**	**1.11**	**219**	*e*P	**Pn**	**19 10 13.5**	**-1.6**
	baz=203						
ECL				*e*S	**Sn**	**19 10 27.2**	**-2.1**
	baz=203						
CHN1	**Nanshi**	**1.13**	**256**	P	**Pn**	**19 10 15.3**	**+0.1**
	baz=252						
CHN1				S	**Sn**	**19 10 30.3**	**+0.7**
	baz=252						
CHN2	**Minshiung**	**1.14**	**274**	*e*P	**Pn**	**19 10 15.6**	**+0.2**
	baz=283						
CHN2				*e*S	**Sn**	**19 10 30.7**	**+0.7**
	baz=283						
TWC	**Suao**	**1.15**	**6**	*e*P	**Pn**	**19 10 16.2**	**+0.8**
	baz=14						
TWC				S	**Sn**	**19 10 29.6**	**-0.4**
	baz=14						
TCU	**Taichung**	**1.17**	**306**	P	**Pn**	**19 10 16.1**	**+0.3**
	baz=307						
TCU				*e*S	**Sn**	**19 10 30.9**	**+0.2**
	baz=307						
ENTT	**Nioudou**	**1.18**	**353**	P	**Pn**	**19 10 15.2**	**-0.8**
	baz=360						
SSD	**Sandimen**	**1.23**	**235**	P	**Pn**	**19 10 16.8**	**+0.2**
	baz=228						
SSD				*e*S	**Sn**	**19 10 33.6**	**+1.5**
	baz=228						
NSK	**Sanguang**	**1.25**	**345**	P	**Pn**	**19 10 16.6**	**-0.3**
NSK				S	**Sn**	**19 10 31.6**	**-1.0**
TWE	**Neicheng**	**1.25**	**358**	*e*P	**Pn**	**19 10 16.5**	**-0.5**
	baz=357						
NSY	**Sanyi**	**1.29**	**317**	*e*P	**Pn**	**19 10 16.9**	**-0.5**
	baz=320						
NSY				*e*S	**Sn**	**19 10 34.7**	**+1.1**
	baz=320						
NSTT	**Nanjuang**	**1.33**	**331**	*e*P	**Pn**	**19 10 18.3**	**+0.2**
	baz=323						
NSTT				*e*S	**Sn**	**19 10 34.8**	**+0.2**
	baz=323						
EAST	**Anshuo**	**1.34**	**217**	*e*P	**Pn**	**19 10 17.7**	**-0.4**
	baz=204						
SGLT	**Jiouru**	**1.35**	**237**	*e*P	**Pn**	**19 10 19.7**	**+1.4**
	baz=221						
SGLT				*e*S	**Sn**	**19 10 38.6**	**+3.6**
	baz=221						
TWM1	**Shoushan**	**1.35**	**242**	*e*P	**Pn**	**19 10 20.0**	**+1.7**
	baz=238						
TWM1				*e*S	**Sn**	**19 10 38.7**	**+3.5**
	baz=238						
LAY	**Lan-yu**	**1.43**	**186**	*e*P	**Pn**	**19 10 18.2**	**-1.2**
	baz=174						
LAY				*e*S	**Sn**	**19 10 35.7**	**-1.3**
	baz=174						
TWA	**Mucha**	**1.51**	**355**	*e*P	**Pn**	**19 10 21.9**	**+1.3**
	baz=3.0						
YOJ	**Yonaguni jima**	**1.54**	**50**	P	**Pn**	**19 10 22.2**	**+1.2**
YOJ				S	**Sn**	**19 10 40.7**	**+0.8**
HATJ	**Hateruma jima**	**2.00**	**72**	S	**Sn**	**19 10 51.4**	**+0.2**
IRIF	**Iriomote-Funau**	**2.04**	**64**	P	**Pn**	**19 10 28.1**	**+0.4**
IRIF				S	**Sn**	**19 10 52.7**	**+0.6**
JKRS	**Kuro-shima**	**2.24**	**69**	P	**Pn**	**19 10 31.0**	**+0.5**
JKRS				S	**Sn**	**19 10 57.9**	**+0.9**
JIJ	**Ishigaki jima**	**2.39**	**68**	P	**Pn**	**19 10 32.4**	**-0.3**
JIJ				S	**Sn**	**19 11 00.2**	**-0.7**
JTJ	**Tarama**	**2.97**	**66**	P	**Pn**	**19 10 42.0**	**+1.4**
JTJ				S	**Sn**	**19 11 15.1**	**0.0**

IDC 16 19:28:11.9±1.9, 7°.92S×124°.18E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.2/15, mbtmp3.3/3, ML3.4/2, MS3.2/1, Ms1 3.1/1, ms1mx2.5/13, Error ellipse: s-maj=196.5km s-min=31.0km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.48**	**142**	Pn	Pn	19 31 52.7	+0.9
	0.2nm,0.3s,baz=316,slow=13,SNR=14						
WRA				Sn	Sn	19 34 31.6	-13
	0.3nm,0.3s,baz=309,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**18.23**	**150**	P	Pn	19 32 25.9	-0.5
	0.1nm,0.3s,baz=324,slow=11,SNR=8.6						
ASAR				S	Sn	19 35 32.5	-18
	0.0nm,0.3s,baz=318,slow=22,SNR=2.9						
STKA	**Stephens Creek**	**28.83**	**148**	LR	LR	19 45 17.6	
	comp=Z,47nm,19.7s,baz=205,slow=36						
MKAR	**Makanchi Array**	**65.97**	**330**	P	P	19 39 00.2	+0.1
	0.2nm,0.5s,baz=142,slow=8.1,SNR=5.1						

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*ISCJB **16** 19:33:44.9±4.9, 19°.82N±0°.07×121°.45E±0°.10, h12km±32km, mb3.7/11, Error ellipse: s-maj=15.3km s-min=12.1km az=9.0*
*NEIC **16** 19:33:49.8±2.9, 19°.85N×121°.47E, h33km±22km, mb4.1/1, Error ellipse: s-maj=10.5km s-min=8.4km az=101.0*
*IDC **16** 19:33:51.6±3.5, 19°.88N×121°.52E, h49km±36km, mb3.5/10, mb1 3.7/12, mb1mx3.6/22, mbtmp3.6/12, ML3.8/2, Error ellipse: s-maj=24.7km s-min=14.7km az=73.0*

ISC 16 19:33:49.6±3.6, 19°.86N±0°.07×121°.47E±0°.10, h32km±28km, n29, σ0°69/29, mb3.7/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**4.30**	**2**	*e*Pn	**Pn**	**19 34 52.0**	**-0.8**
YHNB	**Yeheng**	**4.79**	**359**	*e*Pn	**Pn**	**19 35 00.3**	**+0.7**
JOW	**Kunigami**	**9.34**	**41**	P	**Pn**	**19 36 02.7**	**+0.6**
	2.1nm,0.3s,baz=168,slow=28,SNR=12						
JOW	**Kunigami**	**9.34**	**41**	P	**Pn**	**19 36 02.7**	**+0.6**
QIZ	**Qiongzhong**	**11.00**	**268**	Pn	**Pn**	**19 36 24.0**	**-0.8**
KSAR	**Wonju Array Be**	**18.40**	**16**	P	**Pn**	**19 38 02.1**	**-0.1**
KSRS	**Korea Array**	**18.42**	**16**	P	**Pn**	**19 38 02.1**	**-0.4**
	0.3nm,0.3s,baz=196,slow=11,SNR=3.8						
CMAR	**Chiang Mai Arr**	**21.32**	**270**	P	**P**	**19 38

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.81**	**30**	*e*Pn	**Pn**	**19 44 41.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.14**	**4**	P	**Pn**	**19 47 27.2**	**-0.3**
0.1nm,0.3s,baz=193,slow=11,SNR=8.7							
CMAR	**Chiang Mai Arr**	**18.14**	**4**	P	**Pn**	**19 47 27.2**	**-0.3**
WRA	**Warramunga Arr**	**41.11**	**121**	P	**P**	**19 50 59.2**	**0.0**
0.2nm,0.6s,mb2.9,baz=303,slow=8.8,SNR=5.4							
WRA	**Warramunga Arr**	**41.11**	**121**	P	**P**	**19 50 59.2**	**0.0**
ASAR	**Alice Springs**	**42.42**	**127**	P	**P**	**19 51 10.8**	**+0.9**
0.4nm,0.8s,mb3.1,baz=319,slow=9.3,SNR=3.1							
ASAR	**Alice Springs**	**42.42**	**127**	P	**P**	**19 51 10.8**	**+0.9**
SONM	**Songino Array**	**48.00**	**8**	P	**P**	**19 51 55.0**	**+1.3**
0.2nm,0.6s,mb3.3,baz=165,slow=6.0,SNR=2.7							
SONM	**Songino Array**	**48.00**	**8**	P	**P**	**19 51 55.0**	**+1.3**
MKAR	**Makanchi Array**	**48.28**	**346**	P	**P**	**19 51 56.6**	**+0.7**
0.5nm,0.7s,mb3.7,baz=157,slow=7.9,SNR=4.0							
MKAR	**Makanchi Array**	**48.28**	**346**	P	**P**	**19 51 56.6**	**+0.7**
PMG	**Port Moresby**	**50.16**	**102**	*e*P	**P**	**19 52 11.5**	**+0.6**
11nm,1.0s							
STKA	**Stephens Creek**	**52.35**	**132**	*e*P	**P**	**19 52 24.4**	**-2.6**
0.4nm,0.9s,mb3.4							
KURK	**Kurchatov**	**52.84**	**345**	P	**P**	**19 52 30.1**	**-0.2**
0.2nm,0.8s,mb3.1,baz=169,slow=6.9,SNR=4.4							
KURK	**Kurchatov**	**52.84**	**345**	P	**P**	**19 52 30.1**	**-0.2**
ZALV	**Zalesovo Beam**	**54.57**	**351**	P	**P**	**19 52 43.4**	**+0.5**
0.6nm,0.5s,mb3.9,baz=168,slow=6.2,SNR=5.3							
ZALV	**Zalesovo Beam**	**54.57**	**351**	P	**P**	**19 52 43.4**	**+0.5**
BVAR	**Borovoye Array**	**57.31**	**341**	P	**P**	**19 53 02.1**	**-0.4**
0.6nm,0.7s,mb3.8,baz=144,slow=11,SNR=3.9							
BVAR	**Borovoye Array**	**57.31**	**341**	P	**P**	**19 53 02.1**	**-0.4**
ABKAR	**Akbulak array**	**58.59**	**332**	P	**P**	**19 53 10.7**	**-0.8**
2.8nm,1.4s,mb4.1							

NEIC ***16*** *19:50:43.1, 16°.54N×98°.15W, h10km, MD3.9(MEX), After MEX.*

MEX 16 19:50:43.4±1.0, 16°.53N×98°.11W, h11km±14km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**186**	*i*P	Pg	19 50 45.5	-1.2
PNIG				*i*S	Sg	19 50 49.0	0.0
PNIG	**Pinotepa**	**0.14**	**186**	*i*P	Pg	19 50 45.5	-1.2
PNIG				*i*S	Sg	19 50 49.0	0.0
UTMO	**Huajuapan**	**1.32**	**13**	*e*P	Pn	19 51 03.9	-4.0
UTMO				*i*S	Sb	19 51 21.2	-4.1
UTMO	**Huajuapan**	**1.32**	**13**	*e*P	Pn	19 51 03.9	-4.0
UTMO				*i*S	Sb	19 51 21.2	-4.1
VHO	**Vista Hermosa**	**1.43**	**68**	*e*P	Pn	19 51 05.6	-3.6
VHO				*i*S	Sn	19 51 24.9	-3.1
VHO	**Vista Hermosa**	**1.43**	**68**	*e*P	Pn	19 51 05.6	-3.6
VHO				*i*S	Sn	19 51 23.8	-4.2
MEIG	**Mezcala**	**2.00**	**314**	*e*P	Pn	19 51 14.8	-2.3
MEIG				*i*S	Sn	19 51 38.3	-3.9
MEIG	**Mezcala**	**2.00**	**314**	*e*P	Pn	19 51 14.8	-2.3
MEIG				*i*S	Sn	19 51 38.3	-3.9
HUIG	**Huatulco**	**2.07**	**111**	*i*P	Pn	19 51 14.9	-3.2
HUIG				*i*S	Sn	19 51 40.2	-3.6
HUIG	**Huatulco**	**2.07**	**111**	*i*P	Pn	19 51 14.9	-3.2
HUIG				*i*S	Sn	19 51 40.2	-3.6
CAIG	**El Cayaco**	**2.13**	**284**	*e*P	Pn	19 51 15.7	-3.2
CAIG				*i*S	Sn	19 51 38.4	-7.0
CAIG	**El Cayaco**	**2.13**	**284**	*e*P	Pn	19 51 15.7	-3.2
CAIG				*i*S	Sn	19 51 38.0	-7.4
CMIG	**Matias Romero**	**3.14**	**79**	*e*P	Pn	19 51 30.5	-2.3
CMIG				*i*S	Sn	19 52 08.2	-2.1
CMIG	**Matias Romero**	**3.14**	**79**	*e*P	Pn	19 51 30.5	-2.3
CMIG				*i*S	Sn	19 52 06.8	-3.5

IDC ***16*** *20:13:46.3±1.0, 0°.15S×125°.50E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/18, mbtmp3.5/6, Error ellipse: s-maj=136.9km s-min=17.3km az=65.0*

ISCJB ***16*** *20:13:49.0±0.8, 0°.1S±0°.3×125°.7E±0°.6, h33km, mb3.6/7, Error ellipse: s-maj=95.6km s-min=11.2km az=153.9*

NEIC ***16*** *20:13:49.2±0.7, 0°.09S×125°.60E, h20km, mb4.2/1, Error ellipse: s-maj=88.8km s-min=10.1km az=64.0*

ISC 16 20:13:51.4±0.8, 0°.1S±0°.3×125°.7E±0°.6, h35km, n17, σ0§88/17, mb3.6/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.49**	**157**	P	**P**	**20 18 35.8**	**-1.4**
0.5nm,0.5s,mb3.1,baz=336,slow=11,SNR=9.5							
WRA	**Warramunga Arr**	**21.49**	**157**	P	**P**	**20 18 35.8**	**-1.4**
WB2	**Warramunga Arr**	**21.49**	**157**	*e*P	**P**	**20 18 37.9**	**+0.7**
ASAR	**Alice Springs**	**24.77**	**162**	P	**P**	**20 19 10.0**	**+0.1**
0.2nm,0.5s,mb3.0,baz=338,slow=8.3,SNR=3.3							
ASAR	**Alice Springs**	**24.77**	**162**	P	**P**	**20 19 10.0**	**+0.1**
STKA	**Stephens Creek**	**35.03**	**156**	P	**P**	**20 20 41.4**	**+0.6**
0.6nm,0.4s,mb3.9,baz=332,slow=15,SNR=3.8							
STKA	**Stephens Creek**	**35.03**	**156**	P	**P**	**20 20 41.4**	**+0.6**
SONM	**Songino Array**	**50.59**	**343**	P	**P**	**20 22 47.2**	**+0.6**
0.3nm,0.6s,mb3.4,baz=161,slow=9.4,SNR=3.9							
SONM	**Songino Array**	**50.59**	**343**	P	**P**	**20 22 47.2**	**+0.6**
MK31	**Makanchi Array**	**60.10**	**327**	*e*P	**P**	**20 23 53.0**	**-2.2**
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**20 23 55.5**	**+0.3**
0.6nm,0.4s,mb4.0,baz=124,slow=7.7,SNR=16							
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**20 23 55.5**	**+0.3**
KBL	**Kabul**	**63.03**	**309**	P	**P**	**20 24 16.0**	**+0.8**
1.1nm,0.6s,mb4.2							
KURK	**Kurchatov**	**64.40**	**329**	P	**P**	**20 24 23.8**	**-0.1**
0.6nm,0.5s,mb3.9,baz=136,slow=6.5,SNR=14							
KURK	**Kurchatov**	**64.40**	**329**	*e*P	**P**	**20 24 23.4**	**-0.4**
BRVK	**Borovoye**	**70.01**	**328**	*e*P	**P**	**20 24 60.0**	**+0.6**
ABKAR	**Akbulak array**	**74.43**	**322**	P	**P**	**20 25 25.5**	**-0.4**

IDC 16 20:15:18.6±41.0, 14°.67S×175°.47W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=774.3km s-min=166.7km az=76.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.69**	**239**	P	P	20 23 16.1	-1.2
0.6nm,0.4s,baz=104,slow=11,SNR=5.8							
WRA	**Warramunga Arr**	**48.07**	**256**	P	P	20 24 00.8	+0.5
0.2nm,0.3s,baz=87,slow=8.1,SNR=15							
ASAR	**Alice Springs**	**48.45**	**251**	P	P	20 24 03.4	+0.3
2.1nm,0.4s,baz=89,slow=8.0,SNR=63							

IDC ***16*** *20:18:51.3±0.9, 31°.32S×176°.85W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/17, mbtmp4.3/9, ML4.1/1, Error ellipse: s-maj=38.4km s-min=21.3km az=157.0*

NEIC ***16*** *20:18:52.3±0.5, 31°.39S×176°.98W, h10km, mb4.7/9, Error ellipse: s-maj=15.2km s-min=10.2km az=125.0*

ISCJB ***16*** *20:18:54.5±0.7, 31°.61S±0°.08×177°.0W±0°.1, h33km, mb4.5/15, Error ellipse: s-maj=18.4km s-min=8.9km az=27.6*

ISC 16 20:18:55.9±0.6, 31°.55S±0°.08×176°.9W±0°.1, h35km, n52, σ1§10/39, mb4.4/15, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.47**	**338**	*e*Pn	**Pn**	**20 19 26.5**	**-7.2**
RAO				*e*Sn	**Sn**	**20 19 51.6**	**-11**
URZ	**Urewera**	**8.33**	**215**	Pn	**Pn**	**20 20 54.4**	**+0.3**
2.1nm,0.3s,baz=224,slow=1.9,SNR=8.5							
URZ				Sn	**Sn**	**20 22 28.1**	**+1.2**
3.0nm,0.3s,baz=170,slow=16,SNR=8.0							
URZ	**Urewera**	**8.33**	**215**	*e*Pn	**Pn**	**20 20 53.8**	**-0.3**
URZ				*e*Sn	**Sn**	**20 22 27.8**	**+0.9**
URZ				Sn	**Sn**	**20 22 28.1**	**+1.2**
KHZ	**Kahutara**	**13.28**	**213**	*e*Pn	**Pn**	**20 22 00.4**	**-1.4**
KHZ				*e*Sn	**Sn**	**20 24 22.1**	**-6.1**
RPZ	**Rata Peaks**	**15.45**	**215**	Pn	**Pn**	**20 22 29.5**	**-1.5**
2.7nm,0.3s,baz=56,slow=9.1,SNR=7.7							
RPZ	**Rata Peaks**	**15.45**	**215**	*e*Pn	**Pn**	**20 22 29.4**	**-1.7**
DZM	**Mont Dzumac**	**17.63**	**298**	*e*LR	LR	20 27 13.6	
359nm,26.9s							
RAR	**Rarotonga**	**18.41**	**60**	Pn	**Pn**	**20 23 07.1**	**-1.3**
TBI	**Tubuai**	**25.59**	**78**	*e*LR	LR	20 30 29.0	
151nm,27.2s							
PPT2	**Papeete2**	**28.33**	**67**	*e*LR	LR	20 31 40.3	
114nm,26.0s							
CTA	**Charters Tower**	**34.97**	**280**	P	**P**	**20 25 46.0**	**+1.2**
9.0nm,0.7s,mb4.8,baz=100,slow=8.9,SNR=10							
CTA	**Charters Tower**	**34.97**	**280**	P	**P**	**20 25 46.0**	**+1.2**
CTAO	**Charters Tower**	**34.97**	**280**	*e*P	**P**	**20 25 45.9**	**+1.1**
7.8nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**35.20**	**258**	P	**P**	**20 25 48.7**	**+2.0**
4.8nm,0.7s,mb4.5,baz=101,slow=11,SNR=12							
STKA	**Stephens Creek**	**35.20**	**258**	*e*P	**P**	**20 25 48.7**	**+2.0**
1.2nm,0.8s,mb3.9							
RKT	**Rikitea**	**37.95**	**88**	*e*LR	LR	20 36 16.1	
199nm,31.5s							
AS31	**Alice Springs**	**44.04**	**268**	*e*P	**P**	**20 26 59.0**	**-1.4**
ASAR	**Alice Springs**	**44.05**	**268**	P	**P**	**20 27 00.2**	**-0.2**
2.8nm,0.7s,mb4.1,baz=105,slow=7.2,SNR=39							
ASAR				PcP	PcP	20 28 46.7	+1.2
1.2nm,1.0s,baz=111,slow=3.6,SNR=4.9							
ASAR	**Alice Springs**	**44.05**	**268**	P	**P**	**20 27 00.2**	**-0.2**
ASAR				PcP	PcP	20 28 46.7	+1.2
WB2	**Warramunga Arr**	**45.13**	**273**	*e*P	**P**	**20 27 07.9**	**-1.1**
WRAB	**Tennant Creek**	**45.13**	**273**	*e*P	**P**	**20 27 07.9**	**-1.2**
12nm,1.2s,mb4.6							
WRA	**Warramunga Arr**	**45.14**	**273**	P	**P**	**20 27 08.4**	**-0.8**
2.9nm,0.5s,mb4.3,baz=112,slow=7.8,SNR=57							
WRA				PcP	PcP	20 28 50.6	+1.3
1.0nm,0.8s,baz=114,slow=3.3,SNR=5.0							
WRA	**Warramunga Arr**	**45.14**	**273**	P	**P**	**20 27 08.4**	**-0.8**
WRA				PcP	PcP	20 28 50.6	+1.3
VNDA	**Vanda**	**47.06**	**186**	*e*P	**P**	**20 27 32.9**	**+9.3**
0.7nm,0.5s,mb3.9							
QSPA	**South Pole Qui**	**58.56**	**180**	*e*P	**P**	**20 28 53.6**	**+5.2**
5.3nm,1.0s,mb4.5							
SNAA	**Sanae**	**76.98**	**178**	*e*P	**P**	**20 30 45.5**	**+1.1**
2.6nm,0.8s,mb4.2							
COCO	**West Island**	**80.63**	**261**	*e*P	**P**	**20 31 06.1**	**+0.7**
25nm,0.6s,mb5.3							
KULM	**Kulim**	**86.38**	**278**	P	**P**	**20 31 34.4**	**-0.5**
8.6nm,0.9s,mb5.0							
CMB	**Columbia Colle**	**86.96**	**41**	P	**P**	**20 31 33.1**	**-4.1**
PETK	**Petropavlovsk-**	**87.17**	**345**	P	**P**	**20 31 37.8**	**+0.1**
5.1nm,0.8s,mb4.8,baz=179,slow=8.9,SNR=3.6							
PETK	**Petropavlovsk-**	**87.17**	**345**	P	**P**	**20 31 37.9**	**+0.1**
NVAR	**Mina Array Bea**	**88.42**	**42**	P	**P**	**20 31 44.8**	**+0.6**
0.7nm,0.9s,mb3.9,baz=207,slow=5.7,SNR=3.5							
NVAR	**Mina Array Bea**	**88.42**	**42**	P	**P**	**20 31 44.8**	**+0.6**
TXAR	**Lajitas Array**	**92.18**	**57**	P	**P**	**20 32 02.6**	**+0.7**
0.2nm,0.7s,mb3.5,baz=145,slow=4.6,SNR=3.5							
TXAR	**Lajitas Array**	**92.18**	**57**	P	**P**	**20 32 02.6**	**+0.7**
ENH	**Enshi**	**93.06**	**304**	*e*P	**P**	**20 32 06.6**	**+0.6**
12nm,1.1s,mb5.2							
CMAR	**Chiang Mai Arr**	**94.71**	**289**	P	**P**	**20 32 15.6**	**+1.7**
0.9nm,0.8s,mb4.2,baz=139,slow=3.5,SNR=5.9							
CMAR	**Chiang Mai Arr**	**94.71**	**289**	P	**P**	**20 32 15.6**	**+1.7**
MKAR	**Makanchi Array**	**119.27**	**309**	PKP	PKPdf	20 37 40.6	-0.3
1.0nm,0.9s,baz=25,slow=1.6,SNR=3.8							
MKAR	**Makanchi Array**	**119.27**	**309**	PKP	PKPdf	20 37 40.6	-0.3
ARCES	**ARCESS Array B**	**139.92**	**348**	PKP	PKPdf	20 38 20.9	+1.6
7.8nm,1.1s,baz=343,slow=3.8,SNR=5.0							
ARCES	**ARCESS Array B**	**139.92**	**348**	PKP	PKPdf	20 38 20.9	+1.6
JOF	**Joensuu**	**143.85**	**339**	*e*p	PKPdf	20 38 23.1	-3.4
20nm,1.5s							
KAF	**Kangasniemi**	**145.96**	**341**	*e*p	PKPdf	20 38 29.4	-0.8
12nm,0.9s							
FINES	**FINESS Array B**	**146.56**	**340**	PKPbc	PKPbc	20 38 32.5	-0.2
7.2nm,0.7s,baz=35,slow=2.7,SNR=17							
FINES	**FINESS Array B**	**146.56**	**340**	PKPbc	PKPbc	20 38 32.5	-0.2
NOA	**NORSAR Array B**	**150.03**	**352**	PKPbc	PKPbc	20 38 41.3	-0.6
1.3nm,0.7s,baz=12,slow=4.2,SNR=2.9							
NOA	**NORSAR Array B**	**150.03**	**352**	PKPbc	PKPbc	20 38 41.3	-0.6
BRTR	**Keskin Array B**	**154.01**	**297**	PKPab	PKPab	20 39 05.4	+0.2
1.3nm,0.8s,baz=92,slow=2.9,SNR=7.7							
BRTR	**Keskin Array B**	**154.01**	**297**	PKPab	PKPab	20 39 05.4	+0.2
TORD	**Torodi Ar. Bea**	**161.63**	**175**	PKPab	PKPab	20 39 40.9	+2.4
1.1nm,0.7s,baz=175,slow=3.6,SNR=6.7							
TORD	**Torodi Ar. Bea**	**161.63**	**175**	PKPab	PKPab	20 39 40.9	+2.4

BJI ***16*** *20:31:52.7, 30°.98S×176°.39W, h6km, mB5.6/17, mb5.2/22, Ms5.2/13, Ms7 4.8/13*

IDC ***16*** *20:31:55.1±0.6, 31°.16S×176°.95W, h0km, mb4.7/16, mb1 4.8/17, mb1mx4.7/21, mbtmp4.7/17, ML4.2/1, MS3.9/13, Ms1 3.9/13, ms1mx3.7/27, Error ellipse: s-maj=19.9km s-min=18.1km az=138.0*

NEIC ***16*** *20:31:55.2±0.4, 31°.28S×176°.85W, h10km, mb5.1/25, MS4.8/1, Error ellipse: s-maj=12.7km s-min=8.7km az=116.0*

ISCJB ***16*** *20:31:58.0±0.5, 31°.57S±0°.05×176°.93W±0°.09, h33km, mb5.0/46, MS4.2/16, Error ellipse: s-maj=11.5km s-min=5.6km az=19.6*

MOS ***16*** *20:31:59.5±2.3, 31°.02S×177°.08W, h33km, mb5.2/9, Error ellipse: s-maj=14.0km s-min=10.6km az=116.9*

SZGRF ***16*** *20:32:02.1, 30°.77S×177°.45W, h33km, Kermadec Islands, New Zealand*

ISC 16 20:31:59.8±0.5, 31°.52S±0°.04×176°.91W±0°.09, h35km, (h13km±4.4km:pP-P), n241, σ1§23/122, mb5.0/46, MS4.2/16, 14C-6D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.42**	**339**	*e*Pn	**Pn**	**20 32 30.2**	**-6.7**
RAO				*e*Sn	**Sn**	**20 32 55.1**	**-10**
RAO	**Raoul Island**	**2.42**	**339**	*e*P	**Pn**	**20 32 30.2**	**-6.7**
RAO				*e*		20 32 55.1	
PUZ	**Puketiti**	**7.65**	**210**	PN	**Pn**	**20 33 48.0**	**-0.8**
PUZ				SN	**Sn**	**20 35 15.6**	**+1.4**
URZ	**Urewera**	**8.33**	**215**	Pn	**Pn**	**20 33 58.8**	**+0.8**
3.1nm,0.3s,baz=282,slow=2.6,SNR=14							
URZ				Sn	**Sn**	**20 35 33.9**	**+3.1**
4.4nm,0.3s,baz=160,slow=23,SNR=8.6							
URZ	**Urewera**	**8.33**	**215**	*e*Pn	**Pn**	**20 33 58.2**	**+0.2**
27nm,0.7s							
URZ				*e*Sn	**Sn**	**20 35 29.3**	**-1.5**
URZ				Sn	**Sn**	**20 35 33.9**	**+3.1**
URZ	**Urewera**	**8.33**	**215**	PN	**Pn**	**20 33 57.9**	**-0.1**
URZ				*e*SN	**Sn**	**20 35 32.2**	**+1.5**
MRZ	**Mangatainoka R**	**10.96**	**212**	PN	**Pn**	**20 34 32.5**	**-1.5**
MRZ				*e*SN	**Sn**	**20 36 32.7**	**-2.6**
TCW	**Tory Channel**	**12.00**	**214**	SN	**Sn**	**20 36 55.3**	**-5.4**
CTZ	**Chatham Island**	**12.20**	**179**	PN	**Pn**	**20 34 50.1**	**-0.8**
CTZ				SN	**Sn**	**20 36 58.1**	**-7.6**
KHZ	**Kahutara**	**13.28**	**212**	PN	**Pn**	**20 35 04.7**	**-1.0**
KHZ				*e*SN	**Sn**	**20 37 26.9**	**-5.2**
MSVF	**Nonsavu**	**14.47**	**340**	*e*Pn	**Pn**	**20 35 16.8**	**-5.3**
31nm,0.9s							
MSVF	**Nonsavu**	**14.47**	**340**	*e*P	**Pn**	**20 35 16.8**	**-5.3**
MSVF				pmax	pmax		
comp=Z,31nm,0.9s							
RPZ	**Rata Peaks**	**15.45**	**215**	Pn	**Pn**	**20 35 33.0**	**-1.9**
comp=Z,11nm,0.3s,baz=38,slow=3.4,SNR=8.5							
RPZ	**Rata Peaks**	**15.45**	**215**	Pn	**Pn**	**20 35 33.0**	**-1.9**
ODZ	**Otahua Downs**	**16.64**	**212**	*e*Pn	**Pn**	**20 35 50.8**	**+0.6**
comp=Z,251nm,0.8s							
DZM	**Mont Dzumac**	**17.57**	**298**	*e*P	**Pn**	**20 36 03.6**	**+1.6**
comp=Z,131nm,1.6s							
DZM				*e*LR	LR	20 40 17.5	
comp=Z,2μm,26.9s							
AFI	**Afiamalu**	**18.15**	**16**	LR	LR	20 41 00.8	
comp=Z,183nm,21.7s,baz=103,slow=31							
RAR	**Rarotonga**	**18.45**	**60**	LR	LR	20 41 01.7	
comp=Z,384nm,20.2s,baz=311,slow=30							
RAR	**Rarotonga**	**18.45**	**60**	*e*Pn	**Pn**	**20 36 03.4**	**-9.3**
comp=Z,48nm,0.9s							
RAR	**Rarotonga**	**18.45**	**60**	*e*P	**Pn**	**20 36 03.4**	**-9.3**
RAR				pmax	pmax		
comp=Z,48nm,0.9s							
TBI	**Tubuai**	**25.63**	**78**	*e*LR	LR	20 43 34.6	
comp=Z,814nm,28.8s,baz=238							
ARMA	**Armidale**	**26.96**	**264**	*e*P	**P**	**20 37 40.7**	**+2.6**
ARMA	**Armidale**	**26.96**	**264**	*e*P	**P**	**20 37 40.5**	**+2.4**
comp=Z,8.9nm,0.7s,mb4.4							
CNB	**Canberra Magne**	**28.33**	**253**	*e*P	**P**	**20 37 53.0**	**+2.7**
comp=Z,32nm,0.6s,mb5.1							
PPT2	**Papeete2**	**28.37**	**67**	*e*LR	LR	20 44 45.8	
comp=Z,619nm,27.2s,baz=242							
EIDS	**Eidsvold**	**28.74**	**274**	*e*P	**P**	**20 37 51.3**	**-2.8**
comp=Z,18nm,1.1s,mb4.7							
TAU	**Tasmania Unive**	**30.46**	**238**	*e*P	**P**	**20 38 09.8**	**+0.7**
comp=Z,16nm,0.8s,mb4.8							
TAU	**Tasmania Unive**	**30.46**	**238**	*e*P	**P**	**20 38 09.8**	**+0.7**
TAU				pmax	pmax		
comp=Z,17nm,0.8s,mb4.8							
HNR	**Honiara**	**30.74**	**311**	LR	LR	20 46 57.1	
comp=Z,140nm,19.3s,MS3.6,baz=138,slow=30							
TOO	**Toolangi**	**31.41**	**248**	*e*P	**P**	**20 38 20.3**	**+2.8**
comp=Z,84nm,1.0s,mb5.5							
CMSA	**Cobar Meteorol**	**31.78**	**260**	*e*P	**P**	**20 38 22.8**	**+1.9**
comp=Z,131nm,0.7s,mb5.9							
CTA	**Charters Tower**	**34.91**	**280**	P	**P**	**20 38 48.4**	**+0.2**
comp=Z,20nm,0.5s,mb5.3,baz=102,slow=10.0,SNR=36							
CTA				LR	LR	20 50 56.2	
comp=Z,354nm,19.4s,MS4.1,baz=302,slow=33							
CTA	**Charters Tower**	**34.91**	**280**	*e*P	**P**	**20 38 47.8**	**-0.5**
comp=Z,15nm,0.6s,mb5.1							
CTA	**Charters Tower**	**34.91**	**280**	P	**P**	**20 38 48.4**	**+0.2**
CTA	**Charters Tower**	**34.91**	**280**	P	**P**	**20 38 48.4**	**+0.1**
CTAO	**Charters Tower**	**34.91**	**280**	*e*P	**P**	**20 38 48.3**	**+0.1**
comp=Z,35nm,0.8s,mb5.3							
CTAO	**Charters Tower**	**34.91**	**280**	*e*P	**P**	**20 38 48.3**	**+0.1**
CTAO				pmax	pmax		
comp=Z,35nm,0.8s,mb5.3							
STKA	**Stephens Creek**	**35.16**	**258**	P	**P**	**20 38 51.9**	**+1.7**
comp=Z,19nm,0.7s,mb5.1,baz=101,slow=9.0,SNR=46							
STKA				LR	LR	20 50 30.9	
comp=Z,246nm,21.9s,MS3.9,baz=284,slow=32							
STKA	**Stephens Creek**	**35.16**	**258**	*e*P	**P**	**20 38 51.6**	**+1.3**
comp=Z,4.3nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**35.16**	**258**	*e*P	**P**	**20 38 51.6**	**+1.3**
STKA				pmax	pmax		
comp=Z,4.0nm,0.8s							
RKT	**Rikitea**	**38.00**	**88**	*e*LR	LR	20 49 21.5	
comp=Z,620nm,29.0s,baz=250							
BBOO	**Buckleboo**	**39.58**	**255⇑**	*i*P	**P**	**20 39 28.4**	**+0.6**
comp=Z,71nm,0.5s,mb5.7							
BBOO	**Buckleboo**	**39.58**	**255**	*e*P	**P**	**20 39 28.0**	**+0.2**
comp=Z,584nm,1.3s							
PMG	**Port Moresby**	**39.93**	**296**	P	**P**	**20 39 29.6**	**-1.2**
comp=Z,1.8nm,0.4s,mb4.1,baz=237,slow=12,SNR=3.2							
PMG				PcP	PcP	20 41 37.2	+1.2
comp=Z,9.0nm,0.8s,baz=303,slow=3.8,SNR=5.1							
PMG	**Port Moresby**	**39.93**	**296**	P	**P**	**20 39 29.6**	**-1.2**
PMG				PcP	PcP	20 41 37.2	+1.2
PMG	**Port Moresby**	**39.93**	**296**	P	**P**	**20 39 29.6**	**-1.2**
PMG						20 41 37.2	
AS31	**Alice Springs**	**43.99**	**268**	*e*P	**P**	**20 40 03.4**	**-0.6**
ASAR	**Alice Springs**	**43.99**	**268**	P	**P**	**20 40 03.2**	**-0.7**
comp=Z,11nm,0.7s,mb4.7,baz=105,slow=7.3,SNR=101							
ASAR				PcP	PcP	20 41 49.5	+0.3
comp=Z,7.3nm,1.1s,baz=113,slow=4.1,SNR=6.9							
ASAR	**Alice Springs**	**43.99**	**268**	P	**P**	**20 40 03.2**	**-0.7**
ASAR				PcP	PcP	20 41 49.5	+0.3
ASAR	**Alice Springs**	**43.99**	**268**	P	**P**	**20 40 03.3**	**-0.6**
ASAR						20 41 49.5	
WB2	**Warramunga Arr**	**45.07**	**273**	*e*P	**P**	**20 40 11.3**	**-1.3**
WRAB	**Tennant Creek**	**45.08**	**273**	*e*P	**P**	**20 40 11.6**	**-1.0**
comp=Z,33nm,1.1s,mb5.1							
WRAB	**Tennant Creek**	**45.08**	**273**	*e*P	**P**	**20 40 11.6**	**-1.0**
WRAB				pmax	pmax		
comp=Z,33nm,1.1s,mb5.1							
WRAB	**Tennant Creek**	**45.08**	**273**	P	**P**	**20 40 11.0**	**-1.6**
comp=Z,124nm,0.9s,mb5.7,SNR=10							
WRA	**Warramunga Arr**	**45.08**	**273**	P	**P**	**20 40 11.7**	**-1.0**
comp=Z,11nm,0.5s,mb4.9,baz=112,slow=7.8,SNR=156							
WRA				PcP	PcP	20 41 53.9	+0.9
comp=Z,4.0nm,0.8s,baz=119,slow=3.3,SNR=6.8							
WRA				LR	LR	21 00 06.7	
comp=Z,482nm,18.7s,MS4.5,baz=100,slow=38							
WRA	**Warramunga Arr**	**45.08**	**273**	P	**P**	**20 40 11.7**	**-1.0**
WRA				PcP	PcP	20 41 53.9	+0.9
WRA	**Warramunga Arr**	**45.08**	**273**	P	**P**	**20 40 11.7**	**-1.0**
WRA						20 41 53.9	
FORT	**Forrest**	**46.68**	**256**	*e*P	**P**	**20 40 25.2**	**+0.1**
comp=Z,30nm,0.8s,mb5.3							
SBA	**Scott Base**	**47.00**	**185**	*e*P	**P**	**20 40

comp=Z,10.0nm,0.9s,mb5.2
CN2 pmax pmax
comp=Z,200nm,3.0s
TXAR Lajitas Array 92.21 57 P **P** **20 45 05.5 -0.5**
comp=Z,1.0nm,0.9s,mb4.1,baz=219,slow=5.8,SNR=6.4
TXAR LR LR 21 22 56.4
comp=Z,56nm,18.4s,MS4.0,baz=180,slow=33
TXAR Lajitas Array 92.21 57 P **P** **20 45 05.5 -0.5**
TXAR Lajitas Array 92.21 57 P **P** **20 45 05.5 -0.5**
CMIG Matias Romero 92.21 71 P **P** **20 45 06.8 +0.6**
comp=Z,0.7nm,0.3s,mb4.4,baz=212,slow=0.6,SNR=3.7
CMIG Matias Romero 92.21 71 P **P** **20 45 06.8 +0.6**
GYA Guiyang 92.92 299 P **P** **20 45 09.4 0.0**
GYA PP PP 20 48 55.8 +3.2
GYA SKS 20 55 41.6
GYA S S 20 56 13.3 +0.5
GYA SS SS 21 02 32.0 +4.2
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.5
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,730nm,21.7s,MS5.2
GYA LR LR
comp=E,690nm,20.3s,MS5.2
GYA LR LR
comp=Z,770nm,20.8s,MS5.1
ENH Enshi 93.00 304 *e*P **P** **20 45 10.3 +0.6**
comp=Z,14nm,0.8s,mb5.5
BJI Beijing 94.38 315 P **P** **20 45 14.8 -0.9**
BJI S S 20 56 27.4 +2.4
CMAR Chiang Mai Arr 94.65 289 P **P** **20 45 18.9 +1.4**
comp=Z,4.3nm,1.0s,mb4.8,baz=158,slow=3.5,SNR=22
CMAR PP PP 20 49 05.4 -0.9
comp=Z,1.0nm,1.0s,baz=147,slow=5.6,SNR=4.5
CMAR Chiang Mai Arr 94.65 289 P **P** **20 45 18.9 +1.4**
CMAR PP PP 20 49 05.4 -0.9
CMAR Chiang Mai Arr 94.65 289 P **P** **20 45 18.9 +1.4**
CMAR 20 49 05.4
KMI Kunming 95.16 296 P **P** **20 45 20.3 +0.6**
KMI pP pP 20 45 23.1 -7.7
KMI sP sP 20 45 24.3 -11
KMI PP PP 20 49 12.9 +2.8
KMI S S 20 56 32.2 -0.2
KMI SS SS 21 03 04.3 +4.5
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
KMI pmax pmax
comp=Z,49nm,3.5s
KMI LR LR
comp=N,82nm,11.7s,MS4.6
KMI LR LR
comp=E,95nm,11.7s,MS4.6
KMI LR LR
comp=Z,78nm,12.4s,MS4.4
KMI Kunming 95.16 296 P **P** **20 45 20.2 +0.5**
comp=Z,7.0nm,1.0s,mb5.0
KMI pP pP 20 45 23.1 -7.7
KMI sP sP 20 45 24.3 -11
KMI PP PP 20 49 12.9 +2.8
KMI S S 20 56 32.2 -0.3
KMI SS SS 21 03 04.2 +4.4
KMI LR LR
comp=Z,80nm,12.4s,MS4.4
KMI Kunming 95.16 296 P **P** **20 45 20.2 +0.5**
KMI 20 49 12.9
KMI S S 20 56 32.2 -0.3
KMI SS SS 21 03 04.2 +4.4
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
KMI MLR MLR
comp=Z,80nm,12.4s,MS4.4
XAN Xi'an 95.53 307 P **P** **20 45 23.0 +1.8**
XAN pP pP 20 45 30.3 -2.0
XAN pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
PDAR Pinedale Array 96.30 43 LR LR 21 23 31.3
comp=Z,73nm,18.4s,MS4.2,baz=25,slow=32
CD2 Chengdu 97.47 302 *e*P **P** **20 45 30.1 0.0**
CD2 pP pP 20 45 34.9 -6.3
CD2 sP sP 20 45 38.3 -6.9
CD2 PP PP 20 49 31.0 +3.1
CD2 SKS 20 56 05.8
CD2 S S 20 56 52.0 -0.2
CD2 sS sS 20 57 00.1 -11
CD2 SS SS 21 03 36.8 +4.4
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
CD2 pmax pmax
comp=Z,30nm,4.8s
CD2 LR LR
comp=N,90nm,15.6s
CD2 LR LR
comp=Z,100nm,14.4s,MS4.4
HHC Hu-ho-hao-te 97.68 313 *e*P **P** **20 45 31.1 +0.3**
HHC pP pP 20 45 35.8 -6.1
HHC sP sP 20 45 39.5 -6.4
HHC PP PP 20 49 32.5 +3.2
HHC SKS 20 56 06.3
HHC S S 20 56 52.5 -1.0
HHC SS SS 21 03 37.1 +2.1
HHC pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
HHC pmax pmax
comp=Z,140nm,3.7s
HHC LR LR
comp=N,180nm,16.7s,MS4.8
HHC LR LR
comp=E,220nm,16.6s,MS4.8
HHC LR LR
comp=Z,120nm,16.7s,MS4.5
ILAR Eielson Array 98.81 13 P **P** **20 45 34.3 -0.9**
comp=Z,0.8nm,1.1s,mb4.2,baz=234,slow=5.1,SNR=4.8
ILAR Eielson Array 98.81 13 P **P** **20 45 34.3 -0.9**
ILAR Eielson Array 98.81 13 P **P** **20 45 34.3 -0.9**
LZH Lanzhou 100.14 306 *e*P Pdif 20 45 41.5 -0.4
LZH pP 20 45 46.3
LZH sP 20 45 48.5
LZH *e*PP PP 20 49 49.6 +1.4
LZH pmax pmax
comp=Z,18nm,1.2s
LZH pmax pmax
comp=Z,91nm,8.8s
LZH LR LR
comp=N,310nm,18.2s,MS5.0
LZH LR LR
comp=E,280nm,19.0s,MS5.0
LZH LR LR
comp=Z,320nm,19.8s,MS4.8
LZH Lanzhou 100.14 306 *e*P Pdif 20 45 41.5 -0.4
comp=Z,18nm,1.2s
LZH pP 20 45 46.3
LZH sP 20 45 48.5
LZH *e*PP PP 20 49 49.6 +1.4
LZH LR LR
comp=Z,320nm,19.8s,MS4.8
LZH Lanzhou 100.14 306 *e*P Pdif 20 45 41.5 -0.4
LZH *SP 20 45 48.5
LZH *e* 20 49 49.6
LZH pmax pmax
comp=Z,18nm,1.2s
LZH MLR MLR
comp=Z,320nm,19.8s,MS4.8
WMQ Urumqi 114.65 308 *e*PKP PKiKP 20 50 34.6 -1.5
MKAR Makanchi Array 119.21 309 PKP PKPdf 20 50 43.8 -1.0
comp=Z,0.9nm,0.7s,baz=238,slow=1.4,SNR=7.2
MKAR Makanchi Array 119.21 309 PKP PKPdf 20 50 43.8 -1.0
MKAR Makanchi Array 119.21 309 PKIKP PKPdf 20 50 43.8 -1.0
ZALV Zalesovo Beam 119.49 318 PKP PKPdf 20 50 44.3 -0.8
comp=Z,0.6nm,0.6s,baz=90,slow=3.0,SNR=4.1
ZALV Zalesovo Beam 119.49 318 PKP PKPdf 20 50 44.3 -0.8
ZALV Zalesovo Beam 119.49 318 PKIKP PKPdf 20 50 44.3 -0.8
KURK Kurchatov 122.50 313*c* *i*PKIKP PKPdf 20 50 48.8 -2.2
KBL Kabul 125.52 292 *e*PKPdf PKPdf 20 50 57.3 0.0
KBL Kabul 125.52 292 *e*PKIKP PKPdf 20 50 57.3 0.0
KKAR Karatay Array 126.47 303 *e*PKPdf PKPdf 20 50 58.8 0.0
KKAR Karatay Array 126.47 303 *e*PKIKP PKPdf 20 50 58.8 0.0
BRVK Borovoye 127.92 315 ||*i*PKIKP PKPdf 20 50 59.2 -2.1
ARCES ARCESS Array B 139.88 348 PKP PKPdf 20 51 24.8 +1.6
comp=Z,5.1nm,0.9s,baz=90,slow=1.2,SNR=9.8
ARCES ARCESS Array B 139.88 348 PKP PKPdf 20 51 24.8 +1.6
ARCES ARCESS Array B 139.88 348 PKIKP PKPdf 20 51 24.8 +1.6
KLMR Klimovskoe 142.19 332 *e*PKIKP PKPdf 20 51 26.3 -1.3
KLMR pmax pmax
comp=Z,32nm,1.7s
JOF Joensuu 143.80 339 *e*PKIKP PKPdf 20 51 26.8 -3.6
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 143.80 339 *ep* PKPdf 20 51 26.8 -3.6
comp=Z,4.3nm,0.5s
DGRG David-gareji 144.89 298 P PKPdf 20 51 32.8 -0.2
MTA Mtatsminda 145.31 299 P PKPbc 20 51 34.4 +0.8
TBLG Delisi 145.35 299 *e*PKIKP PKPdf 20 51 34.6 +0.8
TBLG Delisi 145.35 299 P PKPbc 20 51 34.7 +1.0
GNI Garni 145.41 296 *e*PKPdf PKPdf 20 51 33.9 0.0
GNI Garni 145.41 296*d* *i*PKIKP PKPdf 20 51 35.2 +1.3
MOS Moscow 145.78 325 *e*PKIKP PKPdf 20 51 33.3 -0.7
MOS *e* 20 51 44.8
MOS pmax pmax
comp=Z,156nm,1.1s
MOS pmax pmax
comp=Z,300nm,1.5s
GOR Gori 145.80 299 P PKPdf 20 51 36.3 +1.8
KAF Kangasniemi 145.91 341 *e*PKP2 PKPdf 20 51 33.1 -1.0
KAF pmax pmax
comp=Z,40nm,1.0s
KAF Kangasniemi 145.91 341 *ep* PKPdf 20 51 33.1 -1.0
comp=Z,40nm,1.0s
ONI Oni 146.24 301 P PKPdf 20 51 37.3 +2.0
AKH Akhalkalaki 146.31 299 P PKPab 20 51 37.9 +0.5
FINES FINESS Array B 146.51 340 PKPbc PKPbc 20 51 35.9 -0.7
comp=Z,20nm,0.7s,baz=47,slow=2.7,SNR=54
FINES FINESS Array B 146.51 340 PKPbc PKPbc 20 51 35.9 -0.7
FINES FINESS Array B 146.51 340 PKP2 PKPbc 20 51 35.9 -0.7
OBN Obninsk 146.62 325 *e*PKPbc PKPbc 20 51 36.5 -0.6
OBN Obninsk 146.62 325*d* *i*PKP2 PKPbc 20 51 36.6 -0.5
OBN *i* 20 51 39.1
OBN *e* 20 51 49.2
OBN pmax pmax
comp=Z,35nm,0.8s
KIV Kislovodsk 146.63 303 *e*PKPbc PKPbc 20 51 37.7 +0.3
KIV Kislovodsk 146.63 303 *e*PKP2 PKPbc 20 51 37.5 0.0
KIV pmax pmax
comp=Z,21nm,1.1s
VSR Storozhevoye 146.99 317 *e*PKP2 PKPdf 20 51 37.0 +0.8
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
VSU Vasula 148.63 336⇑ *i*PKHKP PKPpre 20 51 36.7
SOC Sochi 148.81 303 *i* PKP2 PKPbc 20 51 42.7 -0.7
SOC *e* 20 55 10.1
SOC *e* 20 58 41.5
SOC pmax pmax
comp=Z,22nm,0.9s
NOA NORSAR Array B 149.99 352 PKPbc PKPbc 20 51 45.3 -0.4
comp=Z,7.7nm,1.0s,baz=14,slow=4.2,SNR=8.6
NOA NORSAR Array B 149.99 352 PKPbc PKPbc 20 51 45.3 -0.4
NOA NORSAR Array B 149.99 352 PKHKP PKPbc 20 51 45.3 -0.4
NACGM Naroch 151.21 331 *e* PKPdf 20 51 45.0 +2.1
AKASG Malin Array Be 152.76 322 PKPbc PKPbc 20 51 51.6 -0.9
comp=Z,4.1nm,0.6s,baz=49,slow=2.9,SNR=15
AKASG Malin Array Be 152.76 322 PKPbc PKPbc 20 51 51.6 -0.9
AKASG Malin Array Be 152.76 322 PKIKP PKPbc 20 51 51.6 -0.9
AKBB Malin Array Si 152.76 322 *e*PKPbc PKPdf 20 51 49.0 +3.7
AKBB Malin Array Si 152.76 322 *e*PKIKP PKPdf 20 51 49.0 +3.7
KIEV Kiev 152.77 322 *e*PKPbc PKPbc 20 51 51.2 -1.3
KIEV Kiev 152.77 322 *e*PKIKP PKPbc 20 51 51.2 -1.3
BR131 Keskin Array S 153.95 297 *e*PKPbc PKPbc 20 51 53.5 -2.0
BR131 *e*PKPab PKPab 20 52 08.4 -0.4
BRTR Keskin Array B 153.95 297 PKPbc PKPbc 20 51 55.2 -0.2
comp=Z,1.9nm,0.9s,baz=108,slow=2.8,SNR=8.0
BRTR PKPab PKPab 20 52 08.8 -0.1
comp=Z,4.6nm,0.8s,baz=116,slow=3.8,SNR=17
BRTR Keskin Array B 153.95 297 PKPbc PKPbc 20 51 55.2 -0.2
BRTR PKPab PKPab 20 52 08.8 -0.1
BRTR Keskin Array B 153.95 297 PKIKP PKPbc 20 51 55.3 -0.1
BRTR 20 52 08.8
CSS Prodhromos 154.52 286 *e*PKPbc PKPbc 20 51 57.0 +0.1
CSS *e*PKPab PKPab 20 52 11.8 +0.3
TESR **156.48 316**⇑ *i*P PKPab 20 52 18.9 -0.5
BUR08 Bucovina Ar. S 156.68 320 *e*PKPab PKPab 20 52 19.5 -0.7
BURAR Bucovina Array 156.69 320⇑ PKP2 PKPab 20 52 20.4 +0.1
BURAR Bucovina Array 156.69 320⇑ *i*P PKPab 20 52 20.4 +0.1
VRI Vrincioaia 156.76 315⇑ PKP2 PKPab 20 52 20.8 +0.2
VRI Vrincioaia 156.76 315⇑ *i*P PKPab 20 52 20.8 +0.2
UZH Uzhgorod 157.56 325 *e*PKIKP PKPdf 20 51 50.4 -1.5
UZH *e* 20 51 56.6
CRVS Cervenica-Dubn 157.78 327 *e*PKP2 PKPab 20 52 23.8 -1.1
CRVS Cervenica-Dubn 157.78 327 *e*PKP PKPab 20 52 23.8 -1.1
TRPA Tarpa 157.78 324⇓ *i*P PKPab 20 52 25.4 +0.5
KSP Ksiaz 158.35 337 *e*PKPab PKPab 20 52 27.1 -0.2
KSP Ksiaz 158.35 337 *e*PKP2 PKPab 20 52 27.1 -0.2
KECS Kecovo 158.53 327 *e*PKP2 PKPab 20 52 27.8 -0.4
KECS Kecovo 158.53 327 *e*PKP PKPab 20 52 27.8 -0.4
UPC Upice 158.73 337 *e*PKP2 PKPab 20 52 28.7 -0.2
UPC Upice 158.73 337 *e*PKPAB PKPab 20 52 28.7 -0.2
UPC *ep*PKP pPKPab 20 52 40.3 +0.2
DPC Dobruska-Polom 158.76 336 *e*PKP2 PKPab 20 52 28.8 -0.3
DPC Dobruska-Polom 158.76 336 *e*PKPAB PKPab 20 52 28.8 -0.3
DPC *ep*PKP pPKPab 20 52 41.4 +1.1
CLL Collm 158.91 343 *e*PKPab PKPab 20 52 28.5 -1.2
CLL Collm 158.91 343 *i* PKP2 PKPab 20 52 28.5 -1.2
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 158.91 343 *i* PKPab PKPab 20 52 28.5 -1.2
comp=Z,11nm,1.2s
CLL *e*PP PP 20 56 08.0 -2.1
CLZ Clausthal 159.00 347 *e*PKPab PKPab 20 52 29.3 -0.7
CLZ Clausthal 159.00 347 *e*PKP2 PKPab 20 52 29.3 -0.7
BRG Berggiesshubel 159.05 341 *i* PKP PKPab 20 52 29.6 -0.7
comp=Z,12nm,1.1s
BRG *e* 20 52 40.7
comp=Z,12nm,1.6s
BRG Berggiesshubel 159.05 341 *e*PKPab PKPab 20 52 29.5 -0.8
BRG Berggiesshubel 159.05 341 *i* PKP2 PKPab 20 52 29.6 -0.7
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.6s
PVCC Panska Ves 159.18 339 *e*PKP2 PKPab 20 52 30.6 -0.3
PVCC Panska Ves 159.18 339 *e*PKPAB PKPab 20 52 30.6 -0.3
PVCC *ep*PKP pPKPab 20 52 41.2 -0.9
PSZ Piszkesteto 159.21 327⇓⇓ PKP2 PKPab 20 52 31.0 -0.1
PSZ Piszkesteto 159.21 327⇓⇓ *i*P PKPab 20 52 31.0 -0.1
VYHS Vyhne 159.26 329 *e*PKP2 PKPab 20 52 30.2 -1.2
VYHS Vyhne 159.26 329 *e*PKP PKPab 20 52 30.2 -1.2
PRU Pruhonice 159.66 338 *e*PKP2 PKPab 20 52 31.6 -1.4
PRU Pruhonice 159.66 338 *e*PKPAB PKPab 20 52 31.6 -1.4
PRU *ep*PKP pPKPab 20 52 44.3 +0.1
BUG Bochum--Univer 159.86 352 *e*PKPab PKPab 20 52 34.2 +0.4
MOX Moxa 159.87 344 *e*PKPab PKPab 20 52 32.9 -1.0
MOX Moxa 159.87 344 *e*PKP2 PKPab 20 52 32.9 -1.0
VTS Vitosha 160.56 310⇑ PKP2 PKPab 20 52 37.9 +0.6
VTS Vitosha 160.56 310⇑ *i*P PKPab 20 52 37.9 +0.6
KHC Kasperske Hory 160.71 339 *e*PKP2 PKPab 20 52 37.4 -0.2
KHC Kasperske Hory 160.71 339 *e*PKPAB PKPab 20 52 37.4 -0.2
KHC *ep*PKP pPKPab 20 52 49.0 +0.2
GRF Grafenberg Arr 160.85 344 *e*PKPab PKPab 20 52 37.7 -0.5
GRF Grafenberg Arr 160.85 344 *e*PKP2 PKPab 20 52 37.7 -0.5
TNS Taunus Mts 160.89 349 *e*PKPab PKPab 20 52 37.9 -0.4
TNS Taunus Mts 160.89 349 *e*PKP2 PKPab 20 52 37.9 -0.4
WET Wettzell 160.91 340 *e*PKPab PKPab 20 52 38.2 -0.3
WET Wettzell 160.91 340 *e*PKP2 PKPab 20 52 38.2 -0.3
GEC2 GERESS Array S 160.92 338 *e*PKPab PKPab 20 52 37.9 -0.6
GEC2 GERESS Array S 160.92 338 *e*PKP2 PKPab 20 52 37.9 -0.6
GERES GERESS Array B 160.92 338 PKPab PKPab 20 52 38.0 -0.5
comp=Z,1.8nm,0.8s,baz=20,slow=4.3,SNR=11
GERES GERESS Array B 160.92 338 PKPab PKPab 20 52 38.0 -0.5
GERES GERESS Array B 160.92 338 PKP2 PKPab 20 52 38.0 -0.5
CONA Conrad Observa 160.94 333⇑ *i*pPKPab PKPab 20 52 38.8 +0.2
comp=Z,8.3nm,1.2s
TORD Torodi Ar. Bea 161.67 176 PKP PKPdf 20 51 58.0 +0.4
comp=Z,0.4nm,0.9s,baz=242,slow=3.1,SNR=3.2
TORD PKPab PKPab 20 52 44.7 +2.2
comp=Z,3.3nm,0.7s,baz=179,slow=4.1,SNR=16
TORD Torodi Ar. Bea 161.67 176 PKP PKPdf 20 51 58.0 +0.4
TORD PKPab PKPab 20 52 44.7 +2.2
RJOB Jochberg 162.19 338 *e*PKPab PKPab 20 52 44.0 -0.1
WTTA Wattenberg 162.96 340⇑ *i*PKPab PKPab 20 52 47.5 0.0
comp=Z,14nm,1.2s
MOTA Moosalm 163.04 341⇑ *i*PKPab PKPab 20 52 47.5 -0.3
comp=Z,7.9nm,1.0s

IDC ***16*** *20:34:55.0±1.2, 53°.73N×161°.92E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.5/26, mbtmp3.8/5, ML3.3/2, Error ellipse: s-maj=42.2km s-min=15.6km az=177.0*
ISCJB ***16*** *20:34:56.3±0.7, 53°.58N±0°.05×162°.06E±0°.07, h33km, mb3.7/3, Error ellipse: s-maj=8.7km s-min=4.0km az=146.2*
KRSC ***16*** *20:34:57.6±1.1, 53°.60N×161°.91E, h39km±29km, ML3.7*
ISC 16 20:34:58.2±0.7, 53°.62N±0°.05×161°.96E±0°.07, h35km, n15, σ0=97/24, mb3.7/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.95**	**352**	*i* P	**Pn**	**20 35 14.9**	**-0.1**
MKZ				*e*S	**Sn**	**20 35 27.7**	**+0.4**
SPN	**Mys Shipunski**	**1.27**	**247**	*e*P	**Pn**	**20 35 18.9**	**-0.5**
SPN				S	**Sn**	**20 35 34.1**	**-1.1**
KII	**Karymskiy**	**1.55**	**287**	P	**Pn**	**20 35 23.2**	**0.0**
KII				S	**Sn**	**20 35 41.7**	**-0.3**
NLC	**Nalytchevo**	**1.63**	**255**	*e*P	**Pn**	**20 35 24.0**	**-0.3**
NLC				*e*S	**Sn**	**20 35 43.3**	**-0.7**
AVH	**Avacha**	**1.96**	**261**	*i* P	**Pn**	**20 35 29.6**	**+0.8**
AVH				S	**Sn**	**20 35 52.8**	**+0.6**
KOK	**Koryaka**	**2.02**	**262**	*i* P	**Pn**	**20 35 30.1**	**+0.5**
KOK				S	**Sn**	**20 35 53.6**	**+0.1**
PET	**Petropavlovsk**	**2.07**	**255**	S	**Sn**	**20 35 53.8**	**-1.1**
RUS	**Russkaya**	**2.40**	**242**	P	**Pn**	**20 35 34.8**	**0.0**
RUS				S	**Sn**	**20 36 01.9**	**-1.0**
PETK	**Petropavlovsk-**	**2.60**	**260**	Pn	**Pn**	**20 35 39.2**	**+1.5**
	2.9nm,0.3s,baz=98,slow=19,SNR=26						
PETK				Sn	**Sn**	**20 36 12.2**	**+4.2**
	2.5nm,0.3s,baz=266,slow=13,SNR=4.8						
KBTR	**Krutoberegovo**	**2.64**	**10**	P	**Pn**	**20 35 38.2**	**0.0**
KBTR				S	**Sn**	**20 36 07.9**	**-1.1**
BKI	**Bering**	**2.83**	**54**	S	**Sn**	**20 36 11.3**	**-2.4**
FX1	**Attu Island--F**	**6.76**	**92**	Pn	**Pn**	**20 36 34.4**	**-0.4**
	2.3nm,0.3s,baz=267,slow=22,SNR=7.3						
ILAR	**Eielson Array**	**27.65**	**46**	P	**P**	**20 40 43.9**	**+1.8**
	0.4nm,0.9s,mb3.0,baz=275,slow=8.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**59.38**	**259**	P	**P**	**20 44 58.5**	**+1.7**
	0.5nm,0.7s,mb3.6,baz=36,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**60.08**	**337**	P	**P**	**20 45 02.3**	**+1.2**
	4.6nm,1.0s,mb4.5,baz=22,slow=7.7,SNR=4.8						

IDC 16 20:42:32.7±2.3, 30°.94S×176°.74W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=71.6km s-min=36.3km az=138.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.89**	**213**	Pn	Pn	20 44 41.5	-0.9
	0.5nm,0.3s,baz=54,slow=14,SNR=6.1						
URZ				Sn	Sn	20 46 20.0	-3.1
	0.9nm,0.3s,baz=163,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**35.42**	**257**	P	P	20 49 32.0	+1.5
	0.8nm,0.4s,baz=108,slow=15,SNR=9.6						
ASAR	**Alice Springs**	**44.17**	**267**	P	P	20 50 43.0	-0.4
	0.2nm,0.4s,baz=105,slow=7.3,SNR=5.3						
WRA	**Warramunga Arr**	**45.21**	**272**	P	P	20 50 50.6	-1.0
	0.7nm,0.4s,baz=112,slow=8.0,SNR=23						
JOF	**Joensuu**	**143.32**	**339**	*ep*	PKPdf	21 02 02.4	-5.7
	1.3nm,0.4s						
KAF	**Kangasniemi**	**145.42**	**341**	*ep*	PKPbc	21 02 10.3	-1.5
	4.6nm,0.5s						
FINES	**FINESS Array B**	**146.02**	**341**	PKPbc	PKPbc	21 02 13.4	-0.3
	1.9nm,0.4s,baz=52,slow=3.1,SNR=23						
AKASG	**Malin Array Be**	**152.39**	**323**	PKPbc	PKPbc	21 02 29.6	-0.6
	0.3nm,0.4s,baz=48,slow=4.6,SNR=4.4						

CSEM ***16*** *20:44:54.6±0.2, 37°.94N×27°.44E, h10km, MD3.0, Error ellipse: s-maj=4.4km s-min=2.8km az=90.0*
ISK ***16*** *20:44:54.3, 37°.93N×27°.43E, h11km, MD2.6*
DDA 16 20:44:54.3, 37°.95N×27°.46E, h7km±7km, Md3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.30**	**215**	*i* P	Pg	20 45 00.2	0.0
GCAM				*i* S	Sg	20 45 04.3	0.0
GCAM	**G?zelcaml?**	**0.30**	**215**	*i* P	Pg	20 45 00.2	-0.1
GCAM				*i* S	Sg	20 45 04.3	0.0
AYDN	**Tasoluk**	**0.44**	**130**	*i* P	Pg	20 45 03.8	+0.9
AYDN				*i* S	Sg	20 45 09.6	+1.0
AYDN	**Tasoluk**	**0.44**	**130**	*i* P	Pg	20 45 03.8	+0.9
AYDN				*i* S	Sg	20 45 09.6	+1.0
IZM	**Izmir**	**0.47**	**341**	*e*PG	Pg	20 45 04.4	+0.8
IZM				*e*SG	Sg	20 45 11.6	+1.9
IZM	**Izmir**	**0.47**	**341**	*e*Pg	Pg	20 45 04.4	+0.9
IZM				*e*Sg	Sg	20 45 11.6	+1.9
BLCB	**Balcova**	**0.55**	**323**	*e*PG	Pg	20 45 05.5	+0.7
BLCB	**Balcova**	**0.55**	**323**	*e*Pg	Pg	20 45 05.5	+0.6
BODT	**Bodrum**	**0.89**	**187**	*e*PG	Pg	20 45 11.4	-0.1
BODT				*e*SG	Sg	20 45 24.1	+1.1
BODT	**Bodrum**	**0.89**	**187**	*e*Pg	Pg	20 45 11.4	0.0
BODT				*e*Sg	Sg	20 45 24.1	+1.1
AKHS	**Akhisar**	**0.97**	**17**	*i* P	Pg	20 45 13.7	+0.7
AKHS				*i* S	Sg	20 45 24.2	-1.4
AKHS	**Akhisar**	**0.97**	**17**	*i* P	Pg	20 45 13.7	+0.7
AKHS				*i* S	Sg	20 45 24.2	-1.4
MANT	**Manisa**	**1.02**	**58**	*i* P	Pg	20 45 15.0	+1.0
MANT				*i* S	Sg	20 45 27.2	-0.1
MANT	**Manisa**	**1.02**	**58**	*i* P	Pg	20 45 15.0	+1.0
MANT				*i* S	Sg	20 45 27.2	-0.1
KULA	**Kula-Manisa**	**1.10**	**59**	*e*Pn	Pn	20 45 16.5	+0.3
KULA	**Kula-Manisa**	**1.10**	**59**	*e*Pn	Pn	20 45 16.5	+0.3
DAT	**Datca**	**1.22**	**175**	*e*PN	Pn	20 45 17.6	-0.2
DAT	**Datca**	**1.22**	**175**	*e*Pn	Pn	20 45 17.6	-0.2

CSEM ***16*** *20:45:33.6±0.2, 38°.00N×30°.93E, h15km, MD2.9, Error ellipse: s-maj=6.1km s-min=4.8km az=99.0*
ISK 16 20:45:33.0, 38°.00N×30°.97E, h10km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUTC	**Sutluce-Ispart**	**0.52**	**178**	*e*PG	Pg	20 45 44.1	+0.9
SUTC	**Sutluce-Ispart**	**0.52**	**178**	*e*Pg	Pg	20 45 44.1	+0.9
BCK	**Bucak**	**0.62**	**210**	*e*PG	Pg	20 45 45.4	+0.4
BCK				*e*SG	Sg	20 45 54.4	+1.3
BCK	**Bucak**	**0.62**	**210**	*e*Pg	Pg	20 45 45.4	+0.4
BCK				*e*Sg	Sg	20 45 54.4	+1.3
SHUT	**Suhut-Afyon**	**0.64**	**329**	*e*PG	Pg	20 45 45.9	+0.4
SHUT				*e*SG	Sg	20 45 55.4	+1.5
SHUT	**Suhut-Afyon**	**0.64**	**329**	*e*Pg	Pg	20 45 45.9	+0.4
SHUT				*e*Sg	Sg	20 45 55.4	+1.5
LADK	**Ladik-KONYA**	**1.11**	**79**	*e*PN	Pn	20 45 54.6	0.0
LADK				*e*SN	Sn	20 46 10.5	+0.4
LADK	**Ladik-KONYA**	**1.11**	**79**	*e*Pn	Pn	20 45 54.6	-0.1
LADK				*e*Sn	Sn	20 46 10.5	+0.4
KIZT	**Kizilcal**	**1.13**	**39**	*e*PN	Pn	20 45 55.0	+0.1
KIZT				*e*SN	Sn	20 46 11.8	+1.4
KIZT	**Kizilcal**	**1.13**	**39**	*e*Pn	Pn	20 45 55.0	+0.1
KIZT				*e*Sn	Sn	20 46 11.8	+1.4
KHAL	**Karahalli**	**1.23**	**288**	*i* P	Pn	20 45 53.7	-2.4
KHAL				*i* S	Sb	20 46 15.2	+3.1
KHAL	**Karahalli**	**1.23**	**288**	*i* P	Pn	20 45 53.7	-2.5
KHAL				*i* S	Sb	20 46 15.2	+3.1
ALT	**Altintas**	**1.25**	**328**	*e*PN	Pn	20 45 56.8	+0.2
ALT	**Altintas**	**1.25**	**328**	*e*Pn	Pn	20 45 56.8	+0.3
SVRH	**Sivrihisar-ESK**	**1.51**	**16**	*e*PN	Pn	20 46 00.5	+0.4
SVRH	**Sivrihisar-ESK**	**1.51**	**16**	*e*Pn	Pn	20 46 00.5	+0.5
ELL	**Elmali**	**1.51**	**214**	*e*PN	Pn	20 46 00.9	+0.8
ELL	**Elmali**	**1.51**	**214**	*e*Pn	Pn	20 46 00.9	+0.8
ESKT	**Eskisehir**	**1.52**	**356**	*e*PN	Pn	20 46 00.8	+0.5
ESKT	**Eskisehir**	**1.52**	**356**	*e*Pn	Pn	20 46 00.8	+0.6
HDMB	**Hadim**	**1.59**	**130**	*e*PN	Pn	20 46 02.2	+1.0
HDMB	**Hadim**	**1.59**	**130**	*e*Pn	Pn	20 46 02.2	+1.1
KULA	**Kula-Manisa**	**1.89**	**286**	*e*PN	Pn	20 46 06.0	+0.7
KULA	**Kula-Manisa**	**1.89**	**286**	*e*Pn	Pn	20 46 06.0	+0.7
AFSR	**Af¨ar-Bala (A**	**2.19**	**48**	*e*PN	Pn	20 46 10.1	+0.7
AFSR	**Af¨ar-Bala (A**	**2.19**	**48**	*e*Pn	Pn	20 46 10.1	+0.7

IDC ***16*** *20:49:19.6±1.1, 11°.57S×122°.27E, h0km, mb3.8/5, mb1 4.0/9, mb1mx3.9/16, mbtmp3.9/9, ML3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/18, Error ellipse: s-maj=93.7km s-min=18.8km az=59.0*
NEIC ***16*** *20:49:20.3±0.4, 11°.67S×122°.20E, h10km, mb4.3/1, Error*

ellipse: s-maj=21.6km s-min=6.4km az=56.0
*ISCJB **16** 20:49:21.2±0.5, 11°.72S±0°.09×122°.3E±0°.2, h33km, mb3.9/6, Error ellipse: s-maj=25.0km s-min=6.2km az=150.2*

ISC 16 20:49:23.5±0.5, 11°.75S±0°.09×122°.2E±0°.1, h35km, n28, σ0s98/34, mb3.9/6, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**		**7.12 153**	Pn	**Pn**	**20 51 05.8**	**+0.6**
	0.9nm,0.3s,baz=332,slow=5.8,SNR=58						
FITZ				Sn	**Sn**	**20 52 22.9**	**-2.1**
	4.6nm,0.3s,baz=194,slow=15,SNR=16						
FITZ				LR	LR	20 53 32.9	
	comp=Z,111nm,20.0s,baz=319,slow=35						
FITZ	**Fitzroy Crossi**		**7.12 153**	*e*Pn	**Pn**	**20 51 05.5**	**+0.2**
	14nm,0.9s						
FITZ				Sn	**Sn**	**20 52 22.9**	**-2.1**
FITZ				*e*Sn	**Sn**	**20 52 23.4**	**-1.6**
KAPI	**Kappang**		**7.13 340**	Pn	**Pn**	**20 51 02.5**	**-2.9**
	0.6nm,0.3s,baz=81,slow=19,SNR=3.0						
KAPI				Sn	**Sn**	**20 52 24.6**	**-0.7**
	0.2nm,0.3s,baz=237,slow=23,SNR=2.4						
KAPI	**Kappang**		**7.13 340**	Pn	**Pn**	**20 51 02.5**	**-2.9**
KAPI				Sn	**Sn**	**20 52 24.6**	**-0.7**
WRA	**Warramunga Arr**		**14.21 126**	Pn	**Pn**	**20 52 43.3**	**+0.9**
	0.5nm,0.3s,baz=299,slow=13,SNR=22						
WRA				Sn	**Sn**	**20 55 13.1**	**-5.7**
	0.3nm,0.3s,baz=291,slow=20,SNR=5.7						
WRA	**Warramunga Arr**		**14.21 126**	Pn	**Pn**	**20 52 43.3**	**+0.9**
WRA				Sn	**Sn**	**20 55 13.1**	**-5.7**
WRAB	**Tennant Creek**		**14.21 126**	*e*Pn	**Pn**	**20 52 41.0**	**-1.4**
AS31	**Alice Springs**		**16.24 138**	*e*Pn	**Pn**	**20 53 09.9**	**+0.8**
AS31				*e*Sn	**Sn**	**20 56 00.3**	**-7.8**
ASAR	**Alice Springs**		**16.24 138**	Pn	**Pn**	**20 53 10.2**	**+1.2**
	0.3nm,0.3s,baz=308,slow=11,SNR=38						
ASAR				Sn	**Sn**	**20 56 01.1**	**-7.1**
	0.2nm,0.3s,baz=314,slow=24,SNR=8.2						
ASAR	**Alice Springs**		**16.24 138**	Pn	**Pn**	**20 53 10.2**	**+1.2**
ASAR				Sn	**Sn**	**20 56 01.1**	**-7.1**
NWAO	**Narrogin (SRO)**		**21.57 191**	*e*P	**P**	**20 54 10.1**	**+0.1**
HNR	**Honiara**		**37.13 90**	LR	LR	21 12 02.6	
	comp=Z,109nm,19.8s,baz=26,slow=37						
CMAR	**Chiang Mai Arr**		**37.80 322**	P	**P**	**20 56 37.0**	**+0.2**
	0.5nm,0.4s,mb3.6,baz=164,slow=7.5,SNR=3.4						
CMAR	**Chiang Mai Arr**		**37.80 322**	P	**P**	**20 56 37.0**	**+0.2**
LSA	**Lhasa**		**50.95 325**	*e*P	**P**	**20 58 21.6**	**-0.1**
	4.2nm,1.0s,mb4.3						
SONM	**Songino Array**		**60.97 348**	P	**P**	**20 59 34.5**	**+1.4**
	0.4nm,0.6s,mb3.7,baz=167,slow=8.4,SNR=4.3						
SONM	**Songino Array**		**60.97 348**	P	**P**	**20 59 34.5**	**+1.4**
MK31	**Makanchi Array**		**68.35 332**	*e*P	**P**	**21 00 20.7**	**-0.6**
MKAR	**Makanchi Array**		**68.35 332**	P	**P**	**21 00 22.1**	**+0.8**
	1.1nm,0.8s,mb4.0,baz=141,slow=6.7,SNR=10						
MKAR	**Makanchi Array**		**68.35 332**	P	**P**	**21 00 22.1**	**+0.8**
ZALV	**Zalesovo Beam**		**72.75 338**	P	**P**	**21 00 47.9**	**0.0**
	1.3nm,0.4s,mb4.2,baz=124,slow=4.5,SNR=7.3						
ZALV	**Zalesovo Beam**		**72.75 338**	P	**P**	**21 00 47.9**	**0.0**
KURK	**Kurchatov**		**72.87 333**	P	**P**	**21 00 48.9**	**+0.2**
	0.2nm,0.4s,mb3.4,baz=143,slow=5.0,SNR=5.1						
KURK	**Kurchatov**		**72.87 333**	P	**P**	**21 00 48.9**	**+0.2**
ABKAR	**Akbulak array**		**81.63 324**	*e*P	**P**	**21 01 38.3**	**+0.4**
PLCA	**Paso Flores**		**126.46 168**	*e*P	Pdif	21 05 04.2	+1.5
LPAZ	**La Paz**		**150.32 160**	PKPbc	PKPbc	21 09 15.8	+3.7
	0.6nm,0.6s,baz=354,slow=0.6,SNR=5.6						
LPAZ	**La Paz**		**150.32 160**	PKPbc	PKPbc	21 09 15.8	+3.8

*ISCJB **16** 21:19:06.0±3.2, 24°.84S±0°.04×70°.6W±0°.1, h26km±23km, mb4.2/8, Error ellipse: s-maj=19.5km s-min=6.9km az=1.0*
*NEIC **16** 21:19:08.7±0.4, 24°.98S×70°.64W, h35km, mb4.1/7, Error ellipse: s-maj=12.4km s-min=7.5km az=92.0*
*IDC **16** 21:19:09.7±0.7, 24°.86S×70°.57W, h36km±5km, mb4.2/7, mb1 4.1/9, mb1mx3.9/17, mbtmp4.1/9, ML4.2/2, MS3.1/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=29.3km s-min=22.2km az=106.0*

ISC 16 21:19:10.5±1.1, 24°.83S±0°.04×70°.6W±0°.1, h47km±10km, n38, σ0s83/31, mb4.2/8, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**		**4.17 182**	*e*Pn	**Pn**	**21 20 05.6**	**-6.0**
LCO				Sn	**Sn**	**21 20 59.4**	**+0.4**
CFAA	**Coronel Fontan**		**7.05 164**	Pn	**Pn**	**21 20 53.0**	**+1.8**
	0.1nm,0.3s,baz=350,slow=11,SNR=8.9						
CFAA				Sn	**Sn**	**21 22 09.3**	**-0.8**
	baz=326,slow=17,SNR=1.7						
CFAA	**Coronel Fontan**		**7.05 164**	Pn	**Pn**	**21 20 53.0**	**+1.8**
CFAA				Sn	**Sn**	**21 22 09.3**	**-0.8**
LPAZ	**La Paz**		**8.80 15**	Pn	**Pn**	**21 21 16.1**	**+1.0**
	1.1nm,0.3s,baz=182,slow=5.2,SNR=42						
LPAZ				LR	LR	21 24 55.4	
	comp=Z,134nm,20.7s,baz=239,slow=39						
LPAZ	**La Paz**		**8.80 15**	*e*Pn	**Pn**	**21 21 15.2**	**+0.1**
	12nm,0.7s						
LPAZ				*e*Sn	**Sn**	**21 22 52.3**	**-0.7**
CPUP	**Villa Florida**		**12.03 100**	Pn	**Pn**	**21 21 59.6**	**+0.2**
	0.3nm,0.3s,baz=250,slow=12,SNR=2.8						
CPUP				LR	LR	21 27 24.0	
	comp=Z,82nm,18.6s,baz=91,slow=41						
CPUP	**Villa Florida**		**12.03 100**	*e*Pn	**Pn**	**21 21 58.1**	**-1.3**
PLCA	**Paso Flores**		**15.86 180**	*e*Pn	**Pn**	**21 22 47.3**	**-3.2**
	1.5nm,0.6s						
SAML	**Samuel**		**17.29 25**	*e*P	**Pn**	**21 23 09.2**	**+0.6**
	6.3nm,0.9s						
RCBR	**Riachuelo**		**38.21 66**	P	**P**	**21 26 26.8**	**+0.7**
	9.5nm,1.0s,mb4.5,baz=207,slow=6.8,SNR=3.7						
RCBR	**Riachuelo**		**38.21 66**	*e*P	**P**	**21 26 26.6**	**+0.5**
	14nm,1.0s,mb4.6						
SNAA	**Sanae**		**59.66 160**	P	**P**	**21 29 10.2**	**+0.6**
	1.2nm,0.5s,mb4.2,baz=287,slow=8.3,SNR=36						
SNAA	**Sanae**		**59.66 160**	*e*P	**P**	**21 29 08.9**	**-0.7**
	2.5nm,0.4s,mb4.6						
OLIL	**Olney**		**65.33 345**	*e*P	**P**	**21 29 46.9**	**-0.8**
ANMO	**Albuquerque**		**68.50 329**	*e*P	**P**	**21 30 07.2**	**-0.8**
DBIC	**Dimbokro**		**71.14 73**	P	**P**	**21 30 24.2**	**-0.5**
	1.5nm,0.5s,mb4.2,baz=222,slow=7.6,SNR=4.1						
DBIC	**Dimbokro**		**71.14 73**	*e*P	**P**	**21 30 24.5**	**-0.2**
	4.7nm,1.0s,mb4.4						
HLID	**Hailey**		**79.07 329**	*e*P	**P**	**21 31 10.5**	**+0.8**
TORD	**Torodi Ar. Bea**		**79.90 70**	P	**P**	**21 31 14.7**	**-0.1**
	3.1nm,0.5s,mb4.5,baz=260,slow=5.2,SNR=21						
TORD	**Torodi Ar. Bea**		**79.90 70**	P	**P**	**21 31 14.7**	**-0.1**
TSUM	**Tsumeb**		**80.54 107**	*e*P	**P**	**21 31 18.6**	**+0.3**
	0.7nm,0.5s,mb3.9						
MAW	**Mawson**		**81.58 164**	P	**P**	**21 31 24.0**	**+1.0**
	4.9nm,0.8s,mb4.5,baz=206,slow=3.7,SNR=4.3						
MAW	**Mawson**		**81.58 164**	*e*P	**P**	**21 31 22.8**	**-0.2**
	1.2nm,0.9s,mb3.8						
BOSA	**Boshof**		**83.22 118**	P	**P**	**21 31 32.5**	**+0.2**
	1.7nm,1.0s,mb4.0,baz=270,slow=4.0,SNR=2.9						
BOSA	**Boshof**		**83.22 118**	P	**P**	**21 31 32.5**	**+0.2**
YKA	**Yellowknife Ar**		**93.82 341**	P	**P**	**21 32 22.4**	**+0.3**
	0.7nm,0.8s,mb4.2,baz=144,slow=3.8,SNR=5.5						
YKA				pP	pP	21 32 33.0	-3.0
	0.5nm,0.7s,baz=142,slow=3.8,SNR=2.5						
YKA	**Yellowknife Ar**		**93.82 341**	P	**P**	**21 32 22.4**	**+0.3**
YKA				pP	pP	21 32 33.0	-3.0
ASAR	**Alice Springs**		**126.28 208**	PKP	PKPdf	21 38 08.4	-0.3
	0.5nm,0.7s,baz=100,slow=2.1,SNR=7.5						
ASAR				pPKP	pPKPdf	21 38 19.8	-3.2
	0.3nm,0.4s,baz=329,slow=38,SNR=4.6						
ASAR	**Alice Springs**		**126.28 208**	PKP	PKPdf	21 38 08.4	-0.3
ASAR				pPKP	pPKPdf	21 38 19.8	-3.2
WRA	**Warramunga Arr**		**129.33 211**	PKP	PKPdf	21 38 14.6	0.0
	0.7nm,0.7s,baz=167,slow=1.5,SNR=8.4						
WRA				pPKP	pPKPdf	21 38 26.1	-2.9
	0.6nm,0.7s,baz=158,slow=1.6,SNR=4.6						
WRA	**Warramunga Arr**		**129.33 211**	PKP	PKPdf	21 38 14.6	0.0
WRA				pPKP	pPKPdf	21 38 26.1	-2.9
KURK	**Kurchatov**		**144.93 35**	*e*PKPbc	PKPdf	21 38 41.8	-0.4
ZAA0	**Zalesovo Array**		**145.60 26**	*e*PKPdf	PKPdf	21 38 43.5	+0.3
ZALV	**Zalesovo Beam**		**145.60 26**	PKPbc	PKPbc	21 38 44.4	+0.9
	8.6nm,0.8s,baz=314,slow=4.5,SNR=38						
ZALV				pPKPbc	pPKPbc	21 38 55.5	-2.2
	2.4nm,0.6s,baz=318,slow=3.8,SNR=6.0						
ZALV	**Zalesovo Beam**		**145.60 26**	PKPbc	PKPbc	21 38 44.4	+0.9
ZALV				pPKPbc	pPKPbc	21 38 55.5	-2.2
AAK	**Ala-Archa**		**146.25 50**	*e*PKPdf	PKPdf	21 38 45.9	+1.2
MKAR	**Makanchi Array**		**149.19 38**	PKPbc	PKPbc	21 38 54.5	+0.7
	3.8nm,0.7s,baz=311,slow=3.0,SNR=44						
MKAR				pPKPbc	pPKPbc	21 39 05.7	-2.3
	0.9nm,0.4s,baz=270,slow=4.7,SNR=5.0						
MKAR	**Makanchi Array**		**149.19 38**	PKPbc	PKPbc	21 38 54.5	+0.7
MKAR				pPKPbc	pPKPbc	21 39 05.7	-2.3

IDC 16 21:26:46.6±2.0, 13°.94S×166°.57E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.7/5, MS3.8/1, Ms1 3.7/1, ms1mx2.8/29, Error ellipse: s-maj=73.3km s-min=25.8km az=130.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**		**29.00 228**	P	P	21 32 49.1	+0.9
	1.0nm,0.4s,baz=53,slow=10,SNR=8.9						
STKA				LR	LR	21 44 41.3	
	comp=Z,164nm,18.1s,baz=201,slow=37						
WRA	**Warramunga Arr**		**31.37 255**	P	P	21 33 08.5	-0.8
	0.6nm,1.0s,baz=85,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**		**32.33 248**	P	P	21 33 17.5	-0.2
	0.4nm,0.5s,baz=74,slow=9.3,SNR=8.9						
MJAR	**Matsushiro Arr**		**56.90 333**	P	P	21 36 34.0	+0.6
	1.0nm,0.7s,baz=172,slow=6.9,SNR=4.1						
ILAR	**Eielson Array**		**85.99 18**	P	P	21 39 28.1	-0.2
	0.3nm,0.6s,baz=238,slow=5.2,SNR=7.7						
ARCES	**ARCESS Array B**		**119.32 345**	PKP	PKPdf	21 45 36.9	-0.4
	2.1nm,0.8s,baz=82,slow=2.2,SNR=5.4						

*ISCJB **16** 21:42:34.4±0.5, 36°.40N±0°.03×71°.33E±0°.09, h154km±12km, Error ellipse: s-maj=11.6km s-min=5.1km az=173.4*
*NEIC **16** 21:42:35.0±0.5, 36°.35N×71°.33E, h150km±14km, mb4.2/8, Error ellipse: s-maj=11.2km s-min=6.1km az=78.0*
*NNC **16** 21:42:37.5±6.0, 36°.95N×71°.03E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=49.1km s-min=43.9km az=163.0*

ISC 16 21:42:35.2±0.5, 36°.39N±0°.03×71°.30E±0°.08, h150km±10km, n36, σ0s95/45, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**		**2.61 169**	⇑P	**Pn**	**21 43 17.6**	**0.0**
CEP				S	**Sn**	**21 43 51.0**	**+0.7**
KBL	**Kabul**		**2.61 226**	*e*Pn	**Pn**	**21 43 17.7**	**+0.2**
KBL				*e*Sn	**Sn**	**21 43 47.9**	**-2.4**
CHCP	**Chirah Chowk**		**3.16 149**	P	**Pn**	**21 43 25.6**	**+1.0**
THW	**Thamme Wali**		**3.60 174**	P	**Pn**	**21 43 30.4**	**+0.2**
AML	**Almayashu**		**6.03 17**	P	**Pn**	**21 44 02.9**	**+0.7**
	SNR=103						
AML				P		21 44 02.9	
	SNR=103						
UCH	**Uchtor**		**6.34 22**	P	**Sn**	**21 45 15.6**	**-2.0**
	SNR=6.0						
UCH				P		21 45 15.6	
	SNR=6.0						
KZA	**Kyzart**		**6.45 27**	P	**Pn**	**21 44 09.5**	**+1.7**
	SNR=5.3						
KZA				P		21 44 09.5	
	SNR=5.3						
EKS2	**Erkin-Say**		**6.55 16**	P	**Pn**	**21 44 10.1**	**+1.0**
	SNR=10						
EKS2				P		21 44 10.1	
	SNR=10						
EKS2	**Erkin-Say**		**6.55 16**	*e*Pn	**Pn**	**21 44 09.7**	**+0.6**
	7.7nm,0.6s						
EKS2				*e*Sn	**Sn**	**21 45 19.8**	**-2.9**
AAK	**Ala-Archa**		**6.71 21**	P	**Pn**	**21 44 12.6**	**+1.5**
	SNR=17						
AAK				P		21 44 12.6	
	SNR=17						
AAK	**Ala-Archa**		**6.71 21**	*e*Pn	**Pn**	**21 44 12.2**	**+1.0**
	67nm,0.3s						
AAK				*e*Sn	**Sn**	**21 45 19.2**	**-7.2**
KK31	**Karatay Array**		**6.74 355**	⇑P	**Pn**	**21 44 11.2**	**-0.4**
	3.6nm,0.2s,baz=174,slow=12,SNR=550						
KK31				⇓S	**Sn**	**21 45 22.3**	**-4.8**
	3.2nm,0.4s,baz=182,slow=23,SNR=7.7						
KKAR	**Karatay Array**		**6.74 355**	*e*Pn	**Pn**	**21 44 11.2**	**-0.4**
	16nm,0.3s						
KKAR				*e*Sn	**Sn**	**21 45 22.4**	**-4.8**
CHMS	**Chumysh**		**7.12 21**	P	**Pn**	**21 44 17.7**	**+1.1**
	SNR=9.2						
CHMS				P		21 44 17.7	
	SNR=9.2						
USP	**Ospenovka**		**7.30 19**	P	**Pn**	**21 44 19.7**	**+0.7**
	SNR=8.3						
USP				P		21 44 19.7	
	SNR=8.3						
TKM2	**Tokmak 2**		**7.32 26**	P	**Pn**	**21 44 20.5**	**+1.2**
	SNR=8.6						
TKM2				P		21 44 20.5	
	SNR=8.6						
TKM2	**Tokmak 2**		**7.32 26**	⇓P	**Pn**	**21 44 20.4**	**+1.1**
	2.3nm,0.5s						
TKM2				⇑S	**Sn**	**21 45 40.3**	**-0.7**
	2.3nm,0.7s						
TKM2	**Tokmak 2**		**7.32 26**	*e*Pn	**Pn**	**21 44 19.5**	**+0.2**
	3.5nm,0.4s						
DANN	**Dangsing**		**13.22 124**	*e*P	**Pn**	**21 45 36.4**	**-0.8**
DANN	**Dangsing**		**13.22 124**	*e*P	**Pn**	**21 45 36.4**	**-0.8**
KOLN	**Koldanda**		**13.50 126**	*e*P	**Pn**	**21 45 39.8**	**-0.9**
	1.9nm,0.3s						
KOLN	**Koldanda**		**13.50 126**	*e*P	**Pn**	**21 45 39.8**	**-0.9**
	1.9nm,0.3s						
GKN	**Gorkha**		**14.04 123**	*e*P	**Pn**	**21 45 47.1**	**-0.4**
	3.5nm,0.3s						
GKN				*e*S	**Sn**	**21 48 09.0**	**-14**
GKN	**Gorkha**		**14.04 123**	*e*P	**Pn**	**21 45 47.1**	**-0.4**
	3.5nm,0.3s						
GKN				*e*S	**Sn**	**21 48 09.0**	**-14**
DMN	**Daman**		**14.61 123**	*e*P	**Pn**	**21 45 54.3**	**-0.4**
DMN	**Daman**		**14.61 123**	*e*P	**Pn**	**21 45 54.3**	**-0.4**
AB31	**Akbulak array**		**15.30 331**	⇓P	**Pn**	**21 46 03.4**	**+0.3**
	0.7nm,0.5s,baz=352,slow=12,SNR=25						
ABKAR	**Akbulak array**		**15.30 331**	*e*Pn	**Pn**	**21 46 03.2**	**+0.2**
	0.7nm,0.4s						
JIRN	**Jiri**		**15.32 120**	*e*P	**Pn**	**21 46 03.8**	**+0.3**
	5.7nm,0.3s						
JIRN	**Jiri**		**15.32 120**	*e*P	**Pn**	**21 46 03.8**	**+0.3**
	5.7nm,0.3s						
RAMN	**Ramite**		**16.05 122**	*e*P	**Pn**	**21 46 11.8**	**-0.7**
RAMN	**Ramite**		**16.05 122**	*e*P	**Pn**	**21 46 11.8**	**-0.7**
TAPN	**Taplejung**		**16.58 118**	*e*P	**Pn**	**21 46 18.8**	**-0.1**
	3.9nm,0.4s						
TAPN	**Taplejung**		**16.58 118**	*e*P	**Pn**	**21 46 18.8**	**-0.1**
	3.9nm,0.4s						
ODAN	**Odare**		**16.65 120**	*e*P	**Pn**	**21 46 19.9**	**+0.1**
ODAN	**Odare**		**16.65 120**	*e*P	**Pn**	**21 46 19.9**	**+0.1**

*ISK **16** 21:52:48.8, 37°.91N×27°.40E, h8km, MD2.8*
*ISCJB **16** 21:52:49.4±0.4, 37°.91N±0°.02×27°.45E±0°.03, h7km±4km, Error ellipse: s-maj=3.9km s-min=3.2km az=42.7*
*CSEM **16** 21:52:49.8±0.2, 37°.90N×27°.41E, h15km, MD3.0, Error ellipse: s-maj=4.0km s-min=3.5km az=48.0*
*ATH **16** 21:52:49.0, 37°.88N×27°.49E, h5km±2km, MD3.3/4*
*DDA **16** 21:52:49.4, 37°.96N×27°.44E, h10km±5km, Md3.0*

ISC 16 21:52:49.9±0.4, 37°.92N±0°.02×27°.46E±0°.03, h6km±4km, n47, σ0s94/79, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**		**0.29 219**	*i* P	**Pg**	**21 52 54.9**	**-0.6**
GCAM				*i* S	**Sg**	**21 52 59.8**	**+0.6**
GCAM	**G?zelcaml?**		**0.29 219**	*i* P	**Pg**	**21 52 54.9**	**-0.5**
GCAM				*i* S	**Sg**	**21 52 59.8**	**+0.6**
AYDN	**Tasoluk**		**0.42 128**	*i* P	**Pg**	**21 52 58.6**	**+0.6**
AYDN				*i* S	**Sg**	**21 53 04.1**	**+0.5**
AYDN	**Tasoluk**		**0.42 128**	*i* P	**Pg**	**21 52 58.6**	**+0.6**
AYDN				*i* S	**Sg**	**21 53 04.1**	**+0.5**
IZM	**Izmir**		**0.50 342**	*e*PG	**Pg**	**21 52 59.3**	**-0.2**
IZM				*e*SG	**Sg**	**21 53 06.4**	**+0.4**
IZM	**Izmir**		**0.50 342**	*e*Pg	**Pg**	**21 52 59.3**	**-0.2**
SMG	**Samos**		**0.54 247**	*e*PB	**Pg**	**21 52 59.8**	**-0.4**
SMG				*e*SB	**Sg**	**21 53 07.6**	**+0.4**
SMG	**Samos**		**0.54 247**	*e*Pb	**Pg**	**21 52 59.8**	**-0.4**
SMG				*e*Sb	**Sg**	**21 53 07.6**	**+0.4**
BLCB	**Balcova**		**0.57 325**	*e*PG	**Pg**	**21 53 00.8**	**+0.1**
BLCB				*e*SG	**Sg**	**21 53 07.7**	**-0.5**
BLCB	**Balcova**		**0.57 325**	*e*Pg	**Pg**	**21 53 00.8**	**0.0**
BLCB				*e*Sg	**Sg**	**21 53 07.7**	**-0.5**
URLA	**Izmir**		**0.81 303**	*i* P	**Pg**	**21 53 04.5**	**-0.9**
URLA				*i* S	**Sg**	**21 53 15.1**	**-0.8**
URLA	**Izmir**		**0.81 303**	*i* P	**Pg**	**21 53 04.5**	**-0.9**
URLA				*i* S	**Sg**	**21 53 15.1**	**-0.8**
BODT	**Bodrum**		**0.87 188**	*e*PG	**Pg**	**21 53 05.4**	**-1.1**
BODT	**Bodrum**		**0.87 188**	*e*Pg	**Pg**	**21 53 05.4**	**-1.1**
AKHS	**Akhisar**		**0.99 16**	*i* P	**Pg**	**21 53 08.7**	**-0.3**
AKHS				*i* S	**Sg**	**21 53 22.1**	**+0.2**
AKHS	**Akhisar**		**0.99 16**	*i* P	**Pg**	**21 53 08.7**	**-0.2**
AKHS				*i* S	**Sg**	**21 53 22.1**	**+0.3**
AKS	**Akhisar**		**0.99 16**	*e*PG	**Pg**	**21 53 08.4**	**-0.5**
AKS	**Akhisar**		**0.99 16**	*e*Pg	**Pg**	**21 53 08.4**	**-0.5**
YER	**Yerkesik**		**1.02 140**	*e*PG	**Pg**	**21 53 09.4**	**-0.1**
YER	**Yerkesik**		**1.02 140**	*e*Pg	**Pg**	**21 53 09.4**	**-0.1**
MANT	**Manisa**		**1.03 56**	*i* P	**Pg**	**21 53 09.8**	**+0.1**
MANT				*i* S	**Sg**	**21 53 22.0**	**-1.1**
MANT	**Manisa**		**1.03 56**	*i* P	**Pg**	**21 53 09.8**	**+0.1**
MANT				*i* S	**Sg**	**21 53 22.0**	**-1.1**
KULA	**Kula-Manisa**		**1.11 58**	*e*PN	**Pg**	**21 53 11.7**	**+0.4**
KULA	**Kula-Manisa**		**1.11 58**	*e*Pn	**Pg**	**21 53 11.7**	**+0.5**
DAT	**Datca**		**1.20 175**	*e*PN	**Pn**	**21 53 11.8**	**-1.3**
DAT	**Datca**		**1.20 175**	*e*Pn	**Pn**	**21 53 11.8**	**-1.3**
CHOS	**Chios island**		**1.20 293**	*e*PG	**Pg**	**21 53 12.3**	**-0.6**
CHOS				*e*SB	**Sb**	**21 53 29.7**	**+1.0**
CHOS	**Chios island**		**1.20 293**	*e*Pg	**Pg**	**21 53 12.3**	**-0.6**
CHOS				*e*Sb	**Sb**	**21 53 29.6**	**+0.9**
DNZL	**Cakiroluk**		**1.28 100**	*i* P	**Pn**	**21 53 15.0**	**+0.8**
DNZL				*i* S	**Sb**	**21 53 32.1**	**+1.1**
DNZL	**Cakiroluk**		**1.28 100**	*i* P	**Pn**	**21 53 15.0**	**+0.8**
DNZL				*i* S	**Sb**	**21 53 32.1**	**+1.1**
TURN	**Turunc**		**1.39 139**	*i* P	**Pn**	**21 53 12.6**	**-3.1**
TURN				*i* S	**Sb**	**21 53 30.0**	**-4.1**
DEMI	**Demirci**		**1.49 41**	*i* P	**Pn**	**21 53 18.1**	**+1.0**
DEMI				*i* S	**Sn**	**21 53 32.0**	**-4.9**
DEMI	**Demirci**		**1.49 41**	*i* P	**Pn**	**21 53 18.1**	**+0.9**
AYVA	**Ayvalik**		**1.51 337**	*i* P	**Pn**	**21 53 17.1**	**-0.3**
AYVA				*i* S	**Sn**	**21 53 37.8**	**+0.5**
AYVA	**Ayvalik**		**1.51 337**	*i* P	**Pn**	**21 53 17.1**	**-0.3**
AYVA				*i* S	**Sn**	**21 53 37.8**	**+0.4**
PRK	**Paraskevi**		**1.62 325**	*e*PB	**Pb**	**21 53 20.6**	**+0.5**
PRK				*e*SB	**Sg**	**21 53 44.0**	**+2.2**
PRK	**Paraskevi**		**1.62 325**	*e*Pb	**Pb**	**21 53 20.6**	**+0.5**
PRK				*e*Sb	**Sg**	**21 53 44.5**	**+2.7**
KHAL	**Karahalli**		**1.66 74**	*i* P	**Pn**	**21 53 20.9**	**+1.4**
KHAL				*i* S	**Sn**	**21 53 40.8**	**-0.3**
KHAL	**Karahalli**		**1.66 74**	*i* P	**Pn**	**21 53 20.9**	**+1.4**
KHAL				*i* S	**Sn**	**21 53 40.8**	**-0.4**
BALB	**Balikesir**		**1.75 11**	*e*PN	**Pn**	**21 53 20.3**	**-0.3**
BALB	**Balikesir**		**1.75 11**	*e*Pn	**Pn**	**21 53 20.3**	**-0.4**
APE	**Apeiranthos**		**1.75 242**	*e*PN	**Pn**	**21 53 19.8**	**-1.0**
APE	**Apeiranthos**		**1.75 242**	*e*PN	**Pn**	**21 53 22.5**	**+1.7**
APE				*e*SN	**Sg**	**21 53 47.0**	**+0.7**
APE	**Apeiranthos**		**1.75 242**	*e*Pn	**Pn**	**21 53 19.8**	**-1.0**
APE				*e*Sn	**Sg**	**21 53 47.0**	**+0.7**
BALY	**Balya**		**1.82 4**	*i* P	**Pn**	**21 53 20.7**	**-1.0**
BALY				*i* S	**Sn**	**21 53 44.2**	**-0.8**
BALY	**Balya**		**1.82 4**	*i* P	**Pn**	**21 53 20.7**	**-1.0**
BALY				*i* S	**Sn**	**21 53 44.2**	**-0.8**
DURS	**Dursunbey**		**1.85 25**	*i* P	**Pn**	**21 53 24.6**	**+2.4**
DURS				*i* S	**Sn**	**21 53 42.6**	**-3.2**

*IDC **16** 21:57:07.6±2.8, 37°.82S×177°.27E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=56.0km s-min=16.1km az=80.0*
*ISCJB **16** 21:57:11.2±0.6, 37°.77S±0°.04×176°.72E±0°.04, h13km±3km, mb3.7/4, Error ellipse: s-maj=6.7km s-min=4.9km az=41.0*
*WEL **16** 21:57:11.5±0.1, 37°.80S×176°.75E, h5km, ML4.1/13, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 4.
*NEIC **16** 21:57:11.3, 37°.80S×176°.75E, h2km, mb4.0/1, ML4.1

ETKA	**Kagalaska Isla**	**1.52 293**	P	**Pn**	**22 01 40.4**	**-0.1**
ETKA			S	**Sn**	**22 01 60.0**	**+0.1**
ADAG	**Mount Adagdak**	**1.68 295**	P	**Pn**	**22 01 43.0**	**+0.3**
KIKV	**Kanaga Island**	**1.97 289**	P	**Pn**	**22 01 46.8**	**0.0**
KIMD	**Kanaga Island**	**1.98 285**	P	**Pn**	**22 01 46.6**	**-0.2**
TAFP	**Tanaga Falls P**	**2.47 286**	P	**Pn**	**22 01 54.4**	**+0.9**
TAFP			S	**Sn**	**22 02 23.3**	**0.0**
TASE	**Tanaga Southea**	**2.48 284**	P	**Pn**	**22 01 54.9**	**+1.1**
GANE	**Gareloi Northe**	**2.93 282**	P	**Pn**	**22 02 00.8**	**+0.8**
FX1	**Attu Island--F**	**7.98 286**	P	**Pn**	**22 03 14.9**	**+5.7**
1.1nm,0.3s,baz=65,slow=22,SNR=5.7						
FX1	**Attu Island--F**	**7.98 286**	P	**Pn**	**22 03 14.9**	**+5.7**
KDAK	**Kodiak Island**	**14.07 54**	P	**Pn**	**22 04 40.4**	**+8.0**
1.6nm,0.3s,baz=303,slow=18,SNR=15						
KDAK	**Kodiak Island**	**14.07 54**	P	**Pn**	**22 04 40.4**	**+8.0**
PPLA	**Purkeypile**	**16.55 37**	*e*Pn	**Pn**	**22 05 06.3**	**+1.1**
ILAR	**Eielson Array**	**19.55 36**	P	**Pn**	**22 05 38.0**	**-3.9**
0.3nm,0.3s,baz=237,slow=9.2,SNR=21						
ILAR	**Eielson Array**	**19.55 36**	P	**Pn**	**22 05 38.0**	**-3.9**
DOT	**Dot Lake**	**20.13 41**	*e*P	**P**	**22 05 48.4**	**+1.4**
7.5nm,1.8s						
EGAK	**Eagle**	**21.74 39**	*e*P	**P**	**22 06 03.4**	**-0.9**
14nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**43.54 75**	P	**P**	**22 09 23.2**	**+6.5**
0.2nm,0.5s,mb3.1,baz=322,slow=7.1,SNR=1.9						
PDAR	**Pinedale Array**	**43.54 75**	P	**P**	**22 09 23.2**	**+6.5**
SONM	**Songino Array**	**49.27 299**	P	**P**	**22 10 01.0**	**-0.6**
0.5nm,0.7s,mb3.7,baz=63,slow=6.5,SNR=5.6						
SONM	**Songino Array**	**49.27 299**	P	**P**	**22 10 01.0**	**-0.6**
MKAR	**Makanchi Array**	**62.33 311**	P	**P**	**22 11 33.9**	**-1.3**
0.3nm,0.3s,mb3.8,baz=48,slow=6.0,SNR=11						
MKAR	**Makanchi Array**	**62.33 311**	P	**P**	**22 11 33.9**	**-1.3**

*GUC **16** 22:05:25.1±0.8, 29°.73S×71°.51W, h68km±5km, ML5.6*
*NEIC **16** 22:05:25.0, 29°.73S×71°.51W, h68km, mb4.9/36, After GUC.*
NEIC Felt [V] at La Higuera; [IV] at Andacollo, La Serena and Vicuna; [III] at Ovalle, Punitaqui and Rio Hurtado.
*ISCJB **16** 22:05:25.1±0.1, 29°.73S±0°.02×71°.49W±0°.04, h59km, mb4.8/46, MS4.1/16, Error ellipse: s-maj=5.4km s-min=2.0km az=166.7*
*IDC **16** 22:05:26.1±0.7, 29°.65S×71°.58W, h58km±5km, mb4.4/15, mb1 4.5/18, mb1mx4.4/21, mbtmp4.4/18, MS4.0/19, Ms1 4.0/19, ms1mx3.9/26, Error ellipse: s-maj=17.6km s-min=9.4km az=55.0*
*GCMT **16** 22:05:28.3±0.2, 29°.91S×71°.85W, h63km±3km, MW5.1, Moment Tensor Solution. s47,c60; s80,c116; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.14±.23; $M_{\theta\theta}$=1.99±.19; $M_{\phi\phi}$=-1.86±.21; $M_{r\theta}$=1.40±.10; $M_{\theta\phi}$=1.79±.18; $M_{\phi r}$=-4.60±.14; Best double couple: M_0=5.50000×10^{16} NP1:ϕ_s=290.00000°, δ29.00000°, λ=-1.00000°. NP2:ϕ_s=21.00000°, δ90.00000°, λ=-119.00000°. Principal axes: T 5.2200, Plg38.0000°, Azm136.0000°; N 0.4900, Plg29.0000°, Azm21.0000°; P -5.7100, Plg39.0000°, Azm265.0000°; Data Used: II IU IC CN G.*
*BJI **16** 22:05:29.0, 29°.70S×71°.50W, h67km, mB5.0/6, Ms5.0/4, Ms7 4.7/8*

ISC 16 22:05:26.8±0.1, 29°.73S±0°.02×71°.37W±0°.05, h61km, h61km±2.7km: pP-P, n426, σ0°61/417, mb4.8/46, 154C-143D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.21**	**148**	⇓*i*P		**Pn**		**22 05 36.1**	**-0.2**
LSCH				*i*S		**Sn**		**22 05 43.9**	**+0.6**
LSCH	**La Serena**	**0.21**	**148**	⇓*i*P		**Pn**		**22 05 36.1**	**-0.2**
LSCH				*i*S		**Sn**		**22 05 43.9**	**+0.6**
OVCH	**Ovalle**	**0.89**	**171**	⇑*i*P		**Pn**		**22 05 43.0**	**-0.5**
OVCH				*i*S		**Sn**		**22 05 55.9**	**+0.2**
OVCH	**Ovalle**	**0.89**	**171**	⇑*i*P		**Pn**		**22 05 43.0**	**-0.5**
OVCH				*i*S		**Sn**		**22 05 55.9**	**+0.2**
OVCH				AML		AML		22 05 57.8	
comp=N,177μm,0.7s									
LCO	**Las Campanas**	**0.93**	**39**	*e*Pn		**Pn**		**22 05 44.3**	**+0.3**
LCO				*e*Sn		**Sn**		**22 05 57.2**	**+0.7**
VACH	**Vallenar**	**1.27**	**25**	⇓*i*P		**Pn**		**22 05 48.1**	**-0.3**
VACH				*i*S		**Sn**		**22 06 05.2**	**+0.6**
VACH	**Vallenar**	**1.27**	**25**	⇓*i*P		**Pn**		**22 05 48.1**	**-0.3**
VACH				*i*S		**Sn**		**22 06 05.2**	**+0.6**
VACH				AML		AML		22 06 06.9	
comp=N,120μm,0.4s									
CMCH	**Combarbala**	**1.47**	**168**	⇓*i*P		**Pn**		**22 05 50.7**	**-0.5**
CMCH				*i*S		**Sn**		**22 06 10.0**	**+0.6**
CMCH	**Combarbala**	**1.47**	**168**	⇓*i*P		**Pn**		**22 05 50.7**	**-0.5**
CMCH				*i*S		**Sn**		**22 06 10.0**	**+0.6**
CMCH				AML		AML		22 06 11.4	
comp=N,252μm,0.6s									
CHNG	**Los Chungos**	**2.15**	**183**	⇓*i*P		**Pn**		**22 05 59.0**	**-1.3**
CHNG				*i*S		**Sn**		**22 06 24.8**	**-1.0**
CPCH	**Copiapo**	**2.53**	**21**	⇑*i*P		**Pn**		**22 06 04.8**	**-0.7**
CPCH				*i*S		**Sn**		**22 06 35.1**	**0.0**
CPCH	**Copiapo**	**2.53**	**21**	⇑*i*P		**Pn**		**22 06 04.8**	**-0.7**
CPCH				*i*S		**Sn**		**22 06 35.1**	**0.0**
CPCH				AML		AML		22 06 39.0	
comp=N,28μm,0.1s									
PTCH	**Petorca**	**2.55**	**172**	*e*P		**Pn**		**22 06 05.7**	**-0.1**
PTCH				*i*S		**Sn**		**22 06 35.9**	**+0.2**
PTCH				AML		AML		22 06 39.0	
comp=N,24μm,0.5s									
JACH	**Jahuel**	**3.02**	**167**	⇓*i*P		**Pn**		**22 06 13.0**	**+0.9**
JACH	**Jahuel**	**3.02**	**167**	⇓*i*P		**Pn**		**22 06 13.0**	**+0.9**
ROCH	**El Roble**	**3.25**	**175**	⇑*i*P		**Pn**		**22 06 14.8**	**-0.4**
ROCH				*i*S		**Sn**		**22 06 53.0**	**+0.3**
ROCH				AML		AML		22 07 10.7	
comp=E,15μm,0.6s									
CFAA	**Coronel Fontan**	**3.28**	**125**	P		**Pn**		**22 06 18.6**	**+2.9**
comp=E,23nm,0.3s,baz=309,slow=13,SNR=511									
CFAA				S		**Sn**		**22 06 59.9**	**+6.3**
comp=E,67nm,0.3s,baz=72,slow=18,SNR=15									
CFAA				LR		LR		22 07 45.7	
comp=E,758nm,21.5s,baz=335,slow=40									
CFAA	**Coronel Fontan**	**3.28**	**125**	P		**Pn**		**22 06 18.6**	**+2.9**
CFAA				S		**Sn**		**22 06 59.9**	**+6.3**
PEL	**Peldehue**	**3.45**	**170**	⇓*i*P		**Pn**		**22 06 18.2**	**+0.1**
PEL				*i*S		**Sn**		**22 06 57.6**	**-0.1**
PEL				AML		AML		22 07 15.1	
comp=N,14μm,0.3s									
FCH	**Farellones**	**3.70**	**166**	⇑*i*P		**Pn**		**22 06 26.1**	**+4.6**
FCH				*e*S		**Sn**		**22 07 09.8**	**+6.0**
CLCH	**Cerro Calan**	**3.72**	**169**	*e*P		**Pn**		**22 06 21.5**	**-0.2**
CLCH				*i*S		**Sn**		**22 07 03.9**	**-0.5**
RCDM	**Rinconada Maip**	**3.78**	**173**	*e*P		**Pn**		**22 06 22.0**	**-0.5**
RCDM				*e*S		**Sn**		**22 07 04.7**	**-1.0**
RCDM				AML		AML		22 07 23.4	
comp=E,5μm,0.6s									
FSR	**Penalolen**	**3.80**	**169**	*e*P		**Pn**		**22 06 23.2**	**+0.3**
FSR				*e*S		**Sn**		**22 07 06.9**	**+0.6**
FSR	**Penalolen**	**3.80**	**169**	*e*P		**Pn**		**22 06 23.2**	**+0.3**
FSR				*e*S		**Sn**		**22 07 06.9**	**+0.6**
MDZ	**Mendoza**	**3.81**	**146**	*e*P		**Pn**		**22 06 28.0**	**+5.0**
MDZ				*e*				22 06 45.8	
MDZ				*e*				22 06 47.0	
MDZ				*e*S		**Sn**		**22 07 12.1**	**+5.6**
ANTU	**Antumapu**	**3.88**	**171**	⇑*i*P		**Pn**		**22 06 24.1**	**+0.2**
ANTU				*e*S		**Sn**		**22 07 08.2**	**+0.1**
ANTU	**Antumapu**	**3.88**	**171**	⇑*i*P		**Pn**		**22 06 24.1**	**+0.2**
ANTU				*e*S		**Sn**		**22 07 08.2**	**+0.1**
TACH	**Talagante**	**3.93**	**175**	*e*P		**Pn**		**22 06 23.8**	**-0.8**
LMEL	**Las Melosas**	**4.22**	**167**	*e*P		**Pn**		**22 06 29.8**	**+1.2**
LMEL				*e*S		**Sn**		**22 07 18.3**	**+1.7**
LMEL	**Las Melosas**	**4.22**	**167**	*e*P		**Pn**		**22 06 29.8**	**+1.2**
LMEL				*e*S		**Sn**		**22 07 18.3**	**+1.7**
CACH	**El Canelo**	**4.42**	**172**	*e*P		**Pn**		**22 06 31.5**	**+0.1**
CACH	**El Canelo**	**4.42**	**172**	*e*P		**Pn**		**22 06 31.5**	**+0.1**
PLCA	**Paso Flores**	**11.00**	**177**	P		**Pn**		**22 08 00.1**	**-1.1**
comp=E,1.6nm,0.3s,baz=342,slow=14,SNR=18									
PLCA				LR		LR		22 13 06.5	
comp=E,306nm,19.1s,baz=348,slow=42									
PLCA	**Paso Flores**	**11.00**	**177**	*e*Pn		**Pn**		**22 07 59.8**	**-1.5**
TRQA	**Tornquist**	**11.39**	**139**	*e*Pn		**Pn**		**22 08 06.2**	**-0.4**
CPUP	**Villa Florida**	**12.86**	**78**	P		**Pn**		**22 08 26.9**	**+0.2**
comp=E,0.9nm,0.3s,baz=235,slow=13,SNR=12									
CPUP				LR		LR		22 13 54.0	
comp=E,2μm,21.6s,baz=236,slow=39									
CPUP	**Villa Florida**	**12.86**	**78**	P		**Pn**		**22 08 26.9**	**+0.2**
LPAZ	**La Paz**	**13.71**	**13**	P		**Pn**		**22 08 34.5**	**-3.8**
comp=E,0.6nm,0.3s,baz=186,slow=7.7,SNR=6.7									
LPAZ	**La Paz**	**13.71**	**13**	*e*Pn		**Pn**		**22 08 34.2**	**-4.2**
NNA	**Nana**	**18.38**	**343**	P		**Pn**		**22 09 31.6**	**-5.8**
comp=E,1.2nm,0.3s,baz=204,slow=4.4,SNR=2.3									
NNA				LR		LR		22 15 10.8	
comp=E,514nm,20.6s,baz=151,slow=32									
NNA	**Nana**	**18.38**	**343**	P		**Pn**		**22 09 31.6**	**-5.8**
SAML	**Samuel**	**22.05**	**22**	*e*P		**P**		**22 10 14.6**	**-2.0**
comp=E,35nm,1.4s,mb4.6									
SPB	**Sao Paulo**	**22.23**	**80**	*e*P		**P**		**22 10 17.5**	**-1.0**
comp=E,79nm,1.1s,mb5.1									
ATAH	**Atahualpa**	**23.43**	**342**	P		**P**		**22 10 30.0**	**-0.7**
comp=E,3.9nm,0.6s,mb4.0,baz=74,slow=7.2,SNR=4.3									
ATAH				LR		LR		22 18 23.4	
comp=E,178nm,18.1s,baz=183,slow=33									
ATAH	**Atahualpa**	**23.43**	**342**	P		**P**		**22 10 30.0**	**-0.7**
USHA	**Ushuaia**	**25.17**	**176**	P		**P**		**22 10 46.5**	**+0.2**
comp=E,52nm,0.8s,mb5.1,baz=324,slow=6.3,SNR=12									
USHA				LR		LR		22 21 43.5	
comp=E,431nm,18.5s,baz=5.2,slow=39									
USHA	**Ushuaia**	**25.17**	**176**	P		**P**		**22 10 46.5**	**+0.2**
ROSC	**El Rosal**	**34.51**	**355**	LR		LR		22 27 05.1	
comp=E,152nm,18.6s,baz=21,slow=38									
PMSA	**Palmer Station**	**35.36**	**175**	P		**P**		**22 12 17.3**	**+1.2**
comp=E,52nm,1.1s,mb5.4,baz=349,slow=12,SNR=4.9									
PMSA	**Palmer Station**	**35.36**	**175**	P		**P**		**22 12 17.3**	**+1.2**
SDV	**Santo Domingo**	**38.40**	**1**	*e*P		**P**		**22 12 42.2**	**-0.2**
comp=E,7.3nm,0.9s,mb4.4									
SDV				*e*pP		pP		22 12 56.2	-1.4
RCBR	**Riachuelo**	**41.02**	**62**	P		**P**		**22 13 05.5**	**+1.2**
comp=E,11nm,1.1s,mb4.4,baz=224,slow=9.5,SNR=3.9									
RCBR	**Riachuelo**	**41.02**	**62**	*e*P		**P**		**22 13 04.9**	**+0.6**
comp=E,41nm,1.2s,mb4.9									
RCBR				*e*pP		pP		22 13 20.2	+0.6
SNAA	**Sanae**	**55.33**	**159**	P		**P**		**22 14 54.1**	**+0.2**
comp=E,14nm,1.1s,mb4.9,baz=284,slow=5.8,SNR=38									
SNAA	**Sanae**	**55.33**	**159**	*e*P		**P**		**22 14 52.4**	**-1.4**
comp=E,62nm,1.2s,mb5.5									
RKT	**Rikitea**	**56.73**	**261**	*e*LR		LR		22 31 46.7	
comp=E,560nm,26.5s									
QSPA	**South Pole Qui**	**60.49**	**180**	P		**P**		**22 15 30.6**	**+0.7**
comp=E,20nm,1.0s,mb5.1,baz=154,slow=3.2,SNR=29									
QSPA	**South Pole Qui**	**60.49**	**180**	*e*P		**P**		**22 15 26.4**	**-3.4**
comp=E,22nm,1.0s,mb5.2									
QSPA				*e*pP		pP		22 15 45.4	-0.7
QSPA				*e*sP		sP		22 15 52.9	-0.1
JCT	**Junction City**	**65.71**	**333**	⇑P		**P**		**22 16 04.7**	**-0.3**
comp=E,93nm,20.6s,baz=356,slow=35									
TKL	**Tuckaleechee C**	**66.08**	**349**	LR		LR		22 43 43.7	
comp=E,93nm,20.6s,baz=356,slow=35									
628A	**Black Gap, Mar**	**66.12**	**330**	⇓P		**P**		**22 16 07.8**	**+0.1**
baz=66,SNR=7.8									
627A	**Terlingua Ranc**	**66.31**	**330**	⇓P		**P**		**22 16 08.3**	**-0.6**
baz=67									
TXAR	**Lajitas Array**	**66.33**	**329**	P		**P**		**22 16 08.7**	**-0.3**
comp=E,2.2nm,0.8s,mb4.2,baz=146,slow=9.1,SNR=19									
TXAR				LR		LR		22 40 42.8	
comp=E,113nm,18.5s,baz=185,slow=32									
TXAR	**Lajitas Array**	**66.33**	**329**	P		**P**		**22 16 08.7**	**-0.3**
528A	**Cox Ranch, San**	**66.66**	**331**	⇓P		**P**		**22 16 10.6**	**-0.5**
baz=67,SNR=9.6									
626A	**Big Bend Ranch**	**66.72**	**329**	⇑P		**P**		**22 16 11.6**	**+0.1**
baz=67,SNR=20									
527A	**Woodward Ranch**	**67.00**	**330**	⇑P		**P**		**22 16 12.8**	**-0.5**
baz=67,SNR=8.4									
428A	**Kincaid Ranch,**	**67.11**	**331**	⇑P		**P**		**22 16 13.4**	**-0.5**
baz=67									
526A	**Mary Lane Ranc**	**67.14**	**329**	⇑P		**P**		**22 16 13.9**	**-0.2**
baz=68,SNR=14									
427A	**Hayter Ranch,**	**67.52**	**330**	⇑P		**P**		**22 16 16.1**	**-0.4**
baz=68									
426A	**McDonald Obser**	**67.63**	**330**	⇑P		**P**		**22 16 17.1**	**-0.2**
baz=68,SNR=12									
328A	**Wristen Ranch,**	**67.73**	**331**	⇓P		**P**		**22 16 17.6**	**-0.2**
baz=68									
425A	**Indio Mountain**	**68.16**	**329**	⇑P		**P**		**22 16 19.9**	**-0.7**
baz=68									
326A	**Caldwell Ranch**	**68.17**	**330**	⇑P		**P**		**22 16 20.1**	**-0.5**
baz=68									
VNDA	**Vanda**	**68.39**	**191**	*e*P		**P**		**22 16 22.9**	**+1.5**
comp=E,7.1nm,1.1s,mb4.6									
227A	**Bennet, Jal**	**68.48**	**331**	⇑P		**P**		**22 16 22.1**	**-0.5**
baz=69									
325A	**Bean Ranch, Si**	**68.65**	**329**	⇑P		**P**		**22 16 22.9**	**-0.7**
baz=69,SNR=12									
BBTS	**Babate**	**68.86**	**58**	LR		LR		22 46 52.3	
comp=E,156nm,18.9s,baz=232,slow=36									
TBI	**Tubuai**	**68.94**	**255**	*e*LR		LR		22 37 16.3	
comp=E,395nm,29.8s									
324A	**Moseley Ranch,**	**68.94**	**329**	⇑P		**P**		**22 16 24.0**	**-1.5**
baz=69,SNR=5.2									
GDL2	**Guadalupe Moun**	**69.09**	**330**	*e*P		**P**		**22 16 27.4**	**+1.0**
MNTX	**Cornudas Mount**	**69.11**	**329**	⇓P		**P**		**22 16 25.0**	**-1.4**
baz=69,SNR=10									
WMOK	**Wichita Mounta**	**69.14**	**336**	*e*P		**P**		**22 16 25.6**	**-1.1**
comp=E,75nm,2.6s,mb5.2									
TUL1	**Tulsa**	**69.22**	**339**	⇓P		**P**		**22 16 26.5**	**-0.5**
baz=70									
126A	**Clayton Basin,**	**69.33**	**331**	⇓P		**P**		**22 16 27.4**	**-0.5**
baz=70									
224A	**Cornudas Mount**	**69.49**	**329**	⇓P		**P**		**22 16 28.0**	**-0.8**
baz=70									
Z27A	**Tatum**	**69.58**	**332**	⇓P		**P**		**22 16 28.4**	**-0.9**
baz=70,SNR=5.8									
125A	**Gardner Draw,**	**69.61**	**330**	⇓P		**P**		**22 16 29.1**	**-0.5**
baz=70									
FVM	**French Village**	**69.68**	**344**	*e*P		**P**		**22 16 29.5**	**-0.4**
comp=E,146nm,2.1s,mb5.5									
Z26A	**Capcock**	**69.86**	**331**	⇓P		**P**		**22 16 30.3**	**-0.7**
baz=70,SNR=9.6									
CCM	**Cathedral Cave**	**69.95**	**343**	*e*P		**P**		**22 16 30.3**	**-1.2**
comp=E,36nm,1.4s,mb5.1									
CCM				*e*pP		pP		22 16 41.5	-6.6
MSTX	**Muleshoe**	**69.97**	**333**	⇑P		**P**		**22 16 30.8**	**-0.9**
baz=70,SNR=6.0									
Y27A	**Causey**	**70.05**	**332**	⇑P		**P**		**22 16 31.8**	**-0.4**
baz=70									
Z25A	**Roswell**	**70.17**	**331**	⇑P		**P**		**22 16 32.4**	**-0.6**
baz=70									
AMTX	**Amarillo**	**70.34**	**334**	⇑P		**P**		**22 16 33.9**	**-0.1**
baz=71									
Y25A	**Mesa, Roswell**	**70.72**	**331**	⇓P		**P**		**22 16 35.9**	**-0.3**
baz=71									
Z23A	**Rita Site, Whi**	**70.81**	**330**	⇓P		**P**		**22 16 37.2**	**+0.3**
baz=71									
X26A	**CF and CF Fran**	**70.89**	**332**	⇓P		**P**		**22 16 37.2**	**-0.2**
baz=71									
Y24A	**Capitan**	**71.03**	**330**	⇓P		**P**		**22 16 38.2**	**0.0**
baz=71									
W27A	**Bowe Ranch, En**	**71.04**	**333**	⇑P		**P**		**22 16 38.1**	**-0.1**
baz=71									
Y23A	**Lovelace Mesa,**	**71.31**	**330**	⇓P		**P**		**22 16 39.9**	**0.0**
baz=72									
W26A	**Owens Ranch, T**	**71.34**	**332**	⇑P		**P**		**22 16 39.9**	**-0.1**
baz=72,SNR=5.1									
PPT2	**Papete2**	**71.47**	**260**	*e*S		S		22 26 00.8	+5.2
comp=E,123nm,31.8s									
PPT2				*e*LR		LR		22 38 33.7	
comp=E,504nm,23.8s									
W25A	**X Bar L Ranch,**	**71.73**	**332**	⇑P		**P**		**22 16 42.3**	**-0.2**
baz=72									
X23A	**Hourglass Bar**	**71.92**	**330**	⇑P		**P**		**22 16 43.8**	**+0.3**
baz=72									
Y21A	**Point of Rocks**	**72.09**	**329**	⇑P		**P**		**22 16 45.1**	**+0.6**
baz=72									
W24A	**Lazy 6 Ranch,**	**72.12**	**331**	⇓P		**P**		**22 16 44.7**	**-0.1**
baz=72									
Y20A	**Horse Springs,**	**72.32**	**328**	⇑P		**P**		**22 16 46.1**	**+0.2**
baz=73									
V25A	**Rancho No Teng**	**72.33**	**332**	⇓P		**P**		**22 16 46.1**	**+0.1**
baz=73									
ANMO	**Albuquerque**	**72.35**	**330**	LR		LR		22 44 21.2	
comp=E,156nm,18.2s,baz=334,slow=32									
W23A	**Werner Place,**	**72.39**	**331**	⇑P		**P**		**22 16 46.4**	**0.0**
baz=73									
U26A	**Atchley Ranch,**	**72.47**	**333**	⇑P		**P**		**22 16 46.9**	**+0.1**
baz=73									
X21A	**Alamocita Cree**	**72.50**	**329**	⇑P		**P**		**22 16 46.9**	**-0.2**
baz=73									
U25A	**Circle Dot Ran**	**72.74**	**333**	⇓P		**P**		**22 16 48.0**	**-0.3**
baz=73,SNR=5.3									
214A	**Organ Pipe Nat**	**72.88**	**324**	⇑P		**P**		**22 16 49.5**	**+0.2**
baz=73									
V23A	**Ortiz Mt. (NFS**	**72.91**	**331**	⇓P		**P**		**22 16 49.9**	**+0.5**
baz=73									
X20A	**Quemado**	**72.91**	**329**	⇓P		**P**		**22 16 49.1**	**-0.3**
baz=73									
CBKS	**Cedar Bluff**	**73.15**	**337**	⇑P		**P**		**22 16 50.4**	**-0.3**
baz=74									
DBIC	**Dimbokro**	**73.30**	**72**	P		**P**		**22 16 52.0**	**-0.3**
comp=E,9.1nm,0.8s,mb4.7,baz=197,slow=6.8,SNR=13									
DBIC				pP		pP		22 17 08.0	-0.9
comp=E,11nm,0.8s,baz=223,slow=6.6,SNR=7.6									
DBIC				LR		LR		22 46 09.9	
comp=E,231nm,20.6s,baz=218,slow=33									
DBIC	**Dimbokro**	**73.30**	**72**	P		**P**		**22 16 52.0**	**-0.3**
DBIC				pP		pP		22 17 08.0	-0.9
V22A	**San Miguel Ran**	**73.36**	**330**	⇑P		**P**		**22 16 52.3**	**+0.3**
baz=74									
T25A	**Trinidad**	**73.38**	**333**	⇑P		**P**		**22 16 52.3**	**+0.2**
baz=74,SNR=6.6									
W20A	**Ramah**	**73.39**	**329**	⇑P		**P**		**22 16 52.2**	**-0.1**
baz=74,SNR=7.2									
U23A	**El Rito**	**73.41**	**331**	⇑P		**P**		**22 16 52.5**	**+0.2**
baz=74									
114A	**Black Gap (USA**	**73.55**	**324**	⇑P		**P**		**22 16 53.4**	**+0.1**
baz=74									
T24A	**Torres, Weston**	**73.58**	**332**	⇓P		**P**		**22 16 53.6**	**+0.2**
baz=74									
U22A	**Llaves**	**73.73**	**331**	⇓P		**P**		**22 16 54.9**	**+0.7**
baz=74,SNR=6.5									
W19A	**Sanders**	**73.78**	**328**	⇑P		**P**		**22 16 54.6**	**+0.1**
baz=74									
S25A	**Robets Cordova**	**73.84**	**333**	⇑P		**P**		**22 16 55.3**	**+0.4**
baz=74,SNR=7.1									
V20A	**Brimhall**	**73.94**	**329**	⇓P		**P**		**22 16 55.7**	**+0.2**
baz=74									
W18A	**Petrified Fore**	**73.95**	**328**	⇓P		**P**		**22 16 55.9**	**+0.4**
baz=74									
113A	**Mohawk Valley,**	**74.01**	**324**	⇓P		**P**		**22 16 55.7**	**-0.3**
baz=74									
R26A	**Arlington**	**74.02**	**334**	⇑P		**P**		**22 16 55.8**	**0.0**
baz=74,SNR=7.8									
U21A	**Nageezi**	**74.11**	**330**	⇓P		**P**		**22 16 56.9**	**+0.4**
baz=74,SNR=9.7									
V19A	**Window Rock**	**74.13**	**329**	⇓P		**P**		**22 16 57.1**	**+0.5**
baz=74,SNR=5.4									
S24A	**Houchin Ranch,**	**74.13**	**333**	⇓P		**P**		**22 16 57.5**	**+0.9**
baz=74,SNR=14									
T22A	**Edith**	**74.29**	**331**	⇓P		**P**		**22 16 58.2**	**+0.8**
baz=75,SNR=9.2									
Z13A	**Yuma Proving G**	**74.30**	**324**	⇑P		**P**		**22 16 57.2**	**-0.4**
baz=75									
SDCO	**Great Sand Dun**	**74.34**	**332**	⇓P		**P**		**22 16 58.2**	**+0.5**
baz=75									
W17A	**Winslow**	**74.37**	**327**	⇑P		**P**		**22 16 58.3**	**+0.3**
baz=75									
U20A	**Newcomb**	**74.45**	**330**	⇑P		**P**		**22 16 58.8**	**+0.4**
baz=75									
SADO	**Sadowa**	**74.48**	**354**	LR		LR		22 49 06.9	
comp=E,57nm,21.0s,baz=224,slow=35									
T21A	**Navajo Lake**	**74.54**	**331**	⇑P		**P**		**22 16 59.5**	**+0.6**
baz=75,SNR=5.1									
Y14A	**Wickenburg**	**74.56**	**325**	⇑P		**P**		**22 16 59.0**	**-0.1**
baz=75									
R24A	**Sanders Place,**	**74.60**	**333**	⇑P		**P**		**22 16 59.7**	**+0.4**
baz=75,SNR=6.9									
U19A	**Dine' College,**	**74.68**	**329**	⇓P		**P**		**22 16 59.7**	**0.0**
baz=75									
R23A	**Moffat**	**74.85**	**332**	⇓P		**P**		**22

M24A	Cheyenne	77.30	335	⇓P	P	22 17 15.4	+0.8
	baz=78						
N22A	Wattenberg Ran	77.34	333	⇓P	P	22 17 15.5	+0.8
	baz=78,SNR=6.1						
P19A	Cripple Cowboy	77.37	331	⇑P	P	22 17 15.4	+0.5
	baz=78,SNR=16						
PHWY	Pilot Hill	77.39	334	eP	P	22 17 16.0	+0.9
	comp=E,18nm,1.3s,mb4.8						
Q18A	Rafter H Ranch	77.42	330	⇑P	P	22 17 15.6	+0.3
	baz=78,SNR=5.4						
O20A	White River Ci	77.49	332	⇑P	P	22 17 16.2	+0.6
	baz=78						
GSC	Goldstone	77.56	323	⇑P	P	22 17 16.3	+0.1
	baz=78						
SRU	San Rafael	77.60	330	eP	P	22 17 16.8	+0.5
	comp=E,14nm,1.2s,mb4.8						
CCUT	Cedar City	77.62	327	eP	P	22 17 17.6	+1.1
	comp=E,19nm,1.2s,mb4.9						
M23A	Laramie	77.63	334	⇓P	P	22 17 16.7	+0.3
	baz=78						
R15A	Junction	77.65	328	⇓P	P	22 17 16.8	+0.2
	baz=78						
N21A	Black Mountain	77.72	333	⇑P	P	22 17 17.8	+0.9
	baz=78						
Q16A	Castle Valley	77.72	329	⇓P	P	22 17 17.5	+0.5
	baz=78,SNR=5.3						
SHOC	Shoshone	77.75	324	⇑P	P	22 17 17.3	+0.1
	baz=78						
MSU	Marysvale	77.85	328	eP	P	22 17 18.8	+1.1
BLG	Laguna Peak	77.86	321	⇑P	P	22 17 17.8	0.0
	baz=78						
EDW2	Edwards Air Fo	77.86	322	⇑P	P	22 17 18.0	+0.2
	baz=78						
P18A	Preston Nutter	77.91	330	⇓P	P	22 17 18.5	+0.5
	baz=78,SNR=13						
M22A	Cedar Creek Ra	77.91	334	⇑P	P	22 17 18.4	+0.4
	baz=78						
O19A	Miners Draw (B	77.99	331	⇓P	P	22 17 18.7	+0.3
	baz=78						
P17A	Butcher Ranch,	77.99	330	⇓P	P	22 17 18.6	+0.2
	baz=78,SNR=5.6						
N20A	Spence Gulch,	78.09	332	⇓P	P	22 17 19.0	+0.1
	baz=78						
LRMC	Laurel Mountai	78.16	323	⇑P	P	22 17 19.4	-0.1
	baz=78						
L23A	Garrett	78.18	335	⇑P	P	22 17 19.9	+0.5
	baz=78						
O18A	Roosevelt	78.33	331	⇓P	P	22 17 20.7	+0.4
	baz=79						
M21A	Separation Pea	78.38	333	⇓P	P	22 17 20.8	+0.2
	baz=79,SNR=6.0						
L22A	Ellis Ranch, M	78.39	334	⇑P	P	22 17 21.0	+0.4
	baz=79						
RWWY	Rawlins	78.39	333	eP	P	22 17 21.5	+0.9
	comp=E,27nm,1.0s,mb5.1						
R13A	O'Grain Ranch,	78.41	327	⇓P	P	22 17 21.2	+0.4
	baz=79						
FURC	Furnace Creek,	78.49	324	⇓P	P	22 17 21.2	-0.1
	baz=79						
MPMC	Manual Prospec	78.50	323	⇓P	P	22 17 21.2	-0.2
	baz=79						
O17A	Robinson Place	78.59	330	⇓P	P	22 17 22.2	+0.5
	baz=79,SNR=10						
M20A	Sweetwater, Wa	78.61	333	⇑P	P	22 17 21.9	+0.1
	baz=79						
L21A	Rawlins	78.69	333	⇑P	P	22 17 22.4	+0.1
	baz=79,SNR=15						
K23A	Bowen Ranch, D	78.71	335	⇓P	P	22 17 22.6	+0.2
	baz=79						
ISA	Isabella	78.71	323	⇓P	P	22 17 22.4	-0.1
	baz=79						
N18A	Larsen Ranch,	78.78	331	⇓P	P	22 17 23.1	+0.3
	baz=79						
MPU	Maple Canyon	78.83	330	eP	P	22 17 24.4	+1.3
	comp=E,14nm,1.1s,mb4.8						
PKM	Peak Mountain	78.86	321	⇓P	P	22 17 23.0	-0.3
	baz=79						
J24A	Dixon Ranch, L	78.86	336	⇓P	P	22 17 23.3	+0.1
	baz=79,SNR=6.5						
O16A	Springville	78.93	330	⇑P	P	22 17 24.0	+0.4
	baz=79						
K22A	Casper	78.95	334	⇑P	P	22 17 23.8	+0.2
	baz=79,SNR=6.3						
DAU	Daniels Canyon	78.99	330	eP	P	22 17 25.0	+1.1
M19A	Rock Springs	79.01	332	⇓P	P	22 17 24.1	+0.1
	baz=79						
CWC	Cottonwood Cre	79.10	323	⇑P	P	22 17 24.8	+0.2
	baz=79						
L20A	Wamsutter	79.11	333	⇑P	P	22 17 24.4	-0.1
	baz=80						
K21A	Alcova	79.22	334	⇑P	P	22 17 25.3	+0.2
	baz=80,SNR=8.6						
JLU	Jordanelle	79.23	330	eP	P	22 17 25.9	+0.7
	comp=E,16nm,1.3s,mb4.8						
JLU				epP	pP	22 17 44.9	+2.8
N17A	Moffit Pass	79.25	331	⇑P	P	22 17 25.6	+0.3
	baz=80						
I24A	Kuemmerle Ranc	79.31	336	⇑P	P	22 17 26.1	+0.5
	baz=80						
R11A	Troy Canyon, C	79.32	326	⇓P	P	22 17 26.2	+0.4
	baz=80,SNR=8.5						
RSSD	Black Hills	79.34	337	eP	P	22 17 26.2	+0.5
	comp=E,12nm,1.3s,mb4.7						
RSSD				epP	pP	22 17 40.9	-1.7
N16A	Rees Ranch, Co	79.46	330	⇑P	P	22 17 27.0	+0.5
	baz=80						
DUG	Dugway	79.50	329	⇓P	P	22 17 27.2	+0.4
	baz=80,SNR=8.3						
DUG	Dugway	79.50	329	eP	P	22 17 27.6	+0.8
	comp=E,21nm,1.4s,mb4.9						
J22A	Midwest	79.59	335	⇑P	P	22 17 26.7	-0.5
	baz=80,SNR=6.6						
L19A	Farson	79.60	332	⇑P	P	22 17 27.5	+0.3
	baz=80,SNR=7.2						
M17A	Scullys Gap (B	79.61	331	⇑P	P	22 17 26.8	-0.4
	baz=80						
K20A	Yellowstone Ra	79.66	333	⇑P	P	22 17 27.3	-0.2
	baz=80						
TSUM	Tsumeb	79.84	106	eP	P	22 17 27.9	-1.3
	comp=E,31nm,1.0s,mb5.2						
J21A	Lysite	79.90	334	⇓P	P	22 17 28.8	+0.1
	baz=80						
K19A	Absolon Red Bu	80.00	333	⇓P	P	22 17 28.9	-0.4
	baz=80,SNR=5.8						
I22A	9 Mile Ranch,	80.01	335	⇑P	P	22 17 29.2	-0.1
	baz=80,SNR=6.1						
MTUM	Tungsten Hills	80.04	324	eP	P	22 17 31.2	+1.5
H24A	Dirks Ranch, A	80.06	337	⇑P	P	22 17 29.5	-0.1
	baz=80						
J20A	Shoshoni	80.15	334	⇓P	P	22 17 30.2	0.0
	baz=80,SNR=6.6						
BW06	Boulder Array	80.23	332	⇑P	P	22 17 30.5	-0.1
	baz=81,SNR=5.8						
BW06	Boulder Array	80.23	332	eP	P	22 17 30.1	-0.5
	comp=E,12nm,1.3s,mb4.7						
PDAR	Pinedale Array	80.23	332	P	P	22 17 30.0	-0.6
	comp=E,3.4nm,1.1s,mb4.2,baz=145,slow=5.4,SNR=15						
PDAR				LR	LR	22 48 24.9	
	comp=E,127nm,21.2s,baz=201,slow=32						
PDAR	Pinedale Array	80.23	332	P	P	22 17 30.0	-0.6
I21A	Big Trails, Te	80.24	334	⇓P	P	22 17 30.1	-0.5
	baz=81,SNR=7.2						
PD02	Pinedale Array	80.25	332	eP	P	22 17 28.2	-2.5
PD01	Pinedale Array	80.25	332	eP	P	22 17 27.5	-3.2
K18A	Toltan Ranch,	80.32	332	⇑P	P	22 17 31.4	+0.3
	baz=81,SNR=7.4						
J19A	Crowheart	80.45	333	⇑P	P	22 17 31.7	-0.1
	baz=81,SNR=9.9						
H22A	Clearmont	80.56	335	⇑P	P	22 17 32.2	-0.2
	baz=81						
I20A	Worland	80.67	334	⇓P	P	22 17 32.8	-0.2
	baz=81,SNR=5.6						
NVAR	Mina Array Bea	80.73	324	P	P	22 17 32.7	-0.7
	comp=E,2.6nm,1.0s,mb4.1,baz=147,slow=4.9,SNR=14						
NVAR	Mina Array Bea	80.73	324	P	P	22 17 32.7	-0.7
G23A	Biddle	80.75	336	⇑P	P	22 17 33.2	-0.1
	baz=81						
L15A	Malad City	80.78	330	⇑P	P	22 17 33.0	-0.5
	baz=81,SNR=7.5						
J18A	Kendall Valley	80.79	332	⇑P	P	22 17 33.1	-0.5
	baz=81,SNR=9.8						
F24A	Ekalaka	80.99	337	⇓P	P	22 17 34.7	+0.2
	baz=81						
I19A	Meeteetse	81.08	334	⇓P	P	22 17 35.1	0.0
	baz=81						
H20A	Greybull	81.08	334	⇑P	P	22 17 35.0	-0.1
	baz=81						
G22A	Birney	81.08	336	⇓P	P	22 17 35.1	0.0
	baz=81						
I18A	Diamond G Ranc	81.12	333	⇓P	P	22 17 35.3	0.0
	baz=82,SNR=8.0						
K16A	Soda Springs	81.12	331	⇑P	P	22 17 35.2	-0.2
	baz=82,SNR=8.5						
L14A	Malta	81.18	330	⇑P	P	22 17 35.4	-0.3
	baz=82						
J17A	Brown Place, J	81.20	332	⇓P	P	22 17 35.5	-0.3
	baz=82						
F23A	Volborg	81.21	337	⇓P	P	22 17 35.5	-0.2
	baz=82						
REDW	Red Top Meadow	81.25	332	eP	P	22 17 36.4	+0.4
	comp=E,25nm,1.6s,mb4.9						
REDW				epP	pP	22 17 53.6	+0.6
MDND	Maddock	81.29	341	⇑P	P	22 17 36.0	-0.1
	baz=82						
LOHW	Long Hollow	81.36	332	eP	P	22 17 37.3	+0.7
	comp=E,70nm,2.8s,mb5.1						
K15A	Arbon	81.40	331	⇑P	P	22 17 36.5	-0.4
	baz=82						
G21A	Lodge Grass	81.42	335	⇓P	P	22 17 36.8	0.0
	baz=82						
RRI2	Red Ridge	81.43	332	eP	P	22 17 37.7	+0.7
	comp=E,12nm,1.4s,mb4.6						
J16A	Bone	81.49	332	⇓P	P	22 17 37.4	+0.1
	baz=82						
F22A	Rosebud	81.56	336	⇑P	P	22 17 37.6	0.0
	baz=82						
BOSA	Boshof	81.56	118	P	P	22 17 37.9	-0.3
	comp=E,18nm,0.9s,mb5.0,baz=223,slow=2.0,SNR=12						
BOSA				LR	LR	22 48 40.0	
	comp=E,184nm,22.0s,baz=228,slow=32						
BOSA	Boshof	81.56	118	eP	P	22 17 38.5	+0.3
	comp=E,25nm,1.0s,mb5.1						
K14A	Jones Ranch, D	81.56	330	⇓P	P	22 17 37.1	-0.6
	baz=82						
E24A	Baker	81.57	338	⇑P	P	22 17 37.8	+0.2
	baz=82						
I17A	Pilgrim Ck.	81.61	333	⇓P	P	22 17 38.0	+0.1
	baz=82						
G20A	Bridger	81.78	335	⇑P	P	22 17 38.2	-0.6
	baz=82,SNR=5.1						
FLWY	Flagg Ranch	81.79	333	eP	P	22 17 40.1	+1.3
	comp=E,20nm,1.4s,mb4.8						
H18A	Shoshone NF, C	81.88	333	⇓P	P	22 17 39.1	-0.2
	baz=82,SNR=8.0						
I16A	Newdale	81.94	332	⇓P	P	22 17 39.6	-0.1
	baz=82						
J15A	Blackfoot	81.94	331	⇑P	P	22 17 39.6	-0.1
	baz=82						
E22A	Miles City	82.02	337	⇓P	P	22 17 39.6	-0.4
	baz=82						
D24A	Glendive	82.06	338	⇓P	P	22 17 40.5	+0.3
	baz=82						
RLMT	Red Lodge	82.10	334	⇓P	P	22 17 41.0	+0.5
	baz=82						
WCN	Washoe City	82.13	324	⇓P	P	22 17 40.4	-0.4
	baz=82						
TORD	Torodi Ar. Bea	82.22	70	P	P	22 17 41.5	-0.4
	comp=E,17nm,1.1s,mb4.9,baz=279,slow=7.0,SNR=43						
TORD				pP	pP	22 17 57.6	-1.2
	comp=E,7.7nm,0.7s,baz=256,slow=4.9,SNR=12						
TORD				LR	LR	22 52 05.5	
	comp=E,209nm,19.0s,baz=220,slow=34						
TORD	Torodi Ar. Bea	82.22	70	P	P	22 17 41.5	-0.4
TORD				pP	pP	22 17 57.6	-1.2
LAO	LASA Array	82.33	337	⇑P	P	22 17 41.6	0.0
	baz=83						
J14A	Carey	82.34	330	⇑P	P	22 17 41.9	+0.1
	baz=83						
G18A	Lazy EL Ranch,	82.38	334	⇑P	P	22 17 42.3	+0.4
	baz=83						
D23A	Lindsay	82.41	337	⇓P	P	22 17 41.6	-0.4
	baz=83,SNR=6.5						
C24A	Savage	82.46	338	⇑P	P	22 17 42.6	+0.3
	baz=83						
H16A	Russell Place,	82.53	333	⇑P	P	22 17 42.6	0.0
	baz=83						
ULM	Lac du Bonnet	82.54	344	P	P	22 17 41.7	-1.0
	comp=E,2.9nm,0.9s,mb4.3,baz=162,slow=5.3,SNR=4.0						
ULM	Lac du Bonnet	82.54	344	P	P	22 17 41.7	-1.0
F19A	Roth Farm, Mol	82.59	335	⇑P	P	22 17 42.9	-0.1
	baz=83						
J13A	Cove Ranch, Pi	82.68	330	⇑P	P	22 17 43.4	-0.2
	baz=83,SNR=5.4						
D22A	Cohagen	82.71	337	⇓P	P	22 17 43.6	0.0
	baz=83						
I14A	Mackay	82.80	331	⇓P	P	22 17 44.0	-0.1
	baz=83						
E20A	Meyer Farm, Mu	82.84	335	⇓P	P	22 17 44.1	-0.2
	baz=83,SNR=5.5						
HLID	Hailey	82.92	330	⇓P	P	22 17 44.9	+0.1
	baz=83,SNR=8.1						
HLID	Hailey	82.92	330	eP	P	22 17 45.1	+0.3
	comp=E,10nm,1.3s,mb4.7						
F18A	Big Timber	82.93	334	⇑P	P	22 17 44.6	-0.1
	baz=83						
C23A	Lambert	82.95	338	⇑P	P	22 17 44.7	-0.1
	baz=83						
H15A	Lima	83.02	332	⇑P	P	22 17 45.3	0.0
	baz=83						
E19A	Rath Farm, Rou	83.05	335	⇓P	P	22 17 44.9	-0.5
	baz=83						
I13A	Wildhorse Cree	83.07	330	⇓P	P	22 17 45.4	-0.2
	baz=83,SNR=14						
MCMT	McKenzie Canyo	83.28	332	eP	P	22 17 43.5	-3.1
	comp=E,1.8nm,0.8s,mb4.2						
F17A	Fitzpatrick Pl	83.29	334	⇓P	P	22 17 46.5	-0.1
	baz=84						
D20A	Manuel Ranch,	83.35	336	⇓P	P	22 17 46.6	-0.3
	baz=84						
G15A	Dillon	83.41	332	⇑P	P	22 17 47.4	+0.2
	baz=84						
I12A	Atlanta	83.42	330	⇓P	P	22 17 47.3	-0.1
	baz=84						
MFID	Camas Ranch	83.43	329	⇓P	P	22 17 47.3	-0.1
	baz=84						
BOZ	Bozeman (W)	83.46	333	⇓P	P	22 17 47.1	-0.4
	baz=84						
B23A	Brockton	83.46	338	⇓P	P	22 17 47.8	+0.4
	baz=84						
DLMT	Dillon	83.61	332	eP	P	22 17 48.9	+0.6
	comp=E,22nm,1.8s,mb5.0						
C21A	Desert Coulee	83.61	337	⇑P	P	22 17 47.7	-0.5
	baz=84						
B22A	Reddig Ranch S	83.65	338	⇑P	P	22 17 48.5	+0.1
	baz=84						
H13A	Challis	83.65	331	⇓P	P	22 17 48.3	-0.3
	baz=84,SNR=7.1						
D19A	Cripps Ranch,	83.68	335	⇑P	P	22 17 48.5	-0.1
	baz=84						
H12A	Diamond D Ranc	83.90	330	⇓P	P	22 17 49.5	-0.3
	baz=84						
G13A	Cobalt	84.07	331	⇓P	P	22 17 50.0	-0.7
	baz=84,SNR=8.4						
C19A	Slack Wire Ran	84.22	335	⇑P	P	22 17 51.0	-0.3
	baz=85						
A22A	Carney Farms,	84.22	338	⇑P	P	22 17 51.2	-0.1
	baz=85						
F14A	Wisdom	84.29	332	⇓P	P	22 17 51.6	-0.1
	baz=85						
D17A	Six Diamond Ra	84.34	334	⇓P	P	22 17 51.8	-0.1
	baz=85						
MOD	Modoc	84.36	326	eP	P	22 17 52.8	+0.6
	comp=E,9.3nm,1.0s,mb4.9						
B20A	Solberg Farm,	84.46	336	⇓P	P	22 17 52.4	-0.1
	baz=85						
G12A	Big Creek, Yel	84.56	330	⇑P	P	22 17 52.8	-0.3
	baz=85						
D16A	Dana Ranch, Ca	84.57	334	⇑P	P	22 17 53.6	+0.5
	baz=85						
J08A	Circle Bar Ran	84.59	328	⇓P	P	22 17 53.4	+0.1
	baz=85						
F13A	Darby	84.67	331	⇑P	P	22 17 53.3	-0.4
	baz=85,SNR=7.3						
EGMT	Eagleton	84.72	335	⇑P	P	22 17 53.9	0.0
	baz=85						
C17A	Wharram Farm,	84.77	334	⇑P	P	22 17 53.5	-0.6
	baz=85						
A20A	Cobblestone Ra	84.80	337	⇓P	P	22 17 53.5	-0.7
	baz=85						
E14A	Clinton	84.83	332	⇓P	P	22 17 54.5	0.0
	baz=85						
F12A	Elk City	85.03	331	⇑P	P	22 17 55.4	0.0
	baz=85						
B18A	Beardsley Farm	85.04	335	⇑P	P	22 17 55.7	+0.3
	baz=85						
E13A	Victor	85.14	332	⇑P	P	22 17 55.7	-0.2
	baz=86,SNR=5.3						
K05A	Summer Lake	85.27	326	⇓P	P	22 17 56.4	-0.4
	baz=86						
C16A	Fuhringer Ranc	85.28	334	⇑P	P	22 17 56.9	+0.2
	baz=86						
B17A	L&G Farms, Che	85.33	335	⇑P	P	22 17 56.5	-0.4
	baz=86						
D14A	Greenough	85.38	333	⇑P	P	22 17 56.8	-0.3
	baz=86						
C15A	Salmond Ranch,	85.59	334	⇓P	P	22 17 58.0	-0.2
	baz=86						
I07A	Izee	85.62	327	⇓P	P	22 17 57.9	-0.6
	baz=86						
E12A	Beaver Dam Sad	85.69	331	⇑P	P	22 17 58.6	-0.2
	baz=86						
B16A	M & M Farms, S	85.77	334	⇑P	P	22 17 58.9	-0.2
	baz=86						
D13A	Huson	85.77	332	⇓P	P	22 17 59.0	-0.1
	baz=86						
A17A	Triple J Farms	85.84	335	⇑P	P	22 17 58.8	-0.6
	baz=86,SNR=8.2						
B15A	Bradely Ranch,	86.01	334	⇑P	P	22 17 59.6	-0.7
	baz=86,SNR=5.6						
C14A	Swan Lake	86.03	333	⇑P	P	22 18 00.3	-0.1
	baz=86						
F10A	Beach Ranch, E	86.05	330	⇓P	P	22 18 00.3	-0.2
	baz=86						
A16A	West Butte Ran	86.17	335	⇓P	P	22 18 00.9	-0.1
	baz=86						
C13A	Hot Springs	86.29	332	⇓P	P	22 18 01.3	-0.4
	baz=87						
B14A	Marquette Ranc	86.33	333	⇓P	P	22 18 01.4	-0.4
	baz=87						
BSMT	Bassoo Peak	86.51	332	eP	P	22 17 59.5	-3.2
	comp=E,6.8nm,1.3s,mb4.7						
A15A	Johnson Ranch,	86.62	334	⇑P	P	22 18 02.4	-0.8
	baz=87						
C12B	Naegeli Ranch,	86.68	332	⇓P	P	22 18 03.4	-0.1
	baz=87						
B13A	Whitefish	86.80	333	⇑P	P	22 18 03.8	-0.4
	baz=87						
E09A	Wood Farm, Sta	86.87	330	⇓P	P	22 18 04.2	-0.4
	baz=87						
A14A	Double T Ranch	86.88	334	⇑P	P	22 18 04.1	-0.5
	baz=87						
G06A	Carlson Farm,	87.03	328	⇑P	P	22 18 04.6	-0.7
	baz=87						
C11A	Tepee Creek (N	87.10	332	⇑P	P	22 18 05.3	-0.3
	baz=87						
WALA	Waterton Lakes	87.14	334	eP	P	22 18 02.8	-2.9
	comp=E,0.4nm,1.0s						
A13A	Flathead Natio	87.23	333	⇑P	P	22 18 06.1	-0.1
	baz=88						
A12A	Yaak River Ran	87.72	333	⇑P	P	22 18 08.5	0.0
	baz=88						
E03A	Lebam	89.37	327	⇑P	P	22 18 16.1	-0.3
	baz=90						
LSZ	Lusaka	90.58	108	P	P	22 18 20.1	-2.8
	comp=E,7.3nm,1.1s,mb4.9						
ESDC	Sonseca Array	93.20	46	LR	LR	23 00 19.8	
	comp=E,110nm,18.1s,baz=255,slow=35						
YKA	Yellowknife Ar	98.21	341	P	P	22 18 55.1	-1.5
	comp=E,0.5nm,0.9s,mb4.0,baz=138,slow=4.4,SNR=8.4						
YKA				LR	LR	23 08 18.3	
	comp=E,8.8nm,19.7s,baz=80,slow=38						
YKA	Yellowknife Ar	98.21	341	P	P	22 18 55.1	-1.5
DZM	Mont Dzumac	104.21	234	eLR	LR	22 53 44.2	
	comp=E,236nm,27.4s						
YAK	Yakutsk	144.87	343	PKPdf	PKPdf	22 24 54.3	-1.8
KBL	Kabul	146.29	71	ePKPdf	PKPdf	22 24 57.0	-2.5
KKAR	Karatay Array	146.84	56	ePKPdf	PKPdf	22 24 58.3	-1.9
KURK	Kurchatov	149.28	38	PKPdf	PKPdf	22 25 02.2	-1.7
AAK	Ala-Archa	149.80	55	ePKPbc	PKPbc	22 25 09.6	-0.2
HYB	Hyderabad	149.93	107	i P	PKPbc	22 25 10.0	-0.9
ZALV	Zalesovo Beam	150.27	29	PKPbc	PKPbc	22 25 10.2	-0.3
	comp=E,10nm,0.7s,baz=300,slow=3.3,SNR=40						
ZALV				pPKPbc	pPKPbc	22 25 27.7	-0.6
	comp=E,24nm,0.9s,baz=300,slow=3.3,SNR=11						
ZALV	Zalesovo Beam	150.27	29	PKPbc	PKPbc	22 25 10.2	-0.3
ZALV				pPKPbc	pPKPbc	22 25 27.7	-0.6
KSH	Kashi	151.54	61	PKPbc	PKPbc	22 25 14.3	+0.3
KSH				pPKP	pPKPdf	22 25 25.0	-0.6
KSH				sPKP		22 25 28.6	
KSH				PKPab	PKPab	22 25 37.0	+14
KSH				PKS		22 28 47.1	
KSH				PP	PP	22 29 12.6	+18
KSH				SKS	SKSdf	22 32 15.9	+5.8
KSH				SKKS	SKKSac	22 35 55.9	+17
KSH				SS	SS	22 48 42.6	+28
KSH				AMB	AMB		
	comp=Z,160nm,4.9s						
KSH				LR	LR		
	comp=N,19nm,3.7s						
KSH				LR	LR		
	comp=E,41nm,6.4s						
KSH				LR	LR		
	comp=Z,58nm,4.3s						
MKAR	Makanchi Array	153.39	43	PKPbc	PKPbc	22 25 17.7	-0.2
	comp=Z,0.7nm,0.9s,baz=308,slow=1.2,SNR=4.6						
MKAR	Makanchi Array	153.39	43	PKPbc	PKPbc	22 25 17.7	-0.2
DDI	Dehra Dun	153.56	81	ex	PKPab	22 25 31.5	0.0
WMQ	Urumqi	158.20	44	ePKP	PKPdf	22 25 16.1	-0.7
WMQ				SS	SS	22 49 23.3	-2.9
WMQ				LR	LR		
	comp=N,97nm,19.0s						
WMQ				LR	LR		
	comp=E,90nm,22.6s						
WMQ				LR	LR		
	comp=Z,85nm,26.2s						
CN2	Changchun	160.59	321	ePKP	PKPdf	22 25 22.3	+2.8
CN2				PP	PP	22 29 49.4	+5.5
SONM	Songino Array	161.84	5	PKPab	PKPab	22 26 11.4	+4.9
	comp=Z,0.9nm,1.0s,baz=325,slow=2.1,SNR=4.0						
SONM	Songino Array	161.84	5	PKPab	PKPab	22 26 11.4	+4.9
CMAR	Chiang Mai Arr	165.72	140	PKPab	PKPab	22 26 23.4	-1.0
	comp=Z,2.5nm,1.0s,baz=236,slow=5.5,SNR=7.8						
CMAR	Chiang Mai Arr	165.72	140	PKPab	PKPab	22 26 23.4	-1.0
GTA	Gaotai	167.93	35	ePKPbc	PKPdf	22 25 36.5	+10
GTA				pPKP	pPKPdf	22 25 50.9	+6.8
GTA				sPKP		22 25 55.3	
BJI	Beijing	168.00	331	PKP	PKPdf	22 25 26.6	+0.3
BJI				SS	SS	22 51 06.6	-0.1
BJI				LR	LR		
	comp=Z,76nm,27.5s						
NJ2	Nanjing	170.92	287	ePKP	PKPdf	22 25 31.4	+3.1
LZH	Lanzhou	172.50	31	ePKP	PKPdf	22 25 28.3	-0.6
LZH				pPKP	pPKPdf	22 25 45.5	-1.3
LZH				sPKP		22 25 51.6	
LZH				LR	LR		
	comp=N,150nm,18.2s						
LZH				LR	LR		
	comp=E,150nm,19.0s						

IDC **16** *22:14:59.3±1.9, 18°.46S×177°.37W, h343km±18km, mb4.2/18, mb1 4.4/19, mb1mx4.2/24, mbtmp4.2/19, Error ellipse: s-maj=16.1km s-min=9.2km az=128.0*
ISCJB **16** *22:15:03.9±1.0, 18°.42S±0°.10×177°.57W±0°.09, h400km±9km, mb4.4/42, Error ellipse: s-maj=18.6km s-min=8.0km az=139.8*
NEIC **16** *22:15:03.0±0.8, 18°.48S×177°.45W, h381km±7km, mb4.6/30, Error ellipse: s-maj=13.0km s-min=5.8km az=141.0*
ISC 16 22:15:04.4±1.0, **18°.39S**±0°.09×**177°.54W**±0°.09, **h391**km±9km, **n163**, σ0**°76/86**, **mb4.4**/42, **6C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.24**	**278**	*e*Pn	**Pn**	**22 16 19.2**	**+0.9**
MSVF				*e*Sn	**S**	**22 17 18.0**	**-0.1**
AFI	**Afiamalu**	**7.11**	**52**	P	**Pn**	**22 16 40.1**	**-9.0**
AFI				S	**S**	**22 17 56.0**	**-19**
AFI	**Afiamalu**	**7.11**	**52**	P	**Pn**	**22 16 40.1**	**-9.0**
AFI				S	**S**	**22 17 56.0**	**-19**
FUNA	**Funafuti**	**10.30**	**342**	*e*P	**Pn**	**22 17 25.5**	**-0.6**
DZM	**Mont Dzumac**	**15.47**	**254**	*e*P	**P**	**22 18 22.4**	**+0.1**
DZM	**Mont Dzumac**	**15.47**	**254**	*e*P	**P**	**22 18 23.0**	**+0.7**
URZ	**Urewera**	**20.34**	**192**	P	**P**	**22 19 10.1**	**-2.3**
URZ				S	**S**	**22 22 35.8**	**+0.8**
URZ	**Urewera**	**20.34**	**192**	P	**P**	**22 19 10.1**	**-2.3**
URZ				S	**S**	**22 22 35.8**	**+0.8**
ARMA	**Armidale**	**30.42**	**241**	*e*P	**P**	**22 20 43.5**	**+1.0**
ARMA	**Armidale**	**30.42**	**241**	*e*P	**P**	**22 20 42.7**	**+0.2**
CTA	**Charters Tower**	**34.18**	**261**	P	**P**	**22 21 15.4**	**+0.4**
CTA	**Charters Tower**	**34.18**	**261**	*e*P	**P**	**22 21 15.3**	**+0.3**
CTA	**Charters Tower**	**34.18**	**261**	P	**P**	**22 21 15.4**	**+0.4**
CTAO	**Charters Tower**	**34.18**	**261**	*e*P	**P**	**22 21 15.2**	**+0.2**
COEN	**Coen**	**37.93**	**271**	*e*P	**P**	**22 21 47.0**	**+0.6**
STKA	**Stephens Creek**	**39.12**	**242**	P	**P**	**22 21 56.7**	**+0.7**
STKA	**Stephens Creek**	**39.12**	**242**	*e*P	**P**	**22 21 56.6**	**+0.5**
STKA	**Stephens Creek**	**39.12**	**242**	*e*P	**P**	**22 21 55.8**	**-0.3**
STKA				*ep*P	pP	22 23 09.0	-1.8
BBOO	**Buckleboo**	**43.90**	**242**	*e*P	**P**	**22 22 34.5**	**+0.2**
WRAB	**Tennant Creek**	**45.35**	**260**	*e*P	**P**	**22 22 44.5**	**-1.2**
WRA	**Warramunga Arr**	**45.35**	**260**	P	**P**	**22 22 45.0**	**-0.9**
WRA	**Warramunga Arr**	**45.35**	**260**	P	**P**	**22 22 45.0**	**-0.9**
AS31	**Alice Springs**	**45.45**	**255**	*e*P	**P**	**22 22 46.5**	**0.0**
ASAR	**Alice Springs**	**45.45**	**255**	P	**P**	**22 22 46.6**	**0.0**
ASAR				S	**S**	**22 28 58.3**	**+0.1**
ASAR	**Alice Springs**	**45.45**	**255**	P	**P**	**22 22 46.6**	**0.0**
ASAR				S	**S**	**22 28 58.3**	**+0.1**
FORT	**Forrest**	**50.55**	**245**	*e*P	**P**	**22 23 24.7**	**-0.3**
FORT	**Forrest**	**50.55**	**245**	*e*P	**P**	**22 23 24.9**	**0.0**
MBWA	**Marble Bar**	**58.76**	**256**	*e*P	**P**	**22 24 23.2**	**-0.2**
KLBR	**Kellerberrin**	**59.35**	**244**	*e*P	**P**	**22 24 26.9**	**-0.3**
NWAO	**Narrogin (SRO)**	**59.71**	**242**	P	**P**	**22 24 29.8**	**+0.2**
NWAO	**Narrogin (SRO)**	**59.71**	**242**	P	**P**	**22 24 29.8**	**+0.2**
MJAR	**Matsushiro Arr**	**68.78**	**323**	P	**P**	**22 25 27.0**	**-0.6**
MJAR	**Matsushiro Arr**	**68.78**	**323**	P	**P**	**22 25 27.0**	**-0.6**
QSPA	**South Pole Qui**	**71.67**	**180**	*e*P	**P**	**22 25 43.9**	**-0.4**
QSPA	**South Pole Qui**	**71.67**	**180**	*e*P	**P**	**22 25 44.1**	**-0.1**
PETK	**Petropavlovsk-**	**74.35**	**345**	P	**P**	**22 26 00.3**	**+0.2**
PETK	**Petropavlovsk-**	**74.35**	**345**	P	**P**	**22 26 00.3**	**+0.2**
WCN	**Washoe City**	**78.76**	**42**	*e*P	**P**	**22 26 25.0**	**+0.1**
HUMO	**Hull Mountain**	**78.77**	**38**	*e*P	**P**	**22 26 26.1**	**+1.2**
NVAR	**Mina Array Bea**	**79.20**	**43**	P	**P**	**22 26 27.7**	**+0.4**
NVAR	**Mina Array Bea**	**79.20**	**43**	P	**P**	**22 26 27.7**	**+0.4**
MOD	**Modoc**	**79.93**	**40**	*e*P	**P**	**22 26 30.7**	**-0.3**
HOOD	**Mount Hood Mea**	**81.17**	**36**	*e*P	**P**	**22 26 37.2**	**-0.3**
TUC	**Tucson**	**81.34**	**52**	*e*P	**P**	**22 26 38.6**	**-0.1**
BBB	**Bella Bella**	**82.35**	**28**	P	**P**	**22 26 43.6**	**+0.3**
BBB	**Bella Bella**	**82.35**	**28**	P	**P**	**22 26 43.6**	**+0.3**
RSW	**Rattlesnake Hi**	**82.97**	**36**	*e*P	**P**	**22 26 46.6**	**-0.1**
HAWA	**Hanford**	**83.00**	**36**	*e*P	**P**	**22 26 46.2**	**-0.6**
ETW	**Entiat**	**83.28**	**35**	*e*P	**P**	**22 26 47.9**	**-0.3**
MSU	**Marysvale**	**83.34**	**46**	*e*P	**P**	**22 26 48.8**	**+0.1**
PPLA	**Purkeypile**	**83.44**	**11**	*e*P	**P**	**22 26 48.5**	**-0.2**
OD2	**Odessa Site #2**	**84.04**	**36**	*e*P	**P**	**22 26 51.4**	**-0.6**
TRF	**Thorofare Moun**	**84.31**	**12**	*e*P	**P**	**22 26 52.7**	**-0.3**
TMUT	**Trail Mountain**	**84.38**	**46**	*e*P	**P**	**22 26 54.5**	**+0.6**
HLID	**Hailey**	**84.45**	**41**	*e*P	**P**	**22 26 54.3**	**+0.1**
MCK	**McKinley**	**84.83**	**12**	*e*P	**P**	**22 26 54.6**	**-1.0**
MNTX	**Cornudas Mount**	**85.18**	**55**	*e*P	**P**	**22 27 00.9**	**+2.8**
MENT	**Mentasta**	**85.30**	**15**	*e*P	**P**	**22 26 58.3**	**+0.4**
TXAR	**Lajitas Array**	**85.56**	**57**	P	**P**	**22 27 00.9**	**+1.0**
TXAR	**Lajitas Array**	**85.56**	**57**	P	**P**	**22 27 00.9**	**+1.0**
DOT	**Dot Lake**	**85.82**	**14**	*e*P	**P**	**22 26 60.0**	**-0.5**
DLBC	**Dease Lake**	**85.95**	**23**	P	**P**	**22 27 01.6**	**+0.5**
DLBC	**Dease Lake**	**85.95**	**23**	P	**P**	**22 27 01.6**	**+0.5**
MCMT	**McKenzie Canyo**	**86.07**	**40**	*e*P	**P**	**22 27 04.7**	**+2.6**
ILAR	**Eielson Array**	**86.17**	**13**	P	**P**	**22 27 01.1**	**-1.0**
ILAR	**Eielson Array**	**86.17**	**13**	P	**P**	**22 27 01.1**	**-1.0**
DLMT	**Dillon**	**86.50**	**40**	*e*P	**P**	**22 27 04.6**	**+0.5**
BSMT	**Bassoo Peak**	**86.50**	**37**	*e*P	**P**	**22 27 03.9**	**-0.1**
PD01	**Pinedale Array**	**87.12**	**43**	*e*P	**P**	**22 27 06.0**	**-1.1**
PD02	**Pinedale Array**	**87.14**	**43**	*e*P	**P**	**22 27 07.1**	**-0.1**
PDAR	**Pinedale Array**	**87.14**	**43**	P	**P**	**22 27 07.0**	**-0.2**
PDAR	**Pinedale Array**	**87.14**	**43**	P	**P**	**22 27 07.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**89.82**	**289**	P	**P**	**22 27 22.5**	**+2.2**
CMAR	**Chiang Mai Arr**	**89.82**	**289**	P	**P**	**22 27 22.5**	**+2.2**
INK	**Inuvik**	**92.14**	**15**	P	**P**	**22 27 29.4**	**-0.4**
INK	**Inuvik**	**92.14**	**15**	*e*P	**P**	**22 27 29.0**	**-0.9**
DGMT	**Dagmar**	**93.04**	**40**	*e*P	**P**	**22 27 34.4**	**-0.1**
YKA	**Yellowknife Ar**	**94.42**	**25**	P	**P**	**22 27 40.0**	**-0.4**
YKA	**Yellowknife Ar**	**94.42**	**25**	P	**P**	**22 27 40.0**	**-0.4**
MKAR	**Makanchi Array**	**110.06**	**314**	PKiKP	PKiKP	22 32 48.8	-1.2
MKAR	**Makanchi Array**	**110.06**	**314**	PKiKP	PKiKP	22 32 48.8	-1.2
KURK	**Kurchatov**	**112.73**	**318**	PKiKP	PKiKP	22 32 53.7	-1.3
KURK	**Kurchatov**	**112.73**	**318**	PKiKP	PKiKP	22 32 53.7	-1.3
ARCES	**ARCESS Array B**	**126.93**	**350**	PKP	PKPdf	22 33 21.0	-0.8
ARCES	**ARCESS Array B**	**126.93**	**350**	PKP	PKPdf	22 33 21.0	-0.8
FINES	**FINESS Array B**	**133.87**	**345**	SKPbc	SKPbc	22 36 30.1	+3.4
FINES	**FINESS Array B**	**133.87**	**345**	SKPbc	SKPbc	22 36 30.1	+3.4
KWP	**Kalwaria Pacla**	**144.84**	**337**	∥*i*P	PKPdf	22 33 55.5	+0.2
BUR08	**Bucovina Ar. S**	**145.41**	**333**	*e*PKP	PKPdf	22 33 57.4	+1.0
BURAR	**Bucovina Array**	**145.42**	**333**	∥*i*P	PKPdf	22 33 58.2	+1.8
NRDL	**Niedersach Rie**	**145.44**	**352**	*e*PKPbc	PKPbc	22 33 56.7	-0.4
BR131	**Keskin Array S**	**145.70**	**315**	*e*PKPdf	PKPdf	22 33 57.7	+0.5
BRTR	**Keskin Array B**	**145.70**	**315**	PKPbc	PKPbc	22 33 58.0	-0.4
	2.1nm,0.8s,baz=139,slow=4.5,SNR=14						
BRTR	**Keskin Array B**	**145.70**	**315**	PKPbc	PKPbc	22 33 58.0	-0.4
NIE	**Niedzica**	**145.87**	**339**	*e*PX	PKPbc	22 33 59.0	+0.5
CLZ	**Clausthal**	**146.04**	**351**	*e*PKPbc	PKPbc	22 33 58.9	0.0
CLL	**Collm**	**146.11**	**348**	*e*PKPbc	PKPbc	22 33 58.7	-0.4
CLL	**Collm**	**146.11**	**348**	∥*i*PKPbc	PKPbc	22 33 58.9	-0.2
	comp=Z,11nm,1.0s						
TRPA	**Tarpa**	**146.13**	**336**	⇑*i*P	PKPbc	22 33 59.4	+0.1
UPC	**Upice**	**146.18**	**344**	*e*PKP	PKPbc	22 33 59.5	+0.2
DPC	**Dobruska-Polom**	**146.24**	**344**	*e*PKP	PKPbc	22 33 59.7	+0.2
BRG	**Berggiesshubel**	**146.32**	**347**	*i* P	PKPbc	22 33 59.6	-0.1
	comp=Z,4.5nm,0.6s						
BRG	**Berggiesshubel**	**146.32**	**347**	*e*PKPbc	PKPbc	22 33 59.5	-0.2
PVCC	**Panska Ves**	**146.51**	**346**	*e*PKP	PKPbc	22 34 00.7	+0.4
MLR	**Muntele Rosu**	**146.67**	**329**	∥*i*P	PKPbc	22 34 00.7	-0.2
BUG	**Bochum--Univer**	**146.80**	**354**	*e*PKPbc	PKPbc	22 34 02.0	+0.9
MOX	**Moxa**	**147.00**	**349**	*e*PKPbc	PKPbc	22 34 01.3	-0.3
PRU	**Pruhonice**	**147.02**	**346**	*e*PKP	PKPbc	22 34 01.5	-0.2
TANN	**Tannenbergstha**	**147.06**	**348**	*e*PKPbc	PKPbc	22 34 01.7	-0.1
ROTZ	**Rotzenmuhle**	**147.73**	**348**	*e*PKPbc	PKPbc	22 34 03.5	-0.1
TNS	**Taunus Mts**	**147.88**	**353**	*e*PKPbc	PKPbc	22 34 04.3	+0.3
KHC	**Kasperske Hory**	**148.04**	**346**	*e*PKP	PKPbc	22 34 04.6	+0.2
WET	**Wettzell**	**148.19**	**347**	*e*PKPbc	PKPbc	22 34 03.8	-1.0
GZR	**Gura Zlata**	**148.21**	**332**	⇑*i*P	PKPbc	22 34 04.8	-0.2
GEC2	**GERESS Array S**	**148.28**	**346**	*e*PKPbc	PKPbc	22 34 04.8	-0.2
GERES	**GERESS Array B**	**148.28**	**346**	PKPbc	PKPbc	22 34 05.2	+0.1
	comp=Z,1.8nm,0.4s,baz=23,slow=3.4,SNR=34						
GERES	**GERESS Array B**	**148.28**	**346**	PKPbc	PKPbc	22 34 05.2	+0.1
GIVF	**Givet**	**148.31**	**357**	*e*PKP1	PKPbc	22 34 04.7	-0.3
	comp=Z,8.0nm,0.5s						
GIVF	**Givet**	**148.31**	**357**	*e*P	PKPbc	22 34 04.7	-0.3
BAIF	**Baives**	**148.38**	**358**	*e*PKP1	PKPbc	22 34 05.4	+0.2
BAIF	**Baives**	**148.38**	**358**	*e*P	PKPbc	22 34 05.4	+0.2
CONA	**Conrad Observa**	**148.57**	**343**	⇑*i*PKiKP	PKPbc	22 34 06.2	+0.4
	comp=Z,2.7nm,0.6s						
WLF	**Walferdange**	**148.66**	**355**	*e*PKPbc	PKPbc	22 34 06.2	+0.3
STU	**Stuttgart**	**149.21**	**351**	*e*PKPbc	PKPbc	22 34 07.1	-0.2
FUR	**Furstenfeldbru**	**149.44**	**348**	*e*PKPbc	PKPbc	22 34 07.7	-0.2
RJOB	**Jochberg**	**149.53**	**346**	*e*PKPbc	PKPbc	22 34 08.6	+0.5
FLN	**La Foliniere**	**149.61**	**4**	*e*PKP1	PKPbc	22 34 08.0	-0.3
	comp=Z,13nm,0.7s						
FLN	**La Foliniere**	**149.61**	**4**	*e*P	PKPbc	22 34 08.0	-0.3
BFO	**Black Forest**	**149.76**	**352**	*e*PKPbc	PKPbc	22 34 08.3	-0.4
ROSF	**Rostrenen**	**149.77**	**8**	*e*PKP1	PKPbc	22 34 08.1	-0.6
	comp=Z,22nm,0.8s						
ROSF	**Rostrenen**	**149.77**	**8**	*e*P	PKPbc	22 34 08.1	-0.6
PAGF	**Fort de Pagny**	**149.79**	**356**	*e*PKP1	PKPbc	22 34 08.5	-0.2
	comp=Z,2.7nm,0.7s						
CDF	**Champ du Feu**	**149.80**	**354**	*e*PKP1	PKPbc	22 34 08.8	0.0
	comp=Z,6.3nm,0.7s						
CDF	**Champ du Feu**	**149.80**	**354**	*e*P	PKPbc	22 34 08.8	0.0
LDF	**La Druitiere**	**149.80**	**3**	*e*PKP1	PKPbc	22 34 08.3	-0.5
	comp=Z,3.6nm,0.5s						
LDF	**La Druitiere**	**149.80**	**3**	*e*P	PKPbc	22 34 08.3	-0.5
MEZF	**Maizieres J'vi**	**149.89**	**357**	*e*PKP1	PKPbc	22 34 08.7	-0.3
MEZF	**Maizieres J'vi**	**149.89**	**357**	*e*P	PKPbc	22 34 08.7	-0.3
GRR	**Gorron**	**149.96**	**4**	*e*PKP1	PKPbc	22 34 08.3	-0.8
GRR	**Gorron**	**149.96**	**4**	*e*P	PKPbc	22 34 08.3	-0.8
SFTF	**Sexfontaines**	**150.19**	**357**	*e*PKP1	PKPbc	22 34 09.4	-0.3
	comp=Z,11nm,0.7s						
SFTF	**Sexfontaines**	**150.19**	**357**	*e*P	PKPbc	22 34 09.4	-0.3
WTTA	**Wattenberg**	**150.23**	**347**	∥*i*PKiKP	PKPbc	22 34 09.9	+0.1
	comp=Z,6.8nm,0.5s						
MOTA	**Moosalm**	**150.26**	**348**	⇑*i*PKPbc	PKPbc	22 34 09.7	-0.2
	comp=Z,2.1nm,0.5s						
HAU	**Haudompre**	**150.29**	**355**	*e*PKP1	PKPbc	22 34 09.9	0.0
	comp=Z,6.8nm,0.6s						
HAU	**Haudompre**	**150.29**	**355**	*e*P	PKPbc	22 34 09.9	0.0
HINF	**Hinteralfeld**	**150.43**	**354**	*e*PKP1	PKPbc	22 34 10.0	-0.3
	comp=Z,3.5nm,0.6s						
HINF	**Hinteralfeld**	**150.43**	**354**	*e*P	PKPbc	22 34 10.0	-0.3
ABTA	**Abfaltersbach**	**150.53**	**346**	⇑*i*PKPbc	PKPbc	22 34 10.0	-0.5
	comp=Z,5.5nm,0.6s						
LOR	**Lormes**	**151.18**	**358**	*e*PKP1	PKPbc	22 34 11.8	-0.2
	comp=Z,5.5nm,0.4s						
LOR	**Lormes**	**151.18**	**358**	*e*P	PKPbc	22 34 11.8	-0.2
SSF	**Saint Saulge**	**151.39**	**358**	*e*PKP1	PKPbc	22 34 12.5	0.0
	comp=Z,6.2nm,0.6s						
SSF	**Saint Saulge**	**151.39**	**358**	*e*P	PKPbc	22 34 12.5	0.0
AVF	**Avril sur Loir**	**151.67**	**359**	*e*PKP1	PKPbc	22 34 14.0	+0.9
AVF	**Avril sur Loir**	**151.67**	**359**	*e*P	PKPbc	22 34 14.0	+0.9
CABF	**La Chapelle**	**151.70**	**355**	*e*PKP1	PKPbc	22 34 13.9	+0.7
	comp=Z,22nm,1.1s						
CABF	**La Chapelle**	**151.70**	**355**	*e*P	PKPbc	22 34 13.9	+0.7
MFF	**Saint Martin d**	**151.78**	**4**	*e*PKP1	PKPbc	22 34 13.1	-0.3
	comp=Z,18nm,1.0s						
MFF	**Saint Martin d**	**151.78**	**4**	*e*P	PKPbc	22 34 13.1	-0.3
BGF	**Bois d'Agland**	**151.91**	**359**	*e*PKP1	PKPbc	22 34 13.1	-0.6
	comp=Z,3.3nm,0.5s						
BGF	**Bois d'Agland**	**151.91**	**359**	*e*P	PKPbc	22 34 13.1	-0.6
ESDC	**Sonseca Array**	**158.07**	**13**	PKPab	PKPab	22 34 51.1	0.0
	comp=Z,0.3nm,0.4s,baz=345,slow=4.6,SNR=6.2						
ESDC	**Sonseca Array**	**158.07**	**13**	PKPab	PKPab	22 34 51.1	0.0

ISCJB **16** *22:18:30.8±3.8, 4°.16S±0°.06×153°.51E±0°.06, h8km±23km, mb4.1/14, MS3.7/3, Error ellipse: s-maj=10.0km s-min=9.3km az=151.9*
IDC **16** *22:18:35.4±3.5, 4°.13S×153°.51E, h26km±22km, mb4.1/9, mb1 4.3/10, mb1mx4.1/16, mbtmp4.2/10, ML4.9/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=31.5km s-min=15.6km az=122.0*
NEIC **16** *22:18:36.5±1.1, 4°.20S×153°.50E, h37km±11km, mb4.2/6, Error ellipse: s-maj=10.4km s-min=7.9km az=131.0*
ISC 16 22:18:32.1±3.4, **4°.12S**±0°.06×**153°.46E**±0°.06, **h4**km±20km, **n47**, σ0**°69/40**, **mb4.1**/14, **MS3.7**/3, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.17**	**230**	Pn	**Pn**	**22 20 37.2**	**+5.7**
	1.8nm,0.3s,baz=49,slow=12,SNR=3.0						
PMG				Sn	**Sn**	**22 22 08.5**	**+4.2**
	3.1nm,0.3s,baz=111,slow=21,SNR=9.5						
PMG	**Port Moresby**	**8.17**	**230**	*e*Pn	**Pn**	**22 20 32.5**	**+1.1**
	12nm,0.5s						
PMG				*e*Sn	**Sn**	**22 22 04.1**	**-0.2**
HNR	**Honiara**	**8.32**	**130**	Pn	**Pn**	**22 20 35.3**	**+1.7**
	14nm,0.3s,baz=211,slow=11,SNR=3.4						
HNR	**Honiara**	**8.32**	**130**	*e*Pn	**Pn**	**22 20 33.5**	**-0.2**
HNR				*e*Sn	**Sn**	**22 22 07.8**	**-0.4**
CTA	**Charters Tower**	**17.35**	**203**	LR	LR	22 27 23.4	
	comp=Z,91nm,19.1s,baz=225,slow=30						
GUMO	**Guam**	**19.56**	**334**	LR	LR	22 29 36.5	
	comp=Z,92nm,20.9s,baz=169,slow=34						
GUMO	**Guam**	**19.56**	**334**	*e*P	**Pn**	**22 23 01.1**	**-1.2**
WRAB	**Tennant Creek**	**24.37**	**228**	*e*P	**P**	**22 23 51.5**	**+0.1**
	7.7nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**24.38**	**228**	P	**P**	**22 23 52.3**	**+0.7**
	4.2nm,0.4s,mb4.3,baz=53,slow=9.8,SNR=23						
WRA				S	**S**	**22 28 12.7**	**+0.7**
	2.3nm,1.2s,baz=46,slow=16,SNR=5.6						
WRA				ScP	ScP	22 31 06.2	-4.8
	1.4nm,0.9s,baz=54,slow=3.2,SNR=6.5						
WRA	**Warramunga Arr**	**24.38**	**228**	P	**P**	**22 23 52.3**	**+0.7**
WRA				S	**S**	**22 28 12.7**	**+0.7**
WRA				ScP	ScP	22 31 06.2	-4.8
ASAR	**Alice Springs**	**27.09**	**222**	P	**P**	**22 24 16.1**	**0.0**
	0.8nm,0.5s,mb3.5,baz=54,slow=8.5,SNR=1.9						
ASAR	**Alice Springs**	**27.09**	**222**	P	**P**	**22 24 16.1**	**0.0**
STKA	**Stephens Creek**	**29.77**	**201**	*e*P	**P**	**22 24 39.4**	**-0.6**
	0.5nm,0.7s,mb3.4						
FITZ	**Fitzroy Crossi**	**30.56**	**241**	P	**P**	**22 24 46.6**	**-0.5**
	5.7nm,0.3s,mb4.8,baz=54,slow=6.7,SNR=11						
FITZ	**Fitzroy Crossi**	**30.56**	**241**	*e*P	**P**	**22 24 46.5**	**-0.6**
	3.9nm,0.4s,mb4.6						
MBWA	**Marble Bar**	**36.88**	**240**	*e*P	**P**	**22 25 41.0**	**-1.1**
MJAR	**Matsushiro Arr**	**42.89**	**342**	LR	LR	22 40 35.9	
	comp=Z,62nm,21.4s,MS3.5,baz=145,slow=31						
KSRS	**Korea Array**	**47.70**	**332**	LR	LR	22 45 39.9	
	comp=Z,36nm,19.6s,MS3.3,baz=80,slow=34						
KULM	**Kulim**	**53.57**	**280**	*e*P	**P**	**22 27 54.8**	**0.0**
ENH	**Enshi**	**54.19**	**312**	*e*P	**P**	**22 28 00.2**	**+1.2**
PETK	**Petropavlovsk-**	**57.13**	**3**	P	**P**	**22 28 21.0**	**+1.3**
	4.8nm,0.5s,mb4.8,baz=167,slow=7.5,SNR=6.6						
PETK	**Petropavlovsk-**	**57.13**	**3**	P	**P**	**22 28 21.0**	**+1.3**
ULN	**Ulaanbaatar**	**65.78**	**328**	*e*P	**P**	**22 29 18.1**	**-0.2**
	1.9nm,0.9s,mb4.1						
SONM	**Songino Array**	**66.11**	**327**	P	**P**	**22 29 21.4**	**+1.0**
	1.5nm,0.7s,mb4.1,baz=149,slow=5.7,SNR=9.7						
SONM	**Songino Array**	**66.11**	**327**	P	**P**	**22 29 21.4**	**+1.0**
MKAR	**Makanchi Array**	**80.25**	**319**	P	**P**	**22 30 44.0**	**-0.2**
	0.4nm,0.4s,mb3.7,baz=98,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**80.25**	**319**	P	**P**	**22 30 44.0**	**-0.2**
ZALV	**Zalesovo Beam**	**80.96**	**326**	P	**P**	**22 30 47.5**	**-0.2**
	0.7nm,0.5s,mb3.9,baz=111,slow=8.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**80.96**	**326**	P	**P**	**22 30 47.5**	**-0.2**
ILAR	**Eielson Array**	**81.29**	**22**	P	**P**	**22 30 48.9**	**-0.4**
	2.2nm,0.9s,mb4.1,baz=250,slow=5.1,SNR=14						
ILAR	**Eielson Array**	**81.29**	**22**	P	**P**	**22 30 48.9**	**-0.4**
DOT	**Dot Lake**	**81.85**	**24**	*e*P	**P**	**22 30 52.2**	**0.0**
	3.1nm,1.2s,mb4.1						
KURK	**Kurchatov**	**83.65**	**322**	*e*P	**P**	**22 31 01.4**	**-0.5**
	4.3nm,1.3s,mb4.4						
DIB	**Dawson Inlet,**	**83.82**	**36**	T		00 03 33.6	
	SNR=5.0						
TKM2	**Tokmak 2**	**83.94**	**314**	*e*P	**P**	**22 31 04.0**	**+0.4**
AAK	**Ala-Archa**	**84.68**	**313**	*e*P	**P**	**22 31 07.6**	**+0.2**
EKS2	**Erkin-Say**	**85.21**	**313**	*e*P	**P**	**22 31 10.0**	**0.0**
KBL	**Kabul**	**87.72**	**305**	*e*P	**P**	**22 31 21.5**	**-1.0**
NVAR	**Mina Array Bea**	**91.15**	**52**	LR	LR	23 06 34.2	
	comp=Z,96nm,19.5s,MS4.2,baz=125,slow=32						
YKA	**Yellowknife Ar**	**94.53**	**28**	P	**P**	**22 31 53.5**	**-0.1**
	0.6nm,0.9s,mb4.0,baz=278,slow=4.7,SNR=5.6						
YKA	**Yellowknife Ar**	**94.53**	**28**	P	**P**	**22 31 53.5**	**-0.1**
GERES	**GERESS Array B**	**123.82**	**329**	PKP	PKPdf	22 37 30.6	-0.9
	0.6nm,0.5s,baz=84,slow=1.0,SNR=8.9						
GERES	**GERESS Array B**	**123.82**	**329**	PKP	PKPdf	22 37 30.6	-0.9
DAVOX	**Davos/Dischmat**	**127.12**	**329**	PKP	PKPdf	22 37 37.4	-0.5
	1.0nm,0.4s,baz=180,slow=5.1,SNR=2.9						
DAVOX	**Davos/Dischmat**	**127.12**	**329**	PKP	PKPdf	22 37 37.4	-0.5
TORD	**Torodi Ar. Bea**	**150.71**	**290**	PKPbc	PKPbc	22 38 24.9	-1.9
	2.2nm,0.4s,baz=69,slow=1.8,SNR=59						
TORD	**Torodi Ar. Bea**	**150.71**	**290**	PKPbc	PKPbc	22 38 24.9	-1.9

ISCJB **16** *22:31:31.3±0.6, 21°.33N±0°.10×94°.75E±0°.08, h124km±9km, mb3.8/11, Error ellipse: s-maj=19.8km s-min=5.5km az=37.5*
IDC **16** *22:31:32.1±4.3, 21°.29N×94°.65E, h109km±43km, mb3.5/7, mb1 3.6/8, mb1mx3.3/26, mbtmp3.4/8, Error ellipse: s-maj=60.1km s-min=29.6km az=67.0*
NEIC **16** *22:31:32.2±0.4, 21°.12N×94°.56E, h121km±5km, mb4.1/6, Error ellipse: s-maj=11.7km s-min=4.0km az=209.0*
ISC 16 22:31:32.3±0.5, **21°.30N**±0°.09×**94°.69E**±0°.08, **h112**km±7km, **n47**, σ0**°65/58**, **mb3.8**/11, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**4.70**	**121**	*e*Pn	**Pn**	**22 32 40.8**	**-0.3**
CHTO				*e*Sn	**Sn**	**22 33 33.8**	**-0.8**
CM31	**Chiang Mai Arr**	**4.90**	**124**	*e*Pn	**Pn**	**22 32 43.7**	**-0.1**
CM31				*e*Sn	**Sn**	**22 33 39.4**	**0.0**
CMAR	**Chiang Mai Arr**	**4.90**	**124**	P	**Pn**	**22 32 44.0**	**+0.2**
	1.2nm,0.3s,baz=303,slow=13,SNR=25						
CMAR	**Chiang Mai Arr**	**4.90**	**124**	P	**Pn**	**22 32 44.0**	**+0.2**
KMI	**Kunming**	**8.33**	**61**	P	**Pn**	**22 33 34.7**	**+4.5**
	9.0nm,0.9s						
ODAN	**Odare**	**8.67**	**311**	*e*P	**Pn**	**22 33 35.5**	**+0.7**
	56nm,0.3s						
ODAN				*e*S	**Sn**	**22 35 07.5**	**-3.2**
ODAN	**Odare**	**8.67**	**311**	*e*P	**Pn**	**22 33 35.5**	**+0.7**
	56nm,0.3s						
ODAN				*e*S	**Sn**	**22 35 07.5**	**-3.2**
TAPN	**Taplejung**	**8.76**	**315**	*e*P	**Pn**	**22 33 36.6**	**+0.5**
	153nm,0.3s						
TAPN	**Taplejung**	**8.76**	**315**	*e*P	**Pn**	**22 33 36.6**	**+0.5**
	153nm,0.3s						
LSA	**Lhasa**	**8.96**	**340**	*e*Pn	**Pn**	**22 33

mb1 4.2/22,mb1mx4.1/26,mbtmp4.1/22,Error ellipse: s-maj=21.8km s-min=11.6km az=4.0
NNC **16** *22:39:58.2±4.0,36°.83N×71°.05E,h146km±39km,mb4.1, mpv5.3,Error ellipse: s-maj=32.6km s-min=23.2km az=13.0*
ISC 16 22:39:54.0±0.3,**36°.39N**±0°.02×**71°.43E**±0°.03,**h102**km±3km, **n380**,σ1§**17**/412,**mb4.5**/79,**21C-26D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CEP	**Cherat**	**2.59**	**171**	⇓P	**Pn**	**22 40 37.5**	**+3.2**
CEP				S	**Sn**	**22 41 10.0**	**+4.7**
KBL	**Kabul**	**2.68**	**227**	*e*Pn	**Pn**	**22 40 36.0**	**+0.5**
KBL				*e*Sn	**Sn**	**22 41 08.2**	**+0.7**
KBL	**Kabul**	**2.68**	**227**	*e*PN	**Pn**	**22 40 36.0**	**+0.5**
KBL				*e*		22 41 08.2	
CHCP	**Chirah Chowk**	**3.11**	**151**	⇓P	**Pn**	**22 40 45.2**	**+3.9**
THW	**Thamme Wali**	**3.59**	**176**	⇓P	**Pn**	**22 40 49.8**	**+2.1**
SARP	**Sargodha**	**4.57**	**167**	P	**Pn**	**22 41 02.8**	**+1.9**
KSH	**Kashi**	**4.76**	**48**	P	**Pn**	**22 41 00.8**	**-2.6**
KSH				S	**Sn**	**22 41 50.1**	**-7.3**
KSH				smax			
	comp=N,2μm,0.5s						
KSH				smax			
	comp=E,2μm,0.7s						
THN	**Thein Dam**	**5.30**	**137**	*e*PKP	**Pn**	**22 41 12.6**	**+1.8**
THN				*ex*	**Sn**	**22 42 13.1**	**+2.5**
AML	**Almayashu**	**6.00**	**16**	P	**Pn**	**22 41 20.9**	**+0.7**
	SNR=1192						
AML				P		22 41 20.9	
	SNR=1192						
UCH	**Uchtor**	**6.30**	**21**	P	**Pn**	**22 41 25.1**	**+0.7**
	SNR=35						
UCH				P		22 41 25.1	
	SNR=35						
KZA	**Kyzart**	**6.41**	**26**	P	**Pn**	**22 41 26.6**	**+0.9**
	SNR=172						
KZA				P		22 41 26.6	
	SNR=172						
BHK	**Bhakra**	**6.46**	**139**	*e*PKP	**Pn**	**22 41 26.8**	**+0.2**
BHK				*e*S	**Sn**	**22 42 36.2**	**-2.6**
EKS2	**Erkin-Say**	**6.52**	**15**	P	**Pn**	**22 41 27.8**	**+0.5**
	SNR=230						
EKS2				P		22 41 27.8	
	SNR=230						
EKS2	**Erkin-Say**	**6.52**	**15**	*e*Pn	**Pn**	**22 41 27.6**	**+0.3**
	comp=E,249nm,0.6s						
EKS2				*e*Sn	**Sn**	**22 42 38.4**	**-1.8**
EKS2	**Erkin-Say**	**6.52**	**15**	*e*PN	**Pn**	**22 41 27.6**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,249nm,0.6s						
AAK	**Ala-Archa**	**6.67**	**20**	P	**Pn**	**22 41 30.4**	**+1.1**
	SNR=617						
AAK				P		22 41 30.4	
	SNR=617						
AAK	**Ala-Archa**	**6.67**	**20**	*e*Pn	**Pn**	**22 41 30.1**	**+0.8**
AAK				*e*Sn	**Sn**	**22 42 44.3**	**+0.5**
AAK	**Ala-Archa**	**6.67**	**20**	*e*PN	**Pn**	**22 41 30.1**	**+0.8**
SDNR	**Sundarnagar**	**6.70**	**135**	*e*PKP	**Pn**	**22 41 31.0**	**+1.2**
SDNR				*e*S	**Sn**	**22 42 42.0**	**-2.7**
KK31	**Karatay Array**	**6.75**	**354**	⇓P	**Pn**	**22 41 29.0**	**-1.3**
	comp=Z,95nm,0.3s,baz=179,slow=13,SNR=3763						
KK31				⇑S	**Sn**	**22 42 38.6**	**-7.0**
	comp=Z,48nm,0.5s,baz=174,slow=23,SNR=4.5						
KK31	**Karatay Array**	**6.75**	**354**	*i* PN	**Pn**	**22 41 29.2**	**-1.1**
KK31				pmax	pmax		
	comp=Z,201nm,0.2s						
KKAR	**Karatay Array**	**6.75**	**354**	*e*Pn	**Pn**	**22 41 29.0**	**-1.4**
KKAR				*e*Sn	**Sn**	**22 42 43.4**	**-2.2**
KKAR	**Karatay Array**	**6.75**	**354**	*e*PN	**Pn**	**22 41 29.0**	**-1.3**
KBK	**Karagaybulak**	**6.83**	**22**	P	**Pn**	**22 41 32.6**	**+1.2**
	SNR=174						
KBK				P		22 41 32.6	
	SNR=174						
FRU	**Bishkek**	**6.89**	**20**	⇓*i*PN	**Pn**	**22 41 32.0**	**-0.3**
FRU				pmax	pmax		
	comp=Z,209nm,1.8s						
ULHL	**Ulahol**	**6.94**	**31**	P	**Pn**	**22 41 33.8**	**+0.9**
	SNR=29						
ULHL				P		22 41 33.8	
	SNR=29						
CHMS	**Chumysh**	**7.08**	**20**	P	**Pn**	**22 41 35.3**	**+0.4**
	SNR=283						
CHMS				P		22 41 35.3	
	SNR=283						
SMLA	**Simla**	**7.09**	**136**	*i* P	**Pn**	**22 41 35.3**	**+0.2**
SMLA				*i* S	**Sn**	**22 42 51.2**	**-3.0**
SMLA				AML	AML	22 42 54.4	
	comp=N,3μm,0.3s						
SMLA				AML	AML	22 42 55.0	
	comp=E,3μm,0.2s						
USP	**Ospenovka**	**7.27**	**18**	P	**Pn**	**22 41 37.0**	**-0.3**
	SNR=420						
USP				P		22 41 37.0	
	SNR=420						
TKM2	**Tokmak 2**	**7.27**	**25**	P	**Pn**	**22 41 38.4**	**+0.9**
	SNR=390						
TKM2				P		22 41 38.4	
	SNR=390						
TKM2	**Tokmak 2**	**7.27**	**25**	⇓P	**Pn**	**22 41 38.4**	**+0.9**
	comp=E,111nm,0.5s						
TKM2				⇓S	**Sn**	**22 42 59.5**	**+1.1**
	comp=E,59nm,0.8s						
TKM2	**Tokmak 2**	**7.27**	**25**	*e*Pn	**Pn**	**22 41 38.4**	**+0.9**
TKM2				*e*Sn	**Sn**	**22 42 58.6**	**+0.1**
TKM2	**Tokmak 2**	**7.27**	**25**	*i* PN	**Pn**	**22 41 38.4**	**+0.9**
KNDC	**Almaty**	**8.04**	**30**	⇑P	**Pn**	**22 41 49.2**	**+1.3**
	comp=E,128nm,0.7s						
DDI	**Dehra Dun**	**8.20**	**136**	*ex*	**Pn**	**22 41 52.8**	**+2.6**
DDI				*ex*	**Sn**	**22 43 22.0**	**+0.8**
NDI	**New Delhi**	**9.10**	**146**	*e*PKP	**Pn**	**22 42 00.8**	**-1.7**
NDI				*e*S	**Sn**	**22 43 35.1**	**-7.9**
NDI				AML	AML	22 43 41.5	
	comp=N,71nm,0.2s						
NDI				AML	AML	22 43 41.6	
	comp=E,136nm,0.3s						
AYAN	**Aya Nagar**	**9.23**	**147**	*e*PKP	**Pn**	**22 42 01.3**	**-2.9**
AYAN				*e*S	**Sn**	**22 43 36.9**	**-9.4**
AJM	**Ajmer**	**10.25**	**164**	*e*PKP	**Pn**	**22 42 16.0**	**-2.1**
AJM				*ex*	x	22 44 06.0	
DANN	**Dangsing**	**13.14**	**124**	*e*P	**Pn**	**22 42 56.1**	**-0.5**
DANN	**Dangsing**	**13.14**	**124**	*e*P	**Pn**	**22 42 56.1**	**-0.5**
MK31	**Makanchi Array**	**13.18**	**35**	*e*Pn	**Pn**	**22 42 57.2**	**+0.1**
MK31	**Makanchi Array**	**13.18**	**35**	*e*P	**Pn**	**22 42 57.2**	**+0.2**
MKAR	**Makanchi Array**	**13.18**	**35**	P	**Pn**	**22 42 57.2**	**+0.1**
	comp=E,0.8nm,0.3s,baz=220,slow=14,SNR=35						
MKAR	**Makanchi Array**	**13.18**	**35**	P	**Pn**	**22 42 57.2**	**+0.1**
MKAR	**Makanchi Array**	**13.18**	**35**	P	**Pn**	**22 42 57.2**	**+0.2**
KOLN	**Koldanda**	**13.42**	**126**	*e*P	**Pn**	**22 42 59.3**	**-1.0**
	comp=E,28nm,0.3s						
KOLN	**Koldanda**	**13.42**	**126**	*e*P	**Pn**	**22 42 59.3**	**-1.0**
	comp=E,28nm,0.3s						
GKN	**Gorkha**	**13.95**	**123**	*e*P	**Pn**	**22 43 06.3**	**-0.9**
	comp=E,41nm,0.4s						
GKN				*e*S	**Sn**	**22 45 32.5**	**-8.3**
GKN	**Gorkha**	**13.95**	**123**	*e*P	**Pn**	**22 43 06.3**	**-0.9**
	comp=E,41nm,0.4s						
GKN				*e*S	**Sn**	**22 45 32.5**	**-8.3**
BHPL	**Bhopal**	**14.09**	**157**	*e*PKP	**Pn**	**22 43 07.7**	**-1.3**
BHPL				*ex*	x	22 45 39.1	
BHPL				AML	AML	22 46 12.1	
	comp=E,46nm,0.3s						
BHPL				AML	AML	22 46 16.9	
	comp=N,23nm,0.9s						
WMQ	**Urumqi**	**14.48**	**54**	P	**Pn**	**22 43 13.0**	**-0.9**
WMQ				pmax	pmax		
	comp=Z,16nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.4s						
DMN	**Daman**	**14.52**	**123**	*e*P	**Pn**	**22 43 13.9**	**-0.6**
	comp=Z,45nm,0.5s						
DMN	**Daman**	**14.52**	**123**	*e*P	**Pn**	**22 43 13.9**	**-0.6**
	comp=Z,45nm,0.5s						
KKN	**Kakani**	**14.52**	**122**	*e*P	**Pn**	**22 43 13.7**	**-0.8**
	comp=Z,41nm,0.5s						
KKN	**Kakani**	**14.52**	**122**	*e*P	**Pn**	**22 43 13.7**	**-0.8**
	comp=Z,41nm,0.5s						
KKN	**Kakani**	**14.52**	**122**	*e*P	**Pn**	**22 43 13.7**	**-0.8**
KKN				pmax	pmax		
	comp=Z,41nm,0.5s						
PKI	**Pulchoki**	**14.75**	**123**	*e*P	**Pn**	**22 43 17.5**	**0.0**
	comp=Z,29nm,0.3s						
PKI	**Pulchoki**	**14.75**	**123**	*e*P	**Pn**	**22 43 17.5**	**0.0**
	comp=Z,29nm,0.3s						
PKI	**Pulchoki**	**14.75**	**123**	*e*P	**Pn**	**22 43 17.5**	**0.0**
PKI				pmax	pmax		
	comp=Z,29nm,0.3s						
GUN	**Gumba**	**14.86**	**121**	*e*P	**Pn**	**22 43 18.2**	**-0.6**
	comp=Z,12nm,0.3s						
GUN	**Gumba**	**14.86**	**121**	*e*P	**Pn**	**22 43 18.2**	**-0.6**
	comp=Z,12nm,0.3s						
KURBB	**Kurchatov Arra**	**15.12**	**18**	P	**Pn**	**22 43 17.4**	**-4.5**
	comp=Z,3.9nm,0.5s						
KURK	**Kurchatov**	**15.23**	**18**	⇑P	**Pn**	**22 43 18.8**	**-4.5**
	comp=Z,17nm,0.7s						
KURK	**Kurchatov**	**15.23**	**18**	P	**Pn**	**22 43 18.4**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=43						
KURK	**Kurchatov**	**15.23**	**18**	*e*Pn	**Pn**	**22 43 19.2**	**-4.1**
	comp=Z,17nm,0.7s						
KURK	**Kurchatov**	**15.23**	**18**	*e*P	**Pn**	**22 43 25.1**	**+1.8**
JIRN	**Jiri**	**15.23**	**121**	*e*P	**Pn**	**22 43 23.3**	**-0.2**
	comp=Z,72nm,0.4s						
JIRN	**Jiri**	**15.23**	**121**	*e*P	**Pn**	**22 43 23.3**	**-0.2**
	comp=Z,72nm,0.4s						
AB31	**Akbulak array**	**15.35**	**330**	⇓P	**Pn**	**22 43 20.0**	**-4.8**
	comp=Z,18nm,0.5s,baz=141,slow=12,SNR=564						
AB31				S	S	22 45 56.7	-27
	comp=Z,45nm,0.8s,baz=149,slow=24,SNR=9.8						
AB31	**Akbulak array**	**15.35**	**330**	*i* P	**Pn**	**22 43 20.2**	**-4.6**
AB31				pmax	pmax		
	comp=Z,12nm,0.2s						
ABKAR	**Akbulak array**	**15.35**	**330**	*e*Pn	**Pn**	**22 43 20.0**	**-4.8**
ABKAR				*e*Sn	**Sn**	**22 45 57.7**	**-17**
RAMN	**Ramite**	**15.96**	**122**	*e*P	**Pn**	**22 43 31.5**	**-1.2**
RAMN	**Ramite**	**15.96**	**122**	*e*P	**Pn**	**22 43 31.5**	**-1.2**
VOSK	**Vostochnaya**	**16.34**	**359**	⇑P	**Pn**	**22 43 33.3**	**-3.8**
	comp=Z,26nm,1.1s						
TAPN	**Taplejung**	**16.49**	**119**	*e*P	**Pn**	**22 43 38.9**	**-0.3**
	comp=Z,41nm,0.4s						
TAPN	**Taplejung**	**16.49**	**119**	*e*P	**Pn**	**22 43 38.9**	**-0.3**
	comp=Z,41nm,0.4s						
ODAN	**Odare**	**16.56**	**120**	*e*P	**Pn**	**22 43 39.0**	**-1.1**
	comp=Z,39nm,0.4s						
ODAN	**Odare**	**16.56**	**120**	*e*P	**Pn**	**22 43 39.0**	**-1.1**
	comp=Z,39nm,0.4s						
ZRNK	**Zerenda**	**16.65**	**355**	⇓P	**Pn**	**22 43 37.3**	**-3.7**
	comp=Z,10.0nm,0.6s						
BVA0	**Borovoye Array**	**16.65**	**358**	P	**Pn**	**22 43 38.2**	**-2.8**
	comp=Z,1.8nm,0.8s,baz=159,slow=13,SNR=93						
BVA0				S	**S**	**22 46 39.9**	**-10**
	comp=Z,0.6nm,0.7s,baz=164,slow=25,SNR=3.6						
BVAR	**Borovoye Array**	**16.65**	**358**	P	**Pn**	**22 43 38.6**	**-2.4**
	comp=Z,3.9nm,0.3s,baz=160,slow=13,SNR=34						
BVAR	**Borovoye Array**	**16.65**	**358**	P	**Pn**	**22 43 38.6**	**-2.4**
BVAR	**Borovoye Array**	**16.65**	**358**	P	**Pn**	**22 43 38.6**	**-2.4**
BRVK	**Borovoye**	**16.69**	**358**	⇓P	**Pn**	**22 43 38.4**	**-3.0**
	comp=Z,24nm,0.7s						
BRVK	**Borovoye**	**16.69**	**358**	*e*Pn	**Pn**	**22 43 39.4**	**-2.1**
	comp=Z,17nm,0.6s						
BRVK				*e*Sn	**Sn**	**22 46 43.0**	**-3.5**
BRVK	**Borovoye**	**16.69**	**358**	*e*P	**Pn**	**22 43 39.4**	**-2.0**
BRVK				*e*		22 46 43.0	
BRVK				pmax	pmax		
	comp=Z,17nm,0.6s						
AKTO	**Aktyubinsk**	**17.05**	**330**	⇑P	**Pn**	**22 43 43.5**	**-2.3**
	comp=Z,4.2nm,0.6s						
AKTO	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**22 43 44.0**	**-1.9**
	comp=Z,3.3nm,0.3s,baz=142,slow=12,SNR=37						
AKTO				S	**S**	**22 46 39.6**	**-16**
	comp=Z,0.9nm,0.3s,baz=41,slow=20,SNR=4.2						
AKTO	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**22 43 44.0**	**-1.9**
AKTO				S	**S**	**22 46 39.6**	**-16**
AKTO	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**22 43 44.0**	**-1.9**
AKTO				S	**S**	**22 46 39.6**	**-16**
LSA	**Lhasa**	**17.81**	**106**	P	**Pn**	**22 43 57.1**	**+1.8**
LSA	**Lhasa**	**17.81**	**106**	*e*P	**Pn**	**22 43 57.6**	**+2.3**
	comp=Z,7.9nm,0.7s						
LSA				*e*S	**S**	**22 47 09.3**	**-4.6**
LSA	**Lhasa**	**17.81**	**106**	*e*P	**Pn**	**22 43 57.6**	**+2.3**
LSA				*e*S	**S**	**22 47 09.3**	**-4.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
POO	**Poona**	**17.92**	**173**	*ex*	**Pn**	**22 43 57.0**	**+0.4**
POO				*e*S	**S**	**22 47 13.5**	**-2.8**
KAD	**Karad**	**19.16**	**172**	*e*PKP	**P**	**22 44 09.9**	**+0.4**
ZAA0	**Zalesovo Array**	**19.88**	**24**	*e*P	**P**	**22 44 16.3**	**-0.6**
ZAA0				*e*S	**S**	**22 47 54.2**	**-0.7**
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	**P**	**22 44 16.8**	**-0.1**
	comp=Z,20nm,0.3s,baz=223,slow=10,SNR=124						
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	**P**	**22 44 16.8**	**-0.1**
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	**P**	**22 44 16.8**	**-0.1**
HYB	**Hyderabad**	**19.92**	**160**	*i* P	**P**	**22 44 20.5**	**+2.8**
HYB				*e*S	**S**	**22 48 03.5**	**+7.2**
NVS	**Novosibirsk**	**20.17**	**20**	⇓*i*P	**P**	**22 44 19.4**	**-0.6**
NVS				*i*		22 44 54.0	
NVS				*i* S	**S**	**22 47 55.8**	**-4.8**
NVS				pmax	pmax		
	comp=N,19nm,0.7s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,27nm,0.7s						
NVS				smax			
	comp=N,11nm,1.5s						
NVS				smax			
	comp=E,16nm,1.5s						
SHL	**Shillong**	**20.55**	**116**	*e*PKP	**P**	**22 44 27.6**	**+3.2**
SHL				*ex*	x	22 48 06.5	
DGRG	**David-gareji**	**20.86**	**292**	P	**P**	**22 44 30.9**	**+3.3**
UMR	**Umm Al-Rimmam**	**21.00**	**258**	*e*P	**P**	**22 44 28.0**	**-1.2**
UMR				AMb	AMB	22 44 34.1	
	comp=Z,35nm,0.4s,mb5.1						
MIB	**Mutribah**	**21.20**	**259**	*e*P	**P**	**22 44 30.2**	**-1.1**
MIB				AMb	AMB	22 44 39.0	
	comp=Z,67nm,0.6s,mb5.1						
GNI	**Garni**	**21.26**	**288**	P	**P**	**22 44 33.9**	**+2.0**
	comp=Z,13nm,0.5s,mb4.5,baz=24,slow=1.8,SNR=15						
GNI	**Garni**	**21.26**	**288**	*e*P	**P**	**22 44 33.9**	**+2.0**
	comp=Z,42nm,0.9s,mb4.8						
GNI	**Garni**	**21.26**	**288**	*e*P	**P**	**22 44 29.6**	**-2.3**
GNI				pmax	pmax		
	comp=Z,59nm,1.2s						
MTA	**Mtatsminda**	**21.32**	**293**	P	**P**	**22 44 32.9**	**+0.4**
TBLG	**Delisi**	**21.36**	**293**	*e*P	**P**	**22 44 33.7**	**+0.7**
TBLG	**Delisi**	**21.36**	**293**	P	**P**	**22 44 33.7**	**+0.8**
VIS	**Vishakhapatnam**	**21.36**	**147**	*i* P	**P**	**22 44 32.5**	**-0.6**
VIS				*i* x	x	22 48 59.0	
RDF	**Al-Radifah**	**21.40**	**257**	*e*P	**P**	**22 44 32.7**	**-0.8**
RDF				AMb	AMB	22 44 36.8	
	comp=Z,86nm,1.3s,mb4.9						
NAY	**Al-Naaiem**	**21.50**	**258**	*e*P	**P**	**22 44 33.3**	**-1.4**
NAY				AMb	AMB	22 44 36.7	
	comp=Z,25nm,0.6s,mb4.8						
SVE	**Sverdlovsk**	**21.70**	**344**	⇓*i*P	**P**	**22 44 35.6**	**-0.8**
SVE				*e*S	**S**	**22 48 32.0**	**+1.6**
SVE				*e*		22 49 10.6	
SVE				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
ARU	**Arti**	**21.85**	**341**	*e*P	**P**	**22 44 36.0**	**-2.0**
	comp=Z,22nm,0.5s,mb4.7						
ARU				*e*S	**S**	**22 48 30.9**	**-2.5**
ARU	**Arti**	**21.85**	**341**	*d i*P	**P**	**22 44 39.5**	**+1.5**
ARU				S	**S**	**22 48 34.5**	**+1.1**
ARU				pmax	pmax		
	comp=Z,57nm,1.7s,mb4.6						
AKH	**Akhalkalaki**	**22.27**	**292**	P	**P**	**22 44 44.0**	**+1.4**
ONI	**Oni**	**22.40**	**295**	P	**P**	**22 44 46.5**	**+2.4**
GTA	**Gaotai**	**22.56**	**74**	*e*P	**P**	**22 44 49.8**	**+4.1**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0						
KIV	**Kislovodsk**	**23.15**	**298**	*e*P	**P**	**22 44 50.0**	**-1.3**
	comp=Z,9.7nm,0.6s,mb4.3						
KIV				*e*S	**S**	**22 48 52.7**	**-2.1**
KIV	**Kislovodsk**	**23.15**	**298**	*e*P	**P**	**22 44 50.5**	**-0.8**
KIV				*e*S	**S**	**22 48 55.5**	**+0.7**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.3						
SOKR	**Solikamsk**	**25.07**	**342**	*e*P	**P**	**22 45 08.7**	**+0.1**
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
ANN	**Anapa**	**26.99**	**299**	*e*P	**P**	**22 45 25.8**	**-0.3**
ANN				*e*S	**S**	**22 49 59.2**	**+3.3**
ANN				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.0						
VSR	**Storozhevoye**	**27.33**	**313**	*e*P	**P**	**22 45 28.8**	**-0.3**
VSR				pmax	pmax		
	comp=N,3.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.5s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.6						
SONM	**Songino Array**	**28.12**	**55**	P	**P**	**22 45 38.2**	**+2.1**
	comp=Z,0.8nm,0.4s,mb3.6,baz=269,slow=9.0,SNR=16						
SONM	**Songino Array**	**28.12**	**55**	P	**P**	**22 45 38.2**	**+2.1**
SONM	**Songino Array**	**28.12**	**55**	P	**P**	**22 45 38.2**	**+2.1**
BRTR	**Keskin Array B**	**29.80**	**288**	P	**P**	**22 45 51.2**	**+0.2**
	comp=Z,1.2nm,0.8s,mb3.6,baz=97,slow=9.3,SNR=8.4						
BRTR	**Keskin Array B**	**29.80**	**288**	P	**P**	**22 45 51.2**	**+0.2**
BRTR	**Keskin Array B**	**29.80**	**288**	P	**P**	**22 45 51.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.10**	**119**	P	**P**	**22 45 57.0**	**+3.1**
	comp=Z,0.5nm,0.3s,mb3.6,baz=296,slow=9.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**30.10**	**119**	P	**P**	**22 45 57.0**	**+3.1**
CMAR	**Chiang Mai Arr**	**30.10**	**119**	P	**P**	**22 45 57.0**	**+3.1**
OBN	**Obninsk**	**30.25**	**319**	*e*P	**P**	**22 45 55.5**	**+0.6**
OBN	**Obninsk**	**30.25**	**319**	*ce*P	**P**	**22 45 55.3**	**+0.4**
OBN				*e*		22 46 30.8	
OBN						22 46 54.0	
OBN				*e*S	**S**	**22 50 45.0**	**-1.9**
OBN				pmax	pmax		
	comp=Z,66nm,2.5s,mb4.8						
KLMR	**Klimovskoe**	**31.75**	**331**	*e*P	**P**	**22 46 06.0**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
AKASG	**Malin Array Be**	**33.29**	**309**	P	**P**	**22 46 21.5**	**-0.1**
	comp=Z,9.9nm,0.5s,mb4.9,baz=80,slow=7.5,SNR=49						
AKASG	**Malin Array Be**	**33.29**	**309**	P	**P**	**22 46 21.5**	**-0.1**
AKASG	**Malin Array Be**	**33.29**	**309**	P	**P**	**22 46 21.5**	**0.0**
KIEV	**Kiev**	**33.30**	**309**	*e*P	**P**	**22 46 20.1**	**-1.5**
KIEV	**Kiev**	**33.30**	**309**	*i* P	**P**	**22 46 20.7**	**-0.9**
VRI	**Vrincioaia**	**34.58**	**300**	⇑P	**P**	**22 46 34.7**	**+1.9**
VRI	**Vrincioaia**	**34.58**	**300**	⇑*i*P	**P**	**22 46 34.7**	**+1.9**
PLOR	**Plostina**	**34.64**	**300**	⇑P	**P**	**22 46 35.1**	**+1.8**
PLOR	**Plostina**	**34.64**	**300**	⇑*i*P	**P**	**22 46 35.1**	**+1.8**
TESR		**34.64**	**301**	⇑*i*P	**P**	**22 46 34.2**	**+0.9**
MLR	**Muntele Rosu**	**35.14**	**299**	⇑P	**P**	**22 46 39.9**	**+2.3**
MLR	**Muntele Rosu**	**35.14**	**299**	⇑*i*P	**P**	**22 46 39.9**	**+2.3**
BURAR	**Bucovina Array**	**35.64**	**303**	⇓P	**P**	**22 46 42.6**	**+0.7**
BURAR	**Bucovina Array**	**35.64**	**303**	⇓*i*P	**P**	**22 46 42.6**	**+0.7**
BUR08	**Bucovina Ar. S**	**35.65**	**303**	*e*P	**P**	**22 46 41.8**	**-0.2**
IIGN	**Ignalina**	**35.95**	**316**	*e*P	**P**	**22 46 44.5**	**+0.1**
IIGN				AMB	AMB	22 46 46.7	
	comp=Z,6.0nm,0.7s,mb4.6						
IZAR	**Zarasai**	**36.03**	**317**	*e*P	**P**	**22 46 45.1**	**+0.1**
IZAR				AMB	AMB	22 46 47.2	
	comp=Z,9.1nm,1.1s,mb4.6						
ISAL	**Salakas**	**36.05**	**317**	*e*P	**P**	**22 46 45.4**	**+0.2**
ISAL				AMB	AMB	22 46 47.5	
	comp=Z,10nm,1.3s,mb4.6						
JOF	**Joensuu**	**36.14**	**330**	*e*P	**P**	**22 46 45.5**	**-0.4**
JOF				pmax	pmax		
	comp=Z,15nm,0.4s,mb5.3						
JOF	**Joensuu**	**36.14**	**330**	*e*p	**P**	**22 46 45.5**	**-0.4**
	comp=Z,15nm,0.4s,mb5.3						
DRGR		**37.35**	**302**	⇓P	**P**	**22 46 57.8**	**+1.4**
DRGR		**37.35**	**302**	⇓*i*P	**P**	**22 46 57.8**	**+1.4**
KWP	**Kalwaria Pacla**	**37.36**	**306**	*e*P	**P**	**22 46 58.2**	**+1.7**
KWP	**Kalwaria Pacla**	**37.36**	**306**	*e*P	**P**	**22 46 56.4**	**0.0**
	comp=Z,6.8nm,0.4s,mb4.9						
KWP	**Kalwaria Pacla**	**37.36**	**306**	⇓P	**P**	**22 46 57.6**	**+1.2**
KWP	**Kalwaria Pacla**	**37.36**	**306**	⇓*i*P	**P**	**22 46 57.5**	**+1.1**
TRPA	**Tarpa**	**37.44**	**304**	⇓*i*P	**P**	**22 46 58.1**	**+0.9**
SUW	**Suwalki**	**37.45**	**314**	*e*P	**P**	**22 46 57.1**	**0.0**
SUW	**Suwalki**	**37.45**	**314**	*e*P	**P**	**22 46 57.1**	**0.0**
UZH	**Uzhgorod**	**37.61**	**305**	*e*P	**P**	**22 47 03.6**	**+5.0**
FINES	**FINESS Array B**	**37.77**	**326**	P	**P**	**22 46 60.0**	**+0.2**
	comp=Z,7.1nm,0.4s,mb4.8,baz=113,slow=9.1,SNR=69						
FINES	**FINESS Array B**	**37.77**	**326**	P	**P**	**22 46 60.0**	**+0.2**
FINES	**FINESS Array B**	**37.77**	**326**	P	**P**	**22 47 00.0**	**+0.2**
KAF	**Kangasniemi**	**37.91**	**327**	*e*P	**P**	**22 47 00.6**	**-0.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**37.91**	**327**	*e*p	**P**	**22 47 00.6**	**-0.3**
	comp=Z,4.1nm,0.5s,mb4.5						
CRVS	**Cervenica-Dubn**	**38.16**	**305**	*e*P	**P**	**22 47 04.0**	**+0.8**
CRVS				pmax	pmax		
	comp=Z,76nm,3.2s						
CRVS	**Cervenica-Dubn**	**38.16**	**305**	*e*P	**P**	**22 47 04.0**	**+0.8**
BZS	**Buzias**	**38.17**	**300**	⇑P	**P**	**22 47 04.0**	**+0.7**
BZS	**Buzias**	**38.17**	**300**	⇑*i*P	**P**	**22 47 04.0**	**+0.7**
KECS

comp=Z,7.0nm,0.9s,mb4.4
NC602 NORSAR Array S 44.49 323 *e*P **P** **22 47 54.1 -0.7**
FLOS Flostrand 44.55 331 *e*P **P** **22 47 56.6 +1.5**
KSAR Wonju Array Be 44.56 71 P **P** **22 47 57.6 +1.9**
KSAR Wonju Array Be 44.56 71 P **P** **22 47 57.6 +1.9**
KSRS Korea Array 44.59 71 P **P** **22 47 57.6 +1.7**
comp=Z,1.6nm,0.5s,mb4.0,baz=278,slow=6.3,SNR=5.0
KSRS Korea Array 44.59 71 P **P** **22 47 57.6 +1.7**
KSRS pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
NOA NORSAR Array B 44.68 323 P **P** **22 47 55.6 -0.6**
comp=Z,16nm,0.6s,mb4.9,baz=97,slow=7.8,SNR=51
NOA NORSAR Array B 44.68 323 P **P** **22 47 55.6 -0.6**
NOA NORSAR Array B 44.68 323 P **P** **22 47 55.6 -0.7**
STOK Stokkvaagen 44.68 331 *e*P **P** **22 47 56.9 +0.7**
CLZ Clausthal 45.13 310 *e*P **P** **22 48 00.5 +0.5**
comp=Z,17nm,1.4s,mb4.6
CLZ Clausthal 45.13 310 *e*P **P** **22 48 00.5 +0.5**
CLZ pmax pmax
comp=Z,17nm,1.4s,mb4.6
MOTA Moosalm 45.19 304⇑*i*P **P** **22 48 00.2 -0.3**
comp=Z,4.1nm,0.9s,mb4.2
NRDL Niedersach Rie 45.24 311 *e*P **P** **22 48 01.7 +0.9**
comp=Z,8.0nm,0.9s,mb4.5
KONO Kongsberg 45.39 321 *e*P **P** **22 48 02.0 +0.1**
DAVA Damuels 46.02 304⇑*i*P **P** **22 48 06.7 -0.4**
comp=Z,11nm,0.6s,mb4.8
DAVOX Davos/Dischmat 46.11 303 P **P** **22 48 07.5 -0.2**
comp=Z,3.0nm,0.7s,mb4.2,baz=101,slow=12,SNR=7.3
DAVOX Davos/Dischmat 46.11 303 P **P** **22 48 07.5 -0.2**
DAVOX Davos/Dischmat 46.11 303 P **P** **22 48 07.6 -0.2**
TNS Taunus Mts 46.52 308 *e*P **P** **22 48 11.9 +1.0**
comp=Z,4.0nm,0.8s,mb4.2
TNS Taunus Mts 46.52 308 *e*P **P** **22 48 11.9 +1.0**
TNS pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
SNART Snartemo 46.61 319 *e*P **P** **22 48 12.4 +0.9**
IBBN Ibbenburen 46.69 311 *e*P **P** **22 48 12.8 +0.6**
comp=Z,18nm,0.8s,mb4.8
BUG Bochum--Univer 47.10 310 *e*P **P** **22 48 15.9 +0.5**
comp=Z,14nm,1.1s,mb4.6
HABR Khabarovsk 47.20 54 P **P** **22 48 16.3 +0.1**
HABR *e**SP sP 22 48 45.3 -6.5
HABR *e* 22 49 45.4
HABR *e*S **S** **22 55 05.1 +3.9**
HABR *e* 22 58 02.1
HABR *e*SSS 22 59 45.2
HABR pmax pmax
comp=E,15nm,0.8s
HABR pmax pmax
comp=N,9.0nm,0.8s
HABR pmax pmax
comp=Z,27nm,1.3s,mb4.8
HABR MLR MLR
comp=Z,183nm,17.0s
CDF Champ du Feu 47.56 306 *e*P **P** **22 48 18.5 -0.5**
comp=Z,8.8nm,1.0s,mb4.2
CDF Champ du Feu 47.56 306 *e*P **P** **22 48 18.5 -0.5**
comp=Z,8.8nm,1.0s,mb4.5
CDF Champ du Feu 47.56 306 *e*P **P** **22 48 18.5 -0.5**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
SPA0 Spitsbergen Ar 47.68 347 *e*P **P** **22 48 21.0 +1.4**
HINF Hinteralfeld 47.95 305 *e*P **P** **22 48 20.8 -1.2**
comp=Z,6.1nm,0.7s,mb4.2
HINF Hinteralfeld 47.95 305 *e*P **P** **22 48 20.8 -1.2**
comp=Z,6.1nm,0.7s,mb4.5
HINF Hinteralfeld 47.95 305 *e*P **P** **22 48 20.8 -1.2**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
WLF Walferdange 48.07 307 *e*P **P** **22 48 23.9 +1.0**
comp=Z,11nm,1.1s,mb4.6
HAU Haudompre 48.24 305 *e*P **P** **22 48 22.6 -1.7**
HAU Haudompre 48.24 305 *e*P **P** **22 48 22.6 -1.7**
HAU Haudompre 48.24 305 *e*P **P** **22 48 22.6 -1.7**
SBF Sospel 48.41 300 *e*P **P** **22 48 24.7 -1.0**
comp=Z,27nm,0.8s,mb4.8
SBF Sospel 48.41 300 *e*P **P** **22 48 24.7 -1.0**
comp=Z,27nm,0.8s,mb5.1
SBF Sospel 48.41 300 *e*P **P** **22 48 24.7 -1.0**
SBF pmax pmax
comp=Z,27nm,0.8s,mb5.1
LPG La Plagne 48.50 302 *e*P **P** **22 48 25.9 -0.4**
comp=Z,9.6nm,0.8s,mb4.5
LPG La Plagne 48.50 302 *e*P **P** **22 48 25.9 -0.4**
comp=Z,9.6nm,0.8s,mb4.8
LPG La Plagne 48.50 302 *e*P **P** **22 48 25.9 -0.4**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPL La Plagne 48.51 302 *e*P **P** **22 48 25.7 -0.7**
comp=Z,12nm,0.9s,mb4.5
LPL La Plagne 48.51 302 *e*P **P** **22 48 25.7 -0.7**
comp=Z,12nm,0.9s,mb4.8
LPL La Plagne 48.51 302 *e*P **P** **22 48 25.7 -0.7**
LPL pmax pmax
comp=Z,12nm,0.9s,mb4.8
MBDF Montbardon 48.67 301 *e*P **P** **22 48 26.3 -1.3**
MBDF Montbardon 48.67 301 *e*P **P** **22 48 26.3 -1.3**
MBDF Montbardon 48.67 301 *e*P **P** **22 48 26.3 -1.3**
CABF La Chapelle 48.70 303 *e*P **P** **22 48 27.3 -0.6**
comp=Z,38nm,1.2s,mb4.9
CABF La Chapelle 48.70 303 *e*P **P** **22 48 27.3 -0.6**
comp=Z,38nm,1.2s,mb5.2
CABF La Chapelle 48.70 303 *e*P **P** **22 48 27.3 -0.6**
CABF pmax pmax
comp=Z,38nm,1.2s,mb5.2
MEZF Maizieres J'vi 48.99 306 *e*P **P** **22 48 29.5 -0.6**
MEZF Maizieres J'vi 48.99 306 *e*P **P** **22 48 29.5 -0.6**
FRF La Foret Royal 49.04 299 *e*P **P** **22 48 29.8 -0.7**
FRF La Foret Royal 49.04 299 *e*P **P** **22 48 29.8 -0.7**
FRF La Foret Royal 49.04 299 *e*P **P** **22 48 29.8 -0.7**
LMR La Mourre 49.20 299 *e*P **P** **22 48 30.1 -1.6**
LMR La Mourre 49.20 299 *e*P **P** **22 48 30.1 -1.6**
LMR La Mourre 49.20 299 *e*P **P** **22 48 30.1 -1.6**
BAIF Baives 49.23 308 *e*P **P** **22 48 31.6 -0.3**
comp=Z,20nm,0.9s,mb4.7
BAIF Baives 49.23 308 *e*P **P** **22 48 31.6 -0.3**
comp=Z,20nm,0.9s,mb5.0
BAIF Baives 49.23 308 *e*P **P** **22 48 31.6 -0.3**
BAIF pmax pmax
comp=Z,20nm,0.9s,mb5.0
KEST Kesra 49.40 289 P **P** **22 48 33.4 0.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=40,slow=21,SNR=6.2
KEST Kesra 49.40 289 P **P** **22 48 33.4 0.0**
VIVF Saint-Julien-l 50.08 302 *e*P **P** **22 48 38.5 +0.1**
comp=Z,24nm,1.1s,mb4.8
VIVF Saint-Julien-l 50.08 302 *e*P **P** **22 48 38.5 +0.1**
comp=Z,24nm,1.0s,mb5.1
VIVF Saint-Julien-l 50.08 302 *e*P **P** **22 48 38.5 +0.1**
VIVF pmax pmax
comp=Z,24nm,1.0s,mb5.1
SMF Signal de Mont 50.20 304 *e*P **P** **22 48 38.1 -1.2**
comp=Z,17nm,0.9s,mb4.7
SMF Signal de Mont 50.20 304 *e*P **P** **22 48 38.1 -1.2**
comp=Z,17nm,0.9s,mb5.0
SMF Signal de Mont 50.20 304 *e*P **P** **22 48 38.1 -1.2**
SMF pmax pmax
comp=Z,17nm,0.9s,mb5.0
SSF Saint Saulge 50.33 305 *e*P **P** **22 48 38.8 -1.4**
comp=Z,6.3nm,0.9s,mb4.2
SSF Saint Saulge 50.33 305 *e*P **P** **22 48 38.8 -1.4**
comp=Z,6.3nm,0.9s,mb4.5
SSF Saint Saulge 50.33 305 *e*P **P** **22 48 38.8 -1.4**
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AVF Avril sur Loir 50.49 304 *e*P **P** **22 48 40.3 -1.1**
comp=Z,25nm,1.0s,mb4.8
AVF Avril sur Loir 50.49 304 *e*P **P** **22 48 40.3 -1.1**
comp=Z,25nm,1.0s,mb5.1
AVF Avril sur Loir 50.49 304 *e*P **P** **22 48 40.3 -1.1**
AVF pmax pmax
comp=Z,25nm,1.0s,mb5.1
BGF Bois d'Agland 50.89 304 *e*P **P** **22 48 43.1 -1.3**
BGF Bois d'Agland 50.89 304 *e*P **P** **22 48 43.1 -1.3**
BGF Bois d'Agland 50.89 304 *e*P **P** **22 48 43.1 -1.3**
CAF Calviac 51.85 302 *e*P **P** **22 48 51.7 +0.1**
CAF Calviac 51.85 302 *e*P **P** **22 48 51.7 +0.1**
CAF Calviac 51.85 302 *e*P **P** **22 48 51.7 +0.1**
RJF Les Rejaudoux 52.12 303 *e*P **P** **22 48 53.0 -0.6**
RJF Les Rejaudoux 52.12 303 *e*P **P** **22 48 53.0 -0.6**
RJF Les Rejaudoux 52.12 303 *e*P **P** **22 48 53.0 -0.6**
MTLF Montolieu 52.20 300 *e*P **P** **22 48 52.5 -1.7**
MTLF Montolieu 52.20 300 *e*P **P** **22 48 52.5 -1.7**
MTLF Montolieu 52.20 300 *e*P **P** **22 48 52.5 -1.7**
LDF La Druitiere 52.32 307 *e*P **P** **22 48 53.5 -1.5**
comp=Z,5.2nm,0.5s,mb4.5
LDF La Druitiere 52.32 307 *e*P **P** **22 48 53.5 -1.5**
comp=Z,5.2nm,0.5s,mb4.8
LDF La Druitiere 52.32 307 *e*P **P** **22 48 53.5 -1.5**
LDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
FLN La Foliniere 52.51 308 *e*P **P** **22 48 55.7 -0.7**
comp=Z,20nm,0.9s,mb4.8
FLN La Foliniere 52.51 308 *e*P **P** **22 48 55.7 -0.7**
comp=Z,20nm,0.9s,mb5.2
FLN La Foliniere 52.51 308 *e*P **P** **22 48 55.7 -0.7**
FLN pmax pmax
comp=Z,20nm,0.9s,mb5.2
MJAR Matsushiro Arr 52.67 69 P **P** **22 48 59.8 +2.0**
comp=Z,2.0nm,0.7s,mb4.2,baz=273,slow=10,SNR=5.9
MJAR Matsushiro Arr 52.67 69 P **P** **22 48 59.8 +2.0**
MJAR Matsushiro Arr 52.67 69 P **P** **22 48 59.8 +2.0**
LFF La Frestale 52.75 303 *e*P **P** **22 48 57.4 -0.8**
comp=Z,13nm,0.8s,mb4.7
LFF La Frestale 52.75 303 *e*P **P** **22 48 57.4 -0.8**
comp=Z,13nm,0.8s,mb5.0
LFF La Frestale 52.75 303 *e*P **P** **22 48 57.4 -0.8**
LFF pmax pmax
comp=Z,13nm,0.8s,mb5.0
GRR Gorron 52.85 307 *e*P **P** **22 48 57.5 -1.4**
comp=Z,47nm,1.2s,mb5.1
GRR Gorron 52.85 307 *e*P **P** **22 48 57.5 -1.4**
comp=Z,47nm,1.2s,mb5.4
GRR Gorron 52.85 307 *e*P **P** **22 48 57.5 -1.4**
GRR pmax pmax
comp=Z,47nm,1.2s,mb5.4
EPF Esparros 53.60 300 *e*P **P** **22 49 03.8 -0.8**
EPF Esparros 53.60 300 *e*P **P** **22 49 03.8 -0.8**
EPF Esparros 53.60 300 *e*P **P** **22 49 03.8 -0.8**
ETSF Etsaut 54.27 301 *e*P **P** **22 49 08.6 -0.8**
comp=Z,11nm,0.8s,mb4.7
ETSF Etsaut 54.27 301 *e*P **P** **22 49 08.6 -0.8**
comp=Z,11nm,0.8s,mb4.9
ETSF Etsaut 54.27 301 *e*P **P** **22 49 08.6 -0.8**
ETSF pmax pmax
comp=Z,11nm,0.8s,mb4.9
ESDC Sonseca Array 57.82 298 P **P** **22 49 33.2 -1.5**
comp=Z,0.2nm,0.4s,mb3.5,baz=66,slow=7.1,SNR=4.9
ESDC Sonseca Array 57.82 298 P **P** **22 49 33.2 -1.5**
TAM Tamanrasset 57.89 276 *e*P **P** **22 49 34.7 -0.7**
comp=Z,1.7nm,0.9s,mb4.1
TAM Tamanrasset 57.89 276 *e*P **P** **22 49 34.7 -0.8**
TAM pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BILL Bilibino 58.56 26⇓*e*P **P** **22 49 41.0 +1.6**
BILL pmax pmax
comp=Z,16nm,2.5s,mb4.6
SUMG Summit 61.28 341 *e*P **P** **22 49 59.0 +1.1**
comp=Z,14nm,0.8s,mb5.0
SUMG Summit 61.28 341 *i*P **P** **22 49 59.6 +1.6**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 61.28 341 *i*P **P** **22 49 59.6 +1.6**
comp=Z,14nm,0.8s,mb5.0
TORD Torodi Ar. Bea 66.06 269 P **P** **22 50 27.5 -2.7**
comp=Z,8.7nm,0.6s,mb4.8,baz=48,slow=4.9,SNR=86
TORD Torodi Ar. Bea 66.06 269 P **P** **22 50 27.5 -2.7**
INK Inuvik 73.96 9 *e*P **P** **22 51 17.2 -0.4**
comp=Z,2.6nm,0.6s,mb4.1
INK Inuvik 73.96 9 *e*P **P** **22 51 17.3 -0.4**
INK pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 74.79 16 P **P** **22 51 22.2 -0.4**
comp=Z,1.5nm,0.8s,mb3.8,baz=323,slow=4.6,SNR=9.5
ILAR Eielson Array 74.79 16 P **P** **22 51 22.2 -0.4**
ILAR Eielson Array 74.79 16 P **P** **22 51 22.2 -0.4**
DBIC Dimbokro 75.04 267 P **P** **22 51 22.9 -1.9**
comp=Z,2.2nm,0.8s,mb3.9,baz=72,slow=4.9,SNR=5.6
DBIC Dimbokro 75.04 267 P **P** **22 51 22.9 -1.9**
DBIC Dimbokro 75.04 267 P **P** **22 51 22.9 -1.9**
PAX Paxson 76.67 16 *e*P **P** **22 51 33.3 0.0**
comp=Z,5.7nm,1.1s,mb4.2
PAX Paxson 76.67 16 *e*P **P** **22 51 33.3 0.0**
PAX pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
BOSA Boshof 77.88 220 P **P** **22 51 39.9 -0.5**
comp=Z,4.7nm,0.8s,mb4.2,baz=31,slow=9.1,SNR=5.9
BOSA Boshof 77.88 220 P **P** **22 51 39.9 -0.5**
BOSA Boshof 77.88 220 P **P** **22 51 39.9 -0.5**
KDAK Kodiak Island 79.17 22 *i*P **P** **22 51 47.7 +0.5**
YKA Yellowknife Ar 81.34 3 P **P** **22 51 59.0 +0.3**
comp=Z,3.8nm,0.4s,mb4.5,baz=349,slow=5.4,SNR=87
YKA Yellowknife Ar 81.34 3 P **P** **22 51 59.0 +0.3**
YKA Yellowknife Ar 81.34 3 P **P** **22 51 59.1 +0.3**
WRA Warramunga Arr 81.64 122 P **P** **22 52 00.8 -0.1**
comp=Z,0.8nm,0.5s,mb3.8,baz=324,slow=5.0,SNR=16
WRA Warramunga Arr 81.64 122 P **P** **22 52 00.8 -0.1**
WRA Warramunga Arr 81.64 122 P **P** **22 52 00.8 -0.1**
ASAR Alice Springs 83.91 125 P **P** **22 52 12.3 -0.3**
comp=Z,1.1nm,0.6s,mb3.9,baz=312,slow=5.1,SNR=17
ASAR Alice Springs 83.91 125 P **P** **22 52 12.3 -0.3**
ASAR Alice Springs 83.91 125 P **P** **22 52 12.3 -0.3**
FFC Flin Flon 89.08 356 *i*P **P** **22 52 39.0 +1.6**
CPUP Villa Florida 135.56 268 PKP PKPdf 22 58 60.0 -2.4
comp=Z,0.7nm,0.4s,baz=27,slow=1.7,SNR=3.8
CPUP Villa Florida 135.56 268 PKP PKPdf 22 58 60.0 -2.4
CFAA Coronel Fontan 146.40 266 PKPbc PKPbc 22 59 21.0 -2.1
comp=Z,0.2nm,0.4s,baz=9.6,slow=3.6,SNR=5.2
CFAA Coronel Fontan 146.40 266 PKPbc PKPbc 22 59 21.0 -2.1
PLCA Paso Flores 150.11 250 PKPbc PKPbc 22 59 29.6 -3.0
comp=Z,1.9nm,0.8s,baz=9.5,slow=6.1,SNR=3.6
PLCA Paso Flores 150.11 250 PKPbc PKPbc 22 59 29.6 -3.0

*ISCJB **16** 22:47:38.8±0.9, 11°.92S±0°.06×73°.20W±0°.04, h48km±10km, mb4.3/13, Error ellipse: s-maj=10.8km s-min=5.8km az=29.1*
*NEIC **16** 22:47:40.1±0.7, 11°.98S×73°.30W, h45km±6km, mb4.5/3, Error ellipse: s-maj=10.1km s-min=6.1km az=220.0*
*IDC **16** 22:47:41.3±2.2, 11°.96S×73°.27W, h54km±22km, mb4.0/12, mb1 4.2/15, mb1mx4.1/22, mbtmp4.1/15, ML3.9/3, Error ellipse: s-maj=25.3km s-min=12.8km az=31.0*
ISC 16 22:47:41.3±0.7, 11°.95S±0°.06×73°.23W±0°.04, h53km±8km, n48, σ0°90/44, mb4.3/13, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.54**	**269**	P	**Pn**	**22 48 32.3**	**-1.4**
39nm,0.3s,baz=102,slow=11,SNR=50							
NNA				S	**Sn**	**22 49 14.4**	**+0.1**
91nm,0.3s,baz=235,slow=10.0,SNR=6.9							
NNA	**Nana**	**3.54**	**269**	*e*Pn	**Pn**	**22 48 31.8**	**-1.9**
NNA				*e*Sn	**Sn**	**22 49 13.5**	**-0.7**
LPAZ	**La Paz**	**6.56**	**132**	P	**Pn**	**22 49 17.2**	**+1.9**
0.4nm,0.3s,baz=320,slow=11,SNR=8.5							
LPAZ				Lg		22 51 07.4	
4.4nm,0.3s,baz=206,slow=23,SNR=4.4							
LPAZ	**La Paz**	**6.56**	**132**	*e*Pn	**Pn**	**22 49 16.3**	**+1.0**
16nm,0.3s							
LPAZ				Sn	**Sn**	**22 50 29.9**	**+1.1**
ATAH	**Atahualpa**	**6.98**	**313**	P	**Pn**	**22 49 21.1**	**0.0**
3.8nm,0.3s,baz=182,slow=2.3,SNR=21							
ATAH				S	**Sn**	**22 50 41.1**	**+2.0**
0.7nm,0.3s,baz=240,slow=20,SNR=1.6							
ATAH	**Atahualpa**	**6.98**	**313**	P	**Pn**	**22 49 21.1**	**0.0**
ATAH				S	**Sn**	**22 50 41.1**	**+2.0**
SAML	**Samuel**	**10.32**	**74**	*e*Pn	**Pn**	**22 50 06.3**	**-0.4**
4.6nm,0.4s							
SAML				*e*Sn	**Sn**	**22 51 60.0**	**-1.0**
OTAV	**Otavalo**	**13.17**	**336**	*e*Pn	**Pn**	**22 50 44.9**	**-0.7**
5.5nm,0.8s							
OTAV				*e*Sn	**Sn**	**22 53 10.9**	**+0.3**
ROSC	**El Rosal**	**16.73**	**356**	Lg		22 56 22.6	
1.9nm,0.3s,baz=270,slow=20,SNR=3.2							
ROSC	**El Rosal**	**16.73**	**356**	*e*Pn	**Pn**	**22 51 31.4**	**-0.7**
ROSC				Lg		22 56 22.6	
CPUP	**Villa Florida**	**20.71**	**136**	P	**P**	**22 52 16.6**	**-0.8**
2.8nm,0.5s,baz=304,slow=9.2,SNR=11							
CPUP	**Villa Florida**	**20.71**	**136**	*e*P	**P**	**22 52 15.6**	**-1.8**
15nm,0.5s							
SDV	**Santo Domingo**	**20.86**	**7**	*e*P	**P**	**22 52 19.8**	**+0.9**
9.8nm,0.9s							
JTS	**JuntasAbangare**	**24.97**	**332**	P	**P**	**22 53 02.7**	**+2.5**
5.8nm,0.8s,mb4.2,baz=271,slow=18,SNR=3.6							
JTS	**JuntasAbangare**	**24.97**	**332**	P	**P**	**22 52 59.9**	**-0.3**
TEIG	**Tepich**	**35.23**	**335**	P	**P**	**22 54 30.9**	**+0.1**
9.5nm,0.8s,mb4.8,baz=194,slow=15,SNR=2.9							
TEIG	**Tepich**	**35.23**	**335**	P	**P**	**22 54 30.9**	**+0.1**
TXAR	**Lajitas Array**	**50.47**	**325**	P	**P**	**22 56 33.6**	**-0.4**
1.2nm,0.6s,mb4.1,baz=153,slow=8.3,SNR=9.2							
TXAR	**Lajitas Array**	**50.47**	**325**	P	**P**	**22 56 33.6**	**-0.4**
SADO	**Sadowa**	**56.70**	**355**	P	**P**	**22 57 19.1**	**-0.3**
5.6nm,0.7s,mb4.7,baz=201,slow=3.9,SNR=6.1							
SADO	**Sadowa**	**56.70**	**355**	P	**P**	**22 57 19.1**	**-0.3**
PDAR	**Pinedale Array**	**63.80**	**331**	P	**P**	**22 58 08.2**	**+0.3**
0.4nm,0.4s,mb3.8,baz=129,slow=8.7,SNR=6.7							
PDAR	**Pinedale Array**	**63.80**	**331**	P	**P**	**22 58 08.2**	**+0.3**
ULM	**Lac du Bonnet**	**65.03**	**344**	P	**P**	**22 58 14.6**	**-1.2**
2.7nm,0.6s,mb4.5,baz=152,slow=3.8,SNR=6.4							
ULM	**Lac du Bonnet**	**65.03**	**344**	P	**P**	**22 58 14.6**	**-1.2**
NVAR	**Mina Array Bea**	**65.45**	**322**	P	**P**	**22 58 19.7**	**+0.9**
0.4nm,0.6s,mb3.6,baz=142,slow=7.5,SNR=4.4							
NVAR	**Mina Array Bea**	**65.45**	**322**	P	**P**	**22 58 19.7**	**+0.9**
SCHQ	**Schefferville**	**66.74**	**4**	P	**P**	**22 58 27.5**	**+0.8**
2.6nm,0.6s,mb4.5,baz=192,slow=8.9,SNR=3.7							
SCHQ	**Schefferville**	**66.74**	**4**	P	**P**	**22 58 27.5**	**+0.8**
MFID	**Camas Ranch**	**67.41**	**328**	*e*P	**P**	**22 58 30.9**	**-0.3**
4.0nm,0.8s,mb4.5							
DBIC	**Dimbokro**	**70.46**	**78**	P	**P**	**22 58 51.6**	**+0.8**
1.6nm,0.5s,mb4.2,baz=292,slow=11,SNR=5.0							
DBIC	**Dimbokro**	**70.46**	**78**	P	**P**	**22 58 51.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**78.38**	**74**	P	**P**	**22 59 37.0**	**+0.2**
11nm,0.8s,mb4.8,baz=263,slow=5.6,SNR=55							
TORD	**Torodi Ar. Bea**	**78.38**	**74**	P	**P**	**22 59 37.0**	**+0.2**
YKA	**Yellowknife Ar**	**80.86**	**342**	P	**P**	**22 59 49.0**	**-0.2**
3.3nm,0.7s,mb4.4,baz=137,slow=5.9,SNR=65							
YKA	**Yellowknife Ar**	**80.86**	**342**	P	**P**	**22 59 49.0**	**-0.2**
ILAR	**Eielson Array**	**93.89**	**336**	P	**P**	**23 00 52.0**	**-0.7**
0.4nm,0.7s,mb4.0,baz=124,slow=2.0,SNR=4.9							
ILAR	**Eielson Array**	**93.89**	**336**	P	**P**	**23 00 52.0**	**-0.7**
ZALV	**Zalesovo Beam**	**134.62**	**18**	PKP	PKPdf	23 06 55.2	+1.5
0.5nm,0.6s,baz=325,slow=1.8,SNR=4.0							
ZALV	**Zalesovo Beam**	**134.62**	**18**	PKP	PKPdf	23 06 55.2	+1.5
ASAR	**Alice Springs**	**135.76**	**217**	PKP	PKPdf	23 06 56.0	-0.8
0.2nm,0.4s,baz=314,slow=39,SNR=3.0							
ASAR	**Alice Springs**	**135.76**	**217**	PKP	PKPdf	23 06 56.0	-0.8
WRA	**Warramunga Arr**	**138.28**	**221**	PKP	PKPdf	23 07 00.8	-0.8
0.6nm,0.6s,baz=133,slow=1.9,SNR=7.7							
WRA	**Warramunga Arr**	**138.28**	**221**	PKP	PKPdf	23 07 00.8	-0.8
SONM	**Songino Array**	**144.22**	**0**	PKP	PKPdf	23 07 10.9	-0.5
1.3nm,0.6s,baz=329,slow=2.7,SNR=13							
SONM	**Songino Array**	**144.22**	**0**	PKP	PKPdf	23 07 10.9	-0.5
KSRS	**Korea Array**	**148.31**	**327**	PKPbc	PKPbc	23 07 22.5	+0.4
2.1nm,0.6s,baz=12,slow=1.7,SNR=6.2							
KSAR	**Wonju Array Be**	**148.34**	**327**	PKPbc	PKPbc	23 07 22.5	+0.4

*BJI **16** 23:25:09.2, 40°.33N×84°.26E, h13km, ML3.8/7*
*IDC **16** 23:25:26.3±1.2, 41°.79N×82°.44E, h0km, mb3.5/3, mb1 3.5/8, mb1mx3.4/29, mbtmp3.3/8, ML3.1/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=30.2km s-min=17.7km az=81.0*
*NEIC **16** 23:25:32.2±2.0, 41°.78N×82°.17E, h40km±17km, mb3.0/1, Error ellipse: s-maj=23.1km s-min=10.5km az=142.0*
*NNC **16** 23:25:38.1±1.9, 42°.21N×82°.14E, h26km±10km, mb3.7, mpv3.6, Error ellipse: s-maj=14.1km s-min=7.6km az=134.0*
ISC 16 23:25:28.6±1.3, 41°.79N±0°.05×82°.35E±0°.07, h10km±7km, n34, σ1°33/47, mb3.4/3, 10C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**4.23**	**292**	⇓Pn	**Pn**	**23 26 37.4**	**+4.4**
33nm,0.5s							
KNDC				⇑Lg		23 27 44.1	
112nm,1.1s							
MK31	**Makanchi Array**	**5.00**	**360**	Pn	**Pn**	**23 26 45.4**	**+1.8**
1.5nm,0.3s,baz=189,slow=12,SNR=197							
MK31				⇑Pg	**Pg**	**23 27 01.7**	**-2.7**
4.4nm,0.5s,baz=177,slow=16,SNR=7.3							
MK31				⇓Lg		23 28 02.5	
15nm,0.5s,baz=180,slow=27,SNR=5.6							
MK31	**Makanchi Array**	**5.00**	**360**	*e*Pn	**Pn**	**23 26 45.2**	**+1.5**
MK31				*e*Pg	**Pg**	**23 27 02.8**	**-1.6**
MK31				*e*Sn	**Sn**	**23 27 41.0**	**-0.5**
MK31				*e*Sg	**Sg**	**23 28 09.8**	**+0.6**
MKAR	**Makanchi Array**	**5.00**	**360**	Pn	**Pn**	**23 26 45.7**	**+2.0**
1.3nm,0.3s,baz=191,slow=13,SNR=65							
MKAR				Sn	**Sn**	**23 27 41.0**	**-0.5**
2.1nm,0.3s,baz=185,slow=20,SNR=4.4							
MKAR				Lg		23 28 04.8	
6.3nm,0.3s,baz=182,slow=27,SNR=6.4							
MKAR				LR	LR	23 28 57.1	
comp=Z,101nm,22.0s,baz=268,slow=42							
MKAR	**Makanchi Array**	**5.00**	**360**	Pn	**Pn**	**23 26 45.7**	**+2.0**
MKAR				Sn	**Sn**	**23 27 41.0**	**-0.5**
MKAR				Lg		23 28 04.8	
TKM2	**Tokmak 2**	**5.13**	**285**	⇑Pn	**Pn**	**23 26 48.0**	**+2.6**
6.1nm,0.5s							
TKM2				⇓Lg		23 28 14.6	
34nm,0.8s							
TKM2	**Tokmak 2**	**5.13**	**285**	*e*Pn	**Pn**	**23 26 45.5**	**+0.1**
10nm,0.4s							
TKM2				*e*Pg	**Pg**	**23 27 05.1**	**-1.6**
TKM2				*e*Sg	**Sg**	**23 28 13.5**	**+0.3**
KSH	**Kashi**	**5.35**	**247**	*e*Pg	**Pg**	**23 27 11.8**	**+0.7**
KSH				smax			
comp=N,36nm,0.8s							
KSH				smax			
comp=E,47nm,1.1s							
AAK	**Ala-Archa**	**5.89**	**281**	*e*Pn	**Pn**	**23 26 55.3**	**-0.5**
comp=E,36nm,0.4s							
AAK				*e*Sg	**Sg**	**23 28 37.9**	**+0.2**
EKS2	**Erkin-Say**	**6.42**	**281**	*e*Pn	**Pn**	**23 27 01.9**	**-1.3**
EKS2				*e*Pg	**Pg**	**23 27 32.2**	**+0.7**
EKS2				*e*Sg	**Sg**	**23 28 53.0**	**-1.6**
KK31	**Karatay Array**	**8.85**	**282**	⇓Pg	Px	23 28 16.0	
comp=E,3.0nm,1.0s,baz=87,slow=15,SNR=5.2							
KK31				⇓Lg		23 30 13.1	
comp=E,3.2nm,0.7s,baz=94,slow=27,SNR=6.3							
KURBB	**Kurchatov Arra**	**9.22**	**345**	⇓Pn	**Pn**	**23 27 42.7**	**+1.2**
comp=E,0.3nm,0.5s							
KURBB				⇑Sn	**Sn**	**23 29 21.6**	**-3.7**
comp=E,2.0nm,0.7s							
KURBB				⇓Lg		23 30 16.2	
comp=E,4.2nm,0.7s							
KURK	**Kurchatov**	**9.29**	**345**	⇑Pn	**Pn**	**23 27 45.9**	**+3.5**
comp=E,2.2nm,0.5s							
KURK				⇓Sn	**Sn**	**23 29 23.4**	**-3.6**
comp=E,4.0nm,0.7s							
KURK				⇑Lg		23 30 17.3	
comp=E,24nm,1.1s							
KURK	**Kurchatov**	**9.29**	**345**	Pn	**Pn**	**23 27 41.1**	**-1.4**
comp=E,0.1nm,0.3s,baz=171,slow=12,SNR=6.5							
KURK				Lg		23 30 20.8	
comp=E,0.2nm,0.3s,baz=168,slow=32,SNR=4.0							
KURK	**Kurchatov**	**9.29**	**345**	*e*Pn	**Pn**	**23 27 42.4**	**-0.1**
comp=E,3.3nm,0.6s							
KURK				*e*Sn	**Sn**	**23 29 26.6**	**-0.3**
KURK				Lg		23 30 20.8	

AKTO	**Aktyubinsk**	**18.89**	**306**	⇑P	**Pn**	**23 29 54.3**	**+4.8**
	comp=E,0.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.43**	**274**	P	**P**	**23 37 06.8**	**-0.3**
	comp=E,0.6nm,0.5s,mb3.8,baz=44,slow=5.2,SNR=18						
TORD	**Torodi Ar. Bea**	**74.43**	**274**	P	**P**	**23 37 06.8**	**-0.3**
YKA	**Yellowknife Ar**	**75.18**	**8**	P	**P**	**23 37 09.6**	**-1.1**
	comp=E,0.1nm,0.5s,mb3.0,baz=339,slow=6.2,SNR=4.1						
YKA	**Yellowknife Ar**	**75.18**	**8**	P	**P**	**23 37 09.6**	**-1.1**
WRA	**Warramunga Arr**	**77.99**	**131**	P	**P**	**23 37 26.7**	**-0.4**
	comp=E,0.4nm,1.0s,mb3.3,baz=332,slow=5.1,SNR=2.1						
WRA	**Warramunga Arr**	**77.99**	**131**	P	**P**	**23 37 26.6**	**-0.4**

*NEIC **17** 00:40:18.9, 18°.09N×66°.21W, h13km, MD2.9(RSPR), After RSPR.*

RSPR 17 00:40:18.9, 18°.09N×66°.21W, h13km, MD2.9/3, 12C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**0.06**	**70**	⇑*e*P	Pg	00 40 21.3	0.0
SJG	**San Juan**	**0.06**	**70**	⇑*e*P	Pg	00 40 21.6	+0.3
SJG	**San Juan**	**0.06**	**70**	⇑*e*P	Pg	00 40 21.3	0.0
SJG				*e*S	Sg	00 40 23.5	+0.3
SJG	**San Juan**	**0.06**	**70**	⇑*e*P	Pg	00 40 21.3	0.0
CPD	**Cerro la Pandu**	**0.28**	**101**	⇑*e*P	Pg	00 40 24.6	-0.2
CPD	**Cerro la Pandu**	**0.28**	**101**	⇑*e*P	Pg	00 40 24.6	-0.2
CPD				*e*S	Sg	00 40 28.9	+0.1
ICM	**Isla Caja Muer**	**0.36**	**237**	*e*S	Sg	00 40 31.8	+0.8
CBYP	**Canovanas**	**0.38**	**62**	⇑*e*P	Pg	00 40 26.8	+0.3
CBYP	**Canovanas**	**0.38**	**62**	⇑*e*P	Pg	00 40 26.8	+0.3
CBYP				*e*S	Sg	00 40 32.3	+0.6
AOPR	**Arecibo Observ**	**0.58**	**296**	⇑*e*P	Pg	00 40 29.6	-0.7
AOPR	**Arecibo Observ**	**0.58**	**296**	⇑*e*P	Pg	00 40 29.6	-0.7
AOPR				*e*S	Sg	00 40 37.2	-0.7
MTP	**Monte Pirata**	**0.62**	**89**	⇑*e*P	Pg	00 40 30.5	-0.6
MTP	**Monte Pirata**	**0.62**	**89**	⇑*e*P	Pg	00 40 30.5	-0.6
MTP				*e*S	Sg	00 40 39.1	-0.2

KRSC 17 00:49:37.1±1.2, 52°.57N×159°.72E, h27km±26km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.56**	**19**	*e*P	Pb	00 49 49.0	+0.6
SPN				*i* S	Sb	00 49 57.4	+1.4
NLC	**Nalytchevo**	**0.64**	**339**	*e*P	Pb	00 49 49.9	+0.1
NLC				*i* S	Sb	00 49 59.2	+0.8
RUS	**Russkaya**	**0.75**	**260**	*e*P	Pb	00 49 51.1	-0.4
RUS				*i* S	Sb	00 50 01.7	+0.3
PET	**Petropavlovsk**	**0.79**	**305**	*e*P	Pb	00 49 51.8	-0.4
PET				*i* S	Sb	00 50 02.3	-0.3
UGLR	**Uglovaya**	**0.84**	**320**	*e*P	Pb	00 49 53.1	+0.1
SDLR	**Sedlovina**	**0.87**	**325**	*e*P	Pn	00 49 53.3	-0.2
SMAR	**Somma**	**0.89**	**322**	*e*P	Pn	00 49 53.6	-0.2
AVH	**Avacha**	**0.92**	**320**	*e*P	Pn	00 49 54.2	0.0
AVH				*i* S	Sb	00 50 07.1	+1.0
KOK	**Koryaka**	**0.98**	**318**	*e*P	Pn	00 49 55.0	0.0
GRL	**Gorelyy**	**1.00**	**270**	*e*P	Pn	00 49 55.6	+0.2
KII	**Karymskiy**	**1.48**	**354**	*e*P	Pn	00 50 02.8	+0.9
KII				*i* S	Sn	00 50 21.8	+1.5
MIPR	**Malaya Ipel'ka**	**1.84**	**262**	*e*P	Pn	00 50 07.6	+0.8
MKZ	**Mys Kozlova**	**2.32**	**30**	*e*P	Pn	00 50 13.8	+0.3
MKZ				*i* S	Sn	00 50 40.4	-0.7
TUMR	**Tumrok**	**2.73**	**5**	P	Pn	00 50 21.4	+2.3
KBTR	**Krutoberegovo**	**4.07**	**25**	*e*P	Pn	00 50 39.7	+2.2

*ISCJB **17** 00:53:46.1±0.2, 7°.34S±0°.04×120°.02E±0°.04, h582km±3km, mb4.4/33, Error ellipse: s-maj=6.3km s-min=5.2km az=152.2*
*IDC **17** 00:53:47.5±0.6, 7°.27S×120°.17E, h573km±5km, mb3.8/14, mb1 3.7/17, mb1mx3.6/22, mbtmp3.7/17, Error ellipse: s-maj=17.2km s-min=7.1km az=62.0*
*NEIC **17** 00:53:47.3±0.4, 7°.28S×120°.09E, h576km±5km, mb4.6/18, Error ellipse: s-maj=8.0km s-min=4.0km az=62.0*
*DJA **17** 00:53:47, 7°.45S×120°.05E, h573km, mb4.4/17*

ISC 17 00:53:47.0±0.2, 7°.35S±0°.03×120°.02E±0°.04, h573km±3km, n121, σ0°.88/121, mb4.5/32, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMNI	**Bima**	**1.77**	**228**	P	**P**	**00 54 57.0**	**-0.9**
BMNI				S	**S**	**00 55 53.0**	**-2.5**
BKSI	**Bulukumba**	**2.01**	**3**	P	**P**	**00 54 59.6**	**+0.6**
WSI	**Waingapu**	**2.33**	**173**	P	**P**	**00 55 00.4**	**+0.1**
WSI				S	**S**	**00 55 56.8**	**-3.1**
KAPI	**Kappang**	**2.33**	**353**	P	**P**	**00 55 00.9**	**+0.5**
	22nm,0.3s,baz=189,slow=2.4,SNR=112						
KAPI				S	**S**	**00 56 00.3**	**+0.4**
	baz=316,slow=23,SNR=18						
KAPI	**Kappang**	**2.33**	**353**	P	**P**	**00 55 00.9**	**+0.5**
KAPI				S	**S**	**00 56 00.3**	**+0.4**
KAPI	**Kappang**	**2.33**	**353**	P	**P**	**00 55 00.8**	**+0.4**
MMRI	**Maumere**	**2.54**	**120**	P	**P**	**00 55 00.3**	**-1.1**
BNSI	**Bone**	**2.93**	**2**	P	**P**	**00 55 05.1**	**+1.5**
BBSI	**Bau Bau**	**3.14**	**54**	P	**P**	**00 55 06.4**	**+1.6**
SPSI	**Sidrap Palu**	**3.37**	**356**	P	**P**	**00 55 07.5**	**+1.2**
MJSI	**Majene**	**3.91**	**345**	P	**P**	**00 55 11.4**	**+1.5**
MTNI	**Mataram**	**4.02**	**251**	P	**P**	**00 55 10.3**	**-0.4**
KDI	**Kendari**	**4.25**	**38**	P	**P**	**00 55 13.3**	**+0.9**
TTSI	**Tana Toraja**	**4.28**	**357**	P	**P**	**00 55 12.6**	**0.0**
IGBI	**Denpasar**	**5.04**	**253**	P	**P**	**00 55 18.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**5.92**	**259**	P	**P**	**00 55 25.0**	**-1.1**
BLJI	**Banyuglugur**	**6.38**	**266**	P	**P**	**00 55 30.7**	**+0.5**
	0.4nm3μm110nm,0.8s						
GMJI	**Gumukmas**	**6.58**	**262**	P	**P**	**00 55 32.1**	**+0.1**
	0.3nm2μm50nm,0.9s						
LUWI	**Luwuk**	**6.84**	**24**	P	**P**	**00 55 34.8**	**+0.3**
MRSI	**Marisa**	**8.00**	**14**	P	**P**	**00 55 45.7**	**+0.1**
	2μm270nm,0.9s						
PWJI	**Pagerwojo**	**8.17**	**265**	P	**P**	**00 55 46.6**	**-0.5**
	19nm,0.8s						
SJI	**Sawahan**	**8.19**	**267**	P	**P**	**00 55 48.5**	**+1.2**
	3μm29nm,0.6s						
GTOI	**Gorontalo**	**8.47**	**21**	P	**P**	**00 55 50.7**	**+0.6**
	2μm261nm,1.0s						
PCJI	**Pacitan**	**8.80**	**264**	P	**P**	**00 55 52.6**	**-0.8**
	2μm35nm,1.2s						
KMSI	**Cibinong**	**8.80**	**27**	P	**P**	**00 55 54.4**	**+1.0**
	320nm,0.8s						
AAI	**Ambon**	**8.91**	**66**	P	**P**	**00 55 54.0**	**-0.5**
	3μm84nm,0.7s						
UGM	**Wanagama**	**9.43**	**266**	P	**P**	**00 55 59.8**	**+0.2**
	65nm,1.6s						
LBMI	**Labuha**	**10.00**	**49**	P	**P**	**00 56 04.3**	**-1.1**
	1μm68nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.01**	**153**	P	**P**	**00 56 25.9**	**+0.2**
	0.4nm,0.3s,baz=351,slow=14,SNR=13						
FITZ				S	**S**	**00 58 38.6**	**+2.3**
	0.5nm,0.3s,baz=348,slow=19,SNR=3.2						
FITZ	**Fitzroy Crossi**	**12.01**	**153**	P	**P**	**00 56 25.9**	**+0.2**
FITZ				S	**S**	**00 58 38.6**	**+2.3**
FITZ	**Fitzroy Crossi**	**12.01**	**153**	P	**P**	**00 56 24.6**	**-1.1**
	7.5nm,1.9s						
CISI	**Cisompet, Garu**	**12.10**	**268**	P	**P**	**00 56 25.6**	**-1.1**
FAKI	**Fak Fak**	**12.95**	**71**	P	**P**	**00 56 32.6**	**-2.8**
CBJI	**Citeko**	**13.11**	**273**	P	**P**	**00 56 34.7**	**-2.3**
	237nm,0.9s						
MBWA	**Marble Bar**	**13.74**	**181**	*e*P	**P**	**00 56 43.5**	**+0.2**
MBWA	**Marble Bar**	**13.74**	**181**	*e*P	**P**	**00 56 43.7**	**+0.4**
	23nm,0.6s						
MBWA	**Marble Bar**	**13.74**	**181**	P	**P**	**00 56 43.0**	**-0.3**
	41nm,0.8s						
KKM	**Kota Kinabalu**	**13.83**	**344**	*e*P	**P**	**00 56 44.1**	**-0.2**
XMIS	**Christmas Isla**	**14.53**	**257**	P	**P**	**00 56 50.8**	**-0.7**
	284nm,1.3s						
DAV	**Davao City (W)**	**15.36**	**21**	*e*P	**P**	**00 56 59.0**	**-0.7**
WRA	**Warramunga Arr**	**18.70**	**133**	P	**P**	**00 57 30.5**	**+0.3**
	0.4nm,0.3s,baz=311,slow=10,SNR=27						
WRA				S	**S**	**01 00 30.5**	**-1.0**
	0.1nm,0.3s,baz=312,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**18.70**	**133**	P	**P**	**00 57 30.5**	**+0.3**
WRA				S	**S**	**01 00 30.5**	**-1.0**
WRAB	**Tennant Creek**	**18.70**	**133**	*e*P	**P**	**00 57 31.0**	**+0.8**
	2.5nm,0.6s						
WB2	**Warramunga Arr**	**18.71**	**133**	*e*P	**P**	**00 57 30.8**	**+0.5**
MEEK	**Meekatharra**	**19.23**	**184**	*e*P	**P**	**00 57 35.5**	**+0.5**
	144nm,0.4s						
ASAR	**Alice Springs**	**21.00**	**142**	P	**P**	**00 57 51.6**	**+0.6**
	3.2nm,0.4s,mb4.3,baz=319,slow=8.2,SNR=44						
ASAR				S	**S**	**01 01 07.9**	**-0.1**
	1.9nm,0.8s,baz=301,slow=15,SNR=6.0						
ASAR				ScP	ScP	01 04 16.1	-0.3
	1.7nm,0.5s,baz=322,slow=2.3,SNR=9.5						
ASAR	**Alice Springs**	**21.00**	**142**	P	**P**	**00 57 51.6**	**+0.6**
ASAR				S	**S**	**01 01 07.9**	**-0.1**
ASAR				ScP	ScP	01 04 16.1	-0.3
COEN	**Coen**	**23.67**	**108**	P	**P**	**00 58 13.6**	**-1.4**
	9.7nm,1.6s,mb4.2						
KLBR	**Kellerberrin**	**24.21**	**185**	*e*P	**P**	**00 58 20.0**	**+0.5**
	7.8nm,0.6s,mb4.5						
FORT	**Forrest**	**24.50**	**163**	*e*P	**P**	**00 58 22.3**	**+0.2**
	7.6nm,0.4s,mb4.7						
NWAO	**Narrogin (SRO)**	**25.59**	**185**	P	**P**	**00 58 32.8**	**+1.2**
	15nm,0.6s,mb4.8,baz=13,slow=9.2,SNR=17						
NWAO	**Narrogin (SRO)**	**25.59**	**185**	*e*P	**P**	**00 58 32.4**	**+0.8**
	10.0nm,0.5s,mb4.7						
PMG	**Port Moresby**	**26.93**	**96**	P	**P**	**00 58 43.4**	**-0.3**
	6.1nm,0.5s,mb4.5,baz=287,slow=20,SNR=5.6						
PMG	**Port Moresby**	**26.93**	**96**	P	**P**	**00 58 43.4**	**-0.3**
BBOO	**Buckleboo**	**29.39**	**152**	*e*P	**P**	**00 59 05.3**	**+0.4**
	24nm,0.3s,mb5.3						
STKA	**Stephens Creek**	**31.62**	**143**	P	**P**	**00 59 24.7**	**+0.6**
	4.0nm,0.4s,mb4.4,baz=323,slow=8.3,SNR=20						
STKA	**Stephens Creek**	**31.62**	**143**	*e*P	**P**	**00 59 24.8**	**+0.8**
	3.2nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**31.62**	**143**	*e*P	**P**	**00 59 24.9**	**+0.9**
YHNB	**Yeheng**	**31.85**	**2**	*e*P	**P**	**00 59 25.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**33.01**	**321**	P	**P**	**00 59 37.2**	**+1.3**
	1.4nm,0.3s,mb4.0,baz=145,slow=6.0,SNR=8.4						
CMAR				PcP	PcP	01 02 04.0	+1.4
	2.5nm,0.5s,baz=184,slow=2.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**33.01**	**321**	P	**P**	**00 59 37.2**	**+1.3**
CMAR				PcP	PcP	01 02 04.0	+1.4
CHTO	**Chiang Mai**	**33.28**	**322**	*e*P	**P**	**00 59 38.2**	**0.0**
ENH	**Enshi**	**38.74**	**345**	*e*P	**P**	**01 00 22.6**	**-0.5**
KSAR	**Wonju Array Be**	**45.16**	**9**	P	**P**	**01 01 13.2**	**-0.1**
KSRS	**Korea Array**	**45.17**	**9**	P	**P**	**01 01 13.2**	**-0.2**
	5.7nm,0.8s,mb4.2,baz=189,slow=8.3,SNR=15						
LSA	**Lhasa**	**46.12**	**324**	*e*P	**P**	**01 01 21.4**	**+0.7**
	8.7nm,0.6s,mb4.5						
ODAN	**Odare**	**46.43**	**318**	*e*P	**P**	**01 01 23.5**	**+0.3**
	6.0nm,0.5s,mb4.4						
ODAN	**Odare**	**46.43**	**318**	*e*P	**P**	**01 01 23.5**	**+0.3**
	6.0nm,0.4s,mb4.5						
TAPN	**Taplejung**	**46.56**	**319**	*e*P	**P**	**01 01 24.9**	**+0.8**
	20nm,0.6s,mb4.8						
TAPN	**Taplejung**	**46.56**	**319**	*e*P	**P**	**01 01 24.9**	**+0.8**
	20nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**46.87**	**20**	*e*P	**P**	**01 01 24.8**	**-1.5**
	9.9nm,0.4s,mb4.7						
MAT	**Matsushiro**	**46.87**	**20**	P	**P**	**01 01 24.8**	**-1.5**
MJAR	**Matsushiro Arr**	**46.87**	**20**	P	**P**	**01 01 24.9**	**-1.4**
	8.9nm,0.6s,mb4.5,baz=197,slow=9.1,SNR=21						
MJAR	**Matsushiro Arr**	**46.87**	**20**	P	**P**	**01 01 24.9**	**-1.4**
RAMN	**Ramite**	**47.02**	**318**	*e*P	**P**	**01 01 28.2**	**+0.6**
	19nm,0.6s,mb4.8						
RAMN	**Ramite**	**47.02**	**318**	*e*P	**P**	**01 01 28.2**	**+0.6**
	19nm,0.6s,mb4.8						
BJT	**Baijiatuau**	**47.26**	**356**	*e*P	**P**	**01 01 28.5**	**-0.6**
JIRN	**Jiri**	**47.76**	**318**	*e*P	**P**	**01 01 33.7**	**+0.6**
	20nm,0.6s,mb4.8						
JIRN	**Jiri**	**47.76**	**318**	*e*P	**P**	**01 01 33.7**	**+0.6**
	20nm,0.6s,mb4.8						
GUN	**Gumba**	**48.13**	**318**	*e*P	**P**	**01 01 36.3**	**+0.4**
	18nm,0.7s,mb4.7						
GUN	**Gumba**	**48.13**	**318**	*e*P	**P**	**01 01 36.3**	**+0.4**
	18nm,0.7s,mb4.7						
PKI	**Pulchoki**	**48.22**	**317**	*e*P	**P**	**01 01 36.7**	**+0.2**
	9.2nm,0.3s,mb4.8						
PKI	**Pulchoki**	**48.22**	**317**	*e*P	**P**	**01 01 36.7**	**+0.2**
	9.2nm,0.3s,mb4.8						
GKN	**Gorkha**	**49.02**	**317**	*e*P	**P**	**01 01 42.4**	**-0.1**
	14nm,0.4s,mb4.7						
GKN	**Gorkha**	**49.02**	**317**	*e*P	**P**	**01 01 42.4**	**-0.1**
	14nm,0.4s,mb4.8						
KOLN	**Koldanda**	**49.58**	**316**	*e*P	**P**	**01 01 46.7**	**+0.2**
	8.2nm,0.4s,mb4.5						
KOLN	**Koldanda**	**49.58**	**316**	*e*P	**P**	**01 01 46.7**	**+0.2**
	8.2nm,0.4s,mb4.5						
DANN	**Dangsing**	**49.84**	**317**	*e*P	**P**	**01 01 48.8**	**+0.4**
	41nm,0.5s,mb5.1						
DANN	**Dangsing**	**49.84**	**317**	*e*P	**P**	**01 01 48.8**	**+0.4**
	41nm,0.5s,mb5.1						
MDJ	**Mudanjiang**	**52.44**	**9**	*e*P	**P**	**01 02 06.0**	**-0.9**
ULN	**Ulaanbaatar**	**56.15**	**350**	*e*P	**P**	**01 02 32.7**	**-0.1**
SONM	**Songino Array**	**56.24**	**349**	P	**P**	**01 02 34.1**	**+0.6**
	8.9nm,0.6s,mb4.2,baz=166,slow=8.2,SNR=81						
SONM	**Songino Array**	**56.24**	**349**	P	**P**	**01 02 34.1**	**+0.6**
MK31	**Makanchi Array**	**63.47**	**332**	*e*P	**P**	**01 03 21.7**	**+0.3**
MKAR	**Makanchi Array**	**63.47**	**332**	P	**P**	**01 03 22.1**	**+0.8**
	14nm,0.5s,mb4.6,baz=144,slow=7.6,SNR=374						
MKAR	**Makanchi Array**	**63.47**	**332**	P	**P**	**01 03 22.1**	**+0.8**
KBL	**Kabul**	**63.65**	**314**	*e*P	**P**	**01 03 22.7**	**-0.1**
	3.4nm,0.5s,mb3.9						
TKM2	**Tokmak 2**	**64.26**	**325**	*e*P	**P**	**01 03 26.9**	**+0.3**
	1.7nm,0.6s,mb3.5						
AAK	**Ala-Archa**	**64.71**	**324**	*e*P	**P**	**01 03 30.1**	**+0.7**
EKS2	**Erkin-Say**	**65.15**	**324**	*e*P	**P**	**01 03 31.8**	**-0.3**
ZAA0	**Zalesovo Array**	**67.87**	**338**	*e*P	**P**	**01 03 47.9**	**-0.7**
ZALV	**Zalesovo Beam**	**67.87**	**338**	P	**P**	**01 03 48.1**	**-0.5**
	12nm,0.3s,mb4.7,baz=138,slow=4.8,SNR=73						
ZALV	**Zalesovo Beam**	**67.87**	**338**	P	**P**	**01 03 48.1**	**-0.5**
KURK	**Kurchatov**	**67.98**	**333**	*e*P	**P**	**01 03 49.1**	**-0.3**
	15nm,0.8s,mb4.5						
PETK	**Petropavlovsk-**	**68.16**	**23**	P	**P**	**01 03 51.0**	**+0.5**
	7.3nm,0.7s,mb4.2,baz=212,slow=6.3,SNR=5.6						
PETK	**Petropavlovsk-**	**68.16**	**23**	P	**P**	**01 03 51.0**	**+0.5**
VNDA	**Vanda**	**73.46**	**171**	*e*P	**P**	**01 04 19.9**	**-1.3**
	1.7nm,0.6s,mb3.8						
AKTO	**Aktyubinsk**	**78.45**	**325**	P	**P**	**01 04 49.2**	**0.0**
	3.5nm,0.7s,mb3.9,baz=111,slow=6.5,SNR=12						
AKTO	**Aktyubinsk**	**78.45**	**325**	P	**P**	**01 04 49.2**	**0.0**
BOSA	**Boshof**	**90.68**	**241**	P	**P**	**01 05 50.7**	**+1.1**
	1.5nm,0.6s,mb4.1,baz=72,slow=3.2,SNR=4.1						
BOSA	**Boshof**	**90.68**	**241**	P	**P**	**01 05 50.7**	**+1.1**
ILAR	**Eielson Array**	**97.92**	**26**	P	Pdif	01 06 20.2	-1.7
	0.3nm,0.7s,baz=262,slow=4.1,SNR=5.5						
ILAR	**Eielson Array**	**97.92**	**26**	P	Pdif	01 06 20.2	-1.7
YKA	**Yellowknife Ar**	**112.28**	**24**	PKiKP	PKiKP	01 11 17.6	-0.2
	0.7nm,0.5s,baz=305,slow=1.8,SNR=19						
YKA	**Yellowknife Ar**	**112.28**	**24**	PKiKP	PKiKP	01 11 17.6	-0.2
TORD	**Torodi Ar. Bea**	**119.15**	**281**	PKP	PKPdf	01 11 32.6	+0.2
	0.3nm,0.5s,baz=40,slow=1.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**119.15**	**281**	PKP	PKPdf	01 11 32.6	+0.2
NVAR	**Mina Array Bea**	**119.19**	**50**	PKP	PKPdf	01 11 32.1	+0.2
	0.5nm,0.6s,baz=260,slow=2.2,SNR=5.8						
NVAR	**Mina Array Bea**	**119.19**	**50**	PKP	PKPdf	01 11 32.1	+0.2
TXAR	**Lajitas Array**	**133.49**	**56**	PKP	PKPdf	01 12 01.1	+1.7
	0.5nm,0.8s,baz=165,slow=0.7,SNR=6.4						
TXAR				SKPbc	SKPbc	01 14 34.9	0.0
	0.6nm,0.9s,baz=259,slow=2.3,SNR=6.4						
TXAR	**Lajitas Array**	**133.49**	**56**	PKP	PKPdf	01 12 01.1	+1.7
TXAR				SKPbc	SKPbc	01 14 34.9	0.0

*IDC **17** 01:17:59.0±6.4, 36°.30N×70°.92E, h165km±58km, mb3.5/8, mb1 3.6/12, mb1mx3.3/28, mbtmp3.5/12, Error ellipse: s-maj=34.0km s-min=18.5km az=27.0*
*ISCJB **17** 01:18:00.7±0.4, 36°.56N±0°.03×70°.89E±0°.05, h185km±6km, mb3.7/8, Error ellipse: s-maj=7.0km s-min=4.1km az=164.6*
*NEIC **17** 01:18:01.6±0.5, 36°.50N×70°.89E, h182km±6km, mb4.1/9, Error ellipse: s-maj=7.9km s-min=4.2km az=61.0*
*NNC **17** 01:18:08.7±3.4, 37°.17N×70°.69E, h166km±33km, mb3.1, mpv3.9, Error ellipse: s-maj=28.8km s-min=17.1km az=22.0*

ISC 17 01:18:01.6±0.4, 36°.56N±0°.03×70°.92E±0°.05, h179km±5km, n80, σ0°.94/92, mb3.7/8, 6C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.53**	**218**	*e*Pn	**Pn**	**01 18 45.0**	**+0.4**
KBL				*e*Sn	**Sn**	**01 19 17.0**	**-0.9**
CHCP	**Chirah Chowk**	**3.47**	**146**	⇓P	**Pn**	**01 18 57.3**	**+1.3**
THW	**Thamme Wali**	**3.82**	**170**	⇓P	**Pn**	**01 19 00.9**	**+0.5**
THN	**Thein Dam**	**5.71**	**135**	*e*PKP	**Pn**	**01 19 23.8**	**-1.0**
THN				*e*S	**Sn**	**01 20 23.6**	**-6.6**
AML	**Almayashu**	**5.97**	**20**	P	**Pn**	**01 19 29.0**	**+1.0**
	SNR=51						
AML				P		01 19 29.0	
	SNR=51						
UCH	**Uchtor**	**6.31**	**25**	P	**Sn**	**01 20 43.1**	**-1.1**
	SNR=9.4						
UCH				P	**Sn**	**01 20 43.1**	**-1.1**
	SNR=9.4						
EKS2	**Erkin-Say**	**6.48**	**19**	P	**Pn**	**01 19 35.8**	**+1.0**
	SNR=18						
EKS2				P		01 19 35.8	
	SNR=18						
EKS2	**Erkin-Say**	**6.48**	**19**	*e*Pn	**Pn**	**01 19 35.4**	**+0.6**
	5.0nm,0.6s						
EKS2				*e*Sn	**Sn**	**01 20 46.2**	**-2.1**
KK31	**Karatay Array**	**6.54**	**357**	⇑P	**Pn**	**01 19 35.7**	**+0.2**
	6.5nm,0.3s,baz=184,slow=12,SNR=425						
KK31				⇓S	**Sn**	**01 20 42.0**	**-7.8**
	27nm,0.5s,baz=190,slow=23,SNR=25						
KKAR	**Karatay Array**	**6.54**	**357**	*e*Pn	**Pn**	**01 19 35.6**	**+0.1**
	16nm,0.3s						
KKAR				*e*Sn	**Sn**	**01 20 42.2**	**-7.5**
AAK	**Ala-Archa**	**6.67**	**23**	P	**Pn**	**01 19 38.6**	**+1.4**
	SNR=7.8						
AAK				P		01 19 38.6	
	SNR=7.8						
AAK	**Ala-Archa**	**6.67**	**23**	*e*Pn	**Pn**	**01 19 38.2**	**+1.0**
	24nm,0.4s						
AAK				*e*Sn	**Sn**	**01 20 51.7**	**-0.9**
USP	**Ospenovka**	**7.24**	**21**	P	**Pn**	**01 19 45.5**	**+0.7**
	SNR=7.7						
USP				P		01 19 45.5	
	SNR=7.7						
TKM2	**Tokmak 2**	**7.30**	**28**	P	**Pn**	**01 19 46.7**	**+1.1**
	SNR=6.5						
TKM2				P		01 19 46.7	
	SNR=6.5						
TKM2	**Tokmak 2**	**7.30**	**28**	⇓P	**Pn**	**01 19 46.3**	**+0.8**
	2.8nm,0.6s						
TKM2				⇑S	**Sn**	**01 21 05.2**	**-2.6**
	4.9nm,0.8s						
TKM2	**Tokmak 2**	**7.30**	**28**	*e*Pn	**Pn**	**01 19 46.5**	**+0.9**
	3.7nm,0.5s						
KKR	**Kurukshetra**	**8.23**	**141**	*ex*	x	01 21 07.1	
DDI	**Dehra Dun**	**8.61**	**134**	*ex*	**Sn**	**01 21 38.5**	**-0.7**
RTK	**Rohtak**	**8.81**	**147**	*e*S	**Sn**	**01 21 35.8**	**-8.2**
NDI	**New Delhi**	**9.48**	**144**	*ex*	x	01 20 58.0	
NDI				*e*S	**Sn**	**01 21 50.5**	**-9.4**
AYAN	**Aya Nagar**	**9.61**	**145**	*e*S	**Sn**	**01 21 54.4**	**-8.6**
AYAN				AML	AML	01 21 57.6	
	comp=Z,38nm,0.4s						
AGRA	**Agra**	**11.05**	**145**	*e*S	**Sn**	**01 22 27.6**	**-10**
AGRA				AML	AML	01 22 42.0	
	comp=N,72nm,0.1s						
AGRA				AML	AML	01 22 44.3	
	comp=E,57nm,0.9s						
MK31	**Makanchi Array**	**13.28**	**36**	*e*Pn	**Pn**	**01 21 03.3**	**+0.2**
MKAR	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**01 21 03.9**	**+0.8**
	comp=E,0.4nm,0.3s,baz=204,slow=11,SNR=12						
MKAR	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**01 21 03.9**	**+0.8**
DANN	**Dangsing**	**13.57**	**123**	*e*P	**Pn**	**01 21 05.8**	**-1.2**
	comp=E,13nm,0.4s						
DANN	**Dangsing**	**13.57**	**123**	*e*P	**Pn**	**01 21 05.8**	**-1.2**
	comp=E,13nm,0.4s						
KOLN	**Koldanda**	**13.85**	**126**	*e*P	**Pn**	**01 21 09.3**	**-1.2**
	comp=E,9.7nm,0.4s						
KOLN	**Koldanda**	**13.85**	**126**	*e*P	**Pn**	**01 21 09.3**	**-1.2**
	comp=E,9.7nm,0.4s						
GKN	**Gorkha**	**14.39**	**122**	*e*P	**Pn**	**01 21 17.2**	**0.0**
	comp=E,29nm,0.4s						
GKN	**Gorkha**	**14.39**	**122**	*e*P	**Pn**	**01 21 17.2**	**0.0**
	comp=E,29nm,0.4s						
DMN	**Daman**	**14.96**	**123**	*

*NEIC **17** 01:27:21.9±0.8, 42°.95N×126°.32W, h10km, mb3.9/11, Error ellipse: s-maj=11.8km s-min=6.2km az=59.0*
*IDC **17** 01:27:24.1±2.2, 43°.37N×125°.95W, h0km, mb3.1/4, mb1 3.7/7, mb1mx3.5/26, mbtmp3.4/7, ML3.3/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/12, Error ellipse: s-maj=41.9km s-min=18.0km az=54.0*

ISC 17 01:27:22.9±0.5, 43°.11N±0°.03×126°.32W±0°.05, h10km, n68, σ1°58/80, mb3.9/8, MS3.3/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.48**	**98**	*e*Pn	**Pn**	**01 27 46.7**	**-2.8**
KEBM				*e*Sn	**Sn**	01 28 06.7	-2.2
KBO	**Bosley Butte**	**1.79**	**119**	*e*Pn	**Pn**	**01 27 50.5**	**-3.3**
KBO				*e*Sn	**Sn**	01 28 14.9	-1.6
KRMB	**Red Mountain**	**2.39**	**131**	*e*Pn	**Pn**	**01 27 58.4**	**-3.7**
KRMB				*e*Sn	**Sn**	01 28 27.0	-4.4
HUMO	**Hull Mountain**	**2.53**	**100**	*e*Pn	**Pn**	**01 28 01.9**	**-2.0**
HUMO				*e*Sn	**Sn**	01 28 33.0	-1.7
COR	**Corvallis**	**2.64**	**55**	*e*Pn	**Pn**	**01 28 04.4**	**-1.1**
COR				*e*Sn	**Sn**	01 28 35.4	-2.1
KHMM	**Horse Mountain**	**2.95**	**138**	*e*Pn	**Pn**	**01 28 07.5**	**-2.2**
KHMM				*e*Sn	**Sn**	01 28 44.5	-0.7
YBH	**Yreka Blue Hor**	**3.01**	**116**	*e*Pn	**Pn**	**01 28 09.3**	**-1.2**
YBH				*e*Sn	**Sn**	01 28 46.1	-0.5
HOOD	**Mount Hood Mea**	**4.02**	**55**	*e*Pn	**Pn**	**01 28 24.5**	**0.0**
HOOD				*e*Sn	**Sn**	01 29 10.3	-1.4
MOD	**Modoc**	**4.61**	**103**	*e*Pn	**Pn**	**01 28 34.0**	**+1.4**
NLWA	**Neilton Lookou**	**4.62**	**21**	*e*Pn	**Pn**	**01 28 33.9**	**+1.2**
NLWA				*e*Sn	**Sn**	01 29 23.1	-3.3
LON	**Longmire**	**4.85**	**40**	*e*Pn	**Pn**	**01 28 36.1**	**+0.2**
LON				*e*Sn	**Sn**	01 29 33.4	+1.3
WVOR	**Wild Horse Val**	**5.70**	**94**	*e*Pn	**Pn**	**01 28 45.5**	**-2.0**
	6.9nm,0.8s						
HAWA	**Hanford**	**5.85**	**53**	*e*Pn	**Pn**	**01 28 49.6**	**0.0**
PGC	**Sidney**	**5.90**	**19**	*e*Pn	**Pn**	**01 28 49.4**	**-0.8**
PGC				*e*Sn	**Sn**	01 29 56.4	-1.4
JCW	**Jim Creek**	**5.95**	**30**	*e*Pn	**Pn**	**01 28 51.4**	**+0.5**
JCW				*e*Sn	**Sn**	01 29 55.7	-3.4
ETW	**Entiat**	**6.17**	**41**	*e*Pn	**Pn**	**01 28 55.8**	**+1.8**
ETW				*e*Sn	**Sn**	01 30 04.8	+0.3
RPW	**Rockport**	**6.31**	**31**	*e*Pn	**Pn**	**01 28 56.0**	**+0.1**
RPW				*e*Sn	**Sn**	01 30 07.0	-1.1
BMO	**Blue Mountains**	**6.74**	**72**	*e*Pn	**Pn**	**01 29 01.1**	**-0.6**
CMB	**Columbia Colle**	**6.79**	**136**	*e*Pn	**Pn**	**01 29 05.4**	**+2.9**
NVAR	**Mina Array Bea**	**7.67**	**125**	Pn	**Pn**	**01 29 18.3**	**+3.7**
	0.2nm,0.3s,baz=303,slow=14,SNR=7.7						
NVAR	**Mina Array Bea**	**7.67**	**125**	Pn	**Pn**	**01 29 18.3**	**+3.7**
HLID	**Hailey**	**8.70**	**83**	*e*Pn	**Pn**	**01 29 31.3**	**+2.7**
BBB	**Bella Bella**	**9.16**	**353**	LR	LR	01 32 26.8	
	comp=Z,120nm,19.0s,baz=227,slow=34						
MSO	**Missoula**	**9.53**	**63**	*e*Pn	**Pn**	**01 29 40.5**	**+0.4**
ISA	**Isabella**	**9.60**	**138**	*e*Pn	**Pn**	**01 29 43.1**	**+2.1**
MCMT	**McKenzie Canyo**	**9.87**	**75**	*e*Pn	**Pn**	**01 29 47.8**	**+3.1**
	1.2nm,0.7s						
DLMT	**Dillon**	**10.11**	**72**	*e*Pn	**Pn**	**01 29 49.4**	**+1.4**
BOZ	**Bozeman (W)**	**10.82**	**71**	*e*Pn	**Pn**	**01 29 58.5**	**+0.7**
QLMT	**Earthquake Lak**	**10.88**	**76**	*e*Pn	**Pn**	**01 30 00.8**	**+2.3**
RRI2	**Red Ridge**	**10.96**	**84**	*e*Pn	**Pn**	**01 30 02.7**	**+3.1**
ARUT	**Antelope Range**	**11.16**	**114**	*e*Pn	**Pn**	**01 30 04.7**	**+2.3**
	3.8nm,0.8s						
TPAW	**Teton Pass**	**11.21**	**83**	*e*Pn	**Pn**	**01 30 06.3**	**+3.2**
MOOW	**Moose Ponds**	**11.35**	**81**	*e*Pn	**Pn**	**01 30 07.2**	**+2.1**
LOHW	**Long Hollow**	**11.46**	**82**	*e*Pn	**Pn**	**01 30 08.8**	**+2.3**
MSU	**Marysvale**	**11.66**	**108**	*e*Pn	**Pn**	**01 30 11.3**	**+2.1**
PDAR	**Pinedale Array**	**12.30**	**86**	Pn	**Pn**	**01 30 19.6**	**+1.7**
	0.0nm,0.3s,baz=286,slow=11,SNR=6.7						
PDAR	**Pinedale Array**	**12.30**	**86**	Pn	**Pn**	**01 30 19.6**	**+1.7**
DLBC	**Dease Lake**	**15.53**	**353**	Pn	**Pn**	**01 31 06.9**	**+5.2**
	0.1nm,0.3s,baz=180,slow=18,SNR=3.1						
DLBC				LR	LR	01 35 53.1	
	comp=Z,70nm,18.9s,baz=206,slow=33						
DLBC	**Dease Lake**	**15.53**	**353**	Pn	**Pn**	**01 31 06.9**	**+5.3**
ISCO	**Idaho Springs**	**15.87**	**95**	*e*P	**Pn**	**01 31 13.1**	**+6.8**
	67nm,2.7s						
SDCO	**Great Sand Dun**	**16.72**	**102**	*e*Pn	**Pn**	**01 31 17.6**	**+0.5**
ANMO	**Albuquerque**	**17.42**	**111**	P	**Pn**	**01 31 26.9**	**+1.0**
	0.1nm,0.3s,baz=305,slow=13,SNR=9.5						
ANMO	**Albuquerque**	**17.42**	**111**	*e*Pn	**Pn**	**01 31 26.9**	**+0.9**
	2.9nm,0.9s						
BNM	**Barren Site**	**17.77**	**114**	*e*Pn	**Pn**	**01 31 32.0**	**+1.8**
	4.1nm,0.9s						
FFC	**Flin Flon**	**19.66**	**45**	*e*P	**Pn**	**01 31 51.7**	**-1.4**
	5.1nm,0.8s						
MNTX	**Cornudas Mount**	**20.10**	**118**	*e*P	**P**	**01 31 54.7**	**-2.0**
	1.2nm,0.8s						
YKA	**Yellowknife Ar**	**20.61**	**16**	P	**P**	**01 32 02.8**	**+0.9**
	0.5nm,0.7s,baz=206,slow=12,SNR=5.8						
YKA	**Yellowknife Ar**	**20.61**	**16**	P	**P**	**01 32 02.8**	**+0.9**
AMTX	**Amarillo**	**20.79**	**105**	*e*P	**P**	**01 32 05.6**	**+1.5**
	9.2nm,0.9s						
AGMN	**Agassiz Nation**	**21.82**	**66**	*e*P	**P**	**01 32 15.8**	**+0.8**
	109nm,2.6s,mb4.8						
ULM	**Lac du Bonnet**	**21.97**	**60**	P	**P**	**01 32 16.7**	**+0.1**
	1.8nm,0.6s,mb3.7,baz=276,slow=12,SNR=3.2						
ULM				LR	LR	01 41 07.9	
	comp=Z,112nm,18.7s,MS3.3,baz=277,slow=38						
ULM	**Lac du Bonnet**	**21.97**	**60**	*e*P	**P**	**01 32 16.3**	**-0.4**
	2.5nm,0.6s,mb3.8						
TXAR	**Lajitas Array**	**22.78**	**120**	P	**P**	**01 32 27.3**	**+1.9**
	0.3nm,0.7s,mb2.9,baz=307,slow=9.7,SNR=4.5						
TXAR	**Lajitas Array**	**22.78**	**120**	P	**P**	**01 32 27.3**	**+1.9**
PAX	**Paxson**	**22.81**	**337**	*e*P	**P**	**01 32 26.7**	**+1.2**
	25nm,1.6s,mb4.4						
WMOK	**Wichita Mounta**	**22.92**	**102**	*e*P	**P**	**01 32 25.9**	**-1.0**
	2.9nm,0.9s,mb3.7						
MCK	**McKinley**	**24.41**	**336**	*e*P	**P**	**01 32 41.9**	**+0.8**
	2.8nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**24.62**	**339**	P	**P**	**01 32 43.5**	**+0.5**
	0.3nm,0.7s,mb3.0,baz=146,slow=7.0,SNR=6.8						
ILAR	**Eielson Array**	**24.62**	**339**	P	**P**	**01 32 43.5**	**+0.5**
INK	**Inuvik**	**25.55**	**354**	LR	LR	01 42 43.5	
	comp=Z,77nm,18.7s,MS3.2,baz=108,slow=36						
MDJ	**Mudanjiang**	**69.56**	**312**	P	**P**	**01 38 26.3**	**-5.4**
MDJ				pmax	pmax		
	comp=Z,12nm,2.0s,mb4.5						
MDJ				pmax	pmax		
	comp=Z,71nm,6.3s						
CN2	**Changchun**	**72.32**	**314**	*e*P	**P**	**01 38 47.0**	**-1.5**
BJI	**Beijing**	**79.83**	**316**	P	**P**	**01 39 28.1**	**-3.3**
HHC	**Hu-ho-hao-te**	**81.47**	**319**	*e*P	**P**	**01 39 37.9**	**-2.3**
HHC				sP	sP	01 39 43.8	-0.9
HHC				PP	PP	01 42 45.5	-0.1
HHC				S	S	01 49 46.5	-5.1
HHC				SKS		01 49 53.3	
HHC				SS	SS	01 55 04.3	-2.5
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,6.7s						
HHC				LR	LR		
	comp=N,120nm,17.0s						
HHC				LR	LR		
	comp=E,150nm,17.3s						
HHC				LR	LR		
	comp=Z,70nm,17.2s						
WMQ	**Urumqi**	**88.26**	**336**	*e*P	**P**	**01 40 15.1**	**+0.8**
LZH	**Lanzhou**	**88.89**	**322**	*e*P	**P**	**01 40 15.8**	**-1.6**
LZH				pP	pP	01 40 20.8	0.0
LZH				sP	sP	01 40 22.8	+0.9
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
GYA	**Guiyang**	**95.36**	**314**	*e*P	**P**	**01 40 46.0**	**-1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**98.48**	**316**	P	**P**	**01 40 59.8**	**-1.9**
KMI				pP	pP	01 41 08.5	+3.5

WEL 17 01:36:01.1±0.1, 37°.80S×176°.75E, h5km, ML3.5/9, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.16**	**252**	PG	Pg	01 36 04.5	+0.2
OPRZ				SG	Sg	01 36 06.9	+0.5
MARZ	**Manawahe**	**0.20**	**197**	PG	Pg	01 36 05.3	+0.2
EDRZ	**Edgecumbe**	**0.31**	**181**	PG	Pg	01 36 07.5	+0.3
TGRZ	**Tauranga**	**0.39**	**279**	PG	Pg	01 36 09.1	+0.5
MKRZ	**Makatiti**	**0.41**	**213**	PG	Pg	01 36 10.1	+1.1
OMRZ	**Omania**	**0.43**	**223**	PG	Pg	01 36 09.9	+0.5
WIZ	**White Island**	**0.44**	**53**	PG	Pg	01 36 10.1	+0.5
KARZ	**Kaharoa**	**0.46**	**240**	PG	Pg	01 36 10.5	+0.5
TARZ	**Mount Tarawera**	**0.48**	**203**	PG	Pg	01 36 11.2	+0.8
URZ	**Urewera**	**0.55**	**148**	PG	Pg	01 36 11.5	-0.2
RRRZ	**Republican Roa**	**0.57**	**199**	PG	Pg	01 36 12.1	-0.1
MYRZ	**Mayor Island**	**0.65**	**322**	P*	Pb	01 36 14.3	-0.7
MWZ	**Matawai**	**0.82**	**131**	P*	Pb	01 36 16.6	-1.2
TOZ	**Tahuroa Road**	**0.99**	**273**	P*	Pb	01 36 19.5	-1.3
RAHZ	**Arahi**	**1.15**	**167**	P*	Pb	01 36 22.6	-0.9
RAHZ				S*	Sb	01 36 39.9	+1.1
NMHZ	**Naumai**	**1.30**	**178**	P*	Pb	01 36 25.4	-0.7
KUZ	**Kuaotunu**	**1.33**	**322**	P*	Pb	01 36 23.9	-2.6
KUZ				S*	Sb	01 36 43.3	-0.6
CNGZ	**Carnagh Statio**	**1.34**	**121**	P*	Pb	01 36 27.1	+0.4
BKZ	**Black Stump Fm**	**1.38**	**188**	P*	Pb	01 36 26.0	-1.4
MKAZ	**Moumakai**	**1.43**	**298**	PN	Pn	01 36 27.1	-0.6
HIZ	**Hauiti**	**1.65**	**244**	PN	Pn	01 36 29.9	-0.9

*NEIC **17** 01:45:34.5, 18°.85N×67°.48W, h17km, MD3.1(RSPR), After RSPR.*

RSPR 17 01:45:34.5, 18°.85N×67°.48W, h17km±13km, MD3.1/6, 14C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.51**	**137**	*e*P	Pg	01 45 42.1	-2.6
AGPR	**Aguadilla, PR**	**0.51**	**137**	*e*P	Pg	01 45 42.1	-2.6
AGPR				*e*S	Sg	01 45 51.0	-0.6
LSP	**Las Mesas**	**0.76**	**151**	*e*P	Pb	01 45 47.5	-1.8
LSP	**Las Mesas**	**0.76**	**151**	*e*P	Pb	01 45 47.5	-1.8
AOPR	**Arecibo Observ**	**0.85**	**126**	*e*P	Pb	01 45 47.9	-2.9
AOPR	**Arecibo Observ**	**0.85**	**126**	*e*P	Pb	01 45 47.9	-2.9
CRPR	**Cabo Rojo, PR**	**0.91**	**157**	*e*P	Pb	01 45 49.7	-2.1
CRPR				*e*S	Sb	01 46 01.3	-2.2
CRPR	**Cabo Rojo, PR**	**0.91**	**157**	*e*P	Pb	01 45 49.7	-2.1
CRPR				*e*S	Sb	01 46 01.3	-2.2
CELP	**Cerrillos**	**1.15**	**132**	*e*P	Pn	01 45 53.1	-2.7
CELP	**Cerrillos**	**1.15**	**132**	*e*P	Pn	01 45 53.1	-2.7
OBIP	**Obispado Ponce**	**1.15**	**134**	*e*P	Pn	01 45 52.6	-3.2
OBIP	**Obispado Ponce**	**1.15**	**134**	*e*P	Pn	01 45 52.6	-3.2
OBIP				*e*S	Sb	01 46 07.2	-3.3
ICM	**Isla Caja Muer**	**1.31**	**136**	*e*P	Pn	01 45 55.2	-2.9
ICM	**Isla Caja Muer**	**1.31**	**136**	*e*P	Pn	01 45 55.2	-2.9
SJG	**San Juan**	**1.46**	**120**	*e*P	Pn	01 45 57.0	-3.0
SJG	**San Juan**	**1.46**	**120**	*e*P	Pn	01 45 57.0	-3.0
SJG				*e*S	Sn	01 46 15.0	-3.7
SJG	**San Juan**	**1.46**	**120**	*e*S	Sn	01 46 15.0	-3.7
CBYP	**Canovanas**	**1.64**	**110**	*e*P	Pn	01 45 59.7	-2.8
CBYP	**Canovanas**	**1.64**	**110**	*e*P	Pn	01 45 59.7	-2.8
CPD	**Cerro la Pandu**	**1.69**	**118**	*e*P	Pn	01 46 00.7	-2.5
CPD	**Cerro la Pandu**	**1.69**	**118**	*e*P	Pn	01 46 00.7	-2.5
CPD				*e*S	Sn	01 46 21.2	-3.2
HUMP	**Col San Antoni**	**1.70**	**114**	*e*P	Pn	01 46 00.5	-2.8
HUMP	**Col San Antoni**	**1.70**	**114**	*e*P	Pn	01 46 00.5	-2.8
MTP	**Monte Pirata**	**1.97**	**112**	*e*P	Pn	01 46 04.8	-2.4
MTP	**Monte Pirata**	**1.97**	**112**	*e*P	Pn	01 46 04.8	-2.4

*IDC **17** 01:59:56.0±1.1, 31°.18S×176°.95W, h0km, mb4.1/4, mb1 4.4/5, mb1mx4.1/16, mbtmp4.1/5, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/22, Error ellipse: s-maj=42.3km s-min=24.7km az=145.0*
*NEIC **17** 01:59:57.2±0.9, 31°.10S×176°.94W, h10km, mb4.2/2, Error ellipse: s-maj=19.2km s-min=12.0km az=112.0*
*ISCJB **17** 01:59:59.3±1.4, 31°.26S±0°.10×177°.0W±0°.2, h33km, mb4.1/6, Error ellipse: s-maj=28.6km s-min=10.8km az=19.7*

ISC 17 02:00:01.2±1.4, 31°.16S±0°.10×177°.0W±0°.2, h35km, n25, σ0°86/17, mb4.1/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.06**	**337**	Pn	**Pn**	**02 00 30.3**	**-3.1**
URZ	**Urewera**	**8.58**	**213**	Pn	**Pn**	**02 02 01.4**	**-1.5**
	0.5nm,0.3s,baz=141,slow=17,SNR=3.8						
URZ				Sn	**Sn**	**02 03 38.6**	**+0.1**
	0.7nm,0.3s,baz=135,slow=18,SNR=5.0						
URZ	**Urewera**	**8.58**	**213**	Pn	**Pn**	**02 02 01.4**	**-1.5**
URZ				Sn	**Sn**	**02 03 38.6**	**+0.1**
DZM	**Mont Dzumac**	**17.34**	**297**	*e*LR	LR	02 07 58.4	
	210nm,27.4s						
TBI	**Tubuai**	**25.64**	**79**	*e*LR	LR	02 11 30.0	
	94nm,28.2s						
PPT2	**Papeete2**	**28.30**	**68**	*e*LR	LR	02 12 40.0	
	87nm,27.0s						
CTA	**Charters Tower**	**34.78**	**280**	LR	LR	02 19 23.0	
	comp=Z,67nm,19.5s,baz=52,slow=34						
CTAO	**Charters Tower**	**34.78**	**280**	*e*P	**P**	**02 06 49.0**	**+0.5**
	1.9nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**35.16**	**258**	P	**P**	**02 06 52.5**	**+0.8**
	3.6nm,0.9s,mb4.3,baz=94,slow=8.6,SNR=5.5						
STKA	**Stephens Creek**	**35.16**	**258**	P	**P**	**02 06 52.5**	**+0.8**
AS31	**Alice Springs**	**43.93**	**267**	*e*P	**P**	**02 08 05.6**	**+0.7**
ASAR	**Alice Springs**	**43.94**	**267**	P	**P**	**02 08 04.8**	**0.0**
	2.2nm,0.7s,mb4.0,baz=106,slow=7.2,SNR=26						
ASAR				PcP	PcP	02 09 52.0	+1.5
	0.5nm,0.8s,baz=120,slow=3.4,SNR=4.4						
ASAR	**Alice Springs**	**43.94**	**267**	P	**P**	**02 08 04.8**	**0.0**
ASAR				PcP	PcP	02 09 52.0	+1.5
WB2	**Warramunga Arr**	**44.98**	**272**	*e*P	**P**	**02 08 13.5**	**+0.2**
WRAB	**Tennant Creek**	**44.99**	**272**	*e*P	**P**	**02 08 13.5**	**+0.1**
	1.6nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**44.99**	**272**	P	**P**	**02 08 13.0**	**-0.3**
	2.9nm,0.6s,mb4.3,baz=111,slow=7.9,SNR=15						
WRA				PcP	PcP	02 09 55.1	+0.9
	0.4nm,0.7s,baz=124,slow=2.6,SNR=3.9						
WRA	**Warramunga Arr**	**44.99**	**272**	P	**P**	**02 08 13.0**	**-0.3**
WRA				PcP	PcP	02 09 55.1	+0.9
NVAR	**Mina Array Bea**	**88.21**	**42**	P	**P**	**02 12 49.0**	**+0.5**
	0.6nm,0.8s,mb3.9,baz=213,slow=9.7,SNR=3.1						
NVAR	**Mina Array Bea**	**88.21**	**42**	P	**P**	**02 12 49.0**	**+0.5**
KAF	**Kangasniemi**	**145.55**	**341**	*e*p	PKPdf	02 19 34.2	-0.7
FINES	**FINESS Array B**	**146.15**	**340**	PKPbc	PKPbc	02 19 36.4	-0.6
	3.8nm,0.6s,baz=48,slow=2.8,SNR=14						
FINES	**FINESS Array B**	**146.15**	**340**	PKPbc	PKPbc	02 19 36.4	-0.6
AKASG	**Malin Array Be**	**152.43**	**323**	PKPbc	PKPbc	02 19 53.2	+0.1
	0.2nm,0.3s,baz=46,slow=2.7,SNR=3.0						
AKASG	**Malin Array Be**	**152.43**	**323**	PKPbc	PKPbc	02 19 53.2	+0.1
TORD	**Torodi Ar. Bea**	**162.03**	**176**	PKPab	PKPab	02 20 45.4	-0.2
	0.6nm,0.8s,baz=194,slow=4.6,SNR=3.8						

IDC 17 02:16:18.8±6.7, 5°.55S×149°.29E, h124km±49km, mb3.2/2, mb1 3.5/3, mb1mx3.1/15, mbtmp3.3/3, Error ellipse: s-maj=131.4km s-min=51.5km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.38**	**209**	P	Pn	02 17 23.3	-0.2
	6.8nm,0.3s,baz=344,slow=6.6,SNR=22						
PMG				S	Sn	02 18 14.6	+0.8
	6.1nm,0.3s,baz=323,slow=22,SNR=10						
WRA	**Warramunga Arr**	**20.40**	**224**	P	P	02 20 46.1	0.0
	1.8nm,0.6s,baz=50,slow=10,SNR=14						
ASAR	**Alice Springs**	**23.33**	**218**	P	P	02 21 15.8	-0.1
	0.8nm,0.3s,baz=54,slow=8.5,SNR=11						
TORD	**Torodi Ar. Bea**	**147.17**	**286**	PKPbc	PKPbc	02 35 48.0	-0.5
	0.3nm,0.9s,baz=66,slow=2.7,SNR=3.6						

IDC 17 02:47:28.9±11.0, 1°.85N×122°.79E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=203.2km s-min=129.3km az=119.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.02**	**172**	P	P	02 52 01.9	-1.6
	1.3nm,0.7s,baz=15,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**24.44**	**153**	P	P	02 52 48.7	-0.8
	1.9nm,0.4s,baz=337,slow=9.3,SNR=32						
ASAR	**Alice Springs**	**27.57**	**158**	P	P	02 53 17.9	0.0
	1.8nm,0.5s,baz=346,slow=15,SNR=31						
STKA	**Stephens Creek**	**37.99**	**154**	P	P	02 54 50.6	+1.9
	1.3nm,0.5s,baz=337,slow=10.0,SNR=4.9						

*ISCJB **17** 02:52:59.9±0.6, 9°.65S±0°.08×125°.0E±0°.2, h33km, mb3.7/7, Error ellipse: s-maj=23.4km s-min=6.8km az=155.6*
*IDC **17** 02:52:59.9±1.1, 9°.35S×124°.64E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/14, mbtmp3.7/6, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/28, Error ellipse: s-maj=116.8km s-min=22.7km az=68.0*
*NEIC **17** 02:53:02.0±0.5, 9°.81S×124°.74E, h35km, mb3.9/2, Error ellipse: s-maj=34.6km s-min=7.2km az=53.0*

ISC 17 02:53:02.5±0.6, 9°.60S±0°.08×125°.0E±0°.1, h35km, n24, σ0°92/30, mb3.7/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.94**	**311**	LR	LR	02 57 43.8	
	comp=Z,136nm,18.7s,baz=159,slow=44						
FITZ	**Fitzroy Crossi**	**8.47**	**176**	Pn	**Pn**	**02 55 06.9**	**+4.2**
	1.3nm,0.3s,baz=13,slow=12,SNR=32						
FITZ				Sn	**Sn**	**02 56 37.8**	**+0.7**
	3.8nm,0.3s,baz=325,slow=9.2,SNR=11						
FITZ	**Fitzroy Crossi**	**8.47**	**176**	Pn	**Pn**	**02 55 06.9**	**+4.2**
FITZ				Sn	**Sn**	**02 56 37.8**	**+0.7**
WRA	**Warramunga Arr**	**13.66**	**140**	Pn	**Pn**	**02 56 12.5**	**-1.2**
	0.9nm,0.3s,baz=313,slow=14,SNR=33						
WRA				Sn	**Sn**	**02 58 37.8**	**-6.5**
	0.7nm,0.3s,baz=318,slow=26,SNR=9.7						
WRA	**Warramunga Arr**	**13.66**	**140**	Pn	**Pn**	**02 56 12.5**	**-1.2**
WRA				Sn	**Sn**	**02 58 37.8**	**-6.5**
WRAB	**Tennant Creek**	**13.66**	**140**	*e*Pn	**Pn**	**02 56 13.1**	**-0.6**
	4.0nm,0.6s						
WB2	**Warramunga Arr**	**13.67**	**140**	*e*Pn	**Pn**	**02 56 13.2**	**-0.7**
AS31	**Alice Springs**	**16.36**	**150**	*e*Pn	**Pn**	**02 56 49.8**	**+0.3**
AS31				*e*Sn	**Sn**	**02 59 39.7**	**-10**
ASAR	**Alice Springs**	**16.36**	**150**	Pn	**Pn**	**02 56 49.6**	**+0.2**
	1.0nm,0.3s,baz=320,slow=11,SNR=37						
ASAR				Sn	**Sn**	**02 59 44.8**	**-5.2**
	0.4nm,0.3s,baz=321,slow=21,SNR=9.2						
ASAR	**Alice Springs**	**16.36**	**150**	Pn	**Pn**	**02 56 49.6**	**+0.2**
ASAR				Sn	**Sn**	**02 59 44.8**	**-5.2**
COEN	**Coen**	**18.29**	**105**	*e*P	**Pn**	**02 57 16.1**	**+2.6**
STKA	**Stephens Creek**	**26.97**	**148**	P	**P**	**02 58 47.4**	**+6.6**
	0.5nm,0.4s,mb3.4,baz=322,slow=7.8,SNR=3.8						
STKA	**Stephens Creek**	**26.97**	**148**	P	**P**	**02 58 47.4**	**+6.6**
SONM	**Songino Array**	**59.53**	**346**	P	**P**	**03 03 02.4**	**+0.2**
	0.2nm,0.6s,mb3.3,baz=176,slow=8.3,SNR=2.6						
SONM	**Songino Array**	**59.53**	**346**	P	**P**	**03 03 02.4**	**+0.3**
MK31	**Makanchi Array**	**67.83**	**330**	*e*P	**P**	**03 03 57.0**	**0.0**
MKAR	**Makanchi Array**	**67.83**	**330**	P	**P**	**03 03 57.9**	**+0.9**
	0.6nm,0.5s,mb3.9,baz=130,slow=7.4,SNR=10						
MKAR	**Makanchi Array**	**67.83**	**330**	P	**P**	**03 03 57.9**	**+0.9**
TKM2	**Tokmak 2**	**68.98**	**323**	*e*P	**P**	**03 04 03.3**	**-0.9**
	0.6nm,0.4s,mb3.9						
ZALV	**Zalesovo Beam**	**71.85**	**336**	P	**P**	**03 04 21.6**	**+0.1**
	0.5nm,0.3s,mb3.9,baz=130,slow=6.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**71.85**	**336**	P	**P**	**03 04 21.6**	**0.0**
KURK	**Kurchatov**	**72.28**	**331**	P	**P**	**03 04 25.0**	**+0.8**
	0.2nm,0.3s,mb3.5,baz=133,slow=6.5,SNR=4.2						
KURK	**Kurchatov**	**72.28**	**331**	P	**P**	**03 04 25.0**	**+0.8**
ABKAR	**Akbulak array**	**81.54**	**323**	*e*P	**P**	**03 05 15.2**	**-1.2**
	0.9nm,0.7s,mb3.8						

DJA 17 02:57:15, 0°.23S×123°.25E, h101km, MLv3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.89**	**344**	P	Pn	02 57 36.6	+2.2
GTOI				S	Sn	02 57 50.6	+1.7
LUWI	**Luwuk**	**0.94**	**211**	P	Pn	02 57 35.8	+0.9
LUWI				S	Sn	02 57 50.5	+0.7
KMSI	**Cibinong**	**1.08**	**42**	P	Pn	02 57 35.6	-0.8
KMSI				S	Sn	02 57 57.9	+5.4
MRSI	**Marisa**	**1.49**	**298**	P	Pn	02 57 40.5	-0.6
MRSI				S	S

ZALV Zalesovo Beam 51.96 351 P P 03 38 50.6 -0.8
0.6nm,0.4s,baz=183,slow=7.4,SNR=4.5

*NEIC **17** 03:54:20.8, 19.04N×66.30W, h36km, MD3.5(RSPR), After RSPR.*

RSPR 17 03:54:20.8, 19.04N×66.30W, h36km±19km, MD3.5/3, 14C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.82**	**212**	⇑*eP*	Pn	03 54 34.3	-1.5
AOPR	**Arecibo Observ**	**0.82**	**212**	*eP*	Pn	03 54 34.3	-1.5
AOPR				*eS*	Sn	03 54 45.0	-1.7
CBYP	**Canovanas**	**0.87**	**151**	⇑*eP*	Pn	03 54 35.8	-0.9
CBYP	**Canovanas**	**0.87**	**151**	⇑*eP*	Pn	03 54 35.8	-0.9
CBYP				*eS*	Sn	03 54 47.0	-1.1
SJG	**San Juan**	**0.94**	**171**	⇑*eP*	Pn	03 54 35.8	-1.7
SJG	**San Juan**	**0.94**	**171**	⇑*eP*	Pn	03 54 35.8	-1.7
HUMP	**Col San Antoni**	**0.99**	**155**	⇑*eP*	Pn	03 54 37.2	-1.0
HUMP	**Col San Antoni**	**0.99**	**155**	⇑*eP*	Pn	03 54 37.2	-1.0
CELP	**Cerrillos**	**1.00**	**196**	*e*Pn	Pn	03 54 37.8	-0.6
CELP				*e*Sn	Sn	03 54 49.8	-1.4
OBIP	**Obispado Ponce**	**1.04**	**196**	*e*Pn	Pn	03 54 38.7	-0.1
OBIP				*e*Sn	Sn	03 54 50.5	-1.7
LSP	**Las Mesas**	**1.14**	**221**	⇑*eP*	Pn	03 54 39.4	-0.9
LSP	**Las Mesas**	**1.14**	**221**	⇑*eP*	Pn	03 54 39.4	-0.9
MTP	**Monte Pirata**	**1.18**	**143**	⇑*eP*	Pn	03 54 39.5	-1.3
MTP	**Monte Pirata**	**1.18**	**143**	⇑*eP*	Pn	03 54 39.5	-1.3
CRPR	**Cabo Rojo, PR**	**1.29**	**217**	⇓*eP*	Pn	03 54 41.6	-0.7
CRPR	**Cabo Rojo, PR**	**1.29**	**217**	⇓*eP*	Pn	03 54 41.6	-0.7
STVI	**Saint Thomas**	**1.45**	**118**	⇑*eP*	Pn	03 54 43.0	-1.5
STVI	**Saint Thomas**	**1.45**	**118**	⇑*eP*	Pn	03 54 43.0	-1.5

IDC 17 04:00:52.7±3.1, 31.20S×177.02W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, ML3.3/1, MS3.5/2, Ms1 3.6/2, ms1mx2.8/28, Error ellipse: s-maj=73.7km s-min=36.2km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.54**	**213**	Pn	Pn	04 02 56.8	-0.8
	0.3nm,0.3s,baz=158,slow=9.3,SNR=5.8						
URZ				Sn	Sn	04 04 34.3	-0.5
	3.0nm,0.3s,baz=216,slow=17,SNR=11						
AFI	**Afiamalu**	**17.86**	**17**	LR	LR	04 10 02.1	
	comp=Z,76nm,20.0s,baz=306,slow=31						
ASAR	**Alice Springs**	**43.91**	**267**	P	P	04 09 02.0	+0.7
	0.8nm,0.7s,baz=106,slow=7.4,SNR=8.1						
WRA	**Warramunga Arr**	**44.98**	**272**	P	P	04 09 09.6	-0.3
	1.7nm,0.7s,baz=111,slow=8.0,SNR=22						
TXAR	**Lajitas Array**	**92.11**	**57**	LR	LR	04 52 42.2	
	comp=Z,50nm,18.1s,baz=0.0,slow=34						
FINES	**FINESS Array B**	**146.18**	**340**	PKPbc	PKPbc	04 20 33.1	-1.0
	3.2nm,0.8s,baz=85,slow=3.1,SNR=7.9						

IDC 17 04:02:20.9±5.7, 19.74N×145.98E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=192.2km s-min=28.6km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.05**	**197**	P	P	04 10 06.2	0.0
	1.7nm,0.5s,baz=19,slow=9.1,SNR=33						
FITZ	**Fitzroy Crossi**	**42.58**	**209**	P	P	04 10 18.6	-0.1
	1.3nm,0.3s,baz=37,slow=8.8,SNR=29						
ASAR	**Alice Springs**	**44.72**	**196**	P	P	04 10 35.8	-0.1
	0.7nm,0.5s,baz=17,slow=7.2,SNR=12						
MKAR	**Makanchi Array**	**57.94**	**313**	P	P	04 12 15.0	0.0
	0.4nm,0.8s,baz=93,slow=6.2,SNR=3.6						

*IDC **17** 04:15:22.3±0.6, 51.35N×177.38W, h0km, mb4.0/21, mb1 4.2/23, mb1mx4.1/32, mbtmp4.0/23, ML3.7/2, MS3.5/9, Ms1 3.5/9, ms1mx3.2/47, Error ellipse: s-maj=19.2km s-min=9.4km az=179.0*

*MOS **17** 04:15:25.3±0.9, 51.39N×177.48W, h28km, mb4.5/14, Error ellipse: s-maj=11.7km s-min=8.8km az=55.2*

*ISCJB **17** 04:15:27.4±0.5, 51.35N±0.06×177.43W±0.03, h47km±4km, mb4.4/59, MS3.4/10, Error ellipse: s-maj=10.1km s-min=3.0km az=175.3*

*NEIC **17** 04:15:28.8±0.4, 51.41N×177.50W, h42km±3km, mb4.4/42, ML4.4(AEIC), Error ellipse: s-maj=7.5km s-min=2.3km az=175.0*

ISC 17 04:15:28.7±0.5, 51.40N±0.06×177.46W±0.03, h41km±4km, n428, σ0.55/427, mb4.4/59, MS3.4/10, 117C-116D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.39**	**21**	P	Pn	04 15 37.6	-0.4
TAFL	**Tanaga Flats**	**0.45**	**323**	P	Pn	04 15 38.6	-0.1
TAPA	**Tanaga Point A**	**0.47**	**332**	P	Pn	04 15 37.8	-1.3
KIKV	**Kanaga Island**	**0.52**	**20**	P	Pn	04 15 39.5	-0.1
KICM	**Kanaga Island**	**0.55**	**17**	P	Pn	04 15 40.2	+0.1
KIRH	**Kanaga Island**	**0.55**	**24**	P	Pn	04 15 40.1	0.0
TASE	**Tanaga Southea**	**0.57**	**321**	P	Pn	04 15 40.6	+0.3
TANO	**Tanaga North**	**0.66**	**322**	P	Pn	04 15 41.9	+0.3
ETKA	**Kagalaska Isla**	**0.81**	**54**	P	Pn	04 15 42.5	-1.0
GAEA	**Gareloi East**	**0.89**	**296**	P	Pn	04 15 44.9	+0.2
GALAA	**Gareloi Lava P**	**0.90**	**295**	P	Pn	04 15 44.9	+0.2
GANE	**Gareloi Northe**	**0.92**	**298**	P	Pn	04 15 45.3	+0.2
GSCK	**Great Sitkin C**	**1.01**	**52**	P	Pn	04 15 45.9	-0.5
GSTD	**Great Sitkin T**	**1.05**	**51**	P	Pn	04 15 46.5	-0.4
GSTD				S	Sn	04 15 57.9	-2.4
GSMY	**Great Sitkin M**	**1.09**	**53**	P	Pn	04 15 46.9	-0.5
GSTR	**Great Sitkin T**	**1.12**	**51**	P	Pn	04 15 47.8	0.0
GSTR				S	Sn	04 16 01.7	-0.2
CERAA	**Semis' Rag'd T**	**1.85**	**287**	P	Pn	04 15 58.1	+0.2
CESW	**Semis' Southwe**	**1.92**	**286**	P	Pn	04 15 58.8	0.0
CEAP	**Semis' Anvil P**	**1.94**	**289**	P	Pn	04 15 59.5	+0.4
AMKA	**Amchitka**	**2.03**	**271**	P	Pn	04 15 59.1	-1.2
AMKA				S	Sn	04 16 23.6	-0.8
KOKL	**Mount Kliuchef**	**2.22**	**64**	P	Pn	04 16 03.4	+0.5
KOFP	**Flat Point**	**2.26**	**66**	P	Pn	04 16 03.6	+0.1
LSSE	**Little Sitkin**	**2.53**	**284**	P	Pn	04 16 07.9	+0.8
LSNW	**Little Sitkin**	**2.57**	**284**	P	Pn	04 16 08.2	+0.5
LSNW				S	Sn	04 16 39.0	+1.3
NIKO	**Nikolski**	**5.53**	**70**	P	Pn	04 16 48.6	+0.4
NIKO				S	Sn	04 17 50.6	+0.1
FX1	**Attu Island--F**	**5.96**	**288**	Pn	Pn	04 16 53.4	-0.9
	3.7nm,0.3s,baz=182,slow=18,SNR=23						
FX1				Sn	Sn	04 18 00.0	-1.2
	baz=110,slow=22,SNR=2.8						
FX1	**Attu Island--F**	**5.96**	**288**	Pn	Pn	04 16 53.4	-0.9
FX1				Sn	Sn	04 18 00.0	-1.2
FX1	**Attu Island--F**	**5.96**	**288**	P	Pn	04 16 53.4	-0.9
FX1						04 18 00.0	
MSOM	**Makushin Julie**	**6.84**	**65**	P	Pn	04 17 06.9	+0.5
MSOM	**Makushin Julie**	**6.84**	**65**	P	Pn	04 17 06.9	+0.5
UNV	**Unalaska Valle**	**7.11**	**66**	P	Pn	04 17 10.1	+0.1
AKUT	**Akutan**	**7.60**	**64**	*e*Pn	Pn	04 17 18.2	+1.5
SDPT	**Sand Point**	**10.88**	**62**	*e*P	Pn	04 18 03.0	+1.3
	45nm,0.6s						
OHAK	**Old Harbor**	**15.22**	**58**	*e*Pn	Pn	04 19 02.7	+2.3
	18nm,0.7s						
PETK	**Petropavlovsk-**	**15.29**	**286**	LR	LR	04 24 39.8	
	comp=Z,126nm,20.3s,baz=103,slow=36						
KDAK	**Kodiak Island**	**15.71**	**56**	Pn	Pn	04 19 03.8	-3.0
	1.2nm,0.3s,baz=349,slow=12,SNR=16						
KDAK				Sn	Sn	04 22 03.2	+3.6
	0.3nm,0.3s,baz=256,slow=18,SNR=6.3						
KDAK	**Kodiak Island**	**15.71**	**56**	*e*Pn	Pn	04 19 08.3	+1.5
	12nm,0.4s						
KDAK				Sn	Sn	04 22 03.2	+3.6
KDAK	**Kodiak Island**	**15.71**	**56**	*e*P	Pn	04 19 08.3	+1.5
KDAK						04 22 03.2	
KDAK				pmax	pmax		
	comp=Z,12nm,0.4s						
SLKM	**Skilak Lake**	**17.65**	**48**	*e*Pn	Pn	04 19 31.1	+0.1
SLKM	**Skilak Lake**	**17.65**	**48**	*e*P	Pn	04 19 31.1	0.0
PPLA	**Purkeypile**	**17.76**	**40**	*e*Pn	Pn	04 19 35.5	+3.0
	comp=Z,18nm,1.1s						
BILL	**Bilibino**	**18.48**	**341**	*e*P	Pn	04 19 42.0	+0.7
	comp=Z,4.6nm,0.7s						
BILL	**Bilibino**	**18.48**	**341**	*e*P	Pn	04 19 42.0	+0.8
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TRF	**Thorofare Moun**	**18.78**	**40**	*e*P	Pn	04 19 44.4	-0.5
	comp=Z,18nm,1.0s						
MCK	**McKinley**	**19.45**	**40**	*e*P	Pn	04 19 50.7	-2.1
	comp=Z,5.1nm,0.6s						
MCK	**McKinley**	**19.45**	**40**	*e*P	Pn	04 19 50.7	-2.1
MCK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
COLA	**College**	**20.38**	**37**	*e*P	P	04 20 05.0	+3.5
	comp=Z,5.7nm,0.8s						
COLA	**College**	**20.38**	**37**	*e*P	P	04 20 05.0	+3.5
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PAX	**Paxson**	**20.59**	**43**	*e*P	P	04 20 04.4	+0.5
	comp=Z,10nm,0.8s						
PAX	**Paxson**	**20.59**	**43**	*e*P	P	04 20 04.4	+0.6
PAX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ILAR	**Eielson Array**	**20.71**	**38**	P	P	04 20 04.8	-0.2
	comp=Z,0.4nm,0.4s,baz=228,slow=8.4,SNR=21						
ILAR	**Eielson Array**	**20.71**	**38**	P	P	04 20 04.8	-0.2
ILAR	**Eielson Array**	**20.71**	**38**	P	P	04 20 04.8	-0.2
COLD	**Coldfoot**	**20.81**	**30**	*e*P	P	04 20 09.2	+3.1
	comp=Z,9.8nm,0.8s						
DOT	**Dot Lake**	**21.42**	**42**	*e*P	P	04 20 13.9	+1.2
	comp=Z,2.9nm,0.6s,mb3.8						
EGAK	**Eagle**	**22.99**	**41**	*e*P	P	04 20 28.3	-1.0
	comp=Z,5.1nm,0.8s,mb4.0						
INK	**Inuvik**	**26.96**	**35**	P	P	04 21 05.0	-0.9
	comp=Z,0.9nm,0.5s,mb3.6,baz=254,slow=13,SNR=5.5						
INK	**Inuvik**	**26.96**	**35**	*e*P	P	04 21 05.1	-0.8
INK	**Inuvik**	**26.96**	**35**	*e*P	P	04 21 05.1	-0.8
ASAJ	**Asahikawa**	**27.55**	**271**	LR	LR	04 32 09.4	
	comp=Z,40nm,18.1s,MS3.0,baz=224,slow=36						
KLR	**Kul'dur**	**31.98**	**286**	*e*P	P	04 21 45.4	-5.2
YKA	**Yellowknife Ar**	**34.61**	**47**	P	P	04 22 12.1	-1.1
	comp=Z,1.1nm,0.6s,mb3.9,baz=285,slow=8.4,SNR=18						
YKA				LR	LR	04 37 03.2	
	comp=Z,6.3nm,21.6s,MS2.3,baz=35,slow=38						
YKA	**Yellowknife Ar**	**34.61**	**47**	P	P	04 22 12.2	-1.1
YKA	**Yellowknife Ar**	**34.61**	**47**	P	P	04 22 12.1	-1.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,6.0nm,21.6s						
MJAR	**Matsushiro Arr**	**34.62**	**262**	P	P	04 22 12.3	-1.4
	comp=Z,2.2nm,0.7s,mb4.2,baz=48,slow=8.1,SNR=5.0						
MJAR				LR	LR	04 34 12.0	
	comp=Z,61nm,20.9s,MS3.3,baz=95,slow=33						
MJAR	**Matsushiro Arr**	**34.62**	**262**	P	P	04 22 12.3	-1.4
MJAR	**Matsushiro Arr**	**34.62**	**262**	P	P	04 22 12.3	-1.4
ETW	**Entiat**	**36.49**	**73**	*e*P	P	04 22 30.5	+0.9
	comp=Z,8.8nm,0.7s,mb4.8						
G06A	**Carlson Farm,**	**37.46**	**77**	⇓P	P	04 22 37.7	-0.1
	baz=37						
HAWA	**Hanford**	**37.55**	**74**	*e*P	P	04 22 39.3	+0.7
	comp=Z,10nm,0.7s,mb4.7						
OD2	**Odessa Site #2**	**37.56**	**72**	*e*P	P	04 22 38.1	-0.5
	comp=Z,6.0nm,0.7s,mb4.4						
NEW	**Newport**	**38.09**	**70**	⇑P	P	04 22 43.1	0.0
	baz=38,SNR=6.9						
NEW	**Newport**	**38.09**	**70**	*e*P	P	04 22 43.6	+0.5
	comp=Z,8.3nm,0.8s,mb4.5						
NEW	**Newport**	**38.09**	**70**	*e*P	P	04 22 43.6	+0.5
NEW				pmax	pmax		
	comp=Z,8.0nm,0.8s						
E09A	**Wood Farm, Sta**	**38.33**	**73**	⇑P	P	04 22 45.3	+0.2
	baz=38						
K05A	**Summer Lake**	**38.62**	**80**	⇓P	P	04 22 48.2	+0.5
	baz=38						
A12A	**Yaak River Ran**	**38.64**	**69**	⇑P	P	04 22 47.9	+0.2
	baz=38						
I07A	**Izee**	**38.75**	**77**	⇑P	P	04 22 49.2	+0.5
	baz=39						
C11A	**Tepee Creek (N**	**38.80**	**70**	⇓P	P	04 22 48.9	-0.3
	baz=39						
F10A	**Beach Ranch, E**	**39.15**	**74**	⇑P	P	04 22 51.5	-0.6
	baz=39						
C12B	**Naegeli Ranch,**	**39.33**	**70**	⇑P	P	04 22 53.5	0.0
	baz=39						
A13A	**Flathead Natio**	**39.36**	**68**	⇑P	P	04 22 53.4	-0.3
	baz=39						
RES	**Resolute Bay**	**39.38**	**25**	*e*P	P	04 22 54.9	+1.3
	comp=Z,4.5nm,1.3s,mb4.0						
RES	**Resolute Bay**	**39.38**	**25**	*e*P	P	04 22 54.9	+1.3
RES				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
MOD	**Modoc**	**39.44**	**81**	*e*P	P	04 22 55.5	+0.9
	comp=Z,4.1nm,0.7s,mb4.3						
B13A	**Whitefish**	**39.59**	**69**	⇑P	P	04 22 56.0	+0.3
	baz=39						
BSMT	**Bassoo Peak**	**39.66**	**70**	*e*P	P	04 22 56.8	+0.5
	comp=Z,6.9nm,0.7s,mb4.5						
J08A	**Circle Bar Ran**	**39.77**	**78**	⇓P	P	04 22 57.5	+0.3
	baz=40						
C13A	**Hot Springs**	**39.87**	**70**	⇑P	P	04 22 58.4	+0.4
	baz=40						
A14A	**Double T Ranch**	**39.91**	**67**	⇑P	P	04 22 58.3	-0.1
	baz=40,SNR=5.4						
E12A	**Beaver Dam Sad**	**39.91**	**72**	⇓P	P	04 22 58.5	+0.1
	baz=40						
WVOR	**Wild Horse Val**	**40.17**	**79**	*e*P	P	04 23 01.3	+0.7
	comp=Z,3.7nm,0.6s,mb4.3						
WVOR	**Wild Horse Val**	**40.17**	**79**	*e*P	P	04 23 01.3	+0.7
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
B14A	**Marquette Ranc**	**40.30**	**68**	⇓P	P	04 23 01.2	-0.4
	baz=40						
A15A	**Johnson Ranch,**	**40.31**	**67**	⇓P	P	04 23 01.2	-0.5
	baz=40						
C14A	**Swan Lake**	**40.31**	**69**	⇑P	P	04 23 01.3	-0.4
	baz=40						
F12A	**Elk City**	**40.44**	**73**	⇑P	P	04 23 02.7	-0.1
	baz=40						
KSRS	**Korea Array**	**40.48**	**272**	P	P	04 23 03.3	+0.1
	comp=Z,1.6nm,0.7s,mb3.9,baz=57,slow=8.3,SNR=4.4						
KSRS				LR	LR	04 37 50.1	
	comp=Z,16nm,19.1s,MS2.9,baz=75,slow=33						
KSRS	**Korea Array**	**40.48**	**272**	P	P	04 23 03.3	+0.1
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
KSAR	**Wonju Array Be**	**40.51**	**272**	P	P	04 23 03.3	-0.1
KSAR	**Wonju Array Be**	**40.51**	**272**	P	P	04 23 03.3	-0.1
MSO	**Missoula**	**40.67**	**71**	⇓P	P	04 23 04.5	-0.2
	baz=40,SNR=5.6						
MSO	**Missoula**	**40.67**	**71**	*e*P	P	04 23 05.3	+0.7
	comp=Z,6.7nm,1.1s,mb4.2						
E13A	**Victor**	**40.72**	**71**	⇓P	P	04 23 04.9	-0.2
	baz=41						
G12A	**Big Creek, Yel**	**40.73**	**74**	⇑P	P	04 23 04.8	-0.3
	baz=41						
B15A	**Bradely Ranch,**	**40.73**	**68**	⇑P	P	04 23 04.9	-0.2
	baz=41						
C15A	**Salmond Ranch,**	**40.98**	**69**	⇑P	P	04 23 07.3	+0.1
	baz=41,SNR=10						
F13A	**Darby**	**40.98**	**72**	⇓P	P	04 23 07.0	-0.2
	baz=41						
A16A	**West Butte Ran**	**40.98**	**67**	⇑P	P	04 23 06.7	-0.5
	baz=41						
E14A	**Clinton**	**41.15**	**71**	⇓P	P	04 23 09.0	+0.4
	baz=41						
B16A	**M & M Farms, S**	**41.18**	**67**	⇑P	P	04 23 08.6	-0.2
	baz=41						
H12A	**Diamond D Ranc**	**41.32**	**74**	⇓P	P	04 23 09.8	-0.2
	baz=41						
MFID	**Camas Ranch**	**41.35**	**76**	⇑P	P	04 23 09.9	-0.4
	baz=41						
D15A	**Lincoln**	**41.40**	**70**	⇑P	P	04 23 10.6	0.0
	baz=41						
G13A	**Cobalt**	**41.40**	**73**	⇓P	P	04 23 10.7	0.0
	baz=41						
C16A	**Fuhringer Ranc**	**41.46**	**68**	⇑P	P	04 23 10.9	-0.2
	baz=41,SNR=6.8						
A17A	**Triple J Farms**	**41.49**	**66**	⇓P	P	04 23 10.8	-0.6
	baz=41,SNR=5.6						
I12A	**Atlanta**	**41.56**	**75**	⇓P	P	04 23 12.0	0.0
	baz=41						
E15A	**Deer Lodge**	**41.65**	**70**	⇓P	P	04 23 12.8	+0.1
	baz=42						
H13A	**Challis**	**41.67**	**74**	⇑P	P	04 23 12.6	-0.4
	baz=42						
B17A	**L&G Farms, Che**	**41.76**	**67**	⇓P	P	04 23 13.8	+0.1
	baz=42						
HRY	**Holter Researc**	**41.97**	**70**	*e*P	P	04 23 16.8	+1.5
	comp=Z,3.0nm,0.5s,mb4.2						
A18A	**Metzger Ranch,**	**41.99**	**66**	⇑P	P	04 23 15.4	-0.1
	baz=42						
I13A	**Wildhorse Cree**	**42.11**	**74**	⇑P	P	04 23 16.4	-0.1
	baz=42						
C17A	**Wharram Farm,**	**42.12**	**68**	⇓P	P	04 23 16.3	-0.3
	baz=42						
HLID	**Hailey**	**42.13**	**75**	⇑P	P	04 23 16.4	-0.3
	baz=42						
HLID	**Hailey**	**42.13**	**75**	*e*P	P	04 23 17.6	+1.0
	comp=Z,3.8nm,0.9s,mb4.0						
E16A	**East Helena**	**42.16**	**70**	⇑P	P	04 23 16.8	0.0
	baz=42						
H14A	**Leadore**	**42.18**	**73**	⇓P	P	04 23 16.8	-0.2
	baz=42						
B18A	**Beardsley Farm**	**42.30**	**66**	⇑P	P	04 23 17.6	-0.3
	baz=42						
J13A	**Cove Ranch, Pi**	**42.36**	**75**	⇓P	P	04 23 18.8	+0.2
	baz=42						
MCMT	**McKenzie Canyo**	**42.37**	**73**	*e*P	P	04 23 19.3	+0.7
	comp=Z,3.4nm,0.6s,mb4.2						
G15A	**Dillon**	**42.41**	**72**	⇑P	P	04 23 18.9	0.0
	baz=42						
I14A	**Mackay**	**42.51**	**74**	⇓P	P	04 23 20.2	+0.5
	baz=42						
F16A	**Kennard Place,**	**42.59**	**71**	⇓P	P	04 23 20.6	+0.3
	baz=42						
H15A	**Lima**	**42.61**	**73**	⇑P	P	04 23 20.6	0.0
	baz=42						
BOZ	**Bozeman (W)**	**42.66**	**71**	⇓P	P	04 23 21.1	+0.2
	baz=42						
E17A	**Martinsdale**	**42.68**	**69**	⇑P	P	04 23 21.3	+0.2
	baz=42						
NVAR	**Mina Array Bea**	**42.72**	**84**	P	P	04 23 22.4	+0.9
	comp=Z,1.3nm,0.8s,mb3.7,baz=290,slow=7.7,SNR=7.5						
NVAR				LR	LR	04 38 26.0	
	comp=Z,70nm,18.8s,MS3.6,baz=319,slow=32						
NVAR	**Mina Array Bea**	**42.72**	**84**	P	P	04 23 22.4	+0.9
B19A	**Brinkman Farms**	**42.75**	**66**	⇑P	P	04 23 21.9	+0.3
	baz=43						
G16A	**Moss Hill, Enn**	**42.78**	**71**	⇓P	P	04 23 21.8	-0.1
	baz=43						
D18A	**Linhart Farms,**	**42.91**	**68**	⇑P	P	04 23 23.3	+0.4
	baz=43						
C19A	**Slack Wire Ran**	**43.06**	**67**	⇓P	P	04 23 24.5	+0.4
	baz=43,SNR=8.0						
F17A	**Fitzpatrick Pl**	**43.09**	**70**	⇓P	P	04 23 24.4	-0.1
	baz=43						
A20A	**Cobblestone Ra**	**43.11**	**65**	⇓P	P	04 23 24.3	-0.2
	baz=43						
E18A	**Harlowton**	**43.17**	**69**	⇑P	P	04 23 25.1	0.0
	baz=43						
B20A	**Solberg Farm,**	**43.28**	**65**	⇓P	P	04 23 26.5	+0.5
	baz=43						
G17A	**Pierce Place,**	**43.36**	**71**	⇑P	P	04 23 26.9	+0.3
	baz=43						
H16A	**Russell Place,**	**43.40**	**72**	⇓P	P	04 23 27.1	+0.2
	baz=43						
D19A	**Cripps Ranch,**	**43.46**	**67**	⇑P	P	04 23 27.3	0.0
	baz=43						
F18A	**Big Timber**	**43.65**	**69**	⇓P	P	04 23 28.8	0.0
	baz=44						
C20A	**Veseth Ranch,**	**43.67**	**66**	⇓P	P	04 23 29.2	+0.1
	baz=44						
E19A	**Rath Farm, Rou**	**43.89**	**68**	⇓P	P	04 23 30.9	+0.1
	baz=44						
D20A	**Manuel Ranch,**	**43.92**	**67**	⇓P	P	04 23 30.9	-0.3
	baz=44						
FLWY	**Flagg Ranch**	**44.07**	**72**	*e*P	P	04 23 36.2	+3.8
	comp=Z,5.5nm,0.9s,mb4.3						
CWC	**Cottonwood Cre**	**44.09**	**86**	⇓P	P	04 23 32.4	-0.2
	baz=44						
F19A	**Roth Farm, Mol**	**44.12**	**69**	⇓P	P	04 23 33.0	+0.2
	baz=44						
C21A	**Desert Coulee**	**44.13**	**66**	⇓P	P	04 23 32.5	-0.2
	baz=44						
A22A	**Carney Farms,**	**44.18**	**64**	⇑P	P	04 23 32.9	-0.3
	baz=44						
E20A	**Meyer Farm, Mu**	**44.24**	**68**	⇓P	P	04 23 33.8	+0.1
	baz=44						
ISA	**Isabella**	**44.34**	**87**	⇑P	P	04 23 34.1	-0.4
	baz=44						
RLMT	**Red Lodge**	**44.34**	**70**	⇓P	P	04 23 35.0	+0.6
	baz=44,SNR=6.5						
RLMT	**Red Lodge**	**44.34**	**70**	*e*P	P	04 23 35.5	+1.0
	comp=Z,8.7nm,0.9s,mb4.5						
R11A	**Troy Canyon, C**	**44.45**	**82**	⇑P	P	04 23 35.7	+0.3
	baz=44,SNR=5.8						
M15A	**Larsen Ranch,**	**44.52**	**76**	⇑P	P	04 23 35.8	-0.2
	baz=44						
D21A	**La Casta Ranch**	**44.60**	**67**	⇓P	P	04 23 36.4	-0.1
	baz=44						
MPMC	**Manual Prospec**	**44.70**	**86**	⇑P	P	04 23 37.3	-0.1
	baz=44						
H19A	**Powell**	**44.76**	**71**	⇓P	P	04 23 38.0	+0.2
	baz=45						
L16A	**Fish Haven**	**44.81**	**75**	⇑P	P	04 23 38.6	+0.4
	baz=45						
G20A	**Bridger**	**44.90**	**69**	⇓P	P	04 23 39.0	+0.1
	baz=45,SNR=6.5						
LRMC	**Laurel Mountai**	**44.95**	**87**	⇓P	P	04 23 39.3	-0.1
	baz=45						
J18A	**Kendall Valley**	**44.97**	**73**	⇑P	P	04 23 39.8	+0.3
	baz=45						
B23A	**Brockton**	**44.98**	**64**

M18A	Lyman	45.98	75	⇑P	P	04 23 47.7	+0.1
	baz=46						
G22A	Birney	46.03	68	⇑P	P	04 23 47.4	-0.4
	baz=46						
SCI	San Clemente I	46.04	90	⇑P	P	04 23 47.3	-0.8
	baz=46						
HEC	Hector,Ludlow	46.21	86	⇑P	P	04 23 48.8	-0.7
	baz=46						
I21A	Big Trails, Te	46.24	71	⇓P	P	04 23 49.1	-0.4
	baz=46						
F23A	Volborg	46.26	67	⇑P	P	04 23 49.4	-0.3
	baz=46,SNR=7.3						
K20A	Yellowstone Ra	46.29	72	⇑P	P	04 23 49.4	-0.6
	baz=46						
H22A	Clearmont	46.35	69	⇓P	P	04 23 50.0	-0.4
	baz=46						
E24A	Baker	46.41	66	⇓P	P	04 23 50.9	0.0
	baz=46						
G23A	Biddle	46.56	68	⇑P	P	04 23 51.8	-0.3
	baz=46						
R15A	Junction	46.59	80	⇑P	P	04 23 52.0	-0.3
	baz=46						
F24A	Ekalaka	46.74	67	⇑P	P	04 23 53.4	0.0
	baz=47						
P17A	Butcher Ranch,	46.75	77	⇓P	P	04 23 53.6	0.0
	baz=47						
Q16A	Castle Valley	46.83	78	⇑P	P	04 23 54.4	+0.2
	baz=47						
N19A	John Jarvie Ra	46.84	75	⇓P	P	04 23 54.5	+0.2
	baz=47						
J22A	Midwest	46.96	71	⇑P	P	04 23 55.0	-0.2
	baz=47						
K21A	Alcova	46.96	72	⇑P	P	04 23 55.0	-0.2
	baz=47						
P18A	Preston Nutter	46.96	77	⇓P	P	04 23 55.3	+0.1
	baz=47						
BELC	Belle Mtn. Jos	46.96	87	⇓P	P	04 23 55.3	0.0
	baz=47						
R16A	Teasdale	47.03	79	⇑P	P	04 23 56.6	+0.8
	baz=47,SNR=6.8						
G24A	Alzada	47.05	67	⇓P	P	04 23 55.9	0.0
	baz=47						
M20A	Sweetwater, Wa	47.08	74	⇓P	P	04 23 56.4	+0.3
	baz=47						
O19A	Miners Draw (B	47.23	76	⇓P	P	04 23 57.3	0.0
	baz=47						
L21A	Rawlins	47.29	73	⇑P	P	04 23 57.8	0.0
	baz=47						
H24A	Dirks Ranch, A	47.31	68	⇓P	P	04 23 57.9	0.0
	baz=47						
S16A	Weppner Ranch,	47.31	80	⇑P	P	04 23 58.1	+0.1
	baz=47						
Q18A	Rafter H Ranch	47.35	77	⇓P	P	04 23 58.1	-0.2
	baz=47						
K22A	Casper	47.38	71	⇑P	P	04 23 58.3	-0.2
	baz=47						
SONM	Songino Array	47.39	297	P	P	04 23 57.9	-0.5
	comp=Z,1.4nm,0.7s,mb4.0,baz=55,slow=7.6,SNR=16						
SONM				LR	LR	04 42 42.2	
	comp=Z,76nm,20.1s,MS3.7,baz=22,slow=35						
SONM	Songino Array	47.39	297	P	P	04 23 57.9	-0.5
SONM	Songino Array	47.39	297	P	P	04 23 57.9	-0.5
R17A	Hanksville Air	47.42	79	⇑P	P	04 23 59.0	+0.2
	baz=47						
N20A	Spence Gulch,	47.43	74	⇓P	P	04 23 59.1	+0.2
	baz=47						
W13A	Hualapai Mount	47.56	84	⇑P	P	04 23 59.6	-0.4
	baz=47						
ZAK	Zakamensk	47.66	302	*e*P	P	04 24 01.9	+1.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.1						
U15A	North Rim	47.70	82	⇓P	P	04 24 01.6	+0.5
	baz=48,SNR=6.1						
P19A	Cripple Cowboy	47.73	76	⇓P	P	04 24 00.9	-0.3
	baz=48						
L22A	Ellis Ranch, M	47.80	72	⇑P	P	04 24 01.3	-0.5
	baz=48						
S17A	Black Ridge (B	47.86	79	⇑P	P	04 24 02.0	-0.2
	baz=48,SNR=5.4						
O20A	White River Ci	47.87	75	⇑P	P	04 24 02.3	0.0
	baz=48,SNR=6.6						
R18A	Canyonlands Na	47.94	78	⇑P	P	04 24 02.3	-0.5
	baz=48						
Q19A	Hogan Spring (	47.97	77	⇓P	P	04 24 02.7	-0.4
	baz=48						
RSSD	Black Hills	47.98	68	*e*P	P	04 24 02.7	-0.4
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
P20A	De Beque	48.17	76	⇓P	P	04 24 04.5	-0.1
	baz=48						
L23A	Garrett	48.19	71	⇓P	P	04 24 04.5	-0.2
	baz=48						
T17A	Navajo Res., N	48.26	80	⇑P	P	04 24 04.9	-0.4
	baz=48						
O21A	Pagoda	48.28	75	⇓P	P	04 24 05.4	-0.1
	baz=48						
R19A	Curley Farm, L	48.39	78	⇑P	P	04 24 06.2	-0.2
	baz=48						
N22A	Wattenberg Ran	48.54	73	⇑P	P	04 24 07.2	-0.2
	baz=48						
PV04	Paradox Valley	48.54	77	*e*P	P	04 24 07.7	+0.2
Q20A	Ridgley Place,	48.56	76	⇓P	P	04 24 07.5	-0.1
	baz=48						
P21A	Newcastle	48.72	75	⇓P	P	04 24 08.0	-0.9
	baz=48						
T18A	Mexican Hat	48.74	79	⇑P	P	04 24 08.5	-0.5
	baz=49,SNR=5.4						
N23A	Red Feather La	48.79	73	⇑P	P	04 24 09.0	-0.3
	baz=49						
S19A	Harvey Farm, M	48.81	78	⇓P	P	04 24 09.2	-0.4
	baz=49,SNR=5.0						
WUAZ	Wupatki	48.86	82	⇑P	P	04 24 09.9	-0.1
	baz=49						
O22A	Kremmling	48.87	74	⇓P	P	04 24 10.3	+0.3
	baz=49						
PV01	Paradox Valley	48.91	77	*e*P	P	04 24 10.7	+0.4
	comp=Z,482nm,0.6s						
ULM	Lac du Bonnet	48.97	57	LR	LR	04 43 17.4	
	comp=Z,64nm,18.1s,MS3.6,baz=94,slow=34						
R20A	Redvale	48.99	77	⇑P	P	04 24 10.7	-0.3
	baz=49						
V17A	Tonalea, Kykot	49.15	82	⇓P	P	04 24 12.2	+0.1
	baz=49						
U18A	Rough Rock, Ch	49.20	80	⇑P	P	04 24 12.4	-0.2
	baz=49						
O23A	Lake Granby, G	49.22	74	⇓P	P	04 24 12.5	-0.2
	baz=49						
S20A	Disappointment	49.23	78	⇑P	P	04 24 12.7	-0.2
	baz=49						
K26A	Motz Farm, Whi	49.32	69	⇓P	P	04 24 12.9	-0.5
	baz=49						
T19A	Beclabito	49.46	79	⇓P	P	04 24 14.2	-0.4
	baz=49,SNR=6.3						
Q22A	Crested Butte,	49.46	76	⇑P	P	04 24 14.7	+0.1
	baz=49						
ISCO	Idaho Springs	49.66	74	⇓P	P	04 24 16.2	+0.1
	baz=50						
S21A	Coal Bank Pass	49.69	77	⇑P	P	04 24 16.1	-0.1
	baz=50						
R22A	Saguache, Gunn	49.96	76	⇑P	P	04 24 18.4	+0.1
	baz=50						
Q23A	Hartsel	50.09	75	⇑P	P	04 24 19.2	-0.1
	baz=50						
Y17A	Roosevelt	50.38	83	⇑P	P	04 24 21.5	-0.1
	baz=50						
V20A	Brimhall	50.47	80	⇓P	P	04 24 22.2	0.0
	baz=50						
R23A	Moffat	50.55	76	⇓P	P	04 24 22.8	0.0
	baz=50						
U21A	Nageezi	50.56	79	⇓P	P	04 24 23.4	+0.5
	baz=50						
T22A	Edith	50.65	77	⇑P	P	04 24 23.9	+0.4
	baz=50						
P25A	Willow Gulch B	50.71	73	⇑P	P	04 24 24.0	0.0
	baz=50						
W20A	Ramah	50.89	80	⇑P	P	04 24 25.1	-0.3
	baz=51						
SDCO	Great Sand Dun	51.03	76	⇑P	P	04 24 26.7	+0.3
	baz=51						
OGNE	Ogallala	51.08	70	⇓P	P	04 24 26.9	+0.2
	baz=51						
U22A	Llaves	51.09	78	⇑P	P	04 24 26.9	0.0
	baz=51						
X20A	Quemado	51.27	81	⇓P	P	04 24 27.7	-0.6
	baz=51						
TUC	Tucson	51.34	85	*e*P	P	04 24 29.2	+0.4
	comp=Z,3.0nm,0.9s,mb4.2						
TUC	Tucson	51.34	85	*e*P	P	04 24 29.2	+0.4
TUC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
V22A	San Miguel Ran	51.35	79	⇑P	P	04 24 28.9	0.0
	baz=51						
U23A	El Rito	51.52	78	⇑P	P	04 24 30.6	+0.5
	baz=51						
118A	Homack Ranch,	51.63	84	⇑P	P	04 24 30.9	0.0
	baz=52						
S25A	Robets Cordova	51.73	75	⇑P	P	04 24 31.8	+0.1
	baz=52						
Y20A	Horse Springs,	51.77	81	⇓P	P	04 24 32.4	+0.3
	baz=52						
X21A	Alamocita Cree	51.78	81	⇑P	P	04 24 32.4	+0.4
	baz=52						
V23A	Ortiz Mt. (NFS	51.91	78	⇓P	P	04 24 33.3	+0.2
	baz=52						
T25A	Trinidad	52.08	76	⇓P	P	04 24 35.1	+0.8
	baz=52						
Z20A	Nine Sixteen R	52.17	82	⇓P	P	04 24 34.7	-0.3
	baz=52						
LAZ	Ladron	52.21	80	*e*P	P	04 24 36.3	+1.0
ANMO	Albuquerque	52.26	79	P	P	04 24 36.0	+0.4
	comp=Z,0.3nm,0.4s,mb3.6,baz=318,slow=6.5,SNR=3.7						
ANMO	Albuquerque	52.26	79	*e*P	P	04 24 36.5	+0.8
	comp=Z,1.5nm,0.8s,mb4.0						
ANMO	Albuquerque	52.26	79	P	P	04 24 36.1	+0.4
318A	Bisbee	52.43	85	⇑P	P	04 24 37.3	+0.3
	baz=52						
U25A	Circle Dot Ran	52.57	76	⇑P	P	04 24 37.9	0.0
	baz=52						
Y22A	Socorro	52.62	80	⇑P	P	04 24 38.6	+0.2
	baz=52						
W24A	Lazy 6 Ranch,	52.74	78	⇓P	P	04 24 39.2	0.0
	baz=53						
V25A	Rancho No Teng	52.81	77	⇑P	P	04 24 39.6	-0.1
	baz=53						
319A	Douglas	52.91	84	⇑P	P	04 24 40.6	+0.1
	baz=53						
U26A	Atchley Ranch,	52.97	76	⇓P	P	04 24 40.9	0.0
	baz=53						
220A	Playas Peak, P	53.02	83	⇑P	P	04 24 40.8	-0.5
	baz=53						
BGNE	Belgrade	53.06	68	⇑P	P	04 24 41.1	-0.4
	baz=53						
Z22A	Elephant Butte	53.08	81	⇓P	P	04 24 41.5	-0.2
	baz=53						
Y23A	Lovelace Mesa,	53.19	80	⇑P	P	04 24 42.5	0.0
	baz=53						
W25A	X Bar L Ranch,	53.31	78	⇓P	P	04 24 43.4	0.0
	baz=53						
320A	Kipp Ranch, An	53.41	84	⇓P	P	04 24 44.2	0.0
	baz=53						
122A	Conniff Cattle	53.43	82	⇑P	P	04 24 44.7	+0.4
	baz=53						
Y24A	Capitan	53.58	79	⇓P	P	04 24 45.5	+0.1
	baz=53						
X25A	Clemmons Ranch	53.65	78	⇓P	P	04 24 45.9	0.0
	baz=54						
CBKS	Cedar Bluff	53.80	71	⇓P	P	04 24 47.0	+0.1
	baz=54						
CBKS	Cedar Bluff	53.80	71	*e*P	P	04 24 47.1	+0.2
CBKS	Cedar Bluff	53.80	71	*e*P	P	04 24 47.1	+0.2
Z24A	Sheeppen Canyo	54.02	80	⇓P	P	04 24 48.1	-0.5
	baz=54						
Y25A	Mesa, Roswell	54.03	79	⇑P	P	04 24 48.4	-0.3
	baz=54						
X26A	CR and CF Fran	54.16	78	⇓P	P	04 24 49.5	-0.1
	baz=54						
224A	Cornudas Mount	54.77	81	⇓P	P	04 24 53.8	-0.3
	baz=55						
125A	Gardner Draw,	54.91	80	⇓P	P	04 24 54.9	-0.2
	baz=55						
Z26A	Caprock	54.91	79	⇓P	P	04 24 54.9	-0.2
	baz=55						
Y27A	Causey	55.00	78	⇑P	P	04 24 55.9	+0.2
	baz=55						
MNTX	Cornudas Mount	55.12	81	⇓P	P	04 24 56.6	0.0
	baz=55						
MNTX	Cornudas Mount	55.12	81	*e*P	P	04 24 56.4	-0.2
	comp=Z,1.8nm,0.8s,mb4.2						
MSTX	Muleshoe	55.18	78	⇓P	P	04 24 57.1	+0.1
	baz=55						
225A	Deer Hill, Car	55.18	81	⇑P	P	04 24 57.0	-0.1
	baz=55						
126A	Clayton Basin,	55.31	80	⇓P	P	04 24 57.9	-0.1
	baz=55						
325A	Bean Ranch, Si	55.60	81	⇓P	P	04 24 59.8	-0.2
	baz=55						
425A	Indio Mountain	55.99	82	⇑P	P	04 25 02.7	-0.2
	baz=56						
LZH	Lanzhou	56.18	287	*e*P	P	04 25 05.7	+1.5
	comp=Z,21nm,1.2s,mb5.0						
LZH				pP	pP	04 25 13.3	-2.6
LZH				sP	sP	04 25 16.7	-4.0
LZH	Lanzhou	56.18	287	*e*P	P	04 25 05.7	+1.5
LZH				*PP	pP	04 25 13.3	-2.6
LZH				*SP	sP	04 25 16.7	-4.0
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
227A	Bennet, Jal	56.19	80	⇓P	P	04 25 03.9	-0.4
	baz=56						
326A	Caldwell Ranch	56.25	81	⇑P	P	04 25 04.4	-0.3
	baz=56						
426A	McDonald Obser	56.67	81	⇑P	P	04 25 07.4	-0.3
	baz=56						
328A	Wristen Ranch,	56.93	80	⇑P	P	04 25 09.2	-0.3
	baz=57						
427A	Hayter Ranch,	56.93	81	⇓P	P	04 25 09.3	-0.3
	baz=57						
526A	Mary Lane Ranc	57.05	82	⇑P	P	04 25 10.1	-0.3
	baz=57						
WMOK	Wichita Mounta	57.09	74	*e*P	P	04 25 10.9	+0.3
	comp=Z,2.1nm,0.8s,mb4.2						
WMOK	Wichita Mounta	57.09	74	*e*P	P	04 25 10.9	+0.3
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
626A	Big Bend Ranch	57.38	82	⇑P	P	04 25 12.6	-0.2
	baz=57						
428A	Kincaid Ranch,	57.46	80	⇓P	P	04 25 13.1	-0.2
	baz=57						
528A	Cox Ranch, San	57.79	81	⇓P	P	04 25 15.5	-0.2
	baz=58						
TXAR	Lajitas Array	57.82	82	P	P	04 25 15.6	-0.3
	comp=Z,1.3nm,0.6s,mb4.2,baz=305,slow=5.7,SNR=28						
TXAR	Lajitas Array	57.82	82	P	P	04 25 15.6	-0.3
TXAR	Lajitas Array	57.82	82	P	P	04 25 15.6	-0.3
627A	Terlingua Ranc	57.91	82	⇑P	P	04 25 16.3	-0.1
	baz=58						
628A	Black Gap, Mar	58.20	81	⇓P	P	04 25 18.0	-0.5
	baz=58						
ARCES	ARCESS Array B	58.21	351	P	P	04 25 17.7	-0.3
	comp=Z,6.4nm,1.1s,mb4.6,baz=18,slow=7.2,SNR=6.4						
ARCES	ARCESS Array B	58.21	351	P	P	04 25 17.7	-0.3
ARCES	ARCESS Array B	58.21	351	P	P	04 25 17.7	-0.3
KURK	Kurchatov	59.61	314	P	P	04 25 27.0	-1.0
	comp=Z,0.6nm,0.4s,mb4.0,baz=41,slow=6.7,SNR=10						
KURK	Kurchatov	59.61	314	P	P	04 25 27.0	-1.0
KURK	Kurchatov	59.61	314	P	P	04 25 27.0	-1.0
SFIN	Scholer Farm	60.00	62	⇓P	P	04 25 30.0	-0.9
	baz=60						
MK31	Makanchi Array	60.68	309	*e*P	P	04 25 35.3	-0.1
MK31	Makanchi Array	60.68	309	*e*P	P	04 25 35.3	0.0
MKAR	Makanchi Array	60.68	309	P	P	04 25 33.9	-1.5
	comp=Z,0.3nm,0.3s,mb3.9,baz=47,slow=5.9,SNR=11						
MKAR	Makanchi Array	60.68	309	P	P	04 25 33.9	-1.5
MKAR	Makanchi Array	60.68	309	P	P	04 25 33.9	-1.4
BVAR	Borovoye Array	61.41	320	P	P	04 25 39.4	-0.8
	comp=Z,1.1nm,0.4s,mb4.3,baz=54,slow=7.9,SNR=6.1						
BVAR				LR	LR	04 53 23.3	
	comp=Z,72nm,18.4s,MS3.9,baz=252,slow=37						
BVAR	Borovoye Array	61.41	320	P	P	04 25 39.4	-0.8
BVAR	Borovoye Array	61.41	320	P	P	04 25 39.4	-0.8
WVT	Waverly	62.56	66	*e*P	P	04 25 47.9	-0.3
	comp=Z,3.0nm,0.7s,mb4.5						
WVT	Waverly	62.56	66	*e*P	P	04 25 47.9	-0.3
WVT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
KMI	Kunming	64.55	279	P	P	04 26 02.5	+1.0
	comp=Z,5.0nm,0.7s,mb4.7						
KMI				LR	LR		
	comp=Z,30nm,31.6s,MS3.3						
KMI	Kunming	64.55	279	P	P	04 26 02.5	+1.0
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
KMI				MLR	MLR		
	comp=Z,30nm,31.6s,MS3.3						
FINES	FINESS Array B	65.95	348	P	P	04 26 09.1	-0.9
	comp=Z,2.0nm,0.8s,mb4.2,baz=51,slow=10.0,SNR=4.3						
FINES	FINESS Array B	65.95	348	P	P	04 26 09.1	-0.9
FINES	FINESS Array B	65.95	348	P	P	04 26 09.1	-0.9
KMSC	Kings Mountain	66.93	62	⇑P	P	04 26 16.7	0.0
	baz=67						
JSC	Jenkinsville	67.61	63	*e*P	P	04 26 20.9	-0.1
JSC	Jenkinsville	67.61	63	*e*P	P	04 26 20.9	-0.1
LSA	Lhasa	68.22	291	*e*P	P	04 26 26.7	+1.8
	comp=Z,7.2nm,0.6s,mb4.9						
LSA	Lhasa	68.22	291	*e*P	P	04 26 26.7	+1.8
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
ABKAR	Akbulak array	68.43	324	*e*P	P	04 26 24.9	-1.0
	comp=Z,1.0nm,0.4s,mb4.2						
CMAR	Chiang Mai Arr	71.84	277	P	P	04 26 47.8	+0.5
	comp=Z,0.8nm,0.4s,mb4.0,baz=36,slow=6.7,SNR=3.4						
CMAR	Chiang Mai Arr	71.84	277	P	P	04 26 47.8	+0.5
CMAR	Chiang Mai Arr	71.84	277	P	P	04 26 47.8	+0.6
TAPN	Taplejung	71.98	291	*e*P	P	04 26 48.5	+0.5
	comp=Z,10nm,0.6s,mb5.0						
TAPN	Taplejung	71.98	291	*e*P	P	04 26 48.5	+0.5
	comp=Z,10nm,0.6s,mb4.9						
GUN	Gumba	72.62	293	*e*P	P	04 26 51.9	+0.1
	comp=Z,36nm,0.3s						
GUN	Gumba	72.62	293	*e*P	P	04 26 51.9	+0.1
	comp=Z,36nm,0.3s						
JIRN	Jiri	72.64	293	*e*P	P	04 26 52.5	+0.6
	comp=Z,34nm,0.7s,mb5.4						
JIRN	Jiri	72.64	293	*e*P	P	04 26 52.5	+0.6
	comp=Z,34nm,0.7s,mb5.4						
RAMN	Ramite	72.93	292	*e*P	P	04 26 53.8	+0.2
	comp=Z,26nm,0.4s,mb5.5						
RAMN	Ramite	72.93	292	*e*P	P	04 26 53.8	+0.2
	comp=Z,26nm,0.4s,mb5.5						
KKN	Kakani	73.06	293	*e*P	P	04 26 54.8	+0.4
	comp=Z,13nm,0.5s,mb5.1						
KKN	Kakani	73.06	293	*e*P	P	04 26 54.8	+0.4
	comp=Z,13nm,0.5s,mb5.1						
KKN	Kakani	73.06	293	*e*P	P	04 26 54.8	+0.4
KKN				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
PKI	Pulchoki	73.15	293	*e*P	P	04 26 55.3	+0.4
	comp=Z,11nm,0.6s,mb5.0						
PKI	Pulchoki	73.15	293	*e*P	P	04 26 55.3	+0.4
	comp=Z,11nm,0.6s,mb5.0						
PKI	Pulchoki	73.15	293	*e*P	P	04 26 55.3	+0.4
PKI				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
GKN	Gorkha	73.27	294	*e*P	P	04 26 55.6	0.0
	comp=Z,12nm,0.6s,mb5.0						
GKN	Gorkha	73.27	294	*e*P	P	04 26 55.6	0.0
	comp=Z,12nm,0.6s,mb5.0						
DANN	Dangsing	73.51	295	*e*P	P	04 26 57.4	+0.4
	comp=Z,4.8nm,0.3s,mb4.9						
DANN	Dangsing	73.51	295	*e*P	P	04 26 57.4	+0.4
	comp=Z,4.8nm,0.3s,mb4.9						
KOLN	Koldanda	74.04	294	*e*P	P	04 27 00.8	+0.7
	comp=Z,4.2nm,0.5s,mb4.7						
KOLN	Koldanda	74.04	294	*e*P	P	04 27 00.8	+0.7
	comp=Z,4.2nm,0.5s,mb4.6						
AKASG	Malin Array Be	75.78	343	P	P	04 27 10.1	+0.2
	comp=Z,0.7nm,0.4s,mb3.9,baz=21,slow=6.5,SNR=3.8						
AKASG	Malin Array Be	75.78	343	P	P	04 27 10.1	+0.2
AKASG	Malin Array Be	75.78	343	P	P	04 27 10.1	+0.3
GNI	Garni	81.67	329	LR	LR	05 09 59.2	
	comp=Z,59nm,19.7s,MS4.0,baz=96,slow=40						
WRA	Warramunga Arr	82.61	225	P	P	04 27 46.3	-1.1
	comp=Z,0.5nm,0.5s,mb3.8,baz=33,slow=5.8,SNR=10						
WRA	Warramunga Arr	82.61	225	P	P	04 27 46.3	-1.1
WRA	Warramunga Arr	82.61	225	P	P	04 27 46.3	-1.1
FITZ	Fitzroy Crossi	85.14	233	P	P	04 28 00.4	+0.1
	comp=Z,3.3nm,1.1s,mb4.4,baz=0.0,slow=4.0,SNR=4.1						
FITZ	Fitzroy Crossi	85.14	233	P	P	04 28 00.4	+0.1
BRTR	Keskin Array B	85.27	336	P	P	04 28 00.8	0.0
	comp=Z,0.7nm,0.6s,mb4.0,baz=27,slow=2.7,SNR=6.6						
BRTR	Keskin Array B	85.27	336	P	P	04 28 00.8	0.0
BRTR	Keskin Array B	85.27	336	P	P	04 28 00.9	0.0
ASAR	Alice Springs	86.07	224	P	P	04 28 04.5	-0.3
	comp=Z,0.9nm,0.7s,mb4.1,baz=23,slow=5.4,SNR=13						
ASAR	Alice Springs	86.07	224	P	P	04 28 04.5	-0.3
ASAR	Alice Springs	86.07	224	P	P	04 28 04.6	-0.2
TORD	Torodi Ar. Bea	115.72	1	PKP	PKPdf	04 34 05.6	-1.1
	comp=Z,0.3nm,0.4s,baz=345,slow=2.3,SNR=12						
TORD	Torodi Ar. Bea	115.72	1	PKP	PKPdf	04 34 05.6	-1.1
DBIC	Dimbokro	121.81	9	PKP	PKPdf	04 34 17.4	-1.1
	comp=Z,1.2nm,0.7s,baz=17,slow=4.6,SNR=4.3						
DBIC	Dimbokro	121.81	9	PKP	PKPdf	04 34 17.4	-1.1
BOSA	Boshof	151.57	315	PKPbc	PKPbc	04 35 17.8	-0.2
	comp=Z,2.8nm,0.5s,baz=22,slow=2.9,SNR=14						
BOSA				PKPab	PKPab	04 35 28.8	+2.1
	comp=Z,5.0nm,0.6s,baz=21,slow=2.7,SNR=8.9						
BOSA	Boshof	151.57	315	PKPbc	PKPbc	04 35 17.8	-0.2
BOSA				PKPab	PKPab	04 35 28.8	+2.1

JMA 17 04:26:06.9±0.2, 29°.12N×139°.51E, h498km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.11	130	P	P	04 27 19.1	+0.6
CBIJ				*e*S	S	04 28 14.6	-2.0
BSO3	Boso 3	5.73	8	*e*S	S	04 28 57.6	+0.7
BSO4	Boso 4	5.89	7	*e*S	S	04 29 01.5	+1.7
JRY	Ryogami san	6.90	356	P	P	04 27 53.1	+1.3
JAG	Ashikaga	7.29	360	P	P	04 27 56.2	+0.5
JFK	Kawauchi	8.30	8	P	P	04 28 07.4	+1.2
JFK				*e*S	S	04 29 43.9	-0.3

NEIC 17 04:27:20.4, 14°.19N×93°.04W, h23km, MD4.0(MEX), After MEX.

MEX 17 04:27:20.7±0.5, 14°.26N×92°.77W, h26km±10km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.81	37	*i* P	Pb	04 27 32.0	-4.0
THIG				*i* S	Sb	04 27 47.5	+0.9
THIG		0.81	37	*i* P	Pb	04 27 33.9	-2.2
THIG				*i* S	Sb	04 27 43.4	-3.2
PCIG	

LACH	**Col Las Americ**	**0.73 329**	⇑*i*P	Pg	04 48 37.8	-0.3
LACH			*i* S	Sg	04 48 48.3	+0.6
CLCH	**Cerro Calan**	**0.78 331**	⇑*i*P	Pg	04 48 38.6	-0.5
CLCH			*i* S	Sg	04 48 49.9	+0.6
CLCH			AML	AML	04 48 52.3	
	comp=E,7μm,0.6s					
SAN	**Santiago**	**0.79 322**	⇑*i*P	Pg	04 48 38.4	-0.8
SAN			*i* S	Sg	04 48 49.6	0.0
SAN			AML	AML	04 48 50.5	
	comp=N,3μm,0.3s					
TACH	**Talagante**	**0.83 301**	⇑*i*P	Pg	04 48 39.2	-0.8
TACH			*i* S	Sg	04 48 50.9	+0.1
PEL	**Peldehue**	**1.06 332**	⇓*i*P	Pb	04 48 43.4	-0.9
PEL			*i* S	Sb	04 48 58.2	+0.1
PEL			AML	AML	04 48 58.8	
	comp=N,4μm,0.4s					
NICH	**Los Niches**	**1.32 225**	*e*P	Pn	04 48 47.9	-0.3
NICH			*i* S	Sb	04 49 06.3	+0.8
ROCH	**El Roble**	**1.35 325**	*e*P	Pn	04 48 48.1	-0.5
ROCH			*i* S	Sb	04 49 06.8	+0.4
JACH	**Jahuel**	**1.46 343**	⇑*i*P	Pn	04 48 49.5	-0.6
JACH			*i* S	Sn	04 49 09.6	+0.4
IHA	**Instituto Hidr**	**1.67 309**	⇑*i*P	Pn	04 48 53.4	+0.3
IHA			*i* S	Sn	04 49 16.4	+2.0
TALC	**Talca**	**1.83 224**	*e*P	Pn	04 48 56.9	+1.6
TALC			*i* S	Sn	04 49 21.1	+2.7
TALC			AML	AML	04 49 22.1	
	comp=N,4μm,0.3s					
PTCH	**Petorca**	**1.95 338**	*e*P	Pn	04 48 59.2	+2.3
PTCH			*e*S	Sn	04 49 25.4	+4.2
PTCH			AML	AML	04 49 28.8	
	comp=N,1μm,0.4s					
LNCH	**Linares**	**2.16 215**	*e*P	Pn	04 49 02.2	+2.5
LNCH			*i* S	Sn	04 49 31.2	+4.8
LNCH			AML	AML	04 49 35.5	
	comp=N,3μm,0.5s					
CHNG	**Los Chungos**	**2.49 331**	⇓*i*P	Pn	04 49 06.3	+1.9
CHNG			*i* S	Sn	04 49 39.4	+4.6
CHNG			AML	AML	04 49 41.3	
	comp=E,720nm,0.7s					
CMCH	**Combarbala**	**3.00 345**	⇑*i*P	Pn	04 49 15.4	+4.0
CMCH			*i* S	Sn	04 49 55.7	+8.5
CMCH			AML	AML	04 49 57.5	
	comp=E,2μm,0.8s					

*ISCJB **17** 04:54:02.6±0.3, 51°.51N±0°.02×16°.20E±0°.03, h0km, Error ellipse: s-maj=2.7km s-min=2.2km az=26.1*
*NEIC **17** 04:54:04.7±0.4, 51°.53N×16°.24E, h5km, mb3.7/1, Error ellipse: s-maj=6.5km s-min=5.6km az=86.0*
*CSEM **17** 04:54:04.6±0.1, 51°.50N×16°.16E, h2km, ML3.6/5, Error ellipse: s-maj=2.9km s-min=2.6km az=73.0*
*IPEC **17** 04:54:05.5±0.3, 51°.48N×16°.21E, h8km±1km, ML2.5/3, Error ellipse: s-maj=1.6km s-min=0.7km az=31.0*
*PRU **17** 04:54:06.4, 51°.41N×16°.15E, h0km, M3.7, Felt In Harrachov*
*WAR **17** 04:54:06, 51°.47N×16°.15E, ML3.1, Mining Induced*
*IDC **17** 04:54:06.3±0.7, 51°.41N×16°.11E, h0km, mb1 3.6/7, mb1mx3.4/26, mbtmp3.5/7, ML3.0/7, Error ellipse: s-maj=12.7km s-min=6.8km az=103.0*
*VIE **17** 04:54:07.6±0.5, 51°.26N×16°.14E, h0km, mb2.6/6, ML3.0/6, Error ellipse: s-maj=3.3km s-min=3.1km az=100.0 63 km WNW of Wroclaw Suspected Mining induced.*
*UPP **17** 04:54:08.6, 51°.68N×15°.68E, h0km, ML2.1, Suspected Mining explosion.*

ISC 17 04:54:04.5±0.3, 51°.49N±0°.02×16°.18E±0°.02, h0km, n104, σ1§04/163, 9C-11D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**174**	*e*Pg	**Pg**	**04 54 17.8**	**+0.8**
KSP				*e*Sg	**Sg**	**04 54 27.3**	**+1.9**
KSP	**Ksiaz**	**0.65**	**174**	*i* Pg	**Pg**	**04 54 17.8**	**+0.8**
KSP				*e*Sg	**Sg**	**04 54 26.6**	**+1.2**
KSP				*e*L		04 54 29.6	
KSP	**Ksiaz**	**0.65**	**174**	*e*Pg	**Pg**	**04 54 17.7**	**+0.7**
	baz=355						
KSP				*e*Sg	**Sg**	**04 54 26.2**	**+0.8**
	baz=355						
UPC	**Upice**	**0.99**	**186**	*e*PG	**Pg**	**04 54 23.9**	**+0.4**
UPC	**Upice**	**0.99**	**186**	*e*Pg	**Pg**	**04 54 23.8**	**+0.3**
	baz=7.1						
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*PG	**Pg**	**04 54 26.6**	**+0.2**
DPC				*e*SG	**Sg**	**04 54 41.1**	**-0.2**
	127nm,0.7s						
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*Pg	**Pg**	**04 54 26.4**	**0.0**
	baz=356						
DPC				*e*Sg	**Sg**	**04 54 40.7**	**-0.6**
	baz=356						
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG	**Pg**	**04 54 31.2**	**-0.2**
PVCC				*e*SG	**Sg**	**04 54 50.3**	**+0.8**
	335nm,0.9s						
PVCC	**Panska Ves**	**1.40**	**227**	*e*Pn	**Pn**	**04 54 31.0**	**-0.3**
	baz=47						
PVCC				*e*Sg	**Sg**	**04 54 51.3**	**+1.8**
	baz=47						
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pg**	**04 54 32.5**	**-0.1**
BRG	**Berggiesshubel**	**1.54**	**247**	PG	**Pg**	**04 54 33.8**	**-0.2**
BRG				SG	**Sg**	**04 54 54.4**	**+0.5**
	84nm,0.6s						
BRG	**Berggiesshubel**	**1.54**	**247**	*e*Pn	**Pn**	**04 54 33.9**	**+0.8**
	baz=66						
BRG				*e*Sg	**Sg**	**04 54 54.2**	**+0.3**
	baz=66						
RUE	**Ruedersdorf**	**1.79**	**305**	*e*Pn	**Pn**	**04 54 35.9**	**-0.6**
RUE				*e*Pg	**Pg**	**04 54 39.9**	**+1.2**
RUE				*e*Sg	**Sg**	**04 55 03.9**	**+2.1**
RUE	**Ruedersdorf**	**1.79**	**305**	*e*Pn	**Pn**	**04 54 35.9**	**-0.6**
PRU	**Pruhonice**	**1.83**	**215**	*e*PN	**Pn**	**04 54 36.7**	**-0.4**
PRU				*e*PG	**Pg**	**04 54 38.1**	**-1.4**
PRU				*e*SG	**Sg**	**04 55 03.6**	**+0.3**
	105nm,0.6s						
PRU	**Pruhonice**	**1.83**	**215**	*e*Pn	**Pn**	**04 54 36.9**	**-0.2**
	baz=35						
PRU				*e*Sg	**Sg**	**04 55 01.6**	**-1.7**
	baz=35						
RAC	**Raciborz**	**1.90**	**137**	*e*Pg	**Pg**	**04 54 41.0**	**+0.1**
RAC				*e*Sg	**Sg**	**04 55 07.6**	**+2.1**
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn	**Pn**	**04 54 37.9**	**-0.5**
MORC				*e*Sg	**Sg**	**04 55 05.8**	**-0.4**
MORC	**Moravsky Berou**	**1.92**	**153**	⇓*i*P	**Pn**	**04 54 38.5**	**+0.1**
MORC	**Moravsky Berou**	**1.92**	**153**	⇓*i*P	**Pn**	**04 54 38.5**	**+0.1**
MORC				S	**Sn**	**04 55 02.2**	**-1.0**
MORC				*e*Sg	**Sg**	**04 55 05.8**	**-0.4**
CLL	**Collm**	**2.00**	**266**	*i* Pn	**Pn**	**04 54 38.9**	**-0.6**
	comp=Z,8.0nm,0.7s						
CLL				*i* Pg	**Pg**	**04 54 42.4**	**-0.4**
CLL				*i*		04 54 43.5	
CLL				*i*		04 54 45.6	
CLL				*i* Sg	**Sg**	**04 55 09.7**	**+1.0**
	comp=Z,70nm,0.6s						
CLL	**Collm**	**2.00**	**266**	*e*Pn	**Pn**	**04 54 38.6**	**-0.9**
	baz=84						
CLL				*e*Sg	**Sg**	**04 55 07.9**	**-0.8**
	baz=84						
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*PG	**Pg**	**04 54 43.2**	**-1.0**
VRAC	**Vranov**	**2.20**	**173**	Pn	**Pn**	**04 54 42.7**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=340,slow=15,SNR=23						
VRAC				Lg		04 55 14.1	
	comp=Z,1.6nm,0.3s,baz=76,slow=21,SNR=4.9						
VRAC	**Vranov**	**2.20**	**173**	Pn	**Pn**	**04 54 42.7**	**+0.5**
VRAC				Lg		04 55 14.1	
VRAC	**Vranov**	**2.20**	**173**	⇓*i*P	**Pn**	**04 54 44.9**	**+2.7**
VRAC	**Vranov**	**2.20**	**173**	*e*Pn	**Pn**	**04 54 42.5**	**+0.3**
	baz=354						
VRAC	**Vranov**	**2.20**	**173**	⇓*i*P	**Pn**	**04 54 44.9**	**+2.7**
VRAC				S	**Sn**	**04 55 11.3**	**+1.2**
VRAC				*e*Sg	**Sg**	**04 55 12.4**	**-2.8**
VRAC				Lg		04 55 14.1	
TREC	**Trest**	**2.24**	**192**	*e*PN	**Pn**	**04 54 43.0**	**+0.2**
TREC	**Trest**	**2.24**	**192**	*e*Pn	**Pn**	**04 54 43.3**	**+0.5**
	baz=12						
KRUC	**Moravsky**	**2.44**	**177**	*e*Pn	**Pn**	**04 54 46.1**	**+0.6**
	baz=357						
KRUC	**Moravsky**	**2.44**	**177**	*e*Pg	**Pg**	**04 54 49.7**	**-1.4**
	baz=357						
KRUC				*e*Sg	**Sg**	**04 55 22.2**	**-0.5**
	comp=Z,29nm,0.5s,baz=357						
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**04 54 56.2**	**+1.5**
OJC				*e*Sg	**Sg**	**04 55 30.3**	**+1.7**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**04 54 56.2**	**+1.5**
OJC				*e*Sg	**Sg**	**04 55 30.3**	**+1.7**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	**Pn**	**04 54 49.3**	**+0.5**
NKC				*e*PG	**Pg**	**04 54 54.9**	**-0.9**
NKC				*e*SG	**Sg**	**04 55 29.7**	**-0.9**
	comp=Z,73nm,0.6s						
NKC	**Novy Kostel**	**2.68**	**243**	*e*Pn	**Pn**	**04 54 48.9**	**+0.1**
	baz=61						
NKC				*e*Sg	**Sg**	**04 55 29.6**	**-1.0**
	baz=61						
JAVC	**Velka Javorina**	**2.80**	**159**	*e*Pn	**Pn**	**04 54 51.9**	**+1.4**
	baz=341						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*Pn	**Pn**	**04 54 51.6**	**-0.2**
KHC				*e*Pb	**Pb**	**04 54 57.4**	**+0.5**
KHC				*e*Pg	**Pg**	**04 55 00.7**	**+0.7**
KHC				*e*Sn	**Sn**	**04 55 28.2**	**+1.0**
KHC				*e*Sg	**Sg**	**04 55 37.8**	**+0.4**
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**04 54 51.9**	**+0.2**
KHC				*e*PG	**Pg**	**04 54 58.2**	**-1.7**
KHC				*e*SN	**Sn**	**04 55 24.0**	**-3.2**
KHC				*e*SG	**Sg**	**04 55 35.3**	**-2.1**
	comp=Z,31nm,0.6s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*Pn	**Pn**	**04 54 51.8**	**+0.1**
	baz=35						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*Pg	**Pg**	**04 54 57.9**	**-2.0**
	baz=35						
KHC				*e*Sg	**Sg**	**04 55 37.8**	**+0.4**
MOX	**Moxa**	**3.00**	**255**	*e*Pg	**Pg**	**04 55 01.8**	**-0.2**
	baz=72						
MOX				*e*Sg	**Sg**	**04 55 40.8**	**-0.1**
	baz=72						
GERES	**GERESS Array B**	**3.09**	**212**	Pn	**Pn**	**04 54 55.1**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=29,slow=13,SNR=33						
GERES				Pg	**Pg**	**04 55 01.4**	**-2.3**
	comp=Z,3.3nm,0.3s,baz=35,slow=16,SNR=52						
GERES				Lg		04 55 40.9	
	comp=Z,3.6nm,0.3s,baz=35,slow=26,SNR=8.0						
GERES	**GERESS Array B**	**3.09**	**212**	Pn	**Pn**	**04 54 55.1**	**+0.6**
GERES				Pg	**Pg**	**04 55 01.4**	**-2.3**
GERES				Lg		04 55 40.9	
GERES	**GERESS Array B**	**3.09**	**212**	Pn	**Pn**	**04 54 55.1**	**+0.6**
GERES	**GERESS Array B**	**3.09**	**212**	Pg	**Pg**	**04 55 01.4**	**-2.3**
WET	**Wettzell**	**3.16**	**223**	*e*Pn	**Pn**	**04 54 55.3**	**-0.2**
	baz=41						
KOLL	**Kolacno**	**3.25**	**153**	*e*PN	**Pn**	**04 54 55.0**	**-1.6**
KOLL	**Kolacno**	**3.25**	**153**	*e*Pn	**Pn**	**04 54 55.0**	**-1.6**
ZST	**Bratislava**	**3.35**	**169**	*e*SG	**Sg**	**04 55 51.5**	**-0.6**
ZST	**Bratislava**	**3.35**	**169**	*e*Sg	**Sg**	**04 55 51.5**	**-0.6**
NIE	**Niedzica**	**3.36**	**127**	*e*P	**Pg**	**04 55 08.8**	**0.0**
NIE				*e*S	**Sg**	**04 55 52.3**	**0.0**
VYHS	**Vyhne**	**3.46**	**149**	*e*PN	**Pn**	**04 54 59.1**	**-0.4**
VYHS				*e*PG	**Pg**	**04 55 09.1**	**-1.5**
VYHS	**Vyhne**	**3.46**	**149**	*e*Pn	**Pn**	**04 54 59.1**	**-0.4**
CONA	**Conrad Observa**	**3.57**	**183**	⇑*i*Pn	**Pn**	**04 55 01.9**	**+0.8**
CONA				⇑*i*Sg	**Sg**	**04 55 58.6**	**-0.6**
	comp=Z,41nm,0.7s						
CONA	**Conrad Observa**	**3.57**	**183**	Pn	**Pn**	**04 55 01.9**	**+0.8**
CONA				Sg	**Sg**	**04 55 58.6**	**-0.6**
	comp=Z,41nm,0.7s						
GRFO	**Grafenberg**	**3.64**	**242**	*e*Pn	**Pn**	**04 55 02.6**	**+0.6**
GRFO				*e*Pg	**Pg**	**04 55 16.1**	**+2.0**
GRFO				*e*Sg	**Sg**	**04 56 03.2**	**+1.9**
GRFO	**Grafenberg**	**3.64**	**242**	*e*Pn	**Pn**	**04 55 02.6**	**+0.6**
BSD	**Bornholm Skovb**	**3.71**	**349**	⇓*i*P	**Pn**	**04 55 02.3**	**-0.6**
BSD				*i* S	**Sn**	**04 55 40.9**	**-6.4**
BSD	**Bornholm Skovb**	**3.71**	**349**	⇓*i*P	**Pn**	**04 55 02.2**	**-0.7**
BSD				*i* S	**Sn**	**04 55 45.9**	**-1.4**
	comp=Z,7.5nm,0.6s,SNR=49						
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*PN	**Pn**	**04 55 07.5**	**+2.7**
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*Pn	**Pn**	**04 55 07.5**	**+2.7**
MOA	**Molln**	**3.85**	**200**	⇑*i*Pn	**Pn**	**04 55 05.4**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**04 56 07.1**	**-1.0**
	comp=Z,43nm,0.7s						
MOA	**Molln**	**3.85**	**200**	Pn	**Pn**	**04 55 05.4**	**+0.5**
MOA				Sg	**Sg**	**04 56 07.1**	**-1.1**
	comp=Z,43nm,0.7s						
KECS	**Kecovo**	**4.09**	**136**	*e*PN	**Pn**	**04 55 08.3**	**0.0**
KECS				*e*SG	**Sg**	**04 56 11.7**	**-4.3**
KECS	**Kecovo**	**4.09**	**136**	*e*Pn	**Pn**	**04 55 08.3**	**0.0**
ARSA	**Arzberg**	**4.27**	**186**	⇓*i*Pn	**Pn**	**04 55 10.2**	**-0.4**
ARSA				⇓*i*Sg	**Sg**	**04 56 21.2**	**-0.3**
	comp=Z,28nm,0.8s						
ARSA	**Arzberg**	**4.27**	**186**	Pn	**Pn**	**04 55 10.2**	**-0.4**
ARSA				Sg	**Sg**	**04 56 21.2**	**-0.3**
	comp=Z,28nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.27**	**125**	*e*PN	**Pn**	**04 55 12.4**	**+1.8**
CRVS				*e*PG	**Pg**	**04 55 27.2**	**+1.0**
CRVS	**Cervenica-Dubn**	**4.27**	**125**	*e*Pn	**Pn**	**04 55 12.4**	**+1.8**
PSZ	**Piszkesteto**	**4.31**	**145**	*e*Pn	**Pn**	**04 55 11.8**	**+0.5**
PSZ	**Piszkesteto**	**4.31**	**145**	⇑*i*P	**Pn**	**04 55 12.2**	**+1.0**
PSZ	**Piszkesteto**	**4.31**	**145**	*e*Pn	**Pn**	**04 55 11.8**	**+0.6**
PSZ	**Piszkesteto**	**4.31**	**145**	⇑*i*P	**Pn**	**04 55 12.2**	**+1.0**
KWP	**Kalwaria Pacla**	**4.56**	**112**	*e*Pg	**Pg**	**04 55 29.6**	**-2.1**
KWP	**Kalwaria Pacla**	**4.56**	**112**	*e*Pn	**Pn**	**04 55 14.9**	**+0.3**
KWP				*e*Pg	**Pg**	**04 55 29.1**	**-2.6**
KWP	**Kalwaria Pacla**	**4.56**	**112**	*e*Pn	**Pn**	**04 55 14.9**	**+0.3**
KBA	**Koelnbreinsper**	**4.79**	**204**	⇑*i*Pn	**Pn**	**04 55 18.8**	**+0.9**
KBA				⇑*i*Sg	**Sg**	**04 56 38.5**	**+0.2**
	comp=Z,13nm,0.6s						
KBA	**Koelnbreinsper**	**4.79**	**204**	Pn	**Pn**	**04 55 18.8**	**+1.0**
KBA				Sg	**Sg**	**04 56 38.5**	**+0.2**
	comp=Z,13nm,0.6s						
GNOU	**Gnosjoe**	**5.98**	**347**	P	**Pn**	**04 55 33.5**	**-0.6**
VSTU	**Vaestervik**	**6.18**	**2**	P	**Pn**	**04 55 37.1**	**+0.2**
DRGR		**6.36**	**135**	⇑*i*P	**Pn**	**04 55 40.1**	**+0.7**
DRGR		**6.36**	**135**	⇑*i*P	**Pn**	**04 55 40.1**	**+0.7**
VIKU	**Vikbolandet**	**7.03**	**2**	P	**Pn**	**04 55 48.4**	**-0.1**
BURAR	**Bucovina Array**	**7.04**	**120**	⇓*i*P	**Pn**	**04 55 49.7**	**+1.0**
BURAR	**Bucovina Array**	**7.04**	**120**	⇓*i*P	**Pn**	**04 55 49.7**	**+1.0**
AKASG	**Malin Array Be**	**8.25**	**90**	Pn	**Pn**	**04 56 04.3**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=280,slow=12,SNR=5.4						
AKASG	**Malin Array Be**	**8.25**	**90**	Pn	**Pn**	**04 56 04.3**	**-1.0**
AKASG	**Malin Array Be**	**8.25**	**90**	Pn	**Pn**	**04 56 04.3**	**-1.0**
AKBB	**Malin Array Si**	**8.25**	**90**	*e*Pn	**Pn**	**04 56 04.5**	**-0.7**
AKBB	**Malin Array Si**	**8.25**	**90**	*e*Pn	**Pn**	**04 56 04.5**	**-0.8**
HFS	**Hagfors**	**8.78**	**352**	Pn	**Pn**	**04 56 12.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=172,slow=13,SNR=8.9						
HFS	**Hagfors**	**8.78**	**352**	Pn	**Pn**	**04 56 12.2**	**-0.2**
HFS	**Hagfors**	**8.78**	**352**	Pn	**Pn**	**04 56 12.2**	**-0.2**
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**04 56 28.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=2.9						
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**04 56 28.6**	**0.0**
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**04 56 28.6**	**0.0**
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**04 56 46.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=208,slow=10,SNR=4.5						
FINES				Sn	**Sn**	**04 58 50.3**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=214,slow=22,SNR=3.4						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**04 56 46.0**	**-1.8**
FINES				Sn	**Sn**	**04 58 50.3**	**-5.0**
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**04 56 46.0**	**-1.8**
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**Pn**	**04 58 23.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=191,slow=9.9,SNR=6.0						
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**Pn**	**04 58 23.3**	**-0.2**
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**Pn**	**04 58 23.3**	**-0.1**
EKS2	**Erkin-Say**	**39.27**	**80**	*e*P	**P**	**05 01 32.3**	**-2.3**
	comp=Z,0.6nm,0.3s						

IDC 17 05:06:28.5±2.7, 2°.13N×96°.14E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, ML4.1/1, Error ellipse: s-maj=98.8km s-min=27.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.45**	**9**	Pn	Pn	05 10 22.6	+1.6
	0.3nm,0.3s,baz=198,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**43.42**	**122**	P	P	05 14 33.4	0.0
	0.4nm,0.7s,baz=301,slow=9.1,SNR=5.8						
MKAR	**Makanchi Array**	**46.09**	**347**	P	P	05 14 54.3	0.0
	1.7nm,0.7s,baz=158,slow=8.7,SNR=15						
SONM	**Songino Array**	**46.38**	**10**	P	P	05 14 56.4	-0.1
	1.0nm,0.8s,baz=186,slow=9.8,SNR=9.0						
KURK	**Kurchatov**	**50.63**	**346**	P	P	05 15 29.3	0.0
	0.5nm,0.3s,baz=167,slow=7.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.48**	**352**	P	P	05 15 42.3	-0.8
	1.4nm,0.4s,baz=177,slow=6.0,SNR=7.8						

IDC 17 05:15:07.4±2.0, 29°.52S×139°.51E, h0km, mb1 3.1/3, mb1mx3.0/12, mbtmp2.8/3, ML3.1/3, Error ellipse: s-maj=160.2km s-min=14.7km az=54.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.96**	**143**	Pn	Pn	05 15 55.3	-0.3
	2.0nm,0.3s,baz=301,slow=14,SNR=13						
STKA				Pg	Pg	05 16 00.8	-3.3
	2.0nm,0.3s,baz=303,slow=16,SNR=18						
STKA				Lg		05 16 42.2	
	3.9nm,0.3s,baz=198,slow=18,SNR=8.2						
ASAR	**Alice Springs**	**7.69**	**318**	Pn	Pn	05 17 00.5	-0.2
	0.2nm,0.3s,baz=154,slow=13,SNR=7.1						
ASAR				Sn	Sn	05 18 31.1	+2.6
	0.2nm,0.3s,baz=156,slow=22,SNR=6.5						
WRA	**Warramunga Arr**	**10.62**	**333**	Pn	Pn	05 17 41.5	+0.5
	0.2nm,0.3s,baz=155,slow=14,SNR=11						
WRA				Sn	Sn	05 19 41.4	+0.7
	0.0nm,0.3s,baz=163,slow=24,SNR=3.5						

*ISCJB **17** 05:53:35.8±0.4, 43°.85N±0°.05×143°.27E±0°.06, h186km±3km, mb3.5/7, Error ellipse: s-maj=8.8km s-min=7.4km az=1.9*
*NEIC **17** 05:53:36.8±0.6, 43°.96N×143°.26E, h176km±6km, Error ellipse: s-maj=18.3km s-min=10.6km az=102.0*
*JMA **17** 05:53:37.0±0.2, 43°.84N×143°.21E, h182km±2km, M2.8*
*IDC **17** 05:53:37.5±2.5, 44°.05N×143°.21E, h176km±8km, mb3.2/7, mb1 3.4/7, mb1mx3.1/23, mbtmp3.2/7, Error ellipse: s-maj=83.3km s-min=20.4km az=173.0*

ISC 17 05:53:36.9±0.4, 43°.83N±0°.05×143°.26E±0°.06, h182km±3km, n37, σ0§70/50, mb3.5/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMP	**Maruseppu**	**0.19**	**21**	P	**Pn**	**05 54 01.2**	**+0.3**
JMP				*e*S	**Sn**	**05 54 19.6**	**0.0**
JKK2	**Kamakawa 2**	**0.38**	**277**	P	**Pn**	**05 54 01.5**	**+0.1**
JKK2				*e*S	**Sn**	**05 54 20.0**	**-0.2**
JTKR	**Abashiri--Toko**	**0.49**	**73**	P	**Pn**	**05 54 02.3**	**+0.5**
JTKR				*e*S	**Sn**	**05 54 21.3**	**+0.4**
ASAJ	**Asahikawa**	**0.56**	**301**	P	**Pn**	**05 54 02.1**	**0.0**
	4.9nm,0.3s,baz=197,slow=5.6,SNR=18						
ASAJ				S	**Sn**	**05 54 21.3**	**-0.2**
	2.9nm,0.3s,baz=64,slow=31,SNR=19						
ASAJ	**Asahikawa**	**0.56**	**301**	P	**Pn**	**05 54 02.1**	**0.0**
ASAJ				S	**Sn**	**05 54 21.3**	**-0.2**
ASAJ	**Asahikawa**	**0.56**	**301**	P	**Pn**	**05 54 02.4**	**+0.3**
ASAJ				*e*S	**Sn**	**05 54 21.2**	**-0.3**
JAR	**Ashorobuto**	**0.65**	**145**	P	**Pn**	**05 54 03.2**	**+0.7**
JAR				*e*S	**Sn**	**05 54 23.0**	**+0.8**
JAB	**Ashibetsu**	**0.82**	**247**	P	**Pn**	**05 54 03.8**	**+0.3**
JAB				*e*S	**Sn**	**05 54 24.7**	**+0.7**
JFR	**Furan**	**0.82**	**216**	P	**Pn**	**05 54 04.0**	**+0.4**
JHR	**Hokuryu**	**1.12**	**266**	P	**Pn**	**05 54 05.7**	**+0.1**
JHR				*e*S	**Sn**	**05 54 27.8**	**+0.1**
JCH	**Churui**	**1.22**	**177**	P	**Pn**	**05 54 06.1**	**-0.4**
JCH				*e*S	**Sn**	**05 54 28.1**	**-1.1**
JSE	**Soyaes**	**1.23**	**337**	P	**Pn**	**05 54 06.2**	**-0.3**
JAK	**Akkeshi**	**1.33**	**128**	P	**Pn**	**05 54 07.4**	**-0.1**
JAK				*e*S	**Sn**	**05 54 31.0**	**0.0**
JRA	**Rausu**	**1.35**	**85**	P	**Pn**	**05 54 08.6**	**+1.1**
JNBK	**Urakawa-nobuka**	**1.59**	**194**	P	**Pn**	**05 54 10.3**	**+0.4**
JEW	**Eniwo**	**1.65**	**234**	*e*S	**Sn**	**05 54 35.9**	**-0.4**
JWK2	**Keihoku**	**1.78**	**327**	P	**Pn**	**05 54 11.9**	**+0.2**
ERM	**Erimo**	**1.81**	**183**	*e*Pn	**Pn**	**05 54 12.7**	**+0.6**
NEM2	**Nemuro 2**	**1.86**	**104**	P	**Pn**	**05 54 12.1**	**-0.4**
NEM2				*e*S	**Sn**	**05 54 38.7**	**-1.4**
JSK	**Shakotan**	**2.08**	**258**	P	**Pn**	**05 54 14.6**	**-0.3**
JKB	**Kayabe**	**2.54**	**221**	P	**Pn**	**05 54 19.9**	**-0.2**
JKB				*e*S	**Sn**	**05 54 50.7**	**-3.0**
YSS	**Yuzh-Sakhalins**	**3.15**	**354**	*e*Pn	**Pn**	**05 54 24.4**	**-2.8**
MAJO	**Matsushiro**	**8.24**	**210**	Pn	**Pn**	**05 55 34.4**	**+1.1**
SONM	**Songino Array**	**25.84**	**292**	P	**P**	**05 58 51.8**	**+0.6**
	0.2nm,0.3s,mb3.2,baz=99,slow=7.4,SNR=2.5						
SONM	**Songino Array**	**25.84**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,2μm,0.3s,baz=174,slow=19,SNR=130						
JMIC	**Jan Mayen**	**0.23**	**263**	Pg	**Pg**	**06 32 40.9**	**-0.7**
JMIC				Lg		06 32 45.1	
JMIC	**Jan Mayen**	**0.23**	**263**	Pg	**Pg**	**06 32 40.9**	**-0.7**
JMIC				Lg		06 32 45.1	
JMIC				*e*S	**Sg**	**06 32 45.2**	**-0.1**
	SNR=110						
JMI	**Jan Mayen**	**0.32**	**254**	*i* P	**Pg**	**06 32 42.9**	**-0.1**
JMI				*e*S	**Sg**	**06 32 48.2**	**+0.7**
JMI	**Jan Mayen**	**0.32**	**254**	*i* P	**Pg**	**06 32 42.9**	**0.0**
	SNR=105						
JMI				*e*S	**Sg**	**06 32 48.2**	**+0.7**
	SNR=105						
ILEI	**Leirhofn**	**5.60**	**218**	P	**Pn**	**06 33 56.4**	**-2.0**
ILEI				S	**Sn**	**06 35 01.8**	**-0.4**
IGIL	**Gilhagi**	**5.87**	**216**	P	**Pn**	**06 34 00.7**	**-1.3**
IGIL				S	**Sn**	**06 35 08.1**	**-0.6**
IHED	**Heoinshofoi**	**6.05**	**220**	P	**Pn**	**06 34 02.9**	**-1.7**
IHED				S	**Sn**	**06 35 11.6**	**-1.7**
IBRE	**Brettingsstaoi**	**6.15**	**222**	P	**Pn**	**06 34 06.6**	**+0.7**
IBRE				S	**Sn**	**06 35 15.1**	**-0.5**
IGRS	**Grimsstaoir**	**6.21**	**214**	P	**Pn**	**06 34 06.4**	**-0.4**
IGRS				S	**Sn**	**06 35 18.2**	**+0.9**
IGRA	**Granastaoir**	**6.25**	**220**	P	**Pn**	**06 34 07.2**	**-0.1**
IGRA				S	**Sn**	**06 35 18.3**	**+0.1**
IKVO	**Krokottuvotn**	**6.29**	**217**	P	**Pn**	**06 34 09.2**	**+1.4**
IKVO				S	**Sn**	**06 35 20.4**	**+1.3**
IREN	**Reynihlio**	**6.35**	**216**	P	**Pn**	**06 34 10.0**	**+1.3**
IHLA	**Hella**	**6.40**	**222**	P	**Pn**	**06 34 10.5**	**+1.1**
IHLA				S	**Sn**	**06 35 20.3**	**-1.6**
IGLU	**Glumsstadir**	**6.65**	**208**	P	**Pn**	**06 34 12.8**	**+0.1**
IADA	**Aoalbol**	**6.69**	**210**	P	**Pn**	**06 34 13.4**	**+0.1**
LOF	**Lofoten**	**7.98**	**101**	*e*Pn	**Pn**	**06 34 29.0**	**-2.0**
LOF				*e*Sn	**Sn**	**06 35 57.4**	**-3.3**
BORG	**Borgarnes**	**8.08**	**226**	Pn	**Pn**	**06 34 35.3**	**+2.9**
STOK	**Stokkvaagen**	**8.89**	**112**	*e*Pn	**Pn**	**06 34 43.2**	**-0.2**
STOK				*e*Sn	**Sn**	**06 36 16.0**	**-6.9**
STOK				AML	AML	06 36 22.5	
	comp=Z,24nm,0.7s						
FLOS	**Flostrand**	**8.99**	**111**	*e*Pn	**Pn**	**06 34 45.1**	**+0.3**
FLOS				*e*Sn	**Sn**	**06 36 18.2**	**-7.2**
FLOS				AML	AML	06 36 24.8	
	comp=Z,22nm,0.7s						
KBS	**Kingsbay**	**9.37**	**24**	*e*Pn	**Pn**	**06 34 49.2**	**-0.8**
KBS				*e*Sn	**Sn**	**06 36 28.1**	**-6.6**
KBS	**Kingsbay**	**9.37**	**24**	*e*Pn	**Pn**	**06 34 47.6**	**-2.4**
KBS	**Kingsbay**	**9.37**	**24**	*e*Pn	**Pn**	**06 34 49.2**	**-0.8**
	SNR=50						
MOR8	**Moi Rana**	**9.43**	**110**	*e*Pn	**Pn**	**06 34 51.9**	**+1.0**
MOR8				*e*Sn	**Sn**	**06 36 32.3**	**-3.9**
MOR8				AML	AML	06 36 40.5	
	comp=Z,16nm,0.7s						
MOR8	**Moi Rana**	**9.43**	**110**	*e*Pn	**Pn**	**06 34 51.9**	**+1.1**
	SNR=50						
SPB4	**Spitsbergen Ar**	**9.53**	**31**	*e*Pn	**Pn**	**06 34 52.5**	**+0.3**
SPB4	**Spitsbergen Ar**	**9.53**	**31**	*e*Pn	**Pn**	**06 34 52.5**	**+0.3**
SPA0	**Spitsbergen Ar**	**9.53**	**31**	Pn	**Pn**	**06 34 52.6**	**+0.4**
	baz=227,slow=14						
SPA0	**Spitsbergen Ar**	**9.53**	**31**	Pn	**Pn**	**06 34 52.6**	**+0.4**
	baz=227,slow=13,SNR=50						
SPITS	**Spitsbergen Ar**	**9.53**	**31**	Pn	**Pn**	**06 34 52.6**	**+0.4**
	baz=210,slow=14,SNR=38						
SPITS				Sn	**Sn**	**06 36 39.5**	**+0.8**
	baz=175,slow=23,SNR=2.4						
SPITS	**Spitsbergen Ar**	**9.53**	**31**	Pn	**Pn**	**06 34 52.6**	**+0.4**
SPITS				Sn	**Sn**	**06 36 39.5**	**+0.8**
SPITS	**Spitsbergen Ar**	**9.53**	**31**	Pn	**Pn**	**06 34 52.6**	**+0.4**
SPITS				Sn	**Sn**	**06 36 39.5**	**+0.8**
ARA0	**ARCESS Array S**	**11.26**	**82**	Pn	**Pn**	**06 35 15.4**	**-0.5**
	baz=290,slow=12						
ARA0	**ARCESS Array S**	**11.26**	**82**	Pn	**Pn**	**06 35 15.4**	**-0.5**
	baz=290,slow=12,SNR=50						
ARCES	**ARCESS Array B**	**11.26**	**82**	Pn	**Pn**	**06 35 14.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=285,slow=10,SNR=4.2						
ARCES				LR	LR	06 39 29.4	
	comp=Z,47nm,18.3s,baz=278,slow=37						
ARCES	**ARCESS Array B**	**11.26**	**82**	Pn	**Pn**	**06 35 14.4**	**-1.4**
ARCES	**ARCESS Array B**	**11.26**	**82**	Pn	**Pn**	**06 35 14.4**	**-1.5**
KEV	**Kevo**	**11.66**	**80**	Pn	**Pn**	**06 35 21.0**	**-0.3**
KEV	**Kevo**	**11.66**	**80**	Pn	**Pn**	**06 35 21.0**	**-0.3**
KONO	**Kongsberg**	**13.44**	**139**	Pn	**Pn**	**06 35 46.7**	**+1.0**
KONO	**Kongsberg**	**13.44**	**139**	Pn	**Pn**	**06 35 46.7**	**+1.0**
HFS	**Hagfors**	**13.96**	**131**	Pn	**Pn**	**06 35 55.3**	**+2.6**
	baz=351,slow=14						
HFS	**Hagfors**	**13.96**	**131**	Pn	**Pn**	**06 35 54.3**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=345,slow=10,SNR=3.4						
HFS				LR	LR	06 40 38.9	
	comp=Z,213nm,20.4s,baz=72,slow=35						
HFS	**Hagfors**	**13.96**	**131**	Pn	**Pn**	**06 35 54.3**	**+1.5**
HFS	**Hagfors**	**13.96**	**131**	Pn	**Pn**	**06 35 54.3**	**+1.5**
FIA0	**FINESS Array S**	**16.41**	**109**	P	**Pn**	**06 36 26.2**	**+1.0**
	baz=332,slow=16						
FIA0	**FINESS Array S**	**16.41**	**109**	Pn	**Pn**	**06 36 26.2**	**+1.0**
	baz=332,slow=15,SNR=50						
FINES	**FINESS Array B**	**16.41**	**109**	Pn	**Pn**	**06 36 26.0**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=328,slow=13,SNR=3.4						
FINES	**FINESS Array B**	**16.41**	**109**	Pn	**Pn**	**06 36 26.0**	**+0.8**
FINES	**FINESS Array B**	**16.41**	**109**	Pn	**Pn**	**06 36 26.0**	**+0.8**
GERES	**GERESS Array B**	**24.42**	**144**	P	**P**	**06 37 55.8**	**+2.6**
	comp=Z,1.0nm,0.8s,mb3.3,baz=354,slow=7.9,SNR=3.5						
GERES	**GERESS Array B**	**24.42**	**144**	P	**P**	**06 37 55.8**	**+2.6**
GERES	**GERESS Array B**	**24.42**	**144**	P	**P**	**06 37 55.8**	**+2.6**
AKASG	**Malin Array Be**	**26.44**	**121**	P	**P**	**06 38 11.1**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.5,baz=334,slow=10,SNR=3.4						
AKASG	**Malin Array Be**	**26.44**	**121**	P	**P**	**06 38 11.1**	**-0.4**
AKASG	**Malin Array Be**	**26.44**	**121**	P	**P**	**06 38 11.1**	**-0.4**
ESDC	**Sonseca Array**	**31.48**	**174**	LR	LR	06 50 28.0	
	comp=Z,58nm,20.1s,MS3.2,baz=340,slow=34						
INK	**Inuvik**	**36.28**	**329**	LR	LR	06 55 28.4	
	comp=Z,45nm,18.4s,MS3.3,baz=348,slow=38						
YKA	**Yellowknife Ar**	**37.53**	**313**	P	**P**	**06 39 48.6**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.4,baz=30,slow=8.7,SNR=5.7						
YKA	**Yellowknife Ar**	**37.53**	**313**	P	**P**	**06 39 48.6**	**+0.2**
YKA	**Yellowknife Ar**	**37.53**	**313**	P	**P**	**06 39 48.6**	**+0.2**
ZALV	**Zalesovo Beam**	**41.12**	**64**	LR	LR	06 58 05.7	
	comp=Z,37nm,21.9s,MS3.2,baz=72,slow=37						
TORD	**Torodi Ar. Bea**	**58.13**	**169**	P	**P**	**06 42 30.1**	**+1.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=349,slow=7.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**58.13**	**169**	P	**P**	**06 42 30.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**58.13**	**169**	P	**P**	**06 42 30.0**	**+1.6**
SJG	**San Juan**	**62.92**	**245**	LR	LR	07 04 12.6	
	comp=Z,38nm,19.9s,MS3.6,baz=278,slow=30						

IDC 17 06:38:36.7±2.1, 10°.42S×111°.52E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/18, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=105.1km s-min=19.9km az=45.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.66**	**121**	Pn	Pn	06 42 16.8	-2.1
	0.1nm,0.3s,baz=302,slow=12,SNR=3.5						
FITZ				Sn	Sn	06 45 01.5	-12
	0.1nm,0.3s,baz=0.0,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**23.94**	**116**	P	P	06 43 52.6	-0.2
	0.8nm,1.0s,baz=288,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**25.08**	**125**	P	P	06 44 03.5	+0.3
	0.5nm,0.6s,baz=296,slow=8.8,SNR=8.8						
MKAR	**Makanchi Array**	**62.66**	**338**	P	P	06 49 03.4	+0.3
	0.4nm,0.5s,baz=151,slow=7.5,SNR=7.4						
KURK	**Kurchatov**	**67.27**	**338**	P	P	06 49 32.9	-0.1
	0.6nm,0.5s,baz=154,slow=5.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**68.00**	**343**	P	P	06 49 37.5	0.0
	0.7nm,0.4s,baz=132,slow=6.0,SNR=4.4						

*ISCJB **17** 06:48:30.3±1.0, 32°.30N±0°.03×105°.14E±0°.05, h9km±6km, mb4.0/20, Error ellipse: s-maj=7.0km s-min=4.5km az=28.7*
*IDC **17** 06:48:30.6±0.6, 32°.30N×105°.10E, h0km, mb4.0/17, mb1 4.1/20, mb1mx4.0/30, mbtmp3.9/20, ML4.0/2, Error ellipse: s-maj=23.8km s-min=12.4km az=56.0*
*BJI **17** 06:48:32.4, 32°.23N×105°.24E, h11km, mb4.4/2, ML3.8/21, Ms3.7/5, Ms7 3.5/6*
*NEIC **17** 06:48:32.5±0.3, 32°.28N×105°.04E, h10km, mb4.3/2, Error ellipse: s-maj=10.1km s-min=6.1km az=67.0*
*MOS **17** 06:48:33.6±0.7, 32°.24N×105°.08E, h33km, mb4.6/2, Error ellipse: s-maj=15.9km s-min=8.2km az=99.2*
ISC 17 06:48:31.9±0.8, 32°.32N±0°.02×105°.07E±0°.04, h5km±5km, n81, σ1§03/95, mb4.0/20, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.80**	**219**	Pn	**Pn**	**06 49 04.3**	**+0.7**
CD2				Pg	**Pg**	**06 49 08.8**	**+2.4**
CD2				Sn	**Sn**	**06 49 27.3**	**+0.5**
CD2				Sg	**Sg**	**06 49 29.8**	**+0.1**
CD2				smax			
	comp=N,6μm,0.5s						
CD2				smax			
	comp=E,2μm,0.7s						
XAN	**Xi'an**	**3.66**	**61**	Pn	**Pn**	**06 49 30.6**	**+1.5**
XAN				Sn	**Sn**	**06 50 14.4**	**+1.8**
XAN				Sg	**Sg**	**06 50 29.3**	**0.0**
XAN				smax			
	comp=N,340nm,0.6s						
XAN				smax			
	comp=E,140nm,0.6s						
XAN				LR	LR		
	comp=N,200nm,5.3s						
XAN				LR	LR		
	comp=E,40nm,2.9s						
LZH	**Lanzhou**	**3.89**	**345**	*e*Pn	**Pn**	**06 49 35.4**	**+3.0**
LZH				Pg	**Pg**	**06 49 45.5**	**-1.0**
LZH				Sg	**Sg**	**06 50 35.0**	**-1.9**
LZH				smax			
	comp=N,620nm,0.8s						
LZH				smax			
	comp=E,710nm,0.6s						
LZH				LR	LR		
	comp=N,980nm,4.6s						
LZH				LR	LR		
	comp=E,1μm,5.0s						
LZH				LR	LR		
	comp=Z,1μm,6.2s						
LZH	**Lanzhou**	**3.89**	**345**	*e*Pn	**Pn**	**06 49 35.4**	**+3.0**
LZH				Pg	**Pg**	**06 49 45.5**	**-1.0**
LZH				Sg	**Sg**	**06 50 35.0**	**-1.9**
LZH	**Lanzhou**	**3.89**	**345**	*e*P	**Pn**	**06 49 35.4**	**+3.0**
ENH	**Enshi**	**4.30**	**117**	*e*Pn	**Pn**	**06 49 39.6**	**+1.7**
GYA	**Guiyang**	**6.00**	**166**	Pn	**Pn**	**06 50 01.9**	**+0.5**
GYA				Sn	**Sn**	**06 51 09.8**	**-0.7**
GYA				Sg	**Sg**	**06 51 43.1**	**-1.7**
GYA				smax			
	comp=N,140nm,0.7s						
GYA				smax			
	comp=E,230nm,0.9s						
KMI	**Kunming**	**7.46**	**197**	Pn	**Pn**	**06 50 21.8**	**+0.4**
KMI				Sn	**Sn**	**06 51 46.8**	**+0.5**
KMI				smax			
	comp=N,23nm,1.1s						
KMI				smax			
	comp=E,13nm,0.8s						
KMI				LR	LR		
	comp=N,140nm,11.7s						
KMI				LR	LR		
	comp=E,140nm,12.0s						
KMI				LR	LR		
	comp=Z,150nm,10.9s						
KMI	**Kunming**	**7.46**	**197**	Pn	**Pn**	**06 50 21.7**	**+0.3**
KMI				Sn	**Sn**	**06 51 46.7**	**+0.4**
KMI	**Kunming**	**7.46**	**197**	P	**Pn**	**06 50 21.7**	**+0.3**
KMI						06 51 46.7	
WHN	**Wuhan**	**8.12**	**100**	S	**Sn**	**06 51 57.6**	**-5.1**
WHN				LR	LR		
	comp=Z,420nm,7.8s						
HHC	**Hu-ho-hao-te**	**9.98**	**30**	*e*P	**Pn**	**06 51 02.8**	**+6.9**
HHC				pP		06 51 05.8	
HHC				sP		06 51 08.8	
HHC				S	**Sn**	**06 52 56.3**	**+8.0**
HHC				sS		06 53 00.8	
HHC				SS		06 53 09.0	
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				LR	LR		
	comp=N,140nm,4.5s						
HHC				LR	LR		
	comp=E,220nm,4.4s						
HHC				LR	LR		
	comp=Z,160nm,7.7s						
CMAR	**Chiang Mai Arr**	**14.87**	**203**	Pn	**Pn**	**06 52 03.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=20,slow=12,SNR=4.4						
CMAR	**Chiang Mai Arr**	**14.87**	**203**	Pn	**Pn**	**06 52 03.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**14.87**	**203**	P	**Pn**	**06 52 03.4**	**+0.6**
SONM	**Songino Array**	**15.53**	**3**	Pn	**Pn**	**06 52 12.5**	**+1.1**
	baz=195,slow=10,SNR=3.1						
SONM				Lg		06 56 34.7	
	baz=166,slow=25,SNR=2.5						
SONM	**Songino Array**	**15.53**	**3**	Pn	**Pn**	**06 52 12.5**	**+1.1**
SONM				Lg		06 56 34.7	
SONM	**Songino Array**	**15.53**	**3**	P	**Pn**	**06 52 12.5**	**+1.1**
ZAK	**Zakamensk**	**18.09**	**356**	*e*P	**Pn**	**06 52 46.4**	**+2.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KSAR	**Wonju Array Be**	**19.39**	**68**	P	**Pn**	**06 52 59.6**	**-0.1**
KSAR	**Wonju Array Be**	**19.39**	**68**	P	**Pn**	**06 52 59.6**	**-0.1**
KSRS	**Korea Array**	**19.42**	**68**	P	**Pn**	**06 52 59.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=263,slow=9.7,SNR=3.4						
KSRS	**Korea Array**	**19.42**	**68**	P	**Pn**	**06 52 59.6**	**-0.5**
MKAR	**Makanchi Array**	**22.64**	**316**	P	**P**	**06 53 34.6**	**+1.0**
	comp=Z,1.2nm,0.5s,mb3.6,baz=112,slow=10,SNR=16						
MKAR	**Makanchi Array**	**22.64**	**316**	P	**P**	**06 53 34.6**	**+1.0**
MKAR	**Makanchi Array**	**22.64**	**316**	P	**P**	**06 53 34.6**	**+1.0**
ZALV	**Zalesovo Beam**	**26.01**	**332**	P	**P**	**06 54 05.5**	**-0.1**
	comp=Z,1.6nm,0.4s,mb3.9,baz=129,slow=12,SNR=5.5						
ZALV	**Zalesovo Beam**	**26.01**	**332**	P	**P**	**06 54 05.5**	**0.0**
ZALV	**Zalesovo Beam**	**26.01**	**332**	P	**P**	**06 54 05.5**	**-0.1**
KURK	**Kurchatov**	**26.79**	**321**	P	**P**	**06 54 12.8**	**+0.2**
	comp=Z,1.7nm,0.7s,mb3.7,baz=130,slow=8.4,SNR=14						
KURK	**Kurchatov**	**26.79**	**321**	P	**P**	**06 54 12.8**	**+0.2**
KURK	**Kurchatov**	**26.79**	**321**	P	**P**	**06 54 12.9**	**+0.2**
BVAR	**Borovoye Array**	**32.37**	**320**	P	**P**	**06 55 02.5**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=120,slow=9.2,SNR=6.6						
BVAR	**Borovoye Array**	**32.37**	**320**	P	**P**	**06 55 02.5**	**+0.3**
BVAR	**Borovoye Array**	**32.37**	**320**	P	**P**	**06 55 02.5**	**+0.4**
ABKAR	**Akbulak array**	**37.50**	**310**	*e*P	**P**	**06 55 46.4**	**-0.1**
	comp=Z,2.9nm,0.9s,mb4.1						
AKTO	**Aktyubinsk**	**38.93**	**312**	P	**P**	**06 55 59.0**	**+0.5**
	comp=Z,0.7nm,0.3s,mb3.8,baz=97,slow=13,SNR=3.6						
AKTO	**Aktyubinsk**	**38.93**	**312**	P	**P**	**06 55 59.0**	**+0.5**
AKTO	**Aktyubinsk**	**38.93**	**312**	P	**P**	**06 55 59.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**53.87**	**156**	P	**P**	**06 57 55.0**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=333,slow=9.0,SNR=2.9						
FITZ	**Fitzroy Crossi**	**53.87**	**156**	P	**P**	**06 57 55.0**	**-1.1**
ARCES	**ARCESS Array B**	**56.49**	**335**	P	**P**	**06 58 14.2**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.5,baz=78,slow=6.6,SNR=7.6						
ARCES	**ARCESS Array B**	**56.49**	**335**	P	**P**	**06 58 14.2**	**-0.3**
ARCES	**ARCESS Array B**	**56.49**	**335**	P	**P**	**06 58 14.2**	**-0.3**
KAF	**Kangasniemi**	**56.83**	**327**	*e*P	**P**	**06 58 18.0**	**+1.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**56.83**	**327**	*e*p	**P**	**06 58 18.0**	**+1.0**
	comp=Z,1.0nm,0.3s,mb4.3						
BRTR	**Keskin Array B**	**56.86**	**299**	P	**P**	**06 58 17.6**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=86,slow=4.0,SNR=3.3						
BRTR	**Keskin Array B**	**56.86**	**299**	P	**P**	**06 58 17.6**	**0.0**
BRTR	**Keskin Array B**	**56.86**	**299**	P	**P**	**06 58 17.6**	**0.0**
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**06 58 17.1**	**-1.2**
	comp=Z,2.4nm,0.7s,mb4.3,baz=73,slow=6.6,SNR=5.4						
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**06 58 17.1**	**-1.2**
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**06 58 17.2**	**-1.2**
AKASG	**Malin Array Be**	**57.16**	**313**	P	**P**	**06 58 18.6**	**-0.9**
	comp=Z,0.6nm,0.4s,mb4.0,baz=71,slow=7.5,SNR=3.5						
AKASG	**Malin Array Be**	**57.16**	**313**	P	**P**	**06 58 18.6**	**-0.9**
AKASG	**Malin Array Be**	**57.16**	**313**	P	**P**	**06 58 18.6**	**-0.9**
WRAB	**Tennant Creek**	**59.04**	**148**	*e*P	**P**	**06 58 32.4**	**-0.5**
	comp=Z,4.7nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**59.04**	**148**	*e*P	**P**	**06 58 32.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**59.04**	**148**	P	**P**	**06 58 32.4**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.5,baz=340,slow=7.4,SNR=37						
WRA	**Warramunga Arr**	**59.04**	**148**	P	**P**	**06 58 32.4**	**-0.5**
WRA	**Warramunga Arr**	**59.04**	**148**	P	**P**	**06 58 32.4**	**-0.5**
WB2	**Warramunga Arr**	**59.04**	**148**	*e*P	**P**	**06 58 32.4**	**-0.6**
ASAR	**Alice Springs**	**62.11**	**150**	P	**P**	**06 58 53.5**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.3,baz=338,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**62.11**	**150**	P	**P**	**06 58 53.5**	**-0.3**
ASAR	**Alice Springs**	**62.11**	**150**	P	**P**	**06 58 53.6**	**-0.3**
NOA	**NORSAR Array B**	**64.08**	**327**	P	**P**	**06 59 05.3**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=73,slow=6.8,SNR=3.7						
NOA	**NORSAR Array B**	**64.08**	**327**	P	**P**	**06 59 05.3**	**-1.2**
NOA	**NORSAR Array B**	**64.08**	**327**	P	**P**	**06 59 05.3**	**-1.2**
ILAR	**Eielson Array**	**68.39**	**26**	P	**P**	**06 59 32.7**	**-1.4**
	comp=Z,0.2nm,0.4s,mb3.5,baz=288,slow=4.4,SNR=5.9						
ILAR	**Eielson Array**	**68.39**	**26**	P	**P**	**06 59 32.7**	**-1.4**
ILAR	**Eielson Array**	**68.39**	**26**	P	**P**	**06 59 32.7**	**-1.4**
INK	**Inuvik**	**70.74**	**20**	P	**P**	**06 59 48.1**	**-0.5**
	baz=312,slow=3.6						
INK	**Inuvik**	**70.74**	**20**	P	**P**	**06 59 48.1**	**-0.5**
INK	**Inuvik**	**70.74**	**20**	P	**P**	**06 59 48.1**	**-0.5**
STKA	**Stephens Creek**	**72.59**	**148**	P	**P**	**06 59 59.2**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=235,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**72.59**	**148**	P	**P**	**06 59 59.2**	**-0.9**
STKA	**Stephens Creek**	**72.59**	**148**	P	**P**	**06 59 59.2**	**-0.9**
YKA	**Yellowknife Ar**	**80.29**	**18**	P	**P**	**07 00 43.0**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=327,slow=5.1,SNR=28						
YKA	**Yellowknife Ar**	**80.29**	**18**	P	**P**	**07 00 43.0**	**-0.5**
YKA	**Yellowknife Ar**	**80.29**	**18**	P	**P**	**07 00 43.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**94.05**	**288**	P	**P**	**07 01 50.4**	**-1.3**
	comp=Z,0.3nm,0.8s,mb3.8,baz=64,slow=3.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**94.05**	**288**	P	**P**	**07 01 50.4**	**-1.3**

*ISCJB **17** 07:14:24.3±1.3, 42°.81N±0°.08×16°.94E±0°.07, h10km, Error ellipse: s-maj=12.9km s-min=4.8km az=24.2*
*CSEM **17** 07:14:24.5±0.8, 42°.87N×16°.92E, h2km, ML2.6, Error ellipse: s-maj=19.9km s-min=7.1km az=27.0*
*BEO **17** 07:14:26.8±0.8, 43°.02N×17°.01E, h0km, ML2.6/6*
ISC 17 07:14:25.4±1.3, 42°.83N±0°.08×16°.93E±0°.07, h10km, n17, σ0§98/31, 2C-2D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.57**	**86**	*e*Pg	**Pg**	**07 14 33.5**	**-2.8**
STON				Sg	**Sg**	**07 14 42.1**	**-1.7**
STON	**Ston**	**0.57**	**86**	*e*Pg	**Pg**	**07 14 33.5**	**-2.8**
STON				Sg	**Sg**	**07 14 42.0**	**-1.8**
PDG	**Podgorica**	**1.76**	**102**	*e*Pg	**Pg**	**07 14 59.0**	**-0.1**
PDG				*e*Sg	**Sg**	**07 15 21.9**	**0.0**
PDG	**Podgorica**	**1.76**	**102**	*e*Pg	**Pg**	**07 14 59.0**	**-0.1**
PDG				*e*Sg	**Sg**	**07 15 21.9**	**0.0**
BLY	**Banja Luka**	**1.93**	**5⇓**	*i* Pn	**Pn**	**07 14 58.0**	**-0.1**
BLY				*e*Sn	**Sn**	**07 15 21.9**	**-0.5**
BLY	**Banja Luka**	**1.93**	**5⇓**	*i* Pn	**Pn**	**07 14 58.0**	**-0.1**
BLY				*e*Sn	**Sn**	**07 15 21.9**	**-0.5**
BBLS	**Lazići**	**2.08**	**59**	*e*Pn	**Pn**	**07 15 01.4**	**+1.1**
BBLS				*e*Sg	**Sg**	**07 15 27.9**	**-4.3**
BBLS	**Lazići**	**2.08**	**59**	*e*Pn	**Pn**	**07 15 01.4**	**+1.1**
SJES	**Sjenica**	**2.27**	**78**	*e*Pn	**Pn**	**07 15 04.6**	**+1.7**
SJES				*e*Sn	**Sn**	**07 15 31.1**	**+0.2**
NVLJ	**Novalja**	**2.29**	**320**	*i* Pn	**Pn**	**07 15 02.1**	**-1.0**
NVLJ				Sn	**Sn**	**07 15 31.6**	**+0.3**
NVLJ	**Novalja**	**2.29**	**320**	*i* Pn	**Pn**	**07 15 02.1**	**-1.0**
NVLJ				Sn	**Sn**	**07 15 31.5**	**+0.2**
IVAS	**Ivanjica**	**2.47**	**71**	*e*Pn	**Pn**	**07 15 06.0**	**+0.4**
IVAS				*e*Sn	**Sn**	**07 15 36.8**	**+1.0**
IVAS	**Ivanjica**	**2.47**	**71**	*e*Pn	**Pn**	**07 15 06.0**	**+0.4**
IVAS				*e*Sn	**Sn**	**07 15 36.8**	**+1.0**
DIVS	**Divibare**	**2.56**	**59⇑**	*i* Pn	**Pn**	**07 15 06.7**	**-0.2**
DIVS				*e*Sn	**Sn**	**07 15 37.9**	**-0.2**
DIVS	**Divibare**	**2.56**	**59⇑**	*i* Pn	**Pn**	**07 15 06.7**	**-0.2**
DIVS				*e*Sn	**Sn**	**07 15 37.9**	**-0.2**
GRUS	**Gruza**	**2.96**	**68**	*e*Sn	**Sn**	**07 15 48.7**	**+0.9**
GRUS	**Gruza**	**2.96**	**68**	*e*Sn	**Sn**	**07 15 48.7**	**+0.9**

**IDC 17 07:20:54.7±1.8, 1°.82N×126°.14E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, Error ellipse: s-maj=185.2km s-min=21

SONM	**Songino Array**	**9.12 69**	P	**Pn**	**07 32 03.5 +0.9**
SONM			pmax	pmax	
	comp=Z,2.0nm,0.3s				
ZALV	**Zalesovo Beam**	**10.52 330**	Pn	**Pn**	**07 32 20.6 -1.2**
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=3.2				
ZALV			Lg		07 35 18.4
	comp=Z,0.8nm,0.3s,baz=157,slow=23,SNR=3.7				
ZALV			LR	LR	07 36 38.5
	comp=Z,76nm,20.6s,baz=294,slow=40				
ZALV	**Zalesovo Beam**	**10.52 330**	Pn	**Pn**	**07 32 20.6 -1.2**
ZALV			Lg		07 35 18.4
ZALV	**Zalesovo Beam**	**10.52 330**	P	**Pn**	**07 32 20.6 -1.1**
ZALV			MLR	MLR	
	comp=Z,76nm,20.6s				
KURK	**Kurchatov**	**11.55 304**	Pn	**Pn**	**07 32 34.8 -1.1**
	comp=Z,0.1nm,0.3s,baz=111,slow=14,SNR=16				
KURK			Lg		07 35 54.9
	comp=Z,0.5nm,0.3s,baz=106,slow=33,SNR=7.7				
KURK	**Kurchatov**	**11.55 304**	⇑Pn	**Pn**	**07 32 34.6 -1.3**
	comp=Z,6.4nm,0.8s				
KURK			⇑Lg		07 35 58.0
	comp=Z,111nm,0.9s				
KURK	**Kurchatov**	**11.55 304**	*e*Pn	**Pn**	**07 32 34.8 -1.1**
	comp=Z,5.0nm,0.5s				
KURK			Lg		07 35 54.9
KURK	**Kurchatov**	**11.55 304**	P	**Pn**	**07 32 34.8 -1.1**
KURBB	**Kurchatov Arra**	**11.57 304**	⇑Pn	**Pn**	**07 32 34.8 -1.4**
	comp=Z,0.8nm,0.7s				
TKM2	**Tokmak 2**	**13.25 267**	⇑Pn	**Pn**	**07 32 59.1 -0.1**
	comp=Z,5.5nm,0.6s				
TKM2	**Tokmak 2**	**13.25 267**	*e*Pn	**Pn**	**07 32 59.5 +0.4**
	comp=Z,6.6nm,0.6s				
TKM2	**Tokmak 2**	**13.25 267**	*e*P	**Pn**	**07 32 59.5 +0.3**
TKM2			pmax	pmax	
	comp=Z,7.0nm,0.6s				
HHC	**Hu-ho-hao-te**	**13.73 102**	*e*P	**Pn**	**07 33 05.9 +0.2**
HHC			sP		07 33 12.4
HHC			PP		07 33 17.8
HHC			S	**Sn**	**07 35 39.1 +0.9**
HHC			SS		07 35 53.5
HHC			pmax	pmax	
	comp=Z,15nm,0.7s				
HHC			LR	LR	
	comp=N,410nm,5.4s				
HHC			LR	LR	
	comp=E,280nm,5.0s				
HHC			LR	LR	
	comp=Z,230nm,8.3s				
AAK	**Ala-Archa**	**14.11 266**	*e*Pn	**Pn**	**07 33 11.8 +1.0**
	comp=Z,8.3nm,0.8s				
AAK	**Ala-Archa**	**14.11 266**	*e*P	**Pn**	**07 33 11.9 +1.0**
AAK			pmax	pmax	
	comp=Z,8.0nm,0.8s				
KSH	**Kashi**	**14.30 253**	*e*P	**Pn**	**07 33 18.3 +4.8**
KSH			pP	pP	07 33 21.8 -1.7
KSH			sP	sP	07 33 25.3 +0.5
KSH			PP		07 33 30.3
KSH			S	**Sn**	**07 36 02.3 +10**
KSH			sS		07 36 08.5
KSH			SS		07 36 20.3
KSH			PcP	PcP	07 38 29.8 -0.7
KSH			ScP	ScP	07 42 01.9 -2.1
KSH			PcS	PcS	07 42 03.8 -1.5
KSH			pmax	pmax	
	comp=Z,39nm,2.3s				
KSH			LR	LR	
	comp=N,100nm,5.7s				
KSH			LR	LR	
	comp=E,170nm,5.6s				
KSH			LR	LR	
	comp=Z,170nm,6.3s				
VOSK	**Vostochnaya**	**16.71 305**	⇓Pn	**Pn**	**07 33 46.0 +1.0**
	comp=Z,3.9nm,1.2s				
KK31	**Karatay Array**	**16.80 271**	⇓Pn	**Pn**	**07 33 45.7 -0.6**
	comp=Z,2.6nm,0.7s				
KK31	**Karatay Array**	**16.80 271**	P	**Pn**	**07 33 45.6 -0.7**
KKAR	**Karatay Array**	**16.80 271**	*e*Pn	**Pn**	**07 33 46.6 +0.3**
	comp=Z,3.3nm,0.7s				
KKAR	**Karatay Array**	**16.80 271**	*e*P	**Pn**	**07 33 46.6 +0.3**
KKAR			pmax	pmax	
	comp=Z,3.0nm,0.7s				
BVA0	**Borovoye Array**	**17.14 306**	Pn	**Pn**	**07 33 51.5 +1.0**
	comp=Z,0.4nm,0.8s,baz=112,slow=12,SNR=7.6				
BVAR	**Borovoye Array**	**17.14 306**	Pn	**Pn**	**07 33 49.4 -1.1**
	comp=Z,0.3nm,0.3s,baz=109,slow=13,SNR=8.6				
BVAR			Sn	**Sn**	**07 36 52.1 -8.8**
	comp=Z,0.1nm,0.3s,baz=110,slow=20,SNR=2.5				
BVAR			Lg		07 38 50.5
	comp=Z,0.1nm,0.3s,baz=91,slow=22,SNR=3.3				
BVAR	**Borovoye Array**	**17.14 306**	Pn	**Pn**	**07 33 49.4 -1.1**
BVAR			Sn	**Sn**	**07 36 52.1 -8.8**
BVAR			Lg		07 38 50.5
BVAR	**Borovoye Array**	**17.14 306**	P	**Pn**	**07 33 49.4 -1.1**
BVAR					07 36 52.1
BRVK	**Borovoye**	**17.21 306**	*e*Pn	**Pn**	**07 33 49.8 -1.6**
	comp=Z,3.0nm,0.6s				
BRVK	**Borovoye**	**17.21 306**	*e*P	**Pn**	**07 33 49.8 -1.6**
BRVK			pmax	pmax	
	comp=Z,3.0nm,0.6s				
SHL	**Shillong**	**19.62 185**	*ex*	x	07 34 25.3
KBL	**Kabul**	**21.65 249**	*e*P	**P**	**07 34 46.1 +4.5**
	comp=Z,8.1nm,0.9s,mb4.2				
KBL	**Kabul**	**21.65 249**	*e*P	**P**	**07 34 46.1 +4.5**
KBL			pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.2				
ABKAR	**Akbulak array**	**23.20 292**	*e*P	**P**	**07 34 58.7 +0.8**
	comp=Z,2.2nm,0.6s,mb3.8				
AKTO	**Aktyubinsk**	**24.41 295**	P	**P**	**07 35 09.7 +0.3**
	comp=Z,0.5nm,0.3s,mb3.5,baz=108,slow=9.6,SNR=4.0				
AKTO	**Aktyubinsk**	**24.41 295**	P	**P**	**07 35 09.7 +0.3**
AKTO	**Aktyubinsk**	**24.41 295**	P	**P**	**07 35 09.7 +0.3**
AKTO			pmax	pmax	
	comp=Z,1.0nm,0.3s,mb3.7				
ARU	**Arti**	**24.64 310**	P	**P**	**07 35 13.7 +2.2**
ARU	**Arti**	**24.64 310**	P	**P**	**07 35 13.7 +2.2**
CMAR	**Chiang Mai Arr**	**26.99 169**	P	**P**	**07 35 41.1 +8.2**
	comp=Z,0.7nm,0.3s,mb3.6,baz=356,slow=10,SNR=5.2				
CMAR	**Chiang Mai Arr**	**26.99 169**	P	**P**	**07 35 41.1 +8.2**
CMAR	**Chiang Mai Arr**	**26.99 169**	P	**P**	**07 35 41.2 +8.2**
CMAR			pmax	pmax	
	comp=Z,1.0nm,0.3s				
FINES	**FINESS Array B**	**41.49 318**	P	**P**	**07 37 38.4 +0.5**
	comp=Z,1.9nm,0.8s,mb3.8,baz=98,slow=10.0,SNR=3.2				
FINES	**FINESS Array B**	**41.49 318**	P	**P**	**07 37 38.4 +0.5**
FINES	**FINESS Array B**	**41.49 318**	P	**P**	**07 37 38.4 +0.5**
FINES			pmax	pmax	
	comp=Z,2.0nm,0.9s				
AKASG	**Malin Array Be**	**42.35 302**	P	**P**	**07 37 44.9 -0.1**
	comp=Z,0.6nm,0.4s,mb3.6,baz=64,slow=9.2,SNR=2.9				
AKASG	**Malin Array Be**	**42.35 302**	P	**P**	**07 37 44.9 -0.1**
AKASG	**Malin Array Be**	**42.35 302**	P	**P**	**07 37 44.9 -0.1**
AKASG			pmax	pmax	
	comp=Z,1.0nm,0.4s				
HFS	**Hagfors**	**47.69 318**	P	**P**	**07 38 27.9 +0.5**
	comp=Z,2.9nm,1.0s,mb4.3,baz=57,slow=5.3,SNR=4.1				
HFS	**Hagfors**	**47.69 318**	P	**P**	**07 38 27.9 +0.5**
HFS	**Hagfors**	**47.69 318**	P	**P**	**07 38 27.9 +0.5**
HFS			pmax	pmax	
	comp=Z,3.0nm,1.0s				
ILAR	**Eielson Array**	**60.66 25**	P	**P**	**07 40 01.1 -0.6**
	comp=Z,0.6nm,0.8s,mb3.8,baz=300,slow=4.9,SNR=6.3				
ILAR	**Eielson Array**	**60.66 25**	P	**P**	**07 40 01.1 -0.6**
ILAR	**Eielson Array**	**60.66 25**	P	**P**	**07 40 01.2 -0.6**
ILAR			pmax	pmax	
	comp=Z,1.0nm,0.8s				
INK	**Inuvik**	**61.46 18**	P	**P**	**07 40 06.8 -0.3**
	comp=Z,1.4nm,0.8s,mb4.2,baz=342,slow=3.2,SNR=4.4				
INK	**Inuvik**	**61.46 18**	P	**P**	**07 40 06.8 -0.3**
INK	**Inuvik**	**61.46 18**	P	**P**	**07 40 06.8 -0.4**
INK			pmax	pmax	
	comp=Z,1.0nm,0.8s				
YKA	**Yellowknife Ar**	**70.31 14**	P	**P**	**07 41 03.3 -0.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=337,slow=6.4,SNR=4.4				
YKA	**Yellowknife Ar**	**70.31 14**	P	**P**	**07 41 03.3 -0.9**
YKA	**Yellowknife Ar**	**70.31 14**	P	**P**	**07 41 03.3 -0.9**
WRA	**Warramunga Arr**	**74.59 141**	P	**P**	**07 41 36.3 +6.1**
	comp=Z,0.6nm,0.9s,mb3.5,baz=341,slow=6.4,SNR=5.2				
WRA	**Warramunga Arr**	**74.59 141**	P	**P**	**07 41 36.3 +6.1**
WRA	**Warramunga Arr**	**74.59 141**	P	**P**	**07 41 36.3 +6.1**
WRA			pmax	pmax	
	comp=Z,1.0nm,0.9s				

ISCJB ***17*** *07:37:48.9±0.2, 45°.66N±0°.01×26°.49E±0°.02, h97km±2km, mb3.8/15, Error ellipse: s-maj=2.5km s-min=2.1km az=152.0*

MOS ***17*** *07:37:49.2±0.8, 45°.71N×26°.50E, h86km, mb4.0/9, Error ellipse: s-maj=6.8km s-min=4.5km az=111.5*

BUC ***17*** *07:37:49.9±0.5, 45°.69N×26°.48E, h89km±6km, MD4.6/2, Error ellipse: s-maj=4.0km s-min=3.7km az=88.0*

IDC ***17*** *07:37:50.3±0.5, 45°.64N×26°.39E, h79km±5km, mb3.6/14, mb1 3.8/18, mb1mx3.7/27, mbtmp3.6/18, MS3.0/2, Ms1 3.0/2, ms1mx2.5/44, Error ellipse: s-maj=17.6km s-min=11.9km az=152.0*

CSEM ***17*** *07:37:50.2±0.1, 45°.67N×26°.49E, h83km, mb4.0/9, Error ellipse: s-maj=2.1km s-min=1.8km az=64.0*

NEIC ***17*** *07:37:50.3, 45°.68N×26°.48E, h86km, MG4.3(BUC), After BUC.*

SOF ***17*** *07:37:50.9, 45°.63N×26°.41E, h72km, MD3.2*

BEO ***17*** *07:37:51.0±0.8, 45°.71N×26°.43E, h0km, ML4.0/1*

THE ***17*** *07:37:55.4, 45°.08N×26°.14E, h0km±5km, ML4.1/10, Error ellipse: s-maj=8.9km s-min=0.5km az=17.0*

ISC 17 07:37:50.2±0.1, 45°.65N±0°.01×26°.48E±0°.02, h89km±2km, n478, σ1$09/605, mb3.8/15, 71C-69D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.23**	**30**	⇑P	**Pn**	**07 38 02.7**	**-0.4**
PLOR				S	**Sn**	**07 38 13.1**	**+0.3**
PLOR	**Plostina**	**0.23**	**30**	⇑*i*P	**Pn**	**07 38 02.7**	**-0.4**
PLOR	**Plostina**	**0.23**	**30**	S	**Sn**	**07 38 13.1**	**+0.3**
PLOR	**Plostina**	**0.23**	**30**	⇑*i*P	**Pn**	**07 38 02.7**	**-0.4**
PLOR				*i* S	**Sn**	**07 38 13.1**	**+0.3**
PLOR	**Plostina**	**0.23**	**30**	⇑*i*P	**Pn**	**07 38 02.7**	**-0.4**
PLOR				*i* S	**Sn**	**07 38 13.1**	**+0.3**
VRI	**Vrincioaia**	**0.27**	**38**	⇑P	**Pn**	**07 38 03.1**	**-0.2**
VRI				S	**Sn**	**07 38 13.5**	**+0.4**
VRI	**Vrincioaia**	**0.27**	**38**	⇑*i*P	**Pn**	**07 38 03.1**	**-0.2**
VRI	**Vrincioaia**	**0.27**	**38**	S	**Sn**	**07 38 13.5**	**+0.4**
VRI	**Vrincioaia**	**0.27**	**38**	⇑*i*P	**Pn**	**07 38 03.1**	**-0.2**
VRI				*i* S	**Sn**	**07 38 13.5**	**+0.4**
VRI	**Vrincioaia**	**0.27**	**38**	⇑*i*P	**Pn**	**07 38 03.1**	**-0.2**
VRI				*i* S	**Sn**	**07 38 13.5**	**+0.4**
MLR	**Muntele Rosu**	**0.41**	**247**	⇑*i*Pg	**Pn**	**07 38 04.3**	**+0.2**
MLR				*e*Sg	**Sn**	**07 38 14.1**	**-0.4**
MLR	**Muntele Rosu**	**0.41**	**247**	P	**Pn**	**07 38 04.3**	**+0.2**
	baz=118,slow=11						
MLR				S	**Sn**	**07 38 14.3**	**-0.2**
	baz=180,slow=20						
MLR	**Muntele Rosu**	**0.41**	**247**	P	**Pn**	**07 38 04.3**	**+0.2**
MLR				S	**Sn**	**07 38 14.3**	**-0.2**
MLR	**Muntele Rosu**	**0.41**	**247**	⇑P	**Pn**	**07 38 04.5**	**+0.4**
MLR				S	**Sn**	**07 38 14.5**	**0.0**
MLR	**Muntele Rosu**	**0.41**	**247**	⇑*i*P	**Pn**	**07 38 04.4**	**+0.3**
MLR	**Muntele Rosu**	**0.41**	**247**	S	**Sn**	**07 38 14.4**	**-0.1**
MLR	**Muntele Rosu**	**0.41**	**247**	⇑*i*P	**Pn**	**07 38 04.4**	**+0.3**
MLR				*i* S	**Sn**	**07 38 14.4**	**-0.1**
MLR	**Muntele Rosu**	**0.41**	**247**	⇑*i*P	**Pn**	**07 38 04.4**	**+0.3**
MLR				S	**Sn**	**07 38 14.3**	**-0.2**
PETR		**0.53**	**82**	⇑*i*P	**Pn**	**07 38 05.6**	**+0.6**
PETR		**0.53**	**82**	S	**Sn**	**07 38 17.0**	**+0.9**
PETR		**0.53**	**82**	⇑*i*P	**Pn**	**07 38 05.6**	**+0.6**
PETR				*i* S	**Sn**	**07 38 17.0**	**+0.9**
PETR		**0.53**	**82**	⇑*i*P	**Pn**	**07 38 05.6**	**+0.6**
PETR				*i* S	**Sn**	**07 38 17.0**	**+0.9**
ISR	**Istrita**	**0.54**	**176**	⇓P	**Pn**	**07 38 06.2**	**+1.1**
ISR				S	**Sn**	**07 38 17.4**	**+1.3**
ISR	**Istrita**	**0.54**	**176**	⇓*i*P	**Pn**	**07 38 06.1**	**+1.0**
ISR	**Istrita**	**0.54**	**176**	S	**Sn**	**07 38 17.2**	**+1.1**
ISR	**Istrita**	**0.54**	**176**	⇓*i*P	**Pn**	**07 38 06.1**	**+1.0**
ISR				*i* S	**Sn**	**07 38 17.2**	**+1.1**
ISR	**Istrita**	**0.54**	**176**	⇓*i*P	**Pn**	**07 38 06.1**	**+1.0**
ISR				*i* S	**Sn**	**07 38 17.2**	**+1.1**
SECR		**0.68**	**206**	⇑*i*P	**Pn**	**07 38 07.7**	**+1.3**
SECR		**0.68**	**206**	S	**Sn**	**07 38 20.8**	**+2.3**
SECR		**0.68**	**206**	⇑*i*P	**Pn**	**07 38 07.7**	**+1.3**
SECR				*i* S	**Sn**	**07 38 20.8**	**+2.3**
SECR		**0.68**	**206**	⇑*i*P	**Pn**	**07 38 07.7**	**+1.3**
SECR				*i* S	**Sn**	**07 38 20.8**	**+2.3**
GHRR		**0.76**	**57**	⇓*i*P	**Pn**	**07 38 07.5**	**+0.3**
GHRR		**0.76**	**57**	S	**Sn**	**07 38 20.2**	**+0.3**
GHRR		**0.76**	**57**	⇓*i*P	**Pn**	**07 38 07.5**	**+0.3**
GHRR				*i* S	**Sn**	**07 38 20.2**	**+0.3**
GHRR		**0.76**	**57**	⇓*i*P	**Pn**	**07 38 07.5**	**+0.3**
GHRR				*i* S	**Sn**	**07 38 20.2**	**+0.3**
PLAR	**PLOIESTI**	**0.81**	**204**	S	**Sn**	**07 38 19.9**	**-0.8**
PLAR	**PLOIESTI**	**0.81**	**204**	*i* S	**Sn**	**07 38 19.9**	**-0.8**
PLAR	**PLOIESTI**	**0.81**	**204**	*i* S	**Sn**	**07 38 19.9**	**-0.8**
PGOR	**Pogoanele**	**0.82**	**154**	⇓*i*P	**Pn**	**07 38 08.9**	**+1.1**
PGOR	**Pogoanele**	**0.82**	**154**	S	**Sn**	**07 38 21.5**	**+0.5**
PGOR	**Pogoanele**	**0.82**	**154**	⇓*i*P	**Pn**	**07 38 08.9**	**+1.1**
PGOR				*i* S	**Sn**	**07 38 21.5**	**+0.5**
PGOR	**Pogoanele**	**0.82**	**154**	⇓*i*P	**Pn**	**07 38 08.9**	**+1.1**
PGOR				*i* S	**Sn**	**07 38 21.5**	**+0.5**
DOPR	**Dopca**	**0.83**	**293**	⇓*i*P	**Pn**	**07 38 07.6**	**-0.2**
DOPR	**Dopca**	**0.83**	**293**	S	**Sn**	**07 38 20.1**	**-1.0**
DOPR	**Dopca**	**0.83**	**293**	⇓*i*P	**Pn**	**07 38 07.6**	**-0.2**
DOPR				*i* S	**Sn**	**07 38 20.1**	**-1.0**
DOPR	**Dopca**	**0.83**	**293**	⇓*i*P	**Pn**	**07 38 07.6**	**-0.2**
DOPR				*i* S	**Sn**	**07 38 20.1**	**-1.0**
TESR		**0.87**	**8**	⇓*i*P	**Pn**	**07 38 07.8**	**-0.5**
TESR		**0.87**	**8**	S	**Sn**	**07 38 20.2**	**-1.6**
TESR		**0.87**	**8**	⇓*i*P	**Pn**	**07 38 07.8**	**-0.5**
TESR				*i* S	**Sn**	**07 38 20.2**	**-1.6**
TESR		**0.87**	**8**	⇓*i*P	**Pn**	**07 38 07.8**	**-0.5**
TESR				*i* S	**Sn**	**07 38 20.2**	**-1.6**
SULR		**0.99**	**190**	S	**Sn**	**07 38 24.9**	**+0.7**
SULR		**0.99**	**190**	*i* S	**Sn**	**07 38 24.9**	**+0.7**
SULR		**0.99**	**190**	*i* S	**Sn**	**07 38 24.9**	**+0.7**
AMRR	**Amara**	**1.20**	**150**	⇓P	**Pn**	**07 38 13.1**	**+0.9**
AMRR				S	**Sn**	**07 38 30.2**	**+1.5**
AMRR	**Amara**	**1.20**	**150**	⇓*i*P	**Pn**	**07 38 13.1**	**+0.9**
AMRR	**Amara**	**1.20**	**150**	S	**Sn**	**07 38 30.2**	**+1.5**
AMRR	**Amara**	**1.20**	**150**	⇓*i*P	**Pn**	**07 38 13.1**	**+0.9**
AMRR				*i* S	**Sn**	**07 38 30.2**	**+1.5**
AMRR	**Amara**	**1.20**	**150**	⇓*i*P	**Pn**	**07 38 13.1**	**+0.9**
AMRR				*i* S	**Sn**	**07 38 30.2**	**+1.5**
INCR	**INCERC-Sediu C**	**1.23**	**191**	⇑*i*P	**Pn**	**07 38 13.3**	**+0.8**
INCR	**INCERC-Sediu C**	**1.23**	**191**	S	**Sn**	**07 38 30.6**	**+1.3**
INCR	**INCERC-Sediu C**	**1.23**	**191**	⇑*i*P	**Pn**	**07 38 13.3**	**+0.8**
INCR				*i* S	**Sn**	**07 38 30.6**	**+1.3**
INCR	**INCERC-Sediu C**	**1.23**	**191**	⇑*i*P	**Pn**	**07 38 13.3**	**+0.8**
INCR				*i* S	**Sn**	**07 38 30.6**	**+1.3**
CFR	**Carcaliu**	**1.26**	**112**	⇓P	**Pn**	**07 38 12.7**	**-0.1**
CFR				S	**Sn**	**07 38 29.3**	**-0.5**
CFR	**Carcaliu**	**1.26**	**112**	⇓*i*P	**Pn**	**07 38 12.7**	**-0.1**
CFR	**Carcaliu**	**1.26**	**112**	S	**Sn**	**07 38 29.8**	**0.0**
CFR	**Carcaliu**	**1.26**	**112**	⇓*i*P	**Pn**	**07 38 12.7**	**-0.1**
CFR				*i* S	**Sn**	**07 38 29.8**	**0.0**
CFR	**Carcaliu**	**1.26**	**112**	⇓*i*P	**Pn**	**07 38 12.7**	**-0.1**
CFR				*i* S	**Sn**	**07 38 29.8**	**0.0**
CIOR	**Ciorogarla**	**1.28**	**200**	⇓*i*P	**Pn**	**07 38 13.9**	**+0.8**
CIOR	**Ciorogarla**	**1.28**	**200**	S	**Sn**	**07 38 31.2**	**+0.9**
CIOR	**Ciorogarla**	**1.28**	**200**	⇓*i*P	**Pn**	**07 38 13.9**	**+0.8**
CIOR				*i* S	**Sn**	**07 38 31.2**	**+0.9**
CIOR	**Ciorogarla**	**1.28**	**200**	⇓*i*P	**Pn**	**07 38 13.9**	**+0.8**
CIOR				*i* S	**Sn**	**07 38 31.2**	**+0.9**
BUC1	**Bucharest**	**1.34**	**194**	⇓P	**Pn**	**07 38 14.7**	**+0.8**
BUC1				S	**Sn**	**07 38 33.0**	**+1.2**
BUC1	**Bucharest**	**1.34**	**194**	⇓*i*P	**Pn**	**07 38 14.7**	**+0.8**
BUC1	**Bucharest**	**1.34**	**194**	S	**Sn**	**07 38 33.0**	**+1.2**
BUC1	**Bucharest**	**1.34**	**194**	⇓*i*P	**Pn**	**07 38 14.7**	**+0.8**
BUC1				*i* S	**Sn**	**07 38 33.0**	**+1.2**
BUC1	**Bucharest**	**1.34**	**194**	⇓*i*P	**Pn**	**07 38 14.7**	**+0.8**
BUC1				*i* S	**Sn**	**07 38 33.0**	**+1.2**
LEOM	**Leova**	**1.48**	**56**	P	**Pn**	**07 38 15.8**	**+0.3**
LEOM	**Leova**	**1.48**	**56**	⇑*i*P	**Pn**	**07 38 15.7**	**+0.2**
LEOM	**Leova**	**1.48**	**56**	S	**Sn**	**07 38 33.9**	**-0.8**
LEOM	**Leova**	**1.48**	**56**	⇑*i*P	**Pn**	**07 38 15.7**	**+0.2**
LEOM				*i* S	**Sn**	**07 38 33.9**	**-0.8**
LEOM	**Leova**	**1.48**	**56**	P	**Pn**	**07 38 15.8**	**+0.3**
LEOM				*i* S	**Sn**	**07 38 33.9**	**-0.8**
MDB	**Medias**	**1.55**	**289**	P	**Pn**	**07 38 16.9**	**+0.5**
MDB	**Medias**	**1.55**	**289**	⇑*i*P	**Pn**	**07 38 16.8**	**+0.4**
MDB	**Medias**	**1.55**	**289**	S	**Sn**	**07 38 36.2**	**-0.1**
MDB	**Medias**	**1.55**	**289**	⇑*i*P	**Pn**	**07 38 16.8**	**+0.4**
MDB				*i* S	**Sn**	**07 38 36.2**	**-0.1**
MDB	**Medias**	**1.55**	**289**	⇑*i*P	**Pn**	**07 38 16.8**	**+0.4**
MDB				*i* S	**Sn**	**07 38 36.2**	**-0.1**
HUMR	**Humele**	**1.55**	**224**	⇑*i*P	**Pn**	**07 38 16.9**	**+0.5**
HUMR	**Humele**	**1.55**	**224**	S	**Sn**	**07 38 36.5**	**+0.2**
HUMR	**Humele**	**1.55**	**224**	⇑*i*P	**Pn**	**07 38 16.9**	**+0.5**
HUMR				*i* S	**Sn**	**07 38 36.5**	**+0.2**
HUMR	**Humele**	**1.55**	**224**	⇑*i*P	**Pn**	**07 38 16.9**	**+0.5**
HUMR				*i* S	**Sn**	**07 38 36.5**	**+0.2**
TLCR		**1.71**	**105**	⇑P	**Pn**	**07 38 19.3**	**+0.8**
TLCR		**1.71**	**105**	⇑*i*P	**Pn**	**07 38 19.3**	**+0.8**
TLCR		**1.71**	**105**	⇑*i*P	**Pn**	**07 38 19.3**	**+0.8**
TLCR		**1.71**	**105**	⇑*i*P	**Pn**	**07 38 19.3**	**+0.8**
IAS	**Iasi**	**1.71**	**25**	⇑P	**Pn**	**07 38 18.3**	**-0.2**
IAS				S	**Sn**	**07 38 38.8**	**-1.3**
IAS	**Iasi**	**1.71**	**25**	⇑*i*P	**Pn**	**07 38 18.3**	**-0.2**
IAS	**Iasi**	**1.71**	**25**	S	**Sn**	**07 38 38.6**	**-1.5**
IAS	**Iasi**	**1.71**	**25**	⇑*i*P	**Pn**	**07 38 18.3**	**-0.2**
IAS				*i* S	**Sn**	**07 38 38.6**	**-1.5**
IAS	**Iasi**	**1.71**	**25**	⇑*i*P	**Pn**	**07 38 18.3**	**-0.2**
IAS				S	**Sn**	**07 38 38.8**	**-1.3**
PRAR	**RASCA**	**1.72**	**354**	⇓*i*P	**Pn**	**07 38 18.8**	**+0.2**
PRAR	**RASCA**	**1.72**	**354**	⇓*i*P	**Pn**	**07 38 18.8**	**+0.2**
PRAR	**RASCA**	**1.72**	**354**	⇓*i*P	**Pn**	**07 38 18.8**	**+0.2**
CVD	**Cernavoda**	**1.73**	**140**	⇓P	**Pn**	**07 38 19.3**	**+0.5**
CVD				S	**Sn**	**07 38 40.0**	**-0.5**
CVD	**Cernavoda**	**1.73**	**140**	⇓*i*P	**Pn**	**07 38 19.3**	**+0.5**
CVD	**Cernavoda**	**1.73**	**140**	S	**Sn**	**07 38 39.8**	**-0.7**
CVD	**Cernavoda**	**1.73**	**140**	⇓*i*P	**Pn**	**07 38 19.3**	**+0.5**
CVD				*i* S	**Sn**	**07 38 39.8**	**-0.7**
CVD	**Cernavoda**	**1.73**	**140**	⇓*i*P	**Pn**	**07 38 19.3**	**+0.5**
CVD				S	**Sn**	**07 38 40.0**	**-0.5**
TIRR	**Tirgusor**	**1.81**	**130**	⇓P	**Pn**	**07 38 20.5**	**+0.6**
TIRR				S	**Sn**	**07 38 41.6**	**-0.9**
TIRR	**Tirgusor**	**1.81**	**130**	⇓*i*P	**Pn**	**07 38 20.5**	**+0.6**
TIRR	**Tirgusor**	**1.81**	**130**	S	**Sn**	**07 38 41.6**	**-0.9**
TIRR	**Tirgusor**	**1.81**	**130**	⇓*i*P	**Pn**	**07 38 20.5**	**+0.6**
TIRR				*i* S	**Sn**	**07 38 41.6**	**-0.9**
TIRR	**Tirgusor**	**1.81**	**130**	⇓*i*P	**Pn**	**07 38 20.5**	**+0.6**
TIRR				*i* S	**Sn**	**07 38 41.6**	**-0.9**
LOT	**Lotru**	**1.92**	**265**	⇑*i*P	**Pn**	**07 38 21.2**	**0.0**
LOT	**Lotru**	**1.92**	**265**	S	**Sn**	**07 38 45.6**	**+0.7**
LOT	**Lotru**	**1.92**	**265**	⇑*i*P	**Pn**	**07 38 21.2**	**0.0**
LOT				*i* S	**Sn**	**07 38 45.6**	**+0.7**
LOT	**Lotru**	**1.92**	**265**	⇑*i*P	**Pn**	**07 38 21.2**	**0.0**
LOT				*i* S	**Sn**	**07 38 45.6**	**+0.7**
KIS	**Kishinev**	**2.10**	**49**	*e*P	**Pn**	**07 38 24.0**	**+0.4**
	300nm,0.9s						
KIS				*i* S	**Sn**	**07 38 48.0**	**-1.2**
	1μm,1.0s						
KIS	**Kishinev**	**2.10**	**49**	*e*P	**Pn**	**07 38 24.0**	**+0.4**
KIS				*i* S	**Sn**	**07 38 48.0**	**-1.2**
KIS				pmax	pmax		
	comp=Z,310nm,0.9s						
KIS				smax			
	comp=N,1μm,1.0s						
KIS				smax			
	comp=E,1.0nm,1.2s						
KIS	**Kishinev**	**2.10**	**49**	⇑*i*P	**Pn**	**07 38 24.1**	**+0.5**
KIS	**Kishinev**	**2.10**	**49**	S	**Sn**	**07 38 48.4**	**-0.8**
KIS	**Kishinev**	**2.10**	**49**	⇑*i*P	**Pn**	**07 38 24.1**	**+0.5**
KIS				*i* S	**Sn**	**07 38 48.4**	**-0.8**
KIS	**Kishinev**	**2.10**	**49**	*e*P	**Pn**	**07 38 24.0**	**+0.4**
	comp=E,1μm,1.0s						
KIS				*i* S	**Sn**	**07 38 48.4**	**-0.8**
BURAR	**Bucovina Array**	**2.15**	**336**	⇓P	**Pn**	**07 38 25.0**	**+0.8**
BURAR				S	**Sn**	**07 38 50.4**	**+0.1**
BURAR	**Bucovina Array**	**2.15**	**336**	⇓*i*P	**Pn**	**07 38 25.0**	**+0.8**
BURAR	**Bucovina Array**	**2.15**	**336**	S	**Sn**	**07 38 50.4**	**+0.1**
**BURAR

VTS S Sn 07 39 28.3 -3.2
VTS Vitosha 3.86 219 *i* P Pn 07 38 47.8 +0.5
VTS Vitosha 3.86 219⇑ *i*Pn Pn 07 38 47.3 0.0
VTS Vitosha 3.86 219 *i* P Pn 07 38 47.8 +0.5
VTS S Sn 07 39 28.3 -3.2
SVIS Svilajnac 3.99 252 *e*Pn Pn 07 38 48.9 -0.1
SVIS *e*Sn Sn 07 39 31.4 -3.2
KDZ Kurdzhali 4.08 191 P Pn 07 38 51.5 +1.3
KDZ Kurdzhali 4.08 191 P Pn 07 38 51.5 +1.3
UZH Uzhgorod 4.13 318 *d* P Pn 07 38 50.0 -0.8
UZH *e*S Sn 07 39 36.0 -1.9
UZH smax
comp=N,70nm,1.0s
UZH smax
comp=E,50nm,1.0s
UZH Uzhgorod 4.13 318 *i* P Pn 07 38 50.0 -0.8
UZH *e*S Sn 07 39 36.0 -1.9
RZN Rozhen 4.17 199 *i* P Pn 07 38 51.2 -0.2
RZN Rozhen 4.17 199 *i* P Pn 07 38 51.2 -0.2
KOLS Kolonicke sedl 4.36 320 *e*P Pn 07 38 54.4 +0.5
KOLS Kolonicke sedl 4.36 320 *e*P Pn 07 38 54.4 +0.5
KOLS Kolonicke sedl 4.36 320 *e*P Pn 07 38 54.4 +0.5
CTYL Yal??k??y-??at 4.38 162 *e*P Pn 07 38 54.8 +0.6
CTYL Yal??k??y-??at 4.38 162 *e*P Pn 07 38 54.8 +0.6
BARS Barje 4.39 231⇑ *i*Pn Pn 07 38 54.1 -0.3
BARS Barje 4.39 231⇑ *i*Pn Pn 07 38 54.1 -0.3
GRUS Gruza 4.47 249⇑ *i*Pn Pn 07 38 55.8 +0.3
GRUS Gruza 4.47 249⇑ *i*Pn Pn 07 38 55.8 +0.3
LVV L'vov 4.49 339 *e*P Pn 07 38 55.7 0.0
LVV *e*S Sn 07 39 44.9 -1.7
LVV L'vov 4.49 339 *e*P Pn 07 38 55.7 0.0
LVV *e*S Sn 07 39 44.9 -1.7
KKB Krupnik 4.51 214 *i* P Pn 07 38 57.4 +1.3
KKB Krupnik 4.51 214 *i* P Pn 07 38 57.4 +1.3
TRUS Trudelj 4.55 254 *e*Pn Pn 07 38 55.0 -1.5
TRUS Trudelj 4.55 254 *e*Pn Pn 07 38 55.0 -1.5
SELS Selova 4.55 240 *e*Pn Pn 07 38 56.0 -0.5
SELS Selova 4.55 240 *e*Pn Pn 07 38 56.0 -0.5
RDO Rodhopi 4.56 189 P Pn 07 38 57.4 +0.7
RDO S Sn 07 39 45.5 -2.9
RDO Rodhopi 4.56 189 P Pn 07 38 57.4 +0.7
RDO S Sn 07 39 45.5 -2.9
SLVT Silivri 4.59 164 *e*P Pn 07 38 58.1 +0.9
SLVT Silivri 4.59 164 *e*P Pn 07 38 58.1 +0.9
CTKS Kestanelik-??a 4.65 161 *e*P Pn 07 38 57.1 -0.9
CTKS Kestanelik-??a 4.65 161 *e*P Pn 07 38 57.1 -0.9
NVR Nevrokopi 4.70 205 P Pn 07 38 59.2 +0.5
NVR S Sn 07 39 48.8 -3.2
NVR Nevrokopi 4.70 205 P Pn 07 38 59.2 +0.5
NVR S Sn 07 39 48.8 -3.2
CRVS Cervenica-Dubn 4.72 315 *e*P Pn 07 38 58.6 -0.2
CRVS Cervenica-Dubn 4.72 315 *e*P Pn 07 38 58.6 -0.2
CRVS Cervenica-Dubn 4.72 315 *e*P Pn 07 38 58.6 -0.2
KWP Kalwaria Pacla 4.73 329 *e*P Pn 07 39 00.1 +1.2
KWP Kalwaria Pacla 4.73 329 *e*P Pn 07 39 00.1 +1.1
KWP Kalwaria Pacla 4.73 329 *e*P Pn 07 39 00.1 +1.1
PKSN Nyarlorinc 4.75 288⇓ *e*P Pn 07 39 00.1 +0.8
ALN Alexandroupoli 4.76 184 P Pn 07 39 00.3 +0.8
ALN Alexandroupoli 4.76 184 P Pn 07 39 00.3 +0.8
ALN Alexandroupoli 4.76 184 S Sn 07 39 51.5 -1.9
ALN Alexandroupoli 4.76 184 S Sn 07 39 51.5 -1.9
BGKT Bogazkoy 4.77 159 *e*P Pn 07 39 00.1 +0.5
BGKT Bogazkoy 4.77 159 *e*P Pn 07 39 00.1 +0.5
KLYT Kilyos 4.78 156 *e*P Pn 07 38 57.9 -1.8
KLYT Kilyos 4.78 156 *e*P Pn 07 38 57.9 -1.8
DIVS Divibare 4.87 254 *e*Pn Pn 07 39 00.5 -0.4
KAVA Kavala 4.87 198 P Pn 07 39 01.7 +0.7
KAVA S Sn 07 39 53.1 -2.9
KAVA Kavala 4.87 198 P Pn 07 39 01.7 +0.7
KAVA S Sn 07 39 53.1 -2.9
MFT Murefte 4.90 173 *e*P Pn 07 39 02.4 +1.0
MFT Murefte 4.90 173 *e*P Pn 07 39 02.4 +1.1
ENEZ Enez 4.92 183 *e*P Pn 07 39 00.9 -0.8
ENEZ Enez 4.92 183 *e*P Pn 07 39 00.9 -0.7
ISK Istanbul-Kandi 4.95 157 *e*P Pn 07 39 00.6 -1.5
ISK Istanbul-Kandi 4.95 157 *e*P Pn 07 39 00.6 -1.5
IVAS Ivanjica 4.97 248 *e*Pn Pn 07 39 01.7 -0.6
IVAS *e*Sn Sn 07 39 53.3 -5.2
IVAS Ivanjica 4.97 248 *e*Pn Pn 07 39 01.7 -0.6
ERIK Erikli-Kesan 4.98 180 *e*P Pn 07 39 01.7 -0.7
ERIK Erikli-Kesan 4.98 180 *e*P Pn 07 39 01.7 -0.7
KECS Kecovo 4.98 307 *e*P Pn 07 39 02.6 +0.2
KECS Kecovo 4.98 307 *e*P Pn 07 39 02.5 +0.1
KECS Kecovo 4.98 307 *e*P Pn 07 39 02.6 +0.2
RKY Sarkoy-Tekirda 4.99 174 *e*P Pn 07 39 02.5 -0.1
RKY Sarkoy-Tekirda 4.99 174 *e*P Pn 07 39 02.5 -0.1
SRS Serrai 5.00 206 P Pn 07 39 03.5 +0.8
SRS S Sn 07 39 56.5 -2.7
SRS Serrai 5.00 206 P Pn 07 39 03.5 +0.8
SRS S Sn 07 39 56.5 -2.7
SILT Sile 5.05 152 *e*P Pn 07 39 03.4 0.0
SILT Sile 5.05 152 *e*P Pn 07 39 03.4 0.0
PSZ Piszkesteto 5.06 299 P Pn 07 39 03.9 +0.4
PSZ Piszkesteto 5.06 299⇑ *e*Pn Pn 07 39 03.3 -0.2
PSZ Piszkesteto 5.06 299⇑ *i*P Pn 07 39 03.7 +0.2
PSZ Piszkesteto 5.06 299⇑ *i*P Pn 07 39 03.7 +0.2
PSZ Piszkesteto 5.06 299⇑ *i*P Pn 07 39 03.7 +0.2
STHS Stebnicka Huta 5.17 319 *e*P Pn 07 39 05.4 +0.4
STHS Stebnicka Huta 5.17 319 *e*P Pn 07 39 05.4 +0.4
STHS Stebnicka Huta 5.17 319 *e*P Pn 07 39 05.4 +0.4
VAY Valandovo 5.18 215 *i* Pn Pn 07 39 05.7 +0.5
VAY *e*Sg Sn 07 40 00.2 -3.4
VAY Valandovo 5.18 215 *i* Pn Pn 07 39 05.6 +0.4
SKO Skopje 5.18 227 *e*Pn Pn 07 39 14.1 +8.9
KNT Kendrikon 5.19 211 P Pn 07 39 06.5 +1.2
KNT S Sn 07 40 01.1 -2.8
KNT Kendrikon 5.19 211 P Pn 07 39 06.5 +1.2
KNT S Sn 07 40 01.1 -2.8
SEV Sevastopol' 5.21 100⇓ *i*P Pn 07 39 03.9 -1.6
SEV *e*S Sn 07 39 59.5 -4.7
SEV Sevastopol' 5.21 100 *i* P Pn 07 39 03.9 -1.6
GELI Tayfur-Gelibol 5.25 180 *e*P Pn 07 39 04.7 -1.5
GELI Tayfur-Gelibol 5.25 180 *e*P Pn 07 39 04.7 -1.4
LPK Lapseki 5.28 178 *e*P Pn 07 39 04.9 -1.6
LPK Lapseki 5.28 178 *e*P Pn 07 39 04.9 -1.6
KRBG Karabiga-Canak 5.29 173 *e*P Pn 07 39 06.6 -0.1
KRBG Karabiga-Canak 5.29 173 *e*P Pn 07 39 06.6 -0.1
SOH Sokhos 5.34 206 P Pn 07 39 08.2 +0.8
SOH S Sn 07 40 04.8 -2.7
SOH Sokhos 5.34 206 P Pn 07 39 08.2 +0.8
SOH S Sn 07 40 04.8 -2.7
BBLS Lazići 5.35 253 *e*Pn Pn 07 39 07.3 -0.1
BBLS Lazići 5.35 253 *e*Pn Pn 07 39 07.3 -0.1
KIEV Kiev 5.36 19 *i* P Pn 07 39 06.8 -0.8
KIEV Kiev 5.36 19 *i* P Pn 07 39 06.8 -0.8
ARMT Armutlu 5.37 160 *e*P Pn 07 39 07.7 -0.1
ARMT Armutlu 5.37 160 *e*P Pn 07 39 07.7 -0.1
AKASG Malin Array Be 5.37 19 P Pn 07 39 06.5 -1.2
comp=E,5.3nm,0.3s,baz=206,slow=12,SNR=22
AKASG S Sn 07 40 02.3 -5.9
comp=E,27nm,0.3s,baz=203,slow=22,SNR=13
AKASG Malin Array Be 5.37 19 P Pn 07 39 06.5 -1.2
AKASG S Sn 07 40 02.3 -5.9
AKASG Malin Array Be 5.37 19 P Pn 07 39 06.5 -1.2
AKASG S Sn 07 40 02.3 -5.9
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG smax
comp=N,27nm,0.3s
AKASG Malin Array Be 5.37 19 P Pn 07 39 06.5 -1.2
comp=N,5.0nm,0.3s
BNT Bandirma 5.40 168 *e*P Pn 07 39 08.5 +0.3
BNT Bandirma 5.40 168 *e*P Pn 07 39 08.5 +0.4
EDC Edincik 5.40 169 *e*P Pn 07 39 08.8 +0.7
EDC Edincik 5.40 169 *e*P Pn 07 39 08.8 +0.7
SIM Simferopol' 5.43 95 *e*P Pn 07 39 01.4 -7.1
BUD Budapest 5.46 292⇓ *e*Pn Pn 07 39 09.1 +0.2
BUD Budapest 5.46 292⇓ *e*P Pn 07 39 09.1 +0.2
PKSM Moragy 5.50 279 *e*Pn Pn 07 39 08.8 -0.7
PKSM Moragy 5.50 279 *e*Pn Pn 07 39 08.8 -0.7
PKSM Moragy 5.50 279⇑ *e*P Pn 07 39 09.9 +0.4
KCTX Karacabey (Bur 5.56 165 *e*P Pn 07 39 09.6 -0.7
YAL Yalta 5.56 99⇓ *e*P Pn 07 39 10.5 +0.2
YAL *e*S Sn 07 40 08.9 -3.8
YAL Yalta 5.56 99 *e*P Pn 07 39 10.5 +0.2
OUR Ouranopolis 5.62 200 P Pn 07 39 12.0 +0.8
OUR Ouranopolis 5.62 200 P Pn 07 39 12.0 +0.8
OUR Ouranopolis 5.62 200 S Sn 07 40 11.8 -2.6
OUR Ouranopolis 5.62 200 S Sn 07 40 11.8 -2.6
HORT Hortiatis 5.63 207 P Pn 07 39 12.3 +1.1
HORT Hortiatis 5.63 207 P Pn 07 39 12.3 +1.1
NIE Niedzica 5.63 314 *e*Pn Pn 07 39 11.8 +0.6
NIE *e* 07 39 13.3
NIE Niedzica 5.63 314 *e*P Pn 07 39 11.8 +0.6
NIE Niedzica 5.63 314 *e*P Pn 07 39 11.8 +0.6
KDZE Karadeniz Ereo 5.64 139 *e*P Pn 07 39 11.7 +0.3
KDZE Karadeniz Ereo 5.64 139 *e*P Pn 07 39 11.7 +0.3
GONE Gonen-Balikesi 5.67 171 *e*P Pn 07 39 12.0 +0.1
ALU Alushta 5.68 97⇓ *e*P Pn 07 39 11.7 -0.3
ALU *e*S Sn 07 40 12.4 -3.4
ALU Alushta 5.68 97 *e*P Pn 07 39 11.7 -0.3
PLG Polygyros 5.73 204 P Pn 07 39 13.8 +1.2
PLG S Sn 07 40 14.4 -2.5
PLG Polygyros 5.73 204 P Pn 07 39 13.8 +1.2
KRUS Krusevo 5.73 223 *i* Pn Pn 07 39 12.2 -0.4
KRUS Krusevo 5.73 223 *i* Pn Pn 07 39 12.2 -0.4
ADVT Abdulvahap 5.74 154 *e*P Pn 07 39 11.2 -1.5
EZN Ezine 5.82 181 *e*P Pn 07 39 15.0 +1.0
LIA Limnos Island 5.83 190 P Pn 07 39 15.0 +1.0
LIA S Sn 07 40 17.4 -2.0
LIA Limnos Island 5.83 190 P Pn 07 39 15.0 +1.0
VYHS Vyhne 5.95 301 *e*P Pn 07 39 16.0 +0.5
VYHS Vyhne 5.95 301 *e*P Pn 07 39 16.0 +0.5
VYHS Vyhne 5.95 301 *e*P Pn 07 39 16.0 +0.5
CAVI Cavuskoy 5.98 154 *e*P Pn 07 39 15.0 -1.1
CAVI Cavuskoy 5.98 154 *e*P Pn 07 39 15.0 -1.0
GULT Gulveren 5.99 149 *e*P Pn 07 39 17.4 +1.2
GULT Gulveren 5.99 149 *e*P Pn 07 39 17.4 +1.2
GPA Golpazari 6.05 151 *e*P Pn 07 39 16.6 -0.4
GPA Golpazari 6.05 151 *e*P Pn 07 39 16.6 -0.4
SUDU Sudak 6.06 94⇓ *e*P Pn 07 39 16.7 -0.4
SUDU *i* S Sn 07 40 21.4 -3.6
SUDU Sudak 6.06 94 *e*P Pn 07 39 16.7 -0.4
PAIG Paliouri 6.08 201 P Pn 07 39 18.0 +0.6
PAIG S Sn 07 40 23.1 -2.5
PAIG Paliouri 6.08 201 P Pn 07 39 18.0 +0.6
BALB Balikesir 6.10 170 *e*P Pn 07 39 16.1 -1.6
BALB Balikesir 6.10 170 *e*P Pn 07 39 16.1 -1.5
MDUB Mudurnu 6.22 145 *e*P Pn 07 39 17.1 -2.2
KOLL Kolacno 6.24 301 *e*P Pn 07 39 19.6 0.0
KOLL Kolacno 6.24 301 *e*P Pn 07 39 19.6 0.0
KOLL Kolacno 6.24 301 *e*P Pn 07 39 19.6 0.0
DST Dursunbey 6.25 165 *e*P Pn 07 39 19.3 -0.4
DST Dursunbey 6.25 165 *e*P Pn 07 39 19.3 -0.4
SAFT Safranbolu 6.31 132 *e*P Pn 07 39 18.8 -1.8
SAFT Safranbolu 6.31 132 *e*P Pn 07 39 18.8 -1.7
PRK Paraskevi 6.40 181 P Pn 07 39 23.6 +1.8
PRK Paraskevi 6.40 181 P Pn 07 39 23.6 +1.8
OJC Ojcow 6.41 318 *e*Pn Pn 07 39 22.2 +0.4
OJC Ojcow 6.41 318 *e*P Pn 07 39 22.2 +0.4
OJC Ojcow 6.41 318 *e*P Pn 07 39 22.2 +0.4
BZK Bozkurt 6.57 121 *e*P Pn 07 39 22.3 -1.8
XOR Xorichti 6.74 202 P Pn 07 39 27.3 +0.9
XOR S Sn 07 40 39.7 -1.8
XOR Xorichti 6.74 202 P Pn 07 39 27.3 +0.9
ESKT Eskisehir 6.92 151 *e*P Pn 07 39 29.1 +0.2
ESKT Eskisehir 6.92 151 *e*P Pn 07 39 29.1 +0.2
ALT Altintas 7.12 157 *e*P Pn 07 39 31.5 -0.1
ALT Altintas 7.12 157 *e*P Pn 07 39 31.5 -0.1
TOS Tosya 7.17 127 *e*P Pn 07 39 28.0 -4.3
TOS Tosya 7.17 127 *e*P Pn 07 39 28.0 -4.3
SVRH Sivrihisar-ESK 7.23 147 *e*P Pn 07 39 32.6 -0.5
SVRH Sivrihisar-ESK 7.23 147 *e*P Pn 07 39 32.6 -0.5
DIKM Dikmen 7.51 119 *e*P Pn 07 39 34.8 -2.2
VRAC Vranov 7.63 302 P Pn 07 39 38.3 -0.2
comp=N,2.4nm,0.3s,baz=276,slow=10,SNR=3.3
VRAC Vranov 7.63 302 P Pn 07 39 38.3 -0.2
VRAC Vranov 7.63 302 P Pn 07 39 38.3 -0.2
VRAC pmax pmax
comp=Z,2.0nm,0.3s
VRAC Vranov 7.63 302 P Pn 07 39 38.3 -0.2
comp=Z,2.0nm,0.3s
CONA Conrad Observa 7.64 291⇓ *i*Pn Pn 07 39 37.8 -0.8
CONA ⇓ *i*Sn Sn 07 41 01.2 -2.2
CONA Conrad Observa 7.64 291 Pn Pn 07 39 37.8 -0.8
SHUT Suhut-Afyon 7.71 156 *e*P Pn 07 39 39.6 0.0
SHUT Suhut-Afyon 7.71 156 *e*P Pn 07 39 39.6 0.0
ANN Anapa 7.78 92 *e*P Pn 07 39 32.4 -8.1
ANN pmax pmax
comp=Z,77nm,1.5s
ANN MLR MLR
comp=Z,173nm,7.0s
KIZT Kizilcal 7.86 148 *e*P Pn 07 39 41.5 -0.1
KIZT Kizilcal 7.86 148 *e*P Pn 07 39 41.5 -0.2
BRTR Keskin Array B 7.93 136 P Pn 07 39 42.4 -0.2
comp=Z,1.5nm,0.3s,baz=2.4,slow=24,SNR=36
BRTR S Sn 07 41 09.2 -1.4
baz=312,slow=24,SNR=2.0
BRTR Keskin Array B 7.93 136 P Pn 07 39 42.4 -0.2
BRTR S Sn 07 41 09.2 -1.4
BRTR Keskin Array B 7.93 136 P Pn 07 39 42.4 -0.2
BRTR S Sn 07 41 09.2 -1.4
BRTR pmax pmax
comp=Z,2.0nm,0.3s
BRTR Keskin Array B 7.93 136 P Pn 07 39 42.4 -0.2
comp=Z,2.0nm,0.3s
CORM Corum 8.10 130 *e*P Pn 07 39 44.0 -1.0
CORM Corum 8.10 130 *e*P Pn 07 39 44.0 -0.9
SUW Suwalki 8.64 347 *e*P Pn 07 39 51.0 -1.1
SUW Suwalki 8.64 347 *e*P Pn 07 39 51.0 -1.1
SUW Suwalki 8.64 347 *e*P Pn 07 39 51.0 -1.1
LADK Ladik-KONYA 8.64 147 *e*P Pn 07 39 51.8 -0.4
LADK Ladik-KONYA 8.64 147 *e*P Pn 07 39 51.8 -0.5
YOZ Yozgat 8.86 130 *e*P Pn 07 39 54.5 -0.7
YOZ Yozgat 8.86 130 *e*P Pn 07 39 54.5 -0.7
KONT Konya--Tatoy 8.86 148 *e*P Pn 07 39 55.1 -0.2
KONT Konya--Tatoy 8.86 148 *e*P Pn 07 39 55.1 -0.2
GERES GERESS Array B 9.26 295 P Pn 07 40 01.3 +0.6
comp=Z,0.3nm,0.3s,baz=106,slow=14,SNR=8.6
GERES GERESS Array B 9.26 295 P Pn 07 40 01.3 +0.6
GERES GERESS Array B 9.26 295 P Pn 07 40 01.3 +0.6
GERES GERESS Array B 9.26 295 P Pn 07 40 01.3 +0.6
KHC Kasperske Hory 9.42 296 *e*PN Pn 07 40 03.0 +0.2
VSR Storozhevoye 10.10 52 *e*P Pn 07 40 10.7 -1.3
VSR *e*S Sn 07 41 55.8 -7.5
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,7.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR smax
comp=N,130nm,1.0s
VSR smax
comp=Z,10.0nm,0.3s
VSR smax
comp=E,90nm,1.0s
VSR Storozhevoye 10.10 52 *e*P Pn 07 40 10.7 -1.3
comp=E,7.0nm,0.3s
OBN Obninsk 11.44 30 *e*P Pn 07 40 27.9 -2.3
OBN *e* 07 42 26.3
OBN pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 15.82 359 P Pn 07 41 21.5 -5.9
comp=Z,0.6nm,0.3s,baz=168,slow=13,SNR=9.3
FINES LR LR 07 47 28.2
comp=Z,116nm,21.9s,baz=348,slow=36
FINES FINESS Array B 15.82 359 P Pn 07 41 21.5 -5.9
FINES FINESS Array B 15.82 359 P Pn 07 41 21.5 -5.9
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES MLR MLR
comp=Z,116nm,21.9s
HFS Hagfors 16.38 337 P Pn 07 41 32.3 -2.0
comp=Z,0.6nm,0.3s,baz=141,slow=17,SNR=12
HFS Hagfors 16.38 337 P Pn 07 41 32.3 -2.0
HFS Hagfors 16.38 337 P Pn 07 41 32.3 -2.1
HFS pmax pmax
comp=Z,1.0nm,0.3s
EIL Elat 17.29 154 LR LR 07 48 30.4
comp=Z,24nm,19.6s,baz=253,slow=37
NB2 NORSAR Subarra 17.83 335 P Pn 07 41 50.2 -1.9
comp=Z,1.9nm,0.7s,baz=154,slow=9.3
NB2 NORSAR Subarra 17.83 335 P Pn 07 41 48.5 -3.6
comp=Z,2.7nm,1.0s,baz=140,slow=12
NOA NORSAR Array B 17.83 335 P Pn 07 41 50.0 -2.0
comp=Z,0.6nm,0.3s,baz=144,slow=11,SNR=7.8
NOA NORSAR Array B 17.83 335 P Pn 07 41 50.0 -2.0
NOA NORSAR Array B 17.83 335 P Pn 07 41 50.1 -2.0
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA NORSAR Array B 17.83 335 P Pn 07 41 50.1 -2.0
comp=Z,1.0nm,0.3s
AKTK Aktyubinsk 21.52 66 P **P** 07 42 32.6 +0.9
comp=Z,3.0nm,0.6s,mb3.8
AKTO Aktyubinsk 21.52 66 P **P** 07 42 32.6 +0.9
comp=Z,2.5nm,0.6s,mb3.7,baz=269,slow=12,SNR=6.8
AKTO Aktyubinsk 21.52 66 P **P** 07 42 32.6 +0.9
AKTO Aktyubinsk 21.52 66 P **P** 07 42 32.6 +0.9
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
AKTO Aktyubinsk 21.52 66 P **P** 07 42 32.6 +0.9
ARU Arti 22.66 50 P **P** 07 42 43.4 -0.2
ARU Arti 22.66 50 P **P** 07 42 43.4 -0.2
ESDC Sonseca Array 23.09 266 P **P** 07 42 47.0 -1.0
comp=Z,1.2nm,0.6s,mb3.4,baz=63,slow=8.0,SNR=4.3
ESDC Sonseca Array 23.09 266 P **P** 07 42 47.0 -1.0
ESDC Sonseca Array 23.09 266 P **P** 07 42 47.0 -1.0
ARCES ARCESS Array B 23.95 359 P **P** 07 42 56.7 +1.1
comp=Z,2.3nm,0.5s,mb3.8,baz=173,slow=11,SNR=18
ARCES ARCESS Array B 23.95 359 P **P** 07 42 56.7 +1.1
ARCES ARCESS Array B 23.95 359 P **P** 07 42 56.7 +1.1
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 23.95 359 P **P** 07 42 56.7 +1.1
comp=Z,2.0nm,0.5s,mb3.7
BVAR Borovoye Array 29.16 59 P **P** 07 43 44.5 +1.9
comp=Z,0.7nm,0.7s,mb3.4,baz=282,slow=7.0,SNR=4.8
BVAR Borovoye Array 29.16 59 P **P** 07 43 44.5 +1.9
BVAR Borovoye Array 29.16 59 P **P** 07 43 44.5 +2.0
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 29.16 59 P **P** 07 43 44.5 +2.0
comp=Z,1.0nm,0.7s,mb3.5
KURK Kurchatov 34.52 62 P **P** 07 44 30.8 +1.2
comp=Z,0.7nm,0.6s,mb3.7,baz=289,slow=9.6,SNR=4.1
KURK Kurchatov 34.52 62 P **P** 07 44 30.8 +1.2
KURK Kurchatov 34.52 62 P **P** 07 44 30.8 +1.2
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
KURK Kurchatov 34.52 62 P **P** 07 44 30.8 +1.2
comp=Z,1.0nm,0.6s,mb3.8
ZALV Zalesovo Beam 37.58 56 P **P** 07 44 57.2 +1.7
comp=Z,2.4nm,0.6s,mb4.2,baz=288,slow=8.4,SNR=7.5
ZALV Zalesovo Beam 37.58 56 P **P** 07 44 57.2 +1.7
ZALV Zalesovo Beam 37.58 56 P **P** 07 44 57.2 +1.7
ZALV pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ZALV Zalesovo Beam 37.58 56 P **P** 07 44 57.2 +1.7
comp=Z,2.0nm,0.6s,mb4.1
MKAR Makanchi Array 37.94 68 P **P** 07 45 00.6 +2.0
comp=Z,1.2nm,0.4s,mb4.1,baz=271,slow=8.1,SNR=29
MKAR Makanchi Array 37.94 68 P **P** 07 45 00.6 +2.0
MKAR Makanchi Array 37.94 68 P **P** 07 45 00.6 +1.9
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 37.94 68 P **P** 07 45 00.6 +1.9
comp=Z,1.0nm,0.4s,mb4.0
TORD Torodi Ar. Bea 38.61 221 P **P** 07 45 05.7 +1.1
comp=Z,1.7nm,0.3s,mb4.3,baz=31,slow=8.5,SNR=39
TORD pP pP 07 45 25.4 0.0
comp=Z,0.5nm,0.5s,baz=30,slow=8.0,SNR=2.9
TORD Torodi Ar. Bea 38.61 221 P **P** 07 45 05.7 +1.1
TORD pP pP 07 45 25.4 0.0
TORD Torodi Ar. Bea 38.61 221 P **P** 07 45 05.7 +1.1
TORD pP pP 07 45 25.4 0.0
DBIC Dimbokro 47.37 225 P **P** 07 46 15.4 +0.1
comp=Z,1.4nm,0.3s,mb4.2,baz=6.7,slow=6.0,SNR=15
DBIC Dimbokro 47.37 225 P **P** 07 46 15.4 +0.1
DBIC Dimbokro 47.37 225 P **P** 07 46 15.4 +0.2
DBIC pmax pmax
comp=Z,1.0nm,0.3s
DBIC Dimbokro 47.37 225 P **P** 07 46 15.4 +0.2
comp=Z,1.0nm,0.3s,mb4.0
SONM Songino Array 52.45 57 P **P** 07 46 55.7 +2.3
comp=Z,1.2nm,0.7s,mb4.0,baz=295,slow=7.9,SNR=9.3
SONM Songino Array 52.45 57 P **P** 07 46 55.7 +2.3
SONM Songino Array 52.45 57 P **P** 07 46 55.7 +2.3
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 52.45 57 P **P** 07 46 55.7 +2.3
comp=Z,1.0nm,0.7s,mb4.0
CMAR Chiang Mai Arr 64.85 89 P **P** 07 48 21.3 +1.5
comp=Z,0.7nm,0.3s,mb3.9,baz=316,slow=6.3,SNR=3.5
CMAR Chiang Mai Arr 64.85 89 P **P** 07 48 21.3 +1.5
CMAR Chiang Mai Arr 64.85 89 P **P** 07 48 21.3 +1.5
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 64.85 89 P **P** 07 48 21.3 +1.5
comp=Z,1.0nm,0.4s,mb4.0
YKA Yellowknife Ar 67.80 342 P **P** 07 48 39.0 +1.1
comp=Z,0.3nm,0.6s,mb3.3,baz=29,slow=5.8,SNR=8.8
YKA pP pP 07 48 59.7 -1.0
comp=Z,0.4nm,0.9s,baz=21,slow=6.0,SNR=3.5
YKA Yellowknife Ar 67.80 342 P **P** 07 48 39.0 +1.1
YKA pP pP 07 48 59.7 -1.0
YKA Yellowknife Ar 67.80 342 P **P** 07 48 39.0 +1.1
YKA *PP pP 07 48 59.7 -1.0
YKA Yellowknife Ar 67.80 342 P **P** 07 48 39.0 +1.1
YKA pP pP 07 48 59.7 -1.0
ILAR Eielson Array 69.80 357 P **P** 07 48 52.3 +2.1
comp=Z,0.2nm,0.6s,mb3.1,baz=352,slow=5.5,SNR=3.5
ILAR Eielson Array 69.80 357 P **P** 07 48 52.4 +2.1
ILAR Eielson Array 69.80 357 P **P** 07 48 52.4 +2.1
ILAR Eielson Array 69.80 357 P **P** 07 48 52.3 +2.0
TXAR Lajitas Array 92.72 318 P **P** 07 50 53.5 +1.2
comp=Z,0.2nm,0.8s,mb3.5,baz=59,slow=7.4,SNR=2.4
TXAR Lajitas Array 92.72 318 P **P** 07 50 53.5 +1.2
TXAR Lajitas Array 92.72 318 P **P** 07 50 53.5 +1.2
TXAR Lajitas Array 92.72 318 P **P** 07 50 53.5 +1.2

CSEM ***17*** *07:38:11.7±0.2, 38°.05N×28°.85E, h2km, ML2.2, Error ellipse: s-maj=8.1km s-min=3.6km az=127.0*

ISK 17 07:38:25.6, 37°.40N×28°.27E, h6km, ML2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.27**	**178**	*e*PG	Pg	07 38 31.9	+1.1
YER				*e*SG	Sg	07 38 34.8	+0.5
YER	**Yerkesik**	**0.27**	**178**	*e*Pg	Pg	07 38 31.9	+1.1
BODT	**Bodrum**	**0.84**	**246**	*e*PG	Pg	07 38 41.9	+0.2
BODT				*e*SG	Sg	07 38 53.7	+1.1
BODT	**Bodrum**	**0.84**	**246**	*e*Pg	Pg	07 38 41.9	+0.2
DAT	**Datca**	**0.87**	**220**	*e*PG	Pg	07 38 43.0	+0.7
DAT				*e*SG	Sg	07 38 56.1	+2.4
DAT	**Datca**	**0.87**	**220**	*e*Pg	Pg	07 38 43.0	+0.7

IDC 17 07:41:16.5±1.1, 34°.31N×81°.62E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/25, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=42.5km s-min=22.8km az=55.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.48**	**2**	Pn	Pn	07 44 16.3	+1.0
	0.1nm,0.3s,baz=182,slow=12,SNR=8.3						
KURK	**Kurchatov**	**16.54**	**353**	Pn	Pn	07 45 12.7	+3.0
	0.0nm,0.3s,baz=164,slow=12,SNR=5.6						
BVAR	**Borovoye Array**	**20.35**	**340**	P	P	07 45 56.3	+2.0
	1.6nm,0.7s,baz=142,slow=9.8,SNR=9.0						
CMAR	**Chiang Mai Arr**	**22.08**	**131**	P	P	07 46 14.1	+0.9
	0.8nm,0.3s,baz=313,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**73.65**	**129**	P	P	07 52 52.2	+0.2
	0.2nm,0.6s,baz=323,slow=5.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**74.47**	**275**	P	P	07 52 57.0	0.0
	0.3nm,0.5s,baz=39,slow=5.5,SNR=2.7						
YKA	**Yellowknife Ar**	**82.65**	**8**	P	P	07 53 39.7	-1.6
	0.2nm,0.5s,baz=343,slow=5.3,SNR=4.9						

ISCJB ***17*** *07:49:20.7±1.7, 24°.04S±0°.07×179°.9W±0°.1, h486km±26km, mb4.3/14, Error ellipse: s-maj=15.5km s-min=10.1km az=28.5*

IDC ***17*** *07:49:21.7±1.9, 24°.16S×179°.87W, h477km±19km, mb3.7/9, mb1 3.8/11, mb1mx3.6/20, mbtmp3.7/11, Error ellipse: s-maj=20.6km s-min=16.8km az=29.0*

NEIC ***17*** *07:49:22.3±1.1, 24°.11S×179°.89W, h491km±16km, mb4.3/1, Error ellipse: s-maj=12.8km s-min=11.6km az=153.0*

ISC 17 07:49:22.0±1.5, 24°.16S±0°.08×179°.9W±0°.1, h482km±22km, n38, ₙ0°90/38, mb4.3/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.76**	**38**	P	**P**	**07 52 08.3**	**-0.6**
	1.9nm,0.3s,baz=228,slow=12,SNR=3.1						

AFI			S		S	07 54 19.2	-7.3
	1.2nm,0.3s,baz=43,slow=19,SNR=2.4						
AFI	**Afiamalu**	**12.76 38**	P		**P**	**07 52 08.3**	**-0.6**
AFI			S		**S**	**07 54 19.2**	**-7.3**
URZ	**Urewera**	**14.28 190**	P		**P**	**07 52 26.0**	**+1.2**
	2.1nm,0.3s,baz=0.0,slow=4.0,SNR=8.5						
URZ			S		**S**	**07 54 54.0**	**-1.6**
	0.5nm,0.3s,baz=72,slow=20,SNR=4.3						
URZ	**Urewera**	**14.28 190**	*eP*		**P**	**07 52 26.2**	**+1.4**
URZ			S		**S**	**07 54 54.0**	**-1.6**
RPZ	**Rata Peaks**	**20.87 199**	P		**P**	**07 53 28.6**	**-0.7**
	7.0nm,0.7s,baz=13,slow=4.1,SNR=5.0						
RPZ	**Rata Peaks**	**20.87 199**	P		**P**	**07 53 28.6**	**-0.7**
ARMA	**Armidale**	**26.02 250**	*eP*		**P**	**07 54 17.3**	**+1.7**
CNB	**Canberra Magne**	**28.81 240**	*eP*		**P**	**07 54 41.7**	**+1.7**
	30nm,1.1s,mb4.6						
CTA	**Charters Tower**	**31.58 271**	P		**P**	**07 55 05.2**	**+1.0**
	20nm,0.3s,mb5.0,baz=94,slow=12,SNR=36						
CTA	**Charters Tower**	**31.58 271**	*eP*		**P**	**07 55 05.1**	**+0.9**
	15nm,0.3s,mb4.9						
CTA	**Charters Tower**	**31.58 271**	P		**P**	**07 55 05.2**	**+1.0**
CTAO	**Charters Tower**	**31.58 271**	*eP*		**P**	**07 55 04.3**	**+0.1**
TOO	**Toolangi**	**32.39 237**	*eP*		**P**	**07 55 11.5**	**+0.6**
	16nm,0.5s,mb4.7						
PMG	**Port Moresby**	**34.67 289**	P		**P**	**07 55 30.2**	**-0.4**
	6.2nm,0.6s,mb4.2,baz=170,slow=6.1,SNR=4.9						
PMG	**Port Moresby**	**34.67 289**	P		**P**	**07 55 30.2**	**-0.4**
STKA	**Stephens Creek**	**34.72 248**	P		**P**	**07 55 31.1**	**+0.4**
	2.6nm,0.4s,mb4.0,baz=94,slow=8.8,SNR=21						
STKA	**Stephens Creek**	**34.72 248**	*eP*		**P**	**07 55 31.2**	**+0.5**
	2.1nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**34.72 248**	P		**P**	**07 55 31.1**	**+0.4**
AS31	**Alice Springs**	**42.09 261**	*eP*		**P**	**07 56 30.8**	**-0.2**
ASAR	**Alice Springs**	**42.09 261**	P		**P**	**07 56 30.9**	**-0.1**
	2.6nm,0.4s,mb4.0,baz=95,slow=7.2,SNR=72						
ASAR			ScP		ScP	08 01 19.4	+0.2
	0.7nm,0.8s,baz=97,slow=4.1,SNR=5.3						
ASAR	**Alice Springs**	**42.09 261**	P		**P**	**07 56 30.9**	**-0.1**
ASAR			ScP		ScP	08 01 19.4	+0.2
WB2	**Warramunga Arr**	**42.48 266**	*eP*		**P**	**07 56 33.3**	**-0.8**
WRAB	**Tennant Creek**	**42.48 266**	*eP*		**P**	**07 56 33.4**	**-0.8**
	7.8nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**42.49 266**	P		**P**	**07 56 33.5**	**-0.6**
	7.1nm,0.3s,mb4.5,baz=97,slow=8.4,SNR=185						
WRA			ScP		ScP	08 01 21.5	+0.8
	1.1nm,0.9s,baz=97,slow=4.4,SNR=5.1						
WRA	**Warramunga Arr**	**42.49 266**	P		**P**	**07 56 33.5**	**-0.6**
WRA			ScP		ScP	08 01 21.5	+0.8
FORT	**Forrest**	**46.31 250**	*eP*		**P**	**07 57 02.6**	**-1.1**
	18nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.91 266**	*eP*		**P**	**07 57 38.1**	**0.0**
	10nm,0.6s,mb4.3						
KLBR	**Kellerberrin**	**54.98 247**	*eP*		**P**	**07 58 06.0**	**-1.1**
	4.8nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**65.92 180**	P		**P**	**07 59 20.0**	**+1.2**
	3.0nm,0.7s,mb4.1,baz=64,slow=1.3,SNR=6.0						
QSPA	**South Pole Qui**	**65.92 180**	P		**P**	**07 59 20.0**	**+1.2**
MAW	**Mawson**	**77.54 200**	P		**P**	**08 00 27.0**	**+0.1**
	2.4nm,0.5s,mb3.9,baz=158,slow=11,SNR=4.9						
MAW	**Mawson**	**77.54 200**	P		**P**	**08 00 27.0**	**+0.1**
TXAR	**Lajitas Array**	**90.48 58**	P		**P**	**08 01 32.2**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=218,slow=5.7,SNR=8.5						
TXAR	**Lajitas Array**	**90.48 58**	P		**P**	**08 01 32.2**	**+0.3**
BRTR	**Keskin Array B**	**147.82 307**	PKPbc		PKPbc	08 08 16.4	+4.2
	0.2nm,0.3s,baz=100,slow=1.1,SNR=3.9						
BRTR	**Keskin Array B**	**147.82 307**	PKPbc		PKPbc	08 08 16.4	+4.2
TORD	**Torodi Ar. Bea**	**168.94 188**	PKPab		PKPab	08 09 46.9	-1.1
	0.4nm,0.6s,baz=179,slow=4.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**168.94 188**	PKPab		PKPab	08 09 46.9	-1.1

GUC 17 07:51:54.4±1.1, 22°.24S×70°.03W, h47km±4km, MD3.7, ML3.5,1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACH	**Maria Elena**	**0.25**	**80**	*eP*	Pn	07 52 03.8	+1.0
MACH				*i* S	Sn	07 52 09.8	+1.1
MECH	**Mejillones**	**0.94**	**204**	↑*i* P	Pn	07 52 12.1	+0.8
MECH				*i* S	Sn	07 52 25.6	+1.9
ANCH	**Antofagasta**	**1.48**	**194**	*eP*	Pn	07 52 19.3	+0.7
ANCH				*i* S	Sn	07 52 37.8	+1.1

BJI ***17*** *08:09:55.7, 7°.58S×148°.07E, h58km, mB5.1/24, mb4.8/34, Ms4.9/24, Ms7 4.6/24*

MOS ***17*** *08:09:55.2±1.0, 7°.15S×147°.94E, h33km, mb5.3/25, MS4.2/6, Error ellipse: s-maj=9.9km s-min=6.8km az=91.1*

ISCJB ***17*** *08:09:57.0±0.2, 7°.23S±0°.03×147°.85E±0°.04, h48km, mb5.1/102, MS4.3/30, Error ellipse: s-maj=5.8km s-min=3.9km az=1.4*

IDC ***17*** *08:09:57.0±0.5, 7°.19S×147°.80E, h34km±2km, mb4.6/23, mb1 4.8/26, mb1mx4.8/26, mbtmp4.7/26, ML4.6/3, MS4.4/18, Ms1 4.4/18, ms1mx4.2/24, Error ellipse: s-maj=13.3km s-min=8.4km az=117.0*

NEIC ***17*** *08:09:57.5±0.4, 7°.18S×147°.89E, h39km±4km, mb5.3/48, Error ellipse: s-maj=5.5km s-min=4.2km az=87.0*

DJA ***17*** *08:10:01, 7°.35S×147°.84E, h56km, mb5.0/12*

GCMT ***17*** *08:10:02.1±0.2, 7°.40S×147°.88E, h46km±1km, MW5.3, Moment Tensor Solution. s60,c86; s90,c163; Moment tensor: Scale 10^16^Nm; Mrr-1.09±.22; Mθθ7.00±.18; Mφφ-5.91±.20; Mrθ-1.38±.18; Mθφ-3.33±.17; Mφr5.99±.25; Best double couple: M0:9.50000×10^16^ NP1:φs243.00000°, δ53.00000°, λ-169.00000°. NP2:φs147.00000°, δ82.00000°, λ-38.00000°. Principal axes: T 8.8000, Plg19.0000°, Azm201.0000°; N 1.4000, Plg51.0000°, Azm316.0000°; P -10.2000, Plg32.0000°, Azm98.0000°; Data Used: II IU G CN IC.*

ISC 17 08:09:58.9±0.2, 7°.25S±0°.03×147°.88E±0°.04, h50km, h50km±3.5km: pP-P, n312, σ1§06/258, mb5.1/101, MS4.3/30, 5C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.26 198**		Pn	**Pn**	**08 10 34.7**	**+0.9**
	687nm,0.3s,baz=6.9,slow=7.7,SNR=606						
PMG				Sn	**Sn**	**08 11 04.9**	**+4.4**
	2μm,0.3s,baz=339,slow=22,SNR=15						
PMG				LR	LR	08 11 38.7	
	comp=Z,20μm,19.0s,baz=335,slow=44						
PMG	**Port Moresby**	**2.26 198**		*e*Pn	**Pn**	**08 10 34.6**	**+0.8**
PMG				*e*Sn	**Sn**	**08 11 01.0**	**+0.5**
PMG				Sn	**Sn**	**08 11 04.9**	**+4.4**
PMG	**Port Moresby**	**2.26 198**		*e*P	**Pn**	**08 10 34.6**	**+0.8**
PMG				*e*		08 11 01.0	
PMG	**Port Moresby**	**2.26 198**		P	**Pn**	**08 10 35.2**	**+1.4**
COEN	**Coen**	**8.12 214**		*e*Pn	**Pn**	**08 11 53.8**	**-0.3**
COEN				*e*Sn	**Sn**	**08 13 23.2**	**-1.3**
COEN	**Coen**	**8.12 214**		P	**Pn**	**08 11 53.1**	**-1.0**
	1μm88nm,0.9s						
SMPI	**Sarmi**	**10.53 299**		P	**Pn**	**08 12 29.4**	**+2.2**
	92nm,1.9s						
HNR	**Honiara**	**12.13 101**		Pn	**Pn**	**08 12 49.5**	**+0.3**
	4.2nm,0.3s,baz=318,slow=1.9,SNR=9.3						
HNR				Sn	**Sn**	**08 15 18.1**	**+15**
	20nm,0.3s,baz=14,slow=19,SNR=4.0						
HNR				LR	LR	08 17 01.2	
	comp=Z,895nm,21.9s,baz=267,slow=35						
HNR	**Honiara**	**12.13 101**		*e*Pn	**Pn**	**08 12 47.5**	**-1.6**
HNR				Sn	**Sn**	**08 15 18.1**	**+15**
HNR	**Honiara**	**12.13 101**		*e*P	**Pn**	**08 12 47.5**	**-1.6**
CTA	**Charters Tower**	**12.86 187**		Pn	**Pn**	**08 13 01.1**	**+2.1**
	7.3nm,0.3s,baz=8.9,slow=14,SNR=33						
CTA				LR	LR	08 17 40.7	
	comp=Z,4μm,19.5s,baz=7.9,slow=36						
CTA	**Charters Tower**	**12.86 187**		*e*P	**Pn**	**08 13 01.3**	**+2.3**
	34nm,0.9s						
CTA	**Charters Tower**	**12.86 187**		Pn	**Pn**	**08 13 01.1**	**+2.1**
CTA	**Charters Tower**	**12.86 187**		P	**Pn**	**08 13 01.1**	**+2.1**
CTAO	**Charters Tower**	**12.86 187**		*e*Pn	**Pn**	**08 13 01.1**	**+2.1**
CTAO	**Charters Tower**	**12.86 187**		*e*P	**Pn**	**08 13 01.1**	**+2.1**
CTAO	**Charters Tower**	**12.86 187**		P	**Pn**	**08 13 01.6**	**+2.6**
	2μm98nm,1.2s						
TLE	**Tual**	**15.13 275**		P	sP	08 13 48.2	-3.3
WRAB	**Tennant Creek**	**18.20 225**		*e*P	**Pn**	**08 14 07.7**	**-0.4**
	60nm,0.8s						
WRAB	**Tennant Creek**	**18.20 225**		*e*P	**Pn**	**08 14 07.7**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,60nm,0.8s						
WRAB	**Tennant Creek**	**18.20 225**		P	**Pn**	**08 14 08.1**	**+0.1**
	comp=Z,3μmcomp=Z,126nm,1.8s						
WRAB	**Tennant Creek**	**18.20 225**		P	**Pn**	**08 14 07.8**	**-0.2**
	comp=Z,360nm,0.6s,SNR=31						
WB2	**Warramunga Arr**	**18.21 225**		*e*Pn	**Pn**	**08 14 07.7**	**-0.4**
WRA	**Warramunga Arr**	**18.21 225**		P	**Pn**	**08 14 07.6**	**-0.5**
	comp=Z,3.7nm,0.3s,baz=56,slow=12,SNR=98						
WRA				S	**S**	**08 17 29.0**	**-4.9**
	comp=Z,0.3nm,0.3s,baz=47,slow=22,SNR=4.7						
WRA				LR	LR	08 21 46.3	
	comp=Z,3μm,19.7s,baz=45,slow=39						
WRA	**Warramunga Arr**	**18.21 225**		P	**Pn**	**08 14 07.6**	**-0.5**
WRA				S	**S**	**08 17 29.0**	**-4.9**
WRA	**Warramunga Arr**	**18.21 225**		P	**Pn**	**08 14 07.6**	**-0.6**
WRA				S	**S**	**08 17 29.0**	**-4.9**
GUMO	**Guam**	**20.92 352**		LR	LR	08 21 11.0	
	comp=Z,894nm,21.8s,MS4.1,baz=354,slow=32						
AS31	**Alice Springs**	**21.13 218**		*e*P	**P**	**08 14 39.8**	**+0.1**
ASAR	**Alice Springs**	**21.13 218**		P	**P**	**08 14 39.5**	**-0.1**
	comp=Z,75nm,0.7s,mb5.1,baz=55,slow=9.1,SNR=178						
ASAR				S	**S**	**08 18 34.6**	**+2.4**
	comp=Z,12nm,0.8s,baz=44,slow=21,SNR=5.2						
ASAR	**Alice Springs**	**21.13 218**		P	**P**	**08 14 39.5**	**-0.1**
ASAR				S	**S**	**08 18 34.5**	**+2.4**
ASAR	**Alice Springs**	**21.13 218**		P	**P**	**08 14 39.6**	**-0.1**
ASAR				S	**S**	**08 18 34.6**	**+2.5**
LBMI	**Labuha**	**21.36 287**		P	pP	08 14 56.2	+2.4
NOUC	**Port Laguerre**	**23.10 132**		*e*P	**P**	**08 14 58.8**	**-1.8**
DZM	**Mont Dzumac**	**23.19 131**		*e*P	**P**	**08 15 01.2**	**-0.3**
	comp=Z,154nm,1.1s,mb5.3						
DZM				*e*LR	LR	08 20 46.9	
	comp=Z,2μm,29.1s						
DZM	**Mont Dzumac**	**23.19 131**		*e*P	**P**	**08 14 59.3**	**-2.2**
DZM	**Mont Dzumac**	**23.19 131**		*e*P	**P**	**08 15 01.5**	**0.0**
	comp=Z,112nm,1.2s,mb5.2						
ARMA	**Armidale**	**23.32 172**		*e*P	**P**	**08 15 01.5**	**-1.2**
ARMA	**Armidale**	**23.32 172**		*e*P	**P**	**08 15 03.7**	**+1.0**
	comp=Z,89nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**24.20 241**		P	**P**	**08 15 10.1**	**-0.8**
	comp=Z,29nm,0.3s,mb5.1,baz=53,slow=8.7,SNR=266						
FITZ	**Fitzroy Crossi**	**24.20 241**		*e*P	**P**	**08 15 10.0**	**-0.9**
	comp=Z,54nm,0.3s,mb5.5						
FITZ	**Fitzroy Crossi**	**24.20 241**		*e*P	**P**	**08 15 10.2**	**-0.8**
	comp=Z,29nm,0.4s,mb5.1						
FITZ	**Fitzroy Crossi**	**24.20 241**		P	**P**	**08 15 09.2**	**-1.7**
	comp=Z,807nmcomp=Z,62nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**25.20 193**		P	**P**	**08 15 19.0**	**-0.9**
	comp=Z,68nm,0.8s,mb5.2,baz=359,slow=9.1,SNR=45						
STKA				LR	LR	08 25 52.2	
	comp=Z,3μm,18.9s,MS4.8,baz=14,slow=38						
STKA	**Stephens Creek**	**25.20 193**		*e*P	**P**	**08 15 18.6**	**-1.2**
	comp=Z,52nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**25.20 193**		*e*P	**P**	**08 15 19.1**	**-0.7**
	comp=Z,13nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**25.20 193**		*e*P	**P**	**08 15 19.2**	**-0.6**
STKA				pmax	pmax		
	comp=Z,13nm,0.8s						
LUWI	**Luwuk**	**25.78 283**		P	**P**	**08 15 30.1**	**+4.7**
	comp=Z,2μmcomp=Z,68nm,1.0s,mb5.1						
BBOO	**Buckleboo**	**27.71 202**		*e*P	**P**	**08 15 41.7**	**-0.8**
	comp=Z,800nm,0.9s,mb6.3						
CAN	**Canberra**	**27.96 178**		*e*P	**P**	**08 15 44.3**	**-0.3**
	comp=Z,30nm,0.9s,mb4.9						
CAN	**Canberra**	**27.96 178**		*e*P	**P**	**08 15 44.3**	**-0.4**
CAN				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.9						
CNB	**Canberra Magne**	**27.97 177**		*e*P	**P**	**08 15 48.6**	**+3.9**
	comp=Z,202nm,0.9s,mb5.8						
KAPI	**Kappang**	**28.05 273**		P	**P**	**08 15 43.7**	**-2.1**
	comp=Z,2.5nm,0.4s,mb4.2,baz=104,slow=19,SNR=2.5						
KAPI	**Kappang**	**28.05 273**		*e*P	**P**	**08 15 49.4**	**+3.6**
FORT	**Forrest**	**29.88 216**		*e*P	**P**	**08 16 00.6**	**-1.2**
	comp=Z,40nm,0.6s,mb5.3						
FORT	**Forrest**	**29.88 216**		*e*P	**P**	**08 16 01.9**	**+0.1**
	comp=Z,52nm,0.7s,mb5.4						
TOO	**Toolangi**	**30.26 184**		*e*P	**P**	**08 16 06.3**	**+1.2**
	comp=Z,84nm,1.1s,mb5.4						
MBWA	**Marble Bar**	**30.52 240**		*e*P	**P**	**08 16 06.6**	**-1.0**
	comp=Z,13nm,0.6s,mb4.9						
CBIJ	**Chichi jima**	**34.58 351**		LR	LR	08 29 05.8	
	comp=Z,273nm,18.3s,MS4.0,baz=142,slow=33						
MOO	**Moorlands**	**35.05 181**		*e*P	**P**	**08 16 49.4**	**+2.5**
	comp=Z,181nm,0.9s,mb6.0						
KLBR	**Kellerberrin**	**37.10 225**		*e*P	**P**	**08 17 03.4**	**-1.2**
	comp=Z,47nm,0.9s,mb5.3						
NWAO	**Narrogin (SRO)**	**38.22 224**		P	**P**	**08 17 13.1**	**-1.0**
	comp=Z,9.7nm,0.6s,mb4.7,baz=67,slow=10.0,SNR=4.6						
NWAO	**Narrogin (SRO)**	**38.22 224**		*e*P	**P**	**08 17 13.9**	**-0.1**
	comp=Z,21nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**38.22 224**		*e*P	**P**	**08 17 13.9**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,21nm,1.1s						
AFI	**Afiamalu**	**40.16 103**		P	**P**	**08 17 29.7**	**-0.8**
	comp=Z,18nm,0.7s,mb4.9,baz=85,slow=16,SNR=5.0						
AFI				LR	LR	08 31 07.0	
	comp=Z,469nm,21.8s,MS4.3,baz=277,slow=32						
AFI	**Afiamalu**	**40.16 103**		P	**P**	**08 17 29.7**	**-0.8**
AFI	**Afiamalu**	**40.16 103**		P	**P**	**08 17 29.7**	**-0.8**
TPUB	**Ta-pu**	**40.39 319**		*e*P	**P**	**08 17 31.3**	**-1.0**
SSLB	**Suanglung**	**40.53 320**		P	**P**	**08 17 32.7**	**-0.8**
URZ	**Urewera**	**40.63 144**		P	**P**	**08 17 35.9**	**+1.8**
	comp=Z,12nm,1.1s,mb4.5,baz=330,slow=20,SNR=3.4						
URZ	**Urewera**	**40.63 144**		P	**P**	**08 17 35.9**	**+1.8**
RPZ	**Rata Peaks**	**41.61 155**		P	**P**	**08 17 42.9**	**+0.9**
	comp=Z,32nm,0.8s,mb5.0,baz=233,slow=1.5,SNR=11						
RPZ	**Rata Peaks**	**41.61 155**		P	**P**	**08 17 42.9**	**+0.9**
KHZ	**Kahutara**	**41.72 151**		*e*P	**P**	**08 17 43.8**	**+0.9**
	comp=Z,97nm,1.3s,mb5.3						
JNU	**Nakatsue**	**43.28 339**		*e*P	**P**	**08 17 54.7**	**-0.9**
	comp=Z,24nm,0.8s,mb5.0						
MJAR	**Matsushiro Arr**	**44.49 349**		P	**P**	**08 18 04.2**	**-1.1**
	comp=Z,12nm,0.9s,mb4.6,baz=176,slow=8.8,SNR=27						
MJAR				sP	sP	08 18 19.1	-5.5
	comp=Z,11nm,0.6s,baz=55,slow=45,SNR=13						
MJAR				LR	LR	08 35 14.0	
	comp=Z,303nm,20.7s,MS4.2,baz=175,slow=34						
MJAR	**Matsushiro Arr**	**44.49 349**		P	**P**	**08 18 04.2**	**-1.1**
MJAR				sP	sP	08 18 19.1	-5.5
MJAR	**Matsushiro Arr**	**44.49 349**		P	**P**	**08 18 04.2**	**-1.2**
MJAR				*SP	sP	08 18 19.1	-5.5
MAJO	**Matsushiro**	**44.49 349**		*e*P	**P**	**08 18 04.9**	**-0.5**
	comp=Z,48nm,0.6s,mb5.4						
MAJO	**Matsushiro**	**44.49 349**		*e*P	**P**	**08 18 04.9**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,48nm,0.6s,mb5.4						
MAT	**Matsushiro**	**44.49 349**		P	**P**	**08 18 04.2**	**-1.2**
MAT				S	**S**	**08 24 36.0**	**-1.1**
QIZ	**Qiongzhong**	**45.69 305**		P	**P**	**08 18 15.8**	**+0.7**
QIZ				pP	pP	08 18 29.4	+0.8
QIZ				sP	sP	08 18 35.3	+0.9
QIZ				S	**S**	**08 24 56.1**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,22nm,1.9s,mb4.8						
QIZ				LR	LR		
	comp=Z,470nm,27.4s,MS4.3						
QIZ	**Qiongzhong**	**45.69 305**		*e*P	**P**	**08 18 14.2**	**-0.9**
NJ2	**Nanjing**	**47.90 326**		*e*P	**P**	**08 18 33.1**	**+0.9**
NJ2				pP	pP	08 18 48.5	+2.8
NJ2				sP	sP	08 18 56.1	+4.6
NJ2				PP	PP	08 20 25.3	+0.7
NJ2				S	**S**	**08 25 22.5**	**-3.6**
NJ2				sS	sS	08 25 49.5	+0.7
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
NJ2				pmax	pmax		
	comp=Z,160nm,5.8s						
NJ2				LR	LR		
	comp=N,430nm,23.5s,MS4.5						
NJ2				LR	LR		
	comp=E,510nm,27.6s,MS4.5						
NJ2				LR	LR		
	comp=Z,310nm,22.5s						
IPM	**Ipoh**	**48.19 283**		*e*P	**P**	**08 18 34.9**	**0.0**
	comp=Z,13nm,0.8s,mb5.0						
IPM	**Ipoh**	**48.19 283**		P	pP	08 18 45.9	-2.4
KSRS	**Korea Array**	**48.22 339**		P	**P**	**08 18 34.2**	**-0.4**
	comp=Z,5.1nm,0.7s,mb4.7,baz=156,slow=8.9,SNR=13						
KSRS				sP	sP	08 18 46.6	-7.3
	comp=Z,34nm,0.8s,baz=154,slow=8.5,SNR=19						
KSRS				pPcP		08 20 15.0	
	comp=Z,2.9nm,0.6s,baz=180,slow=3.9,SNR=4.9						
KSRS				LR	LR	08 36 06.4	
	comp=Z,145nm,21.8s,MS3.9,baz=149,slow=33						
KSAR	**Wonju Array Be**	**48.23 339**		P	**P**	**08 18 34.2**	**-0.4**
KSAR				sP	sP	08 18 46.6	-7.3
KSAR				pPcP		08 20 15.0	
KSAR	**Wonju Array Be**	**48.23 339**		P	**P**	**08 18 34.3**	**-0.4**
KSAR				*SP	sP	08 18 46.7	-7.3
INCN	**Inchon**	**48.73 337**		*e*P	**P**	**08 18 30.6**	**-7.9**
ERM	**Erimo**	**49.21 355**		P	**P**	**08 18 42.6**	**+0.5**
ERM	**Erimo**	**49.21 355**		P	**P**	**08 18 42.6**	**+0.5**
WHN	**Wuhan**	**49.45 321**		P	pP	08 18 55.8	-1.9
ASAJ	**Asahikawa**	**51.35 355**		LR	LR	08 38 31.7	
	comp=Z,170nm,19.9s,MS4.1,baz=314,slow=33						
GYA	**Guiyang**	**52.16 312**		P	**P**	**08 19 07.3**	**+2.6**
GYA				pP	pP	08 19 22.4	+4.1
GYA				sP	sP	08 19 30.0	+5.9
GYA				PcP	PcP	08 20 18.0	+2.1
GYA				PP	PP	08 21 06.9	+3.4
GYA				ScP	ScP	08 24 08.0	-1.0
GYA				S	**S**	**08 26 25.3**	**-0.4**
GYA				sS	sS	08 26 52.0	+3.4
GYA				SS	SS	08 30 02.8	-1.1
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,530nm,18.7s,MS4.8						
GYA				LR	LR		
	comp=E,590nm,19.3s,MS4.8						
GYA				LR	LR		
	comp=Z,670nm,18.8s,MS4.7						
RAR	**Rarotonga**	**52.37 111**		LR	LR	08 36 29.2	
	comp=Z,242nm,19.4s,MS4.2,baz=82,slow=30						
ENH	**Enshi**	**52.42 317**		*e*P	**P**	**08 19 06.1**	**-0.5**
NST	**Nakhon Sawan**	**52.49 296**		P	**P**	**08 19 06.4**	**-0.8**
	comp=Z,62nm,0.6s,mb5.7						
MDJ	**Mudanjiang**	**54.19 344**		P	**P**	**08 19 21.8**	**+2.5**
MDJ				pP	pP	08 19 35.3	+2.3
MDJ				sP	sP	08 19 41.6	+2.9
MDJ				S	**S**	**08 26 56.8**	**+4.0**
MDJ				pmax	pmax		
	comp=Z,19nm,2.5s,mb4.6						
MDJ				pmax	pmax		
	comp=Z,68nm,3.6s						
MDJ				LR	LR		
	comp=N,280nm,29.8s,MS4.4						
MDJ				LR	LR		
	comp=E,350nm,28.4s,MS4.4						
MDJ				LR	LR		
	comp=Z,270nm,27.1s,MS4.2						
KMI	**Kunming**	**54.45 308**		P	**P**	**08 19 24.3**	**+2.8**
KMI				pP	pP	08 19 39.4	+4.2
KMI				sP	sP	08 19 46.1	+5.1
KMI				PP	PP	08 21 26.9	+2.7
KMI				S	**S**	**08 26 54.3**	**-2.6**
KMI				sS	sS	08 27 23.4	+3.5
KMI				SS	SS	08 30 40.1	0.0
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
KMI				pmax	pmax		
	comp=Z,100nm,5.1s						
KMI				LR	LR		
	comp=N,140nm,21.9s,MS4.1						
KMI				LR	LR		
	comp=E,130nm,24.1s,MS4.1						
KMI				LR	LR		
	comp=Z,280nm,30.5s						
KMI	**Kunming**	**54.45 308**		P	**P**	**08 19 24.3**	**+2.8**
	comp=Z,7.0nm,1.2s,mb4.5						
KMI				pP	pP	08 19 39.4	+4.2
KMI				sP	sP	08 19 46.1	+5.1
KMI				PP	PP	08 21 26.9	+2.7
KMI				S	**S**	**08 26 54.3**	**-2.6**
KMI				sS	sS	08 27 23.4	+3.5
KMI				SS	SS	08 30 40.1	0.0
KMI				LR	LR		
	comp=Z,280nm,30.5s,MS4.1						
KMI	**Kunming**	**54.45 308**		P	**P**	**08 19 24.3**	**+2.8**
KMI				*PP	pP	08 19 39.4	+4.2
KMI						08 21 26.9	
KMI				S	**S**	**08 26 54.3**	**-2.6**
KMI				SS	SS	08 30 40.1	0.0
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
KMI				MLR	MLR		
	comp=Z,280nm,30.5s,MS4.1						
CHRT	**Chiangrai**	**54.46 301**		P	**P**	**08 19 21.0**	**-0.7**
	comp=Z,232nm,1.2s,mb6.0						
CM31	**Chiang Mai Arr**	**54.61 299**		*e*P	**P**	**08 19 22.6**	**-0.2**
	comp=Z,7.0nm,0.4s,mb5.0						
CMAR	**Chiang Mai Arr**	**54.61 299**		P	**P**	**08 19 23.9**	**+1.1**
	comp=Z,16nm,0.8s,mb5.1,baz=126,slow=5.9,SNR=22						
CMAR				PKP2ab		08 50 11.0	
	comp=Z,0.7nm,0.3s,baz=298,slow=3

PETK	**Petropavlovsk-**	**60.70**	**7**	P	**P**	**08 20 05.0**	**+0.1**
PETK	**Petropavlovsk-**	**60.70**	**7**	P	**P**	**08 20 05.0**	**+0.1**
PET	**Petropavlovsk**	**60.73**	**7**	*e*P	**P**	**08 20 09.5**	**+4.4**
PET				*e*S	**S**	**08 28 19.0**	**+0.7**
PET				*e*SS	SS	08 32 14.5	-3.5
IMP	**Imphal**	**61.41**	**303**	*e*x	pP	08 20 28.0	+3.7
HIA	**Hailar**	**61.42**	**339**	*e*P	**P**	**08 20 09.2**	**-0.6**
	comp=Z,42nm,1.1s,mb5.5						
HIA	**Hailar**	**61.42**	**339**	*e*P	**P**	**08 20 09.3**	**-0.6**
HIA				pmax	pmax		
	comp=Z,42nm,1.1s						
PPT2	**Papeete2**	**61.71**	**106**	*e*S	**S**	**08 28 40.0**	**+8.0**
	comp=Z,348nm,30.0s						
PPT2				*e*LQ		08 36 06.0	
	comp=Z,613nm,32.5s						
PPT2				*e*LR	LR	08 38 37.1	
	comp=Z,485nm,27.8s						
TBI	**Tubuai**	**62.08**	**112**	*e*LR	LR	08 38 53.0	
	comp=Z,724nm,28.8s						
SHL	**Shillong**	**63.43**	**303**	*e*PKP	**P**	**08 20 22.6**	**-1.2**
SHL				*e*x	x	08 21 49.0	
FX1	**Attu Island--F**	**63.64**	**17**	LR	LR	08 47 35.2	
	comp=Z,239nm,18.2s,MS4.4,baz=228,slow=36						
GTA	**Gaotai**	**64.25**	**320**	*e*P	**P**	**08 20 29.6**	**+0.7**
GTA				pP	pP	08 20 44.4	+1.4
GTA				sP	sP	08 20 50.8	+2.1
GTA				S	**S**	**08 29 04.8**	**+1.7**
GTA				sS	sS	08 29 31.8	+5.2
GTA				SS	SS	08 33 18.9	+5.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
GTA				pmax	pmax		
	comp=Z,160nm,6.7s						
GTA				LR	LR		
	comp=N,200nm,15.7s,MS4.5						
GTA				LR	LR		
	comp=E,180nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=Z,170nm,18.5s,MS4.3						
CAL	**Calcutta**	**65.35**	**299**	*e*PKP	**P**	**08 20 36.2**	**-0.3**
ULN	**Ulaanbaatar**	**65.62**	**331**	*e*P	**P**	**08 20 37.9**	**+0.3**
	comp=Z,20nm,0.8s,mb5.2						
ULN	**Ulaanbaatar**	**65.62**	**331**	*e*P	**P**	**08 20 37.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
ULN	**Ulaanbaatar**	**65.62**	**331**	P	**P**	**08 20 38.5**	**+0.9**
	comp=Z,7.6nm,0.9s,mb4.7						
LSA	**Lhasa**	**65.69**	**307**	P	**P**	**08 20 39.3**	**+0.8**
LSA	**Lhasa**	**65.69**	**307**	*e*P	**P**	**08 20 39.5**	**+1.1**
	comp=Z,37nm,0.7s,mb5.5						
LSA	**Lhasa**	**65.69**	**307**	*e*P	**P**	**08 20 39.5**	**+1.0**
LSA				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.5						
SONM	**Songino Array**	**65.91**	**331**	P	**P**	**08 20 39.7**	**+0.2**
	comp=Z,4.4nm,0.9s,mb4.5,baz=145,slow=4.0,SNR=27						
SONM				pP	pP	08 20 49.4	-4.2
	comp=Z,7.0nm,1.0s,baz=122,slow=3.3,SNR=16						
SONM				LR	LR	08 48 01.7	
	comp=Z,350nm,20.9s,MS4.5,baz=130,slow=35						
SONM				PKP2bc		08 49 19.6	
	comp=Z,1.2nm,1.0s,baz=321,slow=3.7,SNR=6.4						
SONM	**Songino Array**	**65.91**	**331**	P	**P**	**08 20 39.7**	**+0.2**
SONM				pP	pP	08 20 49.4	-4.2
SONM			⇑	*e*		08 49 19.6	
SONM	**Songino Array**	**65.91**	**331**	P	**P**	**08 20 39.7**	**+0.2**
SONM				*PP	pP	08 20 49.4	-4.2
CLNS	**Chul'man**	**66.59**	**346**	*e*P	pP	08 20 55.8	-2.0
CLNS				*e**PP	PcP	08 21 12.9	+0.3
CLNS				*e*		08 30 35.8	
CLNS				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
CLNS				pmax	pmax		
	comp=N,11nm,1.2s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,6.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CLNS				MLR	MLR		
	comp=N,201nm,15.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,274nm,13.0s,MS4.7						
CLNS				MLR	MLR		
	comp=Z,91nm,17.0s,MS4.1						
TAPN	**Taplejung**	**67.56**	**303**	*e*P	**P**	**08 20 51.1**	**+0.6**
	comp=Z,191nm,1.1s,mb6.0						
TAPN	**Taplejung**	**67.56**	**303**	*e*P	**P**	**08 20 51.1**	**+0.6**
	comp=Z,191nm,1.1s,mb6.0						
ODAN	**Odare**	**67.65**	**303**	*e*P	**P**	**08 20 51.9**	**+0.8**
	comp=Z,175nm,0.9s,mb6.1						
ODAN	**Odare**	**67.65**	**303**	*e*P	**P**	**08 20 51.9**	**+0.8**
	comp=Z,175nm,0.9s,mb6.1						
RAMN	**Ramite**	**68.34**	**303**	*e*P	**P**	**08 20 55.9**	**+0.5**
	comp=Z,51nm,0.7s,mb5.7						
RAMN	**Ramite**	**68.34**	**303**	*e*P	**P**	**08 20 55.9**	**+0.5**
	comp=Z,51nm,0.7s,mb5.7						
VIS	**Vishakhapatnam**	**68.38**	**292**	*e*x	**P**	**08 20 48.6**	**-7.2**
VIS				AMb	AMB	08 20 54.9	
	comp=Z,44nm,1.7s,mb5.2						
JIRN	**Jiri**	**68.94**	**303**	*e*P	**P**	**08 20 59.7**	**+0.6**
	comp=Z,91nm,0.8s,mb5.8						
JIRN	**Jiri**	**68.94**	**303**	*e*P	**P**	**08 20 59.7**	**+0.6**
	comp=Z,91nm,0.8s,mb5.8						
ZAK	**Zakamensk**	**69.15**	**331**	*e*P	**P**	**08 20 59.7**	**-0.2**
ZAK				*e*	pP	08 21 08.9	-5.2
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
GUN	**Gumba**	**69.28**	**303**	*e*P	**P**	**08 21 01.9**	**+0.7**
	comp=Z,208nm,0.8s,mb6.1						
GUN	**Gumba**	**69.28**	**303**	*e*P	**P**	**08 21 01.9**	**+0.7**
	comp=Z,208nm,0.8s,mb6.1						
PKI	**Pulchoki**	**69.55**	**303**	*e*P	**P**	**08 21 03.3**	**+0.4**
	comp=Z,103nm,0.9s,mb5.8						
PKI	**Pulchoki**	**69.55**	**303**	*e*P	**P**	**08 21 03.3**	**+0.4**
	comp=Z,103nm,0.9s,mb5.8						
PKI	**Pulchoki**	**69.55**	**303**	*e*P	**P**	**08 21 03.3**	**+0.4**
PKI				pmax	pmax		
	comp=Z,103nm,0.9s,mb5.8						
KKN	**Kakani**	**69.74**	**303**	*e*P	**P**	**08 21 04.3**	**+0.3**
	comp=Z,135nm,0.9s,mb5.9						
KKN	**Kakani**	**69.74**	**303**	*e*P	**P**	**08 21 04.3**	**+0.3**
	comp=Z,135nm,0.9s,mb5.9						
KKN	**Kakani**	**69.74**	**303**	*e*P	**P**	**08 21 04.3**	**+0.3**
KKN				pmax	pmax		
	comp=Z,135nm,0.9s,mb5.9						
DMN	**Daman**	**69.82**	**303**	*e*P	**P**	**08 21 05.4**	**+0.9**
	comp=Z,212nm,0.8s,mb6.1						
DMN	**Daman**	**69.82**	**303**	*e*P	**P**	**08 21 05.4**	**+0.9**
	comp=Z,212nm,0.8s,mb6.1						
TLY	**Talaya**	**69.85**	**332**	*e*P	**P**	**08 21 05.0**	**+0.8**
	comp=Z,29nm,1.3s,mb5.0						
TLY	**Talaya**	**69.85**	**332**	*e*P	pP	08 21 14.3	-4.1
TLY				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
TLY				MLR	MLR		
	comp=Z,125nm,20.0s,MS4.2						
GKN	**Gorkha**	**70.34**	**303**	*e*P	**P**	**08 21 08.1**	**+0.3**
	comp=Z,199nm,0.9s,mb6.1						
GKN	**Gorkha**	**70.34**	**303**	*e*P	**P**	**08 21 08.1**	**+0.3**
	comp=Z,199nm,0.9s,mb6.0						
BOD	**Bodaibo**	**70.43**	**342**	*e*P	**P**	**08 21 06.7**	**-0.9**
BOD				*e*	pP	08 21 19.7	-2.1
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
YAK	**Yakutsk**	**70.50**	**351**	*e*P	**P**	**08 21 08.1**	**+0.2**
YAK	**Yakutsk**	**70.50**	**351**	*e*P	pP	08 21 22.1	-0.1
YAK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
YAK				pmax	pmax		
	comp=N,15nm,1.4s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.5s						
VNDA	**Vanda**	**70.62**	**177**	*e*P	**P**	**08 21 08.8**	**+0.2**
	comp=E,8.2nm,0.8s,mb4.7						
VNDA	**Vanda**	**70.62**	**177**	*e*P	**P**	**08 21 08.8**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MOY	**Mondy**	**71.08**	**331**	*e*P	pP	08 21 24.5	-1.4
KOLN	**Koldanda**	**71.13**	**302**	*e*P	**P**	**08 21 12.8**	**+0.2**
	comp=Z,159nm,0.8s,mb6.0						
KOLN	**Koldanda**	**71.13**	**302**	*e*P	**P**	**08 21 12.8**	**+0.2**
	comp=Z,159nm,0.8s,mb6.0						
TAOE	**Nuku Hiva Isla**	**71.18**	**97**	*e*LR	LR	08 42 55.8	
	comp=Z,274nm,23.8s						
DANN	**Dangsing**	**71.19**	**303**	*e*P	**P**	**08 21 13.0**	**+0.1**
	comp=Z,157nm,0.8s,mb6.0						
DANN	**Dangsing**	**71.19**	**303**	*e*P	**P**	**08 21 13.0**	**+0.1**
	comp=Z,157nm,0.8s,mb6.0						
SBA	**Scott Base**	**71.26**	**176**	*e*P	**P**	**08 21 13.6**	**+1.1**
SBA	**Scott Base**	**71.26**	**176**	*e*P	**P**	**08 21 13.6**	**+1.2**
HYB	**Hyderabad**	**72.72**	**291**	*i* P	**P**	**08 21 21.0**	**-1.2**
WMQ	**Urumqi**	**74.30**	**319**	P	**P**	**08 21 31.8**	**+0.8**
WMQ				pP	pP	08 21 48.4	+3.1
WMQ				sP	sP	08 21 55.3	+4.4
WMQ				PP	PP	08 24 20.0	+2.3
WMQ				S	S	08 30 59.3	-2.1
WMQ				ScS	ScS	08 31 33.1	-4.7
WMQ				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
WMQ				pmax	pmax		
	comp=Z,260nm,4.0s						
WMQ				LR	LR		
	comp=N,180nm,28.6s						
WMQ				LR	LR		
	comp=E,130nm,22.0s						
WMQ				LR	LR		
	comp=Z,120nm,27.4s,MS4.0						
BHPL	**Bhopal**	**75.16**	**296**	*e*PKP	**P**	**08 21 36.0**	**-0.4**
BHPL				AMb	AMB	08 21 56.1	
	comp=Z,35nm,1.1s,mb5.2						
RKT	**Rikitea**	**75.39**	**112**	*e*LR	LR	08 45 05.8	
	comp=Z,1µm,33.0s						
BILL	**Bilibino**	**76.23**	**7**⇑	*e*P	**P**	**08 21 42.3**	**+0.7**
BILL				*e*SS	SS	08 36 19.8	+3.2
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
KAD	**Karad**	**76.76**	**290**	*e*PKP	**P**	**08 21 45.5**	**-0.2**
KAD				AMb	AMB	08 22 00.6	
	comp=Z,31nm,0.8s,mb5.3						
NDI	**New Delhi**	**76.78**	**302**	*e*x	**P**	**08 21 40.5**	**-5.0**
NDI				AMb	AMB	08 22 02.2	
	comp=Z,94nm,2.1s,mb5.3						
POO	**Poona**	**77.33**	**291**	*e*PKP	**P**	**08 21 48.6**	**-0.2**
POO				AMb	AMB	08 22 03.7	
	comp=Z,26nm,1.2s,mb5.0						
RTK	**Rohtak**	**77.55**	**302**	*e*PKP	**P**	**08 21 48.1**	**-1.7**
RTK				AMb	AMB	08 21 48.5	
	comp=Z,45nm,0.2s,mb6.0						
MK31	**Makanchi Array**	**79.01**	**320**	*e*P	**P**	**08 21 57.1**	**-0.5**
MK31	**Makanchi Array**	**79.01**	**320**	*e*P	**P**	**08 21 57.1**	**-0.4**
MKAR	**Makanchi Array**	**79.01**	**320**	P	**P**	**08 21 57.4**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.4,baz=100,slow=8.5,SNR=25						
MKAR				pP	pP	08 22 08.4	-3.5
	comp=Z,8.5nm,0.7s,baz=102,slow=6.0,SNR=21						
MKAR	**Makanchi Array**	**79.01**	**320**	P	**P**	**08 21 57.4**	**-0.2**
MKAR				pP	pP	08 22 08.4	-3.5
MKAR	**Makanchi Array**	**79.01**	**320**	P	**P**	**08 21 57.4**	**-0.1**
MKAR				*PP	pP	08 22 08.4	-3.6
ZAA0	**Zalesovo Array**	**80.53**	**328**	*e*P	**P**	**08 22 04.4**	**-1.2**
ZALV	**Zalesovo Beam**	**80.53**	**328**	P	**P**	**08 22 04.1**	**-1.5**
	comp=Z,1.9nm,0.5s,mb4.3,baz=111,slow=6.5,SNR=10						
ZALV				pP	pP	08 22 16.2	-3.8
	comp=Z,11nm,0.7s,baz=107,slow=5.7,SNR=17						
ZALV				LR	LR	08 57 08.6	
	comp=Z,210nm,19.6s,MS4.5,baz=128,slow=35						
ZALV	**Zalesovo Beam**	**80.53**	**328**	P	**P**	**08 22 04.1**	**-1.5**
ZALV				pP	pP	08 22 16.2	-3.8
ZALV	**Zalesovo Beam**	**80.53**	**328**	P	**P**	**08 22 04.1**	**-1.5**
ZALV				*PP	pP	08 22 16.3	-3.7
KDAK	**Kodiak Island**	**80.58**	**28**	P	**P**	**08 22 03.6**	**-2.2**
	comp=Z,13nm,1.1s,mb4.8,baz=293,slow=7.7,SNR=3.1						
KDAK	**Kodiak Island**	**80.58**	**28**	P	**P**	**08 22 03.6**	**-2.2**
KDAK	**Kodiak Island**	**80.58**	**28**	P	**P**	**08 22 03.6**	**-2.2**
KSH	**Kashi**	**80.86**	**312**	P	**P**	**08 22 09.3**	**+1.6**
KSH				pP	pP	08 22 26.1	+3.9
KSH				sP	sP	08 22 32.9	+5.2
KSH				PP	PP	08 25 17.0	+4.3
KSH				S	S	08 32 09.9	-2.6
KSH				SKS		08 32 18.1	
KSH				sS	sS	08 32 40.9	+4.1
KSH				SS	SS	08 37 30.4	+3.0
KSH				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KSH				pmax	pmax		
	comp=Z,110nm,3.2s						
KSH				LR	LR		
	comp=N,78nm,4.9s						
KSH				LR	LR		
	comp=E,100nm,7.1s						
KSH				LR	LR		
	comp=Z,120nm,6.4s						
MAW	**Mawson**	**81.44**	**203**	P	**P**	**08 22 08.5**	**-1.8**
	comp=Z,4.7nm,0.8s,mb4.5,baz=54,slow=7.6,SNR=2.0						
MAW				LR	LR	08 58 03.6	
	comp=Z,334nm,19.2s,MS4.7,baz=92,slow=35						
MAW	**Mawson**	**81.44**	**203**	P	**P**	**08 22 08.5**	**-1.8**
MAW	**Mawson**	**81.44**	**203**	P	**P**	**08 22 08.5**	**-1.8**
NVS	**Novosibirsk**	**81.75**	**328**	*i* P	**P**	**08 22 21.4**	**+9.3**
NVS				pmax	pmax		
	comp=N,13nm,1.4s						
NVS				pmax	pmax		
	comp=E,18nm,1.4s						
NVS				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.0						
TKM2	**Tokmak 2**	**82.14**	**315**	*e*P	**P**	**08 22 14.7**	**+0.3**
	comp=Z,55nm,1.5s,mb5.3						
TKM2	**Tokmak 2**	**82.14**	**315**	*e*P	**P**	**08 22 14.7**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,55nm,1.5s,mb5.3						
KURK	**Kurchatov**	**82.73**	**323**	P	**P**	**08 22 16.8**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.2,baz=110,slow=4.4,SNR=14						
KURK				pP	pP	08 22 28.8	-3.0
	comp=Z,3.6nm,0.6s,baz=124,slow=4.1,SNR=10						
KURK	**Kurchatov**	**82.73**	**323**	*e*P	**P**	**08 22 16.5**	**-0.7**
	comp=Z,39nm,1.4s,mb5.2						
KURK				pP	pP	08 22 28.8	-3.0
KURK	**Kurchatov**	**82.73**	**323**⇓	*e*P	**P**	**08 22 16.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
QSPA	**South Pole Qui**	**82.73**	**180**	*e*P	**P**	**08 22 16.7**	**-0.1**
	comp=Z,34nm,0.9s,mb5.4						
FRU	**Bishkek**	**82.81**	**315**	*e*P	pP	08 22 32.0	-0.4
FRU				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.4						
AAK	**Ala-Archa**	**82.83**	**315**	*e*P	**P**	**08 22 18.3**	**+0.2**
	comp=Z,201nm,1.4s,mb6.0						
AAK	**Ala-Archa**	**82.83**	**315**⇑	*e*P	**P**	**08 22 18.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.9						
AAK				MLR	MLR		
	comp=Z,172nm,17.0s,MS4.5						
AAK	**Ala-Archa**	**82.83**	**315**	P	**P**	**08 22 20.1**	**+2.1**
PPLA	**Purkeypile**	**83.32**	**24**	*e*P	**P**	**08 22 20.5**	**+0.4**
EKS2	**Erkin-Say**	**83.35**	**314**	*e*P	**P**	**08 22 21.1**	**+0.4**
EKS2				*e*pP	pP	08 22 34.8	-0.4
EKS2	**Erkin-Say**	**83.35**	**314**	*e*P	**P**	**08 22 21.1**	**+0.4**
EKS2				*e**PP	pP	08 22 34.8	-0.4
RC01	**Rabbit Creek A**	**83.46**	**26**	*e*P	**P**	**08 22 21.2**	**+0.4**
	comp=Z,52nm,1.5s,mb5.3						
TRF	**Thorofare Moun**	**84.35**	**23**	*e*P	**P**	**08 22 25.8**	**+0.5**
	comp=Z,11nm,0.7s,mb5.1						
SML	**Sawmill**	**84.39**	**25**	*e*P	**P**	**08 22 25.7**	**+0.2**
	comp=Z,5.2nm,0.9s,mb4.7						
SML	**Sawmill**	**84.39**	**25**	*e*P	**P**	**08 22 25.7**	**+0.2**
SML				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
KBL	**Kabul**	**84.96**	**306**	*e*P	**P**	**08 22 29.2**	**+0.1**
	comp=Z,8.4nm,0.7s,mb5.0						
KBL	**Kabul**	**84.96**	**306**	*e*P	**P**	**08 22 29.2**	**+0.1**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
MCK	**McKinley**	**85.01**	**23**	*e*P	**P**	**08 22 28.6**	**0.0**
	comp=Z,26nm,1.0s,mb5.3						
MCK	**McKinley**	**85.01**	**23**	*e*P	**P**	**08 22 28.6**	**-0.1**
MCK				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.3						
KK31	**Karatay Array**	**85.78**	**314**	P	**P**	**08 22 32.4**	**-0.6**
KK31				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.7						
COLA	**College**	**85.95**	**23**	*e*P	**P**	**08 22 32.9**	**-0.4**
	comp=Z,11nm,0.8s,mb5.1						
COLA	**College**	**85.95**	**23**	*e*P	**P**	**08 22 32.9**	**-0.4**
COLA				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.1						
COLD	**Coldfoot**	**86.19**	**20**	*e*P	**P**	**08 22 34.6**	**+0.2**
	comp=Z,8.4nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**86.28**	**23**	P	**P**	**08 22 33.5**	**-1.4**
	comp=Z,5.8nm,0.6s,mb5.0,baz=254,slow=4.3,SNR=102						
ILAR				pP	pP	08 22 45.8	-3.7
	comp=Z,7.6nm,0.6s,baz=250,slow=4.2,SNR=16						
ILAR				LR	LR	08 57 36.9	
	comp=Z,77nm,20.1s,MS4.1,baz=270,slow=33						
ILAR	**Eielson Array**	**86.28**	**23**	P	**P**	**08 22 33.5**	**-1.4**
ILAR				pP	pP	08 22 45.8	-3.7
ILAR	**Eielson Array**	**86.28**	**23**	P	**P**	**08 22 33.6**	**-1.3**
ILAR				*PP	pP	08 22 45.8	-3.7
MENT	**Mentasta**	**86.81**	**25**	*e*P	**P**	**08 22 37.2**	**-0.4**
BVA0	**Borovoye Array**	**88.29**	**324**	*i* P	**P**	**08 22 43.7**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.4						
BVAR	**Borovoye Array**	**88.29**	**324**	P	**P**	**08 22 43.5**	**-1.3**
	comp=Z,1.5nm,0.6s,mb4.4,baz=123,slow=5.5,SNR=9.7						
BVAR				pP	pP	08 22 53.5	-6.0
	comp=Z,2.8nm,0.6s,baz=114,slow=6.7,SNR=10						
BVAR	**Borovoye Array**	**88.29**	**324**	P	**P**	**08 22 43.5**	**-1.3**
BVAR				pP	pP	08 22 53.5	-6.0
BVAR	**Borovoye Array**	**88.29**	**324**	P	**P**	**08 22 43.5**	**-1.4**
BVAR				*PP	pP	08 22 53.5	-6.0
BRVK	**Borovoye**	**88.36**	**324**	*e*P	**P**	**08 22 44.5**	**-0.7**
	comp=Z,13nm,1.0s,mb5.1						
BRVK	**Borovoye**	**88.36**	**324**	*i* P	**P**	**08 22 47.6**	**+2.4**
BRVK				MLR	MLR		
	comp=Z,177nm,26.0s,MS4.4						
SYO	**Syowa Base**	**89.73**	**200**⇑	*e*pP	pP	08 23 06.6	+0.5
DLBC	**Dease Lake**	**91.99**	**31**	P	**P**	**08 23 02.5**	**+0.4**
	comp=Z,1.9nm,0.4s,mb4.8,baz=232,slow=18,SNR=3.9						
DLBC	**Dease Lake**	**91.99**	**31**	P	**P**	**08 23 02.5**	**+0.4**
INK	**Inuvik**	**92.49**	**21**	P	**P**	**08 23 03.6**	**-0.5**
	comp=Z,7.9nm,1.1s,mb5.0,baz=246,slow=7.0,SNR=6.8						
INK				sP	sP	08 23 20.9	-3.4
	comp=Z,3.3nm,0.8s,baz=294,slow=6.7,SNR=5.0						
INK	**Inuvik**	**92.49**	**21**	*e*P	**P**	**08 23 03.5**	**-0.6**
	comp=Z,16nm,1.3s,mb5.2						
INK				sP	sP	08 23 20.9	-3.4
INK	**Inuvik**	**92.49**	**21**	*e*P	**P**	**08 23 03.5**	**-0.6**
INK				*SP	sP	08 23 20.9	-3.4
INK				pmax	pmax		
	comp=Z,15nm,1.3s						
AB31	**Akbulak array**	**94.09**	**319**	*i* P	**P**	**08 23 09.9**	**-2.0**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb5.0						
ABKAR	**Akbulak array**	**94.09**	**319**	*e*P	**P**	**08 23 10.1**	**-1.8**
	comp=Z,2.8nm,0.9s,mb4.7						
HUMO	**Hull Mountain**	**94.23**	**48**	*e*P	**P**	**08 23 13.3**	**+0.6**
	comp=Z,7.6nm,0.9s,mb5.1						
AKTO	**Aktyubinsk**	**95.44**	**320**	sP	sP	08 23 33.0	-5.4
	comp=Z,2.5nm,1.0s,baz=90,slow=8.5,SNR=3.9						
AKTO	**Aktyubinsk**	**95.44**	**320**	sP	sP	08 23 33.0	-5.4
ARU	**Arti**	**95.61**	**326**	P	pP	08 23 27.8	-5.6
SOKR	**Solikamsk**	**96.75**	**329**	*e*P	pP	08 23 38.4	-0.1
SOKR				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.5						
HAWA	**Hanford**	**96.97**	**44**	*e*P	**P**	**08 23 25.8**	**+0.7**
NVAR	**Mina Array Bea**	**97.44**	**52**	P	**P**	**08 23 28.8**	**+1.3**
	comp=Z,1.9nm,0.8s,mb4.5,baz=246,slow=5.6,SNR=12						
NVAR	**Mina Array Bea**	**97.44**	**52**	P	**P**	**08 23 28.8**	**+1.3**
OD2	**Odessa Site #2**	**97.59**	**43**	P	**P**	**08 23 28.2**	**+0.3**
	comp=Z,6.1nm,1.0s,mb5.1						
SNAA	**Sanae**	**98.91**	**189**	*e*	**P**	**08 23 35.1**	**+1.7**
SNAA				*e*		08 27 35.9	
YKA	**Yellowknife Ar**	**99.86**	**28**	P	Pdif	08 23 35.8	-2.1
	comp=Z,1.9nm,0.8s,baz=270,slow=4.6,SNR=20						
YKA				sP		08 23 52.5	
	comp=Z,1.1nm,0.8s,baz=272,slow=4.9,SNR=4.0						
YKA	**Yellowknife Ar**	**99.86**	**28**	P	Pdif	08 23 35.9	-2.1
YKA				sP		08 23 52.5	
YKA	**Yellowknife Ar**	**99.86**	**28**	P	Pdif	08 23 35.9	-2.0
YKA				*SP		08 23 52.6	
PDAR	**Pinedale Array**	**104.10**	**48**	Pdiff	Pdif	08 23 57.1	+0.4
	comp=Z,1.1nm,0.7s,baz=237,slow=2.1,SNR=10						
PDAR	**Pinedale Array**	**104.10**	**48**	Pdif	Pdif	08 23 57.1	+0.4
ISCO	**Idaho Springs**	**107.28**	**51**	*e*PKPdf	PKiKP	08 28 20.8	+0.7
OBN	**Obninsk**	**108.05**	**326**	*e*P	Pdif	08 24 17.4	+3.1
OBN				*e*		08 28 44.6	
OBN				*e*SS	SS	08 44 00.7	+7.4
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TXAR	**Lajitas Array**	**109.59**	**62**	PKiKP	PKiKP	08 28 26.2	+1.6
	comp=Z,0.2nm,0.8s,baz=203,slow=6.7,SNR=2.7						
TXAR	**Lajitas Array**	**109.59**	**62**	PKiKP	PKiKP	08 28 26.2	+1.6
FINES	**FINESS Array B**	**111.17**	**334**	Pdiff	Pdif	08 24 32.5	+4.3
	comp=Z,5.4nm,1.0s,baz=93,slow=4.9,SNR=3.1						
FINES				PKiKP	PKiKP	08 28 27.9	+1.3
	comp=Z,2.5nm,0.8s,baz=48,slow=4.3,SNR=2.4						
FINES	**FINESS Array B**	**111.17**	**334**	Pdif	Pdif	08 24 32.5	+4.3
FINES				PKiKP	PKiKP	08 28 27.9	+1.3
FINES	**FINESS Array B**	**111.17**	**334**	P	Pdif	08 24 32.5	+4.3
BRG	**Berggiesshubel**	**122.22**	**327**	*e*P	pPKPdf	08 29 02.2	-1.2
	comp=Z,5.0nm,0.9s						
BRG	**Berggiesshubel**	**122.22**	**327**	*e*PKIKP	pPKPdf	08 29 02.2	-1.2
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CLL	**Collm**	**122.48**	**328**	*e*pPKiKP		08 29 01.0	
CLL				*i* (sPKiKP)		08 29 08.7	
	comp=Z,9.0nm,0.9s						
GERES	**GERESS Array B**	**123.43**	**325**	PKP	PKPdf	08 28 49.8	-0.8
	comp=Z,0.6nm,0.5s,baz=86,slow=1.7,SNR=6.3						
GERES				pPKP	pPKPdf	08 29 00.8	-5.0
	comp=Z,1.8nm,0.7s,baz=65,slow=1.3,SNR=6.3						
GERES	**GERESS Array B**	**123.43**	**325**	PKP	PKPdf	08 28 49.8	-0.8
GERES				pPKP	pPKPdf	08 29 00.8	-5.0
GERES	**GERESS Array B**	**123.43**	**325**	PKIKP	PKPdf	08 28 49.8	-0.8
GERES						08 29 00.8	
TKL	**Tuckaleechee C**	**125.03**	**51**	PKP	PKPdf	08 28 54.1	+0.1
	comp=Z,2.1nm,0.8s,baz=198,slow=3.2,SNR=2.9						
TKL	**Tuckaleechee C**	**125.03**	**51**	PKP	PKPdf	08 28 54.1	+0.1
TKL	**Tuckaleechee C**	**125.03**	**51**	PKIKP	PKPdf	08 28 54.2	+0.1
FETA	**Feichten**	**126.09**	**325**⇑	*i* PKiKP	PKiKP	08 28 55.7	-0.5
	comp=Z,8.5nm,1.2s						
HAU	**Haudompre**	**127.92**	**328**	*e*PKIKP	PKPdf	08 28 58.5	-0.7
HAU	**Haudompre**	**127.92**	**328**	*e*PKPdf	PKPdf	08 28 58.5	-0.7
HAU	**Haudompre**	**127.92**	**328**	*e*PKIKP	PKPdf	08 28 58.5	-0.7
LPG	**La Plagne**	**129.23**	**325**	*e*PKIKP	PKPdf	08 29 01.8	0.0
	comp=Z,10nm,0.9s						
LPG	**La Plagne**	**129.23**	**325**	*e*PKPdf	PKPdf	08 29 01.8	0.0
LPG	**La Plagne**	**129.23**	**325**	*e*PKIKP	PKPdf	08 29 01.8	0.0
LPL	**La Plagne**	**129.23**	**325**	*e*PKIKP	PKPdf	08 29 01.4	-0.4
	comp=Z,3.9nm,0.6s						
LPL	**La Plagne**	**129.23**	**325**	*e*PKPdf	PKPdf	08 29 01.4	-0.4
LPL	**La Plagne**	**129.23**	**325**	*e*PKIKP	PKPdf	08 29 01.4	-0.4
LPAZ	**La Paz**	**137.37**	**124**	PKhKP	PKPpre	08 29 08.8	
	comp=Z,0.8nm,0.7s,baz=162,slow=3.2,SNR=3.4						
LPAZ				PKP	PKPdf	08 29 19.2	+1.3
	comp=Z,1.4nm,0.8s,baz=26,slow=2.2,SNR=4.2						
LPAZ	**La Paz**	**137.37**	**124**	PKPpre	PKPpre	08 29 08.8	
LPAZ				PKP	PKPdf	08 29 19.2	+1.3
LPAZ	**La Paz**	**137.37**	**124**	PKHKP	PKPpre	08 29 08.8	
LPAZ						08 29 19.2	
ROSC	**El Rosal**	**137.97**	**91**	PKP	PKPdf	08 29 20.3	+1.1
	comp=Z,1.7nm,0.4s,baz=135,slow=16,SNR=3.1						
ROSC	**El Rosal**	**137.97**	**91**	PKP	PKPdf	08 29 20.3	+1.1
CPUP	**Villa Florida**	**138.61**	**145**	PKP	PKPdf	08 29 20.1	+0.2
	comp=Z,2.3nm,0.9s,baz=215,slow=3.1,SNR=4.6						
CPUP	**Villa Florida**	**138.61**	**145**	PKP	PKPdf	08 29 20.1	+0.2
CPUP	**Villa Florida**	**138.61**	**145**	PKIKP	PKPdf	08 29 20.2	+0.2
SDV	**Santo Domingo**	**141.84**	**85**	*e*PKPdf	PKPdf	08 29 22.0	-4.2
LSP	**Las Mesas**	**144.27**	**69**	*e*PKPdf	PKPdf	08 29 30.7	+0.4
CRPR	**Cabo Rojo, PR**	**144.29**	**69**	*e*PKPdf	PKPdf	08 29 27.7	-2.6
SAML	**Samuel**	**145.11**	**117**	*e*PKPdf	PKPdf	08 29 30.2	-1.7
SJG	**San Juan**	**145.15**	**69**	*e*PKPdf	PKPdf	08 29 30.6	-1.2
SJG	**San Juan**	**145.15**	**69**	*e*PKIKP	PKPdf	08 29 30.6	-1.2
MTP	**Monte Pirata**	**145.71**	**68**	*e*PKPdf	PKPdf	08 29 33.1	+0.4
SPB	**Sao Paulo**	**145.89**	**154**	*e*PKPdf	PKPdf	08 29 32.7	-0.3
STVI	**Saint Thomas**	**146.20**	**68**	*e*PKPdf	PKPdf	08 29 34.3	+0.7
TORD	**Torodi Ar. Bea**	**146.23**	**283**	PKPbc	PKPbc	08 29 34.5	-0.4
	comp=Z,4.2nm,0.7s,baz=51,slow=3.2,SNR=25						
TORD				SKPbc	SKPbc	08 33 11.8	+1.9
	comp=Z,0.8nm,0.8s,baz=45,slow=2.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**146.23**	**283**	PKPbc	PKPbc	08 29 34.5	-0.4
TORD				SKPbc	SKPbc	08 33 11.8	+1.9
LZG	**Guadaloupe-1**	**149.68**	**70**	*e*P	PKPbc	08 29 44.1	+0.1
PHG	**Guadaloupe-2**	**149.83**	**71**	*e*P	PKPbc	08 29 44.9	+0.4
DBIC	**Dimbokro**	**152.94**	**270**	PKPbc	PKPbc	08 29 51.6	-0.2
	comp=Z,2.3nm,0.5s,baz=184,slow=5.6,SNR=6.5						
DBIC				PKPab	PKPab	08 30 04.2	+1.1
	comp=Z,6.8nm,0.7s,baz=107,slow=1.6,SNR=3.0						
DBIC	**Dimbokro**	**152.94**	**270**	*e*PKPdf	PKPdf	08 29 44.7	+0.3
DBIC				*e*PKPbc	PKPbc	08 29 51.5	-0.2
DBIC				PKPab	PKPab	08 30 04.2	+1.1
DBIC	**Dimbokro**	**152.94**	**270**	*e*PKIKP	PKPdf	08 29 44.7	+0.2

DBIC e 08 29 51.6
LIC Lamto 153.08 269 ePKIKP PKPdf 08 29 45.8 +1.1
comp=Z,50nm,0.9s
LIC Lamto 153.08 269 ePKPdf PKPdf 08 29 45.8 +1.1

IDC 17 08:21:52.0±4.0, 8.°71N×126.°51E, h76km±35km, mb3.5/9, mb1 3.7/9, mb1mx3.5/21, mbtmp3.5/9, Error ellipse: s-maj=37.4km s-min=15.5km az=63.0
NEIC 17 08:21:51.7±1.0, 8.°67N×126.°44E, h74km±9km, mb4.3/1, Error ellipse: s-maj=13.7km s-min=6.0km az=67.0
ISCJB 17 08:21:52.5±1.0, 8.°62N±0.°06×126.°33E±0.°09, h94km±8km, mb4.3/18, Error ellipse: s-maj=15.9km s-min=6.9km az=154.4
MAN 17 08:21:54, 8.°58N×126.°20E, h75km, mb4.6, ML3.5, MS3.5
ISC 17 08:21:53.3±1.0, 8.°63N±0.°05×126.°34E±0.°09, h85km±8km, n50, σ0.°90/54, mb4.3/18, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.47**	**239**	*e*P	**Pn**	**08 22 18.8**	**+0.3**
BUKP				*e*S	**Sn**	**08 22 37.1**	**-0.3**
CGP	**Cagayan de Oro**	**1.64**	**264**	*e*P	**Pn**	**08 22 20.1**	**-0.5**
CGP				*i* S	**Sn**	**08 22 39.8**	**-1.5**
MATI	**Mati**	**1.68**	**183**	*e*P	**Pn**	**08 22 22.0**	**+0.8**
DAV	**Davao City (W)**	**1.73**	**206**	P	**Pn**	**08 22 20.6**	**-1.2**
	56nm,0.3s,baz=343,slow=19,SNR=2.7						
DAV				S	**Sn**	**08 22 45.6**	**+2.2**
	150nm,0.3s,baz=346,slow=23,SNR=18						
DAV	**Davao City (W)**	**1.73**	**206**	P	**Pn**	**08 22 20.6**	**-1.2**
DAV				S	**Sn**	**08 22 45.6**	**+2.2**
DMPH	**Davao City--Mi**	**1.75**	**208**	⇑*i*P	**Pn**	**08 22 22.9**	**+0.8**
DMPH				*i* S	**Sn**	**08 22 41.5**	**-2.4**
MSLP	**Maasin**	**2.08**	**316**	*e*P	**Pn**	**08 22 27.7**	**+1.1**
CTBH	**Cotabato--PC H**	**2.50**	**236**	⇓*i*P	**Pn**	**08 22 32.2**	**+0.1**
TBP	**Tagbilaran**	**2.66**	**293**	*e*P	**Pn**	**08 22 34.9**	**+0.7**
TBP				*e*S	**Sn**	**08 23 04.6**	**-1.0**
PAGZ	**Pagadian**	**3.03**	**255**	*e*P	**Pn**	**08 22 39.6**	**+0.4**
GUIM	**Jordan**	**4.19**	**298**	*e*P	**Pn**	**08 22 56.7**	**+1.8**
TWG	**Pinlang**	**14.98**	**341**	Pn	**Pn**	**08 25 19.1**	**-1.5**
TPUB	**Ta-pu**	**15.58**	**340**	Pn	**Pn**	**08 25 27.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.33**	**293**	P	**P**	**08 27 40.8**	**+1.5**
	0.7nm,0.3s,mb3.6,baz=105,slow=6.8,SNR=7.3						
CMAR	**Chiang Mai Arr**	**28.33**	**293**	P	**P**	**08 27 40.8**	**+1.5**
WRAB	**Tennant Creek**	**29.46**	**165**	*e*P	**P**	**08 27 48.9**	**-0.4**
	13nm,1.7s,mb4.3						
WRA	**Warramunga Arr**	**29.47**	**165**	P	**P**	**08 27 48.2**	**-1.1**
	0.7nm,0.6s,mb3.5,baz=348,slow=9.4,SNR=7.2						
WRA	**Warramunga Arr**	**29.47**	**165**	P	**P**	**08 27 48.2**	**-1.1**
ASAR	**Alice Springs**	**32.94**	**167**	P	**P**	**08 28 19.8**	**-0.2**
	0.3nm,0.3s,mb3.5,baz=354,slow=7.2,SNR=6.9						
ASAR				PcP	PcP	08 31 02.4	-0.1
	0.8nm,0.6s,baz=356,slow=2.5,SNR=11						
ASAR	**Alice Springs**	**32.94**	**167**	P	**P**	**08 28 19.8**	**-0.2**
ASAR				PcP	PcP	08 31 02.4	-0.1
TAPN	**Taplejung**	**40.95**	**302**	*e*P	**P**	**08 29 28.4**	**+0.5**
	10nm,0.4s,mb5.0						
TAPN	**Taplejung**	**40.95**	**302**	*e*P	**P**	**08 29 28.4**	**+0.5**
	10nm,0.4s,mb5.0						
ODAN	**Odare**	**41.06**	**301**	*e*P	**P**	**08 29 29.0**	**+0.2**
	14nm,0.4s,mb5.2						
ODAN	**Odare**	**41.06**	**301**	*e*P	**P**	**08 29 29.0**	**+0.2**
	14nm,0.4s,mb5.2						
RAMN	**Ramite**	**41.76**	**301**	*e*P	**P**	**08 29 34.9**	**+0.4**
	15nm,0.7s,mb4.8						
RAMN	**Ramite**	**41.76**	**301**	*e*P	**P**	**08 29 34.9**	**+0.4**
	15nm,0.7s,mb4.8						
JIRN	**Jiri**	**42.33**	**302**	*e*P	**P**	**08 29 39.4**	**+0.3**
	18nm,0.3s,mb5.3						
JIRN	**Jiri**	**42.33**	**302**	*e*P	**P**	**08 29 39.4**	**+0.3**
	18nm,0.3s,mb5.3						
GUN	**Gumba**	**42.67**	**302**	*e*P	**P**	**08 29 42.3**	**+0.4**
	12nm,0.3s,mb5.0						
GUN	**Gumba**	**42.67**	**302**	*e*P	**P**	**08 29 42.3**	**+0.4**
	12nm,0.3s,mb5.1						
STKA	**Stephens Creek**	**42.84**	**161**	P	**P**	**08 29 43.1**	**+0.1**
	0.8nm,0.3s,mb3.5,baz=334,slow=9.7,SNR=6.5						
STKA	**Stephens Creek**	**42.84**	**161**	P	**P**	**08 29 43.1**	**+0.1**
GKN	**Gorkha**	**43.74**	**302**	*e*P	**P**	**08 29 50.4**	**-0.1**
	5.4nm,0.3s,mb4.7						
GKN	**Gorkha**	**43.74**	**302**	*e*P	**P**	**08 29 50.4**	**-0.1**
	5.4nm,0.3s,mb4.8						
KOLN	**Koldanda**	**44.55**	**301**	*e*P	**P**	**08 29 57.3**	**+0.3**
	33nm,0.7s,mb5.2						
KOLN	**Koldanda**	**44.55**	**301**	*e*P	**P**	**08 29 57.3**	**+0.3**
	33nm,0.7s,mb5.2						
DANN	**Dangsing**	**44.58**	**302**	*e*P	**P**	**08 29 57.4**	**+0.2**
	11nm,0.3s,mb5.1						
DANN	**Dangsing**	**44.58**	**302**	*e*P	**P**	**08 29 57.4**	**+0.2**
	11nm,0.3s,mb5.1						
MKAR	**Makanchi Array**	**53.37**	**323**	P	**P**	**08 31 03.6**	**-0.4**
	0.5nm,0.5s,mb3.8,baz=119,slow=8.8,SNR=4.8						
MKAR				PcP	PcP	08 32 09.9	-0.5
	0.5nm,0.8s,baz=131,slow=3.7,SNR=3.5						
MKAR	**Makanchi Array**	**53.37**	**323**	P	**P**	**08 31 03.6**	**-0.4**
MKAR				PcP	PcP	08 32 09.9	-0.5
KURK	**Kurchatov**	**57.45**	**326**	P	**P**	**08 31 32.5**	**-0.7**
	0.9nm,0.5s,mb4.1,baz=121,slow=7.4,SNR=11						
KURK	**Kurchatov**	**57.45**	**326**	P	**P**	**08 31 32.5**	**-0.7**
BVAR	**Borovoye Array**	**63.04**	**326**	P	**P**	**08 32 11.4**	**0.0**
	0.4nm,0.3s,mb3.8,baz=70,slow=4.9,SNR=5.8						
BVAR	**Borovoye Array**	**63.04**	**326**	P	**P**	**08 32 11.4**	**-0.1**
ILAR	**Eielson Array**	**80.88**	**26**	P	**P**	**08 33 57.0**	**-0.8**
	0.7nm,0.7s,mb3.6,baz=239,slow=5.1,SNR=12						
ILAR	**Eielson Array**	**80.88**	**26**	P	**P**	**08 33 57.0**	**-0.8**
YKA	**Yellowknife Ar**	**95.22**	**24**	P	**P**	**08 35 07.5**	**+0.3**
	0.4nm,0.6s,mb4.0,baz=298,slow=5.1,SNR=5.6						
YKA	**Yellowknife Ar**	**95.22**	**24**	P	**P**	**08 35 07.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**120.92**	**291**	PKP	PKPdf	08 40 35.5	-1.3
	0.6nm,1.1s,baz=64,slow=3.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**120.92**	**291**	PKP	PKPdf	08 40 35.5	-1.3

IDC 17 09:14:45.3±0.8, 30.°97S×177.°48W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.1/16, mbtmp4.1/5, MS3.7/3, Ms1 3.7/3, ms1mx3.2/28, Error ellipse: s-maj=31.0km s-min=27.3km az=172.0
NEIC 17 09:14:46.8±0.6, 30.°96S×177.°47W, h10km, mb4.4/2, Error ellipse: s-maj=17.5km s-min=14.9km az=103.0
ISCJB 17 09:14:48.9±1.1, 30.°95S±0.°07×177.°5W±0.°2, h33km, mb4.1/5, MS3.7/3, Error ellipse: s-maj=22.8km s-min=9.9km az=3.4
ISC 17 09:14:50.9±1.1, 30.°90S±0.°07×177.°5W±0.°2, h35km, n33, σ0.°59/20, mb4.1/5, MS3.7/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.67**	**348**	*e*Pn	**Pn**	**09 15 16.9**	**-0.7**
RAO				*e*Sn	**Sn**	**09 15 38.1**	**+0.2**
URZ	**Urewera**	**8.57**	**210**	Pn	**Pn**	**09 16 44.3**	**-8.1**
	0.6nm,0.3s,baz=340,slow=7.5,SNR=6.8						
URZ				Sn	**Sn**	**09 18 17.8**	**-10**
	2.3nm,0.3s,baz=349,slow=19,SNR=9.0						
URZ	**Urewera**	**8.57**	**210**	Pn	**Pn**	**09 16 44.3**	**-8.1**
URZ				Sn	**Sn**	**09 18 17.8**	**-10**
RPZ	**Rata Peaks**	**15.67**	**212**	Pn	**Pn**	**09 18 19.9**	**-9.0**
	0.7nm,0.3s,baz=62,slow=15,SNR=3.0						
RPZ	**Rata Peaks**	**15.67**	**212**	Pn	**Pn**	**09 18 19.9**	**-9.0**
DZM	**Mont Dzumac**	**16.81**	**298**	*e*LR	LR	09 22 33.5	
	195nm,26.6s						
TBI	**Tubuai**	**26.04**	**80**	*e*LR	LR	09 26 01.5	
	122nm,31.0s						
PPT2	**Papeete2**	**28.63**	**69**	*e*LR	LR	09 27 29.1	
	106nm,28.2s						
CTA	**Charters Tower**	**34.28**	**280**	LR	LR	09 34 47.5	
	comp=Z,141nm,18.0s,MS3.7,baz=49,slow=35						
STKA	**Stephens Creek**	**34.77**	**258**	P	**P**	**09 21 38.8**	**+0.8**
	4.0nm,0.9s,mb4.3,baz=138,slow=13,SNR=6.2						
STKA				LR	LR	09 33 05.5	
	comp=Z,72nm,18.1s,MS3.5,baz=201,slow=32						
STKA	**Stephens Creek**	**34.77**	**258**	*e*P	**P**	**09 21 38.7**	**+0.7**
	3.3nm,1.5s,mb4.0						
AS31	**Alice Springs**	**43.49**	**267**	*e*P	**P**	**09 22 51.8**	**+0.9**
ASAR	**Alice Springs**	**43.49**	**267**	P	**P**	**09 22 50.4**	**-0.6**
	1.9nm,0.8s,mb3.9,baz=109,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**43.49**	**267**	P	**P**	**09 22 50.4**	**-0.6**
WB2	**Warramunga Arr**	**44.51**	**272**	*e*P	**P**	**09 22 58.7**	**-0.5**
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**09 22 59.1**	**-0.2**
	3.5nm,0.9s,mb4.2,baz=111,slow=8.1,SNR=30						
WRA				LR	LR	09 41 45.2	
	comp=Z,114nm,18.2s,MS3.8,baz=320,slow=36						
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**09 22 59.1**	**-0.2**
QSPA	**South Pole Qui**	**59.22**	**180**	P	**P**	**09 24 47.4**	**-0.5**
	2.1nm,0.8s,mb4.2,baz=71,slow=2.1,SNR=9.0						
QSPA	**South Pole Qui**	**59.22**	**180**	P	**P**	**09 24 47.4**	**-0.5**
	3.6nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**88.33**	**42**	P	**P**	**09 27 39.4**	**+0.6**
	0.9nm,0.9s,mb4.0,baz=224,slow=7.5,SNR=5.4						
NVAR	**Mina Array Bea**	**88.33**	**42**	P	**P**	**09 27 39.4**	**+0.6**
FINES	**FINESS Array B**	**145.75**	**340**	PKPbc	PKPbc	09 34 24.9	-0.5
	4.5nm,1.0s,baz=122,slow=9.3,SNR=4.5						
FINES	**FINESS Array B**	**145.75**	**340**	PKPbc	PKPbc	09 34 24.9	-0.5
NOA	**NORSAR Array B**	**149.30**	**352**	PKPbc	PKPbc	09 34 37.3	+2.2
	2.5nm,0.9s,baz=13,slow=2.9,SNR=3.5						
NOA	**NORSAR Array B**	**149.30**	**352**	PKPbc	PKPbc	09 34 37.3	+2.2
AKASG	**Malin Array Be**	**151.94**	**323**	PKPbc	PKPbc	09 34 40.7	-1.0
	0.3nm,0.4s,baz=48,slow=4.1,SNR=3.9						
AKASG				PKPab	PKPab	09 34 50.5	-0.5
	0.2nm,0.3s,baz=47,slow=3.3,SNR=4.1						
AKASG	**Malin Array Be**	**151.94**	**323**	PKPbc	PKPbc	09 34 40.7	-1.0
AKASG				PKPab	PKPab	09 34 50.5	-0.5
MMAI	**Mount Meron Ar**	**152.04**	**283**	PKPbc	PKPbc	09 34 43.7	+1.2
	0.7nm,0.3s,baz=345,slow=1.6,SNR=3.0						
MMAI	**Mount Meron Ar**	**152.04**	**283**	PKPbc	PKPbc	09 34 43.7	+1.2
BRTR	**Keskin Array B**	**153.19**	**298**	PKPbc	PKPbc	09 34 44.5	-0.3
	0.7nm,0.7s,baz=99,slow=3.3,SNR=4.3						
BRTR				PKPab	PKPab	09 34 56.5	-0.2
	0.7nm,0.7s,baz=66,slow=3.1,SNR=3.6						
BRTR	**Keskin Array B**	**153.19**	**298**	PKPbc	PKPbc	09 34 44.5	-0.3
BRTR				PKPab	PKPab	09 34 56.5	-0.2
TORD	**Torodi Ar. Bea**	**162.32**	**178**	PKPab	PKPab	09 35 35.7	-0.7
	0.4nm,0.6s,baz=175,slow=3.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**162.32**	**178**	PKPab	PKPab	09 35 35.7	-0.7

IDC 17 09:51:41.0±4.2, 7.°43N×34.°16W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.4/3, MS3.4/2, Ms1 3.5/2, ms1mx3.1/25, Error ellipse: s-maj=181.5km s-min=31.6km az=8.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**35.70**	**78**	P	P	09 58 41.5	-0.1
	1.4nm,0.8s,baz=268,slow=9.0,SNR=7.2						
CPUP	**Villa Florida**	**40.40**	**213**	LR	LR	10 15 29.9	
	comp=Z,55nm,20.4s,baz=358,slow=35						
LPAZ	**La Paz**	**41.06**	**235**	LR	LR	10 16 01.1	
	comp=Z,49nm,18.9s,baz=79,slow=36						
TXAR	**Lajitas Array**	**68.55**	**298**	P	P	10 02 46.1	+0.2
	0.1nm,0.7s,baz=101,slow=6.9,SNR=2.6						
YKA	**Yellowknife Ar**	**79.04**	**332**	P	P	10 03 46.9	+0.1
	0.1nm,0.7s,baz=94,slow=5.4,SNR=3.5						

IDC 17 10:03:28.6±8.1, 5.°91S×145.°78E, h75km±63km, mb3.1/2, mb1 3.5/4, mb1mx3.2/15, mbtmp3.4/4, ML3.5/2, MS3.6/3, Ms1 3.6/3, ms1mx2.9/22, Error ellipse: s-maj=83.6km s-min=51.9km az=46.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**159**	P	Pn	10 04 23.5	-0.4
	5.1nm,0.3s,baz=2.1,slow=5.2,SNR=17						
PMG				S	Sn	10 05 07.2	+0.5
	2.5nm,0.3s,baz=132,slow=21,SNR=6.7						
WRA	**Warramunga Arr**	**17.84**	**218**	P	Pn	10 07 31.8	-0.1
	0.6nm,0.3s,baz=40,slow=11,SNR=28						
ASAR	**Alice Springs**	**21.03**	**212**	P	P	10 08 05.3	-1.1
	0.5nm,0.4s,baz=46,slow=8.5,SNR=13						
STKA	**Stephens Creek**	**26.13**	**188**	P	P	10 08 56.9	+1.2
	0.9nm,0.7s,baz=2.5,slow=11,SNR=3.8						
CBIJ	**Chichi jima**	**32.99**	**354**	LR	LR	10 21 11.6	
	comp=Z,150nm,20.0s,baz=108,slow=32						
AFI	**Afiamalu**	**42.51**	**104**	LR	LR	10 25 22.4	
	comp=Z,71nm,21.8s,baz=210,slow=31						
RPZ	**Rata Peaks**	**43.73**	**153**	LR	LR	10 26 10.0	
	comp=Z,50nm,19.4s,baz=302,slow=31						

BJI 17 10:10:45.5, 20.°06N×145.°94E, h63km, mB4.9/13, mb4.7/19, Ms4.5/10, Ms7 4.3/11
ISCJB 17 10:10:56.3±1.3, 20.°63N±0.°05×145.°11E±0.°05, h88km±11km, mb4.5/51, Error ellipse: s-maj=8.0km s-min=7.0km az=171.5
IDC 17 10:11:00.8±0.8, 20.°74N×145.°10E, h121km±6km, mb4.0/19, mb1 4.2/22, mb1mx4.1/31, mbtmp4.0/22, Error ellipse: s-maj=14.5km s-min=9.2km az=89.0
NEIC 17 10:11:00.8±0.2, 20.°69N×145.°09E, mb4.6/31, Error ellipse: s-maj=7.1km s-min=5.1km az=97.0
ISC 17 10:10:58.7±1.2, 20.°65N±0.°05×145.°16E±0.°04, h97km±10km, h65km±1.0km: pP-P, n310, σ0.°47/308, mb4.5/51, 126C-84D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.97**	**338**	P	**Pn**	**10 12 38.5**	**+0.3**
	20nm,0.3s,baz=272,slow=22,SNR=10						
CBIJ				S	**Sn**	**10 13 51.4**	**-4.6**
	69nm,0.3s,baz=284,slow=23,SNR=11						
CBIJ	**Chichi jima**	**6.97**	**338**	P	**Pn**	**10 12 38.5**	**+0.3**
CBIJ				S	**Sn**	**10 13 51.4**	**-4.6**
GUMO	**Guam**	**7.03**	**182**	P	**Pn**	**10 12 43.5**	**+4.5**
	16nm,0.3s,baz=199,slow=19,SNR=5.9						
GUMO	**Guam**	**7.03**	**182**	P	**Pn**	**10 12 43.5**	**+4.5**
JOW	**Kunigami**	**16.63**	**295**	Pn	**Pn**	**10 14 41.5**	**-4.5**
	9.9nm,0.9s						
MJAR	**Matsushiro Arr**	**16.96**	**340**	P	**Pn**	**10 14 49.6**	**-0.3**
	0.7nm,0.3s,baz=166,slow=9.8,SNR=9.2						
MJAR	**Matsushiro Arr**	**16.96**	**340**	P	**Pn**	**10 14 49.6**	**-0.3**
MAJO	**Matsushiro**	**16.96**	**340**	*e*Pn	**Pn**	**10 14 49.8**	**-0.1**
	12nm,0.9s						
MAT	**Matsushiro**	**16.96**	**340**	P	**Pn**	**10 14 49.1**	**-0.8**
JNU	**Nakatsue**	**17.77**	**317**	*e*P	**Pn**	**10 15 02.1**	**+2.3**
	10.0nm,1.4s						
KSRS	**Korea Array**	**22.46**	**322**	P	**P**	**10 15 49.9**	**+0.1**
	3.8nm,0.8s,mb3.8,baz=152,slow=8.6,SNR=11						
KSAR	**Wonju Array Be**	**22.48**	**322**	P	**P**	**10 15 49.9**	**-0.1**
ASAJ	**Asahikawa**	**23.50**	**355**	P	**P**	**10 16 00.4**	**+0.7**
	7.4nm,0.6s,mb4.2,baz=101,slow=32,SNR=6.8						
ASAJ	**Asahikawa**	**23.50**	**355**	P	**P**	**10 16 00.4**	**+0.7**
NJ2	**Nanjing**	**26.09**	**301**	*e*P	**P**	**10 16 24.1**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
MDJ	**Mudanjiang**	**27.16**	**335**	P	**P**	**10 16 32.8**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,130nm,5.5s						
CN2	**Changchun**	**28.34**	**329**	*e*P	**P**	**10 16 45.0**	**+1.7**
BJI	**Beijing**	**31.40**	**314**	P	**P**	**10 17 09.4**	**-1.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
COEN	**Coen**	**34.45**	**183**	*e*P	**P**	**10 17 37.2**	**+0.1**
	comp=Z,33nm,0.6s,mb5.3						
HHC	**Hu-ho-hao-te**	**34.89**	**313**	*e*P	**P**	**10 17 40.0**	**-0.9**
HHC				pP	pP	10 17 55.5	-7.5
HHC				sP	sP	10 18 03.3	-11
HHC				S	**S**	**10 23 05.3**	**+0.3**
HHC				PcS	PcS	10 23 58.4	+0.1
HHC				ScS	ScS	10 27 53.6	+1.6
HHC				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.0						
HHC				pmax	pmax		
	comp=Z,160nm,5.6s						
HHC				LR	LR		
	comp=N,200nm,13.6s						
HHC				LR	LR		
	comp=E,120nm,13.0s						
HHC				LR	LR		
	comp=Z,120nm,13.4s						
GYA	**Guiyang**	**35.66**	**287**	P	**P**	**10 17 48.0**	**+0.3**
GYA				pP	pP	10 18 03.8	-6.1
GYA				sP	sP	10 18 12.4	-8.7
GYA				PP	PP	10 19 10.0	-0.5
GYA				S	**S**	**10 23 18.6**	**+1.4**
GYA				sS	sS	10 23 46.6	-9.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,530nm,16.7s						
GYA				LR	LR		
	comp=E,490nm,17.3s						
GYA				LR	LR		
	comp=Z,470nm,16.8s						
KAPI	**Kappang**	**35.68**	**227**	P	**P**	**10 17 47.1**	**-0.8**
	comp=Z,8.4nm,0.8s,mb4.8,baz=84,slow=14,SNR=4.0						
KAPI	**Kappang**	**35.68**	**227**	P	**P**	**10 17 47.1**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.6						
LZH	**Lanzhou**	**39.16**	**302**	*e*P	**P**	**10 18 18.3**	**+1.2**
LZH				pP	pP	10 18 33.8	-5.8
LZH				sP	sP	10 18 40.5	-10
LZH				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.8						
LZH	**Lanzhou**	**39.16**	**302**	*e*P	**P**	**10 18 18.2**	**+1.1**
	comp=Z,20nm,1.2s,mb4.8						
LZH				pP	pP	10 18 33.7	-5.9
LZH				sP	sP	10 18 40.5	-10
KMI	**Kunming**	**39.22**	**285**	P	**P**	**10 18 18.3**	**+0.6**
KMI				pP	pP	10 18 34.4	-5.8
KMI				sP	sP	10 18 41.8	-10
KMI				S	**S**	**10 24 10.9**	**-0.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
KMI				pmax	pmax		
	comp=Z,92nm,4.5s						
KMI				LR	LR		
	comp=N,110nm,18.0s						
KMI				LR	LR		
	comp=E,76nm,15.5s						
KMI				LR	LR		
	comp=Z,98nm,15.2s						
KMI	**Kunming**	**39.22**	**285**	P	**P**	**10 18 18.3**	**+0.6**
	comp=Z,9.0nm,0.5s,mb4.9						
KMI				pP	pP	10 18 34.4	-5.8
KMI				sP	sP	10 18 41.8	-10
KMI				S	**S**	**10 24 10.9**	**-0.2**
KMI				LR	LR		
	comp=Z,100nm,15.2s						
SONM	**Songino Array**	**41.32**	**320**	P	**P**	**10 18 34.0**	**-0.6**
	comp=Z,1.6nm,0.5s,mb4.1,baz=132,slow=6.6,SNR=21						
SONM				ScP	ScP	10 24 09.3	-3.4
	comp=Z,0.2nm,0.5s,baz=104,slow=4.6,SNR=3.4						
SONM	**Songino Array**	**41.32**	**320**	P	**P**	**10 18 34.0**	**-0.6**
SONM				ScP	ScP	10 24 09.3	-3.4
WRAB	**Tennant Creek**	**41.70**	**195**	*e*P	**P**	**10 18 38.4**	**+0.3**
	comp=Z,14nm,1.4s,mb4.5						
WB2	**Warramunga Arr**	**41.71**	**195**	*e*P	**P**	**10 18 38.0**	**-0.1**
WRA	**Warramunga Arr**	**41.71**	**195**	P	**P**	**10 18 38.3**	**+0.2**
	comp=Z,2.0nm,0.4s,mb4.2,baz=11,slow=8.8,SNR=21						
WRA	**Warramunga Arr**	**41.71**	**195**	P	**P**	**10 18 38.3**	**+0.2**
GTA	**Gaotai**	**42.98**	**306**	*e*P	**P**	**10 18 46.9**	**-1.4**
GTA				pP	pP	10 19 03.5	-7.6
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**43.00**	**208**	P	**P**	**10 18 49.2**	**+0.5**
	comp=Z,14nm,0.6s,mb4.8,baz=27,slow=9.1,SNR=46						
FITZ	**Fitzroy Crossi**	**43.00**	**208**	*e*P	**P**	**10 18 49.1**	**+0.4**
	comp=Z,12nm,0.7s,mb4.7						
AS31	**Alice Springs**	**45.39**	**195**	*e*P	**P**	**10 19 06.6**	**-1.1**
ASAR	**Alice Springs**	**45.39**	**195**	P	**P**	**10 19 07.7**	**+0.1**
	comp=Z,2.8nm,0.5s,mb4.3,baz=12,slow=6.8,SNR=51						
ASAR	**Alice Springs**	**45.39**	**195**	P	**P**	**10 19 07.7**	**+0.1**
STKA	**Stephens Creek**	**52.34**	**184**	P	**P**	**10 20 00.2**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.4,baz=25,slow=6.1,SNR=16						
STKA	**Stephens Creek**	**52.34**	**184**	P	**P**	**10 20 00.2**	**-0.4**
WMQ	**Urumqi**	**52.66**	**310**	*e*P	**P**	**10 20 03.8**	**+0.8**
ZALV	**Zalesovo Beam**	**56.17**	**322**	P	**P**	**10 20 27.7**	**-0.5**
	comp=Z,1.6nm,0.5s,mb4.3,baz=125,slow=9.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**56.17**	**322**	P	**P**	**10 20 27.7**	**-0.5**
MKAR	**Makanchi Array**	**56.76**	**313**	P	**P**	**10 20 32.3**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.2,baz=92,slow=9.0,SNR=17						
MKAR	**Makanchi Array**	**56.76**	**313**	P	**P**	**10 20 32.3**	**-0.3**
KDAK	**Kodiak Island**	**58.02**	**34**	P	**P**	**10 20 40.8**	**-0.4**
	comp=Z,3.9nm,0.4s,mb4.8,baz=97,slow=8.9,SNR=14						
KDAK	**Kodiak Island**	**58.02**	**34**	P	**P**	**10 20 40.8**	**-0.4**
KURK	**Kurchatov**	**59.49**	**317**	P	**P**	**10 20 50.7**	**-0.8**
	comp=Z,1.6nm,0.4s,mb4.4,baz=91,slow=7.6,SNR=22						
KURK				pP	pP	10 21 19.8	+4.3
	comp=Z,2.4nm,0.7s,baz=93,slow=7.6,SNR=3.2						
KURK	**Kurchatov**	**59.49**	**317**	P	**P**	**10 20 50.7**	**-0.8**
KURK				pP	pP	10 21 19.8	+4.3
BPAW	**Bear Paw Mtn.**	**60.25**	**27**	*e*P	**P**	**10 20 56.6**	**+0.1**
	comp=Z,11nm,0.7s,mb5.0						
TRF	**Thorofare Moun**	**60.40**	**28**	*e*P	**P**	**10 20 57.1**	**-0.4**
	comp=Z,11nm,0.8s,mb4.9						
SML	**Sawmill**	**60.94**	**30**	*e*P	**P**	**10 21 00.8**	**-0.3**
	comp=Z,6.3nm,1.0s,mb4.6						
COLD	**Coldfoot**	**61.38**	**24

MFID	Camas Ranch	82.35	47	eP	P	10 23 10.2	+0.2
	comp=Z,6.9nm,1.1s,mb4.4						
F13A	Darby	82.48	44	⇑P	P	10 23 10.0	-0.5
	baz=82,SNR=5.4						
D14A	Greenough	82.52	43	⇓P	P	10 23 10.6	-0.2
	baz=82						
H12A	Diamond D Ranc	82.59	45	⇓P	P	10 23 10.8	-0.3
	baz=82						
B15A	Bradely Ranch,	82.64	41	⇑P	P	10 23 10.9	-0.4
	baz=82						
VES	Vestal, Richgr	82.64	55	⇑P	P	10 23 10.7	-0.9
	baz=82						
I12A	Atlanta	82.68	46	⇓P	P	10 23 11.1	-0.6
	baz=82						
G13A	Cobalt	82.80	45	⇓P	P	10 23 12.4	+0.2
	baz=83,SNR=11						
C15A	Salmond Ranch,	82.82	42	⇑P	P	10 23 12.2	0.0
	baz=83						
H13A	Challis	82.98	45	⇑P	P	10 23 13.2	+0.1
	baz=83						
A16A	West Butte Ran	82.98	40	⇑P	P	10 23 13.2	+0.1
	baz=83						
HLID	Hailey	83.25	46	⇓P	P	10 23 14.5	-0.1
	baz=83						
I13A	Wildhorse Cree	83.32	46	⇓P	P	10 23 14.9	-0.1
	baz=83						
E15A	Deer Lodge	83.32	43	⇓P	P	10 23 14.8	-0.1
	baz=83,SNR=5.0						
C16A	Fuhringer Ranc	83.35	41	⇓P	P	10 23 14.9	0.0
	baz=83						
J13A	Cove Ranch, Pi	83.47	46	⇓P	P	10 23 15.4	-0.3
	baz=83						
A17A	Triple J Farms	83.53	40	⇑P	P	10 23 15.5	-0.4
	baz=83						
H14A	Leadore	83.55	45	⇑P	P	10 23 16.0	-0.1
	baz=83						
LRM	Limekiln Ridge	83.68	43	eP	P	10 23 16.9	+0.1
B17A	L&G Farms, Che	83.73	41	⇑P	P	10 23 17.0	+0.1
	baz=84						
I14A	Mackay	83.76	45	⇓P	P	10 23 17.1	-0.1
	baz=84						
MPMC	Manual Prospec	83.78	54	⇓P	P	10 23 17.1	-0.3
	baz=84						
LRMC	Laurel Mountai	83.84	55	⇑P	P	10 23 17.5	-0.2
	baz=84						
E16A	East Helena	83.89	43	⇓P	P	10 23 17.6	-0.2
	baz=84						
G15A	Dillon	83.91	44	⇓P	P	10 23 18.0	+0.1
	baz=84						
J14A	Carey	83.95	46	⇑P	P	10 23 18.4	+0.3
	baz=84						
C17A	Wharram Farm,	84.02	41	⇑P	P	10 23 18.4	-0.1
	baz=84						
H15A	Lima	84.03	45	⇑P	P	10 23 18.3	-0.2
	baz=84						
A18A	Metzger Ranch,	84.05	40	⇑P	P	10 23 18.6	+0.1
	baz=84						
FURC	Furnace Creek,	84.11	53	⇓P	P	10 23 19.1	0.0
	baz=84						
F16A	Kennard Place,	84.23	43	⇑P	P	10 23 19.6	+0.1
	baz=84						
D17A	Six Diamond Ra	84.27	42	⇓P	P	10 23 19.7	+0.1
	baz=84						
B18A	Beardsley Farm	84.31	40	⇑P	P	10 23 19.6	-0.3
	baz=84						
G16A	Moss Hill, Enn	84.33	44	⇑P	P	10 23 20.0	-0.1
	baz=84,SNR=5.8						
R11A	Troy Canyon, C	84.37	51	⇑P	P	10 23 20.3	-0.1
	baz=84						
E17A	Martinsdale	84.44	42	⇑P	P	10 23 20.6	+0.1
	baz=84						
K14A	Jones Ranch, D	84.48	47	⇑P	P	10 23 20.6	-0.2
	baz=84						
EGMT	Eagleton	84.48	41	⇑P	P	10 23 20.7	-0.1
	baz=84						
GSC	Goldstone	84.57	54	⇓P	P	10 23 21.1	-0.4
	baz=84						
J15A	Blackfoot	84.64	46	⇑P	P	10 23 22.2	+0.5
	baz=84,SNR=7.9						
QLMT	Earthquake Lak	84.74	44	eP	P	10 23 23.2	+1.2
B19A	Brinkman Farms	84.79	40	⇑P	P	10 23 22.2	-0.1
	baz=85						
F17A	Fitzpatrick Pl	84.79	43	⇑P	P	10 23 22.3	-0.1
	baz=85						
H16A	Russell Place,	84.91	44	⇓P	P	10 23 23.5	+0.5
	baz=85						
FINES	FINESS Array B	84.91	335	P	P	10 23 20.3	-2.3
	comp=Z,1.5nm,0.4s,mb4.3,baz=77,slow=5.0,SNR=7.9						
FINES	FINESS Array B	84.91	335	P	P	10 23 20.3	-2.3
G17A	Pierce Place,	84.98	43	⇑P	P	10 23 23.2	-0.1
	baz=85						
E18A	Harlowton	84.99	42	⇑P	P	10 23 23.5	+0.2
	baz=85						
C19A	Slack Wire Ran	85.03	41	⇑P	P	10 23 23.6	+0.1
	baz=85						
I16A	Newdale	85.08	45	⇑P	P	10 23 24.4	+0.5
	baz=85						
TUQ	Turquoise Moun	85.19	54	⇑P	P	10 23 24.6	0.0
	baz=85						
A20A	Cobblestone Ra	85.21	39	⇑P	P	10 23 24.5	+0.1
	baz=85						
L15A	Malad City	85.23	47	⇓P	P	10 23 24.9	+0.3
	baz=85						
J16A	Bone	85.24	46	⇑P	P	10 23 25.5	+0.8
	baz=85,SNR=7.5						
YNR	Norris Junctio	85.27	44	eP	P	10 23 26.5	+1.7
	comp=Z,8.2nm,0.9s,mb4.7						
B20A	Solberg Farm,	85.35	40	⇓P	P	10 23 25.0	-0.1
	baz=85						
D19A	Cripps Ranch,	85.38	41	⇓P	P	10 23 25.1	-0.2
	baz=85						
F18A	Big Timber	85.39	43	⇑P	P	10 23 25.5	+0.2
	baz=85						
RRI2	Red Ridge	85.41	45	eP	P	10 23 25.8	+0.3
	comp=Z,6.0nm,0.8s,mb4.6						
K16A	Soda Springs	85.44	46	⇑P	P	10 23 26.3	+0.7
	baz=85,SNR=6.5						
FLWY	Flagg Ranch	85.52	45	eP	P	10 23 26.9	+0.8
	comp=Z,9.4nm,0.8s,mb4.8						
R13A	O'Grain Ranch,	85.61	51	⇑P	P	10 23 26.5	-0.1
	baz=86						
GMRC	Granite Mounta	85.64	55	⇓P	P	10 23 26.3	-0.5
	baz=86						
DUG	Dugway	85.65	49	⇓P	P	10 23 26.6	-0.1
	baz=86,SNR=6.3						
DUG	Dugway	85.65	49	eP	P	10 23 26.6	-0.2
	comp=Z,12nm,1.3s,mb4.7						
BELC	Belle Mtn. Jos	85.67	55	⇑P	P	10 23 26.7	-0.2
	baz=86						
C20A	Veseth Ranch,	85.68	40	⇓P	P	10 23 26.9	+0.2
	baz=86						
FFC	Flin Flon	85.73	32	eP	P	10 23 26.3	-0.6
	comp=Z,7.8nm,0.9s,mb4.6						
E19A	Rath Farm, Rou	85.74	42	⇓P	P	10 23 26.6	-0.5
	baz=86						
A21A	Bergtoll Ranch	85.76	39	⇑P	P	10 23 26.8	-0.3
	baz=86						
D20A	Manuel Ranch,	85.87	41	⇑P	P	10 23 27.6	-0.1
	baz=86						
L16A	Fish Haven	85.88	47	⇑P	P	10 23 27.9	0.0
	baz=86						
B21A	Ellsworth Farm	85.95	39	⇑P	P	10 23 27.8	-0.3
	baz=86						
DVTC	Desert V Tower	86.09	57	⇑P	P	10 23 28.7	-0.4
	baz=86						
ARUT	Antelope Range	86.14	51	eP	P	10 23 29.5	+0.2
	comp=Z,4.3nm,1.0s,mb4.3						
C21A	Desert Coulee	86.18	40	⇓P	P	10 23 29.0	-0.2
	baz=86						
BC3	Big Chuckawall	86.22	56	⇑P	P	10 23 29.2	-0.5
	baz=86						
L17A	Cokeville	86.22	46	⇑P	P	10 23 29.4	-0.1
	baz=86						
IRM	Iron Mountain	86.26	55	⇑P	P	10 23 29.3	-0.6
	baz=86						
J18A	Kendall Valley	86.33	45	⇓P	P	10 23 30.3	+0.3
	baz=86,SNR=7.4						
A22A	Carney Farms,	86.35	39	⇑P	P	10 23 29.2	-0.8
	baz=86						
H19A	Powell	86.39	43	⇑P	P	10 23 29.6	-0.7
	baz=86						
JLU	Jordanelle	86.44	48	eP	P	10 23 31.3	+0.6
	comp=Z,5.9nm,0.9s,mb4.5						
K18A	Toltan Ranch,	86.56	46	⇓P	P	10 23 31.4	+0.3
	baz=86						
O16A	Springville	86.56	48	⇑P	P	10 23 31.0	-0.2
	baz=86						
D21A	La Casta Ranch	86.58	41	⇑P	P	10 23 31.2	0.0
	baz=86						
B22A	Reddig Ranch S	86.62	39	⇑P	P	10 23 31.6	+0.3
	baz=86						
M17A	Scullys Gap (B	86.62	47	⇑P	P	10 23 31.6	+0.1
	baz=86						
G20A	Bridger	86.64	43	⇑P	P	10 23 31.4	-0.1
	baz=86						
R15A	Junction	86.82	50	⇑P	P	10 23 32.2	-0.4
	baz=87						
BW06	Boulder Array	86.83	45	⇑P	P	10 23 32.0	-0.5
	baz=87						
PDAR	Pinedale Array	86.83	45	P	P	10 23 32.2	-0.3
	comp=Z,0.7nm,0.7s,mb3.7,baz=255,slow=3.1,SNR=7.9						
PDAR	Pinedale Array	86.83	45	P	P	10 23 32.2	-0.3
L18A	Fontenelle, Gr	86.86	46	⇓P	P	10 23 32.3	-0.4
	baz=87						
W13A	Hualapai Mount	86.86	54	⇑P	P	10 23 32.5	-0.4
	baz=87						
C22A	Vida	86.94	40	⇑P	P	10 23 32.7	-0.2
	baz=87						
J19A	Crowheart	86.95	45	⇑P	P	10 23 33.6	+0.5
	baz=87,SNR=5.8						
PDMCI	Parker Dam,Lak	86.98	55	⇑P	P	10 23 33.4	0.0
	baz=87						
D22A	Cohagen	87.04	40	⇑P	P	10 23 33.4	0.0
	baz=87						
M18A	Lyman	87.05	47	⇑P	P	10 23 33.2	-0.4
	baz=87						
O17A	Robinson Place	87.10	48	⇑P	P	10 23 33.8	-0.1
	baz=87,SNR=5.4						
B23A	Brockton	87.14	39	⇓P	P	10 23 33.8	-0.1
	baz=87						
LAO	LASA Array	87.22	41	⇑P	P	10 23 34.5	+0.2
	baz=87						
L19A	Farson	87.24	46	⇑P	P	10 23 34.5	0.0
	baz=87						
K19A	Absolon Red Bu	87.27	45	⇑P	P	10 23 34.3	-0.4
	baz=87						
C23A	Lambert	87.33	39	⇓P	P	10 23 34.6	-0.2
	baz=87						
R16A	Teasdale	87.36	50	⇓P	P	10 23 35.5	+0.4
	baz=87,SNR=6.7						
N18A	Larsen Ranch,	87.51	47	⇑P	P	10 23 35.8	0.0
	baz=87						
S16A	Weepner Ranch,	87.51	51	⇑P	P	10 23 35.8	-0.1
	baz=87						
U15A	North Rim	87.53	52	⇑P	P	10 23 35.7	-0.3
	baz=87						
J20A	Shoshoni	87.55	44	⇓P	P	10 23 35.8	-0.1
	baz=87						
O18A	Roosevelt	87.58	48	⇑P	P	10 23 36.2	0.0
	baz=87						
K20A	Yellowstone Ra	87.68	45	⇓P	P	10 23 36.3	-0.2
	baz=88						
P18A	Preston Nutter	87.68	48	⇓P	P	10 23 36.5	-0.1
	baz=88						
SRU	San Rafael	87.70	49	eP	P	10 23 36.3	-0.5
	comp=Z,4.8nm,0.7s,mb4.6						
Z13A	Yuma Proving G	87.78	55	⇓P	P	10 23 37.1	-0.1
	baz=88						
G22A	Birney	87.86	42	⇓P	P	10 23 37.5	+0.1
	baz=88						
I21A	Big Trails, Te	87.86	44	⇑P	P	10 23 36.8	-0.6
	baz=88						
R17A	Hanksville Air	87.86	50	⇓P	P	10 23 37.4	-0.1
	baz=88,SNR=5.7						
Q18A	Rafter H Ranch	87.98	49	⇑P	P	10 23 37.9	-0.3
	baz=88						
Y14A	Wickenburg	87.99	55	⇑P	P	10 23 38.4	+0.1
	baz=88,SNR=6.9						
S17A	Black Ridge (B	88.12	50	⇑P	P	10 23 38.5	-0.3
	baz=88						
T17A	Navajo Res., N	88.39	51	⇓P	P	10 23 39.8	-0.3
	baz=88						
K21A	Alcova	88.41	45	⇑P	P	10 23 39.8	-0.3
	baz=88						
G23A	Biddle	88.43	42	⇑P	P	10 23 39.8	-0.2
	baz=88						
R18A	Canyonlands Na	88.46	49	⇑P	P	10 23 40.0	-0.4
	baz=88						
U16A	Tuba City	88.50	52	⇓P	P	10 23 40.6	0.0
	baz=88						
N20A	Spence Gulch,	88.53	47	⇑P	P	10 23 40.3	-0.4
	baz=88						
P19A	Cripple Cowboy	88.56	48	⇑P	P	10 23 40.7	-0.1
	baz=88,SNR=5.1						
WUAZ	Wupatki	88.58	53	⇑P	P	10 23 40.6	-0.4
	baz=88						
WUAZ	Wupatki	88.58	53	eP	P	10 23 42.1	+1.1
	comp=Z,5.2nm,0.9s,mb4.6						
L21A	Rawlins	88.63	45	⇓P	P	10 23 40.6	-0.5
	baz=88						
U17A	Shonto	88.65	51	⇓P	P	10 23 41.5	+0.2
	baz=88						
Q19A	Hogan Spring (	88.66	49	⇑P	P	10 23 40.9	-0.4
	baz=88						
S18A	Hurst Farm, Bl	88.68	50	⇑P	P	10 23 41.1	-0.3
	baz=88						
M21A	Separation Pea	88.80	46	⇑P	P	10 23 41.8	-0.1
	baz=89						
O20A	White River Ci	88.86	47	⇑P	P	10 23 42.3	+0.1
	baz=89						
R19A	Curley Farm, L	88.95	49	⇑P	P	10 23 42.5	-0.1
	baz=89						
V17A	Tonalea, Kykot	88.97	52	⇓P	P	10 23 42.9	+0.1
	baz=89						
X16A	Lo Mia Camp, P	88.98	54	⇑P	P	10 23 43.0	+0.1
	baz=89						
T18A	Mexican Hat	89.00	51	⇑P	P	10 23 42.9	0.0
	baz=89						
N21A	Black Mountain	89.07	46	⇓P	P	10 23 43.4	+0.2
	baz=89						
Q20A	Ridgley Place,	89.34	48	⇑P	P	10 23 45.0	+0.5
	baz=89						
V18A	Ganado	89.56	52	⇑P	P	10 23 45.9	+0.3
	baz=89						
R20A	Redvale	89.62	49	⇓P	P	10 23 45.9	+0.1
	baz=90						
P21A	Newcastle	89.67	48	⇓P	P	10 23 46.1	+0.1
	baz=90						
Y17A	Roosevelt	89.73	54	⇑P	P	10 23 46.5	+0.1
	baz=90						
T19A	Beclabito	89.75	51	⇓P	P	10 23 46.4	0.0
	baz=90						
S20A	Disappointment	89.79	49	⇑P	P	10 23 46.3	-0.3
	baz=90						
U19A	Dine' College,	89.85	51	⇑P	P	10 23 46.4	-0.5
	baz=90						
Q21A	Lamborn Mesa,	89.90	48	⇑P	P	10 23 47.3	+0.2
	baz=90						
O22A	Kremmling	90.00	47	⇓P	P	10 23 47.7	+0.1
	baz=90						
X18A	Snowflake	90.05	53	⇓P	P	10 23 48.1	+0.2
	baz=90						
N23A	Red Feather La	90.08	46	⇑P	P	10 23 48.1	+0.2
	baz=90						
P22A	Eagle	90.12	47	⇑P	P	10 23 48.3	+0.2
	baz=90						
R21A	Cimarron	90.12	49	⇑P	P	10 23 48.7	+0.6
	baz=90						
S21A	Coal Bank Pass	90.27	49	⇓P	P	10 23 49.3	+0.4
	baz=90						
Y18A	Canyon Day Jun	90.31	54	⇓P	P	10 23 49.6	+0.4
	baz=90						
U20A	Newcomb	90.31	51	⇓P	P	10 23 49.1	+0.1
	baz=90						
Q22A	Crested Butte,	90.35	48	⇑P	P	10 23 49.4	+0.2
	baz=90						
O23A	Lake Granby, G	90.41	46	⇓P	P	10 23 49.8	+0.3
	baz=90						
M24A	Cheyenne	90.55	45	⇓P	P	10 23 50.2	+0.1
	baz=90						
X19A	St. Johns	90.59	53	⇑P	P	10 23 50.6	+0.2
	baz=90						
V20A	Brimhall	90.60	51	⇓P	P	10 23 50.5	+0.1
	baz=90						
L25A	Engebretsen Ra	90.79	44	⇓P	P	10 23 51.1	-0.1
	baz=91						
ISCO	Idaho Springs	90.81	47	⇑P	P	10 23 51.4	+0.1
	baz=91						
118A	Homack Ranch,	90.84	55	⇑P	P	10 23 51.9	+0.3
	baz=91						
P23A	Jefferson	90.85	47	⇑P	P	10 23 51.6	+0.1
	baz=91						
W20A	Ramah	90.87	52	⇑P	P	10 23 51.6	-0.1
	baz=91						
S22A	4UR Ranch, Cre	90.91	49	⇑P	P	10 23 51.5	-0.3
	baz=91						
U21A	Nageezi	90.91	50	⇓P	P	10 23 51.4	-0.4
	baz=91						
O24A	Longmont	91.02	46	⇑P	P	10 23 52.4	+0.1
	baz=91						
K26A	Motz Farm, Whi	91.03	43	⇓P	P	10 23 52.1	-0.2
	baz=91						
X20A	Quemado	91.13	52	⇓P	P	10 23 53.3	+0.4
	baz=91						
T22A	Edith	91.19	50	⇑P	P	10 23 53.1	-0.1
	baz=91						
119A	Ashpeak Ranch,	91.29	54	⇓P	P	10 23 54.0	+0.3
	baz=91						
318A	Bisbee	91.33	56	⇑P	P	10 23 54.7	+0.8
	baz=91						
R23A	Moffat	91.41	48	⇓P	P	10 23 54.9	+0.8
	baz=91						
Y20A	Horse Springs,	91.50	53	⇓P	P	10 23 54.9	+0.3
	baz=91						
U22A	Llaves	91.51	50	⇑P	P	10 23 55.1	+0.4
	baz=91						
K27A	Flueckinger Fa	91.63	43	⇑P	P	10 23 55.0	-0.1
	baz=92						
219A	White Tail Can	91.66	55	⇑P	P	10 23 56.0	+0.5
	baz=92						
O25A	Wiggins	91.67	46	⇑P	P	10 23 55.4	0.0
	baz=92						
Z20A	Nine Sixteen R	91.68	54	⇑P	P	10 23 56.1	+0.5
	baz=92						
R24A	Sanders Place,	91.89	48	⇓P	P	10 23 56.7	+0.3
	baz=92						
120A	U Bar Ranch, L	91.90	54	⇑P	P	10 23 57.1	+0.5
	baz=92						
319A	Douglas	91.91	56	⇓P	P	10 23 57.1	+0.5
	baz=92						
Y21A	Point of Rocks	91.97	53	⇓P	P	10 23 57.1	+0.3
	baz=92						
U23A	El Rito	92.01	50	⇓P	P	10 23 57.7	+0.8
	baz=92						
220A	Playas Peak, P	92.26	55	⇑P	P	10 23 58.6	+0.4
	baz=92						
V23A	Ortiz Mt. (NFS	92.28	50	⇓P	P	10 23 58.6	+0.4
	baz=92						
Z21A	St. Cloud Mine	92.29	53	⇓P	P	10 23 58.3	0.0
	baz=92						
W23A	Werner Place,	92.58	51	⇑P	P	10 23 59.5	-0.1
	baz=92						
W24A	Lazy 6 Ranch,	93.09	51	⇑P	P	10 24 02.1	+0.1
	baz=93						
U25A	Circle Dot Ran	93.25	49	⇓P	P	10 24 03.0	+0.4
	baz=93						
Y24A	Capitan	93.67	52	⇓P	P	10 24 04.0	-0.6
	baz=94						
Y25A	Mesa, Roswell	94.22	52	⇑P	P	10 24 07.3	+0.1
	baz=94						
224A	Cornudas Mount	94.46	53	⇓P	P	10 24 08.1	-0.3
	baz=94						
Z25A	Roswell	94.50	52	⇑P	P	10 24 08.0	-0.5
	baz=94						
MNTX	Cornudas Mount	94.74	54	⇑P	P	10 24 09.7	+0.1
	baz=95						
324A	Moseley Ranch,	94.78	54	⇑P	P	10 24 09.7	-0.2
	baz=95						
W27A	Bowe Ranch, En	94.85	50	⇓P	P	10 24 10.0	-0.1
	baz=95						
Z26A	Caprock	95.05	52	⇓P	P	10 24 10.8	-0.2
	baz=95						
TXAR	Lajitas Array	97.15	55	P	P	10 24 20.7	+0.1
	comp=Z,0.2nm,0.5s,mb3.8,baz=264,slow=2.6,SNR=7.7						
TXAR	Lajitas Array	97.15	55	P	P	10 24 20.7	+0.1
LHS	Liberty Hill	109.89	39	ePdif	Pdif	10 25 12.1	-4.7
TORD	Torodi Ar. Bea	130.83	310	PKP	PKPdf	10 29 58.7	-0.9
	comp=Z,0.2nm,0.5s,baz=101,slow=1.6,SNR=4.0						
TORD				SKPbc	SKPbc	10 33 09.6	-5.5
	comp=Z,0.8nm,0.8s,baz=30,slow=2.9,SNR=4.7						
TORD	Torodi Ar. Bea	130.83	310	PKP	PKPdf	10 29 58.7	-0.9
TORD				SKPbc	SKPbc	10 33 09.6	-5.5
PLCA	Paso Flores	143.68	132	PKP	PKPdf	10 30 19.9	-2.5
	comp=Z,0.9nm,0.5s,baz=230,slow=5.5,SNR=4.9						
PLCA	Paso Flores	143.68	132	PKP	PKPdf	10 30 19.9	-2.5
LPAZ	La Paz	148.16	88	PKPbc	PKPbc	10 30 32.0	-2.1
	comp=Z,3.7nm,0.3s,baz=251,slow=5.8,SNR=28						
LPAZ	La Paz	148.16	88	PKPbc	PKPbc	10 30 32.0	-2.1
SAML	Samuel	150.29	71	ePKPbc	PKPbc	10 30 38.5	-1.1
SAML				ePKPab	PKPab	10 30 44.6	-1.4

*ISCJB **17** 10:17:29.3±1.1, 37°.21N±0°.05×31°.11E±0°.06, h120km±10km, Error ellipse: s-maj=8.3km s-min=6.9km az=151.4*
*ISK **17** 10:17:29.6, 37°.28N×31°.13E, h119km, MD3.0*
*CSEM **17** 10:17:30.4±0.7, 37°.23N×31°.12E, h111km±8km, MD3.0, Error ellipse: s-maj=8.4km s-min=6.2km az=146.0*
*DDA **17** 10:17:32.6, 36°.90N×30°.99E, h7km±6km, Md3.2*

ISC 17 10:17:29.8±1.1, 37°.21N±0°.05×31°.11E±0°.06, h120km±10km, n28, σ0°64/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUTC	Sutluce-Ispart	0.28	343	ePG	Pn	10 17 46.3	-0.3
SUTC	Sutluce-Ispart	0.28	343	ePg	Pn	10 17 46.3	-0.3
BCK	Bucak	0.48	302	ePG	Pn	10 17 47.3	-0.2
BCK				eSG	Sn	10 18 01.0	0.0
BCK	Bucak	0.48	302	ePg	Pn	10 17 47.3	-0.3
KORT	Korkueli	0.64	251	eP	Pn	10 17 48.1	-0.5
KORT				eS	Sn	10 18 03.1	+0.3
KORT	Korkueli	0.64	251	eP	Pn	10 17 48.1	-0.5
KORT				eS	Sn	10 18 03.1	+0.3
ELL	Elmali	1.06	245	ePN	Pn	10 17 53.5	+1.1
ELL	Elmali	1.06	245	ePn	Pn	10 17 53.5	+1.1
HDMB	Hadim	1.13	102	ePN	Pn	10 17 53.3	+0.2
HDMB				eSN	Sn	10 18 10.8	0.0
HDMB	Hadim	1.13	102	ePn	Pn	10 17 53.3	+0.2
HDMB				eSn	Sn	10 18 10.8	0.0
KONT	Konya--Tatoy	1.24	53	ePN	Pn	10 17 54.1	-0.1
KONT	Konya--Tatoy	1.24	53	ePn	Pn	10 17 54.1	-0.1
GLHS	Glhisar (BURDU	1.28	268	ePN	Pn	10 17 55.5	+0.7
GLHS	Glhisar (BURDU	1.28	268	ePn	Pn	10 17 55.5	+0.8
GAZI	Gazipasa	1.38	135	eP	Pn	10 17 56.3	+0.5
GAZI				eS	Sn	10 18 16.1	+0.6
GAZI	Gazipasa	1.38	135	eP	Pn	10 17 56.3	+0.5
GAZI				eS	Sn	10 18 16.1	+0.6
LADK	Ladik-KONYA	1.41	45	ePN	Pn	10 17 55.9	-0.2
LADK	Ladik-KONYA	1.41	45	ePn	Pn	10 17 55.9	-0.2
BOLV	Bolvadin	1.51	355	eP	Pn	10 17 57.5	+0.2
BOLV				eS	Sn	10 18 19.6	+1.3
BOLV	Bolvadin	1.51	355	eP	Pn	10 17 57.5	+0.2
BOLV				eS	Sn	10 18 19.6	+1.3
KDHN	Kadinhani	1.54	31	eP	Pn	10 17 57.0	-0.5
KDHN				eS	Sn	10 18 17.7	-1.1
KDHN	Kadinhani	1.54	31	eP	Pn	10 17 57.0	-0.6
KDHN				eS	Sn	10 18 17.7	-1.0
AKAS	Kas	1.55	232	eP	Pn	10 17 57.1	-0.7
AKAS				eS	Sn	10 18 17.7	-1.3
AKAS	Kas	1.55	232	eP	Pn	10 17 57.1	-0.7
AKAS				eS	Sn	10 18 17.7	-1.3
KIZT	Kizilcal	1.78	20	ePN	Pn	10 18 00.1	-0.3
KIZT	Kizilcal	1.78	20	ePn	Pn	10 18 00.1	-0.3

MW5.8, Error ellipse: s-maj=4.5km s-min=3.0km az=145.0, Moment Tensor Solution. s56 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.44; $M_{\theta\theta}$3.75; $M_{\phi\phi}$-1.31; $M_{r\theta}$-3.71; $M_{\phi\theta}$1.66; $M_{\phi r}$-4.81; Best double couple: $M_0$7.10000×10^{17} NP1: ϕ_s287.00000°, δ25.00000°, λ-27.00000°. NP2:ϕ_s42.00000°, δ79.00000°, λ-113.00000°. Principal axes: T 7.2000, Plg30.0000°, Azm150.0000°; N -0.1800, Plg22.0000°, Azm46.0000°; P -7.0100, Plg51.0000°, Azm286.0000°;

IDC **17** *10:55:59.6±0.5, 17.78S×178.46W, h525km±5km, mb4.9/31, mb1 5.0/31, mb1mx5.0/31, mbtmp4.9/31 Error ellipse: s-maj=9.0km s-min=6.7km az=160.0*

NOU **17** *10:55:59.5±0.5, 11.10S×174.48E, h30km*

SZGRF **17** *10:56:00.0, 18.49S×178.24W, h545km, Fiji Islands region*

GCMT **17** *10:56:02.6±0.1, 17.77S×178.30W, h548km, MW5.8, Moment Tensor Solution. s103,c208; s58,c62; Moment tensor: Scale 10^{17}Nm; M_{rr}-2.76±.05; $M_{\theta\theta}$3.48±.08; $M_{\phi\phi}$-0.72±.09; $M_{r\theta}$-3.06±.08; $M_{\phi\theta}$1.39±.08; $M_{\phi r}$-4.54±.08; Best double couple: $M_0$6.50000×10^{17} NP1:ϕ_s281.00000°, δ25.00000°, λ-33.00000°. NP2:ϕ_s41.00000°, δ77.00000°, λ-111.00000°. Principal axes: T 6.3100, Plg29.0000°, Azm148.0000°; N 0.3400, Plg21.0000°, Azm46.0000°; P -6.6400, Plg53.0000°, Azm286.0000°; Data Used: II IU IC G CN.*

ISC 17 10:55:59.9±0.1, 17.86S±0.02×178.37W±0.02, h532km, h532km±.8km:pP-P, n1804, c0≥74/979, mb5.3/251, 259C-312D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.42**	**272**	*ePn*	**P**	**10 57 18.3**	**+2.0**
MSVF				*eS*	**S**	**10 58 16.7**	**-1.6**
MSVF	**Nonsavu**	**3.42**	**272**	P	**P**	**10 57 18.4**	**+2.2**
	45µm,0.8s						
MSVF	**Nonsavu**	**3.42**	**272**	*eP*	**P**	**10 57 18.3**	**+2.1**
MSVF				*eS*	**S**	**10 58 16.7**	**-1.6**
AFI	**Afiamalu**	**7.46**	**59**	P	**P**	**10 57 46.3**	**-5.6**
	26nm,0.3s,baz=243,slow=5.1,SNR=60						
AFI				S	**S**	**10 59 14.3**	**-9.1**
	baz=344,slow=19,SNR=3.6						
AFI	**Afiamalu**	**7.46**	**59**	P	**P**	**10 57 46.3**	**-5.6**
AFI				S	**S**	**10 59 14.3**	**-9.1**
AFI	**Afiamalu**	**7.46**	**59**	P	**P**	**10 57 46.3**	**-5.5**
AFI				S	**S**	**10 59 14.3**	**-9.1**
FUNA	**Funafuti**	**9.58**	**345**	*eP*	**P**	**10 58 11.5**	**-1.9**
RAO	**Raoul Island**	**11.35**	**178**	*ePn*	**P**	**10 58 30.6**	**-0.9**
RAO	**Raoul Island**	**11.35**	**178**	*eP*	**P**	**10 58 30.6**	**-0.9**
PLUM	**Mont Dore**	**14.75**	**250**	*eP*	**P**	**10 59 06.5**	**-0.6**
DZM	**Mont Dzumac**	**14.88**	**251**	*eP*	**P**	**10 59 08.6**	**+0.2**
	651nm,1.2s						
DZM	**Mont Dzumac**	**14.88**	**251**	*eP*	**P**	**10 59 08.2**	**-0.3**
	147nm,0.6s						
NORM	**Noumea**	**14.88**	**251**	*eP*	**P**	**10 59 07.8**	**-0.6**
NOUC	**Port Laguerre**	**15.01**	**251**	*eP*	**P**	**10 59 07.8**	**-2.0**
RAR	**Rarotonga**	**17.84**	**104**	P	**P**	**10 59 35.7**	**-1.6**
	6.4nm,0.3s,baz=250,slow=6.2,SNR=29						
RAR	**Rarotonga**	**17.84**	**104**	*eP*	**P**	**10 59 35.9**	**-1.4**
	349nm,0.9s						
RAR	**Rarotonga**	**17.84**	**104**	*eP*	**P**	**10 59 35.9**	**-1.4**
RAR				pmax	pmax		
	comp=Z,349nm,0.9s						
OUZ	**Omahuta**	**18.71**	**201**	*eP*	**P**	**10 59 46.2**	**+1.1**
	comp=Z,739nm,1.1s						
OUZ	**Omahuta**	**18.71**	**201**	PN	**P**	**10 59 47.8**	**+2.8**
OUZ				ScP	ScP	11 06 35.2	+4.0
WCZ	**Waipu Caves**	**19.13**	**198**	PN	**P**	**10 59 51.8**	**+2.9**
WCZ				ScP	ScP	11 06 35.3	+3.2
KUZ	**Kuaotunu**	**19.52**	**194**	PN	**P**	**10 59 53.8**	**+1.4**
KUZ				ScP	ScP	11 06 35.6	+2.5
KAAZ	**Kauri Point**	**19.86**	**197**	PN	**P**	**10 59 57.7**	**+2.3**
OTAZ	**Otara**	**19.91**	**196**	PN	**P**	**10 59 57.2**	**+1.3**
MKAZ	**Moumakai**	**20.00**	**195**	PN	**P**	**10 59 58.6**	**+1.8**
MKAZ				ScP	ScP	11 06 37.2	+3.0
TGRZ	**Tauranga**	**20.35**	**192**	*ePN*	**P**	**11 00 00.8**	**+0.9**
PUZ	**Puketiti**	**20.35**	**188**	PN	**P**	**10 59 59.0**	**-0.9**
PUZ				SN	**S**	**11 03 09.5**	**-5.1**
PUZ				ScP	ScP	11 06 38.2	+3.2
PUZ				ScS	ScS	11 10 10.2	-8.3
TOZ	**Tahuroa Road**	**20.51**	**194**	PN	**P**	**11 00 03.1**	**+1.7**
TOZ				ScP	ScP	11 06 38.0	+2.6
KARZ	**Kaharoa**	**20.63**	**192**	PN	**P**	**11 00 03.0**	**+0.5**
URZ	**Urewera**	**20.71**	**190**	P	**P**	**11 00 00.7**	**-2.4**
	comp=Z,350nm,0.7s,baz=21,slow=3.9,SNR=98						
URZ				S	**S**	**11 03 17.1**	**-3.1**
	comp=Z,84nm,0.7s,baz=229,slow=18,SNR=5.4						
URZ				ScP	ScP	11 06 36.6	+0.7
	comp=Z,58nm,1.0s,baz=264,slow=1.1,SNR=4.1						
URZ				ScS	ScS	11 10 17.4	-2.4
	comp=Z,25nm,0.8s,baz=138,slow=24,SNR=12						
URZ	**Urewera**	**20.71**	**190**	*eP*	**P**	**11 00 00.8**	**-2.3**
	comp=Z,424nm,0.8s						
URZ				*eS*	**S**	**11 03 15.9**	**-4.2**
URZ				S	**S**	**11 03 17.1**	**-3.1**
URZ				ScP	ScP	11 06 36.6	+0.7
URZ				ScS	ScS	11 10 17.4	-2.4
URZ	**Urewera**	**20.71**	**190**	PN	**P**	**11 00 00.3**	**-2.9**
URZ				*e*SN	**S**	**11 03 13.5**	**-6.7**
URZ				ScP	ScP	11 06 36.7	+0.8
URZ				ScS	ScS	11 10 18.8	-0.9
MWZ	**Matawai**	**20.71**	**189**	PN	**P**	**11 00 00.9**	**-2.3**
MWZ				SN	**S**	**11 03 14.3**	**-5.9**
MWZ				ScP	ScP	11 06 38.3	+2.4
MWZ				ScS	ScS	11 10 21.6	+1.8
CNGZ	**Carnagh Statio**	**20.77**	**188**	PN	**P**	**11 00 02.8**	**-0.8**
CNGZ				ScP	ScP	11 06 41.0	+5.0
HIZ	**Hauiti**	**21.41**	**195**	PN	**P**	**11 00 11.6**	**+2.1**
BKZ	**Black Stump Fm**	**21.70**	**191**	PN	**P**	**11 00 09.2**	**-2.9**
BKZ				SN	**S**	**11 03 30.2**	**-5.6**
BKZ				ScP	ScP	11 06 40.4	+2.1
BKZ				ScS	ScS	11 10 23.4	0.0
HNR	**Honiara**	**22.66**	**289**	P	**P**	**11 00 19.4**	**-1.7**
	comp=Z,115nm,0.6s,mb5.7,baz=232,slow=1.5,SNR=5.7						
HNR				ScP	ScP	11 06 44.2	+2.9
	comp=Z,86nm,1.0s,baz=85,slow=2.8,SNR=3.6						
HNR	**Honiara**	**22.66**	**289**	P	**P**	**11 00 19.4**	**-1.7**
HNR				ScP	ScP	11 06 44.2	+2.9
HNR	**Honiara**	**22.66**	**289**	P	**P**	**11 00 19.4**	**-1.7**
TSZ	**Takapari Road**	**22.66**	**191**	PN	**P**	**11 00 18.9**	**-1.8**
MRZ	**Mangatainoka R**	**23.32**	**192**	PN	**P**	**11 00 24.1**	**-2.4**
MRZ				ScP	ScP	11 06 45.2	+2.7
CAW	**Cannon Point**	**23.85**	**192**	PN	**P**	**11 00 29.8**	**-1.5**
CAW				*e*SN	**S**	**11 04 05.2**	**-4.5**
PAWZ	**Paruwai Farm**	**24.04**	**192**	SN	**S**	**11 04 09.0**	**-3.7**
SNZO	**South Karori**	**24.12**	**193**	*eP*	**P**	**11 00 32.5**	**-1.1**
	comp=Z,306nm,0.7s,mb6.0						
SNZO				*eS*	**S**	**11 04 11.9**	**-2.0**
SNZO	**South Karori**	**24.12**	**193**	PN	**P**	**11 00 32.3**	**-1.3**
QRZ	**Quartz Range**	**24.19**	**197**	PN	**P**	**11 00 35.1**	**+0.7**
QRZ				SN	**S**	**11 04 15.3**	**+0.1**
NNZ	**Nelson**	**24.34**	**195**	PN	**P**	**11 00 34.4**	**-1.1**
NNZ				*e*SN	**S**	**11 04 12.7**	**-4.6**
TUWZ	**Tuamarina**	**24.40**	**194**	PN	**P**	**11 00 34.6**	**-1.5**
THZ	**Tophouse**	**24.97**	**196**	PN	**P**	**11 00 40.3**	**-0.9**
THZ				SN	**S**	**11 04 24.3**	**-3.0**
THZ				ScS	ScS	11 10 34.1	-2.2
DSZ	**Denniston Nort**	**25.25**	**197**	PN	**P**	**11 00 43.4**	**-0.3**
KHZ	**Kahutara**	**25.43**	**194**	*eP*	**P**	**11 00 43.6**	**-1.7**
	comp=Z,196nm,0.9s,mb5.7						
KHZ				*e*ScP	ScP	11 06 50.7	+2.2
KHZ	**Kahutara**	**25.43**	**194**	PN	**P**	**11 00 43.4**	**-1.8**
WVZ	**Waitaha Valley**	**26.78**	**198**	PN	**P**	**11 00 56.4**	**-0.8**
WVZ				*e*SN	**S**	**11 04 53.3**	**-2.4**
WVZ				ScP	ScP	11 06 53.1	+0.6
RPZ	**Rata Peaks**	**27.28**	**197**	P	**P**	**11 01 00.4**	**-1.1**
	comp=Z,48nm,0.5s,mb5.3,baz=354,slow=2.8,SNR=35						
RPZ				S	**S**	**11 05 01.5**	**-1.9**
	comp=Z,57nm,0.9s,baz=127,slow=19,SNR=4.1						
RPZ				ScP	ScP	11 06 56.7	+2.7
	comp=Z,26nm,0.8s,baz=355,slow=1.3,SNR=4.1						
RPZ	**Rata Peaks**	**27.28**	**197**	*eP*	**P**	**11 01 02.0**	**+0.5**
	comp=Z,60nm,0.6s,mb5.4						
RPZ				S	**S**	**11 05 01.5**	**-1.9**
RPZ				*e*ScP	ScP	11 06 53.5	-0.5
RPZ				ScP	ScP	11 06 56.7	+2.7
RPZ	**Rata Peaks**	**27.28**	**197**	PN	**P**	**11 00 59.7**	**-1.8**
PAE	**Paea**	**27.41**	**94⇑**	*iP*	**P**	**11 01 01.6**	**-1.4**
	comp=Z,47nm,0.8s,mb5.2						
PAE				*e*ScP	ScP	11 06 57.4	+2.5
	comp=Z,9.4nm,0.9s						
PPT2	**Papeete2**	**27.42**	**94⇑**	*iP*	**P**	**11 01 03.1**	**0.0**
	comp=Z,331nm,0.9s,mb6.0						
PPT2				*e*pP		11 02 25.6	
	comp=Z,112nm,1.4s						
PPT2				*e*ScP	ScP	11 06 58.8	+3.9
	comp=Z,162nm,1.8s						
FOZ	**Fox Glacier**	**27.54**	**199**	PN	**P**	**11 01 02.6**	**-1.2**
FOZ				SN	**S**	**11 04 59.8**	**-7.7**
FOZ				ScP	ScP	11 06 55.9	+1.1
TBI	**Tubuai**	**27.57**	**106⇑**	*iP*	**P**	**11 01 04.4**	**0.0**
	comp=Z,478nm,0.8s,mb6.2						
TBI				*e*pP		11 02 25.1	
	comp=Z,319nm,1.2s						
TIAR	**Tiarei**	**27.64**	**94⇑**	*iP*	**P**	**11 01 03.9**	**-1.1**
	comp=Z,256nm,0.8s,mb5.9						
TIAR				*e*pP		11 02 26.6	
	comp=Z,294nm,1.4s						
TIAR				*e*ScP	ScP	11 07 00.3	+4.7
	comp=Z,61nm,0.9s						
LBZ	**Lake Benmore**	**28.14**	**198**	PN	**P**	**11 01 07.7**	**-1.3**
JCZ	**Jackson Bay**	**28.30**	**200**	PN	**P**	**11 01 09.8**	**-0.6**
JCZ				ScP	ScP	11 07 00.7	+3.5
ODZ	**Otahua Downs**	**28.62**	**196**	*eP*	**P**	**11 01 12.2**	**-1.0**
	comp=Z,232nm,0.7s,mb5.9						
ODZ				*e*pP		11 02 38.4	
ODZ				*e*ScP	ScP	11 07 00.0	+1.9
MEH	**Mehetia**	**28.83**	**95⇑**	*iP*	**P**	**11 01 14.0**	**-1.4**
	comp=Z,189nm,1.0s,mb5.7						
MEH				*e*ScP	ScP	11 07 01.5	+2.1
	comp=Z,69nm,1.1s						
WKZ	**Wanaka**	**28.89**	**199**	PN	**P**	**11 01 15.0**	**-0.6**
WKZ				SN	**S**	**11 05 25.0**	**-3.4**
WKZ				ScP	ScP	11 07 02.7	+3.6
EAZ	**Earnscleugh**	**29.17**	**198**	PN	**P**	**11 01 17.5**	**-0.5**
EIDS	**Eidsvold**	**29.32**	**250**	*eP*	**P**	**11 01 19.4**	**-0.2**
	comp=Z,430nm,0.8s,mb6.1						
EIDS				*e*pP		11 02 47.3	
EIDS				*e*ScP	ScP	11 07 03.4	+2.5
PMOR	**Pomariorio Ree**	**29.35**	**89⇑**	*iP*	**P**	**11 01 19.7**	**-0.3**
	comp=Z,770nm,1.3s,mb6.2						
PMOR				*e*pP		11 02 45.8	
	comp=Z,181nm,1.2s						
PMOR				*e*ScP	ScP	11 07 05.1	+4.0
	comp=Z,96nm,1.3s						
MLZ	**Mavora Lakes**	**29.62**	**199**	PN	**P**	**11 01 22.6**	**+0.7**
TUZ	**Tuapeka**	**29.74**	**197**	PN	**P**	**11 01 23.0**	**+0.1**
TUZ				ScP	ScP	11 07 06.5	+4.7
KWAJ	**Kwajalein Atol**	**29.89**	**331**	*eP*	**P**	**11 01 24.2**	**-0.4**
	comp=Z,687nm,1.0s,mb6.1						
KWAJ				*e*pP		11 02 50.4	
KWAJ	**Kwajalein Atol**	**29.89**	**331**	*eP*	**P**	**11 01 24.2**	**-0.5**
KWAJ				pmax	pmax		
	comp=Z,687nm,1.0s,mb6.1						
ARMA	**Armidale**	**30.00**	**240**	*eP*	**P**	**11 01 24.9**	**-0.5**
ARMA				*e*		11 03 51.7	
ARMA				*e*S	**S**	**11 05 48.6**	**+2.6**
ARMA				*e*SCP	ScP	11 07 08.5	+5.5
ARMA	**Armidale**	**30.00**	**240**	*eP*	**P**	**11 01 27.2**	**+1.8**
	comp=Z,425nm,0.7s,mb6.1						
WHZ	**Wether Hill Ro**	**30.18**	**199**	PN	**P**	**11 01 27.2**	**+0.5**
RIV	**Riverview**	**31.55**	**234**	*eP*	**P**	**11 01 40.0**	**+1.3**
CNB	**Canberra Magne**	**33.49**	**232⇓**	*iP*	**P**	**11 01 55.4**	**+0.3**
	comp=Z,3µm,0.6s						
CNB				*e*PCP	PcP	11 04 22.6	+2.0
CNB				*e*S	**S**	**11 06 41.5**	**+2.3**
CNB				*e*SCP	ScP	11 07 19.9	+5.0
CNB				*e*SCS	ScS	11 11 24.1	+6.5
CTA	**Charters Tower**	**33.49**	**260**	P	**P**	**11 01 54.8**	**-0.6**
	comp=Z,290nm,0.7s,mb5.9,baz=90,slow=10,SNR=281						
CTA				PcP	PcP	11 04 21.8	+0.8
	comp=Z,42nm,0.8s,baz=114,slow=2.9,SNR=4.5						
CTA				ScP	ScP	11 07 17.5	+2.4
	comp=Z,57nm,1.0s,baz=80,slow=1.0,SNR=14						
CTA				ScS	ScS	11 11 20.4	+2.3
	comp=Z,1.8nm,0.6s,baz=171,slow=19,SNR=4.5						
CTA	**Charters Tower**	**33.49**	**260**	*eP*	**P**	**11 01 54.6**	**-0.8**
	comp=Z,280nm,0.8s,mb5.8						
CTA				*e*PCP	PcP	11 04 21.3	+0.4
CTA				*e*S	**S**	**11 06 26.3**	**-13**
CTA				*e*SCP	ScP	11 07 18.7	+3.5
CTA				*e*SCS	sS	11 09 34.2	+6.9
CTA	**Charters Tower**	**33.49**	**260**	P	**P**	**11 01 54.8**	**-0.6**
CTA				PcP	PcP	11 04 21.8	+0.8
CTA				ScP	ScP	11 07 17.5	+2.4
CTA				ScS	ScS	11 11 20.4	+2.3
CTA	**Charters Tower**	**33.49**	**260**	P	**P**	**11 01 54.8**	**-0.6**
CTA						11 04 21.8	
CTA						11 11 20.4	
CTAO	**Charters Tower**	**33.49**	**260**	*eP*	**P**	**11 01 55.5**	**+0.2**
	comp=Z,340nm,0.8s,mb5.9						
CTAO				*e*ScP	ScP	11 07 19.1	+3.9
CTAO	**Charters Tower**	**33.49**	**260**	*eP*	**P**	**11 01 55.6**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,340nm,0.8s,mb5.9						
CTAO	**Charters Tower**	**33.49**	**260**	P	**P**	**11 01 55.1**	**-0.3**
	comp=Z,6µmcomp=Z,536nm,1.0s,mb6.0						
CTAO	**Charters Tower**	**33.49**	**260**	P	**P**	**11 01 55.3**	**-0.1**
	comp=Z,6µmcomp=Z,536nm,1.0s,mb6.0						
CAN	**Canberra**	**33.76**	**233**	*eP*	**P**	**11 01 57.7**	**+0.3**
	comp=Z,247nm,0.8s,mb5.8						
CAN				*e*S	**S**	**11 06 41.0**	**-2.4**
CAN	**Canberra**	**33.76**	**233**	*eP*	**P**	**11 01 57.7**	**+0.2**
CAN				*e*S	**S**	**11 06 41.0**	**-2.4**
CAN				pmax	pmax		
	comp=Z,247nm,0.8s,mb5.8						
PMG	**Port Moresby**	**34.49**	**279**	P	**P**	**11 02 03.4**	**-0.4**
	comp=Z,348nm,0.8s,mb5.9,baz=90,slow=5.9,SNR=133						
PMG				PcP	PcP	11 04 25.0	+1.1
	comp=Z,84nm,0.9s,baz=47,slow=4.0,SNR=5.4						
PMG				S	**S**	**11 06 54.3**	**-0.6**
	comp=Z,7.0nm,0.9s,baz=294,slow=20,SNR=2.3						
PMG				ScP	ScP	11 07 20.3	+1.5
	comp=Z,31nm,0.9s,baz=73,slow=6.0,SNR=5.6						
PMG				ScS	ScS	11 11 28.0	+4.4
	comp=Z,8.9nm,0.9s,baz=237,slow=22,SNR=6.6						
PMG	**Port Moresby**	**34.49**	**279**	P	**P**	**11 02 03.4**	**-0.4**
PMG				*e*pP		11 03 35.2	
PMG				*e*PcP	PcP	11 04 24.0	0.0
PMG				PcP	PcP	11 04 25.0	+1.1
PMG				S	**S**	**11 06 54.3**	**-0.6**
PMG				ScP	ScP	11 07 20.3	+1.5
PMG				*e*ScP	ScP	11 07 21.0	+2.1
PMG				ScS	ScS	11 11 28.0	+4.3
PMG	**Port Moresby**	**34.49**	**279**	P	**P**	**11 02 03.4**	**-0.4**
PMG				*e**PP		11 03 35.2	
PMG						11 04 25.0	
PMG				S	**S**	**11 06 54.3**	**-0.6**
PMG						11 11 28.0	
PMG	**Port Moresby**	**34.49**	**279**	P	**P**	**11 02 04.8**	**+1.0**
	comp=Z,7µmcomp=Z,603nm,1.0s,mb6.1						
PMG	**Port Moresby**	**34.49**	**279**	P	**P**	**11 02 04.4**	**+0.6**
	comp=Z,7µmcomp=Z,603nm,1.1s,mb6.1						
COEN	**Coen**	**37.14**	**270**	*eP*	**P**	**11 02 26.0**	**+0.2**
	comp=Z,2µm,0.8s,mb6.8						
COEN	**Coen**	**37.14**	**270**	P	**P**	**11 02 26.6**	**+0.8**
	comp=Z,6µmcomp=Z,560nm,1.0s,mb6.1						
COEN	**Coen**	**37.14**	**270**	P	**P**	**11 02 26.2**	**+0.4**
	comp=Z,6µmcomp=Z,560nm,1.0s,mb6.1						
TOO	**Toolangi**	**37.23**	**231**	*eP*	**P**	**11 02 26.9**	**+0.7**
	comp=Z,2µm,0.6s,mb6.8						
TAU	**Tasmania Unive**	**38.30**	**222**	*eP*	**P**	**11 02 34.5**	**-0.3**
	comp=Z,56nm,0.8s,mb5.1						
TAU	**Tasmania Unive**	**38.30**	**222**	*eP*	**P**	**11 02 34.5**	**-0.4**
TAU				pmax	pmax		
	comp=Z,56nm,0.8s,mb5.2						
TAU	**Tasmania Unive**	**38.30**	**222**	P	**P**	**11 02 34.5**	**-0.4**
	comp=Z,438nm,0.7s,mb6.1,SNR=8.6						
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**11 02 38.7**	**+0.5**
	comp=Z,500nm,0.9s,mb6.0,baz=90,slow=9.1,SNR=732						
STKA				S	**S**	**11 07 55.4**	**-1.5**
	comp=Z,12nm,0.9s,baz=265,slow=13,SNR=3.8						
STKA				ScS	ScS	11 11 50.8	+3.7
	comp=Z,3.9nm,0.8s,baz=221,slow=20,SNR=2.9						
STKA	**Stephens Creek**	**38.69**	**241⇓**	*iP*	**P**	**11 02 38.6**	**+0.4**
	comp=Z,575nm,1.0s,mb6.1						
STKA				*e*SCP	ScP	11 07 40.9	+6.6
STKA				*e*S	**S**	**11 07 57.6**	**+0.6**
STKA				*e*SCS	ScS	11 11 50.5	+3.4
STKA	**Stephens Creek**	**38.69**	**241**	*eP*	**P**	**11 02 38.8**	**+0.6**
	comp=Z,130nm,0.9s,mb5.5						
STKA				S	**S**	**11 07 55.4**	**-1.5**
STKA				*e*S	**S**	**11 07 56.6**	**-0.3**
STKA				ScS	ScS	11 11 50.8	+3.7
STKA	**Stephens Creek**	**38.69**	**241**	*eP*	**P**	**11 02 38.8**	**+0.6**
STKA				S	**S**	**11 07 55.4**	**-1.6**
STKA				*e*S	**S**	**11 07 56.6**	**-0.4**
STKA						11 11 50.8	
STKA				pmax	pmax		
	comp=Z,130nm,0.9s						
WAKE	**Wake Island**	**39.74**	**338**	*eP*	**P**	**11 02 45.7**	**-1.1**
	comp=Z,997nm,1.3s,mb6.2						
RKT	**Rikitea**	**40.87**	**105⇑**	*iP*	**P**	**11 02 56.2**	**+0.3**
	comp=Z,297nm,1.2s,mb5.7						
RKT				*e*ScP	ScP	11 07 47.1	+4.1
	comp=Z,84nm,1.3s						
JAY	**Jayapura**	**42.93**	**286**	P	**P**	**11 03 13.2**	**+1.0**
	comp=Z,8µmcomp=Z,687nm,1.2s,mb6.0						
BBOO	**Buckleboo**	**43.46**	**241**	*eP*	**P**	**11 03 16.4**	**+0.3**
	comp=Z,12µm,0.7s						
BBOO				*e*S	**S**	**11 09 06.4**	**+0.4**
KIP	**Kipapa**	**43.84**	**28**	*eP*	**P**	**11 03 18.4**	**-0.7**
	comp=Z,9.8nm,1.1s,mb4.2						
KIP	**Kipapa**	**43.84**	**28⇑**	*eP*	**P**	**11 03 18.9**	**-0.2**
KIP				pmax	pmax		
	comp=Z,114nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**44.67**	**259**	*eP*	**P**	**11 03 24.7**	**-0.9**
	comp=Z,215nm,0.7s,mb5.8						
WRAB				*e*ScP	ScP	11 08 01.2	+2.7
WRAB				*e*S	**S**	**11 09 22.9**	**-0.6**
WRAB	**Tennant Creek**	**44.67**	**259**	*eP*	**P**	**11 03 24.7**	**-0.9**
WRAB				*e*S	**S**	**11 09 22.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,215nm,0.7s,mb5.8						
WRAB	**Tennant Creek**	**44.67**	**259**	P	**P**	**11 03 24.7**	**-0.9**
	comp=Z,8µmcomp=Z,727nm,1.1s,mb6.1						
WRAB	**Tennant Creek**	**44.67**	**259**	P	**P**	**11 03 24.7**	**-0.9**
	comp=Z,8µmcomp=Z,727nm,1.1s,mb6.1						
WRAB	**Tennant Creek**	**44.67**	**259**	P	**P**	**11 03 25.0**	**-0.6**
	comp=Z,2µm,0.6s,mb6.8,SNR=85						
WRA	**Warramunga Arr**	**44.68**	**259**	P	**P**	**11 03 24.7**	**-1.0**
	comp=Z,184nm,0.7s,mb5.7,baz=94,slow=7.4,SNR=348						
WRA				PcP	PcP	11 04 57.3	+0.4
	comp=Z,46nm,0.7s,baz=92,slow=3.9,SNR=11						
WRA				ScP	ScP	11 08 01.2	+2.7
	comp=Z,15nm,0.9s,baz=88,slow=4.1,SNR=13						
WRA				S	**S**	**11 09 19.8**	**-3.8**
	comp=Z,8.1nm,0.9s,baz=94,slow=13,SNR=4.6						
WRA				PKiKP	PKiKP	11 11 53.4	-1.0
	comp=Z,4.0nm,0.8s,baz=79,slow=1.3,SNR=5.4						
WRA				ScS	ScS	11 12 26.4	+1.7
	comp=Z,8.3nm,1.0s,baz=93,slow=7.0,SNR=6.8						
WRA				P4KPbc		11 41 11.4	
	comp=Z,0.7nm,0.7s,baz=91,slow=4.4,SNR=8.8						
WRA	**Warramunga Arr**	**44.68**	**259**	P	**P**	**11 03 24.7**	**-1.0**
WRA				PcP	PcP	11 04 57.3	+0.4
WRA				ScP	ScP	11 08 01.2	+2.7
WRA				S	**S**	**11 09 19.8**	**-3.8**
WRA				PKiKP	PKiKP	11 11 53.4	-1.0
WRA				ScS	ScS	11 12 26.4	+1.7
WRA				*e*		11 41 11.4	
WRA	**Warramunga Arr**	**44.68**	**259**	P	**P**	**11 03 24.7**	**-1.0**
WRA						11 04 57.3	
WRA				S	**S**	**11 09 19.8**	**-3.8**
WRA						11 12 26.4	
AS31	**Alice Springs**	**44.84**	**254**	*eP*	**P**	**11 03 26.7**	**-0.2**
AS31				*e*S	**S**	**11 09 24.7**	**-1.1**
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**11 03 26.4**	**-0.5**
	comp=Z,2µm,0.7s,mb6.7,baz=87,slow=8.3,SNR=4421						
ASAR				PcP	PcP	11 04 58.0	+0.6
	comp=Z,68nm,0.7s,baz=100,slow=4.6,SNR=8.2						
ASAR				ScP	ScP	11 08 02.5	+3.3
	comp=Z,14nm,0.9s,baz=95,slow=4.2,SNR=5.7						
ASAR				S	**S**	**11 09 24.4**	**-1.4**
	comp=Z,27nm,0.9s,baz=88,slow=16,SNR=19						
ASAR				PKiKP	PKiKP	11 11 53.5	-0.9
	comp=Z,2.1nm,0.7s,baz=138,slow=0.9,SNR=5.2						
ASAR				ScS	ScS	11 12 19.9	-5.8
	comp=Z,1.1nm,0.7s,baz=155,slow=7.2,SNR=5.5						
ASAR				PKPPKP		11 35 21.6	
	comp=Z,1.4nm,1.0s,baz=278,slow=4.1,SNR=5.2						
ASAR				P4KPbc		11 41 11.8	
	comp=Z,0.3nm,0.6s,baz=90,slow=4.3,SNR=6.7						
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**11 03 26.4**	**-0.5**
ASAR				PcP	PcP	11 04 58.0	+0.6
ASAR				ScP	ScP	11 08 02.5	+3

LUWI	Luwuk	60.14	279	P	P	11 05 17.3 +0.7
	comp=Z,10μmcomp=Z,885nm,1.3s,mb5.9					
SBA	Scott Base	60.47	184	*e*P	P	11 05 20.2 +2.6
	comp=Z,114nm,1.0s,mb5.2					
SBA				*e*PcP	PcP	11 06 03.9 +7.9
SBA				*e*pP	pP	11 07 07.2 +3.7
SBA				*e*ScP	ScP	11 09 09.5 +3.5
SBA	Scott Base	60.47	184	*e*P	P	11 05 20.3 +2.6
SBA				*e*		11 06 03.9
SBA				*e**PP	pP	11 07 07.2 +3.7
SBA				pmax	pmax	
	comp=Z,114nm,1.0s,mb5.2					
GTOI	Gorontalo	60.49	281	P	P	11 05 19.8 +0.8
	comp=Z,6μmcomp=Z,595nm,1.0s,mb5.9					
VNDA	Vanda	60.49	185	*e*P	P	11 05 19.9 +2.0
	comp=Z,64nm,1.2s,mb4.8					
VNDA				*e*ScP	ScP	11 09 06.9 +0.8
VNDA	Vanda	60.49	185	*e*P	P	11 05 19.9 +2.0
VNDA				pmax	pmax	
	comp=Z,64nm,1.2s					
DAV	Davao City (W)	60.62	289	P	P	11 05 19.4 -0.4
	comp=Z,614nm,0.7s,mb6.0,baz=60,slow=2.2,SNR=19					
DAV	Davao City (W)	60.62	289	P	P	11 05 19.4 -0.4
DAV	Davao City (W)	60.62	289	P	P	11 05 20.7 +0.9
	comp=Z,8μmcomp=Z,850nm,0.8s,mb6.1					
DAV	Davao City (W)	60.62	289	P	P	11 05 20.9 +1.1
	comp=Z,8μmcomp=Z,848nm,0.8s,mb6.1					
DAV	Davao City (W)	60.62	289	⇓*e*P	P	11 05 21.1 +1.3
DAV	Davao City (W)	60.62	289	P	P	11 05 20.8 +1.0
	SNR=10					
BKSI	Bulukumba	61.28	274	P	P	11 05 23.8 -0.4
	comp=Z,2μmcomp=Z,122nm,1.8s,mb4.9					
BUTP	Butuan	61.39	291	*e*P	P	11 05 25.4 +0.6
BUKP	Musuan	61.43	290	*e*P	P	11 05 26.0 +0.9
BNSI	Bone	61.58	275	P	P	11 05 26.5 +0.4
	comp=Z,4μmcomp=Z,396nm,1.2s,mb5.7					
KAPI	Kappang	61.73	274	P	P	11 05 25.6 -1.5
	comp=Z,69nm,0.6s,mb5.2,baz=149,slow=3.5,SNR=39					
KAPI				PcP	PcP	11 06 02.8 +0.5
	comp=Z,38nm,0.7s,baz=119,slow=17,SNR=3.6					
KAPI				PP	PP	11 07 44.4 -7.3
	comp=Z,34nm,0.8s,baz=120,slow=6.9,SNR=4.3					
KAPI	Kappang	61.73	274	P	P	11 05 25.6 -1.5
	comp=Z,10nm,1.2s,mb4.1					
KAPI				PcP	PcP	11 06 02.8 +0.5
KAPI				*e*PcP	PcP	11 06 02.9 +0.6
KAPI				PP	PP	11 07 44.4 -7.3
KAPI				*e*PP	PP	11 07 44.5 -7.2
KAPI	Kappang	61.73	274	P	P	11 05 26.4 -0.7
KAPI	Kappang	61.73	274	P	P	11 05 26.3 -0.8
	comp=Z,3μmcomp=Z,181nm,1.7s,mb5.2					
KAPI	Kappang	61.73	274	P	P	11 05 26.8 -0.3
	SNR=9.9					
BMNI	Bima	61.74	270	P	P	11 05 26.6 -0.5
	comp=Z,8μmcomp=Z,1μm,0.8s,mb6.3					
CTBH	Cotabato--PC H	61.89	289	⇑*i*P	P	11 05 28.8 +0.7
CGP	Cagayan de Oro	62.00	290	⇓*e*P	P	11 05 29.3 +0.5
MSLP	Maasin	62.58	292	*e*P	P	11 05 32.9 +0.3
PAGZ	Pagadian	62.92	289	*e*P	P	11 05 35.5 +0.8
OCLP	Ormoc	63.20	293	*e*P	P	11 05 37.1 +0.6
RPN	Rapa Nui	63.77	112	P	P	11 05 41.5 +1.4
	comp=Z,61nm,0.9s,mb5.0,baz=281,slow=4.4,SNR=7.6					
RPN	Rapa Nui	63.77	112	P	P	11 05 41.5 +1.4
RPN	Rapa Nui	63.77	112	P	P	11 05 41.5 +1.5
CNP	Catarman	63.81	294	*e*P	P	11 05 40.8 +0.3
PVCP	Virac	64.74	295	*e*P	P	11 05 47.0 +0.7
GUIM	Jordan	64.80	291	*e*P	P	11 05 45.5 -1.3
RCP	Roxas	65.07	292	⇓*i*P	P	11 05 48.5 +0.1
AUQP	San Andres	65.90	294	*e*P	P	11 05 55.8 +2.1
OTRP	Odiongan	66.05	293	*e*P	P	11 05 54.4 -0.1
CASY	Casey	66.20	205	*e*P	P	11 05 56.2 +1.6
	comp=Z,50nm,1.0s,mb5.0					
CUYO	Cuyo Island	66.29	291	*e*P	P	11 05 56.3 +0.2
MYLDM	Lahad Datu	66.34	284	P	P	11 05 58.5 +2.1
	comp=Z,6μmcomp=Z,506nm,1.4s,mb5.9					
TSM	Tawau	66.59	283	P	P	11 05 59.1 +1.1
BOAC	Boac	66.69	294	*e*P	P	11 05 59.4 +0.9
BUSP	Coron	67.50	292	*e*P	P	11 06 03.7 +0.1
TGY	Tagaytay City	67.76	294	P	P	11 06 06.1 +1.1
	comp=Z,532nm,0.6s,mb6.3,baz=181,slow=3.5,SNR=15					
TGY	Tagaytay City	67.76	294	P	P	11 06 06.1 +1.1
TGY	Tagaytay City	67.76	294	P	P	11 06 06.1 +1.0
ENPP	El Nido	67.86	290	*e*P	P	11 06 06.6 +0.9
MJAR	Matsushiro Arr	67.89	323	P	P	11 06 04.3 -1.1
	comp=Z,80nm,0.7s,mb5.4,baz=166,slow=6.6,SNR=215					
MJAR				PcP	PcP	11 06 27.8 +0.5
	comp=Z,24nm,0.9s,baz=155,slow=4.0,SNR=5.6					
MJAR	Matsushiro Arr	67.89	323	P	P	11 06 04.3 -1.1
MJAR				PcP	PcP	11 06 27.8 +0.5
MJAR	Matsushiro Arr	67.89	323	P	P	11 06 04.3 -1.1
MJAR						11 06 27.8
MAJO	Matsushiro	67.89	323	*e*P	P	11 06 04.5 -1.0
	comp=Z,299nm,1.2s,mb5.7					
MAJO				*e*PcP	PcP	11 06 25.4 -2.0
MAJO	Matsushiro	67.89	323	*e*P	P	11 06 04.5 -1.0
MAJO				*e*		11 06 25.4
MAJO				pmax	pmax	
	comp=Z,299nm,1.2s,mb5.7					
MAT	Matsushiro	67.89	323	P	P	11 06 04.5 -1.0
MAT				S	S	11 14 20.0 -2.1
BALP	Baler	67.94	296	*e*P	P	11 06 06.4 +0.3
LUBP	Lubang	68.20	293	*e*P	P	11 06 07.2 -0.6
JOW	Kunigami	68.22	309	P	P	11 06 08.7 +1.1
	comp=Z,161nm,0.9s,mb5.5,baz=139,slow=7.6,SNR=14					
JOW	Kunigami	68.22	309	*e*P	P	11 06 08.6 +0.9
	comp=Z,127nm,1.3s,mb5.3					
JOW				*e*PcP	PcP	11 06 30.4 +1.5
CAUP	Cauayan	68.28	297	*e*P	P	11 06 09.3 +1.1
BATP	Bataraza	68.36	287	*e*P	P	11 06 09.7 +0.9
KDM	Kudat	68.52	285	P	P	11 06 10.7 +1.0
KKM	Kota Kinabalu	68.77	284	*e*P	P	11 06 11.2 0.0
	comp=Z,279nm,0.8s,mb5.8					
KKM				*e*pP	pP	11 08 01.6 +0.7
KKM	Kota Kinabalu	68.77	284	P	P	11 06 11.6 +0.3
	comp=Z,6μmcomp=Z,478nm,0.8s,mb6.1					
ERM	Erimo	69.37	330	*i*P	P	11 06 14.7 +0.5
SCZP	Santa Cruz	69.39	295	*e*P	P	11 06 14.4 -0.5
ABRA	Dolores	69.54	297	*e*P	P	11 06 15.8 0.0
BOLP	Bolinao	69.65	296	*e*P	P	11 06 16.2 -0.2
YUK	Yuzh-Kuril'sk	69.75	333*d*	*i*P	P	11 06 09.1 -7.3
YUK				*i* *SP	sP	11 08 56.4 -5.6
YUK				*i* S	S	11 14 40.3 -2.8
YUK				pmax	pmax	
	comp=Z,116nm,6.7s					
JNU	Nakatsue	70.13	316	*e*P	P	11 06 18.9 -0.2
	comp=Z,93nm,1.1s,mb5.2					
SMY	Shemya	70.59	355	*e*P	P	11 06 20.3 -1.0
	comp=Z,158nm,0.5s,mb5.8					
SMY				LR	LR	
	comp=Z,100nm,17.0s					
SMY	Shemya	70.59	355	*e*P	P	11 06 20.3 -1.0
SMY				pmax	pmax	
	comp=Z,158nm,0.5s,mb5.8					
SMY				MLR	MLR	
	comp=Z,100nm,17.0s					
SBUM	Sibu	71.24	279	P	P	11 06 26.7 +0.7
	comp=Z,3μmcomp=Z,195nm,1.6s,mb5.4					
ASAJ	Asahikawa	71.25	331	*e*P	P	11 06 25.4 0.0
	comp=Z,64nm,0.8s,mb5.2					
TWG	Pinlang	71.68	302	*e*P	P	11 06 27.1 -1.3
	comp=Z,193nm,0.6s,mb5.7					
YULB	Yu-li	71.78	303	*e*P	P	11 06 27.4 -1.5
	comp=Z,122nm,0.7s,mb5.4					
NACB	Ninganchiao	71.92	304	*e*P	P	11 06 29.3 -0.4
	comp=Z,824nm,1.1s,mb6.1					
UNV	Unalaska Valle	72.14	7	*e*P	P	11 06 28.6 -1.7
	comp=Z,252nm,1.2s,mb5.5					
QSPA	South Pole Qui	72.19	180	S	S	11 15 08.2 -1.6
	comp=Z,5.8nm,1.0s,baz=306,slow=1.7,SNR=3.6					
QSPA	South Pole Qui	72.19	180	*e*P	P	11 06 31.4 +1.0
	comp=Z,172nm,0.9s,mb5.5					
SSLB	Suanglung	72.24	303	*e*P	P	11 06 30.4 -1.2
	comp=Z,331nm,0.8s,mb5.8					
TPUB	Ta-pu	72.27	302	*e*P	P	11 06 30.5 -1.2
	comp=Z,909nm,0.7s,mb6.3					
YHNB	Yeheng	72.34	304	*e*P	P	11 06 31.8 -0.3
	comp=Z,1μm,1.4s,mb6.1					
TATO	Taipei	72.40	304	*e*P	P	11 06 32.1 -0.4
	comp=Z,184nm,0.7s,mb5.6					
TATO	Taipei	72.40	304	P	P	11 06 32.7 +0.2
	SNR=7.3					
KSM	Kuching	72.72	277	*e*P	P	11 06 35.3 +0.7
	comp=Z,628nm,0.9s,mb6.0					
KSM	Kuching	72.72	277	P	P	11 06 35.3 +0.7
	comp=Z,8μmcomp=Z,862nm,1.1s,mb6.1					
PET	Petropavlovsk	73.34	346	*e*P	P	11 06 36.0 -1.2
	comp=Z,309nm,1.5s,mb5.5					
PET				*e*pP	pP	11 08 27.1 -1.7
PET	Petropavlovsk	73.34	346	*e*P	P	11 06 36.0 -1.2
PET				*e**PP	pP	11 08 27.1 -1.7
PET				pmax	pmax	
	comp=Z,309nm,1.5s,mb5.5					
YSS	Yuzh-Sakhalins	73.39	333	*e*P	P	11 06 38.1 +0.5
	comp=Z,92nm,0.8s,mb5.3					
YSS	Yuzh-Sakhalins	73.39	333κ	*i*P	P	11 06 38.0 +0.3
YSS				*e*		11 06 44.9
YSS					pP	11 08 30.0 +0.8
YSS				*e**SP	sP	11 09 24.0 -0.3
YSS				*e*S	S	11 15 27.0 +3.1
YSS				*e*		11 15 52.0
YSS				pmax	pmax	
	comp=E,120nm,1.0s					
YSS				pmax	pmax	
	comp=Z,160nm,1.0s,mb5.4					
PEA0B	Petropavlovsk-	73.64	345	*e*P	P	11 06 38.5 -0.4
PEA0B				*e*pP	pP	11 08 31.6 +0.9
PETK	Petropavlovsk-	73.64	345	P	P	11 06 37.9 -1.1
	comp=Z,139nm,0.8s,mb5.5,baz=133,slow=8.2,SNR=132					
PETK	Petropavlovsk-	73.64	345	P	P	11 06 37.9 -1.1
PETK	Petropavlovsk-	73.64	345	P	P	11 06 37.9 -1.0
QZH	Quanzhou	74.69	303	⇓*i*P	P	11 06 45.0 -0.5
QZH				sP	sP	11 09 31.1 -1.5
QZH				*e*S	S	11 15 41.1 +2.2
QZH				pmax	pmax	
	comp=Z,960nm,0.8s,mb6.3					
KSRS	Korea Array	74.69	318	P	P	11 06 45.6 +0.3
	comp=Z,48nm,0.7s,mb5.0,baz=133,slow=6.4,SNR=116					
KSRS				PP	PP	11 09 48.1 +6.0
	comp=Z,7.1nm,1.0s,baz=134,slow=9.4,SNR=4.1					
KSAR	Wonju Array Be	74.71	318	P	P	11 06 45.6 +0.2
KSAR				PP	PP	11 09 48.1 +5.8
KSAR	Wonju Array Be	74.71	318	P	P	11 06 45.6 +0.2
KSAR						11 09 48.1
INCN	Inchon	75.53	318	*e*P	P	11 06 50.8 +0.8
	comp=Z,116nm,0.9s,mb5.3					
SSE	Sheshan	75.74	310	P	P	11 06 51.4 +0.1
SSE				pP	pP	11 08 46.5 +2.8
SSE				S	S	11 15 51.8 +1.7
SSE				sS	sS	11 19 10.3 -0.3
SSE				pmax	pmax	
	comp=Z,110nm,1.0s,mb5.2					
SSE				pmax	pmax	
	comp=Z,500nm,8.1s					
SSE	Sheshan	75.74	310	P	P	11 06 51.4 +0.1
	comp=Z,108nm,1.0s,mb5.2					
SSE				pP	pP	11 08 46.5 +2.8
SSE				sP	sP	11 09 41.8 +3.2
SSE				S	S	11 15 51.8 +1.7
SSE				sS	sS	11 19 10.2 -0.4
SSE				LR	LR	
	comp=Z,690nm,22.6s					
CHGN	Chignik	75.76	11	*e*P	P	11 06 49.1 -1.7
VLA	Vladivostok	75.93	325*o*	*i*P	P	11 06 52.3 +0.3
VLA				*e*		11 07 00.6
VLA				*e*		11 09 50.4
VLA				*i* S	S	11 15 49.9 -1.7
VLA				pmax	pmax	
	comp=Z,200nm,1.2s,mb5.4					
BSC	Santa Cruz Isl	76.05	47	⇑P	P	11 06 53.0 +0.1
	baz=76					
SBC	Santa Barbara	76.24	47	⇓P	P	11 06 54.2 +0.3
	baz=76					
SAO	San Andreas Ge	76.36	44	*e*P	P	11 06 54.4 -0.1
	comp=Z,46nm,0.9s,mb4.9					
SAO				*e*pP	pP	11 08 48.7 +1.5
SAO	San Andreas Ge	76.36	44	*e*P	P	11 06 54.4 -0.2
SAO				*e**PP	pP	11 08 48.7 +1.4
SAO				pmax	pmax	
	comp=Z,47nm,0.9s,mb4.9					
PKM	Peak Mountain	76.42	46	⇓P	P	11 06 55.3 +0.4
	baz=76					
BLG	Laguna Peak	76.51	47	⇑P	P	11 06 55.6 +0.2
	baz=77					
SMMC	Simmler	76.52	46	⇑P	P	11 06 56.2 +0.7
	baz=77,SNR=8.9					
CIS	Catalina Islan	76.60	48	⇑P	P	11 06 55.6 -0.3
	baz=77					
HOPS	Hopland	76.61	41	*e*P	P	11 06 55.9 +0.1
	comp=Z,36nm,1.0s,mb4.8					
HOPS				*e*pP	pP	11 08 50.8 +2.1
FMP	Fort Macarthur	76.84	48	⇑P	P	11 06 57.6 +0.3
	baz=77					
OSI	Osito Adit	77.02	47	⇑P	P	11 06 58.2 0.0
	baz=77					
OSI	Osito Adit	77.02	47	*e*P	P	11 06 57.8 -0.4
	comp=Z,12nm,0.7s,mb4.4					
DECC	Green Verdugo	77.10	47	⇑P	P	11 06 58.4 -0.3
	baz=77					
PASC	Pasadena Art C	77.16	48	*e*P	P	11 06 58.5 -0.5
	comp=Z,49nm,1.3s,mb4.8					
PASC				*e*pP	pP	11 08 51.5 -0.5
ARVC	Arvin	77.22	46	⇓P	P	11 06 59.1 -0.2
	baz=77					
109C	Camp Elliot, M	77.26	49	⇑P	P	11 06 59.5 0.0
	baz=77					
MWC	Mount Wilson	77.28	48	*e*P	P	11 06 59.3 -0.3
	comp=Z,34nm,0.8s,mb4.8					
MWC				*e*pP	pP	11 08 52.1 -0.6
MWC	Mount Wilson	77.28	48	*e*P	P	11 06 59.3 -0.3
MWC				*e**PP	pP	11 08 52.1 -0.6
MWC				pmax	pmax	
	comp=Z,34nm,0.8s,mb4.8					
KHMM	Horse Mountain	77.33	39	*e*P	P	11 07 00.9 +1.2
	comp=Z,66nm,1.3s,mb4.9					
VES	Vestal, Richgr	77.43	46	⇓P	P	11 06 59.9 -0.5
	baz=78,SNR=28					
BAR	Barrett	77.47	50	*e*P	P	11 06 59.9 -0.8
	comp=Z,7.8nm,0.8s,mb4.2					
BAR				*e*pP	pP	11 08 54.1 +0.3
MURC	Murrieta	77.56	48	⇓P	P	11 07 01.0 -0.2
	baz=78,SNR=13					
BFSC	Mount Baldy Ra	77.57	48	⇓P	P	11 07 01.1 -0.1
	baz=78,SNR=8.0					
RCTC	Rector, Farmer	77.58	45	⇓P	P	11 07 00.5 -0.7
	baz=78,SNR=7.3					
KRMB	Red Mountain	77.62	39	*e*P	P	11 07 01.1 -0.2
	comp=Z,46nm,1.1s,mb4.7					
EDW2	Edwards Air Fo	77.67	47	⇑P	P	11 07 01.7 0.0
	baz=78,SNR=32					
OHAK	Old Harbor	77.68	14	*e*P	P	11 07 00.4 -0.8
	comp=Z,168nm,0.8s,mb5.4					
OHAK				LR	LR	
	comp=Z,100nm,17.0s					
ISA	Isabella	77.75	46	⇓P	P	11 07 02.4 +0.2
	baz=78,SNR=44					
ISA	Isabella	77.75	46	*e*P	P	11 07 02.2 0.0
	comp=Z,53nm,1.0s,mb4.8					
ISA				*e*pP	pP	11 08 56.7 +1.3
ISA	Isabella	77.75	46	*e*P	P	11 07 02.2 0.0
ISA				*e**PP	pP	11 08 56.7 +1.3
ISA				pmax	pmax	
	comp=Z,53nm,1.0s,mb4.8					
CMB	Columbia Colle	77.78	43	*e*P	P	11 07 01.7 -0.5
	comp=Z,47nm,1.0s,mb4.8					
CMB				*e*pP	pP	11 08 57.0 +1.5
CMB	Columbia Colle	77.78	43	*e*P	P	11 07 01.7 -0.5
CMB				*e**PP	pP	11 08 57.0 +1.5
CMB				pmax	pmax	
	comp=Z,47nm,1.0s,mb4.8					
DVTC	Desert V Tower	77.87	50	⇓P	P	11 07 03.1 +0.3
	baz=78,SNR=14					
WDC	Whiskeytown Da	77.88	40	*e*P	P	11 07 02.4 -0.4
	comp=Z,75nm,1.4s,mb4.8					
WDC				*e*pP	pP	11 08 54.8 -1.3
WDC	Whiskeytown Da	77.88	40	*e*P	P	11 07 02.4 -0.3
WDC				*e**PP	pP	11 08 54.8 -1.2
WDC				pmax	pmax	
	comp=Z,75nm,1.4s,mb4.8					
NJ2	Nanjing	77.94	309	*e*P	P	11 07 03.4 +0.1
NJ2				pP	pP	11 09 00.3 +3.7
NJ2				S	S	11 16 10.5 -2.9
NJ2				SKS		11 16 21.0
NJ2				ScS	ScS	11 16 31.4 -2.4
NJ2				sS	sS	11 19 34.5 -0.9
NJ2				pmax	pmax	
	comp=Z,390nm,1.0s,mb5.7					
NJ2				pmax	pmax	
	comp=Z,740nm,9.5s					
HABR	Khabarovsk	77.99	330*c*	*i*P	P	11 07 04.3 +1.2
HABR						11 07 09.7
HABR				*e**PP	pP	11 08 56.7 +0.2
HABR				*e**SP	sP	11 09 52.0 +0.9
HABR				PPP		11 12 00.9
HABR				*e*S	S	11 16 13.1 -0.1
HABR				*e*		11 16 30.8
HABR				*e*SS	SS	11 21 27.7 -2.3
HABR				*e*SSS		11 24 58.8
HABR				pmax	pmax	
	comp=N,63nm,1.1s					
HABR				pmax	pmax	
	comp=Z,546nm,1.8s,mb5.6					
HABR				pmax	pmax	
	comp=E,92nm,1.1s					
HABR				MLR	MLR	
	comp=Z,95nm,20.0s					
PFO	Pinyon Flat Ob	78.10	49	⇑P	P	11 07 04.2 +0.1
	baz=78,SNR=9.5					
PFO	Pinyon Flat Ob	78.10	49	*e*P	P	11 07 04.3 +0.3
	comp=Z,22nm,1.3s,mb4.3					
PFO				*e*pP	pP	11 08 57.9 +0.5
PFO	Pinyon Flat Ob	78.10	49	P	P	11 07 04.9 +0.8
	comp=Z,79nm,1.1s,mb5.0,SNR=7.3					
PFO	Pinyon Flat Ob	78.10	49	*e*P	P	11 07 04.4 +0.3
PFO				*e**PP	pP	11 08 57.9 +0.5
PFO				pmax	pmax	
	comp=Z,22nm,1.3s,mb4.3					
BBRC	Big Bear Solar	78.10	48	⇑P	P	11 07 04.4 +0.3
	baz=78					
GZH	Guangzhou	78.14	299	P	P	11 07 05.8 +1.3
GZH				S	S	11 16 11.6 -4.2
GZH				pmax	pmax	
	comp=Z,350nm,1.0s,mb5.6					
MDJ	Mudanjiang	78.17	325	P	P	11 07 05.3 +1.1
MDJ				pP	pP	11 08 59.3 +1.7
MDJ				sP	sP	11 09 52.8 +0.6
MDJ				PP	PP	11 10 11.8 +1.1
MDJ				S	S	11 16 18.6 +3.3
MDJ				SS	SS	11 21 32.3 -0.5
MDJ				pmax	pmax	
	comp=Z,260nm,1.2s,mb5.4					
MDJ				pmax	pmax	
	comp=Z,680nm,6.0s					
MDJ	Mudanjiang	78.17	325	*e*P	P	11 07 04.7 +0.5
	comp=Z,283nm,1.0s,mb5.5					
LRMC	Laurel Mountai	78.20	47	⇓P	P	11 07 04.5 -0.1
	baz=78					
SWSC	Sam W. Stewart	78.23	50	⇑P	P	11 07 04.9 +0.1
	baz=78,SNR=11					
KDAK	Kodiak Island	78.34	14	P	P	11 07 04.5 -0.3
	comp=Z,120nm,0.7s,mb5.3,baz=198,slow=2.5,SNR=59					
KDAK	Kodiak Island	78.34	14	*e*P	P	11 07 04.2 -0.7
	comp=Z,394nm,1.3s,mb5.6					
KDAK	Kodiak Island	78.34	14	*e*P	P	11 07 04.2 -0.6
KDAK				pmax	pmax	
	comp=Z,394nm,1.3s,mb5.6					
KDAK	Kodiak Island	78.34	14	P	P	11 07 04.0 -0.8
	comp=Z,1μm,0.8s,mb6.3,SNR=15					
CWC	Cottonwood Cre	78.44	46	⇓P	P	11 07 06.0 +0.2
	baz=78,SNR=16					
YBH	Yreka Blue Hor	78.46	39	*e*P	P	11 07 05.5 -0.3
	comp=Z,45nm,1.0s,mb4.8					
YBH				*e*pP	pP	11 09 00.3 +1.0
YBH	Yreka Blue Hor	78.46	39	*e*P	P	11 07 05.5 -0.3
YBH				*e**PP	pP	11 09 00.3 +1.0
YBH				pmax	pmax	
	comp=Z,45nm,1.0s					
MLAC	Mammoth Lakes	78.57	44	⇑P	P	11 07 06.9 +0.4
	baz=79,SNR=18					
BELC	Belle Mtn. Jos	78.62	49	⇓P	P	11 07 07.1 +0.3
	baz=79,SNR=16					
MPMC	Manual Prospec	78.64	46	⇓P	P	11 07 07.4 +0.5
	baz=79,SNR=35					
TIN	Tinemaha	78.67	45	⇑P	P	11 07 07.4 +0.4
	baz=79,SNR=7.5					
GSC	Goldstone	78.72	47	⇑P	P	11 07 07.4 +0.1
	baz=79,SNR=11					
GSC	Goldstone	78.72	47	*e*P	P	11 07 07.0 -0.4
	comp=Z,32nm,1.3s,mb4.5					
GSC				*e*pP	pP	11 09 01.9 +1.0
GSC	Goldstone	78.72	47	*e*P	P	11 07 07.0 -0.4
GSC				*e**PP	pP	11 09 02.0 +1.0
GSC				pmax	pmax	
	comp=Z,32nm,1.3s,mb4.5					
HEC	Hector,Ludlow	78.81	48	⇑P	P	11 07 08.1 +0.2
	baz=79,SNR=7.8					
BC3	Big Chuckawall	78.84	49	⇓P	P	11 07 08.4 +0.3
	baz=79,SNR=11					
HUMO	Hull Mountain	78.84	38	*e*P	P	11 07 07.9 +0.1
	comp=Z,56nm,1.1s,mb4.8					
HUMO				*e*pP	pP	11 09 02.2 +0.7
WCN	Washoe City	78.90	42	⇑P	P	11 07 08.3 +0.1
	baz=79,SNR=30					
WCN	Washoe City	78.90	42	*e*P	P	11 07 08.1 -0.1
	comp=Z,47nm,0.9s,mb4.8					
WCN				*e*pP	pP	11 09 03.2 +1.3
WCN	Washoe City	78.90	42	*e*P	P	11 07 08.1 -0.1
WCN				*e**PP	pP	11 09 03.2 +1.3
WCN				pmax	pmax	
	comp=Z,47nm,0.9s,mb4.8					
MYKOM	Kota Tinggi	78.93	275	P	P	11 07 09.8 +0.8
	comp=Z,4μmcomp=Z,232nm,1.5s,mb5.3					
GLA	Glamis	78.99	50	⇓P	P	11 07 09.3 +0.4
	baz=79,SNR=16					
GLA	Glamis	78.99	50	*e*P	P	11 07 09.2 +0.4
	comp=Z,44nm,1.1s,mb4.7					
GLA				*e*pP	pP	11 09 03.2 +0.7
GLA	Glamis	78.99	50	*e*P	P	11 07 09.3 +0.4
GLA				*e**PP	pP	11 09 03.2 +0.6
GLA				pmax	pmax	
	comp=Z,44nm,1.1s,mb4.7					
GRAC	Grapevine Rang	79.22	45	⇑P	P	11 07 10.2 +0.3
	baz=79,SNR=9.5					
GMRC	Granite Mounta	79.26	48	⇑P	P	11 07 10.4 +0.1
	baz=79,SNR=17					
FURC	Furnace Creek,	79.29	46	⇓P	P	11 07 10.5 +0.1
	baz=79,SNR=16					
IRM	Iron Mountain	79.31	49	⇓P	P	11 07 11.0 +0.5
	baz=79,SNR=18					
NVAR	Mina Array Bea	79.36	44	P	P	11 07 10.4 -0.3
	comp=Z,33nm,0.8s,mb4.7,baz=226,slow=7.9,SNR=176					
NVAR				pP	pP	11 09 04.7 +0.2
	comp=Z,11nm,1.1s,baz=225,slow=6.2,SNR=4.8					
NVAR				PKKPbc	PKKPbc	11 25 58.6 +1.6
	comp=Z,0.7nm,0.6s,baz=65,slow=4.7,SNR=6.7					
NVAR				PKPPKP		11 34

SNY S S 11 16 38.8 +4.7
SNY pmax pmax
comp=Z,110nm,1.9s,mb4.9
SNY pmax pmax
comp=Z,740nm,6.8s
NEE2 Needles Airpor 79.99 49 ⇓P **P 11 07 14.4 +0.3**
baz=80
CN2 Changchun 80.01 322 ⇑*i*P **P 11 07 14.3 +0.3**
CN2 *e*pP pP 11 09 07.3 -0.7
CN2 *e*sP sP 11 10 04.1 +1.6
CN2 *e*S S 11 16 34.9 +0.6
CN2 pmax pmax
comp=Z,200nm,3.0s
MOD Modoc 80.02 40 *e*P **P 11 07 13.5 -0.6**
comp=Z,113nm,1.2s,mb5.1
MOD *e*pP pP 11 09 08.2 +0.1
KLR Kul'dur 80.09 329 *e*P **P 11 07 11.0 -3.2**
KLR *e* pP 11 09 06.5 -1.9
KLR *e* 11 10 00.0
KLR *e*S S 11 16 32.5 -2.4
KLR pmax pmax
comp=E,68nm,1.6s
KLR pmax pmax
comp=Z,290nm,1.6s,mb5.4
PDMCI Parker Dam,Lak 80.11 49 ⇓P **P 11 07 15.0 +0.3**
baz=80,SNR=7.2
K05A Summer Lake 80.14 39 ⇑P **P 11 07 15.0 +0.3**
baz=80
114A Black Gap (USA 80.28 51 ⇑P **P 11 07 16.1 +0.5**
baz=80,SNR=8.6
Z14A Wintersburg 80.52 50 ⇓P **P 11 07 17.6 +0.7**
baz=81,SNR=9.7
WHN Wuhan 80.61 306 ⇓P **P 11 07 18.4 +1.0**
WHN pP pP 11 09 09.9 -1.8
WHN sP sP 11 10 07.1 +1.0
WHN S S 11 16 45.8 +4.8
WHN pmax pmax
comp=Z,1μm,8.2s
W13A Hualapai Mount 80.68 49 ⇓P **P 11 07 18.1 +0.4**
baz=81,SNR=16
RSO Redoubt South 80.75 13 *e*P **P 11 07 15.7 -1.7**
comp=Z,168nm,0.8s,mb5.5
Y14A Wickenburg 80.75 50 ⇑P **P 11 07 18.5 +0.4**
baz=81,SNR=18
SVW2 Sparrevohn 80.78 11 *e*P **P 11 07 16.7 -0.9**
comp=Z,72nm,1.8s,mb4.8
SVW2 LR LR
comp=Z,100nm,17.0s
E03A Lebam 80.89 35 ⇓P **P 11 07 18.7 +0.2**
baz=81
DIB Dawson Inlet, 81.07 26 P **P 11 07 18.8 -0.4**
SNR=2.5
R11A Troy Canyon, C 81.13 45 ⇑P **P 11 07 19.7 -0.3**
baz=81
BMN Battle Mountai 81.15 43 *e*P **P 11 07 20.0 +0.1**
comp=Z,77nm,1.2s,mb5.0
BMN *e*pP pP 11 09 16.1 +1.7
BMN Battle Mountai 81.15 43 *e*P **P 11 07 20.0 0.0**
BMN *e**PP pP 11 09 16.1 +1.7
BMN pmax pmax
comp=Z,77nm,1.2s,mb5.0
SEW Seward 81.15 14 *e*P **P 11 07 18.1 -1.4**
comp=Z,86nm,0.9s,mb5.2
HOOD Mount Hood Mea 81.22 37 *e*P **P 11 07 20.0 -0.2**
comp=Z,41nm,0.8s,mb4.9
HOOD *e*PcP PcP 11 07 25.7 +1.0
HOOD *e*pP pP 11 09 15.3 +0.6
NLWA Neilton Lookou 81.25 34 *e*P **P 11 07 19.9 -0.4**
comp=Z,44nm,1.2s,mb4.8
SLKM Skilak Lake 81.34 14 *e*P **P 11 07 18.9 -1.5**
SLKM Skilak Lake 81.34 14 *e*P **P 11 07 18.9 -1.5**
WVOR Wild Horse Val 81.34 40 *e*P **P 11 07 20.4 -0.5**
comp=Z,88nm,1.0s,mb5.1
WVOR *e*pP pP 11 09 13.8 -1.6
WVOR Wild Horse Val 81.34 40 *e*P **P 11 07 20.4 -0.5**
WVOR *e**PP pP 11 09 13.8 -1.7
WVOR pmax pmax
comp=Z,88nm,1.0s,mb5.1
COCO West Island 81.47 260 *e*P **P 11 07 22.6 +0.4**
comp=Z,217nm,1.3s,mb5.4
COCO West Island 81.47 260 *e*P **P 11 07 22.7 +0.5**
COCO pmax pmax
comp=Z,217nm,1.3s,mb5.4
COCO West Island 81.47 260 P **P 11 07 24.7 +2.5**
comp=Z,234nm,1.3s,mb5.4
GAMB Gambell 81.54 3 *e*P **P 11 07 20.9 -0.5**
comp=Z,49nm,0.6s,mb5.1
TUC Tucson 81.64 52 *e*P **P 11 07 22.7 +0.1**
comp=Z,36nm,1.0s,mb4.8
TUC *e*pP pP 11 09 16.8 -0.6
TUC Tucson 81.64 52 *e*P **P 11 07 22.7 0.0**
TUC *e**PP pP 11 09 16.8 -0.5
TUC pmax pmax
comp=Z,36nm,1.0s,mb4.8
I07A Izee 81.74 39 ⇑P **P 11 07 23.1 +0.2**
baz=82
G06A Carlson Farm, 81.75 37 ⇑P **P 11 07 22.8 -0.1**
baz=82
318A Bisbee 81.85 53 ⇓P **P 11 07 24.6 +0.8**
baz=82,SNR=21
J08A Circle Bar Ran 81.96 40 ⇑P **P 11 07 24.0 0.0**
baz=82
RC01 Rabbit Creek A 81.96 14 *e*P **P 11 07 22.4 -1.3**
comp=Z,152nm,1.1s,mb5.3
LON Longmire 81.98 35 *e*P **P 11 07 23.1 -0.9**
comp=Z,41nm,1.3s,mb4.7
LON Longmire 81.98 35 *e*P **P 11 07 23.1 -0.9**
LON pmax pmax
comp=Z,41nm,1.3s,mb4.7
218A Dragoon 82.05 53 ⇓P **P 11 07 25.6 +0.8**
baz=82,SNR=24
X16A Lo Mia Camp, P 82.12 50 ⇑P **P 11 07 26.0 +0.9**
baz=82,SNR=48
R13A O'Grain Ranch, 82.14 46 ⇓P **P 11 07 25.5 +0.4**
baz=82
Y17A Roosevelt 82.23 51 ⇑P **P 11 07 26.2 +0.5**
baz=82,SNR=16
PGC Sidney 82.25 33 *e*P **P 11 07 25.5 +0.1**
CCUT Cedar City 82.25 47 *e*P **P 11 07 25.7 +0.1**
comp=Z,38nm,1.0s,mb4.8
CCUT *e*pP pP 11 09 21.9 +1.3
ARUT Antelope Range 82.31 46 *e*P **P 11 07 26.2 +0.2**
comp=Z,47nm,1.2s,mb4.8
ARUT *e*pP pP 11 09 20.0 -0.9
ARUT Antelope Range 82.31 46 *e*P **P 11 07 26.2 +0.2**
ARUT *e**PP pP 11 09 20.0 -0.9
ARUT pmax pmax
comp=Z,47nm,1.2s,mb4.8
Z17A San Carlos Hig 82.32 52 ⇓P **P 11 07 26.9 +0.8**
baz=82,SNR=5.1
319A Douglas 82.36 54 ⇓P **P 11 07 27.2 +0.8**
baz=82,SNR=22
118A Homack Ranch, 82.40 52 ⇓P **P 11 07 27.4 +0.9**
baz=82,SNR=19
IPM Ipoh 82.45 277 *e*P **P 11 07 27.6 +0.3**
comp=Z,342nm,0.9s,mb5.8
IPM Ipoh 82.45 277 P **P 11 07 27.8 +0.5**
comp=Z,5μmcomp=Z,469nm,1.2s,mb5.8
U15A North Rim 82.46 48 ⇓P **P 11 07 27.5 +0.7**
baz=82,SNR=97
PMR Palmer 82.55 14 *e*P **P 11 07 23.8 -2.8**
comp=Z,269nm,2.0s,mb5.4
PMR LR LR
comp=Z,100nm,18.0s
PMR Palmer 82.55 14 *e*P **P 11 07 23.8 -2.8**
PMR pmax pmax
comp=Z,269nm,2.0s,mb5.4
PMR MLR MLR
comp=Z,100nm,18.0s
Z18A Geronimo 82.55 52 ⇓P **P 11 07 27.2 -0.1**
baz=83
219A White Tail Can 82.66 53 ⇓P **P 11 07 29.0 +1.1**
baz=83,SNR=22
WUAZ Wupatki 82.68 49 ⇓P **P 11 07 28.7 +0.8**
baz=83,SNR=36
WUAZ Wupatki 82.68 49 *e*P **P 11 07 28.1 +0.2**
comp=Z,58nm,1.1s,mb5.0
WUAZ *e*pP pP 11 09 22.7 -0.2
JCW Jim Creek 82.78 34 *e*P **P 11 07 27.8 -0.2**
comp=Z,72nm,1.3s,mb5.0
Y18A Canyon Day Jun 82.87 51 ⇓P **P 11 07 30.0 +1.1**
baz=83,SNR=32
SML Sawmill 82.92 14 *e*P **P 11 07 26.8 -1.6**
comp=Z,15nm,0.9s,mb4.5
SML Sawmill 82.92 14 *e*P **P 11 07 26.8 -1.6**
SML pmax pmax
comp=Z,15nm,0.9s,mb4.5
320A Kipp Ranch, An 82.93 54 ⇓P **P 11 07 30.5 +1.3**
baz=83,SNR=14
DIV Divide 82.94 15 *e*P **P 11 07 27.8 -0.8**
comp=Z,141nm,0.8s,mb5.5
W17A Winslow 82.96 50 ⇑P **P 11 07 30.4 +1.1**
baz=83,SNR=7.1
119A Ashpeak Ranch, 82.96 52 ⇑P **P 11 07 30.0 +0.7**
baz=83
HAWA Hanford 83.04 37 *e*P **P 11 07 28.9 -0.5**
comp=Z,92nm,1.0s,mb5.3
HAWA *e*pP pP 11 09 25.5 +0.9
KULM Kulim 83.07 278 *e*P **P 11 07 30.4 +0.1**
comp=Z,374nm,1.4s,mb5.7
KULM Kulim 83.07 278 P **P 11 07 31.1 +0.8**
comp=Z,3μmcomp=Z,223nm,1.4s,mb5.5
PPLA Purkeypile 83.08 12 *e*P **P 11 07 27.3 -1.9**
comp=Z,26nm,0.7s,mb4.9
BMRM Bremner River 83.10 16 *e*P **P 11 07 28.0 -1.4**
comp=Z,214nm,1.2s,mb5.5
RPW Rockport 83.15 34 *e*P **P 11 07 28.5 -1.4**
comp=Z,11nm,0.8s,mb4.5
U16A Tuba City 83.15 49 ⇑P **P 11 07 30.8 +0.5**
baz=83,SNR=52
V17A Tonalea, Kykot 83.15 49 ⇓P **P 11 07 30.5 +0.3**
baz=83,SNR=50
220A Playas Peak, P 83.17 54 ⇓P **P 11 07 31.5 +1.0**
baz=83,SNR=16
A05A Maple Falls 83.18 33 ⇑P **P 11 07 29.8 -0.2**
baz=83,SNR=5.1
Z19A T-Link Ranch, 83.22 52 ⇑P **P 11 07 31.5 +0.8**
baz=83
X18A Snowflake 83.27 51 ⇓P **P 11 07 31.1 +0.2**
baz=83,SNR=15
ETW Entiat 83.30 35 *e*P **P 11 07 30.1 -0.6**
comp=Z,91nm,0.8s,mb5.4
ETW *e*pP pP 11 09 26.3 +0.4
R15A Junction 83.32 46 ⇓P **P 11 07 31.9 +0.9**
baz=83,SNR=30
120A U Bar Ranch, L 83.37 53 ⇓P **P 11 07 32.3 +0.9**
baz=83,SNR=10
BMO Blue Mountains 83.48 39 *e*P **P 11 07 30.6 -1.0**
comp=Z,23nm,0.9s,mb4.7
BMO *e*pP pP 11 09 28.4 +1.4
BMO Blue Mountains 83.48 39 *e*P **P 11 07 30.6 -1.1**
BMO *e**PP pP 11 09 28.4 +1.4
BMO pmax pmax
comp=Z,23nm,0.9s,mb4.7
PNL Peninsula 83.50 19 *e*P **P 11 07 30.5 -0.9**
comp=Z,67nm,0.9s,mb5.2
Y19A Nutrioso 83.53 51 ⇑P **P 11 07 33.1 +0.9**
baz=84,SNR=16
MSU Marysvale 83.53 46 *e*P **P 11 07 32.1 +0.1**
comp=Z,52nm,1.2s,mb4.9
MSU *e*pP pP 11 09 29.7 +2.2
MSU Marysvale 83.53 46 *e*P **P 11 07 32.2 +0.1**
MSU *e**PP pP 11 09 29.7 +2.3
MSU pmax pmax
comp=Z,52nm,1.2s,mb4.9
TNA Tin City 83.54 4 *e*P **P 11 07 30.6 -0.8**
comp=Z,167nm,1.0s,mb5.5
S16A Weppner Ranch, 83.56 47 ⇑P **P 11 07 32.6 +0.3**
baz=84,SNR=21
MFID Camas Ranch 83.61 41 ⇓P **P 11 07 32.2 -0.1**
baz=84,SNR=74
MFID Camas Ranch 83.61 41 *e*P **P 11 07 31.7 -0.7**
comp=Z,64nm,1.1s,mb5.1
MFID *e*pP pP 11 09 28.3 +0.6
Z20A Nine Sixteen R 83.65 52 ⇑P **P 11 07 33.8 +1.0**
baz=84,SNR=14
W18A Petrified Fore 83.69 50 ⇓P **P 11 07 33.5 +0.6**
baz=84,SNR=10
U17A Shonto 83.70 49 ⇓P **P 11 07 33.4 +0.5**
baz=84
X19A St. Johns 83.71 51 ⇑P **P 11 07 33.6 +0.6**
baz=84,SNR=26
BJT Baijiatuau 83.77 315 *e*P **P 11 07 33.6 +0.4**
comp=Z,286nm,0.9s,mb5.8
BJT Baijiatuau 83.77 315 *e*P **P 11 07 33.6 +0.4**
BJT pmax pmax
comp=Z,286nm,0.9s
BJI Beijing 83.78 315 P **P 11 07 34.1 +0.8**
BJI pP pP 11 09 27.0 -1.7
BJI sP sP 11 10 21.4 -1.4
BJI SKS 11 17 05.3
BJI S S 11 17 14.6 +2.4
BJI pmax pmax
comp=Z,280nm,1.0s,mb5.8
T17A Navajo Res., N 83.78 48 ⇓P **P 11 07 34.0 +0.6**
baz=84
221A Mesquite Ranch 83.79 54 ⇑P **P 11 07 34.7 +1.2**
baz=84,SNR=8.5
V18A Ganado 83.81 50 ⇓P **P 11 07 33.8 +0.2**
baz=84,SNR=29
PMSA Palmer Station 83.84 157 P **P 11 07 32.9 -0.2**
comp=Z,62nm,1.1s,mb5.1,baz=239,slow=4.2,SNR=6.2
PMSA Palmer Station 83.84 157 *e*P **P 11 07 33.9 +0.7**
comp=Z,96nm,1.1s,mb5.2
E09A Wood Farm, Sta 83.90 37 ⇓P **P 11 07 33.1 -0.7**
baz=84,SNR=20
R16A Teasdale 83.91 47 ⇓P **P 11 07 34.5 +0.5**
baz=84,SNR=25
MAW Mawson 83.92 200 P **P 11 07 34.7 +1.2**
comp=Z,15nm,0.7s,mb4.6,baz=122,slow=7.4,SNR=17
MAW Mawson 83.92 200 *e*P **P 11 07 34.3 +0.8**
comp=Z,9.7nm,1.2s,mb4.2
MAW Mawson 83.92 200 *e*P **P 11 07 34.3 +0.8**
MAW pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway 83.92 45 ⇑P **P 11 07 33.8 -0.1**
baz=84,SNR=15
DUG Dugway 83.92 45 *e*P **P 11 07 33.9 0.0**
comp=Z,22nm,1.2s,mb4.6
DUG *e*pP pP 11 09 29.7 +0.3
DUG Dugway 83.92 45 *e*P **P 11 07 33.9 -0.1**
DUG *e**PP pP 11 09 29.7 +0.3
DUG pmax pmax
comp=Z,22nm,1.2s,mb4.6
PSI Prapat 83.92 275 P **P 11 07 34.2 -0.4**
comp=Z,3μmcomp=Z,356nm,1.1s,mb5.8
W19A Sanders 83.94 50 ⇓P **P 11 07 34.6 +0.4**
baz=84,SNR=20
TRF Thorofare Moun 83.96 12 *e*P **P 11 07 31.7 -1.9**
comp=Z,191nm,0.7s,mb5.7
P15A Leamington 83.97 45 ⇑P **P 11 07 34.3 +0.1**
baz=84,SNR=8.0
121A Cookes Peak, D 84.01 53 ⇑P **P 11 07 35.1 +0.5**
baz=84,SNR=13
OD2 Odessa Site #2 84.07 36 *e*P **P 11 07 33.7 -0.8**
comp=Z,73nm,1.1s,mb5.1
S17A Black Ridge (B 84.08 48 ⇓P **P 11 07 34.7 -0.1**
baz=84,SNR=26
F10A Beach Ranch, E 84.14 38 ⇓P **P 11 07 34.3 -0.6**
baz=84,SNR=52
Y20A Horse Springs, 84.16 52 ⇑P **P 11 07 36.3 +1.0**
baz=84,SNR=19
U18A Rough Rock, Ch 84.18 49 ⇑P **P 11 07 35.9 +0.5**
baz=84,SNR=21
O15A The Old Anders 84.19 45 ⇓P **P 11 07 35.5 +0.2**
baz=84
I12A Atlanta 84.24 41 ⇓P **P 11 07 35.8 +0.3**
baz=84,SNR=86
ENH Enshi 84.28 304 *e*P **P 11 07 36.6 +0.7**
comp=Z,789nm,0.9s,mb6.2
X20A Quemado 84.35 51 ⇑P **P 11 07 36.9 +0.7**
baz=84,SNR=7.5
222A Williams Famil 84.35 54 ⇓P **P 11 07 36.8 +0.5**
baz=84
BPAW Bear Paw Mtn. 84.40 12 *e*P **P 11 07 33.5 -2.2**
comp=Z,29nm,0.7s,mb4.9
P16A Fountain Green 84.41 45 ⇑P **P 11 07 37.0 +0.6**
baz=84
Q16A Castle Valley 84.42 46 ⇓P **P 11 07 37.1 +0.7**
baz=84
Z21A St. Cloud Mine 84.43 53 ⇑P **P 11 07 37.4 +0.8**
baz=84
V19A Window Rock 84.46 50 ⇓P **P 11 07 37.2 +0.4**
baz=84
MCK McKinley 84.48 13 *e*P **P 11 07 34.5 -1.7**
comp=Z,172nm,1.0s,mb5.5
MCK *e*pP pP 11 09 33.0 +1.1
MCK McKinley 84.48 13 *e*P **P 11 07 34.5 -1.7**
MCK *e**PP pP 11 09 33.0 +1.1
MCK pmax pmax
comp=Z,172nm,1.0s,mb5.5
T18A Mexican Hat 84.50 48 ⇑P **P 11 07 37.2 +0.3**
baz=85,SNR=72
R17A Hanksville Air 84.50 47 ⇓P **P 11 07 37.0 +0.1**
baz=85,SNR=30
L14A Malta 84.54 43 ⇑P **P 11 07 37.2 +0.2**
baz=85,SNR=18
C09A Chrisman Ranch 84.55 36 ⇑P **P 11 07 36.4 -0.4**
baz=85,SNR=18
HLID Hailey 84.57 41 ⇓P **P 11 07 37.2 +0.2**
baz=85,SNR=61
HLID Hailey 84.57 41 *e*P **P 11 07 37.1 0.0**
comp=Z,42nm,0.9s,mb5.0
HLID *e*pP pP 11 09 32.7 0.0
HLID *e*PP PP 11 11 00.5 -2.2
TMUT Trail Mountain 84.57 46 *e*P **P 11 07 37.7 +0.5**
comp=Z,40nm,1.1s,mb4.9
TMUT *e*pP pP 11 09 35.0 +2.1
PAX Paxson 84.59 14 *e*P **P 11 07 34.9 -1.8**
comp=Z,68nm,1.0s,mb5.1
PAX *e*PcP PcP 11 07 39.0 -0.1
PAX Paxson 84.59 14 *e*P **P 11 07 34.9 -1.8**
PAX pmax pmax
comp=Z,68nm,1.0s,mb5.1
U19A Dine' College, 84.60 49 ⇓P **P 11 07 37.6 +0.2**
baz=85,SNR=20
W20A Ramah 84.60 51 ⇓P **P 11 07 37.8 +0.4**
baz=85,SNR=24
J13A Cove Ranch, Pi 84.63 41 ⇑P **P 11 07 37.7 +0.3**
baz=85,SNR=75
SKAG Skagway 84.64 20 *e*P **P 11 07 37.6 +0.6**
comp=Z,199nm,1.6s,mb5.4
S18A Hurst Farm, Bl 84.67 48 ⇑P **P 11 07 37.7 0.0**
baz=85,SNR=10
122A Conniff Cattle 84.68 53 ⇓P **P 11 07 38.8 +0.9**
baz=85,SNR=5.3
HVU Hansel Valley 84.72 43 *e*P **P 11 07 37.8 -0.1**
comp=Z,39nm,1.3s,mb4.8
HVU Hansel Valley 84.72 43 *e*P **P 11 07 37.8 -0.1**
HVU pmax pmax
comp=Z,39nm,1.3s,mb4.8
Y21A Point of Rocks 84.73 52 ⇑P **P 11 07 39.1 +1.0**
baz=85,SNR=9.6
M15A Larsen Ranch, 84.78 44 ⇓P **P 11 07 37.8 -0.4**
baz=85
H12A Diamond D Ranc 84.80 40 ⇑P **P 11 07 37.9 -0.2**
baz=85
O16A Springville 84.80 45 ⇓P **P 11 07 38.5 +0.2**
baz=85,SNR=7.7
G12A Big Creek, Yel 84.82 39 ⇑P **P 11 07 38.1 -0.1**
baz=85
X21A Alamocita Cree 84.83 52 ⇓P **P 11 07 39.1 +0.5**
baz=85,SNR=15
K14A Jones Ranch, D 84.84 42 ⇓P **P 11 07 38.7 +0.3**
baz=85,SNR=22
V20A Brimhall 84.92 50 ⇓P **P 11 07 39.1 +0.1**
baz=85
I13A Wildhorse Cree 84.93 41 ⇑P **P 11 07 39.0 +0.2**
baz=85,SNR=24
Z22A Elephant Butte 84.94 53 ⇑P **P 11 07 39.5 +0.4**
baz=85
SRU San Rafael 84.95 46 *e*P **P 11 07 38.8 -0.3**
comp=Z,22nm,0.9s,mb4.7
SRU *e*pP pP 11 09 34.9 0.0
SRU San Rafael 84.95 46 *e*P **P 11 07 38.8 -0.3**
SRU *e**PP pP 11 09 34.9 0.0
SRU pmax pmax
comp=Z,22nm,0.9s,mb4.7
T19A Beclabito 84.97 49 ⇓P **P 11 07 39.4 +0.2**
baz=85,SNR=10
P17A Butcher Ranch, 84.97 46 ⇑P **P 11 07 39.4 +0.2**
baz=85,SNR=6.2
MENT Mentasta 84.99 15 *e*P **P 11 07 38.2 -0.5**
J14A Carey 85.01 42 ⇑P **P 11 07 39.8 +0.5**
baz=85
JLU Jordanelle 85.03 45 *e*P **P 11 07 39.5 +0.2**
comp=Z,28nm,1.4s,mb4.6
JLU *e*pP pP 11 09 35.3 +0.1
GYA Guiyang 85.05 300 ⇑*i*P **P 11 07 40.4 +0.6**
GYA pP pP 11 09 37.0 +1.3
GYA sP sP 11 10 30.4 +0.7
GYA PP PP 11 11 09.8 +2.9
GYA SKS 11 17 15.5
GYA sS sS 11 20 50.3 -1.3
GYA SS SS 11 23 18.3 +3.7
GYA pmax pmax
comp=Z,190nm,1.1s,mb5.5
GYA pmax pmax
comp=Z,480nm,5.9s
R18A Canyonlands Na 85.06 47 ⇑P **P 11 07 39.7 +0.1**
baz=85,SNR=22
DAU Daniels Canyon 85.07 45 *e*P **P 11 07 40.4 +0.8**
comp=Z,21nm,1.3s,mb4.5
DAU *e*pP pP 11 09 35.2 -0.2
DAU Daniels Canyon 85.07 45 *e*P **P 11 07 40.4 +0.8**
DAU *e**PP pP 11 09 35.3 -0.1
DAU pmax pmax
comp=Z,21nm,1.3s,mb4.5
L15A Malad City 85.08 43 ⇓P **P 11 07 39.6 0.0**
baz=85
U20A Newcomb 85.13 49 ⇑P **P 11 07 40.0 0.0**
baz=85,SNR=13
N16A Rees Ranch, Co 85.17 44 ⇑P **P 11 07 40.1 0.0**
baz=85,SNR=8.5
H13A Challis 85.18 40 ⇓P **P 11 07 40.0 0.0**
baz=85,SNR=32
F12A Elk City 85.19 39 ⇓P **P 11 07 39.5 -0.5**
baz=85
123A Bell Site, Whi 85.22 54 ⇓P **P 11 07 40.1 -0.4**
baz=85
Q18A Rafter H Ranch 85.22 46 ⇑P **P 11 07 40.2 -0.1**
baz=85,SNR=12
W21A San Fidel 85.22 51 ⇓P **P 11 07 40.5 +0.1**
baz=85
Y22A Socorro 85.23 52 ⇑P **P 11 07 40.7 +0.1**
baz=85,SNR=10
TIY Taiyuan 85.26 312 ⇓*i*P **P 11 07 41.8 +1.2**
TIY pP pP 11 09 36.1 -0.4
TIY sP sP 11 10 29.3 -1.2
TIY pmax pmax
comp=Z,1μm,3.6s
LAZ Ladron 85.30 52 *e*P **P 11 07 41.2 +0.3**
comp=Z,2.4nm,0.9s
LAZ *e*pP pP 11 09 37.1 +0.3
LAZ *e*sP sP 11 10 34.3 +3.5
S19A Harvey Farm, M 85.30 48 ⇓P **P 11 07 41.0 +0.2**
baz=85,SNR=12
O17A Robinson Place 85.31 45 ⇓P **P 11 07 41.2 +0.4**
baz=85,SNR=31
LENM Lemitar 85.32 52 *e*P **P 11 07 41.3 +0.3**
comp=Z,20nm,1.4s,mb4.5
LENM *e*pP pP 11 09 36.8 -0.1
K15A Arbon 85.32 42 ⇑P **P 11 07 40.9 +0.1**
baz=85,SNR=14
Y22D IRIS PASSCAL I 85.32 52 ⇑P **P 11 07 40.9 -0.1**
baz=85
324A Moseley Ranch, 85.33 55 ⇓P **P 11 07 41.2 +0.1**
baz=85,SNR=9.9
I14A Mackay 85.35 41 ⇓P **P 11 07 41.2 +0.3**
baz=86,SNR=77
P18A Preston Nutter 85.39 46 ⇓P **P 11 07 41.4 +0.2**
baz=86,SNR=7.5
X22A Bernardo 85.44 52 ⇑P **P 11 07 41.7 +0.2**
baz=86
NEW Newport 85.45 36 ⇓P **P 11 07 40.4 -0.8**
baz=86,SNR=22
NEW Newport 85.45 36 *e*P **P 11 07 40.0 -1.3**
comp=Z,30nm,0.9s,mb4.8
NEW Newport 85.45 36 *e*P **P 11 07 40.0 -1.2**
NEW pmax pmax
comp=Z,30nm,0.9s
425A Indio Mountain 85.46 56 ⇑P **P 11 07 41.9 +0.2**
baz=86
R19A Curley Farm, L 85.46 48 ⇑P **P 11 07 41.5 -0.1**
baz=86,SNR=19
G13A Cobalt 85.46 40 ⇑P **P 11 07 41.3 -0.1**
baz=86,SNR=36
Z23A Rita Site, Whi 85.50 53 ⇓P **P 11 07 42.0 +0.2**
baz=86
DOT Dot Lake 85.51 15 *e*P **P 11 07 40.4 -0.7**
comp=Z,41nm,0.9s,mb5.1
MNTX Cornudas Mount 85.52 55 ⇓P **P 11 07 42.4 +0.4**
baz=86,SNR=27
MNTX Cornudas Mount 85.52 55 *e*P **P 11 07 42.0 0.0**
comp=Z,15nm,1.0s,mb4.6
MNTX *e*pP pP 11 09 36.9 -1.1
MVCO Mesa Verde 85.52 49 *e*P **P 11 07 41.3 -0.6**
comp=Z,16nm,1.3s,mb4.5
V21A Milan 85.53 50 ⇓P **P 11 07 42.1 +0.2**
baz=86

224A **Cornudas Mount** 85.56 54 ⇓P P 11 07 42.9 +0.8
baz=86,SNR=19
BNM **Barren Site** 85.58 52 eP P 11 07 43.0 +0.8
comp=Z,8.7nm,0.9s,mb4.4
BNM epP pP 11 09 38.6 +0.4
N17A **Moffit Pass** 85.60 45 ⇑P P 11 07 42.3 +0.2
baz=86
LPM **Los Pinos Moun** 85.64 52 eP P 11 07 42.4 -0.1
comp=Z,19nm,1.3s,mb4.6
LPM epP pP 11 09 38.9 +0.4
626A **Big Bend Ranch** 85.65 57 ⇑P P 11 07 43.6 +0.9
baz=86,SNR=29
PV10 **Paradox Valley** 85.65 48 eP P 11 07 41.9 -0.6
comp=Z,212nm,0.8s,mb5.8
PV10 epP pP 11 09 38.3 -0.3
325A **Bean Ranch, Si** 85.71 55 ⇓P P 11 07 43.3 +0.4
baz=86,SNR=20
L16A **Fish Haven** 85.71 43 ⇑P P 11 07 42.5 -0.1
baz=86,SNR=11
COLA **College** 85.72 13 eP P 11 07 40.7 -1.5
comp=Z,121nm,1.0s,mb5.5
COLA epP pP 11 09 38.4 +0.1
COLA **College** 85.72 13 eP P 11 07 40.7 -1.4
COLA e*PP pP 11 09 38.4 +0.1
COLA pmax pmax
comp=Z,121nm,1.0s,mb5.5
J15A **Blackfoot** 85.73 42 ⇓P P 11 07 43.2 +0.5
baz=86,SNR=66
H14A **Leadore** 85.75 40 ⇑P P 11 07 43.1 +0.3
baz=86,SNR=63
PV04 **Paradox Valley** 85.75 48 eP P 11 07 42.4 -0.5
PV04 epP pP 11 09 39.1 +0.1
PV04 esP sP 11 10 30.1 -2.9
F13A **Darby** 85.76 39 ⇓P P 11 07 42.4 -0.3
baz=86,SNR=55
Q19A **Hogan Spring (** 85.76 47 ⇑P P 11 07 42.9 -0.1
baz=86
DLBC **Dease Lake** 85.77 23 eP P 11 07 42.0 -0.5
U21A **Nageezi** 85.78 50 ⇓P P 11 07 43.1 0.0
baz=86,SNR=40
W22A **Albuquerque** 85.78 51 ⇑P P 11 07 43.6 +0.5
baz=86
ILAR **Eielson Array** 85.83 13 P P 11 07 40.9 -1.8
comp=Z,45nm,0.8s,mb5.1,baz=226,slow=4.6,SNR=260
ILAR pP pP 11 09 39.2 +0.4
comp=Z,19nm,1.2s,baz=222,slow=5.4,SNR=3.0
ILAR S S 11 17 25.4 -5.6
comp=Z,4.8nm,1.1s,baz=216,slow=9.4,SNR=4.5
ILAR PKKPbc PKKPbc 11 25 40.1 -3.2
comp=Z,0.6nm,0.8s,baz=342,slow=2.2,SNR=8.5
ILAR **Eielson Array** 85.83 13 P P 11 07 40.9 -1.8
ILAR pP pP 11 09 39.2 +0.4
ILAR S S 11 17 25.4 -5.6
ILAR PKKPbc PKKPbc 11 25 40.1 -3.2
ILAR **Eielson Array** 85.83 13 P P 11 07 40.9 -1.8
ILAR *PP pP 11 09 39.3 +0.5
ILAR S S 11 17 25.4 -5.5
O18A **Roosevelt** 85.84 45 ⇑P P 11 07 43.2 -0.1
baz=86,SNR=6.2
PV01 **Paradox Valley** 85.88 48 eP P 11 07 43.1 -0.4
comp=Z,1μm,0.9s,mb6.5
PV01 epP pP 11 09 39.5 -0.2
526A **Mary Lane Ranc** 85.88 57 ⇑P P 11 07 44.4 +0.7
baz=86,SNR=16
S20A **Disappointment** 85.89 48 ⇓P P 11 07 43.7 +0.1
baz=86,SNR=14
Y23A **Lovelace Mesa,** 85.92 53 ⇓P P 11 07 43.7 -0.2
baz=86,SNR=11
TXAR **Lajitas Array** 85.94 58 P P 11 07 44.6 +0.6
comp=Z,20nm,0.8s,mb4.8,baz=220,slow=5.0,SNR=160
TXAR pP pP 11 09 40.8 +0.6
comp=Z,9.5nm,1.3s,baz=224,slow=5.2,SNR=2.8
TXAR PKKPbc PKKPbc 11 25 39.0 -2.5
comp=Z,0.4nm,0.5s,baz=132,slow=4.9,SNR=4.1
TXAR PKPPKP 11 33 53.1
comp=Z,0.7nm,0.8s,baz=90,slow=2.5,SNR=7.4
TXAR **Lajitas Array** 85.94 58 P P 11 07 44.6 +0.6
TXAR pP pP 11 09 40.8 +0.6
TXAR PKKPbc PKKPbc 11 25 39.0 -2.4
TXAR P'P' 11 33 53.1
TXAR **Lajitas Array** 85.94 58 P P 11 07 44.6 +0.6
TXAR *PP pP 11 09 40.8 +0.6
M17A **Scullys Gap (B** 85.96 44 ⇓P P 11 07 43.6 -0.3
baz=86,SNR=6.4
I15A **Monteview** 86.00 41 ⇓P P 11 07 44.3 +0.3
baz=86,SNR=27
K16A **Soda Springs** 86.00 43 ⇑P P 11 07 44.2 +0.2
baz=86,SNR=28
G14A **Jackson** 86.01 40 ⇑P P 11 07 44.1 +0.1
baz=86,SNR=13
R20A **Redvale** 86.03 48 ⇑P P 11 07 44.3 0.0
baz=86,SNR=8.8
ANMO **Albuquerque** 86.04 52 P P 11 07 44.9 +0.6
comp=Z,21nm,1.1s,mb4.7,baz=239,slow=4.2,SNR=42
ANMO pP pP 11 09 41.1 +0.5
comp=Z,14nm,1.2s,baz=208,slow=7.5,SNR=7.1
ANMO **Albuquerque** 86.04 52 eP P 11 07 44.2 -0.2
comp=Z,21nm,1.0s,mb4.7
ANMO epP pP 11 09 40.4 -0.2
ANMO pP pP 11 09 41.1 +0.5
ANMO **Albuquerque** 86.04 52 eP P 11 07 44.2 -0.2
ANMO *PP pP 11 09 41.1 +0.5
ANMO pmax pmax
comp=Z,21nm,1.0s
C12B **Naegeli Ranch,** 86.08 37 ⇓P P 11 07 43.7 -0.5
baz=86,SNR=37
X23A **Hourglass Bar** 86.08 52 ⇓P P 11 07 44.7 0.0
baz=86
V22A **San Miguel Ran** 86.11 50 ⇓P P 11 07 44.4 -0.3
baz=86
225A **Deer Hill, Car** 86.12 55 ⇓P P 11 07 45.5 +0.6
baz=86,SNR=11
L17A **Cokeville** 86.12 44 ⇑P P 11 07 44.0 -0.6
baz=86,SNR=9.5
426A **McDonald Obser** 86.17 56 ⇓P P 11 07 45.6 +0.5
baz=86,SNR=28
MCMT **McKenzie Canyo** 86.18 40 eP P 11 07 45.1 +0.3
comp=Z,35nm,1.1s,mb4.9
MCMT epP pP 11 09 43.0 +1.9
E13A **Victor** 86.18 39 ⇑P P 11 07 43.9 -0.9
baz=86,SNR=22
Z24A **Sheeppen Canyo** 86.19 53 ⇓P P 11 07 45.5 +0.3
baz=86,SNR=6.8
J16A **Bone** 86.20 42 ⇓P P 11 07 45.1 +0.2
baz=86,SNR=51
H15A **Lima** 86.20 41 ⇑P P 11 07 45.3 +0.4
baz=86,SNR=64
627A **Terlingua Ranc** 86.21 58 ⇓P P 11 07 45.9 +0.6
baz=86
S21A **Coal Bank Pass** 86.22 49 ⇑P P 11 07 45.5 +0.3
baz=86,SNR=24
P19A **Cripple Cowboy** 86.26 46 ⇑P P 11 07 45.4 +0.1
baz=86,SNR=5.8
XAN **Xi'an** 86.26 307 P P 11 07 45.6 +0.1
XAN pP pP 11 09 40.9 -0.9
XAN sP sP 11 10 35.0 -0.7
XAN SKS 11 17 18.8
XAN S S 11 17 38.6 +2.2
XAN sS sS 11 20 59.3 -4.4
XAN pmax pmax
comp=Z,160nm,1.2s,mb5.5
XAN pmax pmax
comp=Z,190nm,7.0s
NNT **Nongplab** 86.27 284 P P 11 07 47.5 +1.6
AHID **Auburn Hatcher** 86.28 43 eP P 11 07 45.3 0.0
comp=Z,26nm,1.2s,mb4.7
AHID epP pP 11 09 42.1 +0.5
527A **Woodward Ranch** 86.30 57 ⇑P P 11 07 46.0 +0.3
baz=86
M18A **Lyman** 86.34 44 ⇑P P 11 07 45.6 0.0
baz=86,SNR=15
U22A **Llaves** 86.35 50 ⇑P P 11 07 46.2 +0.4
baz=86,SNR=9.2
F14A **Wisdom** 86.35 39 ⇑P P 11 07 45.2 -0.4
baz=86,SNR=14
HIA **Hailar** 86.35 325 eP P 11 07 45.9 +0.4
comp=Z,156nm,1.4s,mb5.5
HIA **Hailar** 86.35 325 eP P 11 07 45.9 +0.4
HIA pmax pmax
comp=Z,156nm,1.4s
D13A **Huson** 86.35 38 ⇓P P 11 07 44.7 -0.9
baz=86,SNR=20
W23A **Werner Place,** 86.36 51 ⇑P P 11 07 45.8 0.0
baz=86,SNR=11
Y24A **Capitan** 86.38 53 ⇑P P 11 07 45.9 -0.2
baz=86,SNR=28

BILL **Bilibino** 86.39 354 eP P 11 07 44.3 -1.0
comp=Z,33nm,0.7s,mb5.1
BILL **Bilibino** 86.39 354 dP P 11 07 44.5 -0.7
BILL eS SKSac 11 17 18.8 -1.5
BILL e 11 17 35.5
BILL eSS SS 11 23 39.4 +7.0
BILL pmax pmax
comp=Z,288nm,2.3s,mb5.5
BILL MLR MLR
comp=Z,100nm,19.0s
K17A **Gardner Place,** 86.39 43 ⇓P P 11 07 45.9 +0.1
baz=86,SNR=19
N18A **Larsen Ranch,** 86.39 45 ⇓P P 11 07 45.5 -0.4
baz=86,SNR=5.4
RRI2 **Red Ridge** 86.42 42 eP P 11 07 46.1 +0.2
comp=Z,76nm,0.9s,mb5.3
RRI2 epP pP 11 09 43.0 +0.7
Q20A **Ridgley Place,** 86.43 47 ⇓P P 11 07 46.0 -0.2
baz=86,SNR=16
O19A **Miners Draw (B** 86.46 46 ⇑P P 11 07 46.0 -0.2
baz=86,SNR=9.0
326A **Caldwell Ranch** 86.46 56 ⇓P P 11 07 46.4 0.0
baz=86
125A **Gardner Draw,** 86.47 54 ⇑P P 11 07 46.4 0.0
baz=86,SNR=7.6
GDL2 **Guadalupe Moun** 86.51 55 eP P 11 07 47.5 +0.8
comp=Z,17nm,1.0s,mb4.6
GDL2 epP pP 11 09 43.3 +0.2
USHA **Ushuaia** 86.52 147 P P 11 07 47.9 +1.6
comp=Z,78nm,1.0s,mb5.3,baz=226,slow=5.5,SNR=16
USHA **Ushuaia** 86.52 147 P P 11 07 47.9 +1.6
MSO **Missoula** 86.52 38 ⇑P P 11 07 45.4 -1.0
baz=87,SNR=11
MSO **Missoula** 86.52 38 eP P 11 07 45.8 -0.6
comp=Z,13nm,1.2s,mb4.5
MSO epP pP 11 09 43.5 +0.7
BSMT **Bassoo Peak** 86.55 37 eP P 11 07 45.7 -0.8
comp=Z,23nm,0.8s,mb4.9
G15A **Dillon** 86.57 40 ⇑P P 11 07 46.5 -0.1
baz=87,SNR=68
I16A **Newdale** 86.57 42 ⇑P P 11 07 47.0 +0.4
baz=87,SNR=45
V23A **Ortiz Mt. (NFS** 86.57 51 ⇓P P 11 07 47.6 +0.7
baz=87,SNR=22
E14A **Clinton** 86.58 39 ⇑P P 11 07 46.1 -0.6
baz=87,SNR=28
T22A **Edith** 86.58 49 ⇑P P 11 07 46.8 -0.1
baz=87,SNR=9.1
L18A **Fontenelle, Gr** 86.59 44 ⇓P P 11 07 46.4 -0.4
baz=87
C13A **Hot Springs** 86.59 37 ⇑P P 11 07 45.7 -1.0
baz=87,SNR=9.8
DLMT **Dillon** 86.60 40 eP P 11 07 46.5 -0.2
comp=Z,50nm,1.0s,mb5.1
DLMT epP pP 11 09 44.2 +1.0
P20A **De Beque** 86.61 47 ⇓P P 11 07 47.0 0.0
baz=87,SNR=14
628A **Black Gap, Mar** 86.62 58 ⇓P P 11 07 47.3 0.0
baz=87
DCID1 **Drake Creek** 86.62 42 eP P 11 07 47.8 +0.9
DCID1 epP pP 11 09 44.2 +0.9
A12A **Yaak River Ran** 86.63 36 ⇑P P 11 07 46.6 -0.2
baz=87,SNR=19
X24A **Lazy VL Ranch,** 86.64 52 ⇑P P 11 07 46.8 -0.5
baz=87
226A **Malaga, Loving** 86.66 55 ⇑P P 11 07 47.5 +0.1
baz=87,SNR=13
Z25A **Roswell** 86.67 54 ⇓P P 11 07 47.6 +0.2
baz=87,SNR=8.4
N19A **John Jarvie Ra** 86.69 45 ⇓P P 11 07 47.0 -0.3
baz=87
R21A **Cimarron** 86.70 48 ⇑P P 11 07 47.7 +0.3
baz=87,SNR=28
TPAW **Teton Pass** 86.72 42 eP P 11 07 48.0 +0.5
comp=Z,48nm,1.1s,mb5.0
TPAW epP pP 11 09 44.7 +0.8
REDW **Red Top Meadow** 86.73 42 eP P 11 07 47.5 0.0
comp=Z,64nm,1.1s,mb5.2
REDW epP pP 11 09 44.1 +0.2
427A **Hayter Ranch,** 86.74 56 ⇓P P 11 07 48.4 +0.6
baz=87,SNR=28
U23A **El Rito** 86.81 50 ⇓P P 11 07 48.1 +0.1
baz=87,SNR=26
J17A **Brown Place, J** 86.82 43 ⇓P P 11 07 48.0 +0.1
baz=87,SNR=44
SWMT **Swartz Lake** 86.83 38 eP P 11 07 46.8 -1.0
comp=Z,5.1nm,0.8s,mb4.2
SNOW **Snow King Moun** 86.84 42 eP P 11 07 48.7 +0.7
comp=Z,56nm,1.0s,mb5.2
SNOW epP pP 11 09 45.1 +0.6
327A **Balmorhea Ranc** 86.87 56 ⇓P P 11 07 48.3 0.0
baz=87
Q21A **Lamborn Mesa,** 86.89 48 ⇓P P 11 07 48.2 -0.1
baz=87,SNR=13
D14A **Greenough** 86.91 38 ⇑P P 11 07 47.3 -0.9
baz=87,SNR=25
LRM **Limekiln Ridge** 86.91 40 eP P 11 07 48.4 +0.2
comp=Z,208nm,1.0s,mb5.7
LRM epP pP 11 09 46.0 +1.3
K18A **Toltan Ranch,** 86.91 43 ⇑P P 11 07 48.3 -0.1
baz=87,SNR=51
NST **Nakhon Sawan** 86.92 287 ⇑P P 11 07 50.5 +1.6
comp=Z,108nm,1.2s,mb5.4
W24A **Lazy 6 Ranch,** 86.93 52 ⇑P P 11 07 48.1 -0.5
baz=87,SNR=12
Y25A **Mesa, Roswell** 86.95 53 ⇑P P 11 07 48.5 -0.2
baz=87,SNR=15
S22A **4UR Ranch, Cre** 86.95 49 ⇓P P 11 07 48.9 +0.3
baz=87,SNR=20
126A **Clayton Basin,** 86.95 54 ⇓P P 11 07 48.9 +0.1
baz=87,SNR=5.1
528A **Cox Ranch, San** 86.96 57 ⇓P P 11 07 49.6 +0.8
baz=87
CHMT **Chamberlain Mo** 86.97 39 eP P 11 07 47.6 -0.8
comp=Z,19nm,0.9s,mb4.7
CHMT epP pP 11 09 44.7 -0.3
MOOW **Moose Ponds** 86.98 42 eP P 11 07 48.7 +0.1
comp=Z,27nm,1.1s,mb4.8
MOOW epP pP 11 09 45.8 +0.6
M19A **Rock Springs** 86.98 45 ⇓P P 11 07 48.6 -0.1
baz=87,SNR=15
O20A **White River Ci** 86.99 46 ⇑P P 11 07 48.9 +0.1
baz=87,SNR=8.6
SLMT **Seeley Lake** 87.00 38 eP P 11 07 47.7 -0.8
comp=Z,36nm,1.4s,mb4.8
LOHW **Long Hollow** 87.00 42 eP P 11 07 48.6 -0.1
comp=Z,46nm,1.3s,mb4.9
LOHW epP pP 11 09 45.3 0.0
LOHW ePP PP 11 11 20.0 -2.1
B13A **Whitefish** 87.01 37 ⇑P P 11 07 47.8 -0.8
baz=87,SNR=11
G16A **Moss Hill, Enn** 87.02 40 ⇓P P 11 07 48.7 0.0
baz=87,SNR=24
DAWY **Dawson** 87.03 16 eP P 11 07 47.4 -1.0
QLMT **Earthquake Lak** 87.06 41 eP P 11 07 49.5 +0.6
comp=Z,7.0nm,0.9s,mb4.3
QLMT epP pP 11 09 49.1 +3.5
QLMT ePP PP 11 11 19.8 -2.7
E15A **Deer Lodge** 87.09 39 ⇑P P 11 07 48.5 -0.6
baz=87,SNR=19
C14A **Swan Lake** 87.11 38 ⇓P P 11 07 49.7 +0.6
baz=87
H16A **Russell Place,** 87.11 41 ⇓P P 11 07 49.7 +0.5
baz=87,SNR=79
L19A **Farson** 87.12 44 ⇑P P 11 07 49.3 0.0
baz=87,SNR=29
EGAK **Eagle** 87.16 15 eP P 11 07 48.2 -0.7
comp=Z,90nm,1.2s,mb5.3
EGAK epP pP 11 09 48.3 +2.7
FLWY **Flagg Ranch** 87.16 42 eP P 11 07 49.6 +0.2
comp=Z,66nm,1.0s,mb5.2
FLWY epP pP 11 09 46.8 +0.7
I17A **Pilgrim Ck.** 87.17 42 ⇓P P 11 07 50.2 +0.7
baz=87
J18A **Kendall Valley** 87.19 43 ⇑P P 11 07 49.5 -0.1
baz=87,SNR=138
R22A **Saguache, Gunn** 87.20 48 ⇓P P 11 07 50.2 +0.4
baz=87,SNR=18
X25A **Clemmons Ranch** 87.21 53 ⇑P P 11 07 49.6 -0.3
baz=87
T23A **Casias Ranch,** 87.22 50 ⇑P P 11 07 49.9 0.0
baz=87,SNR=5.4
CPRX **Cap Rock** 87.22 54 eP P 11 07 49.5 -0.5
comp=Z,11nm,0.7s,mb4.6
CPRX epP pP 11 09 46.5 -0.1
CPRX esP sP 11 10 39.9 -0.6
Z26A **Caprock** 87.23 54 ⇑P P 11 07 50.0 -0.1

baz=87,SNR=22
V24A **Rampart Ranch,** 87.24 51 ⇓P P 11 07 50.1 +0.1
baz=87
YFT **Old Faithful** 87.25 41 eP P 11 07 51.6 +1.8
comp=Z,72nm,1.2s,mb5.2
YFT epP pP 11 09 45.6 -1.0
428A **Kincaid Ranch,** 87.26 57 ⇓P P 11 07 50.1 -0.2
baz=87
HHC **Hu-ho-hao-te** 87.27 314 ⇓P P 11 07 51.4 +1.4
HHC pP pP 11 09 48.6 +1.9
HHC sP sP 11 10 42.3 +1.8
HHC PP PP 11 11 28.5 +4.3
HHC SKS 11 17 27.3
HHC S S 11 17 45.0 -0.5
HHC SS SS 11 23 51.5 +5.3
HHC pmax pmax
comp=Z,220nm,1.3s,mb5.6
HHC pmax pmax
comp=Z,1μm,7.1s
P21A **Newcastle** 87.27 47 ⇓P P 11 07 50.4 +0.3
baz=87,SNR=6.6
227A **Bennet, Jal** 87.27 55 ⇑P P 11 07 50.0 -0.3
baz=87
YMR **Madison River** 87.27 41 eP P 11 07 51.0 +1.0
comp=Z,74nm,1.0s,mb5.3
YMR epP pP 11 09 48.7 +2.1
PD01 **Pinedale Array** 87.28 43 eP P 11 07 49.0 -1.0
PD01 epP pP 11 09 46.5 -0.2
N20A **Spence Gulch,** 87.28 46 ⇓P P 11 07 50.0 -0.1
baz=87,SNR=12
BW06 **Boulder Array** 87.29 43 ⇓P P 11 07 49.5 -0.6
baz=87,SNR=35
PD02 **Pinedale Array** 87.29 43 eP P 11 07 49.4 -0.7
PD02 epP pP 11 09 46.2 -0.6
PDAR **Pinedale Array** 87.29 43 P P 11 07 49.5 -0.6
comp=Z,17nm,0.8s,mb4.7,baz=221,slow=2.9,SNR=103
PDAR pP pP 11 09 46.5 -0.2
comp=Z,4.3nm,1.0s,baz=250,slow=4.3,SNR=5.6
PDAR S SKSac 11 17 26.0 -0.8
comp=Z,0.2nm,0.3s,baz=302,slow=5.2,SNR=4.2
PDAR PKKPbc PKKPbc 11 25 38.4 -0.5
comp=Z,1.3nm,0.8s,baz=80,slow=4.6,SNR=9.0
PDAR PKPPKP 11 33 48.6
comp=Z,0.6nm,0.7s,baz=96,slow=1.5,SNR=4.9
PDAR **Pinedale Array** 87.29 43 P P 11 07 49.5 -0.6
PDAR pP pP 11 09 46.5 -0.2
PDAR S SKSac 11 17 26.0 -0.8
PDAR PKKPbc PKKPbc 11 25 38.4 -0.5
PDAR P'P' 11 33 48.6
A13A **Flathead Natio** 87.33 36 ⇓P P 11 07 49.8 -0.3
baz=87,SNR=18
BOZ **Bozeman (W)** 87.33 40 ⇓P P 11 07 50.3 +0.1
baz=87,SNR=5.9
COLD **Coldfoot** 87.36 11 eP P 11 07 49.0 -0.8
comp=Z,72nm,0.9s,mb5.3
COLD epP pP 11 09 48.5 +2.0
Q22A **Crested Butte,** 87.36 48 ⇓P P 11 07 50.9 +0.4
baz=87,SNR=13
H17A **Grant Village** 87.39 42 ⇓P P 11 07 51.9 +1.4
baz=88,SNR=15
F16A **Kennard Place,** 87.40 40 ⇑P P 11 07 50.4 -0.1
baz=88,SNR=20
328A **Wristen Ranch,** 87.41 56 ⇑P P 11 07 51.0 +0.1
baz=88,SNR=10.0
SMCO **Snowmass** 87.45 48 eP P 11 07 51.0 +0.1
comp=Z,20nm,1.1s,mb4.7
SMCO epP pP 11 09 48.7 +1.0
D15A **Lincoln** 87.47 39 ⇑P P 11 07 50.5 -0.3
baz=88,SNR=26
YNR **Norris Junctio** 87.47 41 eP P 11 07 50.9 0.0
comp=Z,42nm,1.3s,mb4.9
YNR epP pP 11 09 50.9 +3.3
127A **Arkansas Junct** 87.48 55 ⇓P P 11 07 50.9 -0.3
baz=88,SNR=8.9
U24A **Moreno Valley** 87.52 51 ⇑P P 11 07 51.3 0.0
baz=88
S23A **Nye Farm, Mont** 87.52 49 ⇓P P 11 07 51.6 +0.3
baz=88
I18A **Diamond G Ranc** 87.55 43 ⇑P P 11 07 51.5 +0.2
baz=88,SNR=17
O21A **Pagoda** 87.56 46 ⇑P P 11 07 51.1 -0.3
baz=88,SNR=5.7
Y26A **Elida** 87.61 53 ⇑P P 11 07 51.4 -0.4
baz=88,SNR=5.3
M20A **Sweetwater, Wa** 87.63 45 ⇑P P 11 07 52.0 +0.3
baz=88
W25A **X Bar L Ranch,** 87.64 52 ⇑P P 11 07 51.3 -0.6
baz=88,SNR=14
WALA **Waterton Lakes** 87.68 36 eP P 11 07 50.8 -0.9
comp=Z,1.0nm,0.9s
WALA epP pP 11 09 50.1 +1.6
B14A **Marquette Ranc** 87.69 37 ⇓P P 11 07 51.3 -0.5
baz=88,SNR=16
HRY **Holter Researc** 87.72 39 eP P 11 07 51.7 -0.3
comp=Z,14nm,0.8s,mb4.7
HRY epP pP 11 09 50.0 +1.2
G17A **Pierce Place,** 87.72 41 ⇑P P 11 07 52.6 +0.6
baz=88,SNR=12
E16A **East Helena** 87.73 39 ⇑P P 11 07 52.0 0.0
baz=88,SNR=17
L20A **Wamsutter** 87.75 45 ⇓P P 11 07 52.6 +0.3
baz=88,SNR=39
N21A **Black Mountain** 87.76 46 ⇑P P 11 07 52.7 +0.4
baz=88,SNR=17
V25A **Rancho No Teng** 87.77 51 ⇓P P 11 07 52.2 -0.3
baz=88,SNR=9.5
C15A **Salmond Ranch,** 87.78 38 ⇑P P 11 07 51.5 -0.7
baz=88,SNR=30
K19A **Absolon Red Bu** 87.78 44 ⇑P P 11 07 52.1 -0.3
baz=88
P22A **Eagle** 87.78 47 ⇑P P 11 07 52.3 -0.1
baz=88,SNR=7.8
Z27A **Tatum** 87.84 54 ⇓P P 11 07 52.4 -0.5
baz=88,SNR=9.5
KMI **Kunming** 87.84 297 P P 11 07 55.4 +2.3
KMI pP pP 11 09 50.8 +0.9
KMI sP sP 11 10 46.6 +2.9
KMI PP PP 11 11 28.4 -0.7
KMI SKS 11 17 33.3
KMI S S 11 17 52.3 +0.7
KMI sS sS 11 21 19.3 -0.5
KMI SS SS 11 23 52.8 -2.3
KMI pmax pmax
comp=Z,220nm,1.0s,mb5.8
KMI pmax pmax
comp=Z,890nm,3.1s
KMI **Kunming** 87.84 297 P P 11 07 55.4 +2.3
comp=Z,221nm,1.0s,mb5.8
KMI pP pP 11 09 50.8 +0.9
KMI sP sP 11 10 46.6 +2.9
KMI PP PP 11 11 28.4 -0.7
KMI SKS 11 17 33.2
KMI S S 11 17 52.3 +0.7
KMI sS sS 11 21 19.3 -0.5
KMI SS SS 11 23 52.7 -2.4
KMI SSS 11 27 28.3
KMI LR LR
comp=Z,260nm,21.7s
KMI **Kunming** 87.84 297 P P 11 07 55.4 +2.3
KMI *PP pP 11 09 50.8 +0.9
KMI *SP sP 11 10 46.6 +2.9
KMI 11 11 28.4
KMI 11 17 33.2
KMI S S 11 17 52.3 +0.7
KMI SS SS 11 23 52.7 -2.4
KMI SSS 11 27 28.3
KMI pmax pmax
comp=Z,221nm,1.0s,mb5.8
KMI MLR MLR
comp=Z,260nm,21.7s
J19A **Crowheart** 87.85 43 ⇓P P 11 07 52.6 -0.1
baz=88,SNR=26
R23A **Moffat** 87.85 49 ⇓P P 11 07 52.7 -0.1
baz=88,SNR=9.1
X26A **CR and CF Fran** 87.87 53 ⇓P P 11 07 53.6 +0.6
baz=88
A14A **Double T Ranch** 87.91 37 ⇓P P 11 07 52.5 -0.3
baz=88,SNR=38
T24A **Torres, Weston** 87.95 50 ⇓P P 11 07 53.2 -0.2
baz=88
K20A **Yellowstone Ra** 88.04 44 ⇑P P 11 07 53.1 -0.5
baz=88,SNR=28
D16A **Dana Ranch, Ca** 88.05 39 ⇑P P 11 07 53.4 -0.1
baz=88,SNR=10
F17A **Fitzpatrick Pl** 88.05 40 ⇑P P 11 07 54.1 +0.5
baz=88,SNR=19

S24A	Houchin Ranch,	88.07	49	⇓P		P	11 07 54.1	+0.3
	baz=88,SNR=8.6							
B15A	Bradely Ranch,	88.07	38	⇑P		P	11 07 52.6	-1.0
	baz=88,SNR=22							
H18A	Shoshone NF, C	88.10	42	⇓P		P	11 07 53.8	-0.1
	baz=88							
Y27A	Causey	88.10	54	⇓P		P	11 07 53.8	-0.3
	baz=88,SNR=14							
W26A	Owens Ranch, T	88.11	52	⇓P		P	11 07 53.7	-0.5
	baz=88							
CLNS	Chul'man	88.14	333	*e*P		P	11 07 53.9	+0.2
CLNS					pmax	pmax		
	comp=Z,164nm,1.3s,mb5.6							
CLNS					pmax	pmax		
	comp=E,52nm,1.3s							
CLNS					pmax	pmax		
	comp=N,83nm,1.3s							
Q23A	Hartsel	88.14	48	⇓P		P	11 07 54.6	+0.4
	baz=88							
U25A	Circle Dot Ran	88.15	51	⇓P		P	11 07 54.1	-0.2
	baz=88,SNR=12							
O22A	Kremmling	88.17	47	⇑P		P	11 07 54.2	-0.1
	baz=88,SNR=19							
E17A	Martinsdale	88.19	40	⇑P		P	11 07 54.2	0.0
	baz=88,SNR=8.2							
I19A	Meeteetse	88.23	42	⇑P		P	11 07 54.6	+0.1
	baz=88,SNR=20							
M21A	Separation Pea	88.23	45	⇓P		P	11 07 54.4	-0.1
	baz=88,SNR=12							
C16A	Fuhringer Ranc	88.30	38	⇓P		P	11 07 54.3	-0.4
	baz=88,SNR=18							
A15A	Johnson Ranch,	88.31	37	⇑P		P	11 07 54.1	-0.6
	baz=88,SNR=18							
P23A	Jefferson	88.34	48	⇑P		P	11 07 56.2	+1.1
	baz=88							
RWWY	Rawlins	88.37	45	*e*P		P	11 07 55.5	+0.4
	comp=N,61nm,1.4s,mb5.1							
RWWY				*e*pP		pP	11 09 52.6	+0.4
L21A	Rawlins	88.38	45	⇑P		P	11 07 54.9	-0.3
	baz=88,SNR=17							
R24A	Sanders Place,	88.39	49	⇓P		P	11 07 56.3	+1.0
	baz=88							
MSTX	Muleshoe	88.43	54	⇓P		P	11 07 55.3	-0.4
	baz=88,SNR=11							
X27A	F and S Farms,	88.44	53	⇓P		P	11 07 55.2	-0.5
	baz=88							
T25A	Trinidad	88.45	50	⇑P		P	11 07 55.4	-0.2
	baz=88,SNR=7.4							
BDT	Bhumibol Dam	88.46	289	P		P	11 07 58.0	+1.9
	comp=N,89nm,1.0s,mb5.5							
G18A	Lazy EL Ranch,	88.46	41	⇑P		P	11 07 55.7	+0.2
	baz=88,SNR=5.6							
N22A	Wattenberg Ran	88.51	46	⇑P		P	11 07 55.5	-0.3
	baz=89,SNR=25							
J20A	Shoshoni	88.52	43	⇓P		P	11 07 55.8	0.0
	baz=89,SNR=52							
H19A	Powell	88.53	42	⇓P		P	11 07 56.1	+0.3
	baz=89,SNR=26							
RLMT	Red Lodge	88.55	41	⇓P		P	11 07 56.4	+0.4
	baz=89							
GCMT	Greycliff	88.61	41	*e*P		P	11 07 57.0	+0.8
	comp=N,40nm,1.4s,mb5.0							
GCMT				*e*pP		pP	11 09 55.5	+2.3
B16A	M & M Farms, S	88.62	38	⇓P		P	11 07 55.3	-0.9
	baz=89,SNR=22							
CHRT	Chiangrai	88.62	291	P		P	11 07 57.0	+0.2
	comp=N,803nm,1.2s,mb6.4							
D17A	Six Diamond Ra	88.62	39	⇓P		P	11 07 56.3	+0.1
	baz=89,SNR=27							
O23A	Lake Granby, G	88.63	47	⇓P		P	11 07 56.7	+0.2
	baz=89,SNR=9.3							
F18A	Big Timber	88.63	41	⇑P		P	11 07 56.5	+0.2
	baz=89,SNR=15							
W27A	Bowe Ranch, En	88.63	53	⇑P		P	11 07 56.1	-0.4
	baz=89,SNR=5.5							
S25A	Robets Cordova	88.64	50	⇑P		P	11 07 56.4	-0.1
	baz=89,SNR=7.4							
U26A	Atchley Ranch,	88.64	51	⇑P		P	11 07 56.1	-0.4
	baz=89,SNR=8.9							
Q24A	Divide	88.66	48	⇓P		P	11 07 56.9	+0.3
	baz=89,SNR=7.7							
M22A	Cedar Creek Ra	88.67	46	⇑P		P	11 07 56.7	+0.2
	baz=89							
ISCO	Idaho Springs	88.67	47	⇓P		P	11 07 56.7	+0.1
	baz=89,SNR=7.7							
ISCO	Idaho Springs	88.67	47	*e*P		P	11 07 57.2	+0.6
	comp=N,4.9nm,0.9s,mb4.3							
ISCO				*e*pP		pP	11 09 56.9	+3.2
ISCO	Idaho Springs	88.67	47	*e*P		P	11 07 57.2	+0.6
ISCO				*e**PP		pP	11 09 56.9	+3.2
ISCO				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.3							
I20A	Worland	88.75	43	⇑P		P	11 07 56.9	0.0
	baz=89,SNR=24							
K21A	Alcova	88.75	44	⇑P		P	11 07 56.8	-0.2
	baz=89,SNR=24							
C17A	Wharram Farm,	88.80	39	⇓P		P	11 07 56.6	-0.4
	baz=89,SNR=23							
E18A	Harlowton	88.81	40	⇑P		P	11 07 57.5	+0.4
	baz=89,SNR=16							
N23A	Red Feather La	88.90	46	⇓P		P	11 07 57.8	+0.1
	baz=89,SNR=18							
CM31	Chiang Mai Arr	88.91	290	*e*P		P	11 07 59.9	+1.7
	comp=Z,153nm,0.9s,mb5.8							
CMAR	Chiang Mai Arr	88.91	290	P		P	11 07 59.2	+1.1
	comp=Z,123nm,0.9s,mb5.8,baz=110,slow=2.8,SNR=453							
CMAR				PP		PP	11 11 39.0	+1.5
	comp=Z,4.3nm,0.9s,baz=122,slow=6.6,SNR=5.0							
CMAR				PKiKP		PKiKP	11 12 55.6	+1.7
	comp=Z,1.7nm,0.6s,baz=235,slow=0.6,SNR=4.0							
CMAR				PKKPbc		PKKPbc	11 25 34.8	+0.9
	comp=Z,1.2nm,0.5s,baz=284,slow=5.0,SNR=5.3							
CMAR				SKKPbc			11 28 25.1	
	comp=Z,0.6nm,0.3s,baz=219,slow=2.4,SNR=4.5							
CMAR	Chiang Mai Arr	88.91	290	P		P	11 07 59.2	+1.1
CMAR				PP		PP	11 11 39.0	+1.5
CMAR				PKiKP		PKiKP	11 12 55.6	+1.7
CMAR				PKKPbc		PKKPbc	11 25 34.8	+0.9
CMAR				SKKPbc			11 28 25.1	
CMAR	Chiang Mai Arr	88.91	290	P		P	11 07 59.3	+1.1
CMAR							11 11 39.1	
J21A	Lysite	88.93	44	⇑P		P	11 07 57.6	-0.1
	baz=89,SNR=65							
A16A	West Butte Ran	88.94	37	⇓P		P	11 07 57.5	-0.2
	baz=89							
R25A	Fountain Ranch	88.94	49	⇑P		P	11 07 58.1	+0.2
	baz=89							
CHG	Chiang Mai	89.02	290	⇓P		P	11 07 59.8	+1.1
	comp=Z,33nm,0.8s,mb5.2							
CHTO	Chiang Mai	89.02	290	*e*P		P	11 07 59.4	+0.7
	comp=Z,148nm,0.8s,mb5.9							
CHTO				*e*PP		PP	11 11 39.8	+1.4
CHTO	Chiang Mai	89.02	290	*e*P		P	11 07 59.4	+0.7
CHTO				*e*			11 11 39.8	
CHTO				pmax		pmax		
	comp=Z,148nm,0.8s,mb5.9							
CHTO	Chiang Mai	89.02	290	P		P	11 07 59.6	+0.9
	comp=Z,3μmcomp=Z,280nm,1.0s,mb6.0							
CHTO	Chiang Mai	89.02	290	P		P	11 08 00.4	+1.7
	SNR=55							
L22A	Ellis Ranch, M	89.04	45	⇑P		P	11 07 58.8	+0.5
	baz=89,SNR=16							
H20A	Greybull	89.07	42	⇓P		P	11 07 57.9	-0.4
	baz=89,SNR=18							
CD2	Chengdu	89.08	303	*e*P		P	11 08 00.3	+1.6
CD2				pP		pP	11 09 59.6	+3.7
CD2				PP		PP	11 11 42.9	+4.2
CD2				SKS			11 17 38.0	
CD2				S		S	11 18 02.3	-0.4
CD2				sS		sS	11 21 28.8	-2.8
CD2				SS		SS	11 24 16.3	+3.7
CD2				pmax		pmax		
	comp=Z,130nm,1.2s,mb5.6							
CD2				pmax		pmax		
	comp=Z,1μm,4.2s							
F19A	Roth Farm, Mol	89.09	41	⇓P		P	11 07 58.3	-0.1
	baz=89,SNR=18							
B17A	L&G Farms, Che	89.09	38	⇓P		P	11 07 57.9	-0.5
	baz=89,SNR=13							
D18A	Linhart Farms,	89.17	39	⇑P		P	11 07 58.7	0.0
	baz=89,SNR=11							
O24A	Longmont	89.18	47	⇓P		P	11 07 59.5	+0.6
	baz=89,SNR=8.8							
SYO	Syowa Base	89.21	193	⇓*e*P		P	11 07 56.2	-2.4
SYO	Syowa Base	89.21	193	⇓*i*PcP		PcP	11 07 58.2	-1.4
I21A	Big Trails, Te	89.24	43	⇓P		P	11 07 58.7	-0.4
	baz=89,SNR=44							
K22A	Casper	89.25	45	⇓P		P	11 07 59.0	-0.2
	baz=89,SNR=9.8							
G20A	Bridger	89.26	42	⇓P		P	11 07 58.9	-0.3
	baz=89,SNR=5.4							
Q25A	Bedland, Calha	89.28	49	⇑P		P	11 07 59.4	0.0
	baz=89							
M23A	Laramie	89.29	46	⇓P		P	11 07 59.4	-0.1
	baz=89,SNR=25							
E19A	Rath Farm, Rou	89.46	40	⇓P		P	11 08 00.2	+0.1
	baz=90,SNR=15							
A17A	Triple J Farms	89.46	38	⇓P		P	11 07 59.8	-0.2
	baz=90,SNR=34							
JCT	Junction City	89.47	58	⇑P		P	11 08 00.4	-0.2
	baz=90							
JCT	Junction City	89.47	58	*e*P		P	11 07 59.9	-0.7
	comp=Z,11nm,0.8s,mb4.8							
JCT	Junction City	89.47	58	*e*P		P	11 07 59.9	-0.7
JCT				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.7							
YAK	Yakutsk	89.55	338	*e*P		P	11 07 58.4	-1.8
	comp=Z,196nm,1.3s,mb5.8							
YAK	Yakutsk	89.55	338	*d i*P		P	11 07 58.8	-1.3
YAK				*e*			11 17 36.2	
YAK				pmax		pmax		
	comp=Z,47nm,1.1s,mb5.2							
YAK				pmax		pmax		
	comp=E,14nm,1.2s							
YAK				pmax		pmax		
	comp=N,6.0nm,1.0s							
F20A	Billings	89.56	41	⇑P		P	11 08 00.9	+0.3
	baz=90							
L23A	Garrett	89.57	45	⇑P		P	11 08 00.5	-0.3
	baz=90,SNR=25							
P25A	Willow Gulch B	89.57	48	⇓P		P	11 08 01.6	+0.8
	baz=90							
EGMT	Eagleton	89.59	39	⇑P		P	11 08 00.4	-0.2
	baz=90,SNR=7.8							
EGMT	Eagleton	89.59	39	*e*P		P	11 08 00.4	-0.3
	comp=N,54nm,1.6s,mb5.1							
J22A	Midwest	89.60	44	⇓P		P	11 08 00.4	-0.4
	baz=90,SNR=28							
N24A	Carr	89.60	47	⇑P		P	11 08 01.1	+0.1
	baz=90,SNR=18							
R26A	Arlington	89.61	49	⇑P		P	11 08 01.3	+0.2
	baz=90,SNR=8.5							
AMTX	Amarillo	89.61	53	P		P	11 08 00.6	-0.5
	baz=90							
D19A	Cripps Ranch,	89.72	40	⇑P		P	11 08 01.4	+0.1
	baz=90,SNR=28							
B18A	Beardsley Farm	89.74	38	⇑P		P	11 08 01.1	-0.2
	baz=90,SNR=18							
H21A	Big Horn, Sher	89.75	43	⇑P		P	11 08 01.2	-0.3
	baz=90,SNR=15							
I22A	9 Mile Ranch,	89.80	43	⇑P		P	11 08 01.5	-0.2
	baz=90,SNR=23							
O25A	Wiggins	89.85	48	⇑P		P	11 08 02.0	-0.1
	baz=90,SNR=6.0							
C19A	Slack Wire Ran	89.88	39	⇑P		P	11 08 02.0	0.0
	baz=90,SNR=27							
E20A	Meyer Farm, Mu	89.88	41	⇓P		P	11 08 02.2	+0.2
	baz=90,SNR=9.9							
K23A	Bowen Ranch, D	89.89	45	⇓P		P	11 08 02.0	-0.2
	baz=90,SNR=6.9							
M24A	Cheyenne	89.90	46	⇓P		P	11 08 02.5	+0.2
	baz=90,SNR=5.2							
G21A	Lodge Grass	89.90	42	⇑P		P	11 08 02.4	+0.2
	baz=90							
A18A	Metzger Ranch,	89.95	38	⇓P		P	11 08 01.6	-0.7
	baz=90,SNR=31							
L24A	Wheatland	90.06	46	⇓P		P	11 08 03.1	+0.1
	baz=90,SNR=6.5							
D20A	Manuel Ranch,	90.14	40	⇓P		P	11 08 03.3	0.0
	baz=90,SNR=22							
H22A	Clearmont	90.18	43	⇓P		P	11 08 03.9	+0.4
	baz=90							
J23A	Dilts Ranch, B	90.21	44	⇓P		P	11 08 04.1	+0.4
	baz=90							
F21A	Absaloka Mine,	90.22	41	⇓P		P	11 08 04.0	+0.3
	baz=90,SNR=10							
B19A	Brinkman Farms	90.27	39	⇓P		P	11 08 03.7	-0.1
	baz=90,SNR=36							
K24A	Anderson Ranch	90.42	45	⇑P		P	11 08 04.5	-0.1
	baz=90,SNR=6.0							
M25A	Palm-Egli Farm	90.42	46	⇓P		P	11 08 04.9	+0.2
	baz=90,SNR=11							
O26A	Horse Wrangler	90.47	48	⇓P		P	11 08 04.8	-0.1
	baz=90,SNR=8.9							
G22A	Birney	90.48	42	⇓P		P	11 08 04.7	-0.2
	baz=91,SNR=11							
C20A	Veseth Ranch,	90.50	39	⇓P		P	11 08 05.0	+0.1
	baz=91,SNR=45							
E21A	Keefer Ranch,	90.56	41	⇑P		P	11 08 05.4	+0.2
	baz=91,SNR=12							
SNAA	Sanae	90.64	179	*e*		P	11 08 04.8	-0.4
SNAA				*e*			11 17 46.4	
SNAA				*e*			11 25 27.2	
SNAA	Sanae	90.64	179	P		P	11 08 05.5	+0.2
	comp=N,12nm,1.0s,mb4.8,baz=199,slow=5.2,SNR=64							
SNAA				PP		PP	11 11 51.6	+2.5
	comp=N,4.4nm,1.1s,baz=166,slow=3.4,SNR=5.1							
SNAA				PKKP		PKKPbc	11 25 26.5	-4.9
	comp=N,0.8nm,0.8s,baz=172,slow=3.2,SNR=8.2							
SNAA	Sanae	90.64	179	P		P	11 08 05.5	+0.2
	comp=N,1.3nm,1.0s,mb3.8							
SNAA				*e*PP		PP	11 11 50.4	+1.3
SNAA				PP		PP	11 11 51.6	+2.5
SNAA				PKKP		PKKPbc	11 25 26.5	-4.9
SNAA	Sanae	90.64	179	P		P	11 08 05.5	+0.3
SNAA							11 11 51.6	
SNAA				pmax		pmax		
	comp=Z,1.0nm,1.0s							
F22A	Rosebud	90.75	42	⇑P		P	11 08 06.2	+0.1
	baz=91							
L25A	Engebretsen Ra	90.77	46	⇓P		P	11 08 06.5	+0.2
	baz=91,SNR=5.5							
J24A	Dixon Ranch, L	90.77	44	⇑P		P	11 08 06.1	-0.1
	baz=91,SNR=5.6							
B20A	Solberg Farm,	90.81	39	⇓P		P	11 08 06.2	-0.1
	baz=91,SNR=21							
D21A	La Casta Ranch	90.83	40	⇓P		P	11 08 06.9	+0.5
	baz=91,SNR=28							
LZH	Lanzhou	90.89	308	⇓P		P	11 08 08.9	+1.9
LZH				pP		pP	11 10 08.6	+4.2
LZH				PP		PP	11 11 50.9	-1.9
LZH				SKS			11 17 47.3	
LZH				S		S	11 18 18.3	-0.5
LZH				pmax		pmax		
	comp=Z,250nm,1.0s,mb6.1							
LZH				pmax		pmax		
	comp=Z,1μm,4.1s							
LZH	Lanzhou	90.89	308	⇓P		P	11 08 08.9	+1.9
	comp=Z,248nm,1.0s,mb6.1							
LZH				pP		pP	11 10 08.6	+4.2
LZH				sP		sP	11 11 02.3	+4.3
LZH				PP		PP	11 11 50.9	-1.9
LZH				SKS			11 17 47.3	
LZH				S		S	11 18 18.2	-0.6
LZH				sS		sS	11 21 36.0	-13
LZH				SS		SS	11 24 33.5	-4.9
LZH	Lanzhou	90.89	308	⇓P		P	11 08 08.9	+1.9
LZH				*PP		pP	11 10 08.6	+4.2
LZH				*SP		sP	11 11 02.3	+4.3
LZH							11 11 50.9	
LZH							11 17 47.3	
LZH				S		S	11 18 18.2	-0.6
LZH				SS		SS	11 24 33.5	-4.9
LZH				pmax		pmax		
	comp=Z,248nm,1.0s,mb6.1							
I24A	Kuemmerle Ranc	91.01	44	⇓P		P	11 08 07.4	+0.1
	baz=91							
K25A	Mack Ranch, Ha	91.01	45	⇓P		P	11 08 07.8	+0.3
	baz=91							
G23A	Biddle	91.06	43	⇓P		P	11 08 07.3	-0.2
	baz=91,SNR=15							
A20A	Cobblestone Ra	91.06	38	⇓P		P	11 08 07.2	-0.3
	baz=91,SNR=40							
C21A	Desert Coulee	91.10	40	⇑P		P	11 08 07.4	-0.2
	baz=91,SNR=21							
CIT	Chita	91.14	325	*e*P		P	11 08 08.5	+0.7
CIT				pmax		pmax		
	comp=Z,374nm,1.8s,mb6.0							
LAO	LASA Array	91.15	41	⇑P		P	11 08 08.2	+0.3
	baz=91,SNR=32							
LAO	LASA Array	91.15	41	*e*P		P	11 08 08.2	+0.2
	comp=Z,70nm,0.9s,mb5.6							
LAO				*e*pP		pP	11 10 06.3	+0.9
LAO				*e*PP		PP	11 11 52.2	-2.4
E22A	Miles City	91.22	41	⇓P		P	11 08 08.0	-0.2
	baz=91,SNR=15							
F23A	Volborg	91.26	42	⇑P		P	11 08 08.2	-0.3
	baz=91,SNR=24							
NVL	N'lazarevskaya	91.32	183	⇓*i*P		P	11 08 13.0	+4.6
NVL				*e*S		SKSac	11 17 52.3	+2.9
NVL				pmax		pmax		
	comp=Z,38nm,0.9s,mb5.3							
L26A	Underwood Farm	91.33	46	⇑P		P	11 08 09.2	+0.4
	baz=91							
PLCA	Paso Flores	91.34	134	P		P	11 08 10.9	+1.8
	comp=Z,30nm,0.9s,mb5.2,baz=269,slow=3.9,SNR=4.5							
PLCA				pP		pP	11 10 08.6	+2.1
	comp=Z,12nm,1.2s,baz=229,slow=3.6,SNR=5.0							
PLCA				PP		PP	11 11 57.1	+1.6
	comp=Z,4.6nm,1.1s,baz=237,slow=6.9,SNR=3.5							
PLCA				PKKPbc		PKKPbc	11 25 28.2	-0.4
	comp=Z,8.0nm,1.0s,baz=55,slow=3.0,SNR=12							
PLCA	Paso Flores	91.34	134	P		P	11 08 10.9	+1.8
PLCA				pP		pP	11 10 08.6	+2.1
PLCA				PP		PP	11 11 57.1	+1.6
PLCA				PKKPbc		PKKPbc	11 25 28.2	-0.4
PLCA	Paso Flores	91.34	134	P		P	11 08 10.9	+1.8
PLCA				*PP		pP	11 10 08.6	+2.1
PLCA							11 11 57.1	
D22A	Cohagen	91.37	41	⇓P		P	11 08 09.0	+0.1
	baz=92,SNR=25							
B21A	Ellsworth Farm	91.41	39	⇑P		P	11 08 09.2	+0.1
	baz=92,SNR=12							
H24A	Dirks Ranch, A	91.42	43	⇓P		P	11 08 08.7	-0.5
	baz=92,SNR=35							
RSSD	Black Hills	91.50	44	*e*P		P	11 08 08.8	-0.8
	comp=Z,25nm,0.9s,mb5.2							
RSSD				*e*pP		pP	11 10 12.7	+5.6
RSSD	Black Hills	91.50	44	*e*P		P	11 08 08.8	-0.8
RSSD				pmax		pmax		
	comp=Z,25nm,0.9s,mb5.2							
K26A	Motz Farm, Whi	91.52	45	⇑P		P	11 08 09.8	+0.1
	baz=92,SNR=21							
OGNE	Ogallala	91.64	47	⇓P		P	11 08 09.9	-0.4
	baz=92							
E23A	Ismay	91.64	41	⇑P		P	11 08 10.2	0.0
	baz=92,SNR=12							
A21A	Bergtoll Ranch	91.70	39	⇓P		P	11 08 10.1	-0.3
	baz=92,SNR=12							
G24A	Alzada	91.74	43	⇑P		P	11 08 10.2	-0.4
	baz=92,SNR=6.0							
C22A	Vida	91.80	40	⇓P		P	11 08 10.6	-0.3
	baz=92,SNR=11							
INK	Inuvik	91.83	15	*e*P		P	11 08 08.8	-1.8
	comp=Z,76nm,1.0s,mb5.7							
INK	Inuvik	91.83	15	*e*P		P	11 08 08.8	-1.8
INK				pmax		pmax		
	comp=Z,77nm,1.0s							
L27A	T5 Ranch, Ells	91.87	46	⇓P		P	11 08 11.6	+0.2
	baz=92							
F24A	Ekalaka	91.93	42	⇑P		P	11 08 11.3	-0.3
	baz=92,SNR=20							
B22A	Reddig Ranch S	91.97	40	⇑P		P	11 08 11.5	-0.1
	baz=92,SNR=23							
D23A	Lindsay	91.98	41	⇓P		P	11 08 12.1	+0.3
	baz=92							
K27A	Flueckinger Fa	92.16	46	⇓P		P	11 08 12.5	-0.1
	baz=92,SNR=15							
C23A	Lambert	92.26	40	⇑P		P	11 08 12.9	-0.1
	baz=92,SNR=38							
E24A	Baker	92.30	42	⇑P		P	11 08 13.2	0.0
	baz=92							
A22A	Carney Farms,	92.31	39	⇑P		P	11 08 13.0	-0.2
	baz=92,SNR=9.9							
D24A	Glendive	92.51	41	⇓P		P	11 08 14.4	+0.2
	baz=93,SNR=25							
HKT	Hockley	92.52	59	*e*P		P	11 08 15.4	+0.7
	comp=Z,5.8nm,1.1s,mb4.5							
HKT				*e*pP		pP	11 10 12.1	-0.1
HKT	Hockley	92.52	59	*e*P		P	11 08 15.4	+0.7
HKT				*e**PP		pP	11 10 12.1	-0.1
HKT				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.5							
C24A	Savage	92.62	41	⇑P		P	11 08 14.8	+0.1
	baz=93,SNR=6.0							
B23A	Brockton	92.64	40	⇑P		P	11 08 14.6	-0.2
	baz=93,SNR=29							
A23A	Redstone	92.91	39	⇓P		P	11 08 16.1	+0.1
	baz=93							
DGMT	Dagmar	93.13	40	⇓P		P	11 08 17.0	0.0
	baz=93,SNR=25							
DGMT	Dagmar	93.13	40	*e*P		P	11 08 16.6	-0.3
	comp=Z,91nm,0.9s,mb5.8							
DGMT				*e*pP		pP	11 10 15.5	+0.9
ULN	Ulaanbaatar	93.14	319	*e*P		P	11 08 17.2	+0.1
	comp=Z,94nm,1.0s,mb5.8							
ULN	Ulaanbaatar	93.14	319	*e*P		P	11 08 17.2	+0.1
ULN				pmax		pmax		
	comp=Z,94nm,1.0s,mb5.8							
ULN	Ulaanbaatar	93.14	319	P		P	11 08 16.9	-0.2
ULN	Ulaanbaatar	93.14	319	P		P	11 08 17.3	+0.2
	SNR=38							
A24A	Westby	93.43	40	⇓P		P	11 08 18.0	-0.4
	baz=94,SNR=6.8							
EFI	East Falkland	93.48	147	*e*P		P	11 08 19.5	+0.8
	comp=Z,72nm,1.1s,mb5.6							
EFI	East Falkland	93.48	147	*e*P		P	11 08 19.5	+0.8
EFI				pmax		pmax		
	comp=Z,72nm,1.1s,mb5.6							
SONM	Songino Array	93.54	319	P		P	11 08 18.7	-0.2
	comp=Z,21nm,0.9s,mb5.3,baz=139,slow=4.9,SNR=124							
SONM				PP		PP	11 12 07.5	-5.5
	comp=Z,3.7nm,1.1s,baz=144,slow=8.2,SNR=4.2							
SONM				S		SKSac	11 18 01.8	-0.2
	comp=Z,1.0nm,0.9s,baz=0.0,slow=0.0,SNR=6.2							
SONM				PKKP		PKKPbc	11 25 21.6	-1.7
	comp=Z,0.5nm,0.6s,baz=269,slow=3.5,SNR=3.7							
SONM				SKKPbc			11 28 13.0	
	comp=Z,1.6nm,1.2s,baz=186,slow=1.5,SNR=4.2							
SONM	Songino Array	93.54	319	P		P	11 08 18.7	-0.2
SON

comp=Z,4.2nm,0.7s,mb4.8
ECSD *e*pP pP 11 10 29.4 -0.3
ZAK Zakamensk 96.38 321 ‖ *i* P **P 11 08 31.1 -0.5**
ZAK pmax pmax
comp=Z,17nm,1.2s,mb5.2
TLY Talaya 96.61 322 *e*P **P 11 08 32.4 -0.3**
comp=Z,7.9nm,0.9s,mb4.9
TLY Talaya 96.61 322 *e*P **P 11 08 31.4 -1.3**
TLY *e* 11 12 40.4
TLY *e*S S 11 19 03.6 -3.9
TLY *e*PPS 11 20 27.5
TLY pmax pmax
comp=Z,16nm,1.1s,mb5.2
CFAA Coronel Fontan 96.93 126 P **P 11 08 35.3 +0.6**
comp=Z,1.2nm,0.8s,mb4.2,baz=238,slow=5.6,SNR=15
CFAA pP pP 11 10 33.5 +0.9
comp=Z,1.0nm,0.9s,baz=244,slow=4.0,SNR=3.6
CFAA Coronel Fontan 96.93 126 P **P 11 08 35.3 +0.6**
CFAA pP pP 11 10 33.5 +0.9
SHL Shillong 97.30 294 *e*PKP **P 11 08 36.5 +0.1**
SHL *e*S SKSac 11 18 22.5 -0.1
ULM Lac du Bonnet 98.85 40 P Pdif 11 08 41.4 -1.4
comp=Z,1.7nm,0.5s,baz=241,slow=8.2,SNR=3.7
ULM Lac du Bonnet 98.85 40 P Pdif 11 08 41.4 -1.4
ULM Lac du Bonnet 98.85 40 P Pdif 11 08 41.4 -1.4
LSA Lhasa 99.05 298 P Pdif 11 08 45.6 +1.9
LSA Lhasa 99.05 298 *e*Pdif Pdif 11 08 45.8 +2.1
comp=Z,8.4nm,0.7s
LSA Lhasa 99.05 298 *e*P Pdif 11 08 45.8 +2.1
LSA pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
SPMN St. Paul 99.42 46 ⇑P Pdif 11 08 44.6 -0.8
baz=100
TAPN Taplejung 101.38 295 *e*P Pdif 11 08 54.1 0.0
comp=Z,29nm,1.0s
TAPN Taplejung 101.38 295 *e*P PP 11 13 06.0 -6.7
comp=Z,111nm,1.3s
TAPN Taplejung 101.38 295 *e*P Pdif 11 08 54.1 0.0
comp=Z,29nm,1.0s
ODAN Odare 101.53 295 *e*P Pdif 11 08 54.6 -0.2
comp=Z,39nm,0.7s
ODAN Odare 101.53 295 *e*P PP 11 13 06.0 -7.9
comp=Z,216nm,1.4s
ODAN Odare 101.53 295 *e*P Pdif 11 08 54.6 -0.2
comp=Z,39nm,0.7s
RAMN Ramite 102.24 295 *e*P Pdif 11 08 58.5 +0.6
comp=Z,19nm,0.9s
RAMN Ramite 102.24 295 *e*P PKiKP 11 13 12.0 -5.1
comp=Z,296nm,1.4s
RAMN Ramite 102.24 295 *e*P Pdif 11 08 58.5 +0.6
comp=Z,19nm,0.9s
JIRN Jiri 102.76 295 *e*P Pdif 11 09 00.5 +0.3
comp=Z,15nm,0.7s
JIRN Jiri 102.76 295 *e*P PKiKP 11 13 14.9 -3.1
comp=Z,54nm,0.6s
JIRN Jiri 102.76 295 *e*P Pdif 11 09 00.5 +0.3
comp=Z,15nm,0.7s
GUN Gumba 103.09 295 *e*P Pdif 11 09 01.7 0.0
comp=Z,25nm,0.8s
GUN Gumba 103.09 295 *e*P PKiKP 11 13 16.7 -1.9
comp=Z,567nm,2.0s
GUN Gumba 103.09 295 *e*P Pdif 11 09 01.7 0.0
comp=Z,25nm,0.8s
LPAZ La Paz 103.38 112 Pdiff Pdif 11 09 07.0 +4.0
comp=Z,1.7nm,0.9s,baz=210,slow=2.3,SNR=4.9
LPAZ PKKPbc PKKPbc 11 24 56.3 +1.0
comp=Z,6.5nm,0.7s,baz=65,slow=1.6,SNR=20
LPAZ La Paz 103.38 112 Pdif Pdif 11 09 07.0 +4.1
LPAZ PKKPbc PKKPbc 11 24 56.3 +1.0
LPAZ La Paz 103.38 112 P Pdif 11 09 07.0 +4.0
PKI Pulchoki 103.42 295 *e*P Pdif 11 09 03.8 +0.7
comp=Z,20nm,0.8s
PKI Pulchoki 103.42 295 *e*P PKiKP 11 13 18.6 -0.6
comp=Z,258nm,1.8s
PKI Pulchoki 103.42 295 *e*P Pdif 11 09 03.8 +0.7
comp=Z,20nm,0.8s
PKI Pulchoki 103.42 295 *e*P Pdif 11 09 03.8 +0.7
PKI pmax pmax
comp=Z,20nm,0.8s
KKN Kakani 103.58 295 *e*P Pdif 11 09 04.4 +0.6
comp=Z,18nm,0.8s
KKN Kakani 103.58 295 *e*P PKiKP 11 13 19.7 +0.2
comp=Z,260nm,1.7s
KKN Kakani 103.58 295 *e*P Pdif 11 09 04.4 +0.6
comp=Z,18nm,0.8s
KKN Kakani 103.58 295 *e*P Pdif 11 09 04.4 +0.6
KKN pmax pmax
comp=Z,18nm,0.8s
DMN Daman 103.69 295 *e*P Pdif 11 09 05.1 +0.8
comp=Z,23nm,0.6s
DMN Daman 103.69 295 *e*P PKiKP 11 13 20.1 +0.4
comp=Z,262nm,1.6s
DMN Daman 103.69 295 *e*P Pdif 11 09 05.1 +0.8
comp=Z,23nm,0.6s
GKN Gorkha 104.18 295 *e*P Pdif 11 09 06.8 +0.3
comp=Z,11nm,0.5s
GKN Gorkha 104.18 295 *e*P Pdif 11 09 06.8 +0.3
comp=Z,11nm,0.5s
WMQ Urumqi 104.93 312 Pdif Pdif 11 09 10.3 +0.4
WMQ PP PP 11 13 42.1 +3.7
WMQ S Sdif 11 20 14.8 -2.6
WMQ AMB AMB
comp=Z,280nm,4.0s
DANN Dangsing 105.01 295 *e*P Pdif 11 09 10.5 +0.3
comp=Z,16nm,0.7s
DANN Dangsing 105.01 295 *e*P Pdif 11 09 10.5 +0.3
comp=Z,16nm,0.7s
KOLN Koldanda 105.02 295 *e*P Pdif 11 09 10.7 +0.4
comp=Z,12nm,0.7s
KOLN Koldanda 105.02 295 *e*P Pdif 11 09 10.7 +0.4
comp=Z,12nm,0.7s
RES Resolute Bay 105.37 16 *e*Pdif Pdif 11 09 10.5 -1.3
RES Resolute Bay 105.37 16 *e*P Pdif 11 09 10.5 -1.3
CPUP Villa Florida 107.83 126 PKKPab PKKPab 11 24 56.7 -2.7
comp=Z,8.5nm,1.0s,baz=47,slow=5.7,SNR=7.3
CPUP Villa Florida 107.83 126 PKKPab PKKPab 11 24 56.7 -2.7
ZAA0 Zalesovo Array 108.22 322 *e*PKPdf PKiKP 11 13 26.4 -0.9
ZALV Zalesovo Beam 108.22 322 Pdiff Pdif 11 09 22.8 -1.7
comp=Z,3.3nm,0.8s,baz=105,slow=5.2,SNR=14
ZALV PKiKP PKiKP 11 13 26.5 -0.8
comp=Z,11nm,0.7s,baz=150,slow=1.5,SNR=31
ZALV PP PP 11 14 04.5 +2.7
comp=Z,8.5nm,1.0s,baz=91,slow=6.1,SNR=7.3
ZALV PKKPbc PKKPbc 11 24 40.2 -1.4
comp=Z,1.6nm,0.7s,baz=243,slow=2.7,SNR=5.6
ZALV PKKPab PKKPab 11 24 56.4 +1.5
comp=Z,0.5nm,0.3s,baz=262,slow=5.7,SNR=3.7
ZALV Zalesovo Beam 108.22 322 Pdif Pdif 11 09 22.8 -1.7
ZALV PKiKP PKiKP 11 13 26.5 -0.8
ZALV PP PP 11 14 04.5 +2.7
ZALV PKKPbc PKKPbc 11 24 40.2 -1.4
ZALV PKKPab PKKPab 11 24 56.4 +1.5
ZALV Zalesovo Beam 108.22 322 P Pdif 11 09 22.8 -1.7
ZALV 11 14 04.6
MK31 Makanchi Array 109.13 314 *e*PKPdf PKiKP 11 13 27.9 -1.3
MKAR Makanchi Array 109.13 314 Pdiff Pdif 11 09 28.7 +0.1
comp=Z,3.5nm,0.9s,baz=77,slow=5.5,SNR=17
MKAR PKiKP PKiKP 11 13 28.1 -1.2
comp=Z,12nm,0.7s,baz=100,slow=6.3,SNR=6.0
MKAR PP PP 11 14 06.5 -2.1
comp=Z,8.3nm,0.9s,baz=81,slow=7.5,SNR=5.8
MKAR SKiKP 11 16 15.8
comp=Z,2.5nm,0.9s,baz=76,slow=5.1,SNR=3.5
MKAR PKKPbc PKKPbc 11 24 38.0 -0.6
comp=Z,3.5nm,0.8s,baz=274,slow=4.4,SNR=15
MKAR PKKPab PKKPab 11 24 51.9 +0.9
comp=Z,1.5nm,0.8s,baz=298,slow=2.6,SNR=5.6
MKAR SKKPbc 11 27 32.6
comp=Z,0.4nm,0.6s,baz=297,slow=3.8,SNR=4.0
MKAR Makanchi Array 109.13 314 Pdif Pdif 11 09 28.7 +0.1
MKAR PKiKP PKiKP 11 13 28.1 -1.2
MKAR PP PP 11 14 06.5 -2.1
MKAR *e* 11 16 15.8
MKAR PKKPbc PKKPbc 11 24 38.0 -0.6
MKAR PKKPab PKKPab 11 24 51.9 +1.0
MKAR SKKPbc 11 27 32.6
MKAR Makanchi Array 109.13 314 P Pdif 11 09 28.7 +0.2
MKAR 11 14 06.5
BHPL Bhopal 109.55 289 *e*x x 11 13 30.3
MNGI Mangalore 109.66 278 *e*PKP Pdif 11 09 31.0 +0.2
AGRA Agra 109.84 293 *e*x x 11 13 30.0
AGRA AMS AMS 11 21 03.7
comp=E,585nm,20.2s
AGRA AMS AMS 11 21 50.3
comp=Z,607nm,16.8s
NDI New Delhi 110.72 295 *e*PKP PKiKP 11 13 30.3 -2.6

KAD Karad 111.28 282 *e*PKP PKiKP 11 13 33.0 -1.1
RTK Rohtak 111.48 295 *e*PKP PKiKP 11 13 33.4 -0.8
RTK AMS AMS 11 20 52.7
comp=Z,462nm,19.7s
KURK Kurchatov 111.82 318 Pdiff Pdif 11 09 41.1 +0.7
comp=Z,0.5nm,0.3s,baz=95,slow=4.0,SNR=4.1
KURK Kurchatov 111.82 318 Pdif Pdif 11 09 41.1 +0.7
KURK *e*PKPdf PKiKP 11 13 33.5 -0.7
KURK Kurchatov 111.82 318 P Pdif 11 09 41.2 +0.7
KURK *e* 11 13 33.5
KURK Kurchatov 111.82 318 P PKiKP 11 13 33.6 -0.6
SNR=8.0
POO Poona 111.86 283 *e*PKP PKiKP 11 13 34.6 -0.6
MIV Mineville/With 112.77 49 *e*Pdif Pdif 11 09 46.9 +2.1
ULHL Ulahol 113.07 309 P PKiKP 11 13 36.7 -0.2
SNR=18
ULHL P 11 13 36.7
SNR=18
KSH Kashi 113.08 306 PKP PKiKP 11 13 38.0 +1.0
KSH PKS 11 17 13.3
KSH SKS SKSdf 11 19 58.8 +0.1
KSH SKKS SKKSac 11 20 44.5 +1.7
KSH AMB AMB
comp=Z,280nm,6.6s
TKM2 Tokmak 2 113.58 310 P PKiKP 11 13 37.1 -0.7
SNR=34
TKM2 P 11 13 37.1
SNR=34
TKM2 Tokmak 2 113.58 310 *e*PKPdf PKiKP 11 13 37.1 -0.8
TKM2 Tokmak 2 113.58 310 *e*PKIKP PKiKP 11 13 37.1 -0.7
KZA Kyzart 113.80 309 P PKiKP 11 13 39.0 +0.7
SNR=11
KZA P 11 13 39.0
SNR=11
KBK Karagaybulak 114.05 309 P PKiKP 11 13 38.8 0.0
SNR=14
KBK P 11 13 38.8
SNR=14
CHMS Chumysh 114.21 310 P PKiKP 11 13 38.2 -0.8
SNR=18
CHMS P 11 13 38.2
SNR=18
FRU Bishkek 114.30 309 *e*PKIKP PKiKP 11 13 38.0 -1.2
FRU pmax pmax
comp=Z,60nm,1.2s
UCH Uchtor 114.35 309 P PKiKP 11 13 40.1 +0.8
SNR=5.5
UCH P 11 13 40.1
SNR=5.5
AAK Ala-Archa 114.38 309 P PKiKP 11 13 39.4 0.0
SNR=9.0
AAK P 11 13 39.4
SNR=9.0
AAK Ala-Archa 114.38 309 *e*PKPdf PKiKP 11 13 39.0 -0.3
AAK Ala-Archa 114.38 309 *d* *i*PKIKP PKiKP 11 13 39.1 -0.3
AAK Ala-Archa 114.38 309 PKP PKiKP 11 13 39.0 -0.4
AAK Ala-Archa 114.38 309 P PKiKP 11 13 39.6 +0.2
SNR=6.4
USP Ospenovka 114.40 310 P PKiKP 11 13 38.9 -0.5
SNR=23
USP P 11 13 38.9
SNR=23
EKS2 Erkin-Say 114.91 309 P PKPdf 11 13 40.5 +0.1
SNR=22
EKS2 P 11 13 40.5
SNR=22
EKS2 Erkin-Say 114.91 309 *e*PKPdf PKPdf 11 13 40.3 -0.1
EKS2 *e*PP PP 11 14 48.1 -1.2
EKS2 *e*SKPdf SKPdf 11 16 28.0 +2.5
EKS2 Erkin-Say 114.91 309 *e*PKIKP PKPdf 11 13 40.3 -0.1
EKS2 *e* 11 14 48.1
AML Almayashu 114.96 309 P PKPdf 11 13 41.0 +0.5
SNR=36
AML P 11 13 41.0
SNR=36
SJG San Juan 115.89 78 PKKPab PKKPab 11 24 24.9 +2.9
comp=Z,16nm,0.9s,baz=277,slow=20,SNR=3.0
SJG San Juan 115.89 78 PKKPab PKKPab 11 24 24.9 +2.9
BVA0 Borovoye Array 116.83 321 *i* PKIKP PKPdf 11 13 42.9 -0.9
BVA0 pmax pmax
comp=Z,13nm,1.1s
BVAR Borovoye Array 116.83 321 PKP PKPdf 11 13 42.4 -1.4
comp=Z,37nm,0.8s,baz=89,slow=1.3,SNR=88
BVAR Borovoye Array 116.83 321 PKP PKPdf 11 13 42.4 -1.4
BVAR Borovoye Array 116.83 321 PKIKP PKPdf 11 13 42.4 -1.4
BRVK Borovoye 116.89 321 *e*PKPdf PKPdf 11 13 43.1 -0.7
BRVK *e*SKPdf SKPdf 11 16 31.1 +2.1
BRVK Borovoye 116.89 321 *d* *i*PKIKP PKPdf 11 13 43.2 -0.7
BRVK pmax pmax
comp=Z,55nm,1.0s
BRVK Borovoye 116.89 321 P PKPdf 11 13 43.0 -0.8
SNR=14
KK31 Karatay Array 117.32 310 *c* *i*PKIKP PKPdf 11 13 43.6 -1.4
KK31 pmax pmax
comp=Z,37nm,0.8s
KKAR Karatay Array 117.32 310 *e*PKPdf PKPdf 11 13 43.8 -1.2
KKAR Karatay Array 117.32 310 *e*PKIKP PKPdf 11 13 43.8 -1.2
KBL Kabul 118.30 300 *e*PKPdf PKPdf 11 13 47.1 -0.1
KBL Kabul 118.30 300 *e*PKIKP PKPdf 11 13 47.1 -0.1
KBS Kingsbay 118.70 358 *e*P PKPdf 11 13 46.9 +0.1
SPA0 Spitsbergen Ar 119.22 357 *e*P PKPdf 11 13 47.0 -0.8
SFJD Kangerlussuaq 120.63 21 *i* PKIKP PKPdf 11 13 48.0 -2.7
SFJD pmax pmax
comp=Z,8.0nm,0.7s
SFJD Kangerlussuaq 120.63 21 *i* P PKPdf 11 13 48.0 -2.7
comp=Z,8.3nm,0.7s
SUMG Summit 120.68 13 *e*PKPdf PKPdf 11 13 50.0 -0.6
SUMG Summit 120.68 13 *i* PKIKP PKPdf 11 13 50.0 -0.6
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 120.68 13 *i* P PKPdf 11 13 50.0 -0.6
comp=Z,9.7nm,0.9s
SUMG *i* 11 15 19.1
SVE Sverdlovsk 121.62 326 *i* PKIKP PKPdf 11 13 52.4 -0.5
SVE *e* 11 15 30.4
SVE pmax pmax
comp=Z,74nm,1.0s
ABPO Ambohimpanom 122.12 233 *e*PKPdf PKPdf 11 13 55.9 +0.9
ABPO Ambohimpanom 122.12 233 *e*PKIKP PKPdf 11 13 55.9 +0.9
SOKR Solikamsk 122.64 330 *d* *i*PKIKP PKPdf 11 13 54.3 -0.4
SOKR pmax pmax
comp=Z,110nm,1.0s
ARU Arti 122.83 326 *e*PKPdf PKPdf 11 13 54.2 -1.0
ARU *e*PP PP 11 15 37.3 -5.2
ARU *e*SKPdf SKPdf 11 16 42.9 +2.7
ARU Arti 122.83 326 *i* PKIKP PKPdf 11 13 54.0 -1.2
ARU 11 15 37.9
ARU PS SP 11 24 50.9 +6.0
AB31 Akbulak array 123.92 318 *c* *i*PKIKP PKPdf 11 13 56.5 -1.0
AB31 pmax pmax
comp=Z,53nm,1.0s
ABKAR Akbulak array 123.92 318 *e*PKPdf PKPdf 11 13 57.2 -0.3
AKTO Aktyubinsk 124.86 320 PKP PKPdf 11 13 58.0 -1.3
comp=Z,37nm,0.8s,baz=78,slow=3.7,SNR=96
AKTO Aktyubinsk 124.86 320 PKP PKPdf 11 13 58.0 -1.3
AKTO Aktyubinsk 124.86 320 PKIKP PKPdf 11 13 58.0 -1.3
SCO Scoresbysund 125.48 10 *i* PKIKP PKPdf 11 13 59.4 -0.5
SCO pmax pmax
comp=Z,16nm,0.9s
SCO Scoresbysund 125.48 10 *i* P PKPdf 11 13 59.4 -0.5
comp=Z,16nm,0.9s
KEV Kevo 125.83 349 *e*PKIKP PKPdf 11 13 59.0 -1.6
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 125.83 349 *e*p PKPdf 11 13 59.0 -1.6
comp=Z,6.7nm,0.6s
ARCES ARCESS Array B 126.28 350 PKP PKPdf 11 14 00.4 -1.0
comp=Z,22nm,0.7s,baz=37,slow=0.5,SNR=29
ARCES PKKPab 11 23 36.2
comp=Z,4.8nm,0.9s,baz=48,slow=1.8,SNR=4.5
ARCES ARCESS Array B 126.28 350 PKP PKPdf 11 14 00.4 -1.0
ARCES PKKPab 11 23 36.2
ARCES ARCESS Array B 126.28 350 PKIKP PKPdf 11 14 00.4 -1.0
ARE0 ARCESS Array S 126.28 350 *e*P PKPdf 11 14 01.3 -0.1
ARE0 ARCESS Array S 126.28 350 *e*PKPdf PKPdf 11 14 01.1 -0.3
APA Apatity 126.31 345 ‖ *e*PKIKP PKPdf 11 14 00.6 -1.0
APA pmax pmax
comp=Z,43nm,1.2s
APA MLR MLR
comp=Z,1μm,26.0s
SUR Sutherland 126.78 200 PKP PKPdf 11 14 04.5 +0.9
comp=Z,22nm,0.7s
SUR SKPbc 11 16 33.2
comp=Z,14nm,0.8s,baz=172,slow=4.4,SNR=6.7
SUR Sutherland 126.78 200 PKP PKPdf 11 14 04.5 +0.9

SUR SKPbc 11 16 33.2
JMDO Jabal Madar 127.03 285 P PKPdf 11 14 05.1 +0.8
SNR=6.4
TRO Tromso 127.15 352 *e*P PKPdf 11 14 02.9 -0.2
SMDO Samad 127.15 286 P PKPdf 11 14 05.0 +0.5
SNR=11
BSY Bisya 127.90 285 P PKPdf 11 14 06.1 +0.2
SNR=8.9
BOSA Boshof 128.46 207 PKP PKPdf 11 14 07.5 +0.6
comp=Z,14nm,0.8s,baz=195,slow=0.4,SNR=19
BOSA SKPbc 11 16 39.5
comp=Z,7.4nm,0.8s,baz=138,slow=3.7,SNR=5.9
BOSA Boshof 128.46 207 PKP PKPdf 11 14 07.5 +0.6
BOSA *e*PKPdf PKPdf 11 14 07.9 +0.9
BOSA SKPbc 11 16 39.5
BOSA Boshof 128.46 207 PKIKP PKPdf 11 14 07.5 +0.6
ARQ Araqi 128.58 286 P PKPdf 11 14 08.0 +0.8
SNR=5.4
HATD Hatta, Dubai 129.04 288 P PKPdf 11 14 08.3 +0.3
SNR=8.9
ASHO Ashiyiah 129.10 288 P PKPdf 11 14 08.3 +0.1
SNR=8.7
KLMR Klimovskoe 129.33 337 *e*PKIKP PKPdf 11 14 05.2 -2.3
KLMR pmax pmax
comp=Z,108nm,1.4s
RBK Rabkut 130.05 278 P PKPdf 11 14 10.4 +0.3
SNR=18
JOF Joensuu 130.52 343 *e*PKIKP PKPdf 11 14 08.6 -1.1
JOF Joensuu 130.52 343 *e*p PKPdf 11 14 08.6 -1.1
ABTO Aybut 130.89 278 P PKPdf 11 14 12.1 +0.3
SNR=12
LBTB Lobatse 131.41 209 PKP PKPdf 11 14 12.8 +0.2
comp=Z,13nm,0.8s,baz=180,slow=3.3,SNR=9.2
LBTB SKPbc SKPbc 11 16 51.6 +3.3
comp=Z,4.5nm,0.6s,baz=145,slow=6.5,SNR=7.4
LBTB Lobatse 131.41 209 *e*PKPdf PKPdf 11 14 12.8 +0.2
LBTB SKPbc SKPbc 11 16 51.6 +3.3
LBTB Lobatse 131.41 209 *e*PKIKP PKPdf 11 14 12.8 +0.2
KAF Kangasniemi 132.53 345 *e*PKIKP PKPdf 11 14 12.6 -0.9
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 132.53 345 *e*p PKPdf 11 14 12.6 -0.9
comp=Z,4.6nm,0.5s
FINES FINESS Array B 133.15 344 PKhKP PKPpre 11 14 06.0
comp=Z,5.3nm,0.6s,baz=350,slow=3.1,SNR=9.2
FINES PKP PKPdf 11 14 13.9 -0.7
comp=Z,7.4nm,0.7s,baz=105,slow=2.2,SNR=4.3
FINES SKPbc SKPbc 11 16 55.2 +2.2
comp=Z,15nm,0.9s,baz=35,slow=4.7,SNR=8.4
FINES FINESS Array B 133.15 344 PKPpre PKPpre 11 14 06.0
FINES PKP PKPdf 11 14 13.9 -0.7
FINES SKPbc SKPbc 11 16 55.2 +2.2
FINES FINESS Array B 133.15 344 PKHKP PKPpre 11 14 06.0
FINES 11 14 14.0
FINES 11 16 55.3
MOS Moscow 133.41 333 *e*PKIKP PKPdf 11 14 14.4 -0.9
MOS *e* 11 16 54.5
MOS pmax pmax
comp=Z,82nm,1.0s
URKR Urkarakh 134.09 312 *e*PKHKP PKPpre 11 13 55.0
URKR *e*S PKPdf 11 14 17.0 0.0
OBN Obninsk 134.27 333 ⇑ *i*PKIKP PKPdf 11 14 17.7 +0.7
OBN *e* 11 16 57.7
OBN *e* 11 20 33.5
OBN *e*PS PS 11 27 22.6 -2.2
OBN *e*SS SS 11 34 08.2 +4.6
OBN pmax pmax
comp=Z,112nm,1.7s
VSR Storozhevoye 135.40 327 *e*PKIKP PKPdf 11 14 18.4 -0.8
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,40nm,1.3s
VSR pmax pmax
comp=Z,90nm,1.3s
RCBR Riachuelo 136.11 119 SKPbc SKPbc 11 17 06.4 +2.5
comp=Z,30nm,1.2s,baz=209,slow=5.7,SNR=7.4
RCBR Riachuelo 136.11 119 SKPbc SKPbc 11 17 06.4 +2.5
MTA Mtatsminda 136.25 312 P PKPdf 11 14 21.3 +0.2
TBLG Delisi 136.27 312 *e*PKIKP PKPdf 11 14 21.6 +0.5
TBLG Delisi 136.27 312 P PKPdf 11 14 21.6 +0.5
NB2 NORSAR Subarra 136.33 353 PKP PKPpre 11 14 09.7
baz=17,slow=2.6
NOA NORSAR Array B 136.33 353 PKhKP PKPpre 11 14 10.7
comp=Z,8.8nm,0.9s,baz=22,slow=3.9,SNR=11
NOA PKP PKPdf 11 14 19.9 -0.7
comp=Z,8.5nm,0.7s,baz=14,slow=4.0,SNR=17
NOA SKPbc SKPbc 11 17 05.4 +2.4
comp=Z,6.6nm,0.8s,baz=15,slow=4.6,SNR=7.9
NOA SKPab 11 17 10.2
comp=Z,4.2nm,0.8s,baz=14,slow=3.2,SNR=5.8
NOA NORSAR Array B 136.33 353 PKPpre PKPpre 11 14 10.7
NOA PKP PKPdf 11 14 19.9 -0.7
NOA SKPbc SKPbc 11 17 05.4 +2.4
NOA SKPab 11 17 10.2
NOA NORSAR Array B 136.33 353 PKHKP PKPpre 11 14 10.7
NOA 11 14 20.0
NOA 11 17 10.2
QRN Al-Qurain 136.37 293 *e*P PKPpre 11 14 10.5
QRN AMb AMB 11 14 12.5
comp=Z,89nm,0.8s
KBD Kabd 136.53 294 *e*P PKPpre 11 14 10.5
GNI Garni 136.78 310 PKP PKPdf 11 14 21.0 -1.1
comp=Z,36nm,0.9s,baz=333,slow=4.7,SNR=14
GNI SKPbc SKPbc 11 17 06.7 +1.6
comp=Z,4.7nm,0.4s,baz=14,slow=7.6,SNR=11
GNI Garni 136.78 310 PKP PKPdf 11 14 21.1 -1.1
GNI *e*PKPdf PKPdf 11 14 22.0 -0.1
GNI SKPbc SKPbc 11 17 06.7 +1.6
GNI Garni 136.78 310 PKIKP PKPdf 11 14 21.1 -1.0
GNI 11 17 06.7
GNI Garni 136.78 310 P PKPdf 11 14 23.1 +1.0
SNR=6.4
MIB Mutribah 136.79 295 *e*P PKPpre 11 14 10.5
MIB AMb AMB 11 14 14.1
comp=Z,91nm,0.7s
KIV Kislovodsk 136.85 316 *e*PKPdf PKPdf 11 14 21.5 -0.6
KIV Kislovodsk 136.85 316 *i* PKIKP PKPdf 11 14 21.2 -0.9
KIV *e**SP 11 17 12.8
KIV *e* 11 20 38.3
KIV *e*SSS 11 39 54.1
KIV pmax pmax
comp=Z,48nm,1.1s
KIV Kislovodsk 136.85 316 P PKPdf 11 14 23.1 +0.9
SNR=7.5
ONI Oni 136.86 314 P PKPdf 11 14 22.4 +0.2
NAY Al-Naaiem 136.92 294 *e*P PKPpre 11 14 10.7
NAY AMb AMB 11 14 25.2
comp=Z,71nm,1.0s
AKH Akhalkalaki 137.26 312 P PKPdf 11 14 23.7 +0.7
KONO Kongsberg 137.87 354 *e*PKPdf PKPdf 11 14 23.7 +0.2
KONO Kongsberg 137.87 354 *e*PKIKP PKPdf 11 14 23.7 +0.2
NACGM Naroch 138.31 338 *e* PKPpre 11 14 15.0
SOC Sochi 138.95 317 *e*PKIKP PKPdf 11 14 25.6 -0.4
SOC pmax pmax
comp=Z,43nm,0.9s
VRTB Varto-Mus 139.50 310 *e*P PKPdf 11 14 20.7 -6.4
ANN Anapa 139.82 320 *i* PKHKP PKPpre 11 14 19.3
ANN pmax pmax
comp=Z,43nm,1.4s
BNGB Bing¶‖ **140.13 310** *e*P PKPdf 11 14 22.7 -5.6
KMBO Kilima Mbogo 140.18 245 *e*PKPdf PKPpre 11 14 24.0
KMBO Kilima Mbogo 140.18 245 *e*PKHKP PKPpre 11 14 24.0
KMBO Kilima Mbogo 140.18 245 P PKPdf 11 14 24.9 -4.3
SNR=17
SUW Suwalki 140.26 340 *e*PKP PKPdf 11 14 23.2 -4.8
SUW *e* 11 17 15.9
SUW Suwalki 140.26 340 *e*PKHKP PKPpre 11 14 23.2
GUMT Gumushane 140.43 313 *e*P PKPdf 11 14 23.8 -4.9
AKASG Malin Array Be 140.54 332 PKhKP PKPpre 11 14 20.9
comp=Z,11nm,0.5s,baz=42,slow=4.1,SNR=36
AKASG SKPbc SKPbc 11 17 16.9 +1.9
comp=Z,6.9nm,0.7s,baz=39,slow=2.9,SNR=12
AKASG SKPab 11 17 28.6
comp=Z,14nm,0.9s,baz=44,slow=4.5,SNR=6.4
AKASG SKKPbc 11 25 46.7
comp=Z,2.4nm,0.7s,baz=226,slow=4.2,SNR=12
AKASG Malin Array Be 140.54 332 PKPpre PKPpre 11 14 20.9
AKASG SKPbc SKPbc 11 17 16.9 +1.9
AKASG SKPab 11 17 28.6
AKASG SKKPbc 11 25 46.7
AKASG Malin Array Be 140.54 332 PKHKP PKPpre 11 14 20.9
AKBB Malin Array Si 140.54 332 *e*PKPdf PKPpre 11 14 21.5
AKBB Malin Array Si 140.54 332 *e*PKHKP PKPpre 11 14 21.5

KIEV Kiev 140.55 332 ePKPdf PKPpre 11 14 21.0
KIEV Kiev 140.55 332 i PKIKP PKPdf 11 14 29.0 +0.3
KELT Kelkit 140.71 312 ⇓iP PKPdf 11 14 22.0 -7.3
MUD Monsted U'grnd 141.05 353 i PKHKP PKPpre 11 14 23.5
MUD pmax pmax
comp=Z,22nm,0.7s
MUD Monsted U'grnd 141.05 353 i P PKPdf 11 14 23.5 -5.9
comp=Z,22nm,0.7s
PTK Pertek 141.10 310 eP PKPdf 11 14 24.9 -5.2
SVRC Sivrice-ELAZID 141.35 310 eP PKPdf 11 14 26.9 -3.6
BSD Bornholm Skovb 141.45 348 i PKHKP PKPpre 11 14 24.4
BSD pmax pmax
comp=Z,38nm,0.9s
BSD Bornholm Skovb 141.45 348 i P PKPdf 11 14 24.4 -5.7
comp=Z,38nm,0.9s
KEMA Kemaliye 141.60 311 ⇓iP PKPdf 11 14 26.4 -4.5
SIM Simferopol' 141.73 322c i PKHKP PKPpre 11 14 20.1
SIM pmax pmax
comp=Z,55nm,0.8s
ESY Stoneypath 141.87 4 eP PKPdf 11 14 27.4 -3.5
EAU Auchinoon 141.89 5 eP PKPdf 11 14 27.2 -3.6
RSDY Resadiye-TOKAT 141.95 314 eP PKPdf 11 14 28.6 -3.0
EBL Broad Law 141.99 4 eP PKPdf 11 14 27.2 -3.8
MYA Malataya 142.01 310 eP PKPdf 11 14 29.0 -2.7
MALT Malatya 142.01 310 eP PKPdf 11 14 29.5 -2.2
URFA Urfa 142.04 309 eP PKPdf 11 14 27.0 -4.8
ERBA Erbaa 142.22 314 ⇓iP PKPdf 11 14 29.3 -2.7
AKCD Akcadag 142.39 310 ⇓iP PKPdf 11 14 29.6 -2.8
ATAB Bozova 142.42 309 ⇓iP PKPdf 11 14 28.2 -4.2
KVT Kavak 142.52 315 eP PKPdf 11 14 30.7 -1.8
GKP Gorka Klasztor 142.63 345 ePKP PKPdf 11 14 29.6 -2.6
GKP e 11 17 23.6
GKP Gorka Klasztor 142.63 345 ePKIKP PKPdf 11 14 29.6 -2.7
GKP e 11 17 23.6
HAVZ Havza 142.74 316 ⇓iP PKPdf 11 14 30.2 -2.7
GAL1 Galloway 142.74 6 eP PKPdf 11 14 28.6 -3.8
DIKM Dikmen 142.76 317 eP PKPdf 11 14 31.2 -1.7
BEL Belsk 142.87 340 ePKPdf PKPdf 11 14 30.7 -2.0
BEL e 11 17 23.8
BEL Belsk 142.87 340⇓ePKIKP PKPdf 11 14 30.7 -2.0
BEL e 11 17 23.8
SARI SarD1z-Kayseri 143.12 311 eP PKPdf 11 14 32.3 -1.3
BYBT Boyabat 143.18 317 eP PKPdf 11 14 33.2 -0.4
PINB Pinarbasi 143.33 312 ⇓iP PKPdf 11 14 32.0 -2.0
KIS Kishinev 143.33 328 ⇑iPKIKP PKPdf 11 14 31.5 -2.2
KIS Kishinev 143.33 328 PKPM PKPdf 11 14 33.0 -0.7
comp=Z,800nm,2.0s
KIS Kishinev 143.33 328 ePKP2 PKPdf 11 14 47.0 +13
KIS epPKP pPKPdf 11 16 24.0 -15
KIS Kishinev 143.33 328 i PP SKPbc 11 17 23.5 +1.4
KIS Kishinev 143.33 328 ⇑iPKIKP PKPdf 11 14 31.5 -2.2
KIS pmax pmax
comp=Z,800nm,2.0s
GAZ Gaziantep 143.34 309 eP PKPdf 11 14 32.9 -1.2
BSEG Bad Segeberg 143.37 351 ePKPbc PKPdf 11 14 31.4 -2.2
BSEG Bad Segeberg 143.37 351 ePKIKP PKPdf 11 14 31.4 -2.2
LVV L'vov 143.38 336 ⇑iPKIKP PKPdf 11 14 31.9 -1.8
BZK Bozkurt 143.42 318 eP PKPdf 11 14 33.4 -0.6
KMRS Kahramanmaras 143.44 310 eP PKPdf 11 14 33.3 -1.0
CTKT Corum 143.57 315 ⇓iP PKPdf 11 14 33.3 -1.0
KUZU Kuzuini 143.58 308 ⇓iP PKPdf 11 14 33.3 -1.2
BNN Bunyan 143.65 312 eP PKPdf 11 14 33.4 -1.2
YOZ Yozgat 143.67 314 eP PKPdf 11 14 34.3 -0.3
IAS Iasi 143.81 330 PKIKP PKPdf 11 14 33.2 -1.3
ANDN Andirin 143.81 310 ⇓iP PKPdf 11 14 33.6 -1.2
TOS Tosya 143.88 317 eP PKPdf 11 14 35.0 +0.1
CORM Corum 143.89 315 eP PKPdf 11 14 34.6 -0.3
LEOM Leova 143.98 328 ⇓PKIKP PKPdf 11 14 34.5 -0.4
LEOM Leova 143.98 328 ⇓iP PKPdf 11 14 34.5 -0.4
BALT Daday 144.03 318 ⇓iP PKPdf 11 14 34.3 -0.8
KWP Kalwaria Pacla 144.04 337 i PKPdf PKPdf 11 14 34.6 -0.3
KWP e 11 17 26.9
KWP Kalwaria Pacla 144.04 337 ePKPdf PKPdf 11 14 33.7 -1.2
KWP Kalwaria Pacla 144.04 337 ⇓iPKIKP PKPdf 11 14 34.6 -0.3
KWP e 11 17 26.9
RUE Ruedersdorf 144.16 347 ePKPdf PKPdf 11 14 34.4 -0.6
KOZT Kozan 144.23 310 eP PKPdf 11 14 36.2 +0.6
COBT Iskenderun 144.29 308 ⇓iP PKPdf 11 14 35.5 -0.2
CDAG Cicekdag 144.33 314 ⇓iP PKPdf 11 14 35.8 +0.2
CANT Cankiri 144.36 316 eP PKPdf 11 14 36.8 +1.1
AVNT Avonos 144.38 313 ⇓iP PKPdf 11 14 35.9 +0.1
CEYT Ceyhan 144.48 309 eP PKPdf 11 14 37.0 +1.0
HTY Hatay 144.53 308 eP PKPdf 11 14 36.6 +0.5
ELDT Eldivan 144.54 316 ⇓iP PKPdf 11 14 36.1 +0.1
TLCR 144.56 326 PKIKP PKPdf 11 14 36.4 +0.5
TLCR 144.56 326 ⇑iP PKPdf 11 14 36.4 +0.5
BUR08 Bucovina Ar. S 144.58 332 ePKPdf PKPdf 11 14 35.8 0.0
YAYL Yayladag 144.58 308 ⇓iP PKPdf 11 14 36.3 +0.1
OJC Ojcow 144.58 340 ePKPdf PKPdf 11 14 35.3 -0.5
OJC Ojcow 144.58 340 ePKIKP PKPdf 11 14 35.3 -0.5
BURAR Bucovina Array 144.59 332 ⇑PKIKP PKPdf 11 14 36.3 +0.4
BURAR Bucovina Array 144.59 332 ⇑iP PKPdf 11 14 36.3 +0.4
KBI1 Birley Grange 144.59 3 eP PKPdf 11 14 34.6 -1.1
SAFT Safranbolu 144.64 318 eP PKPdf 11 14 36.6 +0.5
GHRR 144.69 328 ⇑iP PKPdf 11 14 37.5 +1.4
STNC Stoke 144.72 4 eP PKPdf 11 14 35.4 -0.5
TESR 144.74 330 ⇓iP PKPdf 11 14 36.9 +0.7
STHS Stebnicka Huta 144.76 338 ePKIKP PKPdf 11 14 36.8 +0.7
STHS Stebnicka Huta 144.76 338 ePKP PKPdf 11 14 36.8 +0.7
BR131 Keskin Array S 144.78 315 ePKPdf PKPdf 11 14 36.4 0.0
BRTR Keskin Array B 144.78 315 PKP PKPdf 11 14 36.0 -0.5
comp=Z,239nm,0.9s,baz=137,slow=3.2,SNR=447
BRTR SKKPbc 11 25 30.2
comp=Z,22nm,0.8s,baz=234,slow=4.9,SNR=70
BRTR Keskin Array B 144.78 315 PKP PKPdf 11 14 36.0 -0.5
BRTR SKKPbc 11 25 30.2
BRTR Keskin Array B 144.78 315 PKIKP PKPdf 11 14 36.0 -0.5
KOLS Kolonicke sedl 144.78 336 ePKIKP PKPdf 11 14 37.2 +1.1
KOLS Kolonicke sedl 144.78 336 ePKP PKPdf 11 14 37.2 +1.1
NRDL Niedersach Rie 144.80 351 ePKPbc PKPdf 11 14 36.0 -0.1
KWE Weaver Farm 144.81 4 eP PKPdf 11 14 35.2 -0.9
FOEL Foel Wylfa 144.84 5 eP PKPdf 11 14 34.5 -1.7
KRTS Karatas 144.92 309 eP PKPdf 11 14 37.4 +0.6
FKH Fakeheh 144.96 305 eP PKPdf 11 14 37.9 +0.9
PETR 145.01 328 ⇓iP PKPdf 11 14 38.1 +1.4
UZH Uzhgorod 145.01 336c i PKIKP PKPdf 11 14 37.0 +0.4
KSP Ksiaz 145.08 344 ePKPdf PKPdf 11 14 37.0 +0.4
KSP ePKPab PKPab 11 14 38.1 -0.2
KSP e 11 17 29.5
KSP Ksiaz 145.08 344 ePKPbc PKPbc 11 14 36.9 -0.5
KSP i PKPab PKPab 11 14 37.9 -0.4
KSP epPKP pPKPdf 11 16 47.3 +5.4
KSP e 11 17 28.4
KSP Ksiaz 145.08 344 i PKIKP PKPdf 11 14 37.9 +1.3
GULE Gulek 145.08 310 ⇓iP PKPdf 11 14 37.7 +0.7
NIE Niedzica 145.09 339 ePKPab PKPab 11 14 37.3 -1.1
NIE Niedzica 145.09 339 ePKIKP PKPdf 11 14 37.3 +0.6
CRVS Cervenica-Dubn 145.11 337 ePKIKP PKPdf 11 14 37.3 +0.6
CRVS Cervenica-Dubn 145.11 337 ePKP PKPdf 11 14 37.3 +0.6
CRVS e 11 25 26.2
VRI Vrincioaia 145.16 329 ⇑PKIKP PKPdf 11 14 37.8 +0.9
VRI Vrincioaia 145.16 329 ⇑iP PKPdf 11 14 37.8 +0.9
PLOR Plostina 145.21 329 ⇓PKIKP PKPdf 11 14 38.2 +1.2
PLOR Plostina 145.21 329 ⇓iP PKPdf 11 14 38.2 +1.2
RAC Raciborz 145.21 341 ePKIKP PKPdf 11 14 37.5 +0.6
BBAL Bala 145.21 315 ⇓iP PKPdf 11 14 37.4 +0.2
HLM1 Long Mynd 145.24 5 eP PKPdf 11 14 35.6 -1.2
TIRR Tirgusor 145.25 326 ePKPbc PKPbc 11 14 38.4 +0.3
TIRR Tirgusor 145.25 326 ⇓PKP2 PKPab 11 14 38.5 -0.7
TIRR Tirgusor 145.25 326 ⇓iP PKPdf 11 14 38.5 +1.4
BMR Baia Mare 145.29 334 ⇓PKP2 PKPab 11 14 38.0 -1.3
BMR Baia Mare 145.29 334 ⇓iP PKPdf 11 14 38.0 +0.9
IBBN Ibbenburen 145.29 353 ePKPbc PKPbc 11 14 37.9 -0.1
AFSR Af´ar-Bala (A 145.30 315 eP PKPdf 11 14 36.6 -0.8
HWQ Hawqa 145.32 305 eP PKPdf 11 14 37.5 -0.1
TRPA Tarpa 145.32 335 ⇓iP PKIKP 11 14 37.5 +0.4
CLZ Clausthal 145.40 350 ePKPbc PKPbc 11 14 38.4 +0.1
CLZ Clausthal 145.40 350 ePKP2 PKPab 11 14 38.4 -1.1
CLL Collm 145.43 347 ePKPbc PKPbc 11 14 38.1 -0.3
CLL Collm 145.43 347 ePKIKP PKPdf 11 14 37.0 -0.2
CLL i 11 14 38.4
CLL pmax pmax
comp=Z,33nm,0.8s
CLL pmax pmax
comp=Z,297nm,0.8s
CLL Collm 145.43 347 ePKPdf PKPdf 11 14 37.0 -0.2
comp=Z,33nm,0.8s
CLL i PKPbc PKPbc 11 14 38.4 0.0
comp=Z,297nm,0.8s
CLL i PKPab PKPab 11 14 39.6 0.0
CLL e 11 16 50.0

CLL ePP PP 11 18 01.0 -2.1
MERS Mersin 145.43 310 eP PKPdf 11 14 37.8 +0.1
OKC Ostrava-Krasne 145.44 341 ePKIKP PKPdf 11 14 37.7 +0.4
OKC Ostrava-Krasne 145.44 341 ePKP PKPdf 11 14 37.9 +0.6
UPC Upice 145.46 344 ePKIKP PKPdf 11 14 38.0 +0.7
UPC Upice 145.46 344 ePKP PKPdf 11 14 37.8 +0.5
DPC Dobruska-Polom 145.51 343 ePKIKP PKPdf 11 14 38.2 +0.8
DPC Dobruska-Polom 145.51 343 ePKP PKPdf 11 14 38.1 +0.7
DPC ex x 11 14 39.5
MANR Mangalia 145.57 325 ⇑iP PKPdf 11 14 40.0 +2.3
SULT Sultanhani-AKS 145.58 313 eP PKPdf 11 14 39.7 +1.8
BRG Berggiesshubel 145.63 346 i PKP PKPdf 11 14 38.2 +0.6
comp=Z,50nm,1.3s
BRG i 11 14 39.2
comp=Z,209nm,1.0s
BRG i pPKP pPKPdf 11 16 40.4 -2.4
comp=Z,12nm,1.3s
BRG i 11 17 29.6
comp=Z,33nm,1.1s
BRG PP PP 11 18 08.0 +3.7
comp=Z,16nm,1.4s
BRG Berggiesshubel 145.63 346 ePKPbc PKPbc 11 14 39.0 0.0
BRG Berggiesshubel 145.63 346 i PKIKP PKPdf 11 14 38.2 +0.7
BRG i 11 14 39.2
BRG i 11 16 40.4
BRG 11 18 08.0
BRG pmax pmax
comp=Z,50nm,1.3s
BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=Z,16nm,1.4s
KRLC Kraliky 145.63 343 ePKP PKPdf 11 14 39.0 +1.4
RCY Rachaya 145.66 304 eP PKPdf 11 14 39.0 +0.8
BHL Bhannes 145.67 304 eP PKPdf 11 14 38.4 +0.2
MORC Moravsky Berou 145.68 342 ePKPdf PKPdf 11 14 37.5 -0.1
MORC ePKPbc PKPbc 11 14 39.1 0.0
MORC Moravsky Berou 145.68 342 ⇓PKIKP PKPdf 11 14 38.0 +0.3
MORC Moravsky Berou 145.68 342 ⇓iP PKPdf 11 14 38.0 +0.3
AMRR Amara 145.72 327 ⇑PKP2 PKPab 11 14 40.7 -0.4
AMRR Amara 145.72 327 ⇑iP PKPab 11 14 40.7 -0.4
DOPR Dopca 145.74 330 ⇓iP PKPdf 11 14 39.7 +1.8
MCH1 Michaelchurch 145.74 5 eP PKPdf 11 14 37.8 +0.1
ISR Istrita 145.78 328 ⇑PKP2 PKPbc 11 14 40.3 +0.7
ISR Istrita 145.78 328 ⇑iP PKPbc 11 14 40.3 +0.7
PVCC Panska Ves 145.80 345 ePKIKP PKPdf 11 14 38.4 +0.6
PVCC Panska Ves 145.80 345 ePKP PKPdf 11 14 38.3 +0.5
PVCC ex x 11 14 40.2
MLR Muntele Rosu 145.81 329 ⇓PKIKP PKPdf 11 14 38.6 +0.6
MLR Muntele Rosu 145.81 329 ⇓iP PKPdf 11 14 38.6 +0.6
KECS Kecovo 145.82 338 ePKIKP PKPdf 11 14 39.1 +1.2
KECS Kecovo 145.82 338 ePKP PKPdf 11 14 39.1 +1.2
KECS e 11 17 46.8
SSW Stow on the Wo 145.86 4 eP PKPdf 11 14 38.9 +1.0
MDUB Mudurnu 146.00 318 eP PKPdf 11 14 37.5 -1.0
HGH Gray Hill 146.12 5 eP PKPdf 11 14 39.0 +0.6
MMAI Mount Meron Ar 146.15 303 SKPbc SKPbc 11 17 32.0 +3.0
comp=Z,24nm,0.8s,baz=62,slow=4.3,SNR=7.7
MMAI SKKPbc 11 25 25.4
comp=Z,1.9nm,0.6s,baz=231,slow=5.3,SNR=4.4
MMAI Mount Meron Ar 146.15 303 SKPbc SKPbc 11 17 32.0 +3.0
MMAI SKKPbc 11 25 25.4
SKP1 Kophill 146.16 3 eP PKPdf 11 14 38.9 +0.5
BUG Bochum--Univer 146.20 354 ePKPbc PKPbc 11 14 40.2 -0.4
EREN Erenkoy 146.23 308 eP PKPbc 11 14 41.8 +0.6
VOIR 146.29 330 ⇓PKIKP PKPdf 11 14 40.3 +1.5
VOIR 146.29 330 ⇓iP PKPdf 11 14 40.3 +1.5
PRU Pruhonice 146.31 345 ePKIKP PKPdf 11 14 39.0 +0.3
PRU Pruhonice 146.31 345 ePKP PKPdf 11 14 39.2 +0.5
PRU ex x 11 14 41.2
SWN1 Swindon 146.31 4 eP PKPdf 11 14 39.9 +1.2
DRGR 146.31 334 ⇓PKP2 PKPbc 11 14 41.3 +0.2
DRGR 146.31 334 ⇓iP PKPbc 11 14 41.3 +0.2
MOX Moxa 146.33 349 ePKPdf PKPdf 11 14 38.8 +0.1
MOX ePKPbc PKPbc 11 14 41.0 0.0
MOX Moxa 146.33 349 ePKIKP PKPdf 11 14 38.8 +0.1
SVRH Sivrihisar-ESK 146.33 316 eP PKPdf 11 14 39.0 -0.1
VRAC Vranov 146.38 342 PKIKP PKPdf 11 14 39.7 +0.8
VRAC Vranov 146.38 342 ⇑iP PKPbc 11 14 41.4 +0.2
KIZT Kizilcal 146.38 315 eP PKPdf 11 14 39.2 0.0
LADK Ladik-KONYA 146.38 313 eP PKPdf 11 14 37.6 -1.6
TANN Tannenbergstha 146.38 347 ePKPbc PKPbc 11 14 41.2 +0.1
VYHS Vyhne 146.39 339 ePKIKP PKPdf 11 14 39.1 +0.2
VYHS e 11 17 31.7
VYHS Vyhne 146.39 339 ePKP PKPdf 11 14 39.1 +0.2
VYHS eSKP 11 17 31.7
VYHS e 11 25 21.2
KDHN Kadinhani 146.40 314 ⇓iP PKPdf 11 14 38.8 -0.4
UBBA Unterbreizbach 146.45 350 ePKPdf PKPdf 11 14 38.8 -0.1
UBBA ePKPbc PKPbc 11 14 41.0 -0.3
SPNC Sapanca-Adapaz 146.45 319 eP PKPbc 11 14 41.7 +0.1
GULT Gulveren 146.46 318 eP PKPdf 11 14 39.0 -0.3
KOLL Kolacno 146.46 340 ePKP2 PKPbc 11 14 41.9 +0.5
KOLL Kolacno 146.46 340 ePKP PKPbc 11 14 41.9 +0.5
KONT Konya--Tatoy 146.50 313 eP PKPbc 11 14 41.8 -0.1
PSZ Piszkesteto 146.51 338 ePKPdf PKPdf 11 14 39.0 -0.1
PSZ ePKPbc PKPbc 11 14 41.9 +0.3
PSZ Piszkesteto 146.51 338 ⇑PKP2 PKPbc 11 14 41.7 +0.1
PSZ Piszkesteto 146.51 338⇓ePKP PKPbc 11 14 41.9 +0.3
PSZ Piszkesteto 146.51 338 ⇑iP PKPbc 11 14 41.7 +0.1
PHNC Paralimni 146.53 307 P PKPbc 11 14 42.3 +0.2
comp=Z,7.3nm,0.8s
WOL Wolverton 146.55 3 eP PKPdf 11 14 40.3 +1.3
NKC Novy Kostel 146.56 347 ePKIKP PKPdf 11 14 39.8 +0.7
NKC Novy Kostel 146.56 347 ePKP PKPdf 11 14 39.4 +0.3
NKC ex x 11 14 42.0
HTL Hartland 146.59 7 eP PKPdf 11 14 39.2 0.0
SILT Sile 146.59 320 eP PKPdf 11 14 40.1 +0.6
TREC Trest 146.70 343 ePKP PKPdf 11 14 39.9 +0.5
ESKT Eskisehir 146.74 316 eP PKPdf 11 14 39.8 0.0
ELSH Elham, Standar 146.79 1 eP PKPdf 11 14 41.4 +1.9
BORA Eskisehir 146.80 317 ⇓iP PKPdf 11 14 39.9 0.0
LFK Lefkose 146.81 308 eP PKPdf 11 14 40.1 +0.1
SMOL Smolenice 146.83 341 ePKP2 PKPbc 11 14 43.0 +0.6
SMOL Smolenice 146.83 341 ePKP PKPbc 11 14 43.0 +0.6
HDMB Hadim 146.87 311 eP PKPbc 11 14 43.0 +0.1
LOT Lotru 146.88 331 ⇑iP PKPbc 11 14 42.0 -0.7
DEV Deva 146.94 332 ⇓PKP2 PKPbc 11 14 42.9 +0.1
DEV Deva 146.94 332 ⇓iP PKPbc 11 14 42.8 0.0
ADVT Abdulvahap 146.95 319 eP PKPbc 11 14 42.7 -0.3
HUMR Humele 146.98 329 ⇓iP PKPbc 11 14 42.4 -0.5
BEBN Eben Emael 146.98 355 PKPbc PKPbc 11 14 42.8 0.0
CAVI Cavuskoy 147.01 318 eP PKPbc 11 14 42.5 -0.7
ROTZ Rotzenmuhle 147.05 347 ePKPbc PKPbc 11 14 43.2 +0.2
UCC Uccle 147.07 357 PKP PKPdf 11 14 40.0 +0.1
UCC PKPbc PKPbc 11 14 42.3 -0.7
CSS Prodhromos 147.08 307 P PKPbc 11 14 43.4 -0.1
comp=Z,3.9nm,0.8s
CSS Prodhromos 147.08 307 eP PKPdf 11 14 40.4 -0.1
CSS Prodhromos 147.08 307 P PKPdf 11 14 40.5 0.0
CSS Prodhromos 147.08 307 ePKPdf PKPdf 11 14 40.4 -0.1
CSS ePKPbc PKPbc 11 14 43.6 0.0
CSS ePKPab PKPab 11 14 47.0 +0.1
MAMC Mammari 147.09 308 P PKPbc 11 14 43.9 +0.4
BOLV Bolvadin 147.09 315 ⇓iP PKPdf 11 14 40.4 0.0
YLV Yalova 147.10 319 eP PKPdf 11 14 38.6 -1.8
BGKT Bogazkoy 147.11 321 eP PKPdf 11 14 40.2 -0.1
MEM Membach 147.14 355 PKP PKPdf 11 14 40.3 +0.2
MEM PKPbc PKPbc 11 14 43.0 -0.2
BUD Budapest 147.19 338⇓ePKP PKPbc 11 14 43.7 +0.3
DYA Yadsworthy 147.20 7 eP PKPdf 11 14 40.7 +0.6
ZST Bratislava 147.21 341 ePKP2 PKPbc 11 14 43.6 +0.2
ZST Bratislava 147.21 341 ePKP PKPbc 11 14 43.5 +0.1
TNS Taunus Mts 147.25 352 ePKPdf PKPdf 11 14 40.3 0.0
TNS ePKPbc PKPbc 11 14 43.4 -0.1
TNS Taunus Mts 147.25 352 ePKIKP PKPdf 11 14 40.3 0.0
TNS Taunus Mts 147.25 352 ePKP2 PKPbc 11 14 43.4 -0.1
GAZI Gazipasa 147.31 310 ⇓iP PKPdf 11 14 40.4 -0.4
GRF Grafenberg Arr 147.32 348 ePKPdf PKPdf 11 14 40.7 +0.3
GRF ePKPbc PKPbc 11 14 44.0 +0.3
GRF ePKPab PKPab 11 14 47.1 -0.1
GRF epPKPbc pPKPbc 11 16 48.7 +1.7
GRF Grafenberg Arr 147.32 348 ePKIKP PKPdf 11 14 40.7 +0.3
GRF Grafenberg Arr 147.32 348 ePKP2 PKPab 11 14 47.1 -0.1
GRFO Grafenberg 147.32 348 ePKPdf PKPdf 11 14 40.3 -0.1
GRFO ePKPbc PKPbc 11 14 44.3 +0.6
GRFO Grafenberg 147.32 348 ePKIKP PKPdf 11 14 40.3 -0.1
GRFO e 11 14 44.3
KHC Kasperske Hory 147.34 345 ePKPdf PKPdf 11 14 40.4 -0.1
KHC ePKPbc PKPbc 11 14 43.9 +0.1

KHC ePKPab PKPab 11 14 47.7 +0.3
KHC Kasperske Hory 147.34 345 ePKIKP PKPdf 11 14 40.4 -0.1
KHC e 11 14 47.7
KHC Kasperske Hory 147.34 345 ePKP PKPdf 11 14 40.6 +0.1
KHC ex x 11 14 44.2
LEF Lefka 147.35 308 eP PKPdf 11 14 41.3 +0.4
SNF Seneffe 147.36 357 PKP PKPdf 11 14 40.2 -0.3
SNF PKPbc PKPbc 11 14 43.9 +0.2
GZR Gura Zlata 147.38 332 PKIKP PKPdf 11 14 41.0 +0.4
GZR Gura Zlata 147.38 332 ⇑PKHKP PKPbc 11 14 43.5 -0.5
GZR Gura Zlata 147.38 332⇑iP PKPbc 11 14 43.5 -0.5
SZH Strazhica 147.38 326 i P PKPbc 11 14 44.0 0.0
BCLA Clavier 147.38 356 PKP PKPdf 11 14 40.7 +0.2
BCLA PKPbc PKPbc 11 14 43.7 -0.1
SLVT Silivri 147.42 321 eP PKPbc 11 14 44.6 +0.4
ARMT Armutlu 147.42 320 eP PKPdf 11 14 40.1 -0.7
SHUT Suhut-Afyon 147.44 315 eP PKPdf 11 14 41.3 +0.3
ALT Altintas 147.47 316 eP PKPbc 11 14 44.9 +0.4
WET Wettzell 147.49 346 ePKPbc PKPbc 11 14 44.5 +0.4
WET Wettzell 147.49 346 ePKP2 PKPbc 11 14 44.5 +0.4
SZAC Souni-Zanaja 147.50 307 P PKPbc 11 14 44.2 -0.4
ALFC Alevga 147.56 308 P PKPbc 11 14 44.4 -0.4
comp=Z,12nm,0.6s
JMB Yambol 147.56 324 P PKPpre 11 14 35.3
JMB Yambol 147.56 324 P PKPpre 11 14 35.3
JMB Yambol 147.56 324 PKHKP PKPpre 11 14 35.3
GEC2 GERESS Array S 147.58 345 ePKPdf PKPdf 11 14 40.5 -0.4
GEC2 ePKPbc PKPbc 11 14 44.3 -0.1
GEC2 GERESS Array S 147.58 345 ePKIKP PKPdf 11 14 40.5 -0.4
GEC2 GERESS Array S 147.58 345 ePKP2 PKPbc 11 14 44.3 -0.1
GERES GERESS Array B 147.58 345 PKPbc PKPbc 11 14 44.2 -0.2
comp=Z,70nm,0.7s,baz=24,slow=2.8,SNR=220
GERES SKKPbc 11 25 15.9
comp=Z,1.5nm,0.8s,baz=116,slow=3.1,SNR=4.6
GERES GERESS Array B 147.58 345 PKPbc PKPbc 11 14 44.2 -0.2
GERES SKKPbc 11 25 15.9
GERES GERESS Array B 147.58 345 PKP2 PKPbc 11 14 44.2 -0.2
SUTC Sutluce-Ispart 147.68 313 eP PKPbc 11 14 44.4 -0.6
BZS Buzias 147.71 333 ⇑PKIKP PKPdf 11 14 41.2 0.0
BZS Buzias 147.71 333 ⇑iP PKPdf 11 14 41.2 0.0
PVL Pavlikeni 147.73 327 i P PKPbc 11 14 45.0 +0.1
DOU Dourbes 147.75 356 PKPbc PKPbc 11 14 44.2 -0.5
BAIF Baives 147.81 357 ePKIKP PKPdf 11 14 41.0 -0.2
BAIF Baives 147.81 357 ePKPdf PKPdf 11 14 41.0 -0.2
BAIF Baives 147.81 357 ePKIKP PKPdf 11 14 41.0 -0.2
CONA Conrad Observa 147.83 342 i PKPdf PKPdf 11 14 41.4 +0.1
comp=Z,26nm,1.6s,SNR=108
CONA ⇑iPKIKP PKIKP 11 14 45.6 -0.9
comp=Z,179nm,1.0s
SOP Sopron 147.84 341⇓ePKP PKPbc 11 14 45.6 +0.5
PPCY Paphos 147.86 308 P PKPbc 11 14 44.9 -0.6
GDZ Gediz 147.86 317 ⇓iP PKPdf 11 14 40.0 -1.7
KCTX Karacabey (Bur 147.91 320 eP PKPdf 11 14 41.2 -0.5
BCK Bucak 147.97 313 eP PKPdf 11 14 42.3 +0.4
WLF Walferdange 148.06 354 PKP PKPdf 11 14 42.2 +0.6
WLF PKPbc PKPbc 11 14 46.0 +0.4
WLF Walferdange 148.06 354 ePKPdf PKPdf 11 14 41.9 +0.3
WLF ePKPbc PKPbc 11 14 46.0 +0.4
WLF Walferdange 148.06 354 ePKPdf PKPdf 11 14 41.6 0.0
WLF ePKPbc PKPbc 11 14 46.3 +0.7
WLF ePKPab PKPab 11 14 50.1 -0.1
WLF Walferdange 148.06 354 ePKHKP PKPdf 11 14 41.7 +0.1
WLF e 11 14 50.2
EDC Edincik 148.16 320 eP PKPbc 11 14 46.2 +0.1
DURS Dursunbey 148.22 319 ⇓iP PKPdf 11 14 40.9 -1.3
KHAL Karahalli 148.25 316 ⇓iP PKPdf 11 14 42.2 0.0
MOA Molln 148.35 344 ⇓PKPdf PKPdf 11 14 42.1 -0.1
comp=Z,17nm,1.4s,SNR=17
MOA ⇓iPKPbc PKPbc 11 14 46.0 -0.4
comp=Z,154nm,1.4s
KORT Korkueli 148.36 313 ⇓iP PKPdf 11 14 42.2 -0.3
RKY Sarkoy-Tekirda 148.37 321 eP PKPdf 11 14 41.5 -0.9
DEMI Demirci 148.38 317 ⇓iP PKPdf 11 14 42.3 -0.2
PKSM Moragy 148.41 337 ⇑PKHKP PKPdf 11 14 42.0 -0.3
PKSM Moragy 148.41 337 ⇑iP PKPdf 11 14 42.0 -0.3
GONE Gonen-Balikesi 148.45 320 eP PKPdf 11 14 41.9 -0.7
KRBG Karabiga-Canak 148.48 321 eP PKPdf 11 14 42.1 -0.5
ARSA Arzberg 148.54 342 ⇑iPKPdf PKPdf 11 14 42.3 -0.1
comp=Z,17nm,1.7s,SNR=18
ARSA ⇑iPKIKP PKIKP 11 14 46.6 -1.3
comp=Z,103nm,1.4s
LANF Langenberg 148.56 352 PKP PKPdf 11 14 43.0 +0.6
STU Stuttgart 148.56 350 ePKPdf PKPdf 11 14 42.2 -0.3
STU ePKPbc PKPbc 11 14 46.9 +0.1
STU Stuttgart 148.56 350 ePKPdf PKPdf 11 14 42.4 0.0
STU ePKPbc PKPbc 11 14 46.7 -0.2
STU ePKPab PKPab 11 14 51.8 -0.5
STU Stuttgart 148.56 350 ePKHKP PKPdf 11 14 42.4 -0.1
STU e 11 14 51.8
BALB Balikesir 148.57 319 eP PKPdf 11 14 42.0 -0.8
JSA Saint Aubin 148.60 5 eP PKPbc 11 14 45.0 -1.9
BALY Balya 148.67 319 ⇓iP PKPdf 11 14 42.2 -0.7
KULA Kula-Manisa 148.72 317 eP PKPdf 11 14 42.5 -0.6
FUR Furstenfeldbru 148.76 348 ePKPdf PKPdf 11 14 42.6 -0.2
FUR ePKPbc PKPbc 11 14 47.2 -0.2
FUR ePKPab PKPab 11 14 53.2 0.0
FUR Furstenfeldbru 148.76 348 ePKHKP PKPdf 11 14 42.6 -0.2
FUR Furstenfeldbru 148.76 348 ePKP2 PKPab 11 14 53.2 0.0
ERIK Erikli-Kesan 148.77 322 eP PKPbc 11 14 47.2 -0.5
ELL Elmali 148.79 313 eP PKPbc 11 14 48.2 +0.4
PGB Panagyurishte 148.81 327 i P PKPbc 11 14 47.0 -0.7
LPK Lapseki 148.81 321 eP PKPdf 11 14 40.6 -2.5
RJOB Jochberg 148.83 345 ePKPdf PKPdf 11 14 42.4 -0.5
RJOB ePKPbc PKPbc 11 14 47.4 -0.1
RJOB ePKPab PKPab 11 14 53.2 -0.3
RJOB epPKPbc pPKPbc 11 16 54.0 +2.6
GLHS Glhisar (BURDU 148.87 314 eP PKPbc 11 14 48.0 0.0
ALN Alexandroupoli 148.90 323 eP PKPdf 11 14 42.4 -0.9
ALN Alexandroupoli 148.90 323 P PKPdf 11 14 42.2 -1.1
ALN Alexandroupoli 148.90 323 P PKPdf 11 14 42.2 -1.1
ALN Alexandroupoli 148.90 323 PKIKP PKPdf 11 14 42.2 -1.1
DNZL Cakiroluk 148.90 315 ⇓iP PKPdf 11 14 43.7 +0.3
ENEZ Enez 148.94 322 eP PKPbc 11 14 47.9 -0.1
GELI Tayfur-Gelibol 148.97 322 eP PKPbc 11 14 48.0 -0.1
RDO Rodhopi 149.03 324 eP PKPdf 11 14 42.7 -0.8
RDO Rodhopi 149.03 324 P PKPdf 11 14 43.1 -0.4
RDO Rodhopi 149.03 324 P PKPdf 11 14 43.1 -0.4
KOGS Kog 149.03 340 ePKPdf PKPdf 11 14 42.9 -0.3
KOGS ePKPbc PKPbc 11 14 47.6 -0.5
KOGS i PKPab PKPab 11 14 54.1 -0.3
AKHS Akhisar 149.06 318 ⇓iP PKPdf 11 14 43.0 -0.6
AKS Akhisar 149.06 318 eP PKPdf 11 14 44.8 +1.3
RZN Rozhen 149.12 325 i P PKPbc 11 14 48.0 -0.4
BFO Black Forest 149.12 351 ePKPdf PKPdf 11 14 42.9 -0.5
BFO ePKPbc PKPbc 11 14 48.1 -0.1
BFO Black Forest 149.12 351 ePKPdf PKPdf 11 14 43.1 -0.3
BFO ePKPbc PKPbc 11 14 48.2 0.0
BFO ePKPab PKPab 11 14 54.4 -0.3
BFO Black Forest 149.12 351 ePKHKP PKPdf 11 14 43.1 -0.3
BFO e 11 14 54.4
BFO Black Forest 149.12 351 ePKHKP PKPbc 11 14 48.1 -0.1
FLN La Foliniere 149.13 3 ePKIKP PKPdf 11 14 43.0 -0.4
FLN eR
comp=Z,535nm,19.2s
FLN La Foliniere 149.13 3 ePKPdf PKPdf 11 14 43.0 -0.4
FLN La Foliniere 149.13 3 ePKHKP PKPdf 11 14 43.0 -0.4
CDF Champ du Feu 149.18 353 ePKIKP PKPdf 11 14 43.0 -0.5
CDF Champ du Feu 149.18 353 ePKPdf PKPdf 11 14 43.0 -0.5
CDF Champ du Feu 149.18 353 ePKIKP PKPdf 11 14 43.0 -0.5
SOKA Soboth 149.20 342 ⇑iPKPdf PKPdf 11 14 43.5 -0.1
comp=Z,26nm,1.5s
SOKA ⇑iPKPbc PKPbc 11 14 47.6 -0.9
comp=Z,200nm,1.3s
PAGF Fort de Pagny 149.20 355 ePKIKP PKPdf 11 14 43.6 +0.1
comp=Z,23nm,1.3s
PAGF Fort de Pagny 149.20 355 ePKPdf PKPdf

LDF	La Druitiere	149.31	2	*e*PKPdf	PKPdf	11 14 43.1	-0.6
LDF	La Druitiere	149.31	2	*e*PKIKP	PKPdf	11 14 43.1	-0.6
ROSF	Rostrenen	149.34	6	*e*PKIKP	PKPdf	11 14 43.1	-0.6
ROSF	Rostrenen	149.34	6	*e*PKPdf	PKPdf	11 14 43.1	-0.6
ROSF	Rostrenen	149.34	6	*e*PKIKP	PKPdf	11 14 43.1	-0.6
ECH	Echery	149.39	353	*e*PKPdf	PKPdf	11 14 43.7	-0.1
ECH				*e*PKPbc	PKPbc	11 14 48.7	-0.2
ECH				*e*PKPab	PKPab	11 14 54.8	-1.0
ECH	Echery	149.39	353	*e*PKHKP	PKPdf	11 14 43.7	-0.1
ECH				*e*		11 14 54.8	
ECH	Echery	149.39	353	PKP	PKPdf	11 14 43.0	-0.8
GRR	Gorron	149.48	3	*e*PKIKP	PKPdf	11 14 44.9	+1.0
	comp=Z,57nm,1.1s						
GRR	Gorron	149.48	3	*e*PKPdf	PKPdf	11 14 44.9	+1.0
GRR	Gorron	149.48	3	*e*PKHKP	PKPdf	11 14 44.9	+1.0
WATA	Walderalm	149.49	347	⇑*i*PKPdf	PKPdf	11 14 44.1	+0.1
	comp=Z,30nm,1.2s,SNR=13						
WATA				⇓*i*PKPbc	PKPbc	11 14 48.6	-0.5
	comp=Z,213nm,1.4s						
SGMF	Saint Gilles	149.49	6	*e*PKIKP	PKPdf	11 14 43.5	-0.5
SGMF	Saint Gilles	149.49	6	*e*PKPdf	PKPdf	11 14 43.5	-0.5
SGMF	Saint Gilles	149.49	6	*e*PKIKP	PKPdf	11 14 43.5	-0.5
OBKA	Obir	149.50	342	⇑*i*PKPdf	PKPdf	11 14 44.1	0.0
	comp=Z,20nm,1.2s						
OBKA				⇓*i*PKPbc	PKPbc	11 14 48.7	-0.5
	comp=Z,121nm,1.6s						
THEF	They Montfort	149.50	354	PKP	PKPdf	11 14 44.2	+0.2
AYVA	Ayvalik	149.51	320	⇓*i*P	PKPbc	11 14 49.1	-0.4
RETA	Reutte	149.52	348	⇑*i*PKPdf	PKPdf	11 14 44.1	+0.1
	comp=Z,23nm,1.7s,SNR=20						
RETA				⇑*i*PKPbc	PKPbc	11 14 48.6	-0.6
	comp=Z,148nm,1.5s						
WTTA	Wattenberg	149.54	347	⇑*i*PKPdf	PKPdf	11 14 44.0	-0.1
	comp=Z,48nm,1.2s,SNR=58						
WTTA				⇓*i*PKPbc	PKPbc	11 14 48.9	-0.4
	comp=Z,206nm,0.8s						
BOZC	Bozcaada	149.57	321	⇓*i*P	PKPbc	11 14 49.1	-0.4
MOTA	Moosalm	149.58	347	⇓*i*PKPdf	PKPdf	11 14 43.8	-0.3
	comp=Z,29nm,1.0s,SNR=44						
MOTA				⇓*i*PKiKP	PKiKP	11 14 49.5	-0.6
	comp=Z,172nm,1.0s						
SFTF	Sexfontaines	149.61	355	*e*PKIKP	PKPdf	11 14 44.0	-0.1
SFTF	Sexfontaines	149.61	355	*e*PKPdf	PKPdf	11 14 44.0	-0.1
DIVS	Divibare	149.62	333	P	PKPbc	11 14 49.0	-0.6
TURN	Turunc	149.63	314	⇓*i*P	PKPdf	11 14 44.9	+0.3
MYKA	Terra Mystica	149.64	344	⇑*i*PKPdf	PKPdf	11 14 43.1	-1.1
	comp=Z,15nm,1.4s						
MYKA				⇑*i*PKPbc	PKPbc	11 14 48.2	-1.3
	comp=Z,114nm,1.0s						
HAU	Haudompre	149.69	354	*e*PKIKP	PKPdf	11 14 44.0	-0.3
	comp=Z,71nm,1.4s						
HAU				*e*R			
	comp=Z,426nm,18.8s						
HAU	Haudompre	149.69	354	*e*PKPdf	PKPdf	11 14 44.0	-0.3
HAU	Haudompre	149.69	354	*e*PKIKP	PKPdf	11 14 44.0	-0.3
AYDN	Tasoluk	149.70	316	⇓*i*P	PKPdf	11 14 44.8	+0.2
KAVA	Kavala	149.70	324	P	PKPbc	11 14 49.0	-0.9
KAVA	Kavala	149.70	324	P	PKPbc	11 14 49.0	-0.9
YER	Yerkesik	149.71	315	*e*P	PKPbc	11 14 50.5	+0.5
MMB	Musomiste	149.72	326	*i* P	PKPbc	11 14 49.0	-0.9
MOF	Molkenrain	149.75	353	PKP	PKPdf	11 14 44.7	+0.3
QUIF	Quistinic	149.77	6	*e*PKIKP	PKPdf	11 14 43.8	-0.6
QUIF	Quistinic	149.77	6	*e*PKPdf	PKPdf	11 14 43.8	-0.6
QUIF	Quistinic	149.77	6	*e*PKIKP	PKPdf	11 14 43.8	-0.6
PRK	Paraskevi	149.80	320	*e*P	PKPbc	11 14 48.0	-2.2
PRK	Paraskevi	149.80	320	P	PKPbc	11 14 48.5	-1.7
PRK	Paraskevi	149.80	320	P	PKPbc	11 14 48.5	-1.7
PRK	Paraskevi	149.80	320	PKHKP	PKPbc	11 14 48.5	-1.7
NVR	Nevrokopi	149.81	325	*e*P	PKPbc	11 14 48.7	-1.4
NVR	Nevrokopi	149.81	325	P	PKPbc	11 14 49.6	-0.5
NVR	Nevrokopi	149.81	325	P	PKPbc	11 14 49.6	-0.5
HINF	Hinteralfeld	149.82	353	*e*PKIKP	PKPdf	11 14 44.1	-0.4
	comp=Z,76nm,1.4s						
HINF	Hinteralfeld	149.82	353	*e*PKPdf	PKPdf	11 14 44.1	-0.4
HINF	Hinteralfeld	149.82	353	*e*PKIKP	PKPdf	11 14 44.1	-0.4
ABTA	Abfaltersbach	149.82	345	*i* PKPdf	PKPdf	11 14 44.2	-0.3
	comp=Z,71nm,1.2s,SNR=17						
ABTA				⇑*i*PKPbc	PKPbc	11 14 49.4	-0.5
	comp=Z,194nm,0.9s						
KKB	Krupnik	149.86	327	*i* P	PKPbc	11 14 50.0	-0.2
DAVA	Damuels	149.88	349	*i* PKPdf	PKPdf	11 14 45.1	+0.5
	comp=Z,32nm,1.7s,SNR=49						
DAVA				⇑*i*PKiKP	PKiKP	11 14 50.6	-0.1
	comp=Z,290nm,1.4s						
LJU	Ljubljana	149.93	342	*e*PKPdf	PKPdf	11 14 45.1	+0.4
LJU				*i* PKPbc	PKPbc	11 14 50.1	-0.1
FETA	Feichten	149.97	348	*i* PKPdf	PKPdf	11 14 44.9	+0.1
	comp=Z,51nm,1.2s,SNR=27						
FETA				⇑*i*PKiKP	PKiKP	11 14 50.5	-0.4
	comp=Z,233nm,1.5s						
LIA	Limnos Island	150.04	322	*e*P	PKPdf	11 14 44.2	-0.9
LIA	Limnos Island	150.04	322	P	PKPbc	11 14 49.4	-1.3
LIA	Limnos Island	150.04	322	P	PKPbc	11 14 49.4	-1.3
GCAM	G?zelcami?	150.10	317	⇓*i*P	PKPdf	11 14 44.8	-0.5
VOY	Vojsko	150.12	343	*e*PKPdf	PKPdf	11 14 45.0	0.0
VOY				*e*		11 14 49.6	
VOY				*i* PKPbc	PKPbc	11 14 50.4	-0.3
SRS	Serrai	150.12	325	P	PKPbc	11 14 48.6	-2.2
SRS	Serrai	150.12	325	P	PKPbc	11 14 48.6	-2.2
SRS	Serrai	150.12	325	PKHKP	PKPbc	11 14 48.6	-2.2
URLA	Izmir	150.13	318	⇓*i*P	PKPdf	11 14 43.8	-1.5
BOJS	Bojanci	150.19	341	*i* PKPdf	PKPdf	11 14 45.6	+0.4
BOJS				*i* PKPbc	PKPbc	11 14 51.3	+0.4
LOMF	Lomont	150.28	353	PKP	PKPdf	11 14 44.7	-0.5
ARG	Arkhangelos	150.30	313	*e*P	PKPbc	11 14 50.4	-1.0
ARG	Arkhangelos	150.30	313	P	PKPbc	11 14 51.6	+0.2
ARG	Arkhangelos	150.30	313	P	PKPbc	11 14 51.6	+0.2
ARG	Arkhangelos	150.30	313	PKIKP	PKPbc	11 14 51.6	+0.2
SMG	Samos	150.36	317	*e*P	PKPbc	11 14 50.4	-1.1
DAVOX	Davos/Dischmat	150.37	348	PKP	PKPdf	11 14 45.8	+0.4
	comp=Z,19nm,0.9s,baz=236,slow=0.3,SNR=15						
DAVOX				PKPbc	PKPbc	11 14 51.0	-0.2
	comp=Z,153nm,0.6s,baz=11,slow=1.9,SNR=124						
DAVOX	Davos/Dischmat	150.37	348	PKP	PKPdf	11 14 45.8	+0.4
DAVOX				PKPbc	PKPbc	11 14 51.0	-0.2
DAVOX	Davos/Dischmat	150.37	348	PKIKP	PKPdf	11 14 45.8	+0.4
DAVOX						11 14 51.0	
BODT	Bodrum	150.41	315	*e*P	PKPbc	11 14 50.2	-1.4
DAT	Datca	150.41	315	*e*P	PKPbc	11 14 51.2	-0.4
OUR	Ouranopolis	150.44	324	P	PKPbc	11 14 50.6	-1.0
OUR	Ouranopolis	150.44	324	P	PKPbc	11 14 50.6	-1.0
OUR	Ouranopolis	150.44	324	PKIKP	PKPbc	11 14 50.6	-1.0
TRI	Trieste	150.45	343	*e*PKPbc	PKPbc	11 14 51.2	-0.3
TRI				*e*PKPab	PKPab	11 14 59.9	-0.4
TRI	Trieste	150.45	343	*e*PKIKP	PKPbc	11 14 51.2	-0.3
TRI				*e*		11 14 59.9	
SOH	Sokhos	150.46	325	*e*P	PKPbc	11 14 48.9	-2.7
CHOS	Chios island	150.46	319	*e*P	PKPbc	11 14 50.6	-1.1
CHOS	Chios island	150.46	319	P	PKPbc	11 14 50.3	-1.4
KNT	Kendrikon	150.46	326	P	PKPbc	11 14 49.0	-2.6
KNT	Kendrikon	150.46	326	P	PKPbc	11 14 49.0	-2.6
KNT	Kendrikon	150.46	326	PKIKP	PKPbc	11 14 49.0	-2.6
VAY	Valandovo	150.52	327	*e*PKP	PKPdf	11 14 44.5	-1.3
SKO	Skopje	150.61	329	*e*PKP	PKPdf	11 14 46.5	+0.6
LOR	Lormes	150.62	357	*e*PKIKP	PKPdf	11 14 45.6	-0.1
	comp=Z,196nm,1.7s						
LOR				*e*R			
	comp=Z,459nm,18.2s						
LOR	Lormes	150.62	357	*e*PKPdf	PKPdf	11 14 45.6	-0.1
LOR	Lormes	150.62	357	*e*PKIKP	PKPdf	11 14 45.6	-0.1
PLG	Polygyros	150.72	325	*e*P	PKPbc	11 14 49.5	-2.7
PLG	Polygyros	150.72	325	P	PKPbc	11 14 50.1	-2.1
PLG	Polygyros	150.72	325	P	PKPbc	11 14 50.1	-2.1
PLG	Polygyros	150.72	325	PKIKP	PKPbc	11 14 50.1	-2.1
HORT	Hortiatis	150.75	325	P	PKPbc	11 14 50.3	-2.0
HORT	Hortiatis	150.75	325	P	PKPbc	11 14 50.3	-2.0
TUE	Stuetta	150.76	349	*e*PKPdf	PKPdf	11 14 45.9	-0.1
TUE				*e*PKPbc	PKPbc	11 14 52.4	+0.2
TUE				*e*PKPab	PKPab	11 15 01.9	+0.4
SSF	Saint Saulge	150.84	357	*e*PKIKP	PKPdf	11 14 46.1	0.0
SSF	Saint Saulge	150.84	357	*e*PKPdf	PKPdf	11 14 46.1	0.0
SSF	Saint Saulge	150.84	357	*e*PKIKP	PKPdf	11 14 46.1	0.0
GRG	Griva	150.87	327	P	PKPbc	11 14 49.7	-2.9
GRG	Griva	150.87	327	P	PKPbc	11 14 49.7	-2.9
GRG	Griva	150.87	327	PKIKP	PKPbc	11 14 49.7	-2.9
PAIG	Paliouri	150.89	324	P	PKPbc	11 14 50.2	-2.5
PAIG	Paliouri	150.89	324	P	PKPbc	11 14 50.2	-2.5
PAIG	Paliouri	150.89	324	PKIKP	PKPbc	11 14 50.2	-2.5
CABF	La Chapelle	151.09	354	*e*PKIKP	PKPdf	11 14 46.9	+0.4
	comp=Z,266nm,1.7s						
CABF	La Chapelle	151.09	354	*e*PKPdf	PKPdf	11 14 46.9	+0.4
CABF	La Chapelle	151.09	354	*e*PKIKP	PKPdf	11 14 46.9	+0.4
AVF	Avril sur Loir	151.12	358	*e*PKIKP	PKPdf	11 14 46.1	-0.4
	comp=Z,71nm,1.6s						
AVF	Avril sur Loir	151.12	358	*e*PKPdf	PKPdf	11 14 46.1	-0.4
AVF	Avril sur Loir	151.12	358	*e*PKIKP	PKPdf	11 14 46.1	-0.4
NVLJ	Novalja	151.15	340	P	PKPbc	11 14 52.0	-1.1
KRUS	Krusevo	151.16	328	*e*PKP	PKPdf	11 14 45.8	-1.0
SMF	Signal de Mont	151.24	357	*e*PKIKP	PKPdf	11 14 46.3	-0.4
	comp=Z,121nm,1.7s						
SMF	Signal de Mont	151.24	357	*e*PKPdf	PKPdf	11 14 46.3	-0.4
SMF	Signal de Mont	151.24	357	*e*PKIKP	PKPdf	11 14 46.3	-0.4
AOS	Alonnisos	151.28	322	P	PKPbc	11 14 51.0	-2.6
AOS	Alonnisos	151.28	322	P	PKPbc	11 14 51.0	-2.6
MFF	Saint Martin d	151.30	3	*e*PKIKP	PKPdf	11 14 46.4	-0.4
	comp=Z,118nm,1.3s						
MFF	Saint Martin d	151.30	3	*e*PKPdf	PKPdf	11 14 46.4	-0.4
MFF	Saint Martin d	151.30	3	*e*PKIKP	PKPdf	11 14 46.4	-0.4
OG01	Vacheresse	151.30	353	PKP	PKPdf	11 14 47.3	+0.5
PHP	Peshkopia	151.31	330	P	PKPdf	11 14 46.7	-0.3
PHP	Peshkopia	151.31	330	P	PKPdf	11 14 46.7	-0.3
PHP	Peshkopia	151.31	330	PKIKP	PKPdf	11 14 46.7	-0.3
KARP	Karpathos	151.32	313	*e*P	PKPbc	11 14 52.7	-1.1
KARP	Karpathos	151.32	313	P	PKPbc	11 14 53.1	-0.7
KARP	Karpathos	151.32	313	P	PKPbc	11 14 53.1	-0.7
BGF	Bois d'Agland	151.37	358	*e*PKIKP	PKPdf	11 14 46.8	-0.1
	comp=Z,182nm,1.7s						
BGF	Bois d'Agland	151.37	358	*e*PKPdf	PKPdf	11 14 46.8	-0.1
BGF	Bois d'Agland	151.37	358	*e*PKIKP	PKPdf	11 14 46.8	-0.1
SKIA	Skiathos	151.53	323	P	PKPbc	11 14 51.0	-3.1
FNA	Florina	151.53	327	P	PKPdf	11 14 46.3	-1.0
FNA	Florina	151.53	327	P	PKPdf	11 14 46.3	-1.0
FNA	Florina	151.53	327	PKIKP	PKPdf	11 14 46.3	-1.0
XOR	Xorichti	151.55	323	P	PKPbc	11 14 52.2	-2.0
XOR	Xorichti	151.55	323	P	PKPbc	11 14 52.2	-2.0
NEO	Neokhori	151.57	323	*e*P	PKPbc	11 14 52.5	-1.7
APE	Apeiranthos	151.57	317	*e*P	PKPbc	11 14 53.0	-1.2
APE	Apeiranthos	151.57	317	*e*P	PKPbc	11 14 52.4	-1.9
APE	Apeiranthos	151.57	317	⇑PKIKP	PKPbc	11 14 52.9	-1.4
APE	Apeiranthos	151.57	317	⇑*i*P	PKPbc	11 14 52.8	-1.5
STON	Ston	151.58	335	P	PKPdf	11 14 48.2	+0.9
KZN	Kozani	151.67	326	*e*P	PKPdf	11 14 50.3	+2.7
MRMA	Marmari	151.70	320	P	PKPdf	11 14 46.7	-1.0
OG35	Corcelles	151.71	354	PKP	PKPdf	11 14 47.0	-0.4
MRKA	Markates	151.76	322	P	PKPbc	11 14 52.7	-2.0
TIR	Tirane	151.85	330	*e*PKPbc	PKPbc	11 14 54.6	-0.1
TIR				*e*PKPab	PKPab	11 15 06.8	+0.4
TIR	Tirane	151.85	330	*e*PKIKP	PKPbc	11 14 54.6	-0.2
TIR				*e*		11 15 06.8	
AGO	Saint Agoulin	151.86	358	PKP	PKPdf	11 14 47.7	+0.1
PLDF	La Plantade	151.92	357	PKP	PKPdf	11 14 48.4	+0.7
RSL	Roselend	151.94	353	PKP	PKPdf	11 14 48.0	+0.2
NEST	Nestorio	151.97	327	P	PKPdf	11 14 48.0	0.0
PTL	Penteli	152.02	320	*e*P	PKPbc	11 14 52.4	-2.9
PTL	Penteli	152.02	320	P	PKPdf	11 14 49.3	+1.2
PTL	Penteli	152.02	320	P	PKPdf	11 14 49.3	+1.2
THL	Klokotos Trika	152.07	325	*e*P	PKPdf	11 14 46.6	-1.6
LPL	La Plagne	152.10	352	*e*PKIKP	PKPdf	11 14 48.5	+0.5
	comp=Z,32nm,1.1s						
LPL	La Plagne	152.10	352	*e*PKPdf	PKPdf	11 14 48.5	+0.5
LPL	La Plagne	152.10	352	*e*PKIKP	PKPdf	11 14 48.5	+0.5
ATAL	Atalanti	152.10	322	P	PKPdf	11 14 47.5	-0.7
ATAL	Atalanti	152.10	322	P	PKPdf	11 14 47.5	-0.7
LPG	La Plagne	152.12	352	*e*PKIKP	PKPdf	11 14 48.6	+0.6
	comp=Z,105nm,1.6s						
LPG	La Plagne	152.12	352	*e*PKPdf	PKPdf	11 14 48.6	+0.6
LPG	La Plagne	152.12	352	*e*PKIKP	PKPdf	11 14 48.6	+0.6
LKR	Lokris	152.14	322	*e*P	PKPdf	11 14 47.0	-1.3
LKR	Lokris	152.14	322	P	PKPdf	11 14 47.2	-1.1
LKR	Lokris	152.14	322	P	PKPdf	11 14 47.2	-1.1
ATH	Athens Observa	152.16	320	*e*P	PKPdf	11 14 50.7	+2.3
PYM	Petit Puy Mans	152.17	358	PKP	PKPdf	11 14 48.8	+0.7
VLY	Voula,Athens	152.19	320	*e*P	PKPbc	11 14 53.8	-1.8
VLY	Voula,Athens	152.19	320	P	PKPbc	11 14 53.7	-1.9
VLY	Voula,Athens	152.19	320	P	PKPbc	11 14 53.7	-1.9
AXAR	Agios Charalam	152.26	323	P	PKPdf	11 14 46.0	-2.5
AXAR	Agios Charalam	152.26	323	P	PKPdf	11 14 46.0	-2.5
VIL1	Vilia, Western	152.27	321	*e*P	PKPbc	11 14 53.5	-2.3
AGG	Agios Georgios	152.27	324	*e*P	PKPdf	11 14 47.3	-1.2
AGG	Agios Georgios	152.27	324	P	PKPdf	11 14 46.1	-2.4
AGG	Agios Georgios	152.27	324	P	PKPdf	11 14 46.1	-2.4
AGG	Agios Georgios	152.27	324	PKIKP	PKPdf	11 14 46.1	-2.4
MAKR	Makrakomi, Fth	152.39	324	P	PKPdf	11 14 48.5	-0.2
MAKR	Makrakomi, Fth	152.39	324	P	PKPdf	11 14 48.5	-0.2
NAIG	Nisos Aigina	152.44	320	*e*P	PKPbc	11 14 54.4	-1.8
NPS	Neapolis	152.54	314	*e*P	PKPdf	11 14 47.7	-1.3
SSB	Saint Sauveur	152.55	356	*e*PKPdf	PKPdf	11 14 48.5	-0.2
SSB				*e*PKPbc	PKPbc	11 14 56.3	+0.1
SSB				*e*PKPab	PKPab	11 15 08.8	-0.3
SSB	Saint Sauveur	152.55	356	*e*PKIKP	PKPdf	11 14 48.5	-0.2
SSB				*e*		11 14 56.3	
SSB				*e*		11 15 08.9	
SSB	Saint Sauveur	152.55	356	PKP	PKPdf	11 14 49.2	+0.5
BNI	Bardonecchia	152.56	352	*e*PKPdf	PKPdf	11 14 49.0	+0.2
BNI				*e*PKPbc	PKPbc	11 14 57.1	+0.9
BNI				*e*PKPab	PKPab	11 15 09.7	+0.5
BNI	Bardonecchia	152.56	352	*e*PKIKP	PKPdf	11 14 49.0	+0.3
BNI				*e*		11 14 57.1	
BNI				*e*		11 15 09.7	
LTK	Loutraki	152.58	321	*e*P	PKPdf	11 14 47.2	-1.8
LTK	Loutraki	152.58	321	P	PKPdf	11 14 47.7	-1.3
LTK	Loutraki	152.58	321	P	PKPdf	11 14 47.7	-1.3
JAN	Janina	152.63	326	*e*P	PKPdf	11 14 48.1	-0.9
EVR	Evrytania	152.64	324	*e*P	PKPdf	11 14 51.1	+2.1
RJF	Les Rejaudoux	152.64	0	*e*PKIKP	PKPdf	11 14 48.7	-0.1
	comp=Z,30nm,0.9s						
RJF				*e*R			
	comp=Z,404nm,22.8s						
RJF	Les Rejaudoux	152.64	0	*e*PKPdf	PKPdf	11 14 48.7	-0.1
RJF	Les Rejaudoux	152.64	0	*e*PKIKP	PKPdf	11 14 48.7	-0.1
LBL	Lubilhac	152.68	358	PKP	PKPdf	11 14 49.5	+0.6
XRY	Khrisi	152.69	313	*e*P	PKPbc	11 14 56.9	+0.1
DID	Didima	152.75	320	*e*P	PKPdf	11 14 50.6	+1.4
DID	Didima	152.75	320	P	PKPdf	11 14 47.7	-1.5
DIDY	Didyma	152.78	320	P	PKPdf	11 14 47.9	-1.4
ORIF	Oris-en-Rattie	152.79	353	*e*PKIKP	PKPdf	11 14 49.3	+0.3
	comp=Z,94nm,1.6s						
ORIF				*e*R			
	comp=Z,368nm,18.5s						
ORIF	Oris-en-Rattie	152.79	353	*e*PKPdf	PKPdf	11 14 49.3	+0.3
ORIF	Oris-en-Rattie	152.79	353	*e*PKIKP	PKPdf	11 14 49.3	+0.3
KALE	Kalithea	152.81	323	P	PKPdf	11 14 49.3	0.0
KALE	Kalithea	152.81	323	P	PKPdf	11 14 49.3	0.0
TRIZ	Trizonia	152.87	323	P	PKPdf	11 14 52.0	+2.6
MBDF	Montbardon	152.87	352	*e*PKIKP	PKPdf	11 14 49.1	-0.1
	comp=Z,200nm,1.7s						
MBDF	Montbardon	152.87	352	*e*PKPdf	PKPdf	11 14 49.1	-0.1
MBDF	Montbardon	152.87	352	*e*PKIKP	PKPdf	11 14 49.1	-0.1
EFP	Efpalio	152.92	323	*e*P	PKPdf	11 14 47.5	-1.9
EFP	Efpalio	152.92	323	P	PKPdf	11 14 49.0	-0.4
VIVF	Saint-Julien-l	152.97	355	*e*PKIKP	PKPdf	11 14 49.5	+0.2
	comp=Z,174nm,1.7s						
VIVF	Saint-Julien-l	152.97	355	*e*PKPdf	PKPdf	11 14 49.5	+0.2
VIVF	Saint-Julien-l	152.97	355	*e*PKIKP	PKPdf	11 14 49.5	+0.2
LFF	La Frestale	152.99	1	*e*PKIKP	PKPdf	11 14 49.2	-0.1
LFF	La Frestale	152.99	1	*e*PKPdf	PKPdf	11 14 49.2	-0.1
LFF	La Frestale	152.99	1	*e*PKIKP	PKPdf	11 14 49.2	-0.1
GUR	Goura	153.00	322	*e*P	PKPdf	11 14 48.9	-0.7
GUR	Goura	153.00	322	P	PKPdf	11 14 48.9	-0.7
LAKA	Lakka	153.01	323	P	PKPdf	11 14 52.4	+2.8
LAKA	Lakka	153.01	323	P	PKPdf	11 14 52.4	+2.8
CAF	Calviac	153.01	359	*e*PKIKP	PKPdf	11 14 49.5	+0.1
	comp=Z,36nm,1.2s						
CAF	Calviac	153.01	359	*e*PKPdf	PKPdf	11 14 49.5	+0.1
CAF	Calviac	153.01	359	*e*PKIKP	PKPdf	11 14 49.5	+0.1
KEK	Kerkira	153.13	328	*e*P	PKPdf	11 14 50.0	+0.3
SIVA	Sivas	153.22	314	P	PKPdf	11 14 53.8	+3.8
SIVA	Sivas	153.22	314	P	PKPdf	11 14 53.8	+3.8
VLX	Vlachokerasia	153.36	321	*e*P	PKPdf	11 14 55.8	+5.7
VAM	Vamos	153.41	316	*e*P	PKPdf	11 14 49.9	-0.3
RLS	Riolos of Patr	153.43	323	*e*P	PKPbc	11 14 57.9	-0.4
RLS	Riolos of Patr	153.43	323	P	PKPbc	11 14 59.0	+0.7
RLS	Riolos of Patr	153.43	323	P	PKPbc	11 14 59.0	+0.7
VLI	Veliai	153.44	319	*e*P	PKPbc	11 14 56.6	-1.8
TOUF	Mont Tournerai	153.50	351	PKP	PKPdf	11 14 50.5	+0.4
AQU	L'Aquila	153.60	340	*e*PKPdf	PKPdf	11 14 51.0	+0.7
AQU				*e*PKPab	PKPab	11 15 14.3	+0.5
AQU	L'Aquila	153.60	340	*e*PKIKP	PKPdf	11 14 51.0	+0.7
AQU				*e*		11 15 14.3	
SBF	Sospel	153.62	351	*e*PKIKP	PKPdf	11 14 51.2	+0.9
	comp=Z,154nm,1.2s						
SBF	Sospel	153.62	351	*e*PKPdf	PKPdf	11 14 51.2	+0.9
SBF	Sospel	153.62	351	*e*PKIKP	PKPdf	11 14 51.2	+0.9
MVIF	Mont Vial	153.63	351	PKP	PKPdf	11 14 49.5	-0.8
KYTH	Kithira	153.65	318	*e*P	PKPbc	11 14 58.0	-0.8
ITM	Ithomi	153.75	321	*e*P	PKPdf	11 14 50.9	+0.2
ITM	Ithomi	153.75	321	P	PKPbc	11 14 59.0	0.0
ITM	Ithomi	153.75	321	P	PKPbc	11 14 59.0	0.0
SMRF	Simiane la Rot	153.75	354	*e*PKIKP	PKPdf	11 14 50.9	+0.5
	comp=Z,132nm,1.5s						
SMRF	Simiane la Rot	153.75	354	*e*PKPdf	PKPdf	11 14 50.9	+0.5
LASF	Ste Croix	153.80	356	*e*PKIKP	PKPdf	11 14 50.8	+0.3
	comp=Z,82nm,1.4s						
LASF	Ste Croix	153.80	356	*e*PKPdf	PKPdf	11 14 50.8	+0.3
CALN	Calern	153.81	351	PKP	PKPdf	11 14 50.9	+0.4
GVD	Gavdhos	153.81	315	*e*PKPbc	PKPbc	11 14 59.4	+0.2
GVD				*e*PKPab	PKPab	11 15 15.2	+0.2
VLS	Valsamata	153.84	325	*e*P	PKPbc	11 14 58.0	-1.2
PYL	PYLOS	154.05	321	*e*P	PKPbc	11 15 00.1	+0.4
LMR	La Mourre	154.27	352	*e*PKIKP	PKPdf	11 14 50.9	-0.3
LMR	La Mourre	154.27	352	*e*PKPdf	PKPdf	11 14 50.9	-0.3
LMR	La Mourre	154.27	352	*e*PKIKP	PKPdf	11 14 50.9	-0.3
PGAV	Gavieira, Arco	154.53	17	*e*PKPdf	PKPdf	11 14 52.4	+0.8
PGAV	Gavieira, Arco	154.53	17	*e*PKPbc	PKPbc	11 15 00.8	+0.3
MTLF	Montolieu	154.59	359	*e*PKIKP	PKPdf	11 14 51.5	-0.1
	comp=Z,114nm,1.8s						
MTLF	Montolieu	154.59	359	*e*PKPdf	PKPdf	11 14 51.

ASAR Alice Springs 20.34 145 P **P 11 02 07.1 +0.2**
1.0nm,0.3s,baz=319,slow=8.5,SNR=30
ASAR Alice Springs 20.34 145 P **P 11 02 07.1 +0.2**
CMAR Chiang Mai Arr 33.72 320 P **P 11 04 04.4 +0.4**
0.5nm,0.3s,mb3.5,baz=140,slow=9.0,SNR=3.5
CMAR Chiang Mai Arr 33.72 320 P **P 11 04 04.4 +0.4**
SONM Songino Array 56.41 348 P **P 11 06 57.0 -0.2**
0.2nm,0.4s,mb2.7,baz=160,slow=7.1,SNR=3.7
SONM Songino Array 56.41 348 P **P 11 06 57.0 -0.2**
MKAR Makanchi Array 63.97 331 P **P 11 07 47.9 +0.6**
0.3nm,0.5s,mb3.0,baz=142,slow=7.6,SNR=6.8
MKAR Makanchi Array 63.97 331 P **P 11 07 47.9 +0.6**
ZALV Zalesovo Beam 68.25 338 P **P 11 08 12.7 -1.0**
0.8nm,0.3s,mb3.7,baz=180,slow=2.8,SNR=3.9
ZALV Zalesovo Beam 68.25 338 P **P 11 08 12.7 -1.0**

IDC 17 11:03:57.5±2.6, 24°.33S×174°.82W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.1/16, mbtmp4.1/6, MS3.4/1, Ms1 3.4/1, ms1mx2.8/32, Error ellipse: s-maj=147.7km s-min=24.6km az=159.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.49 204**		LR	LR	11 12 50.9	
	comp=Z,168nm,21.4s,baz=224,slow=34						
CTA	**Charters Tower**	**36.20 269**		P	P	11 11 02.9	+0.6
	4.5nm,0.5s,baz=86,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**46.62 260**		P	P	11 12 27.5	-0.3
	2.6nm,0.9s,baz=93,slow=6.5,SNR=4.7						
WRA	**Warramunga Arr**	**47.09 265**		P	P	11 12 31.1	-0.4
	2.8nm,0.9s,baz=105,slow=8.2,SNR=9.9						
NVAR	**Mina Array Bea**	**81.86 41**		P	P	11 16 19.4	+0.7
	0.6nm,0.8s,baz=238,slow=6.3,SNR=3.6						
TXAR	**Lajitas Array**	**86.70 56**		P	P	11 16 43.6	+0.1
	0.7nm,0.8s,baz=195,slow=8.9,SNR=5.2						
ILAR	**Eielson Array**	**91.42 12**		P	P	11 17 04.5	-0.4
	0.4nm,0.8s,baz=218,slow=6.2,SNR=4.3						

IDC 17 11:19:28.2±1.5, 22°.52S×170°.64E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/16, mbtmp3.9/7, Error ellipse: s-maj=41.5km s-min=31.5km az=43.0
ISCJB 17 11:19:31.6±3.8, 22°.6S±0°.2×170°.45E±0°.09, h28km±27km, mb3.9/7, Error ellipse: s-maj=39.3km s-min=11.5km az=13.9
NEIC 17 11:19:33.6±1.1, 22°.52S×170°.56E, h35km, mb4.5/2, Error ellipse: s-maj=30.7km s-min=20.9km az=202.0
ISC 17 11:19:32.3±4.0, 22°.5S±0°.2×170°.47E±0°.09, h22km±28km, n19, σ0s85/20, mb3.9/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.34 276**		*e*P	**Pn**	**11 20 23.1**	**-0.1**
BAYA				*e*S	**Sn**	**11 21 02.0**	**-0.3**
DZM	**Mont Dzumac**	**3.76 276**		*e*Pn	**Pn**	**11 20 29.5**	**+0.5**
DZM				*e*Sn	**Sn**	**11 21 12.2**	**-0.4**
NOUC	**Port Laguerre**	**3.88 275**		*e*P	**Pn**	**11 20 30.2**	**-0.6**
NOUC				*e*S	**Sn**	**11 21 16.1**	**+0.4**
STKA	**Stephens Creek**	**27.26 244**		P	**P**	**11 25 16.5**	**+1.4**
	1.6nm,0.8s,mb3.6,baz=111,slow=16,SNR=4.1						
STKA	**Stephens Creek**	**27.26 244**		P	**P**	**11 25 16.5**	**+1.4**
ASAR	**Alice Springs**	**33.60 261**		P	**P**	**11 26 11.6**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=79,slow=9.6,SNR=28						
ASAR	**Alice Springs**	**33.60 261**		P	**P**	**11 26 11.6**	**+0.4**
WRA	**Warramunga Arr**	**33.73 268**		P	**P**	**11 26 11.6**	**-0.8**
	0.5nm,1.0s,mb3.4,baz=97,slow=8.6,SNR=8.1						
WRA	**Warramunga Arr**	**33.73 268**		P	**P**	**11 26 11.6**	**-0.8**
QSPA	**South Pole Qui**	**67.55 180**		P	**P**	**11 30 26.8**	**+0.3**
	2.0nm,0.9s,mb4.2,baz=349,slow=1.7,SNR=5.7						
QSPA	**South Pole Qui**	**67.55 180**		*e*P	**P**	**11 30 26.7**	**+0.2**
	4.4nm,1.1s,mb4.4						
CMAR	**Chiang Mai Arr**	**80.90 294**		P	**P**	**11 31 47.0**	**+1.7**
	1.0nm,0.7s,mb3.9,baz=129,slow=3.5,SNR=5.4						
CMAR	**Chiang Mai Arr**	**80.90 294**		P	**P**	**11 31 47.0**	**+1.7**
SNAA	**Sanae**	**85.95 182**		P	**P**	**11 32 09.0**	**-1.4**
	0.4nm,0.8s,mb3.7,baz=153,slow=6.3,SNR=5.6						
SNAA	**Sanae**	**85.95 182**		*e*P	**P**	**11 32 08.5**	**-1.9**
	3.5nm,0.9s,mb4.6						
SONM	**Songino Array**	**90.52 323**		P	**P**	**11 32 31.7**	**-0.6**
	0.5nm,0.9s,mb3.9,baz=108,slow=3.2,SNR=3.3						
SONM	**Songino Array**	**90.52 323**		P	**P**	**11 32 31.8**	**-0.6**
GERES	**GERESS Array B**	**147.91 331**		PKPbc	PKPbc	11 39 14.9	-0.8
	0.8nm,0.7s,baz=349,slow=2.7,SNR=1.8						
GERES	**GERESS Array B**	**147.91 331**		PKPbc	PKPbc	11 39 14.9	-0.7

NEIC 17 11:32:14.4, 16°.73N×95°.73W, h64km, MD4.0(MEX), After MEX.
MEX 17 11:32:13.6±1.1, 16°.70N×95°.72W, h72km±16km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.89 64**		*e*P	Pn	11 32 29.4	-1.5
CMIG				*i* S	Sn	11 32 41.6	-2.2
CMIG	**Matias Romero**	**0.89 64**		*e*P	Pn	11 32 29.4	-1.5
CMIG				*i* S	Sn	11 32 41.6	-2.2
HUIG	**Huatulco**	**0.99 202**		*i* P	Pn	11 32 31.1	-1.0
HUIG				*e*S	Sn	11 32 45.1	-0.9
HUIG	**Huatulco**	**0.99 202**		*i* P	Pn	11 32 31.1	-1.0
HUIG				*e*S	Sn	11 32 45.1	-0.9
VHO	**Vista Hermosa**	**1.04 291**		*e*P	Pn	11 32 31.9	-0.8
VHO				*e*S	Sn	11 32 46.0	-0.9
VHO	**Vista Hermosa**	**1.04 291**		*e*P	Pn	11 32 31.9	-0.8
VHO				*e*S	Sn	11 32 46.0	-0.9
UTMO	**Huajuapan**	**2.29 300**		*e*P	Pn	11 32 48.8	-0.4
UTMO				*e*S	Sn	11 33 15.8	-0.5
UTMO	**Huajuapan**	**2.29 300**		*e*P	Pn	11 32 48.8	-0.4
UTMO				*e*S	Sn	11 33 15.8	-0.5
TPIG	**Tehuac#an**	**2.32 318**		*i* P	Pn	11 32 49.2	-0.4
TPIG				*i* S	Sn	11 33 16.3	-0.8
TPIG	**Tehuac#an**	**2.32 318**		*i* P	Pn	11 32 49.2	-0.4
TPIG				*i* S	Sn	11 33 16.3	-0.8
PNIG	**Pinotepa**	**2.33 263**		*i* P	Pn	11 32 47.9	-1.8
PNIG				*i* S	Sn	11 33 14.5	-2.8
PNIG	**Pinotepa**	**2.33 263**		*i* P	Pn	11 32 47.9	-1.8
PNIG				*i* S	Sn	11 33 14.4	-2.9
TGIG		**2.49 88**		*e*P	Pn	11 32 50.5	-1.5
TGIG				*e*S	Sn	11 33 21.1	-0.3
TGIG		**2.49 88**		*e*P	Pn	11 32 51.5	-0.5
TGIG				*e*S	Sn	11 33 21.1	-0.3
PCIG		**2.60 112**		*e*P	Pn	11 32 54.7	+1.3
PCIG				*i* S	Sn	11 33 21.9	-2.0
PCIG		**2.60 112**		*e*P	Pn	11 32 53.5	0.0
PCIG				*i* S	Sn	11 33 21.9	-2.0
TEIG	**Tepich**	**7.89 62**		*e*Pn	Pn	11 34 02.7	-3.0
	43nm,0.4s						

NEIC 17 11:41:33.1, 16°.15N×97°.60W, h22km, MD3.7(MEX), After MEX.
MEX 17 11:41:33.2±0.9, 16°.16N×97°.60W, h20km±67km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55 295**		*e*P	Pb	11 41 42.2	-2.0
PNIG				*i* S	Sb	11 41 49.6	-2.0
PNIG	**Pinotepa**	**0.55 295**		*e*P	Pb	11 41 42.2	-2.0
PNIG				*i* S	Sb	11 41 49.6	-2.0
VHO	**Vista Hermosa**	**1.23 43**		*e*P	Pn	11 41 51.8	-3.5
VHO				*i* S	Sb	11 42 06.7	-4.6
VHO	**Vista Hermosa**	**1.23 43**		*e*P	Pn	11 41 51.8	-3.5
VHO				*i* S	Sb	11 42 06.7	-4.6
OXX	**Oaxaca**	**1.25 43**		*i* P	Pn	11 41 53.2	-2.3
OXX	**Oaxaca**	**1.25 43**		*i* P	Pn	11 41 53.2	-2.3
HUIG	**Huatulco**	**1.49 105**		*i* P	Pn	11 41 56.7	-2.1
HUIG				*i* S	Sn	11 42 13.8	-3.9
HUIG	**Huatulco**	**1.49 105**		*i* P	Pn	11 41 56.0	-2.8
HUIG				*i* S	Sn	11 42 13.8	-3.9
UTMO	**Huajuapan**	**1.67 353**		*e*P	Pn	11 41 59.6	-1.8
UTMO				*i* S	Sn	11 42 19.9	-2.3
UTMO	**Huajuapan**	**1.67 353**		*e*P	Pn	11 41 59.6	-1.8
UTMO				*i* S	Sn	11 42 19.1	-3.1
TPIG	**Tehuac#an**	**2.26 6**		*i* P	Pn	11 42 07.1	-2.3
TPIG				*i* S	Sn	11 42 32.6	-4.1
TPIG	**Tehuac#an**	**2.26 6**		*i* P	Pn	11 42 07.1	-2.3
TPIG				*i* S	Sn	11 42 32.6	-4.1
CMIG	**Matias Romero**	**2.77 70**		*i* P	Pn	11 42 13.6	-2.8
CMIG				*i* S	Sn	11 42 45.8	-3.5
CMIG	**Matias Romero**	**2.77 70**		*i* P	Pn	11 42 13.6	-2.8
CMIG				*i* S	Sn	11 42 45.8	-3.5

CSEM 17 11:43:21.9±0.2, 39°.40N×28°.13E, h15km, MD3.0, Error ellipse: s-maj=5.6km s-min=3.3km az=42.0
ISK 17 11:43:21.5, 39°.38N×28°.12E, h17km, MD2.7
ISCJB 17 11:43:22.3±0.7, 39°.39N±0°.05×28°.13E±0°.05, h21km±9km, Error ellipse: s-maj=8.6km s-min=5.2km az=30.8
DDA 17 11:43:22.2, 39°.44N×28°.15E, h7km±5km, Md3.0
ISC 17 11:43:22.1±0.7, 39°.39N±0°.04×28°.12E±0°.04, h18km±6km, n26, σ0s83/39, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.31 323**		*e*PG	**Pg**	**11 43 28.6**	**-0.2**
BALB				*e*SG	**Sg**	**11 43 34.3**	**+0.8**
BALB	**Balikesir**	**0.31 323**		*e*Pg	**Pg**	**11 43 28.7**	**-0.2**
BALB				*e*Sg	**Sg**	**11 43 34.3**	**+0.8**
DURS	**Dursunbey**	**0.34 52**		*i* P	**Pg**	**11 43 28.4**	**-1.0**
DURS				*i* S	**Sg**	**11 43 33.5**	**-0.9**
DURS	**Dursunbey**	**0.34 52**		*i* P	**Pg**	**11 43 28.4**	**-1.0**
DURS				*i* S	**Sg**	**11 43 33.5**	**-0.9**
DST	**Dursunbey**	**0.44 61**		*e*Pg	**Pg**	**11 43 30.5**	**-0.6**
DST				*e*SG	**Sg**	**11 43 37.9**	**+0.8**
DST	**Dursunbey**	**0.44 61**		*e*Pg	**Pg**	**11 43 30.5**	**-0.6**
DST				*e*Sg	**Sg**	**11 43 37.9**	**+0.7**
BALY	**Balya**	**0.52 312**		⇑*i*P	**Pg**	**11 43 32.4**	**-0.3**
BALY				*i* S	**Sg**	**11 43 40.5**	**+0.8**
BALY	**Balya**	**0.52 312**		*i* P	**Pg**	**11 43 32.4**	**-0.2**
BALY				*i* S	**Sg**	**11 43 40.5**	**+0.8**
DEMI	**Demirci**	**0.58 127**		*e*P	**Pb**	**11 43 34.3**	**+0.6**
DEMI	**Demirci**	**0.58 127**		*e*P	**Pb**	**11 43 34.3**	**+0.6**
GONE	**Gonen-Balikesi**	**0.74 333**		*e*PG	**Pg**	**11 43 35.6**	**-1.0**
GONE				*e*SG	**Sg**	**11 43 47.0**	**+0.6**
GONE	**Gonen-Balikesi**	**0.74 333**		*e*Pg	**Pg**	**11 43 35.6**	**-1.0**
GONE				*e*Sg	**Sg**	**11 43 47.0**	**+0.6**
KCTX	**Karacabey (Bur**	**0.89 12**		*e*PG	**Pg**	**11 43 38.8**	**-0.7**
KCTX				*e*SG	**Sg**	**11 43 52.2**	**+0.9**
KCTX	**Karacabey (Bur**	**0.89 12**		*e*Pg	**Pg**	**11 43 38.8**	**-0.7**
KCTX				*e*Sg	**Sg**	**11 43 52.2**	**+0.9**
KULA	**Kula-Manisa**	**0.97 154**		*e*PG	**Pg**	**11 43 40.9**	**0.0**
KULA	**Kula-Manisa**	**0.97 154**		*e*Pg	**Pg**	**11 43 40.9**	**-0.1**
GDZ	**Gediz**	**1.10 106**		*e*P	**Pg**	**11 43 42.5**	**-0.9**
GDZ				*e*S	**Sg**	**11 44 00.4**	**+2.6**
GDZ	**Gediz**	**1.10 106**		*e*P	**Pg**	**11 43 42.5**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.14 31**		*e*PN	**Pg**	**11 43 43.7**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.14 31**		*e*Pn	**Pg**	**11 43 43.7**	**-0.5**
KRBG	**Karabiga-Canak**	**1.19 328**		*e*PN	**Pn**	**11 43 43.2**	**-0.6**
KRBG	**Karabiga-Canak**	**1.19 328**		*e*Pn	**Pn**	**11 43 43.2**	**-0.6**
YLV	**Yalova**	**1.52 39**		*e*PN	**Pn**	**11 43 49.1**	**+0.8**
YLV	**Yalova**	**1.52 39**		*e*Pn	**Pn**	**11 43 49.1**	**+0.8**
MFT	**Murefte**	**1.54 335**		*e*PN	**Pn**	**11 43 48.5**	**-0.1**
MFT	**Murefte**	**1.54 335**		*e*Pn	**Pn**	**11 43 48.5**	**-0.1**

ISCJB 17 11:46:47.8±1.0, 35°.0S±0°.1×108°.5W±0°.2, h10km, mb4.0/10, MS3.8/8, Error ellipse: s-maj=26.2km s-min=18.5km az=147.2
IDC 17 11:46:47.9±0.8, 34°.98S×108°.62W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.1/17, mbtmp4.0/8, MS3.7/9, Ms1 3.8/9, ms1mx3.6/21, Error ellipse: s-maj=24.7km s-min=24.0km az=17.0
NEIC 17 11:46:49.2±0.8, 34°.98S×108°.60W, h10km, mb4.2/2, Error ellipse: s-maj=22.7km s-min=19.3km az=44.0
ISC 17 11:46:50.0±1.0, 34°.9S±0°.1×108°.5W±0°.2, h10km, n36, σ1s27/18, mb4.0/10, MS3.8/8, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.81 355**		LR	LR	11 50 56.8	
	comp=Z,466nm,20.4s,baz=40,slow=32						
RPN				T		11 56 26.8	
	16nm,0.3s,baz=236,slow=18,SNR=5.9						
RKT	**Rikitea**	**25.87 290**		*e*T		12 18 37.7	
	3.1nm,0.2s						
PLCA	**Paso Flores**	**30.37 112**		P	**P**	**11 53 00.2**	**-1.7**
	3.2nm,1.0s,mb4.0,baz=277,slow=9.9,SNR=3.1						
PLCA	**Paso Flores**	**30.37 112**		P	**P**	**11 53 00.2**	**-1.7**
CFAA	**Coronel Fontan**	**33.69 96**		P	**P**	**11 53 30.9**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=250,slow=8.2,SNR=6.3						
CFAA				LR	LR	12 03 44.7	
	comp=Z,18nm,21.1s,MS2.8,baz=78,slow=30						
CFAA	**Coronel Fontan**	**33.69 96**		P	**P**	**11 53 30.9**	**-0.3**
USHA	**Ushuaia**	**34.04 138**		LR	LR	12 03 45.8	
	comp=Z,339nm,21.7s,MS4.0,baz=235,slow=30						
TBI	**Tubuai**	**37.34 277**		*e*LR	LR	12 03 59.3	
	217nm,26.5s						
TBI				*e*T		12 33 11.7	
	3.4nm,0.3s						
MEH	**Mehetia**	**38.99 285**		*e*T		12 35 10.2	
	188nm,0.2s						
TIAR	**Tiarei**	**40.18 285**		*e*T		12 36 40.3	
	37nm,0.2s						
PAE	**Paea**	**40.31 285**		*e*T		12 36 43.2	
	0.8nm,0.3s						
PPT2	**Papeete2**	**40.35 285**		*e*LQ		12 03 37.1	
	329nm,28.0s						
PPT2				*e*LR	LR	12 05 14.0	
	78nm,24.8s						
LPAZ	**La Paz**	**40.55 73**		P	**P**	**11 54 31.7**	**+2.1**
	3.3nm,0.8s,mb4.0,baz=236,slow=4.7,SNR=11						
LPAZ				LR	LR	12 07 44.1	
	comp=Z,64nm,19.2s,MS3.5,baz=66,slow=31						
LPAZ	**La Paz**	**40.55 73**		P	**P**	**11 54 31.7**	**+2.1**
CPUP	**Villa Florida**	**44.47 93**		LR	LR	12 10 22.0	
	comp=Z,71nm,18.6s,MS3.6,baz=181,slow=32						
SAML	**Samuel**	**48.80 69**		*e*P	**P**	**11 55 34.5**	**-0.9**
	1.1nm,0.7s,mb4.0						
ROSC	**El Rosal**	**51.00 46**		P	**P**	**11 55 53.6**	**+1.4**
	5.7nm,0.4s,mb4.9,baz=290,slow=23,SNR=5.0						
ROSC				LR	LR	12 13 00.4	
	comp=Z,99nm,21.8s,MS3.8,baz=198,slow=31						
ROSC	**El Rosal**	**51.00 46**		P	**P**	**11 55 53.6**	**+1.4**
QSPA	**South Pole Qui**	**55.27 180**		P	**P**	**11 56 23.9**	**+1.1**
	1.0nm,0.4s,mb4.2,baz=164,slow=5.7,SNR=4.3						
QSPA	**South Pole Qui**	**55.27 180**		P	**P**	**11 56 23.9**	**+1.1**
TXAR	**Lajitas Array**	**64.09 5**		P	**P**	**11 57 24.8**	**+0.7**
	0.4nm,1.0s,mb3.4,baz=199,slow=7.6,SNR=2.4						
TXAR				LR	LR	12 21 31.1	
	comp=Z,69nm,18.9s,MS3.9,baz=5.0,slow=32						
TXAR	**Lajitas Array**	**64.09 5**		P	**P**	**11 57 24.8**	**+0.7**
NVAR	**Mina Array Bea**	**73.56 352**		P	**P**	**11 58 21.9**	**-0.9**
	2.0nm,0.8s,mb4.1,baz=186,slow=6.3,SNR=7.5						
NVAR	**Mina Array Bea**	**73.56 352**		P	**P**	**11 58 21.9**	**-0.9**
DZM	**Mont Dzumac**	**73.81 254**		*e*LR	LR	12 20 01.8	
	170nm,24.1s						
PDAR	**Pinedale Array**	**77.33 359**		P	**P**	**11 58 45.0**	**+0.6**
	1.3nm,0.9s,mb3.9,baz=165,slow=6.2,SNR=8.1						
PDAR	**Pinedale Array**	**77.33 359**		P	**P**	**11 58 45.0**	**+0.6**
HLID	**Hailey**	**78.31 356**		*e*P	**P**	**11 58 48.0**	**-1.8**
	5.4nm,1.3s,mb4.3						
HNR	**Honiara**	**85.92 261**		LR	LR	12 31 34.6	
	comp=Z,144nm,20.7s,MS4.3,baz=156,slow=31						
STKA	**Stephens Creek**	**86.46 233**		LR	LR	12 32 21.4	
	comp=Z,100nm,18.7s,MS4.2,baz=205,slow=32						
BRTR	**Keskin Array B**	**149.69 70**		PKPbc	PKPbc	12 06 38.4	-1.4
	0.9nm,0.9s,baz=222,slow=1.7,SNR=3.8						
BRTR	**Keskin Array B**	**149.69 70**		PKPbc	PKPbc	12 06 38.4	-1.4
CMAR	**Chiang Mai Arr**	**150.62 243**		PKPbc	PKPbc	12 06 40.6	-2.0
	0.7nm,0.7s,baz=177,slow=2.1,SNR=6.2						
CMAR				PKPab	PKPab	12 06 48.7	-0.7
	3.5nm,0.9s,baz=183,slow=1.9,SNR=18						
CMAR	**Chiang Mai Arr**	**150.62 243**		PKPbc	PKPbc	12 06 40.6	-2.0
CMAR				PKPab	PKPab	12 06 48.7	-0.7
SONM	**Songino Array**	**151.06 307**		PKPbc	PKPbc	12 06 42.6	-0.1
	1.0nm,0.8s,baz=132,slow=0.9,SNR=5.1						
SONM	**Songino Array**	**151.06 307**		PKPbc	PKPbc	12 06 42.6	-0.1

MEX 17 11:49:59.1±1.0, 15°.46N×92°.01W, h219km±13km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.60 204**		*i* P	Pn	11 50 26.8	-2.0
THIG				*i* S	S	11 50 49.8	-2.1
CCIG	**Comitan**	**0.83 352**		*e*P	Pn	11 50 29.1	-0.7
CCIG				*i* S	S	11 50 50.7	-3.2
PCIG		**1.19 282**		*i* P	Pn	11 50 30.7	-1.3
PCIG				*i* S	S	11 50 54.7	-3.0
TGIG		**1.69 321**		*i* P	Pn	11 50 35.7	-0.5
TGIG				*i* S	S	11 51 03.3	-1.9

VIE 17 12:00:00.3±0.2, 50°.25N×12°.76E, h0km, ML2.5/2, Error ellipse: s-maj=2.2km s-min=0.7km az=40.0 22 km E of Klingenthal Suspected Mining explosion.
ISC 17 11:59:57.9±4.5, 50°.30N±0°.08×12°.5E±0°.3, h0km, n3, σ0s89/5, 2C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**2.51 76**		*e*Pg	**Pg**	**12 00 46.6**	**+0.7**
KSP				*e*Sg	**Sg**	**12 01 18.2**	**-0.2**
MOA	**Molln**	**2.73 153**		⇑*i*Sg	**Sg**	**12 01 26.1**	**+0.6**
	5.9nm,0.4s						
CONA	**Conrad Observa**	**3.27 135**		⇓*i*Pg	**Pg**	**12 00 59.4**	**-1.0**
CONA				⇑*i*Sg	**Sg**	**12 01 42.6**	**-0.1**
	9.8nm,0.5s						

BUC 17 12:00:31.3±0.7, 45°.74N×22°.25E, h0km, MD2.4/3, 4C-2D, Error ellipse: s-maj=6.6km s-min=4.5km az=7.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.46 255**		⇑*i*P	Pg	12 00 40.7	+0.6
BZS	**Buzias**	**0.46 255**		S	Sg	12 00 47.2	+1.1
BZS	**Buzias**	**0.46 255**		⇑*i*P	Pg	12 00 40.7	+0.6
BZS				*i* S	Sg	12 00 47.2	+1.1
GZR	**Gura Zlata**	**0.51 133**		⇑*i*P	Pg	12 00 42.1	+1.1
GZR	**Gura Zlata**	**0.51 133**		S	Sg	12 00 48.7	+1.2
GZR	**Gura Zlata**	**0.51 133**		⇑*i*P	Pg	12 00 42.1	+1.1
GZR				*i* S	Sg	12 00 48.7	+1.2
DRGR		**1.10 17**		⇓*i*P	Pg	12 00 53.7	+1.3
DRGR				S	Sg	12 01 08.4	+1.7
DRGR		**1.10 17**		⇓*i*P	Pg	12 00 53.7	+1.3
DRGR				*i* S	Sg	12 01 08.4	+1.7

ISCJB 17 12:15:46.2±0.7, 38°.90N±0°.07×35°.67E±0°.07, h10km±9km, Error ellipse: s-maj=12.5km s-min=7.7km az=28.6
CSEM 17 12:15:46.4±0.3, 38°.88N×35°.64E, h2km, MD3.0, Error ellipse: s-maj=11.1km s-min=4.9km az=19.0
DDA 17 12:15:46.1, 38°.89N×35°.63E, h5km±3km, Md3.0
ISC 17 12:15:46.3±0.6, 38°.95N±0°.09×35°.68E±0°.05, h11km±10km, n13, σ1s05/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.16 126**		*e*PG	**Pg**	**12 15 49.5**	**-0.4**
BNN				*e*SG	**Sg**	**12 15 52.6**	**+0.3**
BNN	**Bunyan**	**0.16 126**		*e*Pg	**Pg**	**12 15 49.5**	**-0.4**
BNN				*e*Sg	**Sg**	**12 15 52.6**	**+0.3**
PINB	**Pinarbasi**	**0.62 115**		*i* P	**Pg**	**12 15 58.5**	**+0.2**
PINB				*i* S	**Sg**	**12 16 07.8**	**+1.3**
PINB	**Pinarbasi**	**0.62 115**		*i* P	**Pg**	**12 15 58.5**	**+0.1**
PINB				*i* S	**Sg**	**12 16 07.8**	**+1.2**
AVNT	**Avonos**	**0.67 256**		*i* P	**Pg**	**12 15 58.1**	**-1.1**
AVNT				*i* S	**Sg**	**12 16 08.1**	**+0.1**
AVNT	**Avonos**	**0.67 256**		*i* P	**Pg**	**12 15 58.1**	**-1.1**
AVNT				*i* S	**Sg**	**12 16 08.1**	**+0.1**
YOZ	**Yozgat**	**0.75 338**		*e*PG	**Pg**	**12 16 01.2**	**+0.4**
YOZ	**Yozgat**	**0.75 338**		*e*Pg	**Pg**	**12 16 01.2**	**+0.4**
SARI	**SarD1z-Kayseri**	**0.83 108**		*e*PG	**Pg**	**12 16 00.7**	**-1.8**
CDAG	**Cicekdag**	**1.22 304**		*i* P	**Pn**	**12 16 10.0**	**+0.7**
CDAG				*i* S	**Sb**	**12 16 26.4**	**+1.2**
CDAG	**Cicekdag**	**1.22 304**		*i* P	**Pn**	**12 16 10.0**	**+0.7**
CDAG				*i* S	**Sb**	**12 16 26.4**	**+1.2**
CTKT	**Corum**	**1.81 338**		*i* P	**Pn**	**12 16 21.0**	**+3.5**
CTKT				*i* S	**Sn**	**12 16 38.8**	**-1.6**
CTKT	**Corum**	**1.81 338**		*i* P	**Pn**	**12 16 21.0**	**+3.6**

IDC 17 12:39:25.2±7.5, 25°.21S×179°.76E, h466km±86km, mb3.2/4, mb1 3.4/5, mb1mx3.3/15, mbtmp3.2/5, Error ellipse: s-maj=63.8km s-min=30.5km az=5.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.20 189**		P	P	12 42 16.2	-0.5
	0.7nm,0.3s,baz=17,slow=17,SNR=5.6						
URZ				S	S	12 44 35.2	-3.0
	0.2nm,0.3s,baz=90,slow=20,SNR=3.9						
STKA	**Stephens Creek**	**34.05 250**		P	P	12 45 29.9	+0.5
	1.6nm,0.8s,baz=98,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**41.62 262**		P	P	12 46 31.6	+0.1
	2.0nm,0.5s,baz=90,slow=6.8,SNR=65						
WRA	**Warramunga Arr**	**42.12 268**		P	P	12 46 35.1	-0.4
	2.3nm,0.4s,baz=101,slow=7.5,SNR=114						
NVAR	**Mina Array Bea**	**85.84 44**		P	P	12 51 15.6	+1.0
	0.7nm,0.8s,baz=214,slow=9.3,SNR=4.0						
**B

YUK				*i* S	**Sn**	**13 12 38.1**	**-5.0**
YUK				pmax	pmax		
	comp=N,36nm,0.5s						
YUK				pmax	pmax		
	comp=Z,132nm,0.5s						
YUK				pmax	pmax		
	comp=E,36nm,0.5s						
YUK				smax			
	comp=N,345nm,0.6s						
YUK				smax			
	comp=E,217nm,0.6s						
YUK				MLR	MLR		
	comp=Z,198nm,16.0s						
MAJO	**Matsushiro**	**4.88**	**224**	*e*P	**Pn**	**13 11 55.0**	**+2.0**
MAJO	**Matsushiro**	**4.88**	**224**	*e*P	**Pn**	**13 11 55.0**	**+2.0**
MAT	**Matsushiro**	**4.88**	**224**	P	**Pn**	**13 11 54.8**	**+1.8**
MAT				S	**Sn**	**13 12 47.7**	**-0.5**
MJAR	**Matsushiro Arr**	**4.88**	**224**	P	**Pn**	**13 11 55.1**	**+2.1**
	comp=Z,3.4nm,0.3s,baz=33,slow=13,SNR=68						
MJAR				LR	LR	13 14 01.8	
	comp=Z,294nm,18.7s,baz=30,slow=41						
MJAR	**Matsushiro Arr**	**4.88**	**224**	P	**Pn**	**13 11 55.1**	**+2.1**
MJAR	**Matsushiro Arr**	**4.88**	**224**	P	**Pn**	**13 11 55.1**	**+2.1**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,294nm,18.7s						
KUR	**Kuril'sk**	**6.49**	**36**	P	**Pn**	**13 12 16.0**	**+0.9**
KUR				*e*S	**Sn**	**13 13 23.5**	**-4.4**
KUR				smax			
	comp=N,120nm,0.8s						
KUR				smax			
	comp=E,190nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.84**	**2**	*e*P	Px	13 12 39.3	
MDJ	**Mudanjiang**	**10.51**	**300**	P	Px	13 13 20.6	
MDJ				sP		13 13 47.8	
MDJ				S	Sx	13 15 27.8	
MDJ				pmax	pmax		
	comp=Z,21nm,2.8s						
KSRS	**Korea Array**	**11.64**	**261**	P	**Pn**	**13 13 26.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=66,slow=14,SNR=2.7						
KSRS				LR	LR	13 17 29.9	
	comp=Z,115nm,19.2s,baz=169,slow=35						
KSRS	**Korea Array**	**11.64**	**261**	P	**Pn**	**13 13 26.0**	**+0.4**
KSRS				MLR	MLR		
	comp=Z,115nm,19.2s						
KSAR	**Wonju Array Be**	**11.67**	**261**	P	**Pn**	**13 13 26.0**	**-0.1**
KSAR	**Wonju Array Be**	**11.67**	**261**	P	**Pn**	**13 13 26.0**	**-0.1**
CN2	**Changchun**	**13.17**	**292**	*e*P	Px	13 13 57.3	
PETK	**Petropavlovsk-**	**16.65**	**34**	LR	LR	13 21 04.8	
	comp=Z,20nm,19.0s,baz=341,slow=37						
BJI	**Beijing**	**20.08**	**278**	P	**P**	**13 15 15.4**	**+3.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NJ2	**Nanjing**	**20.65**	**254**	*e*P	**P**	**13 15 21.1**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
YAK	**Yakutsk**	**23.27**	**345**	P	**P**	**13 15 40.9**	**-5.0**
	comp=Z,6.9nm,0.5s,mb4.3						
YAK	**Yakutsk**	**23.27**	**345**	P	**P**	**13 15 40.9**	**-5.1**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.3						
HHC	**Hu-ho-hao-te**	**23.44**	**282**	*e*P	**P**	**13 15 47.5**	**-0.2**
HHC				pP		13 16 05.4	
HHC				sP	sP	13 16 14.9	+11
HHC				PP		13 16 27.5	
HHC				PcP	PcP	13 19 25.3	-7.4
HHC				S	**S**	**13 19 59.8**	**+2.0**
HHC				sS	sS	13 20 30.6	+14
HHC				SS		13 21 02.3	
HHC				ScP	ScP	13 22 55.3	-12
HHC				PcS	PcS	13 23 03.0	-9.0
HHC				ScS	ScS	13 26 42.4	-11
HHC				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.7						
HHC				pmax	pmax		
	comp=Z,70nm,5.3s						
HHC				LR	LR		
	comp=N,190nm,12.5s,MS3.9						
HHC				LR	LR		
	comp=E,200nm,12.6s,MS3.9						
HHC				LR	LR		
	comp=Z,120nm,12.3s,MS3.6						
WHN	**Wuhan**	**24.74**	**256**	P	**P**	**13 16 03.0**	**+3.3**
BOD	**Bodaibo**	**25.44**	**324**	*e*P	**P**	**13 16 05.0**	**-0.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb3.9						
SONM	**Songino Array**	**26.87**	**299**	P	**P**	**13 16 19.0**	**+0.2**
	comp=Z,1.4nm,0.6s,mb3.7,baz=102,slow=8.7,SNR=11						
SONM				LR	LR	13 27 47.8	
	comp=Z,96nm,18.1s,MS3.4,baz=128,slow=38						
SONM	**Songino Array**	**26.87**	**299**	P	**P**	**13 16 19.0**	**+0.2**
SONM	**Songino Array**	**26.87**	**299**	P	**P**	**13 16 19.0**	**+0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,96nm,18.1s						
LZH	**Lanzhou**	**30.47**	**275**	*e*P	**P**	**13 16 53.6**	**+2.6**
LZH				sP	sP	13 17 20.5	+13
LZH				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
LZH	**Lanzhou**	**30.47**	**275**	*e*P	**P**	**13 16 53.6**	**+2.6**
	comp=Z,17nm,1.1s,mb4.7						
LZH				pP	pP	13 17 02.3	0.0
LZH				sP	sP	13 17 20.5	+13
LZH	**Lanzhou**	**30.47**	**275**	*e*P	**P**	**13 16 53.6**	**+2.6**
LZH				*PP	pP	13 17 02.3	0.0
LZH				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
GTA	**Gaotai**	**32.54**	**283**	*e*P	**P**	**13 17 09.9**	**+0.7**
GTA				pP	pP	13 17 30.6	+10
GTA				sP	sP	13 17 38.8	+13
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CD2	**Chengdu**	**32.58**	**266**	*e*P	**P**	**13 17 10.5**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA	**Guiyang**	**32.63**	**256**	*e*P	**P**	**13 17 08.9**	**-1.2**
GYA				pP	pP	13 17 28.6	+7.2
GYA				sP	sP	13 17 39.4	+13
GYA				PP	PP	13 18 25.6	+1.4
GYA				S	**S**	**13 22 25.8**	**+2.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KMI	**Kunming**	**36.30**	**258**	P	**P**	**13 17 41.3**	**-0.6**
KMI				sP	sP	13 18 09.8	+12
KMI				S	**S**	**13 23 24.6**	**+4.7**
KMI				SS	SS	13 26 00.0	+0.7
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				pmax	pmax		
	comp=Z,150nm,3.1s						
KMI				LR	LR		
	comp=N,64nm,13.1s,MS3.9						
KMI				LR	LR		
	comp=E,110nm,14.2s,MS3.9						
KMI				LR	LR		
	comp=Z,90nm,16.8s,MS3.6						
KMI	**Kunming**	**36.30**	**258**	P	**P**	**13 17 41.3**	**-0.6**
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				sP	sP	13 18 09.8	+12
KMI				S	**S**	**13 23 24.6**	**+4.7**
KMI				LR	LR		
	comp=Z,90nm,16.8s,MS3.6						
KMI	**Kunming**	**36.30**	**258**	P	**P**	**13 17 41.3**	**-0.6**
KMI				S	**S**	**13 23 24.6**	**+4.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				MLR	MLR		
	comp=Z,90nm,16.8s,MS3.6						
WMQ	**Urumqi**	**40.25**	**294**	*e*P	**P**	**13 18 15.6**	**+0.8**
ZAA0	**Zalesovo Array**	**40.50**	**310**	*e*P	**P**	**13 18 15.7**	**-1.0**
ZALV	**Zalesovo Beam**	**40.50**	**310**	P	**P**	**13 18 16.3**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.0,baz=88,slow=8.2,SNR=9.7						
ZALV	**Zalesovo Beam**	**40.50**	**310**	P	**P**	**13 18 16.3**	**-0.4**
ZALV	**Zalesovo Beam**	**40.50**	**310**	P	**P**	**13 18 16.3**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
CMAR	**Chiang Mai Arr**	**43.11**	**253**	P	**P**	**13 18 37.4**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=44,slow=6.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	**43.11**	**253**	P	**P**	**13 18 37.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**43.11**	**253**	P	**P**	**13 18 37.4**	**-1.1**
MK31	**Makanchi Array**	**43.23**	**300**	*e*P	**P**	**13 18 38.7**	**-0.5**
MK31	**Makanchi Array**	**43.23**	**300**	*e*P	**P**	**13 18 38.7**	**-0.5**
MKAR	**Makanchi Array**	**43.23**	**300**	P	**P**	**13 18 38.5**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.7,baz=84,slow=10,SNR=12						
MKAR	**Makanchi Array**	**43.23**	**300**	P	**P**	**13 18 38.5**	**-0.7**
MKAR	**Makanchi Array**	**43.23**	**300**	P	**P**	**13 18 38.5**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**44.72**	**306**	P	**P**	**13 18 50.9**	**-0.1**
	comp=Z,8.4nm,0.8s,mb4.6,baz=81,slow=8.6,SNR=18						
KURK	**Kurchatov**	**44.72**	**306**	*e*P	**P**	**13 18 50.4**	**-0.7**
	comp=Z,7.0nm,0.7s,mb4.6						
KURK	**Kurchatov**	**44.72**	**306**	*c i*P	**P**	**13 18 50.3**	**-0.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**46.48**	**34**	P	**P**	**13 19 04.8**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=263,slow=5.5,SNR=9.6						
ILAR	**Eielson Array**	**46.48**	**34**	P	**P**	**13 19 04.8**	**+0.1**
ILAR	**Eielson Array**	**46.48**	**34**	P	**P**	**13 19 04.9**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TAPN	**Taplejung**	**46.59**	**272**	*e*P	**P**	**13 19 07.6**	**+1.5**
	comp=Z,5.4nm,0.6s,mb4.6						
TAPN	**Taplejung**	**46.59**	**272**	*e*P	**P**	**13 19 07.6**	**+1.5**
	comp=Z,5.4nm,0.6s,mb4.7						
ODAN	**Odare**	**47.09**	**271**	*e*P	**P**	**13 19 11.1**	**+1.1**
	comp=Z,5.9nm,0.6s,mb4.7						
ODAN	**Odare**	**47.09**	**271**	*e*P	**P**	**13 19 11.1**	**+1.1**
	comp=Z,5.9nm,0.6s,mb4.7						
JIRN	**Jiri**	**47.60**	**273**	*e*P	**P**	**13 19 14.5**	**+0.5**
	comp=Z,5.4nm,0.4s,mb4.9						
JIRN	**Jiri**	**47.60**	**273**	*e*P	**P**	**13 19 14.5**	**+0.5**
	comp=Z,5.4nm,0.4s,mb4.9						
RAMN	**Ramite**	**47.65**	**272**	*e*P	**P**	**13 19 14.5**	**+0.1**
	comp=Z,15nm,1.0s,mb5.0						
RAMN	**Ramite**	**47.65**	**272**	*e*P	**P**	**13 19 14.5**	**+0.1**
	comp=Z,15nm,1.0s,mb5.0						
GUN	**Gumba**	**47.71**	**273**	*e*P	**P**	**13 19 15.2**	**+0.3**
	comp=Z,23nm,0.7s,mb5.3						
GUN	**Gumba**	**47.71**	**273**	*e*P	**P**	**13 19 15.2**	**+0.3**
	comp=Z,23nm,0.7s,mb5.3						
KKN	**Kakani**	**48.23**	**274**	*e*P	**P**	**13 19 19.0**	**+0.1**
	comp=Z,14nm,0.6s,mb5.2						
KKN	**Kakani**	**48.23**	**274**	*e*P	**P**	**13 19 19.0**	**+0.1**
	comp=Z,14nm,0.6s,mb5.2						
KKN	**Kakani**	**48.23**	**274**	*e*P	**P**	**13 19 19.0**	**+0.1**
KKN				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
GKN	**Gorkha**	**48.62**	**274**	*e*P	**P**	**13 19 21.9**	**+0.1**
GKN	**Gorkha**	**48.62**	**274**	*e*P	**P**	**13 19 21.9**	**+0.1**
TKM2	**Tokmak 2**	**48.93**	**296**	*e*P	**P**	**13 19 24.3**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.4						
TKM2	**Tokmak 2**	**48.93**	**296**	*e*P	**P**	**13 19 24.3**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
DANN	**Dangsing**	**49.11**	**275**	*e*P	**P**	**13 19 25.3**	**-0.4**
	comp=Z,21nm,0.6s,mb5.3						
DANN	**Dangsing**	**49.11**	**275**	*e*P	**P**	**13 19 25.3**	**-0.4**
	comp=Z,21nm,0.6s,mb5.3						
BRVK	**Borovoye**	**49.19**	**311**	*e*P	**P**	**13 19 25.5**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.4						
BRVK	**Borovoye**	**49.19**	**311**	*i* P	**P**	**13 19 25.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,15nm,3.1s						
KKAR	**Karatay Array**	**52.32**	**298**	*e*P	**P**	**13 19 49.1**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.1						
KKAR	**Karatay Array**	**52.32**	**298**	*e*P	**P**	**13 19 49.1**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ABKAR	**Akbulak array**	**56.60**	**309**	*e*P	**P**	**13 20 20.0**	**-0.6**
	comp=Z,2.2nm,0.5s,mb4.4						
KBL	**Kabul**	**57.10**	**290**	*e*P	**P**	**13 20 23.1**	**-1.2**
	comp=Z,7.7nm,0.8s,mb4.8						
KBL	**Kabul**	**57.10**	**290**	*e*P	**P**	**13 20 23.1**	**-1.3**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**60.22**	**189**	P	**P**	**13 20 44.8**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=6.4,slow=7.0,SNR=14						
WRA	**Warramunga Arr**	**60.22**	**189**	P	**P**	**13 20 44.8**	**-1.3**
WRA	**Warramunga Arr**	**60.22**	**189**	P	**P**	**13 20 44.8**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**60.75**	**31**	P	**P**	**13 20 49.2**	**0.0**
	comp=Z,0.1nm,0.7s,baz=300,slow=6.2,SNR=4.4						
YKA				LR	LR	13 52 24.8	
	comp=Z,6.8nm,19.9s,MS2.8,baz=140,slow=41						
YKA	**Yellowknife Ar**	**60.75**	**31**	P	**P**	**13 20 49.2**	**0.0**
YKA	**Yellowknife Ar**	**60.75**	**31**	P	**P**	**13 20 49.3**	**+0.1**
ASAR	**Alice Springs**	**63.95**	**189**	P	**P**	**13 21 10.2**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=8.2,slow=9.6,SNR=7.7						
ASAR	**Alice Springs**	**63.95**	**189**	P	**P**	**13 21 10.2**	**-0.7**
ASAR	**Alice Springs**	**63.95**	**189**	P	**P**	**13 21 10.3**	**-0.7**
FINES	**FINESS Array B**	**66.47**	**332**	P	**P**	**13 21 26.1**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.2,baz=72,slow=9.2,SNR=2.7						
FINES	**FINESS Array B**	**66.47**	**332**	P	**P**	**13 21 26.1**	**-0.9**
FINES	**FINESS Array B**	**66.47**	**332**	P	**P**	**13 21 26.1**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**71.66**	**337**	P	**P**	**13 21 56.6**	**-2.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=16,slow=14,SNR=3.5						
NOA	**NORSAR Array B**	**71.66**	**337**	P	**P**	**13 21 56.6**	**-2.5**
NOA	**NORSAR Array B**	**71.66**	**337**	P	**P**	**13 21 56.6**	**-2.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.36**	**322**	P	**P**	**13 22 00.7**	**-2.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=47,slow=6.5,SNR=4.2						
AKASG	**Malin Array Be**	**72.36**	**322**	P	**P**	**13 22 00.7**	**-2.8**
AKASG	**Malin Array Be**	**72.36**	**322**	P	**P**	**13 22 00.7**	**-2.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

ISCJB ***17*** *13:14:39.7±0.3, 39°.66N±0°.02×40°.67E±0°.02, h10km, Error ellipse: s-maj=2.8km s-min=2.4km az=142.1*
ISK ***17*** *13:14:39.3, 39°.69N×40°.66E, h4km, MD3.4*
DDA ***17*** *13:14:39.7, 39°.72N×40°.71E, h21km±1km, Md3.6*
CSEM ***17*** *13:14:40.1±0.2, 39°.69N×40°.67E, h2km, MD3.6, Error ellipse: s-maj=5.0km s-min=3.5km az=178.0*

ISC 17 13:14:39.6±0.3, 39°.68N±0°.02×40°.69E±0°.02, h2km±4km, n62, σ0°99/94, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.37**	**336**	*i* P	**Pg**	**13 14 47.6**	**+0.9**
KOPT				*i* S	**Sg**	**13 14 53.6**	**+2.2**
KOPT	**Kop Dagi**	**0.37**	**336**	*i* P	**Pg**	**13 14 47.6**	**+0.9**
KOPT				*i* S	**Sg**	**13 14 53.6**	**+2.1**
EZM	**Erzurum**	**0.56**	**66**	PG	**Pg**	**13 14 50.9**	**+0.5**
ERZM	**Erzurum**	**0.56**	**66**	*i* P	**Pg**	**13 14 49.8**	**-0.7**
ERZM				*i* S	**Sg**	**13 14 58.3**	**+0.5**
ERZM	**Erzurum**	**0.56**	**66**	*i* P	**Pg**	**13 14 49.8**	**-0.6**
ERZM				*i* S	**Sg**	**13 14 58.3**	**+0.6**
BNGB	**Bing^¶l**	**0.69**	**181**	*e*PG	**Pg**	**13 14 53.2**	**+0.4**
BNGB				*e*SG	**Sg**	**13 15 03.7**	**+2.0**
ERZN	**Erzincan**	**0.76**	**263**	*e*PG	**Pg**	**13 14 53.7**	**-0.3**
ERZN				*e*SG	**Sg**	**13 15 04.4**	**+0.6**
VRTB	**Varto-Mus**	**0.79**	**131**	*e*PG	**Pg**	**13 14 55.5**	**+0.8**
VRTB	**Varto-Mus**	**0.79**	**131**	*e*Pg	**Pg**	**13 14 55.5**	**+0.8**
BINT	**Bingol**	**0.82**	**191**	*e*Pg	**Pg**	**13 14 53.2**	**-2.1**
BINT				*e*Sg	**Sg**	**13 15 03.7**	**-2.2**
BAYT	**Ayd¨¬ntepe-Bay**	**0.83**	**329**	*e*PG	**Pg**	**13 14 55.8**	**+0.4**
BAYT	**Ayd¨¬ntepe-Bay**	**0.83**	**329**	*e*Pg	**Pg**	**13 14 55.8**	**+0.3**
HOMI	**Horasan**	**1.00**	**68**	*i* P	**Pg**	**13 14 58.7**	**-0.1**
HOMI				*i* S	**Sg**	**13 15 12.3**	**+0.5**
EZC	**Erzincan**	**1.04**	**274**	*e*PG	**Pg**	**13 14 59.6**	**+0.2**
EZC	**Erzincan**	**1.04**	**274**	*e*Pg	**Pg**	**13 14 59.6**	**+0.1**
KELT	**Kelkit**	**1.20**	**293**	*i* P	**Pg**	**13 15 01.4**	**-1.2**
KELT				*i* S	**Sg**	**13 15 17.7**	**-0.5**
KELT	**Kelkit**	**1.20**	**293**	*i* P	**Pg**	**13 15 01.4**	**-1.2**
KELT				*i* S	**Sg**	**13 15 17.7**	**-0.5**
GUMT	**Gumushane**	**1.21**	**310**	*e*PN	**Pn**	**13 15 02.8**	**-0.8**
GUMT	**Gumushane**	**1.21**	**310**	*e*Pn	**Pn**	**13 15 02.8**	**-0.8**
PTK	**Pertek**	**1.28**	**232**	*e*PN	**Pn**	**13 15 04.1**	**-0.4**
PTK	**Pertek**	**1.28**	**232**	*e*Pn	**Pn**	**13 15 04.1**	**-0.4**
MACK	**Trabzon**	**1.45**	**331**	*i* P	**Pg**	**13 15 07.6**	**+0.3**
MACK				*i* S	**Sg**	**13 15 26.9**	**+0.8**
MACK	**Trabzon**	**1.45**	**331**	*i* P	**Pg**	**13 15 07.6**	**+0.3**
MACK				*i* S	**Sg**	**13 15 26.9**	**+0.9**
DDEM	**Demirkent**	**1.46**	**33**	*i* P	**Pn**	**13 15 07.0**	**0.0**
DDEM				*i* S	**Sg**	**13 15 26.9**	**+0.5**
DDEM	**Demirkent**	**1.46**	**33**	*i* P	**Pn**	**13 15 07.0**	**+0.1**
DDEM				*i* S	**Sg**	**13 15 26.9**	**+0.6**
KTUT	**Trabzon**	**1.48**	**332**	*e*PN	**Pn**	**13 15 07.5**	**+0.2**
KTUT	**Trabzon**	**1.48**	**332**	*e*Pn	**Pn**	**13 15 07.5**	**+0.2**
PZAR	**Pazar-Rize**	**1.50**	**6**	*e*PN	**Pn**	**13 15 07.6**	**0.0**
PZAR	**Pazar-Rize**	**1.50**	**6**	*e*Pn	**Pn**	**13 15 07.6**	**0.0**
DBAD	**Bademkaya**	**1.54**	**29**	*i* P	**Pn**	**13 15 07.8**	**-0.2**
DBAD				*i* S	**Sn**	**13 15 27.8**	**-0.9**
DBAD	**Bademkaya**	**1.54**	**29**	*i* P	**Pn**	**13 15 07.8**	**-0.3**
DBAD				*i* S	**Sn**	**13 15 27.8**	**-0.8**
TUTA	**Tutak**	**1.66**	**99**	*i* P	**Pn**	**13 15 10.4**	**+0.6**
TUTA				*i* S	**Sb**	**13 15 32.2**	**-0.2**
TUTA	**Tutak**	**1.66**	**99**	*i* P	**Pn**	**13 15 10.4**	**+0.6**
TUTA				*i* S	**Sb**	**13 15 32.2**	**-0.1**
DAGI	**Agillar**	**1.68**	**33**	*i* P	**Pn**	**13 15 10.4**	**+0.4**
DAGI				*i* S	**Sn**	**13 15 30.2**	**-1.8**
SVRC	**Sivrice-ELAZID**	**1.69**	**220**	*e*PN	**Pb**	**13 15 10.8**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.69**	**220**	*e*Pn	**Pb**	**13 15 10.8**	**-0.6**
KEMA	**Kemaliye**	**1.75**	**257**	*i* P	**Pb**	**13 15 11.9**	**-0.5**
KEMA				*i* S	**Sg**	**13 15 36.5**	**+0.6**
KEMA	**Kemaliye**	**1.75**	**257**	*i* P	**Pb**	**13 15 11.9**	**-0.6**
KEMA				*i* S	**Sg**	**13 15 36.5**	**+0.6**
ARTV	**Artvin**	**1.77**	**32**	*i* P	**Pn**	**13 15 11.1**	**-0.2**
ARTV				*i* S	**Sb**	**13 15 35.3**	**-0.2**
ARTV	**Artvin**	**1.77**	**32**	*i* P	**Pn**	**13 15 11.1**	**-0.2**
ARTV				*i* S	**Sb**	**13 15 35.3**	**-0.2**
AGRB	**Hanur-Agry**	**1.78**	**93**	*e*PN	**Pb**	**13 15 12.7**	**-0.2**
AGRB	**Hanur-Agry**	**1.78**	**93**	*e*Pn	**Pb**	**13 15 12.7**	**-0.2**
DBOC	**Borcka**	**1.82**	**24**	*i* P	**Pn**	**13 15 12.6**	**+0.7**
DBOC				*i* S	**Sb**	**13 15 36.9**	**0.0**
DBOC	**Borcka**	**1.82**	**24**	*i* P	**Pn**	**13 15 12.6**	**+0.7**
DBOC				*i* S	**Sb**	**13 15 36.9**	**0.0**
BEST	**Besiri**	**1.84**	**166**	*i* P	**Pg**	**13 15 15.1**	**+0.2**
BEST				*i* S	**Sg**	**13 15 40.6**	**+1.8**
BCA	**Borcka**	**1.90**	**22**	*e*PN	**Pn**	**13 15 13.9**	**+0.9**
BCA	**Borcka**	**1.90**	**22**	*e*Pn	**Pn**	**13 15 14.0**	**+1.0**
SUSE	**Susehri**	**1.99**	**286**	*i* P	**Pn**	**13 15 14.9**	**+0.7**
SUSE				*i* S	**Sg**	**13 15 42.1**	**-1.3**
SUSE	**Susehri**	**1.99**	**286**	*i* P	**Pn**	**13 15 14.9**	**+0.7**
SUSE				*i* S	**Sg**	**13 15 42.1**	**-1.3**
KARS	**Kars**	**2.06**	**62**	*e*PN	**Pn**	**13 15 16.4**	**+1.2**
KARS	**Kars**	**2.06**	**62**	*e*Pn	**Pn**	**13 15 16.4**	**+1.2**
DIGO	**Kars**	**2.18**	**70**	*e*P	**Pn**	**13 15 17.6**	**+0.7**
DIGO				*e*S	**Sg**	**13 15 47.9**	**-1.9**
DIGO	**Kars**	**2.18**	**70**	*e*P	**Pn**	**13 15 17.6**	**+0.7**
DIGO				*e*S	**Sg**	**13 15 47.8**	**-2.0**
GRSN	**GIRESUNGRSN**	**2.23**	**305**	*i* P	**Pg**	**13 15 19.8**	**-2.5**
GRSN				*i* S	**Sn**	**13 15 37.4**	**-8.3**
GRSN	**GIRESUNGRSN**	**2.23**	**305**	*i* P	**Pg**	**13 15 19.8**	**-2.6**
MALT	**Malatya**	**2.23**	**233**	*e*PN	**Pn**	**13 15 18.4**	**+0.8**
MALT	**Malatya**	**2.23**	**233**	*e*Pn	**Pn**	**13 15 18.4**	**+0.8**
DYDN	**Diyadin**	**2.32**	**92**	*i* P	**Pg**	**13 15 21.9**	**-2.1**
DYDN				*i* S	**Sg**	**13 15 52.9**	**-1.1**
DYDN	**Diyadin**	**2.32**	**92**	*i* P	**Pg**	**13 15 21.9**	**-2.1**
CLDR	**Caldiran**	**2.55**	**101**	*e*PN	**Pn**	**13 15 23.0**	**+1.0**
CLDR	**Caldiran**	**2.55**	**101**	*e*Pn	**Pn**	**13 15 23.0**	**+1.0**
SARI	**SarD1z-Kayseri**	**3.26**	**253**	*e*PN	**Pg**	**13 15 37.6**	**-4.5**

MAN 17 13:32:16, 13°.25N×124°.61E, h32km, mb4.9, ML3.8, MS3.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.56**	**307**	*e*P	**Pb**	13 32 29.6	+2.1
PVCP				*e*S	**Sb**	13 32 36.6	+1.2
CNP	**Catarman**	**0.74**	**176**	*e*P	**Pn**	13 32 31.4	+1.2
CNP				*e*S	**Sb**	13 32 37.1	-3.2
RCP	**Roxas**	**2.48**	**228**	*e*P	**Pn**	13 32 56.2	+2.0
BOAC	**Boac**	**2.70**	**275**	*e*P	**Pn**	13 33 01.7	+4.5
MSLP	**Maasin**	**3.11**	**176**	*e*P	**Pn**	13 33 08.2	+5.4
GUIM	**Jordan**	**3.28**	**217**	*e*P	**Pn**	13 33 03.8	-1.4

BJI ***17*** *13:47:54.1, 6°.40N×94°.59E, h134km, mB5.0/28, mb5.1/52*
MOS ***17*** *13:47:57.4±0.8, 6°.87N×94°.80E, h130km, mb5.1/69, MS4.1/5, Error ellipse: s-maj=9.2km s-min=4.2km az=118.3*
ISCJB ***17*** *13:47:58.6±0.4, 6°.84N±0°.03×94°.72E±0°.03, h140km±4km, mb5.0/183, Error ellipse: s-maj=5.0km s-min=3.9km az=142.4*
SZGRF ***17*** *13:47:59.5, 6°.27N×94°.70E, h33km, mb5.2, Nicobar Islands, India, region*
NEIC ***17*** *13:47:59.6±0

comp=Z,100nm,1.0s
HYB eS S 13 55 42.0 +2.8
QIZ Qiongzhong 19.05 49 P P 13 52 11.9 +0.2
QIZ pP 13 52 37.1
QIZ sP sP 13 52 55.3 +2.3
QIZ S S 13 55 40.8 0.0
QIZ pmax pmax
comp=Z,180nm,5.4s
QIZ LR LR
comp=N,520nm,11.7s
KMI Kunming 19.73 22 P P 13 52 21.9 +2.9
KMI pP 13 52 44.6
KMI PP 13 52 47.9
KMI sP sP 13 52 59.5 -1.0
KMI S S 13 55 58.7 +4.7
KMI pmax pmax
comp=Z,37nm,1.4s
KMI pmax pmax
comp=Z,150nm,3.1s
KMI LR LR
comp=N,130nm,11.4s
KMI LR LR
comp=E,200nm,9.0s
KMI LR LR
comp=Z,210nm,19.0s
KMI Kunming 19.73 22 P P 13 52 21.9 +2.9
comp=Z,37nm,1.4s
KMI pP 13 52 44.6
KMI PP 13 52 47.9
KMI sP sP 13 52 59.5 -1.0
KMI S S 13 55 58.7 +4.6
KMI sS sS 13 56 35.1 +0.5
KMI Kunming 19.73 22 P P 13 52 21.9 +2.9
KMI pmax pmax
comp=Z,37nm,1.4s
NGP Nagpur 20.80 315⇓ePKP P 13 52 30.7 +0.3
NGP ex x 13 52 33.4
comp=Z,132nm,1.7s
NGP ex x 13 56 19.8
ODAN Odare 21.10 342 eP P 13 52 31.5 -2.1
comp=Z,92nm,0.7s,mb5.2
ODAN Odare 21.10 342 eP P 13 52 31.5 -2.1
comp=Z,92nm,0.7s,mb5.2
LATR Latur 21.11 305 ePKP P 13 52 36.0 +2.2
KKM Kota Kinabalu 21.37 91 P P 13 52 39.0 +2.4
RAMN Ramite 21.45 340 eP P 13 52 35.3 -2.0
comp=Z,78nm,0.5s,mb5.3
RAMN Ramite 21.45 340 eP P 13 52 35.3 -2.0
comp=Z,78nm,0.5s,mb5.3
TAPN Taplejung 21.46 343 eP P 13 52 35.0 -2.4
comp=Z,125nm,0.6s,mb5.4
TAPN Taplejung 21.46 343 eP P 13 52 35.0 -2.4
comp=Z,125nm,0.6s,mb5.4
ALBI Allahabad 22.14 328 ePKP P 13 52 42.0 -2.6
JIRN Jiri 22.24 340 eP P 13 52 43.1 -2.5
comp=Z,72nm,0.7s,mb5.2
JIRN Jiri 22.24 340 eP P 13 52 43.1 -2.5
comp=Z,72nm,0.7s,mb5.2
SDKM Sandakan 22.37 92 P P 13 52 49.3 +2.1
PKI Pulchoki 22.44 338 eP P 13 52 45.1 -2.6
comp=Z,63nm,0.6s,mb5.2
PKI Pulchoki 22.44 338 eP P 13 52 45.1 -2.6
comp=Z,63nm,0.6s,mb5.2
PKI Pulchoki 22.44 338 eP P 13 52 45.1 -2.6
PKI pmax pmax
comp=Z,63nm,0.6s,mb5.2
GUN Gumba 22.58 339 eP P 13 52 46.5 -2.5
comp=Z,168nm,0.9s,mb5.5
GUN Gumba 22.58 339 eP P 13 52 46.5 -2.5
comp=Z,168nm,0.9s,mb5.5
GYA Guiyang 22.58 29⇓iP P 13 52 49.0 -0.1
GYA pP 13 53 18.6
GYA PP 13 53 25.8
GYA sP sP 13 53 36.4 +5.0
GYA S S 13 56 43.0 -3.3
GYA ScP ScP 14 00 01.0 -1.7
GYA PcS PcS 14 00 15.6 -1.0
GYA pmax pmax
comp=Z,30nm,0.7s,mb4.8
GYA pmax pmax
comp=Z,150nm,4.6s
DMN Daman 22.59 337 eP P 13 52 46.6 -2.5
comp=Z,81nm,0.8s,mb5.2
DMN Daman 22.59 337 eP P 13 52 46.6 -2.5
comp=Z,81nm,0.8s,mb5.2
KAD Karad 22.60 299 ePKP P 13 52 51.5 +2.2
KAD eS S 13 56 50.0 +3.3
KKN Kakani 22.68 338 eP P 13 52 47.6 -2.4
comp=Z,112nm,1.0s,mb5.3
KKN Kakani 22.68 338 eP P 13 52 47.6 -2.4
comp=Z,112nm,1.0s,mb5.2
KKN Kakani 22.68 338 eP P 13 52 47.6 -2.4
KKN pmax pmax
comp=Z,112nm,1.0s,mb5.2
LSA Lhasa 22.99 352 eP P 13 52 52.1 -0.7
comp=Z,72nm,0.7s,mb5.2
LSA Lhasa 22.99 352 eP P 13 52 52.1 -0.6
LSA pmax pmax
comp=Z,72nm,0.7s,mb5.2
GKN Gorkha 23.12 337 eP P 13 52 52.2 -1.8
comp=Z,60nm,0.5s,mb5.3
GKN Gorkha 23.12 337 eP P 13 52 52.2 -1.8
comp=Z,60nm,0.5s,mb5.3
TSM Tawau 23.17 95 P P 13 52 56.0 +1.4
BHPL Bhopal 23.30 316 ePKP P 13 52 55.5 -0.2
BHPL AMb AMB 13 52 59.4
comp=Z,208nm,0.8s,mb5.6
KOLN Koldanda 23.34 334 eP P 13 52 55.2 -0.8
comp=Z,87nm,0.5s,mb5.4
KOLN Koldanda 23.34 334 eP P 13 52 55.2 -0.8
comp=Z,87nm,0.5s,mb5.4
POO Poona 23.42 302⇓iP P 13 52 56.0 -0.8
comp=Z,120nm,1.0s,mb5.3
MYLDM Lahad Datu 23.70 93 P P 13 53 01.2 +1.8
DANN Dangsing 23.78 335 eP P 13 52 59.2 -0.8
comp=Z,56nm,0.5s,mb5.4
DANN Dangsing 23.78 335 eP P 13 52 59.2 -0.8
comp=Z,56nm,0.5s,mb5.3
CD2 Chengdu 25.40 18⇓iP P 13 53 15.0 +0.3
CD2 pP pP 13 53 45.3 +1.9
CD2 PP 13 54 00.8
CD2 S S 13 57 28.9 -2.4
CD2 pmax pmax
comp=Z,70nm,1.2s,mb5.1
CD2 pmax pmax
comp=Z,110nm,12.0s
AGRA Agra 25.80 324 ePKP P 13 53 18.0 -0.3
AGRA AMb AMB 13 53 19.1
comp=Z,98nm,0.4s,mb5.8
ASOR Ausora 27.05 326 ePKP P 13 53 29.4 -0.1
ENH Enshi 27.12 29 eP P 13 53 29.7 -0.5
comp=Z,26nm,1.0s,mb4.8
AYAN Aya Nagar 27.21 324 ePKP P 13 53 30.8 -0.2
AYAN AMb AMB 13 53 31.7
comp=Z,67nm,0.5s,mb5.5
NDI New Delhi 27.31 325 ePKP P 13 53 30.0 -1.9
NDI AMb AMB 13 53 30.6
comp=Z,77nm,0.9s,mb5.3
KUDL Kundal 27.34 323 ePKP P 13 53 32.0 -0.1
KUDL AMb AMB 13 53 33.4
comp=Z,35nm,0.8s,mb5.1
KHET Khetri 27.70 322 ePKP P 13 53 35.2 -0.1
KHET AMb AMB 13 53 37.5
comp=Z,51nm,0.8s,mb5.3
RTK Rohtak 28.04 324 ePKP P 13 53 38.2 -0.1
KKR Kurukshetra 28.51 326 ePKP P 13 53 42.5 0.0
WHN Wuhan 29.92 36 P P 13 53 55.6 +0.6
XAN Xi'an 30.09 24 P P 13 53 56.1 -0.3
XAN S S 13 58 41.0 -3.9
XAN pmax pmax
comp=Z,22nm,0.8s,mb4.9
XAN LR LR
comp=N,120nm,13.2s
XAN LR LR
comp=E,49nm,10.0s
XAN LR LR
comp=Z,50nm,13.6s
LZH Lanzhou 30.29 15 eP P 13 53 58.8 +0.7
LZH pP pP 13 54 29.4 +2.0
LZH sP sP 13 54 45.8 +2.7
LZH pmax pmax
comp=Z,31nm,1.2s,mb4.9
LZH pmax pmax
comp=Z,170nm,6.3s
LZH LR LR
comp=N,290nm,10.4s
LZH LR LR
comp=E,210nm,10.8s
LZH LR LR
comp=Z,440nm,12.9s
LZH Lanzhou 30.29 15 eP P 13 53 58.8 +0.7
comp=Z,31nm,1.2s,mb4.9
LZH pP pP 13 54 29.4 +2.0
LZH sP sP 13 54 45.8 +2.7
LZH PP PP 13 55 13.0 +3.8
LZH eS S 13 59 07.1 +19
LZH sS sS 13 59 57.0 +18
LZH LR LR
comp=Z,440nm,12.9s
LZH Lanzhou 30.29 15 eP P 13 53 58.8 +0.7
LZH *PP pP 13 54 29.4 +2.0
LZH *SP sP 13 54 45.8 +2.7
LZH 13 55 13.0
LZH pmax pmax
comp=Z,31nm,1.2s,mb4.9
LZH MLR MLR
comp=Z,440nm,12.9s
GTA Gaotai 32.75 7 ⇓P P 13 54 20.3 +0.6
GTA S S 13 59 25.8 -0.6
GTA ScP ScP 14 00 31.3 -2.2
GTA SS SS 14 01 35.1 -18
GTA ScS ScS 14 04 31.3 -2.2
GTA pmax pmax
comp=Z,39nm,0.7s,mb5.2
GTA pmax pmax
comp=Z,120nm,4.8s
NJ2 Nanjing 33.70 39 eP P 13 54 28.8 +0.8
NJ2 pmax pmax
comp=Z,20nm,0.5s,mb5.1
KBL Kabul 36.34 323 eP P 13 54 50.0 -0.7
comp=Z,6.9nm,0.6s,mb4.5
KBL Kabul 36.34 323 eP P 13 54 50.1 -0.6
KBL pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
KSH Kashi 36.65 335 P P 13 54 51.3 -1.9
KSH pP pP 13 55 22.1 -1.0
KSH sP sP 13 55 38.5 -0.2
KSH PP PP 13 56 19.0 -0.5
KSH PcP PcP 13 57 14.0 +0.7
KSH S S 14 00 19.9 -6.4
KSH ScP ScP 14 00 46.0 -1.5
KSH PcS PcS 14 01 00.8 -0.5
KSH sS sS 14 01 14.1 -4.2
KSH ScS ScS 14 04 50.8 -3.7
KSH pmax pmax
comp=Z,49nm,0.6s,mb5.3
KSH pmax pmax
comp=Z,130nm,4.1s
KSH LR LR
comp=N,140nm,5.5s
KSH LR LR
comp=E,220nm,6.2s
KSH LR LR
comp=Z,130nm,5.8s
HHC Hu-ho-hao-te 37.06 21 ⇓P P 13 54 57.9 +1.3
HHC pP pP 13 55 31.8 +5.3
HHC sP sP 13 55 47.0 +4.9
HHC PP PP 13 56 29.8 +5.9
HHC PcP PcP 13 57 15.9 +1.4
HHC S S 14 00 33.8 +1.4
HHC ScP ScP 14 00 48.1 -0.9
HHC PcS PcS 14 01 02.1 -0.7
HHC sS sS 14 01 27.3 +2.8
HHC SS SS 14 03 12.9 -7.6
HHC ScS ScS 14 04 54.5 -2.2
HHC pmax pmax
comp=Z,36nm,0.8s,mb5.0
HHC pmax pmax
comp=Z,120nm,5.7s
WMQ Urumqi 37.35 352 P P 13 55 00.0 +0.9
WMQ pP pP 13 55 31.0 +2.0
WMQ sP sP 13 55 47.3 +2.8
WMQ PP PP 13 56 32.4 +5.3
WMQ S S 14 00 37.3 +0.6
WMQ SS SS 14 03 18.4 -8.0
WMQ pmax pmax
comp=Z,16nm,0.8s,mb4.7
WMQ pmax pmax
comp=Z,220nm,5.2s
WMQ LR LR
comp=N,87nm,22.0s
WMQ LR LR
comp=E,160nm,30.0s
WMQ LR LR
comp=Z,120nm,22.2s
BJT Baijiatuau 38.23 27 eP P 13 55 08.0 +1.4
comp=Z,17nm,0.6s,mb4.9
BJT Baijiatuau 38.23 27 eP P 13 55 08.0 +1.5
BJT pmax pmax
comp=Z,17nm,0.6s
BJI Beijing 38.25 27 P P 13 55 08.3 +1.6
BJI pP pP 13 55 38.3 +1.6
BJI S S 14 00 49.8 -0.6
BJI pmax pmax
comp=Z,40nm,1.1s,mb5.0
BJI pmax pmax
comp=Z,130nm,4.0s
SMDO Samad 38.78 299 P P 13 55 14.8 +3.4
SNR=5.8
ULHL Ulahol 38.88 338 P P 13 55 13.1 +1.2
SNR=8.2
ULHL P 13 55 13.1
SNR=8.2
KZA Kyzart 39.11 337 P P 13 55 15.3 +1.4
SNR=10
KZA P 13 55 15.3
SNR=10
FITZ Fitzroy Crossi 39.30 130 P P 13 55 14.3 -1.4
comp=Z,2.7nm,0.6s,mb4.1,baz=111,slow=11,SNR=14
FITZ ScP ScP 14 00 55.0 -3.0
comp=Z,2.8nm,0.6s,baz=310,slow=4.3,SNR=10.0
FITZ LR LR 14 12 33.3
comp=Z,56nm,19.1s,baz=290,slow=38
FITZ Fitzroy Crossi 39.30 130 eP P 13 55 14.1 -1.7
comp=Z,14nm,1.5s,mb4.3
FITZ Fitzroy Crossi 39.30 130 P P 13 55 14.3 -1.5
FITZ ScP ScP 14 00 55.0 -3.0
BSY Bisya 39.43 298 P P 13 55 20.2 +3.5
SNR=7.2
UCH Uchtor 39.53 336 P P 13 55 18.9 +1.6
SNR=12
UCH P 13 55 18.9
SNR=12
TKM2 Tokmak 2 39.70 338 P P 13 55 19.4 +0.7
SNR=51
TKM2 P 13 55 19.4
SNR=51
TKM2 Tokmak 2 39.70 338 eP P 13 55 19.1 +0.4
comp=Z,25nm,0.5s,mb5.1
TKM2 Tokmak 2 39.70 338 iP P 13 55 19.2 +0.5
TKM2 pmax pmax
comp=Z,28nm,0.7s,mb5.0
KBK Karagaybulak 39.72 337 P P 13 55 20.1 +1.2
SNR=184
KBK P 13 55 20.1
SNR=184
AML Almayashu 39.78 335 P P 13 55 20.9 +1.5
SNR=62
AML P 13 55 20.9
SNR=62
AAK Ala-Archa 39.88 337 P P 13 55 21.4 +1.2
SNR=65
AAK P 13 55 21.4
SNR=65
AAK Ala-Archa 39.88 337 P P 13 55 21.0 +0.8
comp=Z,471nm,0.6s,SNR=56
AAK Ala-Archa 39.88 337 eP P 13 55 21.0 +0.8
comp=Z,254nm,0.8s,mb5.9
AAK Ala-Archa 39.88 337 diP P 13 55 21.1 +0.9
AAK pmax pmax
comp=Z,243nm,1.3s,mb5.7
AAK MLR MLR
comp=Z,203nm,17.0s
AAK Ala-Archa 39.88 337 P P 13 55 21.4 +1.2
SNR=28
CHMS Chumysh 40.09 337 P P 13 55 22.3 +0.4
SNR=35
CHMS P 13 55 22.3
SNR=35
EKS2 Erkin-Say 40.19 336 P P 13 55 23.8 +1.0
SNR=81
EKS2 P 13 55 23.8
SNR=81
EKS2 Erkin-Say 40.19 336 eP P 13 55 23.5 +0.7
comp=Z,62nm,0.7s,mb5.3
EKS2 Erkin-Say 40.19 336 eP P 13 55 23.5 +0.7
EKS2 pmax pmax
comp=Z,62nm,0.7s,mb5.3
USP Ospenovka 40.41 337 P P 13 55 25.1 +0.5
SNR=97
USP P 13 55 25.1
SNR=97
MORW Morawa 41.18 151 eP P 13 55 31.9 +0.9
comp=Z,44nm,0.8s,mb5.1
MK31 Makanchi Array 41.22 347 eP P 13 55 30.6 -0.5
MK31 Makanchi Array 41.22 347 ceP P 13 55 30.7 -0.4
MK31 pmax pmax
comp=Z,6.0nm,0.4s,mb4.6
MKAR Makanchi Array 41.22 347 P P 13 55 30.8 -0.3
comp=Z,12nm,0.6s,mb4.7,baz=165,slow=8.3,SNR=118
MKAR Makanchi Array 41.22 347 P P 13 55 30.8 -0.3
MKAR Makanchi Array 41.22 347 P P 13 55 30.8 -0.3
KK31 Karatay Array 41.95 333 ceP P 13 55 36.9 -0.2
KK31 pmax pmax
comp=Z,34nm,0.5s,mb5.2
KKAR Karatay Array 41.95 333 eP P 13 55 37.0 -0.1
comp=Z,30nm,0.5s,mb5.2
KKAR Karatay Array 41.95 333 eP P 13 55 37.1 0.0
KKAR pmax pmax
comp=Z,30nm,0.5s,mb5.2
SONM Songino Array 42.05 12 P P 13 55 38.3 +0.4
comp=Z,42nm,0.7s,mb5.2,baz=193,slow=8.6,SNR=419
SONM PcP PcP 13 57 30.3 +0.1
comp=Z,2.6nm,0.7s,baz=193,slow=3.9,SNR=4.5
SONM ScP ScP 14 01 05.5 -2.7
comp=Z,5.2nm,1.0s,baz=203,slow=4.0,SNR=15
SONM Songino Array 42.05 12 P P 13 55 38.3 +0.4
SONM PcP PcP 13 57 30.3 +0.1
SONM ScP ScP 14 01 05.5 -2.7
SONM Songino Array 42.05 12 P P 13 55 38.3 +0.4
SONM 13 57 30.3
ULN Ulaanbaatar 42.21 12 eP P 13 55 39.0 -0.2
comp=Z,32nm,0.7s,mb5.1
ULN Ulaanbaatar 42.21 12 eP P 13 55 39.0 -0.2
ULN pmax pmax
comp=Z,32nm,0.7s,mb5.1
ULN Ulaanbaatar 42.21 12 P P 13 55 39.8 +0.6
SNR=11
KSAR Wonju Array Be 42.84 40 P P 13 55 44.9 +0.4
KSAR ScP ScP 14 01 07.8 -3.9
KSAR Wonju Array Be 42.84 40 P P 13 55 44.9 +0.4
KSRS Korea Array 42.87 40 P P 13 55 44.9 +0.2
comp=Z,2.7nm,0.8s,mb3.9,baz=218,slow=8.9,SNR=6.9
KSRS ScP ScP 14 01 07.8 -4.0
comp=Z,4.9nm,1.0s,baz=230,slow=5.5,SNR=7.6
KSRS LR LR 14 13 43.1
comp=Z,26nm,18.1s,baz=73,slow=36
SNY Shenyang 43.23 32 ⇓P P 13 55 48.1 +0.6
SNY pmax pmax
comp=Z,15nm,0.5s,mb4.9
ZAK Zakamensk 43.99 8⇓iP P 13 55 53.5 +0.1
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.5
KLBR Kellerberrin 44.09 151 eP P 13 55 54.9 +0.4
comp=Z,11nm,0.7s,mb4.6
NWAO Narrogin (SRO) 44.96 153 P P 13 56 01.6 +0.2
comp=Z,23nm,0.6s,mb5.0,baz=324,slow=8.7,SNR=19
NWAO Narrogin (SRO) 44.96 153 P P 13 56 01.6 +0.2
NWAO Narrogin (SRO) 44.96 153 P P 13 56 01.7 +0.3
TLY Talaya 45.31 8 eP P 13 56 04.2 +0.3
TLY pmax pmax
comp=Z,15nm,0.9s,mb4.6
ABKT Ailbek 45.36 318 P P 13 56 05.3 +0.8
comp=Z,417nm,0.7s,mb6.2,SNR=16
CN2 Changchun 45.60 31 eP P 13 56 06.8 +0.5
CN2 eS S 14 02 44.8 +6.3
CN2 pmax pmax
comp=Z,20nm,0.6s,mb4.9
KURK Kurchatov 45.75 346 P P 13 56 06.9 -0.5
comp=Z,14nm,0.5s,mb4.8,baz=177,slow=6.9,SNR=156
KURK PcP PcP 13 57 42.8 0.0
comp=Z,4.3nm,0.7s,baz=146,slow=2.9,SNR=4.5
KURK ScP ScP 14 01 20.7 -2.5
comp=Z,1.8nm,0.9s,baz=165,slow=3.3,SNR=6.0
KURK LR LR 14 16 27.0
comp=Z,67nm,21.9s,baz=340,slow=37
KURK Kurchatov 45.75 346 eP P 13 56 07.1 -0.3
comp=Z,43nm,1.1s,mb5.0
KURK PcP PcP 13 57 42.8 0.0
KURK ScP ScP 14 01 20.7 -2.5
KURK Kurchatov 45.75 346 P P 13 56 07.3 -0.1
comp=Z,175nm,0.7s,mb5.8,SNR=30
KURK Kurchatov 45.75 346 diP P 13 56 07.3 -0.1
KURK pmax pmax
comp=Z,49nm,1.2s,mb5.0
KURK Kurchatov 45.75 346 P P 13 56 07.8 +0.5
SNR=14
RKGY Rocky Gully 46.27 154 eP P 13 56 12.6 +0.9
comp=Z,24nm,0.7s,mb4.9
WRA Warramunga Arr 47.19 125 P P 13 56 18.1 -1.0
comp=Z,6.2nm,0.6s,mb4.4,baz=306,slow=8.4,SNR=76
WRA PcP PcP 13 57 47.9 -0.6
comp=Z,2.5nm,0.8s,baz=323,slow=2.8,SNR=3.1
WRA ScP ScP 14 01 24.6 -5.4
comp=Z,1.5nm,0.8s,baz=311,slow=3.8,SNR=7.1
WRA S S 14 02 54.8 -7.0
comp=Z,2.4nm,0.8s,baz=301,slow=16,SNR=7.7
WRA Warramunga Arr 47.19 125 P P 13 56 18.1 -1.0
WRA PcP PcP 13 57 47.9 -0.6
WRA ScP ScP 14 01 24.6 -5.4
WRA S S 14 02 54.8 -6.9
WRA Warramunga Arr 47.19 125 P P 13 56 18.1 -1.0
WRA 13 57 47.9
WRA S S 14 02 54.8 -7.0
WRAB Tennant Creek 47.19 125 eP P 13 56 17.9 -1.2
comp=Z,26nm,1.3s,mb4.7
WRAB Tennant Creek 47.19 125 eP P 13 56 17.9 -1.2
WRAB pmax pmax
comp=Z,26nm,1.3s,mb4.7
WRAB Tennant Creek 47.19 125 P P 13 56 18.9 -0.2
comp=Z,86nm,0.9s,mb5.4,SNR=8.9
WB2 Warramunga Arr 47.20 125 eP P 13 56 18.0 -1.2
HIA Hailar 47.25 22 eP P 13 56 19.3 +0.2
comp=Z,33nm,0.6s,mb5.1
HIA Hailar 47.25 22 eP P 13 56 19.3 +0.2
HIA pmax pmax
comp=Z,33nm,0.6s
ZAA0 Zalesovo Array 47.66 352 eP P 13 56 21.8 -0.3
ZALV Zalesovo Beam 47.66 352 P P 13 56 22.1 0.0
comp=Z,17nm,0.4s,mb5.0,baz=167,slow=7.2,SNR=212
ZALV ScP ScP 14 01 26.9 -4.3
comp=Z,1.8nm,0.7s,baz=163,slow=1.5,SNR=5.2
ZALV S S 14 03 03.4 -4.0
comp=Z,1.2nm,0.4s,baz=172,slow=11,SNR=7.5
ZALV Zalesovo Beam 47.66 352 P P 13 56 22.1 0.0
ZALV ScP ScP 14 01 26.9 -4.3
ZALV S S 14 03 03.4 -4.0
ZALV Zalesovo Beam 47.66 352 P P 13 56 22.2 +0.1
ZALV S S 14 03 03.4 -4.0
MDJ Mudanjiang 48.34 33 P P 13 56 28.9 +1.3
MDJ sP sP 13 57 16.5 +2.4
MDJ S S 14 03 18.8 +1.4
MDJ sS sS 14 04 15.8 +4.4
MDJ pmax pmax
comp=Z,26nm,1.8s,mb4.6
MDJ pmax pmax
comp=Z,100nm,3.8s
VLA Vladivostok 48.70 36⇓iP P 13 56 29.8 -0.6
VLA 13 57 51.7
VLA eS S 14 03 21.4 -1.1
VLA pmax pmax
comp=Z,133nm,2.5s,mb5.1
NVS Novosibirsk 48.75 351 eP P 13 56 29.2 -1.3
NVS e*PP pP 13 56 55.8 -6.0
NVS e 13 58 28.4
NVS eS S 14 03 16.5 -6.3
NVS pmax pmax
comp=Z,42nm,1.1s,mb5.0
NVS pmax pmax
comp=N,25nm,1.2s
NVS pmax pmax
comp=E,12nm,1.2s
NVS pmax pmax
comp=Z,26nm,2.5s,mb4.4
NVS smax
comp=E,36nm,2.2s

ASAR Alice Springs 48.81 130 P **P** **13 56 30.8 -0.7**
comp=E,9.6nm,0.6s,mb4.6,baz=301,slow=7.1,SNR=180
ASAR PcP PcP 13 57 54.5 +0.2
comp=E,3.3nm,0.8s,baz=291,slow=4.0,SNR=7.8
ASAR ScP ScP 14 01 33.0 -3.6
comp=E,1.4nm,0.8s,baz=312,slow=4.7,SNR=6.2
ASAR S **S** **14 03 18.2 -6.2**
comp=E,2.3nm,1.1s,baz=306,slow=14,SNR=8.6
ASAR Alice Springs 48.81 130 P **P** **13 56 30.8 -0.7**
ASAR PcP PcP 13 57 54.5 +0.2
ASAR ScP ScP 14 01 33.0 -3.6
ASAR S **S** **14 03 18.2 -6.2**
ASAR Alice Springs 48.81 130 P **P** **13 56 30.8 -0.7**
ASAR 13 57 54.5
ASAR S **S** **14 03 18.3 -6.2**
AS31 Alice Springs 48.81 130 *eP* **P** **13 56 30.5 -1.0**
FORT Forrest 49.17 141 *eP* **P** **13 56 34.9 +0.8**
comp=E,48nm,0.7s,mb5.2
MJAR Matsushiro Arr 49.43 47 P **P** **13 56 35.9 -0.2**
comp=E,2.0nm,0.8s,mb3.8,baz=246,slow=8.0,SNR=5.2
MJAR Matsushiro Arr 49.43 47 P **P** **13 56 35.9 -0.2**
MJAR Matsushiro Arr 49.43 47 P **P** **13 56 35.9 -0.2**
KBD Kabd 49.52 303 *eP* **P** **13 56 36.7 -0.1**
KBD AMb AMB 13 56 37.7
comp=Z,62nm,0.7s,mb5.3
RDF Al-Radifah 49.56 302 *eP* **P** **13 56 37.2 0.0**
RDF AMb AMB 13 56 38.6
comp=Z,111nm,0.6s,mb5.7
NAY Al-Naaiem 49.92 303 *eP* **P** **13 56 39.4 -0.5**
NAY AMb AMB 13 56 41.0
comp=Z,64nm,0.7s,mb5.4
MIB Mutribah 50.00 303 *eP* **P** **13 56 39.8 -0.7**
MIB AMb AMB 13 56 41.3
comp=Z,132nm,0.7s,mb5.7
RAYN Ar Rayn 50.05 295 P **P** **13 56 42.0 +1.1**
comp=Z,450nm,0.7s,mb6.2,SNR=12
BVA0 Borovoye Array 50.15 341 P **P** **13 56 40.8 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
BVAR Borovoye Array 50.15 341 P **P** **13 56 40.9 -0.3**
comp=Z,24nm,0.8s,mb4.8,baz=143,slow=8.0,SNR=121
BVAR ScP ScP 14 01 39.1 -2.7
comp=Z,1.1nm,0.7s,baz=134,slow=6.4,SNR=3.9
BVAR S **S** **14 03 38.9 -3.5**
comp=Z,0.6nm,0.7s,baz=198,slow=30,SNR=3.2
BVAR Borovoye Array 50.15 341 P **P** **13 56 40.9 -0.3**
BVAR ScP ScP 14 01 39.1 -2.7
BVAR S **S** **14 03 38.9 -3.5**
BVAR Borovoye Array 50.15 341 P **P** **13 56 40.9 -0.3**
BVAR S **S** **14 03 38.9 -3.5**
BRVK Borovoye 50.22 341 P **P** **13 56 41.8 +0.1**
comp=Z,165nm,0.8s,mb5.7,SNR=24
BRVK Borovoye 50.22 341 *eP* **P** **13 56 40.6 -1.0**
comp=Z,36nm,1.0s,mb5.0
BRVK Borovoye 50.22 341 *d iP* **P** **13 56 41.2 -0.5**
BRVK pmax pmax
comp=Z,31nm,0.9s,mb4.9
BRVK Borovoye 50.22 341 P **P** **13 56 41.9 +0.2**
SNR=8.3
ATD Arta Tunnel 51.37 279 P **P** **13 56 52.7 +1.7**
comp=Z,14nm,0.7s,mb4.7,baz=69,slow=23,SNR=6.5
ATD LR LR 14 15 42.7
comp=Z,57nm,18.3s,baz=63,slow=32
ATD Arta Tunnel 51.37 279 P **P** **13 56 52.7 +1.7**
AB31 Akbulak array 51.41 331 *ceP* **P** **13 56 51.3 +0.6**
AB31 pmax pmax
comp=Z,37nm,0.4s,mb5.4
ABKAR Akbulak array 51.41 331 *eP* **P** **13 56 51.4 +0.6**
comp=Z,53nm,0.6s,mb5.3
BOD Bodaibo 53.02 13 *eP* **P** **13 57 02.7 +0.3**
BOD pmax pmax
comp=Z,40nm,1.0s,mb5.1
AKTO Aktyubinsk 53.13 331 P **P** **13 57 03.8 +0.4**
comp=Z,27nm,0.5s,mb5.2,baz=116,slow=10,SNR=10
AKTO S **S** **14 04 21.0 -2.3**
comp=Z,3.6nm,0.8s,baz=359,slow=21,SNR=12
AKTO Aktyubinsk 53.13 331 P **P** **13 57 03.8 +0.4**
AKTO S **S** **14 04 21.0 -2.3**
AKTO Aktyubinsk 53.13 331 P **P** **13 57 03.8 +0.4**
AKTO S **S** **14 04 21.0 -2.3**
HABR Khabarovsk 53.70 32 *deP* **P** **13 57 06.2 -1.3**
HABR *e**PP pP 13 57 40.6 +1.3
HABR *e* 13 58 09.5
HABR *eS* **S** **14 04 30.0 -1.0**
HABR *e* 14 06 40.0
HABR pmax pmax
comp=N,56nm,3.7s
HABR pmax pmax
comp=E,95nm,2.8s
HABR pmax pmax
comp=Z,82nm,2.2s,mb5.1
HABR MLR MLR
comp=Z,93nm,16.0s
PMG Port Moresby 54.68 107 P **P** **13 57 14.7 -0.5**
comp=Z,7.4nm,0.8s,mb4.5,baz=175,slow=8.7,SNR=5.6
PMG Port Moresby 54.68 107 P **P** **13 57 14.7 -0.5**
PMG Port Moresby 54.68 107 P **P** **13 57 14.7 -0.5**
CLNS Chul'man 55.21 20 *eP* **P** **13 57 18.8 +0.5**
CLNS pmax pmax
comp=Z,20nm,0.8s,mb4.9
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.9s
GNI Garni 55.58 315 *eP* **P** **13 57 21.3 0.0**
comp=N,45nm,1.0s,mb5.3
GNI Garni 55.58 315 ⇑ *eP* **P** **13 57 21.3 0.0**
GNI pmax pmax
comp=Z,63nm,1.4s
GNI Garni 55.58 315 P **P** **13 57 22.0 +0.8**
SNR=5.7
BBOO Buckleboo 55.66 138 *eP* **P** **13 57 21.4 -0.5**
comp=Z,55nm,0.9s,mb5.4
ASAJ Asahikawa 55.82 40 P **P** **13 57 22.4 -0.6**
comp=Z,8.6nm,0.6s,mb4.8,baz=305,slow=22,SNR=9.2
ASAJ Asahikawa 55.82 40 P **P** **13 57 22.4 -0.6**
SVE Sverdlovsk 56.57 338 *ceP* **P** **13 57 28.5 +0.5**
SVE pmax pmax
comp=Z,77nm,1.1s,mb5.5
ARU Arti 57.07 337 *eP* **P** **13 57 31.3 -0.2**
comp=Z,28nm,0.9s,mb5.1
ARU Arti 57.07 337 *eP* **P** **13 57 31.3 -0.2**
ARU pmax pmax
comp=Z,28nm,0.9s,mb5.1
ARU Arti 57.07 337 P **P** **13 57 31.3 -0.2**
comp=Z,258nm,0.8s,mb6.1,SNR=12
YSS Yuzh-Sakhalins 57.24 37 *eP* **P** **13 57 33.5 +0.6**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.2
KMBO Kilima Mbogo 57.90 264 P **P** **13 57 38.6 +0.5**
comp=Z,5.7nm,0.9s,mb4.4
KMBO Kilima Mbogo 57.90 264 P **P** **13 57 38.6 +0.5**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
YUK Yuzh-Kuril'sk 57.91 42 *eP* **P** **13 57 45.9 +8.3**
YUK *i* 13 58 33.9
YUK *i* PPP 14 01 14.7
YUK *eS* **S** **14 05 26.8 -0.1**
YUK pmax pmax
comp=N,295nm,1.8s
YUK pmax pmax
comp=Z,399nm,1.8s,mb6.0
YUK pmax pmax
comp=E,644nm,1.8s
YUK pmax pmax
comp=Z,64nm,6.0s
QLP Quilpie 58.35 127 *eP* **P** **13 57 40.8 -0.2**
KIV Kislovodsk 58.47 318 *eP* **P** **13 57 41.2 -0.4**
comp=Z,54nm,0.8s,mb5.4
KIV Kislovodsk 58.47 318 *eP* **P** **13 57 41.3 -0.3**
KIV pmax pmax
comp=Z,68nm,1.0s,mb5.4
KIV Kislovodsk 58.47 318 P **P** **13 57 41.9 +0.3**
SNR=10
KIV Kislovodsk 58.47 318 P **P** **13 57 41.2 -0.4**
comp=Z,410nm,0.8s,SNR=7.9
STKA Stephens Creek 58.97 134 P **P** **13 57 43.7 -1.5**
comp=Z,4.5nm,0.7s,mb4.4,baz=314,slow=8.8,SNR=11
STKA LR LR 14 23 59.1
comp=Z,69nm,18.2s,baz=22,slow=37
STKA Stephens Creek 58.97 134 *eP* **P** **13 57 44.7 -0.5**
comp=Z,3.5nm,0.8s,mb4.2
STKA Stephens Creek 58.97 134 P **P** **13 57 43.8 -1.5**
comp=Z,0.8nm,0.8s
STKA Stephens Creek 58.97 134 P **P** **13 57 43.8 -1.4**
STKA pmax pmax
comp=Z,1.0nm,0.8s
SOKR Solikamsk 59.97 339 *d iP* **P** **13 57 51.9 +0.3**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.2
SOC Sochi 60.33 317 *d iP* **P** **13 57 52.5 -1.8**
SOC *eS* **S** **14 05 55.2 -3.0**
SOC *eSS* SS 14 09 58.4 +0.3
SOC pmax pmax
comp=Z,53nm,0.8s,mb5.4
MMAI Mount Meron Ar 60.67 304 P **P** **13 57 57.7 +0.8**
comp=Z,10nm,0.8s,mb4.7,baz=125,slow=7.2,SNR=13
MMAI Mount Meron Ar 60.67 304 P **P** **13 57 57.7 +0.8**
YAK Yakutsk 60.79 18 *eP* **P** **13 57 56.4 -0.8**
comp=Z,81nm,0.8s,mb5.6
YAK Yakutsk 60.79 18 *eP* **P** **13 57 55.4 -1.7**
YAK *e**PP pP 13 58 30.5 +0.9
YAK *e* 14 00 14.2
YAK *eS* **S** **14 05 59.4 -4.0**
YAK pmax pmax
comp=Z,55nm,0.9s,mb5.4
YAK pmax pmax
comp=E,17nm,1.2s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=Z,102nm,3.4s
YAK pmax pmax
comp=E,24nm,2.2s
YAK pmax pmax
comp=N,70nm,3.0s
YAK smax
comp=E,99nm,1.6s
YAK smax
comp=N,52nm,1.4s
ANN Anapa 62.29 317 *eP* **P** **13 58 03.2 -4.3**
ANN *e**PP pP 13 58 38.7 -1.5
ANN *e* 13 58 42.2
ANN *eS* **S** **14 06 16.7 -6.2**
ANN *eSS* SS 14 10 25.0 -3.7
ANN pmax pmax
comp=Z,35nm,1.0s,mb5.1
CSS Prodhromos 62.75 306 *eP* **P** **13 58 09.6 -1.2**
comp=Z,16nm,0.8s,mb4.9
BR131 Keskin Array S 63.54 311 *eP* **P** **13 58 15.1 -0.8**
comp=Z,26nm,0.6s,mb5.2
BRTR Keskin Array B 63.54 311 P **P** **13 58 15.2 -0.7**
comp=Z,32nm,0.7s,mb5.3,baz=128,slow=7.4,SNR=179
BRTR Keskin Array B 63.54 311 P **P** **13 58 15.2 -0.7**
BRTR Keskin Array B 63.54 311 P **P** **13 58 15.2 -0.7**
VSR Storozhevoye 63.57 325 *eP* **P** **13 58 14.7 -1.1**
VSR *eS* **S** **14 06 30.6 -8.1**
VSR *eSS* SS 14 10 52.9 +4.5
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,60nm,0.8s
VSR pmax pmax
comp=Z,130nm,0.8s,mb5.8
VSR smax
comp=N,150nm,3.8s
VSR smax
comp=E,350nm,3.8s
VSR smax
comp=Z,210nm,3.8s
SIM Simferopol' 64.58 317 P **P** **13 58 14.5 -8.1**
SIM pmax pmax
comp=Z,39nm,0.7s,mb5.3
TOO Toolangi 64.71 137 *eP* **P** **13 58 24.7 +1.2**
comp=Z,90nm,1.0s,mb5.6
MOS Moscow 66.26 329 *eP* **P** **13 58 32.1 -1.1**
MOS *e* pP 13 59 07.8 +1.6
MOS *eS* S 14 07 05.7 -5.8
MOS pmax pmax
comp=Z,211nm,0.7s,mb6.1
MOS pmax pmax
comp=Z,200nm,0.6s,mb6.1
OBN Obninsk 66.56 328 *eP* **P** **13 58 34.5 -0.6**
comp=Z,66nm,0.5s,mb5.7
OBN Obninsk 66.56 328 *d iP* **P** **13 58 34.7 -0.4**
OBN *e* 13 59 01.7
OBN *e* 13 59 24.3
OBN *e* 14 01 01.2
OBN *eS* S 14 07 10.5 -4.6
OBN pmax pmax
comp=Z,263nm,1.5s,mb5.8
OBN MLR MLR
comp=Z,100nm,19.0s
KLMR Klimovskoe 67.64 334 *eP* **P** **13 58 39.7 -2.1**
KLMR pmax pmax
comp=Z,55nm,1.2s,mb5.2
TIRR Tirgusor 68.40 315 ⇑ *P* **P** **13 58 46.7 -0.2**
TIRR Tirgusor 68.40 315 ⇑ *iP* **P** **13 58 46.7 -0.2**
PETK Petropavlovsk- 68.51 35 LR LR 14 33 17.8
comp=Z,33nm,18.8s,baz=26,slow=40
KIS Kishinev 68.68 318 ⇑ *eP* **P** **13 58 51.0 +2.5**
comp=Z,200nm,1.0s,mb5.8
KIS *ep*P pP 13 59 26.0 +4.2
KIS Kishinev 68.68 318 ⇑ *eP* **P** **13 58 51.0 +2.5**
KIS *e**PP pP 13 59 26.0 +4.2
KIS pmax pmax
comp=Z,190nm,1.0s,mb5.8
AKASG Malin Array Be 69.32 322 P **P** **13 58 51.6 -0.9**
comp=Z,43nm,0.8s,mb5.2,baz=90,slow=5.0,SNR=65
AKASG Malin Array Be 69.32 322 P **P** **13 58 51.6 -0.9**
AKASG Malin Array Be 69.32 322 P **P** **13 58 51.6 -0.9**
AKBB Malin Array Si 69.32 322 *eP* **P** **13 58 50.7 -1.8**
AKBB Malin Array Si 69.32 322 *eP* **P** **13 58 50.7 -1.8**
APE Apeiranthos 69.33 307 ⇑ *P* **P** **13 58 51.9 -0.9**
APE Apeiranthos 69.33 307 ⇑ *iP* **P** **13 58 51.9 -0.9**
KIEV Kiev 69.33 322 *eP* **P** **13 58 50.0 -2.5**
comp=Z,55nm,1.1s,mb5.2
KIEV Kiev 69.33 322 *d iP* **P** **13 58 51.5 -1.0**
VRI Vrincioaia 69.85 316 ⇑ *P* **P** **13 58 56.8 +1.0**
VRI Vrincioaia 69.85 316 ⇑ *iP* **P** **13 58 56.8 +1.0**
PLOR Plostina 69.90 316 ⇓ *P* **P** **13 58 57.1 +1.0**
PLOR Plostina 69.90 316 ⇓ *iP* **P** **13 58 57.1 +1.0**
TESR **70.03 317** ⇓ *iP* **P** **13 58 57.0 +0.1**
MLR Muntele Rosu 70.32 316 ⇓ *P* **P** **13 58 59.1 +0.5**
MLR Muntele Rosu 70.32 316 ⇓ *iP* **P** **13 58 59.1 +0.5**
VOIR **70.93 316** ⇑ *P* **P** **13 59 01.5 -0.8**
VOIR **70.93 316** ⇑ *iP* **P** **13 59 01.5 -0.8**
MICGM Minsk 71.11 325 *eP* **P** **13 59 02.0 -1.2**
MNK Minsk 71.14 325 *eP* **P** **13 59 02.0 -1.4**
BURAR Bucovina Array 71.20 318 ⇓ *P* **P** **13 59 04.7 +0.7**
BURAR Bucovina Array 71.20 318 ⇓ *iP* **P** **13 59 04.7 +0.7**
BUR08 Bucovina Ar. S 71.22 318 *eP* **P** **13 59 04.3 +0.3**
PUL Pulkovo 71.40 331 ⇑ *eP* **P** **13 59 05.1 +0.2**
PUL pmax pmax
comp=Z,75nm,0.6s,mb5.6
VTS Vitosha 71.81 313 ⇓ *P* **P** **13 59 07.3 -0.4**
VTS Vitosha 71.81 313 ⇓ *iP* **P** **13 59 07.3 -0.4**
NACGM Naroch 71.83 326 *eP* **P** **13 59 05.0 -2.6**
JOF Joensuu 72.03 335 *eP* **P** **13 59 09.4 +0.8**
JOF pmax pmax
comp=Z,8.0nm,0.4s,mb4.8
JOF Joensuu 72.03 335 *ep* **P** **13 59 09.4 +0.8**
comp=Z,8.1nm,0.4s,mb4.8
IIGN Ignalina 72.25 326 *eP* **P** **13 59 10.7 +0.7**
IIGN AMB AMB 13 59 11.5
comp=Z,44nm,0.7s,mb5.3
IZAR Zarasai 72.33 326 *eP* **P** **13 59 11.2 +0.7**
IZAR AMB AMB 13 59 11.9
comp=Z,38nm,0.7s,mb5.2
ISAL Salakas 72.36 326 *eP* **P** **13 59 11.3 +0.6**
ISAL AMB AMB 13 59 12.0
comp=Z,27nm,0.7s,mb5.1
LVV L'vov 72.38 320 *eP* **P** **13 59 09.8 -1.1**
GZR Gura Zlata 72.50 315 ⇓ *P* **P** **13 59 11.8 0.0**
GZR Gura Zlata 72.50 315 ⇓ *iP* **P** **13 59 11.8 0.0**
LVZ Lovozero 72.73 340 P **P** **13 59 12.7 0.0**
comp=Z,260nm,0.5s,mb6.2,SNR=6.6
DRGR **72.75 317** ⇓ *P* **P** **13 59 14.4 +1.2**
DRGR **72.75 317** ⇓ *iP* **P** **13 59 14.4 +1.2**
VSU Vasula 72.77 329 *d iP* **P** **13 59 13.0 -0.1**
VSU pmax pmax
comp=Z,86nm,0.7s,mb5.6
APA Apatity 73.02 339 ⇓ *iP* **P** **13 59 14.0 -0.4**
APA *i* *PP pP 13 59 47.4 -0.6
APA pmax pmax
comp=Z,18nm,0.6s,mb5.0
APA MLR MLR
comp=Z,1μm,21.0s
TRPA Tarpa 73.07 318 ⇓ *iP* **P** **13 59 15.6 +0.6**
KWP Kalwaria Pacla 73.19 320 *eP* **P** **13 59 16.3 +0.5**
KWP Kalwaria Pacla 73.19 320 P **P** **13 59 15.3 -0.5**
comp=Z,63nm,0.9s,mb5.3
KWP Kalwaria Pacla 73.19 320 ⇓ *P* **P** **13 59 16.2 +0.4**
KWP Kalwaria Pacla 73.19 320 ⇓ *iP* **P** **13 59 16.2 +0.4**
UZH Uzhgorod 73.30 319 *eP* **P** **13 59 15.2 -1.2**
UZH *i* pP 13 59 48.0 -2.1
BZS Buzias 73.34 315 ⇓ *P* **P** **13 59 17.3 +0.6**
BZS Buzias 73.34 315 ⇓ *iP* **P** **13 59 17.3 +0.6**
SUW Suwalki 73.68 324 *eP* **P** **13 59 18.2 -0.3**
SUW Suwalki 73.68 324 *eP* **P** **13 59 18.2 -0.4**
comp=Z,210nm,1.0s,mb5.8
SUW Suwalki 73.68 324 *eP* **P** **13 59 18.2 -0.3**
CRVS Cervenica-Dubn 73.89 319 *eP* **P** **13 59 20.7 +0.9**
CRVS pmax pmax
comp=Z,43nm,1.3s,mb5.0
CRVS Cervenica-Dubn 73.89 319 *eP* **P** **13 59 20.7 +0.9**
FINES FINESS Array B 73.89 332 P **P** **13 59 19.5 -0.1**
comp=Z,42nm,0.5s,mb5.4,baz=98,slow=5.6,SNR=160
FINES FINESS Array B 73.89 332 P **P** **13 59 19.5 -0.1**
FINES FINESS Array B 73.89 332 P **P** **13 59 19.5 -0.1**
KAF Kangasniemi 73.97 333 *eP* **P** **13 59 20.0 -0.1**
KAF Kangasniemi 73.97 333 *ep* **P** **13 59 20.0 -0.1**
STHS Stebnicka Huta 74.10 319 *eP* **P** **13 59 21.8 +0.7**
STHS Stebnicka Huta 74.10 319 *eP* **P** **13 59 21.8 +0.7**
LBTB Lobatse 74.26 242 P **P** **13 59 25.0 +2.5**
comp=Z,13nm,0.8s,mb4.7,baz=114,slow=6.2,SNR=18
LBTB Lobatse 74.26 242 *eP* **P** **13 59 24.6 +2.1**
comp=Z,13nm,0.9s,mb4.7
LBTB Lobatse 74.26 242 *eP* **P** **13 59 24.6 +2.1**
LBTB pmax pmax
comp=Z,13nm,0.9s,mb4.7
KECS Kecovo 74.47 318 *eP* **P** **13 59 23.6 +0.4**
KECS pmax pmax
comp=Z,13nm,0.8s,mb4.7
KECS Kecovo 74.47 318 *eP* **P** **13 59 23.6 +0.4**
BEL Belsk 74.74 322 *eP* **P** **13 59 25.3 +0.6**
BEL Belsk 74.74 322 *eP* **P** **13 59 25.3 +0.6**
PSZ Piszkesteto 74.80 318 *eP* **P** **13 59 25.3 +0.2**
comp=Z,17nm,0.8s,mb4.7
PSZ Piszkesteto 74.80 318 ⇑ *P* **P** **13 59 25.9 +0.8**
PSZ Piszkesteto 74.80 318 ⇓ *eP* **P** **13 59 25.5 +0.4**
PSZ Piszkesteto 74.80 318 ⇑ *iP* **P** **13 59 25.9 +0.8**
BUD Budapest 75.33 317 ⇓ *eP/p* 13 59 27.1
PKSM Moragy 75.47 316 ⇑ *P* **P** **13 59 28.7 -0.3**
PKSM Moragy 75.47 316 ⇑ *iP* **P** **13 59 28.7 -0.3**
BOSA Boshof 75.53 238 P **P** **13 59 31.8 +2.0**
comp=Z,16nm,0.9s,mb4.7,baz=95,slow=6.9,SNR=19
BOSA Boshof 75.53 238 P **P** **13 59 31.8 +2.0**
BOSA Boshof 75.53 238 P **P** **13 59 31.8 +2.1**
VYHS Vyhne 75.56 318 *eP* **P** **13 59 29.9 +0.4**
VYHS Vyhne 75.56 318 *eP* **P** **13 59 29.9 +0.4**
KEV Kevo 76.00 341 *eP* **P** **13 59 31.5 -0.1**
KEV pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
KEV Kevo 76.00 341 *ep* **P** **13 59 31.5 -0.1**
comp=Z,9.8nm,0.5s,mb4.7
OKC Ostrava-Krasne 76.15 320 *eP* **P** **13 59 33.3 +0.5**
ARCES ARCESS Array B 76.43 340 P **P** **13 59 34.2 +0.2**
comp=Z,14nm,0.5s,mb4.9,baz=100,slow=6.5,SNR=109
ARCES ARCESS Array B 76.43 340 P **P** **13 59 34.2 +0.2**
ARCES ARCESS Array B 76.43 340 P **P** **13 59 34.2 +0.2**
ARE0 ARCESS Array S 76.43 340 *eP* **P** **13 59 34.3 +0.3**
ARE0 ARCESS Array S 76.43 340 *eP* **P** **13 59 34.0 0.0**
MORC Moravsky Berou 76.54 319 *eP* **P** **13 59 35.3 +0.4**
comp=Z,76nm,1.6s,mb5.1
MORC Moravsky Berou 76.54 319 ⇓ *P* **P** **13 59 35.6 +0.6**
MORC Moravsky Berou 76.54 319 ⇓ *iP* **P** **13 59 35.6 +0.6**
ZST Bratislava 76.69 318 *eP* **P** **13 59 36.7 +0.8**
ZST pmax pmax
comp=Z,33nm,0.7s,mb5.1
ZST Bratislava 76.69 318 *eP* **P** **13 59 36.7 +0.8**
BILL Bilibino 76.83 21 *eP* **P** **13 59 36.0 -0.3**
BILL *eS* S 14 09 05.2 -7.1
BILL pmax pmax
comp=Z,4.0nm,2.3s
BILL MLR MLR
comp=Z,100nm,15.0s
SOP Sopron 77.01 317 ⇓ *eP* **P** **13 59 38.1 +0.4**
KRLC Kraliky 77.05 320 *eP* **P** **13 59 38.6 +0.7**
KTK1 Kautokeino 77.06 339 *eP* **P** **13 59 37.6 +0.1**
KOGS Kog 77.14 316 *i P* **P** **13 59 38.9 +0.5**
DPC Dobruska-Polom 77.37 320 *eP* **P** **13 59 40.6 +1.0**
DPC Dobruska-Polom 77.37 320 *eP* **P** **13 59 40.6 +1.0**
KSP Ksiaz 77.43 320 *eP* **P** **13 59 40.9 +0.9**
KSP Ksiaz 77.43 320 *eP* **P** **13 59 40.7 +0.8**
KSP Ksiaz 77.43 320 *eP* **P** **13 59 40.7 +0.8**
CSNA Conrad Observa 77.50 317 ⇓ *iP* **P** **13 59 40.8 +0.4**
comp=Z,12nm,1.1s,mb4.5
UPC Upice 77.58 320 *eP* **P** **13 59 41.4 +0.6**
BOJS Bojanci 77.78 315 *i P* **P** **13 59 42.5 +0.4**
TREC Trest 77.83 319 *eP* **P** **13 59 42.8 +0.6**
PERS Pernice 77.93 316 *i P* **P** **13 59 43.5 +0.7**
SOKA Soboth 77.99 316 ⇓ *iP* **P** **13 59 44.0 +0.8**
comp=Z,47nm,1.1s,mb5.0
LJU Ljubljana 78.31 316 *i P* **P** **13 59 45.8 +0.8**
OBKA Obir 78.32 316 ⇓ *iP* **P** **13 59 45.3 +0.4**
comp=Z,17nm,0.7s,mb4.8
PRU Pruhonice 78.49 320 *eP* **P** **13 59 46.2 +0.4**
PRU Pruhonice 78.49 320 *eP* **P** **13 59 46.5 +0.7**
PVCC Panska Ves 78.50 320 *eP* **P** **13 59 46.5 +0.6**
TRO Tromso 78.69 340 *eP* **P** **13 59 46.5 -0.1**
VOJS Vojsko 78.76 315 *i P* **P** **13 59 47.6 +0.1**
CADS Cadrg 78.87 316 *i P* **P** **13 59 48.1 +0.1**
BRG Berggiesshubel 78.92 320 *i P* **P** **13 59 48.6 +0.4**
comp=Z,16nm,0.9s,mb4.7
BRG Berggiesshubel 78.92 320 *eP* **P** **13 59 48.2 +0.1**
comp=Z,16nm,0.9s,mb4.7
BRG Berggiesshubel 78.92 320 *i P* **P** **13 59 48.6 +0.5**
BRG pmax pmax
comp=Z,16nm,0.9s,mb4.7
MYKA Terra Mystica 78.95 316 ⇓ *iP* **P** **13 59 48.8 +0.4**
comp=Z,6.3nm,0.6s,mb4.6
GEC2 GERESS Array S 78.98 318 *eP* **P** **13 59 48.7 +0.1**
comp=Z,23nm,0.9s,mb4.8
GEC2 GERESS Array S 78.98 318 *eP* **P** **13 59 48.7 +0.1**
GEC2 pmax pmax
comp=Z,23nm,0.9s,mb4.8
GERES GERESS Array B 78.98 318 P **P** **13 59 49.2 +0.7**
comp=Z,14nm,0.7s,mb4.7,baz=90,slow=5.3,SNR=111
GERES GERESS Array B 78.98 318 P **P** **13 59 49.2 +0.7**
GERES GERESS Array B 78.98 318 P **P** **13 59 49.2 +0.6**
KHC Kasperske Hory 79.08 319 *eP* **P** **13 59 49.3 +0.2**
comp=Z,5.8nm,0.6s,mb4.4
KHC Kasperske Hory 79.08 319 *eP* **P** **13 59 49.3 +0.2**
KHC pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
KHC Kasperske Hory 79.08 319 *eP* **P** **13 59 49.5 +0.4**
KBA Koelnbreinsper 79.16 317 ⇓ *iP* **P** **13 59 49.8 +0.2**
comp=Z,5.8nm,0.6s,mb4.4
CLL Collm 79.53 321 *eP* **P** **13 59 51.0 -0.5**
comp=Z,11nm,1.1s,mb4.4
CLL Collm 79.53 321 *i P* **P** **13 59 51.9 +0.4**
CLL Collm 79.53 321 *i P* **P** **13 59 51.9 +0.4**
WET Wettzell 79.53 319 *eP* **P** **13 59 51.6 0.0**
comp=Z,16nm,0.8s,mb4.7
WET Wettzell 79.53 319 *eP* **P** **13 59 51.6 0.0**
WET pmax pmax
comp=Z,16nm,0.8s,mb4.7
ROTZ Rotzenmuhle 79.99 319 *eP* **P** **13 59 54.4 +0.4**
comp=Z,14nm,0.6s,mb4.8
SUR Sutherland 80.23 236 P **P** **13 59 58.9 +3.3**
comp=Z,13nm,0.7s,mb4.7,baz=69,slow=7.1,SNR=12
SUR Sutherland 80.23 236 P **P** **13 59 58.9 +3.3**
WTTA Wattenberg 80.33 317 *i P* **P** **13 59 55.7 -0.2**
comp=Z,24nm,0.7s,mb4.9,SNR=10
WATA Walderalm 80.37 317 ⇓ *iP* **P** **13 59 55.7 -0.4**
comp=Z,8.6nm,0.5s,mb4.6
MOX Moxa 80.39 320 *eP* **P** **13 59 55.9 -0.2**
comp=Z,9.0nm,0.7s,mb4.5
MOX Moxa 80.39 320 *eP* **P** **13 59 55.9 -0.2**
MOX pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
GRF Grafenberg Arr 80.63 319 *eP* **P** **13 59 57.6 +0.2**
comp=Z,627nm,3.6s
GRF Grafenberg Arr 80.63 319 *eP* **P** **13 59 57.6 +0.2**
GRF pmax pmax
comp=Z,627nm,3.6s
MOTA Moosalm 80.69 317 ⇓ *iP* **P** **13 59 57.6 -0.3**
comp=Z,14nm,0.7s,mb4.7
NB2 NORSAR Subarra 80.92 331 P **P** **13 59 58.1 -0.6**
comp=Z,12nm,0.8s,mb4.6,baz=97,slow=5.1
NOA NORSAR Array B 80.92 331 P **P** **13 59 58.4 -0.3**
comp=Z,9.8nm,0.8s,mb4.5,baz=93,slow=5.6,SNR=20
NOA NORSAR Array B 80.92 331 P **P** **13 59 58.4 -0.3**

NOA	NORSAR Array B	80.92 331	P	P	13 59 58.4	-0.3
RETA	Reutte	80.93 317	⇑iP	P	13 59 58.9	-0.1
	comp=Z,22nm,0.5s,mb5.0					
FETA	Feichten	80.95 316	⇓iP	P	13 59 59.4	+0.2
	comp=Z,14nm,0.8s,mb4.7,SNR=9.6					
SPA0	Spitsbergen Ar	80.97 348	eP	P	13 59 58.0	-0.7
CLZ	Clausthal	81.18 321	eP	P	14 00 00.2	-0.1
	comp=Z,33nm,1.1s,mb4.9					
CLZ	Clausthal	81.18 321	eP	P	14 00 00.2	-0.1
CLZ			pmax	pmax		
	comp=Z,33nm,1.1s,mb4.9					
BSEG	Bad Segeberg	81.22 323	eP	P	14 00 00.9	+0.4
	comp=Z,34nm,0.8s,mb5.0					
BSEG	Bad Segeberg	81.22 323	eP	P	14 00 00.9	+0.4
BSEG			pmax	pmax		
	comp=Z,34nm,0.8s,mb5.0					
NRDL	Niedersach Rie	81.34 322	eP	P	14 00 01.2	+0.1
	comp=Z,14nm,0.9s,mb4.6					
UBBA	Unterbreizbach	81.41 320	eP	P	14 00 01.7	+0.2
DAVA	Damuels	81.53 317	⇓iP	P	14 00 02.6	+0.4
	comp=Z,13nm,0.9s,mb4.6					
TUE	Stuetta	81.91 316	eP	P	14 00 03.9	-0.3
	comp=Z,10nm,0.8s,mb4.5					
STU	Stuttgart	81.96 318	eP	P	14 00 04.6	+0.1
	comp=Z,13nm,0.8s,mb4.6					
PGF	Pioggiola	82.28 312	eP	P	14 00 06.0	-0.3
PGF	Pioggiola	82.28 312	eP	P	14 00 06.0	-0.3
PGF	Pioggiola	82.28 312	eP	P	14 00 06.0	-0.3
KEST	Kesra	82.31 305	P	P	14 00 07.9	+1.3
	comp=Z,2.8nm,0.6s,mb4.1,baz=203,slow=0.3,SNR=6.2					
KEST	Kesra	82.31 305	P	P	14 00 07.9	+1.3
TNS	Taunus Mts	82.41 320	eP	P	14 00 06.9	+0.1
	comp=Z,11nm,0.9s,mb4.5					
TNS	Taunus Mts	82.41 320	eP	P	14 00 06.9	+0.1
TNS			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5					
BFO	Black Forest	82.55 318	eP	P	14 00 07.1	-0.4
	comp=Z,9.0nm,0.8s,mb4.5					
BFO	Black Forest	82.55 318	eP	P	14 00 07.1	-0.4
BFO			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5					
MOL	Molde	82.68 332	eP	P	14 00 07.4	-0.5
IBBN	Ibbenburen	82.79 322	eP	P	14 00 08.8	+0.1
	comp=Z,40nm,1.3s,mb5.0					
BUG	Bochum--Univer	83.12 321	eP	P	14 00 10.5	+0.1
	comp=Z,19nm,0.8s,mb4.9					
CDF	Champ du Feu	83.25 318	eP	P	14 00 10.4	-0.7
	comp=Z,8.8nm,0.6s,mb4.4					
CDF	Champ du Feu	83.25 318	eP	P	14 00 10.4	-0.7
	comp=Z,8.8nm,0.6s,mb4.7					
CDF	Champ du Feu	83.25 318	eP	P	14 00 10.4	-0.7
CDF			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7					
SBF	Sospel	83.36 313	eP	P	14 00 11.6	-0.2
	comp=Z,40nm,0.6s,mb5.0					
SBF	Sospel	83.36 313	eP	P	14 00 11.6	-0.2
	comp=Z,40nm,0.6s,mb5.3					
SBF	Sospel	83.36 313	eP	P	14 00 11.6	-0.2
SBF			pmax	pmax		
	comp=Z,40nm,0.6s,mb5.3					
HINF	Hinteralfeld	83.56 317	eP	P	14 00 12.5	-0.2
HINF	Hinteralfeld	83.56 317	eP	P	14 00 12.5	-0.2
HINF	Hinteralfeld	83.56 317	eP	P	14 00 12.5	-0.2
LPG	La Plagne	83.76 315	eP	P	14 00 13.8	0.0
	comp=Z,29nm,0.7s,mb4.8					
LPG	La Plagne	83.76 315	eP	P	14 00 13.8	0.0
	comp=Z,29nm,0.7s,mb5.1					
LPG	La Plagne	83.76 315	eP	P	14 00 13.8	0.0
LPG			pmax	pmax		
	comp=Z,29nm,0.7s,mb5.1					
LPL	La Plagne	83.77 315	eP	P	14 00 13.8	-0.1
	comp=Z,28nm,0.6s,mb4.9					
LPL	La Plagne	83.77 315	eP	P	14 00 13.8	-0.1
	comp=Z,28nm,0.6s,mb5.2					
LPL	La Plagne	83.77 315	eP	P	14 00 13.8	-0.1
LPL			pmax	pmax		
	comp=Z,29nm,0.6s,mb5.2					
MBDF	Montbardon	83.79 314	eP	P	14 00 13.6	-0.4
	comp=Z,9.0nm,0.5s,mb4.5					
MBDF	Montbardon	83.79 314	eP	P	14 00 13.6	-0.4
	comp=Z,9.0nm,0.5s,mb4.8					
MBDF	Montbardon	83.79 314	eP	P	14 00 13.6	-0.4
MBDF			pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8					
HAU	Haudompre	83.89 318	eP	P	14 00 13.7	-0.7
	comp=Z,29nm,0.6s,mb4.9					
HAU	Haudompre	83.89 318	eP	P	14 00 13.7	-0.7
	comp=Z,29nm,0.6s,mb5.2					
HAU	Haudompre	83.89 318	eP	P	14 00 13.7	-0.7
HAU			pmax	pmax		
	comp=Z,29nm,0.6s,mb5.2					
FRF	La Foret Royal	83.95 313	eP	P	14 00 14.6	-0.2
	comp=Z,23nm,0.6s,mb4.8					
FRF	La Foret Royal	83.95 313	eP	P	14 00 14.6	-0.2
	comp=Z,23nm,0.6s,mb5.1					
FRF	La Foret Royal	83.95 313	eP	P	14 00 14.6	-0.2
FRF			pmax	pmax		
	comp=Z,23nm,0.6s,mb5.1					
LMR	La Mourre	84.07 313	eP	P	14 00 15.1	-0.3
	comp=Z,15nm,0.7s,mb4.5					
LMR	La Mourre	84.07 313	eP	P	14 00 15.1	-0.3
	comp=Z,15nm,0.7s,mb4.8					
LMR	La Mourre	84.07 313	eP	P	14 00 15.1	-0.3
LMR			pmax	pmax		
	comp=Z,15nm,0.7s,mb4.8					
CABF	La Chapelle	84.15 316	eP	P	14 00 15.6	-0.2
	comp=Z,29nm,0.8s,mb4.8					
CABF	La Chapelle	84.15 316	eP	P	14 00 15.6	-0.2
	comp=Z,29nm,0.8s,mb5.1					
CABF	La Chapelle	84.15 316	eP	P	14 00 15.6	-0.2
CABF			pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1					
ORIF	Oris-en-Rattie	84.41 314	eP	P	14 00 16.4	-0.7
	comp=Z,16nm,0.6s,mb4.6					
ORIF	Oris-en-Rattie	84.41 314	eP	P	14 00 16.4	-0.7
	comp=Z,16nm,0.6s,mb4.9					
ORIF	Oris-en-Rattie	84.41 314	eP	P	14 00 16.4	-0.7
ORIF			pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9					
SYO	Syowa Base	84.59 197	⇑eP	P	14 00 18.3	+0.9
SMRF	Simiane la Rot	84.70 314	eP	P	14 00 18.8	+0.2
	comp=Z,33nm,0.9s,mb4.7					
SMRF	Simiane la Rot	84.70 314	eP	P	14 00 18.8	+0.2
	comp=Z,33nm,0.9s,mb5.1					
SFTF	Sexfontaines	84.75 318	eP	P	14 00 18.1	-0.7
	comp=Z,26nm,0.7s,mb4.8					
SFTF	Sexfontaines	84.75 318	eP	P	14 00 18.1	-0.7
	comp=Z,26nm,0.7s,mb5.1					
BAIF	Baives	85.15 320	eP	P	14 00 20.5	-0.2
	comp=Z,21nm,0.7s,mb4.7					
BAIF	Baives	85.15 320	eP	P	14 00 20.5	-0.2
	comp=Z,21nm,0.7s,mb5.0					
BAIF	Baives	85.15 320	eP	P	14 00 20.5	-0.2
BAIF			pmax	pmax		
	comp=Z,21nm,0.7s,mb5.0					
VIVF	Saint-Julien-l	85.27 314	eP	P	14 00 21.0	-0.4
	comp=Z,18nm,0.8s,mb4.6					
VIVF	Saint-Julien-l	85.27 314	eP	P	14 00 21.0	-0.4
	comp=Z,18nm,0.8s,mb4.9					
VIVF	Saint-Julien-l	85.27 314	eP	P	14 00 21.0	-0.4
VIVF			pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8					
LOR	Lormes	85.62 317	eP	P	14 00 22.5	-0.6
	comp=Z,30nm,0.8s,mb4.8					
LOR	Lormes	85.62 317	eP	P	14 00 22.5	-0.6
	comp=Z,30nm,0.8s,mb5.1					
LOR	Lormes	85.62 317	eP	P	14 00 22.5	-0.6
LOR			pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1					
SMF	Signal de Mont	85.69 316	eP	P	14 00 22.7	-0.8
	comp=Z,26nm,0.7s,mb4.8					
SMF	Signal de Mont	85.69 316	eP	P	14 00 22.7	-0.8
	comp=Z,26nm,0.7s,mb5.1					
SMF	Signal de Mont	85.69 316	eP	P	14 00 22.7	-0.8
SMF			pmax	pmax		
	comp=Z,26nm,0.7s,mb5.1					
SSF	Saint Saulge	85.88 317	eP	P	14 00 23.7	-0.7
	comp=Z,16nm,0.8s,mb4.5					
SSF	Saint Saulge	85.88 317	eP	P	14 00 23.7	-0.7
	comp=Z,16nm,0.8s,mb4.8					
SSF	Saint Saulge	85.88 317	eP	P	14 00 23.7	-0.7
SSF			pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8					
AVF	Avril sur Loir	86.01 316	eP	P	14 00 24.3	-0.8
	comp=Z,12nm,0.7s,mb4.5					
AVF	Avril sur Loir	86.01 316	eP	P	14 00 24.3	-0.8
	comp=Z,12nm,0.7s,mb4.7					
AVF	Avril sur Loir	86.01 316	eP	P	14 00 24.3	-0.8
AVF			pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7					
BGF	Bois d'Agland	86.38 316	eP	P	14 00 26.6	-0.3
	comp=Z,12nm,0.8s,mb4.4					
BGF	Bois d'Agland	86.38 316	eP	P	14 00 26.6	-0.3
	comp=Z,12nm,0.8s,mb4.7					
BGF	Bois d'Agland	86.38 316	eP	P	14 00 26.6	-0.3
BGF			pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7					
TAM	Tamanrasset	86.66 292	P	P	14 00 29.8	+1.1
TAM	Tamanrasset	86.66 292	P	P	14 00 29.8	+1.1
CAF	Calviac	87.11 315	eP	P	14 00 30.4	0.0
	comp=Z,15nm,1.0s,mb4.5					
CAF	Calviac	87.11 315	eP	P	14 00 30.4	0.0
	comp=Z,15nm,1.0s,mb4.8					
CAF	Calviac	87.11 315	eP	P	14 00 30.4	0.0
CAF			pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8					
MTLF	Montolieu	87.18 313	eP	P	14 00 30.6	-0.2
MTLF	Montolieu	87.18 313	eP	P	14 00 30.6	-0.2
MTLF	Montolieu	87.18 313	eP	P	14 00 30.6	-0.2
LDF	La Druitiere	88.13 319	eP	P	14 00 34.8	-0.4
	comp=Z,13nm,0.7s,mb4.5					
LDF	La Druitiere	88.13 319	eP	P	14 00 34.8	-0.4
	comp=Z,13nm,0.7s,mb4.9					
LDF	La Druitiere	88.13 319	eP	P	14 00 34.8	-0.4
LDF			pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9					
FLN	La Foliniere	88.34 319	eP	P	14 00 35.8	-0.4
	comp=Z,20nm,0.6s,mb4.8					
FLN	La Foliniere	88.34 319	eP	P	14 00 35.8	-0.4
	comp=Z,20nm,0.6s,mb5.1					
FLN	La Foliniere	88.34 319	eP	P	14 00 35.8	-0.4
FLN			pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1					
MFF	Saint Martin d	88.42 317	eP	P	14 00 36.3	-0.4
MFF	Saint Martin d	88.42 317	eP	P	14 00 36.3	-0.4
MFF	Saint Martin d	88.42 317	eP	P	14 00 36.3	-0.4
ETSF	Etsaut	89.26 313	eP	P	14 00 40.8	+0.2
ETSF	Etsaut	89.26 313	eP	P	14 00 40.8	+0.2
ETSF	Etsaut	89.26 313	eP	P	14 00 40.8	+0.2
SJPF	Ste Jean	89.71 313	eP	P	14 00 42.8	+0.1
	comp=Z,38nm,1.2s,mb4.9					
SJPF	Ste Jean	89.71 313	eP	P	14 00 42.8	+0.1
	comp=Z,38nm,1.2s,mb5.2					
SJPF	Ste Jean	89.71 313	eP	P	14 00 42.8	+0.1
SJPF			pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2					
SGMF	Saint Gilles	89.78 318	eP	P	14 00 42.7	-0.3
	comp=Z,24nm,0.8s,mb4.8					
SGMF	Saint Gilles	89.78 318	eP	P	14 00 42.7	-0.3
	comp=Z,24nm,0.8s,mb5.2					
SGMF	Saint Gilles	89.78 318	eP	P	14 00 42.7	-0.3
SGMF			pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2					
ROSF	Rostrenen	90.24 319	eP	P	14 00 44.8	-0.3
ROSF	Rostrenen	90.24 319	eP	P	14 00 44.8	-0.3
ROSF	Rostrenen	90.24 319	eP	P	14 00 44.8	-0.3
QUIF	Quistinic	90.24 318	eP	P	14 00 44.6	-0.5
	comp=Z,19nm,0.5s,mb5.0					
QUIF	Quistinic	90.24 318	eP	P	14 00 44.6	-0.5
	comp=Z,19nm,0.5s,mb5.3					
QUIF	Quistinic	90.24 318	eP	P	14 00 44.6	-0.5
QUIF			pmax	pmax		
	comp=Z,19nm,0.5s,mb5.3					
TORD	Torodi Ar. Bea	91.40 283	P	P	14 00 52.1	+1.0
	comp=Z,1.8nm,0.5s,mb4.3,baz=96,slow=5.3,SNR=19					
TORD			PP	PP	14 04 31.1	+0.4
	comp=Z,1.7nm,1.1s,baz=79,slow=3.2,SNR=5.4					
TORD	Torodi Ar. Bea	91.40 283	P	P	14 00 52.1	+1.0
TORD			PP	PP	14 04 31.1	+0.4
ESDC	Sonseca Array	92.33 310	P	P	14 00 55.1	+0.1
	comp=Z,1.7nm,0.5s,mb4.4,baz=53,slow=4.2,SNR=8.4					
ESDC	Sonseca Array	92.33 310	P	P	14 00 55.1	+0.1
ILAR	Eielson Array	95.48 22	P	P	14 01 07.3	-1.5
	comp=Z,0.2nm,0.5s,baz=293,slow=3.7,SNR=7.0					
ILAR			PP	PP	14 04 57.0	-4.0
	comp=Z,0.6nm,0.8s,baz=290,slow=5.3,SNR=6.5					
ILAR			PKKP	PKKPbc	14 17 59.2	-3.6
	comp=Z,0.4nm,0.8s,baz=162,slow=1.4,SNR=4.6					
ILAR	Eielson Array	95.48 22	P	P	14 01 07.3	-1.5
ILAR			PP	PP	14 04 57.0	-4.0
ILAR			PKKP	PKKPbc	14 17 59.2	-3.6
ILAR	Eielson Array	95.48 22	P	P	14 01 07.4	-1.5
ILAR					14 04 57.0	
INK	Inuvik	97.82 16	P	P	14 01 17.9	-1.5
	comp=Z,1.2nm,0.3s,mb4.8,baz=297,slow=4.5,SNR=6.1					
INK	Inuvik	97.82 16	P	P	14 01 17.9	-1.5
INK	Inuvik	97.82 16	P	P	14 01 17.9	-1.5
DBIC	Dimbokro	98.66 278	LR	LR	14 49 07.9	
	comp=Z,58nm,18.3s,baz=266,slow=37					
YKA	Yellowknife Ar	107.29 14	PP	PP	14 06 26.3	-3.2
	comp=Z,1.7nm,0.9s,baz=335,slow=7.5,SNR=15					
YKA			PKKPbc	PKKPbc	14 17 25.5	-3.1
	comp=Z,0.5nm,0.6s,baz=148,slow=3.5,SNR=11					
YKA			PKKP	PKKPbc	14 17 41.1	+12
	comp=Z,0.8nm,0.8s,baz=146,slow=4.5,SNR=12					
YKA	Yellowknife Ar	107.29 14	PP	PP	14 06 26.3	-3.2
YKA			PKKPbc	PKKPbc	14 17 25.5	-3.1
YKA			PKKP	PKKPbc	14 17 41.1	+12
ULM	Lac du Bonnet	122.41 8	PKP	PKPdf	14 06 38.4	-0.6
	comp=Z,1.9nm,0.6s,baz=351,slow=2.7,SNR=5.7					
ULM	Lac du Bonnet	122.41 8	PKP	PKPdf	14 06 38.4	-0.6
ULM	Lac du Bonnet	122.41 8	PKIKP	PKPdf	14 06 38.4	-0.6
NVAR	Mina Array Bea	125.50 32	PKP	PKPdf	14 06 46.5	+1.2
	comp=Z,0.7nm,0.5s,baz=296,slow=2.6,SNR=7.2					
NVAR	Mina Array Bea	125.50 32	PKP	PKPdf	14 06 46.5	+1.2
PDAR	Pinedale Array	125.91 22	PKP	PKPdf	14 06 46.2	+0.3
	comp=Z,0.7nm,0.6s,baz=70,slow=2.3,SNR=7.1					
PDAR			SKPbc		14 09 45.0	
	comp=Z,0.4nm,0.5s,baz=349,slow=1.5,SNR=4.4					
PDAR			PKKPbc		14 16 20.8	
	comp=Z,0.8nm,0.6s,baz=139,slow=6.8,SNR=7.6					
PDAR	Pinedale Array	125.91 22	PKP	PKPdf	14 06 46.2	+0.3
PDAR			SKPbc		14 09 45.0	
PDAR			PKKPbc		14 16 20.8	
RCBR	Riachuelo	130.94 268	SKPbc	SKPbc	14 10 07.3	-1.0
	comp=Z,8.3nm,0.8s,baz=29,slow=2.1,SNR=4.9					
RCBR	Riachuelo	130.94 268	SKPbc	SKPbc	14 10 07.3	-1.0
TXAR	Lajitas Array	139.92 25	PKP	PKPdf	14 07 13.1	+0.4
	comp=Z,0.7nm,0.5s,baz=54,slow=0.3,SNR=9.7					
TXAR			PP	PP	14 10 09.1	+0.1
	comp=Z,0.8nm,0.8s,baz=5.7,slow=3.8,SNR=6.0					
TXAR			SKPbc	SKPbc	14 10 32.4	-3.7
	comp=Z,3.5nm,0.7s,baz=356,slow=0.0,SNR=22					
TXAR	Lajitas Array	139.92 25	PKP	PKPdf	14 07 13.1	+0.4
TXAR			PP	PP	14 10 09.1	+0.1
TXAR			SKPbc	SKPbc	14 10 32.4	-3.7
TXAR	Lajitas Array	139.92 25	PKIKP	PKPdf	14 07 13.1	+0.5
TXAR					14 10 09.1	
PLCA	Paso Flores	143.77 199	PKP	PKPdf	14 07 18.0	-1.1
	comp=Z,9.0nm,0.8s,baz=165,slow=3.8,SNR=25					
PLCA			SKPbc	SKPbc	14 10 43.0	-2.4
	comp=Z,5.8nm,0.8s,baz=155,slow=1.8,SNR=12					
PLCA	Paso Flores	143.77 199	ePKPdf	PKPdf	14 07 17.9	-1.2
PLCA			SKPbc	SKPbc	14 10 43.0	-2.4
PLCA	Paso Flores	143.77 199	ePKIKP	PKPdf	14 07 18.0	-1.1
CPUP	Villa Florida	147.08 231	PKPbc	PKPbc	14 07 27.7	+0.2
	comp=Z,4.9nm,0.7s,baz=101,slow=2.6,SNR=17					
CPUP			PP	PP	14 10 53.4	+0.4
	comp=Z,6.7nm,1.2s,baz=64,slow=4.6,SNR=3.4					
CPUP	Villa Florida	147.08 231	PKPbc	PKPbc	14 07 27.7	+0.2
CPUP			PP	PP	14 10 53.4	+0.4
CPUP	Villa Florida	147.08 231	PKP2	PKPab	14 07 27.7	-1.6
CPUP					14 10 53.4	
LRS	Lares	149.11 324	ePKPbc	PKPbc	14 07 32.5	-0.6
LPAZ	La Paz	160.78 239	PKPab	PKPab	14 08 28.7	+1.3
	comp=Z,1.0nm,0.6s,baz=117,slow=5.4,SNR=5.3					
LPAZ	La Paz	160.78 239	PKPab	PKPab	14 08 28.7	+1.3
LPAZ	La Paz	160.78 239	PKP2	PKPab	14 08 28.7	+1.3
ROSC	El Rosal	164.06 316	PKPab	PKPab	14 08 41.6	-0.2
	comp=Z,5.5nm,0.4s,baz=98,slow=19,SNR=2.7					
ROSC	El Rosal	164.06 316	PKPab	PKPab	14 08 41.6	-0.2

*ISK **17** 14:05:38.6, 36°.92N×27°.30E, h9km, MD2.3*
*DDA **17** 14:05:39.7, 36°.96N×27°.38E, h7km±4km, Md2.6*
*CSEM **17** 14:05:40.0±0.3, 36°.93N×27°.37E, h2km, MD2.6, Error ellipse: s-maj=9.0km s-min=4.0km az=58.0*

ISC 17 14:05:39.7±1.4, 36°.92N±0°.05×27°.34E±0°.09, h9km±13km, n13, σ0°69/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.14	349	ePG	Pg	14 05 42.2	-0.7
BODT				eSG	Sg	14 05 45.0	-0.1
BODT	Bodrum	0.14	349	ePg	Pg	14 05 42.2	-0.7
BODT				eSg	Sg	14 05 45.0	-0.1
DAT	Datca	0.27	136	ePG	Pg	14 05 45.0	-0.1
DAT				eSG	Sg	14 05 49.5	+0.8
DAT	Datca	0.27	136	ePg	Pg	14 05 45.0	-0.1
DAT				eSg	Sg	14 05 49.5	+0.7
YER	Yerkesik	0.78	74	ePG	Pg	14 05 54.9	+0.1
YER	Yerkesik	0.78	74	ePg	Pg	14 05 54.9	+0.1
GCAM	G?zelcaml?	0.78	354	iP	Pg	14 05 54.4	-0.4
GCAM				iS	Sg	14 06 06.6	+1.6
GCAM	G?zelcaml?	0.78	354	iP	Pg	14 05 54.4	-0.4
GCAM				iS	Sg	14 06 06.6	+1.6
AYDN	Tasoluk	0.85	30	iP	Pg	14 05 55.4	-0.8
AYDN				iS	Sg	14 06 07.0	-0.2
AYDN	Tasoluk	0.85	30	iP	Pg	14 05 55.4	-0.8
AYDN				iS	Sg	14 06 07.0	-0.3
TURN	Turunc	1.01	92	iP	Pg	14 05 53.2	-5.9
TURN				iS	Sg	14 06 05.1	-7.2
URLA	Izmir	1.55	338	iP	Pg	14 06 08.9	-0.7
URLA				iS	Sg	14 06 30.4	+0.7
URLA	Izmir	1.55	338	iP	Pg	14 06 08.9	-0.7
URLA				iS	Sg	14 06 30.4	+0.7

GUC 17 14:23:34.7±0.7, 31°.75S×69°.96W, h145km±6km, MD3.6, ML3.9, 10C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	Petorca	0.97	238	⇑iP	Pn	14 23 59.0	+0.3
PTCH				iS	Sn	14 24 17.4	+0.4
PTCH				AML	AML	14 24 19.6	
	comp=E,6μm,0.3s						
CMCH	Combarbala	1.06	303	⇓iP	Pn	14 24 00.0	+0.5
CMCH				iS	Sn	14 24 18.9	+0.5
CMCH				AML	AML	14 24 19.8	
	comp=E,13μm,0.7s						
JACH	Jahuel	1.07	210	⇑iP	Pn	14 24 00.2	+0.6
JACH				iS	Sn	14 24 19.1	+0.5
CHNG	Los Chungos	1.31	264	eP	Pn	14 24 02.3	+0.4
CHNG				iS	Sn	14 24 23.2	+0.5
CHNG				AML	AML	14 24 27.1	
	comp=E,967nm,0.3s						
ROCH	El Roble	1.50	216	⇑iP	Pn	14 24 04.5	+0.6
ROCH				iS	Sn	14 24 27.6	+1.3
ROCH				AML	AML	14 24 29.4	
	comp=N,2μm,0.4s						
PEL	Peldehue	1.52	204	⇑iP	Pn	14 24 04.3	+0.3
PEL				iS	Sn	14 24 26.9	+0.4
PEL				AML	AML	14 24 27.9	
	comp=E,2μm,0.3s						
OVCH	Ovalle	1.56	317	⇑iP	Pn	14 24 05.1	+0.6
OVCH				iS	Sn	14 24 27.8	+0.5
OVCH				AML	AML	14 24 28.7	
	comp=N,1μm,0.3s						
FCH	Farellones	1.59	190	⇑iP	Pn	14 23 59.7	-5.2
FCH				iS	Sn	14 24 22.9	-5.2
FCH				AML	AML	14 24 26.4	
	comp=E,1μm,0.3s						
CLCH	Cerro Calan	1.71	196	eP	Pn	14 24 06.6	+0.5
CLCH				iS	Sn	14 24 30.8	+0.5
CLCH				AML	AML	14 24 32.6	
	comp=E,763nm,0.3s						
SAN	Santiago	1.80	199	eP	Pn	14 24 07.8	+0.6
SAN				iS	Sn	14 24 32.6	+0.5
RCDM	Rinconada Maip	1.87	202	⇑iP	Pn	14 24 08.6	+0.6
RCDM				eS	Sn	14 24 34.3	+0.7
RCDM				AML	AML	14 24 36.9	
	comp=E,1μm,0.2s						
ANTU	Antumapu	1.90	197	⇑iP	Pn	14 24 08.8	+0.5
ANTU				iS	Sn	14 24 34.7	+0.6
ANTU				AML	AML	14 24 35.5	
	comp=N,1μm,0.5s						
IHA	Instituto Hidr	1.91	228	iS	Sn	14 24 34.2	0.0
SJCH	San Jose de Ma	1.91	190	eP	Pn	14 24 09.1	+0.6
SJCH				eS	Sn	14 24 35.0	+0.6
SJCH				AML	AML	14 24 39.2	
	comp=N,269nm,0.3s						
PCH	Pirque	1.92	194	eP	Pn	14 24 09.1	+0.6
PCH				iS	Sn	14 24 35.4	+0.8
TACH	Talagante	2.07	203	⇑iP	Pn	14 24 10.6	+0.3
TACH				iS	Sn	14 24 38.0	+0.3
LMEL	Las Melosas	2.10	185	eP	Pn	14 24 11.5	+0.8
LMEL				eS	Sn	14 24 39.6	+1.3
LMEL				AML	AML	14 24 49.0	
	comp=N,510nm,0.1s						
LSCH	La Serena	2.14	329	⇓iP	Pn	14 24 11.8	+0.6
LSCH				iS	Sn	14 24 38.9	-0.4
LSCH				AML	AML	14 24 40.3	
	comp=N,323nm,0.3s						
CHCH	Chadas Angostu	2.25	195	⇓iP	Pn	14 24 12.9	+0.4
CHCH				iS	Sn	14 24 42.1	+0.5
CACH	El Canelo	2.42	193	⇑iP	Pn	14 24 15.4	+0.8
CACH				iS	Sn	14 24 47.1	+1.9
LNV	Longovilo	2.51	209	eP	Pn	14 24 15.3	-0.3
LNV				iS	Sn	14 24 46.4	-0.9

IDC 17 14:24:00.9±8.2, 24°.01N×94°.31E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/24, mbtmp3.2/3, Error ellipse: s-maj=729.0km s-min=30.0km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	24.69	340	P	P	14 29 23.6	+0.1
	0.1nm,0.4s,baz=170,slow=8.5,SNR=4.0						
WRA	Warramunga Arr	58.57	135	P	P	14 33 59.5	-0.1
	0.2nm,0.4s,baz=317,slow=7.9,SNR

ZALV	Zalesovo Beam	42.25	312	P	P	14 37 05.0	0.0
MK31	Makanchi Array	44.54	302	P	P	14 37 23.7	+0.1
MKAR	Makanchi Array	44.54	302	P	P	14 37 23.4	-0.2
1.1nm,0.8s,mb3.7,baz=81,slow=11,SNR=6.5							
MKAR	Makanchi Array	44.54	302	P	P	14 37 23.4	-0.2
KURK	Kurchatov	46.31	308	eP	P	14 37 37.4	-0.1
2.3nm,0.6s,mb4.3							
ILAR	Eielson Array	49.03	32	P	P	14 37 58.5	0.0
0.6nm,0.7s,mb3.7,baz=264,slow=6.3,SNR=8.1							
ILAR	Eielson Array	49.03	32	P	P	14 37 58.5	0.0
WB2	Warramunga Arr	57.31	189	eP	P	14 38 59.3	-0.6
WRA	Warramunga Arr	57.31	189	P	P	14 38 58.6	-1.2
1.0nm,1.0s,mb3.8,baz=3.5,slow=7.4,SNR=16							
WRA	Warramunga Arr	57.31	189	P	P	14 38 58.6	-1.2
ASAR	Alice Springs	61.03	189	P	P	14 39 25.0	-0.6
0.2nm,0.6s,mb3.5,baz=16,slow=14,SNR=4.5							
ASAR	Alice Springs	61.03	189	P	P	14 39 25.0	-0.6
YKA	Yellowknife Ar	63.36	30	P	P	14 39 40.8	0.0
0.2nm,0.5s,mb3.5,baz=299,slow=6.3,SNR=3.9							
YKA	Yellowknife Ar	63.36	30	P	P	14 39 40.8	0.0
FINES	FINESS Array B	68.95	332	P	P	14 40 17.4	+0.7
1.1nm,0.6s,mb3.9,baz=44,slow=19,SNR=1.0							
FINES	FINESS Array B	68.95	332	P	P	14 40 17.4	+0.7

IDC 17 14:34:26.5±2.2, 16°.67S×176°.49W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML1.8/1, Error ellipse: s-maj=171.8km s-min=32.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.31	60	Pn	Pn	14 35 47.1	+0.1
1.8nm,0.3s,baz=250,slow=18,SNR=4.2							
STKA	Stephens Creek	40.83	240	P	P	14 42 10.8	+0.7
0.6nm,0.5s,baz=90,slow=11,SNR=4.6							
WRA	Warramunga Arr	46.67	258	P	P	14 42 56.9	-0.4
0.2nm,0.4s,baz=96,slow=7.6,SNR=9.5							
ASAR	Alice Springs	46.90	253	P	P	14 42 58.6	-0.3
0.7nm,0.3s,baz=90,slow=7.3,SNR=30							

DJA 17 14:38:41, 3°.59S×126°.23E, h140km, MLv3.6/6, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.96	93	P	Pn	14 39 16.4	+1.3
AAI				S	Sn	14 39 35.1	-6.1
MSAI	Masohi	2.70	85	P	Pn	14 39 24.5	+0.3
MSAI				S	Sn	14 39 41.3	-16
LBMI	Labuha	3.19	23	P	Pn	14 39 33.3	+2.8
LBMI				S	Sn	14 40 10.7	+1.9
KDI	Kendari	3.62	264	P	Pn	14 39 37.8	+1.7
LUWI	Luwuk	4.28	306	P	Pn	14 39 44.0	-0.8

CASC 17 14:59:08.8±3.1, 11°.08N×87°.59W, h65km±295km, MD3.7, ML3.2, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.47	42	eP	Pn	14 59 32.6	-0.5
COPN				eS	Sn	14 59 53.0	+1.5
CSAN		1.58	46	eP	Pn	14 59 35.1	+0.4
MIRN	Miramar	1.60	32	eP	Pn	14 59 34.4	-0.5
TICN	Ticuantepe	1.63	55	eP	Pn	14 59 35.1	-0.3
CNGN	Cerro Negro	1.66	32	eP	Pn	14 59 34.9	-0.9
CNGN				eS	Sn	14 59 58.0	+1.9
CNGN				AML	AML	15 00 03.4	
comp=E,228nm,0.2s							
APYN	Apoyeque	1.67	47	eP	Pn	14 59 35.1	-0.7
CRIN	San Cristobal	1.69	18	eP	Pn	14 59 35.4	-0.8
CRIN				AML	AML	15 00 05.6	
comp=E,352nm,0.4s							
HUEN		1.87	48	eP	Pn	14 59 37.9	-0.6
GBS2	Las Lilas	2.11	96	i P	Pn	14 59 44.0	+2.1
GBS2				i S	Sn	15 00 08.2	+1.1
GBS3	Finca Las Im¨¡	2.12	98	i S	Sn	15 00 08.3	+1.1
LAPC	Finca la Perla	2.14	98	i P	Pn	14 59 43.1	+0.8
LAPC				i S	Sn	15 00 08.2	+0.4
CUI	Cuipilapa	2.42	100	i P	Pn	14 59 47.6	+1.5
CUI				i S	Sn	15 00 15.9	+1.2
JCR	Jicaral	2.73	116	eP	Pn	15 00 00.5	+10
JCR				eS	Sn	15 00 22.4	+0.3
LAJ	Bijagual	3.62	109	eP	Pn	15 00 00.5	-2.0
LAJ				eS	Sn	15 00 33.9	-10

IDC 17 15:00:43.4±2.6, 8°.18S×119°.54E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=251.8km s-min=27.5km az=52.0
ISCJB 17 15:00:53.1±0.5, 9°.11S±0°.06×118°.64E±0°.03, h125km±8km, Error ellipse: s-maj=9.5km s-min=5.1km az=178.4
DJA 17 15:00:54, 9°.14S×118°.63E, h110km, MLv4.1/15
ISC 17 15:00:54.4±0.5, 9°.09S±0°.06×118°.64E±0°.03, h116km±9km, n19, σ1s04/26, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.73	110	P	Pn	15 01 26.8	+2.4
WSI				S	Sn	15 01 48.0	+0.8
MTNI	Mataram	2.48	280	P	Pn	15 01 33.6	-0.3
MTNI				S	Sn	15 02 04.9	+0.7
IGBI	Denpasar	3.47	274	P	Pn	15 01 46.3	-0.5
IGBI				S	Sn	15 02 27.2	-0.1
MMRI	Maumere	3.58	83	P	Pn	15 01 47.0	-1.3
MMRI				S	Sn	15 02 27.7	-2.3
BKSI	Bulukumba	4.02	22	P	Pn	15 01 54.3	+0.1
BKSI				S	Sn	15 02 38.8	-1.7
NBBI	Negara	4.04	280	S	Sn	15 02 41.6	+0.6
KAPI	Kappang	4.19	15	P	Pn	15 01 55.9	-0.6
BYJI	Banyuwangi	4.33	281	P	Pn	15 01 58.6	+0.3
JAGI	Jajag, Banyuwa	4.48	278	P	Pn	15 01 59.0	-1.4
JAGI				S	Sn	15 02 50.9	-0.7
BNSI	Bone	4.88	17	P	Pn	15 02 05.3	-0.4
BNSI				S	Sn	15 03 06.8	+5.6
GMJI	Gumukmas	5.21	279	P	Pn	15 02 09.4	-0.7
0.2nm715nm21nm,0.3s							
SPSI	Sidrap Palu	5.21	12	P	Pn	15 02 12.2	+2.0
0.1nm17nm,1.8s							
BBSI	Bau Bau	5.29	48	P	Pn	15 02 12.0	+0.7
0.2nm48nm,1.0s							
MJSI	Majene	5.51	3	P	Pn	15 02 15.2	+0.9
0.3nm77nm,1.1s							
TTSI	Tana Toraja	6.12	11	P	Pn	15 02 24.2	+1.7
0.1nm15nm,0.8s							
KBKI	Kotabaru	6.25	337	P	Pn	15 02 24.3	-0.1
0.1nm922nm20nm,1.2s							
WRA	Warramunga Arr	18.62	127	P	P	15 05 02.7	-0.3
0.1nm,0.3s,baz=300,slow=12,SNR=7.3							
ASAR	Alice Springs	20.57	137	P	P	15 05 24.1	-0.1
0.6nm,0.7s,baz=320,slow=11,SNR=11							
MKAR	Makanchi Array	64.37	333	P	P	15 11 18.6	+0.7
0.2nm,0.5s,baz=166,slow=7.0,SNR=5.3							

TRN 17 15:40:52.7, 19°.42N×63°.90W, h115km, MD3.5(RSPR)
NEIC 17 15:40:54.9, 19°.42N×63°.96W, h114km, MD3.5(RSPR), After RSPR.
RSPR 17 15:40:54.9, 19°.42N×63°.96W, h114km±7km, MD3.5/13, 20C-18D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.77	208	eP	Pn	15 41 14.2	0.0
ABV	Anegada	0.77	208	eP	Pn	15 41 14.2	0.0
TBVI	Tortola	1.17	212	eP	Pn	15 41 17.5	-0.7
TBVI	Tortola	1.17	212	eP	Pn	15 41 17.5	-0.7
TBVI	Tortola	1.17	212	eP	Pn	15 41 17.5	-0.7
STVI	Saint Thomas	1.42	222	eP	Pn	15 41 20.3	-0.6
STVI	Saint Thomas	1.42	222	eP	Pn	15 41 20.3	-0.6
STVI	Saint Thomas	1.42	222	eP	Pn	15 41 20.3	-0.6
MTP	Monte Pirata	2.00	229	eP	Pn	15 41 27.9	-0.1
MTP	Monte Pirata	2.00	229	eP	Pn	15 41 27.9	-0.1
MTP				eS	Sn	15 41 53.2	-0.2
MTP	Monte Pirata	2.00	229	eP	Pn	15 41 27.9	-0.1
MTP				eS	Sn	15 41 53.2	-0.2
CBYP	Canovanas	2.13	238	eP	Pn	15 41 29.3	-0.3
CBYP	Canovanas	2.13	238	eP	Pn	15 41 29.3	-0.3
CBYP				eS	Sn	15 41 56.3	+0.1
CBYP	Canovanas	2.13	238	eP	Pn	15 41 29.3	-0.3
CBYP				eS	Sn	15 41 56.3	+0.1
HUMP	Col San Antoni	2.20	235	eP	Pn	15 41 30.0	-0.5
HUMP	Col San Antoni	2.20	235	eP	Pn	15 41 30.0	-0.5
HUMP				eS	Sn	15 41 57.8	0.0
HUMP	Col San Antoni	2.20	235	eP	Pn	15 41 30.1	-0.4
HUMP				eS	Sn	15 41 57.8	0.0
CPD	Cerro la Pandu	2.31	234	eP	Pn	15 41 31.6	-0.4
CPD	Cerro la Pandu	2.31	234	eP	Pn	15 41 31.6	-0.4
CPD				eS	Sn	15 42 01.0	+0.7
CPD	Cerro la Pandu	2.31	234	eP	Pn	15 41 31.6	-0.4
CPD				eS	Sn	15 42 01.3	+0.9
SJG	San Juan	2.45	238	ePn	Pn	15 41 33.3	-0.5
CELP	Cerrillos	2.82	242	eP	Pn	15 41 38.8	+0.2
CELP	Cerrillos	2.82	242	eP	Pn	15 41 38.8	+0.2
CELP	Cerrillos	2.82	242	eP	Pn	15 41 38.8	+0.2
AOPR	Arecibo Observ	2.85	249	eP	Pn	15 41 38.6	-0.4
AOPR	Arecibo Observ	2.85	249	eP	Pn	15 41 38.6	-0.4
AOPR	Arecibo Observ	2.85	249	eP	Pn	15 41 38.6	-0.4
ICM	Isla Caja Muer	2.86	238	eP	Pn	15 41 39.6	+0.4
ICM	Isla Caja Muer	2.86	238	eP	Pn	15 41 39.6	+0.4
ICM	Isla Caja Muer	2.86	238	eP	Pn	15 41 39.6	+0.4
LRS	Lares	2.96	248	eP	Pn	15 41 40.3	-0.1
LRS	Lares	2.96	248	eP	Pn	15 41 40.3	-0.1
LRS	Lares	2.96	248	eP	Pn	15 41 40.3	-0.1
LSP	Las Mesas	3.21	248	eP	Pn	15 41 43.5	-0.2
LSP	Las Mesas	3.21	248	eP	Pn	15 41 43.5	-0.2
LSP	Las Mesas	3.21	248	eP	Pn	15 41 43.5	-0.2
CRPR	Cabo Rojo, PR	3.30	245	eP	Pn	15 41 45.5	+0.5
CRPR	Cabo Rojo, PR	3.30	245	eP	Pn	15 41 45.5	+0.5
CRPR	Cabo Rojo, PR	3.30	245	eP	Pn	15 41 45.5	+0.5

ISCJB 17 15:50:12.6±1.2, 37°.6N±0°.1×95°.9E±0°.1, h10km, Error ellipse: s-maj=16.8km s-min=9.4km az=147.8
IDC 17 15:50:15.2±2.2, 37°.47N×96°.10E, h0km, mb2.8/1, mb1 3.3/4, mb1mx3.2/27, mbtmp3.3/4, ML3.5/3, Error ellipse: s-maj=55.1km s-min=30.6km az=72.0
BJI 17 15:50:18.5, 37°.53N×96°.02E, h20km, ML3.1/7
ISC 17 15:50:15.7±1.1, 37°.5N±0°.1×95°.88E±0°.10, h10km, n5, σ1s48/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.63	57	Pn	Pn	15 51 14.3	+2.3
GTA				Pg	Pg	15 51 23.3	-2.0
GTA				Sn	Sn	15 52 01.3	+6.4
GTA				Sg	Sg	15 52 12.5	+0.1
GTA				smax			
comp=N,17nm,0.7s							
GTA				smax			
comp=E,14nm,1.0s							
SONM	Songino Array	12.90	33	Pn	Pn	15 53 18.8	-0.2
comp=E,0.3nm,0.3s,baz=217,slow=15,SNR=9.4							
MKAR	Makanchi Array	13.70	317	Pn	Pn	15 53 28.3	-1.6
comp=E,0.3nm,0.3s,baz=123,slow=14,SNR=8.1							
CMAR	Chiang Mai Arr	19.15	171	P	Pn	15 54 39.5	-0.4
comp=E,0.0nm,0.3s,baz=337,slow=10,SNR=4.6							
BVAR	Borovoye Array	23.56	319	P	P	15 55 28.4	+2.2
comp=E,0.1nm,0.3s,baz=286,slow=29,SNR=1.7							

ISCJB 17 15:53:23.9±0.5, 42°.60N±0°.09×132°.1E±0°.1, h532km±7km, mb3.2/4, Error ellipse: s-maj=16.6km s-min=11.7km az=30.6
SKHL 17 15:53:24.5±0.9, 42°.64N×131°.92E, h512km±17km, mb4.1/2
IDC 17 15:53:24.9±2.3, 42°.51N×132°.17E, h524km±24km, mb2.4/3, mb1 2.8/5, mb1mx2.5/24, mbtmp2.6/5, Error ellipse: s-maj=63.0km s-min=27.1km az=161.0
NEIC 17 15:53:25.1±0.6, 42°.48N×132°.13E, h520km±9km, mb4.0/1, Error ellipse: s-maj=19.7km s-min=10.6km az=146.0
ISC 17 15:53:24.9±0.5, 42°.60N±0°.09×132°.0E±0°.1, h525km±7km, n20, σ0s81/21, mb3.2/4, 1C, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTR	Gornotajezhnoj	1.11	5	i P	P	15 54 29.0	+0.2
GRTR				eS	S	15 55 20.6	-0.5
MDJ	Mudanjiang	2.68	320	eP	P	15 54 36.2	+0.5
TEY	Ternei	4.11	52	eP	P	15 54 48.0	+2.3
TEY				AMB	AMB	15 54 48.5	
22nm,0.6s							
KSRS	Korea Array	6.03	213	P	P	15 55 02.8	+0.2
0.4nm,0.3s,baz=30,slow=9.6,SNR=8.6							
KSAR	Wonju Array Be	6.05	213	P	P	15 55 02.8	-0.1
ASAJ	Asahikawa	7.85	75	P	P	15 55 19.4	-0.9
2.5nm,0.3s,baz=263,slow=7.8,SNR=26							
ASAJ	Asahikawa	7.85	75	P	P	15 55 19.4	-0.9
ERM	Erimo	8.27	90	eP	P	15 55 24.2	-0.3
YSS	Yuzh-Sakhalins	8.78	57	eP	P	15 55 29.6	-0.1
YSS	Yuzh-Sakhalins	8.78	57	eP	P	15 55 29.1	-0.6
EKMR	Ekimchan	10.49	3	eP	P	15 55 47.2	-0.1
EKMR				AMB	AMB	15 55 48.0	
4.0nm,0.6s							
BMKR	Bomnak	12.30	351	eP	P	15 56 05.0	-1.1
BMKR				AMB	AMB	15 56 05.6	
12nm,0.5s							
KROS	Kirovskiy	12.30	346	eP	P	15 56 05.7	-0.5
KROS				AMB	AMB	15 56 06.2	
3.0nm,0.5s							
CMAR	Chiang Mai Arr	36.92	240	P	P	15 59 49.5	+0.4
0.2nm,0.3s,mb3.1,baz=31,slow=8.3,SNR=4.1							
CMAR	Chiang Mai Arr	36.92	240	P	P	15 59 49.5	+0.4
EGAK	Eagle	51.18	33	eP	P	16 01 40.4	+1.6
2.5nm,0.4s,mb3.9							
WRA	Warramunga Arr	62.27	178	P	P	16 02 54.8	-0.7
0.3nm,0.5s,mb3.0,baz=353,slow=7.0,SNR=6.3							
WRA	Warramunga Arr	62.27	178	P	P	16 02 54.8	-0.7
ASAR	Alice Springs	65.96	178	P	P	16 03 18.8	-0.2
0.3nm,0.8s,mb2.9,baz=357,slow=6.3,SNR=4.2							
ASAR	Alice Springs	65.96	178	P	P	16 03 18.8	-0.2

BJI 17 16:06:50.2, 6°.79S×103°.51E, h35km, mB5.2/35, mb5.7/66, Ms5.0/60, Ms7 4.8/58
IDC 17 16:06:53.0±0.4, 6°.03S×103°.54E, h0km, mb5.4/31, mb1 5.4/32, mb1mx5.4/33, mbtmp5.4/32, ML4.9/1, MS4.5/17, Ms1 4.5/17, ms1mx4.3/30, Error ellipse: s-maj=15.8km s-min=10.3km az=45.0
DJA 17 16:06:54.6±0.7, 6°.S±3°.×10°.3E±°., h17km±6km, M5.5/4, mB5.9/67, mb5.8/74, MLv6.0/27, Mw(mB)5.5/67
MOS 17 16:06:57.1±1.0, 5°.87S×103°.67E, h33km, mb5.9/63, MS4.6/14, Error ellipse: s-maj=9.1km s-min=4.7km az=114.5
ISCJB 17 16:06:57.2±0.4, 6°.10S±0°.02×103°.45E±0°.02, h41km±3km, mb5.6/186, MS4.7/50, Error ellipse: s-maj=4.6km s-min=2.9km az=32.6
NEIC 17 16:06:58.2±0.1, 6°.07S×103°.51E, h35km, mb5.7/84, MW5.2, MW5.2, Error ellipse: s-maj=4.5km s-min=3.1km az=51.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{16}Nm; M_{rr}5.37; $M_{\theta\theta}$-4.39; $M_{\phi\phi}$-0.98; $M_{r\theta}$-0.99; $M_{\theta\phi}$3.72; $M_{\phi r}$2.25; Best double couple: $M_0$6.70000×10^{16} NP1:ϕ_s318.00000°, δ56.00000°, λ109.00000°. NP2: ϕ_s106.00000°, δ38.00000°, λ64.00000°. Principal axes: T 6.0900, Plg71.0000°, Azm273.0000°; N 1.0300, Plg15.0000°, Azm126.0000°; P -7.1200, Plg9.0000°, Azm34.0000°;
NEIC Felt [III] at Liwa and [II] at Kapahiang.
SZGRF 17 16:07:02.3, 3°.96S×104°.49E, h33km, mb5.5, Southern Sumatera, Indonesia
GCMT 17 16:07:04.3±0.2, 6°.49S×103°.23E, h42km±1km, MW5.2, Moment Tensor Solution. s65,c99; s5,c5; Moment tensor: Scale 10^{16}Nm; M_{rr}5.59±.21; $M_{\theta\theta}$-3.69±.15; $M_{\phi\phi}$-1.90±.18; $M_{r\theta}$3.76±.16; $M_{\theta\phi}$3.83±.11; $M_{\phi r}$-2.34±.18; Best double couple: $M_0$7.60000×10^{16} NP1:ϕ_s314.00000°, δ27.00000°, λ99.00000°. NP2:ϕ_s124.00000°, δ63.00000°, λ85.00000°. Principal axes: T 7.0400, Plg72.0000°, Azm23.0000°; N 1.1000, Plg4.0000°, Azm126.0000°; P -8.1400, Plg18.0000°, Azm217.0000°; Data Used: II IU IC G CN. Surface waves: sta= 74, comp=108, per= 50.
ISC 17 16:06:59.3±0.4, 6°.11S±0°.02×103°.44E±0°.02, h44km±3km, h40km±2.2km: pP-P, n840, σ1s01/706, mb5.6/186, MS4.7/50, 59C-19D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	1.25	30	P	Pn	16 07 21.2	+0.9
MNAI	Manna	1.80	344	P	Pn	16 07 28.2	+0.3
KLI	Kotabumi	1.88	49	P	Pn	16 07 30.5	+1.6
BLSI	Bandar Lampung	1.94	68	P	Pn	16 07 30.7	+0.9
CGJI	Cibinong	2.29	103	P	Pn	16 07 33.9	-0.7
RBSI	Rajabasa	2.30	84	P	Pn	16 07 35.6	+0.8
KSI	Kapahiang	2.58	341	P	Pn	16 07 39.0	+0.4
SBJI	Serang	2.67	90	P	Pn	16 07 40.5	+0.6
TNG	Tangerang	3.19	91	P	Pn	16 07 47.8	+0.9
TNG				P		16 07 47.8	
DBJI	Dramaga	3.32	98	P	Pn	16 07 49.3	+0.6
CBJI	Citeko	3.40	95	P	Pn	16 07 52.3	+2.4
LEM	Lembang	4.21	100	P	Pn	16 08 02.4	+1.4
KRJI	Kerinci	4.45	334	P	Pn	16 08 05.2	+0.9
CISI	Cisompet, Garu	4.58	109	P	Pn	16 08 04.8	-1.2
PPBI	Pangkal Pinang	4.75	35	P	Pn	16 08 09.9	+1.4
4.6nm770nm,0.8s							
XMIS	Christmas Isla	4.86	153	eP	Pn	16 08 02.6	-7.4
2μm,0.3s							
XMIS				eS	Sn	16 08 52.5	-13
XMIS	Christmas Isla	4.86	153	P	Pn	16 08 02.6	-7.4
TPI	Tanjungpandan	5.36	52	P	Pn	16 08 18.5	+1.7
1.8nm3μm203nm,0.8s							
CLJI	Cilicap	5.76	106	P	Pn	16 08 23.7	+1.4
10nm1μm,0.8s							
RGRI	Rengat	5.83	349	P	Pn	16 08 24.2	+1.0
16nm1μm,0.7s							
PDSI	Padang	5.96	330	P	Pn	16 08 23.7	-1.3
14nm1μm,0.7s							
BJII	Banjamegara	6.34	101	P	Pn	16 08 31.2	+0.9
1.8nm6μm361nm,0.8s							
PPI	Padang Panjang	6.38	331	P	Pn	16 08 28.9	-2.0
4.9nm455nm,0.9s							
SISI	Saibi	6.43	317	P	Pn	16 08 30.0	-1.6
BKNI	Bangkinang	6.83	339	P	Pn	16 08 36.5	-0.4
6.1nm8μm778nm,1.1s							
YOGI	Yogyakarta	7.01	104	P	Pn	16 08 39.2	-0.3
6.0nm1μm,0.7s							
UGM	Wanagama	7.25	105	P	Pn	16 08 42.7	-0.1
6.8nm2μm,0.8s							
MYKOM	Kota Tinggi	7.86	3	P	Pn	16 08 52.6	+1.6
MYKOM	Kota Tinggi	7.86	3	P	Pn	16 08 52.4	+1.3
4μm379nm,1.1s							
MNSI	Mandailing Nat	7.87	331	P	Pn	16 08 49.0	-2.2
1.5nm4μm274nm,0.7s							
PCJI	Pacitan	7.95	106	P	Pn	16 08 51.9	-0.5
1μm,0.9s							
KGM	Kluang	8.07	359	P	Pn	16 08 55.7	+1.7
SJI	Sawahan	8.42	102	P	Pn	16 08 59.7	+0.9
945nm,0.7s							
PWJI	Pagerwojo	8.52	103	P	Pn	16 08 59.9	-0.2
1μm,0.8s							
PBKI	Pangkalan Bun	8.87	68	P	Pn	16 09 07.2	+2.2
3μm400nm,1.0s							
COCO	West Island	8.89	227	eP	Pn	16 09 00.1	-5.2
696nm,0.8s							
COCO	West Island	8.89	227	eP	Pn	16 09 00.1	-5.1
COCO				pmax	pmax		
comp=Z,696nm,0.8s							
COCO	West Island	8.89	227	P	Pn	16 08 58.3	-6.9
comp=Z,985nm,1.0s							
COCO	West Island	8.89	227	Pn	Pn	16 09 01.5	-3.7
comp=Z,6μm,0.7s,SNR=25							
COCO	West Island	8.89	227	P	Pn	16 09 01.4	-3.9
SNR=15							
KRKI	Karangkates	9.17	103	P	Pn	16 09 08.7	-0.4
comp=Z,2μm,0.5s							
PSI	Prapat	9.93	333	P	Pn	16 09 15.3	-4.2
comp=Z,610nmcomp=Z,61nm,0.9s							
STKI	Sintang	10.10	53	P	Pn	16 09 25.2	+3.4
comp=Z,417nm,0.9s							
GMJI	Gumukmas	10.15	103	P	Pn	16 09 20.8	-1.8
comp=Z,4μmcomp=Z,242nm,0.9s							
KSM	Kuching	10.19	43	eP	Pn	16 09 23.5	+0.5
comp=Z,64nm,0.8s							
KSM	Kuching	10.19	43	P	Pn	16 09 24.7	+1.7
comp=Z,930nmcomp=Z,93nm,0.8s							
BLJI	Banyuglugur	10.21	100	P	Pn	16 09 23.8	+0.4
comp=Z,629nm,0.5s							
KMMI	Kalianget	10.50	96	P	Pn	16 09 27.9	+0.6
comp=Z,7μmcomp=Z,921nm,1.0s							
TSI	Tuntungan	10.71	333	P	Pn	16 09 29.1	-1.2
comp=Z,136nm,1.0s							
IPM	Ipoh	10.79	347	P	Pn	16 09 31.0	-0.3
IPM	Ipoh	10.79	347	eP	Pn	16 09 30.4	-0.9
comp=Z,57nm,0.8s							
IPM	Ipoh	10.79	347	P	Pn	16 09 31.0	-0.3
comp=Z,884nmcomp=Z,84nm,1.1s							
JAGI	Jajag, Banyuwa	10.88	103	P	Pn	16 09 30.7	-1.8
comp=Z,9μmcomp=Z,866nm,0.9s							
BYJI	Banyuwangi	11.03	102	P	Pn	16 09 34.8	+0.2
comp=Z,791nm,0.8s							
TPTI		11.21	326	P	Pn	16 09 33.3	-3.7
comp=Z,71nm,0.7s							
NBBI	Negara	11.32	102	P	Pn	16 09 37.8	-0.7
comp=Z,804nm,0.5s							
KULM	Kulim	11.66	346	P	Pn	16 09 41.4	-1.8
KULM	Kulim	11.66	346	eP	Pn	16 09 40.4	-2.8
comp=Z,52nm,0.8s							
KULM	Kulim	11.66	346	P	Pn	16 09 41.2	-2.0
comp=Z,970nmcomp=Z,82nm,1.2s							
IGBI	Denpasar	11.91	104	P	Pn	16 09 44.0	-2.7
comp=Z,381nm,0.7s							
SBUM	Sibu	12.21	46	P	Pn	16 09 54.6	+3.9
SBUM	Sibu	12.21	46	P	Pn	16 09 53.5	+2.8
comp=Z,2μmcomp=Z,185nm,0.8s							
MTNI	Mataram	12.87	102	P	Pn	16 09 56.7	-3.1
comp=Z,1μm,0.7s							
KBKI	Kotabaru	12.99	78	P	Pn	16 10 03.2	+1.9
comp=Z,1μmcomp=Z,103nm,0.9s							
LHMI	Lhok Sumawe	12.99	330	P	Pn	16 09 57.6	-3.8
comp=Z,233nm,0.9s							
BTM	Bintulu	13.35	46	P	Pn	16 10 09.4	+3.1
BSI	Banda Aceh	14.11	325	P	Pn	16 10 10.8	-5.8
comp=Z,2μmcomp=Z,229nm,1.0s							
SMKI	Samarinda	14.85	68	P	Pn	16 10 29.1	+2.6
comp=Z,5μmcomp=Z,432nm,0.9s							
MJSI	Majene	15.69	81	P	Pn	16 10 38.1	+0.6
comp=Z,7μmcomp=Z,765nm,0.8s							
KAPI	Kappang	16.27	87	Pn	Pn	16 10 43.6	-1.2
comp=Z,4.5nm,0.3s,baz

MNI Manado 22.64 71 P **P 16 11 58.5 +1.7**
comp=Z,2μmcomp=Z,277nm,0.9s,mb5.7
ENPP El Nido 23.43 43 *e*P **P 16 12 05.3 +0.4**
IPIL Ipil 23.55 54 *e*P **P 16 12 07.5 +1.5**
BDT Bhumibol Dam 23.61 349 P **P 16 12 05.0 -1.5**
comp=Z,56nm,1.0s,mb5.0
SGSI Sangihe 24.11 67 P **P 16 12 12.7 +1.6**
comp=Z,384nm,0.9s,mb5.8
PAGZ Pagadian 24.25 55 *e*P **P 16 12 13.6 +1.3**
CUYO Cuyo Island 24.29 46 *e*P **P 16 12 12.5 -0.2**
BUSP Coron 24.53 43 *e*P **P 16 12 15.4 +0.5**
LBMI Labuha 24.62 78 P **P 16 12 16.7 +0.9**
comp=Z,3μmcomp=Z,369nm,0.6s,mb6.1
CTBH Cotabato--PC H 24.62 58⇑*i*P **P 16 12 16.1 +0.3**
GSPH General Santos 24.65 61⇑*i*P **P 16 12 17.6 +1.6**
FITZ Fitzroy Crossi 24.72 121 P **P 16 12 16.1 -0.6**
comp=Z,90nm,0.8s,mb5.4,baz=281,slow=5.5,SNR=133
FITZ Fitzroy Crossi 24.72 121 *e*P **P 16 12 15.6 -1.1**
comp=Z,168nm,0.8s,mb5.6
FITZ Fitzroy Crossi 24.72 121 *e*P **P 16 12 15.6 -1.1**
comp=Z,101nm,0.8s,mb5.4
FITZ Fitzroy Crossi 24.72 121 P **P 16 12 15.7 -1.0**
comp=Z,2μmcomp=Z,151nm,0.8s,mb5.5
AAI Ambon 24.78 86 P **P 16 12 17.7 +0.4**
comp=Z,74nm,0.8s,mb5.3
CM31 Chiang Mai Arr 24.81 350 *e*P **P 16 12 16.1 -1.3**
comp=Z,119nm,0.8s,mb5.5
CMAR Chiang Mai Arr 24.81 350 P **P 16 12 15.8 -1.6**
comp=Z,94nm,0.7s,mb5.4,baz=181,slow=8.9,SNR=570
CMAR PcP PcP 16 15 54.4 +1.2
comp=Z,13nm,0.8s,baz=207,slow=3.3,SNR=10
CMAR ScP ScP 16 19 31.4 +2.7
comp=Z,5.1nm,1.2s,baz=213,slow=3.1,SNR=6.2
CMAR LR LR 16 24 03.4
comp=Z,1μm,18.2s,MS4.4,baz=181,slow=42
CMAR Chiang Mai Arr 24.81 350 P **P 16 12 15.8 -1.6**
CMAR PcP PcP 16 15 54.4 +1.2
CMAR ScP ScP 16 19 31.4 +2.7
CMAR Chiang Mai Arr 24.81 350 P **P 16 12 15.9 -1.5**
CMAR 16 15 54.4
TNTI Ternate 24.84 75 P **P 16 12 16.5 -1.4**
comp=Z,5μmcomp=Z,479nm,0.9s,mb6.0
SNPH Sibulan 25.00 52||*e*P **P 16 12 19.8 +0.6**
MEEK Meekatharra 25.02 146 *e*P **P 16 12 17.6 -1.7**
comp=Z,50nm,0.6s,mb5.2
CHG Chiang Mai 25.16 350 P **P 16 12 19.0 -1.6**
comp=Z,82nm,0.8s,mb5.3
CHTO Chiang Mai 25.16 350 *e*P **P 16 12 19.0 -1.6**
comp=Z,85nm,0.8s,mb5.3
CHTO Chiang Mai 25.16 350 *e*P **P 16 12 19.0 -1.6**
CHTO pmax pmax
comp=Z,85nm,0.8s,mb5.3
CHTO Chiang Mai 25.16 350 P **P 16 12 19.4 -1.2**
comp=Z,1μmcomp=Z,168nm,1.0s,mb5.5
CHTO Chiang Mai 25.16 350 P **P 16 12 19.4 -1.1**
SNR=40
GUIM Jordan 25.30 49 *e*P **P 16 12 21.3 -0.6**
BUKP Musuan 25.65 57 *e*P **P 16 12 26.1 +0.9**
CGP Cagayan de Oro 25.66 56 *e*P **P 16 12 24.2 -1.1**
DAV Davao City (W) 25.68 60 P **P 16 12 26.7 +1.3**
comp=Z,276nm,0.5s,mb6.1,baz=356,slow=7.5,SNR=15
DAV Davao City (W) 25.68 60 P **P 16 12 26.3 +0.9**
DAV Davao City (W) 25.68 60 P **P 16 12 27.1 +1.7**
SNR=12
QIZ Qiongzhong 25.76 14 P **P 16 12 26.8 +0.7**
QIZ S **S 16 16 55.8 +3.5**
QIZ pmax pmax
comp=Z,88nm,1.0s,mb5.2
QIZ pmax pmax
comp=Z,240nm,6.5s
QIZ LR LR
comp=N,2μm,18.5s
QIZ LR LR
comp=Z,2μm,20.1s,MS4.7
LUBP Lubang 25.83 40 *e*P **P 16 12 26.9 +0.2**
RCP Roxas 26.02 48||*i*P **P 16 12 28.8 +0.4**
OTRP Odiongan 26.04 45 *e*P **P 16 12 29.4 +0.8**
CHRT Chiangrai 26.07 352⇑P **P 16 12 26.0 -2.8**
comp=Z,237nm,1.0s,mb5.7
MATI Mati 26.20 61 *e*P **P 16 12 30.2 +0.1**
TGY Tagaytay City 26.55 41 P **P 16 12 34.2 +1.0**
comp=Z,839nm,1.0s,mb6.2,baz=211,slow=4.7,SNR=13
TGY Tagaytay City 26.55 41 P **P 16 12 34.2 +1.0**
TGY Tagaytay City 26.55 41 P **P 16 12 34.2 +1.0**
BOAC Boac 26.68 43 *e*P **P 16 12 34.2 -0.3**
BUTP Butuan 26.70 56 *e*P **P 16 12 35.4 +0.7**
MSLP Maasin 26.75 53 *e*P **P 16 12 34.1 -1.0**
AUQP San Andres 27.16 45 *e*P **P 16 12 34.3 -4.4**
SCZP Santa Cruz 27.18 37 *e*P **P 16 12 38.4 -0.5**
BALP Baler 28.18 39 *e*P **P 16 12 47.1 -0.7**
PVCP Virac 28.39 46 *e*P **P 16 12 48.2 -1.6**
ABRA Dolores 29.12 36 *e*P **P 16 12 55.5 -0.7**
CAUP Cauayan 29.24 38 *e*P **P 16 12 56.8 -0.5**
NWAO Narrogin (SRO) 29.61 156 LR LR 16 23 21.6
comp=Z,1μm,20.3s,MS4.6,baz=329,slow=33
KMBL Kambalda 30.49 148 *e*P **P 16 13 07.0 -1.2**
comp=Z,189nm,0.6s,mb6.0
KMI Kunming 31.05 359 P **P 16 13 13.8 +0.6**
KMI pP pP 16 13 22.8 -2.2
KMI sP sP 16 13 26.3 -4.0
KMI PP PP 16 14 15.3 -8.7
KMI S **S 16 18 11.8 -3.6**
KMI pmax pmax
comp=Z,76nm,0.7s,mb5.6
KMI pmax pmax
comp=Z,180nm,4.4s
KMI LR LR
comp=N,2μm,15.7s,MS4.9
KMI LR LR
comp=E,1μm,16.6s,MS4.9
KMI LR LR
comp=Z,2μm,16.1s,MS4.9
KMI Kunming 31.05 359 P **P 16 13 13.8 +0.6**
comp=Z,76nm,0.7s,mb5.6
KMI pP pP 16 13 22.7 -2.3
KMI sP sP 16 13 26.3 -4.0
KMI PP PP 16 14 15.3 -8.7
KMI S **S 16 18 11.7 -3.7**
KMI sS sS 16 18 27.1 -8.1
KMI SS SS 16 19 53.7 -36
KMI LR LR
comp=Z,2μm,16.1s,MS4.9
KMI Kunming 31.05 359 P **P 16 13 13.8 +0.6**
KMI *PP pP 16 13 22.7 -2.3
KMI *SP sP 16 13 26.3 -4.0
KMI 16 14 15.3
KMI S **S 16 18 11.7 -3.7**
KMI *SS sS 16 18 27.1 -8.1
KMI SS SS 16 19 53.7 -36
KMI pmax pmax
comp=Z,76nm,0.7s,mb5.6
KMI MLR MLR
comp=Z,2μm,16.1s,MS4.9
BWNR Bhubaneshwar 31.45 327 *e*PKP **P 16 13 15.0 -1.8**
IMP Imphal 32.07 344 *e*PKP **P 16 13 22.0 -0.1**
IMP *ex* x 16 16 13.0
GYA Guiyang 32.52 5⇑*i*P **P 16 13 25.4 -0.7**
GYA pP pP 16 13 38.4 +0.5
GYA sP sP 16 13 43.8 +0.6
GYA PP PP 16 14 38.0 -2.3
GYA S **S 16 18 41.0 +2.6**
GYA sS sS 16 18 58.3 +0.1
GYA ScP ScP 16 19 53.4 +0.7
GYA pmax pmax
comp=Z,50nm,0.7s,mb5.5
GYA pmax pmax
comp=Z,160nm,4.9s
GYA LR LR
comp=N,930nm,17.7s,MS4.6
GYA LR LR
comp=E,790nm,18.3s,MS4.6
GYA LR LR
comp=Z,870nm,17.8s,MS4.5
WRA Warramunga Arr 33.01 118 P **P 16 13 29.3 -1.2**
comp=Z,31nm,0.8s,mb5.3,baz=288,slow=12,SNR=186
WRA PcP PcP 16 16 13.0 -0.8
comp=Z,8.2nm,0.7s,baz=305,slow=2.4,SNR=2.8
WRA Warramunga Arr 33.01 118 P **P 16 13 29.3 -1.2**
WRA PcP PcP 16 16 13.0 -0.8
WRA Warramunga Arr 33.01 118 P **P 16 13 29.3 -1.2**
WRA 16 16 13.0
WRAB Tennant Creek 33.02 118 *e*P **P 16 13 29.8 -0.8**
comp=Z,33nm,0.6s,mb5.4
WRAB LR LR
comp=Z,767nm,21.0s,MS4.4
WRAB Tennant Creek 33.02 118 *e*P **P 16 13 29.8 -0.8**
WRAB pmax pmax
comp=Z,33nm,0.6s,mb5.4
WRAB MLR MLR
comp=Z,767nm,21.0s,MS4.4
WRAB Tennant Creek 33.02 118 P **P 16 13 29.9 -0.7**
comp=Z,1μmcomp=Z,106nm,0.9s,mb5.8
WRAB Tennant Creek 33.02 118 P **P 16 13 29.0 -1.6**
comp=Z,326nm,0.7s,mb6.4,SNR=53
WB2 Warramunga Arr 33.02 118 *e*P **P 16 13 29.6 -1.0**
TWG Pinlang 33.53 30 *e*P **P 16 13 34.5 -0.4**
comp=Z,48nm,0.6s,mb5.6
TPUB Ta-pu 33.71 29 *e*P **P 16 13 36.0 -0.5**
comp=Z,138nm,0.9s,mb5.9
HYB Hyderabad 33.92 314 *i*P **P 16 13 38.0 -0.5**
ASAR Alice Springs 34.10 124 P **P 16 13 39.4 -0.5**
comp=Z,11nm,0.8s,mb4.8,baz=300,slow=7.9,SNR=83
ASAR PcP PcP 16 16 17.1 +0.4
comp=Z,7.1nm,0.7s,baz=310,slow=2.5,SNR=5.7
ASAR ScP ScP 16 19 59.5 +1.1
comp=Z,3.0nm,0.8s,baz=284,slow=3.0,SNR=4.1
ASAR Alice Springs 34.10 124 P **P 16 13 39.4 -0.5**
ASAR PcP PcP 16 16 17.1 +0.4
ASAR ScP ScP 16 19 59.5 +1.1
ASAR Alice Springs 34.10 124 P **P 16 13 39.4 -0.5**
ASAR 16 16 17.2
AS31 Alice Springs 34.10 124 *e*P **P 16 13 39.1 -0.8**
YULB Yu-li 34.12 30 *e*P **P 16 13 40.2 +0.1**
comp=Z,42nm,0.7s,mb5.5
QZH Quanzhou 34.21 25 *e*P **P 16 13 43.4 +2.6**
QZH S **S 16 19 09.0 +4.4**
QZH LR LR
comp=N,2μm,19.2s,MS5.1
QZH LR LR
comp=E,2μm,19.7s,MS5.1
QZH LR LR
comp=Z,2μm,19.8s,MS4.9
SSLB Suanglung 34.28 29 *e*P **P 16 13 41.4 -0.1**
comp=Z,73nm,0.7s,mb5.7
NACB Ninganchiao 34.92 30 *e*P **P 16 13 46.4 -0.6**
comp=Z,92nm,0.9s,mb5.7
YHNB Yeheng 35.23 29 *e*P **P 16 13 49.1 -0.5**
comp=Z,66nm,0.8s,mb5.6
ODAN Odare 36.27 335 *e*P **P 16 13 58.8 +0.2**
comp=Z,404nm,0.8s,mb6.4
ODAN Odare 36.27 335 *e*P **P 16 13 58.8 +0.2**
comp=Z,404nm,0.8s,mb6.4
TAPN Taplejung 36.58 336 *e*P **P 16 14 01.5 +0.4**
comp=Z,707nm,0.9s,mb6.5
TAPN Taplejung 36.58 336 *e*P **P 16 14 01.5 +0.4**
comp=Z,707nm,0.9s,mb6.5
ENH Enshi 36.63 9 *e*P **P 16 14 00.1 -1.4**
comp=Z,142nm,0.6s,mb6.0
RAMN Ramite 36.69 334 *e*P **P 16 14 02.7 +0.6**
comp=Z,166nm,0.6s,mb6.0
RAMN Ramite 36.69 334 *e*P **P 16 14 02.7 +0.6**
comp=Z,166nm,0.6s,mb6.0
CD2 Chengdu 36.81 0⇓*i*P **P 16 14 02.3 -0.8**
CD2 pP pP 16 14 12.3 -2.7
CD2 sP sP 16 14 16.3 -4.0
CD2 PP PP 16 15 29.3 +1.7
CD2 PcP PcP 16 16 23.3 -1.2
CD2 S **S 16 19 45.3 +1.0**
CD2 sS sS 16 20 01.3 -3.0
CD2 PcS PcS 16 20 10.3 -2.3
CD2 ScS ScS 16 24 12.5 -2.5
CD2 pmax pmax
comp=Z,220nm,0.7s,mb6.1
CD2 pmax pmax
comp=Z,230nm,6.4s
CD2 LR LR
comp=N,2μm,13.2s,MS5.2
CD2 LR LR
comp=E,2μm,16.8s,MS5.2
CD2 LR LR
comp=Z,3μm,14.4s,MS5.2
KAD Karad 37.11 309 *e*PKP **P 16 14 05.0 -0.8**
KAD AMb AMB 16 14 08.2
comp=Z,52nm,1.3s,mb5.2
JAY Jayapura 37.32 86 P **P 16 14 08.4 +0.7**
comp=Z,52nm,0.8s,mb5.4
JIRN Jiri 37.48 334 *e*P **P 16 14 09.4 +0.6**
comp=Z,554nm,0.8s,mb6.5
JIRN Jiri 37.48 334 *e*P **P 16 14 09.4 +0.6**
comp=Z,554nm,0.8s,mb6.4
LSA Lhasa 37.51 342 P **P 16 14 09.6 +0.6**
LSA S **S 16 19 52.3 -2.7**
LSA pmax pmax
comp=Z,200nm,1.1s,mb5.8
LSA LR LR
comp=N,350nm,20.4s
LSA LR LR
comp=Z,610nm,20.1s,MS4.4
LSA Lhasa 37.51 342 *e*P **P 16 14 09.5 +0.5**
comp=Z,208nm,0.9s,mb5.9
LSA Lhasa 37.51 342 *e*P **P 16 14 09.5 +0.5**
LSA pmax pmax
comp=Z,208nm,0.9s,mb5.9
ALBI Allahabad 37.65 327 *e*PKP **P 16 14 09.5 -0.8**
PKI Pulchoki 37.75 333 *e*P **P 16 14 11.2 +0.1**
comp=Z,191nm,1.0s,mb5.8
PKI Pulchoki 37.75 333 *e*P **P 16 14 11.2 +0.1**
comp=Z,191nm,1.0s,mb5.8
PKI Pulchoki 37.75 333 *e*P **P 16 14 11.2 +0.1**
PKI pmax pmax
comp=Z,191nm,1.0s,mb5.8
GUN Gumba 37.83 334 *e*P **P 16 14 12.6 +0.8**
comp=Z,370nm,0.5s,mb6.4
GUN Gumba 37.83 334 *e*P **P 16 14 12.6 +0.8**
comp=Z,370nm,0.5s,mb6.4
WHN Wuhan 37.91 15 P **P 16 14 12.0 -0.4**
WHN pmax pmax
comp=Z,66nm,0.6s,mb5.5
WHN pmax pmax
comp=Z,330nm,9.1s
WHN LR LR
comp=Z,3μm,15.2s,MS5.2
DMN Daman 37.92 333 *e*P **P 16 14 12.8 +0.3**
comp=Z,281nm,1.0s,mb6.0
DMN Daman 37.92 333 *e*P **P 16 14 12.8 +0.3**
comp=Z,281nm,1.0s,mb6.0
KKN Kakani 37.99 333 *e*P **P 16 14 13.5 +0.3**
comp=Z,299nm,0.8s,mb6.1
KKN Kakani 37.99 333 *e*P **P 16 14 13.5 +0.3**
comp=Z,299nm,0.8s,mb6.1
KKN Kakani 37.99 333 *e*P **P 16 14 13.5 +0.3**
KKN pmax pmax
comp=Z,299nm,0.8s,mb6.1
POO Poona 38.09 311 *e*PKP **P 16 14 15.0 +0.9**
GKN Gorkha 38.47 333 *e*P **P 16 14 17.4 +0.3**
comp=Z,133nm,0.4s,mb6.1
GKN Gorkha 38.47 333 *e*P **P 16 14 17.4 +0.3**
comp=Z,133nm,0.4s,mb6.0
BHPL Bhopal 38.69 320 *e*PKP **P 16 14 19.6 +0.5**
BHPL *ex* x 16 14 30.7
KOLN Koldanda 38.75 331 *e*P **P 16 14 20.2 +0.7**
comp=Z,277nm,0.7s,mb6.1
KOLN Koldanda 38.75 331 *e*P **P 16 14 20.2 +0.7**
comp=Z,277nm,0.7s,mb6.1
DANN Dangsing 39.16 332 *e*P **P 16 14 23.5 +0.5**
comp=Z,667nm,0.8s,mb6.4
DANN Dangsing 39.16 332 *e*P **P 16 14 23.5 +0.5**
comp=Z,667nm,0.8s,mb6.4
COEN Coen 39.85 104 *e*P **P 16 14 27.1 -1.8**
comp=Z,322nm,0.7s,mb6.2
COEN Coen 39.85 104 P **P 16 14 27.1 -1.8**
comp=Z,677nmcomp=Z,81nm,0.9s,mb5.5
XAN Xi'an 40.26 7 P **P 16 14 30.9 -1.1**
XAN pP pP 16 14 37.8 -6.3
XAN SS SS 16 23 42.5 +6.3
XAN pmax pmax
comp=Z,37nm,0.7s,mb5.2
XAN pmax pmax
comp=Z,41nm,5.9s
XAN LR LR
comp=N,580nm,15.9s,MS4.5
XAN LR LR
comp=E,160nm,15.0s,MS4.5
XAN LR LR
comp=Z,350nm,16.3s,MS4.3
BBOO Buckleboo 40.33 135 P **P 16 14 31.6 -1.1**
comp=Z,247nm,0.6s,mb6.1
JOW Kunigami 40.63 35 P **P 16 14 35.5 +0.3**
comp=Z,148nm,0.5s,mb5.9,baz=216,slow=6.9,SNR=41
JOW LR LR 16 30 06.1
comp=Z,496nm,19.1s,MS4.4,baz=283,slow=34
JOW Kunigami 40.63 35 *e*P **P 16 14 35.3 +0.1**
comp=Z,73nm,0.8s,mb5.4
NJ2 Nanjing 40.69 20 *e*P **P 16 14 35.8 +0.2**
NJ2 pP pP 16 14 45.6 -2.1
NJ2 sP sP 16 14 49.6 -3.3
NJ2 PP PP 16 16 13.6 +3.5
NJ2 S **S 16 20 43.5 +0.6**
NJ2 sS sS 16 21 00.5 -2.5
NJ2 pmax pmax
comp=Z,80nm,0.8s,mb5.4
NJ2 pmax pmax
comp=Z,190nm,5.2s
NJ2 LR LR
comp=N,910nm,16.4s,MS4.8
NJ2 LR LR
comp=E,650nm,15.0s,MS4.8
NJ2 LR LR
comp=Z,1μm,17.8s,MS4.8
SSE Sheshan 40.70 24 P **P 16 14 36.3 +0.6**
SSE pP pP 16 14 47.4 -0.4
SSE S **S 16 20 45.3 +2.3**
SSE pmax pmax
comp=Z,84nm,1.2s,mb5.2
SSE pmax pmax
comp=Z,120nm,6.1s
SSE LR LR
comp=N,670nm,18.0s,MS4.6
SSE LR LR
comp=E,180nm,18.0s,MS4.6
SSE LR LR
comp=Z,770nm,18.6s,MS4.6
SSE Sheshan 40.70 24 P **P 16 14 36.3 +0.6**
comp=Z,84nm,1.2s,mb5.2
SSE pP pP 16 14 47.4 -0.4
SSE S **S 16 20 45.3 +2.3**
SSE LR LR
comp=Z,770nm,18.6s,MS4.6
AGRA Agra 41.31 325 *e*PKP **P 16 14 40.6 -0.2**
AGRA AMb AMB 16 14 42.0
comp=Z,107nm,0.5s,mb5.7
BHV Bhavnagar 41.32 313 *e*PKP **P 16 14 41.5 +0.5**
MTSU Mount Surprise 41.61 110 *e*P **P 16 14 43.2 -0.2**
comp=Z,44nm,0.3s,mb5.6
LZH Lanzhou 41.97 0⇑P **P 16 14 46.3 +0.3**
LZH pP pP 16 14 55.9 -2.3
LZH sP sP 16 14 59.9 -3.5
LZH *e*S **S 16 21 06.0 +4.3**
LZH pmax pmax
comp=Z,120nm,1.2s,mb5.4
LZH pmax pmax
comp=Z,290nm,5.1s
LZH LR LR
comp=N,2μm,14.8s,MS5.3
LZH LR LR
comp=E,2μm,14.0s,MS5.3
LZH LR LR
comp=Z,2μm,15.0s,MS5.2
LZH Lanzhou 41.97 0⇑P **P 16 14 46.3 +0.3**
comp=Z,115nm,1.2s,mb5.4
LZH pP pP 16 14 55.9 -2.3
LZH sP sP 16 14 59.9 -3.5
LZH PP PP 16 16 08.0 -16
LZH *e*S **S 16 21 06.0 +4.3**
LZH sS sS 16 21 14.1 -7.8
LZH LR LR
comp=Z,2μm,15.0s,MS5.2
LZH Lanzhou 41.97 0⇑P **P 16 14 46.3 +0.3**
LZH *PP pP 16 14 55.9 -2.3
LZH *SP sP 16 14 59.9 -3.5
LZH *e*S **S 16 21 06.0 +4.3**
LZH pmax pmax
comp=Z,115nm,1.2s,mb5.4
LZH MLR MLR
comp=Z,2μm,15.0s,MS5.2
AYAN Aya Nagar 42.73 325 *e*PKP **P 16 14 52.0 -0.4**
AYAN *ex* x 16 15 06.4
AJM Ajmer 42.76 321 *e*PKP **P 16 14 52.0 -0.7**
NDI New Delhi 42.84 325 *e*PKP **P 16 14 51.5 -1.7**
NDI AMb AMB 16 14 53.7
comp=Z,274nm,0.9s,mb6.0
KUDL Kundal 42.85 324 *e*PKP **P 16 14 52.6 -0.7**
KUDL *ex* x 16 15 08.2
KHET Khetri 43.20 323 *e*PKP **P 16 14 56.0 -0.2**
KHET *ex* x 16 15 11.6
PMG Port Moresby 43.42 97 *e*P **P 16 14 57.2 -1.0**
comp=Z,228nm,0.8s,mb6.0
PMG Port Moresby 43.42 97 *c i*P **P 16 14 57.3 -0.9**
PMG pmax pmax
comp=Z,313nm,1.0s
PMG Port Moresby 43.42 97 P **P 16 14 57.2 -1.0**
comp=Z,3μmcomp=Z,308nm,1.0s,mb6.0
RTK Rohtak 43.56 325 *e*PKP **P 16 14 58.8 -0.2**
RTK AMb AMB 16 15 00.3
comp=Z,130nm,0.1s,mb6.4
CTA Charters Tower 43.80 113 *e*P **P 16 15 00.9 -0.3**
comp=Z,37nm,1.0s,mb5.1
CTAO Charters Tower 43.80 113 *e*P **P 16 15 00.9 -0.3**
comp=Z,42nm,0.8s,mb5.2
CTAO LR LR
comp=Z,568nm,22.0s,MS4.4
CTAO Charters Tower 43.80 113 *e*P **P 16 15 00.9 -0.3**
CTAO pmax pmax
comp=Z,42nm,0.8s,mb5.2
CTAO MLR MLR
comp=Z,568nm,22.0s,MS4.4
CTAO Charters Tower 43.80 113 P **P 16 15 00.2 -1.0**
comp=Z,672nmcomp=Z,62nm,1.1s,mb5.2
QLP Quilpie 43.85 122 *e*P **P 16 15 01.8 +0.3**
STKA Stephens Creek 43.88 131 P **P 16 15 01.6 0.0**
comp=Z,50nm,0.7s,mb5.4,baz=304,slow=8.0,SNR=139
STKA LR LR 16 34 34.5
comp=Z,606nm,20.7s,MS4.5,baz=37,slow=38
STKA Stephens Creek 43.88 131 *e*P **P 16 15 01.5 -0.1**
comp=Z,80nm,0.7s,mb5.6
STKA Stephens Creek 43.88 131 *e*P **P 16 15 01.5 -0.1**
comp=Z,18nm,0.7s,mb4.9
STKA Stephens Creek 43.88 131 *e*P **P 16 15 01.5 -0.1**
STKA pmax pmax
comp=Z,18nm,0.7s
SMLA Simla 44.74 327 *i*P **P 16 15 07.2 -1.3**
SMLA *i*x x 16 19 53.3
SDNR Sundarnagar 45.14 328 *e*PKP **P 16 15 12.0 +0.4**
GTA Gaotai 45.41 356⇑P **P 16 15 14.3 +0.6**
GTA pP pP 16 15 24.3 -1.6
GTA sP sP 16 15 28.1 -3.0
GTA PcP PcP 16 16 53.3 +0.9
GTA ScP ScP 16 20 43.1 +1.4
GTA S **S 16 21 53.5 +1.6**
GTA sS sS 16 22 09.6 -2.7
GTA ScS ScS 16 25 07.0 +0.4
GTA pmax pmax
comp=Z,140nm,0.7s,mb5.9
GTA pmax pmax
comp=Z,340nm,4.0s
GTA LR LR
comp=N,810nm,19.9s,MS4.8
GTA LR LR
comp=E,640nm,15.7s,MS4.8
GTA LR LR
comp=Z,970nm,21.4s
GUMO Guam 45.55 64 *e*P **P 16 15 11.8 -3.4**
comp=Z,68nm,0.4s,mb5.9
GUMO Guam 45.55 64 *e*P **P 16 15 11.8 -3.4**
GUMO pmax pmax
comp=Z,68nm,0.4s,mb5.9
ARPS Mount Arapiles 46.47 137 *e*P **P 16 15 22.4 +0.3**
comp=Z,16nm,0.3s,mb5.4
THN Thein Dam 46.53 327 *e*PKP **P 16 15 21.0 -1.6**
THN *ex* x 16 16 56.3
BTO Baotou 46.88 7 *e*P **P 16 15 24.9 -0.2**
JNU Nakatsue 46.91 32 *e*P **P 16 15 24.4 -1.1**
comp=Z,76nm,1.0s,mb5.6
HHC Hu-ho-hao-te 47.32 8⇑P **P 16 15 29.0 +0.4**
HHC sP sP 16 15 43.0 -3.0
HHC PcP PcP 16 16 59.3 +0.3
HHC PP PP 16 17 19.8 -0.4
HHC ScP ScP 16 20 49.8 +0.1
HHC PcS PcS 16 20 53.4 -0.8
HHC S **S 16 22 20.1 +1.0**
HHC sS sS 16 22 37.1 -2.5
HHC ScS ScS 16 25 17.8 -1.1
HHC SS SS 16 25 42.1 -5.2
HHC pmax pmax
comp=Z,130nm,0.9s,mb5.9
HHC pmax pmax

comp=Z,390nm,6.5s
HHC LR LR
comp=N,2μm,17.8s,MS5.1
HHC LR LR
comp=E,550nm,17.1s,MS5.1
HHC LR LR
comp=Z,2μm,17.5s,MS5.0
BJT Baijiatuau 47.38 13 *e*P **P 16 15 28.9 -0.2**
comp=Z,225nm,0.8s,mb6.2
BJT LR LR
comp=Z,818nm,19.0s,MS4.7
BJT Baijiatuau 47.38 13 *e*P **P 16 15 28.9 -0.1**
BJT pmax pmax
comp=Z,225nm,0.8s
BJT MLR MLR
comp=Z,818nm,19.0s
BJI Beijing 47.40 13 P **P 16 15 28.8 -0.4**
BJI PcP PcP 16 16 59.5 +0.2
BJI pmax pmax
comp=Z,280nm,0.7s,mb6.3
BJI pmax pmax
comp=Z,480nm,3.0s
BJI LR LR
comp=N,670nm,23.6s
BJI LR LR
comp=E,1μm,18.1s
BJI LR LR
comp=Z,560nm,25.1s,MS4.4
INCN Inchon 48.47 25 *e*P **P 16 15 36.2 -1.3**
comp=Z,28nm,0.4s,mb5.7
KSAR Wonju Array Be 48.96 26 P **P 16 15 41.1 -0.3**
KSAR Wonju Array Be 48.96 26 P **P 16 15 41.1 -0.3**
KSRS Korea Array 48.99 26 P **P 16 15 41.1 -0.5**
comp=Z,105nm,0.6s,mb6.1,baz=224,slow=7.5,SNR=332
EIDS Eidsvold 49.37 118 *e*P **P 16 15 44.8 0.0**
comp=Z,87nm,0.6s,mb6.0
EIDS Eidsvold 49.37 118 *e*P **P 16 15 44.8 +0.1**
comp=Z,23nm,0.8s,mb5.2
TOO Toolangi 49.39 135 *e*P **P 16 15 45.7 +1.0**
comp=Z,137nm,2.0s,mb5.6
YNG Young 50.07 130 *e*P **P 16 15 50.4 +0.5**
comp=Z,19nm,0.5s,mb5.4
CAN Canberra 50.93 131 *e*P **P 16 15 56.1 -0.4**
comp=Z,103nm,1.3s,mb5.6
CAN Canberra 50.93 131 *e*P **P 16 15 56.1 -0.3**
CAN pmax pmax
comp=Z,103nm,1.3s,mb5.6
SNY Shenyang 51.13 19 ⇑P **P 16 15 56.0 -1.7**
SNY pmax pmax
comp=Z,53nm,1.1s,mb5.4
SNY LR LR
comp=N,350nm,17.7s,MS4.7
SNY LR LR
comp=E,550nm,19.8s,MS4.7
SNY LR LR
comp=Z,630nm,19.8s,MS4.6
ARMA Armidale 51.25 124 *e*P **P 16 15 59.4 +0.5**
comp=Z,11nm,0.8s,mb4.8
WMQ Urumqi 51.70 346 P **P 16 16 02.5 +0.6**
WMQ pP pP 16 16 12.5 -1.8
WMQ sP sP 16 16 16.4 -3.1
WMQ PP PP 16 18 00.8 +0.8
WMQ S **S 16 23 19.8 -0.5**
WMQ SS SS 16 26 53.9 -3.5
WMQ pmax pmax
comp=Z,420nm,1.0s,mb6.3
WMQ pmax pmax
comp=Z,880nm,5.4s
WMQ LR LR
comp=N,490nm,9.0s
WMQ LR LR
comp=E,410nm,6.6s
WMQ LR LR
comp=Z,200nm,23.0s,MS4.1
KBL Kabul 51.85 324 *e*P **P 16 16 02.6 -0.6**
comp=Z,22nm,0.8s,mb5.1
KBL Kabul 51.85 324 *e*P **P 16 16 02.6 -0.7**
KBL pmax pmax
comp=Z,22nm,0.8s,mb5.1
KSH Kashi 52.01 333 P **P 16 16 02.9 -1.5**
KSH pP pP 16 16 12.9 -3.9
KSH sP sP 16 16 16.8 -5.1
KSH PcP PcP 16 17 16.6 +0.4
KSH PP PP 16 18 01.1 -1.8
KSH ScP ScP 16 21 09.3 -0.5
KSH PcS PcS 16 21 13.1 -1.2
KSH S **S 16 23 19.1 -5.7**
KSH ScS ScS 16 25 47.4 -3.4
KSH pmax pmax
comp=Z,130nm,1.8s,mb5.6
KSH LR LR
comp=N,170nm,5.8s
KSH LR LR
comp=E,200nm,7.4s
KSH LR LR
comp=Z,200nm,7.2s
SMDO Samad 52.98 305 P **P 16 16 13.8 +1.9**
SNR=7.2
MAJO Matsushiro 53.47 35 *e*P **P 16 16 12.7 -2.5**
comp=Z,59nm,0.8s,mb5.6
MAJO Matsushiro 53.47 35 *e*P **P 16 16 12.7 -2.5**
MAJO pmax pmax
comp=Z,59nm,0.8s,mb5.6
MAT Matsushiro 53.47 35 P **P 16 16 12.6 -2.6**
MJAR Matsushiro Arr 53.47 35 P **P 16 16 12.9 -2.3**
comp=Z,63nm,0.8s,mb5.6,baz=221,slow=8.0,SNR=120
MJAR Matsushiro Arr 53.47 35 P **P 16 16 12.9 -2.3**
MJAR Matsushiro Arr 53.47 35 P **P 16 16 12.9 -2.3**
CN2 Changchun 53.51 20 *e*P **P 16 16 14.4 -1.0**
CN2 *e*pP pP 16 16 23.3 -4.5
CN2 *e*PcP PcP 16 17 21.6 -0.2
CN2 *e*S **S 16 23 45.4 +0.3**
CN2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,17.0s,MS4.9
CN2 LR LR
comp=E,600nm,17.0s,MS4.9
CN2 LR LR
comp=Z,800nm,17.0s,MS4.8
SONM Songino Array 53.77 2 P **P 16 16 17.7 +0.6**
comp=Z,221nm,0.7s,mb6.2,baz=180,slow=9.0,SNR=1701
SONM PcP PcP 16 17 23.0 +0.3
comp=Z,15nm,0.6s,baz=185,slow=3.7,SNR=6.6
SONM LR LR 16 42 38.1
comp=Z,1μm,18.3s,MS4.9,baz=194,slow=40
SONM PKPPKP 16 46 41.4
comp=Z,0.6nm,0.9s,baz=96,slow=1.5,SNR=3.6
SONM Songino Array 53.77 2 P **P 16 16 17.7 +0.6**
SONM PcP PcP 16 17 23.0 +0.3
SONM P'P' 16 46 41.4
SONM Songino Array 53.77 2 P **P 16 16 17.7 +0.5**
SONM 16 17 23.0
ULN Ulaanbaatar 53.84 3 *e*P **P 16 16 17.8 +0.1**
comp=Z,114nm,0.8s,mb5.8
ULN Ulaanbaatar 53.84 3 *e*P **P 16 16 17.8 +0.2**
ULN pmax pmax
comp=Z,114nm,0.8s,mb5.8
ULN Ulaanbaatar 53.84 3 P **P 16 16 18.0 +0.4**
comp=Z,2μmcomp=Z,176nm,1.2s,mb5.9
ULN Ulaanbaatar 53.84 3 P **P 16 16 18.5 +0.9**
SNR=35
ULHL Ulahol 54.13 335 P **P 16 16 20.1 +0.1**
SNR=9.8
ULHL P 16 16 20.1
SNR=9.8
KZA Kyzart 54.41 334 P **P 16 16 22.5 +0.5**
SNR=78
KZA P 16 16 22.5
SNR=78
UCH Uchtor 54.85 334 P **P 16 16 26.1 +1.0**
SNR=7.3
UCH P 16 16 26.1
SNR=7.3
TKM2 Tokmak 2 54.96 335 P **P 16 16 25.8 -0.1**
SNR=176
TKM2 P 16 16 25.8
SNR=176
TKM2 Tokmak 2 54.96 335 *e*P **P 16 16 25.5 -0.4**
comp=Z,114nm,0.4s,mb6.2
TKM2 Tokmak 2 54.96 335 *i*P **P 16 16 25.7 -0.2**
KBK Karagaybulak 55.02 335 P **P 16 16 26.7 +0.4**
SNR=83
KBK P 16 16 26.7
SNR=83
AML Almayashu 55.14 333 P **P 16 16 27.8 +0.6**
SNR=13
AML P 16 16 27.8
SNR=13
AAK Ala-Archa 55.19 334 P **P 16 16 27.8 +0.2**
SNR=35
AAK P 16 16 27.8
SNR=35
AAK Ala-Archa 55.19 334 P **P 16 16 27.0 -0.6**
comp=Z,174nm,0.8s,mb6.1,SNR=35
AAK Ala-Archa 55.19 334 *e*P **P 16 16 27.6 +0.1**
comp=Z,85nm,0.6s,mb6.0
AAK Ala-Archa 55.19 334*c* *i*P **P 16 16 27.8 +0.2**
AAK pmax pmax
comp=Z,78nm,1.0s,mb5.7
AAK MLR MLR
comp=Z,1μm,24.0s,MS4.9
AAK Ala-Archa 55.19 334 P **P 16 16 27.8 +0.2**
comp=Z,2μmcomp=Z,166nm,1.1s,mb6.0
AAK Ala-Archa 55.19 334 P **P 16 16 27.9 +0.3**
SNR=19
FRU Bishkek 55.30 334 *e*P **P 16 16 27.0 -1.4**
FRU pmax pmax
comp=Z,120nm,1.6s,mb5.7
VLA Vladivostok 55.38 25⇑ *i*P **P 16 16 27.6 -1.3**
VLA 16 17 26.8
VLA S **S 16 24 09.4 -0.8**
VLA pmax pmax
comp=Z,79nm,0.6s,mb5.9
CHMS Chumysh 55.38 335 P **P 16 16 28.5 -0.5**
SNR=24
CHMS P 16 16 28.5
SNR=24
EKS2 Erkin-Say 55.53 334 P **P 16 16 30.4 +0.4**
SNR=207
EKS2 P 16 16 30.4
SNR=207
EKS2 Erkin-Say 55.53 334 *e*P **P 16 16 30.1 0.0**
comp=Z,128nm,0.8s,mb6.0
EKS2 Erkin-Say 55.53 334 *e*P **P 16 16 30.1 +0.1**
EKS2 pmax pmax
comp=Z,128nm,0.8s,mb6.0
MDJ Mudanjiang 55.70 22 P **P 16 16 30.6 -0.6**
MDJ sP sP 16 16 42.8 -6.1
MDJ PcP PcP 16 17 29.8 -0.4
MDJ PcS PcS 16 21 29.6 -0.7
MDJ S **S 16 24 11.3 -3.2**
MDJ ScS ScS 16 26 17.0 +0.3
MDJ SS SS 16 27 58.3 -2.3
MDJ pmax pmax
comp=Z,50nm,0.9s,mb5.5
MDJ pmax pmax
comp=Z,140nm,5.0s
MDJ LR LR
comp=N,480nm,18.7s,MS4.7
MDJ LR LR
comp=E,380nm,18.7s,MS4.7
MDJ LR LR
comp=Z,440nm,20.6s,MS4.5
MDJ Mudanjiang 55.70 22 *e*P **P 16 16 30.5 -0.8**
comp=Z,44nm,0.8s,mb5.5
USP Ospenovka 55.70 335 P **P 16 16 30.9 -0.3**
SNR=18
USP P 16 16 30.9
SNR=18
MK31 Makanchi Array 55.92 343 *e*P **P 16 16 32.2 -0.5**
MK31 Makanchi Array 55.92 343 *i*P **P 16 16 32.1 -0.6**
MK31 pmax pmax
comp=Z,53nm,0.5s,mb5.8
MKAR Makanchi Array 55.92 343 P **P 16 16 32.3 -0.4**
comp=Z,45nm,0.4s,mb5.8,baz=147,slow=9.4,SNR=1233
MKAR S **S 16 24 18.3 +1.0**
comp=Z,2.5nm,1.1s,baz=159,slow=10,SNR=4.0
MKAR LR LR 16 43 11.5
comp=Z,246nm,21.1s,MS4.3,baz=158,slow=39
MKAR Makanchi Array 55.92 343 P **P 16 16 32.3 -0.4**
MKAR S **S 16 24 18.3 +1.0**
MKAR Makanchi Array 55.92 343 P **P 16 16 32.3 -0.4**
MKAR S **S 16 24 18.3 +1.0**
HNR Honiara 56.04 97 P **P 16 16 32.9 -1.3**
comp=Z,119nm,0.7s,mb6.0,baz=268,slow=1.2,SNR=17
HNR Honiara 56.04 97 *e*P **P 16 16 32.8 -1.5**
comp=Z,148nm,0.9s,mb6.0
HNR Honiara 56.04 97 *e*P **P 16 16 32.8 -1.4**
HNR pmax pmax
comp=Z,147nm,0.9s,mb6.0
ZAK Zakamensk 56.26 360⇓ *i*P **P 16 16 35.2 +0.1**
ZAK pmax pmax
comp=Z,46nm,0.8s,mb5.6
HIA Hailar 56.95 13 *e*P **P 16 16 38.9 -1.1**
comp=Z,29nm,0.8s,mb5.4
HIA Hailar 56.95 13 *e*P **P 16 16 38.9 -1.1**
HIA pmax pmax
comp=Z,29nm,0.8s
KK31 Karatay Array 57.36 332 *i*P **P 16 16 41.8 -1.3**
KK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
KKAR Karatay Array 57.36 332 *e*P **P 16 16 41.7 -1.3**
comp=Z,8.7nm,0.5s,mb5.0
KKAR Karatay Array 57.36 332 *e*P **P 16 16 41.7 -1.4**
KKAR pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
TLY Talaya 57.56 0 *e*P **P 16 16 45.0 +0.7**
comp=Z,81nm,0.8s,mb5.8
TLY Talaya 57.56 0*c* *i*P **P 16 16 44.8 +0.5**
TLY pmax pmax
comp=Z,80nm,0.8s,mb5.8
TLY MLR MLR
comp=Z,647nm,16.0s,MS4.8
TLY Talaya 57.56 0 P **P 16 16 45.5 +1.2**
SNR=13
TLY Talaya 57.56 0 P **P 16 16 45.6 +1.3**
comp=Z,688nm,0.7s,mb6.8,SNR=27
MOY Mondy 57.59 358 *e*P **P 16 16 44.8 +0.4**
MOY pmax pmax
comp=Z,84nm,2.2s,mb5.4
IRK Irkutsk 58.13 1 *e*P **P 16 16 47.6 -0.6**
IRK pmax pmax
comp=Z,84nm,2.3s,mb5.4
ERM Erimo 60.03 33 P **P 16 17 00.6 -1.1**
comp=Z,527nm,0.7s,mb6.7,SNR=11
ERM Erimo 60.03 33 *e*P **P 16 17 00.7 -1.0**
comp=Z,67nm,0.8s,mb5.7
ERM Erimo 60.03 33⇑ *e*P **P 16 17 00.6 -1.1**
ERM pmax pmax
comp=Z,84nm,1.0s,mb5.7
KLR Kul'dur 60.39 21 *e*P **P 16 16 58.8 -5.2**
KLR *e*SSS 16 25 03.5
KURK Kurchatov 60.52 342 P **P 16 17 03.9 -0.9**
comp=Z,58nm,0.8s,mb5.8,baz=159,slow=6.5,SNR=320
KURK PcP PcP 16 17 49.2 +0.1
comp=Z,15nm,0.7s,baz=155,slow=4.6,SNR=5.5
KURK S **S 16 25 16.6 -0.6**
comp=Z,2.9nm,1.1s,baz=149,slow=13,SNR=5.0
KURK Kurchatov 60.52 342 *e*P **P 16 17 04.3 -0.5**
comp=Z,98nm,0.8s,mb6.0
KURK PcP PcP 16 17 49.2 +0.1
KURK S **S 16 25 16.6 -0.6**
KURK LR LR
comp=Z,460nm,20.0s,MS4.6
KURK Kurchatov 60.52 342 P **P 16 17 04.0 -0.8**
comp=Z,657nm,0.9s,mb6.8,SNR=85
KURK Kurchatov 60.52 342 *e*P **P 16 17 04.3 -0.5**
KURK 16 17 49.2
KURK S **S 16 25 16.6 -0.6**
KURK pmax pmax
comp=Z,98nm,0.8s,mb6.0
KURK MLR MLR
comp=Z,460nm,20.0s,MS4.6
KURK Kurchatov 60.52 342 P **P 16 17 04.6 -0.2**
SNR=29
ABKT Ailbek 60.78 320 P **P 16 17 07.1 +0.2**
comp=Z,227nm,0.9s,mb6.3,SNR=8.4
HABR Khabarovsk 61.01 24 *e*P **P 16 17 05.0 -3.2**
HABR 16 17 48.4
HABR *e*S **S 16 25 22.9 -0.7**
HABR *e**SS sS 16 25 28.6 -16
HABR *e* 16 26 56.5
HABR MLR MLR
comp=Z,324nm,18.0s,MS4.5
ASAJ Asahikawa 61.18 31 *e*P **P 16 17 08.1 -1.3**
comp=Z,36nm,0.6s,mb5.7
ZAA0 Zalesovo Array 61.85 348 *e*P **P 16 17 13.0 -0.7**
ZALV Zalesovo Beam 61.85 348 P **P 16 17 13.1 -0.7**
comp=Z,117nm,0.4s,mb6.4,baz=157,slow=5.3,SNR=560
ZALV S **S 16 25 34.3 +0.3**
comp=Z,3.6nm,0.9s,baz=150,slow=19,SNR=7.6
ZALV PKP2bc 16 46 28.0
comp=Z,0.8nm,0.8s,baz=292,slow=4.7,SNR=4.4
ZALV LR LR 16 47 07.4
comp=Z,936nm,18.6s,MS5.0,baz=333,slow=39
ZALV Zalesovo Beam 61.85 348 P **P 16 17 13.1 -0.7**
ZALV S **S 16 25 34.3 +0.3**
ZALV ⇑*e* 16 46 28.0
ZALV Zalesovo Beam 61.85 348 P **P 16 17 13.1 -0.7**
ZALV S **S 16 25 34.3 +0.3**
DZM Mont Dzumac 62.73 112 *e*P **P 16 17 20.5 +0.2**
comp=Z,53nm,1.1s,mb5.6
DZM *e*S **S 16 25 50.6 +4.3**
comp=Z,291nm,28.9s
DZM *e*LR LR 16 36 03.8
comp=Z,327nm,21.4s
YUK Yuzh-Kuril'sk 62.85 33 *i*P **P 16 17 13.6 -7.1**
YUK *i*S **S 16 25 49.5 +2.4**
YUK pmax pmax
comp=N,485nm,1.6s
YUK pmax pmax
comp=Z,582nm,1.6s,mb6.5
YUK pmax pmax
comp=E,409nm,1.6s
YUK pmax pmax
comp=Z,835nm,1.7s,mb6.6
NVS Novosibirsk 63.03 347⇑ *i*P **P 16 17 20.3 -1.3**
NVS *e* pP 16 17 34.0 -0.3
NVS *e*S **S 16 25 45.2 -3.6**
NVS pmax pmax
comp=N,48nm,1.3s
NVS pmax pmax
comp=E,35nm,1.3s
NVS pmax pmax
comp=Z,85nm,1.3s,mb5.7
NVS pmax pmax
comp=Z,51nm,2.0s,mb5.3
NVS smax
comp=N,22nm,1.9s
NVS smax
comp=E,22nm,1.3s
YSS Yuzh-Sakhalins 63.25 29 *e*P **P 16 17 22.1 -1.2**
comp=E,98nm,0.8s,mb6.0
YSS Yuzh-Sakhalins 63.25 29⇑ *e*P **P 16 17 22.0 -1.3**
YSS *e* pP 16 17 34.9 -1.1
YSS pmax pmax
comp=Z,110nm,0.9s,mb6.0
YSS pmax pmax
comp=E,50nm,0.8s
QRN Al-Qurain 63.66 306 *e*P **P 16 17 26.3 -0.1**
QRN AMb AMB 16 17 27.6
comp=Z,124nm,1.2s,mb5.8
RAYN Ar Rayn 63.73 300 P **P 16 17 27.0 +0.1**
comp=Z,114nm,1.1s,mb5.8,SNR=7.6
KBD Kabd 64.01 306 *e*P **P 16 17 28.7 +0.1**
KBD AMb AMB 16 17 30.2
comp=Z,80nm,1.2s,mb5.6
RDF Al-Radifah 64.03 306 *e*P **P 16 17 29.2 +0.4**
RDF AMb AMB 16 17 30.2
comp=Z,116nm,0.9s,mb5.9
UMR Umm Al-Rimmam 64.15 307 *e*P **P 16 17 29.7 +0.2**
UMR AMb AMB 16 17 30.6
comp=Z,163nm,0.8s,mb6.1
BOD Bodaibo 64.29 6 *e*P **P 16 17 29.3 -0.5**
BOD pmax pmax
comp=Z,50nm,0.9s,mb5.5
NAY Al-Naaiem 64.40 306 *e*P **P 16 17 31.1 -0.1**
NAY AMb AMB 16 17 31.9
comp=Z,55nm,0.9s,mb5.6
MIB Mutribah 64.55 307 *e*P **P 16 17 32.2 +0.1**
MIB AMb AMB 16 17 33.2
comp=Z,102nm,0.9s,mb5.9
CLNS Chul'man 65.14 13 *e*P **P 16 17 34.2 -1.2**
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=Z,30nm,1.2s,mb5.2
CLNS pmax pmax
comp=E,16nm,1.2s
CLNS MLR MLR
comp=Z,507nm,16.0s,MS4.8
CLNS MLR MLR
comp=N,508nm,16.0s,MS5.0
CLNS MLR MLR
comp=E,586nm,17.0s,MS5.0
BVA0 Borovoye Array 65.21 339 P **P 16 17 35.3 -0.7**
BVA0 pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
BVAR Borovoye Array 65.21 339 P **P 16 17 35.4 -0.6**
comp=Z,54nm,0.4s,mb5.9,baz=143,slow=9.3,SNR=608
BVAR Borovoye Array 65.21 339 P **P 16 17 35.4 -0.6**
BVAR Borovoye Array 65.21 339 P **P 16 17 35.4 -0.6**
BRVK Borovoye 65.28 339 P **P 16 17 35.5 -0.9**
comp=Z,656nm,0.5s,mb6.9,SNR=85
BRVK Borovoye 65.28 339 *e*P **P 16 17 35.8 -0.6**
comp=Z,58nm,0.5s,mb5.9
BRVK LR LR
comp=Z,298nm,20.0s,MS4.5
BRVK Borovoye 65.28 339*c* *i*P **P 16 17 35.7 -0.7**
BRVK pmax pmax
comp=Z,43nm,0.6s,mb5.7
BRVK Borovoye 65.28 339 P **P 16 17 36.1 -0.3**
SNR=16
KMBO Kilima Mbogo 66.20 271 P **P 16 17 44.5 +1.3**
comp=Z,7.1nm,1.0s,mb4.7
KMBO Kilima Mbogo 66.20 271 P **P 16 17 44.5 +1.3**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
AB31 Akbulak array 66.87 331 *i*P **P 16 17 46.1 -0.6**
AB31 pmax pmax
comp=Z,30nm,0.3s,mb5.8
ABKAR Akbulak array 66.87 331 *e*P **P 16 17 46.1 -0.6**
comp=Z,67nm,0.6s,mb5.8
MAW Mawson 67.23 196 P **P 16 17 48.3 -0.4**
comp=Z,3.8nm,0.6s,mb4.6,baz=97,slow=1.1,SNR=2.4
MAW LR LR 16 42 10.1
comp=Z,598nm,19.3s,MS4.8,baz=46,slow=31
MAW Mawson 67.23 196 P **P 16 17 48.3 -0.4**
MAW Mawson 67.23 196 P **P 16 17 48.3 -0.4**
AKTO Aktyubinsk 68.59 331 P **P 16 17 56.9 -0.6**
comp=Z,13nm,0.4s,mb5.2,baz=122,slow=5.8,SNR=25
AKTO Aktyubinsk 68.59 331 P **P 16 17 56.9 -0.6**
AKTO Aktyubinsk 68.59 331 P **P 16 17 56.9 -0.6**
RPZ Rata Peaks 69.67 134 P **P 16 18 04.8 +0.3**
comp=Z,9.2nm,0.4s,mb5.0,baz=265,slow=3.1,SNR=12
RPZ LR LR 16 45 28.1
comp=Z,692nm,21.7s,MS4.9,baz=277,slow=33
RPZ Rata Peaks 69.67 134 *e*P **P 16 18 04.4 -0.1**
comp=Z,44nm,1.0s,mb5.3
HAKT HAKKARI 70.48 313 *i*P **P 16 18 08.8 -0.7**
GNI Garni 70.85 316 P **P 16 18 12.6 +1.0**
comp=Z,24nm,0.7s,mb5.2,baz=359,slow=1.7,SNR=14
GNI Garni 70.85 316 *e*P **P 16 18 11.3 -0.3**
comp=Z,39nm,0.8s,mb5.4
GNI Garni 70.85 316*c* *i*P **P 16 18 12.4 +0.7**
GNI pmax pmax
comp=Z,43nm,1.0s
GNI MLR MLR
comp=Z,95nm,22.0s
GNI Garni 70.85 316 P **P 16 18 12.9 +1.2**
SNR=8.1
YAK Yakutsk 70.90 13 *e*P **P 16 18 09.8 -1.7**
comp=Z,135nm,0.9s,mb5.9
YAK Yakutsk 70.90 13*c* *i*P **P 16 18 09.9 -1.6**
YAK *e* pP 16 18 21.1 -3.3
YAK *e**PP pP 16 18 36.9 +13
YAK *e* 16 20 44.1
YAK *e*S S 16 27 19.5 -3.9
YAK *e* 16 27 44.9
YAK *e*SS SS 16 32 01.3 +4.3
YAK pmax pmax
comp=Z,109nm,1.0s,mb5.7
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=N,39nm,1.1s
YAK pmax pmax
comp=Z,64nm,2.5s,mb5.1
YAK pmax pmax
comp=N,145nm,3.2s
YAK pmax pmax
comp=E,90nm,2.7s
YAK smax
comp=E,19nm,7.0s
YAK smax

comp=N,99nm,13.1s
YAK MLR MLR
comp=E,287nm,15.0s,MS4.9
YAK MLR MLR
comp=N,398nm,17.0s,MS4.9
YAK MLR MLR
comp=Z,433nm,16.0s,MS4.8
DYDN Diyadin 71.32 315 *i* P **P 16 18 15.8 +1.3**
MTA Mtatsminda 71.49 318 P **P 16 18 16.2 +0.7**
TBLG Delisi 71.55 318 *eP* **P 16 18 16.5 +0.7**
TBLG Delisi 71.55 318 P **P 16 18 16.6 +0.7**
SVE Sverdlovsk 71.77 337 *d i* P **P 16 18 17.1 +0.2**
SVE pmax pmax
comp=Z,115nm,1.1s,mb5.7
TUTA Tutak 71.88 315 *i* P **P 16 18 18.5 +0.6**
GOR Gori 72.08 318 P **P 16 18 20.3 +1.3**
AKH Akhalkalaki 72.25 317 P **P 16 18 21.0 +0.9**
ARU Arti 72.33 336 *eP* **P 16 18 20.0 -0.2**
comp=Z,68nm,0.9s,mb5.6
ARU Arti 72.33 336 *eP* **P 16 18 20.0 -0.2**
ARU pmax pmax
comp=Z,68nm,0.9s,mb5.6
ARU Arti 72.33 336 P **P 16 18 20.0 -0.2**
comp=Z,437nm,1.1s,mb6.3,SNR=33
MARD Mardin 72.53 312 *i* P **P 16 18 21.7 -0.2**
HOMI Horasan 72.78 315 *i* P **P 16 18 24.3 +1.0**
ONI Oni 72.78 318 P **P 16 18 23.6 +0.4**
BNGL BINGOL 72.88 314 *i* P **P 16 18 24.0 +0.1**
ERZM Erzurum 73.10 315 *i* P **P 16 18 25.7 +0.5**
DAGI Agillar 73.19 316 *i* P **P 16 18 26.3 +0.6**
ARTV Artvin 73.22 316 *i* P **P 16 18 25.0 -0.9**
DDEM Demirkent 73.23 316 *i* P **P 16 18 26.7 +0.8**
DIYA Diyarbakir 73.24 312 *i* P **P 16 18 27.0 +1.0**
DBAD Bademkaya 73.32 316 *i* P **P 16 18 26.6 +0.2**
URZ Urewera 73.42 128 P **P 16 18 26.9 -0.3**
comp=Z,2.8nm,0.4s,mb4.5,baz=229,slow=15,SNR=1.5
URZ LR LR 16 52 32.3
comp=Z,378nm,18.2s,MS4.7,baz=293,slow=37
URZ Urewera 73.42 128 P **P 16 18 26.5 -0.7**
comp=Z,31nm,0.9s,mb5.2
MSVF Nonsavu 73.53 107 *eP* **P 16 18 27.9 -0.3**
comp=Z,43nm,1.0s,mb5.3
MSVF Nonsavu 73.53 107 *eP* **P 16 18 27.9 -0.3**
MSVF pmax pmax
comp=Z,43nm,1.0s,mb5.3
ASF Jabal al Asfar 73.76 306 P **P 16 18 30.7 +1.5**
comp=Z,21nm,0.9s,mb5.1,baz=352,slow=3.9,SNR=13
ASF Jabal al Asfar 73.76 306 P **P 16 18 30.7 +1.5**
ASF Jabal al Asfar 73.76 306 P **P 16 18 30.7 +1.5**
KOPT Kop Dagi 73.76 315 *i* P **P 16 18 30.2 +1.1**
KIV Kislovodsk 73.87 319 *eP* **P 16 18 29.6 -0.1**
comp=Z,92nm,1.0s,mb5.7
KIV Kislovodsk 73.87 319 *c i* P **P 16 18 29.9 +0.3**
KIV *e* pP 16 18 47.2 +4.6
KIV *eS* S 16 28 03.0 +4.8
KIV pmax pmax
comp=Z,76nm,1.0s,mb5.6
KIV pmax pmax
comp=Z,165nm,6.2s
KIV MLR MLR
comp=Z,129nm,19.0s,MS4.2
KIV Kislovodsk 73.87 319 P **P 16 18 30.3 +0.7**
SNR=13
KIV Kislovodsk 73.87 319 P **P 16 18 29.6 0.0**
comp=Z,463nm,0.8s,mb6.5,SNR=11
PEA0B Petropavlovsk- 74.58 31 *eP* **P 16 18 32.2 -1.3**
PETK Petropavlovsk- 74.58 31 P **P 16 18 32.5 -1.0**
comp=Z,13nm,0.6s,mb5.0,baz=223,slow=2.7,SNR=20
PETK Petropavlovsk- 74.58 31 P **P 16 18 32.5 -1.0**
PETK Petropavlovsk- 74.58 31 P **P 16 18 32.5 -1.0**
EIL Elat 74.62 303 P **P 16 18 35.1 +0.8**
comp=Z,39nm,0.8s,mb5.4,baz=82,slow=1.8,SNR=30
EIL Elat 74.62 303 P **P 16 18 35.1 +0.8**
KELT Kelkit 74.69 314 *i* P **P 16 18 34.0 -0.5**
KEMA Kemaliye 74.92 313 *i* P **P 16 18 36.7 +0.9**
GZT Gaziantep 74.93 311 *i* P **P 16 18 35.1 -0.8**
AKCD Akcadag 74.99 312 *i* P **P 16 18 37.1 +0.8**
PET Petropavlovsk 75.02 31 *eP* **P 16 18 34.6 -1.4**
comp=Z,65nm,0.6s,mb5.7
PET Petropavlovsk 75.02 31 *eP* **P 16 18 34.8 -1.3**
PET *e* pP 16 18 49.4 +0.3
PET *eS* S 16 28 11.0 +0.3
PET pmax pmax
comp=Z,100nm,0.5s,mb6.0
FUNA Funafuti 75.07 97 *eP* **P 16 18 37.7 +0.4**
comp=Z,77nm,1.1s,mb5.5
KUZU Kuzuini 75.10 310 *i* P **P 16 18 37.6 +0.6**
SYO Syowa Base 75.14 200⇑*ep*P pP 16 18 46.2 -3.3
SOKR Solikamsk 75.14 337 *c i* P **P 16 18 36.0 -0.6**
SOKR pmax pmax
comp=Z,70nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,310nm,22.0s,MS4.6
MMAI Mount Meron Ar 75.22 306 P **P 16 18 39.2 +1.5**
comp=Z,24nm,0.6s,mb5.3,baz=96,slow=7.6,SNR=52
MMAI Mount Meron Ar 75.22 306 P **P 16 18 39.2 +1.6**
SUSE Susehri 75.46 314 *i* P **P 16 18 38.3 -0.6**
YAYL Yayladag 75.60 309 *i* P **P 16 18 40.6 +0.8**
COBT Iskenderun 75.64 310 *i* P **P 16 18 39.6 -0.5**
GRSN GIRESUNGRSN 75.68 315 *i* P **P 16 18 38.9 -1.2**
SOC Sochi 75.68 318 *c i* P **P 16 18 39.5 -0.6**
SOC pmax pmax
comp=Z,100nm,0.7s,mb5.8
ANDN Andirin 75.92 311 *i* P **P 16 18 41.4 -0.2**
SCER sogukcermik 76.11 313 *i* P **P 16 18 43.3 +0.7**
BOSA Boshof 76.74 242 P **P 16 18 47.1 +0.6**
comp=Z,2.0nm,0.7s,baz=248,slow=22,SNR=7.7
BOSA LR LR 16 46 24.6
comp=Z,234nm,18.8s,MS4.5,baz=90,slow=31
BOSA Boshof 76.74 242 P **P 16 18 47.1 +0.6**
BOSA Boshof 76.74 242 P **P 16 18 47.1 +0.6**
GULE Gulek 77.01 310 *i* P **P 16 18 48.4 +0.6**
AVNT Avonos 77.42 312 *i* P **P 16 18 49.6 -0.4**
CSS Prodhromos 77.43 308 P **P 16 18 50.9 +0.7**
CSS Prodhromos 77.43 308 *eP* **P 16 18 49.6 -0.6**
comp=Z,58nm,0.8s,mb5.6
VNDA Vanda 77.50 169 *eP* **P 16 18 49.3 -0.5**
comp=Z,11nm,0.9s,mb4.8
VNDA Vanda 77.50 169 *eP* **P 16 18 49.3 -0.5**
VNDA pmax pmax
comp=Z,11nm,0.9s
ANN Anapa 77.67 318 *e* **P 16 18 50.6 -0.7**
ANN pmax pmax
comp=Z,48nm,1.6s,mb5.2
CTKT Corum 78.05 314 *i* P **P 16 18 52.5 -1.1**
SBA Scott Base 78.59 169 *eP* **P 16 18 56.6 +0.7**
comp=Z,14nm,1.0s,mb4.8
SBA Scott Base 78.59 169 *eP* **P 16 18 56.6 +0.8**
SBA pmax pmax
comp=Z,14nm,1.0s,mb4.8
GAZI Gazipasa 78.59 309 *i* P **P 16 18 56.8 +0.2**
BR131 Keskin Array S 78.61 312 *eP* **P 16 18 56.2 -0.4**
comp=Z,16nm,0.6s,mb5.1
BRTR Keskin Array B 78.61 312 P **P 16 18 56.3 -0.3**
comp=Z,20nm,0.7s,mb5.1,baz=138,slow=6.5,SNR=128
BRTR LR LR 16 56 52.5
comp=Z,223nm,18.3s,MS4.5,baz=270,slow=38
BRTR Keskin Array B 78.61 312 P **P 16 18 56.3 -0.3**
BRTR Keskin Array B 78.61 312 P **P 16 18 56.3 -0.3**
ILGA Ilgaz 78.96 314 *i* P **P 16 18 59.4 +0.9**
VSR Storozhevoye 79.09 325 *c i* P **P 16 18 58.6 -0.4**
VSR *e**PP pP 16 19 01.5 -11
VSR *eS* S 16 28 50.6 -4.4
VSR pmax pmax
comp=N,20nm,0.8s
VSR pmax pmax
comp=E,30nm,0.8s
VSR pmax pmax
comp=Z,110nm,0.8s,mb5.8
VSR smax
comp=N,140nm,2.2s
VSR smax
comp=Z,80nm,2.2s
VSR smax
comp=E,20nm,1.1s
BALT Daday 79.35 314 *i* P **P 16 19 00.0 -0.6**
SIM Simferopol' 79.93 318 *ceP* **P 16 18 56.4 -7.3**
SIM pmax pmax
comp=Z,84nm,0.7s,mb5.8
SGKT Sivrigoynuk 80.02 313 *i* P **P 16 19 02.6 -1.7**
KORT Korkueli 80.32 309 *i* P **P 16 19 06.0 0.0**
BOLV Bolvadin 80.32 311 *i* P **P 16 19 06.3 +0.3**
SUR Sutherland 80.54 238 P **P 16 19 09.5 +2.2**
comp=Z,7.8nm,0.6s,mb4.8,baz=113,slow=8.1,SNR=10
SUR Sutherland 80.54 238 P **P 16 19 09.5 +2.2**
ESKT Eskisehir 80.61 312 *i* P **P 16 19 06.2 -1.3**
AKAS Kas 80.70 308 *i* P **P 16 19 05.6 -2.5**
GOLH Golhisar 80.99 309 *i* P **P 16 19 08.3 -1.3**
TURN Turunc 81.64 309 *i* P **P 16 19 14.7 +1.7**
MOS Moscow 81.77 329 *eP* **P 16 19 12.4 -0.9**
MOS *e* 16 19 17.7
MOS *e* 16 22 18.3
MOS *eS* S 16 29 27.5 +4.6
MOS pmax pmax
comp=Z,107nm,1.0s,mb5.7
MOS pmax pmax
comp=Z,200nm,1.3s,mb5.9
ARG Arkhangelos 81.86 308 *eP* **P 16 19 14.5 +0.3**
ARG Arkhangelos 81.86 308 P **P 16 19 15.1 +0.9**
ARG Arkhangelos 81.86 308 P **P 16 19 15.1 +0.9**
ARG Arkhangelos 81.86 308 P **P 16 19 15.1 +0.9**
OBN Obninsk 82.07 328 *eP* **P 16 19 15.0 +0.1**
comp=Z,310nm,1.5s,mb6.0
OBN Obninsk 82.07 328 *c i* P **P 16 19 15.1 +0.2**
OBN *e* 16 22 21.8
OBN pmax pmax
comp=Z,195nm,1.7s,mb5.8
OBN Obninsk 82.07 328 P **P 16 19 15.3 +0.4**
comp=Z,579nm,1.1s,mb6.4,SNR=6.6
AYDN Tasoluk 82.39 309 *i* P **P 16 19 17.5 +0.5**
KARP Karpathos 82.46 307 *eP* **P 16 19 17.9 +0.5**
KARP Karpathos 82.46 307 P **P 16 19 18.3 +0.9**
KARP Karpathos 82.46 307 P **P 16 19 18.3 +0.9**
KLMR Klimovskoe 83.00 334 *eP* **P 16 19 17.4 -2.2**
KLMR pmax pmax
comp=Z,84nm,1.3s,mb5.6
BALY Balya 83.08 311 *i* P **P 16 19 20.5 0.0**
SMG Samos 83.20 309 *eP* **P 16 19 20.4 -0.8**
TLCR 83.59 317 P **P 16 19 24.1 +1.1**
TLCR 83.59 317 ⇓ *i* P **P 16 19 24.1 +1.1**
NPS Neapolis 83.64 306 P **P 16 19 24.5 +1.0**
NPS Neapolis 83.64 306 P **P 16 19 24.5 +1.0**
NPS Neapolis 83.64 306 P **P 16 19 24.5 +1.0**
TIRR Tirgusor 83.67 316 ⇓ *P* **P 16 19 24.0 +0.6**
TIRR Tirgusor 83.67 316 ⇓ *i P* **P 16 19 24.0 +0.6**
QSPA South Pole Qui 83.88 180 *eP* **P 16 19 23.4 -0.5**
comp=Z,14nm,1.1s,mb5.0
QSPA LR LR
comp=Z,382nm,20.0s,MS4.8
CHOS Chios island 83.96 310 *eP* **P 16 19 25.1 +0.1**
CHOS Chios island 83.96 310 P **P 16 19 25.9 +0.9**
PRK Paraskevi 83.98 310 *eP* **P 16 19 23.8 -1.3**
KIS Kishinev 84.06 318 *eP* **P 16 19 25.0 -0.4**
comp=Z,200nm,1.2s,mb6.1
KIS Kishinev 84.06 318 *ePP* PP 16 22 44.0 +4.1
KIS Kishinev 84.06 318 *eP* **P 16 19 25.0 -0.4**
KIS *e* pP 16 19 37.0 -1.5
KIS *e* 16 22 44.0
KIS pmax pmax
comp=Z,180nm,1.2s,mb6.1
SIVA Sivas 84.23 306 *eP* **P 16 19 26.7 +0.2**
SIVA Sivas 84.23 306 P **P 16 19 27.4 +0.9**
SIVA Sivas 84.23 306 P **P 16 19 27.4 +0.9**
LEOM Leova 84.31 318 ⇑ *P* **P 16 19 27.4 +0.8**
LEOM Leova 84.31 318 ⇑ *i P* **P 16 19 27.4 +0.8**
ALN Alexandroupoli 84.52 312 *eP* **P 16 19 26.8 -1.0**
ALN Alexandroupoli 84.52 312 P **P 16 19 27.8 0.0**
ALN Alexandroupoli 84.52 312 P **P 16 19 27.8 0.0**
ALN Alexandroupoli 84.52 312 P **P 16 19 27.8 0.0**
GHRR 84.76 317 ⇑ *i P* pP 16 19 44.7 +2.6
VAM Vamos 84.80 306 *eP* **P 16 19 21.0 -8.4**
AKASG Malin Array Be 84.81 322 P **P 16 19 28.9 -0.1**
comp=Z,37nm,0.7s,mb5.7,baz=89,slow=4.7,SNR=72
AKASG PP PP 16 22 45.5 -0.4
comp=Z,5.3nm,0.8s,baz=88,slow=6.4,SNR=5.9
AKASG LR LR 17 02 33.4
comp=Z,116nm,19.5s,MS4.3,baz=305,slow=39
AKASG Malin Array Be 84.81 322 P **P 16 19 28.9 -0.1**
AKASG PP PP 16 22 45.5 -0.4
AKASG Malin Array Be 84.81 322 P **P 16 19 28.9 -0.2**
AKASG 16 22 45.5
AKBB Malin Array Si 84.81 322 *eP* **P 16 19 28.9 -0.2**
AKBB Malin Array Si 84.81 322 *eP* **P 16 19 28.9 -0.2**
KIEV Kiev 84.82 322 *eP* **P 16 19 28.8 -0.3**
comp=Z,52nm,0.8s,mb5.7
KIEV Kiev 84.82 322 *c i* P **P 16 19 28.9 -0.2**
KARN Karanos 85.02 306 *eP* **P 16 19 31.2 +0.7**
VRI Vrincioaia 85.18 317 ⇑ *P* **P 16 19 32.3 +1.3**
VRI Vrincioaia 85.18 317 ⇑ *i P* **P 16 19 32.3 +1.3**
PLOR Plostina 85.23 317 ⇓ *P* **P 16 19 32.6 +1.3**
PLOR Plostina 85.23 317 ⇓ *i P* **P 16 19 32.6 +1.3**
TESR 85.38 318 ⇑ *i P* **P 16 19 32.9 +0.9**
MLR Muntele Rosu 85.62 316 P **P 16 19 34.3 +1.1**
comp=Z,10nm,0.9s,mb5.0,baz=175,slow=1.4,SNR=34
MLR Muntele Rosu 85.62 316 P **P 16 19 34.3 +1.1**
MLR Muntele Rosu 85.62 316 ⇓ *P* **P 16 19 34.2 +1.0**
MLR Muntele Rosu 85.62 316 ⇓ *i P* **P 16 19 34.2 +1.0**
BILL Bilibino 85.82 20 *eP* **P 16 19 32.3 -1.4**
comp=Z,14nm,0.7s,mb5.3
BILL Bilibino 85.82 20 *c i* P **P 16 19 32.7 -1.0**
BILL pmax pmax
comp=Z,38nm,1.2s,mb5.5
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.2
VIL1 Vilia, Western 86.01 309 *eP* **P 16 19 32.1 -3.3**
VLI Veliai 86.05 307 *eP* **P 16 19 29.8 -5.8**
DOPR Dopca 86.11 317 ⇓ *i P* **P 16 19 37.3 +1.7**
NVR Nevrokopi 86.22 312 *eP* **P 16 19 28.9 -7.4**
NVR Nevrokopi 86.22 312 P **P 16 19 36.5 +0.2**
NVR Nevrokopi 86.22 312 P **P 16 19 36.5 +0.2**
VOIR 86.23 316 ⇑ *P* **P 16 19 36.8 +0.6**
VOIR 86.23 316 ⇑ *i P* **P 16 19 36.8 +0.6**
LTK Loutraki 86.27 309 *eP* **P 16 19 31.8 -4.8**
PLG Polygyros 86.34 311 *eP* **P 16 19 32.2 -4.7**
LKR Lokris 86.36 309 *eP* **P 16 19 36.2 -0.8**
SOH Sokhos 86.50 311 *eP* **P 16 19 37.4 -0.3**
BURAR Bucovina Array 86.59 318 ⇑ *P* **P 16 19 39.7 +1.7**
BURAR Bucovina Array 86.59 318 ⇑ *i P* **P 16 19 39.7 +1.7**
BUR08 Bucovina Ar. S 86.61 318 *eP* **P 16 19 39.5 +1.5**
MICGM Minsk 86.63 326 *eP* **P 16 19 38.0 0.0**
MNK Minsk 86.66 326 *eP* **P 16 19 38.0 -0.1**
GUR Goura 86.73 309 *eP* **P 16 19 33.6 -5.3**
PUL Pulkovo 86.85 331 ⇑ *eP* **P 16 19 40.4 +1.4**
PUL pmax pmax
comp=Z,61nm,0.4s,mb6.2
AGG Agios Georgios 86.94 310 *eP* **P 16 19 37.8 -2.1**
VTS Vitosha 86.94 313 P **P 16 19 40.3 +0.5**
VTS Vitosha 86.94 313 P **P 16 19 40.3 +0.5**
VTS Vitosha 86.94 313 ⇓ *P* **P 16 19 40.4 +0.6**
VTS Vitosha 86.94 313 ⇓ *i P* **P 16 19 40.4 +0.6**
KALE Kalithea 86.97 309 P **P 16 19 40.2 +0.1**
KALE Kalithea 86.97 309 P **P 16 19 40.2 +0.1**
VAY Valandovo 87.17 312 *eP* **P 16 19 40.6 -0.3**
THL Klokotos Trika 87.28 310 *eP* **P 16 19 38.5 -3.0**
EVR Evrytania 87.32 309 *eP* **P 16 19 41.7 0.0**
EVR Evrytania 87.32 309 P **P 16 19 43.0 +1.3**
EVR Evrytania 87.32 309 P **P 16 19 43.0 +1.3**
NACGM Naroch 87.35 326 *eP* **P 16 19 39.0 -2.5**
JOF Joensuu 87.38 334 *eP* **P 16 19 42.5 +1.0**
JOF pmax pmax
comp=Z,11nm,0.4s,mb5.4
JOF Joensuu 87.38 334 *ep* **P 16 19 42.5 +1.0**
comp=Z,11nm,0.4s,mb5.5
BMR Baia Mare 87.74 318 ⇑ *P* **P 16 19 45.1 +1.6**
BMR Baia Mare 87.74 318 ⇑ *i P* **P 16 19 45.1 +1.6**
IIGN Ignalina 87.77 326 *eP* **P 16 19 44.6 +1.1**
IIGN AMB AMB 16 19 45.2
comp=Z,85nm,0.7s,mb6.1
GZR Gura Zlata 87.78 316 ⇑ *P* **P 16 19 44.7 +0.9**
GZR Gura Zlata 87.78 316 ⇑ *i P* **P 16 19 44.7 +0.9**
LVV L'vov 87.83 320 *eP* **P 16 19 44.0 +0.1**
IZAR Zarasai 87.86 327 *eP* **P 16 19 45.0 +1.1**
IZAR AMB AMB 16 19 45.4
comp=Z,36nm,0.7s,mb5.7
ISAL Salakas 87.88 326 *eP* **P 16 19 45.1 +1.1**
ISAL AMB AMB 16 19 45.6
comp=Z,44nm,0.7s,mb5.8
DRGR 88.09 317 ⇓ *P* **P 16 19 48.0 +2.8**
APA Apatity 88.13 339 ⇑ *i P* **P 16 19 44.4 -0.5**
APA *i* pP 16 19 58.8 +0.6
APA pmax pmax
comp=Z,39nm,1.1s,mb5.5
APA MLR MLR
comp=Z,900nm,21.0s,MS5.2
KRUS Krusevo 88.16 312 *eP* **P 16 19 45.4 -0.3**
VSU Vasula 88.27 329 *c i* P **P 16 19 46.2 +0.4**
VSU pmax pmax
comp=Z,190nm,1.3s,mb6.2
TRPA Tarpa 88.46 319 ⇓ *i P* **P 16 19 48.0 +1.1**
BZS Buzias 88.63 316 ⇑ *P* **P 16 19 48.6 +0.8**
BZS Buzias 88.63 316 ⇑ *i P* **P 16 19 48.5 +0.7**
KWP Kalwaria Pacla 88.64 320 *eP* **P 16 19 48.8 +1.1**
KWP Kalwaria Pacla 88.64 320 *eP* **P 16 19 48.5 +0.7**
comp=Z,22nm,0.6s,mb5.7
KWP Kalwaria Pacla 88.64 320 ⇑ *P* **P 16 19 48.7 +1.0**
KWP Kalwaria Pacla 88.64 320 ⇑ *i P* **P 16 19 48.7 +1.0**
UZH Uzhgorod 88.72 319 *eP* **P 16 19 47.2 -0.9**
UZH *e* pP 16 19 56.2 -5.2
UZH *e* 16 23 18.0
SUW Suwalki 89.20 324 *eP* **P 16 19 50.8 +0.5**
SUW Suwalki 89.20 324 *eP* **P 16 19 50.4 +0.2**
comp=Z,290nm,1.0s,mb6.6
SUW Suwalki 89.20 324 *eP* **P 16 19 50.4 +0.1**
SUW pmax pmax
comp=Z,290nm,1.0s,mb6.6
CRVS Cervenica-Dubn 89.31 319 *eP* **P 16 19 51.5 +0.6**
CRVS Cervenica-Dubn 89.31 319 *eP* **P 16 19 51.5 +0.6**
SNAA Sanae 89.31 198 *e* **P 16 19 51.2 +0.7**
SNAA *e* pP 16 20 06.0 +2.2
SNAA Sanae 89.31 198 *eP* **P 16 19 50.8 +0.2**
comp=Z,15nm,1.0s,mb5.3
SNAA Sanae 89.31 198 *eP* **P 16 19 50.8 +0.3**
SNAA pmax pmax
comp=Z,15nm,1.0s
FINES FINESS Array B 89.32 332 P **P 16 19 51.1 +0.4**
comp=Z,38nm,0.8s,mb5.8,baz=110,slow=6.2,SNR=81
FINES LR LR 17 05 20.8
comp=Z,184nm,20.9s,MS4.5,baz=155,slow=39
FINES FINESS Array B 89.32 332 P **P 16 19 51.1 +0.5**
FINES FINESS Array B 89.32 332 P **P 16 19 51.1 +0.4**
KAF Kangasniemi 89.38 333 *eP* **P 16 19 51.6 +0.7**
KAF pmax pmax
comp=Z,17nm,0.5s,mb5.6
KAF Kangasniemi 89.38 333 *ep* **P 16 19 51.6 +0.7**
comp=Z,17nm,0.5s,mb5.6
STHS Stebnicka Huta 89.53 320 *eP* **P 16 19 53.2 +1.2**
STHS pmax pmax
comp=Z,30nm,1.0s,mb5.6
STHS Stebnicka Huta 89.53 320 *eP* **P 16 19 53.2 +1.2**
KECS Kecovo 89.87 319 *eP* **P 16 19 54.0 +0.4**
KECS pmax pmax
comp=Z,11nm,1.1s,mb5.1
KECS Kecovo 89.87 319 *eP* **P 16 19 54.0 +0.4**
NIE Niedzica 90.13 320 *eP* **P 16 19 56.3 +1.5**
NIE Niedzica 90.13 320 *eP* **P 16 19 56.3 +1.5**
PSZ Piszkesteto 90.17 318 *eP* **P 16 19 55.2 +0.3**
comp=Z,29nm,1.1s,mb5.5
PSZ Piszkesteto 90.17 318 *eP* **P 16 19 55.3 +0.3**
PSZ pmax pmax
comp=Z,29nm,1.1s,mb5.5
PSZ Piszkesteto 90.17 318 ⇑ *eP* **P 16 19 55.8 +0.8**
PSZ Piszkesteto 90.17 318 ⇓ *i P* **P 16 19 55.6 +0.6**
BEL Belsk 90.23 322 *eP* **P 16 19 56.3 +1.2**
BEL Belsk 90.23 322 *eP* **P 16 19 56.3 +1.2**
OJC Ojcow 90.59 320 *eP* **P 16 19 57.6 +0.7**
OJC Ojcow 90.59 320 *eP* **P 16 19 57.6 +0.7**
BUD Budapest 90.69 318 ⇑ *eP* **P 16 19 58.1 +0.7**
PKSM Moragy 90.77 316 ⇑ *P* **P 16 19 58.3 +0.5**
PKSM Moragy 90.77 316 ⇑ *i P* **P 16 19 58.3 +0.5**
KEV Kevo 91.03 340 *eP* **P 16 19 58.2 -0.3**
KEV Kevo 91.03 340 *ep* **P 16 19 58.2 -0.3**
ARCES ARCESS Array B 91.48 340 P **P 16 20 00.6 0.0**
comp=Z,12nm,0.7s,mb5.3,baz=98,slow=5.7,SNR=33
ARCES PP PP 16 23 40.2 +1.4
comp=Z,14nm,1.0s,baz=108,slow=7.8,SNR=5.9
ARCES LR LR 17 05 38.8
comp=Z,320nm,20.6s,MS4.8,baz=226,slow=39
ARCES ARCESS Array B 91.48 340 P **P 16 20 00.6 0.0**
ARCES PP PP 16 23 40.2 +1.4
ARCES ARCESS Array B 91.48 340 P **P 16 20 00.6 0.0**
ARCES 16 23 40.2
ARE0 ARCESS Array S 91.48 340 *eP* **P 16 20 00.8 +0.2**
ARE0 ARCESS Array S 91.48 340 *eP* **P 16 20 00.3 -0.3**
OKC Ostrava-Krasne 91.59 320 *i P* **P 16 20 02.4 +0.9**
MORC Moravsky Berou 91.97 320 *eP* **P 16 20 04.0 +0.7**
comp=Z,9.2nm,0.8s,mb5.2
MORC Moravsky Berou 91.97 320 *eP* **P 16 20 04.0 +0.7**
MORC pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
MORC Moravsky Berou 91.97 320 ⇑ *i P* **P 16 20 04.1 +0.8**
ZST Bratislava 92.07 318 *eP* **P 16 20 04.0 +0.2**
ZST pmax pmax
comp=Z,19nm,1.5s,mb5.2
ZST Bratislava 92.07 318 *eP* **P 16 20 04.0 +0.2**
KTK1 Kautokeino 92.16 339 *eP* **P 16 20 03.5 -0.2**
SOP Sopron 92.37 318 ⇑ *eP* **P 16 20 05.5 +0.3**
KOGS Kog 92.44 316 *i P* **P 16 20 06.2 +0.6**
KRLC Kraliky 92.49 320 *i P* **P 16 20 07.1 +1.4**
DPC Dobruska-Polom 92.82 320 *i P* **P 16 20 08.3 +1.1**
GOLS Golise 92.83 316 *i P* **P 16 20 08.2 +0.9**
KSP Ksiaz 92.89 321 *eP* **P 16 20 08.4 +0.9**
KSP Ksiaz 92.89 321 *eP* **P 16 20 08.4 +0.9**
GROS Grobnik 92.96 316 *i P* **P 16 20 08.6 +0.6**
ARSA Arzberg 93.03 317 ⇑ *i P* **P 16 20 08.4 +0.2**
comp=Z,8.0nm,0.8s,mb5.2
PERS Pernice 93.24 316 *i P* **P 16 20 09.9 +0.7**
SOKA Soboth 93.30 316 ⇑ *i PcP* **P 16 20 10.2 +0.7**
comp=Z,9.0nm,0.8s,mb5.2
LJU Ljubljana 93.59 316 *i P* **P 16 20 11.6 +0.7**
PRU Pruhonice 93.92 320 *i P* **P 16 20 12.9 +0.6**
PVCC Panska Ves 93.95 320 *i P* **P 16 20 13.1 +0.7**
BRG Berggiesshubel 94.37 321 *eP* **P 16 20 14.6 +0.3**
comp=Z,10nm,0.8s,mb5.3
BRG *e* pP 16 20 26.5 -1.1
comp=Z,9.1nm,0.9s
BRG Berggiesshubel 94.37 321 *eP* **P 16 20 14.6 +0.3**
BRG pmax pmax
comp=Z,11nm,0.8s,mb5.3
GERES GERESS Array B 94.38 319 P **P 16 20 14.9 +0.5**
comp=Z,1.8nm,0.5s,mb4.7,baz=100,slow=4.6,SNR=17
GERES PP PP 16 24 05.3 +3.1
comp=Z,0.5nm,0.5s,baz=84,slow=4.2,SNR=4.1
GERES GERESS Array B 94.38 319 P **P 16 20 14.9 +0.5**
GERES PP PP 16 24 05.3 +3.1
GERES GERESS Array B 94.38 319 P **P 16 20 15.0 +0.6**
GERES 16 24 05.3
KHC Kasperske Hory 94.48 319 *i P* **P 16 20 14.1 -0.8**
KHC *ep*P pP 16 20 26.5 -1.7
STEI Steigen 94.94 338 *eP* **P 16 20 16.8 +0.3**
CLL Collm 94.99 321 *eP* **P 16 20 18.0 +0.8**
CLL Collm 94.99 321 *eP* **P 16 20 18.0 +0.8**
CLL *ep*P pP 16 20 26.0 -4.5
CLL *es*P sP 16 20 30.0 -5.4
SPA0 Spitsbergen Ar 95.33 348 *eP* **P 16 20 17.0 -1.2**
GRF Grafenberg Arr 96.05 319 *eP* **P 16 20 22.4 +0.4**
comp=Z,28nm,1.4s,mb5.5
GRF Grafenberg Arr 96.05 319 *eP* **P 16 20 22.4 +0.4**
GRF pmax pmax
comp=Z,28nm,1.4s,mb5.5
NC602 NORSAR Array S 96.22 330 *eP* **P 16 20 22.5 0.0**
NB2 NORSAR Subarra 96.38 331 P **P 16 20 22.8 -0.5**
comp=Z,8.2nm,0.8s,mb5.2,baz=93,slow=4.6
NOA NORSAR Array B 96.38 331 P **P 16 20 22.9 -0.3**
comp=Z,5.9nm,0.8s,mb5.1,baz=93,slow=4.8,SNR=13
NOA LR LR 17 11 52.3
comp=Z,146nm,18.4s,MS4.5,baz=355,slow=40
NOA NORSAR Array B 96.38 331 P **P 16 20 22.9 -0.3**
NOA NORSAR Array B 96.38 331 P **P 16 20 22.9 -0.4**
LPG La Plagne 99.01 315 *eP* **P 16 20 35.4 -0.1**
comp=Z,4.3nm,0.7s,mb4.8
LPG La Plagne 99.01 315 *eP* **P 16 20 35.4 -0.1**
comp=Z,4.3nm,0.7s,mb5.1
LPG La Plagne 99.01 315 *eP* **P 16 20 35.4 -0.1**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb5.1
LPL La Plagne 99.02 315 *eP* **P 16 20 35.4 -0.1**
LPL La Plagne 99.02 315 *eP* **P 16 20 35.4 -0.1**
LPL La Plagne 99.02 315 *eP* **P 16 20 35.4 -0.1**
FRF La Foret Royal 99.10 313 *eP* **P 16 20 33.7 -2.2**
comp=Z,56nm,1.2s,mb5.7
FRF La Foret Royal 99.10 313 *eP* **P 16 20 33.7 -2.2**
comp=Z,56nm,1.2s,mb6.0
FRF La Foret Royal 99.10 313 *eP* **P 16 20 33.7 -2.2**
FRF pmax pmax
comp=Z,56nm,1.2s,mb6.0
TORD Torodi Ar. Bea 102.77 282 PKKP PKKPbc 16 36 50.8 -0.6
comp=Z,0.7nm,0.4s,baz=301,slow=4.3,SNR=12
TORD Torodi Ar. Bea 102.77 282 PKKP PKKPbc 16 36 50.8 -0.6
TBI Tubuai 103.12 116 *eLR* LR 16 54 49.4
comp=Z,212nm,25.8s

ILAR	**Eielson Array**	**103.83**	**25**	Pdiff	Pdif	16 20 56.0	-0.7
	comp=Z,0.3nm,0.6s,baz=290,slow=4.3,SNR=8.2						
ILAR				PKiKP	PKiKP	16 25 13.2	-0.8
	comp=Z,1.3nm,0.8s,baz=287,slow=3.8,SNR=6.3						
ILAR				PKKP	PKKPbc	16 36 47.4	-2.4
	comp=Z,0.3nm,0.5s,baz=106,slow=1.3,SNR=5.8						
ILAR	**Eielson Array**	**103.83**	**25**	Pdif	Pdif	16 20 56.0	-0.7
ILAR				PKiKP	PKiKP	16 25 13.2	-0.8
ILAR				PKKP	PKKPbc	16 36 47.4	-2.4
ILAR	**Eielson Array**	**103.83**	**25**	P	Pdif	16 20 56.0	-0.7
ILAR				*i*		16 25 13.3	
PPT2	**Papeete2**	**104.20**	**110**	eLR	LR	16 55 16.7	
	comp=Z,251nm,23.8s						
INK	**Inuvik**	**107.44**	**19**	PKiKP	PKiKP	16 25 20.8	+0.1
	comp=Z,3.0nm,0.7s,baz=302,slow=4.7,SNR=6.5						
INK	**Inuvik**	**107.44**	**19**	PKiKP	PKiKP	16 25 20.8	+0.1
RES	**Resolute Bay**	**110.66**	**5**	*e*PKiKP	PKiKP	16 25 26.2	-0.3
RES	**Resolute Bay**	**110.66**	**5**	*e*PKIKP	PKiKP	16 25 26.2	-0.4
RKT	**Rikitea**	**115.99**	**119**	eLR	LR	17 00 50.4	
	comp=Z,234nm,29.8s						
YKA	**Yellowknife Ar**	**117.21**	**19**	PKP	PKPdf	16 25 38.7	-0.7
	comp=Z,4.1nm,0.6s,baz=330,slow=2.2,SNR=69						
YKA				PKKPab	PKKPab	16 36 05.4	-2.1
	comp=Z,0.5nm,0.6s,baz=126,slow=4.7,SNR=6.9						
YKA	**Yellowknife Ar**	**117.21**	**19**	PKP	PKPdf	16 25 38.7	-0.7
YKA				PKKPab	PKKPab	16 36 05.5	-2.1
YKA	**Yellowknife Ar**	**117.21**	**19**	PKIKP	PKPdf	16 25 38.7	-0.7
ETW	**Entiat**	**124.32**	**35**	*e*PKPdf	PKPdf	16 25 53.3	-0.2
KRMB	**Red Mountain**	**125.15**	**42**	*e*PKPdf	PKPdf	16 25 56.2	+0.9
HUMO	**Hull Mountain**	**125.28**	**41**	*e*PKPdf	PKPdf	16 25 56.4	+0.9
OD2	**Odessa Site #2**	**125.34**	**34**	*e*PKPdf	PKPdf	16 25 55.5	0.0
RSW	**Rattlesnake Hi**	**125.41**	**35**	*e*PKPdf	PKPdf	16 25 56.5	+0.8
HAWA	**Hanford**	**125.44**	**35**	*e*PKPdf	PKPdf	16 25 55.9	+0.2
KHMM	**Horse Mountain**	**125.56**	**43**	*e*PKPdf	PKPdf	16 25 57.5	+1.4
NEW	**Newport**	**125.69**	**32**	*e*PKPdf	PKPdf	16 25 56.0	-0.1
NEW	**Newport**	**125.69**	**32**	*e*PKIKP	PKPdf	16 25 56.0	-0.1
YBH	**Yreka Blue Hor**	**125.85**	**42**	*e*PKPdf	PKPdf	16 25 57.0	+0.3
YBH	**Yreka Blue Hor**	**125.85**	**42**	*e*PKIKP	PKPdf	16 25 57.0	+0.4
KCPM	**Cahto Peak**	**126.18**	**44**	*e*PKPdf	PKPdf	16 25 58.7	+1.4
LNOR	**Lincton Mounta**	**126.45**	**35**	*e*PKPdf	PKPdf	16 25 57.6	0.0
LNOR	**Lincton Mounta**	**126.45**	**35**	*e*PKIKP	PKPdf	16 25 57.6	0.0
WDC	**Whiskeytown Da**	**126.50**	**43**	*e*PKPdf	PKPdf	16 25 58.0	+0.1
WDC	**Whiskeytown Da**	**126.50**	**43**	*e*PKIKP	PKPdf	16 25 58.0	+0.1
WALA	**Waterton Lakes**	**126.84**	**30**	*e*PKPdf	PKPdf	16 25 58.0	-0.3
BSMT	**Bassoo Peak**	**127.18**	**32**	*e*PKPdf	PKPdf	16 25 59.3	+0.3
MOD	**Modoc**	**127.35**	**40**	*e*PKPdf	PKPdf	16 25 59.4	-0.1
FFC	**Flin Flon**	**127.38**	**18**	*e*PKPdf	PKPdf	16 25 58.8	-0.3
FFC	**Flin Flon**	**127.38**	**18**	*e*PKIKP	PKPdf	16 25 58.8	-0.3
BMO	**Blue Mountains**	**127.60**	**36**	*e*PKPdf	PKPdf	16 25 59.5	-0.4
BMO	**Blue Mountains**	**127.60**	**36**	*e*PKIKP	PKPdf	16 25 59.5	-0.4
SWMT	**Swartz Lake**	**127.81**	**31**	*e*PKPdf	PKPdf	16 26 00.2	+0.1
WVOR	**Wild Horse Val**	**128.13**	**39**	*e*PKPdf	PKPdf	16 26 01.6	+0.7
WVOR	**Wild Horse Val**	**128.13**	**39**	*e*PKIKP	PKPdf	16 26 01.6	+0.6
SLMT	**Seeley Lake**	**128.24**	**31**	*e*PKPdf	PKPdf	16 26 01.1	+0.1
MSO	**Missoula**	**128.27**	**32**	*e*PKPdf	PKPdf	16 26 00.4	-0.7
CHMT	**Chamberlain Mo**	**128.58**	**32**	*e*PKPdf	PKPdf	16 26 01.9	+0.2
MFID	**Camas Ranch**	**129.30**	**37**	*e*PKPdf	PKPdf	16 26 04.0	+0.8
HRY	**Holter Researc**	**129.45**	**31**	*e*PKPdf	PKPdf	16 26 03.9	+0.6
EGMT	**Eagleton**	**129.56**	**28**	*e*PKPdf	PKPdf	16 26 03.0	-0.5
LRM	**Limekiln Ridge**	**129.71**	**32**	*e*PKPdf	PKPdf	16 26 04.1	+0.3
DLMT	**Dillon**	**129.93**	**33**	*e*PKPdf	PKPdf	16 26 05.1	+0.8
HLID	**Hailey**	**130.04**	**36**	*e*PKPdf	PKPdf	16 26 05.8	+1.3
MCMT	**McKenzie Canyo**	**130.14**	**33**	*e*PKPdf	PKPdf	16 26 05.4	+0.7
NVAR	**Mina Array Bea**	**130.40**	**43**	PKhKP	PKPpre	16 25 58.9	
	comp=Z,0.8nm,0.7s,baz=288,slow=2.1,SNR=5.7						
NVAR				PKP	PKPdf	16 26 06.8	+1.4
	comp=Z,7.0nm,0.6s,baz=313,slow=2.4,SNR=49						
NVAR				SKPbc	SKPbc	16 29 27.0	+1.7
	comp=Z,5.8nm,0.9s,baz=276,slow=4.3,SNR=12						
NVAR	**Mina Array Bea**	**130.40**	**43**	PKPpre	PKPpre	16 25 58.9	
NVAR				PKP	PKPdf	16 26 06.8	+1.4
NVAR				SKPbc	SKPbc	16 29 27.0	+1.7
SCHQ	**Schefferville**	**130.79**	**353**	PKP	PKPdf	16 26 05.8	+0.2
	comp=Z,12nm,0.8s,baz=337,slow=3.4,SNR=14						
SCHQ	**Schefferville**	**130.79**	**353**	PKP	PKPdf	16 26 05.8	+0.2
QLMT	**Earthquake Lak**	**130.91**	**33**	*e*PKPdf	PKPdf	16 26 07.4	+1.2
YMR	**Madison River**	**131.26**	**32**	*e*PKPdf	PKPdf	16 26 08.4	+1.6
YFT	**Old Faithful**	**131.47**	**33**	*e*PKPdf	PKPdf	16 26 08.9	+1.6
ISA	**Isabella**	**131.60**	**47**	*e*PKPdf	PKPdf	16 26 07.3	-0.5
ISA	**Isabella**	**131.60**	**47**	*e*PKIKP	PKPdf	16 26 07.3	-0.5
RRI2	**Red Ridge**	**131.93**	**34**	*e*PKPdf	PKPdf	16 26 09.1	+0.9
TPAW	**Teton Pass**	**132.04**	**34**	PKPdf	PKPdf	16 26 09.2	+0.8
HVU	**Hansel Valley**	**132.08**	**37**	*e*PKPdf	PKPdf	16 26 08.5	0.0
HVU	**Hansel Valley**	**132.08**	**37**	*e*PKIKP	PKPdf	16 26 08.5	0.0
LOHW	**Long Hollow**	**132.15**	**33**	*e*PKPdf	PKPdf	16 26 08.3	-0.2
SNOW	**Snow King Moun**	**132.17**	**34**	*e*PKPdf	PKPdf	16 26 09.8	+1.2
REDW	**Red Top Meadow**	**132.18**	**34**	*e*PKPdf	PKPdf	16 26 09.8	+1.2
LAO	**LASA Array**	**132.18**	**27**	*e*PKPdf	PKPdf	16 26 08.2	-0.3
GSC	**Goldstone**	**132.97**	**46**	*e*PKPdf	PKPdf	16 26 11.6	+1.2
GSC	**Goldstone**	**132.97**	**46**	*e*PKIKP	PKPdf	16 26 11.6	+1.2
DUG	**Dugway**	**133.01**	**38**	*e*PKPdf	PKPdf	16 26 10.6	+0.3
DUG	**Dugway**	**133.01**	**38**	*e*PKIKP	PKPdf	16 26 10.6	+0.3
PLCA	**Paso Flores**	**133.06**	**186**	PKP	PKPdf	16 26 11.8	+1.3
	comp=Z,2.2nm,0.9s,baz=189,slow=3.8,SNR=3.3						
PLCA				SKP		16 29 48.1	
	comp=Z,32nm,0.8s,baz=218,slow=16,SNR=36						
PLCA	**Paso Flores**	**133.06**	**186**	PKP	PKPdf	16 26 11.8	+1.3
PLCA				SKP		16 29 48.1	
PLCA	**Paso Flores**	**133.06**	**186**	PKIKP	PKPdf	16 26 11.8	+1.4
ULM	**Lac du Bonnet**	**133.12**	**17**	PKP	PKPdf	16 26 10.8	+0.6
	comp=Z,16nm,0.6s,baz=333,slow=2.9,SNR=32						
ULM				SKPbc	SKPbc	16 29 34.4	-0.2
	comp=Z,7.4nm,0.7s,baz=306,slow=5.2,SNR=10.0						
ULM	**Lac du Bonnet**	**133.12**	**17**	*e*PKPdf	PKPdf	16 26 09.1	-1.1
ULM				PKP	PKPdf	16 26 10.8	+0.6
ULM				SKPbc	SKPbc	16 29 34.4	-0.2
ULM	**Lac du Bonnet**	**133.12**	**17**	*e*PKIKP	PKPdf	16 26 09.1	-1.1
PD01	**Pinedale Array**	**133.27**	**33**	*e*PKPdf	PKPdf	16 26 10.7	0.0
PD02	**Pinedale Array**	**133.28**	**33**	*e*PKPdf	PKPdf	16 26 10.3	-0.4
PDAR	**Pinedale Array**	**133.29**	**33**	PKP	PKPdf	16 26 10.8	+0.1
	comp=Z,6.9nm,0.6s,baz=142,slow=1.5,SNR=38						
PDAR	**Pinedale Array**	**133.29**	**33**	PKP	PKPdf	16 26 10.8	+0.1
MSU	**Marysvale**	**134.41**	**40**	*e*PKPdf	PKPdf	16 26 14.7	+1.7
MSU	**Marysvale**	**134.41**	**40**	*e*PKIKP	PKPdf	16 26 14.7	+1.7
AGMN	**Agassiz Nation**	**134.86**	**18**	*e*PKPdf	PKPdf	16 26 12.4	-1.1
SRU	**San Rafael**	**135.08**	**38**	*e*PKPdf	PKPdf	16 26 14.5	+0.3
SRU	**San Rafael**	**135.08**	**38**	*e*PKIKP	PKPdf	16 26 14.5	+0.3
RSSD	**Black Hills**	**135.13**	**28**	*e*PKPdf	PKPdf	16 26 14.3	+0.2
RSSD	**Black Hills**	**135.13**	**28**	*e*PKIKP	PKPdf	16 26 14.4	+0.3
RWWY	**Rawlins**	**135.30**	**33**	*e*PKPdf	PKPdf	16 26 14.4	-0.1
PV04	**Paradox Valley**	**136.51**	**38**	PKPdf	PKPdf	16 26 16.6	-0.3
WUAZ	**Wupatki**	**136.65**	**43**	*e*PKPdf	PKPdf	16 26 18.4	+1.1
PV01	**Paradox Valley**	**136.88**	**38**	*e*PKPdf	PKPdf	16 26 19.6	+2.0
ECSD	**EROS Data Cent**	**138.59**	**22**	*e*PKPdf	PKPdf	16 26 20.3	-0.2
SDCO	**Great Sand Dun**	**138.96**	**36**	*e*PKPdf	PKPdf	16 26 22.3	+0.8
ANMO	**Albuquerque**	**140.21**	**40**	*e*PKPdf	PKPdf	16 26 24.9	+1.1
ANMO	**Albuquerque**	**140.21**	**40**	*e*PKIKP	PKPdf	16 26 24.9	+1.1
LPM	**Los Pinos Moun**	**140.50**	**41**	*e*PKPdf	PKPdf	16 26 25.4	+1.1
BNM	**Barren Site**	**140.60**	**41**	*e*PKPdf	PKPdf	16 26 25.5	+0.9
CBKS	**Cedar Bluff**	**141.27**	**29**	*e*PKPpre	PKPpre	16 26 17.7	
CBKS	**Cedar Bluff**	**141.27**	**29**	*e*PKHKP	PKPpre	16 26 17.7	
KSU1	**Kansas State U**	**142.49**	**26**	*e*PKPpre	PKPpre	16 26 22.6	
MNTX	**Cornudas Mount**	**142.93**	**43**	*e*PKPpre	PKPpre	16 26 24.4	
CPRX	**Cap Rock**	**143.09**	**40**	*e*PKPpre	PKPpre	16 26 28.0	
AMTX	**Amarillo**	**143.16**	**36**	*e*PKPdf	PKPdf	16 26 25.8	-3.3
GDL2	**Guadalupe Moun**	**143.30**	**41**	*e*PKPpre	PKPpre	16 26 27.4	
CLNB	**Carlsbad**	**143.58**	**41**	*e*PKPpre	PKPpre	16 26 27.5	
LCO	**Las Campanas**	**144.63**	**189**	*e*PKP	PKPdf	16 26 31.4	-0.5
WMOK	**Wichita Mounta**	**144.89**	**33**	*e*PKP	PKPdf	16 26 30.7	-1.4
WMOK	**Wichita Mounta**	**144.89**	**33**	*e*PKIKP	PKPdf	16 26 30.7	-1.4
PAL	**Palisades**	**145.17**	**356**	*e*PKP	PKPdf	16 26 31.2	-1.2
PAL	**Palisades**	**145.17**	**356**	*e*PKIKP	PKPdf	16 26 31.2	-1.2
SLM	**Saint Louis**	**145.33**	**19**	*e*PKP	PKPdf	16 26 31.6	-1.1
SLM	**Saint Louis**	**145.33**	**19**	*e*PKIKP	PKPdf	16 26 31.6	-1.1
CCM	**Cathedral Cave**	**145.51**	**21**	*e*PKP	PKPdf	16 26 32.3	-0.8
CCM	**Cathedral Cave**	**145.51**	**21**	*e*PKIKP	PKPdf	16 26 32.3	-0.8
TXAR	**Lajitas Array**	**145.53**	**45**	PKPbc	PKPbc	16 26 34.2	+0.7
	comp=Z,186nm,0.6s,baz=290,slow=1.2,SNR=1968						
TXAR	**Lajitas Array**	**145.53**	**45**	PKPbc	PKPbc	16 26 34.2	+0.7
TXAR	**Lajitas Array**	**145.53**	**45**	PKIKP	PKPbc	16 26 34.3	+0.8
ACSO	**Alum Creek Sta**	**145.54**	**9**	*e*PKP	PKPdf	16 26 32.4	-0.6
FVM	**French Village**	**145.86**	**20**	*e*PKPdf	PKPdf	16 26 33.3	-0.4
FVM	**French Village**	**145.86**	**20**	*e*PKP2	PKPdf	16 26 33.3	-0.4
BLO	**Bloomington**	**145.88**	**14**	*e*PKPbc	PKPbc	16 26 33.8	-0.4
BLO	**Bloomington**	**145.88**	**14**	*e*PKP2	PKPbc	16 26 33.8	-0.5
OLIL	**Olney**	**145.88**	**16**	*e*PKPbc	PKPbc	16 26 33.9	-0.4
SIUC	**Southern Illin**	**146.50**	**18**	*e*PKPbc	PKPbc	16 26 35.6	-0.5
USIN	**University of**	**146.72**	**16**	*e*PKPdf	PKPdf	16 26 35.7	+0.6
WCI	**Wyandotte Cave**	**146.83**	**14**	*e*PKPdf	PKPdf	16 26 34.1	-1.2
WCI				*e*PKPbc	PKPbc	16 26 36.5	-0.6
WCI	**Wyandotte Cave**	**146.83**	**14**	*e*PKIKP	PKPdf	16 26 34.1	-1.2
WCI				*e*		16 26 36.5	
SDMD	**Soldier's Deli**	**146.85**	**0**	*e*PKPbc	PKPbc	16 26 36.3	-0.8
PARMO	**Parma**	**147.28**	**20**	*e*PKPbc	PKPbc	16 26 37.9	-0.5
JCT	**Junction City**	**147.37**	**39**	*e*PKPdf	PKPdf	16 26 36.6	+0.2
JCT				*e*PKPbc	PKPbc	16 26 39.2	+0.4
JCT	**Junction City**	**147.37**	**39**	*e*PKIKP	PKPdf	16 26 36.6	+0.2
JCT				*e*		16 26 39.2	
GNAR	**Gosnell**	**147.82**	**21**	*e*PKPbc	PKPbc	16 26 39.8	-0.1
UTMT	**University of**	**147.87**	**19**	*e*PKPbc	PKPbc	16 26 39.4	-0.6
UALR	**University of**	**147.97**	**25**	*e*PKPdf	PKPdf	16 26 37.0	-0.3
UALR				*e*PKPbc	PKPbc	16 26 39.8	-0.5
WVT	**Waverly**	**148.38**	**18**	*e*PKPdf	PKPdf	16 26 37.5	-0.5
WVT				*e*PKPbc	PKPbc	16 26 41.2	-0.2
WVT	**Waverly**	**148.38**	**18**	*e*PKIKP	PKPdf	16 26 37.5	-0.4
WVT				*e*		16 26 41.2	
BLA	**Blacksburg**	**148.84**	**6**	*e*PKPbc	PKPbc	16 26 41.7	-0.9
BLA	**Blacksburg**	**148.84**	**6**	*e*PKP2	PKPbc	16 26 41.7	-0.9
TZTN	**Tazewell**	**149.04**	**11**	*e*PKPdf	PKPdf	16 26 38.6	-0.4
TZTN				*e*PKPbc	PKPbc	16 26 42.8	-0.3
TZTN				*e*PKPab	PKPab	16 26 46.6	-0.6
OXF	**Oxford**	**149.34**	**21**	*e*PKPbc	PKPbc	16 26 43.3	-0.6
OXF	**Oxford**	**149.34**	**21**	*e*PKP2	PKPbc	16 26 43.3	-0.6
PLAL	**Pickwick Lake**	**149.37**	**19**	*e*PKPbc	PKPbc	16 26 43.0	-0.9
NATX	**Nacogdoches**	**149.38**	**31**	*e*PKPbc	PKPbc	16 26 44.3	+0.2
SWET	**Sewanee**	**149.77**	**15**	*e*PKPbc	PKPbc	16 26 43.9	-1.0
TKL	**Tuckaleechee C**	**149.85**	**12**	*e*PKPdf	PKPdf	16 26 40.0	-0.4
TKL				*e*PKPbc	PKPbc	16 26 44.9	-0.3
TKL	**Tuckaleechee C**	**149.85**	**12**	*e*PKHKP	PKPdf	16 26 40.0	-0.3
CPCT	**Cooper Cave**	**149.89**	**13**	*e*PKPdf	PKPdf	16 26 38.6	-1.8
CPCT				*e*PKPbc	PKPbc	16 26 43.4	-1.8
HKT	**Hockley**	**150.13**	**35**	*e*PKPdf	PKPdf	16 26 41.4	+0.5
HKT				*e*PKPbc	PKPbc	16 26 46.8	+0.8
HKT	**Hockley**	**150.13**	**35**	*e*PKHKP	PKPdf	16 26 41.4	+0.5
HKT				*e*		16 26 46.8	
KVTX	**Kingsville**	**150.58**	**41**	*e*PKPbc	PKPbc	16 26 48.7	+1.6
VBMS	**Vicksburg**	**150.94**	**25**	*e*PKPbc	PKPbc	16 26 48.2	+0.4
CNNC	**Cliffs of the**	**150.99**	**2**	*e*PKPbc	PKPbc	16 26 48.5	+0.6
LRAL	**Lakeview Retre**	**151.50**	**19**	*e*PKPdf	PKPdf	16 26 43.3	+0.4
LRAL				*e*PKPbc	PKPbc	16 26 48.0	-1.1
BBSR	**BB Station**	**151.62**	**339**	*e*PKPbc	PKPbc	16 26 49.6	+0.2
JSC	**Jenkinsville**	**151.63**	**8**	*e*PKPbc	PKPbc	16 26 49.3	-0.1
JSC	**Jenkinsville**	**151.63**	**8**	*e*PKIKP	PKPbc	16 26 49.3	-0.1
GOGA	**Godfrey**	**152.09**	**12**	PKPdf	PKPdf	16 26 43.0	-0.9
GOGA				*e*PKPbc	PKPbc	16 26 50.2	-0.2
GOGA	**Godfrey**	**152.09**	**12**	PKIKP	PKPdf	16 26 43.0	-0.8
GOGA				*e*		16 26 50.3	
COW	**Cow Castle Cre**	**152.59**	**8**	*e*PKPbc	PKPbc	16 26 51.6	0.0
BRAL	**Brewton**	**153.34**	**20**	*e*PKPbc	PKPbc	16 26 53.6	+0.3
LPAZ	**La Paz**	**156.24**	**200**	*e*PKPdf	PKPdf	16 26 51.1	+1.0
LPAZ				LR	LR		
	comp=Z,180nm,20.0s,MS4.9						
LPAZ	**La Paz**	**156.24**	**200**	*e*PKIKP	PKPdf	16 26 51.1	+1.0
LPAZ				MLR	MLR		
	comp=Z,180nm,20.0s						
SAML	**Samuel**	**159.96**	**222**	*e*PKPdf	PKPdf	16 26 54.2	-0.6

*ISCJB **17** 16:18:07.4±0.6, 37°.47N±0°.05×72°.29E±0°.08, h199km±9km, mb3.5/6, Error ellipse: s-maj=12.2km s-min=6.2km az=149.4*
*NEIC **17** 16:18:08.3±0.5, 37°.45N×72°.31E, h192km±7km, mb4.8/6, Error ellipse: s-maj=8.2km s-min=4.9km az=61.0*
*IDC **17** 16:18:10.0±7.6, 37°.39N×72°.40E, h217km±61km, mb3.4/6, mb1 3.5/10, mb1mx3.2/27, mbtmp3.4/10, Error ellipse: s-maj=60.6km s-min=26.5km az=151.0*
*NNC **17** 16:18:11.2±27.0, 38°.02N×70°.68E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=319.5km s-min=197.0km az=96.0*
ISC 17 16:18:08.3±0.6, 37°.46N±0°.05×72°.29E±0°.09, h190km±9km, n44, σ0=67/47, mb3.7/6, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.93**	**223**	*e*Pn	**Pn**	**16 19 09.3**	**+0.5**
EKS2	**Erkin-Say**	**5.32**	**12**	*e*P	**Pn**	**16 19 26.5**	**+0.1**
AAK	**Ala-Archa**	**5.43**	**17**	*e*P	**Pn**	**16 19 28.2**	**+0.2**
THN	**Thein Dam**	**5.75**	**150**	*e*PKP	**Pn**	**16 19 31.4**	**-0.7**
THN				*e*S	**Sn**	**16 20 34.0**	**-4.2**
KK31	**Karatay Array**	**5.80**	**347**	⇑Pn	**Pn**	**16 19 31.7**	**-1.0**
	6.5nm,0.5s,baz=158,slow=14,SNR=77						
KK31				Sn	**Sn**	**16 20 33.7**	**-5.6**
	13nm,0.4s,baz=172,slow=20,SNR=17						
KKAR	**Karatay Array**	**5.80**	**347**	*e*P	**Pn**	**16 19 31.5**	**-1.2**
TKM2	**Tokmak 2**	**6.01**	**24**	P	**Pn**	**16 19 35.7**	**+0.3**
KURK	**Kurchatov**	**14.00**	**17**	P	**Pn**	**16 21 20.0**	**+1.7**
	0.2nm,0.3s,baz=198,slow=11,SNR=3.7						
KURK	**Kurchatov**	**14.00**	**17**	P	**Pn**	**16 21 20.0**	**+1.7**
GKN	**Gorkha**	**14.02**	**129**	*e*P	**Pn**	**16 21 19.5**	**+0.7**
	78nm,0.5s						
GKN	**Gorkha**	**14.02**	**129**	*e*P	**Pn**	**16 21 19.5**	**+0.7**
	78nm,0.5s						
KKN	**Kakani**	**14.57**	**128**	*e*P	**Pn**	**16 21 25.8**	**+0.2**
	20nm,0.6s						
KKN	**Kakani**	**14.57**	**128**	*e*P	**Pn**	**16 21 25.8**	**+0.2**
	20nm,0.6s						
DMN	**Daman**	**14.59**	**129**	*e*P	**Pn**	**16 21 25.8**	**-0.1**
	26nm,0.6s						
DMN	**Daman**	**14.59**	**129**	*e*P	**Pn**	**16 21 25.8**	**-0.1**
	26nm,0.6s						
AB31	**Akbulak array**	**14.80**	**327**	⇓Pn	**Pn**	**16 21 28.4**	**+0.2**
	0.9nm,0.5s,baz=167,slow=11,SNR=12						
AB31				⇓Sn	**Sn**	**16 24 00.2**	**-13**
	1.6nm,0.6s,baz=172,slow=20,SNR=10						
ABKAR	**Akbulak array**	**14.80**	**327**	*e*P	**Pn**	**16 21 28.8**	**+0.6**
	1.3nm,0.4s						
PKI	**Pulchoki**	**14.80**	**128**	*e*P	**Pn**	**16 21 28.6**	**+0.1**
	13nm,0.6s						
PKI	**Pulchoki**	**14.80**	**128**	*e*P	**Pn**	**16 21 28.6**	**+0.1**
	13nm,0.6s						
GUN	**Gumba**	**14.87**	**126**	*e*P	**Pn**	**16 21 29.8**	**+0.5**
	11nm,0.3s						
GUN	**Gumba**	**14.87**	**126**	*e*P	**Pn**	**16 21 29.8**	**+0.5**
	11nm,0.3s						
JIRN	**Jiri**	**15.24**	**126**	*e*P	**Pn**	**16 21 33.1**	**-0.7**
	29nm,0.4s						
JIRN	**Jiri**	**15.24**	**126**	*e*P	**Pn**	**16 21 33.1**	**-0.7**
	29nm,0.4s						
BVAR	**Borovoye Array**	**15.62**	**356**	P	**Pn**	**16 21 38.2**	**0.0**
	0.3nm,0.3s,baz=164,slow=11,SNR=2.0						
BVAR	**Borovoye Array**	**15.62**	**356**	P	**Pn**	**16 21 38.2**	**0.0**
AKTO	**Aktyubinsk**	**16.51**	**326**	P	**Pn**	**16 21 49.1**	**+0.2**
	1.2nm,0.3s,baz=124,slow=12,SNR=6.3						
AKTO	**Aktyubinsk**	**16.51**	**326**	⇑Pn	**Pn**	**16 21 48.8**	**-0.1**
	0.5nm,0.5s						
AKTO				⇑Sn	**S**	**16 24 45.0**	**-5.9**
	0.6nm,0.9s						
AKTO	**Aktyubinsk**	**16.51**	**326**	P	**Pn**	**16 21 49.1**	**+0.2**
ZAA0	**Zalesovo Array**	**18.62**	**24**	*e*P	**P**	**16 22 10.5**	**-0.6**
ZALV	**Zalesovo Beam**	**18.62**	**24**	P	**P**	**16 22 10.9**	**-0.3**
	1.3nm,0.3s,baz=217,slow=9.3,SNR=14						
ZALV	**Zalesovo Beam**	**18.62**	**24**	P	**P**	**16 22 10.9**	**-0.3**
BRTR	**Keskin Array B**	**30.14**	**286**	P	**P**	**16 24 01.2**	**+0.9**
	0.2nm,0.4s,mb3.2,baz=305,slow=35,SNR=1.4						
BRTR	**Keskin Array B**	**30.14**	**286**	P	**P**	**16 24 01.2**	**+0.9**
KIS	**Kishinev**	**33.20**	**301**	*e*PPP		16 24 16.0	
FINES	**FINESS Array B**	**37.28**	**325**	P	**P**	**16 25 01.0**	**-0.4**
	2.2nm,0.7s,mb3.9,baz=128,slow=11,SNR=1.9						
FINES	**FINESS Array B**	**37.28**	**325**	P	**P**	**16 25 01.1**	**-0.4**
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**16 25 30.2**	**+0.8**
	6.3nm,1.0s,mb4.2,baz=107,slow=8.1,SNR=4.4						
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**16 25 30.2**	**+0.8**
NOA	**NORSAR Array B**	**44.25**	**322**	P	**P**	**16 25 57.7**	**-0.6**
	1.4nm,0.7s,mb3.7,baz=94,slow=7.6,SNR=1.8						
NOA	**NORSAR Array B**	**44.25**	**322**	P	**P**	**16 25 57.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**66.77**	**269**	P	**P**	**16 28 38.8**	**-0.7**
	0.4nm,0.6s,mb3.5,baz=45,slow=5.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**66.77**	**269**	P	**P**	**16 28 38.8**	**-0.7**
YKA	**Yellowknife Ar**	**80.24**	**3**	P	**P**	**16 29 56.5**	**-0.6**
	0.6nm,0.5s,mb3.5,baz=350,slow=5.5,SNR=7.4						
YKA	**Yellowknife Ar**	**80.24**	**3**	P	**P**	**16 29 56.5**	**-0.6**

*IDC **17** 17:31:15.5±11.0, 20°.28S×178°.13W, h485km±100km, mb3.3/5, mb1 3.5/5, mb1mx3.2/16, mbtmp3.3/5, Error ellipse: s-maj=135.7km s-min=44.9km az=137.0*
*ISCJB **17** 17:31:21.6±5.2, 20°.2S±0°.7×178°.4W±0°.7, h565km±30km, mb3.8/5, Error ellipse: s-maj=143.0km s-min=29.0km az=139.3*
*NEIC **17** 17:31:21.9±3.2, 20°.32S×178°.36W, h554km±19km, mb4.2/1, Error ellipse: s-maj=82.8km s-min=14.6km az=141.0*
ISC 17 17:31:21.9±5.4, 20°.3S±0°.7×178°.4W±0°.7, h558km±30km, n26, σ0=26/14, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.25**	**306**	*e*P	**P**	**17 32 46.2**	**0.0**
CTA	**Charters Tower**	**33.19**	**264**	P	**P**	**17 37 13.7**	**+0.5**
	2.2nm,0.3s,mb4.1,baz=87,slow=11,SNR=7.4						
CTA	**Charters Tower**	**33.19**	**264**	P	**P**	**17 37 13.7**	**+0.5**
CTAO	**Charters Tower**	**33.19**	**264**	*e*P	**P**	**17 37 13.7**	**+0.5**
	2.3nm,

mb1 4.1/5, mb1mx3.7/18, mbtmp4.0/5, Error ellipse: s-maj=74.7km s-min=46.1km az=68.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.82**	**195**	P	P	18 18 04.6	+0.9
	9.2nm,0.8s,baz=87,slow=3.7,SNR=8.9						
STKA	**Stephens Creek**	**41.93**	**240**	P	P	18 20 50.8	-1.0
	0.6nm,0.5s,baz=90,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**47.80**	**258**	P	P	18 21 39.4	+0.7
	0.7nm,0.6s,baz=97,slow=7.5,SNR=18						
WRA				PcP	PcP	18 23 07.6	-0.2
	0.3nm,0.7s,baz=92,slow=3.7,SNR=3.0						
ASAR	**Alice Springs**	**48.03**	**253**	P	P	18 21 40.0	-0.4
	0.9nm,0.6s,baz=90,slow=7.5,SNR=15						
ASAR				PcP	PcP	18 23 07.7	-0.9
	0.4nm,1.1s,baz=94,slow=3.6,SNR=4.3						
FITZ	**Fitzroy Crossi**	**56.17**	**259**	P	P	18 22 41.6	+0.4
	3.4nm,1.0s,baz=0.0,slow=0.0,SNR=2.7						

*NEIC **17** 18:17:12.2, 16.04N×97.72W, h23km, MD3.7(MEX), After MEX.*

MEX 17 18:17:12.2±0.7, 16.06N×97.72W, h20km±29km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**311**	*e*P	Pb	18 17 20.5	-2.1
PNIG				*i* S	Sb	18 17 28.3	-1.4
PNIG	**Pinotepa**	**0.52**	**311**	*e*P	Pb	18 17 20.5	-2.1
PNIG				*i* S	Sb	18 17 28.3	-1.4
VHO	**Vista Hermosa**	**1.39**	**43**	*i* P	Pn	18 17 32.8	-3.6
VHO				*i* S	Sn	18 17 50.2	-3.9
VHO	**Vista Hermosa**	**1.39**	**43**	*i* P	Pn	18 17 32.9	-3.5
VHO				*i* S	Sn	18 17 50.2	-3.9
OXX	**Oaxaca**	**1.40**	**43**	*i* P	Pn	18 17 33.3	-3.3
OXX	**Oaxaca**	**1.40**	**43**	*i* P	Pn	18 17 33.3	-3.3
HUIG	**Huatulco**	**1.58**	**100**	*i* P	Pn	18 17 36.4	-2.6
HUIG				*i* S	Sn	18 17 55.0	-3.8
HUIG	**Huatulco**	**1.58**	**100**	*i* P	Pn	18 17 36.4	-2.6
HUIG				*i* S	Sn	18 17 55.0	-3.8
UTMO	**Huajuapan**	**1.77**	**357**	*e*P	Pn	18 17 40.1	-1.5
UTMO				*i* S	Sn	18 18 00.4	-3.2
UTMO	**Huajuapan**	**1.77**	**357**	*e*P	Pn	18 17 39.1	-2.5
UTMO				*i* S	Sn	18 18 00.4	-3.2
CMIG	**Matias Romero**	**2.91**	**69**	*i* P	Pn	18 17 54.6	-2.7
CMIG				*i* S	Sn	18 18 27.9	-3.8
CMIG	**Matias Romero**	**2.91**	**69**	*i* P	Pn	18 17 55.6	-1.7
CMIG				*i* S	Sn	18 18 27.9	-3.8
PPM	**Popocatepetl**	**3.12**	**344**	*i* P	Pn	18 17 58.1	-2.1
PPM				*i* S	Sn	18 18 35.2	-1.8
PPM	**Popocatepetl**	**3.12**	**344**	*i* P	Pn	18 17 59.0	-1.3
PPM				*i* S	Sn	18 18 35.2	-1.8

*IDC **17** 18:20:14.9±8.3, 20.57S×178.18W, h508km±91km, mb2.8/4, mb1 3.1/5, mb1mx2.9/17, mbtmp2.9/5, Error ellipse: s-maj=45.4km s-min=26.2km az=47.0*
*ISCJB **17** 18:20:18.6±1.6, 20.7S±0.2×178.3W±0.2, h558km±17km, mb3.3/4, Error ellipse: s-maj=32.1km s-min=26.0km az=168.7*
*NEIC **17** 18:20:18.8±1.5, 20.68S×178.21W, h558km±15km, Error ellipse: s-maj=27.6km s-min=22.9km az=93.0*

ISC 17 18:20:19.2±1.7, 20.8S±0.2×178.3W±0.2, h552km±17km, n15, σ0.9±63/13, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**310**	P	**P**	18 21 46.0	+0.2
URZ	**Urewera**	**17.90**	**192**	P	**P**	18 23 54.8	-1.1
	0.3nm,0.3s,baz=16,slow=5.7,SNR=3.6						
URZ	**Urewera**	**17.90**	**192**	*e*P	**P**	18 23 55.0	-0.9
CTAO	**Charters Tower**	**33.20**	**265**	P	**P**	18 26 11.4	+0.5
ASAR	**Alice Springs**	**44.20**	**257**	P	**P**	18 27 40.0	+0.1
	0.8nm,0.9s,mb3.3,baz=96,slow=8.4,SNR=6.8						
ASAR	**Alice Springs**	**44.20**	**257**	P	**P**	18 27 40.0	+0.1
WRAB	**Tennant Creek**	**44.29**	**262**	*e*P	**P**	18 27 40.4	-0.2
WRA	**Warramunga Arr**	**44.30**	**262**	P	**P**	18 27 40.3	-0.4
	0.3nm,0.3s,mb3.4,baz=96,slow=7.5,SNR=16						
WRA	**Warramunga Arr**	**44.30**	**262**	P	**P**	18 27 40.3	-0.4
QSPA	**South Pole Qui**	**69.32**	**180**	P	**P**	18 30 32.3	+1.3
	1.1nm,1.0s,mb3.3,baz=64,slow=6.2,SNR=2.7						
QSPA	**South Pole Qui**	**69.32**	**180**	*e*P	**P**	18 30 32.3	+1.3
ILAR	**Eielson Array**	**88.61**	**13**	P	**P**	18 32 12.7	-0.5
	0.7nm,1.1s,mb3.4,baz=212,slow=4.9,SNR=4.0						
ILAR	**Eielson Array**	**88.61**	**13**	P	**P**	18 32 12.7	-0.5
AKASG	**Malin Array Be**	**143.10**	**331**	PKP	PKPdf	18 38 47.6	-2.8
	0.7nm,0.4s,baz=41,slow=4.3,SNR=6.4						
AKASG	**Malin Array Be**	**143.10**	**331**	PKP	PKPdf	18 38 47.6	-2.8

*IDC **17** 18:33:02.7±1.6, 2.62S×139.09E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/15, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=61.4km s-min=22.4km az=98.0*
*ISCJB **17** 18:33:07.0±0.2, 2.65S±0.09×138.6E±0.2, h33km, mb3.5/4, Error ellipse: s-maj=29.9km s-min=13.0km az=178.4*
*NEIC **17** 18:33:09.0±1.0, 2.64S×138.50E, h35km, mb3.5/1, Error ellipse: s-maj=37.9km s-min=13.8km az=86.0*

ISC 17 18:33:09.1±0.9, 2.64S±0.09×138.5E±0.2, h35km, n15, σ1.9±05/15, mb3.5/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**12.14**	**158**	*e*P	**Pn**	18 36 01.1	+1.4
WRAB	**Tennant Creek**	**17.67**	**193**	*e*P	**Pn**	18 37 11.7	-0.8
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**17.68**	**193**	P	**Pn**	18 37 11.7	-1.0
	0.3nm,0.3s,baz=16,slow=13,SNR=16						
WRA	**Warramunga Arr**	**17.68**	**193**	P	**Pn**	18 37 11.7	-1.0
FITZ	**Fitzroy Crossi**	**19.91**	**219**	P	**Pn**	18 37 40.3	+0.7
	2.3nm,0.9s,baz=15,slow=12,SNR=3.2						
FITZ	**Fitzroy Crossi**	**19.91**	**219**	P	**Pn**	18 37 39.6	0.0
AS31	**Alice Springs**	**21.38**	**192**	*e*P	**P**	18 37 53.8	+0.1
ASAR	**Alice Springs**	**21.38**	**192**	P	**P**	18 37 53.8	+0.1
	1.7nm,0.7s,mb3.5,baz=24,slow=10.0,SNR=19						
ASAR	**Alice Springs**	**21.38**	**192**	P	**P**	18 37 53.8	+0.1
MKAR	**Makanchi Array**	**69.63**	**322**	P	**P**	18 44 16.8	+1.9
	0.3nm,0.6s,mb3.4,baz=114,slow=6.5,SNR=4.6						
MKAR	**Makanchi Array**	**69.63**	**322**	P	**P**	18 44 16.8	+1.9
BVAR	**Borovoye Array**	**79.16**	**325**	P	**P**	18 45 09.9	-0.3
	0.6nm,0.7s,mb3.6,baz=126,slow=7.3,SNR=5.2						
BVAR	**Borovoye Array**	**79.16**	**325**	P	**P**	18 45 09.9	-0.3
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	18 45 43.1	-1.6
	0.4nm,0.9s,mb3.7,baz=240,slow=5.0,SNR=4.4						
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	18 45 43.1	-1.6

*ISK **17** 18:33:21.2, 39.99N×39.92E, h30km, MD2.8*
*ISCJB **17** 18:33:22.3±0.6, 39.95N±0.07×39.91E±0.06, h29km±10km, Error ellipse: s-maj=12.6km s-min=6.7km az=21.7*
*CSEM **17** 18:33:22.0±0.3, 39.92N×39.89E, h20km, MD2.8, Error ellipse: s-maj=6.7km s-min=6.0km az=146.0*
*DDA **17** 18:33:23.4, 40.15N×39.91E, h7km±1km, Md2.7*

ISC 17 18:33:22.6±0.7, 39.95N±0.07×39.90E±0.06, h26km±12km, n18, σ0.9±80/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.46**	**81**	*i* P	**Pb**	18 33 32.9	+0.7
KOPT				*i* S	**Sb**	18 33 39.6	+0.9
KOPT	**Kop Dagi**	**0.46**	**81**	*i* P	**Pb**	18 33 32.9	+0.7
KOPT				*i* S	**Sb**	18 33 39.6	+0.9
BAYT	**Ayd¨–ntepe-Bay**	**0.48**	**22**	*e*PG	**Pb**	18 33 32.0	-0.5
BAYT				*e*SG	**Sb**	18 33 38.2	-1.0
BAYT	**Ayd¨–ntepe-Bay**	**0.48**	**22**	*e*Pg	**Pb**	18 33 32.0	-0.5
BAYT				*e*Sg	**Sb**	18 33 38.2	-1.0
KELT	**Kelkit**	**0.54**	**292**	*i* P	**Pb**	18 33 33.5	0.0
KELT				*i* S	**Sb**	18 33 40.9	+0.1
KELT	**Kelkit**	**0.54**	**292**	*i* P	**Pb**	18 33 33.5	+0.1
KELT				*i* S	**Sb**	18 33 40.9	+0.1
GUMT	**Gumushane**	**0.60**	**328**	*e*PG	**Pb**	18 33 34.6	0.0
GUMT				*e*SG	**Sb**	18 33 42.6	-0.1
GUMT	**Gumushane**	**0.60**	**328**	*e*Pg	**Pb**	18 33 34.6	0.0
GUMT				*e*Sg	**Sb**	18 33 42.7	0.0
PTK	**Pertek**	**1.13**	**201**	*e*PN	**Pn**	18 33 41.9	-0.7
PTK	**Pertek**	**1.13**	**201**	*e*Pn	**Pn**	18 33 41.9	-0.7
SUSE	**Susehri**	**1.33**	**282**	*i* P	**Pn**	18 33 47.3	+1.9
SUSE				*i* S	**Sn**	18 34 03.2	+0.9
SUSE	**Susehri**	**1.33**	**282**	*i* P	**Pn**	18 33 47.3	+1.9
SUSE				*i* S	**Sn**	18 34 03.2	+0.9
MYA	**Malataya**	**1.99**	**216**	*e*PN	**Pn**	18 33 53.9	-0.5
MYA	**Malataya**	**1.99**	**216**	*e*Pn	**Pn**	18 33 53.9	-0.5
MALT	**Malatya**	**2.00**	**216**	*e*PN	**Pn**	18 33 54.0	-0.6
MALT	**Malatya**	**2.00**	**216**	*e*Pn	**Pn**	18 33 54.0	-0.6
RSDY	**Resadiye-TOKAT**	**2.02**	**284**	*e*PN	**Pn**	18 33 53.9	-1.0
RSDY	**Resadiye-TOKAT**	**2.02**	**284**	*e*Pn	**Pn**	18 33 53.9	-1.0

*IDC **17** 18:41:57.9±1.1, 34.71N×73.02E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/28, mbtmp3.6/10, ML2.9/3, Error ellipse: s-maj=29.8km s-min=20.4km az=62.0*
*ISCJB **17** 18:41:58.7±0.3, 34.84N±0.03×73.39E±0.05, h10km, mb3.7/6, Error ellipse: s-maj=5.8km s-min=4.0km az=158.5*
*NDI **17** 18:42:02.5±1.5, 34.45N×72.58E, h33km, ML4.1, mb4.2(NEIC)*
*NEIC **17** 18:42:03.4±0.8, 34.67N×73.24E, h39km±9km, mb4.2/1, Error ellipse: s-maj=12.4km s-min=6.0km az=54.0*
*NNC **17** 18:42:08.0±1.4, 35.40N×72.40E, h0km, mb3.4, mpv3.4, Error ellipse: s-maj=17.0km s-min=11.3km az=91.0*

ISC 17 18:42:00.4±0.3, 34.79N±0.03×73.25E±0.05, h10km, n56, σ1.9±45/66, mb3.7/6, 2C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.12**	**179**	P	**Pb**	18 42 22.1	+0.2
CEP	**Cherat**	**1.47**	**230**	P	**Pn**	18 42 24.8	-2.0
THW	**Thamme Wali**	**2.35**	**213**	P	**Pn**	18 42 40.1	+1.1
SARP	**Sargodha**	**2.90**	**190**	P	**Pn**	18 42 48.4	+1.9
THN	**Thein Dam**	**3.12**	**138**	*e*PKP	**Pn**	18 42 52.7	+3.1
THN				*ex*	**Sb**	18 43 37.3	+3.3
KBL	**Kabul**	**3.47**	**267**	*e*P	**Pn**	18 42 55.8	+1.4
KBL				*e*S	**Sn**	18 43 39.3	+3.7
SDNR	**Sundarnagar**	**4.53**	**135**	*e*PKP	**Pn**	18 43 11.1	+2.2
SDNR				*ex*	**Sg**	18 44 22.4	-3.3
SMLA	**Simla**	**4.91**	**137**	*i* P	**Pn**	18 43 16.6	+2.4
SMLA				*i* x	**Sn**	18 44 12.5	+1.4
SMLA				⇓AML	AML	18 44 18.6	
	comp=E,448nm,0.3s						
SMLA				⇓AML	AML	18 44 18.7	
	comp=N,418nm,0.3s						
KHET	**Khetri**	**7.04**	**161**	*e*PKP	**Pn**	18 43 41.2	-2.2
KHET				*e*S	**Sn**	18 44 54.5	-9.0
AYAN	**Aya Nagar**	**7.10**	**151**	*e*S	**Sn**	18 44 57.3	-7.7
KUDL	**Kundal**	**7.17**	**156**	*e*PKP	**Pn**	18 43 43.5	-1.8
KUDL				*e*S	**Sn**	18 44 57.2	-10
EKS2	**Erkin-Say**	**7.88**	**3**	*e*P	**Pn**	18 43 59.1	+4.2
EKS2				*e*S	**Sn**	18 45 23.9	-0.1
AAK	**Ala-Archa**	**7.90**	**7**	*e*P	**Pn**	18 43 58.6	+3.4
TKM2	**Tokmak 2**	**8.33**	**12**	⇑Pn	**Pn**	18 44 04.6	+3.5
TKM2				⇓Sn	**Sn**	18 45 36.3	+1.2
	comp=N,2.8nm,0.6s						
TKM2	**Tokmak 2**	**8.33**	**12**	*e*P	**Pn**	18 44 04.6	+3.5
KK31	**Karatay Array**	**8.57**	**346**	Pn	**Pn**	18 44 05.7	+1.2
	comp=N,0.8nm,0.3s,baz=157,slow=10,SNR=66						
KK31				Sn	**Sn**	18 45 39.0	-2.2
	comp=N,2.2nm,0.5s,baz=169,slow=21,SNR=8.8						
KKAR	**Karatay Array**	**8.57**	**346**	*e*P	**Pn**	18 44 05.6	+1.1
	comp=N,2.1nm,0.3s						
KKAR				*e*S	**Sn**	18 45 39.1	-2.2
DANN	**Dangsing**	**11.02**	**123**	*e*P	**Pn**	18 44 38.7	+0.7
	comp=N,16nm,0.3s						
DANN	**Dangsing**	**11.02**	**123**	*e*P	**Pn**	18 44 38.7	+0.7
	comp=N,16nm,0.3s						
KOLN	**Koldanda**	**11.28**	**125**	*e*P	**Pn**	18 44 42.2	+0.6
	comp=N,8.9nm,0.3s						
KOLN	**Koldanda**	**11.28**	**125**	*e*P	**Pn**	18 44 42.2	+0.6
	comp=N,8.9nm,0.3s						
GKN	**Gorkha**	**11.84**	**122**	*e*P	**Pn**	18 44 48.7	-0.6
	comp=N,10.0nm,0.4s						
GKN	**Gorkha**	**11.84**	**122**	*e*P	**Pn**	18 44 48.7	-0.6
	comp=N,10.0nm,0.4s						
KKN	**Kakani**	**12.42**	**121**	*e*P	**Pn**	18 44 56.2	-1.1
	comp=N,3.8nm,0.3s						
KKN	**Kakani**	**12.42**	**121**	*e*P	**Pn**	18 44 56.2	-1.1
	comp=N,3.8nm,0.3s						
PKI	**Pulchoki**	**12.65**	**121**	*e*P	**Pn**	18 44 59.9	-0.4
	comp=N,6.3nm,0.3s						
PKI	**Pulchoki**	**12.65**	**121**	*e*P	**Pn**	18 44 59.9	-0.4
	comp=N,6.3nm,0.3s						
GUN	**Gumba**	**12.78**	**119**	*e*P	**Pn**	18 45 01.2	-0.9
	comp=N,6.9nm,0.3s						
GUN	**Gumba**	**12.78**	**119**	*e*P	**Pn**	18 45 01.2	-0.9
	comp=N,6.9nm,0.3s						
JIRN	**Jiri**	**13.15**	**119**	*e*P	**Pn**	18 45 06.1	-1.1
	comp=N,22nm,0.3s						
JIRN	**Jiri**	**13.15**	**119**	*e*P	**Pn**	18 45 06.1	-1.1
	comp=N,22nm,0.3s						
MKAR	**Makanchi Array**	**13.80**	**27**	Pn	**Pn**	18 45 17.2	+1.2
	comp=N,0.0nm,0.3s,baz=198,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**13.80**	**27**	Pn	**Pn**	18 45 17.2	+1.2
KURK	**Kurchatov**	**16.39**	**12**	Pn	**Pn**	18 45 47.3	-3.1
	comp=N,0.0nm,0.3s,baz=200,slow=12,SNR=3.2						
KURK	**Kurchatov**	**16.39**	**12**	Pn	**Pn**	18 45 47.3	-3.1
AB31	**Akbulak array**	**17.48**	**330**	⇑Pn	**Pn**	18 46 03.1	-0.9
	comp=N,0.7nm,0.6s,baz=359,slow=25,SNR=13						
ABKAR	**Akbulak array**	**17.48**	**330**	P	**Pn**	18 46 05.6	+1.6
BVAR	**Borovoye Array**	**18.35**	**355**	P	**Pn**	18 46 15.5	+0.7
	comp=N,0.2nm,0.3s,baz=165,slow=8.5,SNR=6.4						
BVAR	**Borovoye Array**	**18.35**	**355**	P	**Pn**	18 46 15.5	+0.7
AKTO	**Aktyubinsk**	**19.18**	**329**	P	**Pn**	18 46 23.3	-1.6
	comp=N,0.5nm,0.3s,baz=132,slow=12,SNR=17						
AKTO	**Aktyubinsk**	**19.18**	**329**	⇓Pn	**Pn**	18 46 23.2	-1.7
	comp=N,0.4nm,0.8s						
AKTO	**Aktyubinsk**	**19.18**	**329**	P	**Pn**	18 46 23.3	-1.6
ZAA0	**Zalesovo Array**	**20.82**	**19**	*e*P	**P**	18 46 42.0	+0.2
ZALV	**Zalesovo Beam**	**20.82**	**19**	P	**P**	18 46 41.4	-0.4
	comp=N,1.3nm,0.4s,baz=209,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**20.82**	**19**	P	**P**	18 46 41.4	-0.4
CMAR	**Chiang Mai Arr**	**28.03**	**119**	P	**P**	18 47 52.4	+0.7
	comp=N,1.0nm,0.9s,mb3.4,baz=298,slow=12,SNR=3.4						
CMAR	**Chiang Mai Arr**	**28.03**	**119**	P	**P**	18 47 52.4	+0.7
ARCES	**ARCESS Array B**	**43.42**	**338**	P	**P**	18 50 02.0	-0.9
	comp=N,4.0nm,1.0s,mb4.1,baz=120,slow=11,SNR=3.8						
ARCES	**ARCESS Array B**	**43.42**	**338**	P	**P**	18 50 02.0	-0.9
TORD	**Torodi Ar. Bea**	**67.54**	**271**	P	**P**	18 52 54.9	-2.3
	comp=N,0.4nm,0.7s,mb3.5,baz=44,slow=5.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**67.54**	**271**	P	**P**	18 52 54.9	-2.3
WRA	**Warramunga Arr**	**79.53**	**123**	P	**P**	18 54 07.4	-0.1
	comp=N,0.7nm,1.1s,mb3.5,baz=322,slow=4.9,SNR=5.8						
WRA	**Warramunga Arr**	**79.53**	**123**	P	**P**	18 54 07.4	-0.1
WRAB	**Tennant Creek**	**79.53**	**123**	P	**P**	18 54 07.7	+0.2
	comp=N,3.5nm,1.1s,mb4.2						
YKA	**Yellowknife Ar**	**82.86**	**4**	P	**P**	18 54 23.9	-0.7
	comp=N,0.2nm,0.5s,mb3.5,baz=348,slow=5.3,SNR=3.5						
YKA	**Yellowknife Ar**	**82.86**	**4**	P	**P**	18 54 23.9	-0.7

IDC 17 18:47:40.3±29.0, 17.70S×175.41W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, MS4.0/3, Ms1 4.0/3, ms1mx3.2/30, Error ellipse: s-maj=563.7km s-min=143.7km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.24**	**242**	P	P	18 55 27.6	+0.4
	0.9nm,0.8s,baz=110,slow=12,SNR=3.4						
STKA				LR	LR	19 09 32.9	
	comp=Z,75nm,21.6s,baz=206,slow=32						
WRA	**Warramunga Arr**	**47.47**	**259**	P	P	18 56 17.4	0.0
	0.5nm,0.4s,baz=98,slow=7.5,SNR=32						
ASAR	**Alice Springs**	**47.59**	**254**	P	P	18 56 17.9	-0.3
	0.6nm,0.4s,baz=87,slow=8.3,SNR=13						
FITZ	**Fitzroy Crossi**	**55.88**	**260**	P	P	18 57 19.9	-0.3
	2.2nm,0.9s,baz=112,slow=5.4,SNR=4.9						
CBIJ	**Chichi jima**	**60.62**	**316**	LR	LR	19 18 55.7	
	comp=Z,454nm,19.4s,baz=124,slow=31						
JOW	**Kunigami**	**70.31**	**308**	LR	LR	19 26 41.8	
	comp=Z,84nm,18.4s,baz=159,slow=33						

*IDC **17** 19:02:09.6±1.2, 38.43N×21.65E, h0km, mb3.7/9, mb1 3.7/11, mb1mx3.7/26, mbtmp3.6/11, ML3.0/2, Error ellipse: s-maj=27.8km s-min=20.6km az=122.0*
*CSEM **17** 19:02:10.4±0.1, 38.34N×21.83E, h5km, mb3.8/7, Error ellipse: s-maj=3.2km s-min=2.8km az=49.0*
*ISCJB **17** 19:02:10.3±0.3, 38.35N±0.02×21.81E±0.02, h7km±2km, mb3.6/10, Error ellipse: s-maj=2.7km s-min=2.5km az=43.5*
*ATH **17** 19:02:10.2, 38.34N×21.86E, h11km, ML3.3*
*THE **17** 19:02:10.8, 38.34N×21.84E, h0km±1km, ML3.4/8, Error ellipse: s-maj=1.6km s-min=0.6km az=253.0*
*MOS **17** 19:02:13.6±1.2, 38.48N×21.87E, h33km, mb4.0/6, Error ellipse: s-maj=18.4km s-min=9.0km az=74.1*
*NEIC **17** 19:02:15.6±1.1, 38.46N×21.71E, h43km±11km, mb3.7/1, Error ellipse: s-maj=14.5km s-min=9.6km az=176.0*
*SKO **17** 19:02:19.5, 38.95N×22.45E, h0km*

ISC 17 19:02:11.0±0.3, 38.34N±0.02×21.82E±0.02, h7km±2km, n184, σ1.9±08/252, mb3.6/10, 10C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.06**	**210**	*e*PG	**Pg**	19 02 12.5	-0.2
UPR				*e*SG	**Sg**	19 02 14.5	+0.6
UPR	**University Cam**	**0.06**	**210**	P	**Pg**	19 02 12.6	-0.1
UPR				S	**Sg**	19 02 14.3	+0.4
UPR	**University Cam**	**0.06**	**210**	P	**Pg**	19 02 12.6	-0.1
UPR				S	**Sg**	19 02 14.1	+0.2
UPR				*e*Sg	**Sg**	19 02 14.5	+0.6
LAKA	**Lakka**	**0.15**	**128**	P	**Pg**	19 02 14.2	0.0
LAKA				S	**Sg**	19 02 17.2	+0.9
LAKA	**Lakka**	**0.15**	**128**	P	**Pg**	19 02 14.2	0.0
LAKA				S	**Sg**	19 02 17.2	+0.9
TRIZ	**Trizonia**	**0.20**	**81**	P	**Pg**	19 02 14.0	-1.0
TRIZ				S	**Sg**	19 02 17.6	-0.1
TRIZ	**Trizonia**	**0.20**	**81**	P	**Pg**	19 02 14.0	-1.0
TRIZ				S	**Sg**	19 02 17.6	-0.1
KALE	**Kalithea**	**0.25**	**77**	P	**Pg**	19 02 15.9	-0.1
KALE	**Kalithea**	**0.25**	**77**	P	**Pg**	19 02 15.9	-0.1
RLS	**Riolos of Patr**	**0.40**	**226**	*e*PB	**Pg**	19 02 18.5	-0.2
RLS				*e*SB	**Sg**	19 02 24.6	+0.8
RLS	**Riolos of Patr**	**0.40**	**226**	P	**Pg**	19 02 18.5	-0.2
RLS	**Riolos of Patr**	**0.40**	**226**	P	**Pg**	19 02 18.5	-0.2
RLS				*e*Sb	**Sg**	19 02 24.6	+0.8
GUR	**Goura**	**0.57**	**134**	*e*PB	**Pg**	19 02 21.3	-0.7
GUR	**Goura**	**0.57**	**134**	P	**Pg**	19 02 21.3	-0.7
GUR				S	**Sg**	19 02 30.1	+0.7
GUR	**Goura**	**0.57**	**134**	P	**Pg**	19 02 21.3	-0.7
GUR				S	**Sg**	19 02 29.1	-0.3
EVR	**Evrytania**	**0.58**	**359**	*e*PB	**Pg**	19 02 21.2	-1.0
EVR				*e*SB	**Sg**	19 02 29.7	-0.1
EVR	**Evrytania**	**0.58**	**359**	P	**Pg**	19 02 21.2	-1.0
EVR				S	**Sg**	19 02 30.7	+0.9
EVR	**Evrytania**	**0.58**	**359**	*e*Pb	**Pg**	19 02 21.3	-0.9
EVR				S	**Sg**	19 02 29.7	-0.1
MAKR	**Makrakomi, Fth**	**0.72**	**19**	P	**Pg**	19 02 24.1	-0.7
MAKR				S	**Sg**	19 02 35.6	+1.4
MAKR	**Makrakomi, Fth**	**0.72**	**19**	P	**Pg**	19 02 24.1	-0.7
MAKR				S	**Sg**	19 02 35.6	+1.4
AGG	**Agios Georgios**	**0.79**	**30**	P	**Pg**	19 02 24.9	-1.3
AGG				S	**Sg**	19 02 38.5	+2.0
AGG	**Agios Georgios**	**0.79**	**30**	P	**Pg**	19 02 24.9	-1.3
AGG				S	**Sg**	19 02 38.5	+2.0
KFL	**Anninata**	**0.85**	**255**	P	**Pg**	19 02 26.7	-0.6
KFL				S	**Sg**	19 02 40.1	+1.8
KFL	**Anninata**	**0.85**	**255**	P	**Pg**	19 02 26.7	-0.6
KFL				S	**Sg**	19 02 39.5	+1.2
LTK	**Loutraki**	**0.95**	**109**	*e*PB	**Pg**	19 02 28.2	-1.1
LTK	**Loutraki**	**0.95**	**109**	P	**Pg**	19 02 28.6	-0.7
LTK				S	**Sg**	19 02 43.6	+1.9
LTK	**Loutraki**	**0.95**	**109**	*e*Pb	**Pg**	19 02 28.2	-1.1
LTK	**Loutraki**	**0.95**	**109**	P	**Pg**	19 02 28.6	-0.7
LTK				S	**Sg**	19 02 42.1	+0.4
LKR	**Lokris**	**0.97**	**71**	*e*PB	**Pg**	19 02 28.1	-1.6
LKR				*e*SB	**Sg**	19 02 41.8	-0.6
LKR	**Lokris**	**0.97**	**71**	P	**Pg**	19 02 28.6	-1.1
LKR				S	**Sg**	19 02 43.3	+0.9
LKR	**Lokris**	**0.97**	**71**	*e*Pb	**Pg**	19 02 28.1	-1.6
LKR	**Lokris**	**0.97**	**71**	P	**Pg**	19 02 28.6	-1.1
LKR				*e*Sb	**Sg**	19 02 41.8	-0.6
LKR				S	**Sg**	19 02 43.3	+0.9
VLS	**Valsamata**	**0.98**	**261**	*e*PB	**Pg**	19 02 29.4	-0.5
VLS				*e*SB	**Sg**	19 02 44.0	+

KZN	**Kozani**	**1.97**	**359**	P	**Pn**	**19 02 45.5**	**+0.8**
KZN	**Kozani**	**1.97**	**359**	*e*Pn	**Pn**	**19 02 45.8**	**+1.1**
PAIG	**Paliouri**	**2.15**	**42**	P	**Pn**	**19 02 46.2**	**-1.0**
PAIG	**Paliouri**	**2.15**	**42**	P	**Pn**	**19 02 46.2**	**-1.0**
KYTH	**Kithira**	**2.27**	**154**	*e*PN	**Pn**	**19 02 50.3**	**+1.5**
KYTH	**Kithira**	**2.27**	**154**	P	**Pn**	**19 02 51.4**	**+2.6**
KYTH	**Kithira**	**2.27**	**154**	*e*Pn	**Pn**	**19 02 50.3**	**+1.5**
KYTH	**Kithira**	**2.27**	**154**	P	**Pn**	**19 02 51.4**	**+2.6**
FNA	**Florina**	**2.47**	**352**	P	**Pn**	**19 02 53.1**	**+1.5**
FNA	**Florina**	**2.47**	**352**	P	**Pn**	**19 02 53.1**	**+1.5**
BIA	**Bitola**	**2.71**	**352**	*e*Pn	**Pn**	**19 02 58.0**	**+3.1**
BIA				*e*Sg	**Sn**	**19 03 31.8**	**+3.9**
BIA	**Bitola**	**2.71**	**352**	*e*Pn	**Pn**	**19 02 57.9**	**+3.0**
BIA				*e*Sg	**Sn**	**19 03 31.8**	**+3.9**
SOH	**Sokhos**	**2.75**	**25**	P	**Pn**	**19 02 56.1**	**+0.6**
SOH	**Sokhos**	**2.75**	**25**	P	**Pn**	**19 02 56.1**	**+0.6**
VAY	**Valandovo**	**3.04**	**11**	*e*Pn	**Pn**	**19 02 58.5**	**-0.9**
VAY	**Valandovo**	**3.04**	**11**	*e*Pn	**Pn**	**19 02 58.5**	**-0.9**
KRUS	**Krusevo**	**3.06**	**352**	*e*Pn	**Pn**	**19 03 02.9**	**+3.2**
KRUS	**Krusevo**	**3.06**	**352**	*e*Pn	**Pn**	**19 03 02.9**	**+3.1**
APE	**Apeiranthos**	**3.20**	**112**	⇑P	**Pn**	**19 03 01.6**	**0.0**
APE				S	**Sn**	**19 03 39.9**	**-0.1**
APE	**Apeiranthos**	**3.20**	**112**	⇑*i*P	**Pn**	**19 03 01.6**	**0.0**
APE	**Apeiranthos**	**3.20**	**112**	S	**Sn**	**19 03 39.8**	**-0.2**
APE	**Apeiranthos**	**3.20**	**112**	P	**Pn**	**19 03 01.6**	**0.0**
APE				S	**Sn**	**19 03 39.9**	**-0.1**
TIP	**Timpagrande**	**4.05**	**284**	*e*Pn	**Pn**	**19 03 14.0**	**+0.7**
TIP	**Timpagrande**	**4.05**	**284**	*e*Pn	**Pn**	**19 03 14.0**	**+0.7**
VTS	**Vitosha**	**4.38**	**14**	⇑P	**Pn**	**19 03 19.2**	**+1.3**
VTS				S	**Sn**	**19 04 09.8**	**+0.7**
VTS	**Vitosha**	**4.38**	**14**	⇑*i*P	**Pn**	**19 03 19.2**	**+1.3**
VTS	**Vitosha**	**4.38**	**14**	S	**Sn**	**19 04 09.8**	**+0.7**
VTS	**Vitosha**	**4.38**	**14**	P	**Pn**	**19 03 19.2**	**+1.3**
VTS				S	**Sn**	**19 04 09.8**	**+0.7**
BARS	**Barje**	**4.48**	**360**	*e*Pn	**Pn**	**19 03 18.4**	**-0.8**
STON	**Ston**	**5.51**	**327**	*e*Pn	**Pn**	**19 03 30.7**	**-2.7**
STON				Sn	**Sn**	**19 04 30.2**	**-6.8**
STON	**Ston**	**5.51**	**327**	*e*Pn	**Pn**	**19 03 30.7**	**-2.7**
DIVS	**Divibare**	**5.92**	**347**	*e*Pn	**Pn**	**19 03 40.7**	**+1.7**
MLR	**Muntele Rosu**	**7.78**	**22**	Pn	**Pn**	**19 04 06.4**	**+1.8**
	0.1nm,0.3s,baz=156,slow=20,SNR=2.6						
MLR	**Muntele Rosu**	**7.78**	**22**	Pn	**Pn**	**19 04 06.4**	**+1.8**
MLR	**Muntele Rosu**	**7.78**	**22**	⇑P	**Pn**	**19 04 05.1**	**+0.6**
MLR	**Muntele Rosu**	**7.78**	**22**	⇑*i*P	**Pn**	**19 04 05.1**	**+0.6**
MLR	**Muntele Rosu**	**7.78**	**22**	P	**Pn**	**19 04 05.1**	**+0.6**
MLR	**Muntele Rosu**	**7.78**	**22**	Pn	**Pn**	**19 04 06.4**	**+1.9**
NVLJ	**Novalja**	**8.12**	**322**	*i* Pn	**Pn**	**19 04 09.3**	**+0.1**
NVLJ				Sn	**Sn**	**19 05 37.5**	**-3.7**
NVLJ	**Novalja**	**8.12**	**322**	*i* Pn	**Pn**	**19 04 09.2**	**0.0**
PLOR	**Plostina**	**8.32**	**24**	⇑P	**Pn**	**19 04 12.7**	**+0.7**
PLOR	**Plostina**	**8.32**	**24**	⇑*i*P	**Pn**	**19 04 12.7**	**+0.7**
PLOR	**Plostina**	**8.32**	**24**	P	**Pn**	**19 04 12.7**	**+0.7**
VRI	**Vrincioaia**	**8.36**	**24**	⇑P	**Pn**	**19 04 11.7**	**-0.8**
VRI	**Vrincioaia**	**8.36**	**24**	⇑*i*P	**Pn**	**19 04 11.7**	**-0.8**
VRI	**Vrincioaia**	**8.36**	**24**	P	**Pn**	**19 04 11.7**	**-0.8**
BR131	**Keskin Array S**	**9.30**	**78**	*e*P	**Pn**	**19 04 27.4**	**+2.0**
BR131	**Keskin Array S**	**9.30**	**78**	*e*P	**Pn**	**19 04 27.4**	**+2.0**
BRTR	**Keskin Array B**	**9.30**	**78**	Pn	**Pn**	**19 04 27.5**	**+2.1**
	0.3nm,0.3s,baz=258,slow=13,SNR=12						
BRTR	**Keskin Array B**	**9.30**	**78**	Pn	**Pn**	**19 04 27.5**	**+2.1**
BRTR	**Keskin Array B**	**9.30**	**78**	P	**Pn**	**19 04 27.5**	**+2.1**
BRTR	**Keskin Array B**	**9.30**	**78**	P	**Pn**	**19 04 27.5**	**+2.1**
OBN	**Obninsk**	**19.52**	**26**	*i* P	**Pn**	**19 06 38.2**	**-1.7**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s						
OBN	**Obninsk**	**19.52**	**26**	*i* P	**Pn**	**19 06 38.2**	**-1.7**
	comp=Z,200nm,20.0s						
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**19 07 07.7**	**-2.2**
	comp=Z,2.6nm,0.8s,mb3.7,baz=152,slow=13,SNR=6.5						
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**19 07 07.7**	**-2.2**
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**19 07 07.7**	**-2.2**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**19 07 07.7**	**-2.2**
	comp=Z,3.0nm,0.8s,mb3.8						
FINES	**FINESS Array B**	**23.29**	**5**	P	**P**	**19 07 17.0**	**-2.0**
	comp=Z,4.6nm,1.1s,mb3.8,baz=254,slow=14,SNR=5.3						
FINES	**FINESS Array B**	**23.29**	**5**	P	**P**	**19 07 17.0**	**-2.0**
FINES	**FINESS Array B**	**23.29**	**5**	P	**P**	**19 07 17.0**	**-2.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**23.29**	**5**	P	**P**	**19 07 17.0**	**-2.0**
	comp=Z,5.0nm,1.1s,mb3.9						
NB2	**NORSAR Subarra**	**23.68**	**347**	P	**P**	**19 07 21.6**	**-1.4**
	comp=Z,1.4nm,0.7s,mb3.5,baz=155,slow=9.3						
NB2	**NORSAR Subarra**	**23.68**	**347**	P	**P**	**19 07 21.6**	**-1.4**
	comp=Z,1.4nm,0.7s,mb3.5						
NOA	**NORSAR Array B**	**23.68**	**347**	P	**P**	**19 07 21.4**	**-1.7**
	comp=Z,1.1nm,0.6s,mb3.4,baz=154,slow=9.3,SNR=4.2						
NOA	**NORSAR Array B**	**23.68**	**347**	P	**P**	**19 07 21.4**	**-1.7**
NOA	**NORSAR Array B**	**23.68**	**347**	P	**P**	**19 07 21.4**	**-1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**23.68**	**347**	P	**P**	**19 07 21.4**	**-1.6**
	comp=Z,1.0nm,0.6s,mb3.4						
TORD	**Torodi Ar. Bea**	**30.81**	**221**	P	**P**	**19 08 27.4**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.3,baz=34,slow=8.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**30.81**	**221**	P	**P**	**19 08 27.4**	**0.0**
TORD	**Torodi Ar. Bea**	**30.81**	**221**	P	**P**	**19 08 27.4**	**0.0**
ARCES	**ARCESS Array B**	**31.32**	**2**	P	**P**	**19 08 29.8**	**-1.7**
	comp=Z,3.3nm,1.0s,mb4.1,baz=250,slow=32,SNR=3.4						
ARCES	**ARCESS Array B**	**31.32**	**2**	P	**P**	**19 08 29.8**	**-1.7**
ARCES	**ARCESS Array B**	**31.32**	**2**	P	**P**	**19 08 29.8**	**-1.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**31.32**	**2**	P	**P**	**19 08 29.8**	**-1.7**
	comp=Z,3.0nm,1.0s,mb4.1						
KKAR	**Karatay Array**	**36.79**	**67**	P	**P**	**19 09 20.8**	**+1.6**
	comp=Z,0.5nm,0.5s,mb3.6						
KKAR	**Karatay Array**	**36.79**	**67**	P	**P**	**19 09 20.8**	**+1.6**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
KKAR	**Karatay Array**	**36.79**	**67**	P	**P**	**19 09 20.8**	**+1.6**
	comp=Z,0.5nm,0.5s,mb3.6						
MKAR	**Makanchi Array**	**44.34**	**59**	P	**P**	**19 10 21.4**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=273,slow=7.6,SNR=18						
MKAR	**Makanchi Array**	**44.34**	**59**	P	**P**	**19 10 21.4**	**-0.1**
MKAR	**Makanchi Array**	**44.34**	**59**	*e*P	**P**	**19 10 21.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.34**	**59**	*e*P	**P**	**19 10 21.4**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.7						
ZALV	**Zalesovo Beam**	**44.82**	**48**	P	**P**	**19 10 24.9**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.9,baz=269,slow=6.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**44.82**	**48**	P	**P**	**19 10 24.9**	**-0.4**
ZALV	**Zalesovo Beam**	**44.82**	**48**	*e*P	**P**	**19 10 25.6**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ZALV	**Zalesovo Beam**	**44.82**	**48**	P	**P**	**19 10 24.9**	**-0.4**
SONM	**Songino Array**	**59.56**	**51**	P	**P**	**19 12 14.7**	**-0.3**
	comp=Z,0.2nm,0.9s,mb3.1,baz=334,slow=9.6,SNR=2.5						
SONM	**Songino Array**	**59.56**	**51**	P	**P**	**19 12 14.7**	**-0.3**
SONM	**Songino Array**	**59.56**	**51**	P	**P**	**19 12 14.7**	**-0.3**
SONM	**Songino Array**	**59.56**	**51**	P	**P**	**19 12 14.7**	**-0.3**
ILAR	**Eielson Array**	**76.85**	**355**	P	**P**	**19 14 03.2**	**+0.2**
	comp=Z,0.3nm,0.8s,mb3.3,baz=1.4,slow=4.0,SNR=4.3						
ILAR	**Eielson Array**	**76.85**	**355**	P	**P**	**19 14 03.2**	**+0.2**
ILAR	**Eielson Array**	**76.85**	**355**	P	**P**	**19 14 03.2**	**+0.1**
ILAR	**Eielson Array**	**76.85**	**355**	P	**P**	**19 14 03.2**	**+0.1**

*IDC **17** 19:09:54.7±1.2,41.°31N×141.°77E,h0km,mb3.7/9, mb1 3.8/9,mb1mx3.6/24,mbtmp3.7/9,Error ellipse: s-maj=29.6km s-min=21.6km az=107.0*
*MOS **17** 19:10:02.5±1.8,41.°40N×141.°75E,h66km,mb4.2/6,Error ellipse: s-maj=15.2km s-min=11.7km az=63.6*
*ISCJB **17** 19:10:03.1±0.4,41.°40N±0.°03×141.°75E±0.°04,h76km±3km, mb3.6/10,Error ellipse: s-maj=6.2km s-min=4.0km az=43.3*
*JMA **17** 19:10:03.9±0.1,41.°42N×141.°76E,h67km±1km,M3.3*
JMA Felt I J1.
*NEIC **17** 19:10:04.5±0.8,41.°33N×141.°88E,h81km±8km,mb3.9/1, Error ellipse: s-maj=16.3km s-min=9.4km az=128.0*
ISC 17 19:10:04.0±0.4,41.°40N±0.°03×141.°75E±0.°04,h69km±4km, n57,σ0.°64/74,mb3.6/10,1C-8D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.73**	**313**	⇓P	**Pn**	**19 10 18.7**	**-0.5**
JKB				*e*S	**Sn**	**19 10 29.8**	**-0.6**
JTM	**Tenmabayashi**	**0.80**	**220**	⇓P	**Pn**	**19 10 20.3**	**+0.3**
JTM				S	**Sn**	**19 10 31.8**	**0.0**
JSR	**Shiriuchi**	**1.01**	**278**	⇓P	**Pn**	**19 10 22.7**	**+0.1**
JSR				S	**Sn**	**19 10 37.0**	**+0.6**
JANG	**Nango**	**1.04**	**190**	⇑P	**Pn**	**19 10 22.7**	**-0.2**
JANG				*e*S	**Sn**	**19 10 36.1**	**-0.9**
JNBK	**Urakawa-nobuka**	**1.16**	**40**	P	**Pn**	**19 10 23.8**	**-0.7**
JNBK				*e*S	**Sn**	**19 10 38.9**	**-0.9**
JNB	**Noboribetsu**	**1.20**	**334**	⇓P	**Pn**	**19 10 24.3**	**-0.7**
JNB				*e*S	**Sn**	**19 10 39.4**	**-1.2**
ERM	**Erimo**	**1.22**	**59**	*e*P	**Pn**	**19 10 25.6**	**+0.3**
ERM				*e*S	**Sn**	**19 10 40.9**	**-0.4**
ERM	**Erimo**	**1.22**	**59**	*e*P	**Pn**	**19 10 25.6**	**+0.3**
ERM				*e*S	**Sn**	**19 10 40.9**	**-0.4**
JEM	**Erimo**	**1.22**	**59**	P	**Pn**	**19 10 25.5**	**+0.2**
JEM				*e*S	**Sn**	**19 10 41.5**	**+0.2**
JYM2	**Yakumo 2**	**1.26**	**305**	⇓P	**Pn**	**19 10 26.0**	**+0.2**
JYM2				*e*S	**Sn**	**19 10 42.5**	**+0.4**
JBT2	**Biratori 2**	**1.46**	**18**	P	**Pn**	**19 10 28.8**	**+0.4**
JBT2				*e*S	**Sn**	**19 10 47.5**	**+0.8**
JEW	**Eniwo**	**1.46**	**351**	P	**Pn**	**19 10 28.4**	**0.0**
JEW				*e*S	**Sn**	**19 10 46.2**	**-0.6**
JAH	**Hinai**	**1.47**	**215**	⇓P	**Pn**	**19 10 29.5**	**+0.9**
JIW	**Iwasaki**	**1.54**	**239**	⇓P	**Pn**	**19 10 30.0**	**+0.5**
JIW				*e*S	**Sn**	**19 10 49.0**	**+0.3**
JCH	**Churui**	**1.71**	**44**	P	**Pn**	**19 10 32.6**	**+0.8**
JCH				*e*S	**Sn**	**19 10 53.9**	**+1.1**
ASAJ	**Asahikawa**	**2.79**	**13**	Pg	**Pn**	**19 10 47.2**	**+0.9**
	1.5nm,0.3s,baz=223,slow=18,SNR=24						
ASAJ				Sn	**Sn**	**19 11 19.1**	**+0.2**
	2.8nm,0.3s,baz=140,slow=34,SNR=2.7						
ASAJ	**Asahikawa**	**2.79**	**13**	*e*P	**Pn**	**19 10 47.5**	**+1.2**
ASAJ				Sn	**Sn**	**19 11 19.1**	**+0.2**
ASAJ	**Asahikawa**	**2.79**	**13**	P	**Pn**	**19 10 47.2**	**+0.9**
ASAJ						19 11 19.1	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.02**	**48**	*d i*P	**Pn**	**19 11 03.0**	**-0.1**
YUK				*e*S	**Sn**	**19 11 45.3**	**-3.5**
YUK				pmax	pmax		
	comp=N,29nm,0.2s						
YUK				pmax	pmax		
	comp=Z,54nm,0.3s						
YUK				pmax	pmax		
	comp=E,43nm,0.2s						
YUK				smax			
	comp=N,810nm,0.6s						
YUK				smax			
	comp=E,149nm,0.6s						
MJAR	**Matsushiro Arr**	**5.58**	**211**	Pn	**Pn**	**19 11 23.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=24,slow=15,SNR=2.7						
MJAR	**Matsushiro Arr**	**5.58**	**211**	Pn	**Pn**	**19 11 23.4**	**-0.9**
MJAR	**Matsushiro Arr**	**5.58**	**211**	P	**Pn**	**19 11 23.5**	**-0.9**
KSRS	**Korea Array**	**11.39**	**254**	Pn	**Pn**	**19 12 47.8**	**+4.0**
	comp=E,0.3nm,0.3s,baz=65,slow=14,SNR=6.8						
KSRS	**Korea Array**	**11.39**	**254**	P	**Pn**	**19 12 47.8**	**+4.0**
KSAR	**Wonju Array Be**	**11.43**	**254**	Pn	**Pn**	**19 12 47.8**	**+3.6**
KSAR	**Wonju Array Be**	**11.43**	**254**	P	**Pn**	**19 12 47.8**	**+3.5**
SONM	**Songino Array**	**25.81**	**296**	P	**P**	**19 15 28.1**	**-0.4**
	comp=E,0.2nm,0.4s,mb2.9,baz=81,slow=8.1,SNR=3.9						
SONM	**Songino Array**	**25.81**	**296**	P	**P**	**19 15 28.1**	**-0.4**
SONM	**Songino Array**	**25.81**	**296**	P	**P**	**19 15 28.1**	**-0.4**
ZALV	**Zalesovo Beam**	**39.28**	**309**	P	**P**	**19 17 25.7**	**0.0**
	comp=E,0.5nm,0.3s,mb3.9,baz=103,slow=7.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**39.28**	**309**	P	**P**	**19 17 25.7**	**0.0**
ZALV	**Zalesovo Beam**	**39.28**	**309**	P	**P**	**19 17 25.7**	**0.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
MK31	**Makanchi Array**	**42.16**	**298**	*e*P	**P**	**19 17 49.3**	**-0.2**
MK31	**Makanchi Array**	**42.16**	**298**	*e*P	**P**	**19 17 49.3**	**-0.2**
MKAR	**Makanchi Array**	**42.16**	**298**	P	**P**	**19 17 49.5**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.6,baz=83,slow=11,SNR=18						
MKAR	**Makanchi Array**	**42.16**	**298**	P	**P**	**19 17 49.5**	**0.0**
MKAR	**Makanchi Array**	**42.16**	**298**	P	**P**	**19 17 49.5**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**43.56**	**305**	P	**P**	**19 18 00.5**	**-0.2**
	comp=Z,1.5nm,0.8s,mb3.8						
KURK	**Kurchatov**	**43.56**	**305**	P	**P**	**19 18 00.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
AKTO	**Aktyubinsk**	**56.02**	**310**	P	**P**	**19 19 35.7**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=60,slow=15,SNR=3.6						
AKTO	**Aktyubinsk**	**56.02**	**310**	P	**P**	**19 19 35.7**	**+0.4**
AKTO	**Aktyubinsk**	**56.02**	**310**	P	**P**	**19 19 35.7**	**+0.5**
YKA	**Yellowknife Ar**	**59.93**	**31**	P	**P**	**19 20 02.8**	**+0.4**
	comp=Z,0.1nm,0.7s,mb3.0,baz=313,slow=8.2,SNR=3.1						
YKA	**Yellowknife Ar**	**59.93**	**31**	P	**P**	**19 20 02.8**	**+0.4**
YKA	**Yellowknife Ar**	**59.93**	**31**	P	**P**	**19 20 02.8**	**+0.4**
WRA	**Warramunga Arr**	**61.41**	**188**	P	**P**	**19 20 12.2**	**-0.7**
	comp=Z,0.4nm,0.9s,mb3.4,baz=6.4,slow=7.2,SNR=5.6						
WRA	**Warramunga Arr**	**61.41**	**188**	P	**P**	**19 20 12.2**	**-0.6**
WRA	**Warramunga Arr**	**61.41**	**188**	P	**P**	**19 20 12.2**	**-0.7**
FINES	**FINESS Array B**	**65.10**	**331**	P	**P**	**19 20 36.7**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.1,baz=35,slow=7.0,SNR=6.7						
FINES	**FINESS Array B**	**65.10**	**331**	P	**P**	**19 20 36.7**	**-0.1**
FINES	**FINESS Array B**	**65.10**	**331**	P	**P**	**19 20 36.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**70.23**	**335**	P	**P**	**19 21 09.1**	**-0.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=92,slow=4.9,SNR=4.1						
HFS	**Hagfors**	**70.23**	**335**	P	**P**	**19 21 09.1**	**-0.1**
HFS	**Hagfors**	**70.23**	**335**	P	**P**	**19 21 09.1**	**-0.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.03**	**322**	P	**P**	**19 21 13.9**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=45,slow=7.1,SNR=3.0						
AKASG	**Malin Array Be**	**71.03**	**322**	P	**P**	**19 21 13.9**	**-0.2**
AKASG	**Malin Array Be**	**71.03**	**322**	P	**P**	**19 21 13.9**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*NIED **17** 19:17:00.24.°90N×121.°80E,h5km,Mw4.4 Best double couple: M∘3.99000×10^15 NP1:ϕs248.00000°,δ62.00000°, λ-72.00000°. NP2:ϕs33.00000°,δ33.00000°, λ-120.00000°.*
*JMA **17** 19:17:27.2±0.4,24.°95N×121.°80E,h28km,M4.2*
*ISCJB **17** 19:17:29.1±0.4,24.°87N±0.°02×122.°03E±0.°02,h8km±2km, mb4.2/24,MS3.5/9,Error ellipse: s-maj=3.0km s-min=2.7km az=144.9*
*TAP **17** 19:17:29.5,24.°83N×121.°97E,h16km,ML4.4,B*
*NEIC **17** 19:17:31.0±1.1,24.°81N×121.°91E,h13km±6km,mb4.3/12, Error ellipse: s-maj=8.3km s-min=6.1km az=84.0*
*IDC **17** 19:17:35.0±3.1,24.°85N×121.°94E,h45km±30km,mb3.8/13, mb1 4.0/15,mb1mx3.9/23,mbtmp3.8/15,ML3.3/2,MS3.5/9, Ms1 3.6/9,ms1mx3.1/34,Error ellipse: s-maj=20.5km s-min=14.3km az=66.0*
*BJI **17** 19:17:35.9,25.°39N×121.°46E,h9km,mB4.6/11,mb4.1/17, ML4.0/5,Ms4.0/8,Ms7 3.8/8*
ISC 17 19:17:29.2±0.4,24.°85N±0.°02×122.°05E±0.°02,h1km±2km, n133,σ1.°09/159,mb4.2/24,MS3.5/9,2C-11D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.17**	**340**	*e*P	**Pg**	**19 17 33.4**	**+1.0**
	baz=6.0						
TWB1				*e*S	**Sg**	**19 17 35.9**	**+1.1**
	baz=6.0						
ILA	**Ilan**	**0.29**	**254**	⇓*i*P	**Pg**	**19 17 34.9**	**+0.2**
ILA	baz=247						
				i S	**Sg**	**19 17 38.8**	**+0.4**
	baz=247						
TWC	**Suao**	**0.30**	**218**	P	**Pg**	**19 17 35.1**	**+0.2**
	baz=209						
TWC				*i* S	**Sg**	**19 17 38.4**	**-0.4**
	baz=209						
NWF	**Wu-fen Shan**	**0.33**	**312**	*i* P	**Pg**	**19 17 36.4**	**+0.9**
	baz=312						
TWE	**Neicheng**	**0.37**	**250**	P	**Pg**	**19 17 36.2**	**-0.1**
	baz=244						
TWE				S	**Sg**	**19 17 40.5**	**-0.5**
	baz=244						
TWA	**Mucha**	**0.45**	**288**	⇓*i*P	**Pg**	**19 17 38.0**	**+0.3**
	baz=286						
TWA				*e*S	**Sg**	**19 17 42.9**	**-0.6**
	baz=286						
ENTT	**Nioudou**	**0.49**	**245**	⇓*i*P	**Pg**	**19 17 38.2**	**-0.2**
	baz=243						
ENTT				*e*S	**Sg**	**19 17 44.2**	**-0.6**
	baz=243						
ENA	**Nanau**	**0.50**	**214**	⇓P	**Pg**	**19 17 38.8**	**0.0**
	baz=210						
ENA				*e*S	**Sg**	**19 17 44.6**	**-0.7**
	baz=210						
TAP1	**Taipei**	**0.52**	**292**	⇓*i*P	**Pg**	**19 17 39.9**	**+0.9**
	baz=290						
TAP1				*i* S	**Sg**	**19 17 46.2**	**+0.5**
	baz=290						
TATO	**Taipei**	**0.53**	**284**	⇑*i*P	**Pg**	**19 17 39.1**	**-0.2**
TWY	**Chenhua**	**0.59**	**316**	⇓*i*P	**Pg**	**19 17 41.5**	**+1.0**
	baz=323						
TWS1	**Kuangyinshan**	**0.63**	**294**	⇓*i*P	**Pg**	**19 17 42.4**	**+1.2**
	baz=299						
YHNB	**Yeheng**	**0.64**	**254**	*e*P	**Pg**	**19 17 40.6**	**-0.8**
NSK	**Sanguang**	**0.65**	**255**	P	**Pg**	**19 17 41.0**	**-0.7**
	baz=263						
NSK				*e*S	**Sg**	**19 17 47.8**	**-2.4**
	baz=263						
NNS	**Nan Shan**	**0.74**	**237**	⇓*i*P	**Pg**	**19 17 42.6**	**-0.7**
	baz=231						
NNS				*e*S	**Sg**	**19 17 52.4**	**-0.5**
	baz=231						
NACB	**Ninganchiao**	**0.79**	**212**	*e*P	**Pg**	**19 17 43.5**	**-0.8**
NACB				*e*S	**Sg**	**19 17 54.1**	**-0.4**
NCU	**National Centr**	**0.80**	**279**	P	**Pg**	**19 17 45.3**	**+0.9**
	baz=281						
NCU				*e*S	**Sg**	**19 17 55.8**	**+1.1**
	baz=281						
TWD	**Chiawan**	**0.87**	**209**	P	**Pg**	**19 17 45.5**	**-0.3**
	baz=206						
TWD				S	**Sg**	**19 17 56.1**	**-1.0**
	baz=206						
YOJ	**Yonaguni jima**	**0.95**	**113**	⇑*i*P	**Pg**	**19 17 48.6**	**+1.1**
	baz=111						
YOJ				S	**Sg**	**19 18 02.0**	**+2.2**
	baz=111						
YOJ	**Yonaguni jima**	**0.95**	**113**	P	**Pg**	**19 17 48.4**	**+1.0**
YOJ				S	**Sg**	**19 18 03.7**	**+3.9**
HWA	**Hwalien**	**0.96**	**205**	*e*P	**Pg**	**19 17 46.6**	**-0.9**
	baz=201						
NSTT	**Nanjuang**	**0.98**	**258**	*e*P	**Pg**	**19 17 47.7**	**-0.2**
	baz=255						
NSTT				*e*S	**Sg**	**19 18 00.7**	**+0.1**
	baz=255						
HSN	**Hsinchu**	**0.98**	**268**	*e*P	**Pg**	**19 17 47.6**	**-0.4**
	baz=287						
HSN				*e*S	**Sg**	**19 18 00.8**	**0.0**
	baz=287						
TWT	**Tachien**	**0.99**	**234**	*e*P	**Pg**	**19 17 47.7**	**-0.5**
	baz=224						
WHF	**Hehuan Shan**	**1.00**	**226**	⇓P	**Pg**	**19 17 47.6**	**-0.8**
	baz=224						
ESL	**Shilin**	**1.17**	**209**	P	**Pg**	**19 17 50.6**	**-1.1**
	baz=208						
ESL				*e*S	**Sg**	**19 18 05.7**	**-1.1**
	baz=208						
NSY	**Sanyi**	**1.25**	**250**	*e*P	**Pg**	**19 17 53.3**	**+0.2**
	baz=251						
NSY				*e*S	**Sg**	**19 18 10.3**	**+1.0**
	baz=251						
TWQ1	**Liyutan**	**1.27**	**247**	*e*P	**Pg**	**19 17 53.2**	**-0.2**
	baz=261						
TWQ1				*e*S	**Sg**	**19 18 10.4**	**+0.6**
	baz=261						
SMLT	**Sun Moon Lake**	**1.42**	**228**	*e*P	**Pn**	**19 17 55.6**	**-0.5**
	baz=219						
TCU	**Taichung**	**1.43**	**241**	*e*P	**Pn**	**19 17 56.3**	**0.0**
	baz=241						
TCU	

comp=E,2.4nm,0.3s,baz=274,slow=15,SNR=4.8
JOW Kunigami 5.95 69 P **Pn 19 19 02.3 +3.9**
WHN Wuhan 8.88 311 *eP* **Pn 19 19 35.3 -3.3**
WHN LR LR
comp=Z,970nm,17.5s
KSAR Wonju Array Be 13.51 20 P Px 19 20 52.0
KSRS Korea Array 13.53 20 P Px 19 20 52.0
comp=Z,0.5nm,0.3s,baz=198,slow=12,SNR=19
XAN Xi'an 14.64 312 P **Pn 19 21 04.6 +7.1**
XAN pP pP 19 21 10.4 +6.1
XAN pmax pmax
comp=Z,2.0nm,0.9s
XAN LR LR
comp=N,190nm,6.9s
XAN LR LR
comp=Z,93nm,13.0s
KMI Kunming 17.51 275 P **Pn 19 21 38.3 +3.5**
KMI S **Sn 19 24 46.3 -4.1**
KMI pmax pmax
comp=Z,7.0nm,1.0s
KMI pmax pmax
comp=Z,57nm,4.6s
KMI LR LR
comp=N,910nm,13.2s
KMI LR LR
comp=E,300nm,16.5s
KMI LR LR
comp=Z,320nm,15.3s
KMI Kunming 17.51 275 P **Pn 19 21 38.3 +3.5**
comp=Z,7.0nm,1.0s
KMI pP pP 19 21 48.6 +12
KMI sP sP 19 21 52.8 +17
KMI S **Sn 19 24 46.2 -4.2**
KMI sS sS 19 24 59.5 +0.4
MJAR Matsushiro Arr 18.11 46 P **Pn 19 21 45.5 +3.4**
comp=Z,0.1nm,0.3s,baz=248,slow=13,SNR=5.2
MJAR LR LR 19 29 10.5
comp=Z,75nm,18.5s,baz=270,slow=38
MJAR Matsushiro Arr 18.11 46 P **Pn 19 21 45.5 +3.4**
HHC Hu-ho-hao-te 18.20 334 *eP* **Pn 19 21 42.1 -1.1**
HHC pP pP 19 21 45.8 +2.1
HHC sP sP 19 21 49.3 +5.5
HHC PP 19 21 57.3
HHC S **Sn 19 25 02.9 -4.1**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.8s
HHC LR LR
comp=N,230nm,11.3s
HHC LR LR
comp=E,230nm,11.3s
HHC LR LR
comp=Z,310nm,11.4s
LZH Lanzhou 19.25 310 *eP* **Pn 19 21 55.6 -0.3**
LZH pP pP 19 21 58.8 +3.6
LZH sP sP 19 22 00.3 +5.0
LZH PP 19 22 14.5
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,63nm,4.0s
LZH LR LR
comp=N,200nm,10.5s
LZH LR LR
comp=E,220nm,11.0s
LZH LR LR
comp=Z,260nm,13.0s
LZH Lanzhou 19.25 310 *eP* **Pn 19 21 55.6 -0.3**
comp=Z,21nm,1.2s
LZH pP pP 19 21 58.8 +3.6
LZH sP sP 19 22 00.2 +4.9
LZH PP 19 22 14.5
CHTO Chiang Mai 22.26 259 *eP* **P 19 22 26.5 -1.3**
comp=Z,5.8nm,1.1s,mb3.9
CMAR Chiang Mai Arr 22.38 258 P **P 19 22 28.8 -0.3**
comp=Z,1.3nm,0.8s,mb3.4,baz=61,slow=8.5,SNR=9.0
CMAR PcP PcP 19 26 26.0 +1.5
comp=Z,0.3nm,0.9s,baz=312,slow=0.7,SNR=5.4
CMAR LR LR 19 31 52.7
comp=Z,141nm,20.0s,MS3.4,baz=95,slow=38
CMAR Chiang Mai Arr 22.38 258 P **P 19 22 28.8 -0.3**
CMAR PcP PcP 19 26 26.0 +1.5
GTA Gaotai 23.69 313 *eP* **P 19 22 42.3 -0.3**
GTA pP 19 22 46.3
GTA sP sP 19 22 49.3 +6.4
GTA pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
GTA pmax pmax
comp=Z,110nm,4.3s
GTA LR LR
comp=N,130nm,14.7s,MS3.7
GTA LR LR
comp=E,160nm,16.6s,MS3.7
GTA LR LR
comp=Z,130nm,13.8s,MS3.6
GUMO Guam 24.24 113 LR LR 19 29 52.9
comp=Z,161nm,21.1s,MS3.5,baz=54,slow=30
HIA Hailar 24.44 356 *eP* **P 19 22 50.3 +0.9**
comp=Z,11nm,0.9s,mb4.4
ASAJ Asahikawa 25.50 36 LR LR 19 32 32.6
comp=Z,67nm,19.2s,MS3.2,baz=31,slow=35
ULN Ulaanbaatar 25.86 336 *eP* **P 19 23 02.3 0.0**
comp=Z,9.7nm,1.1s,mb4.3
SONM Songino Array 26.08 336 P **P 19 23 04.4 +0.1**
comp=Z,15nm,0.9s,mb4.6,baz=152,slow=8.6,SNR=61
SONM LR LR 19 34 16.4
comp=Z,181nm,18.0s,MS3.6,baz=185,slow=38
SONM Songino Array 26.08 336 P **P 19 23 04.4 +0.1**
SHL Shillong 27.28 278 *e*PKP **P 19 23 17.0 +1.7**
LSA Lhasa 27.84 287 P **P 19 23 23.3 +3.0**
LSA Lhasa 27.84 287 *eP* **P 19 23 21.8 +1.4**
comp=Z,1.9nm,0.6s,mb4.1
KAPI Kappang 29.76 185 LR LR 19 35 24.9
comp=Z,70nm,21.3s,MS3.3,baz=247,slow=36
MK31 Makanchi Array 38.42 315 *eP* **P 19 24 51.0 -1.3**
MKAR Makanchi Array 38.42 315 P **P 19 24 51.4 -0.8**
comp=Z,2.5nm,0.9s,mb4.0,baz=97,slow=11,SNR=11
MKAR LR LR 19 42 07.2
comp=Z,124nm,19.4s,MS3.7,baz=65,slow=38
MKAR Makanchi Array 38.42 315 P **P 19 24 51.5 -0.8**
ZAA0 Zalesovo Array 40.13 326 *eP* **P 19 25 05.1 -1.3**
ZALV Zalesovo Beam 40.13 326 P **P 19 25 05.1 -1.3**
comp=Z,7.8nm,0.8s,mb4.4,baz=111,slow=8.1,SNR=24
ZALV LR LR 19 42 58.1
comp=Z,72nm,21.6s,MS3.5,baz=61,slow=38
ZALV Zalesovo Beam 40.13 326 P **P 19 25 05.1 -1.3**
TKM2 Tokmak 2 41.99 307 *eP* **P 19 25 22.2 +0.3**
comp=Z,3.4nm,0.7s,mb4.2
KURK Kurchatov 42.10 319 *eP* **P 19 25 22.2 -0.5**
comp=Z,5.9nm,1.0s,mb4.3
WRAB Tennant Creek 46.09 164 *eP* **P 19 25 54.5 -0.5**
comp=Z,5.8nm,0.8s,mb4.7
WRA Warramunga Arr 46.10 164 P **P 19 25 54.4 -0.6**
comp=Z,5.5nm,0.8s,mb4.7,baz=346,slow=8.8,SNR=30
WRA Warramunga Arr 46.10 164 P **P 19 25 54.4 -0.6**
WB2 Warramunga Arr 46.10 164 *eP* **P 19 25 54.4 -0.7**
BRVK Borovoye 47.74 320 *eP* **P 19 26 06.2 -1.3**
comp=Z,8.1nm,1.2s,mb4.7
ASAR Alice Springs 49.57 166 P **P 19 27 32.9 -0.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=340,slow=6.1,SNR=14
ASAR Alice Springs 49.57 166 P **P 19 26 21.9 -0.1**
CTA Charters Tower 50.49 150 LR LR 19 44 34.7
comp=Z,88nm,20.5s,MS3.8,baz=55,slow=32
ABKAR Akbulak array 53.55 314 *eP* **P 19 26 50.7 -0.8**
comp=Z,1.9nm,0.7s,mb4.2
ARU Arti 55.06 323 *eP* **P 19 27 04.5 +2.1**
comp=Z,5.6nm,0.3s,mb5.1
STKA Stephens Creek 59.41 161 P **P 19 27 32.9 -0.6**
comp=Z,2.4nm,0.7s,mb4.3,baz=334,slow=7.5,SNR=5.2
STKA Stephens Creek 59.41 161 P **P 19 27 32.9 -0.6**
ILAR Eielson Array 68.27 27 P **P 19 28 31.0 -0.4**
comp=Z,0.6nm,0.9s,mb3.8,baz=285,slow=7.0,SNR=5.2
ILAR Eielson Array 68.27 27 P **P 19 28 31.0 -0.4**
FINES FINESS Array B 71.28 330 P **P 19 28 49.1 -0.9**
comp=Z,1.5nm,0.7s,mb4.1,baz=116,slow=6.5,SNR=3.2
FINES FINESS Array B 71.28 330 P **P 19 28 49.1 -0.9**
BRTR Keskin Array B 73.42 306 P **P 19 29 02.6 -0.7**
comp=Z,3.0nm,1.1s,mb4.3,baz=152,slow=8.4,SNR=6.2
BRTR Keskin Array B 73.42 306 P **P 19 29 02.6 -0.7**
YKA Yellowknife Ar 82.06 23 P **P 19 29 49.3 -1.7**
comp=Z,1.1nm,0.8s,mb4.0,baz=310,slow=5.5,SNR=8.8
YKA Yellowknife Ar 82.06 23 P **P 19 29 49.3 -1.7**
GERES GERESS Array B 82.83 321 P **P 19 29 53.6 -1.7**
comp=Z,0.5nm,0.8s,mb3.8,baz=345,slow=1.5,SNR=4.4
GERES GERESS Array B 82.83 321 P **P 19 29 53.6 -1.7**
NVAR Mina Array Bea 95.41 43 P **P 19 30 56.3 +0.6**
comp=Z,0.3nm,0.6s,mb3.9,baz=305,slow=6.5,SNR=3.1
NVAR Mina Array Bea 95.41 43 P **P 19 30 56.3 +0.6**

*ISCJB **17** 19:20:24.4±0.4, 38.°84N±0.°02×23.°59E±0.°03, h9km±4km, Error ellipse: s-maj=4.4km s-min=2.9km az=176.1*
*CSEM **17** 19:20:24.3±0.1, 38.°82N×23.°61E, h10km, ML2.7/5, Error ellipse: s-maj=2.9km s-min=2.1km az=86.0*
*ATH **17** 19:20:24.1, 38.°86N×23.°58E, h23km, ML2.8*
*THE **17** 19:20:24.9, 38.°83N×23.°57E, h9km±1km, ML2.7/5, Error ellipse: s-maj=1.3km s-min=0.4km az=80.0*
ISC 17 19:20:24.9±0.4, 38.°84N±0.°02×23.°59E±0.°03, h12km±4km, n48, σ0.°58/86, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.13**	**180**	P	**Pg**	**19 20 27.8**	**-0.3**
MRKA				S	**Sg**	**19 20 29.9**	**-0.5**
MRKA	**Markates**	**0.13**	**180**	P	**Pg**	**19 20 27.8**	**-0.3**
MRKA				S	**Sg**	**19 20 29.9**	**-0.5**
SKIA	**Skiathos**	**0.34**	**344**	P	**Pg**	**19 20 31.8**	**+0.1**
SKIA				S	**Sg**	**19 20 37.8**	**+1.5**
SKIA	**Skiathos**	**0.34**	**344**	P	**Pg**	**19 20 31.8**	**+0.1**
SKIA				S	**Sg**	**19 20 37.8**	**+1.5**
AOS	**Alonnisos**	**0.40**	**34**	P	**Pg**	**19 20 32.7**	**-0.1**
AOS				S	**Sg**	**19 20 38.9**	**+0.7**
AOS	**Alonnisos**	**0.40**	**34**	P	**Pg**	**19 20 32.7**	**-0.1**
AOS				S	**Sg**	**19 20 38.9**	**+0.7**
ATAL	**Atalanti**	**0.47**	**252**	P	**Pg**	**19 20 33.3**	**-0.7**
ATAL				S	**Sg**	**19 20 40.4**	**+0.2**
ATAL	**Atalanti**	**0.47**	**252**	P	**Pg**	**19 20 33.3**	**-0.7**
ATAL				S	**Sg**	**19 20 40.4**	**+0.2**
LKR	**Lokris**	**0.50**	**248**	*e*PB	**Pg**	**19 20 34.0**	**-0.6**
LKR				*e*SB	**Sg**	**19 20 41.4**	**+0.2**
LKR	**Lokris**	**0.50**	**248**	P	**Pg**	**19 20 33.9**	**-0.7**
LKR				S	**Sg**	**19 20 41.3**	**+0.1**
LKR	**Lokris**	**0.50**	**248**	*e*Pb	**Pg**	**19 20 34.0**	**-0.6**
LKR				S	**Sg**	**19 20 41.3**	**+0.1**
NEO	**Neokhori**	**0.55**	**329**	*e*PN	**Pg**	**19 20 35.1**	**-0.4**
NEO				*e*SN	**Sg**	**19 20 42.2**	**-0.5**
NEO	**Neokhori**	**0.55**	**329**	P	**Pg**	**19 20 35.5**	**0.0**
NEO				S	**Sg**	**19 20 42.7**	**0.0**
NEO	**Neokhori**	**0.55**	**329**	*e*Pn	**Pg**	**19 20 35.1**	**-0.4**
NEO	**Neokhori**	**0.55**	**329**	P	**Pg**	**19 20 35.5**	**0.0**
NEO				S	**Sg**	**19 20 42.7**	**0.0**
XOR	**Xorichti**	**0.61**	**330**	P	**Pg**	**19 20 36.5**	**-0.2**
XOR				S	**Sg**	**19 20 44.9**	**+0.1**
XOR	**Xorichti**	**0.61**	**330**	P	**Pg**	**19 20 36.5**	**-0.2**
XOR				S	**Sg**	**19 20 44.9**	**+0.1**
VIL1	**Vilia, Western**	**0.70**	**197**	*e*PN	**Pg**	**19 20 37.9**	**-0.6**
VIL1				*e*SN	**Sg**	**19 20 48.2**	**+0.5**
AXAR	**Agios Charalam**	**0.73**	**265**	P	**Pg**	**19 20 38.5**	**-0.5**
AXAR				S	**Sg**	**19 20 48.8**	**+0.3**
AXAR	**Agios Charalam**	**0.73**	**265**	P	**Pg**	**19 20 38.5**	**-0.5**
AXAR				S	**Sg**	**19 20 48.8**	**+0.3**
PTL	**Penteli**	**0.82**	**165**	*e*PN	**Pg**	**19 20 39.9**	**-0.8**
PTL				*e*SN	**Sg**	**19 20 51.8**	**+0.5**
PTL	**Penteli**	**0.82**	**165**	P	**Pg**	**19 20 40.3**	**-0.4**
PTL				S	**Sg**	**19 20 52.0**	**+0.7**
PTL	**Penteli**	**0.82**	**165**	*e*Pn	**Pg**	**19 20 39.9**	**-0.8**
PTL	**Penteli**	**0.82**	**165**	P	**Pg**	**19 20 40.3**	**-0.4**
PTL				S	**Sg**	**19 20 52.0**	**+0.7**
ATH	**Athens Observa**	**0.87**	**173**	*e*PN	**Pg**	**19 20 41.5**	**-0.2**
ATH				*e*SN	**Sg**	**19 20 54.1**	**+1.1**
ATH	**Athens Observa**	**0.87**	**173**	*e*Pn	**Pg**	**19 20 41.5**	**-0.2**
ATH				*e*Sn	**Sg**	**19 20 54.1**	**+1.1**
LTK	**Loutraki**	**0.95**	**211**	*e*PN	**Pg**	**19 20 43.0**	**-0.2**
LTK				*e*SN	**Sg**	**19 20 56.4**	**+0.9**
LTK	**Loutraki**	**0.95**	**211**	P	**Pg**	**19 20 42.1**	**-1.1**
LTK				S	**Sg**	**19 20 56.7**	**+1.2**
LTK	**Loutraki**	**0.95**	**211**	P	**Pg**	**19 20 42.1**	**-1.1**
LTK	**Loutraki**	**0.95**	**211**	*e*Pn	**Pg**	**19 20 43.0**	**-0.2**
LTK				*e*Sn	**Sg**	**19 20 56.4**	**+0.9**
LTK				S	**Sg**	**19 20 56.7**	**+1.2**
AGG	**Agios Georgios**	**1.00**	**281**	*e*PN	**Pg**	**19 20 43.0**	**-1.1**
AGG	**Agios Georgios**	**1.00**	**281**	P	**Pg**	**19 20 42.9**	**-1.2**
AGG				S	**Sg**	**19 20 57.6**	**+0.5**
AGG	**Agios Georgios**	**1.00**	**281**	P	**Pg**	**19 20 42.9**	**-1.2**
AGG				S	**Sg**	**19 20 57.6**	**+0.5**
VLY	**Voula,Athens**	**1.00**	**171**	*e*PN	**Pg**	**19 20 43.3**	**-0.8**
VLY				*e*SN	**Sg**	**19 20 57.8**	**+0.7**
VLY	**Voula,Athens**	**1.00**	**171**	P	**Pg**	**19 20 43.3**	**-0.8**
VLY				S	**Sg**	**19 20 57.0**	**-0.1**
VLY	**Voula,Athens**	**1.00**	**171**	P	**Pg**	**19 20 43.3**	**-0.8**
VLY				S	**Sg**	**19 20 57.0**	**-0.1**
VLY				*e*Sn	**Sg**	**19 20 57.8**	**+0.7**
GUR	**Goura**	**1.33**	**228**	*e*PN	**Pn**	**19 21 49.5**	**+0.2**
GUR				*e*SN	**Sn**	**19 21 07.6**	**+0.7**
GUR	**Goura**	**1.33**	**228**	P	**Pn**	**19 20 49.2**	**-0.1**
GUR				S	**Sb**	**19 21 06.9**	**+0.1**
GUR	**Goura**	**1.33**	**228**	P	**Pn**	**19 20 49.2**	**-0.1**
GUR	**Goura**	**1.33**	**228**	*e*Pn	**Pn**	**19 20 49.5**	**+0.2**
GUR				S	**Sb**	**19 21 06.9**	**+0.1**
GUR				*e*Sn	**Sn**	**19 21 07.6**	**+0.7**
DID	**Didima**	**1.36**	**192**	*e*PN	**Pn**	**19 20 49.5**	**-0.2**
DID	**Didima**	**1.36**	**192**	*e*Pn	**Pn**	**19 20 49.5**	**-0.2**
THL	**Klokotos Trika**	**1.42**	**301**	*e*PN	**Pn**	**19 20 50.5**	**0.0**
THL	**Klokotos Trika**	**1.42**	**301**	*e*Pn	**Pn**	**19 20 50.5**	**0.0**
PLG	**Polygyros**	**1.54**	**356**	P	**Pn**	**19 20 51.8**	**-0.3**
PLG	**Polygyros**	**1.54**	**356**	P	**Pn**	**19 20 51.8**	**-0.3**
LIA	**Limnos Island**	**1.63**	**49**	*e*PN	**Pn**	**19 20 53.2**	**-0.2**
LIA	**Limnos Island**	**1.63**	**49**	*e*Pn	**Pn**	**19 20 53.2**	**-0.2**

*IDC **17** 19:53:58.6±3.0, 1.°98S×100.°24E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=126.8km s-min=19.7km az=57.0*
*NEIC **17** 19:54:02.2±1.4, 2.°28S×99.°86E, h35km, mb4.2/1, Error ellipse: s-maj=48.6km s-min=12.0km az=62.0*
*ISCJB **17** 19:54:07.2±1.4, 1.°8S±0.°1×100.°4E±0.°2, h80km±9km, mb3.8/6, Error ellipse: s-maj=33.2km s-min=9.3km az=150.9*
*DJA **17** 19:54:07, 1.°79S×100.°53E, h7km, MLv3.8/8*
ISC 17 19:54:08.6±1.4, 1.°8S±0.°1×100.°4E±0.°2, h73km±10km, n25, σ0.°99/23, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.90**	**1**	P	**Pn**	**19 54 23.6**	**-2.4**
KRJI	**Kerinci**	**1.06**	**105**	P	**Pn**	**19 54 24.0**	**-3.9**
PPI	**Padang Panjang**	**1.35**	**358**	P	**Pn**	**19 54 30.4**	**-1.3**
BKNI	**Bangkinang**	**2.21**	**16**	P	**Pn**	**19 54 43.7**	**+0.6**
RGRI	**Rengat**	**2.39**	**52**	P	**Pn**	**19 54 45.6**	**+0.1**
MNSI	**Mandailing Nat**	**2.73**	**342**	P	**Pn**	**19 54 50.9**	**+0.7**
KSI	**Kapahiang**	**2.82**	**130**	P	**Pn**	**19 54 52.8**	**+1.4**
MNAI	**Manna**	**3.56**	**135**	P	**Pn**	**19 55 01.8**	**+0.2**
KULM	**Kulim**	**7.06**	**2**	*e*P	**Pn**	**19 55 51.4**	**+2.0**
CMAR	**Chiang Mai Arr**	**20.20**	**356**	P	**P**	**19 58 36.9**	**-0.7**
0.9nm,0.7s,baz=185,slow=9.7,SNR=10							
CMAR	**Chiang Mai Arr**	**20.20**	**356**	P	**P**	**19 58 36.9**	**-0.7**
WRA	**Warramunga Arr**	**37.71**	**121**	P	**P**	**20 01 16.7**	**-0.7**
0.2nm,0.7s,mb3.1,baz=301,slow=9.4,SNR=2.8							
WRA	**Warramunga Arr**	**37.71**	**121**	P	**P**	**20 01 16.7**	**-0.7**
WRAB	**Tennant Creek**	**37.71**	**121**	P	**P**	**20 01 16.5**	**-0.9**
ASAR	**Alice Springs**	**39.01**	**127**	P	**P**	**20 01 28.1**	**-0.2**
0.8nm,0.7s,mb3.7,baz=303,slow=8.4,SNR=9.7							
ASAR	**Alice Springs**	**39.01**	**127**	P	**P**	**20 01 28.1**	**-0.2**
SONM	**Songino Array**	**49.72**	**5**	P	**P**	**20 02 53.9**	**+0.6**
0.2nm,0.4s,mb3.4,baz=189,slow=8.1,SNR=4.4							
SONM	**Songino Array**	**49.72**	**5**	P	**P**	**20 02 53.9**	**+0.6**
MKAR	**Makanchi Array**	**50.97**	**344**	P	**P**	**20 03 03.3**	**+0.5**
1.7nm,0.6s,mb4.2,baz=142,slow=7.8,SNR=11							
MKAR	**Makanchi Array**	**50.97**	**344**	P	**P**	**20 03 03.3**	**+0.5**
KURK	**Kurchatov**	**55.55**	**343**	*e*P	**P**	**20 03 36.4**	**0.0**
2.9nm,1.0s,mb4.3							
ZALV	**Zalesovo Beam**	**57.07**	**349**	P	**P**	**20 03 47.0**	**0.0**
2.6nm,0.7s,mb4.4,baz=160,slow=4.7,SNR=16							
ZALV	**Zalesovo Beam**	**57.07**	**349**	P	**P**	**20 03 47.0**	**0.0**
TXAR	**Lajitas Array**	**144.29**	**38**	PKP	PKPdf	20 13 36.5	-0.5
0.4nm,0.5s,baz=192,slow=1.3,SNR=5.5							
TXAR	**Lajitas Array**	**144.29**	**38**	PKP	PKPdf	20 13 36.5	-0.5

*ISCJB **17** 19:54:58.4±0.8, 42.°49S±0.°03×172.°81E±0.°04, h11km±6km, mb4.0/6, MS3.6/4, Error ellipse: s-maj=5.6km s-min=3.2km az=39.8*
*IDC **17** 19:54:58.7±1.0, 42.°54S×172.°75E, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.1/13, mbtmp4.1/6, MS3.7/4, Ms1 3.6/4, ms1mx3.3/19, Error ellipse: s-maj=26.5km s-min=23.7km az=76.0*
*WEL **17** 19:54:59.8±0.1, 42.°42S×172.°84E, h5km, ML4.9/57, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, intensity MM 6.*
WEL Felt between West Coast, Canterbury and Wellington, maximum reported.
*NEIC **17** 19:55:00.1, 42.°47S×172.°84E, h12km, mb4.6/1, ML4.9(WEL), After WEL.*
NEIC Felt [V] at Hanmer Springs and [IV] at Christchurch and Greymouth. Felt in much of the northern part of the South Island.
ISC 17 19:54:58.5±0.9, 42.°51S±0.°03×172.°84E±0.°04, h4km±7km, n159, σ1.°05/150, mb4.0/6, MS3.6/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.53**	**80**	PG	**Pg**	**19 55 10.1**	**+1.6**
KHZ				SG	**Sg**	**19 55 17.5**	**+2.2**
KHZ	**Kahutara**	**0.53**	**80**	*e*P	**Pg**	**19 55 09.7**	**+1.2**
KHZ				P*	**Pg**	**19 55 10.1**	**+1.6**
KHZ				S*	**Sg**	**19 55 17.5**	**+2.2**
THZ	**Tophouse**	**0.75**	**4**	P*	**Pb**	**19 55 12.6**	**-1.4**
THZ				SG	**Sg**	**19 55 21.1**	**-1.3**
THZ	**Tophouse**	**0.75**	**4**	P*	**Pb**	**19 55 12.6**	**-1.4**
THZ				S*	**Sb**	**19 55 21.1**	**-3.4**
CRLZ	**Canterbury Las**	**1.08**	**188**	P*	**Pb**	**19 55 20.5**	**+0.8**
CRLZ	**Canterbury Las**	**1.08**	**188**	P*	**Pb**	**19 55 20.5**	**+0.8**
DSZ	**Denniston Nort**	**1.08**	**314**	P*	**Pb**	**19 55 19.5**	**-0.2**
DSZ	**Denniston Nort**	**1.08**	**314**	P*	**Pb**	**19 55 19.3**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.11**	**45**	P*	**Pb**	**19 55 19.4**	**-0.7**
BSWZ	**Blackbirch Sta**	**1.11**	**45**	P*	**Pb**	**19 55 19.4**	**-0.7**
MQZ	**McQueen's Vall**	**1.21**	**186**	P*	**Pb**	**19 55 21.7**	**-0.1**
MQZ	**McQueen's Vall**	**1.21**	**186**	P*	**Pb**	**19 55 21.8**	**-0.1**
CMWZ	**Cape Campbell**	**1.27**	**54**	P*	**Pb**	**19 55 23.5**	**+0.5**
CMWZ	**Cape Campbell**	**1.27**	**54**	P*	**Pb**	**19 55 23.5**	**+0.5**
NNZ	**Nelson**	**1.35**	**18**	P*	**Pb**	**19 55 22.6**	**-1.6**
NNZ	**Nelson**	**1.35**	**18**	Pn	**Pn**	**19 55 22.6**	**-1.4**
TUWZ	**Tuamarina**	**1.35**	**38**	P*	**Pb**	**19 55 23.3**	**-1.0**
TUWZ	**Tuamarina**	**1.35**	**38**	Pn	**Pn**	**19 55 23.3**	**-0.8**
WVZ	**Waitaha Valley**	**1.65**	**249**	PN	**Pn**	**19 55 29.2**	**+1.0**
WVZ	**Waitaha Valley**	**1.65**	**249**	Pn	**Pn**	**19 55 29.3**	**+1.1**
TCW	**Tory Channel**	**1.68**	**40**	PN	**Pn**	**19 55 28.3**	**-0.3**
TCW	**Tory Channel**	**1.68**	**40**	Pn	**Pn**	**19 55 28.3**	**-0.3**
QRZ	**Quartz Range**	**1.70**	**352**	PN	**Pn**	**19 55 28.8**	**0.0**
QRZ	**Quartz Range**	**1.70**	**352**	Pn	**Pn**	**19 55 28.9**	**0.0**
RPZ	**Rata Peaks**	**1.78**	**227**	PN	**Pn**	**19 55 29.9**	**-0.1**
RPZ	**Rata Peaks**	**1.78**	**227**	Pn	**Pn**	**19 55 30.1**	**+0.1**
215nm,0.3s,baz=48,slow=1.3,SNR=310							
RPZ				Sn	**Sn**	**19 55 53.1**	**+0.1**
344nm,0.3s,baz=120,slow=6.3,SNR=17							
RPZ				LR	LR	19 55 54.9	
comp=Z,491nm,18.2s,baz=310,slow=33							
RPZ	**Rata Peaks**	**1.78**	**227**	Pn	**Pn**	**19 55 30.1**	**+0.1**
RPZ				Sn	**Sn**	**19 55 53.1**	**+0.1**
SNZO	**South Karori**	**1.84**	**50**	PN	**Pn**	**19 55 30.7**	**0.0**
SNZO	**South Karori**	**1.84**	**50**	*e*P	**Pn**	**19 55 30.7**	**0.0**
BHW	**Baring Head**	**1.87**	**55**	PN	**Pn**	**19 55 31.0**	**-0.2**
BHW	**Baring Head**	**1.87**	**55**	Pn	**Pn**	**19 55 31.0**	**-0.2**
DUWZ	**D'Urville Isla**	**1.89**	**26**	PN	**Pn**	**19 55 31.6**	**+0.1**
DUWZ	**D'Urville Isla**	**1.89**	**26**	Pn	**Pn**	**19 55 31.6**	**+0.1**
PLWZ	**Palliser**	**2.03**	**63**	PN	**Pn**	**19 55 32.7**	**-0.7**
PLWZ	**Palliser**	**2.03**	**63**	Pn	**Pn**	**19 55 32.7**	**-0.7**
MSWZ	**Moikau Station**	**2.10**	**60**	PN	**Pn**	**19 55 33.6**	**-0.8**
MSWZ	**Moikau Station**	**2.10**	**60**	Pn	**Pn**	**19 55 33.6**	**-0.8**
CAW	**Cannon Point**	**2.17**	**51**	PN	**Pn**	**19 55 35.2**	**-0.2**
CAW	**Cannon Point**	**2.17**	**51**	Pn	**Pn**	**19 55 35.2**	**-0.2**
PAWZ	**Paruwai Farm**	**2.23**	**61**	PN	**Pn**	**19 55 35.3**	**-0.9**
PAWZ	**Paruwai Farm**	**2.23**	**61**	Pn	**Pn**	**19 55 35.3**	**-0.9**
KIW	**Kapiti Island**	**2.26**	**44**	PN	**Pn**	**19 55 36.9**	**+0.4**
KIW	**Kapiti Island**	**2.26**	**44**	Pn	**Pn**	**19 55 37.0**	**+0.4**
TRWZ	**Traveller**	**2.40**	**63**	*e*PN	**Pn**	**19 55 36.7**	**-1.7**
MTW	**Mount Morrison**	**2.40**	**57**	PN	**Pn**	**19 55 37.5**	**-1.1**
MTW	**Mount Morrison**	**2.40**	**57**	Pn	**Pn**	**19 55 37.5**	**-1.1**
OGWZ	**Otaki Gorge**	**2.43**	**47**	PN	**Pn**	**19 55 38.7**	**-0.2**
OGWZ	**Otaki Gorge**	**2.43**	**47**	Pn	**Pn**	**19 55 38.7**	**-0.2**
FOZ	**Fox Glacier**	**2.54**	**244**	PN	**Pn**	**19 55 39.7**	**-0.8**
HOWZ	**Holdsworth Sta**	**2.57**	**52**	PN	**Pn**	**19 55 40.0**	**-0.9**
HOWZ	**Holdsworth Sta**	**2.57**	**52**	Pn	**Pn**	**19 55 40.0**	**-0.9**
TMWZ	**Te Maipa**	**2.67**	**59**	PN	**Pn**	**19 55 40.9**	**-1.4**
LBZ	**Lake Benmore**	**2.70**	**225**	PN	**Pn**	**19 55 42.7**	**+0.2**
LBZ	**Lake Benmore**	**2.70**	**225**	Pn	**Pn**	**19 55 42.7**	**+0.2**
MRZ	**Mangatainoka R**	**2.76**	**49**	PN	**Pn**	**19 55 42.6**	**-0.8**
MRZ	**Mangatainoka R**	**2.76**	**49**	Pn	**Pn**	**19 55 42.6**	**-0.8**
ODZ	**Otahua Downs**	**2.99**	**211**	PN	**Pn**	**19 55 46.4**	**-0.2**
ODZ	**Otahua Downs**	**2.99**	**211**	*e*P	**Pn**	**19 55 46.2**	**-0.4**
POWZ	**Post Office Ro**	**3.05**	**47**	*e*PN	**Pn**	**19 55 47.0**	**-0.4**
POWZ	**Post Office Ro**	**3.05**	**47**	Pn	**Pn**	**19 55 47.4**	**0.0**
NRZ	**Ngariki Road**	**3.27**	**15**	*e*PN	**Pn**	**19 55 52.7**	**+2.2**
NWEZ	**Newall Road**	**3.32**	**14**	Pn	**Pn**	**19 55 53.4**	**+2.2**
DVHZ	**Dannevirke**	**3.33**	**50**	*e*PN	**Pn**	**19 55 49.5**	**-1.8**
DVHZ	**Dannevirke**	**3.33**	**50**	Pn	**Pn**	**19 55 49.8**	**-1.5**
JCZ	**Jackson Bay**	**3.37**	**241**	PN	**Pn**	**19 55 51.4**	**-0.4**
JCZ	**Jackson Bay**	**3.37**	**241**	Pn	**Pn**	**19 55 52.2**	**+0.4**
TSZ	**Takapari Road**	**3.39**	**45**	PN	**Pn**	**19 55 51.2**	**-0.9**
TSZ	**Takapari Road**	**3.39**	**45**	Pn	**Pn**	**19 55 51.2**	**-0.9**
PKE	**Pukeiti**	**3.42**	**15**	PN	**Pn**	**19 55 54.5**	**+1.9**
PKE	**Pukeiti**	**3.42**	**15**	Pn	**Pn**	**19 55 54.6**	**+2.0**
DREZ	**Durham Road**	**3.47**	**18**	PN	**Pn**	**19 55 55.3**	**+2.1**
DREZ	**Durham Road**	**3.47**	**18**	Pn	**Pn**	**19 55 55.5**	**+2.3**
MHEZ	**Mangahewa**	**3.61**	**19**	*e*PN	**Pn**	**19 55 57.2**	**+2.1**
MHEZ	**Mangahewa**	**3.61**	**19**	Pn	**Pn**	**19 55 57.9**	**+2.8**
WKZ

WCZ	Waipu Caves	6.66	11	Pn		Pn	19 56 38.0 +0.9
OUZ	Omahuta	7.30	5	eP		Pn	19 56 46.2 +0.3
	48nm,0.8s						
DZM	Mont Dzumac	21.07	343	eLR		LR	20 04 44.9
	178nm,23.6s						
STKA	Stephens Creek	26.92	283	P		P	20 00 41.0 +0.3
	2.0nm,0.9s,mb3.6,baz=106,slow=15,SNR=2.3						
STKA				LR		LR	20 09 51.2
	comp=Z,113nm,18.0s,MS3.5,baz=44,slow=33						
STKA	Stephens Creek	26.92	283	P		P	20 00 41.0 +0.3
CTA	Charters Tower	31.64	307	LR		LR	20 11 57.6
	comp=Z,132nm,19.4s,MS3.6,baz=226,slow=32						
TBI	Tubuai	36.58	71	eLR		LR	20 12 05.2
	170nm,27.5s						
TBI				eT			20 40 11.6
	6.6nm,0.3s						
AS31	Alice Springs	37.24	288	eP		P	20 02 11.3 +0.2
ASAR	Alice Springs	37.24	288	P		P	20 02 10.7 -0.5
	1.2nm,0.4s,mb4.0,baz=128,slow=7.7,SNR=15						
ASAR	Alice Springs	37.24	288	P		P	20 02 10.7 -0.5
WRA	Warramunga Arr	39.41	293	P		P	20 02 29.4 0.0
	1.4nm,0.5s,mb3.9,baz=136,slow=7.2,SNR=12						
WRA	Warramunga Arr	39.41	293	P		P	20 02 29.4 0.0
PPT2	Papeete2	40.44	64	eLR		LR	20 13 37.2
	78nm,23.5s						
FITZ	Fitzroy Crossi	46.71	286	P		P	20 03 30.6 +2.0
	1.8nm,0.5s,mb4.2,baz=198,slow=6.4,SNR=8.3						
FITZ				LR		LR	20 22 05.5
	comp=Z,50nm,20.1s,MS3.5,baz=320,slow=35						
FITZ	Fitzroy Crossi	46.71	286	P		P	20 03 30.6 +2.0
RKT	Rikitea	47.14	83	eT			20 53 11.0
	1.4nm,0.2s						
QSPA	South Pole Qui	47.62	180	P		P	20 03 36.5 +1.6
	4.1nm,0.9s,mb4.5,baz=27,slow=3.1,SNR=8.6						
QSPA	South Pole Qui	47.62	180	eP		P	20 03 35.6 +0.7
	5.7nm,1.0s,mb4.6						
MAW	Mawson	58.33	205	LR		LR	20 28 07.3
	comp=Z,103nm,18.5s,MS4.0,baz=279,slow=34						
CMAR	Chiang Mai Arr	90.98	294	P		P	20 08 04.2 +0.3
	0.3nm,0.5s,mb3.9,baz=165,slow=2.7,SNR=4.2						
CMAR	Chiang Mai Arr	90.98	294	P		P	20 08 04.2 +0.3
MKAR	Makanchi Array	119.61	308	PKP		PKPdf	20 13 49.3 +0.4
	0.7nm,1.0s,baz=158,slow=1.6,SNR=2.8						
MKAR	Makanchi Array	119.61	308	PKP		PKPdf	20 13 49.3 +0.4
DBIC	Dimbokro	144.25	184	PKP		PKPdf	20 14 34.2 -1.9
	0.8nm,0.5s,baz=135,slow=1.4,SNR=2.8						
DBIC	Dimbokro	144.25	184	PKP		PKPdf	20 14 34.2 -1.9
ARCES	ARCESS Array B	148.12	339	PKPbc		PKPbc	20 14 46.4 +2.3
	3.4nm,0.9s,baz=60,slow=4.8,SNR=4.0						
ARCES	ARCESS Array B	148.12	339	PKPbc		PKPbc	20 14 46.4 +2.3
BRTR	Keskin Array B	149.34	279	PKPbc		PKPbc	20 14 48.3 +0.1
	2.2nm,0.7s,baz=134,slow=5.3,SNR=7.7						
BRTR	Keskin Array B	149.34	279	PKPbc		PKPbc	20 14 48.3 +0.1
TORD	Torodi Ar. Bea	149.75	197	PKPbc		PKPbc	20 14 49.5 -0.5
	1.6nm,0.9s,baz=150,slow=1.4,SNR=9.2						
TORD	Torodi Ar. Bea	149.75	197	PKPbc		PKPbc	20 14 49.5 -0.5
FINES	FINESS Array B	152.57	325	PKPbc		PKPbc	20 14 56.0 +0.9
	5.1nm,0.9s,baz=225,slow=0.2,SNR=5.8						
FINES	FINESS Array B	152.57	325	PKPbc		PKPbc	20 14 56.0 +0.9

*IDC **17** 19:55:32.8±2.6, 18°.43N×61°.22W, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.3/4, Error ellipse: s-maj=102.2km s-min=28.8km az=17.0*
*ISCJB **17** 19:55:52.4±0.8, 19°.0N±0°.1×65°.21W±0°.04, h54km±15km, mb3.4/2, Error ellipse: s-maj=17.5km s-min=6.7km az=173.2*
*TRN **17** 19:55:52.1, 18°.90N×65°.21W, h35km, MD3.4(RSPR)*
*RSPR **17** 19:55:54.0, 18°.99N×65°.19W, h29km±16km, MD3.4/13*
*NEIC **17** 19:55:54.0, 18°.99N×65°.19W, h29km, mb4.6/1, After RSPR.*

ISC 17 19:55:53.2±0.8, 18°.96N±0°.09×65°.21W±0°.04, h43km±16km, n52, σ0°61/64, mb3.4/2, 23C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.65	158	↓eP		Pn	19 56 05.8 -0.3
STVI	Saint Thomas	0.65	158	ePn		Pn	19 56 05.4 -0.7
STVI	Saint Thomas	0.65	158	↓eP		Pn	19 56 05.8 -0.3
STVI				eS		Sn	19 56 14.9 -0.3
TBVI	Tortola	0.78	134	↑iP		Pn	19 56 07.0 -0.7
TBVI	Tortola	0.78	134	i Pu		Pn	19 56 07.0 -0.7
TBVI	Tortola	0.78	134	↑iP		Pn	19 56 07.2 -0.5
ABV	Anegada	0.86	105	↓eP		Pn	19 56 08.3 -0.6
ABV	Anegada	0.86	105	↓eP		Pn	19 56 08.3 -0.6
MTP	Monte Pirata	0.92	201	↓eP		Pn	19 56 10.0 +0.3
MTP	Monte Pirata	0.92	201	ePn		Pn	19 56 09.5 -0.2
MTP				eSn		Sn	19 56 21.1 -0.6
MTP				eS		Sn	19 56 21.9 +0.2
MTP	Monte Pirata	0.92	201	↓eP		Pn	19 56 10.2 +0.5
MTP				eS		Sn	19 56 21.9 +0.2
CBYP	Canovanas	0.92	222	↑eP		Pn	19 56 09.6 -0.2
CBYP	Canovanas	0.92	222	ePn		Pn	19 56 09.3 -0.5
CBYP				↑eP			19 56 09.6
CBYP				eS		Sn	19 56 21.5 -0.3
CBYP	Canovanas	0.92	222	↑eP		Pn	19 56 09.6 -0.2
CBYP				eS		Sn	19 56 21.5 -0.3
HUMP	Col San Antoni	1.02	217	↓eP		Pn	19 56 10.7 -0.3
HUMP	Col San Antoni	1.02	217	↓eP		Pn	19 56 10.7 -0.3
HUMP				eS		Sn	19 56 23.7 -0.5
HUMP	Col San Antoni	1.02	217	↓eP		Pn	19 56 10.7 -0.3
HUMP				eS		Sn	19 56 23.7 -0.5
CPD	Cerro la Pandu	1.14	216	↓eP		Pn	19 56 12.6 -0.1
CPD	Cerro la Pandu	1.14	216	↓eP		Pn	19 56 12.6 -0.1
CPD				eS		Sn	19 56 27.4 +0.3
CPD	Cerro la Pandu	1.14	216	↓eP		Pn	19 56 12.6 -0.1
CPD				eS		Sn	19 56 27.4 +0.3
SJG	San Juan	1.23	227	↑eP		Pn	19 56 13.7 -0.3
SJG	San Juan	1.23	227	↑eP		Pn	19 56 13.8 -0.2
SJG	San Juan	1.23	227	ePn		Pn	19 56 13.4 -0.6
SJG				eS		Sn	19 56 29.2 -0.2
SJG	San Juan	1.23	227	↑eP		Pn	19 56 13.7 -0.3
SJG				eS		Sn	19 56 29.2 -0.2
CDVI	St. Croix	1.27	161	ePn		Pn	19 56 16.8 +2.3
CELP	Cerrillos	1.57	236	↑eP		Pn	19 56 18.9 +0.3
CELP	Cerrillos	1.57	236	↑eP		Pn	19 56 18.9 +0.3
CELP	Cerrillos	1.57	236	↑eP		Pn	19 56 18.9 +0.3
AOPR	Arecibo Observ	1.59	248	↑eP		Pn	19 56 18.9 0.0
AOPR	Arecibo Observ	1.59	248	↑eP		Pn	19 56 18.9 0.0
AOPR	Arecibo Observ	1.59	248	↑eP		Pn	19 56 18.9 0.0
OBIP	Obispado Ponce	1.61	236	↑eP		Pn	19 56 19.4 +0.2
OBIP	Obispado Ponce	1.61	236	ePn		Pn	19 56 19.1 -0.1
OBIP	Obispado Ponce	1.61	236	↑eP		Pn	19 56 19.4 +0.2
OBIP				eS		Sn	19 56 38.7 -0.1
ICM	Isla Caja Muer	1.64	230	↑eP		Pn	19 56 20.0 +0.4
ICM	Isla Caja Muer	1.64	230	ePn		Pn	19 56 20.1 +0.5
ICM	Isla Caja Muer	1.64	230	↑eP		Pn	19 56 20.0 +0.4
LRS	Lares	1.69	247	ePn		Pn	19 56 19.8 -0.4
AGPR	Aguadilla, PR	1.87	255	ePn		Pn	19 56 22.7 -0.1
LSP	Las Mesas	1.95	247	ePn		Pn	19 56 23.9 +0.1
CRPR	Cabo Rojo, PR	2.04	243	↓eP		Pn	19 56 24.8 -0.2
CRPR	Cabo Rojo, PR	2.04	243	ePn		Pn	19 56 25.8 +0.7
CRPR	Cabo Rojo, PR	2.04	243	↓eP		Pn	19 56 24.8 -0.2
LZG	Guadaloupe-1	4.31	130	eP		Pn	19 56 57.0 +0.8
SDDR	Presa de Saban	5.76	271	ePn		Pn	19 57 17.9 +1.7
TEIG	Tepich	21.77	277	eP		P	20 00 41.1 -0.3
BLA	Blacksburg	22.55	327	eP		P	20 00 48.6 -0.8
	17nm,0.7s						
TXAR	Lajitas Array	36.44	294	P		sP	20 03 10.6 -0.4
	0.1nm,0.5s,baz=88,slow=8.4,SNR=2.8						
YKA	Yellowknife Ar	55.11	335	P		P	20 05 20.7 0.0
	0.3nm,0.5s,mb3.5,baz=110,slow=7.4,SNR=5.2						
YKA	Yellowknife Ar	55.11	335	P		P	20 05 20.7 0.0
ILAR	Eielson Array	69.48	333	P		P	20 06 56.9 +0.1
	0.2nm,0.5s,mb3.3,baz=104,slow=4.8,SNR=5.1						
ILAR	Eielson Array	69.48	333	P		P	20 06 56.9 +0.1

*TRN **17** 20:05:12.4, 18°.92N×65°.19W, h36km, MD3.2(RSPR)*
*RSPR **17** 20:05:14.1, 18°.97N×65°.21W, h9km±2km, MD3.2/7*
*NEIC **17** 20:05:14.1, 18°.97N×65°.21W, h9km, MD3.2(RSPR), After RSPR.*

ISC 17 20:05:12.7±2.5, 19°.0N±0°.1×65°.21W±0°.06, h30km±13km, n23, σ0°29/35, 17C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.69	159	↓eP		Pn	20 05 26.7 +0.3
STVI	Saint Thomas	0.69	159	↓eP		Pn	20 05 26.7 +0.3
STVI				eS		Sb	20 05 35.5 0.0
STVI	Saint Thomas	0.69	159	↓eP		Pn	20 05 26.7 +0.3
STVI				eS		Sb	20 05 35.5 0.0
TBVI	Tortola	0.81	136	↑eP		Pn	20 05 27.8 -0.3
TBVI	Tortola	0.81	136	↑eP		Pn	20 05 27.8 -0.3
TBVI	Tortola	0.81	136	↑eP		Pn	20 05 27.8 -0.3
ABV	Anegada	0.88	108	↑eP		Pn	20 05 29.4 +0.5
ABV				eS		Sn	20 05 40.5 -0.2
ABV	Anegada	0.88	108	↑eP		Pn	20 05 29.4 +0.5
ABV				eS		Sn	20 05 40.5 -0.2
CBYP	Canovanas	0.95	220	↑eP		Pn	20 05 29.7 -0.3
CBYP	Canovanas	0.95	220	↑eP		Pn	20 05 29.7 -0.3
CBYP				eS		Sn	20 05 42.4 -0.1
CBYP	Canovanas	0.95	220	↑eP		Pn	20 05 29.7 -0.3
CBYP				eS		Sn	20 05 42.4 -0.1
MTP	Monte Pirata	0.95	200	↑eP		Pn	20 05 30.1 +0.1
MTP	Monte Pirata	0.95	200	↑eP		Pn	20 05 30.1 +0.1
MTP				eS		Sn	20 05 42.9 +0.3
MTP	Monte Pirata	0.95	200	↑eP		Pn	20 05 30.1 +0.1
MTP				eS		Sn	20 05 42.9 +0.3
HUMP	Col San Antoni	1.05	215	↓eP		Pn	20 05 31.1 -0.2
HUMP	Col San Antoni	1.05	215	↓eP		Pn	20 05 31.1 -0.2
HUMP				eS		Sn	20 05 44.5 -0.5
HUMP	Col San Antoni	1.05	215	↓eP		Pn	20 05 31.1 -0.2
HUMP				eS		Sn	20 05 44.5 -0.5
CPD	Cerro la Pandu	1.17	215	↑eP		Pn	20 05 33.3 +0.3
CPD	Cerro la Pandu	1.17	215	↑eP		Pn	20 05 33.3 +0.3
CPD				eS		Sn	20 05 48.4 +0.4
CPD	Cerro la Pandu	1.17	215	↑eP		Pn	20 05 33.3 +0.3
CPD				eS		Sn	20 05 48.4 +0.4
CDVI	St. Croix	1.31	161	↑eP		Pn	20 05 34.8 -0.2
CDVI	St. Croix	1.31	161	↑eP		Pn	20 05 34.8 -0.2
CDVI	St. Croix	1.31	161	↑eP		Pn	20 05 34.8 -0.2

*KRSC **17** 20:08:10.0±2.0, 51°.23N×155°.02E, h565km±44km, ML4.4*
*MOS **17** 20:08:13.7±0.7, 52°.43N×152°.84E, h455km, mb3.4/5, Error ellipse: s-maj=33.7km s-min=18.0km az=54.2*
*ISCJB **17** 20:08:14.2±0.7, 52°.4N±0°.1×153°.1E±0°.2, h460km±10km, mb3.2/6, Error ellipse: s-maj=27.0km s-min=14.3km az=41.6*
*IDC **17** 20:08:15.5±1.6, 52°.36N×153°.00E, h458km±20km, mb2.8/5, mb1 3.1/6, mb1mx2.7/24, mbtmp2.8/6, Error ellipse: s-maj=27.9km s-min=18.3km az=125.0*
*NEIC **17** 20:08:15.2±0.5, 52°.38N×152°.91E, h456km±8km, mb3.3/1, Error ellipse: s-maj=19.6km s-min=11.2km az=134.0*

ISC 17 20:08:15.2±0.6, 52°.4N±0°.1×153°.0E±0°.2, h456km±11km, n34, σ0°74/40, mb3.2/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	Petropavlovsk-	2.96	74	eP		P	20 09 22.5 +0.3
PETK	Petropavlovsk-	2.96	74	P		P	20 09 22.7 +0.5
	1.2nm,0.3s,baz=252,slow=3.4,SNR=8.5						
PETK	Petropavlovsk-	2.96	74	P		P	20 09 22.7 +0.5
PETK	Petropavlovsk-	2.96	74	PN		P	20 09 22.7 +0.5
PETK				pmax		pmax	
	comp=Z,1.0nm,0.3s						
RUS	Russkaya	3.39	87	eP		P	20 09 25.4 -0.1
RUS				i S		S	20 10 19.5 -3.4
RUS	Russkaya	3.39	87	PN		P	20 09 25.4 -0.1
RUS				S		S	20 10 19.5 -3.4
PET	Petropavlovsk	3.51	77	eP		P	20 09 27.0 +0.5
PET	Petropavlovsk	3.51	77	ePN		P	20 09 27.0 +0.5
KOK	Koryaka	3.55	73	eP		P	20 09 27.2 +0.4
AVH	Avacha	3.60	73	eP		P	20 09 28.5 +1.3
TUMR	Tumrok	5.15	53	eP		P	20 09 45.0 +4.0
MKZ	Mys Kozlova	5.66	64	eP		P	20 09 45.4 -0.7
MKZ				i S		S	20 10 54.2 -6.4
MKZ	Mys Kozlova	5.66	64	PN		P	20 09 45.4 -0.7
MKZ				S		S	20 10 54.2 -6.4
KBTR	Krutoberegovo	6.92	52	eP		P	20 09 58.1 -0.9
KBTR				i S		S	20 11 18.7 -5.4
KBTR	Krutoberegovo	6.92	52	PN		P	20 09 58.1 -0.9
KBTR				S		S	20 11 18.7 -5.4
ERM	Erimo	12.32	217	eP		P	20 10 56.9 -0.5
ERM	Erimo	12.32	217	ePN		P	20 10 56.9 -0.5
ILAR	Eielson Array	32.37	44	P		P	20 14 05.2 +0.1
	comp=Z,0.5nm,0.7s,mb3.0,baz=278,slow=10,SNR=6.8						
ILAR	Eielson Array	32.37	44	P		P	20 14 05.2 +0.1
ILAR	Eielson Array	32.37	44	P		P	20 14 05.2 +0.2
ILAR				pmax		pmax	
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	44.36	299	eP		P	20 15 42.5 -0.7
	comp=Z,0.5nm,0.4s,mb3.3						
KURK	Kurchatov	44.36	299	eP		P	20 15 42.5 -0.7
KURK				pmax		pmax	
	comp=Z,1.0nm,0.4s,mb3.6						
MKAR	Makanchi Array	44.49	292	P		P	20 15 44.6 +0.3
	comp=Z,1.1nm,1.1s,mb3.2,baz=56,slow=6.9,SNR=3.4						
MKAR	Makanchi Array	44.49	292	P		P	20 15 44.6 +0.3
MKAR	Makanchi Array	44.49	292	P		P	20 15 44.6 +0.3
MKAR				pmax		pmax	
	comp=Z,1.0nm,1.1s						
YKA	Yellowknife Ar	46.55	40	P		P	20 15 59.9 +0.1
	comp=Z,0.4nm,0.6s,mb3.0,baz=302,slow=7.5,SNR=7.2						
YKA	Yellowknife Ar	46.55	40	P		P	20 15 60.0 +0.1
YKA	Yellowknife Ar	46.55	40	P		P	20 15 59.9 +0.1
WRA	Warramunga Arr	73.82	198	P		P	20 19 01.6 -0.3
	comp=Z,0.7nm,0.6s,mb3.4,baz=13,slow=5.5,SNR=6.4						
WRA	Warramunga Arr	73.82	198	P		P	20 19 01.6 -0.3
WRA	Warramunga Arr	73.82	198	P		P	20 19 01.6 -0.4
WRA				pmax		pmax	
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	77.53	198	P		P	20 19 23.2 +0.7
	comp=Z,0.8nm,0.6s,mb3.4,baz=14,slow=4.9,SNR=14						
ASAR	Alice Springs	77.53	198	P		P	20 19 23.2 +0.7
ASAR	Alice Springs	77.53	198	P		P	20 19 23.3 +0.7
ASAR				pmax		pmax	
	comp=Z,1.0nm,0.6s						

*IDC **17** 20:10:38.5±15.0, 13°.32S×167°.36E, h152km±136km, mb3.4/7, mb1 3.6/7, mb1mx3.5/16, mbtmp3.4/7, Error ellipse: s-maj=65.1km s-min=43.9km az=114.0*

NEIC 17 20:10:43.9±1.7, 13°.37S×167°.20E, h200km, mb3.4/2, Error ellipse: s-maj=55.6km s-min=16.6km az=130.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.84	228	P		P	20 16 33.9 +1.4
	0.7nm,0.4s,baz=58,slow=6.5,SNR=6.5						
STKA	Stephens Creek	29.84	228	eP		P	20 16 33.7 +1.2
	0.2nm,0.4s						
WB2	Warramunga Arr	32.10	254	eP		P	20 16 52.3 -0.2
WRAB	Tennant Creek	32.10	254	eP		P	20 16 51.9 -0.6
	2.0nm,0.9s						
WRA	Warramunga Arr	32.11	254	P		P	20 16 52.2 -0.4
	0.5nm,0.6s,baz=86,slow=9.2,SNR=7.3						
WRA	Warramunga Arr	32.11	254	P		P	20 16 52.2 -0.4
AS31	Alice Springs	33.11	247	eP		P	20 17 01.1 -0.2
ASAR	Alice Springs	33.11	247	P		P	20 17 01.1 -0.2
	0.9nm,0.5s,baz=76,slow=9.2,SNR=29						
ASAR				PcP		PcP	20 19 39.5 -0.2
	0.4nm,0.6s,baz=56,slow=2.7,SNR=6.0						
ASAR	Alice Springs	33.11	247	P		P	20 17 01.1 -0.2
ASAR				PcP		PcP	20 19 39.5 -0.2
CMAR	Chiang Mai Arr	74.34	294	P		P	20 22 01.2 +1.1
	0.2nm,0.5s,baz=117,slow=5.2,SNR=4.2						
CMAR	Chiang Mai Arr	74.34	294	P		P	20 22 01.2 +1.1
SONM	Songino Array	81.37	323	P		P	20 22 39.1 +0.9
	0.3nm,0.7s,baz=125,slow=5.0,SNR=3.7						
SONM	Songino Array	81.37	323	P		P	20 22 39.0 +0.9
ILAR	Eielson Array	85.26	18	P		P	20 22 56.8 -0.9
	0.3nm,0.6s,baz=247,slow=4.7,SNR=4.6						
ILAR	Eielson Array	85.26	18	P		P	20 22 56.8 -0.9
MKAR	Makanchi Array	96.18	316	P		P	20 23 49.3 +0.2
	0.4nm,0.5s,baz=86,slow=5.2,SNR=8.2						
MKAR	Makanchi Array	96.18	316	P		P	20 23 49.3 +0.2

*NEIC **17** 20:12:03.0, 42°.49S×172°.88E, h10km, ML4.1(WEL), After WEL.*
NEIC Felt [IV] at Hanmer Springs.

WEL 17 20:12:02.7±0.1, 42°.46S×172°.89E, h5km, ML4.1/39, 1C, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.49	85	PG		Pg	20 12 13.1 +1.0
KHZ				SG		Sg	20 12 20.1 +1.8
KHZ	Kahutara	0.49	85	eP		Pg	20 12 13.1 +1.0
KHZ				S*		Sg	20 12 20.1 +1.8
THZ	Tophouse	0.69	1	↑P*		Pb	20 12 15.5 -1.8
THZ	Tophouse	0.69	1	P*		Pb	20 12 15.2 -2.1
BSWZ	Blackbirch Sta	1.05	45	P*		Pb	20 12 22.4 -0.8
BSWZ	Blackbirch Sta	1.05	45	P*		Pb	20 12 22.4 -0.8
DSZ	Denniston Nort	1.07	311	P*		Pb	20 12 22.6 -1.2
DSZ				S*		Sb	20 12 38.6 +0.5
DSZ	Denniston Nort	1.07	311	P*		Pb	20 12 22.6 -1.2
DSZ				S*		Sb	20 12 38.6 +0.5
CRLZ	Canterbury Las	1.13	190	P*		Pb	20 12 24.0 -0.7
CRLZ	Canterbury Las	1.13	190	P*		Pb	20 12 24.0 -0.7
CMWZ	Cape Campbell	1.22	55	P*		Pb	20 12 26.9 +0.7
MQZ	McQueen's Vall	1.26	188	P*		Pb	20 12 25.2 -1.8
MQZ	McQueen's Vall	1.26	188	P*		Pb	20 12 25.1 -1.8
NNZ	Nelson	1.29	17	P*		Pb	20 12 25.7 -1.8
NNZ	Nelson	1.29	17	Pn		Pn	20 12 25.7 -1.7
TUWZ	Tuamarina	1.29	38	P*		Pb	20 12 26.3 -1.2
TUWZ	Tuamarina	1.29	38	Pn		Pn	20 12 26.3 -1.1
TCW	Tory Channel	1.62	40	PN		Pn	20 12 31.4 -0.5
TCW	Tory Channel	1.62	40	Pn		Pn	20 12 31.4 -0.5
QRZ	Quartz Range	1.65	351	PN		Pn	20 12 32.0 -0.4
QRZ	Quartz Range	1.65	351	Pn		Pn	20 12 32.0 -0.4
WVZ	Waitaha Valley	1.70	248	PN		Pn	20 12 31.9 -1.1
SNZO	South Karori	1.78	50	PN		Pn	20 12 33.8 -0.2
SNZO	South Karori	1.78	50	eP		Pn	20 12 33.5 -0.5
DUWZ	D'Urville Isla	1.83	25	PN		Pn	20 12 34.6 -0.2
DUWZ	D'Urville Isla	1.83	25	Pn		Pn	20 12 34.6 -0.2
RPZ	Rata Peaks	1.84	226	PN		Pn	20 12 33.3 -1.6
RPZ	Rata Peaks	1.84	226	eP		Pn	20 12 32.3 -2.6
PLWZ	Palliser	1.98	64	PN		Pn	20 12 36.0 -0.8
PLWZ	Palliser	1.98	64	Pn		Pn	20 12 36.0 -0.8
MSWZ	Moikau Station	2.05	60	PN		Pn	20 12 36.8 -1.0
MSWZ	Moikau Station	2.05	60	Pn		Pn	20 12 36.8 -1.0
CAW	Cannon Point	2.12	51	PN		Pn	20 12 38.2 -0.5
CAW	Cannon Point	2.12	51	Pn		Pn	20 12 38.2 -0.5
PAWZ	Paruwai Farm	2.18	61	PN		Pn	20 12 38.4 -1.2
PAWZ	Paruwai Farm	2.18	61	Pn		Pn	20 12 38.4 -1.2
KIW	Kapiti Island	2.20	44	PN		Pn	20 12 39.8 0.0
KIW	Kapiti Island	2.20	44	Pn		Pn	20 12 39.9 0.0
MTW	Mount Morrison	2.35	57	PN		Pn	20 12 40.7 -1.2
MTW	Mount Morrison	2.35	57	Pn		Pn	20 12 40.7 -1.2
OGWZ	Otaki Gorge	2.37	47	PN		Pn	20 12 41.3 -0.9
OGWZ	Otaki Gorge	2.37	47	Pn		Pn	20 12 41.4 -0.9
HOWZ	Holdsworth Sta	2.51	53	ePN		Pn	20 12 43.0 -1.1
HOWZ	Holdsworth Sta	2.51	53	Pn		Pn	20 12 41.3 -2.8
FOZ	Fox Glacier	2.59	244	PN		Pn	20 12 43.3 -1.9
FOZ	Fox Glacier	2.59	244	Pn		Pn	20 12 43.3 -1.9
MRZ	Mangatainoka R	2.70	49	PN		Pn	20 12 45.6 -1.2
MRZ	Mangatainoka R	2.70	49	Pn		Pn	20 12 45.6 -1.2
LBZ	Lake Benmore	2.75	225	PN		Pn	20 12 45.8 -1.7
LBZ	Lake Benmore	2.75	225	Pn		Pn	20 12 45.8 -1.7
TIWZ	Tintock	2.81	54	Pn		Pn	20 12 49.8 +1.6
ODZ	Otahua Downs	3.05	211	PN		Pn	20 12 49.5 -2.1
ODZ	Otahua Downs	3.05	211	eP		Pn	20 12 49.4 -2.2
PKE	Pukeiti	3.37	15	PN		Pn	20 12 57.5 +1.6
JCZ	Jackson Bay	3.42	240	ePN		Pn	20 12 54.8 -1.9
JCZ	Jackson Bay	3.42	240	Pn		Pn	20 12 55.6 -1.0
VRZ	Vera Road	3.62	24	ePN		Pn	20 13 00.7 +1.3
WKZ	Wanaka	3.67	229	ePN		Pn	20 12 57.5 -2.6
TRVZ	Turoa	3.75	33	PN		Pn	20 13 01.7 +0.6
TRVZ	Turoa	3.75	33	Pn		Pn	20 13 01.7 +0.6
EAZ	Earnscleugh	3.79	222	ePN		Pn	20 12 58.5 -3.2
EAZ	Earnscleugh	3.79	222	Pn		Pn	20 12 58.4 -3.3
TUVZ	Tukino	3.82	34	PN		Pn	20 13 01.3 -0.8
TUVZ	Tukino	3.82	34	Pn		Pn	20 13 01.3 -0.8
NGZ	Ngauruhoe	3.87	33	ePN		Pn	20 13 03.2 +0.4
TUZ	Tuapeka	4.21	213	PN		Pn	20 13 05.2 -2.2
TUZ	Tuapeka	4.21	213	Pn		Pn	20 13 05.5 -1.9
HIZ	Hauiti	4.22	22	PN		Pn	20 13 08.6 +1.0
HIZ	Hauiti	4.22	22	Pn		Pn	20

URZ Urewera 1.19 204 ⇓PN Pn 20 34 24.3 +0.4
URZ Urewera 1.19 204 P Pn 20 34 24.3 +0.4
3µm,0.3s,baz=311,slow=2.7,SNR=5279
URZ S Sn 20 34 45.9 +9.3
3µm,0.3s,baz=211,slow=22,SNR=14
URZ Urewera 1.19 204 P* Pn 20 34 23.8 -0.1
URZ S Sn 20 34 45.9 +9.4
EDRZ Edgecumbe 1.22 219 PN Pn 20 34 24.9 +0.8
EDRZ Edgecumbe 1.22 219 Pn Pn 20 34 24.9 +0.8
TGRZ Tauranga 1.29 244 PN Pn 20 34 24.6 -0.2
TGRZ Tauranga 1.29 244 Pn Pn 20 34 24.6 -0.2
CNGZ Carnagh Statio 1.38 164 PN Pn 20 34 27.1 +1.3
CNGZ Carnagh Statio 1.38 164 Pn Pn 20 34 27.1 +1.3
MKRZ Makatiti 1.39 225 PN Pn 20 34 27.3 +1.4
MKRZ Makatiti 1.39 225 Pn Pn 20 34 27.3 +1.4
OMRZ Omania 1.42 228 *e*PN Pn 20 34 27.0 +0.8
OMRZ Omania 1.42 228 *e*Pn Pn 20 34 27.1 +0.8
TARZ Mount Tarawera 1.44 222 PN Pn 20 34 27.7 +1.3
TARZ Mount Tarawera 1.44 222 Pn Pn 20 34 27.7 +1.3
KARZ Kaharoa 1.45 233 PN Pn 20 34 27.1 +0.5
KARZ Kaharoa 1.45 233 Pn Pn 20 34 27.1 +0.5
RRRZ Republican Roa 1.51 219 PN Pn 20 34 28.3 +1.0
RRRZ Republican Roa 1.51 219 Pn Pn 20 34 28.3 +1.0
UTU Utuhina 1.57 230 PN Pn 20 34 29.2 +1.2
KUZ Kuaotunu 1.65 284 PN Pn 20 34 26.3 -2.5
KUZ Kuaotunu 1.65 284 Pn Pn 20 34 26.3 -2.5
HRRZ Handcock Road 1.67 222 PN Pn 20 34 30.3 +1.3
HRRZ Handcock Road 1.67 222 Pn Pn 20 34 30.3 +1.3
PRRZ Plateau Road 1.69 218 PN Pn 20 34 30.4 +1.1
PRGZ Paritu Road 1.76 176 PN Pn 20 34 30.7 +0.6
PRGZ Paritu Road 1.76 176 Pn Pn 20 34 30.7 +0.6
ALRZ Allen Road 1.77 217 PN Pn 20 34 31.3 +1.2
ALRZ Allen Road 1.77 217 Pn Pn 20 34 31.4 +1.2
RAHZ Arahi 1.82 196 PN Pn 20 34 31.9 +1.1
RAHZ Arahi 1.82 196 Pn Pn 20 34 31.9 +1.1
TOZ Tahuroa Road 1.85 252 ⇓PN Pn 20 34 31.2 0.0
TOZ Tahuroa Road 1.85 252 Pn Pn 20 34 30.6 -0.5
KNZ Kokohu 1.85 181 PN Pn 20 34 31.7 +0.5
KNZ Kokohu 1.85 181 Pn Pn 20 34 31.7 +0.5
MHGZ Mahia Peninsul 1.99 176 PN Pn 20 34 33.8 +1.0
MHGZ Mahia Peninsul 1.99 176 Pn Pn 20 34 33.9 +1.0
MKAZ Moumakai 2.04 271 PN Pn 20 34 32.5 -0.9
MKAZ Moumakai 2.04 271 Pn Pn 20 34 32.5 -0.9
NMHZ Naumai 2.06 200 PN Pn 20 34 34.9 +1.3
NMHZ Naumai 2.06 200 Pn Pn 20 34 35.0 +1.3
HATZ Hinemaiaia 2.15 216 PN Pn 20 34 35.7 +0.9
HATZ Hinemaiaia 2.15 216 Pn Pn 20 34 35.7 +1.0
WATZ Wairara 2.20 225 PN Pn 20 34 36.7 +1.4
WATZ Wairara 2.20 225 Pn Pn 20 34 36.7 +1.4
BKZ Black Stump Fm 2.22 205 PN Pn 20 34 35.8 +0.3
BKZ Black Stump Fm 2.22 205 P* Pn 20 34 35.8 +0.2
RATZ Rangitukua 2.29 221 PN Pn 20 34 37.7 +1.2
RATZ Rangitukua 2.29 221 Pn Pn 20 34 37.7 +1.2
RITZ Rihia Road 2.33 218 PN Pn 20 34 38.5 +1.6
RITZ Rihia Road 2.33 218 Pn Pn 20 34 38.5 +1.6
ABAZ Army Bay 2.38 283 PN Pn 20 34 36.3 -1.3
KATZ Kakaramea 2.41 221 PN Pn 20 34 39.3 +1.4
KATZ Kakaramea 2.41 221 Pn Pn 20 34 39.3 +1.4
MCHZ McNeill Hill 2.41 199 PN Pn 20 34 38.5 +0.5
KAAZ Kauri Point 2.44 277 Pn Pn 20 34 37.8 -0.5
WTAZ Waiatarua 2.52 274 PN Pn 20 34 38.9 -0.5
WTAZ Waiatarua 2.52 274 Pn Pn 20 34 38.9 -0.5
KRVZ Karewarewa 2.53 220 PN Pn 20 34 40.5 +1.1
KRVZ Karewarewa 2.53 220 P* Pn 20 34 40.8 +1.4
CKHZ Cape Kidnapper 2.54 191 PN Pn 20 34 39.8 +0.2
CKHZ Cape Kidnapper 2.54 191 Pn Pn 20 34 39.8 +0.2
OTVZ Oturere 2.57 218 PN Pn 20 34 40.9 +1.0
OTVZ Oturere 2.57 218 P* Pn 20 34 41.0 +1.0
WTVZ West Tongariro 2.57 220 PN Pn 20 34 41.0 +1.0
WTVZ West Tongariro 2.57 220 P* Pn 20 34 41.0 +1.0
NGZ Ngauruhoe 2.61 219 PN Pn 20 34 41.5 +1.1
NGZ Ngauruhoe 2.61 219 P* Pn 20 34 41.5 +1.1
TWVZ Taurewa 2.62 223 PN Pn 20 34 41.6 +1.0
TWVZ Taurewa 2.62 223 P* Pn 20 34 41.6 +1.1
HIZ Hauiti 2.63 238 PN Pn 20 34 41.9 +1.1
HIZ Hauiti 2.63 238 Pn Pn 20 34 41.9 +1.1
TUVZ Tukino 2.66 217 PN Pn 20 34 41.7 +0.7
TUVZ Tukino 2.66 217 P* Pn 20 34 41.7 +0.7
BHHZ Black Hill Sta 2.66 209 PN Pn 20 34 41.1 0.0
BHHZ Black Hill Sta 2.66 209 P* Pn 20 34 41.1 0.0
WPVZ Whakapapa 2.66 219 PN Pn 20 34 42.1 +1.0
WPVZ Whakapapa 2.66 219 P* Pn 20 34 42.1 +1.0
FWVZ Far West T-bar 2.69 219 PN Pn 20 34 42.2 +0.7
FWVZ Far West T-bar 2.69 219 P* Pn 20 34 42.2 +0.7
DRZ Dome Shelter 2.70 218 PN Pn 20 34 42.7 +1.1
DRZ Dome Shelter 2.70 218 P* Pn 20 34 42.7 +1.1
KAHZ Kahuranaki 2.71 194 PN Pn 20 34 41.9 +0.2
KAHZ Kahuranaki 2.71 194 Pn Pn 20 34 41.9 +0.2
MOVZ Moawhango 2.72 214 PN Pn 20 34 41.8 -0.1
MOVZ Moawhango 2.72 214 P* Pn 20 34 41.8 -0.1
WNVZ Wahianoa 2.73 217 PN Pn 20 34 42.5 +0.5
WNVZ Wahianoa 2.73 217 P* Pn 20 34 42.5 +0.5
TRVZ Turoa 2.73 218 PN Pn 20 34 42.7 +0.7
TRVZ Turoa 2.73 218 P* Pn 20 34 42.7 +0.7
PKVZ Pokaka 2.83 221 PN Pn 20 34 43.9 +0.7
PKVZ Pokaka 2.83 221 P* Pn 20 34 43.9 +0.7
MTVZ Mangateitei 2.83 218 PN Pn 20 34 44.0 +0.7
MTVZ Mangateitei 2.83 218 P* Pn 20 34 44.0 +0.7
PXZ Pawanui 2.94 193 PN Pn 20 34 44.0 -0.7
PXZ Pawanui 2.94 193 Pn Pn 20 34 43.8 -0.8
WCZ Waipu Caves 2.98 293 ⇑PN Pn 20 34 42.8 -2.3
WCZ Waipu Caves 2.98 293 Pn Pn 20 34 42.3 -2.9
PNHZ Pukenui 2.99 203 PN Pn 20 34 44.5 -0.8
PNHZ Pukenui 2.99 203 Pn Pn 20 34 44.5 -0.8
VRZ Vera Road 3.04 229 PN Pn 20 34 47.2 +1.2
VRZ Vera Road 3.04 229 Pn Pn 20 34 47.2 +1.2
WPHZ Waipukurau 3.06 199 PN Pn 20 34 45.7 -0.6
WPHZ Waipukurau 3.06 199 Pn Pn 20 34 45.7 -0.6
TSZ Takapari Road 3.20 205 PN Pn 20 34 47.0 -1.1
PRHZ Porangahau 3.21 195 PN Pn 20 34 47.5 -0.7
PRHZ Porangahau 3.21 195 Pn Pn 20 34 47.5 -0.7
MHEZ Mangahewa 3.29 233 PN Pn 20 34 51.8 +2.7
DVHZ Dannevirke 3.36 201 PN Pn 20 34 48.7 -1.4
DVHZ Dannevirke 3.36 201 Pn Pn 20 34 48.7 -1.4
RAEZ Rainy Point 3.37 230 PN Pn 20 34 51.9 +1.7
DREZ Durham Road 3.43 233 PN Pn 20 34 53.2 +2.2
POWZ Post Office Ro 3.56 205 PN Pn 20 34 51.6 -1.2
POWZ Post Office Ro 3.56 205 Pn Pn 20 34 51.6 -1.2
DFE Dawson Falls 3.57 232 PN Pn 20 34 55.1 +2.2
NRZ Ngariki Road 3.68 233 PN Pn 20 34 56.6 +2.2
BFZ Birch Farm 3.69 198 PN Pn 20 34 52.9 -1.5
OUZ Omahuta 3.85 299 PN Pn 20 34 53.7 -3.0
OUZ Omahuta 3.85 299 *e*P Pn 20 34 54.2 -2.5
MRZ Mangatainoka R 3.87 205 PN Pn 20 34 54.9 -1.9
MRZ Mangatainoka R 3.87 205 Pn Pn 20 34 54.9 -1.9
TIWZ Tintock 3.88 201 PN Pn 20 34 55.4 -1.6
TIWZ Tintock 3.88 201 Pn Pn 20 34 55.4 -1.6
HOWZ Holdsworth Sta 4.10 204 PN Pn 20 34 57.6 -2.3
OGWZ Otaki Gorge 4.15 208 PN Pn 20 34 58.6 -2.0
TMWZ Te Maipa 4.18 199 PN Pn 20 34 58.9 -2.0
KIW Kapiti Island 4.29 210 PN Pn 20 35 00.3 -2.1
MTW Mount Morrison 4.34 203 PN Pn 20 35 00.5 -2.6
MTW Mount Morrison 4.34 203 Pn Pn 20 35 00.5 -2.6
CAW Cannon Point 4.44 207 PN Pn 20 35 01.8 -2.6
TRWZ Traveller 4.51 200 PN Pn 20 35 02.9 -2.4
PAWZ Paruwai Farm 4.57 202 PN Pn 20 35 03.3 -2.8
PAWZ Paruwai Farm 4.57 202 Pn Pn 20 35 03.3 -2.8
MSWZ Moikau Station 4.66 203 PN Pn 20 35 04.2 -3.0
DUWZ D'Urville Isla 4.68 218 PN Pn 20 35 05.2 -2.4
DUWZ D'Urville Isla 4.68 218 Pn Pn 20 35 05.2 -2.4
SNZO South Karori 4.75 209 PN Pn 20 35 05.5 -3.0
SNZO South Karori 4.75 209 *e*P Pn 20 35 05.3 -3.3
BHW Baring Head 4.78 207 PN Pn 20 35 05.9 -3.0
PLWZ Palliser 4.79 203 PN Pn 20 35 05.9 -3.2
TCW Tory Channel 4.84 212 PN Pn 20 35 06.9 -2.9
TUWZ Tuamarina 5.17 213 PN Pn 20 35 11.1 -2.9
TUWZ Tuamarina 5.17 213 Pn Pn 20 35 11.1 -2.9
NNZ Nelson 5.26 218 PN Pn 20 35 12.6 -2.8
NNZ Nelson 5.26 218 Pn Pn 20 35 12.6 -2.8
CMWZ Cape Campbell 5.32 210 PN Pn 20 35 13.9 -2.2
CMWZ Cape Campbell 5.32 210 Pn Pn 20 35 13.9 -2.2
BSWZ Blackbirch Sta 5.43 212 PN Pn 20 35 14.4 -3.1
BSWZ Blackbirch Sta 5.43 212 Pn Pn 20 35 14.4 -3.1
QRZ Quartz Range 5.45 226 PN Pn 20 35 15.0 -2.8
QRZ Quartz Range 5.45 226 Pn Pn 20 35 15.0 -2.8
THZ Tophouse 5.91 218 *e*PN Pn 20 35 20.7 -3.4
THZ Tophouse 5.91 218 Pn Pn 20 35 21.1 -3.0
KHZ Kahutara 6.15 210 PN Pn 20 35 23.4 -3.8
KHZ Kahutara 6.15 210 *e*P Pn 20 35 23.1 -4.1

306nm,0.4s
DSZ Denniston Nort 6.47 223 PN Pn 20 35 27.6 -3.9
CRLZ Canterbury Las 7.49 210 *e*PN Pn 20 35 40.6 -4.6
CRLZ Canterbury Las 7.49 210 Pn Pn 20 35 41.0 -4.2
MQZ McQueen's Vall 7.59 209 PN Pn 20 35 41.1 -5.4
CTZ Chatham Island 7.86 148 *e*PN Pn 20 35 51.1 +1.0
CTZ Chatham Island 7.86 148 Pn Pn 20 35 51.4 +1.3
WVZ Waitaha Valley 7.96 220 *e*PN Pn 20 35 46.3 -5.3
RPZ Rata Peaks 8.28 216 P Pn 20 35 52.4 -3.4
108nm,0.3s,baz=58,slow=1.8,SNR=185
RPZ S Sn 20 37 21.1 -6.6
51nm,0.3s,baz=2.5,slow=22,SNR=15
RPZ Rata Peaks 8.28 216 *e*P Pn 20 35 51.5 -4.4
274nm,0.4s
RPZ S Sn 20 37 21.1 -6.6
RAO Raoul Island 8.70 26 *e*P Pn 20 35 60.0 -1.6
899nm,0.4s
FOZ Fox Glacier 8.85 221 *e*PN Pn 20 35 56.2 -7.2
LBZ Lake Benmore 9.20 216 *e*PN Pn 20 36 02.9 -5.2
LBZ Lake Benmore 9.20 216 Pn Pn 20 36 03.0 -5.1
ODZ Otahua Downs 9.51 212 *e*PN Pn 20 36 07.0 -5.3
ODZ Otahua Downs 9.51 212 *e*P Pn 20 36 07.8 -4.5
222nm,0.4s
ODZ *e*S Sn 20 37 40.8 -16
JCZ Jackson Bay 9.69 222 *e*PN Pn 20 36 08.6 -6.1
WKZ Wanaka 10.09 218 *e*PN Pn 20 36 14.7 -5.3
EAZ Earnscleugh 10.24 216 *e*PN Pn 20 36 16.9 -5.2
EAZ Earnscleugh 10.24 216 Pn Pn 20 36 17.2 -4.9
MSZ Milford Sound 10.53 222 Pn Pn 20 36 21.2 -4.8
MSZ Milford Sound 10.53 222 P Pn 20 36 21.2 -4.7
TUZ Tuapeka 10.66 212 PN Pn 20 36 23.7 -3.9
MLZ Mavora Lakes 10.88 218 Pn Pn 20 36 26.9 -3.5
SYZ Scrubby Hill 11.33 212 *e*PN Pn 20 36 32.6 -3.8
SYZ SN Sn 20 38 33.3 -8.1
SYZ Scrubby Hill 11.33 212 Pn Pn 20 36 32.7 -3.7
DZM Mont Dzumac 17.93 324 *e*LR LR 20 42 04.3
859nm,22.6s
MSVF Nonsavu 19.36 1 *e*P P 20 38 09.5 -4.4
102nm,1.0s
MSVF Nonsavu 19.36 1 *e*P P 20 38 09.5 -4.4
MSVF pmax pmax
comp=Z,102nm,1.0s
MSVF Nonsavu 19.36 1 P P 20 38 10.2 -3.7
comp=Z,534nm,0.9s,SNR=13
ARMA Armidale 22.66 280 *e*P P 20 38 50.7 +2.0
ARMA Armidale 22.66 280 *e*P P 20 38 50.8 +2.1
comp=Z,159nm,1.4s,mb5.2
CNB Canberra Magne 22.91 266 *e*P P 20 38 53.9 +3.0
comp=Z,194nm,1.1s,mb5.5
CAN Canberra 23.20 266 *e*P P 20 38 56.8 +3.2
comp=Z,68nm,1.1s,mb5.0
CAN Canberra 23.20 266 *e*P P 20 38 56.8 +3.2
CAN pmax pmax
comp=Z,68nm,1.1s,mb5.0
EIDS Eidsvold 25.53 290 *e*P P 20 39 15.1 +0.2
comp=Z,118nm,1.2s,mb5.4
TOO Toolangi 25.55 259 *e*P P 20 39 16.0 +1.1
comp=Z,266nm,0.8s,mb5.9
STKA Stephens Creek 30.10 269 P P 20 39 57.3 +1.8
comp=Z,44nm,0.8s,mb5.3,baz=98,slow=9.8,SNR=95
STKA LR LR 20 50 59.3
comp=Z,205nm,18.7s,baz=284,slow=34
STKA Stephens Creek 30.10 269 *e*P P 20 39 57.2 +1.7
comp=Z,38nm,0.8s,mb5.2
STKA Stephens Creek 30.10 269 *e*P P 20 39 56.7 +1.2
comp=Z,11nm,0.9s,mb4.6
STKA Stephens Creek 30.10 269 *e*P P 20 39 56.7 +1.2
STKA pmax pmax
comp=Z,11nm,0.9s
TBI Tubuai 31.35 73 *e*LR LR 20 48 27.7
comp=Z,445nm,32.5s
HNR Honiara 31.95 325 P P 20 40 11.3 -0.5
comp=Z,22nm,0.3s,mb5.3,baz=263,slow=9.0,SNR=7.3
HNR Honiara 31.95 325 *e*P P 20 40 10.7 -1.1
comp=Z,90nm,1.2s,mb5.4
HNR Honiara 31.95 325 *e*P P 20 40 10.7 -1.1
HNR pmax pmax
comp=Z,90nm,1.2s,mb5.4
CTA Charters Tower 32.24 293 P P 20 40 14.8 +0.5
baz=121,slow=11
CTA Charters Tower 32.24 293 *e*P P 20 40 14.8 +0.5
comp=Z,21nm,1.2s,mb4.7
CTA Charters Tower 32.24 293 P P 20 40 14.8 +0.5
CTA Charters Tower 32.24 293 P P 20 40 14.9 +0.6
CTAO Charters Tower 32.24 293 *e*P P 20 40 14.7 +0.3
comp=Z,43nm,1.0s,mb5.1
CTAO Charters Tower 32.24 293 *e*P P 20 40 14.7 +0.4
CTAO pmax pmax
comp=Z,43nm,1.0s,mb5.1
BBOO Buckleboo 34.21 265 *e*P P 20 40 30.9 -0.4
comp=Z,249nm,0.6s,mb6.1
PAE Paea 34.68 65 *e*P P 20 40 35.2 -0.4
comp=Z,16nm,1.1s,mb4.5
PPT2 Papeete2 34.73 65 *e*P P 20 40 36.2 +0.2
comp=Z,80nm,1.2s,mb5.2
PPT2 *e*LR LR 20 49 54.6
comp=Z,410nm,29.8s
TIAR Tiarei 34.92 65 *e*P P 20 40 37.7 +0.1
comp=Z,119nm,0.8s,mb5.6
TIAR *e*pP pP 20 40 58.5 -8.4
comp=Z,39nm,0.8s
MEH Mehetia 35.65 67 *e*P P 20 40 43.3 -0.5
comp=Z,98nm,1.2s,mb5.3
PMOR Pomariorio Ree 37.65 63 *e*P P 20 41 00.5 -0.3
comp=Z,48nm,1.1s,mb5.0
COEN Coen 38.46 298 *e*P P 20 41 07.3 -0.3
comp=Z,336nm,0.8s,mb6.0
PMG Port Moresby 39.06 307 P P 20 41 12.3 -0.3
comp=Z,18nm,0.8s,mb4.8,baz=116,slow=2.7,SNR=8.8
PMG Port Moresby 39.06 307 *e*P P 20 41 12.8 +0.2
PMG Port Moresby 39.06 307⇓*e*P P 20 41 13.2 +0.6
PMG pmax pmax
comp=Z,27nm,1.0s
AS31 Alice Springs 39.77 277 *e*P P 20 41 17.4 -1.0
ASAR Alice Springs 39.77 277 P P 20 41 17.9 -0.4
comp=Z,43nm,0.5s,mb5.3,baz=121,slow=8.2,SNR=325
ASAR ScP ScP 20 46 51.6 -6.7
comp=Z,0.8nm,0.5s,baz=118,slow=3.8,SNR=4.9
ASAR S S 20 47 13.3 +0.9
comp=Z,1.1nm,0.6s,baz=128,slow=14,SNR=4.5
ASAR Alice Springs 39.77 277 P P 20 41 17.9 -0.4
ASAR ScP ScP 20 46 51.6 -6.7
ASAR S S 20 47 13.3 +0.9
ASAR Alice Springs 39.77 277 P P 20 41 18.0 -0.4
ASAR S S 20 47 13.4 +1.0
VNDA Vanda 41.04 185 *e*P P 20 41 34.2 +6.1
comp=Z,4.5nm,0.6s,mb4.3
VNDA Vanda 41.04 185 *e*P P 20 41 34.3 +6.1
VNDA pmax pmax
comp=Z,5.0nm,0.6s
SBA Scott Base 41.06 184 *e*P P 20 41 36.3 +7.9
comp=Z,15nm,0.8s,mb4.7
SBA Scott Base 41.06 184 *e*P P 20 41 36.3 +7.9
SBA pmax pmax
comp=Z,15nm,0.8s,mb4.7
FORT Forrest 41.29 264 *e*P P 20 41 30.3 -0.5
comp=Z,138nm,0.6s,mb5.8
FORT Forrest 41.29 264 *e*P P 20 41 30.2 -0.6
comp=Z,148nm,0.6s,mb5.8
WB2 Warramunga Arr 41.38 282 *e*P P 20 41 30.9 -0.8
WRAB Tennant Creek 41.39 282 *e*P P 20 41 31.0 -0.7
comp=Z,45nm,0.6s,mb5.3
WRAB Tennant Creek 41.39 282 *e*P P 20 41 31.0 -0.7
WRAB pmax pmax
comp=Z,45nm,0.6s,mb5.3
WRAB Tennant Creek 41.39 282 P P 20 41 31.0 -0.7
comp=Z,490nm,0.6s,mb6.3
WRA Warramunga Arr 41.39 282 P P 20 41 30.9 -0.8
comp=Z,36nm,0.5s,mb5.2,baz=120,slow=8.1,SNR=500
WRA S S 20 47 37.1 +0.5
comp=Z,2.0nm,0.8s,baz=121,slow=14,SNR=4.1
WRA LR LR 20 58 24.7
comp=Z,208nm,20.1s,baz=120,slow=35
WRA Warramunga Arr 41.39 282 P P 20 41 30.9 -0.8
WRA S S 20 47 37.1 +0.5
WRA Warramunga Arr 41.39 282 P P 20 41 31.0 -0.8
WRA S S 20 47 37.1 +0.5
RKT Rikitea 42.82 85 *e*LR LR 20 53 51.3
comp=Z,376nm,31.5s
JAY Jayapura 48.43 307 P P 20 42 27.6 +0.1
comp=Z,36nm,1.4s,mb4.8
NWAO Narrogin (SRO) 48.97 256 P P 20 42 30.9 -0.5
comp=Z,11nm,0.6s,mb4.7,baz=117,slow=7.3,SNR=16
NWAO LR LR 21 01 40.7
comp=Z,103nm,20.9s,baz=222,slow=34
NWAO Narrogin (SRO) 48.97 256 P P 20 42 30.9 -0.5

NWAO Narrogin (SRO) 48.97 256 P P 20 42 31.0 -0.5
KLBR Kellerberrin 49.09 258 *e*P P 20 42 31.3 -1.1
comp=Z,57nm,1.0s,mb5.2
FITZ Fitzroy Crossi 49.25 278 P P 20 42 33.9 +0.1
comp=Z,48nm,0.6s,mb5.3,baz=153,slow=7.9,SNR=108
FITZ LR LR 21 05 01.9
comp=Z,163nm,18.6s,baz=287,slow=38
FITZ Fitzroy Crossi 49.25 278 *e*P P 20 42 33.3 -0.4
comp=Z,112nm,0.9s,mb5.5
FITZ Fitzroy Crossi 49.25 278 *e*P P 20 42 33.3 -0.4
comp=Z,112nm,1.0s,mb5.5
FITZ Fitzroy Crossi 49.25 278 P P 20 42 34.9 +1.2
comp=Z,1µmcomp=Z,100nm,0.9s,mb5.4
TLE Tual 51.60 296 P P 20 42 51.3 -0.2
comp=Z,3µmcomp=Z,227nm,0.7s,mb5.9
MBWA Marble Bar 52.33 271 P P 20 42 56.0 -0.8
comp=Z,72nm,0.9s,mb5.3
QSPA South Pole Qui 52.96 180 P P 20 43 04.5 +3.9
comp=Z,24nm,0.3s,mb5.3,baz=207,slow=0.6,SNR=33
QSPA South Pole Qui 52.96 180 *e*P P 20 43 04.7 +4.1
MMRI Maumere 57.49 285 P P 20 43 34.4 +0.4
comp=Z,1µmcomp=Z,156nm,1.3s,mb5.7
GUMO Guam 59.19 322 LR LR 21 04 21.0
comp=Z,57nm,21.1s,baz=137,slow=31
BKSI Bulukumba 61.20 286 P P 20 43 59.3 -0.2
comp=Z,388nmcomp=Z,27nm,0.9s,mb5.1
KAPI Kappang 61.68 286 P P 20 44 02.3 -0.4
comp=Z,7.5nm,0.5s,mb4.8,baz=258,slow=23,SNR=7.1
KAPI Kappang 61.68 286 P P 20 44 02.3 -0.4
MTNI Mataram 62.22 281 P P 20 44 07.0 +0.7
comp=Z,139nm,0.9s,mb5.8
SPSI Sidrap Palu 62.34 287 P P 20 44 07.4 +0.3
comp=Z,21nm,0.9s,mb4.9
GMJI Gumukmas 64.58 279 P P 20 44 22.2 +0.4
comp=Z,911nmcomp=Z,68nm,1.0s,mb5.4
MAW Mawson 64.72 203 P P 20 44 22.0 +0.1
comp=Z,8.6nm,0.7s,mb4.7,baz=95,slow=11,SNR=12
MAW LR LR 21 11 37.8
comp=Z,55nm,18.6s,baz=25,slow=35
MAW Mawson 64.72 203 *e*P P 20 44 21.7 -0.2
comp=Z,9.3nm,0.9s,mb4.6
MAW Mawson 64.72 203 P P 20 44 22.0 +0.1
MAW Mawson 64.72 203 P P 20 44 22.0 +0.1
BLJI Banyuglugur 64.78 280 P P 20 44 24.4 +1.3
comp=Z,962nmcomp=Z,83nm,1.1s,mb5.5
KRKI Karangkates 65.43 279 P P 20 44 28.7 +1.3
comp=Z,174nm,1.0s,mb5.8
PWJI Pagerwojo 66.03 278 P P 20 44 31.6 +0.4
comp=Z,1µmcomp=Z,89nm,1.0s,mb5.5
SJI Sawahan 66.23 279 P P 20 44 33.5 +1.1
comp=Z,1µmcomp=Z,49nm,0.7s,mb5.4
PCJI Pacitan 66.42 278 P P 20 44 35.1 +1.4
comp=Z,2µmcomp=Z,194nm,1.1s,mb5.9
CISI Cisompet, Garu 69.47 276 P P 20 44 52.7 0.0
comp=Z,1µmcomp=Z,182nm,1.0s,mb5.8
SYO Syowa Base 69.71 195⇓*e*P P 20 44 54.8 +1.5
SYO Syowa Base 69.71 195⇓*e*pP pP 20 45 25.3 -1.0
LEM Lembang 70.06 277 P P 20 44 57.8 +1.4
comp=Z,78nm,0.8s,mb5.5
DBJI Dramaga 70.91 276 P P 20 45 01.7 +0.2
comp=Z,132nm,0.9s,mb5.7
SNAA Sanae 71.47 180 *e* P 20 45 05.9 +2.0
SNAA Sanae 71.47 180 *e*P P 20 45 05.4 +1.5
comp=Z,11nm,0.6s,mb4.8
SNAA Sanae 71.47 180 *e*P P 20 45 05.4 +1.5
SNAA pmax pmax
comp=Z,11nm,0.6s
CGJI Cibinong 71.71 276 P P 20 45 06.2 -0.2
comp=Z,860nmcomp=Z,74nm,0.9s,mb5.4
LWLI Liwa 73.97 276 P P 20 45 19.9 +0.2
comp=Z,67nm,0.9s,mb5.4
KSI Kapahiang 75.95 276 P P 20 45 30.8 -0.2
comp=Z,100nm,0.9s,mb5.4
BKNI Bangkinang 79.59 278 P P 20 45 49.8 -1.4
PLCA Paso Flores 80.43 134 P P 20 45 57.9 +2.5
comp=Z,2.2nm,0.7s,baz=261,slow=3.1,SNR=4.3
PLCA LR LR 21 13 15.0
comp=Z,31nm,19.4s,baz=166,slow=29
PLCA Paso Flores 80.43 134 P P 20 45 57.9 +2.5
PLCA Paso Flores 80.43 134 P P 20 45 57.9 +2.6
QIZ Qiongzhong 84.85 298 P P 20 46 21.8 +3.4
QIZ pP pP 20 46 50.5 -2.0
QIZ sP sP 20 47 02.8 -3.9
QIZ S S 20 56 42.6 +7.0
QIZ pmax pmax
comp=Z,39nm,1.8s,mb4.8
QIZ pmax pmax
comp=Z,120nm,3.1s
YUK Yuzh-Kuril'sk 85.83 338 P P 20 46 21.1 -1.5
YUK *j* *SP sP 20 46 59.3 -12
YUK *j* PPP 20 51 32.9
YUK *e*S S 20 56 25.0 -19
YUK pmax pmax
comp=Z,30nm,7.9s
ASAJ Asahikawa 86.94 335 LR LR 21 18 21.0
comp=Z,76nm,20.3s,baz=181,slow=31
KSRS Korea Array 87.35 323 P P 20 46 30.2 0.0
comp=Z,4.2nm,0.6s,mb4.5,baz=144,slow=5.3,SNR=11
KSAR Wonju Array Be 87.36 322 P P 20 46 30.2 0.0
KSAR Wonju Array Be 87.36 322 P P 20 46 30.3 0.0
NJ2 Nanjing 88.10 313 *e*P P 20 46 38.8 +4.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
PETK Petropavlovsk- 91.57 348 P P 20 46 48.5 -1.1
comp=Z,2.8nm,0.6s,mb4.5,baz=143,slow=8.1,SNR=3.7
PETK Petropavlovsk- 91.57 348 P P 20 46 48.5 -1.1
PETK Petropavlovsk- 91.57 348 P P 20 46 48.5 -1.0
GYA Guiyang 91.95 302 P P 20 46 56.0 +4.0
GYA pP pP 20 47 27.6 +1.1
GYA sP sP 20 47 40.0 -0.6
GYA PP PP 20 50 39.3 +5.6
GYA SKS 20 57 16.8
GYA S S 20 57 44.3 +2.1
GYA sS sS 20 58 38.3 -3.7
GYA SS SS 21 03 58.6 +4.0
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.1
GYA pmax pmax
comp=Z,140nm,5.8s
MDJ Mudanjiang 92.30 328 P P 20 46 58.5 +5.3
MDJ pP pP 20 47 26.3 -1.4
MDJ sP sP 20 47 38.6 -3.2
MDJ PP PP 20 50 40.0 +3.9
MDJ S S 20 57 53.8 +9.3
MDJ sS sS 20 58 41.6 -2.8
MDJ pmax pmax
comp=Z,13nm,2.4s,mb4.5
MDJ pmax pmax
comp=Z,58nm,3.2s
CM31 Chiang Mai Arr 92.39 291 *e*P P 20 46 54.8 +0.6
comp=Z,5.5nm,0.6s,mb4.8
CMAR Chiang Mai Arr 92.39 291 P P 20 46 54.6 +0.4
comp=Z,5.3nm,0.6s,mb4.8,baz=144,slow=3.6,SNR=39
CMAR LR LR 21 29 00.6
comp=Z,62nm,19.1s,baz=351,slow=36
CMAR Chiang Mai Arr 92.39 291 P P 20 46 54.6 +0.4
CMAR Chiang Mai Arr 92.39 291 P P 20 46 54.6 +0.4
CN2 Changchun 93.49 325 *e*P P 20 47 04.9 +6.2
KMI Kunming 93.80 299 P P 20 47 05.3 +4.7
KMI pP pP 20 47 36.0 +0.9
KMI sP sP 20 47 47.9 -1.3
KMI PP PP 20 50 51.9 +3.7
KMI S S 20 58 00.5 +2.0
KMI sS sS 20 58 54.3 -4.3
KMI SS SS 21 04 22.9 +1.8
KMI pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
KMI pmax pmax
comp=Z,75nm,4.2s
KMI LR LR
comp=N,86nm,17.7s
KMI LR LR
comp=E,84nm,19.1s
KMI LR LR
comp=Z,89nm,15.6s
KMI Kunming 93.80 299 P P 20 47 05.2 +4.6
comp=Z,6.0nm,1.1s,mb4.6
KMI pP pP 20 47 36.0 +0.9
KMI sP sP 20 47 47.9 -1.3
KMI PP PP 20 50 51.9 +3.7
KMI S S 20 58 00.5 +2.0
KMI sS sS 20 58 54.3 -4.3
KMI PS PS 20 59 29.6 -0.8
KMI SS SS 21 04 22.9 +1.8
KMI LR LR

comp=Z,90nm,15.6s
KMI Kunming 93.80 299 P **P** **20 47 05.2 +4.6**
KMI *SP sP 20 47 47.9 -1.3
KMI 20 50 51.9
KMI S S 20 58 00.5 +2.0
KMI PS PS 20 59 29.6 -0.8
KMI SS SS 21 04 22.9 +1.8
KMI pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
KMI MLR MLR
comp=Z,90nm,15.6s
NVAR Mina Array Bea 95.57 45 P **P** **20 47 06.2 -2.1**
comp=Z,1.0nm,0.8s,mb4.2,baz=226,slow=7.9,SNR=6.6
NVAR Mina Array Bea 95.57 45 P **P** **20 47 06.2 -2.1**
ATAH Atahualpa 96.67 104 LR LR 21 21 02.8
comp=Z,77nm,20.4s,baz=81,slow=29
CD2 Chengdu 96.76 304 *e*P **P** **20 47 18.3 +4.4**
CD2 pP pP 20 47 47.3 -1.2
CD2 sP sP 20 47 59.3 -3.3
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
CD2 pmax pmax
comp=Z,100nm,6.8s
LPAZ La Paz 98.41 118 P **P** **20 47 22.9 +1.2**
comp=Z,0.7nm,0.7s,mb4.2,baz=133,slow=4.3,SNR=3.6
LPAZ La Paz 98.41 118 P **P** **20 47 22.9 +1.2**
LPAZ La Paz 98.41 118 P **P** **20 47 23.0 +1.2**
HHC Hu-ho-hao-te 98.45 315 *e*P **P** **20 47 24.3 +3.0**
HHC pP pP 20 47 51.3 -4.6
HHC PP PP 20 51 27.8 +4.0
HHC SKS 20 57 51.1
HHC S S 20 58 38.8 +1.0
HHC SS SS 21 05 27.6 +1.2
HHC pmax pmax
comp=Z,13nm,0.7s,mb5.5
HHC pmax pmax
comp=Z,93nm,7.3s
LZH Lanzhou 99.96 308 *e*P Pdif 20 47 34.1 +5.8
LZH pP pP 20 48 04.3 +1.5
LZH sP 20 48 15.3
LZH *e*PP PP 20 51 42.5 +7.1
LZH SKS 20 58 01.3
LZH *e*S Sdif 20 58 54.0 +2.9
LZH sS sS 20 59 46.5 -4.7
LZH pmax pmax
comp=Z,21nm,1.1s,mb5.5
LZH pmax pmax
comp=Z,140nm,9.2s
LZH Lanzhou 99.96 308 *e*P Pdif 20 47 34.1 +5.8
comp=Z,21nm,1.1s
LZH pP pP 20 48 04.2 +1.4
LZH sP 20 48 15.2
LZH *e*PP PP 20 51 42.5 +7.1
LZH SKS 20 58 01.2
LZH *e*S Sdif 20 58 54.0 +2.9
LZH sS sS 20 59 46.5 -4.7
LZH Lanzhou 99.96 308 *e*P Pdif 20 47 34.1 +5.8
LZH *SP 20 48 15.2
LZH *e* 20 51 42.5
LZH *e*S Sdif 20 58 54.0 +2.9
LZH pmax pmax
comp=Z,21nm,1.1s,mb5.5
BILL Bilibino 105.24 356 *e*P Pdif 20 47 48.9 -2.9
YKA Yellowknife Ar 113.07 28 PKiKP PKiKP 20 52 17.8 -1.1
comp=Z,0.3nm,0.5s,baz=252,slow=1.8,SNR=5.7
YKA Yellowknife Ar 113.07 28 PKiKP PKiKP 20 52 17.8 -1.1
YKA Yellowknife Ar 113.07 28 PKIKP PKiKP 20 52 17.8 -1.1
WMQ Urumqi 114.53 307 *e*PKP PKiKP 20 52 25.8 +3.5
MKAR Makanchi Array 119.27 308 PKP PKPdf 20 52 29.0 -2.3
comp=Z,1.6nm,0.9s,baz=111,slow=2.5,SNR=8.2
MKAR PKKPbc PKKPbc 21 02 50.1 +5.5
comp=Z,0.4nm,0.5s,baz=324,slow=2.8,SNR=7.7
MKAR Makanchi Array 119.27 308 PKP PKPdf 20 52 29.0 -2.3
MKAR PKKPbc PKKPbc 21 02 50.1 +5.5
MKAR Makanchi Array 119.27 308 PKIKP PKPdf 20 52 29.0 -2.4
ZALV Zalesovo Beam 120.60 317 PKP PKPdf 20 52 31.5 -2.2
comp=Z,0.6nm,0.4s,baz=128,slow=4.0,SNR=3.9
ZALV Zalesovo Beam 120.60 317 PKP PKPdf 20 52 31.5 -2.2
ZALV Zalesovo Beam 120.60 317 PKIKP PKPdf 20 52 31.5 -2.2
AAK Ala-Archa 122.73 301 *i* PKIKP PKPdf 20 52 38.9 +0.7
KURK Kurchatov 123.00 312 PKP PKPdf 20 52 36.0 -2.4
comp=Z,3.1nm,0.5s,baz=118,slow=1.8,SNR=32
KURK PKKPbc PKKPbc 21 02 36.6 +5.9
comp=Z,0.6nm,0.6s,baz=293,slow=4.6,SNR=6.9
KURK Kurchatov 123.00 312 PKP PKPdf 20 52 36.0 -2.4
KURK PKKPbc PKKPbc 21 02 36.6 +5.9
KURK Kurchatov 123.00 312 *i* PKIKP PKPdf 20 52 37.3 -1.1
KBL Kabul 123.41 290 *e*PKPdf PKPdf 20 52 40.0 +0.3
KBL Kabul 123.41 290 *e*PKIKP PKPdf 20 52 40.0 +0.3
KKAR Karatay Array 125.63 301 *e*PKPdf PKPdf 20 52 41.6 -2.1
KKAR Karatay Array 125.63 301 *e*PKIKP PKPdf 20 52 41.6 -2.1
BRVK Borovoye 128.61 313 *i* PKIKP PKPdf 20 52 49.4 +0.4
GNI Garni 143.49 290 PKP PKPdf 20 53 15.3 -1.7
comp=Z,3.0nm,0.5s,baz=354,slow=12,SNR=3.4
GNI Garni 143.49 290 PKP PKPdf 20 53 15.3 -1.7
GNI Garni 143.49 290 PKIKP PKPdf 20 53 15.4 -1.6
TBLG Delisi 143.76 292 *e*PKIKP PKPdf 20 53 15.8 -1.6
TBLG Delisi 143.76 292 P PKPdf 20 53 15.9 -1.6
ARCES ARCESS Array B 144.26 344 PKP PKPdf 20 53 14.0 -3.5
comp=Z,2.3nm,0.5s,baz=56,slow=4.0,SNR=17
ARCES ARCESS Array B 144.26 344 PKP PKPdf 20 53 14.0 -3.5
ARCES ARCESS Array B 144.26 344 PKIKP PKPdf 20 53 14.0 -3.4
GOR Gori 144.26 292 P PKPdf 20 53 17.8 -0.5
AKH Akhalkalaki 144.63 291 P PKPdf 20 53 18.7 -0.3
KLMR Klimovskoe 144.69 326 *e*PKHKP PKPpre 20 53 09.7
KLMR pmax pmax
comp=Z,28nm,1.5s
ONI Oni 144.82 293 P PKPdf 20 53 18.8 -0.4
KIV Kislovodsk 145.51 296 *e*PKPdf PKPdf 20 53 19.3 -1.1
KIV Kislovodsk 145.51 296 *e*PKP2 PKPdf 20 53 19.9 -0.5
KIV pmax pmax
comp=Z,14nm,0.9s
VSR Storozhevoye 147.59 309 *e*PKP2 PKPdf 20 53 25.1 +1.5
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,9.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 148.19 317 *i* PKP2 PKPbc 20 53 27.5 -0.5
OBN *i* 21 00 22.9
OBN pmax pmax
comp=Z,10.0nm,0.9s
ANN Anapa 149.30 297 *i* PKIKP PKPdf 20 53 18.2 -8.5
ANN pmax pmax
comp=Z,55nm,1.5s
KAF Kangasniemi 149.40 334 *e*PKP2 PKPbc 20 53 29.6 -1.2
KAF Kangasniemi 149.40 334 *e*p PKPbc 20 53 29.6 -1.2
DBIC Dimbokro 149.56 175 PKPbc PKPbc 20 53 34.3 +1.6
comp=Z,11nm,0.7s,baz=168,slow=2.9,SNR=27
DBIC Dimbokro 149.56 175 *e*PKPbc PKPbc 20 53 33.2 +0.5
DBIC Dimbokro 149.56 175 *e*PKIKP PKPbc 20 53 33.2 +0.5
FINES FINESS Array B 149.92 333 PKPbc PKPbc 20 53 29.9 -2.2
comp=Z,9.6nm,0.6s,baz=51,slow=4.0,SNR=55
FINES FINESS Array B 149.92 333 PKPbc PKPbc 20 53 29.9 -2.2
FINES FINESS Array B 149.92 333 PKHKP PKPbc 20 53 29.9 -2.2
CSS Prodhromos 151.23 276 *e*PKPbc PKPbc 20 53 34.6 -1.4
BR131 Keskin Array S 151.86 286 *e*PKPbc PKPbc 20 53 35.8 -1.6
BRTR Keskin Array B 151.86 286 PKPbc PKPbc 20 53 36.1 -1.2
comp=Z,8.1nm,0.8s,baz=138,slow=4.0,SNR=34
BRTR Keskin Array B 151.86 286 PKPbc PKPbc 20 53 36.1 -1.2
BRTR Keskin Array B 151.86 286 PKIKP PKPbc 20 53 36.2 -1.2
AKASG Malin Array Be 153.81 311 PKPbc PKPbc 20 53 40.4 -0.8
comp=Z,3.6nm,0.7s,baz=58,slow=2.7,SNR=6.7
AKASG Malin Array Be 153.81 311 PKPbc PKPbc 20 53 40.4 -0.8
AKASG Malin Array Be 153.81 311 PKIKP PKPbc 20 53 40.4 -0.9
NOA NORSAR Array B 154.63 345 PKPbc PKPbc 20 53 41.7 -1.0
comp=Z,2.2nm,0.7s,baz=33,slow=2.1,SNR=5.7
NOA NORSAR Array B 154.63 345 PKPbc PKPbc 20 53 41.7 -1.0
NOA NORSAR Array B 154.63 345 PKIKP PKPbc 20 53 41.7 -1.0
TORD Torodi Ar. Bea 155.82 190 PKP PKPdf 20 53 37.3 +0.2
comp=Z,0.6nm,0.7s,baz=184,slow=1.4,SNR=6.5
TORD PKPbc PKPdf 20 53 48.0 +11
comp=Z,1.5nm,0.3s,baz=146,slow=3.2,SNR=22
TORD PKPab PKPab 20 54 05.2 +1.0
comp=Z,9.2nm,0.5s,baz=172,slow=3.4,SNR=26
TORD Torodi Ar. Bea 155.82 190 PKP PKPdf 20 53 37.3 +0.2
TORD PKPbc PKPdf 20 53 48.0 +11
TORD PKPab PKPab 20 54 05.2 +1.0
BUR08 Bucovina Ar. S 157.28 306 *e*PKPab PKPab 20 54 10.6 +0.7
MLR Muntele Rosu 157.31 300 PKPab PKPab 20 54 10.5 +0.3
baz=94,slow=13
MLR Muntele Rosu 157.31 300 PKPab PKPab 20 54 10.5 +0.4
MLR Muntele Rosu 157.31 300 PKP2 PKPab 20 54 10.5 +0.4
KSP Ksiaz 160.96 322 *e*PKP PKPab 20 54 24.4 -1.3
KSP Ksiaz 160.96 322 *e*PKP2 PKPab 20 54 24.4 -1.3
BRG Berggiesshubel 162.06 325 *e*PKP PKPab 20 54 28.4 -2.1
comp=Z,10nm,1.3s
BRG Berggiesshubel 162.06 325 *e*PKP2 PKPab 20 54 28.5 -2.0
BRG pmax pmax
comp=Z,11nm,1.3s
GERES GERESS Array B 163.52 320 PKPab PKPab 20 54 36.8 -0.3
comp=Z,0.3nm,0.6s,baz=35,slow=4.9,SNR=3.6
GERES GERESS Array B 163.52 320 PKPab PKPab 20 54 36.8 -0.3
GERES GERESS Array B 163.52 320 PKP2 PKPab 20 54 36.8 -0.2

NIED ***17*** *20:43:00,39°.20N×142°.40E,h23km,Mw3.8 Best double couple: M0=6.17000×10¹⁴ NP1:φs=352.00000°,δ85.00000°, λ51.00000°. NP2:φs=256.00000°,δ40.00000°,λ172.00000°.*
IDC ***17*** *20:43:35.5±1.1,39°.30N×143°.16E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.7/24,mbtmp3.7/8,ML3.4/1,Error ellipse: s-maj=32.2km s-min=20.4km az=87.0*
NEIC ***17*** *20:43:37.0±2.1,39°.27N×143°.02E,h8km±13km,mb4.3/1, Error ellipse: s-maj=17.9km s-min=9.2km az=110.0*
ISCJB ***17*** *20:43:39.9±1.3,39°.12N±0°.03×142°.48E±0°.09,h25km±7km, mb3.8/8,Error ellipse: s-maj=11.2km s-min=5.6km az=7.5*
JMA ***17*** *20:43:41.6±0.1,39°.16N×142°.38E,h31km±1km,M3.7*
ISC 17 20:43:40.9±1.9,39°.16N±0°.03×142°.40E±0°.06,h18km±12km, n31,σ0°90/40,mb3.8/8,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.58**	**263**	⇓P	**Pb**	**20 43 52.9**	**+0.4**
OFUJ				*e*S	**Sb**	**20 44 00.7**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.62**	**313**	⇓P	**Pb**	**20 43 53.4**	**+0.2**
MIYJ				S	**Sb**	**20 44 01.4**	**-0.2**
JTH	**Tanohata**	**0.89**	**332**	P	**Pb**	**20 43 57.4**	**-0.4**
JTH				*e*S	**Sb**	**20 44 08.8**	**-0.5**
JOM	**Ohasama**	**0.92**	**291**	⇓P	**Pb**	**20 43 58.4**	**+0.1**
JOM				S	**Sb**	**20 44 10.3**	**+0.1**
JMK	**Ichinoseki**	**0.94**	**258**	⇓P	**Pb**	**20 43 58.5**	**-0.3**
JMK				S	**Sb**	**20 44 10.7**	**-0.2**
JIO	**Ouri**	**1.08**	**230**	⇑P	**Pb**	**20 44 00.0**	**-1.1**
JIO				S	**Sb**	**20 44 12.9**	**-2.0**
JKZ	**Kuzumaki**	**1.17**	**315**	⇓P	**Pn**	**20 44 02.2**	**-0.2**
JKZ				S	**Sb**	**20 44 17.0**	**-0.5**
JANG	**Nango**	**1.40**	**331**	P	**Pn**	**20 44 05.5**	**0.0**
JANG				S	**Sn**	**20 44 23.8**	**+0.3**
ERM	**Erimo**	**2.91**	**11**	*e*Pg	**Pg**	**20 44 30.2**	**-6.6**
MAJO	**Matsushiro**	**4.22**	**233**	*e*Pn	**Pn**	**20 44 47.2**	**+2.8**
MJAR	**Matsushiro Arr**	**4.22**	**233**	Pn	**Pn**	**20 44 47.1**	**+2.8**
	1.8nm,0.3s,baz=42,slow=10,SNR=54						
MJAR	**Matsushiro Arr**	**4.22**	**233**	Pn	**Pn**	**20 44 47.1**	**+2.8**
MAT	**Matsushiro**	**4.22**	**233**	P	**Pn**	**20 44 45.5**	**+1.1**
MAT				*e*S	**Sn**	**20 45 33.8**	**+0.5**
ASAJ	**Asahikawa**	**4.96**	**2**	Pn	**Pn**	**20 44 55.9**	**+1.4**
	0.4nm,0.3s,baz=135,slow=1.4,SNR=3.6						
ASAJ	**Asahikawa**	**4.96**	**2**	*e*Pn	**Pn**	**20 44 49.5**	**-4.9**
ZALV	**Zalesovo Beam**	**41.10**	**311**	P	**P**	**20 51 24.4**	**+1.0**
	0.4nm,0.3s,mb3.5,baz=91,slow=8.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**41.10**	**311**	P	**P**	**20 51 24.4**	**+1.0**
MKAR	**Makanchi Array**	**43.69**	**300**	P	**P**	**20 51 44.8**	**+0.2**
	0.5nm,0.8s,mb3.3,baz=82,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**43.69**	**300**	P	**P**	**20 51 44.8**	**+0.2**
KURK	**Kurchatov**	**45.27**	**307**	P	**P**	**20 51 58.1**	**+0.9**
	1.1nm,0.6s,mb3.9,baz=82,slow=8.4,SNR=9.7						
KURK	**Kurchatov**	**45.27**	**307**	P	**P**	**20 51 58.1**	**+0.9**
ILAR	**Eielson Array**	**47.29**	**33**	P	**P**	**20 52 05.9**	**-7.0**
	0.2nm,0.5s,mb3.3,baz=307,slow=3.6,SNR=5.5						
ILAR	**Eielson Array**	**47.29**	**33**	P	**P**	**20 52 05.9**	**-7.0**
WRAB	**Tennant Creek**	**59.26**	**189**	*e*P	**P**	**20 53 40.9**	**-0.4**
	2.1nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**59.27**	**189**	P	**P**	**20 53 40.8**	**-0.6**
WRA	**Warramunga Arr**	**59.27**	**189**	P	**P**	**20 53 40.5**	**-0.9**
	0.7nm,0.5s,mb4.0,baz=6.6,slow=7.0,SNR=17						
WRA	**Warramunga Arr**	**59.27**	**189**	P	**P**	**20 53 40.5**	**-0.9**
ARCES	**ARCESS Array B**	**62.29**	**339**	P	**P**	**20 53 59.8**	**-1.6**
	3.4nm,0.7s,mb4.6,baz=54,slow=4.6,SNR=2.6						
ARCES	**ARCESS Array B**	**62.29**	**339**	P	**P**	**20 53 59.8**	**-1.6**
ASAR	**Alice Springs**	**63.00**	**189**	P	**P**	**20 54 06.3**	**-0.3**
	0.2nm,0.5s,mb3.5,baz=6.3,slow=5.3,SNR=5.5						
ASAR	**Alice Springs**	**63.00**	**189**	P	**P**	**20 54 06.3**	**-0.3**

ISCJB ***17*** *20:53:02.0±0.6,13°.42N±0°.09×121°.1E±0°.1,h199km±5km, mb3.9/20,Error ellipse: s-maj=24.3km s-min=8.4km az=149.9*
IDC ***17*** *20:53:02.8±0.6,13°.38N×121°.06E,h190km±5km,mb3.3/11, mb1 3.5/11,mb1mx3.3/23,mbtmp3.3/11,Error ellipse: s-maj=33.9km s-min=11.8km az=62.0*
NEIC ***17*** *20:53:03.1±0.6,13°.41N×121.07E,h194km±7km,mb4.5/10, Error ellipse: s-maj=17.2km s-min=6.0km az=59.0*
ISC 17 20:53:03.1±0.5,13°.42N±0°.09×121°.1E±0°.1,h193km±5km, n45,σ0°68/47,mb3.9/20,1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.70**	**347**	P	**Pn**	**20 53 30.8**	**+0.5**
	123nm,0.3s,baz=215,slow=6.4,SNR=6.4						
TGY				S	**Sn**	**20 53 51.5**	**0.0**
	172nm,0.3s,baz=109,slow=22,SNR=6.9						
TGY	**Tagaytay City**	**0.70**	**347**	P	**Pn**	**20 53 30.8**	**+0.5**
TGY				S	**Sn**	**20 53 51.5**	**0.0**
BCPH	**Baguio City Da**	**2.99**	**350**	⇓*i*P	**Pn**	**20 53 51.7**	**-0.5**
DAV	**Davao City (W)**	**7.70**	**145**	P	**Pn**	**20 54 51.6**	**-0.8**
KAPI	**Kappang**	**18.36**	**184**	*e*P	**P**	**20 57 05.5**	**+2.2**
CMAR	**Chiang Mai Arr**	**21.88**	**286**	P	**P**	**20 57 41.0**	**+0.1**
	4.7nm,1.0s,mb4.0,baz=97,slow=7.8,SNR=21						
CMAR	**Chiang Mai Arr**	**21.88**	**286**	P	**P**	**20 57 41.0**	**+0.1**
MBWA	**Marble Bar**	**34.39**	**182**	*e*P	**P**	**20 59 31.7**	**-0.2**
	3.8nm,0.4s,mb4.3						
JIRN	**Jiri**	**35.49**	**299**	*e*P	**P**	**20 59 41.6**	**+0.2**
	11nm,0.3s,mb4.8						
JIRN	**Jiri**	**35.49**	**299**	*e*P	**P**	**20 59 41.6**	**+0.2**
	11nm,0.3s,mb4.9						
WRAB	**Tennant Creek**	**35.61**	**158**	*e*P	**P**	**20 59 42.4**	**0.0**
	1.1nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**35.62**	**158**	P	**P**	**20 59 42.7**	**+0.2**
	0.9nm,0.4s,mb3.7,baz=332,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**35.62**	**158**	P	**P**	**20 59 42.7**	**+0.2**
WB2	**Warramunga Arr**	**35.62**	**158**	*e*P	**P**	**20 59 42.4**	**-0.2**
GUN	**Gumba**	**35.82**	**299**	*e*P	**P**	**20 59 44.2**	**0.0**
	7.7nm,0.4s,mb4.6						
GUN	**Gumba**	**35.82**	**299**	*e*P	**P**	**20 59 44.2**	**0.0**
	7.7nm,0.4s,mb4.6						
PKI	**Pulchoki**	**36.13**	**299**	*e*P	**P**	**20 59 46.5**	**-0.3**
	3.8nm,0.3s,mb4.4						
PKI	**Pulchoki**	**36.13**	**299**	*e*P	**P**	**20 59 46.5**	**-0.3**
	3.8nm,0.3s,mb4.4						
KKN	**Kakani**	**36.30**	**299**	*e*P	**P**	**20 59 48.2**	**-0.1**
	1.8nm,0.3s,mb4.1						
KKN	**Kakani**	**36.30**	**299**	*e*P	**P**	**20 59 48.2**	**-0.1**
	1.8nm,0.3s,mb4.1						
SONM	**Songino Array**	**36.44**	**343**	P	**P**	**20 59 49.8**	**+0.7**
	0.5nm,0.4s,mb3.4,baz=160,slow=9.7,SNR=8.5						
SONM	**Songino Array**	**36.44**	**343**	P	**P**	**20 59 49.8**	**+0.7**
GKN	**Gorkha**	**36.90**	**299**	*e*P	**P**	**20 59 52.7**	**-0.7**
	16nm,1.0s,mb4.5						
GKN	**Gorkha**	**36.90**	**299**	*e*P	**P**	**20 59 52.7**	**-0.7**
	16nm,1.0s,mb4.5						
KOLN	**Koldanda**	**37.73**	**298**	*e*P	**P**	**21 00 00.0**	**-0.3**
	6.2nm,0.8s,mb4.2						
KOLN	**Koldanda**	**37.73**	**298**	*e*P	**P**	**21 00 00.0**	**-0.3**
	6.2nm,0.8s,mb4.2						
DANN	**Dangsing**	**37.74**	**299**	*e*P	**P**	**21 00 00.1**	**-0.3**
	13nm,0.8s,mb4.5						
DANN	**Dangsing**	**37.74**	**299**	*e*P	**P**	**21 00 00.1**	**-0.3**
	13nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**38.93**	**161**	P	**P**	**21 00 10.9**	**+0.7**
	0.4nm,0.4s,mb3.3,baz=336,slow=6.6,SNR=9.8						
ASAR	**Alice Springs**	**38.93**	**161**	P	**P**	**21 00 10.9**	**+0.7**
MK31	**Makanchi Array**	**46.49**	**324**	*e*P	**P**	**21 01 11.1**	**+0.3**
MKAR	**Makanchi Array**	**46.49**	**324**	P	**P**	**21 01 10.9**	**+0.1**
	0.4nm,0.6s,mb2.9,baz=108,slow=9.3,SNR=6.1						
MKAR	**Makanchi Array**	**46.49**	**324**	P	**P**	**21 01 10.9**	**+0.1**
STKA	**Stephens Creek**	**49.14**	**157**	P	**P**	**21 01 29.2**	**-2.1**
	0.6nm,0.4s,mb3.3,baz=345,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**49.14**	**157**	P	**P**	**21 01 29.2**	**-2.1**
KURK	**Kurchatov**	**50.64**	**326**	P	**P**	**21 01 41.8**	**-0.5**
	0.3nm,0.3s,mb3.2,baz=117,slow=9.5,SNR=5.3						
KURK	**Kurchatov**	**50.64**	**326**	*e*P	**P**	**21 01 42.8**	**+0.4**
	2.5nm,1.0s,mb3.6						
BVAR	**Borovoye Array**	**56.22**	**326**	P	**P**	**21 02 22.7**	**-0.2**
	0.3nm,0.5s,mb3.1,baz=123,slow=11,SNR=4.4						
BVAR	**Borovoye Array**	**56.22**	**326**	P	**P**	**21 02 22.7**	**-0.2**
AKTO	**Aktyubinsk**	**62.68**	**320**	P	**P**	**21 03 07.0**	**-0.1**
	0.9nm,0.6s,mb3.6,baz=125,slow=12,SNR=3.3						
AKTO	**Aktyubinsk**	**62.68**	**320**	P	**P**	**21 03 07.0**	**-0.1**
ARCES	**ARCESS Array B**	**79.48**	**339**	P	**P**	**21 04 47.6**	**-0.1**
	7.4nm,1.2s,mb4.2,baz=72,slow=8.0,SNR=4.5						
ARCES	**ARCESS Array B**	**79.48**	**339**	P	**P**	**21 04 47.6**	**-0.1**
YKA	**Yellowknife Ar**	**92.89**	**23**	P	**P**	**21 05 54.9**	**+1.2**
	0.2nm,0.6s,mb3.4,baz=306,slow=4.2,SNR=4.0						
YKA	**Yellowknife Ar**	**92.89**	**23**	P	**P**	**21 05 54.9**	**+1.2**

IDC ***17*** *20:53:54.5±1.0,15°.33N×87°.97W,h0km,mb3.9/9, mb1 4.2/9,mb1mx4.0/20,mbtmp3.9/9,MS3.4/7,Ms1 3.4/7, ms1mx3.1/37,Error ellipse: s-maj=34.1km s-min=20.4km az=53.0*
CASC ***17*** *20:53:54.1±2.6,15°.78N×88°.37W,h0km±10km,MD4.3, ML4.0,mb4.4(NEIC)*
ISCJB ***17*** *20:53:56.2±0.5,15°.69N±0°.04×88°.37W±0°.04,h10km, mb3.9/8,MS3.4/5,Error ellipse: s-maj=5.9km s-min=5.5km az=175.3*
NEIC ***17*** *20:54:00.5±3.8,15°.69N×87°.86W,h33km±28km,mb4.4/1, Error ellipse: s-maj=28.1km s-min=12.8km az=64.0*
ISC 17 20:53:56.7±0.5,15°.71N±0°.04×88°.38W±0°.04,h10km,n60, σ1°31/54,mb3.9/8,MS3.4/5,1D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.96**	**147**	*e*Pn	**Pn**	**20 54 28.7**	**-1.3**
TGUH	**Tegucigalpa,Un**	**1.96**	**147**	*e*P	**Pn**	**20 54 30.6**	**+0.6**
TGUH				*e*S	**Sn**	**20 54 56.3**	**+1.8**
LBRS	**Las Brisas**	**2.06**	**198**	*e*P	**Pn**	**20 54 30.4**	**-1.0**
BOQS	**Boqueron**	**2.15**	**204**	*e*P	**Pn**	**20 54 31.7**	**-0.8**
SNET	**Serv Nac Est T**	**2.17**	**203**	*e*P	**Pn**	**20 54 32.1**	**-0.8**
SNET				AML	AML	20 55 09.5	
	comp=Z,3μm,0.3s						
LFRS	**El Faro**	**2.17**	**198**	*e*P	**Pn**	**20 54 32.1**	**-0.8**
RTR	**El Retiro**	**2.18**	**215**	*i* P	**Pn**	**20 54 32.5**	**-0.5**
SNJE	**San Jose**	**2.18**	**213**	*i* P	**Pn**	**20 54 32.3**	**-0.7**
NBG	**Las Nubes**	**2.20**	**240**	*e*P	**Pn**	**20 54 32.6**	**-0.8**
NBG				*e*S	**Sn**	**20 55 03.2**	**+2.5**
SBLS	**San Blas**	**2.21**	**213**	⇓*i*P	**Pn**	**20 54 32.9**	**-0.5**
BLLM	**Bellamira**	**2.25**	**177**	*i* P	**Pn**	**20 54 34.1**	**+0.1**
VSM	**San Miguel**	**2.27**	**178**	*e*P	**Pn**	**20 54 34.2**	**0.0**
GCG	**Guatemala City**	**2.36**	**242**	*e*P	**Pn**	**20 54 35.6**	**+0.1**
GCG				*e*S	**Sn**	**20 55 08.3**	**+3.7**
CNCH	**Conchagua**	**2.47**	**168**	*e*P	**Pn**	**20 54 38.1**	**+1.1**
PCG	**Pacaya**	**2.52**	**239**	*e*P	**Pn**	**20 54 38.3**	**+0.6**
PCG				*e*S	**Sn**	**20 55 13.0**	**+4.5**
IXG	**Ixpaco**	**2.52**	**233**	*e*P	**Pn**	**20 54 35.6**	**-2.1**
IXG				*e*S	**Sn**	**20 55 11.1**	**+2.6**
FUG	**Fuego 3**	**2.69**	**243**	*e*P	**Pn**	**20 54 38.4**	**-1.7**
CRIN	**San Cristobal**	**3.25**	**157**	*e*P	**Pn**	**20 54 47.3**	**-0.4**
JAT	**Jato**	**3.44**	**247**	*e*P	**Pn**	**20 54 49.9**	**-0.4**
TEL3	**Telica 3**	**3.45**	**154**	*e*P	**Pn**	**20 54 52.6**	**+2.0**
HUEN		**3.97**	**147**	*e*P	**Pn**	**20 54 57.5**	**-0.2**
TEIG	**Tepich**	**4.50**	**1**	Pn	**Pn**	**20 55 05.7**	**+0.8**
	comp=Z,14nm,0.3s,baz=349,slow=0.2,SNR=36						
TEIG				Pg	**Pg**	**20 55 21.6**	**-1.3**
	comp=Z,34nm,0.3s,baz=4.4,slow=7.4,SNR=17						
TEIG				Lg		20 56 22.3	
	comp=Z,41nm,0.3s,baz=75,slow=22,SNR=6.1						
TEIG	**Tepich**	**4.50**	**1**	*e*Pn	**Pn**	**20 55 05.4**	**+0.5**
TEIG				Pg	**Pg**	**20 55 21.6**	**-1.3**
TEIG				Lg		20 56 22.3	
JTS	**JuntasAbangare**	**6.33**	**148**	Pg	**Pn**	**20 55 38.6**	**+8.4**
	comp=Z,0.9nm,0.3s,baz=337,slow=18,SNR=2.8						
JTS				Lg		20 57 16.8	
	comp=Z,0.5nm,0.3s,baz=219,slow=18,SNR=2.3						
JTS				LR	LR	20 57 37.0	
	comp=Z,113nm,20.4s,baz=82,slow=38						
JTS	**JuntasAbangare**	**6.33**	**148**	Pg	**Pn**	**20 55 38.6**	**+8.4**
JTS				Lg		20 57 16.8	
CMIG	**Matias Romero**	**6.40**	**283**	Pn	**Pn**	**20 55 30.2**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=86,slow=8.9,SNR=6.6						
CMIG				Pg	**Pg**	**20 55 48.8**	**-11**
	comp=Z,2.3nm,0.3s,baz=113,slow=14,SNR=13						
CMIG				Lg		20 57 13.5	
	comp=Z,4.6nm,0.3s,baz=84,slow=23,SNR=4.0						
CMIG				LR	LR	20 58 23.9	
	comp=Z,439nm,19.8s,baz=314,slow=39						
CMIG	**Matias Romero**	**6.40**	**283**	Pn	**Pn**	**20 55 30.2**	**-0.8**
CMIG				Pg	**Pg**	**20 55 48.8**	**-11**
CMIG				Lg		20 57 13.5	
TXAR	**Lajitas Array**	**19.55**	**317**	P	**Pn**	**20 58 29.8**	**+3.8**
	comp=Z,6.0nm,0.8s,baz=139,slow=9.7,SNR=25						
TXAR	**Lajitas Array**	**19.55**	**317**	P	**Pn**	**20 58 29.8**	**+3.8**
TKL	**Tuckaleechee C**	**20.29**	**11**	LR	LR	21 06 22.1	
	comp=Z,127nm,20.2s,MS3.3,baz=198,slow=36						
SJG	**San Juan**	**21.40**	**80**	LR	LR	21 05 36.1	
	comp=Z,120nm,19.7s,MS3.3,baz=260,slow=33						
ATAH	**Atahualpa**	**24.75**	**156**	LR	LR	21 08 35.1	
	comp=Z,82nm,19.6s,MS3.2,baz=184,slow=36						
PDAR	**Pinedale Array**	**32.51**	**330**	P	**P**	**21 00 31.6**	**+4.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=186,slow=8.0,SNR=4.6						
PDAR	**Pinedale Array**	**32.51**	**330**	P	**P**	**21 00 31.6**	**+4.0**
NVAR	**Mina Array Bea**

KURK Kurchatov 62.12 327 P P 21 04 32.6 -0.3
0.5nm,0.8s,baz=96,slow=6.6,SNR=2.8

KRSC 17 21:03:53.8±0.6, 52°.27N×156°.84E, h210km±30km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.05**	**277**	*eP*	Pn	21 04 21.6	+0.5
RUS	**Russkaya**	**1.04**	**80**	*eP*	Pn	21 04 25.2	+0.4
RUS				*i* S	S	21 04 48.5	-0.4
KOK	**Koryaka**	**1.50**	**46**	*eP*	Pn	21 04 30.9	+2.7
AVH	**Avacha**	**1.52**	**48**	*eP*	Pn	21 04 31.9	+3.4
MKZ	**Mys Kozlova**	**3.72**	**50**	*eP*	Pn	21 04 54.0	+1.7
MKZ				*i* S	S	21 05 36.5	-1.9

TRN ***17*** *21:07:33.9, 18°.82N×65°.24W, h35km, MD3.2(RSPR)*
NEIC ***17*** *21:07:34.9, 18°.93N×65°.21W, h44km, MD3.2(RSPR), After RSPR.*

RSPR 17 21:07:34.9, 18°.93N×65°.21W, h44km±9km, 6C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.62**	**157⇓**	*eP*	Pn	21 07 46.2	-1.2
STVI	**Saint Thomas**	**0.62**	**157⇓**	*eP*	Pn	21 07 46.2	-1.2
STVI				*eS*	Sn	21 07 55.7	-0.6
STVI	**Saint Thomas**	**0.62**	**157⇓**	*eP*	Pn	21 07 46.2	-1.2
STVI				*eS*	Sn	21 07 55.7	-0.6
MTP	**Monte Pirata**	**0.89**	**202**	Pn	Pn	21 07 50.5	-0.4
MTP				*eSn*	Sn	21 08 02.5	-0.3
CBYP	**Canovanas**	**0.90**	**223⇑**	*eP*	Pn	21 07 50.4	-0.7
CBYP	**Canovanas**	**0.90**	**223⇑**	*eP*	Pn	21 07 50.4	-0.7
CBYP				*eS*	Sn	21 08 01.9	-1.1
CBYP	**Canovanas**	**0.90**	**223⇑**	*eP*	Pn	21 07 50.4	-0.7
CBYP				*eS*	Sn	21 08 01.9	-1.1
HUMP	**Col San Antoni**	**0.99**	**218⇑**	*eP*	Pn	21 07 51.4	-1.0
HUMP	**Col San Antoni**	**0.99**	**218⇑**	*eP*	Pn	21 07 51.4	-1.0
HUMP				*eS*	Sn	21 08 04.0	-1.3
HUMP	**Col San Antoni**	**0.99**	**218⇑**	*eP*	Pn	21 07 51.4	-1.0
HUMP				*eS*	Sn	21 08 04.0	-1.3
CPD	**Cerro la Pandu**	**1.11**	**217**	*eS*	Sn	21 08 07.3	-0.9
CPD	**Cerro la Pandu**	**1.11**	**217**	*eS*	Sn	21 08 07.3	-0.9
SJG	**San Juan**	**1.21**	**228**	*eS*	Sn	21 08 09.5	-1.1
SJG	**San Juan**	**1.21**	**228**	*eS*	Sn	21 08 09.5	-1.1
ICM	**Isla Caja Muer**	**1.62**	**231**	*e*Pn	Pn	21 08 00.9	0.0
ICM				Sn	Sn	21 08 20.6	0.0

ISCJB ***17*** *21:18:42.3±0.3, 38°.68S±0°.02×176°.69E±0°.04, h73km±3km, mb3.8/4, Error ellipse: s-maj=5.0km s-min=3.6km az=8.2*
IDC ***17*** *21:18:42.9±1.0, 38°.43S×176°.90E, h73km±9km, mb3.7/3, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=37.1km s-min=25.6km az=153.0*
WEL ***17*** *21:18:43.5±0.1, 38°.63S×176°.68E, h64km±1km, ML4.7/21, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, intensity MM 4.*
WEL Felt Bay Plenty - Hawk Bay and King Country - Gisborne, max reported.
NEIC ***17*** *21:18:43.5, 38°.61S×176°.68E, h64km, mb4.0/1, ML4.6(WEL), After WEL.*
NEIC Felt at Napier and Whakatane.

ISC 17 21:18:43.0±0.3, 38°.69S±0°.02×176°.69E±0°.04, h67km±3km, n105, σ0°.96/108, mb3.8/4, 1C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALRZ	**Allen Road**	**0.30**	**294**	P*	Pn	21 18 53.5	-0.3
ALRZ				S*	Sn	21 19 01.1	-0.6
PRRZ	**Plateau Road**	**0.30**	**308**	P*	Pn	21 18 53.4	-0.4
PRRZ				S*	Sn	21 19 00.8	-0.9
RRRZ	**Republican Roa**	**0.37**	**338**	P*	Pn	21 18 53.8	-0.6
RAHZ	**Arahi**	**0.39**	**127**	PN	Pn	21 18 55.1	+0.6
RAHZ				SN	Sn	21 19 04.0	+1.1
NMHZ	**Naumai**	**0.42**	**168**	PN	Pn	21 18 55.9	+1.1
HRRZ	**Handcock Road**	**0.43**	**312**	P*	Pn	21 18 54.4	-0.5
TARZ	**Mount Tarawera**	**0.47**	**342**	P*	Pn	21 18 55.0	-0.3
TARZ				S*	Sn	21 19 03.7	-0.6
BKZ	**Black Stump Fm**	**0.51**	**198**	P*	Pn	21 18 55.6	0.0
HATZ	**Hinemaiaia**	**0.51**	**246**	P*	Pn	21 18 55.7	0.0
URZ	**Urewera**	**0.54**	**38**	P*	Pn	21 18 55.1	-0.8
URZ	**Urewera**	**0.54**	**38**	P	Pn	21 18 55.3	-0.6
	500nm,0.3s,baz=246,slow=7.4,SNR=1961						
URZ				S	Sn	21 19 04.2	-1.1
	1μm,0.3s,baz=53,slow=20,SNR=162						
URZ	**Urewera**	**0.54**	**38**	*e*P	Pn	21 18 55.4	-0.5
URZ				*e*S	Sn	21 19 03.9	-1.4
MKRZ	**Makatiti**	**0.57**	**342**	P*	Pn	21 18 56.3	0.0
WHTZ	**Whakaora**	**0.58**	**272**	P*	Pn	21 18 56.6	+0.3
EDRZ	**Edgecumbe**	**0.58**	**4**	P*	Pn	21 18 55.7	-0.6
OMRZ	**Omania**	**0.63**	**336**	P*	Pn	21 18 56.3	-0.6
UTU	**Utuhina**	**0.64**	**322**	P*	Pn	21 18 56.9	-0.1
MARZ	**Manawahe**	**0.70**	**359**	P*	Pn	21 18 56.9	-0.7
RITZ	**Rihia Road**	**0.71**	**246**	P*	Pn	21 18 58.5	+0.7
MWZ	**Matawai**	**0.74**	**62**	P*	Pn	21 18 58.1	-0.1
RATZ	**Rangitukua**	**0.74**	**255**	P*	Pn	21 18 58.5	+0.3
KARZ	**Kaharoa**	**0.75**	**332**	P*	Pn	21 18 57.7	-0.6
WATZ	**Wairara**	**0.75**	**268**	P*	Pn	21 18 58.4	+0.2
MCHZ	**McNeill Hill**	**0.76**	**180**	PN	Pn	21 19 00.3	+2.0
KATZ	**Kakaramea**	**0.83**	**249**	P*	Pn	21 18 59.7	+0.5
KNZ	**Kokohu**	**0.84**	**114**	PN	Pn	21 18 59.9	+0.7
OPRZ	**Ohinepanea**	**0.84**	**353**	P*	Pn	21 18 58.2	-1.2
KRVZ	**Karewarewa**	**0.92**	**243**	P*	Pn	21 19 00.8	+0.6
OTVZ	**Oturere**	**0.93**	**239**	P*	Pn	21 19 01.2	+0.7
BHHZ	**Black Hill Sta**	**0.94**	**211**	P*	Pn	21 19 01.2	+0.6
PRGZ	**Paritu Road**	**0.96**	**105**	PN	Pn	21 19 01.4	+0.6
WTVZ	**West Tongariro**	**0.96**	**243**	P*	Pn	21 19 01.6	+0.8
NGZ	**Ngauruhoe**	**0.98**	**240**	P*	Pn	21 19 01.8	+0.7
TUVZ	**Tukino**	**1.00**	**234**	P*	Pn	21 19 02.0	+0.7
TGRZ	**Tauranga**	**1.01**	**340**	P*	Pn	21 19 01.0	-0.5
CKHZ	**Cape Kidnapper**	**1.02**	**163**	PN	Pn	21 19 02.5	+1.0
MOVZ	**Moawhango**	**1.03**	**225**	⇑P*	Pn	21 19 02.1	+0.4
WPVZ	**Whakapapa**	**1.03**	**239**	P*	Pn	21 19 02.5	+0.7
TWVZ	**Taurewa**	**1.05**	**248**	P*	Pn	21 19 02.4	+0.4
MHGZ	**Mahia Peninsul**	**1.06**	**117**	PN	Pn	21 19 02.8	+0.8
FWVZ	**Far West T-bar**	**1.06**	**237**	P*	Pn	21 19 02.7	+0.6
DRZ	**Dome Shelter**	**1.06**	**236**	P*	Pn	21 19 03.1	+1.0
WNVZ	**Wahianoa**	**1.07**	**233**	P*	Pn	21 19 02.9	+0.7
TRVZ	**Turoa**	**1.08**	**235**	P*	Pn	21 19 03.0	+0.6
KAHZ	**Kahuranaki**	**1.12**	**173**	PN	Pn	21 19 03.9	+1.0
MTVZ	**Mangateitei**	**1.18**	**233**	P*	Pn	21 19 04.3	+0.6
CNGZ	**Carnagh Statio**	**1.20**	**81**	PN	Pn	21 19 04.8	+0.9
PKVZ	**Pokaka**	**1.21**	**240**	P*	Pn	21 19 04.8	+0.8
WIZ	**White Island**	**1.22**	**19**	P*	Pn	21 19 03.3	-0.9
PNHZ	**Pukenui**	**1.29**	**197**	PN	Pn	21 19 05.7	+0.6
TOZ	**Tahuroa Road**	**1.34**	**315**	P*	Pn	21 19 05.3	-0.4
PXZ	**Pawanui**	**1.35**	**174**	PN	Pn	21 19 06.3	+0.4
PUZ	**Puketiti**	**1.37**	**64**	PN	Pn	21 19 06.7	+0.5
WPHZ	**Waipukurau**	**1.39**	**188**	PN	Pn	21 19 06.8	+0.4
MYRZ	**Mayor Island**	**1.45**	**346**	P*	Pn	21 19 07.0	-0.2
HIZ	**Hauiti**	**1.45**	**276**	PN	Pn	21 19 07.6	+0.4
TSZ	**Takapari Road**	**1.49**	**202**	PN	Pn	21 19 07.9	+0.3
VRZ	**Vera Road**	**1.57**	**253**	P*	Pn	21 19 09.8	+1.0
PRHZ	**Porangahau**	**1.58**	**182**	PN	Pn	21 19 09.3	+0.3
MXZ	**Matakaoa Point**	**1.69**	**49**	P*	Pn	21 19 11.6	+1.1
WAZ	**Wanganui**	**1.70**	**231**	PN	Pn	21 19 12.1	+1.5
POWZ	**Post Office Ro**	**1.85**	**202**	PN	Pn	21 19 12.4	-0.1
MKAZ	**Moumakai**	**1.98**	**322**	PN	Pn	21 19 14.3	0.0
KUZ	**Kuaotunu**	**2.08**	**338**	PN	Pn	21 19 15.3	-0.4
NEZ	**North Egmont**	**2.11**	**253**	PN	Pn	21 19 18.3	+2.3
MRZ	**Mangatainoka R**	**2.15**	**203**	PN	Pn	21 19 15.9	-0.7
TIWZ	**Tintock**	**2.18**	**196**	PN	Pn	21 19 16.4	-0.6
HOWZ	**Holdsworth Sta**	**2.39**	**202**	PN	Pn	21 19 18.6	-1.2
OGWZ	**Otaki Gorge**	**2.43**	**208**	PN	Pn	21 19 19.7	-0.7
TMWZ	**Te Maipa**	**2.50**	**194**	PN	Pn	21 19 20.0	-1.2
KIW	**Kapiti Island**	**2.57**	**212**	PN	Pn	21 19 21.6	-0.7
MTW	**Mount Morrison**	**2.63**	**200**	PN	Pn	21 19 21.5	-1.7
CAW	**Cannon Point**	**2.72**	**207**	PN	Pn	21 19 23.1	-1.3
TRWZ	**Traveller**	**2.82**	**196**	PN	Pn	21 19 24.0	-1.7
PAWZ	**Paruwai Farm**	**2.86**	**199**	PN	Pn	21 19 24.3	-2.0
MSWZ	**Moikau Station**	**2.94**	**202**	PN	Pn	21 19 25.6	-1.8
DUWZ	**D'Urville Isla**	**3.01**	**224**	PN	Pn	21 19 27.4	-0.8
SNZO	**South Karori**	**3.03**	**210**	PN	Pn	21 19 26.7	-1.9
SNZO	**South Karori**	**3.03**	**210**	*e*Pn	Pn	21 19 28.5	-0.1
SNZO				*e*Sn	Sn	21 20 05.3	+1.6
PLWZ	**Palliser**	**3.09**	**200**	PN	Pn	21 19 26.9	-2.4
TCW	**Tory Channel**	**3.13**	**216**	PN	Pn	21 19 28.4	-1.6
WCZ	**Waipu Caves**	**3.32**	**325**	PN	Pn	21 19 33.3	+0.8
BSWZ	**Blackbirch Sta**	**3.72**	**215**	PN	Pn	21 19 35.9	-2.0
THZ	**Tophouse**	**4.23**	**222**	PN	Pn	21 19 42.9	-2.0
OUZ	**Omahuta**	**4.25**	**323**	*e*Pn	Pn	21 19 46.5	+1.3
OUZ				*e*Sn	Sn	21 20 35.0	+1.3
KHZ	**Kahutara**	**4.43**	**212**	*e*Pn	Pn	21 19 45.8	-1.9
KHZ				*e*Sn	Sn	21 20 35.1	-2.9
RPZ	**Rata Peaks**	**6.58**	**218**	P	Pn	21 20 20.8	+3.8
	2.1nm,0.3s,baz=42,slow=2.9,SNR=6.2						
RPZ				S	Sn	21 21 24.2	-6.4
	12nm,0.3s,baz=348,slow=19,SNR=14						
RPZ	**Rata Peaks**	**6.58**	**218**	*e*Pn	Pn	21 20 17.8	+0.7
	35nm,0.6s						
RPZ				*e*Sn	Sn	21 21 24.2	-6.4
CTAO	**Charters Tower**	**32.14**	**296**	P	P	21 25 03.2	-1.0
AS31	**Alice Springs**	**39.19**	**280**	*e*P	P	21 26 05.2	+0.7
ASAR	**Alice Springs**	**39.19**	**280**	P	P	21 26 05.0	+0.4
	1.4nm,0.7s,mb3.9,baz=118,slow=5.9,SNR=20						
ASAR	**Alice Springs**	**39.19**	**280**	P	P	21 26 05.0	+0.4
WRAB	**Tennant Creek**	**40.96**	**285**	*e*P	P	21 26 20.4	+1.2
	1.7nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**40.96**	**285**	P	P	21 26 19.0	-0.2
	0.7nm,0.6s,mb3.7,baz=127,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**40.96**	**285**	P	P	21 26 19.0	-0.2
CMAR	**Chiang Mai Arr**	**92.19**	**292**	P	P	21 31 45.5	+0.1
	0.2nm,0.4s,mb3.7,baz=157,slow=3.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**92.19**	**292**	P	P	21 31 45.5	+0.1
ARCES	**ARCESS Array B**	**145.48**	**343**	PKPbc	PKPbc	21 38 10.9	-1.4
	3.8nm,0.7s,baz=49,slow=3.7,SNR=9.2						
ARCES	**ARCESS Array B**	**145.48**	**343**	PKPbc	PKPbc	21 38 10.9	-1.4
FINES	**FINESS Array B**	**150.88**	**331**	PKPbc	PKPbc	21 38 25.1	-1.8
	5.7nm,0.9s,baz=49,slow=2.9,SNR=11						
FINES	**FINESS Array B**	**150.88**	**331**	PKPbc	PKPbc	21 38 25.1	-1.8
BRTR	**Keskin Array B**	**151.48**	**284**	PKPbc	PKPbc	21 38 27.2	-1.8
	0.4nm,0.8s,baz=27,slow=13,SNR=3.0						
BRTR				PKPab	PKPab	21 38 36.6	-1.1
	0.8nm,0.6s,baz=123,slow=5.8,SNR=5.4						
BRTR	**Keskin Array B**	**151.48**	**284**	PKPbc	PKPbc	21 38 27.2	-1.8
BRTR				PKPab	PKPab	21 38 36.6	-1.1
TORD	**Torodi Ar. Bea**	**154.18**	**191**	PKP	PKPdf	21 38 27.0	-0.5
	0.4nm,1.0s,baz=232,slow=1.6,SNR=3.2						
TORD				PKPbc	PKPbc	21 38 35.4	-0.3
	0.4nm,0.5s,baz=151,slow=2.4,SNR=10						
TORD	**Torodi Ar. Bea**	**154.18**	**191**	PKP	PKPdf	21 38 27.0	-0.5
TORD				PKPbc	PKPbc	21 38 35.4	-0.3

ISCJB ***17*** *21:50:43.4±1.1, 33°.17N±0°.07×142°.42E±0°.09, h33km, mb3.4/3, Error ellipse: s-maj=12.1km s-min=9.2km az=147.5*
JMA ***17*** *21:50:43.7±0.3, 33°.19N×142°.34E, h31km, M3.3*
IDC ***17*** *21:50:46.0±4.6, 32°.51N×140°.83E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=165.7km s-min=27.9km az=70.0*

ISC 17 21:50:45.5±1.1, 33°.17N±0°.07×142°.39E±0°.10, h35km, n13, σ0°.87/17, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.89**	**322**	*e*S	Sn	21 51 37.5	-0.4
JHJ2	**Mitsune**	**2.16**	**269**	P	Pn	21 51 18.2	-0.8
JHJ2				S	Sn	21 51 43.9	-0.6
JOD2	**Odawara 2**	**3.44**	**308**	P	Pn	21 51 36.6	0.0
JOD2				*e*S	Sn	21 52 15.8	-0.4
JHO	**Hitachi**	**3.75**	**337**	P	Pn	21 51 40.0	-0.8
JHO				*e*S	Sn	21 52 20.6	-3.1
JYN	**Shimob**	**3.94**	**307**	S	Sn	21 52 29.1	+0.6
JRY	**Ryogami san**	**4.04**	**316**	S	Sn	21 52 31.9	+0.9
JAG	**Ashikaga**	**4.05**	**324**	P	Pn	21 51 44.9	-0.1
JNY	**Yasuok**	**4.34**	**302**	P	Pn	21 51 50.8	+1.8
MJAR	**Matsushiro Arr**	**4.81**	**316**	Pn	Pn	21 51 56.2	+0.7
	0.5nm,0.3s,baz=154,slow=12,SNR=6.3						
JMM	**Marumori**	**4.87**	**345**	P	Pn	21 51 56.6	+0.4
JMM				*e*S	Sn	21 52 46.5	-4.8
SONM	**Songino Array**	**30.73**	**309**	P	P	21 56 56.8	-0.3
	0.2nm,0.6s,mb3.1,baz=121,slow=8.6,SNR=3.3						
MKAR	**Makanchi Array**	**46.93**	**305**	P	P	21 59 13.6	+1.0
	0.7nm,0.7s,mb3.7,baz=91,slow=8.6,SNR=4.2						
WRA	**Warramunga Arr**	**53.37**	**189**	P	P	22 00 01.0	-0.5
	0.2nm,0.5s,mb3.3,baz=8.2,slow=7.6,SNR=5.5						

TRN ***17*** *21:51:30.3, 18°.88N×65°.21W, h34km*

RSPR 17 21:51:31.5, 19°.01N×65°.19W, h30km±13km, 6C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.69**	**162⇑**	*e*P	Pb	21 51 43.4	-1.7
STVI	**Saint Thomas**	**0.69**	**162⇑**	*e*P	Pb	21 51 43.4	-1.7
STVI				*e*S	Sb	21 51 52.7	-1.7
CBYP	**Canovanas**	**0.97**	**221⇑**	*e*P	Pn	21 51 47.1	-1.9
CBYP	**Canovanas**	**0.97**	**221⇑**	*e*P	Pn	21 51 47.1	-1.9
CBYP				*e*S	Sn	21 51 59.6	-2.2
MTP	**Monte Pirata**	**0.97**	**201⇑**	*e*P	Pn	21 51 47.7	-1.4
MTP	**Monte Pirata**	**0.97**	**201⇑**	*e*P	Pn	21 51 47.7	-1.4
MTP				*e*S	Sn	21 51 59.8	-2.0

BGS ***17*** *21:57:31.7±2.0, 38°.07N×15°.71E, h227km, mb4.8*
SZGRF ***17*** *21:57:35.0, 38°.39N×15°.50E, h226km, mb4.9, Sicily, Italy*
BJI ***17*** *21:57:42.5, 39°.52N×15°.35E, h254km, mb4.9/27, mb4.7/36*
ROM ***17*** *21:57:42.8±0.2, 39°.17N×15°.59E, h269km±2km, Ml5.1/73, Error ellipse: s-maj=2.7km s-min=1.6km az=102.0*
PDG ***17*** *21:57:43.0±1.2, 39°.25N×15°.59E, h265km±3km, MD5.0/9, ML4.9/8, Error ellipse: s-maj=1.4km s-min=1.9km az=0.0*
CRAAG ***17*** *21:57:44.7, 39°.20N×15°.40E, Mw5.3*
PDA ***17*** *21:57:44.9, 39°.27N×15°.49E, h257km, Mw5.3*
MOS ***17*** *21:57:44.0±0.9, 39°.21N×15°.44E, h261km, mb5.3/71, MS4.4/4, Error ellipse: s-maj=2.9km s-min=2.2km az=91.1*
CSEM ***17*** *21:57:44.9±0.1, 39°.26N×15°.48E, h260km, mb5.5/17, ML5.6/17, Mw5.3, Error ellipse: s-maj=2.0km s-min=1.3km az=15.0*
ISCJB ***17*** *21:57:44.4±0.1, 39°.240N±0°.010×15°.491E±0°.008, h262km, mb5.2/214, Error ellipse: s-maj=1.6km s-min=1.0km az=10.7*
NEIC ***17*** *21:57:44.8±0.1, 39°.21N×15°.44E, mb5.5/185, MW5.3, Error ellipse: s-maj=1.8km s-min=1.1km az=16.0*
NEIC Felt [IV] at Gioia Tauro; [III] at Cittanova, Messina, Reggio de Calabria and Villa San Giovanni. Also felt at Amantea, Avellino, Bari, Cosenza, Palmi, Potenza, Taranto, Taurianova and Vibo Valentia.
LDG ***17*** *21:57:45.2±0.2, 39°.40N×15°.44E, h280km, Mb5.4/50, Ms3.8/7, Error ellipse: s-maj=9.6km s-min=5.4km az=35.0*
TEH ***17*** *21:57:45.0, 39°.29N×15°.49E, h261km*
BEO ***17*** *21:57:45.7±0.7, 39°.48N×15°.43E, h0km, ML4.8/1*
IDC ***17*** *21:57:46.3±0.8, 39°.29N×15°.39E, h275km±7km, mb4.8/28, mb1 4.9/39, mb1mx4.9/39, mbtmp4.8/39, Error ellipse: s-maj=7.4km s-min=5.3km az=117.0*
GCMT ***17*** *21:57:47.2±0.2, 39°.21N×15°.50E, h266km±1km, MW5.2, Moment Tensor Solution. s67,c94; s90,c149; Moment tensor: Scale 10^{16}Nm; M_{rr}-6.29±.16; M_{tt}-0.64±.17; M_{pp}6.93±.17; M_{rt}-2.16±.17; M_{rp}-1.93±.16; M_{tp}-5.68±.18; Best double couple: $M_0$9.20000×10^{16} NP1:ϕ_s145.00000°, δ31.00000°, λ-129.00000°. NP2:ϕ_s8.00000°, δ67.00000°, λ-70.00000°. Principal axes: T 9.1500, Plg19.0000°, Azm83.0000°; N 0.0900, Plg19.0000°, Azm180.0000°; P -9.2500, Plg63.0000°, Azm311.0000°; Data Used: II IU IC G CN.*
DJA ***17*** *21:57:51, 39°.21N×15°.71E, h310km, mb4.8/9*

ISC 17 21:57:45.2±0.1, 39°.241N±0°.010×15°.461E±0°.008, h259km, h258km±1.3km; pP-P, n2958, σ0°.93/3220, mb5.2/214, 320C-318D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STR4	**STROMBOLI 4**	**0.51**	**203**	*i*P	Pn	21 58 19.1	-0.1
STR4				S	S	21 58 45.0	-0.9
CARO	**Carolei**	**0.59**	**88**	*i*Pg	Pn	21 58 18.6	-0.7
CARO				Sg	S	21 58 44.1	-2.1
	53μm,0.6s						
CARO	**Carolei**	**0.59**	**88**	*i*P	Pn	21 58 18.6	-0.7
CARO				S	S	21 58 44.1	-2.1
	53μm,0.6s						
JOPP	**Joppolo**	**0.71**	**152**	*i*Pg	Pn	21 58 19.0	-0.9
JOPP				Sg	S	21 58 44.2	-3.0
	10μm,0.5s						
JOPP	**Joppolo**	**0.71**	**152**	*i*P	Pn	21 58 19.0	-0.9
JOPP				S	S	21 58 44.2	-3.0
	10μm,0.5s						
TDS	**Terranova Siba**	**0.80**	**58**	P	Pn	21 58 19.3	-0.8
TDS	**Terranova Siba**	**0.80**	**58**	P	Pn	21 58 19.3	-0.8
TDS	**Terranova Siba**	**0.80**	**58**	P	Pn	21 58 19.3	-0.8
CUC	**Castrocucco**	**0.80**	**20**	*i*P	Pn	21 58 19.7	-0.4
CUC				*e*S	S	21 58 45.9	-1.8
CUC	**Castrocucco**	**0.80**	**20**	*i*Pg	Pn	21 58 20.0	-0.1
CUC				Sg	S	21 58 45.8	-1.9
	11μm,0.9s						
CUC	**Castrocucco**	**0.80**	**20**	*i*P	Pn	21 58 19.7	-0.4
CUC				*e*S	S	21 58 45.9	-1.8
BULG	**Bulgheria - Ca**	**0.84**	**356**	Pg	Pn	21 58 20.8	+0.5
BULG				Sg	S	21 58 48.3	+0.2
	21μm,1.2s						
BULG	**Bulgheria - Ca**	**0.84**	**356**	P	Pn	21 58 20.8	+0.5
BULG				S	S	21 58 48.3	+0.2
	21μm,1.2s						
GRI	**Girifalco**	**0.86**	**119**	P	Pn	21 58 19.1	-1.3
GRI	**Girifalco**	**0.86**	**119**	P	Pn	21 58 19.1	-1.3
GRI	**Girifalco**	**0.86**	**119**	P	Pn	21 58 19.1	-1.3
LLI	**Lipari**	**0.89**	**207**	Pg	Pn	21 58 21.1	+0.4
	70μm,0.8s						
LLI	**Lipari**	**0.89**	**207**	P	Pn	21 58 21.1	+0.4
	70μm,0.8s						
VPL	**Vulcano Piano**	**0.94**	**204**	Pg	Pn	21 58 20.6	-0.3
VPL				Sg	S	21 58 49.0	0.0
	19μm,0.5s						
VPL	**Vulcano Piano**	**0.94**	**204**	P	Pn	21 58 20.6	-0.3
VPL				S	S	21 58 49.0	0.0
	19μm,0.5s						
IFIL	**Filicudi I Eol**	**0.97**	**226**	Pg	Pn	21 58 21.0	0.0
	13μm,0.9s						
IFIL	**Filicudi I Eol**	**0.97**	**226**	P	Pn	21 58 21.0	0.0
	13μm,0.9s						
MSRU	**Castanea**	**0.98**	**178**	*i*Pg	Pn	21 58 20.1	-1.0
MSRU				Sg	S	21 58 46.7	-2.7
	108μm,1.2s						
MSRU	**Castanea**	**0.98**	**178**	*i*P	Pn	21 58 20.1	-1.0
MSRU				S	S	21 58 46.7	-2.7
	108μm,1.2s						
MILZ	**Milazzo**	**0.98**	**191**	Pg	Pn	21 58 20.5	-0.6
MILZ				Sg	S	21 58 47.5	-2.0
	90μm,0.7s						
MILZ	**Milazzo**	**0.98**	**191**	P	Pn	21 58 20.5	-0.6
MILZ				S	S	21 58 47.5	-2.0
	90μm,0.7s						
SIRI	**Monte Sirino -**	**0.99**	**18**	Pg	Pn	21 58 21.1	+0.1
	12μm,0.4s						
SIRI	**Monte Sirino -**	**0.99**	**18**	P	Pn	21 58 21.1	+0.1
	12μm,0.4s						
TIP	**Timpagrande**	**1.01**	**93**	*i*P	Pn	21 58 20.6	-0.6
TIP				*e*S	S	21 58 49.1	-0.5
TIP	**Timpagrande**	**1.01**	**93**	Pg	Pn	21 58 20.9	-0.3
TIP				Sg	S	21 58 47.5	-2.0
	25μm,1.2s						
TIP	**Timpagrande**	**1.01**	**93**	*i*P	Pn	21 58 20.6	-0.6
TIP				S	S	21 58 47.5	-2.0
	25μm,1.2s						
CEL	**Celeste**	**1.04**	**161**	*i*P	Pn	21 58 20.1	-1.3
CEL				*e*S	S	21 58 48.0	-1.9
CEL	**Celeste**	**1.04**	**161**	Pg	Pn	21 58 20.2	-1.2
CEL				Sg	S	21 58 47.6	-2.3
	31μm,1.2s						
CEL	**Celeste**	**1.04**	**161**	P	Pn	21 58 20.2	-1.2
CEL				S	S	21 58 47.6	-2.3
	31μm,1.2s						
SCHR	**S. Chirico Rap**	**1.07**	**26**	Pg	Pn	21 58 22.2	+0.7
	27μm,1.7s						
PIPA	**Pietrapaola**	**1.08**	**76**	P	Pn	21 58 21.3	-0.2
PIPA	**Pietrapaola**	**1.08**	**76**	Pg	Pn	21 58 21.3	-0.2
PIPA				Sg	S	21 58 48.4	-1.8
	24μm,0.7s						
PIPA	**Pietrapaola**	**1.08**	**76**	P	Pn	21 58 21.3	-0.2
PIPA				S	S	21 58 48.4	-1.8
	24μm,0.7s						
CMPR	**Campora**	**1.08**	**354**	Pg	Pn	21 58 22.1	+0.6
CMPR				Sg	S	21 58 50.5	+0.2
	30μm,1.6s						
CMPR	**Campora**	**1.08**	**354**

GIB	Gibilmanna	1.68 222	P	Pn	21 58 25.0	-0.7
GIB	Gibilmanna	1.68 222	P	Pn	21 58 25.0	-0.7
GIB	Gibilmanna	1.68 222	Pg	Pn	21 58 25.0	-0.7
GIB	Gibilmanna	1.68 222	P	Pn	21 58 25.0	-0.7
MATE	Matera	1.70 34	Pg	Pn	21 58 24.7	-1.1
	19µm,0.8s					
MATE	Matera	1.70 34	P	Pn	21 58 24.7	-1.1
	19µm,0.8s					
OVO	Vesuviano	1.78 333	Pg	Pn	21 58 27.8	+1.4
OVO	Vesuviano	1.78 333	P	Pn	21 58 27.8	+1.4
SG1	Sgolgore (BA)	1.85 30⇓	iPn	Pn	21 58 27.2	+0.2
SG1			eSn	S	21 58 59.9	-0.2
USI	Ustica	1.86 254	P	Pn	21 58 26.9	-0.3
USI	Ustica	1.86 254	Pg	Pn	21 58 26.8	-0.3
USI	Ustica	1.86 254	P	Pn	21 58 26.9	-0.2
AMUR	Altamura	1.88 27	Pg	Pn	21 58 26.6	-0.7
AMUR	Altamura	1.88 27	P	Pn	21 58 26.6	-0.7
MRVN	Minervino Murg	1.90 17	Pg	Pn	21 58 26.8	-0.7
	5µm,0.7s					
MRVN	Minervino Murg	1.90 17	P	Pn	21 58 26.8	-0.7
	5µm,0.7s					
MRB1	Monte Rocchett	1.92 349	P	Pn	21 58 28.8	+1.2
MRB1	Monte Rocchett	1.92 349	P	Pn	21 58 28.8	+1.2
RESU	Resuttano	1.94 215	P	Pn	21 58 28.9	+1.1
RESU	Resuttano	1.94 215	P	Pn	21 58 28.9	+1.0
CDT	Castel del Mon	1.94 18⇓	iPn	Pn	21 58 27.4	-0.4
MPG	Monte Pellegri	1.97 237	P	Pn	21 58 30.0	+1.9
MPG	Monte Pellegri	1.97 237	P	Pn	21 58 30.0	+1.9
HAGA	Augusta	1.97 187	Pg	Pn	21 58 26.6	-1.6
HAGA			Sg	S	21 58 59.7	-2.4
	13µm,0.8s					
HAGA	Augusta	1.97 187	P	Pn	21 58 26.6	-1.6
HAGA			S	S	21 58 59.7	-2.4
	13µm,0.8s					
NOCI	Noci	1.98 38	Pg	Pn	21 58 27.0	-1.1
	28µm,0.9s					
NOCI	Noci	1.98 38	P	Pn	21 58 27.0	-1.1
	28µm,0.9s					
HCRL	Carlentini	1.98 190	Pg	Pn	21 58 27.3	-1.0
HCRL			Sg	S	21 59 00.4	-2.0
	45µm,1.4s					
HCRL	Carlentini	1.98 190	P	Pn	21 58 27.3	-1.0
HCRL			S	S	21 59 00.4	-2.0
	45µm,1.4s					
AGST	Augusta-Monte	1.99 185	P	Pn	21 58 26.7	-1.7
AGST	Augusta-Monte	1.99 185	Pg	Pn	21 58 26.6	-1.8
	14µm,1.2s					
AGST	Augusta-Monte	1.99 185	P	Pn	21 58 26.6	-1.8
	14µm,1.2s					
ALJA	Alia	2.00 223	P	Pn	21 58 29.2	+0.8
ALJA	Alia	2.00 223	Pg	Pn	21 58 29.1	+0.7
	68µm,2.2s					
ALJA	Alia	2.00 223	P	Pn	21 58 29.2	+0.8
PSB1	Pescosannita	2.04 346	P	Pn	21 58 25.7	-2.9
PSB1			S	S	21 58 29.8	-33
PSB1	Pescosannita	2.04 346	Pg	Pn	21 58 29.7	+1.0
PSB1			Sg	S	21 59 04.2	+1.1
PSB1	Pescosannita	2.04 346	P	Pn	21 58 29.7	+1.0
PSB1			S	S	21 59 04.2	+1.1
FG5	Orsara di Pugl	2.04 356	P	Pn	21 58 21.8	-6.9
FG5	Orsara di Pugl	2.04 356	P	Pn	21 58 21.8	-6.9
SSY	Sortino	2.11 188	P	Pn	21 58 28.3	-1.1
SSY	Sortino	2.11 188	Pg	Pn	21 58 28.2	-1.2
	32µm,1.5s					
SSY	Sortino	2.11 188	P	Pn	21 58 28.2	-1.2
	32µm,1.5s					
HVZN	Vizzini	2.14 196	P	Pn	21 58 29.6	-0.2
HVZN	Vizzini	2.14 196	Pg	Pn	21 58 29.5	-0.2
	41µm,1.3s					
HVZN	Vizzini	2.14 196	P	Pn	21 58 29.5	-0.2
	41µm,1.3s					
BAI	Bari	2.16 30⇓	iPn	Pn	21 58 29.0	-0.7
BAI			eSn	S	21 59 02.8	-2.2
PE1	Pezze di Greco	2.17 43⇓	iPn	Pn	21 58 28.7	-1.1
PE1			eSn	S	21 59 01.8	-3.4
RAFF	Raffo Rosso	2.19 204	P	Pn	21 58 30.8	+0.6
RAFF	Raffo Rosso	2.19 204	Pg	Pn	21 58 30.7	+0.5
	16µm,1.3s					
RAFF	Raffo Rosso	2.19 204	P	Pn	21 58 30.8	+0.6
VENT	Ventotene	2.21 315	P	Pn	21 58 31.3	+1.1
VENT	Ventotene	2.21 315	P	Pn	21 58 31.3	+1.1
MSC	Monte Massico	2.26 330	Pg	Pn	21 58 32.1	+1.5
MSC	Monte Massico	2.26 330	P	Pn	21 58 32.1	+1.5
HAVL	Avola	2.29 187	P	Pn	21 58 30.1	-1.0
HAVL	Avola	2.29 187	Pg	Pn	21 58 30.0	-1.1
HAVL			Sg	S	21 59 05.3	-2.1
	24µm,1.2s					
HAVL	Avola	2.29 187	P	Pn	21 58 30.0	-1.1
HAVL			S	S	21 59 05.3	-2.1
	24µm,1.2s					
SGG	Gregorio Mates	2.30 339	P	Pn	21 58 32.6	+1.5
SGG	Gregorio Mates	2.30 339	Pg	Pn	21 58 32.4	+1.4
SGG			Sg	S	21 59 08.6	+1.2
	3µm,1.2s					
SGG	Gregorio Mates	2.30 339	P	Pn	21 58 32.4	+1.4
SGG			S	S	21 59 08.6	+1.2
	3µm,1.2s					
HMDC	Modica	2.34 193	P	Pn	21 58 31.2	-0.4
HMDC	Modica	2.34 193	Pg	Pn	21 58 31.2	-0.4
HMDC			Sg	S	21 59 07.0	-1.3
	18µm,1.3s					
HMDC	Modica	2.34 193	P	Pn	21 58 31.2	-0.4
HMDC			S	S	21 59 07.0	-1.3
	18µm,1.3s					
RGNG	Rignano Grg	2.43 2	P	Pn	21 58 31.3	-1.0
RGNG	Rignano Grg	2.43 2	P	Pn	21 58 31.3	-1.0
CIGN	Sant'Elia a Pi	2.45 350	P	Pn	21 58 33.8	+1.3
CIGN	Sant'Elia a Pi	2.45 350	P	Pn	21 58 33.8	+1.3
SCTE	Santa Cesarea	2.46 69	Pg	Pn	21 58 31.9	-0.8
	18µm,0.8s					
SCTE	Santa Cesarea	2.46 69	P	Pn	21 58 31.9	-0.8
	18µm,0.8s					
MS1	Monte Sant'Ang	2.49 8⇓	iPn	Pn	21 58 33.1	+0.2
MSAG	Monte S. Angel	2.49 8	P	Pn	21 58 32.8	-0.1
MSAG	Monte S. Angel	2.49 8	Pg	Pn	21 58 32.7	-0.2
	6µm,1.4s					
MSAG	Monte S. Angel	2.49 8	P	Pn	21 58 32.8	-0.1
SGRT	San Giovanni R	2.52 5	P	Pn	21 58 33.1	-0.1
SGRT	San Giovanni R	2.52 5	Pg	Pn	21 58 32.9	-0.3
	7µm,1.8s					
SGRT	San Giovanni R	2.52 5	P	Pn	21 58 33.1	-0.1
ERC	Erice	2.55 243	P	Pn	21 58 32.5	-1.1
ERC	Erice	2.55 243	P	Pn	21 58 32.5	-1.1
FG2	Serracapriola	2.57 355	P	Pn	21 58 33.3	-0.4
FG2	Serracapriola	2.57 355	P	Pn	21 58 33.3	-0.4
CERA	Filignano	2.60 335	Pg	Pn	21 58 35.4	+1.4
	3µm,1.1s					
CERA	Filignano	2.60 335	P	Pn	21 58 35.4	+1.4
	3µm,1.1s					
RNI2	Rionero Sannit	2.65 338	P	Pn	21 58 37.1	+2.6
RNI2	Rionero Sannit	2.65 338	Pg	Pn	21 58 37.1	+2.6
RNI2	Rionero Sannit	2.65 338	P	Pn	21 58 37.1	+2.6
SDI	San Donato	2.77 333	P	Pn	21 58 36.0	+0.3
SDI	San Donato	2.77 333	P	Pn	21 58 36.0	+0.3
SDI	San Donato	2.77 333	Pg	Pn	21 58 35.9	+0.2
SDI	San Donato	2.77 333	P	Pn	21 58 36.0	+0.3
POFI	Posta Fibreno	2.81 332	Pg	Pn	21 58 37.7	+1.6
	4µm,2.2s					
POFI	Posta Fibreno	2.81 332	P	Pn	21 58 37.7	+1.6
	4µm,2.2s					
LPEL	Lama dei Pelig	2.97 341	Pg	Pn	21 58 39.2	+1.5
	2µm,1.6s					
LPEL	Lama dei Pelig	2.97 341	P	Pn	21 58 39.2	+1.5
	2µm,1.6s					
VVLD	Villa Vallelon	2.98 333	P	Pn	21 58 39.3	+1.4
VVLD	Villa Vallelon	2.98 333	Pg	Pn	21 58 39.3	+1.4
	2µm,0.7s					
VVLD	Villa Vallelon	2.98 333	P	Pn	21 58 39.3	+1.4
	2µm,0.7s					
INTR	Introdacqua	3.01 337	P	Pn	21 58 40.0	+1.8
INTR	Introdacqua	3.01 337	Pg	Pn	21 58 39.9	+1.7
	3µm,1.0s					
INTR	Introdacqua	3.01 337	P	Pn	21 58 39.9	+1.7
	3µm,1.0s					
GUAR	Guarcino	3.03 328	P	Pn	21 58 39.7	+1.3
GUAR	Guarcino	3.03 328	Pg	Pn	21 58 39.7	+1.3
	2µm,1.0s					
GUAR	Guarcino	3.03 328	P	Pn	21 58 39.7	+1.3
	2µm,1.0s					
PTQR	Pietraquaria	3.19 331	P	Pn	21 58 40.9	+0.8
PTQR	Pietraquaria	3.19 331	Pg	Pn	21 58 40.9	+0.8
PTQR	Pietraquaria	3.19 331	P	Pn	21 58 40.9	+0.8
LAV9	Lanuvio	3.22 320	P	Pn	21 58 41.2	+0.7
LAV9	Lanuvio	3.22 320	Pg	Pn	21 58 41.1	+0.6
	3µm,0.8s					
LAV9	Lanuvio	3.22 320	P	Pn	21 58 41.2	+0.7
RDP	Rocca di Papa	3.27 321	P	Pn	21 58 42.6	+1.6
RDP	Rocca di Papa	3.27 321	P	Pn	21 58 42.6	+1.6
RDP	Rocca di Papa	3.27 321	Pg	Pn	21 58 42.6	+1.6
	3µm,0.8s					
RDP	Rocca di Papa	3.27 321	P	Pn	21 58 42.6	+1.6
	3µm,0.8s					
CERT	Cerreto	3.30 326	P	Pn	21 58 42.2	+0.9
CERT	Cerreto	3.30 326	Pg	Pn	21 58 42.7	+1.4
	4µm,1.0s					
CERT	Cerreto	3.30 326	P	Pn	21 58 42.7	+1.4
	4µm,1.0s					
FAGN	Fagnano	3.34 335	Pg	Pn	21 58 43.5	+1.7
	2µm,0.6s					
FAGN	Fagnano	3.34 335	P	Pn	21 58 43.5	+1.7
	2µm,0.6s					
VCEL	Villa Celiera	3.38 339	Pg	Pn	21 58 44.0	+1.8
	2µm,1.4s					
VCEL	Villa Celiera	3.38 339	P	Pn	21 58 44.0	+1.8
	2µm,1.4s					
KEK	Kerkira	3.39 81	P	Pn	21 58 41.9	-0.5
KEK	Kerkira	3.39 81	P	Pn	21 58 41.6	-0.8
KEK	Kerkira	3.39 81	Pg	Pn	21 58 42.0	-0.4
KEK			Sg	S	21 59 24.5	-3.3
	17µm,0.9s					
KEK	Kerkira	3.39 81	P	Pn	21 58 42.0	-0.4
KEK			S	S	21 59 24.5	-3.3
	17µm,0.9s					
ROM9	Roma	3.42 320	P	Pn	21 58 44.6	+1.9
ROM9	Roma	3.42 320	P	Pn	21 58 44.6	+1.9
WDD	Wield Dalam	3.45 193⇓	ePn	Pn	21 58 43.0	-0.1
WDD			eS	S	21 59 28.6	-0.5
WDD	Wield Dalam	3.45 193	Pg	Pn	21 58 43.2	0.0
	4µm,1.0s					
WDD	Wield Dalam	3.45 193⇓	ePn	Pn	21 58 43.0	-0.2
WDD			eS	S	21 59 28.6	-0.6
MTCE	Montecelio	3.46 324	P	Pn	21 58 44.4	+1.3
MTCE	Montecelio	3.46 324	Pg	Pn	21 58 44.3	+1.1
	1µm,0.9s					
MTCE	Montecelio	3.46 324	P	Pn	21 58 44.3	+1.1
	1µm,0.9s					
AQU	L'Aquila	3.48 334⇑	iPn	Pn	21 58 45.3	+1.9
AQU			eS	S	21 59 30.4	+0.8
AQU	L'Aquila	3.48 334⇑	iP	Pn	21 58 45.3	+2.0
AQU			eS	S	21 59 30.4	+0.8
AQU	L'Aquila	3.48 334	Pg	Pn	21 58 45.6	+2.3
	1µm,0.6s					
AQU	L'Aquila	3.48 334	P	Pn	21 58 45.6	+2.3
	1µm,0.6s					
AQU			eS	S	21 59 30.4	+0.8
FIAM	Fiamignano	3.51 330	P	Pn	21 58 45.8	+2.2
FIAM	Fiamignano	3.51 330	Pg	Pn	21 58 45.8	+2.1
	2µm,0.8s					
FIAM	Fiamignano	3.51 330	P	Pn	21 58 45.8	+2.1
	2µm,0.8s					
SRN	Sarande	3.57 78	ePN	Pn	21 58 46.5	+2.1
SRN			iSN	S	21 59 27.4	-4.0
SRN	Sarande	3.57 78	ePn	Pn	21 58 46.5	+2.1
	slow=28					
SRN			iSn	S	21 59 27.4	-4.0
	slow=28					
CAMP	Campotosto	3.64 335	Pg	Pn	21 58 47.1	+2.0
	372nm,1.4s					
CAMP	Campotosto	3.64 335	P	Pn	21 58 47.1	+2.0
	372nm,1.4s					
PTS	Pantelleria	3.66 230	P	Pn	21 58 44.3	-1.1
PTS	Pantelleria	3.66 230	P	Pn	21 58 44.3	-1.1
PTS	Pantelleria	3.66 230	P	Pn	21 58 44.3	-1.1
TERO	Teramo	3.66 338	P	Pn	21 58 47.0	+1.7
TERO	Teramo	3.66 338	Pg	Pn	21 58 46.8	+1.4
	690nm,0.7s					
TERO	Teramo	3.66 338	P	Pn	21 58 46.8	+1.4
	690nm,0.7s					
MNS	Montasola	3.78 327	P	Pn	21 58 48.1	+1.4
MNS	Montasola	3.78 327	P	Pn	21 58 48.2	+1.4
MNS	Montasola	3.78 327	Pg	Pn	21 58 48.1	+1.3
	816nm,1.0s					
MNS	Montasola	3.78 327	P	Pn	21 58 48.1	+1.3
	816nm,1.0s					
IGT	Igoumenitsa	3.79 84	P	Pn	21 58 46.6	-0.2
IGT	Igoumenitsa	3.79 84	P	Pn	21 58 46.6	-0.2
IGT	Igoumenitsa	3.79 84	P	Pn	21 58 46.6	-0.2
IGT	Igoumenitsa	3.79 84	P	Pn	21 58 46.6	-0.2
RGA	Parga	3.80 87	P	Pn	21 58 47.0	0.0
RGA	Parga	3.80 87	P	Pn	21 58 47.0	0.0
TOLF	Tolfa	3.86 318	P	Pn	21 58 49.0	+1.4
TOLF	Tolfa	3.86 318	Pg	Pn	21 58 48.9	+1.3
	2µm,1.1s					
TOLF	Tolfa	3.86 318	P	Pn	21 58 48.9	+1.3
	2µm,1.1s					
OFFI	Offida	3.93 341	P	Pn	21 58 50.4	+2.0
OFFI	Offida	3.93 341	Pg	Pn	21 58 50.2	+1.8
	2µm,0.7s					
OFFI	Offida	3.93 341	P	Pn	21 58 50.2	+1.8
	2µm,0.7s					
HCY	Herceg Novi	3.94 35⇑	iPn	Pn	21 58 48.4	-0.2
HCY			eSn	S	21 59 36.3	-2.8
HCY	Herceg Novi	3.94 35	P	Pn	21 58 48.3	-0.3
HCY			S	S	21 59 36.0	-3.1
HCY	Herceg Novi	3.94 35	P	Pn	21 58 48.3	-0.3
HCY			S	S	21 59 36.0	-3.1
HCY	Herceg Novi	3.94 35⇑	iPn	Pn	21 58 48.4	-0.2
HCY			S	S	21 59 36.0	-3.1
HCY			eSn	S	21 59 36.3	-2.8
ULC	Ulcinj	3.96 45⇑	iPn	Pn	21 58 48.4	-0.4
ULC			eSn	S	21 59 36.6	-2.9
ULC	Ulcinj	3.96 45	P	Pn	21 58 48.3	-0.5
ULC			S	S	21 59 36.0	-3.5
ULC	Ulcinj	3.96 45	P	Pn	21 58 48.3	-0.5
ULC			S	S	21 59 36.0	-3.5
ULC	Ulcinj	3.96 45⇑	iPn	Pn	21 58 48.4	-0.4
ULC			S	S	21 59 36.0	-3.5
ULC			eSn	S	21 59 36.6	-2.9
TIR	Tirane	3.97 57	ePN	Pn	21 58 49.2	+0.3
TIR			iSN	S	21 59 37.1	-2.6
TIR	Tirane	3.97 57	P	Pn	21 58 55.0	+6.0
TIR	Tirane	3.97 57	P	Pn	21 58 55.0	+6.1
TIR	Tirane	3.97 57	ePn	Pn	21 58 49.2	+0.3
	slow=28					
TIR			iSn	S	21 59 37.1	-2.6
	slow=28					
STON	Ston	4.00 24	P	Pn	21 58 48.0	-1.3
STON	Ston	4.00 24	iP	Pn	21 58 47.9	-1.4
NRCA	Norcia	4.00 334	P	Pn	21 58 50.0	+0.7
NRCA	Norcia	4.00 334	P	Pn	21 58 50.0	+0.7
BUM	Brajici-Budva	4.02 39⇑	iPn	Pn	21 58 49.5	+0.1
BUM			eSn	S	21 59 37.9	-2.7
BUM	Brajici-Budva	4.02 39	P	Pn	21 58 49.4	0.0
BUM			S	S	21 59 37.0	-3.6
BUM	Brajici-Budva	4.02 39	P	Pn	21 58 49.4	0.0
BUM			S	S	21 59 37.0	-3.6
BUM			eSn	S	21 59 37.9	-2.7
LSK	Leskovik	4.07 75	ePN	Pn	21 58 50.0	0.0
LSK	Leskovik	4.07 75	ePn	Pn	21 58 50.0	-0.1
	slow=28					
LKD2	Lefkada island	4.07 95	P	Pn	21 58 50.1	-0.1
LKD2	Lefkada island	4.07 95	P	Pn	21 58 50.1	-0.1
LKD2	Lefkada island	4.07 95	P	Pn	21 58 50.1	-0.1
VLS	Valsamata	4.15 103	P	Pn	21 58 50.6	-0.5
VLS	Valsamata	4.15 103	P	Pn	21 58 50.6	-0.5
VLS	Valsamata	4.15 103	P	Pn	21 58 50.6	-0.5
VLS	Valsamata	4.15 103	P	Pn	21 58 50.6	-0.5
JAN	Janina	4.19 83	P	Pn	21 58 52.2	+0.6
JAN	Janina	4.19 83	P	Pn	21 58 52.2	+0.6
JAN	Janina	4.19 83	P	Pn	21 58 52.2	+0.6
JAN	Janina	4.19 83	P	Pn	21 58 52.2	+0.6
FDMO	Fiordimonte	4.20 335	P	Pn	21 58 53.3	+1.8
FDMO	Fiordimonte	4.20 335	Pg	Pn	21 58 53.2	+1.7
	4µm,2.8s					
FDMO	Fiordimonte	4.20 335	P	Pn	21 58 53.2	+1.7
	4µm,2.8s					
CESI	CESI - Serrava	4.23 334	P	Pn	21 58 53.5	+1.6
CESI	CESI - Serrava	4.23 334	Pg	Pn	21 58 53.3	+1.4
	549nm,1.3s					
CESI	CESI - Serrava	4.23 334	P	Pn	21 58 53.3	+1.4
	549nm,1.3s					
PDG	Podgorica	4.29 41⇑	iPn	Pn	21 58 52.6	-0.1
PDG			eSn	S	21 59 38.8	-7.7
PDG	Podgorica	4.29 41⇑	iPn	Pn	21 58 52.6	-0.1
PDG			eSn	S	21 59 43.6	-2.9
TTG	Podgorica	4.30 41⇑	iPn	Pn	21 58 52.6	-0.1
TTG			eSn	S	21 59 43.6	-2.9
TTG	Podgorica	4.30 41	P	Pn	21 58 52.5	-0.2
TTG			S	S	21 59 43.0	-3.5
TTG	Podgorica	4.30 41	P	Pn	21 58 52.5	-0.2
TTG			S	S	21 59 43.0	-3.5
TTG	Podgorica	4.30 41	P	Pn	21 58 52.5	-0.2
TTG			S	S	21 59 43.0	-3.5
KFL	Anninata	4.32 103	P	Pn	21 58 52.8	-0.3
KFL	Anninata	4.32 103	P	Pn	21 58 52.8	-0.3
BRY	Bratogost	4.33 31⇑	iPn	Pn	21 58 53.0	-0.2
BRY			eSn	S	21 59 44.7	-2.7
BRY	Bratogost	4.33 31	P	Pn	21 58 53.0	-0.2
BRY			S	S	21 59 44.0	-3.4
BRY	Bratogost	4.33 31	P	Pn	21 58 53.0	-0.2
BRY			S	S	21 59 44.0	-3.4
BRY	Bratogost	4.33 31⇑	iPn	Pn	21 58 53.0	-0.2
BRY			S	S	21 59 44.0	-3.4
BRY			eSn	S	21 59 44.7	-2.7
LATE	Laterza	4.36 322	P	Pn	21 58 55.2	+1.7
LATE	Laterza	4.36 322	Pg	Pn	21 58 55.1	+1.6
	133nm,1.0s					
LATE	Laterza	4.36 322	P	Pn	21 58 55.1	+1.6
	133nm,1.0s					
ASS	Assisi	4.37 332	P	Pn	21 58 54.1	+0.5
ASS	Assisi	4.37 332	P	Pn	21 58 54.1	+0.6
ASS	Assisi	4.37 332	P	Pn	21 58 54.1	+0.6
PUK	Puka	4.38 49	ePN	Pn	21 58 53.1	-0.6
PUK			iSN	S	21 59 46.7	-1.7
PUK	Puka	4.38 49	ePn	Pn	21 58 53.1	-0.6
	slow=28					
PUK			iSn	S	21 59 46.7	-1.7
	slow=28					
SNTG	Esanatoglia	4.44 335	P	Pn	21 58 54.5	+0.1
SNTG	Esanatoglia	4.44 335	P	Pn	21 58 54.5	+0.1
MGAB	Montegabbione	4.46 326	P	Pn	21 58 56.5	+1.9
MGAB	Montegabbione	4.46 326	Pg	Pn	21 58 56.4	+1.8
	932nm,1.1s					
MGAB	Montegabbione	4.46 326	P	Pn	21 58 56.4	+1.8
	932nm,1.1s					
NKY	Niksic	4.46 36⇑	iPn	Pn	21 58 54.7	+0.1
NKY			eSn	S	21 59 47.4	-2.6
NKY	Niksic	4.46 36	P	Pn	21 58 54.6	0.0
NKY			S	S	21 59 47.0	-3.0
NKY	Niksic	4.46 36	P	Pn	21 58 54.6	0.0
NKY			S	S	21 59 47.0	-3.0
NKY	Niksic	4.46 36	P	Pn	21 58 54.6	0.0
NKY			S	S	21 59 47.0	-3.0
NKY			eSn	S	21 59 47.4	-2.6
NEST	Nestorio	4.46 73	P	Pn	21 58 55.8	+1.1
NEST	Nestorio	4.46 73	P	Pn	21 58 55.8	+1.1
CING	Cingoli	4.47 338	P	Pn	21 58 55.1	+0.4
CING	Cingoli	4.47 338	P	Pn	21 58 55.2	+0.5
MEV	Metsovon	4.49 81	P	Pn	21 58 56.4	+1.3
MEV	Metsovon	4.49 81	P	Pn	21 58 56.4	+1.3
MEV	Metsovon	4.49 81	P	Pn	21 58 56.4	+1.3
SACS	San Casciano d	4.50 324	Pg	Pn	21 58 56.8	+1.7
	504nm,0.7s					
PHP	Peshkopia	4.51 56	ePN	Pn	21 58 55.6	+0.3
PHP			iSN	S	21 59 48.6	-2.7
PHP	Peshkopia	4.51 56	P	Pn	21 58 55.6	+0.3
PHP	Peshkopia	4.51 56	P	Pn	21 58 55.6	+0.3
PHP	Peshkopia	4.51 56	P	Pn	21 58 55.6	+0.3
PHP	Peshkopia	4.51 56	P	Pn	21 58 55.6	+0.3
PHP			iSn	S	21 59 48.6	-2.7
	slow=28					
AOI	Ancona	4.53 343	P	Pn	21 58 55.6	+0.2
AOI	Ancona	4.53 343	P	Pn	21 58 55.6	+0.2
MAON	Monte Argentar	4.58 315	P	Pn	21 58 57.4	+1.4
MAON	Monte Argentar	4.58 315	Pg	Pn	21 58 57.3	+1.3
	1µm,1.3s					
MAON	Monte Argentar	4.58 315	P	Pn	21 58 57.4	+1.4
MURB	Monte Urbino	4.59 332	P	Pn	21 58 57.8	+1.7
MURB	Monte Urbino	4.59 332	Pg	Pn	21 58 57.7	+1.5
MURB	Monte Urbino	4.59 332	P	Pn	21 58 57.7	+1.5
DGI	Dorgali Grotta	4.64 285	P	Pn	21 58 54.5	-2.3
DGI	Dorgali Grotta	4.64 285	P	Pn	21 58 54.5	-2.3
BCI	Bajram Curri	4.69 47	ePN	Pn	21 58 57.6	+0.2
BCI			iSN	S	21 59 52.8	-2.2
BCI	Bajram Curri	4.69 47	ePn	Pn	21 58 57.6	+0.2
	slow=28					
BCI			iSn	S	21 59 52.8	-2.2
	slow=28					
VSL	Villasalto	4.72 275⇑	iPn	Pn	21 58 58.9	+1.1
VSL			eS	S	21 59 56.1	+0.3
VSL	Villasalto	4.72 275	Pg	Pn	21 58 59.0	+1.2
	3µm,1.2s					
VSL	Villasalto	4.72 275⇑	iPn	Pn	21 58 58.9	+1.1
VSL			eS	S	21 59 56.1	+0.3
UPM	Unac-Piva	4.73 32⇑	iPn	Pn	21 58 58.3	+0.4
UPM			eSn	S	21 59 53.1	-2.9
UPM	Unac-Piva	4.73 32	P	Pn	21 58 58.3	+0.4
UPM			S	S	21 59 53.0	-3.0
UPM	Unac-Piva	4.73 32⇑	iPn	Pn	21 58 58.3	+0.4
UPM			eSn	S	21 59 53.1	-2.9
PVY	Plav	4.78 44⇑	iPn	Pn	21 58 59.0	+0.6
PVY			eSn	S	21 59 54.0	-2.9
PVY	Plav	4.78 44	P	Pn	21 58 59.0	+0.6
PVY			S	S	21 59 53.0	-3.9
PVY	Plav	4.78 44⇑	iPn	Pn	21 58 59.0	+0.6
PVY			S	S	21 59 53.0	-3.9
PVY			eSn	S	21 59 54.0	-2.9
FNA	Florina	4.80 69	P	Pn	21 58 59.2	+0.5
FNA	Florina	4.80 69	P	Pn	21 58 59.2	+0.5
FNA	Florina	4.80 69	P	Pn	21 58 59.2	+0.5
FNA	Florina	4.80 69	P	Pn	21 58 59.2	+0.5
BIA	Bitola	4.83 67	iPn	Pn	21 58 59.1	0.0
BIA			eSn	S	21 59 54.4	-3.7
BIA	Bitola	4.83 67	iPn	Pn	21 58 59.1	0.0
BIA			eSn	S	21 59 54.4	-3.7
RLS	Riolos of Patr	4.85 102	P	Pn	21 58 59.8	+0.4
RLS	Riolos of Patr	4.85 102	P	Pn	21 58 59.8	+0.4
RLS	Riolos of Patr	4.85 102	P	Pn	21 58 59.8	+0.4
CDCA	Citt' di Caste	4.86 331	P	Pn	21 59 00.9	+1.5
CDCA	Citt' di Caste	4.86 331	P	Pn	21 59 00.9	+1.4
F

CRE	Caprese Michel	5.11	330	P	Pn	21 59 04.1 +1.7
LAKA	Lakka	5.19	99	P	Pn	21 59 04.4 +0.9
LAKA	Lakka	5.19	99	P	Pn	21 59 04.4 +0.9
LAKA	Lakka	5.19	99	P	Pn	21 59 04.4 +0.9
MAKR	Makrakomi, Fth	5.19	90	P	Pn	21 59 04.8 +1.3
MAKR	Makrakomi, Fth	5.19	90	P	Pn	21 59 04.8 +1.3
MAKR	Makrakomi, Fth	5.19	90	P	Pn	21 59 04.8 +1.3
RSM	Repubblica di	5.20	335	P	Pn	21 59 05.0 +1.4
RSM				S		21 59 08.0
RSM	Repubblica di	5.20	335	P	Pn	21 59 05.0 +1.5
RSM	Repubblica di	5.20	335	P	Pn	21 59 05.0 +1.5
TRIZ	Trizonia	5.24	98	P	Pn	21 59 04.0 -0.1
TRIZ	Trizonia	5.24	98	P	Pn	21 59 04.0 -0.1
CSNT	Castellina Chi	5.26	325	P	Pn	21 59 06.1 +1.8
CSNT	Castellina Chi	5.26	325	Pg	Pn	21 59 06.0 +1.7
	409nm,1.4s					
CSNT	Castellina Chi	5.26	325	P	Pn	21 59 06.0 +1.7
	409nm,1.4s					
KALE	Kalithea	5.29	97	P	Pn	21 59 05.7 +1.0
KALE	Kalithea	5.29	97	P	Pn	21 59 05.7 +1.0
KALE	Kalithea	5.29	97	P	Pn	21 59 05.7 +1.0
SKO	Skopje	5.30	57	*i* Pn	Pn	21 59 05.5 +0.6
SKO				*e*Sn	S	22 00 06.0 -2.5
SKO				*e*Lg		22 00 06.4
	comp=N,3µm,1.2s					
SKO				*e*Lg		22 00 07.5
	comp=E,5µm,1.4s					
SKO	Skopje	5.30	57	*i* Pn	Pn	21 59 05.4 +0.6
SKO				*e*Sn	S	22 00 06.0 -2.5
NVLJ	Novalja	5.34	355	P	Pn	21 59 05.6 +0.4
NVLJ	Novalja	5.34	355	*i* P	Pn	21 59 05.5 +0.3
AGG	Agios Georgios	5.35	90	P	Pn	21 59 06.4 +1.0
AGG	Agios Georgios	5.35	90	P	Pn	21 59 06.4 +1.0
AGG	Agios Georgios	5.35	90	P	Pn	21 59 06.4 +1.0
AGG	Agios Georgios	5.35	90	P	Pn	21 59 06.4 +1.0
OSPF	L'Ospedale	5.36	299⇑	*e*P	Pn	21 59 06.0 +0.5
OSPF	L'Ospedale	5.36	299⇑	*e*P	Pn	21 59 06.0 +0.5
SFI	Santa Sofia	5.39	331	P	Pn	21 59 04.5 -1.4
SFI	Santa Sofia	5.39	331	P	Pn	21 59 04.5 -1.3
SFI	Santa Sofia	5.39	331	P	Pn	21 59 04.5 -1.3
PYL	PYLOS	5.48	113	P	Pn	21 59 06.7 -0.4
PYL	PYLOS	5.48	113	P	Pn	21 59 06.7 -0.4
BBLS	Lazići	5.49	31⇑	*i*Pn	Pn	21 59 06.6 -0.4
BBLS				*e*Sn	S	22 00 05.1 -7.4
BBLS	Lazići	5.49	31⇑	*i*Pn	Pn	21 59 06.6 -0.4
ITM	Ithomi	5.49	110	P	Pn	21 59 07.5 +0.3
ITM	Ithomi	5.49	110	P	Pn	21 59 07.1 -0.1
ITM	Ithomi	5.49	110	P	Pn	21 59 07.1 -0.1
LIT	Litokhoron	5.49	79	P	Pn	21 59 07.2 +0.1
LIT	Litokhoron	5.49	79	P	Pn	21 59 07.2 +0.1
LIT	Litokhoron	5.49	79	P	Pn	21 59 07.2 +0.1
LIT	Litokhoron	5.49	79	P	Pn	21 59 07.2 +0.1
GUR	Goura	5.55	101	P	Pn	21 59 09.0 +1.1
VMG	Vicchio	5.56	329	P	Pn	21 59 08.7 +0.8
VMG	Vicchio	5.56	329	P	Pn	21 59 08.7 +0.8
DESF	Desfina	5.58	96	P	Pn	21 59 07.9 -0.4
IVAS	Ivanjica	5.58	38	*i*Pn	Pn	21 59 08.1 -0.1
IVAS				*e*Sn	S	22 00 09.1 -5.6
IVAS	Ivanjica	5.58	38	*i*Pn	Pn	21 59 08.1 -0.1
GRG	Griva	5.59	70	P	Pn	21 59 08.3 -0.1
GRG	Griva	5.59	70	P	Pn	21 59 08.3 -0.1
GRG	Griva	5.59	70	P	Pn	21 59 08.3 -0.1
GRG	Griva	5.59	70	P	Pn	21 59 08.3 -0.1
AXAR	Agios Charalam	5.63	93	P	Pn	21 59 09.8 +1.0
AXAR	Agios Charalam	5.63	93	P	Pn	21 59 09.8 +1.0
AXAR	Agios Charalam	5.63	93	P	Pn	21 59 09.8 +1.0
BLY	Banja Luka	5.65	13⇑	*i*Pn	Pn	21 59 09.2 +0.2
BLY	Banja Luka	5.65	13	P	Pn	21 59 09.0 0.0
BLY	Banja Luka	5.65	13	P	Pn	21 59 09.0 0.0
CRMI	Carmignano	5.66	325	Pg	Pn	21 59 11.0 +1.9
	comp=E,3µm,2.7s					
SEI	Scarperia	5.71	329	P	Pn	21 59 11.1 +1.4
SEI	Scarperia	5.71	329	P	Pn	21 59 11.1 +1.4
VLX	Vlachokerasia	5.75	107	P	Pn	21 59 11.4 +1.0
FYTO	Fytoko, Volos	5.80	86	P	Pn	21 59 18.5 +7.5
FYTO	Fytoko, Volos	5.80	86	P	Pn	21 59 18.5 +7.5
VAY	Valandovo	5.82	67	P	Pn	21 59 10.0 -1.2
VAY	Valandovo	5.82	67	P	Pn	21 59 10.0 -1.2
VAY	Valandovo	5.82	67	*i* Pn	Pn	21 59 10.4 -0.8
VAY				*e*Sn	S	22 00 17.2 -2.8
VAY				*e*Lg		22 00 17.6
	comp=E,2µm,1.4s					
VAY				*e*Lg		22 00 18.8
	comp=N,1µm,1.3s					
VAY	Valandovo	5.82	67	P	Pn	21 59 10.0 -1.2
VAY	Valandovo	5.82	67	*i* Pn	Pn	21 59 10.3 -0.9
VAY				*e*Sn	S	22 00 17.1 -2.9
SELS	Selova	5.83	45⇓	*i*Pn	Pn	21 59 10.1 -1.1
SELS				*e*Sn	S	22 00 15.0 -5.2
FNVD	Fontana Vidola	5.90	328	P	Pn	21 59 14.9 +2.9
FNVD	Fontana Vidola	5.90	328	P	Pn	21 59 14.9 +2.8
LKR	Lokris	5.91	93	P	Pn	21 59 12.4 +0.1
LKR	Lokris	5.91	93	P	Pn	21 59 12.4 +0.1
LKR	Lokris	5.91	93	P	Pn	21 59 12.4 +0.1
PGF	Pioggiola	5.91	306	*e*P	Pn	21 59 12.8 +0.6
	comp=N,675nm,0.7s					
PGF	Pioggiola	5.91	306	Pn	Pn	21 59 12.8 +0.6
PGF	Pioggiola	5.91	306	P	Pn	21 59 12.8 +0.6
PGF	Pioggiola	5.91	306	*e*P	Pn	21 59 12.8 +0.6
	comp=N,337nm,0.7s					
ATAL	Atalanti	5.92	93	P	Pn	21 59 12.6 +0.2
ATAL	Atalanti	5.92	93	P	Pn	21 59 12.6 +0.2
ATAL	Atalanti	5.92	93	P	Pn	21 59 12.6 +0.2
DIVS	Divibare	5.92	33⇑	*i*Pn	Pn	21 59 11.9 -0.5
DIVS				*e*Sn	S	22 00 14.7 -7.5
DIVS	Divibare	5.92	33⇑	*i*Pn	Pn	21 59 11.9 -0.5
THE	Thessaloniki	5.93	74	P	Pn	21 59 11.1 -1.5
THE	Thessaloniki	5.93	74	P	Pn	21 59 11.1 -1.5
THE	Thessaloniki	5.93	74	P	Pn	21 59 11.1 -1.5
THE	Thessaloniki	5.93	74	P	Pn	21 59 11.1 -1.5
BARS	Barje	5.99	51⇑	*i*Pn	Pn	21 59 12.8 -0.4
BARS				*e*Sn	S	22 00 20.0 -3.7
BARS	Barje	5.99	51⇑	*i*Pn	Pn	21 59 12.8 -0.4
BARS				*e*Sn	S	22 00 20.0 -3.7
KEST	Kesra	5.99	236	P	Pn	21 59 15.1 +1.7
	comp=N,11nm,0.3s,baz=348,slow=4.5,SNR=273					
KEST				S	S	22 00 25.7 +1.7
	baz=331,slow=18,SNR=1,1					
KEST	Kesra	5.99	236⇑	*i*Pn	Pn	21 59 14.9 +1.5
KEST				*e*S	S	22 00 25.4 +1.3
KEST	Kesra	5.99	236⇑	*i*Pn	Pn	21 59 14.9 +1.5
KEST				*e*S	S	22 00 25.4 +1.4
XOR	Xorichti	6.00	86	P	Pn	21 59 13.8 +0.4
XOR	Xorichti	6.00	86	P	Pn	21 59 13.8 +0.4
XOR	Xorichti	6.00	86	P	Pn	21 59 13.8 +0.4
LTK	Loutraki	6.00	99	P	Pn	21 59 13.4 -0.1
LTK	Loutraki	6.00	99	P	Pn	21 59 13.5 0.0
LTK	Loutraki	6.00	99	P	Pn	21 59 13.5 0.0
KNT	Kendrikon	6.01	69	P	Pn	21 59 13.4 -0.1
KNT	Kendrikon	6.01	69	P	Pn	21 59 13.4 -0.1
KNT	Kendrikon	6.01	69	P	Pn	21 59 13.4 -0.1
KNT	Kendrikon	6.01	69	P	Pn	21 59 13.4 -0.1
LTRA	Loutraki	6.02	100	P	Px	21 59 33.6
LTRA	Loutraki	6.02	100	P	Px	21 59 33.6
NEO	Neokhori	6.02	87	P	Pn	21 59 14.2 +0.5
NEO	Neokhori	6.02	87	P	Pn	21 59 14.2 +0.5
NEO	Neokhori	6.02	87	P	Pn	21 59 14.2 +0.5
HORT	Hortiatis	6.03	75	P	Pn	21 59 13.2 -0.5
HORT	Hortiatis	6.03	75	P	Pn	21 59 13.2 -0.5
HORT	Hortiatis	6.03	75	P	Pn	21 59 13.2 -0.5
BDI	Bagni Di Lucca	6.04	324	P	Pn	21 59 15.4 +1.5
BDI	Bagni Di Lucca	6.04	324	P	Pn	21 59 15.4 +1.6
BDI	Bagni Di Lucca	6.04	324	P	Pn	21 59 15.4 +1.6
GRUS	Gruza	6.09	39⇑	*i*Pn	Pn	21 59 14.1 -0.3
GRUS				*e*Sn	S	22 00 19.2 -6.8
GRUS	Gruza	6.09	39⇑	*i*Pn	Pn	21 59 14.1 -0.3
ZCCA	Zocca	6.11	328	P	Pn	21 59 19.5 +4.8
FIU	Minerbio Fiu	6.15	333	P	Pn	21 59 16.6 +1.3
FIU	Minerbio Fiu	6.15	333	P	Pn	21 59 16.5 +1.3
TRUS	Trudelj	6.20	35⇑	*i*Pn	Pn	21 59 14.4 -1.4
TRUS	Trudelj	6.20	35⇑	*i*Pn	Pn	21 59 14.4 -1.4
SKIA	Skiathos	6.22	88	P	Pn	21 59 16.4 +0.3
PLG	Polygyros	6.25	77	P	Pn	21 59 15.9 -0.6
PLG	Polygyros	6.25	77	P	Pn	21 59 15.9 -0.6
PLG	Polygyros	6.25	77	P	Pn	21 59 15.9 -0.6
PLG	Polygyros	6.25	77	P	Pn	21 59 15.9 -0.6
SOH	Sokhos	6.26	73	P	Pn	21 59 16.7 +0.1
SOH	Sokhos	6.26	73	P	Pn	21 59 16.7 +0.1
SOH	Sokhos	6.26	73	P	Pn	21 59 16.7 +0.1
SOH	Sokhos	6.26	73	P	Pn	21 59 16.7 +0.1
BOJS	Bojanci	6.26	359	*i* Pn	Pn	21 59 17.0 +0.4
BOJS				*e*S	S	22 00 27.7 -2.2
BOJS						
	comp=Z,990nm,1.7s					
BOJS	Bojanci	6.26	359	P	Pn	21 59 17.0 +0.4
BOJS	Bojanci	6.26	359	P	Pn	21 59 17.0 +0.4
GSCL	Gusciola	6.27	326	P	Pn	21 59 18.5 +1.8
GSCL	Gusciola	6.27	326	P	Pn	21 59 18.5 +1.8
GBRS	Gornja Briga	6.30	356⇑	*i*Pn	Pn	21 59 18.0 +0.9
DIDY	Didyma	6.34	104	P	Pn	21 59 16.8 -0.9
DID	Didima	6.35	103	P	Pn	21 59 17.1 -0.7
MRKA	Markates	6.36	92	P	Pn	21 59 17.9 +0.1
KKB	Krupnik	6.37	63	P	Pn	21 59 18.7 +0.7
KKB	Krupnik	6.37	63	P	Pn	21 59 18.8 +0.7
KKB	Krupnik	6.37	63	*i* P	Pn	21 59 18.8 +0.8
KKB	Krupnik	6.37	63	P	Pn	21 59 18.7 +0.7
PAIG	Paliouri	6.39	81	P	Pn	21 59 17.7 -0.5
PAIG	Paliouri	6.39	81	P	Pn	21 59 17.7 -0.5
PAIG	Paliouri	6.39	81	P	Pn	21 59 17.7 -0.5
PAIG	Paliouri	6.39	81	P	Pn	21 59 17.7 -0.5
RAVA	Ravarino	6.39	331	P	Pn	21 59 19.2 +1.1
RAVA				S	Px	21 59 22.6
RAVA	Ravarino	6.39	331	P	Pn	21 59 19.2 +1.0
SKDS	Skadanscina	6.39	351	*i* Pn	Pn	21 59 18.0 -0.2
SKDS				*e*S	S	22 00 30.9 -1.9
SKDS						
	comp=Z,966nm,2.2s					
SKDS	Skadanscina	6.39	351	*i* Pn	Pn	21 59 18.0 -0.2
ERBM	Eremo	6.40	326	P	Pn	21 59 20.6 +2.3
ERBM				S	Px	21 59 24.0
ERBM	Eremo	6.40	326	P	Pn	21 59 20.6 +2.3
VLI	Veliai	6.42	111	P	Pn	21 59 19.8 +1.1
VLI	Veliai	6.42	111	P	Pn	21 59 19.8 +1.1
VLI	Veliai	6.42	111	P	Pn	21 59 19.8 +1.1
SRS	Serrai	6.50	71	P	Pn	21 59 19.3 -0.3
SRS	Serrai	6.50	71	P	Pn	21 59 19.3 -0.3
SRS	Serrai	6.50	71	P	Pn	21 59 19.3 -0.3
SRS	Serrai	6.50	71	P	Pn	21 59 19.3 -0.3
AOS	Alonnisos	6.54	88	P	Pn	21 59 19.9 -0.2
AOS	Alonnisos	6.54	88	P	Pn	21 59 19.9 -0.2
AOS	Alonnisos	6.54	88	P	Pn	21 59 19.9 -0.2
CEY	Cerknica	6.54	354	P	Pn	21 59 20.5 +0.5
CEY	Cerknica	6.54	354	P	Pn	21 59 20.5 +0.5
VISS	Visnje	6.58	356	P	Pn	21 59 21.1 +0.6
VISS	Visnje	6.58	356	P	Pn	21 59 21.1 +0.6
NOVE	Novellara	6.58	329	P	Pn	21 59 21.9 +1.3
NOVE	Novellara	6.58	329	P	Pn	21 59 21.9 +1.4
CRES	Cresnjev	6.58	360	P	Pn	21 59 20.8 +0.3
CRES	Cresnjev	6.58	360	P	Pn	21 59 20.8 +0.3
TRI	Trieste	6.58	350⇓	*e*Pn	Pn	21 59 19.9 -0.7
TRI				*e*S	S	22 00 35.8 -1.4
TRI	Trieste	6.58	350⇓	*e*P	Pn	21 59 19.9 -0.7
TRI				*e*S	S	22 00 35.8 -1.4
TRI	Trieste	6.58	350	*e*P	Pn	21 59 19.9 -0.7
TRI				*e*S	S	22 00 35.8 -1.4
ATH	Athens Observa	6.59	98	P	Pn	21 59 20.8 0.0
ATH	Athens Observa	6.59	98	P	Pn	21 59 20.8 0.0
ATH	Athens Observa	6.59	98	P	Pn	21 59 20.8 0.0
ATH	Athens Observa	6.59	98	P	Pn	21 59 20.8 0.0
SVIS	Svilajnac	6.61	39⇑	*i*Pn	Pn	21 59 20.4 -0.5
SVIS				*e*Sn	S	22 00 32.2 -5.6
OUR	Ouranopolis	6.65	78	P	Pn	21 59 21.0 -0.5
OUR	Ouranopolis	6.65	78	P	Pn	21 59 21.0 -0.5
OUR	Ouranopolis	6.65	78	P	Pn	21 59 21.0 -0.5
OUR	Ouranopolis	6.65	78	P	Pn	21 59 21.0 -0.5
VLY	Voula,Athens	6.68	99	P	Pn	21 59 21.6 -0.3
VLY	Voula,Athens	6.68	99	P	Pn	21 59 21.6 -0.3
VLY	Voula,Athens	6.68	99	P	Pn	21 59 21.6 -0.3
PTL	Penteli	6.69	98	P	Pn	21 59 22.0 0.0
PTL	Penteli	6.69	98	P	Pn	21 59 22.0 0.0
PTL	Penteli	6.69	98	P	Pn	21 59 22.0 0.0
BOLS	Boljevac	6.69	45⇑	*i*Pn	Pn	21 59 20.3 -1.6
BOLS				*e*Sn	S	22 00 34.2 -5.4
BOLS	Boljevac	6.69	45⇑	*i*Pn	Pn	21 59 20.3 -1.6
KYTH	Kithira	6.69	114	P	Pn	21 59 23.0 +1.0
KYTH	Kithira	6.69	114	P	Pn	21 59 23.0 +1.0
KYTH	Kithira	6.69	114	P	Pn	21 59 23.0 +1.0
BEO	Beograd	6.70	32⇓	*i*Pn	Pn	21 59 20.4 -1.6
BEO	Beograd	6.70	32	P	Pn	21 59 20.4 -1.6
BEO	Beograd	6.70	32	P	Pn	21 59 20.4 -1.6
BEO	Beograd	6.70	32⇓	*i*Pn	Pn	21 59 20.4 -1.6
LEGS	Legarje	6.71	359	*i* Pn	Pn	21 59 22.2 +0.1
LEGS	Legarje	6.71	359	*i* Pn	Pn	21 59 22.2 +0.1
JAVS	Javornik	6.73	352	P	Pn	21 59 22.5 +0.1
JAVS	Javornik	6.73	352	P	Pn	21 59 22.5 +0.1
MMB	Musomiste	6.73	67	P	Pn	21 59 22.0 -0.5
MMB	Musomiste	6.73	67	P	Pn	21 59 22.0 -0.5
MMB	Musomiste	6.73	67	*i* P	Pn	21 59 22.9 +0.4
MMB	Musomiste	6.73	67	P	Pn	21 59 22.0 -0.5
FGSL	Fruska Gora	6.74	27⇓	*i*Pn	Pn	21 59 22.0 -0.5
FRGS	Fruska Gora	6.74	27⇓	*i*Pn	Pn	21 59 22.0 -0.5
ZAPS	Zavoj	6.74	51⇑	*i*Pn	Pn	21 59 23.4 +0.8
ZAPS	Zavoj	6.74	51⇑	*i*Pn	Pn	21 59 23.4 +0.8
VTS	Vitosha	6.75	58⇑	*i*Pn	Pn	21 59 23.5 +0.8
VTS	Vitosha	6.75	58	P	Pn	21 59 22.9 +0.2
VTS	Vitosha	6.75	58	⇓P	Pn	21 59 23.4 +0.7
VTS	Vitosha	6.75	58	*i* P	Pn	21 59 23.1 +0.4
VTS	Vitosha	6.75	58	⇓*i*P	Pn	21 59 23.4 +0.7
VTS	Vitosha	6.75	58	P	Pn	21 59 22.9 +0.2
VTS	Vitosha	6.75	58⇑	*i*Pn	Pn	21 59 23.5 +0.8
NVR	Nevrokopi	6.76	69	P	Pn	21 59 22.9 +0.1
NVR	Nevrokopi	6.76	69	P	Pn	21 59 22.9 +0.1
NVR	Nevrokopi	6.76	69	P	Pn	21 59 22.9 +0.1
PDKS	Podkum	6.83	357⇑	*i*Pn	Pn	21 59 24.1 +0.5
PDKS	Podkum	6.83	357⇑	*i*Pn	Pn	21 59 24.0 +0.4
LJU	Ljubljana	6.83	355	*i* Pn	Pn	21 59 24.2 +0.6
LJU				*e*S	S	22 00 41.8 -1.0
LJU	Ljubljana	6.83	355	P	Pn	21 59 24.2 +0.5
LJU	Ljubljana	6.83	355	P	Pn	21 59 24.2 +0.5
LJU	Ljubljana	6.83	355	P	Pn	21 59 24.2 +0.5
CMAH	Djebel Manchou	6.87	250	P	Pn	21 59 25.0 +0.7
CMAH	Djebel Manchou	6.87	250	P	Pn	21 59 25.0 +0.7
VOY	Vojsko	6.88	351⇓	*e*Pn	Pn	21 59 24.5 +0.2
CRNS	Crni Vrh	6.89	353	*i* Pn	Pn	21 59 25.0 +0.6
TLI	Talmassons	6.90	346	P	Pn	21 59 24.0 -0.5
TLI	Talmassons	6.90	346	P	Pn	21 59 24.0 -0.5
ABSA	Djebel Ababsia	6.98	247	P	Pn	21 59 26.0 +0.3
ABSA	Djebel Ababsia	6.98	247	P	Pn	21 59 26.0 +0.3
MTLO	Montello	7.02	340	P	Pn	21 59 26.0 0.0
MTLO	Montello	7.02	340	P	Pn	21 59 26.0 0.0
DRE	Drenchia	7.06	350	P	Pn	21 59 26.0 -0.5
DRE	Drenchia	7.06	350	P	Pn	21 59 26.0 -0.5
MRMA	Marmari	7.08	97	P	Pn	21 59 26.8 -0.1
CADS	Cadrg	7.10	350	*i* Pn	Pn	21 59 27.0 0.0
CADS	Cadrg	7.10	350	*i* Pn	Pn	21 59 27.0 0.0
CAE	Caneva	7.12	343	P	Pn	21 59 26.0 -1.3
CAE	Caneva	7.12	343	P	Pn	21 59 26.0 -1.3
KAVA	Kavala	7.16	73	P	Pn	21 59 27.0 -0.8
KAVA	Kavala	7.16	73	P	Pn	21 59 27.0 -0.8
KAVA	Kavala	7.16	73	P	Pn	21 59 27.0 -0.8
BAD	Bernadia	7.18	348	P	Pn	21 59 27.0 -1.0
BAD	Bernadia	7.18	348	P	Pn	21 59 27.0 -1.0
MLNI	Malnisio	7.22	344	P	Pn	21 59 28.0 -0.5
MLNI	Malnisio	7.22	344	P	Pn	21 59 28.0 -0.5
KOGS	Kog	7.23	4	P	Pn	21 59 28.0 -0.6
KOGS	Kog	7.23	4	P	Pn	21 59 28.0 -0.6
CAEH	'Ain El Ouahch	7.23	253	P	Pn	21 59 31.0 +2.2
CAEH	'Ain El Ouahch	7.23	253	P	Pn	21 59 31.0 +2.2
MPRI	Monte Prat	7.23	346	P	Pn	21 59 28.0 -0.6
MPRI	Monte Prat	7.23	346	P	Pn	21 59 28.0 -0.6
OBKA	Obir	7.30	355	*i* Pn	Pn	21 59 29.8 +0.3
	comp=Z,287nm,0.6s,SNR=288					
OBKA	Obir	7.30	355	P	Pn	21 59 29.8 +0.3
OBKA	Obir	7.30	355	P	Pn	21 59 29.8 +0.3
PKSM	Moragy	7.35	18	P	Pn	21 59 29.3 -0.8
PKSM	Moragy	7.35	18	⇑P	Pn	21 59 29.9 -0.2
PKSM	Moragy	7.35	18	⇑*i*P	Pn	21 59 29.9 -0.2
PKSM	Moragy	7.35	18	P	Pn	21 59 29.9 -0.2
PGB	Panagyurishte	7.38	61	P	Pn	21 59 31.1 +0.6
PGB	Panagyurishte	7.38	61	P	Pn	21 59 31.1 +0.6
PGB	Panagyurishte	7.38	61	*i* P	Pn	21 59 30.8 +0.3
PGB	Panagyurishte	7.38	61	P	Pn	21 59 31.1 +0.6
PERS	Pernice	7.40	358	*i* Pn	Pn	21 59 30.8 +0.1
PERS				*e*S	S	22 00 52.5 -3.2
PERS	Pernice	7.40	358	*i* Pn	Pn	21 59 30.8 +0.1
SOKA	Soboth	7.44	358⇑	*i*Pn	Pn	21 59 31.5 +0.2
	comp=Z,280nm,1.0s					
SOKA	Soboth	7.44	358	P	Pn	21 59 31.8 +0.5
SOKA	Soboth	7.44	358	Pn	Pn	21 59 31.5 +0.2
	comp=Z,280nm,1.0s					
SOKA	Soboth	7.44	358	P	Pn	21 59 31.8 +0.5
RZN	Rozhen	7.47	68	P	Pn	21 59 32.2 +0.5
RZN	Rozhen	7.47	68	P	Pn	21 59 32.2 +0.5
RZN	Rozhen	7.47	68	*i* P	Pn	21 59 31.8 +0.1
RZN	Rozhen	7.47	68	P	Pn	21 59 32.2 +0.5
CKFL	Kef-Lekhel	7.48	250	P	Pn	21 59 33.0 +1.1
CKFL	Kef-Lekhel	7.48	250	P	Pn	21 59 33.0 +1.1
MYKA	Terra Mystica	7.50	350⇑	*i*Pn	Pn	21 59 32.3 +0.2
	comp=Z,204nm,1.2s					
MYKA	Terra Mystica	7.50	350	P	Pn	21 59 32.9 +0.8
MYKA	Terra Mystica	7.50	350	Pn	Pn	21 59 32.3 +0.2
	comp=Z,204nm,1.2s					
MYKA	Terra Mystica	7.50	350	P	Pn	21 59 32.9 +0.8
ZOU	Zoufplan	7.54	347	P	Pn	21 59 32.0 -0.5
ZOU	Zoufplan	7.54	347	P	Pn	21 59 32.0 -0.5
LIA	Limnos Island	7.54	82	P	Pn	21 59 32.5 -0.1
LIA	Limnos Island	7.54	82	P	Pn	21 59 32.5 -0.1
LIA	Limnos Island	7.54	82	P	Pn	21 59 32.5 -0.1
DJES	Djerdap	7.55	42⇓	*i*Pn	Pn	21 59 32.2 -0.5
DJES	Djerdap	7.55	42	P	Pn	21 59 32.0 -0.7
CSMI	Casera Mimoias	7.55	345	P	Pn	21 59 32.0 -0.7
CSMI	Casera Mimoias	7.55	345	P	Pn	21 59 32.0 -0.7
REVF	Revere	7.56	309	P	Pn	21 59 33.9 +1.1
REVF	Revere	7.56	309	P	Pn	21 59 33.9 +1.1
REVF	Revere	7.56	309	*e*P	Pn	21 59 33.0 +0.2
REVF	Revere	7.56	309	*e*P	Pn	21 59 33.0 +0.2
PLD	Plovdiv	7.58	65	P	Pn	21 59 33.7 +0.5
PLD	Plovdiv	7.58	65	P	Pn	21 59 33.7 +0.5
PLD	Plovdiv	7.58	65	P	Pn	21 59 33.7 +0.5
SBF	Sospel	7.58	310	*e*P	Pn	21 59 33.8 +0.7
	comp=Z,512nm,0.9s					
SBF	Sospel	7.58	310	*e*P	Pn	21 59 33.8 +0.7
SBF	Sospel	7.58	310	*e*P	Pn	21 59 33.8 +0.7
SBF	Sospel	7.58	310	*e*P	Pn	21 59 33.8 +0.7
	comp=Z,256nm,0.9s					
SAOF	Saorge	7.59	311	*e*P	Pn	21 59 33.7 +0.6
SAOF	Saorge	7.59	311	*e*P	Pn	21 59 33.7 +0.6
AUTN	L'Aution	7.67	311	*e*P	Pn	21 59 35.0 +0.9
AUTN	L'Aution	7.67	311	*e*P	Pn	21 59 35.0 +0.9
CASM	Ain Smara	7.70	250	P	Pn	21 59 35.0 +0.2
CASM	Ain Smara	7.70	250	P	Pn	21 59 35.0 +0.2
TIM	Timisoara	7.76	31	P	Pn	21 59 35.9 +0.6
TIM	Timisoara	7.76	31	P	Pn	21 59 35.9 +0.6
TIM	Timisoara	7.76	31⇑	*i*P	Pn	21 59 35.9 +0.6
TIM	Timisoara	7.76	31	P	Pn	21 59 35.9 +0.6
MVIF	Mont Vial	7.77	309	P	Pn	21 59 36.6 +1.1
MVIF	Mont Vial	7.77	309	P	Pn	21 59 36.6 +1.1
MVIF	Mont Vial	7.77	309	*e*P	Pn	21 59 36.5 +1.0
MVIF	Mont Vial	7.77	309	*e*P	Pn	21 59 36.5 +1.0
TOUF	Mont Tournerai	7.78	310	*e*P	Pn	21 59 36.7 +1.1
TOUF	Mont Tournerai	7.78	310	*e*P	Pn	21 59 36.7 +1.1
ABTA	Abfaltersbach	7.81	345	*i* Pn	Pn	21 59 36.4 +0.5
	comp=Z,221nm,0.7s,SNR=364

WTTA	Wattenberg	8.49 342	⇑*i*Pn	Pn	21 59 45.2	+0.7
	comp=Z,328nm,1.0s,SNR=70					
WTTA	Wattenberg	8.49 342	P	Pn	21 59 45.3	+0.8
WTTA	Wattenberg	8.49 342	P	Pn	21 59 45.3	+0.8
WTTA	Wattenberg	8.49 342	Pn	Pn	21 59 45.2	+0.7
	comp=Z,328nm,1.0s,SNR=70					
TUE	Stuetta	8.51 330	*e*Pn	Pn	21 59 44.6	-0.1
TUE			*e*S	S	22 01 22.4	+1.2
TUE	Stuetta	8.51 330	*e*Pn	Pn	21 59 44.6	-0.1
TUE			*e*S	S	22 01 22.4	+1.1
FETA	Feichten	8.51 338	*i* Pn	Pn	21 59 45.5	+0.8
	comp=Z,994nm,0.8s,SNR=776					
FETA	Feichten	8.51 338	P	Pn	21 59 45.5	+0.8
FETA	Feichten	8.51 338	P	Pn	21 59 45.5	+0.8
CKHR	Kef el Ahmar	8.52 251	P	Pn	21 59 46.0	+0.9
CKHR	Kef el Ahmar	8.52 251	P	Pn	21 59 46.0	+0.9
SET	Setif	8.53 252	P	Pn	21 59 49.0	+3.9
GELI	Tayfur-Gelibol	8.55 79	*e*P	Pn	21 59 45.3	-0.1
GELI	Tayfur-Gelibol	8.55 79	P	Pn	21 59 45.3	-0.1
GELI	Tayfur-Gelibol	8.55 79	P	Pn	21 59 45.3	-0.1
DAVOX	Davos/Dischmat	8.57 333	P	Pn	21 59 46.2	+0.8
	comp=Z,21nm,0.3s,baz=141,slow=11,SNR=198					
DAVOX			S	S	22 01 24.6	+1.8
	baz=150,slow=10,SNR=3.7					
DAVOX	Davos/Dischmat	8.57 333	P	Pn	21 59 46.2	+0.8
DAVOX			S	S	22 01 24.6	+1.8
DAVOX	Davos/Dischmat	8.57 333	P	Pn	21 59 46.2	+0.7
DAVOX			S	S	22 01 24.6	+1.8
DAVOX	Davos/Dischmat	8.57 333	P	Pn	21 59 46.2	+0.7
DAVOX			S	S	22 01 24.6	+1.8
WATA	Walderalm	8.57 342	⇓*i*Pn	Pn	21 59 46.2	+0.7
	comp=Z,277nm,0.5s,SNR=243					
WATA	Walderalm	8.57 342	P	Pn	21 59 46.3	+0.8
WATA	Walderalm	8.57 342	P	Pn	21 59 46.3	+0.8
WATA	Walderalm	8.57 342	Pn	Pn	21 59 46.2	+0.7
	comp=Z,277nm,0.5s,SNR=243					
ERIK	Erikli-Kesan	8.61 77	*e*P	Pn	21 59 45.8	-0.2
ERIK	Erikli-Kesan	8.61 77	P	Pn	21 59 45.8	-0.3
ERIK	Erikli-Kesan	8.61 77	P	Pn	21 59 45.8	-0.3
DEV	Deva	8.61 37	P	Pn	21 59 46.0	0.0
DEV	Deva	8.61 37	P	Pn	21 59 46.0	0.0
DEV	Deva	8.61 37	⇑*i*P	Pn	21 59 46.0	0.0
DEV	Deva	8.61 37	P	Pn	21 59 46.0	0.0
BUD	Budapest	8.64 16	⇑*e*	Pn	21 59 46.2	-0.1
ZIMR		8.65 56	P	Pn	21 59 47.2	+0.7
ZIMR		8.65 56	P	Pn	21 59 47.2	+0.7
ZIMR		8.65 56	⇑*i*P	Pn	21 59 47.2	+0.7
MOA	Molln	8.65 355	⇓*i*Pn	Pn	21 59 46.5	0.0
	comp=Z,288nm,1.1s,SNR=133					
MOA	Molln	8.65 355	P	Pn	21 59 46.8	+0.3
MOA	Molln	8.65 355	Pn	Pn	21 59 46.5	0.0
	comp=Z,288nm,1.1s,SNR=133					
MOA	Molln	8.65 355	P	Pn	21 59 46.8	+0.3
OG25	Le Caire	8.68 309	⇑*e*P	Pn	21 59 48.9	+2.0
OG25	Le Caire	8.68 309	⇑*e*P	Pn	21 59 48.9	+2.0
CONA	Conrad Observa	8.69 2	*i* Pn	Pn	21 59 47.4	+0.4
	comp=Z,96nm,1.2s,SNR=63					
CONA	Conrad Observa	8.69 2	Pn	Pn	21 59 47.4	+0.4
	comp=Z,96nm,1.2s,SNR=63					
MOTA	Moosalm	8.70 340	*i* Pn	Pn	21 59 47.9	+0.8
	comp=Z,295nm,0.7s,SNR=356					
MOTA	Moosalm	8.70 340	P	Pn	21 59 47.8	+0.7
MOTA	Moosalm	8.70 340	P	Pn	21 59 47.8	+0.7
MOTA	Moosalm	8.70 340	P	Pn	21 59 47.8	+0.7
AYVA	Ayvalik	8.71 86	*i* P	Pn	21 59 47.6	+0.3
RJOB	Jochberg	8.71 348	*e*P	Pn	21 59 46.4	-0.8
BNI	Bardonecchia	8.73 315	*e*Pn	Pn	21 59 49.9	+2.4
BNI			*e*S	S	22 01 29.5	+3.0
BNI	Bardonecchia	8.73 315	*e*P	Pn	21 59 49.9	+2.4
BNI			*e*S	S	22 01 29.5	+3.0
BNI	Bardonecchia	8.73 315	*e*P	Pn	21 59 49.9	+2.4
BNI			*e*S	S	22 01 29.5	+3.0
URLA	Izmir	8.74 92	*i* P	Pn	21 59 47.5	-0.2
LPK	Lapseki	8.77 79	*e*P	Pn	21 59 47.2	-0.9
LPK	Lapseki	8.77 79	P	Pn	21 59 47.2	-0.9
LPK	Lapseki	8.77 79	P	Pn	21 59 47.2	-0.9
SMRF	Simiane la Rot	8.79 306	*e*P	Pn	21 59 49.5	+1.3
	comp=Z,232nm,0.7s					
SMRF	Simiane la Rot	8.79 306	*e*P	Pn	21 59 49.5	+1.3
	comp=Z,232nm,0.7s					
SMRF	Simiane la Rot	8.79 306	*e*P	Pn	21 59 49.5	+1.3
	comp=Z,116nm,0.7s					
SZH	Strazhica	8.85 60	*i* P	Pn	21 59 49.5	+0.4
RETA	Reutte	8.92 339	*i* Pn	Pn	21 59 50.9	+1.0
	comp=Z,396nm,0.8s,SNR=70					
RETA	Reutte	8.92 339	P	Pn	21 59 50.8	+0.9
RETA	Reutte	8.92 339	P	Pn	21 59 50.8	+0.9
EDRB	Edirne	8.98 70	*e*P	Pn	21 59 50.6	-0.1
EDRB	Edirne	8.98 70	P	Pn	21 59 50.6	-0.1
EDRB	Edirne	8.98 70	P	Pn	21 59 50.6	-0.1
LPG	La Plagne	8.98 317	*e*P	Pn	21 59 51.9	+1.3
	comp=Z,491nm,0.6s					
LPG	La Plagne	8.98 317	*e*P	Pn	21 59 51.9	+1.3
	comp=Z,491nm,0.6s					
LPG	La Plagne	8.98 317	*e*P	Pn	21 59 51.9	+1.3
LPG			pmax	pmax		
	comp=Z,491nm,0.6s					
LPG	La Plagne	8.98 317	*e*P	Pn	21 59 51.9	+1.3
	comp=Z,245nm,0.6s					
LPL	La Plagne	9.00 317	*e*P	Pn	21 59 52.6	+1.7
	comp=Z,480nm,0.7s					
LPL	La Plagne	9.00 317	*e*P	Pn	21 59 52.6	+1.7
	comp=Z,480nm,0.7s					
LPL	La Plagne	9.00 317	*e*P	Pn	21 59 52.6	+1.7
LPL			pmax	pmax		
	comp=Z,480nm,0.7s					
LPL	La Plagne	9.00 317	*e*P	Pn	21 59 52.6	+1.7
	comp=Z,240nm,0.7s					
DAVA	Damuels	9.01 335	⇓*i*Pn	Pn	21 59 51.7	+0.7
	comp=Z,338nm,0.6s,SNR=150					
DAVA	Damuels	9.01 335	P	Pn	21 59 51.4	+0.4
DAVA	Damuels	9.01 335	P	Pn	21 59 51.4	+0.4
DAVA	Damuels	9.01 335	Pn	Pn	21 59 51.7	+0.7
	comp=Z,338nm,0.6s,SNR=150					
NPS	Neapolis	9.01 113	P	Pn	21 59 49.9	-1.3
NPS	Neapolis	9.01 113	P	Pn	21 59 49.9	-1.3
NPS	Neapolis	9.01 113	P	Pn	21 59 49.9	-1.3
NPS	Neapolis	9.01 113	P	Pn	21 59 49.9	-1.3
JMB	Yambol	9.02 66	P	Pn	21 59 51.0	-0.2
JMB	Yambol	9.02 66	P	Pn	21 59 51.0	-0.2
JMB	Yambol	9.02 66	P	Pn	21 59 51.0	-0.2
ZST	Bratislava	9.03 7	*e*P	Pn	21 59 51.8	+0.6
ZST	Bratislava	9.03 7	*e*PN	Pn	21 59 51.8	+0.6
ZST	Bratislava	9.03 7	*e*P	Pn	21 59 51.8	+0.6
BLCB	Balcova	9.08 92	*e*P	Pn	21 59 52.7	+0.6
BLCB	Balcova	9.08 92	P	Pn	21 59 52.6	+0.6
BLCB	Balcova	9.08 92	P	Pn	21 59 52.6	+0.6
ORIF	Oris-en-Rattie	9.10 312	*e*P	Pn	21 59 53.0	+0.8
	comp=Z,900nm,1.1s					
ORIF			*e*R			
	comp=Z,2µm,22.5s					
ORIF	Oris-en-Rattie	9.10 312	*e*P	Pn	21 59 53.0	+0.8
	comp=Z,900nm,1.1s					
ORIF	Oris-en-Rattie	9.10 312	*e*P	Pn	21 59 53.0	+0.8
ORIF			pmax	pmax		
	comp=Z,900nm,1.1s					
ORIF	Oris-en-Rattie	9.10 312	*e*P	Pn	21 59 53.0	+0.8
	comp=Z,450nm,1.1s					
RKY	Sarkoy-Tekirda	9.11 77	*e*P	Pn	21 59 52.5	+0.1
RKY	Sarkoy-Tekirda	9.11 77	P	Pn	21 59 52.4	0.0
RKY	Sarkoy-Tekirda	9.11 77	P	Pn	21 59 52.4	0.0
RSL	Roselend	9.17 317	*e*P	Pn	21 59 55.1	+2.1
RSL	Roselend	9.17 317	*e*P	Pn	21 59 55.1	+2.1
KRBG	Karabiga-Canak	9.18 79	*e*P	Pn	21 59 53.1	-0.1
KRBG	Karabiga-Canak	9.18 79	P	Pn	21 59 53.1	-0.2
KRBG	Karabiga-Canak	9.18 79	P	Pn	21 59 53.1	-0.2
BNALP	Bannalp	9.20 328	P	Pn	21 59 53.4	0.0
BNALP	Bannalp	9.20 328	P	Pn	21 59 53.4	0.0
MFT	Murefte	9.20 77	*e*P	Pn	21 59 53.0	-0.5
MFT	Murefte	9.20 77	P	Pn	21 59 53.0	-0.5
MFT	Murefte	9.20 77	P	Pn	21 59 53.0	-0.5
DRGR		9.22 33	P	Pn	21 59 54.2	+0.5
DRGR		9.22 33	⇑P	Pn	21 59 54.3	+0.6
DRGR		9.22 33	⇑*i*P	Pn	21 59 54.3	+0.6
DRGR		9.22 33	P	Pn	21 59 54.2	+0.5
PSZ	Piszkesteto	9.25 19	P	Pn	21 59 53.3	-0.7
PSZ	Piszkesteto	9.25 19	⇑P	Pn	21 59 53.7	-0.3
PSZ	Piszkesteto	9.25 19	⇑*e*	Pn	21 59 53.8	-0.2
PSZ	Piszkesteto	9.25 19	⇑*i*P	Pn	21 59 53.7	-0.3
PSZ	Piszkesteto	9.25 19	P	Pn	21 59 53.7	-0.3
IZM	Izmir	9.25 92	*e*P	Pn	21 59 54.8	+0.6
IZM	Izmir	9.25 92	P	Pn	21 59 54.7	+0.5
IZM	Izmir	9.25 92	P	Pn	21 59 54.7	+0.5
IZM	Izmir	9.25 92	P	Pn	21 59 54.7	+0.5
OG26	St.-Nazaire-De	9.26 308	*e*P	Pn	21 59 58.9	+4.7
SENIN	Lac Senin/Sane	9.30 323	*e*Pn	Pn	21 59 54.7	0.0
SENIN	Lac Senin/Sane	9.30 323	*e*Pn	Pn	21 59 54.7	0.0
SMOL	Smolenice	9.38 8	*e*P	Pn	21 59 55.9	+0.3
SMOL	Smolenice	9.38 8	*e*PN	Pn	21 59 55.9	+0.3
SMOL	Smolenice	9.38 8	*e*P	Pn	21 59 55.9	+0.3
BUC1	Bucharest	9.39 54	P	Pn	21 59 56.2	+0.3
BUC1	Bucharest	9.39 54	⇑P	Pn	21 59 56.3	+0.4
BUC1	Bucharest	9.39 54	⇑*i*P	Pn	21 59 56.3	+0.4
BUC1	Bucharest	9.39 54	P	Pn	21 59 56.2	+0.3
BALY	Balya	9.41 83	*i* P	Pn	21 59 56.5	+0.3
TKR	Tekirdag	9.41 75	*e*P	Pn	21 59 55.1	-1.0
TKR	Tekirdag	9.41 75	P	Pn	21 59 55.1	-1.1
TKR	Tekirdag	9.41 75	P	Pn	21 59 55.1	-1.1
VOIR		9.42 46	P	Pn	21 59 57.4	+1.3
VOIR		9.42 46	P	Pn	21 59 57.4	+1.3
VOIR		9.42 46	⇓*i*P	Pn	21 59 57.4	+1.3
VOIR		9.42 46	P	Pn	21 59 57.4	+1.3
FUR	Furstenfeldbru	9.42 343	*e*P	Pn	21 59 55.3	-0.8
FUR	Furstenfeldbru	9.42 343	P	Pn	21 59 56.5	+0.4
FUR	Furstenfeldbru	9.42 343	P	Pn	21 59 56.5	+0.4
FUR	Furstenfeldbru	9.42 343	P	Pn	21 59 56.5	+0.4
GONE	Gonen-Balikesi	9.47 81	*e*P	Pn	21 59 57.0	+0.1
GONE	Gonen-Balikesi	9.47 81	P	Pn	21 59 56.9	+0.1
GONE	Gonen-Balikesi	9.47 81	P	Pn	21 59 56.9	+0.1
MDB	Medias	9.52 41	P	Pn	21 59 58.1	+0.7
MDB	Medias	9.52 41	P	Pn	21 59 58.5	+1.1
MDB	Medias	9.52 41	⇓*i*P	Pn	21 59 58.2	+0.8
MDB	Medias	9.52 41	P	Pn	21 59 58.1	+0.7
VYHS	Vyhne	9.56 14	P	Pn	21 59 57.5	-0.5
VYHS	Vyhne	9.56 14	P	Pn	21 59 57.5	-0.5
VYHS	Vyhne	9.56 14	*e*S	S	22 01 54.3	+8.6
VYHS	Vyhne	9.56 14	P	Pn	21 59 57.5	-0.5
KOLL	Kolacno	9.57 12	P	Pn	21 59 57.8	-0.3
KOLL	Kolacno	9.57 12	*e*P	Pn	21 59 57.8	-0.3
KOLL	Kolacno	9.57 12	*e*PN	Pn	21 59 57.8	-0.3
KOLL	Kolacno	9.57 12	*e*P	Pn	21 59 57.8	-0.3
OG01	Vacheresse	9.58 321	*e*P	Pn	21 59 58.4	+0.2
OG01	Vacheresse	9.58 321	*e*P	Pn	21 59 58.4	+0.2
CRLT	Corlu	9.58 75	*e*P	Pn	21 59 58.6	+0.3
CRLT	Corlu	9.58 75	P	Pn	21 59 58.6	+0.3
CRLT	Corlu	9.58 75	P	Pn	21 59 58.6	+0.3
BODT	Bodrum	9.58 99	*e*P	Pn	21 59 57.5	-0.8
BODT	Bodrum	9.58 99	P	Pn	21 59 57.5	-0.9
BODT	Bodrum	9.58 99	P	Pn	21 59 57.5	-0.9
EDC	Edincik	9.61 79	*e*P	Pn	21 59 58.7	+0.1
EDC	Edincik	9.61 79	P	Pn	21 59 58.7	0.0
EDC	Edincik	9.61 79	P	Pn	21 59 58.7	0.0
EDC	Edincik	9.61 79	P	Pn	21 59 58.7	0.0
AKS	Akhisar	9.62 88	*e*P	Pn	21 59 59.1	+0.4
AKS	Akhisar	9.62 88	P	Pn	21 59 59.1	+0.4
AKHS	Akhisar	9.62 88	*i* P	Pn	21 59 59.1	+0.3
BALB	Balikesir	9.62 84	*e*P	Pn	21 59 59.2	+0.4
BALB	Balikesir	9.62 84	P	Pn	21 59 59.1	+0.4
BALB	Balikesir	9.62 84	P	Pn	21 59 59.1	+0.4
NIS1	Nisyros Isl.	9.62 102	P	Pn	21 59 58.6	-0.3
NIS1	Nisyros Isl.	9.62 102	P	Pn	21 59 58.6	-0.3
NIS1	Nisyros Isl.	9.62 102	P	Pn	21 59 58.6	-0.3
BNT	Bandirma	9.65 79	*e*P	Pn	21 59 59.4	+0.2
BNT	Bandirma	9.65 79	P	Pn	21 59 59.3	+0.1
BNT	Bandirma	9.65 79	P	Pn	21 59 59.3	+0.1
BNT	Bandirma	9.65 79	P	Pn	21 59 59.3	+0.1
GEC2	GERESS Array S	9.69 353	*e*P	Pn	21 59 58.4	-1.1
GEC2	GERESS Array S	9.69 353	*e*P	Pn	21 59 58.4	-1.1
GEC2	GERESS Array S	9.69 353	*e*P	Pn	21 59 58.4	-1.1
GERES	GERESS Array B	9.69 353	P	Pn	21 59 59.1	-0.4
	comp=Z,6.7nm,0.3s,baz=167,slow=12,SNR=200					
GERES			PcP	PcP	22 05 47.3	-0.6
	comp=Z,0.4nm,0.3s,baz=164,slow=1.5,SNR=4.2					
GERES	GERESS Array B	9.69 353	P	Pn	21 59 59.1	-0.4
GERES			PcP	PcP	22 05 47.3	-0.6
GERES	GERESS Array B	9.69 353	P	Pn	21 59 59.1	-0.4
GERES			pmax	pmax		
	comp=Z,7.0nm,0.3s					
GERES	GERESS Array B	9.69 353	P	Pn	21 59 59.1	-0.4
	comp=Z,7.0nm,0.3s					
SULR		9.70 52	⇑*i*P	Pn	21 59 58.1	-1.6
SULR		9.70 52	⇑*i*P	Pn	21 59 58.1	-1.6
JAVC	Velka Javorina	9.75 9	P	Pn	22 00 01.2	+1.0
JAVC	Velka Javorina	9.75 9	P	Pn	22 00 01.2	+1.0
JAVC	Velka Javorina	9.75 9	P	Pn	22 00 01.2	+1.0
VIVF	Saint-Julien-I	9.79 308	*e*P	Pn	22 00 01.3	+0.5
	comp=Z,468nm,0.8s					
VIVF	Saint-Julien-I	9.79 308	*e*P	Pn	22 00 01.3	+0.5
	comp=Z,468nm,0.8s					
VIVF	Saint-Julien-I	9.79 308	*e*P	Pn	22 00 01.3	+0.5
VIVF			pmax	pmax		
	comp=Z,468nm,0.8s					
VIVF	Saint-Julien-I	9.79 308	*e*P	Pn	22 00 01.3	+0.5
	comp=Z,234nm,0.8s					
ETOS	Mallorca	9.79 277	P	Pn	22 00 01.2	+0.3
ETOS	Mallorca	9.79 277	P	Pn	22 00 01.2	+0.3
KRUC	Moravsky	9.84 4	P	Pn	22 00 01.6	+0.2
KRUC	Moravsky	9.84 4	P	Pn	22 00 01.6	+0.2
KRUC	Moravsky	9.84 4	P	Pn	22 00 01.6	+0.2
AYDN	Tasoluk	9.87 95	*i* P	Pn	22 00 02.4	+0.4
DAT	Datca	9.89 101	*e*P	Pn	22 00 02.1	-0.1
DAT	Datca	9.89 101	*e*P	Pn	22 00 02.1	-0.1
KECS	Kecovo	9.92 20	P	Pn	22 00 03.0	+0.5
KECS	Kecovo	9.92 20	P	Pn	22 00 03.0	+0.5
KECS	Kecovo	9.92 20	*e*PN	Pn	22 00 02.5	0.0
KECS	Kecovo	9.92 20	P	Pn	22 00 03.0	+0.5
DOPR	Dopca	9.93 44	⇑*i*P	Pn	22 00 02.9	+0.3
DOPR	Dopca	9.93 44	⇑*i*P	Pn	22 00 02.9	+0.3
LASF	Ste Croix	9.94 303	*e*P	Pn	22 00 02.8	+0.1
	comp=Z,230nm,0.9s					
LASF	Ste Croix	9.94 303	*e*P	Pn	22 00 02.8	+0.1
	comp=Z,230nm,0.9s					
LASF	Ste Croix	9.94 303	*e*P	Pn	22 00 02.8	+0.1
	comp=Z,115nm,0.9s					
GUT	Gutenstein	9.95 335	P	Pn	22 00 02.4	-0.4
SLVT	Silivri	9.95 74	*e*P	Pn	22 00 02.9	0.0
SLVT	Silivri	9.95 74	P	Pn	22 00 02.9	0.0
SLVT	Silivri	9.95 74	P	Pn	22 00 02.9	0.0
MLR	Muntele Rosu	9.96 48	P	Pn	22 00 04.1	+1.2
	comp=Z,2.5nm,0.3s,baz=223,slow=7,SNR=160					
MLR			S	S	22 01 56.6	+1.8
	baz=143,slow=20,SNR=2.8					
MLR	Muntele Rosu	9.96 48	P	Pn	22 00 04.1	+1.2
MLR			S	S	22 01 56.6	+1.8
MLR	Muntele Rosu	9.96 48	P	Pn	22 00 04.6	+1.7
MLR	Muntele Rosu	9.96 48	⇑*i*P	Pn	22 00 04.3	+1.4
MLR	Muntele Rosu	9.96 48	P	Pn	22 00 04.6	+1.7
OG35	Corcelles	9.96 316	*e*P	Pn	22 00 03.4	+0.4
KHC	Kasperske Hory	9.98 353	*e*Pn	Pn	22 00 02.6	-0.5
KHC	Kasperske Hory	9.98 353	*e*P	Pn	22 00 02.9	-0.3
KHC	Kasperske Hory	9.98 353	*e*P	Pn	22 00 02.7	-0.5
KHC			*ex*	x	22 00 06.1	
KHC			*ex*	x	22 00 51.0	
KHC	Kasperske Hory	9.98 353	*e*Pn	Pn	22 00 02.6	-0.6
KHC	Kasperske Hory	9.98 353	*e*P	Pn	22 00 02.9	-0.3
KCTX	Karacabey (Bur	9.98 80	*e*P	Pn	22 00 02.9	-0.4
KCTX	Karacabey (Bur	9.98 80	*e*P	Pn	22 00 02.9	-0.4
KARP	Karpathos	10.01 108	P	Pn	22 00 02.1	-1.6
KARP	Karpathos	10.01 108	P	Pn	22 00 02.1	-1.6
CTYL	Yal??k??y-??at	10.04 73	*e*P	Pn	22 00 03.8	-0.2
CTYL	Yal??k??y-??at	10.04 73	P	Pn	22 00 03.8	-0.3
CTYL	Yal??k??y-??at	10.04 73	P	Pn	22 00 03.8	-0.3
BBS	Basel-Blauen	10.05 327	P	Pn	22 00 03.7	-0.3
BBS	Basel-Blauen	10.05 327	P	Pn	22 00 03.7	-0.3
EJON	La Jonquera	10.05 293	P	Pn	22 00 02.7	-1.4
TREC	Trest	10.05 0	*e*P	Pn	22 00 05.7	+1.6
TREC	Trest	10.05 0	*e*P	Pn	22 00 04.4	+0.3
TREC			*ex*	x	22 00 10.5	
TREC	Trest	10.05 0	*e*P	Pn	22 00 05.7	+1.6
SJAF	Saint Jean de	10.06 293	*e*P	Pn	22 00 03.3	-1.0
CABF	La Chapelle	10.07 320	⇓*i*P	Pn	22 00 03.8	-0.5
	comp=Z,2µm,0.7s					
CABF	La Chapelle	10.07 320	⇓*i*P	Pn	22 00 03.8	-0.5
	comp=Z,2µm,0.7s					
CABF	La Chapelle	10.07 320	⇓*i*P	Pn	22 00 03.8	-0.5
CABF			pmax	pmax		
	comp=Z,2µm,0.7s					
WET	Wettzell	10.07 350	*e*P	Pn	22 00 03.0	-1.3
WET			*e*S	S	22 02 07.1	+10
WET	Wettzell	10.07 350	P	Pn	22 00 03.5	-0.8
WET	Wettzell	10.07 350	P	Pn	22 00 03.5	-0.8
DURS	Dursunbey	10.08 84	*i* P	Pn	22 00 04.8	+0.3
HDH	Heidenheim-Cha	10.08 340	P	Pn	22 00 03.6	-0.8
SPAK	Spaichingen-Ko	10.09 334	P	Pn	22 00 04.6	+0.1
SPAK	Spaichingen-Ko	10.09 334	P	Pn	22 00 04.6	+0.1
SSB	Saint Sauveur	10.09 310	*e*Pn	Pn	22 00 05.9	+1.3
	comp=Z,143nm,0.7s					
SSB			*e*S	S	22 01 59.2	+1.2
SSB	Saint Sauveur	10.09 310	*e*P	Pn	22 00 05.9	+1.3
SSB			*e*S	S	22 01 59.2	+1.2
SSB			pmax	pmax		
	comp=Z,143nm,0.7s					
SSB	Saint Sauveur	10.09 310	*e*Pn	Pn	22 00 05.9	+1.3
	comp=Z,143nm,0.7s					
SSB	Saint Sauveur	10.09 310	*e*P	Pn	22 00 06.6	+2.0
SSB	Saint Sauveur	10.09 310	*e*P	Pn	22 00 06.6	+2.0
VRAC	Vranov	10.10 4	P	Pn	22 00 05.6	+1.0
	comp=Z,10.0nm,0.3s,baz=192,slow=12,SNR=143					
VRAC	Vranov	10.10 4	P	Pn	22 00 05.2	+0.6
VRAC	Vranov	10.10 4	P	Pn	22 00 05.6	+1.0
VRAC			pmax	pmax		
	comp=Z,10.0nm,0.3s					
VRAC	Vranov	10.10 4	⇓*i*P	Pn	22 00 05.3	+0.7
VRAC	Vranov	10.10 4	P	Pn	22 00 05.6	+1.0
	comp=Z,10.0nm,0.3s					
ELBA	Catalca	10.11 75	*i* P	Pn	22 00 03.3	-1.6
LIKS	Likavka	10.15 14	P	Pn	22 00 07.5	+2.2
LIKS	Likavka	10.15 14	P	Pn	22 00 07.5	+2.2
LIKS	Likavka	10.15 14	P	Pn	22 00 07.5	+2.2
CTKS	Kestanelik-??a	10.17 75	*e*P	Pn	22 00 05.4	-0.3
CTKS	Kestanelik-??a	10.17 75	P	Pn	22 00 05.4	-0.3
CTKS	Kestanelik-??a	10.17 75	P	Pn	22 00 05.4	-0.3
FELD	Feldberg im Sc	10.18 330	P	Pn	22 00 04.0	-1.7
FELD	Feldberg im Sc	10.18 330	*e*P	Pn	22 00 05.8	+0.1
DST	Dursunbey	10.19 84	*e*P	Pn	22 00 06.5	+0.6
DST	Dursunbey	10.19 84	P	Pn	22 00 06.5	+0.6
DST	Dursunbey	10.19 84	P	Pn	22 00 06.5	+0.6
DST	Dursunbey	10.19 84	P	Pn	22 00 06.5	+0.6
BUCH	Bad Urach	10.20 336	P	Pn	22 00 05.6	-0.4
CFON	Fontmartina	10.24 288	P	Pn	22 00 05.3	-1.2
BMR	Baia Mare	10.25 32	P	Pn	22 00 07.2	+0.7
BMR	Baia Mare	10.25 32	⇑P	Pn	22 00 07.3	+0.8
BMR	Baia Mare	10.25 32	⇑*i*P	Pn	22 00 07.3	+0.8
BMR	Baia Mare	10.25 32	P	Pn	22 00 07.3	+0.8
TRPA	Tarpa	10.25 28	⇓*i*P	Pn	22 00 07.1	+0.5
TRPA	Tarpa	10.25 28	⇓*i*P	Pn	22 00 07.1	+0.5
LOMF	Lomont	10.26 325	P	Pn	22 00 05.2	-1.4
LOMF	Lomont	10.26 325	P	Pn	22 00 05.2	-1.4
LOMF	Lomont	10.26 325	*e*P	Pn	22 00 05.6	-1.0
PGOR	Pogoanele	10.27 53	⇓*i*P	Pn	22 00 07.9	+1.1
PGOR	Pogoanele	10.27 53	⇓*i*P	Pn	22 00 07.9	+1.1
KIZ	Kirchzarten	10.28 330	P	Pn	22 00 06.4	-0.5
KIZ	Kirchzarten	10.28 330	P	Pn	22 00 06.4	-0.5
DEMI	Demirci	10.30 87	*i* P	Pn	22 00 07.9	+0.6
YER	Yerkesik	10.31 98	*e*P	Pn	22 00 08.4	+1.0
YER	Yerkesik	10.31 98	P	Pn	22 00 08.4	+0.9
YER	Yerkesik	10.31 98	P	Pn	22 00 08.4	+0.9
YER	Yerkesik	10.31 98	P	Pn	22 00 08.4	+0.9
FILF	Fillols	10.31 293	*e*P	Pn	22 00 07.9	+0.5
FILF	Fillols	10.31 293	*e*P	Pn	22 00 07.9	+0.5
KULA	Kula-Manisa	10.32 90	*e*P	Pn	22 00 08.3	+0.7
KULA	Kula-Manisa	10.32 90	*e*P	Pn	22 00 08.3	+0.7
AMRR	Amara	10.34 55	P	Pn	22 00 08.2	+0.4
AMRR	Amara	10.34 55	P	Pn	22 00 08.9	+1.1
AMRR	Amara	10.34 55	⇑*i*P	Pn	22 00 08.3	+0.5
AMRR	Amara	10.34 55	P	Pn	22 00 08.9	+1

NIE	Niedzica	10.75	17	eP	Pn	22 00 14.0 +1.2
DNZL	Cakiroluk	10.77	94	i P	Pn	22 00 14.1 +0.9
OKC	Ostrava-Krasne	10.77	9	P	Pn	22 00 13.3 +0.3
OKC	Ostrava-Krasne	10.77	9	P	Pn	22 00 13.3 +0.3
OKC	Ostrava-Krasne	10.77	9	eP	Pn	22 00 13.5 +0.5
OKC				ex	x	22 00 18.4
OKC	Ostrava-Krasne	10.77	9	P	Pn	22 00 13.3 +0.3
PRU	Pruhonice	10.77	357	P	Pn	22 00 13.3 +0.3
PRU	Pruhonice	10.77	357	P	Pn	22 00 13.3 +0.3
PRU	Pruhonice	10.77	357	eP	Pn	22 00 13.1 +0.1
PRU				ex	x	22 00 17.4
PRU	Pruhonice	10.77	357	P	Pn	22 00 13.3 +0.3
YLV	Yalova	10.77	79	eP	Pn	22 00 12.7 -0.5
YLV	Yalova	10.77	79	P	Pn	22 00 12.7 -0.5
YLV	Yalova	10.77	79	P	Pn	22 00 12.7 -0.5
YLV	Yalova	10.77	79	P	Pn	22 00 12.7 -0.5
MTLF	Montolieu	10.77	297	⇓i P	Pn	22 00 13.2 0.0
	comp=Z,291nm,1.1s					
MTLF	Montolieu	10.77	297	Pn	Pn	22 00 13.5 +0.3
	comp=Z,291nm,1.1s					
MTLF	Montolieu	10.77	297	P	Pn	22 00 13.5 +0.3
MTLF				pmax	pmax	
	comp=Z,291nm,1.1s					
MTLF	Montolieu	10.77	297	P	Pn	22 00 13.5 +0.3
	comp=Z,291nm,1.1s					
ROTZ	Rotzenmuhle	10.78	349	eP	Pn	22 00 12.8 -0.3
ECH	Echery	10.79	329	ePn	Pn	22 00 12.9 -0.4
	comp=Z,735nm,1.0s					
ECH				eS	S	22 02 12.4 -1.6
ECH	Echery	10.79	329	eP	Pn	22 00 12.9 -0.4
ECH				eS	S	22 02 12.5 -1.6
ECH				pmax	pmax	
	comp=Z,735nm,1.0s					
ECH	Echery	10.79	329	ePn	Pn	22 00 12.9 -0.4
	comp=Z,735nm,1.0s					
ECH	Echery	10.79	329	eP	Pn	22 00 13.1 -0.2
PETR		10.83	49	P	Pn	22 00 14.8 +0.9
PETR		10.83	49	⇑i P	Pn	22 00 14.9 +1.0
PETR		10.83	49	P	Pn	22 00 14.8 +0.9
MANR	Mangalia	10.85	61	⇑i P	Pn	22 00 14.5 +0.4
MANR	Mangalia	10.85	61	⇑i P	Pn	22 00 14.5 +0.4
LBL	Lubilhac	10.85	307	eP	Pn	22 00 17.7 +3.6
LBL	Lubilhac	10.85	307	eP	Pn	22 00 17.7 +3.6
KOLS	Kolonicke sedl	10.85	25	P	Pn	22 00 15.5 +1.4
KOLS	Kolonicke sedl	10.85	25	P	Pn	22 00 15.5 +1.4
KOLS	Kolonicke sedl	10.85	25	P	Pn	22 00 15.5 +1.4
KRLC	Kraliky	10.87	5	eP	Pn	22 00 15.1 +0.8
KRLC				ex	x	22 00 19.3
GRF	Grafenberg Arr	10.88	345	eP	Pn	22 00 13.6 -0.8
	comp=Z,385nm,0.9s					
GRF	Grafenberg Arr	10.88	345	eP	Pn	22 00 13.6 -0.8
GRF				pmax	pmax	
	comp=Z,385nm,0.9s					
GRFO	Grafenberg	10.88	345	ePn	Pn	22 00 13.0 -1.4
GRFO	Grafenberg	10.88	345	eP	Pn	22 00 13.0 -1.4
GRFO	Grafenberg	10.88	345	ePn	Pn	22 00 13.0 -1.4
GDZ	Gediz	10.89	86	i P	Pn	22 00 14.3 -0.4
CDF	Champ du Feu	10.90	330	eP	Pn	22 00 14.0 -0.7
	comp=Z,681nm,0.7s					
CDF	Champ du Feu	10.90	330	Pn	Pn	22 00 15.0 +0.3
	comp=Z,681nm,0.7s					
CDF	Champ du Feu	10.90	330	P	Pn	22 00 15.0 +0.3
CDF				pmax	pmax	
	comp=Z,681nm,0.7s					
CDF	Champ du Feu	10.90	330	P	Pn	22 00 15.0 +0.3
	comp=Z,681nm,0.7s					
EMIR	Miracle	10.93	289	P	Pn	22 00 13.6 -1.6
SIND	Sindeldorf	10.94	339	P	Pn	22 00 14.7 -0.4
SIND	Sindeldorf	10.94	339	P	Pn	22 00 14.7 -0.4
TESR		10.96	45	P	Pn	22 00 16.3 +0.9
TESR		10.96	45	⇑i P	Pn	22 00 16.3 +0.9
TESR		10.96	45	P	Pn	22 00 16.3 +0.9
BUR01	Bucovina Ar. S	10.96	37	P	Pn	22 00 16.9 +1.4
BUR01	Bucovina Ar. S	10.96	37	P	Pn	22 00 16.9 +1.4
BURAR	Bucovina Array	10.96	37	P	Pn	22 00 16.6 +1.1
BURAR	Bucovina Array	10.96	37	P	Pn	22 00 17.1 +1.6
BURAR	Bucovina Array	10.96	37	⇑i P	Pn	22 00 16.7 +1.2
BURAR	Bucovina Array	10.96	37	P	Pn	22 00 16.6 +1.1
HAU	Haudompre	10.96	326	⇓i P	Pn	22 00 14.0 -1.5
	comp=Z,264nm,0.4s					
HAU				eR		
	comp=Z,1µm,21.0s					
HAU	Haudompre	10.96	326	Pn	Pn	22 00 15.5 0.0
	comp=Z,264nm,0.4s					
HAU	Haudompre	10.96	326	P	Pn	22 00 15.5 0.0
HAU				pmax	pmax	
	comp=Z,264nm,0.4s					
HAU	Haudompre	10.96	326	P	Pn	22 00 15.5 0.0
	comp=Z,264nm,0.4s					
EIBI	Ibiza	10.97	273	P	Pn	22 00 14.8 -0.9
TIRR	Tirgusor	10.97	57	ePn	Pn	22 00 15.3 -0.4
TIRR	Tirgusor	10.97	57	P	Pn	22 00 15.8 +0.2
TIRR	Tirgusor	10.97	57	⇓i P	Pn	22 00 15.3 -0.3
TIRR	Tirgusor	10.97	57	ePn	Pn	22 00 15.3 -0.3
TIRR	Tirgusor	10.97	57	P	Pn	22 00 15.8 +0.2
BUR08	Bucovina Ar. S	10.98	37	ePn	Pn	22 00 16.6 +1.0
BUR08				eS	S	22 02 18.5 +0.1
BUR08	Bucovina Ar. S	10.98	37	ePn	Pn	22 00 16.6 +1.0
STHS	Stebnicka Huta	10.98	20	P	Pn	22 00 17.3 +1.6
STHS	Stebnicka Huta	10.98	20	P	Pn	22 00 17.3 +1.6
STHS	Stebnicka Huta	10.98	20	ePN	Pn	22 00 16.7 +1.1
STHS	Stebnicka Huta	10.98	20	eS	S	22 02 24.6 +6.2
STHS	Stebnicka Huta	10.98	20	P	Pn	22 00 17.3 +1.6
KHAL	Karahalli	10.99	90	i P	Pn	22 00 16.6 +0.7
PLDF	La Plantade	11.01	311	eP	Pn	22 00 16.7 +0.6
PLDF	La Plantade	11.01	311	eP	Pn	22 00 16.7 +0.6
RAC	Raciborz	11.01	9	eP	Pn	22 00 17.1 +1.0
RAC				eS	S	22 02 17.2 -2.0
RAC	Raciborz	11.01	9	eP	Pn	22 00 17.1 +1.0
SILT	Sile	11.02	76	eP	Pn	22 00 17.0 +0.7
SILT	Sile	11.02	76	P	Pn	22 00 16.9 +0.7
SILT	Sile	11.02	76	P	Pn	22 00 16.9 +0.7
ADVT	Abdulvahap	11.04	79	eP	Pn	22 00 16.9 +0.3
ADVT	Abdulvahap	11.04	79	P	Pn	22 00 16.9 +0.3
ADVT	Abdulvahap	11.04	79	P	Pn	22 00 16.9 +0.3
CFR	Carcaliu	11.11	54	P	Pn	22 00 17.2 -0.1
CFR	Carcaliu	11.11	54	P	Pn	22 00 17.4 +0.1
CFR	Carcaliu	11.11	54	⇑i P	Pn	22 00 17.3 0.0
CFR	Carcaliu	11.11	54	P	Pn	22 00 17.4 +0.1
CAVI	Cavuskoy	11.12	80	eP	Pn	22 00 18.0 +0.5
CAVI	Cavuskoy	11.12	80	eP	Pn	22 00 18.0 +0.5
GHRR		11.12	48	P	Pn	22 00 18.1 +0.6
GHRR		11.12	48	⇑i P	Pn	22 00 18.2 +0.7
GHRR		11.12	48	P	Pn	22 00 18.1 +0.6
DPC	Dobruska-Polom	11.13	3	P	Pn	22 00 17.5 0.0
DPC	Dobruska-Polom	11.13	3	P	Pn	22 00 17.5 0.0
DPC	Dobruska-Polom	11.13	3	eP	Pn	22 00 17.5 0.0
DPC				ex	x	22 00 21.9
DPC	Dobruska-Polom	11.13	3	P	Pn	22 00 17.5 0.0
LANF	Langenberg	11.18	333	P	Pn	22 00 17.9 -0.2
LANF	Langenberg	11.18	333	P	Pn	22 00 17.9 -0.2
LANF	Langenberg	11.18	333	eP	Pn	22 00 19.0 +0.9
LANF	Langenberg	11.18	333	eP	Pn	22 00 19.0 +0.9
EPOB	Poblet	11.19	285	P	Pn	22 00 17.0 -1.3
NKC	Novy Kostel	11.20	350	P	Pn	22 00 19.9 +1.6
NKC	Novy Kostel	11.20	350	P	Pn	22 00 19.9 +1.6
NKC	Novy Kostel	11.20	350	eP	Pn	22 00 17.3 -1.0
NKC				ex	x	22 00 20.4
NKC	Novy Kostel	11.20	350	P	Pn	22 00 19.9 +1.6
GLHS	Glhisar (BURDU	11.24	96	eP	Pn	22 00 20.4 +1.3
GLHS	Glhisar (BURDU	11.24	96	P	Pn	22 00 20.4 +1.3
GLHS	Glhisar (BURDU	11.24	96	P	Pn	22 00 20.4 +1.3
PYM	Petit Puy Mans	11.26	309	eP	Pn	22 00 19.6 +0.5
PYM	Petit Puy Mans	11.26	309	eP	Pn	22 00 19.6 +0.5
GOLH	Golhisar	11.27	96	i P	Pn	22 00 19.9 +0.5
UPC	Upice	11.27	2	P	Pn	22 00 19.6 +0.3
UPC	Upice	11.27	2	P	Pn	22 00 19.6 +0.3
UPC	Upice	11.27	2	eP	Pn	22 00 19.9 +0.6
UPC				ex	x	22 00 23.7
UPC	Upice	11.27	2	P	Pn	22 00 19.6 +0.3
SMF	Signal de Mont	11.27	315	⇓i P	Pn	22 00 17.9 -1.5
	comp=Z,406nm,0.6s					
SMF	Signal de Mont	11.27	315	Pn	Pn	22 00 18.5 -0.9
	comp=Z,406nm,0.6s					
SMF	Signal de Mont	11.27	315	P	Pn	22 00 18.5 -0.9
SMF				pmax	pmax	
	comp=Z,406nm,0.6s					
SMF	Signal de Mont	11.27	315	Pn	Pn	22 00 18.5 -0.9
	comp=Z,406nm,0.6s					
THEF	They Montfort	11.29	326	P	Pn	22 00 17.7 -1.8
THEF	They Montfort	11.29	326	P	Pn	22 00 17.7 -1.8
THEF	They Montfort	11.29	326	eP	Pn	22 00 18.3 -1.2
CSOR	Sort	11.30	291	P	Pn	22 00 19.6 -0.2
CSOR	Sort	11.30	291	P	Pn	22 00 19.6 -0.2
PVCC	Panska Ves	11.30	357	P	Pn	22 00 19.7 0.0
PVCC	Panska Ves	11.30	357	P	Pn	22 00 19.7 0.0
PVCC	Panska Ves	11.30	357	eP	Pn	22 00 19.4 -0.3
PVCC				ex	x	22 00 24.1
PVCC	Panska Ves	11.30	357	P	Pn	22 00 19.7 0.0
SALF	Salau	11.34	293	eP	Pn	22 00 21.7 +1.4
SALF	Salau	11.34	293	eP	Pn	22 00 21.7 +1.4
KTD	Kalmit	11.37	335	P	Pn	22 00 21.8 +1.3
KTD	Kalmit	11.37	335	P	Pn	22 00 21.8 +1.3
KTD	Kalmit	11.37	335	P	Pn	22 00 21.8 +1.3
TANN	Tannenbergstha	11.37	350	eP	Pn	22 00 21.0 +0.5
TANN				eS	S	22 02 33.8 +6.3
ALT	Altintas	11.38	86	eP	Pn	22 00 21.8 +1.0
ALT	Altintas	11.38	86	P	Pn	22 00 21.7 +0.9
ALT	Altintas	11.38	86	P	Pn	22 00 21.7 +0.9
TOD	Tromm	11.40	338	P	Pn	22 00 21.6 +0.8
TOD	Tromm	11.40	338	P	Pn	22 00 21.6 +0.8
TOD	Tromm	11.40	338	P	Pn	22 00 21.6 +0.8
OJC	Ojcow	11.40	14	eP	Pn	22 00 21.3 +0.4
OJC				e		22 00 24.7
OJC				eS	S	22 02 35.7 +7.6
OJC	Ojcow	11.40	14	P	Pn	22 00 21.5 +0.6
OJC	Ojcow	11.40	14	eP	Pn	22 00 21.3 +0.4
OJC	Ojcow	11.40	14	P	Pn	22 00 21.5 +0.6
EBNR	Beni Rached	11.41	259	P	Pn	22 00 20.5 -0.7
EBNR	Beni Rached	11.41	259	P	Pn	22 00 20.5 -0.7
CAF	Calviac	11.46	304	⇓i P	Pn	22 00 21.8 +0.2
	comp=Z,924nm,1.1s					
CAF	Calviac	11.46	304	⇓i P	Pn	22 00 21.8 +0.2
	comp=Z,924nm,1.1s					
CAF	Calviac	11.46	304	⇓i P	Pn	22 00 21.8 +0.2
CAF				pmax	pmax	
	comp=Z,924nm,1.1s					
CAF	Calviac	11.46	304	⇓i P	Pn	22 00 21.8 +0.2
	comp=Z,462nm,1.1s					
SPNC	Sapanca-Adapaz	11.49	78	eP	Pn	22 00 22.6 +0.5
SPNC	Sapanca-Adapaz	11.49	78	P	Pn	22 00 22.5 +0.4
SPNC	Sapanca-Adapaz	11.49	78	P	Pn	22 00 22.5 +0.4
VERF	Verneugheol	11.57	308	eP	Pn	22 00 26.4 +3.3
VERF	Verneugheol	11.57	308	eP	Pn	22 00 26.4 +3.3
ECHA	Ech Chlef	11.59	259	P	Pn	22 00 23.5 +0.1
ECHA	Ech Chlef	11.59	259	P	Pn	22 00 23.5 +0.1
BORA	Eskisehir	11.59	82	i P	Pn	22 00 24.0 +0.6
AKAS	Kas	11.60	101	i P	Pn	22 00 20.4 -3.1
KWP	Kalwaria Pacla	11.60	24	eP	Pn	22 00 25.3 +2.0
	comp=Z,500nm,1.1s					
KWP				eS	S	22 02 41.8 +9.1
KWP	Kalwaria Pacla	11.60	24	ePn	Pn	22 00 25.0 +1.7
	comp=Z,392nm,1.0s					
KWP				S	S	22 02 33.3 +0.6
KWP	Kalwaria Pacla	11.60	24	eP	Pn	22 00 25.0 +1.6
KWP				S	S	22 02 33.3 +0.6
KWP				pmax	pmax	
	comp=Z,392nm,1.0s					
KWP	Kalwaria Pacla	11.60	24	⇑i P	Pn	22 00 25.4 +2.0
KWP	Kalwaria Pacla	11.60	24	eP	Pn	22 00 25.0 +1.6
	comp=Z,392nm,1.0s					
KSP	Ksiaz	11.62	3	eP	Pn	22 00 24.1 +0.5
	comp=Z,100nm,0.8s					
KSP				eS	S	22 02 39.2 +6.2
KSP	Ksiaz	11.62	3	eP	Pn	22 00 23.8 +0.3
KSP				eS	S	22 02 30.0 -3.1
KSP	Ksiaz	11.62	3	P	Pn	22 00 23.8 +0.3
KSP	Ksiaz	11.62	3	⇓eP	Pn	22 00 23.8 +0.3
KSP				eS	S	22 02 30.0 -3.1
KSP	Ksiaz	11.62	3	eP	Pn	22 00 23.8 +0.3
AVF	Avril sur Loir	11.63	314	⇓i P	Pn	22 00 22.3 -1.5
	comp=Z,228nm,0.7s					
AVF	Avril sur Loir	11.63	314	Pn	Pn	22 00 23.0 -0.8
	comp=Z,228nm,0.7s					
AVF	Avril sur Loir	11.63	314	P	Pn	22 00 23.0 -0.8
AVF				pmax	pmax	
	comp=Z,228nm,0.7s					
AVF	Avril sur Loir	11.63	314	P	Pn	22 00 23.0 -0.8
	comp=Z,228nm,0.7s					
GULT	Gulveren	11.64	79	eP	Pn	22 00 24.8 +0.9
GULT	Gulveren	11.64	79	P	Pn	22 00 24.8 +0.8
GULT	Gulveren	11.64	79	P	Pn	22 00 24.8 +0.8
LOR	Lormes	11.65	317	⇓i P	Pn	22 00 22.2 -1.8
	comp=Z,154nm,0.6s					
LOR				eR		
	comp=Z,2µm,21.2s					
LOR	Lormes	11.65	317	Pn	Pn	22 00 23.0 -1.0
	comp=Z,154nm,0.6s					
LOR	Lormes	11.65	317	P	Pn	22 00 23.0 -1.0
LOR				pmax	pmax	
	comp=Z,154nm,0.6s					
LOR	Lormes	11.65	317	Pn	Pn	22 00 23.0 -1.0
	comp=Z,154nm,0.6s					
PAGF	Fort de Pagny	11.65	326	⇓i P	Pn	22 00 23.4 -0.6
	comp=Z,131nm,0.9s					
PAGF	Fort de Pagny	11.65	326	⇓i P	Pn	22 00 23.4 -0.6
	comp=Z,131nm,0.9s					
PAGF	Fort de Pagny	11.65	326	⇓i P	Pn	22 00 23.4 -0.6
	comp=Z,66nm,0.9s					
ELL	Elmali	11.67	98	eP	Pn	22 00 24.5 +0.1
ELL	Elmali	11.67	98	P	Pn	22 00 24.5 +0.1
ELL	Elmali	11.67	98	P	Pn	22 00 24.5 +0.1
ELL	Elmali	11.67	98	P	Pn	22 00 24.5 +0.1
BRG	Berggiesshubel	11.68	355	i P	Pn	22 00 24.6 +0.3
	comp=Z,81nm,1.3s					
BRG				i		22 00 28.4
	comp=Z,417nm,0.8s					
BRG				S	S	22 02 38.0 +3.5
BRG	Berggiesshubel	11.68	355	eP	Pn	22 00 24.3 0.0
BRG	Berggiesshubel	11.68	355	i P	Pn	22 00 24.6 +0.3
BRG				S	S	22 02 38.0 +3.5
BRG				pmax	pmax	
	comp=Z,81nm,1.3s					
BRG	Berggiesshubel	11.68	355	i P	Pn	22 00 24.6 +0.3
	comp=Z,81nm,1.3s					
SFTF	Sexfontaines	11.70	323	⇓i P	Pn	22 00 23.1 -1.5
	comp=Z,388nm,0.7s					
SFTF	Sexfontaines	11.70	323	⇓i P	Pn	22 00 23.1 -1.5
	comp=Z,388nm,0.7s					
SSF	Saint Saulge	11.71	316	⇓i P	Pn	22 00 23.1 -1.6
	comp=Z,113nm,0.5s					
SSF	Saint Saulge	11.71	316	Pn	Pn	22 00 24.0 -0.7
	comp=Z,113nm,0.5s					
SSF	Saint Saulge	11.71	316	P	Pn	22 00 24.0 -0.7
SSF				pmax	pmax	
	comp=Z,113nm,0.5s					
SSF	Saint Saulge	11.71	316	Pn	Pn	22 00 24.0 -0.7
	comp=Z,113nm,0.5s					
ERTA	Horta de San J	11.71	283	P	Pn	22 00 24.2 -0.7
MOX	Moxa	11.72	348	eP	Pn	22 00 25.0 +0.1
	comp=Z,533nm,1.0s					
MOX	Moxa	11.72	348	P	Pn	22 00 25.3 +0.4
MOX	Moxa	11.72	348	eP	Pn	22 00 25.0 +0.1
MOX				pmax	pmax	
	comp=Z,533nm,1.0s					
MOX	Moxa	11.72	348	P	Pn	22 00 25.3 +0.4
SHUT	Suhut-Afyon	11.78	89	eP	Pn	22 00 27.2 +1.4
SHUT	Suhut-Afyon	11.78	89	eP	Pn	22 00 27.2 +1.4
BGF	Bois d'Agland	11.78	312	⇓i P	Pn	22 00 25.0 -0.7
	comp=Z,473nm,0.9s					
BGF	Bois d'Agland	11.78	312	Pn	Pn	22 00 26.0 +0.3
	comp=Z,473nm,0.9s					
BGF	Bois d'Agland	11.78	312	P	Pn	22 00 26.0 +0.3
BGF				pmax	pmax	
	comp=Z,473nm,0.9s					
BGF	Bois d'Agland	11.78	312	P	Pn	22 00 26.0 +0.3
	comp=Z,473nm,0.9s					
LEOM	Leova	11.84	48	⇓P	Pn	22 00 26.1 -0.2
LEOM	Leova	11.84	48	⇓i P	Pn	22 00 26.1 -0.2
LEOM	Leova	11.84	48	P	Pn	22 00 26.1 -0.2
IAS	Iasi	11.87	44	P	Pn	22 00 27.2 +0.5
IAS	Iasi	11.87	44	P	Pn	22 00 27.3 +0.6
IAS	Iasi	11.87	44	⇓i P	Pn	22 00 27.2 +0.5
IAS	Iasi	11.87	44	P	Pn	22 00 27.3 +0.6
MEZF	Maizieres J'vi	11.91	324	eP	Pn	22 00 26.1 -1.1
	comp=Z,831nm,0.8s					
MEZF	Maizieres J'vi	11.91	324	Pn	Pn	22 00 27.5 +0.3
	comp=Z,831nm,0.8s					
MEZF	Maizieres J'vi	11.91	324	Pn	Pn	22 00 27.5 +0.3
	comp=Z,831nm,0.8s					
ESKT	Eskisehir	11.92	84	eP	Pn	22 00 28.7 +1.3
ESKT	Eskisehir	11.92	84	P	Pn	22 00 28.6 +1.2
ESKT	Eskisehir	11.92	84	i P	Pn	22 00 27.5 +0.1
ESKT	Eskisehir	11.92	84	P	Pn	22 00 28.6 +1.2
KORT	Korkueli	11.94	96	i P	Pn	22 00 28.3 +0.6
HENT	Hendek	11.94	77	i P	Pn	22 00 26.9 -0.8
RESF	Ens	11.96	292	eP	Pn	22 00 30.7 +2.7
RESF	Ens	11.96	292	eP	Pn	22 00 30.7 +2.7
RJF	Les Rejaudoux	11.97	305	⇓i P	Pn	22 00 27.8 -0.2
	comp=Z,1µm,1.1s					
RJF				eR		
	comp=Z,2µm,22.8s					
RJF	Les Rejaudoux	11.97	305	⇓i P	Pn	22 00 27.8 -0.2
	comp=Z,1µm,1.1s					
RJF	Les Rejaudoux	11.97	305	⇓i P	Pn	22 00 27.8 -0.2
RJF				pmax	pmax	
	comp=Z,1µm,1.1s					
BCK	Bucak	12.01	94	eP	Pn	22 00 30.0 +1.4
BCK	Bucak	12.01	94	P	Pn	22 00 30.0 +1.4
BCK	Bucak	12.01	94	P	Pn	22 00 30.0 +1.4
BCK	Bucak	12.01	94	P	Pn	22 00 30.0 +1.4
EPF	Esparros	12.01	293	eP	Pn	22 00 29.4 +0.8
	comp=Z,171nm,1.0s					
EPF	Esparros	12.01	293	eP	Pn	22 00 29.4 +0.8
	comp=Z,171nm,1.0s					
EPF	Esparros	12.01	293	eP	Pn	22 00 29.4 +0.8
EPF				pmax	pmax	
	comp=Z,171nm,1.0s					
ABH	Alteburg	12.03	335	P	Pn	22 00 29.7 +1.0
ABH	Alteburg	12.03	335	P	Pn	22 00 29.7 +1.0
RUP	Ruppelstein	12.05	333	P	Pn	22 00 29.8 +0.9
RUP	Ruppelstein	12.05	333	P	Pn	22 00 29.8 +0.9
RUP	Ruppelstein	12.05	333	P	Pn	22 00 29.8 +0.9
TNS	Taunus Mts	12.05	338	eP	Pn	22 00 28.7 -0.2
TNS	Taunus Mts	12.05	338	eP	Pn	22 00 28.7 -0.2
BOLV	Bolvadin	12.07	88	i P	Pn	22 00 30.6 +1.3
EBIE	Bielsa	12.08	291	P	Pn	22 00 29.8 +0.4
MDUB	Mudurnu	12.16	79	eP	Pn	22 00 30.5 +0.1
MDUB	Mudurnu	12.16	79	P	Pn	22 00 30.4 0.0
CLL	Collm	12.19	353	eP	Pn	22 00 30.5 -0.1
CLL	Collm	12.19	353	P	Pn	22 00 32.1 +1.5
CLL	Collm	12.19	353	⇑i P	Pn	22 00 31.5 +0.9
CLL				eS	S	22 02 45.0 -1.2
CLL				pmax	pmax	
	comp=Z,107nm,0.8s					
CLL	Collm	12.19	353	⇑i P	Pn	22 00 31.5 +0.9
	comp=Z,107nm,0.8s					
CLL				i		22 00 34.3
	comp=Z,531nm,1.5s					
CLL				e		22 00 51.0
CLL				eS	S	22 02 45.0 -1.2
CLL				i		22 02 52.0
CLL	Collm	12.19	353	P	Pn	22 00 32.1 +1.5
UBBA	Unterbreizbach	12.20	343	eP	Pn	22 00 31.1 +0.3
UBBA				eS	S	22 02 52.4 +6.0
LVV	L'vov	12.21	27	P	Pn	22 00 31.0 +0.2
LVV	L'vov	12.21	27	P	Pn	22 00 31.0 +0.2
LABF	Labassere	12.21	293	eP	Pn	22 00 34.4 +3.4
LABF	Labassere	12.21	293	eP	Pn	22 00 34.4 +3.4
VIEF	Viey	12.21	292	eP	Pn	22 00 33.0 +2.0
VIEF	Viey	12.21	292	eP	Pn	22 00 33.0 +2.0
EBEN	Beniarda	12.22	272	P	Pn	22 00 30.4 -0.8
KMPD	K-Podol'skiy	12.22	37	P	Pn	22 00 31.0 -0.1
KMPD	K-Podol'skiy	12.22	37	P	Pn	22 00 31.0 -0.1
EMOS	Mosqueruela	12.31	280	P	Pn	22 00 31.8 -0.4
LFF	La Frestale	12.32	302	eP	Pn	22 00 32.0 -0.4
	comp=Z,731nm,0.9s					
LFF	La Frestale	12.32	302	eP	Pn	22 00 32.0 -0.4
	comp=Z,731nm,0.9s					
LFF	La Frestale	12.32	302	eP	Pn	22 00 32.0 -0.4
LFF				pmax	pmax	
	comp=Z,731nm,0.9s					
SUTC	Sutluce-Ispart	12.33	93	eP	Pn	22 00 33.4 +0.9
SUTC	Sutluce-Ispart	12.33	93	eP	Pn	22 00 33.4 +0.9
WLF	Walferdange	12.35	331	P	Pn	22 00 33.1 +0.4
	comp=Z,100nm,1.1s					
WLF	Walferdange	12.35	331	eP	Pn	22 00 32.8 +0.2
WLF	Walferdange	12.35	331	ePn	Pn	22 00 32.3 -0.3
WLF	Walferdange	12.35	331	eP	Pn	22 00 32.3 -0.3
WLF	Walferdange	12.35	331	ePn	Pn	22 00 32.3 -0.3
ESAC	San Caprasio	12.38	287	P	Pn	22 00 32.5 -0.6
KDZE	Karadeniz Ereo	12.38	75	eP	Pn	22 00 32.9 -0.2
SVRH	Sivrihisar-ESK	12.44	84	eP	Pn	22 00 34.9 +1.0
SVRH	Sivrihisar-ESK	12.44	84	P	Pn	22 00 34.8 +0.9
SVRH	Sivrihisar-ESK	12.44	84	P	Pn	22 00 34.8 +0.9
KIS	Kishinev	12.45	47	⇑eP	Pn	22 00 33.0 -0.9
	comp=Z,2µm,0.8s					
KIS				esP		22 01 23.0
KIS				eS	S	22 02 53.0 +0.7
	comp=Z,5µm,1.6s					
KIS				LRM		22 06 28.0
	comp=Z,800nm,14.0s					
KIS	Kishinev	12.45	47	P	Pn	22 00 33.5 -0.4
KIS	Kishinev	12.45	47	⇑eP	Pn	22 00 33.0 -0.9
KIS				eS	S	22 02 53.0 +0.7
KIS				pmax	pmax	
	comp=Z,2µm,0.8s					
KIS				smax		
	comp=E,8µm,1.6s

LOD	**Lodumlu**	**13.37**	**82**	*eP*	**Pn**	**22 00 45.4**	**+0.1**
LOD	**Lodumlu**	**13.37**	**82**	P	**Pn**	**22 00 45.3**	**+0.1**
LOD	**Lodumlu**	**13.37**	**82**	P	**Pn**	**22 00 45.3**	**+0.1**
EALK	**Alkurruntz**	**13.37**	**293**	P	**Pn**	**22 00 46.0**	**+0.7**
EALK	**Alkurruntz**	**13.37**	**293**	P	**Pn**	**22 00 46.0**	**+0.7**
BAIF	**Baives**	**13.44**	**327**	⇓*iP*	**Pn**	**22 00 44.0**	**-2.0**
	comp=Z,229nm,0.9s						
BAIF	**Baives**	**13.44**	**327**	Pn	**Pn**	**22 00 45.6**	**-0.4**
	comp=Z,229nm,0.9s						
BAIF	**Baives**	**13.44**	**327**	P	**Pn**	**22 00 45.6**	**-0.4**
BAIF				pmax	pmax		
	comp=Z,229nm,0.9s						
BAIF	**Baives**	**13.44**	**327**	P	**Pn**	**22 00 45.6**	**-0.4**
	comp=Z,229nm,0.9s						
BEBN	**Eben Emael**	**13.45**	**332**	P	**Pn**	**22 00 46.4**	**+0.3**
BUG	**Bochum--Univer**	**13.48**	**338**	*eP*	**Pn**	**22 00 46.2**	**-0.2**
MFF	**Saint Martin d**	**13.59**	**308**	⇓*iP*	**Pn**	**22 00 48.0**	**+0.2**
	comp=Z,803nm,1.1s						
MFF	**Saint Martin d**	**13.59**	**308**	⇓*iP*	**Pn**	**22 00 48.0**	**+0.2**
	comp=Z,803nm,1.1s						
MFF	**Saint Martin d**	**13.59**	**308**	⇓*iP*	**Pn**	**22 00 48.0**	**+0.2**
MFF				pmax	pmax		
	comp=Z,803nm,1.1s						
MFF	**Saint Martin d**	**13.59**	**308**	⇓*iP*	**Pn**	**22 00 48.0**	**+0.2**
	comp=Z,402nm,1.1s						
HDMB	**Hadim**	**13.60**	**94**	*eP*	**Pn**	**22 00 48.6**	**+0.5**
HDMB	**Hadim**	**13.60**	**94**	P	**Pn**	**22 00 48.5**	**+0.4**
HDMB	**Hadim**	**13.60**	**94**	P	**Pn**	**22 00 48.5**	**+0.4**
AFSR	**Af´ar-Bala (A**	**13.63**	**84**	*eP*	**Pn**	**22 00 49.1**	**+0.7**
AFSR	**Af´ar-Bala (A**	**13.63**	**84**	*eP*	**Pn**	**22 00 49.1**	**+0.6**
BBAL	**Bala**	**13.67**	**83**	*iP*	**Pn**	**22 00 50.3**	**+1.4**
GAZI	**Gazipasa**	**13.67**	**97**	*iP*	**Pn**	**22 00 47.9**	**-1.1**
SNF	**Seneffe**	**13.76**	**329**	P	**Pn**	**22 00 48.9**	**-0.9**
	comp=Z,59nm,1.4s						
NRDL	**Niedersach Rie**	**13.76**	**346**	*eP*	**Pn**	**22 00 50.4**	**+0.5**
BALT	**Daday**	**13.86**	**75**	*iP*	**Pn**	**22 00 51.5**	**+0.4**
ELDT	**Eldivan**	**13.86**	**79**	*iP*	**Pn**	**22 00 52.4**	**+1.2**
UCC	**Uccle**	**13.95**	**330**	P	**Pn**	**22 00 50.6**	**-1.6**
EVIA	**Vianos**	**14.00**	**273**	P	**Pn**	**22 00 54.4**	**+1.5**
EVIA	**Vianos**	**14.00**	**273**	P	**Pn**	**22 00 54.4**	**+1.5**
EVIA	**Vianos**	**14.00**	**273**	P	**Pn**	**22 00 54.4**	**+1.5**
CANT	**Cankiri**	**14.01**	**79**	*ePn*	**Pn**	**22 00 54.6**	**+1.7**
CANT	**Cankiri**	**14.01**	**79**	P	**Pn**	**22 00 54.6**	**+1.7**
BR131	**Keskin Array S**	**14.05**	**82**	⇑*iPn*	**Pn**	**22 00 54.7**	**+1.1**
	comp=Z,137nm,0.7s						
BR131	**Keskin Array S**	**14.05**	**82**	⇑*iPn*	**Pn**	**22 00 54.7**	**+1.2**
	comp=Z,137nm,0.7s						
BRTR	**Keskin Array B**	**14.05**	**82**	P	**Pn**	**22 00 54.7**	**+1.2**
	comp=Z,9.2nm,0.3s,baz=268,slow=10,SNR=522						
BRTR				ScP	ScP	22 09 01.2	-0.4
	comp=Z,0.1nm,0.3s,baz=209,slow=2.3,SNR=18						
BRTR				PKiKP	PKiKP	22 13 46.4	-2.4
	comp=Z,0.1nm,0.3s,baz=2.9,slow=2.5,SNR=4.0						
BRTR	**Keskin Array B**	**14.05**	**82**	P	**Pn**	**22 00 54.7**	**+1.2**
BRTR				ScP	ScP	22 09 01.2	-0.4
BRTR				PKiKP	PKiKP	22 13 46.4	-2.4
BRTR	**Keskin Array B**	**14.05**	**82**	P	**Pn**	**22 00 54.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
BRTR	**Keskin Array B**	**14.05**	**82**	P	**Pn**	**22 00 54.7**	**+1.2**
	comp=Z,9.0nm,0.3s						
ILGA	**Ilgaz**	**14.08**	**77**	*iP*	**Pn**	**22 00 55.5**	**+1.6**
GKP	**Gorka Klasztor**	**14.09**	**4**	*eP*	**Pn**	**22 00 54.8**	**+1.1**
	comp=Z,300nm,0.9s						
GKP				*eS*	**S**	**22 03 32.0**	**+2.7**
GKP	**Gorka Klasztor**	**14.09**	**4**	P	**Pn**	**22 00 54.6**	**+0.9**
GKP	**Gorka Klasztor**	**14.09**	**4**	⇓*eP*	**Pn**	**22 00 54.8**	**+1.1**
GKP				*eS*	**S**	**22 03 32.0**	**+2.7**
GKP				pmax	pmax		
	comp=Z,300nm,0.9s						
GKP	**Gorka Klasztor**	**14.09**	**4**	P	**Pn**	**22 00 54.6**	**+0.9**
IBBN	**Ibbenburen**	**14.12**	**340**	*eP*	**Pn**	**22 00 54.4**	**+0.2**
SULT	**Sultanhani-AKS**	**14.14**	**89**	*eP*	**Pn**	**22 00 56.8**	**+2.2**
SULT	**Sultanhani-AKS**	**14.14**	**89**	P	**Pn**	**22 00 56.8**	**+2.2**
SULT	**Sultanhani-AKS**	**14.14**	**89**	P	**Pn**	**22 00 56.8**	**+2.2**
PPCY	**Paphos**	**14.16**	**103**	P	**Pn**	**22 00 51.4**	**-3.5**
EHUE	**Huescar**	**14.21**	**270**	P	**Pn**	**22 00 56.8**	**+1.4**
EHUE	**Huescar**	**14.21**	**270**	P	**Pn**	**22 00 56.8**	**+1.4**
EHUE	**Huescar**	**14.21**	**270**	P	**Pn**	**22 00 56.8**	**+1.4**
ALFC	**Alevga**	**14.25**	**101**	P	**Pn**	**22 00 53.1**	**-2.9**
	comp=Z,4.5nm,1.0s						
KAST	**KASTAMONU**	**14.26**	**75**	*iP*	**Pn**	**22 00 57.7**	**+1.7**
TOS	**Tosya**	**14.31**	**77**	*eP*	**Pn**	**22 00 58.4**	**+1.7**
TOS	**Tosya**	**14.31**	**77**	P	**Pn**	**22 00 58.4**	**+1.7**
TOS	**Tosya**	**14.31**	**77**	P	**Pn**	**22 00 58.4**	**+1.7**
BZK	**Bozkurt**	**14.35**	**73**	*eP*	**Pn**	**22 00 58.1**	**+1.0**
BZK	**Bozkurt**	**14.35**	**73**	P	**Pn**	**22 00 58.0**	**+0.9**
BZK	**Bozkurt**	**14.35**	**73**	P	**Pn**	**22 00 58.0**	**+0.9**
LEF	**Lefka**	**14.49**	**101**	*eP*	**Pn**	**22 00 55.9**	**-3.0**
LEF	**Lefka**	**14.49**	**101**	P	**Pn**	**22 00 55.8**	**-3.0**
EQES	**Quesada**	**14.58**	**270**	P	**Pn**	**22 01 00.0**	**+0.1**
EQES	**Quesada**	**14.58**	**270**	P	**Pn**	**22 01 00.0**	**+0.1**
LDF	**La Druitiere**	**14.59**	**315**	*eP*	**Pn**	**22 00 57.6**	**-2.3**
	comp=Z,645nm,0.6s						
LDF	**La Druitiere**	**14.59**	**315**	*eP*	**Pn**	**22 00 57.6**	**-2.3**
LDF	**La Druitiere**	**14.59**	**315**	*eP*	**Pn**	**22 00 57.6**	**-2.3**
SZAC	**Souni-Zanaja**	**14.62**	**102**	P	**Pn**	**22 00 58.1**	**-2.3**
SZAC	**Souni-Zanaja**	**14.62**	**102**	P	**Pn**	**22 00 58.1**	**-2.3**
EBER	**Berja**	**14.65**	**267**	P	**Pn**	**22 01 00.3**	**-0.4**
EBER	**Berja**	**14.65**	**267**	P	**Pn**	**22 01 00.3**	**-0.4**
MAMC	**Mammari**	**14.72**	**100**	P	**Pn**	**22 00 59.5**	**-2.1**
MAMC	**Mammari**	**14.72**	**100**	P	**Pn**	**22 00 59.5**	**-2.1**
CORM	**Corum**	**14.79**	**80**	*eP*	**Pn**	**22 01 03.3**	**+0.9**
CORM	**Corum**	**14.79**	**80**	*eP*	**Pn**	**22 01 03.3**	**+0.9**
WIT	**Witteveen**	**14.87**	**339**	P	**Pn**	**22 01 05.6**	**+2.4**
WIT	**Witteveen**	**14.87**	**339**	P	**Pn**	**22 01 05.6**	**+2.4**
WIT	**Witteveen**	**14.87**	**339**	P	**Pn**	**22 01 05.6**	**+2.4**
FLN	**La Foliniere**	**14.88**	**315**	⇓*iP*	**Pn**	**22 01 00.8**	**-2.6**
	comp=Z,658nm,0.7s						
FLN				*eR*			
	comp=Z,980nm,19.8s						
FLN	**La Foliniere**	**14.88**	**315**	⇓*iP*	**Pn**	**22 01 00.8**	**-2.6**
FLN	**La Foliniere**	**14.88**	**315**	⇓*iP*	**Pn**	**22 01 00.8**	**-2.6**
CSS	**Prodhromos**	**14.88**	**101**	P	**Pn**	**22 01 01.8**	**-1.8**
CSS	**Prodhromos**	**14.88**	**101**	*eP*	**Pn**	**22 01 00.9**	**-2.6**
CSS	**Prodhromos**	**14.88**	**101**	*ePn*	**Pn**	**22 01 01.2**	**-2.4**
CSS	**Prodhromos**	**14.88**	**101**	*ePn*	**Pn**	**22 01 01.2**	**-2.4**
CSS	**Prodhromos**	**14.88**	**101**	P	**Pn**	**22 01 01.8**	**-1.8**
GRR	**Gorron**	**14.89**	**313**	⇓*iP*	**Pn**	**22 01 00.9**	**-2.5**
	comp=Z,1μm,1.1s						
GRR	**Gorron**	**14.89**	**313**	⇓*iP*	**Pn**	**22 01 00.9**	**-2.5**
GRR	**Gorron**	**14.89**	**313**	⇓*iP*	**Pn**	**22 01 00.9**	**-2.5**
CTKT	**Corum**	**14.90**	**79**	*iP*	**Pn**	**22 01 04.5**	**+0.8**
LFK	**Lefkose**	**14.92**	**100**	*eP*	**Pn**	**22 01 02.2**	**-1.8**
LFK	**Lefkose**	**14.92**	**100**	P	**Pn**	**22 01 02.1**	**-1.9**
LFK	**Lefkose**	**14.92**	**100**	P	**Pn**	**22 01 02.1**	**-1.9**
SIM	**Simferopol'**	**14.97**	**62**	*ceP*	**Pn**	**22 00 56.7**	**-7.7**
SIM				pmax	pmax		
	comp=Z,233nm,0.8s						
BOYT	**Boyabat**	**14.99**	**75**	*iP*	**Pn**	**22 01 00.9**	**-3.9**
KIEV	**Kiev**	**15.00**	**36**	*ePn*	**Pn**	**22 01 03.0**	**-1.8**
KIEV	**Kiev**	**15.00**	**36**	*eP*	**Pn**	**22 01 03.0**	**-1.7**
KIEV	**Kiev**	**15.00**	**36**	*eP*	**Pn**	**22 01 03.0**	**-1.7**
AKASG	**Malin Array Be**	**15.01**	**36**	P	**Pn**	**22 01 03.1**	**-1.8**
	comp=Z,11nm,0.3s,baz=228,slow=10,SNR=75						
AKASG				PP		22 01 56.5	
	comp=Z,16nm,0.3s,baz=229,slow=9.5,SNR=4.4						
AKASG				S	**S**	**22 03 43.0**	**-6.6**
	comp=Z,4.5nm,0.3s,baz=225,slow=20,SNR=14						
AKASG				PcP	PcP	22 05 53.3	-0.8
	comp=Z,3.7nm,0.3s,baz=252,slow=1.9,SNR=6.1						
AKASG				ScP	ScP	22 09 01.1	-1.9
	comp=Z,0.4nm,0.3s,baz=240,slow=2.0,SNR=7.5						
AKASG	**Malin Array Be**	**15.01**	**36**	P	**Pn**	**22 01 03.1**	**-1.8**
AKASG				PP		22 01 56.5	
AKASG				S	**S**	**22 03 43.0**	**-6.6**
AKASG				PcP	PcP	22 05 53.3	-0.8
AKASG				ScP	ScP	22 09 01.1	-1.9
AKASG	**Malin Array Be**	**15.01**	**36**	P	**Pn**	**22 01 03.1**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,11nm,0.3s						
AKASG	**Malin Array Be**	**15.01**	**36**	P	**Pn**	**22 01 03.1**	**-1.8**
	comp=Z,11nm,0.3s						
AKBB	**Malin Array Si**	**15.01**	**36**	*eP*	**Pn**	**22 01 03.1**	**-1.8**
AKBB				*eS*	**S**	**22 03 47.3**	**-2.4**
AKBB	**Malin Array Si**	**15.01**	**36**	*eP*	**Pn**	**22 01 03.1**	**-1.8**
AKBB				*eS*	**S**	**22 03 47.3**	**-2.4**
AKBB	**Malin Array Si**	**15.01**	**36**	*eP*	**Pn**	**22 01 03.1**	**-1.8**
ESDC	**Sonseca Array**	**15.02**	**278**	P	**Pn**	**22 01 04.8**	**-0.3**
	comp=Z,3.5nm,0.3s,baz=80,slow=11,SNR=85						
ESDC				S	**S**	**22 03 49.7**	**-0.3**
	baz=71,slow=20,SNR=2.8						
ESDC	**Sonseca Array**	**15.02**	**278**	P	**Pn**	**22 01 04.8**	**-0.3**
ESDC				S	**S**	**22 03 49.7**	**-0.3**
ESDC	**Sonseca Array**	**15.02**	**278**	P	**Pn**	**22 01 04.8**	**-0.3**
ESLA	**Sonseca Array**	**15.02**	**278**	*eP*	**Pn**	**22 01 06.2**	**+1.1**
	comp=Z,86nm,1.0s						
ESLA				*eS*	**S**	**22 03 50.3**	**+0.2**
ESLA	**Sonseca Array**	**15.02**	**278**	*eP*	**Pn**	**22 01 06.2**	**+1.1**
	comp=Z,86nm,1.0s						
ECOG	**Cogollos-Vega**	**15.08**	**269**	P	**Pn**	**22 01 06.0**	**+0.1**
ECOG	**Cogollos-Vega**	**15.08**	**269**	P	**Pn**	**22 01 06.0**	**+0.1**
ECOG	**Cogollos-Vega**	**15.08**	**269**	P	**Pn**	**22 01 06.0**	**+0.1**
AVNT	**Avonos**	**15.09**	**86**	*iP*	**Pn**	**22 01 06.9**	**+1.0**
BSEG	**Bad Segeberg**	**15.11**	**348**	*eP*	**Pn**	**22 01 04.0**	**-2.1**
BSEG	**Bad Segeberg**	**15.11**	**348**	*eP*	**Pn**	**22 01 04.0**	**-2.1**
BSEG	**Bad Segeberg**	**15.11**	**348**	*eP*	**Pn**	**22 01 04.0**	**-2.1**
GUD	**Guadarrama**	**15.11**	**282**	P	**Pn**	**22 01 05.7**	**-0.6**
GUD	**Guadarrama**	**15.11**	**282**	P	**Pn**	**22 01 05.7**	**-0.6**
GUD	**Guadarrama**	**15.11**	**282**	P	**Pn**	**22 01 05.7**	**-0.6**
EGUA	**Guajares**	**15.19**	**267**	P	**Pn**	**22 01 07.3**	**+0.1**
EGUA	**Guajares**	**15.19**	**267**	P	**Pn**	**22 01 07.3**	**+0.1**
EGUA	**Guajares**	**15.19**	**267**	P	**Pn**	**22 01 07.3**	**+0.1**
MERS	**Mersin**	**15.20**	**93**	*eP*	**Pn**	**22 01 07.3**	**-0.1**
MERS	**Mersin**	**15.20**	**93**	*eP*	**Pn**	**22 01 07.3**	**-0.1**
DIKM	**Dikmen**	**15.26**	**75**	*eP*	**Pn**	**22 01 08.8**	**+0.8**
DIKM	**Dikmen**	**15.26**	**75**	*eP*	**Pn**	**22 01 08.8**	**+0.8**
GULE	**Gulek**	**15.30**	**91**	*iP*	**Pn**	**22 01 08.9**	**+0.4**
PAB	**San Pablo**	**15.32**	**277**	*eP*	**Pn**	**22 01 08.2**	**-0.5**
	comp=Z,313nm,1.0s						
PAB	**San Pablo**	**15.32**	**277**	*eP*	**Pn**	**22 01 08.2**	**-0.6**
PAB				pmax	pmax		
	comp=Z,313nm,1.0s						
PAB	**San Pablo**	**15.32**	**277**	*eP*	**Pn**	**22 01 08.2**	**-0.6**
	comp=Z,313nm,1.0s						
EREN	**Erenkoy**	**15.32**	**98**	*eP*	**Pn**	**22 01 07.3**	**-1.5**
EREN	**Erenkoy**	**15.32**	**98**	P	**Pn**	**22 01 07.3**	**-1.5**
EREN	**Erenkoy**	**15.32**	**98**	P	**Pn**	**22 01 07.3**	**-1.5**
ERON	**Agron**	**15.33**	**268**	P	**Pn**	**22 01 08.6**	**-0.2**
ERON	**Agron**	**15.33**	**268**	P	**Pn**	**22 01 08.6**	**-0.2**
RGN	**Rugen**	**15.38**	**355**	*eP*	**Pn**	**22 01 07.7**	**-1.6**
	comp=Z,296nm,0.9s						
RGN	**Rugen**	**15.38**	**355**	*eP*	**Pn**	**22 01 07.7**	**-1.6**
	comp=Z,296nm,0.9s						
PHNC	**Paralimni**	**15.40**	**100**	P	**Pn**	**22 01 09.5**	**-0.3**
	comp=Z,5.7nm,1.8s						
PHNC	**Paralimni**	**15.40**	**100**	P	**Pn**	**22 01 09.5**	**-0.3**
	comp=Z,5.7nm,1.8s						
ELUQ	**Luque**	**15.56**	**270**	P	**Pn**	**22 01 11.3**	**-0.3**
ELUQ	**Luque**	**15.56**	**270**	P	**Pn**	**22 01 11.3**	**-0.3**
ELUQ	**Luque**	**15.56**	**270**	P	**Pn**	**22 01 11.3**	**-0.3**
ELOJ	**Sierra Loja**	**15.56**	**268**	P	**Pn**	**22 01 11.3**	**-0.3**
ELOJ	**Sierra Loja**	**15.56**	**268**	P	**Pn**	**22 01 11.3**	**-0.3**
ELOJ	**Sierra Loja**	**15.56**	**268**	P	**Pn**	**22 01 11.3**	**-0.3**
ELSH	**Elham, Standar**	**15.58**	**325**	*eP*	**Pn**	**22 01 10.2**	**-1.4**
ELSH				AMB	AMB	22 01 11.8	
	comp=Z,254nm,0.7s						
ELSH	**Elham, Standar**	**15.58**	**325**	*eP*	**Pn**	**22 01 10.2**	**-1.4**
HAVZ	**Havza**	**15.60**	**77**	*iP*	**Pn**	**22 01 12.6**	**+0.6**
SUW	**Suwalki**	**15.68**	**17**	*eP*	**Pn**	**22 01 11.2**	**-1.7**
	comp=Z,200nm,0.6s						
SUW				*eS*	**S**	**22 03 59.6**	**-3.6**
SUW				*e*		22 04 14.9	
SUW	**Suwalki**	**15.68**	**17**	*ePn*	**Pn**	**22 01 10.7**	**-2.1**
	comp=Z,273nm,0.7s						
SUW	**Suwalki**	**15.68**	**17**	⇓*eP*	**Pn**	**22 01 11.2**	**-1.6**
SUW				*eS*	**S**	**22 03 59.6**	**-3.6**
SUW				pmax	pmax		
	comp=Z,200nm,0.6s						
SUW	**Suwalki**	**15.68**	**17**	*ePn*	**Pn**	**22 01 10.7**	**-2.1**
	comp=Z,273nm,0.7s						
SUW	**Suwalki**	**15.68**	**17**	*eP*	**Pn**	**22 01 11.2**	**-1.6**
	comp=Z,200nm,0.6s						
EADA	**Adamuz**	**15.68**	**272**	P	**Pn**	**22 01 12.0**	**-1.1**
EADA	**Adamuz**	**15.68**	**272**	P	**Pn**	**22 01 12.0**	**-1.1**
SGMF	**Saint Gilles**	**15.80**	**311**	*eP*	**Pn**	**22 01 12.0**	**-2.3**
	comp=Z,368nm,0.9s						
SGMF	**Saint Gilles**	**15.80**	**311**	*eP*	**Pn**	**22 01 12.0**	**-2.3**
SGMF	**Saint Gilles**	**15.80**	**311**	*eP*	**Pn**	**22 01 12.0**	**-2.3**
SGMF	**Saint Gilles**	**15.80**	**311**	*eP*	**Pn**	**22 01 12.0**	**-2.3**
	comp=Z,184nm,0.9s						
BNN	**Bunyan**	**15.85**	**85**	*eP*	**Pn**	**22 01 14.9**	**-0.1**
BNN	**Bunyan**	**15.85**	**85**	P	**Pn**	**22 01 14.9**	**-0.1**
BNN	**Bunyan**	**15.85**	**85**	P	**Pn**	**22 01 14.9**	**-0.1**
KVT	**Kavak**	**15.85**	**77**	*eP*	**Pn**	**22 01 15.5**	**+0.6**
KVT	**Kavak**	**15.85**	**77**	P	**Pn**	**22 01 15.5**	**+0.6**
KVT	**Kavak**	**15.85**	**77**	P	**Pn**	**22 01 15.5**	**+0.6**
KVT	**Kavak**	**15.85**	**77**	P	**Pn**	**22 01 15.5**	**+0.6**
BSD	**Bornholm Skovb**	**15.88**	**359**	P	**Pn**	**22 01 12.7**	**-2.5**
BSD	**Bornholm Skovb**	**15.88**	**359**	P	**Pn**	**22 01 12.7**	**-2.5**
BSD	**Bornholm Skovb**	**15.88**	**359**	*iP*	**Pn**	**22 01 12.0**	**-3.2**
	comp=Z,225nm,0.9s						
BSD	**Bornholm Skovb**	**15.88**	**359**	P	**Pn**	**22 01 12.7**	**-2.5**
KRTS	**Karatas**	**15.94**	**93**	*eP*	**Pn**	**22 01 14.5**	**-1.6**
KRTS	**Karatas**	**15.94**	**93**	*eP*	**Pn**	**22 01 14.5**	**-1.6**
QUIF	**Quistinic**	**16.01**	**309**	*eP*	**P**	**22 01 14.8**	**-0.6**
	comp=Z,254nm,0.9s						
QUIF	**Quistinic**	**16.01**	**309**	*eP*	**P**	**22 01 14.8**	**-0.6**
QUIF	**Quistinic**	**16.01**	**309**	*eP*	**P**	**22 01 14.8**	**-0.6**
QUIF	**Quistinic**	**16.01**	**309**	*eP*	**P**	**22 01 14.8**	**-0.6**
	comp=Z,127nm,0.9s						
JSA	**Saint Aubin**	**16.05**	**314**	*eP*	**P**	**22 01 12.1**	**-3.6**
JSA				AMB	AMB	22 01 16.1	
	comp=Z,197nm,0.9s						
KOZT	**Kozan**	**16.07**	**90**	*eP*	**P**	**22 01 17.2**	**+1.1**
KOZT	**Kozan**	**16.07**	**90**	*eP*	**P**	**22 01 17.2**	**+1.1**
CEYT	**Ceyhan**	**16.12**	**92**	*eP*	**P**	**22 01 15.5**	**-1.2**
CEYT	**Ceyhan**	**16.12**	**92**	P	**P**	**22 01 15.4**	**-1.3**
CEYT	**Ceyhan**	**16.12**	**92**	P	**P**	**22 01 15.4**	**-1.3**
EMIJ	**Mijas**	**16.19**	**267**	P	**P**	**22 01 17.3**	**-0.2**
EMIJ	**Mijas**	**16.19**	**267**	P	**P**	**22 01 17.3**	**-0.2**
TOKA	**Tokat**	**16.19**	**19**	*iP*	**P**	**22 01 19.2**	**+1.8**
ROSF	**Rostrenen**	**16.27**	**310**	*eP*	**P**	**22 01 17.3**	**-0.8**
	comp=Z,506nm,0.9s						
ROSF	**Rostrenen**	**16.27**	**310**	*eP*	**P**	**22 01 17.3**	**-0.8**
ROSF	**Rostrenen**	**16.27**	**310**	*eP*	**P**	**22 01 17.3**	**-0.8**
ROSF	**Rostrenen**	**16.27**	**310**	*eP*	**P**	**22 01 17.3**	**-0.8**
	comp=Z,253nm,0.9s						
PINB	**Pinarbasi**	**16.30**	**85**	*iP*	**P**	**22 01 20.5**	**+1.9**
ERBA	**Erbaa**	**16.39**	**78**	*iP*	**P**	**22 01 21.1**	**+1.5**
ANDN	**Andirin**	**16.45**	**89**	*iP*	**P**	**22 01 19.9**	**-0.4**
SARI	**SarD1z-Kayseri**	**16.53**	**85**	*eP*	**P**	**22 01 20.3**	**-0.8**
SARR	**Saratov**	**16.53**	**85**	pmax	pmax		
	comp=Z,174nm,0.5s						
COP	**Copenhagen**	**16.58**	**354**	P	**P**	**22 01 21.6**	**+0.2**
COP	**Copenhagen**	**16.58**	**354**	P	**P**	**22 01 21.6**	**+0.2**
COP	**Copenhagen**	**16.58**	**354**	*iP*	**P**	**22 01 21.4**	**0.0**
	comp=Z,100nm,0.8s						
COP	**Copenhagen**	**16.58**	**354**	P	**P**	**22 01 21.6**	**+0.2**
AEU	**East Anglia Un**	**16.60**	**328**	*eP*	**P**	**22 01 20.9**	**-0.8**
AEU	**East Anglia Un**	**16.60**	**328**	*eP*	**P**	**22 01 20.9**	**-0.8**
COBT	**Iskenderun**	**16.64**	**93**	*iP*	**P**	**22 01 21.1**	**-1.2**
YAYL	**Yayladag**	**16.66**	**95**	*iP*	**P**	**22 01 22.9**	**+0.3**
SCER	**sogukcermik**	**16.72**	**81**	*iP*	**P**	**22 01 24.7**	**+1.4**
EJIF	**Jimena Fronter**	**16.76**	**267**	P	**P**	**22 01 22.9**	**-0.8**
EJIF	**Jimena Fronter**	**16.76**	**267**	P	**P**	**22 01 22.9**	**-0.8**
EJIF	**Jimena Fronter**	**16.76**	**267**	P	**P**	**22 01 22.9**	**-0.8**
WOL	**Wolverton**	**16.79**	**321**	*eP*	**P**	**22 01 21.6**	**-2.2**
WOL				AMB	AMB	22 01 24.9	
	comp=Z,168nm,0.8s						
RSDY	**Resadiye-TOKAT**	**16.84**	**79**	*eP*	**P**	**22 01 26.2**	**+1.7**
RSDY	**Resadiye-TOKAT**	**16.84**	**79**	P	**P**	**22 01 26.2**	**+1.7**
RSDY	**Resadiye-TOKAT**	**16.84**	**79**	P	**P**	**22 01 26.2**	**+1.7**
SKP1	**Kophill**	**16.86**	**323**	*eP*	**P**	**22 01 22.2**	**-2.4**
KMRS	**Kahramanmaras**	**16.90**	**89**	*eP*	**P**	**22 01 26.0**	**+0.8**
KMRS	**Kahramanmaras**	**16.90**	**89**	*eP*	**P**	**22 01 26.0**	**+0.8**
HNTI	**Hanita**	**17.05**	**105**	Pn	**Pn**	**22 01 27.8**	**-1.3**
HNTI	**Hanita**	**17.05**	**105**	Pn	**Pn**	**22 01 27.8**	**-1.3**
BHL	**Bhannes**	**17.06**	**102**	*eP*	**P**	**22 01 27.2**	**+0.2**
ECAL	**Calabor**	**17.07**	**286**	P	**P**	**22 01 25.8**	**-1.2**
ECAL	**Calabor**	**17.07**	**286**	P	**P**	**22 01 25.8**	**-1.2**
OFRI	**'Ofer**	**17.12**	**107**	Pn	**Pn**	**22 01 27.9**	**-2.1**
OFRI	**'Ofer**	**17.12**	**107**	Pn	**Pn**	**22 01 27.9**	**-2.1**
HWQ	**Hawqa**	**17.14**	**100**	*eP*	**P**	**22 01 29.0**	**+1.2**
KUZU	**Kuzuini**	**17.21**	**91**	*iP*	**P**	**22 01 29.2**	**+0.7**
GAZ	**Gaziantep**	**17.22**	**90**	*eP*	**P**	**22 01 29.9**	**+1.3**
GAZ	**Gaziantep**	**17.22**	**90**	P	**P**	**22 01 29.9**	**+1.3**
GAZ	**Gaziantep**	**17.22**	**90**	P	**P**	**22 01 29.9**	**+1.3**
ANN	**Anapa**	**17.23**	**64**	*cP*	**P**	**22 01 27.3**	**-1.3**
ANN				*i S*	**S**	**22 04 30.4**	**-3.9**
ANN				pmax	pmax		
	comp=N,376nm,0.8s						
ANN				pmax	pmax		
	comp=E,360nm,0.8s						
ANN				pmax	pmax		
	comp=Z,1μm,0.8s						
ANN				smax			
	comp=E,148nm,6.5s						
ANN	**Anapa**	**17.23**	**64**	*i P*	**P**	**22 01 27.3**	**-1.3**
MMA0B	**Mount Meron ar**	**17.25**	**105**	Pn	**Pn**	**22 01 30.3**	**-1.2**
MMA0B	**Mount Meron ar**	**17.25**	**105**	Pn	**Pn**	**22 01 30.3**	**-1.2**
MMAI	**Mount Meron Ar**	**17.25**	**105**	P	**P**	**22 01 30.3**	**+1.3**
	comp=E,43nm,0.3s,baz=308,slow=10.0,SNR=516						
MMAI				ScP	ScP	22 09 08.5	+0.7
	comp=E,0.2nm,0.3s,baz=116,slow=3.4,SNR=7.0						
MMAI	**Mount Meron Ar**	**17.25**	**105**	P	**P**	**22 01 30.3**	**+1.2**
MMAI				ScP	ScP	22 09 08.5	+0.7
MMAI	**Mount Meron Ar**	**17.25**	**105**	P	**P**	**22 01 30.3**	**+1.2**
MVO	**Moncorvo**	**17.28**	**284**	*i P*	**P**	**22 01 29.3**	**0.0**
	comp=E,218nm,1.6s						
MVO				*eS*	**S**	**22 04 36.1**	**+0.5**
MVO	**Moncorvo**	**17.28**	**284**	P	**P**	**22 01 29.2**	**-0.1**
MVO	**Moncorvo**	**17.28**	**284**	P	**P**	**22 01 29.2**	**-0.1**
MVO				*eS*	**S**	**22 04 36.1**	**+0.5**
SLTI	**Sal'it**	**17.34**	**108**	Pn	**Pn**	**22 01 31.0**	**-1.5**
SLTI	**Sal'it**	**17.34**	**108**	Pn	**Pn**	**22 01 31.0**	**-1.5**
KSDI	**Kefar Szold**	**17.37**	**104**	Pn	**Pn**	**22 01 31.9**	**-0.9**
KSDI	**Kefar Szold**	**17.37**	**104**	Pn	**Pn**	**22 01 31.9**	**-0.9**
RCY	**Rachaya**	**17.37**	**103**	*eP*

ZFRI Zfri 18.32 112 Pn **P 22 01 41.1 +0.4**
KELT Kelkit 18.33 80 *i* P **P 22 01 40.4 -0.2**
HLM1 Long Mynd 18.35 322 *eP* **P 22 01 37.8 -2.9**
HLM1 AMB AMB 22 01 39.2
comp=Z,333nm,0.9s
PMTG Montargil 18.36 277 *i* P **P 22 01 40.0 -1.0**
comp=Z,367nm,1.1s
PMTG *eS* **S 22 04 54.5 -2.5**
EVOP Sao Brissos 18.37 275 ⇓*i* P **P 22 01 40.2 -0.9**
comp=Z,95nm,0.5s
EVOP Sao Brissos 18.37 275 ⇓*i* P **P 22 01 40.2 -0.9**
EVOP pmax pmax
comp=Z,95nm,0.5s
URFA Urfa 18.41 88 *eP* **P 22 01 41.4 -0.1**
URFA Urfa 18.41 88 P **P 22 01 41.3 -0.2**
URFA Urfa 18.41 88 *eP* **P 22 01 41.4 -0.1**
STNC Stoke 18.41 325 *eP* **P 22 01 40.2 -1.2**
STNC AMB AMB 22 01 44.8
comp=Z,209nm,1.8s
PTOM Tomar 18.44 279 *eP* **P 22 01 41.6 -0.2**
comp=Z,708nm,1.2s
PTOM *eS* **S 22 04 57.8 -0.6**
PTOM Tomar 18.44 279 *eP* **P 22 01 41.6 -0.2**
comp=Z,708nm,1.2s
PTOM *eS* **S 22 04 57.8 -0.6**
STS Santiago 18.45 289 P **P 22 01 41.1 -0.8**
STS Santiago 18.45 289 P **P 22 01 41.1 -0.8**
TAM Tamanrasset 18.45 210 *eP* **P 22 01 43.6 +1.4**
comp=Z,20nm,0.6s
TAM *eS* **S 22 04 58.6 -0.3**
TAM Tamanrasset 18.45 210 *eP* **P 22 01 43.6 +1.5**
TAM *eS* **S 22 04 58.7 -0.3**
TAM pmax pmax
comp=Z,20nm,0.6s
GUMT Gumushane 18.47 79 *eP* **P 22 01 43.1 +0.9**
GUMT Gumushane 18.47 79 P **P 22 01 43.0 +0.8**
GUMT Gumushane 18.47 79 *eP* **P 22 01 43.1 +0.9**
PCVE Castro Verde 18.47 272 *i* P **P 22 01 41.0 -1.2**
comp=Z,161nm,1.4s
PCVE *eS* **S 22 04 57.2 -1.9**
PBDV Barranco-do-Ve 18.48 271 *eP* **P 22 01 42.2 0.0**
comp=Z,208nm,0.6s
PBDV *eS* **S 22 04 55.1 -4.1**
PBDV Barranco-do-Ve 18.48 271 *eP* **P 22 01 42.2 0.0**
comp=Z,208nm,0.6s
PBDV *eS* **S 22 04 55.1 -4.1**
HRFI Mount Harif 18.51 114 Pn **P 22 01 43.5 +0.8**
EZAM Zamans 18.53 287 P **P 22 01 42.4 -0.4**
EZAM Zamans 18.53 287 P **P 22 01 42.4 -0.4**
MESJ Messejana 18.57 273 *eP* **P 22 01 42.5 -0.8**
MESJ *e* 22 01 44.4
baz=62,slow=12
MESJ AMb AMb 22 01 44.7
comp=Z,208nm,1.1s
MESJ *eS* **S 22 04 59.1 -1.9**
MESJ Messejana 18.57 273 *eP* **P 22 01 42.5 -0.8**
comp=Z,208nm,1.1s
MESJ *eS* **S 22 04 59.1 -1.9**
MESJ Messejana 18.57 273 *eP* **P 22 01 42.5 -0.8**
MESJ *eS* **S 22 04 59.1 -1.9**
MESJ Messejana 18.57 273 *eP* **P 22 01 42.5 -0.8**
comp=Z,208nm,1.1s
MESJ *eS* **S 22 04 59.1 -1.9**
PTK Pertek 18.58 83 *eP* **P 22 01 43.2 -0.1**
PTK Pertek 18.58 83 P **P 22 01 43.2 -0.1**
PTK Pertek 18.58 83 *eP* **P 22 01 43.2 -0.1**
SVRC Sivrice-ELAZID 18.60 85 *eP* **P 22 01 44.2 +0.7**
SVRC Sivrice-ELAZID 18.60 85 *eP* **P 22 01 44.2 +0.7**
ALMR Almeirim 18.62 277 *eP* **P 22 01 42.8 -1.0**
ALMR Almeirim 18.62 277 *eP* **P 22 01 42.8 -1.0**
ALMR Almeirim 18.62 277 *eP* **P 22 01 42.8 -1.0**
KTUT Trabzon 18.66 77 *eP* **P 22 01 44.6 +0.4**
KTUT Trabzon 18.66 77 *eP* **P 22 01 44.6 +0.4**
EIL Elat 18.66 115 P **P 22 01 45.2 +0.9**
comp=Z,15nm,0.3s,baz=317,slow=7.1,SNR=266
EIL ScP ScP 22 09 11.3 +0.4
comp=Z,0.3nm,0.3s,baz=312,slow=4.1,SNR=3.5
EIL Elat 18.66 115 P **P 22 01 44.7 +0.4**
EIL Pn **P 22 01 45.1 +0.8**
EIL ScP ScP 22 09 11.3 +0.5
MACK Trabzon 18.66 77 *i* P **P 22 01 44.5 +0.3**
SOC Sochi 18.68 69*c i* P **P 22 01 44.2 -0.2**
SOC *i* S **S 22 05 01.8 -1.2**
SOC pmax pmax
comp=Z,939nm,0.9s
FOEL Foel Wylfa 18.74 323 *eP* **P 22 01 41.9 -2.9**
FOEL AMB AMB 22 01 43.7
comp=Z,404nm,1.1s
PNCL Nicolau / Gran 18.76 274 *i* P **P 22 01 44.9 -0.4**
comp=Z,474nm,1.4s
PNCL *eS* **S 22 05 03.3 -1.4**
ASF Jabal al Asfar 18.76 105 P **P 22 01 46.4 +1.1**
comp=Z,4.3nm,0.3s,baz=166,slow=6.6,SNR=129
ASF ScP ScP 22 09 12.0 +1.0
comp=Z,0.1nm,0.3s,baz=186,slow=1.6,SNR=7.9
ASF Jabal al Asfar 18.76 105 P **P 22 01 46.4 +1.1**
ASF ScP ScP 22 09 12.0 +1.0
ASF Jabal al Asfar 18.76 105 P **P 22 01 46.4 +1.1**
ASF pmax pmax
comp=Z,4.0nm,0.3s
EMAZ Mazaricos 18.77 289 P **P 22 01 45.2 -0.1**
BAYT Ayd¨–ntepe-Bay 18.98 79 *eP* **P 22 01 48.5 +0.9**
BAYT Ayd¨–ntepe-Bay 18.98 79 *eP* **P 22 01 48.5 +0.9**
MORF Marmelete 19.02 272 *i* P **P 22 01 46.8 -1.3**
comp=Z,131nm,1.6s
MORF *eS* **S 22 05 07.3 -2.5**
MORF Marmelete 19.02 272 P **P 22 01 46.7 -1.4**
MORF Marmelete 19.02 272 *eP* **P 22 01 46.8 -1.3**
MORF *eS* **S 22 05 07.0 -2.8**
PTEO Sao Teotonio 19.02 273 *i* P **P 22 01 47.2 -0.9**
comp=Z,273nm,1.3s
PTEO *eS* **S 22 05 07.5 -2.4**
LIS Lisbon 19.13 276 *eP* **P 22 01 48.3 -0.9**
LIS AMb AMB 22 01 52.6
comp=Z,424nm,1.5s
LIS *eS* **S 22 05 10.9 -1.0**
LIS Lisbon 19.13 276 *eP* **P 22 01 48.3 -0.9**
comp=Z,424nm,1.5s
LIS *eS* **S 22 05 10.9 -1.0**
LIS Lisbon 19.13 276 *eP* **P 22 01 48.3 -0.9**
LIS *eS* **S 22 05 10.9 -1.0**
LIS Lisbon 19.13 276 *eP* **P 22 01 48.3 -0.9**
comp=Z,424nm,1.5s
LIS *eS* **S 22 05 10.9 -1.0**
PFVI Vila Bisbo 19.20 271 *eP* **P 22 01 48.9 -1.1**
comp=Z,180nm,1.1s
PFVI *eS* **S 22 05 11.0 -2.2**
PFVI Vila Bisbo 19.20 271 P **P 22 01 48.9 -1.1**
PMAFR Mafra 19.20 277 *eP* **P 22 01 50.6 +0.7**
comp=Z,222nm,1.4s
PMAFR *eS* **S 22 05 13.4 +0.2**
PMAFR Mafra 19.20 277 *eP* **P 22 01 50.6 +0.7**
comp=Z,222nm,1.4s
PMAFR *eS* **S 22 05 13.4 +0.2**
KOPT Kop Dagi 19.29 80 *i* P **P 22 01 52.2 +1.3**
DIYA Diyarbakir 19.31 86 *i* P **P 22 01 51.9 +0.7**
BINT Bingol 19.43 83 P **P 22 01 54.3 +1.9**
BINT Bingol 19.43 83 P **P 22 01 54.3 +1.9**
BINT Bingol 19.43 83 *eP* **P 22 01 54.3 +1.9**
PZAR Pazar-Rize 19.51 76 *eP* **P 22 01 56.1 +2.9**
BNGB Bing¶l 19.56 83 *eP* **P 22 01 54.3 +0.6**
XAL Allendale 19.64 329 *eP* **P 22 01 52.0 -2.4**
KESW Keswick, Cumbr 19.82 327 *eP* **P 22 01 54.3 -2.0**
KESW AMB AMB 22 01 57.8
comp=Z,298nm,0.8s
SNART Snartemo 19.84 347 *eP* **P 22 01 56.7 +0.1**
BNGL BINGOL 19.93 83 *i* P **P 22 01 57.5 -0.1**
XDE Dent Fell 19.93 326 *eP* **P 22 01 55.1 -2.3**
MARD Mardin 19.95 88 *i* P **P 22 01 57.1 -0.9**
EZM Erzurum 19.96 80 *eP* **P 22 01 59.2 +1.2**
EZM Erzurum 19.96 80 P **P 22 01 59.2 +1.2**
ERZM Erzurum 19.96 80 *i* P **P 22 01 58.0 0.0**
BCA Borcka 20.04 75 *eP* **P 22 01 57.9 -0.9**
BCA Borcka 20.04 75 P **P 22 01 57.9 -1.0**
BCA Borcka 20.04 75 *eP* **P 22 01 57.9 -1.0**
DBOC Borcka 20.08 76 *i* P **P 22 01 58.0 -1.3**
VRTB Varto-Mus 20.13 82 *eP* **P 22 02 00.9 +1.1**
VRTB Varto-Mus 20.13 82 *eP* **P 22 02 00.9 +1.1**
DDEM Demirkent 20.17 77 *i* P **P 22 01 60.0 -0.2**
BEST Besiri 20.21 86 *i* P **P 22 02 01.2 +0.5**
DAGI Agillar 20.28 76 *i* P **P 22 02 01.0 -0.4**
ARTV Artvin 20.28 76 *i* P **P 22 02 00.0 -1.4**
HOMI Horasan 20.36 79 *i* P **P 22 02 03.0 +0.8**

GCD Castle Douglas 20.36 326 *eP* **P 22 01 59.2 -2.9**
ESK Eskdalemuir 20.36 328 *eP* **P 22 01 58.4 -3.7**
ESK AMB AMB 22 02 01.8
comp=Z,163nm,1.2s
ESK Eskdalemuir 20.36 328 P **P 22 02 00.3 -1.8**
ESK Eskdalemuir 20.36 328 *i* P **P 22 02 00.3 -1.8**
ESK Eskdalemuir 20.36 328 P **P 22 01 59.2 -2.9**
comp=Z,2µm,0.4s
VSR Storozhevoye 20.44 46 *eP* **P 22 02 01.1 -1.9**
VSR *eS* **S 22 05 31.8 -4.5**
VSR pmax pmax
comp=N,160nm,0.8s
VSR pmax pmax
comp=E,280nm,0.8s
VSR pmax pmax
comp=Z,240nm,0.8s
VSR smax
comp=N,430nm,1.4s
VSR smax
comp=E,850nm,1.4s
VSR smax
comp=Z,220nm,1.4s
DSB Dublin 20.48 320 *eP* **P 22 02 01.7 -1.7**
ESY Stoneypath 20.56 330 *eP* **P 22 02 01.2 -2.9**
VSU Vasula 20.56 17 P **P 22 02 02.4 -1.8**
VSU Vasula 20.56 17*d i* P **P 22 02 02.4 -1.8**
VSU pmax pmax
comp=Z,282nm,0.7s
EBL Broad Law 20.62 329 *eP* **P 22 02 01.9 -3.0**
GAL1 Galloway 20.70 326 *eP* **P 22 02 02.7 -2.9**
GAL1 AMB AMB 22 02 05.5
comp=Z,109nm,1.7s
VOR Voronezh 20.70 45 *eP* **P 22 02 04.0 -1.6**
VOR *eS* **S 22 05 35.0 -5.4**
VOR pmax pmax
comp=Z,250nm,1.0s
KONO Kongsberg 20.77 352 *eP* **P 22 02 04.1 -2.1**
KONO AMB AMB 22 02 05.7
comp=Z,210nm,1.2s
KONO Kongsberg 20.77 352 *eP* **P 22 02 04.7 -1.6**
comp=Z,379nm,1.3s
KONO Kongsberg 20.77 352 *eP* **P 22 02 04.7 -1.6**
KONO pmax pmax
comp=Z,379nm,1.3s
KONO Kongsberg 20.77 352 *eP* **P 22 02 04.1 -2.2**
comp=Z,210nm,1.2s,SNR=54
EDI Edinburgh 20.79 330 *eP* **P 22 02 03.2 -3.3**
EDI AMB AMB 22 02 04.7
comp=Z,251nm,0.7s
EAU Auchinoon 20.83 329 *eP* **P 22 02 04.5 -2.5**
KIV Kislovodsk 20.85 68 P **P 22 02 06.8 -0.6**
KIV Kislovodsk 20.85 68*c i* P **P 22 02 06.7 -0.7**
KIV *eS* **S 22 05 42.7 -0.5**
KIV pmax pmax
comp=Z,248nm,1.1s
KIV pmax pmax
comp=Z,124nm,4.9s
KIV MLR MLR
comp=Z,115nm,14.0s
KIV Kislovodsk 20.85 68 P **P 22 02 07.2 -0.2**
SNR=56
KIV Kislovodsk 20.85 68 P **P 22 02 06.1 -1.3**
comp=Z,1µm,1.0s,SNR=76
GMM Mts of Mourne 20.86 323 *eP* **P 22 02 04.4 -3.0**
OSL Oslo 20.93 353 *eP* **P 22 02 05.5 -2.5**
OSL Oslo 20.93 353 *eP* **P 22 02 05.6 -2.4**
SNR=53
HFS Hagfors 20.95 358 P **P 22 02 06.0 -2.1**
comp=Z,134nm,0.5s,baz=182,slow=12,SNR=491
HFS S **S 22 05 42.3 -2.0**
comp=Z,12nm,0.8s,baz=182,slow=20,SNR=4.4
HFS Hagfors 20.95 358 P **P 22 02 06.0 -2.1**
HFS S **S 22 05 42.3 -1.9**
HFS Hagfors 20.95 358 P **P 22 02 06.0 -2.1**
HFS S **S 22 05 42.3 -2.0**
HFS pmax pmax
comp=Z,134nm,0.5s
HFS smax
comp=N,12nm,0.8s
TUTA Tutak 21.14 81 *i* P **P 22 02 10.8 +0.4**
SIRN S¨–rnak 21.18 86 *i* P **P 22 02 10.7 -0.1**
KARS Kars 21.19 77 *eP* **P 22 02 11.5 +0.6**
KARS Kars 21.19 77 P **P 22 02 11.5 +0.6**
KARS Kars 21.19 77 P **P 22 02 11.5 +0.6**
KARS Kars 21.19 77 *eP* **P 22 02 11.5 +0.6**
AGRB Hanur-Agry 21.25 80 *eP* **P 22 02 12.0 +0.6**
AGRB Hanur-Agry 21.25 80 *eP* **P 22 02 12.0 +0.6**
OBN Obninsk 21.27 35 *eP* **P 22 02 08.5 -2.9**
OBN Obninsk 21.27 35*c i* P **P 22 02 08.9 -2.5**
OBN *eS* **S 22 05 48.3 -1.4**
OBN pmax pmax
comp=Z,99nm,1.0s,mb5.1
OBN Obninsk 21.27 35 P **P 22 02 09.7 -1.7**
comp=Z,702nm,0.7s,mb6.1,SNR=12
ONI Oni 21.38 72 P **P 22 02 12.2 -0.3**
ELO Logie Almond 21.38 330 *eP* **P 22 02 09.8 -2.6**
EAB Aberfoyle 21.43 329 *eP* **P 22 02 11.1 -1.8**
ODD1 Odda 21.43 348 *eP* **P 22 02 11.7 -1.2**
ODD1 Odda 21.43 348 *eP* **P 22 02 11.7 -1.1**
SNR=53
DIGO Kars 21.44 78 *i* P **P 22 02 12.5 -0.6**
AKH Akhalkalaki 21.45 75 P **P 22 02 12.9 -0.3**
GEVA Gevas 21.51 84 *i* P **P 22 02 14.2 +0.4**
NC602 NORSAR Array S 21.66 355 *eP* **P 22 02 12.9 -2.0**
NC602 NORSAR Array S 21.66 355 *eP* **P 22 02 12.9 -2.0**
SNR=53
MME1 Meikle Cairn 21.72 332 *eP* **P 22 02 12.7 -2.8**
TVAN Van 21.74 83 *i* P **P 22 02 15.2 -0.6**
NAO01 NORSAR Array S 21.82 354 *eP* **P 22 02 15.4 -0.9**
comp=Z,44nm,0.4s,mb5.1
GOR Gori 21.88 74 P **P 22 02 17.5 +0.4**
NB2 NORSAR Subarra 21.98 354 P **P 22 02 16.2 -1.6**
comp=Z,84nm,0.5s,mb5.3,baz=172,slow=10
NB2 NORSAR Subarra 21.98 354 P **P 22 02 16.2 -1.6**
comp=Z,84nm,0.5s,mb5.3,SNR=60
NB200 NORSAR Array S 21.98 354 P **P 22 02 16.0 -1.8**
NOA NORSAR Array B 21.98 354 P **P 22 02 16.3 -1.6**
comp=Z,85nm,0.5s,mb5.4,baz=172,slow=10.0,SNR=275
NOA NORSAR Array B 21.98 354 P **P 22 02 16.3 -1.6**
NOA NORSAR Array B 21.98 354 P **P 22 02 16.3 -1.5**
NOA pmax pmax
comp=Z,85nm,0.5s
CLDR Caldiran 22.02 81 *eP* **P 22 02 18.6 +0.1**
CLDR Caldiran 22.02 81 P **P 22 02 18.5 0.0**
CLDR Caldiran 22.02 81 *eP* **P 22 02 18.6 +0.1**
MCD Coleburn Disti 22.03 333 *eP* **P 22 02 15.3 -3.0**
BER Bergen 22.10 347 *eP* **P 22 02 17.3 -1.6**
BER Bergen 22.10 347 *eP* **P 22 02 17.3 -1.6**
SNR=44
MOS Moscow 22.13 34 *eP* **P 22 02 18.6 -0.6**
MOS *e* 22 03 02.1
MOS *eS* **S 22 06 01.6 -2.0**
MOS pmax pmax
comp=Z,245nm,0.9s,mb5.5
MOS pmax pmax
comp=Z,300nm,0.9s,mb5.6
CUKT Cukurca 22.16 86 *eP* **P 22 02 19.1 -0.6**
CUKT Cukurca 22.16 86 *eP* **P 22 02 19.2 -0.6**
HAKT HAKKARI 22.17 85 *i* P **P 22 02 19.7 -0.1**
ASK Askoy 22.22 347 *eP* **P 22 02 18.9 -1.1**
MDO Dochfour 22.33 331 *eP* **P 22 02 17.9 -3.1**
TBLG Delisi 22.36 74 *eP* **P 22 02 21.5 0.0**
TBLG Delisi 22.36 74 P **P 22 02 21.5 0.0**
GNI Garni 22.51 78 P **P 22 02 23.9 +1.0**
comp=Z,268nm,0.9s,mb5.6,baz=293,slow=2.5,SNR=150
GNI ScP ScP 22 09 19.9 -0.1
comp=Z,6.1nm,0.7s,baz=159,slow=5.3,SNR=4.8
GNI Garni 22.51 78 *eP* **P 22 02 23.3 +0.4**
GNI Garni 22.51 78 *eP* **P 22 02 23.6 +0.7**
comp=Z,837nm,1.3s,mb5.9
GNI *ep*P 22 03 06.6
GNI ScP ScP 22 09 19.9 0.0
GNI Garni 22.51 78*c i* P **P 22 02 23.7 +0.8**
GNI pmax pmax
comp=Z,846nm,1.4s
GNI Garni 22.51 78 P **P 22 02 23.8 +0.9**
SNR=100
GNI Garni 22.51 78 *eP* **P 22 02 23.3 +0.4**
PUL Pulkovo 22.59 20 P **P 22 02 22.6 -0.8**
PUL Pulkovo 22.59 20*d i* P **P 22 02 22.6 -0.8**
PUL pmax pmax
comp=Z,699nm,1.0s,mb5.9
MVH1 Achvaich 22.62 332 *eP* **P 22 02 20.2 -3.5**
HYA Hoyanger 22.69 348 *eP* **P 22 02 25.3 +1.0**

HYA Hoyanger 22.69 348 *eP* **P 22 02 25.3 +1.0**
SNR=44
KAC Achnashellach 22.73 330 *eP* **P 22 02 22.3 -2.3**
KPL Plockton 22.75 330 *eP* **P 22 02 22.8 -2.1**
KPL AMB AMB 22 02 24.2
comp=Z,281nm,1.1s,mb5.5
DOMB Dombas 23.16 352 *eP* **P 22 02 29.2 +0.6**
FINES FINESS Array B 23.18 13 P **P 22 02 27.8 -0.9**
comp=Z,320nm,0.6s,mb5.8,baz=186,slow=8.2,SNR=1630
FINES PcP PcP 22 06 07.8 -0.7
comp=Z,11nm,0.6s,baz=135,slow=2.8,SNR=5.8
FINES S **S 22 06 20.4 +0.1**
comp=Z,8.3nm,0.7s,baz=200,slow=12,SNR=3.2
FINES PKiKP PKiKP 22 13 50.0 -1.9
comp=Z,2.6nm,0.7s,baz=131,slow=5.3,SNR=5.8
FINES FINESS Array B 23.18 13 P **P 22 02 27.8 -0.9**
FINES PcP PcP 22 06 07.8 -0.6
FINES S **S 22 06 20.4 +0.1**
FINES PKiKP PKiKP 22 13 50.0 -1.9
FINES FINESS Array B 23.18 13 P **P 22 02 27.8 -0.9**
FINES 22 06 07.8
FINES S **S 22 06 20.4 +0.1**
FINES pmax pmax
comp=Z,320nm,0.6s
FINES pmax pmax
comp=Z,11nm,0.6s
FINES smax
comp=N,8.0nm,0.7s
FINES pmax pmax
comp=Z,3.0nm,0.7s
FOO Floro 23.29 347 *eP* **P 22 02 26.9 -2.8**
FOO Floro 23.29 347 *eP* **P 22 02 27.0 -2.7**
SNR=44
IMRD Marand 23.47 82 P **P 22 02 31.5 -0.2**
IMRD Marand 23.47 82 *eP* **P 22 02 31.6 -0.1**
ISHB Shabestar 23.49 83 P **P 22 02 31.7 -0.1**
ISHB Shabestar 23.49 83 *eP* **P 22 02 31.8 0.0**
KAF Kangasniemi 23.84 13 *eP* **P 22 02 33.6 -1.1**
KAF pmax pmax
comp=Z,56nm,0.5s,mb5.2
KAF Kangasniemi 23.84 13 *ep* **P 22 02 33.6 -1.1**
comp=Z,56nm,0.5s,mb5.2
MOL Molde 23.85 351 *eP* **P 22 02 34.7 -0.1**
MOL Molde 23.85 351 *eP* **P 22 02 34.7 -0.1**
SNR=44
DBC Dubki 23.85 71 *i* P **P 22 02 35.0 -0.1**
IAZR Azarshahr 23.90 84 P **P 22 02 35.6 0.0**
IAZR Azarshahr 23.90 84 *eP* **P 22 02 35.6 0.0**
ITBZ Tabriz 23.91 83 P **P 22 02 35.2 -0.4**
ITBZ Tabriz 23.91 83 *eP* **P 22 02 35.3 -0.3**
BHD Baghdad 24.01 95 *i* x x 22 02 36.0
BHD *i* x x 22 03 17.7
BHD *i* x x 22 06 16.7
BHD *i* x x 22 06 32.0
BHD *i* x x 22 07 42.0
SARR Saratov 24.05 50*ceP* **P 22 02 36.7 -0.1**
SARR *i* S **S 22 06 34.0 -0.5**
SARR pmax pmax
comp=Z,174nm,0.5s,mb5.6
IFTB Fath-abad 24.14 83 *eP* **P 22 02 37.0 -0.8**
TBLU Trondheim 24.25 354 *eP* **P 22 02 32.9 -5.5**
MAK Makhachkala 24.35 71*c i* P **P 22 02 40.1 +0.5**
MAK *e**PP 22 03 25.1
MAK *e**SP sP 22 03 57.1 -2.3
MAK *i* S **S 22 06 38.5 -0.9**
MAK *e**SS sS 22 08 04.6 -1.9
MAK MLR MLR
comp=Z,271nm,13.0s
IHRS Heris 24.58 82 P **P 22 02 41.3 -0.4**
IHRS Heris 24.58 82 *eP* **P 22 02 41.4 -0.3**
IDHR Dehrash 25.05 91 *eP* **P 22 02 46.4 +0.4**
IGHG Ghaleghazi 25.32 91 *eP* **P 22 02 49.0 +0.6**
NSS Namsos 25.41 356 *eP* **P 22 02 46.4 -2.4**
NSS Namsos 25.41 356 *eP* **P 22 02 46.4 -2.5**
SNR=43
IVIS Veis 25.47 91 *eP* **P 22 02 49.9 +0.1**
JOF Joensuu 25.57 17 *eP* **P 22 02 49.4 -0.9**
JOF pmax pmax
comp=Z,10.0nm,0.4s,mb4.6
JOF Joensuu 25.57 17 *ep* **P 22 02 49.4 -0.9**
comp=Z,10.0nm,0.4s,mb4.6
IKOM Komasi 26.11 91 *eP* **P 22 02 55.8 +0.3**
KLMR Klimovskoe 26.30 27*d i* P **P 22 02 55.5 -1.3**
KLMR *e* pP 22 03 42.9 -4.1
KLMR *e*S **S 22 07 09.4 -0.2**
KLMR pmax pmax
comp=Z,84nm,0.8s,mb5.2
MOR8 Moi Rana 26.98 359 *eP* **P 22 03 02.2 -0.6**
MOR8 Moi Rana 26.98 359 *eP* **P 22 03 02.2 -0.6**
SNR=43
FLOS Flostrand 27.17 358 *eP* **P 22 03 04.1 -0.4**
STOK Stokkvaagen 27.18 358 *eP* **P 22 03 04.0 -0.5**
RST Umm Al-Ruwaisa 27.67 101 *eP* **P 22 03 09.6 +0.2**
RST AMb AMB 22 03 10.9
comp=Z,28nm,0.9s,mb4.7
RST Umm Al-Ruwaisa 27.67 101 *eP* **P 22 03 09.6 +0.2**
comp=Z,28nm,0.9s,mb4.7
MIB Mutribah 27.78 100 *eP* **P 22 03 10.8 +0.4**
MIB AMb AMB 22 03 11.6
comp=Z,202nm,0.8s,mb5.6
MIB Mutribah 27.78 100 *eP* **P 22 03 10.8 +0.4**
comp=Z,202nm,0.8s,mb5.6
NAY Al-Naaiem 27.98 101 *eP* **P 22 03 12.2 +0.1**
NAY AMb AMB 22 03 14.4
comp=Z,44nm,1.1s,mb4.8
NAY Al-Naaiem 27.98 101 *eP* **P 22 03 12.2 +0.1**
comp=Z,44nm,1.1s,mb4.8
UMR Umm Al-Rimmam 28.19 100 *eP* **P 22 03 14.3 +0.3**
UMR AMb AMB 22 03 15.6
comp=Z,150nm,1.3s,mb5.3
UMR Umm Al-Rimmam 28.19 100 *eP* **P 22 03 14.3 +0.3**
comp=Z,150nm,1.3s,mb5.3
KBD Kabd 28.35 101 *eP* **P 22 03 15.7 +0.3**
KBD AMb AMB 22 03 18.1
comp=Z,122nm,1.3s,mb5.2
KBD Kabd 28.35 101 *eP* **P 22 03 15.7 +0.2**
comp=Z,122nm,1.3s,mb5.2
RDF Al-Radifah 28.37 101 *eP* **P 22 03 16.5 +0.9**
RDF AMb AMB 22 03 18.0
comp=Z,184nm,1.0s,mb5.5
RDF Al-Radifah 28.37 101 *eP* **P 22 03 16.5 +0.9**
comp=Z,184nm,1.0s,mb5.5
IR3 Iran Long-Peri 28.40 86 *eP* **P 22 03 15.2 -0.6**
TORD Torodi Ar. Bea 28.70 209 P **P 22 03 18.5 -0.1**
comp=Z,19nm,0.5s,mb4.8,baz=14,slow=9.3,SNR=344
TORD PP PP 22 04 20.1 -9.1
comp=Z,7.3nm,1.0s,baz=13,slow=7.0,SNR=3.9
TORD PcP PcP 22 06 20.8 -1.2
comp=Z,4.2nm,0.5s,baz=360,slow=1.3,SNR=5.3
TORD S **S 22 07 46.0 -2.2**
comp=Z,1.0nm,0.5s,baz=3.4,slow=7.4,SNR=3.7
TORD ScP ScP 22 09 37.3 -1.0
comp=Z,1.2nm,0.8s,baz=349,slow=2.2,SNR=2.9
TORD Torodi Ar. Bea 28.70 209 P **P 22 03 18.5 -0.1**
TORD PP PP 22 04 20.1 -9.1
TORD PcP PcP 22 06 20.8 -1.2
TORD S **S 22 07 46.0 -2.2**
TORD ScP ScP 22 09 37.3 -1.0
STEI Steigen 28.74 360 *eP* **P 22 03 17.7 -0.7**
LOF Lofoten 28.96 359 *eP* **P 22 03 15.5 -4.9**
IKLH Kolahrood 29.57 90 P **P 22 03 26.8 +0.6**
IKLH Kolahrood 29.57 90 *eP* **P 22 03 26.8 +0.6**
IFIR Firoozkooh 29.69 85 P **P 22 03 26.9 -0.3**
IFIR Firoozkooh 29.69 85 *eP* **P 22 03 26.9 -0.3**
ISFB Sefidab 29.72 88 P **P 22 03 26.7 -0.7**
ISFB Sefidab 29.72 88 *eP* **P 22 03 26.7 -0.7**
RAYN Ar Rayn 29.88 113 P **P 22 03 30.5 +1.5**
comp=Z,255nm,1.1s,mb5.7,SNR=32
ILAS Lasjerd 29.93 85 P **P 22 03 28.0 -1.3**
ILAS Lasjerd 29.93 85 *eP* **P 22 03 28.0 -1.3**
ISHM Shahmirzad 30.06 85 P **P 22 03 30.3 -0.1**
ISHM Shahmirzad 30.06 85 *eP* **P 22 03 30.3 -0.1**
APA Apatity 30.08 14 ⇓*i* P **P 22 03 30.0 -0.2**
APA *i* *PP pP 22 04 25.0 +3.9
APA pmax pmax
comp=Z,140nm,1.4s,mb5.3
KTK1 Kautokeino 30.13 6 *eP* **P 22 03 28.6 -2.0**
KTK1 Kautokeino 30.13 6 *eP* **P 22 03 28.6 -2.0**
SNR=42
IGAR Gharneh 30.29 92 *eP* **P 22 03 32.5 +0.1**
IZEF Zefreh 30.32 90 P **P 22 03 32.1 -0.6**
IZEF Zefreh 30.32 90 *eP* **P 22 03 32.2 -0.5**
TRO Tromso 30.51 2 *eP* **P 22 03 32.2 -1.8**
TRO AMB AMB 22 03 33.0

comp=Z,171nm,1.4s,mb5.4
TRO Tromso 30.51 2 *e*P **P 22 03 32.2 -1.7**
comp=Z,171nm,1.4s,mb5.4,SNR=42
LVZ Lovozero 30.60 14 P **P 22 03 34.2 -0.6**
LVZ Lovozero 30.60 14*c i*P **P 22 03 34.2 -0.6**
LVZ pmax pmax
comp=Z,161nm,1.4s,mb5.4
LVZ Lovozero 30.60 14 P **P 22 03 34.3 -0.5**
comp=Z,525nm,1.3s,mb5.9,SNR=6.6
IANJ Anjilo 30.64 85 P **P 22 03 34.2 -1.3**
IANJ Anjilo 30.64 85 *e*P **P 22 03 34.2 -1.3**
ARCES ARCESS Array B 30.83 7 P **P 22 03 35.0 -1.7**
comp=Z,104nm,0.8s,mb5.4,baz=182,slow=9.3,SNR=224
ARCES PcP PcP 22 06 25.6 -1.1
comp=Z,5.3nm,0.4s,baz=146,slow=6.4,SNR=5.4
ARCES S **S 22 08 16.8 -3.6**
comp=Z,15nm,0.8s,baz=193,slow=16,SNR=8.9
ARCES ScP ScP 22 09 42.4 -1.9
comp=Z,3.0nm,0.6s,baz=165,slow=5.0,SNR=5.8
ARCES ARCESS Array B 30.83 7 P **P 22 03 35.0 -1.7**
ARCES PcP PcP 22 06 25.6 -1.1
ARCES S **S 22 08 16.8 -3.6**
ARCES ScP ScP 22 09 42.4 -1.9
ARCES ARCESS Array B 30.83 7 P **P 22 03 35.0 -1.7**
ARCES 22 06 25.6
ARCES S **S 22 08 16.8 -3.6**
ARCES pmax pmax
comp=Z,104nm,0.8s
ARCES pmax pmax
comp=Z,5.0nm,0.4s
ARCES smax
comp=N,15nm,0.8s
ARCES pmax pmax
comp=N,3.0nm,0.6s
ARE0 ARCESS Array S 30.83 7 *e*P **P 22 03 34.8 -2.0**
ARE0 ARCESS Array S 30.83 7 *e*P **P 22 03 34.8 -2.0**
ARE0 ARCESS Array S 30.83 7 *e*P **P 22 03 34.8 -1.9**
SNR=42
KEV Kevo 31.19 8 *e*P **P 22 03 38.5 -1.3**
comp=N,32nm,0.7s,mb5.0
KEV *e*pP pP 22 04 31.2 +0.2
KEV Kevo 31.19 8 *e*P **P 22 03 38.6 -1.3**
KEV *e**PP pP 22 04 31.2 +0.2
KEV pmax pmax
comp=Z,32nm,0.7s,mb5.0
KEV Kevo 31.19 8 *e*p **P 22 03 38.3 -1.6**
comp=Z,20nm,0.4s,mb5.0
ISAD Sadrabad 31.76 91 P **P 22 03 45.1 -0.2**
ISAD Sadrabad 31.76 91 *e*P **P 22 03 45.1 -0.2**
AKTO Aktyubinsk 31.77 55 S **S 22 08 33.6 -1.8**
comp=Z,5.2nm,0.6s,baz=52,slow=21,SNR=8.1
AKTO Aktyubinsk 31.77 55 S **S 22 08 33.6 -1.8**
PSMN Pico do Norte, 31.78 279 *e*P **P 22 03 45.6 +0.2**
comp=Z,330nm,1.2s,mb5.7
PSMN Pico do Norte, 31.78 279 *e*P **P 22 03 45.6 +0.2**
comp=Z,330nm,1.2s,mb5.7
PSMA Santa Maria 31.83 279 *e*P **P 22 03 46.3 +0.4**
comp=Z,230nm,0.9s,mb5.7
PSMA Santa Maria 31.83 279 P **P 22 03 46.2 +0.3**
PDA Ponta Delgada 32.03 281 *e*P **P 22 03 48.4 +0.8**
comp=Z,361nm,1.0s,mb5.9
PDA Ponta Delgada 32.03 281 *e*P **P 22 03 48.4 +0.8**
comp=Z,361nm,1.0s,mb5.9
IPAR Pars 32.16 95 P **P 22 03 49.8 +1.0**
IPAR Pars 32.16 95 *e*P **P 22 03 49.9 +1.1**
ICHK Chekchek 32.19 90 P **P 22 03 48.1 -0.9**
ICHK Chekchek 32.19 90 *e*P **P 22 03 48.2 -0.8**
ISRV Sarvestan 32.42 96 P **P 22 03 52.5 +1.4**
ISRV Sarvestan 32.42 96 *e*P **P 22 03 52.6 +1.5**
IMEH Mehriz 32.70 92 P **P 22 03 53.6 +0.1**
IMEH Mehriz 32.70 92 *e*P **P 22 03 53.6 +0.1**
SOKR Solikamsk 32.95 38*d i*P **P 22 03 55.6 +0.3**
SOKR pmax pmax
comp=Z,80nm,0.8s,mb5.3
ABKAR Akbulak array 32.97 58⇑ *i*P **P 22 03 55.5 -0.1**
comp=Z,30nm,0.7s,mb4.9
ABKAR *e*pP pP 22 04 45.9 -1.1
ABKAR *e*PP PP 22 05 15.3 -0.6
ABKAR *e*PcP PcP 22 06 32.1 -0.8
ABKAR *e*S **S 22 08 52.9 -1.1**
ABKAR *e*ScP ScP 22 09 50.7 -1.3
ARU Arti 32.98 44 *e*P **P 22 03 55.0 -0.6**
comp=Z,68nm,1.1s,mb5.1
ARU *e*pP pP 22 04 44.8 -2.2
ARU *e*PP PP 22 05 15.0 -0.9
ARU *e*PcP PcP 22 06 32.0 -0.8
ARU *e*S **S 22 08 53.5 -0.5**
ARU Arti 32.98 44*c i*P **P 22 03 54.9 -0.7**
ARU *PP pP 22 04 44.1 -2.9
ARU *e* 22 05 14.4
ARU *e* 22 06 31.9
ARU *e*S **S 22 08 53.0 -1.0**
ARU *SS sS 22 10 21.1 -5.3
ARU *e* 22 13 50.0
ARU pmax pmax
comp=Z,59nm,1.2s,mb5.0
ARU Arti 32.98 44 P **P 22 03 55.7 +0.1**
comp=Z,248nm,0.5s,mb6.0,SNR=14
ADH Angra Heroismo 32.99 283 *e*P **P 22 03 56.9 +1.0**
comp=Z,265nm,1.2s,mb5.6
ADH Angra Heroismo 32.99 283 P **P 22 03 56.8 +0.9**
ADH Angra Heroismo 32.99 283 *e*P **P 22 03 56.9 +1.0**
comp=Z,265nm,1.2s,mb5.6
ABKT Ailbek 33.15 79 P **P 22 03 57.4 +0.1**
comp=Z,536nm,0.9s,mb6.1,SNR=23
BORG Borgarnes 33.29 332 P **P 22 03 59.0 +0.8**
comp=Z,45nm,0.9s,mb5.0,baz=152,slow=4.4,SNR=5.8
BORG Borgarnes 33.29 332 P **P 22 03 59.0 +0.8**
BORG Borgarnes 33.29 332 P **P 22 03 59.0 +0.8**
BORG pmax pmax
comp=Z,45nm,0.9s
IBAF Bafgh 33.35 91 P **P 22 03 58.7 -0.4**
IBAF Bafgh 33.35 91 *e*P **P 22 03 58.8 -0.3**
PMAN Manadas 33.64 283 *e*P **P 22 04 02.7 +1.2**
comp=Z,427nm,1.1s,mb5.9
PMAN Manadas 33.64 283 P **P 22 04 02.6 +1.1**
PMAN Manadas 33.64 283 *e*P **P 22 04 02.7 +1.2**
comp=Z,427nm,1.1s,mb5.9
ROSA Rosais 33.73 283 *e*P **P 22 04 03.6 +1.3**
comp=Z,339nm,1.4s,mb5.7
ROSA Rosais 33.73 283 P **P 22 04 03.5 +1.2**
ROSA Rosais 33.73 283 *e*P **P 22 04 03.6 +1.3**
comp=Z,339nm,1.4s,mb5.7
IKRD Kardeh 33.78 80 P **P 22 04 08.6 +5.9**
IKRD Kardeh 33.78 80 *e*P **P 22 04 08.7 +6.0**
SVE Sverdlovsk 34.19 44⇓ *e*P **P 22 04 06.0 +0.1**
SVE pmax pmax
comp=Z,63nm,1.0s,mb5.1
IPAY Payeh 34.25 81 P **P 22 04 07.5 +0.7**
IPAY Payeh 34.25 81 *e*P **P 22 04 07.6 +0.8**
IMOG Moghan 34.62 81 P **P 22 04 09.6 -0.3**
IMOG Moghan 34.62 81 *e*P **P 22 04 09.7 -0.2**
ISRO Mashad 34.66 81 *e*P **P 22 04 09.4 -0.9**
IMYA Miami 35.13 80 P **P 22 04 14.2 -0.1**
IMYA Miami 35.13 80 *e*P **P 22 04 14.2 -0.1**
ITEG Tejag 35.30 87 *e*P **P 22 04 16.4 +0.6**
IKOO Kooshah 35.68 87 *e*P **P 22 04 19.3 +0.3**
IMON Monand 35.90 86 *e*P **P 22 04 21.6 +0.8**
IMON Monand 35.90 86 *e*P **P 22 04 21.6 +0.8**
IDAH Dahanechah 36.23 86 *e*P **P 22 04 24.2 +0.6**
IDAH Dahanechah 36.23 86 *e*P **P 22 04 24.2 +0.6**
ASUD Al Ashush, Dub 36.53 101 P **P 22 04 27.3 +1.0**
SNR=5.4
NAZ Nazwa, Dubai 36.59 101 P **P 22 04 27.4 +0.7**
SNR=5.6
SCO Scoresbysund 36.80 340 *i* P **P 22 04 27.6 -0.4**
SCO pmax pmax
comp=Z,31nm,0.8s,mb4.8
SCO Scoresbysund 36.80 340 *i* P **P 22 04 27.6 -0.4**
comp=Z,31nm,0.8s,mb4.8
HATD Hatta, Dubai 37.03 101 P **P 22 04 30.8 +0.3**
SNR=8.6
DBIC Dimbokro 37.24 215 P **P 22 04 32.0 -0.3**
comp=Z,109nm,0.4s,mb5.6,baz=10,slow=9.8,SNR=467
DBIC S **S 22 09 56.2 -3.5**
comp=Z,5.3nm,0.8s,baz=157,slow=18,SNR=5.7
DBIC Dimbokro 37.24 215⇓ *e*P **P 22 04 31.9 -0.4**
comp=Z,120nm,0.5s,mb5.6
DBIC S **S 22 09 56.2 -3.5**
DBIC *e*S **S 22 09 56.9 -2.9**
DBIC Dimbokro 37.24 215 P **P 22 04 32.0 -0.3**
DBIC S **S 22 09 56.3 -3.5**
DBIC pmax pmax
comp=Z,109nm,0.4s
DBIC smax
comp=N,5.0nm,0.9s
BBTS Babate 37.26 238 P **P 22 04 33.2 +0.8**
comp=N,28nm,0.5s,mb5.0,baz=281,slow=0.5,SNR=20
BBTS PP PP 22 06 04.3 +0.9
comp=N,37nm,0.7s,baz=136,slow=0.7,SNR=5.1
BBTS Babate 37.26 238 P **P 22 04 33.2 +0.8**
BBTS PP PP 22 06 04.3 +0.9
LIC Lamto 37.71 215⇓ *i*P **P 22 04 36.0 -0.2**
comp=N,361nm,0.5s,mb5.8,baz=27
LIC Lamto 37.71 215⇓ *i*P **P 22 04 36.0 -0.2**
comp=N,361nm,0.5s,mb6.1
ARQ Araqi 38.15 102 P **P 22 04 40.5 +0.6**
SNR=20
BSY Bisya 39.00 102 P **P 22 04 47.2 +0.4**
SNR=12
SPA0 Spitsbergen Ar 39.05 0 *e*P **P 22 04 46.3 -0.3**
SPA0 Spitsbergen Ar 39.05 0 *e*P **P 22 04 46.3 -0.3**
SNR=39
SPITS Spitsbergen Ar 39.05 0 P **P 22 04 46.5 0.0**
comp=N,86nm,0.5s,mb5.5,baz=155,slow=19,SNR=342
SPITS Spitsbergen Ar 39.05 0 P **P 22 04 46.5 0.0**
SPITS Spitsbergen Ar 39.05 0 P **P 22 04 46.6 0.0**
SPITS pmax pmax
comp=Z,86nm,0.5s
SPB4 Spitsbergen Ar 39.05 0 *e*P **P 22 04 46.1 -0.5**
BRVK Borovoye 39.43 51 *e*P **P 22 04 50.4 +0.4**
comp=Z,86nm,0.8s,mb5.2
BRVK *e*pP pP 22 05 42.2 -0.7
BRVK *e*PP PP 22 06 25.4 -1.0
BRVK *e*PcP PcP 22 06 51.2 -1.1
BRVK *e*ScP ScP 22 10 12.7 -3.1
BRVK *e*S **S 22 10 31.3 -0.4**
BRVK Borovoye 39.43 51*c i*P **P 22 04 50.4 +0.3**
BRVK pmax pmax
comp=Z,113nm,1.0s,mb5.2
BRVK Borovoye 39.43 51 P **P 22 04 50.7 +0.7**
SNR=26
SMDO Samad 39.47 101 P **P 22 04 50.7 0.0**
SNR=33
BVAR Borovoye Array 39.50 51 PP PP 22 06 31.9 +4.8
comp=Z,18nm,0.8s,baz=266,slow=8.9,SNR=5.1
BVAR ScP ScP 22 10 15.0 -1.1
comp=Z,1.8nm,0.8s,baz=264,slow=3.0,SNR=3.9
BVAR S **S 22 10 32.1 -0.6**
comp=Z,11nm,1.0s,baz=265,slow=13,SNR=7.2
BVAR Borovoye Array 39.50 51 PP PP 22 06 31.9 +4.8
BVAR ScP ScP 22 10 15.0 -1.1
BVAR S **S 22 10 32.1 -0.6**
KBS Kingsbay 39.83 359 *e*P **P 22 04 53.0 +0.1**
KBS Kingsbay 39.83 359 *e*P **P 22 04 53.2 +0.2**
comp=Z,99nm,1.3s,mb5.0
KBS *e*PcP PcP 22 06 56.9 +3.7
KBS Kingsbay 39.83 359 *e*P **P 22 04 53.2 +0.2**
KBS *e* 22 06 56.9
KBS pmax pmax
comp=Z,99nm,1.3s,mb5.0
JMDO Jabal Madar 39.90 102 P **P 22 04 54.3 0.0**
SNR=9.7
RBK Rabkut 39.97 112 P **P 22 04 55.5 +0.6**
SNR=7.9
WBK Wadi Bani Khal 40.42 101 P **P 22 04 59.0 +0.4**
SNR=7.5
DAG Danmarks Havn 40.43 349 *i* P **P 22 04 57.4 -0.6**
DAG pmax pmax
comp=Z,54nm,0.8s,mb4.9
DAG Danmarks Havn 40.43 349 *i* P **P 22 04 57.4 -0.6**
comp=Z,72nm,0.8s,mb5.0
MSKU Masuku 40.73 183 P **P 22 05 00.5 -0.6**
comp=Z,22nm,0.3s,mb4.8,baz=5.2,slow=11,SNR=28
MSKU PcP PcP 22 06 56.2 -0.9
comp=Z,20nm,0.8s,baz=339,slow=22,SNR=4.3
MSKU Masuku 40.73 183 P **P 22 05 00.5 -0.6**
MSKU PcP PcP 22 06 56.2 -0.9
KKAR Karatay Array 40.99 66 *e*P **P 22 05 02.9 0.0**
comp=Z,51nm,0.8s,mb4.8
KKAR *e*pP pP 22 05 55.9 -0.4
KKAR *e*PP PP 22 06 44.7 +1.4
KKAR *e*S **S 22 10 54.2 -0.9**
KKAR Karatay Array 40.99 66 *e*P **P 22 05 02.9 -0.1**
KKAR *e**PP pP 22 05 55.9 -0.3
KKAR *e* 22 06 44.7
KKAR *e*S **S 22 10 54.2 -0.9**
KKAR pmax pmax
comp=Z,51nm,0.8s,mb4.8
SUMG Summit 42.39 339 *e*P **P 22 05 13.9 +0.1**
comp=Z,62nm,0.9s,mb4.8
SUMG *e*PcP PcP 22 07 01.7 0.0
SUMG Summit 42.39 339 *e*P **P 22 05 14.0 +0.2**
SUMG *e* 22 07 01.7
SUMG pmax pmax
comp=Z,61nm,0.9s
SUMG Summit 42.39 339⇓ *i*P **P 22 05 14.2 +0.4**
comp=Z,58nm,0.9s,mb4.8
KBL Kabul 42.59 79 *e*P **P 22 05 15.8 -0.2**
comp=Z,21nm,0.8s,mb4.4
KBL *e*pP pP 22 06 09.4 -0.2
KBL Kabul 42.59 79 *e*P **P 22 05 15.8 -0.2**
KBL *e**PP pP 22 06 09.5 -0.2
KBL pmax pmax
comp=Z,21nm,0.8s,mb4.4
EKS2 Erkin-Say 43.43 66 P **P 22 05 23.3 +0.8**
SNR=14
EKS2 P 22 05 23.3
SNR=14
EKS2 Erkin-Say 43.43 66 *e*P **P 22 05 23.1 +0.6**
comp=Z,56nm,0.8s,mb4.8
EKS2 *e*pP pP 22 06 15.4 -1.0
EKS2 Erkin-Say 43.43 66 *e*P **P 22 05 23.1 +0.6**
EKS2 *e**PP pP 22 06 15.4 -1.0
EKS2 pmax pmax
comp=Z,56nm,0.8s,mb4.8
AML Almayashu 43.52 67 P **P 22 05 23.5 +0.3**
SNR=13
AML P 22 05 23.5
SNR=13
AML Almayashu 43.52 67 P **P 22 05 23.5 +0.3**
AML Almayashu 43.52 67 P **P 22 05 23.5 +0.3**
USP Ospenovka 43.77 65 P **P 22 05 24.7 -0.6**
SNR=9.4
USP P 22 05 24.7
SNR=9.4
USP Ospenovka 43.77 65 P **P 22 05 24.7 -0.5**
USP Ospenovka 43.77 65 P **P 22 05 24.7 -0.5**
AAK Ala-Archa 43.94 66 P **P 22 05 27.2 +0.6**
SNR=16
AAK P 22 05 27.2
SNR=16
AAK Ala-Archa 43.94 66 *e*P **P 22 05 26.9 +0.3**
comp=Z,64nm,0.8s,mb4.9
AAK *e*pP pP 22 06 20.2 -0.4
AAK *e*PP PP 22 07 14.2 -0.4
AAK *e*ScP ScP 22 10 34.6 +0.6
AAK Ala-Archa 43.94 66 *e*P **P 22 05 26.9 +0.3**
AAK *e**PP pP 22 06 20.2 -0.4
AAK *e* 22 07 14.2
AAK pmax pmax
comp=Z,64nm,0.8s,mb4.9
AAK Ala-Archa 43.94 66 P **P 22 05 27.0 +0.4**
comp=Z,106nm,0.8s,mb5.2
AAK Ala-Archa 43.94 66 P **P 22 05 27.0 +0.4**
comp=Z,114nm,0.9s,mb5.1,SNR=13
AAK Ala-Archa 43.94 66 P **P 22 05 27.7 +1.1**
SNR=5.8
CHMS Chumysh 44.02 65 P **P 22 05 27.9 +0.6**
SNR=17
CHMS P 22 05 27.9
SNR=17
KBK Karagaybulak 44.26 66 P **P 22 05 29.7 +0.6**
SNR=12
KBK P 22 05 29.7
SNR=12
KBK Karagaybulak 44.26 66 P **P 22 05 29.7 +0.6**
KBK Karagaybulak 44.26 66 P **P 22 05 29.7 +0.6**
KZA Kyzart 44.64 66 P **P 22 05 33.7 +1.6**
SNR=23
KZA P 22 05 33.7
SNR=23
KZA Kyzart 44.64 66 P **P 22 05 33.7 +1.6**
KZA Kyzart 44.64 66 P **P 22 05 33.7 +1.6**
TKM2 Tokmak 2 44.64 65 P **P 22 05 31.9 -0.1**
SNR=7.9
TKM2 P 22 05 31.9
SNR=7.9
TKM2 Tokmak 2 44.64 65 *e*P **P 22 05 31.5 -0.6**
comp=Z,11nm,1.0s,mb4.0
TKM2 *e*pP pP 22 06 26.8 +0.5
TKM2 *e*PP PP 22 07 20.0 -1.8
TKM2 *e*ScP ScP 22 10 36.6 -0.3
TKM2 *e*S **S 22 11 47.5 -0.6**
TKM2 Tokmak 2 44.64 65 *e*P **P 22 05 31.5 -0.6**
TKM2 *e**PP pP 22 06 26.8 +0.5
TKM2 *e* 22 07 20.0
TKM2 *e*S **S 22 11 47.5 -0.6**
TKM2 pmax pmax
comp=Z,11nm,1.0s,mb4.0
KURK Kurchatov 44.83 54 PcP PcP 22 07 10.6 +0.2
comp=Z,12nm,0.9s,baz=285,slow=4.1,SNR=7.3
KURK ScP ScP 22 10 36.2 -1.3
comp=Z,7.6nm,0.9s,baz=283,slow=4.7,SNR=7.5
KURK S **S 22 11 49.1 -1.5**
comp=Z,23nm,1.1s,baz=292,slow=17,SNR=20
KURK Kurchatov 44.83 54 *e*P **P 22 05 33.6 +0.2**
comp=Z,42nm,0.9s,mb4.7
KURK *e*PcP PcP 22 07 10.3 -0.1
KURK PcP PcP 22 07 10.6 +0.3
KURK *e*PP PP 22 07 21.2 -2.3
KURK *e*ScP ScP 22 10 35.8 -1.7
KURK ScP ScP 22 10 36.2 -1.3
KURK *e*S **S 22 11 48.6 -1.9**
KURK S **S 22 11 49.1 -1.5**
KURK Kurchatov 44.83 54 *e*P **P 22 05 33.6 +0.2**
KURK 22 07 10.6
KURK *e* 22 07 21.2
KURK *e*S **S 22 11 48.6 -2.0**
KURK S **S 22 11 49.1 -1.5**
KURK pmax pmax
comp=Z,42nm,0.9s,mb4.7
KURK Kurchatov 44.83 54 P **P 22 05 33.5 +0.1**
SNR=12
KURK Kurchatov 44.83 54 P **P 22 05 33.6 +0.2**
comp=Z,296nm,0.8s,mb5.6,SNR=32
KMBO Kilima Mbogo 44.88 148 *e*P **P 22 05 33.5 -0.8**
comp=Z,8.7nm,1.2s,mb3.9
KMBO *e*pP pP 22 06 29.1 +0.5
KMBO Kilima Mbogo 44.88 148 *e*P **P 22 05 33.5 -0.7**
KMBO *e**PP pP 22 06 29.1 +0.6
KMBO pmax pmax
comp=Z,9.0nm,1.2s
SFJD Kangerlussuaq 45.33 330 *e*P **P 22 05 37.5 +0.4**
comp=Z,184nm,1.2s,mb5.2
SFJD Kangerlussuaq 45.33 330 *e*P **P 22 05 37.5 +0.4**
SFJD pmax pmax
comp=Z,184nm,1.2s,mb5.2
SFJD Kangerlussuaq 45.33 330 *i* P **P 22 05 36.5 -0.6**
comp=Z,66nm,1.0s,mb4.8
KSH Kashi 45.98 69 P **P 22 05 41.8 -0.8**
KSH pP pP 22 06 35.8 -1.3
KSH sP sP 22 07 04.1 -2.1
KSH PcP PcP 22 07 16.0 +1.4
KSH PP PP 22 07 32.6 -1.6
KSH ScP ScP 22 10 43.1 +0.6
KSH PcS PcS 22 11 09.3 -0.1
KSH S **S 22 12 03.3 -4.0**
KSH sS sS 22 13 39.3 -4.6
KSH ScS ScS 22 15 07.8 -2.0
KSH SS SS 22 15 26.6 -8.8
KSH pmax pmax
comp=Z,36nm,1.1s,mb4.6
KSH pmax pmax
comp=Z,120nm,5.4s
KSH LR LR
comp=N,260nm,6.8s
KSH LR LR
comp=E,88nm,6.4s
KSH LR LR
comp=Z,61nm,4.4s
NVS Novosibirsk 46.86 47⇑ *i*P **P 22 05 49.5 +0.3**
NVS *e**PP pP 22 06 42.4 -1.5
NVS *i* 22 07 09.9
NVS *i* 22 07 39.3
NVS *e* 22 15 09.9
NVS pmax pmax
comp=Z,46nm,1.2s,mb4.7
NVS pmax pmax
comp=E,22nm,1.3s
NVS pmax pmax
comp=E,18nm,1.2s
NVS pmax pmax
comp=Z,34nm,1.2s,mb4.5
ZAA0 Zalesovo Array 47.93 48 *e*P **P 22 05 56.7 -0.8**
ZAA0 *e*pP pP 22 06 52.2 -0.2
ZAA0 *e*S **S 22 12 32.5 -2.0**
ZALV Zalesovo Beam 47.93 48 P **P 22 05 57.0 -0.4**
comp=Z,9.3nm,0.5s,mb4.4,baz=286,slow=8.4,SNR=54
ZALV PP PP 22 07 49.6 -2.1
comp=Z,14nm,0.9s,baz=283,slow=9.0,SNR=3.7
ZALV ScP ScP 22 10 49.1 -1.3
comp=Z,2.8nm,0.8s,baz=270,slow=5.2,SNR=4.6
ZALV S **S 22 12 32.9 -1.5**
comp=Z,11nm,1.0s,baz=280,slow=8.9,SNR=14
ZALV Zalesovo Beam 47.93 48 P **P 22 05 57.0 -0.4**
ZALV PP PP 22 07 49.6 -2.1
ZALV ScP ScP 22 10 49.1 -1.3
ZALV S **S 22 12 32.9 -1.5**
ZALV Zalesovo Beam 47.93 48 P **P 22 05 57.1 -0.3**
ZALV 22 07 49.6
ZALV S **S 22 12 32.9 -1.6**
ZALV pmax pmax
comp=Z,9.0nm,0.5s,mb4.4
ZALV pmax pmax
comp=Z,14nm,0.9s,mb4.3
ZALV pmax pmax
comp=N,3.0nm,0.8s
ZALV smax
comp=N,11nm,1.0s
MK31 Makanchi Array 48.11 58 *e*P **P 22 05 58.5 -0.4**
MK31 *e*pP pP 22 06 51.8 -2.1
MK31 *e*ScP ScP 22 10 50.0 -1.4
MK31 *e*S **S 22 12 36.2 -0.9**
MK31 Makanchi Array 48.11 58 *e*P **P 22 05 58.5 -0.4**
MK31 *e**PP pP 22 06 51.8 -2.1
MK31 *e*S **S 22 12 36.2 -0.9**
MKAR Makanchi Array 48.11 58 P **P 22 05 58.7 -0.2**
comp=N,14nm,0.4s,mb4.7,baz=284,slow=6.3,SNR=159
MKAR ScP ScP 22 10 50.1 -1.3
comp=N,9.8nm,1.0s,baz=289,slow=3.7,SNR=9.3
MKAR S **S 22 12 36.5 -0.7**
comp=N,6.5nm,0.9s,baz=275,slow=13,SNR=11
MKAR Makanchi Array 48.11 58 P **P 22 05 58.7 -0.2**
MKAR ScP ScP 22 10 50.1 -1.3
MKAR S **S 22 12 36.5 -0.7**
MKAR Makanchi Array 48.11 58 P **P 22 05 58.7 -0.2**
MKAR S **S 22 12 36.5 -0.6**
MKAR pmax pmax
comp=Z,14nm,0.4s
MKAR pmax pmax
comp=N,10.0nm,1.0s
MKAR smax
comp=N,7.0nm,1.0s
BHJ Bhuj 48.30 93 *ex* pP 22 06 59.8 +4.1
BHJ AMb AMB 22 07 03.9
comp=Z,139nm,1.5s,mb5.1
ALE Alert 49.75 350 P **P 22 06 10.9 0.0**
comp=Z,220nm,0.5s,mb5.7,SNR=6.7
SMLA Simla 50.23 79 *i* P **P 22 06 13.4 -1.7**
SMLA *i* x **S 22 13 02.0 -5.0**
NDI New Delhi 51.41 82 *e*PKP **P 22 06 22.1 -1.8**
NDI AMb AMB 22 06 24.3
comp=Z,92nm,1.0s,mb5.1
WMQ Urumqi 52.68 60 P **P 22 06 33.3 +0.2**
WMQ pP pP 22 07 29.0 -0.1
WMQ sP sP 22 07 56.9 -0.9
WMQ PP PP 22 08 36.9 +2.0
WMQ S **S 22 13 39.3 -0.8**
WMQ sS sS 22 15 16.8 -2.3
WMQ pmax pmax
comp=Z,19nm,0.8s,mb4.5
WMQ pmax pmax
comp=Z,300nm,4.6s
WMQ LR LR
comp=N,120nm,19.4s
WMQ LR LR
comp=E,210nm,19.4s
WMQ LR LR
comp=Z,130nm,20.4s
POO Poona 54.18 95 *e*PKP **P 22 06 42.6 -1.6**
POO AMb AMB 22 06 46.4
comp=Z,26nm,1.3s,mb4.4

BHPL	**Bhopal**	**54.34**	**88**	*e*PKP	**P**	**22 06 44.4**	**-0.9**
BHPL				AMb	AMB	22 06 45.4	
	comp=Z,42nm,0.8s,mb4.8						
SCHQ	**Schefferville**	**54.96**	**316**	P	**P**	**22 06 47.9**	**-1.4**
	comp=Z,26nm,0.4s,mb5.0,baz=70,slow=5.8,SNR=80						
SCHQ	**Schefferville**	**54.96**	**316**	*e*P	**P**	**22 06 48.0**	**-1.3**
	comp=Z,51nm,0.8s,mb5.0						
SCHQ				*e*pP	pP	22 07 46.8	+1.0
KAD	**Karad**	**55.15**	**96**	*e*PKP	**P**	**22 06 50.2**	**-1.0**
LSZ	**Lusaka**	**55.52**	**165**	*e*P	**P**	**22 06 53.6**	**-0.1**
	comp=Z,22nm,0.8s,mb4.6						
LSZ				*e*PcP	PcP	22 07 49.8	-0.4
LSZ	**Lusaka**	**55.52**	**165**	*e*P	**P**	**22 06 53.6**	**-0.1**
LSZ				*e*	pP	22 07 49.8	-0.6
LSZ				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6						
DANN	**Dangsing**	**56.59**	**79**	*e*P	**P**	**22 07 01.2**	**0.0**
	comp=Z,290nm,0.9s,mb5.7						
DANN	**Dangsing**	**56.59**	**79**	*e*P	**P**	**22 07 01.2**	**0.0**
	comp=Z,290nm,0.9s,mb5.7						
KOLN	**Koldanda**	**56.76**	**80**	*e*P	**P**	**22 07 01.7**	**-0.7**
	comp=Z,51nm,1.0s,mb4.9						
KOLN	**Koldanda**	**56.76**	**80**	*e*P	**P**	**22 07 01.7**	**-0.7**
	comp=Z,51nm,1.0s,mb4.9						
GKN	**Gorkha**	**57.43**	**79**	*e*P	**P**	**22 07 06.6**	**-0.5**
	comp=Z,192nm,0.9s,mb5.5						
GKN	**Gorkha**	**57.43**	**79**	*e*P	**P**	**22 07 06.6**	**-0.5**
	comp=Z,192nm,0.9s,mb5.5						
RES	**Resolute Bay**	**57.62**	**343**	*e*P	**P**	**22 07 07.3**	**-0.4**
	comp=Z,56nm,1.1s,mb4.9						
RES	**Resolute Bay**	**57.62**	**343**	*e*P	**P**	**22 07 07.3**	**-0.4**
RES				pmax	pmax		
	comp=Z,56nm,1.1s,mb4.9						
DMN	**Daman**	**57.98**	**79**	*e*P	**P**	**22 07 10.6**	**-0.4**
	comp=Z,255nm,1.0s,mb5.6						
DMN	**Daman**	**57.98**	**79**	*e*P	**P**	**22 07 10.6**	**-0.4**
	comp=Z,255nm,1.0s,mb5.6						
KKN	**Kakani**	**58.02**	**79**	*e*P	**P**	**22 07 10.7**	**-0.6**
	comp=Z,108nm,0.8s,mb5.3						
KKN	**Kakani**	**58.02**	**79**	*e*P	**P**	**22 07 10.7**	**-0.6**
	comp=Z,108nm,0.8s,mb5.3						
KKN	**Kakani**	**58.02**	**79**	*e*P	**P**	**22 07 10.7**	**-0.6**
KKN				pmax	pmax		
	comp=Z,108nm,0.8s,mb5.3						
PKI	**Pulchoki**	**58.23**	**79**	*e*P	**P**	**22 07 12.3**	**-0.4**
	comp=Z,115nm,0.8s,mb5.3						
PKI	**Pulchoki**	**58.23**	**79**	*e*P	**P**	**22 07 12.3**	**-0.4**
	comp=Z,115nm,0.8s,mb5.4						
PKI	**Pulchoki**	**58.23**	**79**	*e*P	**P**	**22 07 12.3**	**-0.4**
PKI				pmax	pmax		
	comp=Z,115nm,0.8s,mb5.4						
GUN	**Gumba**	**58.42**	**78**	*e*P	**P**	**22 07 13.8**	**-0.2**
	comp=Z,289nm,0.9s,mb5.7						
GUN	**Gumba**	**58.42**	**78**	*e*P	**P**	**22 07 13.8**	**-0.2**
	comp=Z,289nm,0.9s,mb5.7						
HYB	**Hyderabad**	**58.47**	**93**	*i* P	**P**	**22 07 14.0**	**-0.4**
JIRN	**Jiri**	**58.78**	**78**	*e*P	**P**	**22 07 16.4**	**-0.1**
	comp=Z,162nm,1.0s,mb5.4						
JIRN	**Jiri**	**58.78**	**78**	*e*P	**P**	**22 07 16.4**	**-0.1**
	comp=Z,162nm,1.0s,mb5.4						
TLY	**Talaya**	**59.45**	**46**	P	**P**	**22 07 21.5**	**+0.9**
TLY	**Talaya**	**59.45**	**46**	P	**P**	**22 07 21.5**	**+0.9**
RAMN	**Ramite**	**59.46**	**79**	*e*P	**P**	**22 07 20.5**	**-0.6**
	comp=Z,309nm,0.9s,mb5.8						
RAMN	**Ramite**	**59.46**	**79**	*e*P	**P**	**22 07 20.5**	**-0.6**
	comp=Z,309nm,0.9s,mb5.7						
ZAK	**Zakamensk**	**59.81**	**48**	*e*P	**P**	**22 07 23.1**	**0.0**
ZAK				*e*	pP	22 08 22.2	+1.6
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.9s						
TAPN	**Taplejung**	**60.10**	**78**	*e*P	**P**	**22 07 25.0**	**-0.4**
	comp=Z,96nm,1.0s,mb5.3						
TAPN	**Taplejung**	**60.10**	**78**	*e*P	**P**	**22 07 25.0**	**-0.4**
	comp=Z,96nm,1.0s,mb5.3						
ODAN	**Odare**	**60.11**	**78**	*e*P	**P**	**22 07 24.7**	**-0.8**
	comp=Z,83nm,1.1s,mb5.2						
ODAN	**Odare**	**60.11**	**78**	*e*P	**P**	**22 07 24.7**	**-0.8**
	comp=Z,83nm,1.1s,mb5.2						
LSA	**Lhasa**	**61.47**	**74**	P	**P**	**22 07 34.6**	**0.0**
LSA	**Lhasa**	**61.47**	**74**	*e*P	**P**	**22 07 34.6**	**0.0**
	comp=Z,13nm,0.8s,mb4.5						
LSA				*e*pP	pP	22 08 32.4	-0.1
LSA				*e*PP	PP	22 09 53.0	-0.1
LSA	**Lhasa**	**61.47**	**74**	*e*P	**P**	**22 07 34.6**	**0.0**
LSA				*e**PP	pP	22 08 32.4	-0.1
LSA				*e*		22 09 53.0	
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
BOD	**Bodaibo**	**61.94**	**37**	*e*P	**P**	**22 07 35.8**	**-1.4**
BOD				*e*		22 15 35.8	
BOD				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.9						
GTA	**Gaotai**	**62.77**	**60**	*e*P	**P**	**22 07 43.4**	**+0.3**
GTA				PcP	PcP	22 08 19.6	+0.5
GTA				pP	pP	22 08 41.9	+0.7
GTA				sP	sP	22 09 08.3	-1.1
GTA				ScP	ScP	22 11 56.6	+0.8
GTA				S	**S**	**22 15 49.3**	**-1.6**
GTA				ScS	ScS	22 17 10.1	+0.5
GTA				sS	sS	22 17 30.3	-2.9
GTA				SS	SS	22 19 58.1	-2.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
GTA				pmax	pmax		
	comp=Z,160nm,5.7s						
GTA				LR	LR		
	comp=N,140nm,18.1s						
GTA				LR	LR		
	comp=E,190nm,17.6s						
GTA				LR	LR		
	comp=Z,210nm,16.6s						
SONM	**Songino Array**	**62.80**	**49**	P	**P**	**22 07 43.1**	**-0.1**
	comp=Z,8.4nm,0.8s,mb4.4,baz=293,slow=7.8,SNR=71						
SONM				PcP	PcP	22 08 19.6	+0.5
	comp=Z,10nm,1.0s,baz=288,slow=4.5,SNR=9.8						
SONM				ScP	ScP	22 11 55.6	-0.2
	comp=Z,5.0nm,1.1s,baz=292,slow=4.9,SNR=6.3						
SONM				S	**S**	**22 15 51.2**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=243,slow=9.8,SNR=3.8						
SONM				PKPPKP		22 36 47.3	
	comp=Z,3.2nm,1.2s,baz=48,slow=2.2,SNR=6.1						
SONM	**Songino Array**	**62.80**	**49**	P	**P**	**22 07 43.1**	**-0.1**
SONM				PcP	PcP	22 08 19.6	+0.5
SONM				ScP	ScP	22 11 55.6	-0.2
SONM				S	**S**	**22 15 51.2**	**+0.2**
SONM				P'P'		22 36 47.3	
SONM	**Songino Array**	**62.80**	**49**	P	**P**	**22 07 43.1**	**0.0**
SONM						22 08 19.6	
SONM				S	**S**	**22 15 51.2**	**+0.2**
SONM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SONM				pmax	pmax		
	comp=N,5.0nm,1.1s						
SONM				smax			
	comp=N,1.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WES	**Weston**	**62.91**	**304**	*e*P	**P**	**22 07 43.2**	**-0.7**
	comp=Z,110nm,1.1s,mb5.4						
WES	**Weston**	**62.91**	**304**	*e*P	**P**	**22 07 43.2**	**-0.7**
WES				pmax	pmax		
	comp=Z,110nm,1.1s,mb5.4						
FRNY	**Flat Rock**	**63.14**	**307**	*e*P	**P**	**22 07 43.9**	**-1.5**
	comp=Z,66nm,1.2s,mb5.1						
ULN	**Ulaanbaatar**	**63.18**	**49**	*e*P	**P**	**22 07 44.9**	**-0.7**
	comp=Z,6.1nm,1.0s,mb4.2						
ULN				*e*PcP	PcP	22 08 20.1	-0.5
ULN				*e*pP	pP	22 08 43.4	-0.4
ULN	**Ulaanbaatar**	**63.18**	**49**	*e*P	**P**	**22 07 44.9**	**-0.7**
ULN				*e*		22 08 20.1	
ULN				*e**PP	pP	22 08 43.4	-0.4
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**63.18**	**49**	P	**P**	**22 07 45.7**	**+0.1**
	comp=Z,6.4nm,1.1s,mb4.2						
MDV	**Middlebury**	**63.30**	**306**	*e*P	**P**	**22 07 46.5**	**0.0**
	comp=Z,14μm,1.2s						
MSNY	**Massena**	**63.84**	**308**	*e*P	**P**	**22 07 49.7**	**-0.3**
	comp=Z,798nm,1.1s,mb6.3						
LONY	**Lake Ozonia**	**63.86**	**307**	*e*P	**P**	**22 07 49.4**	**-0.7**
	comp=Z,112nm,1.4s,mb5.3						
ACCN	**Adirondack Com**	**63.91**	**306**	*e*P	**P**	**22 07 51.3**	**+0.9**
	comp=Z,95nm,1.0s,mb5.4						
NCB	**Newcomb**	**63.96**	**307**	*e*P	**P**	**22 07 50.7**	**-0.1**
	comp=Z,30nm,1.1s,mb4.8						
SHL	**Shillong**	**64.21**	**77**	*e*PKP	**P**	**22 07 52.0**	**-0.7**
SHL				*ex*	x	22 16 15.3	
LBTB	**Lobatse**	**64.62**	**170**	*e*P	**P**	**22 07 55.6**	**+0.6**
	comp=Z,84nm,1.4s,mb5.2						
LBTB	**Lobatse**	**64.62**	**170**	*e*P	**P**	**22 07 55.6**	**+0.5**
LBTB				pmax	pmax		
	comp=Z,84nm,1.4s,mb5.2						
CPNY	**Central Park**	**65.42**	**303**	*e*P	**P**	**22 08 00.2**	**-0.1**
	comp=Z,77nm,0.9s,mb5.3						
YAK	**Yakutsk**	**66.08**	**28**	*e*P	**P**	**22 08 02.9**	**-1.1**
	comp=Z,25nm,0.6s,mb5.1						
YAK				*e*PcP	PcP	22 08 31.6	-0.7
YAK	**Yakutsk**	**66.08**	**28**	*e*P	**P**	**22 08 01.6**	**-2.4**
YAK				*e*		22 08 31.6	
YAK				*e*S	S	22 16 21.3	-9.3
YAK				*e*		22 17 29.1	
YAK				pmax	pmax		
	comp=Z,59nm,1.4s,mb5.1						
YAK				pmax	pmax		
	comp=N,27nm,1.2s						
YAK				pmax	pmax		
	comp=E,34nm,1.3s						
YAK				pmax	pmax		
	comp=N,253nm,3.2s						
YAK				pmax	pmax		
	comp=Z,72nm,1.7s,mb5.1						
YAK				pmax	pmax		
	comp=E,96nm,2.5s						
YAK				smax			
	comp=N,15nm,4.6s						
YAK				smax			
	comp=E,96nm,10.2s						
LZH	**Lanzhou**	**67.22**	**61**	*e*P	**P**	**22 08 13.8**	**+2.1**
LZH				pP	pP	22 09 13.8	+3.2
LZH				sP	sP	22 09 37.8	-0.8
LZH				PP	PP	22 10 43.5	+0.4
LZH				*e*S	S	22 16 44.6	-0.4
LZH				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.0						
LZH				pmax	pmax		
	comp=Z,170nm,5.3s						
LZH				LR	LR		
	comp=N,260nm,11.3s						
LZH				LR	LR		
	comp=E,240nm,10.6s						
LZH				LR	LR		
	comp=Z,440nm,14.2s						
LZH	**Lanzhou**	**67.22**	**61**	*e*P	**P**	**22 08 13.7**	**+2.0**
	comp=Z,31nm,1.0s,mb5.0						
LZH				pP	pP	22 09 13.8	+3.2
LZH				sP	sP	22 09 37.7	-0.9
LZH				PP	PP	22 10 43.5	+0.4
LZH				*e*S	S	22 16 44.6	-0.4
LZH				sS	sS	22 18 09.0	-20
LZH				LR	LR		
	comp=Z,440nm,14.2s						
LZH	**Lanzhou**	**67.22**	**61**	*e*P	**P**	**22 08 13.7**	**+2.0**
LZH				**PP	pP	22 09 13.8	+3.2
LZH				**SP	sP	22 09 37.7	-0.9
LZH						22 10 43.5	
LZH				*e*S	S	22 16 44.6	-0.4
LZH				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.0						
LZH				MLR	MLR		
	comp=Z,440nm,14.2s						
CLNS	**Chul'man**	**67.40**	**34**	*e*P	**P**	**22 08 11.7**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,5.0nm,1.0s						
SSPA	**Standing Stone**	**68.03**	**305**	*e*P	**P**	**22 08 16.1**	**-0.5**
	comp=N,106nm,0.9s,mb5.6						
BOSA	**Boshof**	**68.12**	**171**	P	**P**	**22 08 17.6**	**+0.5**
	comp=N,22nm,0.4s,mb5.2,baz=351,slow=6.8,SNR=109						
BOSA	**Boshof**	**68.12**	**171**	*e*P	**P**	**22 08 17.5**	**+0.4**
	comp=N,50nm,1.3s,mb5.1						
BOSA				*e*pP	pP	22 09 16.2	-0.2
BOSA	**Boshof**	**68.12**	**171**	*e*P	**P**	**22 08 17.5**	**+0.4**
BOSA				*e**PP	pP	22 09 16.2	-0.1
BOSA				pmax	pmax		
	comp=Z,51nm,1.3s,mb5.1						
CBN	**Corbin**	**69.04**	**303**	*e*P	**P**	**22 08 22.7**	**-0.2**
	comp=Z,36nm,0.4s,mb5.5						
HIA	**Hailar**	**69.48**	**43**	*e*P	**P**	**22 08 25.2**	**-0.2**
	comp=Z,17nm,0.8s,mb4.8						
HIA				*e*pP	pP	22 09 25.0	+0.2
HIA	**Hailar**	**69.48**	**43**	*e*P	**P**	**22 08 25.2**	**-0.2**
HIA				*e**PP	pP	22 09 25.0	+0.3
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC	**Hu-ho-hao-te**	**69.64**	**54**	*e*P	**P**	**22 08 26.1**	**-0.5**
HHC				PcP	PcP	22 08 48.5	+0.8
HHC				pP	pP	22 09 26.0	+0.1
HHC				sP	sP	22 09 52.3	-1.5
HHC				PP	PP	22 11 05.5	+1.7
HHC				S	S	22 17 11.3	-2.1
HHC				ScS	ScS	22 18 00.0	-2.9
HHC				sS	sS	22 18 53.3	-4.5
HHC				SS	SS	22 21 45.4	-0.9
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
HHC				pmax	pmax		
	comp=Z,120nm,6.7s						
CD2	**Chengdu**	**70.01**	**66**	*e*P	**P**	**22 08 29.3**	**+0.3**
CD2				pP	pP	22 09 28.4	0.0
CD2				sP	sP	22 09 55.4	-0.8
CD2				PP	PP	22 11 09.1	+1.9
CD2				S	S	22 17 16.6	-1.4
CD2				ScS	ScS	22 18 02.9	-3.3
CD2				sS	sS	22 18 59.3	-3.2
CD2				SS	SS	22 21 52.3	-0.1
CD2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
CD2				pmax	pmax		
	comp=Z,120nm,5.8s						
INK	**Inuvik**	**70.28**	**348**	*e*P	**P**	**22 08 29.0**	**-0.9**
	comp=Z,49nm,1.1s,mb5.2						
INK	**Inuvik**	**70.28**	**348**	*e*P	**P**	**22 08 29.0**	**-0.9**
INK				pmax	pmax		
	comp=Z,49nm,1.1s						
AAM	**Ann Arbor**	**70.66**	**309**	*e*P	**P**	**22 08 32.5**	**-0.1**
	comp=Z,92nm,0.8s,mb5.5						
AAM	**Ann Arbor**	**70.66**	**309**	*e*P	**P**	**22 08 32.6**	**-0.1**
AAM				pmax	pmax		
	comp=Z,92nm,0.8s,mb5.5						
BILL	**Bilibino**	**70.81**	**11**	*e*P	**P**	**22 08 34.5**	**+1.4**
YKA	**Yellowknife Ar**	**70.98**	**338**	P	**P**	**22 08 33.9**	**-0.3**
	comp=Z,26nm,0.5s,mb5.1,baz=39,slow=5.4,SNR=343						
YKA	**Yellowknife Ar**	**70.98**	**338**	P	**P**	**22 08 33.9**	**-0.3**
YKA	**Yellowknife Ar**	**70.98**	**338**	P	**P**	**22 08 33.9**	**-0.3**
YKA				pmax	pmax		
	comp=Z,26nm,0.5s						
CNNC	**Cliffs of the**	**71.05**	**300**	P	**P**	**22 08 34.9**	**-0.3**
	comp=Z,98nm,0.4s,mb5.8						
ACSO	**Alum Creek Sta**	**71.46**	**307**	*e*P	**P**	**22 08 36.6**	**-0.8**
	comp=Z,165nm,1.0s,mb5.6						
ACSO				*e*PcP	PcP	22 08 55.9	+0.5
EYMN	**Ely**	**71.69**	**317**	*e*P	**P**	**22 08 38.2**	**-0.5**
	comp=Z,112nm,1.0s,mb5.5						
EYMN				*e*pP	pP	22 09 38.1	-0.4
XAN	**Xi'an**	**71.81**	**61**	P	**P**	**22 08 39.8**	**+0.1**
XAN				S	S	22 17 29.8	-8.8
XAN				LR	LR		
	comp=N,140nm,15.1s						
XAN				LR	LR		
	comp=Z,41nm,10.0s						
CBYP	**Canovanas**	**72.08**	**279**	*e*P	**P**	**22 08 40.7**	**-0.8**
FFC	**Flin Flon**	**72.21**	**327**	*e*P	**P**	**22 08 41.7**	**0.0**
	comp=Z,87nm,0.8s,mb5.4						
FFC	**Flin Flon**	**72.21**	**327**	*e*P	**P**	**22 08 41.7**	**+0.1**
FFC				pmax	pmax		
	comp=Z,87nm,0.8s,mb5.4						
FFC	**Flin Flon**	**72.21**	**327**	P	**P**	**22 08 41.8**	**+0.2**
	comp=Z,603nm,0.8s,mb6.3,SNR=40						
ULM	**Lac du Bonnet**	**72.44**	**321**	P	**P**	**22 08 42.6**	**-0.6**
	comp=Z,150nm,0.7s,mb5.8,baz=55,slow=5.8,SNR=178						
ULM	**Lac du Bonnet**	**72.44**	**321**	*e*P	**P**	**22 08 42.4**	**-0.8**
	comp=Z,307nm,1.1s,mb5.8						
ULM	**Lac du Bonnet**	**72.44**	**321**	P	**P**	**22 08 42.6**	**-0.5**
ULM				pmax	pmax		
	comp=Z,150nm,0.7s						
GRGR	**Grenville**	**72.49**	**271**	*e*P	**P**	**22 08 43.8**	**-0.2**
KMI	**Kunming**	**72.58**	**72**	P	**P**	**22 08 44.0**	**-0.4**
KMI				pP	pP	22 09 43.1	-1.2
KMI				sP	sP	22 10 10.3	-1.7
KMI				PP	PP	22 11 30.8	+1.5
KMI				S	S	22 17 48.3	+0.8
KMI				SKS		22 18 23.1	
KMI				SS	SS	22 22 30.3	-1.6
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0						
KMI				pmax	pmax		
	comp=Z,84nm,5.1s						
KMI				LR	LR		
	comp=N,220nm,15.7s						
KMI				LR	LR		
	comp=E,120nm,14.5s						
KMI				LR	LR		
	comp=Z,230nm,15.7s						
KMI	**Kunming**	**72.58**	**72**	P	**P**	**22 08 44.0**	**-0.4**
	comp=Z,5.0nm,1.2s,mb4.0						
KMI				pP	pP	22 09 43.1	-1.2
KMI				sP	sP	22 10 10.2	-1.8
KMI				PP	PP	22 11 30.7	+1.4
KMI				S	S	22 17 48.2	+0.7
KMI				SKS		22 18 23.1	
KMI				SS	SS	22 22 30.3	-1.6
KMI				LR	LR		
	comp=Z,230nm,15.7s						
KMI	**Kunming**	**72.58**	**72**	P	**P**	**22 08 44.0**	**-0.4**
KMI				**PP	pP	22 09 43.1	-1.2
KMI				**SP	sP	22 10 10.2	-1.8
KMI						22 11 30.7	
KMI				S	S	22 17 48.2	+0.7
KMI						22 18 23.1	
KMI				SS	SS	22 22 30.3	-1.6
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0						
KMI				MLR	MLR		
	comp=Z,230nm,15.7s						
CELP	**Cerrillos**	**72.75**	**279**	*e*P	**P**	**22 08 44.3**	**-1.1**
OBIP	**Obispado Ponce**	**72.79**	**279**	*e*P	**P**	**22 08 45.0**	**-0.7**
	comp=Z,83nm,1.0s,mb5.3						
LRS	**Lares**	**72.82**	**280**	*e*P	**P**	**22 08 44.8**	**-1.0**
BJI	**Beijing**	**72.97**	**52**	P	**P**	**22 08 45.3**	**-1.1**
BJI				PcP	PcP	22 08 59.8	-2.1
BJI				pP	pP	22 09 44.9	-1.5
BJI				sP	sP	22 10 11.8	-2.3
BJI				S	S	22 17 47.4	-4.1
BJI				sS	sS	22 19 32.3	-4.5
BJI				SS	SS	22 22 35.1	-1.9
BJI				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.7						
CRPR	**Cabo Rojo, PR**	**73.19**	**280**	*e*P	**P**	**22 08 48.1**	**0.0**
	comp=Z,29nm,1.0s,mb4.9						
COLD	**Coldfoot**	**73.30**	**354**	*e*P	**P**	**22 08 47.8**	**0.0**
	comp=Z,65nm,0.9s,mb5.3						
KMSC	**Kings Mountain**	**73.40**	**302**	⇓P	**P**	**22 08 48.6**	**-0.4**
	baz=73						
CHTO	**Chiang Mai**	**73.41**	**79**	*e*P	**P**	**22 08 49.0**	**-0.4**
	comp=Z,14nm,1.0s,mb4.6						
CHTO				*e*pP	pP	22 09 48.0	-1.4
CHTO	**Chiang Mai**	**73.41**	**79**	*e*P	**P**	**22 08 49.0**	**-0.3**
CHTO				*e**PP	pP	22 09 48.0	-1.4
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**73.41**	**79**	P	**P**	**22 08 48.7**	**-0.6**
	comp=Z,14nm,1.1s,mb4.5						
CM31	**Chiang Mai Arr**	**73.62**	**79**	*e*P	**P**	**22 08 49.9**	**-0.6**
	comp=Z,9.8nm,0.9s,mb4.4						
CM31				*e*pP	pP	22 09 50.3	-0.4
CMAR	**Chiang Mai Arr**	**73.62**	**79**	P	**P**	**22 08 50.2**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.1,baz=305,slow=7.5,SNR=29						
CMAR	**Chiang Mai Arr**	**73.62**	**79**	P	**P**	**22 08 50.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**73.62**	**79**	P	**P**	**22 08 50.3**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AGMN	**Agassiz Nation**	**73.72**	**320**	*e*P	**P**	**22 08 49.9**	**-0.7**
	comp=Z,52nm,0.9s,mb5.2						
NHSC	**New Hope**	**73.83**	**300**	*e*P	**P**	**22 08 51.3**	**-0.3**
	comp=Z,259nm,1.2s,mb5.7						
JSC	**Jenkinsville**	**73.86**	**301**	*e*P	**P**	**22 08 51.0**	**-0.7**
JSC	**Jenkinsville**	**73.86**	**301**	*e*P	**P**	**22 08 51.0**	**-0.7**
SFIN	**Scholer Farm**	**73.89**	**309**	⇓P	**P**	**22 08 50.7**	**-1.0**
	baz=74						
SPMN	**St. Paul**	**74.11**	**316**	⇑P	**P**	**22 08 52.5**	**-0.5**
	baz=74						
JFWS	**Jewell Farm**	**74.16**	**313**	*e*P	**P**	**22 08 52.8**	**-0.4**
	comp=Z,76nm,0.9s,mb5.3						
JFWS	**Jewell Farm**	**74.16**	**313**	*e*P	**P**	**22 08 52.8**	**-0.5**
JFWS				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.3						
BLO	**Bloomington**	**74.28**	**308**	*e*P	**P**	**22 08 53.0**	**-1.0**
	comp=Z,152nm,1.1s,mb5.5						
BLO				*e*PcP	PcP	22 09 08.2	+0.8
BLO	**Bloomington**	**74.28**	**308**	*e*P	**P**	**22 08 53.0**	**-1.0**
BLO				*e*		22 09 08.3	
BLO				pmax	pmax		
	comp=Z,152nm,1.1s,mb5.5						
ENH	**Enshi**	**74.41**	**64**	*e*P	**P**	**22 08 54.4**	**-0.5**
GYA	**Guiyang**	**74.66**	**68**	P	**P**	**22 08 55.8**	**-0.6**
GYA				pP	pP	22 09 55.0	-1.7
GYA				sP	sP	22 10 25.8	+1.5
GYA				PP	PP	22 11 48.3	+1.5
GYA				S	S	22 18 07.9	-2.8
GYA				SKS		22 18 34.6	
GYA				SS	SS	22 23 04.3	+1.0
GYA				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.9						
GYA				pmax	pmax		
	comp=Z,150nm,5.8s						
TKL	**Tuckaleechee C**	**74.69**	**304**	*e*P	**P**	**22 08 55.9**	**-0.5**
TKL	**Tuckaleechee C**	**74.69**	**304**	*e*P	**P**	**22 08 55.9**	**-0.5**
EGAK	**Eagle**	**74.70**	**350**	*e*P	**P**	**22 08 55.6**	**-0.4**
	comp=Z,42nm,1.3s,mb4.9						
WCI	**Wyandotte Cave**	**74.71**	**307**	*e*P	**P**	**22 08 55.4**	**-1.1**
	comp=Z,302nm,1.5s,mb5.7						
WCI				*e*pP	pP	22 09 57.1	+0.4
WCI	**Wyandotte Cave**	**74.71**	**307**	*e*P	**P**	**22 08 55.4**	**-1.1**
WCI				*e**PP	pP	22 09 57.2	+0.4
WCI				pmax	pmax		
	comp=Z,302nm,1.5s,mb5.7						
HDIL	**Hopedale**	**75.09**	**310**	*e*P	**P**	**22 08 57.7**	**-0.9**
	comp=Z,110nm,0.7s,mb5.6						
HDIL				*e*PcP	PcP	22 09 10.6	-0.4
DAWY	**Dawson**	**75.12**	**349**	*e*P	**P**

GOGA pmax pmax
comp=Z,20nm,0.8s,mb4.8
MDND Maddock 75.87 321 ⇑P **P 22 09 02.5 -0.5**
baz=76
CN2 Changchun 75.97 45 *e*P **P 22 09 03.4 -0.2**
CN2 *ep*P pP 22 10 02.9 -1.1
CN2 *e*S S 22 18 22.5 -2.1
CN2 pmax pmax
comp=Z,30nm,1.0s,mb4.9
SWET Sewanee 76.35 304 *e*P **P 22 09 04.2 -1.6**
BPAW Bear Paw Mtn. 76.44 354 *e*P **P 22 09 05.3 -0.5**
comp=Z,50nm,1.0s,mb5.1
BPAW *ep*P pP 22 10 06.4 +0.1
SCIA State Center 76.49 313 *e*P **P 22 09 05.3 -1.3**
comp=Z,45nm,0.8s,mb5.2
SCIA *ep*P pP 22 10 07.6 +0.5
MCK McKinley 76.62 353 *e*P **P 22 09 06.6 -0.2**
comp=Z,104nm,1.2s,mb5.4
MCK *ep*P pP 22 10 07.5 +0.1
MCK McKinley 76.62 353 *e*P **P 22 09 06.6 -0.2**
MCK *e**PP pP 22 10 07.5 +0.1
MCK pmax pmax
comp=Z,104nm,1.2s,mb5.4
MENT Mentasta 76.81 350 *e*P **P 22 09 08.3 +0.5**
SIUC Southern Illin 76.84 308 *e*P **P 22 09 07.3 -1.2**
comp=Z,157nm,1.1s,mb5.7
SLM Saint Louis 76.87 309 *e*P **P 22 09 08.0 -0.7**
comp=Z,239nm,1.3s,mb5.8
SLM Saint Louis 76.87 309 *e*P **P 22 09 08.0 -0.7**
SLM pmax pmax
comp=Z,239nm,1.3s,mb5.8
WVT Waverly 76.98 306 *e*P **P 22 09 08.2 -1.2**
comp=Z,167nm,1.6s,mb5.5
WVT Waverly 76.98 306 *e*P **P 22 09 08.2 -1.1**
WVT pmax pmax
comp=Z,167nm,1.6s,mb5.5
PAX Paxson 76.99 351 *e*P **P 22 09 08.5 -0.4**
comp=Z,16nm,0.9s,mb4.8
PAX Paxson 76.99 351 *e*P **P 22 09 08.5 -0.4**
PAX pmax pmax
comp=Z,16nm,0.9s,mb4.8
TRF Thorofare Moun 77.02 353 *e*P **P 22 09 08.5 -0.5**
comp=Z,44nm,1.0s,mb5.1
TRF *e*PcP PcP 22 09 19.4 +0.5
ECSD EROS Data Cent 77.15 316 *e*P **P 22 09 14.2 +4.0**
comp=Z,121nm,0.8s,mb5.7
A24A Westby 77.20 324 ⇑P **P 22 09 11.0 +0.7**
baz=77,SNR=43
A23A Redstone 77.57 324 ⇓P **P 22 09 12.5 +0.2**
baz=77
HABR Khabarovsk 77.58 36 *e*P **P 22 09 11.5 -0.9**
HABR *e* 22 12 10.1
HABR *e*PPP 22 13 58.9
HABR *e*S S 22 18 41.2 -0.5
HABR 22 19 05.4
HABR *e*SS SS 22 23 47.7 +1.7
HABR *e*SSS 22 27 13.5
HABR pmax pmax
comp=N,28nm,1.6s
HABR pmax pmax
comp=E,49nm,1.8s
HABR pmax pmax
comp=Z,72nm,2.0s,mb5.1
HABR MLR MLR
comp=Z,163nm,18.0s
DGMT Dagmar 77.61 324 ⇓P **P 22 09 13.1 +0.5**
baz=77,SNR=14
MDJ Mudanjiang 77.63 42 P **P 22 09 11.8 -1.0**
MDJ pP pP 22 10 09.1 -4.4
MDJ PP PP 22 12 07.1 -4.0
MDJ S S 22 18 40.9 -1.5
MDJ SS SS 22 23 44.6 -2.3
MDJ pmax pmax
comp=Z,170nm,5.1s
PPLA Purkeypile 77.73 354 *e*P **P 22 09 12.7 -0.3**
comp=Z,23nm,1.5s,mb4.7
PARMO Parma 77.84 307 *e*P **P 22 09 13.3 -0.8**
CCM Cathedral Cave 77.85 309 *e*P **P 22 09 13.1 -1.0**
comp=Z,84nm,0.8s,mb5.5
CCM Cathedral Cave 77.85 309 *e*P **P 22 09 13.1 -1.0**
CCM pmax pmax
comp=Z,84nm,0.8s,mb5.5
PLAL Pickwick Lake 77.86 305 *e*P **P 22 09 13.0 -1.3**
comp=Z,146nm,1.4s,mb5.5
BRSD Miller 77.90 318 ⇑P **P 22 09 14.2 -0.1**
baz=78
B23A Brockton 77.98 324 ⇑P **P 22 09 15.1 +0.5**
baz=78,SNR=9.6
A22A Carney Farms, 78.01 325 ⇑P **P 22 09 15.1 +0.3**
baz=78,SNR=14
HALT Halls 78.06 307 *e*P **P 22 09 14.7 -0.7**
LRAL Lakeview Retre 78.40 303 *e*P **P 22 09 16.6 -0.6**
comp=Z,31nm,0.5s,mb5.3
C24A Savage 78.40 323 ⇓P **P 22 09 17.4 +0.4**
baz=78,SNR=5.7
SML Sawmill 78.45 352 *e*P **P 22 09 16.6 -0.3**
comp=Z,15nm,0.6s,mb4.9
SML Sawmill 78.45 352 *e*P **P 22 09 16.6 -0.3**
SML pmax pmax
comp=Z,15nm,0.6s,mb4.9
GNAR Gosnell 78.45 307 *e*P **P 22 09 16.7 -0.7**
comp=Z,2μm,0.9s
A21A Bergtoll Ranch 78.46 325 ⇓P **P 22 09 17.3 0.0**
baz=78
DLBC Dease Lake 78.51 342 *e*P **P 22 09 18.8 +1.5**
C23A Lambert 78.55 324 ⇑P **P 22 09 18.1 +0.4**
baz=78,SNR=23
B22A Reddig Ranch S 78.56 324 ⇑P **P 22 09 18.2 +0.4**
baz=78,SNR=20
D24A Glendive 78.66 323 ⇓P **P 22 09 18.7 +0.3**
baz=78,SNR=14
SKAG Skagway 78.72 345 *e*P **P 22 09 18.6 +0.1**
comp=Z,102nm,1.4s,mb5.4
PMR Palmer 78.74 353 *e*P **P 22 09 17.9 -0.6**
comp=Z,41nm,1.0s,mb5.1
PMR Palmer 78.74 353 *e*P **P 22 09 17.9 -0.6**
PMR pmax pmax
comp=Z,41nm,1.0s,mb5.1
DIV Divide 78.81 351 *e*P **P 22 09 18.7 -0.3**
comp=Z,31nm,0.9s,mb5.0
BMRM Bremner River 78.82 350 *e*P **P 22 09 19.4 +0.4**
comp=Z,134nm,1.2s,mb5.5
C22A Vida 78.92 324 ⇓P **P 22 09 20.0 +0.3**
baz=79,SNR=23
B21A Ellsworth Farm 78.92 325 ⇓P **P 22 09 19.9 +0.1**
baz=79,SNR=5.4
MET Memphis--Engin 78.94 306 *e*P **P 22 09 19.3 -0.9**
A20A Cobblestone Ra 78.98 326 ⇓P **P 22 09 20.2 +0.2**
baz=79,SNR=33
OXF Oxford 79.00 306 *e*P **P 22 09 18.5 -2.0**
comp=Z,408nm,1.3s,mb6.0
OXF Oxford 79.00 306 *e*P **P 22 09 18.5 -2.0**
OXF pmax pmax
comp=Z,408nm,1.3s,mb6.0
D23A Lindsay 79.03 323 ⇑P **P 22 09 20.9 +0.5**
baz=79
E24A Baker 79.05 322 ⇑P **P 22 09 20.9 +0.4**
baz=79,SNR=5.5
PNL Peninsula 79.28 347 *e*P **P 22 09 21.3 -0.2**
comp=Z,140nm,1.1s,mb5.6
RC01 Rabbit Creek A 79.29 353 *e*P **P 22 09 21.1 -0.4**
comp=Z,49nm,0.5s,mb5.5
B20A Solberg Farm, 79.36 326 ⇑P **P 22 09 22.6 +0.5**
baz=79,SNR=57
C21A Desert Coulee 79.40 325 ⇓P **P 22 09 22.7 +0.3**
baz=79,SNR=48
D22A Cohagen 79.49 324 ⇓P **P 22 09 23.3 +0.4**
baz=79,SNR=27
BGNE Belgrade 79.56 316 ⇓P **P 22 09 23.2 -0.1**
baz=79
E23A Ismay 79.57 323 ⇑P **P 22 09 23.5 +0.2**
baz=79
F24A Ekalaka 79.64 322 ⇓P **P 22 09 24.0 +0.4**
baz=79,SNR=39
B19A Brinkman Farms 79.75 326 ⇑P **P 22 09 24.5 +0.3**
baz=79,SNR=11
A18A Metzger Ranch, 79.78 327 ⇑P **P 22 09 24.9 +0.5**
baz=80,SNR=54
LAO LASA Array 79.85 323 ⇑P **P 22 09 25.6 +0.8**
baz=80,SNR=43
LAO LASA Array 79.85 323 *e*P **P 22 09 24.9 +0.1**
comp=Z,117nm,1.0s,mb5.6
VLA Vladivostok 79.86 42 ⇓*i*P **P 22 09 24.2 -0.7**
VLA *e* 22 09 29.9
VLA *e* 22 12 28.3
VLA *e*S S 22 19 04.7 -1.3
VLA pmax pmax
comp=Z,127nm,1.6s,mb5.4
C20A Veseth Ranch, 79.89 325 ⇑P **P 22 09 25.7 +0.7**
baz=80,SNR=70
E22A Miles City 79.91 323 ⇓P **P 22 09 25.1 0.0**
baz=80,SNR=12
SLKM Skilak Lake 79.91 353 *e*P **P 22 09 25.0 +0.1**
SLKM Skilak Lake 79.91 353 *e*P **P 22 09 25.0 +0.1**
D21A La Casta Ranch 79.93 324 ⇑P **P 22 09 25.8 +0.6**
baz=80,SNR=12
G24A Alzada 80.00 322 ⇑P **P 22 09 25.9 +0.3**
baz=80,SNR=22
A17A Triple J Farms 80.12 327 ⇑P **P 22 09 26.4 +0.2**
baz=80,SNR=13
B18A Beardsley Farm 80.15 326 ⇓P **P 22 09 26.9 +0.6**
baz=80,SNR=44
RSO Redoubt South 80.18 354 *e*P **P 22 09 26.0 -0.2**
comp=Z,84nm,0.8s,mb5.5
RSO *e*PP PP 22 12 32.1 +0.4
F23A Volborg 80.19 322 ⇑P **P 22 09 26.8 +0.2**
baz=80,SNR=55
SEW Seward 80.23 352 *e*P **P 22 09 26.0 -0.5**
comp=Z,73nm,1.0s,mb5.4
KSU1 Kansas State U 80.29 313 *e*P **P 22 09 26.8 -0.5**
comp=Z,158nm,0.9s,mb5.8
C19A Slack Wire Ran 80.34 326 ⇑P **P 22 09 28.0 +0.6**
baz=80,SNR=33
E21A Keefer Ranch, 80.36 324 ⇓P **P 22 09 28.3 +0.8**
baz=80,SNR=8.8
D20A Manuel Ranch, 80.42 325 ⇓P **P 22 09 28.1 +0.3**
baz=80,SNR=33
EGMT Eagleton 80.43 326 ⇓P **P 22 09 28.4 +0.6**
baz=80,SNR=14
EGMT Eagleton 80.43 326 *e*P **P 22 09 28.1 +0.2**
A16A West Butte Ran 80.49 328 ⇓P **P 22 09 27.9 -0.2**
baz=80
H24A Dirks Ranch, A 80.49 321 ⇑P **P 22 09 27.8 -0.5**
baz=80,SNR=20
F22A Rosebud 80.54 323 ⇓P **P 22 09 28.6 +0.1**
baz=80,SNR=14
G23A Biddle 80.56 322 ⇓P **P 22 09 28.6 0.0**
baz=80,SNR=46
UALR University of 80.66 307 *e*P **P 22 09 28.3 -1.1**
comp=Z,155nm,1.2s,mb5.6
B17A L&G Farms, Che 80.67 327 ⇓P **P 22 09 29.1 0.0**
baz=80,SNR=42
RSSD Black Hills 80.69 321 *e*P **P 22 09 29.5 +0.2**
comp=Z,57nm,0.8s,mb5.3
RSSD Black Hills 80.69 321 *e*P **P 22 09 29.5 +0.2**
RSSD pmax pmax
comp=Z,57nm,0.8s,mb5.3
D19A Cripps Ranch, 80.70 325 ⇓P **P 22 09 29.4 +0.1**
baz=80,SNR=20
K27A Flueckinger Fa 80.81 319 ⇑P **P 22 09 30.6 +0.6**
baz=80,SNR=14
E20A Meyer Farm, Mu 80.86 324 ⇓P **P 22 09 30.3 +0.1**
baz=80,SNR=19
F21A Absaloka Mine, 80.92 323 ⇓P **P 22 09 30.7 +0.2**
baz=81,SNR=7.7
A15A Johnson Ranch, 80.94 328 ⇑P **P 22 09 30.4 -0.1**
baz=81,SNR=87
B16A M & M Farms, S 80.95 327 ⇑P **P 22 09 30.4 -0.3**
baz=81,SNR=20
G22A Birney 80.98 323 ⇑P **P 22 09 30.7 -0.1**
baz=81,SNR=21
H23A Clabaugh Cattl 81.04 322 ⇑P **P 22 09 30.9 -0.2**
baz=81
D18A Linhart Farms, 81.08 326 ⇑P **P 22 09 31.7 +0.4**
baz=81,SNR=21
C17A Wharram Farm, 81.16 326 ⇑P **P 22 09 31.7 0.0**
baz=81,SNR=33
E19A Rath Farm, Rou 81.19 325 ⇓P **P 22 09 32.1 +0.2**
baz=81,SNR=33
VBMS Vicksburg 81.20 304 *e*P **P 22 09 32.5 +0.3**
comp=Z,106nm,0.9s,mb5.6
A14A Double T Ranch 81.22 329 ⇑P **P 22 09 32.2 +0.2**
baz=81,SNR=179
K26A Motz Farm, Whi 81.30 319 ⇑P **P 22 09 32.7 +0.2**
baz=81
L27A T5 Ranch, Ells 81.30 318 ⇑P **P 22 09 33.4 +0.8**
baz=81
WALA Waterton Lakes 81.35 329 *e*P **P 22 09 32.5 -0.2**
comp=Z,1.8nm,1.0s,mb3.8
B15A Bradely Ranch, 81.39 328 ⇑P **P 22 09 32.4 -0.5**
baz=81,SNR=47
G21A Lodge Grass 81.40 323 ⇓P **P 22 09 33.0 -0.1**
baz=81,SNR=19
F20A Billings 81.40 324 ⇑P **P 22 09 33.4 +0.3**
baz=81,SNR=24
SDV Santo Domingo 81.43 274 *e*P **P 22 09 33.4 -0.3**
comp=Z,111nm,0.9s,mb5.6
SDV *ep*P pP 22 10 38.8 +3.7
C16A Fuhringer Ranc 81.45 327 ⇓P **P 22 09 32.9 -0.3**
baz=81,SNR=27
H22A Clearmont 81.47 322 ⇑P **P 22 09 33.5 +0.1**
baz=81,SNR=17
QIZ Qiongzhong 81.49 73 P **P 22 09 32.8 -1.1**
QIZ pP pP 22 10 34.3 -0.9
QIZ sP sP 22 11 02.3 -0.3
QIZ S S 22 19 20.8 -2.7
QIZ pmax pmax
comp=Z,130nm,5.0s
D17A Six Diamond Ra 81.50 326 ⇑P **P 22 09 34.0 +0.5**
baz=81,SNR=36
I23A Meade Ranch, G 81.51 321 ⇑P **P 22 09 33.9 +0.3**
baz=81
MIAR Mount Ida 81.57 308 *e*P **P 22 09 33.7 -0.5**
comp=Z,144nm,1.0s,mb5.7
MIAR Mount Ida 81.57 308 *e*P **P 22 09 33.7 -0.4**
MIAR pmax pmax
comp=Z,144nm,1.0s,mb5.7
J24A Dixon Ranch, L 81.58 320 ⇑P **P 22 09 34.5 +0.5**
baz=81,SNR=16
E18A Harlowton 81.61 325 ⇑P **P 22 09 34.8 +0.7**
baz=81,SNR=44
KSAR Wonju Array Be 81.63 48 P **P 22 09 34.2 -0.1**
KSAR Wonju Array Be 81.63 48 P **P 22 09 34.3 -0.1**
KSRS Korea Array 81.64 48 P **P 22 09 34.2 -0.2**
comp=Z,8.5nm,0.8s,mb4.5,baz=313,slow=4.6,SNR=15
KSRS Korea Array 81.64 48 P **P 22 09 34.3 -0.1**
KSRS pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
B14A Marquette Ranc 81.64 328 ⇑P **P 22 09 33.9 -0.3**
baz=81,SNR=82
A13A Flathead Natio 81.65 329 ⇑P **P 22 09 34.1 -0.1**
baz=81
K25A Mack Ranch, Ha 81.71 319 ⇓P **P 22 09 35.4 +0.7**
baz=81,SNR=22
F19A Roth Farm, Mol 81.73 324 ⇑P **P 22 09 35.2 +0.5**
baz=81,SNR=71
L26A Underwood Farm 81.73 319 ⇓P **P 22 09 35.7 +0.9**
baz=81,SNR=9.4
M27A Reverse DX Ran 81.74 318 ⇑P **P 22 09 35.8 +0.9**
baz=81
H21A Big Horn, Sher 81.77 323 ⇑P **P 22 09 35.2 +0.2**
baz=82,SNR=24
C15A Salmond Ranch, 81.83 328 ⇑P **P 22 09 34.6 -0.6**
baz=82,SNR=21
G20A Bridger 81.87 324 ⇓P **P 22 09 35.6 +0.2**
baz=82,SNR=38
D16A Dana Ranch, Ca 81.97 327 ⇑P **P 22 09 36.1 +0.2**
baz=82,SNR=70
J23A Dilts Ranch, B 81.97 321 ⇓P **P 22 09 36.1 0.0**
baz=82
OGNE Ogallala 81.97 317 ⇓P **P 22 09 36.6 +0.6**
baz=82,SNR=8.6
OGNE Ogallala 81.97 317 *e*P **P 22 09 36.5 +0.4**
comp=Z,51nm,0.8s,mb5.3
TUL1 Tulsa 81.99 310 ⇓P **P 22 09 35.8 -0.4**
baz=82
F18A Big Timber 82.03 325 ⇑P **P 22 09 36.8 +0.5**
baz=82,SNR=54
I22A 9 Mile Ranch, 82.06 322 ⇓P **P 22 09 36.8 +0.3**
baz=82,SNR=53
L25A Engebretsen Ra 82.09 319 ⇓P **P 22 09 37.2 +0.5**
baz=82,SNR=10
K24A Anderson Ranch 82.11 320 ⇑P **P 22 09 37.1 +0.4**
baz=82
E17A Martinsdale 82.11 326 ⇓P **P 22 09 37.2 +0.5**
baz=82,SNR=52
B13A Whitefish 82.11 329 ⇓P **P 22 09 37.0 +0.3**
baz=82,SNR=46
A12A Yaak River Ran 82.13 330 ⇓P **P 22 09 36.9 +0.1**
baz=82,SNR=29
YSS Yuzh-Sakhalins 82.15 33 *e*P **P 22 09 36.4 -0.5**
comp=Z,268nm,1.0s,mb5.9
YSS Yuzh-Sakhalins 82.15 33 ⇓*e*P **P 22 09 36.3 -0.6**
YSS *e* pP 22 10 41.9 +3.6
YSS pmax pmax
comp=Z,250nm,1.0s,mb5.9
M26A McRoberts Ranc 82.17 318 ⇑P **P 22 09 38.3 +1.1**
baz=82
CBKS Cedar Bluff 82.24 314 ⇓P **P 22 09 37.6 +0.1**
baz=82,SNR=19
CBKS Cedar Bluff 82.24 314 *e*P **P 22 09 37.9 +0.4**
comp=Z,34nm,0.5s,mb5.3
CBKS Cedar Bluff 82.24 314 *e*P **P 22 09 37.9 +0.4**
CBKS pmax pmax
comp=Z,34nm,0.5s,mb5.3
C14A Swan Lake 82.31 328 ⇓P **P 22 09 37.7 +0.1**
baz=82
H20A Greybull 82.33 323 ⇓P **P 22 09 38.0 +0.1**
baz=82,SNR=18
N27A Anderson Farm, 82.33 317 ⇓P **P 22 09 38.6 +0.7**
baz=82
HRY Holter Researc 82.34 326 *e*P **P 22 09 37.8 0.0**
comp=Z,73nm,0.9s,mb5.4
D15A Lincoln 82.37 327 ⇑P **P 22 09 38.0 0.0**
baz=82,SNR=24
PETK Petropavlovsk- 82.39 22 P **P 22 09 36.9 -1.1**
comp=Z,61nm,1.1s,mb5.2,baz=50,slow=2.3,SNR=12
PETK Petropavlovsk- 82.39 22 P **P 22 09 36.9 -1.1**
PETK Petropavlovsk- 82.39 22 P **P 22 09 36.9 -1.1**
PETK pmax pmax
comp=Z,61nm,1.1s,mb5.2
E16A East Helena 82.41 326 ⇓P **P 22 09 38.5 +0.3**
baz=82,SNR=35
J22A Midwest 82.41 321 ⇓P **P 22 09 37.9 -0.5**
baz=82,SNR=26
G18A Lazy EL Ranch, 82.42 324 ⇓P **P 22 09 38.2 -0.1**
baz=82
RLMT Red Lodge 82.43 324 ⇑P **P 22 09 39.2 +0.9**
baz=82,SNR=40
F17A Fitzpatrick Pl 82.45 325 ⇓P **P 22 09 39.2 +0.8**
baz=82,SNR=30
K23A Bowen Ranch, D 82.48 320 ⇑P **P 22 09 38.8 +0.1**
baz=82,SNR=8.7
I21A Big Trails, Te 82.50 322 ⇓P **P 22 09 38.6 -0.1**
baz=82,SNR=75
JTMT Jette 82.54 328 *e*P **P 22 09 39.2 +0.3**
comp=Z,156nm,1.1s,mb5.8
H19A Powell 82.65 324 ⇑P **P 22 09 40.4 +1.0**
baz=82,SNR=62
L24A Wheatland 82.67 320 ⇓P **P 22 09 40.2 +0.5**
baz=82,SNR=6.4
M25A Palm-Egli Farm 82.67 319 ⇑P **P 22 09 40.8 +1.1**
baz=82,SNR=20
N26A Koester Ranch, 82.68 318 ⇓P **P 22 09 40.7 +1.0**
baz=82
C13A Hot Springs 82.71 329 ⇑P **P 22 09 40.3 +0.6**
baz=82,SNR=65
PET Petropavlovsk 82.73 21 P **P 22 09 38.9 -0.9**
comp=Z,48nm,0.9s,mb5.3
PET Petropavlovsk 82.73 21 *e*P **P 22 09 37.8 -2.0**
PET *e*S S 22 19 31.1 -4.0
PET pmax pmax
comp=Z,56nm,0.9s,mb5.4
PET MLR MLR
comp=Z,100nm,19.0s
O27A Beecher Island 82.75 317 ⇓P **P 22 09 40.7 +0.6**
baz=82
I20A Worland 82.80 323 ⇓P **P 22 09 40.7 +0.5**
baz=82,SNR=85
KDAK Kodiak Island 82.82 354 *e*P **P 22 09 40.4 +0.3**
comp=Z,37nm,0.7s,mb5.3
KDAK Kodiak Island 82.82 354 *e*P **P 22 09 40.4 +0.3**
KDAK pmax pmax
comp=Z,37nm,0.7s,mb5.3
KDAK Kodiak Island 82.82 354 P **P 22 09 40.0 -0.1**
comp=Z,490nm,0.5s,mb6.6,SNR=20
E15A Deer Lodge 82.91 327 ⇑P **P 22 09 41.4 +0.6**
baz=83,SNR=33
J21A Lysite 82.93 322 ⇓P **P 22 09 40.9 0.0**
baz=83,SNR=23
G17A Pierce Place, 82.94 325 ⇑P **P 22 09 42.2 +1.2**
baz=83,SNR=27
H18A Shoshone NF, C 82.95 324 ⇑P **P 22 09 41.7 +0.6**
baz=83,SNR=63
F16A Kennard Place, 82.97 326 ⇓P **P 22 09 41.7 +0.6**
baz=83,SNR=15
L23A Garrett 83.00 320 ⇓P **P 22 09 41.2 -0.1**
baz=83,SNR=9.6
K22A Casper 83.00 321 ⇓P **P 22 09 41.3 -0.1**
baz=83,SNR=33
M24A Cheyenne 83.03 319 ⇓P **P 22 09 42.8 +1.2**
baz=83,SNR=31
C12B Naegeli Ranch, 83.05 329 ⇑P **P 22 09 41.8 +0.3**
baz=83,SNR=52
BOZ Bozeman (W) 83.08 326 ⇑P **P 22 09 42.7 +1.0**
baz=83,SNR=13
BOZ Bozeman (W) 83.08 326 *e*P **P 22 09 42.5 +0.8**
comp=Z,56nm,1.0s,mb5.3
BOZ Bozeman (W) 83.08 326 *e*P **P 22 09 42.5 +0.8**
BOZ pmax pmax
comp=Z,56nm,1.0s,mb5.3
MSO Missoula 83.13 328 ⇓P **P 22 09 41.8 -0.1**
baz=83,SNR=20
MSO Missoula 83.13 328 *e*P **P 22 09 41.6 -0.3**
comp=Z,49nm,1.4s,mb5.1
D13A Huson 83.14 328 ⇑P **P 22 09 42.3 +0.3**
baz=83,SNR=70
I19A Meeteetse 83.14 323 ⇓P **P 22 09 42.9 +0.9**
baz=83,SNR=54
N25A Grover 83.14 318 ⇑P **P 22 09 43.3 +1.3**
baz=83,SNR=24
O26A Horse Wrangler 83.15 317 ⇑P **P 22 09 42.8 +0.6**
baz=83,SNR=8.2
PSI Prapat 83.17 92 P **P 22 09 42.4 -0.3**
J20A Shoshoni 83.23 322 ⇓P **P 22 09 42.7 +0.2**
baz=83,SNR=66
E14A Clinton 83.28 327 ⇓P **P 22 09 42.8 +0.1**
baz=83,SNR=15
LRM Limekiln Ridge 83.30 326 *e*P **P 22 09 43.1 +0.3**
comp=Z,349nm,1.0s,mb6.1
F15A Butte 83.30 326 ⇓P **P 22 09 43.3 +0.4**
baz=83,SNR=32
K21A Alcova 83.37 321 ⇓P **P 22 09 43.0 -0.2**
baz=83,SNR=19
LKWY Lake 83.37 324 *e*P **P 22 09 44.6 +1.4**
comp=Z,93nm,0.9s,mb5.6
LKWY Lake 83.37 324 *e*P **P 22 09 44.6 +1.4**
LKWY pmax pmax
comp=Z,93nm,0.9s,mb5.6
YNR Norris Junctio 83.38 325 *e*P **P 22 09 44.0 +0.8**
comp=Z,24nm,0.9s,mb5.0
L22A Ellis Ranch, M 83.42 320 ⇓P **P 22 09 44.2 +0.7**
baz=83,SNR=27
OHAK Old Harbor 83.43 354 *e*P **P 22 09 43.3 0.0**
comp=Z,106nm,1.2s,mb5.5
PHWY Pilot Hill 83.48 319 *e*P **P 22 09 44.7 +0.9**
comp=Z,333nm,1.0s,mb6.1
G16A Moss Hill, Enn 83.48 326 ⇑P **P 22 09 44.7 +0.9**
baz=83,SNR=29
M23A Laramie 83.49 320 ⇑P **P 22 09 44.7 +0.8**
baz=83,SNR=13
N24A Carr 83.54 319 ⇑P **P 22 09 45.5 +1.4**
baz=83,SNR=57
E13A Victor 83.55 328 ⇓P **P 22 09 44.2 +0.2**
baz=83,SNR=44
YMR Madison River 83.55 325 *e*P **P 22 09 45.2 +1.1**
comp=Z,144nm,1.1s,mb5.7
H17A Grant Village 83.59 324 ⇑P **P 22 09 46.7 +2.4**
baz=83,SNR=19
H16A Russell Place, 83.65 325 ⇑P **P 22 09 45.9 +1.3**
baz=83,SNR=23
YFT Old Faithful 83.66 324 *e*P **P 22 09 46.6 +2.0**
comp=Z,88nm,1.0s,mb5.5
O25A Wiggins 83.67 318 ⇓P **P 22 09 45.5 +0.7**
baz=83,SNR=11
KSCO Kaye Shedlock' 83.68 316 ⇓P **P 22 09 45.7 +0.9**
baz=83
F14A Wisdom 83.70 327 ⇑P **P 22 09 45.2 +0.3**
baz=83,SNR=7.0
J19A Crowheart 83.75 323 ⇓P **P 22 09 45.3 +0.2**
baz=83,SNR=34
I18A Diamond G Ranc 83.77 323 ⇓P **P 22 09 46.2 +0.9**
baz=84,SNR=14
G15A Dillon 83.83 326 ⇑P **P 22 09 46.2 +0.7**
baz=84,SNR=26
K20A Yellowstone Ra 83.88 322 ⇑P **P 22 09 45.5 -0.3**
baz=84,SNR=21
L21A Rawlins 83.93 321 ⇑P **P 22 09 46.1 0.0**
baz=84,SNR=19
I17A Pilgrim Ck. 83.95 324 ⇑P **P 22 09 47.8 +1.6**
baz=84,SNR=8.2
M22A Cedar Creek Ra 83.97 320 ⇑P **P 22 09 47.1 +0.8**

baz=84,SNR=30
K19A **Absolon Red Bu** 83.99 322 ⇑P P 22 09 45.8 -0.6
baz=84,SNR=80
N23A **Red Feather La** 84.03 319 ⇑P P 22 09 47.6 +1.1
baz=84,SNR=56
RWWY **Rawlins** 84.06 321 *eP* P 22 09 46.2 -0.6
comp=Z,160nm,1.3s,mb5.7
C09A **Chrisman Ranch** 84.07 331 ⇑P P 22 09 46.9 +0.2
baz=84,SNR=48
NATX **Nacogdoches** 84.12 306 *eP* P 22 09 46.9 -0.4
comp=Z,21nm,0.7s,mb5.1
F13A **Darby** 84.13 327 ⇑P P 22 09 47.2 +0.2
baz=84,SNR=78
P25A **Willow Gulch B** 84.13 317 ⇑P P 22 09 48.3 +1.1
baz=84,SNR=71
E12A **Beaver Dam Sad** 84.14 328 ⇓P P 22 09 46.9 -0.1
baz=84
O24A **Longmont** 84.15 318 ⇓P P 22 09 48.2 +0.9
baz=84,SNR=31
MOOW **Moose Ponds** 84.16 324 *eP* P 22 09 48.0 +0.8
comp=Z,52nm,1.1s,mb5.3
G14A **Jackson** 84.19 326 ⇑P P 22 09 47.5 +0.2
baz=84
M21A **Separation Pea** 84.20 321 ⇑P P 22 09 47.7 +0.3
baz=84,SNR=37
Q26A **Hugo** 84.22 317 ⇓P P 22 09 48.3 +0.7
baz=84
J18A **Kendall Valley** 84.25 323 ⇓P P 22 09 48.0 +0.4
baz=84,SNR=19
R27A **Eads** 84.30 316 ⇓P P 22 09 48.6 +0.6
baz=84
ASAJ **Asahikawa** 84.30 35 *eP* P 22 09 47.2 -0.7
comp=Z,36nm,1.6s,mb5.0
H15A **Lima** 84.33 326 ⇑P P 22 09 48.8 +0.8
baz=84,SNR=15
N22A **Wattenberg Ran** 84.35 320 ⇑P P 22 09 48.9 +0.7
baz=84,SNR=26
L20A **Wamsutter** 84.37 322 ⇑P P 22 09 48.8 +0.5
baz=84,SNR=34
BW06 **Boulder Array** 84.37 323 ⇓P P 22 09 48.1 -0.2
baz=84,SNR=61
PDAR **Pinedale Array** 84.37 323 P P 22 09 47.9 -0.4
comp=Z,32nm,0.9s,mb5.2,baz=68,slow=3.4,SNR=157
PDAR **Pinedale Array** 84.37 323 P P 22 09 47.9 -0.4
I16A **Newdale** 84.40 324 ⇑P P 22 09 49.8 +1.4
baz=84,SNR=12
J17A **Brown Place, J** 84.45 324 ⇓P P 22 09 49.0 +0.4
baz=84,SNR=14
A05A **Maple Falls** 84.45 333 ⇑P P 22 09 48.2 -0.3
baz=84
DCID1 **Drake Creek** 84.48 324 *eP* P 22 09 49.8 +0.9
comp=Z,76nm,1.1s,mb5.4
REDW **Red Top Meadow** 84.51 324 *eP* P 22 09 49.7 +0.8
comp=Z,79nm,1.4s,mb5.3
P24A **Kohler Place,** 84.52 318 ⇓P P 22 09 49.3 +0.3
baz=84
O23A **Lake Granby, G** 84.52 319 ⇑P P 22 09 49.8 +0.8
baz=84,SNR=15
F12A **Elk City** 84.54 328 ⇑P P 22 09 48.9 -0.2
baz=84,SNR=46
WMOK **Wichita Mounta** 84.56 311 *eP* P 22 09 49.5 +0.1
comp=Z,104nm,1.1s,mb5.6
WMOK **Wichita Mounta** 84.56 311 *eP* P 22 09 49.5 +0.1
WMOK pmax pmax
comp=Z,103nm,1.1s,mb5.6
OD2 **Odessa Site #2** 84.57 331 *eP* P 22 09 48.9 -0.3
comp=Z,226nm,1.2s,mb5.9
Q25A **Bedland, Calha** 84.61 317 ⇓P P 22 09 49.9 +0.3
baz=84,SNR=17
R26A **Arlington** 84.64 316 ⇓P P 22 09 50.3 +0.6
baz=84,SNR=80
G13A **Cobalt** 84.64 327 ⇑P P 22 09 49.6 0.0
baz=84,SNR=20
H14A **Leadore** 84.65 326 ⇓P P 22 09 50.4 +0.7
baz=84,SNR=15
ISCO **Idaho Springs** 84.67 318 ⇓P P 22 09 50.5 +0.7
baz=84,SNR=74
ISCO **Idaho Springs** 84.67 318 *eP* P 22 09 50.2 +0.4
comp=Z,117nm,1.2s,mb5.6
ISCO **Idaho Springs** 84.67 318 *eP* P 22 09 50.3 +0.5
ISCO pmax pmax
comp=Z,117nm,1.2s,mb5.6
M20A **Sweetwater, Wa** 84.69 321 ⇑P P 22 09 50.5 +0.6
baz=84,SNR=85
K18A **Toltan Ranch,** 84.70 323 ⇑P P 22 09 50.2 +0.3
baz=84,SNR=13
I15A **Monteview** 84.75 325 ⇓P P 22 09 51.3 +1.2
baz=84,SNR=6.1
L19A **Farson** 84.79 322 ⇓P P 22 09 50.3 0.0
baz=84,SNR=7.7
O22A **Kremmling** 84.88 319 ⇑P P 22 09 51.1 +0.3
baz=85,SNR=34
N21A **Black Mountain** 84.92 320 ⇓P P 22 09 51.5 +0.5
baz=85,SNR=8.5
J16A **Bone** 84.93 324 ⇓P P 22 09 51.8 +0.8
baz=85,SNR=8.3
ETW **Entiat** 85.00 332 *eP* P 22 09 51.4 +0.1
comp=Z,58nm,1.1s,mb5.3
K17A **Gardner Place,** 85.02 323 ⇓P P 22 09 51.5 0.0
baz=85
Q24A **Divide** 85.05 318 ⇓P P 22 09 52.1 +0.4
baz=85,SNR=43
G12A **Big Creek, Yel** 85.07 327 ⇓P P 22 09 51.2 -0.5
baz=85
H13A **Challis** 85.08 327 ⇓P P 22 09 51.9 +0.2
baz=85,SNR=9.4
JCW **Jim Creek** 85.08 333 *eP* P 22 09 51.9 +0.2
comp=Z,57nm,0.5s,mb5.7
E09A **Wood Farm, Sta** 85.08 330 ⇑P P 22 09 51.4 -0.3
baz=85,SNR=50
AHID **Auburn Hatcher** 85.09 324 *eP* P 22 09 53.3 +1.5
comp=Z,19nm,0.9s,mb4.9
P23A **Jefferson** 85.11 318 ⇑P P 22 09 53.0 +1.0
baz=85,SNR=53
M19A **Rock Springs** 85.15 322 ⇑P P 22 09 52.3 +0.1
baz=85,SNR=11
F10A **Beach Ranch, E** 85.16 329 ⇑P P 22 09 51.7 -0.4
baz=85,SNR=37
R25A **Fountain Ranch** 85.20 317 ⇑P P 22 09 52.9 +0.5
baz=85,SNR=21
J15A **Blackfoot** 85.20 325 ⇑P P 22 09 53.2 +0.8
baz=85
PGC **Sidney** 85.22 334 *eP* P 22 09 52.4 0.0
comp=Z,8.0nm,0.9s,mb4.5
N20A **Spence Gulch,** 85.23 321 ⇑P P 22 09 52.8 +0.2
baz=85,SNR=13
I14A **Mackay** 85.23 326 ⇓P P 22 09 53.2 +0.7
baz=85,SNR=17
L18A **Fontenelle, Gr** 85.25 322 ⇑P P 22 09 52.6 0.0
baz=85
K16A **Soda Springs** 85.26 324 ⇓P P 22 09 52.9 +0.2
baz=85
O21A **Pagoda** 85.30 320 ⇑P P 22 09 53.1 +0.1
baz=85
H12A **Diamond D Ranc** 85.34 327 ⇑P P 22 09 52.7 -0.3
baz=85,SNR=16
P22A **Eagle** 85.41 319 ⇑P P 22 09 53.6 +0.1
baz=85,SNR=12
Q23A **Hartsel** 85.45 318 ⇑P P 22 09 53.5 -0.2
baz=85,SNR=9.6
L17A **Cokeville** 85.50 323 ⇓P P 22 09 53.4 -0.5
baz=85,SNR=5.8
I13A **Wildhorse Cree** 85.53 326 ⇑P P 22 09 54.4 +0.4
baz=85,SNR=13
R24A **Sanders Place,** 85.57 317 ⇓P P 22 09 54.4 +0.1
baz=85,SNR=15
N19A **John Jarvie Ra** 85.63 321 ⇑P P 22 09 54.3 -0.3
baz=85
S25A **Robets Cordova** 85.64 316 ⇑P P 22 09 55.0 +0.4
baz=85,SNR=30
M18A **Lyman** 85.65 322 ⇑P P 22 09 54.2 -0.4
baz=85
J14A **Carey** 85.74 325 ⇑P P 22 09 55.6 +0.6
baz=85
O20A **White River Ci** 85.75 320 ⇑P P 22 09 55.0 -0.2
baz=85,SNR=10
YUK **Yuzh-Kuril'sk** 85.79 33*c* *i*P Px 22 10 10.7
YUK *i*S SKSac 22 19 52.7 -3.0
YUK pmax pmax
comp=Z,36nm,3.5s
N18A **Larsen Ranch,** 85.81 322 ⇓P P 22 09 55.0 -0.4
baz=86,SNR=8.2
K15A **Arbon** 85.81 324 ⇑P P 22 09 55.6 +0.3
baz=86
P21A **Newcastle** 85.81 319 ⇑P P 22 09 55.6 +0.1
baz=86
L16A **Fish Haven** 85.83 323 ⇓P P 22 09 55.3 -0.2
baz=86
M17A **Scullys Gap (B** 85.89 323 ⇑P P 22 09 55.1 -0.7
baz=86
HLID **Hailey** 85.95 326 ⇓P P 22 09 56.1 +0.1
baz=86
J13A **Cove Ranch, Pi** 85.97 326 ⇑P P 22 09 56.6 +0.4
baz=86
R23A **Moffat** 85.98 318 ⇓P P 22 09 56.6 +0.3
baz=86,SNR=14
T25A **Trinidad** 86.01 316 ⇓P P 22 09 56.8 +0.4
baz=86,SNR=14
Q22A **Crested Butte,** 86.04 319 ⇓P P 22 09 56.9 +0.3
baz=86,SNR=35
O19A **Miners Draw (B** 86.06 321 ⇑P P 22 09 56.5 -0.2
baz=86
S24A **Houchin Ranch,** 86.06 317 ⇑P P 22 09 56.8 +0.1
baz=86
I12A **Atlanta** 86.07 327 ⇓P P 22 09 56.4 -0.2
baz=86
HKT **Hockley** 86.09 306 *eP* P 22 09 56.0 -1.1
comp=Z,192nm,1.6s,mb5.7
HKT **Hockley** 86.09 306 *eP* P 22 09 56.0 -1.0
HKT pmax pmax
comp=Z,192nm,1.6s,mb5.7
AMTX **Amarillo** 86.13 313 ⇑P P 22 09 57.0 -0.1
baz=86,SNR=11
AMTX **Amarillo** 86.13 313 *eP* P 22 09 56.8 -0.3
comp=Z,67nm,1.3s,mb5.3
SDCO **Great Sand Dun** 86.14 317 ⇓P P 22 09 57.2 +0.1
baz=86,SNR=29
U26A **Atchley Ranch,** 86.19 315 ⇓P P 22 09 57.7 +0.3
baz=86,SNR=28
K14A **Jones Ranch, D** 86.21 325 ⇓P P 22 09 57.5 +0.2
baz=86
LON **Longmire** 86.26 332 *eP* P 22 09 56.5 -1.0
comp=Z,121nm,1.8s,mb5.4
LON **Longmire** 86.26 332 *eP* P 22 09 56.5 -1.0
LON pmax pmax
comp=Z,121nm,1.8s,mb5.4
L15A **Malad City** 86.28 324 ⇓P P 22 09 57.6 -0.1
baz=86
P20A **De Beque** 86.31 320 ⇑P P 22 09 57.4 -0.5
baz=86
N17A **Moffit Pass** 86.39 322 ⇑P P 22 09 57.7 -0.5
baz=86,SNR=22
Q21A **Lamborn Mesa,** 86.40 319 ⇓P P 22 09 58.3 0.0
baz=86,SNR=8.9
T24A **Torres, Weston** 86.40 316 ⇓P P 22 09 59.0 +0.6
baz=86
S23A **Nye Farm, Mont** 86.43 317 ⇑P P 22 09 58.6 +0.1
baz=86
R22A **Saguache, Gunn** 86.44 318 ⇓P P 22 09 59.2 +0.7
baz=86,SNR=21
P19A **Cripple Cowboy** 86.50 320 ⇓P P 22 09 58.6 -0.2
baz=86,SNR=8.1
O18A **Roosevelt** 86.52 321 ⇓P P 22 09 58.4 -0.4
baz=86,SNR=6.0
U25A **Circle Dot Ran** 86.55 316 ⇑P P 22 09 59.8 +0.7
baz=86,SNR=25
V26A **Tequesquite Ra** 86.65 315 ⇑P P 22 09 59.4 -0.2
baz=86
MFID **Camas Ranch** 86.67 327 ⇓P P 22 09 59.6 +0.1
baz=86
Q20A **Ridgley Place,** 86.67 320 ⇓P P 22 09 59.2 -0.4
baz=86,SNR=8.6
N16A **Rees Ranch, Co** 86.72 323 ⇑P P 22 09 59.6 -0.2
baz=86
M15A **Larsen Ranch,** 86.73 324 ⇑P P 22 09 59.5 -0.5
baz=86,SNR=8.2
R21A **Cimarron** 86.74 319 ⇑P P 22 09 59.9 -0.1
baz=86,SNR=21
W27A **Bowe Ranch, En** 86.78 314 ⇑P P 22 10 00.3 0.0
baz=86,SNR=16
ROSC **El Rosal** 86.80 274 P P 22 10 01.0 +0.3
comp=Z,15nm,0.6s,mb5.0,baz=147,slow=3.4,SNR=16
ROSC **El Rosal** 86.80 274 *eP* P 22 10 00.6 -0.1
S22A **4UR Ranch, Cre** 86.84 318 ⇑P P 22 10 00.9 +0.4
baz=86,SNR=21
SAML **Samuel** 86.92 256 *eP* P 22 10 00.5 -0.7
comp=Z,34nm,1.1s,mb5.1
O17A **Robinson Place** 86.92 322 ⇓P P 22 10 00.5 -0.3
baz=87,SNR=12
T23A **Casias Ranch,** 86.95 317 ⇓P P 22 10 01.4 +0.4
baz=87,SNR=10.0
U24A **Moreno Valley** 87.01 316 ⇑P P 22 10 02.0 +0.7
baz=87
E03A **Lebam** 87.06 333 ⇑P P 22 10 01.7 +0.3
baz=87
V25A **Rancho No Teng** 87.08 315 ⇑P P 22 10 01.4 -0.3
baz=87
G06A **Carlson Farm,** 87.11 331 ⇓P P 22 10 02.0 +0.3
baz=87
X27A **F and S Farms,** 87.11 314 ⇓P P 22 10 01.8 0.0
baz=87,SNR=5.2
P18A **Preston Nutter** 87.12 321 ⇑P P 22 10 01.5 -0.3
baz=87
Q19A **Hogan Spring (** 87.16 320 ⇓P P 22 10 01.5 -0.5
baz=87,SNR=16
W26A **Owens Ranch, T** 87.16 314 ⇓P P 22 10 02.3 +0.2
baz=87,SNR=8.9
O16A **Springville** 87.28 322 ⇑P P 22 10 02.4 -0.2
baz=87,SNR=16
R20A **Redvale** 87.30 319 ⇓P P 22 10 02.6 -0.1
baz=87,SNR=23
S21A **Coal Bank Pass** 87.40 318 ⇑P P 22 10 03.5 +0.3
baz=87,SNR=76
MSTX **Muleshoe** 87.42 313 ⇑P P 22 10 03.3 0.0
baz=87,SNR=17
T22A **Edith** 87.43 317 ⇑P P 22 10 03.9 +0.6
baz=87,SNR=23
W25A **X Bar L Ranch,** 87.45 315 ⇑P P 22 10 03.8 +0.4
baz=87,SNR=23
Q18A **Rafter H Ranch** 87.48 321 ⇓P P 22 10 03.1 -0.4
baz=87,SNR=20
P17A **Butcher Ranch,** 87.48 321 ⇑P P 22 10 02.9 -0.6
baz=87
V24A **Rampart Ranch,** 87.52 316 ⇓P P 22 10 04.4 +0.6
baz=87,SNR=8.9
S20A **Disappointment** 87.56 319 ⇓P P 22 10 03.9 -0.1
baz=87,SNR=20
U23A **El Rito** 87.56 317 ⇑P P 22 10 04.5 +0.5
baz=87
X26A **CR and CF Fran** 87.58 314 ⇑P P 22 10 04.2 +0.1
baz=87,SNR=28
I07A **Izee** 87.64 329 ⇓P P 22 10 04.5 +0.4
baz=87,SNR=7.4
SRU **San Rafael** 87.66 321 *eP* P 22 10 03.8 -0.6
comp=Z,92nm,1.0s,mb5.6
SRU **San Rafael** 87.66 321 *eP* P 22 10 03.8 -0.6
SRU pmax pmax
comp=Z,92nm,1.0s,mb5.6
R19A **Curley Farm, L** 87.67 320 ⇑P P 22 10 04.6 +0.2
baz=87,SNR=10
O15A **The Old Anders** 87.68 323 ⇓P P 22 10 04.4 -0.1
baz=87
Y27A **Causey** 87.70 313 ⇑P P 22 10 04.5 -0.1
baz=87,SNR=11
T21A **Navajo Lake** 87.77 318 ⇓P P 22 10 05.1 +0.2
baz=88,SNR=15
P16A **Fountain Green** 87.82 322 ⇓P P 22 10 05.1 0.0
baz=88,SNR=7.7
J08A **Circle Bar Ran** 87.82 328 ⇓P P 22 10 04.5 -0.5
baz=88
U22A **Llaves** 87.88 317 ⇓P P 22 10 06.2 +0.8
baz=88,SNR=21
DUG **Dugway** 87.91 323 ⇓P P 22 10 05.5 0.0
baz=88,SNR=9.0
R18A **Canyonlands Na** 87.91 320 ⇓P P 22 10 05.3 -0.3
baz=88,SNR=27
W24A **Lazy 6 Ranch,** 87.97 315 ⇑P P 22 10 06.5 +0.6
baz=88,SNR=27
MAJO **Matsushiro** 87.98 43 P P 22 10 04.3 -1.6
MAJO **Matsushiro** 87.98 43 P P 22 10 04.3 -1.6
MAT **Matsushiro** 87.98 43 P P 22 10 04.4 -1.5
MAT S S 22 20 28.0 +1.2
MJAR **Matsushiro Arr** 87.98 43 P P 22 10 04.9 -1.0
comp=Z,7.2nm,0.9s,mb4.5,baz=309,slow=5.8,SNR=14
MJAR **Matsushiro Arr** 87.98 43 P P 22 10 04.9 -1.0
MJAR **Matsushiro Arr** 87.98 43 P P 22 10 04.9 -1.0
MJAR pmax pmax
comp=Z,7.0nm,0.9s
V23A **Ortiz Mt. (NFS** 88.00 316 ⇓P P 22 10 06.9 +0.9
baz=88
S19A **Harvey Farm, M** 88.02 319 ⇓P P 22 10 06.0 -0.1
baz=88,SNR=78
Y26A **Elida** 88.05 313 ⇓P P 22 10 06.5 +0.3
baz=88,SNR=8.0
X25A **Clemmons Ranch** 88.07 314 ⇑P P 22 10 06.7 +0.3
baz=88,SNR=20
MVCO **Mesa Verde** 88.11 319 ⇓P P 22 10 06.5 0.0
baz=88,SNR=22
Q16A **Castle Valley** 88.13 321 ⇓P P 22 10 06.2 -0.4
baz=88,SNR=26
Z27A **Tatum** 88.14 313 ⇓P P 22 10 06.8 0.0
baz=88,SNR=14
P15A **Leamington** 88.15 322 ⇓P P 22 10 06.5 -0.1
baz=88,SNR=21
JCT **Junction City** 88.18 309 ⇓P P 22 10 07.2 +0.3
baz=88,SNR=9.4
V22A **San Miguel Ran** 88.26 317 ⇑P P 22 10 07.9 +0.7
baz=88
U21A **Nageezi** 88.27 317 ⇑P P 22 10 07.5 +0.2
baz=88,SNR=38
R17A **Hanksville Air** 88.29 321 ⇓P P 22 10 06.9 -0.4
baz=88,SNR=20
W23A **Werner Place,** 88.42 316 ⇓P P 22 10 08.5 +0.5
baz=88,SNR=10.0
X24A **Lazy VL Ranch,** 88.47 315 ⇓P P 22 10 08.6 +0.4
baz=88,SNR=11
S18A **Hurst Farm, Bl** 88.50 320 ⇓P P 22 10 07.9 -0.4
baz=88,SNR=33
Y25A **Mesa, Roswell** 88.53 314 ⇓P P 22 10 08.7 +0.2
baz=88,SNR=18
Z26A **Caprock** 88.61 313 ⇑P P 22 10 09.2 +0.3
baz=88,SNR=65
T19A **Beclabito** 88.67 319 ⇓P P 22 10 08.8 -0.3
baz=88,SNR=35
127A **Arkansas Junct** 88.69 312 ⇑P P 22 10 09.4 0.0
baz=88
V21A **Milan** 88.73 317 ⇓P P 22 10 09.7 +0.3
baz=88
ANMO **Albuquerque** 88.74 316 *eP* P 22 10 09.7 +0.2
comp=Z,22nm,0.9s,mb5.0
ANMO **Albuquerque** 88.74 316 *eP* P 22 10 09.7 +0.2
ANMO pmax pmax
comp=Z,22nm,0.9s
U20A **Newcomb** 88.76 318 ⇓P P 22 10 09.6 +0.1
baz=88,SNR=13
R16A **Teasdale** 88.77 321 ⇑P P 22 10 09.7 +0.1
baz=88
T18A **Mexican Hat** 88.87 319 ⇓P P 22 10 10.0 0.0
baz=89,SNR=93
W22A **Albuquerque** 88.87 316 ⇑P P 22 10 10.7 +0.6
baz=89
X23A **Hourglass Bar** 88.87 315 ⇓P P 22 10 10.7 +0.5
baz=89,SNR=24
S17A **Black Ridge (B** 88.94 320 ⇓P P 22 10 10.1 -0.3
baz=89,SNR=18
Y24A **Capitan** 88.94 314 ⇓P P 22 10 10.9 +0.4
baz=89,SNR=30
Z25A **Roswell** 89.02 314 ⇑P P 22 10 11.3 +0.5
baz=89,SNR=21
126A **Clayton Basin,** 89.09 313 ⇓P P 22 10 11.5 +0.3
baz=89,SNR=11
227A **Bennet, Jal** 89.14 312 ⇑P P 22 10 11.9 +0.5
baz=89
V20A **Brimhall** 89.17 318 ⇑P P 22 10 11.7 +0.2
baz=89,SNR=20
U19A **Dine' College,** 89.18 318 ⇓P P 22 10 11.2 -0.3
baz=89,SNR=20
R15A **Junction** 89.22 321 ⇑P P 22 10 12.3 +0.7
baz=89,SNR=11
W21A **San Fidel** 89.25 317 ⇑P P 22 10 12.7 +0.8
baz=89,SNR=12
S16A **Weppner Ranch,** 89.27 321 ⇑P P 22 10 11.8 -0.1
baz=89,SNR=58
Y23A **Lovelace Mesa,** 89.28 315 ⇓P P 22 10 12.5 +0.4
baz=89,SNR=22
328A **Wristen Ranch,** 89.32 311 ⇑P P 22 10 12.4 +0.1
baz=89,SNR=20
K05A **Summer Lake** 89.32 329 ⇓P P 22 10 13.2 +1.1
baz=89
Z24A **Sheeppen Canyo** 89.35 314 ⇑P P 22 10 12.9 +0.5
baz=89,SNR=29
X22A **Bernardo** 89.37 316 ⇑P P 22 10 13.5 +1.0
baz=89
U18A **Rough Rock, Ch** 89.42 319 ⇑P P 22 10 12.7 0.0
baz=89,SNR=11
T17A **Navajo Res., N** 89.44 320 ⇑P P 22 10 12.5 -0.2
baz=89,SNR=23
125A **Gardner Draw,** 89.45 313 ⇓P P 22 10 12.7 -0.2
baz=89,SNR=34
V19A **Window Rock** 89.53 318 ⇑P P 22 10 13.2 0.0
baz=89
226A **Malaga, Loving** 89.57 312 ⇑P P 22 10 13.9 +0.5
baz=89,SNR=39
Y22D **IRIS PASSCAL I** 89.65 315 ⇓P P 22 10 14.4 +0.7
baz=89
U17A **Shonto** 89.68 319 ⇓P P 22 10 14.0 +0.1
baz=89,SNR=12
W20A **Ramah** 89.70 317 ⇑P P 22 10 14.0 0.0
baz=89,SNR=13
428A **Kincaid Ranch,** 89.72 311 ⇓P P 22 10 14.4 +0.2
baz=90,SNR=9.0
327A **Balmorhea Ranc** 89.73 312 ⇑P P 22 10 14.7 +0.5
baz=90
Y22A **Socorro** 89.78 315 ⇓P P 22 10 14.8 +0.4
baz=90,SNR=11
X21A **Alamocita Cree** 89.84 316 ⇑P P 22 10 15.5 +0.9
baz=90
Z23A **Rita Site, Whi** 89.88 315 ⇓P P 22 10 15.6 +0.7
baz=90,SNR=15
225A **Deer Hill, Car** 89.95 313 ⇑P P 22 10 15.8 +0.6
baz=90,SNR=8.3
V18A **Ganado** 90.00 318 ⇑P P 22 10 15.5 +0.1
baz=90,SNR=24
326A **Caldwell Ranch** 90.05 312 ⇑P P 22 10 16.3 +0.6
baz=90,SNR=36
R13A **O'Grain Ranch,** 90.05 323 ⇑P P 22 10 16.3 +0.8
baz=90,SNR=7.8
427A **Hayter Ranch,** 90.05 311 ⇑P P 22 10 16.2 +0.5
baz=90,SNR=32
Y21A **Point of Rocks** 90.11 316 ⇑P P 22 10 16.7 +0.7
baz=90,SNR=19
X20A **Quemado** 90.14 317 ⇑P P 22 10 16.4 +0.4
baz=90,SNR=13
W19A **Sanders** 90.18 318 ⇓P P 22 10 16.1 -0.1
baz=90,SNR=9.0
528A **Cox Ranch, San** 90.19 310 ⇓P P 22 10 16.8 +0.5
baz=90,SNR=32
U16A **Tuba City** 90.27 319 ⇓P P 22 10 17.2 +0.6
baz=90,SNR=43
Z22A **Elephant Butte** 90.29 315 ⇓P P 22 10 17.2 +0.4
baz=90,SNR=18
W18A **Petrified Fore** 90.35 318 ⇓P P 22 10 16.8 -0.2
baz=90
123A **Bell Site, Whi** 90.37 314 ⇓P P 22 10 17.7 +0.6
baz=90
224A **Cornudas Mount** 90.37 313 ⇑P P 22 10 17.2 +0.1
baz=90,SNR=26
V17A **Tonalea, Kykot** 90.51 319 ⇓P P 22 10 18.1 +0.4
baz=90,SNR=51
426A **McDonald Obser** 90.55 311 ⇓P P 22 10 18.7 +0.7
baz=90,SNR=126
Y20A **Horse Springs,** 90.56 316 ⇓P P 22 10 18.7 +0.6
baz=90,SNR=12
MNTX **Hornglass Mount** 90.57 313 ⇑P P 22 10 18.0 -0.1
baz=90,SNR=52
MNTX **Cornudas Mount** 90.57 313 *eP* P 22 10 17.5 -0.6
comp=Z,44nm,1.1s,mb5.2
MNTX **Cornudas Mount** 90.57 313 *eP* P 22 10 17.5 -0.6
comp=Z,44nm,1.1s,mb5.2
325A **Bean Ranch, Si** 90.58 312 ⇑P P 22 10 17.5 -0.6
baz=90,SNR=21
Z21A **St. Cloud Mine** 90.64 315 ⇓P P 22 10 19.0 +0.7
baz=90,SNR=7.3
X19A **St. Johns** 90.65 317 ⇑P P 22 10 18.8 +0.4
baz=90,SNR=6.1
R11A **Troy Canyon, C** 90.67 324 ⇑P P 22 10 18.7 +0.3
baz=90,SNR=12
527A **Woodward Ranch** 90.69 311 ⇑P P 22 10 19.5 +0.8
baz=90
122A **Conniff Cattle** 90.73 315 ⇓P P 22 10 19.9 +1.1
baz=90,SNR=5.6
628A **Black Gap, Mar** 90.75 310 ⇑P P 22 10 19.6 +0.6
baz=90,SNR=25
TGUH **Tegucigalpa,Un** 90.81 289 *eP* P 22 10 19.1 -0.4
comp=Z,19nm,0.3s,mb5.4
TGUH **Tegucigalpa,Un** 90.81 289 *eP* P 22 10 19.0 -0.4
comp=Z,19nm,0.3s,mb5.4
324A **Moseley Ranch,** 90.82 313 ⇑P P 22 10 19.3 0.0
baz=91,SNR=134
WUAZ **Wupatki** 90.89 319 ⇓P P 22 10 20.0 +0.5
baz=91,SNR=31
WUAZ **Wupatki** 90.89 319 *eP* P 22 10 19.4 0.0
comp=Z,84nm,1.3s,mb5.4
WUAZ **Wupatki** 90.89 319 *eP* P 22 10 19.5 0.0

comp=Z,83nm,1.3s,mb5.4
W17A Winslow 90.89 319 ⇓P **P 22 10 20.0 +0.5**
baz=91,SNR=7.6
X18A Snowflake 90.92 318 ⇓P **P 22 10 19.6 0.0**
baz=91,SNR=6.1
223A Chaparral, Ant 90.93 314 ⇓P **P 22 10 20.6 +0.8**
baz=91
Y19A Nutrioso 90.99 317 ⇑P **P 22 10 20.9 +0.9**
baz=91,SNR=17
425A Indio Mountain 91.02 312 ⇓P **P 22 10 19.9 -0.3**
baz=91
526A Mary Lane Ranc 91.03 311 ⇓P **P 22 10 21.3 +1.0**
baz=91,SNR=31
627A Terlingua Ranc 91.07 310 ⇑P **P 22 10 20.9 +0.5**
baz=91,SNR=31
222A Williams Famil 91.23 314 ⇓P **P 22 10 21.9 +0.7**
baz=91,SNR=8.4
Z20A Nine Sixteen R 91.28 316 ⇓P **P 22 10 22.1 +0.7**
baz=91,SNR=39
121A Cookes Peak, D 91.29 315 ⇓P **P 22 10 22.1 +0.7**
baz=91,SNR=20
TXAR Lajitas Array 91.32 310 P **P 22 10 22.2 +0.6**
comp=Z,27nm,0.8s,mb5.1,baz=70,slow=4.1,SNR=138
TXAR PKKPbc PKKPbc 22 27 42.1 +1.8
comp=Z,0.4nm,0.8s,baz=193,slow=5.1,SNR=4.3
TXAR Lajitas Array 91.32 310 P **P 22 10 22.2 +0.6**
TXAR PKKPbc PKKPbc 22 27 42.1 +1.8
TXAR Lajitas Array 91.32 310 P **P 22 10 22.3 +0.7**
TXAR pmax pmax
comp=Z,27nm,0.8s
626A Big Bend Ranch 91.43 311 ⇑P **P 22 10 22.8 +0.7**
baz=91,SNR=40
Z19A T-Link Ranch, 91.51 316 ⇓P **P 22 10 22.8 +0.4**
baz=91
Y18A Canyon Day Jun 91.54 317 ⇓P **P 22 10 23.1 +0.5**
baz=91,SNR=9.2
221A Mesquite Ranch 91.68 315 ⇑P **P 22 10 24.1 +0.8**
baz=91,SNR=6.3
WCN Washoe City 91.73 327 ⇓P **P 22 10 23.8 +0.5**
baz=91
120A U Bar Ranch, L 91.74 316 ⇓P **P 22 10 24.3 +0.8**
baz=92,SNR=11
X16A Lo Mia Camp, P 91.78 319 ⇓P **P 22 10 24.7 +1.0**
baz=92,SNR=15
NVAR Mina Array Bea 91.83 325 P **P 22 10 23.6 -0.1**
comp=Z,1.1nm,0.5s,mb4.1,baz=57,slow=5.3,SNR=5.2
NVAR PP PP 22 14 02.8 -3.0
comp=Z,1.4nm,0.9s,baz=45,slow=7.7,SNR=3.7
NVAR PKKPbc PKKPbc 22 27 40.7 +1.4
comp=Z,1.2nm,0.6s,baz=199,slow=4.4,SNR=8.4
NVAR Mina Array Bea 91.83 325 P **P 22 10 23.6 -0.1**
NVAR PP PP 22 14 02.8 -3.0
NVAR PKKPbc PKKPbc 22 27 40.7 +1.4
119A Ashpeak Ranch, 91.93 316 ⇑P **P 22 10 25.0 +0.6**
baz=92
Y17A Roosevelt 92.03 318 ⇑P **P 22 10 25.3 +0.5**
baz=92,SNR=17
Z18A Geronimo 92.08 317 ⇑P **P 22 10 25.7 +0.6**
baz=92
Z17A San Carlos Hig 92.15 317 ⇑P **P 22 10 26.1 +0.7**
baz=92
220A Playas Peak, P 92.17 315 ⇑P **P 22 10 25.9 +0.5**
baz=92,SNR=9.7
118A Homack Ranch, 92.39 317 ⇑P **P 22 10 26.3 -0.1**
baz=92
W13A Hualapai Mount 92.47 321 ⇑P **P 22 10 27.3 +0.5**
baz=92,SNR=6.4
219A White Tail Can 92.50 316 ⇓P **P 22 10 27.5 +0.5**
baz=92,SNR=9.0
GRAC Grapevine Rang 92.59 324 ⇑P **P 22 10 27.9 +0.6**
baz=92
320A Kipp Ranch, An 92.61 315 ⇑P **P 22 10 28.2 +0.7**
baz=92
FURC Furnace Creek, 92.79 323 ⇓P **P 22 10 28.9 +0.6**
baz=92
OTAV Otavalo 92.89 273 *e*P **P 22 10 29.4 +0.4**
comp=Z,71nm,1.3s,mb5.4
218A Dragoon 92.94 316 ⇓P **P 22 10 29.1 +0.1**
baz=93
Y14A Wickenburg 92.95 319 ⇑P **P 22 10 29.2 +0.1**
baz=93
319A Douglas 92.99 315 ⇓P **P 22 10 30.0 +0.8**
baz=93
318A Bisbee 93.33 316 ⇓P **P 22 10 31.1 +0.3**
baz=93
CWC Cottonwood Cre 93.37 324 ⇑P **P 22 10 31.4 +0.5**
baz=93
Z14A Wintersburg 93.38 319 ⇑P **P 22 10 31.2 +0.2**
baz=93
MPMC Manual Prospec 93.41 324 ⇓P **P 22 10 30.8 -0.3**
baz=93
GMRC Granite Mounta 93.59 322 ⇓P **P 22 10 32.6 +0.6**
baz=93
GSC Goldstone 93.72 323 ⇓P **P 22 10 32.8 +0.3**
baz=93
114A Black Gap (USA 93.83 319 ⇑P **P 22 10 33.2 +0.2**
baz=94
IRM Iron Mountain 93.84 321 ⇑P **P 22 10 33.4 +0.3**
baz=94,SNR=6.5
Y12C Blythe 93.86 320 ⇑P **P 22 10 33.5 +0.3**
baz=94,SNR=6.6
Z13A Yuma Proving G 93.87 319 ⇓P **P 22 10 33.2 0.0**
baz=94
HEC Hector,Ludlow 93.87 322 ⇑P **P 22 10 33.5 +0.2**
baz=94
LRMC Laurel Mountai 93.98 323 ⇑P **P 22 10 34.1 +0.3**
baz=94
ISA Isabella 94.19 324 ⇓P **P 22 10 34.8 +0.1**
baz=94
113A Mohawk Valley, 94.27 319 ⇑P **P 22 10 34.9 -0.2**
baz=94
VES Vestal, Richgr 94.32 324 ⇓P **P 22 10 35.0 -0.2**
baz=94
BELC Belle Mtn. Jos 94.39 321 ⇓P **P 22 10 36.3 +0.6**
baz=94
BC3 Big Chuckawall 94.40 321 ⇑P **P 22 10 36.5 +0.8**
baz=94
214A Organ Pipe Nat 94.42 318 ⇑P **P 22 10 34.1 -1.7**
baz=94
GLA Glamis 94.58 320 ⇓P **P 22 10 36.9 +0.4**
baz=94
EDW2 Edwards Air Fo 94.61 323 ⇓P **P 22 10 37.4 +0.8**
baz=94
PFO Pinyon Flat Ob 94.92 321 ⇓P **P 22 10 38.4 +0.3**
baz=95
MURC Murrieta 95.29 322 ⇑P **P 22 10 40.5 +0.7**
baz=95
LPAZ La Paz 95.30 253 P **P 22 10 38.9 -1.1**
comp=Z,2.3nm,0.6s,mb4.5,baz=31,slow=7.4,SNR=10.0
LPAZ La Paz 95.30 253 *e*P **P 22 10 38.9 -1.0**
comp=Z,7.5nm,1.1s,mb4.7
LPAZ La Paz 95.30 253 P **P 22 10 38.9 -1.0**
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
PKM Peak Mountain 95.44 324 ⇓P **P 22 10 41.1 +0.7**
baz=95
WRA Warramunga Arr 124.50 88 PKP PKPdf 22 16 12.7 -1.0
comp=Z,11nm,0.9s,baz=294,slow=2.3,SNR=50
WRA SKPbc 22 19 00.2
comp=Z,1.6nm,1.0s,baz=313,slow=3.3,SNR=4.7
WRA PKKPbc PKKPbc 22 25 57.2 +1.2
comp=Z,0.7nm,0.5s,baz=120,slow=3.4,SNR=20
WRA PKKP PKKPdf 22 26 37.3 +1.1
comp=Z,1.0nm,0.4s,baz=116,slow=2.2,SNR=22
WRA Warramunga Arr 124.50 88 PKP PKPdf 22 16 12.7 -1.0
WRA SKPbc 22 19 00.2
WRA PKKPbc PKKPbc 22 25 57.2 +1.2
WRA PKKP PKKPdf 22 26 37.3 +1.1
WRA Warramunga Arr 124.50 88 PKIKP PKPdf 22 16 12.7 -1.0
WRA pmax pmax
comp=Z,11nm,0.9s
WRA pmax pmax
comp=N,2.0nm,1.0s
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 126.20 92 PKP PKPdf 22 16 15.9 -1.0
comp=Z,16nm,1.0s,baz=329,slow=1.7,SNR=62
ASAR PKKPbc 22 25 50.8
comp=Z,0.5nm,0.4s,baz=120,slow=3.6,SNR=8.3
ASAR PKKP 22 26 33.8
comp=Z,0.5nm,0.4s,baz=119,slow=2.1,SNR=5.7
ASAR Alice Springs 126.20 92 PKP PKPdf 22 16 15.9 -1.0
ASAR PKKPbc 22 25 50.8
ASAR PKKP 22 26 33.8
ASAR Alice Springs 126.20 92 PKIKP PKPdf 22 16 15.9 -1.0
ASAR pmax pmax
comp=Z,16nm,1.0s
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR pmax pmax
comp=Z,1.0nm,0.4s
AS31 Alice Springs 126.20 92 *e*PKPdf PKPdf 22 16 16.0 -0.9
COEN Coen 127.75 76 *e*PKP PKPdf 22 16 19.8 -0.3
comp=Z,59nm,1.2s
COEN Coen 127.75 76 *e*PKPdf PKPdf 22 16 18.8 -1.3
QSPA South Pole Qui 129.10 180 *e*PKPdf PKPdf 22 16 20.1 -0.7
CTA Charters Tower 133.79 80 PKP PKPdf 22 16 31.9 +0.5
comp=Z,13nm,0.9s,baz=258,slow=2.6,SNR=11
CTA SKPbc SKPbc 22 19 34.4 -1.1
comp=Z,19nm,1.1s,baz=331,slow=5.3,SNR=6.0
CTA Charters Tower 133.79 80 *e*PKP PKPdf 22 16 31.0 -0.4
comp=Z,9.8nm,0.9s
CTA *e* 22 19 35.0
CTA Charters Tower 133.79 80 PKP PKPdf 22 16 31.9 +0.5
CTA SKPbc SKPbc 22 19 34.4 -1.1
CTA Charters Tower 133.79 80 PKIKP PKPdf 22 16 31.9 +0.5
CTA pmax pmax
comp=Z,13nm,0.9s
CTA pmax pmax
comp=N,19nm,1.2s
CTAO Charters Tower 133.79 80 *e*PKPdf PKPdf 22 16 30.5 -0.9
CTAO Charters Tower 133.79 80 *e*PKIKP PKPdf 22 16 30.5 -0.9
STKA Stephens Creek 136.11 98 PKhKP PKPpre 22 16 29.4
comp=N,0.9nm,0.4s,baz=308,slow=7.4,SNR=4.6
STKA SKPbc SKPbc 22 19 42.1 -0.4
comp=N,14nm,0.8s,baz=326,slow=3.6,SNR=14
STKA Stephens Creek 136.11 98 *e*PKP PKPdf 22 16 34.6 -0.8
comp=N,7.4nm,1.0s
STKA *e* 22 19 41.8
STKA Stephens Creek 136.11 98 PKPpre PKPpre 22 16 29.4
STKA *e*PKPdf PKPdf 22 16 34.6 -0.8
STKA SKPbc SKPbc 22 19 42.1 -0.4
DZM Mont Dzumac 149.92 64 *e*PKPbc PKPbc 22 17 05.7 +0.8
comp=N,201nm,1.1s
RKT Rikitea 150.21 294 *e*PKPbc PKPbc 22 17 06.3 +0.7
comp=N,94nm,1.0s
PMOR Pomariorio Ree 151.77 324 *e*PKIKP PKPdf 22 17 03.9 +1.1
comp=N,34nm,1.1s
PMOR Pomariorio Ree 151.77 324 *e*PKPbc PKPbc 22 17 10.1 +0.7
comp=N,42nm,1.1s
PAE Paea 154.87 325 *e*PKIKP PKPdf 22 17 07.5 +0.3
comp=N,6.5nm,0.9s

MAN 17 22:08:52, 17°.85N×120°.65E, h25km, mb4.0, ML2.8, MS2.5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.19**	**291**	⇑	*i*P	Pb	22 08 58.9	+1.3
SIPP					*e*S	Sb	22 09 03.5	+2.1
BCPH	**Baguio City Da**	**1.47**	**183**	⇓	*i*P	Pn	22 09 15.0	-1.9
BCPH					*i* S	Sn	22 09 30.6	-4.7

MAN 17 22:17:04, 8°.97N×123°.14E, h20km, mb4.2, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.39**	**14**	⇑	*i*P	Pb	22 17 13.0	+0.8
SNPH					*i* S	Sb	22 17 19.2	+1.5
TBP	**Tagbilaran**	**1.01**	**45**		*e*P	Pb	22 17 23.1	+0.2
TBP					*e*S	Sb	22 17 37.4	+1.6
PAGZ	**Pagadian**	**1.14**	**168**		*e*P	Pn	22 17 24.2	-0.6
PAGZ					*e*S	Sb	22 17 36.7	-2.6
GUIM	**Jordan**	**1.74**	**342**		*e*P	Pn	22 17 34.0	+0.9
GUIM					*e*S	Sn	22 17 55.7	+1.0

*IDC **17** 22:26:08.3±0.9, 0°.39N×97°.93E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/22, mbtmp4.2/13, ML4.7/1, MS3.3/1, Ms1 3.5/1, ms1mx2.7/25, Error ellipse: s-maj=36.0km s-min=16.2km az=52.0*
*ISCJB **17** 22:26:12.7±1.1, 0°.45N±0°.05×97°.95E±0°.06, h42km±9km, mb4.4/28, Error ellipse: s-maj=12.3km s-min=6.7km az=145.9*
*DJA **17** 22:26:12, 0°.48N×97°.95E, h19km, MLv4.6/6*
*NEIC **17** 22:26:15.1±2.2, 0°.45N×98°.12E, h48km±17km, mb4.6/16, Error ellipse: s-maj=22.1km s-min=6.5km az=52.0*
ISC 17 22:26:14.4±0.9, 0°.45N±0°.05×97°.95E±0°.06, h38km±9km, n69,σ0°.96/69, mb4.4/28, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.66**	**78**		P	**Pn**	**22 26 40.8**	**-0.2**
MNSI					S	**Sn**	**22 27 01.0**	**-0.1**
PPI	**Padang Panjang**	**2.60**	**110**		S	**Sn**	**22 27 26.9**	**+2.5**
TPTI		**2.90**	**345**		P	**Pn**	**22 26 57.1**	**-0.9**
BKNI	**Bangkinang**	**3.09**	**92**		P	**Pn**	**22 27 03.0**	**+2.3**
TSI	**Tuntungan**	**3.09**	**11**		P	**Pn**	**22 27 01.0**	**+0.3**
IPM	**Ipoh**	**5.04**	**37**		*e*Pn	**Pn**	**22 27 28.0**	**+0.4**
IPM					*e*Sn	**Sn**	**22 28 24.1**	**-0.6**
KULM	**Kulim**	**5.51**	**29**		*e*P	**Pn**	**22 27 33.8**	**-0.1**
KULM	**Kulim**	**5.51**	**29**		P	**Pn**	**22 27 33.6**	**-0.4**
BSI	**Banda Aceh**	**5.67**	**332**		P	**Pn**	**22 27 35.1**	**-1.1**
KSI	**Kapahiang**	**6.17**	**131**		P	**Pn**	**22 27 43.5**	**+0.4**
MNAI	**Manna**	**6.91**	**134**		P	**Pn**	**22 27 53.1**	**-0.2**
LWLI	**Liwa**	**8.16**	**132**		P	**Pn**	**22 28 11.4**	**+0.9**
CISI	**Cisompet, Garu**	**12.65**	**129**		P	**Pn**	**22 29 09.3**	**-2.6**
CMAR	**Chiang Mai Arr**	**17.92**	**3**		P	**Pn**	**22 30 19.2**	**-1.6**
CMAR					LR	LR	22 37 47.7	
CMAR	**Chiang Mai Arr**	**17.92**	**3**		P	**Pn**	**22 30 19.2**	**-1.6**
ODAN	**Odare**	**28.16**	**340**		*e*P	**P**	**22 32 04.0**	**+0.8**
ODAN	**Odare**	**28.16**	**340**		*e*P	**P**	**22 32 04.0**	**+0.8**
TAPN	**Taplejung**	**28.50**	**341**		*e*P	**P**	**22 32 04.5**	**-1.7**
TAPN	**Taplejung**	**28.50**	**341**		*e*P	**P**	**22 32 04.5**	**-1.7**
RAMN	**Ramite**	**28.52**	**338**		*e*P	**P**	**22 32 08.1**	**+1.7**
RAMN	**Ramite**	**28.52**	**338**		*e*P	**P**	**22 32 08.1**	**+1.7**
JIRN	**Jiri**	**29.32**	**338**		*e*P	**P**	**22 32 14.8**	**+1.3**
JIRN	**Jiri**	**29.32**	**338**		*e*P	**P**	**22 32 14.8**	**+1.3**
PKI	**Pulchoki**	**29.53**	**337**		*e*P	**P**	**22 32 19.8**	**+4.4**
PKI	**Pulchoki**	**29.53**	**337**		*e*P	**P**	**22 32 19.8**	**+4.4**
GUN	**Gumba**	**29.66**	**338**		*e*P	**P**	**22 32 17.8**	**+1.3**
GUN	**Gumba**	**29.66**	**338**		*e*P	**P**	**22 32 17.8**	**+1.3**
DMN	**Daman**	**29.68**	**337**		*e*P	**P**	**22 32 21.2**	**+4.5**
DMN	**Daman**	**29.68**	**337**		*e*P	**P**	**22 32 21.2**	**+4.5**
KKN	**Kakani**	**29.78**	**337**		*e*P	**P**	**22 32 22.0**	**+4.4**
KKN	**Kakani**	**29.78**	**337**		*e*P	**P**	**22 32 22.0**	**+4.4**
LSA	**Lhasa**	**29.80**	**348**		*e*P	**P**	**22 32 18.4**	**+0.7**
GKN	**Gorkha**	**30.22**	**336**		*e*P	**P**	**22 32 26.7**	**+5.2**
GKN	**Gorkha**	**30.22**	**336**		*e*P	**P**	**22 32 26.7**	**+5.2**
WRA	**Warramunga Arr**	**41.00**	**122**		P	**P**	**22 33 52.8**	**-1.3**
WRA	**Warramunga Arr**	**41.00**	**122**		P	**P**	**22 33 52.8**	**-1.3**
WRAB	**Tennant Creek**	**41.01**	**122**		*e*P	**P**	**22 33 52.6**	**-1.5**
ASAR	**Alice Springs**	**42.34**	**127**		P	**P**	**22 34 04.0**	**-0.9**
ASAR	**Alice Springs**	**42.34**	**127**		P	**P**	**22 34 04.0**	**-0.9**
KSAR	**Wonju Array Be**	**46.01**	**34**		P	**P**	**22 34 34.0**	**-0.2**
KSRS	**Korea Array**	**46.04**	**34**		P	**P**	**22 34 34.0**	**-0.4**

5.3nm,0.6s,mb4.6,baz=223,slow=8.4,SNR=14
TKM2 Tokmak 2 46.79 337 *e*P **P 22 34 41.4 +1.2**
2.2nm,0.8s,mb4.1
EKS2 Erkin-Say 47.30 336 *e*P **P 22 34 45.4 +1.2**
SONM Songino Array 47.76 8 P **P 22 34 47.6 0.0**
4.8nm,0.8s,mb4.6,baz=191,slow=8.8,SNR=32
SONM PcP PcP 22 36 16.7 +0.5
0.4nm,0.4s,baz=182,slow=4.3,SNR=3.4
SONM Songino Array 47.76 8 P **P 22 34 47.6 0.0**
SONM PcP PcP 22 36 16.7 +0.5
ULN Ulaanbaatar 47.88 8 *e*P **P 22 34 48.0 -0.6**
3.8nm,0.9s,mb4.4
MK31 Makanchi Array 48.15 346 *e*P **P 22 34 50.9 +0.2**
MKAR Makanchi Array 48.15 346 P **P 22 34 51.1 +0.5**
4.8nm,0.7s,mb4.7,baz=159,slow=8.3,SNR=38
MKAR Makanchi Array 48.15 346 P **P 22 34 51.1 +0.5**
STKA Stephens Creek 52.30 132 P **P 22 35 22.4 0.0**
1.4nm,0.6s,mb4.1,baz=313,slow=8.6,SNR=6.7
STKA Stephens Creek 52.30 132 *e*P **P 22 35 21.6 -0.8**
KURK Kurchatov 52.71 345 *e*P **P 22 35 24.6 -0.4**
6.0nm,0.9s,mb4.5
ZAA0 Zalesovo Array 54.41 350 *e*P **P 22 35 37.4 -0.1**
ZALV Zalesovo Beam 54.41 350 P **P 22 35 37.7 +0.2**
24nm,0.9s,mb5.1,baz=174,slow=6.6,SNR=67
ZALV Zalesovo Beam 54.41 350 P **P 22 35 37.7 +0.2**
BRVK Borovoye 57.26 341 *e*P **P 22 35 57.5 -0.4**
4.4nm,0.8s,mb4.5
ABKAR Akbulak array 58.53 332 *e*P **P 22 36 06.6 -0.3**
4.7nm,0.8s,mb4.6
BRTR Keskin Array B 70.17 312 P **P 22 37 23.1 -0.3**
1.1nm,0.8s,mb3.9,baz=125,slow=5.4,SNR=8.6
BRTR Keskin Array B 70.17 312 P **P 22 37 23.1 -0.3**
MLR Muntele Rosu 77.13 317 P **P 22 38 04.4 +0.4**
0.9nm,0.8s,mb3.7,baz=240,slow=9.5,SNR=4.0
MLR Muntele Rosu 77.13 317 P **P 22 38 04.4 +0.4**
FINES FINESS Array B 81.01 332 P **P 22 38 24.8 -0.1**
2.6nm,0.7s,mb4.3,baz=103,slow=6.1,SNR=7.9
FINES FINESS Array B 81.01 332 P **P 22 38 24.8 -0.1**
ARCES ARCESS Array B 83.49 340 P **P 22 38 37.6 -0.2**
4.6nm,0.9s,mb4.5,baz=78,slow=6.3,SNR=5.0
ARCES ARCESS Array B 83.49 340 P **P 22 38 37.6 -0.2**
GERES GERESS Array B 85.87 319 P **P 22 38 50.6 +0.4**
0.6nm,0.8s,mb3.9,baz=160,slow=4.3,SNR=4.4
GERES GERESS Array B 85.87 319 P **P 22 38 50.6 +0.4**
TXAR Lajitas Array 143.89 33 PKP PKPdf 22 45 44.6 -1.8
0.6nm,0.5s,baz=270,slow=0.4,SNR=11
TXAR Lajitas Array 143.89 33 PKP PKPdf 22 45 44.6 -1.7

*TRN **17** 22:26:37.4, 18°.83N×65°.18W, h34km, MD3.0(RSPR)*
*NEIC **17** 22:26:39.4, 18°.91N×65°.17W, h44km, MD3.0(RSPR), After RSPR.*
RSPR 17 22:26:39.4, 18°.91N×65°.17W, h44km±15km, 15C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.59**	**160**		*e*S	Sn	22 26 59.7	-0.4
STVI	**Saint Thomas**	**0.59**	**160**		*e*S	Sn	22 26 59.7	-0.4
TBVI	**Tortola**	**0.71**	**133**	⇑	*e*P	Pn	22 26 51.9	-1.3
TBVI					*e*S	Sn	22 27 02.0	-1.0
TBVI	**Tortola**	**0.71**	**133**	⇑	*e*P	Pn	22 26 51.9	-1.3
TBVI					*e*S	Sn	22 27 02.0	-1.0
TBVI	**Tortola**	**0.71**	**133**	⇑	*e*P	Pn	22 26 51.9	-1.3
TBVI					*e*S	Sn	22 27 02.1	-1.0
MTP	**Monte Pirata**	**0.88**	**204**		*e*S	Sn	22 27 06.3	-0.8
MTP	**Monte Pirata**	**0.88**	**204**		*e*S	Sn	22 27 06.3	-0.8
CBYP	**Canovanas**	**0.91**	**226**	⇑	*e*P	Pn	22 26 54.4	-1.4
CBYP	**Canovanas**	**0.91**	**226**	⇑	*e*P	Pn	22 26 54.4	-1.4
CBYP					*e*S	Sn	22 27 06.1	-1.6
CBYP	**Canovanas**	**0.91**	**226**	⇑	*e*P	Pn	22 26 54.4	-1.4
CBYP					*e*S	Sn	22 27 06.1	-1.6
HUMP	**Col San Antoni**	**1.00**	**220**		*e*S	Sn	22 27 08.2	-1.7
HUMP	**Col San Antoni**	**1.00**	**220**		*e*S	Sn	22 27 08.2	-1.7
CPD	**Cerro la Pandu**	**1.12**	**219**	⇑	*e*P	Pn	22 26 57.6	-1.1
CPD	**Cerro la Pandu**	**1.12**	**219**	⇑	*e*P	Pn	22 26 57.6	-1.1
CPD					*e*S	Sn	22 27 11.4	-1.4
CPD	**Cerro la Pandu**	**1.12**	**219**	⇑	*e*P	Pn	22 26 57.6	-1.1
CPD					*e*S	Sn	22 27 11.4	-1.4
AOPR	**Arecibo Observ**	**1.60**	**250**	⇑	*e*P	Pn	22 27 04.3	-1.0
AOPR	**Arecibo Observ**	**1.60**	**250**	⇑	*e*P	Pn	22 27 04.3	-1.0
AOPR	**Arecibo Observ**	**1.60**	**250**	⇑	*e*P	Pn	22 27 04.3	-1.0
CRPR	**Cabo Rojo, PR**	**2.05**	**244**	⇑	*e*P	Pn	22 27 10.7	-0.7
CRPR	**Cabo Rojo, PR**	**2.05**	**244**	⇑	*e*P	Pn	22 27 10.7	-0.7
CRPR					*e*S	Sn	22 27 35.6	-0.1
CRPR	**Cabo Rojo, PR**	**2.05**	**244**	⇑	*e*P	Pn	22 27 10.7	-0.7
CRPR					*e*S	Sn	22 27 35.6	-0.1

*TRN **17** 22:38:43.5, 18°.84N×65°.20W, h37km, MD3.2(RSPR)*
*NEIC **17** 22:38:45.6, 18°.93N×65°.20W, h33km, MD3.2(RSPR), After RSPR.*
RSPR 17 22:38:45.6, 18°.93N×65°.20W, h33km±14km, MD3.2/4, 15C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.62**	**158**	⇑	*e*P	Pb	22 38 56.2	-2.0
STVI	**Saint Thomas**	**0.62**	**158**	⇑	*e*P	Pb	22 38 56.2	-2.0
STVI					*e*S	Sb	22 39 05.4	-1.2
STVI	**Saint Thomas**	**0.62**	**158**	⇑	*e*P	Pb	22 38 56.2	-2.0
STVI					*e*S	Sb	22 39 05.4	-1.2
TBVI	**Tortola**	**0.75**	**133**		*e*S	Sn	22 39 08.6	-1.6
TBVI	**Tortola**	**0.75**	**133**		*e*S	Sn	22 39 08.6	-1.6
MTP	**Monte Pirata**	**0.90**	**202**	⇑	*e*P	Pn	22 39 00.7	-1.2
MTP	**Monte Pirata**	**0.90**	**202**	⇑	*e*P	Pn	22 39 00.7	-1.2
MTP					*e*S	Sn	22 39 12.3	-1.5
MTP	**Monte Pirata**	**0.90**	**202**	⇑	*e*P	Pn	22 39 00.7	-1.2
MTP					*e*S	Sn	22 39 12.3	-1.5
CBYP	**Canovanas**	**0.91**	**224**	⇑	*e*P	Pn	22 39 00.4	-1.7
CBYP	**Canovanas**	**0.91**	**224**	⇑	*e*P	Pn	22 39 00.4	-1.7
CBYP					*e*S	Sn	22 39 12.2	-1.8
CBYP	**Canovanas**	**0.91**	**224**	⇑	*e*P	Pn	22 39 00.4	-1.7
CBYP					*e*S	Sn	22 39 12.2	-1.8
HUMP	**Col San Antoni**	**1.00**	**218**	⇑	*e*P	Pn	22 39 01.6	-1.7
HUMP	**Col San Antoni**	**1.00**	**218**	⇑	*e*P	Pn	22 39 01.6	-1.7
HUMP					*e*S	Sn	22 39 14.2	-2.1
HUMP	**Col San Antoni**	**1.00**	**218**	⇑	*e*P	Pn	22 39 01.6	-1.7
HUMP					*e*S	Sn	22 39 14.2	-2.1
AOPR	**Arecibo Observ**	**1.59**	**249**	⇑	*e*P	Pn	22 39 10.4	-1.0
AOPR	**Arecibo Observ**	**1.59**	**249**	⇑	*e*P	Pn	22 39 10.4	-1.0
AOPR					*e*S	Sn	22 39 29.4	-1.4
AOPR	**Arecibo Observ**	**1.59**	**249**	⇑	*e*P	Pn	22 39 10.4	-1.0
AOPR					*e*S	Sn	22 39 29.4	-1.4

DDA 17 22:52:31.6, 38°.10N×38°.64E, h7km±2km, Md2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.27**	**323**		PG	Pg	22 52 37.5	+0.5
MALT					*e*SG	Sg	22 52 40.9	+0.3
MYA	**Malataya**	**0.28**	**324**		PG	Pg	22 52 38.3	+1.1
MYA					*e*SG	Sg	22 52 41.9	+0.9
AKCD	**Akcadag**	**0.60**	**290**		*i* P	Pg	22 52 43.2	+0.1
AKCD					*i* S	Sg	22 52 52.1	+1.2

*ISK **17** 23:03:41.7, 36°.05N×35°.86E, h8km, MD3.1*
*DDA **17** 23:03:42.0, 36°.11N×35°.88E, h7km±3km, Md3.2*
*ISCJB **17** 23:03:42.2±0.6, 36°.07N±0°.03×35°.87E±0°.04, h8km±4km, Error ellipse: s-maj=5.9km s-min=4.9km az=175.3*
*CSEM **17** 23:03:42.2±0.3, 36°.05N×35°.91E, h8km, MD3.2, Error ellipse: s-maj=6.7km s-min=4.3km az=152.0*
ISC 17 23:03:42.7±0.6, 36°.07N±0°.04×35°.90E±0°.04, h10km±4km, n36,σ0°.85/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.17**	**101**		*i* P	**Pg**	**23 03 46.2**	**-0.3**
YAYL					*i* S	**Sg**	**23 03 50.0**	**+1.0**
YAYL	**Yayladag**	**0.17**	**101**		*i* P	**Pg**	**23 03 46.2**	**-0.3**
YAYL					*i* S	**Sg**	**23 03 50.0**	**+0.9**
HTY	**Hatay**	**0.20**	**75**		*e*PG	**Pg**	**23 03 47.0**	**0.0**
HTY					*e*SG	**Sg**	**23 03 50.5**	**+0.6**
HTY	**Hatay**	**0.20**	**75**		*e*Pg	**Pg**	**23 03 47.0**	**0.0**
HTY					*e*Sg	**Sg**	**23 03 50.5**	**+0.6**
COBT	**Iskenderun**	**0.54**	**33**		*i* P	**Pg**	**23 03 51.3**	**-1.8**
COBT					*i* S	**Sg**	**23 03 59.5**	**-0.8**
COBT	**Iskenderun**	**0.54**	**33**		*i* P	**Pg**	**23 03 51.3**	**-1.9**
COBT					*i* S	**Sg**	**23 03 59.5**	**-0.7**
KRTS	**Karatas**	**0.66**	**320**		*e*PG	**Pg**	**23 03 55.6**	**+0.2**
KRTS					*e*SG	**Sg**	**23 04 03.4**	**-0.6**

KRTS	**Karatas**	**0.66 320**	*e*Pg	**Pg**	**23 03 55.6**	**+0.2**
KRTS			*e*Sg	**Sg**	**23 04 03.4**	**-0.6**
CEYT	**Ceyhan**	**0.95 353**	*e*PG	**Pg**	**23 04 00.8**	**-0.2**
CEYT			*e*SG	**Sg**	**23 04 14.7**	**+1.4**
CEYT	**Ceyhan**	**0.95 353**	*e*Pg	**Pg**	**23 04 00.8**	**-0.2**
CEYT			*e*Sg	**Sg**	**23 04 14.7**	**+1.4**
KUZU	**Kuzuini**	**1.18 53**	*i* P	**Pb**	**23 04 04.3**	**-1.0**
KUZU			*i* S	**Sb**	**23 04 20.3**	**-0.3**
KUZU	**Kuzuini**	**1.18 53**	*i* P	**Pb**	**23 04 04.3**	**-0.9**
KUZU			*i* S	**Sb**	**23 04 20.3**	**-0.3**
MERS	**Mersin**	**1.36 306**	*e*PN	**Pn**	**23 04 06.6**	**-1.2**
MERS	**Mersin**	**1.36 306**	*e*Pn	**Pn**	**23 04 06.6**	**-1.2**
KOZT	**Kozan**	**1.41 358**	*e*PN	**Pn**	**23 04 08.7**	**+0.3**
KOZT			*e*SN	**Sn**	**23 04 28.7**	**+1.7**
EREN	**Erenkoy**	**1.50 250**	*e*PN	**Pn**	**23 04 09.4**	**-0.3**
EREN	**Erenkoy**	**1.50 250**	*e*Pn	**Pn**	**23 04 09.4**	**-0.3**
GAZ	**Gaziantep**	**1.53 43**	*e*PN	**Pn**	**23 04 10.6**	**+0.5**
GAZ	**Gaziantep**	**1.53 43**	*e*Pn	**Pn**	**23 04 10.6**	**+0.6**
ANDN	**Andirin**	**1.55 13**	*i* P	**Pn**	**23 04 09.5**	**-0.9**
ANDN			*i* S	**Sn**	**23 04 29.6**	**-0.9**
ANDN	**Andirin**	**1.55 13**	*i* P	**Pn**	**23 04 09.5**	**-0.9**
ANDN			*i* S	**Sn**	**23 04 29.6**	**-0.9**
KMRS	**Kahramanmaras**	**1.65 29**	*e*PN	**Pn**	**23 04 12.1**	**+0.5**
KMRS	**Kahramanmaras**	**1.65 29**	*e*Pn	**Pn**	**23 04 12.1**	**+0.4**
LFK	**Lefkose**	**2.08 248**	*e*PN	**Pn**	**23 04 16.5**	**-1.1**
LFK	**Lefkose**	**2.08 248**	*e*Pn	**Pn**	**23 04 16.5**	**-1.1**
CSS	**Prodhromos**	**2.37 243**	*e*PN	**Pn**	**23 04 22.1**	**+0.5**
CSS	**Prodhromos**	**2.37 243**	*e*Pn	**Pn**	**23 04 22.1**	**+0.6**
SARI	**SarD1z-Kayseri**	**2.68 14**	*e*PN	**Pn**	**23 04 21.6**	**-4.4**
AKCD	**Akcadag**	**2.75 35**	*i* P	**Pn**	**23 04 27.1**	**+0.2**
AKCD	**Akcadag**	**2.75 35**	*i* P	**Pn**	**23 04 27.1**	**+0.3**
BNN	**Bunyan**	**2.78 359**	*e*PN	**Pn**	**23 04 28.4**	**+1.2**
BNN	**Bunyan**	**2.78 359**	*e*Pn	**Pn**	**23 04 28.4**	**+1.2**
HDMB	**Hadim**	**2.89 289**	*e*PN	**Pn**	**23 04 29.5**	**+0.7**
HDMB	**Hadim**	**2.89 289**	*e*Pn	**Pn**	**23 04 29.5**	**+0.8**
GAZI	**Gazipasa**	**2.90 274**	*i* P	**Pn**	**23 04 29.4**	**+0.5**
GAZI	**Gazipasa**	**2.90 274**	*i* P	**Pn**	**23 04 29.4**	**+0.5**

*ISCJB **17** 23:07:12.8±0.3, 40.°80N±0.°02×29.°29E±0.°03, h10km±3km, Error ellipse: s-maj=4.0km s-min=3.5km az=43.3*
*CSEM **17** 23:07:12.8±0.1, 40.°79N×29.°29E, h10km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.1km az=41.0*
*ISK **17** 23:07:12.4, 40.°79N×29.°27E, h10km, MD2.9*
*DDA **17** 23:07:12.9, 40.°78N×29.°29E, h14km±1km, Md3.0*

ISC 17 23:07:13.1±0.3, 40.°80N±0.°02×29.°30E±0.°03, h12km±3km, n58, σ0.°72/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUY	**Buyukada**	**0.14**	**292**	*i* P	**Pg**	**23 07 17.0**	**+0.4**
BUY				*i* S	**Sg**	**23 07 19.6**	**+0.6**
BUY	**Buyukada**	**0.14**	**292**	*i* P	**Pg**	**23 07 17.0**	**+0.4**
BUY				*i* S	**Sg**	**23 07 19.6**	**+0.6**
YLV	**Yalova**	**0.24**	**166**	*e*PG	**Pg**	**23 07 18.1**	**0.0**
YLV				*e*SG	**Sg**	**23 07 21.0**	**-0.5**
YLV	**Yalova**	**0.24**	**166**	*e*Pg	**Pg**	**23 07 18.1**	**0.0**
YLV				*e*Sg	**Sg**	**23 07 21.0**	**-0.5**
ISK	**Istanbul-Kandi**	**0.32**	**326**	*e*PG	**Pg**	**23 07 19.0**	**-0.6**
ISK				*e*SG	**Sg**	**23 07 23.9**	**-0.2**
ISK	**Istanbul-Kandi**	**0.32**	**326**	*e*Pg	**Pg**	**23 07 19.0**	**-0.6**
ISK				*e*Sg	**Sg**	**23 07 23.9**	**-0.1**
ARMT	**Armutlu**	**0.40**	**235**	*e*PG	**Pg**	**23 07 21.3**	**+0.2**
ARMT				*e*SG	**Sg**	**23 07 25.9**	**-0.6**
ARMT	**Armutlu**	**0.40**	**235**	*e*Pg	**Pg**	**23 07 21.3**	**+0.2**
ARMT				*e*Sg	**Sg**	**23 07 25.9**	**-0.6**
SILT	**Sile**	**0.44**	**36**	*e*PG	**Pg**	**23 07 22.1**	**+0.3**
SILT				*e*SG	**Sg**	**23 07 28.6**	**+0.9**
SILT	**Sile**	**0.44**	**36**	*e*Pg	**Pg**	**23 07 22.1**	**+0.3**
SILT				*e*Sg	**Sg**	**23 07 28.6**	**+0.9**
KLYT	**Kilyos**	**0.49**	**337**	*e*PG	**Pg**	**23 07 22.9**	**+0.1**
KLYT				*e*SG	**Sg**	**23 07 30.1**	**+0.7**
KLYT	**Kilyos**	**0.49**	**337**	*e*Pg	**Pg**	**23 07 22.9**	**+0.1**
KLYT				*e*Sg	**Sg**	**23 07 30.1**	**+0.7**
ADVT	**Abdulvahap**	**0.50**	**137**	*e*PG	**Pg**	**23 07 22.6**	**-0.3**
ADVT	**Abdulvahap**	**0.50**	**137**	*e*Pg	**Pg**	**23 07 22.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.53**	**216**	*e*PG	**Pg**	**23 07 23.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.53**	**216**	*e*Pg	**Pg**	**23 07 23.4**	**-0.1**
BGKT	**Bogazkoy**	**0.55**	**314**	*e*PG	**Pg**	**23 07 24.1**	**+0.2**
BGKT				*e*SG	**Sg**	**23 07 31.3**	**+0.2**
BGKT	**Bogazkoy**	**0.55**	**314**	*e*Pg	**Pg**	**23 07 24.1**	**+0.2**
BGKT				*e*Sg	**Sg**	**23 07 31.3**	**+0.1**
CTKS	**Kestanelik-??a**	**0.74**	**307**	*e*PG	**Pg**	**23 07 27.3**	**-0.1**
CTKS				*e*SG	**Sg**	**23 07 37.8**	**+0.6**
CTKS	**Kestanelik-??a**	**0.74**	**307**	*e*Pg	**Pg**	**23 07 27.3**	**-0.2**
CTKS				*e*Sg	**Sg**	**23 07 37.8**	**+0.6**
KCTX	**Karacabey (Bur**	**0.89**	**234**	*e*PG	**Pg**	**23 07 28.9**	**-1.4**
KCTX	**Karacabey (Bur**	**0.89**	**234**	*e*Pg	**Pg**	**23 07 28.9**	**-1.4**
SLVT	**Silivri**	**0.93**	**298**	*e*PG	**Pg**	**23 07 31.2**	**+0.2**
SLVT	**Silivri**	**0.93**	**298**	*e*Pg	**Pg**	**23 07 31.2**	**+0.2**
GULT	**Gulveren**	**1.00**	**111**	*e*PG	**Pg**	**23 07 32.3**	**0.0**
GULT	**Gulveren**	**1.00**	**111**	*e*Pg	**Pg**	**23 07 32.3**	**0.0**
CTYL	**Yal??k??y-??at**	**1.02**	**312**	*e*PG	**Pg**	**23 07 32.0**	**-0.8**
CTYL	**Yal??k??y-??at**	**1.02**	**312**	*e*Pg	**Pg**	**23 07 32.0**	**-0.7**
BNT	**Bandirma**	**1.14**	**248**	*e*PN	**Pn**	**23 07 33.6**	**-1.2**
BNT	**Bandirma**	**1.14**	**248**	*e*Pn	**Pn**	**23 07 33.6**	**-1.2**
EDC	**Edincik**	**1.18**	**248**	*e*PN	**Pn**	**23 07 34.9**	**-0.5**
EDC	**Edincik**	**1.18**	**248**	*e*Pn	**Pn**	**23 07 34.9**	**-0.5**
HENT	**Hendek**	**1.22**	**88**	*i* P	**Pn**	**23 07 34.6**	**-1.4**
HENT				*i* S	**Sb**	**23 07 50.4**	**-1.3**
HENT	**Hendek**	**1.22**	**88**	*i* P	**Pn**	**23 07 34.6**	**-1.3**
HENT				*i* S	**Sb**	**23 07 50.4**	**-1.3**
CRLT	**Corlu**	**1.23**	**286**	*e*PN	**Pn**	**23 07 35.3**	**-0.8**
CRLT	**Corlu**	**1.23**	**286**	*e*Pn	**Pn**	**23 07 35.3**	**-0.8**
BORA	**Eskisehir**	**1.27**	**136**	*i* P	**Pn**	**23 07 36.6**	**-0.1**
BORA				*i* S	**Sb**	**23 07 54.6**	**+1.3**
BORA	**Eskisehir**	**1.27**	**136**	*i* P	**Pn**	**23 07 36.6**	**-0.1**
BORA				*i* S	**Sb**	**23 07 54.6**	**+1.3**
DST	**Dursunbey**	**1.30**	**204**	*e*PN	**Pn**	**23 07 36.4**	**-0.7**
DST	**Dursunbey**	**1.30**	**204**	*e*Pn	**Pn**	**23 07 36.4**	**-0.7**
TKR	**Tekirdag**	**1.35**	**279**	*e*PN	**Pn**	**23 07 38.0**	**+0.3**
TKR	**Tekirdag**	**1.35**	**279**	*e*Pn	**Pn**	**23 07 38.0**	**+0.3**
DURS	**Dursunbey**	**1.35**	**208**	*i* P	**Pn**	**23 07 38.1**	**+0.3**
DURS				*i* S	**Sb**	**23 07 57.1**	**+1.6**
DURS	**Dursunbey**	**1.35**	**208**	*i* P	**Pn**	**23 07 38.1**	**+0.3**
DURS				*i* S	**Sb**	**23 07 57.1**	**+1.6**
GONE	**Gonen-Balikesi**	**1.44**	**239**	*e*PN	**Pn**	**23 07 38.5**	**-0.4**
GONE	**Gonen-Balikesi**	**1.44**	**239**	*e*Pn	**Pn**	**23 07 38.5**	**-0.5**
MDUB	**Mudurnu**	**1.48**	**102**	*e*PN	**Pn**	**23 07 40.0**	**+0.4**
MDUB	**Mudurnu**	**1.48**	**102**	*e*Pn	**Pn**	**23 07 40.0**	**+0.4**
MFT	**Murefte**	**1.53**	**270**	*e*PN	**Pn**	**23 07 40.4**	**+0.2**
MFT	**Murefte**	**1.53**	**270**	*e*Pn	**Pn**	**23 07 40.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.57**	**256**	*e*PN	**Pn**	**23 07 40.7**	**-0.1**
KRBG	**Karabiga-Canak**	**1.57**	**256**	*e*Pn	**Pn**	**23 07 40.7**	**-0.1**
BALB	**Balikesir**	**1.58**	**224**	*e*PN	**Pn**	**23 07 41.1**	**+0.2**
BALB	**Balikesir**	**1.58**	**224**	*e*Pn	**Pn**	**23 07 41.1**	**+0.1**
ESKT	**Eskisehir**	**1.75**	**136**	*e*PN	**Pn**	**23 07 43.8**	**+0.6**
ESKT	**Eskisehir**	**1.75**	**136**	*e*Pn	**Pn**	**23 07 43.8**	**+0.6**
DEMI	**Demirci**	**1.81**	**194**	*i* P	**Pn**	**23 07 47.2**	**+3.2**
DEMI				*i* S	**Sn**	**23 08 07.9**	**+1.0**
DEMI	**Demirci**	**1.81**	**194**	*i* P	**Pn**	**23 07 47.2**	**+3.1**
DEMI				*i* S	**Sn**	**23 08 07.9**	**+1.0**

IDC 17 23:14:05.8±8.3, 2.°18N×126.°31E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/18, mbtmp4.1/4, Error ellipse: s-maj=134.3km s-min=102.5km az=136.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.17**	**182**	P	P	23 18 42.5	+0.6
	3.6nm,1.0s,baz=3.6,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**23.36**	**161**	P	P	23 19 15.8	-0.4
	2.3nm,0.3s,baz=338,slow=11,SNR=65						
ASAR	**Alice Springs**	**26.74**	**164**	P	P	23 19 47.6	+0.4
	0.9nm,0.3s,baz=344,slow=6.9,SNR=13						
STKA	**Stephens Creek**	**36.85**	**158**	P	P	23 21 15.5	-0.4
	1.8nm,0.5s,baz=332,slow=7.9,SNR=7.5						

*IDC **17** 23:14:01.6±0.9, 5.°83S×103.°90E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/25, mbtmp4.3/16, ML4.2/1, MS3.1/3, Ms1 3.2/3, ms1mx2.8/31, Error ellipse: s-maj=40.9km s-min=12.3km az=49.0*
*ISCJB **17** 23:14:08.5±0.5, 5.°88S±0.°04×103.°98E±0.°04, h71km±5km, mb4.2/19, Error ellipse: s-maj=8.1km s-min=5.9km az=44.6*
*NEIC **17** 23:14:08.6±1.3, 5.°84S×103.°96E, h53km±13km, mb4.4/5, Error ellipse: s-maj=11.1km s-min=5.3km az=218.0*
*DJA **17** 23:14:09, 5.°85S×104.°03E, h27km, MLv4.5/9*

ISC 17 23:14:09.8±0.5, 5.°85S±0.°04×104.°02E±0.°04, h63km±5km, n58, σ0.°84/59, mb4.3/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.83**	**3**	P	**Pn**	**23 14 25.4**	**-0.4**
LWLI				S	**Sn**	**23 14 36.9**	**-0.7**
KLI	**Kotabumi**	**1.29**	**40**	P	**Pn**	**23 14 32.4**	**+0.6**
BLSI	**Bandar Lampung**	**1.32**	**69**	P	**Pn**	**23 14 31.4**	**-0.7**
KLSI		**1.36**	**32**	S	**Sn**	**23 14 49.6**	**-0.2**
MNAI	**Manna**	**1.82**	**325**	P	**Pn**	**23 14 38.9**	**0.0**
MNAI				S	**Sn**	**23 15 02.1**	**+1.2**
CGJI	**Cibinong**	**1.83**	**114**	P	**Pn**	**23 14 37.8**	**-1.2**
KSI	**Kapahiang**	**2.61**	**327**	P	**Pn**	**23 14 51.2**	**+1.6**
DBJI	**Dramaga**	**2.81**	**104**	P	**Pn**	**23 14 53.2**	**+0.9**
CBJI	**Citeko**	**2.88**	**101**	P	**Pn**	**23 14 57.0**	**+3.8**
LEM	**Lembang**	**3.71**	**105**	P	**Pn**	**23 15 07.8**	**+3.2**
CISI	**Cisompet, Garu**	**4.14**	**114**	P	**Pn**	**23 15 08.8**	**-1.7**
COCO	**West Island**	**9.48**	**228**	*e*Pn	**Pn**	**23 16 21.9**	**-1.8**
COCO				Sn	**Sn**	**23 18 09.2**	**+0.4**
KAPI	**Kappang**	**15.69**	**88**	Pn	**Pn**	**23 17 47.8**	**+0.7**
	1.0nm,0.3s,baz=240,slow=20,SNR=2.9						
KAPI	**Kappang**	**15.69**	**88**	Pn	**Pn**	**23 17 47.8**	**+0.7**
MBWA	**Marble Bar**	**21.53**	**136**	*e*P	**P**	**23 18 54.5**	**+0.6**
	10.0nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**24.37**	**122**	P	**P**	**23 19 22.6**	**+0.4**
	17nm,1.0s,mb4.4,baz=292,slow=5.6,SNR=13						
FITZ				LR	LR	23 28 16.4	
	comp=Z,42nm,20.9s,baz=141,slow=35						
FITZ	**Fitzroy Crossi**	**24.37**	**122**	*e*P	**P**	**23 19 22.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**24.67**	**348**	P	**P**	**23 19 24.8**	**-0.1**
	1.0nm,0.5s,mb3.6,baz=186,slow=8.8,SNR=6.6						
CMAR				LR	LR	23 30 38.8	
	comp=Z,20nm,18.5s,baz=280,slow=40						
CMAR	**Chiang Mai Arr**	**24.67**	**348**	P	**P**	**23 19 24.8**	**-0.1**
WRA	**Warramunga Arr**	**32.62**	**118**	P	**P**	**23 20 35.9**	**+0.1**
	2.4nm,0.4s,mb4.5,baz=286,slow=10.0,SNR=25						
WRA				PcP	PcP	23 23 22.0	+1.1
	0.9nm,0.4s,baz=304,slow=1.9,SNR=6.2						
WRA	**Warramunga Arr**	**32.62**	**118**	*e*P	**P**	**23 20 35.9**	**+0.1**
WRA				PcP	PcP	23 23 22.0	+1.1
WRAB	**Tennant Creek**	**32.63**	**118**	*e*P	**P**	**23 20 35.8**	**0.0**
	62nm,1.9s,mb5.2						
WB2	**Warramunga Arr**	**32.63**	**118**	*e*P	**P**	**23 20 35.7**	**-0.2**
ASAR	**Alice Springs**	**33.77**	**125**	P	**P**	**23 20 46.5**	**+0.7**
	5.3nm,0.7s,mb4.6,baz=301,slow=8.2,SNR=49						
ASAR				PcP	PcP	23 23 25.6	+1.6
	1.4nm,0.7s,baz=298,slow=2.6,SNR=8.8						
ASAR	**Alice Springs**	**33.77**	**125**	P	**P**	**23 20 46.5**	**+0.7**
ASAR				PcP	PcP	23 23 25.6	+1.6
AS31	**Alice Springs**	**33.77**	**125**	*e*P	**P**	**23 20 46.6**	**+0.8**
LSA	**Lhasa**	**37.45**	**341**	*e*P	**P**	**23 21 17.7**	**+0.6**
COEN	**Coen**	**39.36**	**105**	*e*P	**P**	**23 21 32.8**	**-0.7**
PMG	**Port Moresby**	**42.89**	**97**	P	**P**	**23 22 01.7**	**-0.8**
	2.9nm,0.3s,mb4.5,baz=262,slow=13,SNR=3.2						
PMG	**Port Moresby**	**42.89**	**97**	P	**P**	**23 22 01.7**	**-0.8**
CTA	**Charters Tower**	**43.38**	**113**	P	**P**	**23 22 05.9**	**-0.4**
	4.6nm,0.9s,mb4.2,baz=280,slow=7.3,SNR=4.7						
CTA				LR	LR	23 41 55.3	
	comp=Z,49nm,18.6s,baz=50,slow=38						
CTA	**Charters Tower**	**43.38**	**113**	P	**P**	**23 22 05.9**	**-0.4**
STKA	**Stephens Creek**	**43.61**	**131**	P	**P**	**23 22 09.2**	**+1.1**
	13nm,0.7s,mb4.8,baz=300,slow=7.8,SNR=29						
STKA	**Stephens Creek**	**43.61**	**131**	*e*P	**P**	**23 22 09.2**	**+1.1**
	2.4nm,0.7s,mb4.0						
KSAR	**Wonju Array Be**	**48.49**	**25**	P	**P**	**23 22 46.9**	**+0.6**
KSRS	**Korea Array**	**48.51**	**26**	P	**P**	**23 22 46.9**	**+0.4**
	2.5nm,0.8s,mb4.3,baz=342,slow=32,SNR=5.7						
SONM	**Songino Array**	**53.50**	**2**	P	**P**	**23 23 3.9**	**+0.2**
	0.4nm,0.3s,mb3.8,baz=186,slow=9.2,SNR=10						
SONM				PcP	PcP	23 24 30.2	+0.3
	0.5nm,0.4s,baz=178,slow=4.4,SNR=7.7						
SONM	**Songino Array**	**53.50**	**2**	P	**P**	**23 23 3.9**	**+0.2**
SONM				PcP	PcP	23 24 30.1	+0.3
TKM2	**Tokmak 2**	**54.97**	**335**	*e*P	**P**	**23 23 34.8**	**+0.3**
MK31	**Makanchi Array**	**55.85**	**342**	*e*P	**P**	**23 23 39.7**	**-1.0**
MKAR	**Makanchi Array**	**55.85**	**342**	P	**P**	**23 23 40.0**	**-0.7**
	1.2nm,0.4s,mb4.3,baz=153,slow=9.2,SNR=37						
MKAR	**Makanchi Array**	**55.85**	**342**	P	**P**	**23 23 40.0**	**-0.7**
KURK	**Kurchatov**	**60.45**	**342**	P	**P**	**23 24 12.1**	**-0.7**
	1.5nm,0.6s,mb4.2,baz=158,slow=6.5,SNR=12						
KURK				PcP	PcP	23 24 57.5	+0.4
	0.6nm,0.5s,baz=149,slow=3.3,SNR=4.9						
KURK	**Kurchatov**	**60.45**	**342**	*e*P	**P**	**23 24 12.0**	**-0.8**
KURK				PcP	PcP	23 24 57.5	+0.4
ZALV	**Zalesovo Beam**	**61.73**	**347**	P	**P**	**23 24 20.5**	**-0.9**
	1.3nm,0.4s,mb4.5,baz=149,slow=5.0,SNR=10						
ZALV	**Zalesovo Beam**	**61.73**	**347**	P	**P**	**23 24 20.5**	**-0.9**
BVAR	**Borovoye Array**	**65.19**	**338**	P	**P**	**23 24 43.6**	**-0.7**
	1.6nm,0.5s,mb4.3,baz=146,slow=9.1,SNR=14						
BVAR	**Borovoye Array**	**65.19**	**338**	P	**P**	**23 24 43.6**	**-0.7**
BRVK	**Borovoye**	**65.25**	**338**	*e*P	**P**	**23 24 43.5**	**-1.2**
	1.8nm,0.4s,mb4.5						
ABKAR	**Akbulak array**	**66.93**	**330**	*e*P	**P**	**23 24 54.8**	**-0.7**
	2.6nm,0.7s,mb4.4						
ARU	**Arti**	**72.33**	**335**	*e*P	**P**	**23 25 28.6**	**0.0**
BRTR	**Keskin Array B**	**78.86**	**312**	P	**P**	**23 26 06.8**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=126,slow=7.8,SNR=5.5						
BRTR	**Keskin Array B**	**78.86**	**312**	P	**P**	**23 26 06.8**	**+0.4**
BUR08	**Bucovina Ar. S**	**86.80**	**318**	*e*P	**P**	**23 26 48.2**	**+0.9**
FINES	**FINESS Array B**	**89.37**	**332**	P	**P**	**23 26 59.6**	**+0.4**
	1.6nm,0.7s,mb4.5,baz=113,slow=5.0,SNR=7.1						
FINES	**FINESS Array B**	**89.37**	**332**	P	**P**	**23 26 59.6**	**+0.4**
TXAR	**Lajitas Array**	**144.95**	**45**	PKPbc	PKPdf	23 33 41.2	+0.7
	2.7nm,0.5s,baz=256,slow=1.1,SNR=43						
TXAR	**Lajitas Array**	**144.95**	**45**	PKPbc	PKPdf	23 33 41.2	+0.7

*ATH **17** 23:34:25.5, 41.°14N×22.°19E, h32km±3km, MD2.9/4*
*ISCJB **17** 23:34:31.5±0.4, 40.°81N±0.°02×22.°42E±0.°02, h10km, Error ellipse: s-maj=3.5km s-min=2.4km az=10.8*
*CSEM **17** 23:34:31.6±0.2, 40.°82N×22.°43E, h19km, ML2.3/11, Error ellipse: s-maj=4.5km s-min=3.1km az=6.0*
*THE **17** 23:34:32.0, 40.°80N×22.°44E, h3km±1km, ML2.3/11, Error ellipse: s-maj=1.6km s-min=0.6km az=329.0*
*SKO **17** 23:34:33.1, 40.°94N×22.°40E, h15km, M1.6, ML2.0*

ISC 17 23:34:32.1±0.4, 40.°81N±0.°03×22.°43E±0.°02, h8km±5km, n41, σ0.°95/74, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	**Griva**	**0.15**	**353**	P	**Pg**	**23 34 35.7**	**+0.3**
GRG				S	**Sg**	**23 34 37.8**	**+0.2**
GRG	**Griva**	**0.15**	**353**	P	**Pg**	**23 34 35.7**	**+0.3**
GRG				S	**Sg**	**23 34 37.8**	**+0.2**
THE	**Thessaloniki**	**0.44**	**113**	P	**Pg**	**23 34 39.8**	**-0.9**
THE				S	**Sg**	**23 34 47.3**	**+0.8**
THE	**Thessaloniki**	**0.44**	**113**	P	**Pg**	**23 34 39.8**	**-0.9**
THE				S	**Sg**	**23 34 47.3**	**+0.8**
KNT	**Kendrikon**	**0.51**	**45**	P	**Pg**	**23 34 41.6**	**-0.3**
KNT				S	**Sg**	**23 34 48.8**	**+0.3**
KNT	**Kendrikon**	**0.51**	**45**	P	**Pg**	**23 34 41.6**	**-0.3**
KNT				S	**Sg**	**23 34 48.8**	**+0.3**
VAY	**Valandovo**	**0.53**	**12**	*e*Pg	**Pg**	**23 34 41.5**	**-0.8**
VAY				*e*Sg	**Sg**	**23 34 49.5**	**+0.3**
VAY				*e*Lg		23 34 50.0	
	comp=E,83nm,0.5s						
VAY				*e*Lg		23 34 50.8	
	comp=N,109nm,0.4s						
VAY	**Valandovo**	**0.53**	**12**	*e*Pg	**Pg**	**23 34 41.4**	**-0.9**
VAY				*e*Sg	**Sg**	**23 34 49.5**	**+0.3**
VAY				*e*Lg		23 34 49.9	
	comp=N,83nm,0.5s						
HORT	**Hortiatis**	**0.55**	**112**	P	**Pg**	**23 34 41.8**	**-1.0**
HORT				S	**Sg**	**23 34 50.4**	**+0.4**
HORT	**Hortiatis**	**0.55**	**112**	P	**Pg**	**23 34 41.8**	**-1.0**
HORT				S	**Sg**	**23 34 50.4**	**+0.4**
SOH	**Sokhos**	**0.70**	**88**	*e*PN	**Pg**	**23 34 43.5**	**-2.2**
SOH				*e*SN	**Sg**	**23 34 56.4**	**+1.6**
SOH	**Sokhos**	**0.70**	**88**	P	**Pg**	**23 34 44.6**	**-1.1**
SOH				S	**Sg**	**23 34 55.1**	**+0.3**
SOH	**Sokhos**	**0.70**	**88**	*e*Pn	**Pg**	**23 34 43.5**	**-2.2**
SOH	**Sokhos**	**0.70**	**88**	P	**Pg**	**23 34 44.6**	**-1.1**
SOH				S	**Sg**	**23 34 55.1**	**+0.3**
SOH				*e*Sn	**Sg**	**23 34 56.4**	**+1.6**
KZN	**Kozani**	**0.70**	**225**	*e*PN	**Pg**	**23 34 42.7**	**-3.0**
KZN				*e*SN	**Sg**	**23 34 55.5**	**+0.7**
KZN	**Kozani**	**0.70**	**225**	P	**Pg**	**23 34 44.7**	**-1.0**
KZN				S	**Sg**	**23 34 56.4**	**+1.6**
KZN	**Kozani**	**0.70**	**225**	*e*Pn	**Pg**	**23 34 42.7**	**-3.0**
KZN	**Kozani**	**0.70**	**225**	P	**Pg**	**23 34 44.7**	**-1.0**
KZN				*e*Sn	**Sg**	**23 34 55.5**	**+0.7**
KZN				S	**Sg**	**23 34 56.4**	**+1.6**
LIT	**Litokhoron**	**0.70**	**176**	P	**Pg**	**23 34 45.3**	**-0.4**
LIT	**Litokhoron**	**0.70**	**176**	P	**Pg**	**23 34 45.3**	**-0.4**
FNA	**Florina**	**0.80**	**269**	P	**Pg**	**23 34 47.0**	**-0.4**
FNA				S	**Sg**	**23 34 59.0**	**+1.2**
FNA	**Florina**	**0.80**	**269**	P	**Pg**	**23 34 47.0**	**-0.4**
FNA				S	**Sg**	**23 34 59.0**	**+1.2**
BIA	**Bitola**	**0.86**	**285**	*e*Pg	**Pg**	**23 34 49.6**	**+0.9**
BIA				*e*Sg	**Sg**	**23 35 01.1**	**+1.2**
BIA				*e*Lg		23 35 01.2	
	comp=N,23nm,0.2s						
BIA				*e*Lg		23 35 01.8	
	comp=E,53nm,0.3s						
BIA	**Bitola**	**0.86**	**285**	*e*Pg	**Pg**	**23 34 49.5**	**+0.8**
BIA				*e*Sg	**Sg**	**23 35 01.0**	**+1.1**
BIA				*e*Lg		23 35 01.2	
	comp=E,23nm,0.2s						
PLG	**Polygyros**	**0.89**	**119**	*e*PN	**Pg**	**23 34 47.9**	**-1.2**
PLG	**Polygyros**	**0.89**	**119**	P	**Pg**	**23 34 47.9**	**-1.2**
PLG				S	**Sg**	**23 35 01.7**	**+1.0**
PLG	**Polygyros**	**0.89**	**119**	P	**Pg**	**23 34 47.9**	**-1.2**
PLG				S	**Sg**	**23 35 01.7**	**+1.0**
SRS	**Serrai**	**0.94**	**70**	P	**Pg**	**23 34 48.7**	**-1.4**
SRS				S	**Sg**	**23 35 02.6**	**+0.3**
SRS	**Serrai**	**0.94**	**70**	P	**Pg**	**23 34 48.7**	**-1.4**
SRS				S	**Sg**	**23 35 02.6**	**+0.3**
KRUS	**Krusevo**	**1.05**	**303**	*e*Pg	**Pg**	**23 34 51.6**	**-0.8**
KRUS				*e*Sg	**Sg**	**23 35 05.9**	**-0.1**
KRUS	**Krusevo**	**1.05**	**303**	*e*Pg	**Pg**	**23 34 51.5**	**-0.8**
KRUS				*e*Sg	**Sg**	**23 35 05.9**	**-0.1**
NVR	**Nevrokopi**	**1.21**	**63**	*e*PN	**Pn**	**23 34 48.9**	**-6.5**
NVR	**Nevrokopi**	**1.21**	**63**	P	**Pb**	**23 34 54.1**	**-1.2**
NVR				S	**Sg**	**23 35 12.4**	**+1.2**
NVR	**Nevrokopi**	**1.21**	**63**	*e*Pn	**Pn**	**23 34 48.9**	**-6.5**
NVR	**Nevrokopi**	**1.21**	**63**	P	**Pb**	**23 34 54.1**	**-1.2**
OUR	**Ouranopolis**	**1.27**	**111**	P	**Pn**	**23 34 55.4**	**-0.8**
OUR				S	**Sb**	**23 35 14.6**	**+1.7**
OUR	**Ouranopolis**	**1.27**	**111**

AKTO Aktyubinsk 16.48 332 P **P 00 27 27.2 +1.1**
0.1nm,0.3s,baz=148,slow=13,SNR=3.8
AKTO Aktyubinsk 16.48 332 P **P 00 27 27.2 +1.1**
BVAR Borovoye Array 16.54 0 P **P 00 27 29.3 +2.7**
0.4nm,0.3s,baz=172,slow=12,SNR=9.1
BVAR Borovoye Array 16.54 0 P **P 00 27 29.3 +2.7**
ZALV Zalesovo Beam 20.19 26 P **P 00 28 06.6 +0.4**
0.8nm,0.5s,baz=221,slow=11,SNR=7.0
ZALV Zalesovo Beam 20.19 26 P **P 00 28 06.6 +0.4**
TORD Torodi Ar. Bea 65.09 268 P **P 00 34 04.3 -1.7**
0.2nm,0.6s,baz=42,slow=5.8,SNR=3.2
TORD Torodi Ar. Bea 65.09 268 P **P 00 34 04.3 -1.7**
YKA Yellowknife Ar 81.28 2 pP pP 00 36 32.5 +1.1
0.3nm,0.7s,baz=354,slow=5.0,SNR=4.4
YKA Yellowknife Ar 81.28 2 pP pP 00 36 32.5 +1.1

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*IDC **18** 00:35:36.5±0.8, 56°.40N×154°.24W, h0km, mb3.9/15, mb1 4.1/16, mb1mx4.0/25, mbtmp3.9/16, ML3.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=19.0km s-min=14.8km az=161.0*
*NEIC **18** 00:35:36.9, 56°.41N×153°.86W, h18km, mb4.5/2, ML3.7(AEIC), After AEIC.*
*ISCJB **18** 00:35:39.7±0.8, 56°.47N±0°.05×153°.73W±0°.08, h39km±7km, mb3.9/15, Error ellipse: s-maj=10.5km s-min=4.8km az=140.6*
ISC 18 00:35:40.5±1.1,**56°.44N**±0°.04×**153°.82W**±0°.07,**h29**km±8km,
n77,σ0**°87**/91,**mb3.9**/15,**Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.84**	**20**	P	**Pn**	**00 35 56.0**	**-0.3**
OHAK				S	**Sb**	**00 36 08.3**	**+0.9**
KDAK	**Kodiak Island**	**1.51**	**26**	Pn	**Pn**	**00 36 05.5**	**0.0**
	35nm,0.3s,baz=224,slow=7.6,SNR=501						
KDAK				Sn	**Sn**	**00 36 23.8**	**-0.5**
	57nm,0.3s,baz=300,slow=22,SNR=4.6						
KDAK				Lg		00 36 30.8	
	118nm,0.3s,baz=20,slow=18,SNR=9.3						
KDAK				Rg		00 36 36.9	
	674nm,0.6s,baz=317,slow=12,SNR=7.5						
KDAK	**Kodiak Island**	**1.51**	**26**	S	**Sn**	**00 36 28.5**	**+4.2**
CAHL	**Cahill**	**1.81**	**334**	P	**Pn**	**00 36 09.3**	**-0.3**
KABR	**Katmai Barrier**	**1.81**	**340**	P	**Pn**	**00 36 09.2**	**-0.4**
KABR				S	**Sn**	**00 36 34.3**	**+2.7**
MGLS	**Mageik Landsli**	**1.85**	**337**	P	**Pn**	**00 36 09.9**	**-0.4**
PLK2	**Peulik 2**	**1.91**	**315**	P	**Pn**	**00 36 11.1**	**+0.1**
KCE	**Katmai Mt Cerb**	**1.96**	**338**	P	**Pn**	**00 36 12.0**	**+0.3**
KAKN	**Katmai Knife C**	**1.98**	**341**	P	**Pn**	**00 36 11.9**	**-0.1**
ANCK	**Angle Creek**	**1.98**	**334**	P	**Pn**	**00 36 11.8**	**-0.3**
KABU	**Katmai Buttres**	**2.00**	**337**	P	**Pn**	**00 36 12.9**	**+0.6**
PLK1	**Peulik 1**	**2.04**	**313**	P	**Pn**	**00 36 12.5**	**-0.4**
PLWL	**Peulik Whale M**	**2.12**	**321**	P	**Pn**	**00 36 13.4**	**-0.4**
KAPH	**Katmai Pasha**	**2.18**	**353**	P	**Pn**	**00 36 15.4**	**+0.6**
KAPH				S	**Sn**	**00 36 42.8**	**+1.9**
KELA	**Mount Kelaz**	**2.26**	**333**	P	**Pn**	**00 36 15.6**	**-0.2**
FOPK	**Fourpeaked Vol**	**2.33**	**4**	P	**Pn**	**00 36 17.1**	**+0.2**
ANNE	**Aniakchak Nort**	**2.39**	**283**	P	**Pn**	**00 36 16.8**	**-0.8**
ANPK	**Aniakchak Peak**	**2.41**	**281**	P	**Pn**	**00 36 17.6**	**-0.3**
CHGN	**Chignik**	**2.56**	**269**	*e*P	**Pn**	**00 36 19.3**	**-0.7**
AUW	**Augustine West**	**2.95**	**4**	P	**Pn**	**00 36 26.4**	**+1.1**
VNSG	**Veniaminof 6**	**2.95**	**266**	P	**Pn**	**00 36 25.4**	**0.0**
VNHG	**Veniaminof 1**	**2.98**	**268**	P	**Pn**	**00 36 25.9**	**+0.1**
OPT	**Oil Point**	**3.24**	**5**	P	**Pn**	**00 36 30.2**	**+0.9**
ILW	**Iliamna West**	**3.65**	**5**	P	**Pn**	**00 36 35.4**	**+0.4**
INE	**Iliamna NE**	**3.66**	**6**	P	**Pn**	**00 36 35.7**	**+0.6**
BRLK	**Bradley Lake**	**3.68**	**24**	P	**Pn**	**00 36 35.0**	**-0.3**
SDPT	**Sand Point**	**3.90**	**257**	*e*P	**Pn**	**00 36 38.0**	**-0.4**
RSO	**Redoubt South**	**4.08**	**7**	P	**Pn**	**00 36 41.3**	**+0.5**
SEW	**Seward**	**4.34**	**30**	P	**Pn**	**00 36 43.2**	**-1.2**
SLKM	**Skilak Lake**	**4.50**	**23**	P	**Pn**	**00 36 46.3**	**-0.3**
BKG	**Blockade Glaci**	**4.72**	**9**	P	**Pn**	**00 36 50.0**	**+0.4**
SVW2	**Sparrevohn**	**4.76**	**350**	*e*P	**Pn**	**00 36 50.6**	**+0.4**
CKL	**Chakachamna La**	**4.83**	**9**	P	**Pn**	**00 36 51.5**	**+0.2**
RC01	**Rabbit Creek A**	**5.13**	**23**	*e*Pn	**Pn**	**00 36 53.5**	**-1.7**
	27nm,0.4s						
RC01				*e*Sn	**Sn**	**00 37 52.8**	**-0.5**
PMR	**Palmer**	**5.71**	**23**	*e*P	**Pn**	**00 37 03.7**	**+0.5**
SML	**Sawmill**	**6.08**	**25**	*e*Pn	**Pn**	**00 37 07.4**	**-0.9**
	4.2nm,0.6s						
SML				*e*Sn	**Sn**	**00 38 16.9**	**+0.1**
PPLA	**Purkeypile**	**6.53**	**7**	*e*Pn	**Pn**	**00 37 15.8**	**+1.3**
	23nm,0.9s						
PPLA				*e*Sn	**Sn**	**00 38 26.8**	**-1.1**
BMRM	**Bremner River**	**6.61**	**43**	*e*Pn	**Pn**	**00 37 14.7**	**-0.9**
	9.9nm,0.4s						
BMRM				*e*Sn	**Sn**	**00 38 26.5**	**-3.3**
TRF	**Thorofare Moun**	**7.25**	**13**	*e*Pn	**Pn**	**00 37 24.5**	**+0.1**
	19nm,0.8s						
TRF				*e*Sn	**Sn**	**00 38 45.6**	**0.0**
MCK	**McKinley**	**7.71**	**16**	*e*Pn	**Pn**	**00 37 30.6**	**-0.1**
	9.4nm,0.7s						
MCK				*e*Sn	**Sn**	**00 38 55.8**	**-1.1**
PAX	**Paxson**	**7.79**	**29**	*e*Pn	**Pn**	**00 37 31.2**	**-0.5**
	7.1nm,0.6s						
PAX				*e*Sn	**Sn**	**00 38 59.7**	**+0.9**
BPAW	**Bear Paw Mtn.**	**7.81**	**9**	*e*Pn	**Pn**	**00 37 32.3**	**+0.2**
	11nm,0.6s						
BPAW				*e*Sn	**Sn**	**00 38 57.7**	**-1.8**
ILAR	**Eielson Array**	**9.02**	**19**	Pn	**Pn**	**00 37 47.1**	**-1.5**
	1.1nm,0.3s,baz=202,slow=12,SNR=48						
ILAR				Sn	**Sn**	**00 39 24.1**	**-4.9**
	0.5nm,0.3s,baz=199,slow=18,SNR=1.6						
ILAR				LR	LR	00 41 40.5	
	comp=Z,112nm,21.4s,baz=1.3,slow=40						
ILAR	**Eielson Array**	**9.02**	**19**	Pn	**Pn**	**00 37 47.1**	**-1.5**
ILAR				Sn	**Sn**	**00 39 24.1**	**-4.9**
INK	**Inuvik**	**15.07**	**30**	Pn	**Pn**	**00 39 14.3**	**+3.3**
	0.1nm,0.3s,baz=232,slow=13,SNR=4.9						
INK				LR	LR	00 45 31.9	
	comp=Z,95nm,18.5s,baz=348,slow=39						
INK	**Inuvik**	**15.07**	**30**	*e*Pn	**Pn**	**00 39 09.0**	**-2.0**
	6.4nm,0.8s						
YKA	**Yellowknife Ar**	**20.56**	**57**	P	**P**	**00 40 17.8**	**+1.3**
	2.7nm,0.6s,baz=269,slow=11,SNR=27						
YKA	**Yellowknife Ar**	**20.56**	**57**	P	**P**	**00 40 17.8**	**+1.3**
PETK	**Petropavlovsk-**	**27.70**	**284**	P	**P**	**00 41 25.9**	**+0.1**
	1.4nm,0.5s,mb3.9,baz=81,slow=9.9,SNR=3.0						
PETK	**Petropavlovsk-**	**27.70**	**284**	P	**P**	**00 41 25.9**	**+0.1**
NVAR	**Mina Array Bea**	**29.57**	**112**	P	**P**	**00 41 46.7**	**+4.2**
	0.5nm,0.6s,mb3.5,baz=316,slow=8.8,SNR=3.2						
NVAR	**Mina Array Bea**	**29.57**	**112**	P	**P**	**00 41 46.7**	**+4.2**
PDAR	**Pinedale Array**	**31.18**	**97**	P	**P**	**00 41 57.4**	**+0.7**
	0.2nm,0.5s,mb3.2,baz=270,slow=6.3,SNR=2.6						
PDAR	**Pinedale Array**	**31.18**	**97**	P	**P**	**00 41 57.4**	**+0.7**
WUAZ	**Wupatki**	**35.38**	**108**	P	**P**	**00 42 33.2**	**-0.3**
	16nm,0.9s,mb5.0						
TXAR	**Lajitas Array**	**44.27**	**106**	P	**P**	**00 43 50.8**	**+3.5**
	0.2nm,0.6s,mb3.0,baz=316,slow=5.8,SNR=4.3						
TXAR	**Lajitas Array**	**44.27**	**106**	P	**P**	**00 43 50.8**	**+3.5**
ARCES	**ARCESS Array B**	**54.33**	**0**	P	**P**	**00 45 03.6**	**0.0**
	4.5nm,0.9s,mb4.4,baz=22,slow=7.1,SNR=9.0						
ARCES	**ARCESS Array B**	**54.33**	**0**	P	**P**	**00 45 03.6**	**0.0**
SONM	**Songino Array**	**56.57**	**307**	P	**P**	**00 45 20.6**	**+0.6**
	2.0nm,0.7s,mb4.3,baz=39,slow=6.7,SNR=17						
SONM	**Songino Array**	**56.57**	**307**	P	**P**	**00 45 20.6**	**+0.6**
ZALV	**Zalesovo Beam**	**60.01**	**324**	P	**P**	**00 45 44.0**	**+0.1**
	2.1nm,0.7s,mb4.3,baz=37,slow=7.6,SNR=13						
ZALV	**Zalesovo Beam**	**60.01**	**324**	P	**P**	**00 45 44.0**	**+0.1**
NOA	**NORSAR Array B**	**62.27**	**8**	P	**P**	**00 45 59.6**	**+0.5**
	1.4nm,0.9s,mb4.1,baz=354,slow=6.8,SNR=3.6						
NOA	**NORSAR Array B**	**62.27**	**8**	P	**P**	**00 45 59.6**	**+0.5**
FINES	**FINESS Array B**	**62.46**	**0**	P	**P**	**00 46 00.8**	**+0.4**
	3.3nm,0.9s,mb4.5,baz=349,slow=8.1,SNR=3.4						
FINES	**FINESS Array B**	**62.46**	**0**	P	**P**	**00 46 00.8**	**+0.4**
MKAR	**Makanchi Array**	**66.96**	**322**	P	**P**	**00 46 28.6**	**-1.3**
	0.7nm,0.6s,mb3.8,baz=42,slow=5.6,SNR=6.4						
MKAR	**Makanchi Array**	**66.96**	**322**	P	**P**	**00 46 28.6**	**-1.3**
GERES	**GERESS Array B**	**74.57**	**9**	P	**P**	**00 47 16.4**	**+0.2**
	0.1nm,0.3s,mb3.2,baz=338,slow=3.2,SNR=4.9						
GERES	**GERESS Array B**	**74.57**	**9**	P	**P**	**00 47 16.4**	**+0.2**
ESDC	**Sonseca Array**	**80.91**	**23**	P	**P**	**00 47 53.4**	**+1.7**
	0.8nm,0.6s,mb3.9,baz=338,slow=4.9,SNR=6.1						
ESDC	**Sonseca Array**	**80.91**	**23**	P	**P**	**00 47 53.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**83.95**	**294**	P	**P**	**00 48 06.5**	**-1.3**
	0.5nm,0.3s,mb4.0,baz=2.3,slow=5.3,SNR=4.9						
CMAR	**Chiang Mai Arr**	**83.95**	**294**	P	**P**	**00 48 06.5**	**-1.3**
BRTR	**Keskin Array B**	**84.00**	**354**	P	**P**	**00 48 08.5**	**+0.8**
	1.2nm,0.8s,mb4.1,baz=19,slow=4.0,SNR=6.1						
BRTR	**Keskin Array B**	**84.00**	**354**	P	**P**	**00 48 08.5**	**+0.8**

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*CSEM **18** 00:37:02.9±0.8, 35°.84N×27°.31E, h19km±1km, MD2.9, Error ellipse: s-maj=51.4km s-min=15.2km az=142.0*
ATH 18 00:37:02.5, 35°.67N×27°.36E, h22km±2km,**MD2.9**/3,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.20**	**233**	*e*PB	Pb	00 37 08.1	+0.2
KARP				*e*SB	Sb	00 37 11.7	+0.2
KARP	**Karpathos**	**0.20**	**233**	*e*Pb	Pb	00 37 08.1	+0.2
KARP				*e*Sb	Sb	00 37 11.7	+0.2
ARG	**Arkhangelos**	**0.83**	**49**	*e*PN	Pn	00 37 19.0	+0.2
ARG				*e*SN	Sn	00 37 30.0	-0.3
ARG	**Arkhangelos**	**0.83**	**49**	*e*Pn	Pn	00 37 19.0	+0.2
ARG				*e*Sn	Sn	00 37 30.0	-0.3
NPS	**Neapolis**	**1.48**	**255**	*e*PN	Pn	00 37 29.8	+2.0
NPS				*e*SN	Sn	00 37 49.0	+2.5
NPS	**Neapolis**	**1.48**	**255**	*e*Pn	Pn	00 37 29.8	+2.0
NPS				*e*Sn	Sn	00 37 49.0	+2.5
TURN	**Turunc**	**1.56**	**40**	*i* P	Pn	00 37 26.5	-2.4
TURN	**Turunc**	**1.56**	**40**	*i* Pn	Pn	00 37 26.5	-2.5
TURN				*i* S	Sn	00 37 44.2	-4.4
AKAS	**Kas**	**1.91**	**72**	*i* P	Pn	00 37 36.6	+2.9
AKAS	**Kas**	**1.91**	**72**	*i* P	Pn	00 37 36.6	+2.9

IDC 18 00:41:25.9±2.6,**13°.86S×166°.33E, h0**km,**mb3.8**/4,
mb1 4.0/4,**mb1mx3.8**/16,**mbtmp3.8**/4,**MS3.2**/2,**Ms1 3.2**/2,
ms1mx2.9/20,**Error ellipse: s-maj=122.6km**
s-min=29.7km az=137.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.17**	**249**	LR	LR	00 51 53.1	
	comp=Z,65nm,19.0s,baz=234,slow=31						
URZ	**Urewera**	**26.12**	**160**	LR	LR	00 54 38.5	
	comp=Z,57nm,19.1s,baz=311,slow=30						
STKA	**Stephens Creek**	**28.89**	**227**	P	P	00 47 26.5	0.0
	1.5nm,0.8s,baz=70,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**31.17**	**254**	P	P	00 47 47.0	+0.2
	0.6nm,0.9s,baz=86,slow=9.4,SNR=6.2						
ASAR	**Alice Springs**	**32.15**	**248**	P	P	00 47 55.5	0.0
	0.3nm,0.5s,baz=73,slow=9.4,SNR=5.4						
ILAR	**Eielson Array**	**85.98**	**18**	P	P	00 54 07.7	0.0
	0.8nm,0.7s,baz=236,slow=5.7,SNR=13						

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*CSEM **18** 01:10:54.8±0.5, 37°.68N×16°.15E, h50km, ML3.9/6, Error ellipse: s-maj=11.8km s-min=3.9km az=120.0*
*ISCJB **18** 01:10:57.2±0.9, 37°.74N±0°.06×16°.2E±0°.1, h49km±11km, Error ellipse: s-maj=16.8km s-min=5.1km az=33.4*
*ROM **18** 01:10:57.1±0.1, 37°.75N×16°.14E, h47km±2km, MI3.1/12, Error ellipse: s-maj=3.4km s-min=1.5km az=128.0*
ISC 18 01:10:57.2±0.9,**37°.74N**±0°.06×**16°.2E**±0°.1,**h49**km±13km,
n33,σ0**°51**/52,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOI	**Samo**	**0.34**	**345**	Pg	**Pn**	**01 11 06.6**	**-0.1**
SOI				Sg	**Sn**	**01 11 13.1**	**-0.3**
	633nm,0.4s						
SOI	**Samo**	**0.34**	**345**	Pg	**Pn**	**01 11 06.6**	**-0.1**
SOI				Sg	**Sn**	**01 11 13.1**	**-0.3**
	633nm,0.4s						
MTTG	**Motta San Giov**	**0.46**	**305**	Pg	**Pn**	**01 11 08.1**	**+0.2**
MTTG				Sg	**Sn**	**01 11 15.5**	**0.0**
MTTG	**Motta San Giov**	**0.46**	**305**	Pg	**Pn**	**01 11 08.1**	**+0.2**
MTTG				Sg	**Sn**	**01 11 15.5**	**0.0**
CEL	**Celeste**	**0.56**	**337**	Pg	**Pn**	**01 11 09.2**	**0.0**
CEL				Sg	**Sn**	**01 11 17.9**	**+0.2**
	572nm,0.3s						
CEL	**Celeste**	**0.56**	**337**	Pg	**Pn**	**01 11 09.2**	**0.0**
CEL				Sg	**Sn**	**01 11 17.9**	**+0.2**
	572nm,0.3s						
MSRU	**Castanea**	**0.74**	**315**	Pg	**Pn**	**01 11 11.7**	**+0.3**
	538nm,0.4s						
MSRU	**Castanea**	**0.74**	**315**	Pg	**Pn**	**01 11 11.7**	**+0.3**
	538nm,0.4s						
PLAC	**Placanica**	**0.74**	**17**	Pg	**Pn**	**01 11 12.0**	**+0.6**
PLAC				Sg	**Sn**	**01 11 22.0**	**+0.3**
PLAC	**Placanica**	**0.74**	**17**	Pg	**Pn**	**01 11 12.0**	**+0.6**
PLAC				Sg	**Sn**	**01 11 22.0**	**+0.3**
JOPP	**Joppolo**	**0.89**	**346**	Pg	**Pn**	**01 11 13.6**	**+0.1**
JOPP				Sg	**Sn**	**01 11 25.2**	**-0.2**
	205nm,0.3s						
JOPP	**Joppolo**	**0.89**	**346**	Pg	**Pn**	**01 11 13.6**	**+0.1**
JOPP				Sg	**Sn**	**01 11 25.2**	**-0.2**
	205nm,0.3s						
MILZ	**Milazzo**	**0.91**	**306**	Pg	**Pn**	**01 11 13.7**	**0.0**
	747nm,0.6s						
MILZ	**Milazzo**	**0.91**	**306**	Pg	**Pn**	**01 11 13.7**	**0.0**
	747nm,0.6s						
HAGA	**Augusta**	**0.93**	**241**	Pg	**Pn**	**01 11 13.7**	**-0.2**
	215nm,0.1s						
HAGA	**Augusta**	**0.93**	**241**	Pg	**Pn**	**01 11 13.7**	**-0.2**
	215nm,0.1s						
HCRL	**Carlentini**	**1.01**	**244**	Pg	**Pn**	**01 11 15.1**	**0.0**
HCRL				Sg	**Sn**	**01 11 27.6**	**-0.6**
	253nm,0.2s						
HCRL	**Carlentini**	**1.01**	**244**	Pg	**Pn**	**01 11 15.1**	**0.0**
HCRL				Sg	**Sn**	**01 11 27.6**	**-0.6**
	253nm,0.2s						
SSY	**Sortino**	**1.05**	**236**	Pg	**Pn**	**01 11 15.6**	**0.0**
SSY				Sg	**Sn**	**01 11 28.5**	**-0.7**
	565nm,0.3s						
SSY	**Sortino**	**1.05**	**236**	Pg	**Pn**	**01 11 15.6**	**0.0**
SSY				Sg	**Sn**	**01 11 28.5**	**-0.7**
	565nm,0.3s						
GRI	**Girifalco**	**1.10**	**10**	Pg	**Pn**	**01 11 16.7**	**+0.5**
	175nm,0.3s						
GRI	**Girifalco**	**1.10**	**10**	Pg	**Pn**	**01 11 16.7**	**+0.5**
	175nm,0.3s						
VPL	**Vulcano Piano**	**1.13**	**305**	Pg	**Pn**	**01 11 16.6**	**-0.1**
	450nm,0.5s						
VPL	**Vulcano Piano**	**1.13**	**305**	Pg	**Pn**	**01 11 16.6**	**-0.1**
	450nm,0.5s						
HAVL	**Avola**	**1.14**	**227**	Pg	**Pn**	**01 11 17.1**	**+0.3**
HAVL				Sg	**Sn**	**01 11 31.2**	**-0.1**
HAVL	**Avola**	**1.14**	**227**	Pg	**Pn**	**01 11 17.1**	**+0.3**
HAVL				Sg	**Sn**	**01 11 31.2**	**-0.1**
HVZN	**Vizzini**	**1.29**	**245**	Pg	**Pn**	**01 11 19.1**	**+0.3**
HVZN				Sg	**Sn**	**01 11 35.4**	**+0.5**
	524nm,0.7s						
HVZN	**Vizzini**	**1.29**	**245**	Pg	**Pn**	**01 11 19.1**	**+0.3**
HVZN				Sg	**Sn**	**01 11 35.4**	**+0.5**
	524nm,0.7s						
HMDC	**Modica**	**1.35**	**235**	Pg	**Pn**	**01 11 20.2**	**+0.5**
	637nm,0.6s						
HMDC	**Modica**	**1.35**	**235**	Pg	**Pn**	**01 11 20.2**	**+0.5**
	637nm,0.6s						
CARO	**Carolei**	**1.51**	**1**	Pg	**Pn**	**01 11 21.9**	**+0.1**
CARO	**Carolei**	**1.51**	**1**	Pg	**Pn**	**01 11 21.9**	**+0.1**
TAR1	**Taranto**	**2.91**	**17**	*e*Pn	**Pn**	**01 11 38.8**	**-2.2**
TAR1				*e*Sn	**Sn**	**01 12 10.2**	**-4.6**

IDC 18 01:17:16.6±11.0,**5°.29S×128°.96E, h225**km±124km,
mb3.3/2,**mb1 3.6**/5,**mb1mx3.3**/16,**mbtmp3.4**/5,**Error**
ellipse: s-maj=71.9km s-min=36.1km az=46.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.14**	**194**	P	Pn	01 20 15.5	+0.5
	0.3nm,0.3s,baz=354,slow=11,SNR=16						
FITZ				S	S	01 22 39.8	-1.5
	0.2nm,0.3s,baz=229,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**15.47**	**161**	P	Pn	01 20 44.1	+0.5
	1.2nm,0.3s,baz=340,slow=12,SNR=90						
WRA				S	S	01 23 23.2	-11
	0.1nm,0.3s,baz=342,slow=21,SNR=2.8						
ASAR	**Alice Springs**	**18.88**	**166**	P	P	01 21 20.1	-0.2
	1.0nm,0.3s,baz=345,slow=12,SNR=46						
ASAR				S	S	01 24 31.2	-12
	0.2nm,0.3s,baz=346,slow=23,SNR=10						
CMAR	**Chiang Mai Arr**	**37.85**	**309**	P	P	01 24 12.1	0.0
	0.9nm,0.4s,baz=129,slow=7.1,SNR=2.6						
MKAR	**Makanchi Array**	**66.24**	**327**	P	P	01 27 40.5	0.0
	0.3nm,0.3s,baz=119,slow=8.1,SNR=12						

MEX 18 01:35:58.6±0.9,**19°.26N×102°.68W, h10**km±11km,**MD3.7,**
Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.89**	**284**	*i* P	Pg	01 36 12.9	-2.9
EZ5V				*i* S	Sg	01 36 25.6	-1.8
R15V		**1.23**	**266**	*e*P	Pn	01 36 17.9	-4.0
R15V				*i* S	Sb	01 36 33.9	-4.0
SFJM	**Santa Fe**	**1.26**	**345**	*i* P	Pn	01 36 19.3	-3.0
SFJM				*i* S	Sb	01 36 34.0	-4.8
ZIIG	**Zihuatanejo**	**2.01**	**145**	*i* P	Pn	01 36 29.8	-2.8
ZIIG				*i* S	Sn	01 36 53.0	-4.8

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*ISCJB **18** 01:58:37.5±1.0, 36°.92N±0°.04×32°.74E±0°.06, h2km±11km, Error ellipse: s-maj=8.6km s-min=6.0km az=163.0*
*ISK **18** 01:58:37.0, 36°.93N×32°.76E, h9km, MD2.8*
*DDA **18** 01:58:37.2, 36°.98N×32°.76E, h7km±4km, Md2.6*
*CSEM **18** 01:58:38.0±0.3, 36°.92N×32°.72E, h8km, MD2.8, Error ellipse: s-maj=6.1km s-min=5.8km az=86.0*
ISC 18 01:58:38.1±1.0,**36°.91N**±0°.04×**32°.73E**±0°.07,**h5**km±9km,
n16,σ0**°72**/26,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	**Hadim**	**0.20**	**285**	*e*PG	**Pg**	**01 58 41.8**	**-0.3**
HDMB				*e*SG	**Sg**	**01 58 45.5**	**+0.8**
HDMB	**Hadim**	**0.20**	**285**	*e*Pg	**Pg**	**01 58 41.8**	**-0.3**
HDMB				*e*Sg	**Sg**	**01 58 45.5**	**+0.8**
GAZI	**Gazipasa**	**0.75**	**206**	*i* P	**Pg**	**01 58 52.8**	**+0.2**
GAZI				*i* S	**Sg**	**01 59 02.4**	**0.0**
GAZI	**Gazipasa**	**0.75**	**206**	*i* P	**Pg**	**01 58 52.8**	**+0.2**
GAZI				*i* S	**Sg**	**01 59 02.4**	**0.0**
KONT	**Konya--Tatoy**	**1.07**	**344**	*e*PG	**Pg**	**01 58 58.6**	**-0.1**
KONT				*e*SG	**Sg**	**01 59 12.5**	**-0.1**
KONT	**Konya--Tatoy**	**1.07**	**344**	*e*Pg	**Pg**	**01 58 58.6**	**-0.1**
KONT				*e*Sg	**Sg**	**01 59 12.5**	**-0.1**
LADK	**Ladik-KONYA**	**1.32**	**347**	*e*PN	**Pn**	**01 59 01.6**	**-1.5**
LADK	**Ladik-KONYA**	**1.32**	**347**	*e*Pn	**Pn**	**01 59 01.6**	**-1.5**
MERS	**Mersin**	**1.44**	**91**	*e*PN	**Pn**	**01 59 03.4**	**-1.4**
MERS	**Mersin**	**1.44**	**91**	*e*Pn	**Pn**	**01 59 03.4**	**-1.4**
SUTC	**Sutluce-Ispart**	**1.49**	**293**	*e*PN	**Pn**	**01 59 05.3**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.49**	**293**	*e*Pn	**Pn**	**01 59 05.3**	**-0.2**
KDHN	**Kadinhani**	**1.68**	**343**	*i* P	**Pn**	**01 59 08.2**	**+0.1**
KDHN				*i* S	**Sn**	**01 59 30.4**	**+0.5**
KDHN	**Kadinhani**	**1.68**	**343**	*i* P	**Pn**	**01 59 08.2**	**+0.1**
KDHN				*i* S	**Sn**	**01 59 30.4**	**+0.5**
GULE	**Gulek**	**1.68**	**77**	*i* P	**Pn**	**01 59 09.0**	**+0.9**
GULE				*i* S	**Sn**	**01 59 30.9**	**+0.9**
GULE	**Gulek**	**1.68**	**77**	*i* P	**Pn**	**01 59 09.0**	**+0.9**
GULE				*i* S	**Sn**	**01 59 30.9**	**+0.9**

MAN 18 02:00:44, 9°.22N×125°.46E, h4km,**mb4.1,ML2.9,MS2.7,**
Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.29**	**147**	*e*P	Pg	02 00 50.7	+1.0
BUTP				*e*S	Sg	02 00 55.4	+1.8
MSLP	**Maasin**	**1.09**	**327**	*e*P	Pg	02 01 04.6	-0.3
MSLP				*e*S	Sg	02 01 18.5	-0.4
BUKP	**Musuan**	**1.39**	**196**	*e*P	Pn	02 01 11.4	+1.3
BUKP				*e*S	Sb	02 01 29.1	+0.6
TBP	**Tagbilaran**	**1.64**	**287**	*e*P	Pn	02 01 13.6	-0.1
TBP				*e*S	Sn	02 01 36.2	+0.9
PAGZ	**Pagadian**	**2.46**	**237**	*e*P	Pn	02 01 27.2	+2.3

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*ISCJB **18** 02:04:35.1±0.4, 16°.55N±0°.04×98°.02W±0°.02, h37km±3km, mb4.2/23, Error ellipse: s-maj=6.1km s-min=3.8km az=8.1*
*MEX **18** 02:04:37.2±0.8, 16°.53N×98°.08W, h34km±8km, MD4.3*
*NEIC **18** 02:04:37.0, 16°.54N×98°.08W, h33km, mb4.2/22, MD4.3(MEX), After MEX.*
*IDC **18** 02:04:40.7±2.4, 17°.24N×97°.75W, h35km±6km, mb3.7/7, mb1 4.0/12, mb1mx3.8/25, mbtmp3.8/12, ML3.7/5, MS3.3/3, Ms1 3.4/3, ms1mx2.8/32, Error ellipse: s-maj=49.6km s-min=12.3km az=18.0*
*BJI **18** 02:04:43.6, 17°.10N×97°.70W, h68km, mB4.9/1, Ms4.9/2, Ms7 4.4/2*
ISC 18 02:04:36.1±0.6,**16°

baz=15
425A Indio Mountain 15.53 337 ⇑P Pn 02 08 17.0 +4.1
baz=15,SNR=7.3
327A Balmorhea Ranc 15.57 342 ⇑P Pn 02 08 16.7 +3.3
baz=15
326A Caldwell Ranch 15.66 341 ⇓P Pn 02 08 18.0 +3.3
baz=15,SNR=14
325A Bean Ranch, Si 16.05 338 ⇓P Pn 02 08 21.2 +1.5
baz=16,SNR=7.2
227A Bennet, Jal 16.11 344 ⇑P Pn 02 08 23.1 +2.6
baz=16,SNR=5.1
324A Moseley Ranch, 16.30 337 ⇑P Pn 02 08 24.1 +1.1
baz=16,SNR=6.4
226A Malaga, Loving 16.39 341 ⇓P Pn 02 08 24.6 +0.5
baz=16
MNTX Cornudas Mount 16.50 337 ⇓P Pn 02 08 26.3 +0.9
baz=16
MNTX Cornudas Mount 16.50 337 ePn Pn 02 08 23.7 -1.7
7.3nm,1.4s
GDL2 Guadalupe Moun 16.61 341 eP Pn 02 08 29.4 +2.6
225A Deer Hill, Car 16.67 339 ⇓P Pn 02 08 28.3 +0.7
baz=16
127A Arkansas Junct 16.76 344 ⇑P Pn 02 08 28.9 +0.2
baz=16
224A Cornudas Mount 16.89 337 ⇑P Pn 02 08 30.5 +0.3
baz=16
125A Gardner Draw, 17.12 341 ⇓P Pn 02 08 33.4 +0.2
baz=17,SNR=7.6
Z27A Tatum 17.33 345 ⇓P Pn 02 08 34.6 -1.3
baz=17,SNR=13
Z26A Caprock 17.49 343 ⇓P Pn 02 08 37.3 -0.5
baz=17
222A Williams Famil 17.54 334 ⇑P Pn 02 08 38.6 +0.1
baz=17
320A Kipp Ranch, An 17.56 329 ⇑P Pn 02 08 39.4 +0.8
baz=17
Z25A Roswell 17.71 341 ⇓P Pn 02 08 40.3 -0.3
baz=17,SNR=6.0
MSTX Muleshoe 17.86 347 ⇓P Pn 02 08 40.5 -1.8
baz=17
Y27A Causey 17.86 346 ⇑P Pn 02 08 40.9 -1.5
baz=17
Z24A Sheeppen Canyo 17.97 340 ⇑P Pn 02 08 43.9 +0.2
baz=18,SNR=8.1
319A Douglas 17.97 327 ⇓P Pn 02 08 45.1 +1.4
baz=18
220A Playas Peak, P 18.02 330 ⇓P Pn 02 08 45.5 +1.2
baz=18
WMOK Wichita Mounta 18.11 358 ePn Pn 02 08 42.8 -2.7
6.3nm,1.0s
121A Cookes Peak, D 18.20 333 ⇑P Pn 02 08 47.8 +1.2
baz=18
Z23A Rita Site, Whi 18.21 337 ⇑P Pn 02 08 47.2 +0.5
baz=18
Y25A Mesa, Roswell 18.31 342 ⇓P Pn 02 08 47.7 -0.1
baz=18,SNR=6.2
MIAR Mount Ida 18.34 12 ePn Pn 02 08 47.0 -1.3
15nm,1.0s
318A Bisbee 18.40 326 ⇓P Pn 02 08 50.2 +1.3
baz=18
219A White Tail Can 18.46 328 ⇓P Pn 02 08 50.6 +0.9
baz=18
Z22A Elephant Butte 18.49 336 ⇓P Pn 02 08 50.2 +0.2
baz=18
Y24A Capitan 18.54 340 ⇑P Pn 02 08 50.4 -0.2
baz=18,SNR=13
AMTX Amarillo 18.54 350 ⇑P Pn 02 08 49.7 -1.0
baz=18
AMTX Amarillo 18.54 350 eP Pn 02 08 49.0 -1.6
6.1nm,0.6s
X27A F and S Farms, 18.58 347 ⇓P Pn 02 08 50.2 -1.0
baz=18
120A U Bar Ranch, L 18.60 331 ⇓P Pn 02 08 51.8 +0.4
baz=18
X26A CR and CF Fran 18.66 345 ⇓P Pn 02 08 50.8 -1.3
baz=18,SNR=6.6
Y23A Lovelace Mesa, 18.75 339 ⇑P Pn 02 08 53.0 -0.2
baz=18
Z21A St. Cloud Mine 18.82 334 ⇑P Pn 02 08 54.2 +0.1
baz=18
218A Dragoon 18.84 327 ⇓P Pn 02 08 55.0 +0.7
baz=19
W27A Bowe Ranch, En 18.97 347 ⇓P Pn 02 08 54.6 -1.3
baz=19
Z20A Nine Sixteen R 19.05 332 ⇑P Pn 02 08 56.7 -0.2
baz=19
Y22A Socorro 19.09 337 ⇑P Pn 02 08 57.1 -0.2
baz=19
X24A Lazy VL Ranch, 19.13 341 ⇑P Pn 02 08 56.7 -1.1
baz=19,SNR=7.1
BNM Barren Site 19.15 338 eP Pn 02 08 56.9 -1.1
4.9nm,1.0s
118A Homack Ranch, 19.33 328 ⇑P Pn 02 08 60.0 -0.3
baz=19
X23A Hourglass Bar 19.39 339 ⇓P Pn 02 08 59.8 -1.1
baz=19
Y21A Point of Rocks 19.43 335 ⇑P Pn 02 09 00.7 -0.6
baz=19
W25A X Bar L Ranch, 19.45 344 ⇓P Pn 02 08 59.8 -1.9
baz=19
Z19A T-Link Ranch, 19.52 331 ⇓P Pn 02 09 01.9 -0.6
baz=19
X22A Bernardo 19.61 337 ⇓P Pn 02 09 02.3 -1.3
baz=19
Y20A Horse Springs, 19.64 334 ⇑P Pn 02 09 03.3 -0.6
baz=19
W24A Lazy 6 Ranch, 19.72 342 ⇑P Pn 02 09 03.1 -1.7
baz=19,SNR=5.5
ANMO Albuquerque 19.82 339 P Pn 02 09 04.1 -1.9
0.2nm,0.3s,baz=152,slow=11,SNR=12
ANMO LR LR 02 17 26.3
comp=Z,131nm,21.6s,baz=340,slow=40
ANMO Albuquerque 19.82 339 eP Pn 02 09 03.7 -2.3
3.7nm,0.8s
V26A Tequesquite Ra 19.84 346 ⇑P Pn 02 09 04.4 -1.8
baz=19
X21A Alamocita Cree 19.86 336 ⇓P Pn 02 09 05.5 -1.0
baz=20
W23A Werner Place, 19.90 340 ⇑P Pn 02 09 05.5 -1.5
baz=20,SNR=6.2
Y19A Nutrioso 20.06 332 ⇓P P 02 09 08.7 +1.7
baz=20,SNR=7.5
V25A Rancho No Teng 20.08 344 ⇑P P 02 09 07.0 -0.2
baz=20
V24A Rampart Ranch, 20.16 343 ⇑P P 02 09 07.7 -0.3
baz=20,SNR=7.0
X20A Quemado 20.23 334 ⇓P P 02 09 09.8 +1.0
baz=20,SNR=6.0
Y18A Canyon Day Jun 20.28 330 ⇓P P 02 09 10.4 +1.0
baz=20,SNR=10.0
W21A San Fidel 20.39 337 ⇓P P 02 09 11.2 +0.7
baz=20
V23A Ortiz Mt. (NFS 20.45 341 ⇑P P 02 09 11.5 +0.3
baz=20,SNR=7.5
X19A St. Johns 20.47 332 ⇓P P 02 09 12.5 +1.0
baz=20
U25A Circle Dot Ran 20.56 345 ⇑P P 02 09 12.0 -0.4
baz=20,SNR=9.9
Y17A Roosevelt 20.61 328 ⇑P P 02 09 14.1 +1.2
baz=20,SNR=7.7
W20A Ramah 20.73 335 ⇓P P 02 09 15.3 +1.1
baz=20,SNR=8.1
V22A San Miguel Ran 20.84 339 ⇑P P 02 09 15.8 +0.3
baz=20,SNR=5.3
X18A Snowflake 20.86 331 ⇓P P 02 09 16.7 +1.1
baz=21
U23A El Rito 20.99 341 ⇓P P 02 09 17.1 0.0
baz=21,SNR=13
V21A Milan 21.00 338 ⇓P P 02 09 17.5 +0.3
baz=21
W19A Sanders 21.09 333 ⇓P P 02 09 18.9 +0.7
baz=21
U22A Llaves 21.25 340 ⇑P P 02 09 20.0 +0.3
baz=21
T25A Trinidad 21.27 346 ⇓P P 02 09 20.2 +0.2
baz=21,SNR=7.0
GOGA Godfrey 21.28 35 eP P 02 09 18.0 -2.3
8.1nm,0.8s,mb4.1
V20A Brimhall 21.31 336 ⇓P P 02 09 21.2 +0.7
baz=21
T24A Torres, Weston 21.36 344 ⇑P P 02 09 21.1 0.0
baz=21
V19A Window Rock 21.47 335 ⇓P P 02 09 22.7 +0.6
baz=21
WVT Waverly 21.48 23 eP P 02 09 19.8 -2.5
11nm,0.8s,mb4.2
X16A Lo Mia Camp, P 21.48 328 ⇑P P 02 09 23.4 +1.0
baz=21,SNR=12

U21A Nageezi 21.57 338 ⇑P P 02 09 23.5 +0.3
baz=21,SNR=8.6
T23A Casias Ranch, 21.60 342 ⇑P P 02 09 23.5 0.0
baz=21
S25A Robets Cordova 21.77 346 ⇑P P 02 09 25.2 -0.2
baz=21,SNR=14
U20A Newcomb 21.84 337 ⇓P P 02 09 26.5 +0.4
baz=22,SNR=8.1
V18A Ganado 21.84 333 ⇓P P 02 09 26.6 +0.5
baz=22
T22A Edith 21.84 341 ⇑P P 02 09 26.5 +0.4
baz=22,SNR=13
S24A Houchin Ranch, 21.94 345 ⇓P P 02 09 26.9 -0.3
baz=22
Y14A Wickenburg 21.94 325 ⇑P P 02 09 28.5 +1.2
baz=22
T21A Navajo Lake 22.03 339 ⇓P P 02 09 28.3 +0.1
baz=22
U19A Dine' College, 22.03 335 ⇑P P 02 09 28.5 +0.3
baz=22
R27A Eads 22.05 350 ⇓P P 02 09 27.1 -1.2
baz=22
SDCO Great Sand Dun 22.11 344 ⇑P P 02 09 29.1 +0.1
baz=22,SNR=8.7
SDCO Great Sand Dun 22.11 344 eP P 02 09 28.4 -0.6
4.0nm,0.7s,mb4.0
V17A Tonalea, Kykot 22.15 331 ⇑P P 02 09 30.1 +0.6
baz=22
R26A Arlington 22.18 349 ⇑P P 02 09 29.3 -0.4
baz=22,SNR=11
R25A Fountain Ranch 22.20 347 ⇓P P 02 09 29.5 -0.5
baz=22,SNR=6.5
S23A Nye Farm, Mont 22.21 343 ⇓P P 02 09 29.9 -0.2
baz=22
CBKS Cedar Bluff 22.22 356 ⇓P P 02 09 28.9 -1.3
baz=22
CBKS Cedar Bluff 22.22 356 eP P 02 09 29.4 -0.8
24nm,1.0s,mb4.6
CPCT Cooper Cave 22.32 30 eP P 02 09 27.1 -4.2
WUAZ Wupatki 22.33 330 ⇓P P 02 09 32.0 +0.6
baz=22
WUAZ Wupatki 22.33 330 eP P 02 09 32.5 +1.1
7.7nm,0.8s,mb4.2
U18A Rough Rock, Ch 22.41 334 ⇑P P 02 09 32.8 +0.5
baz=22
R24A Sanders Place, 22.47 345 ⇑P P 02 09 32.4 -0.5
baz=22
KSU1 Kansas State U 22.49 3 eP P 02 09 31.0 -2.0
11nm,0.8s,mb4.3
S22A 4UR Ranch, Cre 22.49 341 ⇑P P 02 09 33.6 +0.5
baz=22
MVCO Mesa Verde 22.57 338 ⇑P P 02 09 33.5 -0.4
baz=22,SNR=7.0
MVCO Mesa Verde 22.57 338 eP P 02 09 33.0 -0.8
15nm,0.9s,mb4.4
R23A Moffat 22.62 344 ⇑P P 02 09 34.3 -0.1
baz=22
S21A Coal Bank Pass 22.72 340 ⇑P P 02 09 36.0 +0.4
baz=22,SNR=10
Q26A Hugo 22.80 349 ⇓P P 02 09 35.9 -0.4
baz=22
TKL Tuckaleechee C 22.86 31 P P 02 09 34.1 -2.9
2.0nm,0.4s,mb3.9,baz=201,slow=14,SNR=6.2
TKL Tuckaleechee C 22.86 31 P P 02 09 34.1 -2.9
R22A Saguache, Gunn 22.92 342 ⇑P P 02 09 38.2 +0.6
baz=22,SNR=8.5
Q25A Bedland, Calha 22.93 347 ⇓P P 02 09 37.4 -0.3
baz=22
T18A Mexican Hat 23.03 335 ⇑P P 02 09 38.8 +0.1
baz=23
S20A Disappointment 23.07 339 ⇑P P 02 09 39.7 +0.5
baz=23
Q24A Divide 23.18 346 ⇑P P 02 09 40.3 0.0
baz=23,SNR=5.3
S19A Harvey Farm, M 23.27 337 ⇑P P 02 09 41.0 -0.4
baz=23,SNR=8.9
R21A Cimarron 23.29 341 ⇑P P 02 09 42.0 +0.5
baz=23,SNR=11
W13A Hualapai Mount 23.29 325 ⇑P P 02 09 43.0 +1.4
baz=23
Q23A Hartsel 23.29 344 ⇓P P 02 09 41.3 -0.2
baz=23
T17A Navajo Res., N 23.30 333 ⇑P P 02 09 42.1 +0.5
baz=23
R20A Redvale 23.40 339 ⇓P P 02 09 43.3 +0.6
baz=23,SNR=6.7
Q22A Crested Butte, 23.55 342 ⇑P P 02 09 44.2 +0.1
baz=23,SNR=5.8
S18A Hurst Farm, Bl 23.55 336 ⇓P P 02 09 44.2 +0.1
baz=23
P23A Jefferson 23.74 345 ⇓P P 02 09 45.9 +0.1
baz=23
KMSC Kings Mountain 23.75 36 ⇑P P 02 09 44.1 -1.9
baz=23
R19A Curley Farm, L 23.80 338 ⇓P P 02 09 46.4 0.0
baz=24
S17A Black Ridge (B 23.84 334 ⇑P P 02 09 47.2 +0.5
baz=24
WCI Wyandotte Cave 23.91 23 eP P 02 09 44.3 -3.1
28nm,1.2s,mb4.6
O26A Horse Wrangler 24.04 350 ⇑P P 02 09 48.2 -0.3
baz=24
Q20A Ridgley Place, 24.06 340 ⇑P P 02 09 49.0 +0.3
baz=24
O25A Wiggins 24.06 348 ⇓P P 02 09 48.6 -0.1
baz=24
ISCO Idaho Springs 24.08 346 ⇓P P 02 09 49.0 +0.1
baz=24,SNR=13
ISCO Idaho Springs 24.08 346 eP P 02 09 48.9 0.0
9.1nm,0.8s,mb4.3
R18A Canyonlands Na 24.12 337 ⇓P P 02 09 49.2 -0.1
baz=24,SNR=8.0
P22A Eagle 24.19 343 ⇑P P 02 09 50.0 +0.1
baz=24,SNR=8.0
S16A Weppner Ranch, 24.25 333 ⇓P P 02 09 51.0 +0.6
baz=24,SNR=7.2
O24A Longmont 24.27 347 ⇓P P 02 09 50.6 0.0
baz=24
P21A Newcastle 24.32 342 ⇓P P 02 09 51.5 +0.4
baz=24,SNR=10
Q19A Hogan Spring (24.39 338 ⇑P P 02 09 51.8 +0.1
baz=24
R17A Hanksville Air 24.47 335 ⇑P P 02 09 52.9 +0.4
baz=24
O23A Lake Granby, G 24.55 345 ⇑P P 02 09 53.7 +0.6
baz=24,SNR=12
P20A De Beque 24.59 340 ⇓P P 02 09 53.8 +0.3
baz=24
O22A Kremmling 24.66 344 ⇑P P 02 09 54.1 -0.1
baz=24,SNR=8.6
R16A Teasdale 24.67 334 ⇓P P 02 09 54.7 +0.4
baz=24
P19A Cripple Cowboy 24.90 340 ⇑P P 02 09 56.9 +0.5
baz=24,SNR=5.6
N24A Carr 24.90 348 ⇓P P 02 09 56.3 0.0
baz=24
R15A Junction 24.95 333 ⇓P P 02 09 57.5 +0.6
baz=25
O21A Pagoda 24.96 343 ⇑P P 02 09 57.2 +0.3
baz=25
SRU San Rafael 24.99 336 eP P 02 09 58.4 +1.2
8.5nm,0.9s,mb4.3
Q16A Castle Valley 25.08 335 ⇑P P 02 09 58.8 +0.8
baz=25
O20A White River Ci 25.12 341 ⇓P P 02 09 58.6 +0.2
baz=25,SNR=8.5
ARUT Antelope Range 25.14 330 eP P 02 09 59.8 +1.2
10nm,1.2s,mb4.2
MSU Marysvale 25.16 333 eP P 02 09 59.9 +1.2
1.5nm,0.8s,mb3.6
N23A Red Feather La 25.20 346 ⇑P P 02 09 59.1 -0.1
baz=25,SNR=8.5
N22A Wattenberg Ran 25.24 345 ⇑P P 02 09 59.6 +0.1
baz=25
M25A Palm-Egli Farm 25.33 349 ⇓P P 02 10 00.2 0.0
baz=25,SNR=5.0
P18A Preston Nutter 25.34 337 ⇑P P 02 10 01.3 +0.9
baz=25
P17A Butcher Ranch, 25.39 337 ⇓P P 02 10 01.5 +0.7
baz=25
N21A Black Mountain 25.48 343 ⇓P P 02 10 02.3 +0.6
baz=25
M24A Cheyenne 25.51 348 ⇑P P 02 10 02.0 +0.2
baz=25
SFIN Scholer Farm 25.55 20 ⇓P P 02 10 00.5 -1.7
baz=25
O19A Miners Draw (B 25.55 340 ⇓P P 02 10 03.0 +0.7
baz=25

SCIA State Center 25.59 8 eP P 02 10 01.3 -1.3
26nm,0.9s,mb4.8
M23A Laramie 25.70 347 ⇑P P 02 10 03.6 0.0
baz=25
R13A O'Grain Ranch, 25.71 330 ⇑P P 02 10 05.6 +1.9
baz=25
N20A Spence Gulch, 25.77 342 ⇓P P 02 10 04.9 +0.7
baz=25,SNR=8.1
M22A Cedar Creek Ra 25.84 345 ⇓P P 02 10 05.3 +0.4
baz=25,SNR=5.9
O17A Robinson Place 26.02 337 ⇑P P 02 10 07.3 +0.8
baz=26,SNR=7.4
BSC Santa Cruz Isl 26.06 316 ⇓P P 02 10 09.6 +2.6
baz=26
N19A John Jarvie Ra 26.10 340 ⇓P P 02 10 07.8 +0.6
baz=26
M21A Separation Pea 26.23 344 ⇓P P 02 10 09.2 +0.8
baz=26
O16A Springville 26.32 336 ⇑P P 02 10 10.5 +1.2
baz=26
M20A Sweetwater, Wa 26.35 343 ⇑P P 02 10 10.2 +0.7
baz=26
L22A Ellis Ranch, M 26.39 346 ⇑P P 02 10 10.1 +0.2
baz=26,SNR=5.5
K25A Mack Ranch, Ha 26.44 350 ⇓P P 02 10 10.5 +0.2
baz=26
N17A Moffit Pass 26.71 338 ⇑P P 02 10 13.2 +0.5
baz=26
DUG Dugway 26.84 334 ⇓P P 02 10 14.9 +1.0
baz=26
DUG Dugway 26.84 334 eP P 02 10 14.6 +0.7
49nm,2.8s,mb4.5
M18A Lyman 26.87 340 ⇓P P 02 10 15.0 +0.7
baz=26
K22A Casper 27.00 346 ⇓P P 02 10 15.6 +0.2
baz=27
K21A Alcova 27.16 345 ⇓P P 02 10 16.6 -0.2
baz=27
J22A Midwest 27.72 347 ⇓P P 02 10 21.0 -0.8
baz=27
K19A Absolon Red Bu 27.77 343 ⇓P P 02 10 22.8 +0.6
baz=27
J21A Lysite 27.88 345 ⇑P P 02 10 23.1 -0.1
baz=28,SNR=6.3
BW06 Boulder Array 27.92 342 ⇓P P 02 10 23.7 +0.1
baz=28
PDAR Pinedale Array 27.92 342 P P 02 10 22.3 -1.3
1.1nm,0.8s,mb3.6,baz=148,slow=8.7,SNR=7.4
PDAR pP pP 02 10 34.2 +2.0
1.5nm,0.9s,baz=126,slow=17,SNR=4.7
PDAR Pinedale Array 27.92 342 P P 02 10 22.3 -1.3
PDAR pP pP 02 10 34.2 +2.0
K18A Toltan Ranch, 27.95 341 ⇑P P 02 10 24.6 +0.7
baz=28
NVAR Mina Array Bea 28.14 325 P P 02 10 26.7 +1.1
1.3nm,0.8s,mb3.6,baz=144,slow=9.0,SNR=7.5
NVAR sP sP 02 10 40.7 +2.9
0.7nm,0.8s,baz=151,slow=8.8,SNR=3.5
NVAR Mina Array Bea 28.14 325 P P 02 10 26.7 +1.1
NVAR sP sP 02 10 40.7 +2.9
L15A Malad City 28.20 337 ⇓P P 02 10 26.6 +0.4
baz=28
I21A Big Trails, Te 28.28 346 ⇑P P 02 10 26.6 -0.2
baz=28,SNR=6.0
K17A Gardner Place, 28.34 340 ⇓P P 02 10 27.5 +0.1
baz=28
J18A Kendall Valley 28.47 341 ⇑P P 02 10 28.7 +0.3
baz=28
L14A Malta 28.56 336 ⇑P P 02 10 30.2 +0.9
baz=28
I20A Worland 28.62 345 ⇑P P 02 10 29.6 -0.2
baz=28
J17A Brown Place, J 28.82 341 ⇑P P 02 10 31.8 +0.2
baz=28
SPMN St. Paul 28.90 8 ⇑P P 02 10 30.6 -1.7
baz=28
H21A Big Horn, Sher 29.00 347 ⇑P P 02 10 33.0 -0.2
baz=29
LOHW Long Hollow 29.01 341 eP P 02 10 33.4 +0.1
3.9nm,0.9s,mb4.1
G22A Birney 29.41 348 ⇓P P 02 10 36.3 -0.5
baz=29
J15A Blackfoot 29.43 338 ⇑P P 02 10 37.5 +0.5
baz=29
H19A Powell 29.51 344 ⇓P P 02 10 37.6 -0.1
baz=29
G21A Lodge Grass 29.60 347 ⇓P P 02 10 38.0 -0.5
baz=29
F23A Volborg 29.72 350 ⇑P P 02 10 39.0 -0.6
baz=29
RLMT Red Lodge 30.01 344 ⇓P P 02 10 42.6 +0.5
baz=30
RLMT Red Lodge 30.01 344 eP P 02 10 42.4 +0.3
154nm,3.0s
J13A Cove Ranch, Pi 30.08 336 ⇓P P 02 10 43.1 +0.4
baz=30
E21A Keefer Ranch, 30.83 348 ⇑P P 02 10 49.0 -0.3
baz=30
F18A Big Timber 30.85 344 ⇓P P 02 10 49.5 0.0
baz=30
G15A Dillon 31.01 340 ⇓P P 02 10 51.2 +0.3
baz=31
E20A Meyer Farm, Mu 31.02 346 ⇓P P 02 10 50.9 -0.1
baz=31
F17A Fitzpatrick Pl 31.11 343 ⇓P P 02 10 52.0 +0.2
baz=31
E19A Rath Farm, Rou 31.13 346 ⇑P P 02 10 51.7 -0.3
baz=31
MDND Maddock 31.23 358 ⇑P P 02 10 52.1 -0.7
baz=31
D22A Cohagen 31.24 349 ⇓P P 02 10 52.5 -0.4
baz=31
F16A Kennard Place, 31.29 341 ⇑P P 02 10 53.4 0.0
baz=31
D21A La Casta Ranch 31.32 348 ⇓P P 02 10 53.4 -0.2
baz=31
H12A Diamond D Ranc 31.32 336 ⇑P P 02 10 53.9 +0.2
baz=31
E18A Harlowton 31.52 344 ⇑P P 02 10 55.2 -0.1
baz=31
D20A Manuel Ranch, 31.58 347 ⇓P P 02 10 55.8 -0.2
baz=31
F15A Butte 31.61 340 ⇓P P 02 10 56.4 +0.2
baz=31
E17A Martinsdale 31.68 343 ⇓P P 02 10 56.9 +0.1
baz=31
AGMN Agassiz Nation 31.70 3 eP P 02 10 55.4 -1.6
12nm,0.7s,mb4.8
C23A Lambert 31.71 351 ⇑P P 02 10 56.8 -0.3
baz=31
D19A Cripps Ranch, 31.82 346 ⇓P P 02 10 57.9 -0.1
baz=31
J08A Circle Bar Ran 31.88 331 ⇓P P 02 10 59.2 +0.6
baz=32
G12A Big Creek, Yel 31.98 337 ⇑P P 02 10 60.0 +0.5
baz=32
D18A Linhart Farms, 32.07 345 ⇑P P 02 11 00.1 -0.2
baz=32
F13A Darby 32.18 338 ⇓P P 02 11 01.4 +0.1
baz=32
D17A Six Diamond Ra 32.26 344 ⇑P P 02 11 01.6 -0.4
baz=32,SNR=5.8
B23A Brockton 32.33 351 ⇓P P 02 11 01.7 -0.8
baz=32
D16A Dana Ranch, Ca 32.39 343 ⇓P P 02 11 02.9 -0.2
baz=32
C19A Slack Wire Ran 32.39 346 ⇑P P 02 11 02.9 -0.1
baz=32
E14A Clinton 32.44 340 ⇑P P 02 11 04.0 +0.5
baz=32
F12A Elk City 32.49 337 ⇑P P 02 11 04.2 +0.3
baz=32
E13A Victor 32.70 339 ⇓P P 02 11 05.7 -0.1
baz=32
C17A Wharram Farm, 32.72 344 ⇓P P 02 11 06.0 0.0
baz=32,SNR=5.2
B19A Brinkman Farms 33.05 347 ⇑P P 02 11 08.4 -0.4
baz=33,SNR=8.1
C16A Fuhringer Ranc 33.15 343 ⇑P P 02 11 09.6 -0.1
baz=33
A21A Bergtoll Ranch 33.15 349 ⇓P P 02 11 09.4 -0.3
baz=33
B17A L&G Farms, Che 33.34 344 ⇑P P 02 11 11.2 -0.2
baz=33
D13A Huson 33.36 339 ⇓P P 02 11 11.5 0.0
baz=33
ULM Lac du Bonnet 33.65 2 P P 02 11 11.5 -2.5
1.5nm,0.6s,mb4.1,baz=192,slow=8.3,SNR=5.1

ULM	**Lac du Bonnet**	**33.65**	**2**	P	**P**	**02 11 11.5**	**-2.5**
A17A	**Triple J Farms**	**33.92**	**345**	⇑P	**P**	**02 11 16.0**	**-0.3**
	baz=34						
A12A	**Yaak River Ran**	**35.35**	**340**	⇑P	**P**	**02 11 28.8**	**+0.1**
	baz=35						
SCHQ	**Schefferville**	**45.10**	**25**	P	**P**	**02 12 47.3**	**-2.1**
	2.9nm,0.7s,mb4.2,baz=231,slow=12,SNR=5.1						
SCHQ	**Schefferville**	**45.10**	**25**	P	**P**	**02 12 47.3**	**-2.1**
YKA	**Yellowknife Ar**	**47.34**	**350**	P	**P**	**02 13 05.1**	**-1.8**
	0.7nm,0.7s,mb3.7,baz=154,slow=7.4,SNR=11						
YKA				pP	pP	02 13 15.4	-0.4
	2.5nm,0.8s,baz=155,slow=6.9,SNR=19						
YKA	**Yellowknife Ar**	**47.34**	**350**	P	**P**	**02 13 05.1**	**-1.8**
YKA				pP	pP	02 13 15.4	-0.4
ILAR	**Eielson Array**	**58.25**	**338**	P	**P**	**02 14 26.7**	**-0.8**
	0.5nm,0.9s,mb3.6,baz=146,slow=5.0,SNR=6.9						
ILAR				pP	pP	02 14 38.3	+1.8
	0.7nm,1.0s,baz=142,slow=4.6,SNR=3.8						
ILAR	**Eielson Array**	**58.25**	**338**	P	**P**	**02 14 26.7**	**-0.8**
ILAR				pP	pP	02 14 38.4	+1.8
HHC	**Hu-ho-hao-te**	**116.63**	**335**	*e*PKP	PKPdf	02 23 16.8	-0.8
HHC				PP	PP	02 24 25.9	+1.7
HHC				PKS		02 26 53.1	
HHC				SKS	SKSdf	02 30 21.1	-6.8
HHC				SKKS	SKKSac	02 31 12.3	-12
HHC				SS	SS	02 40 19.9	-7.6
HHC				AMB	AMB		
	comp=Z,80nm,9.1s						
HHC				LR	LR		
	comp=N,110nm,19.5s						
HHC				LR	LR		
	comp=E,120nm,19.2s						
HHC				LR	LR		
	comp=Z,54nm,19.5s						
WMQ	**Urumqi**	**119.69**	**355**	*e*PKP	PKPdf	02 23 24.1	+0.7
LZH	**Lanzhou**	**123.70**	**339**	*e*PKP	PKPdf	02 23 34.3	+2.9
LZH				LR	LR		
	comp=N,110nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,20.1s						

*ISCJB **18** 02:23:29.5±2.0, 4°.69S±0°.08×128°.9E±0°.1, h259km±20km, mb4.2/14, Error ellipse: s-maj=24.7km s-min=6.7km az=154.2*
*IDC **18** 02:23:34.4±2.3, 4°.86S×128°.66E, h289km±22km, mb3.6/6, mb1 3.7/9, mb1mx3.6/18, mbtmp3.6/9, Error ellipse: s-maj=38.2km s-min=8.8km az=70.0*
*NEIC **18** 02:23:35.0±1.5, 4°.89S×128°.65E, h298km±16km, mb4.5/10, Error ellipse: s-maj=16.6km s-min=6.4km az=58.0*
ISC 18 02:23:34.2±1.5, 4°.88S±0°.06×128°.8E±0°.1, h293km±15km, n47, σ0°73/54, mb4.2/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.49**	**193**	P	**Pn**	**02 26 35.6**	**+0.6**
	1.3nm,0.3s,baz=30,slow=10,SNR=28						
FITZ				S	**S**	**02 29 04.1**	**-0.1**
	0.2nm,0.3s,baz=330,slow=12,SNR=2.0						
FITZ	**Fitzroy Crossi**	**13.49**	**193**	*e*Pn	**Pn**	**02 26 34.9**	**-0.1**
FITZ				S	**S**	**02 29 04.1**	**-0.1**
WRAB	**Tennant Creek**	**15.91**	**161**	*e*Pn	**Pn**	**02 27 03.0**	**-0.5**
	8.1nm,0.5s						
WRAB				*e*S	**S**	**02 29 52.7**	**-1.2**
WRA	**Warramunga Arr**	**15.91**	**161**	P	**Pn**	**02 27 03.1**	**-0.6**
	1.2nm,0.3s,baz=340,slow=11,SNR=65						
WRA				S	**S**	**02 29 53.0**	**-1.0**
	0.8nm,0.3s,baz=339,slow=22,SNR=11						
WRA	**Warramunga Arr**	**15.91**	**161**	P	**Pn**	**02 27 03.0**	**-0.6**
WRA				S	**S**	**02 29 53.0**	**-1.0**
WB2	**Warramunga Arr**	**15.92**	**161**	*e*P	**Pn**	**02 27 03.1**	**-0.6**
WB2				*e*S	**S**	**02 29 52.6**	**-1.4**
KKM	**Kota Kinabalu**	**16.60**	**311**	*e*P	**P**	**02 27 09.5**	**+0.3**
MBWA	**Marble Bar**	**18.41**	**208**	*e*P	**P**	**02 27 28.6**	**-0.2**
	12nm,1.1s						
AS31	**Alice Springs**	**19.31**	**166**	P	**P**	**02 27 39.4**	**+1.1**
AS31				*e*S	**S**	**02 31 01.8**	**+1.0**
ASAR	**Alice Springs**	**19.32**	**166**	P	**P**	**02 27 40.3**	**+2.0**
	1.7nm,0.3s,baz=345,slow=12,SNR=63						
ASAR				S	**S**	**02 31 03.0**	**+2.2**
	0.8nm,0.3s,baz=346,slow=21,SNR=57						
ASAR				PcP	PcP	02 31 48.2	+1.3
	0.3nm,0.3s,baz=5.3,slow=1.8,SNR=4.4						
ASAR				ScP	ScP	02 34 57.1	+2.4
	0.0nm,0.3s,baz=352,slow=1.7,SNR=4.6						
ASAR	**Alice Springs**	**19.32**	**166**	P	**P**	**02 27 40.3**	**+2.0**
ASAR				S	**S**	**02 31 03.0**	**+2.2**
ASAR				PcP	PcP	02 31 48.2	+1.3
ASAR				ScP	ScP	02 34 57.1	+2.4
STKA	**Stephens Creek**	**29.42**	**157**	P	**P**	**02 29 11.7**	**+0.6**
	1.1nm,0.6s,mb3.5,baz=355,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**29.42**	**157**	P	**P**	**02 29 11.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**29.91**	**200**	P	**P**	**02 29 15.1**	**-0.3**
	6.5nm,0.8s,mb4.2,baz=41,slow=7.1,SNR=3.8						
NWAO	**Narrogin (SRO)**	**29.91**	**200**	P	**P**	**02 29 15.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**37.46**	**309**	P	**P**	**02 30 20.3**	**0.0**
	3.4nm,0.5s,mb4.0,baz=137,slow=7.4,SNR=13						
CMAR	**Chiang Mai Arr**	**37.46**	**309**	P	**P**	**02 30 20.3**	**0.0**
TAPN	**Taplejung**	**50.99**	**311**	*e*P	**P**	**02 32 06.7**	**-0.1**
	12nm,0.3s,mb4.6						
TAPN	**Taplejung**	**50.99**	**311**	*e*P	**P**	**02 32 06.7**	**-0.1**
	12nm,0.3s,mb4.7						
RAMN	**Ramite**	**51.62**	**310**	*e*P	**P**	**02 32 11.7**	**+0.2**
RAMN	**Ramite**	**51.62**	**310**	*e*P	**P**	**02 32 11.7**	**+0.2**
JIRN	**Jiri**	**52.30**	**311**	*e*P	**P**	**02 32 16.4**	**-0.1**
	4.1nm,0.2s,mb4.3						
JIRN	**Jiri**	**52.30**	**311**	*e*P	**P**	**02 32 16.4**	**-0.1**
	4.1nm,0.3s,mb4.2						
GUN	**Gumba**	**52.66**	**311**	*e*P	**P**	**02 32 19.0**	**-0.1**
	27nm,0.7s,mb4.7						
GUN	**Gumba**	**52.66**	**311**	*e*P	**P**	**02 32 19.0**	**-0.1**
	27nm,0.7s,mb4.7						
PKI	**Pulchoki**	**52.85**	**310**	*e*P	**P**	**02 32 20.0**	**-0.5**
PKI	**Pulchoki**	**52.85**	**310**	*e*P	**P**	**02 32 20.0**	**-0.5**
DMN	**Daman**	**53.10**	**310**	*e*P	**P**	**02 32 22.0**	**-0.3**
DMN	**Daman**	**53.10**	**310**	*e*P	**P**	**02 32 22.0**	**-0.3**
GKN	**Gorkha**	**53.65**	**310**	*e*P	**P**	**02 32 25.9**	**-0.4**
	15nm,0.4s,mb4.7						
GKN	**Gorkha**	**53.65**	**310**	*e*P	**P**	**02 32 25.9**	**-0.4**
	15nm,0.4s,mb4.7						
KOLN	**Koldanda**	**54.33**	**309**	*e*P	**P**	**02 32 31.0**	**-0.2**
	14nm,0.6s,mb4.5						
KOLN	**Koldanda**	**54.33**	**309**	*e*P	**P**	**02 32 31.0**	**-0.2**
	14nm,0.6s,mb4.5						
DANN	**Dangsing**	**54.50**	**310**	*e*P	**P**	**02 32 32.1**	**-0.3**
DANN	**Dangsing**	**54.50**	**310**	*e*P	**P**	**02 32 32.1**	**-0.3**
ULN	**Ulaanbaatar**	**55.89**	**342**	*e*P	**P**	**02 32 42.6**	**+0.7**
	1.7nm,0.5s,mb3.7						
SONM	**Songino Array**	**56.07**	**342**	P	**P**	**02 32 43.6**	**+0.5**
	0.6nm,0.6s,mb3.2,baz=160,slow=5.2,SNR=6.6						
SONM	**Songino Array**	**56.07**	**342**	P	**P**	**02 32 43.5**	**+0.5**
MK31	**Makanchi Array**	**65.81**	**327**	*e*P	**P**	**02 33 48.3**	**0.0**
MKAR	**Makanchi Array**	**65.81**	**327**	P	**P**	**02 33 48.4**	**+0.1**
	2.7nm,0.4s,mb4.3,baz=114,slow=7.7,SNR=50						
MKAR	**Makanchi Array**	**65.81**	**327**	P	**P**	**02 33 48.4**	**+0.1**
EKS2	**Erkin-Say**	**68.63**	**320**	*e*P	**P**	**02 34 06.5**	**+0.4**
	7.5nm,1.1s,mb4.3						
ZALV	**Zalesovo Beam**	**69.16**	**334**	P	**P**	**02 34 08.3**	**-0.8**
	2.2nm,0.5s,mb4.1,baz=118,slow=5.6,SNR=12						
ZALV	**Zalesovo Beam**	**69.16**	**334**	P	**P**	**02 34 08.3**	**-0.8**
KURK	**Kurchatov**	**70.09**	**329**	*e*P	**P**	**02 34 14.6**	**-0.2**
	6.1nm,0.9s,mb4.3						
TORD	**Torodi Ar. Bea**	**127.19**	**283**	PKP	PKPdf	02 42 05.5	+0.8
	0.5nm,0.7s,baz=111,slow=1.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**127.19**	**283**	PKP	PKPdf	02 42 05.5	+0.8

*DDA **18** 02:25:12.9, 39°.92N×28°.92E, h16km±1km, Md3.1*
*ISCJB **18** 02:25:13.1±0.4, 39°.92N±0°.02×28°.95E±0°.02, h3km±4km, Error ellipse: s-maj=3.1km s-min=2.8km az=38.3*
*CSEM **18** 02:25:13.4±0.1, 39°.92N×28°.96E, h5km, MD3.0, Error ellipse: s-maj=1.5km s-min=1.4km az=144.0*
*ISK **18** 02:25:13.1, 39°.92N×28°.94E, h7km, MD3.0*
ISC 18 02:25:13.6±0.3, 39°.92N±0°.02×28°.95E±0°.02, h5km±3km, n91, σ0°61/120, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.40**	**220**	*e*PG	**Pg**	**02 25 21.3**	**-0.1**
DST				*e*SG	**Sg**	**02 25 27.4**	**+0.7**
DST	**Dursunbey**	**0.40**	**220**	*e*Pg	**Pg**	**02 25 21.3**	**-0.1**
DST				*e*Sg	**Sg**	**02 25 27.4**	**+0.7**
MDNY	**Mudanya-Bursa**	**0.46**	**353**	*e*PG	**Pg**	**02 25 22.5**	**+0.1**
MDNY				*e*SG	**Sg**	**02 25 29.3**	**+1.0**
MDNY	**Mudanya-Bursa**	**0.46**	**353**	*e*Pg	**Pg**	**02 25 22.5**	**+0.1**
MDNY				*e*Sg	**Sg**	**02 25 29.3**	**+1.0**
DURS	**Dursunbey**	**0.48**	**230**	*i* P	**Pg**	**02 25 22.7**	**-0.2**
DURS				*i* S	**Sg**	**02 25 28.8**	**-0.4**
DURS	**Dursunbey**	**0.48**	**230**	*i* P	**Pg**	**02 25 22.7**	**-0.2**
DURS				*i* S	**Sg**	**02 25 28.8**	**-0.4**
GEMT	**Gemlik**	**0.55**	**19**	*e*PG	**Pg**	**02 25 24.5**	**+0.4**
GEMT				*e*SG	**Sg**	**02 25 31.4**	**+0.1**
GEMT	**Gemlik**	**0.55**	**19**	*e*Pg	**Pg**	**02 25 24.5**	**+0.3**
GEMT				*e*Sg	**Sg**	**02 25 31.4**	**+0.1**
KCTX	**Karacabey (Bur**	**0.58**	**308**	*e*PG	**Pg**	**02 25 24.3**	**-0.4**
KCTX	**Karacabey (Bur**	**0.58**	**308**	*e*Pg	**Pg**	**02 25 24.3**	**-0.4**
ARMT	**Armutlu**	**0.65**	**354**	*e*PG	**Pg**	**02 25 26.2**	**+0.1**
ARMT	**Armutlu**	**0.65**	**354**	*e*Pg	**Pg**	**02 25 26.2**	**+0.1**
CAVI	**Cavuskoy**	**0.74**	**67**	*e*PG	**Pg**	**02 25 27.4**	**-0.4**
CAVI				*e*SG	**Sg**	**02 25 38.4**	**+1.0**
CAVI	**Cavuskoy**	**0.74**	**67**	*e*Pg	**Pg**	**02 25 27.5**	**-0.3**
CAVI				*e*Sg	**Sg**	**02 25 38.4**	**+1.0**
BALB	**Balikesir**	**0.87**	**252**	*e*PG	**Pg**	**02 25 30.5**	**+0.2**
BALB	**Balikesir**	**0.87**	**252**	*e*Pg	**Pg**	**02 25 30.5**	**+0.2**
DEMI	**Demirci**	**0.89**	**192**	*i* P	**Pg**	**02 25 30.2**	**-0.5**
DEMI				*i* S	**Sg**	**02 25 43.1**	**+0.9**
DEMI	**Demirci**	**0.89**	**192**	*i* P	**Pg**	**02 25 30.2**	**-0.5**
DEMI				*i* S	**Sg**	**02 25 43.1**	**+0.9**
BNT	**Bandirma**	**0.91**	**299**	*e*PG	**Pg**	**02 25 31.0**	**0.0**
BNT	**Bandirma**	**0.91**	**299**	*e*Pg	**Pg**	**02 25 31.0**	**0.0**
GDZ	**Gediz**	**0.92**	**154**	*i* P	**Pg**	**02 25 31.0**	**-0.3**
GDZ				*i* S	**Sg**	**02 25 43.6**	**+0.4**
GDZ	**Gediz**	**0.92**	**154**	*i* P	**Pg**	**02 25 31.0**	**-0.3**
GDZ				*i* S	**Sg**	**02 25 43.7**	**+0.5**
EDC	**Edincik**	**0.94**	**298**	*e*PG	**Pg**	**02 25 31.9**	**+0.3**
EDC	**Edincik**	**0.94**	**298**	*e*Pg	**Pg**	**02 25 32.0**	**+0.4**
GONE	**Gonen-Balikesi**	**0.98**	**278**	*e*PG	**Pg**	**02 25 31.9**	**-0.5**
GONE	**Gonen-Balikesi**	**0.98**	**278**	*e*Pg	**Pg**	**02 25 32.0**	**-0.4**
BALY	**Balya**	**1.04**	**261**	*i* P	**Pg**	**02 25 33.0**	**-0.6**
BALY				*i* S	**Sg**	**02 25 47.6**	**+0.6**
BALY	**Balya**	**1.04**	**261**	*i* P	**Pg**	**02 25 33.0**	**-0.6**
BALY				*i* S	**Sg**	**02 25 47.7**	**+0.6**
GPA	**Golpazari**	**1.10**	**70**	*e*PN	**Pn**	**02 25 35.4**	**-0.3**
GPA	**Golpazari**	**1.10**	**70**	*e*Pn	**Pn**	**02 25 35.4**	**-0.3**
ISK	**Istanbul-Kandi**	**1.15**	**4**	*e*PN	**Pn**	**02 25 34.9**	**-1.4**
ISK	**Istanbul-Kandi**	**1.15**	**4**	*e*Pn	**Pn**	**02 25 34.9**	**-1.4**
BORA	**Eskisehir**	**1.16**	**91**	*i* P	**Pg**	**02 25 35.1**	**-0.6**
BORA				*i* S	**Sg**	**02 25 52.7**	**+2.0**
BORA	**Eskisehir**	**1.16**	**91**	*i* P	**Pg**	**02 25 35.1**	**-0.6**
BORA				*i* S	**Sg**	**02 25 52.7**	**+2.0**
ALT	**Altintas**	**1.24**	**133**	*e*PN	**Pn**	**02 25 37.2**	**-0.3**
ALT	**Altintas**	**1.24**	**133**	*i* P	**Pg**	**02 25 35.5**	**-1.9**
ALT				*i* S	**Sg**	**02 25 52.2**	**-1.2**
ALT	**Altintas**	**1.24**	**133**	*e*Pn	**Pn**	**02 25 37.2**	**-0.3**
BGKT	**Bogazkoy**	**1.27**	**354**	*e*PN	**Pn**	**02 25 37.4**	**-0.6**
BGKT	**Bogazkoy**	**1.27**	**354**	*e*Pn	**Pn**	**02 25 37.4**	**-0.6**
GULT	**Gulveren**	**1.30**	**66**	*e*PN	**Pn**	**02 25 38.3**	**-0.1**
GULT	**Gulveren**	**1.30**	**66**	*e*Pn	**Pn**	**02 25 38.3**	**-0.1**
KLYT	**Kilyos**	**1.34**	**3**	*e*PN	**Pn**	**02 25 38.4**	**-0.5**
KLYT	**Kilyos**	**1.34**	**3**	*e*Pn	**Pn**	**02 25 38.4**	**-0.5**
SILT	**Sile**	**1.34**	**23**	*e*PN	**Pn**	**02 25 38.7**	**-0.3**
SILT	**Sile**	**1.34**	**23**	*e*Pn	**Pn**	**02 25 38.7**	**-0.2**
KRBG	**Karabiga-Canak**	**1.35**	**291**	*e*PN	**Pn**	**02 25 38.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.35**	**291**	*e*Pn	**Pn**	**02 25 38.8**	**-0.3**
AKHS	**Akhisar**	**1.36**	**221**	*i* P	**Pn**	**02 25 38.6**	**-0.5**
AKHS				*i* S	**Sb**	**02 25 56.6**	**-0.6**
AKHS	**Akhisar**	**1.36**	**221**	*i* P	**Pn**	**02 25 38.6**	**-0.6**
AKHS				*i* S	**Sb**	**02 25 56.6**	**-0.6**
AKS	**Akhisar**	**1.36**	**221**	*e*PN	**Pn**	**02 25 39.3**	**+0.2**
AKS	**Akhisar**	**1.36**	**221**	*e*Pn	**Pn**	**02 25 39.3**	**+0.1**
CTKS	**Kestanelik-??a**	**1.36**	**346**	*e*PN	**Pn**	**02 25 38.8**	**-0.4**
CTKS	**Kestanelik-??a**	**1.36**	**346**	*e*Pn	**Pn**	**02 25 38.8**	**-0.4**
KULA	**Kula-Manisa**	**1.42**	**189**	*e*PN	**Pn**	**02 25 40.2**	**+0.2**
KULA	**Kula-Manisa**	**1.42**	**189**	*e*Pn	**Pn**	**02 25 40.2**	**+0.2**
SLVT	**Silivri**	**1.43**	**337**	*e*PN	**Pn**	**02 25 39.7**	**-0.5**
SLVT	**Silivri**	**1.43**	**337**	*e*Pn	**Pn**	**02 25 39.7**	**-0.4**
MANT	**Manisa**	**1.46**	**192**	*i* P	**Pn**	**02 25 41.0**	**+0.5**
MANT				*i* S	**Sn**	**02 26 00.2**	**+0.3**
MANT	**Manisa**	**1.46**	**192**	*i* P	**Pn**	**02 25 41.0**	**+0.5**
MANT				*i* S	**Sn**	**02 26 00.2**	**+0.3**
ESKT	**Eskisehir**	**1.52**	**105**	*e*PN	**Pn**	**02 25 41.4**	**+0.1**
ESKT	**Eskisehir**	**1.52**	**105**	*i* P	**Pn**	**02 25 41.0**	**-0.3**
ESKT				*i* S	**Sn**	**02 26 02.1**	**+0.8**
ESKT	**Eskisehir**	**1.52**	**105**	*e*Pn	**Pn**	**02 25 41.4**	**+0.1**
SEYT	**Eskypehyr**	**1.52**	**105**	*i* P	**Pn**	**02 25 41.0**	**-0.3**
SEYT				*i* S	**Sn**	**02 26 02.2**	**+0.8**
CRLT	**Corlu**	**1.53**	**323**	*e*PN	**Pn**	**02 25 41.4**	**-0.1**
CRLT	**Corlu**	**1.53**	**323**	*e*Pn	**Pn**	**02 25 41.4**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.56**	**300**	*e*PN	**Pn**	**02 25 41.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.56**	**300**	*e*Pn	**Pn**	**02 25 41.7**	**-0.2**
KHAL	**Karahalli**	**1.60**	**165**	*i* P	**Pn**	**02 25 41.9**	**-0.6**
KHAL				*i* S	**Sn**	**02 26 03.7**	**+0.2**
KHAL	**Karahalli**	**1.60**	**165**	*i* P	**Pn**	**02 25 41.9**	**-0.6**
KHAL				*i* S	**Sn**	**02 26 03.7**	**+0.3**
LPK	**Lapseki**	**1.74**	**286**	*e*PN	**Pn**	**02 25 44.4**	**-0.1**
LPK	**Lapseki**	**1.74**	**286**	*e*Pn	**Pn**	**02 25 44.4**	**0.0**
MDUB	**Mudurnu**	**1.81**	**71**	*e*PN	**Pn**	**02 25 45.5**	**+0.1**
MDUB	**Mudurnu**	**1.81**	**71**	*e*Pn	**Pn**	**02 25 45.5**	**+0.2**
SHUT	**Suhut-Afyon**	**1.84**	**137**	*e*PN	**Pn**	**02 25 46.1**	**+0.3**
SHUT	**Suhut-Afyon**	**1.84**	**137**	*e*Pn	**Pn**	**02 25 46.1**	**+0.3**
AYVA	**Ayvalik**	**1.85**	**252**	*i* P	**Pn**	**02 25 46.1**	**+0.2**
AYVA				*i* S	**Sn**	**02 26 11.0**	**+1.4**
AYVA	**Ayvalik**	**1.85**	**252**	*i* P	**Pn**	**02 25 46.1**	**+0.2**
AYVA				*i* S	**Sn**	**02 26 11.0**	**+1.4**
GELI	**Tayfur-Gelibol**	**1.96**	**285**	*e*PN	**Pn**	**02 25 47.5**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.96**	**285**	*e*Pn	**Pn**	**02 25 47.5**	**+0.1**
IZM	**Izmir**	**2.01**	**221**	*e*PN	**Pn**	**02 25 47.8**	**-0.3**
IZM	**Izmir**	**2.01**	**221**	*e*Pn	**Pn**	**02 25 47.8**	**-0.3**
ERIK	**Erikli-Kesan**	**2.01**	**293**	*e*PN	**Pn**	**02 25 48.5**	**+0.4**
ERIK	**Erikli-Kesan**	**2.01**	**293**	*e*Pn	**Pn**	**02 25 48.5**	**+0.3**
EZN	**Ezine**	**2.02**	**268**	*e*PN	**Pn**	**02 25 48.5**	**+0.2**
EZN	**Ezine**	**2.02**	**268**	*e*Pn	**Pn**	**02 25 48.5**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.04**	**102**	*e*PN	**Pn**	**02 25 48.8**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.04**	**102**	*e*Pn	**Pn**	**02 25 48.8**	**+0.3**
BLCB	**Balcova**	**2.13**	**225**	*e*PN	**Pn**	**02 25 50.2**	**+0.4**
BLCB	**Balcova**	**2.13**	**225**	*e*Pn	**Pn**	**02 25 50.2**	**+0.4**
ENEZ	**Enez**	**2.29**	**292**	*e*PN	**Pn**	**02 25 52.6**	**+0.6**
ENEZ	**Enez**	**2.29**	**292**	*e*Pn	**Pn**	**02 25 52.6**	**+0.6**

*DDA **18** 02:30:51.8, 39°.45N×33°.05E, h16km±1km, Md3.7*
*ISK **18** 02:30:51.8, 39°.47N×33°.05E, h3km, MD3.3*
*ISCJB **18** 02:30:52.4±0.6, 39°.45N±0°.02×33°.05E±0°.03, h3km±4km, Error ellipse: s-maj=3.6km s-min=3.2km az=38.4*
*CSEM **18** 02:30:52.5±0.1, 39°.46N×33°.04E, h2km, MD3.3, Error ellipse: s-maj=2.7km s-min=2.5km az=127.0*
ISC 18 02:30:52.8±0.5, 39°.45N±0°.02×33°.04E±0°.03, h3km±3km, n73, σ0°79/104, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¨ar-Bala (A**	**0.02**	**100**	*e*PG	**Pg**	**02 30 52.5**	**-1.0**
AFSR	**Af¨ar-Bala (A**	**0.02**	**100**	*e*Pg	**Pg**	**02 30 52.5**	**-1.0**
BBAL	**Bala**	**0.11**	**34**	*i* P	**Pg**	**02 30 55.2**	**+0.1**
BBAL				*i* S	**Sg**	**02 30 57.3**	**+0.8**
BBAL	**Bala**	**0.11**	**34**	*i* P	**Pg**	**02 30 55.2**	**+0.2**
BBAL				*i* S	**Sg**	**02 30 57.3**	**+0.8**
LOD	**Lodumlu**	**0.49**	**334**	*e*PG	**Pg**	**02 31 01.3**	**-0.9**
LOD				*e*SG	**Sg**	**02 31 08.9**	**+0.3**
LOD	**Lodumlu**	**0.49**	**334**	*e*Pg	**Pg**	**02 31 01.3**	**-0.9**
LOD				*e*Sg	**Sg**	**02 31 08.9**	**+0.4**
DAD	**Ankara**	**0.51**	**334**	*i* P	**Pg**	**02 31 01.9**	**-0.7**
DAD				*i* S	**Sg**	**02 31 10.3**	**+1.2**
DAD	**Ankara**	**0.51**	**334**	*i* P	**Pg**	**02 31 01.9**	**-0.7**
DAD				*i* S	**Sg**	**02 31 10.4**	**+1.2**
CDAG	**Cicekdag**	**1.04**	**80**	*i* P	**Pg**	**02 31 11.8**	**-1.0**
CDAG				*i* S	**Sg**	**02 31 26.7**	**+0.4**
CDAG	**Cicekdag**	**1.04**	**80**	*i* P	**Pg**	**02 31 11.8**	**-1.0**
CDAG				*i* S	**Sg**	**02 31 26.7**	**+0.4**
ELDT	**Eldivan**	**1.08**	**16**	*i* P	**Pg**	**02 31 13.2**	**-0.3**
ELDT				*i* S	**Sg**	**02 31 28.4**	**+0.9**
ELDT	**Eldivan**	**1.08**	**16**	*i* P	**Pg**	**02 31 13.2**	**-0.3**
ELDT				*i* S	**Sg**	**02 31 28.4**	**+0.9**
KDHN	**Kadinhani**	**1.18**	**218**	*i* P	**Pg**	**02 31 15.1**	**-0.2**
KDHN				*i* S	**Sg**	**02 31 31.1**	**+0.5**
KDHN	**Kadinhani**	**1.18**	**218**	*i* P	**Pg**	**02 31 15.1**	**-0.2**
KDHN				*i* S	**Sg**	**02 31 31.1**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.18**	**270**	*e*PN	**Pn**	**02 31 15.0**	**-1.1**
SVRH				*e*SN	**Sn**	**02 31 32.4**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.18**	**270**	*e*Pn	**Pn**	**02 31 15.0**	**-1.1**
SVRH				*e*Sn	**Sn**	**02 31 32.4**	**-0.3**
CANT	**Cankiri**	**1.24**	**21**	*e*PN	**Pn**	**02 31 16.4**	**-0.5**
CANT				*e*SN	**Sn**	**02 31 33.5**	**-0.7**
SULT	**Sultanhani-AKS**	**1.30**	**163**	*e*PN	**Pn**	**02 31 17.3**	**-0.5**
SULT	**Sultanhani-AKS**	**1.30**	**163**	*e*Pn	**Pn**	**02 31 17.3**	**-0.6**
SGKT	**Sivrigoynuk**	**1.35**	**326**	*i* P	**Pn**	**02 31 16.5**	**-2.1**
SGKT				*i* S	**Sg**	**02 31 36.8**	**+0.5**
SGKT	**Sivrigoynuk**	**1.35**	**326**	*i* P	**Pn**	**02 31 16.5**	**-2.1**
SGKT				*i* S	**Sg**	**02 31 36.8**	**+0.5**
LADK	**Ladik-KONYA**	**1.36**	**203**	*e*PN	**Pn**	**02 31 17.0**	**-1.6**
LADK				*e*SN	**Sn**	**02 31 37.8**	**+0.7**
LADK	**Ladik-KONYA**	**1.36**	**203**	*e*Pn	**Pn**	**02 31 17.0**	**-1.6**
LADK				*e*Sn	**Sn**	**02 31 37.8**	**+0.7**
CORM	**Corum**	**1.42**	**59**	*e*PN	**Pn**	**02 31 18.2**	**-1.3**
CORM	**Corum**	**1.42**	**59**	*e*Pn	**Pn**	**02 31 18.2**	**-1.3**
AVNT	**Avonos**	**1.56**	**115**	*i* P	**Pn**	**02 31 21.9**	**+0.5**
AVNT				*i* S	**Sn**	**02 31 41.9**	**-0.2**
AVNT	**Avonos**	**1.56**	**115**	*i* P	**Pn**	**02 31 21.9**	**+0.5**
AVNT				*i* S	**Sn**	**02 31 41.9**	**-0.2**
KONT	**Konya--Tatoy**	**1.59**	**200**	*e*PN	**Pn**	**02 31 22.3**	**+0.4**
KONT	**Konya--Tatoy**	**1.59**	**200**	*e*Pn	**Pn**	**02 31 22.3**	**+0.4**
ILGA	**Ilgaz**	**1.68**	**18**	*i* P	**Pn**	**02 31 23.4**	**+0.4**
ILGA				*i* S	**Sn**	**02 31 46.0**	**+0.9**
ILGA	**Ilgaz**	**1.68**	**18**	*i* P	**Pn**	**02 31 23.4**	**+0.3**
ILGA				*i* S	**Sn**	**02 31 46.0**	**+0.9**
ESKT	**Eskisehir**	**1.70**	**273**	*e*PN	**Pn**	**02 31 23.4**	**+0.1**
ESKT	**Eskisehir**	**1.70**	**273**	*i* P	**Pn**	**02 31 22.9**	**-0.4**
ESKT				*i* S	**Sn**	**02 31 45.7**	**+0.2**
ESKT	**Eskisehir**	**1.70**	**273**	*e*Pn	**Pn**	**02 31 23.5**	**+0.2**
SEYT	**Eskypehyr**	**1.70**	**273**	*i* P	**Pn**	**02 31 22.9**	**-0.4**
SEYT				*i* S	**Sn**	**02 31 45.7**	**+0.2**
MDUB	**Mudurnu**	**1.75**	**306**	*e*PN	**Pn**	**02 31 23.9**	**-0.1**
MDUB	**Mudurnu**	**1.75**	**306**	*e*Pn	**Pn**	**02 31 23.9**	**-0.1**
TOS	**Tosya**	**1.75**	**25**	*e*PN	**P

*ISCJB **18** 03:03:00.9±0.5, 49°.84N±0°.03×18°.49E±0°.03, h0km, Error ellipse: s-maj=4.8km s-min=2.7km az=14.1*
*CSEM **18** 03:03:01.8±0.2, 49°.82N×18°.53E, h1km, ML2.8/4, Error ellipse: s-maj=4.2km s-min=2.2km az=5.0*
*PRU **18** 03:03:02.4, 49°.83N×18°.52E, h0km*
*IPEC **18** 03:03:02.2±0.2, 49°.82N×18°.59E, h4km±4km, ML1.6/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*

ISC 18 03:03:02.1±0.5, 49°.83N±0°.03×18°.51E±0°.03, h0km, n27, σ0°95/42, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.23**	**273**	*e*PG	**Pg**	**03 03 08.1**	**+1.6**
OKC				*e*SG	**Sg**	**03 03 10.2**	**+0.7**
	39nm,0.5s						
OKC	**Ostrava-Krasne**	**0.23**	**273**	*e*Pg	**Pg**	**03 03 07.8**	**+1.3**
	baz=94						
OKC				Sg	**Sg**	**03 03 10.2**	**+0.7**
	39nm,0.5s						
MORC	**Moravsky Berou**	**0.63**	**266**	*e*Pg	**Pg**	**03 03 15.4**	**+1.3**
	baz=86						
MORC				*e*Sg	**Sg**	**03 03 23.7**	**+1.5**
	10nm,0.2s,baz=86						
OJC	**Ojcow**	**0.92**	**64**	*e*Pg	**Pg**	**03 03 19.4**	**-0.3**
OJC				*e*Sg	**Sg**	**03 03 31.3**	**-0.3**
OJC	**Ojcow**	**0.92**	**64**	*e*Pg	**Pg**	**03 03 19.0**	**-0.7**
	baz=243						
OJC				*e*Sg	**Sg**	**03 03 31.3**	**-0.3**
NIE	**Niedzica**	**1.24**	**108**	*e*Pg	**Pg**	**03 03 25.5**	**-0.4**
NIE				*e*Sg	**Sg**	**03 03 44.0**	**+2.0**
NIE	**Niedzica**	**1.24**	**108**	*e*Pg	**Pg**	**03 03 25.5**	**-0.4**
KOLL	**Kolacno**	**1.25**	**183**	*e*PG	**Pg**	**03 03 26.4**	**+0.4**
VRAC	**Vranov**	**1.35**	**248**	*e*Pg	**Pg**	**03 03 28.0**	**+0.1**
	baz=68						
VRAC				*e*Sg	**Sg**	**03 03 45.8**	**+0.4**
	8.5nm,0.2s,baz=68						
VYHS	**Vyhne**	**1.35**	**171**	*e*PG	**Pg**	**03 03 27.7**	**-0.2**
VYHS				*e*SG	**Sg**	**03 03 45.1**	**-0.3**
VYHS	**Vyhne**	**1.35**	**171**	*e*Pg	**Pg**	**03 03 27.7**	**-0.2**
VYHS				*e*Sg	**Sg**	**03 03 45.1**	**-0.3**
DPC	**Dobruska-Polom**	**1.50**	**291**	*e*PG	**Pg**	**03 03 30.8**	**0.0**
DPC				*e*SG	**Sg**	**03 03 49.8**	**-0.5**
	9.9nm,0.5s						
DPC	**Dobruska-Polom**	**1.50**	**291**	*e*Pg	**Pg**	**03 03 30.5**	**-0.3**
	baz=109						
DPC				*e*Sg	**Sg**	**03 03 50.7**	**+0.4**
	baz=109						
KRUC	**Moravsky**	**1.58**	**242**	*e*Pg	**Pg**	**03 03 31.6**	**-0.7**
	baz=61						
KRUC				*e*Sg	**Sg**	**03 03 53.0**	**+0.3**
	7.5nm,0.2s,baz=61						
UPC	**Upice**	**1.74**	**294**	*e*SG	**Sg**	**03 03 57.9**	**-0.1**
UPC	**Upice**	**1.74**	**294**	Sg	**Sg**	**03 03 57.9**	**-0.1**
KSP	**Ksiaz**	**1.75**	**306**	*e*Pg	**Pg**	**03 03 36.7**	**+1.2**
KSP				*e*Sg	**Sg**	**03 03 58.8**	**+0.7**
KECS	**Kecovo**	**1.87**	**135**	*e*PN	**Pn**	**03 03 34.3**	**-1.0**
KECS				*e*SG	**Sg**	**03 03 58.5**	**-3.6**
KECS	**Kecovo**	**1.87**	**135**	*e*Pn	**Pn**	**03 03 34.4**	**-0.9**
KECS				*e*Sg	**Sg**	**03 03 58.5**	**-3.6**
PRU	**Pruhonice**	**2.57**	**275**	*e*SG	**Sg**	**03 04 23.0**	**-1.5**
PRU	**Pruhonice**	**2.57**	**275**	Sg	**Sg**	**03 04 23.0**	**-1.5**
PVCC	**Panska Ves**	**2.63**	**287**	*e*SG	**Sg**	**03 04 26.0**	**-0.4**
	7.3nm,0.2s						
PVCC	**Panska Ves**	**2.63**	**287**	Sg	**Sg**	**03 04 26.0**	**-0.4**
	7.3nm,0.2s						
BRG	**Berggiesshubel**	**3.11**	**291**	SG	**Sg**	**03 04 41.3**	**-0.5**
	2.3nm,0.5s						
KHC	**Kasperske Hory**	**3.29**	**260**	*e*SG	**Sg**	**03 04 46.0**	**-1.7**
KHC	**Kasperske Hory**	**3.29**	**260**	Sg	**Sg**	**03 04 46.0**	**-1.7**
CLL	**Collm**	**3.81**	**295**	*e*Sg	**Sg**	**03 05 03.0**	**-1.4**

*BJI **18** 03:03:28.6, 0°.60N×122°.09E, h35km, mB4.9/14, mb4.7/22, Ms4.6/10, Ms7 4.3/12*
*ISCJB **18** 03:03:31.2±0.6, 1°.43N±0°.03×122°.31E±0°.04, h34km±6km, mb4.5/31, MS3.9/7, Error ellipse: s-maj=6.9km s-min=5.1km az=162.8*
*DJA **18** 03:03:31.8±1.6, 1°N±4°×12°2E±°, h10km, M4.9/1, mb5.0/21, mB5.3/15, MLv5.0/14, Mw(mB)4.8/15*
*NEIC **18** 03:03:33.0±0.4, 1°.32N×122°.23E, h35km, mb4.6/15, Error ellipse: s-maj=12.7km s-min=6.8km az=70.0*
*IDC **18** 03:03:32.6±0.7, 1°.28N×122°.25E, h36km±5km, mb4.1/11, mb1 4.3/14, mb1mx4.1/25, mbtmp4.3/14, ML5.1/2, MS3.6/7, Ms1 3.7/7, ms1mx3.2/45, Error ellipse: s-maj=29.6km s-min=11.3km az=72.0*

ISC 18 03:03:33.7±0.5, 1°.40N±0°.03×122°.29E±0°.04, h38km±6km, h37km±2.1km; pP-P, n101, σ1°37/96, mb4.5/31, MS3.9/7, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.98**	**201**	P	**Pn**	**03 03 47.8**	**-3.2**
GTOI	**Gorontalo**	**1.04**	**137**	P	**Pn**	**03 03 47.5**	**-4.3**
KMSI	**Cibinong**	**1.87**	**116**	P	**Pn**	**03 04 04.9**	**+1.6**
LUWI	**Luwuk**	**2.47**	**169**	P	**Pn**	**03 04 12.6**	**+1.1**
MNI	**Manado**	**2.54**	**89**	P	**Pn**	**03 04 11.0**	**-1.5**
TTSI	**Tana Toraja**	**5.06**	**209**	P	**Pn**	**03 04 47.4**	**+0.3**
	2.3nm6μm528nm,0.7s						
KDI	**Kendari**	**5.33**	**177**	P	**Pn**	**03 04 51.3**	**+0.5**
	0.6nm2μm212nm,0.7s						
MYLDM	**Lahad Datu**	**5.33**	**315**	P	**Pn**	**03 04 51.9**	**+1.0**
	0.8nm4μm131nm,0.9s						
LBMI	**Labuha**	**5.58**	**111**	P	**Pn**	**03 04 58.9**	**+4.6**
SPSI	**Sidrap Palu**	**5.89**	**205**	P	**Pn**	**03 04 59.1**	**+0.5**
	0.8nm2μm219nm,0.7s						
MJSI	**Majene**	**5.93**	**214**	P	**Pn**	**03 04 59.4**	**+0.4**
	1.1nm4μm242nm,0.9s						
CTBH	**Cotabato--PC H**	**6.10**	**19**	⇑*i*P	**Pn**	**03 04 58.3**	**-3.2**
BNSI	**Bone**	**6.16**	**201**	P	**Pn**	**03 05 03.9**	**+1.7**
	1.2nm3μm402nm,0.8s						
IPIL	**Ipil**	**6.35**	**2**	*e*P	**Pn**	**03 05 04.1**	**-0.8**
IPIL				*e*S	Px	03 05 13.2	
PAGZ	**Pagadian**	**6.50**	**10**	*e*P	**Pn**	**03 05 04.5**	**-2.3**
PAGZ				*e*S	Px	03 05 12.6	
DAV	**Davao City (W)**	**6.52**	**30**	Pn	**Pn**	**03 05 07.5**	**+0.4**
	112nm,0.3s,baz=212,slow=5.2,SNR=4.3						
DAV				LR	LR	03 08 10.2	
	comp=Z,552nm,18.6s,baz=178,slow=42						
DAV	**Davao City (W)**	**6.52**	**30**	Pn	**Pn**	**03 05 07.5**	**+0.4**
NLAI	**Namlea**	**6.66**	**134**	P	**Pn**	**03 05 09.2**	**+0.2**
	0.8nm4μm137nm,0.6s						
BBSI	**Bau Bau**	**6.85**	**178**	P	**Pn**	**03 05 14.4**	**+2.8**
	0.5nm2μm191nm,0.9s						
KAPI	**Kappang**	**6.86**	**202**	Pn	**Pn**	**03 05 10.9**	**-0.9**
	8.3nm,0.3s,baz=346,slow=5.8,SNR=14						
KAPI				Sn	**Sn**	**03 06 33.1**	**+4.4**
	1.3nm,0.3s,baz=0.0,slow=20,SNR=2.0						
KAPI				LR	LR	03 08 18.0	
	comp=Z,667nm,19.7s,baz=38,slow=42						
KAPI	**Kappang**	**6.86**	**202**	*e*Pn	**Pn**	**03 05 10.4**	**-1.4**
KAPI				*e*S	**Sn**	**03 06 42.4**	**+14**
KAPI	**Kappang**	**6.86**	**202**	P	**Pn**	**03 05 10.6**	**-1.2**
	0.3nm929nm92nm,0.9s						
BKSI	**Bulukumba**	**7.02**	**198**	P	**Pn**	**03 05 15.2**	**+1.2**
	0.3nm755nm90nm,0.7s						
KKM	**Kota Kinabalu**	**7.62**	**307**	*e*Pn	**Pn**	**03 05 21.8**	**-0.5**
KKM				*e*S	**Sn**	**03 06 46.3**	**-1.2**
KKM	**Kota Kinabalu**	**7.62**	**307**	P	**Pn**	**03 05 22.3**	**0.0**
	47nm,0.7s						
KBKI	**Kotabaru**	**7.70**	**233**	P	**Pn**	**03 05 21.1**	**-2.3**
	0.4nm2μm131nm,0.7s						
CISI	**Cisompet, Garu**	**16.96**	**238**	P	**Pn**	**03 07 30.1**	**+1.8**
CGJI	**Cibinong**	**18.38**	**244**	P	**Pn**	**03 07 45.3**	**-0.5**
	1μm56nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.66**	**171**	P	**Pn**	**03 07 57.1**	**-4.0**
	1.7nm,0.3s,baz=2.0,slow=8.7,SNR=33						
FITZ				LR	LR	03 15 34.7	
	comp=Z,126nm,21.9s,baz=116,slow=37						
FITZ	**Fitzroy Crossi**	**19.66**	**171**	*e*P	**Pn**	**03 07 57.4**	**-3.7**
FITZ	**Fitzroy Crossi**	**19.66**	**171**	*e*P	**Pn**	**03 07 57.4**	**-3.7**
	4.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.66**	**171**	P	**Pn**	**03 07 57.3**	**-3.8**
KSI	**Kapahiang**	**20.32**	**256**	P	**P**	**03 08 07.0**	**+0.2**
	142nm,0.8s						
IPM	**Ipoh**	**21.46**	**279**	*e*P	**P**	**03 08 18.8**	**-0.3**
	25nm,0.9s,mb4.5						
IPM	**Ipoh**	**21.46**	**279**	P	**P**	**03 08 18.7**	**-0.4**
	35nm,1.1s,mb4.6						
KULM	**Kulim**	**21.95**	**281**	*e*P	**P**	**03 08 23.9**	**-0.4**
	30nm,1.2s,mb4.6						
KULM	**Kulim**	**21.95**	**281**	P	**P**	**03 08 23.9**	**-0.4**
	19nm,1.4s,mb4.3						
PPI	**Padang Panjang**	**21.97**	**265**	P	**P**	**03 08 23.7**	**-0.9**
	35nm,1.3s,mb4.6						
MBWA	**Marble Bar**	**22.56**	**186**	*e*P	**P**	**03 08 27.8**	**-2.9**
	3.1nm,0.5s,mb4.0						
MNSI	**Mandailing Nat**	**22.72**	**269**	P	**P**	**03 08 32.4**	**-0.1**
	6μm42nm,0.7s,mb5.0						
PSI	**Prapat**	**23.40**	**274**	P	**P**	**03 08 38.0**	**-1.6**
	530nm33nm,1.5s,mb4.5						
WRAB	**Tennant Creek**	**24.27**	**151**	*e*P	**P**	**03 08 47.6**	**+0.1**
	35nm,1.4s,mb4.6						
WRAB	**Tennant Creek**	**24.27**	**151**	P	**P**	**03 08 48.1**	**+0.6**
WRA	**Warramunga Arr**	**24.28**	**151**	P	**P**	**03 08 45.3**	**-2.3**
	1.2nm,0.4s,mb3.7,baz=326,slow=10,SNR=51						
WRA	**Warramunga Arr**	**24.28**	**151**	P	**P**	**03 08 45.3**	**-2.3**
WB2	**Warramunga Arr**	**24.28**	**151**	*e*P	**P**	**03 08 47.6**	**0.0**
GUMO	**Guam**	**25.41**	**60**	LR	LR	03 17 23.3	
	comp=Z,135nm,18.4s,MS3.5,baz=249,slow=33						
COEN	**Coen**	**25.71**	**127**	*e*P	**P**	**03 09 00.5**	**-0.2**
AS31	**Alice Springs**	**27.35**	**156**	*e*P	**P**	**03 09 16.6**	**+1.2**
ASAR	**Alice Springs**	**27.35**	**156**	P	**P**	**03 09 15.1**	**-0.3**
	2.0nm,0.5s,mb3.9,baz=342,slow=13,SNR=23						
ASAR				PcP	PcP	03 12 32.6	-1.6
	0.4nm,0.4s,baz=345,slow=2.6,SNR=4.0						
ASAR	**Alice Springs**	**27.35**	**156**	P	**P**	**03 09 15.1**	**-0.3**
ASAR				PcP	PcP	03 12 32.6	-1.6
MEEK	**Meekatharra**	**28.10**	**187**	*e*P	**P**	**03 09 18.3**	**-3.7**
CMAR	**Chiang Mai Arr**	**28.50**	**308**	LR	LR	03 21 20.8	
	comp=Z,92nm,18.9s,MS3.4,baz=155,slow=37						
GYA	**Guiyang**	**29.10**	**330**	*e*P	**P**	**03 09 33.3**	**+2.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
KMI	**Kunming**	**30.21**	**323**	P	**P**	**03 09 44.5**	**+3.7**
KMI				pP	pP	03 09 52.1	+0.7
KMI				sP	sP	03 09 55.8	-0.1
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
KMI	**Kunming**	**30.21**	**323**	P	**P**	**03 09 44.5**	**+3.7**
	comp=Z,9.0nm,0.6s,mb4.7						
KMI				pP	pP	03 09 52.1	+0.7
KMI				sP	sP	03 09 55.8	-0.1
FORT	**Forrest**	**32.47**	**171**	*e*P	**P**	**03 09 56.7**	**-3.9**
FORT	**Forrest**	**32.47**	**171**	*e*P	**P**	**03 10 01.8**	**+1.2**
	comp=Z,22nm,0.6s,mb5.2						
KLBR	**Kellerberrin**	**33.09**	**187**	*e*P	**P**	**03 10 02.2**	**-3.8**
	comp=Z,11nm,0.9s,mb4.8						
CD2	**Chengdu**	**34.20**	**331**	*e*P	**P**	**03 10 18.8**	**+3.0**
CD2				pP	pP	03 10 28.5	+2.1
CD2				sP	sP	03 10 32.4	+1.5
CD2				PP	PP	03 11 35.0	+1.3
CD2				S	**S**	**03 15 43.6**	**+3.7**
CD2				sS	sS	03 15 59.6	+2.0
CD2				SS	SS	03 17 54.9	-14
CD2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
CD2				pmax	pmax		
	comp=Z,100nm,4.6s						
CD2				LR	LR		
	comp=N,200nm,13.2s						
CD2				LR	LR		
	comp=Z,180nm,14.4s,MS3.9						
NWAO	**Narrogin (SRO)**	**34.47**	**188**	P	**P**	**03 10 15.1**	**-3.0**
	comp=Z,3.4nm,0.5s,mb4.6,baz=22,slow=11,SNR=3.7						
NWAO	**Narrogin (SRO)**	**34.47**	**188**	P	**P**	**03 10 15.1**	**-3.0**
BBOO	**Buckleboo**	**36.43**	**160**	*e*P	**P**	**03 10 36.3**	**+1.5**
STKA	**Stephens Creek**	**37.82**	**153**	P	**P**	**03 10 44.4**	**-2.2**
	comp=Z,4.7nm,0.5s,mb4.5,baz=326,slow=8.8,SNR=14						
STKA	**Stephens Creek**	**37.82**	**153**	*e*P	**P**	**03 10 45.9**	**-0.8**
STKA	**Stephens Creek**	**37.82**	**153**	*e*P	**P**	**03 10 47.7**	**+1.0**
	comp=Z,10nm,2.0s,mb4.2						
MJAR	**Matsushiro Arr**	**37.94**	**21**	P	**P**	**03 10 47.3**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.7,baz=196,slow=9.7,SNR=3.2						
MJAR	**Matsushiro Arr**	**37.94**	**21**	P	**P**	**03 10 47.3**	**-0.3**
LZH	**Lanzhou**	**38.52**	**336**	*e*P	**P**	**03 10 56.3**	**+3.7**
LZH				pP	pP	03 11 06.0	+2.7
LZH				sP	sP	03 11 10.3	+2.5
LZH				PP	PP	03 12 29.8	+8.5
LZH				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.7						
LZH				pmax	pmax		
	comp=Z,61nm,5.2s						
LZH				LR	LR		
	comp=N,340nm,13.0s,MS4.5						
LZH				LR	LR		
	comp=E,300nm,12.7s,MS4.5						
LZH				LR	LR		
	comp=Z,400nm,17.0s,MS4.3						
LZH	**Lanzhou**	**38.52**	**336**	*e*P	**P**	**03 10 56.2**	**+3.6**
	comp=Z,20nm,1.3s,mb4.7						
LZH				pP	pP	03 11 06.0	+2.7
LZH				sP	sP	03 11 10.2	+2.4
LZH				PP	PP	03 12 29.7	+8.4
LZH				LR	LR		
	comp=Z,400nm,17.0s,MS4.3						
CMSA	**Cobar Meteorol**	**39.57**	**148**	*e*P	**P**	**03 11 00.4**	**-1.0**
HHC	**Hu-ho-hao-te**	**40.45**	**347**	*e*P	**P**	**03 11 11.3**	**+2.7**
HHC				sP	sP	03 11 25.8	+1.9
HHC				PP	PP	03 12 48.8	+6.5
HHC				PcP	PcP	03 13 13.3	+2.4
HHC				ScP	ScP	03 16 58.8	+1.2
HHC				PcS	PcS	03 17 02.8	+1.4
HHC				S	**S**	**03 17 19.3**	**+4.6**
HHC				sS	sS	03 17 35.8	+3.3
HHC				ScS	ScS	03 21 11.9	+0.3
HHC				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
HHC				pmax	pmax		
	comp=Z,95nm,6.1s						
HHC				LR	LR		
	comp=N,210nm,14.9s,MS4.2						
HHC				LR	LR		
	comp=E,180nm,14.2s,MS4.2						
HHC				LR	LR		
	comp=Z,140nm,14.7s,MS4.0						
CN2	**Changchun**	**42.31**	**3**	*e*P	**P**	**03 11 28.1**	**+4.3**
GTA	**Gaotai**	**43.03**	**334**	*e*P	**P**	**03 11 33.0**	**+3.3**
GTA				pP	pP	03 11 43.6	+3.0
GTA				sP	sP	03 11 47.4	+2.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**48.13**	**346**	*e*P	**P**	**03 12 11.9**	**+2.0**
	comp=Z,2.7nm,0.7s,mb4.4						
SONM	**Songino Array**	**48.26**	**346**	P	**P**	**03 12 11.6**	**+0.7**
	comp=Z,1.7nm,0.5s,mb4.3,baz=161,slow=9.5,SNR=14						
SONM	**Songino Array**	**48.26**	**346**	P	**P**	**03 12 11.6**	**+0.7**
WMQ	**Urumqi**	**52.24**	**329**	*e*P	**P**	**03 12 43.5**	**+2.4**
MK31	**Makanchi Array**	**57.06**	**328**	*e*P	**P**	**03 13 16.2**	**+0.2**
MKAR	**Makanchi Array**	**57.06**	**328**	P	**P**	**03 13 16.2**	**+0.2**
	comp=Z,2.5nm,0.5s,mb4.5,baz=127,slow=8.4,SNR=53						
MKAR	**Makanchi Array**	**57.06**	**328**	*e*P	**P**	**03 13 16.4**	**+0.3**
KBL	**Kabul**	**59.51**	**310**	*e*P	**P**	**03 13 33.5**	**+0.1**
	comp=Z,7.9nm,0.7s,mb4.8						
KBL				*e*pP	pP	03 13 44.5	-0.1
KBL				*e*sP	sP	03 13 48.9	-0.1
ZALV	**Zalesovo Beam**	**60.76**	**336**	P	**P**	**03 13 40.7**	**-0.8**
	comp=Z,1.0nm,0.6s,mb4.1,baz=116,slow=6.8,SNR=5.9						
ZALV				pP	pP	03 13 52.1	-0.7
	comp=Z,2.2nm,0.7s,baz=116,slow=6.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**60.76**	**336**	P	**P**	**03 13 40.7**	**-0.8**
ZALV				pP	pP	03 13 52.1	-0.7
KURK	**Kurchatov**	**61.42**	**330**	P	**P**	**03 13 45.7**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.6,baz=130,slow=6.6,SNR=31						
KURK				pP	pP	03 13 56.9	-0.5
	comp=Z,6.9nm,0.8s,baz=117,slow=6.2,SNR=13						
KURK	**Kurchatov**	**61.42**	**330**	*e*P	**P**	**03 13 45.8**	**-0.3**
	comp=Z,12nm,0.9s,mb5.0						
KURK				pP	pP	03 13 56.9	-0.5
KURK				*e*pP	pP	03 13 57.5	+0.1
URZ	**Urewera**	**63.99**	**134**	P	**P**	**03 14 02.3**	**-1.2**
	comp=Z,5.3nm,0.5s,mb4.8,baz=262,slow=7.1,SNR=5.4						
URZ	**Urewera**	**63.99**	**134**	P	**P**	**03 14 02.3**	**-1.2**
BVAR	**Borovoye Array**	**66.93**	**329**	P	**P**	**03 14 21.7**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.2,baz=126,slow=9.1,SNR=10						
BVAR				pP	pP	03 14 32.4	-1.2
	comp=Z,3.3nm,0.9s,baz=138,slow=9.1,SNR=9.2						
BVAR	**Borovoye Array**	**66.93**	**329**	P	**P**	**03 14 21.7**	**-0.4**
BVAR				pP	pP	03 14 32.4	-1.2
BRVK	**Borovoye**	**67.00**	**329**	*e*P	**P**	**03 14 22.7**	**0.0**
	comp=Z,5.5nm,0.9s,mb4.6						
ABKAR	**Akbulak array**	**71.20**	**322**	*e*P	**P**	**03 14 48.1**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.5						
ABKAR				*e*	pP	03 14 59.6	-0.6
VNDA	**Vanda**	**81.72**	**172**	*e*P	**P**	**03 15 45.9**	**-2.0**
	comp=Z,2.2nm,0.6s,mb4.3						
ASF	**Jabal al Asfar**	**85.36**	**302**	LR	LR	03 55 57.4	
	comp=Z,46nm,20.6s,MS3.9,baz=270,slow=37						
LBTB	**Lobatse**	**96.66**	**245**	LR	LR	04 00 21.9	
	comp=Z,31nm,19.5s,MS3.8,baz=302,slow=35						
TORD	**Torodi Ar. Bea**	**119.36**	**286**	PKP	PKPdf	03 22 18.0	-2.1
	comp=Z,0.7nm,0.6s,baz=80,slow=1.6,SNR=9.8						
TORD	**Torodi Ar. Bea**	**119.36**	**286**	PKP	PKPdf	03 22 18.0	-2.1
TXAR	**Lajitas Array**	**126.51**	**51**	PKP	PKPdf	03 22 34.7	+1.2
	comp=Z,0.1nm,0.5s,baz=198,slow=5.5,SNR=2.8						
TXAR	**Lajitas Array**	**126.51**	**51**	PKP	PKPdf	03 22 34.7	+1.2
DBIC	**Dimbokro**	**126.65**	**279**	PKP	PKPdf	03 22 31.7	-2.5
	comp=Z,1.8nm,0.8s,baz=124,slow=3.6,SNR=2.6						
DBIC	**Dimbokro**	**126.65**	**279**	PKP	PKPdf	03 22 31.7	-2.5

*TRN **18** 03:06:30.5, 18°.82N×65°.30W, h22km, MD3.3(RSPR)*
*NEIC **18** 03:06:31.8, 18°.96N×65°.24W, h8km, MD3.3(RSPR), After RSPR.*

RSPR 18 03:06:31.8, 18°.96N×65°.24W, h8km±20km, 8C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.66**	**155**	⇑*e*P	Pg	03 06 43.8	-0.7
STVI	**Saint Thomas**	**0.66**	**155**	⇑*e*P	Pg	03 06 43.8	-0.7
STVI				*e*S	Sg	03 06 53.3	+0.1
STVI	**Saint Thomas**	**0.66**	**155**	⇑*e*P	Pg	03 06 43.8	-0.7
STVI				*e*S	Sg	03 06 53.3	+0.1
CBYP	**Canovanas**	**0.90**	**221**	*e*S	Sg	03 06 59.4	-1.4
CBYP	**Canovanas**	**0.90**	**221**	*e*Pg	Pg	03 06 47.4	-1.7
CBYP				*e*S	Sg	03 07 00.1	-0.6
CBYP	**Canovanas**	**0.90**	**221**	*e*S	Sg	03 06 59.4	-1.4
MTP	**Monte Pirata**	**0.90**	**199**	⇑*e*P	Pg	03 06 47.9	-1.3
MTP	**Monte Pirata**	**0.90**	**199**	*e*Pg	Pg	03 06 47.7	-1.5
MTP				*e*S	Sg	03 06 59.9	-1.1
MTP	**Monte Pirata**	**0.90**	**199**	⇑*e*P	Pg	03 06 47.9	-1.3
MTP				*e*S	Sg	03 07 00.2	-0.7
HUMP	**Col San Antoni**	**0.99**	**216**	⇑*e*P	Pg	03 06 48.7	-2.2
HUMP	**Col San Antoni**	**0.99**	**216**	⇑*e*P	Pg	03 06 48.7	-2.2
HUMP				*e*S	Sg	03 07 01.7	-2.1
HUMP	**Col San Antoni**	**0.99**	**216**	⇑*e*P	Pg	03 06 48.7	-2.2
HUMP				*e*S	Sg	03 07 01.7	-2.1

*SZGRF **18** 03:19:23.6, 20°.48S×169°.31E, h33km, Vanuatu Islands*
*ISCJB **18** 03:20:01.4±0.8, 16°.99S±0°.04×168°.61E±0°.04, h237km±8km, mb5.0/93, Error ellipse: s-maj=7.0km s-min=5.1km az=138.8*
*IDC **18** 03:20:01.8±0.7, 17°.03S×168°.60E, h226km±5km, mb4.6/26, mb1 4.6/28, mb1mx4.6/29, mbtmp4.6/28, Error ellipse: s-maj=9.9km s-min=9.5km az=110.0*
*NEIC **18** 03:20:02.6±0.8, 17°.00S×168°.55E, h230km±7km, mb5.2/46, Error ellipse: s-maj=7.7km s-min=7.3km az=187.0*
*MOS **18** 03:20:03.7±1.4, 16°.99S×168°.55E, h257km, mb5.1/19, Error ellipse: s-maj=10.2km s-min=8.6km az=32.1*
*BJI **18** 03:20:04.2, 16°.39S×168°.69E, h243km, mB4.9/27, mb5.1/52*
*GCMT **18** 03:20:05.3±0.3, 16°.96S×168°.42E, h243km±2km, MW5.1, Moment Tensor Solution. s37,c45; s69,c94; Moment tensor: Scale 10^{16}Nm; M_{rr}2.26±.18; $M_{\theta\theta}$-3.58±.18; $M_{\phi\phi}$1.32±.17; $M_{r\theta}$-3.37±.20; $M_{r\phi}$0.17±.16; $M_{\theta r}$-3.07±.17; Best double couple: $M_0$5.50000×10^{16} NP1:ϕ_s122.00000°, δ29.00000°, λ152.00000°. NP2:ϕ_s237.00000°, δ77.00000°, λ64.00000°. Principal axes: T 5.7200, Plg51.0000°, Azm118.0000°; N -0.3800, Plg25.0000°, Azm243.0000°; P -5.3400, Plg27.0000°, Azm348.0000°; Data Used: II IU IC G CN.*
*LDG **18** 03:20:05.4±0.1, 17°.15S×167°.69E, h250km, Mb4.9/4 Error ellipse: s-maj=14.8km s-min=4.8km az=93.0*
*DJA **18** 03:20:08, 17°.06S×168°.26E, h270km, mb5.1/16*

ISC 18 03:20:02.6±0.8, 17°.02S±0°.03×168°.64E±0°.04, h236km±7km, h250km±4.6km; pP-P, n443, σ0°94/214, mb5.0/90, 1C-45D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.43**	**202**	*e*Pn	**Pn**	**03 21 22.5**	**-0.9**
	40nm,0.2s						
DZM				*e*Sn	**S**	**03 22 26.7**	**-1.0**
	45nm,0.2s						
DZM	**Mont Dzumac**	**5.43**	**202**	*e*P	**Pn**	**03 21 20.6**	**-2.8**
NOUC	**Port Laguerre**	**5.51**	**203**	*e*P	**Pn**	**03 21 22.6**	**-1.8**
MSVF	**Nonsavu**	**9.02**	**96**	*e*Pn	**Pn**	**03 22 11.7**	**+2.8**
**MSV

comp=Z,75nm,0.6s,mb5.5
THZ Tophouse 24.93 172 PN **P 03 25 03.9 -0.4**
CNB Canberra Magne 25.04 220 *e*P **P 03 25 05.7 +0.3**
KHZ Kahutara 25.66 172 *e*P **P 03 25 09.7 -1.2**
comp=Z,48nm,0.5s,mb5.4
RPZ Rata Peaks 26.69 176 P **P 03 25 20.1 +0.1**
comp=Z,26nm,0.6s,mb5.1,baz=262,slow=1.7,SNR=16
RPZ Rata Peaks 26.69 176 P **P 03 25 20.1 +0.1**
STKA Stephens Creek 28.61 234 P **P 03 25 37.9 +0.6**
comp=Z,19nm,0.9s,mb4.7,baz=67,slow=7.5,SNR=21
STKA pP pP 03 26 25.6 +1.5
comp=Z,8.2nm,0.9s,baz=63,slow=9.1,SNR=2.2
STKA ScP ScP 03 32 01.8 +0.9
comp=Z,4.1nm,0.7s,baz=37,slow=3.6,SNR=5.9
STKA Stephens Creek 28.61 234 *e*P **P 03 25 37.7 +0.4**
STKA Stephens Creek 28.61 234 *e*P **P 03 25 37.9 +0.6**
comp=Z,3.7nm,1.0s,mb4.0
STKA pP pP 03 26 25.6 +1.5
STKA *e*pP pP 03 26 27.1 +3.0
STKA ScP ScP 03 32 01.8 +0.9
STKA Stephens Creek 28.61 234 *e*P **P 03 25 37.9 +0.6**
STKA *e**PP pP 03 26 27.1 +3.0
STKA pmax pmax
comp=Z,4.0nm,1.0s
TOO Toolangi 28.88 220 *e*P **P 03 25 39.8 +0.2**
TAU Tasmania Unive 31.55 211 *e*P **P 03 26 03.6 +0.7**
comp=Z,29nm,1.1s,mb4.7
TAU Tasmania Unive 31.55 211 *e*P **P 03 26 03.6 +0.7**
TAU pmax pmax
comp=Z,29nm,1.1s,mb4.7
WB2 Warramunga Arr 32.62 259 *e*P **P 03 26 11.0 -1.5**
WB2 *e*PcP PcP 03 28 55.8 +2.9
WRAB Tennant Creek 32.62 260 *e*P **P 03 26 10.8 -1.8**
comp=Z,52nm,1.5s,mb4.8
WRAB *e*PcP PcP 03 28 55.6 +2.7
WRAB Tennant Creek 32.62 260 *e*P **P 03 26 10.8 -1.7**
WRAB *e* 03 28 55.6
WRAB pmax pmax
comp=Z,52nm,1.5s,mb4.8
WRAB Tennant Creek 32.62 260 P **P 03 26 11.2 -1.3**
comp=Z,43nm,0.8s,mb5.0
WRAB Tennant Creek 32.62 260 P **P 03 26 11.7 -0.8**
comp=Z,117nm,0.9s,mb5.4,SNR=6.5
WRA Warramunga Arr 32.63 259 P **P 03 26 11.2 -1.5**
comp=Z,10nm,0.7s,mb4.4,baz=90,slow=8.6,SNR=41
WRA ScP ScP 03 32 15.4 +1.0
comp=Z,6.4nm,0.7s,baz=88,slow=3.6,SNR=16
WRA PKiKP PKiKP 03 36 17.8 -1.8
comp=Z,0.4nm,0.8s,baz=6.9,slow=0.3,SNR=5.0
WRA Warramunga Arr 32.63 259 P **P 03 26 11.2 -1.5**
WRA ScP ScP 03 32 15.4 +1.0
WRA PKiKP PKiKP 03 36 17.8 -1.8
WRA Warramunga Arr 32.63 259 P **P 03 26 11.2 -1.4**
SMPI Sarmi 32.99 294 P **P 03 26 15.7 -0.2**
comp=Z,51nm,1.2s,mb4.9
AS31 Alice Springs 33.17 253 *e*P **P 03 26 16.6 -0.7**
AS31 *e*ScP ScP 03 32 17.4 +1.1
ASAR Alice Springs 33.17 253 P **P 03 26 16.6 -0.8**
comp=Z,81nm,0.6s,mb5.4,baz=78,slow=9.2,SNR=739
ASAR pP pP 03 27 01.1 -3.7
comp=Z,3.7nm,0.5s,baz=80,slow=9.6,SNR=0.8
ASAR ScP ScP 03 32 17.1 +0.8
comp=Z,10.0nm,0.6s,baz=96,slow=3.7,SNR=26
ASAR Alice Springs 33.17 253 P **P 03 26 16.6 -0.8**
ASAR pP pP 03 27 01.1 -3.7
ASAR ScP ScP 03 32 17.1 +0.8
ASAR Alice Springs 33.17 253 P **P 03 26 16.6 -0.7**
BBOO Buckleboo 33.30 236 *e*P **P 03 26 17.9 -0.4**
comp=Z,589nm,1.1s,mb6.0
TLE Tual 36.90 284 P **P 03 26 49.5 +0.3**
comp=Z,4μmcomp=Z,441nm,0.9s,mb6.0
FAKI Fak Fak 38.38 287 P **P 03 27 00.7 -0.9**
comp=Z,140nm,0.9s,mb5.5
GUMO Guam 38.42 321 P **P 03 27 01.0 -0.8**
comp=Z,62nm,0.6s,mb5.3,baz=163,slow=17,SNR=3.9
GUMO Guam 38.42 321 P **P 03 27 01.0 -0.8**
GUMO Guam 38.42 321 P **P 03 27 01.0 -0.8**
FORT Forrest 39.33 242 *e*P **P 03 27 08.7 -0.5**
FORT Forrest 39.33 242 *e*P **P 03 27 08.9 -0.4**
comp=Z,26nm,0.8s,mb4.8
PAE Paea 39.83 97 *e*P **P 03 27 11.2 -2.4**
comp=Z,5.1nm,0.9s,mb4.0
PPT2 Papeete2 39.84 97 *e*P **P 03 27 12.8 -0.8**
comp=Z,40nm,1.0s,mb4.8
PPT2 *e*LR LR 03 38 34.6
comp=Z,104nm,25.5s
TIAR Tiarei 40.06 97 *e*P **P 03 27 13.6 -1.9**
comp=Z,28nm,0.7s,mb4.8
FITZ Fitzroy Crossi 40.94 262 P **P 03 27 22.6 0.0**
comp=Z,88nm,0.7s,mb5.3,baz=98,slow=7.5,SNR=29
FITZ Fitzroy Crossi 40.94 262 P **P 03 27 22.6 0.0**
FITZ Fitzroy Crossi 40.94 262 P **P 03 27 22.9 +0.3**
comp=Z,121nm,0.8s,mb5.4
PMOR Pomariorio Ree 41.77 94 *e*P **P 03 27 28.9 -0.5**
comp=Z,68nm,1.0s,mb5.0
AAI Ambon 41.82 284 P **P 03 27 31.2 +1.4**
comp=Z,124nm,0.9s,mb5.3
NLAI Namlea 43.00 284 P **P 03 27 40.3 +1.0**
comp=Z,3μmcomp=Z,99nm,1.3s,mb5.1
MBWA Marble Bar 46.26 257 *e*P **P 03 28 04.6 -0.3**
MBWA Marble Bar 46.26 257 *e*P **P 03 28 04.7 -0.2**
comp=Z,34nm,1.0s,mb4.6
MBWA Marble Bar 46.26 257 P **P 03 28 04.8 -0.1**
comp=Z,41nm,0.8s,mb4.8
KDI Kendari 46.94 281 P **P 03 28 11.3 +1.0**
comp=Z,487nmcomp=Z,22nm,0.8s,mb4.5
MEEK Meekatharra 47.16 249 *e*P **P 03 28 11.6 -0.2**
LUWI Luwuk 47.83 284 P **P 03 28 17.1 0.0**
comp=Z,776nmcomp=Z,75nm,1.0s,mb5.0
GTOI Gorontalo 48.25 287 P **P 03 28 21.2 +0.8**
comp=Z,72nm,1.1s,mb4.9
KAPI Kappang 49.31 278 P **P 03 28 27.7 -0.7**
comp=Z,34nm,0.8s,mb4.8,baz=151,slow=5.3,SNR=5.9
KAPI Kappang 49.31 278 *e*P **P 03 28 27.6 -0.8**
comp=Z,54nm,0.9s,mb4.9
BMNI Bima 49.32 273 P **P 03 28 28.1 -0.3**
CBIJ Chichi jima 50.81 329 P **P 03 28 39.0 -0.4**
comp=Z,77nm,0.6s,mb5.3,baz=329,slow=20,SNR=5.0
CBIJ Chichi jima 50.81 329 P **P 03 28 39.0 -0.4**
RKT Rikitea 53.05 106 *e*P **P 03 28 54.9 -1.1**
comp=Z,32nm,1.0s,mb4.7
KKM Kota Kinabalu 56.64 289 *e*P **P 03 29 22.0 +0.1**
comp=Z,152nm,1.7s,mb5.3
UGM Wanagama 57.29 271 *e*P **P 03 29 25.9 -0.5**
comp=Z,84nm,0.8s,mb5.4
JOW Kunigami 58.61 317 P **P 03 29 35.9 +0.6**
comp=Z,17nm,0.6s,mb4.8,baz=159,slow=15,SNR=4.2
JOW Kunigami 58.61 317 P **P 03 29 35.9 +0.6**
KSM Kuching 60.35 282 *e*P **P 03 29 47.3 -0.1**
comp=Z,61nm,0.9s,mb5.2
MJAR Matsushiro Arr 60.53 332 P **P 03 29 47.4 -0.7**
comp=Z,15nm,0.9s,mb4.6,baz=171,slow=7.7,SNR=23
MJAR Matsushiro Arr 60.53 332 P **P 03 29 47.4 -0.7**
MJAR Matsushiro Arr 60.53 332 P **P 03 29 47.4 -0.7**
MAJO Matsushiro 60.53 332 *e*P **P 03 29 47.8 -0.4**
comp=Z,52nm,1.3s,mb5.0
MAJO Matsushiro 60.53 332 *e*P **P 03 29 47.8 -0.3**
MAJO pmax pmax
comp=Z,52nm,1.3s,mb5.0
MAT Matsushiro 60.53 332 P **P 03 29 47.5 -0.6**
VNDA Vanda 60.62 182 *e*P **P 03 29 48.1 -0.1**
comp=Z,88nm,1.9s,mb5.1
VNDA *e*PcP PcP 03 30 30.1 +0.1
VNDA Vanda 60.62 182 *e*P **P 03 29 48.1 -0.1**
VNDA *e* 03 30 30.1
VNDA pmax pmax
comp=Z,88nm,1.9s
SBA Scott Base 60.87 180 *e*P **P 03 29 50.9 +1.0**
comp=Z,53nm,0.9s,mb5.2
SBA *e*PcP PcP 03 30 32.3 +1.3
SBA Scott Base 60.87 180 *e*P **P 03 29 50.9 +1.1**
SBA *e* 03 30 32.3
SBA pmax pmax
comp=Z,53nm,0.9s,mb5.2
YULB Yu-li 61.26 310 *e*P **P 03 29 52.6 -0.7**
comp=Z,34nm,0.8s,mb5.0
NACB Ninganchiao 61.51 310 *e*P **P 03 29 54.7 -0.2**
comp=Z,448nm,1.7s,mb5.8
TPUB Ta-pu 61.70 309 *e*P **P 03 29 55.7 -0.6**
comp=Z,211nm,0.8s,mb5.8
SSLB Suanglung 61.75 310 *e*P **P 03 29 55.9 -0.7**
comp=Z,125nm,0.7s,mb5.7
YHNB Yeheng 61.97 311 *e*P **P 03 29 58.2 +0.2**
comp=Z,164nm,0.8s,mb5.7
TATO Taipei 62.07 311 *e*P **P 03 29 58.3 -0.3**
comp=Z,135nm,1.1s,mb5.5

QZH Quanzhou 64.17 309 ⇓*i*P **P 03 30 11.4 -1.0**
QZH pmax pmax
comp=Z,180nm,1.0s,mb5.7
YUK Yuzh-Kuril'sk 64.23 342 *i* P **P 03 30 08.5 -3.9**
YUK *i* PPP 03 34 13.4
YUK *i* S **S 03 38 21.5 -9.2**
YUK pmax pmax
comp=E,300nm,1.3s
YUK pmax pmax
comp=Z,369nm,1.3s,mb5.8
YUK pmax pmax
comp=N,417nm,1.0s
YUK pmax pmax
comp=Z,38nm,9.1s
ASAJ Asahikawa 65.33 340 P **P 03 30 20.6 +1.1**
comp=Z,66nm,0.8s,mb5.3,baz=213,slow=9.1,SNR=32
ASAJ Asahikawa 65.33 340 *e*P **P 03 30 20.4 +0.9**
comp=Z,29nm,0.9s,mb4.9
KSRS Korea Array 66.36 325 P **P 03 30 26.6 +0.4**
comp=Z,3.0nm,0.8s,mb4.0,baz=138,slow=8.1,SNR=5.1
KSAR Wonju Array Be 66.37 325 P **P 03 30 26.6 +0.3**
KSAR Wonju Array Be 66.37 325 P **P 03 30 26.7 +0.4**
YSS Yuzh-Sakhalins 67.81 341 *e*P **P 03 30 35.8 +0.7**
comp=Z,194nm,1.4s,mb5.5
YSS Yuzh-Sakhalins 67.81 341⇓*e*P **P 03 30 35.5 +0.4**
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.4
NJ2 Nanjing 68.22 316 *e*P **P 03 30 38.8 +0.8**
NJ2 pmax pmax
comp=Z,90nm,1.1s,mb5.3
VLA Vladivostok 68.70 332 ⇓*i*P **P 03 30 38.6 -2.1**
VLA *e* 03 31 01.3
VLA *e* 03 33 12.6
VLA *i* S S 03 39 19.9 -4.5
VLA pmax pmax
comp=Z,56nm,1.3s,mb5.0
IPM Ipoh 70.08 281 *e*P **P 03 30 49.8 -0.1**
comp=Z,34nm,0.8s,mb5.0
WHN Wuhan 70.44 312 P **P 03 30 52.0 +0.3**
WHN pmax pmax
comp=Z,270nm,1.5s,mb5.7
PETK Petropavlovsk- 70.47 353 P **P 03 30 51.5 +0.2**
comp=Z,20nm,0.7s,mb4.9,baz=149,slow=9.5,SNR=17
PETK Petropavlovsk- 70.47 353 P **P 03 30 51.5 +0.2**
PETK Petropavlovsk- 70.47 353 P **P 03 30 51.5 +0.2**
KULM Kulim 70.70 282 *e*P **P 03 30 53.4 -0.2**
comp=Z,26nm,0.9s,mb4.9
MDJ Mudanjiang 70.91 332 P **P 03 30 54.9 +0.8**
MDJ pmax pmax
comp=Z,55nm,1.0s,mb5.1
MDJ pmax pmax
comp=Z,60nm,4.0s
MDJ Mudanjiang 70.91 332 *e*P **P 03 30 54.9 +0.8**
comp=Z,55nm,1.0s,mb5.1
HABR Khabarovsk 71.74 337 *e*P **P 03 30 58.6 -0.4**
HABR *e* 03 31 15.2
HABR *e**PP pP 03 31 55.7 +1.7
HABR *SP sP 03 32 23.0 +3.8
HABR *e* 03 33 40.5
HABR PPP 03 35 26.0
HABR S S 03 39 58.1 -1.3
HABR *e* 03 40 39.2
HABR *e*SS SS 03 44 39.7 -1.3
HABR pmax pmax
comp=N,12nm,1.0s
HABR pmax pmax
comp=Z,44nm,1.0s,mb5.0
HABR pmax pmax
comp=E,19nm,0.9s
HABR MLR MLR
comp=Z,869nm,22.0s
CN2 Changchun 72.27 329 ⇓P **P 03 31 02.8 +0.5**
CN2 *e*pP pP 03 32 02.0 +4.7
CN2 *e*S S 03 40 04.8 -0.8
CN2 pmax pmax
comp=Z,70nm,0.7s,mb5.4
CN2 pmax pmax
comp=Z,200nm,3.0s
KLR Kul'dur 73.62 336 *e*P **P 03 31 06.8 -3.2**
KLR pmax pmax
comp=Z,85nm,1.6s,mb5.1
ENH Enshi 73.83 309 *e*P **P 03 31 11.6 -0.1**
comp=Z,15nm,0.5s,mb4.9
GYA Guiyang 74.09 305 P **P 03 31 13.8 +0.5**
GYA pP pP 03 32 15.0 +6.4
GYA PP PP 03 34 05.6 +3.2
GYA S S 03 40 25.3 -1.5
GYA SKS 03 40 52.0
GYA SS SS 03 45 19.8 +2.3
GYA pmax pmax
comp=Z,30nm,1.0s,mb4.9
GYA pmax pmax
comp=Z,150nm,5.6s
BJT Baijiatuau 74.85 321 *e*P **P 03 31 18.2 +0.8**
comp=Z,30nm,0.9s,mb4.9
BJT Baijiatuau 74.85 321 *e*P **P 03 31 18.2 +0.8**
BJT pmax pmax
comp=Z,30nm,0.9s
BJI Beijing 74.86 321 P **P 03 31 18.3 +0.9**
BJI pmax pmax
comp=Z,59nm,0.8s,mb5.3
XAN Xi'an 76.20 312 P **P 03 31 25.8 +0.7**
XAN pmax pmax
comp=Z,12nm,0.8s,mb4.6
KMI Kunming 76.62 302 P **P 03 31 28.9 +1.2**
KMI pmax pmax
comp=Z,62nm,0.9s,mb5.2
KMI Kunming 76.62 302 P **P 03 31 28.9 +1.2**
comp=Z,62nm,0.9s,mb5.2
KMI Kunming 76.62 302 P **P 03 31 28.9 +1.2**
KMI pmax pmax
comp=Z,62nm,0.9s,mb5.2
CMAR Chiang Mai Arr 77.08 294 P **P 03 31 31.8 +1.4**
comp=Z,26nm,0.8s,mb4.9,baz=128,slow=4.3,SNR=85
CMAR Chiang Mai Arr 77.08 294 P **P 03 31 31.8 +1.4**
CMAR Chiang Mai Arr 77.08 294 P **P 03 31 31.8 +1.4**
CHTO Chiang Mai 77.22 294 *e*P **P 03 31 31.4 +0.3**
comp=Z,36nm,0.8s,mb5.0
CHTO Chiang Mai 77.22 294 *e*P **P 03 31 31.4 +0.3**
CHTO pmax pmax
comp=Z,36nm,0.8s,mb5.0
HHC Hu-ho-hao-te 78.17 319 ⇓P **P 03 31 36.9 +1.0**
HHC PcP PcP 03 31 45.0 +0.5
HHC pP pP 03 32 38.8 +7.0
HHC sP sP 03 33 04.4 +7.6
HHC PP PP 03 34 38.8 +2.5
HHC S S 03 41 09.4 -1.2
HHC SKS 03 41 21.8
HHC ScS ScS 03 41 30.3 -3.5
HHC pmax pmax
comp=Z,32nm,1.2s,mb4.8
HHC pmax pmax
comp=Z,180nm,7.0s
CD2 Chengdu 78.44 307 ⇓*i*P **P 03 31 38.1 +0.5**
CD2 pP pP 03 32 38.5 +4.9
CD2 sP sP 03 33 05.3 +6.8
CD2 PP PP 03 34 41.0 +2.2
CD2 S S 03 41 11.0 -2.9
CD2 sS sS 03 42 56.4 +4.5
CD2 SS SS 03 46 22.9 -0.1
CD2 pmax pmax
comp=Z,30nm,1.0s,mb4.9
CD2 pmax pmax
comp=Z,120nm,5.2s
MAW Mawson 80.27 202 P **P 03 31 47.3 +0.5**
comp=Z,18nm,0.9s,mb4.7,baz=75,slow=6.1,SNR=9.8
MAW Mawson 80.27 202 *e*P **P 03 31 47.3 +0.4**
comp=Z,4.0nm,0.8s,mb4.1
MAW Mawson 80.27 202 *e*P **P 03 31 47.3 +0.4**
MAW pmax pmax
comp=Z,4.0nm,0.8s
LZH Lanzhou 80.82 312 ⇓P **P 03 31 52.3 +2.0**
LZH pP pP 03 32 53.3 +6.7
LZH sP sP 03 33 20.1 +8.6
LZH PP PP 03 35 03.0 +4.6
LZH S S 03 41 38.3 -0.3
LZH pmax pmax
comp=Z,40nm,1.0s,mb5.0
LZH pmax pmax
comp=Z,170nm,4.1s
LZH Lanzhou 80.82 312 ⇓P **P 03 31 52.2 +1.9**
comp=Z,40nm,1.0s,mb5.0
LZH pP pP 03 32 53.3 +6.7
LZH sP sP 03 33 20.1 +8.6
LZH PP PP 03 35 03.0 +4.6
LZH S S 03 41 38.3 -0.3
LZH sS sS 03 43 24.5 +7.2
LZH Lanzhou 80.82 312 ⇓P **P 03 31 52.2 +1.9**
LZH *PP pP 03 32 53.3 +6.7
LZH *SP sP 03 33 20.1 +8.6
LZH 03 35 03.0
LZH S S 03 41 38.3 -0.3
LZH pmax pmax
comp=Z,40nm,1.0s,mb5.0
KDAK Kodiak Island 81.14 20 P **P 03 31 51.6 +0.2**
comp=Z,7.1nm,0.6s,mb4.5,baz=120,slow=13,SNR=6.6
KDAK Kodiak Island 81.14 20 P **P 03 31 51.6 +0.2**
KDAK Kodiak Island 81.14 20 *i* P **P 03 31 52.8 +1.3**
RSO Redoubt South 83.23 18 *e*P **P 03 32 02.1 -0.1**
comp=Z,95nm,1.1s,mb5.4
YAK Yakutsk 84.59 343 *e*P **P 03 32 08.9 -0.1**
comp=Z,87nm,0.9s,mb5.5
YAK Yakutsk 84.59 343 *e*P **P 03 32 08.3 -0.8**
YAK pmax pmax
comp=Z,98nm,1.2s,mb5.4
YAK pmax pmax
comp=N,23nm,1.5s
YAK pmax pmax
comp=E,13nm,1.5s
ULN Ulaanbaatar 84.75 324 *e*P **P 03 32 10.8 +0.6**
comp=E,21nm,0.9s,mb4.9
ULN Ulaanbaatar 84.75 324 *e*P **P 03 32 10.8 +0.6**
ULN pmax pmax
comp=Z,21nm,0.9s,mb4.9
SONM Songino Array 85.11 323 P **P 03 32 12.3 +0.3**
comp=Z,8.6nm,0.8s,mb4.5,baz=155,slow=6.9,SNR=49
SONM pP pP 03 33 07.8 -1.1
comp=Z,1.0nm,1.0s,baz=90,slow=4.3,SNR=2.2
SONM PP PP 03 35 36.3 +3.2
comp=Z,1.2nm,0.9s,baz=135,slow=9.2,SNR=3.7
SONM Songino Array 85.11 323 P **P 03 32 12.3 +0.3**
SONM pP pP 03 33 07.8 -1.1
SONM PP PP 03 35 36.3 +3.2
SONM Songino Array 85.11 323 P **P 03 32 12.3 +0.3**
SONM 03 35 36.3
GTA Gaotai 85.19 314 ⇓P **P 03 32 13.6 +1.0**
GTA pP pP 03 33 15.1 +5.7
GTA sP sP 03 33 39.8 +5.6
GTA S S 03 42 15.1 -7.3
GTA sS sS 03 44 02.5 +0.4
GTA SS SS 03 47 56.3 -6.4
GTA pmax pmax
comp=Z,41nm,0.9s,mb5.2
GTA pmax pmax
comp=Z,120nm,7.1s
GTA LR LR
comp=N,170nm,14.7s
GTA LR LR
comp=E,130nm,18.1s
GTA LR LR
comp=Z,140nm,16.1s
PMR Palmer 85.22 19 *e*P **P 03 32 12.4 +0.2**
comp=Z,14nm,1.0s,mb4.7
PMR Palmer 85.22 19 *e*P **P 03 32 12.4 +0.2**
PMR pmax pmax
comp=Z,14nm,1.0s,mb4.7
TRF Thorofare Moun 86.32 17 *e*P **P 03 32 15.9 -1.6**
comp=Z,12nm,0.9s,mb4.6
ISA Isabella 86.54 51 *e*P **P 03 32 19.8 +0.5**
ISA Isabella 86.54 51 *e*P **P 03 32 19.8 +0.5**
SYO Syowa Base 86.89 196⇓*e*P **P 03 32 18.6 -1.8**
SYO Syowa Base 86.89 196⇓*e*PcP PcP 03 32 21.5 -0.9
MCK McKinley 86.92 17 *e*P **P 03 32 20.6 +0.2**
comp=Z,1.2nm,0.4s,mb4.0
MCK McKinley 86.92 17 *e*P **P 03 32 20.6 +0.2**
MCK pmax pmax
comp=Z,1.0nm,0.4s
BOD Bodaibo 87.10 334 *e*P **P 03 32 19.0 -2.4**
BOD pmax pmax
comp=Z,13nm,1.4s,mb4.5
NVAR Mina Array Bea 87.77 49 P **P 03 32 26.0 +0.9**
comp=Z,2.5nm,0.7s,mb4.1,baz=227,slow=8.6,SNR=16
NVAR pP pP 03 33 22.4 +0.1
comp=Z,0.6nm,0.7s,baz=230,slow=2.2,SNR=1.8
NVAR Mina Array Bea 87.77 49 P **P 03 32 26.0 +0.9**
NVAR pP pP 03 33 22.4 +0.1
LSA Lhasa 87.88 302 *e*P **P 03 32 26.8 +1.0**
comp=Z,6.4nm,0.6s,mb4.6
LSA Lhasa 87.88 302 *e*P **P 03 32 26.8 +1.0**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
COLA College 88.10 17 *e*P **P 03 32 24.5 -1.5**
comp=Z,4.0nm,0.8s,mb4.3
COLA College 88.10 17 *e*P **P 03 32 24.5 -1.5**
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ILAR Eielson Array 88.29 17 P **P 03 32 25.1 -1.8**
comp=Z,3.4nm,0.6s,mb4.3,baz=238,slow=4.8,SNR=78
ILAR pP pP 03 33 23.2 -1.0
comp=Z,4.0nm,1.0s,baz=237,slow=6.1,SNR=4.9
ILAR Eielson Array 88.29 17 P **P 03 32 25.1 -1.8**
ILAR pP pP 03 33 23.2 -1.0
ILAR Eielson Array 88.29 17 P **P 03 32 25.1 -1.8**
ILAR *PP pP 03 33 23.2 -1.0
MAIT Maitri 90.98 187 *e*P **P 03 32 39.2 -0.3**
SNAA Sanae 91.34 183 *e* **P 03 32 40.4 -0.8**
SNAA Sanae 91.34 183 *e*P **P 03 32 40.6 -0.7**
comp=Z,33nm,1.0s,mb5.2
SNAA Sanae 91.34 183 *e*P **P 03 32 40.6 -0.6**
SNAA pmax pmax
comp=Z,33nm,1.0s
INK Inuvik 94.63 18 P **P 03 32 54.5 -1.7**
comp=Z,1.3nm,0.8s,mb4.1,baz=147,slow=5.7,SNR=3.3
INK Inuvik 94.63 18 P **P 03 32 54.5 -1.7**
INK Inuvik 94.63 18 P **P 03 32 54.5 -1.7**
WMQ Urumqi 95.26 314 P **P 03 32 59.9 +0.3**
WMQ pP pP 03 34 01.9 +4.7
WMQ sP sP 03 34 28.3 +6.6
WMQ pmax pmax
comp=Z,28nm,0.6s,mb5.6
WMQ pmax pmax
comp=Z,250nm,6.6s
TXAR Lajitas Array 96.21 61 P **P 03 33 05.0 +0.6**
comp=Z,0.5nm,0.9s,baz=224,slow=5.2,SNR=4.8
TXAR Lajitas Array 96.21 61 P **P 03 33 05.0 +0.6**
TXAR Lajitas Array 96.21 61 P **P 03 33 05.0 +0.7**
YKA Yellowknife Ar 98.97 27 P Pdif 03 33 15.9 -0.3
comp=Z,0.8nm,0.5s,baz=253,slow=4.5,SNR=15
YKA pP pP 03 34 14.8 +1.2
comp=Z,0.6nm,0.8s,baz=250,slow=4.6,SNR=3.5
YKA PP PP 03 37 24.7 +3.5
comp=Z,0.6nm,0.9s,baz=253,slow=7.2,SNR=3.9
YKA Yellowknife Ar 98.97 27 P Pdif 03 33 15.9 -0.3
YKA pP pP 03 34 14.8 +1.2
YKA PP PP 03 37 24.7 +3.5
YKA Yellowknife Ar 98.97 27 P Pdif 03 33 15.9 -0.4
YKA *PP pP 03 34 14.8 +1.2
YKA 03 37 24.7
MKAR Makanchi Array 99.76 316 P Pdif 03 33 20.5 +0.7
comp=Z,1.9nm,0.5s,baz=95,slow=5.3,SNR=32
MKAR PP PP 03 37 20.3 -7.4
comp=Z,1.0nm,0.9s,baz=111,slow=6.9,SNR=3.7
MKAR PKKPbc PKKPbc 03 49 38.0 -3.3
comp=Z,1.0nm,0.6s,baz=277,slow=4.1,SNR=8.5
MKAR Makanchi Array 99.76 316 P Pdif 03 33 20.5 +0.7
MKAR PP PP 03 37 20.3 -7.4
MKAR PKKPbc PKKPbc 03 49 38.0 -3.3
MKAR Makanchi Array 99.76 316 P Pdif 03 33 20.5 +0.7
ZALV Zalesovo Beam 100.00 323 P Pdif 03 33 20.2 -0.7
comp=Z,2.5nm,0.7s,baz=108,slow=4.6,SNR=14
ZALV PP PP 03 37 30.4 +1.1
comp=Z,0.4nm,0.3s,baz=126,slow=7.5,SNR=3.6
ZALV Zalesovo Beam 100.00 323 P Pdif 03 33 20.2 -0.7
ZALV PP PP 03 37 30.4 +1.1
ZALV Zalesovo Beam 100.00 323 P Pdif 03 33 20.2 -0.7
ZALV 03 37 30.4
KSH Kashi 102.64 308 P Pdif 03 33 34.3 +1.7
KSH PP PP 03 37 53.0 +3.5
KSH SKS 03 43 47.6
KSH S Sdif 03 44 49.3 -7.1
KSH sS 03 46 42.5
KSH SS SS 03 52 10.0 -0.6
KSH pmax pmax
comp=Z,3.0nm,0.4s
KSH LR LR
comp=N,140nm,5.8s
KSH LR LR
comp=E,210nm,10.1s
KSH LR LR
comp=Z,190nm,5.8s

KURK Kurchatov 102.99 319 PP PP 03 37 43.4 -8.4
comp=Z,4.2nm,0.2s,baz=100,slow=6.3,SNR=4.8
KURK PKKPbc PKKPbc 03 49 28.7 -3.4
comp=Z,1.1nm,0.3s,baz=283,slow=3.2,SNR=4.5
KURK Kurchatov 102.99 319 PP PP 03 37 43.4 -8.4
KURK PKKPbc PKKPbc 03 49 28.7 -3.4
RES Resolute Bay 108.00 16 PKKPbc PKKPbc 03 49 14.3 -3.2
comp=Z,0.4nm,0.5s,baz=74,slow=4.0,SNR=5.0
RES Resolute Bay 108.00 16 PKKPbc PKKPbc 03 49 14.3 -3.2
BVAR Borovoye Array 108.34 321 SKKP 03 41 15.9
comp=Z,0.7nm,0.6s,baz=119,slow=1.9,SNR=3.5
LPAZ La Paz 114.99 118 PKP 03 38 16.6
comp=Z,1.1nm,0.6s,baz=313,slow=6.6,SNR=4.9
LPAZ La Paz 114.99 118 PKP 03 38 16.6
LPAZ La Paz 114.99 118 PKIKP 03 38 16.6
AKTO Aktyubinsk 116.05 318 PKP PKPdf 03 38 17.7 +0.3
comp=Z,0.6nm,0.5s,baz=71,slow=4.1,SNR=2.9
AKTO SKP 03 41 30.9
comp=Z,3.5nm,0.7s,baz=92,slow=3.1,SNR=13
AKTO Aktyubinsk 116.05 318 PKP PKPdf 03 38 17.7 +0.3
AKTO SKP 03 41 30.9
AKTO Aktyubinsk 116.05 318 PKIKP PKPdf 03 38 17.7 +0.3
BOSA Boshof 122.45 218 PKP PKPdf 03 38 29.8 -0.7
comp=Z,1.6nm,0.5s,baz=126,slow=15,SNR=7.1
BOSA Boshof 122.45 218 PKP PKPdf 03 38 29.8 -0.7
BOSA Boshof 122.45 218 PKIKP PKPdf 03 38 29.8 -0.7
ARCES ARCESS Array B 122.79 345 PKP PKPdf 03 38 29.4 -0.4
comp=Z,3.2nm,0.7s,baz=69,slow=1.9,SNR=19
ARCES ARCESS Array B 122.79 345 PKP PKPdf 03 38 29.4 -0.4
ARCES ARCESS Array B 122.79 345 PKIKP PKPdf 03 38 29.4 -0.4
FINES FINESS Array B 128.33 338 PKP PKPdf 03 38 40.4 -0.2
comp=Z,4.0nm,1.0s,baz=132,slow=2.8,SNR=3.5
FINES SKPbc 03 41 39.5
comp=Z,5.1nm,0.6s,baz=51,slow=4.7,SNR=16
FINES FINESS Array B 128.33 338 PKP PKPdf 03 38 40.5 -0.2
FINES SKPbc 03 41 39.5
FINES FINESS Array B 128.33 338 PKIKP PKPdf 03 38 40.5 -0.1
NOA NORSAR Array B 133.16 345 SKPbc SKPbc 03 41 56.2 +0.8
comp=Z,14nm,0.9s,baz=33,slow=2.7,SNR=9.7
NOA NORSAR Array B 133.16 345 SKPbc SKPbc 03 41 56.2 +0.8
AKASG Malin Array Be 133.36 325 SKPbc SKPbc 03 41 57.4 +0.9
comp=Z,9.0nm,0.8s,baz=47,slow=4.3,SNR=20
AKASG Malin Array Be 133.36 325 SKPbc SKPbc 03 41 57.4 +0.9
BRTR Keskin Array B 134.98 310 PKP PKPdf 03 38 55.1 +1.2
comp=Z,0.8nm,1.0s,baz=114,slow=4.0,SNR=3.6
BRTR PP PP 03 41 32.1 +0.6
comp=Z,3.8nm,1.0s,baz=91,slow=5.6,SNR=14
BRTR SKPbc SKPbc 03 42 03.8 +1.7
comp=Z,3.7nm,0.8s,baz=110,slow=5.4,SNR=12
BRTR Keskin Array B 134.98 310 PKP PKPdf 03 38 55.1 +1.2
BRTR PP PP 03 41 32.1 +0.6
BRTR SKPbc SKPbc 03 42 03.8 +1.7
BRTR Keskin Array B 134.98 310 PKIKP PKPdf 03 38 55.1 +1.2
BRTR 03 41 32.2
BSEG Bad Segeberg 139.49 340 *e*PKPbc SKPbc 03 42 15.5 +0.7
OKC Ostrava-Krasne 139.53 331 *e*SKP SKPbc 03 42 16.4 +1.4
DPC Dobruska-Polom 140.01 332 *e*SKP SKPbc 03 42 17.5 +1.2
VRAC Vranov 140.63 331 SKPbc SKPbc 03 42 19.8 +1.8
comp=Z,2.6nm,0.7s,baz=145,slow=11,SNR=3.8
VRAC Vranov 140.63 331 SKPbc SKPbc 03 42 19.8 +1.8
BRG Berggiesshubel 140.63 335 *e*PKP PKPdf 03 39 00.7 -3.1
comp=Z,7.6nm,1.2s
BRG *e* 03 39 08.2
comp=Z,2.0nm,0.7s
BRG SKP 03 42 19.0
comp=Z,20nm,1.3s
BRG Berggiesshubel 140.63 335 *e*PKPbc SKPbc 03 42 18.7 +0.8
BRG Berggiesshubel 140.63 335 *e*PKIKP PKPdf 03 39 00.7 -3.2
BRG pmax pmax
comp=Z,8.0nm,1.2s
PVCC Panska Ves 140.63 334 *e*SKP SKPbc 03 42 19.4 +1.5
CLL Collm 140.67 336 *e*PKPbc SKPbc 03 42 18.6 +0.6
CLL Collm 140.67 336 *e*PKIKP PKPdf 03 39 05.0 +1.1
CLL Collm 140.67 336 *e*PKPdf PKPdf 03 39 05.0 +1.1
CLL *e*SKPbc SKPbc 03 42 18.0 0.0
comp=Z,15nm,1.2s
NRDL Niedersach Rie 140.77 339 *e*PKPbc SKPbc 03 42 18.7 +0.5
PRU Pruhonice 141.05 333 *e*SKP SKPbc 03 42 20.0 +1.0
CLZ Clausthal 141.22 338 *e*PKPbc SKPbc 03 42 20.4 +1.0
TANN Tannenbergstha 141.58 335 *e*PKPbc SKPbc 03 42 21.2 +0.8
IBBN Ibbenburen 141.69 341 *e*PKPbc SKPbc 03 42 21.2 +0.6
NKC Novy Kostel 141.73 335 *e*SKP SKPbc 03 42 21.2 +0.4
MOX Moxa 141.73 336 *e*PKPbc SKPbc 03 42 21.3 +0.6
KHC Kasperske Hory 142.11 333 *e*PKHKP PKPpre 03 39 00.0
KHC *e* 03 42 23.0
KHC Kasperske Hory 142.11 333 *e*PKP PKPpre 03 39 00.0
KHC *e*SKP 03 42 23.0
ROTZ Rotzenmuhle 142.19 335 *e*PKPbc PKPdf 03 39 02.7 -4.0
ROTZ Rotzenmuhle 142.19 335 *e*PKPbc SKPbc 03 42 22.9 +1.0
GEC2 GERESS Array S 142.27 333 *e*PKPbc PKPdf 03 39 02.7 -4.2
GEC2 GERESS Array S 142.27 333 *e*PKPbc SKPbc 03 42 22.9 +0.8
GEC2 GERESS Array S 142.27 333 *e*PKIKP PKPpre 03 39 02.7
GERES GERESS Array B 142.27 333 PKhKP PKPpre 03 39 02.6
comp=Z,0.5nm,0.4s,baz=26,slow=2.2,SNR=8.5
GERES SKPbc SKPbc 03 42 23.4 +1.3
comp=Z,2.3nm,0.8s,baz=82,slow=2.8,SNR=12
GERES GERESS Array B 142.27 333 PKPpre PKPpre 03 39 02.5
GERES SKPbc SKPbc 03 42 23.4 +1.3
GERES GERESS Array B 142.27 333 PKIKP PKPpre 03 39 02.6
GERES 03 42 23.4
WET Wettzell 142.40 334 *e*PKPbc PKPdf 03 39 02.9 -4.2
WET Wettzell 142.40 334 *e*PKPbc SKPbc 03 42 23.2 +0.8
WET Wettzell 142.40 334 *e*PKIKP PKPdf 03 39 02.9 -4.2
GRF Grafenberg Arr 142.65 336 *e*PKPbc PKPdf 03 39 04.4 -3.1
GRF Grafenberg Arr 142.65 336 *e*PKIKP PKPdf 03 39 04.4 -3.1
MOA Molln 142.75 331 ⇓*i*PKPdf PKPdf 03 39 05.2 -2.6
comp=Z,9.5nm,1.0s,SNR=8.9
PERS Pernice 143.22 329 *i*PKPdf PKPdf 03 39 06.0 -2.6
PERS *i*pPKPdf SKPbc 03 42 25.6 +1.0
SOKA Soboth 143.23 329 ⇓*i*PKPdf PKPdf 03 39 06.0 -2.7
comp=Z,7.9nm,0.6s
RJOB Jochberg 143.50 332 *e*PKPbc PKPdf 03 39 07.1 -2.0
RJOB Jochberg 143.50 332 *e*PKPbc SKPbc 03 42 25.4 +0.2
MEM Membach 143.71 341 P PKPdf 03 39 07.5 -1.8
FUR Furstenfeldbru 143.83 334 *e*PKPbc PKPdf 03 39 08.3 -1.4
FUR Furstenfeldbru 143.83 334 *e*PKIKP PKPdf 03 39 08.3 -1.4
MYKA Terra Mystica 143.93 330 ⇑*i*PKPdf PKPdf 03 39 07.8 -2.1
comp=Z,11nm,0.5s
BOJS Bojanci 143.94 328 *i*PKPdf PKPdf 03 39 08.8 -1.2
BOJS *i*pPKPdf SKPbc 03 42 27.3 +1.1
VISS Visnje 143.94 328 *i*PKPdf PKPdf 03 39 08.5 -1.4
VISS *i*pPKPdf SKPbc 03 42 27.6 +1.3
BCLA Clavier 144.09 342 P PKPdf 03 39 08.5 -1.5
STU Stuttgart 144.17 337 *e*PKPbc PKPdf 03 39 09.4 -0.8
STU Stuttgart 144.17 337 *e*PKPbc SKPbc 03 42 27.2 +0.5
STU Stuttgart 144.17 337 *e*PKPdf PKPdf 03 39 09.2 -1.0
STU Stuttgart 144.17 337 *e*PKIKP PKPdf 03 39 09.2 -1.0
JAVS Javornik 144.26 329 *i*PKPdf PKPdf 03 39 09.3 -1.2
JAVS *i*pPKPdf SKPbc 03 42 27.9 +0.8
WATA Walderalm 144.34 333 ⇓*i*PKPab PKPdf 03 39 09.6 -1.0
comp=Z,14nm,0.9s,SNR=7.7
ABTA Abfaltersbach 144.37 331 ⇓*i*PKPab PKPdf 03 39 09.1 -1.5
comp=Z,38nm,0.7s,SNR=12
WTTA Wattenberg 144.37 333 ⇓*i*PKPdf PKPdf 03 39 09.9 -0.7
comp=Z,17nm,0.8s
WLF Walferdange 144.49 340 P PKPdf 03 39 10.6 -0.2
WLF Walferdange 144.49 340 *e*PKPbc PKPdf 03 39 10.8 0.0
WLF Walferdange 144.49 340 *e*PKPbc SKPbc 03 42 28.5 +1.1
WLF Walferdange 144.49 340 *e*PKPdf PKPdf 03 39 10.7 -0.1
WLF Walferdange 144.49 340 *e*PKIKP PKPdf 03 39 10.7 -0.1
LANF Langenberg 144.51 338 PKP PKPdf 03 39 10.7 -0.1
GIVF Givet 144.51 342 *e*PKP1 PKPdf 03 39 10.5 -0.3
GIVF Givet 144.51 342 *e*P PKPdf 03 39 10.5 -0.3
GIVF Givet 144.51 342 *e*PKIKP PKPdf 03 39 10.5 -0.3
MOTA Moosalm 144.54 333 *i*PKPdf PKPdf 03 39 10.3 -0.6
comp=Z,40nm,0.8s,SNR=20
RETA Reutte 144.57 334 *i*PKPdf PKPdf 03 39 10.5 -0.5
comp=Z,20nm,0.6s,SNR=26
DOU Dourbes 144.59 342 P PKPdf 03 39 10.7 -0.2
BAIF Baives 144.73 343 ⇓*i*PKP1 PKPdf 03 39 10.8 -0.4
comp=Z,21nm,0.9s
BAIF Baives 144.73 343 *i*P PKPdf 03 39 10.8 -0.4
BAIF Baives 144.73 343 *i*PKIKP PKPdf 03 39 10.8 -0.4
BFO Black Forest 144.86 337 *e*PKPbc PKPdf 03 39 11.5 +0.1
BFO Black Forest 144.86 337 *e*PKPbc SKPbc 03 42 28.4 +0.1
BFO Black Forest 144.86 337 *e*PKPdf PKPdf 03 39 11.5 0.0
BFO Black Forest 144.86 337 *e*PKIKP PKPdf 03 39 11.5 +0.1
FETA Feichten 144.95 333 *i*PKPdf PKPdf 03 39 11.9 +0.3
comp=Z,58nm,0.8s,SNR=82
DAVA Damuels 145.10 334 ⇓*i*PKPab PKPab 03 39 12.5 +0.3
comp=Z,72nm,1.1s,SNR=16
CDF Champ du Feu 145.18 338 ⇓*i*PKP1 PKPbc 03 39 12.5 +0.4
comp=Z,89nm,0.8s
CDF Champ du Feu 145.18 338 *i*P PKPdf 03 39 12.5 +0.5
CDF Champ du Feu 145.18 338 *i*PKP2 PKPab 03 39 12.5 +0.1
ECH Echery 145.39 338 PKP PKPdf 03 39 13.1 +0.7
DAVOX Davos/Dischmat 145.50 334 SKPbc SKPbc 03 42 31.4 +1.5
DAVOX Davos/Dischmat 145.50 334 SKPbc SKPbc 03 42 31.4 +1.5
PAGF Fort de Pagny 145.59 340 ⇓*i*PKP1 PKPbc 03 39 13.3 -0.1
comp=Z,14nm,0.7s
PAGF Fort de Pagny 145.59 340 *i*P PKPdf 03 39 13.3 +0.6
MOF Molkenrain 145.70 338 PKP PKPdf 03 39 14.1 +1.2
THEF They Montfort 145.79 339 PKP PKPdf 03 39 14.4 +1.4
HINF Hinteralfeld 145.84 338 ⇓*i*PKP1 PKPbc 03 39 14.0 -0.1
comp=Z,16nm,0.6s
HINF Hinteralfeld 145.84 338 *i*P PKPbc 03 39 14.0 -0.1
HINF Hinteralfeld 145.84 338 *i*PKP2 PKPbc 03 39 14.0 -0.1
HAU Haudompre 145.85 339 ⇓*i*PKP1 PKPbc 03 39 14.3 +0.1
comp=Z,28nm,0.6s
HAU Haudompre 145.85 339 *i*P PKPbc 03 39 14.3 +0.1
HAU Haudompre 145.85 339 *i*PKP2 PKPbc 03 39 14.3 +0.1
MEZF Maizieres J'vi 145.86 340 ⇓*i*PKP1 PKPbc 03 39 14.8 +0.6
comp=Z,46nm,0.6s
MEZF Maizieres J'vi 145.86 340 *i*P PKPbc 03 39 14.8 +0.6
TUE Stuetta 145.97 334 *e*PKPbc PKPbc 03 39 15.3 +0.7
SFTF Sexfontaines 146.12 340 ⇓*i*PKP1 PKPbc 03 39 15.3 +0.3
comp=Z,42nm,0.7s
SFTF Sexfontaines 146.12 340 *i*P PKPbc 03 39 15.3 +0.3
LOMF Lomont 146.24 338 PKP PKPbc 03 39 15.5 +0.2
FLN La Foliniere 147.12 347 ⇓*i*PKP1 PKPbc 03 39 17.7 -0.1
comp=Z,20nm,0.6s
FLN La Foliniere 147.12 347 *i*P PKPbc 03 39 17.7 -0.1
FLN La Foliniere 147.12 347 *i*PKP2 PKPbc 03 39 17.7 -0.1
CABF La Chapelle 147.13 338 ⇓*i*PKP1 PKPbc 03 39 18.4 +0.5
comp=Z,46nm,1.0s
CABF La Chapelle 147.13 338 *i*P PKPbc 03 39 18.4 +0.5
CABF La Chapelle 147.13 338 *i*PKP2 PKPbc 03 39 18.4 +0.5
LDF La Druitiere 147.20 346 ⇓*i*PKP1 PKPbc 03 39 17.7 -0.3
comp=Z,10nm,0.6s
LDF La Druitiere 147.20 346 *i*P PKPbc 03 39 17.7 -0.3
LDF La Druitiere 147.20 346 *i*PKP2 PKPbc 03 39 17.7 -0.3
LOR Lormes 147.32 341 ⇓*i*PKP1 PKPbc 03 39 18.5 +0.1
comp=Z,24nm,0.7s
LOR Lormes 147.32 341 *i*P PKPbc 03 39 18.5 +0.1
LOR Lormes 147.32 341 *i*PKP2 PKPbc 03 39 18.5 +0.1
GRR Gorron 147.56 347 ⇓*i*PKP1 PKPbc 03 39 19.0 0.0
GRR Gorron 147.56 347 *i*P PKPbc 03 39 19.0 0.0
GRR Gorron 147.56 347 *i*PKP2 PKPbc 03 39 19.0 0.0
SSF Saint Saulge 147.62 341 ⇓*i*PKP1 PKPbc 03 39 19.4 +0.2
comp=Z,28nm,0.7s
SSF Saint Saulge 147.62 341 *i*P PKPbc 03 39 19.4 +0.2
SSF Saint Saulge 147.62 341 *i*PKP2 PKPbc 03 39 19.4 +0.2
HYF Humbligny 147.70 342 *e*PKP1 PKPbc 03 39 19.9 +0.5
HYF Humbligny 147.70 342 *e*P PKPbc 03 39 19.9 +0.5
LPL La Plagne 147.81 336 ⇓*i*PKP1 PKPbc 03 39 20.4 +0.7
comp=Z,34nm,0.7s
LPL La Plagne 147.81 336 *i*P PKPbc 03 39 20.4 +0.7
LPL La Plagne 147.81 336 *i*PKP2 PKPbc 03 39 20.4 +0.7
LPG La Plagne 147.82 336 ⇓*i*PKP1 PKPbc 03 39 20.5 +0.8
comp=Z,50nm,0.8s
LPG La Plagne 147.82 336 *i*P PKPbc 03 39 20.5 +0.8
LPG La Plagne 147.82 336 *i*PKP2 PKPbc 03 39 20.5 +0.8
SMF Signal de Mont 147.88 340 ⇓*i*PKP1 PKPbc 03 39 19.7 -0.2
comp=Z,14nm,0.7s
SMF Signal de Mont 147.88 340 *i*P PKPbc 03 39 19.7 -0.2
SMF Signal de Mont 147.88 340 *i*PKP2 PKPbc 03 39 19.7 -0.2
AVF Avril sur Loir 147.91 341 ⇓*i*PKP1 PKPbc 03 39 19.6 -0.3
comp=Z,26nm,1.0s
AVF Avril sur Loir 147.91 341 *i*P PKPbc 03 39 19.6 -0.3
AVF Avril sur Loir 147.91 341 *i*PKP2 PKPbc 03 39 19.6 -0.3
SGMF Saint Gilles 148.02 349 ⇓*i*PKP1 PKPbc 03 39 20.0 -0.2
comp=Z,26nm,0.8s
SGMF Saint Gilles 148.02 349 *i*P PKPbc 03 39 20.0 -0.2
SGMF Saint Gilles 148.02 349 *i*PKP2 PKPbc 03 39 20.0 -0.2
BNI Bardonecchia 148.22 335 *e*PKPbc PKPbc 03 39 21.2 +0.4
BNI Bardonecchia 148.22 335 *e*PKP2 PKPbc 03 39 21.2 +0.4
BGF Bois d'Agland 148.27 341 ⇓*i*PKP1 PKPbc 03 39 21.0 +0.1
comp=Z,31nm,0.7s
BGF Bois d'Agland 148.27 341 *i*P PKPbc 03 39 21.0 +0.1
BGF Bois d'Agland 148.27 341 *i*PKP2 PKPbc 03 39 21.0 +0.1
MBDF Montbardon 148.45 335 *e*PKP1 PKPbc 03 39 21.3 -0.1
comp=Z,26nm,0.9s
MBDF Montbardon 148.45 335 *e*P PKPbc 03 39 21.3 -0.1
MBDF Montbardon 148.45 335 *e*PKP2 PKPbc 03 39 21.3 -0.1
QUIF Quistinic 148.46 349 ⇓*i*PKP1 PKPbc 03 39 21.0 -0.3
QUIF Quistinic 148.46 349 *i*P PKPbc 03 39 21.0 -0.3
QUIF Quistinic 148.46 349 *i*PKP2 PKPbc 03 39 21.0 -0.3
PLDF La Plantade 148.55 340 PKP PKPbc 03 39 22.1 +0.5
ORIF Oris-en-Rattie 148.64 336 ⇓*i*PKP1 PKPbc 03 39 22.2 +0.3
comp=Z,27nm,0.8s
ORIF Oris-en-Rattie 148.64 336 *i*P PKPbc 03 39 22.2 +0.3
ORIF Oris-en-Rattie 148.64 336 *i*PKP2 PKPbc 03 39 22.2 +0.3
SBF Sospel 148.87 333 *e*PKP1 PKPbc 03 39 23.1 +0.6
SBF Sospel 148.87 333 *e*P PKPbc 03 39 23.1 +0.6
SBF Sospel 148.87 333 *e*PKP2 PKPbc 03 39 23.1 +0.6
MFF Saint Martin d 149.07 345 ⇓*i*PKP1 PKPbc 03 39 22.9 0.0
comp=Z,17nm,0.7s
MFF Saint Martin d 149.07 345 *i*P PKPbc 03 39 22.9 0.0
MFF Saint Martin d 149.07 345 *i*PKP2 PKPbc 03 39 22.9 0.0
VIVF Saint-Julien-l 149.15 337 *e*PKP1 PKPbc 03 39 23.4 +0.2
VIVF Saint-Julien-l 149.15 337 *e*P PKPbc 03 39 23.4 +0.2
VIVF Saint-Julien-l 149.15 337 *e*PKP2 PKPbc 03 39 23.4 +0.2
PGF Pioggiola 149.18 330 *e*PKP1 PKPbc 03 39 23.3 0.0
comp=Z,95nm,1.0s
PGF Pioggiola 149.18 330 *e*P PKPbc 03 39 23.3 0.0
PGF Pioggiola 149.18 330 *e*PKP2 PKPbc 03 39 23.3 0.0
LBL Lubilhac 149.32 340 PKP PKPbc 03 39 24.0 +0.4
FRF La Foret Royal 149.45 334 *e*PKP1 PKPbc 03 39 23.7 -0.2
comp=Z,17nm,0.8s
FRF La Foret Royal 149.45 334 *e*P PKPbc 03 39 23.7 -0.2
FRF La Foret Royal 149.45 334 *e*PKP2 PKPbc 03 39 23.7 -0.2
SMRF Simiane la Rot 149.55 335 ⇓*i*PKP1 PKPbc 03 39 24.7 +0.5
comp=Z,15nm,0.9s
SMRF Simiane la Rot 149.55 335 *i*P PKPbc 03 39 24.7 +0.5
LMR La Mourre 149.69 334 *e*PKP1 PKPbc 03 39 24.4 -0.1
LMR La Mourre 149.69 334 *e*P PKPbc 03 39 24.4 -0.1
LMR La Mourre 149.69 334 *e*PKP2 PKPbc 03 39 24.4 -0.1
RJF Les Rejaudoux 149.81 342 ⇓*i*PKP1 PKPbc 03 39 24.9 +0.2
comp=Z,17nm,1.0s
RJF Les Rejaudoux 149.81 342 *i*P PKPbc 03 39 24.9 +0.2
RJF Les Rejaudoux 149.81 342 *i*PKP2 PKPbc 03 39 24.9 +0.2
CAF Calviac 149.98 341 *e*PKP1 PKPbc 03 39 25.4 +0.2
CAF Calviac 149.98 341 *e*P PKPbc 03 39 25.4 +0.2
CAF Calviac 149.98 341 *e*PKP2 PKPbc 03 39 25.4 +0.2
LASF Ste Croix 150.12 338 *e*PKP1 PKPbc 03 39 25.9 +0.4
LASF Ste Croix 150.12 338 *e*P PKPbc 03 39 25.9 +0.4
LFF La Frestale 150.37 342 ⇓*i*PKP1 PKPbc 03 39 26.3 +0.2
LFF La Frestale 150.37 342 *i*P PKPbc 03 39 26.3 +0.2
LFF La Frestale 150.37 342 *i*PKIKP PKPbc 03 39 26.3 +0.2
MTLF Montolieu 151.34 339 *e*PKP1 PKPbc 03 39 28.5 +0.1
MTLF Montolieu 151.34 339 *e*P PKPbc 03 39 28.5 +0.1
MTLF Montolieu 151.34 339 *e*PKIKP PKPbc 03 39 28.5 +0.1
EPF Esparros 152.22 341 *e*PKP1 PKPbc 03 39 30.8 +0.4
comp=Z,10nm,0.9s
EPF Esparros 152.22 341 *e*P PKPbc 03 39 30.8 +0.4
EPF Esparros 152.22 341 *e*PKIKP PKPbc 03 39 30.8 +0.4
SJPF Ste Jean 152.60 344 ⇓*i*PKP1 PKPbc 03 39 32.2 +1.0
comp=Z,15nm,0.8s
SJPF Ste Jean 152.60 344 *i*P PKPbc 03 39 32.2 +1.0
SJPF Ste Jean 152.60 344 *i*PKIKP PKPbc 03 39 32.2 +1.0
ETSF Etsaut 152.61 343 *e*PKP1 PKPbc 03 39 31.8 +0.5
ETSF Etsaut 152.61 343 *e*P PKPbc 03 39 31.8 +0.5
ETSF Etsaut 152.61 343 *e*PKIKP PKPbc 03 39 31.8 +0.5
ESDC Sonseca Array 156.53 346 PKPab PKPab 03 39 59.8 +0.3
comp=Z,1.5nm,0.5s,baz=14,slow=3.9,SNR=18
ESDC SKPab 03 43 38.8
comp=Z,0.4nm,0.6s,baz=14,slow=5.6,SNR=4.5
ESDC Sonseca Array 156.53 346 PKPab PKPab 03 39 59.8 +0.3
ESDC SKPab 03 43 38.8
TORD Torodi Ar. Bea 166.82 255 PKP PKPdf 03 39 39.7 -1.1
comp=Z,2.8nm,0.9s,baz=22,slow=0.2,SNR=15
TORD Torodi Ar. Bea 166.82 255 PKP PKPdf 03 39 39.7 -1.1
DBIC Dimbokro 167.91 212 PKP PKPdf 03 39 40.8 -0.9
comp=Z,2.5nm,0.7s,baz=184,slow=1.6,SNR=4.6
DBIC PKPab PKPab 03 40 49.8 -0.2
comp=Z,2.6nm,0.7s,baz=149,slow=3.8,SNR=5.2
DBIC Dimbokro 167.91 212 PKP PKPdf 03 39 40.8 -0.9
DBIC PKPab PKPab 03 40 49.8 -0.2
DBIC Dimbokro 167.91 212 PKIKP PKPdf 03 39 40.8 -0.9
DBIC 03 40 49.8

*ISCJB **18** 03:46:01.6±0.8, 19°.17N±0°.04×145°.41E±0°.04, h167km±7km, mb4.6/90, Error ellipse: s-maj=6.9km s-min=5.5km az=40.0*

*IDC **18** 03:46:02.5±0.6, 19°.07N×145°.47E, h169km±4km, mb4.1/24, mb1 4.2/26, mb1mx4.2/29, mbtmp4.1/26, Error ellipse: s-maj=13.6km s-min=9.6km az=91.0*
*MOS **18** 03:46:03.2±0.9, 19°.10N×145°.33E, h190km, mb4.9/20, Error ellipse: s-maj=12.7km s-min=7.4km az=86.7*
*NEIC **18** 03:46:04.2±0.7, 19°.07N×145°.35E, h186km±6km, mb4.8/56, Error ellipse: s-maj=6.4km s-min=4.7km az=100.0*
*BJI **18** 03:46:09.9, 19°.60N×144°.51E, h178km, mB4.8/17, mb4.6/21*
ISC 18 03:46:04.0±0.8,**19°.07N**±0°.04×**145°.45E**±0°.04,**h181**km±7km, **h173**km±2.5km:**pP-P**,**n514**,**φ0°58**/**521**,**mb4.6**/**90**, **160C-149D**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.48**	**186**	P	**Pn**	**03 47 24.9**	**+0.7**
	100nm,0.3s,baz=38,slow=1.7,SNR=24						
GUMO				S	**Sn**	**03 48 26.9**	**+0.2**
	16nm,0.3s,baz=135,slow=20,SNR=2.0						
GUMO	**Guam**	**5.48**	**186**	*e*Pn	**Pn**	**03 47 24.2**	**0.0**
GUMO				*e*S	**Sn**	**03 48 30.2**	**+3.6**
GUMO	**Guam**	**5.48**	**186**	*e*P	**Pn**	**03 47 24.3**	**0.0**
GUMO				*e*S	**Sn**	**03 48 30.2**	**+3.6**
CBIJ	**Chichi jima**	**8.54**	**340**	P	**Pn**	**03 48 01.6**	**-2.8**
	12nm,0.3s,baz=149,slow=21,SNR=9.6						
CBIJ				S	**Sn**	**03 49 33.5**	**-6.2**
	8.5nm,0.3s,baz=301,slow=23,SNR=4.7						
CBIJ	**Chichi jima**	**8.54**	**340**	P	**Pn**	**03 48 01.6**	**-2.8**
CBIJ				S	**Sn**	**03 49 33.5**	**-6.2**
MJAR	**Matsushiro Arr**	**18.54**	**341**	P	**P**	**03 50 07.1**	**+0.2**
	2.6nm,0.3s,baz=161,slow=8.2,SNR=26						
MJAR	**Matsushiro Arr**	**18.54**	**341**	P	**P**	**03 50 07.1**	**+0.2**
MJAR	**Matsushiro Arr**	**18.54**	**341**	P	**P**	**03 50 07.1**	**+0.2**
MAJO	**Matsushiro**	**18.54**	**341**	*e*P	**P**	**03 50 06.1**	**-0.8**
	28nm,0.6s						
MAJO				*e*S	**S**	**03 53 30.2**	**+1.4**
MAJO	**Matsushiro**	**18.54**	**341**	*e*P	**P**	**03 50 06.1**	**-0.8**
MAJO				*e*S	**S**	**03 53 30.2**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,28nm,0.6s						
MAT	**Matsushiro**	**18.54**	**341**	P	**P**	**03 50 07.0**	**+0.1**
MAT				S	**S**	**03 53 28.9**	**+0.1**
KSRS	**Korea Array**	**23.88**	**324**	P	**P**	**03 51 01.5**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.1,baz=146,slow=10.0,SNR=9.0						
KSRS				pP		03 51 36.5	
	comp=Z,6.4nm,0.9s,baz=144,slow=10,SNR=3.4						
KSAR	**Wonju Array Be**	**23.89**	**324**	P	**P**	**03 51 01.5**	**+0.4**
KSAR				pP		03 51 36.5	
KSAR	**Wonju Array Be**	**23.89**	**324**	P	**P**	**03 51 01.5**	**+0.4**
KSAR				*PP		03 51 36.5	
ASAJ	**Asahikawa**	**25.09**	**355**	P	**P**	**03 51 13.4**	**+1.5**
	comp=Z,8.0nm,0.7s,mb4.3,baz=231,slow=15,SNR=5.8						
ASAJ	**Asahikawa**	**25.09**	**355**	P	**P**	**03 51 13.4**	**+1.5**
PMG	**Port Moresby**	**28.34**	**176**	P	**P**	**03 51 39.8**	**-1.4**
	comp=Z,6.8nm,0.6s,mb4.5,baz=358,slow=14,SNR=2.4						
PMG	**Port Moresby**	**28.34**	**176**	*e*P	**P**	**03 51 45.4**	**+4.2**
	comp=Z,25nm,0.8s,mb5.0						
PMG	**Port Moresby**	**28.34**	**176**	*e*P	**P**	**03 51 45.4**	**+4.1**
PMG				pmax	pmax		
	comp=Z,25nm,0.8s						
CN2	**Changchun**	**29.83**	**330**	*e*P	**P**	**03 51 52.9**	**-1.2**
CN2				*e*S	**S**	**03 56 36.3**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
BJI	**Beijing**	**32.70**	**316**	P	**P**	**03 52 19.3**	**-0.1**
BJI				S	**S**	**03 57 23.5**	**+1.2**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
BJI				pmax	pmax		
	comp=Z,120nm,5.1s						
BJI				LR	LR		
	comp=N,160nm,26.6s						
BJI				LR	LR		
	comp=E,150nm,25.8s						
BJI				LR	LR		
	comp=Z,36nm,20.8s						
COEN	**Coen**	**32.89**	**184**	*e*P	**P**	**03 52 18.9**	**-2.3**
	comp=Z,48nm,0.7s,mb5.3						
PETK	**Petropavlovsk-**	**35.28**	**13**	P	**P**	**03 52 42.3**	**+0.9**
	comp=Z,4.3nm,0.7s,mb4.2,baz=171,slow=10,SNR=3.1						
PETK	**Petropavlovsk-**	**35.28**	**13**	P	**P**	**03 52 42.3**	**+0.9**
PETK	**Petropavlovsk-**	**35.28**	**13**	P	**P**	**03 52 42.3**	**+0.9**
HHC	**Hu-ho-hao-te**	**36.17**	**314**	*e*P	**P**	**03 52 50.3**	**+1.1**
HHC				pP	pP	03 53 28.8	+1.5
HHC				sP	sP	03 53 48.8	+0.8
HHC				PcP	PcP	03 55 12.5	+1.8
HHC				S	**S**	**03 58 16.5**	**+1.0**
HHC				ScP	ScP	03 58 41.0	+0.9
HHC				PcS	PcS	03 58 58.6	+0.1
HHC				ScS	ScS	04 02 45.6	-0.7
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
HHC				pmax	pmax		
	comp=Z,140nm,5.9s						
GYA	**Guiyang**	**36.41**	**289**	P	**P**	**03 52 52.0**	**+0.7**
GYA				pP	pP	03 53 29.4	-0.1
GYA				sP	sP	03 53 49.0	-1.1
GYA				PcP	PcP	03 55 13.0	+1.3
GYA				S	**S**	**03 58 18.9**	**-0.5**
GYA				ScP	ScP	03 58 41.0	-0.2
GYA				PcS	PcS	03 58 58.9	-0.9
GYA				ScS	ScS	04 02 47.3	-0.8
GYA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
CD2	**Chengdu**	**39.37**	**296**	*e*P	**P**	**03 53 16.3**	**+0.2**
CD2				pP	pP	03 53 54.1	-0.6
CD2				sP	sP	03 54 14.0

WB2 Warramunga Arr 40.27 196 *eP* **P 03 53 23.7 +0.2**
WRA Warramunga Arr 40.27 196 P **P 03 53 24.0 +0.5**
comp=Z,9.6nm,0.6s,mb4.6,baz=22,slow=8.7,SNR=116
WRA ScP ScP 03 58 54.4 -1.5
comp=Z,1.4nm,0.8s,baz=15,slow=4.6,SNR=7.2
WRA Warramunga Arr 40.27 196 P **P 03 53 24.0 +0.5**
WRA ScP ScP 03 58 54.4 -1.5
WRA Warramunga Arr 40.27 196 P **P 03 53 24.0 +0.5**
SONM Songino Array 42.71 321 P **P 03 53 43.6 +0.6**
comp=Z,1.7nm,0.6s,mb3.8,baz=132,slow=6.3,SNR=13
SONM sP sP 03 54 39.1 -3.5
comp=Z,1.9nm,0.8s,baz=134,slow=7.9,SNR=5.4
SONM Songino Array 42.71 321 P **P 03 53 43.6 +0.6**
SONM sP sP 03 54 39.1 -3.5
SONM Songino Array 42.71 321 P **P 03 53 43.6 +0.5**
CMAR Chiang Mai Arr 43.94 277 P **P 03 53 56.0 +2.6**
comp=Z,1.0nm,0.5s,mb3.8,baz=69,slow=6.9,SNR=7.7
CMAR Chiang Mai Arr 43.94 277 P **P 03 53 56.0 +2.6**
CMAR Chiang Mai Arr 43.94 277 P **P 03 53 56.0 +2.7**
AS31 Alice Springs 43.94 195 *eP* **P 03 53 53.4 +0.3**
ASAR Alice Springs 43.94 195 P **P 03 53 53.2 0.0**
comp=Z,3.0nm,0.5s,mb4.2,baz=15,slow=7.0,SNR=29
ASAR ScP ScP 03 59 09.4 -1.2
comp=Z,0.5nm,0.7s,baz=4.7,slow=3.0,SNR=4.3
ASAR Alice Springs 43.94 195 P **P 03 53 53.2 0.0**
ASAR ScP ScP 03 59 09.4 -1.2
ASAR Alice Springs 43.94 195 P **P 03 53 53.2 0.0**
BILL Bilibino 50.70 10⇑ *eP* **P 03 54 46.0 +1.2**
BILL *eS* **S 04 01 45.4 -0.2**
STKA Stephens Creek 50.79 184 P **P 03 54 44.9 -1.0**
comp=Z,3.5nm,0.7s,mb4.1,baz=347,slow=7.1,SNR=4.6
STKA Stephens Creek 50.79 184 P **P 03 54 44.9 -1.0**
STKA Stephens Creek 50.79 184 P **P 03 54 44.9 -1.0**
WMQ Urumqi 53.89 311 *eP* **P 03 55 10.4 +1.7**
TNA Tin City 55.56 22 *eP* **P 03 55 20.7 +0.4**
comp=Z,36nm,1.4s,mb5.0
ZALV Zalesovo Beam 57.58 322 P **P 03 55 34.3 -0.4**
comp=Z,1.8nm,0.7s,mb4.0,baz=97,slow=7.1,SNR=9.7
ZALV pP pP 03 56 13.9 -2.3
comp=Z,1.0nm,0.6s,baz=111,slow=8.4,SNR=3.6
ZALV sP sP 03 56 33.9 -2.0
comp=Z,2.5nm,0.7s,baz=99,slow=7.7,SNR=3.6
ZALV Zalesovo Beam 57.58 322 P **P 03 55 34.3 -0.4**
ZALV pP pP 03 56 13.9 -2.3
ZALV sP sP 03 56 33.9 -2.0
ZALV Zalesovo Beam 57.58 322 P **P 03 55 34.3 -0.4**
ZALV *PP pP 03 56 13.9 -2.2
ZALV *SP sP 03 56 33.9 -2.1
MKAR Makanchi Array 58.04 314 P **P 03 55 38.1 +0.1**
comp=Z,0.6nm,0.7s,mb3.5,baz=91,slow=11,SNR=4.8
MKAR pP pP 03 56 15.9 -3.6
comp=Z,1.6nm,0.7s,baz=96,slow=7.7,SNR=4.3
MKAR Makanchi Array 58.04 314 P **P 03 55 38.1 +0.1**
MKAR pP pP 03 56 15.9 -3.6
MKAR Makanchi Array 58.04 314 P **P 03 55 38.1 +0.1**
KDAK Kodiak Island 59.18 33 P **P 03 55 45.7 0.0**
comp=Z,21nm,0.9s,mb5.0,baz=286,slow=7.4,SNR=8.6
KDAK Kodiak Island 59.18 33 P **P 03 55 45.7 0.0**
KDAK Kodiak Island 59.18 33 *i* P **P 03 55 46.7 +1.0**
KURK Kurchatov 60.84 318 P **P 03 55 57.1 0.0**
comp=Z,1.9nm,0.6s,mb4.1,baz=94,slow=7.7,SNR=12
KURK pP pP 03 56 37.5 -1.5
comp=Z,2.4nm,0.8s,baz=96,slow=7.6,SNR=4.7
KURK Kurchatov 60.84 318 P **P 03 55 57.1 0.0**
KURK pP pP 03 56 37.5 -1.5
KURK Kurchatov 60.84 318 P **P 03 55 57.2 +0.1**
KURK *PP pP 03 56 37.5 -1.5
SEW Seward 61.28 31 *eP* **P 03 55 59.4 -0.6**
comp=Z,56nm,1.1s,mb5.3
RC01 Rabbit Creek A 61.35 30 *eP* **P 03 55 59.7 -0.8**
comp=Z,30nm,0.7s,mb5.2
BPAW Bear Paw Mtn. 61.53 27 *eP* **P 03 56 01.7 +0.1**
comp=Z,42nm,0.7s,mb5.4
TRF Thorofare Moun 61.66 27 *eP* **P 03 56 02.1 -0.4**
comp=Z,44nm,0.9s,mb5.3
PMR Palmer 61.75 30 *eP* **P 03 56 02.1 -1.0**
comp=Z,27nm,1.0s,mb5.0
PMR Palmer 61.75 30 *eP* **P 03 56 02.1 -1.0**
PMR pmax pmax
comp=Z,27nm,1.0s,mb5.0
SML Sawmill 62.17 29 *eP* **P 03 56 05.6 -0.3**
comp=Z,20nm,0.9s,mb5.0
SML Sawmill 62.17 29 *eP* **P 03 56 05.6 -0.2**
SML pmax pmax
comp=Z,20nm,0.9s,mb5.0
MCK McKinley 62.32 27 *eP* **P 03 56 06.0 -0.8**
comp=Z,23nm,1.1s,mb4.9
MCK McKinley 62.32 27 *eP* **P 03 56 06.0 -0.8**
MCK pmax pmax
comp=Z,23nm,1.1s,mb4.9
KSH Kashi 62.46 305 P **P 03 56 12.0 +3.8**
KSH PcP PcP 03 56 48.5 +2.6
KSH pP pP 03 56 53.1 +2.8
KSH sP sP 03 57 12.3 +2.4
KSH PP PP 03 58 33.9 +6.1
KSH ScP ScP 04 00 32.4 +1.7
KSH S **S 04 04 22.5 +1.5**
KSH sS sS 04 05 36.9 +2.7
KSH ScS ScS 04 05 43.3 +0.3
KSH pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
KSH pmax pmax
comp=Z,120nm,8.2s
KSH LR LR
comp=N,79nm,5.8s
KSH LR LR
comp=E,200nm,7.2s
KSH LR LR
comp=Z,200nm,7.3s
COLD Coldfoot 62.71 23 *eP* **P 03 56 10.0 +0.7**
comp=Z,18nm,1.0s,mb4.8
COLA College 63.04 26 *eP* **P 03 56 11.4 -0.2**
comp=Z,14nm,0.8s,mb4.8
COLA College 63.04 26 *eP* **P 03 56 11.4 -0.2**
COLA pmax pmax
comp=Z,14nm,0.8s,mb4.8
DIV Divide 63.25 30 *eP* **P 03 56 13.6 +0.5**
comp=Z,31nm,1.2s,mb5.0
ILAR Eielson Array 63.42 26 P **P 03 56 12.5 -1.6**
comp=Z,16nm,0.8s,mb4.9,baz=253,slow=5.0,SNR=163
ILAR Eielson Array 63.42 26 P **P 03 56 12.5 -1.6**
ILAR Eielson Array 63.42 26 P **P 03 56 12.5 -1.6**
AAK Ala-Archa 63.45 309 *i* P **P 03 56 14.9 +0.2**
AAK pmax pmax
comp=Z,29nm,2.2s,mb4.7
RAGM Ragged Mountai 63.68 31 *eP* **P 03 56 16.5 +0.7**
comp=Z,45nm,1.2s,mb5.2
PAX Paxson 63.70 28 *eP* **P 03 56 15.9 0.0**
comp=Z,17nm,0.6s,mb5.0
PAX Paxson 63.70 28 *eP* **P 03 56 15.9 0.0**
PAX pmax pmax
comp=Z,17nm,0.6s,mb5.0
BMRM Bremner River 63.79 31 *eP* **P 03 56 17.0 +0.5**
comp=Z,36nm,1.0s,mb5.2
MENT Mentasta 64.48 29 *eP* **P 03 56 21.3 +0.3**
BVAR Borovoye Array 66.04 320 P **P 03 56 31.1 -0.2**
comp=Z,3.3nm,0.7s,mb4.2,baz=97,slow=7.8,SNR=14
BVAR pP pP 03 57 10.4 -3.4
comp=Z,3.8nm,0.7s,baz=97,slow=8.1,SNR=5.6
BVAR Borovoye Array 66.04 320 P **P 03 56 31.1 -0.2**
BVAR pP pP 03 57 10.4 -3.4
BVAR Borovoye Array 66.04 320 P **P 03 56 31.1 -0.1**
SKAG Skagway 68.32 33 *eP* **P 03 56 46.0 +0.6**
comp=Z,12nm,0.7s,mb4.7
INK Inuvik 69.13 23 P **P 03 56 49.9 -0.4**
comp=Z,17nm,0.9s,mb4.8,baz=268,slow=6.7,SNR=26
INK Inuvik 69.13 23 P **P 03 56 49.9 -0.4**
INK Inuvik 69.13 23 P **P 03 56 49.9 -0.4**
ABKAR Akbulak array 72.91 317 *eP* **P 03 57 13.4 0.0**
PPT2 Papeete2 73.50 116 *eLR* LR 03 58 25.1
comp=Z,72nm,28.2s
AKTO Aktyubinsk 73.93 318 P **P 03 57 19.4 +0.1**
comp=Z,1.1nm,0.6s,mb3.7,baz=94,slow=4.9,SNR=6.0
AKTO Aktyubinsk 73.93 318 P **P 03 57 19.4 +0.1**
AKTO Aktyubinsk 73.93 318 P **P 03 57 19.4 +0.1**
TBI Tubuai 76.22 121 *eLR* LR 03 58 39.0
comp=Z,94nm,30.5s
JCW Jim Creek 77.74 43 *eP* **P 03 57 41.5 +0.6**
YKA Yellowknife Ar 77.78 28 P **P 03 57 40.2 -0.7**
comp=Z,7.1nm,0.6s,mb4.5,baz=290,slow=5.5,SNR=95
YKA pP pP 03 58 20.0 -4.7
comp=Z,0.1nm,0.3s,baz=291,slow=5.5,SNR=4.3
YKA Yellowknife Ar 77.78 28 P **P 03 57 40.2 -0.7**
YKA pP pP 03 58 20.1 -4.7
YKA Yellowknife Ar 77.78 28 P **P 03 57 40.2 -0.7**

KHMM Horse Mountain 78.38 51 *eP* **P 03 57 46.0 +1.4**
comp=Z,18nm,0.8s,mb4.7
KCPM Cahto Peak 78.80 52 *eP* **P 03 57 48.0 +1.0**
comp=Z,18nm,0.9s,mb4.7
YBH Yreka Blue Hor 78.90 50 *eP* **P 03 57 48.4 +0.9**
comp=Z,16nm,1.0s,mb4.6
YBH Yreka Blue Hor 78.90 50 *eP* **P 03 57 48.4 +1.0**
YBH pmax pmax
comp=Z,16nm,1.0s
ETW Entiat 78.93 43 *eP* **P 03 57 47.7 +0.1**
RES Resolute Bay 79.12 14 P **P 03 57 47.8 -0.3**
comp=Z,8.0nm,0.8s,mb4.4,baz=325,slow=4.5,SNR=27
RES Resolute Bay 79.12 14 P **P 03 57 47.8 -0.3**
RES Resolute Bay 79.12 14 P **P 03 57 47.8 -0.3**
G06A Carlson Farm, 79.39 46 ⇓P **P 03 57 48.4 -1.6**
baz=79
HAWA Hanford 79.80 44 *eP* **P 03 57 52.8 +0.5**
comp=Z,14nm,0.9s,mb4.6
K05A Summer Lake 79.92 48 ⇑P **P 03 57 53.7 +0.8**
baz=80
C09A Chrisman Ranch 80.21 43 ⇑P **P 03 57 54.1 -0.3**
baz=80
I07A Izee 80.50 47 ⇑P **P 03 57 56.2 +0.2**
baz=80
E09A Wood Farm, Sta 80.68 44 ⇓P **P 03 57 57.1 +0.1**
baz=80,SNR=9.1
J08A Circle Bar Ran 81.43 47 ⇑P **P 03 58 01.0 0.0**
baz=81,SNR=9.8
F10A Beach Ranch, E 81.45 44 ⇓P **P 03 58 00.4 -0.7**
baz=81
KEV Kevo 81.51 342 *eP* **P 03 57 58.8 -2.1**
KEV Kevo 81.51 342 *ep* **P 03 57 58.8 -2.1**
A12A Yaak River Ran 81.51 41 ⇓P **P 03 58 01.7 +0.4**
baz=81,SNR=9.0
WVOR Wild Horse Val 81.60 48 *eP* **P 03 58 01.6 -0.2**
comp=Z,11nm,0.9s,mb4.5
WVOR Wild Horse Val 81.60 48 *eP* **P 03 58 01.6 -0.3**
WVOR pmax pmax
comp=Z,11nm,0.9s,mb4.5
CMB Columbia Colle 81.67 53 *eP* **P 03 58 02.3 0.0**
comp=Z,16nm,0.8s,mb4.7
CMB Columbia Colle 81.67 53 *eP* **P 03 58 02.3 0.0**
CMB pmax pmax
comp=Z,16nm,0.8s,mb4.7
WCN Washoe City 81.75 51 ⇑P **P 03 58 02.8 +0.1**
baz=82,SNR=6.5
WCN Washoe City 81.75 51 *eP* **P 03 58 03.0 +0.3**
comp=Z,11nm,1.0s,mb4.4
WCN Washoe City 81.75 51 *eP* **P 03 58 03.0 +0.3**
WCN pmax pmax
comp=Z,11nm,1.0s,mb4.4
C12B Naegeli Ranch, 82.03 42 ⇑P **P 03 58 03.7 -0.3**
baz=82
ARCES ARCESS Array B 82.07 342 P **P 03 58 03.8 0.0**
comp=Z,5.1nm,0.6s,mb4.3,baz=73,slow=8.1,SNR=18
ARCES ARCESS Array B 82.07 342 P **P 03 58 03.8 0.0**
ARCES ARCESS Array B 82.07 342 P **P 03 58 03.8 0.0**
A13A Flathead Natio 82.28 41 ⇓P **P 03 58 05.6 +0.3**
baz=82
E12A Beaver Dam Sad 82.40 44 ⇑P **P 03 58 05.9 -0.1**
baz=82
BSMT Bassoo Peak 82.42 42 *eP* **P 03 58 06.3 +0.3**
B13A Whitefish 82.44 41 ⇑P **P 03 58 06.3 +0.2**
baz=82,SNR=7.3
C13A Hot Springs 82.61 42 ⇑P **P 03 58 06.9 -0.1**
baz=82,SNR=6.0
F12A Elk City 82.83 44 ⇑P **P 03 58 08.2 0.0**
baz=83
A14A Double T Ranch 82.88 41 ⇑P **P 03 58 08.7 +0.3**
baz=83,SNR=6.8
D13A Huson 82.89 43 ⇑P **P 03 58 07.6 -0.8**
baz=83
MLAC Mammoth Lakes 82.96 53 ⇓P **P 03 58 09.8 +0.8**
baz=83
PKM Peak Mountain 83.06 56 ⇑P **P 03 58 09.6 -0.1**
baz=83
NVAR Mina Array Bea 83.10 52 P **P 03 58 10.1 +0.3**
comp=Z,18nm,0.8s,mb4.9,baz=265,slow=6.2,SNR=77
NVAR Mina Array Bea 83.10 52 P **P 03 58 10.1 +0.3**
C14A Swan Lake 83.10 42 ⇓P **P 03 58 09.1 -0.4**
baz=83
B14A Marquette Ranc 83.19 41 ⇓P **P 03 58 10.2 +0.2**
baz=83,SNR=5.5
MFID Camas Ranch 83.23 46 ⇑P **P 03 58 10.3 -0.1**
baz=83,SNR=14
MFID Camas Ranch 83.23 46 *eP* **P 03 58 10.3 0.0**
comp=Z,16nm,0.9s,mb4.7
E13A Victor 83.29 43 ⇑P **P 03 58 09.9 -0.6**
baz=83
A15A Johnson Ranch, 83.30 40 ⇓P **P 03 58 10.5 -0.1**
baz=83,SNR=11
VES Vestal, Richgr 83.33 55 ⇑P **P 03 58 09.5 -1.5**
baz=83
F13A Darby 83.42 44 ⇑P **P 03 58 10.5 -0.7**
baz=83,SNR=9.6
SLMT Seeley Lake 83.45 42 *eP* **P 03 58 11.3 0.0**
H12A Diamond D Ranc 83.51 45 ⇑P **P 03 58 11.5 -0.2**
baz=83,SNR=6.1
I12A Atlanta 83.58 46 ⇓P **P 03 58 11.9 -0.1**
baz=83,SNR=9.2
JOF Joensuu 83.59 335 *eP* **P 03 58 09.6 -2.1**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
JOF Joensuu 83.59 335 *ep* **P 03 58 09.6 -2.1**
comp=Z,8.4nm,0.6s,mb4.7
B15A Bradely Ranch, 83.65 41 ⇑P **P 03 58 12.0 -0.3**
baz=84,SNR=7.9
G13A Cobalt 83.73 45 ⇑P **P 03 58 12.5 -0.3**
baz=84,SNR=18
E14A Clinton 83.75 43 ⇓P **P 03 58 12.9 0.0**
baz=84
C15A Salmond Ranch, 83.82 42 ⇓P **P 03 58 13.0 -0.2**
baz=84,SNR=5.9
ISA Isabella 83.86 55 ⇓P **P 03 58 12.9 -0.8**
baz=84
H13A Challis 83.90 45 ⇓P **P 03 58 13.6 -0.1**
baz=84,SNR=14
A16A West Butte Ran 84.01 40 ⇓P **P 03 58 13.8 -0.4**
baz=84,SNR=7.4
F14A Wisdom 84.04 44 ⇓P **P 03 58 13.5 -0.8**
baz=84
B16A M & M Farms, S 84.14 41 ⇓P **P 03 58 14.4 -0.4**
baz=84,SNR=5.0
D15A Lincoln 84.14 42 ⇓P **P 03 58 14.1 -0.7**
baz=84
HLID Hailey 84.15 46 ⇑P **P 03 58 15.0 +0.1**
baz=84,SNR=13
HLID Hailey 84.15 46 *eP* **P 03 58 15.0 0.0**
comp=Z,17nm,1.4s,mb4.6
G14A Jackson 84.19 44 ⇓P **P 03 58 14.6 -0.5**
baz=84
I13A Wildhorse Cree 84.23 46 ⇑P **P 03 58 15.4 +0.1**
baz=84,SNR=7.2
GRAC Grapevine Rang 84.27 53 ⇓P **P 03 58 15.4 -0.3**
baz=84
E15A Deer Lodge 84.29 43 ⇓P **P 03 58 15.4 -0.2**
baz=84,SNR=16
C16A Fuhringer Ranc 84.35 41 ⇑P **P 03 58 15.5 -0.4**
baz=84,SNR=12
J13A Cove Ranch, Pi 84.37 46 ⇑P **P 03 58 16.2 +0.2**
baz=84,SNR=12
H14A Leadore 84.48 45 ⇑P **P 03 58 16.7 +0.1**
baz=84,SNR=16
MPMC Manual Prospec 84.49 54 ⇑P **P 03 58 16.6 -0.2**
baz=84
EDW2 Edwards Air Fo 84.49 55 ⇓P **P 03 58 16.7 -0.1**
baz=84
A17A Triple J Farms 84.56 40 ⇑P **P 03 58 16.9 0.0**
baz=84,SNR=6.2
ELK Elko 84.56 49 *eP* **P 03 58 17.4 +0.3**
comp=Z,14nm,0.9s,mb4.7
ELK Elko 84.56 49 *eP* **P 03 58 17.4 +0.3**
ELK pmax pmax
comp=Z,14nm,0.9s
F15A Butte 84.60 43 ⇑P **P 03 58 17.0 -0.2**
baz=84,SNR=16
LRM Limekiln Ridge 84.64 43 *eP* **P 03 58 17.3 -0.1**
comp=Z,115nm,0.8s,mb5.7
I14A Mackay 84.67 45 ⇓P **P 03 58 18.2 +0.6**
baz=84,SNR=13
HRY Holter Researc 84.70 42 *eP* **P 03 58 17.8 +0.1**
DLMT Dillon 84.71 44 *eP* **P 03 58 17.8 +0.1**
comp=Z,5.9nm,0.8s,mb4.4
B17A L&G Farms, Che 84.75 41 ⇓P **P 03 58 17.7 -0.2**
baz=85,SNR=14
D16A Dana Ranch, Ca 84.76 42 ⇑P **P 03 58 17.8 -0.1**
baz=85,SNR=13

FURC Furnace Creek, 84.83 53 ⇑P **P 03 58 18.3 -0.2**
baz=85
OBN Obninsk 84.84 327⇑ *eP* **P 03 58 21.4 +3.2**
OBN *e* 04 01 36.0
OBN *eS* S 04 08 26.1 -4.9
OBN pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
J14A Carey 84.84 46 ⇓P **P 03 58 19.1 +0.7**
baz=85
G15A Dillon 84.86 44 ⇓P **P 03 58 18.2 -0.3**
baz=85,SNR=7.3
E16A East Helena 84.87 43 ⇑P **P 03 58 18.6 +0.1**
baz=85,SNR=16
H15A Lima 84.96 45 ⇑P **P 03 58 19.1 +0.1**
baz=85,SNR=6.8
BFSC Mount Baldy Ra 84.96 56 ⇑P **P 03 58 19.0 -0.2**
baz=85
C17A Wharram Farm, 85.03 41 ⇓P **P 03 58 18.7 -0.6**
baz=85,SNR=9.4
A18A Metzger Ranch, 85.09 40 ⇑P **P 03 58 19.4 -0.2**
baz=85,SNR=20
R11A Troy Canyon, C 85.14 51 ⇑P **P 03 58 19.8 -0.2**
baz=85
F16A Kennard Place, 85.19 43 ⇓P **P 03 58 20.0 -0.1**
baz=85,SNR=5.3
D17A Six Diamond Ra 85.26 42 ⇑P **P 03 58 20.4 0.0**
baz=85,SNR=18
GSC Goldstone 85.27 54 ⇑P **P 03 58 20.2 -0.5**
baz=85
G16A Moss Hill, Enn 85.28 44 ⇓P **P 03 58 20.5 -0.1**
baz=85,SNR=15
I15A Monteview 85.29 45 ⇓P **P 03 58 21.1 +0.4**
baz=85,SNR=5.8
B18A Beardsley Farm 85.34 40 ⇑P **P 03 58 20.5 -0.3**
baz=85,SNR=9.2
K14A Jones Ranch, D 85.36 47 ⇓P **P 03 58 21.5 +0.4**
baz=85,SNR=14
E17A Martinsdale 85.42 42 ⇑P **P 03 58 21.4 +0.1**
baz=85,SNR=9.6
EGMT Eagleton 85.50 41 ⇑P **P 03 58 21.2 -0.4**
baz=85
EGMT Eagleton 85.50 41 *eP* **P 03 58 21.5 -0.1**
comp=Z,9.3nm,0.9s,mb4.5
L14A Malta 85.50 47 ⇓P **P 03 58 22.2 +0.4**
baz=85,SNR=9.5
J15A Blackfoot 85.55 46 ⇑P **P 03 58 22.9 +0.9**
baz=85,SNR=20
QLMT Earthquake Lak 85.68 44 *eP* **P 03 58 23.5 +1.0**
K15A Arbon 85.75 46 ⇓P **P 03 58 23.4 +0.5**
baz=86,SNR=6.1
F17A Fitzpatrick Pl 85.76 43 ⇑P **P 03 58 23.1 +0.2**
baz=86,SNR=8.2
HEC Hector,Ludlow 85.80 55 ⇓P **P 03 58 23.4 +0.1**
baz=86
D18A Linhart Farms, 85.80 41 ⇓P **P 03 58 23.1 0.0**
baz=86
B19A Brinkman Farms 85.82 40 ⇓P **P 03 58 23.0 -0.2**
baz=86,SNR=17
H16A Russell Place, 85.85 44 ⇓P **P 03 58 24.1 +0.7**
baz=86,SNR=11
HVU Hansel Valley 85.92 47 *eP* **P 03 58 24.1 +0.3**
comp=Z,24nm,1.3s,mb4.8
HVU Hansel Valley 85.92 47 *eP* **P 03 58 24.1 +0.3**
HVU pmax pmax
comp=Z,24nm,1.3s,mb4.8
G17A Pierce Place, 85.94 43 ⇓P **P 03 58 24.2 +0.4**
baz=86,SNR=7.4
E18A Harlowton 85.98 42 ⇓P **P 03 58 24.3 +0.3**
baz=86,SNR=12
KAF Kangasniemi 85.98 336 *eP* **P 03 58 17.2 -6.5**
KAF Kangasniemi 85.98 336 *ep* **P 03 58 17.2 -6.5**
I16A Newdale 86.01 45 ⇓P **P 03 58 24.8 +0.6**
baz=86,SNR=14
YMR Madison River 86.05 44 *eP* **P 03 58 25.4 +1.0**
comp=Z,35nm,0.8s,mb5.1
C19A Slack Wire Ran 86.05 41 ⇓P **P 03 58 24.4 0.0**
baz=86,SNR=6.4
L15A Malad City 86.11 47 ⇑P **P 03 58 24.6 -0.1**
baz=86,SNR=11
J16A Bone 86.15 46 ⇑P **P 03 58 25.4 +0.5**
baz=86,SNR=18
YFT Old Faithful 86.22 44 *eP* **P 03 58 27.5 +2.3**
comp=Z,15nm,0.8s,mb4.8
YNR Norris Junctio 86.22 44 *eP* **P 03 58 26.6 +1.5**
comp=Z,21nm,1.0s,mb4.8
A20A Cobblestone Ra 86.26 39 ⇑P **P 03 58 24.9 -0.4**
baz=86,SNR=11
M15A Larsen Ranch, 86.27 47 ⇓P **P 03 58 25.5 0.0**
baz=86,SNR=8.7
DCID1 Drake Creek 86.32 45 *eP* **P 03 58 26.8 +1.1**
comp=Z,18nm,1.2s,mb4.7
RRI2 Red Ridge 86.32 45 *eP* **P 03 58 26.3 +0.5**
comp=Z,11nm,0.8s,mb4.6
K16A Soda Springs 86.34 46 ⇓P **P 03 58 26.4 +0.6**
baz=86,SNR=10.0
F18A Big Timber 86.37 43 ⇑P **P 03 58 26.1 +0.2**
baz=86,SNR=7.0
D19A Cripps Ranch, 86.39 41 ⇑P **P 03 58 25.8 -0.2**
baz=86,SNR=17
B20A Solberg Farm, 86.39 40 ⇓P **P 03 58 25.2 -0.7**
baz=86
R13A O'Grain Ranch, 86.39 51 ⇓P **P 03 58 26.7 +0.5**
baz=86,SNR=5.3
H17A Grant Village 86.41 44 ⇓P **P 03 58 28.6 +2.5**
baz=86
FLWY Flagg Ranch 86.45 45 *eP* **P 03 58 27.1 +0.8**
comp=Z,14nm,0.8s,mb4.7
FINES FINESS Array B 86.45 335 P **P 03 58 24.2 -1.8**
comp=Z,1.8nm,0.3s,mb4.2,baz=56,slow=5.1,SNR=27
FINES FINESS Array B 86.45 335 P **P 03 58 24.2 -1.8**
FINES FINESS Array B 86.45 335 P **P 03 58 24.2 -1.8**
DUG Dugway 86.48 49 ⇓P **P 03 58 26.6 0.0**
baz=86,SNR=15
TPAW Teton Pass 86.51 45 *eP* **P 03 58 27.4 +0.7**
comp=Z,4.4nm,0.7s,mb4.4
MOOW Moose Ponds 86.55 45 *eP* **P 03 58 27.4 +0.5**
comp=Z,99nm,3.0s
I17A Pilgrim Ck. 86.60 45 ⇑P **P 03 58 27.4 +0.3**
baz=86
REDW Red Top Meadow 86.63 45 *eP* **P 03 58 27.8 +0.5**
comp=Z,22nm,1.8s,mb4.7
O15A The Old Anders 86.70 49 ⇓P **P 03 58 27.6 0.0**
baz=86
LOHW Long Hollow 86.70 45 *eP* **P 03 58 27.9 +0.3**
comp=Z,12nm,1.5s,mb4.5
C20A Veseth Ranch, 86.70 40 ⇓P **P 03 58 27.6 +0.1**
baz=86,SNR=11
J17A Brown Place, J 86.72 45 ⇑P **P 03 58 27.6 -0.1**
baz=87
E19A Rath Farm, Rou 86.73 42 ⇓P **P 03 58 27.9 +0.2**
baz=87
L16A Fish Haven 86.76 47 ⇑P **P 03 58 28.1 +0.2**
baz=87,SNR=8.1
K17A Gardner Place, 86.82 46 ⇑P **P 03 58 27.6 -0.6**
baz=87
HWUT Hardware Ranch 86.83 47 *eP* **P 03 58 28.1 -0.1**
comp=Z,17nm,0.9s,mb4.9
D20A Manuel Ranch, 86.88 41 ⇑P **P 03 58 28.1 -0.2**
baz=87,SNR=7.9
F19A Roth Farm, Mol 86.88 42 ⇑P **P 03 58 28.4 -0.1**
baz=87
H18A Shoshone NF, C 86.90 44 ⇓P **P 03 58 29.0 +0.5**
baz=87
FFC Flin Flon 86.91 32 *eP* **P 03 58 27.9 -0.5**
comp=Z,17nm,1.0s,mb4.8
FFC Flin Flon 86.91 32 *i* P **P 03 58 28.2 -0.2**
ARUT Antelope Range 86.92 51 *eP* **P 03 58 29.0 +0.2**
comp=Z,12nm,1.0s,mb4.7
ARUT Antelope Range 86.92 51 *eP* **P 03 58 29.0 +0.2**
ARUT pmax pmax
comp=Z,12nm,1.0s,mb4.7
IRM Iron Mountain 86.94 55 ⇑P **P 03 58 28.5 -0.5**
baz=87
B21A Ellsworth Farm 87.00 39 ⇓P **P 03 58 29.0 +0.1**
baz=87
CCUT Cedar City 87.07 51 *eP* **P 03 58 29.2 -0.2**
comp=Z,9.4nm,1.0s,mb4.6
P15A Leamington 87.10 49 ⇓P **P 03 58 29.5 -0.1**
baz=87
L17A Cokeville 87.11 46 ⇓P **P 03 58 29.3 -0.3**
baz=87,SNR=5.2
E20A Meyer Farm, Mu 87.13 42 ⇑P **P 03 58 29.5 -0.1**
baz=87
N16A Rees Ranch, Co 87.19 48 ⇓P **P 03 58 29.8 -0.2**
baz=87
J18A Kendall Valley 87.25 45 ⇑P **P 03 58 30.4 +0.2**
baz=87,SNR=6.1
JLU Jordanelle 87.29 48 *eP* **P 03 58 30.4 -0.1**

comp=Z,12nm,0.8s,mb4.8
H19A Powell 87.34 43 ⇓P P 03 58 30.6 -0.1
baz=87
MPU Maple Canyon 87.39 49 eP P 03 58 31.3 +0.3
comp=Z,12nm,1.1s,mb4.6
A22A Carney Farms, 87.41 39 ⇑P P 03 58 30.0 -0.9
baz=87
K18A Toltan Ranch, 87.46 46 ⇓P P 03 58 31.5 +0.2
baz=87,SNR=6.3
M17A Scullys Gap (B 87.50 47 ⇓P P 03 58 30.9 -0.6
baz=87
P16A Fountain Green 87.53 49 ⇑P P 03 58 31.3 -0.4
baz=87
MSU Marysvale 87.57 50 eP P 03 58 32.4 +0.5
MSU Marysvale 87.57 50 eP P 03 58 32.4 +0.5
Y12C Blythe 87.57 55 ⇓P P 03 58 31.8 -0.2
baz=87
W13A Hualapai Mount 87.58 54 ⇓P P 03 58 31.9 0.0
baz=87
GLA Glamis 87.59 56 ⇑P P 03 58 31.6 -0.4
baz=88
N17A Moffit Pass 87.59 47 ⇑P P 03 58 31.5 -0.4
baz=87
D21A La Casta Ranch 87.60 41 ⇓P P 03 58 31.3 -0.5
baz=87
G20A Bridger 87.61 43 ⇑P P 03 58 31.6 -0.3
baz=87
R15A Junction 87.62 50 ⇑P P 03 58 32.4 +0.3
baz=88,SNR=5.9
BW06 Boulder Array 87.74 45 ⇓P P 03 58 32.6 0.0
baz=88,SNR=5.5
PDAR Pinedale Array 87.74 45 P P 03 58 32.1 -0.4
comp=Z,1.9nm,0.5s,mb4.2,baz=207,slow=3.3,SNR=17
PDAR Pinedale Array 87.74 45 P P 03 58 32.1 -0.4
L18A Fontenelle, Gr 87.75 46 ⇓P P 03 58 32.6 0.0
baz=88,SNR=6.1
E21A Keefer Ranch, 87.77 41 ⇓P P 03 58 32.7 +0.1
baz=88
J19A Crowheart 87.87 45 ⇓P P 03 58 33.3 +0.1
baz=88,SNR=9.1
M18A Lyman 87.93 47 ⇓P P 03 58 33.0 -0.5
baz=88
O17A Robinson Place 87.95 48 ⇓P P 03 58 33.8 +0.1
baz=88,SNR=9.6
TMUT Trail Mountain 87.97 49 eP P 03 58 34.1 +0.4
comp=Z,7.1nm,0.9s,mb4.5
D22A Cohagen 88.06 40 ⇓P P 03 58 33.7 -0.3
baz=88
Q16A Castle Valley 88.14 49 ⇑P P 03 58 34.8 +0.2
baz=88,SNR=5.4
R16A Teasdale 88.17 50 ⇑P P 03 58 35.4 +0.7
baz=88
B23A Brockton 88.19 39 ⇓P P 03 58 33.8 -0.8
baz=88
K19A Absolon Red Bu 88.19 45 ⇑P P 03 58 34.1 -0.6
baz=88,SNR=11
I20A Worland 88.20 44 ⇑P P 03 58 34.4 -0.3
baz=88
P17A Butcher Ranch, 88.23 49 ⇓P P 03 58 35.1 +0.1
baz=88
LAO LASA Array 88.24 41 ⇓P P 03 58 34.7 -0.2
baz=88,SNR=6.3
LAO LASA Array 88.24 41 eP P 03 58 34.9 +0.1
comp=Z,12nm,1.0s,mb4.7
G21A Lodge Grass 88.25 42 ⇑P P 03 58 34.5 -0.4
baz=88
S16A Weppner Ranch, 88.30 51 ⇓P P 03 58 35.4 0.0
baz=88,SNR=5.3
C23A Lambert 88.38 40 ⇑P P 03 58 35.0 -0.4
baz=88
N18A Larsen Ranch, 88.38 47 ⇑P P 03 58 35.0 -0.6
baz=88
O18A Roosevelt 88.44 48 ⇑P P 03 58 35.8 -0.1
baz=88
Z13A Yuma Proving G 88.45 55 ⇓P P 03 58 35.9 -0.2
baz=88
J20A Shoshoni 88.48 44 ⇑P P 03 58 35.5 -0.6
baz=88
P18A Preston Nutter 88.52 48 ⇑P P 03 58 36.1 -0.3
baz=88
SRU San Rafael 88.53 49 eP P 03 58 36.0 -0.4
comp=Z,9.8nm,0.8s,mb4.8
SRU San Rafael 88.53 49 eP P 03 58 36.0 -0.4
SRU pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
K20A Yellowstone Ra 88.60 45 ⇑P P 03 58 36.1 -0.5
baz=88,SNR=8.7
F22A Rosebud 88.62 42 ⇓P P 03 58 35.9 -0.7
baz=88
H21A Big Horn, Sher 88.62 43 ⇑P P 03 58 36.6 -0.1
baz=88,SNR=13
D23A Lindsay 88.64 40 ⇓P P 03 58 36.8 0.0
baz=88
R17A Hanksville Air 88.67 50 ⇑P P 03 58 36.8 -0.2
baz=88,SNR=12
Y14A Wickenburg 88.68 55 ⇓P P 03 58 37.1 -0.1
baz=88,SNR=7.0
N19A John Jarvie Ra 88.76 47 ⇓P P 03 58 37.0 -0.4
baz=89
I21A Big Trails, Te 88.81 44 ⇑P P 03 58 37.5 -0.1
baz=89
Q18A Rafter H Ranch 88.81 49 ⇓P P 03 58 36.8 -0.9
baz=89
G22A Birney 88.84 42 ⇓P P 03 58 37.4 -0.3
baz=89
L20A Wamsutter 88.87 46 ⇑P P 03 58 37.7 -0.3
baz=89
E23A Ismay 88.89 41 ⇑P P 03 58 37.9 0.0
baz=89
J21A Lysite 88.90 44 ⇓P P 03 58 38.3 +0.2
baz=89
S17A Black Ridge (B 88.91 50 ⇑P P 03 58 37.7 -0.5
baz=89
Z14A Wintersburg 88.94 55 ⇓P P 03 58 38.0 -0.4
baz=89
O19A Miners Draw (B 89.04 48 ⇓P P 03 58 38.0 -0.8
baz=89
H22A Clearmont 89.08 43 ⇑P P 03 58 38.5 -0.4
baz=89
T17A Navajo Res., N 89.16 51 ⇓P P 03 58 39.3 -0.1
baz=89
F23A Volborg 89.18 41 ⇓P P 03 58 38.4 -0.8
baz=89
M20A Sweetwater, Wa 89.19 46 ⇑P P 03 58 39.6 +0.2
baz=89
D24A Glendive 89.21 40 ⇑P P 03 58 39.0 -0.3
baz=89
114A Black Gap (USA 89.22 56 ⇓P P 03 58 39.8 0.0
baz=89
U16A Tuba City 89.26 52 ⇓P P 03 58 40.3 +0.4
baz=89,SNR=5.1
R18A Canyonlands Na 89.27 49 ⇑P P 03 58 39.4 -0.4
baz=89,SNR=7.0
I22A 9 Mile Ranch, 89.30 43 ⇓P P 03 58 39.4 -0.5
baz=89
WUAZ Wupatki 89.32 53 ⇓P P 03 58 40.3 +0.1
baz=89,SNR=12
WUAZ Wupatki 89.32 53 eP P 03 58 40.1 0.0
comp=Z,16nm,0.9s,mb5.0
K21A Alcova 89.34 45 ⇑P P 03 58 40.0 -0.1
baz=89,SNR=10
P19A Cripple Cowboy 89.41 48 ⇓P P 03 58 40.5 0.0
baz=89,SNR=10
N20A Spence Gulch, 89.42 47 ⇑P P 03 58 40.3 -0.2
baz=89
G23A Biddle 89.42 42 ⇑P P 03 58 39.8 -0.6
baz=89
U17A Shonto 89.42 51 ⇓P P 03 58 40.9 +0.3
baz=89
S18A Hurst Farm, Bl 89.48 50 ⇓P P 03 58 40.5 -0.4
baz=89,SNR=5.0
J22A Midwest 89.51 44 ⇑P P 03 58 40.3 -0.6
baz=89
L21A Rawlins 89.55 45 ⇑P P 03 58 40.4 -0.6
baz=89
214A Organ Pipe Nat 89.58 56 ⇓P P 03 58 41.8 +0.4
baz=89
X16A Lo Mia Camp, P 89.70 54 ⇑P P 03 58 42.2 +0.3
baz=90
M21A Separation Pea 89.70 46 ⇑P P 03 58 41.5 -0.3
baz=90
V17A Tonalea, Kykot 89.71 52 ⇑P P 03 58 42.3 +0.3
baz=90,SNR=8.8
O20A White River Ci 89.72 47 ⇓P P 03 58 41.7 -0.3
baz=90
R19A Curley Farm, L 89.77 49 ⇑P P 03 58 41.8 -0.4
baz=90,SNR=5.7
T18A Mexican Hat 89.79 51 ⇑P P 03 58 42.0 -0.3
baz=90,SNR=7.3
K22A Casper 89.81 45 ⇓P P 03 58 42.2 -0.1
baz=90
P20A De Beque 89.88 48 ⇓P P 03 58 42.0 -0.7
baz=90
N21A Black Mountain 89.96 47 ⇓P P 03 58 43.1 +0.1
baz=90,SNR=9.7
PV04 Paradox Valley 89.98 49 eP P 03 58 43.1 -0.1
S19A Harvey Farm, M 90.08 50 ⇓P P 03 58 43.1 -0.6
baz=90
U18A Rough Rock, Ch 90.08 51 ⇓P P 03 58 43.5 -0.2
baz=90
L22A Ellis Ranch, M 90.15 45 ⇑P P 03 58 43.7 -0.2
baz=90
H24A Dirks Ranch, A 90.16 42 ⇑P P 03 58 42.9 -1.0
baz=90
Q20A Ridgley Place, 90.18 48 ⇓P P 03 58 43.9 -0.2
baz=90,SNR=6.1
V18A Ganado 90.32 52 ⇓P P 03 58 45.2 +0.4
baz=90
PV01 Paradox Valley 90.33 49 eP P 03 58 44.6 -0.2
comp=Z,977nm,0.7s
K23A Bowen Ranch, D 90.36 44 ⇓P P 03 58 44.3 -0.5
baz=90
Y17A Roosevelt 90.43 54 ⇑P P 03 58 45.3 -0.1
baz=90
R20A Redvale 90.44 49 ⇑P P 03 58 44.9 -0.4
baz=90
T19A Beclabito 90.54 51 ⇓P P 03 58 46.0 +0.2
baz=90,SNR=14
L23A Garrett 90.60 45 ⇑P P 03 58 45.6 -0.4
baz=90,SNR=6.2
S20A Disappointment 90.60 50 ⇓P P 03 58 45.8 -0.3
baz=90
U19A Dine' College, 90.62 51 ⇓P P 03 58 46.2 0.0
baz=90
J24A Dixon Ranch, L 90.73 43 ⇑P P 03 58 46.2 -0.4
baz=91
Q21A Lamborn Mesa, 90.74 48 ⇓P P 03 58 46.9 +0.2
baz=91,SNR=6.7
MVCO Mesa Verde 90.76 50 ⇑P P 03 58 47.2 +0.4
baz=91
X18A Snowflake 90.78 53 ⇑P P 03 58 47.5 +0.5
baz=91
M23A Laramie 90.87 45 ⇑P P 03 58 47.3 +0.1
baz=91,SNR=7.1
Z17A San Carlos Hig 90.88 54 ⇓P P 03 58 47.8 +0.4
baz=91
O22A Kremmling 90.89 47 ⇑P P 03 58 47.2 -0.1
baz=91,SNR=7.2
R21A Cimarron 90.96 49 ⇑P P 03 58 48.2 +0.5
baz=91,SNR=21
N23A Red Feather La 90.98 46 ⇓P P 03 58 48.3 +0.5
baz=91,SNR=9.2
P22A Eagle 90.99 47 ⇑P P 03 58 48.1 +0.3
baz=91,SNR=6.5
Y18A Canyon Day Jun 91.02 54 ⇑P P 03 58 48.8 +0.7
baz=91,SNR=7.4
S21A Coal Bank Pass 91.08 49 ⇓P P 03 58 48.5 +0.2
baz=91,SNR=6.2
U20A Newcomb 91.09 51 ⇓P P 03 58 48.4 0.0
baz=91,SNR=6.9
Q22A Crested Butte, 91.20 48 ⇓P P 03 58 49.2 +0.4
baz=91,SNR=8.1
Z18A Geronimo 91.30 54 ⇓P P 03 58 49.9 +0.5
baz=91
O23A Lake Granby, G 91.30 47 ⇑P P 03 58 49.6 +0.4
baz=91
X19A St. Johns 91.32 53 ⇑P P 03 58 49.9 +0.4
baz=91,SNR=6.3
V20A Brimhall 91.37 51 ⇑P P 03 58 49.7 0.0
baz=91,SNR=7.6
M24A Cheyenne 91.47 45 ⇑P P 03 58 49.5 -0.6
baz=91
118A Homack Ranch, 91.53 55 ⇑P P 03 58 50.9 +0.5
baz=91
Y19A Nutrioso 91.54 53 ⇓P P 03 58 51.0 +0.5
baz=91
T21A Navajo Lake 91.55 50 ⇓P P 03 58 50.3 -0.2
baz=91
K25A Mack Ranch, Ha 91.58 44 ⇑P P 03 58 50.4 -0.1
baz=91
R22A Saguache, Gunn 91.58 49 ⇓P P 03 58 51.0 +0.4
baz=91
W20A Ramah 91.63 52 ⇑P P 03 58 50.6 -0.2
baz=92
ISCO Idaho Springs 91.69 47 ⇓P P 03 58 51.4 +0.3
baz=92,SNR=6.3
ISCO Idaho Springs 91.69 47 eP P 03 58 51.5 +0.4
comp=Z,3.2nm,0.8s,mb4.4
ISCO Idaho Springs 91.69 47 eP P 03 58 51.5 +0.4
ISCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
U21A Nageezi 91.70 51 ⇑P P 03 58 51.4 +0.2
baz=92,SNR=11
P23A Jefferson 91.72 47 ⇓P P 03 58 52.3 +1.0
baz=92,SNR=7.2
N24A Carr 91.73 46 ⇑P P 03 58 51.6 +0.4
baz=92
218A Dragoon 91.73 55 ⇓P P 03 58 52.3 +0.8
baz=92,SNR=7.8
S22A 4UR Ranch, Cre 91.74 49 ⇓P P 03 58 51.7 +0.4
baz=92,SNR=7.6
Z19A T-Link Ranch, 91.80 54 ⇑P P 03 58 52.0 +0.2
baz=92
X20A Quemado 91.87 53 ⇓P P 03 58 52.8 +0.8
baz=92,SNR=8.7
O24A Longmont 91.92 46 ⇑P P 03 58 52.7 +0.6
baz=92
Q23A Hartsel 91.93 48 ⇑P P 03 58 52.5 +0.3
baz=92
HFS Hagfors 91.95 338 P P 03 58 49.3 -2.5
comp=Z,2.4nm,0.9s,mb4.2,baz=72,slow=9.3,SNR=3.2
HFS Hagfors 91.95 338 P P 03 58 49.3 -2.5
HFS Hagfors 91.95 338 P P 03 58 49.3 -2.5
V21A Milan 91.98 51 ⇑P P 03 58 52.7 +0.2
baz=92
K26A Motz Farm, Whi 91.99 43 ⇓P P 03 58 52.3 -0.1
baz=92
318A Bisbee 91.99 56 ⇑P P 03 58 52.7 +0.1
baz=92
T22A Edith 92.00 50 ⇑P P 03 58 52.7 +0.1
baz=92,SNR=8.0
M25A Palm-Egli Farm 92.00 45 ⇓P P 03 58 52.8 +0.3
baz=92
Y20A Horse Springs, 92.23 53 ⇓P P 03 58 54.5 +0.8
baz=92,SNR=7.5
R23A Moffat 92.25 48 ⇑P P 03 58 54.1 +0.4
baz=92
U22A Llaves 92.31 50 ⇓P P 03 58 54.6 +0.6
baz=92
219A White Tail Can 92.33 55 ⇓P P 03 58 54.5 +0.3
baz=92
Q24A Divide 92.39 47 ⇑P P 03 58 54.3 0.0
baz=92
Z20A Nine Sixteen R 92.39 54 ⇑P P 03 58 55.3 +0.8
baz=92,SNR=13
ULM Lac du Bonnet 92.43 34 P P 03 58 53.4 -0.9
comp=Z,4.5nm,0.8s,mb4.6,baz=316,slow=5.3,SNR=8.5
ULM Lac du Bonnet 92.43 34 P P 03 58 53.4 -0.9
ULM Lac du Bonnet 92.43 34 P P 03 58 53.4 -0.9
X21A Alamocita Cree 92.45 52 ⇑P P 03 58 55.3 +0.6
baz=92
O25A Wiggins 92.57 46 ⇓P P 03 58 55.4 +0.2
baz=92
319A Douglas 92.57 56 ⇑P P 03 58 55.3 0.0
baz=92
120A U Bar Ranch, L 92.59 54 ⇑P P 03 58 56.2 +0.8
baz=92,SNR=7.7
K27A Flueckinger Fa 92.60 43 ⇓P P 03 58 54.5 -0.7
baz=92
T23A Casias Ranch, 92.61 49 ⇓P P 03 58 56.0 +0.6
baz=92
SDCO Great Sand Dun 92.68 49 ⇓P P 03 58 55.9 +0.2
baz=92
Y21A Point of Rocks 92.71 53 ⇑P P 03 58 56.7 +0.8
baz=93
R24A Sanders Place, 92.74 48 ⇑P P 03 58 56.7 +0.7
baz=93
U23A El Rito 92.81 50 ⇓P P 03 58 56.8 +0.5
baz=93,SNR=9.4
P25A Willow Gulch B 92.81 47 ⇑P P 03 58 56.3 0.0
baz=93
S24A Houchin Ranch, 92.93 49 ⇑P P 03 58 56.7 -0.1
baz=93
220A Playas Peak, P 92.94 55 ⇑P P 03 58 57.3 +0.3
baz=93
X22A Bernardo 93.00 52 ⇑P P 03 58 57.5 +0.3
baz=93
Z21A St. Cloud Mine 93.01 53 ⇑P P 03 58 58.1 +0.8
baz=93,SNR=9.5
Q25A Bedland, Calha 93.03 47 ⇑P P 03 58 57.2 -0.1
baz=93
V23A Ortiz Mt. (NFS 93.07 51 ⇓P P 03 58 58.5 +0.9
baz=93
320A Kipp Ranch, An 93.17 55 ⇓P P 03 58 58.6 +0.5
baz=93
121A Cookes Peak, D 93.25 54 ⇓P P 03 58 58.4 -0.1
baz=93
Y22A Socorro 93.28 53 ⇓P P 03 58 58.8 +0.3
baz=93
W23A Werner Place, 93.35 51 ⇓P P 03 58 59.4 +0.5
baz=93
U24A Moreno Valley 93.44 50 ⇓P P 03 58 59.9 +0.7
baz=93
S25A Robets Cordova 93.48 48 ⇑P P 03 58 59.2 -0.2
baz=93
Q26A Hugo 93.53 47 ⇓P P 03 58 59.3 -0.3
baz=93
Z22A Elephant Butte 93.57 53 ⇑P P 03 59 00.4 +0.5
baz=93,SNR=6.4
BRTR Keskin Array B 93.69 314 P P 03 58 59.1 -1.2
comp=Z,0.8nm,0.8s,mb3.9,baz=134,slow=3.6,SNR=4.6
BRTR Keskin Array B 93.69 314 P P 03 58 59.1 -1.2
BRTR Keskin Array B 93.69 314 P P 03 58 59.1 -1.2
T25A Trinidad 93.73 49 ⇑P P 03 59 00.4 -0.2
baz=94
V24A Rampart Ranch, 93.75 50 ⇓P P 03 59 00.7 +0.1
baz=94
122A Conniff Cattle 93.78 54 ⇑P P 03 59 00.9 0.0
baz=94
W24A Lazy 6 Ranch, 93.88 51 ⇑P P 03 59 01.4 +0.2
baz=94,SNR=5.4
Y23A Lovelace Mesa, 93.96 52 ⇓P P 03 59 01.9 +0.3
baz=94
U25A Circle Dot Ran 94.07 49 ⇓P P 03 59 01.7 -0.4
baz=94
KSCO Kaye Shedlock' 94.11 46 ⇓P P 03 59 02.2 -0.1
baz=94
Z23A Rita Site, Whi 94.12 53 ⇓P P 03 59 02.4 0.0
baz=94
V25A Rancho No Teng 94.17 50 ⇓P P 03 59 02.5 -0.1
baz=94
Y24A Capitan 94.43 52 ⇑P P 03 59 03.5 -0.3
baz=94
U26A Atchley Ranch, 94.55 49 ⇓P P 03 59 04.2 -0.1
baz=94
W25A X Bar L Ranch, 94.57 50 ⇑P P 03 59 04.2 -0.2
baz=94
X25A Clemmons Ranch 94.73 51 ⇓P P 03 59 05.0 -0.2
baz=95
Z24A Sheeppen Canyo 94.74 53 ⇑P P 03 59 05.3 0.0
baz=95
Y25A Mesa, Roswell 94.98 52 ⇑P P 03 59 06.0 -0.4
baz=95
224A Cornudas Mount 95.18 54 ⇑P P 03 59 07.2 0.0
baz=95,SNR=5.1
Z25A Roswell 95.25 52 ⇑P P 03 59 07.5 -0.1
baz=95
X26A CR and CF Fran 95.35 51 ⇑P P 03 59 07.6 -0.4
baz=95
MNTX Cornudas Mount 95.45 54 ⇑P P 03 59 08.4 -0.1
baz=95
324A Moseley Ranch, 95.48 54 ⇑P P 03 59 07.9 -0.7
baz=95
125A Gardner Draw, 95.57 53 ⇓P P 03 59 08.2 -0.9
baz=95
Z26A Caprock 95.81 52 ⇑P P 03 59 10.1 0.0
baz=96
325A Bean Ranch, Si 95.91 54 ⇑P P 03 59 10.4 -0.2
baz=96
Y27A Causey 96.13 51 ⇑P P 03 59 11.5 0.0
baz=96
425A Indio Mountain 96.16 55 ⇓P P 03 59 11.3 -0.4
baz=96
Z27A Tatum 96.35 52 ⇓P P 03 59 11.7 -0.9
baz=96
426A McDonald Obser 96.94 54 ⇑P P 03 59 15.0 -0.3
baz=97
526A Mary Lane Ranc 97.17 55 ⇑P P 03 59 16.1 -0.2
baz=97
427A Hayter Ranch, 97.34 54 ⇑P P 03 59 17.0 -0.1
baz=97
626A Big Bend Ranch 97.36 55 ⇑P P 03 59 16.5 -0.7
baz=97
TXAR Lajitas Array 97.83 55 P P 03 59 19.1 -0.2
comp=Z,0.6nm,0.7s,mb4.2,baz=308,slow=4.3,SNR=5.2
TXAR Lajitas Array 97.83 55 P P 03 59 19.1 -0.2
TXAR Lajitas Array 97.83 55 P P 03 59 19.2 -0.1
428A Kincaid Ranch, 97.95 54 ⇑P P 03 59 19.7 -0.1
baz=98
627A Terlingua Ranc 97.99 55 ⇑P P 03 59 19.5 -0.5
baz=98
528A Cox Ranch, San 98.13 54 ⇓P P 03 59 20.4 -0.3
baz=98
628A Black Gap, Mar 98.36 55 ⇓P P 03 59 21.7 0.0
baz=98
TORD Torodi Ar. Bea 132.04 309 PKP PKPdf 04 04 57.1 0.0
comp=Z,0.4nm,0.6s,baz=5.1,slow=1.9,SNR=3.2
TORD SKPbc SKPbc 04 08 04.3 -2.1
comp=Z,0.8nm,0.8s,baz=48,slow=2.5,SNR=5.4
TORD Torodi Ar. Bea 132.04 309 PKP PKPdf 04 04 57.1 +0.1
TORD SKPbc SKPbc 04 08 04.3 -2.1
DBIC Dimbokro 141.13 308 SKPbc SKPbc 04 08 31.3 -2.6
comp=Z,1.9nm,0.8s,baz=16,slow=5.2,SNR=2.9
DBIC Dimbokro 141.13 308 SKPbc SKPbc 04 08 31.3 -2.6
PLCA Paso Flores 142.43 133 PKhKP PKPpre 04 05 11.4
comp=Z,1.2nm,0.8s,baz=180,slow=5.1,SNR=3.8
PLCA Paso Flores 142.43 133 PKPpre PKPpre 04 05 11.4
LPAZ La Paz 147.92 90 PKP PKPdf 04 05 26.4 +0.9
comp=Z,4.9nm,0.9s,baz=260,slow=0.9,SNR=13
LPAZ PKPbc PKPbc 04 05 29.6 +0.9
comp=Z,4.9nm,0.9s,baz=327,slow=1.5,SNR=12
LPAZ PKPab PKPab 04 05 34.1 +2.3
comp=Z,2.1nm,0.6s,baz=326,slow=8.1,SNR=9.2
LPAZ La Paz 147.92 90 ePKPdf PKPdf 04 05 26.2 +0.7
LPAZ PKP PKPdf 04 05 26.4 +0.9
LPAZ ePKPbc PKPbc 04 05 29.6 +0.9
LPAZ PKPab PKPab 04 05 34.1 +2.3
SAML Samuel 150.50 74 ePKPdf PKPdf 04 05 28.9 -0.8
SAML ePKPbc PKPbc 04 05 34.4 -0.9
SAML ePKPab PKPab 04 05 40.8 -1.6

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*ISCJB **18** 03:50:59.8±0.6, 36°.53N±0°.04×27°.13E±0°.06, h130km±5km,*
Error ellipse: s-maj=8.0km s-min=5.9km az=33.9
*ATH **18** 03:51:00.9, 36°.65N×26°.97E, h109km±10km*
*CSEM **18** 03:51:00.4±0.3, 36°.54N×27°.12E, h127km±4km, MD3.0,*
Error ellipse: s-maj=6.8km s-min=4.9km az=112.0
*ISK **18** 03:51:02.2, 36°.73N×27°.09E, h115km, MD3.0*
*THE **18** 03:51:02.3, 36°.76N×26°.80E, h12km±3km, ML3.2/1, Error ellipse: s-maj=3.8km s-min=0.7km az=344.0*
*HLW **18** 03:51:02.1, 36°.66N×27°.40E, h26km±18km, Md4.0*
ISC 18 03:51:00.6±0.7, 36°.55N±0°.04×27°.12E±0°.06, h127km±6km, n52, ∞0°93/68, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.41**	**63**	***e*PG**	**Pn**	**03 51 19.7**	**+1.0**
DAT				*e*SG	**Sn**	**03 51 32.3**	**-0.1**
BODT	**Bodrum**	**0.54**	**16**	***e*PG**	**Pn**	**03 51 18.9**	**-0.6**
BODT				*e*SG	**Sn**	**03 51 31.8**	**-2.0**
BODT	**Bodrum**	**0.54**	**16**	***e*Pg**	**Pn**	**03 51 18.9**	**-0.5**
ARG	**Arkhangelos**	**0.88**	**112**	***e*P**	**Pn**	**03 51 23.3**	**+1.3**
ARG				*e*S	**Sn**	**03 51 39.3**	**+1.1**
ARG	**Arkhangelos**	**0.88**	**112**	P	**Pn**	**03 51 23.4**	**+1.4**
ARG				S	**Sn**	**03 51 39.6**	**+1.4**
ARG	**Arkhangelos**	**0.88**	**112**	***e*P**	**Pn**	**03 51 23.3**	**+1.3**
ARG				*e*S	**Sn**	**03 51 39.3**	**+1.1**
KARP	**Karpathos**	**1.00**	**178**	***e*P**	**Pn**	**03 51 23.7**	**+0.6**
KARP				*e*S	**Sn**	**03 51 40.6**	**+0.4**
KARP	**Karpathos**	**1.00**	**178**	P	**Pn**	**03 51 23.8**	**+0.7**
KARP				S	**Sn**	**03 51 41.0**	**+0.8**
KARP	**Karpathos**	**1.00**	**178**	***e*P**	**Pn**	**03 51 23.7**	**+0.6**
KARP				S	**Sn**	**03 51 41.0**	**+0.8**
YER	**Yerkesik**	**1.10**	**57**	***e*PG**	**Pn**	**03 51 25.4**	**+1.3**
YER	**Yerkesik**	**1.10**	**57**	***e*Pg**	**Pn**	**03 51 25.4**	**+1.3**
TURN	**Turunc**	**1.23**	**74**	***i*P**	**Pn**	**03 51 22.7**	**-2.8**
TURN	**Turunc**	**1.23**	**74**	***i*P**	**Pn**	**03 51 22.7**	**-2.8**
AYDN	**Tasoluk**	**1.27**	**28**	***i*P**	**Pn**	**03 51 26.1**	**+0.3**
AYDN	**Tasoluk**	**1.27**	**28**	***i*P**	**Pn**	**03 51 26.1**	**+0.3**
NPS	**Neapolis**	**1.77**	**224**	***e*P**	**Pn**	**03 51 31.6**	**0.0**
NPS				*e*S	**Sn**	**03 51 54.1**	**-1.1**

NPS	**Neapolis**	**1.77**	**224**	P	**Pn**	**03 51 31.6**	**0.0**
NPS				S	**Sn**	**03 51 54.2**	**-1.0**
NPS	**Neapolis**	**1.77**	**224**	P	**Pn**	**03 51 31.6**	**0.0**
NPS				S	**Sn**	**03 51 54.2**	**-1.0**
BLCB	**Balcova**	**1.84**	**358**	*e*PN	**Pn**	**03 51 32.3**	**-0.1**
BLCB	**Balcova**	**1.84**	**358**	*e*Pn	**Pn**	**03 51 32.3**	**0.0**
IZM	**Izmir**	**1.85**	**3**	*e*PN	**Pn**	**03 51 32.7**	**+0.2**
IZM	**Izmir**	**1.85**	**3**	*e*Pn	**Pn**	**03 51 32.7**	**+0.2**
DNZL	**Cakiroluk**	**1.92**	**53**	*i* P	**Pn**	**03 51 33.9**	**+0.6**
DNZL	**Cakiroluk**	**1.92**	**53**	*i* P	**Pn**	**03 51 33.9**	**+0.6**
DNZL				*i* S	**Sn**	**03 51 57.0**	**-1.3**
GLHS	**Glhisar (BURDU**	**2.00**	**72**	*e*PN	**Pn**	**03 51 35.8**	**+1.5**
GLHS	**Glhisar (BURDU**	**2.00**	**72**	*e*Pn	**Pn**	**03 51 35.8**	**+1.5**
AKAS	**Kas**	**2.03**	**98**	*i* P	**Pn**	**03 51 34.9**	**+0.2**
AKAS	**Kas**	**2.03**	**98**	*i* P	**Pn**	**03 51 34.8**	**+0.1**
AKAS				*i* S	**Sn**	**03 52 00.0**	**-0.8**
GOLH	**Golhisar**	**2.08**	**70**	*i* P	**Pn**	**03 51 35.5**	**+0.3**
GOLH	**Golhisar**	**2.08**	**70**	*i* P	**Pn**	**03 51 35.5**	**+0.3**
GOLH				*i* S	**Sn**	**03 52 00.5**	**-1.3**
ELL	**Elmali**	**2.25**	**84**	*e*PN	**Pn**	**03 51 39.2**	**+1.8**
ELL	**Elmali**	**2.25**	**84**	*e*Pn	**Pn**	**03 51 39.2**	**+1.8**
MANT	**Manisa**	**2.25**	**30**	*i* P	**Pn**	**03 51 37.3**	**-0.1**
MANT	**Manisa**	**2.25**	**30**	*i* P	**Pn**	**03 51 37.3**	**-0.1**
KULA	**Kula-Manisa**	**2.31**	**31**	*e*PN	**Pn**	**03 51 38.0**	**-0.2**
KULA	**Kula-Manisa**	**2.31**	**31**	*e*Pn	**Pn**	**03 51 38.0**	**-0.2**
KHAL	**Karahalli**	**2.62**	**45**	*i* P	**Pn**	**03 51 43.0**	**+0.9**
KHAL	**Karahalli**	**2.62**	**45**	*i* P	**Pn**	**03 51 43.0**	**+0.9**
VAM	**Vamos**	**2.63**	**245**	*e*P	**Pn**	**03 51 42.3**	**+0.1**
VAM	**Vamos**	**2.63**	**245**	*e*P	**Pn**	**03 51 42.3**	**+0.1**
AMAG	**Maghara**	**7.77**	**137**	P	**Pn**	**03 52 50.0**	**-1.0**
	baz=139						
AMAG				S	**Sn**	**03 54 12.3**	**-5.1**
	baz=139						
AMAG	**Maghara**	**7.77**	**137**	P	**Pn**	**03 52 50.0**	**-1.0**
HHAG	**Hagoal**	**7.78**	**146**	P	**Pn**	**03 52 50.8**	**-0.4**
	baz=148						
HHAG	**Hagoal**	**7.78**	**146**	P	**Pn**	**03 52 50.8**	**-0.3**
GLL	**Jalalah**	**7.94**	**150**	P	**Pn**	**03 52 53.0**	**-0.3**
	baz=151						
GLL	**Jalalah**	**7.94**	**150**	P	**Pn**	**03 52 53.0**	**-0.3**
SUZ		**8.22**	**143**	P	**Pn**	**03 52 56.7**	**-0.4**
	baz=144						
SUZ				S	**Sn**	**03 54 23.7**	**-4.5**
	baz=144						
SUZ		**8.22**	**143**	P	**Pn**	**03 52 56.7**	**-0.3**
HNKL	**Nakhl**	**8.75**	**137**	P	**Pn**	**03 53 03.5**	**-0.6**
	baz=138						
HNKL	**Nakhl**	**8.75**	**137**	P	**Pn**	**03 53 03.5**	**-0.6**
HKAT	**Jabal Katrina**	**9.88**	**142**	P	**Pn**	**03 53 19.1**	**-0.2**
	baz=143						
HKAT	**Jabal Katrina**	**9.88**	**142**	P	**Pn**	**03 53 19.1**	**-0.2**

*NEIC **18** 03:57:48.0, 15°.32N×94°.58W, h18km, MD4.0(MEX), After MEX.*

MEX 18 03:57:47.9±0.8, 15°.34N×94°.58W, h18km±55km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.36**	**74**	*i* P	Pn	03 58 09.0	-3.0
PCIG				*i* S	Sn	03 58 23.8	-5.8
PCIG		**1.36**	**74**	*i* P	Pn	03 58 09.0	-3.0
PCIG				*i* S	Sn	03 58 24.2	-5.4
HUIG	**Huatulco**	**1.53**	**286**	*e*P	Pn	03 58 11.4	-2.9
HUIG				*i* S	Sn	03 58 28.0	-5.7
HUIG	**Huatulco**	**1.53**	**286**	*e*P	Pn	03 58 11.4	-2.9
HUIG				*i* S	Sn	03 58 28.3	-5.4
CMIG	**Matias Romero**	**1.77**	**351**	*e*P	Pn	03 58 14.5	-3.0
CMIG				*i* S	Sn	03 58 35.6	-3.9
CMIG	**Matias Romero**	**1.77**	**351**	*e*P	Pn	03 58 14.5	-3.0
CMIG				*i* S	Sn	03 58 35.6	-3.9
TGIG		**2.00**	**44**	*i* P	Pn	03 58 18.7	-2.1
TGIG				*i* S	Sn	03 58 42.4	-3.0
TGIG		**2.00**	**44**	*i* P	Pn	03 58 18.7	-2.1
TGIG				*i* S	Sn	03 58 40.9	-4.4
THIG		**2.28**	**101**	*i* P	Pn	03 58 24.7	+0.2
THIG				*i* S	Sn	03 58 49.9	-2.3
THIG		**2.28**	**101**	*i* P	Pn	03 58 24.7	+0.2
THIG				*i* S	Sn	03 58 49.9	-2.3
CCIG	**Comitan**	**2.53**	**68**	*e*P	Pn	03 58 26.6	-1.5
CCIG				*i* S	Sn	03 58 55.8	-2.7
CCIG	**Comitan**	**2.53**	**68**	*e*P	Pn	03 58 26.8	-1.3
CCIG				*i* S	Sn	03 58 54.4	-4.1
VHO	**Vista Hermosa**	**2.69**	**310**	*i* P	Pn	03 58 28.1	-2.2
VHO				*i* S	Sn	03 59 00.1	-2.2
VHO	**Vista Hermosa**	**2.69**	**310**	*i* P	Pn	03 58 28.1	-2.2
VHO				*i* S	Sn	03 58 59.1	-3.2
PNIG	**Pinotepa**	**3.57**	**288**	*i* P	Pn	03 58 39.8	-2.5
PNIG				*i* S	Sn	03 59 20.7	-3.3
PNIG	**Pinotepa**	**3.57**	**288**	*i* P	Pn	03 58 39.8	-2.5
PNIG				*i* S	Sn	03 59 20.7	-3.3
UTMO	**Huajuapan**	**3.96**	**309**	*i* P	Pn	03 58 52.7	+5.0
UTMO				*i* S	Sn	03 59 30.1	-3.6
UTMO	**Huajuapan**	**3.96**	**309**	*i* P	Pn	03 58 46.0	-1.7
UTMO				*i* S	Sn	03 59 30.5	-3.1

*MOS **18** 04:05:07.3±0.9, 50°.85N×158°.54E, h13km, mb4.3/1, Error ellipse: s-maj=47.3km s-min=15.3km az=81.5*

KRSC 18 04:05:12.3±0.5, 51°.24N×158°.45E, h10km±10km, ML4.2, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.20**	**2**	*i* P	Pb	04 05 35.8	+0.8
RUS				*i* S	Sb	04 05 52.9	+2.4
RUS	**Russkaya**	**1.20**	**2**	PN	Pn	04 05 35.8	+0.8
RUS				S	Sb	04 05 52.9	+2.4
GRL	**Gorelyy**	**1.33**	**350**	*e*P	Pn	04 05 38.2	+1.2
GRL				*i* S	Sb	04 05 56.6	+2.1
MIPR	**Malaya Ipel'ka**	**1.48**	**315**	*i* P	Pn	04 05 37.4	-1.5
MIPR				*i* S	Sn	04 05 56.4	-1.9
SKR	**Severo-Kuril's**	**1.58**	**250**	*e*PN	Pn	04 05 35.5	-4.8
SKR				*e*S	Sn	04 05 51.9	-8.8
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				smax			
	comp=N,920nm,0.2s						
SKR				smax			
	comp=E,510nm,0.2s						
PET	**Petropavlovsk**	**1.79**	**4**	*i* P	Pn	04 05 44.2	+1.0
PET				*i* S	Sn	04 06 07.2	+1.2
PET	**Petropavlovsk**	**1.79**	**4**	⇓*i*PN	Pn	04 05 44.3	+1.1
PET				*e*S	Sn	04 06 08.3	+2.3
PET				pmax	pmax		
	comp=Z,83nm,0.5s						
PET				smax			
	comp=N,753nm,0.6s						
PET				smax			
	comp=E,277nm,0.5s						
NLC	**Nalytchevo**	**2.01**	**16**	*e*P	Pn	04 05 46.5	+0.3
NLC				*i* S	Sn	04 06 10.8	-0.6
NLC	**Nalytchevo**	**2.01**	**16**	PN	Pn	04 05 46.5	+0.3
AVH	**Avacha**	**2.04**	**5**	*i* P	Pn	04 05 48.5	+1.9
AVH				*i* S	Sn	04 06 14.5	+2.5
KOK	**Koryaka**	**2.06**	**3**	*i* P	Pn	04 05 49.2	+2.3
KOK				*i* S	Sn	04 06 15.9	+3.3
SDLR	**Sedlovina**	**2.06**	**7**	*i* P	Pn	04 05 48.1	+1.2
SDLR				*e*S	Sn	04 06 13.9	+1.3
SPN	**Mys Shipunski**	**2.10**	**27**	*e*P	Pn	04 05 49.2	+1.8
SPN				*i* S	Sn	04 06 16.0	+2.4
SPN	**Mys Shipunski**	**2.10**	**27**	PN	Pn	04 05 49.2	+1.8
SPN				S	Sn	04 06 16.0	+2.4
TUMR	**Tumrok**	**4.18**	**13**	P	Pn	04 06 16.6	+0.6
KBTR	**Krutoberegovo**	**5.61**	**26**	*e*P	Pn	04 06 36.6	+0.9
KBTR	**Krutoberegovo**	**5.61**	**26**	PN	Pn	04 06 36.6	+0.9

*IDC **18** 04:23:49.9±1.3, 31°.47S×176°.95W, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.1/18, mbtmp4.1/8, ML4.0/2, MS3.7/6, Ms1 3.7/6, ms1mx3.4/19, Error ellipse: s-maj=35.6km s-min=26.1km az=152.0*

*NEIC **18** 04:23:51.2±1.1, 31°.57S×176°.89W, h10km, mb4.3/2, Error ellipse: s-maj=24.6km s-min=19.2km az=121.0*

*ISCJB **18** 04:23:53.3±1.3, 31°.5S±0°.1×177°.0W±0°.2, h33km, mb4.1/7, MS3.7/5, Error ellipse: s-maj=27.3km s-min=11.6km az=22.5*

ISC 18 04:23:55.6±1.3, 31°.4S±0°.1×177°.0W±0°.2, h35km, n28, σ1§25/20, mb4.1/7, MS3.7/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.36**	**214**	Pn	**Pn**	**04 25 52.6**	**-1.6**
	0.9nm,0.3s,baz=18,slow=16,SNR=5.8						
URZ				Sn	**Sn**	**04 27 28.5**	**+1.2**
	1.6nm,0.3s,baz=170,slow=18,SNR=7.2						
URZ	**Urewera**	**8.36**	**214**	Pn	**Pn**	**04 25 52.6**	**-1.6**
URZ				Sn	**Sn**	**04 27 28.5**	**+1.2**
RPZ	**Rata Peaks**	**15.48**	**214**	Pn	**Pn**	**04 27 27.3**	**-3.8**
	1.6nm,0.3s,baz=29,slow=9.4,SNR=5.8						
RPZ	**Rata Peaks**	**15.48**	**214**	Pn	**Pn**	**04 27 27.3**	**-3.8**
DZM	**Mont Dzumac**	**17.44**	**298**	*e*LR	LR	04 31 57.6	
	524nm,26.9s						
RAR	**Rarotonga**	**18.47**	**61**	LR	LR	04 33 41.1	
	comp=Z,121nm,19.2s,baz=102,slow=32						
TBI	**Tubuai**	**25.70**	**79**	*e*LR	LR	04 35 24.4	
	245nm,28.2s						
PPT2	**Papeete2**	**28.41**	**67**	*e*LR	LR	04 36 31.5	
	179nm,26.2s						
HNR	**Honiara**	**30.60**	**311**	LR	LR	04 40 29.2	
	comp=Z,142nm,20.2s,MS3.6,baz=124,slow=33						
CTA	**Charters Tower**	**34.80**	**280**	P	**P**	**04 30 44.8**	**+1.7**
	1.9nm,0.4s,mb4.3,baz=107,slow=9.0,SNR=6.5						
CTA				LR	LR	04 42 31.4	
	comp=Z,140nm,19.8s,MS3.7,baz=53,slow=32						
CTA	**Charters Tower**	**34.80**	**280**	P	**P**	**04 30 44.8**	**+1.7**
CTAO	**Charters Tower**	**34.80**	**280**	*e*P	**P**	**04 30 44.7**	**+1.6**
	2.3nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**35.09**	**258**	P	**P**	**04 30 47.0**	**+1.6**
	4.0nm,0.8s,mb4.4,baz=74,slow=8.3,SNR=5.4						
STKA				LR	LR	04 42 56.6	
	comp=Z,89nm,18.0s,MS3.6,baz=193,slow=33						
STKA	**Stephens Creek**	**35.09**	**258**	P	**P**	**04 30 47.0**	**+1.6**
ASAR	**Alice Springs**	**43.91**	**268**	P	**P**	**04 31 58.0**	**-1.0**
	2.8nm,1.0s,mb3.9,baz=110,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**43.91**	**268**	P	**P**	**04 31 58.0**	**-1.0**
WRAB	**Tennant Creek**	**44.98**	**273**	*e*P	**P**	**04 32 07.1**	**-0.6**
	4.8nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**44.99**	**273**	P	**P**	**04 32 06.2**	**-1.5**
	3.1nm,0.9s,mb4.1,baz=111,slow=7.9,SNR=24						
WRA				LR	LR	04 49 37.6	
	comp=Z,87nm,19.1s,MS3.7,baz=70,slow=34						
WRA	**Warramunga Arr**	**44.99**	**273**	P	**P**	**04 32 06.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**53.21**	**270**	P	**P**	**04 33 10.6**	**0.0**
	0.8nm,0.4s,mb4.0,baz=90,slow=12,SNR=2.2						
FITZ	**Fitzroy Crossi**	**53.21**	**270**	P	**P**	**04 33 10.6**	**0.0**
PLCA	**Paso Flores**	**81.20**	**132**	LR	LR	05 02 32.9	
	comp=Z,63nm,19.0s,MS4.0,baz=51,slow=29						
TXAR	**Lajitas Array**	**92.23**	**57**	P	**P**	**04 37 02.6**	**+0.7**
	0.5nm,1.0s,mb3.8,baz=218,slow=7.3,SNR=4.8						
TXAR	**Lajitas Array**	**92.23**	**57**	P	**P**	**04 37 02.6**	**+0.7**
FINES	**FINESS Array B**	**146.39**	**340**	PKPbc	PKPbc	04 43 30.3	-1.7
	3.8nm,0.7s,baz=29,slow=6.3,SNR=4.8						
FINES	**FINESS Array B**	**146.39**	**340**	PKPbc	PKPbc	04 43 30.3	-1.7
TORD	**Torodi Ar. Bea**	**161.78**	**176**	PKPab	PKPab	04 44 38.2	-0.6
	0.5nm,0.8s,baz=202,slow=2.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**161.78**	**176**	PKPab	PKPab	04 44 38.2	-0.5

IDC 18 04:27:38.3±2.0, 31°.21S×176°.74W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/17, mbtmp4.1/6, ML3.3/1, Error ellipse: s-maj=46.8km s-min=41.5km az=16.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.66**	**214**	Pn	Pn	04 29 43.1	-1.7
	0.3nm,0.3s,baz=15,slow=15,SNR=3.1						
RPZ	**Rata Peaks**	**15.78**	**214**	Pn	Pn	04 31 17.4	-4.3
	1.0nm,0.3s,baz=288,slow=20,SNR=2.8						
CTA	**Charters Tower**	**35.00**	**279**	P	P	04 34 33.9	+1.3
	1.7nm,0.4s,baz=135,slow=5.7,SNR=3.4						
STKA	**Stephens Creek**	**35.36**	**258**	P	P	04 34 36.7	+1.1
	4.6nm,1.0s,baz=51,slow=6.8,SNR=3.7						
ASAR	**Alice Springs**	**44.15**	**267**	P	P	04 35 48.2	-0.6
	0.8nm,0.6s,baz=105,slow=7.5,SNR=6.4						
WRA	**Warramunga Arr**	**45.21**	**272**	P	P	04 35 56.7	-0.6
	0.8nm,0.4s,baz=111,slow=8.0,SNR=14						
FITZ	**Fitzroy Crossi**	**53.44**	**270**	P	P	04 36 59.8	-0.6
	3.3nm,0.8s,baz=198,slow=3.2,SNR=2.9						
FINES	**FINESS Array B**	**146.27**	**340**	PKPbc	PKPbc	04 47 19.2	-0.8
	3.7nm,0.8s,baz=12,slow=9.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**161.97**	**175**	PKPab	PKPab	04 48 27.6	-0.3
	0.3nm,0.8s,baz=178,slow=4.1,SNR=3.5						

*NEIC **18** 04:29:08.8±1.6, 29°.95S×179°.02W, h311km±15km, mb4.4/3, Error ellipse: s-maj=24.1km s-min=14.2km az=92.0*

*IDC **18** 04:29:09.0±2.8, 29°.95S×179°.03W, h312km±22km, mb3.5/5, mb1 3.7/6, mb1mx3.5/17, mbtmp3.6/6, Error ellipse: s-maj=29.0km s-min=24.8km az=30.0*

ISC 18 04:29:15.5±1.3, 30°.42S±0°.07×179°.3W±0°.4, h368km±17km, n48, σ1§11/45, mb3.6/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**7.41**	**195**	*e*PN	**Pn**	**04 31 02.9**	**0.0**
MXZ				SN	**S**	**04 32 31.0**	**+0.5**
URZ	**Urewera**	**8.38**	**200**	P	**Pn**	**04 31 13.1**	**-1.1**
	8.2nm,0.3s,baz=278,slow=4.5,SNR=30						
URZ				S	**S**	**04 32 52.9**	**+1.5**
	4.7nm,0.3s,baz=44,slow=23,SNR=12						
URZ	**Urewera**	**8.38**	**200**	*e*Pn	**Pn**	**04 31 14.4**	**+0.2**
	21nm,0.3s						
URZ				S	**S**	**04 32 52.9**	**+1.5**
URZ	**Urewera**	**8.38**	**200**	PN	**Pn**	**04 31 13.3**	**-0.9**
URZ				SN	**S**	**04 32 52.3**	**+1.0**
KNZ	**Kokohu**	**8.95**	**196**	PN	**Pn**	**04 31 22.2**	**+1.4**
NMHZ	**Naumai**	**9.25**	**199**	PN	**Pn**	**04 31 25.3**	**+0.9**
BKZ	**Black Stump Fm**	**9.40**	**201**	PN	**Pn**	**04 31 25.9**	**-0.3**
MCHZ	**McNeill Hill**	**9.60**	**199**	PN	**Pn**	**04 31 30.7**	**+2.1**
CKHZ	**Cape Kidnapper**	**9.70**	**197**	PN	**Pn**	**04 31 31.1**	**+1.4**
TUVZ	**Tukino**	**9.77**	**204**	PN	**Pn**	**04 31 32.0**	**+1.4**
MOVZ	**Moawhango**	**9.86**	**203**	PN	**Pn**	**04 31 32.5**	**+0.8**
KAHZ	**Kahuranaki**	**9.88**	**198**	PN	**Pn**	**04 31 30.0**	**-1.8**
PXZ	**Pawanui**	**10.11**	**197**	PN	**Pn**	**04 31 34.8**	**+0.2**
PXZ				*e*SN	**S**	**04 33 27.7**	**-1.1**
TSZ	**Takapari Road**	**10.39**	**201**	PN	**Pn**	**04 31 37.6**	**-0.2**
TSZ				SN	**S**	**04 33 33.6**	**-1.3**
MRZ	**Mangatainoka R**	**11.05**	**201**	PN	**Pn**	**04 31 44.3**	**-1.4**
MRZ				*e*SN	**S**	**04 33 48.0**	**-1.9**
HOWZ	**Holdsworth Sta**	**11.29**	**201**	PN	**Pn**	**04 31 47.9**	**-0.6**
OGWZ	**Otaki Gorge**	**11.32**	**202**	PN	**Pn**	**04 31 47.8**	**-1.1**
SNZO	**South Karori**	**11.92**	**203**	*e*Pn	**Pn**	**04 31 55.6**	**-0.3**
SNZO				*e*S	**S**	**04 34 05.5**	**-2.1**
TCW	**Tory Channel**	**11.98**	**204**	*e*PN	**Pn**	**04 31 55.9**	**-0.7**
NNZ	**Nelson**	**12.32**	**207**	*e*SN	**S**	**04 34 15.5**	**-0.2**
MSVF	**Nonsavu**	**12.86**	**348**	*e*Pn	**Pn**	**04 31 56.7**	**-11**
	22nm,0.8s						
THZ	**Tophouse**	**12.97**	**207**	*e*SN	**S**	**04 34 29.1**	**+0.3**
KHZ	**Kahutara**	**13.30**	**204**	*e*Pn	**Pn**	**04 32 11.3**	**-0.7**
	9.8nm,0.3s						
KHZ				*e*S	**S**	**04 34 36.6**	**+1.1**
KHZ	**Kahutara**	**13.30**	**204**	*e*SN	**S**	**04 34 37.0**	**+1.5**
RPZ	**Rata Peaks**	**15.35**	**207**	S	**S**	**04 35 19.8**	**+3.2**
	0.7nm,0.3s,baz=200,slow=23,SNR=3.0						
CTA	**Charters Tower**	**32.73**	**280**	P	**P**	**04 35 16.4**	**+0.9**
	1.4nm,0.3s,mb3.6,baz=99,slow=9.4,SNR=4.2						
CTA	**Charters Tower**	**32.73**	**280**	P	**P**	**04 35 16.4**	**+0.9**
STKA	**Stephens Creek**	**33.42**	**257**	P	**P**	**04 35 22.5**	**+1.3**
	2.4nm,0.6s,mb3.6,baz=81,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**33.42**	**257**	P	**P**	**04 35 22.5**	**+1.3**
ASAR	**Alice Springs**	**42.03**	**268**	P	**P**	**04 36 31.9**	**-0.6**
	1.2nm,0.5s,mb3.3,baz=103,slow=7.7,SNR=12						
ASAR				ScP	ScP	04 41 40.3	+5.8
	0.4nm,0.6s,baz=114,slow=3.3,SNR=3.8						
ASAR	**Alice Springs**	**42.03**	**268**	P	**P**	**04 36 31.9**	**-0.6**
ASAR				ScP	ScP	04 41 40.3	+5.8
WRAB	**Tennant Creek**	**43.01**	**273**	*e*P	**P**	**04 36 39.5**	**-0.9**
	5.5nm,0.7s,mb3.8						
WRA	**Warramunga Arr**	**43.02**	**273**	P	**P**	**04 36 39.3**	**-1.2**
	3.2nm,0.6s,mb3.6,baz=111,slow=7.6,SNR=16						
WRA				ScP	ScP	04 41 42.8	+4.2
	0.5nm,0.6s,baz=104,slow=3.8,SNR=7.7						
WRA	**Warramunga Arr**	**43.02**	**273**	P	**P**	**04 36 39.3**	**-1.2**
WRA				ScP	ScP	04 41 42.8	+4.2
FITZ	**Fitzroy Crossi**	**51.27**	**271**	P	**P**	**04 37 43.7**	**+0.2**
	3.5nm,0.9s,mb3.6,baz=158,slow=12,SNR=3.8						
FITZ	**Fitzroy Crossi**	**51.27**	**271**	P	**P**	**04 37 43.7**	**+0.2**
ARCES	**ARCESS Array B**	**138.37**	**347**	PKP	PKPdf	04 47 57.5	+0.8
	8.4nm,1.0s,baz=29,slow=2.8,SNR=5.2						
ARCES	**ARCESS Array B**	**138.37**	**347**	PKP	PKPdf	04 47 57.5	+0.8
FINES	**FINESS Array B**	**144.78**	**339**	PKP	PKPdf	04 48 06.3	-1.9
	2.4nm,0.3s,baz=56,slow=3.8,SNR=22						
FINES	**FINESS Array B**	**144.78**	**339**	PKP	PKPdf	04 48 06.3	-1.9
NOA	**NORSAR Array B**	**148.59**	**350**	PKPbc	PKPbc	04 48 17.7	-1.1
	1.0nm,0.6s,baz=16,slow=4.2,SNR=3.9						
NOA	**NORSAR Array B**	**148.59**	**350**	PKPbc	PKPbc	04 48 17.7	-1.2
AKASG	**Malin Array Be**	**150.65**	**322**	PKPbc	PKPbc	04 48 21.0	-3.1
	0.4nm,0.4s,baz=48,slow=2.5,SNR=6.0						
AKASG	**Malin Array Be**	**150.65**	**322**	PKPbc	PKPbc	04 48 21.0	-3.1
BRTR	**Keskin Array B**	**151.65**	**298**	PKPbc	PKPbc	04 48 26.6	-0.2
	0.6nm,0.5s,baz=139,slow=5.2,SNR=6.9						
BRTR				PKPab	PKPab	04 48 36.2	-0.9
	0.5nm,0.5s,baz=152,slow=3.7,SNR=4.7						
BRTR	**Keskin Array B**	**151.65**	**298**	PKPbc	PKPbc	04 48 26.6	-0.2
BRTR				PKPab	PKPab	04 48 36.2	-0.9
TORD	**Torodi Ar. Bea**	**162.79**	**183**	PKPab	PKPab	04 49 28.3	+2.7
	0.4nm,0.7s,baz=187,slow=3.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**162.79**	**183**	PKPab	PKPab	04 49 28.3	+2.7

*ISCJB **18** 05:09:52.6±0.7, 45°.94N±0°.03×15°.85E±0°.06, h13km±5km, Error ellipse: s-maj=7.6km s-min=4.1km az=23.6*

*CSEM **18** 05:09:52.8±0.2, 45°.91N×15°.86E, h10km, ML2.5/9, Error ellipse: s-maj=4.2km s-min=2.7km az=116.0*

*LJU **18** 05:09:52.0, 45°.88N×15°.90E, h13km, ML2.0*

*VIE **18** 05:09:53.9±0.7, 45°.96N×15°.74E, h6km±5km, ML2.0/3, Error ellipse: s-maj=4.8km s-min=2.1km az=112.0 20 km E of Krsko*

ISC 18 05:09:52.9±0.8, 45°.92N±0°.03×15°.87E±0°.06, h11km±6km, n33, σ0§67/57, 13C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.18**	**254**	⇑*i*Pg	**Pg**	**05 09 56.6**	**-0.2**
GCIS				*i* Sg	**Sg**	**05 09 59.5**	**+0.1**
GCIS							
	comp=Z,101nm,0.1s						
GCIS	**Gornji Cirnik**	**0.18**	**254**	⇑*i*Pg	**Pg**	**05 09 56.6**	**-0.2**
GCIS				*i* Sg	**Sg**	**05 09 59.5**	**+0.1**
	comp=Z,101nm,0.1s						
GOLS	**Golise**	**0.20**	**299**	⇑*i*Pg	**Pg**	**05 09 57.2**	**+0.1**
GOLS				*i* Sg	**Sg**	**05 10 00.5**	**+0.6**
GOLS							
	comp=Z,114nm,0.1s						
GOLS	**Golise**	**0.20**	**299**	⇑*i*Pg	**Pg**	**05 09 57.2**	**+0.1**
GOLS				*i* Sg	**Sg**	**05 10 00.5**	**+0.5**
	comp=Z,114nm,0.1s						
CESS	**Cesta pri Krsk**	**0.29**	**282**	*i* Pg	**Pg**	**05 09 59.1**	**+0.3**
CESS				*e*Sg	**Sg**	**05 10 04.0**	**+1.2**
CESS							
	comp=Z,233nm,0.3s						
CESS	**Cesta pri Krsk**	**0.29**	**282**	*i* Pg	**Pg**	**05 09 59.1**	**+0.3**
CESS				*e*Sg	**Sg**	**05 10 04.0**	**+1.2**
	comp=Z,233nm,0.3s						
CRES	**Cresnjev**	**0.30**	**253**	⇑*i*Pg	**Pg**	**05 09 58.7**	**-0.3**
CRES				*i* Sg	**Sg**	**05 10 03.7**	**+0.6**
CRES							
	comp=Z,94nm,0.2s						
CRES	**Cresnjev**	**0.30**	**253**	⇑*i*Pg	**Pg**	**05 09 58.7**	**-0.3**
CRES				*i* Sg	**Sg**	**05 10 03.7**	**+0.6**
	comp=Z,94nm,0.2s						
DOBS	**Dobrina**	**0.37**	**310**	⇑*i*Pg	**Pg**	**05 10 00.5**	**+0.4**
DOBS				*i* Sg	**Sg**	**05 10 05.8**	**+0.7**
DOBS							
	comp=Z,50nm,0.1s						
DOBS	**Dobrina**	**0.37**	**310**	⇑*i*Pg	**Pg**	**05 10 00.5**	**+0.3**
DOBS				*i* Sg	**Sg**	**05 10 05.8**	**+0.7**
	comp=Z,50nm,0.1s						
LEGS	**Legarje**	**0.39**	**275**	⇑*i*Pg	**Pg**	**05 10 00.7**	**+0.1**
LEGS				*e*Sg	**Sg**	**05 10 07.2**	**+1.4**
LEGS	**Legarje**	**0.39**	**275**	⇑*i*Pg	**Pg**	**05 10 00.

WRA Warramunga Arr 45.27 272 P P 05 36 57.0 -0.6
1.5nm,0.4s,baz=111,slow=8.0,SNR=26
NVAR Mina Array Bea 88.17 42 P P 05 41 31.1 +0.3
0.4nm,0.7s,baz=225,slow=9.7,SNR=4.0
FINES FINESS Array B 146.43 340 PKPbc PKPbc 05 48 19.6 -0.7
6.1nm,0.8s,baz=62,slow=2.4,SNR=13

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*ISCJB **18** 05:29:39.3±2.9, 6°.6S±0°.1×147°.2E±0°.2, h58km±27km, mb3.6/7, Error ellipse: s-maj=26.8km s-min=21.3km az=8.3*
*NEIC **18** 05:29:39.1±0.7, 6°.41S×147°.10E, h35km, mb3.9/2, Error ellipse: s-maj=18.8km s-min=8.0km az=88.0*
*IDC **18** 05:29:41.7±3.5, 6°.71S×147°.57E, h81km±36km, mb3.4/7, mb1 3.6/10, mb1mx3.5/18, mbtmp3.5/10, Error ellipse: s-maj=58.5km s-min=25.6km az=102.0*
ISC 18 05:29:41.9±2.5, 6°.6S±0°.1×147°.2E±0°.2, h69km±24km, n28, σ0°88/31, mb3.5/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.77 182**		P	**Pn**	**05 30 23.2**	**-0.7**
	42nm,0.3s,baz=24,slow=5.4,SNR=55						
PMG				S	**Sn**	**05 30 55.7**	**-0.5**
	17nm,0.3s,baz=11,slow=5.7,SNR=3.9						
PMG	**Port Moresby**	**2.77 182**		P	**Pn**	**05 30 23.2**	**-0.7**
PMG				S	**Sn**	**05 30 55.7**	**-0.5**
COEN	**Coen**	**8.31 208**		*e*Pn	**Pn**	**05 31 40.1**	**+0.4**
COEN				*e*Sn	**Sn**	**05 33 08.0**	**-4.2**
CTA	**Charters Tower**	**13.42 184**		P	**Pn**	**05 32 50.0**	**+0.6**
	0.4nm,0.3s,baz=9.8,slow=16,SNR=6.7						
CTA	**Charters Tower**	**13.42 184**		P	**Pn**	**05 32 50.0**	**+0.6**
CTAO	**Charters Tower**	**13.42 184**		*e*Pn	**Pn**	**05 32 49.9**	**+0.6**
WRAB	**Tennant Creek**	**18.21 222**		*e*P	**Pn**	**05 33 50.4**	**+0.3**
	38nm,1.8s						
WB2	**Warramunga Arr**	**18.22 222**		*e*P	**Pn**	**05 33 50.0**	**-0.2**
WRA	**Warramunga Arr**	**18.23 222**		P	**Pn**	**05 33 50.0**	**-0.3**
	0.3nm,0.3s,baz=53,slow=11,SNR=13						
WRA	**Warramunga Arr**	**18.23 222**		P	**Pn**	**05 33 50.0**	**-0.3**
EIDS	**Eidsvold**	**19.00 169**		*e*P	**Pn**	**05 34 01.4**	**+1.9**
	2.5nm,0.7s						
AS31	**Alice Springs**	**21.25 216**		*e*P	**P**	**05 34 22.5**	**0.0**
ASAR	**Alice Springs**	**21.25 216**		P	**P**	**05 34 22.9**	**+0.4**
	1.7nm,0.4s,baz=53,slow=9.0,SNR=18						
ASAR				S	**S**	**05 38 20.6**	**+5.7**
	0.9nm,0.8s,baz=35,slow=19,SNR=5.0						
ASAR	**Alice Springs**	**21.25 216**		P	**P**	**05 34 22.9**	**+0.4**
ASAR				S	**S**	**05 38 20.6**	**+5.7**
FITZ	**Fitzroy Crossi**	**23.95 240**		P	**P**	**05 34 50.9**	**+0.9**
	2.2nm,0.5s,mb3.7,baz=341,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**23.95 240**		P	**P**	**05 34 50.9**	**+0.9**
STKA	**Stephens Creek**	**25.67 191**		P	**P**	**05 35 03.3**	**-2.2**
	2.2nm,0.7s,mb3.7,baz=355,slow=9.2,SNR=5.1						
STKA	**Stephens Creek**	**25.67 191**		P	**P**	**05 35 03.3**	**-2.1**
SONM	**Songino Array**	**65.06 331**		P	**P**	**05 40 15.9**	**+0.9**
	0.4nm,0.7s,mb3.3,baz=151,slow=9.9,SNR=2.7						
SONM	**Songino Array**	**65.06 331**		P	**P**	**05 40 15.9**	**+0.9**
MKAR	**Makanchi Array**	**78.13 321**		P	**P**	**05 41 33.7**	**+0.1**
	0.3nm,0.5s,mb3.3,baz=99,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**78.13 321**		P	**P**	**05 41 33.7**	**+0.1**
ZALV	**Zalesovo Beam**	**79.67 328**		P	**P**	**05 41 40.8**	**-1.1**
	0.5nm,0.5s,mb3.6,baz=104,slow=5.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**79.67 328**		P	**P**	**05 41 40.8**	**-1.1**
KURK	**Kurchatov**	**81.85 323**		P	**P**	**05 41 52.9**	**-0.7**
	0.3nm,0.7s,mb3.2,baz=113,slow=3.9,SNR=2.4						
KURK	**Kurchatov**	**81.85 323**		P	**P**	**05 41 52.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**145.47 284**		PKPbc	PKPbc	05 49 13.5	+0.2
	0.4nm,0.6s,baz=65,slow=3.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**145.47 284**		PKPbc	PKPbc	05 49 13.5	+0.2

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*DDA **18** 05:48:07.6, 40°.82N×34°.76E, h8km±5km, Md2.9*
*ISK **18** 05:48:07.9, 40°.81N×34°.77E, h10km, MD2.9*
*ISCJB **18** 05:48:08.0±0.5, 40°.83N±0°.02×34°.77E±0°.03, h0km±5km, Error ellipse: s-maj=4.3km s-min=3.7km az=144.8*
*CSEM **18** 05:48:08.3±0.2, 40°.80N×34°.77E, h5km, MD2.9, Error ellipse: s-maj=3.7km s-min=3.5km az=17.0*
ISC 18 05:48:08.6±0.4, 40°.82N±0°.02×34°.77E±0°.03, h2km±6km, n32, σ0°92/53, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.20 175**	‖	*i*P	**Pg**	**05 48 11.6**	**-0.8**
CTKT				*i*S	**Sg**	**05 48 14.8**	**-0.1**
CTKT	**Corum**	**0.20 175**		*i*P	**Pg**	**05 48 11.6**	**-0.8**
CTKT				*i*S	**Sg**	**05 48 14.8**	**-0.1**
TOS	**Tosya**	**0.60 291**		*e*PG	**Pg**	**05 48 20.5**	**+0.3**
TOS				*e*SG	**Sg**	**05 48 28.8**	**+0.7**
TOS	**Tosya**	**0.60 291**		*e*Pg	**Pg**	**05 48 20.5**	**+0.3**
TOS				*e*Sg	**Sg**	**05 48 28.8**	**+0.7**
CORM	**Corum**	**0.65 189**		*e*PG	**Pg**	**05 48 20.6**	**-0.4**
CORM				*e*SG	**Sg**	**05 48 30.2**	**+0.8**
CORM	**Corum**	**0.65 189**		*e*Pg	**Pg**	**05 48 20.6**	**-0.4**
CORM				*e*Sg	**Sg**	**05 48 30.2**	**+0.8**
HAVZ	**Havza**	**0.76 70**	⇑	*i*P	**Pg**	**05 48 22.9**	**-0.4**
HAVZ				*i*S	**Sg**	**05 48 33.9**	**+0.7**
HAVZ	**Havza**	**0.76 70**		*i*P	**Pg**	**05 48 22.9**	**-0.4**
HAVZ				*i*S	**Sg**	**05 48 33.9**	**+0.7**
ILGA	**Ilgaz**	**0.83 287**		*e*P	**Pg**	**05 48 24.8**	**+0.2**
ILGA				*e*S	**Sg**	**05 48 35.7**	**+0.3**
ILGA	**Ilgaz**	**0.83 287**		*e*P	**Pg**	**05 48 24.8**	**+0.2**
ILGA				*e*S	**Sg**	**05 48 35.7**	**+0.4**
DIKM	**Dikmen**	**0.91 24**		*e*PG	**Pg**	**05 48 25.6**	**-0.5**
DIKM				*e*SG	**Sg**	**05 48 39.1**	**+1.3**
DIKM	**Dikmen**	**0.91 24**		*e*Pg	**Pg**	**05 48 25.6**	**-0.5**
DIKM				*e*Sg	**Sg**	**05 48 39.1**	**+1.2**
KAST	**KASTAMONU**	**0.92 317**		*e*P	**Pg**	**05 48 28.2**	**+1.8**
KAST				*e*S	**Sg**	**05 48 37.9**	**-0.5**
KAST	**KASTAMONU**	**0.92 317**		*e*P	**Pg**	**05 48 28.2**	**+1.8**
KAST				*e*S	**Sg**	**05 48 37.9**	**-0.4**
KVT	**Kavak**	**1.00 74**		*e*PG	**Pg**	**05 48 27.9**	**0.0**
KVT	**Kavak**	**1.00 74**		*e*Pg	**Pg**	**05 48 27.9**	**0.0**
ELDT	**Eldivan**	**1.07 253**		*e*P	**Pg**	**05 48 28.9**	**-0.3**
ELDT				*e*S	**Sg**	**05 48 44.4**	**+1.3**
ELDT	**Eldivan**	**1.07 253**		*e*P	**Pg**	**05 48 28.9**	**-0.3**
ELDT				*e*S	**Sg**	**05 48 44.4**	**+1.3**
CDAG	**Cicekdag**	**1.23 194**		*i*P	**Pg**	**05 48 31.4**	**-0.9**
CDAG				*i*S	**Sg**	**05 48 48.0**	**-0.2**
CDAG	**Cicekdag**	**1.23 194**		*i*P	**Pg**	**05 48 31.4**	**-0.8**
CDAG				*i*S	**Sg**	**05 48 48.0**	**-0.2**
YOZ	**Yozgat**	**1.25 160**		*e*PN	**Pn**	**05 48 31.8**	**-1.3**
YOZ	**Yozgat**	**1.25 160**		*e*Pn	**Pn**	**05 48 31.8**	**-1.3**
BALT	**Daday**	**1.27 305**		*e*P	**Pg**	**05 48 31.6**	**-1.3**
BALT				*e*S	**Sg**	**05 48 47.9**	**-1.4**
BALT	**Daday**	**1.27 305**		*e*P	**Pg**	**05 48 31.6**	**-1.3**
BALT				*e*S	**Sg**	**05 48 47.9**	**-1.4**
SAFT	**Safranbolu**	**1.63 286**		*e*PN	**Pn**	**05 48 37.5**	**-0.8**
SAFT	**Safranbolu**	**1.63 286**		*e*Pn	**Pn**	**05 48 37.5**	**-0.8**
AFSR	**Af¨ar-Bala (A**	**1.89 224**		*e*PN	**Pn**	**05 48 41.1**	**-0.7**
AFSR	**Af¨ar-Bala (A**	**1.89 224**		*e*Pn	**Pn**	**05 48 41.2**	**-0.7**
RSDY	**Resadiye-TOKAT**	**1.99 101**		*e*PN	**Pn**	**05 48 42.7**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.99 101**		*e*Pn	**Pn**	**05 48 42.7**	**-0.6**
AVNT	**Avonos**	**2.04 178**		*e*P	**Pn**	**05 48 45.1**	**+1.2**
AVNT				*e*S	**Sn**	**05 49 12.3**	**+2.5**
AVNT	**Avonos**	**2.04 178**		*e*P	**Pn**	**05 48 45.1**	**+1.2**

WEL 18 05:59:59.8±0.0, 41°.16S×174°.75E, h37km±1km, ML3.5/12, Error ellipse: s-maj=0.6km s-min=0.5km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.15 194**		P*	Pn	06 00 06.0	-0.3
SNZO				S*	Sn	06 00 10.7	-0.1
CAW	**Cannon Point**	**0.24 77**		P*	Pn	06 00 07.0	-0.1
CAW				S*	Sn	06 00 12.9	+0.6
BHW	**Baring Head**	**0.26 160**		P*	Pn	06 00 07.2	-0.2
BHW				S*	Sn	06 00 12.7	+0.2
TCW	**Tory Channel**	**0.36 262**		P*	Pn	06 00 08.0	-0.5
TCW				S*	Sn	06 00 14.0	-0.7
MSWZ	**Moikau Station**	**0.45 124**		P*	Pn	06 00 09.8	+0.1
MSWZ				S*	Sn	06 00 17.6	+0.9
OGWZ	**Otaki Gorge**	**0.47 43**		P*	Pn	06 00 09.7	-0.2
OGWZ				S*	Sn	06 00 17.6	+0.5
PAWZ	**Paruwai Farm**	**0.55 113**		P*	Pn	06 00 11.1	0.0
PAWZ				S*	Sn	06 00 20.0	+0.9
PLWZ	**Palliser**	**0.56 137**		P*	Pn	06 00 11.0	-0.1
MTW	**Mount Morrison**	**0.57 90**		P*	Pn	06 00 11.2	-0.1
MTW				S*	Sn	06 00 20.6	+1.1
HOWZ	**Holdsworth Sta**	**0.64 66**		P*	Pn	06 00 12.4	+0.1
TUWZ	**Tuamarina**	**0.67 246**		P*	Pn	06 00 12.1	-0.5
DUWZ	**D'Urville Isla**	**0.72 300**		P*	Pn	06 00 13.4	0.0
TRWZ	**Traveller**	**0.74 109**		P*	Pn	06 00 13.5	-0.2
MRZ	**Mangatainoka R**	**0.80 52**		P*	Pn	06 00 14.5	-0.1
BSWZ	**Blackbirch Sta**	**0.86 230**		P*	Pn	06 00 15.5	+0.2
TMWZ	**Te Maipa**	**0.86 87**		P*	Pn	06 00 15.1	-0.3
TIWZ	**Tintock**	**0.94 66**		P*	Pn	06 00 16.0	-0.5
NNZ	**Nelson**	**1.04 267**		PN	Pn	06 00 17.7	0.0
POWZ	**Post Office Ro**	**1.09 45**		P*	Pn	06 00 18.3	-0.2
DVHZ	**Dannevirke**	**1.38 52**		PN	Pn	06 00 21.7	-0.7
TSZ	**Takapari Road**	**1.44 40**		PN	Pn	06 00 22.9	-0.3
THZ	**Tophouse**	**1.51 246**		PN	Pn	06 00 24.4	0.0
KHZ	**Kahutara**	**1.55 215**		PN	Pn	06 00 24.3	-0.5
PNHZ	**Pukenui**	**1.67 42**		PN	Pn	06 00 25.8	-0.6
MOVZ	**Moawhango**	**1.91 24**		PN	Pn	06 00 30.0	+0.1
WNVZ	**Wahianoa**	**1.94 20**		PN	Pn	06 00 31.0	+0.7
BHHZ	**Black Hill Sta**	**1.95 31**		PN	Pn	06 00 30.2	-0.1
KAHZ	**Kahuranaki**	**2.12 51**		PN	Pn	06 00 31.6	-1.0
DSZ	**Denniston Nort**	**2.29 254**		PN	Pn	06 00 35.2	+0.1
BKZ	**Black Stump Fm**	**2.40 34**		PN	Pn	06 00 35.5	-1.0

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*ISCJB **18** 06:22:16.7±0.2, 6°.94S±0°.03×156°.58E±0°.04, h123km, mb5.0/82, Error ellipse: s-maj=5.6km s-min=4.7km az=164.6*
*MOS **18** 06:22:17.8±0.9, 6°.92S×156°.70E, h134km, mb4.9/29, Error ellipse: s-maj=9.2km s-min=7.3km az=108.8*
*BJI **18** 06:22:17.4, 6°.47S×156°.56E, h110km, mB5.1/22, mb5.0/34*
*IDC **18** 06:22:17.3±0.5, 7°.00S×156°.53E, h114km±4km, mb4.6/21, mb1 4.8/22, mb1mx4.8/22, mbtmp4.6/22, MS3.6/4, Ms1 3.6/4, ms1mx3.3/23, Error ellipse: s-maj=10.3km s-min=8.8km az=77.0*
*NEIC **18** 06:22:19.7±1.1, 6°.96S×156°.65E, h139km±10km, mb5.0/46, Error ellipse: s-maj=7.1km s-min=6.5km az=121.0*
*DJA **18** 06:22:27, 7°.00S×156°.28E, h196km, mb5.3/25*
ISC 18 06:22:18.5±0.2, 6°.96S±0°.03×156°.61E±0°.04, h125km, h125km±4.1km: pP-P, n240, σ0°98/232, mb5.0/82, 8C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.12 127**		P	**Pn**	**06 23 18.9**	**-0.8**
	153nm,0.3s,baz=261,slow=2.3,SNR=60						
HNR				S	**Sn**	**06 24 06.4**	**-0.8**
	242nm,0.3s,baz=75,slow=22,SNR=12						
HNR				LR	LR	06 24 43.0	
	comp=Z,413nm,18.3s,baz=306,slow=35						
HNR	**Honiara**	**4.12 127**		P	**Pn**	**06 23 18.9**	**-0.8**
HNR				S	**Sn**	**06 24 06.4**	**-0.8**
HNR				*e*Sn	**Sn**	**06 24 07.0**	**-0.3**
HNR	**Honiara**	**4.12 127**		P	**Pn**	**06 23 18.9**	**-0.8**
HNR				S	**Sn**	**06 24 06.4**	**-0.9**
PMG	**Port Moresby**	**9.66 255**		P	**Pn**	**06 24 37.3**	**+2.9**
	5.6nm,0.3s,baz=61,slow=8.8,SNR=12						
PMG				S	**Sn**	**06 26 28.7**	**+7.6**
	3.1nm,0.3s,baz=84,slow=10,SNR=2.9						
PMG	**Port Moresby**	**9.66 255**		*e*Pn	**Pn**	**06 24 36.8**	**+2.4**
PMG				*e*Sn	**Sn**	**06 26 28.1**	**+7.0**
PMG				S	**Sn**	**06 26 28.7**	**+7.6**
PMG	**Port Moresby**	**9.66 255**		*e*P	**Pn**	**06 24 36.8**	**+2.4**
PMG				S	**Sn**	**06 26 28.7**	**+7.5**
PMG	**Port Moresby**	**9.66 255**		P	**Pn**	**06 24 36.7**	**+2.3**
	3μm402nm,0.8s						
PMG				S	Px	06 24 43.3	
	402nm,0.8s,3μm						
COEN	**Coen**	**14.92 241**		*e*P	**Pn**	**06 25 46.2**	**+3.1**
	2μm,2.2s						
COEN				*e*S	**Sn**	**06 28 39.6**	**+11**
COEN	**Coen**	**14.92 241**		P	**Pn**	**06 25 44.8**	**+1.7**
	948nm70nm,1.5s						
JAY	**Jayapura**	**16.45 285**		P	**Pn**	**06 26 01.4**	**-0.7**
	7μm124nm,0.9s						
CTA	**Charters Tower**	**16.47 217**		P	**Pn**	**06 26 05.1**	**+2.9**
	1.9nm,0.3s,baz=38,slow=13,SNR=50						
CTA				LR	LR	06 31 24.6	
	comp=Z,156nm,21.7s,baz=301,slow=33						
CTA	**Charters Tower**	**16.47 217**		*e*P	**Pn**	**06 26 05.1**	**+2.9**
CTA				*e*		06 26 14.7	
CTA	**Charters Tower**	**16.47 217**		P	**Pn**	**06 26 05.1**	**+2.9**
CTA	**Charters Tower**	**16.47 217**		P	**Pn**	**06 26 05.1**	**+2.9**
CTAO	**Charters Tower**	**16.47 217**		*e*Pn	**Pn**	**06 26 05.0**	**+2.8**
	31nm,0.8s						
CTAO	**Charters Tower**	**16.47 217**		*e*P	**Pn**	**06 26 05.0**	**+2.8**
CTAO				pmax	pmax		
	comp=Z,31nm,0.8s						
CTAO	**Charters Tower**	**16.47 217**		P	**Pn**	**06 26 04.9**	**+2.7**
	comp=Z,41nm,1.0s						
SMPI	**Sarmi**	**18.51 285**		P	**P**	**06 26 26.5**	**+1.3**
	comp=Z,327nm,0.6s						
EIDS	**Eidsvold**	**19.05 195**		*e*Pn	**Pn**	**06 26 33.5**	**+0.3**
	comp=Z,23nm,0.8s						
EIDS				*e*pP	pP	06 26 59.0	+5.4
EIDS				*e*S	**S**	**06 30 05.0**	**+4.4**
MSVF	**Nonsavu**	**23.50 119**		*e*P	**P**	**06 27 15.5**	**-1.7**
	comp=Z,10.0nm,1.0s,mb4.1						
MSVF	**Nonsavu**	**23.50 119**		*e*P	**P**	**06 27 15.5**	**-1.7**
MSVF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.1						
GUMO	**Guam**	**23.51 330**		P	**P**	**06 27 17.7**	**+0.5**
	comp=Z,80nm,0.6s,mb5.2,baz=162,slow=10,SNR=6.1						
GUMO	**Guam**	**23.51 330**		P	**P**	**06 27 17.6**	**+0.4**
	comp=Z,100nm,0.7s,mb5.2						
GUMO	**Guam**	**23.51 330**		P	**P**	**06 27 17.6**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,99nm,0.7s,mb5.2						
TLE	**Tual**	**23.76 272**		P	**P**	**06 27 20.7**	**+1.1**
	comp=Z,8μmcomp=Z,860nm,0.7s						
ARMA	**Armidale**	**23.80 191**		*e*P	**P**	**06 27 21.1**	**+1.3**
ARMA				*e*		06 27 49.7	
FAKI	**Fak Fak**	**24.59 278**		P	**P**	**06 27 25.6**	**-1.6**
	comp=Z,64nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**25.15 237**		*e*P	**P**	**06 27 32.0**	**-0.1**
	comp=Z,35nm,0.9s,mb4.8						
WRAB				*e*pP	pP	06 28 02.3	+3.5
WRAB				*e*PcP	PcP	06 31 02.5	-0.6
WRAB	**Tennant Creek**	**25.15 237**		*e*P	**P**	**06 27 32.1**	**-0.1**
WRAB				*e**PP	pP	06 28 02.3	+3.4
WRAB				*e*		06 31 02.5	
WRAB				pmax	pmax		
	comp=Z,35nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**25.15 237**		P	**P**	**06 27 31.9**	**-0.3**
	comp=Z,78nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**25.15 237**		P	**P**	**06 27 32.0**	**-0.2**
	comp=Z,290nm,0.7s,mb5.8,SNR=85						
WB2	**Warramunga Arr**	**25.15 237**		*e*P	**P**	**06 27 32.1**	**-0.1**
WB2				*e*pP	pP	06 28 02.7	+3.8
WB2				*e*PcP	PcP	06 31 03.0	-0.2
WRA	**Warramunga Arr**	**25.16 237**		P	**P**	**06 27 32.4**	**+0.1**
	comp=Z,28nm,0.6s,mb4.9,baz=60,slow=9.1,SNR=456						
WRA				pP	pP	06 27 58.2	-0.8
	comp=Z,27nm,0.8s,baz=62,slow=9.4,SNR=3.8						
WRA				S	**S**	**06 31 47.2**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=67,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**25.16 237**		P	**P**	**06 27 32.4**	**+0.1**
WRA				pP	pP	06 27 58.2	-0.8
WRA				S	**S**	**06 31 47.2**	**-1.1**
WRA	**Warramunga Arr**	**25.16 237**		P	**P**	**06 27 32.4**	**+0.1**
WRA				*PP	pP	06 27 58.2	-0.8
WRA				S	**S**	**06 31 47.2**	**-1.1**
AS31	**Alice Springs**	**27.41 230**		*e*P	**P**	**06 27 52.0**	**-0.5**
ASAR	**Alice Springs**	**27.41 230**		P	**P**	**06 27 52.0**	**-0.4**
	comp=Z,13nm,0.4s,mb4.8,baz=58,slow=9.7,SNR=224						
ASAR				PcP	PcP	06 31 08.4	0.0
	comp=Z,2.1nm,0.7s,baz=54,slow=2.3,SNR=4.4						
ASAR				S	**S**	**06 32 21.8**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=54,slow=16,SNR=4.2						
ASAR	**Alice Springs**	**27.41 230**		P	**P**	**06 27 52.0**	**-0.4**
ASAR				PcP	PcP	06 31 08.4	0.0
ASAR				S	**S**	**06 32 21.8**	**-1.9**
ASAR	**Alice Springs**	**27.41 230**		P	**P**	**06 27 52.1**	**-0.4**
ASAR						06 31 08.4	
ASAR				S	**S**	**06 32 21.8**	**-1.9**
MSAI	**Masohi**	**27.79 276**		P	**P**	**06 27 55.4**	**-0.6**
	comp=Z,36nm,0.6s,mb5.0						
AAI	**Ambon**	**28.47 275**		P	**P**	**06 28 01.7**	**-0.3**
	comp=Z,4μmcomp=Z,346nm,0.5s						
STKA	**Stephens Creek**	**28.47 208**		P	**P**	**06 28 01.9**	**+0.1**
	comp=Z,11nm,0.8s,mb4.5,baz=17,slow=8.6,SNR=18						
STKA				LR	LR	06 39 01.4	
	comp=Z,125nm,18.6s,baz=25,slow=35						
STKA	**Stephens Creek**	**28.47 208**		*e*P	**P**	**06 28 01.9**	**+0.1**
STKA	**Stephens Creek**	**28.47 208**		P	**P**	**06 28 01.9**	**+0.1**
	comp=Z,25nm,0.9s,mb4.8						
STKA				*e*pP	pP	06 28 34.4	+5.5
STKA				*e*PcP	PcP	06 31 10.3	-0.5
STKA	**Stephens Creek**	**28.47 208**		P	**P**	**06 28 01.9**	**+0.1**
STKA				*e**PP	pP	06 28 34.4	+5.5
STKA				*e*		06 31 10.3	
STKA				pmax	pmax		
	comp=Z,25nm,0.9s						
CNB	**Canberra Magne**	**28.99 192**		*e*P	**P**	**06 28 07.3**	**+0.9**
NLAI	**Namlea**	**29.61 276**		P	**P**	**06 28 13.0**	**+0.8**
	comp=Z,5μmcomp=Z,231nm,0.7s,mb6.0						
BBOO	**Buckleboo**	**32.03 214**		*e*P	**P**	**06 28 33.0**	**-0.3**
	comp=Z,148nm,0.7s,mb5.8						
FITZ	**Fitzroy Crossi**	**32.13 247**		*e*P	**P**	**06 28 33.5**	**-0.8**
FITZ				*e*	pP	06 29 00.9	-0.6
FITZ	**Fitzroy Crossi**	**32.13 247**		*e*P	**P**	**06 28 33.8**	**-0.5**
	comp=Z,27nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**32.13 247**		P	**P**	**06 28 33.5**	**-0.8**
	comp=Z,34nm,0.8s,mb5.1						
FORT	**Forrest**	**35.73 225**		*e*P	**P**	**06 29 05.2**	**0.0**
FORT	**Forrest**	**35.73 225**		*e*P	**P**	**06 29 05.1**	**-0.1**
	comp=Z,110nm,0.6s,mb6.0						
URZ	**Urewera**	**36.27 152**		P	**P**	**06 29 10.5**	**+0.7**
	comp=Z,4.4nm,0.6s,mb4.6,baz=60,slow=2.9,SNR=4.6						
URZ	**Urewera**	**36.27 152**		P	**P**	**06 29 10.5**	**+0.7**
KAPI	**Kappang**	**36.70 271**		P	**P**	**06 29 12.3**	**-1.4**
	comp=Z,38nm,0.6s,mb5.5,baz=82,slow=2.6,SNR=26						
KAPI	**Kappang**	**36.70 271**		*e*P	**P**	**06 29 12.4**	**-1.3**
TAU	**Tasmania Unive**	**36.73 191**		*e*P	**P**	**06 29 14.8**	**+1.3**
	comp=Z,67nm,1.2s,mb5.5						
TAU	**Tasmania Unive**	**36.73 191**		*e*P	**P**	**06 29 14.8**	**+1.3**
TAU				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.5						
MBWA	**Marble Bar**	**38.33 245**		*e*P	**P**	**06 29 26.5**	**-0.9**
	comp=Z,24nm,0.5s,mb5.3						
RPZ	**Rata Peaks**	**38.74 163**		P	**P**	**06 29 30.2**	**-0.3**
	comp=Z,7.9nm,0.7s,mb4.6,baz=29,slow=3.8,SNR=4.1						
RPZ				pP	pP	06 29 56.4	-1.9
	comp=Z,20nm,0.8s,baz=124,slow=2.6,SNR=6.2						
RPZ	**Rata Peaks**	**38.74 163**		P	**P**	**06 29 30.1**	**-0.3**
RPZ				pP	pP	06 29 56.4	-1.9
KKM	**Kota Kinabalu**	**42.32 287**		*e*P	**P**	**06 29 59.6**	**-0.8**
	comp=Z,62nm,0.6s,mb5.5						
KLBR	**Kellerberrin**	**43.74 231**		*e*P	**P**	**06 30 10.6**	**-0.9**
	comp=Z,34nm,0.5s,mb5.3						
NWAO	**Narrogin (SRO)**	**44.72 229**		*e*P	**P**	**06 30 18.9**	**-0.5**
	comp=Z,17nm,0.7s,mb4.9						
NWAO	**Narrogin (SRO)**	**44.72 229**		*e*P	**P**	**06 30 18.9**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,17nm,0.7s						
PCJI	**Pacitan**	**45.03 265**		P	**P**	**06 30 21.5**	**-0.6**
	comp=Z,2μmcomp=Z,160nm,1.0s,mb5.7						
BJII	**Banjamegara**	**46.52 267**		P	**P**	**06 30 34.3**	**+0.5**
	comp=Z,79nm,0.8s,mb5.5						
MJAR	**Matsushiro Arr**	**46.59 340**		P	**P**	**06 30 33.5**	**-0.4**
	comp=Z,15nm,0.8s,mb4.8,baz=168,slow=8.7,SNR=23						
MJAR	**Matsushiro Arr**	**46.59 340**		P	**P**	**06 30 33.5**	**-0.4**
MJAR	**Matsushiro Arr**	**46.59 340**		P	**P**	**06 30 33.5**	**-0.4**
MAJO	**Matsushiro**	**46.59 340**		*e*P	**P**	**06 30 33.4**	**-0.5**
MAJO	**Matsushiro**	**46.59 340**		*e*P	**P**	**06 30 33.4**	**-0.5**
MAT	**Matsushiro**	**46.59 340**		P	**P**	**06 30 33.7**	**-0.2**
JNU	**Nakatsue**	**46.76 330**		*e*P	**P**	**06 30 33.0**	**-2.3**
	comp=Z,13nm,0.9s,mb4.7						
KSM	**Kuching**	**46.95 279**		*e*P	**P**	**06 30 36.6**	**-0.5**
	comp=Z,20nm,0.6s,mb5.0						
KSM	**Kuching**	**46.95 279**		P	**P**	**06 30 36.8**	**-0.4**
	comp=Z,36nm,0

HHC				ScS	ScS	06 42 08.8	-4.4
HHC				SS	SS	06 45 02.1	+1.1
HHC				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
HHC				pmax	pmax		
	comp=Z,140nm,6.7s						
HIA	**Hailar**	**64.58**	**334**	P	**P**	**06 32 43.0**	**+0.8**
	comp=Z,10nm,0.8s,mb4.7						
HIA	**Hailar**	**64.58**	**334**	P	**P**	**06 32 43.0**	**+0.8**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	**Lanzhou**	**65.42**	**315**	⇑P	**P**	**06 32 49.3**	**+1.3**
LZH				PP	PP	06 35 17.5	+3.9
LZH				S	S	06 41 22.0	-0.6
LZH				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.1						
LZH				pmax	pmax		
	comp=Z,210nm,5.6s						
LZH	**Lanzhou**	**65.42**	**315**	⇑P	**P**	**06 32 49.3**	**+1.3**
	comp=Z,38nm,1.2s,mb5.1						
LZH				pP	pP	06 33 22.5	+4.0
LZH				sP	sP	06 33 38.2	+6.2
LZH				PP	PP	06 35 17.5	+3.9
LZH				S	S	06 41 22.0	-0.6
LZH				sS	sS	06 42 20.1	+5.0
LZH	**Lanzhou**	**65.42**	**315**	⇑P	**P**	**06 32 49.3**	**+1.3**
LZH				*PP	pP	06 33 22.5	+4.0
LZH				*SP	sP	06 33 38.2	+6.2
LZH						06 35 17.5	
LZH				S	S	06 41 22.0	-0.6
LZH				*SS	sS	06 42 20.1	+5.0
LZH				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.1						
CLNS	**Chul'man**	**68.68**	**342**	*e*P	**P**	**06 33 08.0**	**-0.1**
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,16nm,1.1s						
GTA	**Gaotai**	**69.81**	**316**	P	**P**	**06 33 17.0**	**+1.5**
GTA				PP	PP	06 35 56.3	+4.6
GTA				S	S	06 42 15.8	+0.8
GTA				SKS		06 43 02.4	
GTA				SS	SS	06 46 48.4	+2.0
GTA				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.8						
GTA				pmax	pmax		
	comp=Z,130nm,9.0s						
ULN	**Ulaanbaatar**	**69.84**	**327**	*e*P	**P**	**06 33 16.6**	**+1.2**
	comp=Z,26nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**69.84**	**327**	*e*P	**P**	**06 33 16.6**	**+1.1**
ULN				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.1						
SONM	**Songino Array**	**70.18**	**327**	P	**P**	**06 33 18.9**	**+1.4**
	comp=Z,34nm,0.8s,mb5.2,baz=135,slow=6.1,SNR=143						
SONM	**Songino Array**	**70.18**	**327**	P	**P**	**06 33 18.9**	**+1.4**
SONM	**Songino Array**	**70.18**	**327**	P	**P**	**06 33 18.9**	**+1.4**
VNDA	**Vanda**	**70.58**	**179**	*e*P	**P**	**06 33 19.7**	**+0.2**
	comp=Z,24nm,1.7s,mb4.7						
VNDA	**Vanda**	**70.58**	**179**	*e*P	**P**	**06 33 19.7**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,24nm,1.7s						
YAK	**Yakutsk**	**71.87**	**347**	*e*P	**P**	**06 33 28.2**	**+0.8**
	comp=Z,29nm,0.6s,mb5.3						
YAK	**Yakutsk**	**71.87**	**347**	*e*P	**P**	**06 33 26.6**	**-0.9**
YAK				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
LSA	**Lhasa**	**72.57**	**304**	P	**P**	**06 33 33.3**	**+0.9**
LSA	**Lhasa**	**72.57**	**304**	*e*P	**P**	**06 33 33.7**	**+1.3**
	comp=N,21nm,0.8s,mb5.0						
LSA	**Lhasa**	**72.57**	**304**	*e*P	**P**	**06 33 33.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.0						
BOD	**Bodaibo**	**73.18**	**338**	*e*P	**P**	**06 33 35.4**	**+0.1**
BOD				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.7						
ZAK	**Zakamensk**	**73.31**	**328**	*e*P	**P**	**06 33 36.6**	**+0.4**
ZAK				*e*	pP	06 34 10.7	+3.3
ZAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.0						
TLY	**Talaya**	**73.85**	**329**	*e*P	**P**	**06 33 38.8**	**-0.5**
	comp=Z,17nm,0.8s,mb4.8						
TLY	**Talaya**	**73.85**	**329**	*e*P	**P**	**06 33 39.7**	**+0.3**
TLY				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
TAPN	**Taplejung**	**74.75**	**301**	*e*P	**P**	**06 33 45.9**	**+0.7**
	comp=Z,64nm,0.9s,mb5.4						
TAPN	**Taplejung**	**74.75**	**301**	*e*P	**P**	**06 33 45.9**	**+0.7**
	comp=Z,64nm,0.9s,mb5.3						
ODAN	**Odare**	**74.89**	**300**	*e*P	**P**	**06 33 46.6**	**+0.6**
	comp=Z,108nm,0.7s,mb5.7						
ODAN	**Odare**	**74.89**	**300**	*e*P	**P**	**06 33 46.6**	**+0.6**
	comp=Z,108nm,0.7s,mb5.7						
RAMN	**Ramite**	**75.60**	**300**	*e*P	**P**	**06 33 50.3**	**+0.3**
	comp=Z,21nm,0.6s,mb5.0						
RAMN	**Ramite**	**75.60**	**300**	*e*P	**P**	**06 33 50.3**	**+0.3**
	comp=Z,21nm,0.6s,mb5.0						
JIRN	**Jiri**	**76.14**	**301**	*e*P	**P**	**06 33 53.8**	**+0.7**
JIRN	**Jiri**	**76.14**	**301**	*e*P	**P**	**06 33 53.8**	**+0.7**
KDAK	**Kodiak Island**	**76.44**	**25**	*i* P	**P**	**06 33 56.1**	**+2.0**
GUN	**Gumba**	**76.47**	**301**	*e*P	**P**	**06 33 55.5**	**+0.6**
	comp=Z,88nm,0.7s,mb5.6						
GUN	**Gumba**	**76.47**	**301**	*e*P	**P**	**06 33 55.5**	**+0.6**
	comp=Z,88nm,0.7s,mb5.6						
PKI	**Pulchoki**	**76.78**	**300**	*e*P	**P**	**06 33 57.0**	**+0.3**
PKI	**Pulchoki**	**76.78**	**300**	*e*P	**P**	**06 33 57.0**	**+0.3**
PKI	**Pulchoki**	**76.78**	**300**	*e*P	**P**	**06 33 57.0**	**+0.3**
KKN	**Kakani**	**76.95**	**301**	*e*P	**P**	**06 33 58.1**	**+0.5**
	comp=Z,36nm,0.7s,mb5.2						
KKN	**Kakani**	**76.95**	**301**	*e*P	**P**	**06 33 58.1**	**+0.5**
	comp=Z,36nm,0.7s,mb5.2						
KKN	**Kakani**	**76.95**	**301**	*e*P	**P**	**06 33 58.1**	**+0.5**
KKN				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.2						
DMN	**Daman**	**77.05**	**300**	*e*P	**P**	**06 33 58.9**	**+0.7**
DMN	**Daman**	**77.05**	**300**	*e*P	**P**	**06 33 58.9**	**+0.7**
GKN	**Gorkha**	**77.56**	**301**	*e*P	**P**	**06 34 01.1**	**+0.1**
GKN	**Gorkha**	**77.56**	**301**	*e*P	**P**	**06 34 01.1**	**+0.1**
KOLN	**Koldanda**	**78.39**	**300**	*e*P	**P**	**06 34 05.7**	**+0.1**
	comp=Z,48nm,0.7s,mb5.3						
KOLN	**Koldanda**	**78.39**	**300**	*e*P	**P**	**06 34 05.7**	**+0.1**
	comp=Z,48nm,0.7s,mb5.3						
DANN	**Dangsing**	**78.39**	**301**	*e*P	**P**	**06 34 05.6**	**0.0**
	comp=Z,46nm,0.7s,mb5.3						
DANN	**Dangsing**	**78.39**	**301**	*e*P	**P**	**06 34 05.6**	**0.0**
	comp=Z,46nm,0.7s,mb5.3						
RC01	**Rabbit Creek A**	**79.59**	**23**	*e*P	**P**	**06 34 11.3**	**-0.2**
	comp=Z,16nm,1.2s,mb4.7						
WMQ	**Urumqi**	**79.89**	**317**	P	**P**	**06 34 13.5**	**+0.1**
WMQ				PP	PP	06 37 18.3	+1.5
WMQ				S	S	06 44 02.0	-4.7
WMQ				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.4						
WMQ				pmax	pmax		
	comp=Z,200nm,5.2s						
WMQ				LR	LR		
	comp=N,250nm,20.0s						
WMQ				LR	LR		
	comp=E,200nm,22.4s						
WMQ				LR	LR		
	comp=Z,420nm,22.0s						
PMR	**Palmer**	**80.12**	**23**	*e*P	**P**	**06 34 14.1**	**-0.1**
PMR	**Palmer**	**80.12**	**23**	*e*P	**P**	**06 34 14.1**	**-0.2**
TRF	**Thorofare Moun**	**80.78**	**21**	*e*P	**P**	**06 34 16.9**	**-0.9**
	comp=Z,12nm,0.8s,mb4.8						
MCK	**McKinley**	**81.43**	**21**	*e*P	**P**	**06 34 20.6**	**-0.6**
	comp=Z,28nm,0.9s,mb5.1						
MCK	**McKinley**	**81.43**	**21**	*e*P	**P**	**06 34 20.6**	**-0.6**
MCK				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.1						
COLA	**College**	**82.47**	**21**	*e*P	**P**	**06 34 25.7**	**-0.9**
	comp=Z,14nm,0.9s,mb4.8						
COLA	**College**	**82.47**	**21**	*e*P	**P**	**06 34 25.7**	**-0.9**
COLA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
ILAR	**Eielson Array**	**82.76**	**21**	P	**P**	**06 34 27.1**	**-1.0**
	comp=Z,2.0nm,0.5s,mb4.2,baz=244,slow=5.2,SNR=41						
ILAR				pP	pP	06 34 58.0	-1.9
	comp=Z,0.8nm,0.5s,baz=237,slow=4.8,SNR=2.7						
ILAR	**Eielson Array**	**82.76**	**21**	P	**P**	**06 34 27.1**	**-1.0**
ILAR				pP	pP	06 34 58.0	-1.9
ILAR	**Eielson Array**	**82.76**	**21**	P	**P**	**06 34 27.1**	**-1.0**
ILAR				*PP	pP	06 34 58.0	-1.9
MENT	**Mentasta**	**82.98**	**23**	*e*P	**P**	**06 34 29.8**	**+0.5**
QSPA	**South Pole Qui**	**83.02**	**180**	*e*P	**P**	**06 34 29.7**	**+0.4**
	comp=Z,25nm,1.1s,mb5.0						
QSPA				*e*pP	pP	06 35 01.6	+0.5
MK31	**Makanchi Array**	**84.44**	**318**	*e*P	**P**	**06 34 37.2**	**+0.2**
MK31				*e*pP	pP	06 35 12.7	+3.7
MK31	**Makanchi Array**	**84.44**	**318**	*e*P	**P**	**06 34 37.3**	**+0.2**
MK31				*e*PP	pP	06 35 12.7	+3.8
MKAR	**Makanchi Array**	**84.44**	**318**	P	**P**	**06 34 37.3**	**+0.3**
	comp=Z,12nm,0.7s,mb4.8,baz=100,slow=6.3,SNR=107						
MKAR				pP	pP	06 35 07.1	-1.8
	comp=Z,2.9nm,0.8s,baz=86,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**84.44**	**318**	P	**P**	**06 34 37.3**	**+0.3**
MKAR				pP	pP	06 35 07.1	-1.8
MKAR	**Makanchi Array**	**84.44**	**318**	P	**P**	**06 34 37.3**	**+0.2**
MKAR				*PP	pP	06 35 07.1	-1.8
MAW	**Mawson**	**85.04**	**203**	P	**P**	**06 34 40.3**	**+0.6**
	comp=Z,40nm,0.7s,mb5.5,baz=96,slow=6.3,SNR=50						
MAW	**Mawson**	**85.04**	**203**	*e*P	**P**	**06 34 40.2**	**+0.4**
	comp=Z,7.5nm,0.6s,mb4.8						
MAW				*e*pP	pP	06 35 11.9	+0.3
MAW	**Mawson**	**85.04**	**203**	*e*P	**P**	**06 34 40.2**	**+0.5**
MAW				*e*PP	pP	06 35 12.0	+0.3
MAW				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZAA0	**Zalesovo Array**	**85.05**	**326**	*e*P	**P**	**06 34 39.1**	**-0.8**
ZAA0				*e*pP	pP	06 35 08.4	-3.4
ZALV	**Zalesovo Beam**	**85.05**	**326**	P	**P**	**06 34 39.2**	**-0.8**
	comp=Z,10nm,0.6s,mb5.0,baz=112,slow=6.0,SNR=48						
ZALV				pP	pP	06 35 08.4	-3.5
	comp=Z,2.0nm,0.6s,baz=115,slow=6.7,SNR=2.3						
ZALV	**Zalesovo Beam**	**85.05**	**326**	P	**P**	**06 34 39.2**	**-0.8**
ZALV				pP	pP	06 35 08.4	-3.5
ZALV	**Zalesovo Beam**	**85.05**	**326**	P	**P**	**06 34 39.2**	**-0.8**
NVS	**Novosibirsk**	**86.21**	**326**	*e*P	**P**	**06 34 40.9**	**-4.8**
KURK	**Kurchatov**	**87.80**	**322**	P	**P**	**06 34 53.1**	**-0.3**
	comp=Z,3.0nm,0.3s,mb4.9,baz=101,slow=3.9,SNR=12						
KURK	**Kurchatov**	**87.80**	**322**	P	**P**	**06 34 53.1**	**-0.3**
	comp=Z,0.4nm,0.9s						
KURK	**Kurchatov**	**87.80**	**322**	*c i*P	**P**	**06 34 52.6**	**-0.8**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.6						
TKM2	**Tokmak 2**	**88.15**	**313**	*e*P	**P**	**06 34 56.0**	**+0.7**
	comp=Z,3.4nm,0.6s,mb4.5						
TKM2				*e*pP	pP	06 35 31.2	+3.7
TKM2	**Tokmak 2**	**88.15**	**313**	*e*P	**P**	**06 34 56.0**	**+0.7**
TKM2				*e*PP	pP	06 35 31.2	+3.8
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**88.89**	**313**	*e*P	**P**	**06 34 59.1**	**+0.2**
	comp=Z,15nm,0.7s,mb5.1						
AAK	**Ala-Archa**	**88.89**	**313**	⇑*e*P	**P**	**06 34 59.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
EKS2	**Erkin-Say**	**89.42**	**313**	*e*P	**P**	**06 35 02.7**	**+1.4**
	comp=Z,2.2nm,0.7s,mb4.3						
EKS2	**Erkin-Say**	**89.42**	**313**	*e*P	**P**	**06 35 02.7**	**+1.4**
EKS2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**90.45**	**51**	P	**P**	**06 35 08.2**	**+2.0**
	comp=Z,2.7nm,1.0s,mb4.3,baz=244,slow=6.5,SNR=12						
NVAR				pP	pP	06 35 36.2	-2.2
	comp=Z,1.5nm,0.9s,baz=242,slow=5.9,SNR=2.6						
NVAR	**Mina Array Bea**	**90.45**	**51**	P	**P**	**06 35 08.2**	**+2.0**
NVAR				pP	pP	06 35 36.2	-2.2
KKAR	**Karatay Array**	**91.86**	**313**	*e*P	**P**	**06 35 12.0**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.3						
KKAR	**Karatay Array**	**91.86**	**313**	*e*P	**P**	**06 35 12.0**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.2						
KBL	**Kabul**	**91.89**	**304**	*e*P	**P**	**06 35 12.0**	**-1.0**
	comp=Z,2.9nm,0.4s,mb4.9						
KBL	**Kabul**	**91.89**	**304**	*e*P	**P**	**06 35 12.0**	**-1.0**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.9						
SYO	**Syowa Base**	**92.88**	**199**	⇑*i*P	**P**	**06 35 15.2**	**-1.6**
BVAR	**Borovoye Array**	**93.23**	**323**	P	**P**	**06 35 17.5**	**-1.2**
	comp=Z,4.2nm,0.8s,mb4.8,baz=97,slow=6.1,SNR=23						
BVAR				pP	pP	06 35 47.6	-3.4
	comp=Z,1.9nm,0.8s,baz=99,slow=4.8,SNR=3.6						
BVAR	**Borovoye Array**	**93.23**	**323**	P	**P**	**06 35 17.5**	**-1.2**
BVAR				pP	pP	06 35 47.6	-3.4
BVAR	**Borovoye Array**	**93.23**	**323**	P	**P**	**06 35 17.5**	**-1.2**
BVAR				*PP	pP	06 35 47.6	-3.3
BRVK	**Borovoye**	**93.30**	**323**	*e*P	**P**	**06 35 17.8**	**-1.2**
	comp=Z,2.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**93.30**	**323**	⇑*e*P	**P**	**06 35 17.8**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
YKA	**Yellowknife Ar**	**95.56**	**28**	P	**P**	**06 35 29.7**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.8,baz=265,slow=4.6,SNR=34						
YKA				pP	pP	06 35 57.7	-3.7
	comp=Z,1.8nm,0.7s,baz=264,slow=4.6,SNR=4.8						
YKA	**Yellowknife Ar**	**95.56**	**28**	P	**P**	**06 35 29.7**	**+0.5**
YKA				pP	pP	06 35 57.7	-3.7
YKA	**Yellowknife Ar**	**95.56**	**28**	P	**P**	**06 35 29.7**	**+0.6**
PDAR	**Pinedale Array**	**97.49**	**48**	P	**P**	**06 35 38.8**	**+0.4**
	comp=Z,0.7nm,0.7s,mb4.2,baz=218,slow=2.2,SNR=6.0						
PDAR				pP	pP	06 36 08.1	-2.6
	comp=Z,1.0nm,0.9s,baz=213,slow=4.0,SNR=4.9						
PDAR	**Pinedale Array**	**97.49**	**48**	P	**P**	**06 35 38.8**	**+0.4**
PDAR				pP	pP	06 36 08.1	-2.6
ANMO	**Albuquerque**	**99.62**	**56**	LR	LR	07 18 36.9	
	comp=Z,79nm,18.9s,baz=73,slow=34						
TXAR	**Lajitas Array**	**101.84**	**62**	PKKPbc	PKKPbc	06 52 03.5	-0.4
	comp=Z,0.4nm,0.8s,baz=132,slow=4.0,SNR=3.8						
TXAR	**Lajitas Array**	**101.84**	**62**	PKKPbc	PKKPbc	06 52 03.5	-0.4
GERES	**GERESS Array B**	**127.84**	**330**	PKP	PKPdf	06 41 09.5	+0.1
	comp=Z,0.8nm,0.7s,baz=56,slow=2.4,SNR=6.2						
GERES	**GERESS Array B**	**127.84**	**330**	PKP	PKPdf	06 41 09.5	+0.1
GERES	**GERESS Array B**	**127.84**	**330**	PKIKP	PKPdf	06 41 09.5	+0.1
POLO	**Lamas de Olo**	**143.02**	**340**	*e*PKP	PKPdf	06 41 36.6	-1.2
ESDC	**Sonseca Array**	**143.04**	**335**	PKhKP	PKPpre	06 41 35.0	
	comp=Z,0.2nm,0.3s,baz=17,slow=3.6,SNR=5.4						
ESDC	**Sonseca Array**	**143.04**	**335**	PKPpre	PKPpre	06 41 35.0	
PCBR	**Castelo Branco**	**144.28**	**339**	*e*PKP	PKPdf	06 41 39.0	-1.1
PMRV	**Marv??o**	**144.61**	**338**	*e*PKP	PKPdf	06 41 39.7	-0.9
PTOM	**Tomar**	**144.80**	**340**	*e*PKP	PKPdf	06 41 41.7	+0.7
PESTR	**Estremoz**	**145.18**	**338**	*e*PKP	PKPdf	06 41 41.5	-0.1
PMTG	**Montargil**	**145.23**	**339**	*e*PKP	PKPdf	06 41 41.5	-0.2
PBAR	**Barrancos**	**145.57**	**337**	*e*PKP	PKPdf	06 41 43.0	+0.7
EVO	**Evora**	**145.63**	**338**	*e*PKP	PKPab	06 41 43.3	0.0
PBEJ	**Beja**	**146.02**	**338**	*e*PKP	PKPab	06 41 44.6	-0.2
PNCL	**Nicolau / Gran**	**146.19**	**339**	*e*PKP	PKPab	06 41 45.1	-0.3
PCVE	**Castro Verde**	**146.43**	**338**	*e*PKP	PKPab	06 41 45.9	-0.5
PVAQ	**Vaqueros**	**146.51**	**337**	*e*PKP	PKPab	06 41 46.0	-0.7
PTEO	**Sao Teotonio**	**146.76**	**338**	*e*PKP	PKPab	06 41 47.0	-0.7
MORF	**Marmelete**	**146.95**	**338**	*e*PKP	PKPab	06 41 47.6	-0.8
PFVI	**Vila Bisbo**	**147.16**	**338**	*e*PKP	PKPbc	06 41 46.4	-1.0
TAM	**Tamanrasset**	**148.02**	**303**	*e*PKPbc	PKPab	06 41 52.0	-1.1
TAM	**Tamanrasset**	**148.02**	**303**	*e*PKP2	PKPab	06 41 52.1	-1.1
TORD	**Torodi Ar. Bea**	**154.56**	**286**	PKPbc	PKPbc	06 42 04.5	-1.0
	comp=Z,1.5nm,0.6s,baz=69,slow=2.1,SNR=9.3						
TORD				PKPab	PKPab	06 42 20.2	-0.4
	comp=Z,2.1nm,0.6s,baz=77,slow=4.3,SNR=13						
TORD	**Torodi Ar. Bea**	**154.56**	**286**	PKPbc	PKPbc	06 42 04.5	-1.0
TORD				PKPab	PKPab	06 42 20.2	-0.4
DBIC	**Dimbokro**	**161.59**	**270**	PKPab	PKPab	06 42 50.8	-0.4
	comp=Z,5.0nm,0.7s,baz=72,slow=5.6,SNR=8.4						
DBIC	**Dimbokro**	**161.59**	**270**	PKPab	PKPab	06 42 50.8	-0.4
DBIC	**Dimbokro**	**161.59**	**270**	PKP2	PKPab	06 42 50.8	-0.3

KNET ***18*** *06:23:07.9±0.5, 43°.75N×74°.52E, h15km±3km, ml1.5, Error ellipse: s-maj=4.0km s-min=2.5km az=167.0*
ISCJB ***18*** *06:23:10.9±1.4, 43°.66N±0°.08×74°.65E±0°.07, h10km, Error ellipse: s-maj=11.4km s-min=6.9km az=23.1*
ISC 18 06:23:11.4±1.4, 43°.64N±0°.07×74°.69E±0°.07, h10km, n10, σ1.29/14, 9C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.39**	**200**	⇑P	**Pg**	**06 23 17.4**	**-1.7**
	18nm,0.1s,SNR=126						
USP				P		06 23 17.5	
	SNR=126						
USP				⇓S	**Sg**	**06 23 24.8**	**+0.4**
	29nm,0.1s						
CHMS	**Chumysh**	**0.64**	**176**	⇓P	**Pg**	**06 23 22.8**	**-0.9**
	4.9nm,0.1s,SNR=18						
CHMS				P		06 23 22.8	
	SNR=18						
TKM2	**Tokmak 2**	**0.97**	**137**	⇑P	**Pg**	**06 23 29.4**	**-0.8**
	2.8nm,0.1s,SNR=16						
TKM2				P		06 23 29.4	
	SNR=16						
TKM2	**Tokmak 2**	**0.97**	**137**	⇑P	**Pg**	**06 23 29.9**	**-0.3**
	0.2nm,0.1s						
TKM2				⇑S	**Sg**	**06 23 44.4**	**+1.5**
	1.3nm,0.2s						
KBK	**Karagaybulak**	**1.00**	**169**	P	**Pg**	**06 23 30.0**	**-0.6**
	SNR=22						
KBK				⇓P		06 23 30.1	
	7.5nm,0.1s,SNR=22						
AAK	**Ala-Archa**	**1.01**	**188**	⇑P	**Pg**	**06 23 29.4**	**-1.4**
	3.4nm,0.1s,SNR=15						
AAK				P		06 23 29.5	
	SNR=15						
AAK				⇑S	**Sg**	**06 23 45.5**	**+1.5**
	14nm,0.3s						
EKS2	**Erkin-Say**	**1.18**	**215**	P	**Pb**	**06 23 30.7**	**-3.2**
	SNR=34						
EKS2				P		06 23 30.7	
	3.4nm,0.1s,SNR=34						
KZA	**Kyzart**	**1.61**	**165**	⇑P	**Pn**	**06 23 41.4**	**+1.5**
	2.6nm,0.1s,SNR=9.7						
KZA				P		06 23 41.6	
	SNR=9.7						
AML	**Almayashu**	**1.67**	**206**	⇓P	**Pn**	**06 23 39.9**	**-0.8**
	5.2nm,0.2s,SNR=20						
AML				P		06 23 39.9	
	SNR=20						
KK31	**Karatay Array**	**3.09**	**262**	⇑Pn	**Pn**	**06 24 01.3**	**+1.1**
	0.5nm,0.4s,baz=75,slow=17,SNR=9.8						
KK31				⇑Sn	**Sn**	**06 24 38.8**	**+1.6**
	0.8nm,0.4s,baz=78,slow=26,SNR=7.0						

IDC ***18*** *06:43:14.3±2.8, 38°.37N×143°.47E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=69.4km s-min=33.7km az=68.0*
JMA ***18*** *06:43:16.9±0.2, 38°.43N×143°.23E, h22km±4km, M3.4*
ISCJB ***18*** *06:43:17.6±2.2, 38°.42N±0°.06×143°.27E±0°.09, h31km±19km, mb3.6/3, Error ellipse: s-maj=11.6km s-min=9.7km az=9.4*
ISC 18 06:43:17.7±2.3, 38°.44N±0°.06×143°.2E±0°.1, h15km±18km, n15, σ0.60/21, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.35**	**299**	P	**Pn**	**06 43 41.3**	**-0.7**
OFUJ				S	**Sn**	**06 43 59.1**	**-0.6**
JIO	**Ouri**	**1.45**	**271**	P	**Pn**	**06 43 42.7**	**-0.7**
JIO				*e*S	**Sn**	**06 44 01.3**	**-0.8**
JMK	**Ichinoseki**	**1.63**	**289**	P	**Pn**	**06 43 45.5**	**-0.3**
JOM	**Ohasama**	**1.81**	**305**	P	**Pn**	**06 43 48.0**	**-0.2**
JMM	**Marumori**	**1.98**	**254**	P	**Pn**	**06 43 49.9**	**-0.7**
JOU	**Okura**	**1.99**	**269**	P	**Pn**	**06 43 51.2**	**+0.4**
JOU				S	**Sn**	**06 44 15.6**	**+0.1**
JYK	**Kaneyama**	**2.27**	**283**	P	**Pn**	**06 43 55.2**	**+0.6**
JANG	**Nango**	**2.33**	**327**	P	**Pn**	**06 43 55.5**	**+0.1**
JANG				S	**Sn**	**06 44 23.6**	**-0.2**
JFT	**Otama**	**2.44**	**249**	P	**Pn**	**06 43 57.3**	**+0.3**
JFT				S	**Sn**	**06 44 26.7**	**+0.1**
JYS	**Shirataka**	**2.47**	**266**	P	**Pn**	**06 43 57.8**	**+0.4**
JYS				S	**Sn**	**06 44 28.0**	**+0.7**
JAH	**Hinai**	**2.64**	**312**	S	**Sn**	**06 44 31.8**	**+0.3**
MJAR	**Matsushiro Arr**	**4.40**	**246**	Pn	**Pn**	**06 44 24.3**	**+0.5**
	1.7nm,0.3s,baz=56,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**44.58**	**301**	P	**P**	**06 51 30.2**	**+1.2**
	0.1nm,0.5s,mb2.9,baz=86,slow=8.8,SNR=3.0						
KURK	**Kurchatov**	**46.19**	**307**	P	**P**	**06 51 42.4**	**+0.7**
	0.9nm,0.2s,mb4.3,baz=81,slow=7.9,SNR=5.1						
WRA	**Warramunga Arr**	**58.67**	**190**	P	**P**	**06 53 13.2**	**-1.2**
	0.7nm,0.9s,mb3.7,baz=7.0,slow=6.9,SNR=4.6						

NIED ***18*** *06:47:00.38°.40N×143°.40E, h23km, Mw5.3 Best double couple: M0 9.63000×10^16 NP1:φ0=21.00000°, δ58.00000°, λ88.00000°. NP2:φ0=205.00000°, δ32.00000°, λ93.00000°.*
IDC ***18*** *06:47:07.3±0.5, 38°.36N×143°.22E, h0km, mb4.8/26, mb1 4.9/30, mb1mx4.9/31, mbtmp4.8/30, ML4.2/4, MS4.7/24, Ms1 4.8/24, ms1mx4.6/33, Error ellipse: s-maj=13.6km s

MJAR	**Matsushiro Arr**	**4.29 244**	Pn	**Pn**	**06 48 16.9 +0.4**
MJAR	**Matsushiro Arr**	**4.29 244**	P	**Pn**	**06 48 16.9 +0.4**
MJAR			pmax	pmax	
	comp=Z,34nm,0.3s				
MAJO	**Matsushiro**	**4.29 244**	*e*Pn	**Pn**	**06 48 16.3 -0.2**
MAJO	**Matsushiro**	**4.29 244**	*e*P	**Pn**	**06 48 16.3 -0.2**
MAT	**Matsushiro**	**4.29 244**	P	**Pn**	**06 48 17.8 +1.3**
MAT			S	**Sn**	**06 49 04.5 -1.1**
MAT	**Matsushiro**	**4.29 244**	P	**Pn**	**06 48 17.6 +1.1**
JNG	**Nsakai**	**4.43 243**	P	**Pn**	**06 48 19.3 +0.8**
JYN	**Shimob**	**4.66 231**	P	**Pn**	**06 48 22.4 +0.7**
JNT	**Takato**	**4.69 237**	P	**Pn**	**06 48 23.0 +0.9**
JGN	**Niukaw**	**5.07 245**	⇑P	**Pn**	**06 48 29.1 +1.8**
JNY	**Yasuok**	**5.18 234**	P	**Pn**	**06 48 29.5 +0.7**
JGF	**Kuroka**	**5.37 239**	P	**Pn**	**06 48 32.3 +0.9**
ASAJ	**Asahikawa**	**5.61 357**	Pn	**Pn**	**06 48 33.7 -1.0**
	comp=Z,7.8nm,0.3s,baz=198,slow=13,SNR=27				
ASAJ			LR	LR	06 51 43.9
	comp=Z,12μm,18.7s,baz=187,slow=48				
ASAJ	**Asahikawa**	**5.61 357**	Pn	**Pn**	**06 48 33.7 -1.0**
ASAJ	**Asahikawa**	**5.61 357**	P	**Pn**	**06 48 33.7 -1.0**
ASAJ			pmax	pmax	
	comp=Z,8.0nm,0.3s				
ASAJ			MLR	MLR	
	comp=Z,12μm,18.7s				
JGM	**Miyama**	**5.75 243**	P	**Pn**	**06 48 37.8 +1.1**
YUK	**Yuzh-Kuril'sk**	**5.92 20***d*	*i*P	**Pn**	**06 48 35.3 -3.7**
YUK			*i* S	**Sn**	**06 49 38.2 -7.7**
YUK			pmax	pmax	
	comp=Z,389nm,0.3s				
YUK			pmax	pmax	
	comp=N,66nm,0.2s				
YUK			pmax	pmax	
	comp=E,44nm,0.2s				
YUK			smax		
	comp=N,1μm,0.6s				
YUK			smax		
	comp=E,2μm,0.6s				
YUK			smax		
	comp=N,9μm,2.1s				
YUK			smax		
	comp=E,12μm,2.1s				
YUK			MLR	MLR	
	comp=Z,3μm,10.0s				
YUK			MLR	MLR	
	comp=N,846nm,10.0s				
YUK			MLR	MLR	
	comp=E,1μm,10.0s				
KUR	**Kuril'sk**	**7.63 27**	P	**Pn**	**06 49 00.5 -2.0**
KUR			*e*S	**Sn**	**06 50 19.0 -9.0**
KUR			pmax	pmax	
	comp=Z,920nm,1.0s				
KUR			pmax	pmax	
	comp=N,320nm,0.8s				
KUR			pmax	pmax	
	comp=E,170nm,0.7s				
KUR			pmax	pmax	
	comp=Z,3μm,2.0s				
KUR			pmax	pmax	
	comp=N,4μm,3.0s				
KUR			pmax	pmax	
	comp=E,2μm,3.0s				
KUR			smax		
	comp=N,2μm,1.0s				
KUR			smax		
	comp=E,750nm,1.0s				
KUR			smax		
	comp=N,6μm,2.0s				
KUR			smax		
	comp=E,4μm,2.0s				
KUR			MLR	MLR	
	comp=N,11μm,14.0s				
KUR			MLR	MLR	
	comp=E,6μm,14.0s				
KUR			MLR	MLR	
	comp=Z,8μm,14.0s				
YSS	**Yuzh-Sakhalins**	**8.44 359**	*e*Pn	**Pn**	**06 49 14.0 +0.5**
YSS	**Yuzh-Sakhalins**	**8.44 359**	⇑*i*P	**Pn**	**06 49 13.7 +0.2**
YSS			*e*S	**Sn**	**06 50 48.0 +0.2**
YSS			pmax	pmax	
	comp=N,90nm,1.0s				
YSS			pmax	pmax	
	comp=Z,80nm,1.0s				
YSS			MLR	MLR	
	comp=Z,7μm,16.0s				
YSS			MLR	MLR	
	comp=E,8μm,18.0s				
VLA	**Vladivostok**	**9.59 302**κ	*i*P	**Pn**	**06 49 30.8 +1.5**
VLA			*i* S	**Sn**	**06 51 23.3 +7.2**
VLA			pmax	pmax	
	comp=Z,157nm,1.2s				
VLA			MLR	MLR	
	comp=E,153μm,13.0s				
UGL	**Uglegorsk**	**10.59 357**	P	**Pn**	**06 49 41.0 -1.9**
UGL			pmax	pmax	
	comp=Z,320nm,1.2s				
UGL			MLR	MLR	
	comp=N,11μm,18.0s				
UGL			MLR	MLR	
	comp=E,15μm,18.0s				
JNU	**Nakatsue**	**11.21 245**	*e*Pn	**Pn**	**06 49 51.6 +0.1**
CBIJ	**Chichi jima**	**11.40 184**	Pn	**Pn**	**06 49 48.1 -6.1**
	comp=E,5.0nm,0.3s,baz=285,slow=19,SNR=3.8				
CBIJ			Sn	**Sn**	**06 51 44.8 -16**
	comp=E,25nm,0.3s,baz=295,slow=22,SNR=7.7				
CBIJ			LR	LR	06 53 58.0
	comp=E,2μm,18.6s,baz=172,slow=36				
CBIJ	**Chichi jima**	**11.40 184**	Pn	**Pn**	**06 49 48.1 -6.1**
CBIJ			Sn	**Sn**	**06 51 44.8 -16**
HABR	**Khabarovsk**	**11.50 333**	*e*P	**Pn**	**06 49 53.8 -1.6**
HABR					06 51 59.6
HABR			pmax	pmax	
	comp=E,175nm,2.5s				
HABR			pmax	pmax	
	comp=N,171nm,2.5s				
HABR			pmax	pmax	
	comp=Z,117nm,1.3s				
HABR			MLR	MLR	
	comp=Z,5μm,14.0s				
MDJ	**Mudanjiang**	**11.74 306**	P	**Pn**	**06 50 00.4 +1.6**
MDJ			S	**Sn**	**06 52 11.5 +2.7**
MDJ			PcP	PcP	06 55 47.1 +0.5
MDJ			ScP	ScP	06 59 19.9 +2.6
MDJ			PcS	PcS	06 59 21.3 +0.9
MDJ			ScS	ScS	07 02 55.9 +3.1
MDJ			pmax	pmax	
	comp=Z,190nm,1.0s				
MDJ			pmax	pmax	
	comp=Z,1μm,8.5s				
MDJ			LR	LR	
	comp=N,8μm,12.3s				
MDJ			LR	LR	
	comp=E,5μm,15.8s				
MDJ			LR	LR	
	comp=Z,12μm,16.7s				
MDJ	**Mudanjiang**	**11.74 306**	*e*Pn	**Pn**	**06 50 00.6 +1.9**
	comp=Z,295nm,1.2s				
KSRS	**Korea Array**	**11.95 270**	Pn	**Pn**	**06 50 03.5 +1.9**
	comp=Z,1.0nm,0.3s,baz=95,slow=13,SNR=30				
KSRS			LR	LR	06 54 35.0
	comp=Z,7μm,18.5s,baz=81,slow=37				
KSRS	**Korea Array**	**11.95 270**	P	**Pn**	**06 50 03.5 +1.9**
KSRS			pmax	pmax	
	comp=Z,1.0nm,0.3s				
KSRS			MLR	MLR	
	comp=Z,7μm,18.5s				
KSAR	**Wonju Array Be**	**11.98 270**	Pn	**Pn**	**06 50 03.5 +1.4**
KSAR	**Wonju Array Be**	**11.98 270**	P	**Pn**	**06 50 03.5 +1.5**
INCN	**Inchon**	**12.95 271**	*e*Pn	**Pn**	**06 50 16.3 +0.9**
KLR	**Kul'dur**	**13.42 327**	*e*P	**Pn**	**06 50 17.0 -4.7**
KLR			*e*		06 52 48.5
KLR			pmax	pmax	
	comp=E,120nm,1.4s				
KLR			pmax	pmax	
	comp=Z,220nm,1.4s				
KLR			MLR	MLR	
	comp=N,4μm,13.0s				
KLR			MLR	MLR	
	comp=Z,27μm,13.0s				
CN2	**Changchun**	**14.23 297**	*e*P	**Pn**	**06 50 33.3 +0.5**
CN2			*e*S	**Sn**	**06 53 18.5 +8.9**
CN2			pmax	pmax	
	comp=Z,30nm,1.3s				
CN2			pmax	pmax	
	comp=Z,200nm,6.0s				
CN2			LR	LR	
	comp=N,6μm,16.0s				
CN2			LR	LR	
	comp=E,5μm,16.0s				
CN2			LR	LR	
	comp=Z,6μm,18.0s				
SNY	**Shenyang**	**15.21 289**	⇑P	**Pn**	**06 50 48.3 +2.4**
SNY			pmax	pmax	
	comp=Z,63nm,1.4s				
SNY			pmax	pmax	
	comp=Z,2μm,12.0s				
SNY			LR	LR	
	comp=E,8μm,17.6s				
SNY			LR	LR	
	comp=Z,9μm,17.4s				
SKR	**Severo-Kuril's**	**15.31 33**	*e*P	**Pn**	**06 50 50.0 +2.8**
SKR			MLR	MLR	
	comp=N,4μm,18.0s				
SKR			MLR	MLR	
	comp=E,5μm,18.0s				
SKR			MLR	MLR	
	comp=Z,5μm,18.0s				
DL2	**Dalian**	**16.69 278**	P	**Pn**	**06 51 04.8 -0.1**
DL2			S	**Sn**	**06 54 10.8 +1.5**
DL2			pmax	pmax	
	comp=Z,250nm,1.2s				
DL2			pmax	pmax	
	comp=Z,1μm,13.1s				
DL2			LR	LR	
	comp=N,2μm,16.2s				
DL2			LR	LR	
	comp=E,3μm,17.4s				
DL2			LR	LR	
	comp=Z,4μm,17.4s				
JOW	**Kunigami**	**16.98 231**	P	**Pn**	**06 51 10.0 +1.3**
	comp=Z,1.9nm,0.3s,baz=67,slow=16,SNR=3.6				
JOW	**Kunigami**	**16.98 231**	P	**Pn**	**06 51 10.0 +1.2**
	comp=Z,6.4nm,0.9s				
PETK	**Petropavlovsk-**	**17.78 30**	P	**Pn**	**06 51 19.4 +0.9**
	comp=Z,0.2nm,0.3s,baz=193,slow=12,SNR=6.1				
PETK			LR	LR	06 58 52.1
	comp=Z,1μm,18.8s,baz=53,slow=40				
PETK	**Petropavlovsk-**	**17.78 30**	P	**Pn**	**06 51 19.4 +0.9**
PETK	**Petropavlovsk-**	**17.78 30**	P	**Pn**	**06 51 19.4 +1.0**
PETK			MLR	MLR	
	comp=Z,1μm,18.8s				
PET	**Petropavlovsk**	**18.10 32**	*e*Pn	**Pn**	**06 51 23.0 +0.6**
	comp=Z,167nm,1.3s				
PET	**Petropavlovsk**	**18.10 32**	*e*P	**Pn**	**06 51 21.6 -0.8**
PET			*e*S	**Sn**	**06 54 37.3 -6.1**
PET			pmax	pmax	
	comp=Z,600nm,3.3s				
PET			pmax	pmax	
	comp=Z,32nm,1.1s				
PET			MLR	MLR	
	comp=Z,3μm,15.0s				
PET			MLR	MLR	
	comp=Z,3μm,13.0s				
SSE	**Sheshan**	**19.35 254**	P	**Pn**	**06 51 33.4 -4.3**
SSE			S	**Sn**	**06 55 07.0 -6.9**
SSE			sS	sS	06 55 20.1 -5.9
SSE			pmax	pmax	
	comp=Z,210nm,1.1s				
SSE			pmax	pmax	
	comp=Z,800nm,12.0s				
SSE			LR	LR	
	comp=N,5μm,16.5s				
SSE			LR	LR	
	comp=E,3μm,16.5s				
SSE			LR	LR	
	comp=Z,6μm,14.0s				
SSE	**Sheshan**	**19.35 254**	P	**Pn**	**06 51 33.4 -4.3**
	comp=Z,206nm,1.1s				
SSE			S	**Sn**	**06 55 07.0 -6.9**
SSE			sS	sS	06 55 20.1 -5.9
HIA	**Hailar**	**19.83 310**	*e*P	**Pn**	**06 51 39.5 -3.7**
	comp=Z,216nm,1.0s				
HIA	**Hailar**	**19.83 310**	*e*P	**Pn**	**06 51 39.6 -3.7**
HIA			pmax	pmax	
	comp=Z,216nm,1.0s				
NJ2	**Nanjing**	**20.71 259**	*e*P	**P**	**06 51 48.6 -2.6**
NJ2			pP		06 51 52.3
NJ2			PP		06 52 08.6
NJ2			S	**S**	**06 55 38.5 -2.6**
NJ2			sS	sS	06 55 48.5 -4.6
NJ2			pmax	pmax	
	comp=Z,90nm,1.1s				
NJ2			pmax	pmax	
	comp=Z,630nm,9.8s				
NJ2			LR	LR	
	comp=N,4μm,18.4s,MS4.8				
NJ2			LR	LR	
	comp=E,2μm,22.3s,MS4.8				
NJ2			LR	LR	
	comp=Z,2μm,17.9s,MS4.5				
BJI	**Beijing**	**20.80 283**	P	**P**	**06 51 49.5 -2.6**
BJI			S	**S**	**06 55 44.5 +1.8**
BJI			pmax	pmax	
	comp=Z,110nm,0.9s				
BJI			pmax	pmax	
	comp=Z,800nm,3.6s				
BJI			LR	LR	
	comp=N,3μm,14.6s,MS5.2				
BJI			LR	LR	
	comp=E,7μm,14.6s,MS5.2				
BJI			LR	LR	
	comp=Z,3μm,16.4s,MS4.8				
BJT	**Baijiatuau**	**20.81 283**	*e*P	**P**	**06 51 50.3 -2.0**
	comp=Z,206nm,0.9s				
BJT	**Baijiatuau**	**20.81 283**	*e*P	**P**	**06 51 50.3 -1.9**
BJT			pmax	pmax	
	comp=Z,205nm,0.9s				
CLNS	**Chul'man**	**21.89 333***c*	*i*P	**P**	**06 52 03.3 -0.5**
CLNS			*e*		06 52 15.1
CLNS			*e*S	**S**	**06 56 01.8 -2.1**
CLNS			*e*SS		06 56 49.0
CLNS			pmax	pmax	
	comp=Z,363nm,1.1s,mb5.7				
CLNS			pmax	pmax	
	comp=N,349nm,1.4s				
CLNS			pmax	pmax	
	comp=E,163nm,1.1s				
CLNS			pmax	pmax	
	comp=Z,310nm,1.1s,mb5.7				
CLNS			pmax	pmax	
	comp=N,428nm,1.4s				
CLNS			pmax	pmax	
	comp=E,157nm,1.2s				
CLNS			smax		
	comp=E,433nm,12.4s				
CLNS			smax		
	comp=N,1μm,12.4s				
CLNS			MLR	MLR	
	comp=Z,4μm,14.0s,MS4.9				
CLNS			MLR	MLR	
	comp=N,2μm,15.0s,MS5.0				
CLNS			MLR	MLR	
	comp=E,3μm,13.0s,MS5.0				
TATO	**Taipei**	**22.66 240**	*e*P	**P**	**06 52 11.0 -1.2**
	comp=E,296nm,1.3s,mb5.6				
YHNB	**Yeheng**	**22.94 239**	*e*P	**P**	**06 52 13.0 -2.1**
	comp=E,93nm,0.9s,mb5.2				
NACB	**Ninganchiao**	**23.13 238**	*e*P	**P**	**06 52 14.4 -2.8**
	comp=E,76nm,1.0s,mb5.1				
SSLB	**Suanglung**	**23.82 238**	*e*P	**P**	**06 52 22.9 -1.0**
	comp=E,115nm,1.0s,mb5.3				
YULB	**Yu-li**	**23.86 237**	*e*P	**P**	**06 52 22.9 -1.4**
	comp=E,97nm,1.1s,mb5.1				
HHC	**Hu-ho-hao-te**	**24.24 286**	⇑P	**P**	**06 52 25.8 -1.8**
HHC			sP	sP	06 52 32.3 -6.9
HHC			PP		06 52 59.8
HHC			PcP	PcP	06 56 06.8 -0.5
HHC			S	**S**	**06 56 41.9 -2.6**
HHC			sS	sS	06 56 47.5 -10
HHC			SS		06 57 33.4
HHC			ScP	ScP	06 59 44.3 +0.4
HHC			PcS	PcS	06 59 45.9 -1.1
HHC			pmax	pmax	
	comp=Z,130nm,1.0s,mb5.3				
HHC			pmax	pmax	
	comp=Z,1μm,5.9s				
HHC			LR	LR	
	comp=N,2μm,14.3s,MS5.4				
HHC			LR	LR	
	comp=E,8μm,14.9s,MS5.4				
HHC			LR	LR	
	comp=Z,10μm,15.4s,MS5.4				
TPUB	**Ta-pu**	**24.37 238**	*e*P	**P**	**06 52 26.3 -2.6**
	comp=Z,295nm,1.1s,mb5.6				
TWG	**Pinlang**	**24.41 236**	*e*P	**P**	**06 52 29.9 +0.6**
	comp=Z,234nm,1.0s,mb5.6				
CIT	**Chita**	**24.54 313**	*e*P	**P**	**06 52 29.2 -1.0**
CIT			*e*		06 52 37.9
CIT			*e*		06 52 45.6
CIT			pmax	pmax	
	comp=Z,858nm,1.4s,mb6.1				
QZH	**Quanzhou**	**24.69 244**⇓	*i*P	**P**	**06 52 29.3 -2.5**
QZH			S	**S**	**06 56 52.0 +0.2**
QZH			pmax	pmax	
	comp=Z,410nm,1.0s,mb5.9				
QZH			pmax	pmax	
	comp=Z,2μm,3.0s				
QZH			LR	LR	
	comp=N,4μm,13.2s,MS5.2				
QZH			LR	LR	
	comp=E,5μm,16.9s,MS5.2				
QZH			LR	LR	
	comp=Z,7μm,15.4s,MS5.2				
WHN	**Wuhan**	**24.83 260**	P	**P**	**06 52 32.4 -0.7**
WHN			sP	sP	06 52 45.3 +0.6
WHN			S	**S**	**06 56 47.8 -6.4**
WHN			pmax	pmax	
	comp=Z,280nm,1.1s,mb5.7				
WHN			LR	LR	
	comp=N,5μm,12.2s,MS5.5				
WHN			LR	LR	
	comp=E,7μm,11.8s,MS5.5				
WHN			LR	LR	
	comp=Z,12μm,13.1s,MS5.6				
GUMO	**Guam**	**24.88 176**	LR	LR	06 59 50.1
	comp=Z,1μm,20.1s,MS4.4,baz=196,slow=31				
YAK	**Yakutsk**	**24.94 345**	*e*P	**P**	**06 52 32.7 -1.0**
	comp=Z,273nm,0.9s,mb5.8				
YAK	**Yakutsk**	**24.94 345***c*	*i*P	**P**	**06 52 32.6 -1.1**
YAK			*e**PP		06 52 40.7
YAK			*e*PPP		06 53 15.5
YAK			*e*		06 56 07.2
YAK			*e*S	**S**	**06 56 54.0 -1.2**
YAK			*e**SS	sS	06 57 11.5 +2.9
YAK			*e*SSS		06 57 52.8
YAK			*e*		07 03 29.9
YAK			pmax	pmax	
	comp=Z,193nm,0.9s,mb5.6				
YAK			pmax	pmax	
	comp=N,69nm,0.9s				
YAK			pmax	pmax	
	comp=E,27nm,1.1s				
YAK			pmax	pmax	
	comp=Z,200nm,1.0s,mb5.6				
YAK			pmax	pmax	
	comp=N,178nm,1.1s				
YAK			pmax	pmax	
	comp=E,135nm,1.1s				
YAK			smax		
	comp=E,281nm,2.0s				
YAK			smax		
	comp=N,517nm,2.2s				
YAK			MLR	MLR	
	comp=Z,5μm,15.0s,MS5.1				
YAK			MLR	MLR	
	comp=N,4μm,15.0s,MS5.0				
YAK			MLR	MLR	
	comp=E,662nm,15.0s,MS5.0				
FX1	**Attu Island--F**	**25.27 46**	P	**P**	**06 52 37.7 +0.9**
	comp=E,27nm,0.8s,mb4.8,baz=214,slow=11,SNR=3.2				
FX1			LR	LR	06 59 49.9
	comp=E,892nm,21.6s,MS4.2,baz=256,slow=30				
FX1	**Attu Island--F**	**25.27 46**	*e*P	**P**	**06 52 37.6 +0.8**
FX1	**Attu Island--F**	**25.27 46**	*e*P	**P**	**06 52 37.6 +0.8**
BTO	**Baotou**	**25.43 285**	*e*P	**P**	**06 52 36.9 -1.5**
BOD	**Bodaibo**	**27.00 325**	*e*P	**P**	**06 52 51.3 -1.1**
BOD			pmax	pmax	
	comp=Z,120nm,1.0s,mb5.4				
ULN	**Ulaanbaatar**	**27.61 301**	*e*P	**P**	**06 52 58.9 +0.9**
	comp=Z,153nm,1.1s,mb5.5				
ULN	**Ulaanbaatar**	**27.61 301**	*e*P	**P**	**06 52 58.9 +0.9**
ULN			pmax	pmax	
	comp=Z,153nm,1.1s,mb5.5				
ULN	**Ulaanbaatar**	**27.61 301**	P	**P**	**06 52 59.1 +1.1**
	comp=Z,2μmcomp=Z,164nm,1.3s,mb5.5				
ULN	**Ulaanbaatar**	**27.61 301**	P	**P**	**06 52 59.2 +1.2**
	SNR=63				
XAN	**Xi'an**	**27.74 271**	P	**P**	**06 52 58.6 -0.7**
XAN			pP	pP	06 53 04.5 -2.9
XAN			PP		06 53 49.5
XAN			pmax	pmax	
	comp=Z,41nm,1.4s,mb4.9				
XAN			pmax	pmax	
	comp=Z,210nm,8.6s				
XAN			LR	LR	
	comp=N,2μm,20.1s				
XAN			LR	LR	
	comp=Z,1μm,16.4s,MS4.5				
SONM	**Songino Array**	**28.05 301**	P	**P**	**06 53 03.1 +1.1**
	comp=Z,149nm,1.2s,mb5.5,baz=106,slow=7.5,SNR=183				
SONM			LR	LR	07 04 39.2
	comp=Z,4μm,18.5s,MS5.0,baz=70,slow=37				
SONM	**Songino Array**	**28.05 301**	P	**P**	**06 53 03.1 +1.1**
SONM	**Songino Array**	**28.05 301**	P	**P**	**06 53 03.1 +1.2**
SONM			pmax	pmax	
	comp=Z,149nm,1.2s				
SONM			MLR	MLR	
	comp=Z,4μm,18.5s				
ENH	**Enshi**	**28.73 264**	*e*P	**P**	**06 53 07.6 -0.6**
	comp=Z,175nm,0.8s,mb5.8				
HKC	**Hong Kong Obse**	**29.48 245**	*e*P	**P**	**06 53 14.0 -0.9**
IRK	**Irkutsk**	**30.08 310**	*e*P	**P**	**06 53 20.0 +0.1**
IRK			pmax	pmax	
	comp=Z,139nm,1.4s,mb5.5				
TLY	**Talaya**	**30.35 309**	*e*P	**P**	**06 53 23.0 +0.7**
	comp=Z,74nm,0.9s,mb5.4				
TLY	**Talaya**	**30.35 309***c*	*i*P	**P**	**06 53 23.0 +0.7**
TLY			*e*		06 54 33.7
TLY			*e*		06 58 26.7
TLY			pmax	pmax	
	comp=Z,87nm,1.0s,mb5.4				
TLY			MLR	MLR	
	comp=Z,5μm,15.0s,MS5.3				
TLY	**Talaya**	**30.35 309**	P	**P**	**06 53 23.5 +1.2**
	SNR=18				
TLY	**Talaya**	**30.35 309**	P	**P**	**06 53 23.7 +1.4**
	comp=Z,456nm,1.1s,mb6.1,SNR=26				
ZAK	**Zakamensk**	**30.38 306**⇑	*i*P	**P**	**06 53 23.3 +0.7**
ZAK			pmax	pmax	
	comp=Z,79nm,1.2s,mb5.3				
LZH	**Lanzhou**	**31.09 278**	⇑P	**P**	**06 53 29.0 +0.1**
LZH			pP	pP	06 53 35.0 -2.2
LZH			sP	sP	06 53 36.8 -3.8
LZH			PP	PP	06 54 31.3 -8.0
LZH			S	**S**	**06 58 31.6 -1.0**
LZH			sS	sS	06 58 41.3 -4.8
LZH			SS	SS	07 00 16.0 -30
LZH			pmax	pmax	
	comp=Z,91nm,1.1s,mb5.5				
LZH			pmax	pmax	
	comp=Z,630nm,5.5s				
LZH			LR	LR	
	comp=N,4μm,12.3s,MS5.5				
LZH			LR	LR	
	comp=E,6μm,13.4s,MS5.5				
LZH			LR	LR	
	comp=Z,7μm,17.5s,MS5.4				
LZH	**Lanzhou**	**31.09 278**	⇑P	**P**	**06 53 29.0 +0.1**
	comp=Z,91nm,1.1s,mb5.5				
LZH			pP	pP	06 53 35.0 -2.2
LZH			sP	sP	06 53 36.8 -3.8
LZH			PP	PP	06 54 31.2 -8.1
LZH			S	**S**	**06 58 31.6 -1.0**
LZH			sS	sS	06 58 41.3 -4.8
LZH			SS	SS	07 00 16.0 -30
LZH			LR	LR	
	comp=Z,7μm,17.5s,MS5.4				
LZH	**Lanzhou**	**31.09 278**	⇑P	**P**	**06 53 29.0 +0.1**
LZH			*SP	sP	06 53 36.8 -3.8
LZH					06 54 31.2
LZH			S	**S**	**06 58 31.6 -1.0**
LZH			SS	SS	07 00 16.0 -30
LZH			pmax	pmax	
	comp=Z,91nm,1.1s,mb5.5				
LZH			MLR	MLR	
	comp=Z,7μm,17.5s,MS5.4				
TGY	**Tagaytay City**	**31.18 225**	P	**P**	**06 53 31.0 +1.1**
	comp=Z,111nm,0.2s,mb6.2,baz=204,slow=20,SNR=3.6				

TGY	**Tagaytay City**	**31.18 225**	P	**P**	**06 53 31.0**	**+1.1**
TGY	**Tagaytay City**	**31.18 225**	P	**P**	**06 53 31.0**	**+1.1**
TGY			pmax	pmax		
	comp=Z,111nm,0.3s					
MOY	**Mondy**	**31.98 308**	*e*P	**P**	**06 53 37.9**	**+1.2**
MOY			pmax	pmax		
	comp=Z,110nm,2.5s,mb5.2					
BILL	**Bilibino**	**32.26 16⇑**	*e*P	**P**	**06 53 37.5**	**-1.4**
BILL			*e*S	**S**	**06 58 50.4**	**+0.2**
GYA	**Guiyang**	**32.72 259⇑**	*i*P	**P**	**06 53 42.4**	**-1.0**
GYA			pP	pP	06 53 48.6	-3.0
GYA			PP	PP	06 54 52.4	-5.1
GYA			S	**S**	**06 58 58.8**	**+0.6**
GYA			ScP	ScP	07 00 12.3	+1.8
GYA			SS	SS	07 00 55.8	-24
GYA			pmax	pmax		
	comp=Z,60nm,0.8s,mb5.6					
GYA			pmax	pmax		
	comp=Z,300nm,8.4s					
GYA			LR	LR		
	comp=N,2μm,16.7s,MS4.9					
GYA			LR	LR		
	comp=E,890nm,17.3s,MS4.9					
GYA			LR	LR		
	comp=Z,2μm,16.8s,MS4.9					
CD2	**Chengdu**	**32.95 269⇓**	*i*P	**P**	**06 53 45.3**	**0.0**
CD2			pP	pP	06 53 54.8	+1.2
CD2			sP	sP	06 53 59.0	+2.0
CD2			PP	PP	06 54 55.3	-4.7
CD2			PcP	PcP	06 56 29.9	+0.8
CD2			S	**S**	**06 58 59.0**	**-2.7**
CD2			sS	sS	06 59 14.9	-0.4
CD2			SS	SS	07 00 58.3	-26
CD2			ScS	ScS	07 04 08.6	-2.9
CD2			pmax	pmax		
	comp=Z,80nm,0.8s,mb5.7					
CD2			pmax	pmax		
	comp=Z,680nm,10.8s					
CD2			LR	LR		
	comp=N,5μm,16.8s,MS5.4					
CD2			LR	LR		
	comp=E,4μm,15.6s,MS5.4					
CD2			LR	LR		
	comp=Z,5μm,15.0s,MS5.3					
GTA	**Gaotai**	**33.36 285**	⇑P	**P**	**06 53 49.6**	**+0.8**
GTA			pP	pP	06 53 58.5	+1.4
GTA			sP	sP	06 54 03.1	+2.6
GTA			PcP	PcP	06 56 31.1	+1.0
GTA			S	**S**	**06 59 11.4**	**+3.5**
GTA			ScP	ScP	07 00 13.4	+0.9
GTA			ScS	ScS	07 04 13.4	+0.1
GTA			pmax	pmax		
	comp=Z,140nm,1.0s,mb5.8					
GTA			pmax	pmax		
	comp=Z,850nm,7.2s					
GTA			LR	LR		
	comp=N,2μm,14.7s,MS5.5					
GTA			LR	LR		
	comp=E,7μm,17.6s,MS5.5					
GTA			LR	LR		
	comp=Z,8μm,16.6s,MS5.5					
QIZ	**Qiongzhong**	**34.68 245**	P	**P**	**06 54 00.8**	**+0.3**
QIZ			S	**S**	**06 59 33.3**	**+4.6**
QIZ			LR	LR		
	comp=N,3μm,18.1s,MS5.0					
QIZ			LR	LR		
	comp=E,1μm,18.9s,MS5.0					
QIZ			LR	LR		
	comp=Z,3μm,16.1s,MS5.1					
DAV	**Davao City (W)**	**35.04 211**	LR	LR	07 06 05.3	
	comp=Z,1μm,18.9s,MS4.6,baz=6.6,slow=32					
DAV	**Davao City (W)**	**35.04 211**	P	**P**	**06 54 04.7**	**+1.1**
	comp=Z,272nm,0.4s,mb6.5					
KMI	**Kunming**	**36.44 261**	P	**P**	**06 54 15.3**	**-0.2**
KMI			pP	pP	06 54 20.0	-3.8
KMI			sP	sP	06 54 21.8	-5.4
KMI			PP	PP	06 55 39.8	+1.2
KMI			S	**S**	**06 59 55.0**	**-0.5**
KMI			sS	sS	07 00 03.0	-6.2
KMI			SS	SS	07 02 18.8	-16
KMI			pmax	pmax		
	comp=Z,56nm,1.4s,mb5.3					
KMI			pmax	pmax		
	comp=Z,490nm,4.1s					
KMI			LR	LR		
	comp=N,2μm,16.9s,MS5.3					
KMI			LR	LR		
	comp=E,3μm,15.0s,MS5.3					
KMI			LR	LR		
	comp=Z,4μm,16.4s,MS5.2					
KMI	**Kunming**	**36.44 261**	P	**P**	**06 54 15.2**	**-0.3**
	comp=Z,56nm,1.4s,mb5.3					
KMI			pP	pP	06 54 20.0	-3.8
KMI			sP	sP	06 54 21.8	-5.4
KMI			PP	PP	06 55 39.7	+1.1
KMI			S	**S**	**06 59 55.0**	**-0.5**
KMI			sS	sS	07 00 03.0	-6.2
KMI			SS	SS	07 02 18.8	-16
KMI			LR	LR		
	comp=Z,4μm,16.4s,MS5.2					
KMI	**Kunming**	**36.44 261**	P	**P**	**06 54 15.2**	**-0.3**
KMI			*SP	sP	06 54 21.8	-5.4
KMI					06 55 39.7	
KMI			S	**S**	**06 59 55.0**	**-0.5**
KMI			SS	SS	07 02 18.8	-16
KMI			pmax	pmax		
	comp=Z,56nm,1.4s,mb5.3					
KMI			MLR	MLR		
	comp=Z,4μm,16.4s,MS5.2					
HVS	**Khovu-Aksy**	**36.50 307**	*e*P	**P**	**06 54 16.4**	**+0.6**
TNA	**Tin City**	**38.95 30**	*e*P	**P**	**06 54 36.4**	**+0.1**
	comp=Z,64nm,2.0s,mb5.0					
MYLDM	**Lahad Datu**	**39.95 220**	P	**P**	**06 54 45.0**	**-0.2**
MYLDM	**Lahad Datu**	**39.95 220**	P	**P**	**06 54 46.8**	**+1.6**
	comp=Z,1μmcomp=Z,87nm,1.1s,mb5.4					
SDKM	**Sandakan**	**40.23 222**	P	**P**	**06 54 47.7**	**+0.2**
TSM	**Tawau**	**41.02 220**	P	**P**	**06 54 53.5**	**-0.6**
WMQ	**Urumqi**	**41.32 296**	P	**P**	**06 54 56.9**	**+0.7**
WMQ			pP	pP	06 55 06.8	+2.2
WMQ			PP	PP	06 56 35.3	+3.6
WMQ			S	**S**	**07 01 07.3**	**-1.4**
WMQ			sS	sS	07 01 23.6	+1.1
WMQ			pmax	pmax		
	comp=Z,180nm,1.2s,mb5.6					
WMQ			pmax	pmax		
	comp=Z,1μm,4.2s					
WMQ			LR	LR		
	comp=N,3μm,13.4s,MS5.4					
WMQ			LR	LR		
	comp=E,2μm,14.0s,MS5.4					
WMQ			LR	LR		
	comp=Z,1μm,17.6s,MS4.9					
CHRT	**Chiangrai**	**41.61 256**	⇑P	**P**	**06 54 58.0**	**-0.9**
	comp=Z,426nm,0.7s,mb6.2					
ZAA0	**Zalesovo Array**	**41.87 311**	*e*P	**P**	**06 55 00.3**	**-0.3**
ZALV	**Zalesovo Beam**	**41.87 311**	P	**P**	**06 55 00.6**	**-0.1**
	comp=Z,47nm,1.0s,mb5.1,baz=90,slow=7.4,SNR=126					
ZALV			PcP	PcP	06 56 55.2	-0.7
	comp=Z,14nm,0.7s,baz=82,slow=2.9,SNR=4.3					
ZALV	**Zalesovo Beam**	**41.87 311**	P	**P**	**06 55 00.6**	**-0.1**
ZALV			PcP	PcP	06 56 55.2	-0.7
ZALV	**Zalesovo Beam**	**41.87 311**	P	**P**	**06 55 00.6**	**0.0**
ZALV					06 56 55.2	
ZALV			pmax	pmax		
	comp=Z,47nm,1.0s,mb5.1					
ZALV			pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7					
GTOI	**Gorontalo**	**41.92 211**	P	**P**	**06 55 00.1**	**-1.3**
	comp=Z,985nmcomp=Z,86nm,1.3s,mb5.2					
FAKI	**Fak Fak**	**42.40 196**	P	**P**	**06 55 05.4**	**+0.1**
	comp=Z,32nm,1.7s,mb4.7					
MRSI	**Marisa**	**42.50 212**	P	**P**	**06 55 05.8**	**-0.4**
	comp=Z,2μmcomp=Z,100nm,1.5s,mb5.3					
NVS	**Novosibirsk**	**42.75 313⇑**	*i*P	**P**	**06 55 07.6**	**-0.1**
NVS			*e*S	**S**	**07 01 31.0**	**+1.4**
NVS			pmax	pmax		
	comp=E,86nm,1.4s					
NVS			pmax	pmax		
	comp=Z,123nm,1.4s,mb5.4					
NVS			smax			
	comp=E,65nm,2.1s					
CHG	**Chiang Mai**	**42.88 255**	⇑P	**P**	**06 55 09.1**	**-0.1**
	comp=E,38nm,1.0s,mb5.1					
CHTO	**Chiang Mai**	**42.88 255**	*e*P	**P**	**06 55 08.9**	**-0.3**
	comp=E,84nm,1.5s,mb5.2					
CHTO	**Chiang Mai**	**42.88 255**	*e*P	**P**	**06 55 08.9**	**-0.3**
CHTO			pmax	pmax		
	comp=Z,84nm,1.5s,mb5.2					
CHTO	**Chiang Mai**	**42.88 255**	P	**P**	**06 55 08.9**	**-0.3**
	comp=Z,862nmcomp=Z,48nm,1.4s,mb5.0					
CHTO	**Chiang Mai**	**42.88 255**	P	**P**	**06 55 09.6**	**+0.4**
	SNR=10					
CMAR	**Chiang Mai Arr**	**43.09 255**	P	**P**	**06 55 10.7**	**-0.2**
	comp=Z,6.5nm,0.8s,mb4.4,baz=46,slow=6.4,SNR=35					
CMAR			LR	LR	07 14 43.0	
	comp=Z,462nm,18.9s,MS4.4,baz=266,slow=38					
CMAR	**Chiang Mai Arr**	**43.09 255**	P	**P**	**06 55 10.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**43.09 255**	P	**P**	**06 55 10.7**	**-0.2**
CMAR			pmax	pmax		
	comp=Z,7.0nm,0.8s					
CMAR			MLR	MLR		
	comp=Z,462nm,18.9s					
LSA	**Lhasa**	**43.34 274**	P	**P**	**06 55 13.8**	**+0.9**
LSA			sP	sP	06 55 26.4	+1.8
LSA			LR	LR		
	comp=N,2μm,16.6s,MS5.3					
LSA			LR	LR		
	comp=E,3μm,17.0s,MS5.3					
LSA			LR	LR		
	comp=Z,4μm,16.3s,MS5.5					
LSA	**Lhasa**	**43.34 274**	*e*P	**P**	**06 55 14.1**	**+1.2**
	comp=Z,65nm,0.9s,mb5.4					
LSA			LR	LR		
	comp=Z,3μm,19.0s,MS5.2					
LSA	**Lhasa**	**43.34 274**	*e*P	**P**	**06 55 14.1**	**+1.2**
LSA			pmax	pmax		
	comp=Z,65nm,0.9s,mb5.4					
LSA			MLR	MLR		
	comp=Z,3μm,19.0s,MS5.2					
IMP	**Imphal**	**43.47 266**	*e*PKP	**P**	**06 55 13.0**	**-1.0**
IMP			*ex*	x	07 01 52.0	
LUWI	**Luwuk**	**43.55 210**	P	**P**	**06 55 14.8**	**+0.2**
	comp=Z,1μmcomp=Z,122nm,1.2s,mb5.5					
MSAI	**Masohi**	**43.63 201**	P	**P**	**06 55 16.3**	**+1.0**
	comp=Z,4μmcomp=Z,27nm,1.5s,mb4.8					
BDT	**Bhumibol Dam**	**43.78 254**	P	**P**	**06 55 17.0**	**+0.5**
NST	**Nakhon Sawan**	**43.91 251**	P	**P**	**06 55 14.0**	**-3.6**
	comp=Z,67nm,0.9s,mb5.4					
MK31	**Makanchi Array**	**44.42 301**	*e*P	**P**	**06 55 21.6**	**+0.3**
MK31	**Makanchi Array**	**44.42 301**	*i* P	**P**	**06 55 21.6**	**+0.3**
MK31			pmax	pmax		
	comp=Z,209nm,1.2s,mb5.7					
MKAR	**Makanchi Array**	**44.42 301**	P	**P**	**06 55 21.6**	**+0.3**
	comp=Z,56nm,0.8s,mb5.3,baz=84,slow=8.9,SNR=211					
MKAR			LR	LR	07 14 46.9	
	comp=Z,2μm,18.8s,MS5.0,baz=83,slow=37					
MKAR	**Makanchi Array**	**44.42 301**	*e*P	**P**	**06 55 21.6**	**+0.4**
MKAR	**Makanchi Array**	**44.42 301**	*e*P	**P**	**06 55 21.7**	**+0.4**
SHL	**Shillong**	**44.69 269**	*e*PKP	**P**	**06 55 23.0**	**-0.7**
SHL			*ex*	x	07 01 55.0	
KDAK	**Kodiak Island**	**45.16 43**	P	**P**	**06 55 25.9**	**-1.1**
	comp=Z,12nm,0.8s,mb4.8,baz=343,slow=4.6,SNR=6.2					
KDAK	**Kodiak Island**	**45.16 43**	*e*P	**P**	**06 55 27.0**	**-0.1**
	comp=Z,88nm,1.4s,mb5.4					
KDAK	**Kodiak Island**	**45.16 43**	*e*P	**P**	**06 55 27.0**	**-0.1**
KDAK			pmax	pmax		
	comp=Z,88nm,1.4s,mb5.4					
PPLA	**Purkeypile**	**45.24 36**	*e*P	**P**	**06 55 28.4**	**+0.7**
	comp=Z,58nm,1.2s,mb5.3					
SBUM	**Sibu**	**45.59 226**	P	**P**	**06 55 30.7**	**-0.3**
SBUM	**Sibu**	**45.59 226**	P	**P**	**06 55 30.9**	**-0.1**
	comp=Z,29nm,1.4s,mb5.0					
KURK	**Kurchatov**	**46.03 307**	P	**P**	**06 55 34.5**	**+0.5**
	comp=Z,145nm,0.8s,mb5.9,baz=82,slow=8.2,SNR=476					
KURK			S	**S**	**07 02 28.0**	**+11**
	comp=Z,0.6nm,0.6s,baz=84,slow=12,SNR=3.7					
KURK	**Kurchatov**	**46.03 307**	*e*P	**P**	**06 55 33.9**	**-0.1**
	comp=Z,253nm,0.9s,mb6.2					
KURK			*ep*P	pP	06 55 43.1	+0.6
KURK			S	**S**	**07 02 28.0**	**+11**
KURK			LR	LR		
	comp=Z,2μm,19.0s,MS5.2					
KURK	**Kurchatov**	**46.03 307**	*e*P	**P**	**06 55 33.9**	**-0.1**
KURK			*e**PP	pP	06 55 43.1	+0.6
KURK			S	**S**	**07 02 28.0**	**+11**
KURK			pmax	pmax		
	comp=Z,253nm,0.9s,mb6.2					
KURK			MLR	MLR		
	comp=Z,2μm,19.0s,MS5.2					
KURK	**Kurchatov**	**46.03 307**	P	**P**	**06 55 34.2**	**+0.2**
	SNR=99					
KURK	**Kurchatov**	**46.03 307**	P	**P**	**06 55 33.7**	**-0.3**
	comp=Z,1μm,0.8s					
AGT	**Agartala**	**46.03 267**	*e*PKP	**P**	**06 55 32.0**	**-2.4**
AGT			*ex*	x	06 56 37.0	
TRF	**Thorofare Moun**	**46.11 35**	*e*P	**P**	**06 55 35.8**	**+1.3**
	comp=Z,18nm,1.0s,mb5.0					
COLD	**Coldfoot**	**46.25 30**	*e*P	**P**	**06 55 33.5**	**-2.0**
	comp=Z,26nm,1.1s,mb5.1					
KDI	**Kendari**	**46.28 209**	P	**P**	**06 55 36.2**	**-0.1**
	comp=Z,609nmcomp=Z,43nm,1.4s,mb5.2					
RC01	**Rabbit Creek A**	**46.43 38**	*e*P	**P**	**06 55 36.0**	**-0.9**
	comp=Z,35nm,1.0s,mb5.2					
PMR	**Palmer**	**46.69 38**	*e*P	**P**	**06 55 38.1**	**-0.9**
	comp=Z,20nm,1.0s,mb5.0					
PMR	**Palmer**	**46.69 38**	*e*P	**P**	**06 55 38.1**	**-1.0**
PMR			pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0					
MCK	**McKinley**	**46.71 35**	*e*P	**P**	**06 55 38.6**	**-0.5**
	comp=Z,38nm,1.2s,mb5.2					
MCK	**McKinley**	**46.71 35**	*e*P	**P**	**06 55 38.7**	**-0.5**
MCK			pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2					
SML	**Sawmill**	**47.06 37**	*e*P	**P**	**06 55 40.2**	**-1.7**
	comp=Z,21nm,1.1s,mb5.0					
SML	**Sawmill**	**47.06 37**	*e*P	**P**	**06 55 40.2**	**-1.7**
SML			pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0					
TAPN	**Taplejung**	**47.10 273**	*e*P	**P**	**06 55 43.4**	**+0.7**
TAPN	**Taplejung**	**47.10 273**	*e*P	**P**	**06 55 43.4**	**+0.7**
COLA	**College**	**47.16 33**	*e*P	**P**	**06 55 41.5**	**-1.1**
	comp=Z,26nm,1.0s,mb5.1					
COLA			LR	LR		
	comp=Z,595nm,22.0s,MS4.5					
COLA	**College**	**47.16 33**	*e*P	**P**	**06 55 41.5**	**-1.2**
COLA			pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1					
COLA			MLR	MLR		
	comp=Z,595nm,22.0s,MS4.5					
KSM	**Kuching**	**47.48 227**	P	**P**	**06 55 46.0**	**+0.2**
KSM	**Kuching**	**47.48 227**	*e*P	**P**	**06 55 46.0**	**+0.3**
	comp=Z,46nm,1.0s,mb5.4					
KSM	**Kuching**	**47.48 227**	P	**P**	**06 55 46.1**	**+0.3**
	comp=Z,51nm,1.3s,mb5.3					
ILAR	**Eielson Array**	**47.58 33**	P	**P**	**06 55 44.2**	**-1.7**
	comp=Z,4.4nm,0.8s,mb4.6,baz=264,slow=6.4,SNR=47					
ILAR			LR	LR	07 16 06.3	
	comp=Z,604nm,19.5s,MS4.6,baz=35,slow=36					
ILAR	**Eielson Array**	**47.58 33**	P	**P**	**06 55 44.2**	**-1.7**
ILAR	**Eielson Array**	**47.58 33**	P	**P**	**06 55 44.3**	**-1.6**
ILAR			pmax	pmax		
	comp=Z,4.0nm,0.8s					
ILAR			MLR	MLR		
	comp=Z,604nm,19.5s					
ODAN	**Odare**	**47.58 273**	*e*P	**P**	**06 55 46.8**	**+0.3**
	comp=Z,238nm,1.0s,mb6.2					
ODAN	**Odare**	**47.58 273**	*e*P	**P**	**06 55 46.8**	**+0.3**
	comp=Z,238nm,1.0s,mb6.2					
PMG	**Port Moresby**	**47.82 174**	P	**P**	**06 55 44.9**	**-3.4**
	comp=Z,3.0nm,0.3s,mb4.8,baz=321,slow=6.5,SNR=3.3					
PMG	**Port Moresby**	**47.82 174**	P	**P**	**06 55 44.9**	**-3.4**
PMG	**Port Moresby**	**47.82 174**	P	**P**	**06 55 44.9**	**-3.5**
PMG			pmax	pmax		
	comp=Z,3.0nm,0.3s					
STKI	**Sintang**	**47.97 225**	P	**P**	**06 55 49.9**	**+0.3**
	comp=Z,79nm,1.1s,mb5.6					
JIRN	**Jiri**	**48.14 275**	*e*P	**P**	**06 55 51.6**	**+0.8**
JIRN	**Jiri**	**48.14 275**	*e*P	**P**	**06 55 51.6**	**+0.8**
RAMN	**Ramite**	**48.16 274**	*e*P	**P**	**06 55 51.3**	**+0.3**
	comp=Z,248nm,1.0s,mb6.2					
RAMN	**Ramite**	**48.16 274**	*e*P	**P**	**06 55 51.3**	**+0.3**
	comp=Z,248nm,1.0s,mb6.2					
GUN	**Gumba**	**48.27 275**	*e*P	**P**	**06 55 52.5**	**+0.7**
	comp=Z,385nm,0.7s,mb6.5					
GUN	**Gumba**	**48.27 275**	*e*P	**P**	**06 55 52.5**	**+0.7**
	comp=Z,385nm,0.7s,mb6.5					
PAX	**Paxson**	**48.31 35**	*e*P	**P**	**06 55 52.0**	**+0.4**
	comp=Z,9.3nm,0.9s,mb4.8					
PAX	**Paxson**	**48.31 35**	*e*P	**P**	**06 55 52.0**	**+0.4**
PAX			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8					
DIV	**Divide**	**48.34 38**	*e*P	**P**	**06 55 53.6**	**+1.7**
	comp=Z,52nm,1.1s,mb5.5					
KAPI	**Kappang**	**48.37 212**	*e*P	**P**	**06 55 51.7**	**-0.9**
	comp=Z,102nm,1.2s,mb5.7					
KAPI			*e*PP	PP	06 57 43.8	-1.8
KAPI	**Kappang**	**48.37 212**	P	**P**	**06 55 52.3**	**-0.3**
	comp=Z,1μmcomp=Z,79nm,1.1s,mb5.6					
KKN	**Kakani**	**48.79 275**	*e*P	**P**	**06 55 56.3**	**+0.5**
	comp=Z,226nm,0.7s,mb6.3					
KKN	**Kakani**	**48.79 275**	*e*P	**P**	**06 55 56.3**	**+0.5**
	comp=Z,226nm,0.7s,mb6.3					
KKN	**Kakani**	**48.79 275**	*e*P	**P**	**06 55 56.3**	**+0.5**
KKN			pmax	pmax		
	comp=Z,226nm,0.7s,mb6.3					
PKI	**Pulchoki**	**48.80 275**	*e*P	**P**	**06 55 56.0**	**+0.1**
	comp=Z,51nm,0.6s,mb5.7					
PKI	**Pulchoki**	**48.80 275**	*e*P	**P**	**06 55 56.0**	**+0.1**
	comp=Z,51nm,0.6s,mb5.7					
PKI	**Pulchoki**	**48.80 275**	*e*P	**P**	**06 55 56.0**	**+0.1**
PKI			pmax	pmax		
	comp=Z,51nm,0.6s,mb5.7					
BMRM	**Bremner River**	**48.93 38**	*e*P	**P**	**06 55 56.4**	**0.0**
	comp=Z,58nm,1.1s,mb5.5					
DMN	**Daman**	**49.01 275**	*e*P	**P**	**06 55 57.8**	**+0.3**
DMN	**Daman**	**49.01 275**	*e*P	**P**	**06 55 57.8**	**+0.3**
MENT	**Mentasta**	**49.11 35**	*e*P	**P**	**06 55 50.6**	**-7.1**
GKN	**Gorkha**	**49.20 276**	*e*P	**P**	**06 55 59.2**	**+0.3**
	comp=Z,371nm,1.1s,mb6.3					
GKN	**Gorkha**	**49.20 276**	*e*P	**P**	**06 55 59.2**	**+0.3**
	comp=Z,371nm,1.1s,mb6.3					
DANN	**Dangsing**	**49.72 277**	*e*P	**P**	**06 56 03.7**	**+0.8**
	comp=Z,545nm,0.8s,mb6.7					
DANN	**Dangsing**	**49.72 277**	*e*P	**P**	**06 56 03.7**	**+0.8**
	comp=Z,545nm,0.8s,mb6.6					
TKM2	**Tokmak 2**	**50.05 298**	P	**P**	**06 56 06.3**	**+1.1**
	SNR=51					
TKM2			P		06 56 06.3	
	SNR=51					
TKM2	**Tokmak 2**	**50.05 298**	*e*P	**P**	**06 56 06.2**	**+1.0**
	comp=Z,161nm,1.0s,mb6.0					
TKM2			*ep*P	pP	06 56 15.4	+1.7
TKM2	**Tokmak 2**	**50.05 298**	*e*P	**P**	**06 56 06.2**	**+1.0**
TKM2			*e**PP	pP	06 56 15.4	+1.7
TKM2			pmax	pmax		
	comp=Z,161nm,1.0s,mb6.0					
KOLN	**Koldanda**	**50.11 276**	*e*P	**P**	**06 56 06.6**	**+0.7**
	comp=Z,166nm,0.9s,mb6.1					
KOLN	**Koldanda**	**50.11 276**	*e*P	**P**	**06 56 06.6**	**+0.7**
	comp=Z,166nm,0.9s,mb6.1					
HNR	**Honiara**	**50.24 158**	LR	LR	07 15 21.3	
	comp=Z,854nm,20.0s,MS4.8,baz=326,slow=34					
VOSK	**Vostochnaya**	**50.25 311**	P	**P**	**06 56 05.2**	**-1.4**
VOSK			pmax	pmax		
	comp=Z,158nm,1.3s,mb5.9					
BVA0	**Borovoye Array**	**50.52 312**	P	**P**	**06 56 08.2**	**-0.4**
BVA0			pmax	pmax		
	comp=Z,24nm,1.7s,mb4.8					
BVAR	**Borovoye Array**	**50.52 312**	P	**P**	**06 56 08.8**	**+0.1**
	comp=Z,32nm,0.9s,mb5.3,baz=78,slow=7.7,SNR=73					
BVAR			PcP	PcP	06 57 26.1	-0.1
	comp=Z,15nm,0.8s,baz=72,slow=4.7,SNR=2.6					
BVAR	**Borovoye Array**	**50.52 312**	P	**P**	**06 56 08.8**	**+0.1**
BVAR			PcP	PcP	06 57 26.1	-0.1
BVAR	**Borovoye Array**	**50.52 312**	P	**P**	**06 56 08.8**	**+0.2**
BVAR					06 57 26.1	
BVAR			pmax	pmax		
	comp=Z,32nm,0.9s					
BVAR			pmax	pmax		
	comp=Z,15nm,0.8s					
KZA	**Kyzart**	**50.57 297**	P	**P**	**06 56 10.8**	**+1.7**
	SNR=12					
KZA			P		06 56 10.8	
	SNR=12					
BRVK	**Borovoye**	**50.57 312**	*e*P	**P**	**06 56 09.2**	**+0.2**
	comp=Z,57nm,0.8s,mb5.5					
BRVK	**Borovoye**	**50.57 312**	*c i*P	**P**	**06 56 08.9**	**-0.1**
BRVK			pmax	pmax		
	comp=Z,59nm,1.0s,mb5.5					
BRVK	**Borovoye**	**50.57 312**	P	**P**	**06 56 09.8**	**+0.8**
	comp=Z,317nm,1.1s,mb6.2,SNR=17					
BRVK	**Borovoye**	**50.57 312**	P	**P**	**06 56 09.6**	**+0.6**
	SNR=22					
KBK	**Karagaybulak**	**50.58 298**	P	**P**	**06 56 10.2**	**+0.9**
	SNR=53					
KBK			P		06 56 10.2	
	SNR=53					
CHMS	**Chumysh**	**50.60 298**	P	**P**	**06 56 09.9**	**+0.5**
	SNR=19					
CHMS			P		06 56 09.9	
	SNR=19					
KULM	**Kulim**	**50.64 240**	*e*P	**P**	**06 56 10.2**	**+0.2**
	comp=Z,99nm,1.4s,mb5.5					
USP	**Ospenovka**	**50.69 299**	P	**P**	**06 56 10.5**	**+0.4**
	SNR=31					
USP			P		06 56 10.5	
	SNR=31					
AAK	**Ala-Archa**	**50.91 298**	P	**P**	**06 56 11.0**	**-0.7**
	SNR=18					
AAK			P		06 56 11.0	
	SNR=18					
AAK	**Ala-Archa**	**50.91 298**	*e*P	**P**	**06 56 12.1**	**+0.4**
	comp=Z,157nm,0.9s,mb5.9					
AAK			*e*PP	PP	06 58 11.0	+3.0
AAK	**Ala-Archa**	**50.91 298**	*e*P	**P**	**06 56 12.1**	**+0.4**
AAK			*e*		06 58 11.0	
AAK			pmax	pmax		
	comp=Z,157nm,0.9s,mb5.9					
AAK	**Ala-Archa**	**50.91 298**	P	**P**	**06 56 12.2**	**+0.5**
AAK	**Ala-Archa**	**50.91 298**	P	**P**	**06 56 12.0**	**+0.3**
	comp=Z,226nm,1.4s,mb5.9,SNR=17					
AAK	**Ala-Archa**	**50.91 298**	P	**P**	**06 56 12.5**	**+0.8**
	SNR=10					
KSH	**Kashi**	**50.96 294**	P	**P**	**06 56 16.5**	**+4.3**
KSH			pP	pP	06 56 22.6	+1.9
KSH			sP	sP	06 56 25.4	+1.3
KSH			PcP	PcP	06 57 31.1	+2.9
KSH			PP	PP	06 58 14.4	+5.9
KSH			ScP	ScP	07 01 25.1	+2.7
KSH			PcS	PcS	07 01 27.5	+1.9
KSH			S	**S**	**07 03 33.3**	**+6.1**
KSH			sS	sS	07 03 43.8	+2.5
KSH			ScS	ScS	07 06 02.8	+2.0
KSH			SS	SS	07 07 07.4	+5.4
KSH			pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2					
KSH			pmax	pmax		
	comp=Z,380nm,3.8s					
KSH			LR	LR		
	comp=N,530nm,12.9s					
KSH			LR	LR		
	comp=E,2μm,18.9s					
KSH			LR	LR		
	comp=Z,970nm,13.9s,MS5.0					
IPM	**Ipoh**	**50.98 239**	*e*P	**P**	**06 56 12.1**	**-0.4**
	comp=Z,75nm,1.1s,mb5.5					
EKS2	**Erkin-Say**	**51.39 298**	P	**P**	**06 56 16.0**	**+0.7**
	SNR=19					
EKS2			P		06 56 16.0	
	SNR=19					
EKS2	**Erkin-Say**	**51.39 298**	*e*P	**P**	**06 56 15.9**	**+0.6**

KKAR e*PP pP 06 56 39.9 +0.5
KKAR e*SP sP 06 56 43.4 +0.7
SKAG Skagway 53.76 39 eP **P 06 56 39.6 +7.0**
comp=Z,32nm,1.3s,mb5.1
BHK Bhakra 53.97 284 ePKP **P 06 56 34.2 -0.4**
THN Thein Dam 54.04 285 ePKP **P 06 56 33.7 -1.4**
ASOR Ausora 54.17 280 ePKP **P 06 56 35.6 -0.4**
KKR Kurukshetra 54.33 282 ePKP **P 06 56 36.3 -0.9**
NDI New Delhi 54.63 281 ePKP **P 06 56 37.4 -2.1**
NDI ePKP 06 56 37.5
NDI AMb AMB 06 56 38.7
comp=Z,115nm,0.0s
AGRA Agra 54.77 279 ePKP **P 06 56 39.8 -0.7**
AGRA AMb AMB 06 56 40.4
comp=Z,71nm,0.3s,mb6.2
SVE Sverdlovsk 54.88 318d iP **P 06 56 41.4 +0.6**
SVE e 07 00 05.0
SVE eS **S 07 04 17.2 -2.9**
SVE e 07 08 02.9
SVE pmax pmax
comp=Z,105nm,1.0s,mb5.8
SVE MLR MLR
comp=Z,6µm,15.0s,MS5.8
RTK Rohtak 55.08 281 ePKP **P 06 56 41.6 -1.1**
UGM Wanagama 55.19 220 eP **P 06 56 41.9 -1.7**
comp=Z,302nm,1.3s,mb6.2
UGM epP pP 06 56 51.0 -1.2
SOKR Solikamsk 55.93 322c iP **P 06 56 48.6 +0.3**
SOKR S **S 07 04 41.2 +7.1**
SOKR pmax pmax
comp=Z,80nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,2µm,18.0s,MS5.3
KHET Khetri 56.01 281 ePKP **P 06 56 48.1 -1.3**
KHET AMb AMB 06 56 51.2
comp=Z,78nm,1.2s,mb5.6
ARU Arti 56.09 318 eP **P 06 56 49.7 +0.2**
comp=Z,92nm,1.0s,mb5.8
ARU Arti 56.09 318c iP **P 06 56 49.5 0.0**
ARU e 06 57 46.1
ARU e 06 58 51.2
ARU S **S 07 04 37.0 +0.7**
ARU pmax pmax
comp=Z,132nm,1.2s,mb5.8
ARU MLR MLR
comp=Z,5µm,16.0s,MS5.7
ARU Arti 56.09 318 P **P 06 56 49.5 0.0**
comp=Z,491nm,1.0s,mb6.5,SNR=22
BHPL Bhopal 57.20 275 ePKP **P 06 56 57.2 -0.7**
BHPL AMb AMB 06 56 59.8
comp=Z,53nm,1.6s,mb5.3
AJM Ajmer 57.70 280 ePKP **P 06 57 00.0 -1.4**
AB31 Akbulak array 57.95 310 i P **P 06 57 02.2 -0.6**
AB31 pmax pmax
comp=Z,54nm,0.8s,mb5.6
ABKAR Akbulak array 57.95 310 eP **P 06 57 02.5 -0.3**
comp=Z,36nm,0.7s,mb5.5
CTA Charters Tower 58.37 176 LR LR 07 20 21.6
comp=Z,324nm,18.6s,MS4.5,baz=106,slow=34
ALE Alert 58.56 4 P **P 06 57 06.0 -0.6**
comp=Z,136nm,1.0s,mb5.9,SNR=7.6
FITZ Fitzroy Crossi 58.62 199 eP **P 06 57 06.4 -1.3**
WRAB Tennant Creek 58.70 190 eP **P 06 57 05.7 -2.5**
comp=Z,37nm,0.8s,mb5.5
WRAB LR LR
comp=Z,351nm,20.0s,MS4.5
WRAB Tennant Creek 58.70 190 eP **P 06 57 05.7 -2.5**
WRAB pmax pmax
comp=Z,37nm,0.8s,mb5.5
WRAB MLR MLR
comp=Z,351nm,20.0s,MS4.5
WRAB Tennant Creek 58.70 190 P **P 06 57 06.3 -1.9**
comp=Z,307nm,0.7s,mb6.4,SNR=7.4
WB2 Warramunga Arr 58.71 190 eP **P 06 57 05.6 -2.6**
WRA Warramunga Arr 58.71 190 P **P 06 57 05.7 -2.6**
comp=Z,26nm,0.8s,mb5.3,baz=7.6,slow=7.0,SNR=194
WRA Warramunga Arr 58.71 190 P **P 06 57 05.7 -2.6**
WRA Warramunga Arr 58.71 190 P **P 06 57 05.7 -2.6**
WRA pmax pmax
comp=Z,26nm,0.8s
KBS Kingsbay 59.42 350 eP **P 06 57 13.2 +0.6**
comp=Z,216nm,1.7s,mb5.9
KBS Kingsbay 59.42 350ceP **P 06 57 13.2 +0.6**
KBS pmax pmax
comp=Z,127nm,2.5s,mb5.5
HYB Hyderabad 59.50 269 i P **P 06 57 13.0 -1.0**
LVZ Lovozero 61.28 336 i P **P 06 57 25.1 -0.3**
LVZ pmax pmax
comp=Z,39nm,1.0s,mb5.5
APA Apatity 61.86 336⇓i iP **P 06 57 28.0 -1.3**
APA i pP 06 57 37.8 -0.2
APA pmax pmax
comp=Z,45nm,1.1s,mb5.5
APA MLR MLR
comp=Z,1µm,15.0s,MS5.2
YKA Yellowknife Ar 61.90 31 P **P 06 57 27.7 -1.9**
comp=Z,1.7nm,0.8s,mb4.2,baz=303,slow=6.6,SNR=20
YKA LR LR 07 27 38.1
comp=Z,31nm,19.2s,baz=350,slow=39
YKA Yellowknife Ar 61.90 31 P **P 06 57 27.8 -1.9**
YKA Yellowknife Ar 61.90 31 P **P 06 57 27.8 -1.9**
AS31 Alice Springs 62.43 189 eP **P 06 57 31.4 -2.2**
ASAR Alice Springs 62.43 189 P **P 06 57 31.1 -2.5**
comp=Z,8.7nm,0.9s,mb4.9,baz=8.5,slow=6.7,SNR=40
ASAR Alice Springs 62.43 189 P **P 06 57 31.1 -2.5**
ASAR Alice Springs 62.43 189 P **P 06 57 31.2 -2.4**
ASAR pmax pmax
comp=Z,9.0nm,0.9s
KEV Kevo 62.51 339 eP **P 06 57 32.9 -0.8**
KEV pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
KEV Kevo 62.51 339 ep **P 06 57 32.9 -0.8**
comp=Z,9.4nm,0.7s,mb5.0
POO Poona 62.56 272⇑i ix **P 06 57 31.0 -3.8**
comp=Z,80nm,1.0s,mb5.8
KAD Karad 62.99 271 ePKP **P 06 57 37.0 -0.6**
ARCES ARCESS Array B 63.06 340 P **P 06 57 37.1 -0.2**
comp=Z,9.1nm,1.0s,mb4.9,baz=57,slow=7.5,SNR=11
ARCES LR LR 07 29 27.0
comp=Z,1µm,19.0s,MS5.0,baz=44,slow=40
ARCES ARCESS Array B 63.06 340 P **P 06 57 37.1 -0.2**
ARCES ARCESS Array B 63.06 340 P **P 06 57 37.2 -0.1**
ARCES pmax pmax
comp=Z,9.0nm,1.0s
ARCES MLR MLR
comp=Z,1µm,19.0s
KLMR Klimovskoe 63.18 328 eP **P 06 57 35.2 -3.1**
KLMR e 06 59 55.0
KLMR pmax pmax
comp=Z,164nm,1.4s,mb6.0
KLMR pmax pmax
comp=Z,335nm,6.8s
KLMR MLR MLR
comp=Z,2µm,15.0s,MS5.5
EIDS Eidsvold 63.99 172 eP **P 06 57 42.5 -1.5**
comp=Z,79nm,2.2s,mb5.4
DZM Mont Dzumac 64.15 156 eP **P 06 57 44.3 -0.7**
comp=Z,57nm,1.3s,mb5.4
DZM eS **S 07 06 13.7 -6.6**
comp=Z,353nm,25.4s
DZM eLQ 07 13 23.7
comp=Z,1µm,31.0s
DZM eLR LR 07 17 02.9
comp=Z,1µm,22.4s
ABKT Ailbek 64.22 299 P **P 06 57 45.2 -0.3**
comp=Z,264nm,1.0s,mb6.2,SNR=8.8
MSVF Nonsavu 64.89 143 eP **P 06 57 53.9 +3.9**
comp=Z,37nm,1.3s,mb5.3
MSVF Nonsavu 64.89 143 eP **P 06 57 53.9 +4.0**
MSVF pmax pmax
comp=Z,37nm,1.3s,mb5.2
A05A Maple Falls 65.02 46⇓P **P 06 57 51.5 +1.0**
baz=65
JOF Joensuu 65.25 332 eP **P 06 57 49.0 -2.8**
JOF pmax pmax
comp=Z,16nm,0.8s,mb5.1
JOF Joensuu 65.25 332 ep **P 06 57 49.0 -2.8**
comp=Z,16nm,0.8s,mb5.1
E03A Lebam 65.40 49⇑P **P 06 57 54.2 +1.1**
baz=65
JCW Jim Creek 65.52 47 eP **P 06 57 54.5 +0.7**
ETW Entiat 66.74 47 eP **P 06 58 02.1 +0.5**
MOS Moscow 66.81 324 eP **P 06 58 00.5 -1.4**
MOS i pP 06 58 10.5 -0.2
MOS eS S 07 06 51.0 -1.3
MOS pmax pmax
comp=Z,172nm,1.3s,mb5.9
MOS pmax pmax
comp=Z,300nm,1.8s,mb6.0
MOS MLR MLR
comp=N,3µm,15.0s,MS5.7
MOS MLR MLR
comp=E,3µm,15.0s,MS5.7
MOS MLR MLR
comp=Z,4µm,15.0s,MS5.8
PUL Pulkovo 67.56 330 eP **P 06 58 06.7 +0.1**
PUL pmax pmax
comp=Z,77nm,1.0s,mb5.7
PUL MLR MLR
comp=Z,2µm,19.0s,MS5.3
KAF Kangasniemi 67.57 333 eP **P 06 58 03.9 -2.7**
KAF pmax pmax
comp=Z,18nm,0.8s,mb5.2
KAF Kangasniemi 67.57 333 ep **P 06 58 03.9 -2.7**
comp=Z,18nm,0.8s,mb5.2
OBN Obninsk 67.67 323 eP **P 06 58 07.3 -0.1**
comp=Z,121nm,1.0s,mb5.9
OBN epP pP 06 58 16.3 +0.2
OBN Obninsk 67.67 323⇑eP **P 06 58 07.0 -0.4**
OBN e 07 00 36.5
OBN eSS SS 07 11 26.7 +3.8
OBN pmax pmax
comp=Z,134nm,1.0s,mb5.9
OBN MLR MLR
comp=Z,3µm,16.0s,MS5.6
OD2 Odessa Site #2 67.78 47 eP **P 06 58 08.4 +0.1**
C09A Chrisman Ranch 67.81 46⇓P **P 06 58 08.4 +0.1**
baz=68,SNR=7.0
G06A Carlson Farm, 67.83 49⇑P **P 06 58 09.3 +0.7**
baz=68
HAWA Hanford 67.85 48 eP **P 06 58 12.4 +3.7**
comp=Z,28nm,1.4s,mb5.1
FINES FINESS Array B 68.09 332 P **P 06 58 09.6 -0.3**
comp=Z,33nm,0.8s,mb5.4,baz=53,slow=7.4,SNR=31
FINES LR LR 07 30 20.6
comp=Z,2µm,19.2s,MS5.3,baz=259,slow=38
FINES FINESS Array B 68.09 332 P **P 06 58 09.6 -0.3**
FINES FINESS Array B 68.09 332 P **P 06 58 09.6 -0.3**
FINES pmax pmax
comp=Z,33nm,0.9s
FINES MLR MLR
comp=Z,2µm,19.2s
KHMM Horse Mountain 68.27 55 eP **P 06 58 16.7 +5.3**
comp=Z,48nm,1.4s,mb5.3
YBH Yreka Blue Hor 68.45 53 P **P 06 58 12.9 +0.3**
comp=Z,33nm,1.5s,mb5.2
YBH Yreka Blue Hor 68.45 53 P **P 06 58 12.9 +0.4**
YBH pmax pmax
comp=Z,33nm,1.5s
E09A Wood Farm, Sta 68.59 47⇓P **P 06 58 13.4 +0.1**
baz=68,SNR=7.0
A12A Yaak River Ran 68.63 44⇑P **P 06 58 13.8 +0.3**
baz=68
VSR Storozhevoye 68.65 319c iP **P 06 58 13.5 -0.1**
VSR e*PP pP 06 58 22.4 0.0
VSR e 07 00 52.6
VSR pmax pmax
comp=N,70nm,1.0s
VSR pmax pmax
comp=E,80nm,1.0s
VSR pmax pmax
comp=Z,100nm,1.0s,mb5.7
VSR pmax pmax
comp=N,60nm,1.1s
VSR pmax pmax
comp=E,50nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s,mb5.1
VSR MLR MLR
comp=N,2µm,17.0s,MS5.6
VSR MLR MLR
comp=E,3µm,17.0s,MS5.6
VSR MLR MLR
comp=Z,5µm,17.0s,MS5.8
K05A Summer Lake 69.04 52⇓P **P 06 58 16.6 +0.4**
baz=69,SNR=10
I07A Izee 69.14 50⇓P **P 06 58 17.7 +1.0**
baz=69
WDC Whiskeytown Da 69.19 54 eP **P 06 58 17.5 +0.4**
comp=Z,21nm,1.3s,mb4.9
WDC Whiskeytown Da 69.19 54 eP **P 06 58 17.5 +0.4**
WDC pmax pmax
comp=Z,21nm,1.3s,mb4.9
SUMG Summit 69.21 0 eP **P 06 58 17.1 +0.3**
comp=Z,692nm,2.9s,mb6.1
SUMG Summit 69.21 0 eP **P 06 58 17.1 +0.4**
SUMG pmax pmax
comp=Z,692nm,2.9s
SUMG Summit 69.21 0 i P **P 06 58 16.7 0.0**
comp=Z,22nm,0.9s,mb5.1
A13A Flathead Natio 69.31 43⇓P **P 06 58 17.8 +0.1**
baz=69
F10A Beach Ranch, E 69.42 47⇑P **P 06 58 18.8 +0.3**
baz=69
C12B Naegeli Ranch, 69.42 45⇑P **P 06 58 18.2 -0.2**
baz=69
B13A Whitefish 69.60 44⇑P **P 06 58 19.5 0.0**
baz=69,SNR=20
BSMT Bassoo Peak 69.72 45 eP **P 06 58 20.9 +0.5**
A14A Double T Ranch 69.81 43⇓P **P 06 58 20.1 -0.8**
baz=70,SNR=13
C13A Hot Springs 69.94 45⇑P **P 06 58 21.3 -0.4**
baz=70
STKA Stephens Creek 70.04 181 P **P 06 58 19.9 -2.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=324,slow=7.0,SNR=5.1
STKA LR LR 07 31 02.7
comp=Z,313nm,18.5s,MS4.6,baz=14,slow=38
STKA Stephens Creek 70.04 181 eP **P 06 58 19.2 -3.0**
STKA Stephens Creek 70.04 181 eP **P 06 58 20.9 -1.3**
comp=Z,2.0nm,0.9s,mb4.0
STKA Stephens Creek 70.04 181 eP **P 06 58 21.0 -1.2**
STKA pmax pmax
comp=Z,2.0nm,0.9s
JTMT Jette 70.06 44 eP **P 06 58 22.8 +0.4**
E12A Beaver Dam Sad 70.11 46⇓P **P 06 58 22.5 -0.2**
baz=70,SNR=11
YBMT Yellow Bay 70.14 44 eP **P 06 58 27.7 +4.8**
J08A Circle Bar Ran 70.16 50⇓P **P 06 58 23.4 +0.3**
baz=70,SNR=9.5
A15A Johnson Ranch, 70.18 43⇑P **P 06 58 22.3 -0.8**
baz=70,SNR=9.0
B14A Marquette Ranc 70.25 44⇑P **P 06 58 23.3 -0.3**
baz=70,SNR=16
FORT Forrest 70.33 194 eP **P 06 58 24.5 +0.5**
FORT Forrest 70.33 194 eP **P 06 58 20.9 -3.1**
comp=Z,44nm,0.9s,mb5.4
C14A Swan Lake 70.34 44⇑P **P 06 58 24.0 -0.1**
baz=70
D13A Huson 70.34 45⇓P **P 06 58 24.0 -0.1**
baz=70
SWMT Swartz Lake 70.36 45 eP **P 06 58 24.3 +0.1**
OHCM Honcut 70.55 55 eP **P 06 58 28.8 +3.2**
WVOR Wild Horse Val 70.59 51 eP **P 06 58 26.6 +0.8**
comp=Z,27nm,1.3s,mb5.0
WVOR Wild Horse Val 70.59 51 eP **P 06 58 26.6 +0.9**
WVOR pmax pmax
comp=Z,27nm,1.3s,mb5.0
B15A Bradely Ranch, 70.66 43⇑P **P 06 58 25.3 -0.8**
baz=70,SNR=27
F12A Elk City 70.67 47⇓P **P 06 58 26.0 -0.2**
baz=70
SCO Scoresbysund 70.77 355 i P **P 06 58 30.4 +4.1**
SCO pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
SCO Scoresbysund 70.77 355 i P **P 06 58 30.4 +4.1**
comp=Z,8.5nm,1.1s,mb4.6
MSO Missoula 70.79 45⇑P **P 06 58 26.6 -0.3**
baz=71,SNR=5.9
MSO Missoula 70.79 45 eP **P 06 58 27.3 +0.5**
SLMT Seeley Lake 70.79 45 eP **P 06 58 26.6 -0.2**
A16A West Butte Ran 70.80 42⇓P **P 06 58 26.6 -0.3**
baz=71
E13A Victor 70.88 46⇓P **P 06 58 27.1 -0.2**
baz=71
KIV Kislovodsk 70.89 311 eP **P 06 58 28.3 +0.8**
comp=Z,140nm,1.0s,mb5.8
KIV Kislovodsk 70.89 311 eP **P 06 58 27.8 +0.3**
KIV e 06 58 49.6
KIV eS S 07 07 39.2 -1.7
KIV eSS SS 07 12 13.0 0.0
KIV pmax pmax
comp=Z,154nm,1.1s,mb5.8
KIV pmax pmax
comp=Z,109nm,3.3s
KIV MLR MLR
comp=Z,1µm,18.0s,MS5.2
KIV Kislovodsk 70.89 311 P **P 06 58 28.6 +1.1**
SNR=30
KIV Kislovodsk 70.89 311 P **P 06 58 28.7 +1.2**
comp=Z,805nm,1.0s,mb6.6,SNR=17
TBLG Delisi 70.92 308 eP **P 06 58 28.2 +0.4**
TBLG Delisi 70.92 308 P **P 06 58 28.2 +0.4**
C15A Salmond Ranch, 70.96 44⇑P **P 06 58 27.7 -0.2**
baz=71,SNR=20
B16A M & M Farms, S 71.06 43⇑P **P 06 58 27.8 -0.7**
baz=71,SNR=8.8
CHMT Chamberlain Mo 71.12 45 eP **P 06 58 28.7 -0.1**
comp=Z,4.8nm,1.1s,mb4.3
GOR Gori 71.16 309 P **P 06 58 30.3 +1.1**
F13A Darby 71.18 46⇓P **P 06 58 28.5 -0.7**
baz=71
ONI Oni 71.22 310 P **P 06 58 30.7 +1.1**
A17A Triple J Farms 71.27 42⇓P **P 06 58 28.7 -1.1**
baz=71,SNR=9.1
E14A Clinton 71.28 45⇑P **P 06 58 29.3 -0.5**
baz=71
C16A Fuhringer Ranc 71.41 43⇑P **P 06 58 30.2 -0.4**
baz=71,SNR=17
D15A Lincoln 71.44 44⇓P **P 06 58 30.1 -0.8**
baz=71
H12A Diamond D Ranc 71.61 47⇑P **P 06 58 31.3 -0.6**
baz=71
B17A L&G Farms, Che 71.62 43⇓P **P 06 58 31.4 -0.4**
baz=71,SNR=7.6
G13A Cobalt 71.65 47⇑P **P 06 58 32.0 -0.1**
baz=72,SNR=8.2
WCN Washoe City 71.67 54⇓P **P 06 58 32.1 -0.2**
baz=72
WCN Washoe City 71.67 54 eP **P 06 58 35.9 +3.5**
comp=Z,13nm,1.2s,mb4.7
WCN Washoe City 71.67 54 eP **P 06 58 35.9 +3.5**
WCN pmax pmax
comp=Z,13nm,1.2s,mb4.7
MFID Camas Ranch 71.71 49⇑P **P 06 58 32.2 -0.3**
baz=72,SNR=6.7
MFID Camas Ranch 71.71 49 eP **P 06 58 32.9 +0.4**
comp=Z,24nm,1.3s,mb5.0
F14A Wisdom 71.71 46⇓P **P 06 58 32.3 -0.1**
baz=72
A18A Metzger Ranch, 71.73 42⇓P **P 06 58 32.1 -0.5**
baz=72
E15A Deer Lodge 71.75 45⇓P **P 06 58 32.4 -0.3**
baz=72
FFC Flin Flon 71.78 34 eP **P 06 58 31.0 -1.7**
comp=Z,20nm,1.0s,mb5.0
FFC Flin Flon 71.78 34 i P **P 06 58 32.1 -0.6**
WBK Wadi Bani Khal 71.79 285 P **P 06 58 34.6 +1.3**
SNR=9.9
GNI Garni 71.83 307 eP **P 06 58 34.0 +0.7**
comp=Z,57nm,1.1s,mb5.4
GNI Garni 71.83 307c iP **P 06 58 34.2 +0.9**
GNI pmax pmax
comp=Z,59nm,1.7s
GNI Garni 71.83 307 P **P 06 58 34.6 +1.4**
SNR=7.2
IZAR Zarasai 71.83 328 eP **P 06 58 33.1 +0.1**
IZAR AMB AMB 06 58 34.0
comp=Z,25nm,1.0s,mb5.1
AKH Akhalkalaki 71.87 309 P **P 06 58 34.1 +0.6**
I12A Atlanta 71.89 48⇓P **P 06 58 32.6 -1.0**
baz=72,SNR=12
H13A Challis 71.95 47⇓P **P 06 58 33.3 -0.6**
baz=72,SNR=16
MICGM Minsk 71.98 326⇓i iP **P 06 58 33.0 -0.9**
D16A Dana Ranch, Ca 71.98 44⇓P **P 06 58 33.5 -0.5**
baz=72
CMB Columbia Colle 72.00 56 eP **P 06 58 34.9 +0.6**
comp=Z,28nm,1.4s,mb5.0
CMB Columbia Colle 72.00 56 eP **P 06 58 34.9 +0.6**
CMB pmax pmax
comp=Z,28nm,1.4s,mb5.0
MNK Minsk 72.00 326⇓i iP **P 06 58 33.0 -1.0**
MNK e 06 58 48.0
MNK e 07 01 10.0
MNK ePPP 07 02 50.0
MNK eS S 07 07 49.0 -4.4
MNK ePS 07 08 20.0
MNK eSS SS 07 12 24.0 -5.5
MNK eSSS 07 15 30.0
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
MNK MLR MLR
comp=N,7µm,14.0s,MS6.2
MNK MLR MLR
comp=Z,8µm,14.0s,MS6.1
MNK MLR MLR
comp=E,7µm,14.0s,MS6.2
ISAL Salakas 72.00 328 eP **P 06 58 34.1 +0.1**
ISAL AMB AMB 06 58 35.1
comp=Z,50nm,1.1s,mb5.3
HRY Holter Researc 72.02 44 eP **P 06 58 34.1 -0.2**
C17A Wharram Farm, 72.04 43⇑P **P 06 58 33.2 -1.2**
baz=72,SNR=5.6
B18A Beardsley Farm 72.09 42⇓P **P 06 58 33.9 -0.8**
baz=72,SNR=20
IIGN Ignalina 72.11 328 eP **P 06 58 34.7 0.0**
IIGN AMB AMB 06 58 35.8
comp=Z,36nm,1.0s,mb5.2
F15A Butte 72.18 45⇑P **P 06 58 33.8 -1.5**
baz=72,SNR=9.7
NACGM Naroch 72.18 327 eP **P 06 58 33.0 -2.1**
E16A East Helena 72.21 44⇓P **P 06 58 34.5 -0.9**
baz=72
LRM Limekiln Ridge 72.22 45 eP **P 06 58 35.4 -0.1**
SMDO Samad 72.24 286 P **P 06 58 37.0 +1.0**
SNR=7.2
EGMT Eagleton 72.33 42⇓P **P 06 58 35.1 -1.1**
baz=72,SNR=16
EGMT Eagleton 72.33 42 eP **P 06 58 35.5 -0.6**
comp=Z,21nm,1.0s,mb5.0
D17A Six Diamond Ra 72.37 43⇓P **P 06 58 35.1 -1.3**
baz=72,SNR=10
DLMT Dillon 72.41 46 eP **P 06 58 38.4 +1.7**
comp=Z,28nm,1.1s,mb5.1
I13A Wildhorse Cree 72.41 48⇓P **P 06 58 36.1 -0.6**
baz=72,SNR=7.9
H14A Leadore 72.42 47⇓P **P 06 58 36.6 -0.1**
baz=72
HLID Hailey 72.45 48⇑P **P 06 58 36.8 -0.1**
baz=72,SNR=12
B19A Brinkman Farms 72.49 42⇑P **P 06 58 36.5 -0.6**
baz=72,SNR=11
HOQ Hoqain 72.50 286 P **P 06 58 38.2 +0.6**
SNR=5.2
DIGO Kars 72.53 308 i P **P 06 58 37.5 0.0**
JMDO Jabal Madar 72.59 285 P **P 06 58 38.8 +0.7**
SNR=6.1
G15A Dillon 72.59 46⇑P **P 06 58 37.6 -0.1**
baz=72,SNR=14
MCMT McKenzie Canyo 72.59 46 eP **P 06 58 39.0 +1.2**
comp=Z,2.0nm,1.1s,mb4.0
BMN Battle Mountai 72.61 52 eP **P 06 58 39.3 +1.3**
BMN Battle Mountai 72.61 52 eP **P 06 58 39.3 +1.4**
HATD Hatta, Dubai 72.67 288 P **P 06 58 39.5 +0.9**
SNR=7.7
J13A Cove Ranch, Pi 72.69 48⇑P **P 06 58 37.5 -0.9**
baz=72,SNR=11
F16A Kennard Place, 72.70 45⇑P **P 06 58 38.1 -0.3**
baz=72
E17A Martinsdale 72.70 44⇓P **P 06 58 38.3 -0.1**
baz=72,SNR=10
A20A Cobblestone Ra 72.75 41⇓P **P 06 58 38.1 -0.5**
baz=73
BOZ Bozeman (W) 72.78 45 eP **P 06 58 42.4 +3.6**
comp=Z,12nm,1.0s,mb4.8
BOZ Bozeman (W) 72.78 45 eP **P 06 58 42.4 +3.6**
BOZ pmax pmax
comp=Z,12nm,1.0s,mb4.8
I14A Mackay 72.79 47⇑P **P 06 58 38.6 -0.4**
baz=73,SNR=31
ASHO Ashiyiah 72.81 288 P **P 06 58 39.5 +0.1**
SNR=8.0
D18A Linhart Farms, 72.82 43⇓P **P 06 58 38.5 -0.6**
baz=73
H15A Lima 72.84 46⇓P **P 06 58 39.1 -0.1**
baz=73
DYDN Diyadin 72.84 307 i P **P 06 58 40.6 +1.3**
SOC Sochi 72.84 312c iP **P 06 58 39.3 0.0**
SOC e*PP pP 06 58 47.8 -0.3

SOC e 07 01 16.7
SOC eS S 07 08 04.6 +1.1
SOC e 07 08 35.4
SOC eSS SS 07 12 45.7 +2.7
SOC pmax pmax
comp=Z,66nm,1.0s,mb5.5
C19A Slack Wire Ran 72.89 42 ⇑P P 06 58 39.0 -0.5
baz=73,SNR=18
G16A Moss Hill, Enn 72.94 46 ⇑P P 06 58 40.1 +0.3
baz=73
ARTV Artvin 72.96 309 *i* P P 06 58 39.8 -0.2
B20A Solberg Farm, 72.98 41 ⇑P P 06 58 40.2 +0.3
baz=73
DBOC Borcka 73.02 309 *i* P P 06 58 40.9 +0.5
DAGI Agillar 73.03 309 *i* P P 06 58 40.1 -0.3
BSY Bisya 73.06 286 P P 06 58 41.6 +0.7
SNR=8.2
NVAR Mina Array Bea 73.10 54 P P 06 58 40.1 -0.8
comp=Z,3.8nm,0.9s,mb4.3,baz=293,slow=5.1,SNR=16
NVAR Mina Array Bea 73.10 54 P P 06 58 40.1 -0.8
J14A Carey 73.12 48 ⇑P P 06 58 41.6 +0.8
baz=73
E18A Harlowton 73.15 44 ⇓P P 06 58 41.6 +0.5
baz=73
F17A Fitzpatrick Pl 73.16 44 ⇓P P 06 58 41.1 +0.1
baz=73
A21A Bergtoll Ranch 73.19 40 ⇓P P 06 58 40.5 -0.8
baz=73,SNR=5.8
DBAD Bademkaya 73.20 309 *i* P P 06 58 42.2 +0.8
ARQ Araqi 73.23 287 P P 06 58 42.7 +0.8
SNR=9.6
MLAC Mammoth Lakes 73.23 55 ⇓P P 06 58 41.8 +0.1
baz=73
DDEM Demirkent 73.24 309 *i* P P 06 58 42.0 +0.3
NB2 NORSAR Subarra 73.31 338 P P 06 58 41.2 -0.5
comp=Z,57nm,1.0s,mb5.5,baz=38,slow=5.9
NOA NORSAR Array B 73.31 338 P P 06 58 41.3 -0.3
comp=Z,37nm,0.9s,mb5.3,baz=38,slow=5.9,SNR=45
NOA NORSAR Array B 73.31 338 P P 06 58 41.3 -0.3
NOA NORSAR Array B 73.31 338 P P 06 58 41.3 -0.4
NOA pmax pmax
comp=Z,37nm,0.9s
D19A Cripps Ranch, 73.33 43 ⇓P P 06 58 41.3 -0.8
baz=73,SNR=8.1
QLMT Earthquake Lak 73.39 46 *eP* P 06 58 46.6 +4.2
ANN Anapa 73.41 314 *eP* P 06 58 42.2 -0.4
ANN *e* 07 01 27.4
ANN eS S 07 08 08.0 -1.8
ANN pmax pmax
comp=Z,144nm,2.1s,mb5.5
ANN MLR MLR
comp=Z,1μm,15.0s,MS5.3
C20A Veseth Ranch, 73.45 42 ⇓P P 06 58 42.0 -0.7
baz=73,SNR=8.0
TUTA Tutak 73.47 307 *i* P P 06 58 44.2 +1.2
G17A Pierce Place, 73.47 45 ⇑P P 06 58 43.1 +0.2
baz=73
B21A Ellsworth Farm 73.50 41 ⇓P P 06 58 43.1 0.0
baz=73
NAO01 NORSAR Array S 73.56 338 *eP* P 06 58 42.8 -0.4
comp=Z,27nm,0.9s,mb5.2
H16A Russell Place, 73.57 46 ⇓P P 06 58 43.4 -0.2
baz=73,SNR=8.2
ELK Elko 73.64 51 *eP* P 06 58 48.3 +4.3
comp=Z,48nm,2.1s,mb5.1
ELK Elko 73.64 51 *eP* P 06 58 48.3 +4.3
ELK pmax pmax
comp=Z,48nm,2.1s
HOMI Horasan 73.65 308 *i* P P 06 58 45.3 +1.2
F18A Big Timber 73.67 44 ⇓P P 06 58 43.5 -0.6
baz=74,SNR=6.1
J15A Blackfoot 73.70 47 ⇑P P 06 58 44.4 +0.1
baz=74,SNR=7.4
A22A Carney Farms, 73.70 40 ⇑P P 06 58 43.3 -0.9
baz=74,SNR=12
YMR Madison River 73.75 46 *eP* P 06 58 46.2 +1.6
comp=Z,24nm,1.2s,mb5.0
GCMT Greycliff 73.77 44 *eP* P 06 58 48.3 +3.6
comp=Z,8.3nm,0.9s,mb4.7
D20A Manuel Ranch, 73.77 42 ⇓P P 06 58 45.0 +0.3
baz=74,SNR=14
K14A Jones Ranch, D 73.79 48 ⇑P P 06 58 45.2 +0.4
baz=74,SNR=11
SMMC Simmler 73.82 58 ⇑P P 06 58 45.6 +0.4
baz=74
E19A Rath Farm, Rou 73.83 43 ⇓P P 06 58 44.9 -0.1
baz=74,SNR=7.5
C21A Desert Coulee 73.85 41 ⇓P P 06 58 45.0 -0.1
baz=74
YNR Norris Junctio 73.88 45 *eP* P 06 58 50.2 +4.9
comp=Z,13nm,1.1s,mb4.8
AKASG Malin Array Be 73.89 323 P P 06 58 44.9 -0.4
comp=Z,51nm,0.9s,mb5.5,baz=44,slow=6.0,SNR=116
AKASG LR LR 07 34 04.1
comp=Z,877nm,19.3s,MS5.1,baz=25,slow=38
AKASG Malin Array Be 73.89 323 P P 06 58 44.9 -0.4
AKASG Malin Array Be 73.89 323 P P 06 58 44.9 -0.4
AKASG pmax pmax
comp=Z,51nm,0.9s
AKASG MLR MLR
comp=Z,877nm,19.3s
AKBB Malin Array Si 73.89 323 *eP* P 06 58 44.9 -0.5
AKBB Malin Array Si 73.89 323 *eP* P 06 58 44.9 -0.4
KIEV Kiev 73.91 323 *eP* P 06 58 44.9 -0.5
comp=Z,61nm,0.8s,mb5.6
KIEV *e*pP pP 06 58 54.1 -0.1
KIEV Kiev 73.91 323 *eP* P 06 58 44.9 -0.5
KIEV *e**PP pP 06 58 54.1 -0.1
KIEV pmax pmax
comp=Z,61nm,0.8s,mb5.6
I16A Newdale 73.95 46 ⇑P P 06 58 45.7 0.0
baz=74,SNR=10
YFT Old Faithful 73.96 46 *eP* P 06 58 50.1 +4.3
comp=Z,7.0nm,0.7s,mb4.7
HAKT HAKKARI 74.00 305 *i* P P 06 58 45.5 -0.7
L14A Malta 74.06 49 ⇓P P 06 58 46.1 -0.4
baz=74,SNR=11
ERZM Erzurum 74.07 308 *i* P P 06 58 47.0 +0.5
K15A Arbon 74.08 48 ⇑P P 06 58 46.8 +0.2
baz=74,SNR=11
VES Vestal, Richgr 74.12 57 ⇓P P 06 58 47.1 +0.2
baz=74
F19A Roth Farm, Mol 74.12 44 ⇓P P 06 58 46.6 -0.2
baz=74,SNR=6.0
H17A Grant Village 74.14 46 ⇓P P 06 58 47.6 +0.7
baz=74,SNR=8.9
E20A Meyer Farm, Mu 74.15 43 ⇓P P 06 58 46.8 -0.1
baz=74,SNR=7.8
A23A Redstone 74.24 39 ⇓P P 06 58 47.5 +0.1
baz=74
J16A Bone 74.25 47 ⇓P P 06 58 47.8 +0.2
baz=74,SNR=8.2
FLWY Flagg Ranch 74.27 46 *eP* P 06 58 48.9 +1.3
DCID1 Drake Creek 74.29 47 *eP* P 06 58 51.4 +3.6
comp=Z,28nm,1.0s,mb5.2
SFJD Kangerlussuaq 74.31 6 *iP* P 06 58 47.1 -0.3
SFJD pmax pmax
comp=Z,12nm,0.9s,mb4.8
SFJD Kangerlussuaq 74.31 6 *iP* P 06 58 47.1 -0.3
comp=Z,12nm,0.9s,mb4.8
SUW Suwalki 74.32 328 *eP* P 06 58 47.5 -0.2
SUW LMZ 07 33 39.9
comp=Z,2μm,19.0s
SUW Suwalki 74.32 328 *eP* P 06 58 47.8 +0.1
comp=Z,146nm,1.3s,mb5.8
SUW Suwalki 74.32 328 *eP* P 06 58 47.8 +0.1
SUW pmax pmax
comp=Z,146nm,1.3s,mb5.8
RRI2 Red Ridge 74.37 47 *eP* P 06 58 49.4 +1.2
comp=Z,19nm,1.2s,mb4.9
D21A La Casta Ranch 74.39 42 ⇓P P 06 58 48.3 0.0
baz=74
RLMT Red Lodge 74.41 44 ⇑P P 06 58 48.1 -0.3
baz=74,SNR=5.7
RLMT Red Lodge 74.41 44 *eP* P 06 58 52.7 +4.3
comp=Z,9.1nm,1.1s,mb4.6
CWC Cottonwood Cre 74.42 56 ⇓P P 06 58 48.8 +0.1
baz=74
I17A Pilgrim Ck. 74.44 46 ⇑P P 06 58 48.9 +0.3
baz=74
MOOW Moose Ponds 74.45 46 *eP* P 06 58 48.3 -0.4
H18A Shoshone NF, C 74.47 45 ⇓P P 06 58 49.2 +0.4
baz=74
HVU Hansel Valley 74.49 49 *eP* P 06 58 50.0 +1.0
comp=Z,15nm,1.0s,mb4.9
HVU Hansel Valley 74.49 49 *eP* P 06 58 50.0 +1.0
HVU pmax pmax
comp=Z,15nm,1.0s,mb4.9
TPAW Teton Pass 74.49 47 *eP* P 06 58 50.0 +1.0
comp=Z,35nm,1.4s,mb5.1
B23A Brockton 74.51 40 ⇓P P 06 58 48.7 -0.3
baz=74,SNR=11
SBC Santa Barbara 74.52 58 ⇓P P 06 58 49.7 +0.4
baz=74
C22A Vida 74.53 41 ⇓P P 06 58 49.3 +0.2
baz=74
KOPT Kop Dagi 74.53 309 *i* P P 06 58 50.7 +1.5
K16A Soda Springs 74.53 47 ⇓P P 06 58 49.2 0.0
baz=74,SNR=12
GRAC Grapevine Rang 74.54 55 ⇑P P 06 58 49.8 +0.4
baz=74
L15A Malad City 74.58 48 ⇑P P 06 58 49.1 -0.4
baz=74,SNR=7.2
LOHW Long Hollow 74.61 46 *eP* P 06 58 50.0 +0.3
comp=Z,24nm,1.6s,mb4.9
SNOW Snow King Moun 74.62 46 *eP* P 06 58 49.9 +0.2
comp=Z,20nm,1.3s,mb4.9
ISA Isabella 74.62 57 ⇑P P 06 58 50.1 +0.3
baz=74
ISA Isabella 74.62 57 *eP* P 06 58 51.2 +1.3
comp=Z,9.7nm,1.1s,mb4.7
ISA Isabella 74.62 57 *eP* P 06 58 51.2 +1.4
ISA pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ARVC Arvin 74.71 57 ⇑P P 06 58 50.3 -0.1
baz=74
J17A Brown Place, J 74.71 47 ⇑P P 06 58 50.4 +0.2
baz=74
D22A Cohagen 74.76 41 ⇑P P 06 58 49.9 -0.5
baz=75,SNR=10
BNGL BINGOL 74.77 308 *i* P P 06 58 51.7 +1.1
C23A Lambert 74.85 40 ⇓P P 06 58 50.4 -0.5
baz=75
H19A Powell 74.85 45 ⇑P P 06 58 50.8 -0.2
baz=75
AHID Auburn Hatcher 74.86 47 *eP* P 06 58 51.0 -0.1
comp=Z,33nm,1.6s,mb5.0
R11A Troy Canyon, C 74.87 53 ⇓P P 06 58 51.3 +0.1
baz=75,SNR=17
M15A Larsen Ranch, 74.88 49 ⇑P P 06 58 50.9 -0.4
baz=75,SNR=6.9
DGMT Dagmar 74.90 39 ⇑P P 06 58 50.6 -0.7
baz=75
DGMT Dagmar 74.90 39 *eP* P 06 58 50.1 -1.1
comp=Z,27nm,1.0s,mb5.1
G20A Bridger 74.92 44 ⇑P P 06 58 51.4 0.0
baz=75
K17A Gardner Place, 74.97 47 ⇓P P 06 58 52.2 +0.5
baz=75
I18A Diamond G Ranc 75.00 46 ⇓P P 06 58 52.5 +0.6
baz=75
MPMC Manual Prospec 75.03 56 ⇑P P 06 58 52.3 +0.2
baz=75
LAO LASA Array 75.04 42 ⇓P P 06 58 52.3 +0.2
baz=75
LAO LASA Array 75.04 42 *eP* P 06 58 52.1 +0.1
comp=Z,21nm,1.0s,mb5.0
SIM Simferopol' 75.15 316 *ceP* P 06 58 44.3 -8.4
SIM pmax pmax
comp=Z,50nm,0.9s,mb5.4
SIM MLR MLR
comp=Z,1μm,17.0s,MS5.3
FURC Furnace Creek, 75.19 55 ⇓P P 06 58 52.5 -0.6
baz=75,SNR=7.6
D23A Lindsay 75.25 41 ⇓P P 06 58 52.8 -0.4
baz=75,SNR=16
I19A Meeteetse 75.25 45 ⇑P P 06 58 53.0 -0.3
baz=75
HWUT Hardware Ranch 75.31 48 *eP* P 06 58 57.0 +3.3
comp=Z,32nm,1.3s,mb5.1
L17A Cokeville 75.41 48 ⇓P P 06 58 54.2 0.0
baz=75
EDW2 Edwards Air Fo 75.41 57 ⇑P P 06 58 54.7 +0.3
baz=75
DUG Dugway 75.44 50 ⇑P P 06 58 54.0 -0.5
baz=75,SNR=9.9
H20A Greybull 75.51 44 ⇑P P 06 58 55.0 +0.2
baz=75
K18A Toltan Ranch, 75.55 47 ⇑P P 06 58 55.2 +0.2
baz=75
DECC Green Verdugo 75.56 58 ⇓P P 06 58 55.4 +0.2
baz=75
NOQ North Oquirrh 75.58 49 *eP* P 06 58 57.6 +2.3
comp=Z,36nm,1.1s,mb5.2
F22A Rosebud 75.61 43 ⇑P P 06 58 55.0 -0.4
baz=75
E23A Ismay 75.64 41 ⇓P P 06 58 55.1 -0.4
baz=75,SNR=13
J19A Crowheart 75.71 46 ⇑P P 06 58 55.8 -0.2
baz=76,SNR=7.4
D24A Glendive 75.74 41 ⇑P P 06 58 55.6 -0.4
baz=76
BW06 Boulder Array 75.74 46 ⇓P P 06 58 55.8 -0.3
baz=76
PDAR Pinedale Array 75.74 46 P P 06 58 55.5 -0.6
comp=Z,3.2nm,0.9s,mb4.3,baz=266,slow=2.4,SNR=20
PDAR LR LR 07 28 02.2
comp=Z,178nm,19.5s,MS4.4,baz=341,slow=32
PDAR Pinedale Array 75.74 46 P P 06 58 55.5 -0.6
I20A Worland 75.78 45 ⇓P P 06 58 55.7 -0.7
baz=76,SNR=10
N16A Rees Ranch, Co 75.83 49 ⇓P P 06 58 57.1 +0.4
baz=76
SHOC Shoshone 75.91 55 ⇑P P 06 58 57.7 +0.5
baz=76
M17A Scullys Gap (B 75.92 48 ⇑P P 06 58 57.5 +0.3
baz=76
GSC Goldstone 75.93 56 ⇑P P 06 58 57.7 +0.4
baz=76
GSC Goldstone 75.93 56 *eP* P 06 58 60.0 +2.6
comp=Z,23nm,1.3s,mb4.9
GSC Goldstone 75.93 56 *eP* P 06 59 00.0 +2.6
GSC pmax pmax
comp=Z,23nm,1.3s,mb5.0
H21A Big Horn, Sher 75.94 44 ⇑P P 06 58 57.7 +0.4
baz=76
G22A Birney 75.96 43 ⇓P P 06 58 57.0 -0.4
baz=76,SNR=5.4
R13A O'Grain Ranch, 75.98 52 ⇓P P 06 58 57.7 +0.1
baz=76,SNR=13
L18A Fontenelle, Gr 76.00 47 ⇑P P 06 58 58.0 +0.3
baz=76
MARD Mardin 76.00 307 *i* P P 06 58 57.6 -0.1
JLU Jordanelle 76.00 49 *eP* P 06 58 59.0 +1.3
comp=Z,16nm,1.2s,mb4.8
BFSC Mount Baldy Ra 76.01 57 ⇑P P 06 58 58.0 +0.2
baz=76
F23A Volborg 76.10 42 ⇓P P 06 58 57.6 -0.5
baz=76,SNR=15
K19A Absolon Red Bu 76.11 46 ⇓P P 06 58 58.2 -0.1
baz=76,SNR=9.0
BHD Baghdad 76.11 301 *ex* x 06 58 51.0
BHD *ex* x 07 08 31.0
E24A Baker 76.12 41 ⇑P P 06 58 57.7 -0.5
baz=76
MIB Mutribah 76.15 297 *eP* P 06 58 57.9 -0.8
MIB AMb AMB 06 58 59.2
comp=Z,108nm,1.1s,mb5.7
P15A Leamington 76.15 50 ⇑P P 06 58 58.8 +0.3
baz=76,SNR=8.3
N17A Moffit Pass 76.16 49 ⇑P P 06 58 58.8 +0.2
baz=76,SNR=14
J20A Shoshoni 76.19 45 ⇑P P 06 58 58.6 -0.1
baz=76
KEMA Kemaliye 76.21 309 *iP* P 06 58 59.8 +0.9
O16A Springville 76.22 49 ⇑P P 06 58 58.7 -0.2
baz=76
DAU Daniels Canyon 76.24 49 P P 06 58 50.5 -8.6
DAU Daniels Canyon 76.24 49 P P 06 58 50.5 -8.5
MPU Maple Canyon 76.26 50 *eP* P 06 59 00.3 +1.1
comp=Z,26nm,1.1s,mb5.1
M18A Lyman 76.30 48 ⇑P P 06 58 59.7 +0.3
baz=76
I21A Big Trails, Te 76.33 45 ⇓P P 06 58 59.5 0.0
baz=76,SNR=7.9
QRN Al-Qurain 76.37 296 *eP* P 06 58 59.6 -0.4
TUQ Turquoise Moun 76.42 56 ⇑P P 06 59 00.0 -0.1
baz=76,SNR=7.1
G23A Biddle 76.45 43 ⇓P P 06 58 59.6 -0.5
baz=76,SNR=8.8
K20A Yellowstone Ra 76.50 46 ⇑P P 06 59 00.6 +0.2
baz=76
P16A Fountain Green 76.50 50 ⇑P P 06 59 00.8 +0.3
baz=76
F24A Ekalaka 76.52 42 ⇑P P 06 58 59.9 -0.7
baz=76,SNR=7.2
HEC Hector,Ludlow 76.52 56 ⇑P P 06 59 00.1 -0.6
baz=76,SNR=5.1
NAY Al-Naaiem 76.55 297 *eP* P 06 58 59.9 -1.1
NAY AMb AMB 06 59 01.5
comp=Z,65nm,1.3s,mb5.4
ARUT Antelope Range 76.55 52 *eP* P 06 59 00.5 -0.4
comp=Z,21nm,1.2s,mb5.0
ARUT Antelope Range 76.55 52 *eP* P 06 59 00.5 -0.3
ARUT pmax pmax
comp=Z,21nm,1.2s,mb4.9
J21A Lysite 76.55 45 ⇓P P 06 59 01.2 +0.4
baz=76
KIS Kishinev 76.58 320 *eP* P 06 59 00.0 -0.8
KIS Kishinev 76.58 320 *e*PS ScS 07 09 22.0 +7.2
KIS LRM 07 35 28.0
comp=Z,2μm,16.0s
KIS Kishinev 76.58 320 *eP* P 06 59 00.0 -0.8
KIS *e* pP 06 59 07.0 -2.7
KIS *e*PS 07 09 22.0
KIS MLR MLR
comp=N,1μm,16.0s,MS5.5
KIS MLR MLR
comp=E,2μm,16.0s,MS5.5
KIS MLR MLR
comp=Z,3μm,16.0s,MS5.6
KIS MLR MLR
comp=Z,2μm,16.0s
O17A Robinson Place 76.68 49 ⇑P P 06 59 01.3 -0.3
baz=76,SNR=10
HAVZ Havza 76.72 312 *i* P P 06 59 02.2 +0.4
I22A 9 Mile Ranch, 76.73 44 ⇑P P 06 59 01.2 -0.5
baz=76,SNR=7.3
BSD Bornholm Skovb 76.73 332 *i* P P 06 59 00.6 -0.9
BSD pmax pmax
comp=Z,42nm,1.0s,mb5.3
BSD MLR MLR
comp=Z,2μm,19.0s,MS5.4
BSD Bornholm Skovb 76.73 332 *i* P P 06 59 00.6 -0.9
comp=Z,42nm,1.0s,mb5.3
BSD
comp=Z,2μm,19.0s
CCUT Cedar City 76.75 53 *eP* P 06 59 02.4 +0.4
comp=Z,14nm,1.2s,mb4.8
N18A Larsen Ranch, 76.81 48 ⇓P P 06 59 02.2 0.0
baz=77
MSU Marysvale 76.88 51 *eP* P 06 59 03.8 +1.1
MSU Marysvale 76.88 51 *eP* P 06 59 03.8 +1.1
G24A Alzada 76.88 42 ⇓P P 06 59 02.8 +0.2
baz=77
BEL Belsk 76.89 327 *eP* P 06 59 03.1 +0.6
BEL *e*pP pP 06 59 09.7 -1.7
BEL LMZ 07 34 40.7
comp=Z,1μm,23.2s
BEL Belsk 76.89 327 *eP* P 06 59 03.1 +0.6
BEL *e**PP pP 06 59 09.7 -1.7
BEL MLR MLR
comp=Z,1μm,23.2s,MS5.2
LVV L'vov 76.92 324 ⇓*iP* P 06 59 02.6 -0.1
LVV *e* pP 06 59 12.4 +0.8
LVV *e* 07 02 02.8
LVV *e* 07 03 50.0
LVV eS S 07 08 48.8 +0.1
LVV *e* 07 09 38.8
LVV MLR MLR
comp=Z,3μm,15.0s,MS5.8
LVV MLR MLR
comp=N,2μm,14.0s,MS5.8
LVV MLR MLR
comp=E,3μm,15.0s,MS5.8
TMUT Trail Mountain 76.97 50 *eP* P 06 59 07.3 +4.1
GMRC Granite Mounta 76.99 56 ⇑P P 06 59 03.4 0.0
baz=77
R15A Junction 77.00 51 ⇓P P 06 59 03.3 -0.1
baz=77
J22A Midwest 77.04 44 ⇑P P 06 59 03.0 -0.5
baz=77,SNR=17
O18A Roosevelt 77.07 49 ⇓P P 06 59 03.3 -0.4
baz=77,SNR=11
IAS Iasi 77.07 321 P P 06 59 04.3 +0.7
IAS Iasi 77.07 321 ⇓*iP* P 06 59 04.3 +0.7
K21A Alcova 77.13 45 ⇓P P 06 59 03.7 -0.3
baz=77,SNR=8.0
N19A John Jarvie Ra 77.15 48 ⇑P P 06 59 04.5 +0.3
baz=77,SNR=7.6
LDFC Landfair 77.16 55 *eP* P 06 59 07.7 +3.3
comp=E,30nm,1.3s,mb5.1
AKCD Akcadag 77.17 309 *i* P P 06 59 05.5 +1.2
H24A Dirks Ranch, A 77.20 42 ⇓P P 06 59 04.2 -0.1
baz=77
LEOM Leova 77.22 320 P P 06 59 04.9 +0.4
LEOM Leova 77.22 320 ⇓*iP* P 06 59 04.9 +0.4
Q16A Castle Valley 77.23 50 ⇑P P 06 59 05.3 +0.6
baz=77,SNR=12
GKP Gorka Klasztor 77.27 330 *eP* P 06 59 04.4 -0.2
GKP LMZ 07 35 56.7
comp=E,2μm,17.3s
GKP Gorka Klasztor 77.27 330 *eP* P 06 59 04.4 -0.2
GKP MLR MLR
comp=Z,2μm,17.3s,MS5.4
P18A Preston Nutter 77.34 49 ⇓P P 06 59 05.5 +0.2
baz=77,SNR=7.4
M20A Sweetwater, Wa 77.34 47 ⇑P P 06 59 05.7 +0.4
baz=77,SNR=6.8
R16A Teasdale 77.44 51 ⇑P P 06 59 06.5 +0.6
baz=77
L21A Rawlins 77.50 46 ⇓P P 06 59 06.4 +0.3
baz=77,SNR=12
SRU San Rafael 77.50 50 *eP* P 06 59 06.0 -0.1
comp=Z,22nm,1.0s,mb5.0
SRU San Rafael 77.50 50 *eP* P 06 59 06.1 -0.1
SRU pmax pmax
comp=Z,22nm,1.0s,mb5.0
K22A Casper 77.52 45 ⇑P P 06 59 06.8 +0.6
baz=77
CTKT Corum 77.55 312 *i* P P 06 59 06.2 -0.2
O19A Miners Draw (B 77.57 48 ⇓P P 06 59 06.7 +0.2
baz=77,SNR=8.0
ULM Lac du Bonnet 77.58 34 P P 06 59 04.7 -1.7
comp=Z,3.9nm,0.8s,mb4.4,baz=283,slow=3.4,SNR=6.3
ULM Lac du Bonnet 77.58 34 *eP* P 06 59 04.6 -1.8
comp=Z,13nm,1.3s,mb4.7
ULM Lac du Bonnet 77.58 34 P P 06 59 04.7 -1.7
ULM pmax pmax
comp=Z,4.0nm,0.8s
KWP Kalwaria Pacla 77.66 325 *eP* P 06 59 07.3 +0.5
KWP *e*pP pP 06 59 14.1 -1.6
KWP LMZ 07 36 38.6
comp=Z,5μm,16.0s
KWP Kalwaria Pacla 77.66 325 *eP* P 06 59 07.2 +0.3
comp=Z,159nm,1.2s,mb5.8
KWP Kalwaria Pacla 77.66 325 *eP* P 06 59 07.3 +0.5
KWP *e**PP pP 06 59 14.1 -1.6
KWP MLR MLR
comp=Z,5μm,16.0s,MS6.0
KWP Kalwaria Pacla 77.66 325 ⇓*iP* P 06 59 07.8 +1.0
IRM Iron Mountain 77.70 56 ⇓P P 06 59 07.7 +0.3
baz=78
N20A Spence Gulch, 77.72 47 ⇑P P 06 59 07.7 +0.3
baz=78,SNR=13
S16A Weppner Ranch, 77.73 51 ⇑P P 06 59 08.0 +0.5
baz=78,SNR=12
M21A Separation Pea 77.73 46 ⇓P P 06 59 08.0 +0.5
baz=78
Q18A Rafter H Ranch 77.74 50 ⇑P P 06 59 07.7 +0.2
baz=78,SNR=5.4
RWWY Rawlins 77.77 46 *eP* P 06 59 07.5 -0.1
comp=Z,8.7nm,0.6s,mb4.9
BALT Daday 77.77 314 *iP* P 06 59 07.3 -0.3
R17A Hanksville Air 77.83 50 ⇓P P 06 59 08.3 +0.2
baz=78,SNR=12
PINB Pinarbasi 77.85 310 *iP* P 06 59 09.1 +1.0
ILGA Ilgaz 77.89 313 *iP* P 06 59 09.7 +1.3
RSSD Black Hills 77.89 43 *eP* P 06 59 07.4 -0.8
comp=Z,12nm,1.0s,mb4.8
RSSD Black Hills 77.89 43 *eP* P 06 59 07.4 -0.9
RSSD pmax pmax
comp=Z,12nm,1.0s,mb4.8
BUR08 Bucovina Ar. S 77.91 322 *eP* P 06 59 08.5 +0.2
BURAR Bucovina Array 77.92 322 ⇑P P 06 59 09.0 +0.6
BURAR Bucovina Array 77.92 322 ⇑*iP* P 06 59 09.0 +0.6
W13A Hualapai Mount 77.94 55 ⇑P P 06 59 09.3 +0.6
baz=78
L22A Ellis Ranch, M 77.98 45 ⇓P P 06 59 08.9 +0.1
baz=78

GZT Gaziantep 77.98 308 *i* P P 06 59 09.1 +0.2
TESR 78.00 321 ⇓*i*P P 06 59 08.7 -0.1
P19A Cripple Cowboy 78.08 49 ⇑P P 06 59 09.6 +0.2
baz=78,SNR=9.8
O20A White River Ci 78.19 48 ⇑P P 06 59 09.8 -0.2
baz=78
N21A Black Mountain 78.20 47 ⇑P P 06 59 09.9 -0.1
baz=78
PETR 78.25 320 ⇓*i*P P 06 59 12.2 +2.0
S17A Black Ridge (B 78.27 51 ⇑P P 06 59 10.5 0.0
baz=78
M22A Cedar Creek Ra 78.30 46 ⇑P P 06 59 10.7 +0.1
baz=78,SNR=8.7
L23A Garrett 78.33 45 ⇓P P 06 59 10.6 -0.1
baz=78,SNR=8.1
R18A Canyonlands Na 78.34 50 ⇑P P 06 59 10.8 0.0
baz=78,SNR=12
Q19A Hogan Spring (78.35 49 ⇓P P 06 59 11.0 +0.1
baz=78,SNR=16
KOLS Kolonicke sedl 78.36 325 *e*P P 06 59 11.1 +0.4
KOLS Kolonicke sedl 78.36 325 *e*P P 06 59 11.1 +0.4
Y12C Blythe 78.36 56 ⇓P P 06 59 12.1 +1.0
baz=78
VRI Vrincioaia 78.41 320 P P 06 59 12.7 +1.6
VRI Vrincioaia 78.41 320 ⇓*i*P P 06 59 13.2 +2.1
ELDT Eldivan 78.43 313 *i* P P 06 59 11.8 +0.5
CDAG Cicekdag 78.44 312 *i* P P 06 59 11.6 +0.2
PLOR Plostina 78.46 320 ⇑P P 06 59 12.8 +1.4
PLOR Plostina 78.46 320 ⇑*i*P P 06 59 12.8 +1.4
OJC Ojcow 78.51 327 *e*P P 06 59 11.9 +0.4
OJC Ojcow 78.51 327 *e*P P 06 59 11.7 +0.2
OJC Ojcow 78.51 327 *e*P P 06 59 11.7 +0.2
P20A De Beque 78.51 48 ⇑P P 06 59 12.7 +0.9
baz=78
UZH Uzhgorod 78.57 324*c* *i*P P 06 59 12.0 +0.1
UZH *e* pP 06 59 20.0 -0.8
UZH *e*S S 07 09 06.0 -0.5
UZH *e*SS SS 07 14 15.0 +5.8
UZH *e*SSS 07 17 27.2
UZH MLR MLR
comp=N,1μm,16.0s,MS5.6
UZH MLR MLR
comp=E,2μm,16.0s,MS5.6
UZH MLR MLR
comp=Z,2μm,16.0s,MS5.4
ANDN Andirin 78.58 309 *i* P P 06 59 12.6 +0.3
GLA Glamis 78.60 57 ⇑P P 06 59 13.4 +1.0
baz=78
BMR Baia Mare 78.70 323 P P 06 59 13.3 +0.6
BMR Baia Mare 78.70 323 ⇓*i*P P 06 59 13.3 +0.6
AVNT Avonos 78.71 311 *i* P P 06 59 13.0 +0.1
S18A Hurst Farm, Bl 78.73 51 ⇑P P 06 59 13.1 +0.1
baz=78,SNR=9.5
CRVS Cervenica-Dubn 78.75 325 *e*P P 06 59 13.1 +0.2
CRVS pmax pmax
comp=Z,62nm,1.7s,mb5.3
CRVS Cervenica-Dubn 78.75 325 *e*P P 06 59 13.1 +0.2
N22A Wattenberg Ran 78.78 46 ⇓P P 06 59 13.5 +0.3
baz=79
R19A Curley Farm, L 78.78 50 ⇓P P 06 59 13.3 0.0
baz=79,SNR=9.4
BR131 Keskin Array S 78.81 312 *e*P P 06 59 13.8 +0.4
comp=Z,14nm,1.0s,mb4.8
BRTR Keskin Array B 78.81 312 P P 06 59 13.6 +0.2
comp=Z,11nm,1.0s,mb4.8,baz=90,slow=4.1,SNR=38
BRTR PP PP 07 02 11.1 -0.4
comp=Z,4.8nm,1.1s,baz=65,slow=5.1,SNR=4.2
BRTR LR LR 07 39 45.1
comp=Z,486nm,18.0s,MS4.9,baz=217,slow=40
BRTR Keskin Array B 78.81 312 P P 06 59 13.6 +0.2
BRTR PP PP 07 02 11.1 -0.4
BRTR Keskin Array B 78.81 312 P P 06 59 13.6 +0.2
BRTR 07 02 11.1
BRTR pmax pmax
comp=Z,11nm,1.0s
BRTR pmax pmax
comp=Z,5.0nm,1.1s
TRPA Tarpa 78.82 324 ⇓*i*P P 06 59 13.7 +0.4
NIE Niedzica 78.88 326 *e*P P 06 59 14.4 +0.8
NIE Niedzica 78.88 326 *e*P P 06 59 14.4 +0.8
Q20A Ridgley Place, 78.93 49 ⇓P P 06 59 13.9 -0.2
baz=79,SNR=16
PV04 Paradox Valley 78.93 50 *e*P P 06 59 14.9 +0.8
K25A Mack Ranch, Ha 79.00 44 ⇓P P 06 59 14.6 +0.2
baz=79
DOPR Dopca 79.00 321 ⇓*i*P P 06 59 16.6 +2.2
N23A Red Feather La 79.01 46 ⇓P P 06 59 14.0 -0.5
baz=79,SNR=11
AGMN Agassiz Nation 79.01 36 *e*P P 06 59 12.7 -1.6
comp=Z,12nm,1.1s,mb4.7
PHWY Pilot Hill 79.01 46 *e*P P 06 59 15.1 +0.7
comp=Z,22nm,1.5s,mb4.9
U17A Shonto 79.02 52 ⇓P P 06 59 14.6 0.0
baz=79,SNR=9.4
U16A Tuba City 79.02 52 ⇑P P 06 59 14.8 +0.1
baz=79,SNR=14
P21A Newcastle 79.05 48 ⇓P P 06 59 14.9 +0.2
baz=79
MLR Muntele Rosu 79.06 320 P P 06 59 15.8 +1.1
MLR Muntele Rosu 79.06 320 ⇓*i*P P 06 59 15.5 +0.8
O22A Kremmling 79.15 47 ⇑P P 06 59 15.1 -0.2
baz=79,SNR=8.3
SGKT Sivrigoynuk 79.16 314 *i* P P 06 59 14.1 -1.2
T18A Mexican Hat 79.16 51 ⇓P P 06 59 15.0 -0.4
baz=79,SNR=6.5
PSN Preselentsi 79.17 318 *i* P P 06 59 15.9 +0.6
S19A Harvey Farm, M 79.21 50 ⇓P P 06 59 15.4 -0.3
baz=79,SNR=10
BBAL Bala 79.23 312 *i* P P 06 59 15.9 +0.2
Y14A Wickenburg 79.23 55 ⇑P P 06 59 16.0 +0.2
baz=79
M24A Cheyenne 79.25 45 ⇓P P 06 59 15.8 0.0
baz=79,SNR=8.5
L25A Engebretsen Ra 79.26 44 ⇑P P 06 59 16.2 +0.3
baz=79
WUAZ Wupatki 79.27 53 *e*P P 06 59 16.9 +0.9
comp=Z,19nm,1.1s,mb4.9
Z13A Yuma Proving G 79.27 56 ⇑P P 06 59 16.8 +0.7
baz=79
PV01 Paradox Valley 79.30 50 *e*P P 06 59 16.6 +0.5
comp=Z,3μm,1.5s
BSEG Bad Segeberg 79.31 334 *e*P P 06 59 15.8 0.0
comp=Z,103nm,1.2s,mb5.6
BSEG Bad Segeberg 79.31 334 *e*P P 06 59 15.8 0.0
BSEG pmax pmax
comp=Z,103nm,1.2s,mb5.6
K26A Motz Farm, Whi 79.31 43 ⇑P P 06 59 16.3 +0.2
baz=79
R20A Redvale 79.38 49 ⇓P P 06 59 16.5 -0.1
baz=79,SNR=14
P22A Eagle 79.40 48 ⇑P P 06 59 16.7 0.0
baz=79,SNR=12
O23A Lake Granby, G 79.48 47 ⇑P P 06 59 17.1 0.0
baz=79,SNR=5.0
OKC Ostrava-Krasne 79.50 327 *e*P P 06 59 17.0 0.0
OKC *e**PP pP 06 59 24.4 -1.5
OKC MLR MLR
comp=Z,2μm,12.3s,MS5.6
OKC Ostrava-Krasne 79.50 327⇑*e*P P 06 59 17.0 0.0
OKC *e*pP pP 06 59 24.4 -1.5
OKC AMS AMS 07 37 10.0
comp=Z,2μm,12.3s
KSP Ksiaz 79.50 329 *e*P P 06 59 17.3 +0.3
KSP *e*pP pP 06 59 24.2 -1.7
KSP LMZ 07 37 15.5
comp=Z,2μm,19.4s
KSP Ksiaz 79.50 329 *e*P P 06 59 17.3 +0.3
KSP *e*S S 07 09 19.0 +2.6
KSP LM 07 37 30.0
comp=Z,3.9nm,18.0s
KSP Ksiaz 79.50 329⇑*e*P P 06 59 17.3 +0.3
KSP *e*S S 07 09 19.0 +2.6
KSP MLR MLR
comp=Z,4μm,18.0s,MS5.8
VOIR 79.55 321 ⇓P P 06 59 18.6 +1.3
VOIR 79.55 321 ⇓*i*P P 06 59 18.6 +1.3
V17A Tonalea, Kykot 79.56 53 ⇓P P 06 59 18.5 +0.9
baz=79
S20A Disappointment 79.62 50 ⇓P P 06 59 18.7 +0.8
baz=79
U18A Rough Rock, Ch 79.62 52 ⇑P P 06 59 18.7 +0.7
baz=79
N24A Carr 79.65 46 ⇓P P 06 59 18.8 +0.9
baz=80
M25A Palm-Egli Farm 79.70 45 ⇓P P 06 59 18.7 +0.5
baz=80
DRGR 79.71 323 P P 06 59 18.9 +0.7
DRGR 79.71 323 ⇓*i*P P 06 59 18.9 +0.7
R21A Cimarron 79.75 49 ⇓P P 06 59 18.5 -0.1
baz=80,SNR=11
MORC Moravsky Berou 79.80 328 *e*P P 06 59 18.8 +0.2
comp=Z,54nm,1.1s,mb5.4
MORC Moravsky Berou 79.80 328 *e*P P 06 59 18.8 +0.2
MORC pmax pmax
comp=Z,54nm,1.1s,mb5.4
MORC Moravsky Berou 79.80 328⇑*i*P P 06 59 18.6 0.0
Q22A Crested Butte, 79.80 48 ⇑P P 06 59 19.4 +0.5
baz=80
K27A Flueckinger Fa 79.82 43 ⇓P P 06 59 19.0 +0.2
baz=80
DPC Dobruska-Polom 79.87 329⇑*i*P P 06 59 19.7 +0.7
DPC *e**PP pP 06 59 26.6 -1.3
DPC MLR MLR
comp=Z,2μm,10.6s,MS5.6
DPC Dobruska-Polom 79.87 329⇑*i*P P 06 59 19.7 +0.7
DPC *e*pP pP 06 59 26.6 -1.3
DPC AMS AMS 07 39 00.0
comp=Z,2μm,10.6s
T19A Beclabito 79.87 51 ⇓P P 06 59 19.1 -0.2
baz=80,SNR=5.4
UPC Upice 79.87 329⇑*i*P P 06 59 19.7 +0.7
UPC *e**PP pP 06 59 26.6 -1.3
UPC Upice 79.87 329⇑*i*P P 06 59 19.7 +0.7
UPC *e*pP pP 06 59 26.6 -1.3
ISCO Idaho Springs 79.92 47 ⇑P P 06 59 19.5 0.0
baz=80,SNR=9.2
ISCO Idaho Springs 79.92 47 *e*P P 06 59 21.4 +1.9
comp=Z,17nm,1.3s,mb4.8
ISCO Idaho Springs 79.92 47 *e*P P 06 59 21.4 +1.9
ISCO pmax pmax
comp=Z,17nm,1.3s,mb4.8
X16A Lo Mia Camp, P 79.93 54 ⇓P P 06 59 20.3 +0.7
baz=80
MVCO Mesa Verde 79.94 50 ⇑P P 06 59 19.7 +0.1
baz=80,SNR=6.1
MVCO Mesa Verde 79.94 50 *e*P P 06 59 20.9 +1.2
comp=Z,23nm,1.4s,mb4.9
O24A Longmont 80.02 46 ⇑P P 06 59 19.9 -0.1
baz=80,SNR=7.4
V18A Ganado 80.04 52 ⇑P P 06 59 20.6 +0.4
baz=80
114A Black Gap (USA 80.06 56 ⇓P P 06 59 21.6 +1.2
baz=80
S21A Coal Bank Pass 80.07 50 ⇑P P 06 59 20.1 -0.2
baz=80,SNR=11
P23A Jefferson 80.08 47 ⇑P P 06 59 20.6 +0.3
baz=80
U19A Dine' College, 80.11 51 ⇓P P 06 59 20.5 0.0
baz=80,SNR=9.2
PSZ Piszkesteto 80.18 325 *e*P P 06 59 21.1 +0.4
PSZ Piszkesteto 80.18 325 *e*P P 06 59 21.1 +0.4
PSZ Piszkesteto 80.18 325⇑*e*P P 06 59 21.2 +0.5
PSZ Piszkesteto 80.18 325 ⇓*i*P P 06 59 21.6 +0.9
VYHS Vyhne 80.22 326 *e*P P 06 59 21.3 +0.4
VYHS pmax pmax
comp=Z,23nm,1.2s,mb5.0
VYHS Vyhne 80.22 326 *e*P P 06 59 21.3 +0.4
BRSD Miller 80.30 40 ⇑P P 06 59 22.2 +0.7
baz=80
R22A Saguache, Gunn 80.31 49 ⇓P P 06 59 21.5 -0.1
baz=80,SNR=7.4
BRG Berggiesshubel 80.41 330 *i* P P 06 59 21.9 -0.1
comp=Z,45nm,1.3s,mb5.2
BRG *i* pP 06 59 31.3 +0.4
comp=Z,35nm,1.1s
BRG PP PP 07 02 21.8 -2.6
comp=Z,10nm,1.0s
BRG *i* 07 33 50.3
comp=Z,3.0nm,0.8s
BRG
comp=Z,3μm,11.0s
BRG
comp=N,1μm,21.5s
BRG
comp=E,2μm,21.5s
BRG Berggiesshubel 80.41 330 *e*P P 06 59 21.6 -0.3
comp=Z,45nm,1.3s,mb5.2
BRG Berggiesshubel 80.41 330 *i* P P 06 59 21.9 0.0
BRG *i* pP 06 59 31.3 +0.5
BRG 07 02 21.8
BRG pmax pmax
comp=Z,45nm,1.3s,mb5.2
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BRG MLR MLR
comp=Z,3μm,11.0s,MS5.8
BRG MLR MLR
comp=N,1μm,21.5s
BRG MLR MLR
comp=E,2μm,21.5s
CLL Collm 80.43 331 *e*P P 06 59 21.4 -0.6
comp=Z,58nm,1.1s,mb5.4
CLL Collm 80.43 331⇑*i*P P 06 59 21.4 -0.6
CLL *i* *PP pP 06 59 31.0 +0.1
CLL pmax pmax
comp=Z,58nm,1.1s,mb5.4
CLL MLR MLR
comp=Z,2μm,17.4s,MS5.5
CLL Collm 80.43 331⇑*i*P P 06 59 21.4 -0.6
comp=Z,58nm,1.1s,mb5.4
CLL *i* pP pP 06 59 31.0 +0.1
comp=Z,62nm,1.0s
CLL *e*PP PP 07 02 25.0 +0.5
comp=Z,14nm,1.1s
CLL LmH 07 34 00.0
comp=N,600nm,19.0s
CLL LmH 07 34 00.0
comp=E,2μm,19.6s
PVCC Panska Ves 80.44 330⇑*i*P P 06 59 22.5 +0.5
PVCC MLR MLR
comp=Z,2μm,10.7s,MS5.8
PVCC Panska Ves 80.44 330⇑*i*P P 06 59 22.5 +0.5
PVCC AMS AMS 07 40 10.0
comp=Z,2μm,10.7s
U20A Newcomb 80.48 51 ⇓P P 06 59 23.4 +0.8
baz=80
KDHN Kadinhani 80.49 312 *i* P P 06 59 22.3 -0.2
BORA Eskisehir 80.53 314 *i* P P 06 59 22.5 -0.2
ESKT Eskisehir 80.55 313 *i* P P 06 59 21.2 -1.6
NRDL Niedersach Rie 80.55 333 *e*P P 06 59 22.3 -0.3
comp=Z,77nm,1.8s,mb5.3
VRAC Vranov 80.56 328 P P 06 59 23.7 +1.0
VRAC Vranov 80.56 328⇑*i*P P 06 59 23.1 +0.4
O25A Wiggins 80.56 46 ⇓P P 06 59 22.8 -0.1
baz=80,SNR=7.7
V19A Window Rock 80.59 52 ⇑P P 06 59 23.2 +0.1
baz=80,SNR=12
S22A 4UR Ranch, Cre 80.59 49 ⇑P P 06 59 23.1 0.0
baz=80,SNR=9.4
SZH Strazhica 80.64 319 *i* P P 06 59 22.3 -1.0
T21A Navajo Lake 80.67 50 ⇑P P 06 59 24.4 +0.8
baz=80
GZR Gura Zlata 80.69 322 ⇑P P 06 59 24.2 +0.7
GZR Gura Zlata 80.69 322 ⇑*i*P P 06 59 24.2 +0.7
Q24A Divide 80.75 47 ⇑P P 06 59 24.8 +0.9
baz=81
W19A Sanders 80.77 52 ⇑P P 06 59 24.4 +0.2
baz=81,SNR=13
Y17A Roosevelt 80.77 54 ⇓P P 06 59 25.2 +1.0
baz=81
X18A Snowflake 80.80 53 ⇓P P 06 59 25.3 +1.0
baz=81
PRA Prague 80.85 329 ⇑P P 06 59 25.0 +0.7
PRU Pruhonice 80.87 329⇑*i*P P 06 59 24.4 0.0
PRU *e**PP pP 06 59 31.7 -1.6
PRU MLR MLR
comp=Z,2μm,11.1s,MS5.8
PRU Pruhonice 80.87 329⇑*i*P P 06 59 24.4 0.0
PRU *e*pP pP 06 59 31.7 -1.6
PRU AMS AMS 07 39 50.0
comp=Z,2μm,11.1s
R23A Moffat 80.88 48 ⇓P P 06 59 25.1 +0.4
baz=81,SNR=16
V20A Brimhall 80.89 51 ⇓P P 06 59 24.7 0.0
baz=81,SNR=8.6
BUD Budapest 80.89 325⇑*e*P P 06 59 25.1 +0.6
O26A Horse Wrangler 80.92 45 ⇓P P 06 59 24.9 +0.1
baz=81
P25A Willow Gulch B 80.94 46 ⇑P P 06 59 25.2 +0.2
baz=81,SNR=6.1
N27A Anderson Farm, 80.97 44 ⇓P P 06 59 25.4 +0.3
baz=81
U21A Nageezi 80.97 50 ⇑P P 06 59 25.7 +0.6
baz=81
CLZ Clausthal 80.98 332 *e*P P 06 59 25.1 +0.1
comp=Z,95nm,1.4s,mb5.5
CLZ Clausthal 80.98 332 *e*P P 06 59 25.1 +0.1
CLZ pmax pmax
comp=Z,95nm,1.4s,mb5.5
TREC Trest 81.03 328⇑*i*P P 06 59 25.4 +0.2
TREC *e**PP pP 06 59 31.5 -2.7
TREC MLR MLR
comp=Z,2μm,13.5s,MS5.7
TREC Trest 81.03 328⇑*i*P P 06 59 25.4 +0.2
TREC *e*pP pP 06 59 31.5 -2.7
TREC AMS AMS 07 40 00.0
comp=Z,2μm,13.5s
T22A Edith 81.03 50 ⇑P P 06 59 25.5 0.0
baz=81,SNR=8.9
BOLV Bolvadin 81.03 313 *i* P P 06 59 26.1 +0.6
BZS Buzias 81.09 323 ⇓P P 06 59 25.7 +0.1
BZS Buzias 81.09 323 ⇓*i*P P 06 59 25.7 +0.1
ULDT Uludag 81.09 315 *i* P P 06 59 25.0 -0.8
OGNE Ogallala 81.14 44 ⇓P P 06 59 26.8 +0.8
baz=81
OGNE Ogallala 81.14 44 *e*P P 06 59 29.6 +3.6
EYMN Ely 81.22 34 *e*P P 06 59 29.8 +3.5
Y18A Canyon Day Jun 81.23 54 ⇑P P 06 59 26.9 +0.3
baz=81,SNR=8.1
RAYN Ar Rayn 81.25 293 P P 06 59 26.0 -0.9
comp=Z,206nm,1.0s,mb6.0,SNR=13
Z17A San Carlos Hig 81.26 54 ⇓P P 06 59 27.7 +0.9
baz=81
R24A Sanders Place, 81.27 48 ⇓P P 06 59 26.5 -0.2
baz=81,SNR=6.1
X19A St. Johns 81.28 53 ⇑P P 06 59 26.9 +0.1
baz=81,SNR=10
Q25A Bedland, Calha 81.30 47 ⇑P P 06 59 27.4 +0.5
baz=81
W20A Ramah 81.31 52 ⇓P P 06 59 27.1 +0.1
baz=81,SNR=12
TANN Tannenbergstha 81.35 331 *e*P P 06 59 26.9 0.0
comp=Z,72nm,1.8s,mb5.3
SDCO Great Sand Dun 81.37 48 ⇑P P 06 59 27.4 +0.1
baz=81,SNR=8.6
SDCO Great Sand Dun 81.37 48 *e*P P 06 59 29.6 +2.3
comp=Z,7.2nm,1.1s,mb4.5
V21A Milan 81.39 51 ⇑P P 06 59 28.6 +1.2
baz=81
U22A Llaves 81.48 50 ⇑P P 06 59 28.4 +0.5
baz=81,SNR=7.0
MOX Moxa 81.49 331 *e*P P 06 59 27.4 -0.3
comp=Z,59nm,1.5s,mb5.3
MOX *e*pP pP 06 59 36.7 +0.1
MOX Moxa 81.49 331 *e*P P 06 59 27.4 -0.3
MOX *e**PP pP 06 59 36.7 +0.1
MOX pmax pmax
comp=Z,59nm,1.5s,mb5.3
NKC Novy Kostel 81.50 330 *e*P P 06 59 27.8 +0.1
NKC *e**PP pP 06 59 34.6 -2.1
NKC Novy Kostel 81.50 330⇑*e*P P 06 59 27.8 +0.1
NKC *e*pP pP 06 59 34.6 -2.1
IBBN Ibbenburen 81.53 334 *e*P P 06 59 27.4 -0.4
comp=Z,134nm,1.8s,mb5.6
S24A Houchin Ranch, 81.61 48 ⇓P P 06 59 28.9 +0.4
baz=81,SNR=5.8
X20A Quemado 81.69 52 ⇓P P 06 59 29.0 0.0
baz=82,SNR=8.9
Q26A Hugo 81.71 46 ⇑P P 06 59 29.9 +0.8
baz=82
V22A San Miguel Ran 81.76 50 ⇓P P 06 59 30.3 +0.9
baz=82
SOP Sopron 81.82 327⇑*e*P P 06 59 30.3 +0.8
DURS Dursunbey 81.83 315 *i* P P 06 59 29.3 -0.4
GAZI Gazipasa 81.90 310 *i* P P 06 59 29.0 -1.1
U23A El Rito 81.91 50 ⇓P P 06 59 30.3 +0.2
baz=82,SNR=16
CONA Conrad Observa 81.93 327 *i* P P 06 59 30.7 +0.7
comp=Z,54nm,1.4s,mb5.3,SNR=14
KHC Kasperske Hory 81.93 329 *e*P P 06 59 30.0 0.0
comp=Z,47nm,1.1s,mb5.3
KHC Kasperske Hory 81.93 329⇑*i*P P 06 59 30.0 0.0
KHC *e**PP pP 06 59 39.3 +0.3
KHC MLR MLR
comp=Z,2μm,18.1s,MS5.5
KHC Kasperske Hory 81.93 329⇑*i*P P 06 59 30.0 0.0
KHC *e*pP pP 06 59 39.3 +0.3
KHC AMS AMS 07 40 30.0
comp=Z,2μm,18.1s
UBBA Unterbreizbach 81.95 332 *e*P P 06 59 29.6 -0.5
comp=Z,32nm,1.4s,mb5.1
ROTZ Rotzenmuhle 81.97 330 *e*P P 06 59 30.6 +0.4
comp=Z,84nm,1.5s,mb5.5
ECSD EROS Data Cent 81.98 39 *e*P P 06 59 29.0 -1.3
comp=Z,16nm,1.1s,mb4.9
118A Homack Ranch, 82.01 55 ⇑P P 06 59 31.5 +0.8
baz=82
PKSM Moragy 82.03 325 ⇓P P 06 59 30.3 -0.3
PKSM Moragy 82.03 325 ⇓*i*P P 06 59 30.3 -0.3
S25A Robets Cordova 82.05 48 ⇓P P 06 59 31.5 +0.6
baz=82
T24A Torres, Weston 82.09 49 ⇓P P 06 59 31.9 +0.9
baz=82
GEC2 GERESS Array S 82.11 329 *e*P P 06 59 30.7 -0.3
comp=Z,28nm,1.3s,mb5.0
GEC2 GERESS Array S 82.11 329 *e*P P 06 59 30.7 -0.3
GEC2 pmax pmax
comp=Z,28nm,1.3s,mb5.0
GERES GERESS Array B 82.11 329 P P 06 59 30.4 -0.6
comp=Z,7.2nm,0.9s,mb4.6,baz=36,slow=5.0,SNR=38
GERES LR LR 07 39 02.6
comp=Z,1μm,19.2s,MS5.3,baz=15,slow=38
GERES GERESS Array B 82.11 329 P P 06 59 30.4 -0.6
GERES GERESS Array B 82.11 329 P P 06 59 30.4 -0.6
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES MLR MLR
comp=Z,1μm,19.2s
CSS Prodhromos 82.14 309 *e*P P 06 59 31.2 -0.2
comp=Z,31nm,0.8s,mb5.3
KSCO Kaye Shedlock' 82.16 46 ⇓P P 06 59 31.8 +0.4
baz=82
R26A Arlington 82.18 47 ⇓P P 06 59 31.1 -0.4
baz=82,SNR=8.6
Y20A Horse Springs, 82.19 53 ⇓P P 06 59 32.1 +0.5
baz=82,SNR=7.6
X21A Alamocita Cree 82.20 52 ⇓P P 06 59 32.3 +0.6
baz=82
WET Wettzell 82.20 330 *e*P P 06 59 31.6 +0.2
comp=Z,78nm,1.7s,mb5.4
WET Wettzell 82.20 330 *e*P P 06 59 31.6 +0.2
WET pmax pmax
comp=Z,78nm,1.7s,mb5.4
V23A Ortiz Mt. (NFS 82.31 50 ⇓P P 06 59 32.8 +0.5
baz=82,SNR=7.4
RZN Rozhen 82.39 318 *i* P P 06 59 31.6 -1.0
218A Dragoon 82.40 55 ⇑P P 06 59 33.8 +1.0
baz=82
U24A Moreno Valley 82.40 49 ⇑P P 06 59 33.7 +1.0
baz=82
GRF Grafenberg Arr 82.41 331 *e*P P 06 59 32.8 +0.3
comp=Z,88nm,1.2s,mb5.6
GRF *e*pP pP 06 59 42.0 +0.5
GRF *e*L 07 41 28.5
comp=Z,1μm,18.2s
GRF Grafenberg Arr 82.41 331 *e*P P 06 59 32.8 +0.3
GRF *e**PP pP 06 59 42.0 +0.5
GRF pmax pmax
comp=Z,88nm,1.2s,mb5.6
GRFO Grafenberg 82.41 331 *e*P P 06 59 32.7 +0.2
comp=Z,82nm,1.1s,mb5.6
GRFO Grafenberg 82.41 331 *e*P P 06 59 32.7 +0.2
GRFO pmax pmax
comp=Z,82nm,1.1s,mb5.6
BUG Bochum-Univer 82.42 334 *e*P P 06 59 31.9 -0.6
comp=Z,61nm,1.4s,mb5.3
T25A Trinidad 82.42 48 ⇓P P 06 59 33.4 +0.6
baz=82
VTS Vitosha 82.52 320 ⇓P P 06 59 33.3 +0.1
VTS Vitosha 82.52 320 *i* P P 06 59 30.8 -2.4
VTS Vitosha 82.52 320 ⇓*i*P P 06 59 33.3 +0.1
Y21A Point of Rocks 82.56 52 ⇑P P 06 59 33.7 +0.1
baz=82
R27A Eads 82.56 46 ⇑P P 06 59 34.2 +0.7
baz=82
Z20A Nine Sixteen R 82.58 53 ⇓P P 06 59 33.8 +0.1
baz=82,SNR=9.5

ARSA Arzberg 82.60 327 ⇓iP P 06 59 33.7 +0.1
comp=Z,30nm,1.7s,mb5.0,SNR=5.6
LAZ Ladron 82.63 52 eP P 06 59 35.1 +1.2
comp=Z,8.9nm,1.3s,mb4.6
MOA Molln 82.66 328⇑iP P 06 59 33.9 0.0
comp=Z,36nm,1.4s,mb5.2
ANMO Albuquerque 82.67 51 eP P 06 59 35.7 +1.6
comp=Z,17nm,1.1s,mb5.0
ANMO LR LR
comp=Z,291nm,22.0s,MS4.6
ANMO Albuquerque 82.67 51 eP P 06 59 35.7 +1.5
ANMO pmax pmax
comp=Z,17nm,1.1s
ANMO MLR MLR
comp=Z,291nm,22.0s
SPMN St. Paul 82.70 36 ⇑P P 06 59 34.0 -0.1
baz=82
W23A Werner Place, 82.72 51 ⇓P P 06 59 34.7 +0.3
baz=82,SNR=8.7
318A Bisbee 82.78 55 ⇑P P 06 59 35.6 +0.8
baz=83
V24A Rampart Ranch, 82.87 50 ⇑P P 06 59 35.2 0.0
baz=83,SNR=7.9
219A White Tail Can 82.89 55 ⇑P P 06 59 34.8 -0.5
baz=83,SNR=9.6
BGNE Belgrade 82.89 42 ⇑P P 06 59 35.4 +0.2
baz=83
120A U Bar Ranch, L 82.92 54 ⇓P P 06 59 36.6 +1.1
baz=83
U25A Circle Dot Ran 82.92 49 ⇑P P 06 59 34.9 -0.5
baz=83,SNR=6.6
MMB Musomiste 82.97 319 iP P 06 59 34.7 -0.9
LPM Los Pinos Moun 83.00 51 eP P 06 59 38.7 +2.8
TNS Taunus Mts 83.01 333 eP P 06 59 35.4 -0.2
comp=Z,43nm,1.6s,mb5.2
TNS Taunus Mts 83.01 333 eP P 06 59 35.4 -0.2
TNS pmax pmax
comp=Z,43nm,1.6s,mb5.2
Z21A St. Cloud Mine 83.02 53 ⇓P P 06 59 36.1 +0.1
baz=83,SNR=12
Y22A Socorro 83.04 52 ⇓P P 06 59 37.0 +0.9
baz=83
X23A Hourglass Bar 83.09 51 ⇑P P 06 59 36.9 +0.5
baz=83
KKB Krupnik 83.11 319 iP P 06 59 31.1 -5.2
BNM Barren Site 83.11 52 eP P 06 59 37.3 +0.9
comp=Z,7.0nm,1.0s,mb4.7
W24A Lazy 6 Ranch, 83.14 50 ⇑P P 06 59 36.7 +0.1
baz=83,SNR=9.6
V25A Rancho No Teng 83.18 49 ⇓P P 06 59 37.3 +0.5
baz=83
PERS Pernice 83.26 327 iP P 06 59 37.2 +0.2
PERS i pP 06 59 46.4 +0.4
SOKA Soboth 83.26 327⇓iP P 06 59 36.9 0.0
comp=Z,69nm,1.4s,mb5.5
319A Douglas 83.28 55 ⇓P P 06 59 37.8 +0.4
baz=83
U26A Atchley Ranch, 83.32 48 ⇓P P 06 59 38.0 +0.5
baz=83
RJOB Jochberg 83.36 329 eP P 06 59 37.6 +0.1
comp=Z,53nm,1.1s,mb5.5
220A Playas Peak, P 83.42 54 ⇓P P 06 59 38.2 +0.1
baz=83
121A Cookes Peak, D 83.47 53 ⇑P P 06 59 38.0 -0.3
baz=83,SNR=7.2
Z22A Elephant Butte 83.50 52 ⇓P P 06 59 37.9 -0.6
baz=83,SNR=8.2
AKAS Kas 83.51 312 iP P 06 59 36.5 -2.0
AYDN Tasoluk 83.52 314 iP P 06 59 38.8 +0.3
MEM Membach 83.55 334 P P 06 59 37.9 -0.5
comp=Z,17nm,1.3s,mb5.0
SCHQ Schefferville 83.57 17 P P 06 59 37.2 -1.2
comp=Z,6.3nm,0.8s,mb4.8,baz=273,slow=5.7,SNR=5.1
SCHQ LR LR 07 40 03.2
comp=Z,258nm,18.5s,MS4.6,baz=323,slow=38
SCHQ Schefferville 83.57 17 P P 06 59 37.2 -1.2
OBKA Obir 83.60 327⇓iP P 06 59 38.3 -0.4
comp=Z,14nm,0.8s,mb5.1
Y23A Lovelace Mesa, 83.61 51 ⇓P P 06 59 38.9 -0.1
baz=83,SNR=17
FUR Furstenfeldbru 83.62 330 eP P 06 59 38.8 0.0
comp=Z,94nm,1.2s,mb5.8
FUR Furstenfeldbru 83.62 330 eP P 06 59 38.8 0.0
FUR pmax pmax
comp=Z,94nm,1.2s,mb5.8
W25A X Bar L Ranch, 83.70 50 ⇓P P 06 59 39.1 -0.4
baz=84,SNR=12
VAY Valandovo 83.77 319 eP P 06 59 36.9 -2.8
320A Kipp Ranch, An 83.79 55 ⇓P P 06 59 41.0 +1.0
baz=84
122A Conniff Cattle 83.85 53 ⇑P P 06 59 40.7 +0.4
baz=84
SKO Skopje 83.86 320 eP P 06 59 39.1 -1.1
STU Stuttgart 83.93 331 eP P 06 59 40.2 -0.2
comp=Z,93nm,1.5s,mb5.7
STU Stuttgart 83.93 331 eP P 06 59 40.4 0.0
comp=Z,15nm,0.3s,mb5.6
STU Stuttgart 83.93 331 eP P 06 59 40.4 0.0
STU pmax pmax
comp=Z,15nm,0.3s,mb5.6
BCLA Clavier 83.95 334 P P 06 59 40.0 -0.5
comp=Z,24nm,1.7s,mb5.1
Z23A Rita Site, Whi 83.95 52 ⇓P P 06 59 41.1 +0.3
baz=84
Y24A Capitan 83.99 51 ⇓P P 06 59 40.5 -0.5
baz=84,SNR=8.1
VISS Visnje 84.03 326 iP P 06 59 40.7 -0.2
VISS i pP 06 59 49.4 -0.5
X25A Clemmons Ranch 84.05 50 ⇓P P 06 59 41.8 +0.5
baz=84
BOJS Bojanci 84.08 326 iP P 06 59 40.9 -0.3
BOJS i pP 06 59 50.2 0.0
PPT2 Papeete2 84.20 118 eS S 07 09 58.9 -6.7
PPT2 eLR LR 07 26 12.1
comp=Z,136nm,24.0s
comp=Z,1μm,24.2s,baz=310
W26A Owens Ranch, T 84.20 49 ⇑P P 06 59 42.5 +0.5
baz=84
WTTA Wattenberg 84.21 329⇑iP P 06 59 41.8 0.0
comp=Z,26nm,1.1s,mb5.3
SNF Seneffe 84.22 335 P P 06 59 41.6 -0.2
comp=Z,24nm,2.2s,mb4.9
ABTA Abfaltersbach 84.27 328⇑iP P 06 59 41.1 -1.0
comp=Z,26nm,1.3s,mb5.2
LANF Langenberg 84.28 332 eP P 06 59 42.1 0.0
JAVS Javornik 84.29 327 iP P 06 59 41.5 -0.7
JAVS i pP 06 59 50.7 -0.6
WLF Walferdange 84.29 333 P P 06 59 41.6 -0.6
comp=Z,50nm,2.1s,mb5.3
WLF Walferdange 84.29 333 eP P 06 59 42.5 +0.3
comp=Z,96nm,1.5s,mb5.7
WLF Walferdange 84.29 333 eP P 06 59 42.6 +0.4
comp=Z,72nm,1.6s,mb5.5
WLF Walferdange 84.29 333 eP P 06 59 42.7 +0.5
WLF pmax pmax
comp=Z,72nm,1.6s,mb5.5
MOTA Moosalm 84.36 329⇑iP P 06 59 42.4 -0.2
comp=Z,40nm,1.1s,mb5.5,SNR=10
RETA Reutte 84.38 330⇑iP P 06 59 42.8 +0.1
comp=Z,73nm,1.3s,mb5.6,SNR=12
GIVF Givet 84.38 334⇑iP P 06 59 42.0 -0.6
comp=Z,60nm,1.3s,mb5.3
GIVF Givet 84.38 334⇑iP P 06 59 42.0 -0.6
comp=Z,60nm,1.3s,mb5.6
GIVF Givet 84.38 334⇑iP P 06 59 42.0 -0.6
GIVF pmax pmax
comp=Z,60nm,1.3s,mb5.6
KRUS Krusevo 84.40 320 eP P 06 59 42.4 -0.6
Z24A Sheeppen Canyo 84.44 51 ⇑P P 06 59 43.3 0.0
baz=84
Y25A Mesa, Roswell 84.44 51 ⇑P P 06 59 42.4 -0.9
baz=84,SNR=9.4
DOU Dourbes 84.46 335 P P 06 59 42.1 -1.0
X26A CR and CF Fran 84.55 50 ⇓P P 06 59 43.3 -0.5
baz=84
BFO Black Forest 84.62 332 eP P 06 59 43.6 -0.3
comp=Z,101nm,1.3s,mb5.8
BFO Black Forest 84.62 332 eP P 06 59 43.3 -0.6
comp=Z,59nm,1.1s,mb5.6
BFO Black Forest 84.62 332 eP P 06 59 43.6 -0.3
BFO pmax pmax
comp=Z,101nm,1.3s,mb5.8
BFO Black Forest 84.62 332 P P 06 59 43.1 -0.8
comp=Z,259nm,1.3s,mb6.2,SNR=12
BAIF Baives 84.62 335 eP P 06 59 43.2 -0.7
comp=Z,60nm,1.3s,mb5.2
BAIF Baives 84.62 335 eP P 06 59 43.2 -0.7
comp=Z,60nm,1.3s,mb5.6
BAIF Baives 84.62 335 eP P 06 59 43.2 -0.7
BAIF pmax pmax
comp=Z,60nm,1.3s,mb5.6
BIA Bitola 84.62 320 eP P 06 59 43.1 -1.0
W27A Bowe Ranch, En 84.64 49 ⇑P P 06 59 44.1 -0.2
baz=84,SNR=12
FETA Feichten 84.77 329⇑iP P 06 59 44.6 -0.1
comp=Z,26nm,1.0s,mb5.3,SNR=12
Z25A Roswell 84.87 51 ⇓P P 06 59 44.8 -0.6
baz=85,SNR=7.7
DAVA Damuels 84.89 330⇓iP P 06 59 45.1 -0.1
comp=Z,62nm,1.1s,mb5.7,SNR=13
X27A F and S Farms, 84.90 49 ⇓P P 06 59 45.4 -0.2
baz=85,SNR=7.4
CDF Champ du Feu 84.94 332⇑iP P 06 59 45.1 -0.4
comp=Z,190nm,1.3s,mb5.8
CDF Champ du Feu 84.94 332⇑iP P 06 59 45.1 -0.4
comp=Z,190nm,1.3s,mb6.1
CDF Champ du Feu 84.94 332⇑iP P 06 59 45.1 -0.4
CDF pmax pmax
comp=Z,190nm,1.3s,mb6.1
ECH Echery 85.15 332 eP P 06 59 45.7 -0.8
comp=Z,48nm,1.1s,mb5.5
ECH Echery 85.15 332 eP P 06 59 45.7 -0.9
ECH pmax pmax
comp=Z,48nm,1.1s,mb5.5
ECH Echery 85.15 332 eP P 06 59 46.0 -0.6
224A Cornudas Mount 85.19 52 ⇓P P 06 59 46.5 -0.6
baz=85,SNR=7.1
Z26A Caprock 85.32 51 ⇓P P 06 59 47.5 -0.3
baz=85,SNR=12
TAOE Nuku Hiva Isla 85.32 105 eS S 07 10 09.4 -7.6
comp=Z,151nm,25.0s
TAOE eLR LR 07 26 39.6
comp=Z,888nm,22.3s,baz=307
125A Gardner Draw, 85.33 52 ⇓P P 06 59 47.5 -0.2
baz=85,SNR=12
KSU1 Kansas State U 85.37 42 eP P 06 59 47.2 -0.7
comp=Z,19nm,0.9s,mb5.2
PAGF Fort de Pagny 85.38 333⇑iP P 06 59 47.6 -0.1
comp=Z,51nm,1.2s,mb5.2
PAGF Fort de Pagny 85.38 333⇑iP P 06 59 47.6 -0.1
comp=Z,51nm,1.2s,mb5.5
Y27A Causey 85.39 50 ⇑P P 06 59 47.9 -0.2
baz=85
MOF Molkenrain 85.46 332 eP P 06 59 47.7 -0.4
MNTX Cornudas Mount 85.53 53 ⇓P P 06 59 48.2 -0.6
baz=85,SNR=8.0
MNTX Cornudas Mount 85.53 53 eP P 06 59 48.1 -0.7
comp=Z,14nm,1.4s,mb5.0
CPRX Cap Rock 85.56 51 P P 06 59 46.2 -2.7
MSTX Muleshoe 85.57 49 ⇑P P 06 59 49.3 +0.3
baz=85
THEF They Montfort 85.57 333 eP P 06 59 48.2 -0.4
AMTX Amarillo 85.57 48 ⇑P P 06 59 48.2 -0.7
baz=85,SNR=7.1
AMTX Amarillo 85.57 48 eP P 06 59 48.8 -0.1
comp=Z,20nm,0.9s,mb5.3
HINF Hinteralfeld 85.60 332⇑iP P 06 59 48.1 -0.7
comp=Z,124nm,1.5s,mb5.6
HINF Hinteralfeld 85.60 332⇑iP P 06 59 48.1 -0.7
comp=Z,124nm,1.5s,mb5.9
HINF Hinteralfeld 85.60 332⇑iP P 06 59 48.1 -0.7
HINF pmax pmax
comp=Z,124nm,1.5s,mb5.9
225A Deer Hill, Car 85.60 52 ⇑P P 06 59 49.6 +0.5
baz=85
HAU Haudompre 85.62 332⇑iP P 06 59 48.2 -0.7
comp=Z,58nm,1.1s,mb5.4
HAU eR
comp=Z,2μm,21.0s
HAU Haudompre 85.62 332⇑iP P 06 59 48.2 -0.7
comp=Z,58nm,1.1s,mb5.7
HAU Haudompre 85.62 332⇑iP P 06 59 48.2 -0.7
HAU pmax pmax
comp=Z,58nm,1.1s,mb5.7
324A Moseley Ranch, 85.65 53 ⇓P P 06 59 50.0 +0.7
baz=86
MEZF Maizieres J'vi 85.66 333⇑iP P 06 59 48.9 -0.2
MEZF Maizieres J'vi 85.66 333⇑iP P 06 59 48.9 -0.2
126A Clayton Basin, 85.73 51 ⇓P P 06 59 50.1 +0.4
baz=86
Z27A Tatum 85.75 50 ⇓P P 06 59 49.1 -0.8
baz=86,SNR=12
TUE Stuetta 85.76 330 eP P 06 59 49.8 +0.1
comp=Z,51nm,1.1s,mb5.7
GDL2 Guadalupe Moun 85.82 52 eP P 06 59 49.7 -0.5
comp=Z,58nm,1.0s,mb5.8
SFTF Sexfontaines 85.92 333⇑iP P 06 59 49.9 -0.5
comp=Z,191nm,1.2s,mb5.9
SFTF Sexfontaines 85.92 333⇑iP P 06 59 49.9 -0.5
comp=Z,191nm,1.2s,mb6.2
325A Bean Ranch, Si 86.01 53 ⇑P P 06 59 50.7 -0.5
baz=86,SNR=9.2
CLNB Carlsbad 86.08 51 eP P 06 59 52.0 +0.5
comp=Z,2.2nm,0.7s,mb4.5
226A Malaga, Loving 86.08 52 ⇓P P 06 59 51.5 0.0
baz=86
425A Indio Mountain 86.40 53 ⇑P P 06 59 53.0 -0.1
baz=86,SNR=7.2
227A Bennet, Jal 86.61 51 ⇓P P 06 59 55.1 +1.0
baz=86
326A Caldwell Ranch 86.67 52 ⇓P P 06 59 54.2 -0.2
baz=86,SNR=7.4
CABF La Chapelle 86.89 332⇑iP P 06 59 54.7 -0.5
comp=Z,43nm,1.1s,mb5.3
CABF La Chapelle 86.89 332⇑iP P 06 59 54.7 -0.5
comp=Z,43nm,1.1s,mb5.6
CABF La Chapelle 86.89 332⇑iP P 06 59 54.7 -0.5
CABF pmax pmax
comp=Z,43nm,1.1s,mb5.6
426A McDonald Obser 87.08 53 ⇑P P 06 59 57.1 +0.6
baz=87
LOR Lormes 87.14 334⇑iP P 06 59 55.7 -0.7
comp=Z,119nm,1.2s,mb5.7
LOR eR
comp=Z,1μm,18.2s
LOR Lormes 87.14 334⇑iP P 06 59 55.7 -0.7
comp=Z,119nm,1.2s,mb6.0
LOR Lormes 87.14 334⇑iP P 06 59 55.7 -0.7
LOR pmax pmax
comp=Z,119nm,1.2s,mb6.0
FLN La Foliniere 87.27 337 eP P 06 59 56.2 -0.8
comp=Z,117nm,1.4s,mb5.6
FLN eR
comp=Z,1μm,19.8s
FLN La Foliniere 87.27 337 eP P 06 59 56.2 -0.8
comp=Z,117nm,1.4s,mb5.9
FLN La Foliniere 87.27 337 eP P 06 59 56.2 -0.8
FLN pmax pmax
comp=Z,117nm,1.4s,mb5.9
LDF La Druitiere 87.30 336 eP P 06 59 56.2 -0.9
LDF La Druitiere 87.30 336 eP P 06 59 56.2 -0.9
LDF La Druitiere 87.30 336 eP P 06 59 56.2 -0.9
328A Wristen Ranch, 87.34 51 ⇑P P 06 59 58.3 +0.6
baz=87
427A Hayter Ranch, 87.35 52 ⇑P P 06 59 57.5 -0.3
baz=87,SNR=6.3
WMOK Wichita Mounta 87.35 47 eP P 06 59 58.3 +0.6
comp=Z,9.6nm,1.0s,mb5.0
WMOK Wichita Mounta 87.35 47 eP P 06 59 58.3 +0.6
WMOK pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
SSF Saint Saulge 87.44 334⇑iP P 06 59 57.3 -0.5
comp=Z,65nm,1.2s,mb5.5
SSF Saint Saulge 87.44 334⇑iP P 06 59 57.3 -0.5
comp=Z,65nm,1.2s,mb5.7
SSF Saint Saulge 87.44 334⇑iP P 06 59 57.3 -0.5
SSF pmax pmax
comp=Z,65nm,1.2s,mb5.7
526A Mary Lane Ranc 87.46 53 ⇓P P 06 59 57.9 -0.4
baz=87,SNR=7.1
HYF Humbligny 87.56 334 eP P 06 59 58.3 -0.1
HYF Humbligny 87.56 334 eP P 06 59 58.3 -0.1
LPL La Plagne 87.57 331⇑iP P 06 59 58.3 -0.2
comp=Z,53nm,1.1s,mb5.4
LPL La Plagne 87.57 331⇑iP P 06 59 58.3 -0.2
comp=Z,53nm,1.1s,mb5.7
LPL La Plagne 87.57 331⇑iP P 06 59 58.3 -0.2
LPL pmax pmax
comp=Z,53nm,1.1s,mb5.7
LPG La Plagne 87.58 331⇑iP P 06 59 58.5 -0.1
comp=Z,82nm,1.2s,mb5.5
LPG La Plagne 87.58 331⇑iP P 06 59 58.5 -0.1
comp=Z,82nm,1.2s,mb5.8
LPG La Plagne 87.58 331⇑iP P 06 59 58.5 -0.1
LPG pmax pmax
comp=Z,82nm,1.2s,mb5.8
SMF Signal de Mont 87.68 333⇑iP P 06 59 58.5 -0.5
comp=Z,101nm,1.3s,mb5.6
SMF Signal de Mont 87.68 333⇑iP P 06 59 58.5 -0.5
comp=Z,101nm,1.3s,mb5.9
SMF Signal de Mont 87.68 333⇑iP P 06 59 58.5 -0.5
SMF pmax pmax
comp=Z,101nm,1.3s,mb5.9
527A Woodward Ranch 87.70 53 ⇓P P 06 59 59.8 +0.4
baz=88
GRR Gorron 87.71 337⇑iP P 06 59 58.6 -0.5
comp=Z,103nm,1.2s,mb5.6
GRR Gorron 87.71 337⇑iP P 06 59 58.6 -0.5
comp=Z,103nm,1.2s,mb5.9
GRR Gorron 87.71 337⇑iP P 06 59 58.6 -0.5
GRR pmax pmax
comp=Z,103nm,1.2s,mb5.9
AVF Avril sur Loir 87.72 334⇑iP P 06 59 58.8 -0.4
comp=Z,155nm,1.3s,mb5.8
AVF Avril sur Loir 87.72 334⇑iP P 06 59 58.8 -0.4
comp=Z,155nm,1.3s,mb6.1
AVF Avril sur Loir 87.72 334⇑iP P 06 59 58.8 -0.4
AVF pmax pmax
comp=Z,155nm,1.3s,mb6.1
626A Big Bend Ranch 87.78 53 ⇓P P 07 00 00.5 +0.6
baz=88
428A Kincaid Ranch, 87.88 52 ⇓P P 06 59 60.0 -0.3
baz=88,SNR=6.3
BGF Bois d'Agland 88.10 334 eP P 07 00 00.6 -0.4
BGF Bois d'Agland 88.10 334 eP P 07 00 00.6 -0.4
BGF Bois d'Agland 88.10 334 eP P 07 00 00.6 -0.4
TUL1 Tulsa 88.16 44 ⇑P P 07 00 01.6 +0.1
baz=88
528A Cox Ranch, San 88.20 52 ⇓P P 07 00 02.2 +0.3
baz=88
TBI Tubuai 88.22 122 eS S 07 10 37.1 -7.5
comp=Z,221nm,27.0s
TBI eLR LR 07 27 53.9
comp=Z,736nm,22.2s,baz=307
MBDF Montbardon 88.22 330 eP P 07 00 00.8 -0.8
comp=Z,26nm,1.2s,mb5.0
MBDF Montbardon 88.22 330 eP P 07 00 00.8 -0.8
comp=Z,26nm,1.2s,mb5.3
MBDF Montbardon 88.22 330 eP P 07 00 00.8 -0.8
MBDF pmax pmax
comp=Z,26nm,1.2s,mb5.3
TXAR Lajitas Array 88.23 53 P P 07 00 00.9 -1.1
comp=Z,1.4nm,0.6s,mb4.4,baz=303,slow=3.5,SNR=22
TXAR LR LR 07 33 44.7
comp=Z,283nm,19.7s,MS4.7,baz=0.0,slow=32
TXAR Lajitas Array 88.23 53 P P 07 00 00.9 -1.1
TXAR Lajitas Array 88.23 53 P P 07 00 00.9 -1.1
TXAR pmax pmax
comp=Z,1.0nm,0.6s
627A Terlingua Ranc 88.32 53 ⇑P P 07 00 02.5 +0.1
baz=88
PLDF La Plantade 88.34 333 eP P 07 00 02.1 0.0
SGMF Saint Gilles 88.35 338 eP P 07 00 01.8 -0.3
SGMF Saint Gilles 88.35 338 eP P 07 00 01.8 -0.3
SGMF Saint Gilles 88.35 338 eP P 07 00 01.8 -0.3
ORIF Oris-en-Rattie 88.40 331 eP P 07 00 02.2 -0.3
ORIF eR
comp=Z,1μm,22.0s
ORIF Oris-en-Rattie 88.40 331 eP P 07 00 02.2 -0.3
ORIF Oris-en-Rattie 88.40 331 eP P 07 00 02.2 -0.3
ROSF Rostrenen 88.48 338 eP P 07 00 02.8 0.0
ROSF Rostrenen 88.48 338 eP P 07 00 02.8 0.0
ROSF Rostrenen 88.48 338 eP P 07 00 02.8 0.0
628A Black Gap, Mar 88.61 53 ⇑P P 07 00 03.9 +0.1
baz=88
QUIF Quistinic 88.83 338 eP P 07 00 03.6 -0.8
QUIF Quistinic 88.83 338 eP P 07 00 03.6 -0.8
QUIF Quistinic 88.83 338 eP P 07 00 03.6 -0.8
VIVF Saint-Julien-l 88.91 332 eP P 07 00 04.5 -0.3
comp=Z,51nm,1.2s,mb5.4
VIVF Saint-Julien-l 88.91 332 eP P 07 00 04.5 -0.3
comp=Z,51nm,1.2s,mb5.7
VIVF Saint-Julien-l 88.91 332 eP P 07 00 04.5 -0.3
VIVF pmax pmax
comp=Z,51nm,1.2s,mb5.7
CCM Cathedral Cave 88.93 40 eP P 07 00 04.2 -0.9
comp=Z,19nm,0.9s,mb5.4
CCM Cathedral Cave 88.93 40 eP P 07 00 04.2 -0.9
CCM pmax pmax
comp=Z,19nm,0.9s,mb5.4
MFF Saint Martin d 89.07 336⇑iP P 07 00 05.3 -0.3
comp=Z,100nm,1.3s,mb5.7
MFF Saint Martin d 89.07 336⇑iP P 07 00 05.3 -0.3
comp=Z,100nm,1.3s,mb6.0
MFF Saint Martin d 89.07 336⇑iP P 07 00 05.3 -0.3
MFF pmax pmax
comp=Z,100nm,1.3s,mb6.0
SFIN Scholer Farm 89.10 36 ⇓P P 07 00 05.6 -0.3
baz=89
PGF Pioggiola 89.14 328 eP P 07 00 04.8 -1.2
PGF Pioggiola 89.14 328 eP P 07 00 04.8 -1.2
PGF Pioggiola 89.14 328 eP P 07 00 04.8 -1.2
SMRF Simiane la Rot 89.31 331 eP P 07 00 06.5 -0.3
SMRF Simiane la Rot 89.31 331 eP P 07 00 06.5 -0.3
LMR La Mourre 89.49 330 eP P 07 00 08.0 +0.4
LMR La Mourre 89.49 330 eP P 07 00 08.0 +0.4
LMR La Mourre 89.49 330 eP P 07 00 08.0 +0.4
RJF Les Rejaudoux 89.65 334⇑iP P 07 00 08.2 -0.1
comp=Z,55nm,1.2s,mb5.5
RJF eR
comp=Z,1μm,21.2s
RJF Les Rejaudoux 89.65 334⇑iP P 07 00 08.2 -0.1
comp=Z,55nm,1.2s,mb5.8
RJF Les Rejaudoux 89.65 334⇑iP P 07 00 08.2 -0.1
RJF pmax pmax
comp=Z,55nm,1.2s,mb5.8
CAF Calviac 89.79 333⇑iP P 07 00 09.1 +0.1
comp=Z,39nm,1.0s,mb5.4
CAF Calviac 89.79 333⇑iP P 07 00 09.1 +0.1
comp=Z,39nm,1.0s,mb5.7
CAF Calviac 89.79 333⇑iP P 07 00 09.1 +0.1
CAF pmax pmax
comp=Z,39nm,1.0s,mb5.7
JCT Junction City 89.81 50 eP P 07 00 07.9 -1.5
comp=Z,8.7nm,0.8s,mb5.1
JCT LR LR
comp=Z,308nm,21.0s,MS4.7
JCT Junction City 89.81 50 eP P 07 00 07.9 -1.4
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
JCT MLR MLR
comp=Z,308nm,21.0s,MS4.7
LASF Ste Croix 89.88 332 eP P 07 00 09.1 -0.3
LASF Ste Croix 89.88 332 eP P 07 00 09.1 -0.3
OLIL Olney 89.94 37 eP P 07 00 10.8 +1.0
comp=Z,23nm,0.9s,mb5.5
SIUC Southern Illin 90.20 39 eP P 07 00 11.4 +0.3
comp=Z,20nm,0.8s,mb5.5
LFF La Frestale 90.23 334 eP P 07 00 11.0 -0.1
comp=Z,81nm,1.1s,mb5.7
LFF La Frestale 90.23 334 eP P 07 00 11.0 -0.1
comp=Z,81nm,1.1s,mb6.0
LFF La Frestale 90.23 334 eP P 07 00 11.0 -0.1
LFF pmax pmax
comp=Z,81nm,1.1s,mb6.0
MIAR Mount Ida 90.39 44 eP P 07 00 11.2 -0.8
comp=Z,16nm,1.1s,mb5.2
MIAR LR LR
comp=Z,404nm,19.0s,MS4.9
MIAR Mount Ida 90.39 44 eP P 07 00 11.2 -0.8
MIAR pmax pmax
comp=Z,16nm,1.1s,mb5.3
MIAR MLR MLR
comp=Z,404nm,19.0s,MS4.9
PQI Presque Isle 90.77 21 eP P 07 00 08.1 -5.4
comp=Z,28nm,0.4s,mb6.0
MTLF Montolieu 91.11 333 eP P 07 00 15.0 -0.2
comp=Z,32nm,1.1s,mb5.2
MTLF Montolieu 91.11 333 eP P 07 00 15.0 -0.2
comp=Z,32nm,1.1s,mb5.6
MTLF Montolieu 91.11 333 eP P 07 00 15.0 -0.2
MTLF pmax pmax
comp=Z,32nm,1.1s,mb5.6
TKL Tuckaleechee C 94.46 37 P P 07 00 30.0 -0.8
comp=Z,3.1nm,0.9s,mb4.7,baz=323,slow=5.1,SNR=3.2
TKL Tuckaleechee C 94.46 37 P P 07 00 30.0 -0.8
TKL Tuckaleechee C 94.46 37 P P 07 00 30.0 -0.8
TKL pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
KEST Kesra 94.59 324 LR LR 07 47 25.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,399nm,18.7s,MS4.9,baz=4.3,slow=38						
ESDC	Sonseca Array	96.51	335	P	P	07 00 38.3	-1.7
	comp=Z,0.5nm,0.3s,mb4.4,baz=20,slow=4.7,SNR=6.7						
ESDC				PP	PP	07 04 33.6	+0.4
	comp=Z,0.3nm,0.3s,baz=32,slow=6.9,SNR=4.1						
ESDC				LR	LR	07 49 12.8	
	comp=Z,850nm,20.3s,MS5.2,baz=45,slow=38						
ESDC	Sonseca Array	96.51	335	P	P	07 00 38.3	-1.7
ESDC				PP	PP	07 04 33.6	+0.4
RKT	Rikitea	98.16	113	eSKSac	SKSac	07 11 20.5	-3.0
	comp=Z,203nm,26.8s						
RKT	Rikitea	98.16	113	ePS	PS	07 13 36.0	-4.8
	comp=Z,294nm,30.8s						
RKT				eLR	LR	07 32 33.6	
	comp=Z,754nm,25.2s,baz=305						
TORD	Torodi Ar. Bea	117.15	317	PKP	PKPdf	07 05 54.2	-1.9
	comp=Z,0.7nm,0.6s,baz=29,slow=2.0,SNR=6.1						
TORD				PP	PP	07 06 55.7	-10
	comp=Z,5.2nm,1.0s,baz=32,slow=6.2,SNR=7.3						
TORD	Torodi Ar. Bea	117.15	317	PKP	PKPdf	07 05 54.2	-1.9
TORD				PP	PP	07 06 55.7	-10
DBIC	Dimbokro	126.04	319	PKP	PKPdf	07 06 11.3	-1.9
	comp=Z,1.1nm,0.6s,baz=93,slow=3.9,SNR=4.4						
DBIC				PP	PP	07 08 00.9	-5.1
	comp=Z,17nm,1.1s,baz=7.2,slow=9.7,SNR=7.7						
DBIC	Dimbokro	126.04	319	PKP	PKPdf	07 06 11.3	-1.9
DBIC				PP	PP	07 08 00.9	-5.1
DBIC				LR	LR		
	comp=Z,571nm,20.0s,MS5.2						
DBIC	Dimbokro	126.04	319	PKIKP	PKPdf	07 06 11.4	-1.8
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DBIC				pmax	pmax		
	comp=Z,17nm,1.1s						
QSPA	South Pole Qui	128.25	180	ePKPdf	PKPdf	07 06 14.0	-1.4
QSPA				LR	LR		
	comp=Z,251nm,20.0s,MS4.9						
SAML	Samuel	142.32	45	ePKPdf	PKPdf	07 06 42.9	-0.7
SNAA	Sanae	142.53	197	e	PKPpre	07 06 37.1	
SNAA				e		07 06 42.3	
SNAA				e		07 06 48.2	
SNAA	Sanae	142.53	197	PKhKP	PKPpre	07 06 37.5	
	comp=Z,0.8nm,0.7s,baz=176,slow=4.2,SNR=12						
SNAA	Sanae	142.53	197	PKPpre	PKPpre	07 06 37.5	
SNAA	Sanae	142.53	197	PKHKP	PKPpre	07 06 37.5	
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNA2	Neumayer--Watz	144.08	196	e	PKPdf	07 06 41.0	-3.9
	baz=99,slow=2.4						
VNA2				e		07 06 46.8	
VNA2				e		07 06 52.8	
VNA3	Neumayer Olymp	144.31	195	e	PKPdf	07 06 41.4	-3.9
VNA3				e		07 06 46.3	
VNA3				e		07 15 57.4	
VNA1	Neumayer--Stat	144.48	196	e	PKPdf	07 06 43.0	-2.6
VNA1				e		07 06 47.3	
LPAZ	La Paz	144.86	60	PKP	PKPdf	07 06 48.3	+0.4
	comp=Z,6.8nm,0.9s,baz=11,slow=4.0,SNR=14						
LPAZ	La Paz	144.86	60	ePKPdf	PKPdf	07 06 48.1	+0.2
LPAZ				PKP	PKPdf	07 06 48.3	+0.4
LPAZ	La Paz	144.86	60	ePKIKP	PKPdf	07 06 48.1	+0.2
LCO	Las Campanas	150.56	81	ePKPdf	PKPdf	07 06 56.2	-0.8
PLCA	Paso Flores	154.15	106	PKPbc	PKPbc	07 07 10.4	+0.4
	comp=Z,3.4nm,0.9s,baz=293,slow=1.5,SNR=3.4						
PLCA	Paso Flores	154.15	106	PKPbc	PKPbc	07 07 10.4	+0.4
PLCA				LR	LR		
	comp=Z,188nm,19.0s,MS4.9						

JMA 18 06:47:15.8, 35°.37N×133°.61E, h11km, M1.0, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKR	Kurayoshi	0.17	87	P	Pg	06 47 19.7	+0.1
JKR				S	Sg	06 47 22.4	+0.2
JAD	Aida	0.63	133	P	Pg	06 47 27.8	-0.2
JAD				eS	Sg	06 47 35.9	-0.3

CASC 18 06:56:27.4±1.9, 11°.53N×87°.83W, h8km±12km, MD3.9, ML2.9
IDC 18 06:56:30.4±1.7, 12°.38N×87°.17W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML2.8/2, Error ellipse: s-maj=56.6km s-min=18.4km az=47.0
NEIC 18 06:56:34.4±1.4, 11°.84N×87°.49W, h61km±14km, Error ellipse: s-maj=29.4km s-min=13.8km az=220.0
ISC 18 06:56:33.9±1.2, 11°.8N±0°.1×87°.57W±0°.09, h56km±11km, n32, σ0s87/40, mb3.7/5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	0.91	46	eP	Pn	06 56 50.6	-0.1
CRIN	San Cristobal	1.05	29	eP	Pn	06 56 52.3	-0.1
CRIN				eS	Sn	06 57 12.0	+5.9
CRIN				AML	AML	06 57 17.5	
	comp=N,902nm,0.3s						
TEL3	Telica 3	1.06	42	eP	Pn	06 56 52.5	-0.1
MIRN	Miramar	1.06	52	eP	Pn	06 56 52.5	-0.2
CNGN	Cerro Negro	1.11	50	eP	Pn	06 56 53.0	-0.2
CNGN				eS	Sn	06 57 14.6	+6.9
CSAN		1.19	70	eP	Pn	06 56 54.5	+0.2
XAVN	Gruta Xavier	1.27	73	eP	Pn	06 56 55.6	+0.2
TISN	Laguna Tiscapa	1.32	74	eP	Pn	06 56 55.4	-0.7
TICN	Ticuantepe	1.33	79	eP	Pn	06 56 56.4	+0.2
MGAN	Managua	1.34	74	eP	Pn	06 56 56.5	+0.2
WILN	Americas 2	1.40	74	eP	Pn	06 56 57.3	+0.1
HUEN		1.47	68	eP	Pn	06 56 58.5	+0.4
CNCH	Conchagua	1.51	350	eP	Pn	06 56 57.5	-1.2
CNCH				eS	Sn	06 57 21.2	+3.8
BLLM	Bellamira	1.78	338	eP	Pn	06 57 00.6	-1.7
BOAB	BOACO BROADBAN	1.97	70	eP	Pn	06 57 04.7	-0.2
BOAB				eS	Sn	06 57 35.3	+6.8
BOAB				AML	AML	06 57 35.8	
	comp=E,21nm,0.4s						
CAHU	Cacacuatique	2.08	342	eP	Pn	06 57 05.6	-0.8
CAHU				eS	Sn	06 57 33.6	+2.5
TGUH	Tegucigalpa,Un	2.28	7	ePn	Pn	06 57 09.3	+0.1
TGUH	Tegucigalpa,Un	2.28	7	eP	Pn	06 57 09.0	-0.2
JTS	JuntasAbangare	2.96	120	Pn	Pn	06 57 18.7	+0.3
	comp=E,0.4nm,0.3s,baz=300,slow=20,SNR=5.5						
JTS				Pg	Pn	06 57 25.7	+7.2
	comp=E,2.1nm,0.3s,baz=322,slow=13,SNR=9.5						
JTS				Sn	Sn	06 57 53.5	+0.8
	comp=E,2.7nm,0.3s,baz=282,slow=18,SNR=4.3						
JTS	JuntasAbangare	2.96	120	Pn	Pn	06 57 18.7	+0.3
JTS				Sn	Sn	06 57 53.5	+0.8
CMIG	Matias Romero	8.84	308	Pn	Pn	06 58 39.0	0.0
	comp=E,0.3nm,0.3s,baz=135,slow=12,SNR=12						
CMIG	Matias Romero	8.84	308	Pn	Pn	06 58 39.0	0.0
TXAR	Lajitas Array	23.02	322	P	P	07 01 35.8	+1.6
	comp=E,2.2nm,0.9s,mb3.6,baz=135,slow=11,SNR=7.3						
TXAR	Lajitas Array	23.02	322	P	P	07 01 35.8	+1.6
PDAR	Pinedale Array	36.31	332	P	P	07 03 33.4	+1.3
	comp=E,0.3nm,0.6s,mb3.4,baz=124,slow=7.7,SNR=2.2						
PDAR	Pinedale Array	36.31	332	P	P	07 03 33.4	+1.3
ULM	Lac du Bonnet	38.97	352	P	P	07 03 52.5	-1.8
	comp=E,1.3nm,0.3s,mb4.1,baz=165,slow=11,SNR=4.0						
ULM	Lac du Bonnet	38.97	352	P	P	07 03 52.5	-1.8
SCHQ	Schefferville	45.95	17	P	P	07 04 50.3	-0.8
	comp=E,4.2nm,1.1s,mb4.3,baz=214,slow=15,SNR=4.5						
SCHQ	Schefferville	45.95	17	P	P	07 04 50.3	-0.8
YKA	Yellowknife Ar	54.23	345	P	P	07 05 53.7	+0.1
	comp=E,0.2nm,0.6s,mb3.2,baz=142,slow=8.3,SNR=4.1						
YKA	Yellowknife Ar	54.23	345	P	P	07 05 53.7	+0.1

IDC 18 07:07:13.6±3.2, 7°.54S×127°.59E, h134km±30km, mb3.8/8, mb1 4.1/12, mb1mx4.0/18, mbtmp4.0/12, Error ellipse: s-maj=26.3km s-min=13.9km az=60.0
NEIC 18 07:07:13.4±1.5, 7°.50S×127°.72E, h132km±15km, mb4.8/17, Error ellipse: s-maj=10.8km s-min=6.9km az=217.0
ISC 18 07:07:17.4±1.6, 7°.84S±0°.07×127°.58E±0°.07, h181km±18km, n65, σ1s02/68, mb4.4/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.37	190	P	Pn	07 09 42.6	+0.8
	4.5nm,0.3s,baz=36,slow=11,SNR=72						
FITZ				S	Sn	07 11 33.5	-3.8
	8.1nm,0.3s,baz=69,slow=20,SNR=9.6						
FITZ	Fitzroy Crossi	10.37	190	eP	Pn	07 09 42.5	+0.7
FITZ				eS	Sn	07 11 33.1	-4.1
FITZ	Fitzroy Crossi	10.37	190	P	Pn	07 09 42.6	+0.8
	20nm,0.7s						
FITZ				S	Sn	07 11 33.5	-3.7
WRAB	Tennant Creek	13.70	152	ePn	Pn	07 10 23.8	-0.6
	26nm,0.4s						
WRAB				eSn	Sn	07 12 48.3	-8.5
WRA	Warramunga Arr	13.70	152	P	Pn	07 10 23.9	-0.5
	2.9nm,0.3s,baz=327,slow=13,SNR=117						
WRA				S	Sn	07 12 49.1	-7.7
	8.2nm,0.3s,baz=327,slow=24,SNR=17						
WRA	Warramunga Arr	13.70	152	P	Pn	07 10 23.9	-0.5
WRA				S	Sn	07 12 49.1	-7.7
WB2	Warramunga Arr	13.70	152	ePn	Pn	07 10 24.2	-0.3
WB2				eSn	Sn	07 12 43.7	-13
MBWA	Marble Bar	15.26	209	ePn	Pn	07 10 48.6	+5.0
	2.4nm,0.3s						
MBWA				eSn	Sn	07 13 32.2	-2.0
COEN	Coen	16.47	113	ePn	Pn	07 10 57.6	-0.9
	50nm,0.8s						
AS31	Alice Springs	16.86	160	eP	Pn	07 11 05.2	+2.1
AS31				eS	S	07 13 57.4	-11
ASAR	Alice Springs	16.86	160	P	Pn	07 11 05.2	+2.2
	5.2nm,0.3s,baz=337,slow=11,SNR=172						
ASAR				S	S	07 14 07.8	-1.0
	0.8nm,0.3s,baz=321,slow=18,SNR=4.3						
ASAR	Alice Springs	16.86	160	P	Pn	07 11 05.2	+2.2
ASAR				S	S	07 14 07.8	-1.0
PMG	Port Moresby	19.42	96	P	P	07 11 30.3	+0.2
	1.6nm,0.3s,baz=272,slow=5.9,SNR=6.5						
PMG	Port Moresby	19.42	96	eP	P	07 11 29.1	-1.0
	21nm,1.1s						
CTA	Charters Tower	21.80	126	P	P	07 11 56.9	+1.5
	5.2nm,0.7s,mb4.0,baz=292,slow=12,SNR=7.4						
CTA	Charters Tower	21.80	126	P	P	07 11 56.9	+1.5
CTAO	Charters Tower	21.80	126	eP	P	07 11 56.6	+1.3
	10nm,1.3s,mb4.1						
FORT	Forrest	22.82	179	eP	P	07 12 08.7	+3.9
	28nm,1.2s,mb4.6						
STKA	Stephens Creek	27.25	153	P	P	07 12 47.4	+2.7
	2.2nm,0.4s,mb4.1,baz=308,slow=10,SNR=3.8						
STKA	Stephens Creek	27.25	153	eP	P	07 12 47.4	+2.7
STKA	Stephens Creek	27.25	153	P	P	07 12 47.4	+2.7
CMAR	Chiang Mai Arr	38.49	313	P	P	07 14 22.6	+0.4
	1.7nm,0.4s,mb4.0,baz=136,slow=6.6,SNR=5.1						
CMAR	Chiang Mai Arr	38.49	313	P	P	07 14 22.6	+0.4
KSAR	Wonju Array Be	45.05	0	P	P	07 15 14.1	-1.0
KSRS	Korea Array	45.06	0	P	P	07 15 14.1	-1.1
	0.9nm,0.4s,mb3.8,baz=177,slow=9.4,SNR=3.1						
ODAN	Odare	52.03	313	eP	P	07 16 09.0	+0.3
	7.2nm,0.4s,mb4.6						
ODAN	Odare	52.03	313	eP	P	07 16 09.0	+0.3
	7.2nm,0.4s,mb4.7						
TAPN	Taplejung	52.09	314	eP	P	07 16 09.6	+0.5
	5.3nm,0.4s,mb4.5						
TAPN	Taplejung	52.09	314	eP	P	07 16 09.6	+0.5
	5.3nm,0.4s,mb4.5						
RAMN	Ramite	52.66	313	eP	P	07 16 14.2	+0.9
	16nm,0.6s,mb4.9						
RAMN	Ramite	52.66	313	eP	P	07 16 14.2	+0.9
	16nm,0.6s,mb4.9						
JIRN	Jiri	53.36	313	eP	P	07 16 18.8	+0.4
JIRN	Jiri	53.36	313	eP	P	07 16 18.8	+0.4
GUN	Gumba	53.73	313	eP	P	07 16 21.6	+0.5
	13nm,0.6s,mb4.9						
GUN	Gumba	53.73	313	eP	P	07 16 21.6	+0.5
	13nm,0.6s,mb4.8						
PKI	Pulchoki	53.88	312	eP	P	07 16 22.5	+0.3
	6.2nm,0.3s,mb4.8						
PKI	Pulchoki	53.88	312	eP	P	07 16 22.5	+0.3
	6.2nm,0.3s,mb4.8						
KKN	Kakani	54.10	313	eP	P	07 16 24.6	+0.8
KKN	Kakani	54.10	313	eP	P	07 16 24.6	+0.8
GKN	Gorkha	54.69	312	eP	P	07 16 28.2	+0.2
	11nm,0.3s,mb5.1						
GKN	Gorkha	54.69	312	eP	P	07 16 28.2	+0.2
	11nm,0.3s,mb5.1						
KOLN	Koldanda	55.32	312	eP	P	07 16 32.5	-0.1
	22nm,0.7s,mb5.0						
KOLN	Koldanda	55.32	312	eP	P	07 16 32.5	-0.1
	22nm,0.7s,mb5.0						
DANN	Dangsing	55.52	312	eP	P	07 16 34.3	+0.3
	5.8nm,0.4s,mb4.8						
DANN	Dangsing	55.52	312	eP	P	07 16 34.3	+0.3
	5.8nm,0.4s,mb4.8						
SONM	Songino Array	58.51	343	P	P	07 16 53.9	-0.7
	0.9nm,0.4s,mb3.9,baz=151,slow=6.8,SNR=3.3						
SONM	Songino Array	58.51	343	P	P	07 16 53.9	-0.7
PETK	Petropavlovsk-	65.89	19	P	P	07 17 42.9	-0.6
	2.4nm,0.6s,mb4.2,baz=152,slow=6.5,SNR=3.6						
PETK	Petropavlovsk-	65.89	19	P	P	07 17 42.9	-0.6
MK31	Makanchi Array	67.64	328	eP	P	07 17 54.6	-0.1
MK31				ePcP	PcP	07 18 20.2	-0.2
MKAR	Makanchi Array	67.64	328	P	P	07 17 54.4	-0.4
	1.4nm,0.5s,mb4.0,baz=117,slow=8.5,SNR=52						
MKAR	Makanchi Array	67.64	328	P	P	07 17 54.4	-0.4
AAK	Ala-Archa	69.65	321	eP	P	07 18 08.4	+1.1
	4.3nm,0.4s,mb4.5						
ZAA0	Zalesovo Array	71.30	335	eP	P	07 18 15.9	-1.1
ZALV	Zalesovo Beam	71.30	335	P	P	07 18 15.4	-1.5
	1.5nm,0.4s,mb4.1,baz=122,slow=4.5,SNR=13						
ZALV	Zalesovo Beam	71.30	335	P	P	07 18 15.4	-1.5
KURK	Kurchatov	72.00	330	eP	P	07 18 20.8	-0.5
	5.2nm,0.8s,mb4.3						
TORD	Torodi Ar. Bea	126.61	281	PKP	PKPdf	07 26 01.7	+1.6
	0.7nm,0.6s,baz=76,slow=1.7,SNR=7.2						
TORD	Torodi Ar. Bea	126.61	281	PKP	PKPdf	07 26 01.7	+1.6
TXAR	Lajitas Array	127.42	59	PKP	PKPdf	07 26 02.2	+0.9
	0.1nm,0.4s,baz=177,slow=2.5,SNR=4.5						
TXAR	Lajitas Array	127.42	59	PKP	PKPdf	07 26 02.2	+0.9
SCHQ	Schefferville	131.74	11	PKP	PKPdf	07 26 09.8	+1.0
	5.6nm,1.0s,baz=281,slow=5.2,SNR=7.4						
SCHQ	Schefferville	131.74	11	PKP	PKPdf	07 26 09.8	+1.0
LPAZ	La Paz	151.43	147	PKPbc	PKPbc	07 26 53.7	+2.9
	0.9nm,0.4s,baz=214,slow=3.6,SNR=8.8						
LPAZ				PKPab	PKPab	07 27 03.7	+4.2
	2.4nm,0.6s,baz=198,slow=2.3,SNR=12						
LPAZ	La Paz	151.43	147	PKPbc	PKPbc	07 26 53.7	+2.9
LPAZ				PKPab	PKPab	07 27 03.7	+4.2

IDC 18 07:42:59.2±2.6, 31°.41S×177°.11W, h0km, mb4.2/5, mb1 4.3/7, mb1mx4.1/19, mbtmp4.2/7, ML4.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/28, Error ellipse: s-maj=49.4km s-min=34.7km az=72.0
NEIC 18 07:42:60.0±1.8, 31°.44S×177°.03W, h10km, mb4.2/2, Error ellipse: s-maj=34.3km s-min=16.1km az=84.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.34	214	Pn	Pn	07 45 01.6	+0.7
	1.0nm,0.3s,baz=271,slow=6.2,SNR=15						
URZ				Sn	Sn	07 46 36.1	+1.0
	2.0nm,0.3s,baz=308,slow=19,SNR=6.6						
URZ	Urewera	8.34	214	Pn	Pn	07 45 01.6	+0.7
URZ				Sn	Sn	07 46 36.1	+1.0
RPZ	Rata Peaks	15.46	214	Pn	Pn	07 46 36.6	-1.4
	2.3nm,0.3s,baz=311,slow=14,SNR=8.9						
RPZ	Rata Peaks	15.46	214	Pn	Pn	07 46 36.5	-1.4
HNR	Honiara	30.61	311	eP	P	07 49 13.3	-1.1
	36nm,0.4s						
CTA	Charters Tower	34.80	280	P	P	07 49 51.8	+0.8
	3.5nm,0.5s,baz=103,slow=10,SNR=6.6						
CTA	Charters Tower	34.80	280	P	P	07 49 51.8	+0.8
CTAO	Charters Tower	34.80	280	eP	P	07 49 51.9	+1.0
	3.0nm,0.6s						
STKA	Stephens Creek	35.07	258	P	P	07 49 54.9	+1.7
	1.5nm,0.5s,baz=84,slow=5.6,SNR=5.0						
STKA	Stephens Creek	35.07	258	P	P	07 49 54.9	+1.7
ASAR	Alice Springs	43.90	268	P	P	07 51 06.5	-0.4
	1.6nm,0.7s,baz=106,slow=7.5,SNR=18						
ASAR	Alice Springs	43.90	268	P	P	07 51 06.5	-0.4
WRAB	Tennant Creek	44.97	273	eP	P	07 51 15.1	-0.5
	1.9nm,0.7s						
WRA	Warramunga Arr	44.98	273	P	P	07 51 14.8	-0.8
	2.7nm,0.6s,baz=111,slow=8.1,SNR=45						
WRA				LR	LR	08 09 56.5	
	comp=Z,40nm,18.0s,baz=40,slow=36						
WRA	Warramunga Arr	44.98	273	P	P	07 51 14.8	-0.8
FITZ	Fitzroy Crossi	53.20	270	P	P	07 52 18.8	+0.1
	2.2nm,0.7s,baz=180,slow=3.0,SNR=3.3						
FITZ	Fitzroy Crossi	53.20	270	P	P	07 52 18.8	+0.1
TORD	Torodi Ar. Bea	161.76	176	PKPab	PKPab	08 03 47.9	+0.8
	0.4nm,0.5s,baz=183,slow=3.5,SNR=5.4						
TORD	Torodi Ar. Bea	161.76	176	PKPab	PKPab	08 03 47.9	+0.8

ISCJB 18 07:48:18.5±0.8, 51°.44N±0°.04×16°.12E±0°.04, h0km, Error ellipse: s-maj=5.9km s-min=2.9km az=13.6
WAR 18 07:48:20.6, 51°.50N×16°.13E, ML2.4, Mining Induced
CSEM 18 07:48:20.0±0.5, 51°.45N×16°.11E, h2km, ML3.3/5, Error ellipse: s-maj=8.4km s-min=4.3km az=7.0
PRU 18 07:48:21.1, 51°.43N×16°.10E, h0km
ISC 18 07:48:19.9±0.8, 51°.46N±0°.04×16°.11E±0°.04, h0km, n29, σ0s92/53, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	169	ePg	Pg	07 48 32.7	+0.8
KSP				eSg	Sg	07 48 40.4	+0.4
KSP	Ksiaz	0.63	169	i Pg	Pg	07 48 32.7	+0.8
KSP				i Sg	Sg	07 48 40.3	+0.3
KSP	Ksiaz	0.63	169⇓	iPg	Pg	07 48 32.7	+0.8
KSP				i Sg	Sg	07 48 40.3	+0.3
UPC	Upice	0.96	184	ePG	Pg	07 48 38.8	+0.7
UPC	Upice	0.96	184	Pg	Pg	07 48 38.8	+0.7
DPC	Dobruska-Polom	1.12	173	ePG	Pg	07 48 41.5	+0.2
DPC				eSG	Sg	07 48 55.0	-0.8
	19nm,0.4s						
DPC	Dobruska-Polom	1.12	173	Pg	Pg	07 48 41.5	+0.2
DPC				Sg	Sg	07 48 55.0	-0.8
	19nm,0.4s						
PVCC	Panska Ves	1.35	227	ePG	Pg	07 48 45.8	+0.1
PVCC				eSG	Sg	07 49 04.6	+1.5
	122nm,0.2s						
PVCC	Panska Ves	1.35	227	Pg	Pg	07 48 45.8	+0.1
PVCC				Sg	Sg	07 49 04.6	+1.5
	122nm,0.2s						
KRLC	Kraliky	1.45	163	ePG	Pg	07 48 47.0	-0.6
KRLC	Kraliky	1.45	163	Pg	Pg	07 48 47.0	-0.6
BRG	Berggiesshubel	1.49	248	PG	Pg	07 48 48.5	+0.2
BRG				SG	Sg	07 49 08.8	+1.2
	31nm,0.3s						
PRU	Pruhonice	1.78	215	ePG	Pg	07 48 53.5	-0.4
PRU				eSG	Sg	07 49 17.2	+0.2
	17nm,0.4s						
PRU	Pruhonice	1.78	215	Pg	Pg	07 48 53.5	-0.4
PRU				Sg	Sg	07 49 17.2	+0.2
	17nm,0.4s						
MORC	Moravsky Berou	1.92	151	ePn	Pn	07 48 53.3	-0.4
MORC				eSg	Sg	07 49 20.7	-0.7
CLL	Collm	1.95	267	i Pn	Pn	07 48 52.6	-1.6
CLL				i Pg	Pg	07 48 56.5	-0.8
CLL				eSg	Sg	07 49 23.0	+0.4
	comp=Z,17nm,0.6s						
OKC	Ostrava-Krasne	2.08	141	eSG	Sg	07 49 25.1	-1.5
OKC	Ostrava-Krasne	2.08	141	Sg	Sg	07 49 25.1	-1.5
VRAC	Vranov	2.18	172	ePn	Pn	07 48 58.1	+0.8
VRAC				eSg	Sg	07 49 30.0	+0.3
TREC	Trest	2.20	191	ePN	Pn	07 48 58.6	+0.9
TREC	Trest	2.20	191	Pn	Pn	07 48 58.6	+0.9
NKC	Novy Kostel	2.63	244	ePN	Pn	07 49 03.9	+0.4
NKC				ePG	Pg	07 49 09.5	-0.7
NKC				eSG	Sg	07 49 44.3	+0.1
	comp=Z,30nm,0.3s						
NKC	Novy Kostel	2.63	244	Pn	Pn	07 49 03.9	+0.4
OJC	Ojcow	2.65	117	ePg	Pg	07 49 10.4	-0.2
OJC				eSg	Sg	07 49 44.4	-0.5
OJC	Ojcow	2.65	117	ePg	Pg	07 49 10.4	-0.2
OJC				eSg	Sg	07 49 44.4	-0.5
KHC	Kasperske Hory	2.84	216	ePN	Pn	07 49 06.5	+0.1
KHC				ePG	Pg	07 49 12.6	-1.7
KHC				eSN	Sn	07 49 39.0	-2.3
KHC				eSG	Sg	07 49 50.9	-0.2
	comp=Z,9.4nm,0.6s						
KHC	Kasperske Hory	2.84	216	Pn	Pn	07 49 06.5	+0.1
KHC	Kasperske Hory	2.84	216	Pg	Pg	07 49 12.6	-1.7
KHC				Sn	Sn	07 49 39.0	-2.3
KHC				Sg	Sg	07 49 50.9	-0.2
	comp=Z,9.4nm,0.6s						
NIE	Niedzica	3.38	126	eP	Pg	07 49 26.4	+1.9
NIE				eS	Sg	07 50 09.7	+1.5

IDC 18 07:53:29.6±3.7, 44°.25N×149°.53E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.3/4, Error ellipse: s-maj=113.1km s-min=33.5km az=173.0
JMA 18 07:53:39.5±0.4, 44°.71N×149°.39E, h30km, M4.1
ISCJB 18 07:53:40.3±1.8, 43°.9N±0°.2×149°.4E±0°.2, h118km±18km, mb3.2/4, Error ellipse: s-maj=32.3km s-min=15.8km az=149.6
ISC 18 07:53:41.4±1.7, 43°.9N±0°.2×149°.5E±0°.2, h112km±18km, n14, σ0s93/19, mb3.2/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.74	260	P	Pn	07 54 23.3	-0.7
NEM2				eS	Sn	07 54 56.0	-0.8
JRA	Rausu	3.13	272	eS	Sn	07 55 05.4	-0.4
JAK	Akkeshi	3.58	257	P	Pn	07 54 35.1	+0.1
JAK				eS	Sn	07 55 14.5	-2.0
JTKR	Abashiri--Toko	4.00	273	P	Pn	07 54 40.6	-0.1
JAR	Ashorobuto	4.17	264	P	Pn	07 54 43.9	+0.9
JAR				eS	Sn	07 55 32.0	+1.3
JOB	Onbets	4.21	258	P	Pn	07 54 44.2	+0.7
JOB				eS	Sn	07 55 32.0	+0.3
JMP	Maruseppu	4.40	274	P	Pn	07 54 46.0	0.0
JCH	Churui	4.63	256	P	Pn	07 54 50.1	+1.0
JCH				eS	Sn	07 55 42.4	+0.6
JKK2	Kamakawa 2	4.84	272	P	Pn	07 54 52.6	+0.6
JANG	Nango	6.87	242	eS	Sn	07 56 35.0	-1.0
ILAR	Eielson Array	40.39	36	P	P	08 01 05.8	-2.1
	0.2nm,0.7s,mb3.1,baz=264,slow=7.6,SNR=4.4						
MKAR	Makanchi Array	45.99	298	P	P	08 01 53.3	+0.2
	0.2nm,0.6s,mb3.0,baz=71,slow=9.4,SNR=2.4						
YKA	Yellowknife Ar	54.75	34	P	P	08 02 58.4	-0.4
	0.2nm,0.6s,mb3.4,baz=297,slow=6.9,SNR=2.6						
TXAR	Lajitas Array	81.18	58	P	P	08 05 46.0	+1.4
	0.3nm,0.5s,mb3.4,baz=314,slow=5.3,SNR=7.2						

TRN 18 08:13:23.9, 19°.38N×65°.11W, h27km, MD3.2(RSPR)
NEIC 18 08:13:25.8, 19°.40N×65°.07W, h74km, MD3.2(RSPR), After RSPR.
RSPR 18 08:13:25.8, 19°.40N×65°.07W, h74km±8km, MD3.2/6, 23C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABV	Anegada	0.96	133⇑	eP	Pn	08 13 43.6	-0.5
ABV				eS	Sn	08 13 57.1	-0.6
ABV	Anegada	0.96	133⇑	eP	Pn	08 13 43.6	-0.5
ABV				eS	Sn	08 13 57.6	0.0
STVI	Saint Thomas	1.04	174⇓	eP	Pn	08 13 43.8	-1.3
STVI	Saint Thomas	1.04	174⇓	eP	Pn	08 13 43.8	-1.3
STVI				eS	Sn	08 13 58.7	-0.7
STVI	Saint Thomas	1.04	174⇓	eP	Pn	08 13 43.8	-1.3
STVI				eS	Sn	08 13 58.7	-0.7
TBVI	Tortola	1.06	156⇑	eP	Pn	08 13 44.2	-1.1
TBVI				eS	Sn	08 13 59.7	-0.2
TBVI	Tortola	1.06	156⇑	eP	Pn	08 13 44.2	-1.1
TBVI				eS	Sn	08 13 59.7	-0.2
TBVI	Tortola	1.06	156⇑	eP	Pn	08 13 44.2	-1.1
TBVI				eS	Sn	08 13 59.7	-0.2
CBYP	Canovanas	1.34	214⇑	eP	Pn	08 13 47.6	-1.2
CBYP	Canovanas	1.34	214⇑	eP	Pn	08 13 47.6	-1.2
CBYP	Canovanas	1.34	214⇑	eP	Pn	08 13 47.6	-1.2
MTP	Monte Pirata	1.37	199⇓	eP	Pn	08 13 48.5	-0.6
MTP	Monte Pirata	1.37	199⇓	eP	Pn	08 13 48.5	-0.6
MTP				eS	Sn	08 14 06.3	-0.4
MTP	Monte Pirata	1.37	199⇓	eP	Pn	08 13 48.5	-0.6
MTP				eS	Sn	08 14 06.3	-0.4
SJG	San Juan	1.63	219⇑	eP	Pn	08 13 52.0	-0.6
SJG	San Juan	1.63	219⇑	eP	Pn	08 13 52.0	-0.6
SJG	San Juan	1.63	219⇑	eP	Pn	08 13 52.3	-0.4
AOPR	Arecibo Observ	1.90	237⇑	eP	Pn	08 13 55.4	-0.9
AOPR	Arecibo Observ	1.90	237⇑	eP	Pn	08 13 55.4	-0.9
AOPR				eS	Sn	08 14 18.9	-0.5
AOPR	Arecibo Observ	1.90	237⇑	eP	Pn	08 13 55.4	-0.9
AOPR				eS	Sn	08 14 18.9	-0.5
CELP	Cerrillos	1.94	228⇑	eP	Pn	08 13 56.3	-0.4
CELP	Cerrillos	1.94	228⇑	eP	Pn	08 13 56.3	-0.4
CELP	Cerrillos	1.94	228⇑	eP	Pn	08 13 56.3	-0.4
ICM	Isla Caja Muer	2.03	223⇓	eP	Pn	08 13 57.9	-0.1
ICM	Isla Caja Muer	2.03	223⇓	eP	Pn	08 13 57.9	-0.1
ICM	Isla Caja Muer	2.03	223⇓	eP	Pn	08 13 57.9	-0.1
LSP	Las Mesas	2.26	238⇑	eP	Pn	08 14 00.6	-0.4

LSP	**Las Mesas**	**2.26 238**	*e*P	Pn	08 14 00.6	-0.4
LSP	**Las Mesas**	**2.26 238**	*e*P	Pn	08 14 00.6	-0.4
CRPR	**Cabo Rojo, PR**	**2.37 235**	*e*P	Pn	08 14 02.4	-0.2
CRPR	**Cabo Rojo, PR**	**2.37 235**	*e*P	Pn	08 14 02.4	-0.2
CRPR	**Cabo Rojo, PR**	**2.37 235**	*e*P	Pn	08 14 02.4	-0.2

KRSC 18 08:14:03.7±0.6, 53°.16N×160°.90E, h21km±20km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.53**	**264**	*e*P	Pb	08 14 15.1	+0.8
SPN				*i* S	Sb	08 14 22.8	+1.3
NLC	**Nalytchevo**	**0.94**	**271**	*e*P	Pb	08 14 21.1	-0.1
NLC				*i* S	Sb	08 14 33.3	+0.1
SDLR	**Sedlovina**	**1.22**	**276**	*i* P	Pn	08 14 25.8	+0.4
AVH	**Avacha**	**1.30**	**275**	*e*P	Pn	08 14 27.3	+0.7
AVH				*i* S	Sn	08 14 44.3	+0.9
PET	**Petropavlovsk**	**1.36**	**265**	*e*P	Pn	08 14 27.4	0.0
PET				*i* S	Sn	08 14 44.8	0.0
KOK	**Koryaka**	**1.37**	**276**	*i* P	Pn	08 14 28.1	+0.6
RUS	**Russkaya**	**1.62**	**244**	*e*P	Pn	08 14 31.1	+0.1
RUS				*i* S	Sn	08 14 51.5	+0.3
GRL	**Gorelyy**	**1.82**	**252**	P	Pn	08 14 35.3	+1.6
GRL				*i* S	Sn	08 14 57.9	+1.8
TUMR	**Tumrok**	**2.17**	**349**	*e*P	Pn	08 14 40.2	+1.6
MIPR	**Malaya Ipel'ka**	**2.67**	**252**	P	Pn	08 14 47.6	+2.2
KBTR	**Krutoberegovo**	**3.25**	**19**	P	Pn	08 14 55.1	+1.7
KBTR				*i* S	Sn	08 15 33.2	+1.8
BKI	**Bering**	**3.62**	**53**	P	Pn	08 14 58.2	-0.2
BKI				*i* S	Sn	08 15 37.4	-3.0

IDC 18 08:24:06.8±1.0, 0°.69N×29°.47W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, ML3.8/1, MS3.8/4, Ms1 3.7/4, ms1mx3.3/33, Error ellipse: s-maj=34.6km s-min=21.3km az=153.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.12**	**225**	Pn	Pn	08 26 19.0	-0.7
RCBR	1.0nm,0.3s,baz=33,slow=12,SNR=8.1			Sn	Sn	08 27 51.1	-12
RCBR	0.7nm,0.3s,baz=315,slow=4.3,SNR=3.3			LR	LR	08 29 10.8	
RCBR	comp=Z,308nm,19.1s,baz=41,slow=33			T		08 34 42.3	
BBTS	1.3nm,0.3s,baz=309,slow=13,SNR=8.3 **Babate**	**18.87**	**42**	LR	LR	08 33 46.0	
DBIC	comp=Z,146nm,18.4s,baz=153,slow=31 **Dimbokro**	**25.26**	**76**	P	P	08 29 34.6	-0.4
LPAZ	10nm,0.9s,baz=250,slow=11,SNR=7.5 **La Paz**	**41.71**	**244**	P	P	08 31 59.2	+1.5
ESDC	1.4nm,0.9s,baz=20,slow=10,SNR=4.8 **Sonseca Array**	**45.24**	**28**	P	P	08 32 26.6	+0.6
BOSA	0.3nm,0.3s,baz=224,slow=8.3,SNR=5.9 **Boshof**	**59.87**	**124**	P	P	08 34 15.0	+0.3
BOSA	5.5nm,1.1s,baz=315,slow=1.4,SNR=3.6			LR	LR	08 54 33.2	
GERES	comp=Z,128nm,19.7s,baz=80,slow=30 **GERESS Array B**	**60.61**	**31**	P	P	08 34 19.5	+0.2
TXAR	0.2nm,0.4s,baz=188,slow=6.4,SNR=4.1 **Lajitas Array**	**75.89**	**300**	P	P	08 35 55.3	-0.4
PDAR	0.3nm,0.7s,baz=126,slow=5.7,SNR=3.3 **Pinedale Array**	**82.25**	**313**	LR	LR	09 05 27.8	
	comp=Z,71nm,21.4s,baz=338,slow=30						

*IDC **18** 08:40:17.4±1.7, 6°.74S×129°.30E, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.7/15, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=136.4km s-min=25.4km az=65.0*

NEIC 18 08:40:21.8±1.1, 6°.48S×130°.10E, h35km, Error ellipse: s-maj=30.3km s-min=12.9km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.34**	**200**	*e*Pn	Pn	08 43 15.2	+0.1
FITZ				*e*Sn	Sn	08 45 13.9	-18
WRAB	**Tennant Creek**	**14.00**	**163**	*e*Pn	Pn	08 43 37.6	-0.1
WRA	**Warramunga Arr**	**14.00**	**163**	Pn	Pn	08 43 37.2	-0.6
	0.7nm,0.3s,baz=342,slow=13,SNR=21						
WRA				Sn	Sn	08 46 01.2	-11
	1.0nm,0.3s,baz=335,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**14.00**	**163**	Pn	Pn	08 43 37.2	-0.6
WRA				Sn	Sn	08 46 01.2	-11
WB2	**Warramunga Arr**	**14.01**	**163**	*e*Pn	Pn	08 43 37.5	-0.3
WB2				*e*Sn	Sn	08 45 57.2	-15
COEN	**Coen**	**14.86**	**121**	*e*Pn	Pn	08 43 58.0	+8.6
COEN				*e*Sn	Sn	08 46 25.7	-7.2
AS31	**Alice Springs**	**17.48**	**168**	*e*Pn	Pn	08 44 23.4	+0.6
AS31				*e*Sn	Sn	08 47 17.3	-19
ASAR	**Alice Springs**	**17.48**	**168**	P	Pn	08 44 22.7	-0.1
	0.5nm,0.3s,baz=341,slow=9.3,SNR=35						
ASAR				S	S	08 47 23.4	-20
	0.5nm,0.3s,baz=357,slow=29,SNR=8.4						
ASAR	**Alice Springs**	**17.48**	**168**	P	Pn	08 44 22.7	-0.1
ASAR				S	S	08 47 23.4	-20
STKA	**Stephens Creek**	**27.46**	**158**	P	P	08 46 05.6	+1.0
	1.2nm,0.7s,baz=315,slow=10.0,SNR=4.1						
STKA	**Stephens Creek**	**27.46**	**158**	P	P	08 46 05.6	+1.0
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	08 51 16.3	-0.2
	1.3nm,0.8s,baz=119,slow=9.5,SNR=8.3						
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	08 51 16.3	-0.2

*DHMR **18** 08:51:34.9±0.8, 15°.38N×45°.56E, h4km±4km, ML3.3*
*ISCJB **18** 08:51:37.1±1.1, 15°.37N±0°.04×45°.60E±0°.07, h10km, Error ellipse: s-maj=10.4km s-min=4.5km az=165.5*
*CSEM **18** 08:51:37.4±1.3, 15°.22N×45°.43E, h2km, ML3.3, Error ellipse: s-maj=35.1km s-min=17.6km az=65.0*
*SGS **18** 08:51:46.6, 15°.20N×45°.09E, h15km*

ISC 18 08:51:38.4±1.0, 15°.31N±0°.04×45°.54E±0°.07, h10km, n14, σ1°.44/24, 4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RADA	**Ahram - Rada'a**	**1.09**	**218**	*i* P	**Pb**	**08 51 56.5**	**-2.8**
RADA				*i* S	**Sg**	**08 52 14.2**	**+0.6**
SANA	**San'a**	**1.29**	**274**	*i* P	**Pn**	**08 51 59.1**	**-3.4**
SANA				*i* S	**Sb**	**08 52 18.6**	**-0.9**
BDHA	**Al Bayda'**	**1.33**	**179**	↓*i* P	**Pn**	**08 52 01.1**	**-1.8**
BDHA				*i* S	**Sb**	**08 52 21.1**	**+0.7**
BDHA				AML	AML	08 52 22.7	
	comp=E,899nm,0.3s						
BDHA	**Al Bayda'**	**1.33**	**179**	↓*i* P	**Pn**	**08 52 00.4**	**-2.5**
BDHA				*i* S	**Sb**	**08 52 20.5**	**+0.1**
	comp=E,449nm,0.3s						
LBOS		**1.46**	**191**	↓*i* P	**Pn**	**08 52 03.9**	**-0.9**
LBOS				*i* S	**Sn**	**08 52 26.0**	**+2.1**
HAJJ	**Hajjah**	**1.92**	**282**	*i* P	**Pn**	**08 52 09.3**	**-1.8**
HAJJ				*i* S	**Sn**	**08 52 36.3**	**+1.1**
HAJJ				AML	AML	08 52 36.9	
	comp=Z,562nm,0.2s						
HAJJ	**Hajjah**	**1.92**	**282**	↓*i* P	**Pn**	**08 52 08.0**	**-3.0**
HAJJ				*i* S	**Sn**	**08 52 35.2**	**0.0**
	comp=Z,281nm,0.2s						
TRBA	**At Turbah**	**2.49**	**214**	*i* P	**Pn**	**08 52 19.9**	**+0.9**
TRBA				*i* S	**Sn**	**08 52 54.2**	**+4.8**
TRBA				AML	AML	08 53 05.1	
	comp=N,48nm,0.3s						
DJNS	**Zahran al Janu**	**3.06**	**321**	P	**Pn**	**08 52 26.1**	**-0.6**
DJNS	**Zahran al Janu**	**3.06**	**321**	P	**Pn**	**08 52 26.1**	**-0.7**
DJNS				S	**Sn**	**08 53 03.4**	**0.0**
JAZS	**Jizan**	**3.07**	**305**	P	**Pn**	**08 52 29.0**	**+2.0**
JAZS	**Jizan**	**3.07**	**305**	P	**Pn**	**08 52 29.0**	**+2.0**
TATS	**Tathlith**	**4.65**	**335**	P	**Pn**	**08 52 53.8**	**+5.1**
TATS	**Tathlith**	**4.65**	**335**	P	**Pn**	**08 52 53.8**	**+5.1**
TATS				S	**Sn**	**08 53 44.0**	**+1.3**

*NIED **18** 09:13:00, 38°.40N×143°.20E, h17km, Mw3.6 Best double couple: M0=2.78000×10^14 NP1:φ=32.00000°, δ=61.00000°, λ=100.00000°. NP2:φ=192.00000°, δ=31.00000°, λ=73.00000°.*

JMA 18 09:13:07.3±0.1, 38°.37N×143°.22E, h27km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.41**	**301**	P	Pn	09 13 31.7	+0.6
JIO	**Ouri**	**1.47**	**274**	P	Pn	09 13 32.7	+0.7
JIO				*e*S	Sn	09 13 50.9	+0.5
JMK	**Ichinoseki**	**1.67**	**291**	P	Pn	09 13 35.6	+0.9
JMK				S	Sn	09 13 56.3	+1.0
JOM	**Ohasama**	**1.86**	**307**	P	Pn	09 13 38.5	+1.1
JMM	**Marumori**	**1.98**	**256**	P	Pn	09 13 39.6	+0.6
JMM				S	Sn	09 14 03.0	+0.1
JOU	**Okura**	**2.01**	**271**	P	Pn	09 13 40.9	+1.5
JFK	**Kawauchi**	**2.11**	**242**	P	Pn	09 13 41.5	+0.7
JYK	**Kaneyama**	**2.31**	**285**	P	Pn	09 13 45.3	+1.8
JANG	**Nango**	**2.40**	**327**	P	Pn	09 13 45.8	+1.0
JFT	**Otama**	**2.43**	**250**	P	Pn	09 13 47.0	+1.8
JFT				*e*S	Sn	09 14 17.0	+2.9
JYS	**Shiratake**	**2.49**	**268**	P	Pn	09 13 48.0	+2.0
JYS				S	Sn	09 14 19.1	+3.7
MAT	**Matsushiro**	**4.39**	**247**	P	Pn	09 14 14.9	+2.8
MAT				*e*S	Sn	09 15 05.8	+3.5

SKHL 18 09:30:52.9±0.8, 54°.40N×125°.96E, h10km±1km, mb3.9/6, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.59**	**86**	*e*Pg	Pg	09 31 03.7	-0.7
KROS				AMB	AMB	09 31 04.6	
	32nm,0.3s						
KROS				AMB	AMB	09 31 04.6	
	100nm,0.3s						
KROS				AMB	AMB	09 31 04.6	
	69nm,0.3s						
KROS				pPg		09 31 06.6	
KROS				*e*Sg	Sg	09 31 11.8	-0.3
KROS				A		09 31 13.9	
	100nm,0.3s						
KROS				A		09 31 13.9	
	250nm,0.3s						
KROS				A		09 31 13.9	
	66nm,0.3s						
ZEA	**Zeya**	**1.01**	**131**	*e*Pg	Pg	09 31 11.3	-1.0
ZEA				AMB	AMB	09 31 11.6	
	37nm,0.2s						
ZEA				*i* Sg	Sg	09 31 24.3	-1.1
ZEA				A		09 31 25.8	
	170nm,0.3s						
ZEA				A		09 31 25.8	
	260nm,0.3s						
TNDR	**Tynda**	**1.04**	**317**	*e*Pg	Pg	09 31 12.3	-0.5
TNDR				*e*Sg	Sg	09 31 25.7	-0.6
BMKR	**Bomnak**	**1.71**	**78**	*e*Pn	Pn	09 31 22.6	-0.1
BMKR				*e*Pg	Pg	09 31 23.2	-2.4
BMKR				AMB	AMB	09 31 23.6	
	16nm,0.4s						
BMKR				AMB	AMB	09 31 23.6	
	109nm,0.4s						
BMKR				pPg		09 31 26.5	
BMKR				*e*Sg	Sg	09 31 45.7	-2.0
BMKR				A		09 31 47.9	
	218nm,0.5s						
BMKR				A		09 31 47.9	
	200nm,0.5s						
IENR	**Iengra**	**1.93**	**341**	*e*Pg	Pg	09 31 28.4	-1.5
IENR				*e*Sg	Sg	09 31 54.3	-0.7
CLNS	**Chul'man**	**2.52**	**347**	*e*Pg	Pg	09 31 38.4	-2.7
CLNS				AMB	AMB	09 31 41.4	
	5.0nm,0.2s						
CLNS				*e*Sg	Sg	09 32 11.3	-2.4
CLNS				A		09 32 14.5	
	73nm,0.4s						
TUP	**Tupik**	**3.51**	**273**	*e*Pn	Pn	09 31 47.6	+0.2
TUP				*e*Pg	Pg	09 31 55.9	-4.2
TUP				AMB	AMB	09 31 58.6	
	19nm,0.4s						
TUP				*e*Sn	Sn	09 32 29.1	+0.2
TUP				*e*Sg	Sg	09 32 41.5	-4.0
TUP				A		09 32 51.8	
	26nm,0.5s						
EKMR	**Ekimchan**	**4.36**	**105**	*e*Pn	Pn	09 31 58.7	-0.4
EKMR				*e*Pg	Pg	09 32 10.6	-5.7
EKMR				AMB	AMB	09 32 13.2	
	3.0nm,0.5s						
EKMR				*e*Sn	Sn	09 32 50.9	+1.0
EKMR				*e*Sg	Sg	09 33 08.4	-4.3
EKMR				A		09 33 16.3	
	8.0nm,0.5s						
EKMR				A		09 33 16.3	
	5.0nm,0.5s						
EKMR				A		09 33 16.3	
	4.0nm,0.5s						
CRS	**Chara**	**5.02**	**303**	*e*Sg	Sg	09 33 29.2	-4.9

*IDC **18** 09:54:09.2±3.2, 5°.27S×151°.96E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, ML3.2/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/28, Error ellipse: s-maj=110.2km s-min=43.7km az=124.0*
*NEIC **18** 09:54:14.4±1.4, 5°.62S×152°.16E, h35km, mb4.0/1, Error ellipse: s-maj=91.5km s-min=13.6km az=132.0*

ISC 18 09:54:14.5±4.6, 5°.8S±0°.5×152°.4E±0°.5, h38km±36km, n14, σ0°.44/13, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.27**	**235**	Pn	**Pn**	**09 55 44.4**	**-0.1**
	3.1nm,0.3s,baz=50,slow=6.7,SNR=12						
PMG				Sn	**Sn**	**09 56 48.2**	**-6.8**
	1.9nm,0.3s,baz=221,slow=19,SNR=4.9						
PMG				LR	LR	09 57 42.9	
	comp=Z,319nm,21.6s,baz=181,slow=34						
PMG	**Port Moresby**	**6.27**	**235**	*e*Pn	**Pn**	**09 55 44.3**	**-0.2**
	29nm,0.9s						
PMG				*e*Sn	**Sn**	**09 56 55.8**	**+0.8**
WRAB	**Tennant Creek**	**22.44**	**230**	*e*P	**P**	**09 59 10.2**	**0.0**
	9.7nm,1.5s,mb4.0						
WB2	**Warramunga Arr**	**22.44**	**230**	*e*P	**P**	**09 59 10.0**	**-0.3**
WRA	**Warramunga Arr**	**22.45**	**230**	P	**P**	**09 59 09.9**	**-0.5**
	1.5nm,0.6s,mb3.6,baz=52,slow=10,SNR=14						
WRA	**Warramunga Arr**	**22.45**	**230**	P	**P**	**09 59 09.9**	**-0.5**
ASAR	**Alice Springs**	**25.11**	**223**	P	**P**	**09 59 36.6**	**+0.7**
	0.6nm,0.6s,mb3.3,baz=60,slow=8.7,SNR=11						
ASAR	**Alice Springs**	**25.11**	**223**	P	**P**	**09 59 36.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.80**	**243**	P	**P**	**10 00 08.8**	**-0.4**
	1.9nm,0.8s,mb3.9,baz=53,slow=10,SNR=5.3						
FITZ	**Fitzroy Crossi**	**28.80**	**243**	P	**P**	**10 00 08.8**	**-0.4**
FITZ				*e*P		10 00 09.0	
PAX	**Paxson**	**82.96**	**24**	*e*P	**P**	**10 06 35.6**	**+0.3**
	42nm,2.4s,mb5.0						
RPN	**Rapa Nui**	**94.72**	**118**	LR	LR	10 43 26.2	
	comp=Z,26nm,18.9s,baz=55,slow=31						
TORD	**Torodi Ar. Bea**	**150.20**	**286**	PKPbc	PKPbc	10 14 01.9	-0.7
	0.5nm,0.7s,baz=78,slow=2.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.20**	**286**	PKPbc	PKPbc	10 14 01.9	-0.7

*NEIC **18** 10:22:06.8, 17°.30N×94°.63W, h157km, MD4.0(MEX), After MEX.*

MEX 18 10:22:07.2±0.8, 17°.25N×94°.63W, h153km±7km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.29**	**237**	*i* P	Pn	10 22 26.9	-1.2
CMIG				*i* S	Sn	10 22 42.2	-1.8
CMIG	**Matias Romero**	**0.29**	**237**	*i* P	Pn	10 22 26.9	-1.2
CMIG				*i* S	Sn	10 22 42.2	-1.8
TGIG		**1.52**	**108**	*e*P	Pn	10 22 35.9	-1.2
TGIG				*i* S	Sn	10 22 57.6	-2.5
TGIG		**1.52**	**108**	*e*P	Pn	10 22 35.9	-1.2
TGIG				*i* S	Sn	10 22 57.6	-2.5
OXX	**Oaxaca**	**2.01**	**265**	*i* P	Pn	10 22 43.5	+0.8
OXX				*i* S	Sn	10 23 09.3	-0.6
OXX	**Oaxaca**	**2.01**	**265**	*i* P	Pn	10 22 41.1	-1.5
OXX				*i* S	Sn	10 23 08.3	-1.6
VHO	**Vista Hermosa**	**2.02**	**265**	*e*P	Pn	10 22 42.2	-0.5
VHO				*i* S	Sn	10 23 10.3	+0.2
VHO	**Vista Hermosa**	**2.02**	**265**	*e*P	Pn	10 22 42.2	-0.5
VHO				*i* S	Sn	10 23 08.3	-1.7
PCIG		**2.05**	**139**	*e*P	Pn	10 22 43.0	-0.1
PCIG				*e*S	Sn	10 23 10.6	-0.2
PCIG		**2.05**	**139**	*e*P	Pn	10 22 43.0	-0.1
PCIG				*e*S	Sn	10 23 08.3	-2.4
HUIG	**Huatulco**	**2.05**	**224**	*i* P	Pn	10 22 40.8	-2.3
HUIG				*i* S	Sn	10 23 09.3	-1.4
HUIG	**Huatulco**	**2.05**	**224**	*i* P	Pn	10 22 40.8	-2.3
HUIG				*i* S	Sn	10 23 09.3	-1.4
CCIG	**Comitan**	**2.57**	**112**	*i* P	Pn	10 22 48.6	-0.8
CCIG				*i* S	Sn	10 23 21.8	-0.1
CCIG	**Comitan**	**2.57**	**112**	*i* P	Pn	10 22 48.6	-0.8
CCIG				*i* S	Sn	10 23 21.3	-0.6
TPIG	**Tehuac#an**	**2.85**	**294**	*i* P	Pn	10 22 51.9	-0.9
TPIG				*i* S	Sn	10 23 26.1	-1.9
TPIG	**Tehuac#an**	**2.85**	**294**	*i* P	Pn	10 22 51.9	-0.9
TPIG				*i* S	Sn	10 23 26.1	-1.9
UTMO	**Huajuapan**	**3.08**	**281**	*e*P	Pn	10 22 55.1	-0.6
UTMO				*i* S	Sn	10 23 30.6	-2.7
UTMO	**Huajuapan**	**3.08**	**281**	*e*P	Pn	10 22 55.1	-0.6
UTMO				*i* S	Sn	10 23 31.0	-2.3
PNIG	**Pinotepa**	**3.46**	**256**	*e*P	Pn	10 22 58.0	-2.6
PNIG				*i* S	Sn	10 23 39.0	-2.9
PNIG	**Pinotepa**	**3.46**	**256**	*e*P	Pn	10 22 58.0	-2.6
PNIG				*i* S	Sn	10 23 39.8	-2.1

*IDC **18** 10:24:15.0±2.2, 6°.88S×129°.45E, h0km, mb3.4/1, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, ML4.0/3, MS2.5/1, Ms1 2.5/1, ms1mx2.0/19, Error ellipse: s-maj=103.4km s-min=27.5km az=76.0*

NEIC 18 10:24:20.8±1.4, 7°.04S×129°.26E, h35km, Error ellipse: s-maj=25.3km s-min=17.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.55**	**197**	Pn	Pn	10 27 04.8	+1.6
	0.6nm,0.3s,baz=49,slow=12,SNR=25						
FITZ				Sn	Sn	10 29 01.4	-10
	0.6nm,0.3s,baz=66,slow=20,SNR=3.6						
FITZ				LR	LR	10 32 16.4	
	comp=Z,23nm,19.1s,baz=141,slow=41						
FITZ	**Fitzroy Crossi**	**11.55**	**197**	Pn	Pn	10 27 04.8	+1.7
FITZ				*e*Pn	Pn	10 27 04.9	+1.7
FITZ				Sn	Sn	10 29 01.4	-10
FITZ				*e*Sn	Sn	10 29 01.8	-9.1
WRAB	**Tennant Creek**	**13.73**	**159**	*e*Pn	Pn	10 27 31.8	-1.3
WRAB				*e*Sn	Sn	10 29 52.0	-12
WRA	**Warramunga Arr**	**13.74**	**159**	Pn	Pn	10 27 31.6	-1.5
	0.9nm,0.3s,baz=334,slow=13,SNR=54						
WRA				Sn	Sn	10 29 51.4	-13
	1.6nm,0.3s,baz=333,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**13.74**	**159**	Pn	Pn	10 27 31.6	-1.5
WRA				Sn	Sn	10 29 51.4	-13
WB2	**Warramunga Arr**	**13.74**	**159**	*e*Pn	Pn	10 27 33.0	-0.2
COEN	**Coen**	**15.30**	**118**	*e*Pn	Pn	10 27 55.8	+1.6
COEN				*e*S	S	10 30 31.2	-27
AS31	**Alice Springs**	**17.12**	**165**	*e*P	Pn	10 28 18.2	+0.8
ASAR	**Alice Springs**	**17.12**	**165**	P	Pn	10 28 17.2	-0.1
	0.4nm,0.3s,baz=340,slow=9.5,SNR=37						
ASAR				S	S	10 31 14.0	-21
	0.4nm,0.3s,baz=349,slow=25,SNR=9.3						
ASAR	**Alice Springs**	**17.12**	**165**	P	Pn	10 28 17.2	-0.1
ASAR				S	S	10 31 14.0	-21
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	10 35 15.0	-0.5
	0.2nm,0.4s,baz=123,slow=8.3,SNR=3.8						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	10 35 15.0	-0.5

*NEIC **18** 10:36:04.5±4.2, 17°.01S×175°.08E, h35km, mb4.1/3, Error ellipse: s-maj=87.9km s-min=32.5km az=115.0*
*IDC **18** 10:37:03.3±8.8, 18°.56S×170°.41E, h233km±50km, mb3.8/4, mb1 3.9/5, mb1mx3.5/18, mbtmp3.7/5, Error ellipse: s-maj=98.4km s-min=76.5km az=110.0*

ISC 18 10:37:01.1±4.4, 18°.6S±0°.5×170°.6E±0°.5, h226km±33km, n16, σ0°.70/18, mb4.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.23**	**228**	P	**Pn**	**10 38 20.0**	**+0.9**
	3.0nm,0.3s,baz=38,slow=19,SNR=31						
DZM				S	**S**	**10 39 21.1**	**0.0**
	1.5nm,0.3s,baz=52,slow=19,SNR=1.9						
DZM	**Mont Dzumac**	**5.23**	**228**	P	**Pn**	**10 38 20.0**	**+0.9**
DZM				S	**S**	**10 39 21.1**	**0.0**
NOUC	**Port Laguerre**	**5.35**	**229**	*e*P	**Pn**	**10 38 19.6**	**-1.0**
CTA	**Charters Tower**	**23.05**	**262**	P	**P**	**10 41 47.5**	**+0.7**
	2.3nm,0.5s,mb4.0,baz=82,slow=13,SNR=4.1						
CTA	**Charters Tower**	**23.05**	**262**	P	**P**	**10 41 47.5**	**+0.7**
CTAO	**Charters Tower**	**23.05**	**262**	*e*P	**P**	**10 41 47.9**	**+1.1**
	2.3nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**29.30**	**238**	P	**P**	**10 42 42.7**	**+0.1**
	1.7nm,0.6s,mb3.9,baz=65,slow=6.8,SNR=4.9						
STKA	**Stephens Creek**	**29.30**	**238**	P	**P**	**10 42 42.7**	**+0.1**
STKA				*e*P		10 42 44.1	
WB2	**Warramunga Arr**	**34.24**	**262**	*e*P	**P**	**10 43 25.7**	**-0.2**
WRAB	**Tennant Creek**	**34.24**	**262**	*e*P	**P**	**10 43 24.9**	**-0.9**
	1.1nm,0.4s,mb3.7						
WRA	**Warramunga Arr**	**34.25**	**262**	P	**P**	**10 43 25.1**	**-0.8**
	1.0nm,0.3s,mb3.9,baz=82,slow=6.7,SNR=100						
WRA	**Warramunga Arr**	**34.25**	**262**	P	**P**	**10 43 25.1**	**-0.8**
AS31	**Alice Springs**	**34.57**	**255**	*e*P	**P**	**10 43 28.6**	**0.0**
ASAR	**Alice Springs**	**34.57**	**255**	P	**P**	**10 43 28.6**	**-0.1**
	12nm,0.4s,mb4.8,baz=81,slow=8.8,SNR=403						
ASAR	**Alice Springs**	**34.57**	**255**	P	**P**	**10 43 28.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**42.63**	**263**	*e*P	**P**	**10 44 36.7**	**+1.1**
	7.8nm,1.0s,mb4.1						

DDA 18 11:01:25.8, 38°.21N×37°.08E, h7km±8km, Md2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARI	**SarD1z-Kayseri**	**0.56**	**327**	*e*PG	Pg	11 01 35.2	-1.3
SARI				*e*SG	Sg	11 01 45.0	+1.3
AKCD	**Akcadag**	**0.67**	**82**	*i* P	Pg	11 01 37.9	-0.7
AKCD				*i* S	Sg	11 01 50.0	+2.7
PINB	**Pinarbasi**	**0.71**	**311**	*i* P	Pg	11 01 38.4	-1.0
PINB				*i* S	Sg	11 01 50.7	+2.1
KMRS	**Kahramanmaras**	**0.72**	**192**	*e*PN	Pn	11 01 44.2	+1.9
BNN	**Bunyan**	**1.16**	**304**	*e*PN	Pn	11 01 44.2	-4.2

*NEIC **18** 11:20:42.6, 16°.82N×99°.74W, h5km, MD3.5(MEX), After MEX.*

**MEX 18 11:20:42.7±0.5,

PMG				Sn	Sn	11 30 12.8	+1.3
	2.5nm,0.3s,baz=6.2,slow=15,SNR=3.4						
WRA	**Warramunga Arr**	**18.90**	**223**	P	Pn	11 33 03.4	-0.9
	0.1nm,0.3s,baz=51,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**21.89**	**216**	P	P	11 33 35.5	-0.7
	0.1nm,0.3s,baz=51,slow=9.3,SNR=7.7						
FITZ	**Fitzroy Crossi**	**24.66**	**240**	P	P	11 34 03.0	-1.1
	6.6nm,1.2s,baz=50,slow=10.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**145.99**	**284**	PKPbc	PKPbc	11 48 24.4	+0.1
	0.9nm,1.1s,baz=94,slow=2.9,SNR=3.7						

*NEIC **18** 11:30:20.6±0.5, 23°.58S×174°.35W, h10km, mb4.2/1, Error ellipse: s-maj=15.2km s-min=9.5km az=163.0*
*IDC **18** 11:30:21.5±0.8, 23°.07S×174°.76W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.5/20, mbtmp4.4/14, MS3.3/1, Ms1 3.3/1, ms1mx2.6/25, Error ellipse: s-maj=31.4km s-min=17.3km az=151.0*
*ISCJB **18** 11:30:23.7±0.7, 23°.5S±0°.1×174°.6W±0°.1, h33km, mb4.4/15, Error ellipse: s-maj=18.3km s-min=12.4km az=142.6*
ISC 18 11:30:25.5±0.7, 23°.5S±0°.1×174°.6W±0°.1, h35km, n52, σ1°.00/49, mb4.4/15, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**9.00**	**308**	*e*Pn	**Pn**	**11 32 33.0**	**0.0**
	27nm,0.9s						
AFI	**Afiamalu**	**9.92**	**16**	Pn	**Pn**	**11 32 33.9**	**-12**
	5.5nm,0.3s,baz=126,slow=18,SNR=10						
AFI				Sn	**Sn**	**11 34 12.6**	**-23**
	3.9nm,0.3s,baz=209,slow=19,SNR=3.3						
AFI	**Afiamalu**	**9.92**	**16**	Pn	**Pn**	**11 32 33.9**	**-12**
AFI				Sn	**Sn**	**11 34 12.6**	**-23**
RAR	**Rarotonga**	**13.88**	**83**	Pn	**Pn**	**11 33 33.3**	**-6.6**
	5.6nm,0.3s,baz=229,slow=7.2,SNR=12						
RAR				Sn	**Sn**	**11 35 52.7**	**-20**
	2.1nm,0.3s,baz=101,slow=16,SNR=2.5						
RAR				LR	LR	11 37 24.1	
	comp=Z,142nm,21.1s,baz=275,slow=30						
RAR	**Rarotonga**	**13.88**	**83**	*e*Pn	**Pn**	**11 33 33.7**	**-6.2**
RAR				Sn	**Sn**	**11 35 52.7**	**-20**
URZ	**Urewera**	**16.32**	**204**	Pn	**Pn**	**11 34 08.1**	**-3.9**
	0.2nm,0.3s,baz=12,slow=14,SNR=3.5						
URZ				Sn	**Sn**	**11 37 07.9**	**-4.0**
	0.9nm,0.3s,baz=175,slow=15,SNR=5.7						
URZ	**Urewera**	**16.32**	**204**	*e*Pn	**Pn**	**11 34 10.6**	**-1.4**
URZ				Sn	**Sn**	**11 37 07.9**	**-4.0**
DZM	**Mont Dzumac**	**17.57**	**271**	*e*LR	LR	11 39 05.8	
	121nm,27.9s						
DZM	**Mont Dzumac**	**17.57**	**271**	P	**Pn**	**11 34 30.8**	**+3.1**
	0.6nm,0.3s,baz=88,slow=18,SNR=9.8						
DZM	**Mont Dzumac**	**17.57**	**271**	*e*Pn	**Pn**	**11 34 30.3**	**+2.6**
	16nm,0.8s						
TBI	**Tubuai**	**23.03**	**95**	*e*LR	LR	11 40 54.9	
	119nm,24.8s						
PPT2	**Papeete2**	**24.12**	**80**	*e*LR	LR	11 41 16.5	
	196nm,27.5s						
RKT	**Rikitea**	**36.29**	**97**	*e*LR	LR	11 46 50.7	
	114nm,28.5s						
CTA	**Charters Tower**	**36.46**	**268**	P	**P**	**11 37 27.3**	**0.0**
	20nm,0.5s,mb5.3,baz=96,slow=10,SNR=34						
CTA	**Charters Tower**	**36.46**	**268**	P	**P**	**11 37 27.3**	**0.0**
CTAO	**Charters Tower**	**36.46**	**268**	*e*P	**P**	**11 37 26.9**	**-0.4**
	17nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**39.48**	**248**	P	**P**	**11 37 53.2**	**+0.5**
	3.1nm,0.6s,mb4.2,baz=83,slow=8.4,SNR=4.6						
STKA	**Stephens Creek**	**39.48**	**248**	P	**P**	**11 37 53.2**	**+0.5**
AS31	**Alice Springs**	**47.00**	**259**	*e*P	**P**	**11 38 53.8**	**+0.2**
ASAR	**Alice Springs**	**47.00**	**259**	P	**P**	**11 38 53.6**	**0.0**
	4.3nm,0.8s,mb4.5,baz=95,slow=6.3,SNR=77						
ASAR	**Alice Springs**	**47.00**	**259**	P	**P**	**11 38 53.6**	**0.0**
WB2	**Warramunga Arr**	**47.38**	**264**	*e*P	**P**	**11 38 55.5**	**-1.1**
WRAB	**Tennant Creek**	**47.39**	**264**	*e*P	**P**	**11 38 55.7**	**-1.0**
	16nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**47.40**	**264**	P	**P**	**11 38 55.9**	**-0.8**
	15nm,0.6s,mb5.1,baz=103,slow=8.8,SNR=173						
WRA	**Warramunga Arr**	**47.40**	**264**	P	**P**	**11 38 55.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**55.82**	**264**	P	**P**	**11 40 00.2**	**+0.5**
	5.6nm,0.8s,mb4.6,baz=93,slow=6.1,SNR=16						
FITZ	**Fitzroy Crossi**	**55.82**	**264**	P	**P**	**11 40 00.2**	**+0.5**
QSPA	**South Pole Qui**	**66.56**	**180**	P	**P**	**11 41 17.0**	**+5.5**
	1.9nm,1.0s,mb4.1,baz=102,slow=2.3,SNR=4.9						
QSPA	**South Pole Qui**	**66.56**	**180**	P	**P**	**11 41 17.0**	**+5.5**
MJAR	**Matsushiro Arr**	**74.53**	**322**	P	**P**	**11 41 59.3**	**-1.3**
	2.9nm,0.8s,mb4.3,baz=167,slow=6.7,SNR=7.2						
MJAR	**Matsushiro Arr**	**74.53**	**322**	P	**P**	**11 41 59.3**	**-1.3**
PETK	**Petropavlovsk-**	**80.03**	**343**	P	**P**	**11 42 30.2**	**-0.9**
	4.9nm,0.7s,mb4.5,baz=137,slow=7.7,SNR=7.1						
PETK	**Petropavlovsk-**	**80.03**	**343**	P	**P**	**11 42 30.2**	**-0.9**
NVAR	**Mina Array Bea**	**81.10**	**41**	P	**P**	**11 42 37.8**	**+0.6**
	1.7nm,0.7s,mb4.1,baz=221,slow=8.9,SNR=16						
NVAR	**Mina Array Bea**	**81.10**	**41**	P	**P**	**11 42 37.8**	**+0.6**
KSRS	**Korea Array**	**81.25**	**317**	P	**P**	**11 42 38.3**	**+0.3**
	2.4nm,0.8s,mb4.2,baz=136,slow=5.9,SNR=5.5						
KSAR	**Wonju Array Be**	**81.27**	**317**	P	**P**	**11 42 38.3**	**+0.2**
VNA3	**Neumayer Olymp**	**84.90**	**175**	*e*	**P**	**11 43 00.1**	**+3.7**
VNA2	**Neumayer--Watz**	**85.38**	**176**	*e*	**P**	**11 43 03.1**	**+4.3**
	baz=209,slow=3.1						
TXAR	**Lajitas Array**	**86.06**	**56**	P	**P**	**11 43 03.9**	**+1.0**
	1.6nm,1.0s,mb4.2,baz=212,slow=5.9,SNR=12						
TXAR	**Lajitas Array**	**86.06**	**56**	P	**P**	**11 43 03.9**	**+1.0**
PDAR	**Pinedale Array**	**89.03**	**42**	P	**P**	**11 43 16.4**	**-0.4**
	0.5nm,0.8s,mb3.9,baz=208,slow=4.9,SNR=3.3						
PDAR	**Pinedale Array**	**89.03**	**42**	P	**P**	**11 43 16.4**	**-0.4**
ILAR	**Eielson Array**	**90.59**	**11**	P	**P**	**11 43 22.8**	**-0.7**
	1.8nm,0.9s,mb4.4,baz=218,slow=6.2,SNR=17						
ILAR	**Eielson Array**	**90.59**	**11**	P	**P**	**11 43 22.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**94.10**	**288**	P	**P**	**11 43 42.7**	**+1.8**
	0.7nm,0.8s,mb4.2,baz=160,slow=2.9,SNR=5.5						
CMAR	**Chiang Mai Arr**	**94.10**	**288**	P	**P**	**11 43 42.7**	**+1.8**
AKASG	**Malin Array Be**	**147.18**	**332**	PKPbc	PKPbc	11 50 04.3	-0.4
	0.8nm,0.4s,baz=42,slow=4.5,SNR=4.3						
AKASG	**Malin Array Be**	**147.18**	**332**	PKPbc	PKPbc	11 50 04.3	-0.4
BRTR	**Keskin Array B**	**151.22**	**311**	PKPbc	PKPbc	11 50 15.8	+0.5
	1.0nm,0.8s,baz=114,slow=3.6,SNR=4.6						
BRTR				PKPab	PKPab	11 50 23.3	+0.1
	0.7nm,0.7s,baz=116,slow=3.4,SNR=3.7						
BRTR	**Keskin Array B**	**151.22**	**311**	PKPbc	PKPbc	11 50 15.8	+0.5
BRTR				PKPab	PKPab	11 50 23.3	+0.1
CLL	**Collm**	**151.65**	**350**	*e*PKPbc	PKPbc	11 50 16.0	+0.1

IDC 18 11:31:29.6±1.8, 22°.98S×174°.75W, h0km, mb4.2/9, mb1 4.5/9, mb1mx4.3/19, mbtmp4.2/9, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=110.2km s-min=18.8km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.75**	**203**	LR	LR	11 41 20.4	
	comp=Z,47nm,19.4s,baz=270,slow=35						
CTA	**Charters Tower**	**36.32**	**267**	P	P	11 38 35.9	+0.6
	9.6nm,0.6s,baz=102,slow=10.0,SNR=8.0						
STKA	**Stephens Creek**	**39.53**	**247**	P	P	11 39 02.4	+0.1
	4.5nm,1.0s,baz=108,slow=9.6,SNR=2.3						
ASAR	**Alice Springs**	**46.94**	**259**	P	P	11 40 02.4	0.0
	3.1nm,0.7s,baz=99,slow=6.7,SNR=6.0						
WRA	**Warramunga Arr**	**47.29**	**264**	P	P	11 40 04.5	-0.7
	7.7nm,0.7s,baz=103,slow=8.1,SNR=10						
FITZ	**Fitzroy Crossi**	**55.72**	**263**	P	P	11 41 08.1	-0.3
	4.1nm,1.0s,baz=101,slow=16,SNR=2.4						
NVAR	**Mina Array Bea**	**80.81**	**42**	P	P	11 43 45.0	-0.2
	1.3nm,0.8s,baz=227,slow=9.1,SNR=5.2						
TXAR	**Lajitas Array**	**85.89**	**56**	P	P	11 44 12.3	+0.6
	0.8nm,0.9s,baz=210,slow=7.2,SNR=5.1						
PDAR	**Pinedale Array**	**88.73**	**42**	P	P	11 44 25.3	+0.3
	0.5nm,0.8s,baz=245,slow=3.7,SNR=3.2						
ILAR	**Eielson Array**	**90.09**	**12**	P	P	11 44 31.1	+0.2
	0.9nm,0.8s,baz=221,slow=6.1,SNR=6.6						
AKASG	**Malin Array Be**	**146.63**	**332**	PKPbc	PKPbc	11 51 12.5	-0.5
	0.8nm,0.5s,baz=38,slow=3.8,SNR=4.2						

*IDC **18** 11:41:58.0±1.4, 48°.82N×156°.38E, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.3/25, mbtmp3.5/4, Error ellipse: s-maj=55.7km s-min=28.0km az=131.0*
*MOS **18** 11:41:59.7±1.5, 48°.89N×156°.06E, h19km, mb3.7/1, Error ellipse: s-maj=58.2km s-min=18.4km az=77.3*
*KRSC **18** 11:42:02.6±2.0, 49°.15N×156°.51E, h10km±10km, ML3.7*
ISC 18 11:42:00.6±3.6, 48°.91N±0°.08×156°.2E±0°.2, h14km±26km, n15, σ0°.70/18, mb3.2/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.78**	**358**	*e*PN	**Pn**	**11 42 30.9**	**+0.1**
SKR				*e*S	**Sn**	**11 42 53.0**	**-0.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,220nm,0.6s						
MIPR	**Malaya Ipel'ka**	**3.39**	**6**	P	**Pn**	**11 42 53.0**	**+0.1**
RUS	**Russkaya**	**3.82**	**22**	*e*P	**Pn**	**11 42 58.0**	**-0.8**
RUS				*i* S	**Sn**	**11 43 38.3**	**-5.2**
GRL	**Gorelyy**	**3.83**	**17**	P	**Pn**	**11 42 59.2**	**+0.2**
PETK	**Petropavlovsk-**	**4.31**	**12**	Pn	**Pn**	**11 43 06.6**	**+1.0**
	comp=E,0.6nm,0.3s,baz=174,slow=13,SNR=18						
PETK	**Petropavlovsk-**	**4.31**	**12**	PN	**Pn**	**11 43 06.6**	**+1.0**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**4.40**	**20**	P	**Pn**	**11 43 05.7**	**-1.1**
PET				*i* S	**Sn**	**11 43 52.2**	**-5.6**
PET	**Petropavlovsk**	**4.40**	**20**	*e*PN	**Pn**	**11 43 07.7**	**+0.9**
SDLR	**Sedlovina**	**4.69**	**20**	P	**Pn**	**11 43 10.8**	**0.0**
ASAJ	**Asahikawa**	**10.53**	**248**	Pn	**Pn**	**11 44 30.4**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=92,slow=23,SNR=15						
ASAJ	**Asahikawa**	**10.53**	**248**	PN	**Pn**	**11 44 30.4**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TXAR	**Lajitas Array**	**74.63**	**63**	P	**P**	**11 53 38.5**	**-0.8**
	comp=Z,0.2nm,0.8s,mb3.1,baz=335,slow=4.1,SNR=2.2						
TXAR	**Lajitas Array**	**74.63**	**63**	P	**P**	**11 53 38.5**	**-0.8**
ASAR	**Alice Springs**	**74.95**	**201**	P	**P**	**11 53 41.0**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.3,baz=25,slow=7.2,SNR=4.2						
ASAR	**Alice Springs**	**74.95**	**201**	*e*P	**P**	**11 53 42.8**	**+1.9**

MAN 18 12:03:47, 18°.20N×119°.81E, h1km, mb4.9, ML3.8, MS3.9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**1.96**	**158**	↑*i*P	Pn	12 04 22.2	+0.9
BCPH				*i* S	Sn	12 04 43.2	-3.3

*IDC **18** 12:15:43.1±3.9, 24°.03N×95°.04E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/26, mbtmp3.8/4, Error ellipse: s-maj=371.7km s-min=20.9km az=59.0*
*ISCJB **18** 12:15:46.1±1.0, 24°.1N±0°.2×95°.3E±0°.2, h33km, mb3.6/4, Error ellipse: s-maj=36.2km s-min=10.8km az=33.4*
ISC 18 12:15:48.6±1.0, 24°.2N±0°.2×95°.2E±0°.2, h35km, n6, σ0°.98/8, mb3.6/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.33**	**298**	*e*PKP	**Pn**	**12 16 13.0**	**+2.3**
IMP				*e*S	**Sn**	**12 16 27.0**	**-0.1**
SHL	**Shillong**	**3.34**	**295**	*i* PN	**Pn**	**12 16 37.0**	**-1.4**
SHL				*e*SN	**Sn**	**12 17 07.0**	**-10**
MKAR	**Makanchi Array**	**24.85**	**339**	P	**P**	**12 21 08.1**	**+0.4**
	2.3nm,0.5s,mb4.0,baz=152,slow=9.4,SNR=54						
KURK	**Kurchatov**	**29.46**	**338**	P	**P**	**12 21 48.4**	**-0.6**
	0.2nm,0.3s,mb3.4,baz=148,slow=9.2,SNR=7.2						
WRA	**Warramunga Arr**	**58.08**	**136**	P	**P**	**12 25 38.6**	**0.0**
	0.3nm,0.7s,mb3.4,baz=323,slow=7.3,SNR=8.4						
ASAR	**Alice Springs**	**60.58**	**139**	P	**P**	**12 25 55.9**	**0.0**
	0.4nm,0.6s,mb3.8,baz=322,slow=7.0,SNR=10						

*ISCJB **18** 12:18:06.6±0.4, 13°.05N±0°.05×88°.95W±0°.04, h74km±4km, mb3.6/10, Error ellipse: s-maj=9.8km s-min=3.7km az=31.5*
*CASC **18** 12:18:07.5±2.5, 13°.04N×88°.98W, h57km±17km, MD3.9, ML4.1, mb4.1(NEIC)*
*IDC **18** 12:18:08.6±2.4, 13°.28N×88°.62W, h78km±27km, mb3.2/8, mb1 3.6/10, mb1mx3.5/23, mbtmp3.4/10, MS2.9/2, Ms1 2.9/2, ms1mx2.6/15, Error ellipse: s-maj=49.8km s-min=14.0km az=43.0*
*NEIC **18** 12:18:08.9±1.1, 13°.07N×88°.80W, h88km±10km, mb4.1/3, MD4.2(SNET), Error ellipse: s-maj=19.7km s-min=8.5km az=222.0*
NEIC Felt [II] at San Salvador.
ISC 18 12:18:07.8±0.4, 13°.08N±0°.05×88°.95W±0°.04, h67km±4km, n62, σ1°.26/72, mb3.6/10, 4C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIES	**Las Flores**	**0.39**	**346**	*e*P	**Pn**	**12 18 18.1**	**-1.3**
AIES				AML	AML	12 18 25.9	
	comp=Z,9μm,0.1s						
AIES				*e*S	**Sn**	**12 18 26.3**	**-1.5**
SNVI	**San Vicente**	**0.55**	**12**	↓*i*P	Pn	**12 18 20.4**	**-0.5**
SNVI				*e*S	**Sn**	**12 18 30.2**	**-0.1**
LFRS	**El Faro**	**0.56**	**349**	↑*i*P	Pn	**12 18 20.0**	**-0.9**
LBRS	**Las Brisas**	**0.67**	**352**	↑*e*P	Pn	**12 18 21.9**	**-0.3**
SNET	**Serv Nac Est T**	**0.67**	**336**	↑*i*P	Pn	**12 18 21.3**	**-0.9**
SNET				*e*S	**Sn**	**12 18 31.8**	**-0.9**
SNET				AML	AML	12 18 34.0	
	comp=Z,8μm,0.3s						
BOQS	**Boqueron**	**0.73**	**334**	↓*i*P	Pn	**12 18 22.4**	**-0.4**
BOQS				*e*S	**Sn**	**12 18 34.2**	**+0.2**
VSM	**San Miguel**	**0.75**	**62**	↓*e*P	Pn	**12 18 23.1**	**0.0**
BLLM	**Bellamira**	**0.79**	**62**	↓*e*P	Pn	**12 18 23.3**	**-0.2**
CAHU	**Cacacuatique**	**1.00**	**46**	↓*i*P	Pn	**12 18 26.5**	**+0.3**
CAHU				*e*S	**Sn**	**12 18 41.8**	**+2.1**
SBLS	**San Blas**	**1.00**	**319**	*e*P	**Pn**	**12 18 25.9**	**-0.4**
SNJE	**San Jose**	**1.01**	**321**	*e*P	**Pn**	**12 18 26.0**	**-0.3**
RTR	**El Retiro**	**1.06**	**320**	↑*e*P	**Pn**	**12 18 26.8**	**-0.1**
CNCH	**Conchagua**	**1.11**	**79**	↓*e*P	**Pn**	**12 18 27.2**	**-0.4**
CNCH				*e*S	**Sn**	**12 18 43.3**	**+1.1**
RBDL	**Robledal**	**1.25**	**325**	*e*P	**Pn**	**12 18 29.5**	**0.0**
CRIN	**San Cristobal**	**1.89**	**101**	*e*P	**Pn**	**12 18 37.8**	**-0.1**
CRIN				AML	AML	12 19 03.2	
	comp=N,4μm,0.5s						
CRIN				*e*S	**Sn**	**12 19 03.4**	**+2.6**
TGUH	**Tegucigalpa,Un**	**1.90**	**59**	*e*Pn	**Pn**	**12 18 38.1**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.90**	**59**	*e*P	**Pn**	**12 18 38.5**	**+0.5**
TGUH				*e*S	**Sn**	**12 19 00.9**	**-0.2**
NBG	**Las Nubes**	**2.02**	**318**	*e*P	**Pn**	**12 18 41.8**	**+2.1**
PCG	**Pacaya**	**2.08**	**309**	*e*P	**Pn**	**12 18 42.5**	**+2.0**
FUG	**Fuego 3**	**2.29**	**307**	*e*P	**Pn**	**12 18 44.4**	**+1.1**
FG6		**2.39**	**308**	*e*P	**Pn**	**12 18 46.2**	**+1.5**
COPN	**Copaltepe**	**2.47**	**111**	*e*P	**Pn**	**12 18 44.3**	**-1.5**
TP2	**Tecpan 2**	**2.63**	**310**	*e*P	**Pn**	**12 18 45.9**	**-2.1**
TP2				*e*S	**Sn**	**12 19 18.7**	**-0.1**
XAVN	**Gruta Xavier**	**2.72**	**109**	*e*P	**Pn**	**12 18 48.3**	**-1.0**
TISN	**Laguna Tiscapa**	**2.78**	**109**	*e*P	**Pn**	**12 18 48.6**	**-1.4**
MGAN	**Managua**	**2.80**	**109**	*e*P	**Pn**	**12 18 48.7**	**-1.5**
MGAN				AML	AML	12 19 26.3	
	comp=N,648nm,0.4s						
HUEN		**2.81**	**105**	*e*P	**Pn**	**12 18 49.5**	**-0.9**
JAT	**Jato**	**2.89**	**296**	*e*P	**Pn**	**12 18 52.2**	**+0.8**
JTS	**JuntasAbangare**	**4.80**	**125**	P	**Pn**	**12 19 17.3**	**-0.3**
	comp=N,9.2nm,0.3s,baz=311,slow=21,SNR=26						
JTS				S	**Sn**	**12 20 13.2**	**+1.4**
	comp=N,5.0nm,0.3s,baz=294,slow=20,SNR=2.5						
JTS	**JuntasAbangare**	**4.80**	**125**	P	**Pn**	**12 19 17.3**	**-0.3**
JTS				S	**Sn**	**12 20 13.2**	**+1.4**
JCR	**Jicaral**	**4.94**	**130**	*e*P	**Pn**	**12 19 20.2**	**+0.6**
JCR				*e*S	Sn	12 20 36.0	+21
CGA2	**Cerro Gallo 2**	**5.34**	**124**	*e*P	**Pn**	**12 19 26.8**	**+1.7**
LAJ	**Bijagual**	**5.71**	**123**	*e*P	**Pn**	**12 19 27.6**	**-2.5**
URSC	**Urasca**	**6.01**	**122**	*e*P	**Pn**	**12 19 36.1**	**+2.0**
BUS	**Buena Vista**	**6.18**	**124**	*e*P	**Pn**	**12 19 38.7**	**+2.2**
CMIG	**Matias Romero**	**6.98**	**306**	P	**Pn**	**12 19 48.4**	**+0.9**
	comp=N,3.1nm,0.3s,baz=136,slow=9.5,SNR=20						
CMIG				S	**Sn**	**12 21 10.4**	**+4.9**
	comp=N,3.0nm,0.3s,baz=60,slow=21,SNR=4.0						
CMIG	**Matias Romero**	**6.98**	**306**	P	**Pn**	**12 19 48.4**	**+0.9**
CMIG				S	**Sn**	**12 21 10.4**	**+4.9**
TEIG	**Tepich**	**7.14**	**5**	P	**Pn**	**12 19 51.8**	**+2.2**
	comp=N,1.2nm,0.3s,baz=61,slow=17,SNR=3.2						
TEIG				LR	LR	12 22 42.2	
	comp=N,48nm,21.5s,baz=358,slow=40						
TEIG	**Tepich**	**7.14**	**5**	P	**Pn**	**12 19 51.8**	**+2.2**
ACR	**Cerro Adams**	**7.18**	**127**	↓*e*P	**Pn**	**12 19 51.4**	**+1.2**
SDV	**Santo Domingo**	**18.45**	**101**	*e*P	**Pn**	**12 22 16.2**	**-2.9**
	comp=N,7.2nm,0.7s						
TXAR	**Lajitas Array**	**21.17**	**322**	P	**P**	**12 22 48.7**	**+1.0**
	comp=N,0.9nm,0.5s,mb3.4,baz=141,slow=10.0,SNR=22						
TXAR	**Lajitas Array**	**21.17**	**322**	P	**P**	**12 22 48.7**	**+1.0**
TKL	**Tuckaleechee C**	**22.96**	**11**	LR	LR	12 34 29.2	
	comp=N,72nm,18.6s,baz=310,slow=43						
CPRX	**Cap Rock**	**24.09**	**328**	P	**P**	**12 23 17.9**	**+0.8**
	comp=N,4.3nm,0.7s,mb3.9						
SAML	**Samuel**	**33.67**	**129**	*e*P	**P**	**12 24 40.6**	**-2.0**
	comp=N,6.8nm,1.1s,mb4.4						
PDAR	**Pinedale Array**	**34.54**	**333**	P	**P**	**12 24 50.6**	**+0.8**
	comp=N,0.2nm,0.4s,mb3.3,baz=146,slow=9.8,SNR=3.0						
PDAR	**Pinedale Array**	**34.54**	**333**	P	**P**	**12 24 50.6**	**+0.8**
NVAR	**Mina Array Bea**	**36.27**	**319**	P	**P**	**12 25 06.4**	**+1.6**
	comp=N,0.1nm,0.3s,mb3.2,baz=140,slow=7.1,SNR=4.3						
NVAR	**Mina Array Bea**	**36.27**	**319**	P	**P**	**12 25 06.4**	**+1.6**
SIV	**San Ignacio**	**39.93**	**136**	P	**P**	**12 25 34.8**	**-0.9**
	comp=N,1.7nm,0.7s,mb4.0,baz=318,slow=11,SNR=9.0						
SIV	**San Ignacio**	**39.93**	**136**	P	**P**	**12 25 34.8**	**-0.9**
SCHQ	**Schefferville**	**45.12**	**18**	P	**P**	**12 26 14.9**	**-2.4**
	comp=N,1.6nm,0.7s,mb3.9,baz=218,slow=12,SNR=2.9						
SCHQ	**Schefferville**	**45.12**	**18**	P	**P**	**12 26 14.9**	**-2.4**
YKA	**Yellowknife Ar**	**52.63**	**345**	P	**P**	**12 27 13.3**	**-1.4**
	comp=N,0.8nm,0.6s,mb4.0,baz=141,slow=7.6,SNR=16						
YKA	**Yellowknife Ar**	**52.63**	**345**	P	**P**	**12 27 13.3**	**-1.4**
ILAR	**Eielson Array**	**64.86**	**336**	P	**P**	**12 28 38.2**	**-1.3**
	comp=N,0.2nm,0.4s,mb3.3,baz=129,slow=6.2,SNR=11						
ILAR	**Eielson Array**	**64.86**	**336**	P	**P**	**12 28 38.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**87.70**	**77**	P	**P**	**12 30 46.2**	**-3.7**
	comp=N,0.1nm,0.4s,mb3.2,baz=318,slow=4.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**87.70**	**77**	P	**P**	**12 30 46.2**	**-3.7**
WRA	**Warramunga Arr**	**138.03**	**255**	PKP	PKPdf	12 37 25.5	-0.3
	comp=N,0.2nm,0.6s,baz=89,slow=2.2,SNR=5.4						
WRA	**Warramunga Arr**	**138.03**	**255**	PKP	PKPdf	12 37 25.5	-0.3

TRN 18 12:33:33.0, 16°.98N×62°.46W, h22km, MD3.5, M3.3(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBRV		**0.30**	**123**	*i* P	Pb	12 33 41.8	+2.0
MBGB		**0.33**	**138**	*i* P	Pb	12 33 42.6	+2.4
MBWH		**0.35**	**132**	*i* P	Pb	12 33 42.6	+2.0
MBWH				*i* S	Sb	12 33 47.8	+2.2
MLYT	**Lee's Yard**	**0.36**	**135**	*i* P	Pb	12 33 42.0	+1.2
MLYT	**Lee's Yard**	**0.36**	**135**	*i* P	Pb	12 33 43.0	+2.2
MLYT				*i* S	Sb	12 33 48.7	+2.6
SKI	**Saint Kitts**	**0.45**	**323**	*e*P	Pb	12 33 44.6	+2.4
SKI				*e*S	Sb	12 33 51.1	+2.7
BPA	**Boggy Peak**	**0.58**	**83**	*e*P	Pb	12 33 47.5	+3.0
BPA				*e*S	Sb	12 33 55.9	+3.6
LZG	**Guadaloupe-1**	**1.06**	**142**	*e*P	Pn	12 33 53.0	+0.5
BCG	**Bois Riant Cap**	**1.20**	**138**	*e*P	Pn	12 33 55.8	+1.4
PHG	**Guadaloupe-2**	**1.24**	**141**	*e*P	Pn	12 33 56.8	+1.8
DOG	**Dongo Capester**	**1.24**	**139**	*e*P	Pn	12 33 56.7	+1.8
TBG	**Guadaloupe-3**	**1.36**	**145**	*e*P	Pn	12 33 58.3	+1.6
DEG	**La Desirade**	**1.49**	**116**	*e*P	Pn	12 34 00.6	+2.1
DEG				*e*S	Sn	12 34 20.4	+3.1

*IDC **18** 12:35:56.7±1.7, 2°.74S×137°.06E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, ML3.8/1, MS4.0/2, Ms1 4.0/2, ms1mx2.8/22, Error ellipse: s-maj=71.6km s-min=28.0km az=100.0*
*ISCJB **18** 12:35:59.8±1.0, 2°.90S±0°.1×137°.0E±0°.1, h33km, mb3.6/2

*NEIC **18** 12:53:19.7±0.6, 71°.62N×11°.52W, h10km, Error ellipse: s-maj=12.0km s-min=9.7km az=193.0*
*REY **18** 12:53:20.6, 70°.89N×10°.13W, h10km, ML3.7, ML3.8*
*BER **18** 12:53:21.1±3.1, 71°.63N×11°.14W, h10km, ML3.5*
ISC 18 12:53:18.6±1.5, 71°.42N±0°.03×11°.60W±0°.08, h9km±11km, n73, σ1§07/96, mb3.5/6, MS3.2/5, San Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.05**	**117**	*e*P	**Pb**	**12 53 38.8**	**-0.1**
JMI				*e*S	**Sb**	**12 53 53.7**	**+1.0**
JMI				AML	AML	12 53 58.6	
	comp=Z,1μm,0.6s						
JMI	**Jan Mayen**	**1.05**	**117**	*e*P	**Pb**	**12 53 38.8**	**-0.1**
	SNR=70						
JMI				*e*S	**Sb**	**12 53 53.7**	**+1.0**
	comp=Z,1μm,0.6s,SNR=70						
JMIC	**Jan Mayen**	**1.09**	**112**	*e*P	**Pb**	**12 53 39.1**	**-0.4**
JMIC				*e*S	**Sb**	**12 53 53.8**	**+0.1**
JMIC				AML	AML	12 53 55.3	
	comp=Z,2μm,0.4s						
JMIC	**Jan Mayen**	**1.09**	**112**	Pn	**Pb**	**12 53 39.1**	**-0.4**
	comp=Z,98nm,0.3s,baz=189,slow=0.7,SNR=18						
JMIC				Sn	**Sn**	**12 53 53.6**	**-1.4**
	comp=Z,1μm,0.3s,baz=255,slow=20,SNR=84						
JMIC	**Jan Mayen**	**1.09**	**112**	Pn	**Pb**	**12 53 39.1**	**-0.4**
JMIC				Sn	**Sn**	**12 53 53.6**	**-1.4**
JMIC	**Jan Mayen**	**1.09**	**112**	*e*P	**Pb**	**12 53 39.1**	**-0.4**
	SNR=70						
JMIC				Sn	**Sn**	**12 53 53.6**	**-1.4**
JMIC				*e*S	**Sb**	**12 53 53.8**	**+0.1**
	comp=Z,2μm,0.4s,SNR=70						
JNW	**Jan Mayen West**	**1.10**	**110**	*e*P	**Pb**	**12 53 39.0**	**-0.7**
JNW				*e*S	**Sb**	**12 53 52.2**	**-1.8**
JNW				AML	AML	12 53 55.7	
	comp=Z,2μm,0.3s						
JNW	**Jan Mayen West**	**1.10**	**110**	*e*P	**Pb**	**12 53 39.0**	**-0.7**
	SNR=70						
JNW				*e*S	**Sb**	**12 53 52.2**	**-1.8**
	comp=Z,2μm,0.3s,SNR=70						
JNE	**Jan Mayen East**	**1.15**	**110**	*e*P	**Pb**	**12 53 39.9**	**-0.7**
JNE				*e*S	**Sb**	**12 53 55.2**	**-0.4**
JNE				AML	AML	12 53 57.4	
	comp=Z,2μm,0.1s						
JNE	**Jan Mayen East**	**1.15**	**110**	*e*P	**Pb**	**12 53 39.8**	**-0.8**
	SNR=70						
JNE				*e*S	**Sb**	**12 53 55.2**	**-0.4**
	comp=Z,2μm,0.1s,SNR=70						
SCO	**Scoresbysund**	**3.52**	**259**	*i* P	**Pn**	**12 54 11.1**	**-2.2**
	comp=Z,22nm,0.6s						
SCO				*i*		12 54 47.9	
SCO				*i* S	**Sn**	**12 54 47.9**	**-7.1**
SCO	**Scoresbysund**	**3.52**	**259**	*i* P	**Pn**	**12 54 11.1**	**-2.2**
	comp=Z,22nm,0.6s						
ILEI	**Leirhofn**	**5.34**	**202**	P	**Pn**	**12 54 37.8**	**-0.4**
ILEI				S	**Sn**	**12 55 38.8**	**-0.8**
IGRI	**Grimsey**	**5.42**	**208**	P	**Pn**	**12 54 40.2**	**+0.9**
IGRI				S	**Sn**	**12 55 42.2**	**+0.6**
IGIL	**Gilhagi**	**5.64**	**200**	P	**Pn**	**12 54 41.8**	**-0.6**
IGIL				S	**Sn**	**12 55 46.4**	**-0.7**
DAG	**Danmarks Havn**	**5.71**	**343**	*i* P	**Pn**	**12 54 38.8**	**-4.5**
	comp=Z,60nm,0.7s						
DAG				*i*		12 55 35.3	
IHED	**Heoinshofoi**	**5.75**	**204**	P	**Pn**	**12 54 43.8**	**-0.1**
IHED				S	**Sn**	**12 55 48.9**	**-0.9**
IBRE	**Brettingsstaoi**	**5.79**	**206**	P	**Pn**	**12 54 44.7**	**+0.2**
ISIG	**Siglufjorour**	**5.94**	**210**	P	**Pn**	**12 54 48.0**	**+1.6**
ISIG				S	**Sn**	**12 55 55.0**	**+0.6**
IGRA	**Granastaoir**	**5.94**	**204**	P	**Pn**	**12 54 46.9**	**+0.4**
IGRA				S	**Sn**	**12 55 54.1**	**-0.4**
IHLA	**Hella**	**6.03**	**207**	P	**Pn**	**12 54 48.8**	**+1.1**
IHLA				S	**Sn**	**12 55 56.1**	**-0.6**
IGRS	**Grimsstaoir**	**6.04**	**198**	P	**Pn**	**12 54 47.7**	**-0.2**
IKVO	**Krokottuvotn**	**6.05**	**201**	P	**Pn**	**12 54 47.6**	**-0.4**
IREN	**Reynihlio**	**6.12**	**201**	P	**Pn**	**12 54 48.8**	**-0.1**
BORG	**Borgarnes**	**7.62**	**213**	Pn	**Pn**	**12 55 13.7**	**+4.2**
	comp=Z,1.0nm,0.3s,baz=307,slow=17,SNR=3.9						
BORG				Sn	**Sn**	**12 56 42.8**	**+7.1**
	comp=Z,0.5nm,0.3s,baz=248,slow=19,SNR=2.6						
BORG	**Borgarnes**	**7.62**	**213**	Pn	**Pn**	**12 55 13.7**	**+4.2**
BORG				Sn	**Sn**	**12 56 42.8**	**+7.1**
SUMG	**Summit**	**8.36**	**291**	*e*Pn	**Pn**	**12 55 18.8**	**-0.9**
	comp=Z,12nm,0.6s						
SUMG	**Summit**	**8.36**	**291**	*i* P	**Pn**	**12 55 19.1**	**-0.5**
	comp=Z,8.3nm,0.8s						
SUMG	**Summit**	**8.36**	**291**	*e*Pn	**Pn**	**12 55 18.8**	**-0.8**
	comp=Z,12nm,0.6s						
SUMG	**Summit**	**8.36**	**291**	*i* P	**Pn**	**12 55 19.1**	**-0.5**
	comp=Z,8.3nm,0.8s						
BJO	**Bjornoya**	**9.46**	**57**	*e*Pn	**Pn**	**12 55 34.3**	**-0.5**
BJO	**Bjornoya**	**9.46**	**57**	*e*Pn	**Pn**	**12 55 34.3**	**-0.4**
	SNR=50						
KBS	**Kingsbay**	**9.54**	**28**	*e*Pn	**Pn**	**12 55 32.6**	**-3.1**
KBS				*e*Sn	**Sn**	**12 57 08.8**	**-14**
KBS				AML	AML	12 57 15.8	
	comp=Z,15nm,0.5s						
KBS	**Kingsbay**	**9.54**	**28**	*e*Pn	**Pn**	**12 55 33.0**	**-2.8**
KBS	**Kingsbay**	**9.54**	**28**	*e*Pn	**Pn**	**12 55 33.0**	**-2.7**
SPA0	**Spitsbergen Ar**	**9.85**	**34**	*e*Pn	**Pn**	**12 55 38.5**	**-1.5**
SPA0	**Spitsbergen Ar**	**9.85**	**34**	*e*Pn	**Pn**	**12 55 38.5**	**-1.5**
	SNR=50						
SPITS	**Spitsbergen Ar**	**9.85**	**34**	Pn	**Pn**	**12 55 38.7**	**-1.3**
	baz=205,slow=16,SNR=121						
SPITS				Sn	**Sn**	**12 57 24.8**	**-5.7**
	baz=224,slow=27,SNR=4.3						
SPITS	**Spitsbergen Ar**	**9.85**	**34**	Pn	**Pn**	**12 55 38.7**	**-1.3**
SPITS				Sn	**Sn**	**12 57 24.8**	**-5.7**
SPITS	**Spitsbergen Ar**	**9.85**	**34**	Pn	**Pn**	**12 55 38.7**	**-1.3**
STOK	**Stokkvaagen**	**10.18**	**108**	*e*Pn	**Pn**	**12 55 45.3**	**+0.8**
STOK				*e*Sn	**Sn**	**12 57 32.4**	**-6.1**
FLOS	**Flostrand**	**10.28**	**107**	*e*Pn	**Pn**	**12 55 47.3**	**+1.3**
KTK1	**Kautokeino**	**11.93**	**85**	*e*Pn	**Pn**	**12 56 10.1**	**+1.7**
KTK1	**Kautokeino**	**11.93**	**85**	*e*Pn	**Pn**	**12 56 10.1**	**+1.7**
	SNR=50						
ARCES	**ARCESS Array B**	**12.41**	**81**	Pn	**Pn**	**12 56 15.8**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=299,slow=12,SNR=28						
ARCES	**ARCESS Array B**	**12.41**	**81**	Pn	**Pn**	**12 56 15.8**	**+0.7**
ARCES	**ARCESS Array B**	**12.41**	**81**	Pn	**Pn**	**12 56 15.8**	**+0.8**
ARE0	**ARCESS Array S**	**12.41**	**81**	*e*Pn	**Pn**	**12 56 14.8**	**-0.2**
ARE0	**ARCESS Array S**	**12.41**	**81**	*e*Pn	**Pn**	**12 56 14.8**	**-0.2**
	SNR=50						
KEV	**Kevo**	**12.79**	**79**	*e*Pn	**Pn**	**12 56 20.8**	**+0.6**
KEV	**Kevo**	**12.79**	**79**	*e*Pn	**Pn**	**12 56 20.8**	**+0.6**
FINES	**FINESS Array B**	**17.71**	**105**	P	**Pn**	**12 57 28.0**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=332,slow=12,SNR=3.4						
FINES	**FINESS Array B**	**17.71**	**105**	P	**Pn**	**12 57 28.0**	**+3.1**
FINES	**FINESS Array B**	**17.71**	**105**	P	**Pn**	**12 57 28.0**	**+3.1**
RES	**Resolute Bay**	**22.62**	**317**	P	**P**	**12 58 20.8**	**+1.8**
	comp=Z,4.1nm,0.6s,mb4.1,baz=47,slow=11,SNR=19						
RES				LR	LR	13 07 00.6	
	comp=Z,100nm,21.0s,MS3.2,baz=11,slow=36						
RES	**Resolute Bay**	**22.62**	**317**	P	**P**	**12 58 20.8**	**+1.8**
RES	**Resolute Bay**	**22.62**	**317**	P	**P**	**12 58 20.8**	**+1.9**
GERES	**GERESS Array B**	**25.50**	**139**	P	**P**	**12 58 49.3**	**+2.6**
	comp=Z,1.5nm,0.9s,mb3.5,baz=345,slow=7.2,SNR=5.0						
GERES	**GERESS Array B**	**25.50**	**139**	P	**P**	**12 58 49.3**	**+2.6**
GERES	**GERESS Array B**	**25.50**	**139**	P	**P**	**12 58 49.3**	**+2.6**
VRAC	**Vranov**	**25.70**	**135**	LR	LR	13 09 00.1	
	comp=Z,91nm,20.1s,MS3.3,baz=96,slow=37						
DAVOX	**Davos/Dischmat**	**26.73**	**146**	LR	LR	13 10 10.3	
	comp=Z,206nm,18.7s,MS3.7,baz=169,slow=38						
YKA	**Yellowknife Ar**	**36.35**	**310**	P	**P**	**13 00 21.3**	**-0.8**
	comp=Z,0.3nm,0.7s,mb3.3,baz=26,slow=8.4,SNR=3.1						
YKA				LR	LR	13 14 30.8	
	comp=Z,7.9nm,21.6s,MS2.5,baz=200,slow=35						
YKA	**Yellowknife Ar**	**36.35**	**310**	P	**P**	**13 00 21.3**	**-0.8**
YKA	**Yellowknife Ar**	**36.35**	**310**	P	**P**	**13 00 21.3**	**-0.8**
ILAR	**Eielson Array**	**40.70**	**332**	P	**P**	**13 00 58.8**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.3,baz=15,slow=6.0,SNR=11						
ILAR	**Eielson Array**	**40.70**	**332**	P	**P**	**13 00 58.8**	**+0.2**
ILAR	**Eielson Array**	**40.70**	**332**	P	**P**	**13 00 58.8**	**+0.2**
MKAR	**Makanchi Array**	**47.68**	**68**	P	**P**	**13 01 55.3**	**+0.6**
	comp=Z,0.5nm,0.9s,mb3.5,baz=317,slow=8.3,SNR=3.4						
MKAR				LR	LR	13 24 43.9	
	comp=Z,42nm,20.2s,MS3.4,baz=297,slow=40						
MKAR	**Makanchi Array**	**47.68**	**68**	P	**P**	**13 01 55.2**	**+0.6**
MKAR	**Makanchi Array**	**47.68**	**68**	P	**P**	**13 01 55.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**58.80**	**165**	P	**P**	**13 03 19.5**	**+2.7**
	comp=Z,0.2nm,0.5s,mb3.4,baz=330,slow=8.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**58.80**	**165**	P	**P**	**13 03 19.5**	**+2.7**

*IDC **18** 12:53:38.0±0.6, 30°.90S×176°.81W, h0km, mb4.5/8, mb1 4.7/9, mb1mx4.5/18, mbtmp4.5/9, ML2.4/1, MS3.8/10, Ms1 3.8/10, ms1mx3.5/22, Error ellipse: s-maj=24.8km s-min=20.4km az=130.0*
*NEIC **18** 12:53:39.0±0.5, 31°.13S×176°.83W, h10km, mb4.8/6, Error ellipse: s-maj=12.8km s-min=9.4km az=103.0*
*ISCJB **18** 12:53:42.4±0.6, 31°.33S±0°.06×176°.99W±0°.10, h33km, mb4.6/12, MS3.9/8, Error ellipse: s-maj=12.2km s-min=9.0km az=10.2*
ISC 18 12:53:44.0±0.6, 31°.25S±0°.06×176°.92W±0°.10, h35km, n76, σ1§28/48, mb4.6/12, MS3.9/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.17**	**336**	*e*Pn	**Pn**	**12 54 12.6**	**-5.1**
URZ	**Urewera**	**8.55**	**213**	Pn	**Pn**	**12 55 43.5**	**-1.7**
	1.8nm,0.3s,baz=122,slow=23,SNR=17						
URZ				Sn	**Sn**	**12 57 20.6**	**+0.3**
	4.7nm,0.3s,baz=198,slow=19,SNR=11						
URZ	**Urewera**	**8.55**	**213**	Pn	**Pn**	**12 55 43.5**	**-1.7**
URZ				Sn	**Sn**	**12 57 20.6**	**+0.3**
KHZ	**Kahutara**	**13.50**	**212**	*e*Pn	**Pn**	**12 56 51.9**	**-1.2**
	42nm,0.8s						
RPZ	**Rata Peaks**	**15.66**	**214**	Pn	**Pn**	**12 57 18.0**	**-4.0**
	4.5nm,0.3s,baz=353,slow=1.8,SNR=22						
RPZ				Sn	**Sn**	**13 00 03.5**	**-11**
	0.5nm,0.3s,baz=73,slow=16,SNR=4.4						
RPZ	**Rata Peaks**	**15.66**	**214**	*e*Pn	**Pn**	**12 57 17.9**	**-4.1**
	28nm,0.6s						
RPZ				Sn	**Sn**	**13 00 03.5**	**-11**
ODZ	**Otahua Downs**	**16.86**	**212**	*e*Pn	**Pn**	**12 57 34.8**	**-2.4**
	770nm,1.4s						
DZM	**Mont Dzumac**	**17.44**	**298**	*e*P	**Pn**	**12 57 46.4**	**+1.8**
	62nm,1.4s						
DZM				*e*LR	LR	13 01 51.3	
	779nm,27.2s						
DZM	**Mont Dzumac**	**17.44**	**298**	P	**Pn**	**12 57 47.0**	**+2.4**
	0.9nm,0.3s,baz=140,slow=18,SNR=14						
DZM				LR	LR	13 02 45.8	
	comp=Z,432nm,20.9s,baz=202,slow=32						
DZM	**Mont Dzumac**	**17.44**	**298**	*e*Pn	**Pn**	**12 57 43.6**	**-1.0**
	22nm,0.9s						
AFI	**Afiamalu**	**17.89**	**16**	P	**Pn**	**12 57 42.8**	**-7.4**
	0.7nm,0.3s,baz=172,slow=7.1,SNR=3.4						
AFI	**Afiamalu**	**17.89**	**16**	P	**Pn**	**12 57 42.8**	**-7.4**
RAR	**Rarotonga**	**18.32**	**61**	LR	LR	13 02 37.5	
	comp=Z,193nm,18.9s,baz=232,slow=30						
TBI	**Tubuai**	**25.59**	**79**	*e*LR	LR	13 05 13.2	
	366nm,28.5s						
PPT2	**Papeete2**	**28.27**	**68**	*e*LR	LR	13 06 21.2	
	255nm,26.8s						
RMQ	**Roma**	**30.36**	**270**	*e*P	**P**	**12 59 54.4**	**+1.8**
	40nm,1.7s,mb4.9						
CTA	**Charters Tower**	**34.85**	**280**	*e*P	**P**	**13 00 33.4**	**+1.4**
CTAO	**Charters Tower**	**34.85**	**280**	*e*P	**P**	**13 00 32.6**	**+0.6**
	10.0nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**35.20**	**258**	P	**P**	**13 00 35.8**	**+0.9**
	15nm,1.0s,mb4.9,baz=98,slow=7.9,SNR=12						
STKA				LR	LR	13 12 46.2	
	comp=Z,109nm,18.5s,MS3.6,baz=26,slow=32						
STKA	**Stephens Creek**	**35.20**	**258**	*e*P	**P**	**13 00 36.1**	**+1.2**
STKA	**Stephens Creek**	**35.20**	**258**	*e*P	**P**	**13 00 35.9**	**+1.0**
MTSU	**Mount Surprise**	**37.37**	**281**	*e*P	**P**	**13 00 54.7**	**+1.2**
	16nm,0.6s,mb5.0						
RKT	**Rikitea**	**38.00**	**88**	*e*LR	LR	13 10 51.5	
	244nm,26.5s						
BBOO	**Buckleboo**	**39.64**	**255**	*e*P	**P**	**13 01 13.0**	**+0.5**
COEN	**Coen**	**40.40**	**286**	*e*P	**P**	**13 01 19.5**	**+0.6**
TAOE	**Nuku Hiva Isla**	**40.80**	**65**	*e*LR	LR	13 12 09.0	
	141nm,26.3s						
AS31	**Alice Springs**	**43.99**	**267**	*e*P	**P**	**13 01 47.6**	**-0.6**
ASAR	**Alice Springs**	**44.00**	**267**	P	**P**	**13 01 47.6**	**-0.5**
	7.4nm,0.6s,mb4.6,baz=104,slow=7.2,SNR=136						
ASAR				PcP	PcP	13 03 33.4	-0.1
	2.0nm,0.7s,baz=118,slow=4.0,SNR=5.6						
ASAR	**Alice Springs**	**44.00**	**267**	P	**P**	**13 01 47.6**	**-0.5**
ASAR				PcP	PcP	13 03 33.4	-0.1
WB2	**Warramunga Arr**	**45.05**	**272**	*e*P	**P**	**13 01 55.6**	**-1.0**
WRAB	**Tennant Creek**	**45.06**	**272**	*e*P	**P**	**13 01 55.4**	**-1.3**
	11nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**45.06**	**272**	P	**P**	**13 01 55.9**	**-0.9**
	8.4nm,0.5s,mb4.8,baz=111,slow=8.0,SNR=119						
WRA				PcP	PcP	13 03 37.0	-0.2
	1.9nm,0.8s,baz=121,slow=3.0,SNR=4.9						
WRA				LR	LR	13 19 06.9	
	comp=Z,113nm,20.2s,MS3.8,baz=110,slow=34						
WRA	**Warramunga Arr**	**45.06**	**272**	P	**P**	**13 01 55.9**	**-0.9**
WRA				PcP	PcP	13 03 37.0	-0.2
FITZ	**Fitzroy Crossi**	**53.29**	**270**	*e*P	**P**	**13 02 59.7**	**0.0**
QSPA	**South Pole Qui**	**58.87**	**180**	P	**P**	**13 03 41.0**	**+2.3**
	5.8nm,0.6s,mb4.8,baz=83,slow=3.2,SNR=20						
QSPA	**South Pole Qui**	**58.87**	**180**	*e*P	**P**	**13 03 40.4**	**+1.7**
	3.1nm,0.5s,mb4.6						
MAW	**Mawson**	**71.84**	**200**	P	**P**	**13 05 04.4**	**+1.6**
	4.4nm,0.7s,mb4.5,baz=144,slow=4.5,SNR=5.1						
MAW				LR	LR	13 33 30.9	
	comp=Z,38nm,18.6s,MS3.7,baz=316,slow=33						
MAW	**Mawson**	**71.84**	**200**	P	**P**	**13 05 04.4**	**+1.6**
SNAA	**Sanae**	**77.28**	**178**	*e*	**P**	**13 05 35.0**	**+0.7**
SNAA				*e*	pP	13 05 45.5	+0.3
VNA3	**Neumayer Olymp**	**77.40**	**176**	*e*	**P**	**13 05 35.3**	**+0.4**
VNA2	**Neumayer--Watz**	**77.84**	**176**	*e*	**P**	**13 05 38.2**	**+0.8**
VNA2				*e*	pP	13 05 48.5	+0.1
VNA1	**Neumayer--Stat**	**78.07**	**176**	*e*	**P**	**13 05 40.3**	**+1.6**
SSLB	**Suanglung**	**80.81**	**305**	*e*P	**P**	**13 05 51.7**	**-2.6**
PLCA	**Paso Flores**	**81.25**	**132**	LR	LR	13 36 48.2	
	comp=Z,56nm,18.8s,MS3.9,baz=226,slow=32						
NVAR	**Mina Array Bea**	**88.23**	**42**	P	**P**	**13 06 29.7**	**-1.8**
	1.8nm,0.9s,mb4.3,baz=224,slow=7.8,SNR=12						
NVAR				LR	LR	13 38 51.0	
	comp=Z,50nm,18.9s,MS4.0,baz=126,slow=31						
NVAR	**Mina Array Bea**	**88.23**	**42**	P	**P**	**13 06 29.7**	**-1.8**
TXAR	**Lajitas Array**	**92.07**	**57**	P	**P**	**13 06 48.2**	**-1.4**
	0.5nm,0.9s,mb3.8,baz=224,slow=5.2,SNR=4.2						
TXAR				LR	LR	13 40 49.8	
	comp=Z,50nm,18.7s,MS4.0,baz=335,slow=31						
TXAR	**Lajitas Array**	**92.07**	**57**	P	**P**	**13 06 48.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**94.56**	**289**	P	**P**	**13 07 01.7**	**+0.4**
	1.1nm,0.7s,mb4.4,baz=146,slow=3.4,SNR=9.4						
CMAR	**Chiang Mai Arr**	**94.56**	**289**	P	**P**	**13 07 01.7**	**+0.4**
LPAZ	**La Paz**	**96.95**	**114**	LR	LR	13 42 29.0	
	comp=Z,40nm,18.4s,MS3.9,baz=156,slow=30						
CPUP	**Villa Florida**	**98.73**	**128**	LR	LR	13 42 53.8	
	comp=Z,42nm,21.8s,MS3.9,baz=1.1,slow=30						
MKAR	**Makanchi Array**	**119.03**	**309**	PKP	PKPdf	13 12 27.0	-1.7
	0.3nm,0.6s,baz=97,slow=4.6,SNR=3.1						
MKAR	**Makanchi Array**	**119.03**	**309**	PKP	PKPdf	13 12 27.0	-1.7
ZALV	**Zalesovo Beam**	**119.28**	**318**	PKP	PKPdf	13 12 27.3	-1.6
	0.2nm,0.3s,baz=79,slow=3.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**119.28**	**318**	PKP	PKPdf	13 12 27.3	-1.6
KEV	**Kevo**	**139.15**	**348**	*e*pkp	PKPdf	13 12 57.8	-8.3
ARCES	**ARCESS Array B**	**139.61**	**348**	PKP	PKPdf	13 13 05.3	-1.6
	8.7nm,1.1s,baz=54,slow=1.6,SNR=6.5						
ARCES	**ARCESS Array B**	**139.61**	**348**	PKP	PKPdf	13 13 05.3	-1.6
JOF	**Joensuu**	**143.55**	**339**	*e*pkp	PKPdf	13 13 14.3	+0.1
	3.6nm,0.7s						
KAF	**Kangasniemi**	**145.66**	**341**	*e*pkp	PKPdf	13 13 14.9	-3.0
	12nm,0.7s						
FINES	**FINESS Array B**	**146.26**	**340**	PKPbc	PKPbc	13 13 18.8	-1.3
	13nm,0.6s,baz=52,slow=3.1,SNR=45						
FINES	**FINESS Array B**	**146.26**	**340**	PKPbc	PKPbc	13 13 18.8	-1.3
NB2	**NORSAR Subarra**	**149.72**	**352**	PKP	PKPbc	13 13 27.9	-1.4
	comp=Z,2.6nm,0.6s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**149.72**	**352**	PKPbc	PKPbc	13 13 28.2	-1.1
	comp=Z,4.9nm,0.8s,baz=14,slow=4.2,SNR=8.9						
NOA	**NORSAR Array B**	**149.72**	**352**	PKPbc	PKPbc	13 13 28.2	-1.1
HFS	**Hagfors**	**150.25**	**349**	PKPbc	PKPbc	13 13 28.6	-2.0
	comp=Z,8.9nm,0.8s,baz=202,slow=1.6,SNR=7.9						
HFS	**Hagfors**	**150.25**	**349**	PKPbc	PKPbc	13 13 28.6	-2.0
AKASG	**Malin Array Be**	**152.54**	**323**	PKPbc	PKPbc	13 13 35.3	-0.9
	comp=Z,1.7nm,0.6s,baz=40,slow=1.8,SNR=8.8						
AKASG				PKPab	PKPab	13 13 45.2	-1.5
	comp=Z,4.3nm,0.6s,baz=48,slow=4.3,SNR=14						
AKASG	**Malin Array Be**	**152.54**	**323**	PKPbc	PKPbc	13 13 35.3	-0.9
AKASG				PKPab	PKPab	13 13 45.2	-1.5
BRTR	**Keskin Array B**	**153.82**	**297**	PKPab	PKPab	13 13 52.0	-0.6
	comp=Z,1.0nm,0.6s,baz=100,slow=3.9,SNR=4.8						
BRTR	**Keskin Array B**	**153.82**	**297**	PKPab	PKPab	13 13 52.0	-0.6
GERES	**GERESS Array B**	**160.67**	**338**	PKPab	PKPab	13 14 20.3	-1.3
	comp=Z,0.2nm,0.3s,baz=42,slow=3.1,SNR=4.0						
GERES	**GERESS Array B**	**160.67**	**338**	PKPab	PKPab	13 14 20.3	-1.3
TORD	**Torodi Ar. Bea**	**161.94**	**176**	PKPab	PKPab	13 14 28.1	+0.1
	comp=Z,2.0nm,0.7s,baz=176,slow=3.9,SNR=12						
TORD	**Torodi Ar. Bea**	**161.94**	**176**	PKPab	PKPab	13 14 28.1	+0.1

*IDC **18** 13:32:55.1±1.0, 1°.62N×122°.68E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, MS3.7/2, Ms1 3.7/2, ms1mx2.9/27, Error ellipse: s-maj=206.3km s-min=17.7km az=65.0*
*ISCJB **18** 13:32:59.2±1.0, 1°.63N±0°.06×122°.53E±0°.07, h44km±11km, mb3.7/6, MS3.7/2, Error ellipse: s-maj=12.7km s-min=9.8km az=28.1*
*DJA **18** 13:33:01, 1°.53N×122°.56E, h35km, MLv4.3/8*
ISC 18 13:33:00.8±0.9, 1°.59N±0°.06×122°.56E±0°.07, h39km±12km, n16, σ1§06/17, mb3.7/6, MS3.7/2, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.05**	**155**	P	**Pn**	**13 33 17.5**	**-1.6**
GTOI				S	**Sn**	**13 33 31.9**	**-0.6**
MRSI	**Marisa**	**1.27**	**209**	P	**Pn**	**13 33 20.5**	**-1.6**
MRSI				S	**Sn**	**13 33 37.2**	**-0.7**
KMSI	**Cibinong**	**1.74**	**125**	P	**Pn**	**13 33 29.6**	**+1.0**
MNI	**Manado**	**2.28**	**94**	P	**Pn**	**13 33 36.6**	**+0.6**
LUWI	**Luwuk**	**2.62**	**175**	P	**Pn**	**13 33 44.2**	**+3.5**
TTSI	**Tana Toraja**	**5.36**	**211**	P	**Pn**	**13 34 19.1**	**+0.7**
	0.3nm1μm126nm,1.1s						
KDI	**Kendari**	**5.51**	**179**	P	**Pn**	**13 34 22.3**	**+1.9**
	0.1nm647nm26nm,1.2s						
CTBH	**Cotabato--PC H**	**5.84**	**17⇓**	*i*P	**Pn**	**13 34 23.8**	**-1.2**
SPSI	**Sidrap Palu**	**6.18**	**207**	P	**Pn**	**13 34 31.1**	**+1.4**
WRA	**Warramunga Arr**	**24.32**	**152**	P	**P**	**13 38 15.1**	**+0.2**
	2.6nm,0.9s,mb3.6,baz=332,slow=10,SNR=17						
ASAR	**Alice Springs**	**27.42**	**157**	P	**P**	**13 38 42.0**	**-1.0**
	0.2nm,0.6s,mb2.8,baz=346,slow=14,SNR=3.8						
NWAO	**Narrogin (SRO)**	**34.70**	**188**	LR	LR	13 53 15.1	
	comp=Z,119nm,20.8s,MS3.6,baz=105,slow=35						
STKA	**Stephens Creek**	**37.86**	**153**	P	**P**	**13 40 13.6**	**-0.5**
	0.8nm,0.5s,mb3.7,baz=324,slow=8.7,SNR=3.0						
SONM	**Songino Array**	**48.15**	**345**	P	**P**	**13 41 37.0**	**0.0**
	0.7nm,0.6s,mb3.9,baz=154,slow=8.0,SNR=4.3						
SONM				LR	LR	14 03 27.4	
	comp=Z,84nm,19.6s,MS3.7,baz=238,slow=38						
MKAR	**Makanchi Array**	**57.04**	**328**	P	**P**	**13 42 43.5**	**+0.7**
	1.0nm,0.8s,mb3.9,baz=131,slow=7.9,SNR=7.5						
ZALV	**Zalesovo Beam**	**60.69**	**335**	P	**P**	**13 43 08.1**	**0.0**
	1.7nm,0.8s,mb4.2,baz=139,slow=7.3,SNR=12						

*ISCJB **18** 13:44:43.7±0.9, 32°.8N±0°.1×111°.7E±0°.1, h10km, mb3.6/5, Error ellipse: s-maj=20.4km s-min=7.1km az=33.5*
*IDC **18** 13:44:44.2±1.0, 32°.80N×112°.09E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=37.7km

NVAR Mina Array Bea 148.68 301 PKPbc PKPbc 14 17 48.7 +1.8
0.5nm,0.6s,baz=76,slow=3.8,SNR=5.7
NVAR Mina Array Bea 148.68 301 PKPbc PKPbc 14 17 48.7 +1.8

ISCJB ***18*** *14:00:46.9±0.6,39°.20N±0°.03×26°.21E±0°.04, h10km±4km, Error ellipse: s-maj=6.2km s-min=5.0km az=140.8*
CSEM ***18*** *14:00:46.9±0.2,39°.21N×26°.24E, h10km, MD2.7, Error ellipse: s-maj=4.9km s-min=4.7km az=143.0*
DDA ***18*** *14:00:46.6,39°.21N×26°.26E, h7km±4km, Md2.8*
ATH ***18*** *14:00:47.1,39°.22N×26°.27E, h13km±2km, MD2.7/4*
ISC 18 14:00:47.5±0.6,39°.21N±0°.03×26°.24E±0°.05, h11km±4km, n17,σ0.50/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.05**	**37**	*e*PG	**Pg**	**14 00 49.5**	**-0.1**
PRK				*e*SG	**Sg**	**14 00 51.3**	**+0.2**
PRK	**Paraskevi**	**0.05**	**37**	*e*Pg	**Pg**	**14 00 49.5**	**-0.1**
PRK				*e*Sg	**Sg**	**14 00 51.3**	**+0.2**
AYVA	**Ayvalik**	**0.37**	**74**	*i* P	**Pg**	**14 00 54.2**	**-0.5**
AYVA				*i* S	**Sg**	**14 00 59.5**	**-0.2**
AYVA	**Ayvalik**	**0.37**	**74**	*i* P	**Pg**	**14 00 54.2**	**-0.5**
AYVA				*i* S	**Sg**	**14 00 59.5**	**-0.1**
BOZC	**Bozcaada**	**0.65**	**347**	*i* P	**Pg**	**14 00 59.8**	**-0.2**
BOZC				*i* S	**Sg**	**14 01 09.1**	**+0.5**
CHOS	**Chios island**	**0.83**	**190**	*e*PB	**Pg**	**14 01 03.4**	**-0.1**
CHOS	**Chios island**	**0.83**	**190**	*e*Pb	**Pg**	**14 01 03.4**	**-0.1**
LIA	**Limnos Island**	**1.07**	**311**	*e*PN	**Pg**	**14 01 07.9**	**-0.1**
LIA				*e*SB	**Sg**	**14 01 22.2**	**+0.4**
LIA	**Limnos Island**	**1.07**	**311**	*e*Pn	**Pg**	**14 01 07.9**	**-0.1**
LIA				*e*Sb	**Sg**	**14 01 22.2**	**+0.4**
BALY	**Balya**	**1.20**	**63**	*i* P	**Pn**	**14 01 09.4**	**-0.6**
BALY				*i* S	**Sb**	**14 01 25.5**	**0.0**
BALY	**Balya**	**1.20**	**63**	*i* P	**Pn**	**14 01 09.4**	**-0.7**
BALY				*i* S	**Sb**	**14 01 25.5**	**0.0**
AKHS	**Akhisar**	**1.27**	**105**	*i* P	**Pn**	**14 01 10.4**	**-0.7**
AKHS				*i* S	**Sb**	**14 01 28.5**	**+0.8**
AKHS	**Akhisar**	**1.27**	**105**	*i* P	**Pn**	**14 01 10.4**	**-0.7**
AKHS				*i* S	**Sb**	**14 01 28.5**	**+0.8**
SMG	**Samos**	**1.57**	**162**	*e*PG	**Pb**	**14 01 16.4**	**-0.1**
SMG				*e*SB	**Sg**	**14 01 38.5**	**+0.5**
SMG	**Samos**	**1.57**	**162**	*e*Pg	**Pb**	**14 01 16.4**	**-0.1**
SMG				*e*Sb	**Sg**	**14 01 38.5**	**+0.5**
DURS	**Dursunbey**	**1.78**	**77**	*i* P	**Pn**	**14 01 17.4**	**-0.7**
DURS				*i* S	**Sn**	**14 01 41.7**	**+1.0**
DURS	**Dursunbey**	**1.78**	**77**	*i* P	**Pn**	**14 01 17.4**	**-0.7**
DURS				*i* S	**Sn**	**14 01 41.7**	**+1.1**

IDC 18 14:17:51.4±2.9,20°.82S×68°.68W, h96km±22km, mb3.7/2, mb1 3.5/5, mb1mx3.4/15, mbtmp3.5/5, Error ellipse: s-maj=57.0km s-min=28.8km az=101.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.53**	**7**	P	Pn	14 18 58.5	+0.7
	1.8nm,0.3s,baz=178,slow=12,SNR=37						
SIV	**San Ignacio**	**8.67**	**58**	P	Pn	14 19 53.9	-0.2
	1.4nm,0.3s,baz=250,slow=12,SNR=29						
CFAA	**Coronel Fontan**	**10.75**	**178**	P	Pn	14 20 22.4	+0.1
	0.1nm,0.3s,baz=349,slow=16,SNR=4.0						
DBIC	**Dimbokro**	**68.34**	**74**	P	P	14 28 43.5	+0.5
	2.5nm,0.8s,baz=240,slow=9.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.93**	**70**	P	P	14 29 33.4	-0.4
	0.2nm,0.4s,baz=247,slow=6.1,SNR=5.6						
MKAR	**Makanchi Array**	**144.96**	**35**	PKP	PKPdf	14 37 16.7	-0.6
	0.5nm,0.7s,baz=302,slow=3.8,SNR=6.1						

GUC 18 15:46:25.8±0.5,31°.59S×68°.89W, h149km±16km, MD3.7, ML4.0, 2C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.81**	**232**	*e*P	Pn	15 46 59.5	+0.8
CMCH	**Combarbala**	**1.85**	**282**	*e*P	Pn	15 46 59.8	+0.7
CMCH				*e*S	Sn	15 47 25.6	+0.9
CMCH				AML	AML	15 47 26.6	
	comp=N,4μm,0.6s						
FCH	**Farellones**	**2.10**	**214**	*e*P	Pn	15 47 11.1	+9.1
FCH				*e*S	Sn	15 47 40.8	+11
FCH				AML	AML	15 47 45.6	
	comp=E,381nm,0.2s						
PEL	**Peldehue**	**2.18**	**224**	*e*P	Pn	15 47 03.1	+0.3
PEL				*e*S	Sn	15 47 32.0	+0.5
PEL				AML	AML	15 47 34.3	
	comp=N,646nm,0.3s						
OVCH	**Ovalle**	**2.21**	**296**	*e*P	Pn	15 47 03.6	+0.2
OVCH				*e*S	Sn	15 47 32.4	+0.2
OVCH				AML	AML	15 47 34.1	
	comp=N,1μm,0.1s						
CHNG	**Los Chungos**	**2.25**	**262**	*e*P	Pn	15 47 04.2	+0.5
CHNG				*e*S	Sn	15 47 33.3	+0.3
ROCH	**El Roble**	**2.27**	**232⇓**	*e*P	Pn	15 47 04.3	+0.3
ROCH				*e*S	Sn	15 47 34.9	+1.4
ROCH				AML	AML	15 47 39.3	
	comp=N,515nm,0.5s						
CLCH	**Cerro Calan**	**2.28**	**217**	*e*P	Pn	15 47 04.9	+0.7
CLCH				*e*S	Sn	15 47 35.0	+1.2
CLCH				AML	AML	15 47 41.2	
	comp=N,621nm,0.6s						
PCH	**Pirque**	**2.45**	**214**	*e*P	Pn	15 47 06.9	+0.7
RCDM	**Rinconada Maip**	**2.50**	**220**	*e*P	Pn	15 47 07.3	+0.5
RCDM				*e*S	Sn	15 47 39.4	+1.0
RCDM				AML	AML	15 47 44.3	
	comp=N,839nm,0.2s						
LMEL	**Las Melosas**	**2.52**	**206**	*e*P	Pn	15 47 09.1	+2.1
TACH	**Talagante**	**2.69**	**219**	*e*P	Pn	15 47 09.1	-0.1
CHCH	**Chadas Angostu**	**2.77**	**212⇑**	*e*P	Pn	15 47 10.9	+0.7
CHCH				*i* S	Sn	15 47 45.1	+0.5
CACH	**El Canelo**	**2.91**	**209⇑**	*e*P	Pn	15 47 13.2	+1.3
LNV	**Longovilo**	**3.18**	**221**	*e*P	Pn	15 47 14.5	-0.8
CDCH	**Caldera**	**4.81**	**339**	*e*P	Pn	15 47 36.6	-0.1

BJI ***18*** *15:50:13.2, 1°.99N×127°.29E, h107km, mB5.2/36, mb5.3/56*
NEIC ***18*** *15:50:15.3±0.7, 2°.30N×127°.17E, h87km±6km, mb5.6/79, MW5.2, Error ellipse: s-maj=5.0km s-min=3.3km az=69.0*
MOS ***18*** *15:50:15.2±1.1, 2°.36N×127°.11E, h96km, mb5.4/41, MS4.1/6, Error ellipse: s-maj=9.8km s-min=4.7km az=113.2*
ISCJB ***18*** *15:50:16.0±0.3, 2°.37N±0°.02×127°.20E±0°.02, h104km±2km, mb5.3/176, Error ellipse: s-maj=3.9km s-min=2.5km az=171.5*
IDC ***18*** *15:50:16.9±1.1, 2°.30N×127°.14E, h99km±9km, mb4.9/40, mb1 4.9/43, mb1mx4.9/43, mbtmp4.9/43, MS4.1/34, Ms1 4.1/34, ms1mx3.9/48, Error ellipse: s-maj=11.5km s-min=6.7km az=76.0*
DJA ***18*** *15:50:18.5±0.3, 2°.N±2°×12°.7E±°, h92km±3km, M5.2/8, mB5.6/57, mb5.3/68, MLv5.8/14, Mw(mB)5.1/57*
GCMT ***18*** *15:50:18.2±0.1, 2°.38N×127°.07E, h106km±1km, MW5.3, Moment Tensor Solution. s77,c113; s2,c2; Moment tensor: Scale 10^17 Nm; M_rr 0.73±.02; M_θθ 0.34±.02; M_φφ -1.07±.02; M_rθ -0.46±.01; M_θφ -0.36±.02; M_φr -0.03±.02; Best double couple: M_0 1.10000×10^17 NP1:φ_s 343.00000°, δ51.00000°, λ42.00000°. NP2:φ_s 223.00000°, δ58.00000°, λ132.00000°. Principal axes: T 1.0500, Plg55.0000°, Azm189.0000°; N 0.1200, Plg35.0000°, Azm18.0000°; P -1.1700, Plg4.0000°, Azm285.0000°; Data Used: II IC G IU CN. Surface waves: sta=101, comp=177, per= 50.*
ISC 18 15:50:17.2±0.3, 2°.36N±0°.02×127°.20E±0°.02, h102km±2km, h107km±1.6km: pP-P, n891, σ12/581, mb5.3/176, 179C-143D, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.59**	**174**	P	**Pn**	**15 50 44.8**	**+0.1**
TNTI				S	**Sn**	**15 51 05.8**	**+0.3**
SGSI	**Sangihe**	**2.13**	**308**	P	**Pn**	**15 50 50.2**	**-1.3**
SGSI				S	**Sn**	**15 51 14.2**	**-3.6**
MNI	**Manado**	**2.53**	**249**	P	**Pn**	**15 50 56.2**	**-0.6**
MNI				S	**Sn**	**15 51 25.7**	**-1.5**
LBMI	**Labuha**	**2.99**	**174**	P	**Pn**	**15 51 03.5**	**+0.5**
KMSI	**Cibinong**	**3.68**	**241**	P	**Pn**	**15 51 12.0**	**-0.1**
GSPH	**General Santos**	**4.33**	**329⇓**	*e*P	**Pn**	**15 51 18.9**	**-2.0**
GSPH				*e*S	**Sn**	**15 52 05.8**	**-4.5**
GTOI	**Gorontalo**	**4.53**	**248**	P	**Pn**	**15 51 23.9**	**+0.3**
MATI	**Mati**	**4.65**	**348**	*e*P	**Pn**	**15 51 25.8**	**+0.5**
DAV	**Davao City (W)**	**4.95**	**341**	P	**Pn**	**15 51 28.9**	**-0.4**
	120nm,0.3s,baz=195,slow=1.1,SNR=40						
DAV				S	**Sn**	**15 52 27.0**	**+1.6**
	579nm,0.3s,baz=232,slow=19,SNR=6.9						
DAV				LR	LR	15 53 12.9	
	comp=Z,2μm,20.6s,baz=289,slow=35						
DAV	**Davao City (W)**	**4.95**	**341**	P	**Pn**	**15 51 28.9**	**-0.4**
DAV				*e*Pn	**Pn**	**15 51 29.3**	**0.0**
DAV				*e*Sn	**Sn**	**15 52 20.6**	**-4.8**
DAV				S	**Sn**	**15 52 27.1**	**+1.6**
DAV	**Davao City (W)**	**4.95**	**341**	P	**Pn**	**15 51 29.7**	**+0.4**
DAV	**Davao City (W)**	**4.95**	**341⇓**	*e*P	**Pn**	**15 51 29.5**	**+0.1**
DAV	**Davao City (W)**	**4.95**	**341**	P	**Pn**	**15 51 29.6**	**+0.3**
	SNR=38						
DMPH	**Davao City--Mi**	**4.99**	**340⇑**	*e*P	**Pn**	**15 51 30.0**	**+0.2**
DMPH				*e*S	**Sn**	**15 52 17.7**	**-8.6**
KCP	**Kidapawan**	**5.07**	**336⇓**	*i*P	**Pn**	**15 51 30.8**	**-0.2**
KCP				*i* S	**Sn**	**15 52 28.4**	**0.0**
NLAI	**Namlea**	**5.56**	**181**	P	**Pn**	**15 51 36.8**	**-0.9**
	3.5nm310nm,0.5s						
LUWI	**Luwuk**	**5.57**	**233**	P	**Pn**	**15 51 38.2**	**+0.4**
	17nm1μm,0.8s						
MRSI	**Marisa**	**5.58**	**250**	P	**Pn**	**15 51 38.6**	**+0.7**
	29nm10μm,0.8s						
CTBH	**Cotabato--PC H**	**5.66**	**329⇑**	*i*P	**Pn**	**15 51 37.8**	**-1.1**
BUKP	**Musuan**	**5.88**	**339**	*e*P	**Pn**	**15 51 42.1**	**+0.1**
MSAI	**Masohi**	**5.93**	**163**	P	**Pn**	**15 51 44.6**	**+2.0**
	0.6nm3μm133nm,1.4s						
AAI	**Ambon**	**6.09**	**171**	P	**Pn**	**15 51 45.1**	**+0.3**
	1.3nm4μm264nm,0.9s						
CGP	**Cagayan de Oro**	**6.55**	**338⇑**	*e*P	**Pn**	**15 51 50.5**	**-0.5**
CGP				*i* S	**Sn**	**15 53 00.6**	**-3.7**
PAGZ	**Pagadian**	**6.65**	**325**	*e*P	**Pn**	**15 51 50.7**	**-1.7**
BUTP	**Butuan**	**6.75**	**347**	*e*P	**Pn**	**15 51 55.3**	**+1.5**
ZMPH	**Zamboanga City**	**6.86**	**312⇓**	*i*P	**Pn**	**15 51 53.6**	**-1.6**
ZMPH				*i* S	**Sn**	**15 53 05.9**	**-5.9**
IPIL	**Ipil**	**7.09**	**320**	*e*P	**Pn**	**15 51 57.2**	**-1.2**
KDI	**Kendari**	**7.77**	**216**	P	**Pn**	**15 52 05.7**	**-1.9**
	1.4nm4μm173nm,1.1s						
SNPH	**Sibulan**	**7.98**	**331**	*e*P	**Pn**	**15 52 12.1**	**+1.6**
MSLP	**Maasin**	**8.06**	**343**	*e*P	**Pn**	**15 52 12.4**	**+0.7**
OCLP	**Ormoc**	**9.01**	**344**	*e*P	**Pn**	**15 52 24.7**	**+0.2**
PLP	**Palo**	**9.02**	**346⇓**	*e*P	**Pn**	**15 52 24.8**	**+0.1**
PLP				*e*S	**Sn**	**15 53 59.8**	**-4.7**
BBSI	**Bau Bau**	**9.06**	**211**	P	**Pn**	**15 52 26.2**	**+0.9**
	4μm256nm,1.2s						
MYLDM	**Lahad Datu**	**9.12**	**288**	P	**Pn**	**15 52 28.0**	**+1.9**
MYLDM	**Lahad Datu**	**9.12**	**288**	P	**Pn**	**15 52 27.2**	**+1.1**
	1μm,1.2s						
TTSI	**Tana Toraja**	**9.13**	**234**	P	**Pn**	**15 52 24.4**	**-1.7**
	4μm261nm,1.2s						
GUIM	**Jordan**	**9.40**	**331**	*e*P	**Pn**	**15 52 29.2**	**-0.6**
TSM	**Tawau**	**9.51**	**282**	P	**Pn**	**15 52 30.5**	**-0.8**
BAKI	**Biak**	**9.58**	**112**	P	**Pn**	**15 52 35.9**	**+3.6**
	4μm,1.3s						
TLE	**Tual**	**9.68**	**145**	P	**Pn**	**15 52 35.8**	**+2.2**
	4μm380nm,1.3s						
SPSI	**Sidrap Palu**	**9.73**	**230**	P	**Pn**	**15 52 34.0**	**-0.3**
	2μm174nm,0.7s						
BNSI	**Bone**	**9.77**	**227**	P	**Pn**	**15 52 34.1**	**-0.7**
	2μm228nm,0.9s						
MJSI	**Majene**	**10.10**	**234**	P	**Pn**	**15 52 38.4**	**-1.0**
	3μm161nm,1.7s						
RCP	**Roxas**	**10.15**	**334⇑**	*e*P	**Pn**	**15 52 39.4**	**-0.6**
SMKI	**Samarinda**	**10.37**	**255**	P	**Pn**	**15 52 43.5**	**+0.4**
	5μm424nm,1.5s						
BKSI	**Bulukumba**	**10.40**	**223**	P	**Pn**	**15 52 43.9**	**+0.4**
	1μm85nm,1.1s						
CUYO	**Cuyo Island**	**10.43**	**324**	*e*P	**Pn**	**15 52 43.2**	**-0.6**
KAPI	**Kappang**	**10.44**	**225**	P	**Pn**	**15 52 41.6**	**-2.4**
	5.3nm,0.3s,baz=51,slow=14,SNR=19						
KAPI				S	**Sn**	**15 54 32.9**	**-6.3**
	19nm,0.3s,baz=151,slow=22,SNR=8.0						
KAPI	**Kappang**	**10.44**	**225**	P	**Pn**	**15 52 41.6**	**-2.4**
KAPI				S	**Sn**	**15 54 32.9**	**-6.3**
KAPI				*e*Sn	**Sn**	**15 54 34.5**	**-4.7**
KAPI	**Kappang**	**10.44**	**225**	P	**Pn**	**15 52 42.3**	**-1.7**
	1μm104nm,1.2s						
SDKM	**Sandakan**	**10.50**	**288**	P	**Pn**	**15 52 44.0**	**-0.8**
OTRP	**Odiongan**	**11.18**	**333**	*e*P	**Pn**	**15 52 55.9**	**+1.9**
BATP	**Bataraza**	**11.33**	**305**	*e*P	**Pn**	**15 52 56.8**	**+0.8**
KKM	**Kota Kinabalu**	**11.55**	**289**	P	**Pn**	**15 52 59.2**	**+0.2**
KKM	**Kota Kinabalu**	**11.55**	**289**	*e*Pn	**Pn**	**15 52 58.4**	**-0.6**
	531nm,1.0s						
KKM	**Kota Kinabalu**	**11.55**	**289**	P	**Pn**	**15 52 58.7**	**-0.3**
	6μm566nm,1.3s						
PVCP	**Virac**	**11.56**	**345**	*e*P	**Pn**	**15 53 00.2**	**+1.1**
ENPP	**El Nido**	**11.69**	**319**	*e*P	**Pn**	**15 52 60.0**	**-0.9**
BUSP	**Coron**	**11.83**	**324**	*e*P	**Pn**	**15 53 01.7**	**-0.9**
MMRI	**Maumere**	**11.99**	**204**	P	**Pn**	**15 53 04.6**	**-0.2**
	4μm292nm,1.9s						
BOAC	**Boac**	**12.23**	**335**	*e*P	**Pn**	**15 53 08.8**	**+0.8**
SMPI	**Sarmi**	**12.29**	**110**	P	**Pn**	**15 53 10.9**	**+2.1**
	5μm384nm,1.2s						
KBKI	**Kotabaru**	**12.38**	**243**	P	**Pn**	**15 53 08.8**	**-1.2**
	1μm116nm,1.1s						
TGY	**Tagaytay City**	**13.21**	**332**	P	**Pn**	**15 53 20.7**	**-0.2**
	7.6nm,0.3s,baz=333,slow=9.0,SNR=2.7						
TGY	**Tagaytay City**	**13.21**	**332**	P	**Pn**	**15 53 20.7**	**-0.2**
TGY	**Tagaytay City**	**13.21**	**332**	P	**Pn**	**15 53 20.7**	**-0.1**
LUBP	**Lubang**	**13.23**	**329**	*e*P	**Pn**	**15 53 21.4**	**+0.3**
BBKI	**Banjar Baru**	**13.64**	**245**	P	**Pn**	**15 53 26.6**	**0.0**
	131nm,1.3s						
WSI	**Waingapu**	**13.79**	**210**	P	**Pn**	**15 53 29.0**	**+0.6**
	979nm,1.4s						
BTM	**Bintulu**	**14.13**	**274**	P	**Pn**	**15 53 33.2**	**+0.3**
JAY	**Jayapura**	**14.34**	**110**	P	**Pn**	**15 53 41.0**	**+5.4**
	79nm,1.1s						
BALP	**Baler**	**14.40**	**338**	*e*P	**Pn**	**15 53 37.3**	**+0.9**
SBUM	**Sibu**	**14.97**	**271**	P	**Pn**	**15 53 46.2**	**+2.6**
SBUM	**Sibu**	**14.97**	**271**	P	**Pn**	**15 53 43.4**	**-0.2**
	6μm684nm,1.2s						
SCZP	**Santa Cruz**	**15.14**	**332**	*e*P	**Pn**	**15 53 43.2**	**-2.6**
CAUP	**Cauayan**	**15.43**	**340**	*e*P	**Pn**	**15 53 49.1**	**-0.2**
MTNI	**Mataram**	**15.50**	**225**	P	**Pn**	**15 53 51.4**	**+1.1**
	3μm258nm,1.1s						
MTNI				P		15 53 50.0	
	4μm422nm,1.1s						
STKI	**Sintang**	**15.88**	**262**	P	**Pn**	**15 53 55.3**	**+0.2**
	5μm364nm,1.4s						
KMMI	**Kalianget**	**16.18**	**235**	P	**Pn**	**15 54 02.4**	**+3.6**
	281nm,1.5s						
PBKI	**Pangkalan Bun**	**16.32**	**252**	P	**Pn**	**15 53 59.7**	**-0.8**
	2μm151nm,1.4s						
IGBI	**Denpasar**	**16.36**	**227**	P	**Pn**	**15 54 03.3**	**+2.3**
	162nm,1.0s						
NBBI	**Negara**	**16.46**	**230**	P	**Pn**	**15 54 04.8**	**+2.5**
	4μm266nm,0.9s						
ABRA	**Dolores**	**16.48**	**338**	*e*P	**Pn**	**15 54 02.4**	**0.0**
BLJI	**Banyuglugur**	**16.88**	**233**	P	**Pn**	**15 54 08.8**	**+1.4**
	3μm243nm,1.2s						
JAGI	**Jajag, Banyuwa**	**16.88**	**230**	P	**Pn**	**15 54 08.6**	**+1.2**
	3μm212nm,1.2s						
KSM	**Kuching**	**16.91**	**267**	P	**Pn**	**15 54 08.2**	**+0.4**
KSM	**Kuching**	**16.91**	**267**	*e*Pn	**Pn**	**15 54 07.5**	**-0.2**
	533nm,1.1s						
KSM	**Kuching**	**16.91**	**267**	P	**Pn**	**15 54 07.8**	**+0.1**
	4μm432nm,1.2s						
GMJI	**Gumukmas**	**17.32**	**232**	P	**Pn**	**15 54 14.1**	**+1.4**
	2μm150nm,1.2s						
KRKI	**Karangkates**	**18.04**	**234**	P	**P**	**15 54 23.5**	**+2.9**
	301nm,1.1s						
SJI	**Sawahan**	**18.38**	**237**	P	**P**	**15 54 26.1**	**+1.8**
	149nm,1.1s						
PWJI	**Pagerwojo**	**18.50**	**236**	P	**P**	**15 54 26.7**	**+1.1**
	173nm,0.9s						
PCJI	**Pacitan**	**19.11**	**237**	P	**P**	**15 54 34.2**	**+1.9**
	232nm,0.9s						
UGM	**Wanagama**	**19.52**	**238**	P	**P**	**15 54 38.5**	**+1.8**
	141nm,1.2s						
BJII	**Banjamegara**	**19.93**	**241**	P	**P**	**15 54 44.4**	**+3.2**
	1μm93nm,1.6s						
FITZ	**Fitzroy Crossi**	**20.39**	**184**	P	**P**	**15 54 44.0**	**-2.1**
	34nm,0.5s,baz=13,slow=12,SNR=118						
FITZ	**Fitzroy Crossi**	**20.39**	**184**	*e*P	**P**	**15 54 44.3**	**-1.8**
FITZ	**Fitzroy Crossi**	**20.39**	**184⇑**	*e*P	**P**	**15 54 43.9**	**-2.2**
	102nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.39**	**184**	P	**P**	**15 54 44.7**	**-1.4**
	2μm127nm,1.4s						
GUMO	**Guam**	**20.73**	**56**	P	**P**	**15 54 48.8**	**-0.9**
	38nm,0.5s,baz=342,slow=20,SNR=2.6						
GUMO				LR	LR	16 02 24.2	
	comp=Z,245nm,18.5s,baz=165,slow=35						
GUMO	**Guam**	**20.73**	**56**	P	**P**	**15 54 47.6**	**-2.2**
GUMO	**Guam**	**20.73**	**56**	P	**P**	**15 54 47.6**	**-2.2**
TWG	**Pinlang**	**21.19**	**344**	*e*P	**P**	**15 54 51.9**	**-2.7**
	162nm,0.6s,mb5.5						
TWG				*e*S	**S**	**15 58 34.8**	**-10**
LEM	**Lembang**	**21.57**	**245**	P	**P**	**15 55 01.4**	**+2.6**
	1μm117nm,0.9s,mb5.2						
YULB	**Yu-li**	**21.68**	**345**	*e*P	**P**	**15 54 57.3**	**-2.5**
	98nm,0.6s,mb5.3						
YULB				*e*S	**S**	**15 58 47.8**	**-6.2**
CISI	**Cisompet, Garu**	**21.71**	**243**	P	**P**	**15 55 01.6**	**+1.3**
	1μm130nm,0.8s,mb5.3						
TPUB	**Ta-pu**	**21.77**	**344**	*e*P	**P**	**15 54 59.2**	**-1.6**
	327nm,0.8s,mb5.7						
TPUB				*e*S	**S**	**15 58 50.7**	**-5.0**
CBJI	**Citeko**	**22.11**	**247**	P	**P**	**15 55 03.2**	**-1.4**
	9μm236nm,1.0s,mb5.5						
SSLB	**Suanglung**	**22.14**	**345⇑**	*e*P	**P**	**15 55 02.6**	**-2.2**
	315nm,0.9s,mb5.6						
SSLB				*e*S	**S**	**15 58 54.8**	**-7.3**
DBJI	**Dramaga**	**22.25**	**246**	P	**P**	**15 55 07.4**	**+1.3**
	2μm102nm,1.0s,mb5.1						
NACB	**Ninganchiao**	**22.35**	**346**	*e*P	**P**	**15 55 05.8**	**-1.2**
	50nm,0.7s,mb5.0						
COEN	**Coen**	**22.66**	**136⇑**	*i*P	**P**	**15 55 09.0**	**-1.4**
	396nm,1.0s,mb5.7						
COEN	**Coen**	**22.66**	**136**	P	**P**	**15 55 09.2**	**-1.1**
	650nm56nm,1.3s,mb4.7						
YHNB	**Yeheng**	**22.88**	**346**	*e*P	**P**	**15 55 10.8**	**-1.5**
	94nm,0.6s,mb5.3						
RBSI	**Rajabasa**	**22.93**	**249**	P	**P**	**15 55 14.3**	**+1.4**
	1μm117nm,0.9s,mb5.2						
PMG	**Port Moresby**	**23.07**	**121**	P	**P**	**15 55 12.8**	**-1.4**
	14nm,1.0s,mb4.3,baz=333,slow=9.0,SNR=3.1						
PMG	**Port Moresby**	**23.07**	**121**	*e*P	**P**	**15 55 12.2**	**-1.9**
	62nm,1.0s,mb4.9						
PMG	**Port Moresby**	**23.07**	**121**	*i* P	**P**	**15 55 16.2**	**+2.0**
PMG	**Port Moresby**	**23.07**	**121**	P	**P**	**15 55 16.3**	**+2.1**
	721nm38nm,0.9s,mb4.7						
BLSI	**Bandar Lampung**	**23.24**	**251**	P	**P**	**15 55 17.8**	**+2.0**
WRAB	**Tennant Creek**	**23.24**	**163⇑**	*i*P	**P**	**15 55 14.3**	**-1.4**
	596nm,0.9s,mb5.9						
WRAB				*e*S	**S**	**15 59 18.4**	**-1.7**
WRAB	**Tennant Creek**	**23.24**	**163⇑**	*i*P	**P**	**15 55 14.3**	**-1.4**
WRAB				*e*S	**S**	**15 59 18.4**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,596nm,0.9s,mb5.9						
WRAB	**Tennant Creek**	**23.24**	**163**	P	**P**	**15 55 14.6**	**-1.1**
	comp=Z,1μm,1.1s,mb6.2						
WRAB	**Tennant Creek**	**23.24**	**163**	P	**P**	**15 55 14.3**	**-1.4**
	comp=Z,4μm,1.0s						
WRA	**Warramunga Arr**	**23.25**	**163**	P	**P**	**15 55 13.5**	**-2.2**
	comp=Z,414nm,0.9s,mb5.8,baz=344,slow=11,SNR=415						
WRA				S	**S**	**15 59 16.4**	**-3.8**
	comp=Z,54nm,1.1s,baz=327,slow=17,SNR=9.0						
WRA	**Warramunga Arr**	**23.25**	**163**	P	**P**	**15 55 13.5**	**-2.2**
WRA				S	**S**	**15 59 16.4**	**-3.8**
WRA	**Warramunga Arr**	**23.25**	**163**	P	**P**	**15 55 13.5**	**-2.2**
WRA				S	**S**	**15 59 16.4**	**-3.8**
CGJI	**Cibinong**	**23.25**	**247**	P	**P**	**15 55 16.1**	**+0.2**
	comp=Z,1μmcomp=Z,141nm,1.1s,mb5.2						
WB2	**Warramunga Arr**	**23.25**	**163⇑**	*i*P	**P**	**15 55 14.2**	**-1.5**
WB2				*e*		15 55 21.6	
WB2				*e*S	**S**	**15 59 15.2**	**-5.0**
MYKOM	**Kota Tinggi**	**23.34**	**269**	P	**P**	**15 55 17.6**	**+0.9**
MYKOM	**Kota Tinggi**	**23.34**	**269**	P	**P**	**15 55 16.9**	**+0.2**
	comp=Z,2μmcomp=Z,87nm,1.5s,mb4.8						
QIZ	**Qiongzhong**	**23.73**	**315**	P	**P**	**15 55 20.5**	**+0.3**
QIZ				S	**S**	**15 59 32.3**	**+4.2**
QIZ				pmax	pmax		
	comp=Z,180nm,6.9s						
QIZ				LR	LR		
	comp=N,1μm,18.5s						
QIZ	**Qiongzhong**	**23.73**	**315**	*e*P	**P**	**15 55 19.5**	**-0.7**
	comp=N,110nm,1.0s,mb5.1						
KGM	**Kluang**	**23.87**	**270**	P	**P**	**15 55 23.4**	**+1.9**
QZH	**Quanzhou**	**23.94**	**340⇑**	*i*P	**P**	**15 55 20.9**	**-1.1**
QZH				S	**S**	**15 59 25.6**	**-5.7**
QZH				pmax	pmax		
	comp=Z,170nm,0.7s,mb

comp=Z,58nm,0.9s,mb5.2
WHN Wuhan 30.56 338 P P 15 56 16.6 -4.6
WHN S **S** **16 01 10.6 -5.1**
WHN LR LR
comp=N,750nm,4.4s
WHN LR LR
comp=E,260nm,4.6s
WHN LR LR
comp=Z,2μm,36.5s
NJ2 Nanjing 30.56 346 *e*P **P** **15 56 23.5 +2.3**
NJ2 pP pP 15 56 46.6 +2.5
NJ2 sP sP 15 57 00.3 +4.4
NJ2 PP PP 15 57 26.4 -5.8
NJ2 pmax pmax
comp=Z,50nm,1.0s,mb5.2
NJ2 pmax pmax
comp=Z,260nm,5.6s
GYA Guiyang 31.03 322⇑ *i*P **P** **15 56 25.3 -0.2**
GYA pP pP 15 56 51.8 +3.5
GYA PP PP 15 57 33.0 -4.5
GYA PcP PcP 15 59 18.6 -0.5
GYA S **S** **16 01 22.8 -0.4**
GYA ScP ScP 16 02 50.0 -2.9
GYA SS SS 16 03 15.6 -24
GYA pmax pmax
comp=Z,30nm,0.9s,mb5.0
GYA pmax pmax
comp=Z,160nm,5.2s
GYA LR LR
comp=N,630nm,15.7s
GYA LR LR
comp=E,590nm,17.0s
GYA LR LR
comp=Z,670nm,16.8s
BDT Bhumibol Dam 31.40 300 P **P** **15 56 29.0 +0.2**
comp=Z,49nm,0.9s,mb5.2
CHRT Chiangrai 31.94 305 ⇓P **P** **15 56 32.0 -1.6**
comp=Z,263nm,0.9s,mb6.0
CM31 Chiang Mai Arr 31.98 302 *e*P **P** **15 56 33.6 -0.3**
comp=Z,45nm,0.9s,mb5.2
CMAR Chiang Mai Arr 31.98 302 P **P** **15 56 33.8 -0.1**
comp=Z,40nm,0.9s,mb5.2,baz=121,slow=7.1,SNR=195
CMAR PcP PcP 15 59 22.6 +0.8
comp=Z,7.0nm,0.9s,baz=144,slow=1.5,SNR=6.5
CMAR LR LR 16 11 04.0
comp=Z,181nm,18.6s,baz=336,slow=39
CMAR Chiang Mai Arr 31.98 302 P **P** **15 56 33.8 -0.1**
CMAR PcP PcP 15 59 22.6 +0.8
CMAR Chiang Mai Arr 31.98 302 P **P** **15 56 33.8 -0.1**
CMAR 15 59 22.6
CHG Chiang Mai 32.14 303 ⇓P **P** **15 56 35.1 -0.2**
comp=Z,84nm,1.0s,mb5.4
CHTO Chiang Mai 32.14 303 ⇓ *i*P **P** **15 56 34.6 -0.7**
comp=Z,68nm,0.9s,mb5.4
CHTO Chiang Mai 32.14 303 ⇓ *i*P **P** **15 56 34.6 -0.7**
CHTO pmax pmax
comp=Z,68nm,0.9s,mb5.4
CHTO Chiang Mai 32.14 303 P **P** **15 56 35.3 0.0**
comp=Z,873nmcomp=Z,92nm,0.9s,mb5.5
CHTO Chiang Mai 32.14 303 P **P** **15 56 35.4 +0.1**
SNR=20
ENH Enshi 32.44 331 *e*P **P** **15 56 36.9 -0.9**
comp=Z,95nm,0.7s,mb5.6
ENH *e*PcP PcP 15 59 22.8 -0.1
KMI Kunming 32.68 316 P **P** **15 56 40.9 +1.0**
KMI pP pP 15 57 05.1 +2.2
KMI PcP PcP 15 59 25.3 +1.7
KMI S **S** **16 01 44.4 -4.5**
KMI pmax pmax
comp=Z,51nm,1.1s,mb5.3
KMI pmax pmax
comp=Z,170nm,3.4s
KMI LR LR
comp=N,610nm,17.8s
KMI LR LR
comp=E,440nm,19.8s
KMI LR LR
comp=Z,350nm,35.6s
KMI Kunming 32.68 316 P **P** **15 56 40.9 +1.0**
comp=Z,51nm,1.1s,mb5.3
KMI pP pP 15 57 05.1 +2.2
KMI sP sP 15 57 17.1 +2.5
KMI PcP PcP 15 59 25.2 +1.6
KMI S **S** **16 01 44.4 -4.5**
KMI sS sS 16 02 27.5 -1.2
KMI LR LR
comp=Z,350nm,35.6s
KMI Kunming 32.68 316 P **P** **15 56 40.9 +1.0**
KMI *PP pP 15 57 05.1 +2.2
KMI *SP sP 15 57 17.1 +2.5
KMI 15 59 25.2
KMI S **S** **16 01 44.4 -4.5**
KMI pmax pmax
comp=Z,51nm,1.1s,mb5.3
KMI MLR MLR
comp=Z,350nm,35.6s
FORT Forrest 32.97 179⇑ *i*P **P** **15 56 41.2 -1.1**
FORT *e*PCP PcP 15 59 24.6 +0.3
FORT Forrest 32.97 179⇑ *i*P **P** **15 56 41.1 -1.3**
comp=Z,366nm,0.8s,mb6.3
FORT *e*PcP PcP 15 59 24.5 +0.2
KSAR Wonju Array Be 34.92 1 P **P** **15 56 59.9 +0.8**
KSAR Wonju Array Be 34.92 1 P **P** **15 56 59.9 +0.8**
KSRS Korea Array 34.93 1 P **P** **15 56 59.9 +0.7**
comp=Z,19nm,0.9s,mb4.9,baz=179,slow=9.9,SNR=44
KLBR Kellerberrin 34.94 194 *e*P **P** **15 56 58.5 -0.9**
comp=Z,253nm,0.9s,mb6.0
KLBR *e*PCP PcP 15 59 29.8 -0.1
MAJO Matsushiro 35.50 15 *e*P **P** **15 57 03.2 -1.0**
comp=Z,41nm,0.8s,mb5.4
MAJO *e*PcP PcP 15 59 32.3 +0.8
MAJO Matsushiro 35.50 15 *e*P **P** **15 57 03.2 -1.0**
MAJO *e* 15 59 32.3
MAJO pmax pmax
comp=Z,41nm,0.8s,mb5.4
MAT Matsushiro 35.50 15 P **P** **15 57 03.3 -0.9**
MAT S **S** **16 02 30.6 -1.5**
MJAR Matsushiro Arr 35.50 15 P **P** **15 57 03.3 -0.9**
comp=Z,20nm,0.8s,mb5.0,baz=193,slow=8.6,SNR=34
MJAR ScP ScP 16 03 08.9 +0.6
comp=Z,6.6nm,1.1s,baz=168,slow=3.1,SNR=6.0
MJAR LR LR 16 11 20.2
comp=Z,207nm,19.9s,baz=205,slow=36
MJAR Matsushiro Arr 35.50 15 P **P** **15 57 03.3 -0.9**
MJAR ScP ScP 16 03 08.9 +0.6
MJAR Matsushiro Arr 35.50 15 P **P** **15 57 03.3 -0.9**
XAN Xi'an 35.84 334 P **P** **15 57 06.9 -0.2**
XAN pP pP 15 57 30.8 +0.5
XAN S **S** **16 02 36.4 -1.0**
XAN SS SS 16 05 04.6 -13
XAN pmax pmax
comp=Z,19nm,0.9s,mb5.0
XAN pmax pmax
comp=Z,26nm,6.2s
XAN LR LR
comp=N,350nm,20.4s
XAN LR LR
comp=E,170nm,22.3s
XAN LR LR
comp=Z,140nm,39.3s
BBOO Buckleboo 35.97 167⇑ *i*P **P** **15 57 07.0 -1.3**
comp=Z,3μm,1.1s
BBOO *e*PP PP 15 58 27.2 -4.9
BBOO *e*PcP PcP 15 59 32.5 -0.4
EIDS Eidsvold 35.99 141 *e*P **P** **15 57 07.5 -1.0**
EIDS Eidsvold 35.99 141⇑ *i*P **P** **15 57 07.3 -1.3**
comp=Z,91nm,0.9s,mb5.7
EIDS *e*pP pP 15 57 30.7 -1.0
CD2 Chengdu 36.02 324⇑ *i*P **P** **15 57 08.8 +0.1**
CD2 PP PP 15 58 33.3 +0.7
CD2 PcP PcP 15 59 33.6 +0.4
CD2 S **S** **16 02 39.6 -0.7**
CD2 SS SS 16 05 07.3 -14
CD2 ScS ScS 16 07 13.9 -2.2
CD2 pmax pmax
comp=Z,60nm,0.9s,mb5.5
CD2 pmax pmax
comp=Z,160nm,4.2s
CD2 LR LR
comp=N,440nm,15.6s
CD2 LR LR
comp=E,610nm,14.4s
CD2 LR LR
comp=Z,370nm,12.0s
NWAO Narrogin (SRO) 36.34 194 P **P** **15 57 10.6 -0.8**
comp=Z,110nm,0.9s,mb5.8,baz=23,slow=10,SNR=48
NWAO Narrogin (SRO) 36.34 194 *e*P **P** **15 57 10.6 -0.8**
comp=Z,166nm,1.1s,mb5.9
NWAO Narrogin (SRO) 36.34 194 *e*P **P** **15 57 10.6 -0.8**
NWAO pmax pmax
comp=Z,166nm,1.1s
NWAO Narrogin (SRO) 36.34 194 P **P** **15 57 11.2 -0.1**
SNR=7.4
STKA Stephens Creek 36.69 159 P **P** **15 57 13.7 -0.6**
comp=Z,413nm,0.7s,mb6.5,baz=335,slow=9.2,SNR=460
STKA PP PP 15 58 36.7 -3.3
comp=Z,60nm,0.8s,baz=335,slow=9.2,SNR=3.7
STKA PcP PcP 15 59 34.5 -0.6
comp=Z,52nm,0.8s,baz=331,slow=5.0,SNR=4.4
STKA LR LR 16 12 12.0
comp=Z,296nm,20.5s,baz=343,slow=36
STKA Stephens Creek 36.69 159⇑ *i*P **P** **15 57 13.8 -0.6**
STKA *e*PCP PcP 15 59 35.4 +0.3
STKA Stephens Creek 36.69 159⇑ *i*P **P** **15 57 13.8 -0.6**
comp=Z,88nm,0.8s,mb5.7
STKA *e*PP PP 15 58 36.4 -3.6
STKA PP PP 15 58 36.7 -3.3
STKA *e*PcP PcP 15 59 34.6 -0.5
STKA Stephens Creek 36.69 159⇑ *i*P **P** **15 57 13.8 -0.6**
STKA 15 58 36.7
STKA *e* 15 59 34.6
STKA pmax pmax
comp=Z,88nm,0.8s
BJT Baijiatuau 38.80 346 *e*P **P** **15 57 32.8 +0.8**
comp=Z,143nm,0.8s,mb5.8
BJT Baijiatuau 38.80 346 *e*P **P** **15 57 32.8 +0.8**
BJT pmax pmax
comp=Z,143nm,0.8s
BJI Beijing 38.82 346 P **P** **15 57 33.3 +1.1**
BJI S **S** **16 03 23.6 +1.2**
BJI pmax pmax
comp=Z,140nm,1.1s,mb5.7
BJI pmax pmax
comp=Z,150nm,3.5s
BJI LR LR
comp=N,170nm,16.6s
BJI LR LR
comp=E,250nm,12.2s
BJI LR LR
comp=Z,180nm,15.2s
IMP Imphal 39.07 308 *ex* **P** **15 57 29.0 -5.5**
IMP *ex* x 15 59 43.0
SNY Shenyang 39.43 356⇑⇑P **P** **15 57 38.0 +0.8**
SNY pmax pmax
comp=Z,14nm,1.0s,mb4.8
LZH Lanzhou 39.91 330 *e*P **P** **15 57 42.8 +1.4**
LZH pP pP 15 58 06.0 +1.1
LZH sP sP 15 58 20.8 +4.3
LZH PP PP 15 59 21.0 +5.8
LZH SS SS 16 06 36.0 -3.6
LZH pmax pmax
comp=Z,52nm,1.2s,mb5.2
LZH pmax pmax
comp=Z,210nm,6.3s
LZH LR LR
comp=N,500nm,12.3s
LZH LR LR
comp=E,510nm,10.2s
LZH LR LR
comp=Z,750nm,18.0s
LZH Lanzhou 39.91 330 *e*P **P** **15 57 42.7 +1.3**
comp=Z,52nm,1.2s,mb5.2
LZH pP pP 15 58 06.0 +1.1
LZH sP sP 15 58 20.8 +4.3
LZH PP PP 15 59 21.0 +5.8
LZH S S 16 02 40.3 -59
LZH sS sS 16 03 25.6 -54
LZH SS SS 16 06 36.0 -3.6
LZH LR LR
comp=Z,750nm,18.0s
LZH Lanzhou 39.91 330 *e*P **P** **15 57 42.7 +1.3**
LZH *PP pP 15 58 06.0 +1.1
LZH *SP sP 15 58 20.8 +4.3
LZH 15 59 21.0
LZH SS SS 16 06 36.0 -3.6
LZH pmax pmax
comp=Z,52nm,1.2s,mb5.2
LZH MLR MLR
comp=Z,750nm,18.0s
ARMA Armidale 40.07 146 *e*P **P** **15 57 42.9 +0.2**
ARMA Armidale 40.07 146⇑ *e*P **P** **15 57 42.8 0.0**
comp=Z,99nm,0.9s,mb5.6
VLA Vladivostok 40.80 5⇓ *i*P **P** **15 57 49.4 +0.9**
VLA *e* 15 59 23.0
VLA *e* 15 59 46.3
VLA *e*S **S** **16 03 50.8 -1.0**
VLA pmax pmax
comp=Z,56nm,1.2s,mb5.3
HHC Hu-ho-hao-te 40.84 342 *e*P **P** **15 57 50.3 +1.4**
HHC pP pP 15 58 15.5 +3.0
HHC sP sP 15 58 28.6 +4.5
HHC PP PP 15 59 29.8 +4.7
HHC PcP PcP 15 59 49.1 +1.1
HHC ScP ScP 16 03 26.4 -2.1
HHC PcS PcS 16 03 38.3 -0.5
HHC S **S** **16 03 53.8 +1.3**
HHC sS sS 16 04 37.3 +4.1
HHC SS SS 16 06 55.4 -2.4
HHC ScS ScS 16 07 40.8 -2.8
HHC pmax pmax
comp=Z,31nm,1.0s,mb5.1
HHC pmax pmax
comp=Z,180nm,5.8s
SHL Shillong 41.07 307 *i* P **P** **15 57 51.0 -0.1**
SHL *ex* x 16 03 39.0
BTO Baotou 41.12 340 *e*P **P** **15 57 49.8 -1.4**
ARPS Mount Arapiles 41.25 162 *e*P **P** **15 57 52.1 -0.2**
comp=Z,471nm,0.8s,mb6.4
CN2 Changchun 41.29 358 *e*P **P** **15 57 52.6 0.0**
CN2 *e*pP pP 15 58 18.8 +2.6
CN2 PcP PcP 15 59 50.0 +0.6
CN2 *e*S **S** **16 03 59.8 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
CN2 pmax pmax
comp=Z,200nm,4.0s
YNG Young 41.56 153 *e*P **P** **15 57 54.8 -0.1**
USRK Ussuriysk Arra 41.88 5 P **P** **15 57 58.2 +0.8**
comp=Z,45nm,0.8s,mb5.2
MDJ Mudanjiang 42.13 3 P **P** **15 58 00.6 +1.2**
MDJ pP pP 15 58 24.0 +0.9
MDJ PP PP 15 59 40.5 +1.5
MDJ PcP PcP 15 59 52.4 +0.3
MDJ S **S** **16 04 12.3 +0.8**
MDJ pmax pmax
comp=Z,70nm,0.9s,mb5.4
MDJ pmax pmax
comp=Z,60nm,6.1s
MDJ Mudanjiang 42.13 3⇑ *e*P **P** **15 58 00.3 +0.9**
comp=Z,65nm,0.9s,mb5.4
CAN Canberra 42.68 153⇑ *i*P **P** **15 58 04.1 +0.1**
comp=Z,186nm,1.2s,mb5.7
CAN *e*PP PP 15 59 46.2 +1.1
CAN Canberra 42.68 153⇑ *i*P **P** **15 58 04.1 +0.1**
CAN *e* 15 59 46.2
CAN pmax pmax
comp=Z,186nm,1.2s,mb5.7
CNB Canberra Magne 42.84 153 *e*P **P** **15 58 05.6 +0.3**
LSA Lhasa 43.70 312 P **P** **15 58 13.3 +1.0**
LSA S **S** **16 04 32.8 -2.1**
LSA Lhasa 43.70 312⇓ *e*P **P** **15 58 13.2 +0.9**
comp=Z,51nm,0.6s,mb5.4
LSA *e* 15 59 58.5
LSA *e*S **S** **16 04 36.4 +1.4**
LSA Lhasa 43.70 312⇓ *e*P **P** **15 58 13.2 +0.9**
LSA *e* 15 59 58.5
LSA *e*S **S** **16 04 36.4 +1.5**
LSA pmax pmax
comp=Z,51nm,0.6s,mb5.4
ASAJ Asahikawa 43.76 16 P **P** **15 58 13.6 +1.0**
comp=Z,21nm,0.9s,mb4.9,baz=213,slow=8.5,SNR=8.9
ASAJ LR LR 16 16 26.7
comp=Z,193nm,18.6s,baz=189,slow=36
ASAJ Asahikawa 43.76 16 P **P** **15 58 13.6 +1.0**
GTA Gaotai 44.51 329⇓P **P** **15 58 19.3 +0.7**
GTA pP pP 15 58 42.1 -0.4
GTA PcP PcP 16 00 01.8 +1.5
GTA S **S** **16 04 47.5 +1.1**
GTA sS sS 16 05 32.8 +5.3
GTA SS SS 16 08 02.8 -6.8
GTA pmax pmax
comp=Z,22nm,0.8s,mb4.9
GTA pmax pmax
comp=Z,180nm,4.7s
GTA LR LR
comp=N,430nm,24.7s
GTA LR LR
comp=E,330nm,20.4s
GTA LR LR
comp=Z,330nm,24.7s
YUK Yuzh-Kuril'sk 44.67 19 *d* *i*P **P** **15 58 23.6 +3.7**
YUK *i* S **S** **16 04 58.7 +10**
YUK pmax pmax
comp=Z,146nm,4.2s
YUK MLR MLR
comp=E,434nm,21.0s
YUK MLR MLR
comp=Z,358nm,21.0s
TAPN Taplejung 45.21 307 *e*P **P** **15 58 24.6 +0.2**
comp=Z,96nm,0.8s,mb5.6
TAPN Taplejung 45.21 307 *e*P **P** **15 58 24.6 +0.2**
comp=Z,96nm,0.8s,mb5.6
ODAN Odare 45.25 306 *e*P **P** **15 58 24.6 -0.1**
comp=Z,118nm,0.7s,mb5.7
ODAN Odare 45.25 306 *e*P **P** **15 58 24.6 -0.1**
comp=Z,118nm,0.7s,mb5.7
DZM Mont Dzumac 45.37 124 *e*P **P** **15 58 25.6 -0.1**
comp=Z,71nm,1.3s,mb5.2
DZM *e*LR LR 16 11 17.9
comp=Z,836nm,31.9s
DZM Mont Dzumac 45.37 124 LR LR 16 15 05.5
comp=Z,267nm,19.5s,baz=203,slow=33
RAMN Ramite 45.92 306 *e*P **P** **15 58 30.3 +0.3**
comp=Z,136nm,0.8s,mb5.7
RAMN Ramite 45.92 306 *e*P **P** **15 58 30.3 +0.3**
comp=Z,136nm,0.8s,mb5.7
HABR Khabarovsk 46.43 7 *ce*P **P** **15 58 31.6 -2.0**
HABR *e**PP pP 15 58 55.5 -2.2
HABR *e**SP sP 15 59 07.3 -1.9
HABR *e* 16 00 05.1
HABR *e* 16 00 22.7
HABR PPP 16 01 06.9
HABR *e*S **S** **16 05 12.1 -1.7**
HABR *e**SS sS 16 05 53.7 -1.4
HABR *e* 16 08 16.6
HABR *e*SS SS 16 08 40.8 -0.1
HABR *e*SSS 16 09 45.1
HABR pmax pmax
comp=Z,60nm,1.3s,mb5.2
HABR pmax pmax
comp=N,27nm,1.3s
HABR pmax pmax
comp=E,37nm,1.6s
HABR MLR MLR
comp=Z,86nm,19.0s
YSS Yuzh-Sakhalins 46.43 15 *e*P **P** **15 58 33.7 +0.1**
comp=Z,66nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 46.43 15 *e*P **P** **15 58 33.8 +0.1**
JIRN Jiri 46.56 307 *e*P **P** **15 58 35.2 +0.2**
comp=Z,159nm,0.9s,mb5.8
JIRN Jiri 46.56 307 *e*P **P** **15 58 35.2 +0.2**
comp=Z,159nm,0.9s,mb5.8
KLR Kul'dur 46.86 4 *e*P **P** **15 58 32.8 -4.1**
KLR pmax pmax
comp=Z,60nm,1.0s,mb5.3
GUN Gumba 46.91 307 *e*P **P** **15 58 37.9 +0.1**
comp=Z,197nm,0.7s,mb6.0
GUN Gumba 46.91 307 *e*P **P** **15 58 37.9 +0.1**
comp=Z,197nm,0.7s,mb6.0
PKI Pulchoki 47.15 306 *e*P **P** **15 58 39.2 -0.4**
PKI Pulchoki 47.15 306 *e*P **P** **15 58 39.2 -0.4**
PKI Pulchoki 47.15 306 *e*P **P** **15 58 39.2 -0.4**
HIA Hailar 47.16 353 *e*P **P** **15 58 39.9 +0.6**
comp=Z,86nm,0.9s,mb5.5
HIA *e*PcP PcP 16 00 09.5 +0.2
HIA Hailar 47.16 353 *e*P **P** **15 58 39.9 +0.6**
HIA *e* 16 00 09.5
HIA pmax pmax
comp=Z,86nm,0.9s
KKN Kakani 47.34 306 *e*P **P** **15 58 40.8 -0.3**
KKN Kakani 47.34 306 *e*P **P** **15 58 40.8 -0.3**
KKN Kakani 47.34 306 *e*P **P** **15 58 40.8 -0.3**
DMN Daman 47.41 306 *e*P **P** **15 58 41.4 -0.2**
comp=Z,86nm,0.9s,mb5.5
DMN Daman 47.41 306 *e*P **P** **15 58 41.4 -0.2**
comp=Z,86nm,0.9s,mb5.5
GKN Gorkha 47.95 306 *e*P **P** **15 58 45.3 -0.5**
GKN Gorkha 47.95 306 *e*P **P** **15 58 45.3 -0.5**
ULN Ulaanbaatar 48.56 342⇑ *i*P **P** **15 58 51.6 +1.5**
comp=Z,45nm,0.9s,mb5.4
ULN Ulaanbaatar 48.56 342⇑ *i*P **P** **15 58 51.6 +1.5**
ULN pmax pmax
comp=Z,45nm,0.9s,mb5.4
ULN Ulaanbaatar 48.56 342 P **P** **15 58 51.3 +1.2**
SNR=21
TAU Tasmania Unive 48.58 160 *e*P **P** **15 58 50.2 -0.1**
TAU Tasmania Unive 48.58 160 *e*P **P** **15 58 50.2 -0.1**
KOLN Koldanda 48.69 306 *e*P **P** **15 58 51.6 +0.1**
comp=Z,134nm,0.7s,mb6.0
KOLN Koldanda 48.69 306 *e*P **P** **15 58 51.6 +0.1**
comp=Z,134nm,0.7s,mb6.0
SONM Songino Array 48.74 341 P **P** **15 58 52.7 +1.2**
comp=Z,28nm,0.8s,mb5.2,baz=157,slow=7.9,SNR=48
SONM ScP ScP 16 04 01.9 +1.1
comp=Z,1.7nm,0.9s,baz=147,slow=3.4,SNR=3.8
SONM LR LR 16 20 02.2
comp=Z,218nm,21.4s,baz=162,slow=37
SONM Songino Array 48.74 341 P **P** **15 58 52.7 +1.2**
SONM ScP ScP 16 04 01.9 +1.1
SONM Songino Array 48.74 341 P **P** **15 58 52.7 +1.2**
DANN Dangsing 48.80 306 *e*P **P** **15 58 52.2 -0.1**
comp=Z,150nm,0.8s,mb6.0
DANN Dangsing 48.80 306 *e*P **P** **15 58 52.2 -0.1**
comp=Z,150nm,0.8s,mb6.0
HYB Hyderabad 50.03 291 *i* P **P** **15 59 00.0 -1.8**
comp=Z,60nm,1.0s,mb5.5
HYB *e*S **S** **16 06 06.0 +0.6**
TRD Trivandrum 50.35 279⇑ *e*PKP **S** **16 06 15.7 +5.6**
CIT Chita 50.79 349 *e*P **P** **15 59 08.4 +1.5**
CIT *e* pP 15 59 29.2 -2.2
CIT pmax pmax
comp=Z,144nm,1.3s,mb5.8
ZAK Zakamensk 51.96 341 *e*P **P** **15 59 16.0 +0.3**
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
LATR Latur 52.09 291 *ex* **P** **15 59 14.3 -2.9**
BHPL Bhopal 52.44 298 *e*PKP **P** **15 59 19.5 -0.3**
BHPL *e*PKP 15 59 19.9
TLY Talaya 52.97 342 *e*P **P** **15 59 22.7 -0.4**
comp=Z,35nm,0.8s,mb5.4
TLY Talaya 52.97 342 *e*P **P** **15 59 22.1 -1.0**
TLY *e*PS 16 06 39.4
TLY pmax pmax
comp=Z,29nm,0.8s,mb5.4
TLY MLR MLR
comp=Z,91nm,16.0s
MOY Mondy 53.82 340 *e*P **P** **15 59 31.4 +2.0**
MOY pmax pmax
comp=Z,63nm,1.4s,mb5.5
MSVF Nonsavu 53.92 114⇑ *e*P **P** **15 59 31.6 +0.9**
comp=Z,69nm,1.0s,mb5.6
MSVF *e* 16 00 11.4
MSVF Nonsavu 53.92 114⇑ *e*P **P** **15 59 31.7 +1.0**
MSVF pmax pmax
comp=Z,69nm,1.0s,mb5.6
MSVF Nonsavu 53.92 114 P **P** **15 59 32.2 +1.5**
comp=Z,382nm,1.0s,mb6.4,SNR=10
KAD Karad 54.11 290 *e*PKP **P** **15 59 30.6 -1.4**
KAD *e*PKP 15 59 31.1
WMQ Urumqi 54.11 325 P **P** **15 59 32.9 +1.3**
WMQ pP pP 15 59 56.5 +0.2
WMQ PP PP 16 01 37.3 +3.0
WMQ S **S** **16 07 00.1 -0.4**
WMQ pmax pmax
comp=Z,47nm,1.0s,mb5.5
WMQ pmax pmax
comp=Z,250nm,7.2s
WMQ LR LR
comp=N,820nm,25.6s
WMQ LR LR
comp=E,380nm,26.4s
WMQ LR LR
comp=Z,310nm,25.6s
DDI Dehra Dun 54.15 306 *e*PKP **P** **15 59 32.0 -0.2**

NDI New Delhi 54.27 304 *e*PKP **P 15 59 30.4 -2.7**
CLNS Chul'man 54.35 358 *e*P **P 15 59 32.2 -0.9**
CLNS pmax pmax
comp=Z,23nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,13nm,0.7s
POO Poona 54.63 291 *i*P **P 15 59 34.9 -1.0**
POO AMb AMB 15 59 36.2
comp=Z,81nm,0.8s,mb5.8
DGAR Diego Garcia 55.48 259 *e*P **P 15 59 41.5 -0.6**
comp=Z,182nm,1.2s,mb6.0
DGAR Diego Garcia 55.48 259 *e*P **P 15 59 41.5 -0.6**
DGAR pmax pmax
comp=Z,182nm,1.2s,mb6.0
BOD Bodaibo 56.28 352 *e*P **P 15 59 46.5 -0.4**
BOD pmax pmax
comp=Z,37nm,1.3s,mb5.2
PEA0B Petropavlovsk- 56.52 22⇑*e*P **P 15 59 48.9 +0.2**
PETK Petropavlovsk- 56.52 22 P **P 15 59 49.8 +1.1**
comp=Z,23nm,0.6s,mb5.4,baz=194,slow=6.6,SNR=24
PETK LR LR 16 20 18.9
comp=Z,47nm,21.9s,baz=31,slow=32
PETK Petropavlovsk- 56.52 22 P **P 15 59 49.8 +1.1**
PETK Petropavlovsk- 56.52 22 P **P 15 59 49.8 +1.1**
THN Thein Dam 56.77 308 *e*PKP **P 15 59 50.0 -0.9**
PET Petropavlovsk 56.80 22 *e*P **P 15 59 51.1 +0.3**
PET *e*S **S 16 07 34.5 -1.5**
PET pmax pmax
comp=Z,22nm,0.8s,mb5.2
MK31 Makanchi Array 58.94 326⇓*e*P **P 16 00 06.5 +0.7**
MK31 *e*S **S 16 08 04.7 +0.5**
MK31 Makanchi Array 58.94 326⇓*e*P **P 16 00 06.5 +0.7**
MK31 *e*S **S 16 08 04.7 +0.6**
MKAR Makanchi Array 58.94 326 P **P 16 00 06.7 +0.9**
comp=Z,45nm,0.7s,mb5.6,baz=123,slow=8.3,SNR=510
MKAR S **S 16 08 04.9 +0.8**
comp=Z,1.1nm,0.8s,baz=132,slow=12,SNR=4.4
MKAR PKPPKP 16 29 28.5
comp=Z,0.5nm,0.7s,baz=298,slow=3.1,SNR=6.0
MKAR PKP2bc 16 29 45.0
comp=Z,2.7nm,0.8s,baz=318,slow=1.9,SNR=13
MKAR Makanchi Array 58.94 326 P **P 16 00 06.7 +0.9**
MKAR S **S 16 08 04.9 +0.8**
MKAR P'P'
MKAR ⇑*e* 16 29 45.0
MKAR Makanchi Array 58.94 326 P **P 16 00 06.7 +0.9**
MKAR S **S 16 08 04.9 +0.8**
KSH Kashi 59.34 315 P **P 16 00 10.6 +1.9**
KSH pP pP 16 00 37.5 +3.7
KSH sP sP 16 00 50.1 +5.1
KSH PcP PcP 16 00 57.0 +1.2
KSH PP PP 16 02 24.9 +4.0
KSH ScP ScP 16 04 46.0 -1.4
KSH PcS PcS 16 04 57.6 -0.2
KSH S **S 16 08 07.8 -1.8**
KSH sS sS 16 08 55.8 +3.3
KSH ScS ScS 16 09 46.1 -3.3
KSH SS SS 16 12 07.1 +1.0
KSH pmax pmax
comp=Z,21nm,1.0s,mb5.1
KSH pmax pmax
comp=Z,190nm,5.0s
KSH LR LR
comp=N,110nm,5.8s
KSH LR LR
comp=E,290nm,6.3s
KSH LR LR
comp=Z,170nm,6.2s
YAK Yakutsk 59.55 1⇑*i*P **P 16 00 10.0 +0.3**
comp=Z,365nm,0.7s,mb6.5
YAK Yakutsk 59.55 1*c i*P **P 16 00 10.2 +0.4**
YAK *e**PP pP 16 00 38.3 +3.5
YAK *e* 16 00 55.0
YAK *e*PPP 16 03 49.3
YAK *e*S **S 16 08 15.2 +3.7**
YAK *e* 16 09 47.2
YAK *e*SS SS 16 12 10.8 +2.2
YAK pmax pmax
comp=Z,258nm,0.9s,mb6.3
YAK pmax pmax
comp=N,54nm,1.0s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,168nm,3.7s
YAK pmax pmax
comp=N,127nm,4.2s
YAK pmax pmax
comp=E,133nm,3.7s
YAK smax
comp=E,92nm,3.2s
YAK smax
comp=N,56nm,3.0s
RPZ Rata Peaks 60.38 145 LR LR 16 25 57.4
comp=N,242nm,18.9s,baz=302,slow=36
RPZ Rata Peaks 60.38 145⇑*i*P **P 16 00 15.1 -0.7**
comp=N,82nm,0.9s,mb5.8
KZA Kyzart 60.94 318 P **P 16 00 21.7 +2.1**
SNR=14
KZA P 16 00 21.7
SNR=14
TKM2 Tokmak 2 61.08 319 P **P 16 00 21.8 +1.3**
SNR=20
TKM2 P 16 00 21.8
SNR=20
TKM2 Tokmak 2 61.08 319⇓*i*P **P 16 00 21.5 +1.0**
comp=N,26nm,0.9s,mb5.3
TKM2 *e*pP pP 16 00 42.1 -3.6
TKM2 Tokmak 2 61.08 319⇓*i*P **P 16 00 21.5 +1.0**
TKM2 *e**PP pP 16 00 42.1 -3.6
TKM2 pmax pmax
comp=Z,26nm,0.9s,mb5.3
KHZ Kahutara 61.10 142 *e*P **P 16 00 19.2 -1.4**
comp=Z,62nm,0.9s,mb5.6
KHZ *e*pP pP 16 00 46.8 +0.9
URZ Urewera 61.23 137⇑*e*P **P 16 00 19.9 -1.8**
comp=Z,14nm,0.7s,mb5.1
KBK Karagaybulak 61.39 318 P **P 16 00 24.1 +1.5**
SNR=12
KBK P 16 00 24.1
SNR=12
UCH Uchtor 61.49 318 P **P 16 00 25.9 +2.6**
SNR=6.3
UCH P 16 00 25.9
SNR=6.3
CHMS Chumysh 61.67 319 P **P 16 00 25.3 +0.8**
SNR=8.0
CHMS P 16 00 25.3
SNR=8.0
AAK Ala-Archa 61.68 318 P **P 16 00 26.3 +1.7**
SNR=11
AAK P 16 00 26.3
SNR=11
AAK Ala-Archa 61.68 318 *e*P **P 16 00 25.4 +0.8**
comp=Z,108nm,1.1s,mb5.8
AAK Ala-Archa 61.68 318 *i*P **P 16 00 26.3 +1.7**
AAK pmax pmax
comp=Z,31nm,1.1s,mb5.2
AAK Ala-Archa 61.68 318 P **P 16 00 26.0 +1.4**
comp=Z,80nm,1.0s,mb5.7,SNR=8.8
USP Ospenovka 61.95 319 P **P 16 00 27.4 +1.0**
SNR=37
USP P 16 00 27.4
SNR=37
AML Almayashu 62.01 317 P **P 16 00 28.7 +1.9**
SNR=34
AML P 16 00 28.7
SNR=34
ZAA0 Zalesovo Array 62.01 333⇑*e*P **P 16 00 25.7 -0.9**
ZALV Zalesovo Beam 62.01 333 P **P 16 00 26.3 -0.3**
comp=Z,25nm,1.0s,mb5.2,baz=134,slow=7.0,SNR=80
ZALV S **S 16 08 41.2 -1.9**
comp=Z,2.3nm,1.0s,baz=146,slow=10,SNR=5.4
ZALV PKPPKP 16 29 29.0
comp=Z,1.4nm,0.8s,baz=336,slow=3.3,SNR=7.2
ZALV PKP2bc 16 29 38.2
comp=Z,6.5nm,0.8s,baz=308,slow=3.3,SNR=17
ZALV LR LR 16 30 37.3
comp=Z,92nm,19.6s,baz=89,slow=39
ZALV Zalesovo Beam 62.01 333 P **P 16 00 26.3 -0.3**
ZALV S **S 16 08 41.2 -1.9**
ZALV P'P'
ZALV ⇑*e* 16 29 38.2
ZALV Zalesovo Beam 62.01 333 P **P 16 00 26.3 -0.3**
ZALV S **S 16 08 41.2 -1.9**

EKS2 Erkin-Say 62.17 318 P **P 16 00 29.8 +1.9**
SNR=18
EKS2 P 16 00 29.8
SNR=18
EKS2 Erkin-Say 62.17 318 *e*P **P 16 00 28.9 +1.1**
comp=Z,27nm,0.8s,mb5.3
EKS2 Erkin-Say 62.17 318 *e*P **P 16 00 29.0 +1.1**
EKS2 pmax pmax
comp=Z,27nm,0.8s,mb5.3
AFI Afiamalu 62.59 107 LR LR 16 23 12.9
comp=Z,133nm,19.6s,baz=354,slow=32
KBL Kabul 62.73 308⇓*e*P **P 16 00 31.7 -0.1**
comp=Z,22nm,0.8s,mb5.1
KBL Kabul 62.73 308⇓*e*P **P 16 00 31.7 0.0**
KBL pmax pmax
comp=Z,22nm,0.8s,mb5.1
FX1 Attu Island--F 63.03 29 P **P 16 00 34.6 +1.3**
comp=Z,49nm,0.8s,mb5.5,baz=36,slow=8.7,SNR=8.2
FX1 LR LR 16 25 03.1
comp=Z,67nm,20.9s,baz=56,slow=33
FX1 Attu Island--F 63.03 29 P **P 16 00 34.6 +1.3**
FX1 Attu Island--F 63.03 29 P **P 16 00 34.7 +1.3**
KURK Kurchatov 63.14 328 P **P 16 00 34.7 +0.6**
comp=Z,123nm,0.8s,mb5.9,baz=124,slow=6.1,SNR=822
KURK S **S 16 08 52.4 -4.9**
comp=Z,0.4nm,0.6s,baz=117,slow=14,SNR=6.2
KURK PKPPKP 16 29 19.9
comp=Z,1.2nm,0.9s,baz=279,slow=3.6,SNR=9.9
KURK PKP2bc 16 29 32.5
comp=Z,1.5nm,0.8s,baz=286,slow=3.8,SNR=5.3
KURK Kurchatov 63.14 328⇑*i*P **P 16 00 34.4 +0.3**
comp=Z,186nm,0.8s,mb6.1
KURK S **S 16 08 52.4 -4.9**
KURK P'P' 16 29 19.9
KURK ⇑*e* 16 29 32.5
KURK Kurchatov 63.14 328⇑*i*P **P 16 00 34.4 +0.3**
KURK S **S 16 08 52.4 -4.9**
KURK pmax pmax
comp=Z,186nm,0.8s,mb6.1
KURK Kurchatov 63.14 328 P **P 16 00 35.2 +1.0**
SNR=49
KURK Kurchatov 63.14 328 P **P 16 00 35.9 +1.8**
comp=Z,1μm,0.7s
NVS Novosibirsk 63.30 333⇑*i*P **P 16 00 34.8 -0.3**
NVS *e**PP pP 16 01 03.1 +2.7
NVS *e*S **S 16 08 57.1 -2.0**
NVS *e*PS 16 09 16.8
NVS *e**SS sS 16 09 48.4 +5.9
NVS pmax pmax
comp=N,27nm,1.3s
NVS pmax pmax
comp=E,33nm,1.3s
NVS pmax pmax
comp=Z,62nm,1.3s,mb5.4
NVS smax
comp=N,26nm,1.7s
NVS smax
comp=E,59nm,1.7s
KK31 Karatay Array 64.55 317 *i*P **P 16 00 44.2 +0.6**
KK31 pmax pmax
comp=Z,15nm,0.8s,mb4.9
KKAR Karatay Array 64.55 317⇑*e*P **P 16 00 43.7 +0.2**
comp=Z,16nm,0.8s,mb4.9
KKAR Karatay Array 64.55 317⇑*e*P **P 16 00 43.7 +0.1**
KKAR pmax pmax
comp=Z,16nm,0.8s,mb4.9
VOSK Vostochnaya 68.26 327 P **P 16 01 06.4 -0.6**
VOSK pmax pmax
comp=Z,52nm,0.8s,mb5.4
BVA0 Borovoye Array 68.72 327 *i*P **P 16 01 09.8 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 68.72 327 P **P 16 01 10.2 +0.4**
comp=Z,27nm,0.7s,mb5.2,baz=124,slow=7.7,SNR=183
BVAR Borovoye Array 68.72 327 P **P 16 01 10.2 +0.4**
BVAR Borovoye Array 68.72 327 P **P 16 01 10.2 +0.3**
BRVK Borovoye 68.79 327⇑*i*P **P 16 01 10.7 +0.4**
comp=Z,58nm,0.9s,mb5.4
BRVK *e*pP pP 16 01 39.3 +3.3
BRVK Borovoye 68.79 327⇑*i*P **P 16 01 10.7 +0.4**
BRVK *e**PP pP 16 01 39.3 +3.3
BRVK pmax pmax
comp=Z,58nm,0.9s,mb5.4
BRVK Borovoye 68.79 327 P **P 16 01 10.1 -0.2**
comp=Z,366nm,0.9s,mb6.2,SNR=60
BRVK Borovoye 68.79 327 P **P 16 01 11.2 +0.9**
SNR=26
BILL Bilibino 70.75 15 *e*P **P 16 01 21.4 -0.6**
BILL Bilibino 70.75 15⇓*i*P **P 16 01 22.6 +0.6**
BILL *i* 16 04 00.2
BILL *e*S S 16 10 32.8 +4.6
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
ARQ Araqi 71.34 294 P **P 16 01 27.5 +1.0**
SNR=5.9
ABKT Ailbek 72.11 309 P **P 16 01 32.1 +1.2**
comp=Z,329nm,0.8s,mb6.2,SNR=20
MIR Mirnyy 72.95 194⇑*i*P **P 16 01 35.8 +0.6**
MIR pmax pmax
comp=Z,297nm,1.0s,mb6.1
AB31 Akbulak array 73.50 321 *i*P **P 16 01 38.5 -0.3**
AB31 pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
ABKAR Akbulak array 73.50 321⇑*i*P **P 16 01 38.9 0.0**
UNV Unalaska Valle 74.28 34 *e*P **P 16 01 43.8 +0.5**
comp=Z,53nm,0.8s,mb5.3
AKUT Akutan 74.78 34 *e*P **P 16 01 47.4 +1.3**
comp=Z,274nm,0.9s,mb6.0
AKTO Aktyubinsk 75.02 322 P **P 16 01 47.8 +0.2**
comp=Z,23nm,0.8s,mb5.0,baz=103,slow=7.7,SNR=54
AKTO LR LR 16 36 36.9
comp=Z,141nm,20.0s,baz=238,slow=37
AKTO Aktyubinsk 75.02 322 P **P 16 01 47.8 +0.2**
AKTO Aktyubinsk 75.02 322 P **P 16 01 47.8 +0.2**
RAR Rarotonga 75.08 113 LR LR 16 30 21.8
comp=Z,156nm,19.3s,baz=140,slow=32
SVE Sverdlovsk 75.37 329*d i*P **P 16 01 49.5 0.0**
SVE pmax pmax
comp=Z,58nm,0.9s,mb5.3
GAMB Gambell 75.45 24 *e*P **P 16 01 50.5 +0.7**
comp=Z,86nm,1.4s,mb5.3
GAMB *e*pP pP 16 02 18.0 +2.1
ARU Arti 76.34 328⇑*i*P **P 16 01 54.1 -0.9**
ARU Arti 76.34 328*c i*P **P 16 01 54.4 -0.6**
ARU PPP 16 06 32.8
ARU S S 16 11 32.1 +0.5
ARU SS SS 16 16 22.4 -5.4
ARU pmax pmax
comp=Z,58nm,1.2s,mb5.2
ARU Arti 76.34 328 P **P 16 01 54.1 -0.9**
comp=Z,277nm,0.7s,mb6.1,SNR=16
SDPT Sand Point 78.06 34 *e*P **P 16 02 05.9 +1.3**
comp=Z,222nm,0.8s,mb5.9
SOKR Solikamsk 78.13 331*d i*P **P 16 02 05.2 +0.3**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb4.8
QRN Al-Qurain 79.47 299 *e*P **P 16 02 12.6 -0.3**
QRN AMb AMB 16 02 13.3
comp=Z,94nm,0.9s,mb5.6
UMR Umm Al-Rimmam 79.69 299 *e*P **P 16 02 13.5 -0.7**
UMR AMb AMB 16 02 16.0
comp=Z,64nm,0.8s,mb5.5
RDF Al-Radifah 79.80 299 *e*P **P 16 02 14.7 -0.1**
RDF AMb AMB 16 02 19.7
comp=Z,59nm,1.2s,mb5.3
MIB Mutribah 80.03 300 *e*P **P 16 02 15.3 -0.6**
MIB AMb AMB 16 02 17.9
comp=Z,95nm,0.7s,mb5.7
NAY Al-Naaiem 80.09 299 *e*P **P 16 02 15.6 -0.7**
NAY AMb AMB 16 02 20.6
comp=Z,45nm,1.8s,mb5.0
OPO Ambohidratompo 81.29 251 P **P 16 02 22.9 0.0**
comp=Z,10.0nm,0.7s,mb4.7,baz=71,slow=8.8,SNR=20
OPO LR LR 16 38 35.3
comp=Z,96nm,18.0s,baz=90,slow=36
OPO Ambohidratompo 81.29 251 P **P 16 02 22.9 0.0**
RAYN Ar Rayn 81.45 293 P **P 16 02 23.5 -0.2**
comp=Z,205nm,0.9s,mb6.0,SNR=20
VNDA Vanda 82.02 173⇑*i*P **P 16 02 25.1 -0.4**
VNDA Vanda 82.02 173⇑*i*P **P 16 02 25.1 -0.4**
OHAK Old Harbor 82.34 33 *e*P **P 16 02 29.5 +1.9**
comp=Z,93nm,1.0s,mb5.6
MAW Mawson 82.64 200 P **P 16 02 29.3 +0.3**
comp=Z,52nm,0.9s,mb5.4,baz=55,slow=8.0,SNR=48
MAW LR LR 16 33 16.2
comp=Z,56nm,21.8s,baz=86,slow=31

MAW Mawson 82.64 200 *e*P **P 16 02 29.1 +0.2**
MAW Mawson 82.64 200 P **P 16 02 29.3 +0.3**
MAW Mawson 82.64 200 P **P 16 02 29.3 +0.4**
GNI Garni 82.72 310 P **P 16 02 31.2 +1.3**
comp=Z,4.0nm,0.5s,mb4.5,baz=72,slow=6.4,SNR=4.6
GNI Garni 82.72 310 *e*P **P 16 02 30.0 0.0**
GNI Garni 82.72 310 *e*P **P 16 02 31.3 +1.4**
GNI pmax pmax
comp=Z,8.0nm,1.0s
MTA Mtatsminda 82.76 312 P **P 16 02 29.8 -0.4**
KDAK Kodiak Island 82.79 32 P **P 16 02 31.2 +1.3**
comp=Z,52nm,0.8s,mb5.4,baz=214,slow=3.6,SNR=18
KDAK LR LR 16 34 05.0
comp=Z,154nm,19.8s,baz=265,slow=32
KDAK Kodiak Island 82.79 32 *e*P **P 16 02 30.9 +1.0**
comp=Z,129nm,1.3s,mb5.6
KDAK Kodiak Island 82.79 32*c e*P **P 16 02 31.1 +1.2**
KDAK Kodiak Island 82.79 32 P **P 16 02 31.3 +1.4**
comp=Z,439nm,0.9s,mb6.3,SNR=9.1
TBLG Delisi 82.81 312 *e*P **P 16 02 31.2 +0.8**
TBLG Delisi 82.81 312 P **P 16 02 31.3 +0.9**
SBA Scott Base 82.92 172 *e*P **P 16 02 29.6 -0.6**
comp=Z,41nm,1.3s,mb5.1
SBA Scott Base 82.92 172 *e*P **P 16 02 29.6 -0.6**
SBA pmax pmax
comp=Z,41nm,1.3s,mb5.1
RSO Redoubt South 83.04 29 *e*P **P 16 02 31.0 -0.2**
comp=Z,100nm,1.0s,mb5.6
PPLA Purkeypile 83.62 27 *e*P **P 16 02 34.8 +0.7**
comp=Z,24nm,0.9s,mb5.0
AKH Akhalkalaki 83.72 311 P **P 16 02 26.8 -8.3**
ONI Oni 83.80 312 P **P 16 02 36.8 +1.3**
ATD Arta Tunnel 84.00 281 P **P 16 02 38.4 +1.3**
comp=Z,20nm,0.8s,mb5.0,baz=337,slow=5.0,SNR=6.6
ATD LR LR 16 36 43.9
comp=Z,69nm,21.0s,baz=112,slow=33
ATD Arta Tunnel 84.00 281 P **P 16 02 38.4 +1.3**
PPT2 Papeete2 84.25 108 *e*S S 16 12 52.6 -3.2
comp=Z,153nm,30.2s
PPT2 *e*LR LR 16 29 22.3
comp=Z,365nm,29.2s
SLKM Skilak Lake 84.29 30 *e*P **P 16 02 37.7 +0.1**
SLKM Skilak Lake 84.29 30 *e*P **P 16 02 37.7 +0.2**
KIV Kislovodsk 84.42 314 *e*P **P 16 02 38.3 -0.3**
KIV Kislovodsk 84.42 314 *e*P **P 16 02 39.0 +0.4**
KIV *e**PP pP 16 03 05.5 +0.4
KIV *e**SP sP 16 03 17.0 +1.0
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.7
TRF Thorofare Moun 84.55 27 *e*P **P 16 02 39.3 +0.6**
comp=Z,44nm,1.3s,mb5.2
RC01 Rabbit Creek A 84.58 29⇑*i*P **P 16 02 39.2 +0.3**
comp=Z,95nm,1.0s,mb5.7
RC01 *e*pP pP 16 03 04.4 -1.1
SEW Seward 84.64 30⇑*i*P **P 16 02 39.8 +0.5**
comp=Z,227nm,1.5s,mb5.9
TBI Tubuai 84.81 114 *e*S S 16 12 56.5 -4.7
comp=Z,254nm,39.2s
TBI *e*LR LR 16 29 35.6
comp=Z,320nm,39.5s
PMR Palmer 84.92 29 *e*P **P 16 02 41.3 +0.7**
comp=Z,82nm,1.0s,mb5.6
PMR Palmer 84.92 29 *e*P **P 16 02 41.3 +0.7**
PMR pmax pmax
comp=Z,82nm,1.0s,mb5.6
COLD Coldfoot 84.96 23⇑*i*P **P 16 02 41.8 +1.0**
comp=Z,42nm,1.0s,mb5.3
COLD *e*pP pP 16 03 10.5 +3.1
MCK McKinley 85.17 26 *e*P **P 16 02 41.6 -0.3**
MCK *e*pP pP 16 03 10.8 +2.3
MCK McKinley 85.17 26 *e*P **P 16 02 41.6 -0.3**
MCK *e**PP pP 16 03 10.8 +2.3
SML Sawmill 85.31 28⇑*i*P **P 16 02 43.4 +0.8**
comp=Z,23nm,1.0s,mb5.1
SML *e*pP pP 16 03 10.1 +0.8
SML Sawmill 85.31 28⇑*i*P **P 16 02 43.4 +0.8**
SML *e**PP pP 16 03 10.1 +0.9
SML pmax pmax
comp=Z,23nm,1.0s,mb5.1
COLA College 85.72 25 *e*P **P 16 02 42.2 -2.4**
COLA College 85.72 25 *e*P **P 16 02 42.2 -2.4**
ILAR Eielson Array 86.13 25 P **P 16 02 45.5 -1.1**
comp=Z,3.2nm,0.9s,mb4.3,baz=258,slow=4.6,SNR=30
ILAR PKKP PKKPbc 16 20 45.2 -2.9
comp=Z,1.6nm,1.0s,baz=50,slow=1.6,SNR=11
ILAR LR LR 16 38 19.2
comp=Z,86nm,19.9s,baz=272,slow=33
ILAR Eielson Array 86.13 25 P **P 16 02 45.5 -1.1**
ILAR PKKP PKKPbc 16 20 45.2 -2.9
ILAR Eielson Array 86.13 25 P **P 16 02 45.6 -1.0**
DIV Divide 86.51 29 *e*P **P 16 02 49.2 +0.7**
comp=Z,46nm,1.0s,mb5.4
DIV *e*pP pP 16 03 18.2 +3.0
SOC Sochi 86.56 313 *e*P **P 16 02 51.1 +1.9**
SOC *e* pP 16 03 16.7 +0.8
SOC pmax pmax
comp=Z,16nm,0.7s,mb5.1
SOC pmax pmax
comp=Z,41nm,0.9s,mb5.4
PAX Paxson 86.69 27 *e*P **P 16 02 49.7 +0.3**
comp=Z,22nm,1.2s,mb5.0
PAX *e*pP pP 16 03 16.3 +0.3
PAX Paxson 86.69 27 *e*P **P 16 02 49.7 +0.3**
PAX *e**PP pP 16 03 16.3 +0.2
PAX pmax pmax
comp=Z,22nm,1.2s,mb5.0
KLMR Klimovskoe 86.82 331 *e*P **P 16 02 46.6 -3.5**
KLMR pmax pmax
comp=Z,57nm,1.4s,mb5.3
VSR Storozhevoye 86.94 321 *e*P **P 16 02 49.7 -1.2**
VSR *e*S S 16 13 22.6 +1.7
VSR pmax pmax
comp=Z,20nm,0.8s,mb5.1
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR smax
comp=N,740nm,5.4s
VSR smax
comp=E,520nm,5.4s
VSR smax
comp=Z,590nm,5.4s
BMRM Bremner River 87.07 29 *e*P **P 16 02 51.5 +0.2**
comp=Z,26nm,0.9s,mb5.2
BMRM *e*pP pP 16 03 20.8 +2.8
MENT Mentasta 87.49 27 *e*P **P 16 02 53.6 +0.3**
MALT Malatya 87.59 308 *e*P **P 16 02 52.3 -2.0**
MALT Malatya 87.59 308 *e*P **P 16 02 52.3 -2.0**
MOS Moscow 87.83 326 *e*P **P 16 02 53.5 -1.5**
MOS *e* 16 03 14.9
MOS pmax pmax
comp=Z,69nm,0.8s,mb5.7
ANN Anapa 88.19 315 *e*P **P 16 02 54.4 -2.6**
ANN *e*S SKSac 16 13 12.7 -3.8
ANN pmax pmax
comp=Z,91nm,0.9s,mb5.8
OBN Obninsk 88.44 325 *e*P **P 16 02 56.6 -1.3**
comp=Z,89nm,1.2s,mb5.7
OBN Obninsk 88.44 325⇓*e*P **P 16 02 57.1 -0.8**
OBN *e* 16 06 26.7
OBN *e*S S 16 13 25.2 -10
OBN pmax pmax
comp=Z,51nm,1.1s,mb5.5
OBN MLR MLR
comp=Z,100nm,15.0s
EGAK Eagle 88.58 25 *e*P **P 16 02 57.9 -0.5**
comp=Z,7.8nm,0.6s,mb4.9
ASF Jabal al Asfar 89.02 302 P **P 16 03 02.2 +1.1**
comp=Z,7.9nm,0.8s,mb4.8,baz=350,slow=2.2,SNR=10
ASF LR LR 16 44 34.6
comp=Z,49nm,19.2s,baz=326,slow=37
ASF Jabal al Asfar 89.02 302 P **P 16 03 02.2 +1.1**
ASF Jabal al Asfar 89.02 302 P **P 16 03 02.2 +1.0**
KMBO Kilima Mbogo 90.00 269 *e*P **P 16 03 06.7 +0.6**
KMBO Kilima Mbogo 90.00 269 *e*P **P 16 03 06.7 +0.6**
MMAI Mount Meron Ar 90.24 303 P **P 16 03 05.7 -1.2**
comp=Z,2.7nm,0.5s,mb4.6,baz=92,slow=10,SNR=8.4
MMAI LR LR 16 48 00.7
comp=Z,62nm,20.6s,baz=270,slow=38
MMAI Mount Meron Ar 90.24 303 P **P 16 03 05.7 -1.2**
JOF Joensuu 90.60 333 *e*P **P 16 03 05.4 -2.5**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
JOF Joensuu 90.60 333 *e*p **P 16 03 05.4 -2.5**

comp=Z,1.4nm,0.3s,mb4.6
EIL Elat 90.80 300 P **P 16 03 09.5 0.0**
comp=Z,5.1nm,0.8s,mb4.7,baz=27,slow=2.3,SNR=6.4
EIL LR LR 16 48 50.8
comp=Z,75nm,18.8s,baz=275,slow=39
EIL Elat 90.80 300 P **P 16 03 09.5 0.0**
BR131 Keskin Array S 91.25 310 *e*P **P 16 03 08.3 -3.1**
comp=Z,5.3nm,0.8s,mb4.7
BRTR Keskin Array B 91.25 310 P **P 16 03 10.9 -0.5**
comp=Z,4.7nm,0.8s,mb4.7,baz=104,slow=6.1,SNR=11
BRTR S SKSac 16 13 32.6 -2.0
comp=Z,2.1nm,1.2s,baz=343,slow=14,SNR=3.6
BRTR PKKP PKKPbc 16 20 34.3 -0.2
comp=Z,1.7nm,0.9s,baz=199,slow=3.4,SNR=5.8
BRTR LR LR 16 46 13.8
comp=Z,103nm,19.9s,baz=275,slow=37
BRTR Keskin Array B 91.25 310 P **P 16 03 10.9 -0.5**
BRTR S SKSac 16 13 32.6 -2.0
BRTR PKKP PKKPbc 16 20 34.3 -0.2
BRTR Keskin Array B 91.25 310 P **P 16 03 10.9 -0.5**
BRTR S SKSac 16 13 32.6 -2.0
INK Inuvik 91.25 22 P **P 16 03 10.6 -0.2**
comp=Z,9.3nm,1.0s,mb4.9,baz=268,slow=3.3,SNR=15
INK Inuvik 91.25 22 P **P 16 03 10.6 -0.2**
INK Inuvik 91.25 22 P **P 16 03 10.6 -0.2**
SYO Syowa Base 91.33 201 ⇓*i*P **P 16 03 09.8 -1.3**
SYO Syowa Base 91.33 201 ⇓*e*PcP PcP 16 03 12.4 +0.4
KEV Kevo 91.33 340 *e*P **P 16 03 07.8 -3.3**
KEV Kevo 91.33 340 *e*p **P 16 03 07.8 -3.3**
SKAG Skagway 91.78 30 *e*P **P 16 03 15.0 +1.6**
comp=Z,27nm,1.0s,mb5.4
ARCES ARCESS Array B 91.89 340 P **P 16 03 12.7 -1.1**
comp=Z,24nm,0.8s,mb5.5,baz=73,slow=4.9,SNR=40
ARCES PKKP PKKPbc 16 20 27.6 -6.5
comp=Z,2.0nm,0.8s,baz=272,slow=3.2,SNR=5.9
ARCES ARCESS Array B 91.89 340 P **P 16 03 12.7 -1.1**
ARCES PKKP PKKPbc 16 20 27.6 -6.5
ARCES ARCESS Array B 91.89 340 P **P 16 03 12.7 -1.0**
ARCES 16 20 27.6
SPITS Spitsbergen Ar 91.90 349 P **P 16 03 12.9 -0.8**
comp=Z,12nm,0.8s,mb5.2,baz=123,slow=14,SNR=11
SPITS LR LR 16 49 41.1
comp=Z,119nm,19.0s,baz=220,slow=39
SPITS Spitsbergen Ar 91.90 349 P **P 16 03 12.9 -0.8**
SPITS Spitsbergen Ar 91.90 349 P **P 16 03 12.9 -0.8**
SPB4 Spitsbergen Ar 91.91 349 *e*P **P 16 03 12.9 -0.8**
QSPA South Pole Qui 92.28 180 P **P 16 03 15.8 +0.5**
comp=Z,28nm,1.0s,mb5.4,baz=324,slow=1.8,SNR=49
QSPA LR LR 16 46 09.0
comp=Z,109nm,20.8s,baz=356,slow=36
QSPA South Pole Qui 92.28 180 ⇑*i*P **P 16 03 15.4 +0.1**
TAOE Nuku Hiva Isla 92.98 99 *e*LR LR 16 33 29.7
comp=Z,308nm,25.7s
KAF Kangasniemi 93.02 332 *e*P **P 16 03 15.4 -3.7**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.8
KAF Kangasniemi 93.02 332 *e*p **P 16 03 15.4 -3.7**
comp=Z,1.8nm,0.4s,mb4.8
AKASG Malin Array Be 93.25 321 P **P 16 03 18.9 -1.5**
comp=Z,7.4nm,1.0s,mb5.0,baz=72,slow=4.5,SNR=9.4
AKASG LR LR 16 48 17.8
comp=Z,92nm,21.1s,baz=315,slow=37
AKASG Malin Array Be 93.25 321 P **P 16 03 18.9 -1.5**
AKASG Malin Array Be 93.25 321 P **P 16 03 18.9 -1.5**
FINES FINESS Array B 93.25 332 P **P 16 03 18.8 -1.4**
comp=Z,4.3nm,0.7s,mb4.9,baz=88,slow=4.3,SNR=8.3
FINES FINESS Array B 93.25 332 P **P 16 03 18.8 -1.4**
FINES FINESS Array B 93.25 332 P **P 16 03 18.8 -1.4**
KIEV Kiev 93.26 321 *e*P **P 16 03 18.9 -1.5**
DLBC Dease Lake 94.67 31 P **P 16 03 27.8 +1.1**
comp=Z,11nm,0.9s,mb5.3,baz=306,slow=4.3,SNR=13
DLBC LR LR 16 40 28.3
comp=Z,129nm,20.5s,baz=237,slow=32
DLBC Dease Lake 94.67 31 P **P 16 03 27.8 +1.1**
VRI Vrincioaia 95.60 316 ⇓P **P 16 03 31.7 +0.4**
VRI Vrincioaia 95.60 316 ⇓*i*P **P 16 03 31.7 +0.4**
MLR Muntele Rosu 96.21 316 P **P 16 03 33.7 -0.3**
comp=Z,1.1nm,0.8s,mb4.3,baz=146,slow=11,SNR=4.4
MLR Muntele Rosu 96.21 316 P **P 16 03 33.7 -0.4**
MLR Muntele Rosu 96.21 316 ⇓P **P 16 03 34.0 0.0**
MLR Muntele Rosu 96.21 316 ⇓*i*P **P 16 03 34.0 0.0**
BURAR Bucovina Array 96.33 318 ⇑P **P 16 03 34.0 -0.5**
BURAR Bucovina Array 96.33 318 ⇑*i*P **P 16 03 34.0 -0.5**
BUR08 Bucovina Ar. S 96.33 318 *e*P **P 16 03 33.9 -0.6**
BBB Bella Bella 97.11 37 LR LR 16 47 27.0
comp=Z,48nm,19.2s,baz=193,slow=35
LOT Lotru 97.72 316 ⇑*i*P **P 16 03 40.6 -0.3**
KOLS Kolonicke sedl 97.99 320 *e*P **P 16 03 40.4 -1.6**
KOLS Kolonicke sedl 97.99 320 *e*P **P 16 03 40.4 -1.6**
UZH Uzhgorod 98.04 320 *e*P **P 16 03 32.7 -10**
UZH *e* pP 16 04 01.1 -8.1
DRGR 98.17 318 ⇑P **P 16 03 42.4 -0.5**
DRGR 98.17 318 ⇑*i*P **P 16 03 42.4 -0.5**
GZR Gura Zlata 98.42 316 ⇓P **P 16 03 42.7 -1.3**
GZR Gura Zlata 98.42 316 ⇓*i*P **P 16 03 42.7 -1.3**
CRVS Cervenica-Dubn 98.52 320 *e*P **P 16 03 44.1 -0.3**
CRVS Cervenica-Dubn 98.52 320 PDIF **P 16 03 44.1 -0.3**
RES Resolute Bay 99.07 10 P **P 16 03 46.6 +0.3**
comp=Z,9.4nm,0.8s,mb5.4,baz=303,slow=6.4,SNR=31
RES LR LR 16 51 23.9
comp=Z,64nm,21.4s,baz=7.9,slow=37
RES Resolute Bay 99.07 10 P **P 16 03 46.6 +0.3**
RES Resolute Bay 99.07 10 P **P 16 03 46.6 +0.3**
HFS Hagfors 99.44 332 LR LR 16 52 49.3
comp=Z,323nm,19.8s,baz=292,slow=38
NB2 NORSAR Subarra 100.22 334 P Pdif 16 03 50.0 -1.8
comp=Z,2.3nm,0.7s,baz=65,slow=4.6
NOA NORSAR Array B 100.22 334 P Pdif 16 03 50.3 -1.5
comp=Z,4.5nm,0.8s,baz=65,slow=4.6,SNR=7.5
NOA NORSAR Array B 100.22 334 P Pdif 16 03 50.3 -1.5
NOA NORSAR Array B 100.22 334 P Pdif 16 03 50.3 -1.5
VYHS Vyhne 100.30 320 *e*P Pdif 16 03 54.0 +1.8
VYHS Vyhne 100.30 320 PDIF Pdif 16 03 54.0 +1.8
YKA Yellowknife Ar 100.54 25 P Pdif 16 03 53.4 +0.1
comp=Z,2.5nm,0.9s,baz=297,slow=4.8,SNR=24
YKA PKiKP PKiKP 16 08 19.3 +0.3
comp=Z,1.0nm,0.6s,baz=300,slow=1.8,SNR=9.4
YKA PKKPbc PKKPbc 16 20 04.6 -5.8
comp=Z,1.1nm,0.8s,baz=120,slow=2.4,SNR=10
YKA Yellowknife Ar 100.54 25 P Pdif 16 03 53.4 +0.1
YKA PKiKP PKiKP 16 08 19.3 +0.3
YKA PKKPbc PKKPbc 16 20 04.6 -5.8
YKA Yellowknife Ar 100.54 25 P Pdif 16 03 53.4 +0.2
BOSA Boshof 101.61 241 PKKPbc PKKPbc 16 20 04.7 -1.4
comp=Z,1.1nm,0.3s,baz=49,slow=2.5,SNR=3.7
BOSA Boshof 101.61 241 *e*Pdif Pdif 16 03 58.5 +0.5
BOSA PKKPbc PKKPbc 16 20 04.7 -1.4
BOSA Boshof 101.61 241 *e*P Pdif 16 03 58.5 +0.5
JCW Jim Creek 101.99 40 *e*P Pdif 16 04 00.9 +1.2
comp=Z,23nm,1.1s
BRG Berggiesshubel 102.61 323 *e*P Pdif 16 04 02.6 +0.1
comp=Z,4.4nm,0.9s
BRG pP 16 04 33.7
comp=Z,7.4nm,1.3s
BRG Berggiesshubel 102.61 323 *e*P Pdif 16 04 02.6 +0.2
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 103.02 324 *e*pPP 16 08 43.0
GERES GERESS Array B 103.44 321 Pdiff Pdif 16 04 06.3 +0.2
comp=Z,0.5nm,0.7s,baz=79,slow=6.1,SNR=4.6
GERES PKKPbc PKKPbc 16 19 59.5 -1.9
comp=Z,1.0nm,0.8s,baz=186,slow=3.0,SNR=6.9
GERES GERESS Array B 103.44 321 Pdif Pdif 16 04 06.3 +0.2
GERES PKKPbc PKKPbc 16 19 59.5 -1.9
GERES GERESS Array B 103.44 321 P Pdif 16 04 06.3 +0.2
SNAA Sanae 104.02 194 Pdiff Pdif 16 04 09.0 +0.4
comp=Z,0.5nm,0.5s,baz=118,slow=5.6,SNR=9.6
SNAA Sanae 104.02 194 *e*Pdif Pdif 16 04 08.0 -0.7
comp=Z,12nm,1.5s
SNAA Sanae 104.02 194 *e*P Pdif 16 04 08.0 -0.7
SNAA pmax pmax
comp=Z,13nm,1.5s
VNA2 Neumayer--Watz 105.62 194 *e* PKiKP 16 08 37.3 +9.2
A13A Flathead Natio 106.41 37 ⇑P PKiKP 16 08 30.3 +0.2
baz=106
NVAR Mina Array Bea 107.46 49 PKiKP PKiKP 16 08 34.0 +1.6
comp=Z,2.0nm,0.9s,baz=302,slow=2.0,SNR=7.0
NVAR PP PP 16 08 54.1 +1.1
comp=Z,1.2nm,0.8s,baz=272,slow=6.0,SNR=4.6
NVAR PKKPbc PKKPbc 16 19 47.2 -1.6
comp=Z,0.9nm,0.8s,baz=133,slow=5.3,SNR=5.4
NVAR PKKPab PKKPab 16 20 03.1 0.0
comp=Z,1.1nm,0.9s,baz=148,slow=5.8,SNR=5.3
NVAR Mina Array Bea 107.46 49 PKiKP PKiKP 16 08 34.0 +1.6
NVAR PP PP 16 08 54.1 +1.1
NVAR PKKPbc PKKPbc 16 19 47.2 -1.6
NVAR PKKPab PKKPab 16 20 03.1 0.0
MFID Camas Ranch 107.59 43 ⇑P PKiKP 16 08 33.3 +0.8
baz=108
BSC Santa Cruz Isl 107.69 53 ⇓P PKiKP 16 08 32.8 -0.2
baz=108
B15A Bradely Ranch, 107.78 37 ⇑P PKiKP 16 08 32.8 0.0
baz=108
H12A Diamond D Ranc 107.83 42 ⇓P PKiKP 16 08 32.6 -0.3
baz=108
I12A Atlanta 107.92 42 ⇓P PKiKP 16 08 33.8 +0.7
baz=108
C15A Salmond Ranch, 107.98 38 ⇑P PKiKP 16 08 33.5 +0.4
baz=108
BLG Laguna Peak 108.11 53 ⇑P PKiKP 16 08 34.6 +0.8
baz=108
H13A Challis 108.22 41 ⇑P PKiKP 16 08 34.6 +0.9
baz=108
B16A M & M Farms, S 108.26 37 ⇓P PKiKP 16 08 33.5 -0.1
baz=108
D15A Lincoln 108.34 38 ⇓P PKiKP 16 08 34.6 +0.7
baz=108
HLID Hailey 108.49 42 ⇑P PKiKP 16 08 35.6 +1.4
baz=108,SNR=6.7
I13A Wildhorse Cree 108.56 42 ⇑P PKiKP 16 08 35.5 +1.2
baz=109,SNR=6.5
GRAC Grapevine Rang 108.60 50 ⇓P PKiKP 16 08 35.7 +1.1
baz=109
A17A Triple J Farms 108.62 36 ⇓P PKiKP 16 08 35.2 +0.9
baz=109
J13A Cove Ranch, Pi 108.72 42 ⇑P PKiKP 16 08 36.2 +1.5
baz=109,SNR=7.1
EDW2 Edwards Air Fo 108.75 52 ⇓P PKiKP 16 08 35.8 +0.8
baz=109
MPMC Manual Prospec 108.79 51 ⇓P PKiKP 16 08 36.0 +1.0
baz=109
A18A Metzger Ranch, 109.13 36 ⇑P PKiKP 16 08 35.7 +0.4
baz=109
C17A Wharram Farm, 109.17 37 ⇑P PKiKP 16 08 35.7 +0.4
baz=109
J14A Carey 109.19 42 ⇓P PKiKP 16 08 36.4 +0.9
baz=109
BFSC Mount Baldy Ra 109.19 53 ⇑P PKiKP 16 08 37.2 +1.4
baz=109
H15A Lima 109.26 41 ⇓P PKiKP 16 08 37.2 +1.5
baz=109
SBF Sospel 109.30 318 *e*P Pdif 16 04 33.4 +1.2
comp=Z,30nm,0.9s
SBF Sospel 109.30 318 *e*P Pdif 16 04 33.4 +1.2
SBF Sospel 109.30 318 *e*P Pdif 16 04 33.4 +1.2
F16A Kennard Place, 109.43 39 ⇑P PKiKP 16 08 37.4 +1.5
baz=109
R11A Troy Canyon, C 109.51 48 ⇓P PKiKP 16 08 37.5 +1.3
baz=110
K14A Jones Ranch, D 109.72 43 ⇑P PKiKP 16 08 37.8 +1.2
baz=110
L14A Malta 109.87 44 ⇑P PKiKP 16 08 38.2 +1.4
baz=110
J15A Blackfoot 109.89 42 ⇓P PKiKP 16 08 38.1 +1.3
baz=110
D18A Linhart Farms, 109.95 37 ⇑P PKiKP 16 08 38.1 +1.2
baz=110
FRF La Foret Royal 109.95 318 *e*P Pdif 16 04 36.3 +1.2
comp=Z,26nm,1.1s
FRF La Foret Royal 109.95 318 *e*P Pdif 16 04 36.3 +1.2
FRF La Foret Royal 109.95 318 *e*P Pdif 16 04 36.3 +1.2
F17A Fitzpatrick Pl 109.99 39 ⇓P PKiKP 16 08 38.0 +1.1
baz=110
K15A Arbon 110.10 43 ⇓P PKiKP 16 08 38.4 +1.1
baz=110
H16A Russell Place, 110.13 40 ⇓P PKiKP 16 08 38.7 +1.4
baz=110
C19A Slack Wire Ran 110.15 37 ⇑P PKiKP 16 08 38.7 +1.5
baz=110
G17A Pierce Place, 110.19 40 ⇑P PKiKP 16 08 38.3 +0.9
baz=110
FFC Flin Flon 110.22 28 *e*PKPdf PKiKP 16 08 37.2 +0.1
FFC Flin Flon 110.22 28 *e*PKIKP PKiKP 16 08 37.2 +0.1
L15A Malad City 110.47 43 ⇑P PKiKP 16 08 38.5 +0.5
baz=110
F18A Big Timber 110.58 39 ⇓P PKiKP 16 08 39.0 +1.0
baz=111
GMRC Granite Mounta 110.61 51 ⇓P PKiKP 16 08 39.4 +0.9
baz=111
K16A Soda Springs 110.68 42 ⇑P PKiKP 16 08 39.2 +0.9
baz=111
C20A Veseth Ranch, 110.78 36 ⇑P PKiKP 16 08 39.5 +1.1
baz=111
A21A Bergtoll Ranch 110.79 35 ⇑P PKiKP 16 08 39.0 +0.7
baz=111
DUG Dugway 110.87 45 ⇑P PKiKP 16 08 39.6 +0.8
baz=111
E19A Rath Farm, Rou 110.90 38 ⇓P PKiKP 16 08 39.1 +0.5
baz=111
REDW Red Top Meadow 110.95 42 *e*PKPdf PKiKP 16 08 39.8 +1.0
LOHW Long Hollow 111.01 41 *e*PKPdf PKiKP 16 08 38.6 -0.4
L16A Fish Haven 111.12 43 ⇓P PKiKP 16 08 40.3 +1.1
baz=111
A22A Carney Farms, 111.36 34 ⇑P PKiKP 16 08 39.8 +0.4
baz=111
I18A Diamond G Ranc 111.49 41 ⇓P PKiKP 16 08 40.6 +0.8
baz=112
K18A Toltan Ranch, 111.80 42 ⇓P PKiKP 16 08 42.0 +1.5
baz=112
G20A Bridger 111.83 39 ⇑P PKiKP 16 08 41.6 +1.2
baz=112
M17A Scullys Gap (B 111.86 43 ⇓P PKiKP 16 08 41.6 +1.0
baz=112
E21A Keefer Ranch, 111.91 37 ⇑P PKiKP 16 08 41.6 +1.1
baz=112
MSU Marysvale 111.96 47 *e*PKPdf PKiKP 16 08 42.9 +1.9
MSU Marysvale 111.96 47 *e*PKIKP PKiKP 16 08 42.9 +2.0
N17A Moffit Pass 111.96 44 ⇑P PKiKP 16 08 42.0 +1.2
baz=112
BW06 Boulder Array 112.06 42 ⇑P PKiKP 16 08 41.8 +0.9
baz=112
PDAR Pinedale Array 112.06 42 PKiKP PKiKP 16 08 41.6 +0.7
comp=Z,1.0nm,0.7s,baz=194,slow=1.9,SNR=6.9
PDAR PKKPbc PKKPbc 16 19 31.6 -2.6
comp=Z,1.5nm,0.9s,baz=113,slow=4.3,SNR=8.0
PDAR PKKPab PKKPab 16 19 41.1 -1.5
comp=Z,2.7nm,0.8s,baz=120,slow=6.7,SNR=12
PDAR Pinedale Array 112.06 42 PKiKP PKiKP 16 08 41.6 +0.7
PDAR PKKPbc PKKPbc 16 19 31.6 -2.6
PDAR PKKPab PKKPab 16 19 41.1 -1.5
L18A Fontenelle, Gr 112.10 43 ⇓P PKiKP 16 08 42.3 +1.2
baz=112
D22A Cohagen 112.14 36 ⇓P PKiKP 16 08 42.1 +1.1
baz=112
J19A Crowheart 112.18 41 ⇑P PKiKP 16 08 42.2 +1.0
baz=112
M18A Lyman 112.29 43 ⇑P PKiKP 16 08 42.3 +0.8
baz=112
H20A Greybull 112.31 39 ⇑P PKiKP 16 08 42.0 +0.7
baz=112
O17A Robinson Place 112.33 45 ⇑P PKiKP 16 08 42.9 +1.3
baz=112,SNR=5.8
LAO LASA Array 112.34 37 ⇑P PKiKP 16 08 42.8 +1.5
baz=112
LAO LASA Array 112.34 37 *e*PKPdf PKiKP 16 08 42.1 +0.7
C23A Lambert 112.39 35 ⇓P PKiKP 16 08 42.2 +0.7
baz=112
I20A Worland 112.47 40 ⇑P PKiKP 16 08 42.6 +0.9
baz=112
K19A Absolon Red Bu 112.51 41 ⇓P PKiKP 16 08 42.6 +0.7
baz=112
Q16A Castle Valley 112.53 46 ⇓P PKiKP 16 08 43.0 +1.0
baz=112
E22A Miles City 112.63 37 ⇓P PKiKP 16 08 42.9 +0.9
baz=113
S16A Weppner Ranch, 112.68 47 ⇑P PKiKP 16 08 43.3 +1.0
baz=113
Z13A Yuma Proving G 112.69 53 ⇓P PKiKP 16 08 43.7 +1.2
baz=113
J20A Shoshoni 112.77 41 ⇓P PKiKP 16 08 43.2 +0.9
baz=113
P18A Preston Nutter 112.91 45 ⇑P PKiKP 16 08 43.8 +1.1
baz=113
SRU San Rafael 112.92 46 *e*PKPdf PKiKP 16 08 42.4 -0.3
SRU San Rafael 112.92 46 *e*PKIKP PKiKP 16 08 42.4 -0.3
K20A Yellowstone Ra 112.92 41 ⇑P PKiKP 16 08 43.7 +1.1
baz=113
E23A Ismay 112.99 37 ⇑P PKiKP 16 08 43.6 +0.9
baz=113
FRB Frobisher Bay 113.02 8 PKiKP PKiKP 16 08 41.6 -0.6
comp=Z,2.3nm,0.6s,baz=62,slow=5.5,SNR=5.3
FRB Frobisher Bay 113.02 8 PKIKP PKiKP 16 08 41.6 -0.6
FRB Frobisher Bay 113.02 8 PKIKP PKiKP 16 08 41.6 -0.6
R17A Hanksville Air 113.06 46 ⇑P PKiKP 16 08 43.9 +0.9
baz=113
I21A Big Trails, Te 113.07 40 ⇓P PKiKP 16 08 43.3 +0.4
baz=113
J21A Lysite 113.19 40 ⇓P PKiKP 16 08 43.7 +0.6
baz=113
Q18A Rafter H Ranch 113.20 45 ⇓P PKiKP 16 08 44.0 +0.8
baz=113
S17A Black Ridge (B 113.29 47 ⇑P PKiKP 16 08 44.1 +0.6
baz=113
F23A Volborg 113.32 37 ⇑P PKiKP 16 08 44.2 +0.9
baz=113
O19A Miners Draw (B 113.41 44 ⇑P PKiKP 16 08 44.4 +0.8
baz=113
T17A Navajo Res., N 113.54 48 ⇓P PKiKP 16 08 44.9 +1.0
baz=114
M20A Sweetwater, Wa 113.54 42 ⇓P PKiKP 16 08 44.8 +0.9
baz=114
E24A Baker 113.55 36 ⇑P PKiKP 16 08 44.6 +0.9
baz=114
U16A Tuba City 113.61 49 ⇓P PKiKP 16 08 45.3 +1.2
baz=114
K21A Alcova 113.64 41 ⇓P PKiKP 16 08 44.9 +0.8
baz=114
R18A Canyonlands Na 113.66 46 ⇓P PKiKP 16 08 45.4 +1.2
baz=114,SNR=5.3
WUAZ Wupatki 113.66 49 ⇓P PKiKP 16 08 45.1 +0.8
baz=114
N20A Spence Gulch, 113.78 43 ⇓P PKiKP 16 08 45.5 +1.2
baz=114
J22A Midwest 113.78 40 ⇑P PKiKP 16 08 44.6 +0.4
baz=114
P19A Cripple Cowboy 113.79 45 ⇑P PKiKP 16 08 45.3 +0.9
baz=114
S18A Hurst Farm, Bl 113.86 47 ⇓P PKiKP 16 08 45.5 +1.0
baz=114
L21A Rawlins 113.87 42 ⇑P PKiKP 16 08 45.3 +0.8
baz=114
Q19A Hogan Spring (113.88 45 ⇓P PKiKP 16 08 45.9 +1.4
baz=114,SNR=5.8
X16A Lo Mia Camp, P 114.00 51 ⇓P PKiKP 16 08 46.3 +1.4
baz=114
M21A Separation Pea 114.04 42 ⇑P PKiKP 16 08 46.0 +1.2
baz=114
V17A Tonalea, Kykot 114.06 49 ⇓P PKiKP 16 08 46.2 +1.2
baz=114
O20A White River Ci 114.09 44 ⇓P PKiKP 16 08 46.5 +1.5
baz=114
RWWY Rawlins 114.11 42 *e*PKPdf PKiKP 16 08 45.5 +0.6
K22A Casper 114.11 41 ⇑P PKiKP 16 08 45.4 +0.5
baz=114
T18A Mexican Hat 114.17 47 ⇓P PKiKP 16 08 45.9 +0.7
baz=114
N21A Black Mountain 114.31 43 ⇑P PKiKP 16 08 46.8 +1.4
baz=114
H24A Dirks Ranch, A 114.33 38 ⇓P PKiKP 16 08 45.7 +0.4
baz=114
L22A Ellis Ranch, M 114.46 41 ⇑P PKiKP 16 08 46.3 +0.7
baz=114
Q20A Ridgley Place, 114.56 45 ⇓P PKiKP 16 08 46.6 +0.7
baz=115
O21A Pagoda 114.59 43 ⇑P PKiKP 16 08 46.5 +0.7
baz=115
M22A Cedar Creek Ra 114.64 42 ⇓P PKiKP 16 08 46.8 +0.8
baz=115
Y17A Roosevelt 114.73 51 ⇓P PKiKP 16 08 46.7 +0.4
baz=115
R20A Redvale 114.83 46 ⇓P PKiKP 16 08 46.9 +0.5
baz=115
L23A Garrett 114.90 41 ⇓P PKiKP 16 08 46.5 +0.1
baz=115
RSSD Black Hills 114.97 38 *e*PKPdf PKiKP 16 08 46.3 -0.2
RSSD Black Hills 114.97 38 *e*PKIKP PKiKP 16 08 46.3 -0.2
S20A Disappointment 114.99 46 ⇓P PKiKP 16 08 47.6 +0.8
baz=115
N22A Wattenberg Ran 115.02 42 ⇑P PKiKP 16 08 48.0 +1.3
baz=115
W18A Petrified Fore 115.05 49 ⇓P PKiKP 16 08 48.0 +1.0
baz=115
X18A Snowflake 115.11 50 ⇓P PKiKP 16 08 48.2 +1.1
baz=115
K24A Anderson Ranch 115.18 40 ⇑P PKiKP 16 08 47.4 +0.5
baz=115
O22A Kremmling 115.25 43 ⇑P PKiKP 16 08 48.0 +0.9
baz=115
N23A Red Feather La 115.32 42 ⇓P PKiKP 16 08 48.3 +1.0
baz=115
Y18A Canyon Day Jun 115.33 51 ⇑P PKiKP 16 08 49.0 +1.5
baz=115
R21A Cimarron 115.34 45 ⇑P PKiKP 16 08 48.6 +1.2
baz=115
V19A Window Rock 115.34 48 ⇑P PKiKP 16 08 49.0 +1.5
baz=115
P22A Eagle 115.36 44 ⇓P PKiKP 16 08 48.8 +1.4
baz=115
U20A Newcomb 115.47 48 ⇓P PKiKP 16 08 48.6 +0.9
baz=116
S21A Coal Bank Pass 115.47 46 ⇓P PKiKP 16 08 49.7 +2.1
baz=116,SNR=23
MDND Maddock 115.50 33 ⇓P PKiKP 16 08 48.3 +0.9
baz=116
Q22A Crested Butte, 115.58 45 ⇑P PKiKP 16 08 48.8 +1.0
baz=116
O23A Lake Granby, G 115.65 43 ⇑P PKiKP 16 08 49.4 +1.5
baz=116
X19A St. Johns 115.65 50 ⇑P PKiKP 16 08 49.7 +1.6
baz=116
V20A Brimhall 115.74 48 ⇑P PKiKP 16 08 49.6 +1.4
baz=116
M24A Cheyenne 115.79 41 ⇓P PKiKP 16 08 48.9 +0.8
baz=116
118A Homack Ranch, 115.79 52 ⇓P PKPdf 16 08 49.5 +1.1
baz=116
Y19A Nutrioso 115.86 50 ⇑P PKPdf 16 08 49.9 +1.4
baz=116
ULM Lac du Bonnet 115.92 29 PKP PKPdf 16 08 48.0 -0.2
comp=Z,7.9nm,0.7s,baz=278,slow=2.1,SNR=16
ULM PKKPab PKKPab 16 19 24.0 -1.5
comp=Z,4.0nm,0.9s,baz=150,slow=5.1,SNR=6.2
ULM Lac du Bonnet 115.92 29 PKP PKPdf 16 08 48.0 -0.2
ULM PKKPab PKKPab 16 19 24.0 -1.5
ULM Lac du Bonnet 115.92 29 PKIKP PKPdf 16 08 48.0 -0.1
ULM 16 19 24.0
T21A Navajo Lake 115.94 47 ⇑P PKPdf 16 08 50.5 +1.9
baz=116,SNR=6.1
R22A Saguache, Gunn 115.96 45 ⇑P PKPdf 16 08 50.4 +1.8
baz=116,SNR=5.1
218A Dragoon 115.97 53 ⇓P PKPdf 16 08 50.2 +1.4
baz=116
W20A Ramah 115.98 49 ⇑P PKPdf 16 08 50.2 +1.5
baz=116
ISCO Idaho Springs 116.05 43 ⇑P PKPdf 16 08 50.0 +1.2
baz=116
ISCO Idaho Springs 116.05 43 *e*PKPdf PKPdf 16 08 48.9 +0.2
ISCO Idaho Springs 116.05 43 *e*PKIKP PKPdf 16 08 48.9 +0.2
N24A Carr 116.06 42 ⇓P PKPdf 16 08 50.1 +1.4
baz=116
U21A Nageezi 116.08 47 ⇓P PKPdf 16 08 50.7 +1.8
baz=116,SNR=14
P23A Jefferson 116.09 44 ⇑P PKPdf 16 08 50.3 +1.5
baz=116
S22A 4UR Ranch, Cre 116.12 46 ⇑P PKPdf 16 08 51.0 +2.1
baz=116,SNR=6.5
318A Bisbee 116.20 53 ⇑P PKPdf 16 08 49.7 +0.4
baz=116
K26A Motz Farm, Whi 116.23 39 ⇑P PKPdf 16 08 49.2 +0.2
baz=116
Q23A Hartsel 116.31 44 ⇓P PKPdf 16 08 50.3 +1.1
baz=116
V21A Milan 116.35 48 ⇑P PKPdf 16 08 50.2 +0.8
baz=116
T22A Edith 116.38 46 ⇓P PKPdf 16 08 51.6 +2.2
baz=116,SNR=6.1
Y20A Horse Springs, 116.55 50 ⇓P PKPdf 16 08 51.6 +1.7
baz=117
219A White Tail Can 116.58 52 ⇑P PKPdf 16 08 51.0 +1.1
baz=117
R23A Moffat 116.64 45 ⇑P PKPdf 16 08 51.0 +1.1
baz=117
Z20A Nine Sixteen R 116.69 51 ⇓P PKPdf 16 08 51.5 +1.3
baz=117
X21A Alamocita Cree 116.79 49 ⇑P PKPdf 16 08 51.8 +1.5
baz=117
V22A San Miguel Ran 116.84 47 ⇓P PKPdf 16 08 51.8 +1.4
baz=117

120A	U Bar Ranch, L	116.87	52	⇑P	PKPdf	16 08 52.1	+1.6
	baz=117						
T23A	Casias Ranch,	117.00	46	⇓P	PKPdf	16 08 51.9	+1.3
	baz=117						
Y21A	Point of Rocks	117.05	50	⇓P	PKPdf	16 08 52.3	+1.5
	baz=117						
SDCO	Great Sand Dun	117.07	45	⇓P	PKPdf	16 08 51.9	+1.2
	baz=117						
R24A	Sanders Place,	117.12	44	⇑P	PKPdf	16 08 52.0	+1.2
	baz=117						
P25A	Willow Gulch B	117.17	43	⇓P	PKPdf	16 08 51.7	+0.8
	baz=117						
220A	Playas Peak, P	117.19	52	⇓P	PKPdf	16 08 52.1	+0.9
	baz=117						
S24A	Houchin Ranch,	117.32	45	⇑P	PKPdf	16 08 52.3	+1.0
	baz=117						
Z21A	St. Cloud Mine	117.33	50	⇑P	PKPdf	16 08 52.3	+0.9
	baz=117						
X22A	Bernardo	117.35	49	⇓P	PKPdf	16 08 53.0	+1.6
	baz=117						
Q25A	Bedland, Calha	117.40	43	⇓P	PKPdf	16 08 52.3	+0.9
	baz=117						
V23A	Ortiz Mt. (NFS	117.45	47	⇑P	PKPdf	16 08 52.3	+0.7
	baz=118						
121A	Cookes Peak, D	117.54	51	⇓P	PKPdf	16 08 52.9	+1.0
	baz=118						
ANMO	Albuquerque	117.58	48	*e*PKPdf	PKPdf	16 08 52.7	+0.9
ANMO	Albuquerque	117.58	48	*e*PKIKP	PKPdf	16 08 52.7	+0.9
Y22A	Socorro	117.62	50	⇓P	PKPdf	16 08 53.2	+1.3
	baz=118						
T24A	Torres, Weston	117.69	46	⇑P	PKPdf	16 08 53.2	+1.3
	baz=118,SNR=6.0						
W23A	Werner Place,	117.72	48	⇓P	PKPdf	16 08 53.7	+1.6
	baz=118						
R25A	Fountain Ranch	117.74	44	⇑P	PKPdf	16 08 52.8	+0.8
	baz=118						
BNM	Barren Site	117.79	49	*e*PKPdf	PKPdf	16 08 53.5	+1.3
S25A	Robets Cordova	117.86	45	⇓P	PKPdf	16 08 53.4	+1.2
	baz=118						
Z22A	Elephant Butte	117.89	50	⇑P	PKPdf	16 08 53.8	+1.3
	baz=118						
TAM	Tamanrasset	117.94	297	*e*PKPdf	PKPdf	16 08 53.6	+0.8
TAM	Tamanrasset	117.94	297	*e*PKIKP	PKPdf	16 08 53.6	+0.8
X23A	Hourglass Bar	117.94	49	⇓P	PKPdf	16 08 53.7	+1.2
	baz=118						
122A	Conniff Cattle	118.08	51	⇑P	PKPdf	16 08 54.8	+1.9
	baz=118						
T25A	Trinidad	118.11	45	⇓P	PKPdf	16 08 54.4	+1.6
	baz=118						
V24A	Rampart Ranch,	118.13	47	⇑P	PKPdf	16 08 54.5	+1.6
	baz=118,SNR=13						
222A	Williams Famil	118.24	51	⇑P	PKPdf	16 08 54.4	+1.3
	baz=118						
R26A	Arlington	118.24	44	⇑P	PKPdf	16 08 54.2	+1.2
	baz=118						
W24A	Lazy 6 Ranch,	118.25	48	⇑P	PKPdf	16 08 54.4	+1.3
	baz=118,SNR=16						
Y23A	Lovelace Mesa,	118.31	49	⇓P	PKPdf	16 08 54.4	+1.2
	baz=118						
Z23A	Rita Site, Whi	118.45	50	⇑P	PKPdf	16 08 54.7	+1.2
	baz=118						
U25A	Circle Dot Ran	118.45	46	⇓P	PKPdf	16 08 54.7	+1.2
	baz=118						
KSCO	Kaye Shedlock'	118.46	43	⇓P	PKPdf	16 08 54.7	+1.3
	baz=118						
V25A	Rancho No Teng	118.56	47	⇓P	PKPdf	16 08 55.0	+1.4
	baz=119,SNR=7.5						
R27A	Eads	118.70	43	⇓P	PKPdf	16 08 54.6	+0.8
	baz=119						
Y24A	Capitan	118.78	49	⇓P	PKPdf	16 08 55.5	+1.3
	baz=119,SNR=9.3						
U26A	Atchley Ranch,	118.93	46	⇓P	PKPdf	16 08 55.1	+0.7
	baz=119						
W25A	X Bar L Ranch,	118.95	47	⇑P	PKPdf	16 08 55.8	+1.3
	baz=119,SNR=10						
Z24A	Sheeppen Canyo	119.08	50	⇓P	PKPdf	16 08 55.9	+1.2
	baz=119,SNR=12						
X25A	Clemmons Ranch	119.10	48	⇓P	PKPdf	16 08 55.2	+0.4
	baz=119						
Y25A	Mesa, Roswell	119.34	49	⇑P	PKPdf	16 08 55.9	+0.7
	baz=119,SNR=19						
224A	Cornudas Mount	119.48	51	⇑P	PKPdf	16 08 56.7	+1.1
	baz=120,SNR=6.5						
W26A	Owens Ranch, T	119.51	47	⇓P	PKPdf	16 08 56.5	+0.9
	baz=120						
Z25A	Roswell	119.60	49	⇓P	PKPdf	16 08 56.4	+0.7
	baz=120						
ECSD	EROS Data Cent	119.63	35	*e*PKPdf	PKPdf	16 08 55.1	-0.4
X26A	CR and CF Fran	119.72	48	⇑P	PKPdf	16 08 56.9	+0.9
	baz=120,SNR=6.8						
MNTX	Cornudas Mount	119.74	51	⇑P	PKPdf	16 08 57.1	+1.0
	baz=120,SNR=32						
MNTX	Cornudas Mount	119.74	51	*e*PKPdf	PKPdf	16 08 56.7	+0.6
324A	Moseley Ranch,	119.77	52	⇑P	PKPdf	16 08 57.1	+1.0
	baz=120,SNR=18						
125A	Gardner Draw,	119.91	50	⇓P	PKPdf	16 08 57.1	+0.8
	baz=120,SNR=8.7						
Y26A	Elida	119.99	48	⇓P	PKPdf	16 08 57.3	+0.8
	baz=120						
225A	Deer Hill, Car	120.01	51	⇓P	PKPdf	16 08 57.3	+0.7
	baz=120,SNR=6.0						
W27A	Bowe Ranch, En	120.04	47	⇓P	PKPdf	16 08 57.2	+0.7
	baz=120						
BGNE	Belgrade	120.08	38	⇓P	PKPdf	16 08 56.8	+0.3
	baz=120						
Z26A	Caprock	120.16	49	⇑P	PKPdf	16 08 57.1	+0.3
	baz=120,SNR=5.6						
325A	Bean Ranch, Si	120.19	51	⇑P	PKPdf	16 08 57.6	+0.6
	baz=120,SNR=9.8						
POLO	Lamas de Olo	120.31	322	*e*PKPdf	PKPdf	16 08 57.7	+0.8
126A	Clayton Basin,	120.40	50	⇑P	PKPdf	16 08 57.9	+0.6
	baz=120,SNR=5.3						
425A	Indio Mountain	120.42	52	⇑P	PKPdf	16 08 58.4	+1.0
	baz=120,SNR=7.7						
CBKS	Cedar Bluff	120.49	41	⇑P	PKPdf	16 08 57.9	+0.6
	baz=120						
Y27A	Causey	120.50	48	⇑P	PKPdf	16 08 58.6	+1.1
	baz=120						
226A	Malaga, Loving	120.58	50	⇓P	PKPdf	16 08 58.5	+0.9
	baz=121,SNR=12						
Z27A	Tatum	120.71	49	⇓P	PKPdf	16 08 58.7	+0.8
	baz=121,SNR=21						
MSTX	Muleshoe	120.75	48	⇓P	PKPdf	16 08 58.6	+0.6
	baz=121						
SPMN	St. Paul	120.79	32	⇓P	PKPdf	16 08 58.1	+0.4
	baz=121						
127A	Arkansas Junct	120.89	49	⇑P	PKPdf	16 08 58.9	+0.6
	baz=121						
PCBR	Castelo Branco	120.98	320	*e*PKPdf	PKPdf	16 08 59.3	+1.1
326A	Caldwell Ranch	120.99	51	⇑P	PKPdf	16 08 58.9	+0.5
	baz=121						
AMTX	Amarillo	121.12	46	⇓P	PKPdf	16 08 59.5	+0.9
	baz=121						
AMTX	Amarillo	121.12	46	*e*PKPdf	PKPdf	16 08 59.0	+0.4
426A	McDonald Obser	121.22	52	⇓P	PKPdf	16 08 59.6	+0.7
	baz=121						
526A	Mary Lane Ranc	121.42	52	⇑P	PKPdf	16 09 00.4	+1.1
	baz=121,SNR=12						
626A	Big Bend Ranch	121.59	53	⇑P	PKPdf	16 09 00.2	+0.5
	baz=122,SNR=7.4						
PBAR	Barrancos	121.62	318	*e*PKPdf	PKPdf	16 09 00.5	+1.0
427A	Hayter Ranch,	121.64	51	⇓P	PKPdf	16 09 00.7	+0.9
	baz=122,SNR=19						
527A	Woodward Ranch	121.76	52	⇑P	PKPdf	16 09 00.8	+0.8
	baz=122						
SCHQ	Schefferville	121.83	10	PKP	PKPdf	16 08 59.5	+0.1
	comp=Z,8.4nm,0.8s,baz=40,slow=2.1,SNR=9.1						
SCHQ	Schefferville	121.83	10	PKP	PKPdf	16 08 59.5	+0.1
328A	Wristen Ranch,	121.87	50	⇑P	PKPdf	16 09 00.9	+0.7
	baz=122,SNR=24						
TXAR	Lajitas Array	122.05	53	PKP	PKPdf	16 09 01.2	+0.6
	comp=Z,5.8nm,0.7s,baz=288,slow=0.6,SNR=55						
TXAR				PKKPbc	PKKPbc	16 18 57.2	-1.3
	comp=Z,1.2nm,1.0s,baz=120,slow=5.5,SNR=7.0						
TXAR	Lajitas Array	122.05	53	PKP	PKPdf	16 09 01.2	+0.6
TXAR				PKKPbc	PKKPbc	16 18 57.2	-1.3
TXAR	Lajitas Array	122.05	53	PKIKP	PKPdf	16 09 01.2	+0.6
627A	Terlingua Ranc	122.22	53	⇑P	PKPdf	16 09 01.7	+0.8
	baz=122,SNR=19						
428A	Kincaid Ranch,	122.25	51	⇑P	PKPdf	16 09 02.1	+1.2
	baz=122,SNR=16						
KSU1	Kansas State U	122.37	40	*e*PKPdf	PKPdf	16 09 01.2	+0.3
528A	Cox Ranch, San	122.41	52	⇓P	PKPdf	16 09 02.0	+0.8
	baz=122,SNR=13						
628A	Black Gap, Mar	122.61	53	⇓P	PKPdf	16 09 02.2	+0.5
	baz=123,SNR=11						
WMOK	Wichita Mounta	123.27	45	*e*PKPdf	PKPdf	16 09 02.6	-0.1
WMOK				*e*PKPdf	pPKPdf	16 09 29.9	-0.8
WMOK	Wichita Mounta	123.27	45	*e*PKIKP	PKPdf	16 09 02.6	-0.2
WMOK				*e*		16 09 29.9	
PFVI	Vila Bisbo	123.37	318	*e*PKPdf	PKPdf	16 08 59.5	-3.4
JFWS	Jewell Farm	123.71	32	*e*PKPdf	PKPdf	16 09 02.6	-0.8
JFWS	Jewell Farm	123.71	32	*e*PKIKP	PKPdf	16 09 02.6	-0.8
TORD	Torodi Ar. Bea	123.78	287	PKP	PKPdf	16 09 03.9	-0.4
	comp=Z,10nm,0.8s,baz=62,slow=1.7,SNR=55						
TORD				PKKPbc	PKKPbc	16 18 51.5	+0.2
	comp=Z,1.9nm,0.8s,baz=282,slow=2.0,SNR=11						
TORD	Torodi Ar. Bea	123.78	287	PKP	PKPdf	16 09 03.9	-0.4
TORD				PKKPbc	PKKPbc	16 18 51.5	+0.2
JCT	Junction City	124.58	50	⇑P	PKPdf	16 09 06.3	+0.9
	baz=125						
JCT	Junction City	124.58	50	*e*PKPdf	PKPdf	16 09 05.8	+0.4
JCT				*e*pPKPdf	pPKPdf	16 09 36.3	+2.9
JCT	Junction City	124.58	50	*e*PKIKP	PKPdf	16 09 05.8	+0.4
JCT				*e*		16 09 36.3	
TUL1	Tulsa	124.71	42	⇓P	PKPdf	16 09 06.1	+0.6
	baz=125						
HDIL	Hopedale	125.84	34	*e*PKPdf	PKPdf	16 09 07.2	-0.3
USHA	Ushuaia	126.16	169	PKP	PKPdf	16 09 08.2	+0.5
	comp=Z,24nm,0.9s,baz=183,slow=2.2,SNR=6.5						
USHA	Ushuaia	126.16	169	PKP	PKPdf	16 09 08.2	+0.5
CCM	Cathedral Cave	126.34	38	*e*PKPdf	PKPdf	16 09 08.2	-0.4
CCM	Cathedral Cave	126.34	38	*e*PKIKP	PKPdf	16 09 08.2	-0.4
MIAR	Mount Ida	126.98	42	*e*PKPdf	PKPdf	16 09 10.4	+0.6
MIAR				*e*pPKPdf	pPKPdf	16 09 38.6	+0.7
MIAR	Mount Ida	126.98	42	*e*PKIKP	PKPdf	16 09 10.5	+0.6
MIAR				*e*		16 09 38.6	
SADO	Sadowa	127.52	23	PKP	PKPdf	16 09 10.7	+0.1
	comp=Z,16nm,0.9s,baz=228,slow=1.5,SNR=6.2						
SADO	Sadowa	127.52	23	PKP	PKPdf	16 09 10.7	+0.1
OLIL	Olney	127.75	35	*e*PKPdf	PKPdf	16 09 12.1	+0.8
HKT	Hockley	127.84	49	*e*PKPdf	PKPdf	16 09 12.5	+0.8
HKT	Hockley	127.84	49	*e*PKIKP	PKPdf	16 09 12.5	+0.8
PARMO	Parma	128.15	38	*e*PKPdf	PKPdf	16 09 13.0	+0.9
GNAR	Gosnell	128.43	39	*e*PKPdf	PKPdf	16 09 13.7	+1.1
ACSO	Alum Creek Sta	129.41	30	*e*PKPdf	PKPdf	16 09 14.0	-0.3
ACSO				*e*SKP		16 12 27.2	
WVT	Waverly	129.67	37	*e*PKPdf	PKPdf	16 09 14.5	-0.5
WVT				*e*SKP		16 12 28.4	
WVT	Waverly	129.67	37	*e*PKIKP	PKPdf	16 09 14.5	-0.5
OXF	Oxford	129.74	40	*e*PKPdf	PKPdf	16 09 15.4	+0.3
OXF				*e*SKP		16 12 29.1	
OXF	Oxford	129.74	40	*e*PKIKP	PKPdf	16 09 15.4	+0.3
PLAL	Pickwick Lake	130.27	38	*e*PKPdf	PKPdf	16 09 15.7	-0.4
DBIC	Dimbokro	131.31	281	PKP	PKPdf	16 09 18.6	0.0
	comp=Z,7.2nm,0.8s,baz=106,slow=3.8,SNR=6.7						
DBIC	Dimbokro	131.31	281	PKP	PKPdf	16 09 18.6	0.0
DBIC				*e*PKPdf	PKPdf	16 09 18.9	+0.2
DBIC	Dimbokro	131.31	281	PKIKP	PKPdf	16 09 18.6	-0.1
SWET	Sewanee	131.42	37	*e*PKPdf	PKPdf	16 09 17.8	-0.6
LIC	Lamto	131.55	280	*e*PKIKP	PKPdf	16 09 19.5	+0.4
	comp=Z,16nm,0.7s						
LIC	Lamto	131.55	280	*e*PKPdf	PKPdf	16 09 19.5	+0.4
TZTN	Tazewell	131.85	34	*e*PKPdf	PKPdf	16 09 19.5	+0.4
TZTN				*e*SKP		16 12 36.3	
LRAL	Lakeview Retre	132.22	40	*e*PKPdf	PKPdf	16 09 20.5	+0.7
TKL	Tuckaleechee C	132.37	35	PKP	PKPdf	16 09 20.4	+0.4
	comp=Z,26nm,0.8s,baz=222,slow=4.1,SNR=20						
TKL	Tuckaleechee C	132.37	35	*e*PKPdf	PKPdf	16 09 19.3	-0.8
TKL				PKP	PKPdf	16 09 20.4	+0.4
TKL				*e*SKP		16 12 34.4	
TKL	Tuckaleechee C	132.37	35	*e*PKIKP	PKPdf	16 09 19.3	-0.8
BLA	Blacksburg	133.01	30	*e*PKPdf	PKPdf	16 09 20.8	-0.5
BLA	Blacksburg	133.01	30	*e*PKIKP	PKPdf	16 09 20.8	-0.5
KMSC	Kings Mountain	134.10	33	⇓P	PKPdf	16 09 23.7	+0.4
	baz=134						
CMIG	Matias Romero	134.21	63	PKP	PKPdf	16 09 24.6	+0.7
	comp=Z,9.3nm,0.8s,baz=278,slow=2.0,SNR=15						
CMIG	Matias Romero	134.21	63	PKP	PKPdf	16 09 24.6	+0.7
PLCA	Paso Flores	138.57	160	PKP	PKPdf	16 09 32.6	+1.2
	comp=Z,12nm,0.8s,baz=205,slow=2.7,SNR=19						
PLCA	Paso Flores	138.57	160	*e*PKPpre	PKPpre	16 09 21.6	
PLCA				*e*PKPdf	PKPdf	16 09 32.4	+1.0
PLCA				PKP	PKPdf	16 09 32.6	+1.2
PLCA	Paso Flores	138.57	160	*e*PKHKP	PKPpre	16 09 21.6	
PLCA				*e*		16 09 32.4	
TGUH	Tegucigalpa,Un	142.13	64	*e*PKPdf	PKPdf	16 09 40.0	+1.4
TRQA	Tornquist	143.49	168	*e*PKPdf	PKPdf	16 09 37.2	-3.2
JTS	JuntasAbangare	145.61	68	PKPbc	PKPbc	16 09 45.3	+0.2
	comp=Z,23nm,0.9s,baz=5.0,slow=2.1,SNR=8.1						
JTS	JuntasAbangare	145.61	68	PKPbc	PKPbc	16 09 45.3	+0.2
JTS	JuntasAbangare	145.61	68	PKP2	PKPab	16 09 45.3	-0.2
CFAA	Coronel Fontan	147.47	155	PKPbc	PKPbc	16 09 48.1	-2.0
	comp=Z,14nm,0.7s,baz=232,slow=2.3,SNR=64						
CFAA	Coronel Fontan	147.47	155	PKPbc	PKPbc	16 09 48.1	-2.0
MTDJ	Mount Denham	148.19	49	*e*PKPbc	PKPbc	16 09 52.0	-0.4
MTDJ				*e*PKPab	PKPab	16 09 57.5	+2.1
LCO	Las Campanas	148.49	149	*e*PKPdf	PKPdf	16 09 50.3	+1.1
LCO				*e*PKPbc	PKPbc	16 09 53.7	+0.9
BCIP	Isla Barro Col	150.72	67	*e*PKPbc	PKPbc	16 09 58.6	-0.1
SDDR	Presa de Saban	152.06	40	*e*PKPbc	PKPbc	16 10 01.7	+0.1
SDDR				*e*PKPab	PKPab	16 10 12.4	+1.1
ATAH	Atahualpa	154.06	101	PKP	PKPdf	16 09 60.0	+1.9
	comp=Z,22nm,1.1s,baz=245,slow=5.9,SNR=13						
ATAH				PKPbc	PKPbc	16 10 08.5	+2.3
	comp=Z,43nm,0.8s,baz=219,slow=2.1,SNR=21						
ATAH	Atahualpa	154.06	101	PKP	PKPdf	16 09 60.0	+1.9
ATAH				PKPbc	PKPbc	16 10 08.5	+2.3
OTAV	Otavalo	154.22	85	*e*PKPdf	PKPdf	16 09 55.7	-2.6
NNA	Nana	154.33	113	PKP	PKPdf	16 09 59.6	+1.2
	comp=Z,7.9nm,0.7s,baz=341,slow=4.2,SNR=4.1						
NNA				PKPbc	PKPbc	16 10 07.6	+0.9
	comp=Z,34nm,0.9s,baz=253,slow=5.3,SNR=9.7						
NNA	Nana	154.33	113	PKP	PKPdf	16 09 59.6	+1.2
NNA				PKPbc	PKPbc	16 10 07.6	+0.9
NNA	Nana	154.33	113	PKIKP	PKPdf	16 09 59.6	+1.2
CPUP	Villa Florida	155.77	170	PKP	PKPdf	16 10 00.6	+0.5
	comp=Z,6.0nm,1.0s,baz=114,slow=1.2,SNR=9.4						
CPUP				PKPab	PKPab	16 10 26.6	-0.2
	comp=Z,16nm,0.9s,baz=207,slow=4.8,SNR=9.0						
CPUP	Villa Florida	155.77	170	PKP	PKPdf	16 10 00.6	+0.5
CPUP				PKPab	PKPab	16 10 26.6	-0.2
CPUP	Villa Florida	155.77	170	PKIKP	PKPdf	16 10 00.6	+0.5
CPUP						16 10 26.6	
MTP	Monte Pirata	156.10	31	*e*PKPdf	PKPdf	16 09 57.5	-3.2
MTP				*e*PKPab	PKPab	16 10 28.2	-0.2
STVI	Saint Thomas	156.19	30	*e*PKPdf	PKPdf	16 09 59.5	-1.3
ROSC	El Rosal	157.32	72	PKP	PKPdf	16 10 02.6	+0.2
	comp=Z,7.9nm,0.6s,baz=106,slow=19,SNR=5.0						
ROSC	El Rosal	157.32	72	PKP	PKPdf	16 10 02.6	+0.2
SDV	Santo Domingo	159.00	58	*e*PKPdf	PKPdf	16 10 04.2	-0.2
SDV				*e*pPKPdf	pPKPdf	16 10 35.2	+2.7
SDV				*e*PKPab	PKPab	16 10 42.3	+1.0
LPAZ	La Paz	159.52	133	PKP	PKPdf	16 10 06.7	+1.7
	comp=Z,15nm,1.0s,baz=286,slow=1.1,SNR=38						
LPAZ				PKPab	PKPab	16 10 45.0	+1.7
	comp=Z,8.8nm,1.1s,baz=255,slow=3.3,SNR=4.4						
LPAZ	La Paz	159.52	133	*e*PKPdf	PKPdf	16 10 06.1	+1.2
LPAZ				PKP	PKPdf	16 10 06.7	+1.7
LPAZ				PKPab	PKPab	16 10 45.0	+1.7
LPAZ				*e*PP	PP	16 14 21.7	-2.7
LPAZ	La Paz	159.52	133	*e*PKIKP	PKPdf	16 10 06.1	+1.2
LPAZ						16 10 45.0	
LPAZ				*e*		16 14 21.7	
RCBR	Riachuelo	162.80	258	PKPab	PKPab	16 10 56.8	-1.1
	comp=Z,18nm,0.9s,baz=111,slow=3.3,SNR=5.4						
RCBR	Riachuelo	162.80	258	PKPab	PKPab	16 10 56.8	-1.1
SIV	San Ignacio	164.19	149	PKP	PKPdf	16 10 10.4	+0.7
	comp=Z,6.7nm,0.7s,baz=181,slow=0.6,SNR=28						
SIV	San Ignacio	164.19	149	PKP	PKPdf	16 10 10.4	+0.7
SAML	Samuel	167.77	123	*e*PKPdf	PKPdf	16 10 12.7	0.0

ISCJB ***18*** *16:08:33.8±1.5, 9°.2S±0°.1×124°.0E±0°.2, h112km±15km, mb4.2/9, Error ellipse: s-maj=34.6km s-min=8.3km az=145.9*

IDC ***18*** *16:08:34.1±3.5, 9°.12S×124°.08E, h92km±39km, mb3.8/5, mb1 3.8/9, mb1mx3.7/18, mbtmp3.7/9, Error ellipse: s-maj=93.6km s-min=21.5km az=54.0*

NEIC ***18*** *16:08:34.5±1.2, 9°.19S×123°.95E, h99km±13km, mb4.3/5, Error ellipse: s-maj=27.4km s-min=7.7km az=56.0*

ISC 18 16:08:34.6±1.3, 9°.2S±0°.1×124°.0E±0°.2, h99km±14km, n28, σ0.985/37, mb4.2/9, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	5.88	315	P	Pn	16 09 59.8	+0.5
	0.5nm,0.3s,baz=88,slow=11,SNR=4.4						
KAPI				S	Sn	16 11 18.9	+13
	0.7nm,0.3s,baz=283,slow=18,SNR=5.7						
KAPI	Kappang	5.88	315	*e*Pn	Pn	16 09 59.6	+0.3
KAPI				S	Sn	16 11 18.9	+13
FITZ	Fitzroy Crossi	9.01	170	P	Pn	16 10 40.7	-1.1
	2.6nm,0.3s,baz=356,slow=12,SNR=84						
FITZ				S	Sn	16 12 15.2	-6.3
	6.3nm,0.3s,baz=100,slow=18,SNR=18						
FITZ	Fitzroy Crossi	9.01	170	P	Pn	16 10 40.7	-1.1
FITZ				S	Sn	16 12 15.2	-6.3
WRA	Warramunga Arr	14.66	138	P	Pn	16 11 56.6	-0.6
	0.5nm,0.3s,baz=308,slow=13,SNR=22						
WRA				S	Sn	16 14 30.8	-8.1
	1.7nm,0.3s,baz=311,slow=23,SNR=13						
WRA	Warramunga Arr	14.66	138	P	Pn	16 11 56.6	-0.6
WRA				S	Sn	16 14 30.8	-8.1
WRAB	Tennant Creek	14.66	138	*e*Pn	Pn	16 11 56.5	-0.7
WRAB				*e*Sn	Sn	16 14 28.6	-10
AS31	Alice Springs	17.25	148	*e*Pn	Pn	16 12 30.6	+1.2
ASAR	Alice Springs	17.25	148	P	Pn	16 12 30.9	+1.5
	0.5nm,0.3s,baz=318,slow=11,SNR=32						
ASAR				S	S	16 15 33.7	-8.5
	0.5nm,0.3s,baz=319,slow=24,SNR=7.4						
ASAR	Alice Springs	17.25	148	P	Pn	16 12 30.9	+1.5
ASAR				S	S	16 15 33.7	-8.5
NWAO	Narrogin (SRO)	24.42	194	*e*P	P	16 13 44.5	+0.5
CMAR	Chiang Mai Arr	36.93	318	P	P	16 15 34.9	+0.6
	0.8nm,0.5s,mb3.9,baz=143,slow=6.3,SNR=8.3						
CMAR	Chiang Mai Arr	36.93	318	P	P	16 15 34.9	+0.6
CHTO	Chiang Mai	37.19	319	P	P	16 15 30.8	-5.6
	3.8nm,1.2s,mb4.2						
LSA	Lhasa	49.92	322	P	P	16 17 19.6	+1.1
	3.1nm,0.8s,mb4.3						
SONM	Songino Array	58.87	346	P	P	16 18 22.8	-0.1
	0.4nm,0.5s,mb3.7,baz=162,slow=8.5,SNR=2.8						
SONM	Songino Array	58.87	346	P	P	16 18 22.8	-0.1
MK31	Makanchi Array	66.95	330	*e*P	P	16 19 16.9	+0.3
MKAR	Makanchi Array	66.95	330	P	P	16 19 17.1	+0.6
	2.3nm,0.5s,mb4.3,baz=136,slow=7.4,SNR=69						
MKAR	Makanchi Array	66.95	330	P	P	16 19 17.1	+0.6
KBL	Kabul	67.73	313	P	P	16 19 19.8	-1.9
AAK	Ala-Archa	68.50	323	*e*P	P	16 19 25.8	-0.6
	6.4nm,0.7s,mb4.6						
EKS2	Erkin-Say	68.94	323	*e*P	P	16 19 28.0	-1.1
	7.1nm,1.4s,mb4.3						
ZAA0	Zalesovo Array	71.05	337	*e*P	P	16 19 41.5	-0.3
ZALV	Zalesovo Beam	71.05	337	P	P	16 19 41.8	0.0
	1.4nm,0.4s,mb4.1,baz=138,slow=5.7,SNR=8.9						
ZALV	Zalesovo Beam	71.05	337	P	P	16 19 41.8	0.0
KURK	Kurchatov	71.41	332	P	P	16 19 44.2	+0.2
	1.3nm,0.4s,mb4.1,baz=139,slow=5.8,SNR=27						
KURK	Kurchatov	71.41	332	*e*P	P	16 19 44.1	+0.1
	3.9nm,0.9s,mb4.2						

RSPR ***18*** *17:13:46.0, 19°.03N×69°.38W, h132km±5km, MD5.2*

ISCJB ***18*** *17:13:46.9±0.1, 18°.68N±0°.02×69°.38W±0°.01, h104km, mb5.1/302, Error ellipse: s-maj=3.3km s-min=1.4km az=18.0*

MOS ***18*** *17:13:46.6±0.8, 18°.73N×69°.40W, h100km, mb5.3/100, Error ellipse: s-maj=4.7km s-min=4.3km az=75.2*

IDC ***18*** *17:13:46.7±0.4, 18°.37N×69°.49W, h99km±3km, mb4.8/42, mb1 4.9/44, mb1mx4.9/44, mbtmp4.8/44, MS4.0/27, Ms1 4.0/27, ms1mx3.8/53, Error

SABA **Saba** 5.93 99 eS Sn 17 16 25.4 +4.7
SEUS **St. Eustatius** 6.20 100⇑ eP Pn 17 15 16.7 -1.0
SEUS **St. Eustatius** 6.20 100⇑ eP Pn 17 15 16.7 -1.0
SKI **Saint Kitts** 6.46 101 eP Pn 17 15 20.3 -0.9
SKI **Saint Kitts** 6.46 101 e Sn 17 16 34.3 +0.7
CMJ **Castle Mountai** 6.65 267 i P Pn 17 15 22.5 -1.3
YHJ **Yallahs** 6.79 265 i P Pn 17 15 25.3 -0.5
GWJ **Greenwich** 6.99 266 eP Pn 17 15 27.1 -1.4
HOJ **Hope** 7.02 266 i P Pn 17 15 28.3 -0.5
STH **Stony Hill** 7.07 267 ⇓ i P Pn 17 15 28.3 -1.2
ANWB **Willy Bob** 7.29 97 ePn Pn 17 15 28.2 -4.3
850nm,0.8s
BPA **Boggy Peak** 7.35 101 eP Pn 17 15 31.5 -1.7
BPA **Boggy Peak** 7.35 101 e Sn 17 16 51.5 -3.6
BBJ **Bamboo Saint A** 7.48 269 i P Pn 17 15 33.9 -1.1
LZG **Guadaloupe-1** 7.68 108 eP Pn 17 15 37.9 0.0
MTDJ **Mount Denham** 7.75 268⇑ eP Pn 17 15 37.2 -1.4
SCG **Saint Claude** 7.81 108 eP Pn 17 15 39.0 -0.5
SCG eS Px 17 16 05.7
SEG **Port Louis** 7.84 105 eP Pn 17 15 39.5 -0.6
PHG **Guadaloupe-2** 7.85 108 eP Pn 17 15 39.6 -0.4
DOG **Dongo Capester** 7.86 108 eP Pn 17 15 39.7 -0.6
TBG **Guadaloupe-3** 7.90 109 eP Pn 17 15 40.6 -0.2
MCJ **Malvern** 7.92 266 i P Pn 17 15 41.5 +0.5
MGG **Marie-Galante** 8.17 108 eP Pn 17 15 45.2 +0.7
DEG **La Desirade** 8.28 105 eP Pn 17 15 44.2 -1.8
DEG eS Px 17 16 14.3
DLPL **La Plaine** 8.46 112 eP Pn 17 15 51.4 +3.0
FDF **Fort de France** 8.80 115 ePn Pn 17 15 52.5 -0.6
491nm,0.6s
FDF **Fort de France** 8.80 115 eP Pn 17 15 52.5 -0.5
FDF pmax pmax
comp=Z,491nm,0.6s
FDF **Fort de France** 8.80 115 eP Pn 17 15 53.0 0.0
SLB **Belfond** 9.34 120 eP Pn 17 16 00.4 0.0
SLB **Belfond** 9.34 120 e Sn 17 17 37.4 -6.2
SVB **Belmont** 9.47 123 eP Pn 17 16 02.1 -0.1
SVB **Belmont** 9.47 123 e Sn 17 17 42.1 -4.8
SVV **Soufriere Volc** 9.48 123 eP Pn 17 16 03.7 +1.4
SVV **Soufriere Volc** 9.48 123 e Sn 17 17 43.5 -3.4
MCLT **Moule a Chique** 9.48 120 eP Pn 17 16 01.6 -0.7
MCLT **Moule a Chique** 9.48 120 e Sn 17 17 44.7 -2.4
SDV **Santo Domingo** 9.78 187 ePn Pn 17 16 07.3 +0.9
comp=Z,225nm,0.6s
GRW **Mount Saint Ca** 9.85 130 e Pn 17 16 07.2 -0.2
GRW **Mount Saint Ca** 9.85 130 e Sn 17 17 55.4 -0.7
GRGR **Grenville** 9.88 130 ePn Pn 17 16 07.1 -0.6
comp=Z,641nm,0.7s
BBGH **Gun Hill** 10.92 119 eP Pn 17 16 24.4 +2.6
comp=Z,1µm,1.1s
TRN **Trinidad (W)** 11.09 135 eP Pn 17 16 26.9 +2.9
TPR **Prospect** 11.15 131 eP Pn 17 16 29.4 +4.6
TOSP **Speyside** 11.25 129 eP Pn 17 16 27.0 +0.8
TBH **Brigand Hill** 11.43 134 eP Pn 17 16 32.6 +4.0
BCIP **Isla Barro Col** 13.84 228 eP Pn 17 16 58.0 -2.3
comp=Z,235nm,0.7s
BBSR **BB Station** 14.30 16 eP Pn 17 17 04.4 -1.7
comp=Z,74nm,0.6s
DWPF **Disney** 14.51 313 eP Pn 17 17 04.8 -4.0
comp=Z,65nm,0.8s
ROSC **El Rosal** 14.54 200 P Pn 17 17 12.5 +3.2
comp=Z,12nm,0.3s,baz=93,slow=3.5,SNR=26
ROSC S Sn 17 19 46.7 -3.0
comp=Z,1.1nm,0.3s,baz=54,slow=19,SNR=2.4
ROSC LR LR 17 22 45.5
comp=Z,326nm,19.2s,baz=11,slow=38
ROSC **El Rosal** 14.54 200 P Pn 17 17 12.5 +3.2
ROSC S Sn 17 19 46.7 -3.0
JTS **JuntasAbangare** 17.20 243 P Pn 17 17 43.9 +1.5
comp=Z,5.4nm,0.3s,baz=62,slow=10,SNR=20
JTS **JuntasAbangare** 17.20 243 P Pn 17 17 43.9 +1.5
JTS **JuntasAbangare** 17.20 243 Pn Pn 17 17 44.9 +2.5
comp=Z,484nm,1.4s,SNR=7.2
JTS **JuntasAbangare** 17.20 243 P Pn 17 17 43.9 +1.5
TGUH **Tegucigalpa,Un** 17.76 258 eP Pn 17 17 49.8 +0.6
comp=Z,56nm,0.6s
TEIG **Tepich** 17.89 278 P Pn 17 17 49.5 -1.1
comp=Z,2.3nm,0.3s,baz=90,slow=8.2,SNR=11
TEIG PcP PcP 17 22 21.0 -0.3
comp=Z,1.7nm,0.3s,baz=39,slow=1.7,SNR=7.7
TEIG **Tepich** 17.89 278 eP Pn 17 17 49.9 -0.7
comp=Z,184nm,1.2s
TEIG PcP PcP 17 22 21.0 -0.3
JSC **Jenkinsville** 18.82 328 eP P 17 17 59.3 -0.7
JSC **Jenkinsville** 18.82 328 eP P 17 17 59.3 -0.7
GOGA **Godfrey** 19.36 322 eP P 17 18 05.0 -0.8
comp=Z,58nm,1.1s
GOGA **Godfrey** 19.36 322 eP P 17 18 05.1 -0.8
GOGA pmax pmax
comp=Z,58nm,1.1s
BRAL **Brewton** 20.18 311 eP P 17 18 16.0 +1.3
comp=Z,74nm,0.7s
OTAV **Otavalo** 20.35 207 eP P 17 18 19.2 +2.5
comp=Z,481nm,1.2s
CBN **Corbin** 20.69 342 eP P 17 18 19.5 -0.7
comp=Z,194nm,0.3s
BLA **Blacksburg** 20.87 335 eP P 17 18 21.4 -0.7
comp=Z,66nm,0.8s
BLA **Blacksburg** 20.87 335 eP P 17 18 21.5 -0.6
BLA pmax pmax
comp=Z,66nm,0.8s
TKL **Tuckaleechee C** 21.19 326 P P 17 18 24.9 -0.6
comp=Z,25nm,0.9s,mb4.5,baz=151,slow=11,SNR=28
TKL S S 17 22 16.6 +1.4
comp=Z,19nm,0.6s,baz=162,slow=19,SNR=2.9
TKL LR LR 17 26 38.7
comp=Z,290nm,19.0s,baz=94,slow=36
TKL **Tuckaleechee C** 21.19 326 eP P 17 18 24.6 -1.0
TKL S S 17 22 16.6 +1.4
TKL **Tuckaleechee C** 21.19 326 eP P 17 18 24.6 -0.9
TKL S S 17 22 16.6 +1.5
LRAL **Lakeview Retre** 21.32 316 eP P 17 18 26.6 -0.3
comp=Z,104nm,1.2s,mb5.0
SDMD **Soldier's Deli** 21.67 344 eP P 17 18 29.8 -0.8
comp=Z,48nm,0.7s,mb4.9
TZTN **Tazewell** 21.75 328 eP P 17 18 30.7 -0.8
comp=Z,4.3nm,0.4s,mb4.1
SWET **Sewanee** 22.08 322 eP P 17 18 34.1 -0.9
comp=Z,2.0nm,0.8s
BRNJ **Basking Ridge** 22.41 350 eP P 17 18 38.7 +0.3
comp=Z,15µm,1.0s
SSPA **Standing Stone** 23.10 343 eP P 17 18 44.4 -0.7
comp=Z,54nm,0.9s,mb4.9
PLAL **Pickwick Lake** 23.23 318 eP P 17 18 45.7 -0.7
comp=Z,73nm,1.0s,mb5.0
OXF **Oxford** 23.81 316 eP P 17 18 51.3 -0.4
comp=Z,278nm,0.9s,mb5.6
OXF **Oxford** 23.81 316 eP P 17 18 51.3 -0.4
OXF pmax pmax
comp=Z,278nm,0.9s,mb5.6
WVT **Waverly** 23.83 321 eP P 17 18 50.5 -1.3
comp=Z,40nm,0.7s,mb4.9
WVT **Waverly** 23.83 321 eP P 17 18 50.5 -1.4
WVT pmax pmax
comp=Z,40nm,0.7s,mb4.9
BINY **Binghamton** 24.14 348 eP P 17 18 54.2 -0.4
comp=Z,90nm,0.9s,mb5.1
CMIG **Matias Romero** 24.31 270 P P 17 18 53.1 -3.3
comp=Z,3.1nm,0.5s,mb3.9,baz=62,slow=5.5,SNR=6.0
CMIG PcP PcP 17 22 32.5 -1.2
comp=Z,3.9nm,0.6s,baz=61,slow=2.4,SNR=5.2
CMIG **Matias Romero** 24.31 270 P P 17 18 53.1 -3.3
CMIG PcP PcP 17 22 32.5 -1.2
WCI **Wyandotte Cave** 24.45 326 eP P 17 18 57.2 -0.3
comp=Z,39nm,0.9s,mb4.7
WCI **Wyandotte Cave** 24.45 326 eP P 17 18 57.2 -0.3
WCI pmax pmax
comp=Z,39nm,0.9s,mb4.7
ACSO **Alum Creek Sta** 24.49 334 eP P 17 18 57.4 -0.4
comp=Z,116nm,1.0s,mb5.2
UTMT **University of** 24.60 320 eP P 17 18 58.7 -0.2
comp=Z,369nm,1.1s,mb5.7
HALT **Halls** 24.62 318 eP P 17 18 58.6 -0.4
ALLY **Alegheny Colle** 24.70 340 eP P 17 18 59.5 -0.1
comp=Z,56nm,0.9s,mb5.0
GLAT **Glass** 24.81 319 eP P 17 19 01.0 +0.2
ACCN **Adirondack Com** 24.92 353 eP P 17 19 01.7 0.0
comp=Z,35nm,0.6s,mb5.0
USIN **University of** 25.00 324 eP P 17 19 02.7 +0.2
comp=Z,187nm,1.1s,mb5.4
ERPA **Erie** 25.07 341 eP P 17 19 02.5 -0.6
comp=Z,60nm,1.0s,mb5.0
GNAR **Gosnell** 25.08 318 eP P 17 19 03.8 +0.5
comp=Z,2µm,1.1s,mb6.5
HBAR **Harrisburg** 25.25 316 eP P 17 19 05.3 +0.5

BLO **Bloomington** 25.27 328 eP P 17 19 05.6 +0.6
comp=Z,50nm,0.9s,mb4.9
BLO **Bloomington** 25.27 328 eP P 17 19 05.6 +0.6
BLO pmax pmax
comp=Z,50nm,0.9s,mb4.9
PARMO **Parma** 25.35 319 eP P 17 19 04.5 -1.2
MDV **Middlebury** 25.47 354 eP P 17 19 07.1 +0.4
comp=Z,771nm,0.4s,mb6.5
NCB **Newcomb** 25.57 352 eP P 17 19 07.9 +0.3
comp=Z,106nm,1.5s,mb5.0
LBNH **Lisbon** 25.60 356 eP P 17 19 07.8 -0.1
comp=Z,121nm,1.8s,mb5.0
LBNH **Lisbon** 25.60 356 eP P 17 19 07.8 0.0
LBNH pmax pmax
comp=Z,121nm,1.8s,mb5.0
SIUC **Southern Illin** 25.71 322 eP P 17 19 08.7 -0.3
comp=Z,104nm,1.0s,mb5.2
OLIL **Olney** 25.79 325 eP P 17 19 09.1 -0.5
comp=Z,92nm,1.0s,mb5.2
UALR **University of** 25.95 313 eP P 17 19 11.0 -0.1
comp=Z,35nm,1.0s,mb4.7
NATX **Nacogdoches** 26.25 305 eP P 17 19 14.6 +0.7
comp=Z,594nm,1.3s,mb5.9
FRNY **Flat Rock** 26.34 353 eP P 17 19 14.5 -0.1
comp=Z,13nm,0.9s,mb4.4
HKT **Hockley** 26.53 300 eP P 17 19 16.0 -0.4
comp=Z,80nm,1.4s,mb5.1
HKT **Hockley** 26.53 300 eP P 17 19 16.0 -0.4
HKT pmax pmax
comp=Z,80nm,1.4s,mb5.1
MIAR **Mount Ida** 26.70 311 eP P 17 19 17.6 -0.3
comp=Z,24nm,0.9s,mb4.7
MIAR **Mount Ida** 26.70 311 eP P 17 19 17.6 -0.3
MIAR pmax pmax
comp=Z,24nm,0.9s,mb4.7
ATAH **Atahualpa** 27.12 200 P P 17 19 21.6 -0.1
comp=Z,68nm,0.8s,mb5.2,baz=22,slow=6.1,SNR=42
ATAH **Atahualpa** 27.12 200 P P 17 19 21.6 -0.1
CCM **Cathedral Cave** 27.15 320 eP P 17 19 21.0 -0.9
comp=Z,34nm,0.8s,mb4.9
CCM **Cathedral Cave** 27.15 320 eP P 17 19 21.0 -0.9
CCM pmax pmax
comp=Z,34nm,0.8s,mb4.9
SADO **Sadowa** 27.29 345 P P 17 19 21.9 -1.1
comp=Z,26nm,0.8s,mb4.8,baz=186,slow=8.2,SNR=12
SADO PcP PcP 17 22 39.7 -0.3
comp=Z,9.9nm,0.8s,baz=221,slow=9.3,SNR=3.6
SADO **Sadowa** 27.29 345 P P 17 19 21.9 -1.1
SADO PcP PcP 17 22 39.7 -0.3
HDIL **Hopedale** 27.73 326 eP P 17 19 26.8 -0.3
comp=Z,17nm,0.8s,mb4.6
SAML **Samuel** 28.10 167 eP P 17 19 29.0 -1.5
comp=Z,74nm,0.8s,mb5.3
TUL1 **Tulsa** 28.95 312 ⇓P P 17 19 37.8 -0.2
baz=29
JFWS **Jewell Farm** 29.94 328 eP P 17 19 45.8 -0.8
comp=Z,33nm,0.6s,mb5.1
JFWS **Jewell Farm** 29.94 328 eP P 17 19 45.8 -0.8
JFWS pmax pmax
comp=Z,33nm,0.6s,mb5.1
JCT **Junction City** 29.97 299 ⇓P P 17 19 46.5 -0.5
baz=30,SNR=17
JCT **Junction City** 29.97 299 eP P 17 19 46.5 -0.5
comp=Z,63nm,1.0s,mb5.2
JCT **Junction City** 29.97 299 eP P 17 19 46.5 -0.5
JCT pmax pmax
comp=Z,63nm,1.0s,mb5.2
WMOK **Wichita Mounta** 30.61 307 eP P 17 19 51.4 -1.3
comp=Z,66nm,0.8s,mb5.4
WMOK pP pP 17 20 15.0 -1.3
WMOK esP sP 17 20 27.0 -1.6
WMOK **Wichita Mounta** 30.61 307 eP P 17 19 51.4 -1.2
WMOK *PP pP 17 20 15.0 -1.3
WMOK e*SP sP 17 20 27.0 -1.6
WMOK pmax pmax
comp=Z,66nm,0.8s,mb5.4
SCIA **State Center** 30.80 324 eP P 17 19 53.5 -0.7
comp=Z,20nm,0.6s,mb5.0
KSU1 **Kansas State U** 31.16 317 eP P 17 19 56.1 -1.3
comp=Z,37nm,0.9s,mb5.1
NNA **Nana** 31.32 194 P P 17 19 58.5 -0.5
comp=Z,53nm,0.9s,mb5.3,baz=3.6,slow=8.6,SNR=21
NNA **Nana** 31.32 194 eP P 17 19 58.7 -0.3
comp=Z,62nm,0.9s,mb5.3
NNA **Nana** 31.32 194 eP P 17 19 58.7 -0.3
NNA pmax pmax
comp=Z,62nm,0.9s
NNA **Nana** 31.32 194 P P 17 19 59.0 0.0
comp=Z,400nm,0.9s,mb6.2,SNR=5.9
628A **Black Gap, Mar** 32.33 296 ⇑P P 17 20 07.4 -0.4
baz=32,SNR=40
528A **Cox Ranch, San** 32.39 297 ⇑P P 17 20 08.2 -0.1
baz=32,SNR=109
428A **Kincaid Ranch,** 32.43 298 ⇓P P 17 20 09.0 +0.3
baz=32,SNR=90
328A **Wristen Ranch,** 32.70 299 ⇓P P 17 20 10.1 -0.9
baz=33,SNR=23
627A **Terlingua Ranc** 32.75 296 ⇓P P 17 20 11.5 0.0
baz=33,SNR=91
AMTX **Amarillo** 32.87 306 ⇓P P 17 20 11.6 -0.8
baz=33,SNR=13
AMTX **Amarillo** 32.87 306 eP P 17 20 11.5 -0.9
comp=Z,38nm,0.9s,mb5.2
AMTX esP sP 17 20 46.9 -1.7
SPMN **St. Paul** 32.88 329 ⇓P P 17 20 11.4 -1.0
baz=33,SNR=7.3
TXAR **Lajitas Array** 32.96 295 P P 17 20 13.2 -0.2
comp=Z,12nm,0.4s,mb5.1,baz=112,slow=9.2,SNR=142
TXAR PcP PcP 17 22 55.3 +0.1
comp=Z,17nm,0.8s,baz=131,slow=5.0,SNR=19
TXAR ScP ScP 17 26 30.3 +0.6
comp=Z,1.3nm,0.9s,baz=114,slow=4.5,SNR=4.3
TXAR PKiKP PKiKP 17 30 20.0 -1.4
comp=Z,0.2nm,0.7s,baz=132,slow=1.9,SNR=3.8
TXAR **Lajitas Array** 32.96 295 P P 17 20 13.2 -0.2
TXAR PcP PcP 17 22 55.3 +0.1
TXAR ScP ScP 17 26 30.3 +0.6
TXAR PKiKP PKiKP 17 30 20.0 -1.4
TXAR **Lajitas Array** 32.96 295 P P 17 20 13.2 -0.1
TXAR 17 22 55.3
427A **Hayter Ranch,** 33.06 298 ⇓P P 17 20 13.8 -0.3
baz=33,SNR=32
527A **Woodward Ranch** 33.08 297 ⇓P P 17 20 14.3 0.0
baz=33
CBKS **Cedar Bluff** 33.11 314 ⇑P P 17 20 14.3 -0.2
baz=33,SNR=26
CBKS **Cedar Bluff** 33.11 314 eP P 17 20 14.2 -0.2
comp=Z,122nm,1.0s,mb5.7
CBKS **Cedar Bluff** 33.11 314 eP P 17 20 14.3 -0.2
CBKS pmax pmax
comp=Z,122nm,1.0s,mb5.7
227A **Bennet, Jal** 33.26 300 ⇑P P 17 20 15.4 -0.4
baz=33,SNR=26
327A **Balmorhea Ranc** 33.26 299 ⇓P P 17 20 15.7 -0.2
baz=33
626A **Big Bend Ranch** 33.41 296 ⇑P P 17 20 16.9 -0.3
baz=33,SNR=46
MSTX **Muleshoe** 33.41 304 ⇑P P 17 20 16.6 -0.6
baz=33,SNR=48
BGNE **Belgrade** 33.42 319 ⇓P P 17 20 15.8 -1.3
baz=34
526A **Mary Lane Ranc** 33.47 296 ⇓P P 17 20 17.9 +0.2
baz=34,SNR=77
127A **Arkansas Junct** 33.49 301 ⇑P P 17 20 16.9 -1.0
baz=34,SNR=22
426A **McDonald Obser** 33.55 298 ⇓P P 17 20 18.3 0.0
baz=34,SNR=53
Z27A **Tatum** 33.56 303 ⇓P P 17 20 17.1 -1.4
baz=34,SNR=24
326A **Caldwell Ranch** 33.65 299 ⇓P P 17 20 18.4 -0.9
baz=34,SNR=16
Y27A **Causey** 33.69 304 ⇑P P 17 20 18.8 -0.8
baz=34,SNR=52
X27A **F and S Farms,** 33.89 305 ⇓P P 17 20 20.3 -0.9
baz=34,SNR=18
ECSD **EROS Data Cent** 33.89 324 eP P 17 20 20.1 -1.0
comp=Z,60nm,1.0s,mb5.4
226A **Malaga, Loving** 33.94 300 ⇑P P 17 20 21.0 -0.8
baz=34,SNR=22
W27A **Bowe Ranch, En** 34.00 306 ⇑P P 17 20 21.5 -0.7
baz=34,SNR=22
CPRX **Cap Rock** 34.00 302 eP P 17 20 21.8 -0.5
comp=Z,16nm,0.5s,mb5.1
126A **Clayton Basin,** 34.02 301 ⇓P P 17 20 21.7 -0.8
baz=34,SNR=48
Z26A **Caprock** 34.16 302 ⇓P P 17 20 22.5 -1.2
baz=34,SNR=28

GDL2 **Guadalupe Moun** 34.19 300 eP P 17 20 23.4 -0.5
comp=Z,35nm,0.6s,mb5.4
Y26A **Elida** 34.23 303 ⇑P P 17 20 23.4 -0.9
baz=34
EYMN **Ely** 34.32 333 eP P 17 20 23.6 -1.2
comp=Z,95nm,1.4s,mb5.4
425A **Indio Mountain** 34.38 297 ⇑P P 17 20 25.9 +0.4
baz=34,SNR=78
X26A **CR and CF Fran** 34.41 304 ⇓P P 17 20 25.3 -0.5
baz=34,SNR=11
325A **Bean Ranch, Si** 34.49 298 ⇑P P 17 20 26.7 +0.2
baz=34,SNR=106
225A **Deer Hill, Car** 34.54 300 ⇑P P 17 20 27.1 +0.1
baz=34,SNR=46
125A **Gardner Draw,** 34.54 301 ⇓P P 17 20 26.3 -0.7
baz=34,SNR=36
W26A **Owens Ranch, T** 34.55 305 ⇓P P 17 20 26.8 -0.2
baz=35
LPAZ **La Paz** 34.74 178 P P 17 20 28.3 -0.4
comp=Z,19nm,0.6s,mb5.1,baz=14,slow=7.8,SNR=27
LPAZ PcP PcP 17 22 59.6 -0.6
comp=Z,4.6nm,0.6s,baz=31,slow=5.9,SNR=3.2
LPAZ LR LR 17 36 13.8
comp=Z,260nm,19.9s,baz=232,slow=39
LPAZ **La Paz** 34.74 178 eP P 17 20 28.0 -0.7
comp=Z,20nm,0.6s,mb5.1
LPAZ PcP PcP 17 22 59.6 -0.6
LPAZ **La Paz** 34.74 178 eP P 17 20 28.0 -0.7
LPAZ 17 22 59.6
LPAZ pmax pmax
comp=Z,20nm,0.6s
Z25A **Roswell** 34.76 302 ⇑P P 17 20 28.4 -0.4
baz=35
MNTX **Cornudas Mount** 34.91 299 ⇑P P 17 20 30.0 -0.1
baz=35,SNR=144
MNTX **Cornudas Mount** 34.91 299 eP P 17 20 29.9 -0.2
comp=Z,125nm,1.1s,mb5.7
Y25A **Mesa, Roswell** 34.92 303 ⇓P P 17 20 30.1 -0.1
baz=35,SNR=19
324A **Moseley Ranch,** 34.93 298 ⇑P P 17 20 30.2 -0.1
baz=35,SNR=44
U26A **Atchley Ranch,** 34.98 307 ⇓P P 17 20 30.4 -0.3
baz=35
R27A **Eads** 35.02 311 ⇓P P 17 20 30.5 -0.5
baz=35
X25A **Clemmons Ranch** 35.07 304 ⇑P P 17 20 31.2 -0.3
baz=35
224A **Cornudas Mount** 35.11 299 ⇑P P 17 20 31.8 0.0
baz=35,SNR=71
W25A **X Bar L Ranch,** 35.13 305 ⇑P P 17 20 31.8 -0.2
baz=35,SNR=39
KSCO **Kaye Shedlock'** 35.20 312 ⇓P P 17 20 32.4 -0.1
baz=35
Z24A **Sheeppen Canyo** 35.29 302 ⇑P P 17 20 33.9 +0.5
baz=35,SNR=48
SIV **San Ignacio** 35.38 166 P P 17 20 32.8 -1.4
comp=Z,21nm,0.5s,mb5.2,baz=360,slow=9.7,SNR=110
SIV ScP ScP 17 26 38.0 -0.4
comp=Z,6.4nm,1.0s,baz=1.7,slow=2.6,SNR=4.5
SIV LR LR 17 36 19.6
comp=Z,296nm,18.1s,slow=38
SIV **San Ignacio** 35.38 166 P P 17 20 32.8 -1.4
SIV ScP ScP 17 26 38.0 -0.4
V25A **Rancho No Teng** 35.45 306 ⇓P P 17 20 35.1 +0.3
baz=36,SNR=43
U25A **Circle Dot Ran** 35.49 307 ⇓P P 17 20 35.1 +0.1
baz=36,SNR=17
R26A **Arlington** 35.49 311 ⇓P P 17 20 34.5 -0.5
baz=36
Y24A **Capitan** 35.51 303 ⇑P P 17 20 35.7 +0.4
baz=36,SNR=40
O27A **Beecher Island** 35.63 314 ⇑P P 17 20 35.9 -0.3
baz=36
OGNE **Ogallala** 35.68 316 ⇓P P 17 20 35.9 -0.7
baz=36,SNR=8.4
OGNE **Ogallala** 35.68 316 eP P 17 20 35.9 -0.7
comp=Z,92nm,0.9s,mb5.7
X24A **Lazy VL Ranch,** 35.69 304 ⇑P P 17 20 37.0 +0.1
baz=36
T25A **Trinidad** 35.75 308 ⇑P P 17 20 37.4 +0.2
baz=36
Q26A **Hugo** 35.80 312 ⇑P P 17 20 38.1 +0.4
baz=36
123A **Bell Site, Whi** 35.85 300 ⇓P P 17 20 38.5 +0.3
baz=36
W24A **Lazy 6 Ranch,** 35.86 305 ⇑P P 17 20 38.8 +0.5
baz=36,SNR=12
V24A **Rampart Ranch,** 35.92 306 ⇑P P 17 20 39.3 +0.6
baz=36,SNR=6.1
N27A **Anderson Farm,** 35.95 315 ⇑P P 17 20 38.6 -0.4
baz=36
S25A **Robets Cordova** 35.96 309 ⇓P P 17 20 39.1 0.0
baz=36,SNR=22
Z23A **Rita Site, Whi** 35.98 301 ⇓P P 17 20 39.5 +0.2
baz=36,SNR=6.2
Y23A **Lovelace Mesa,** 36.01 302 ⇑P P 17 20 40.0 +0.5
baz=36,SNR=18
R25A **Fountain Ranch** 36.03 310 ⇑P P 17 20 39.4 -0.3
baz=36,SNR=18
U24A **Moreno Valley** 36.15 307 ⇓P P 17 20 41.3 +0.6
baz=36
SCHQ **Schefferville** 36.17 3 P P 17 20 40.3 -0.2
comp=Z,29nm,0.9s,mb5.2,baz=184,slow=6.7,SNR=24
SCHQ PcP PcP 17 23 03.1 -0.7
comp=Z,6.6nm,0.9s,baz=184,slow=6.5,SNR=2.7
SCHQ LR LR 17 34 14.6
comp=Z,261nm,19.3s,baz=173,slow=34
SCHQ **Schefferville** 36.17 3 eP P 17 20 40.4 -0.1
comp=Z,38nm,1.0s,mb5.3
SCHQ PcP PcP 17 23 03.1 -0.7
M27A **Reverse DX Ran** 36.20 316 ⇓P P 17 20 40.5 -0.5
baz=36
T24A **Torres, Weston** 36.21 308 ⇓P P 17 20 41.6 +0.5
baz=36,SNR=7.5
O26A **Horse Wrangler** 36.22 314 ⇑P P 17 20 41.2 0.0
baz=36
X23A **Hourglass Bar** 36.29 303 ⇓P P 17 20 42.4 +0.4
baz=36
Q25A **Bedland, Calha** 36.31 311 ⇓P P 17 20 41.9 -0.2
baz=36
222A **Williams Famil** 36.42 299 ⇑P P 17 20 43.0 0.0
baz=36,SNR=5.6
L27A **T5 Ranch, Ells** 36.42 317 ⇓P P 17 20 42.1 -0.8
baz=36
N26A **Koester Ranch,** 36.42 315 ⇑P P 17 20 42.8 -0.1
baz=36
W23A **Werner Place,** 36.43 304 ⇑P P 17 20 43.6 +0.6
baz=36,SNR=14
122A **Conniff Cattle** 36.47 300 ⇓P P 17 20 44.5 +1.0
baz=36
P25A **Willow Gulch B** 36.50 312 ⇑P P 17 20 43.5 -0.1
baz=36,SNR=10
BNM **Barren Site** 36.52 303 eP P 17 20 44.3 +0.4
comp=Z,93nm,1.1s,mb5.6
BNM epP pP 17 21 09.7 +1.7
BNM esP sP 17 21 19.8 -0.5
S24A **Houchin Ranch,** 36.53 309 ⇑P P 17 20 44.3 +0.5
baz=36,SNR=10
AGMN **Agassiz Nation** 36.55 330 eP P 17 20 42.4 -1.5
comp=Z,17nm,0.6s,mb5.2
AGMN epP pP 17 21 06.7 -1.3
Z22A **Elephant Butte** 36.57 301 ⇓P P 17 20 44.6 +0.3
baz=37
LPM **Los Pinos Moun** 36.57 303 eP P 17 20 44.8 +0.5
comp=Z,85nm,1.1s,mb5.6
LPM epP pP 17 21 08.8 +0.4
LPM esP sP 17 21 20.3 -0.3
ANMO **Albuquerque** 36.61 304 eP P 17 20 44.9 +0.2
comp=Z,45nm,1.1s,mb5.3
ANMO **Albuquerque** 36.61 304 eP P 17 20 44.9 +0.3
ANMO pmax pmax
comp=Z,45nm,1.1s
V23A **Ortiz Mt. (NFS** 36.63 305 ⇑P P 17 20 45.8 +1.0
baz=37,SNR=12
M26A **McRoberts Ranc** 36.67 316 ⇑P P 17 20 44.5 -0.5
baz=37
R24A **Sanders Place,** 36.67 310 ⇑P P 17 20 45.6 +0.5
baz=37,SNR=41
K27A **Flueckinger Fa** 36.68 318 ⇑P P 17 20 45.2 +0.1
baz=37
O25A **Wiggins** 36.72 313 ⇓P P 17 20 45.4 -0.1
baz=37,SNR=7.2
Y22A **Socorro** 36.74 302 ⇓P P 17 20 45.9 +0.1
baz=37,SNR=14
Y22D **IRIS PASSCAL I** 36.74 302 ⇑P P 17 20 46.2 +0.5
baz=37
SDCO **Great Sand Dun** 36.78 309 ⇑P P 17 20 46.1 +0.1
baz=37,SNR=8.8

LENM **Lemitar** 36.81 302 *e*P P 17 20 46.9 +0.6
comp=Z,62nm,1.1s,mb5.5
LENM *e*pP pP 17 21 11.4 +1.0
U23A **El Rito** 36.82 306 ⇑P P 17 20 47.3 +0.9
baz=37
L26A **Underwood Farm** 36.90 317 ⇑P P 17 20 46.4 -0.6
baz=37
X22A **Bernardo** 36.92 303 ⇓P P 17 20 48.0 +0.7
baz=37
T23A **Casias Ranch,** 36.93 307 ⇓P P 17 20 47.9 +0.6
baz=37
221A **Mesquite Ranch** 36.96 299 ⇑P P 17 20 48.5 +0.9
baz=37
W22A **Albuquerque** 36.97 304 ⇓P P 17 20 48.4 +0.7
baz=37
Q24A **Divide** 36.98 311 ⇓P P 17 20 47.6 0.0
baz=37,SNR=25
LAZ **Ladron** 37.00 303 *e*P P 17 20 48.1 +0.2
comp=Z,17nm,0.9s,mb5.0
N25A **Grover** 37.00 314 ⇓P P 17 20 47.7 -0.1
baz=37
P24A **Kohler Place,** 37.02 312 ⇓P P 17 20 48.1 +0.1
baz=37
121A **Cookes Peak, D** 37.08 300 ⇓P P 17 20 49.4 +0.8
baz=37,SNR=5.3
S23A **Nye Farm, Mont** 37.14 308 ⇓P P 17 20 49.4 +0.3
baz=37
Z21A **St. Cloud Mine** 37.16 301 ⇑P P 17 20 49.8 +0.5
baz=37,SNR=6.5
R23A **Moffat** 37.18 309 ⇓P P 17 20 49.6 +0.2
baz=37,SNR=6.7
V22A **San Miguel Ran** 37.24 305 ⇓P P 17 20 51.0 +1.0
baz=37
M25A **Palm-Egli Farm** 37.26 315 ⇑P P 17 20 49.6 -0.4
baz=37,SNR=12
K26A **Motz Farm, Whi** 37.28 317 ⇑P P 17 20 49.3 -0.9
baz=37
Y21A **Point of Rocks** 37.33 302 ⇑P P 17 20 51.7 +0.9
baz=37
U22A **Llaves** 37.34 306 ⇑P P 17 20 51.7 +0.9
baz=37,SNR=7.9
O24A **Longmont** 37.39 313 ⇓P P 17 20 51.1 0.0
baz=37,SNR=7.6
Q23A **Hartsel** 37.45 310 ⇑P P 17 20 51.8 +0.2
baz=38,SNR=14
X21A **Alamocita Cree** 37.53 303 ⇑P P 17 20 53.0 +0.6
baz=38
L25A **Engebretsen Ra** 37.53 316 ⇑P P 17 20 52.3 0.0
baz=38,SNR=24
N24A **Carr** 37.55 314 ⇓P P 17 20 52.8 +0.3
baz=38,SNR=29
220A **Playas Peak, P** 37.57 298 ⇑P P 17 20 53.4 +0.7
baz=38
T22A **Edith** 37.58 307 ⇓P P 17 20 53.3 +0.5
baz=38,SNR=11
W21A **San Fidel** 37.59 304 ⇓P P 17 20 53.5 +0.6
baz=38
P23A **Jefferson** 37.63 311 ⇓P P 17 20 54.1 +0.9
baz=38,SNR=12
ISCO **Idaho Springs** 37.64 312 ⇓P P 17 20 53.8 +0.6
baz=38,SNR=66
ISCO **Idaho Springs** 37.64 312 *e*P P 17 20 53.6 +0.4
comp=Z,60nm,0.9s,mb5.4
ISCO **Idaho Springs** 37.64 312 *e*P P 17 20 53.6 +0.4
ISCO pmax pmax
comp=Z,61nm,0.9s,mb5.4
K25A **Mack Ranch, Ha** 37.69 317 ⇑P P 17 20 53.5 -0.1
baz=38,SNR=27
S22A **4UR Ranch, Cre** 37.77 308 ⇑P P 17 20 54.7 +0.4
baz=38,SNR=15
V21A **Milan** 37.78 305 ⇓P P 17 20 55.5 +1.0
baz=38,SNR=35
120A **U Bar Ranch, L** 37.78 299 ⇑P P 17 20 55.4 +0.8
baz=38
M24A **Cheyenne** 37.79 315 ⇓P P 17 20 54.7 +0.2
baz=38,SNR=20
Z20A **Nine Sixteen R** 37.87 300 ⇓P P 17 20 56.1 +0.8
baz=38,SNR=17
Y20A **Horse Springs,** 37.87 302 ⇓P P 17 20 56.0 +0.7
baz=38
R22A **Saguache, Gunn** 37.88 309 ⇑P P 17 20 55.8 +0.5
baz=38,SNR=15
ULM **Lac du Bonnet** 37.95 332 P P 17 20 54.1 -1.7
comp=Z,31nm,0.9s,mb5.1,baz=134,slow=7.6,SNR=41
ULM pP pP 17 21 19.2 -0.7
comp=Z,24nm,0.8s,baz=136,slow=8.2,SNR=7.7
ULM PcP PcP 17 23 08.5 -0.9
comp=Z,15nm,0.9s,baz=62,slow=3.2,SNR=5.1
ULM LR LR 17 36 49.2
comp=Z,202nm,18.7s,baz=335,slow=36
ULM **Lac du Bonnet** 37.95 332 *e*P P 17 20 53.8 -2.0
comp=Z,42nm,1.1s,mb5.2
ULM *e*pP pP 17 21 18.9 -1.0
ULM pP pP 17 21 19.2 -0.7
ULM *e*sP sP 17 21 29.4 -2.7
ULM PcP PcP 17 23 08.5 -0.9
ULM **Lac du Bonnet** 37.95 332 *e*P P 17 20 53.8 -1.9
ULM *e**PP pP 17 21 18.9 -1.0
ULM *e**SP sP 17 21 29.4 -2.7
ULM 17 23 08.5
ULM pmax pmax
comp=Z,42nm,1.1s
U21A **Nageezi** 37.98 306 ⇑P P 17 20 57.1 +0.9
baz=38,SNR=18
O23A **Lake Granby, G** 38.02 312 ⇑P P 17 20 57.0 +0.6
baz=38,SNR=19
T21A **Navajo Lake** 38.05 307 ⇓P P 17 20 57.8 +1.1
baz=38
319A **Douglas** 38.10 297 ⇑P P 17 20 58.0 +0.7
baz=38,SNR=12
MDND **Maddock** 38.11 327 ⇓P P 17 20 56.4 -0.7
baz=38,SNR=12
L24A **Wheatland** 38.12 315 ⇓P P 17 20 57.3 0.0
baz=38,SNR=7.5
X20A **Quemado** 38.12 302 ⇓P P 17 20 58.0 +0.6
baz=38,SNR=15
PHWY **Pilot Hill** 38.15 314 *e*P P 17 20 57.3 -0.2
comp=Z,78nm,1.1s,mb5.5
219A **White Tail Can** 38.20 298 ⇑P P 17 20 58.8 +0.7
baz=38,SNR=12
Q22A **Crested Butte,** 38.21 310 ⇓P P 17 20 58.4 +0.3
baz=38
W20A **Ramah** 38.27 303 ⇑P P 17 20 59.0 +0.3
baz=38,SNR=8.4
N23A **Red Feather La** 38.31 313 ⇓P P 17 20 58.8 -0.1
baz=38,SNR=8.7
K24A **Anderson Ranch** 38.35 316 ⇓P P 17 20 59.0 -0.2
baz=38,SNR=8.9
P22A **Eagle** 38.37 311 ⇑P P 17 20 59.3 -0.1
baz=38,SNR=9.1
SMCO **Snowmass** 38.37 310 *e*P P 17 20 59.9 +0.4
comp=Z,69nm,1.3s,mb5.3
M23A **Laramie** 38.40 314 ⇓P P 17 20 59.4 -0.2
baz=38,SNR=14
V20A **Brimhall** 38.42 304 ⇑P P 17 21 00.5 +0.6
baz=38,SNR=7.2
O22A **Kremmling** 38.44 312 ⇓P P 17 21 00.0 +0.1
baz=38,SNR=21
Z19A **T-Link Ranch,** 38.46 300 ⇑P P 17 21 00.9 +0.7
baz=38
S21A **Coal Bank Pass** 38.46 308 ⇓P P 17 21 00.3 +0.1
baz=38,SNR=12
R21A **Cimarron** 38.51 309 ⇑P P 17 21 01.1 +0.5
baz=38,SNR=22
RSSD **Black Hills** 38.53 319 *e*P P 17 21 00.0 -0.6
comp=Z,14nm,0.9s,mb4.8
RSSD **Black Hills** 38.53 319 *e*P P 17 21 00.0 -0.7
RSSD pmax pmax
comp=Z,14nm,0.9s,mb4.8
J24A **Dixon Ranch, L** 38.54 317 ⇓P P 17 21 00.5 -0.2
baz=39,SNR=9.9
Y19A **Nutrioso** 38.59 301 ⇑P P 17 21 02.5 +1.2
baz=39,SNR=17
U20A **Newcomb** 38.63 305 ⇑P P 17 21 01.8 +0.2
baz=39
N22A **Wattenberg Ran** 38.63 313 ⇑P P 17 21 02.0 +0.5
baz=39,SNR=13
L23A **Garrett** 38.66 315 ⇑P P 17 21 01.5 -0.3
baz=39,SNR=44
Q21A **Lamborn Mesa,** 38.69 309 ⇑P P 17 21 02.6 +0.5
baz=39,SNR=25
318A **Bisbee** 38.71 297 ⇑P P 17 21 03.1 +0.7
baz=39,SNR=18
X19A **St. Johns** 38.73 302 ⇑P P 17 21 03.2 +0.8
baz=39,SNR=36
I24A **Kuemmerle Ranc** 38.77 318 ⇑P P 17 21 01.9 -0.8
baz=39,SNR=10
P21A **Newcastle** 38.84 311 ⇓P P 17 21 03.8 +0.4
baz=39,SNR=23
218A **Dragoon** 38.85 298 ⇑P P 17 21 04.3 +0.8
baz=39
V19A **Window Rock** 38.85 304 ⇓P P 17 21 04.0 +0.5
baz=39
K23A **Bowen Ranch, D** 38.90 316 ⇓P P 17 21 03.4 -0.4
baz=39,SNR=10
118A **Homack Ranch,** 38.91 299 ⇓P P 17 21 04.9 +0.9
baz=39,SNR=32
S20A **Disappointment** 38.94 308 ⇑P P 17 21 04.8 +0.6
baz=39
M22A **Cedar Creek Ra** 38.97 314 ⇑P P 17 21 04.6 +0.2
baz=39,SNR=9.8
W19A **Sanders** 38.97 303 ⇓P P 17 21 04.7 +0.2
baz=39,SNR=5.8
Z18A **Geronimo** 39.05 300 ⇓P P 17 21 06.2 +1.1
baz=39
R20A **Redvale** 39.07 308 ⇑P P 17 21 05.8 +0.5
baz=39,SNR=11
O21A **Pagoda** 39.11 312 ⇓P P 17 21 06.0 +0.4
baz=39,SNR=18
L22A **Ellis Ranch, M** 39.12 315 ⇓P P 17 21 06.2 +0.5
baz=39,SNR=11
U19A **Dine' College,** 39.14 305 ⇑P P 17 21 05.9 0.0
baz=39
T19A **Beclabito** 39.14 306 ⇑P P 17 21 06.2 +0.3
baz=39,SNR=14
J23A **Dilts Ranch, B** 39.15 317 ⇓P P 17 21 05.6 -0.3
baz=39
H24A **Dirks Ranch, A** 39.16 319 ⇓P P 17 21 04.6 -1.4
baz=39,SNR=18
Y18A **Canyon Day Jun** 39.19 301 ⇑P P 17 21 07.1 +0.8
baz=39,SNR=10
PV01 **Paradox Valley** 39.19 308 *e*P P 17 21 07.1 +0.8
comp=Z,1µm,0.8s
W18A **Petrified Fore** 39.25 303 ⇓P P 17 21 07.1 +0.3
baz=39
Q20A **Ridgley Place,** 39.26 309 ⇑P P 17 21 07.5 +0.7
baz=39,SNR=60
X18A **Snowflake** 39.28 302 ⇑P P 17 21 07.8 +0.7
baz=39,SNR=18
N21A **Black Mountain** 39.35 312 ⇓P P 17 21 08.2 +0.6
baz=39,SNR=13
G24A **Alzada** 39.38 320 ⇑P P 17 21 07.4 -0.3
baz=39
K22A **Casper** 39.45 315 ⇑P P 17 21 07.9 -0.4
baz=40,SNR=8.5
Z17A **San Carlos Hig** 39.45 300 ⇑P P 17 21 09.6 +1.1
baz=39,SNR=11
S19A **Harvey Farm, M** 39.50 307 ⇑P P 17 21 09.1 +0.3
baz=40,SNR=16
RWWY **Rawlins** 39.51 314 *e*P P 17 21 08.7 -0.2
comp=Z,61nm,1.0s,mb5.4
P20A **De Beque** 39.52 310 ⇑P P 17 21 09.6 +0.6
baz=40
TUC **Tucson** 39.52 298 *e*P P 17 21 09.4 +0.3
comp=Z,18nm,0.9s,mb4.9
TUC *e*PcP PcP 17 23 14.7 0.0
TUC **Tucson** 39.52 298 *e*P P 17 21 09.5 +0.4
TUC *e* 17 23 14.7
TUC pmax pmax
comp=Z,17nm,0.9s,mb4.9
V18A **Ganado** 39.55 304 ⇓P P 17 21 09.2 -0.1
baz=40,SNR=7.0
M21A **Separation Pea** 39.58 314 ⇓P P 17 21 09.6 +0.1
baz=40,SNR=20
H23A **Clabaugh Cattl** 39.60 319 ⇓P P 17 21 08.7 -0.9
baz=40
O20A **White River Ci** 39.63 311 ⇓P P 17 21 10.4 +0.4
baz=40
F24A **Ekalaka** 39.66 321 ⇑P P 17 21 09.5 -0.5
baz=40,SNR=8.1
U18A **Rough Rock, Ch** 39.68 305 ⇓P P 17 21 10.6 +0.2
baz=40,SNR=11
L21A **Rawlins** 39.73 314 ⇓P P 17 21 10.5 -0.2
baz=40,SNR=28
J22A **Midwest** 39.75 317 ⇑P P 17 21 10.1 -0.8
baz=40,SNR=87
R19A **Curley Farm, L** 39.76 308 ⇑P P 17 21 11.6 +0.6
baz=40
Y17A **Roosevelt** 39.83 300 ⇑P P 17 21 12.7 +1.1
baz=40,SNR=19
T18A **Mexican Hat** 39.88 306 ⇑P P 17 21 12.3 +0.3
baz=40
N20A **Spence Gulch,** 39.90 312 ⇑P P 17 21 12.2 +0.1
baz=40,SNR=6.9
G23A **Biddle** 39.91 320 ⇑P P 17 21 11.3 -0.8
baz=40,SNR=19
K21A **Alcova** 39.92 315 ⇓P P 17 21 12.6 +0.3
baz=40,SNR=36
E24A **Baker** 39.96 322 ⇑P P 17 21 12.0 -0.5
baz=40
Q19A **Hogan Spring (** 39.97 309 ⇑P P 17 21 12.8 0.0
baz=40,SNR=23
I22A **9 Mile Ranch,** 39.97 317 ⇑P P 17 21 11.6 -1.0
baz=40,SNR=24
P19A **Cripple Cowboy** 39.99 310 ⇑P P 17 21 12.7 -0.2
baz=40
W17A **Winslow** 40.02 303 ⇑P P 17 21 12.9 -0.3
baz=40
M20A **Sweetwater, Wa** 40.10 313 ⇑P P 17 21 13.9 +0.1
baz=40,SNR=22
S18A **Hurst Farm, Bl** 40.13 307 ⇓P P 17 21 14.3 +0.2
baz=40,SNR=25
F23A **Volborg** 40.18 320 ⇑P P 17 21 13.5 -0.8
baz=40,SNR=12
V17A **Tonalea, Kykot** 40.21 303 ⇓P P 17 21 15.1 +0.3
baz=40
H22A **Clearmont** 40.21 318 ⇓P P 17 21 13.6 -1.1
baz=40,SNR=5.9
R18A **Canyonlands Na** 40.26 308 ⇓P P 17 21 15.0 -0.2
baz=40,SNR=25
D24A **Glendive** 40.27 323 ⇑P P 17 21 14.8 -0.3
baz=40,SNR=12
O19A **Miners Draw (B** 40.32 311 ⇑P P 17 21 15.2 -0.5
baz=40,SNR=13
J21A **Lysite** 40.36 316 ⇓P P 17 21 15.6 -0.2
baz=40,SNR=57
L20A **Wamsutter** 40.41 314 ⇓P P 17 21 16.4 +0.2
baz=40
I21A **Big Trails, Te** 40.46 317 ⇓P P 17 21 15.4 -1.3
baz=40,SNR=49
X16A **Lo Mia Camp, P** 40.46 301 ⇓P P 17 21 17.8 +1.0
baz=40
G22A **Birney** 40.47 319 ⇑P P 17 21 16.2 -0.5
baz=40,SNR=21
E23A **Ismay** 40.51 321 ⇑P P 17 21 16.5 -0.6
baz=40,SNR=6.1
C24A **Savage** 40.55 323 ⇑P P 17 21 17.2 -0.2
baz=41
T17A **Navajo Res., N** 40.56 305 ⇓P P 17 21 18.2 +0.6
baz=41
N19A **John Jarvie Ra** 40.57 312 ⇑P P 17 21 17.1 -0.6
baz=41,SNR=22
U16A **Tuba City** 40.60 304 ⇓P P 17 21 18.6 +0.6
baz=41,SNR=16
WUAZ **Wupatki** 40.65 303 ⇑P P 17 21 19.1 +0.8
baz=41
WUAZ **Wupatki** 40.65 303 *e*P P 17 21 19.0 +0.7
comp=Z,69nm,1.2s,mb5.4
Q18A **Rafter H Ranch** 40.66 309 ⇑P P 17 21 18.6 +0.2
baz=41,SNR=21
H21A **Big Horn, Sher** 40.66 318 ⇑P P 17 21 18.7 +0.3
baz=41
K20A **Yellowstone Ra** 40.67 315 ⇑P P 17 21 18.0 -0.4
baz=41
F22A **Rosebud** 40.72 320 ⇓P P 17 21 18.4 -0.4
baz=41,SNR=44
S17A **Black Ridge (B** 40.73 306 ⇑P P 17 21 19.8 +0.8
baz=41
M19A **Rock Springs** 40.78 313 ⇓P P 17 21 18.6 -0.8
baz=41,SNR=5.9
J20A **Shoshoni** 40.78 316 ⇓P P 17 21 19.3 -0.1
baz=41,SNR=38
D23A **Lindsay** 40.81 322 ⇓P P 17 21 19.6 +0.1
baz=41
E22A **Miles City** 40.86 321 ⇑P P 17 21 19.2 -0.8
baz=41,SNR=17
R17A **Hanksville Air** 40.88 308 ⇑P P 17 21 20.5 +0.2
baz=41,SNR=7.5
P18A **Preston Nutter** 40.91 310 ⇑P P 17 21 20.9 +0.4
baz=41,SNR=24
DGMT **Dagmar** 40.95 325 ⇑P P 17 21 20.7 +0.1
baz=41,SNR=11
DGMT **Dagmar** 40.95 325 *e*P P 17 21 20.9 +0.3
comp=Z,45nm,0.5s,mb5.6
DGMT *e*pP pP 17 21 44.4 -0.6
O18A **Roosevelt** 40.95 311 ⇑P P 17 21 20.8 +0.1
baz=41,SNR=9.9
N18A **Larsen Ranch,** 40.95 312 ⇓P P 17 21 20.1 -0.6
baz=41,SNR=11
SRU **San Rafael** 40.95 309 *e*P P 17 21 21.1 +0.3
comp=Z,44nm,1.0s,mb5.2
SRU **San Rafael** 40.95 309 *e*P P 17 21 21.1 +0.3
SRU pmax pmax
comp=Z,44nm,1.0s,mb5.2
RCBR **Riachuelo** 41.00 123 P P 17 21 21.2 -0.3
comp=Z,24nm,0.8s,mb5.0,baz=301,slow=9.5,SNR=11
RCBR **Riachuelo** 41.00 123 *e*P P 17 21 20.4 -1.2
comp=Z,19nm,0.8s,mb5.0
G21A **Lodge Grass** 41.05 319 ⇑P P 17 21 20.6 -0.8
baz=41
I20A **Worland** 41.06 317 ⇑P P 17 21 20.9 -0.7
baz=41,SNR=39
K19A **Absolon Red Bu** 41.08 315 ⇓P P 17 21 20.8 -1.0
baz=41,SNR=8.4
A24A **Westby** 41.10 325 ⇓P P 17 21 21.7 -0.1
baz=41
C23A **Lambert** 41.13 323 ⇓P P 17 21 22.4 +0.3
baz=41,SNR=26
L19A **Farson** 41.14 313 ⇓P P 17 21 22.0 -0.3
baz=41,SNR=15
LAO **LASA Array** 41.15 321 ⇑P P 17 21 21.9 -0.4
baz=41,SNR=9.7
LAO **LASA Array** 41.15 321 *e*P P 17 21 22.1 -0.2
comp=Z,176nm,1.5s,mb5.7
214A **Organ Pipe Nat** 41.17 297 ⇑P P 17 21 23.2 +0.5
baz=41,SNR=7.4
H20A **Greybull** 41.21 317 ⇑P P 17 21 21.5 -1.4
baz=41,SNR=26
P17A **Butcher Ranch,** 41.22 309 ⇓P P 17 21 23.3 +0.3
baz=41,SNR=20
F21A **Absaloka Mine,** 41.27 320 ⇑P P 17 21 22.5 -0.9
baz=41,SNR=9.1
114A **Black Gap (USA** 41.34 299 ⇑P P 17 21 25.1 +0.9
baz=41,SNR=19
D22A **Cohagen** 41.36 322 ⇓P P 17 21 24.4 +0.3
baz=41,SNR=16
S16A **Weppner Ranch,** 41.36 306 ⇓P P 17 21 24.4 +0.3
baz=41,SNR=9.1
Q16A **Castle Valley** 41.38 308 ⇑P P 17 21 24.5 +0.2
baz=41
B23A **Brockton** 41.38 324 ⇑P P 17 21 24.6 +0.4
baz=41,SNR=17
M18A **Lyman** 41.39 312 ⇑P P 17 21 23.8 -0.5
baz=41,SNR=7.7
J19A **Crowheart** 41.39 315 ⇓P P 17 21 23.7 -0.6
baz=41,SNR=24
R16A **Teasdale** 41.43 307 ⇑P P 17 21 25.2 +0.5
baz=41
O17A **Robinson Place** 41.45 310 ⇑P P 17 21 25.4 +0.5
baz=41,SNR=40
Z14A **Wintersburg** 41.49 299 ⇓P P 17 21 25.7 +0.4
baz=42,SNR=6.7
C22A **Vida** 41.50 323 ⇓P P 17 21 25.2 +0.1
baz=42,SNR=17
TMUT **Trail Mountain** 41.52 309 *e*P P 17 21 25.8 +0.4
comp=Z,140nm,1.1s,mb5.6
PDAR **Pinedale Array** 41.53 314 P P 17 21 24.8 -0.7
comp=Z,14nm,0.9s,mb4.7,baz=118,slow=10,SNR=61
PDAR PcP PcP 17 23 20.4 -0.6
comp=Z,12nm,0.7s,baz=118,slow=6.2,SNR=8.7
PDAR PKiKP PKiKP 17 30 26.4 -1.6
comp=Z,0.6nm,0.7s,baz=82,slow=3.1,SNR=4.2
PDAR LR LR 17 38 32.1
comp=Z,132nm,21.2s,baz=259,slow=36
PDAR **Pinedale Array** 41.53 314 P P 17 21 24.8 -0.7
PDAR PcP PcP 17 23 20.4 -0.6
PDAR PKiKP PKiKP 17 30 26.4 -1.6
BW06 **Boulder Array** 41.53 314 ⇑P P 17 21 24.9 -0.6
baz=42,SNR=12
L18A **Fontenelle, Gr** 41.55 313 ⇑P P 17 21 25.3 -0.3
baz=42
E21A **Keefer Ranch,** 41.59 321 ⇓P P 17 21 25.2 -0.7
baz=42
A23A **Redstone** 41.59 325 ⇓P P 17 21 26.3 +0.4
baz=42
Y14A **Wickenburg** 41.64 300 ⇓P P 17 21 27.1 +0.6
baz=42,SNR=8.5
I19A **Meeteetse** 41.67 316 ⇓P P 17 21 26.2 -0.4
baz=42,SNR=55
G20A **Bridger** 41.68 318 ⇑P P 17 21 25.3 -1.3
baz=42,SNR=34
N17A **Moffit Pass** 41.77 311 ⇑P P 17 21 27.5 0.0
baz=42,SNR=6.9
D21A **La Casta Ranch** 41.80 321 ⇑P P 17 21 27.9 +0.3
baz=42,SNR=22
K18A **Toltan Ranch,** 41.81 314 ⇑P P 17 21 27.8 0.0
baz=42,SNR=7.4
M17A **Scullys Gap (B** 41.83 312 ⇓P P 17 21 27.4 -0.5
baz=42
B22A **Reddig Ranch S** 41.86 323 ⇓P P 17 21 28.6 +0.6
baz=42,SNR=28
DAU **Daniels Canyon** 41.90 310 *e*P P 17 21 29.1 +0.6
DAU **Daniels Canyon** 41.90 310 *e*P P 17 21 29.1 +0.6
F20A **Billings** 41.90 319 ⇑P P 17 21 28.1 -0.4
baz=42,SNR=21
H19A **Powell** 41.93 317 ⇓P P 17 21 28.1 -0.6
baz=42,SNR=54
P16A **Fountain Green** 41.94 309 ⇓P P 17 21 29.5 +0.6
baz=42,SNR=5.9
O16A **Springville** 42.01 310 ⇓P P 17 21 29.8 +0.3
baz=42
R15A **Junction** 42.01 307 ⇓P P 17 21 30.2 +0.7
baz=42,SNR=8.4
MSU **Marysvale** 42.02 307 *e*P P 17 21 30.4 +0.8
comp=Z,11nm,0.7s,mb4.7
MSU **Marysvale** 42.02 307 *e*P P 17 21 30.4 +0.9
MSU pmax pmax
comp=Z,11nm,0.7s,mb4.7
MPU **Maple Canyon** 42.05 310 *e*P P 17 21 29.9 +0.2
comp=Z,123nm,1.2s,mb5.5
Z13A **Yuma Proving G** 42.06 299 ⇑P P 17 21 30.5 +0.5
baz=42,SNR=8.7
I18A **Diamond G Ranc** 42.07 315 ⇓P P 17 21 29.9 0.0
baz=42,SNR=77
113A **Mohawk Valley,** 42.08 298 ⇓P P 17 21 30.3 +0.1
baz=42,SNR=5.9
JLU **Jordanelle** 42.10 310 *e*P P 17 21 30.5 +0.3
comp=Z,32nm,1.1s,mb5.0
N16A **Rees Ranch, Co** 42.18 311 ⇑P P 17 21 30.9 +0.1
baz=42,SNR=8.7
A22A **Carney Farms,** 42.18 324 ⇓P P 17 21 31.0 +0.3
baz=42,SNR=19
L17A **Cokeville** 42.19 313 ⇑P P 17 21 30.2 -0.6
baz=42
E20A **Meyer Farm, Mu** 42.21 320 ⇑P P 17 21 30.9 0.0
baz=42,SNR=49
C21A **Desert Coulee** 42.24 322 ⇑P P 17 21 31.4 +0.2
baz=42,SNR=12
RLMT **Red Lodge** 42.30 318 ⇑P P 17 21 31.6 -0.1
baz=42,SNR=38
RLMT **Red Lodge** 42.30 318 *e*P P 17 21 31.5 -0.2
comp=Z,66nm,0.6s,mb5.5
H18A **Shoshone NF, C** 42.37 317 ⇓P P 17 21 31.4 -0.9
baz=42,SNR=57
P15A **Leamington** 42.39 309 ⇑P P 17 21 32.7 +0.2
baz=42,SNR=19
F19A **Roth Farm, Mol** 42.42 319 ⇓P P 17 21 32.2 -0.5
baz=42
K17A **Gardner Place,** 42.46 314 ⇓P P 17 21 32.5 -0.5
baz=42,SNR=11
D20A **Manuel Ranch,** 42.49 321 ⇑P P 17 21 33.2 0.0
baz=42,SNR=20
B21A **Ellsworth Farm** 42.50 323 ⇓P P 17 21 34.0 +0.7
baz=42
HWUT **Hardware Ranch** 42.51 312 *e*P P 17 21 32.8 -0.7
comp=Z,18nm,0.8s,mb4.9
J17A **Brown Place, J** 42.54 315 ⇓P P 17 21 33.7 0.0
baz=42,SNR=20
L16A **Fish Haven** 42.55 312 ⇑P P 17 21 33.5 -0.3
baz=42,SNR=12
LOHW **Long Hollow** 42.56 315 *e*P P 17 21 33.5 -0.4
comp=Z,43nm,0.7s,mb5.3
W13A **Hualapai Mount** 42.57 302 ⇓P P 17 21 35.3 +1.3
baz=42,SNR=43
G18A **Lazy EL Ranch,** 42.58 318 ⇓P P 17 21 33.5 -0.5
baz=43,SNR=52
AHID **Auburn Hatcher** 42.59 314 *e*P P 17 21 33.5 -0.6
comp=Z,43nm,1.1s,mb5.1
E19A **Rath Farm, Rou** 42.59 320 ⇑P P 17 21 34.1 +0.1
baz=43,SNR=102
NOQ **North Oquirrh** 42.60 310 *e*P P 17 21 34.3 +0.1
comp=Z,151nm,1.3s,mb5.6
SNOW **Snow King Moun** 42.61 315 *e*P P 17 21 34.3 0.0
comp=Z,43nm,1.0s,mb5.1

REDW **Red Top Meadow 42.64 315** *eP* **P 17 21 34.1 -0.3**
comp=Z,74nm,1.1s,mb5.3
I17A **Pilgrim Ck. 42.66 315** ⇓P **P 17 21 34.8 +0.1**
baz=43,SNR=20
CCUT **Cedar City 42.68 305** *eP* **P 17 21 35.5 +0.6**
comp=Z,40nm,1.2s,mb5.0
MOOW **Moose Ponds 42.71 315** *eP* **P 17 21 34.5 -0.5**
comp=Z,42nm,0.8s,mb5.2
C20A **Veseth Ranch, 42.72 322** ⇓P **P 17 21 35.1 +0.1**
baz=43,SNR=12
O15A **The Old Anders 42.74 310** ⇓P **P 17 21 35.7 +0.4**
baz=43
A21A **Bergtoll Ranch 42.74 324** ⇑P **P 17 21 36.1 +0.8**
baz=43,SNR=35
TPAW **Teton Pass 42.75 315** *eP* **P 17 21 35.1 -0.2**
comp=Z,46nm,1.1s,mb5.1
ARUT **Antelope Range 42.79 306** *eP* **P 17 21 36.2 +0.4**
comp=Z,92nm,1.1s,mb5.4
ARUT **Antelope Range 42.79 306** *eP* **P 17 21 36.2 +0.4**
ARUT pmax pmax
comp=Z,92nm,1.1s,mb5.4
FLWY **Flagg Ranch 42.81 316** *eP* **P 17 21 35.5 -0.3**
comp=Z,38nm,1.1s,mb5.0
GCMT **Greycliff 42.84 318** *eP* **P 17 21 35.8 -0.3**
comp=Z,53nm,1.0s,mb5.2
H17A **Grant Village 42.85 316** ⇑P **P 17 21 36.2 0.0**
baz=43,SNR=13
Y12C **Blythe 42.86 300** ⇓P **P 17 21 37.0 +0.5**
baz=43,SNR=9.1
F18A **Big Timber 42.92 318** ⇓P **P 17 21 36.7 0.0**
baz=43,SNR=80
K16A **Soda Springs 42.95 314** ⇓P **P 17 21 36.9 -0.1**
baz=43,SNR=24
DCID1 **Drake Creek 42.95 315** *eP* **P 17 21 37.2 +0.3**
comp=Z,40nm,0.3s,mb5.6
RRI2 **Red Ridge 42.95 314** *eP* **P 17 21 36.8 -0.2**
comp=Z,38nm,0.8s,mb5.2
DUG **Dugway 42.96 309** ⇑P **P 17 21 37.6 +0.4**
baz=43,SNR=31
DUG **Dugway 42.96 309** *eP* **P 17 21 37.5 +0.3**
DUG **Dugway 42.96 309** *eP* **P 17 21 37.5 +0.3**
D19A **Cripps Ranch, 42.98 320** ⇓P **P 17 21 37.0 -0.2**
baz=43,SNR=16
GLA **Glamis 43.01 299** ⇓P **P 17 21 38.3 +0.7**
baz=43,SNR=9.7
YFT **Old Faithful 43.05 316** *eP* **P 17 21 38.8 +1.1**
comp=Z,27nm,0.9s,mb5.0
YNR **Norris Junctio 43.05 316** *eP* **P 17 21 37.4 -0.4**
comp=Z,22nm,1.1s,mb4.8
B20A **Solberg Farm, 43.09 323** ⇓P **P 17 21 38.7 +0.7**
baz=43,SNR=24
M15A **Larsen Ranch, 43.09 311** ⇑P **P 17 21 37.6 -0.6**
baz=43,SNR=13
NEE2 **Needles Airpor 43.10 301** ⇓P **P 17 21 38.7 +0.3**
baz=43
J16A **Bone 43.12 314** ⇓P **P 17 21 38.2 -0.2**
baz=43,SNR=11
YMR **Madison River 43.22 316** *eP* **P 17 21 39.3 +0.2**
comp=Z,25nm,0.8s,mb5.0
L15A **Malad City 43.22 312** ⇑P **P 17 21 38.7 -0.5**
baz=43,SNR=6.9
A20A **Cobblestone Ra 43.25 323** ⇓P **P 17 21 39.8 +0.5**
baz=43,SNR=24
I16A **Newdale 43.26 315** ⇓P **P 17 21 39.5 0.0**
baz=43
R13A **O'Grain Ranch, 43.29 306** ⇑P **P 17 21 41.0 +1.2**
baz=43,SNR=31
G17A **Pierce Place, 43.33 317** ⇑P **P 17 21 40.4 +0.4**
baz=43,SNR=16
E18A **Harlowton 43.34 319** ⇓P **P 17 21 40.3 +0.3**
baz=43,SNR=47
C19A **Slack Wire Ran 43.34 321** ⇓P **P 17 21 40.2 0.0**
baz=43,SNR=16
H16A **Russell Place, 43.41 316** ⇓P **P 17 21 40.9 +0.1**
baz=43,SNR=12
HVU **Hansel Valley 43.42 312** *eP* **P 17 21 40.4 -0.4**
comp=Z,34nm,1.2s,mb5.0
HVU **Hansel Valley 43.42 312** *eP* **P 17 21 40.4 -0.4**
HVU pmax pmax
comp=Z,34nm,1.2s,mb5.0
IRM **Iron Mountain 43.44 300** ⇑P **P 17 21 42.0 +0.9**
baz=43,SNR=34
F17A **Fitzpatrick Pl 43.52 318** ⇓P **P 17 21 42.0 +0.5**
baz=44
K15A **Arbon 43.55 313** ⇓P **P 17 21 41.4 -0.4**
baz=44,SNR=10
D18A **Linhart Farms, 43.55 320** ⇓P **P 17 21 42.1 +0.4**
baz=44,SNR=14
LDFC **Landfair 43.55 302** *eP* **P 17 21 43.8 +1.8**
comp=Z,109nm,1.0s,mb5.5
QLMT **Earthquake Lak 43.58 316** *eP* **P 17 21 42.7 +0.7**
comp=Z,8.9nm,1.1s,mb4.4
B19A **Brinkman Farms 43.63 322** ⇓P **P 17 21 42.6 +0.3**
baz=44
J15A **Blackfoot 43.73 314** ⇑P **P 17 21 43.2 0.0**
baz=44,SNR=24
FFC **Flin Flon 43.75 333** *eP* **P 17 21 41.4 -1.9**
comp=Z,48nm,0.6s,mb5.4
FFC *epP* pP 17 22 07.2 -0.8
FFC Flin Flon 43.75 333 *eP* **P 17 21 41.4 -1.9**
FFC *e*PP pP 17 22 07.2 -0.8
FFC pmax pmax
comp=Z,48nm,0.6s,mb5.4
FFC **Flin Flon 43.75 333** P **P 17 21 41.1 -2.2**
comp=Z,210nm,0.7s,mb6.0,SNR=16
SWSC **Sam W. Stewart 43.80 298** ⇑P **P 17 21 44.5 +0.5**
baz=44
L14A **Malta 43.83 312** ⇓P **P 17 21 43.5 -0.6**
baz=44,SNR=11
E17A **Martinsdale 43.88 319** ⇑P **P 17 21 44.6 +0.2**
baz=44,SNR=97
EGMT **Eagleton 43.90 321** ⇓P **P 17 21 44.7 +0.1**
baz=44,SNR=11
EGMT **Eagleton 43.90 321** *eP* **P 17 21 44.7 +0.1**
comp=Z,110nm,1.2s,mb5.5
GMRC **Granite Mounta 43.95 301** ⇓P **P 17 21 46.1 +1.0**
baz=44,SNR=15
K14A **Jones Ranch, D 43.95 313** ⇑P **P 17 21 44.5 -0.5**
baz=44,SNR=29
I15A **Monteview 43.97 315** ⇑P **P 17 21 45.7 +0.5**
baz=44,SNR=17
G16A **Moss Hill, Enn 43.98 317** ⇓P **P 17 21 45.6 +0.3**
baz=44,SNR=20
BOZ **Bozeman (W) 44.03 317** ⇑P **P 17 21 45.6 0.0**
baz=44,SNR=23
BOZ **Bozeman (W) 44.03 317** *eP* **P 17 21 45.6 0.0**
comp=Z,65nm,1.2s,mb5.2
BOZ **Bozeman (W) 44.03 317** *eP* **P 17 21 45.7 0.0**
BOZ pmax pmax
comp=Z,65nm,1.2s,mb5.2
D17A **Six Diamond Ra 44.07 320** ⇓P **P 17 21 46.1 +0.1**
baz=44,SNR=89
B18A **Beardsley Farm 44.09 322** ⇓P **P 17 21 46.4 +0.4**
baz=44,SNR=29
F16A **Kennard Place, 44.09 317** ⇓P **P 17 21 46.3 +0.2**
baz=44
TUQ **Turquoise Moun 44.27 302** ⇓P **P 17 21 48.7 +1.0**
baz=44,SNR=41
H15A **Lima 44.30 316** ⇑P **P 17 21 48.7 +0.9**
baz=44,SNR=24
C17A **Wharram Farm, 44.33 320** ⇓P **P 17 21 48.0 0.0**
baz=44
A18A **Metzger Ranch, 44.38 322** ⇑P **P 17 21 48.3 0.0**
baz=44,SNR=17
G15A **Dillon 44.41 316** ⇑P **P 17 21 49.1 +0.5**
baz=44,SNR=16
E16A **East Helena 44.42 318** ⇓P **P 17 21 48.7 -0.1**
baz=44,SNR=22
PFO **Pinyon Flat Ob 44.43 299** ⇓P **P 17 21 49.6 +0.6**
baz=44
PFO **Pinyon Flat Ob 44.43 299** *eP* **P 17 21 49.8 +0.8**
comp=Z,10nm,0.8s,mb4.6
PFO **Pinyon Flat Ob 44.43 299** *eP* **P 17 21 49.8 +0.8**
PFO pmax pmax
comp=Z,11nm,0.8s,mb4.6
J14A **Carey 44.44 313** ⇑P **P 17 21 49.4 +0.5**
baz=44
HEC **Hector,Ludlow 44.50 301** ⇓P **P 17 21 50.7 +1.1**
baz=44,SNR=11
MCMT **McKenzie Canyo 44.52 316** *eP* **P 17 21 50.1 +0.6**
comp=Z,15nm,0.9s,mb4.7
DLMT **Dillon 44.55 317** *eP* **P 17 21 50.1 +0.3**
comp=Z,49nm,0.9s,mb5.2
D16A **Dana Ranch, Ca 44.55 319** ⇓P **P 17 21 49.7 0.0**
baz=45,SNR=35
R11A **Troy Canyon, C 44.57 306** ⇓P **P 17 21 51.2 +1.2**
baz=45,SNR=74
HRY **Holter Researc 44.59 319** *eP* **P 17 21 50.1 0.0**
comp=Z,98nm,0.8s,mb5.6
I14A **Mackay 44.60 314** ⇑P **P 17 21 51.0 +0.8**
baz=45,SNR=65
LRM **Limekiln Ridge 44.63 317** *eP* **P 17 21 50.7 +0.3**
comp=Z,334nm,0.9s,mb6.1
SHOC **Shoshone 44.63 302** ⇑P **P 17 21 51.6 +1.0**
baz=45,SNR=14
B17A **L&G Farms, Che 44.65 321** ⇑P **P 17 21 50.3 -0.2**
baz=45,SNR=12
F15A **Butte 44.67 317** ⇓P **P 17 21 51.0 +0.3**
baz=45,SNR=31
H14A **Leadore 44.78 315** ⇑P **P 17 21 52.3 +0.7**
baz=45,SNR=29
A17A **Triple J Farms 44.88 322** ⇓P **P 17 21 52.3 -0.1**
baz=45,SNR=19
109C **Camp Elliot, M 44.89 298** ⇑P **P 17 21 53.1 +0.4**
baz=45,SNR=5.0
BBRC **Big Bear Solar 44.90 300** ⇓P **P 17 21 54.6 +1.8**
baz=45
J13A **Cove Ranch, Pi 44.92 313** ⇑P **P 17 21 52.7 0.0**
baz=45,SNR=13
GSC **Goldstone 44.96 302** ⇓P **P 17 21 54.3 +1.1**
baz=45,SNR=20
GSC **Goldstone 44.96 302** *eP* **P 17 21 54.2 +1.0**
comp=Z,62nm,1.1s,mb5.2
GSC **Goldstone 44.96 302** *eP* **P 17 21 54.2 +1.0**
GSC pmax pmax
comp=Z,62nm,1.1s,mb5.2
E15A **Deer Lodge 44.99 318** ⇑P **P 17 21 53.4 +0.1**
baz=45
C16A **Fuhringer Ranc 45.00 320** ⇑P **P 17 21 53.1 -0.2**
baz=45,SNR=36
MURC **Murrieta 45.05 299** ⇑P **P 17 21 54.8 +0.8**
baz=45,SNR=11
I13A **Wildhorse Cree 45.05 314** ⇓P **P 17 21 54.3 +0.5**
baz=45,SNR=50
RRX **Edison Barstow 45.05 301** ⇓P **P 17 21 55.2 +1.3**
baz=45
FRB **Frobisher Bay 45.06 1** P **P 17 21 52.8 -0.8**
comp=Z,37nm,0.8s,mb5.1,baz=178,slow=8.5,SNR=68
FRB LR LR 17 40 28.6
comp=Z,242nm,19.2s,baz=188,slow=35
FRB **Frobisher Bay 45.06 1** P **P 17 21 52.8 -0.8**
FRB **Frobisher Bay 45.06 1** P **P 17 21 52.8 -0.7**
G14A **Jackson 45.07 316** ⇓P **P 17 21 54.0 0.0**
baz=45,SNR=12
HLID **Hailey 45.14 313** ⇓P **P 17 21 54.7 +0.2**
baz=45,SNR=20
HLID **Hailey 45.14 313** *eP* **P 17 21 54.5 0.0**
comp=Z,8.3nm,0.6s,mb4.6
D15A **Lincoln 45.16 319** ⇑P **P 17 21 54.8 +0.2**
baz=45,SNR=34
FURC **Furnace Creek, 45.19 303** ⇑P **P 17 21 56.3 +1.2**
baz=45,SNR=18
F14A **Wisdom 45.22 317** ⇑P **P 17 21 55.4 +0.3**
baz=45,SNR=14
B16A **M & M Farms, S 45.24 321** ⇑P **P 17 21 54.9 -0.3**
baz=45,SNR=37
H13A **Challis 45.36 315** ⇑P **P 17 21 56.0 -0.2**
baz=45,SNR=26
A16A **West Butte Ran 45.41 322** ⇑P **P 17 21 56.4 -0.1**
baz=45,SNR=26
BFSC **Mount Baldy Ra 45.51 300** ⇑P **P 17 21 58.1 +0.6**
baz=46,SNR=7.9
C15A **Salmond Ranch, 45.52 320** ⇓P **P 17 21 57.5 +0.1**
baz=46,SNR=52
G13A **Cobalt 45.53 316** ⇓P **P 17 21 57.1 -0.4**
baz=46,SNR=16
E14A **Clinton 45.53 318** ⇑P **P 17 21 57.8 +0.3**
baz=46,SNR=63
CHMT **Chamberlain Mo 45.57 318** *eP* **P 17 21 57.7 -0.1**
comp=Z,45nm,1.3s,mb5.0
MPMC **Manual Prospec 45.63 302** ⇓P **P 17 21 59.5 +1.0**
baz=46,SNR=25
GRAC **Grapevine Rang 45.69 304** ⇓P **P 17 22 00.2 +1.2**
baz=46,SNR=78
LRMC **Laurel Mountai 45.70 302** ⇓P **P 17 21 59.8 +0.8**
baz=46,SNR=20
I12A **Atlanta 45.70 314** ⇑P **P 17 21 58.9 0.0**
baz=46,SNR=26
B15A **Bradely Ranch, 45.71 320** ⇓P **P 17 21 58.5 -0.4**
baz=46,SNR=38
H12A **Diamond D Ranc 45.76 315** ⇓P **P 17 21 59.1 -0.2**
baz=46
MWC **Mount Wilson 45.83 300** *eP* **P 17 22 00.7 +0.6**
comp=Z,15nm,0.7s,mb4.8
MWC **Mount Wilson 45.83 300** *eP* **P 17 22 00.7 +0.6**
MWC pmax pmax
comp=Z,15nm,0.7s,mb4.8
F13A **Darby 45.84 316** ⇓P **P 17 21 59.7 -0.3**
baz=46,SNR=21
SLMT **Seeley Lake 45.85 319** *eP* **P 17 21 59.0 -1.0**
comp=Z,34nm,1.1s,mb5.0
EDW2 **Edwards Air Fo 45.86 301** ⇑P **P 17 22 01.2 +0.9**
baz=46,SNR=21
PASC **Pasadena Art C 45.93 300** *eP* **P 17 22 01.6 +0.7**
comp=Z,55nm,1.2s,mb5.2
MSO **Missoula 45.97 318** ⇓P **P 17 22 00.8 -0.2**
baz=46,SNR=9.3
MSO **Missoula 45.97 318** *eP* **P 17 22 00.9 -0.1**
comp=Z,18nm,1.1s,mb4.7
E13A **Victor 45.99 317** ⇓P **P 17 22 01.1 0.0**
baz=46,SNR=22
CIS **Catalina Islan 46.02 299** ⇓P **P 17 22 02.5 +0.9**
baz=46
DECC **Green Verdugo 46.06 300** ⇓P **P 17 22 02.3 +0.4**
baz=46
MFID **Camas Ranch 46.07 313** ⇑P **P 17 22 01.4 -0.4**
baz=46,SNR=8.5
MFID **Camas Ranch 46.07 313** *eP* **P 17 22 01.5 -0.3**
comp=Z,76nm,1.5s,mb5.2
A15A **Johnson Ranch, 46.10 321** ⇑P **P 17 22 01.9 -0.1**
baz=46,SNR=20
CWC **Cottonwood Cre 46.16 303** ⇑P **P 17 22 04.0 +1.3**
baz=46,SNR=23
B14A **Marquette Ranc 46.16 320** ⇓P **P 17 22 01.9 -0.5**
baz=46,SNR=16
C14A **Swan Lake 46.22 319** ⇑P **P 17 22 02.9 0.0**
baz=46,SNR=16
CPUP **Villa Florida 46.22 165** P **P 17 22 00.9 -2.2**
comp=Z,6.4nm,0.3s,mb4.8,baz=343,slow=7.4,SNR=52
CPUP PcP PcP 17 23 36.7 -0.4
comp=Z,7.0nm,0.6s,baz=322,slow=3.8,SNR=4.3
CPUP LR LR 17 42 57.6
comp=Z,198nm,18.1s,baz=332,slow=38
CPUP Villa Florida 46.22 165 P **P 17 22 00.9 -2.2**
CPUP PcP PcP 17 23 36.7 -0.4
CPUP Villa Florida 46.22 165 P **P 17 22 00.9 -2.2**
CPUP 17 23 36.7
SWMT **Swartz Lake 46.27 319** *eP* **P 17 22 03.1 -0.2**
comp=Z,38nm,1.0s,mb5.1
BMN **Battle Mountai 46.28 308** *eP* **P 17 22 03.6 +0.1**
comp=Z,60nm,1.0s,mb5.3
BMN **Battle Mountai 46.28 308** *eP* **P 17 22 03.6 +0.1**
BMN pmax pmax
comp=Z,60nm,1.0s,mb5.3
ISA **Isabella 46.36 302** ⇑P **P 17 22 05.2 +1.0**
baz=46,SNR=9.3
ISA **Isabella 46.36 302** *eP* **P 17 22 05.3 +1.1**
comp=Z,54nm,1.4s,mb5.1
ISA **Isabella 46.36 302** *eP* **P 17 22 05.3 +1.1**
ISA pmax pmax
comp=Z,54nm,1.4s,mb5.1
TIN **Tinemaha 46.38 304** ⇓P **P 17 22 05.7 +1.4**
baz=46,SNR=22
D13A **Huson 46.40 318** ⇑P **P 17 22 04.3 0.0**
baz=46,SNR=41
YBMT **Yellow Bay 46.42 319** *eP* **P 17 22 04.4 -0.1**
comp=Z,46nm,1.0s,mb5.2
OSI **Osito Adit 46.42 300** ⇓P **P 17 22 05.0 +0.2**
baz=46,SNR=7.7
OSI **Osito Adit 46.42 300** *eP* **P 17 22 05.3 +0.5**
comp=Z,24nm,0.8s,mb5.0
F12A **Elk City 46.43 316** ⇓P **P 17 22 04.4 -0.3**
baz=46
A14A **Double T Ranch 46.51 321** ⇑P **P 17 22 04.7 -0.4**
baz=46,SNR=29
JTMT **Jette 46.54 319** *eP* **P 17 22 05.2 -0.2**
comp=Z,45nm,1.2s,mb5.1
ARVC **Arvin 46.57 301** ⇑P **P 17 22 06.9 +1.0**
baz=46,SNR=13
BLG **Laguna Peak 46.65 300** ⇓P **P 17 22 07.3 +0.8**
baz=47
NVAR **Mina Array Bea 46.68 306** P **P 17 22 07.5 +0.9**
comp=Z,77nm,0.8s,mb5.5,baz=87,slow=6.0,SNR=212
NVAR PcP PcP 17 23 39.9 +1.2
comp=Z,7.3nm,0.7s,baz=116,slow=4.2,SNR=2.9
NVAR LR LR 17 42 05.3
comp=Z,146nm,19.9s,baz=311,slow=36
NVAR **Mina Array Bea 46.68 306** P **P 17 22 07.5 +0.9**
NVAR PcP PcP 17 23 39.9 +1.2
BLMT **Blacktail Moun 46.69 319** *eP* **P 17 22 07.0 +0.3**
comp=Z,23nm,0.5s,mb5.2
C13A **Hot Springs 46.70 319** ⇑P **P 17 22 06.6 0.0**
baz=47,SNR=13
E12A **Beaver Dam Sad 46.87 317** ⇓P **P 17 22 07.8 -0.2**
baz=47
VES **Vestal, Richgr 46.88 302** ⇓P **P 17 22 09.4 +1.2**
baz=47,SNR=24
BSMT **Bassoo Peak 46.89 319** *eP* **P 17 22 08.2 0.0**
comp=Z,27nm,1.1s,mb4.9
B13A **Whitefish 46.90 320** ⇑P **P 17 22 07.8 -0.4**
baz=47,SNR=13
MLAC **Mammoth Lakes 46.95 304** ⇑P **P 17 22 10.3 +1.6**
baz=47,SNR=8.7
RCTC **Rector, Farmer 47.06 303** ⇓P **P 17 22 10.6 +0.9**
baz=47
A13A **Flathead Natio 47.09 320** ⇓P **P 17 22 09.2 -0.4**
baz=47
C12B **Naegeli Ranch, 47.27 319** ⇓P **P 17 22 11.0 -0.1**
baz=47
PKM **Peak Mountain 47.35 301** ⇓P **P 17 22 13.1 +1.1**
baz=47,SNR=5.8
LCO **Las Campanas 47.40 182** *eP* **P 17 22 11.2 -1.0**
comp=Z,170nm,1.1s,mb5.7
SMMC **Simmler 47.55 301** ⇓P **P 17 22 14.7 +1.2**
baz=48,SNR=7.5
WVOR **Wild Horse Val 47.79 311** *eP* **P 17 22 14.9 -0.3**
comp=Z,97nm,1.3s,mb5.5
WVOR **Wild Horse Val 47.79 311** *eP* **P 17 22 15.0 -0.2**
WVOR pmax pmax
comp=Z,97nm,1.3s,mb5.5
F10A **Beach Ranch, E 47.81 316** ⇓P **P 17 22 14.3 -0.9**
baz=48,SNR=13
A12A **Yaak River Ran 47.84 320** ⇓P **P 17 22 15.4 -0.1**
baz=48,SNR=13
J08A **Circle Bar Ran 47.91 312** ⇑P **P 17 22 15.7 -0.4**
baz=48,SNR=15
WCN **Washoe City 47.95 306** *eP* **P 17 22 18.2 +1.7**
comp=Z,6.5nm,0.8s,mb4.5
WCN **Washoe City 47.95 306** *eP* **P 17 22 18.2 +1.7**
WCN pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
CMB **Columbia Colle 48.23 305** *eP* **P 17 22 19.0 +0.4**
comp=Z,34nm,1.3s,mb5.0
CMB **Columbia Colle 48.23 305** *eP* **P 17 22 19.0 +0.4**
CMB pmax pmax
comp=Z,35nm,1.3s,mb5.0
LNOR **Lincton Mounta 48.48 315** *eP* **P 17 22 19.8 -0.7**
comp=Z,50nm,1.1s,mb5.3
LNOR **Lincton Mounta 48.48 315** *eP* **P 17 22 19.8 -0.7**
LNOR pmax pmax
comp=Z,50nm,1.1s,mb5.3
E09A **Wood Farm, Sta 48.58 316** ⇑P **P 17 22 20.4 -0.8**
baz=49,SNR=11
I07A **Izee 48.81 313** ⇓P **P 17 22 22.4 -0.6**
baz=49,SNR=11
SAO **San Andreas Ge 48.89 303** *eP* **P 17 22 24.0 +0.3**
comp=Z,39nm,1.0s,mb5.3
SAO **San Andreas Ge 48.89 303** *eP* **P 17 22 24.0 +0.3**
SAO pmax pmax
comp=Z,39nm,1.0s,mb5.3
C09A **Chrisman Ranch 49.07 318** ⇑P **P 17 22 24.3 -0.7**
baz=49,SNR=7.8
OD2 **Odessa Site #2 49.22 317** *eP* **P 17 22 25.1 -1.0**
comp=Z,75nm,1.5s,mb5.4
HAWA **Hanford 49.46 316** *eP* **P 17 22 27.0 -0.9**
comp=Z,47nm,1.4s,mb5.2
K05A **Summer Lake 49.48 311** ⇓P **P 17 22 27.9 -0.2**
baz=50
RSW **Rattlesnake Hi 49.50 316** *eP* **P 17 22 27.6 -0.7**
comp=Z,29nm,1.1s,mb5.1
SFJD **Kangerlussuaq 49.83 10** *i* P **P 17 22 29.3 -1.1**
SFJD *i* pP 17 22 56.8 +1.2
SFJD pmax pmax
comp=Z,15nm,0.8s,mb5.0
SFJD Kangerlussuaq 49.83 10 *i* P **P 17 22 29.3 -1.1**
comp=Z,15nm,0.8s,mb5.0
SFJD *i* pP 17 22 56.8 +1.2
G06A **Carlson Farm, 49.89 314** ⇑P **P 17 22 31.5 +0.3**
baz=50
CFAA **Coronel Fontan 49.98 179** P **P 17 22 30.8 -1.1**
comp=Z,9.6nm,0.7s,mb4.8,baz=350,slow=7.6,SNR=163
CFAA LR LR 17 44 15.7
comp=Z,20nm,18.8s,baz=33,slow=37
CFAA Coronel Fontan 49.98 179 P **P 17 22 30.8 -1.1**
WDC **Whiskeytown Da 50.28 308** *eP* **P 17 22 31.6 -2.7**
comp=Z,40nm,1.2s,mb5.2
WDC **Whiskeytown Da 50.28 308** *eP* **P 17 22 31.6 -2.7**
WDC pmax pmax
comp=Z,40nm,1.2s,mb5.2
ETW **Entiat 50.34 317** *eP* **P 17 22 33.1 -1.4**
comp=Z,12nm,0.7s,mb5.0
YBH **Yreka Blue Hor 50.60 309** *eP* **P 17 22 35.3 -1.3**
comp=Z,31nm,1.4s,mb5.2
YBH **Yreka Blue Hor 50.60 309** *eP* **P 17 22 35.3 -1.4**
YBH pmax pmax
comp=Z,31nm,1.4s
BBTS **Babate 50.65 86** LR LR 17 40 45.3
comp=Z,146nm,19.1s,baz=44,slow=32
KIPM **Iron Peak 50.88 306** *eP* **P 17 22 38.3 -0.4**
comp=Z,26nm,0.7s,mb5.4
KCPM **Cahto Peak 50.94 306** *eP* **P 17 22 38.8 -0.4**
comp=Z,18nm,0.7s,mb5.2
HUMO **Hull Mountain 50.94 310** *eP* **P 17 22 37.7 -1.5**
comp=Z,70nm,1.6s,mb5.4
RPW **Rockport 51.34 318** *eP* **P 17 22 40.3 -1.7**
comp=Z,5.7nm,0.6s,mb4.8
E03A **Lebam 52.19 315** ⇓P **P 17 22 47.9 -0.5**
baz=52
YKA **Yellowknife Ar 53.73 336** P **P 17 22 57.6 -1.9**
comp=Z,31nm,0.7s,mb5.5,baz=113,slow=7.3,SNR=266
YKA pP pP 17 23 23.3 -1.6
comp=Z,26nm,0.9s,baz=116,slow=7.2,SNR=10.0
YKA LR LR 17 47 06.3
comp=Z,24nm,18.5s,baz=50,slow=37
YKA Yellowknife Ar 53.73 336 P **P 17 22 57.6 -1.8**
YKA pP pP 17 23 23.3 -1.6
YKA Yellowknife Ar 53.73 336 P **P 17 22 57.6 -1.8**
YKA *PP pP 17 23 23.3 -1.7
PTEO **Sao Teotonio 55.80 57** *eP* **P 17 23 16.8 +2.0**
comp=Z,66nm,1.1s,mb5.6
EVOP **Sao Brissos 56.31 56** *eP* **P 17 23 18.2 -0.2**
comp=Z,57nm,1.3s,mb5.4
EVOP *epP* pP 17 23 44.7 +0.5
EVOP Sao Brissos 56.31 56 *eP* **P 17 23 18.2 -0.2**
EVOP *e*PP pP 17 23 44.7 +0.5
EVOP pmax pmax
comp=Z,57nm,1.3s,mb5.4
BBB **Bella Bella 56.39 321** P **P 17 23 19.2 +0.4**
comp=Z,14nm,0.8s,mb5.0,baz=117,slow=16,SNR=4.3
BBB LR LR 17 48 38.7
comp=Z,126nm,18.3s,baz=107,slow=37
BBB Bella Bella 56.39 321 P **P 17 23 19.2 +0.4**
EVO **Evora 56.40 56** *eP* **P 17 23 18.2 -0.8**
comp=Z,57nm,1.3s,mb5.1
EVO *epP* pP 17 23 44.7 -0.1
EVO **Evora 56.40 56** *eP* **P 17 23 19.2 +0.2**
comp=Z,27nm,2.2s,mb4.9
EVO *epP* pP 17 23 46.0 +1.2
PGAV **Gavieira, Arco 56.41 52** *eP* **P 17 23 19.7 +0.6**
comp=Z,69nm,1.5s,mb5.5
PBDV **Barranco-do-Ve 56.42 57** *eP* **P 17 23 20.8 +1.6**
PVAQ **Vaqueiros 56.59 57** *eP* **P 17 23 21.8 +1.3**
comp=Z,38nm,1.5s,mb5.2
POLO **Lamas de Olo 56.72 52** *eP* **P 17 23 21.9 +0.6**
comp=Z,26nm,1.5s,mb5.0
POLO *epP* pP 17 23 48.5 +1.4
PESTR **Estremoz 56.74 55** *eP* **P 17 23 22.1 +0.6**
SUMG **Summit 56.76 11** *eP* **P 17 23 21.4 +0.3**
comp=Z,54nm,0.9s,mb5.6
SUMG **Summit 56.76 11** *eP* **P 17 23 21.4 +0.3**
SUMG pmax pmax
comp=Z,54nm,0.9s
SUMG **Summit 56.76 11** *i* P **P 17 23 21.8 +0.7**
comp=Z,36nm,0.9s,mb5.4
TRQA **Tornquist 56.83 173** *eP* **P 17 23 20.4 -1.5**
comp=Z,14nm,1.1s,mb4.9
MTE **Manteigas 56.85 54** *eP* **P 17 23 23.0 +0.8**
PCBR **Castelo Branco 56.87 54** *eP* **P 17 23 22.8 +0.4**
comp=Z,36nm,1.3s,mb5.2
PMRV **Marv??o 56.92 55** *eP* **P 17 23 23.2 +0.5**
comp=Z,27nm,1.7s,mb5.0
PMRV *epP* pP 17 23 49.6 +1.1
MVO **Moncorvo 57.28 53** *eP* **P 17 23 25.8 +0.6**

comp=Z,37nm,1.5s,mb5.2
RES Resolute Bay 57.73 352 P P 17 23 26.8 -1.1
comp=Z,9.8nm,0.7s,mb4.9,baz=165,slow=9.6,SNR=37
RES LR LR 17 49 57.6
comp=Z,111nm,18.1s,baz=84,slow=37
RES Resolute Bay 57.73 352 P P 17 23 26.8 -1.1
RES Resolute Bay 57.73 352 P P 17 23 26.8 -1.1
DLBC Dease Lake 59.01 328 P P 17 23 37.4 +0.4
comp=Z,35nm,0.6s,mb5.5,baz=95,slow=4.2,SNR=62
DLBC LR LR 17 53 21.2
comp=Z,156nm,19.8s,baz=243,slow=40
DLBC Dease Lake 59.01 328 P P 17 23 37.4 +0.4
PLCA Paso Flores 59.09 181 P P 17 23 36.4 -1.2
comp=Z,39nm,0.9s,mb5.4,baz=357,slow=7.8,SNR=71
PLCA Paso Flores 59.09 181 *e*P **P 17 23 36.5 -1.1**
comp=Z,55nm,1.0s,mb5.5
PLCA *e*pP pP 17 24 02.6 -1.0
PLCA Paso Flores 59.09 181 *e*P **P 17 23 36.5 -1.1**
PLCA *e**PP pP 17 24 02.6 -1.0
PLCA pmax pmax
comp=Z,55nm,1.0s
PAB San Pablo 59.27 55 *e*P **P 17 23 39.2 +0.1**
comp=Z,24nm,1.4s,mb5.0
PAB San Pablo 59.27 55 *e*P **P 17 23 39.2 0.0**
PAB pmax pmax
comp=Z,24nm,1.4s,mb5.0
ESDC Sonseca Array 59.57 54 P P 17 23 41.5 +0.3
comp=Z,13nm,0.9s,mb5.0,baz=273,slow=7.0,SNR=43
ESDC pP pP 17 24 07.5 +0.3
comp=Z,5.5nm,0.6s,baz=274,slow=7.1,SNR=6.5
ESDC LR LR 17 45 12.0
comp=Z,179nm,20.1s,baz=300,slow=32
ESDC Sonseca Array 59.57 54 P P 17 23 41.5 +0.3
ESDC pP pP 17 24 07.5 +0.2
ESLA Sonseca Array 59.57 54 *e*P **P 17 23 41.6 +0.4**
comp=Z,9.7nm,1.3s,mb4.7
ESLA *e*pP pP 17 24 08.5 +1.3
ROSF Rostrenen 60.47 45 *e*P **P 17 23 47.5 +0.3**
comp=Z,49nm,1.0s,mb5.2
ROSF Rostrenen 60.47 45 *e*P **P 17 23 47.5 +0.3**
comp=Z,49nm,1.0s,mb5.5
ROSF Rostrenen 60.47 45 *e*P **P 17 23 47.5 +0.3**
ROSF pmax pmax
comp=Z,49nm,1.0s,mb5.5
QUIF Quistinic 60.51 45⇑*i*P **P 17 23 47.7 +0.3**
comp=Z,30nm,0.8s,mb5.1
QUIF Quistinic 60.51 45⇑*i*P **P 17 23 47.7 +0.3**
comp=Z,30nm,0.8s,mb5.4
QUIF Quistinic 60.51 45⇑*i*P **P 17 23 47.7 +0.3**
QUIF pmax pmax
comp=Z,30nm,0.8s,mb5.4
SGMF Saint Gilles 60.94 45 *e*P **P 17 23 50.5 +0.2**
SGMF Saint Gilles 60.94 45 *e*P **P 17 23 50.5 +0.2**
SGMF Saint Gilles 60.94 45 *e*P **P 17 23 50.5 +0.2**
ESK Eskdalemuir 61.34 37 *i*P **P 17 23 52.6 -0.3**
SJPF Ste Jean 61.66 51 *e*P **P 17 23 56.0 +0.7**
comp=Z,112nm,1.2s,mb5.5
SJPF *e*pP pP 17 24 22.2 +0.7
SJPF Ste Jean 61.66 51 *e*P **P 17 23 56.0 +0.7**
comp=Z,112nm,1.2s,mb5.8
SJPF *e*pP pP 17 24 22.2 +0.7
SJPF Ste Jean 61.66 51 *e*P **P 17 23 56.0 +0.7**
SJPF *e**PP pP 17 24 22.2 +0.7
SJPF pmax pmax
comp=Z,113nm,1.2s,mb5.8
GRR Gorron 62.08 45⇑*i*P **P 17 23 58.2 +0.2**
comp=Z,60nm,0.8s,mb5.4
GRR *e*pP pP 17 24 24.2 0.0
GRR Gorron 62.08 45⇑*i*P **P 17 23 58.2 +0.2**
comp=Z,60nm,0.8s,mb5.7
GRR *e*pP pP 17 24 24.2 0.0
GRR Gorron 62.08 45⇑*i*P **P 17 23 58.2 +0.2**
GRR *e**PP pP 17 24 24.2 0.0
GRR pmax pmax
comp=Z,60nm,0.8s,mb5.7
ETSF Etsaut 62.15 51 *e*P **P 17 23 59.3 +0.7**
comp=Z,38nm,1.1s,mb5.0
ETSF Etsaut 62.15 51 *e*P **P 17 23 59.3 +0.7**
comp=Z,38nm,1.1s,mb5.3
ETSF Etsaut 62.15 51 *e*P **P 17 23 59.3 +0.7**
ETSF pmax pmax
comp=Z,38nm,1.1s,mb5.3
FLN La Foliniere 62.35 44⇑*i*P **P 17 24 00.0 +0.2**
comp=Z,52nm,0.8s,mb5.3
FLN *e*pP pP 17 24 26.0 0.0
FLN La Foliniere 62.35 44⇑*i*P **P 17 24 00.0 +0.2**
comp=Z,52nm,0.8s,mb5.6
FLN *e*pP pP 17 24 26.0 0.0
FLN La Foliniere 62.35 44⇑*i*P **P 17 24 00.0 +0.2**
FLN *e**PP pP 17 24 26.0 0.0
FLN pmax pmax
comp=Z,52nm,0.8s,mb5.6
MFF Saint Martin d 62.49 47⇑*i*P **P 17 24 01.1 +0.3**
comp=Z,53nm,0.6s,mb5.5
MFF *e*pP pP 17 24 27.2 +0.2
MFF Saint Martin d 62.49 47⇑*i*P **P 17 24 01.1 +0.3**
comp=Z,53nm,0.6s,mb5.8
MFF *e*pP pP 17 24 27.2 +0.2
MFF Saint Martin d 62.49 47⇑*i*P **P 17 24 01.1 +0.3**
MFF *e**PP pP 17 24 27.2 +0.2
MFF pmax pmax
comp=Z,53nm,0.6s,mb5.8
LDF La Druitiere 62.58 44 *e*P **P 17 24 01.5 +0.2**
comp=Z,34nm,0.7s,mb5.1
LDF *e*pP pP 17 24 27.5 -0.1
LDF La Druitiere 62.58 44 *e*P **P 17 24 01.5 +0.2**
comp=Z,34nm,0.7s,mb5.4
LDF *e*pP pP 17 24 27.5 -0.1
LDF La Druitiere 62.58 44 *e*P **P 17 24 01.5 +0.2**
LDF *e**PP pP 17 24 27.5 -0.1
LDF pmax pmax
comp=Z,34nm,0.7s,mb5.4
EPF Esparros 62.80 51⇑*i*P **P 17 24 03.7 +0.7**
comp=Z,57nm,0.8s,mb5.2
EPF *e*pP pP 17 24 30.1 +0.9
EPF Esparros 62.80 51⇑*i*P **P 17 24 03.7 +0.7**
comp=Z,57nm,0.8s,mb5.5
EPF *e*pP pP 17 24 30.1 +0.9
EPF Esparros 62.80 51⇑*i*P **P 17 24 03.7 +0.7**
EPF *e**PP pP 17 24 30.1 +0.9
EPF pmax pmax
comp=Z,57nm,0.8s,mb5.5
LFF La Frestale 63.09 49 *e*P **P 17 24 04.9 +0.1**
comp=Z,43nm,0.7s,mb5.2
LFF *e*pP pP 17 24 30.8 -0.2
LFF La Frestale 63.09 49 *e*P **P 17 24 04.9 +0.1**
comp=Z,43nm,0.7s,mb5.5
LFF *e*pP pP 17 24 30.8 -0.2
LFF La Frestale 63.09 49 *e*P **P 17 24 04.9 +0.1**
LFF *e**PP pP 17 24 30.8 -0.2
LFF pmax pmax
comp=Z,43nm,0.7s,mb5.5
INK Inuvik 63.33 338 P P 17 24 04.4 -1.6
comp=Z,6.4nm,0.7s,mb4.7,baz=100,slow=6.7,SNR=30
INK LR LR 17 53 30.2
comp=Z,191nm,18.0s,baz=170,slow=38
INK Inuvik 63.33 338 P P 17 24 04.4 -1.6
INK Inuvik 63.33 338 P P 17 24 04.4 -1.6
RJF Les Rejaudoux 63.63 48 *e*P **P 17 24 08.4 0.0**
comp=Z,55nm,0.9s,mb5.1
RJF *e*pP pP 17 24 34.8 +0.1
RJF Les Rejaudoux 63.63 48 *e*P **P 17 24 08.4 0.0**
comp=Z,55nm,0.9s,mb5.4
RJF *e*pP pP 17 24 34.8 +0.1
RJF Les Rejaudoux 63.63 48 *e*P **P 17 24 08.4 0.0**
RJF *e**PP pP 17 24 34.8 +0.1
RJF pmax pmax
comp=Z,55nm,0.9s,mb5.4
LIC Lamto 63.76 92 *e*P **P 17 24 09.1 -0.6**
baz=278
LIC Lamto 63.76 92 *e*P **P 17 24 09.1 -0.6**
DBIC Dimbokro 63.79 92 P P 17 24 09.6 -0.3
comp=Z,14nm,0.6s,mb5.0,baz=281,slow=7.0,SNR=37
DBIC LR LR 17 46 28.3
comp=Z,93nm,19.6s,baz=256,slow=31
DBIC PKP2bc 17 53 06.7
comp=Z,4.3nm,0.9s,baz=139,slow=4.7,SNR=5.2
DBIC Dimbokro 63.79 92 *e*P **P 17 24 09.3 -0.6**
comp=Z,92nm,1.6s,mb5.4
DBIC ⇑*e* 17 53 06.7
DBIC Dimbokro 63.79 92 *e*P **P 17 24 09.3 -0.6**
DBIC pmax pmax
comp=Z,93nm,1.6s
ALE Alert 63.98 1 P P 17 24 09.0 -1.1
comp=Z,326nm,0.6s,mb6.3,SNR=25

CAF Calviac 64.03 49⇑*i*P **P 17 24 11.1 +0.1**
comp=Z,28nm,0.7s,mb4.9
CAF *e*pP pP 17 24 37.4 +0.1
CAF Calviac 64.03 49⇑*i*P **P 17 24 11.1 +0.1**
comp=Z,28nm,0.7s,mb5.2
CAF *e*pP pP 17 24 37.4 +0.1
CAF Calviac 64.03 49⇑*i*P **P 17 24 11.1 +0.1**
CAF *e**PP pP 17 24 37.4 +0.1
CAF pmax pmax
comp=Z,28nm,0.7s,mb5.2
MTLF Montolieu 64.17 50⇑*i*P **P 17 24 12.1 +0.1**
comp=Z,74nm,1.1s,mb5.1
MTLF *e*pP pP 17 24 38.4 +0.1
MTLF Montolieu 64.17 50⇑*i*P **P 17 24 12.1 +0.1**
comp=Z,74nm,1.1s,mb5.4
MTLF *e*pP pP 17 24 38.4 +0.1
MTLF Montolieu 64.17 50⇑*i*P **P 17 24 12.1 +0.1**
MTLF *e**PP pP 17 24 38.4 +0.1
MTLF pmax pmax
comp=Z,74nm,1.1s,mb5.4
HYF Humbligny 64.41 46 *e*P **P 17 24 13.5 +0.1**
HYF Humbligny 64.41 46 *e*P **P 17 24 13.5 +0.1**
BGF Bois d'Agland 64.55 47⇑*i*P **P 17 24 14.2 -0.2**
comp=Z,24nm,0.7s,mb4.9
BGF Bois d'Agland 64.55 47⇑*i*P **P 17 24 14.2 -0.2**
comp=Z,24nm,0.7s,mb5.1
BGF Bois d'Agland 64.55 47⇑*i*P **P 17 24 14.2 -0.2**
BGF pmax pmax
comp=Z,24nm,0.7s,mb5.1
AVF Avril sur Loir 64.90 46⇑*i*P **P 17 24 16.3 -0.3**
comp=Z,76nm,1.2s,mb5.1
AVF *e*pP pP 17 24 42.4 -0.6
AVF Avril sur Loir 64.90 46⇑*i*P **P 17 24 16.3 -0.3**
comp=Z,76nm,1.2s,mb5.4
AVF *e*pP pP 17 24 42.4 -0.6
AVF Avril sur Loir 64.90 46⇑*i*P **P 17 24 16.3 -0.3**
AVF *e**PP pP 17 24 42.4 -0.6
AVF pmax pmax
comp=Z,76nm,1.2s,mb5.4
SSF Saint Saulge 65.00 46⇑*i*P **P 17 24 16.9 -0.4**
comp=Z,56nm,1.2s,mb5.0
SSF Saint Saulge 65.00 46⇑*i*P **P 17 24 16.9 -0.4**
comp=Z,56nm,1.2s,mb5.3
SSF Saint Saulge 65.00 46⇑*i*P **P 17 24 16.9 -0.4**
SSF pmax pmax
comp=Z,56nm,1.2s,mb5.3
LOR Lormes 65.24 46⇑*i*P **P 17 24 18.5 -0.3**
comp=Z,38nm,0.7s,mb5.1
LOR *e*pP pP 17 24 44.5 -0.7
LOR Lormes 65.24 46⇑*i*P **P 17 24 18.5 -0.3**
comp=Z,38nm,0.6s,mb5.4
LOR *e*pP pP 17 24 44.5 -0.7
LOR Lormes 65.24 46⇑*i*P **P 17 24 18.5 -0.3**
LOR *e**PP pP 17 24 44.5 -0.7
LOR pmax pmax
comp=Z,38nm,0.6s,mb5.4
SMF Signal de Mont 65.24 47⇑*i*P **P 17 24 18.5 -0.3**
comp=Z,27nm,0.7s,mb4.9
SMF *e*pP pP 17 24 44.6 -0.6
SMF Signal de Mont 65.24 47⇑*i*P **P 17 24 18.5 -0.3**
comp=Z,27nm,0.7s,mb5.2
SMF *e*pP pP 17 24 44.6 -0.6
SMF Signal de Mont 65.24 47⇑*i*P **P 17 24 18.5 -0.3**
SMF *e**PP pP 17 24 44.6 -0.6
SMF pmax pmax
comp=Z,27nm,0.7s,mb5.2
LASF Ste Croix 65.33 49 *e*P **P 17 24 20.0 +0.5**
comp=Z,160nm,1.4s,mb5.3
LASF Ste Croix 65.33 49 *e*P **P 17 24 20.0 +0.5**
comp=Z,160nm,1.4s,mb5.7
BAIF Baives 65.44 43 *e*P **P 17 24 19.8 -0.3**
BAIF Baives 65.44 43 *e*P **P 17 24 19.8 -0.3**
BAIF Baives 65.44 43 *e*P **P 17 24 19.8 -0.3**
SNF Seneffe 65.49 42 P P 17 24 19.5 -0.9
SNF AP pP 17 24 46.5 -0.3
EGAK Eagle 65.53 333 *e*P **P 17 24 20.0 -0.3**
comp=Z,17nm,0.8s,mb4.9
EGAK *e*pP pP 17 24 42.3 -4.5
DOU Dourbes 65.69 43 P P 17 24 21.1 -0.5
DOU AP pP 17 24 47.8 -0.3
DOU XP sP 17 24 59.3 -0.5
GIVF Givet 65.84 43⇑*i*P **P 17 24 22.5 -0.1**
comp=Z,56nm,1.0s,mb5.1
GIVF *e*pP pP 17 24 48.6 -0.5
GIVF Givet 65.84 43⇑*i*P **P 17 24 22.5 -0.1**
comp=Z,56nm,1.0s,mb5.3
GIVF *e*pP pP 17 24 48.6 -0.5
GIVF Givet 65.84 43⇑*i*P **P 17 24 22.5 -0.1**
GIVF *e**PP pP 17 24 48.6 -0.5
GIVF pmax pmax
comp=Z,56nm,1.0s,mb5.3
VIVF Saint-Julien-l 65.88 49⇑*i*P **P 17 24 23.9 +0.9**
comp=Z,75nm,1.0s,mb5.2
VIVF *e*pP pP 17 24 50.0 +0.6
VIVF Saint-Julien-l 65.88 49⇑*i*P **P 17 24 23.9 +0.9**
comp=Z,75nm,1.0s,mb5.5
VIVF *e*pP pP 17 24 50.0 +0.6
VIVF Saint-Julien-l 65.88 49⇑*i*P **P 17 24 23.9 +0.9**
VIVF *e**PP pP 17 24 50.0 +0.6
VIVF pmax pmax
comp=Z,75nm,1.0s,mb5.5
SFTF Sexfontaines 66.01 45⇑*i*P **P 17 24 23.5 -0.3**
comp=Z,166nm,1.3s,mb5.4
SFTF *e*pP pP 17 24 49.6 -0.6
SFTF Sexfontaines 66.01 45⇑*i*P **P 17 24 23.5 -0.3**
comp=Z,166nm,1.3s,mb5.7
SFTF *e*pP pP 17 24 49.6 -0.6
MEZF Maizieres J'vi 66.01 45⇑*i*P **P 17 24 23.8 0.0**
comp=Z,81nm,0.7s,mb5.4
MEZF *e*pP pP 17 24 50.0 -0.2
MEZF Maizieres J'vi 66.01 45⇑*i*P **P 17 24 23.8 0.0**
comp=Z,81nm,0.7s,mb5.7
MEZF *e*pP pP 17 24 50.0 -0.2
BCLA Clavier 66.14 42 P P 17 24 24.4 -0.1
comp=Z,15nm,1.7s,mb4.5
BCLA AP pP 17 24 50.5 -0.5
BCLA XP sP 17 25 02.2 -0.4
BEBN Eben Emael 66.38 42 P P 17 24 26.2 +0.2
BEBN AP pP 17 24 52.5 -0.1
BEBN XP sP 17 25 03.4 -0.7
MENT Mentasta 66.44 331 *e*P **P 17 24 26.2 0.0**
PAGF Fort de Pagny 66.46 44⇑*i*P **P 17 24 26.7 +0.1**
comp=Z,26nm,1.1s,mb4.7
PAGF Fort de Pagny 66.46 44⇑*i*P **P 17 24 26.7 +0.1**
comp=Z,26nm,1.1s,mb5.0
SMRF Simiane la Rot 66.58 49 *e*P **P 17 24 28.4 +1.0**
comp=Z,113nm,1.5s,mb5.2
SMRF Simiane la Rot 66.58 49 *e*P **P 17 24 28.4 +1.0**
comp=Z,113nm,1.5s,mb5.5
MEM Membach 66.59 42 P P 17 24 27.6 +0.2
comp=Z,21nm,1.2s,mb4.8
MEM AP pP 17 24 53.6 -0.3
MEM XP sP 17 25 06.0 +0.5
THEF They Montfort 66.64 45 *e*P **P 17 24 27.8 0.0**
DOT Dot Lake 66.65 332 *e*P **P 17 24 27.3 -0.2**
comp=Z,37nm,1.3s,mb5.0
BMRM Bremner River 66.70 329 *e*P **P 17 24 28.2 +0.3**
comp=Z,120nm,1.1s,mb5.6
BMRM *e*pP pP 17 24 53.4 -1.0
WLF Walferdange 66.71 43 P P 17 24 28.6 +0.4
comp=Z,20nm,1.4s,mb4.8
WLF AP pP 17 24 54.7 0.0
WLF XP sP 17 25 05.8 -0.5
WLF Walferdange 66.71 43 *e*P **P 17 24 27.8 -0.4**
comp=Z,29nm,0.9s,mb5.1
WLF Walferdange 66.71 43 *e*P **P 17 24 28.3 +0.2**
comp=Z,39nm,1.4s,mb5.0
WLF *e*pP pP 17 24 54.2 -0.5
WLF Walferdange 66.71 43 *e*P **P 17 24 28.3 +0.1**
WLF *e**PP pP 17 24 54.2 -0.5
WLF pmax pmax
comp=Z,39nm,1.4s,mb5.0
ORIF Oris-en-Rattie 66.73 48 *e*P **P 17 24 29.3 +0.9**
comp=Z,58nm,1.2s,mb5.0
ORIF Oris-en-Rattie 66.73 48 *e*P **P 17 24 29.3 +0.9**
comp=Z,58nm,1.2s,mb5.3
ORIF Oris-en-Rattie 66.73 48 *e*P **P 17 24 29.3 +0.9**
ORIF pmax pmax
comp=Z,59nm,1.2s,mb5.3
CABF La Chapelle 66.78 47 *e*P **P 17 24 28.6 -0.1**
comp=Z,119nm,1.5s,mb5.2
CABF La Chapelle 66.78 47 *e*P **P 17 24 28.6 -0.1**
comp=Z,119nm,1.5s,mb5.5
CABF La Chapelle 66.78 47 *e*P **P 17 24 28.6 -0.1**
CABF pmax pmax
comp=Z,119nm,1.5s,mb5.5
HAU Haudompre 66.90 45 *e*P **P 17 24 29.0 -0.4**
comp=Z,30nm,0.9s,mb4.8
HAU Haudompre 66.90 45 *e*P **P 17 24 29.0 -0.4**
comp=Z,30nm,0.9s,mb5.1
HAU Haudompre 66.90 45 *e*P **P 17 24 29.0 -0.4**
HAU pmax pmax
comp=Z,30nm,0.9s,mb5.1
RSL Roselend 67.21 48 *e*P **P 17 24 31.8 +0.4**
PAX Paxson 67.24 331 *e*P **P 17 24 30.4 -0.8**
comp=Z,54nm,1.2s,mb5.2
PAX *e*pP pP 17 24 56.6 -1.1
PAX Paxson 67.24 331 *e*P **P 17 24 30.4 -0.9**
PAX *e**PP pP 17 24 56.7 -1.1
PAX pmax pmax
comp=Z,54nm,1.2s,mb5.2
HINF Hinteralfeld 67.24 45⇑*i*P **P 17 24 31.0 -0.6**
comp=Z,14nm,0.8s,mb4.6
HINF *e*pP pP 17 24 57.1 -1.0
HINF Hinteralfeld 67.24 45⇑*i*P **P 17 24 31.0 -0.6**
comp=Z,14nm,0.8s,mb4.9
HINF *e*pP pP 17 24 57.1 -1.0
HINF Hinteralfeld 67.24 45⇑*i*P **P 17 24 31.0 -0.6**
HINF *e**PP pP 17 24 57.1 -1.0
HINF pmax pmax
comp=Z,14nm,0.8s,mb4.8
LOMF Lomont 67.25 46 *e*P **P 17 24 31.7 0.0**
DIV Divide 67.28 329 *e*P **P 17 24 31.3 -0.3**
comp=Z,41nm,1.0s,mb5.2
DIV *e*pP pP 17 24 57.2 -0.9
BNI Bardonecchia 67.29 48 *e*P **P 17 24 32.4 +0.4**
comp=Z,26nm,1.3s,mb4.9
BNI Bardonecchia 67.29 48 *e*P **P 17 24 32.4 +0.4**
BNI pmax pmax
comp=Z,26nm,1.3s,mb4.9
LPL La Plagne 67.30 48⇑*i*P **P 17 24 32.7 +0.7**
comp=Z,44nm,0.8s,mb5.0
LPL *e*pP pP 17 24 58.9 +0.4
LPL La Plagne 67.30 48⇑*i*P **P 17 24 32.7 +0.7**
comp=Z,44nm,0.8s,mb5.3
LPL *e*pP pP 17 24 58.9 +0.4
LPL La Plagne 67.30 48⇑*i*P **P 17 24 32.7 +0.7**
LPL *e**PP pP 17 24 58.9 +0.4
LPL pmax pmax
comp=Z,44nm,0.8s,mb5.3
LMR La Mourre 67.30 50 *e*P **P 17 24 32.0 0.0**
comp=Z,43nm,1.1s,mb4.9
LMR La Mourre 67.30 50 *e*P **P 17 24 32.0 0.0**
comp=Z,43nm,1.1s,mb5.2
LMR La Mourre 67.30 50 *e*P **P 17 24 32.0 0.0**
LMR pmax pmax
comp=Z,43nm,1.1s,mb5.2
LPG La Plagne 67.31 48⇑*i*P **P 17 24 33.0 +0.9**
comp=Z,28nm,0.8s,mb4.8
LPG La Plagne 67.31 48⇑*i*P **P 17 24 33.0 +0.9**
comp=Z,28nm,0.8s,mb5.1
LPG La Plagne 67.31 48⇑*i*P **P 17 24 33.0 +0.9**
LPG pmax pmax
comp=Z,28nm,0.8s,mb5.1
BUG Bochum--Univer 67.36 41 *e*P **P 17 24 32.0 -0.3**
comp=Z,21nm,1.0s,mb4.9
FRF La Foret Royal 67.38 50 *e*P **P 17 24 32.4 -0.1**
comp=Z,17nm,0.7s,mb4.7
FRF La Foret Royal 67.38 50 *e*P **P 17 24 32.4 -0.1**
comp=Z,17nm,0.7s,mb5.0
FRF La Foret Royal 67.38 50 *e*P **P 17 24 32.4 -0.1**
FRF pmax pmax
comp=Z,17nm,0.7s,mb5.0
MBDF Montbardon 67.38 49 *e*P **P 17 24 33.3 +0.8**
comp=Z,14nm,0.7s,mb4.6
MBDF Montbardon 67.38 49 *e*P **P 17 24 33.3 +0.8**
comp=Z,14nm,0.7s,mb4.9
MBDF Montbardon 67.38 49 *e*P **P 17 24 33.3 +0.8**
MBDF pmax pmax
comp=Z,14nm,0.7s,mb4.9
ECH Echery 67.43 45 *e*P **P 17 24 32.5 -0.2**
comp=Z,63nm,1.4s,mb5.2
ECH *e*pP pP 17 24 58.9 -0.4
ECH Echery 67.43 45 *e*P **P 17 24 32.5 -0.3**
ECH *e**PP pP 17 24 58.9 -0.4
ECH pmax pmax
comp=Z,63nm,1.4s,mb5.2
ECH Echery 67.43 45 *e*P **P 17 24 32.5 -0.3**
MOF Molkenrain 67.43 45 *e*P **P 17 24 32.3 -0.5**
CDF Champ du Feu 67.50 45⇑*i*P **P 17 24 33.0 -0.2**
comp=Z,33nm,0.9s,mb4.8
CDF Champ du Feu 67.50 45⇑*i*P **P 17 24 33.0 -0.2**
comp=Z,33nm,0.9s,mb5.2
CDF Champ du Feu 67.50 45⇑*i*P **P 17 24 33.0 -0.2**
CDF pmax pmax
comp=Z,33nm,0.9s,mb5.2
IBBN Ibbenburen 67.64 40 *e*P **P 17 24 34.2 +0.2**
comp=Z,112nm,1.6s,mb5.5
LANF Langenberg 67.81 44 *e*P **P 17 24 35.1 -0.1**
SBF Sospel 67.92 49 *e*P **P 17 24 36.0 0.0**
comp=Z,56nm,1.0s,mb5.0
SBF Sospel 67.92 49 *e*P **P 17 24 36.0 0.0**
comp=Z,56nm,1.0s,mb5.3
SBF Sospel 67.92 49 *e*P **P 17 24 36.0 0.0**
SBF pmax pmax
comp=Z,57nm,1.0s,mb5.4
ILAR Eielson Array 67.97 333 P P 17 24 34.6 -1.2
comp=Z,15nm,1.0s,mb4.8,baz=110,slow=3.4,SNR=87
ILAR pP pP 17 25 00.9 -1.5
comp=Z,14nm,0.9s,baz=107,slow=4.1,SNR=9.2
ILAR Eielson Array 67.97 333 P P 17 24 34.6 -1.2
ILAR pP pP 17 25 00.9 -1.5
ILAR Eielson Array 67.97 333 P P 17 24 34.6 -1.2
ILAR *PP pP 17 25 01.0 -1.4
TNS Taunus Mts 68.16 43 *e*P **P 17 24 37.4 +0.1**
comp=Z,53nm,1.5s,mb5.2
TNS Taunus Mts 68.16 43 *e*P **P 17 24 37.4 +0.1**
TNS pmax pmax
comp=Z,53nm,1.5s,mb5.2
BFO Black Forest 68.20 45 *e*P **P 17 24 36.7 -0.9**
comp=Z,37nm,1.8s,mb4.9
BFO Black Forest 68.20 45 *e*P **P 17 24 36.7 -0.9**
BFO pmax pmax
comp=Z,37nm,1.8s,mb4.9
TORD Torodi Ar. Bea 68.20 83 P P 17 24 37.4 -0.8
comp=Z,16nm,0.7s,mb5.0,baz=286,slow=6.3,SNR=105
TORD pP pP 17 25 02.7 -2.1
comp=Z,18nm,0.8s,baz=280,slow=8.7,SNR=10
TORD LR LR 17 51 56.5
comp=Z,146nm,19.3s,baz=290,slow=34
TORD PKP2bc 17 52 54.9
comp=Z,3.8nm,1.0s,baz=134,slow=5.0,SNR=9.3
TORD Torodi Ar. Bea 68.20 83 P P 17 24 37.4 -0.8
TORD pP pP 17 25 02.7 -2.1
TORD ⇑*e* 17 52 54.9
COLA College 68.38 333 *e*P **P 17 24 36.6 -1.8**
comp=Z,12nm,0.8s,mb4.8
COLA College 68.38 333 *e*P **P 17 24 36.6 -1.8**
COLA pmax pmax
comp=Z,12nm,0.8s,mb4.8
SML Sawmill 68.53 330 *e*P **P 17 24 38.7 -0.6**
comp=Z,8.5nm,1.0s,mb4.5
SML Sawmill 68.53 330 *e*P **P 17 24 38.7 -0.7**
SML pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
STU Stuttgart 68.75 44 *e*P **P 17 24 40.5 -0.5**
comp=Z,40nm,1.4s,mb5.1
MCK McKinley 68.83 332 *e*P **P 17 24 40.3 -0.9**
comp=Z,55nm,1.1s,mb5.3
MCK McKinley 68.83 332 *e*P **P 17 24 40.3 -0.9**
MCK pmax pmax
comp=Z,55nm,1.1s,mb5.3
PMR Palmer 68.91 330 *e*P **P 17 24 41.1 -0.6**
comp=Z,58nm,1.4s,mb5.2
PMR Palmer 68.91 330 *e*P **P 17 24 41.2 -0.5**
PMR pmax pmax
comp=Z,58nm,1.4s,mb5.2
TUE Stuetta 69.04 47 *e*P **P 17 24 43.4 +0.5**
comp=Z,7.9nm,0.8s,mb4.6
NRDL Niedersach Rie 69.07 40 *e*P **P 17 24 43.0 +0.1**
comp=Z,46nm,1.4s,mb5.1
SEW Seward 69.08 328 *e*P **P 17 24 41.9 -0.9**
comp=Z,82nm,1.0s,mb5.5
SEW *e*pP pP 17 25 08.3 -1.1
BSEG Bad Segeberg 69.11 39 *e*P **P 17 24 43.0 -0.1**
comp=Z,32nm,1.1s,mb5.1
BSEG Bad Segeberg 69.11 39 *e*P **P 17 24 43.0 -0.1**
BSEG pmax pmax
comp=Z,32nm,1.1s,mb5.1
UBBA Unterbreizbach 69.12 42 *e*P **P 17 24 42.3 -0.9**
comp=Z,43nm,1.9s,mb5.0

PGF Pioggiola 69.19 51 *eP* **P 17 24 43.7 -0.2**
comp=Z,26nm,0.7s,mb4.8
PGF Pioggiola 69.19 51 *eP* **P 17 24 43.7 -0.2**
comp=Z,26nm,0.7s,mb5.2
PGF Pioggiola 69.19 51 *eP* **P 17 24 43.7 -0.2**
PGF pmax pmax
comp=Z,26nm,0.7s,mb5.2
RC01 Rabbit Creek A 69.20 329 *eP* **P 17 24 43.0 -0.6**
comp=Z,15nm,0.9s,mb4.8
CLZ Clausthal 69.28 41 *eP* **P 17 24 44.2 0.0**
comp=Z,41nm,1.5s,mb5.0
CLZ Clausthal 69.28 41 *eP* **P 17 24 44.2 0.0**
CLZ pmax pmax
comp=Z,41nm,1.5s,mb5.0
DAVA Damuels 69.33 46⇑ *iP* **P 17 24 45.1 +0.5**
comp=Z,40nm,1.5s,mb5.0
NB2 NORSAR Subarra 69.33 31 P **P 17 24 44.8 +0.5**
comp=Z,24nm,1.0s,mb5.0,baz=272,slow=6.5
NOA NORSAR Array B 69.33 31 P **P 17 24 45.0 +0.6**
comp=Z,13nm,0.8s,mb4.8,baz=272,slow=6.3,SNR=15
NOA pP pP 17 25 11.3 +0.3
comp=Z,10.0nm,0.7s,baz=272,slow=6.3,SNR=6.9
NOA NORSAR Array B 69.33 31 P **P 17 24 45.0 +0.6**
NOA pP pP 17 25 11.3 +0.3
NOA NORSAR Array B 69.33 31 P **P 17 24 45.0 +0.7**
NOA *PP pP 17 25 11.4 +0.4
DAVOX Davos/Dischmat 69.38 46 P **P 17 24 45.5 +0.6**
comp=Z,8.8nm,0.7s,mb4.7,baz=221,slow=7.2,SNR=18
DAVOX Davos/Dischmat 69.38 46 P **P 17 24 45.5 +0.6**
DAVOX Davos/Dischmat 69.38 46 P **P 17 24 45.5 +0.6**
COLD Coldfoot 69.41 336 *eP* **P 17 24 44.1 -0.6**
comp=Z,18nm,0.7s,mb5.0
TRF Thorofare Moun 69.43 332 *eP* **P 17 24 44.4 -0.5**
comp=Z,86nm,1.1s,mb5.5
SLKM Skilak Lake 69.45 329 *eP* **P 17 24 44.5 -0.6**
SLKM Skilak Lake 69.45 329 *eP* **P 17 24 44.5 -0.6**
TAM Tamanrasset 69.50 72 *eP* **P 17 24 47.3 +1.2**
comp=Z,35nm,1.4s,mb5.0
TAM epP pP 17 25 14.0 +1.2
TAM Tamanrasset 69.50 72 *eP* **P 17 24 47.3 +1.2**
TAM e*PP pP 17 25 14.0 +1.2
TAM pmax pmax
comp=Z,35nm,1.4s,mb5.0
RETA Reutte 69.90 45⇑ *iP* **P 17 24 48.5 +0.3**
comp=Z,36nm,1.3s,mb5.0,SNR=7.6
FETA Feichten 69.93 46 *i P* **P 17 24 48.8 +0.5**
comp=Z,50nm,1.3s,mb5.2,SNR=21
GRF Grafenberg Arr 69.99 43 *eP* **P 17 24 48.1 -0.5**
comp=Z,19nm,1.4s,mb4.7
GRF epP pP 17 25 13.5 -1.9
GRF esP sP 17 25 26.4 -0.5
GRF Grafenberg Arr 69.99 43 *eP* **P 17 24 48.1 -0.5**
GRF e*PP pP 17 25 13.5 -1.9
GRF e*SP sP 17 25 26.4 -0.5
GRF pmax pmax
comp=Z,19nm,1.4s,mb4.7
MOTA Moosalm 70.15 45⇑ *iP* **P 17 24 49.8 +0.2**
comp=Z,12nm,0.8s,mb4.8,SNR=7.9
MOX Moxa 70.15 42 *eP* **P 17 24 49.3 -0.3**
comp=Z,18nm,1.7s,mb4.6
MOX epP pP 17 25 16.2 -0.1
MOX Moxa 70.15 42 *eP* **P 17 24 49.3 -0.3**
MOX e*PP pP 17 25 16.2 -0.1
MOX pmax pmax
comp=Z,18nm,1.7s,mb4.6
PPLA Purkeypile 70.31 331 *eP* **P 17 24 49.1 -1.2**
comp=Z,113nm,1.5s,mb5.5
KEST Kesra 70.40 58 P **P 17 24 51.7 +0.3**
comp=Z,11nm,0.8s,mb4.7,baz=158,slow=1.1,SNR=16
KEST LR LR 17 52 20.6
comp=Z,52nm,19.4s,baz=226,slow=33
KEST Kesra 70.40 58 *eP* **P 17 24 51.4 0.0**
KEST epP pP 17 25 18.7 +0.6
WTTA Wattenberg 70.52 46⇓ *iP* **P 17 24 51.9 0.0**
comp=Z,17nm,1.4s,mb4.7
HFS Hagfors 70.59 32 P **P 17 24 52.2 +0.1**
comp=Z,3.8nm,0.6s,mb4.4,baz=264,slow=7.3,SNR=11
HFS pP pP 17 25 18.5 -0.3
comp=Z,6.6nm,0.7s,baz=286,slow=6.0,SNR=3.7
HFS LR LR 17 49 58.2
comp=Z,244nm,18.9s,baz=123,slow=31
HFS Hagfors 70.59 32 P **P 17 24 52.2 +0.1**
HFS pP pP 17 25 18.5 -0.3
HFS Hagfors 70.59 32 P **P 17 24 52.2 +0.1**
HFS *PP pP 17 25 18.5 -0.3
ROTZ Rotzenmuhle 70.62 43 *eP* **P 17 24 52.6 +0.1**
comp=Z,37nm,1.4s,mb5.0
ROTZ epP pP 17 25 18.7 -0.5
RSO Redoubt South 70.71 329 *eP* **P 17 24 52.2 -0.6**
comp=Z,136nm,0.9s,mb5.8
TANN Tannenbergstha 70.71 42 *eP* **P 17 24 52.8 -0.2**
comp=Z,34nm,1.3s,mb5.0
EFI East Falkland 70.72 173 *eP* **P 17 24 52.1 -0.7**
EFI East Falkland 70.72 173 *eP* **P 17 24 52.1 -0.7**
NKC Novy Kostel 70.72 42 *eP* **P 17 24 53.0 -0.1**
NKC e*PP pP 17 25 19.3 -0.6
NKC Novy Kostel 70.72 42 *eP* **P 17 24 53.0 -0.1**
NKC epP pP 17 25 19.3 -0.6
KDAK Kodiak Island 70.82 326 P **P 17 24 53.3 -0.2**
comp=Z,42nm,0.9s,mb5.3,baz=98,slow=3.8,SNR=16
KDAK Kodiak Island 70.82 326 *eP* **P 17 24 53.2 -0.3**
comp=Z,44nm,1.0s,mb5.2
KDAK epP pP 17 25 19.1 -1.1
KDAK Kodiak Island 70.82 326 *eP* **P 17 24 53.2 -0.3**
KDAK e*PP pP 17 25 19.1 -1.2
KDAK pmax pmax
comp=Z,44nm,1.0s,mb5.2
KDAK Kodiak Island 70.82 326 P **P 17 24 53.9 +0.4**
comp=Z,293nm,1.0s,mb6.1,SNR=6.8
CLL Collm 70.96 41 *eP* **P 17 24 54.3 -0.2**
comp=Z,43nm,1.8s,mb5.0
CLL Collm 70.96 41 *i P* **P 17 24 54.3 -0.2**
CLL *i *PP pP 17 25 20.5 -0.8
CLL pmax pmax
comp=Z,43nm,1.8s,mb5.0
CLL Collm 70.96 41 *i P* **P 17 24 54.3 -0.2**
comp=Z,43nm,1.8s,mb5.0
CLL *i* pP pP 17 25 20.5 -0.8
CLL *es*P sP 17 25 31.0 -1.8
CLL *ep*PP 17 28 00.0
SPA0 Spitsbergen Ar 71.00 13 *eP* **P 17 24 54.5 +0.2**
SPITS Spitsbergen Ar 71.00 13 P **P 17 24 54.0 -0.3**
comp=Z,15nm,0.7s,mb4.9,baz=184,slow=5.9,SNR=18
SPITS Spitsbergen Ar 71.00 13 P **P 17 24 54.0 -0.3**
SPITS Spitsbergen Ar 71.00 13 P **P 17 24 54.1 -0.2**
WET Wettzell 71.12 43 *eP* **P 17 24 55.3 -0.2**
comp=Z,15nm,0.9s,mb4.8
WET epP pP 17 25 21.5 -0.8
WET Wettzell 71.12 43 *eP* **P 17 24 55.3 -0.2**
WET e*PP pP 17 25 21.5 -0.8
WET pmax pmax
comp=Z,15nm,0.9s,mb4.8
ABTA Abfaltersbach 71.18 46⇓ *iP* **P 17 24 55.6 -0.3**
comp=Z,24nm,1.2s,mb4.9
OHAK Old Harbor 71.25 325 *eP* **P 17 24 55.9 -0.2**
comp=Z,78nm,1.2s,mb5.4
KHC Kasperske Hory 71.58 43 *eP* **P 17 24 58.4 +0.1**
comp=Z,37nm,1.2s,mb5.1
KHC epP pP 17 25 25.0 -0.1
KHC Kasperske Hory 71.58 43 *eP* **P 17 24 58.5 +0.2**
KHC e*PP pP 17 25 24.9 -0.2
KHC *e* 17 25 36.3
KHC Kasperske Hory 71.58 43 *eP* **P 17 24 58.5 +0.2**
KHC epP pP 17 25 24.9 -0.2
KHC *es*P sP 17 25 36.3 -0.4
BRG Berggiesshubel 71.60 42⇑ *iP* **P 17 24 58.3 0.0**
comp=Z,30nm,1.3s,mb5.0
BRG pP pP 17 25 24.9 -0.2
comp=Z,15nm,0.8s
BRG sP sP 17 25 36.8 +0.1
comp=Z,18nm,1.0s
BRG Berggiesshubel 71.60 42 *eP* **P 17 24 58.2 -0.1**
comp=Z,30nm,1.3s,mb5.0
BRG epP pP 17 25 24.6 -0.6
BRG Berggiesshubel 71.60 42⇑ *iP* **P 17 24 58.3 0.0**
BRG *PP pP 17 25 25.0 -0.2
BRG *SP sP 17 25 36.8 +0.1
BRG pmax pmax
comp=Z,30nm,1.3s,mb5.0
BRG pmax pmax
comp=Z,15nm,0.8s,mb4.9
BRG pmax pmax
comp=N,18nm,1.0s
BSD Bornholm Skovb 71.69 37 *i P* pP 17 25 25.3 -0.3
comp=N,20nm,0.8s
KBA Koelnbreinsper 71.70 46⇓ *iP* **P 17 24 59.0 0.0**
comp=N,42nm,1.7s,mb5.0
GEC2 GERESS Array S 71.70 44 *eP* **P 17 24 58.4 -0.6**
comp=Z,25nm,1.1s,mb5.0
GEC2 *ep*P pP 17 25 25.3 -0.5
GEC2 GERESS Array S 71.70 44 *eP* **P 17 24 58.4 -0.6**
GEC2 e*PP pP 17 25 25.3 -0.5
GEC2 pmax pmax
comp=Z,25nm,1.1s,mb5.0
GERES GERESS Array B 71.70 44 P **P 17 24 59.0 0.0**
comp=Z,11nm,1.0s,mb4.7,baz=268,slow=3.5,SNR=49
GERES pP pP 17 25 25.3 -0.5
comp=Z,8.7nm,1.0s,baz=264,slow=5.0,SNR=4.0
GERES GERESS Array B 71.70 44 P **P 17 24 59.0 0.0**
GERES pP pP 17 25 25.3 -0.5
GERES GERESS Array B 71.70 44 P **P 17 24 59.0 0.0**
GERES *PP pP 17 25 25.3 -0.5
MYKA Terra Mystica 71.96 46⇑ *iP* **P 17 25 00.3 -0.3**
comp=Z,22nm,1.1s,mb4.9
PRA Prague 72.01 42 P **P 17 25 01.0 +0.2**
PRA pP pP 17 25 28.0 +0.3
PVCC Panska Ves 72.04 42 *eP* **P 17 25 00.8 -0.2**
PVCC e*PP pP 17 25 27.6 -0.2
PVCC Panska Ves 72.04 42 *eP* **P 17 25 00.8 -0.2**
PVCC *ep*P pP 17 25 27.6 -0.2
PRU Pruhonice 72.09 42 *eP* **P 17 25 01.3 0.0**
PRU e*PP pP 17 25 28.1 -0.1
PRU *e* 17 25 39.4
PRU Pruhonice 72.09 42 *eP* **P 17 25 01.3 0.0**
PRU *ep*P pP 17 25 28.1 -0.1
PRU *es*P sP 17 25 39.4 -0.3
TRO Tromso 72.09 22 *eP* **P 17 25 01.6 +0.7**
MOA Molln 72.21 45⇑ *iP* **P 17 25 01.7 -0.4**
comp=Z,27nm,1.5s,mb4.9,SNR=8.2
JAVS Javornik 72.36 47 *i P* **P 17 25 03.6 +0.6**
JAVS *i* pP 17 25 30.1 +0.2
OBKA Obir 72.60 46⇑ *iP* **P 17 25 04.0 -0.4**
comp=Z,18nm,0.9s,mb4.9
TREC Trest 72.80 43 *eP* **P 17 25 06.0 +0.5**
TREC Trest 72.80 43 *eP* **P 17 25 06.0 +0.5**
KIF Kilpisjarvi 72.82 22 *eP* **P 17 25 05.8 +0.5**
SOKA Soboth 72.90 46⇑ *iP* **P 17 25 05.5 -0.7**
comp=Z,9.7nm,1.0s,mb4.6
VISS Visnje 72.91 47 *i P* **P 17 25 06.5 +0.2**
VISS *i* pP 17 25 32.9 -0.3
UPC Upice 72.95 42 *eP* **P 17 25 06.6 +0.2**
UPC e*PP pP 17 25 32.2 -1.1
UPC *e* 17 25 44.5
UPC Upice 72.95 42 *eP* **P 17 25 06.6 +0.2**
UPC *ep*P pP 17 25 32.2 -1.1
UPC *es*P sP 17 25 44.5 -0.3
PERS Pernice 72.97 46 *i P* **P 17 25 05.9 -0.7**
PERS *i* pP 17 25 33.9 +0.4
KSP Ksiaz 73.08 41 *eP* **P 17 25 07.7 +0.6**
KSP *ep*P pP 17 25 33.6 -0.5
KSP Ksiaz 73.08 41 *eP* **P 17 25 07.7 +0.6**
KSP e*PP pP 17 25 33.6 -0.5
ARSA Arzberg 73.14 45⇑ *iP* **P 17 25 07.1 -0.5**
comp=Z,24nm,1.4s,mb4.8
DPC Dobruska-Polom 73.17 42 *eP* **P 17 25 07.4 -0.3**
DPC e*PP pP 17 25 33.8 -0.8
DPC *e* 17 25 46.2
DPC Dobruska-Polom 73.17 42 *eP* **P 17 25 07.4 -0.3**
DPC *ep*P pP 17 25 33.8 -0.8
DPC *es*P sP 17 25 46.2 0.0
USHA Ushuaia 73.19 179 P **P 17 25 06.7 -0.8**
comp=Z,38nm,0.8s,mb5.3,baz=4.4,slow=4.5,SNR=15
USHA Ushuaia 73.19 179 P **P 17 25 06.7 -0.8**
BOJS Bojanci 73.25 47 *i P* **P 17 25 08.8 +0.5**
BOJS *i* pP 17 25 39.2 +4.0
CSNA Conrad Observa 73.26 44⇓ *iP* **P 17 25 08.3 +0.1**
comp=Z,13nm,1.1s,mb4.7
GKP Gorka Klasztor 73.28 39 *eP* **P 17 25 09.7 +1.4**
GKP Gorka Klasztor 73.28 39 *eP* **P 17 25 09.6 +1.3**
KRLC Kraliky 73.51 42 *eP* **P 17 25 09.8 +0.1**
KRLC *ep*P pP 17 25 36.2 -0.4
KRLC *es*P sP 17 25 48.0 -0.1
VRAC Vranov 73.51 43 P **P 17 25 09.8 0.0**
comp=Z,7.6nm,0.6s,mb4.6,baz=303,slow=3.7,SNR=11
VRAC LR LR 17 54 38.2
comp=Z,316nm,21.5s,baz=148,slow=33
VRAC Vranov 73.51 43 P **P 17 25 09.8 0.0**
VRAC Vranov 73.51 43⇑ P **P 17 25 10.1 +0.4**
VRAC Vranov 73.51 43⇑ *iP* **P 17 25 10.1 +0.4**
KTK1 Kautokeino 73.69 22 *eP* **P 17 25 10.9 +0.5**
KTK1 AMB AMB 17 25 12.7
comp=Z,184nm,1.5s,mb5.6
KTK1 *ep*P pP 17 25 37.4 +0.1
SOP Sopron 73.76 45⇓ *eP* **P 17 25 11.6 +0.4**
MORC Moravsky Berou 74.04 42 *eP* **P 17 25 12.6 -0.2**
comp=Z,32nm,1.4s,mb4.8
MORC *ep*P pP 17 25 39.8 0.0
MORC Moravsky Berou 74.04 42⇑ P **P 17 25 13.0 +0.2**
MORC Moravsky Berou 74.04 42⇑ *iP* **P 17 25 13.0 +0.2**
ARCES ARCESS Array B 74.39 21 P **P 17 25 14.2 -0.3**
comp=Z,24nm,0.6s,mb5.1,baz=278,slow=3.6,SNR=70
ARCES pP pP 17 25 40.6 -0.8
comp=Z,11nm,0.6s,baz=272,slow=3.2,SNR=4.4
ARCES ARCESS Array B 74.39 21 P **P 17 25 14.2 -0.3**
ARCES pP pP 17 25 40.6 -0.8
ARCES ARCESS Array B 74.39 21 P **P 17 25 14.2 -0.3**
ARCES *PP pP 17 25 40.7 -0.8
ARE0 ARCESS Array S 74.39 21 *eP* **P 17 25 14.6 +0.2**
ARE0 ARCESS Array S 74.39 21 *eP* **P 17 25 13.9 -0.6**
ARE0 *ep*P pP 17 25 40.9 -0.5
OKC Ostrava-Krasne 74.42 42 *eP* **P 17 25 15.4 +0.4**
OKC e*PP pP 17 25 42.1 +0.1
OKC *e* 17 25 53.8
OKC Ostrava-Krasne 74.42 42 *eP* **P 17 25 15.4 +0.4**
OKC *ep*P pP 17 25 42.1 +0.1
OKC *es*P sP 17 25 53.8 +0.3
KEV Kevo 74.86 21 *eP* **P 17 25 16.2 -1.0**
KEV pmax pmax
comp=Z,11nm,0.8s,mb4.6
KEV Kevo 74.86 21 *ep* **P 17 25 16.2 -1.0**
comp=Z,11nm,0.8s,mb4.7
VYHS Vyhne 75.11 43 *eP* **P 17 25 19.6 +0.6**
VYHS pmax pmax
comp=Z,14nm,1.2s,mb4.6
VYHS Vyhne 75.11 43 *eP* **P 17 25 19.6 +0.6**
OJC Ojcow 75.39 42 *eP* **P 17 25 19.1 -1.5**
OJC Ojcow 75.39 42 *eP* **P 17 25 19.1 -1.5**
BUD Budapest 75.44 44⇓ *eP* **P 17 25 21.5 +0.6**
PKSM Moragy 75.44 46⇑ P **P 17 25 21.3 +0.3**
PKSM Moragy 75.44 46⇑ *iP* **P 17 25 21.3 +0.3**
BEL Belsk 75.67 40 *eP* **P 17 25 23.1 +1.0**
BEL Belsk 75.67 40 *eP* **P 17 25 23.1 +0.9**
NIE Niedzica 75.88 42 *eP* **P 17 25 25.0 +1.6**
NIE Niedzica 75.88 42 *eP* **P 17 25 25.0 +1.6**
PSZ Piszkesteto 75.92 44 *eP* **P 17 25 24.3 +0.6**
comp=Z,75nm,1.6s,mb5.2
PSZ Piszkesteto 75.92 44⇓ P **P 17 25 24.4 +0.7**
PSZ Piszkesteto 75.92 44⇓ *eP* **P 17 25 24.8 +1.1**
PSZ Piszkesteto 75.92 44⇓ *iP* **P 17 25 24.4 +0.7**
KECS Kecovo 76.19 43 *eP* **P 17 25 25.9 +0.7**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
KECS Kecovo 76.19 43 *eP* **P 17 25 25.9 +0.7**
KAF Kangasniemi 76.33 29 *eP* **P 17 25 25.0 -0.7**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.7
KAF Kangasniemi 76.33 29 *ep* **P 17 25 25.0 -0.7**
comp=Z,12nm,0.8s,mb4.7
FINES FINESS Array B 76.39 29 P **P 17 25 26.1 +0.1**
comp=Z,22nm,0.7s,mb5.0,baz=273,slow=3.9,SNR=87
FINES FINESS Array B 76.39 29 P **P 17 25 26.1 +0.1**
FINES FINESS Array B 76.39 29 P **P 17 25 26.1 +0.1**
SUW Suwalki 76.61 37 *eP* **P 17 25 27.6 +0.2**
SUW Suwalki 76.61 37 *eP* **P 17 25 27.8 +0.3**
comp=Z,46nm,0.9s,mb5.2
SUW Suwalki 76.61 37 *eP* **P 17 25 27.8 +0.4**
SUW pmax pmax
comp=Z,46nm,0.9s,mb5.2
TNA Tin City 76.67 335 *eP* **P 17 25 27.6 0.0**
comp=Z,53nm,1.0s,mb5.2
TNA *ep*P pP 17 25 54.0 -0.7
CRVS Cervenica-Dubn 76.73 43 *eP* **P 17 25 29.1 +0.9**
CRVS Cervenica-Dubn 76.73 43 *eP* **P 17 25 29.1 +0.9**
KOLS Kolonicke sedl 77.24 43 *eP* **P 17 25 32.2 +1.1**
KOLS Kolonicke sedl 77.24 43 *eP* **P 17 25 32.2 +1.1**
UZH Uzhgorod 77.33 43⇑ *iP* **P 17 25 32.0 +0.4**
UZH *e* pP 17 25 59.2 +0.5
UZH *i* 17 26 10.8
KWP Kalwaria Pacla 77.35 42 *eP* **P 17 25 32.8 +1.1**
comp=Z,52nm,1.0s,mb5.2
KWP Kalwaria Pacla 77.35 42⇑ P **P 17 25 33.1 +1.4**
KWP Kalwaria Pacla 77.35 42⇑ *iP* **P 17 25 33.1 +1.4**
BZS Buzias 77.60 46⇓ P **P 17 25 33.9 +0.8**
BZS Buzias 77.60 46⇓ *iP* **P 17 25 33.9 +0.8**
TRPA Tarpa 77.61 43⇑ *iP* **P 17 25 34.2 +1.1**
DRGR 78.05 45⇑ P **P 17 25 36.2 +0.6**
DRGR 78.05 45⇑ *iP* **P 17 25 36.2 +0.6**
LVV L'vov 78.14 41 *eP* **P 17 25 35.9 -0.1**
BMR Baia Mare 78.34 44⇓ P **P 17 25 38.4 +1.2**
BMR Baia Mare 78.34 44⇓ *iP* **P 17 25 38.4 +1.2**
JOF Joensuu 78.34 27 *eP* **P 17 25 35.5 -1.4**
JOF pmax pmax
comp=Z,18nm,0.7s,mb4.9
JOF Joensuu 78.34 27 *ep* **P 17 25 35.5 -1.4**
comp=Z,18nm,0.7s,mb4.9
KRUS Krusevo 78.38 50 *eP* **P 17 25 37.8 +0.2**
GZR Gura Zlata 78.44 46⇑ P **P 17 25 38.7 +0.9**
GZR Gura Zlata 78.44 46⇑ *iP* **P 17 25 38.7 +0.9**
BIA Bitola 78.53 51 *eP* **P 17 25 38.5 +0.1**
GAMB Gambell 78.76 334 *eP* **P 17 25 38.2 -0.9**
comp=Z,20nm,1.1s,mb4.9
UNV Unalaska Valle 79.25 323 *eP* **P 17 25 42.1 +0.1**
comp=Z,130nm,0.9s,mb5.8
BUR08 Bucovina Ar. S 79.46 43 *eP* **P 17 25 44.5 +1.2**
BUR08 *ep*P pP 17 26 11.1 +0.5
VTS Vitosha 79.48 49⇑ P **P 17 25 44.7 +1.2**
VTS Vitosha 79.48 49 P **P 17 25 43.6 +0.1**
VTS Vitosha 79.48 49⇑ *iP* **P 17 25 44.7 +1.2**
BURAR Bucovina Array 79.48 43⇓ P **P 17 25 44.8 +1.4**
BURAR Bucovina Array 79.48 43⇓ *iP* **P 17 25 44.8 +1.4**
PGB Panagyurishte 80.17 48 *i P* **P 17 25 45.2 -2.1**
MLR Muntele Rosu 80.56 45 P **P 17 25 50.9 +1.6**
comp=Z,9.9nm,0.8s,mb4.7,baz=250,slow=2.2,SNR=34
MLR Muntele Rosu 80.56 45 P **P 17 25 50.9 +1.6**
MLR Muntele Rosu 80.56 45⇑ P **P 17 25 50.6 +1.3**
MLR Muntele Rosu 80.56 45⇑ *iP* **P 17 25 50.6 +1.3**
RZN Rozhen 80.81 49 *i P* **P 17 25 51.6 +0.9**
PLOR Plostina 80.93 45⇓ P **P 17 25 52.3 +1.0**
PLOR Plostina 80.93 45⇓ *iP* **P 17 25 52.3 +1.0**
VRI Vrincioaia 80.98 45⇓ P **P 17 25 52.9 +1.4**
VRI Vrincioaia 80.98 45⇓ *iP* **P 17 25 52.8 +1.3**
KIEV Kiev 81.07 40 *eP* **P 17 25 51.3 -0.6**
comp=Z,20nm,1.6s,mb4.7
KIEV *ep*P pP 17 26 18.5 -0.8
KIEV Kiev 81.07 40 *eP* **P 17 25 51.3 -0.6**
KIEV e*PP pP 17 26 18.5 -0.8
KIEV pmax pmax
comp=Z,20nm,1.6s,mb4.7
AKASG Malin Array Be 81.08 40 P **P 17 25 51.5 -0.5**
comp=Z,6.7nm,0.7s,mb4.6,baz=288,slow=4.0,SNR=20
AKASG pP pP 17 26 18.5 -0.8
comp=Z,9.8nm,0.8s,baz=288,slow=4.1,SNR=9.5
AKASG Malin Array Be 81.08 40 P **P 17 25 51.5 -0.5**
AKASG pP pP 17 26 18.5 -0.8
AKASG Malin Array Be 81.08 40 *i P* **P 17 25 51.5 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
JMB Yambol 81.90 48 P **P 17 25 52.3 -4.2**
KLMR Klimovskoe 82.72 28 *eP* **P 17 25 55.7 -4.6**
KLMR pmax pmax
comp=Z,57nm,1.3s,mb5.2
IDI Anoyia 82.82 55 *eP* **P 17 26 01.7 +0.3**
comp=Z,40nm,0.6s,mb5.4
IDI *ep*P pP 17 26 29.4 +0.5
PMSA Palmer Station 83.26 178 P **P 17 26 02.0 -0.7**
comp=Z,70nm,1.0s,mb5.5,baz=81,slow=20,SNR=3.7
PMSA Palmer Station 83.26 178 P **P 17 26 02.0 -0.7**
OBN Obninsk 83.66 34 *eP* **P 17 26 05.2 -0.1**
comp=Z,235nm,1.4s,mb5.8
OBN *ep*P pP 17 26 31.9 -0.9
OBN Obninsk 83.66 34⇑ *eP* **P 17 26 05.1 -0.2**
OBN *i* pP 17 26 31.3 -1.5
OBN *e* 17 29 20.5
OBN *eS* S 17 36 13.3 -5.6
OBN pmax pmax
comp=Z,215nm,2.0s,mb5.6
OBN Obninsk 83.66 34 P **P 17 26 05.6 +0.3**
comp=Z,452nm,0.5s,mb6.6,SNR=5.6
MSKU Masuku 83.89 94 P **P 17 26 07.1 -0.2**
comp=Z,42nm,0.3s,mb5.7,baz=236,slow=5.4,SNR=26
MSKU LR LR 18 00 07.2
comp=Z,61nm,19.0s,baz=193,slow=33
MSKU Masuku 83.89 94 P **P 17 26 07.1 -0.2**
MOS Moscow 83.96 33 *eP* **P 17 26 06.0 -0.8**
MOS *e* pP 17 26 32.9 -1.4
MOS pmax pmax
comp=Z,125nm,1.4s,mb5.5
BILL Bilibino 84.64 342 *eP* **P 17 26 10.0 0.0**
comp=Z,83nm,0.9s,mb5.7
BILL Bilibino 84.64 342⇑ *eP* **P 17 26 09.9 -0.1**
BILL *i* pP 17 26 36.3 -1.3
BILL *eS* S 17 36 23.7 -4.6
BILL pmax pmax
comp=Z,136nm,1.5s,mb5.7
BILL MLR MLR
comp=Z,100nm,17.0s
VSR Storozhevoye 86.71 37 *eP* **P 17 26 20.0 -0.6**
VSR e*PP pP 17 26 47.5 -0.8
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,20nm,1.3s
VSR pmax pmax
comp=Z,40nm,1.3s,mb5.2
BR131 Keskin Array S 87.85 49 *eP* **P 17 26 26.2 -0.1**
comp=Z,15nm,0.8s,mb5.1
BR131 *ep*P pP 17 26 53.7 -0.4
BRTR Keskin Array B 87.85 49 P **P 17 26 26.4 +0.1**
comp=Z,15nm,0.8s,mb5.1,baz=276,slow=4.1,SNR=62
BRTR pP pP 17 26 53.9 -0.2
comp=Z,21nm,0.8s,baz=272,slow=3.7,SNR=16
BRTR Keskin Array B 87.85 49 P **P 17 26 26.4 +0.1**
BRTR pP pP 17 26 53.9 -0.2
BRTR Keskin Array B 87.85 49 P **P 17 26 26.4 +0.1**
BRTR *PP pP 17 26 53.9 -0.2
ANN Anapa 88.40 43 *eP* **P 17 26 26.8 -2.0**
ANN e*PP pP 17 26 55.7 -0.9
ANN *eS* SKSac 17 36 45.6 -2.5
ANN pmax pmax
comp=Z,46nm,1.1s,mb5.4
FX1 Attu Island--F 90.69 327 P **P 17 26 38.9 -0.5**
comp=Z,38nm,0.8s,mb5.6,baz=52,slow=22,SNR=6.2
FX1 LR LR 18 07 02.7
comp=Z,70nm,19.1s,baz=291,slow=35
FX1 Attu Island--F 90.69 327 P **P 17 26 38.9 -0.5**
FX1 Attu Island--F 90.69 327 P **P 17 26 38.9 -0.4**
MMAI Mount Meron Ar 91.78 54 P **P 17 26 45.5 +0.7**
comp=Z,4.3nm,0.7s,mb4.8,baz=2.7,slow=5.3,SNR=5.9
MMAI pP pP 17 27 12.4 -0.2
comp=Z,5.5nm,0.6s,baz=353,slow=3.4,SNR=8.3
MMAI Mount Meron Ar 91.78 54 P **P 17 26 45.5 +0.7**
MMAI pP pP 17 27 12.4 -0.2
KIV Kislovodsk 92.15 42 *eP* **P 17 26 47.0 +0.7**
KIV pmax pmax
comp=Z,17nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,224nm,19.0s
EIL Elat 92.74 58 P **P 17 26 49.3 0.0**
comp=Z,7.5nm,0.8s,mb5.1,baz=336,slow=6.9,SNR=7.6
EIL Elat 92.74 58 P **P 17 26 49.3 0.0**
ASF Jabal al Asfar 93.27 55 P **P 17 26 52.7 +1.0**
comp=Z,3.1nm,0.7s,mb4.8,baz=135,slow=1.4,SNR=5.4
ASF Jabal al Asfar 93.27 55 P **P 17 26 52.7 +1.0**
ASF Jabal al Asfar 93.27 55 P **P 17 26 52.7 +1.0**
ARU Arti 93.42 26 *eP* **P 17 26 52.0 +0.2**
comp=Z,19nm,1.1s,mb5.3
ARU *ep*P pP 17 27 19.2 -0.5
ARU Arti 93.42 26 *eP* **P 17 26 52.0 +0.2**
ARU e*PP pP 17 27 19.3 -0.4
ARU pmax pmax
comp=Z,19nm,1.1s,mb5.3
ARU Arti 93.42 26 P **P 17 26 52.4 +0.6**
comp=Z,104nm,1.4s,mb6.0,SNR=5.2
SVE Sverdlovsk 94.00 25 *eP* **P 17 26 54.8 +0.3**
SVE pmax pmax
comp=Z,17nm,1.2s,mb5.2
GNI Garni 95.33 45 P **P 17 27 02.1 +1.2**
comp=Z,2.8nm,0.6s,mb4.9,baz=223,slow=19,SNR=3.0
GNI Garni 95.33 45 P **P 17 27 02.1 +1.2**
GNI Garni 95.33 45 P **P 17 27 02.2 +1.2**
AKTO Aktyubinsk 97.12 31 P **P 17 27 08.3 -0.6**

comp=Z,1.1nm,0.5s,mb4.5,baz=353,slow=8.1,SNR=2.7
AKTO Aktyubinsk 97.12 31 P **P 17 27 08.3 -0.6**
AKTO Aktyubinsk 97.12 31 P **P 17 27 08.3 -0.6**
PETK Petropavlovsk- 97.80 334 P **P 17 27 10.7 -1.1**
comp=Z,4.4nm,1.0s,mb4.9,baz=17,slow=1.5,SNR=3.1
PETK Petropavlovsk- 97.80 334 P **P 17 27 10.7 -1.1**
PETK Petropavlovsk- 97.80 334 P **P 17 27 10.7 -1.1**
SUR Sutherland 99.92 121 LR LR 18 06 47.2
comp=Z,93nm,19.0s,baz=62,slow=32
SNAA Sanae 100.50 163 P Pdif 17 27 22.7 -1.1
comp=Z,1.5nm,1.0s,baz=326,slow=8.6,SNR=4.7
SNAA Sanae 100.50 163 P Pdif 17 27 22.7 -1.1
SNAA Sanae 100.50 163 P Pdif 17 27 22.7 -1.2
BVAR Borovoye Array 100.60 23 P Pdif 17 27 24.4 +0.1
comp=Z,0.6nm,0.6s,baz=320,slow=3.8,SNR=4.4
BVAR pP 17 27 51.4
comp=Z,0.9nm,0.6s,baz=316,slow=4.3,SNR=4.3
BVAR PKKPbc PKKPbc 17 43 35.4 -4.5
comp=Z,0.5nm,0.6s,baz=180,slow=3.9,SNR=4.4
BVAR Borovoye Array 100.60 23 P Pdif 17 27 24.4 +0.1
BVAR pP 17 27 51.4
BVAR PKKPbc PKKPbc 17 43 35.4 -4.5
ZALV Zalesovo Beam 104.37 15 Pdiff Pdif 17 27 40.8 -0.3
comp=Z,0.2nm,0.4s,baz=339,slow=6.2,SNR=3.2
ZALV PKiKP PKiKP 17 31 55.5 -1.4
comp=Z,0.6nm,0.6s,baz=211,slow=1.7,SNR=2.8
ZALV Zalesovo Beam 104.37 15 Pdif Pdif 17 27 40.8 -0.3
ZALV PKiKP PKiKP 17 31 55.5 -1.4
ZALV Zalesovo Beam 104.37 15 P Pdif 17 27 40.8 -0.3
ZALV *i* 17 31 55.5
KURK Kurchatov 105.42 20 PKKPbc PKKPbc 17 43 20.5 -5.3
comp=Z,0.5nm,0.5s,baz=164,slow=3.2,SNR=5.4
KURK Kurchatov 105.42 20 PKKPbc PKKPbc 17 43 20.5 -5.3
QSPA South Pole Qui 108.59 180 Pdiff Pdif 17 28 02.6 +2.7
comp=Z,0.7nm,0.8s,baz=214,slow=3.6,SNR=3.8
QSPA PKiKP PKiKP 17 32 03.3 -0.7
comp=Z,1.7nm,1.0s,baz=188,slow=5.7,SNR=8.7
QSPA South Pole Qui 108.59 180 Pdif Pdif 17 28 02.6 +2.8
QSPA PKiKP PKiKP 17 32 03.3 -0.7
HABR Khabarovsk 109.70 343 *e*P Pdif 17 28 02.0 -2.8
HABR *e* 17 32 37.3
HABR PS PS 17 42 06.9 -2.2
HABR *e*SS SS 17 47 53.8 +0.5
HABR *e*SSS 17 52 00.9
HABR pmax pmax
comp=Z,22nm,1.9s
HABR pmax pmax
comp=N,28nm,2.3s
HABR pmax pmax
comp=E,67nm,2.3s
HABR MLR MLR
comp=Z,55nm,17.0s
MKAR Makanchi Array 110.03 20 PKiKP PKiKP 17 32 06.2 -1.6
comp=Z,0.4nm,0.5s,baz=290,slow=2.9,SNR=8.1
MKAR Makanchi Array 110.03 20 PKiKP PKiKP 17 32 06.2 -1.6
SONM Songino Array 113.72 3 PKP PKiKP 17 32 13.7 -1.0
comp=Z,0.7nm,0.5s,baz=340,slow=1.1,SNR=5.6
SONM Songino Array 113.72 3 PKP PKiKP 17 32 13.7 -1.0
SONM Songino Array 113.72 3 PKiKP PKiKP 17 32 13.7 -1.0
WMQ Urumqi 114.38 18 *e*PKP PKiKP 17 32 16.5 +0.4
MDJ Mudanjiang 114.70 345 PKP PKiKP 17 32 15.3 -1.4
CN2 Changchun 116.39 348 *e*PKP PKPdf 17 32 17.3 -2.7
CN2 PP PP 17 33 27.3 +1.0
CN2 SS SS 17 49 22.4 +0.9
CN2 AMB AMB
comp=Z,200nm,4.0s
MJAR Matsushiro Arr 119.23 335 PKP PKPdf 17 32 24.2 -1.4
comp=Z,2.4nm,0.6s,baz=133,slow=1.0,SNR=10
MJAR Matsushiro Arr 119.23 335 PKP PKPdf 17 32 24.2 -1.4
MJAR Matsushiro Arr 119.23 335 PKIKP PKPdf 17 32 24.2 -1.4
OPO Ambohidratompo120.20 101 PKP PKPdf 17 32 28.2 +0.3
comp=Z,3.5nm,0.6s,baz=252,slow=2.8,SNR=13
OPO Ambohidratompo120.20 101 PKP PKPdf 17 32 28.2 +0.3
HHC Hu-ho-hao-te 120.80 359 *e*PKP PKPdf 17 32 25.4 -3.1
HHC sPKP 17 33 04.5
HHC PP PP 17 33 57.8 +1.1
HHC PKS 17 35 59.8
HHC SKS SKSdf 17 39 24.9 -6.1
HHC SKKS SKKSac 17 40 39.8 -7.7
HHC SS SS 17 50 16.0 -2.4
HHC AMB AMB
comp=Z,110nm,9.4s
GTA Gaotai 121.37 10 PKP PKPdf 17 32 29.3 -0.4
BJI Beijing 121.39 355 PKP PKPdf 17 32 28.8 -0.9
KSRS Korea Array 121.86 344 PKP PKPdf 17 32 29.4 -1.3
comp=Z,6.8nm,0.8s,baz=18,slow=1.7,SNR=23
KSRS pPKP pPKPdf 17 32 57.5 -2.2
comp=Z,2.5nm,0.7s,baz=40,slow=1.5,SNR=3.7
KSAR Wonju Array Be 121.89 344 PKP PKPdf 17 32 29.4 -1.3
KSAR pPKP pPKPdf 17 32 57.5 -2.2
KSAR Wonju Array Be 121.89 344 PKIKP PKPdf 17 32 29.4 -1.3
KSAR 17 32 57.6
MAW Mawson 122.54 160 PKP PKPdf 17 32 29.9 -1.0
comp=Z,8.5nm,0.5s,baz=200,slow=2.6,SNR=26
MAW Mawson 122.54 160 *e*PKP PKPdf 17 32 30.0 -0.9
MAW Mawson 122.54 160 *e*PKPdf PKPdf 17 32 29.9 -1.1
RPZ Rata Peaks 123.92 229 PKP PKPdf 17 32 32.9 -1.4
comp=Z,9.2nm,0.6s,baz=274,slow=12,SNR=6.3
RPZ Rata Peaks 123.92 229 PKP PKPdf 17 32 32.9 -1.4
LZH Lanzhou 125.19 7 *e*PKP PKPdf 17 32 37.0 -0.1
LZH sPKP 17 33 15.0
LZH *e*PP PP 17 34 30.5 +4.2
LZH SKKS SKKSac 17 41 12.3 -3.6
LZH *e*SS SS 17 51 16.0 +2.0
LZH AMB AMB
comp=Z,120nm,8.3s
LZH Lanzhou 125.19 7 *e*PKP PKPdf 17 32 37.0 -0.1
LZH pPKP pPKPdf 17 33 03.9 -2.3
LZH sPKP 17 33 15.0
LZH *e*PP PP 17 34 30.5 +4.2
LZH SKKS SKKSac 17 41 12.2 -3.7
LZH *e*SS SS 17 51 16.0 +2.0
LZH Lanzhou 125.19 7 *e*PKIKP PKPdf 17 32 37.0 -0.1
LZH 17 33 03.9
LZH 17 33 15.0
LZH *e* 17 34 30.5
LZH *e*SS SS 17 51 16.0 +2.0
DANN Dangsing 126.54 30 *e*P PKPdf 17 32 39.7 -0.2
comp=Z,64nm,0.8s
DANN Dangsing 126.54 30 *e*P PKPdf 17 32 39.7 -0.2
KOLN Koldanda 126.95 30 *e*P PKPdf 17 32 39.9 -0.8
comp=Z,12nm,0.7s
KOLN Koldanda 126.95 30 *e*P PKPdf 17 32 39.9 -0.8
GKN Gorkha 127.25 29 *e*P PKPdf 17 32 40.5 -0.8
GKN Gorkha 127.25 29 *e*P PKPdf 17 32 40.5 -0.8
XAN Xi'an 127.58 2 PKP PKPdf 17 32 40.9 -0.8
KKN Kakani 127.72 29 *e*P PKPdf 17 32 41.3 -0.9
KKN Kakani 127.72 29 *e*P PKPdf 17 32 41.3 -0.9
KKN Kakani 127.72 29 *e*PKIKP PKPdf 17 32 41.3 -0.9
DZM Mont Dzumac 127.78 256 PKP PKPdf 17 32 42.4 +0.1
comp=Z,17nm,0.8s,baz=86,slow=15,SNR=11
DZM Mont Dzumac 127.78 256 PKP PKPdf 17 32 42.4 +0.1
DMN Daman 127.80 29 *e*P PKPdf 17 32 41.6 -0.7
DMN Daman 127.80 29 *e*P PKPdf 17 32 41.6 -0.7
GUN Gumba 127.89 28 *e*P PKPdf 17 32 41.9 -0.6
comp=Z,25nm,0.7s
GUN Gumba 127.89 28 *e*P PKPdf 17 32 41.9 -0.6
PKI Pulchoki 127.97 29 *e*P PKPdf 17 32 41.6 -1.0
PKI Pulchoki 127.97 29 *e*P PKPdf 17 32 41.6 -1.0
PKI Pulchoki 127.97 29 *e*PKIKP PKPdf 17 32 41.6 -1.0
JIRN Jiri 128.24 28 *e*P PKPdf 17 32 42.2 -1.0
JIRN Jiri 128.24 28 *e*P PKPdf 17 32 42.2 -1.0
LSA Lhasa 128.40 22 *e*PKPdf PKPdf 17 32 43.8 +0.3
LSA Lhasa 128.40 22 *e*PKIKP PKPdf 17 32 43.8 +0.4
NJ2 Nanjing 128.97 351 *e*PKP PKPdf 17 32 43.4 -1.1
RAMN Ramite 129.04 28 *e*P PKPdf 17 32 44.1 -0.6
RAMN Ramite 129.04 28 *e*P PKPdf 17 32 44.1 -0.6
TAPN Taplejung 129.17 27 *e*P PKPdf 17 32 43.9 -1.0
TAPN Taplejung 129.17 27 *e*P PKPdf 17 32 43.9 -1.0
ODAN Odare 129.46 27 *e*P PKPdf 17 32 44.5 -1.0
ODAN Odare 129.46 27 *e*P PKPdf 17 32 44.5 -1.0
CD2 Chengdu 130.29 8 *e*PKP PKPdf 17 32 46.3 -0.7
CD2 sPKP 17 33 24.3
CD2 PP PP 17 35 03.8 +3.9
CD2 PKS 17 36 21.3
CD2 SKS SKSdf 17 39 46.1 -3.0
CD2 SKKS SKKSac 17 41 44.8 -3.3
CD2 SS SS 17 52 17.8 +0.5
CD2 AMB AMB
comp=Z,120nm,10.2s
WHN Wuhan 130.96 356 PKP PKPdf 17 32 48.3 0.0
GYA Guiyang 135.00 5 *e*Pdif Pdif 17 29 55.0 -2.3
GYA PKP PKPdf 17 32 54.0 -2.0
GYA sPKP 17 33 32.6
GYA PP PP 17 35 31.3 +1.3
GYA AMB AMB
comp=Z,120nm,7.8s
KMI Kunming 135.82 10 PKP PKPdf 17 32 56.8 -0.7
KMI LR LR
comp=Z,38nm,17.7s
KMI Kunming 135.82 10 PKP PKPdf 17 32 56.7 -0.8
KMI pPKP pPKPdf 17 33 19.3 -7.3
KMI sPKP 17 33 29.8
KMI LR LR
comp=Z,40nm,17.7s
KMI Kunming 135.82 10 PKIKP PKPdf 17 32 56.7 -0.8
KMI MLR MLR
comp=Z,40nm,17.7s
CHTO Chiang Mai 141.05 18 *e*PKPdf PKPdf 17 33 05.9 -1.4
CHTO Chiang Mai 141.05 18 *e*PKIKP PKPdf 17 33 05.9 -1.3
CMAR Chiang Mai Arr 141.38 18 PKhKP PKPpre 17 33 00.2
comp=Z,2.3nm,0.7s,baz=325,slow=4.7,SNR=15
CMAR PKP PKPdf 17 33 07.3 -0.6
comp=Z,2.9nm,0.5s,baz=308,slow=1.7,SNR=14
CMAR SKPbc SKPbc 17 36 34.6 -0.8
comp=Z,1.0nm,0.7s,baz=322,slow=3.6,SNR=4.2
CMAR Chiang Mai Arr 141.38 18 PKPpre PKPpre 17 33 00.2
CMAR PKP PKPdf 17 33 07.3 -0.6
CMAR SKPbc SKPbc 17 36 34.6 -0.8
CMAR Chiang Mai Arr 141.38 18 PKHKP PKPpre 17 33 00.3
CMAR 17 33 07.3
PMG Port Moresby 143.44 279 PKP PKPdf 17 33 07.5 -4.1
comp=Z,63nm,0.9s,baz=3.4,slow=20,SNR=12
PMG Port Moresby 143.44 279 PKP PKPdf 17 33 07.5 -4.1
PMG Port Moresby 143.44 279 PKIKP PKPdf 17 33 07.5 -4.1
TOO Toolangi 144.20 231 *e*PKP PKPdf 17 33 09.5 -2.7
CMSA Cobar Meteorol 145.89 241 *e*PKP PKPdf 17 33 14.6 -0.8
TGY Tagaytay City 145.90 342 PKPbc PKPbc 17 33 14.0 -2.6
comp=Z,137nm,0.3s,baz=216,slow=17,SNR=4.3
TGY Tagaytay City 145.90 342 PKPbc PKPbc 17 33 14.0 -2.6
TGY Tagaytay City 145.90 342 PKIKP PKPdf 17 33 14.0 -1.8
CTA Charters Tower 146.38 262 PKPbc PKPbc 17 33 15.8 -2.2
comp=Z,20nm,0.8s,baz=63,slow=2.2,SNR=26
CTA Charters Tower 146.38 262 *e*PKP PKPdf 17 33 16.2 -0.3
CTA Charters Tower 146.38 262 PKPbc PKPdf 17 33 15.8 -0.7
CTA Charters Tower 146.38 262 PKIKP PKPdf 17 33 15.8 -0.7
CTAO Charters Tower 146.38 262 *e*PKPdf PKPdf 17 33 15.6 -0.9
CTAO Charters Tower 146.38 262 *e*PKIKP PKPdf 17 33 15.6 -0.9
ARPS Mount Arapiles 147.19 230 *e*PKP PKPdf 17 33 18.4 +1.0
comp=Z,55nm,0.7s
QLP Quilpie 148.05 250 *e*PKP PKPdf 17 33 19.1 0.0
COEN Coen 148.43 274 *e*PKP PKPbc 17 33 22.8 -0.8
COEN Coen 148.43 274 *e*PKPbc PKPbc 17 33 22.8 -0.9
STKA Stephens Creek 149.16 239 PKP PKPdf 17 33 19.9 -0.8
comp=Z,58nm,0.7s,baz=85,slow=2.6,SNR=18
STKA PKPbc PKPbc 17 33 23.4 -1.6
comp=Z,58nm,0.7s,baz=119,slow=3.6,SNR=17
STKA Stephens Creek 149.16 239 *e*PKP PKPdf 17 33 23.5 +2.7
STKA Stephens Creek 149.16 239 *e*P PKPdf 17 33 19.8 -1.0
STKA PKP PKPdf 17 33 19.9 -0.8
STKA PKPbc PKPbc 17 33 23.4 -1.6
BBOO Buckleboo 153.18 233 *e*PKP PKPbc 17 33 32.7 -1.7
BBOO Buckleboo 153.18 233 *e*PKPbc PKPbc 17 33 32.6 -1.8
WB2 Warramunga Arr 157.56 263 *e*PKPdf PKPdf 17 33 31.6 -1.5
WRA Warramunga Arr 157.57 263 PKP PKPdf 17 33 31.9 -1.2
comp=Z,22nm,0.9s,baz=78,slow=1.2,SNR=109
WRA PKPab PKPab 17 34 04.4 -1.2
comp=Z,4.2nm,0.8s,baz=88,slow=4.0,SNR=6.2
WRA Warramunga Arr 157.57 263 PKP PKPdf 17 33 31.9 -1.2
WRA PKPab PKPab 17 34 04.4 -1.2
WRA Warramunga Arr 157.57 263 PKIKP PKPdf 17 33 31.9 -1.2
WRA 17 34 04.4
AS31 Alice Springs 157.72 253 *e*PKPdf PKPdf 17 33 31.6 -1.6
ASAR Alice Springs 157.72 253 PKP PKPdf 17 33 31.8 -1.5
comp=Z,6.2nm,0.7s,baz=94,slow=1.1,SNR=73
ASAR PKPab PKPab 17 34 04.5 -1.7
comp=Z,17nm,0.8s,baz=78,slow=2.9,SNR=4.1
ASAR Alice Springs 157.72 253 PKP PKPdf 17 33 31.8 -1.5
ASAR PKPab PKPab 17 34 04.5 -1.7
ASAR Alice Springs 157.72 253 PKIKP PKPdf 17 33 31.8 -1.4
ASAR 17 34 04.6
FITZ Fitzroy Crossi 165.72 270 PKP PKPdf 17 33 40.0 -1.6
comp=Z,5.8nm,1.1s,baz=199,slow=4.3,SNR=4.0
FITZ PKPab PKPab 17 34 40.9 -0.5
comp=Z,5.4nm,1.1s,baz=150,slow=19,SNR=3.7
FITZ Fitzroy Crossi 165.72 270 PKP PKPdf 17 33 40.0 -1.6
FITZ PKPab PKPab 17 34 40.9 -0.5

IDC ***18*** *17:18:14.9±0.4, 20°.41N×146°.44E, h0km, mb4.4/29, mb1 4.5/31, mb1mx4.5/35, mbtmp4.4/31, ML3.9/2, MS4.1/17, Ms1 4.1/17, ms1mx3.8/57, Error ellipse: s-maj=16.4km s-min=10.7km az=84.0*
ISCJB ***18*** *17:18:18.5±0.2, 20°.38N±0°.04×146°.39E±0°.05, h33km, mb4.8/91, MS4.1/16, Error ellipse: s-maj=6.4km s-min=5.5km az=170.6*
MOS ***18*** *17:18:18.8±1.1, 20°.45N×146°.45E, h38km, mb5.1/23, Error ellipse: s-maj=10.6km s-min=6.5km az=106.4*
NEIC ***18*** *17:18:18.6±2.9, 20°.46N×146°.45E, h21km±20km, mb5.1/53, Error ellipse: s-maj=7.5km s-min=6.6km az=93.0*
ISC 18 17:18:20.5±0.2, 20°.39N±0°.04×146°.44E±0°.05, h35km, n240, σ**1**§**13**/212, **mb4.8**/91, **MS4.1**/16, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.93**	**193**	Pn	**Pn**	**17 20 03.5**	**+3.9**
	14nm,0.3s,baz=193,slow=9.6,SNR=6.7						
GUMO				LR	LR	17 22 19.8	
	comp=Z,1μm,21.6s,baz=17,slow=35						
GUMO	**Guam**	**6.93**	**193**	Pn	**Pn**	**17 20 03.5**	**+3.9**
GUMO	**Guam**	**6.93**	**193**	P	**Pn**	**17 20 03.5**	**+4.0**
CBIJ	**Chichi jima**	**7.73**	**331**	Pn	**Pn**	**17 20 09.4**	**-1.1**
	6.4nm,0.3s,baz=276,slow=19,SNR=3.4						
CBIJ	**Chichi jima**	**7.73**	**331**	Pn	**Pn**	**17 20 09.4**	**-1.1**
MJAR	**Matsushiro Arr**	**17.63**	**338**	P	**Pn**	**17 22 21.3**	**-2.1**
	0.4nm,0.3s,baz=162,slow=8.5,SNR=8.4						
MJAR	**Matsushiro Arr**	**17.63**	**338**	P	**Pn**	**17 22 21.3**	**-2.1**
MJAR	**Matsushiro Arr**	**17.63**	**338**	P	**Pn**	**17 22 21.3**	**-2.0**
MAJO	**Matsushiro**	**17.63**	**338**	*e*P	**Pn**	**17 22 20.8**	**-2.6**
	31nm,1.1s						
MAJO	**Matsushiro**	**17.63**	**338**	*e*P	**Pn**	**17 22 20.8**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,31nm,1.1s						
MAT	**Matsushiro**	**17.63**	**338**	P	**Pn**	**17 22 20.9**	**-2.4**
MAT				S	S	17 26 08.6	+23
JOW	**Kunigami**	**17.83**	**295**	LR	LR	17 28 50.4	
	comp=Z,688nm,18.3s,baz=119,slow=36						
JNU	**Nakatsue**	**18.78**	**316**	*e*P	**Pn**	**17 22 39.8**	**+2.4**
	comp=Z,50nm,1.4s						
KSRS	**Korea Array**	**23.42**	**321**	P	**P**	**17 23 26.3**	**-0.3**
	comp=Z,6.3nm,0.7s,mb4.2,baz=143,slow=8.4,SNR=15						
KSRS				LR	LR	17 32 30.0	
	comp=Z,699nm,18.4s,MS4.2,baz=130,slow=36						
KSAR	**Wonju Array Be**	**23.43**	**320**	P	**P**	**17 23 26.3**	**-0.4**
KSAR	**Wonju Array Be**	**23.43**	**320**	P	**P**	**17 23 26.3**	**-0.4**
SSLB	**Suanglung**	**23.84**	**283**	*e*P	**P**	**17 23 31.8**	**+1.2**
	comp=Z,74nm,1.4s,mb4.9						
ASAJ	**Asahikawa**	**23.88**	**353**	P	**P**	**17 23 30.9**	**+0.3**
	comp=Z,6.0nm,0.7s,mb4.1,baz=210,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**23.88**	**353**	P	**P**	**17 23 30.9**	**+0.3**
DAV	**Davao City (W)**	**24.16**	**240**	LR	LR	17 32 15.5	
	comp=Z,284nm,18.9s,MS3.8,baz=49,slow=35						
USRK	**Ussuriysk Arra**	**26.61**	**336**	P	**P**	**17 23 54.7**	**-0.8**
	comp=Z,3.8nm,0.7s,mb4.0						
PMG	**Port Moresby**	**29.61**	**179**	P	**P**	**17 24 22.3**	**-0.2**
	comp=Z,14nm,0.9s,mb4.7,baz=321,slow=18,SNR=3.2						
PMG	**Port Moresby**	**29.61**	**179**	*e*P	**P**	**17 24 22.3**	**-0.2**
	comp=Z,21nm,0.9s,mb4.9						
PMG	**Port Moresby**	**29.61**	**179**	*e*P	**P**	**17 24 22.3**	**-0.3**
PMG				pmax	pmax		
	comp=Z,21nm,0.9s						
KLR	**Kul'dur**	**31.08**	**341**	*e*P	**P**	**17 24 31.8**	**-3.4**
PETK	**Petropavlovsk-**	**33.80**	**12**	P	**P**	**17 24 58.3**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.1,baz=179,slow=12,SNR=2.9						
PETK	**Petropavlovsk-**	**33.80**	**12**	P	**P**	**17 24 58.3**	**-0.6**
PETK	**Petropavlovsk-**	**33.80**	**12**	P	**P**	**17 24 58.3**	**-0.7**
COEN	**Coen**	**34.28**	**186**	*e*P	**P**	**17 25 03.2**	**-0.3**
MTSU	**Mount Surprise**	**38.34**	**183**	*e*P	**P**	**17 25 37.9**	**-0.2**
	comp=Z,36nm,1.3s,mb5.0						
FX1	**Attu Island--F**	**38.44**	**26**	LR	LR	17 37 26.2	
	comp=Z,176nm,21.8s,MS3.8,baz=236,slow=30						
CLNS	**Chul'man**	**39.74**	**342**	*e*P	**P**	**17 25 48.1**	**-1.4**
CLNS				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.8s						
CTA	**Charters Tower**	**40.23**	**180**	P	**P**	**17 25 54.0**	**+0.1**
	comp=N,5.3nm,0.7s,mb4.4,baz=349,slow=4.7,SNR=6.3						
CTA				LR	LR	17 40 57.4	
	comp=N,97nm,18.1s,MS3.7,baz=1.7,slow=34						
CTA	**Charters Tower**	**40.23**	**180**	*e*P	**P**	**17 25 54.9**	**+1.0**
CTA	**Charters Tower**	**40.23**	**180**	P	**P**	**17 25 54.0**	**+0.2**
CTA	**Charters Tower**	**40.23**	**180**	P	**P**	**17 25 54.0**	**+0.1**
CTAO	**Charters Tower**	**40.23**	**180**	*e*P	**P**	**17 25 54.4**	**+0.5**
	comp=N,9.1nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**40.23**	**180**	*e*P	**P**	**17 25 54.4**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
KMI	**Kunming**	**40.44**	**285**	P	**P**	**17 25 59.7**	**+3.9**
	comp=Z,6.0nm,1.4s,mb4.1						
KMI				pP	pP	17 26 08.7	+2.7
KMI				LR	LR		
	comp=Z,160nm,25.5s,MS3.8						
KMI	**Kunming**	**40.44**	**285**	P	**P**	**17 25 59.7**	**+3.9**
KMI				*PP	pP	17 26 08.7	+2.7
KMI				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.1						
KMI				MLR	MLR		
	comp=Z,160nm,25.5s,MS3.8						
WRAB	**Tennant Creek**	**41.78**	**197**	P	**P**	**17 26 05.0**	**-1.7**
	comp=Z,72nm,1.0s,mb5.3,SNR=6.4						
WRA	**Warramunga Arr**	**41.80**	**197**	P	**P**	**17 26 05.6**	**-1.2**
	comp=Z,2.9nm,0.7s,mb4.0,baz=17,slow=8.2,SNR=26						
WRA	**Warramunga Arr**	**41.80**	**197**	P	**P**	**17 26 05.6**	**-1.2**
WRA	**Warramunga Arr**	**41.80**	**197**	P	**P**	**17 26 05.6**	**-1.2**
SONM	**Songino Array**	**42.28**	**320**	P	**P**	**17 26 09.9**	**-0.6**
	comp=Z,1.7nm,0.7s,mb3.8,baz=132,slow=6.3,SNR=11						
SONM	**Songino Array**	**42.28**	**320**	P	**P**	**17 26 09.9**	**-0.6**
SONM	**Songino Array**	**42.28**	**320**	P	**P**	**17 26 09.9**	**-0.7**
YAK	**Yakutsk**	**43.20**	**349**	*e*P	**P**	**17 26 23.0**	**+5.2**
YAK				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.7						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**43.35**	**209**	P	**P**	**17 26 19.8**	**+0.3**
	comp=N,3.9nm,0.6s,mb4.3,baz=214,slow=23,SNR=21						
FITZ	**Fitzroy Crossi**	**43.35**	**209**	*e*P	**P**	**17 26 19.5**	**0.0**
FITZ	**Fitzroy Crossi**	**43.35**	**209**	P	**P**	**17 26 19.8**	**+0.3**
BOD	**Bodaibo**	**44.25**	**336**	*e*P	**P**	**17 26 26.1**	**-0.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
CHTO	**Chiang Mai**	**44.65**	**276**	*e*P	**P**	**17 26 30.9**	**+0.9**
	comp=Z,6.0nm,1.2s,mb4.3						
CHTO	**Chiang Mai**	**44.65**	**276**	*e*P	**P**	**17 26 30.9**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
CM31	**Chiang Mai Arr**	**44.71**	**276**	P	**P**	**17 26 34.8**	**+4.2**
CMAR	**Chiang Mai Arr**	**44.71**	**276**	P	**P**	**17 26 31.8**	**+1.3**
	comp=Z,0.9nm,0.3s,mb4.1,baz=65,slow=5.6,SNR=11						
CMAR	**Chiang Mai Arr**	**44.71**	**276**	P	**P**	**17 26 31.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**44.71**	**276**	P	**P**	**17 26 31.8**	**+1.3**
ZAK	**Zakamensk**	**45.24**	**322**	*e*P	**P**	**17 26 34.9**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
ASAR	**Alice Springs**	**45.46**	**196**	P	**P**	**17 26 35.4**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.7,baz=15,slow=6.8,SNR=12						
ASAR				PcP	PcP	17 28 14.8	-0.2
	comp=Z,0.5nm,0.8s,baz=46,slow=2.8,SNR=2.5						
ASAR	**Alice Springs**	**45.46**	**196**	P	**P**	**17 26 35.4**	**-0.8**
ASAR				PcP	PcP	17 28 14.8	-0.2
ASAR	**Alice Springs**	**45.46**	**196**	P	**P**	**17 26 35.4**	**-0.8**
ASAR						17 28 14.8	
DZM	**Mont Dzumac**	**46.51**	**154**	*e*LR	LR	17 39 44.4	
	comp=Z,308nm,22.6s						
DZM	**Mont Dzumac**	**46.51**	**154**	P	**P**	**17 26 42.3**	**-2.2**
	comp=Z,4.6nm,0.9s,mb4.4,baz=319,slow=19,SNR=3.0						
DZM				LR	LR	17 43 41.7	
	comp=Z,324nm,18.6s,MS4.3,baz=12,slow=33						
DZM	**Mont Dzumac**	**46.51**	**154**	P	**P**	**17 26 42.3**	**-2.2**
RMQ	**Roma**	**46.65**	**177**	*e*P	**P**	**17 26 44.8**	**-0.8**
	comp=Z,22nm,1.1s,mb5.0						
QLP	**Quilpie**	**46.74**	**183**	*e*P	**P**	**17 26 44.7**	**-1.6**
LSA	**Lhasa**	**50.54**	**292**	*e*P	**P**	**17 27 17.8**	**+2.1**
	comp=Z,14nm,1.0s,mb4.8						
LSA	**Lhasa**	**50.54**	**292**	*e*P	**P**	**17 27 17.8**	**+2.1**
LSA				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
ARMA	**Armidale**	**50.76**	**174**	*e*P	**P**	**17 27 18.1**	**+1.0**
STKA	**Stephens Creek**	**52.17**	**185**	P	**P**	**17 27 26.3**	**-1.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=345,slow=12,SNR=3.3						
STKA				LR	LR	17 50 43.0	
	comp=Z,174nm,18.6s,MS4.1,baz=23,slow=37						
STKA	**Stephens Creek**	**52.17**	**185**	*e*P	**P**	**17 27 26.3**	**-1.4**
STKA	**Stephens Creek**	**52.17**	**185**	P	**P**	**17 27 26.3**	**-1.3**
STKA	**Stephens Creek**	**52.17**	**185**	P	**P**	**17 27 26.3**	**-1.4**
TAPN	**Taplejung**	**53.74**	**289**	*e*P	**P**	**17 27 40.3**	**+0.8**
	comp=Z,55nm,1.1s,mb5.4						
TAPN	**Taplejung**	**53.74**	**289**	*e*P	**P**	**17 27 40.3**	**+0.8**
	comp=Z,55nm,1.1s,mb5.4						
ODAN	**Odare**	**54.08**	**289**	*e*P	**P**	**17 27 42.0**	**0.0**
	comp=Z,42nm,1.1s,mb5.3						
ODAN	**Odare**	**54.08**	**289**	*e*P	**P**	**17 27 42.0**	**0.0**
	comp=Z,42nm,1.1s,mb5.3						
JIRN	**Jiri**	**55.05**	**290**	*e*P	**P**	**17 27 50.0**	**+1.0**
	comp=Z,43nm,0.9s,mb5.5						
JIRN	**Jiri**	**55.05**	**290**	*e*P	**P**	**17 27 50.0**	**+1.0**
	comp=Z,43nm,0.9s,mb5.5						
GUN	**Gumba**	**55.30**	**290**	*e*P	**P**	**17 27 51.9**	**+1.1**
	comp=Z,68nm,1.2s,mb5.5						
GUN	**Gumba**	**55.30**	**290**	*e*P	**P**	**17 27 51.9**	**+1.1**
	comp=Z,68nm,1.2s,mb5.6						
PKI	**Pulchoki**	**55.75**	**290**	*e*P	**P**	**17 27 54.5**	**+0.5**
PKI	**Pulchoki**	**55.75**	**290**	*e*P	**P**	**17 27 54.5**	**+0.5**
PKI	**Pulchoki**	**55.75**	**290**	*e*P	**P**	**17 27 54.5**	**+0.5**
KKN	**Kakani**	**55.84**	**290**	*e*P	**P**	**17 27 55.0**	**+0.3**
KKN	**Kakani**	**55.84**	**290**	*e*P	**P**	**17 27 55.0**	**+0.3**
KKN	**Kakani**	**55.84**	**290**	*e*P	**P**	**17 27 55.0**	**+0.3**
GKN	**Gorkha**	**56.38**	**291**	*e*P	**P**	**17 27 58.9**	**+0.4**
	comp=Z,80nm,1.1s,mb5.7						
GKN	**Gorkha**	**56.38**	**291**	*e*P	**P**	**17 27 58.9**	**+0.4**
	comp=Z,80nm,1.1s,mb5.7			

SML	**Sawmill**	**60.56**	**30**	*e*P	**P**	**17 28 27.2**	**+0.1**
SML	**Sawmill**	**60.56**	**30**	*e*P	**P**	**17 28 27.2**	**+0.1**
MCK	**McKinley**	**60.72**	**27**	*e*P	**P**	**17 28 28.0**	**-0.2**
MCK	**McKinley**	**60.72**	**27**	*e*P	**P**	**17 28 28.0**	**-0.2**
ILAR	**Eielson Array**	**61.83**	**27**	P	**P**	**17 28 34.0**	**-1.6**
comp=Z,4.2nm,0.9s,mb4.6,baz=259,slow=5.3,SNR=16							
ILAR	**Eielson Array**	**61.83**	**27**	P	**P**	**17 28 34.0**	**-1.6**
ILAR	**Eielson Array**	**61.83**	**27**	P	**P**	**17 28 34.1**	**-1.6**
PAX	**Paxson**	**62.10**	**29**	*e*P	**P**	**17 28 36.5**	**-1.0**
PAX	**Paxson**	**62.10**	**29**	*e*P	**P**	**17 28 36.5**	**-1.0**
TKM2	**Tokmak 2**	**62.54**	**309**	*e*P	**P**	**17 28 40.4**	**-0.4**
comp=Z,13nm,1.2s,mb4.9							
TKM2	**Tokmak 2**	**62.54**	**309**	*e*P	**P**	**17 28 40.4**	**-0.4**
TKM2				pmax	pmax		
comp=Z,13nm,1.2s,mb4.9							
MENT	**Mentasta**	**62.88**	**29**	*e*P	**P**	**17 28 40.6**	**-2.1**
AAK	**Ala-Archa**	**63.37**	**308**	*e*P	**P**	**17 28 49.3**	**+3.0**
comp=Z,38nm,1.3s,mb5.4							
AAK	**Ala-Archa**	**63.37**	**308**	*e*P	**P**	**17 28 49.3**	**+3.0**
AAK				pmax	pmax		
comp=Z,38nm,1.3s,mb5.4							
VOSK	**Vostochnaya**	**65.28**	**320**	P	**P**	**17 28 59.2**	**+0.5**
VOSK				pmax	pmax		
comp=Z,18nm,1.7s,mb4.8							
BVA0	**Borovoye Array**	**65.63**	**320**	*i* P	**P**	**17 29 00.4**	**-0.5**
BVA0				pmax	pmax		
comp=Z,12nm,2.2s,mb4.5							
BVAR	**Borovoye Array**	**65.63**	**320**	P	**P**	**17 29 00.5**	**-0.4**
comp=Z,3.5nm,0.4s,mb4.7,baz=89,slow=7.2,SNR=50							
BVAR	**Borovoye Array**	**65.63**	**320**	P	**P**	**17 29 00.5**	**-0.4**
BVAR	**Borovoye Array**	**65.63**	**320**	P	**P**	**17 29 00.5**	**-0.4**
BRVK	**Borovoye**	**65.69**	**320**	*e*P	**P**	**17 29 01.0**	**-0.3**
comp=Z,22nm,1.1s,mb5.1							
BRVK	**Borovoye**	**65.69**	**320**	*e*P	**P**	**17 29 01.0**	**-0.3**
BRVK				pmax	pmax		
comp=Z,22nm,1.1s,mb5.1							
BRVK	**Borovoye**	**65.69**	**320**	P	**P**	**17 29 01.7**	**+0.4**
comp=Z,100nm,1.1s,mb5.8,SNR=6.4							
KK31	**Karatay Array**	**66.24**	**309**	*i* P	**P**	**17 29 07.4**	**+2.4**
KK31				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
KKAR	**Karatay Array**	**66.24**	**309**	*e*P	**P**	**17 29 04.8**	**-0.3**
comp=Z,10nm,0.9s,mb4.8							
KKAR	**Karatay Array**	**66.24**	**309**	*e*P	**P**	**17 29 04.8**	**-0.2**
KKAR				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
INK	**Inuvik**	**67.56**	**23**	P	**P**	**17 29 12.4**	**-0.6**
comp=Z,5.2nm,0.8s,mb4.6,baz=258,slow=7.9,SNR=6.2							
INK	**Inuvik**	**67.56**	**23**	P	**P**	**17 29 12.4**	**-0.5**
INK	**Inuvik**	**67.56**	**23**	P	**P**	**17 29 12.4**	**-0.5**
KBL	**Kabul**	**68.62**	**300**	*e*P	**P**	**17 29 20.0**	**-0.3**
comp=Z,16nm,0.9s,mb4.9							
KBL	**Kabul**	**68.62**	**300**	*e*P	**P**	**17 29 20.0**	**-0.3**
KBL				pmax	pmax		
comp=Z,16nm,0.9s,mb5.0							
DLBC	**Dease Lake**	**69.51**	**34**	P	**P**	**17 29 26.6**	**+1.3**
comp=Z,6.8nm,0.9s,mb4.6,baz=306,slow=7.5,SNR=4.6							
DLBC	**Dease Lake**	**69.51**	**34**	P	**P**	**17 29 26.6**	**+1.3**
ARU	**Arti**	**72.10**	**324**	*e*P	**P**	**17 29 41.6**	**+0.5**
comp=Z,27nm,1.3s,mb5.0							
ARU	**Arti**	**72.10**	**324**	P	**P**	**17 29 44.8**	**+3.7**
AB31	**Akbulak array**	**72.59**	**317**	*i* P	**P**	**17 29 43.0**	**-1.2**
AB31				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
ABKAR	**Akbulak array**	**72.59**	**317**	*e*P	**P**	**17 29 43.1**	**-1.0**
comp=Z,2.1nm,0.6s,mb4.2							
PPT2	**Papeete2**	**73.24**	**116**	*e*S	S	17 39 03.5	-11
comp=Z,55nm,23.0s							
PPT2				*e*LR	LR	17 52 16.0	
comp=Z,170nm,24.8s							
AKTO	**Aktyubinsk**	**73.57**	**318**	P	**P**	**17 29 49.7**	**-0.2**
comp=Z,1.3nm,0.6s,mb4.0,baz=230,slow=13,SNR=3.8							
AKTO	**Aktyubinsk**	**73.57**	**318**	P	**P**	**17 29 49.7**	**-0.2**
AKTO	**Aktyubinsk**	**73.57**	**318**	P	**P**	**17 29 49.7**	**-0.2**
YKA	**Yellowknife Ar**	**76.18**	**28**	P	**P**	**17 30 04.0**	**-0.7**
comp=Z,3.3nm,0.8s,mb4.3,baz=289,slow=5.3,SNR=12							
YKA	**Yellowknife Ar**	**76.18**	**28**	P	**P**	**17 30 04.0**	**-0.7**
YKA	**Yellowknife Ar**	**76.18**	**28**	P	**P**	**17 30 04.0**	**-0.8**
ETW	**Entiat**	**77.34**	**44**	*e*P	**P**	**17 30 12.4**	**+0.8**
comp=Z,26nm,1.1s,mb5.1							
TAOE	**Nuku Hiva Isla**	**77.78**	**104**	*e*LR	LR	17 54 25.9	
comp=Z,249nm,25.9s							
OD2	**Odessa Site #2**	**78.45**	**44**	*e*P	**P**	**17 30 19.4**	**+1.5**
comp=Z,16nm,1.2s,mb4.8							
WVOR	**Wild Horse Val**	**80.03**	**48**	*e*P	**P**	**17 30 26.2**	**-0.3**
comp=Z,7.2nm,0.9s,mb4.6							
WVOR	**Wild Horse Val**	**80.03**	**48**	*e*P	**P**	**17 30 26.2**	**-0.3**
WVOR				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.6							
CMB	**Columbia Colle**	**80.13**	**53**	*e*P	**P**	**17 30 26.7**	**-0.5**
comp=Z,14nm,1.1s,mb4.8							
CMB	**Columbia Colle**	**80.13**	**53**	*e*P	**P**	**17 30 26.7**	**-0.5**
CMB				pmax	pmax		
comp=Z,14nm,1.1s,mb4.8							
BSMT	**Bassoo Peak**	**80.82**	**42**	*e*P	**P**	**17 30 32.1**	**+1.5**
comp=Z,20nm,1.4s,mb4.8							
NVAR	**Mina Array Bea**	**81.56**	**52**	P	**P**	**17 30 35.7**	**+0.9**
comp=Z,8.7nm,0.9s,mb4.7,baz=265,slow=5.7,SNR=17							
NVAR	**Mina Array Bea**	**81.56**	**52**	P	**P**	**17 30 35.7**	**+0.9**
MFID	**Camas Ranch**	**81.65**	**47**	*e*P	**P**	**17 30 36.1**	**+1.0**
comp=Z,17nm,1.2s,mb4.9							
SLMT	**Seeley Lake**	**81.85**	**43**	*e*P	**P**	**17 30 36.8**	**+0.6**
comp=Z,17nm,1.3s,mb4.8							
LRM	**Limekiln Ridge**	**83.04**	**44**	*e*P	**P**	**17 30 42.9**	**+0.5**
comp=Z,96nm,1.1s,mb5.7							
HRY	**Holter Researc**	**83.11**	**43**	*e*P	**P**	**17 30 41.0**	**-1.7**
comp=Z,6.9nm,0.9s,mb4.7							
MCMT	**McKenzie Canyo**	**83.15**	**45**	*e*P	**P**	**17 30 42.9**	**-0.1**
comp=Z,0.9nm,0.8s,mb3.9							
MOS	**Moscow**	**83.42**	**327**	*e*P	**P**	**17 30 47.3**	**+3.2**
MOS				pmax	pmax		
comp=Z,78nm,1.2s,mb5.6							
BOZ	**Bozeman (W)**	**83.64**	**44**	*e*P	**P**	**17 30 48.1**	**+2.6**
comp=Z,10nm,1.4s,mb4.8							
BOZ	**Bozeman (W)**	**83.64**	**44**	*e*P	**P**	**17 30 48.1**	**+2.6**
BOZ				pmax	pmax		
comp=Z,10.0nm,1.4s,mb4.8							
QLMT	**Earthquake Lak**	**84.09**	**44**	*e*P	**P**	**17 30 47.2**	**-0.6**
comp=Z,1.5nm,1.1s,mb4.0							
YMR	**Madison River**	**84.45**	**44**	*e*P	**P**	**17 30 51.0**	**+1.4**
comp=Z,20nm,1.1s,mb5.2							
YNR	**Norris Junctio**	**84.62**	**44**	*e*P	**P**	**17 30 52.5**	**+2.0**
comp=Z,35nm,1.2s,mb5.4							
YFT	**Old Faithful**	**84.62**	**45**	*e*P	**P**	**17 30 52.1**	**+1.6**
comp=Z,18nm,1.0s,mb5.1							
GCMT	**Greycliff**	**84.85**	**43**	*e*P	**P**	**17 30 52.1**	**+0.5**
comp=Z,14nm,1.5s,mb4.9							
FLWY	**Flagg Ranch**	**84.86**	**45**	*e*P	**P**	**17 30 53.8**	**+2.1**
comp=Z,39nm,1.6s,mb5.3							
DUG	**Dugway**	**84.92**	**49**	*e*P	**P**	**17 30 52.6**	**+0.6**
comp=Z,22nm,1.5s,mb5.1							
DUG	**Dugway**	**84.92**	**49**	*e*P	**P**	**17 30 52.7**	**+0.6**
DUG				pmax	pmax		
comp=Z,22nm,1.5s,mb5.1							
TPAW	**Teton Pass**	**84.93**	**45**	*e*P	**P**	**17 30 53.3**	**+1.3**
comp=Z,9.0nm,1.1s,mb4.8							
LOHW	**Long Hollow**	**85.11**	**45**	*e*P	**P**	**17 30 51.3**	**-1.7**
comp=Z,6.4nm,1.1s,mb4.7							
HWUT	**Hardware Ranch**	**85.25**	**47**	*e*P	**P**	**17 30 54.1**	**+0.4**
comp=Z,17nm,1.3s,mb5.0							
FFC	**Flin Flon**	**85.30**	**33**	*e*P	**P**	**17 30 53.2**	**-0.5**
FFC	**Flin Flon**	**85.30**	**33**	*e*P	**P**	**17 30 53.2**	**-0.5**
ARUT	**Antelope Range**	**85.37**	**51**	*e*P	**P**	**17 30 55.8**	**+1.4**
comp=Z,20nm,1.5s,mb5.0							
ARUT	**Antelope Range**	**85.37**	**51**	*e*P	**P**	**17 30 55.8**	**+1.4**
ARUT				pmax	pmax		
comp=Z,20nm,1.5s,mb5.0							
RLMT	**Red Lodge**	**85.38**	**43**	*e*P	**P**	**17 30 55.6**	**+1.3**
comp=Z,37nm,1.5s,mb5.3							
GNI	**Garni**	**85.60**	**311**	LR	LR	18 11 12.9	
comp=Z,91nm,18.3s,MS4.2,baz=141,slow=37							
FINES	**FINESS Array B**	**85.65**	**335**	P	**P**	**17 30 54.0**	**-1.3**
comp=Z,3.2nm,0.8s,mb4.6,baz=29,slow=4.4,SNR=5.9							
FINES	**FINESS Array B**	**85.65**	**335**	P	**P**	**17 30 54.0**	**-1.3**
FINES	**FINESS Array B**	**85.65**	**335**	P	**P**	**17 30 54.0**	**-1.3**
JLU	**Jordanelle**	**85.72**	**48**	*e*P	**P**	**17 30 57.4**	**+1.3**
comp=Z,8.5nm,1.0s,mb4.9							
DAU	**Daniels Canyon**	**85.93**	**48**	P	**P**	**17 30 57.7**	**+0.5**
comp=Z,14nm,1.1s,mb5.1							
DAU	**Daniels Canyon**	**85.93**	**48**	P	**P**	**17 30 57.7**	**+0.6**
DAU				pmax	pmax		
comp=Z,15nm,1.1s,mb5.1							
MSU	**Marysvale**	**86.02**	**50**	P	**P**	**17 30 55.8**	**-1.8**
comp=Z,13nm,1.6s,mb4.9							
MSU	**Marysvale**	**86.02**	**50**	P	**P**	**17 30 55.8**	**-1.8**
MSU				pmax	pmax		
comp=Z,13nm,1.6s,mb4.9							
PDAR	**Pinedale Array**	**86.15**	**46**	P	**P**	**17 30 58.0**	**-0.2**
comp=Z,1.8nm,0.9s,mb4.3,baz=254,slow=2.1,SNR=8.9							
PDAR				LR	LR	18 06 01.0	
comp=Z,60nm,19.1s,MS4.0,baz=143,slow=33							
PDAR	**Pinedale Array**	**86.15**	**46**	P	**P**	**17 30 58.0**	**-0.2**
LAO	**LASA Array**	**86.63**	**41**	*e*P	**P**	**17 31 01.6**	**+1.2**
comp=Z,19nm,1.0s,mb5.3							
SRU	**San Rafael**	**86.97**	**49**	*e*P	**P**	**17 31 02.5**	**+0.2**
comp=Z,15nm,0.9s,mb5.2							
SRU	**San Rafael**	**86.97**	**49**	*e*P	**P**	**17 31 02.5**	**+0.3**
SRU				pmax	pmax		
comp=Z,15nm,0.9s,mb5.2							
AKASG	**Malin Array Be**	**90.32**	**326**	P	**P**	**17 31 17.8**	**0.0**
comp=Z,1.7nm,0.8s,mb4.4,baz=46,slow=3.0,SNR=6.0							
AKASG	**Malin Array Be**	**90.32**	**326**	P	**P**	**17 31 17.9**	**0.0**
AKASG	**Malin Array Be**	**90.32**	**326**	P	**P**	**17 31 17.9**	**+0.1**
KIEV	**Kiev**	**90.33**	**326**	P	**P**	**17 31 17.0**	**-0.9**
comp=Z,22nm,1.6s,mb5.2							
KIEV	**Kiev**	**90.33**	**326**	P	**P**	**17 31 17.0**	**-0.9**
KIEV				pmax	pmax		
comp=Z,22nm,1.6s,mb5.2							
ULM	**Lac du Bonnet**	**90.82**	**35**	P	**P**	**17 31 20.3**	**+0.1**
comp=Z,3.6nm,1.0s,mb4.7,baz=266,slow=3.9,SNR=3.1							
ULM	**Lac du Bonnet**	**90.82**	**35**	P	**P**	**17 31 20.3**	**+0.1**
ULM	**Lac du Bonnet**	**90.82**	**35**	P	**P**	**17 31 20.3**	**+0.1**
HFS	**Hagfors**	**91.08**	**338**	P	**P**	**17 31 19.6**	**-1.6**
comp=Z,6.7nm,1.2s,mb4.9,baz=251,slow=9.0,SNR=3.1							
HFS	**Hagfors**	**91.08**	**338**	P	**P**	**17 31 19.6**	**-1.6**
HFS	**Hagfors**	**91.08**	**338**	P	**P**	**17 31 19.6**	**-1.6**
NOA	**NORSAR Array B**	**91.24**	**340**	LR	LR	18 17 30.5	
comp=Z,116nm,18.7s,MS4.3,baz=325,slow=39							
ANMO	**Albuquerque**	**91.67**	**52**	LR	LR	18 06 37.1	
comp=Z,68nm,18.9s,MS4.1,baz=250,slow=32							
BRTR	**Keskin Array B**	**93.43**	**315**	P	**P**	**17 31 30.8**	**-1.7**
comp=Z,0.9nm,1.0s,mb4.2,baz=20,slow=4.7,SNR=3.1							
BRTR	**Keskin Array B**	**93.43**	**315**	P	**P**	**17 31 30.8**	**-1.7**
BRTR	**Keskin Array B**	**93.43**	**315**	P	**P**	**17 31 30.8**	**-1.7**
TXAR	**Lajitas Array**	**96.31**	**56**	LR	LR	18 06 57.9	
comp=Z,77nm,21.9s,MS4.1,baz=185,slow=30							
VRAC	**Vranov**	**97.56**	**330**	LR	LR	18 19 24.2	
comp=Z,194nm,18.5s,MS4.6,baz=238,slow=38							
GERES	**GERESS Array B**	**99.24**	**331**	PP	PP	17 36 06.4	+5.6
comp=Z,0.7nm,0.9s,baz=66,slow=12,SNR=4.6							
GERES	**GERESS Array B**	**99.24**	**331**	PP	PP	17 36 06.4	+5.6
TORD	**Torodi Ar. Bea**	**131.91**	**311**	PKP	PKPdf	17 37 34.1	+3.1
comp=Z,0.7nm,0.8s,baz=2.7,slow=1.5,SNR=2.7							
TORD	**Torodi Ar. Bea**	**131.91**	**311**	PKP	PKPdf	17 37 34.1	+3.1
PLCA	**Paso Flores**	**142.61**	**131**	PKP	PKPdf	17 37 51.3	+1.3
comp=Z,0.6nm,0.4s,baz=122,slow=2.2,SNR=2.3							
PLCA	**Paso Flores**	**142.61**	**131**	PKP	PKPdf	17 37 51.3	+1.3
PLCA	**Paso Flores**	**142.61**	**131**	PKIKP	PKPdf	17 37 51.3	+1.3
LCO	**Las Campanas**	**145.30**	**112**	*e*PKPdf	PKPdf	17 37 56.5	+1.5
LPAZ	**La Paz**	**146.97**	**89**	PKPbc	PKPbc	17 38 02.4	+2.2
comp=Z,8.2nm,1.1s,baz=335,slow=4.0,SNR=12							
LPAZ	**La Paz**	**146.97**	**89**	*e*PKPbc	PKPbc	17 38 00.9	+0.7
LPAZ	**La Paz**	**146.97**	**89**	*e*PKP2	PKPab	17 38 00.9	-0.8
CFAA	**Coronel Fontan**	**147.02**	**117**	PKPbc	PKPbc	17 38 01.6	+1.6
comp=Z,0.8nm,0.9s,baz=284,slow=4.1,SNR=6.3							
CFAA	**Coronel Fontan**	**147.02**	**117**	PKPbc	PKPbc	17 38 01.6	+1.6
SAML	**Samuel**	**149.23**	**73**	*e*PKPbc	PKPbc	17 38 06.8	+0.4
SIV	**San Ignacio**	**153.52**	**85**	PKPbc	PKPbc	17 38 17.1	+1.0
comp=Z,1.6nm,0.9s,baz=282,slow=4.1,SNR=4.9							
SIV	**San Ignacio**	**153.52**	**85**	PKPbc	PKPbc	17 38 17.1	+1.0

IDC ***18*** *17:39:21.9±0.4, 36°.77N×96°.54E, h0km, mb4.6/37, mb1 4.7/42, mb1mx4.6/49, mbtmp4.6/42, ML4.1/5, MS4.0/10, Ms1 4.0/10, ms1mx3.4/63, Error ellipse: s-maj=14.4km s-min=9.4km az=46.0*

ISCJB ***18*** *17:39:22.0±0.2, 36°.77N±0°.02×96°.47E±0°.03, h10km, mb4.8/129, MS4.1/10, Error ellipse: s-maj=3.6km s-min=3.0km az=0.9*

BJI ***18*** *17:39:23.5, 36°.88N×96°.41E, h26km, mB4.8/14, mb4.6/23, ML4.5/10, Ms4.5/28, Ms7 4.3/24*

NEIC ***18*** *17:39:25.0±1.3, 36°.76N×96°.45E, h18km±8km, mb5.1/49, Error ellipse: s-maj=3.4km s-min=3.2km az=191.0*

MOS ***18*** *17:39:25.3±0.8, 36°.77N×96°.48E, h33km, mb5.0/67, Error ellipse: s-maj=6.9km s-min=3.9km az=127.2*

SZGRF ***18*** *17:39:27.8, 36°.09N×96°.01E, h10km, mb4.8, Qinghai, China*

NNC ***18*** *17:39:30.0±2.1, 37°.18N×95°.60E, h0km, mb4.5, Error ellipse: s-maj=43.6km s-min=27.5km az=36.0*

ISC 18 17:39:22.5±1.0,**36°.78N**±0°.03×**96°.47E**±0°.03,**h0**km±6km,
n483,σ0**s83**/492,**mb4.9**/129,**MS4.1**/10,**29C-25D,Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.72**	**44**	Pg	**Pg**	**17 40 32.9**	**-1.0**
GTA				Sn	**Sn**	**17 41 10.6**	**+4.8**
GTA				Sg	**Sg**	**17 41 23.9**	**+1.8**
GTA				smax			
comp=N,270nm,1.4s							
GTA				smax			
comp=E,310nm,1.0s							
GTA				LR	LR		
comp=N,3μm,5.7s							
GTA				LR	LR		
comp=E,5μm,6.9s							
GTA				LR	LR		
comp=Z,4μm,8.1s							
LZH	**Lanzhou**	**5.99**	**94**	Pn	**Pn**	**17 40 53.8**	**+1.5**
LZH				Pg	**Pg**	**17 41 13.6**	**-3.6**
LZH				Sn	**Sn**	**17 42 04.8**	**+3.2**
LZH				Sg	**Sg**	**17 42 30.4**	**-4.4**
LZH				smax			
comp=N,850nm,1.1s							
LZH				smax			
comp=E,680nm,1.0s							
LZH				LR	LR		
comp=N,5μm,7.8s							
LZH				LR	LR		
comp=E,2μm,8.3s							
LZH				LR	LR		
comp=Z,3μm,8.4s							
LZH	**Lanzhou**	**5.99**	**94**	Pn	**Pn**	**17 40 53.7**	**+1.4**
LZH				Pg	**Pg**	**17 41 13.6**	**-3.6**
LZH				Sn	**Sn**	**17 42 04.7**	**+3.1**
LZH				Sg	**Sg**	**17 42 30.4**	**-4.4**
LZH	**Lanzhou**	**5.99**	**94**	P	**Pn**	**17 40 53.7**	**+1.4**
LZH						17 42 04.7	
LSA	**Lhasa**	**8.35**	**214**	Pg	**Pb**	**17 41 53.8**	**+5.9**
LSA				smax			
comp=N,280nm,0.4s							
LSA	**Lhasa**	**8.35**	**214**	*e*P	**Pn**	**17 41 27.1**	**+2.3**
comp=N,194nm,0.4s							
LSA	**Lhasa**	**8.35**	**214**	*e*P	**Pn**	**17 41 27.1**	**+2.4**
LSA				pmax	pmax		
comp=Z,194nm,0.4s							
CD2	**Chengdu**	**8.43**	**132**	⇑*i*P	Px	17 42 01.5	
CD2				pmax	pmax		
comp=Z,40nm,1.4s							
CD2				pmax	pmax		
comp=Z,160nm,5.6s							
WMQ	**Urumqi**	**9.71**	**319**	P	**Pn**	**17 41 43.0**	**-0.4**
WMQ				smax			
comp=N,290nm,1.0s							
WMQ				smax			
comp=E,360nm,1.0s							
XAN	**Xi'an**	**10.53**	**101**	P	**Pn**	**17 41 51.8**	**-2.8**
XAN				LR	LR		
comp=N,800nm,7.7s							
XAN				LR	LR		
comp=E,400nm,8.5s							
XAN				LR	LR		
comp=Z,460nm,8.9s							
BTO	**Baotou**	**11.26**	**66**	*e*P	**Pn**	**17 42 03.6**	**-1.0**
TAPN	**Taplejung**	**11.97**	**221**	*e*P	**Pn**	**17 42 15.7**	**+1.2**
TAPN	**Taplejung**	**11.97**	**221**	*e*P	**Pn**	**17 42 15.7**	**+1.2**
HHC	**Hu-ho-hao-te**	**12.46**	**66**	*e*P	**Pn**	**17 42 20.6**	**-0.3**
HHC				PP		17 42 30.8	
HHC				S	**Sn**	**17 44 41.8**	**+1.4**
HHC				SS		17 44 53.8	
HHC				pmax	pmax		
comp=Z,12nm,1.0s							
HHC				pmax	pmax		
comp=Z,160nm,4.3s							
HHC				LR	LR		
comp=N,880nm,5.5s							
HHC				LR	LR		
comp=E,780nm,7.8s							
HHC				LR	LR		
comp=Z,480nm,6.8s							
ODAN	**Odare**	**12.54**	**220**	*e*P	**Pn**	**17 42 22.2**	**0.0**
comp=Z,20nm,0.8s							
ODAN	**Odare**	**12.54**	**220**	*e*P	**Pn**	**17 42 22.2**	**0.0**
comp=Z,20nm,0.8s							
GUN	**Gumba**	**12.57**	**228**	*e*P	**Pn**	**17 42 23.6**	**+0.9**
comp=Z,29nm,0.9s							
GUN	**Gumba**	**12.57**	**228**	*e*P	**Pn**	**17 42 23.6**	**+0.9**
comp=Z,29nm,0.9s							
JIRN	**Jiri**	**12.58**	**227**	*e*P	**Pn**	**17 42 23.4**	**+0.7**
comp=Z,12nm,0.5s							
JIRN	**Jiri**	**12.58**	**227**	*e*P	**Pn**	**17 42 23.4**	**+0.7**
comp=Z,12nm,0.5s							
ENH	**Enshi**	**12.65**	**117**	*e*P	**Pn**	**17 42 23.1**	**-0.5**
comp=Z,9.5nm,0.8s							
KMI	**Kunming**	**12.80**	**153**	P	**Pn**	**17 42 29.5**	**+3.7**
KMI				S	**Sn**	**17 44 55.4**	**+6.4**
KMI				pmax	pmax		
comp=Z,6.0nm,0.9s							
KMI				LR	LR		
comp=N,960nm,7.4s							
KMI				LR	LR		
comp=E,490nm,7.5s							
KMI				LR	LR		
comp=Z,740nm,6.9s							
KMI	**Kunming**	**12.80**	**153**	P	**Pn**	**17 42 29.5**	**+3.7**
comp=Z,6.0nm,0.9s							
KMI				S	**Sn**	**17 44 55.4**	**+6.4**
KMI	**Kunming**	**12.80**	**153**	P	**Pn**	**17 42 29.5**	**+3.7**
KMI				S	**Sn**	**17 44 55.4**	**+6.4**
KMI				pmax	pmax		
comp=Z,6.0nm,0.9s							
RAMN	**Ramite**	**12.89**	**223**	*e*P	**Pn**	**17 42 26.4**	**-0.6**
RAMN	**Ramite**	**12.89**	**223**	*e*P	**Pn**	**17 42 26.4**	**-0.6**
KKN	**Kakani**	**13.03**	**230**	*e*P	**Pn**	**17 42 29.2**	**+0.4**
comp=Z,15nm,0.6s							
KKN	**Kakani**	**13.03**	**230**	*e*P	**Pn**	**17 42 29.2**	**+0.4**
comp=Z,15nm,0.6s							
KKN	**Kakani**	**13.03**	**230**	*e*P	**Pn**	**17 42 29.2**	**+0.4**
KKN				pmax	pmax		
comp=Z,15nm,0.6s							
PKI	**Pulchoki**	**13.11**	**229**	*e*P	**Pn**	**17 42 30.0**	**+0.1**
comp=Z,40nm,1.1s							
PKI	**Pulchoki**	**13.11**	**229**	*e*P	**Pn**	**17 42 30.0**	**+0.1**
comp=Z,40nm,1.1s							
PKI	**Pulchoki**	**13.11**	**229**	*e*P	**Pn**	**17 42 30.0**	**+0.1**
PKI				pmax	pmax		
comp=Z,40nm,1.1s							
SONM	**Songino Array**	**13.25**	**30**	Pn	**Pn**	**17 42 33.3**	**+1.5**
comp=Z,0.6nm,0.3s,baz=214,slow=14,SNR=23							
SONM				LR	LR	17 48 10.4	
comp=Z,680nm,20.9s,baz=15,slow=40							
SONM	**Songino Array**	**13.25**	**30**	Pn	**Pn**	**17 42 33.3**	**+1.5**
SONM	**Songino Array**	**13.25**	**30**	P	**Pn**	**17 42 33.3**	**+1.5**
SONM				pmax	pmax		
comp=Z,1.0nm,0.3s							
SONM				MLR	MLR		
comp=Z,680nm,20.9s							
DMN	**Daman**	**13.26**	**230**	*e*P	**Pn**	**17 42 31.6**	**-0.5**
DMN	**Daman**	**13.26**	**230**	*e*P	**Pn**	**17 42 31.6**	**-0.5**
GKN	**Gorkha**	**13.28**	**232**	*e*P	**Pn**	**17 42 31.6**	**-0.6**
comp=Z,26nm,1.0s							
GKN	**Gorkha**	**13.28**	**232**	*e*P	**Pn**	**17 42 31.6**	**-0.6**
comp=Z,26nm,1.0s							
GYA	**Guiyang**	**13.46**	**137**	⇑*i*P	**Pn**	**17 42 34.1**	**-0.6**
GYA				pmax	pmax		
comp=Z,30nm,1.0s							
ULN	**Ulaanbaatar**	**13.55**	**32**	*e*P	**Pn**	**17 42 39.1**	**+3.2**
comp=Z,12nm,0.8s							
ULN	**Ulaanbaatar**	**13.55**	**32**	*e*P	**Pn**	**17 42 39.1**	**+3.2**
ULN				pmax	pmax		
comp=Z,12nm,0.8s							
DANN	**Dangsing**	**13.61**	**235**	*e*P	**Pn**	**17 42 35.8**	**-1.0**
comp=Z,39nm,0.9s							
DANN	**Dangsing**	**13.61**	**235**	*e*P	**Pn**	**17 42 35.8**	**-1.0**
comp=Z,39nm,0.9s							
ZAK	**Zakamensk**	**14.45**	**18**	*e*P	**Pn**	**17 42 56.3**	**+8.1**
ZAK				pmax	pmax		
comp=Z,12nm,1.0s							
MK31	**Makanchi Array**	**14.54**	**318**	⇓P	**Pn**	**17 42 46.6**	**-2.7**
comp=Z,13nm,0.5s,baz=129,slow=13,SNR=753							
MK31				⇑S	**Sn**	**17 45 22.0**	**-9.1**
comp=Z,20nm,0.8s,baz=127,slow=26,SNR=6.3

CMAR Chiang Mai Arr 18.38 173 P Pn 17 43 39.3 +0.4
CMAR Chiang Mai Arr 18.38 173 P Pn 17 43 39.3 +0.4
CMAR MLR MLR
comp=Z,251nm,20.5s
EKS2 Erkin-Say 18.39 296 P Pn 17 43 38.9 +0.1
SNR=8.5
EKS2 P 17 43 38.9
SNR=8.5
EKS2 Erkin-Say 18.39 296 *e*P **Pn 17 43 38.5 -0.4**
comp=Z,13nm,0.8s
EKS2 Erkin-Say 18.39 296 *e*P **Pn 17 43 38.5 -0.3**
EKS2 pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 18.91 323 P **Pn 17 43 42.6 -2.5**
comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=7.9
KURK S **Sn 17 47 08.4 -8.8**
comp=Z,0.1nm,0.3s,baz=125,slow=27,SNR=3.3
KURK Kurchatov 18.91 323 ⇑P **Pn 17 43 45.2 +0.1**
comp=Z,28nm,0.8s
KURK Kurchatov 18.91 323 *e*P **Pn 17 43 43.1 -2.0**
KURK S **Sn 17 47 08.4 -8.8**
KURK Kurchatov 18.91 323 *e*P **Pn 17 43 43.1 -2.0**
KURK S **Sn 17 47 08.4 -8.8**
ZAA0 Zalesovo Array 18.97 338 *e*P **Pn 17 43 44.3 -1.5**
ZALV Zalesovo Beam 18.97 338 P **Pn 17 43 44.7 -1.1**
comp=Z,1.1nm,0.3s,baz=150,slow=12,SNR=43
ZALV Zalesovo Beam 18.97 338 P **Pn 17 43 44.7 -1.1**
ZALV Zalesovo Beam 18.97 338 P **Pn 17 43 44.7 -1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
NJ2 Nanjing 19.05 98 *e*P **Pn 17 43 51.4 +4.5**
NJ2 pP pP 17 43 55.5 +9.2
NJ2 sP sP 17 43 58.3 +12
NJ2 PP 17 44 08.5
NJ2 S **Sn 17 47 21.6 +0.7**
NJ2 sS sS 17 47 27.0 +3.7
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,200nm,4.6s
NJ2 LR LR
comp=N,540nm,9.6s
NJ2 LR LR
comp=E,720nm,11.3s
NVS Novosibirsk 20.22 337 *e*P **P 17 43 58.0 -0.8**
NVS *e*S **S 17 47 31.7 -15**
NVS pmax pmax
comp=Z,50nm,1.5s
NVS pmax pmax
comp=N,39nm,1.4s
NVS pmax pmax
comp=E,25nm,1.1s
NVS smax
comp=E,18nm,1.8s
KK31 Karatay Array 20.83 296 ⇑P **P 17 44 06.0 +0.4**
comp=E,20nm,0.9s
KK31 Karatay Array 20.83 296 *ce*P **P 17 44 05.2 -0.4**
KK31 pmax pmax
comp=Z,39nm,1.0s
KKAR Karatay Array 20.83 296 *e*P **P 17 44 05.7 +0.2**
comp=Z,17nm,0.8s
KKAR Karatay Array 20.83 296 *e*P **P 17 44 05.7 +0.1**
KKAR pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 21.00 46 *e*P **P 17 44 07.9 +0.6**
comp=Z,8.9nm,0.6s,mb4.3
HIA Hailar 21.00 46 *e*P **P 17 44 07.9 +0.6**
HIA pmax pmax
comp=Z,9.0nm,0.6s
BHPL Bhopal 21.25 236 *e*PKP **P 17 44 09.0 -1.3**
BHPL AMb AMB 17 44 09.7
comp=Z,53nm,0.5s,mb5.1
SNY Shenyang 21.53 68 ⇓P **P 17 44 13.4 +0.3**
SNY pmax pmax
comp=Z,42nm,0.8s,mb4.9
SNY pmax pmax
comp=Z,240nm,8.4s
SNY LR LR
comp=N,830nm,13.5s
SNY LR LR
comp=Z,390nm,11.4s,MS4.0
VIS Vishakhapatnam 22.25 215 *e*PKP **P 17 44 20.4 -0.6**
KBL Kabul 22.37 272 *e*P **P 17 44 21.8 -0.4**
comp=Z,31nm,0.8s,mb4.8
KBL Kabul 22.37 272 *e*P **P 17 44 21.8 -0.3**
KBL pmax pmax
comp=Z,31nm,0.8s,mb4.8
CN2 Changchun 23.11 63 *e*P **P 17 44 30.0 0.0**
CN2 pmax pmax
comp=Z,20nm,1.0s,mb4.6
CN2 pmax pmax
comp=Z,200nm,3.0s
VOSK Vostochnaya 23.93 320 ⇓P **P 17 44 38.0 0.0**
comp=Z,28nm,0.7s,mb4.9
BOD Bodaibo 24.03 23 *e*P **P 17 44 37.2 -1.7**
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
BVA0 Borovoye Array 24.40 320 ⇓P **P 17 44 42.8 +0.6**
comp=Z,3.5nm,0.7s,mb4.0
BVA0 Borovoye Array 24.40 320 P **P 17 44 42.8 +0.5**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
BVAR Borovoye Array 24.40 320 P **P 17 44 42.3 0.0**
comp=Z,20nm,0.6s,mb4.8,baz=121,slow=9.9,SNR=66
BVAR PcP PcP 17 48 20.8 -0.5
comp=Z,1.1nm,0.6s,baz=176,slow=4.0,SNR=4.0
BVAR Borovoye Array 24.40 320 P **P 17 44 42.3 0.0**
BVAR PcP PcP 17 48 20.8 -0.5
BVAR Borovoye Array 24.40 320 P **P 17 44 42.3 0.0**
BVAR 17 48 20.8
BVAR pmax pmax
comp=Z,20nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 24.47 320 *e*P **P 17 44 42.9 0.0**
comp=Z,36nm,0.6s,mb5.1
BRVK Borovoye 24.47 320 *e*P **P 17 44 43.1 +0.2**
BRVK pmax pmax
comp=Z,30nm,0.6s,mb5.0
KSAR Wonju Array Be 25.01 79 P **P 17 44 47.7 -0.3**
KSAR Wonju Array Be 25.01 79 P **P 17 44 47.7 -0.3**
KSRS Korea Array 25.04 79 P **P 17 44 47.7 -0.6**
comp=Z,25nm,0.8s,mb5.0,baz=273,slow=9.4,SNR=47
KSRS Korea Array 25.04 79 P **P 17 44 47.7 -0.6**
KSRS pmax pmax
comp=Z,25nm,0.8s,mb5.0
BHJ Bhuj 26.74 247 *e*PKP **P 17 45 04.7 +0.9**
BHJ AMb AMB 17 45 14.9
comp=Z,74nm,1.6s,mb5.2
POO Poona 26.94 234 *e*PKP **P 17 45 06.0 +0.4**
KAD Karad 27.63 231 *e*PKP **P 17 45 10.8 -1.0**
KAD AMb AMB 17 45 17.1
comp=Z,22nm,1.4s,mb4.8
AB31 Akbulak array 29.18 307 P **P 17 45 25.2 -0.1**
comp=Z,1.8nm,0.8s,mb4.0,baz=80,slow=5.2,SNR=16
ABKAR Akbulak array 29.18 307 *e*P **P 17 45 23.5 -1.8**
comp=Z,4.5nm,0.8s,mb4.3
ABKT Aiibek 30.36 284 P **P 17 45 37.2 +1.2**
comp=Z,68nm,0.8s,mb5.5,SNR=5.2
HABR Khabarovsk 30.39 55 *e*P **P 17 45 35.1 -1.0**
HABR *e**PP 17 45 44.3
HABR *e**SP sP 17 45 48.6 +13
HABR *e* 17 48 33.7
HABR *e*S **S 17 50 34.3 -3.1**
HABR *e**SS sS 17 50 50.5 +13
HABR *e* 17 52 17.8
HABR *e* 17 56 09.5
HABR pmax pmax
comp=E,23nm,1.6s
HABR pmax pmax
comp=Z,27nm,1.6s,mb4.8
HABR pmax pmax
comp=N,24nm,2.1s
HABR MLR MLR
comp=Z,211nm,16.0s,MS3.9
AKTO Aktyubinsk 30.64 309 P **P 17 45 38.8 +0.5**
comp=Z,5.1nm,0.8s,mb4.5,baz=102,slow=7.9,SNR=12
AKTO Aktyubinsk 30.64 309 ⇓P **P 17 45 38.5 +0.3**
comp=Z,1.3nm,1.0s,mb3.8
AKTO Aktyubinsk 30.64 309 P **P 17 45 38.8 +0.5**
AKTO Aktyubinsk 30.64 309 P **P 17 45 38.8 +0.6**
AKTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SVE Sverdlovsk 31.15 322 ⇑*i*P **P 17 45 43.5 +0.8**
SVE pmax pmax
comp=Z,19nm,1.0s,mb5.0

ARU Arti 32.05 320 *e*P **P 17 45 50.5 0.0**
comp=Z,24nm,0.8s,mb5.2
ARU Arti 32.05 320 *d i*P **P 17 45 50.9 +0.3**
ARU *e* 17 46 55.3
ARU *e* 17 48 38.1
ARU S **S 17 51 02.2 -1.0**
ARU pmax pmax
comp=Z,29nm,1.0s,mb5.2
SOKR Solikamsk 34.14 325 *e*P **P 17 46 06.6 -2.2**
SOKR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GNI Garni 40.17 291 P **P 17 47 00.7 +0.4**
comp=Z,3.7nm,0.5s,mb4.3,baz=133,slow=18,SNR=3.2
GNI Garni 40.17 291 P **P 17 47 00.8 +0.4**
GNI Garni 40.17 291 P **P 17 47 00.8 +0.5**
KIV Kislovodsk 40.98 297 *e*P **P 17 47 08.1 +1.2**
comp=Z,11nm,0.8s,mb4.6
KIV Kislovodsk 40.98 297 *e*P **P 17 47 08.1 +1.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
VSR Storozhevoye 42.59 309 *e*P **P 17 47 19.6 -0.4**
VSR pmax pmax
comp=N,2.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
KLMR Klimovskoe 42.76 323 *e*P **P 17 47 17.0 -4.3**
KLMR pmax pmax
comp=Z,46nm,0.8s,mb5.3
MOS Moscow 43.40 315 *e*P **P 17 47 29.1 +2.6**
MOS pmax pmax
comp=Z,81nm,0.8s,mb5.5
OBN Obninsk 44.00 314 ⇓*e*P **P 17 47 31.3 -0.1**
OBN *e* 17 49 15.5
OBN *e*S **S 17 53 58.1 -6.1**
OBN *e*SS SS 17 57 06.5 -14
OBN pmax pmax
comp=Z,53nm,1.7s,mb5.0
PETK Petropavlovsk- 44.88 48 P **P 17 47 38.2 -0.2**
comp=Z,4.8nm,1.1s,mb4.3,baz=260,slow=5.7,SNR=4.8
PETK Petropavlovsk- 44.88 48 P **P 17 47 38.2 -0.2**
PETK Petropavlovsk- 44.88 48 P **P 17 47 38.2 -0.2**
PETK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
JOF Joensuu 46.81 325 *e*P **P 17 47 52.4 -1.1**
JOF pmax pmax
comp=Z,11nm,0.6s,mb5.2
JOF Joensuu 46.81 325 *ep* **P 17 47 52.4 -1.1**
comp=Z,11nm,0.6s,mb5.2
BR131 Keskin Array S 48.53 294 *e*P **P 17 48 07.1 -0.1**
comp=Z,8.5nm,0.8s,mb4.8
BRTR Keskin Array B 48.53 294 P **P 17 48 07.5 +0.3**
comp=Z,9.0nm,0.7s,mb4.9,baz=99,slow=7.5,SNR=37
BRTR Keskin Array B 48.53 294 P **P 17 48 07.5 +0.3**
BRTR Keskin Array B 48.53 294 P **P 17 48 07.6 +0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.7s
ASF Jabal al Asfar 48.64 283 P **P 17 48 08.6 +0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=42,slow=3.7,SNR=4.9
ASF Jabal al Asfar 48.64 283 P **P 17 48 08.6 +0.4**
ASF Jabal al Asfar 48.64 283 P **P 17 48 08.6 +0.4**
ASF pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 48.88 309 P **P 17 48 09.4 -0.4**
comp=Z,14nm,0.8s,mb5.0,baz=70,slow=7.0,SNR=13
AKASG Malin Array Be 48.88 309 P **P 17 48 09.4 -0.4**
AKASG Malin Array Be 48.88 309 P **P 17 48 09.4 -0.4**
AKASG pmax pmax
comp=Z,14nm,0.9s
AKBB Malin Array Si 48.88 309 *e*P **P 17 48 08.7 -1.1**
AKBB Malin Array Si 48.88 309 *e*P **P 17 48 08.7 -1.1**
KIEV Kiev 48.90 309 *e*P **P 17 48 09.0 -0.9**
comp=Z,9.9nm,0.9s,mb4.8
KIEV Kiev 48.90 309 *e*P **P 17 48 09.0 -0.9**
KIEV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BILL Bilibino 48.96 28 *e*P **P 17 48 09.6 -0.5**
comp=Z,10nm,1.1s,mb4.8
BILL Bilibino 48.96 28 ⇑*e*P **P 17 48 09.9 -0.2**
BILL *e*SS SS 17 58 38.9 -6.1
BILL pmax pmax
comp=Z,22nm,2.5s,mb4.7
KAF Kangasniemi 49.14 324 *e*P **P 17 48 10.7 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KAF Kangasniemi 49.14 324 *ep* **P 17 48 10.7 -0.8**
comp=Z,4.7nm,0.6s,mb4.7
FINES FINESS Array B 49.28 323 P **P 17 48 12.3 -0.4**
comp=Z,20nm,0.8s,mb5.2,baz=94,slow=8.3,SNR=17
FINES PcP PcP 17 49 34.1 -1.3
comp=Z,2.1nm,0.6s,baz=54,slow=5.5,SNR=3.1
FINES FINESS Array B 49.28 323 P **P 17 48 12.3 -0.4**
FINES PcP PcP 17 49 34.1 -1.3
FINES FINESS Array B 49.28 323 P **P 17 48 12.3 -0.4**
FINES 17 49 34.2
FINES pmax pmax
comp=Z,20nm,0.8s
FINES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 49.44 334 P **P 17 48 14.0 +0.2**
comp=Z,8.5nm,0.9s,mb4.8,baz=88,slow=7.7,SNR=8.7
ARCES PcP PcP 17 49 35.3 -0.6
comp=Z,2.4nm,0.6s,baz=117,slow=5.2,SNR=4.3
ARCES ARCESS Array B 49.44 334 P **P 17 48 14.0 +0.2**
ARCES PcP PcP 17 49 35.3 -0.6
ARCES ARCESS Array B 49.44 334 P **P 17 48 14.0 +0.2**
ARCES 17 49 35.3
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES pmax pmax
comp=Z,2.0nm,0.6s
MMAI Mount Meron Ar 49.48 285 PcP PcP 17 49 37.2 +0.5
comp=Z,0.9nm,0.5s,baz=49,slow=4.6,SNR=3.1
MMAI Mount Meron Ar 49.48 285 PcP PcP 17 49 37.2 +0.5
IZAR Zarasai 49.81 316 *e*P **P 17 48 16.4 -0.4**
IZAR AMB AMB 17 48 21.6
comp=Z,10nm,0.7s,mb4.9
IIGN Ignalina 49.88 315 *e*P **P 17 48 17.0 -0.4**
IIGN AMB AMB 17 48 23.4
comp=Z,13nm,1.0s,mb4.8
ISAL Salakas 49.90 316 *e*P **P 17 48 17.1 -0.4**
ISAL AMB AMB 17 48 23.3
comp=Z,10nm,1.4s,mb4.6
KIS Kishinev 49.94 304 *e*UNK 17 48 17.0
KIS Kishinev 49.94 304 *e*P **P 17 48 17.0 -0.9**
TLCR 50.40 302 ⇓P **P 17 48 21.7 +0.2**
TLCR 50.40 302 ⇓*i*P **P 17 48 21.7 +0.2**
CFR Carcaliu 50.87 302 ⇓P **P 17 48 24.9 -0.1**
CFR Carcaliu 50.87 302 ⇓*i*P **P 17 48 24.9 -0.1**
EIL Elat 51.18 281 P **P 17 48 27.9 +0.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=128,slow=6.5,SNR=4.3
EIL Elat 51.18 281 P **P 17 48 27.9 +0.3**
comp=Z,9.3nm,0.8s,mb4.8,baz=103,slow=17,SNR=5.4
SPITS Spitsbergen Ar 52.28 345 P **P 17 48 35.1 0.0**
SPITS Spitsbergen Ar 52.28 345 P **P 17 48 35.1 0.0**
SPITS pmax pmax
comp=Z,9.0nm,0.8s
LVV L'vov 52.33 309 *e*P **P 17 48 35.9 +0.1**
DOPR Dopca 52.50 304 ⇑*i*P **P 17 48 38.4 +1.3**
VOIR 52.88 303 ⇑P **P 17 48 41.4 +1.4**
VOIR 52.88 303 ⇑*i*P **P 17 48 41.4 +1.4**
KWP Kalwaria Pacla 53.21 309 *e*P **P 17 48 42.9 +0.6**
KWP *e* 17 48 46.3
KWP Kalwaria Pacla 53.21 309 *e*P **P 17 48 42.7 +0.4**
comp=Z,58nm,0.8s,mb5.6
KWP Kalwaria Pacla 53.21 309 *e*P **P 17 48 42.9 +0.6**
KWP Kalwaria Pacla 53.21 309 ⇑*i*P **P 17 48 43.0 +0.7**
LOT Lotru 53.74 304 ⇑*i*P **P 17 48 47.0 +0.7**
TRPA Tarpa 53.74 307 ⇓*i*P **P 17 48 46.8 +0.6**
DRGR 54.02 305 ⇑P **P 17 48 48.8 +0.5**

DRGR 54.02 305 ⇑*i*P **P 17 48 48.8 +0.5**
CRVS Cervenica-Dubn 54.20 308 *e*P **P 17 48 49.6 0.0**
CRVS Cervenica-Dubn 54.20 308 *e*P **P 17 48 49.6 0.0**
GZR Gura Zlata 54.42 304 ⇓P **P 17 48 51.9 +0.7**
GZR Gura Zlata 54.42 304 ⇓*i*P **P 17 48 51.9 +0.7**
NIE Niedzica 54.76 309 *e*P **P 17 48 54.6 +0.9**
NIE Niedzica 54.76 309 *e*P **P 17 48 54.6 +0.9**
OJC Ojcow 54.84 310 *e*P **P 17 48 54.0 -0.3**
OJC Ojcow 54.84 310 *e*P **P 17 48 54.0 -0.3**
KECS Kecovo 54.94 308 *e*P **P 17 48 55.7 +0.7**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KECS Kecovo 54.94 308 *e*P **P 17 48 55.7 +0.7**
VTS Vitosha 55.06 300 ⇑P **P 17 48 56.5 +0.6**
VTS Vitosha 55.06 300 ⇑*i*P **P 17 48 56.5 +0.6**
BZS Buzias 55.12 304 ⇑P **P 17 48 56.0 -0.3**
BZS Buzias 55.12 304 ⇑*i*P **P 17 48 56.0 -0.3**
HFS Hagfors 55.48 323 P **P 17 48 58.2 -0.5**
comp=Z,10.0nm,0.8s,mb4.9,baz=98,slow=6.1,SNR=11
HFS Hagfors 55.48 323 P **P 17 48 58.2 -0.5**
HFS Hagfors 55.48 323 P **P 17 48 58.2 -0.5**
HFS pmax pmax
comp=Z,10.0nm,0.8s
OKC Ostrava-Krasne 55.98 310 *e*P **P 17 49 02.4 0.0**
OKC Ostrava-Krasne 55.98 310 *e*P **P 17 49 02.4 0.0**
OKC *ep*P 17 49 06.1
VYHS Vyhne 55.98 308 *e*P **P 17 49 03.2 +0.8**
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VYHS Vyhne 55.98 308 *e*P **P 17 49 03.2 +0.8**
MORC Moravsky Berou 56.37 310 *e*P **P 17 49 05.2 0.0**
comp=Z,11nm,0.8s,mb4.9
MORC Moravsky Berou 56.37 310 ⇑P **P 17 49 05.8 +0.6**
MORC Moravsky Berou 56.37 310 ⇑*i*P **P 17 49 05.8 +0.6**
NOA NORSAR Array B 56.42 324 P **P 17 49 04.9 -0.5**
comp=Z,9.7nm,0.7s,mb4.9,baz=74,slow=7.2,SNR=13
NOA NORSAR Array B 56.42 324 P **P 17 49 04.9 -0.5**
NOA NORSAR Array B 56.42 324 P **P 17 49 04.9 -0.5**
NOA pmax pmax
comp=Z,10.0nm,0.7s
KRLC Kraliky 56.73 311 *e*P **P 17 49 07.8 0.0**
PKSM Moragy 56.87 306 ⇑P **P 17 49 08.8 -0.1**
PKSM Moragy 56.87 306 ⇑*i*P **P 17 49 08.8 -0.1**
DPC Dobruska-Polom 56.92 311 *e*P **P 17 49 09.9 +0.7**
DPC Dobruska-Polom 56.92 311 *e*P **P 17 49 09.9 +0.7**
DPC *ep*P 17 49 13.4
UPC Upice 57.06 311 *e*P **P 17 49 10.9 +0.8**
UPC Upice 57.06 311 *e*P **P 17 49 10.9 +0.8**
VRAC Vranov 57.10 310 P **P 17 49 10.9 +0.5**
comp=Z,7.2nm,0.9s,mb4.7,baz=69,slow=9.2,SNR=5.6
VRAC Vranov 57.10 310 P **P 17 49 10.9 +0.5**
VRAC Vranov 57.10 310 ⇓P **P 17 49 11.2 +0.7**
VRAC Vranov 57.10 310 ⇓*i*P **P 17 49 11.2 +0.7**
PVCC Panska Ves 57.92 312 *e*P **P 17 49 16.4 +0.2**
PVCC Panska Ves 57.92 312 *e*P **P 17 49 16.4 +0.2**
PVCC *ep*P 17 49 19.8
CONA Conrad Observa 58.04 309 *i*P **P 17 49 17.7 +0.6**
comp=Z,8.3nm,0.7s,mb4.9,SNR=11
PRU Pruhonice 58.12 311 *e*P **P 17 49 18.1 +0.5**
PRU Pruhonice 58.12 311 *e*P **P 17 49 18.1 +0.5**
PRU *ep*P 17 49 21.7
BRG Berggiesshubel 58.17 312 *i*P **P 17 49 18.2 +0.2**
comp=Z,9.3nm,0.9s,mb4.8
BRG *i* 17 49 21.8
comp=Z,12nm,0.8s
BRG Berggiesshubel 58.17 312 *e*P **P 17 49 18.2 +0.3**
comp=Z,9.0nm,0.9s,mb4.8
BRG Berggiesshubel 58.17 312 *i*P **P 17 49 18.2 +0.3**
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
CLL Collm 58.57 313 *e*P **P 17 49 20.6 -0.1**
comp=Z,7.0nm,0.8s,mb4.7
CLL Collm 58.57 313 *i*P **P 17 49 20.7 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CLL Collm 58.57 313 *i*P **P 17 49 20.7 0.0**
comp=Z,7.0nm,0.8s,mb4.7
CLL *i*pP 17 49 24.3
comp=Z,10.0nm,0.7s
PERS Pernice 58.99 307 *i*P **P 17 49 23.9 +0.2**
PERS *i* 17 49 27.4
KHC Kasperske Hory 59.02 311 *e*P **P 17 49 23.9 0.0**
comp=Z,8.0nm,1.0s,mb4.7
KHC Kasperske Hory 59.02 311 *e*P **P 17 49 23.7 -0.2**
KHC Kasperske Hory 59.02 311 *e*P **P 17 49 23.7 -0.2**
KHC *ep*P 17 49 27.4
SOKA Soboth 59.02 307 ⇑*i*P **P 17 49 24.3 +0.3**
comp=Z,9.1nm,0.8s,mb4.9
GEC2 GERESS Array S 59.05 310 *e*P **P 17 49 24.5 +0.4**
comp=Z,6.0nm,1.0s,mb4.6
GEC2 GERESS Array S 59.05 310 *e*P **P 17 49 24.5 +0.4**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
GERES GERESS Array B 59.05 310 P **P 17 49 24.5 +0.4**
comp=Z,4.5nm,0.8s,mb4.6,baz=68,slow=6.4,SNR=27
GERES LR LR 18 19 38.8
comp=Z,238nm,18.9s,MS4.3,baz=63,slow=41
GERES GERESS Array B 59.05 310 P **P 17 49 24.5 +0.4**
GERES GERESS Array B 59.05 310 P **P 17 49 24.5 +0.4**
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES MLR MLR
comp=Z,238nm,18.9s
MOA Molln 59.07 309 ⇑*i*P **P 17 49 24.6 +0.4**
comp=Z,5.8nm,0.7s,mb4.7
BSEG Bad Segeberg 59.16 317 *e*P **P 17 49 25.6 +0.8**
comp=Z,27nm,1.1s,mb5.2
BSEG Bad Segeberg 59.16 317 *e*P **P 17 49 25.6 +0.8**
BSEG pmax pmax
comp=Z,27nm,1.1s,mb5.2
TANN Tannenbergstha 59.21 312 *e*P **P 17 49 25.6 +0.4**
comp=Z,5.0nm,0.9s,mb4.5
BOJS Bojanci 59.33 306 *i*P **P 17 49 22.0 -4.1**
WET Wettzell 59.44 311 *e*P **P 17 49 27.3 +0.5**
comp=Z,9.0nm,1.3s,mb4.6
WET Wettzell 59.44 311 *e*P **P 17 49 27.3 +0.5**
WET pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
VISS Visnje 59.48 307 *i*P **P 17 49 30.8 +3.6**
ROTZ Rotzenmuhle 59.61 312 *e*P **P 17 49 28.8 +0.8**
comp=Z,11nm,0.9s,mb4.9
MOX Moxa 59.63 313 *e*P **P 17 49 28.4 +0.3**
comp=Z,9.0nm,1.3s,mb4.6
MOX Moxa 59.63 313 *e*P **P 17 49 28.4 +0.3**
MOX pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
NRDL Niedersach Rie 59.81 315 *e*P **P 17 49 30.0 +0.7**
comp=Z,20nm,1.0s,mb5.1
CLZ Clausthal 59.90 314 *e*P **P 17 49 30.4 +0.5**
comp=Z,12nm,0.8s,mb5.0
CLZ Clausthal 59.90 314 *e*P **P 17 49 30.4 +0.5**
CLZ pmax pmax
comp=Z,12nm,0.8s,mb5.0
JAVS Javornik 59.95 307 *i*P **P 17 49 30.5 +0.1**
GRF Grafenberg Arr 60.23 312 *e*P **P 17 49 33.0 +0.8**
comp=Z,14nm,0.8s,mb5.0
GRF *ep*P 17 49 35.8
GRF Grafenberg Arr 60.23 312 *e*P **P 17 49 33.0 +0.8**
GRF pmax pmax
comp=Z,14nm,0.8s,mb5.0
GRFO Grafenberg 60.23 312 *e*P **P 17 49 32.9 +0.7**
comp=Z,18nm,0.8s,mb5.1
GRFO Grafenberg 60.23 312 *e*P **P 17 49 32.9 +0.7**
GRFO pmax pmax
comp=Z,18nm,0.8s,mb5.2
FUR Furstenfeldbru 60.80 310 *e*P **P 17 49 37.0 +0.9**
comp=Z,17nm,0.9s,mb5.2
FUR Furstenfeldbru 60.80 310 *e*P **P 17 49 37.0 +0.9**
FUR pmax pmax
comp=Z,17nm,0.9s,mb5.2
WTTA Wattenberg 60.94 309 ⇓*i*P **P 17 49 37.4 +0.3**
comp=Z,13nm,0.6s,mb5.2,SNR=8.7
WATA Walderalm 60.95 309 ⇓*i*P **P 17 49 37.4 +0.2**
comp=Z,12nm,0.8s,mb5.1
FITZ Fitzroy Crossi 61.14 148 P **P 17 49 38.3 -0.4**
comp=Z,3.4nm,0.7s,mb4.6,baz=300,slow=9.7,SNR=5.3
FITZ Fitzroy Crossi 61.14 148 P **P 17 49 38.3 -0.4**
MOTA Moosalm 61.23 309 ⇑P **P 17 49 38.9 -0.2**
comp=Z,12nm,0.7s,mb5.1,SNR=8.9
FETA Feichten 61.60 309 *i*P **P 17 49 41.7 +0.1**
comp=Z,17nm,1.1s,mb5.2,SNR=12
STU Stuttgart 61.81 311 *e*P **P 17 49 43.2 +0.2**
comp=Z,4.0nm,0.6s,mb4.8
DAVOX Davos/Dischmat 62.23 309 P **P 17 49 45.9 +0.1**
comp=Z,20nm,0.5s,mb5.6,baz=76,slow=5.6,SNR=33

DAVOX	Davos/Dischmat	62.23 309	P	P	17 49 46.0	+0.1
DAVOX	Davos/Dischmat	62.23 309	P	P	17 49 46.0	+0.2
BFO	Black Forest	62.52 311	eP	P	17 49 47.9	+0.1
	comp=Z,3.0nm,0.9s,mb4.4					
BFO	Black Forest	62.52 311	eP	P	17 49 47.9	+0.1
BFO			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4					
TUE	Stuetta	62.69 309	eP	P	17 49 47.6	-1.4
	comp=Z,14nm,0.6s,mb5.2					
MEM	Membach	62.91 314	P	P	17 49 50.2	-0.2
CDF	Champ du Feu	63.12 312	eP	P	17 49 51.6	-0.2
	comp=Z,14nm,0.9s,mb4.8					
CDF	Champ du Feu	63.12 312	eP	P	17 49 51.6	-0.2
	comp=Z,14nm,0.9s,mb5.1					
CDF	Champ du Feu	63.12 312	eP	P	17 49 51.6	-0.2
CDF			pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1					
WLF	Walferdange	63.24 313	P	P	17 49 53.3	+0.8
	comp=Z,20nm,2.6s,mb4.8					
BCLA	Clavier	63.40 314	P	P	17 49 54.0	+0.4
	comp=Z,17nm,2.3s,mb4.8					
HINF	Hinteralfeld	63.64 311	eP	P	17 49 54.9	-0.3
	comp=Z,10.0nm,0.7s,mb4.9					
HINF	Hinteralfeld	63.64 311	eP	P	17 49 54.9	-0.3
	comp=Z,10.0nm,0.7s,mb5.2					
HINF	Hinteralfeld	63.64 311	eP	P	17 49 54.9	-0.3
HINF			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.2					
GIVF	Givet	63.81 314	eP	P	17 49 56.6	+0.3
	comp=Z,20nm,0.7s,mb5.2					
GIVF	Givet	63.81 314	eP	P	17 49 56.6	+0.3
	comp=Z,20nm,0.7s,mb5.5					
GIVF	Givet	63.81 314	eP	P	17 49 56.6	+0.3
GIVF			pmax	pmax		
	comp=Z,20nm,0.7s,mb5.5					
HAU	Haudompre	63.86 312	eP	P	17 49 56.5	-0.1
	comp=Z,13nm,0.8s,mb4.9					
HAU	Haudompre	63.86 312	eP	P	17 49 56.5	-0.1
	comp=Z,13nm,0.8s,mb5.2					
HAU	Haudompre	63.86 312	eP	P	17 49 56.5	-0.1
HAU			pmax	pmax		
	comp=Z,13nm,0.8s,mb5.2					
SNF	Seneffe	63.94 315	P	P	17 49 57.5	+0.4
DOU	Dourbes	63.95 314	P	P	17 49 57.5	+0.3
	comp=Z,23nm,3.4s					
PAGF	Fort de Pagny	63.98 312	eP	P	17 49 57.8	+0.3
PAGF	Fort de Pagny	63.98 312	eP	P	17 49 57.8	+0.3
BAIF	Baives	64.19 314	eP	P	17 49 59.1	+0.3
	comp=Z,29nm,1.0s,mb5.2					
BAIF	Baives	64.19 314	eP	P	17 49 59.1	+0.3
	comp=Z,29nm,1.0s,mb5.5					
BAIF	Baives	64.19 314	eP	P	17 49 59.1	+0.3
BAIF			pmax	pmax		
	comp=Z,29nm,1.0s,mb5.5					
CABF	La Chapelle	64.65 310	eP	P	17 50 01.5	-0.3
CABF	La Chapelle	64.65 310	eP	P	17 50 01.5	-0.3
CABF	La Chapelle	64.65 310	eP	P	17 50 01.5	-0.3
PGF	Pioggiola	64.67 305	eP	P	17 50 02.3	+0.2
	comp=Z,84nm,1.1s,mb5.6					
PGF	Pioggiola	64.67 305	eP	P	17 50 02.3	+0.2
	comp=Z,84nm,1.1s,mb5.9					
PGF	Pioggiola	64.67 305	eP	P	17 50 02.3	+0.2
PGF			pmax	pmax		
	comp=Z,84nm,1.1s,mb5.9					
LPG	La Plagne	64.75 309	eP	P	17 50 03.3	+0.8
	comp=Z,32nm,0.7s,mb5.4					
LPG	La Plagne	64.75 309	eP	P	17 50 03.3	+0.8
	comp=Z,32nm,0.7s,mb5.7					
LPG	La Plagne	64.75 309	eP	P	17 50 03.3	+0.8
LPG			pmax	pmax		
	comp=Z,32nm,0.7s,mb5.7					
LPL	La Plagne	64.75 309	eP	P	17 50 03.2	+0.7
	comp=Z,29nm,0.7s,mb5.3					
LPL	La Plagne	64.75 309	eP	P	17 50 03.2	+0.7
	comp=Z,29nm,0.7s,mb5.6					
LPL	La Plagne	64.75 309	eP	P	17 50 03.2	+0.7
LPL			pmax	pmax		
	comp=Z,29nm,0.7s,mb5.6					
COLD	Coldfoot	64.83 23	eP	P	17 50 02.4	-0.3
	comp=Z,7.6nm,1.1s,mb4.8					
BNI	Bardonecchia	65.00 309	eP	P	17 50 04.1	-0.1
	comp=Z,6.8nm,0.6s,mb5.0					
BNI	Bardonecchia	65.00 309	eP	P	17 50 04.1	-0.1
BNI			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.1					
SBF	Sospel	65.07 307	eP	P	17 50 04.6	-0.1
	comp=Z,70nm,0.8s,mb5.6					
SBF	Sospel	65.07 307	eP	P	17 50 04.6	-0.1
	comp=Z,70nm,0.8s,mb5.9					
SBF	Sospel	65.07 307	eP	P	17 50 04.6	-0.1
SBF			pmax	pmax		
	comp=Z,70nm,0.8s,mb5.9					
MBDF	Montbardon	65.09 308	eP	P	17 50 04.7	-0.1
	comp=Z,15nm,0.6s,mb5.1					
MBDF	Montbardon	65.09 308	eP	P	17 50 04.7	-0.1
	comp=Z,15nm,0.6s,mb5.4					
MBDF	Montbardon	65.09 308	eP	P	17 50 04.7	-0.1
MBDF			pmax	pmax		
	comp=Z,15nm,0.6s,mb5.4					
ORIF	Oris-en-Rattie	65.56 309	eP	P	17 50 07.7	-0.1
	comp=Z,19nm,0.6s,mb5.2					
ORIF	Oris-en-Rattie	65.56 309	eP	P	17 50 07.7	-0.1
	comp=Z,19nm,0.6s,mb5.5					
ORIF	Oris-en-Rattie	65.56 309	eP	P	17 50 07.7	-0.1
ORIF			pmax	pmax		
	comp=Z,19nm,0.6s,mb5.5					
FRF	La Foret Royal	65.72 307	eP	P	17 50 08.3	-0.6
	comp=Z,20nm,0.8s,mb5.1					
FRF	La Foret Royal	65.72 307	eP	P	17 50 08.3	-0.6
	comp=Z,20nm,0.8s,mb5.4					
FRF	La Foret Royal	65.72 307	eP	P	17 50 08.3	-0.6
FRF			pmax	pmax		
	comp=Z,20nm,0.8s,mb5.4					
LMR	La Mourre	65.92 307	eP	P	17 50 10.3	+0.2
LMR	La Mourre	65.92 307	eP	P	17 50 10.3	+0.2
LMR	La Mourre	65.92 307	eP	P	17 50 10.3	+0.2
SMF	Signal de Mont	66.00 311	eP	P	17 50 10.3	-0.3
	comp=Z,37nm,0.8s,mb5.4					
SMF	Signal de Mont	66.00 311	eP	P	17 50 10.3	-0.3
	comp=Z,37nm,0.8s,mb5.7					
SMF	Signal de Mont	66.00 311	eP	P	17 50 10.3	-0.3
SMF			pmax	pmax		
	comp=Z,37nm,0.8s,mb5.7					
SSF	Saint Saulge	66.00 312	eP	P	17 50 10.1	-0.5
	comp=Z,15nm,1.0s,mb4.9					
SSF	Saint Saulge	66.00 312	eP	P	17 50 10.1	-0.5
	comp=Z,15nm,1.0s,mb5.2					
SSF	Saint Saulge	66.00 312	eP	P	17 50 10.1	-0.5
SSF			pmax	pmax		
	comp=Z,15nm,1.0s,mb5.2					
PMG	Port Moresby	66.11 123	P	P	17 50 11.7	+0.1
	comp=Z,8.1nm,0.8s,mb5.0,baz=224,slow=9.4,SNR=4.0					
PMG	Port Moresby	66.11 123	P	P	17 50 11.7	+0.1
PMG	Port Moresby	66.11 123	P	P	17 50 11.7	0.0
PMG			pmax	pmax		
	comp=Z,8.0nm,0.8s					
SMRF	Simiane la Rot	66.20 308	eP	P	17 50 12.2	+0.2
SMRF	Simiane la Rot	66.20 308	eP	P	17 50 12.2	+0.2
AVF	Avril sur Loir	66.22 311	eP	P	17 50 11.6	-0.5
	comp=Z,28nm,1.0s,mb5.2					
AVF	Avril sur Loir	66.22 311	eP	P	17 50 11.6	-0.5
	comp=Z,28nm,1.0s,mb5.4					
AVF	Avril sur Loir	66.22 311	eP	P	17 50 11.6	-0.5
AVF			pmax	pmax		
	comp=Z,28nm,1.0s,mb5.5					
VIVF	Saint-Julien-l	66.35 309	eP	P	17 50 12.7	-0.2
VIVF	Saint-Julien-l	66.35 309	eP	P	17 50 12.7	-0.2
VIVF	Saint-Julien-l	66.35 309	eP	P	17 50 12.7	-0.2
HYF	Humbligny	66.42 312	eP	P	17 50 13.3	0.0
HYF	Humbligny	66.42 312	eP	P	17 50 13.3	0.0
KMBO	Kilima Mbogo	66.47 250	eP	P	17 50 14.0	-0.1
	comp=Z,4.4nm,0.9s,mb4.7					
KMBO	Kilima Mbogo	66.47 250	eP	P	17 50 14.0	-0.1
KMBO			pmax	pmax		
	comp=Z,4.0nm,0.9s					
BGF	Bois d'Agland	66.64 311	eP	P	17 50 14.4	-0.3
BGF	Bois d'Agland	66.64 311	eP	P	17 50 14.4	-0.3
BGF	Bois d'Agland	66.64 311	eP	P	17 50 14.4	-0.3
WRAB	Tennant Creek	66.79 141	eP	P	17 50 13.9	-1.9
WRAB	Tennant Creek	66.79 141	eP	P	17 50 13.9	-2.0
WRA	Warramunga Arr	66.79 141	P	P	17 50 15.0	-0.9
	comp=Z,7.1nm,1.0s,mb4.9,baz=337,slow=7.0,SNR=18					
WRA	Warramunga Arr	66.79 141	P	P	17 50 15.0	-0.9
WRA	Warramunga Arr	66.79 141	P	P	17 50 15.0	-0.9
WRA			pmax	pmax		
	comp=Z,7.0nm,1.0s					
COEN	Coen	66.94 130	eP	P	17 50 16.4	-0.6
COEN	Coen	66.94 130	eP	P	17 50 16.4	-0.5
	comp=Z,306nm,1.9s,mb6.2					
LASF	Ste Croix	67.24 309	eP	P	17 50 18.8	+0.2
	comp=Z,29nm,0.8s,mb5.2					
LASF	Ste Croix	67.24 309	eP	P	17 50 18.8	+0.2
	comp=Z,29nm,0.8s,mb5.6					
LDF	La Druitiere	67.38 314	eP	P	17 50 19.0	-0.4
	comp=Z,11nm,0.5s,mb5.0					
LDF	La Druitiere	67.38 314	eP	P	17 50 19.0	-0.4
	comp=Z,11nm,0.5s,mb5.3					
LDF	La Druitiere	67.38 314	eP	P	17 50 19.0	-0.4
LDF			pmax	pmax		
	comp=Z,11nm,0.5s,mb5.3					
ILAR	Eielson Array	67.40 25	P	P	17 50 17.7	-1.5
	comp=Z,1.3nm,0.9s,mb4.2,baz=288,slow=5.5,SNR=12					
ILAR			LR	LR	18 23 47.2	
	comp=Z,84nm,18.4s,MS4.0,baz=358,slow=40					
ILAR	Eielson Array	67.40 25	P	P	17 50 17.7	-1.5
ILAR	Eielson Array	67.40 25	P	P	17 50 17.7	-1.5
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
ILAR			MLR	MLR		
	comp=Z,84nm,18.4s					
FLN	La Foliniere	67.50 315	eP	P	17 50 19.9	-0.2
FLN	La Foliniere	67.50 315	eP	P	17 50 19.9	-0.2
FLN	La Foliniere	67.50 315	eP	P	17 50 19.9	-0.2
GRR	Gorron	67.90 314	eP	P	17 50 22.4	-0.3
	comp=Z,48nm,0.8s,mb5.5					
GRR	Gorron	67.90 314	eP	P	17 50 22.4	-0.3
	comp=Z,48nm,0.8s,mb5.8					
GRR	Gorron	67.90 314	eP	P	17 50 22.4	-0.3
GRR			pmax	pmax		
	comp=Z,48nm,0.8s,mb5.8					
CAF	Calviac	67.93 310	eP	P	17 50 23.3	+0.4
	comp=Z,18nm,1.0s,mb5.0					
CAF	Calviac	67.93 310	eP	P	17 50 23.3	+0.4
	comp=Z,18nm,1.0s,mb5.3					
CAF	Calviac	67.93 310	eP	P	17 50 23.3	+0.4
CAF			pmax	pmax		
	comp=Z,18nm,1.0s,mb5.3					
RJF	Les Rejaudoux	68.07 311	eP	P	17 50 24.2	+0.4
RJF	Les Rejaudoux	68.07 311	eP	P	17 50 24.2	+0.4
RJF	Les Rejaudoux	68.07 311	eP	P	17 50 24.2	+0.4
MFF	Saint Martin d	68.41 313	eP	P	17 50 25.7	-0.2
	comp=Z,16nm,0.8s,mb5.0					
MFF	Saint Martin d	68.41 313	eP	P	17 50 25.7	-0.2
	comp=Z,16nm,0.8s,mb5.3					
MFF	Saint Martin d	68.41 313	eP	P	17 50 25.7	-0.2
MFF			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.3					
RES	Resolute Bay	68.56 3	P	P	17 50 26.1	-0.2
	comp=Z,4.4nm,1.1s,mb4.6,baz=356,slow=8.2,SNR=7.6					
RES	Resolute Bay	68.56 3	P	P	17 50 26.1	-0.2
RES	Resolute Bay	68.56 3	P	P	17 50 26.2	-0.2
RES			pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.6					
MTLF	Montolieu	68.64 309	eP	P	17 50 27.4	0.0
	comp=Z,8.6nm,0.7s,mb4.8					
MTLF	Montolieu	68.64 309	eP	P	17 50 27.4	0.0
	comp=Z,8.6nm,0.7s,mb5.1					
MTLF	Montolieu	68.64 309	eP	P	17 50 27.4	0.0
MTLF			pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.1					
LFF	La Frestale	68.73 311	eP	P	17 50 28.3	+0.4
	comp=Z,41nm,0.8s,mb5.4					
LFF	La Frestale	68.73 311	eP	P	17 50 28.3	+0.4
	comp=Z,41nm,0.8s,mb5.7					
LFF	La Frestale	68.73 311	eP	P	17 50 28.3	+0.4
LFF			pmax	pmax		
	comp=Z,41nm,0.8s,mb5.7					
SML	Sawmill	68.76 27	eP	P	17 50 27.4	-0.4
	comp=Z,13nm,1.6s,mb4.9					
SML	Sawmill	68.76 27	eP	P	17 50 27.4	-0.4
SML			pmax	pmax		
	comp=Z,13nm,1.6s,mb4.9					
INK	Inuvik	68.81 18	P	P	17 50 27.4	-0.7
	comp=Z,6.0nm,0.7s,mb4.9,baz=324,slow=6.2,SNR=19					
INK	Inuvik	68.81 18	P	P	17 50 27.4	-0.7
INK	Inuvik	68.81 18	P	P	17 50 27.4	-0.6
INK			pmax	pmax		
	comp=Z,6.0nm,0.7s					
SGMF	Saint Gilles	68.94 315	eP	P	17 50 29.4	+0.2
	comp=Z,33nm,0.8s,mb5.3					
SGMF	Saint Gilles	68.94 315	eP	P	17 50 29.4	+0.2
	comp=Z,33nm,0.8s,mb5.6					
SGMF	Saint Gilles	68.94 315	eP	P	17 50 29.4	+0.2
SGMF			pmax	pmax		
	comp=Z,33nm,0.8s,mb5.6					
QUIF	Quistinic	69.47 315	eP	P	17 50 32.5	0.0
	comp=Z,13nm,0.7s,mb5.0					
QUIF	Quistinic	69.47 315	eP	P	17 50 32.5	0.0
	comp=Z,13nm,0.7s,mb5.3					
QUIF	Quistinic	69.47 315	eP	P	17 50 32.5	0.0
QUIF			pmax	pmax		
	comp=Z,13nm,0.7s,mb5.3					
KDAK	Kodiak Island	69.53 32	P	P	17 50 31.4	-1.3
	comp=Z,12nm,0.9s,mb5.0,baz=323,slow=10,SNR=3.5					
KDAK			LR	LR	18 21 07.1	
	comp=Z,81nm,21.7s,MS3.9,baz=110,slow=36					
KDAK	Kodiak Island	69.53 32	P	P	17 50 31.4	-1.3
KDAK	Kodiak Island	69.53 32	P	P	17 50 31.5	-1.2
KDAK			pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0					
KDAK			MLR	MLR		
	comp=Z,81nm,21.7s,MS3.9					
AS31	Alice Springs	69.72 144	eP	P	17 50 33.6	-0.6
ASAR	Alice Springs	69.72 144	P	P	17 50 33.7	-0.5
	comp=Z,4.9nm,0.8s,mb4.7,baz=326,slow=6.0,SNR=43					
ASAR	Alice Springs	69.72 144	P	P	17 50 33.7	-0.5
ASAR	Alice Springs	69.72 144	P	P	17 50 33.7	-0.5
ASAR			pmax	pmax		
	comp=Z,5.0nm,0.8s					
EPF	Esparros	69.97 309	eP	P	17 50 35.9	+0.2
	comp=Z,11nm,0.8s,mb4.8					
EPF	Esparros	69.97 309	eP	P	17 50 35.9	+0.2
	comp=Z,11nm,0.8s,mb5.0					
EPF	Esparros	69.97 309	eP	P	17 50 35.9	+0.2
EPF			pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0					
ETSF	Etsaut	70.60 309	eP	P	17 50 40.7	+1.2
	comp=Z,16nm,0.8s,mb4.9					
ETSF	Etsaut	70.60 309	eP	P	17 50 40.7	+1.2
	comp=Z,16nm,0.8s,mb5.2					
ETSF	Etsaut	70.60 309	eP	P	17 50 40.7	+1.2
ETSF			pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2					
MTSU	Mount Surprise	70.86 132	eP	P	17 50 41.2	-0.1
	comp=Z,14nm,0.9s,mb5.1					
SJPF	Ste Jean	70.90 310	eP	P	17 50 42.0	+0.7
SJPF	Ste Jean	70.90 310	eP	P	17 50 42.0	+0.7
SJPF	Ste Jean	70.90 310	eP	P	17 50 42.0	+0.7
NWAO	Narrogin (SRO)	72.01 162	P	P	17 50 46.2	-1.7
	comp=Z,14nm,1.0s,mb5.0,baz=335,slow=8.6,SNR=5.6					
NWAO	Narrogin (SRO)	72.01 162	P	P	17 50 46.2	-1.7
NWAO	Narrogin (SRO)	72.01 162	P	P	17 50 46.3	-1.6
NWAO			pmax	pmax		
	comp=Z,14nm,1.0s					
OPO	Ambohidratompo	72.05 229	P	P	17 50 47.6	-0.9
	comp=Z,3.5nm,0.9s,mb4.5,baz=13,slow=2.8,SNR=4.1					
OPO	Ambohidratompo	72.05 229	P	P	17 50 47.6	-0.9
CTA	Charters Tower	73.52 132	P	P	17 50 56.7	-0.5
	comp=Z,5.9nm,0.9s,mb4.6,baz=328,slow=7.6,SNR=7.3					
CTA	Charters Tower	73.52 132	P	P	17 50 56.7	-0.5
CTA	Charters Tower	73.52 132	P	P	17 50 56.7	-0.5
CTA			pmax	pmax		
	comp=Z,6.0nm,0.9s					
ESDC	Sonseca Array	74.52 308	P	P	17 51 02.6	-0.3
	comp=Z,2.8nm,0.6s,mb4.5,baz=46,slow=5.6,SNR=15					
ESDC	Sonseca Array	74.52 308	P	P	17 51 02.6	-0.3
HNR	Honiara	75.13 114	LR	LR	18 21 39.1	
	comp=Z,87nm,18.2s,MS4.1,baz=136,slow=34					
DLBC	Dease Lake	77.51 23	LR	LR	18 26 17.5	
	comp=Z,77nm,18.4s,MS4.1,baz=252,slow=36					
YKA	Yellowknife Ar	77.95 14	P	P	17 51 21.0	-1.0
	comp=Z,3.4nm,0.8s,mb4.5,baz=330,slow=4.9,SNR=29					
YKA	Yellowknife Ar	77.95 14	P	P	17 51 21.0	-1.0
YKA	Yellowknife Ar	77.95 14	P	P	17 51 21.0	-1.0
YKA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
FRB	Frobisher Bay	79.10 353	P	P	17 51 27.0	-1.4
	comp=Z,5.9nm,0.8s,mb4.7,baz=360,slow=6.7,SNR=10					
FRB			LR	LR	18 27 07.4	
	comp=Z,122nm,18.3s,MS4.3,baz=333,slow=36					
FRB	Frobisher Bay	79.10 353	P	P	17 51 27.0	-1.4
FRB	Frobisher Bay	79.10 353	P	P	17 51 27.0	-1.4
FRB			pmax	pmax		
	comp=Z,6.0nm,0.8s					
FRB			MLR	MLR		
	comp=Z,123nm,18.3s					
RMQ	Roma	79.88 134	eP	P	17 51 33.5	+0.5
	comp=Z,12nm,0.8s,mb4.9					
STKA	Stephens Creek	80.29 142	P	P	17 51 34.2	-0.9
	comp=Z,3.5nm,0.9s,mb4.3,baz=313,slow=3.9,SNR=4.4					
STKA	Stephens Creek	80.29 142	P	P	17 51 34.2	-0.9
STKA	Stephens Creek	80.29 142	P	P	17 51 34.2	-0.9
STKA			pmax	pmax		
	comp=Z,4.0nm,0.9s					
CMSA	Cobar Meteorol	82.10 139	eP	P	17 51 44.6	-0.2
MSKU	Masuku	85.26 264	P	P	17 52 00.8	-0.6
	comp=Z,11nm,0.7s,mb5.2,baz=139,slow=9.3,SNR=4.4					
MSKU	Masuku	85.26 264	P	P	17 52 00.8	-0.6
TORD	Torodi Ar. Bea	86.00 283	P	P	17 52 04.0	-1.2
	comp=Z,1.1nm,0.7s,mb4.1,baz=41,slow=4.4,SNR=7.5					
TORD	Torodi Ar. Bea	86.00 283	P	P	17 52 04.0	-1.2
FFC	Flin Flon	87.49 11	iP	P	17 52 11.2	-0.6
SCHQ	Schefferville	87.63 350	P	P	17 52 14.0	+1.5
	comp=Z,5.9nm,1.0s,mb4.9,baz=41,slow=5.9,SNR=4.2					
SCHQ	Schefferville	87.63 350	P	P	17 52 14.0	+1.5
DBIC	Dimbokro	95.04 282	LR	LR	18 42 38.5	
	comp=Z,73nm,19.6s,MS4.2,baz=2.1,slow=40					
NVAR	Mina Array Bea	98.57 27	P	P	17 53 02.0	-1.2
	comp=Z,0.3nm,0.7s,mb4.1,baz=352,slow=5.5,SNR=2.6					
NVAR	Mina Array Bea	98.57 27	P	P	17 53 02.0	-1.2
SADO	Sadowa	98.73 357	LR	LR	18 39 42.3	
	comp=Z,92nm,18.5s,MS4.3,baz=341,slow=37					
QSPA	South Pole Qui	126.55 180	PKP	PKPdf	17 58 25.0	-1.2
	comp=Z,2.6nm,0.8s,baz=96,slow=2.7,SNR=8.1					
QSPA	South Pole Qui	126.55 180	PKP	PKPdf	17 58 25.0	-1.2
VNA2	Neumayer--Watz	128.77 204	e	PKPdf	17 58 30.6	0.0
	baz=50,slow=1.7					
VNA2			e		17 58 38.5	
SAML	Samuel	146.70 321	ePKPdf	PKPdf	17 59 04.0	-1.1
ATAH	Atahualpa	150.12 350	PKPbc	PKPbc	17 59 16.4	+0.7
	comp=Z,7.7nm,0.8s,baz=47,slow=1.1,SNR=5.6					
ATAH	Atahualpa	150.12 350	PKPbc	PKPbc	17 59 16.4	+0.7
SIV	San Ignacio	151.26 310	PKP	PKPdf	17 59 11.6	-0.8
	comp=Z,1.3nm,0.9s,baz=95,slow=3.5,SNR=4.4					
SIV			PKPbc	PKPbc	17 59 17.6	-0.8
	comp=Z,6.1nm,0.8s,baz=95,slow=3.5,SNR=24					
SIV	San Ignacio	151.26 310	PKP	PKPdf	17 59 11.6	-0.8
SIV			PKPbc	PKPbc	17 59 17.6	-0.8

IDC 18 17:39:23.0±45.0, 17°.46S×176°.99W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=836.4km s-min=160.4km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.03 241		P	P	17 47 00.6	+0.7
	1.4nm,0.7s,baz=68,slow=5.4,SNR=4.2						
WRA	Warramunga Arr	46.04 259		P	P	17 47 48.5	-0.2
	0.2nm,0.3s,baz=96,slow=7.5,SNR=13						
ASAR	Alice Springs	46.21 254		P	P	17 47 49.6	-0.4
	1.6nm,0.7s,baz=89,slow=8.3,SNR=24						

*ISK **18** 18:56:19.3, 40°.52N×42°.35E, h5km, ML2.3*
*ISCJB **18** 18:56:20.6±0.5, 40°.51N±0°.03×42°.37E±0°.04, h8km±6km, Error ellipse: s-maj=5.3km s-min=3.8km az=140.0*
*CSEM **18** 18:56:20.2±0.2, 40°.48N×42°.35E, h2km, ML2.3, Error ellipse: s-maj=6.7km s-min=4.5km az=35.0*
*DDA **18** 18:56:20.2, 40°.51N×42°.42E, h7km±3km, Md3.1*
ISC 18 18:56:21.1±0.4, 40°.50N±0°.03×42°.37E±0°.04, h5km±8km, n25, σ1.9 07/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	Kars	0.56	77	ePG	Pg	18 56 31.7	-0.1
KARS				eSG	Sg	18 56 40.7	+1.6
KARS	Kars	0.56	77	ePg	Pg	18 56 31.7	-0.1
KARS				eSg	Sg	18 56 40.7	+1.6
HOMI	Horasan	0.58	218	iP	Pg	18 56 30.9	-1.3
HOMI				iS	Sg	18 56 40.8	+1.1
DDEM	Demirkent	0.61	310	iP	Pg	18 56 32.5	-0.4
DDEM				iS	Sg	18 56 42.7	+1.9
DDEM	Demirkent	0.61	310	iP	Pg	18 56 32.5	-0.4
DDEM				iS	Sg	18 56 42.7	+1.9
DAGI	Agillar	0.67	329	iP	Pg	18 56 33.8	-0.2
DAGI				iS	Sg	18 56 43.6	+0.9
ARTV	Artvin	0.76	334	iP	Pg	18 56 34.7	-1.1
ARTV				iS	Sg	18 56 46.2	+0.6
ARTV	Artvin	0.76	334	iP	Pg	18 56 34.7	-1.0
ARTV				iS	Sg	18 56 46.2	+0.6
DIGO	Kars	0.77	96	iP	Pg	18 56 33.8	-2.2
DIGO				iS	Sg	18 56 45.5	-0.5
DIGO	Kars	0.77	96	iP	Pg	18 56 33.8	-2.2
DIGO				iS	Sg	18 56 45.5	-0.5
EZM	Erzurum	0.97	233	ePG	Pg	18 56 39.1	-0.6
AGRB	Hanur-Agry	1.04	152	ePG	Pg	18 56 40.6	-0.5
AGRB				eSG	Sg	18 56 56.9	+2.3
AGRB	Hanur-Agry	1.04	152	ePg	Pg	18 56 40.7	-0.4
BCA	Borcka	1.10	329	ePG	Pg	18 56 41.1	-1.1
BCA	Borcka	1.10	329	ePg	Pg	18 56 41.1	-1.1
TUTA	Tutak	1.15	162	iP	Pg	18 56 41.7	-1.5
TUTA				iS	Sg	18 56 59.1	+1.0
TUTA	Tutak	1.15	162	iP	Pg	18 56 41.7	-1.5
TUTA				iS	Sg	18 56 59.1	+1.0
BAYT	Ayd¨–ntepe-Bay	1.70	267	ePN	Pn	18 56 51.1	-0.3
BAYT	Ayd¨–ntepe-Bay	1.70	267	ePn	Pn	18 56 51.1	-0.3
CLDR	Caldiran	1.81	138	ePN	Pn	18 56 53.1	+0.2
CLDR	Caldiran	1.81	138	ePn	Pn	18 56 53.1	+0.2
GNI	Garni	1.85	100	ePN	Pn	18 56 54.1	+0.6
GNI	Garni	1.85	100	ePn	Pn

*CSEM **18** 19:21:25.8±0.2, 28°.25N×52°.41E, h20km, ML3.6, Error ellipse: s-maj=7.1km s-min=5.3km az=164.0*
*SGS **18** 19:21:27.0, 28°.26N×52°.40E, h18km*
ISC 18 19:21:24.5±0.4, 28°24N±0°.05×52°.40E±0°.05, h10km, n88, σ0s81/83, mb3.6/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**3.45**	**103**	*e*Pn	**Pn**	**19 22 18.0**	**-0.2**
BNDS	**Bandar-Abbas**	**3.45**	**103**	*e*Pn	**Pn**	**19 22 18.1**	**-0.1**
BNDS				AML	AML	19 23 49.6	
	comp=N,100nm,0.7s						
BNDS	**Bandar-Abbas**	**3.45**	**103**	*e*Pn	**Pn**	**19 22 18.1**	**-0.1**
SLWS		**3.77**	**205**	P	**Pn**	**19 22 22.7**	**-0.1**
SLWS		**3.77**	**205**	P	**Pn**	**19 22 22.7**	**0.0**
KRBR	**Kerman**	**4.19**	**65**	*e*Pn	**Pn**	**19 22 29.0**	**+0.5**
KRBR	**Kerman**	**4.19**	**65**	*e*Pn	**Pn**	**19 22 29.6**	**+1.1**
KRBR				AML	AML	19 23 44.0	
	comp=E,63nm,0.7s						
KRBR				AML	AML	19 23 49.4	
	comp=N,59nm,0.7s						
KRBR	**Kerman**	**4.19**	**65**	*e*Pn	**Pn**	**19 22 29.0**	**+0.5**
RDF	**Al-Radifah**	**4.32**	**280**	*e*P	**Pn**	**19 22 31.0**	**+0.8**
RDF				AML	AML	19 23 40.9	
	comp=Z,38nm,0.6s						
RDF	**Al-Radifah**	**4.32**	**280**	*e*P	**Pn**	**19 22 31.0**	**+0.8**
BTHS		**4.41**	**199**	P	**Pn**	**19 22 31.4**	**0.0**
BTHS		**4.41**	**199**	P	**Pn**	**19 22 31.5**	**+0.1**
NASN	**Na'in**	**4.55**	**4**	*e*Pn	**Pn**	**19 22 33.0**	**-0.4**
NASN	**Na'in**	**4.55**	**4**	*e*Pn	**Pn**	**19 22 33.3**	**-0.1**
NASN	**Na'in**	**4.55**	**4**	*e*Pn	**Pn**	**19 22 33.3**	**-0.1**
NAY	**Al-Naaiem**	**4.63**	**284**	*e*P	**Pn**	**19 22 35.2**	**+0.7**
NAY				AML	AML	19 23 42.1	
	comp=Z,17nm,0.7s						
NAY	**Al-Naaiem**	**4.63**	**284**	*e*P	**Pn**	**19 22 35.2**	**+0.6**
MIB	**Mutribah**	**4.69**	**291**	*e*P	**Pn**	**19 22 36.4**	**+1.0**
MIB				AML	AML	19 23 35.9	
	comp=Z,42nm,0.6s						
MIB	**Mutribah**	**4.69**	**291**	*e*P	**Pn**	**19 22 36.4**	**+1.0**
HRDDS		**5.92**	**207**	P	**Pn**	**19 22 52.2**	**0.0**
ASAO	**Ashtian**	**6.60**	**343**	*e*Pn	**Pn**	**19 23 00.0**	**-1.6**
ASAO	**Ashtian**	**6.60**	**343**	*e*Pn	**Pn**	**19 23 00.9**	**-0.7**
ASAO	**Ashtian**	**6.60**	**343**	*e*Pn	**Pn**	**19 23 00.9**	**-0.7**
TABS	**Tabas**	**6.74**	**36**	*e*Pn	**Pn**	**19 23 04.0**	**+0.5**
TABS	**Tabas**	**6.74**	**36**	*e*Pn	**Pn**	**19 23 04.0**	**+0.5**
ASYS		**7.17**	**266**	P	**Pn**	**19 23 07.7**	**-1.7**
DAMV	**Damavand**	**7.37**	**357**	*e*Pn	**Pn**	**19 23 12.0**	**-0.2**
DAMV	**Damavand**	**7.37**	**357**	*e*Pn	**Pn**	**19 23 12.1**	**0.0**
DAMV	**Damavand**	**7.37**	**357**	*e*Pn	**Pn**	**19 23 12.1**	**-0.1**
ZHSF	**Zahedan**	**7.47**	**77**	*e*Pn	**Pn**	**19 23 14.0**	**+0.5**
ZHSF	**Zahedan**	**7.47**	**77**	*e*Pn	**Pn**	**19 23 14.7**	**+1.2**
ZHSF	**Zahedan**	**7.47**	**77**	*e*Pn	**Pn**	**19 23 14.0**	**+0.5**
SNGE	**Sanandaj**	**8.07**	**329**	*e*Pn	**Pn**	**19 23 20.0**	**-1.7**
SNGE	**Sanandaj**	**8.07**	**329**	*e*Pn	**Pn**	**19 23 20.2**	**-1.5**
SNGE	**Sanandaj**	**8.07**	**329**	*e*Pn	**Pn**	**19 23 20.2**	**-1.5**
BHD	**Baghdad**	**8.52**	**308**	*ex*	x	19 23 37.5	
BHD				*ex*	x	19 25 21.5	
GNI	**Garni**	**13.45**	**334**	LR	LR	19 29 37.7	
	comp=Z,55nm,19.5s,baz=251,slow=37						
ASF	**Jabal al Asfar**	**13.96**	**290**	LR	LR	19 30 29.8	
	comp=Z,38nm,19.5s,baz=163,slow=39						
EIL	**Elat**	**15.34**	**279**	Pn	**Pn**	**19 25 02.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=2.2						
EIL	**Elat**	**15.34**	**279**	Pn	**Pn**	**19 25 02.4**	**+1.3**
EIL	**Elat**	**15.34**	**279**	Pn	**Pn**	**19 25 02.4**	**+1.3**
MMAI	**Mount Meron Ar**	**15.38**	**292**	Pn	**Pn**	**19 25 02.7**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=108,slow=12,SNR=2.8						
MMAI	**Mount Meron Ar**	**15.38**	**292**	Pn	**Pn**	**19 25 02.7**	**+1.1**
MMAI	**Mount Meron Ar**	**15.38**	**292**	Pn	**Pn**	**19 25 02.7**	**+1.1**
ATD	**Arta Tunnel**	**18.88**	**210**	LR	LR	19 33 20.0	
	comp=Z,38nm,19.8s,baz=345,slow=38						
BRTR	**Keskin Array B**	**19.27**	**311**	P	**Pn**	**19 25 50.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=135,slow=12,SNR=21						
BRTR	**Keskin Array B**	**19.27**	**311**	P	**Pn**	**19 25 50.0**	**-0.2**
BRTR	**Keskin Array B**	**19.27**	**311**	P	**Pn**	**19 25 50.0**	**-0.2**
BR131	**Keskin Array S**	**19.27**	**311**	*e*P	**Pn**	**19 25 49.8**	**-0.4**
	comp=Z,2.0nm,0.6s						
BR131	**Keskin Array S**	**19.27**	**311**	*e*P	**Pn**	**19 25 49.8**	**-0.4**
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**21.77**	**13**	*e*P	**P**	**19 26 17.4**	**+1.2**
	comp=Z,1.0nm,0.5s,mb3.5						
ABKAR	**Akbulak array**	**21.77**	**13**	*e*P	**P**	**19 26 17.4**	**+1.2**
	comp=Z,0.9nm,0.5s,mb3.5						
AKTO	**Aktyubinsk**	**22.57**	**9**	P	**P**	**19 26 26.4**	**+1.6**
	comp=Z,0.5nm,0.4s,mb3.3,baz=188,slow=15,SNR=3.2						
AKTO	**Aktyubinsk**	**22.57**	**9**	P	**P**	**19 26 26.4**	**+1.6**
AKTO	**Aktyubinsk**	**22.57**	**9**	P	**P**	**19 26 26.4**	**+1.7**
BVAR	**Borovoye Array**	**28.11**	**23**	P	**P**	**19 27 15.8**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.2,baz=230,slow=3.7,SNR=3.8						
BVAR	**Borovoye Array**	**28.11**	**23**	P	**P**	**19 27 15.8**	**-0.6**
BVAR	**Borovoye Array**	**28.11**	**23**	P	**P**	**19 27 15.8**	**-0.5**
MK31	**Makanchi Array**	**29.82**	**44**	*e*P	**P**	**19 27 31.3**	**-0.3**
MK31	**Makanchi Array**	**29.82**	**44**	*e*P	**P**	**19 27 31.3**	**-0.3**
MKAR	**Makanchi Array**	**29.82**	**44**	P	**P**	**19 27 31.4**	**-0.2**
	comp=Z,0.4nm,0.8s,mb3.2,baz=233,slow=5.9,SNR=5.2						
MKAR	**Makanchi Array**	**29.82**	**44**	P	**P**	**19 27 31.4**	**-0.2**
MKAR	**Makanchi Array**	**29.82**	**44**	P	**P**	**19 27 31.5**	**-0.1**
KURK	**Kurchatov**	**29.94**	**34**	P	**P**	**19 27 32.1**	**-0.5**
	comp=Z,0.3nm,0.6s,mb3.2,baz=234,slow=9.1,SNR=3.8						
KURK	**Kurchatov**	**29.94**	**34**	P	**P**	**19 27 32.1**	**-0.5**
KURK	**Kurchatov**	**29.94**	**34**	P	**P**	**19 27 32.1**	**-0.5**
ZALV	**Zalesovo Beam**	**34.92**	**34**	P	**P**	**19 28 15.5**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.9,baz=264,slow=12,SNR=6.8						
ZALV	**Zalesovo Beam**	**34.92**	**34**	P	**P**	**19 28 15.5**	**-0.7**
ZALV	**Zalesovo Beam**	**34.92**	**34**	P	**P**	**19 28 15.5**	**-0.7**
FINES	**FINESS Array B**	**37.55**	**340**	P	**P**	**19 28 37.8**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.0,baz=148,slow=15,SNR=5.5						
FINES	**FINESS Array B**	**37.55**	**340**	P	**P**	**19 28 37.8**	**-0.8**
FINES	**FINESS Array B**	**37.55**	**340**	P	**P**	**19 28 37.8**	**-0.7**
HFS	**Hagfors**	**41.22**	**332**	P	**P**	**19 29 08.9**	**-0.4**
	comp=Z,5.6nm,0.9s,mb4.2,baz=163,slow=15,SNR=6.2						
HFS	**Hagfors**	**41.22**	**332**	P	**P**	**19 29 08.9**	**-0.4**
HFS	**Hagfors**	**41.22**	**332**	P	**P**	**19 29 08.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**43.61**	**92**	LR	LR	19 50 29.4	
	comp=Z,14nm,20.4s,baz=295,slow=40						
ARCES	**ARCESS Array B**	**44.16**	**347**	P	**P**	**19 29 33.2**	**+0.3**
	comp=Z,3.5nm,1.0s,mb4.0,baz=153,slow=10,SNR=3.0						
ARCES	**ARCESS Array B**	**44.16**	**347**	P	**P**	**19 29 33.2**	**+0.3**
ARCES	**ARCESS Array B**	**44.16**	**347**	P	**P**	**19 29 33.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**49.40**	**263**	P	**P**	**19 30 13.6**	**-1.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=60,slow=8.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**49.40**	**263**	P	**P**	**19 30 13.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**49.40**	**263**	P	**P**	**19 30 13.6**	**-1.1**
YKA	**Yellowknife Ar**	**88.98**	**354**	P	**P**	**19 34 18.9**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.7,baz=7.8,slow=5.2,SNR=3.5						
YKA	**Yellowknife Ar**	**88.98**	**354**	P	**P**	**19 34 18.9**	**-0.3**
YKA	**Yellowknife Ar**	**88.98**	**354**	P	**P**	**19 34 18.9**	**-0.2**
ASAR	**Alice Springs**	**93.92**	**115**	P	**P**	**19 34 42.4**	**-0.3**
	comp=Z,0.3nm,0.9s,mb3.7,baz=294,slow=4.4,SNR=3.4						
ASAR	**Alice Springs**	**93.92**	**115**	P	**P**	**19 34 42.4**	**-0.3**
ASAR	**Alice Springs**	**93.92**	**115**	P	**P**	**19 34 42.4**	**-0.3**

IDC 18 19:40:48.7±5.4, 39°45N×110°44E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.1/24, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=111.5km s-min=25.5km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.88**	**342**	Pn	Pn	19 42 58.4	+0.3
	0.1nm,0.3s,baz=160,slow=14,SNR=5.4						
SONM				Lg		19 45 28.1	
	0.0nm,0.3s,baz=164,slow=31,SNR=3.2						
MKAR	**Makanchi Array**	**21.74**	**299**	P	P	19 45 42.4	+0.9
	0.6nm,0.8s,baz=99,slow=13,SNR=7.8						
CMAR	**Chiang Mai Arr**	**23.17**	**209**	P	P	19 45 56.4	-0.5
	0.7nm,0.7s,baz=14,slow=9.9,SNR=5.7						

*TRN **18** 19:44:49.0, 18°.89N×65°.21W, h37km, MD3.5(RSPR)*
*RSPR **18** 19:44:50.6, 19°.01N×65°.21W, h31km±25km*
*NEIC **18** 19:44:50.6, 19°.01N×65°.21W, h31km, MD3.5(RSPR), After RSPR.*
ISC 18 19:44:48.7±2.7, 19°0N±0°.1×65°24W±0°.07, h26km±14km, n15, σ0s52/26, 15C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.70**	**158**	*e*P	**Pb**	**19 45 03.0**	**+0.6**
STVI	**Saint Thomas**	**0.70**	**158**	*e*P	**Pb**	**19 45 03.0**	**+0.6**
STVI				*e*S	**Sb**	**19 45 12.1**	**+0.5**
STVI	**Saint Thomas**	**0.70**	**158**	*e*P	**Pb**	**19 45 03.0**	**+0.6**
STVI				*e*S	**Sb**	**19 45 12.1**	**+0.5**
TBVI	**Tortola**	**0.83**	**135**	*e*P	**Pb**	**19 45 03.9**	**-0.6**
TBVI				*e*S	**Sb**	**19 45 14.6**	**-0.6**
TBVI	**Tortola**	**0.83**	**135**	*e*P	**Pb**	**19 45 03.9**	**-0.6**
TBVI				*e*S	**Sb**	**19 45 14.6**	**-0.6**
TBVI	**Tortola**	**0.83**	**135**	*e*P	**Pb**	**19 45 03.9**	**-0.6**
TBVI				*e*S	**Sb**	**19 45 14.6**	**-0.6**
CBYP	**Canovanas**	**0.94**	**219**	*e*P	**Pn**	**19 45 06.4**	**+0.2**
CBYP	**Canovanas**	**0.94**	**219**	*e*P	**Pn**	**19 45 06.4**	**+0.2**
CBYP				*e*S	**Sb**	**19 45 17.8**	**-0.6**
CBYP	**Canovanas**	**0.94**	**219**	*e*P	**Pn**	**19 45 06.4**	**+0.2**
CBYP				*e*S	**Sb**	**19 45 17.8**	**-0.6**
MTP	**Monte Pirata**	**0.95**	**199**	*e*P	**Pn**	**19 45 07.0**	**+0.6**
MTP	**Monte Pirata**	**0.95**	**199**	*e*P	**Pn**	**19 45 07.0**	**+0.6**
MTP				*e*S	**Sb**	**19 45 19.1**	**+0.4**
MTP	**Monte Pirata**	**0.95**	**199**	*e*P	**Pn**	**19 45 07.0**	**+0.6**
MTP				*e*S	**Sb**	**19 45 19.1**	**+0.4**
HUMP	**Col San Antoni**	**1.04**	**214**	*e*P	**Pn**	**19 45 07.6**	**+0.1**
HUMP	**Col San Antoni**	**1.04**	**214**	*e*P	**Pn**	**19 45 07.6**	**+0.1**
HUMP				*e*S	**Sn**	**19 45 20.6**	**-0.6**
HUMP	**Col San Antoni**	**1.04**	**214**	*e*P	**Pn**	**19 45 07.6**	**+0.1**
HUMP				*e*S	**Sn**	**19 45 20.6**	**-0.6**

*NEIC **18** 19:47:41.0, 14°.20N×93°.47W, h18km, MD4.2(MEX), After MEX.*
MEX 18 19:47:41.1±0.5, 14°20N×93°47W, h20km±27km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.36**	**59**	*i* P	Pn	19 48 01.8	-3.2
THIG				*i* S	Sn	19 48 18.1	-4.5
THIG		**1.36**	**59**	*i* P	Pn	19 48 01.8	-3.2
THIG				*i* S	Sn	19 48 18.1	-4.5
PCIG		**1.51**	**9**	*e*P	Pn	19 48 04.0	-3.0
PCIG				*i* S	Sn	19 48 21.4	-4.8
PCIG		**1.51**	**9**	*e*P	Pn	19 48 04.0	-3.0
PCIG				*i* S	Sn	19 48 21.4	-4.8
CCIG	**Comitan**	**2.44**	**32**	*i* P	Pn	19 48 18.3	-1.5
CCIG				*i* S	Sn	19 48 46.0	-3.0
CCIG	**Comitan**	**2.44**	**32**	*i* P	Pn	19 48 18.3	-1.5
CCIG				*i* S	Sn	19 48 46.0	-3.0
TGIG		**2.58**	**8**	*e*P	Pn	19 48 20.4	-1.4
TGIG				*i* S	Sn	19 48 50.1	-2.6
TGIG		**2.58**	**8**	*e*P	Pn	19 48 20.4	-1.4
TGIG				*i* S	Sn	19 48 50.1	-2.6
HUIG	**Huatulco**	**2.98**	**302**	*i* P	Pn	19 48 24.7	-2.6
HUIG				*i* S	Sn	19 48 58.9	-3.7
HUIG	**Huatulco**	**2.98**	**302**	*i* P	Pn	19 48 24.7	-2.6
HUIG				*i* S	Sn	19 48 58.9	-3.7
CMIG	**Matias Romero**	**3.18**	**335**	*e*P	Pn	19 48 28.9	-1.1
CMIG				*i* S	Sn	19 49 05.2	-2.1
CMIG	**Matias Romero**	**3.18**	**335**	*e*P	Pn	19 48 28.4	-1.6
CMIG				*i* S	Sn	19 49 03.7	-3.6
VHO	**Vista Hermosa**	**4.24**	**313**	*i* P	Pn	19 48 43.4	-1.2
VHO	**Vista Hermosa**	**4.24**	**313**	*i* P	Pn	19 48 43.4	-1.2
PNIG	**Pinotepa**	**4.99**	**296**	*i* P	Pn	19 48 51.8	-3.1
PNIG	**Pinotepa**	**4.99**	**296**	*i* P	Pn	19 48 52.8	-2.1
PNIG				*i* S	Sn	19 49 49.9	-2.2
UTMO	**Huajuapan**	**5.51**	**311**	*i* P	Pn	19 49 02.2	+0.2
UTMO	**Huajuapan**	**5.51**	**311**	*i* P	Pn	19 49 00.3	-1.8
UTMO				*i* S	Sn	19 50 01.1	-3.7
TEIG	**Tepich**	**7.78**	**39**	*e*Pn	Pn	19 49 30.5	-2.8
	14nm,0.6s						

*ISCJB **18** 19:50:12.9±1.1, 8°.1S±0°.1×119°.9E±0°.1, h209km±11km, mb3.4/4, Error ellipse: s-maj=27.5km s-min=9.1km az=148.6*
*IDC **18** 19:50:13.4±2.8, 8°.23S×119°.85E, h199km±25km, mb3.2/5, mb1 3.2/8, mb1mx3.1/21, mbtmp3.1/8, Error ellipse: s-maj=85.5km s-min=13.7km az=62.0*
*NEIC **18** 19:50:13.7±0.9, 8°.17S×119°.92E, h201km±10km, mb3.5/1, Error ellipse: s-maj=21.1km s-min=7.3km az=62.0*
ISC 18 19:50:14.4±1.1, 8°1S±0°.1×120°0E±0°.1, h205km±12km, n24, σ0s85/27, mb3.4/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.12**	**355**	P	**Pn**	**19 51 05.2**	**-0.5**
	4.3nm,0.3s,baz=187,slow=7.4,SNR=23						
KAPI				S	Sn	19 52 07.4	+21
	0.3nm,0.3s,baz=74,slow=17,SNR=2.0						
KAPI	**Kappang**	**3.12**	**355**	P	**Pn**	**19 51 05.2**	**-0.5**
KAPI				S	Sn	19 52 07.4	+22
FITZ	**Fitzroy Crossi**	**11.30**	**152**	P	**Pn**	**19 52 50.1**	**-0.2**
	0.2nm,0.3s,baz=267,slow=12,SNR=15						
FITZ				S	**S**	**19 54 47.2**	**-9.5**
	0.3nm,0.3s,baz=191,slow=16,SNR=4.6						
FITZ	**Fitzroy Crossi**	**11.30**	**152**	*e*Pn	**Pn**	**19 52 48.4**	**-1.9**
FITZ				*e*Sn	**Sn**	**19 54 45.8**	**-11**
FITZ				S	**S**	**19 54 47.2**	**-9.5**
MBWA	**Marble Bar**	**12.95**	**181**	*e*Pn	**Pn**	**19 53 11.3**	**+0.2**
WRA	**Warramunga Arr**	**18.15**	**132**	P	**P**	**19 54 11.5**	**-0.1**
	0.3nm,0.3s,baz=312,slow=10,SNR=29						
WRA				S	**S**	**19 57 27.0**	**-1.8**
	0.1nm,0.3s,baz=310,slow=24,SNR=3.0						
WRA	**Warramunga Arr**	**18.15**	**132**	P	**P**	**19 54 11.5**	**-0.1**
WRA				S	**S**	**19 57 27.0**	**-1.8**
WRAB	**Tennant Creek**	**18.16**	**132**	*e*P	**P**	**19 54 12.2**	**+0.6**
	1.6nm,0.8s						
WB2	**Warramunga Arr**	**18.16**	**132**	*e*P	**P**	**19 54 11.9**	**+0.2**
AS31	**Alice Springs**	**20.37**	**141**	P	**P**	**19 54 37.0**	**+1.5**
ASAR	**Alice Springs**	**20.37**	**141**	P	**P**	**19 54 35.7**	**+0.3**
	0.4nm,0.4s,baz=316,slow=8.7,SNR=18						
ASAR	**Alice Springs**	**20.37**	**141**	P	**P**	**19 54 35.7**	**+0.3**
COEN	**Coen**	**23.42**	**106**	*e*P	**P**	**19 55 06.5**	**+1.2**
	58nm,0.7s						
SONM	**Songino Array**	**57.02**	**349**	P	**P**	**19 59 39.6**	**+0.9**
	0.3nm,0.5s,mb3.2,baz=172,slow=7.3,SNR=4.9						
SONM	**Songino Array**	**57.02**	**349**	P	**P**	**19 59 39.6**	**+0.9**
MK31	**Makanchi Array**	**64.17**	**332**	*e*P	**P**	**20 00 26.9**	**-0.1**
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**	**20 00 26.9**	**0.0**
	0.5nm,0.4s,mb3.5,baz=149,slow=7.4,SNR=21						
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**	**20 00 26.9**	**0.0**
ZALV	**Zalesovo Beam**	**68.61**	**339**	P	**P**	**20 00 54.1**	**-0.9**
	1.0nm,0.5s,mb3.8,baz=144,slow=5.9,SNR=7.0						
ZALV	**Zalesovo Beam**	**68.61**	**339**	P	**P**	**20 00 54.1**	**-0.9**
KURK	**Kurchatov**	**68.69**	**333**	P	**P**	**20 00 55.0**	**-0.6**
	0.3nm,0.5s,mb3.2,baz=144,slow=5.7,SNR=5.3						
KURK	**Kurchatov**	**68.69**	**333**	P	**P**	**20 00 55.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**119.32**	**280**	PKP	PKPdf	20 08 39.4	-0.8
	0.2nm,0.5s,baz=49,slow=1.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**119.32**	**280**	PKP	PKPdf	20 08 39.4	-0.8

*ISCJB **18** 19:53:08.0±1.3, 23°.45S±0°.09×180°.0W±0°.1, h548km±16km, mb4.0/9, Error ellipse: s-maj=21.1km s-min=13.9km az=165.8*
*IDC **18** 19:53:08.8±4.2, 23°.37S×179°.98W, h542km±47km, mb3.4/8, mb1 3.5/10, mb1mx3.2/22, mbtmp3.3/10, Error ellipse: s-maj=34.3km s-min=21.3km az=36.0*
*NEIC **18** 19:53:08.4±0.9, 23°.43S×179°.94W, h542km±11km, mb4.0/2, Error ellipse: s-maj=14.8km s-min=13.5km az=217.0*
ISC 18 19:53:08.6±1.3, 23°4S±0°.1×180°0W±0°.1, h541km±15km, n26, σ0s64/28, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.96**	**341**	*e*P	**P**	**19 54 46.2**	**-0.4**
DZM	**Mont Dzumac**	**12.61**	**273**	P	**P**	**19 55 54.9**	**+1.4**
	0.2nm,0.3s,baz=80,slow=19,SNR=2.6						
DZM	**Mont Dzumac**	**12.61**	**273**	P	**P**	**19 55 54.9**	**+1.4**
URZ	**Urewera**	**15.00**	**189**	P	**P**	**19 56 17.4**	**-0.6**
	0.7nm,0.3s,baz=59,slow=13,SNR=3.2						
URZ				S	**S**	**19 58 48.3**	**-5.6**
	0.2nm,0.3s,baz=119,slow=19,SNR=2.8						
URZ	**Urewera**	**15.00**	**189**	*e*P	**P**	**19 56 17.4**	**-0.6**
URZ				S	**S**	**19 58 48.3**	**-5.6**
EIDS	**Eidsvold**	**26.42**	**260**	*e*P	**P**	**19 58 03.1**	**+0.7**
CTA	**Charters Tower**	**31.51**	**269**	P	**P**	**19 58 47.3**	**+0.7**
	14nm,0.6s,mb4.7,baz=96,slow=12,SNR=33						
CTA	**Charters Tower**	**31.51**	**269**	P	**P**	**19 58 47.3**	**+0.7**
CTAO	**Charters Tower**	**31.51**	**269**	*e*P	**P**	**19 58 46.5**	**-0.1**
PMG	**Port Moresby**	**34.37**	**288**	P	**P**	**19 59 10.6**	**-0.3**
	19nm,1.3s,mb4.5,baz=108,slow=6.4,SNR=4.5						
PMG	**Port Moresby**	**34.37**	**288**	P	**P**	**19 59 10.6**	**-0.3**
STKA	**Stephens Creek**	**34.93**	**247**	P	**P**	**19 59 15.7**	**+0.3**
	1.7nm,0.5s,mb3.8,baz=89,slow=8.7,SNR=6.3						
STKA	**Stephens Creek**	**34.93**	**247**	P	**P**	**19 59 15.7**	**+0.3**
AS31	**Alice Springs**	**42.14**	**260**	*e*P	**P**	**20 00 13.8**	**-0.1**
ASAR	**Alice Springs**	**42.15**	**260**	P	**P**	**20 00 13.8**	**-0.1**
	2.8nm,0.5s,mb4.0,baz=96,slow=7.8,SNR=30						
ASAR	**Alice Springs**	**42.15**	**260**	P	**P**	**20 00 13.8**	**-0.1**
WB2	**Warramunga Arr**	**42.46**	**266**	*e*P	**P**	**20 00 15.5**	**-1.0**
WRAB	**Tennant Creek**	**42.46**	**266**	*e*P	**P**	**20 00 15.7**	**-0.8**
	3.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**42.47**	**266**	P	**P**	**20 00 15.8**	**-0.7**
	1.7nm,0.3s,mb4.1,baz=91,slow=8.4,SNR=71						
WRA	**Warramunga Arr**	**42.47**	**266**	P	**P**	**20 00 15.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.90**	**265**	P	**P**	**20 01 20.5**	**+0.3**
	3.0nm,0.9s,mb3.6,baz=96,slow=9.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**50.90**	**265**	P	**P**	**20 01 20.5**	**+0.3**
QSPA	**South Pole Qui**	**66.66**	**180**	P	**P**	**20 03 05.9**	**+0.9**
	0.7nm,0.3s,mb3.7,baz=351,slow=0.9,SNR=7.7						
QSPA	**South Pole Qui**	**66.66**	**180**	*e*P	**P**	**20 03 05.3**	**+0.2**
	2.3nm,0.7s,mb3.8						
TXAR	**Lajitas Array**	**90.15**	**58**	P	**P**	**20 05 11.9**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=229,slow=5.4,SNR=4.6						
TXAR	**Lajitas Array**	**90.15**	**58**	P	**P**	**20 05 11.9**	**+0.5**

*ISCJB **18** 20:25:13.4±3.3, 6°.6S±0°.3×115°.8E±0°.6, h530km±34km, mb3.5/8, Error ellipse: s-maj=99.5km s-min=12.9km az=150.3*
*IDC **18** 20:25:13.8±4.2, 6°.70S×115°.66E, h516km±43km, mb3.0/7, mb1 3.1/9, mb1mx3.0/21, mbtmp3.0/9, Error ellipse: s-maj=99.1km s-min=12.3km az=60.0*
*NEIC **18** 20:25:13.6±1.9, 6°.74S×115°.63E, h516km±18km, mb3.6/3, Error ellipse: s-maj=52.5km s-min=7.6km az=60.0*
ISC 18 20:25:13.4±3.0, 6°8S±0°.3×115°6E±0°.5, h514km±30km, n23, σ0s28/23, mb3.5/8, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.48**	**68**	P	**P**	**20 26 36.7**	**0.0**
	2.5nm,0.3s,baz=254,slow=7.4,SNR=9.8						
KAPI	**Kappang**	**4.48**	**68**	P	**P**	**20 26 36.7**	**0.0**
FITZ	**Fitzroy Crossi**	**14.93**	**140**	P	**P**	**20 28 22.6**	**-0.1**
	0.4nm,0.3s,baz=340,slow=12,SNR=9.2						
FITZ	**Fitzroy Crossi**	**14.93**	**140**	*e*P	**P**	**20 28 22.8**	**0.0**
WRA	**Warramunga Arr**	**22.42**	**128**	P	**P**	**20 29 33.2**	**-0.1**
	0.8nm,0.3s,mb3.8,baz=317,slow=10.0,SNR=26						
WRA	**Warramunga Arr**	**22.42**	**128**	P	**P**	**20 29 33.2**	**-0.1**
WRAB	**Tennant Creek**	**22.42**	**128**	*e*P	**P**	**20 29 33.4**	**+0.1**
WB2	**Warramunga Arr**	**22.43**	**128**	*e*P	**P**	**20 29 33.2**	**-0.2**
AS31	**Alice Springs**	**24.33**	**136**	*e*P	**P**	**20 29 50.1**	**-0.2**
ASAR	**Alice Springs**	**24.33**	**136**	P	**P**	**20 29 50.4**	**+0.1**
	2.4nm,0.5s,mb4.1,baz=312,slow=8.4,SNR=48						
ASAR	**Alice Springs**	**24.33**	**136**	P	**P**	**20 29 50.4**	**+0.1**
KMI	**Kunming**	**34.07**	**339**	P	**P**	**20 31 21.6**	**

DDEM	**Demirkent**	**0.64 312**	*i* P	**Pg**	**20 37 00.2**	**-0.6**
DDEM			*i* S	**Sg**	**20 37 10.1**	**+1.0**
DDEM	**Demirkent**	**0.64 312**	*i* P	**Pg**	**20 37 00.2**	**-0.6**
DDEM			*i* S	**Sg**	**20 37 10.1**	**+1.0**
ERZM	**Erzurum**	**0.96 234**	*i* P	**Pg**	**20 37 05.8**	**-1.2**
ERZM			*i* S	**Sg**	**20 37 17.6**	**-1.8**
ERZM	**Erzurum**	**0.96 234**	*i* P	**Pg**	**20 37 05.8**	**-1.2**
ERZM			*i* S	**Sg**	**20 37 17.6**	**-1.8**
EZM	**Erzurum**	**0.96 234**	*e*PG	**Pg**	**20 37 07.0**	**0.0**
EZM			*e*SG	**Sg**	**20 37 22.6**	**+3.2**
AGRB	**Hanur-Agry**	**1.01 152**	*e*PG	**Pg**	**20 37 07.6**	**-0.3**
AGRB	**Hanur-Agry**	**1.01 152**	*e*Pg	**Pg**	**20 37 07.6**	**-0.3**
TUTA	**Tutak**	**1.12 162**	*i* P	**Pg**	**20 37 09.3**	**-0.6**
TUTA			*i* S	**Sg**	**20 37 25.5**	**+1.1**
TUTA	**Tutak**	**1.12 162**	*i* P	**Pg**	**20 37 09.4**	**-0.6**
TUTA			*i* S	**Sg**	**20 37 25.5**	**+1.1**
AKH	**Akhalkalaki**	**1.26 42**	P	**Pg**	**20 37 12.3**	**-0.5**
AKH			S	**Sg**	**20 37 30.3**	**+1.1**
DYDN	**Diyadin**	**1.37 132**	*i* P	**Pn**	**20 37 14.9**	**+0.1**
DYDN			*i* S	**Sg**	**20 37 33.8**	**+1.4**
DYDN	**Diyadin**	**1.37 132**	*i* P	**Pn**	**20 37 14.9**	**+0.1**
DYDN			*i* S	**Sg**	**20 37 33.8**	**+1.4**
VRTB	**Varto-Mus**	**1.49 209**	*e*PN	**Pn**	**20 37 16.1**	**-0.4**
VRTB	**Varto-Mus**	**1.49 209**	*e*Pn	**Pn**	**20 37 16.1**	**-0.4**
KOPT	**Kop Dagi**	**1.51 253**	*i* P	**Pg**	**20 37 17.1**	**-0.4**
KOPT			*i* S	**Sg**	**20 37 39.7**	**+2.6**
KOPT	**Kop Dagi**	**1.51 253**	*i* P	**Pg**	**20 37 17.1**	**-0.4**
KOPT			*i* S	**Sg**	**20 37 39.7**	**+2.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.71 268**	*e*PN	**Pn**	**20 37 19.5**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.71 268**	*e*Pn	**Pn**	**20 37 19.5**	**-0.1**
CLDR	**Caldiran**	**1.78 138**	*e*PN	**Pn**	**20 37 19.6**	**-0.8**
CLDR	**Caldiran**	**1.78 138**	*e*Pn	**Pn**	**20 37 19.7**	**-0.8**
GNI	**Garni**	**1.83 99**	*e*PN	**Pn**	**20 37 20.5**	**-0.8**
GNI	**Garni**	**1.83 99**	*e*Pn	**Pn**	**20 37 20.5**	**-0.8**
BNGB	**Bing˜¶l**	**1.97 222**	*e*PN	**Pn**	**20 37 22.9**	**-0.3**
GOR	**Gori**	**2.00 40**	P	**Pg**	**20 37 25.8**	**-1.2**
GOR			S	**Sg**	**20 37 53.1**	**+0.2**
KTUT	**Trabzon**	**2.05 285**	*e*PN	**Pn**	**20 37 24.1**	**-0.1**
KTUT	**Trabzon**	**2.05 285**	*e*Pn	**Pn**	**20 37 24.2**	**-0.1**
BINT	**Bingol**	**2.16 223**	*e*Pn	**Pn**	**20 37 22.9**	**-2.8**
TBLG	**Delisi**	**2.18 54**	P	**Pg**	**20 37 29.2**	**-1.3**
TBLG			S	**Sg**	**20 37 57.5**	**-1.2**
GUMT	**Gumushane**	**2.21 271**	*e*PN	**Pn**	**20 37 26.6**	**+0.1**
GUMT	**Gumushane**	**2.21 271**	*e*Pn	**Pn**	**20 37 26.6**	**+0.1**
ONI	**Oni**	**2.27 20**	P	**Pn**	**20 37 29.5**	**+2.2**
ONI			S	**Sg**	**20 38 01.9**	**+0.4**
KELT	**Kelkit**	**2.41 263**	*i* P	**Pn**	**20 37 31.2**	**+2.0**
KELT			*i* S	**Sg**	**20 38 04.8**	**-1.2**
KELT	**Kelkit**	**2.41 263**	*i* P	**Pn**	**20 37 31.2**	**+2.0**
KELT			*i* S	**Sg**	**20 38 04.8**	**-1.2**
PTK	**Pertek**	**2.79 237**	*e*PN	**Pn**	**20 37 34.9**	**+0.4**
PTK	**Pertek**	**2.79 237**	*e*Pn	**Pn**	**20 37 34.9**	**+0.5**

*ISK **18** 20:54:21.1,39˚.93N×39˚.76E, h5km, MD3.1*
*ISCJB **18** 20:54:22.3±0.4,39˚.97N±0˚.02×39˚.68E±0˚.03, h10km±4km, Error ellipse: s-maj=4.0km s-min=3.6km az=35.6*
*CSEM **18** 20:54:22.5±0.2,39˚.97N×39˚.66E, h10km, MD3.1, Error ellipse: s-maj=4.6km s-min=4.1km az=128.0*
*DDA **18** 20:54:22.5,39˚.96N×39˚.68E, h24km, Md3.1*
ISC 18 20:54:22.8±0.4,39˚.97N±0˚.02×39˚.68E±0˚.03, h12km±4km, n39, σ1°06/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.33**	**229**	*e*PG	**Pg**	**20 54 29.5**	**+0.1**
EZC				*e*SG	**Sg**	**20 54 35.8**	**+2.0**
EZC	**Erzincan**	**0.33**	**229**	*e*Pg	**Pg**	**20 54 29.5**	**+0.1**
EZC				*e*Sg	**Sg**	**20 54 35.8**	**+2.0**
KELT	**Kelkit**	**0.37**	**299**	*i* P	**Pg**	**20 54 29.8**	**-0.3**
KELT				*i* S	**Sg**	**20 54 35.3**	**+0.1**
KELT	**Kelkit**	**0.37**	**299**	*i* P	**Pg**	**20 54 29.8**	**-0.4**
KELT				*i* S	**Sg**	**20 54 35.3**	**+0.1**
ERZN	**Erzincan**	**0.38**	**175**	*e*PG	**Pg**	**20 54 28.9**	**-1.5**
ERZN				*e*SG	**Sg**	**20 54 34.7**	**-0.8**
GUMT	**Gumushane**	**0.52**	**343**	*e*PG	**Pg**	**20 54 33.5**	**+0.6**
GUMT	**Gumushane**	**0.52**	**343**	*e*Pg	**Pg**	**20 54 33.5**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**0.56**	**40**	*e*PG	**Pg**	**20 54 33.2**	**-0.4**
BAYT				*e*SG	**Sg**	**20 54 41.4**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.56**	**40**	*e*Pg	**Pg**	**20 54 33.2**	**-0.4**
BAYT				*e*Sg	**Sg**	**20 54 41.4**	**+0.5**
KOPT	**Kop Dagi**	**0.63**	**85**	*i* P	**Pg**	**20 54 34.8**	**-0.2**
KOPT				*i* S	**Sg**	**20 54 45.0**	**+1.7**
KOPT	**Kop Dagi**	**0.63**	**85**	*i* P	**Pg**	**20 54 34.8**	**-0.3**
KOPT				*i* S	**Sg**	**20 54 45.0**	**+1.6**
MACK	**Trabzon**	**0.98**	**4**	*i* P	**Pg**	**20 54 41.5**	**-0.1**
MACK				*i* S	**Sg**	**20 54 55.0**	**+0.6**
MACK	**Trabzon**	**0.98**	**4**	*i* P	**Pg**	**20 54 41.5**	**-0.1**
MACK				*i* S	**Sg**	**20 54 55.0**	**+0.6**
KTUT	**Trabzon**	**1.02**	**4**	*e*PG	**Pg**	**20 54 42.1**	**-0.3**
KTUT	**Trabzon**	**1.02**	**4**	*e*Pg	**Pg**	**20 54 42.1**	**-0.4**
PTK	**Pertek**	**1.10**	**192**	*e*PG	**Pg**	**20 54 42.4**	**-1.5**
PTK	**Pertek**	**1.10**	**192**	*e*Pg	**Pg**	**20 54 42.4**	**-1.5**
KEMA	**Kemaliye**	**1.15**	**233**	*i* P	**Pg**	**20 54 43.6**	**-1.3**
KEMA				*i* S	**Sg**	**20 55 01.4**	**+1.5**
KEMA	**Kemaliye**	**1.15**	**233**	*i* P	**Pg**	**20 54 43.6**	**-1.3**
KEMA				*i* S	**Sg**	**20 55 01.4**	**+1.5**
SUSE	**Susehri**	**1.16**	**283**	*i* P	**Pb**	**20 54 43.2**	**-1.6**
SUSE				*i* S	**Sb**	**20 54 59.6**	**-0.1**
SUSE	**Susehri**	**1.16**	**283**	*i* P	**Pb**	**20 54 43.2**	**-1.5**
SUSE				*i* S	**Sb**	**20 54 59.6**	**-0.1**
BNGB	**Bing˜¶l**	**1.25**	**141**	*e*PN	**Pn**	**20 54 45.4**	**-0.6**
BINT	**Bingol**	**1.26**	**150**	*e*Pn	**Pn**	**20 54 45.4**	**-0.8**
EZM	**Erzurum**	**1.30**	**92**	*e*PN	**Pn**	**20 54 46.7**	**0.0**
GRSN	**GIRESUNGRSN**	**1.44**	**312**	*i* P	**Pn**	**20 54 47.7**	**-1.0**
GRSN				*i* S	**Sn**	**20 55 04.3**	**-3.2**
GRSN	**GIRESUNGRSN**	**1.44**	**312**	*i* P	**Pn**	**20 54 47.7**	**-1.0**
GRSN				*i* S	**Sn**	**20 55 04.3**	**-3.3**
BNGL	**BINGOL**	**1.52**	**131**	*i* P	**Pn**	**20 54 48.3**	**-1.6**
BNGL				*i* S	**Sn**	**20 55 13.4**	**+3.8**
ELZG	**Elazig**	**1.56**	**200**	*i* P	**Pn**	**20 54 50.2**	**-0.2**
ELZG				*i* S	**Sn**	**20 55 12.1**	**+1.5**
ELZG	**Elazig**	**1.56**	**200**	*i* P	**Pn**	**20 54 50.2**	**-0.2**
ELZG				*i* S	**Sn**	**20 55 12.1**	**+1.5**
VRTB	**Varto-Mus**	**1.59**	**120**	*e*PN	**Pn**	**20 54 51.5**	**+0.7**
VRTB	**Varto-Mus**	**1.59**	**120**	*e*Pn	**Pn**	**20 54 51.6**	**+0.8**
SVRC	**Sivrice-ELAZID**	**1.61**	**190**	*e*PN	**Pn**	**20 54 51.9**	**+0.8**
SVRC	**Sivrice-ELAZID**	**1.61**	**190**	*e*Pn	**Pn**	**20 54 51.9**	**+0.8**
RSDY	**Resadiye-TOKAT**	**1.85**	**284**	*e*PN	**Pn**	**20 54 56.2**	**+1.8**
RSDY	**Resadiye-TOKAT**	**1.85**	**284**	*e*Pn	**Pn**	**20 54 56.2**	**+1.8**
MALT	**Malatya**	**1.92**	**211**	*e*PN	**Pn**	**20 54 56.1**	**+0.8**
MALT	**Malatya**	**1.92**	**211**	*e*Pn	**Pn**	**20 54 56.1**	**+0.8**
AGRB	**Hanur-Agry**	**2.58**	**98**	*e*PN	**Pn**	**20 55 05.1**	**+0.6**
AGRB	**Hanur-Agry**	**2.58**	**98**	*e*Pn	**Pn**	**20 55 05.1**	**+0.6**

*DJA **18** 20:57:06,23˚.79S×178˚.02W, h306km, mb6.0/25*
*BJI **18** 20:57:38.5,23˚.50S×180˚.00E, h543km, mB5.3/28, mb5.4/50*
*ISCJB **18** 20:57:38.2±0.5,23˚.59S±0˚.02×179˚.93E±0˚.02, h538km±6km, mb5.3/184, Error ellipse: s-maj=4.0km s-min=3.0km az=140.4*
*MOS **18** 20:57:38.3±2.0,23˚.36S×179˚.98W, h528km, mb5.3/42, Error ellipse: s-maj=8.3km s-min=7.7km az=65.1*
*IDC **18** 20:57:39.2±0.4,23˚.49S×179˚.99W, h537km±3km, mb4.9/39, mb1 4.9/41, mb1mx4.9/41, mbtmp4.9/41, Error ellipse: s-maj=7.7km s-min=6.4km az=3.0*
*NEIC **18** 20:57:39.5±0.1,23˚.50S×180˚.00W, mb5.3/119, MW5.4, Error ellipse: s-maj=4.6km s-min=3.3km az=153.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.44; $M_{\theta\theta}$0.49; $M_{\phi\phi}$-0.05; $M_{r\theta}$-0.77; $M_{\theta\phi}$-0.64; $M_{\phi r}$-1.39; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s113.00000°, δ14.00000°, λ-174.00000°. NP2: ϕ_s17.00000°, δ89.00000°, λ-76.00000°. Principal axes: T 1.1600, Plg42.0000°, Azm94.0000°; N 0.8900, Plg13.0000°, Azm197.0000°; P -2.0400, Plg44.0000°, Azm301.0000°;*
*GCMT **18** 20:57:40.7±0.6,23˚.84S×179˚.65W, h562km±2km, MW5.6, Moment Tensor Solution. s61,c85; Moment tensor: Scale 10^{17}Nm; M_{rr}0.48±.06; $M_{\theta\theta}$-1.21±.10; $M_{\phi\phi}$0.74±.09; $M_{r\theta}$-1.18±.10; $M_{\theta\phi}$-1.21±.08; $M_{\phi r}$-1.81±.09; Best double couple: $M_0$2.70000×10^{17} NP1:ϕ_s109.00000°, δ33.00000°, λ168.00000°. NP2:ϕ_s209.00000°, δ83.00000°, λ57.00000°. Principal axes: T 2.4200, Plg42.0000°, Azm88.0000°; N 0.4800, Plg33.0000°, Azm213.0000°; P -2.9000,*

Plg31.0000°, Azm325.0000°; Data Used: II IU IC G CN.
*SZGRF **18** 20:57:40.7,23˚.41S×179˚.36W, h558km, South of Fiji Islands*
ISC 18 20:57:39.6±0.5,23˚.69S±0˚.02×179˚.98E±0˚.02, h546km±5km, h543km±3.5km; pP-P, n1144, σ0°76/766, mb5.3/181, 226C-231D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.85**	**162**	*e*P	**P**	**20 59 17.1**	**+0.6**
2μm,0.3s							
RAO	**Raoul Island**	**5.85**	**162**	*e*P	**P**	**20 59 17.1**	**+0.5**
RAO				pmax	pmax		
comp=Z,2μm,0.3s							
MSVF	**Nonsavu**	**6.19**	**343**	*e*P	**P**	**20 59 18.6**	**-1.4**
comp=Z,293nm,0.8s							
MSVF	**Nonsavu**	**6.19**	**343**	*e*P	**P**	**20 59 18.6**	**-1.4**
MSVF				pmax	pmax		
comp=Z,293nm,0.8s							
MSVF	**Nonsavu**	**6.19**	**343**	P	**P**	**20 59 18.0**	**-1.9**
comp=Z,880nm,0.8s,SNR=32							
AFI	**Afiamalu**	**12.47**	**40**	P	**P**	**21 00 16.5**	**-6.6**
comp=Z,13nm,0.3s,baz=16,slow=5.3,SNR=13							
AFI				S	**S**	**21 02 24.3**	**-13**
comp=Z,10nm,0.3s,baz=213,slow=22,SNR=6.5							
AFI				ScP	ScP	21 07 57.4	+0.9
comp=Z,2.4nm,0.3s,baz=219,slow=5.8,SNR=6.7							
AFI	**Afiamalu**	**12.47**	**40**	P	**P**	**21 00 16.5**	**-6.6**
AFI				S	**S**	**21 02 24.3**	**-13**
AFI				ScP	ScP	21 07 57.4	+0.9
AFI	**Afiamalu**	**12.47**	**40**	P	**P**	**21 00 16.5**	**-6.6**
AFI				S	**S**	**21 02 24.3**	**-13**
DZM	**Mont Dzumac**	**12.58**	**275**	*e*P	**P**	**21 00 25.8**	**+1.6**
comp=Z,217nm,1.1s							
DZM	**Mont Dzumac**	**12.58**	**275**	*e*P	**P**	**21 00 24.4**	**+0.2**
DZM	**Mont Dzumac**	**12.58**	**275**	P	**P**	**21 00 25.7**	**+1.5**
comp=Z,5.2nm,0.3s,baz=78,slow=19,SNR=51							
DZM				ScP	ScP	21 08 00.3	+3.6
comp=Z,3.6nm,0.3s,baz=206,slow=2.7,SNR=39							
DZM	**Mont Dzumac**	**12.58**	**275**	*e*P	**P**	**21 00 25.0**	**+0.8**
comp=Z,94nm,0.6s							
DZM				ScP	ScP	21 08 00.3	+3.6
NOUC	**Port Laguerre**	**12.70**	**274**	*e*P	**P**	**21 00 26.2**	**+0.7**
OUZ	**Omahuta**	**12.76**	**204**	*e*P	**P**	**21 00 28.9**	**+3.1**
comp=Z,49nm,0.6s							
WCZ	**Waipu Caves**	**13.15**	**200**	PN	**P**	**21 00 33.0**	**+3.2**
PUZ	**Puketiti**	**14.41**	**185**	PN	**P**	**21 00 44.1**	**+1.2**
PUZ				SN	**S**	**21 03 10.0**	**-3.8**
URZ	**Urewera**	**14.73**	**189**	P	**P**	**21 00 44.0**	**-2.2**
comp=Z,16nm,0.3s,baz=26,slow=3.2,SNR=34							
URZ				S	**S**	**21 03 15.8**	**-3.9**
comp=Z,6.9nm,0.3s,baz=217,slow=20,SNR=6.1							
URZ				ScS	ScS	21 11 34.4	-3.6
comp=Z,1.5nm,0.3s,baz=186,slow=21,SNR=21							
URZ	**Urewera**	**14.73**	**189**	*e*P	**P**	**21 00 44.9**	**-1.3**
URZ				S	**S**	**21 03 15.8**	**-3.9**
URZ				ScS	ScS	21 11 34.4	-3.6
URZ	**Urewera**	**14.73**	**189**	PN	**P**	**21 00 44.0**	**-2.2**
URZ				*e*SN	**S**	**21 03 15.6**	**-4.2**
MWZ	**Matawai**	**14.75**	**188**	PN	**P**	**21 00 45.1**	**-1.2**
MWZ				SN	**S**	**21 03 19.1**	**-1.0**
CNGZ	**Carnagh Statio**	**14.83**	**185**	PN	**P**	**21 00 47.0**	**-0.2**
FUNA	**Funafuti**	**15.10**	**357**	*e*P	**P**	**21 00 45.7**	**-4.6**
comp=Z,599nm,0.8s							
BKZ	**Black Stump Fm**	**15.71**	**190**	*e*PN	**P**	**21 00 53.6**	**-2.6**
BKZ				SN	**S**	**21 03 33.9**	**-3.5**
BHHZ	**Black Hill Sta**	**16.10**	**191**	PN	**P**	**21 00 57.5**	**-2.5**
KAHZ	**Kahuranaki**	**16.27**	**189**	PN	**P**	**21 01 00.1**	**-1.6**
PXZ	**Pawanui**	**16.51**	**188**	PN	**P**	**21 01 01.7**	**-2.1**
PXZ				SN	**S**	**21 03 48.2**	**-2.2**
PRHZ	**Porangahau**	**16.77**	**189**	SN	**S**	**21 03 54.3**	**-0.4**
DVHZ	**Dannevirke**	**16.87**	**190**	SN	**S**	**21 03 55.1**	**-1.4**
POWZ	**Post Office Ro**	**17.03**	**191**	SN	**S**	**21 03 58.2**	**-0.8**
MRZ	**Mangatainoka R**	**17.32**	**191**	PN	**P**	**21 01 09.5**	**-1.8**
MRZ				*e*SN	**S**	**21 04 01.2**	**-2.6**
OGWZ	**Otaki Gorge**	**17.55**	**192**	PN	**P**	**21 01 12.7**	**-0.7**
HOWZ	**Holdsworth Sta**	**17.57**	**191**	SN	**S**	**21 04 06.3**	**-1.5**
KIW	**Kapiti Island**	**17.65**	**193**	PN	**P**	**21 01 13.7**	**-0.6**
CAW	**Cannon Point**	**17.85**	**192**	PN	**P**	**21 01 16.8**	**+0.7**
TCW	**Tory Channel**	**18.12**	**194**	PN	**P**	**21 01 18.9**	**+0.3**
SNZO	**South Karori**	**18.12**	**193**	*e*P	**P**	**21 01 17.9**	**-0.6**
comp=Z,59nm,0.6s							
QRZ	**Quartz Range**	**18.20**	**198**	PN	**P**	**21 01 21.9**	**+2.7**
NNZ	**Nelson**	**18.34**	**196**	PN	**P**	**21 01 21.2**	**+0.7**
NNZ				*e*SN	**S**	**21 04 18.6**	**-1.7**
RAR	**Rarotonga**	**18.88**	**86**	P	**P**	**21 01 24.1**	**-1.7**
comp=Z,8.0nm,0.3s,baz=242,slow=8.2,SNR=29							
RAR				ScP	ScP	21 08 08.7	-0.1
comp=Z,1.0nm,0.3s,baz=173,slow=3.6,SNR=3.0							
RAR	**Rarotonga**	**18.88**	**86**	*e*P	**P**	**21 01 23.8**	**-2.0**
comp=Z,110nm,0.8s							
RAR				ScP	ScP	21 08 08.7	-0.1
RAR	**Rarotonga**	**18.88**	**86**	*e*P	**P**	**21 01 23.8**	**-2.0**
RAR				pmax	pmax		
comp=Z,109nm,0.8s							
THZ	**Tophouse**	**18.97**	**196**	PN	**P**	**21 01 27.3**	**+1.1**
THZ				SN	**S**	**21 04 28.9**	**-1.6**
DSZ	**Denniston Nort**	**19.26**	**199**	PN	**P**	**21 01 31.1**	**+2.1**
KHZ	**Kahutara**	**19.43**	**194**	*e*P	**P**	**21 01 30.9**	**+0.4**
comp=Z,79nm,1.0s							
KHZ	**Kahutara**	**19.43**	**194**	PN	**P**	**21 01 31.0**	**+0.5**
KHZ				SN	**S**	**21 04 36.7**	**-1.2**
RPZ	**Rata Peaks**	**21.29**	**198**	P	**P**	**21 01 48.7**	**+1.5**
comp=Z,34nm,0.5s,mb5.2,baz=315,slow=2.7,SNR=26							
RPZ				S	**S**	**21 05 05.8**	**-1.5**
comp=Z,7.6nm,0.5s,baz=55,slow=19,SNR=5.0							
RPZ				ScP	ScP	21 08 15.0	+0.9
comp=Z,27nm,0.6s,baz=0.1,slow=1.0,SNR=14							
RPZ				ScS	ScS	21 11 59.7	+1.0
comp=Z,26nm,1.0s,baz=90,slow=21,SNR=5.6							
RPZ	**Rata Peaks**	**21.29**	**198**	*e*P	**P**	**21 01 50.3**	**+3.1**
RPZ				S	**S**	**21 05 05.8**	**-1.5**
RPZ				ScP	ScP	21 08 15.0	+0.9
RPZ				ScS	ScS	21 11 59.7	+1.0
JCZ	**Jackson Bay**	**22.32**	**202**	PN	**P**	**21 01 58.0**	**+1.5**
ODZ	**Otahua Downs**	**22.62**	**197**	*e*P	**P**	**21 02 00.0**	**+0.8**
HNR	**Honiara**	**23.82**	**303**	P	**P**	**21 02 08.8**	**-1.5**
comp=Z,490nm,0.7s,mb6.2,baz=192,slow=1.9,SNR=45							
HNR	**Honiara**	**23.82**	**303**	*e*P	**P**	**21 02 08.2**	**-2.1**
comp=Z,745nm,0.8s,mb6.4							
HNR	**Honiara**	**23.82**	**303**	*e*P	**P**	**21 02 08.2**	**-2.1**
HNR				pmax	pmax		
comp=Z,745nm,0.8s,mb6.4							
ARMA	**Armidale**	**26.08**	**249**	⇓*i*P	**P**	**21 02 32.9**	**+2.8**
ARMA				*e*SCP	ScP	21 08 31.5	+3.9
ARMA				*e*SCS	ScS	21 12 24.2	+5.6
ARMA	**Armidale**	**26.08**	**249**	*e*P	**P**	**21 02 32.7**	**+2.6**
comp=Z,84nm,0.9s,mb5.4							
EIDS	**Eidsvold**	**26.32**	**260**	*e*P	**P**	**21 02 33.6**	**+1.3**
comp=Z,132nm,0.6s,mb5.7							
TBI	**Tubuai**	**28.00**	**96**	⇑*i*P	**P**	**21 02 46.7**	**-0.4**
comp=Z,764nm,1.3s,mb6.2							
CNB	**Canberra Magne**	**28.94**	**239**	⇓*i*P	**P**	**21 02 57.8**	**+2.7**
CNB				*e*		21 03 15.5	
CNB				*e*S	**S**	**21 07 11.8**	**+4.2**
CNB				*e*SCP	ScP	21 08 40.0	+3.6
PAE	**Paea**	**29.07**	**84**	⇑*i*P	**P**	**21 02 54.2**	**-2.2**
comp=Z,65nm,1.0s,mb5.2							
PPT2	**Papeete2**	**29.09**	**84**	⇑*i*P	**P**	**21 02 55.7**	**-0.9**
comp=Z,356nm,1.2s,mb5.9							
CAN	**Canberra**	**29.23**	**240**	*e*P	**P**	**21 02 59.7**	**+2.1**
comp=Z,75nm,0.9s,mb5.3							
CAN	**Canberra**	**29.23**	**240**	*e*P	**P**	**21 02 59.7**	**+2.1**
CAN				pmax	pmax		
comp=Z,75nm,0.9s,mb5.3							
TIAR	**Tiarei**	**29.31**	**84**	⇑*i*P	**P**	**21 02 56.7**	**-1.8**
comp=Z,675nm,1.0s,mb6.2							
MEH	**Mehetia**	**30.39**	**85**	⇑*i*P	**P**	**21 03 05.5**	**-2.3**
comp=Z,532nm,1.2s,mb6.0							
CTA	**Charters Tower**	**31.45**	**270**	P	**P**	**21 03 18.3**	**+1.4**
comp=Z,892nm,0.6s,mb6.5,baz=96,slow=11,SNR=1330							
CTA				S	**S**	**21 07 46.3**	**-0.4**
comp=Z,22nm,1.0s,baz=255,slow=17,SNR=12							
CTA				ScP	ScP	21 08 48.5	+3.5
comp=Z,31nm,0.8s,baz=131,slow=1.7,SNR=8.8							
CTA	**Charters Tower**	**31.45**	**270**	⇓*i*P	**P**	**21 03 18.4**	**+1.5**
CTA				*e*S	**S**	**21 07 45.9**	**-0.8**
CTA				*e*SCP	ScP	21 08 48.2	+3.2
CTA				*e*SCS	ScS	21 12 48.4	+3.9
CTA	**Charters Tower**	**31.45**	**270**	P	**P**	**21 03 18.3**	**+1.4**
CTA				S	**S**	**21 07 46.3**	**-0.4**
CTA				ScP	ScP	21 08 48.5	+3.5
CTA	**Charters Tower**	**31.45**	**270**	P	**P**	**21 03 18.3**	**+1.4**
CTA				S	**S**	**21 07 46.3**	**-0.4**
CTAO	**Charters Tower**	**31.45**	**270**	*e*P	**P**	**21 03 18.1**	**+1.1**
comp=Z,768nm,0.6s,mb6.4							
CTAO	**Charters Tower**	**31.45**	**270**	*e*P	**P**	**21 03 18.1**	**+1.2**
CTAO				pmax	pmax		
comp=Z,769nm,0.6s,mb6.4							
PMOR	**Pomariorio Ree**	**31.46**	**80**	⇑*i*P	**P**	**21 03 15.9**	**-1.1**
comp=Z,546nm,1.1s,mb6.0							
TOO	**Toolangi**	**32.55**	**237**	⇓*i*P	**P**	**21 03 28.0**	**+2.0**
TOO				*e*S	**S**	**21 08 05.7**	**+2.8**
TAU	**Tasmania Unive**	**33.06**	**227**	*e*P	**P**	**21 03 32.1**	**+1.9**
TAU	**Tasmania Unive**	**33.06**	**227**	*e*P	**P**	**21 03 32.1**	**+1.8**
XMAS	**Kiritimati**	**33.72**	**44**	*e*P	**P**	**21 03 34.5**	**-1.7**
comp=Z,520nm,1.0s,mb6.0							
PMG	**Port Moresby**	**34.41**	**289**	P	**P**	**21 03 42.2**	**+0.3**
comp=Z,926nm,0.8s,mb6.4,baz=92,slow=5.1,SNR=373							
PMG				S	**S**	**21 08 30.4**	**-1.2**
comp=Z,6.7nm,0.8s,baz=26,slow=22,SNR=5.8							
PMG				ScP	ScP	21 08 58.8	+3.3
comp=Z,53nm,1.1s,baz=69,slow=3.5,SNR=9.5							
PMG	**Port Moresby**	**34.41**	**289**	*e*P	**P**	**21 03 41.9**	**-0.1**
comp=Z,786nm,0.8s,mb6.3							
PMG				S	**S**	**21 08 30.4**	**-1.2**
PMG				ScP	ScP	21 08 58.8	+3.3
PMG	**Port Moresby**	**34.41**	**289**	*e*P	**P**	**21 03 41.9**	**0.0**
PMG				S	**S**	**21 08 30.4**	**-1.2**
PMG				pmax	pmax		
comp=Z,786nm,0.8s							
STKA	**Stephens Creek**	**34.78**	**248**	P	**P**	**21 03 46.7**	**+1.9**
comp=Z,83nm,0.6s,mb5.5,baz=90,slow=9.5,SNR=252							
STKA				S	**S**	**21 08 38.2**	**+1.3**
comp=Z,12nm,1.0s,baz=211,slow=20,SNR=3.7							
STKA				ScP	ScP	21 08 59.8	+3.2
comp=Z,19nm,1.0s,baz=54,slow=4.3,SNR=5.1							
STKA	**Stephens Creek**	**34.78**	**248**	⇓*i*P	**P**	**21 03 46.7**	**+1.8**
STKA				*e*S	**S**	**21 08 38.3**	**+1.4**
STKA				*e*SCP	ScP	21 08 56.9	+0.3
STKA				*e*SCS	ScS	21 13 00.0	-1.8
STKA	**Stephens Creek**	**34.78**	**248**	*e*P	**P**	**21 03 46.5**	**+1.6**
comp=Z,21nm,0.7s,mb4.8							
STKA				S	**S**	**21 08 38.2**	**+1.3**
STKA				ScP	ScP	21 08 59.8	+3.2
STKA	**Stephens Creek**	**34.78**	**248**	*e*P	**P**	**21 03 46.5**	**+1.6**
STKA				S	**S**	**21 08 38.2**	**+1.3**
STKA				pmax	pmax		
comp=Z,21nm,0.7s							
COEN	**Coen**	**36.06**	**279**	*e*P	**P**	**21 03 56.4**	**+0.7**
comp=Z,1μm,1.0s,mb6.4							
BBOO	**Buckleboo**	**39.51**	**247**	*e*P	**P**	**21 04 24.1**	**+0.5**
comp=Z,2μm,0.7s							
RKT	**Rikitea**	**41.22**	**99**	⇑*i*P	**P**	**21 04 37.1**	**-0.2**
comp=Z,127nm,1.0s,mb5.4							
AS31	**Alice Springs**	**42.05**	**260**	*e*P	**P**	**21 04 44.6**	**+0.7**
ASAR	**Alice Springs**	**42.05**	**260**	P	**P**	**21 04 44.8**	**+0.9**
comp=Z,301nm,0.8s,mb5.9,baz=101,slow=7.1,SNR=1617							
ASAR				ScP

comp=Z,4µmcomp=Z,378nm,0.8s,mb5.9
KMMI Kalianget 65.25 273 P P 21 07 29.2 +1.1
GMJI Gumukmas 65.27 272 P P 21 07 27.5 -0.7
comp=Z,2µmcomp=Z,285nm,0.8s,mb5.7
BLJI Banyuglugur 65.33 272 P P 21 07 28.7 +0.1
comp=Z,3µmcomp=Z,363nm,0.7s,mb5.9
KRKI Karangkates 66.22 271 P P 21 07 34.8 +0.7
comp=Z,541nm,0.7s,mb6.2
QSPA South Pole Qui 66.39 180 P P 21 07 36.8 +2.8
comp=Z,119nm,0.7s,mb5.5,baz=28,slow=1.6,SNR=315
QSPA South Pole Qui 66.39 180 *eP* **P 21 07 36.4 +2.3**
comp=Z,129nm,0.8s,mb5.5
PWJI Pagerwojo 66.86 271 P P 21 07 38.0 -0.1
comp=Z,5µmcomp=Z,379nm,0.8s,mb6.0
SJI Sawahan 67.01 272 P P 21 07 39.4 +0.4
comp=Z,5µmcomp=Z,390nm,0.8s,mb6.0
PCJI Pacitan 67.37 271 P P 21 07 41.5 +0.2
comp=Z,2µm,0.6s
UGM Wanagama 68.08 271 P P 21 07 45.7 +0.1
comp=Z,448nm,0.7s,mb6.1
SMRI Semarang 68.48 272 P P 21 07 48.6 +0.6
comp=Z,401nm,0.9s,mb6.0
KKM Kota Kinabalu 68.82 287 *eP* **P 21 07 50.1 +0.1**
comp=Z,157nm,0.5s,mb5.8
TGY Tagaytay City 68.85 297 P P 21 07 50.1 0.0
comp=Z,241nm,0.5s,mb6.0,baz=296,slow=23,SNR=7.0
TGY Tagaytay City 68.85 297 P P 21 07 50.1 0.0
TGY Tagaytay City 68.85 297 P P 21 07 50.1 0.0
BJII Banjamegara 69.04 271 P P 21 07 51.3 -0.1
comp=Z,125nm,1.3s,mb5.3
CISI Cisompet, Garu 70.70 270 P P 21 08 00.5 -0.7
comp=Z,4µmcomp=Z,335nm,1.0s,mb5.8
JOW Kunigami 70.83 312 P P 21 08 02.1 +0.4
comp=Z,293nm,0.7s,mb5.9,baz=148,slow=5.6,SNR=62
JOW Kunigami 70.83 312 *eP* **P 21 08 01.6 -0.1**
comp=Z,142nm,0.8s,mb5.5
LEM Lembang 71.15 271 P P 21 08 04.6 +0.7
comp=Z,5µmcomp=Z,628nm,0.9s,mb6.2
MJAR Matsushiro Arr 71.71 326 P P 21 08 05.8 -0.8
comp=Z,71nm,0.8s,mb5.1,baz=167,slow=6.1,SNR=146
MJAR pP pP 21 10 01.9 +2.0
comp=Z,2.1nm,0.8s,baz=163,slow=5.9,SNR=3.7
MJAR Matsushiro Arr 71.71 326 P P 21 08 05.8 -0.8
MJAR pP pP 21 10 01.9 +2.0
MJAR Matsushiro Arr 71.71 326 P P 21 08 05.8 -0.8
MJAR *PP pP 21 10 01.9 +2.0
MAJO Matsushiro 71.71 326 *eP* **P 21 08 05.7 -0.9**
comp=Z,88nm,0.8s,mb5.2
MAJO Matsushiro 71.71 326 *eP* **P 21 08 05.7 -0.9**
MAJO pmax pmax
comp=Z,88nm,0.8s,mb5.2
CBJI Citeko 72.01 271 P P 21 08 07.9 -1.0
comp=Z,738nm,0.8s,mb6.1
KSM Kuching 72.05 280 *eP* **P 21 08 09.2 +0.1**
comp=Z,249nm,0.8s,mb5.7
DBJI Dramaga 72.05 271 P P 21 08 09.0 -0.2
comp=Z,5µmcomp=Z,466nm,1.1s,mb5.8
CGJI Cibinong 73.00 270 P P 21 08 13.8 -0.8
comp=Z,4µmcomp=Z,456nm,0.8s,mb5.9
JNU Nakatsue 73.35 319 *eP* **P 21 08 15.6 -0.5**
comp=Z,112nm,1.4s,mb5.1
TWG Pinlang 73.57 305 *eP* **P 21 08 15.5 -2.2**
comp=Z,88nm,0.6s,mb5.4
YULB Yu-li 73.73 305 *eP* **P 21 08 16.7 -1.8**
comp=Z,37nm,0.6s,mb5.0
BLSI Bandar Lampung 73.89 271 P P 21 08 19.1 -0.6
comp=Z,226nm,0.8s,mb5.7
NACB Ninganchiao 73.96 306 *eP* **P 21 08 18.8 -1.0**
comp=Z,392nm,1.0s,mb5.8
TPUB Ta-pu 74.18 305 *eP* **P 21 08 19.2 -1.8**
comp=Z,274nm,0.9s,mb5.7
SSLB Suanglung 74.22 305 *eP* **P 21 08 19.8 -1.4**
comp=Z,322nm,1.0s,mb5.7
YHNB Yeheng 74.41 306 *eP* **P 21 08 21.7 -0.7**
comp=Z,170nm,0.8s,mb5.5
KLI Kotabumi 74.44 271 P P 21 08 21.9 -0.9
TATO Taipei 74.51 307 *eP* **P 21 08 21.9 -1.0**
comp=Z,352nm,0.8s,mb5.8
LWLI Liwa 75.11 271 P P 21 08 26.2 -0.4
ASAJ Asahikawa 75.67 333 *eP* **P 21 08 29.9 +1.0**
comp=Z,47nm,0.8s,mb5.0
MNAI Manna 76.38 271 P P 21 08 33.1 -0.5
FX1 Attu Island--F 76.47 356 P P 21 08 31.6 -1.5
comp=Z,71nm,0.6s,mb5.2,baz=176,slow=2.3,SNR=35
FX1 Attu Island--F 76.47 356 P P 21 08 31.6 -1.5
FX1 Attu Island--F 76.47 356 P P 21 08 31.6 -1.5
QZH Quanzhou 76.64 305 ⇓*iP* **P 21 08 33.8 -0.9**
QZH S S 21 17 36.3 -1.0
QZH pmax pmax
comp=Z,260nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 77.93 335 *eP* **P 21 08 41.7 +0.5**
comp=Z,88nm,0.4s,mb5.4
YSS Yuzh-Sakhalins 77.93 335 *eP* **P 21 08 41.7 +0.5**
YSS pmax pmax
comp=Z,88nm,0.4s,mb5.4
MAW Mawson 77.94 200 P P 21 08 42.7 +1.7
comp=Z,13nm,0.7s,mb4.4,baz=119,slow=6.5,SNR=14
MAW Mawson 77.94 200 *eP* **P 21 08 42.8 +1.7**
comp=Z,3.5nm,0.8s
MAW Mawson 77.94 200 *eP* **P 21 08 42.8 +1.8**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MYKOM Kota Tinggi 78.04 277 P P 21 08 43.0 +0.4
comp=Z,2µmcomp=Z,182nm,1.0s,mb5.3
KSRS Korea Array 78.07 320 P P 21 08 42.5 +0.4
comp=Z,35nm,0.8s,mb4.8,baz=134,slow=5.7,SNR=109
KSAR Wonju Array Be 78.09 320 P P 21 08 42.5 +0.3
KSAR Wonju Array Be 78.09 320 P P 21 08 42.6 +0.3
AKUT Akutan 78.47 9 *eP* **P 21 08 42.3 -1.6**
RGRI Rengat 78.55 275 P P 21 08 37.5 -7.8
PET Petropavlovsk 78.61 347 *eP* **P 21 08 43.1 -1.6**
PET pmax pmax
comp=Z,94nm,0.7s,mb5.2
INCN Inchon 78.85 319 *eP* **P 21 08 47.0 +0.6**
comp=Z,68nm,0.8s,mb5.0
PEA0B Petropavlovsk- 78.89 347 *eP* **P 21 08 45.5 -0.6**
PETK Petropavlovsk- 78.89 347 P P 21 08 45.6 -0.6
comp=Z,86nm,0.7s,mb5.2,baz=139,slow=7.3,SNR=79
PETK Petropavlovsk- 78.89 347 P P 21 08 45.6 -0.6
PETK Petropavlovsk- 78.89 347 P P 21 08 45.6 -0.5
PMSA Palmer Station 79.11 157 P P 21 08 48.9 +1.5
comp=Z,57nm,0.7s,mb5.0,baz=242,slow=6.1,SNR=8.7
PMSA Palmer Station 79.11 157 P P 21 08 48.9 +1.6
VLA Vladivostok 79.84 326 ⇑*iP* **P 21 08 51.4 0.0**
VLA *e* 21 08 56.1
VLA *e* 21 12 01.6
VLA *i* S S 21 18 08.9 -1.0
VLA pmax pmax
comp=Z,100nm,1.3s,mb5.0
BKNI Bangkinang 80.00 275 P P 21 08 52.7 -0.3
comp=Z,1µmcomp=Z,153nm,1.0s,mb5.3
PPI Padang Panjang 80.27 274 P P 21 08 53.6 -0.8
comp=Z,30nm,0.8s,mb4.7
USRK Ussuriysk Arra 80.57 327 P P 21 08 55.8 +0.6
comp=Z,50nm,0.6s,mb5.1
BSC Santa Cruz Isl 81.14 47 ⇓*P* **P 21 08 58.9 +0.5**
baz=81
MNSI Mandailing Nat 81.53 275 P P 21 08 59.7 -1.2
PKM Peak Mountain 81.55 46 ⇑*P* **P 21 09 01.0 +0.5**
baz=82,SNR=7.8
SAO San Andreas Ge 81.62 44 *eP* **P 21 09 01.0 +0.2**
comp=Z,60nm,1.0s,mb5.0
SAO San Andreas Ge 81.62 44 *eP* **P 21 09 01.0 +0.2**
SAO pmax pmax
comp=Z,60nm,1.0s,mb5.0
CIS Catalina Islan 81.63 48 ⇓*P* **P 21 09 01.1 +0.1**
baz=82
SMMC Simmler 81.68 46 ⇑*P* **P 21 09 01.7 +0.6**
baz=82,SNR=5.3
IPM Ipoh 81.71 279 *eP* **P 21 09 01.4 -0.5**
comp=Z,149nm,0.7s,mb5.5
IPM Ipoh 81.71 279 P P 21 09 01.7 -0.1
comp=Z,2µmcomp=Z,238nm,1.0s,mb5.6
HOPS Hopland 81.99 41 *eP* **P 21 09 02.8 +0.2**
comp=Z,70nm,1.1s,mb5.0
MDJ Mudanjiang 82.08 326 P P 21 09 03.3 +0.4
MDJ sP sP 21 11 54.1 -1.7
MDJ PP PP 21 12 20.8 -0.6
MDJ S S 21 18 34.0 +1.6
MDJ sS sS 21 22 00.4 -1.2
MDJ pmax pmax
comp=Z,100nm,0.8s,mb5.3
MDJ pmax pmax
comp=Z,220nm,6.7s
MDJ Mudanjiang 82.08 326 *eP* **P 21 09 02.8 -0.1**
comp=Z,87nm,0.8s,mb5.2

OSI Osito Adit 82.11 47 ⇓*P* **P 21 09 03.9 +0.5**
baz=82
OSI Osito Adit 82.11 47 *eP* **P 21 09 04.0 +0.7**
comp=Z,27nm,0.6s,mb4.8
DECC Green Verdugo 82.17 47 ⇑*P* **P 21 09 03.5 -0.1**
baz=82
PASC Pasadena Art C 82.22 48 *eP* **P 21 09 03.6 -0.3**
comp=Z,56nm,0.9s,mb5.0
109C Camp Elliot, M 82.22 49 ⇑*P* **P 21 09 03.8 -0.2**
baz=82
HABR Khabarovsk 82.31 332 *eP* **P 21 09 04.1 +0.1**
HABR *e**SP sP 21 11 54.8 -2.2
HABR *e* 21 12 20.9
HABR *e*S S 21 18 32.0 -2.6
HABR SS SS 21 24 11.8 0.0
HABR *e*SSS 21 27 45.4
HABR pmax pmax
comp=N,40nm,1.3s
HABR pmax pmax
comp=E,38nm,1.3s
HABR pmax pmax
comp=Z,188nm,1.3s,mb5.4
HABR MLR MLR
comp=Z,309nm,18.0s
ARVC Arvin 82.34 46 ⇑*P* **P 21 09 04.5 0.0**
baz=82,SNR=11
KULM Kulim 82.39 279 *eP* **P 21 09 05.6 +0.3**
comp=Z,61nm,0.7s,mb5.1
KULM Kulim 82.39 279 P P 21 09 06.0 +0.7
comp=Z,1µmcomp=Z,158nm,1.1s,mb5.4
USHA Ushuaia 82.49 147 P P 21 09 06.1 +1.1
comp=Z,37nm,1.0s,mb4.8,baz=238,slow=5.3,SNR=8.5
USHA Ushuaia 82.49 147 P P 21 09 06.1 +1.1
MURC Murrieta 82.56 48 ⇓*P* **P 21 09 05.8 +0.1**
baz=83,SNR=9.4
VES Vestal, Richgr 82.59 46 ⇑*P* **P 21 09 05.5 -0.3**
baz=83,SNR=18
BFSC Mount Baldy Ra 82.61 48 ⇑*P* **P 21 09 05.8 -0.1**
baz=83,SNR=7.8
LPIG La Paz 82.63 60 P P 21 09 06.2 0.0
EDW2 Edwards Air Fo 82.76 47 ⇓*P* **P 21 09 06.7 +0.1**
baz=83,SNR=21
DVTC Desert V Tower 82.80 50 ⇑*P* **P 21 09 07.3 +0.4**
baz=83
WHN Wuhan 82.86 308 P P 21 09 07.6 +0.4
WHN pmax pmax
comp=Z,240nm,1.0s,mb5.7
ISA Isabella 82.89 46 ⇑*P* **P 21 09 07.6 +0.3**
baz=83,SNR=33
ISA Isabella 82.89 46 *eP* **P 21 09 07.2 0.0**
comp=Z,74nm,0.8s,mb5.3
ISA Isabella 82.89 46 *eP* **P 21 09 07.3 0.0**
ISA pmax pmax
comp=Z,74nm,0.8s,mb5.3
PSI Prapat 82.94 276 P P 21 09 07.4 -0.6
CMB Columbia Colle 83.06 43 *eP* **P 21 09 07.6 -0.5**
comp=Z,62nm,0.8s,mb5.2
CMB Columbia Colle 83.06 43 *eP* **P 21 09 07.6 -0.5**
CMB pmax pmax
comp=Z,62nm,0.8s,mb5.2
PFO Pinyon Flat Ob 83.08 49 ⇑*P* **P 21 09 08.5 +0.2**
baz=83
PFO Pinyon Flat Ob 83.08 49 *eP* **P 21 09 08.3 0.0**
comp=Z,25nm,1.2s,mb4.6
PFO Pinyon Flat Ob 83.08 49 P P 21 09 08.2 -0.1
comp=Z,142nm,1.4s,mb5.3,SNR=5.0
PFO Pinyon Flat Ob 83.08 49 *eP* **P 21 09 08.3 0.0**
PFO pmax pmax
comp=Z,25nm,1.2s,mb4.6
SWSC Sam W. Stewart 83.17 50 ⇓*P* **P 21 09 09.1 +0.4**
baz=83
SYO Syowa Base 83.21 193 ⇓*iP* **P 21 09 07.4 -1.0**
SYO Syowa Base 83.21 193 ⇓*iPcP* PcP 21 09 09.6 -1.9
LRMC Laurel Mountai 83.30 47 ⇓*P* **P 21 09 09.5 +0.1**
baz=83,SNR=17
WDC Whiskeytown Da 83.31 40 *eP* **P 21 09 09.3 +0.1**
comp=Z,59nm,1.2s,mb5.0
WDC Whiskeytown Da 83.31 40 *eP* **P 21 09 09.3 +0.1**
WDC pmax pmax
comp=Z,59nm,1.2s,mb5.0
RRX Edison Barstow 83.42 48 ⇓*P* **P 21 09 10.0 0.0**
baz=84
SNY Shenyang 83.47 321 ⇓*P* **P 21 09 09.8 -0.2**
SNY pmax pmax
comp=Z,81nm,0.7s,mb5.4
CWC Cottonwood Cre 83.60 46 ⇓*P* **P 21 09 10.8 0.0**
baz=84
CN2 Changchun 83.70 324 ⇓*P* **P 21 09 11.1 0.0**
CN2 *e*pP pP 21 11 05.8 -3.2
CN2 *e*sP sP 21 11 58.5 -5.9
CN2 SKS 21 18 37.9
CN2 *e*S S 21 18 44.4 -4.2
CN2 pmax pmax
comp=Z,20nm,1.1s,mb4.6
CN2 pmax pmax
comp=Z,200nm,3.0s
MPMC Manual Prospec 83.77 46 ⇑*P* **P 21 09 11.9 +0.3**
baz=84,SNR=40
GSC Goldstone 83.80 47 ⇑*P* **P 21 09 11.8 0.0**
baz=84,SNR=28
GSC Goldstone 83.80 47 *eP* **P 21 09 11.6 -0.2**
comp=Z,57nm,0.9s,mb5.1
GSC Goldstone 83.80 47 *eP* **P 21 09 11.6 -0.2**
GSC pmax pmax
comp=Z,57nm,0.9s,mb5.1
MLAC Mammoth Lakes 83.81 44 ⇓*P* **P 21 09 12.2 +0.4**
baz=84
HEC Hector,Ludlow 83.85 48 ⇑*P* **P 21 09 12.1 0.0**
baz=84,SNR=35
TIN Tinemaha 83.86 45 ⇑*P* **P 21 09 12.3 +0.3**
baz=84,SNR=10.0
GLA Glamis 83.91 50 ⇑*P* **P 21 09 13.1 +0.7**
baz=84
GLA Glamis 83.91 50 *eP* **P 21 09 13.0 +0.6**
comp=Z,107nm,0.9s,mb5.4
GLA Glamis 83.91 50 *eP* **P 21 09 13.0 +0.6**
GLA pmax pmax
comp=Z,107nm,0.9s,mb5.4
YBH Yreka Blue Hor 83.94 39 *eP* **P 21 09 12.5 +0.2**
comp=Z,22nm,0.9s,mb4.7
YBH Yreka Blue Hor 83.94 39 *eP* **P 21 09 12.5 +0.2**
YBH pmax pmax
comp=Z,23nm,0.9s
WCN Washoe City 84.22 43 ⇑*P* **P 21 09 14.0 +0.3**
baz=84
WCN Washoe City 84.22 43 *eP* **P 21 09 13.8 +0.1**
comp=Z,37nm,1.0s,mb4.9
WCN Washoe City 84.22 43 *eP* **P 21 09 13.8 +0.1**
WCN pmax pmax
comp=Z,37nm,1.0s,mb4.9
IRM Iron Mountain 84.29 49 ⇑*P* **P 21 09 14.7 +0.5**
baz=84,SNR=34
KLR Kul'dur 84.34 331 *eP* **P 21 09 09.3 -4.8**
KLR *e*S SKSac 21 18 43.0 -2.4
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,130nm,1.6s,mb5.2
HUMO Hull Mountain 84.35 39 *eP* **P 21 09 14.6 +0.3**
comp=Z,58nm,1.2s,mb5.0
KDAK Kodiak Island 84.35 14 P P 21 09 13.2 -0.7
comp=Z,14nm,0.7s,mb4.6,baz=139,slow=5.5,SNR=6.6
KDAK Kodiak Island 84.35 14 *i* P **P 21 09 13.2 -0.7**
KDAK Kodiak Island 84.35 14 *i* P **P 21 09 13.6 -0.3**
GRAC Grapevine Rang 84.39 46 ⇓*P* **P 21 09 14.8 +0.2**
baz=84,SNR=25
FURC Furnace Creek, 84.42 46 ⇑*P* **P 21 09 14.7 -0.1**
baz=84,SNR=7.9
TUQ Turquoise Moun 84.47 48 ⇓*P* **P 21 09 15.2 +0.2**
baz=84,SNR=14
SHOC Shoshone 84.49 47 ⇑*P* **P 21 09 15.0 -0.1**
baz=84,SNR=13
Y12C Blythe 84.50 50 ⇓*P* **P 21 09 15.7 +0.4**
baz=85,SNR=17
113A Mohawk Valley, 84.50 51 ⇑*P* **P 21 09 15.7 +0.4**
baz=85
NVAR Mina Array Bea 84.61 44 P P 21 09 15.8 +0.1
comp=Z,27nm,1.0s,mb4.8,baz=222,slow=8.0,SNR=99
NVAR pP pP 21 11 15.1 +1.1
comp=Z,4.6nm,1.0s,baz=233,slow=8.4,SNR=4.3
NVAR Mina Array Bea 84.61 44 P P 21 09 15.8 0.0
NVAR pP pP 21 11 15.1 +1.2
214A Organ Pipe Nat 84.75 52 ⇓*P* **P 21 09 17.3 +0.7**
baz=85
Z13A Yuma Proving G 84.81 50 ⇓*P* **P 21 09 17.2 +0.4**
baz=85,SNR=23
LDFC Landfair 84.82 48 *eP* **P 21 09 17.4 +0.6**

comp=Z,177nm,1.0s,mb5.5
SNAA Sanae 84.88 179 *e* **P 21 09 17.4 +0.9**
SNAA Sanae 84.88 179 P P 21 09 16.8 +0.2
comp=Z,6.1nm,0.6s,mb4.3,baz=208,slow=6.8,SNR=199
SNAA pP pP 21 11 16.6 +1.9
comp=Z,3.5nm,1.1s,baz=159,slow=6.9,SNR=3.2
SNAA Sanae 84.88 179 *eP* **P 21 09 16.6 +0.1**
comp=Z,15nm,0.6s,mb4.7
SNAA *e*pP pP 21 11 14.3 -0.5
SNAA pP pP 21 11 16.6 +1.9
SNAA Sanae 84.88 179 *eP* **P 21 09 16.6 +0.1**
SNAA *e**PP pP 21 11 14.3 -0.4
SNAA pmax pmax
comp=Z,15nm,0.6s
NEE2 Needles Airpor 84.99 49 ⇓*P* **P 21 09 17.9 +0.3**
baz=85,SNR=6.7
PDMCI Parker Dam,Lak 85.06 49 ⇑*P* **P 21 09 18.3 +0.3**
baz=85,SNR=31
VNA3 Neumayer Olymp 85.09 177 *e* **P 21 09 18.2 +0.7**
114A Black Gap (USA 85.12 51 ⇓*P* **P 21 09 19.0 +0.7**
baz=85
Z14A Wintersburg 85.40 51 ⇓*P* **P 21 09 20.2 +0.5**
baz=86,SNR=25
MOD Modoc 85.45 40 *eP* **P 21 09 19.7 0.0**
comp=Z,49nm,1.1s,mb5.0
VNA2 Neumayer--Watz 85.50 178 *e* **P 21 09 20.5 +0.9**
baz=197,slow=4.3
K05A Summer Lake 85.61 39 ⇑*P* **P 21 09 21.0 +0.5**
baz=86
Y14A Wickenburg 85.67 50 ⇓*P* **P 21 09 21.0 +0.1**
baz=86,SNR=18
W13A Hualapai Mount 85.67 49 ⇑*P* **P 21 09 21.3 +0.3**
baz=86,SNR=29
VNA1 Neumayer--Stat 85.74 177 *e* **P 21 09 22.3 +1.6**
ANIG Ahuacatlan 85.89 65 P P 21 09 21.7 -0.6
ENH Enshi 86.30 305 *eP* **P 21 09 24.4 +0.4**
comp=Z,153nm,0.9s,mb5.6
R11A Troy Canyon, C 86.32 45 ⇓*P* **P 21 09 23.8 -0.2**
baz=86
TUC Tucson 86.41 53 *eP* **P 21 09 25.4 +1.0**
comp=Z,72nm,0.9s,mb5.3
TUC Tucson 86.41 53 *eP* **P 21 09 25.5 +1.0**
TUC pmax pmax
comp=Z,73nm,0.9s,mb5.3
BMN Battle Mountai 86.46 43 *eP* **P 21 09 24.2 -0.4**
comp=Z,24nm,0.9s,mb4.8
BMN Battle Mountai 86.46 43 *eP* **P 21 09 24.2 -0.3**
BMN pmax pmax
comp=Z,24nm,0.9s,mb4.8
E03A Lebam 86.53 35 ⇑*P* **P 21 09 25.1 +0.4**
baz=87
318A Bisbee 86.55 54 ⇓*P* **P 21 09 26.3 +1.1**
baz=87
GYA Guiyang 86.62 301 ⇑*iP* **P 21 09 26.0 +0.4**
GYA pP pP 21 11 25.4 +0.8
GYA sP sP 21 12 18.5 -1.3
GYA PP PP 21 13 01.6 +3.5
GYA SKS 21 19 02.3
GYA S S 21 19 16.8 -0.5
GYA sS sS 21 22 45.0 -4.3
GYA pmax pmax
comp=Z,30nm,1.0s,mb4.9
GYA pmax pmax
comp=Z,150nm,5.0s
WVOR Wild Horse Val 86.76 41 *eP* **P 21 09 25.8 -0.1**
comp=Z,35nm,1.0s,mb5.0
WVOR Wild Horse Val 86.76 41 *eP* **P 21 09 25.8 -0.1**
WVOR pmax pmax
comp=Z,35nm,1.0s,mb4.9
218A Dragoon 86.77 53 ⇓*P* **P 21 09 27.3 +1.1**
baz=87,SNR=62
BJT Baijiatuau 86.86 316 *eP* **P 21 09 27.0 +0.6**
comp=Z,63nm,0.6s,mb5.4
BJT Baijiatuau 86.86 316 *eP* **P 21 09 27.0 +0.6**
BJT pmax pmax
comp=Z,63nm,0.6s
BJI Beijing 86.86 316 P P 21 09 26.6 +0.2
BJI pP pP 21 11 24.5 -1.0
BJI sP sP 21 12 19.3 -1.3
BJI S S 21 19 19.3 +0.3
BJI SS SS 21 25 19.1 +0.7
BJI pmax pmax
comp=Z,92nm,0.7s,mb5.5
BJI pmax pmax
comp=Z,430nm,3.6s
X16A Lo Mia Camp, P 87.02 50 ⇑*P* **P 21 09 28.1 +0.8**
baz=87,SNR=23
319A Douglas 87.04 54 ⇑*P* **P 21 09 28.5 +1.1**
baz=87
Y17A Roosevelt 87.07 51 ⇓*P* **P 21 09 28.2 +0.6**
baz=87,SNR=10
Z17A San Carlos Hig 87.14 52 ⇓*P* **P 21 09 28.4 +0.5**
baz=87
SEW Seward 87.15 15 *eP* **P 21 09 25.6 -1.7**
118A Homack Ranch, 87.17 53 ⇑*P* **P 21 09 29.1 +1.0**
baz=87,SNR=31
I07A Izee 87.24 39 ⇑*P* **P 21 09 28.6 +0.5**
baz=87,SNR=25
R13A O'Grain Ranch, 87.29 46 ⇓*P* **P 21 09 29.4 +0.9**
baz=87
G06A Carlson Farm, 87.30 38 ⇑*P* **P 21 09 28.4 +0.1**
baz=87,SNR=10
Z18A Geronimo 87.34 52 ⇓*P* **P 21 09 29.6 +0.7**
baz=87,SNR=5.1
CCUT Cedar City 87.35 47 *eP* **P 21 09 29.3 +0.5**
comp=Z,28nm,1.0s,mb4.8
219A White Tail Can 87.36 53 ⇓*P* **P 21 09 29.9 +0.9**
baz=87
J08A Circle Bar Ran 87.41 40 ⇑*P* **P 21 09 29.2 +0.3**
baz=88,SNR=6.5
ARUT Antelope Range 87.43 47 *eP* **P 21 09 29.7 +0.5**
comp=Z,14nm,0.8s,mb4.6
ARUT Antelope Range 87.43 47 *eP* **P 21 09 29.7 +0.6**
ARUT pmax pmax
comp=Z,14nm,0.8s,mb4.6
320A Kipp Ranch, An 87.58 54 ⇓*P* **P 21 09 31.3 +1.2**
baz=88
LON Longmire 87.59 36 *eP* **P 21 09 29.1 -0.6**
comp=Z,11nm,0.8s,mb4.6
LON Longmire 87.59 36 *eP* **P 21 09 29.1 -0.6**
LON pmax pmax
comp=Z,11nm,0.8s,mb4.6
WUAZ Wupatki 87.64 50 ⇓*P* **P 21 09 30.6 +0.4**
baz=88,SNR=6.7
WUAZ Wupatki 87.64 50 *eP* **P 21 09 30.7 +0.5**
Y18A Canyon Day Jun 87.69 52 ⇑*P* **P 21 09 31.4 +0.9**
baz=88,SNR=42
220A Playas Peak, P 87.86 54 ⇑*P* **P 21 09 32.4 +1.1**
baz=88
W17A Winslow 87.87 50 ⇓*P* **P 21 09 31.9 +0.6**
baz=88,SNR=5.0
RC01 Rabbit Creek A 87.96 14 *eP* **P 21 09 30.0 -1.0**
comp=Z,23nm,0.8s,mb5.0
Z19A T-Link Ranch, 88.00 52 ⇓*P* **P 21 09 32.8 +0.8**
baz=88,SNR=7.8
TIY Taiyuan 88.03 313 *eP* **P 21 09 32.9 +0.9**
V17A Tonalea, Kykot 88.09 50 ⇓*P* **P 21 09 32.7 +0.4**
baz=88,SNR=13
120A U Bar Ranch, L 88.10 53 ⇑*P* **P 21 09 33.4 +0.9**
baz=88
U16A Tuba City 88.13 49 ⇓*P* **P 21 09 33.3 +0.8**
baz=88,SNR=15
X18A Snowflake 88.13 51 ⇓*P* **P 21 09 33.1 +0.5**
baz=88,SNR=21
Y19A Nutrioso 88.34 52 ⇓*P* **P 21 09 34.6 +1.1**
baz=88,SNR=18
Z20A Nine Sixteen R 88.41 53 ⇓*P* **P 21 09 35.0 +1.2**
baz=88,SNR=22
PLCA Paso Flores 88.43 134 P P 21 09 35.4 +1.4
comp=Z,18nm,0.6s,mb4.9,baz=230,slow=5.0,SNR=39
PLCA Paso Flores 88.43 134 *eP* **P 21 09 35.2 +1.3**
comp=Z,63nm,1.3s,mb5.2
PLCA Paso Flores 88.43 134 *eP* **P 21 09 35.3 +1.4**
PLCA pmax pmax
comp=Z,63nm,1.3s
R15A Junction 88.43 47 ⇑*P* **P 21 09 34.7 +0.9**
baz=88
JCW Jim Creek 88.43 35 *eP* **P 21 09 33.6 0.0**
comp=Z,21nm,1.0s,mb4.8
221A Mesquite Ranch 88.47 54 ⇓*P* **P 21 09 35.3 +1.1**
baz=88
PMR Palmer 88.55 14 *eP* **P 21 09 32.3 -1.5**
comp=Z,10nm,0.6s,mb4.8
PMR Palmer 88.55 14 *eP* **P 21 09 32.3 -1.5**
PMR pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
X19A St. Johns 88.55 51 ⇓*P* **P 21 09 35.1 +0.6**

baz=89
RSW Rattlesnake Hi 88.58 37 *e*P **P 21 09 34.6 +0.3**
comp=Z,10nm,0.4s,mb5.0
W18A Petrified Fore 88.58 51 ⇓P **P 21 09 34.9 +0.3**
baz=89
XAN Xi'an 88.59 308 P **P 21 09 35.8 +1.1**
XAN pmax pmax
comp=Z,35nm,0.8s,mb5.2
XAN pmax pmax
comp=Z,36nm,5.3s
HAWA Hanford 88.61 37 *e*P **P 21 09 34.4 -0.1**
comp=Z,36nm,0.8s,mb5.3
HAWA *e*pP pP 21 11 34.8 +0.7
S16A Weppner Ranch, 88.63 48 ⇓P **P 21 09 35.0 +0.2**
baz=89
MSU Marysvale 88.65 47 *e*P **P 21 09 35.7 +0.9**
comp=Z,58nm,1.3s,mb5.2
MSU Marysvale 88.65 47 *e*P **P 21 09 35.7 +0.8**
MSU pmax pmax
comp=Z,59nm,1.3s,mb5.3
U17A Shonto 88.69 49 ⇑P **P 21 09 35.4 +0.3**
baz=89,SNR=7.0
121A Cookes Peak, D 88.71 54 ⇑P **P 21 09 36.0 +0.7**
baz=89,SNR=12
V18A Ganado 88.74 50 ⇓P **P 21 09 35.6 +0.3**
baz=89,SNR=8.4
T17A Navajo Res., N 88.79 48 ⇑P **P 21 09 36.1 +0.6**
baz=89
W19A Sanders 88.83 51 ⇓P **P 21 09 36.1 +0.3**
baz=89,SNR=10
ETW Entiat 88.91 36 *e*P **P 21 09 35.9 0.0**
comp=Z,95nm,1.1s,mb5.5
SML Sawmill 88.92 14 *e*P **P 21 09 34.5 -0.9**
comp=Z,2.1nm,0.8s
SML Sawmill 88.92 14 *e*P **P 21 09 34.6 -0.9**
SML pmax pmax
comp=Z,2.0nm,0.8s
Y20A Horse Springs, 88.95 52 ⇑P **P 21 09 37.3 +1.0**
baz=89,SNR=7.4
BMO Blue Mountains 88.96 39 *e*P **P 21 09 35.7 -0.4**
comp=Z,30nm,1.5s,mb4.9
BMO Blue Mountains 88.96 39 *e*P **P 21 09 35.7 -0.4**
BMO pmax pmax
comp=Z,30nm,1.5s,mb4.9
R16A Teasdale 89.00 47 ⇓P **P 21 09 37.4 +0.9**
baz=89
MFID Camas Ranch 89.01 41 ⇑P **P 21 09 36.3 -0.1**
baz=89,SNR=36
MFID Camas Ranch 89.01 41 *e*P **P 21 09 36.4 0.0**
comp=Z,53nm,1.0s,mb5.3
222A Williams Famil 89.01 54 ⇑P **P 21 09 37.6 +0.9**
baz=89,SNR=6.3
BMRM Bremner River 89.10 16 *e*P **P 21 09 35.8 -0.6**
comp=Z,12nm,0.8s,mb4.8
BMRM *e*pP pP 21 11 36.6 +0.4
S17A Black Ridge (B 89.12 48 ⇑P **P 21 09 37.0 0.0**
baz=89
DUG Dugway 89.13 45 ⇓P **P 21 09 37.0 0.0**
baz=89
DUG Dugway 89.13 45 *e*P **P 21 09 36.4 -0.6**
comp=Z,22nm,1.2s,mb4.9
DUG Dugway 89.13 45 *e*P **P 21 09 36.4 -0.6**
DUG pmax pmax
comp=Z,22nm,1.2s,mb4.9
KMI Kunming 89.15 298 P **P 21 09 39.3 +1.8**
KMI pP pP 21 11 42.4 +5.2
KMI PP PP 21 13 18.5 +0.4
KMI SKS 21 19 15.8
KMI S S 21 19 41.1 +0.4
KMI SS SS 21 25 55.5 +3.8
KMI pmax pmax
comp=Z,63nm,1.4s,mb5.2
KMI pmax pmax
comp=Z,220nm,3.1s
KMI Kunming 89.15 298 P **P 21 09 39.2 +1.7**
comp=Z,63nm,1.4s,mb5.2
KMI pP pP 21 11 42.4 +5.2
KMI sP sP 21 12 39.5 +7.4
KMI PP PP 21 13 18.5 +0.4
KMI SKS 21 19 15.8
KMI S S 21 19 41.1 +0.4
KMI SP SP 21 20 50.7 +0.8
KMI SS SS 21 25 55.5 +3.8
KMI Kunming 89.15 298 P **P 21 09 39.2 +1.7**
KMI 21 13 18.5
KMI 21 19 15.8
KMI S S 21 19 41.1 +0.4
KMI SP SP 21 20 50.7 +0.8
KMI SS SS 21 25 55.5 +3.8
KMI pmax pmax
comp=Z,63nm,1.4s,mb5.2
P15A Leamington 89.15 46 ⇑P **P 21 09 37.5 +0.3**
baz=89
U18A Rough Rock, Ch 89.15 49 ⇓P **P 21 09 37.6 +0.4**
baz=89
Z21A St. Cloud Mine 89.17 53 ⇓P **P 21 09 38.3 +0.9**
baz=89,SNR=13
X20A Quemado 89.18 52 ⇓P **P 21 09 38.2 +0.8**
baz=89,SNR=9.4
V19A Window Rock 89.37 50 ⇑P **P 21 09 38.5 +0.2**
baz=89
122A Conniff Cattle 89.37 54 ⇑P **P 21 09 39.5 +1.2**
baz=89,SNR=5.6
O15A The Old Anders 89.40 45 ⇑P **P 21 09 38.6 +0.3**
baz=90
EFI East Falkland 89.40 148 *e*P **P 21 09 39.3 +1.1**
comp=Z,66nm,1.1s,mb5.4
EFI East Falkland 89.40 148 *e*P **P 21 09 39.3 +1.1**
EFI pmax pmax
comp=Z,66nm,1.1s,mb5.4
EFI East Falkland 89.40 148 P **P 21 09 39.3 +1.1**
comp=Z,411nm,0.6s,mb6.4,SNR=9.4
CM31 Chiang Mai Arr 89.43 290 *e*P **P 21 09 40.8 +1.9**
comp=Z,75nm,1.0s,mb5.5
CMAR Chiang Mai Arr 89.43 290 P **P 21 09 40.6 +1.7**
comp=Z,56nm,0.9s,mb5.4,baz=137,slow=3.2,SNR=233
CMAR pP pP 21 11 37.5 -1.3
comp=Z,2.6nm,0.8s,baz=100,slow=1.7,SNR=4.3
CMAR PP PP 21 13 19.9 -0.5
comp=Z,6.7nm,0.9s,baz=130,slow=5.8,SNR=7.1
CMAR PKKPbc PKKPbc 21 27 11.1 +0.6
comp=Z,3.5nm,0.7s,baz=283,slow=4.5,SNR=24
CMAR Chiang Mai Arr 89.43 290 P **P 21 09 40.6 +1.7**
CMAR pP pP 21 11 37.5 -1.3
CMAR PP PP 21 13 19.9 -0.5
CMAR PKKPbc PKKPbc 21 27 11.1 +0.6
CMAR Chiang Mai Arr 89.43 290 P **P 21 09 40.7 +1.8**
CMAR *PP pP 21 11 37.5 -1.2
CMAR 21 13 19.9
TNA Tin City 89.45 5 *e*P **P 21 09 36.5 -1.4**
comp=Z,37nm,1.2s,mb5.1
E09A Wood Farm, Sta 89.45 38 ⇑P **P 21 09 38.0 -0.4**
baz=90,SNR=11
W20A Ramah 89.46 51 ⇓P **P 21 09 39.2 +0.5**
baz=90,SNR=29
T18A Mexican Hat 89.50 49 ⇓P **P 21 09 39.3 +0.5**
baz=90
Y21A Point of Rocks 89.51 52 ⇓P **P 21 09 40.0 +1.1**
baz=90
Q16A Castle Valley 89.54 47 ⇑P **P 21 09 39.8 +0.8**
baz=90
U19A Dine' College, 89.54 50 ⇓P **P 21 09 39.3 +0.3**
baz=90
P16A Fountain Green 89.57 46 ⇓P **P 21 09 40.0 +0.9**
baz=90
CHTO Chiang Mai 89.58 291 *e*P **P 21 09 40.7 +1.1**
comp=Z,79nm,0.9s,mb5.5
CHTO Chiang Mai 89.58 291 *e*P **P 21 09 40.7 +1.1**
CHTO pmax pmax
comp=Z,79nm,0.9s,mb5.5
R17A Hanksville Air 89.59 47 ⇓P **P 21 09 39.3 +0.1**
baz=90
I12A Atlanta 89.64 41 ⇑P **P 21 09 39.6 +0.3**
baz=90,SNR=32
X21A Alamocita Cree 89.64 52 ⇑P **P 21 09 40.3 +0.8**
baz=90
F10A Beach Ranch, E 89.66 38 ⇓P **P 21 09 38.8 -0.5**
baz=90,SNR=20
OD2 Odessa Site #2 89.66 37 *e*P **P 21 09 39.1 -0.2**
comp=Z,32nm,1.0s,mb5.1
Z22A Elephant Butte 89.67 53 ⇑P **P 21 09 40.5 +0.8**
baz=90,SNR=11
S18A Hurst Farm, Bl 89.70 48 ⇓P **P 21 09 39.7 -0.1**
baz=90
TMUT Trail Mountain 89.71 46 *e*P **P 21 09 40.5 +0.7**
comp=Z,144nm,1.0s,mb5.8
MPU Maple Canyon 89.80 46 *e*P **P 21 09 40.5 +0.3**
comp=Z,169nm,1.1s,mb5.8
NOQ North Oquirrh 89.82 45 *e*P **P 21 09 39.2 -1.0**
comp=Z,136nm,1.4s,mb5.6
V20A Brimhall 89.82 50 ⇑P **P 21 09 40.4 +0.1**
baz=90
L14A Malta 89.84 43 ⇓P **P 21 09 40.4 +0.1**
baz=90,SNR=6.1
123A Bell Site, Whi 89.89 54 ⇓P **P 21 09 41.3 +0.5**
baz=90
324A Moseley Ranch, 89.91 55 ⇓P **P 21 09 41.1 +0.2**
baz=90,SNR=7.7
T19A Beclabito 89.94 49 ⇑P **P 21 09 41.1 +0.2**
baz=90
HLID Hailey 89.95 41 ⇑P **P 21 09 41.2 +0.5**
baz=90,SNR=45
HLID Hailey 89.95 41 *e*P **P 21 09 40.9 +0.2**
comp=Z,28nm,0.9s,mb5.1
TRF Thorofare Moun 89.95 13 *e*P **P 21 09 38.8 -1.4**
comp=Z,17nm,0.7s,mb5.0
425A Indio Mountain 89.99 56 ⇑P **P 21 09 41.7 +0.5**
baz=90,SNR=23
O16A Springville 89.99 45 ⇓P **P 21 09 41.3 +0.3**
baz=90,SNR=35
Y22A Socorro 89.99 53 ⇓P **P 21 09 41.7 +0.5**
baz=90,SNR=9.2
HVU Hansel Valley 90.00 44 *e*P **P 21 09 40.9 -0.1**
comp=Z,95nm,1.2s,mb5.5
HVU Hansel Valley 90.00 44 *e*P **P 21 09 40.9 -0.1**
HVU pmax pmax
comp=Z,95nm,1.2s,mb5.5
J13A Cove Ranch, Pi 90.00 42 ⇓P **P 21 09 41.6 +0.6**
baz=90,SNR=21
M15A Larsen Ranch, 90.04 44 ⇑P **P 21 09 41.2 0.0**
baz=90,SNR=22
U20A Newcomb 90.07 50 ⇑P **P 21 09 41.6 +0.2**
baz=90
SRU San Rafael 90.07 47 *e*P **P 21 09 41.5 +0.1**
SRU San Rafael 90.07 47 *e*P **P 21 09 41.5 +0.1**
W21A San Fidel 90.07 51 ⇑P **P 21 09 42.0 +0.5**
baz=90
626A Big Bend Ranch 90.07 58 ⇑P **P 21 09 42.1 +0.5**
baz=90,SNR=34
Y22D IRIS PASSCAL I 90.09 53 ⇑P **P 21 09 42.5 +0.9**
baz=90
LENM Lemitar 90.10 52 *e*P **P 21 09 42.0 +0.4**
comp=Z,35nm,1.0s,mb5.1
MNTX Cornudas Mount 90.11 55 ⇑P **P 21 09 42.1 +0.3**
baz=90,SNR=22
MNTX Cornudas Mount 90.11 55 *e*P **P 21 09 41.9 +0.1**
comp=Z,32nm,0.8s,mb5.2
P17A Butcher Ranch, 90.11 46 ⇑P **P 21 09 41.9 +0.3**
baz=90
R18A Canyonlands Na 90.12 48 ⇓P **P 21 09 41.5 -0.2**
baz=90
C09A Chrisman Ranch 90.14 36 ⇑P **P 21 09 41.4 -0.1**
baz=90
K14A Jones Ranch, D 90.16 43 ⇓P **P 21 09 41.8 +0.1**
baz=90,SNR=5.3
224A Cornudas Mount 90.18 55 ⇑P **P 21 09 42.6 +0.6**
baz=90,SNR=5.9
Z23A Rita Site, Whi 90.21 54 ⇑P **P 21 09 42.7 +0.5**
baz=90
JLU Jordanelle 90.23 45 *e*P **P 21 09 42.4 +0.3**
comp=Z,62nm,1.4s,mb5.2
H12A Diamond D Ranc 90.23 40 ⇑P **P 21 09 42.0 0.0**
baz=90,SNR=35
X22A Bernardo 90.23 52 ⇓P **P 21 09 43.2 +0.9**
baz=90
HHC Hu-ho-hao-te 90.25 315 ⇓P **P 21 09 43.3 +1.1**
HHC pP pP 21 11 41.6 -0.6
HHC sP sP 21 12 33.3 -3.7
HHC PP PP 21 13 28.9 +2.5
HHC SKS 21 19 21.6
HHC S S 21 19 49.8 -0.2
HHC sS sS 21 23 20.6 -3.8
HHC SS SS 21 26 10.3 +3.3
HHC pmax pmax
comp=Z,76nm,0.9s,mb5.5
HHC pmax pmax
comp=Z,350nm,8.1s
DAU Daniels Canyon 90.25 45 *e*P **P 21 09 43.1 +0.9**
comp=Z,46nm,1.1s,mb5.2
DAU Daniels Canyon 90.25 45 *e*P **P 21 09 43.1 +0.9**
DAU pmax pmax
comp=Z,46nm,1.1s,mb5.2
325A Bean Ranch, Si 90.27 56 ⇑P **P 21 09 42.6 +0.1**
baz=90,SNR=13
S19A Harvey Farm, M 90.32 49 ⇑P **P 21 09 42.5 -0.1**
baz=90
I13A Wildhorse Cree 90.32 41 ⇓P **P 21 09 42.8 +0.4**
baz=90,SNR=11
Q18A Rafter H Ranch 90.33 47 ⇑P **P 21 09 42.4 -0.2**
baz=90,SNR=16
TXAR Lajitas Array 90.34 58 P **P 21 09 43.5 +0.6**
comp=Z,37nm,0.7s,mb5.3,baz=213,slow=6.5,SNR=282
TXAR PP PP 21 13 29.4 +2.1
comp=Z,3.2nm,1.1s,baz=212,slow=6.9,SNR=3.5
TXAR PKKPbc PKKPbc 21 27 09.9 +1.3
comp=Z,0.8nm,0.6s,baz=74,slow=3.9,SNR=7.8
TXAR Lajitas Array 90.34 58 P **P 21 09 43.5 +0.6**
TXAR PP PP 21 13 29.4 +2.1
TXAR PKKPbc PKKPbc 21 27 09.9 +1.3
TXAR Lajitas Array 90.34 58 P **P 21 09 43.5 +0.6**
TXAR 21 13 29.4
526A Mary Lane Ranc 90.34 57 ⇓P **P 21 09 43.2 +0.4**
baz=90,SNR=37
BNM Barren Site 90.34 53 *e*P **P 21 09 43.0 +0.3**
comp=Z,27nm,1.1s,mb5.0
L15A Malad City 90.36 44 ⇑P **P 21 09 42.5 -0.2**
baz=90,SNR=28
J14A Carey 90.37 42 ⇓P **P 21 09 43.4 +0.7**
baz=90
N16A Rees Ranch, Co 90.38 45 ⇑P **P 21 09 43.2 +0.4**
baz=90,SNR=15
V21A Milan 90.41 51 ⇑P **P 21 09 43.3 +0.3**
baz=90
LPM Los Pinos Moun 90.42 52 *e*P **P 21 09 42.5 -0.6**
comp=Z,35nm,1.2s,mb5.1
O17A Robinson Place 90.48 46 ⇑P **P 21 09 43.8 +0.5**
baz=90,SNR=123
MCK McKinley 90.48 13 *e*P **P 21 09 40.3 -2.4**
comp=Z,6.7nm,0.8s,mb4.5
MCK McKinley 90.48 13 *e*P **P 21 09 40.3 -2.4**
MCK pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
R19A Curley Farm, L 90.51 48 ⇓P **P 21 09 43.2 -0.3**
baz=91,SNR=15
P18A Preston Nutter 90.52 46 ⇓P **P 21 09 43.6 +0.2**
baz=91,SNR=13
H13A Challis 90.60 41 ⇑P **P 21 09 43.8 +0.1**
baz=91
627A Terlingua Ranc 90.61 58 ⇑P **P 21 09 44.5 +0.3**
baz=91,SNR=50
W22A Albuquerque 90.61 52 ⇓P **P 21 09 44.5 +0.5**
baz=91
K15A Arbon 90.64 43 ⇓P **P 21 09 43.9 0.0**
baz=91,SNR=19
Y23A Lovelace Mesa, 90.66 53 ⇓P **P 21 09 44.5 +0.2**
baz=91
426A McDonald Obser 90.66 57 ⇑P **P 21 09 44.7 +0.3**
baz=91,SNR=16
F12A Elk City 90.67 39 ⇓P **P 21 09 43.6 -0.4**
baz=91
HWUT Hardware Ranch 90.68 44 *e*P **P 21 09 43.7 -0.4**
U21A Nageezi 90.70 50 ⇓P **P 21 09 44.7 +0.3**
baz=91,SNR=38
225A Deer Hill, Car 90.72 55 ⇑P **P 21 09 44.9 +0.3**
baz=91,SNR=9.0
I14A Mackay 90.73 42 ⇓P **P 21 09 44.8 +0.4**
baz=91,SNR=24
527A Woodward Ranch 90.75 57 ⇑P **P 21 09 44.8 +0.1**
baz=91
N17A Moffit Pass 90.80 45 ⇑P **P 21 09 45.0 +0.2**
baz=91,SNR=16
Q19A Hogan Spring (90.84 47 ⇓P **P 21 09 44.8 -0.2**
baz=91,SNR=21
ANMO Albuquerque 90.84 52 P **P 21 09 45.4 +0.3**
comp=Z,22nm,0.9s,mb5.1,baz=216,slow=4.8,SNR=25
ANMO PP PP 21 13 29.9 -1.2
comp=Z,0.7nm,0.4s,baz=236,slow=7.6,SNR=3.6
ANMO Albuquerque 90.84 52 *e*P **P 21 09 45.1 0.0**
comp=Z,43nm,1.2s,mb5.3
ANMO PP PP 21 13 29.9 -1.2
ANMO Albuquerque 90.84 52 *e*P **P 21 09 45.1 0.0**
ANMO 21 13 30.0
ANMO pmax pmax
comp=Z,43nm,1.2s
E12A Beaver Dam Sad 90.85 39 ⇑P **P 21 09 44.1 -0.7**
baz=91
X23A Hourglass Bar 90.86 52 ⇓P **P 21 09 45.4 +0.2**
baz=91
Z24A Sheeppen Canyo 90.88 54 ⇑P **P 21 09 45.5 +0.2**
baz=91
S20A Disappointment 90.89 49 ⇓P **P 21 09 45.4 +0.1**
baz=91,SNR=7.8
G13A Cobalt 90.90 40 ⇑P **P 21 09 45.0 -0.1**
baz=91,SNR=11
CD2 Chengdu 90.95 303 ⇓*i*P **P 21 09 46.8 +1.1**
CD2 pP pP 21 11 46.6 +0.9
CD2 sP sP 21 12 39.8 -0.7
CD2 PP PP 21 13 35.4 +3.4
CD2 SKS 21 19 26.8
CD2 S S 21 19 56.4 -0.2
CD2 sS sS 21 23 28.6 -2.8
CD2 SS SS 21 26 20.3 +3.1
CD2 pmax pmax
comp=Z,130nm,0.8s,mb5.9
CD2 pmax pmax
comp=Z,230nm,4.6s
L16A Fish Haven 90.97 44 ⇓P **P 21 09 45.6 +0.1**
baz=91,SNR=15
V22A San Miguel Ran 90.98 51 ⇑P **P 21 09 45.7 0.0**
baz=91
MENT Mentasta 90.99 16 *e*P **P 21 09 44.1 -1.0**
326A Caldwell Ranch 91.00 56 ⇓P **P 21 09 45.6 -0.3**
baz=91
O18A Roosevelt 91.00 46 ⇑P **P 21 09 45.9 +0.2**
baz=91,SNR=6.8
628A Black Gap, Mar 91.01 58 ⇑P **P 21 09 46.0 0.0**
baz=91,SNR=42
R20A Redvale 91.06 48 ⇓P **P 21 09 45.9 -0.1**
baz=91,SNR=5.8
T21A Navajo Lake 91.06 50 ⇓P **P 21 09 46.3 +0.3**
baz=91
J15A Blackfoot 91.08 42 ⇑P **P 21 09 46.5 +0.6**
baz=91,SNR=19
125A Gardner Draw, 91.10 55 ⇑P **P 21 09 46.5 +0.1**
baz=91,SNR=10
Y24A Capitan 91.11 53 ⇓P **P 21 09 46.6 +0.3**
baz=91,SNR=31
GDL2 Guadalupe Moun 91.11 55 *e*P **P 21 09 46.8 +0.4**
comp=Z,16nm,0.4s,mb5.3
BTO Baotou 91.13 314 *e*P **P 21 09 46.1 -0.2**
H14A Leadore 91.16 41 ⇓P **P 21 09 46.6 +0.3**
baz=91,SNR=11
W23A Werner Place, 91.17 52 ⇓P **P 21 09 47.3 +0.8**
baz=91
M17A Scullys Gap (B 91.19 45 ⇓P **P 21 09 46.4 0.0**
baz=91
S21A Coal Bank Pass 91.20 49 ⇓P **P 21 09 46.9 +0.2**
baz=91,SNR=14
F13A Darby 91.22 40 ⇓P **P 21 09 46.1 -0.4**
baz=91
427A Hayter Ranch, 91.23 57 ⇑P **P 21 09 47.4 +0.4**
baz=91,SNR=26
U22A Llaves 91.24 51 ⇓P **P 21 09 46.9 0.0**
baz=91
226A Malaga, Loving 91.24 55 ⇑P **P 21 09 46.9 -0.1**
baz=91,SNR=8.1
K16A Soda Springs 91.30 43 ⇓P **P 21 09 47.3 +0.3**
baz=91,SNR=25
Z25A Roswell 91.34 54 ⇓P **P 21 09 47.9 +0.5**
baz=91,SNR=9.7
I15A Monteview 91.36 42 ⇓P **P 21 09 47.6 +0.4**
baz=91,SNR=7.1
P19A Cripple Cowboy 91.36 47 ⇑P **P 21 09 47.3 -0.1**
baz=91,SNR=9.4
L17A Cokeville 91.38 44 ⇓P **P 21 09 46.9 -0.4**
baz=91
528A Cox Ranch, San 91.39 58 ⇑P **P 21 09 47.7 0.0**
baz=91,SNR=13
V23A Ortiz Mt. (NFS 91.42 51 ⇑P **P 21 09 48.2 +0.5**
baz=92,SNR=6.4
G14A Jackson 91.44 40 ⇑P **P 21 09 47.5 -0.1**
baz=92
Q20A Ridgley Place, 91.49 48 ⇓P **P 21 09 47.6 -0.4**
baz=92,SNR=11
T22A Edith 91.51 50 ⇓P **P 21 09 48.2 +0.1**
baz=92
J16A Bone 91.52 43 ⇓P **P 21 09 48.3 +0.3**
baz=92,SNR=24
M18A Lyman 91.55 45 ⇑P **P 21 09 48.2 0.0**
baz=92,SNR=36
126A Clayton Basin, 91.57 55 ⇑P **P 21 09 48.1 -0.4**
baz=92
AHID Auburn Hatcher 91.57 43 *e*P **P 21 09 48.5 +0.2**
comp=Z,34nm,0.9s,mb5.4
N18A Larsen Ranch, 91.58 46 ⇓P **P 21 09 47.9 -0.4**
baz=92,SNR=22
MCMT McKenzie Canyo 91.58 41 *e*P **P 21 09 47.9 -0.3**
comp=Z,4.7nm,0.8s,mb4.6
H15A Lima 91.59 41 ⇓P **P 21 09 48.5 +0.2**
baz=92,SNR=5.3
O19A Miners Draw (B 91.60 46 ⇑P **P 21 09 48.2 -0.2**
baz=92,SNR=16
K17A Gardner Place, 91.68 44 ⇓P **P 21 09 49.0 +0.2**
baz=92
P20A De Beque 91.69 47 ⇓P **P 21 09 48.8 -0.1**
baz=92
R21A Cimarron 91.71 49 ⇓P **P 21 09 49.4 +0.4**
baz=92,SNR=17
COLA College 91.72 13 *e*P **P 21 09 46.5 -1.8**
comp=Z,5.6nm,0.6s,mb4.8
COLA College 91.72 13 *e*P **P 21 09 46.5 -1.9**
COLA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
428A Kincaid Ranch, 91.72 57 ⇑P **P 21 09 49.5 +0.3**
baz=92,SNR=6.1
W24A Lazy 6 Ranch, 91.73 52 ⇓P **P 21 09 48.8 -0.4**
baz=92,SNR=7.3
RRI2 Red Ridge 91.74 43 *e*P **P 21 09 48.8 -0.2**
F14A Wisdom 91.80 40 ⇓P **P 21 09 49.1 -0.1**
baz=92
L18A Fontenelle, Gr 91.82 45 ⇓P **P 21 09 49.4 -0.1**
baz=92
ILAR Eielson Array 91.83 14 P **P 21 09 47.1 -1.8**
comp=Z,2.9nm,0.6s,mb4.5,baz=219,slow=6.0,SNR=38
ILAR pP pP 21 11 48.6 -0.4
comp=Z,2.4nm,0.9s,baz=243,slow=4.8,SNR=2.5
ILAR PP PP 21 13 32.5 -5.6
comp=Z,2.2nm,0.9s,baz=224,slow=7.1,SNR=4.2
ILAR PKKP PKKPbc 21 27 04.0 -2.3
comp=Z,0.2nm,0.5s,baz=342,slow=3.0,SNR=4.7
ILAR Eielson Array 91.83 14 P **P 21 09 47.1 -1.8**
ILAR pP pP 21 11 48.6 -0.4
ILAR PP PP 21 13 32.5 -5.6
ILAR PKKP PKKPbc 21 27 04.0 -2.3
ILAR Eielson Array 91.83 14 P **P 21 09 47.1 -1.8**
ILAR *PP pP 21 11 48.7 -0.3
ILAR 21 13 32.6
CPRX Cap Rock 91.86 55 *e*P **P 21 09 49.6 -0.2**
comp=Z,28nm,0.9s,mb5.3
N19A John Jarvie Ra 91.86 46 ⇓P **P 21 09 49.1 -0.5**
baz=92
Z26A Caprock 91.88 54 ⇑P **P 21 09 49.7 -0.3**
baz=92,SNR=8.9
I16A Newdale 91.91 42 ⇑P **P 21 09 50.2 +0.5**
baz=92
S22A 4UR Ranch, Cre 91.91 49 ⇑P **P 21 09 50.2 +0.3**
baz=92,SNR=17
328A Wristen Ranch, 91.92 57 ⇑P **P 21 09 49.6 -0.6**
baz=92,SNR=6.9
Q21A Lamborn Mesa, 91.92 48 ⇑P **P 21 09 49.8 -0.2**
baz=92
X25A Clemmons Ranch 91.95 53 ⇓P **P 21 09 49.8 -0.4**
baz=92
G15A Dillon 91.98 41 ⇓P **P 21 09 50.1 0.0**
baz=92,SNR=5.8
BILL Bilibino 92.01 355 *e*P **P 21 09 48.9 -0.8**
comp=Z,40nm,0.9s,mb5.4
BILL Bilibino 92.01 355 ⇓*e*P **P 21 09 49.0 -0.7**
BILL *i* 21 13 40.6
BILL pmax pmax
comp=Z,40nm,0.9s,mb5.5
DLMT Dillon 92.02 41 *e*P **P 21 09 50.0 -0.2**
comp=Z,4.4nm,0.7s,mb4.6
MSO Missoula 92.02 39 ⇑P **P 21 09 49.5 -0.6**
baz=92
REDW Red Top Meadow 92.04 43 *e*P **P 21 09 50.3 -0.1**
comp=Z,32nm,1.3s,mb5.2
TPAW Teton Pass 92.04 43 *e*P **P 21 09 50.2 -0.2**
E14A Clinton 92.05 39 ⇓P **P 21 09 49.8 -0.6**
baz=92

V24A **Rampart Ranch,** 92.06 52 ⇑P P 21 09 50.7 0.0
baz=92,SNR=5.0
127A **Arkansas Junct** 92.08 55 ⇑P P 21 09 50.4 -0.4
baz=92,SNR=6.9
BSMT **Bassoo Peak** 92.10 38 eP P 21 09 49.7 -0.8
comp=Z,4.1nm,0.8s,mb4.5
O20A **White River Ci** 92.11 47 ⇑P P 21 09 50.7 -0.1
baz=92
J17A **Brown Place, J** 92.13 43 ⇑P P 21 09 51.1 +0.3
baz=92,SNR=12
T23A **Casias Ranch,** 92.13 50 ⇓P P 21 09 51.2 +0.2
baz=92
SNOW **Snow King Moun** 92.15 43 eP P 21 09 51.2 +0.3
comp=Z,11nm,0.7s,mb5.0
K18A **Toltan Ranch,** 92.18 44 ⇑P P 21 09 51.5 +0.4
baz=92,SNR=23
M19A **Rock Springs** 92.18 45 ⇓P P 21 09 50.9 -0.2
baz=92,SNR=12
R22A **Saguache, Gunn** 92.19 49 ⇑P P 21 09 51.7 +0.5
baz=92,SNR=12
A12A **Yaak River Ran** 92.22 37 ⇓P P 21 09 50.8 -0.3
baz=92
Y26A **Elida** 92.30 54 ⇑P P 21 09 51.3 -0.5
baz=92
MOOW **Moose Ponds** 92.30 43 eP P 21 09 51.4 -0.2
F15A **Butte** 92.33 40 ⇑P P 21 09 51.4 -0.2
baz=92
P21A **Newcastle** 92.34 48 ⇑P P 21 09 51.7 -0.1
baz=92
L19A **Farson** 92.35 45 ⇓P P 21 09 51.8 -0.1
baz=92,SNR=13
LRM **Limekiln Ridge** 92.35 40 eP P 21 09 51.6 -0.1
comp=Z,35nm,0.7s,mb5.5
Q22A **Crested Butte,** 92.39 48 ⇑P P 21 09 52.3 +0.2
baz=92
W25A **X Bar L Ranch,** 92.42 53 ⇓P P 21 09 51.8 -0.5
baz=92,SNR=12
G16A **Moss Hill, Enn** 92.42 41 ⇑P P 21 09 51.9 -0.2
baz=92
CMIG **Matias Romero** 92.43 73 P P 21 09 52.0 -0.8
comp=Z,14nm,0.8s,mb5.1,baz=257,slow=5.5,SNR=15
CMIG **Matias Romero** 92.43 73 P P 21 09 52.0 -0.8
N20A **Spence Gulch,** 92.43 46 ⇑P P 21 09 52.3 0.0
baz=92,SNR=19
QLMT **Earthquake Lak** 92.44 42 eP P 21 09 52.6 +0.4
comp=Z,1.4nm,0.9s
Z27A **Tatum** 92.48 55 ⇑P P 21 09 51.9 -0.7
baz=92,SNR=7.1
J18A **Kendall Valley** 92.48 43 ⇑P P 21 09 52.4 0.0
baz=92,SNR=37
H16A **Russell Place,** 92.49 42 ⇑P P 21 09 53.0 +0.6
baz=92,SNR=14
I17A **Pilgrim Ck.** 92.50 43 ⇑P P 21 09 52.6 +0.1
baz=92
SMCO **Snowmass** 92.50 48 eP P 21 09 52.7 +0.1
comp=Z,16nm,0.8s,mb5.1
FLWY **Flagg Ranch** 92.50 42 eP P 21 09 52.8 +0.3
PD01 **Pinedale Array** 92.54 44 eP P 21 09 51.9 -0.8
BW06 **Boulder Array** 92.55 44 ⇑P P 21 09 52.4 -0.4
baz=93,SNR=19
PD02 **Pinedale Array** 92.55 44 eP P 21 09 51.9 -0.9
PDAR **Pinedale Array** 92.55 44 P P 21 09 52.2 -0.6
comp=Z,15nm,0.8s,mb5.1,baz=214,slow=3.7,SNR=59
PDAR PP PP 21 13 40.3 -3.9
comp=Z,4.4nm,1.0s,baz=232,slow=7.2,SNR=9.9
PDAR **Pinedale Array** 92.55 44 P P 21 09 52.2 -0.6
PDAR PP PP 21 13 40.3 -3.9
E15A **Deer Lodge** 92.56 40 ⇓P P 21 09 52.1 -0.5
baz=93
B13A **Whitefish** 92.57 37 ⇓P P 21 09 51.9 -0.8
baz=93
CLNS **Chul'man** 92.60 333 eP P 21 09 51.8 -0.8
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,1.2s
C14A **Swan Lake** 92.64 38 ⇓P P 21 09 52.5 -0.5
baz=93
YMR **Madison River** 92.64 42 eP P 21 09 53.6 +0.5
comp=N,14nm,1.0s,mb5.0
BOZ **Bozeman (W)** 92.75 41 ⇓P P 21 09 53.5 -0.1
baz=93
Y27A **Causey** 92.77 54 ⇓P P 21 09 53.5 -0.5
baz=93
M20A **Sweetwater, Wa** 92.81 46 ⇑P P 21 09 54.0 +0.1
baz=93,SNR=9.6
F16A **Kennard Place,** 92.82 41 ⇓P P 21 09 53.7 -0.2
baz=93
R23A **Moffat** 92.82 49 ⇑P P 21 09 54.0 -0.1
baz=93,SNR=9.4
SDCO **Great Sand Dun** 92.84 50 ⇑P P 21 09 53.9 -0.3
baz=93,SNR=5.8
P22A **Eagle** 92.84 48 ⇑P P 21 09 53.7 -0.4
baz=93,SNR=7.6
T24A **Torres, Weston** 92.85 51 ⇑P P 21 09 54.7 +0.4
baz=93
I18A **Diamond G Ranc** 92.86 43 ⇑P P 21 09 54.5 +0.4
baz=93
N21A **Black Mountain** 92.89 47 ⇓P P 21 09 54.4 +0.1
baz=93,SNR=8.3
D15A **Lincoln** 92.95 39 ⇓P P 21 09 54.1 -0.4
baz=93
L20A **Wamsutter** 92.96 45 ⇓P P 21 09 54.7 +0.1
baz=93
S24A **Houchin Ranch,** 93.00 50 ⇑P P 21 09 55.0 +0.1
baz=93,SNR=12
U25A **Circle Dot Ran** 93.00 51 ⇑P P 21 09 54.4 -0.5
baz=93,SNR=7.9
K19A **Absolon Red Bu** 93.03 44 ⇑P P 21 09 54.0 -0.9
baz=93
MSTX **Muleshoe** 93.10 54 ⇑P P 21 09 54.9 -0.6
baz=93,SNR=6.1
G17A **Pierce Place,** 93.11 41 ⇓P P 21 09 55.2 -0.1
baz=93
J19A **Crowheart** 93.12 44 ⇓P P 21 09 54.9 -0.5
baz=93,SNR=6.6
Q23A **Hartsel** 93.15 49 ⇑P P 21 09 55.3 -0.3
baz=93
EGAK **Eagle** 93.16 16 eP P 21 09 54.3 -0.7
comp=N,8.4nm,0.7s,mb4.9
X27A **F and S Farms,** 93.16 54 ⇓P P 21 09 55.5 -0.3
baz=93
E16A **East Helena** 93.18 40 ⇓P P 21 09 55.0 -0.5
baz=93
HRY **Holter Researc** 93.18 40 eP P 21 09 55.1 -0.5
comp=N,6.4nm,0.6s,mb4.8
B14A **Marquette Ranc** 93.23 38 ⇓P P 21 09 54.8 -0.9
baz=93
LZH **Lanzhou** 93.23 308 ⇓P P 21 09 57.3 +1.3
LZH pP pP 21 11 57.0 +0.8
LZH sP sP 21 12 47.8 -3.2
LZH PP PP 21 13 51.6 +2.0
LZH SKS 21 19 38.0
LZH S S 21 20 18.8 +2.5
LZH sS sS 21 23 49.3 -3.1
LZH pmax pmax
comp=Z,67nm,1.0s,mb5.6
LZH pmax pmax
comp=Z,240nm,4.5s
LZH **Lanzhou** 93.23 308 ⇓P P 21 09 57.2 +1.2
comp=Z,67nm,1.0s,mb5.6
LZH pP pP 21 11 57.0 +0.8
LZH sP sP 21 12 47.8 -3.2
LZH PP PP 21 13 51.6 +2.0
LZH SKS 21 19 38.0
LZH S S 21 20 18.7 +2.4
LZH sS sS 21 23 49.2 -3.2
LZH **Lanzhou** 93.23 308 ⇓P P 21 09 57.2 +1.2
LZH *PP pP 21 11 57.0 +0.8
LZH *SP sP 21 12 47.8 -3.2
LZH 21 13 51.6
LZH 21 19 38.0
LZH S S 21 20 18.7 +2.4
LZH pmax pmax
comp=Z,67nm,1.0s,mb5.6
O22A **Kremmling** 93.26 47 ⇑P P 21 09 55.8 -0.2
baz=93,SNR=12
K20A **Yellowstone Ra** 93.28 45 ⇑P P 21 09 55.2 -0.9
baz=93
C15A **Salmond Ranch,** 93.29 39 ⇑P P 21 09 55.2 -0.8
baz=93
T25A **Trinidad** 93.33 51 ⇓P P 21 09 56.2 -0.3
baz=93
R24A **Sanders Place,** 93.34 50 ⇓P P 21 09 56.5 0.0
baz=93,SNR=19
P23A **Jefferson** 93.37 48 ⇓P P 21 09 57.0 +0.4
baz=93,SNR=5.7

M21A **Separation Pea** 93.40 46 ⇑P P 21 09 56.3 -0.4
baz=94,SNR=13
H18A **Shoshone NF, C** 93.44 42 ⇓P P 21 09 56.5 -0.3
baz=94
F17A **Fitzpatrick Pl** 93.46 41 ⇓P P 21 09 56.9 +0.1
baz=94
U26A **Atchley Ranch,** 93.47 52 ⇓P P 21 09 56.7 -0.4
baz=94
A14A **Double T Ranch** 93.47 37 ⇑P P 21 09 56.4 -0.4
baz=94
D16A **Dana Ranch, Ca** 93.51 40 ⇑P P 21 09 56.8 -0.2
baz=94
I19A **Meeteetse** 93.54 43 ⇓P P 21 09 57.0 -0.2
baz=94,SNR=11
S25A **Robets Cordova** 93.55 50 ⇑P P 21 09 57.1 -0.3
baz=94,SNR=7.8
L21A **Rawlins** 93.57 46 ⇓P P 21 09 57.0 -0.5
baz=94
N22A **Wattenberg Ran** 93.62 47 ⇓P P 21 09 57.7 0.0
baz=94,SNR=12
E17A **Martinsdale** 93.63 40 ⇓P P 21 09 57.2 -0.4
baz=94
Q24A **Divide** 93.65 49 ⇑P P 21 09 57.9 0.0
baz=94,SNR=12
O23A **Lake Granby, G** 93.70 48 ⇑P P 21 09 58.1 0.0
baz=94
ISCO **Idaho Springs** 93.72 48 ⇑P P 21 09 58.0 -0.2
baz=94,SNR=7.4
ISCO **Idaho Springs** 93.72 48 eP P 21 09 58.0 -0.1
comp=Z,3.6nm,0.6s,mb4.7
ISCO **Idaho Springs** 93.72 48 eP P 21 09 58.0 -0.2
ISCO pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
J20A **Shoshoni** 93.78 44 ⇓P P 21 09 58.2 -0.2
baz=94,SNR=9.2
M22A **Cedar Creek Ra** 93.81 46 ⇑P P 21 09 58.1 -0.4
baz=94,SNR=7.7
G18A **Lazy EL Ranch,** 93.83 42 ⇑P P 21 09 58.3 -0.2
baz=94
JCT **Junction City** 93.85 59 ⇓P P 21 09 58.1 -0.9
baz=94
JCT **Junction City** 93.85 59 eP P 21 09 58.0 -1.0
comp=Z,16nm,0.8s,mb5.2
JCT **Junction City** 93.85 59 eP P 21 09 58.0 -1.0
JCT pmax pmax
comp=Z,16nm,0.8s,mb5.2
A15A **Johnson Ranch,** 93.86 38 ⇓P P 21 09 57.6 -0.9
baz=94
H19A **Powell** 93.86 43 ⇑P P 21 09 58.8 +0.1
baz=94
R25A **Fountain Ranch** 93.88 50 ⇑P P 21 09 58.4 -0.5
baz=94,SNR=11
RLMT **Red Lodge** 93.91 42 ⇑P P 21 09 58.8 -0.1
baz=94
RLMT **Red Lodge** 93.91 42 eP P 21 09 58.9 0.0
comp=Z,7.7nm,1.0s,mb4.8
K21A **Alcova** 93.97 45 ⇑P P 21 09 58.7 -0.5
baz=94,SNR=9.5
N23A **Red Feather La** 94.01 47 ⇑P P 21 09 59.1 -0.4
baz=94
F18A **Big Timber** 94.03 41 ⇓P P 21 09 59.2 -0.2
baz=94
I20A **Worland** 94.04 43 ⇓P P 21 09 59.0 -0.6
baz=94
D17A **Six Diamond Ra** 94.08 40 ⇑P P 21 09 59.4 -0.2
baz=94
B16A **M & M Farms, S** 94.14 38 ⇓P P 21 09 59.0 -0.8
baz=94
LCO **Las Campanas** 94.18 124 eP P 21 10 01.4 +0.7
comp=Z,62nm,0.8s,mb5.8
J21A **Lysite** 94.19 44 ⇑P P 21 09 60.0 -0.2
baz=94
L22A **Ellis Ranch, M** 94.22 46 ⇑P P 21 10 00.7 +0.3
baz=94,SNR=11
O24A **Longmont** 94.24 48 ⇓P P 21 10 00.3 -0.2
baz=94
E18A **Harlowton** 94.24 41 ⇑P P 21 10 00.5 +0.1
baz=94
C17A **Wharram Farm,** 94.28 39 ⇓P P 21 10 00.3 -0.2
baz=94
YAK **Yakutsk** 94.37 339 eP P 21 09 59.5 -1.1
comp=Z,32nm,0.7s,mb5.6
YAK **Yakutsk** 94.37 339 eP P 21 09 59.7 -0.9
YAK e 21 13 58.1
YAK ePPP 21 16 04.5
YAK eS SKSac 21 19 37.2 -5.5
YAK e 21 20 24.9
YAK eSS SS 21 27 02.5 -1.8
YAK pmax pmax
comp=Z,28nm,0.8s,mb5.4
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,93nm,2.0s,mb5.6
YAK pmax pmax
comp=E,57nm,2.0s
YAK pmax pmax
comp=N,64nm,1.8s
YAK smax
comp=N,233nm,2.3s
YAK smax
comp=E,129nm,2.3s
H20A **Greybull** 94.39 43 ⇓P P 21 10 00.5 -0.6
baz=94
K22A **Casper** 94.45 45 ⇑P P 21 10 00.7 -0.7
baz=94
F19A **Roth Farm, Mol** 94.47 42 ⇑P P 21 10 00.9 -0.5
baz=94
A16A **West Butte Ran** 94.48 38 ⇑P P 21 10 00.8 -0.6
baz=94
I21A **Big Trails, Te** 94.51 44 ⇓P P 21 10 00.8 -0.8
baz=95
PHWY **Pilot Hill** 94.52 47 eP P 21 10 00.7 -1.1
R26A **Arlington** 94.54 50 ⇓P P 21 10 01.4 -0.5
baz=95,SNR=23
P25A **Willow Gulch B** 94.58 49 ⇓P P 21 10 02.0 -0.1
baz=95,SNR=15
B17A **L&G Farms, Che** 94.60 39 ⇑P P 21 10 01.3 -0.7
baz=95
G20A **Bridger** 94.61 42 ⇑P P 21 10 01.7 -0.3
baz=95
N24A **Carr** 94.69 47 ⇓P P 21 10 02.2 -0.3
baz=95
CFAA **Coronel Fontan** 94.70 127 P P 21 10 03.1 +0.1
comp=E,1.8nm,0.6s,mb4.4,baz=242,slow=3.7,SNR=27
CFAA PP PP 21 13 58.5 -1.7
comp=E,1.0nm,1.0s,baz=246,slow=3.6,SNR=4.9
CFAA **Coronel Fontan** 94.70 127 P P 21 10 03.1 +0.1
CFAA PP PP 21 13 58.5 -1.7
L23A **Garrett** 94.74 46 ⇑P P 21 10 02.5 -0.2
baz=95
Q26A **Hugo** 94.77 50 ⇑P P 21 10 02.5 -0.5
baz=95
J22A **Midwest** 94.84 45 ⇑P P 21 10 02.5 -0.6
baz=95
E19A **Rath Farm, Rou** 94.86 41 ⇑P P 21 10 02.6 -0.6
baz=95
A17A **Triple J Farms** 94.99 38 ⇑P P 21 10 03.3 -0.4
baz=95
R27A **Eads** 94.99 50 ⇓P P 21 10 03.3 -0.6
baz=95
M24A **Cheyenne** 95.02 47 ⇓P P 21 10 03.8 -0.2
baz=95
H21A **Big Horn, Sher** 95.05 43 ⇑P P 21 10 04.2 +0.1
baz=95
I22A **9 Mile Ranch,** 95.06 44 ⇓P P 21 10 04.0 -0.1
baz=95
K23A **Bowen Ranch, D** 95.08 45 ⇑P P 21 10 03.9 -0.4
baz=95
D19A **Cripps Ranch,** 95.16 40 ⇓P P 21 10 04.4 -0.1
baz=95
G21A **Lodge Grass** 95.23 43 ⇑P P 21 10 04.5 -0.4
baz=95
B18A **Beardsley Farm** 95.24 39 ⇑P P 21 10 04.5 -0.4
baz=95
C19A **Slack Wire Ran** 95.33 40 ⇓P P 21 10 05.3 0.0
baz=95
KSCO **Kaye Shedlock'** 95.43 50 ⇑P P 21 10 06.0 0.0
baz=96
A18A **Metzger Ranch,** 95.46 39 ⇑P P 21 10 05.6 -0.2
baz=96
O26A **Horse Wrangler** 95.49 48 ⇓P P 21 10 06.0 -0.2
baz=96
D20A **Manuel Ranch,** 95.56 41 ⇑P P 21 10 06.6 +0.3
baz=96
B19A **Brinkman Farms** 95.75 39 ⇑P P 21 10 06.7 -0.5
baz=96

G22A **Birney** 95.80 43 ⇑P P 21 10 07.1 -0.4
baz=96
N26A **Koester Ranch,** 95.81 48 ⇑P P 21 10 07.6 0.0
baz=96
L25A **Engebretsen Ra** 95.90 47 ⇑P P 21 10 08.3 +0.3
baz=96
C20A **Veseth Ranch,** 95.94 40 ⇑P P 21 10 08.1 +0.1
baz=96
J24A **Dixon Ranch, L** 95.97 45 ⇓P P 21 10 08.1 -0.2
baz=96
O27A **Beecher Island** 96.04 49 ⇓P P 21 10 08.9 +0.2
baz=96
D21A **La Casta Ranch** 96.24 41 ⇓P P 21 10 09.5 +0.1
baz=96
N27A **Anderson Farm,** 96.27 48 ⇓P P 21 10 09.7 0.0
baz=96
G23A **Biddle** 96.36 43 ⇑P P 21 10 09.9 0.0
baz=96
LAO **LASA Array** 96.53 42 ⇓P P 21 10 10.9 +0.3
baz=97
A20A **Cobblestone Ra** 96.55 39 ⇑P P 21 10 10.4 -0.4
baz=97
ULN **Ulaanbaatar** 96.55 320 eP P 21 10 09.9 -0.9
comp=E,5.0nm,0.6s,mb4.9
ULN **Ulaanbaatar** 96.55 320 eP P 21 10 09.9 -0.9
ULN pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
E22A **Miles City** 96.58 42 ⇑P P 21 10 11.0 0.0
baz=97
F23A **Volborg** 96.59 43 ⇓P P 21 10 10.9 0.0
baz=97
K26A **Motz Farm, Whi** 96.67 46 ⇓P P 21 10 11.4 0.0
baz=97
OGNE **Ogallala** 96.68 48 ⇑P P 21 10 11.1 -0.4
baz=97
H24A **Dirks Ranch, A** 96.68 44 ⇓P P 21 10 11.0 -0.4
baz=97
RSSD **Black Hills** 96.73 45 eP P 21 10 10.8 -0.9
RSSD **Black Hills** 96.73 45 eP P 21 10 10.8 -0.9
D22A **Cohagen** 96.77 41 ⇑P P 21 10 11.9 +0.2
baz=97
SONM **Songino Array** 96.93 319 P P 21 10 12.1 -0.4
comp=Z,2.6nm,0.4s,mb4.8,baz=130,slow=4.5,SNR=26
SONM pP pP 21 12 11.3 -1.7
comp=Z,1.4nm,1.0s,baz=149,slow=6.9,SNR=2.7
SONM PP PP 21 14 09.7 -7.8
comp=Z,8.8nm,1.2s,baz=103,slow=5.3,SNR=7.2
SONM PKKPbc PKKPbc 21 26 51.6 -0.6
comp=Z,2.9nm,0.6s,baz=274,slow=3.1,SNR=17
SONM **Songino Array** 96.93 319 P P 21 10 12.1 -0.4
SONM pP pP 21 12 11.3 -1.7
SONM PP PP 21 14 09.7 -7.8
SONM PKKPbc PKKPbc 21 26 51.6 -0.6
SONM **Songino Array** 96.93 319 P P 21 10 12.1 -0.4
SONM *PP pP 21 12 11.3 -1.7
GTA **Gaotai** 97.54 310 eP P 21 10 16.0 +0.6
GTA pP pP 21 12 18.3 +2.3
GTA sP sP 21 13 09.3 -1.4
GTA PP PP 21 14 22.8 +0.4
GTA SKS 21 19 58.8
GTA S S 21 20 53.0 -0.1
GTA pmax pmax
comp=Z,13nm,1.3s,mb5.1
GTA pmax pmax
comp=Z,200nm,5.7s
ATAH **Atahualpa** 97.70 101 P Pdif 21 10 16.8 +0.7
comp=Z,3.3nm,0.5s,baz=11,slow=5.1,SNR=5.8
ATAH **Atahualpa** 97.70 101 P Pdif 21 10 16.8 +0.7
INK **Inuvik** 97.83 16 P Pdif 21 10 14.4 -2.2
comp=Z,1.9nm,0.6s,baz=246,slow=5.0,SNR=8.6
INK PP PP 21 14 25.1 +1.2
comp=Z,1.9nm,0.9s,baz=221,slow=9.8,SNR=4.4
INK **Inuvik** 97.83 16 P Pdif 21 10 14.4 -2.2
INK PP PP 21 14 25.1 +1.2
INK **Inuvik** 97.83 16 P Pdif 21 10 14.4 -2.3
INK 21 14 25.1
JTS **JuntasAbangare** 98.66 83 P Pdif 21 10 21.4 +1.0
comp=Z,11nm,0.9s,baz=1.1,slow=12,SNR=4.1
JTS **JuntasAbangare** 98.66 83 P Pdif 21 10 21.4 +1.0
JTS **JuntasAbangare** 98.66 83 P Pdif 21 10 21.4 +1.0
YKA **Yellowknife Ar** 100.18 25 P Pdif 21 10 25.9 -1.2
comp=Z,0.2nm,0.4s,baz=240,slow=4.4,SNR=3.1
YKA pP pP 21 12 26.2 -1.2
comp=Z,0.1nm,0.3s,baz=93,slow=33,SNR=2.1
YKA SKiKP 21 17 33.1
comp=Z,0.5nm,0.6s,baz=261,slow=1.6,SNR=5.6
YKA **Yellowknife Ar** 100.18 25 P Pdif 21 10 25.9 -1.2
YKA pP pP 21 12 26.2 -1.2
YKA e 21 17 33.1
YKA **Yellowknife Ar** 100.18 25 P Pdif 21 10 25.9 -1.2
YKA *PP pP 21 12 26.3 -1.1
LSA **Lhasa** 100.41 298 ePdif Pdif 21 10 29.6 +1.5
comp=Z,4.9nm,0.9s
LSA **Lhasa** 100.41 298 eP Pdif 21 10 29.6 +1.5
LSA pmax pmax
comp=Z,5.0nm,0.9s
TAPN **Taplejung** 102.41 294 eP PKiKP 21 14 48.0 -7.5
TAPN **Taplejung** 102.41 294 eP PKKPbc 21 26 36.7 +0.6
comp=Z,4.8nm,0.5s
ODAN **Odare** 102.50 294 eP PKiKP 21 14 49.6 -6.1
ODAN **Odare** 102.50 294 eP PKKPbc 21 26 36.3 +0.5
comp=Z,14nm,0.7s
LPAZ **La Paz** 102.53 114 P Pdif 21 10 41.2 +3.6
comp=Z,2.1nm,0.6s,baz=219,slow=5.4,SNR=9.4
LPAZ PP PP 21 14 59.3 -0.1
comp=Z,8.0nm,1.2s,baz=237,slow=7.9,SNR=6.5
LPAZ **La Paz** 102.53 114 ePdif Pdif 21 10 42.1 +4.5
LPAZ PP PP 21 14 59.3 -0.1
LPAZ **La Paz** 102.53 114 eP Pdif 21 10 42.1 +4.5
LPAZ 21 14 59.3
RAMN **Ramite** 103.20 294 eP PKKPbc 21 26 35.1 +1.3
JIRN **Jiri** 103.78 294 eP PKiKP 21 14 54.8 -3.2
JIRN **Jiri** 103.78 294 eP PKKPbc 21 26 32.4 +0.3
GUN **Gumba** 104.12 294 eP PKiKP 21 14 55.5 -3.1
GUN **Gumba** 104.12 294 eP PKKPbc 21 26 30.3 -0.8
comp=Z,28nm,0.7s
ULM **Lac du Bonnet** 104.26 41 PP PP 21 15 06.8 -5.2
comp=Z,2.3nm,0.7s,baz=234,slow=4.5,SNR=3.7
ULM **Lac du Bonnet** 104.26 41 PP PP 21 15 06.8 -5.2
PKI **Pulchoki** 104.40 294 eP PKiKP 21 14 57.5 -1.7
PKI **Pulchoki** 104.40 294 eP PKKPbc 21 26 30.5 +0.2
KKN **Kakani** 104.58 294 eP PKiKP 21 14 57.6 -1.9
KKN **Kakani** 104.58 294 eP PKKPbc 21 26 30.2 +0.4
comp=Z,6.3nm,0.5s
DMN **Daman** 104.67 294 eP PKiKP 21 14 59.3 -0.4
DMN **Daman** 104.67 294 eP PKKPbc 21 26 30.1 +0.6
GKN **Gorkha** 105.19 294 eP PKiKP 21 14 59.5 -1.1
GKN **Gorkha** 105.19 294 eP PKKPbc 21 26 28.1 +0.1
GKN **Gorkha** 105.19 294 eP PKiKP 21 14 59.5 -1.1
CPUP **Villa Florida** 105.55 128 Pdiff Pdif 21 10 54.5 +3.5
comp=Z,0.4nm,0.4s,baz=185,slow=9.3,SNR=3.2
CPUP **Villa Florida** 105.55 128 Pdif Pdif 21 10 54.5 +3.5
CPUP **Villa Florida** 105.55 128 P Pdif 21 10 54.5 +3.5
DANN **Dangsing** 106.03 294 eP PKKPbc 21 26 25.1 -0.3
WMQ **Urumqi** 107.58 311 Pdif Pdif 21 11 01.9 +1.9
WMQ PP PP 21 15 40.8 +4.6
WMQ AMB AMB
comp=Z,330nm,5.2s
RES **Resolute Bay** 111.37 17 SKP 21 17 54.4
comp=Z,2.3nm,0.7s,baz=301,slow=5.4,SNR=6.8
RES **Resolute Bay** 111.37 17 SKP 21 17 54.4
ZAA0 **Zalesovo Array** 111.77 321 ePKiKP PKiKP 21 15 09.9 -2.2
ZALV **Zalesovo Beam** 111.77 321 Pdiff Pdif 21 11 18.2 -0.4
comp=Z,0.5nm,0.4s,baz=142,slow=5.4,SNR=4.8
ZALV PKiKP PKiKP 21 15 10.8 -1.4
comp=Z,3.0nm,0.4s,baz=64,slow=0.8,SNR=19
ZALV PP PP 21 16 00.5 -5.3
comp=Z,4.8nm,1.0s,baz=95,slow=6.4,SNR=6.5
ZALV SKP 21 17 55.6
comp=Z,5.6nm,0.7s,baz=158,slow=0.9,SNR=9.2
ZALV PKKPbc PKKPbc 21 26 07.2 -0.9
comp=Z,1.7nm,0.7s,baz=266,slow=3.8,SNR=7.2
ZALV SKKPbc 21 28 58.2
comp=Z,0.7nm,0.6s,baz=289,slow=4.4,SNR=3.7
ZALV **Zalesovo Beam** 111.77 321 Pdif Pdif 21 11 18.2 -0.4
ZALV PKiKP PKiKP 21 15 10.8 -1.4
ZALV PP PP 21 16 00.5 -5.3
ZALV SKP 21 17 55.6
ZALV PKKPbc PKKPbc 21 26 07.2 -0.9
ZALV SKKPbc 21 28 58.2
ZALV **Zalesovo Beam** 111.77 321 P Pdif 21 11 18.3 -0.4
ZALV *i* 21 15 10.8
ZALV 21 16 00.5
MK31 **Makanchi Array** 112.00 313 ePdif Pdif 21 11 20.6 +1.0

MK31	**Makanchi Array**	**112.00 313**	*c i*	PKIKP	PKiKP	21 15 11.8	-1.0
MKAR	**Makanchi Array**	**112.00 313**		Pdiff	Pdif	21 11 20.2	+0.6
	comp=Z,1.8nm,0.6s,baz=91,slow=5.6,SNR=36						
MKAR				PKiKP	PKiKP	21 15 11.8	-1.1
	comp=Z,3.2nm,0.4s,baz=225,slow=1.4,SNR=39						
MKAR				PP	PP	21 15 56.2	-11
	comp=Z,4.0nm,1.0s,baz=90,slow=9.9,SNR=5.4						
MKAR				SKP		21 17 57.0	
	comp=Z,6.4nm,0.7s,baz=97,slow=1.4,SNR=11						
MKAR				PKKPbc	PKKPbc	21 26 07.0	-0.2
	comp=Z,2.5nm,0.7s,baz=276,slow=4.2,SNR=14						
MKAR				PKKPab	PKKPab	21 26 17.2	+1.2
	comp=Z,6.7nm,0.7s,baz=274,slow=2.8,SNR=20						
MKAR				SKKPbc		21 28 57.5	
	comp=Z,0.9nm,0.7s,baz=260,slow=3.6,SNR=4.9						
MKAR	**Makanchi Array**	**112.00 313**		Pdif	Pdif	21 11 20.2	+0.6
MKAR				PKiKP	PKiKP	21 15 11.8	-1.1
MKAR				PP	PP	21 15 56.2	-11
MKAR				SKP		21 17 57.0	
MKAR				PKKPbc	PKKPbc	21 26 07.0	-0.2
MKAR				PKKPab	PKKPab	21 26 17.2	+1.2
MKAR				SKKPbc		21 28 57.5	
MKAR	**Makanchi Array**	**112.00 313**		P	Pdif	21 11 20.2	+0.6
MKAR			*i*			21 15 11.8	
MKAR						21 26 07.0	
NVS	**Novosibirsk**	**112.84 321**	*e*	PKIKP	PKiKP	21 15 12.2	-1.9
NVS			*e*			21 21 05.0	
NVS			*e*			21 26 04.3	
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
KURK	**Kurchatov**	**115.03 317**		Pdiff	Pdif	21 11 34.5	+1.4
	comp=E,0.3nm,0.7s,baz=112,slow=2.3,SNR=2.8						
KURK				PKP	PKPdf	21 15 17.4	-1.0
	comp=E,10.0nm,0.7s,baz=96,slow=1.7,SNR=49						
KURK				PP	PP	21 16 18.4	-10
	comp=E,8.5nm,1.1s,baz=98,slow=6.2,SNR=5.7						
KURK				SKP		21 18 02.6	
	comp=E,8.1nm,0.8s,baz=99,slow=1.7,SNR=9.5						
KURK				PKKPbc	PKKPbc	21 25 56.9	-0.2
	comp=E,2.0nm,0.6s,baz=277,slow=4.1,SNR=11						
KURK				SKKPbc		21 28 49.0	
	comp=E,1.6nm,0.7s,baz=281,slow=3.5,SNR=6.9						
KURK	**Kurchatov**	**115.03 317**		Pdif	Pdif	21 11 34.5	+1.4
KURK			*e*	PKiKP	PKiKP	21 15 17.3	-1.2
KURK				PKP	PKPdf	21 15 17.4	-1.0
KURK				PP	PP	21 16 18.4	-10
KURK				SKP		21 18 02.6	
KURK				PKKPbc	PKKPbc	21 25 56.9	-0.2
KURK				SKKPbc		21 28 49.0	
KURK	**Kurchatov**	**115.03 317**		P	Pdif	21 11 34.6	+1.5
KURK						21 15 17.5	
KSH	**Kashi**	**115.14 304**		PKP	PKPdf	21 15 19.8	+0.7
KSH				PP	PP	21 16 36.8	+7.1
KSH				sPKP		21 18 18.4	
KSH				PKS		21 18 55.1	
KSH				SKS	SKSdf	21 21 40.4	+0.9
KSH				SKKS	SKKSac	21 22 33.3	-0.3
KSH				SS	SS	21 31 52.8	+7.2
KSH				AMB	AMB		
	comp=Z,280nm,5.8s						
TKM2	**Tokmak 2**	**116.00 308**		P	PKPdf	21 15 20.2	-0.4
	SNR=14						
TKM2				P		21 15 20.2	
	SNR=14						
KZA	**Kyzart**	**116.12 307**		P	PKPdf	21 15 21.4	+0.6
	SNR=8.0						
KZA				P		21 15 21.4	
	SNR=8.0						
KBK	**Karagaybulak**	**116.43 307**		P	PKPdf	21 15 21.3	-0.1
	SNR=9.2						
KBK				P		21 15 21.3	
	SNR=9.2						
CHMS	**Chumysh**	**116.62 308**		P	PKPdf	21 15 21.2	-0.6
	SNR=12						
CHMS				P		21 15 21.2	
	SNR=12						
AAK	**Ala-Archa**	**116.76 307**		P	PKPdf	21 15 21.9	-0.2
	SNR=7.4						
AAK				P		21 15 21.9	
	SNR=7.4						
AAK	**Ala-Archa**	**116.76 307**	*e*	PKPdf	PKPdf	21 15 21.5	-0.6
AAK	**Ala-Archa**	**116.76 307**	*d i*	PKIKP	PKPdf	21 15 21.7	-0.4
AAK				pmax	pmax		
	comp=Z,11nm,1.2s						
USP	**Ospenovka**	**116.84 308**		P	PKPdf	21 15 21.7	-0.5
	SNR=16						
USP				P		21 15 21.7	
	SNR=16						
AML	**Almayashu**	**117.27 307**		P	PKPdf	21 15 23.4	+0.3
	SNR=19						
AML				P		21 15 23.4	
	SNR=19						
EKS2	**Erkin-Say**	**117.28 307**		P	PKPdf	21 15 23.1	0.0
	SNR=7.8						
EKS2				P		21 15 23.1	
	SNR=7.8						
EKS2	**Erkin-Say**	**117.28 307**	*e*	PKPdf	PKPdf	21 15 22.5	-0.6
EKS2	**Erkin-Say**	**117.28 307**	*e*	PKIKP	PKPdf	21 15 22.5	-0.6
OPO	**Ambohidratompo**	**117.66 232**		PKP	PKPdf	21 15 24.3	-0.3
	comp=Z,1.1nm,0.6s,baz=108,slow=5.0,SNR=4.5						
OPO				SKP		21 18 10.6	
	comp=Z,0.6nm,0.5s,baz=244,slow=15,SNR=4.0						
OPO	**Ambohidratompo**	**117.66 232**		PKP	PKPdf	21 15 24.3	-0.3
OPO				SKP		21 18 10.6	
SJG	**San Juan**	**118.44 82**		PKP	PKPdf	21 15 24.6	-1.4
	comp=Z,12nm,0.4s,baz=180,slow=24,SNR=24						
SJG				SKP		21 18 08.7	
	comp=Z,17nm,0.7s,baz=360,slow=24,SNR=22						
SJG	**San Juan**	**118.44 82**		PKP	PKPdf	21 15 24.6	-1.4
SJG				SKP		21 18 08.7	
SJG	**San Juan**	**118.44 82**		PKIKP	PKPdf	21 15 24.6	-1.4
KK31	**Karatay Array**	**119.72 307**	*c i*	PKIKP	PKPdf	21 15 27.1	-0.7
KKAR	**Karatay Array**	**119.72 307**	*e*	PKPdf	PKPdf	21 15 27.2	-0.6
KKAR	**Karatay Array**	**119.72 307**	*e*	PKIKP	PKPdf	21 15 27.2	-0.6
KBL	**Kabul**	**119.73 297**	*e*	PKPdf	PKPdf	21 15 27.9	-0.2
KBL	**Kabul**	**119.73 297**	*e*	PKIKP	PKPdf	21 15 27.9	-0.2
BVAR	**Borovoye Array**	**120.27 319**		PKP	PKPdf	21 15 27.9	-0.6
	comp=Z,13nm,0.4s,baz=123,slow=1.8,SNR=97						
BVAR				PP	PP	21 17 03.1	-1.1
	comp=Z,6.2nm,0.8s,baz=86,slow=7.6,SNR=6.0						
BVAR				SKP		21 18 13.3	
	comp=Z,44nm,1.2s,baz=101,slow=3.2,SNR=7.7						
BVAR				PKKPbc	PKKPbc	21 25 38.5	-0.3
	comp=Z,1.8nm,0.5s,baz=293,slow=4.1,SNR=9.1						
BVAR	**Borovoye Array**	**120.27 319**		PKP	PKPdf	21 15 27.9	-0.6
BVAR				PP	PP	21 17 03.1	-1.1
BVAR				SKP		21 18 13.3	
BVAR				PKKPbc	PKKPbc	21 25 38.5	-0.3
BVAR	**Borovoye Array**	**120.27 319**		PKIKP	PKPdf	21 15 27.9	-0.6
BVAR						21 17 03.1	
BRVK	**Borovoye**	**120.33 319**	*e*	PKPdf	PKPdf	21 15 27.4	-1.2
BRVK	**Borovoye**	**120.33 319**	*i*	PKIKP	PKPdf	21 15 27.8	-0.8
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s						
FRB	**Frobisher Bay**	**120.47 29**		PKP	PKPdf	21 15 27.2	-1.4
	comp=Z,4.4nm,0.7s,baz=298,slow=4.2,SNR=12						
FRB				SKP		21 18 11.9	
	comp=Z,6.2nm,0.6s,baz=321,slow=2.1,SNR=14						
FRB	**Frobisher Bay**	**120.47 29**		PKP	PKPdf	21 15 27.2	-1.4
FRB				SKP		21 18 11.9	
FRB	**Frobisher Bay**	**120.47 29**		PKIKP	PKPdf	21 15 27.2	-1.4
PKME	**Peaks-Kenny Pk**	**120.80 50**	*e*	PKPdf	PKPdf	21 15 27.7	-2.1
SUR	**Sutherland**	**120.80 201**		PKP	PKPdf	21 15 31.1	+0.7
	comp=Z,10.0nm,0.8s,baz=102,slow=3.2,SNR=7.0						
SUR	**Sutherland**	**120.80 201**		PKP	PKPdf	21 15 31.1	+0.7
SCHQ	**Schefferville**	**122.32 39**		PKP	PKPdf	21 15 30.7	-1.7
	comp=Z,6.6nm,0.9s,baz=318,slow=1.9,SNR=5.4						
SCHQ	**Schefferville**	**122.32 39**		PKP	PKPdf	21 15 30.7	-1.7
BOSA	**Boshof**	**122.58 206**		PKP	PKPdf	21 15 34.7	+0.8
	comp=Z,1.1nm,0.3s,baz=37,slow=5.1,SNR=5.6						
BOSA	**Boshof**	**122.58 206**		PKP	PKPdf	21 15 34.7	+0.8
BOSA	**Boshof**	**122.58 206**		PKIKP	PKPdf	21 15 34.7	+0.8
SPA0	**Spitsbergen Ar**	**124.91 356**	*e*	P	PKPdf	21 15 36.3	-0.5
SPITS	**Spitsbergen Ar**	**124.91 356**		PKP	PKPdf	21 15 35.8	-0.9
	comp=Z,7.6nm,0.5s,baz=86,slow=6.2,SNR=22						
SPITS	**Spitsbergen Ar**	**124.91 356**		PKP	PKPdf	21 15 35.8	-0.9
SPITS	**Spitsbergen Ar**	**124.91 356**		PKIKP	PKPdf	21 15 35.8	-1.0
SVE	**Sverdlovsk**	**125.50 324**	*d i*	PKIKP	PKPdf	21 15 38.3	-0.1
SVE				pmax	pmax		
	comp=Z,32nm,1.1s						
HOPEN	**Hopen**	**125.69 353**		AMS	AMS	22 28 08.8	
	comp=Z,2μm,20.2s						
ARU	**Arti**	**126.70 324**	*e*	PKPdf	PKPdf	21 15 40.2	-0.5
ARU	**Arti**	**126.70 324**	*i*	PKIKP	PKPdf	21 15 40.4	-0.3
ARU						21 17 43.3	
SOKR	**Solikamsk**	**126.82 328**	*d i*	PKIKP	PKPdf	21 15 40.0	-0.9
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s						
ABKAR	**Akbulak array**	**127.05 315**	*e*	PKPdf	PKPdf	21 15 41.4	-0.3
AKTO	**Aktyubinsk**	**128.13 316**		PKP	PKPdf	21 15 43.4	-0.2
	comp=Z,12nm,0.6s,baz=88,slow=4.4,SNR=44						
AKTO				PP	PP	21 17 54.0	-2.2
	comp=Z,4.0nm,0.9s,baz=58,slow=10,SNR=4.9						
AKTO				SKP		21 18 29.5	
	comp=Z,7.8nm,0.7s,baz=299,slow=2.0,SNR=5.1						
AKTO	**Aktyubinsk**	**128.13 316**		PKP	PKPdf	21 15 43.4	-0.2
AKTO				PP	PP	21 17 54.0	-2.2
AKTO				SKP		21 18 29.5	
AKTO	**Aktyubinsk**	**128.13 316**		PKIKP	PKPdf	21 15 43.4	-0.2
AKTO						21 17 54.0	
BJO	**Bjornoya**	**128.13 354**		AMS	AMS	22 27 57.2	
	comp=Z,3μm,21.6s						
KEV	**Kevo**	**131.21 348**	*e*	PKHKP	PKPpre	21 15 36.3	
ARCES	**ARCESS Array B**	**131.68 348**		PKhKP	PKPpre	21 15 32.4	
	comp=Z,3.4nm,0.7s,baz=22,slow=1.3,SNR=3.9						
ARCES				PKP	PKPdf	21 15 48.9	-0.9
	comp=Z,6.4nm,0.4s,baz=98,slow=1.9,SNR=24						
ARCES				SKPbc	SKPbc	21 18 25.2	+0.5
	comp=Z,29nm,0.9s,baz=17,slow=4.5,SNR=16						
ARCES	**ARCESS Array B**	**131.68 348**		PKPpre	PKPpre	21 15 32.4	
ARCES				PKP	PKPdf	21 15 48.9	-0.9
ARCES				SKPbc	SKPbc	21 18 25.2	+0.5
ARCES	**ARCESS Array B**	**131.68 348**		PKHKP	PKPpre	21 15 32.4	
ARCES						21 15 48.9	
ARCES						21 18 25.2	
ARE0	**ARCESS Array S**	**131.68 348**	*e*	P	PKPpre	21 15 40.2	
KTK1	**Kautokeino**	**132.54 349**	*e*	P	PKPpre	21 15 39.7	
KTK1				AMS	AMS	22 25 48.9	
	comp=Z,10μm,21.0s						
TRO	**Tromso**	**132.67 351**		AMS	AMS	22 24 17.8	
	comp=Z,4μm,22.1s						
KLMR	**Klimovskoe**	**133.98 334**	*e*	PKHKP	PKPpre	21 15 45.8	
KLMR				pmax	pmax		
	comp=Z,40nm,1.6s						
RCBR	**Riachuelo**	**134.32 125**		PKhKP	PKPpre	21 15 41.0	
	comp=Z,10nm,1.1s,baz=302,slow=9.5,SNR=3.3						
RCBR	**Riachuelo**	**134.32 125**		PKPpre	PKPpre	21 15 41.0	
JOF	**Joensuu**	**135.53 340**	*e*	PKHKP	PKPpre	21 15 42.4	
JOF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMBO	**Kilima Mbogo**	**136.18 241**	*e*	PKPdf	PKPdf	21 16 01.9	+2.0
KMBO	**Kilima Mbogo**	**136.18 241**	*e*	PKIKP	PKPdf	21 16 02.0	+2.0
RDF	**Al-Radifah**	**137.26 288**	*e*	P	PKPpre	21 15 50.9	
RDF				AMb	AMB	21 16 04.6	
	comp=Z,56nm,0.7s						
MIB	**Mutribah**	**137.50 289**	*e*	P	PKPpre	21 15 50.7	
MIB				AMb	AMB	21 15 55.1	
	comp=Z,26nm,0.4s						
ATD	**Arta Tunnel**	**137.55 261**		SKP		21 18 48.4	
	comp=Z,26nm,1.0s,baz=283,slow=23,SNR=5.6						
ATD	**Arta Tunnel**	**137.55 261**		SKP		21 18 48.4	
NAY	**Al-Naaiem**	**137.55 288**	*e*	P	PKPpre	21 15 50.6	
NAY				AMb	AMB	21 16 03.8	
	comp=Z,8.9nm,0.7s						
KAF	**Kangasniemi**	**137.64 342**	*e*	PKHKP	PKPpre	21 15 48.0	
KAF				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES	**FINESS Array B**	**138.24 341**		PKhKP	PKPpre	21 15 50.2	
	comp=Z,5.4nm,0.3s,baz=53,slow=3.2,SNR=31						
FINES				PKP	PKPdf	21 16 02.7	+0.5
	comp=Z,11nm,0.3s,baz=113,slow=3.1,SNR=20						
FINES				SKP		21 18 45.4	
	comp=Z,63nm,0.8s,baz=64,slow=4.4,SNR=24						
FINES				SKKPbc		21 27 29.6	
	comp=Z,9.2nm,1.1s,baz=195,slow=4.3,SNR=12						
FINES	**FINESS Array B**	**138.24 341**		PKPpre	PKPpre	21 15 50.2	
FINES				PKP	PKPdf	21 16 02.7	+0.5
FINES				SKP		21 18 45.4	
FINES				SKKPbc		21 27 29.6	
FINES	**FINESS Array B**	**138.24 341**		PKHKP	PKPpre	21 15 50.2	
FINES						21 16 02.7	
NSS	**Namsos**	**138.41 352**	*e*	P	PKPpre	21 15 54.0	
OBN	**Obninsk**	**138.58 329**	⇑ *i*	PKHKP	PKPpre	21 15 53.8	
OBN			*i*			21 16 00.7	
OBN			*e*			21 18 55.8	
OBN			*e*	S	SKSdf	21 22 17.1	-4.6
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN				pmax	pmax		
	comp=Z,16nm,0.6s						
GNI	**Garni**	**139.07 305**		PKhKP	PKPpre	21 15 59.3	
	comp=Z,2.8nm,0.5s,baz=68,slow=3.2,SNR=4.4						
GNI				SKP		21 18 50.2	
	comp=Z,16nm,1.1s,baz=318,slow=20,SNR=4.2						
GNI	**Garni**	**139.07 305**		PKPpre	PKPpre	21 15 59.3	
GNI			*e*	PKPpre	PKPpre	21 16 01.9	
GNI				SKP		21 18 50.2	
GNI	**Garni**	**139.07 305**		PKHKP	PKPpre	21 15 59.3	
VSR	**Storozhevoye**	**139.24 323**	*e*	PKHKP	PKPpre	21 15 55.0	
VSR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,1.0nm,0.3s						
KIV	**Kislovodsk**	**139.71 311**	*i*	PKIKP	PKPdf	21 16 05.4	-0.1
KIV			*e*	*SP		21 18 59.0	
KIV			*e*			21 19 05.8	
KIV			*e*	SS	SS	21 36 43.8	-2.5
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MOL	**Molde**	**140.80 354**		AMS	AMS	22 30 49.0	
	comp=Z,7μm,18.1s						
NB2	**NORSAR Subarra**	**141.87 351**		PKP	PKPpre	21 16 03.6	
	comp=Z,8.1nm,0.6s,baz=16,slow=3.2						
NB2	**NORSAR Subarra**	**141.87 351**		PKP	PKPpre	21 16 03.6	
	baz=16,slow=3.2						
NOA	**NORSAR Array B**	**141.87 351**		PKhKP	PKPpre	21 16 03.2	
	comp=Z,19nm,0.6s,baz=16,slow=4.6,SNR=71						
NOA				SKPbc	SKPbc	21 18 55.1	+0.2
	comp=Z,16nm,0.8s,baz=15,slow=4.2,SNR=14						
NOA	**NORSAR Array B**	**141.87 351**		PKPpre	PKPpre	21 16 03.2	
NOA				SKPbc	SKPbc	21 18 55.1	+0.2
NOA	**NORSAR Array B**	**141.87 351**		PKHKP	PKPpre	21 16 03.2	
FOO	**Floro**	**141.95 356**	*e*	P	PKPpre	21 16 02.5	
FOO				AMS	AMS	22 30 39.3	
	comp=Z,13μm,13.9s						
NC602	**NORSAR Array S**	**142.12 351**	*e*	P	PKPpre	21 16 03.5	
HFS	**Hagfors**	**142.34 349**		PKhKP	PKPpre	21 16 05.3	
	comp=Z,95nm,0.3s,baz=64,slow=3.4,SNR=1195						
HFS				SKPbc	SKPbc	21 18 56.0	-0.1
	comp=Z,29nm,0.8s,baz=45,slow=0.8,SNR=13						
HFS	**Hagfors**	**142.34 349**		PKPpre	PKPpre	21 16 05.3	
HFS				SKPbc	SKPbc	21 18 56.0	-0.1
HFS	**Hagfors**	**142.34 349**		PKHKP	PKPpre	21 16 05.3	
MNK	**Minsk**	**142.87 333**	*e*	PKHKP	PKPpre	21 16 07.0	
OSL	**Oslo**	**143.00 351**	*e*	P	PKPdf	21 16 07.6	-3.2
ANN	**Anapa**	**143.00 314**	*e*	PKHKP	PKPpre	21 16 08.6	
ANN			*i*			21 16 11.4	
ANN				pmax	pmax		
	comp=Z,230nm,0.7s						
ASK	**Askoy**	**143.05 356**	*e*	P	PKPdf	21 16 07.2	-3.7
RUND	**Rundenannen**	**143.11 356**	*e*	P	PKPdf	21 16 07.3	-3.7
BER	**Bergen**	**143.14 356**	*e*	P	PKPpre	21 16 05.1	
BER				AMS	AMS	22 28 30.2	
	comp=Z,6μm,23.1s						
KONO	**Kongsberg**	**143.43 352**	*e*	P	PKPpre	21 16 06.8	
KONO				AMS	AMS	22 23 52.4	
	comp=Z,4μm,22.2s						
KONO	**Kongsberg**	**143.43 352**	*e*	PKPpre	PKPpre	21 16 08.8	
KONO	**Kongsberg**	**143.43 352**	*e*	PKHKP	PKPpre	21 16 08.8	
ODD1	**Odda**	**143.50 354**	*e*	P	PKPdf	21 16 09.7	-2.0
ODD1				AMB	AMB	21 16 24.6	
	comp=Z,322nm,3.4s						
LRW	**Lerwick**	**143.57 1**	*e*	P	PKPdf	21 16 10.2	-1.6
AKASG	**Malin Array Be**	**144.78 327**		PKP	PKPdf	21 16 13.6	-0.6
	comp=Z,80nm,0.5s,baz=44,slow=4.1,SNR=308						
AKASG				SKPbc	SKPbc	21 19 02.6	+0.5
	comp=Z,46nm,0.8s,baz=47,slow=2.5,SNR=32						
AKASG	**Malin Array Be**	**144.78 327**		PKP	PKPdf	21 16 13.6	-0.6
AKASG				SKPbc	SKPbc	21 19 02.6	+0.5
AKASG	**Malin Array Be**	**144.78 327**		PKIKP	PKPdf	21 16 13.6	-0.6
AKBB	**Malin Array Si**	**144.78 327**	*e*	PKPdf	PKPdf	21 16 13.4	-0.8
AKBB	**Malin Array Si**	**144.78 327**	*e*	PKIKP	PKPdf	21 16 13.4	-0.8
KIEV	**Kiev**	**144.79 327**	*e*	PKPdf	PKPdf	21 16 13.3	-0.9
KIEV	**Kiev**	**144.79 327**	*d i*	PKIKP	PKPdf	21 16 13.7	-0.5
HOMB	**Homborsund**	**144.91 352**	*e*	P	PKPdf	21 16 14.8	+0.6
SNART	**Snartemo**	**145.00 353**	*e*	P	PKPdf	21 16 14.6	+0.3
SUW	**Suwalki**	**145.06 336**	*e*	PKPdf	PKPdf	21 16 14.3	-0.3
SUW	**Suwalki**	**145.06 336**	⇓ *i*	PKIKP	PKPdf	21 16 14.9	+0.3
SUW			*e*			21 22 35.7	
SIM	**Simferopol'**	**145.09 316**	*de*	PKHKP	PKPpre	21 16 07.1	
SIM				pmax	pmax		
	comp=Z,205nm,0.8s						
KAC	**Achnashellach**	**146.01 5**	*e*	P	PKPdf	21 16 16.9	+0.9
MDO	**Dochfour**	**146.13 4**	*e*	P	PKPdf	21 16 16.9	+0.6
KPL	**Plockton**	**146.14 5**	*e*	P	PKPdf	21 16 17.4	+1.1
ASF	**Jabal al Asfar**	**146.43 293**		PKPbc	PKPbc	21 16 20.8	+0.8
	comp=Z,52nm,0.8s,baz=347,slow=2.7,SNR=86						
ASF				SKPbc	SKPbc	21 19 09.0	+2.5
	comp=Z,4.6nm,0.8s,baz=12,slow=3.0,SNR=3.1						
ASF	**Jabal al Asfar**	**146.43 293**		PKPbc	PKPbc	21 16 20.8	+0.8
ASF				SKPbc	SKPbc	21 19 09.0	+2.5
ASF	**Jabal al Asfar**	**146.43 293**		PKP2	PKPbc	21 16 20.8	+0.8
MUD	**Monsted U'grnd**	**146.58 351**	*i*	PKIKP	PKPbc	21 16 19.2	-0.4
MUD				pmax	pmax		
	comp=Z,54nm,0.9s						
MUD				MLR	MLR		
	comp=Z,6μm,21.0s						
BSD	**Bornholm Skovb**	**146.71 344**	*i*	PKIKP	PKPbc	21 16 19.4	-0.6
BSD				pmax	pmax		
	comp=Z,62nm,0.7s						
BSD				MLR	MLR		
	comp=Z,5μm,17.0s						
COP	**Copenhagen**	**146.74 347**	*i*	PKIKP	PKPbc	21 16 19.6	-0.5
COP				pmax	pmax		
	comp=Z,37nm,0.8s						
COP				MLR	MLR		
	comp=Z,4μm,20.0s						
KIS	**Kishinev**	**147.24 322**	⇓ *i*	PKIKP	PKPdf	21 16 20.0	+1.5
KIS			*i*			21 16 24.0	
EAB	**Aberfoyle**	**147.38 4**	*e*	P	PKPbc	21 16 21.2	-0.6
BR131	**Keskin Array S**	**147.43 307**	*e*	PKPbc	PKPbc	21 16 22.0	-0.4
BRTR	**Keskin Array B**	**147.43 307**		PKPbc	PKPbc	21 16 22.3	-0.2
	comp=Z,38nm,0.6s,baz=146,slow=5.3,SNR=75						
BRTR				pPKPbc	pPKPbc	21 18 25.4	-3.2
	comp=Z,5.6nm,0.9s,baz=150,slow=4.7,SNR=4.8						
BRTR				SKPbc	SKPbc	21 19 09.8	+1.4
	comp=Z,6.0nm,1.0s,baz=114,slow=3.5,SNR=3.7						
BRTR	**Keskin Array B**	**147.43 307**		PKPbc	PKPbc	21 16 22.3	-0.2
BRTR				pPKPbc	pPKPbc	21 18 25.4	-3.2
BRTR				SKPbc	SKPbc	21 19 09.8	+1.4
BRTR	**Keskin Array B**	**147.43 307**		PKIKP	PKPbc	21 16 22.3	-0.2
BRTR						21 18 25.5	
MMAI	**Mount Meron Ar**	**147.59 295**		PKPbc	PKPbc	21 16 24.1	+1.0
	comp=Z,114nm,0.5s,baz=76,slow=7.0,SNR=597						
MMAI				pPKPbc	pPKPbc	21 18 26.6	-2.7
	comp=Z,8.1nm,0.9s,baz=67,slow=4.6,SNR=3.1						
MMAI	**Mount Meron Ar**	**147.59 295**		PKPbc	PKPbc	21 16 24.1	+1.0
MMAI				pPKPbc	pPKPbc	21 18 26.6	-2.7
BEL	**Belsk**	**147.67 336**	*i*	PKPdf	PKPbc	21 16 22.9	+0.3
BEL			*e*	PKiKP	PKiKP	21 16 24.4	+0.2
BEL			*e*			21 19 09.9	
BEL				LMZ		22 26 40.2	
	comp=Z,9μm,20.7s						
BEL	**Belsk**	**147.67 336**	⇓ *i*	PKP2	PKPbc	21 16 22.9	+0.2
GKP	**Gorka Klasztor**	**147.70 341**	*i*	PKPdf	PKPbc	21 16 22.6	-0.1
GKP				LMZ		22 24 42.8	
	comp=Z,10μm,20.9s						
GKP	**Gorka Klasztor**	**147.70 341**	⇓ *i*	PKP2	PKPbc	21 16 22.5	-0.2
GKP				MLR	MLR		
	comp=Z,10μm,20.9s						
EDI	**Edinburgh**	**147.72 3**	*e*	P	PKPdf	21 16 21.1	+2.1
PGBU	**Glenifferbraes**	**147.75 5**	*e*	P	PKPbc	21 16 21.8	-0.9
ESY	**Stoneypath**	**147.75 3**	*e*	P	PKPbc	21 16 21.9	-0.8
EAU	**Auchinoon**	**147.78 4**	*e*	P	PKPbc	21 16 22.3	-0.5
IAS	**Iasi**	**147.81 324**		PKP2	PKPbc	21 16 23.1	-0.1
LVV	**L'vov**	**147.84 330**	*e*	PKIKP	PKPbc	21 16 22.3	-0.9
LEOM	**Leova**	**147.86 322**	⇓	PKIKP	PKPbc	21 16 23.1	-0.2
EBL	**Broad Law**	**147.88 3**	*e*	P	PKPbc	21 16 22.4	-0.6
TLCR		**148.25 320**	⇓	PKHKP	PKPbc	21 16 24.3	0.0
EIL	**Elat**	**148.27 288**		PKPbc	PKPbc	21 16 25.6	+0.7
	comp=Z,58nm,0.7s,baz=11,slow=1.0,SNR=68						
EIL				pPKPbc	pPKPbc	21 18 28.6

KRLC Kraliky 150.57 338 ⇓*i*PKPBC PKPbc 21 16 30.0 +0.3
KRLC *e*PKPAB PKPab 21 16 39.2 +0.3
DRGR 150.60 327 ⇓PKIKP PKPbc 21 16 29.8 -0.1
CLL Collm 150.65 343 *e*PKPbc PKPbc 21 16 29.5 -0.4
CLL *e*PKPab PKPab 21 16 38.4 -0.8
CLL Collm 150.65 343 ⇓*i*PKIKP PKPbc 21 16 29.7 -0.2
CLL *i* 21 16 38.6
CLL pmax pmax
comp=Z,84nm,0.9s
CLL pmax pmax
comp=Z,77nm,0.9s
KWE Weaver Farm 150.68 2 *e*P PKPbc 21 16 29.2 -0.7
FOEL Foel Wylfa 150.74 4 *e*P PKPbc 21 16 28.4 -1.7
CLZ Clausthal 150.78 347 *e*PKPbc PKPbc 21 16 30.1 0.0
CLZ *e*PKPab PKPab 21 16 39.2 -0.5
CLZ Clausthal 150.78 347 *e*PKIKP PKPbc 21 16 30.1 0.0
BRG Berggiesshubel 150.78 342 ⇓*i*PKP PKPbc 21 16 30.2 0.0
comp=Z,67nm,0.5s
BRG *i* 21 16 39.6
comp=Z,49nm,0.8s
BRG *i* 21 16 47.6
comp=Z,16nm,0.6s
BRG pPKP pPKPdf 21 18 39.6 +7.3
comp=Z,48nm,1.7s
BRG Berggiesshubel 150.78 342 *e*PKPbc PKPbc 21 16 29.9 -0.3
BRG *e*PKPab PKPab 21 16 39.6 -0.2
BRG *ep*PKPbc pPKPbc 21 18 38.3 +1.1
BRG Berggiesshubel 150.78 342 ⇓*i*PKIKP PKPbc 21 16 30.2 0.0
BRG *i* 21 16 39.6
BRG pmax pmax
comp=Z,67nm,0.5s
BRG pmax pmax
comp=Z,48nm,1.7s
IBBN Ibbenburen 150.81 350 *e*PKPbc PKPbc 21 16 29.9 -0.3
IBBN *e*PKPab PKPab 21 16 39.2 -0.7
PVCC Panska Ves 150.90 341 ⇓*i*PKIKP PKPbc 21 16 30.5 0.0
PVCC *e* 21 18 37.3
PVCC MLR MLR
comp=Z,8μm,21.5s
PVCC Panska Ves 150.90 341 ⇓*i*PKPBC PKPbc 21 16 30.5 0.0
PVCC *ep*PKP pPKPdf 21 18 37.3 +4.8
LOT Lotru 150.96 324 ⇓*i*P PKPbc 21 16 30.2 -0.6
VYHS Vyhne 151.09 334 *e*PKIKP PKPbc 21 16 31.0 0.0
VYHS Vyhne 151.09 334 *e*PKP PKPbc 21 16 31.0 0.0
VYHS *e* 21 38 00.7
PSZ Piszkesteto 151.09 332 *e*PKPbc PKPbc 21 16 30.4 -0.5
PSZ Piszkesteto 151.09 332 ⇓PKIKP PKPbc 21 16 30.7 -0.3
HLM1 Long Mynd 151.13 4 *e*P PKPbc 21 16 28.7 -2.2
KOLL Kolacno 151.20 334 *e*PKIKP PKPbc 21 16 31.3 +0.1
KOLL Kolacno 151.20 334 *e*PKP PKPbc 21 16 31.3 +0.1
VRAC Vranov 151.28 337 PKPbc PKPbc 21 16 31.1 -0.3
comp=Z,6.2nm,0.4s,baz=38,slow=3.5,SNR=11
VRAC PKPab PKPab 21 16 42.2 +0.2
comp=Z,66nm,0.7s,baz=41,slow=3.2,SNR=50
VRAC Vranov 151.28 337 PKPbc PKPbc 21 16 31.1 -0.3
VRAC PKPab PKPab 21 16 42.2 +0.2
VRAC Vranov 151.28 337 PKIKP PKPbc 21 16 31.1 -0.3
VRAC 21 16 42.2
PRA Prague 151.34 340 ⇓PKPBC PKPbc 21 16 30.0 -1.5
PRA PKPAB PKPab 21 16 42.0 -0.2
PRU Pruhonice 151.38 340 ⇓*i*PKIKP PKPbc 21 16 31.4 -0.2
PRU *e* 21 16 42.0
PRU MLR MLR
comp=Z,7μm,20.1s
PRU Pruhonice 151.38 340 ⇓*i*PKPBC PKPbc 21 16 31.4 -0.2
PRU *e*PKPAB PKPab 21 16 42.0 -0.4
PRU *ep*PKP pPKPdf 21 18 41.1 +7.8
GZR Gura Zlata 151.52 325 ⇑PKIKP PKPbc 21 16 31.6 -0.4
GZR Gura Zlata 151.52 325 ⇑*i*P PKPbc 21 16 31.6 -0.4
MSKU Masuku 151.53 210 PKPbc PKPbc 21 16 33.5 +0.5
comp=Z,13nm,0.5s,baz=204,slow=5.5,SNR=9.8
MSKU PKPab PKPab 21 16 44.4 +0.5
comp=Z,20nm,0.6s,baz=158,slow=8.3,SNR=4.6
MSKU Masuku 151.53 210 PKPbc PKPbc 21 16 33.5 +0.5
MSKU PKPab PKPab 21 16 44.4 +0.5
TANN Tannenbergstha 151.60 343 *e*PKPbc PKPbc 21 16 31.9 -0.1
TANN *e*PKPab PKPab 21 16 42.9 -0.4
TANN *ep*PKPbc pPKPbc 21 18 41.5 +2.3
MOX Moxa 151.61 344 *e*PKPbc PKPbc 21 16 31.6 -0.5
MOX *e*PKPab PKPab 21 16 42.4 -0.9
MOX *ep*PKPbc pPKPbc 21 18 41.5 +2.3
MOX Moxa 151.61 344 *e*PKIKP PKPbc 21 16 31.6 -0.5
MCH1 Michaelchurch 151.64 4 *e*P PKPbc 21 16 30.8 -1.2
TREC Trest 151.68 338 ⇓*i*PKIKP PKPbc 21 16 32.1 -0.2
TREC *e* 21 16 43.5
TREC Trest 151.68 338 ⇓*i*PKPBC PKPbc 21 16 32.1 -0.2
TREC *e*PKPAB PKPab 21 16 43.5 -0.1
NKC Novy Kostel 151.77 343 ⇓*i*PKIKP PKPbc 21 16 32.3 -0.1
NKC *e* 21 16 43.9
NKC MLR MLR
comp=Z,8μm,19.7s
NKC Novy Kostel 151.77 343 ⇓*i*PKPBC PKPbc 21 16 32.3 -0.1
NKC *e*PKPAB PKPab 21 16 43.9 -0.1
NKC *ep*PKP pPKPdf 21 18 43.3 +9.4
BUD Budapest 151.80 332 ⇓*e*PKP PKPbc 21 16 32.3 -0.3
BUD *e*PKP PKPab 21 16 44.0 -0.2
HSA Swansea 151.81 5 *e*P PKPbc 21 16 31.4 -1.0
UBBA Unterbreizbach 151.82 346 *e*PKPab PKPab 21 16 42.9 -1.3
UBBA *ep*PKPbc pPKPbc 21 18 42.7 +3.0
BZS Buzias 151.96 327 PKIKP PKPbc 21 16 33.0 0.0
SKP1 Kophill 152.01 1 *e*P PKPbc 21 16 31.9 -1.0
HGH Gray Hill 152.01 4 *e*P PKPbc 21 16 31.8 -1.1
ROTZ Rotzenmuhle 152.26 343 *e*PKPbc PKPbc 21 16 33.3 -0.2
ROTZ *e*PKPab PKPab 21 16 45.8 -0.3
WOL Wolverton 152.41 2 *e*P PKPbc 21 16 33.0 -0.8
KHC Kasperske Hory 152.44 341 *e*PKPbc PKPbc 21 16 33.5 -0.4
KHC Kasperske Hory 152.44 341 ⇓*i*PKIKP PKPdf 21 16 25.5 -1.0
KHC *e* 21 16 33.9
KHC *e* 21 16 47.0
KHC Kasperske Hory 152.44 341 ⇓*i*PKPDF PKPdf 21 16 25.5 -1.0
KHC ⇑*e*PKP PKPbc 21 16 33.9 0.0
KHC *e*PKPAB PKPab 21 16 47.0 +0.2
KHC *ep*PKP pPKPdf 21 18 44.7 +10
ELSH Elham, Standar 152.57 358 *e*P PKPbc 21 16 33.8 -0.3
BEBN Eben Emael 152.58 352 PKPbc PKPbc 21 16 34.6 +0.4
BEBN PKPab PKPab 21 16 46.6 -0.8
GRF Grafenberg Arr 152.59 344 *e*PKPbc PKPbc 21 16 33.4 -0.8
GRF *e*PKPab PKPab 21 16 47.0 -0.5
GRF Grafenberg Arr 152.59 344 *e*PKP2 PKPab 21 16 47.0 -0.5
GRFO Grafenberg 152.59 344 *e*PKPbc PKPbc 21 16 33.9 -0.3
GRFO *e*PKPab PKPab 21 16 47.0 -0.4
GRFO Grafenberg 152.59 344 *e*PKIKP PKPbc 21 16 33.9 -0.3
GRFO *e* 21 16 47.0
WET Wettzell 152.63 341 *e*PKPab PKPab 21 16 47.5 -0.2
WET Wettzell 152.63 341 *e*PKP2 PKPab 21 16 47.5 -0.2
SOP Sopron 152.65 335 *e*PKP/Fd PKPbc 21 16 34.3 -0.1
SOP *e*PKP PKPab 21 16 48.5 +0.7
GEC2 GERESS Array S 152.65 340 *e*PKPbc PKPbc 21 16 34.1 -0.3
GEC2 *e*PKPab PKPab 21 16 47.1 -0.7
GEC2 GERESS Array S 152.65 340 *e*PKP2 PKPab 21 16 47.1 -0.7
GERES GERESS Array B 152.65 340 PKP PKPdf 21 16 27.5 +0.7
comp=Z,0.7nm,0.8s,baz=42,slow=2.2,SNR=4.5
GERES PKPbc PKPbc 21 16 33.6 -0.8
comp=Z,4.4nm,0.5s,baz=16,slow=1.7,SNR=52
GERES PKPab PKPab 21 16 47.4 -0.4
comp=Z,6.8nm,0.7s,baz=34,slow=5.0,SNR=15
GERES pPKPbc pPKPbc 21 18 40.5 -1.2
comp=Z,1.7nm,0.8s,baz=228,slow=1.6,SNR=2.8
GERES GERESS Array B 152.65 340 PKP PKPdf 21 16 27.5 +0.7
GERES PKPbc PKPbc 21 16 33.6 -0.8
GERES PKPab PKPab 21 16 47.4 -0.4
GERES pPKPbc pPKPbc 21 18 40.5 -1.2
GERES GERESS Array B 152.65 340 PKIKP PKPdf 21 16 27.5 +0.7
GERES 21 16 33.6
GERES 21 16 47.4
TNS Taunus Mts 152.70 348 *e*PKPbc PKPbc 21 16 34.4 -0.1
TNS *e*PKPab PKPab 21 16 47.0 -0.9
TNS Taunus Mts 152.70 348 *e*PKP2 PKPab 21 16 47.0 -0.9
CONA Conrad Observa 152.71 336 *i*PKIKP PKiKP 21 16 34.5 -0.1
comp=Z,25nm,1.1s,SNR=14
CONA ⇑*i*PKPab PKPab 21 16 48.8 +0.7
comp=Z,69nm,0.7s
MEM Membach 152.72 352 PKPbc PKPbc 21 16 33.9 -0.6
MEM PKPab PKPab 21 16 47.0 -1.0
PKSM Moragy 152.95 331 ⇑PKIKP PKPdf 21 16 26.9 -0.4
PKSM Moragy 152.95 331 ⇑*i*P PKPdf 21 16 26.9 -0.4
BCLA Clavier 153.00 352 PKPab PKPab 21 16 48.3 -0.8
SNF Seneffe 153.02 354 PKPbc PKPbc 21 16 34.4 -0.8
SNF PKPab PKPab 21 16 48.4 -0.8
VTS Vitosha 153.06 320 ⇓PKIKP PKPbc 21 16 35.5 0.0
KAVA Kavala 153.17 316 P PKPbc 21 16 34.5 -1.3
KAVA Kavala 153.17 316 P PKPbc 21 16 34.5 -1.3
MMB Musomiste 153.33 318 *i* P PKPbc 21 16 34.4 -1.7
MOA Molln 153.34 338 ⇑*i*PKPbc PKPbc 21 16 35.7 -0.3
comp=Z,3.3nm,0.5s
MOA ⇑*i*PKPab PKPab 21 16 51.1 +0.4
comp=Z,36nm,1.1s
GIVF Givet 153.36 353 *e*PKPdf PKPbc 21 16 35.4 -0.5
GIVF Givet 153.36 353 *e*PKIKP PKPbc 21 16 35.4 -0.5
DOU Dourbes 153.40 353 PKPbc PKPbc 21 16 35.5 -0.5
DOU PKPab PKPab 21 16 49.8 -1.0
ARSA Arzberg 153.40 336 ⇑*i*PKPbc PKPbc 21 16 35.6 -0.5
comp=Z,9.3nm,1.5s
ARSA ⇑*i*PKPab PKPab 21 16 51.1 +0.1
comp=Z,43nm,1.1s
BAIF Baives 153.47 354 *e*PKPdf PKPbc 21 16 35.7 -0.4
BAIF Baives 153.47 354 *e*PKIKP PKPbc 21 16 35.7 -0.4
KKB Krupnik 153.56 319 *i* P PKPbc 21 16 36.2 -0.4
WLF Walferdange 153.62 351 *e*PKPbc PKPbc 21 16 36.5 0.0
WLF *e*PKPab PKPab 21 16 51.0 -0.9
WLF Walferdange 153.62 351 *e*PKPbc PKPbc 21 16 36.5 +0.1
WLF Walferdange 153.62 351 *e*PKIKP PKPbc 21 16 36.5 0.0
RJOB Jochberg 153.91 340 *e*PKPab PKPab 21 16 53.3 +0.1
STU Stuttgart 153.93 346 *e*PKPab PKPab 21 16 52.5 -0.7
FUR Furstenfeldbru 153.97 343 *e*PKPab PKPab 21 16 53.2 -0.2
FUR Furstenfeldbru 153.97 343 *e*PKP2 PKPab 21 16 53.2 -0.2
LANF Langenberg 154.01 348 PKP PKPab 21 16 52.9 -0.6
SOKA Soboth 154.06 336 ⇑*i*PKPbc PKPbc 21 16 35.2 -2.3
comp=Z,12nm,1.1s
SOKA ⇑*i*PKPab PKPab 21 16 53.7 -0.1
comp=Z,56nm,1.4s
PERS Pernice 154.06 336 *i* PKPdf PKPbc 21 16 36.8 -0.8
PERS *i* 21 16 53.5
KNT Kendrikon 154.09 318 P PKPbc 21 16 36.2 -1.5
KNT Kendrikon 154.09 318 P PKPbc 21 16 36.2 -1.5
PLG Polygyros 154.19 316 P PKPbc 21 16 36.2 -1.8
PLG Polygyros 154.19 316 P PKPbc 21 16 36.2 -1.8
BFO Black Forest 154.53 347 *e*PKPbc PKPbc 21 16 38.0 -0.4
BFO *e*PKPab PKPab 21 16 54.8 -1.0
BFO Black Forest 154.53 347 *e*PKIKP PKPbc 21 16 38.0 -0.4
BFO *e* 21 16 54.8
MYKA Terra Mystica 154.60 338 ⇑*i*PKPbc PKPbc 21 16 37.8 -0.8
comp=Z,8.7nm,1.0s
MYKA ⇑*i*PKPab PKPab 21 16 55.4 -0.8
comp=Z,25nm,0.6s
WATA Walderalm 154.64 341 ⇑*i*PKPbc PKPdf 21 16 38.3 +8.6
comp=Z,7.8nm,0.5s
WATA ⇑*i*PKPab PKPab 21 16 56.4 0.0
comp=Z,18nm,0.5s
CDF Champ du Feu 154.66 349 *e*PKPdf PKPdf 21 16 38.2 +8.6
CDF Champ du Feu 154.66 349 *e*PKIKP PKPdf 21 16 38.2 +8.6
WTTA Wattenberg 154.69 341 *i* PKPbc PKPdf 21 16 38.6 +8.9
comp=Z,7.0nm,0.4s,SNR=9.6
WTTA ⇑*i*PKPab PKPab 21 16 56.9 +0.4
comp=Z,46nm,0.5s
RETA Reutte 154.74 343 ⇑*i*PKiKP PKPdf 21 16 40.6 +11
comp=Z,2.2nm,0.5s
RETA ⇑*i*PKPab PKPab 21 16 56.7 0.0
comp=Z,73nm,1.1s,SNR=13
MOTA Moosalm 154.77 342 ⇑*i*PKPbc PKPdf 21 16 38.8 +8.9
comp=Z,17nm,1.1s
MOTA ⇓*i*PKPab PKPab 21 16 56.6 -0.2
comp=Z,77nm,1.1s
ECH Echery 154.87 349 PKP PKPab 21 16 56.2 -1.0
VISS Visnje 154.87 335 *i* PKPdf PKPdf 21 16 38.8 +8.8
VISS *i* 21 16 56.7
MEZF Maizieres J'vi 154.91 352 *e*PKPdf PKPdf 21 16 38.8 +8.8
BOJS Bojanci 154.95 334 *i* PKPdf PKPdf 21 16 39.2 +9.1
BOJS *i* 21 16 57.3
KRUS Krusevo 154.96 320 *e*PKP PKPab 21 16 57.8 -0.2
FLN La Foliniere 154.97 1 *e*PKPdf PKPdf 21 16 38.3 +8.2
FLN La Foliniere 154.97 1 *e*PKIKP PKPdf 21 16 38.3 +8.2
VOY Vojsko 155.03 337 *e*PKPdf PKPdf 21 16 39.0 +8.8
VOY *e* 21 16 43.2
VOY *e* 21 16 56.8
THEF They Montfort 155.05 350 PKP PKPab 21 16 57.0 -1.0
JAVS Javornik 155.08 336 *i* PKPdf PKPdf 21 16 38.9 +8.6
JAVS *i* 21 16 57.3
BIA Bitola 155.13 319 *e*PKP PKPab 21 16 57.7 -1.0
LDF La Druitiere 155.14 0 *e*PKPdf PKPdf 21 16 38.6 +8.3
LDF La Druitiere 155.14 0 *e*PKIKP PKPdf 21 16 38.6 +8.3
DAVA Damuels 155.15 344 ⇑*i*PKPab PKPab 21 16 58.6 +0.1
comp=Z,56nm,0.8s
FETA Feichten 155.17 342 ⇑*i*PKPab PKPab 21 16 58.8 +0.2
comp=Z,29nm,1.3s
MOF Molkenrain 155.22 348 PKP PKPab 21 16 57.9 -0.9
GRR Gorron 155.34 1 *e*PKPdf PKPdf 21 16 38.8 +8.2
GRR Gorron 155.34 1 *e*PKIKP PKPdf 21 16 38.8 +8.2
DAVOX Davos/Dischmat 155.62 343 PKPbc PKPdf 21 16 40.7 +10
comp=Z,5.7nm,0.5s,baz=299,slow=4.1,SNR=21
DAVOX PKPab PKPab 21 17 00.8 +0.3
comp=Z,48nm,0.6s,baz=8.3,slow=2.5,SNR=41
DAVOX Davos/Dischmat 155.62 343 PKPbc PKPdf 21 16 40.7 +10
DAVOX PKPab PKPab 21 17 00.8 +0.3
DAVOX Davos/Dischmat 155.62 343 PKIKP PKPdf 21 16 40.7 +10
DAVOX 21 17 00.8
LOMF Lomont 155.76 349 PKPab PKPab 21 17 00.3 -0.8
MFF Saint Martin d 157.14 0 *e*PKPdf PKPdf 21 16 43.2 +10
MFF Saint Martin d 157.14 0 *e*PKIKP PKPdf 21 16 43.2 +10
RSL Roselend 157.40 348 PKP PKPab 21 17 08.0 -0.3
PLDF La Plantade 157.57 353 PKP PKPab 21 17 08.6 -0.4
PYM Petit Puy Mans 157.85 354 PKP PKPab 21 17 09.6 -0.6
AQU L'Aquila 158.30 332 ⇑*i*P PKPab 21 17 12.7 +0.4
LBL Lubilhac 158.34 354 PKP PKPab 21 17 11.7 -0.7
SAOF Saorge 158.82 345 PKP PKPab 21 17 13.6 -0.9
TOUF Mont Tournerai 158.86 345 PKP PKPab 21 17 14.2 -0.5
MVIF Mont Vial 159.00 345 PKP PKPab 21 17 14.6 -0.7
REVF Revere 159.09 345 PKP PKPab 21 17 15.9 +0.2
BBTS Babate 162.02 117 PKPab PKPab 21 17 28.8 -0.6
comp=Z,19nm,0.5s,baz=328,slow=1.4,SNR=4.8
BBTS Babate 162.02 117 PKPab PKPab 21 17 28.8 -0.6
DBIC Dimbokro 162.45 164 PKP PKPdf 21 16 39.6 -0.2
comp=Z,5.5nm,0.7s,baz=159,slow=2.6,SNR=11
DBIC PKPab PKPab 21 17 32.2 +1.1
comp=Z,25nm,0.9s,baz=179,slow=4.8,SNR=14
DBIC Dimbokro 162.45 164 PKP PKPdf 21 16 39.6 -0.2
DBIC PKPab PKPab 21 17 32.2 +1.1
DBIC Dimbokro 162.45 164 PKIKP PKPdf 21 16 39.7 -0.2
DBIC 21 17 32.2
ESDC Sonseca Array 163.72 11 PKPab PKPab 21 17 35.0 -1.1
comp=Z,3.0nm,0.7s,baz=352,slow=4.6,SNR=20
ESDC Sonseca Array 163.72 11 PKPab PKPab 21 17 35.0 -1.1
KEST Kesra 165.51 328 PKPab PKPab 21 17 44.4 +0.2
comp=Z,9.1nm,0.8s,baz=322,slow=4.0,SNR=14
KEST Kesra 165.51 328 PKPab PKPab 21 17 44.4 +0.2
TORD Torodi Ar. Bea 169.39 189 PKP PKPdf 21 16 44.3 -0.9
comp=Z,2.7nm,0.8s,baz=310,slow=0.3,SNR=18
TORD PKPab PKPab 21 18 02.1 +0.5
comp=Z,10nm,0.9s,baz=165,slow=6.0,SNR=11
TORD PP PP 21 21 51.5 +0.5
comp=Z,4.3nm,1.0s,baz=163,slow=5.4,SNR=8.8
TORD Torodi Ar. Bea 169.39 189 PKP PKPdf 21 16 44.3 -0.9
TORD PKPab PKPab 21 18 02.1 +0.5
TORD PP PP 21 21 51.5 +0.5

ISCJB ***18*** *21:17:14.4±1.6, 16°.2S±0°.1×174°.1W±0°.1, h101km±16km, mb4.2/10, Error ellipse: s-maj=18.0km s-min=15.3km az=140.9*
IDC ***18*** *21:17:15.0±2.9, 16°.15S×174°.08W, h84km±28km, mb4.0/6, mb1 4.2/7, mb1mx3.8/20, mbtmp4.1/7, Error ellipse: s-maj=44.5km s-min=18.5km az=137.0*
NEIC ***18*** *21:17:15.5±1.1, 16°.17S×174°.03W, h95km±10km, mb4.4/6, Error ellipse: s-maj=12.3km s-min=9.0km az=140.0*
ISC 18 21:17:15.8±1.5, 16°.1S±0°.1×174°.0W±0°.1, h97km±15km**, n38,** σ0**76**/31**, mb4.2**/10**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.10**	**45**	P	**Pn**	**21 18 02.3**	**-0.6**
	71nm,0.3s,baz=234,slow=0.3,SNR=50						
AFI				S	**Sn**	**21 18 34.0**	**-5.2**
	241nm,0.3s,baz=50,slow=22,SNR=20						
AFI	**Afiamalu**	**3.10**	**45**	P	**Pn**	**21 18 02.3**	**-0.6**
AFI				S	**Sn**	**21 18 34.0**	**-5.2**
MSVF	**Nonsavu**	**7.75**	**257**	*e*Pn	**Pn**	**21 19 17.3**	**+12**
FUNA	**Funafuti**	**10.05**	**318**	*e*Pn	**Pn**	**21 19 38.4**	**+1.1**
URZ	**Urewera**	**23.38**	**198**	P	**P**	**21 22 15.9**	**+0.2**
	8.1nm,0.3s,mb4.5,baz=17,slow=4.1,SNR=13						
URZ	**Urewera**	**23.38**	**198**	*e*P	**P**	**21 22 14.1**	**-1.6**
	8.7nm,0.4s,mb4.4						
EIDS	**Eidsvold**	**33.81**	**248**	*e*P	**P**	**21 23 48.3**	**-0.5**
STKA	**Stephens Creek**	**43.15**	**240**	*e*P	**P**	**21 25 07.4**	**+0.5**
	4.5nm,0.8s,mb4.2,baz=94,slow=6.6,SNR=5.8						
STKA	**Stephens Creek**	**43.15**	**240**	*e*P	**P**	**21 25 06.1**	**-0.8**
	2.7nm,1.2s,mb3.9						
WB2	**Warramunga Arr**	**49.08**	**257**	*e*P	**P**	**21 25 52.2**	**-1.3**
WRAB	**Tennant Creek**	**49.08**	**257**	*e*P	**P**	**21 25 53.5**	**-0.1**
WRA	**Warramunga Arr**	**49.09**	**257**	P	**P**	**21 25 53.5**	**-0.1**
	1.6nm,0.4s,mb4.3,baz=94,slow=6.8,SNR=59						
WRA				PcP	PcP	21 27 16.2	+0.2
	1.3nm,1.1s,baz=90,slow=3.6,SNR=4.6						
WRA	**Warramunga Arr**	**49.09**	**257**	P	**P**	**21 25 53.5**	**-0.1**
WRA				PcP	PcP	21 27 16.2	+0.2
AS31	**Alice Springs**	**49.31**	**253**	*e*P	**P**	**21 25 55.1**	**-0.1**
ASAR	**Alice Springs**	**49.31**	**253**	P	**P**	**21 25 55.3**	**0.0**
	3.8nm,0.5s,mb4.6,baz=90,slow=7.5,SNR=80						
ASAR				PcP	PcP	21 27 16.6	-0.2
	0.9nm,0.7s,baz=101,slow=3.8,SNR=4.2						
ASAR	**Alice Springs**	**49.31**	**253**	P	**P**	**21 25 55.3**	**0.0**
ASAR				PcP	PcP	21 27 16.6	-0.2
FITZ	**Fitzroy Crossi**	**57.47**	**259**	P	**P**	**21 26 55.8**	**+0.8**
	5.0nm,1.0s,mb4.5,baz=104,slow=8.3,SNR=4.0						
FITZ	**Fitzroy Crossi**	**57.47**	**259**	P	**P**	**21 26 55.6**	**+0.5**
SBA	**Scott Base**	**62.47**	**185**	*e*P	**P**	**21 27 28.3**	**0.0**
	3.6nm,0.7s,mb4.5						
MBWA	**Marble Bar**	**62.58**	**254**	*e*P	**P**	**21 27 30.3**	**+0.3**
VNDA	**Vanda**	**62.59**	**186**	*e*P	**P**	**21 27 30.0**	**+1.0**
	4.5nm,1.0s,mb4.3						
NWAO	**Narrogin (SRO)**	**63.73**	**241**	P	**P**	**21 27 37.6**	**+0.1**
KKM	**Kota Kinabalu**	**72.43**	**282**	P	**P**	**21 28 31.9**	**-0.3**
QSPA	**South Pole Qui**	**73.91**	**180**	*e*P	**P**	**21 28 40.5**	**+0.8**
	3.0nm,0.6s,mb4.2						
SSLB	**Suanglung**	**74.87**	**301**	P	**P**	**21 28 46.0**	**-0.2**
NVAR	**Mina Array Bea**	**75.28**	**42**	P	**P**	**21 28 50.3**	**+2.0**
	0.4nm,0.7s,mb3.3,baz=240,slow=12,SNR=3.9						
NVAR	**Mina Array Bea**	**75.28**	**42**	P	**P**	**21 28 50.3**	**+2.0**
TRF	**Thorofare Moun**	**81.45**	**11**	*e*P	**P**	**21 29 20.8**	**-0.8**
MCK	**McKinley**	**81.96**	**11**	*e*P	**P**	**21 29 23.8**	**-0.5**
	3.9nm,0.9s,mb4.2						
KMBO	**Kilima Mbogo**	**144.67**	**244**	*e*P	PKPdf	21 36 42.5	+0.4
KMBO	**Kilima Mbogo**	**144.67**	**244**	*e*PKPdf	PKPdf	21 36 42.3	+0.2
MLR	**Muntele Rosu**	**146.28**	**334**	PKPbc	PKPbc	21 36 45.3	+0.2
	0.6nm,0.9s,baz=345,slow=15,SNR=3.4						
MLR	**Muntele Rosu**	**146.28**	**334**	PKPbc	PKPbc	21 36 45.3	+0.2
BR131	**Keskin Array S**	**146.34**	**320**	*e*PKPdf	PKPdf	21 36 45.7	+1.5
BRTR	**Keskin Array B**	**146.34**	**320**	PKPbc	PKPbc	21 36 45.9	+0.3
	2.9nm,0.8s,baz=110,slow=3.1,SNR=10						
BRTR	**Keskin Array B**	**146.34**	**320**	PKPbc	PKPbc	21 36 45.9	+0.3
GERES	**GERESS Array B**	**146.77**	**351**	PKPbc	PKPbc	21 36 45.9	-0.5
	1.2nm,0.8s,baz=338,slow=1.4,SNR=7.8						
GERES	**GERESS Array B**	**146.77**	**351**	PKPbc	PKPbc	21 36 45.9	-0.5

BJI ***18*** *21:19:26.8, 32°.74S×72°.44W, h19km, mB6.0/41, Ms6.3/52, Ms7 6.2/51*
ISCJB ***18*** *21:19:28.6±0.7, 32°.33S±0°.02×71°.68W±0°.03, h26km±4km, mb5.7/244, MS6.0/214, Error ellipse: s-maj=5.5km s-min=2.9km az=147.7*
NEIC ***18*** *21:19:28.4±0.1, 32°.46S×71°.73W, h18km, mb5.8/208, ME5.8, MS6.0/170, MW6.2, MW6.0, ML5.8(GUC), Error ellipse: s-maj=4.4km s-min=2.6km az=65.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*175.00000°,* δ*70.00000°,* λ*90.00000°. NP2:*ϕ_s*355.00000°,* δ*20.00000°,* λ*90.00000°. Principal axes: T Plg65.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm265.0000°; Moment Tensor Solution. s157 Moment tensor: Scale 10*^{18} *Nm; M*$_{rr}$*0.84; M*$_{\theta\theta}$*0.23; M*$_{\phi\phi}$*-1.07; M*$_{r\theta}$*0.11; M*$_{\theta\phi}$*0.08; M*$_{\phi r}$*-1.00; Best double couple: M*$_0$*1.40000×10*^{18} *NP1:*ϕ_s*360.00000°,* δ*22.00000°,* λ*95.00000°. NP2:*ϕ_s*174.00000°,* δ*68.00000°,* λ*88.00000°. Principal axes: T 1.2700, Plg66.0000°, Azm80.0000°; N 0.2300, Plg1.0000°, Azm174.0000°; P -1.5100, Plg23.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at La Ligua, Valparaiso and Vina del Mar; [IV] at Melipilla, Quillota and Santiago; [III] at Rancagua; [II] at Canela, Illapel and Salamanca. Also felt at Cabildo, Colina, Limache, Machali and Penaflor.
GUC ***18*** *21:19:28.4±0.5, 32°.48S×71°.90W, h25km±3km, ML5.8*
MOS ***18*** *21:19:29.9±1.0, 32°.30S×71°.70W, h33km, mb5.8/71, MS6.0/58, Error ellipse: s-maj=10.9km s-min=6.2km az=95.8*
IDC ***18*** *21:19:29.5±1.1, 32°.47S×71°.67W, h24km±6km, mb5.2/31, mb1 5.3/35, mb1mx5.3/35, mbtmp5.2/35, ML5.0/4, MS6.0/32, Ms1 6.0/32, ms1mx5.9/40, Error ellipse: s-maj=9.6km s-min=5.3km az=79.0*
GCMT ***18*** *21:19:33.6±0.1, 32°.63S×72°.13W, h22km, MW6.1, Moment Tensor Solution. s112,c239; s90,c125; Moment tensor: Scale 10*^{18}*Nm; M*$_{rr}$*1.13±.01; M*$_{\theta\theta}$*0.12±.01; M*$_{\phi\phi}$*-1.25±.01; M*$_{r\theta}$*0.13±.02; M*$_{\theta\phi}$*0.06±.01; M*$_{\phi r}$*-1.54±.03; Best double couple: M*$_0$*2.00000×10*^{18} *NP1:*ϕ_s*360.00000°,* δ*19.00000°,* λ*94.00000°. NP2:*ϕ_s*175.00000°,* δ*71.00000°,* λ*89.00000°. Principal axes: T 1.8900, Plg64.0000°, Azm83.0000°; N 0.1200, Plg1.0000°, Azm176.0000°; P -2.0100, Plg26.0000°, Azm267.0000°; Data Used: II IU CN IC G. Surface waves: sta=113, comp=252, per= 50.*
SZGRF ***18*** *21:19:38.4, 31°.92S×67°.31W, h33km, mb6.3, San Juan Province, Argentina*
DJA ***18*** *21:19:45, 32°.79S×71°.56W, h142km, mb5.5/10*
ISC 18 21:19:29.8±0.7, 32°.38S±0°.02×71°.67W±0°.03, h24km±4km**, n1335,** σ0**75**/903**, mb5.7**/244**, MS6.0**/214**, 255C-229D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.25**	**128**	*e*P	**Pb**	**21 19 36.9**	**+0.9**
PACH	**Papudo**	**0.25**	**128**	*e*P	**Pb**	**21 19 36.9**	**+0.9**
IHA	**Instituto Hidr**	**0.64**	**178**	⇓*i*P	**Pb**	**21 19 39.5**	**-2.9**
IHA	**Instituto Hidr**	**0.64**	**178**	⇓*i*P	**Pb**	**21 19 39.5**	**-2.9**
ROCH	**El Roble**	**0.81**	**137**	⇓*i*P	**Pb**	**21 19 44.7**	**-0.5**
ROCH				*i* S	**Sb**	**21 19 56.5**	**+0.8**
ROCH				AML	AML	21 20 01.0	
	comp=N,467μm,0.8s						
JACH	**Jahuel**	**0.96**	**108**	⇑*i*P	**Pb**	**21 19 48.4**	**+0.7**
JACH	**Jahuel**	**0.96**	**108**	⇑*i*P	**Pb**	**21 19 48.4**	**+0.7**
LCCH	**Las Cruces**	**1.09**	**176**	⇑*i*P	**Pn**	**21 19 46.7**	**-2.9**
LCCH	**Las Cruces**	**1.09**	**176**	⇑*i*P	**Pn**	**21 19 46.7**	**-2.9**
PEL	**Peldehue**	**1.12**	**133**	⇑*i*P	**Pn**	**21 19 49.6**	**-0.5**
PEL				*i* S	**Sb**	**21 20 05.8**	**+1.0**
PEL				AML	AML	21 20 11.9	
	comp=E,518μm,0.8s						
RCDM	**Rinconada Maip**	**1.32**	**147**	⇓*i*P	**Pn**

PLCA Lg 21 23 47.8
comp=N,3.8nm,0.3s,baz=35,slow=11,SNR=5.2
PLCA LR LR 21 24 55.6
comp=N,118μm,19.0s,baz=350,slow=39
PLCA Paso Flores 8.38 174 *e*Pn **Pn 21 21 27.4 -2.3**
PLCA *e*Sn **Sn 21 22 59.0 -4.5**
PLCA Lg 21 23 47.8
PLCA Paso Flores 8.38 174 *e*P **Pn 21 21 27.4 -2.3**
PLCA *e* 21 22 59.0
TRQA Tornquist 9.74 128 *e*Pn **Pn 21 21 48.4 +0.1**
TRQA *e*Sn **Sn 21 23 32.5 -4.4**
CPUP Villa Florida 13.88 68 Pn **Pn 21 22 44.7 -0.4**
comp=N,1.7nm,0.3s,baz=230,slow=12,SNR=26
CPUP Sn **Sn 21 25 21.4 +3.0**
comp=N,2.5nm,0.3s,baz=296,slow=20,SNR=1.7
CPUP Lg 21 26 53.6
comp=N,13nm,0.3s,baz=305,slow=15,SNR=1.9
CPUP LR LR 21 28 57.0
comp=N,97μm,18.9s,baz=231,slow=41
CPUP Villa Florida 13.88 68 *e*Pn **Pn 21 22 44.0 -1.0**
CPUP *e*Sn **Sn 21 25 16.5 -1.9**
CPUP Lg 21 26 53.6
CPUP Villa Florida 13.88 68 *e*P **Pn 21 22 44.0 -1.1**
CPUP *e* 21 25 16.5
LPAZ La Paz 16.34 12 Pn **Pn 21 23 19.1 +1.3**
comp=N,2.5nm,0.3s,baz=180,slow=8.6,SNR=145
LPAZ La Paz 16.34 12 *e*Pn **Pn 21 23 19.1 +1.3**
comp=N,312nm,0.9s
LPAZ La Paz 16.34 12 P **Pn 21 23 19.1 +1.3**
LPAZ pmax pmax
comp=Z,3.0nm,0.3s
SIV San Ignacio 18.95 33 P **Pn 21 23 48.7 -1.3**
comp=Z,2.3nm,0.3s,baz=232,slow=12,SNR=82
SIV S **Sn 21 27 26.0 +4.5**
baz=285,slow=22,SNR=1.5
SIV Lg 21 29 37.0
comp=Z,0.7nm,0.3s,baz=274,slow=10,SNR=3.1
SIV LR LR 21 32 41.5
comp=Z,92μm,18.4s,slow=42
SIV San Ignacio 18.95 33 P **Pn 21 23 48.7 -1.3**
SIV S **Sn 21 27 26.0 +4.5**
SIV Lg 21 29 37.0
NNA Nana 20.85 346 P **P 21 24 11.7 +1.7**
comp=Z,50nm,0.8s,baz=209,slow=7.5,SNR=16
NNA S **S 21 28 05.4 +4.0**
comp=Z,8.2nm,0.8s,baz=253,slow=23,SNR=1.5
NNA LR LR 21 30 52.1
comp=Z,28μm,18.3s,MS5.7,baz=278,slow=33
NNA Nana 20.85 346 *e*P **P 21 24 10.5 +0.5**
comp=Z,195nm,1.0s
NNA S **S 21 28 05.4 +4.0**
NNA Nana 20.85 346 P **P 21 24 11.7 +1.7**
NNA S **S 21 28 05.4 +4.0**
NNA pmax pmax
comp=Z,50nm,0.8s
NNA smax
comp=N,8.0nm,0.8s
NNA MLR MLR
comp=Z,28μm,18.3s
NNA Nana 20.85 346 Pn **P 21 24 12.6 +2.6**
comp=Z,436nm,0.8s,SNR=5.6
EFI East Falkland 21.70 157 *e*P **P 21 24 17.0 -1.9**
comp=Z,595nm,1.1s,mb5.9
EFI *e*S **S 21 28 12.8 -4.8**
EFI LR LR
comp=Z,41μm,20.0s,MS5.8
EFI East Falkland 21.70 157 *e*P **P 21 24 17.0 -1.8**
EFI *e*S **S 21 28 12.8 -4.8**
EFI pmax pmax
comp=Z,595nm,1.1s,mb5.9
EFI MLR MLR
comp=Z,41μm,20.0s,MS5.8
EFI East Falkland 21.70 157 P **P 21 24 17.5 -1.3**
comp=Z,1μm,0.7s,mb6.5,SNR=13
USHA Ushuaia 22.56 175 P **P 21 24 28.4 +0.4**
comp=Z,61nm,0.8s,mb5.1,baz=344,slow=8.6,SNR=14
USHA S **S 21 28 33.8 -0.4**
comp=Z,11nm,0.8s,baz=221,slow=21,SNR=3.2
USHA LR LR 21 33 51.9
comp=Z,44μm,18.3s,MS5.9,baz=341,slow=38
USHA Ushuaia 22.56 175 P **P 21 24 28.4 +0.4**
USHA S **S 21 28 33.8 -0.4**
SPB Sao Paulo 23.09 74 *e*P **P 21 24 33.7 -0.2**
comp=Z,460nm,0.9s,mb5.9
SPB *e*S **S 21 28 45.1 +1.6**
SPB LR LR
comp=Z,129μm,19.0s,MS6.4
SAML Samuel 24.61 20 *e*P **P 21 24 48.3 0.0**
comp=Z,365nm,1.1s,mb5.8
SAML LR LR
comp=Z,48μm,21.0s,MS6.0
ATAH Atahualpa 25.89 345 P **P 21 25 02.0 +2.0**
comp=Z,8.3nm,0.7s,mb4.4,baz=167,slow=9.9,SNR=11
ATAH S **S 21 29 32.1 +3.5**
comp=Z,7.8nm,0.8s,baz=249,slow=1.3,SNR=2.3
ATAH LR LR 21 34 49.7
comp=Z,21μm,18.6s,MS5.7,baz=342,slow=35
ATAH Atahualpa 25.89 345 P **P 21 25 02.0 +2.0**
ATAH S **S 21 29 32.1 +3.5**
CAM4 Nova Friburgo 27.63 76 ⇑*i*P pP 21 25 29.3 +6.5
CAM4 *i* 21 25 33.1
CAM4 *i* 21 25 38.2
CAM4 *i* 21 25 43.1
CAM4 *e* 21 30 52.1
PMSA Palmer Station 32.76 174 P **P 21 26 00.9 +0.5**
comp=Z,78nm,1.1s,mb5.6,baz=346,slow=4.2,SNR=3.8
PMSA LR LR 21 39 36.5
comp=Z,41μm,18.2s,MS6.2,baz=329,slow=37
PMSA Palmer Station 32.76 174 P **P 21 26 00.9 +0.5**
RPN Rapa Nui 33.00 269 P **P 21 26 02.7 -0.3**
comp=Z,120nm,0.9s,mb5.8,baz=353,slow=3.7,SNR=7.5
RPN LR LR 21 35 36.9
comp=Z,37μm,21.2s,MS6.1,baz=78,slow=29
RPN Rapa Nui 33.00 269 *e*P **P 21 26 02.5 -0.6**
comp=Z,490nm,1.3s,mb6.3
RPN Rapa Nui 33.00 269 P **P 21 26 02.7 -0.3**
RPN pmax pmax
comp=Z,120nm,0.9s,mb5.8
RPN MLR MLR
comp=Z,37μm,21.2s,MS6.1
OTAV Otavalo 33.07 348 *e*P **P 21 26 04.2 +0.5**
comp=Z,93nm,1.2s,mb5.6
OTAV LR LR
comp=Z,20μm,21.0s,MS5.8
ROSC El Rosal 37.12 356 P **P 21 26 40.0 +1.4**
comp=Z,23nm,0.8s,mb5.1,baz=257,slow=22,SNR=12
ROSC S **S 21 32 30.3 +6.7**
comp=Z,3.9nm,0.4s,baz=95,slow=22,SNR=1.6
ROSC El Rosal 37.12 356 *e*P **P 21 26 39.6 +1.0**
ROSC S **S 21 32 30.3 +6.7**
SDV Santo Domingo 41.05 2 *e*P **P 21 27 11.2 -0.2**
comp=Z,113nm,1.2s,mb5.4
SDV *e*ScP ScP 21 33 01.0 +1.7
SDV LR LR
comp=Z,5μm,21.0s,MS5.4
BCIP Isla Barro Col 42.05 348 PFAKE 21 27 30.0 +10
BCIP LR LR
comp=Z,11μm,20.0s,MS5.7
RCBR Riachuelo 42.54 59 LR LR 21 46 42.6
comp=Z,85μm,18.0s,MS6.7,baz=41,slow=38
RCBR Riachuelo 42.54 59 *e*P **P 21 27 23.4 -0.4**
comp=Z,101nm,1.2s,mb5.4
JTS JuntasAbangare 44.29 341 P **P 21 27 39.7 +1.9**
comp=Z,10.0nm,0.8s,mb4.6,baz=138,slow=8.5,SNR=5.3
JTS S **S 21 34 16.1 +5.7**
comp=Z,3.6nm,0.6s,baz=240,slow=22,SNR=2.3
JTS JuntasAbangare 44.29 341 *e*P **P 21 27 41.4 +3.6**
comp=Z,38nm,0.9s,mb5.1
JTS S **S 21 34 16.1 +5.7**
JTS LR LR
comp=Z,13μm,21.0s,MS5.8
JTS JuntasAbangare 44.29 341 *e*P **P 21 27 41.4 +3.6**
JTS S **S 21 34 16.1 +5.7**
JTS pmax pmax
comp=Z,38nm,0.9s
JTS MLR MLR
comp=Z,13μm,21.0s
GRGR Grenville 45.29 14 *e*P **P 21 27 46.4 +0.7**
comp=Z,708nm,1.1s,mb6.4
GRGR LR LR
comp=Z,15μm,19.0s,MS6.0
BBGH Gun Hill 46.73 16 PFAKE 21 28 10.0 +13
BBGH LR LR
comp=Z,21μm,19.0s,MS6.1
FDF Fort de France 47.92 14 *e*P **P 21 28 03.4 -2.9**
comp=Z,282nm,1.1s,mb6.2
FDF LR LR
comp=Z,18μm,21.0s,MS6.0
FDF Fort de France 47.92 14 *e*P **P 21 28 03.4 -2.9**
FDF pmax pmax
comp=Z,281nm,1.1s,mb6.2
FDF MLR MLR
comp=Z,18μm,21.0s,MS6.0
FDF Fort de France 47.92 14 *e*P **P 21 28 03.8 -2.5**
TRIS Tristan da Cun 48.33 113 *e*P **P 21 28 10.4 +1.0**
comp=Z,77nm,0.3s,mb6.2
TRIS LR LR
comp=Z,19μm,20.0s,MS6.1
TGUH Tegucigalpa,Un 48.53 340 *e*P **P 21 28 11.8 +0.7**
TGUH LR LR
comp=Z,9μm,21.0s,MS5.7
ICM Isla Caja Muer 50.23 6 *e*P **P 21 28 22.8 -1.2**
CDVI St. Croix 50.29 9 *e*P **P 21 28 23.7 -0.7**
comp=Z,176nm,0.9s,mb6.1
CRPR Cabo Rojo, PR 50.29 6 *e*P **P 21 28 24.4 0.0**
comp=Z,78nm,0.9s,mb5.7
OBIP Obispado Ponce 50.37 6 *e*P **P 21 28 24.7 -0.4**
comp=Z,169nm,1.0s,mb6.0
CELP Cerrillos 50.41 6 *e*P **P 21 28 25.8 +0.5**
LSP Las Mesas 50.46 6 *e*P **P 21 28 26.1 +0.4**
LSP *e*PcP PcP 21 29 42.5 -1.2
SJG San Juan 50.48 7 P **P 21 28 25.3 -0.6**
comp=Z,142nm,1.0s,mb6.0,baz=359,slow=23,SNR=26
SJG S **S 21 35 41.2 +2.8**
comp=Z,4.7nm,0.3s,baz=360,slow=24,SNR=5.4
SJG San Juan 50.48 7 *e*P **P 21 28 24.9 -1.0**
comp=Z,201nm,1.1s,mb6.1
SJG S **S 21 35 41.2 +2.8**
SJG LR LR
comp=Z,10μm,21.0s,MS5.8
SJG San Juan 50.48 7 P **P 21 28 25.3 -0.6**
SJG S **S 21 35 41.2 +2.8**
SJG pmax pmax
comp=Z,142nm,1.0s
SJG smax
comp=N,5.0nm,0.3s
MPR Mayaguez 50.49 6 *e*P **P 21 28 25.7 -0.3**
comp=N,232nm,1.3s,mb6.0
MTP Monte Pirata 50.53 8 *e*P **P 21 28 24.4 -1.8**
comp=N,133nm,1.1s,mb5.8
HUMP Col San Antoni 50.55 7 *e*P **P 21 28 26.0 -0.3**
comp=N,71nm,1.1s,mb5.5
LRS Lares 50.60 6 *e*P **P 21 28 26.2 -0.6**
MTDJ Mount Denham 50.63 353 PFAKE 21 28 40.0 +13
MTDJ LR LR
comp=Z,9μm,20.0s,MS5.8
ANWB Willy Bob 50.66 12 *e*P **P 21 28 25.7 -1.5**
comp=Z,234nm,1.0s,mb6.1
ANWB LR LR
comp=Z,12μm,22.0s,MS5.9
AOPR Arecibo Observ 50.66 6 *e*P **P 21 28 26.8 -0.4**
comp=Z,844nm,2.6s,mb6.2
CBYP Canovanas 50.67 7 *e*P **P 21 28 26.2 -1.1**
comp=Z,189nm,1.1s,mb5.9
VNA3 Neumayer Olymp 50.74 158 *e* **P 21 28 26.6 -0.7**
VNA1 Neumayer--Stat 51.04 157 *e* **P 21 28 29.9 +0.4**
SDDR Presa de Saban 51.07 0 *e*P **P 21 28 31.5 +1.2**
comp=Z,68nm,1.0s,mb5.5
SDDR LR LR
comp=Z,11μm,19.0s,MS5.9
VNA2 Neumayer--Watz 51.38 158 *e* **P 21 28 31.5 -0.6**
baz=283,slow=1.7
GTBY Guantanamo Bay 52.12 356 PFAKE 21 28 50.0 +12
GTBY LR LR
comp=Z,4μm,20.0s,MS5.5
SNAA Sanae 52.97 158 *e* **P 21 28 43.2 -0.7**
SNAA Sanae 52.97 158 ⇑*i*P **P 21 28 43.4 -0.4**
SNAA Sanae 52.97 158 P **P 21 28 43.0 -0.9**
comp=Z,17nm,0.8s,mb5.0,baz=281,slow=6.5,SNR=63
SNAA S **S 21 36 13.2 +1.7**
comp=Z,0.5nm,0.4s,baz=342,slow=12,SNR=10
SNAA LR LR 21 49 25.5
comp=Z,8μm,20.1s,MS5.8,baz=292,slow=34
SNAA Sanae 52.97 158 *e*P **P 21 28 43.2 -0.7**
comp=Z,166nm,1.0s,mb5.9
SNAA S **S 21 36 13.2 +1.7**
SNAA Sanae 52.97 158 *e*P **P 21 28 43.2 -0.7**
SNAA S **S 21 36 13.2 +1.7**
SNAA pmax pmax
comp=Z,166nm,1.0s
CMIG Matias Romero 53.98 332 P **P 21 28 52.2 +0.3**
comp=Z,10.0nm,1.1s,mb4.7,baz=150,slow=11,SNR=4.0
CMIG S **S 21 36 27.7 +1.3**
comp=Z,0.6nm,0.3s,baz=95,slow=7.1,SNR=2.2
CMIG LR LR 21 46 43.6
comp=Z,7μm,19.4s,MS5.8,baz=346,slow=30
CMIG Matias Romero 53.98 332 P **P 21 28 52.2 +0.3**
CMIG S **S 21 36 27.7 +1.3**
TEIG Tepich 54.67 341 P **P 21 28 57.0 +0.1**
comp=Z,19nm,0.6s,mb5.3,baz=56,slow=1.9,SNR=10
TEIG S **S 21 36 32.2 -3.4**
comp=Z,2.6nm,0.4s,baz=66,slow=15,SNR=1.9
TEIG Tepich 54.67 341 *e*P **P 21 28 57.9 +1.0**
comp=Z,112nm,1.1s,mb5.8
TEIG S **S 21 36 32.2 -3.4**
TEIG LR LR
comp=Z,7μm,19.0s,MS5.8
RKT Rikitea 56.08 262 *e*P **P 21 29 08.8 +1.6**
comp=Z,85nm,1.4s,mb5.6
RKT *e*S **S 21 36 54.3 -0.4**
comp=Z,8μm,28.0s
RKT *e*SS SS 21 40 41.8 +0.8
comp=Z,4μm,28.8s
RKT *e*LQ 21 43 10.5
comp=Z,3μm,29.8s
RKT *e*LR LR 21 45 28.0
comp=Z,21μm,24.5s,baz=121
MAIT Maitri 57.65 157 *e*P **P 21 29 16.9 -0.7**
MAIT *e* 21 29 40.4
NVL N'lazarevskaya 57.68 157 *c i*P sP 21 29 33.7 +5.4
NVL *e**PP pP 21 29 48.8 +23
NVL *e*PPP 21 32 59.1
NVL *e*S **S 21 37 23.8 +9.2**
NVL *e*SS SS 21 41 08.2 +3.8
NVL pmax pmax
comp=Z,94nm,1.3s,mb5.7
NVL MLR MLR
comp=Z,9μm,16.0s,MS6.0
QSPA South Pole Qui 57.85 180 P **P 21 29 18.2 -0.7**
comp=Z,44nm,0.8s,mb5.5,baz=142,slow=3.2,SNR=82
QSPA S **S 21 37 18.3 +1.8**
comp=Z,4.6nm,0.9s,baz=283,slow=23,SNR=6.8
QSPA LR LR 21 53 24.1
comp=Z,10μm,21.4s,MS5.9,baz=160,slow=35
QSPA PKP2bc 21 59 09.1
comp=Z,2.4nm,0.4s,baz=76,slow=1.4,SNR=5.3
QSPA South Pole Qui 57.85 180 *e*P **P 21 29 18.0 -0.9**
comp=Z,224nm,1.0s,mb6.2
QSPA S **S 21 37 18.3 +1.8**
QSPA ⇑*e* 21 59 09.1
KVTX Kingsville 64.61 334 *e*P **P 21 30 08.9 +3.6**
comp=Z,80nm,0.6s,mb5.9
KVTX LR LR
comp=Z,4μm,21.0s,MS5.5
BRAL Brewton 64.71 345 *e*P **P 21 30 06.5 +0.6**
BRAL LR LR
comp=Z,5μm,19.0s,MS5.7
SBA Scott Base 64.72 192 *e*P **P 21 30 03.9 -1.5**
comp=Z,101nm,1.3s,mb5.7
SBA LR LR
comp=Z,5μm,20.0s,MS5.7
SBA Scott Base 64.72 192 *e*P **P 21 30 03.9 -1.5**
SBA pmax pmax
comp=Z,101nm,1.3s,mb5.7
SBA MLR MLR
comp=Z,5μm,20.0s,MS5.7
BBSR BB Station 64.74 7 *e*P **P 21 30 05.9 -0.1**
comp=Z,204nm,1.1s,mb6.1
BBSR *e*PcP PcP 21 30 39.5 +0.1
BBSR LR LR
comp=Z,4μm,22.0s,MS5.5
NHSC New Hope 65.63 352 *e*P **P 21 30 10.9 -0.9**
comp=Z,196nm,1.2s,mb6.0
NHSC LR LR
comp=Z,4μm,20.0s,MS5.7
VNDA Vanda 65.74 191 *e*P **P 21 30 11.4 -0.7**
comp=Z,114nm,1.6s,mb5.7
VNDA LR LR
comp=Z,6μm,19.0s,MS5.8
VNDA Vanda 65.74 191 *e*P **P 21 30 11.4 -0.7**
VNDA pmax pmax
comp=Z,114nm,1.6s
VNDA MLR MLR
comp=Z,6μm,19.0s
SACV Santiago Islan 65.81 52 *e*P **P 21 30 13.7 +0.4**
comp=Z,188nm,1.1s,mb6.0
SACV LR LR
comp=Z,11μm,20.0s,MS6.0
COW Cow Castle Cre 65.97 352 *e*P **P 21 30 13.5 -0.4**
HKT Hockley 66.09 337 *e*P **P 21 30 15.2 +0.4**
comp=Z,95nm,1.5s,mb5.6
HKT Hockley 66.09 337 *e*P **P 21 30 15.3 +0.5**
HKT pmax pmax
comp=Z,95nm,1.5s,mb5.6
GOGA Godfrey 66.38 349 *e*P **P 21 30 15.9 -0.6**
comp=Z,126nm,1.5s,mb5.7
GOGA LR LR
comp=Z,5μm,20.0s,MS5.7
GOGA Godfrey 66.38 349 *e*P **P 21 30 16.0 -0.6**
GOGA pmax pmax
comp=Z,126nm,1.5s,mb5.7
GOGA MLR MLR
comp=Z,5μm,20.0s,MS5.7
LRAL Lakeview Retre 66.66 346 *e*P **P 21 30 18.1 -0.3**
comp=Z,34nm,1.1s,mb5.3
LRAL LR LR
comp=Z,3μm,19.0s,MS5.5
VBMS Vicksburg 66.67 343 *e*P **P 21 30 19.0 +0.5**
comp=Z,84nm,0.7s,mb5.9
VBMS LR LR
comp=Z,3μm,20.0s,MS5.5
JSC Jenkinsville 66.92 351 *e*P **P 21 30 19.0 -1.0**
JSC Jenkinsville 66.92 351 *e*P **P 21 30 19.0 -1.0**
TAOE Nuku Hiva Isla 67.15 274 *e*P **P 21 30 23.5 +1.5**
comp=Z,403nm,1.5s,mb6.2
TAOE *e*S S 21 39 15.4 +0.1
comp=Z,7μm,23.8s
TAOE *e*LR LR 21 50 39.8
comp=Z,21μm,23.2s
SYO Syowa Base 67.25 159 *e*SH S 21 39 11.4 -3.5
NATX Nacogdoches 67.40 339 *e*P **P 21 30 23.4 +0.3**
comp=Z,147nm,1.2s,mb5.9
NATX LR LR
comp=Z,3μm,22.0s,MS5.4
CNNC Cliffs of the 67.52 354 *e*P **P 21 30 23.6 -0.2**
comp=Z,124nm,1.1s,mb5.8
CNNC LR LR
comp=Z,5μm,21.0s,MS5.7
JCT Junction City 67.97 334 ⇑P **P 21 30 26.5 -0.2**
baz=68
JCT ⇓S S 21 39 25.5 +1.3
baz=68
JCT Junction City 67.97 334 *e*P **P 21 30 26.1 -0.6**
comp=Z,85nm,1.0s,mb5.7
JCT LR LR
comp=Z,3μm,20.0s,MS5.5
JCT Junction City 67.97 334 *e*P **P 21 30 26.1 -0.6**
JCT pmax pmax
comp=Z,85nm,1.0s,mb5.7
JCT MLR MLR
comp=Z,3μm,20.0s,MS5.5
TBI Tubuai 68.01 256 *e*P **P 21 30 28.6 +1.3**
comp=Z,349nm,1.2s,mb6.3
TBI *e*S S 21 39 24.5 -0.8
comp=Z,7μm,23.8s
TBI *e*LR LR 21 51 01.8
comp=Z,45μm,25.5s,baz=110
628A Black Gap, Mar 68.29 331 ⇑P **P 21 30 29.0 +0.2**
baz=69,SNR=16
628A ⇑S S 21 39 30.5 +2.3
baz=69
627A Terlingua Ranc 68.47 330 ⇑P **P 21 30 29.1 -0.8**
baz=69,SNR=16
627A ⇓S S 21 39 32.4 +2.1
baz=69
TXAR Lajitas Array 68.48 330 P **P 21 30 29.7 -0.3**
comp=Z,3.8nm,0.7s,mb4.5,baz=149,slow=7.9,SNR=32
TXAR LR LR 21 56 29.3
comp=Z,12μm,18.1s,MS6.2,baz=280,slow=32
TXAR PKP2bc 21 58 46.4
comp=Z,1.1nm,1.0s,baz=321,slow=1.8,SNR=7.5
TXAR Lajitas Array 68.48 330 P **P 21 30 29.7 -0.3**
TXAR ⇑*e* 21 58 46.4
TXAR Lajitas Array 68.48 330 P **P 21 30 29.7 -0.3**
TXAR pmax pmax
comp=Z,4.0nm,0.7s
TXAR MLR MLR
comp=Z,12μm,18.1s
SWET Sewanee 68.56 347 *e*P **P 21 30 30.2 -0.2**
comp=Z,65nm,0.8s,mb5.6
OXF Oxford 68.60 344 *e*P **P 21 30 29.4 -1.2**
comp=Z,231nm,1.1s,mb6.0
OXF LR LR
comp=Z,3μm,21.0s,MS5.5
OXF Oxford 68.60 344 *e*P **P 21 30 29.4 -1.2**
OXF pmax pmax
comp=Z,231nm,1.1s,mb6.0
OXF MLR MLR
comp=Z,3μm,21.0s,MS5.5
TKL Tuckaleechee C 68.63 349 P **P 21 30 30.3 -0.5**
comp=Z,24nm,0.8s,mb5.2,baz=174,slow=8.0,SNR=20
TKL S S 21 39 29.0 -2.9
comp=Z,1.0nm,0.5s,baz=37,slow=7.9,SNR=2.3
TKL Tuckaleechee C 68.63 349 *e*P **P 21 30 29.5 -1.2**
TKL S S 21 39 29.0 -2.9
TKL Tuckaleechee C 68.63 349 P **P 21 30 30.3 -0.5**
TKL S S 21 39 29.0 -2.9
TKL pmax pmax
comp=Z,24nm,0.8s,mb5.2
TKL smax
comp=N,1.0nm,0.5s
PLAL Pickwick Lake 68.76 346 *e*P **P 21 30 31.1 -0.5**
comp=N,52nm,1.0s,mb5.4
PLAL LR LR
comp=Z,3μm,19.0s,MS5.5
528A Cox Ranch, San 68.84 331 ⇑P **P 21 30 31.4 -0.8**
baz=69,SNR=17
528A ⇑S S 21 39 37.3 +2.6
baz=69
626A Big Bend Ranch 68.87 330 ⇑P **P 21 30 32.6 +0.2**
baz=69,SNR=23
527A Woodward Ranch 69.17 331 ⇑P **P 21 30 33.4 -0.8**
baz=70
526A Mary Lane Ranc 69.29 330 ⇑P **P 21 30 34.9 -0.1**
baz=70,SNR=20
428A Kincaid Ranch, 69.30 332 ⇓P **P 21 30 34.9 -0.1**
baz=70
MEH Mehetia 69.38 261 *e*P **P 21 30 37.4 +1.4**
comp=Z,246nm,1.2s,mb6.0
TZTN Tazewell 69.46 350 *e*P **P 21 30 34.4 -1.5**
comp=Z,84nm,1.2s,mb5.5
UALR University of 69.57 342 *e*P **P 21 30 36.2 -0.4**
comp=Z,46nm,1.1s,mb5.3
MIAR Mount Ida 69.69 341 *e*P **P 21 30 37.1 -0.3**
comp=Z,35nm,0.9s,mb5.3
MIAR LR LR
comp=Z,3μm,19.0s,MS5.5
MIAR Mount Ida 69.69 341 *e*P **P 21 30 37.1 -0.2**
MIAR pmax pmax
comp=Z,35nm,0.9s,mb5.3
MIAR MLR MLR
comp=Z,3μm,19.0s,MS5.5
427A Hayter Ranch, 69.70 331 ⇓P **P 21 30 36.6 -0.9**
baz=70,SNR=6.5
BLA Blacksburg 69.72 353 *e*P **P 21 30 36.8 -0.6**
comp=Z,37nm,0.9s,mb5.3
BLA LR LR
comp=Z,3μm,21.0s,MS5.6
BLA Blacksburg 69.72 353 *e*P **P 21 30 36.8 -0.6**
BLA pmax pmax
comp=Z,37nm,0.9s,mb5.3
BLA MLR MLR
comp=Z,3μm,21.0s,MS5.6
426A McDonald Obser 69.80 331 ⇑P **P 21 30 37.9 -0.2**
baz=70,SNR=15
WVT Waverly 69.82 346 *e*P **P 21 30 37.2 -0.9**
comp=Z,122nm,0.9s,mb5.8
WVT Waverly 69.82 346 *e*P **P 21 30 37.2 -0.9**
WVT pmax pmax
comp=Z,122nm,0.9s,mb5.8
HBAR Harrisburg 69.89 344 P **P 21 30 39.0 +0.4**
328A Wristen Ranch, 69.93 332 ⇓P **P 21 30 38.3 -0.6**
baz=70
GNAR Gosnell 70.13 344 *e*P **P 21 30 40.1 +0.1**
comp=Z,702nm,0.8s,mb6.6
327A Balmorhea Ranc 70.19 331 ⇓P **P 21 30 39.1 -1.4**
baz=71
UTMT University of 70.24 345 *e*P **P 21 30 40.9 +0.2**
comp=Z,298nm,0.8s,mb6.3

GLAT Glass 70.26 345 eP P 21 30 40.9 +0.1
425A Indio Mountain 70.30 330 ⇓P P 21 30 40.3 -1.0
baz=71,SNR=12
326A Caldwell Ranch 70.34 331 ⇓P P 21 30 40.5 -0.9
baz=71
CBN Corbin 70.43 355 eP P 21 30 42.1 +0.3
CBN LR LR
comp=Z,5μm,20.0s,MS5.8
BBTS Babate 70.49 57 P P 21 30 43.0 +0.3
comp=Z,240nm,0.9s,mb6.1,baz=236,slow=3.1,SNR=30
BBTS S S 21 39 51.2 -3.4
comp=Z,7.3nm,0.3s,baz=84,slow=4.8,SNR=1.9
BBTS LR LR 22 00 08.0
comp=Z,18μm,20.9s,MS6.3,baz=230,slow=35
BBTS Babate 70.49 57 P P 21 30 43.0 +0.3
BBTS S S 21 39 51.2 -3.4
TIAR Tiarei 70.60 261 eP P 21 30 44.8 +1.3
comp=Z,97nm,1.1s,mb5.7
PMOR Pomariorio Ree 70.62 264 eP P 21 30 44.8 +1.2
comp=Z,98nm,1.2s,mb5.6
227A Bennet, Jal 70.68 332 ⇓P P 21 30 43.3 -0.1
baz=71
PARMO Parma 70.74 345 eP P 21 30 44.0 +0.2
PAE Paea 70.75 261 eP P 21 30 45.8 +1.4
comp=Z,47nm,1.2s,mb5.3
PPT2 Papeete2 70.78 261 eP P 21 30 46.2 +1.6
comp=Z,256nm,1.2s,mb6.0
PPT2 eS S 21 39 57.2 -1.0
comp=Z,8μm,24.5s
PPT2 eLR LR 21 52 20.5
comp=Z,16μm,24.8s,baz=120
325A Bean Ranch, Si 70.81 330 ⇑P P 21 30 43.3 -0.9
baz=71
226A Malaga, Loving 71.05 331 ⇑P P 21 30 46.1 +0.3
baz=71
324A Moseley Ranch, 71.08 330 ⇓P P 21 30 44.9 -1.1
baz=72
MNTX Cornudas Mount 71.26 330 ⇑P P 21 30 45.6 -1.4
baz=72
MNTX Cornudas Mount 71.26 330 eP P 21 30 45.5 -1.5
comp=Z,38nm,0.9s,mb5.3
MNTX LR LR
comp=Z,10μm,19.0s,MS6.1
GDL2 Guadalupe Moun 71.28 331 eP P 21 30 48.6 +1.5
comp=Z,26nm,0.9s,mb5.2
127A Arkansas Junct 71.29 332 ⇓P P 21 30 46.3 -0.9
baz=72
225A Deer Hill, Car 71.39 331 ⇓P P 21 30 47.2 -0.5
baz=72
WMOK Wichita Mounta 71.46 337 eP P 21 30 47.6 -0.6
comp=Z,99nm,1.5s,mb5.5
WMOK LR LR
comp=Z,3μm,21.0s,MS5.6
WMOK Wichita Mounta 71.46 337 eP P 21 30 47.6 -0.6
WMOK pmax pmax
comp=Z,99nm,1.5s,mb5.5
WMOK MLR MLR
comp=Z,3μm,21.0s,MS5.6
126A Clayton Basin, 71.53 332 ⇓P P 21 30 48.1 -0.5
baz=72
USIN University of 71.56 347 eP P 21 30 47.9 -0.8
comp=Z,198nm,1.2s,mb5.9
WCI Wyandotte Cave 71.56 348 eP P 21 30 47.3 -1.3
comp=Z,45nm,0.9s,mb5.4
WCI Wyandotte Cave 71.56 348 eP P 21 30 47.3 -1.4
WCI pmax pmax
comp=Z,45nm,0.9s,mb5.4
SDMD Soldier's Deli 71.59 356 eP P 21 30 48.9 +0.1
comp=Z,101nm,1.1s,mb5.7
TUL1 Tulsa 71.60 340 ⇑P P 21 30 47.7 -1.3
baz=72
SIUC Southern Illin 71.63 345 eP P 21 30 48.7 -0.4
comp=Z,70nm,0.9s,mb5.6
224A Cornudas Mount 71.65 330 ⇑P P 21 30 48.2 -1.2
baz=72
Z27A Tatum 71.79 333 ⇑P P 21 30 49.5 -0.7
baz=72
125A Gardner Draw, 71.80 331 ⇓P P 21 30 48.8 -1.4
baz=72
CPRX Cap Rock 71.80 332 eP P 21 30 49.5 -0.8
comp=Z,104nm,0.9s,mb5.8
223A Chaparral, Ant 71.97 329 ⇓P P 21 30 50.0 -1.3
baz=72
Z26A Caprock 72.06 332 ⇑P P 21 30 51.0 -0.7
baz=72
MVL Millersville 72.15 356 eP P 21 30 52.5 +0.4
comp=Z,135nm,1.3s,mb5.7
MSTX Muleshoe 72.20 333 ⇑P P 21 30 51.8 -0.8
baz=73
Y27A Causey 72.28 333 ⇓P P 21 30 52.2 -0.8
baz=73
320A Kipp Ranch, An 72.33 327 ⇓P P 21 30 54.3 +0.8
baz=73
222A Williams Famil 72.35 329 ⇓P P 21 30 53.6 0.0
baz=73
Z25A Roswell 72.36 331 ⇑P P 21 30 53.5 -0.1
baz=73
OLIL Olney 72.39 347 eP P 21 30 52.2 -1.4
CCM Cathedral Cave 72.41 344 eP P 21 30 53.0 -0.7
comp=Z,99nm,1.1s,mb5.7
CCM Cathedral Cave 72.41 344 eP P 21 30 53.0 -0.8
CCM pmax pmax
comp=Z,99nm,1.1s,mb5.7
123A Bell Site, Whi 72.44 330 ⇑P P 21 30 54.5 +0.4
baz=73
BLO Bloomington 72.52 348 eP P 21 30 53.0 -1.4
comp=Z,63nm,0.9s,mb5.5
BLO Bloomington 72.52 348 eP P 21 30 53.0 -1.4
BLO pmax pmax
comp=Z,63nm,0.9s,mb5.5
221A Mesquite Ranch 72.57 328 ⇑P P 21 30 55.3 +0.5
baz=73
Y26A Elida 72.57 332 ⇑P P 21 30 54.5 -0.4
baz=73
AMTX Amarillo 72.61 334 ⇑P P 21 30 54.5 -0.5
baz=73
AMTX Amarillo 72.61 334 eP P 21 30 54.9 -0.1
comp=Z,85nm,1.0s,mb5.6
AMTX LR LR
comp=Z,4μm,20.0s,MS5.7
Z24A Sheeppen Canyo 72.67 331 ⇑P P 21 30 55.6 +0.2
baz=73
319A Douglas 72.71 327 ⇑P P 21 30 55.3 -0.4
baz=73
SLM Saint Louis 72.74 345 eP P 21 30 55.4 -0.3
comp=Z,89nm,1.0s,mb5.7
SLM Saint Louis 72.74 345 eP P 21 30 55.4 -0.3
SLM pmax pmax
comp=Z,89nm,1.0s,mb5.7
BRNJ Basking Ridge 72.75 358 eP P 21 30 56.0 +0.3
comp=Z,27μm,1.0s
220A Playas Peak, P 72.81 328 ⇑P P 21 30 56.8 +0.5
baz=73
122A Conniff Cattle 72.81 329 ⇓P P 21 30 56.5 +0.2
baz=73
SSPA Standing Stone 72.88 355 eP P 21 30 56.0 -0.5
comp=Z,91nm,1.2s,mb5.6
Y25A Mesa, Roswell 72.91 332 ⇓P P 21 30 55.9 -1.0
baz=73
X27A F and S Farms, 72.93 333 ⇑P P 21 30 56.7 -0.2
baz=73
Z23A Rita Site, Whi 72.97 330 ⇑P P 21 30 58.0 +0.8
baz=73
ACSO Alum Creek Sta 73.01 351 eP P 21 30 56.5 -0.8
comp=Z,138nm,0.9s,mb5.9
ACSO eS S 21 40 21.8 -0.8
ACSO LR LR
comp=Z,4μm,19.0s,MS5.7
121A Cookes Peak, D 73.02 329 ⇓P P 21 30 58.1 +0.6
baz=73
PAL Palisades 73.05 358 eP P 21 30 58.1 +0.6
PAL Palisades 73.05 358 eP P 21 30 58.1 +0.6
PAL pmax pmax
comp=Z,62nm,1.2s,mb5.4
318A Bisbee 73.10 326 ⇓P P 21 30 58.1 0.0
baz=74,SNR=12
X26A CR and CF Fran 73.11 333 ⇓P P 21 30 58.1 0.0
baz=74
Y24A Capitan 73.22 331 ⇓P P 21 30 58.6 0.0
baz=74
219A White Tail Can 73.23 327 ⇓P P 21 30 59.0 +0.2
baz=74
Z22A Elephant Butte 73.28 330 ⇓P P 21 30 59.3 +0.3
baz=74
W27A Bowe Ranch, En 73.28 334 ⇑P P 21 30 58.5 -0.6
baz=74
YLE Yale 73.34 359 eP P 21 30 59.6 +0.4
comp=Z,345nm,1.0s,mb6.2
120A U Bar Ranch, L 73.40 328 ⇓P P 21 31 00.0 +0.2
baz=74
X25A Clemmons Ranch 73.43 332 ⇓P P 21 30 58.9 -1.0
baz=74
Y23A Lovelace Mesa, 73.48 331 ⇓P P 21 31 00.3 +0.1
baz=74
218A Dragoon 73.57 327 ⇓P P 21 31 00.7 -0.1
baz=74,SNR=11
W26A Owens Ranch, T 73.57 333 ⇑P P 21 31 00.8 0.0
baz=74
Z21A St. Cloud Mine 73.63 329 ⇑P P 21 31 01.4 +0.3
baz=74
CER Ceres 73.75 119 eP P 21 31 03.0 +0.9
CER AMB AMB 21 31 10.6
comp=Z,27nm,1.7s,mb4.9
X24A Lazy VL Ranch, 73.77 331 ⇓P P 21 31 02.1 +0.2
baz=74
Y22A Socorro 73.86 330 ⇓P P 21 31 02.6 +0.2
baz=74
Z20A Nine Sixteen R 73.86 328 ⇑P P 21 31 03.0 +0.5
baz=74,SNR=13
BNM Barren Site 73.90 330 eP P 21 31 02.8 +0.1
comp=Z,35nm,1.2s,mb5.2
BRYW Bryant College 73.94 0 eP P 21 31 03.5 +0.9
comp=Z,251nm,1.0s,mb6.1
W25A X Bar L Ranch, 73.95 333 ⇑P P 21 31 02.5 -0.5
baz=74
Y22D IRIS PASSCAL I 73.96 330 ⇓P P 21 31 03.6 +0.6
baz=74
LIC Lamto 73.97 72 ⇑iP P 21 31 03.4 -0.2
comp=Z,491nm,1.1s,mb6.1,baz=239
LIC eR
comp=Z,22μm,22.8s
LIC Lamto 73.97 72 ⇑iP P 21 31 03.4 -0.2
comp=Z,491nm,1.1s,mb6.3
LPM Los Pinos Moun 74.04 330 eP P 21 31 03.9 +0.4
comp=Z,29nm,0.9s,mb5.2
LENM Lemitar 74.06 330 eP P 21 31 04.5 +0.8
comp=Z,45nm,1.5s,mb5.2
KOMG Komaggas 74.08 115 ⇑iP P 21 31 04.6 +0.6
KOMG AMB AMB 21 31 06.2
comp=Z,237nm,2.7s,mb5.6
ALLY Alegheny Colle 74.08 353 eP P 21 31 02.8 -0.7
comp=Z,157nm,1.2s,mb5.8
118A Homack Ranch, 74.09 327 ⇑P P 21 31 03.9 +0.1
baz=74
X23A Hourglass Bar 74.09 331 ⇑P P 21 31 04.1 +0.3
baz=74
TUC Tucson 74.19 326 eP P 21 31 04.5 +0.1
comp=Z,71nm,1.4s,mb5.4
TUC LR LR
comp=Z,6μm,20.0s,MS5.8
TUC Tucson 74.19 326 eP P 21 31 04.6 +0.2
TUC pmax pmax
comp=Z,71nm,1.4s,mb5.4
TUC MLR MLR
comp=Z,6μm,20.0s,MS5.8
V26A Tequesquite Ra 74.20 333 ⇑P P 21 31 04.0 -0.5
baz=75
Y21A Point of Rocks 74.22 330 ⇑P P 21 31 05.2 +0.7
baz=75
Z19A T-Link Ranch, 74.32 328 ⇓P P 21 31 05.4 +0.2
baz=75
BINY Binghamton 74.32 357 eP P 21 31 04.7 -0.3
comp=Z,161nm,1.5s,mb5.7
BINY LR LR
comp=Z,5μm,19.0s,MS5.8
W24A Lazy 6 Ranch, 74.32 332 ⇓P P 21 31 05.1 0.0
baz=75
LAZ Ladron 74.33 330 eP P 21 31 05.7 +0.5
comp=Z,30nm,1.1s,mb5.1
X22A Bernardo 74.37 330 ⇑P P 21 31 06.6 +1.2
baz=75
DBIC Dimbokro 74.37 71 ⇑iP P 21 31 06.0 0.0
DBIC Dimbokro 74.37 71 P P 21 31 05.9 -0.1
comp=Z,230nm,0.9s,mb6.1,baz=205,slow=6.5,SNR=133
DBIC S S 21 40 39.9 +0.6
comp=Z,3.4nm,1.0s,baz=295,slow=22,SNR=2.5
DBIC LR LR 22 04 02.6
comp=Z,10μm,18.4s,MS6.2,baz=214,slow=36
DBIC Dimbokro 74.37 71 eP P 21 31 05.9 0.0
comp=Z,225nm,0.9s,mb6.1
DBIC S S 21 40 39.9 +0.6
DBIC Dimbokro 74.37 71 P P 21 31 05.9 0.0
DBIC S S 21 40 39.9 +0.7
DBIC pmax pmax
comp=Z,230nm,0.9s
DBIC smax
comp=N,3.0nm,1.0s
DBIC MLR MLR
comp=Z,10μm,18.4s
HDIL Hopedale 74.38 346 eP P 21 31 04.8 -0.5
comp=Z,56nm,0.8s,mb5.5
HDIL LR LR
comp=Z,5μm,19.0s,MS5.8
WES Weston 74.40 0 eP P 21 31 04.6 -0.8
comp=Z,210nm,1.2s,mb5.9
WES Weston 74.40 0 eP P 21 31 04.6 -0.8
WES pmax pmax
comp=Z,210nm,1.2s,mb5.9
Y20A Horse Springs, 74.44 329 ⇑P P 21 31 06.5 +0.6
baz=75
Z18A Geronimo 74.49 327 ⇓P P 21 31 06.2 +0.1
baz=75
ANMO Albuquerque 74.52 331 P P 21 31 06.7 +0.4
comp=Z,8.0nm,0.9s,mb4.7,baz=170,slow=7.7,SNR=18
ANMO S S 21 40 42.1 +2.1
comp=Z,0.7nm,0.3s,baz=237,slow=23,SNR=4.2
ANMO LR LR 21 59 21.1
comp=Z,11μm,20.0s,MS6.2,baz=153,slow=32
ANMO Albuquerque 74.52 331 eP P 21 31 06.2 -0.1
comp=Z,55nm,1.1s,mb5.4
ANMO S S 21 40 42.1 +2.1
ANMO Albuquerque 74.52 331 P P 21 31 06.7 +0.4
ANMO S S 21 40 42.1 +2.1
ANMO pmax pmax
comp=Z,8.0nm,0.9s
ANMO smax
comp=N,1.0nm,0.3s
ANMO MLR MLR
comp=Z,11μm,20.0s
ERPA Erie 74.53 354 PFAKE 21 31 20.0 +14
ERPA LR LR
comp=Z,4μm,20.0s,MS5.7
V25A Rancho No Teng 74.56 333 ⇓P P 21 31 06.5 0.0
baz=75
W23A Werner Place, 74.58 331 ⇑P P 21 31 07.2 +0.6
baz=75
MAW Mawson 74.64 164 P P 21 31 06.1 -0.6
comp=Z,57nm,1.0s,mb5.4,baz=230,slow=7.2,SNR=19
MAW S S 21 40 38.5 -2.1
comp=Z,2.2nm,0.8s,baz=332,slow=22,SNR=1.9
MAW LR LR 22 06 25.4
comp=Z,22μm,18.9s,MS6.5,baz=226,slow=38
MAW Mawson 74.64 164 eP P 21 31 05.7 -0.9
comp=Z,21nm,1.0s,mb5.0
MAW S S 21 40 38.5 -2.1
MAW Mawson 74.64 164 P P 21 31 06.1 -0.5
MAW S S 21 40 38.5 -2.2
MAW pmax pmax
comp=Z,57nm,1.0s
MAW smax
comp=N,2.0nm,0.8s
MAW MLR MLR
comp=Z,22μm,18.9s
X21A Alamocita Cree 74.65 330 ⇓P P 21 31 07.8 +0.8
baz=75
U26A Atchley Ranch, 74.72 334 ⇑P P 21 31 06.9 -0.4
baz=75
V24A Rampart Ranch, 74.72 332 ⇑P P 21 31 07.4 0.0
baz=75
TRY Troy 74.77 358 eP P 21 31 07.7 +0.1
comp=Z,167nm,0.9s,mb6.0
W22A Albuquerque 74.80 331 ⇓P P 21 31 08.3 +0.4
baz=75
KSU1 Kansas State U 74.80 340 eP P 21 31 06.7 -1.1
comp=Z,19nm,0.6s,mb5.2
KSU1 LR LR
comp=Z,3μm,20.0s,MS5.5
Z17A San Carlos Hig 74.87 327 ⇓P P 21 31 08.2 -0.2
baz=75
Y19A Nutrioso 74.87 328 ⇓P P 21 31 09.2 +0.9
baz=75,SNR=20
214A Organ Pipe Nat 74.88 325 ⇑P P 21 31 08.9 +0.5
baz=75
U25A Circle Dot Ran 74.97 333 ⇑P P 21 31 09.1 +0.3
baz=75,SNR=8.3
CVNA Calvinia 74.99 118 ⇑iP P 21 31 10.2 +0.8
CVNA AMB AMB 21 31 11.6
comp=Z,285nm,2.6s,mb5.7
X20A Quemado 75.03 329 ⇑P P 21 31 09.9 +0.6
baz=75,SNR=8.8
Y18A Canyon Day Jun 75.07 328 ⇑P P 21 31 09.8 +0.3
baz=75
V23A Ortiz Mt. (NFS 75.10 332 ⇓P P 21 31 10.2 +0.6
baz=76
AAM Ann Arbor 75.13 351 eP P 21 31 11.3 +1.7
comp=Z,77nm,1.0s,mb5.6
AAM LR LR
comp=Z,5μm,20.0s,MS5.8
AAM Ann Arbor 75.13 351 eP P 21 31 11.3 +1.7
AAM pmax pmax
comp=Z,77nm,1.0s,mb5.6
AAM MLR MLR
comp=Z,5μm,20.0s,MS5.8
W21A San Fidel 75.16 330 ⇓P P 21 31 10.7 +0.7
baz=76
X19A St. Johns 75.28 329 ⇓P P 21 31 11.5 +0.7
baz=76
U24A Moreno Valley 75.32 333 ⇓P P 21 31 11.1 +0.3
baz=76
SUR Sutherland 75.34 119 eP P 21 31 12.3 +1.0
SUR AMB AMB 21 31 13.8
comp=Z,166nm,2.8s,mb5.5
SUR Sutherland 75.34 119 P P 21 31 11.3 0.0
comp=Z,89nm,0.9s,mb5.7,baz=251,slow=3.7,SNR=33
SUR S S 21 40 51.2 +1.5
comp=Z,8.8nm,1.2s,baz=49,slow=16,SNR=2.4
SUR LR LR 22 02 46.1
comp=Z,11μm,19.5s,MS6.2,baz=242,slow=34
SUR Sutherland 75.34 119 P P 21 31 11.3 0.0
SUR S S 21 40 51.2 +1.5
Y17A Roosevelt 75.37 327 ⇑P P 21 31 11.2 -0.1
baz=76,SNR=16
ACCN Adirondack Com 75.42 358 eP P 21 31 12.0 +0.7
comp=Z,84nm,1.1s,mb5.6
FFD Franklin Falls 75.49 0 eP P 21 31 11.7 +0.1
comp=Z,157nm,0.8s,mb6.0
CBKS Cedar Bluff 75.49 338 ⇓P P 21 31 11.5 -0.3
baz=76
CBKS Cedar Bluff 75.49 338 eP P 21 31 11.5 -0.3
comp=Z,197nm,1.3s,mb5.9
CBKS LR LR
comp=Z,2μm,21.0s,MS5.5
CBKS Cedar Bluff 75.49 338 eP P 21 31 11.5 -0.3
CBKS pmax pmax
comp=Z,197nm,1.3s,mb5.9
CBKS MLR MLR
comp=Z,2μm,21.0s,MS5.5
W20A Ramah 75.53 330 ⇑P P 21 31 12.4 +0.3
baz=76,SNR=20
V22A San Miguel Ran 75.54 331 ⇑P P 21 31 13.1 +1.0
baz=76
114A Black Gap (USA 75.56 325 ⇑P P 21 31 12.4 +0.1
baz=76
U23A El Rito 75.61 332 ⇓P P 21 31 13.6 +1.1
baz=76
T25A Trinidad 75.62 334 ⇓P P 21 31 13.1 +0.5
baz=76
X18A Snowflake 75.66 328 ⇑P P 21 31 13.5 +0.6
baz=76
HNH Hanover 75.72 360 eP P 21 31 12.8 -0.2
comp=Z,92nm,0.9s,mb5.7
V21A Milan 75.75 330 ⇑P P 21 31 13.8 +0.4
baz=76
T24A Torres, Weston 75.81 333 ⇑P P 21 31 14.6 +0.9
baz=76,SNR=6.6
W19A Sanders 75.90 329 ⇓P P 21 31 14.6 +0.4
baz=76
U22A Llaves 75.92 331 ⇓P P 21 31 15.1 +0.8
baz=76
113A Mohawk Valley, 76.00 324 ⇓P P 21 31 15.1 +0.2
baz=76
NCB Newcomb 76.02 358 eP P 21 31 14.6 -0.1
comp=Z,42nm,0.9s,mb5.4
NCB LR LR
comp=Z,5μm,22.0s,MS5.8
MDV Middlebury 76.03 359 eP P 21 31 14.8 +0.1
comp=Z,14μm,0.9s
W18A Petrified Fore 76.06 329 ⇑P P 21 31 15.6 +0.5
baz=76
Z14A Wintersburg 76.09 325 ⇑P P 21 31 15.0 -0.4
baz=76
V20A Brimhall 76.09 330 ⇓P P 21 31 15.6 +0.3
baz=76,SNR=13
S25A Robets Cordova 76.09 334 ⇑P P 21 31 15.9 +0.7
baz=76
T23A Casias Ranch, 76.16 332 ⇑P P 21 31 16.2 +0.5
baz=77
X16A Lo Mia Camp, P 76.25 327 ⇓P P 21 31 16.9 +0.7
baz=77,SNR=21
LBNH Lisbon 76.26 360 eP P 21 31 16.4 +0.4
comp=Z,89nm,0.9s,mb5.7
LBNH LR LR
comp=Z,4μm,19.0s,MS5.7
LBNH Lisbon 76.26 360 eP P 21 31 16.4 +0.4
LBNH pmax pmax
comp=Z,89nm,0.9s,mb5.7
LBNH MLR MLR
comp=Z,4μm,19.0s,MS5.7
V19A Window Rock 76.27 329 ⇓P P 21 31 16.8 +0.5
baz=77
U21A Nageezi 76.29 331 ⇓P P 21 31 16.8 +0.5
baz=77,SNR=20
R26A Arlington 76.29 335 ⇓P P 21 31 16.3 0.0
baz=77,SNR=9.1
Z13A Yuma Proving G 76.30 325 ⇑P P 21 31 16.8 +0.2
baz=77,SNR=9.0
S24A Houchin Ranch, 76.37 333 ⇓P P 21 31 17.5 +0.7
baz=77
R25A Fountain Ranch 76.46 334 ⇑P P 21 31 17.7 +0.3
baz=77
W17A Winslow 76.46 328 ⇓P P 21 31 18.0 +0.6
baz=77,SNR=11
T22A Edith 76.48 332 ⇑P P 21 31 18.2 +0.7
baz=77,SNR=9.6
SCIA State Center 76.54 344 eP P 21 31 17.6 -0.1
comp=Z,104nm,1.1s,mb5.7
SCIA LR LR
comp=Z,3μm,19.0s,MS5.6
SDCO Great Sand Dun 76.57 333 ⇑P P 21 31 18.4 +0.4
baz=77,SNR=14
SDCO Great Sand Dun 76.57 333 eP P 21 31 18.8 +0.9
comp=Z,56nm,1.2s,mb5.4
SDCO LR LR
comp=Z,5μm,19.0s,MS5.9
Y14A Wickenburg 76.59 326 ⇓P P 21 31 18.3 +0.1
baz=77
U20A Newcomb 76.60 330 ⇑P P 21 31 18.5 +0.3
baz=77
WVL Waterville 76.60 1 eP P 21 31 17.7 -0.3
comp=Z,197nm,1.1s,mb6.0
V18A Ganado 76.65 329 ⇑P P 21 31 19.3 +0.9
baz=77
LONY Lake Ozonia 76.68 358 eP P 21 31 18.2 -0.2
comp=Z,68nm,1.0s,mb5.5
LONY LR LR
comp=Z,5μm,22.0s,MS5.8
T21A Navajo Lake 76.72 331 ⇓P P 21 31 19.2 +0.3
baz=77,SNR=10.0
S23A Nye Farm, Mont 76.73 333 ⇑P P 21 31 19.1 +0.3
baz=77
GLA Glamis 76.76 324 ⇓P P 21 31 19.6 +0.4
baz=77
GLA Glamis 76.76 324 eP P 21 31 17.3 -1.8
comp=Z,105nm,1.4s,mb5.6
GLA Glamis 76.76 324 eP P 21 31 17.3 -1.8
GLA pmax pmax
comp=Z,105nm,1.4s,mb5.6
EMMW East Machias 76.82 3 eP P 21 31 18.1 -1.1
comp=Z,539nm,1.2s,mb6.3
U19A Dine' College, 76.82 330 ⇑P P 21 31 19.3 -0.1
baz=77
JFWS Jewell Farm 76.84 346 eP P 21 31 18.4 -1.0
comp=Z,129nm,1.2s,mb5.7
JFWS LR LR
comp=Z,5μm,22.0s,MS5.8
JFWS Jewell Farm 76.84 346 eP P 21 31 18.4 -1.0
JFWS pmax pmax
comp=Z,129nm,1.2s,mb5.7
JFWS MLR MLR
comp=Z,5μm,22.0s,MS5.8
R24A Sanders Place, 76.84 334 ⇑P P 21 31 20.2 +0.7
baz=77,SNR=15
FRNY Flat Rock 76.87 359 eP P 21 31 19.7 +0.2

comp=Z,74nm,0.9s,mb5.6
V17A Tonalea, Kykot 76.95 328 ⇓P P 21 31 20.8 +0.6
baz=77,SNR=22
MSNY Massena 77.07 358 eP P 21 31 20.4 -0.2
comp=Z,694nm,0.9s,mb6.6
R23A Moffat 77.08 333 ⇑P P 21 31 21.2 +0.4
baz=78,SNR=12
SADO Sadowa 77.09 355 P P 21 31 20.1 -0.6
comp=Z,58nm,0.9s,mb5.5,baz=193,slow=4.0,SNR=19
SADO S S 21 41 09.1 +1.3
comp=Z,3.4nm,0.8s,baz=308,slow=17,SNR=2.1
SADO LR LR 22 08 43.6
comp=Z,5μm,20.3s,MS5.8,baz=178,slow=38
SADO Sadowa 77.09 355 P P 21 31 20.1 -0.6
SADO S S 21 41 09.2 +1.3
S22A 4UR Ranch, Cre 77.09 332 ⇑P P 21 31 21.1 +0.2
baz=78,SNR=11
DVTC Desert V Tower 77.09 323 ⇑P P 21 31 21.8 +0.7
baz=77
Q25A Bedland, Calha 77.13 334 ⇑P P 21 31 21.1 +0.1
baz=78
WUAZ Wupatki 77.13 328 ⇓P P 21 31 21.4 +0.2
baz=78,SNR=8.4
WUAZ Wupatki 77.13 328 eP P 21 31 21.8 +0.6
comp=Z,72nm,1.0s,mb5.6
WUAZ LR LR
comp=Z,4μm,19.0s,MS5.8
SWSC Sam W. Stewart 77.16 323 ⇓P P 21 31 21.5 +0.1
baz=78
Y12C Blythe 77.17 324 ⇓P P 21 31 21.8 +0.3
baz=78
T19A Beclabito 77.20 330 ⇓P P 21 31 21.8 +0.3
baz=78,SNR=11
U18A Rough Rock, Ch 77.22 329 ⇑P P 21 31 22.3 +0.6
baz=78
MVCO Mesa Verde 77.31 331 eP P 21 31 22.6 +0.5
comp=Z,66nm,1.1s,mb5.5
MVCO LR LR
comp=Z,10μm,20.0s,MS6.1
PKME Peaks-Kenny Pk 77.31 2 eP P 21 31 21.7 -0.2
comp=Z,133nm,1.0s,mb5.8
PKME LR LR
comp=Z,6μm,20.0s,MS5.9
BGNE Belgrade 77.38 340 ⇓P P 21 31 21.5 -0.9
baz=78
BAR Barrett 77.40 322 eP P 21 31 23.4 +0.6
comp=Z,55nm,1.1s,mb5.4
S21A Coal Bank Pass 77.40 331 ⇑P P 21 31 23.1 +0.5
baz=78,SNR=15
RAR Rarotonga 77.42 253 LR LR 21 57 07.0
comp=Z,8μm,19.6s,MS6.0,baz=180,slow=29
PDMCI Parker Dam,Lak 77.43 325 ⇓P P 21 31 22.7 -0.1
baz=78
R22A Saguache, Gunn 77.48 332 ⇓P P 21 31 23.7 +0.6
baz=78
Q24A Divide 77.50 334 ⇑P P 21 31 23.9 +0.7
baz=78,SNR=30
U16A Tuba City 77.54 328 ⇓P P 21 31 23.8 +0.3
baz=78,SNR=12
P25A Willow Gulch B 77.63 335 ⇑P P 21 31 24.8 +0.9
baz=78,SNR=24
Q23A Hartsel 77.71 333 ⇓P P 21 31 25.0 +0.7
baz=78
U17A Shonto 77.71 329 ⇑P P 21 31 24.5 +0.1
baz=78
GLMI Grayling 77.74 351 eP P 21 31 24.3 -0.1
GLMI LR LR
comp=Z,6μm,21.0s,MS5.9
S20A Disappointment 77.78 331 ⇑P P 21 31 24.9 +0.2
baz=78
109C Camp Elliot, M 77.79 322 ⇓P P 21 31 24.8 -0.1
baz=78
IRM Iron Mountain 77.81 324 ⇑P P 21 31 24.8 -0.2
baz=78
T18A Mexican Hat 77.82 330 ⇑P P 21 31 25.5 +0.5
baz=78
P24A Kohler Place, 77.90 334 ⇓P P 21 31 26.2 +0.8
baz=78
R21A Cimarron 77.91 332 ⇓P P 21 31 25.8 +0.4
baz=78
W13A Hualapai Mount 77.95 326 ⇓P P 21 31 26.5 +0.7
baz=78
O26A Horse Wrangler 77.97 336 ⇑P P 21 31 26.4 +0.6
baz=78
PFO Pinyon Flat Ob 78.02 323 ⇑P P 21 31 26.6 +0.4
baz=78
PFO Pinyon Flat Ob 78.02 323 eP P 21 31 27.4 +1.1
comp=Z,104nm,1.3s,mb5.6
PFO LR LR
comp=Z,8μm,21.0s,MS6.0
PFO Pinyon Flat Ob 78.02 323 eP P 21 31 27.4 +1.2
PFO pmax pmax
comp=Z,104nm,1.3s,mb5.6
PFO MLR MLR
comp=Z,8μm,21.0s,MS6.0
S19A Harvey Farm, M 78.03 330 ⇑P P 21 31 26.3 +0.2
baz=78,SNR=17
NEE2 Needles Airpor 78.03 325 ⇓P P 21 31 26.5 +0.2
baz=78
Q22A Crested Butte, 78.09 333 ⇑P P 21 31 27.2 +0.7
baz=78
R20A Redvale 78.09 331 ⇓P P 21 31 26.9 +0.5
baz=78,SNR=11
T17A Navajo Res., N 78.11 329 ⇑P P 21 31 27.8 +1.2
baz=78
P23A Jefferson 78.12 334 ⇓P P 21 31 26.8 +0.2
baz=78
PV01 Paradox Valley 78.12 331 eP P 21 31 27.2 +0.5
comp=Z,3μm,1.0s,mb7.2
PKA Prieska 78.13 118 ⇑iP P 21 31 27.2 0.0
PKA AMB AMB 21 31 29.4
comp=Z,66nm,1.2s,mb5.4
O25A Wiggins 78.14 335 ⇓P P 21 31 27.5 +0.8
baz=78
OGNE Ogallala 78.17 337 ⇑P P 21 31 27.2 +0.4
baz=79
OGNE Ogallala 78.17 337 eP P 21 31 28.0 +1.2
comp=Z,48nm,0.9s,mb5.4
OGNE LR LR
comp=Z,3μm,21.0s,MS5.6
Q21A Lamborn Mesa, 78.32 332 ⇓P P 21 31 28.3 +0.6
baz=79
S18A Hurst Farm, Bl 78.34 330 ⇓P P 21 31 28.6 +0.8
baz=79
DRV Dumont d'Urvil 78.34 192 P P 21 31 27.0 -0.6
DRV S S 21 41 25.0 +3.8
DRV SS SS 21 46 32.0 +9.2
DRV R 21 57 00.0
SMCO Snowmass 78.38 333 eP P 21 31 29.0 +0.9
comp=Z,244nm,1.4s,mb5.9
MURC Murrieta 78.40 323 ⇑P P 21 31 29.0 +0.7
baz=79
ISCO Idaho Springs 78.41 334 ⇓P P 21 31 28.5 +0.3
baz=79,SNR=13
ISCO Idaho Springs 78.41 334 eP P 21 31 28.5 +0.3
comp=Z,79nm,1.3s,mb5.5
ISCO LR LR
comp=Z,4μm,19.0s,MS5.8
ISCO Idaho Springs 78.41 334 eP P 21 31 28.5 +0.3
ISCO pmax pmax
comp=Z,79nm,1.3s,mb5.5
ISCO MLR MLR
comp=Z,4μm,19.0s,MS5.8
PV04 Paradox Valley 78.48 331 eP P 21 31 31.1 +2.5
O24A Longmont 78.49 334 ⇓P P 21 31 29.4 +0.8
baz=79
LDFC Landfair 78.52 325 eP P 21 31 29.4 +0.4
R19A Curley Farm, L 78.54 331 ⇓P P 21 31 28.8 -0.2
baz=79,SNR=8.5
S17A Black Ridge (B 78.64 329 ⇓P P 21 31 29.9 +0.4
baz=79
SOE Somerset East 78.65 121 eP P 21 31 29.8 -0.2
SOE AMB AMB 21 31 31.6
comp=Z,224nm,2.7s,mb5.6
P22A Eagle 78.66 333 ⇓P P 21 31 30.1 +0.5
baz=79
Q20A Ridgley Place, 78.71 332 ⇑P P 21 31 30.4 +0.5
baz=79
N25A Grover 78.75 335 ⇑P P 21 31 31.0 +1.0
baz=79
PQI Presque Isle 78.76 3 eP P 21 31 29.0 -0.9
comp=Z,173nm,1.0s,mb5.9
BBRC Big Bear Solar 78.78 323 ⇓P P 21 31 31.4 +1.0
baz=79
P21A Newcastle 78.87 333 ⇓P P 21 31 31.5 +0.7
baz=79
CIS Catalina Islan 78.87 322 ⇑P P 21 31 32.1 +1.2
baz=79

O23A Lake Granby, G 78.88 334 ⇓P P 21 31 31.2 +0.4
baz=79,SNR=18
R18A Canyonlands Na 78.89 330 ⇑P P 21 31 31.3 +0.4
baz=79
HEC Hector,Ludlow 78.93 324 ⇓P P 21 31 31.7 +0.5
baz=79
GRM Grahamstown 79.01 122 ⇑iP P 21 31 31.8 -0.2
GRM AMB AMB 21 31 33.1
comp=Z,317nm,2.6s,mb5.8
N24A Carr 79.04 335 ⇓P P 21 31 32.1 +0.4
baz=79
FMP Fort Macarthur 79.05 322 ⇓P P 21 31 32.2 +0.3
baz=79
S16A Weppner Ranch, 79.06 329 ⇓P P 21 31 32.1 +0.2
baz=79,SNR=10.0
O22A Kremmling 79.07 333 ⇓P P 21 31 32.2 +0.4
baz=80,SNR=14
Q19A Hogan Spring (79.11 331 ⇑P P 21 31 32.4 +0.3
baz=80,SNR=7.5
ECSD EROS Data Cent 79.11 342 eP P 21 31 31.2 -0.7
comp=Z,93nm,1.0s,mb5.7
ECSD eS S 21 41 30.4 +0.8
ECSD LR LR
comp=Z,3μm,19.0s,MS5.6
BFSC Mount Baldy Ra 79.13 323 ⇑P P 21 31 32.7 +0.4
baz=80
TUQ Turquoise Moun 79.21 325 ⇓P P 21 31 33.8 +1.1
baz=80
P20A De Beque 79.22 332 ⇓P P 21 31 33.1 +0.5
baz=80
R17A Hanksville Air 79.26 330 ⇓P P 21 31 32.9 0.0
baz=80,SNR=6.9
L27A T5 Ranch, Ells 79.28 337 ⇓P P 21 31 33.3 +0.4
baz=80
M25A Palm-Egli Farm 79.29 336 ⇓P P 21 31 33.3 +0.3
baz=80
RRX Edison Barstow 79.30 323 ⇑P P 21 31 33.5 +0.2
baz=80
MWC Mount Wilson 79.33 322 eP P 21 31 34.5 +1.1
comp=Z,102nm,1.3s,mb5.6
MWC Mount Wilson 79.33 322 eP P 21 31 34.5 +1.1
MWC pmax pmax
comp=Z,102nm,1.3s,mb5.6
PASC Pasadena Art C 79.35 322 eP P 21 31 34.4 +0.9
TSUM Tsumeb 79.36 106 eP P 21 31 34.0 0.0
comp=Z,120nm,1.0s,mb5.8
TSUM LR LR
comp=Z,18μm,22.0s,MS6.4
O21A Pagoda 79.47 333 ⇑P P 21 31 35.0 +1.0
baz=80
R16A Teasdale 79.48 329 ⇓P P 21 31 34.2 +0.1
baz=80
N23A Red Feather La 79.49 334 ⇓P P 21 31 34.2 +0.2
baz=80
DECC Green Verdugo 79.49 322 ⇓P P 21 31 34.7 +0.5
baz=80
L26A Underwood Farm 79.49 337 ⇑P P 21 31 34.6 +0.5
baz=80
GSC Goldstone 79.54 324 ⇑P P 21 31 34.9 +0.4
baz=80
GSC Goldstone 79.54 324 eP P 21 31 34.8 +0.3
comp=Z,62nm,1.2s,mb5.4
GSC Goldstone 79.54 324 eP P 21 31 34.8 +0.3
GSC pmax pmax
comp=Z,62nm,1.2s,mb5.4
P19A Cripple Cowboy 79.57 332 ⇓P P 21 31 34.6 +0.1
baz=80
M24A Cheyenne 79.59 335 ⇑P P 21 31 35.3 +0.7
baz=80
Q18A Rafter H Ranch 79.59 331 ⇓P P 21 31 34.3 -0.3
baz=80,SNR=7.9
SPMN St. Paul 79.59 345 ⇓P P 21 31 33.7 -0.8
baz=80
N22A Wattenberg Ran 79.60 334 ⇓P P 21 31 34.6 -0.1
baz=80
PHWY Pilot Hill 79.67 335 eP P 21 31 35.7 +0.6
comp=Z,31nm,0.8s,mb5.3
O20A White River Ci 79.70 332 ⇑P P 21 31 35.0 -0.3
baz=80
CCUT Cedar City 79.71 328 eP P 21 31 36.5 +1.2
comp=Z,59nm,1.0s,mb5.5
SHOC Shoshone 79.75 325 ⇓P P 21 31 35.3 -0.3
baz=80
SRU San Rafael 79.76 330 eP P 21 31 36.0 +0.4
comp=Z,66nm,1.2s,mb5.4
SRU San Rafael 79.76 330 eP P 21 31 36.0 +0.4
SRU pmax pmax
comp=Z,66nm,1.2s,mb5.4
BLG Laguna Peak 79.76 322 ⇓P P 21 31 34.9 -0.8
baz=80
R15A Junction 79.76 329 ⇑P P 21 31 36.1 +0.5
baz=80
EDW2 Edwards Air Fo 79.80 323 ⇓P P 21 31 36.1 +0.1
baz=80
K27A Flueckinger Fa 79.81 338 ⇑P P 21 31 36.1 +0.2
baz=80
Q16A Castle Valley 79.87 330 ⇑P P 21 31 36.4 +0.1
baz=80,SNR=17
L25A Engebretsen Ra 79.90 336 ⇓P P 21 31 36.7 +0.5
baz=80
M23A Laramie 79.91 335 ⇓P P 21 31 36.8 +0.4
baz=80
N21A Black Mountain 79.96 333 ⇓P P 21 31 37.5 +0.9
baz=80
MSU Marysvale 79.97 329 eP P 21 31 37.3 +0.6
comp=Z,47nm,1.1s,mb5.3
MSU Marysvale 79.97 329 eP P 21 31 37.3 +0.5
MSU pmax pmax
comp=Z,47nm,1.1s,mb5.3
BSC Santa Cruz Isl 79.97 321 ⇓P P 21 31 37.2 +0.3
baz=80
OSI Osito Adit 79.97 322 ⇑P P 21 31 36.8 -0.1
baz=80
OSI Osito Adit 79.97 322 eP P 21 31 37.5 +0.6
comp=Z,130nm,1.1s,mb5.8
P18A Preston Nutter 80.08 331 ⇓P P 21 31 37.7 +0.4
baz=80,SNR=18
K26A Motz Farm, Whi 80.12 337 ⇑P P 21 31 37.8 +0.3
baz=80
LRMC Laurel Mountai 80.12 323 ⇓P P 21 31 37.4 -0.3
baz=80
L24A Wheatland 80.13 336 ⇓P P 21 31 37.5 -0.1
baz=80
P17A Butcher Ranch, 80.16 330 ⇑P P 21 31 37.8 0.0
baz=80
M22A Cedar Creek Ra 80.17 334 ⇓P P 21 31 38.4 +0.6
baz=81
O19A Miners Draw (B 80.19 332 ⇓P P 21 31 37.9 -0.1
baz=81,SNR=7.4
TMUT Trail Mountain 80.20 330 eP P 21 31 39.0 +0.9
comp=Z,43nm,0.9s,mb5.4
K25A Mack Ranch, Ha 80.27 336 ⇓P P 21 31 38.7 +0.5
baz=81
N20A Spence Gulch, 80.31 333 ⇑P P 21 31 38.8 +0.2
baz=81
SBC Santa Barbara 80.36 321 ⇑P P 21 31 40.1 +1.2
baz=81
BRSD Miller 80.40 341 ⇑P P 21 31 38.3 -0.7
baz=81
ARVC Arvin 80.43 322 ⇓P P 21 31 39.7 +0.3
baz=81
L23A Garrett 80.47 335 ⇑P P 21 31 39.5 +0.2
baz=81
MPMC Manual Prospec 80.48 324 ⇑P P 21 31 39.9 +0.4
baz=81
FURC Furnace Creek, 80.49 325 ⇑P P 21 31 39.4 -0.2
baz=81
R13A O'Grain Ranch, 80.50 327 ⇑P P 21 31 40.1 +0.5
baz=81
O18A Roosevelt 80.52 331 ⇓P P 21 31 40.0 +0.3
baz=81
BOSA Boshof 80.55 118 ⇑iP P 21 31 39.9 -0.5
BOSA AMB AMB 21 31 41.6
comp=Z,214nm,2.7s,mb5.6
BOSA Boshof 80.55 118 P **P 21 31 39.9 -0.5**
comp=Z,98nm,0.9s,mb5.7,baz=235,slow=5.6,SNR=67
BOSA LR LR 22 05 01.5
comp=Z,19μm,18.4s,MS6.5,baz=228,slow=34
BOSA Boshof 80.55 118 eP P 21 31 40.0 -0.4
comp=Z,131nm,1.0s,mb5.8
BOSA Boshof 80.55 118 eP P 21 31 40.0 -0.4
BOSA pmax pmax
comp=Z,131nm,1.0s,mb5.8
M21A Separation Pea 80.63 334 ⇑P P 21 31 40.1 -0.1
baz=81
RWWY Rawlins 80.65 334 eP P 21 31 40.9 +0.6
comp=Z,90nm,1.1s,mb5.6
P16A Fountain Green 80.66 330 ⇑P P 21 31 41.0 +0.6

baz=81
L22A Ellis Ranch, M 80.66 334 ⇑P P 21 31 41.1 +0.8
baz=81
ISA Isabella 80.66 323 ⇓P P 21 31 41.2 +0.6
baz=81
ISA Isabella 80.66 323 eP P 21 31 40.8 +0.2
comp=Z,64nm,1.1s,mb5.5
ISA Isabella 80.66 323 eP P 21 31 40.8 +0.2
ISA pmax pmax
comp=Z,64nm,1.1s,mb5.5
MIR Mirnyy 80.68 174 ⇑iP P 21 31 39.0 -1.4
MIR e 21 31 49.0
MIR e 21 34 48.0
MIR eS S 21 41 42.0 -4.0
MIR ePS 21 42 59.0
MIR pmax pmax
comp=N,500nm,5.0s
MIR pmax pmax
comp=Z,2μm,5.0s
MIR smax
comp=N,970nm,12.0s
MIR smax
comp=E,2μm,12.0s
MIR MLR MLR
comp=N,11μm,18.0s,MS6.3
MIR MLR MLR
comp=E,3μm,18.0s,MS6.3
MIR MLR MLR
comp=Z,14μm,18.0s,MS6.3
K24A Anderson Ranch 80.69 336 ⇓P P 21 31 41.0 +0.4
baz=81
DAC Darwin (Calif) 80.70 324 PFAKE 21 31 50.0 +9.2
DAC LR LR
comp=Z,7μm,22.0s,MS6.0
N19A John Jarvie Ra 80.72 332 ⇑P P 21 31 40.7 -0.1
baz=81
O17A Robinson Place 80.76 331 ⇑P P 21 31 41.0 0.0
baz=81,SNR=16
PKM Peak Mountain 80.76 322 ⇓P P 21 31 42.1 +1.0
baz=81
M20A Sweetwater, Wa 80.84 333 ⇑P P 21 31 41.4 0.0
baz=81
P15A Leamington 80.89 329 ⇑P P 21 31 41.8 +0.1
baz=81
L21A Rawlins 80.94 334 ⇑P P 21 31 41.7 -0.3
baz=81
MPU Maple Canyon 80.98 330 eP P 21 31 42.7 +0.5
comp=Z,91nm,1.3s,mb5.5
N18A Larsen Ranch, 80.99 332 ⇑P P 21 31 41.9 -0.3
baz=81
K23A Bowen Ranch, D 81.00 335 ⇑P P 21 31 42.0 -0.2
baz=81
CWC Cottonwood Cre 81.07 324 ⇓P P 21 31 43.1 +0.4
baz=81
O16A Springville 81.09 330 ⇑P P 21 31 43.2 +0.5
baz=82
VES Vestal, Richgr 81.11 323 ⇑P P 21 31 42.6 -0.4
baz=82
DAU Daniels Canyon 81.16 331 eP P 21 31 44.0 +0.9
comp=Z,42nm,1.0s,mb5.3
DAU Daniels Canyon 81.16 331 eP P 21 31 44.0 +0.9
DAU pmax pmax
comp=Z,42nm,1.0s,mb5.3
GRAC Grapevine Rang 81.16 325 ⇑P P 21 31 43.6 +0.4
baz=82
J24A Dixon Ranch, L 81.17 336 ⇑P P 21 31 44.0 +0.9
baz=82
SMMC Simmler 81.18 322 ⇑P P 21 31 44.1 +0.8
baz=82
K22A Casper 81.23 335 ⇓P P 21 31 43.3 -0.1
baz=82
M19A Rock Springs 81.23 332 ⇑P P 21 31 43.4 -0.1
baz=82
L20A Wamsutter 81.35 333 ⇓P P 21 31 44.1 +0.1
baz=82
R11A Troy Canyon, C 81.38 327 ⇓P P 21 31 45.2 +0.8
baz=82
JLU Jordanelle 81.40 330 eP P 21 31 44.9 +0.5
comp=Z,73nm,1.4s,mb5.4
N17A Moffit Pass 81.43 331 ⇓P P 21 31 44.5 0.0
baz=82,SNR=8.3
K21A Alcova 81.48 334 ⇓P P 21 31 44.6 -0.1
baz=82
M18A Lyman 81.53 332 ⇓P P 21 31 44.3 -0.7
baz=82
J23A Dilts Ranch, B 81.55 336 ⇑P P 21 31 45.7 +0.7
baz=82
RCTC Rector, Farmer 81.56 323 ⇑P P 21 31 44.8 -0.6
baz=82
O15A The Old Anders 81.56 330 ⇑P P 21 31 45.7 +0.5
baz=82
TIN Tinemaha 81.62 324 ⇓P P 21 31 46.0 +0.4
baz=82
I24A Kuemmerle Ranc 81.63 337 ⇓P P 21 31 45.8 +0.3
baz=82
N16A Rees Ranch, Co 81.63 331 ⇑P P 21 31 45.7 +0.1
baz=82
DUG Dugway 81.64 329 ⇓P P 21 31 45.6 0.0
baz=82,SNR=14
DUG Dugway 81.64 329 eP P 21 31 45.8 +0.1
comp=Z,53nm,1.0s,mb5.4
DUG LR LR
comp=Z,8μm,22.0s,MS6.1
DUG Dugway 81.64 329 eP P 21 31 45.8 +0.2
DUG pmax pmax
comp=Z,53nm,1.0s,mb5.4
DUG MLR MLR
comp=Z,8μm,22.0s,MS6.1
CASY Casey 81.64 181 eP P 21 31 44.4 -1.1
comp=Z,101nm,1.2s,mb5.6
CASY LR LR
comp=Z,13μm,19.0s,MS6.3
NOQ North Oquirrh 81.72 330 eP P 21 31 47.5 +1.5
comp=Z,50nm,1.1s,mb5.4
M17A Scullys Gap (B 81.81 331 ⇑P P 21 31 45.3 -1.2
baz=82
L19A Farson 81.82 333 ⇓P P 21 31 46.7 +0.2
baz=82
J22A Midwest 81.88 335 ⇓P P 21 31 46.8 0.0
baz=82
K20A Yellowstone Ra 81.91 334 ⇑P P 21 31 46.3 -0.7
baz=82
EYMN Ely 81.92 347 eP P 21 31 46.2 -0.7
comp=Z,105nm,1.3s,mb5.6
EYMN LR LR
comp=Z,4μm,22.0s,MS5.7
L18A Fontenelle, Gr 81.94 332 ⇑P P 21 31 46.8 -0.3
baz=82
TPH Tonopah 81.94 325 PFAKE 21 32 00.0 +13
TPH LR LR
comp=Z,5μm,20.0s,MS5.8
I23A Meade Ranch, G 82.00 336 ⇑P P 21 31 47.9 +0.4
baz=82
MTUM Tungsten Hills 82.03 324 eP P 21 31 50.2 +2.4
J21A Lysite 82.17 335 ⇓P P 21 31 48.6 +0.2
baz=83
K19A Absolon Red Bu 82.24 333 ⇑P P 21 31 48.6 -0.2
baz=83
HWUT Hardware Ranch 82.29 331 eP P 21 31 49.0 0.0
comp=Z,109nm,1.3s,mb5.6
HWUT LR LR
comp=Z,13μm,19.0s,MS6.3
I22A 9 Mile Ranch, 82.30 335 ⇓P P 21 31 49.3 +0.3
baz=83
MLAC Mammoth Lakes 82.38 324 ⇓P P 21 31 50.6 +1.0
baz=83
H24A Dirks Ranch, A 82.39 337 ⇑P P 21 31 49.3 -0.2
baz=83
J20A Shoshoni 82.41 334 ⇓P P 21 31 50.1 +0.5
baz=83
L17A Cokeville 82.42 332 ⇑P P 21 31 49.1 -0.6
baz=83
PDAR Pinedale Array 82.46 333 P **P 21 31 49.8 -0.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=61,slow=28,SNR=9.0
PDAR PKKPbc PKKPbc 21 50 24.1 +6.3
comp=Z,0.9nm,0.6s,baz=338,slow=1.6,SNR=5.1
PDAR Pinedale Array 82.46 333 P **P 21 31 49.8 -0.1**
PDAR PKKPbc PKKPbc 21 50 24.1 +6.3
BW06 Boulder Array 82.47 333 ⇑P P 21 31 49.0 -0.9
baz=83
BW06 Boulder Array 82.47 333 eP P 21 31 51.0 +1.1
comp=Z,48nm,1.2s,mb5.3
BW06 LR LR
comp=Z,9μm,21.0s,MS6.1
H23A Clabaugh Cattl 82.51 336 ⇑P P 21 31 49.7 -0.5
baz=83
I21A Big Trails, Te 82.52 335 ⇑P P 21 31 49.0 -1.1
baz=83

M15A **Larsen Ranch,** 82.53 330 ⇓P P 21 31 49.8 -0.5
baz=83
K18A **Toltan Ranch,** 82.54 332 ⇑P P 21 31 49.6 -0.7
baz=83
L16A **Fish Haven** 82.57 331 ⇑P P 21 31 49.9 -0.6
baz=83
KSD **Kokstad** 82.58 121 eP P 21 31 52.7 +1.6
KSD AMB AMB 21 31 54.7
comp=Z,428nm,2.8s,mb6.0
J19A **Crowheart** 82.70 333 ⇓P P 21 31 50.4 -0.7
baz=83
LBTB **Lobatse** 82.70 115 ⇑iP P 21 31 51.4 -0.5
LBTB AMB AMB 21 31 54.3
comp=Z,246nm,1.8s,mb6.0
LBTB **Lobatse** 82.70 115 P P 21 31 51.2 -0.6
comp=Z,83nm,1.0s,mb5.7,baz=259,slow=5.4,SNR=49
LBTB LR LR 22 04 11.2
comp=Z,9μm,21.8s,MS6.1,baz=246,slow=32
LBTB **Lobatse** 82.70 115 eP P 21 31 51.3 -0.5
comp=Z,108nm,0.9s,mb5.9
LBTB **Lobatse** 82.70 115 eP P 21 31 51.3 -0.5
LBTB pmax pmax
comp=Z,108nm,0.9s,mb5.9
PMOZ **Porto Moniz, M** 82.74 44 eP P 21 31 52.4 +0.8
NVAR **Mina Array Bea** 82.74 325 P P 21 31 51.6 +0.2
comp=Z,7.7nm,0.8s,mb4.8,baz=155,slow=5.5,SNR=38
NVAR PKKPbc PKKPbc 21 50 19.1 +2.3
comp=Z,1.0nm,1.0s,baz=319,slow=6.5,SNR=3.8
NVAR LR LR 22 01 51.8
comp=Z,4μm,21.6s,MS5.8,baz=222,slow=31
NVAR **Mina Array Bea** 82.74 325 P P 21 31 51.6 +0.2
NVAR PKKPbc PKKPbc 21 50 19.1 +2.3
FUL **Funchal** 82.77 44 eP P 21 31 53.5 +1.7
comp=Z,119nm,1.3s,mb5.8
PMAR **Madeira** 82.83 44 eP P 21 31 53.5 +1.4
comp=Z,249nm,1.4s,mb6.0
G24A **Alzada** 82.86 337 ⇑P P 21 31 51.4 -0.6
baz=83
H22A **Clearmont** 82.87 336 ⇓P P 21 31 51.0 -1.0
baz=83
I20A **Worland** 82.94 334 ⇓P P 21 31 51.8 -0.5
baz=83
L15A **Malad City** 82.95 331 ⇑P P 21 31 51.7 -0.8
baz=83,SNR=7.3
K17A **Gardner Place,** 82.98 332 ⇑P P 21 31 52.0 -0.6
baz=83
J18A **Kendall Valley** 83.02 333 ⇓P P 21 31 52.0 -0.8
baz=83
PRYS **Parys** 83.02 117 eP P 21 31 52.7 -0.7
PRYS AMB AMB 21 31 54.2
comp=Z,209nm,2.6s,mb5.7
SAO **San Andreas Ge** 83.04 322 eP P 21 31 54.1 +1.0
comp=Z,46nm,1.1s,mb5.4
SAO **San Andreas Ge** 83.04 322 eP P 21 31 54.1 +1.0
SAO pmax pmax
comp=Z,46nm,1.1s,mb5.4
AHID **Auburn Hatcher** 83.07 332 eP P 21 31 53.1 0.0
AHID LR LR
comp=Z,6μm,20.0s,MS6.0
G23A **Biddle** 83.07 337 ⇓P P 21 31 51.7 -1.3
baz=84
H21A **Big Horn, Sher** 83.14 335 ⇓P P 21 31 52.4 -1.0
baz=84
ELK **Elko** 83.15 328 eP P 21 31 53.5 -0.1
comp=Z,56nm,1.4s,mb5.4
ELK **Elko** 83.15 328 eP P 21 31 53.5 0.0
ELK pmax pmax
comp=Z,56nm,1.4s
AGMN **Agassiz Nation** 83.19 344 eP P 21 31 53.0 -0.6
comp=Z,37nm,0.8s,mb5.5
AGMN LR LR
comp=Z,4μm,21.0s,MS5.8
KSR **Koster** 83.25 116 eP P 21 31 54.6 0.0
KSR AMB AMB 21 31 55.9
comp=Z,77nm,2.6s,mb5.3
K16A **Soda Springs** 83.32 332 ⇓P P 21 31 54.3 0.0
baz=84
F24A **Ekalaka** 83.33 338 ⇑P P 21 31 53.6 -0.7
baz=84
I19A **Meeteetse** 83.33 334 ⇓P P 21 31 54.3 -0.1
baz=84
L14A **Malta** 83.34 330 ⇓P P 21 31 54.0 -0.4
baz=84
H20A **Greybull** 83.36 335 ⇑P P 21 31 53.3 -1.2
baz=84
I18A **Diamond G Ranc** 83.36 333 ⇑P P 21 31 54.3 -0.2
baz=84
TORD **Torodi Ar. Bea** 83.37 70 P P 21 31 54.9 -0.4
comp=Z,148nm,0.9s,mb6.0,baz=248,slow=4.0,SNR=236
TORD LR LR 22 09 49.2
comp=Z,14μm,18.0s,MS6.4,baz=210,slow=36
TORD **Torodi Ar. Bea** 83.37 70 P P 21 31 54.9 -0.4
G22A **Birney** 83.39 336 ⇓P P 21 31 54.0 -0.6
baz=84
PMPS **Porto Santo** 83.41 44 eP P 21 31 57.7 +2.6
comp=Z,269nm,1.6s,mb6.0
J17A **Brown Place, J** 83.42 332 ⇑P P 21 31 54.7 -0.1
baz=84
CMB **Columbia Colle** 83.47 323 eP P 21 31 57.9 +2.7
comp=Z,123nm,1.6s,mb5.7
CMB **Columbia Colle** 83.47 323 eP P 21 31 57.9 +2.7
CMB pmax pmax
comp=Z,123nm,1.6s,mb5.7
REDW **Red Top Meadow** 83.47 332 eP P 21 31 55.3 +0.2
comp=Z,61nm,1.1s,mb5.5
SNOW **Snow King Moun** 83.52 332 eP P 21 32 04.2 +8.8
comp=Z,51nm,1.2s,mb5.5
KLOF **Kloof** 83.52 117 eP P 21 31 56.1 +0.1
KLOF AMB AMB 21 31 57.1
comp=Z,185nm,2.6s,mb5.8
F23A **Volborg** 83.53 337 ⇑P P 21 31 54.4 -1.0
baz=84
K15A **Arbon** 83.58 331 ⇑P P 21 31 54.8 -0.9
baz=84
LOHW **Long Hollow** 83.59 333 eP P 21 32 03.6 +7.9
comp=Z,38nm,1.1s,mb5.4
TPAW **Teton Pass** 83.62 332 eP P 21 31 55.6 -0.2
comp=Z,81nm,1.3s,mb5.7
RRI2 **Red Ridge** 83.64 332 eP P 21 31 56.1 +0.1
comp=Z,76nm,1.3s,mb5.7
J16A **Bone** 83.70 332 ⇓P P 21 31 55.7 -0.6
baz=84
MDND **Maddock** 83.71 341 ⇓P P 21 31 55.7 -0.5
baz=84
G21A **Lodge Grass** 83.71 336 ⇓P P 21 31 55.6 -0.8
baz=84
K14A **Jones Ranch, D** 83.73 330 ⇓P P 21 31 55.8 -0.7
baz=84
MOOW **Moose Ponds** 83.76 333 eP P 21 31 56.5 0.0
comp=Z,112nm,2.2s,mb5.6
DCID1 **Drake Creek** 83.80 332 eP P 21 31 58.7 +1.9
comp=Z,115nm,1.4s,mb5.8
BMN **Battle Mountai** 83.80 327 eP P 21 31 58.6 +1.7
comp=Z,38nm,1.5s,mb5.3
BMN LR LR
comp=Z,5μm,20.0s,MS5.9
BMN **Battle Mountai** 83.80 327 eP P 21 31 58.6 +1.7
BMN pmax pmax
comp=Z,39nm,1.5s,mb5.3
BMN MLR MLR
comp=Z,5μm,20.0s,MS5.9
I17A **Pilgrim Ck.** 83.84 333 ⇑P P 21 31 57.0 0.0
baz=84
F22A **Rosebud** 83.87 336 ⇑P P 21 31 56.5 -0.6
baz=84
H19A **Powell** 83.87 334 ⇑P P 21 31 57.2 +0.1
baz=84
E24A **Baker** 83.92 338 ⇑P P 21 31 57.1 -0.2
baz=84
ERPM **east rand prop** 84.00 117 ⇑iP P 21 31 58.0 -0.5
ERPM AMB AMB 21 31 59.8
comp=Z,175nm,2.6s,mb5.7
FLWY **Flagg Ranch** 84.02 333 eP P 21 31 57.9 -0.1
comp=Z,91nm,1.2s,mb5.8
G20A **Bridger** 84.07 335 ⇑P P 21 31 57.3 -0.8
baz=84
WCN **Washoe City** 84.13 325 ⇓P P 21 31 58.9 +0.3
baz=84
WCN **Washoe City** 84.13 325 eP P 21 32 04.1 +5.5
comp=Z,38nm,1.3s,mb5.4
WCN **Washoe City** 84.13 325 eP P 21 32 04.1 +5.5
WCN pmax pmax
comp=Z,38nm,1.3s,mb5.4
H18A **Shoshone NF, C** 84.13 334 ⇓P P 21 31 58.3 -0.2
baz=84
J15A **Blackfoot** 84.13 331 ⇑P P 21 31 57.9 -0.7
baz=84

I16A **Newdale** 84.15 332 ⇓P P 21 31 58.3 -0.3
baz=84
E23A **Ismay** 84.19 337 ⇓P P 21 31 57.6 -1.1
baz=85
F21A **Absaloka Mine,** 84.20 336 ⇑P P 21 31 58.2 -0.6
baz=85
H17A **Grant Village** 84.24 333 ⇓P P 21 31 59.6 +0.6
baz=85
LKWY **Lake** 84.31 333 PFAKE
LKWY LR LR 21 32 10.0 +11
comp=Z,7μm,20.0s,MS6.0
E22A **Miles City** 84.35 337 ⇓P P 21 31 58.3 -1.2
baz=85
SLR **Silverton** 84.36 117 ⇓iP P 21 31 59.5 -0.8
SLR AMB AMB 21 32 02.5
comp=Z,206nm,1.1s,mb6.2
RLMT **Red Lodge** 84.36 334 ⇓P P 21 31 59.8 +0.2
baz=85
RLMT **Red Lodge** 84.36 334 eP P 21 32 02.0 +2.4
comp=Z,139nm,1.5s,mb5.9
RLMT LR LR
comp=Z,4μm,19.0s,MS5.9
YFT **Old Faithful** 84.38 333 eP P 21 32 00.6 +0.9
comp=Z,48nm,1.0s,mb5.6
ODZ **Otahua Downs** 84.42 219 eP P 21 31 59.5 -0.8
comp=Z,227nm,1.1s,mb6.2
D24A **Glendive** 84.42 338 ⇑P P 21 31 59.8 -0.1
baz=85
J14A **Carey** 84.52 331 ⇓P P 21 32 00.7 +0.3
baz=85
KHZ **Kahutara** 84.52 222 eP sP 21 32 13.1 +1.6
F20A **Billings** 84.54 335 ⇑P P 21 31 60.0 -0.5
baz=85
SNZO **South Karori** 84.54 224 PFAKE
SNZO LR LR 21 32 10.0 +9.0
comp=Z,6μm,20.0s,MS5.9
YNR **Norris Junctio** 84.55 333 eP P 21 32 03.5 +2.9
YMR **Madison River** 84.62 333 eP P 21 32 01.1 +0.2
comp=Z,88nm,1.0s,mb5.8
G18A **Lazy EL Ranch,** 84.64 334 ⇓P P 21 32 00.7 -0.3
baz=85
I15A **Monteview** 84.65 332 ⇓P P 21 32 01.3 +0.2
baz=85
LAO **LASA Array** 84.66 337 ⇑P P 21 32 00.6 -0.5
baz=85
LAO **LASA Array** 84.66 337 eP P 21 32 02.1 +1.1
comp=Z,49nm,1.0s,mb5.6
LAO LR LR
comp=Z,4μm,19.0s,MS5.8
D23A **Lindsay** 84.75 338 ⇑P P 21 32 01.3 -0.2
baz=85
H16A **Russell Place,** 84.76 333 ⇑P P 21 32 01.7 +0.1
baz=85
E21A **Keefer Ranch,** 84.81 336 ⇑P P 21 32 01.6 -0.3
baz=85
C24A **Savage** 84.82 338 ⇑P P 21 32 02.0 +0.2
baz=85
J13A **Cove Ranch, Pi** 84.85 330 ⇓P P 21 32 02.4 +0.3
baz=85,SNR=16
F19A **Roth Farm, Mol** 84.87 335 ⇑P P 21 32 01.6 -0.6
baz=85
QLMT **Earthquake Lak** 84.93 333 eP P 21 32 03.5 +1.0
comp=Z,9.7nm,1.2s,mb4.8
URZ **Urewera** 84.97 227 P P 21 32 04.4 +1.2
comp=Z,4.6nm,0.6s,mb4.8,baz=330,slow=16,SNR=3.7
URZ LR LR 22 00 39.3
comp=Z,11μm,20.7s,MS6.2,baz=173,slow=29
URZ **Urewera** 84.97 227 eP P 21 32 04.4 +1.2
comp=Z,134nm,1.6s,mb5.8
I14A **Mackay** 84.99 331 ⇓P P 21 32 03.4 +0.6
baz=85
OHCM **Honcut** 85.01 324 eP P 21 32 06.0 +2.9
ULM **Lac du Bonnet** 85.02 345 P P 21 32 01.5 -1.3
comp=Z,28nm,0.9s,mb5.4,baz=165,slow=3.7,SNR=35
ULM **Lac du Bonnet** 85.02 345 eP P 21 32 00.9 -1.9
comp=Z,87nm,1.2s,mb5.8
ULM LR LR
comp=Z,6μm,20.0s,MS6.0
ULM **Lac du Bonnet** 85.02 345 P P 21 32 01.5 -1.3
ULM pmax pmax
comp=Z,28nm,0.9s
D22A **Cohagen** 85.05 337 ⇑P P 21 32 03.0 0.0
baz=86
RPZ **Rata Peaks** 85.07 220 P P 21 32 03.9 +0.4
comp=Z,28nm,1.0s,mb5.3,baz=129,slow=9.8,SNR=4.2
RPZ LR LR 22 01 53.0
comp=Z,8μm,19.7s,MS6.1,baz=134,slow=30
RPZ **Rata Peaks** 85.07 220 eP P 21 32 03.0 -0.5
comp=Z,256nm,1.4s,mb6.2
G17A **Pierce Place,** 85.08 333 ⇓P P 21 32 03.3 0.0
baz=86
GCMT **Greycliff** 85.08 334 eP P 21 32 03.0 -0.2
comp=Z,20nm,1.0s,mb5.2
HLID **Hailey** 85.08 330 ⇓P P 21 32 03.3 0.0
baz=86,SNR=26
HLID **Hailey** 85.08 330 eP P 21 32 03.4 +0.1
comp=Z,111nm,1.4s,mb5.8
HLID LR LR
comp=Z,3μm,21.0s,MS5.7
MSKU **Masuku** 85.13 89 P P 21 32 04.4 +0.1
comp=Z,134nm,0.9s,mb6.0,baz=226,slow=3.7,SNR=32
MSKU LR LR 22 06 14.9
comp=Z,9μm,19.3s,MS6.2,baz=207,slow=33
MSKU **Masuku** 85.13 89 P P 21 32 04.5 +0.1
E20A **Meyer Farm, Mu** 85.14 336 ⇓P P 21 32 02.6 -0.9
baz=86
F18A **Big Timber** 85.20 334 ⇓P P 21 32 03.7 -0.1
baz=86
H15A **Lima** 85.23 332 ⇑P P 21 32 04.3 +0.3
baz=86,SNR=7.7
D21A **La Casta Ranch** 85.24 337 ⇓P P 21 32 03.9 -0.2
baz=86
I13A **Wildhorse Cree** 85.25 331 ⇑P P 21 32 04.3 +0.2
baz=86,SNR=20
C23A **Lambert** 85.30 338 ⇓P P 21 32 03.9 -0.4
baz=86
E19A **Rath Farm, Rou** 85.34 335 ⇑P P 21 32 03.9 -0.6
baz=86
G16A **Moss Hill, Enn** 85.41 333 ⇓P P 21 32 05.6 +0.7
baz=86
C22A **Vida** 85.47 338 ⇑P P 21 32 04.8 -0.4
baz=86
H14A **Leadore** 85.52 332 ⇑P P 21 32 05.6 +0.2
baz=86,SNR=8.9
F17A **Fitzpatrick Pl** 85.55 334 ⇑P P 21 32 05.7 +0.1
baz=86
HOPS **Hopland** 85.56 322 eP P 21 32 05.6 -0.2
comp=Z,134nm,1.5s,mb6.0
MFID **Camas Ranch** 85.56 329 ⇑P P 21 32 05.9 +0.2
baz=86
MFID **Camas Ranch** 85.56 329 eP P 21 32 05.1 -0.6
comp=Z,70nm,1.3s,mb5.7
I12A **Atlanta** 85.58 330 ⇑P P 21 32 05.0 -0.7
baz=86,SNR=17
DGMT **Dagmar** 85.59 339 ⇓P P 21 32 05.1 -0.6
baz=86
DGMT **Dagmar** 85.59 339 eP P 21 32 05.5 -0.2
comp=Z,283nm,1.4s,mb6.3
DGMT LR LR
comp=Z,3μm,21.0s,MS5.6
G15A **Dillon** 85.62 332 ⇓P P 21 32 05.4 -0.5
baz=86
D20A **Manuel Ranch,** 85.65 336 ⇓P P 21 32 05.5 -0.6
baz=86
BOZ **Bozeman (W)** 85.69 333 ⇓P P 21 32 05.4 -0.9
baz=86
BOZ **Bozeman (W)** 85.69 333 eP P 21 32 05.5 -0.7
comp=Z,20nm,1.2s,mb5.2
BOZ LR LR
comp=Z,5μm,21.0s,MS5.9
BOZ **Bozeman (W)** 85.69 333 eP P 21 32 05.6 -0.7
BOZ pmax pmax
comp=Z,20nm,1.2s,mb5.2
BOZ MLR MLR
comp=Z,5μm,21.0s,MS5.9
F16A **Kennard Place,** 85.81 333 ⇑P P 21 32 06.6 -0.3
baz=86
B23A **Brockton** 85.83 338 ⇓P P 21 32 06.5 -0.4
baz=86
DLMT **Dillon** 85.83 332 eP P 21 32 06.4 -0.6
E18A **Harlowton** 85.83 335 ⇑P P 21 32 06.4 -0.6
baz=86
H13A **Challis** 85.84 331 ⇑P P 21 32 06.9 -0.1
baz=86,SNR=16
A24A **Westby** 85.93 339 ⇑P P 21 32 07.3 -0.1
baz=86
POGA **Pongola** 85.94 120 ⇑iP P 21 32 09.1 +1.0
POGA AMB AMB 21 32 09.9

comp=Z,129nm,2.6s,mb5.7
C21A **Desert Coulee** 85.94 337 ⇓P P 21 32 06.3 -1.2
baz=86
D19A **Cripps Ranch,** 85.98 336 ⇓P P 21 32 06.5 -1.2
baz=86
B22A **Reddig Ranch S** 86.00 338 ⇓P P 21 32 07.2 -0.5
baz=86
WVOR **Wild Horse Val** 86.03 327 eP P 21 32 07.4 -0.6
comp=Z,63nm,1.4s,mb5.7
WVOR LR LR
comp=Z,5μm,21.0s,MS5.9
WVOR **Wild Horse Val** 86.03 327 eP P 21 32 07.4 -0.7
WVOR pmax pmax
comp=Z,63nm,1.4s,mb5.7
WVOR MLR MLR
comp=Z,5μm,21.0s,MS5.9
H12A **Diamond D Ranc** 86.07 331 ⇑P P 21 32 08.0 -0.2
baz=86,SNR=11
G14A **Jackson** 86.07 332 ⇓P P 21 32 08.5 +0.3
baz=86
E17A **Martinsdale** 86.09 334 ⇑P P 21 32 07.7 -0.5
baz=86
C20A **Veseth Ranch,** 86.15 336 ⇓P P 21 32 08.0 -0.4
baz=86
LRM **Limekiln Ridge** 86.16 333 eP P 21 32 08.5 -0.1
F15A **Butte** 86.19 333 ⇑P P 21 32 08.8 +0.1
baz=87,SNR=14
A23A **Redstone** 86.23 339 ⇓P P 21 32 09.2 +0.4
baz=87
G13A **Cobalt** 86.26 331 ⇑P P 21 32 08.9 -0.2
baz=87,SNR=15
D18A **Linhart Farms,** 86.33 335 ⇑P P 21 32 08.7 -0.7
baz=87
KCPM **Cahto Peak** 86.34 323 eP P 21 32 10.7 +1.0
comp=Z,64nm,1.2s,mb5.7
KIPM **Iron Peak** 86.38 323 eP P 21 32 08.7 -1.1
comp=Z,127nm,1.2s,mb6.0
B21A **Ellsworth Farm** 86.44 337 ⇓P P 21 32 09.5 -0.4
baz=87
E16A **East Helena** 86.46 334 ⇓P P 21 32 09.9 -0.1
baz=87
WDC **Whiskeytown Da** 86.48 324 eP P 21 32 08.9 -1.4
comp=Z,38nm,1.1s,mb5.5
WDC **Whiskeytown Da** 86.48 324 eP P 21 32 08.9 -1.4
WDC pmax pmax
comp=Z,38nm,1.1s,mb5.5
F14A **Wisdom** 86.51 332 ⇑P P 21 32 10.2 -0.1
baz=87,SNR=8.9
C19A **Slack Wire Ran** 86.52 336 ⇓P P 21 32 09.1 -1.2
baz=87
A22A **Carney Farms,** 86.58 338 ⇑P P 21 32 09.8 -0.8
baz=87
D17A **Six Diamond Ra** 86.61 335 ⇑P P 21 32 10.6 -0.1
baz=87
HRY **Holter Researc** 86.66 334 eP P 21 32 11.5 +0.4
comp=Z,120nm,1.7s,mb5.8
J08A **Circle Bar Ran** 86.69 328 ⇑P P 21 32 10.9 -0.3
baz=87
E15A **Deer Lodge** 86.73 333 ⇑P P 21 32 11.7 +0.3
baz=87
B20A **Solberg Farm,** 86.78 337 ⇑P P 21 32 10.4 -1.2
baz=87
D16A **Dana Ranch, Ca** 86.83 334 ⇑P P 21 32 11.6 -0.3
baz=87
F13A **Darby** 86.87 332 ⇓P P 21 32 11.5 -0.6
baz=87,SNR=17
A21A **Bergtoll Ranch** 86.90 338 ⇑P P 21 32 11.1 -1.0
baz=87
SCHQ **Schefferville** 86.96 3 P P 21 32 11.5 -0.8
comp=Z,77nm,1.1s,mb5.9,baz=161,slow=3.4,SNR=23
SCHQ LR LR 22 10 40.7
comp=Z,3μm,21.6s,MS5.7,baz=194,slow=35
SCHQ **Schefferville** 86.96 3 eP P 21 32 11.4 -0.9
comp=Z,136nm,1.1s,mb6.1
RAO **Raoul Island** 87.00 237 PFAKE
RAO LR LR 21 32 20.0 +6.6
comp=Z,6μm,21.0s,MS6.0
EGMT **Eagleton** 87.02 336 ⇓P P 21 32 12.0 -0.7
baz=87
EGMT **Eagleton** 87.02 336 eP P 21 32 12.2 -0.5
comp=Z,105nm,1.3s,mb5.9
EGMT LR LR
comp=Z,4μm,20.0s,MS5.8
C17A **Wharram Farm,** 87.04 335 ⇓P P 21 32 12.1 -0.8
baz=87
E14A **Clinton** 87.06 332 ⇓P P 21 32 13.5 +0.5
baz=87
B19A **Brinkman Farms** 87.11 336 ⇓P P 21 32 12.4 -0.7
baz=88
A20A **Cobblestone Ra** 87.13 337 ⇑P P 21 32 11.9 -1.3
baz=88
D15A **Lincoln** 87.20 333 ⇑P P 21 32 12.7 -0.9
baz=88,SNR=11
F12A **Elk City** 87.22 331 ⇓P P 21 32 13.8 0.0
baz=88
KHMM **Horse Mountain** 87.30 323 eP P 21 32 15.2 +0.9
comp=Z,152nm,1.3s,mb6.1
K05A **Summer Lake** 87.31 326 ⇑P P 21 32 14.6 +0.3
baz=88
B18A **Beardsley Farm** 87.34 336 ⇓P P 21 32 13.2 -1.1
baz=88
E13A **Victor** 87.35 332 ⇑P P 21 32 14.2 -0.2
baz=88,SNR=14
BMO **Blue Mountains** 87.35 329 eP P 21 32 14.3 -0.2
comp=Z,32nm,1.1s,mb5.5
BMO LR LR
comp=Z,5μm,19.0s,MS5.9
BMO **Blue Mountains** 87.35 329 eP P 21 32 14.3 -0.2
BMO pmax pmax
comp=Z,32nm,1.1s,mb5.5
BMO MLR MLR
comp=Z,5μm,19.0s,MS5.9
CHMT **Chamberlain Mo** 87.37 333 eP P 21 32 14.7 +0.2
YBH **Yreka Blue Hor** 87.44 324 eP P 21 32 14.4 -0.5
comp=Z,21nm,1.0s,mb5.3
YBH **Yreka Blue Hor** 87.44 324 eP P 21 32 14.4 -0.5
YBH pmax pmax
comp=Z,21nm,1.0s
XMAS **Kiritimati** 87.51 274 PFAKE
XMAS LR LR 21 32 30.0 +14
comp=Z,12μm,19.0s,MS6.3
C16A **Fuhringer Ranc** 87.55 334 ⇓P P 21 32 14.1 -1.2
baz=88,SNR=12
MSNA **Messina** 87.55 115 eP P 21 32 16.4 +0.3
MSNA AMB AMB 21 32 17.9
comp=Z,153nm,2.7s,mb5.8
MSO **Missoula** 87.57 332 ⇓P P 21 32 15.1 -0.4
baz=88
MSO **Missoula** 87.57 332 eP P 21 32 17.1 +1.7
comp=Z,34nm,1.4s,mb5.4
MSO LR LR
comp=Z,5μm,19.0s,MS6.0
B17A **L&G Farms, Che** 87.61 335 ⇑P P 21 32 14.5 -1.2
baz=88
I07A **Izee** 87.72 328 ⇑P P 21 32 15.6 -0.7
baz=88
SLMT **Seeley Lake** 87.74 333 eP P 21 32 15.9 -0.3
comp=Z,73nm,1.5s,mb5.7
A18A **Metzger Ranch,** 87.81 336 ⇓P P 21 32 15.0 -1.5
baz=88
C15A **Salmond Ranch,** 87.84 334 ⇑P P 21 32 16.3 -0.5
baz=88,SNR=15
E12A **Beaver Dam Sad** 87.88 331 ⇑P P 21 32 16.5 -0.4
baz=88
D13A **Huson** 87.99 332 ⇓P P 21 32 17.1 -0.4
baz=88,SNR=13
B16A **M & M Farms, S** 88.04 335 ⇓P P 21 32 16.4 -1.3
baz=88
A17A **Triple J Farms** 88.13 335 ⇑P P 21 32 16.8 -1.3
baz=88
SWMT **Swartz Lake** 88.15 333 eP P 21 32 17.7 -0.5
comp=Z,48nm,1.4s,mb5.5
F10A **Beach Ranch, E** 88.21 330 ⇓P P 21 32 18.4 -0.1
baz=89
C14A **Swan Lake** 88.27 333 ⇑P P 21 32 18.1 -0.6
baz=89
B15A **Bradely Ranch,** 88.27 334 ⇑P P 21 32 17.9 -0.8
baz=89,SNR=11
YBMT **Yellow Bay** 88.45 333 eP P 21 32 23.6 +4.0
A16A **West Butte Ran** 88.45 335 ⇓P P 21 32 18.9 -0.7
baz=89
JTMT **Jette** 88.46 333 eP P 21 32 19.6 0.0
C13A **Hot Springs** 88.51 333 ⇑P P 21 32 19.7 -0.3
baz=89
B14A **Marquette Ranc** 88.58 334 ⇓P P 21 32 20.2 0.0
baz=89
LNOR **Lincton Mounta** 88.58 329 eP P 21 32 29.8 +9.5
LNOR **Lincton Mounta** 88.58 329 eP P 21 32 29.8 +10

BLMT Blacktail Moun 88.70 333 *e*P **P 21 32 21.1 +0.4**
comp=Z,72nm,1.2s,mb5.9
BSMT Bassoo Peak 88.74 333 *e*P **P 21 32 20.6 -0.4**
comp=Z,21nm,1.0s,mb5.4
A15A Johnson Ranch, 88.89 334 ⇓P **P 21 32 20.2 -1.4**
baz=89
C12B Naegeli Ranch, 88.89 332 ⇓P **P 21 32 21.2 -0.5**
baz=89
E09A Wood Farm, Sta 89.03 330 ⇓P **P 21 32 21.9 -0.5**
baz=89
B13A Whitefish 89.04 333 ⇑P **P 21 32 21.6 -0.7**
baz=89
OUZ Omahuta 89.07 228 *e*P **P 21 32 23.5 +0.4**
comp=Z,115nm,1.6s,mb6.0
G06A Carlson Farm, 89.12 328 ⇓P **P 21 32 20.8 -2.0**
baz=90
A14A Double T Ranch 89.14 334 ⇓P **P 21 32 22.6 -0.2**
baz=90,SNR=6.8
A13A Flathead Natio 89.48 333 ⇓P **P 21 32 23.7 -0.7**
baz=90
HAWA Hanford 89.53 329 *e*P **P 21 32 24.9 +0.2**
comp=Z,88nm,1.2s,mb6.0
HAWA LR LR
comp=Z,7μm,20.0s,MS6.1
RSW Rattlesnake Hi 89.56 329 *e*P **P 21 32 25.6 +0.7**
comp=Z,98nm,1.2s,mb6.0
HOOD Mount Hood Mea 89.65 327 *e*P sP 21 32 36.6 +0.6
RTC Rabat Centre 89.85 49 PFAKE 21 32 40.0 +13
RTC LR LR
comp=Z,15μm,19.0s,MS6.4
A12A Yaak River Ran 89.95 333 ⇑P **P 21 32 25.9 -0.8**
baz=90
OD2 Odessa Site #2 89.96 330 *e*P **P 21 32 26.5 -0.2**
LSZ Lusaka 90.02 108 ⇑*i*P **P 21 32 28.9 +1.1**
LSZ Lusaka 90.02 108 *e*P **P 21 32 28.1 +0.3**
comp=Z,92nm,1.2s,mb6.0
LSZ LR LR
comp=Z,24μm,19.0s,MS6.6
LSZ Lusaka 90.02 108 *e*P **P 21 32 28.1 +0.2**
LSZ pmax pmax
comp=Z,92nm,1.2s,mb6.0
LSZ MLR MLR
comp=Z,24μm,19.0s,MS6.6
C09A Chrisman Ranch 90.10 331 ⇑P **P 21 32 26.5 -0.8**
baz=90
FFC Flin Flon 90.60 343 *e*P **P 21 32 28.1 -1.4**
comp=Z,59nm,1.4s,mb5.7
FFC LR LR
comp=Z,4μm,21.0s,MS5.9
FFC Flin Flon 90.60 343 *i* P **P 21 32 28.5 -1.0**
FFC Flin Flon 90.60 343 P **P 21 32 28.4 -1.1**
comp=Z,126nm,1.1s,mb6.2,SNR=7.8
PFVI Vila Bisbo 90.67 45 *e*S S 21 43 13.7 -11
PFVI *e*LQ 22 01 12.4
PFVI *e*LR LR 22 05 16.2
comp=Z,12μm,20.0s
LON Longmire 90.81 328 *e*P **P 21 32 35.9 +5.2**
comp=Z,224nm,2.8s,mb6.0
LON Longmire 90.81 328 *e*P **P 21 32 35.9 +5.2**
LON pmax pmax
comp=Z,224nm,2.8s,mb6.0
ETW Entiat 90.81 329 *e*P **P 21 32 30.8 +0.1**
MORF Marmelete 90.89 45 *e*P **P 21 32 29.9 -1.4**
comp=Z,58nm,1.4s,mb5.7
MORF *e*S S 21 43 18.2 -8.6
MORF *e*LQ 22 01 15.4
MORF *e*LR LR 22 05 20.7
comp=Z,13μm,20.0s
MORF Marmelete 90.89 45 *e*P **P 21 32 31.3 0.0**
MORF *e*S SKSac 21 43 00.1 -1.4
MORF *e*SS SS 21 49 31.2 +0.5
AFI Afiamalu 90.97 253 LR LR 22 05 05.7
comp=Z,13μm,18.0s,MS6.4,baz=95,slow=30
PTEO Sao Teotonio 91.01 45 *e*P **P 21 32 30.2 -1.6**
comp=Z,81nm,1.4s,mb5.9
PBDV Barranco-do-Ve 91.29 46 *e*P **P 21 32 33.0 -0.2**
comp=Z,66nm,1.3s,mb5.8
PBDV *e*S S 21 43 20.3 -10
PBDV *e*LQ 22 01 59.3
PBDV *e*LR LR 22 05 53.4
comp=Z,8μm,20.0s
E03A Lebam 91.45 327 ⇓P **P 21 32 30.6 -3.1**
baz=92
PCVE Castro Verde 91.47 45 *e*P **P 21 32 33.3 -0.7**
comp=Z,38nm,1.9s,mb5.4
PCVE *e*S S 21 43 24.0 -8.0
PCVE *e*LQ 22 01 49.8
PCVE *e*LR LR 22 05 58.9
comp=Z,12μm,18.0s
PNCL Nicolau / Gran 91.49 45 *e*P **P 21 32 33.9 -0.2**
comp=Z,42nm,2.1s,mb5.4
PNCL *e*S S 21 43 28.5 -3.7
PNCL *e*LQ 22 01 56.9
PNCL *e*LR LR 22 05 51.8
comp=Z,8μm,20.0s
MESJ Messejana 91.50 45 *e*P **P 21 32 33.2 -0.9**
MESJ *e*S SKSac 21 43 03.8 -1.2
MESJ AMS AMS 22 13 03.5
comp=Z,10μm,22.3s,MS6.2
MESJ Messejana 91.50 45 *e*P **P 21 32 33.3 -0.8**
MESJ *e*S SKSac 21 43 03.6 -1.4
PVAQ Vaqueiros 91.52 46 *e*P **P 21 32 34.3 +0.1**
comp=Z,51nm,1.4s,mb5.7
PVAQ *e*S SKSac 21 43 17.6 +12
PVAQ *e*LQ 22 01 47.9
PVAQ *e*LR LR 22 05 35.7
comp=Z,8μm,18.0s
LIS Lisbon 91.52 44 *e*P **P 21 32 33.3 -0.9**
LIS *e*S SKSac 21 43 04.0 -1.1
LIS AMS AMS 22 15 37.0
comp=Z,8μm,20.5s,MS6.2
LIS Lisbon 91.52 44 *e*P **P 21 32 33.3 -0.9**
LIS *e*S SKSac 21 43 04.0 -1.1
PMAFR Mafra 91.60 44 *e*S S 21 43 19.6 -14
PMAFR *e*LQ 22 02 14.6
PMAFR *e*LR LR 22 05 49.5
comp=Z,9μm,22.0s
PBEJ Beja 91.83 45 *e*P **P 21 32 34.8 -0.9**
comp=Z,34nm,1.9s,mb5.3
PAF Port-aux-Franc 91.84 156 PFAKE 21 32 50.0 +14
PAF LR LR
comp=Z,6μm,19.0s,MS6.1
SFS San Fernando 91.84 47 PFAKE 21 32 50.0 +14
SFS LR LR
comp=Z,13μm,19.0s,MS6.4
TAM Tamanrasset 91.85 64 *e*P **P 21 32 36.0 -0.1**
comp=Z,43nm,1.2s,mb5.7
TAM LR LR
comp=Z,22μm,20.0s,MS6.6
TAM Tamanrasset 91.85 64 *e*P **P 21 32 36.0 -0.1**
TAM pmax pmax
comp=Z,43nm,1.2s,mb5.7
TAM MLR MLR
comp=Z,22μm,20.0s,MS6.6
JCW Jim Creek 91.96 329 *e*P **P 21 32 37.6 +1.6**
EVOP Sao Brissos 92.01 45 *e*P **P 21 32 36.0 -0.5**
comp=Z,53nm,1.2s,mb5.7
EVOP Sao Brissos 92.01 45 *e*P **P 21 32 36.0 -0.5**
EVOP pmax pmax
comp=Z,53nm,1.2s,mb5.8
EVO Evora 92.08 45 *e*P **P 21 32 36.0 -0.8**
comp=Z,53nm,1.2s,mb5.5
EVO *e*R
comp=Z,11μm,20.8s
EVO Evora 92.08 45 *e*P **P 21 32 36.5 -0.3**
comp=Z,32nm,1.4s,mb5.5
NLWA Neilton Lookou 92.22 328 PFAKE 21 32 50.0 +13
NLWA LR LR
comp=Z,4μm,19.0s,MS5.9
PMTG Montargil 92.30 44 *e*P **P 21 32 38.3 +0.5**
comp=Z,56nm,1.6s,mb5.6
PMTG *e*LQ 22 02 50.3
PMTG *e*LR LR 22 06 32.9
comp=Z,8μm,18.0s
PBAR Barrancos 92.43 45 *e*P **P 21 32 38.3 -0.1**
comp=Z,35nm,1.4s,mb5.5
PBAR *e*LR LR 22 06 38.1
comp=Z,11μm,20.0s
PESTR Estremoz 92.54 45 *e*P **P 21 32 38.7 -0.2**
comp=Z,40nm,2.0s,mb5.5
PESTR *e*S SKSac 21 43 22.6 +12
PESTR *e*LQ 22 02 57.6
PESTR *e*LR LR 22 06 09.2
comp=Z,9μm,20.0s
PTOM Tomar 92.55 44 *e*P **P 21 32 38.7 -0.2**
comp=Z,70nm,1.4s,mb5.9

A05A Maple Falls 92.64 329 ⇑P **P 21 32 37.2 -1.9**
baz=93
PMRV Marv??o 93.02 44 *e*P **P 21 32 41.2 +0.1**
comp=Z,29nm,1.3s,mb5.5
PMRV *e*S S 21 43 28.0 -18
PMRV *e*LQ 22 02 51.6
PMRV *e*LR LR 22 06 48.6
comp=Z,7μm,18.0s
PCBR Castelo Branco 93.24 44 *e*P **P 21 32 41.8 -0.3**
comp=Z,25nm,1.8s,mb5.3
MTE Manteigas 93.56 44 *e*P **P 21 32 42.8 -0.8**
comp=Z,42nm,1.3s,mb5.7
MTE *e*S S 21 43 34.0 -17
MTE *e*LQ 22 02 58.7
MTE *e*LR LR 22 06 57.8
comp=Z,12μm,20.0s
MTE Manteigas 93.56 44 *e*P **P 21 32 43.6 0.0**
comp=Z,41nm,1.2s,mb5.7
MTE LR LR
comp=Z,12μm,21.0s,MS6.3
POLO Lamas de Olo 94.05 43 *e*S S 21 44 06.2 +11
POLO *e*LQ 22 03 25.9
POLO *e*LR LR 22 07 05.7
comp=Z,6μm,18.0s
PGAV Gavieira, Arco 94.16 42 *e*S S 21 44 12.3 +17
PGAV *e*LQ 22 03 50.4
PGAV *e*LR LR 22 06 47.7
comp=Z,11μm,22.0s
MVO Moncorvo 94.35 43 *e*P **P 21 32 47.1 -0.1**
comp=Z,37nm,1.0s,mb5.8
MVO *e*S S 21 43 38.1 -19
MVO *e*LQ 22 02 45.3
MVO *e*LR LR 22 07 15.7
comp=Z,10μm,18.0s
PAB San Pablo 94.92 46 *e*P **P 21 32 49.0 -0.8**
comp=Z,17nm,1.1s,mb5.4
PAB LR LR
comp=Z,7μm,20.0s,MS6.1
PAB San Pablo 94.92 46 *e*P **P 21 32 49.0 -0.9**
PAB pmax pmax
comp=Z,17nm,1.1s,mb5.4
PAB MLR MLR
comp=Z,7μm,20.0s,MS6.1
PBRG Braganca 94.93 43 *e*P **P 21 32 49.5 -0.3**
comp=Z,27nm,1.7s,mb5.4
PBRG *e*LQ 22 04 39.0
PBRG *e*LR LR 22 07 42.7
comp=Z,13μm,18.0s
ESDC Sonseca Array 95.23 46 P **P 21 32 51.3 0.0**
comp=Z,9.6nm,0.9s,mb5.2,baz=248,slow=3.9,SNR=26
ESDC LR LR 22 16 05.3
comp=Z,5μm,18.6s,MS6.0,baz=205,slow=36
ESDC Sonseca Array 95.23 46 P **P 21 32 51.3 0.0**
ESLA Sonseca Array 95.23 46 PFAKE 21 33 00.0 +8.7
ESLA LR LR
comp=Z,33μm,19.0s,MS6.8
FRB Frobisher Bay 95.83 1 P **P 21 32 52.6 -0.8**
comp=Z,1.9nm,0.7s,mb4.6,baz=108,slow=8.7,SNR=3.5
FRB LR LR 22 19 29.3
comp=Z,4μm,20.1s,MS5.9,baz=173,slow=38
FRB Frobisher Bay 95.83 1 P **P 21 32 52.6 -0.8**
FRB Frobisher Bay 95.83 1 P **P 21 32 52.7 -0.7**
FRB pmax pmax
comp=Z,2.0nm,0.7s
FRB MLR MLR
comp=Z,4μm,20.1s
MSVF Nonsavu 96.78 244 PFAKE 21 33 10.0 +11
MSVF LR LR
comp=Z,6μm,22.0s,MS6.0
TAU Tasmania Unive 96.98 208 PFAKE 21 33 10.0 +11
TAU LR LR
comp=Z,5μm,20.0s,MS6.0
BBB Bella Bella 97.59 329 LR LR 22 11 50.6
comp=Z,3μm,21.2s,MS5.7,baz=137,slow=32
KIP Kipapa 98.24 290 PFAKE 21 33 20.0 +15
KIP LR LR
comp=Z,7μm,19.0s,MS6.2
SJPF Ste Jean 98.95 44 *e*P **P 21 33 09.1 +1.1**
comp=Z,55nm,1.1s,mb5.7
SJPF Ste Jean 98.95 44 *e*P **P 21 33 09.1 +1.1**
comp=Z,55nm,1.1s,mb6.0
SJPF Ste Jean 98.95 44 *e*P **P 21 33 09.1 +1.1**
SJPF pmax pmax
comp=Z,55nm,1.1s,mb6.0
ETSF Etsaut 99.22 45 *e*P **P 21 33 09.3 +0.1**
comp=Z,52nm,1.1s,mb5.7
ETSF Etsaut 99.22 45 *e*P **P 21 33 09.3 +0.1**
comp=Z,52nm,1.1s,mb6.0
ETSF Etsaut 99.22 45 *e*P **P 21 33 09.3 +0.1**
ETSF pmax pmax
comp=Z,52nm,1.1s,mb6.0
EPF Esparros 99.83 45 *e*P Pdif 21 33 11.0 -1.2
EPF Esparros 99.83 45 *e*P Pdif 21 33 11.0 -1.2
EPF Esparros 99.83 45 *e*P Pdif 21 33 11.0 -1.2
MBAR Mbarara 100.15 97 PFAKE 21 33 30.0 +16
MBAR LR LR
comp=Z,669nm,20.0s,MS5.2
SFJD Kangerlussuaq 100.36 8 PFAKE 21 33 20.0 +5.5
SFJD LR LR
comp=Z,4μm,20.0s,MS6.0
YKA Yellowknife Ar 100.63 341 P Pdif 21 33 13.7 -2.0
comp=Z,1.4nm,0.8s,baz=140,slow=4.2,SNR=16
YKA PKKP PKKPbc 21 49 40.7 +10
comp=Z,0.2nm,0.5s,baz=324,slow=3.5,SNR=5.1
YKA Yellowknife Ar 100.63 341 P Pdif 21 33 13.7 -2.0
YKA PKKP PKKPbc 21 49 40.7 +10
YKA Yellowknife Ar 100.63 341 P Pdif 21 33 13.7 -2.0
YKA pmax pmax
comp=Z,1.0nm,0.8s
QUIF Quistinic 100.71 40 *e*P Pdif 21 33 14.8 -1.3
comp=Z,38nm,1.1s
QUIF Quistinic 100.71 40 *e*P Pdif 21 33 14.8 -1.3
comp=Z,38nm,1.1s
QUIF Quistinic 100.71 40 *e*P Pdif 21 33 14.8 -1.3
QUIF pmax pmax
comp=Z,38nm,1.1s
ROSF Rostrenen 100.90 39 *e*P Pdif 21 33 16.7 -0.2
comp=Z,54nm,1.0s
ROSF Rostrenen 100.90 39 *e*P Pdif 21 33 16.7 -0.2
comp=Z,54nm,1.0s
ROSF Rostrenen 100.90 39 *e*P Pdif 21 33 16.7 -0.2
ROSF pmax pmax
comp=Z,54nm,1.0s
MTLF Montolieu 101.14 46 *e*P Pdif 21 33 18.3 +0.3
comp=Z,23nm,1.1s
MTLF Montolieu 101.14 46 *e*P Pdif 21 33 18.3 +0.3
comp=Z,23nm,1.0s
MTLF Montolieu 101.14 46 *e*P Pdif 21 33 18.3 +0.3
MTLF pmax pmax
comp=Z,23nm,1.0s
LFF La Frestale 101.17 44 *e*P Pdif 21 33 17.4 -0.7
comp=Z,55nm,1.2s
LFF La Frestale 101.17 44 *e*P Pdif 21 33 17.4 -0.7
comp=Z,55nm,1.2s
LFF La Frestale 101.17 44 *e*P Pdif 21 33 17.4 -0.7
LFF pmax pmax
comp=Z,55nm,1.2s
FUNA Funafuti 101.29 252 PFAKE 21 33 30.0 +11
FUNA LR LR
comp=Z,11μm,19.0s,MS6.4
MFF Saint Martin d 101.61 42 *e*P Pdif 21 33 20.2 +0.1
comp=Z,82nm,1.3s
MFF Saint Martin d 101.61 42 *e*P Pdif 21 33 20.2 +0.1
comp=Z,82nm,1.3s
MFF Saint Martin d 101.61 42 *e*P Pdif 21 33 20.2 +0.1
MFF pmax pmax
comp=Z,82nm,1.3s
CAF Calviac 101.93 44 *e*P Pdif 21 33 21.8 +0.3
comp=Z,51nm,1.4s
CAF Calviac 101.93 44 *e*P Pdif 21 33 21.8 +0.3
comp=Z,51nm,1.4s
CAF Calviac 101.93 44 *e*P Pdif 21 33 21.8 +0.3
CAF pmax pmax
comp=Z,51nm,1.4s
GRR Gorron 102.24 40 *e*P Pdif 21 33 22.5 -0.4
comp=Z,41nm,1.0s
GRR Gorron 102.24 40 *e*P Pdif 21 33 22.5 -0.4
comp=Z,41nm,1.0s
GRR Gorron 102.24 40 *e*P Pdif 21 33 22.5 -0.4
GRR pmax pmax
comp=Z,41nm,1.0s
WRAK Wrangell Islan 102.29 330 PFAKE 21 33 30.0 +6.9
WRAK LR LR
comp=Z,3μm,19.0s,MS5.9
ABPO Ambohimpanom 102.37 122 PFAKE 21 33 30.0 +6.6
ABPO LR LR
comp=Z,6μm,20.0s,MS6.1

DZM Mont Dzumac 102.44 234 *e*Pdif Pdif 21 33 25.3 +1.5
comp=Z,241nm,26.3s
DZM Mont Dzumac 102.44 234 *e*PP PP 21 37 35.5 -1.0
comp=Z,375nm,24.4s
DZM *e*SKSac SKSac 21 43 59.6 -3.1
comp=Z,2μm,25.6s
DZM Mont Dzumac 102.44 234 *e*PS PS 21 46 43.6 +0.2
comp=Z,2μm,27.4s
DZM *e*SS SS 21 52 20.8 +7.8
comp=Z,6μm,26.4s
DZM *e*LQ 22 02 42.6
comp=Z,6μm,37.3s
DZM *e*LR LR 22 07 01.5
comp=Z,15μm,22.1s
LASF Ste Croix 102.54 46 *e*P Pdif 21 33 25.4 +1.2
comp=Z,47nm,1.2s
LASF Ste Croix 102.54 46 *e*P Pdif 21 33 25.4 +1.2
comp=Z,47nm,1.2s
CAN Canberra 102.59 213 PFAKE 21 33 40.0 +16
CAN LR LR
comp=Z,4μm,21.0s,MS5.9
FLN La Foliniere 102.66 40 *e*P Pdif 21 33 24.7 0.0
comp=Z,27nm,1.0s
FLN *e*R
comp=Z,15μm,22.5s
FLN La Foliniere 102.66 40 *e*P Pdif 21 33 24.7 0.0
comp=Z,27nm,1.0s
FLN La Foliniere 102.66 40 *e*P Pdif 21 33 24.7 0.0
FLN pmax pmax
comp=Z,27nm,1.0s
DLBC Dease Lake 102.70 333 P Pdif 21 33 26.0 +1.1
comp=Z,2.2nm,1.0s,baz=251,slow=19,SNR=3.1
DLBC Dease Lake 102.70 333 P Pdif 21 33 26.0 +1.1
LDF La Druitiere 102.76 40 *e*P Pdif 21 33 24.9 -0.3
comp=Z,6.4nm,0.8s
LDF La Druitiere 102.76 40 *e*P Pdif 21 33 24.9 -0.3
comp=Z,6.4nm,0.8s
LDF La Druitiere 102.76 40 *e*P Pdif 21 33 24.9 -0.3
LDF pmax pmax
comp=Z,6.0nm,0.8s
BGF Bois d'Agland 103.29 43 *e*P Pdif 21 33 27.9 +0.4
comp=Z,55nm,1.3s
BGF Bois d'Agland 103.29 43 *e*P Pdif 21 33 27.9 +0.4
comp=Z,55nm,1.3s
BGF Bois d'Agland 103.29 43 *e*P Pdif 21 33 27.9 +0.4
BGF pmax pmax
comp=Z,55nm,1.3s
SMRF Simiane la Rot 103.53 46 *e*P Pdif 21 33 30.0 +1.4
comp=Z,133nm,1.6s
SMRF Simiane la Rot 103.53 46 *e*P Pdif 21 33 30.0 +1.4
comp=Z,133nm,1.6s
SSB Saint Sauveur 103.60 45 *e*Pdif Pdif 21 33 28.4 -0.5
SSB LR LR
comp=Z,8μm,21.0s,MS6.2
SSB Saint Sauveur 103.60 45 *e*P Pdif 21 33 28.4 -0.5
SSB MLR MLR
comp=Z,8μm,21.0s,MS6.2
VSL Villasalto 103.64 52 PFAKE 21 33 40.0 +11
VSL LR LR
comp=Z,7μm,22.0s,MS6.2
AVF Avril sur Loir 103.71 43 *e*P Pdif 21 33 29.5 +0.1
comp=Z,29nm,1.3s
AVF Avril sur Loir 103.71 43 *e*P Pdif 21 33 29.5 +0.1
comp=Z,29nm,1.3s
AVF Avril sur Loir 103.71 43 *e*P Pdif 21 33 29.5 +0.1
AVF pmax pmax
comp=Z,29nm,1.3s
LMR La Mourre 103.77 47 *e*P Pdif 21 33 29.7 0.0
LMR La Mourre 103.77 47 *e*P Pdif 21 33 29.7 0.0
LMR La Mourre 103.77 47 *e*P Pdif 21 33 29.7 0.0
SMF Signal de Mont 103.92 43 *e*P Pdif 21 33 30.0 -0.3
comp=Z,72nm,1.3s
SMF Signal de Mont 103.92 43 *e*P Pdif 21 33 30.0 -0.3
comp=Z,72nm,1.3s
SMF Signal de Mont 103.92 43 *e*P Pdif 21 33 30.0 -0.3
SMF pmax pmax
comp=Z,72nm,1.3s
SSF Saint Saulge 103.94 43 *e*P Pdif 21 33 30.4 -0.1
comp=Z,23nm,1.2s
SSF Saint Saulge 103.94 43 *e*P Pdif 21 33 30.4 -0.1
comp=Z,23nm,1.2s
SSF Saint Saulge 103.94 43 *e*P Pdif 21 33 30.4 -0.1
SSF pmax pmax
comp=Z,23nm,1.2s
ORIF Oris-en-Rattie 104.21 46 *e*P Pdif 21 33 32.1 +0.5
comp=Z,16nm,1.0s
ORIF *e*R
comp=Z,10μm,18.2s
ORIF Oris-en-Rattie 104.21 46 *e*P Pdif 21 33 32.1 +0.5
comp=Z,16nm,1.0s
ORIF Oris-en-Rattie 104.21 46 *e*P Pdif 21 33 32.1 +0.5
ORIF pmax pmax
comp=Z,16nm,1.0s
LOR Lormes 104.26 43 *e*P Pdif 21 33 31.8 0.0
comp=Z,37nm,1.4s
LOR *e*R
comp=Z,14μm,19.5s
LOR Lormes 104.26 43 *e*P Pdif 21 33 31.8 0.0
comp=Z,37nm,1.4s
LOR Lormes 104.26 43 *e*P Pdif 21 33 31.8 0.0
LOR pmax pmax
comp=Z,37nm,1.4s
BNI Bardonecchia 104.77 46 PFAKE 21 33 50.0 +16
BNI LR LR
comp=Z,14μm,19.0s,MS6.5
LPL La Plagne 105.04 45 *e*P Pdif 21 33 36.8 +1.5
comp=Z,13nm,0.9s
LPL La Plagne 105.04 45 *e*P Pdif 21 33 36.8 +1.5
comp=Z,13nm,0.9s
LPL La Plagne 105.04 45 *e*P Pdif 21 33 36.8 +1.5
LPL pmax pmax
comp=Z,13nm,0.9s
LPG La Plagne 105.04 46 *e*P Pdif 21 33 36.9 +1.6
comp=Z,34nm,1.2s
LPG La Plagne 105.04 46 *e*P Pdif 21 33 36.9 +1.6
comp=Z,34nm,1.2s
LPG La Plagne 105.04 46 *e*P Pdif 21 33 36.9 +1.6
LPG pmax pmax
comp=Z,34nm,1.2s
ESK Eskdalemuir 105.06 33 PFAKE 21 38 00.0 +11
ESK LR LR
comp=Z,9μm,19.0s,MS6.3
CABF La Chapelle 105.21 44 *e*P Pdif 21 33 36.9 +0.8
comp=Z,32nm,1.2s
CABF La Chapelle 105.21 44 *e*P Pdif 21 33 36.9 +0.8
comp=Z,32nm,1.3s
CABF La Chapelle 105.21 44 *e*P Pdif 21 33 36.9 +0.8
CABF pmax pmax
comp=Z,32nm,1.3s
JOHN Johnston Islan 105.27 280 PFAKE 21 38 00.0 +9.1
JOHN LR LR
comp=Z,14μm,22.0s,MS6.5
KMBO Kilima Mbogo 105.30 101 PFAKE 21 38 00.0 +8.8
KMBO LR LR
comp=Z,14μm,19.0s,MS6.5
WDD Wield Dalam 105.38 57 PFAKE 21 38 00.0 +9.4
WDD LR LR
comp=Z,16μm,19.0s,MS6.6
SFTF Sexfontaines 105.43 42 *e*P Pdif 21 33 37.1 0.0
SFTF Sexfontaines 105.43 42 *e*P Pdif 21 33 37.1 0.0
MEZF Maizieres J'vi 105.59 42 *e*P Pdif 21 33 37.9 +0.1
comp=Z,19nm,1.0s
MEZF Maizieres J'vi 105.59 42 *e*P Pdif 21 33 37.9 +0.1
comp=Z,19nm,1.0s
BAIF Baives 105.93 41 *e*P Pdif 21 33 38.2 -1.1
BAIF Baives 105.93 41 *e*P Pdif 21 33 38.2 -1.1
BAIF Baives 105.93 41 *e*P Pdif 21 33 38.2 -1.1
HAU Haudompre 106.08 43 *e*P Pdif 21 33 39.9 0.0
comp=Z,42nm,1.5s
HAU *e*R
comp=Z,12μm,19.5s
HAU Haudompre 106.08 43 *e*P Pdif 21 33 39.9 0.0
comp=Z,42nm,1.5s
HAU Haudompre 106.08 43 *e*P Pdif 21 33 39.9 0.0
HAU pmax pmax
comp=Z,42nm,1.5s
HINF Hinteralfeld 106.28 43 *e*P Pdif 21 33 40.9 +0.1
HINF Hinteralfeld 106.28 43 *e*P Pdif 21 33 40.9 +0.1
HINF Hinteralfeld 106.28 43 *e*P Pdif 21 33 40.9 +0.1
ECH Echery 106.66 43 PFAKE 21 38 00.0 +7.5
ECH LR LR
comp=Z,10μm,20.0s,MS6.3
RER Riviere de l'E 106.77 129 PFAKE 21 38 00.0 +6.3
RER LR LR
comp=Z,6μm,20.0s,MS6.1

WLF Walferdange 106.81 42 PFAKE 21 38 00.0 +7.3
WLF LR LR
comp=Z,13μm,19.0s,MS6.5
TUE Stuetta 107.09 46 PFAKE 21 38 10.0 +17
TUE LR LR
comp=Z,15μm,21.0s,MS6.5
SUMG Summit 107.16 10 *i* P PP 21 38 14.2 +2.9
comp=Z,6.8nm,0.8s
BFO Black Forest 107.39 44 PFAKE 21 38 10.0 +16
BFO LR LR
comp=Z,7μm,20.0s,MS6.2
CEL Celeste 107.48 56 PFAKE 21 38 10.0 +16
CEL LR LR
comp=Z,19μm,20.0s,MS6.7
AQU L'Aquila 107.69 51 PFAKE 21 38 10.0 +15
AQU LR LR
comp=Z,9μm,20.0s,MS6.3
CUC Castrocucco 108.22 54 PFAKE 21 38 10.0 +14
CUC LR LR
comp=Z,5μm,22.0s,MS6.0
TIP Timpagrande 108.50 55 PFAKE 21 38 10.0 +14
TIP LR LR
comp=Z,15μm,20.0s,MS6.6
STKA Stephens Creek 108.77 210 PKKP PKKPbc 21 49 17.1 +12
comp=Z,5.0nm,1.0s,baz=339,slow=6.3,SNR=4.8
TRI Trieste 109.46 48 PFAKE 21 38 10.0 +12
TRI LR LR
comp=Z,6μm,20.0s,MS6.2
GRF Grafenberg Arr 109.71 43 *e*Pdiff Pdif 21 33 59.6 +3.5
GRF *e*PP PP 21 38 18.7 -12
GRF *e*L 22 22 27.7
comp=Z,6μm,20.5s
GRF Grafenberg Arr 109.71 43 *e*P Pdif 21 33 59.6 +3.5
GRF MLR MLR
comp=Z,6μm,20.5s,MS6.2
INK Inuvik 110.27 340 Pdiff Pdif 21 34 01.0 +2.5
comp=Z,1.8nm,0.9s,baz=161,slow=2.7,SNR=2.7
INK PKiKP PKiKP 21 37 59.5 +0.8
comp=Z,2.9nm,1.1s,baz=92,slow=6.9,SNR=4.0
INK PKKPab PKKPab 21 49 09.7 +1.6
comp=Z,3.2nm,1.0s,baz=288,slow=7.0,SNR=6.3
INK Inuvik 110.27 340 Pdif Pdif 21 34 01.0 +2.5
INK PKiKP PKiKP 21 37 59.5 +0.8
INK PKKPab PKKPab 21 49 09.7 +1.6
INK Inuvik 110.27 340 P Pdif 21 34 01.0 +2.4
INK *i* 21 37 59.5
INK 21 49 09.7
INK pmax pmax
comp=Z,2.0nm,1.0s
INK pmax pmax
comp=Z,3.0nm,1.1s
INK pmax pmax
comp=Z,3.0nm,1.0s
MOX Moxa 110.37 42 *e*Pdiff Pdif 21 34 01.7 +2.7
MOX *e*PP PP 21 38 25.9 -9.2
MOX *e*L 22 24 14.6
comp=Z,12μm,19.2s
MOX Moxa 110.37 42 *e*P Pdif 21 34 01.7 +2.7
MOX MLR MLR
comp=Z,12μm,19.2s,MS6.5
NKC Novy Kostel 110.66 43 *e*SP SP 21 48 10.0 +5.9
NKC AMS AMS 22 24 40.0
comp=Z,8μm,19.7s
SOKA Soboth 110.67 47⇑ *i*PP PP 21 38 31.5 -5.9
comp=Z,17nm,1.7s
EGAK Eagle 110.77 335 *e*Pdif Pdif 21 34 04.6 +3.8
EGAK LR LR
comp=Z,3μm,19.0s,MS6.0
GERES GERESS Array B 110.80 45 PKiKP PKiKP 21 38 00.4 +0.1
comp=Z,2.5nm,0.9s,baz=205,slow=2.2,SNR=9.3
GERES PKKPab PKKPab 21 49 07.4 +0.7
comp=Z,0.3nm,0.4s,baz=79,slow=2.9,SNR=5.3
GERES GERESS Array B 110.80 45 PKiKP PKiKP 21 38 00.4 +0.1
GERES PKKPab PKKPab 21 49 07.4 +0.7
GERES GERESS Array B 110.80 45 *i* PKIKP PKiKP 21 38 00.4 +0.2
GERES 21 49 07.4
GERES pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 110.85 44 *e*PKIKP PKiKP 21 37 57.5 -2.8
KHC *e* 21 38 36.0
KHC *e* 21 48 09.3
KHC MLR MLR
comp=Z,7μm,20.6s,MS6.2
KHC Kasperske Hory 110.85 44 *e*PKP PKiKP 21 37 57.5 -2.8
KHC *ex* x 21 38 01.7
KHC *e*PP PP 21 38 36.0 -2.6
KHC *e*SP SP 21 48 09.3 +3.4
KHC AMS AMS 22 25 30.0
comp=Z,7μm,20.6s
CLL Collm 111.45 42 *i* PKIKP PKiKP 21 38 03.4 +2.0
CLL *e* 21 38 42.0
CLL pmax pmax
comp=Z,15nm,1.5s
CLL pmax pmax
comp=Z,227nm,3.1s
CLL MLR MLR
comp=Z,13μm,19.0s,MS6.5
CLL Collm 111.45 42 *i* PKiKP PKiKP 21 38 03.4 +2.0
comp=Z,15nm,1.5s
CLL *e*PP PP 21 38 42.0 -0.9
comp=Z,227nm,3.1s
CLL *e*PPIp 21 38 45.0
comp=Z,700nm,23.1s
CLL *e*SKSac SKSac 21 44 48.0 +7.5
CLL *e*Sdif Sdif 21 46 24.0 +2.5
CLL *e*PS PS 21 48 20.0 +5.3
CLL *e*PPS 21 49 24.0
CLL *e*SS SS 21 54 24.0 +8.2
CLL *e*SSS 21 58 24.0
CLL Lm 22 24 00.0
comp=N,5μm,20.4s
CLL Lm 22 24 00.0
comp=E,9μm,19.0s
CLL Lm 22 24 00.0
comp=Z,13μm,19.0s
TIR Tirane 111.58 54 PFAKE 21 38 10.0 +8.0
TIR LR LR
comp=Z,12μm,20.0s,MS6.5
PRA Prague 111.75 44 AMS AMS 22 22 30.0
PRU Pruhonice 111.78 44 *e*PKP PKiKP 21 38 03.0 +0.9
PRU *e*PP PP 21 38 46.8 +1.5
PRU *e*PS PS 21 48 18.8 +1.0
PRU AMS AMS 22 25 50.0
comp=Z,7μm,20.1s
BRG Berggiesshubel 111.80 43 *e* PKiKP 21 38 03.3 +1.2
comp=Z,21nm,1.7s
BRG PP PP 21 38 45.0 -0.4
BRG *e* 21 46 39.0
BRG PS PS 21 48 24.0 +6.1
BRG PKKP PKKPbc 21 49 16.8 +21
comp=Z,10nm,1.3s
BRG SS SS 21 54 31.0 +10
BRG
comp=Z,8μm,21.4s
BRG
comp=N,2μm,22.6s
BRG
comp=E,5μm,22.6s
PVCC Panska Ves 112.02 43 *e*PP PP 21 38 47.4 +0.4
PVCC AMS AMS 22 25 50.0
comp=E,8μm,21.5s
TREC Trest 112.05 45 AMS AMS 22 29 10.0
comp=E,7μm,19.5s
KDAK Kodiak Island 112.24 325 PFAKE 21 38 10.0 +7.3
KDAK LR LR
comp=Z,4μm,20.0s,MS6.0
PKSM Moragy 112.75 49⇓ *i*P PKiKP 21 37 55.8 -8.2
UPC Upice 112.85 44 *e*PP PP 21 38 48.8 -4.2
ILAR Eielson Array 112.89 333 PKiKP PKiKP 21 38 02.2 -1.5
comp=Z,2.3nm,0.9s,baz=148,slow=1.5,SNR=15
ILAR Eielson Array 112.89 333 PKiKP PKiKP 21 38 02.2 -1.5
ILAR Eielson Array 112.89 333 *i* PKIKP PKiKP 21 38 02.2 -1.5
ILAR pmax pmax
comp=Z,2.0nm,0.9s
DPC Dobruska-Polom 112.97 44 *e*PKP PKiKP 21 38 04.2 -0.1
DPC *e*PP PP 21 38 51.2 -2.6
DPC *e*SP SP 21 48 26.5 +1.2
DPC AMS AMS 22 26 30.0
comp=Z,6μm,19.0s
KONO Kongsberg 113.20 33 PFAKE 21 38 20.0 +16
KONO LR LR
comp=Z,7μm,19.0s,MS6.3
COLA College 113.31 333 *e*Pdif Pdif 21 34 10.3 -1.8
COLA *e*PP PP 21 38 51.8 -4.1
COLA *e*PKKPbc PKKPbc 21 48 49.8 -1.5
COLA LR LR
comp=Z,4μm,19.0s,MS6.0
COLA College 113.31 333 *e*P Pdif 21 34 10.3 -1.8
COLA MLR MLR
comp=Z,4μm,19.0s,MS6.0
MORC Moravsky Berou 113.47 45 *e*PP PP 21 38 55.7 -1.7
MORC *e*SKPdf SKPdf 21 41 39.4 +0.2
OKC Ostrava-Krasne 113.86 45 *e*PS PS 21 48 41.3 +4.4
OKC AMS AMS 22 32 30.0
comp=Z,5μm,18.4s
PSZ Piszkesteto 114.20 47 PFAKE 21 38 20.0 +13
PSZ LR LR
comp=Z,5μm,20.0s,MS6.1
NAO01 NORSAR Array S 114.27 32 PFAKE 21 38 20.0 +14
NAO01 LR LR
comp=Z,10μm,19.0s,MS6.4
BZS Buzias 114.44 50⇓ PKIKP PKiKP 21 38 07.4 +0.1
BZS Buzias 114.44 50⇓ *i*P PKiKP 21 38 07.4 +0.1
NWAO Narrogin (SRO) 114.50 188 PFAKE 21 38 20.0 +12
NWAO LR LR
comp=Z,4μm,21.0s,MS6.0
OJC Ojcow 114.99 45 *e*PKiKP PKiKP 21 38 08.7 +0.5
OJC Ojcow 114.99 45 *i* PKIKP PKiKP 21 38 08.7 +0.5
NIE Niedzica 115.01 46 *e*PKiKP PKiKP 21 38 07.9 -0.4
NIE *e* 21 38 10.3
NIE Niedzica 115.01 46 *i* PKIKP PKiKP 21 38 07.9 -0.4
HFS Hagfors 115.29 33 PP PP 21 39 11.0 +1.0
comp=Z,14nm,1.1s,baz=258,slow=7.1,SNR=4.7
HFS Hagfors 115.29 33 PP PP 21 39 11.0 +1.0
CRVS Cervenica-Dubn 115.53 47 *e* PP 21 38 44.4 -28
HNR Honiara 115.57 239 PFAKE 21 38 20.0 +9.5
HNR LR LR
comp=Z,3μm,22.0s,MS5.8
DRGR 115.57 49⇓ PKIKP PKPdf 21 38 09.5 +0.1
DRGR 115.57 49⇓ *i*P PKPdf 21 38 09.5 +0.1
UZH Uzhgorod 115.95 47 *i* PKIKP PKPdf 21 38 10.0 -0.1
UZH *e*PS PS 21 48 48.0 -8.1
UZH MLR MLR
comp=N,2μm,21.8s,MS6.0
UZH MLR MLR
comp=E,3μm,21.8s,MS6.0
UZH MLR MLR
comp=Z,2μm,21.8s,MS5.6
CTAO Charters Tower 116.44 220 PFAKE 21 38 20.0 +7.9
CTAO LR LR
comp=Z,4μm,21.0s,MS6.0
KWP Kalwaria Pacla 116.55 46 *e*PKP PKPdf 21 38 10.9 -0.3
KWP *e*PP PP 21 39 16.5 -2.6
KWP LMZ 22 23 27.0
comp=Z,5μm,25.5s
KWP Kalwaria Pacla 116.55 46 *e*PKPdf PKPdf 21 38 09.2 -2.0
KWP LR LR
comp=Z,3μm,20.0s,MS6.0
KWP Kalwaria Pacla 116.55 46 *e*PKIKP PKPdf 21 38 11.0 -0.2
KWP *e* 21 39 16.5
KWP Kalwaria Pacla 116.55 46⇓ *i*P PKPdf 21 38 10.6 -0.6
MIDW Midway 116.92 288 PFAKE 21 38 20.0 +7.4
MIDW LR LR
comp=Z,6μm,20.0s,MS6.2
MLR Muntele Rosu 117.24 52 PKP PKPdf 21 38 11.8 -0.8
comp=Z,2.6nm,1.1s,baz=70,slow=19,SNR=4.4
MLR PP PP 21 39 23.1 -0.9
comp=Z,3.5nm,1.1s,baz=330,slow=9.5,SNR=6.2
MLR Muntele Rosu 117.24 52 PKP PKPdf 21 38 11.8 -0.9
MLR PP PP 21 39 23.1 -0.9
MLR Muntele Rosu 117.24 52 PKIKP PKPdf 21 38 11.8 -0.9
MLR 21 39 23.1
MLR pmax pmax
comp=Z,3.0nm,1.1s
MLR pmax pmax
comp=Z,4.0nm,1.1s
MLR Muntele Rosu 117.24 52⇓ *i*P PKPdf 21 38 12.4 -0.3
LVV L'vov 117.42 47 *e*PKIKP PKPdf 21 38 22.7 +10
LVV *e* 21 39 30.1
LVV MLR MLR
comp=Z,3μm,17.0s,MS6.0
LVV MLR MLR
comp=N,2μm,16.0s,MS6.0
LVV MLR MLR
comp=E,3μm,17.0s,MS6.0
BURAR Bucovina Array 117.46 49⇑ PKIKP PKPdf 21 38 13.5 +0.5
BURAR Bucovina Array 117.46 49⇑ *i*P PKPdf 21 38 13.5 +0.5
MSEY Mahe Island 117.78 116 PFAKE 21 38 30.0 +15
MSEY LR LR
comp=Z,9μm,19.0s,MS6.4
VRI Vrincioaia 117.88 51⇑ PKIKP PKPdf 21 38 12.4 -1.5
VRI Vrincioaia 117.88 51⇑ *i*P PKPdf 21 38 12.4 -1.5
SUW Suwalki 118.20 42 *e*PKP PKPdf 21 38 13.2 -1.0
SUW *e*PKiKP PKiKP 21 38 15.3 +1.0
SUW *e*PP PP 21 39 27.0 -3.5
SUW LMZ 22 29 22.1
comp=Z,10μm,19.8s
SUW Suwalki 118.20 42 *i* PKIKP PKPdf 21 38 15.3 +1.1
SUW *e* 21 39 27.0
EIL Elat 118.24 71 PKP PKPdf 21 38 14.4 -0.7
comp=Z,4.1nm,0.8s,baz=147,slow=4.5,SNR=5.3
EIL Elat 118.24 71 PKP PKPdf 21 38 14.4 -0.7
CSS Prodhromos 118.94 65 *e*PKPdf PKPdf 21 38 16.0 -0.3
CSS LR LR
comp=Z,8μm,22.0s,MS6.3
AS31 Alice Springs 119.15 207 *e*PKPdf PKPdf 21 38 15.5 -1.7
ASAR Alice Springs 119.15 207 PKP PKPdf 21 38 15.2 -2.0
comp=Z,2.1nm,0.8s,baz=156,slow=1.7,SNR=12
ASAR PKKPbc PKKPbc 21 48 30.4 +0.3
comp=Z,3.6nm,0.9s,baz=342,slow=2.8,SNR=13
ASAR Alice Springs 119.15 207 PKP PKPdf 21 38 15.2 -2.0
ASAR PKKPbc PKKPbc 21 48 30.4 +0.3
ASAR Alice Springs 119.15 207 PKIKP PKPdf 21 38 15.2 -2.0
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR pmax pmax
comp=Z,4.0nm,0.9s
KIS Kishinev 119.60 51 *e*PKP PKPdf 21 38 16.0 -1.2
comp=Z,300nm,2.5s
KIS Kishinev 119.60 51 *e*PP PP 21 39 40.0 -0.4
KIS Kishinev 119.60 51 *e*PKIKP PKPdf 21 38 16.0 -1.2
KIS *e* 21 38 30.0
KIS *e* 21 39 40.0
KIS *e*PS PS 21 49 26.0 -3.2
MMAI Mount Meron Ar 119.85 68 PKP PKPdf 21 38 17.1 -1.0
comp=Z,6.6nm,0.9s,baz=343,slow=2.6,SNR=6.0
MMAI Mount Meron Ar 119.85 68 PKP PKPdf 21 38 17.1 -1.0
KBS Kingsbay 120.31 13 PFAKE 21 38 30.0 +12
KBS LR LR
comp=Z,4μm,20.0s,MS6.0
NACGM Naroch 120.46 42 *e*PKP PKPdf 21 38 15.0 -3.6
ASF Jabal al Asfar 120.73 69 PKP PKPdf 21 38 19.1 -0.8
comp=Z,5.3nm,1.0s,baz=145,slow=3.1,SNR=6.1
ASF Jabal al Asfar 120.73 69 PKP PKPdf 21 38 19.1 -0.8
ASF Jabal al Asfar 120.73 69 PKIKP PKPdf 21 38 19.1 -0.7
ASF pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 120.77 60 PKP PKPdf 21 38 18.6 -1.0
comp=Z,8.1nm,0.8s,baz=195,slow=2.7,SNR=23
BRTR Keskin Array B 120.77 60 PKP PKPdf 21 38 18.6 -1.0
BRTR Keskin Array B 120.77 60 PKIKP PKPdf 21 38 18.7 -1.0
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BR131 Keskin Array S 120.77 60 *e*PKPdf PKPdf 21 38 18.4 -1.3
BR131 LR LR
comp=Z,6μm,19.0s,MS6.2
KIEV Kiev 120.86 47 *e*PKPdf PKPdf 21 38 17.4 -2.1
KIEV LR LR
comp=Z,5μm,19.0s,MS6.2
KIEV Kiev 120.86 47 *e*PKIKP PKPdf 21 38 17.4 -2.1
KIEV MLR MLR
comp=Z,5μm,19.0s,MS6.2
AKASG Malin Array Be 120.87 47 PKP PKPdf 21 38 17.7 -1.8
comp=Z,7.8nm,0.8s,baz=264,slow=2.7,SNR=20
AKASG PP PP 21 39 46.8 -2.1
comp=Z,1.9nm,0.6s,baz=257,slow=6.0,SNR=5.7
AKASG Malin Array Be 120.87 47 PKP PKPdf 21 38 17.7 -1.8
AKASG PP PP 21 39 46.8 -2.1
AKASG Malin Array Be 120.87 47 PKIKP PKPdf 21 38 17.7 -1.8
AKASG 21 39 46.8
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 120.87 47 *e*PKPdf PKPdf 21 38 17.8 -1.7
AKBB Malin Array Si 120.87 47 *e*PKIKP PKPdf 21 38 17.8 -1.7
MNK Minsk 120.96 42 *e*PKIKP PKPdf 21 38 27.0 +7.5
MICGM Minsk 120.99 42 *e* PKPdf 21 38 27.0 +7.4
FINES FINESS Array B 121.48 34 PKP PKPdf 21 38 18.6 -1.7
comp=Z,7.2nm,1.0s,baz=194,slow=3.9,SNR=4.8
FINES FINESS Array B 121.48 34 PKIKP PKPdf 21 38 18.6 -1.7
FINES pmax pmax
comp=Z,7.0nm,1.0s
TNA Tin City 121.54 331 *e*PKPdf PKPdf 21 38 19.6 -0.8
WB2 Warramunga Arr 122.32 209 *e*PKPdf PKPdf 21 38 21.4 -2.0
WRA Warramunga Arr 122.32 209 PKP PKPdf 21 38 21.1 -2.3
comp=Z,4.7nm,0.8s,baz=155,slow=1.5,SNR=25
WRA PKKPab PKKPab 21 48 19.7 -1.8
comp=Z,2.6nm,1.0s,baz=342,slow=3.4,SNR=7.7
WRA Warramunga Arr 122.32 209 PKP PKPdf 21 38 21.1 -2.3
WRA PKKPab PKKPab 21 48 19.7 -1.8
WRA Warramunga Arr 122.32 209 PKIKP PKPdf 21 38 21.1 -2.3
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRAB Tennant Creek 122.32 209 *e*PKPdf PKPdf 21 38 21.2 -2.1
WRAB LR LR
comp=Z,6μm,19.0s,MS6.2
WRAB Tennant Creek 122.32 209 *e*PKIKP PKPdf 21 38 21.2 -2.2
WRAB MLR MLR
comp=Z,6μm,19.0s,MS6.2
ARCES ARCESS Array B 122.42 24 PKP PKPdf 21 38 22.6 +0.7
comp=Z,4.4nm,0.9s,baz=106,slow=2.6,SNR=4.8
ARCES PP PP 21 40 00.3 +1.4
comp=Z,8.3nm,1.0s,baz=232,slow=6.0,SNR=4.6
ARCES ARCESS Array B 122.42 24 PKP PKPdf 21 38 22.6 +0.7
ARCES PP PP 21 40 00.3 +1.4
ARCES ARCESS Array B 122.42 24 PKIKP PKPdf 21 38 22.6 +0.7
ARCES 21 40 00.4
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,8.0nm,1.0s
KEV Kevo 122.96 24 PFAKE 21 38 30.0 +7.0
KEV LR LR
comp=Z,4μm,19.0s,MS6.1
COEN Coen 123.12 221 *e*PKPdf PKPdf 21 38 22.8 -2.2
PMG Port Moresby 124.32 229 PKP PKPdf 21 38 27.4 0.0
comp=Z,9.1nm,0.8s,baz=281,slow=3.1,SNR=4.2
PMG Port Moresby 124.32 229 PKP PKPdf 21 38 27.4 0.0
PMG LR LR
comp=Z,7μm,21.0s,MS6.3
PMG Port Moresby 124.32 229 PKIKP PKPdf 21 38 27.4 +0.1
PMG pmax pmax
comp=Z,9.0nm,0.8s
ANN Anapa 124.85 55 *i* PKIKP PKPdf 21 38 21.8 -5.5
ANN *e*SS SS 21 57 03.9 -6.0
ANN pmax pmax
comp=Z,71nm,1.4s
APA Apatity 125.22 27⇓ *i*PKIKP PKPdf 21 38 26.2 -1.1
APA pmax pmax
comp=Z,47nm,1.3s
APA MLR MLR
comp=Z,5μm,17.0s,MS6.2
MBWA Marble Bar 125.66 193 PFAKE 21 38 40.0 +10
MBWA LR LR
comp=Z,5μm,20.0s,MS6.1
LVZ Lovozero 125.69 27 PFAKE 21 38 40.0 +12
LVZ LR LR
comp=Z,5μm,20.0s,MS6.2
OBN Obninsk 126.04 42 *e*PKPdf PKPdf 21 38 28.4 -0.9
OBN *ep*PKPdf pPKPdf 21 38 35.1 -2.3
OBN LR LR
comp=Z,8μm,21.0s,MS6.3
OBN Obninsk 126.04 42⇑ *i*PKIKP PKPdf 21 38 28.7 -0.6
OBN *i* 21 40 21.1
OBN *e* 21 45 29.1
OBN *i* PS PS 21 50 16.6 -9.5
OBN pmax pmax
comp=Z,99nm,1.8s
OBN MLR MLR
comp=Z,7μm,21.0s,MS6.3
SOC Sochi 126.18 57 *i* PKIKP PKPdf 21 38 28.9 -1.0
SOC *e* 21 38 39.8
SOC *e* 21 40 21.0
SOC *e* 21 45 28.3
SOC *e*PS PS 21 50 26.6 -1.1
SOC *e*SS SS 21 57 23.2 -3.5
SOC pmax pmax
comp=Z,39nm,0.9s
WAKE Wake Island 126.49 271 PFAKE 21 38 40.0 +8.7
WAKE LR LR
comp=Z,5μm,20.0s,MS6.2
MOS Moscow 126.71 42 *e*PKIKP PKPdf 21 38 29.9 -0.6
MOS MLR MLR
comp=N,3μm,19.0s,MS6.4
MOS MLR MLR
comp=E,8μm,19.0s,MS6.4
MOS MLR MLR
comp=Z,10μm,19.0s,MS6.5
BHD Baghdad 127.04 71 *i* x PKPdf 21 38 31.5 -0.4
BHD *i* x x 21 40 25.5
BHD *i* x x 21 45 32.0
BHD *i* x x 21 45 50.0
BHD *i* x x 21 47 26.0
BHD *i* x x 21 50 26.0
BHD *i* x x 21 50 37.0
VSR Storozhevoye 127.13 48 *e*PKIKP PKPdf 21 38 30.9 -0.6
VSR pmax pmax
comp=N,6.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
FITZ Fitzroy Crossi 127.14 201 PKP PKPdf 21 38 33.1 +0.5
comp=Z,4.7nm,0.8s,baz=200,slow=5.2,SNR=4.4
FITZ Fitzroy Crossi 127.14 201 PKP PKPdf 21 38 33.1 +0.5
DGAR Diego Garcia 127.71 133 PFAKE 21 38 40.0 +6.2
DGAR LR LR
comp=Z,4μm,20.0s,MS6.1
KLMR Klimovskoe 127.92 35 *e*PKIKP PKPdf 21 38 29.6 -3.1
KLMR pmax pmax
comp=Z,95nm,1.4s
KLMR MLR MLR
comp=Z,6μm,19.0s,MS6.3
NAY Al-Naaiem 128.07 76 *e*P PKPdf 21 38 33.2 -0.8
NAY AMb AMB 21 38 36.6
comp=Z,33nm,1.2s
MIB Mutribah 128.33 76 *e*P PKPdf 21 38 33.6 -0.9
MIB AMb AMB 21 38 37.3
comp=Z,72nm,1.0s
KIV Kislovodsk 128.37 57 PFAKE 21 38 50.0 +16
KIV LR LR
comp=Z,5μm,21.0s,MS6.2
KIV Kislovodsk 128.37 57*c* *i* PKIKP PKPdf 21 38 34.2 +0.1
KIV *e* 21 40 38.4
KIV *e*PS PS 21 50 48.1 +1.3
KIV *e*SS SS 21 57 56.3 +2.4
KIV pmax pmax
comp=Z,38nm,1.1s
KIV MLR MLR
comp=Z,4μm,20.0s,MS6.2
AKH Akhalkalaki 128.45 60 P PKPdf 21 38 35.7 +1.4
AKH S PP 21 40 34.0 -6.0
UMR Umm Al-Rimmam 128.56 76 *e*P PKPdf 21 38 34.1 -0.8
UMR AMb AMB 21 38 37.8
comp=Z,98nm,1.1s
ONI Oni 128.66 59 P PKPdf 21 38 34.5 -0.2
ONI S PP 21 40 36.0 -5.4
GOR Gori 129.02 60 P PKPdf 21 38 38.0 +2.6
GNI Garni 129.11 62 PKP PKPdf 21 38 36.6 +1.0
comp=Z,9.2nm,0.8s,baz=187,slow=23,SNR=6.1
GNI Garni 129.11 62 *e*PKPdf PKPdf 21 38 34.7 -1.0
GNI PKP PKPdf 21 38 36.6 +1.0
GNI *e*SKPdf SKPdf 21 42 10.0 +0.6
GNI LR LR
comp=Z,6μm,20.0s,MS6.3
GNI Garni 129.11 62 *e*PKIKP PKPdf 21 38 34.7 -0.9
GNI MLR MLR
comp=Z,6μm,20.0s
TBLG Delisi 129.43 60 *e*PKIKP PKPdf 21 38 36.7 +0.5
TBLG Delisi 129.43 60 P PKPdf 21 38 36.8 +0.6
TBLG S SKPdf 21 41 54.8 -15
BILL Bilibino 131.51 335 *e*PKPdf PKPdf 21 38 39.0 -0.3
BILL *e*SKPbc SKPbc 21 42 02.6 -0.4
BILL LR LR
comp=Z,4μm,20.0s,MS6.1
BILL Bilibino 131.51 335⇑ *i*PKIKP PKPdf 21 38 38.5 -0.8
BILL *i* 21 41 03.8
BILL *e*PS PS 21 51 11.0 -2.3
BILL pmax pmax

comp=Z,30nm,1.2s
BILL MLR MLR
comp=Z,4μm,19.0s,MS6.1
MAK Makhachkala 131.66 59 *e*PKIKP PKPdf 21 38 34.7 -5.7
MAK *e*PPP 21 43 58.3
MAK *e* 21 45 45.4
MAK *e*PS PS 21 51 09.1 -6.3
MAK pmax pmax
comp=Z,119nm,0.9s
COCO West Island 134.34 164 PFAKE 21 39 00.0 +14
COCO LR LR
comp=Z,4μm,20.0s,MS6.1
SOKR Solikamsk 136.61 35 *i* PKIKP PKPdf 21 38 49.0 -0.1
SOKR *e* 21 51 43.0
SOKR pmax pmax
comp=Z,50nm,1.3s
ARU Arti 138.31 40 *e*PKPdf PKPdf 21 38 51.4 -1.0
ARU LR LR
comp=Z,7μm,20.0s,MS6.4
ARU Arti 138.31 40 *i* PKIKP PKPdf 21 38 51.2 -1.2
ARU 21 41 38.7
ARU SS SS 21 59 48.4 -4.9
ARU MLR MLR
comp=Z,7μm,19.0s,MS6.4
PET Petropavlovsk 138.69 315 PFAKE 21 39 00.0 +6.8
PET LR LR
comp=Z,2μm,20.0s,MS5.9
PET Petropavlovsk 138.69 315 *e*PKIKP PKPdf 21 38 54.2 +1.0
PET *e* 21 41 54.9
PET *e*PPS 21 54 02.1
PET *e*SSS 22 05 12.7
PET MLR MLR
comp=Z,2μm,20.0s,MS6.0
AKTO Aktyubinsk 139.05 49 PKhKP PKPpre 21 38 47.1
comp=Z,3.6nm,0.9s,baz=190,slow=1.4,SNR=8.1
AKTO PP PP 21 41 47.3 +0.1
comp=Z,6.7nm,1.0s,baz=334,slow=6.2,SNR=4.1
AKTO Aktyubinsk 139.05 49 PKPpre PKPpre 21 38 47.1
AKTO PP PP 21 41 47.3 +0.1
AKTO Aktyubinsk 139.05 49 PKHKP PKPpre 21 38 47.1
AKTO 21 41 47.3
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO pmax pmax
comp=Z,7.0nm,1.0s
PETK Petropavlovsk- 139.24 316 PKP PKPdf 21 38 54.5 +0.3
comp=Z,21nm,0.9s,baz=134,slow=4.3,SNR=7.9
PETK Petropavlovsk- 139.24 316 PKP PKPdf 21 38 54.5 +0.3
PETK Petropavlovsk- 139.24 316 PKIKP PKPdf 21 38 54.5 +0.3
PETK pmax pmax
comp=Z,21nm,1.0s
SVE Sverdlovsk 139.32 39 *i* PKIKP PKPdf 21 38 56.1 +1.9
SVE *e* 21 41 47.9
SVE pmax pmax
comp=Z,29nm,1.5s
ABKAR Akbulak array 140.43 50 *e*PKPdf PKPdf 21 38 56.4 0.0
KAPI Kappang 141.25 198 PKP PKPdf 21 38 57.9 -1.2
comp=Z,18nm,0.9s,baz=143,slow=6.0,SNR=3.6
KAPI Kappang 141.25 198 PKP PKPdf 21 38 57.9 -1.2
KAPI LR LR
comp=Z,5μm,21.0s,MS6.2
GUMO Guam 141.76 249 PFAKE 21 39 10.0 +10
GUMO LR LR
comp=Z,4μm,20.0s,MS6.2
TRD Trivandrum 142.46 122⇓ *e*PKP PKPdf 21 39 00.7 -0.5
KAD Karad 145.75 108 *e*PKPdf PKPdf 21 39 05.8 -1.0
KAD AMS AMS 21 40 04.0
comp=Z,2μm,18.9s,MS5.8
BRVK Borovoye 145.81 41 *e*PKPdf PKPdf 21 39 05.1 -0.7
BRVK LR LR
comp=Z,9μm,21.0s,MS6.5
BVAR Borovoye Array 145.88 41 PKPbc PKPbc 21 39 06.0 -0.6
comp=Z,65nm,0.7s,baz=290,slow=2.9,SNR=108
BVAR Borovoye Array 145.88 41 PKPbc PKPbc 21 39 06.0 -0.6
POO Poona 146.11 106 *e*PKP PKPdf 21 39 06.8 -0.6
POO AMS AMS 21 40 04.9
comp=Z,2μm,19.1s,MS5.9
BHV Bhavnagar 146.22 99 *e*PKP PKPdf 21 39 07.7 +0.2
KBL Kabul 147.29 75 *e*PKPdf PKPdf 21 39 08.5 -0.4
KBL *e*PP PP 21 42 36.8 -0.7
KBL Kabul 147.29 75 *e*PKIKP PKPdf 21 39 08.5 -0.4
KBL *e* 21 42 36.8
YAK Yakutsk 147.31 341 *e*PKPdf PKPdf 21 39 08.6 +0.5
YAK LR LR
comp=Z,3μm,20.0s,MS6.1
YAK Yakutsk 147.31 341 *i* PKIKP PKPdf 21 39 08.0 -0.1
YAK *e* 21 42 31.7
YAK *e*SSS 22 07 08.5
YAK pmax pmax
comp=Z,280nm,1.5s
YAK pmax pmax
comp=E,17nm,0.9s
YAK pmax pmax
comp=N,29nm,1.3s
YAK pmax pmax
comp=Z,1μm,6.2s
YAK pmax pmax
comp=N,332nm,5.2s
YAK pmax pmax
comp=E,244nm,5.6s
LATR Latur 148.25 108 *ex* PKPdf 21 39 13.0 +2.0
KKAR Karatay Array 148.48 59 *e*PKPdf PKPdf 21 39 10.3 -0.4
KKAR *e*PKPbc PKPbc 21 39 13.8 -0.4
KKAR *e*PP PP 21 42 44.1 0.0
KKAR Karatay Array 148.48 59 *e*PKIKP PKPdf 21 39 10.3 -0.3
KKAR *e* 21 39 13.8
KKAR *e* 21 42 44.1
YUK Yuzh-Kuril'sk 148.56 303 *d i* PKIKP PKPdf 21 39 11.2 +0.5
YUK *e* 21 42 45.2
YUK *e*SS SS 22 01 50.8 -1.4
KSM Kuching 149.20 184 *e*PKPdf PKPdf 21 39 12.4 -0.4
KSM LR LR
comp=Z,5μm,20.0s,MS6.3
HYB Hyderabad 149.28 112 *i* PKP PKPdf 21 39 11.5 -1.2
comp=Z,130nm,1.0s
HYB *e* 21 39 15.0
HYB *e*PP PP 21 42 48.0 -1.0
HYB *e*SKKS SKKSac 21 49 36.0 -3.0
AKL Akola 149.78 105 *e*PKP PKPdf 21 39 12.1 -1.3
AKL *i* x x 21 42 47.3
YSS Yuzh-Sakhalins 150.04 309 *e*PKPbc PKPbc 21 39 16.9 -1.1
YSS LR LR
comp=Z,1μm,20.0s,MS5.7
DAV Davao City (W) 150.13 216 PFAKE 21 39 20.0 +5.8
DAV LR LR
comp=Z,4μm,19.0s,MS6.2
AJM Ajmer 150.16 93 *e*PKP PKPdf 21 39 14.0 +0.2
ERM Erimo 150.81 299 *e*PKPdf PKPdf 21 39 13.1 -1.2
ERM LR LR
comp=Z,5μm,20.0s,MS6.3
ERM Erimo 150.81 299 *e*PKIKP PKPdf 21 39 13.1 -1.3
ERM MLR MLR
comp=Z,5μm,20.0s,MS6.3
ASAJ Asahikawa 150.85 304 PKPbc PKPbc 21 39 19.1 -0.9
comp=Z,58nm,1.0s,baz=309,slow=11,SNR=7.9
ASAJ Asahikawa 150.85 304 *e*PKPbc PKPbc 21 39 19.1 -0.9
EKS2 Erkin-Say 150.92 59 P PKPdf 21 39 15.2 +0.7
SNR=17
EKS2 P 21 39 15.2
SNR=17
EKS2 Erkin-Say 150.92 59 *e*PKPdf PKPdf 21 39 14.6 +0.1
EKS2 *e*PKPbc PKPbc 21 39 20.3 +0.1
EKS2 LR LR
comp=Z,5μm,20.0s,MS6.3
EKS2 Erkin-Say 150.92 59 *e*PKIKP PKPdf 21 39 14.6 +0.1
EKS2 *e* 21 39 20.3
EKS2 MLR MLR
comp=Z,5μm,20.0s,MS6.3
AML Almayashu 150.94 60 P PKPdf 21 39 15.4 +0.8
SNR=10
AML P 21 39 15.4
SNR=10
BHPL Bhopal 151.27 101 *e*PKP PKPdf 21 39 13.6 -2.1
USP Ospenovka 151.34 58 P PKPdf 21 39 14.9 -0.2
SNR=12
USP P 21 39 14.9
SNR=12
NVS Novosibirsk 151.40 31 *e*PKIKP PKPdf 21 39 13.2 -1.6
NVS *e* 21 43 07.3
NVS *e* 21 46 20.3
NVS pmax pmax
comp=Z,375nm,1.6s
IPM Ipoh 151.41 165 *e*PKPdf PKPdf 21 39 14.8 -1.3
AAK Ala-Archa 151.44 59 P PKPdf 21 39 15.9 +0.6
SNR=16
AAK P 21 39 15.9
SNR=16
AAK Ala-Archa 151.44 59 PFAKE 21 39 30.0 +15
AAK LR LR
comp=Z,6μm,20.0s,MS6.4
AAK Ala-Archa 151.44 59 *c i* PKIKP PKPdf 21 39 16.2 +0.9
AAK pmax pmax
comp=Z,44nm,1.0s
KURK Kurchatov 151.48 41 PKP PKPdf 21 39 14.8 -0.3
comp=Z,7.9nm,1.0s,baz=295,slow=2.4,SNR=25
KURK PKPbc PKPbc 21 39 21.5 +0.2
comp=Z,54nm,0.8s,baz=301,slow=3.3,SNR=98
KURK Kurchatov 151.48 41 *e*PKPdf PKPdf 21 39 14.4 -0.6
KURK PKP PKPdf 21 39 14.8 -0.3
KURK *e*PKPbc PKPbc 21 39 21.1 -0.2
KURK PKPbc PKPbc 21 39 21.5 +0.2
KURK LR LR
comp=Z,8μm,21.0s,MS6.5
KURK Kurchatov 151.48 41 *e*PKIKP PKPdf 21 39 14.5 -0.6
KURK 21 39 14.8
KURK 21 39 21.5
KURK MLR MLR
comp=Z,8μm,21.0s,MS6.5
FRU Bishkek 151.50 59⇑ *e*PKIKP PKPdf 21 39 16.0 +0.6
FRU *i* 21 39 22.0
FRU *i* 21 43 00.0
FRU pmax pmax
comp=Z,570nm,2.2s
UCH Uchtor 151.52 60 P PKPbc 21 39 22.7 +1.0
SNR=13
UCH P 21 39 22.7
SNR=13
CHMS Chumysh 151.57 58 P PKPbc 21 39 21.7 0.0
SNR=27
CHMS P 21 39 21.7
SNR=27
NGP Nagpur 151.65 106 *ex* x 21 42 49.5
KBK Karagaybulak 151.77 59 P PKPdf 21 39 16.7 +0.9
SNR=8.5
KBK P 21 39 16.7
SNR=8.5
KZA Kyzart 152.09 60 P PKPbc 21 39 23.7 +0.7
SNR=21
KZA P 21 39 23.7
SNR=21
KULM Kulim 152.11 163 *e*PKPdf PKPdf 21 39 15.9 -1.3
KULM LR LR
comp=Z,6μm,20.0s,MS6.4
TKM2 Tokmak 2 152.19 58 P PKPdf 21 39 16.1 -0.3
SNR=13
TKM2 P 21 39 16.1
SNR=13
TKM2 Tokmak 2 152.19 58 *e*PKPdf PKPdf 21 39 16.0 -0.4
TKM2 *e*PKPbc PKPbc 21 39 23.1 0.0
TKM2 LR LR
comp=Z,4μm,20.0s,MS6.2
TKM2 Tokmak 2 152.19 58 *e*PKIKP PKPdf 21 39 16.0 -0.4
TKM2 *e* 21 39 23.1
TKM2 MLR MLR
comp=Z,4μm,20.0s,MS6.2
KUDL Kundal 152.23 90 *e*PKP PKPdf 21 39 16.4 -0.5
RTK Rohtak 152.41 88 *e*PKPdf PKPdf 21 39 15.2 -2.0
THN Thein Dam 152.52 81 *e*PKP PKPdf 21 39 15.9 -1.4
ZAA0 Zalesovo Array 152.69 31 *e*PKPdf PKPdf 21 39 15.6 -1.2
ZAA0 *e*PKPbc PKPbc 21 39 23.4 -0.5
ZALV Zalesovo Beam 152.69 31 PKP PKPdf 21 39 15.8 -1.0
comp=Z,15nm,1.0s,baz=298,slow=3.2,SNR=29
ZALV PKPbc PKPbc 21 39 23.4 -0.5
comp=Z,66nm,0.7s,baz=304,slow=3.0,SNR=66
ZALV PKPab PKPab 21 39 35.8 +1.1
comp=Z,67nm,0.7s,baz=305,slow=3.2,SNR=11
ZALV Zalesovo Beam 152.69 31 PKP PKPdf 21 39 15.8 -1.0
ZALV PKPbc PKPbc 21 39 23.4 -0.5
ZALV PKPab PKPab 21 39 35.8 +1.1
ZALV Zalesovo Beam 152.69 31 PKIKP PKPdf 21 39 15.8 -1.0
ZALV 21 39 23.4
ZALV pmax pmax
comp=Z,15nm,1.0s
ZALV pmax pmax
comp=Z,66nm,0.7s
ZALV pmax pmax
comp=Z,67nm,0.7s
KKM Kota Kinabalu 152.78 197 *e*PKPdf PKPdf 21 39 15.4 -2.9
KKM LR LR
comp=Z,3μm,20.0s,MS6.1
ULHL Ulahol 152.79 60 P PKPbc 21 39 25.3 +0.8
SNR=13
ULHL P 21 39 25.3
SNR=13
AYAN Aya Nagar 152.87 90 *e*PKP PKPdf 21 39 17.3 -0.6
BHK Bhakra 152.94 83 *ex* PKPbc 21 39 26.0 +0.8
KSH Kashi 152.96 66 PKPbc PKPdf 21 39 17.6 -0.1
KSH PKS 21 42 50.6
KSH SKS SKSdf 21 46 19.0 -4.2
KSH AMB AMB
comp=Z,2μm,7.9s
KSH LR LR
comp=N,210nm,6.5s
KSH LR LR
comp=E,350nm,11.4s
KSH LR LR
comp=Z,390nm,9.7s
KKR Kurukshetra 152.98 87 *e*PKP PKPdf 21 39 17.2 -0.8
NDI New Delhi 153.00 90 *e*PKP PKPdf 21 39 16.0 -2.1
AGRA Agra 153.19 93 *e*PKP PKPdf 21 39 17.1 -1.3
ASOR Ausora 153.49 90 *ex* x 21 39 13.1
SMLA Simla 153.52 84 *i P* PKPdf 21 39 18.8 +0.1
SNG Songkhla 153.91 162 P PKPab 21 39 35.0 -5.8
comp=Z,120nm,0.8s
DDI Dehra Dun 154.10 86 *ex* PKPdf 21 39 22.0 +2.4
DDI *ex* x 21 43 24.0
HABR Khabarovsk 154.26 316 *e*PKIKP PKPdf 21 39 16.9 -2.3
HABR *e* 21 39 23.4
HABR *e* 21 39 26.0
HABR *e* 21 39 32.6
HABR *e* 21 39 39.5
HABR *e* 21 46 22.6
HABR *e*PPP 21 46 44.3
HABR *e*SS SS 22 02 55.0 +0.5
HABR *e*SSS 22 08 47.7
BOD Bodaibo 154.27 353 *e*PKIKP PKPdf 21 39 18.7 -0.2
BOD *e* 21 39 40.2
BOD pmax pmax
comp=Z,17nm,2.4s
MJAR Matsushiro Arr 155.07 288 PKPbc PKPdf 21 39 27.2 +6.4
comp=Z,5.6nm,1.1s,baz=226,slow=2.3,SNR=6.2
MJAR PKPab PKPab 21 39 44.6 -0.8
comp=Z,9.4nm,0.9s,baz=122,slow=2.0,SNR=5.3
MJAR Matsushiro Arr 155.07 288 PKPbc PKPdf 21 39 27.2 +6.4
MJAR PKPab PKPab 21 39 44.6 -0.8
MJAR Matsushiro Arr 155.07 288 PKIKP PKPdf 21 39 27.2 +6.4
MJAR 21 39 44.6
MJAR pmax pmax
comp=Z,6.0nm,1.1s
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MAJO Matsushiro 155.07 288 PFAKE 21 39 30.0 +9.2
MAJO LR LR
comp=Z,4μm,20.0s,MS6.2
MAT Matsushiro 155.07 288 PKP PKPdf 21 39 20.7 -0.1
MK31 Makanchi Array 155.45 47 *e*PKPdf PKPdf 21 39 19.7 -1.3
MK31 Makanchi Array 155.45 47 *e*PKIKP PKPdf 21 39 19.7 -1.2
MKAR Makanchi Array 155.45 47 PKP PKPdf 21 39 19.9 -1.0
comp=Z,9.8nm,1.0s,baz=294,slow=1.9,SNR=30
MKAR PKPab PKPab 21 39 46.3 -0.4
comp=Z,54nm,0.8s,baz=298,slow=2.2,SNR=32
MKAR PP PP 21 43 24.0 +0.6
comp=Z,7.0nm,0.9s,baz=276,slow=4.6,SNR=4.0
MKAR Makanchi Array 155.45 47 PKP PKPdf 21 39 19.9 -1.0
MKAR PKPab PKPab 21 39 46.3 -0.4
MKAR PP PP 21 43 24.0 +0.6
MKAR Makanchi Array 155.45 47 PKIKP PKPdf 21 39 20.0 -0.9
MKAR 21 43 24.0
MKAR pmax pmax
comp=Z,10.0nm,1.0s
MKAR pmax pmax
comp=Z,55nm,0.9s
MKAR pmax pmax
comp=Z,7.0nm,0.9s
KLR Kul'dur 155.71 321 *e*PKIKP PKPdf 21 39 15.8 -5.4
ALBI Allahabad 155.76 100 *ex* PKPab 21 39 45.0 -3.7
KOLN Koldanda 158.13 96 *e*P PKPdf 21 39 24.9 -0.1
KOLN Koldanda 158.13 96 *e*P PKPdf 21 39 24.9 -0.1
DANN Dangsing 158.44 94 *e*P PKPdf 21 39 24.9 -0.5
comp=Z,191nm,1.3s
DANN Dangsing 158.44 94 *e*P PKPdf 21 39 24.9 -0.5
GKN Gorkha 159.07 96 *e*P PKPdf 21 39 24.8 -1.3
comp=Z,96nm,1.3s
GKN Gorkha 159.07 96 *e*P PKPdf 21 39 24.8 -1.3
DMN Daman 159.34 97 *e*P PKPdf 21 39 25.0 -1.4
comp=Z,124nm,1.4s
DMN Daman 159.34 97 *e*P PKPdf 21 39 25.0 -1.4
MDJ Mudanjiang 159.43 313 PKP PKPdf 21 39 25.9 -0.1
MDJ pPKP pPKPdf 21 39 30.3 -3.9
MDJ sPKP 21 39 31.9
MDJ PKS 21 42 59.3
MDJ PP PP 21 43 47.3 +2.0
MDJ AMB AMB
comp=Z,760nm,8.6s
MDJ LR LR
comp=N,1μm,16.6s,MS6.3
MDJ LR LR
comp=E,4μm,19.2s,MS6.3
MDJ LR LR
comp=Z,4μm,16.6s,MS6.4
MDJ Mudanjiang 159.43 313 *e*PKPdf PKPdf 21 39 23.4 -2.5
MDJ LR LR
comp=Z,5μm,20.0s,MS6.3
KKN Kakani 159.55 97 *e*P PKPdf 21 39 25.8 -0.9
KKN Kakani 159.55 97 *e*P PKPdf 21 39 25.8 -0.9
KKN Kakani 159.55 97 *e*PKIKP PKPdf 21 39 25.8 -0.9
PKI Pulchoki 159.59 98 *e*P PKPdf 21 39 25.6 -1.1
PKI Pulchoki 159.59 98 *e*P PKPdf 21 39 25.6 -1.1
PKI Pulchoki 159.59 98 *e*PKIKP PKPdf 21 39 25.6 -1.1
CAL Calcutta 159.75 114⇑ *i*P PKPdf 21 39 24.8 -2.3
CAL *ex* x 21 43 26.0
IRK Irkutsk 159.93 7 *e*PKIKP PKPdf 21 39 27.0 +0.7
IRK *e* 21 40 05.2
IRK *e* 21 43 49.8
IRK pmax pmax
comp=Z,56nm,2.6s
MOY Mondy 160.00 13 *e*PKIKP PKPdf 21 39 28.2 +1.8
MOY pmax pmax
comp=Z,77nm,2.1s
CIT Chita 160.01 351 *e*PKP2 PKPab 21 40 07.5 +1.5
CIT pmax pmax
comp=Z,223nm,2.1s
GUN Gumba 160.09 97 *e*P PKPdf 21 39 26.5 -0.8
GUN Gumba 160.09 97 *e*P PKPdf 21 39 26.5 -0.8
WMQ Urumqi 160.21 49 PKP PKPdf 21 39 26.4 -0.5
WMQ PP PP 21 43 51.0 +1.4
WMQ SKS SKSdf 21 46 26.5 -4.0
WMQ SS SS 22 03 55.0 -3.5
WMQ LR LR
comp=N,6μm,17.6s
WMQ LR LR
comp=E,5μm,21.4s
WMQ LR LR
comp=Z,5μm,19.8s
JIRN Jiri 160.27 98 *e*P PKPdf 21 39 26.6 -0.9
comp=Z,88nm,1.3s
JIRN Jiri 160.27 98 *e*P PKPdf 21 39 26.6 -0.9
RAMN Ramite 160.37 100 *e*P PKPdf 21 39 27.1 -0.5
RAMN Ramite 160.37 100 *e*P PKPdf 21 39 27.1 -0.5
TLY Talaya 160.41 9 PFAKE 21 39 40.0 +13
TLY LR LR
comp=Z,6μm,20.0s
TLY Talaya 160.41 9 *e*PKIKP PKPdf 21 39 24.9 -2.0
TLY *e* 21 43 51.6
TLY *e* 21 57 18.9
TLY *e*SS SS 22 04 01.0 +2.2
TLY pmax pmax
comp=Z,43nm,1.1s
ODAN Odare 160.99 101 *e*P PKPdf 21 39 27.7 -0.6
comp=Z,46nm,0.8s
ODAN Odare 160.99 101 *e*P PKPdf 21 39 27.7 -0.6
HIA Hailar 161.09 336 PFAKE 21 39 40.0 +12
HIA LR LR
comp=Z,4μm,19.0s
TAPN Taplejung 161.43 100 *e*P PKPdf 21 39 27.6 -1.2
TAPN Taplejung 161.43 100 *e*P PKPdf 21 39 27.6 -1.2
ZAK Zakamensk 161.63 10 *e*PKIKP PKPdf 21 39 29.3 +1.1
ZAK *e* 21 43 57.7
ZAK pmax pmax
comp=Z,5.0nm,1.3s
NST Nakhon Sawan 161.77 154 P PKPdf 21 39 29.0 -0.4
CN2 Changchun 162.39 315 *e*PKP PKPdf 21 39 28.3 -0.9
CN2 PKPab PKPab 21 40 19.0 +2.2
CN2 PP PP 21 44 02.8 +1.6
CN2 SKS SKSdf 21 46 26.1 -6.2
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,3μm,21.0s
CN2 LR LR
comp=E,3μm,21.0s
CN2 LR LR
comp=Z,4μm,20.0s
AGT Agartala 162.74 115 *e*PKP PKPdf 21 39 30.0 -0.2
AGT *ex* x 21 40 18.0
KSRS Korea Array 163.16 293 PKP PKPdf 21 39 28.6 -1.6
comp=Z,6.7nm,1.0s,baz=106,slow=0.6,SNR=11
KSRS PKPab PKPab 21 40 20.3 -0.2
comp=Z,4.7nm,0.9s,baz=86,slow=4.6,SNR=4.8
KSRS Korea Array 163.16 293 PKIKP PKPdf 21 39 28.6 -1.6
KSRS 21 40 20.3
KSRS pmax pmax
comp=Z,7.0nm,1.0s
KSRS pmax pmax
comp=Z,5.0nm,0.9s
KSAR Wonju Array Be 163.19 293 PKP PKPdf 21 39 28.6 -1.6
KSAR PKPab PKPab 21 40 20.3 -0.3
KSAR Wonju Array Be 163.19 293 PKIKP PKPdf 21 39 28.6 -1.6
KSAR 21 40 20.3
CM31 Chiang Mai Arr 163.76 146 *e*PKPdf PKPdf 21 39 30.5 -0.8
CM31 *e*PKPab PKPab 21 40 22.4 -1.0
CM31 LR LR
comp=Z,4μm,20.0s
CMAR Chiang Mai Arr 163.76 146 PKP PKPdf 21 39 30.4 -0.8
comp=Z,4.2nm,0.8s,baz=243,slow=2.8,SNR=24
CMAR PKPab PKPab 21 40 23.2 -0.2
comp=Z,4.6nm,1.0s,baz=205,slow=6.1,SNR=4.9
CMAR Chiang Mai Arr 163.76 146 PKP PKPdf 21 39 30.4 -0.8
CMAR PKPab PKPab 21 40 23.2 -0.2
CMAR Chiang Mai Arr 163.76 146 PKIKP PKPdf 21 39 30.5 -0.8
CMAR 21 40 23.2
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CHG Chiang Mai 164.07 146 ⇓P PKPdf 21 39 30.6 -1.0
comp=Z,20nm,1.1s
CHTO Chiang Mai 164.07 146 *e*PKPdf PKPdf 21 39 30.3 -1.3
CHTO *e*PKPab PKPab 21 40 23.8 -0.9
CHTO LR LR
comp=Z,4μm,21.0s
CHTO Chiang Mai 164.07 146 *e*PKIKP PKPdf 21 39 30.3 -1.3
CHTO *e* 21 40 23.8
CHTO MLR MLR
comp=Z,4μm,21.0s
SHL Shillong 164.09 111 *ex* x 21 39 42.9
SHL *i* PP PP 21 44 10.0 -0.9
INCN Inchon 164.16 294 PFAKE 21 39 40.0 +8.9
INCN LR LR
comp=Z,4μm,20.0s
SONM Songino Array 164.50 5 PKP PKPdf 21 39 30.8 -0.2
comp=Z,2.1nm,0.9s,baz=74,slow=0.9,SNR=10.0
SONM PKPab PKPab 21 40 26.4 +0.6
comp=Z,17nm,1.0s,baz=344,slow=3.1,SNR=14
SONM PP PP 21 44 13.0 +1.6
comp=Z,6.4nm,1.1s,baz=339,slow=4.5,SNR=5.6
SONM Songino Array 164.50 5 PKP PKPdf 21 39 30.8 -0.2
SONM PKPab PKPab 21 40 26.4 +0.6
SONM PP PP 21 44 13.0 +1.6
SONM Songino Array 164.50 5 PKIKP PKPdf 21 39 30.8 -0.2
SONM 21 44 13.0
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,17nm,1.0s
SONM pmax pmax
comp=Z,6.0nm,1.1s
ULN Ulaanbaatar 164.51 3 *e*PKPdf PKPdf 21 39 30.2 -0.8
ULN *e*PKPab PKPab 21 40 26.6 +0.8
ULN *e*PP PP 21 44 13.2 +1.8
ULN LR LR
comp=Z,4μm,19.0s

ULN	**Ulaanbaatar**	**164.51**	**3**	*e*PKIKP	PKPdf	21 39 30.2	-0.9
ULN				*e*		21 44 13.2	
ULN				MLR	MLR		
comp=Z,4μm,19.0s							
SNY	**Shenyang**	**164.63**	**312**	⇑PKP	PKPdf	21 39 29.3	-2.1
SNY				PP	PP	21 44 12.1	-1.0
SNY				SS	SS	22 04 34.6	-10
SNY				AMB	AMB		
comp=Z,760nm,6.5s							
SNY				LR	LR		
comp=N,2μm,25.1s							
SNY				LR	LR		
comp=E,2μm,23.2s							
SNY				LR	LR		
comp=Z,2μm,22.8s							
LSA	**Lhasa**	**165.03**	**96**	PKP	PKPdf	21 39 31.8	-0.3
LSA				LR	LR		
comp=N,3μm,23.3s							
LSA				LR	LR		
comp=E,3μm,26.4s							
LSA				LR	LR		
comp=Z,4μm,24.0s							
LSA	**Lhasa**	**165.03**	**96**	*e*PKPdf	PKPdf	21 39 32.0	-0.1
LSA				*e*PKPab	PKPab	21 40 31.3	+2.3
LSA				*e*PP	PP	21 44 09.3	-6.7
LSA				LR	LR		
comp=Z,5μm,19.0s							
LSA	**Lhasa**	**165.03**	**96**	*e*PKIKP	PKPdf	21 39 32.0	-0.1
LSA				MLR	MLR		
comp=Z,5μm,19.0s							
IMP	**Imphal**	**165.27**	**117**	*e*PKP	PKPdf	21 39 34.0	+1.5
IMP				*ex*	x	21 40 27.0	
YHNB	**Yeheng**	**166.20**	**239**	PFAKE		21 39 40.0	+6.8
YHNB				LR	LR		
comp=Z,5μm,20.0s							
TATO	**Taipei**	**166.30**	**241**	PFAKE		21 39 40.0	+6.7
TATO				LR	LR		
comp=Z,4μm,21.0s							
QIZ	**Qiongzhong**	**166.63**	**186**	PKP	PKPdf	21 39 30.8	-2.9
QIZ				pPKP	pPKPdf	21 39 41.6	-0.3
QIZ				PP	PP	21 44 20.1	-2.4
QIZ				SS	SS	22 04 59.3	-3.6
QIZ				LR	LR		
comp=N,2μm,19.6s							
QIZ				LR	LR		
comp=E,1μm,20.3s							
QIZ				LR	LR		
comp=Z,4μm,20.3s							
QIZ	**Qiongzhong**	**166.63**	**186**	PFAKE		21 39 40.0	+6.3
QIZ				LR	LR		
comp=Z,4μm,20.0s							
QZH	**Quanzhou**	**168.34**	**233**	*i* PKP	PKPdf	21 39 32.3	-2.5
QZH				SKKS	SKKSac	21 51 12.0	-6.4
QZH				SS	SS	22 05 20.0	-2.3
QZH				AMB	AMB		
comp=Z,2μm,6.1s							
QZH				LR	LR		
comp=N,4μm,16.0s							
QZH				LR	LR		
comp=E,3μm,14.0s							
QZH				LR	LR		
comp=Z,7μm,19.5s							
HKC	**Hong Kong Obse**	**168.70**	**209**	P	PKPdf	21 39 40.0	+4.9
SSE	**Sheshan**	**168.98**	**267**	PKP	PKPdf	21 39 35.4	+0.4
SSE				SKKS	SKKSac	21 51 17.8	-3.8
SSE				AMB	AMB		
comp=Z,1μm,12.0s							
SSE				LR	LR		
comp=N,2μm,19.0s							
SSE				LR	LR		
comp=E,2μm,19.0s							
SSE				LR	LR		
comp=Z,4μm,20.3s							
SSE	**Sheshan**	**168.98**	**267**	PKP	PKPdf	21 39 35.4	+0.4
SSE				PP	PP	21 44 40.5	+4.2
SSE				SKKS	SKKSac	21 51 17.8	-3.8
SSE				SS	SS	22 05 28.1	-1.8
SSE				LR	LR		
comp=Z,4μm,20.3s							
BJI	**Beijing**	**170.08**	**323**	PKP	PKPdf	21 39 35.9	+0.5
BJI				PP	PP	21 44 41.5	+0.8
BJI				AMB	AMB		
comp=Z,1μm,9.0s							
BJI				LR	LR		
comp=N,4μm,22.3s							
BJI				LR	LR		
comp=E,3μm,20.4s							
BJI				LR	LR		
comp=Z,4μm,24.8s							
BJT	**Baijiatuau**	**170.10**	**322**	PFAKE		21 39 50.0	+15
BJT				LR	LR		
comp=Z,7μm,21.0s							
GTA	**Gaotai**	**170.16**	**42**	PKP	PKPdf	21 39 35.3	-0.1
GTA				pPKP	pPKPdf	21 39 39.5	-4.1
GTA				sPKP		21 39 42.1	
GTA				PKPab	PKPab	21 40 52.1	+0.9
GTA				PP	PP	21 44 43.0	+1.8
GTA				SKS	SKSdf	21 46 35.6	-1.7
GTA				SKKS	SKKSac	21 51 25.4	-1.3
GTA				SS	SS	22 05 39.5	-0.3
GTA				AMB	AMB		
comp=Z,2μm,12.4s							
GTA				LR	LR		
comp=N,4μm,21.4s							
GTA				LR	LR		
comp=E,4μm,22.8s							
GTA				LR	LR		
comp=Z,6μm,21.4s							
NJ2	**Nanjing**	**171.08**	**271**	*e*PKP	PKPdf	21 39 33.0	-3.2
NJ2				pPKP	pPKPdf	21 39 43.8	-0.6
NJ2				PKS		21 43 05.5	
NJ2				AMB	AMB		
comp=Z,1μm,7.7s							
NJ2				LR	LR		
comp=N,380nm,19.8s							
NJ2				LR	LR		
comp=E,2μm,24.9s							
NJ2				LR	LR		
comp=Z,3μm,25.7s							
HHC	**Hu-ho-hao-te**	**171.16**	**344**	⇑PKP	PKPdf	21 39 36.3	+0.4
HHC				PKS		21 43 07.6	
HHC				PP	PP	21 44 49.1	+3.6
HHC				SKS	SKSdf	21 46 34.3	-3.4
HHC				SKKS	SKKSac	21 51 31.8	+0.6
HHC				AMB	AMB		
comp=Z,1μm,9.4s							
HHC				LR	LR		
comp=N,2μm,20.4s							
HHC				LR	LR		
comp=E,3μm,21.0s							
HHC				LR	LR		
comp=Z,3μm,21.4s							
KMI	**Kunming**	**171.26**	**144**	PKP	PKPdf	21 39 35.6	-0.9
KMI	**Kunming**	**171.26**	**144**	PKP	PKPdf	21 39 35.6	-0.9
KMI				pPKP	pPKPdf	21 39 48.3	+3.6
KMI				sPKP		21 39 53.5	
KMI				PKPab	PKPab	21 40 53.6	-2.8
KMI				PP	PP	21 44 44.4	-2.1
KMI				PPP		21 48 50.2	
KMI				SKKS	SKKSac	21 51 25.8	-6.7
KMI				SS	SS	22 05 38.5	-12
KMI				SSS		22 12 22.2	
KMI				LR	LR		
comp=Z,3μm,18.7s							
KMI	**Kunming**	**171.26**	**144**	PKIKP	PKPdf	21 39 35.6	-0.9
KMI						21 39 48.3	
KMI						21 40 53.6	
KMI						21 44 44.4	
KMI				PPP		21 48 50.2	
KMI				MLR	MLR		
comp=Z,3μm,18.7s							
BTO	**Baotou**	**171.68**	**351**	*e*PKP	PKPdf	21 39 35.0	-1.2
TIA	**Tai'an**	**171.78**	**300**	PKP	PKPdf	21 39 35.3	-1.1
TIA				AMB	AMB		
comp=Z,2μm,8.3s							
TIA				LR	LR		
comp=N,1μm,23.0s							
TIA				LR	LR		
comp=E,2μm,32.0s							
TIA				LR	LR		
comp=Z,2μm,27.5s							
TIY	**Taiyuan**	**173.71**	**329**	*e*PKP	PKPdf	21 39 34.9	-2.2
TIY				PKPab	PKPab	21 41 01.9	-5.0
TIY				PP	PP	21 44 54.4	-4.0
TIY				AMB	AMB		
comp=Z,1μm,9.1s							
TIY				LR	LR		
comp=N,3μm,18.8s							
TIY				LR	LR		
comp=E,3μm,18.6s							
TIY				LR	LR		
comp=Z,2μm,16.5s							
GYA	**Guiyang**	**173.92**	**166**	*i* PKP	PKPdf	21 39 36.1	-1.5
GYA				PKPab	PKPab	21 41 08.9	+0.9
GYA				PKS		21 43 08.0	
GYA				PP	PP	21 45 01.3	+2.2
GYA				SKKS	SKKSac	21 51 45.3	+0.3
GYA				SS	SS	22 06 15.0	-0.2
GYA				AMB	AMB		
comp=Z,820nm,8.5s							
GYA				LR	LR		
comp=N,4μm,23.7s							
GYA				LR	LR		
comp=E,3μm,25.0s							
GYA				LR	LR		
comp=Z,5μm,24.8s							
WHN	**Wuhan**	**174.54**	**252**	PKP	PKPdf	21 39 34.3	-3.4
WHN				LR	LR		
comp=N,10μm,20.2s							
WHN				LR	LR		
comp=E,3μm,17.4s							
WHN				LR	LR		
comp=Z,870nm,18.2s							
LZH	**Lanzhou**	**174.76**	**44**	⇑PKP	PKPdf	21 39 37.5	-0.1
LZH				pPKP	pPKPdf	21 39 44.3	-1.4
LZH				sPKP		21 39 46.1	
LZH				PKS		21 43 08.0	
LZH				PP	PP	21 45 04.0	0.0
LZH				SKS	SKSdf	21 46 35.0	-4.1
LZH				SKKS	SKKSac	21 51 44.3	-4.6
LZH				AMB	AMB		
comp=Z,2μm,10.0s							
LZH				LR	LR		
comp=N,2μm,17.2s							
LZH				LR	LR		
comp=E,5μm,19.7s							
LZH				LR	LR		
comp=Z,7μm,20.3s							
LZH	**Lanzhou**	**174.76**	**44**	⇑PKP	PKPdf	21 39 37.5	-0.1
LZH				pPKP	pPKPdf	21 39 44.3	-1.4
LZH				sPKP		21 39 46.1	
CD2	**Chengdu**	**175.83**	**109**	*e*PKP	PKPdf	21 39 37.5	-0.5
CD2				PP	PP	21 45 09.8	-0.1
CD2				SKS	SKSdf	21 46 35.3	-4.2
CD2				SKKS	SKKSac	21 51 53.3	-1.2
CD2				AMB	AMB		
comp=Z,3μm,10.8s							
CD2				LR	LR		
comp=N,5μm,18.0s							
CD2				LR	LR		
comp=E,3μm,19.2s							
CD2				LR	LR		
comp=Z,5μm,20.4s							
ENH	**Enshi**	**177.67**	**206**	*e*PKPdf	PKPdf	21 39 36.8	-1.6
ENH				LR	LR		
comp=Z,6μm,20.0s							
XAN	**Xi'an**	**178.28**	**343**	PKP	PKPdf	21 39 36.8	-1.5
XAN				PKPab		21 41 25.5	
XAN				PP	PP	21 45 16.1	-3.7
XAN				SKS	SKSdf	21 46 34.8	-4.9
XAN				SKKS	SKKSac	21 52 02.3	-2.8
XAN				AMB	AMB		
comp=Z,760nm,10.7s							
XAN				LR	LR		
comp=N,2μm,21.0s							
XAN				LR	LR		
comp=Z,1μm,21.0s							

NEIC ***18*** *21:24:01.4, 39°.23N×25°.97E, h10km, MD3.1(ISK), After ISK.*
CSEM ***18*** *21:24:02.5±0.2, 39°.25N×26°.01E, h12km, MD2.9, Error ellipse: s-maj=4.8km s-min=3.1km az=75.0*
ISCJB ***18*** *21:24:02.4±0.5, 39°.25N±0°.02×26°.03E±0°.04, h10km±3km, Error ellipse: s-maj=5.5km s-min=3.6km az=158.3*
ATH ***18*** *21:24:02.6, 39°.26N×26°.08E, h15km±2km, MD2.9/4*
DDA ***18*** *21:24:02.3, 39°.25N×26°.07E, h7km±4km, Md3.1*
ISK ***18*** *21:24:02.2, 39°.24N×26°.04E, h13km, MD3.1*
ISC 18 21:24:03.0±0.5, 39°.26N±0°.02×26°.05E±0°.04, h12km±3km, n59, σ0°57/81, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.17**	**93**	*e*PB	**Pg**	**21 24 06.2**	**-0.7**
PRK				*e*SB	**Sg**	**21 24 09.6**	**0.0**
PRK	**Paraskevi**	**0.17**	**93**	*e*Pb	**Pg**	**21 24 06.2**	**-0.7**
PRK				*e*Sb	**Sg**	**21 24 09.6**	**0.0**
AYVA	**Ayvalik**	**0.50**	**84**	*i* P	**Pg**	**21 24 11.9**	**-1.0**
AYVA				*i* S	**Sg**	**21 24 19.7**	**+0.2**
AYVA	**Ayvalik**	**0.50**	**84**	*i* P	**Pg**	**21 24 11.9**	**-1.0**
AYVA				*i* S	**Sg**	**21 24 19.7**	**+0.2**
BOZC	**Bozcaada**	**0.59**	**0**	*i* P	**Pg**	**21 24 13.7**	**-0.7**
BOZC				*i* S	**Sg**	**21 24 23.1**	**+0.8**
EZN	**Ezine**	**0.61**	**20**	*e*PG	**Pg**	**21 24 14.6**	**-0.3**
EZN				*e*SG	**Sg**	**21 24 23.9**	**+1.0**
EZN	**Ezine**	**0.61**	**20**	Pg	**Pg**	**21 24 14.4**	**-0.5**
EZN				Sg	**Sg**	**21 24 24.4**	**+1.4**
EZN	**Ezine**	**0.61**	**20**	Pg	**Pg**	**21 24 14.4**	**-0.5**
EZN				*e*Sg	**Sg**	**21 24 23.9**	**+1.0**
CHOS	**Chios island**	**0.87**	**180**	*e*PB	**Pg**	**21 24 18.9**	**-0.9**
CHOS				*e*SN	**Sg**	**21 24 31.7**	**+0.6**
CHOS	**Chios island**	**0.87**	**180**	*e*Pb	**Pg**	**21 24 18.7**	**-1.1**
CHOS				*e*Sn	**Sg**	**21 24 31.7**	**+0.6**
LIA	**Limnos Island**	**0.93**	**314**	*e*PN	**Pg**	**21 24 20.7**	**-0.2**
LIA				*e*SN	**Sg**	**21 24 33.4**	**+0.3**
LIA	**Limnos Island**	**0.93**	**314**	*e*Pn	**Pg**	**21 24 20.7**	**-0.2**
LIA				*e*Sn	**Sg**	**21 24 33.4**	**+0.3**
BLCB	**Balcova**	**1.16**	**138**	*e*PN	**Pn**	**21 24 25.0**	**-0.1**
BLCB				*e*SN	**Sn**	**21 24 40.6**	**-0.3**
BLCB	**Balcova**	**1.16**	**138**	Pn	**Pn**	**21 24 24.7**	**-0.4**
BLCB				Sg	**Sg**	**21 24 41.7**	**+1.1**
BLCB	**Balcova**	**1.16**	**138**	Pn	**Pn**	**21 24 24.7**	**-0.4**
BLCB				*e*Sn	**Sn**	**21 24 40.6**	**-0.3**
BLCB				Sg	**Sg**	**21 24 41.7**	**+1.1**
GELI	**Tayfur-Gelibol**	**1.19**	**16**	*e*PN	**Pn**	**21 24 25.4**	**-0.1**
GELI				*e*SN	**Sn**	**21 24 42.0**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.19**	**16**	Pn	**Pn**	**21 24 25.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.19**	**16**	Pn	**Pn**	**21 24 25.1**	**-0.4**
GELI				*e*Sn	**Sn**	**21 24 42.0**	**+0.5**
LPK	**Lapseki**	**1.24**	**26**	*e*PN	**Pn**	**21 24 25.0**	**-1.2**
LPK	**Lapseki**	**1.24**	**26**	Pn	**Pn**	**21 24 25.4**	**-0.8**
LPK	**Lapseki**	**1.24**	**26**	Pn	**Pn**	**21 24 25.4**	**-0.8**
IZM	**Izmir**	**1.28**	**132**	*e*PN	**Pn**	**21 24 26.2**	**-0.5**
IZM	**Izmir**	**1.28**	**132**	Pn	**Pn**	**21 24 26.4**	**-0.3**
IZM	**Izmir**	**1.28**	**132**	Pn	**Pn**	**21 24 26.4**	**-0.3**
BALY	**Balya**	**1.31**	**68**	*i* P	**Pn**	**21 24 26.9**	**-0.2**
BALY				*i* S	**Sb**	**21 24 44.3**	**+0.1**
BALY	**Balya**	**1.31**	**68**	*i* P	**Pn**	**21 24 26.9**	**-0.2**
BALY				*i* S	**Sb**	**21 24 44.3**	**0.0**
ERIK	**Erikli-Kesan**	**1.46**	**14**	*e*PN	**Pn**	**21 24 29.0**	**-0.1**
ERIK	**Erikli-Kesan**	**1.46**	**14**	Pn	**Pn**	**21 24 29.0**	**-0.1**
ERIK	**Erikli-Kesan**	**1.46**	**14**	*e*Pn	**Pn**	**21 24 29.0**	**-0.2**
BALB	**Balikesir**	**1.47**	**74**	*e*PN	**Pn**	**21 24 29.3**	**0.0**
BALB	**Balikesir**	**1.47**	**74**	Pn	**Pn**	**21 24 29.6**	**+0.3**
BALB	**Balikesir**	**1.47**	**74**	*e*Pn	**Pn**	**21 24 29.3**	**0.0**
ENEZ	**Enez**	**1.48**	**3**	*e*PN	**Pn**	**21 24 29.2**	**-0.3**
ENEZ	**Enez**	**1.48**	**3**	*e*Pn	**Pn**	**21 24 29.2**	**-0.3**
KRBG	**Karabiga-Canak**	**1.49**	**40**	*e*PN	**Pn**	**21 24 29.4**	**-0.2**
KRBG	**Karabiga-Canak**	**1.49**	**40**	Pn	**Pn**	**21 24 29.4**	**-0.2**
KRBG	**Karabiga-Canak**	**1.49**	**40**	*e*Pn	**Pn**	**21 24 29.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.49**	**57**	*e*PN	**Pn**	**21 24 29.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.49**	**57**	Pn	**Pn**	**21 24 29.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.49**	**57**	*e*Pn	**Pn**	**21 24 29.7**	**+0.1**
SMG	**Samos**	**1.66**	**158**	*e*PN	**Pn**	**21 24 33.5**	**+1.5**
SMG	**Samos**	**1.66**	**158**	*e*Pn	**Pn**	**21 24 33.5**	**+1.5**
RKY	**Sarkoy-Tekirda**	**1.67**	**31**	*e*PN	**Pn**	**21 24 32.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.67**	**31**	Pn	**Pn**	**21 24 32.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.67**	**31**	*e*Pn	**Pn**	**21 24 32.1**	**0.0**
MFT	**Murefte**	**1.80**	**31**	*e*PN	**Pn**	**21 24 34.2**	**+0.3**
MFT	**Murefte**	**1.80**	**31**	*e*Pn	**Pn**	**21 24 34.2**	**+0.3**
DURS	**Dursunbey**	**1.91**	**79**	*i* P	**Pn**	**21 24 35.3**	**-0.1**
DURS				*i* S	**Sn**	**21 24 59.2**	**-0.1**
DURS	**Dursunbey**	**1.91**	**79**	*i* P	**Pn**	**21 24 35.3**	**-0.1**
DURS				*i* S	**Sn**	**21 24 59.2**	**-0.1**
DST	**Dursunbey**	**2.02**	**79**	*e*PN	**Pn**	**21 24 37.0**	**+0.1**
DST	**Dursunbey**	**2.02**	**79**	Pn	**Pn**	**21 24 37.4**	**+0.5**
DST	**Dursunbey**	**2.02**	**79**	*e*Pn	**Pn**	**21 24 37.0**	**+0.1**
KCTX	**Karacabey (Bur**	**2.04**	**60**	*e*PN	**Pn**	**21 24 37.1**	**-0.1**
KCTX	**Karacabey (Bur**	**2.04**	**60**	*e*Pn	**Pn**	**21 24 37.1**	**-0.1**
KULA	**Kula-Manisa**	**2.17**	**109**	*e*PN	**Pn**	**21 24 39.3**	**+0.4**
KULA	**Kula-Manisa**	**2.17**	**109**	*e*Pn	**Pn**	**21 24 39.3**	**+0.4**
EDRB	**Edirne**	**2.64**	**11**	*e*PN	**Pn**	**21 24 45.7**	**+0.2**
EDRB	**Edirne**	**2.64**	**11**	Pn	**Pn**	**21 24 45.7**	**+0.2**
EDRB	**Edirne**	**2.64**	**11**	*e*Pn	**Pn**	**21 24 45.7**	**+0.2**

IDC ***18*** *21:24:58.6±1.2, 32°.41S×71°.86W, h0km, mb4.9/8, mb1 4.9/8, mb1mx4.6/15, mbtmp4.9/8, Error ellipse: s-maj=46.3km s-min=27.5km az=87.0*
ISCJB ***18*** *21:25:02.2±1.0, 32°.49S±0°.04×71°.99W±0°.08, h35km±8km, mb4.8/8, Error ellipse: s-maj=11.7km s-min=6.2km az=176.5*
GUC ***18*** *21:25:02.6±0.5, 32°.50S×71°.85W, h36km±1km, ML4.6*
NEIC ***18*** *21:25:02.0, 32°.49S×71°.87W, h38km, MG4.6(GUC), After GUC.*
ISC 18 21:25:01.4±1.6, 32°.48S±0°.03×71°.93W±0°.06, h16km±10km, n54, σ0°73/52, mb4.8/8, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.60**	**156**	*i* P	**Pb**	**21 25 14.1**	**+0.6**
IHA				*i* S	**Sb**	**21 25 22.3**	**+0.5**
IHA	**Instituto Hidr**	**0.60**	**156**	*e*P	**Pb**	**21 25 13.9**	**+0.4**
IHA				*i* S	**Sb**	**21 25 22.4**	**+0.6**
PTCH	**Petorca**	**0.88**	**76**	⇓*i*P	**Pb**	**21 25 18.0**	**-0.2**
PTCH				*i* S	**Sb**	**21 25 29.5**	**-0.1**
PTCH				AML	AML	21 25 31.1	
comp=N,73μm,0.3s							
ROCH	**El Roble**	**0.92**	**123**	AML	AML	21 25 34.5	
comp=E,27μm,0.6s							
LCCH	**Las Cruces**	**1.04**	**163**	*i* P	**Pb**	**21 25 20.3**	**-0.7**
JACH	**Jahuel**	**1.15**	**101**	*i* P	**Pn**	**21 25 21.9**	**-0.9**
JACH	**Jahuel**	**1.15**	**101**	⇑*i*P	**Pn**	**21 25 22.0**	**-0.8**
PEL	**Peldehue**	**1.24**	**123**	*e*P	**Pn**	**21 25 23.6**	**-0.5**
PEL				*e*S	**Sb**	**21 25 39.2**	**-1.1**
PEL				AML	AML	21 25 42.3	
comp=N,77μm,0.6s							
RCDM	**Rinconada Maip**	**1.38**	**137**	AML	AML	21 25 46.5	
comp=N,9μm,0.2s							
TACH	**Talagante**	**1.44**	**145**	⇓*i*P	**Pn**	**21 25 26.7**	**-0.1**
TACH	**Talagante**	**1.44**	**145**	⇓*i*P	**Pn**	**21 25 26.7**	**-0.1**
TACH				*e*P		21 25 26.7	
SAN	**Santiago**	**1.45**	**133**	⇑*i*P	**Pn**	**21 25 26.7**	**-0.1**
SAN				*i* S	**Sn**	**21 25 45.4**	**-0.2**
SAN	**Santiago**	**1.45**	**133**	*e*P	**Pn**	**21 25 26.7**	**-0.2**
SAN				*i* S	**Sn**	**21 25 44.9**	**-0.6**
SAN				AML	AML	21 25 51.6	
comp=E,13μm,0.8s							
CLCH	**Cerro Calan**	**1.49**	**128**	⇓*i*P	**Pn**	**21 25 27.4**	**-0.1**
CLCH				*i* S	**Sn**	**21 25 46.5**	**-0.2**
CLCH				AML	AML	21 25 49.2	
comp=E,17μm,0.7s							
CMCH	**Combarbala**	**1.52**	**32**	*e*P	**Pn**	**21 25 28.6**	**+0.7**
CMCH				*i* S	**Sn**	**21 25 48.3**	**+0.9**
ANTU	**Antumapu**	**1.54**	**135**	*i* P	**Pn**	**21 25 28.4**	**+0.2**
ANTU				*i* S	**Sn**	**21 25 47.9**	**0.0**
ANTU				AML	AML	21 25 53.0	
comp=N,12μm,0.5s							
FCH	**Farellones**	**1.62**	**122**	*i* P	**Pn**	**21 25 29.6**	**+0.3**
FCH				*i* S	**Sn**	**21 25 50.4**	**+0.6**
FCH	**Farellones**	**1.62**	**122**	*i* P	**Pn**	**21 25 29.6**	**+0.3**
FCH				*i* S	**Sn**	**21 25 50.4**	**+0.6**
PCH	**Pirque**	**1.65**	**134**	⇓*i*P	**Pn**	**21 25 30.0**	**+0.3**
CACH	**El Canelo**	**1.98**	**146**	*i* P	**Pn**	**21 25 34.9**	**+0.7**
LMEL	**Las Melosas**	**1.99**	**134**	AML	AML	21 26 10.5	
comp=N,6μm,0.2s							
CFAA	**Coronel Fontan**	**3.26**	**75**	Pn	**Pn**	**21 25 54.8**	**+3.0**
comp=N,9.3nm,0.3s,baz=266,slow=9.9,SNR=17							
CFAA				Lg		21 26 38.6	
comp=N,60nm,0.3s,baz=2.9,slow=18,SNR=11							
CFAA	**Coronel Fontan**	**3.26**	**75**	Pn	**Pn**	**21 25 54.8**	**+3.0**
CFAA				Lg		21 26 38.6	
LCO	**Las Campanas**	**3.61**	**17**	*e*Pn	**Pn**	**21 25 56.2**	**-0.5**
VNA3	**Neumayer Olymp**	**50.73**	**158**	*e*	**P**	**21 34 00.6**	**+0.6**
VNA3				*e*		21 35 28.6	
VNA2	**Neumayer--Watz**	**51.38**	**158**	*e*	**P**	**21 34 05.4**	**+0.6**
baz=289,slow=7.2							
VNA2				*e*		21 35 33.3	
SNAA	**Sanae**	**52.96**	**158**	*e*	**P**	**21 34 17.3**	**+0.7**
SNAA	**Sanae**	**52.96**	**158**	P	**P**	**21 34 16.9**	**+0.3**
comp=N,4.0nm,1.0s,mb4.3,baz=246,slow=5.0,SNR=3.9							
SNAA	**Sanae**	**52.96**	**158**	*e*P	**P**	**21 34 15.8**	**-0.8**
QSPA	**South Pole Qui**	**57.76**	**180**	P	**P**	**21 34 51.6**	**+0.6**
comp=N,18nm,0.9s,mb5.1,baz=136,slow=7.8,SNR=4.8							
QSPA	**South Pole Qui**	**57.76**	**180**	P	**P**	**21 34 51.6**	**+0.6**
ACSO	**Alum Creek Sta**	**73.06**	**351**	*e*P	**P**	**21 36 27.2**	**-3.2**
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**21 36 39.4**	**-0.8**
comp=N,17nm,0.7s,mb5.1,baz=200,slow=5.7,SNR=10							
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**21 36 39.4**	**-0.8**
SUR	**Sutherland**	**75.49**	**119**	P	**P**	**21 36 46.0**	**+1.0**
comp=N,14nm,0.8s,mb4.9,baz=253,slow=2.3,SNR=3.9							
SUR	**Sutherland**	**75.49**	**119**	P	**P**	**21 36 46.0**	**+1.0**
BOSA	**Boshof**	**80.70**	**118**	P	**P**	**21 37 13.3**	**-0.7**
comp=N,11nm,0.9s,mb4.8,baz=244,slow=6.3,SNR=5.8							
BOSA	**Boshof**	**80.70**	**118**	P	**P**	**21 37 13.3**	**-0.7**
LBTB	**Lobatse**	**82.86**	**115**	P	**P**	**21 37 24.9**	**-0.5**
comp=N,4.6nm,0.7s,mb4.6,baz=271,slow=6.6,SNR=4.7							
LBTB	**Lobatse**	**82.86**	**115**	P	**P**	**21 37 24.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**21 37 28.8**	**-0.5**
comp=N,12nm,0.8s,mb5.1,baz=287,slow=5.2,SNR=10							
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**21 37 28.8**	**-0.5**
ULM	**Lac du Bonnet**	**85.05**	**345**	P	**P**	**21 37 35.2**	**-0.5**
comp=N,1.8nm,0.8s,mb4.3,baz=167,slow=7.9,SNR=2.9							
ULM	**Lac du Bonnet**	**85.05**	**345**	P	**P**	**21 37 35.2**	**-0.5**
BRTR	**Keskin Array B**	**121.01**	**60**	PKP	PKPdf	21 43 52.3	-0.7
comp=N,1.8nm,0.9s,baz=186,slow=2.2,SNR=4.7							
BRTR	**Keskin Array B**	**121.01**	**60**	PKP	PKPdf	21 43 52.3	-0.7
BVAR	**Borovoye Array**	**146.10**	**41**	PKPbc	PKPbc	21 44 40.5	+0.4
comp=N,5.6nm,0.7s,baz=332,slow=2.6,SNR=6.7							
BVAR	**Borovoye Array**	**146.10**	**41**	PKPbc	PKPbc	21 44 40.5	+0.4
KURK	**Kurchatov**	**151.69**	**41**	PKPbc	PKPbc	21 44 54.1	-0.5
comp=N,7.7nm,0.8s,baz=302,slow=3.1,SNR=5.1							
KURK	**Kurchatov**	**151.69**	**41**	PKPbc	PKPbc	21 44 54.1	-0.5
**

SAN	**Santiago**	**1.46**	**131**	⇑*i*P	**Pn**	**21 26 55.4**	**-0.1**
SAN				*i*S	**Sn**	**21 27 14.0**	**-0.1**
SAN	**Santiago**	**1.46**	**131**	⇑*i*P	**Pn**	**21 26 55.4**	**-0.1**
SAN				*i*S	**Sn**	**21 27 14.0**	**-0.1**
CLCH	**Cerro Calan**	**1.51**	**127**	⇑*i*P	**Pn**	**21 26 56.2**	**+0.1**
CLCH				*i*S	**Sn**	**21 27 15.5**	**+0.3**
CLCH				AML	AML	21 27 19.3	
	comp=E,21μm,0.6s						
ANTU	**Antumapu**	**1.56**	**134**	*i*P	**Pn**	**21 26 57.1**	**+0.4**
ANTU				*i*S	**Sn**	**21 27 17.0**	**+0.6**
ANTU	**Antumapu**	**1.56**	**134**	*i*P	**Pn**	**21 26 57.1**	**+0.4**
ANTU				*i*S	**Sn**	**21 27 17.0**	**+0.6**
ANTU				AML	AML	21 27 23.2	
	comp=N,16μm,0.5s						
CMCH	**Combarbala**	**1.56**	**33**	⇓*i*P	**Pn**	**21 26 57.2**	**+0.4**
CMCH				*i*S	**Sn**	**21 27 16.8**	**+0.4**
CMCH	**Combarbala**	**1.56**	**33**	⇓*i*P	**Pn**	**21 26 57.2**	**+0.4**
CMCH				*i*S	**Sn**	**21 27 16.8**	**+0.4**
FSR	**Penalolen**	**1.56**	**129**	⇓*i*P	**Pn**	**21 26 57.1**	**+0.2**
FSR				*i*S	**Sn**	**21 27 16.8**	**+0.2**
FSR	**Penalolen**	**1.56**	**129**	⇑*i*P	**Pn**	**21 26 57.1**	**+0.2**
FSR				*i*S	**Sn**	**21 27 16.8**	**+0.2**
FCH	**Farellones**	**1.65**	**121**	⇑*i*P	Px	21 25 56.4	
FCH				*i*S	Sx	21 26 18.3	
FCH				AML	AML	21 26 23.6	
	comp=N,10μm,0.4s						
LMEL	**Las Melosas**	**2.01**	**133**	⇑*i*P	**Pn**	**21 27 04.0**	**+1.0**
LMEL				*i*S	**Sn**	**21 27 28.9**	**+1.4**
LMEL	**Las Melosas**	**2.01**	**133**	⇑*i*P	**Pn**	**21 27 04.0**	**+1.0**
LMEL				*i*S	**Sn**	**21 27 28.9**	**+1.4**
LMEL				AML	AML	21 27 35.1	
	comp=N,9μm,0.7s						
CFAA	**Coronel Fontan**	**3.30**	**75**	Pn	**Pn**	**21 27 21.0**	**+0.3**
	baz=208,slow=18,SNR=1.0						
CFAA				Lg		21 28 03.5	
	baz=309,slow=23,SNR=1.7						
LPAZ	**La Paz**	**16.51**	**13**	Pn	**Pn**	**21 30 21.6**	**+0.9**
	comp=N,0.3nm,0.3s,baz=210,slow=16,SNR=1.9						
LPAZ	**La Paz**	**16.51**	**13**	Pn	**Pn**	**21 30 21.6**	**+0.9**
JTS	**JuntasAbangare**	**44.31**	**342**	LR	LR	21 50 18.4	
	comp=N,11μm,21.9s,MS5.8,baz=146,slow=32						
SNAA	**Sanae**	**52.96**	**158**	P	**P**	**21 35 45.0**	**+0.2**
	comp=N,1.2nm,0.5s,mb4.1,baz=276,slow=8.5,SNR=6.5						
SNAA	**Sanae**	**52.96**	**158**	*e*P	**P**	**21 35 44.8**	**0.0**
	comp=N,9.7nm,0.9s,mb4.7						
SNAA	**Sanae**	**52.96**	**158**	*e*	**P**	**21 35 45.2**	**+0.4**
TEIG	**Tepich**	**54.69**	**341**	LR	LR	21 56 19.6	
	comp=N,7μm,18.6s,MS5.8,baz=294,slow=33						
QSPA	**South Pole Qui**	**57.74**	**180**	P	**P**	**21 36 19.9**	**+0.9**
	comp=N,6.0nm,0.7s,mb4.8,baz=207,slow=5.0,SNR=4.4						
QSPA	**South Pole Qui**	**57.74**	**180**	*e*P	**P**	**21 36 19.1**	**0.0**
	comp=N,14nm,1.1s,mb4.9						
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**21 38 07.8**	**-0.8**
	comp=N,11nm,0.6s,mb5.0,baz=203,slow=5.6,SNR=11						
BOSA	**Boshof**	**80.73**	**118**	P	**P**	**21 38 42.0**	**-0.3**
	comp=N,6.8nm,0.9s,mb4.6,baz=271,slow=5.8,SNR=6.2						
LBTB	**Lobatse**	**82.89**	**115**	P	**P**	**21 38 52.1**	**-1.6**
	comp=N,5.5nm,0.8s,mb4.6,baz=302,slow=6.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**21 38 56.8**	**-0.9**
	comp=N,8.2nm,0.8s,mb4.9,baz=241,slow=3.9,SNR=7.6						
ULM	**Lac du Bonnet**	**85.06**	**345**	LR	LR	22 14 48.4	
	comp=N,4μm,19.7s,MS5.8,baz=146,slow=34						
BVAR	**Borovoye Array**	**146.13**	**41**	PKPbc	PKPbc	21 46 08.6	+0.2
	comp=N,6.8nm,0.7s,baz=293,slow=2.5,SNR=9.9						
KURK	**Kurchatov**	**151.73**	**41**	PKPbc	PKPbc	21 46 22.5	-0.3
	comp=N,4.6nm,0.6s,baz=301,slow=3.0,SNR=6.8						
ZALV	**Zalesovo Beam**	**152.92**	**31**	PKPbc	PKPbc	21 46 24.8	-0.6
	comp=N,4.7nm,0.6s,baz=320,slow=2.9,SNR=4.6						
MKAR	**Makanchi Array**	**155.72**	**46**	PKPab	PKPab	21 46 48.3	-0.5
	comp=N,3.7nm,0.7s,baz=277,slow=3.2,SNR=8.5						

*ISCJB **18** 21:40:53.8±1.1, 32°.50S±0°.03×72°.06W±0°.07, h17km±6km, mb3.9/2, Error ellipse: s-maj=9.4km s-min=5.1km az=171.3*
*GUC **18** 21:40:55.7±0.8, 32°.52S×71°.97W, h15km±999km, ML4.0*
*IDC **18** 21:40:55.1±2.6, 32°.55S×71°.23W, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.7/13, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=94.3km s-min=37.4km az=96.0*
*NEIC **18** 21:40:55.7, 32°.52S×71°.97W, h15km, ML4.0(GUC), After GUC.*

ISC 18 21:40:54.6±1.0, 32°.50S±0°.03×71°.97W±0°.06, h12km±4km, n40, σ0°64/58, mb3.9/2, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**152**	⇓*i*P	**Pg**	**21 41 06.2**	**0.0**
IHA				*e*S	**Sg**	**21 41 14.4**	**+0.4**
IHA	**Instituto Hidr**	**0.59**	**152**	⇓*i*P	**Pg**	**21 41 06.2**	**0.0**
IHA				*e*S	**Sg**	**21 41 14.4**	**+0.4**
PTCH	**Petorca**	**0.91**	**75**	*e*P	**Pg**	**21 41 12.2**	**0.0**
PTCH				*i*S	**Sg**	**21 41 24.6**	**+0.4**
PTCH	**Petorca**	**0.91**	**75**	*e*P	**Pg**	**21 41 12.2**	**0.0**
PTCH				*i*S	**Sg**	**21 41 24.6**	**+0.4**
PTCH				AML	AML	21 41 26.7	
	comp=N,14μm,0.4s						
ROCH	**El Roble**	**0.94**	**120**	⇑*i*P	**Pg**	**21 41 12.3**	**-0.4**
ROCH				*i*S	**Sg**	**21 41 24.7**	**-0.3**
ROCH				AML	AML	21 41 27.0	
	comp=N,10μm,0.5s						
LCCH	**Las Cruces**	**1.03**	**161**	*e*P	**Pb**	**21 41 13.6**	**-0.8**
LCCH	**Las Cruces**	**1.03**	**161**	*e*P	**Pb**	**21 41 13.6**	**-0.8**
JACH	**Jahuel**	**1.18**	**99**	⇑*i*P	**Pn**	**21 41 16.1**	**-0.8**
JACH				*i*S	**Sb**	**21 41 32.1**	**-0.1**
JACH	**Jahuel**	**1.18**	**99**	⇑*i*P	**Pn**	**21 41 16.1**	**-0.8**
JACH				*i*S	**Sb**	**21 41 32.1**	**-0.1**
PEL	**Peldehue**	**1.26**	**121**	⇑*i*P	**Pn**	**21 41 17.5**	**-0.5**
PEL				*i*S	**Sb**	**21 41 34.0**	**-0.4**
PEL				AML	AML	21 41 35.7	
	comp=E,10μm,0.4s						
RCDM	**Rinconada Maip**	**1.39**	**135**	*e*P	**Pn**	**21 41 19.6**	**-0.2**
RCDM				*e*S	**Sn**	**21 41 37.2**	**-0.9**
RCDM	**Rinconada Maip**	**1.39**	**135**	*e*P	**Pn**	**21 41 19.6**	**-0.2**
RCDM				*i*S	**Sn**	**21 41 37.2**	**-0.9**
RCDM				AML	AML	21 41 40.6	
	comp=N,2μm,0.4s						
TACH	**Talagante**	**1.44**	**143**	*e*P	**Pn**	**21 41 20.7**	**+0.2**
TACH	**Talagante**	**1.44**	**143**	*e*P	**Pn**	**21 41 20.7**	**+0.2**
SAN	**Santiago**	**1.46**	**131**	⇑*i*P	**Pn**	**21 41 21.0**	**+0.3**
SAN				*i*S	**Sn**	**21 41 39.2**	**-0.5**
SAN	**Santiago**	**1.46**	**131**	⇑*i*P	**Pn**	**21 41 21.0**	**+0.3**
SAN				*i*S	**Sn**	**21 41 39.2**	**-0.5**
SAN				AML	AML	21 41 41.6	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**1.50**	**127**	*e*P	**Pn**	**21 41 21.2**	**-0.1**
CLCH				*i*S	**Sn**	**21 41 40.6**	**-0.3**
CLCH				AML	AML	21 41 53.8	
	comp=E,4μm,0.7s						
ANTU	**Antumapu**	**1.55**	**134**	*e*P	**Pn**	**21 41 22.4**	**+0.4**
ANTU				*i*S	**Sn**	**21 41 42.2**	**+0.2**
ANTU	**Antumapu**	**1.55**	**134**	*e*P	**Pn**	**21 41 22.4**	**+0.4**
ANTU				*i*S	**Sn**	**21 41 42.2**	**+0.2**
ANTU				AML	AML	21 41 47.7	
	comp=E,3μm,0.5s						
CMCH	**Combarbala**	**1.56**	**32**	*e*P	**Pn**	**21 41 22.3**	**+0.2**
CMCH				*e*S	**Sn**	**21 41 42.1**	**-0.1**
CMCH	**Combarbala**	**1.56**	**32**	*e*P	**Pn**	**21 41 22.3**	**+0.2**
CMCH				*e*S	**Sn**	**21 41 42.1**	**-0.1**
PCH	**Pirque**	**1.66**	**133**	⇓*i*P	**Pn**	**21 41 24.1**	**+0.6**
PCH				*i*S	**Sn**	**21 41 45.3**	**+0.6**
PCH	**Pirque**	**1.66**	**133**	⇓*i*P	**Pn**	**21 41 24.1**	**+0.6**
PCH				*i*S	**Sn**	**21 41 45.3**	**+0.6**
LMEL	**Las Melosas**	**2.00**	**133**	*e*P	**Pn**	**21 41 29.0**	**+0.8**
LMEL				*i*S	**Sn**	**21 41 55.0**	**+1.7**
LMEL	**Las Melosas**	**2.00**	**133**	*e*P	**Pn**	**21 41 29.0**	**+0.8**
LMEL				*i*S	**Sn**	**21 41 55.0**	**+1.7**
LMEL				AML	AML	21 42 02.8	
	comp=N,2μm,1.1s						
CFAA	**Coronel Fontan**	**3.30**	**75**	Pn	**Pn**	**21 41 40.7**	**-5.3**
	comp=N,1.2nm,0.3s,baz=43,slow=16,SNR=6.4						
CFAA				Lg		21 42 33.1	
	comp=N,2.2nm,0.3s,baz=152,slow=21,SNR=6.6						
CFAA	**Coronel Fontan**	**3.30**	**75**	Pn	**Pn**	**21 41 40.7**	**-5.3**
CFAA				Lg		21 42 33.1	
LCO	**Las Campanas**	**3.65**	**18**	*e*Pn	**Pn**	**21 41 47.5**	**-3.3**
LCO				*e*Sn	**Sn**	**21 42 34.0**	**+0.2**
PLCA	**Paso Flores**	**8.30**	**172**	Pn	**Pn**	**21 42 54.8**	**+0.2**
	comp=N,0.2nm,0.3s,baz=293,slow=9.0,SNR=3.3						
PLCA	**Paso Flores**	**8.30**	**172**	Pn	**Pn**	**21 42 54.8**	**+0.2**
LPAZ	**La Paz**	**16.51**	**13**	Pn	**Pn**	**21 44 47.3**	**+1.2**
	comp=N,0.1nm,0.3s,baz=183,slow=18,SNR=2.8						
LPAZ	**La Paz**	**16.51**	**13**	Pn	**Pn**	**21 44 47.3**	**+1.2**
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**21 52 33.7**	**-0.5**
	comp=N,1.3nm,0.7s,mb4.0,baz=234,slow=4.8,SNR=3.2						
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**21 52 33.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**21 53 22.8**	**-0.5**
	comp=N,0.5nm,0.7s,mb3.8,baz=278,slow=5.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**21 53 22.8**	**-0.5**
ZALV	**Zalesovo Beam**	**152.92**	**31**	PKPbc	PKPbc	22 00 53.6	+2.5
	comp=N,0.3nm,0.3s,baz=321,slow=3.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**152.92**	**31**	PKPbc	PKPbc	22 00 53.6	+2.5
MKAR	**Makanchi Array**	**155.72**	**47**	PKPab	PKPab	22 01 14.4	0.0
	comp=N,0.2nm,0.6s,baz=287,slow=4.0,SNR=3.2						
MKAR	**Makanchi Array**	**155.72**	**47**	PKPab	PKPab	22 01 14.4	0.0

*CSEM **18** 21:41:32.5±0.2, 39°.22N×25°.99E, h10km, MD3.0, Error ellipse: s-maj=5.2km s-min=3.4km az=78.0*
*ISCJB **18** 21:41:32.5±0.6, 39°.24N±0°.02×26°.03E±0°.04, h7km±3km, Error ellipse: s-maj=5.4km s-min=3.5km az=167.7*
*ATH **18** 21:41:32.4, 39°.25N×26°.10E, h18km, MD3.0/4*
*NEIC **18** 21:41:32.7, 39°.25N×26°.12E, h7km, MD3.1(ISK), After ISK.*
*DDA **18** 21:41:33.6, 39°.27N×26°.08E, h5km, Md2.9*
*ISK **18** 21:41:33.2, 39°.26N×26°.14E, h9km, MD3.0*

ISC 18 21:41:33.2±0.5, 39°.24N±0°.02×26°.05E±0°.04, h9km±3km, n64, σ0°48/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.17**	**88**	*e*PB	**Pg**	**21 41 36.4**	**-0.4**
PRK				*e*SB	**Sg**	**21 41 39.5**	**+0.2**
PRK	**Paraskevi**	**0.17**	**88**	*e*Pb	**Pg**	**21 41 36.4**	**-0.4**
PRK				*e*Sb	**Sg**	**21 41 39.5**	**+0.2**
AYVA	**Ayvalik**	**0.50**	**82**	*i*P	**Pg**	**21 41 42.4**	**-0.5**
AYVA				*i*S	**Sg**	**21 41 50.1**	**+0.6**
AYVA	**Ayvalik**	**0.50**	**82**	*i*P	**Pg**	**21 41 42.4**	**-0.5**
AYVA				*i*S	**Sg**	**21 41 50.1**	**+0.6**
BOZC	**Bozcaada**	**0.60**	**0**	*i*P	**Pg**	**21 41 44.1**	**-0.7**
BOZC				*i*S	**Sg**	**21 41 53.3**	**+0.6**
EZN	**Ezine**	**0.62**	**20**	*e*PG	**Pg**	**21 41 44.9**	**-0.3**
EZN				*e*SG	**Sg**	**21 41 53.7**	**+0.3**
EZN	**Ezine**	**0.62**	**20**	Pg	**Pg**	**21 41 44.8**	**-0.5**
EZN	**Ezine**	**0.62**	**20**	*e*Pg	**Pg**	**21 41 44.9**	**-0.3**
EZN				*e*Sg	**Sg**	**21 41 53.7**	**+0.3**
CHOS	**Chios island**	**0.85**	**180**	*e*PN	**Pg**	**21 41 48.8**	**-0.8**
CHOS				*e*SN	**Sg**	**21 42 01.2**	**+0.6**
CHOS	**Chios island**	**0.85**	**180**	*e*Pn	**Pg**	**21 41 48.8**	**-0.8**
CHOS				*e*Sn	**Sg**	**21 42 01.2**	**+0.6**
LIA	**Limnos Island**	**0.94**	**315**	*e*PN	**Pg**	**21 41 50.9**	**-0.3**
LIA				*e*SN	**Sg**	**21 42 03.8**	**+0.3**
LIA	**Limnos Island**	**0.94**	**315**	*e*Pn	**Pg**	**21 41 50.9**	**-0.3**
LIA				*e*Sn	**Sg**	**21 42 03.8**	**+0.3**
BLCB	**Balcova**	**1.15**	**137**	*e*PN	**Pn**	**21 41 55.4**	**0.0**
BLCB				*e*SN	**Sn**	**21 42 10.9**	**-0.4**
BLCB	**Balcova**	**1.15**	**137**	Pn	**Pn**	**21 41 54.8**	**-0.6**
BLCB	**Balcova**	**1.15**	**137**	*e*Pn	**Pn**	**21 41 55.4**	**0.0**
BLCB				*e*Sn	**Sn**	**21 42 10.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.20**	**16**	*e*PN	**Pn**	**21 41 56.0**	**-0.1**
GELI				*e*SN	**Sn**	**21 42 12.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.20**	**16**	Pn	**Pn**	**21 41 55.4**	**-0.7**
GELI				Sg	**Sg**	**21 42 12.4**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.20**	**16**	*e*Pn	**Pn**	**21 41 56.0**	**-0.1**
GELI				Sg	**Sg**	**21 42 12.4**	**+0.5**
GELI				*e*Sn	**Sn**	**21 42 12.6**	**+0.1**
LPK	**Lapseki**	**1.26**	**26**	*e*PN	**Pn**	**21 41 55.5**	**-1.4**
LPK				*e*SN	**Sn**	**21 42 13.7**	**-0.1**
LPK	**Lapseki**	**1.26**	**26**	Pn	**Pn**	**21 41 55.7**	**-1.2**
LPK	**Lapseki**	**1.26**	**26**	Pn	**Pn**	**21 41 55.7**	**-1.1**
LPK				*e*Sn	**Sn**	**21 42 13.7**	**-0.1**
IZM	**Izmir**	**1.27**	**131**	*e*PN	**Pn**	**21 41 57.2**	**+0.2**
IZM	**Izmir**	**1.27**	**131**	Pn	**Pn**	**21 41 56.8**	**-0.1**
IZM	**Izmir**	**1.27**	**131**	Pn	**Pn**	**21 41 56.8**	**-0.2**
BALY	**Balya**	**1.31**	**67**	*i*P	**Pn**	**21 41 57.3**	**-0.3**
BALY				*i*S	**Sb**	**21 42 14.9**	**0.0**
BALY	**Balya**	**1.31**	**67**	*i*P	**Pn**	**21 41 57.3**	**-0.3**
BALY				*i*S	**Sb**	**21 42 14.9**	**0.0**
AKS	**Akhisar**	**1.42**	**104**	*e*PN	**Pn**	**21 41 59.1**	**+0.1**
AKS	**Akhisar**	**1.42**	**104**	Pn	**Pn**	**21 41 59.4**	**+0.3**
AKS	**Akhisar**	**1.42**	**104**	*e*Pn	**Pn**	**21 41 59.1**	**0.0**
BALB	**Balikesir**	**1.47**	**74**	*e*PN	**Pn**	**21 42 00.2**	**+0.4**
BALB	**Balikesir**	**1.47**	**74**	Pn	**Pn**	**21 41 59.5**	**-0.3**
BALB	**Balikesir**	**1.47**	**74**	Pn	**Pn**	**21 41 59.5**	**-0.3**
ERIK	**Erikli-Kesan**	**1.47**	**14**	*e*PN	**Pn**	**21 41 59.9**	**0.0**
ERIK	**Erikli-Kesan**	**1.47**	**14**	Pn	**Pn**	**21 42 00.1**	**+0.3**
ERIK	**Erikli-Kesan**	**1.47**	**14**	*e*Pn	**Pn**	**21 41 59.9**	**+0.1**
ENEZ	**Enez**	**1.50**	**3**	*e*PN	**Pn**	**21 42 00.4**	**+0.2**
ENEZ	**Enez**	**1.50**	**3**	*e*Pn	**Pn**	**21 42 00.4**	**+0.2**
GONE	**Gonen-Balikesi**	**1.50**	**57**	*e*PN	**Pn**	**21 41 59.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.50**	**57**	Pn	**Pn**	**21 42 00.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.50**	**57**	Pn	**Pn**	**21 42 00.0**	**-0.2**
KRBG	**Karabiga-Canak**	**1.50**	**39**	*e*PN	**Pn**	**21 41 59.6**	**-0.6**
KRBG	**Karabiga-Canak**	**1.50**	**39**	Pn	**Pn**	**21 41 59.7**	**-0.5**
KRBG	**Karabiga-Canak**	**1.50**	**39**	Pn	**Pn**	**21 41 59.7**	**-0.5**
SMG	**Samos**	**1.65**	**158**	*e*PN	**Pn**	**21 42 02.7**	**+0.5**
SMG				*e*SN	**Sn**	**21 42 24.5**	**+1.0**
SMG	**Samos**	**1.65**	**158**	*e*Pn	**Pn**	**21 42 02.7**	**+0.5**
SMG				*e*Sn	**Sn**	**21 42 24.5**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.69**	**31**	*e*PN	**Pn**	**21 42 02.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.69**	**31**	Pn	**Pn**	**21 42 02.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.69**	**31**	*e*Pn	**Pn**	**21 42 02.8**	**+0.1**
MFT	**Murefte**	**1.81**	**31**	*e*PN	**Pn**	**21 42 05.2**	**+0.7**
MFT	**Murefte**	**1.81**	**31**	*e*Pn	**Pn**	**21 42 05.2**	**+0.7**
BNT	**Bandirma**	**1.82**	**52**	*e*PN	**Pn**	**21 42 04.0**	**-0.6**
BNT	**Bandirma**	**1.82**	**52**	Pn	**Pn**	**21 42 04.0**	**-0.6**
BNT	**Bandirma**	**1.82**	**52**	*e*Pn	**Pn**	**21 42 04.0**	**-0.6**
KCTX	**Karacabey (Bur**	**2.05**	**59**	*e*PN	**Pn**	**21 42 07.6**	**-0.2**
KCTX	**Karacabey (Bur**	**2.05**	**59**	*e*Pn	**Pn**	**21 42 07.6**	**-0.2**
CRLT	**Corlu**	**2.29**	**34**	*e*PN	**Pn**	**21 42 11.2**	**+0.2**
CRLT	**Corlu**	**2.29**	**34**	Pn	**Pn**	**21 42 11.2**	**+0.2**
CRLT	**Corlu**	**2.29**	**34**	*e*Pn	**Pn**	**21 42 11.2**	**+0.2**
MDNY	**Mudanya-Bursa**	**2.46**	**62**	*e*PN	**Pn**	**21 42 13.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.46**	**62**	Pn	**Pn**	**21 42 13.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.46**	**62**	Pn	**Pn**	**21 42 13.6**	**+0.3**
EDRB	**Edirne**	**2.66**	**11**	*e*PN	**Pn**	**21 42 16.8**	**+0.7**
EDRB	**Edirne**	**2.66**	**11**	Pn	**Pn**	**21 42 16.8**	**+0.7**
EDRB	**Edirne**	**2.66**	**11**	*e*Pn	**Pn**	**21 42 16.8**	**+0.7**

*IDC **18** 21:46:41.4±1.8, 32°.57S×71°.87W, h0km, mb4.1/3, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=78.6km s-min=26.7km az=92.0*
*ISCJB **18** 21:46:42.5±1.0, 32°.56S±0°.03×72°.12W±0°.07, h20km±6km, mb4.0/3, Error ellipse: s-maj=9.5km s-min=4.8km az=166.0*
*GUC **18** 21:46:44.4±0.7, 32°.56S×71°.89W, h4km±3km, ML3.8*
*NEIC **18** 21:46:44.4, 32°.56S×71°.89W, h4km, mb3.6/1, ML3.8(GUC), After GUC.*

ISC 18 21:46:43.5±1.0, 32°.56S±0°.03×72°.01W±0°.06, h12km±4km, n48, σ0°65/59, mb4.0/3, 11C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.56**	**146**	⇓*i*P	**Pg**	**21 46 54.8**	**+0.4**
IHA				*e*S	**Sg**	**21 47 02.0**	**+0.1**
IHA	**Instituto Hidr**	**0.56**	**146**	⇓*i*P	**Pg**	**21 46 54.8**	**+0.4**
IHA				*e*S	**Sg**	**21 47 02.0**	**+0.1**
CHNG	**Los Chungos**	**0.80**	**33**	⇓*i*P	**Pg**	**21 46 59.0**	**0.0**
CHNG				*i*S	**Sg**	**21 47 10.3**	**+0.8**
CHNG				AML	AML	21 47 13.0	
	comp=E,4μm,1.0s						
ROCH	**El Roble**	**0.94**	**116**	⇑*i*P	**Pg**	**21 47 01.2**	**-0.4**
ROCH				*i*S	**Sg**	**21 47 13.7**	**-0.2**
ROCH	**El Roble**	**0.94**	**116**	⇑*i*P	**Pg**	**21 47 01.2**	**-0.4**
ROCH				*i*S	**Sg**	**21 47 13.7**	**-0.2**
PTCH	**Petorca**	**0.96**	**72**	⇓*i*P	**Pb**	**21 47 01.5**	**-0.5**
PTCH				*i*S	**Sg**	**21 47 14.1**	**-0.5**
PTCH	**Petorca**	**0.96**	**72**	⇓*i*P	**Pb**	**21 47 01.5**	**-0.5**
PTCH				*i*S	**Sg**	**21 47 14.1**	**-0.5**
PTCH				AML	AML	21 47 18.7	
	comp=E,7μm,0.2s						
LCCH	**Las Cruces**	**0.99**	**158**	⇑*i*P	**Pb**	**21 47 02.4**	**0.0**
LCCH	**Las Cruces**	**0.99**	**158**	⇑*i*P	**Pb**	**21 47 02.4**	**0.0**
JACH	**Jahuel**	**1.21**	**96**	⇑*i*P	**Pn**	**21 47 05.2**	**-0.9**
JACH	**Jahuel**	**1.21**	**96**	⇑*i*P	**Pn**	**21 47 05.2**	**-0.9**
PEL	**Peldehue**	**1.26**	**118**	⇑*i*P	**Pn**	**21 47 06.5**	**-0.3**
PEL				*i*S	**Sb**	**21 47 22.7**	**-0.6**
PEL				AML	AML	21 47 28.0	
	comp=E,15μm,0.3s						
RCDM	**Rinconada Maip**	**1.38**	**133**	*e*P	**Pn**	**21 47 07.9**	**-0.5**
RCDM				*i*S	**Sn**	**21 47 25.9**	**-0.6**
RCDM	**Rinconada Maip**	**1.38**	**133**	*e*P	**Pn**	**21 47 07.9**	**-0.5**
RCDM				*i*S	**Sn**	**21 47 25.9**	**-0.6**
RCDM				AML	AML	21 47 31.3	
	comp=N,3μm,0.7s						
TACH	**Talagante**	**1.42**	**141**	*e*P	**Pn**	**21 47 08.9**	**0.0**
TACH	**Talagante**	**1.42**	**141**	*e*P	**Pn**	**21 47 08.9**	**0.0**
SAN	**Santiago**	**1.44**	**129**	⇑*i*P	**Pn**	**21 47 09.3**	**0.0**
SAN				*i*S	**Sn**	**21 47 27.8**	**-0.4**
SAN	**Santiago**	**1.44**	**129**	⇑*i*P	**Pn**	**21 47 09.3**	**0.0**
SAN				*i*S	**Sn**	**21 47 27.8**	**-0.4**
SAN				AML	AML	21 47 30.0	
	comp=N,3μm,0.8s						
CLCH	**Cerro Calan**	**1.50**	**124**	⇓*i*P	**Pn**	**21 47 10.1**	**0.0**
CLCH				*i*S	**Sn**	**21 47 29.4**	**-0.1**
CLCH				AML	AML	21 47 30.9	
	comp=E,4μm,0.6s						
FSR	**Penalolen**	**1.55**	**127**	*e*P	**Pn**	**21 47 10.8**	**0.0**
FSR				*i*S	**Sn**	**21 47 30.8**	**+0.1**
FSR	**Penalolen**	**1.55**	**127**	*e*P	**Pn**	**21 47 10.8**	**0.0**
FSR				*i*S	**Sn**	**21 47 30.8**	**+0.1**
FSR				AML	AML	21 47 40.0	
	comp=N,903nm,0.6s						
PCH	**Pirque**	**1.65**	**130**	⇑*i*P	**Pn**	**21 47 12.3**	**+0.2**
PCH				*i*S	**Sn**	**21 47 34.2**	**+1.0**
PCH	**Pirque**	**1.65**	**130**	⇑*i*P	**Pn**	**21 47 12.3**	**+0.2**
PCH				*i*S	**Sn**	**21 47 34.2**	**+1.0**
LMEL	**Las Melosas**	**1.99**	**131**	*e*P	**Pn**	**21 47 17.9**	**+1.0**
LMEL				*i*S	**Sn**	**21 47 43.2**	**+1.5**
LMEL	**Las Melosas**	**1.99**	**131**	*e*P	**Pn**	**21 47 17.9**	**+1.0**
LMEL				*i*S	**Sn**	**21 47 43.2**	**+1.5**
LMEL				AML	AML	21 47 51.8	
	comp=N,2μm,0.6s						
CFAA	**Coronel Fontan**	**3.34**	**74**	Pn	**Pn**	**21 47 37.9**	**+2.5**
	comp=N,4.1nm,0.3s,baz=214,slow=14,SNR=16						
CFAA				Lg		21 48 24.8	
	comp=N,5.0nm,0.3s,baz=126,slow=8.0,SNR=4.2						
CFAA	**Coronel Fontan**	**3.34**	**74**	Pn	**Pn**	**21 47 37.9**	**+2.5**
CFAA				Lg		21 48 24.8	
LCO	**Las Campanas**	**3.71**	**18**	*e*Pn	**Pn**	**21 47 39.8**	**-0.8**
LCO				*e*Sn	**Sn**	**21 48 24.3**	**+0.1**
PLCA	**Paso Flores**	**8.24**	**172**	Pn	**Pn**	**21 48 42.9**	**+0.2**
	comp=N,0.3nm,0.3s,baz=326,slow=10,SNR=3.2						
PLCA	**Paso Flores**	**8.24**	**172**	Pn	**Pn**	**21 48 42.9**	**+0.2**
TRQA	**Tornquist**	**9.86**	**127**

baz=152
EAST *i* S **Sg** **21 47 57.8 +0.5**
baz=152
TWP Hsiaoliuchiu 0.56 203 P **Pg** **21 47 52.2 +1.5**
baz=202
TWP *e*S **Sg** **21 48 02.5 +4.3**
baz=202
TAW Tawu 0.57 152⇑ *i*P **Pg** **21 47 50.3 -0.7**
baz=149
TAW S **Sg** **21 47 58.6 0.0**
baz=149
CHN8 Yiju 0.60 323 *e*P **Pg** **21 47 50.7 -0.8**
baz=323
CHN8 S **Sg** **21 48 00.6 +1.1**
baz=323
CHY Chiayi 0.65 346 P **Pg** **21 47 51.7 -0.8**
baz=346
CHY S **Sg** **21 48 01.9 +0.8**
baz=346
ALS Alishan 0.67 16 ⇓P **Pg** **21 47 51.8 -0.9**
baz=18
ALS *e*S **Sg** **21 48 02.7 +1.0**
baz=18
CHN2 Minshiung 0.67 350 P **Pg** **21 47 52.2 -0.7**
baz=350
CHN2 S **Sg** **21 48 02.5 +0.7**
baz=350
YUS Yu-Shan 0.70 27 ⇑P **Pg** **21 47 52.6 -0.8**
baz=29
YUS *e*S **Sg** **21 48 03.1 +0.4**
baz=29
CHN5 Tsauling 0.73 6 ⇑P **Pb** **21 47 52.7 -1.2**
baz=6.0
CHN5 *e*S **Sb** **21 48 04.1 +0.4**
baz=6.0
CHKT Chengkung 0.74 72 P **Pb** **21 47 52.7 -1.3**
baz=88
CHKT *e*S **Sb** **21 48 05.6 +1.6**
baz=88
TWF1 Yuli 0.80 53⇑ *i*P **Pb** **21 47 54.2 -1.0**
baz=62
TWF1 *i*S **Sb** **21 48 05.0 -0.7**
baz=62
WGK Gukeng 0.82 357 *e*P **Pb** **21 47 54.5 -0.8**
baz=358
WGK *e*S **Sb** **21 48 07.1 +1.0**
baz=358
YULB Yu-li 0.83 51 *e*Pg **Pg** **21 47 53.2 -2.5**
YULB *e*Sg **Sg** **21 48 01.1 -5.6**
WSF Szhu 0.84 336 P **Pb** **21 47 54.3 -1.5**
baz=336
WSF *e*S **Sb** **21 48 07.1 +0.2**
baz=336
HEN Hengchun 0.86 172 *e*P **Pb** **21 47 56.0 -0.2**
baz=161
HEN *e*S **Sb** **21 48 09.2 +1.7**
baz=161
EHY Hungye 0.92 46 P **Pb** **21 47 56.1 -1.0**
baz=54
EHY S **Sb** **21 48 08.3 -0.7**
baz=54
TWK1 Hengchun 0.94 168 *e*P **Pb** **21 47 57.0 -0.5**
baz=168
TWK1 *e*S **Sb** **21 48 10.9 +1.4**
baz=168
WDGT Dungji 0.95 295 *e*S **Sb** **21 48 08.2 -1.8**
baz=294
SSLB Suanglung 0.97 19 *e*Pg **Pg** **21 47 56.5 -2.0**
SSLB *e*Sg **Sg** **21 48 08.0 -3.3**
WNT Mingjian 1.01 4 *e*P **Pb** **21 47 57.6 -1.1**
baz=5.0
WNT *e*S **Sb** **21 48 12.2 +0.4**
baz=5.0
WTCT Ta-ch'eng 1.04 344 *e*P **Pb** **21 47 57.0 -2.2**
baz=344
WTCT *e*S **Sb** **21 48 12.0 -0.4**
baz=344
SMLT Sun Moon Lake 1.05 15 P **Pb** **21 47 58.6 -0.8**
baz=16
SMLT S **Sb** **21 48 13.8 +1.0**
baz=16
TYC Yuchr 1.06 13⇓ *i*P **Pb** **21 47 58.6 -0.9**
baz=14
TYC S **Sb** **21 48 14.0 +0.9**
baz=14
PNG Penghu 1.19 306⇑ *e*P **Pn** **21 47 58.4 -3.1**
baz=318
PNG *e*S **Sb** **21 48 13.8 -3.0**
baz=318
LAY Lan-yu 1.20 133 *e*P **Pn** **21 47 59.7 -1.9**
baz=133
LAY *e*S **Sb** **21 48 17.2 0.0**
baz=133
ESL Shilin 1.22 39 P **Pn** **21 48 01.4 -0.4**
baz=32
ESL S **Sb** **21 48 17.5 -0.1**
baz=32
TCU Taichung 1.28 3 *e*P **Pn** **21 48 02.3 -0.4**
baz=4.0
TCU *e*S **Sb** **21 48 18.7 -0.7**
baz=4.0
WHF Hehuan Shan 1.41 25 *e*P **Pn** **21 48 04.4 -0.1**
baz=16
WHF *e*S **Sn** **21 48 23.5 +0.7**
baz=16
TWT Tachien 1.48 21 *e*P **Pn** **21 48 05.1 -0.3**
baz=21
TWT *e*S **Sn** **21 48 24.9 +0.4**
baz=21
TWQ1 Liyutan 1.48 6 *e*P **Pn** **21 48 04.7 -0.8**
baz=7.0
TWQ1 *e*S **Sn** **21 48 24.9 +0.4**
baz=7.0
TWD Chiawan 1.52 37 P **Pn** **21 48 05.6 -0.4**
baz=38
TWD *e*S **Sn** **21 48 25.7 +0.3**
baz=38
NSY Sanyi 1.55 5 *e*P **Pn** **21 48 06.2 -0.3**
baz=7.0
NSY *e*S **Sn** **21 48 27.1 +0.9**
baz=7.0
NACB Ninganchiao 1.59 35 *e*Pn **Pn** **21 48 06.1 -0.9**
NACB *e*Sn **Sn** **21 48 24.9 -2.3**
NNS Nan Shan 1.72 24 *e*P **Pn** **21 48 08.8 0.0**
baz=14
NNS *e*S **Sn** **21 48 31.0 +0.6**
baz=14
NSTT Nanjuang 1.79 12 *e*P **Pn** **21 48 09.4 -0.4**
baz=355
NSTT *e*S **Sn** **21 48 32.6 +0.3**
baz=355
ENA Nanau 1.87 34 *e*P **Pn** **21 48 10.7 -0.2**
baz=35
ENA *e*S **Sn** **21 48 33.9 -0.3**
baz=35
NSK Sanguang 1.93 21 *e*P **Pn** **21 48 12.0 +0.3**
baz=22
NSK *e*S **Sn** **21 48 36.2 +0.6**
baz=22
YHNB Yeheng 1.93 21 *e*Pn **Pn** **21 48 11.1 -0.6**
ENTT Nioudou 1.98 26 *e*P **Pn** **21 48 12.9 +0.6**
baz=28
ENTT *e*S **Sn** **21 48 38.4 +1.7**
baz=28
TWC Suao 2.08 33 *e*P **Pn** **21 48 13.7 0.0**
baz=43
TWC *e*S **Sn** **21 48 41.6 +2.4**
baz=43
TWE Neicheng 2.09 28 *e*P **Pn** **21 48 14.0 +0.1**
baz=29
TWE *e*S **Sn** **21 48 41.9 +2.4**
baz=29
TATO Taipei 2.25 21 *e*Pn **Pn** **21 48 16.4 +0.3**
TATO *e*Sn **Sn** **21 48 42.9 -0.6**
TWA Mucha 2.29 23 *e*P **Pn** **21 48 17.5 +0.9**
baz=24
TWA *e*S **Sn** **21 48 44.3 -0.1**
baz=24
TWS1 Kuangyinshan 2.35 18 *e*P **Pn** **21 48 17.8 +0.4**
baz=20
TWS1 *e*S **Sn** **21 48 46.6 +0.7**
baz=20
NWF Wu-fen Shan 2.45 26 *e*P **Pn** **21 48 19.4 +0.6**
baz=27
NWF *e*S **Sn** **21 48 51.0 +2.6**
baz=27
TWB1 Santiao Chiao 2.48 30 *e*P **Pn** **21 48 21.4 +2.2**
baz=32

KNM Kinmen 2.52 308 *e*P **Pn** **21 48 18.6 -1.1**
baz=308
YOJ Yonaguni jima 2.72 54 P **Pn** **21 48 22.6 0.0**
YOJ S **Sn** **21 48 56.1 +1.0**
QZH Quanzhou 2.77 319 *e*Pn **Pn** **21 48 18.6 -4.6**
QZH Sn **Sn** **21 48 46.1 -10**
QZH smax
comp=N,100nm,0.6s
QZH smax
comp=E,140nm,0.9s
HATJ Hateruma jima 3.17 67 P **Pn** **21 48 27.6 -1.2**
HATJ *e*S **Sn** **21 49 06.6 +0.4**
IRIF Iriomote-Funau 3.22 62 P **Pn** **21 48 29.8 +0.4**
IRIF *e*S **Sn** **21 49 08.7 +1.3**
JKRS Kuro-shima 3.41 66 P **Pn** **21 48 32.2 +0.1**
JKRS *e*S **Sn** **21 49 13.4 +1.2**
JIJ Ishigaki jima 3.57 65 P **Pn** **21 48 33.6 -0.7**
JIJ S **Sn** **21 49 15.8 -0.4**
JTJ Tarama 4.15 64 P **Pn** **21 48 42.5 +0.3**
JTJ *e*S **Sn** **21 49 30.8 +0.4**
JOW Kunigami 8.01 59 LR LR 21 51 45.7
comp=E,792nm,20.6s,baz=28,slow=34
DAV Davao City (W) 16.42 162 LR LR 21 59 26.6
comp=E,559nm,18.3s,baz=133,slow=44
MKAR Makanchi Array 38.92 317 P **P** **21 55 05.3 +0.9**
comp=E,0.3nm,0.7s,mb3.1,baz=99,slow=8.9,SNR=3.2
MKAR Makanchi Array 38.92 317 P **P** **21 55 05.3 +0.9**
WRA Warramunga Arr 44.61 161 P **P** **21 55 47.7 -3.5**
comp=E,1.1nm,0.6s,mb3.9,baz=344,slow=8.6,SNR=9.9
WRA Warramunga Arr 44.61 161 P **P** **21 55 47.7 -3.5**
ASAR Alice Springs 48.03 164 P **P** **21 56 15.6 -2.4**
comp=E,0.4nm,0.5s,mb3.7,baz=340,slow=7.3,SNR=8.1
ASAR Alice Springs 48.03 164 P **P** **21 56 15.6 -2.4**

IDC ***18*** *21:50:26.8±0.3, 32°.59S×71°.77W, h0km, mb5.4/31, mb1 5.4/35, mb1mx5.4/35, mbtmp5.4/35, ML5.1/4, MS5.7/25, Ms1 5.7/25, ms1mx5.5/38, Error ellipse: s-maj=11.7km s-min=8.3km az=96.0*
NEIC ***18*** *21:50:28.0, 32°.47S×72°.05W, h25km, mb5.8/184, MS5.7/58, MW6.0, ML5.5(GUC), After GUC.*
NEIC Felt [III] at Papudo, Puchuncavi, Santiago, Valparaiso and Zapallar; [II] La Ligua and Vina del Mar. Also felt at Graneros, Puente Alto, Quillota and Quilpue.
BJI ***18*** *21:50:28.7, 32°.50S×71°.70W, h10km, mB5.8/29, Ms6.2/35, Ms7 6.0/36*
GUC ***18*** *21:50:28.3±0.7, 32°.48S×72°.05W, h25km±5km, ML5.5*
ISCJB ***18*** *21:50:31.6±0.5, 32°.46S±0°.02×71°.71W±0°.04, h42km±4km, mb5.6/209, MS5.8/87, Error ellipse: s-maj=6.2km s-min=3.7km az=164.4*
MOS ***18*** *21:50:31.7±1.1, 31°.95S×71°.91W, h33km, mb5.8/68, MS5.8/28, Error ellipse: s-maj=12.0km s-min=7.0km az=92.2*
GCMT ***18*** *21:50:34.0±0.1, 32°.62S×72°.11W, h21km, MW5.9, Moment Tensor Solution. s82,c142; s60,c66; Moment tensor: Scale 10^17Nm; Mrr4.43±.10; Mθθ0.08±.05; Mφφ-4.51±.07; Mrθ0.25±.11; Mθφ0.53±.04; Mφr-6.10±.21; Best double couple: M0 7.60000×10^17 NP1:φs350.00000°, δ18.00000°, λ83.00000°. NP2:φs177.00000°, δ72.00000°, λ92.00000°. Principal axes: T 7.5200, Plg63.0000°, Azm90.0000°; N 0.1200, Plg2.0000°, Azm356.0000°; P -7.6500, Plg27.0000°, Azm265.0000°; Data Used: II IU G CN IC. Surface waves: sta=106, comp=216, per= 50.*
DJA ***18*** *21:51:03, 33°.21S×71°.25W, h267km, mb5.3/11*
ISC 18 21:50:33.1±0.5, 32°.47S±0°.02×71°.61W±0°.04, h41km±4km, n1188, σ1900/801, mb5.6/209, MS5.8/87, 247C-202D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.56**	**183**	⇓*i*P	**Pn**	**21 50 40.3**	**-4.4**
IHA	**Instituto Hidr**	**0.56**	**183**	⇓*i*P	**Pn**	**21 50 40.3**	**-4.4**
CHNG	**Los Chungos**	**0.59**	**9**	⇓*i*P	**Pn**	**21 50 43.3**	**-1.8**
CHNG				*i* S	**Sn**	**21 50 53.9**	**+0.2**
CHNG				AML	AML	21 50 57.4	
comp=E,180μm,0.7s							
ROCH	**El Roble**	**0.71**	**135**	⇑*i*P	**Pn**	**21 50 46.2**	**-0.5**
ROCH	**El Roble**	**0.71**	**135**	⇑*i*P	**Pn**	**21 50 46.2**	**-0.5**
JACH	**Jahuel**	**0.88**	**104**	⇑*i*P	**Pn**	**21 50 50.0**	**+0.9**
JACH	**Jahuel**	**0.88**	**104**	⇑*i*P	**Pn**	**21 50 50.0**	**+0.9**
LCCH	**Las Cruces**	**1.00**	**178**	⇑*i*P	**Pn**	**21 50 47.4**	**-3.3**
LCCH	**Las Cruces**	**1.00**	**178**	⇑*i*P	**Pn**	**21 50 47.4**	**-3.3**
SAN	**Santiago**	**1.26**	**141**	⇑*i*P	**Pn**	**21 50 54.4**	**+0.2**
SAN	**Santiago**	**1.26**	**141**	⇑*i*P	**Pn**	**21 50 54.4**	**+0.1**
SAN	**Santiago**	**1.26**	**141**	⇑*i*P	**Pn**	**21 50 54.4**	**+0.2**
SAN				*e*S	**Sn**	**21 51 14.3**	**+4.2**
CLCH	**Cerro Calan**	**1.29**	**136**	⇓*i*P	**Pn**	**21 50 55.2**	**+0.6**
CLCH				*i* S	**Sn**	**21 51 15.4**	**+4.7**
CLCH				AML	AML	21 51 18.8	
comp=E,259μm,0.6s							
CLCH				AML	AML	21 51 19.3	
comp=E,312μm,0.5s							
TACH	**Talagante**	**1.31**	**155**	⇑*i*P	**Pn**	**21 50 54.1**	**-0.8**
TACH	**Talagante**	**1.31**	**155**	⇑*i*P	**Pn**	**21 50 54.1**	**-0.8**
LACH	**Col Las Americ**	**1.33**	**138**	⇓*i*P	**Pn**	**21 50 56.0**	**+0.8**
LACH				*i* S	**Sn**	**21 51 16.8**	**+5.1**
LACH				AML	AML	21 51 21.7	
comp=N,64μm,0.7s							
ANTU	**Antumapu**	**1.37**	**144**	⇑*i*P	**Pn**	**21 50 56.3**	**+0.6**
ANTU				*i* S	**Sn**	**21 51 16.7**	**+4.1**
ANTU	**Antumapu**	**1.37**	**144**	⇑*i*P	**Pn**	**21 50 56.3**	**+0.6**
ANTU				*i* S	**Sn**	**21 51 16.7**	**+4.1**
ANTU				AML	AML	21 51 22.4	
comp=N,119μm,0.6s							
CMCH	**Combarbala**	**1.39**	**22**	⇓*i*P	**Pn**	**21 50 55.7**	**-0.3**
CMCH	**Combarbala**	**1.39**	**22**	⇓*i*P	**Pn**	**21 50 55.7**	**-0.3**
FCH	**Farellones**	**1.40**	**128**	*e*P	**Pn**	**21 50 57.3**	**+1.2**
FCH	**Farellones**	**1.40**	**128**	*e*P	**Pn**	**21 50 57.3**	**+1.2**
FCH				⇓*i*P		21 51 04.2	
FCH				*i* S	**Sn**	**21 51 27.0**	**+14**
FCH				AML	AML	21 51 36.0	
comp=N,59μm,0.8s							
PCH	**Pirque**	**1.47**	**142**	⇑*i*P	**Pn**	**21 50 57.5**	**+0.4**
PCH	**Pirque**	**1.47**	**142**	⇑*i*P	**Pn**	**21 50 57.5**	**+0.4**
LMEL	**Las Melosas**	**1.81**	**140**	⇑*i*P	**Pn**	**21 51 03.0**	**+1.2**
LMEL				*e*S	**Sn**	**21 51 29.9**	**+6.4**
LMEL	**Las Melosas**	**1.81**	**140**	⇑*i*P	**Pn**	**21 51 03.0**	**+1.2**
LMEL				*e*S	**Sn**	**21 51 29.9**	**+6.4**
LMEL				AML	AML	21 51 38.9	
comp=N,48μm,0.4s							
CACH	**El Canelo**	**1.85**	**153**	⇑*i*P	**Pn**	**21 51 02.7**	**+0.4**
CACH	**El Canelo**	**1.85**	**153**	⇑*i*P	**Pn**	**21 51 02.7**	**+0.4**
TLL	**Tololo Astrono**	**2.40**	**17**	⇑*i*P	**Pn**	**21 51 09.9**	**0.0**
TLL	**Tololo Astrono**	**2.40**	**17**	⇑*i*P	**Pn**	**21 51 09.9**	**+0.1**
TLL	**Tololo Astrono**	**2.40**	**17**	⇑*i*P	**Pn**	**21 51 09.9**	**0.0**
NICH	**Los Niches**	**2.55**	**173**	⇑*i*P	**Pn**	**21 51 10.0**	**-1.9**
NICH	**Los Niches**	**2.55**	**173**	⇑*i*P	**Pn**	**21 51 10.0**	**-1.9**
CFAA	**Coronel Fontan**	**2.99**	**74**	Pn	**Pn**	**21 51 20.6**	**+2.6**
comp=N,21nm,0.3s,baz=252,slow=12,SNR=99							
CFAA				Lg		21 52 07.5	
comp=N,103nm,0.3s,baz=55,slow=16,SNR=10							
CFAA				LR	LR	21 52 29.7	
comp=N,7μm,21.3s,baz=343,slow=39							
CFAA	**Coronel Fontan**	**2.99**	**74**	Pn	**Pn**	**21 51 20.6**	**+2.6**
CFAA				Lg		21 52 07.5	
LCO	**Las Campanas**	**3.53**	**13**	*e*P	**Pn**	**21 51 24.7**	**-0.8**
LCO				*e*S	**Sn**	**21 52 07.8**	**+1.8**
LCO	**Las Campanas**	**3.53**	**13**	⇑*i*P	**Pn**	**21 51 24.6**	**-0.9**
LCO				*i* S	**Sn**	**21 52 08.1**	**+2.1**
PLCA	**Paso Flores**	**8.29**	**174**	Pn	**Pn**	**21 52 28.5**	**-2.3**
comp=N,4.7nm,0.3s,baz=334,slow=12,SNR=43							
PLCA				Sn	**Sn**	**21 54 07.3**	**+4.3**
comp=N,1.0nm,0.3s,baz=310,slow=11,SNR=3.3							
PLCA				Lg		21 54 44.4	
comp=N,1.8nm,0.3s,baz=265,slow=21,SNR=2.1							
PLCA	**Paso Flores**	**8.29**	**174**	*e*P	**Pn**	**21 52 27.7**	**-3.0**
PLCA				*e*S	**Sn**	**21 53 53.0**	**-10**
PLCA				Lg		21 54 44.4	
PLCA	**Paso Flores**	**8.29**	**174**	*e*P	**Pn**	**21 52 27.7**	**-3.0**
TRQA	**Tornquist**	**9.64**	**128**	*e*P	**Pn**	**21 52 50.4**	**+1.1**
TRQA				*e*S	**Sn**	**21 54 42.7**	**+6.5**
CPUP	**Villa Florida**	**13.86**	**67**	Pn	**Pn**	**21 53 47.3**	**+0.3**
comp=N,3.3nm,0.3s,baz=232,slow=12,SNR=8.8							
CPUP				Sn	**Sn**	**21 56 17.2**	**-2.4**
comp=N,8.7nm,0.3s,baz=183,slow=18,SNR=2.3							
CPUP				Lg		21 57 53.3	
comp=N,9.6nm,0.3s,baz=304,slow=12,SNR=2.5							
CPUP				LR	LR	21 59 31.7	
comp=N,38μm,20.3s,baz=232,slow=39							

CPUP Villa Florida 13.86 67 Pn **Pn** **21 53 47.3 +0.3**
CPUP Sn **Sn** **21 56 17.2 -2.4**
CPUP Lg 21 57 53.3
CPUP Villa Florida 13.86 67 P **Pn** **21 53 47.3 +0.3**
CPUP 21 56 17.2
CPUP pmax pmax
comp=Z,3.0nm,0.3s
CPUP smax
comp=N,9.0nm,0.3s
CPUP MLR MLR
comp=Z,38μm,20.3s
LPAZ La Paz 16.41 12 Pn **Pn** **21 54 20.5 -0.1**
comp=Z,1.8nm,0.3s,baz=185,slow=8.2,SNR=119
LPAZ Sn **Sn** **21 57 24.8 +3.1**
baz=266,slow=0.9,SNR=1.5
LPAZ La Paz 16.41 12 *e*P **Pn** **21 54 20.5 -0.1**
comp=Z,222nm,0.8s
LPAZ Sn **Sn** **21 57 24.8 +3.1**
LPAZ La Paz 16.41 12 P **Pn** **21 54 20.5 -0.1**
LPAZ pmax pmax
comp=Z,2.0nm,0.3s
SIV San Ignacio 18.99 33 P **Pn** **21 54 50.7 -1.5**
comp=Z,2.5nm,0.3s,baz=228,slow=12,SNR=115
SIV S **S** **21 58 31.2 +6.5**
comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=1.6
SIV Lg 22 00 37.6
comp=Z,0.3nm,0.3s,baz=221,slow=13,SNR=2.8
SIV LR LR 22 03 32.2
comp=Z,29μm,18.4s,slow=41
SIV San Ignacio 18.99 33 P **Pn** **21 54 50.7 -1.5**
SIV S **S** **21 58 31.2 +6.5**
SIV Lg 22 00 37.6
NNA Nana 20.95 346 P **P** **21 55 12.5 0.0**
comp=Z,53nm,0.8s,baz=187,slow=9.0,SNR=18
NNA Nana 20.95 346 *e*Pn **P** **21 55 10.8 -1.7**
comp=Z,141nm,0.8s
NNA Nana 20.95 346 *e*P **P** **21 55 10.8 -1.7**
NNA pmax pmax
comp=Z,141nm,0.8s
NNA Nana 20.95 346 P **P** **21 55 12.0 -0.5**
comp=Z,652nm,1.1s,SNR=6.1
EFI East Falkland 21.60 157 *e*P **P** **21 55 18.2 -1.0**
comp=Z,140nm,0.6s,mb5.6
EFI *e*S **S** **21 59 14.6 -1.4**
EFI LR LR
comp=Z,17μm,21.0s,MS5.4
EFI East Falkland 21.60 157 *e*P **P** **21 55 18.2 -1.1**
EFI *e*S **S** **21 59 14.6 -1.5**
EFI pmax pmax
comp=Z,140nm,0.6s,mb5.6
EFI MLR MLR
comp=Z,17μm,21.0s,MS5.4
EFI East Falkland 21.60 157 P **P** **21 55 19.5 +0.2**
comp=Z,1μm,1.1s,mb6.3,SNR=10
USHA Ushuaia 22.47 175 P **P** **21 55 27.3 -1.2**
comp=Z,100nm,1.0s,mb5.2,baz=331,slow=6.2,SNR=15
USHA LR LR 22 04 52.8
comp=Z,14μm,19.0s,MS5.4,baz=341,slow=39
USHA Ushuaia 22.47 175 P **P** **21 55 27.3 -1.2**
SPB Sao Paulo 23.06 74 *e*P **P** **21 55 35.2 +0.2**
comp=Z,645nm,1.1s,mb6.0
SAML Samuel 24.67 20 *e*P **P** **21 55 49.9 -0.3**
comp=Z,250nm,1.1s,mb5.7
ATAH Atahualpa 25.99 344 P **P** **21 56 04.2 +2.1**
comp=Z,15nm,0.9s,mb4.5,baz=163,slow=7.9,SNR=7.9
ATAH LR LR 22 05 40.1
comp=Z,8μm,18.1s,MS5.3,baz=359,slow=35
ATAH Atahualpa 25.99 344 P **P** **21 56 04.2 +2.1**
PMSA Palmer Station 32.67 174 LR LR 22 10 18.4
comp=Z,13μm,19.5s,MS5.7,baz=315,slow=37
RPN Rapa Nui 33.05 269 P **P** **21 57 04.1 -0.7**
comp=Z,94nm,0.9s,mb5.7,baz=94,slow=4.1,SNR=8.0
RPN LR LR 22 06 35.9
comp=Z,13μm,20.7s,MS5.6,baz=36,slow=29
RPN Rapa Nui 33.05 269 *e*P **P** **21 56 59.8 -5.0**
comp=Z,156nm,0.9s,mb5.9
RPN Rapa Nui 33.05 269 *e*P **P** **21 56 59.8 -5.0**
RPN pmax pmax
comp=Z,156nm,0.9s,mb5.9
OTAV Otavalo 33.17 347 *e*P **P** **21 57 01.0 -4.8**
comp=Z,141nm,1.2s,mb5.8
OTAV *e*PcP PcP 21 59 49.4 +1.2
OTAV *e*ScP ScP 22 03 32.6 +3.5
ROSC El Rosal 37.21 356 P **P** **21 57 42.4 +1.8**
comp=Z,40nm,0.8s,mb5.3,baz=132,slow=4.6,SNR=14
ROSC El Rosal 37.21 356 *e*P **P** **21 57 39.0 -1.6**
ROSC *e*PP PP 21 59 01.5 -4.6
SDV Santo Domingo 41.13 1 *e*P **P** **21 58 12.5 -0.9**
comp=Z,104nm,0.9s,mb5.5
SDV *e*PcP PcP 22 00 10.2 -2.0
BCIP Isla Barro Col 42.14 348 PFAKE 21 58 30.0 +8.4
BCIP LR LR
comp=Z,4μm,19.0s,MS5.3
RCBR Riachuelo 42.54 59 P **P** **21 58 26.6 +1.7**
comp=Z,45nm,1.1s,mb5.1,baz=224,slow=13,SNR=8.8
RCBR LR LR 22 17 43.0
comp=Z,39μm,18.0s,MS6.3,baz=219,slow=38
RCBR Riachuelo 42.54 59 *e*P **P** **21 58 21.7 -3.2**
comp=Z,104nm,1.3s,mb5.4
RCBR *e*PcP PcP 22 00 13.9 -3.1
TBH Brigand Hill 43.88 15 *e* **P** **21 58 43.4 +7.8**
JTS JuntasAbangare 44.39 341 P **P** **21 58 41.0 +1.3**
comp=Z,7.1nm,0.8s,mb4.5,baz=233,slow=18,SNR=2.2
JTS JuntasAbangare 44.39 341 *e*P **P** **21 58 35.4 -4.3**
comp=Z,34nm,0.9s,mb5.1
JTS JuntasAbangare 44.39 341 *e*P **P** **21 58 35.4 -4.4**
JTS pmax pmax
comp=Z,34nm,0.9s
GRGR Grenville 45.36 14 *e*P **P** **21 58 43.9 -3.5**
comp=Z,536nm,1.0s,mb6.3
BBGH Gun Hill 46.80 16 PFAKE 21 59 10.0 +11
BBGH LR LR
comp=Z,10μm,20.0s,MS5.8
FDF Fort de France 47.99 14 *e*P **P** **21 59 06.1 -1.9**
comp=Z,175nm,0.9s,mb6.1
FDF LR LR
comp=Z,6μm,21.0s,MS5.5
FDF Fort de France 47.99 14 *e*P **P** **21 59 06.1 -1.9**
FDF pmax pmax
comp=Z,175nm,0.9s,mb6.1
FDF MLR MLR
comp=Z,6μm,21.0s,MS5.5
FDF Fort de France 47.99 14 *e*P **P** **21 59 06.9 -1.1**
TRIS Tristan da Cun 48.24 113 *e*P **P** **21 59 10.4 +0.5**
comp=Z,163nm,0.9s,mb6.1
TGUH Tegucigalpa,Un 48.63 340 *e*P **P** **21 59 11.2 -1.8**
comp=Z,166nm,1.0s,mb6.0
ICM Isla Caja Muer 50.31 6 *e*P **P** **21 59 24.2 -1.5**
CDVI St. Croix 50.36 8 *e*P **P** **21 59 24.3 -1.8**
comp=Z,83nm,0.7s,mb5.9
CRPR Cabo Rojo, PR 50.37 6 *e*P **P** **21 59 24.2 -2.0**
comp=Z,100nm,1.1s,mb5.8
OBIP Obispado Ponce 50.45 6 *e*P **P** **21 59 25.3 -1.5**
comp=Z,216nm,1.2s,mb6.0
CELP Cerrillos 50.49 6 *e*P **P** **21 59 23.1 -4.0**
LSP Las Mesas 50.54 6 *e*P **P** **21 59 25.2 -2.3**
SJG San Juan 50.56 7 P **P** **21 59 27.3 -0.4**
comp=Z,115nm,1.0s,mb5.8,baz=180,slow=24,SNR=24
SJG San Juan 50.56 7 *e*P **P** **21 59 23.8 -3.9**
comp=Z,175nm,1.0s,mb5.9
SJG San Juan 50.56 7 P **P** **21 59 27.3 -0.3**
SJG pmax pmax
comp=Z,115nm,1.0s
MTP Monte Pirata 50.61 7 *e*P **P** **21 59 24.9 -3.1**
comp=Z,111nm,1.1s,mb5.7
VNA3 Neumayer Olymp 50.64 158 *e* **P** **21 59 28.0 +0.3**
LRS Lares 50.68 6 *e*P **P** **21 59 25.8 -2.7**
ANWB Willy Bob 50.73 12 *e*P **P** **21 59 26.9 -2.1**
comp=Z,262nm,1.1s,mb6.1
ANWB LR LR
comp=Z,6μm,19.0s,MS5.6
CBYP Canovanas 50.75 7 *e*P **P** **21 59 26.5 -2.6**
comp=Z,375nm,1.4s,mb6.1
VNA1 Neumayer-Stat 50.94 157 *e* **P** **21 59 31.4 +1.5**
SDDR Presa de Saban 51.16 0 *e*P **P** **21 59 31.6 -0.5**
comp=Z,58nm,1.0s,mb5.5
VNA2 Neumayer--Watz 51.28 158 *e* **P** **21 59 32.7 +0.2**
baz=289,slow=8.8
SNAA Sanae 52.87 158 *e* **P** **21 59 44.4 +0.1**
SNAA Sanae 52.87 158 P **P** **21 59 44.0 -0.3**
comp=Z,57nm,1.1s,mb5.4,baz=279,slow=5.9,SNR=14
SNAA LR LR 22 20 26.8
comp=Z,3μm,20.2s,MS5.4,baz=293,slow=34
SNAA Sanae 52.87 158 *e*P **P** **21 59 44.2 -0.1**
comp=Z,288nm,1.3s,mb6.0
SNAA Sanae 52.87 158 *e*P **P** **21 59 44.2 -0.1**

SNAA pmax pmax
comp=Z,288nm,1.3s
CMIG Matias Romero 54.09 332 P P 21 59 54.5 +0.7
comp=Z,3.9nm,0.8s,mb4.4,baz=173,slow=6.0,SNR=5.2
CMIG LR LR 22 17 31.7
comp=Z,4µm,18.4s,MS5.5,baz=126,slow=30
CMIG Matias Romero 54.09 332 P P 21 59 54.5 +0.7
TEIG Tepich 54.77 341 P P 21 59 58.3 -0.4
comp=Z,13nm,0.3s,mb5.4,baz=43,slow=3.4,SNR=7.2
TEIG Tepich 54.77 341 *e*P **P 21 59 57.2 -1.5**
comp=Z,66nm,0.6s,mb5.8
RKT Rikitea 56.12 262 *e*P **P 22 00 07.7 -0.9**
comp=Z,94nm,1.4s,mb5.6
RKT *e*S **S 22 07 53.4 -1.5**
comp=Z,3µm,27.8s
RKT *e*SS SS 22 11 40.0 -1.6
comp=Z,1µm,30.2s
RKT *e*LR LR 22 16 27.7
comp=Z,8µm,25.8s,baz=122
MAIT Maitri 57.55 157 *e*P **P 22 00 18.0 0.0**
QSPA South Pole Qui 57.76 180 P **P 22 00 19.6 +0.2**
comp=Z,125nm,1.0s,mb5.9,baz=147,slow=3.9,SNR=33
QSPA LR LR 22 24 35.5
comp=Z,3µm,19.9s,MS5.4,baz=166,slow=36
QSPA South Pole Qui 57.76 180 *e*P **P 22 00 19.2 -0.2**
comp=Z,282nm,1.1s,mb6.2
SBA Scott Base 64.65 192 *e*P **P 22 01 05.2 -0.8**
comp=Z,42nm,1.1s,mb5.4
SBA Scott Base 64.65 192 *e*P **P 22 01 05.3 -0.7**
SBA pmax pmax
comp=Z,42nm,1.1s,mb5.4
KVTX Kingsville 64.71 334 *e*P **P 22 01 00.7 -6.3**
comp=Z,153nm,0.4s,mb6.4
BRAL Brewton 64.81 345 PFAKE 22 01 20.0 +12
BRAL LR LR
comp=Z,2µm,19.0s,MS5.3
BBSR BB Station 64.82 6 *e*P **P 22 01 02.2 -5.4**
comp=Z,109nm,1.0s,mb5.8
BBSR LR LR
comp=Z,3µm,22.0s,MS5.4
NHSC New Hope 65.72 352 *e*P **P 22 01 11.1 -2.4**
comp=Z,154nm,1.1s,mb6.0
COW Cow Castle Cre 66.06 352 P **P 22 01 11.8 -3.8**
HKT Hockley 66.19 337 *e*P **P 22 01 13.5 -3.1**
comp=Z,90nm,1.5s,mb5.6
HKT Hockley 66.19 337 *e*P **P 22 01 13.5 -3.0**
HKT pmax pmax
comp=Z,90nm,1.5s,mb5.6
LRAL Lakeview Retre 66.75 346 *e*P **P 22 01 19.2 -0.8**
VBMS Vicksburg 66.77 343 *e*P **P 22 01 19.6 -0.5**
SYO Syowa Base 67.16 159 ⇓*i*P **P 22 01 19.9 -2.3**
SYO Syowa Base 67.16 159 ⇓*i*P **P 22 01 22.0 -0.2**
TAOE Nuku Hiva Isla 67.21 274 *e*P **P 22 01 21.9 -1.6**
comp=Z,745nm,1.4s,mb6.5
TAOE *e*S S 22 10 12.8 -2.8
comp=Z,2µm,23.3s
TAOE *e*LR LR 22 21 38.1
comp=Z,7µm,23.4s
NATX Nacogdoches 67.50 339 *e*P **P 22 01 23.9 -0.9**
comp=Z,327nm,1.5s,mb6.1
CNNC Cliffs of the 67.61 354 *e*P **P 22 01 21.9 -3.5**
CNNC LR LR
comp=Z,3µm,19.0s,MS5.6
KMSC Kings Mountain 67.87 351 P **P 22 01 27.3 +0.2**
baz=68
KMSC ⇓S S 22 10 22.0 -0.4
baz=68
TBI Tubuai 68.04 256 *e*P **P 22 01 27.1 -1.5**
comp=Z,122nm,1.1s,mb5.8
TBI *e*S S 22 10 24.3 -1.0
comp=Z,2µm,23.5s
TBI *e*LR LR 22 22 02.0
comp=Z,14µm,25.8s,baz=111
JCT Junction City 68.07 334 ⇑P **P 22 01 27.6 -0.8**
baz=68,SNR=14
JCT ⇑S S 22 10 26.4 +1.4
baz=68
JCT Junction City 68.07 334 *e*P **P 22 01 27.1 -1.3**
comp=Z,92nm,1.1s,mb5.7
JCT Junction City 68.07 334 *e*P **P 22 01 27.1 -1.3**
JCT pmax pmax
comp=Z,92nm,1.1s,mb5.7
628A Black Gap, Mar 68.39 331 ⇓P **P 22 01 29.9 -0.6**
baz=69,SNR=19
628A ⇓S S 22 10 31.5 +2.6
baz=69
627A Terlingua Ranc 68.57 330 ⇑P **P 22 01 30.8 -0.8**
baz=69
TXAR Lajitas Array 68.58 330 P **P 22 01 31.1 -0.6**
comp=Z,6.5nm,0.8s,mb4.6,baz=150,slow=7.8,SNR=17
TXAR LR LR 22 26 51.0
comp=Z,4µm,18.4s,MS5.7,baz=25,slow=32
TXAR PKP2ab 22 29 52.2
comp=Z,3.7nm,1.1s,baz=336,slow=2.7,SNR=3.7
TXAR Lajitas Array 68.58 330 P **P 22 01 31.1 -0.6**
TXAR P'P'ab 22 29 52.2
TXAR Lajitas Array 68.58 330 P **P 22 01 31.1 -0.6**
TXAR pmax pmax
comp=Z,7.0nm,0.8s
TXAR MLR MLR
comp=Z,4µm,18.4s
TXAR pmax pmax
comp=Z,4.0nm,1.1s
OXF Oxford 68.70 344 *e*P **P 22 01 29.6 -2.7**
comp=Z,129nm,1.0s,mb5.8
OXF Oxford 68.70 344 *e*P **P 22 01 29.6 -2.7**
OXF pmax pmax
comp=Z,129nm,1.0s,mb5.8
TKL Tuckaleechee C 68.72 349 P **P 22 01 32.1 -0.3**
comp=Z,36nm,1.1s,mb5.2,baz=161,slow=8.9,SNR=7.8
TKL Tuckaleechee C 68.72 349 *e*P **P 22 01 31.2 -1.2**
TKL Tuckaleechee C 68.72 349 *e*P **P 22 01 31.2 -1.2**
528A Cox Ranch, San 68.95 331 ⇓P **P 22 01 32.9 -1.0**
baz=69,SNR=10
626A Big Bend Ranch 68.97 330 ⇓P **P 22 01 34.1 0.0**
baz=69,SNR=26
527A Woodward Ranch 69.27 331 ⇑P **P 22 01 35.4 -0.6**
baz=70
526A Mary Lane Ranc 69.40 330 ⇓P **P 22 01 36.6 -0.1**
baz=70,SNR=19
428A Kincaid Ranch, 69.40 332 ⇑P **P 22 01 36.6 -0.2**
baz=70
MEH Mehetia 69.42 261 *e*P **P 22 01 36.1 -1.2**
comp=Z,129nm,1.2s,mb5.7
UALR University of 69.67 342 *e*P **P 22 01 36.2 -2.1**
comp=Z,26nm,1.0s,mb5.1
MIAR Mount Ida 69.79 341 *e*P **P 22 01 36.2 -2.8**
comp=Z,83nm,1.4s,mb5.5
MIAR Mount Ida 69.79 341 *e*P **P 22 01 36.2 -2.8**
MIAR pmax pmax
comp=Z,83nm,1.4s,mb5.5
427A Hayter Ranch, 69.80 331 ⇓P **P 22 01 38.8 -0.4**
baz=70
BLA Blacksburg 69.81 353 PFAKE 22 01 50.0 +11
BLA LR LR
comp=Z,3µm,19.0s,MS5.6
426A McDonald Obser 69.90 331 ⇑P **P 22 01 39.1 -0.7**
baz=70,SNR=23
WVT Waverly 69.91 346 *e*P **P 22 01 37.4 -2.4**
comp=Z,288nm,1.3s,mb6.0
WVT Waverly 69.91 346 *e*P **P 22 01 37.4 -2.3**
WVT pmax pmax
comp=Z,288nm,1.3s,mb6.0
328A Wristen Ranch, 70.03 332 ⇑P **P 22 01 40.0 -0.6**
baz=70,SNR=11
GNAR Gosnell 70.23 344 *e*P **P 22 01 41.8 +0.1**
comp=Z,3µm,1.3s,mb7.1
GLAT Glass 70.36 345 *e*P **P 22 01 39.4 -3.0**
425A Indio Mountain 70.41 330 ⇓P **P 22 01 41.9 -1.0**
baz=71,SNR=10
326A Caldwell Ranch 70.45 331 ⇓P **P 22 01 42.5 -0.7**
baz=71,SNR=14
BBTS Babate 70.48 57 P **P 22 01 44.7 +1.0**
comp=Z,237nm,1.0s,mb6.1,baz=213,slow=1.2,SNR=29
BBTS LR LR 22 31 08.5
comp=Z,7µm,20.7s,MS5.9,baz=233,slow=35
BBTS Babate 70.48 57 P **P 22 01 44.7 +1.0**
CBN Corbin 70.52 355 PFAKE 22 01 50.0 +6.6
CBN LR LR
comp=Z,2µm,20.0s,MS5.4
TIAR Tiarei 70.64 261 *e*P **P 22 01 43.5 -1.3**
comp=Z,101nm,1.2s,mb5.6
PMOR Pomariorio Ree 70.67 264 *e*P **P 22 01 43.3 -1.6**
comp=Z,79nm,1.2s,mb5.5
227A Bennet, Jal 70.78 332 ⇑P **P 22 01 44.8 -0.4**
baz=71
PAE Paea 70.79 261 *e*P **P 22 01 44.5 -1.2**
comp=Z,34nm,1.1s,mb5.2
PPT2 Papeete2 70.82 261 *e*P **P 22 01 44.9 -1.0**
comp=Z,132nm,1.1s,mb5.8
PPT2 *e*S S 22 10 57.1 -1.1
comp=Z,3µm,23.8s
PPT2 *e*LR LR 22 23 18.1
comp=Z,6µm,25.0s,baz=117
PARMO Parma 70.84 345 *e*P **P 22 01 43.3 -2.1**
325A Bean Ranch, Si 70.91 330 ⇓P **P 22 01 45.4 -0.6**
baz=71
226A Malaga, Loving 71.15 331 ⇑P **P 22 01 47.1 -0.3**
baz=71,SNR=8.6
324A Moseley Ranch, 71.19 330 ⇑P **P 22 01 46.3 -1.3**
baz=72,SNR=16
MNTX Cornudas Mount 71.36 330 ⇑P **P 22 01 47.3 -1.4**
baz=72,SNR=21
127A Arkansas Junct 71.39 332 ⇑P **P 22 01 48.4 -0.5**
baz=72
225A Deer Hill, Car 71.49 331 ⇓P **P 22 01 48.9 -0.5**
baz=72
WMOK Wichita Mounta 71.56 337 *e*P **P 22 01 46.1 -3.7**
comp=Z,158nm,1.8s,mb5.6
WMOK Wichita Mounta 71.56 337 *e*P **P 22 01 46.1 -3.7**
WMOK pmax pmax
comp=Z,158nm,1.8s,mb5.6
126A Clayton Basin, 71.63 332 ⇑P **P 22 01 49.3 -1.0**
baz=72,SNR=11
WCI Wyandotte Cave 71.65 348 *e*P **P 22 01 46.6 -3.7**
comp=Z,45nm,0.9s,mb5.4
WCI Wyandotte Cave 71.65 348 *e*P **P 22 01 46.6 -3.7**
WCI pmax pmax
comp=Z,45nm,0.9s,mb5.4
SDMD Soldier's Deli 71.68 356 *e*P **P 22 01 48.7 -1.7**
comp=Z,227nm,1.4s,mb5.9
TUL1 Tulsa 71.70 339 ⇓P **P 22 01 49.7 -0.9**
baz=72
SIUC Southern Illin 71.73 345 *e*P **P 22 01 50.2 -0.5**
comp=Z,151nm,1.3s,mb5.8
224A Cornudas Mount 71.75 330 ⇑P **P 22 01 49.7 -1.3**
baz=72,SNR=8.5
Z27A Tatum 71.89 333 ⇑P **P 22 01 50.9 -0.9**
baz=72,SNR=18
125A Gardner Draw, 71.90 331 ⇓P **P 22 01 51.0 -0.9**
baz=72
CPRX Cap Rock 71.90 332 *e*P **P 22 01 49.6 -2.3**
comp=Z,77nm,0.9s,mb5.6
Z26A Caprock 72.16 332 ⇓P **P 22 01 53.1 -0.3**
baz=72,SNR=27
MSTX Muleshoe 72.30 333 ⇓P **P 22 01 53.2 -1.0**
baz=73,SNR=13
Z25A Roswell 72.46 331 ⇓P **P 22 01 55.3 0.0**
baz=73
CCM Cathedral Cave 72.51 344 *e*P **P 22 01 53.1 -2.3**
comp=Z,172nm,1.2s,mb5.9
CCM Cathedral Cave 72.51 344 *e*P **P 22 01 53.1 -2.3**
CCM pmax pmax
comp=Z,172nm,1.2s,mb5.9
BLO Bloomington 72.61 348 *e*P **P 22 01 54.4 -1.6**
comp=Z,34nm,0.6s,mb5.5
BLO Bloomington 72.61 348 *e*P **P 22 01 54.4 -1.6**
BLO pmax pmax
comp=Z,33nm,0.6s,mb5.4
221A Mesquite Ranch 72.67 328 ⇑P **P 22 01 56.9 +0.4**
baz=73
Y26A Elida 72.67 332 ⇓P **P 22 01 56.4 -0.1**
baz=73
AMTX Amarillo 72.71 334 ⇓P **P 22 01 57.1 +0.4**
baz=73
AMTX Amarillo 72.71 334 *e*P **P 22 01 53.1 -3.6**
comp=Z,40nm,0.9s,mb5.3
AMTX LR LR
comp=Z,2µm,19.0s,MS5.5
Z24A Sheeppen Canyo 72.77 331 ⇓P **P 22 01 57.3 +0.3**
baz=73
319A Douglas 72.81 327 ⇑P **P 22 01 57.2 -0.2**
baz=73,SNR=9.7
SLM Saint Louis 72.83 345 *e*P **P 22 01 54.7 -2.6**
comp=Z,178nm,1.1s,mb5.9
SLM Saint Louis 72.83 345 *e*P **P 22 01 54.7 -2.6**
SLM pmax pmax
comp=Z,177nm,1.1s,mb5.9
BRNJ Basking Ridge 72.84 358 *e*P **P 22 01 55.7 -1.6**
comp=Z,46µm,1.1s
220A Playas Peak, P 72.92 328 ⇑P **P 22 01 58.5 +0.5**
baz=73
122A Conniff Cattle 72.92 329 ⇑P **P 22 01 58.4 +0.4**
baz=73
CPNY Central Park 72.93 358 *e*P **P 22 01 57.0 -0.8**
comp=Z,88nm,1.0s,mb5.7
SSPA Standing Stone 72.97 355 *e*P **P 22 01 56.5 -1.6**
comp=Z,118nm,1.3s,mb5.7
Y25A Mesa, Roswell 73.01 332 ⇓P **P 22 01 58.5 0.0**
baz=73
X27A F and S Farms, 73.03 333 ⇓P **P 22 01 59.0 +0.5**
baz=73
Z23A Rita Site, Whi 73.07 330 ⇑P **P 22 01 59.6 +0.7**
baz=73
ACSO Alum Creek Sta 73.10 351 PFAKE 22 02 10.0 +11
ACSO LR LR
comp=Z,3µm,19.0s,MS5.6
121A Cookes Peak, D 73.12 329 ⇓P **P 22 01 59.6 +0.4**
baz=73,SNR=25
PAL Palisades 73.14 358 *e*P **P 22 01 57.1 -1.9**
comp=Z,45nm,0.9s,mb5.4
PAL Palisades 73.14 358 *e*P **P 22 01 57.1 -2.0**
PAL pmax pmax
comp=Z,45nm,0.9s,mb5.4
318A Bisbee 73.20 326 ⇑P **P 22 01 59.5 -0.2**
baz=74,SNR=14
X26A CR and CF Fran 73.22 333 ⇑P **P 22 02 00.4 +0.7**
baz=74
Y24A Capitan 73.32 331 ⇓P **P 22 02 00.3 0.0**
baz=74,SNR=14
219A White Tail Can 73.33 327 ⇓P **P 22 02 00.8 +0.4**
baz=74,SNR=20
Z22A Elephant Butte 73.38 330 ⇓P **P 22 02 01.0 +0.3**
baz=74,SNR=7.6
W27A Bowe Ranch, En 73.38 333 ⇑P **P 22 02 00.9 +0.2**
baz=74
YLE Yale 73.43 359 *e*P **P 22 01 59.5 -1.3**
comp=Z,558nm,1.0s,mb6.5
120A U Bar Ranch, L 73.51 328 ⇓P **P 22 02 01.6 +0.1**
baz=74
X25A Clemmons Ranch 73.53 332 ⇑P **P 22 02 02.1 +0.6**
baz=74
Y23A Lovelace Mesa, 73.58 331 ⇓P **P 22 02 02.2 +0.4**
baz=74
218A Dragoon 73.67 327 ⇑P **P 22 02 02.3 -0.2**
baz=74,SNR=22
W26A Owens Ranch, T 73.67 333 ⇑P **P 22 02 02.8 +0.5**
baz=74
Z21A St. Cloud Mine 73.73 329 ⇓P **P 22 02 03.2 +0.4**
baz=74
LIC Lamto 73.95 72 ⇑*i*P **P 22 02 04.9 +0.4**
comp=Z,487nm,1.1s,mb6.1,baz=241
LIC *e*R
comp=Z,8µm,22.0s
LIC Lamto 73.95 72 ⇑*i*P **P 22 02 04.9 +0.4**
comp=Z,487nm,1.1s,mb6.3
Y22A Socorro 73.96 330 ⇓P **P 22 02 04.7 +0.6**
baz=74
Z20A Nine Sixteen R 73.97 328 ⇓P **P 22 02 04.3 +0.2**
baz=74,SNR=36
BNM Barren Site 74.00 330 *e*P **P 22 02 01.9 -2.5**
comp=Z,22nm,1.0s,mb5.0
BRYW Bryant College 74.02 0 *e*P **P 22 02 03.8 -0.4**
comp=Z,335nm,1.0s,mb6.2
W25A X Bar L Ranch, 74.06 332 ⇑P **P 22 02 04.2 -0.4**
baz=74,SNR=9.7
LPM Los Pinos Moun 74.14 330 *e*P **P 22 02 02.8 -2.3**
comp=Z,25nm,1.0s,mb5.1
118A Homack Ranch, 74.19 327 ⇑P **P 22 02 05.3 -0.1**
baz=74,SNR=10
TUC Tucson 74.30 326 *e*P **P 22 02 06.2 +0.2**
comp=Z,43nm,1.3s,mb5.2
TUC Tucson 74.30 326 *e*P **P 22 02 06.2 +0.1**
TUC pmax pmax
comp=Z,43nm,1.3s,mb5.2
V26A Tequesquite Ra 74.30 333 ⇑P **P 22 02 06.2 +0.1**
baz=75
Y21A Point of Rocks 74.33 329 ⇑P **P 22 02 07.0 +0.8**
baz=75
DBIC Dimbokro 74.35 71 P **P 22 02 07.3 +0.4**
comp=Z,193nm,0.9s,mb6.0,baz=205,slow=6.3,SNR=120
DBIC LR LR 22 31 02.0
comp=Z,6µm,20.9s,MS5.9,baz=212,slow=33
DBIC Dimbokro 74.35 71 *e*P **P 22 02 07.2 +0.3**
comp=Z,182nm,0.8s,mb6.1
DBIC LR LR
comp=Z,6µm,21.0s,MS5.9
DBIC Dimbokro 74.35 71 P **P 22 02 07.3 +0.5**
DBIC pmax pmax
comp=Z,193nm,0.9s
DBIC MLR MLR
comp=Z,6µm,20.9s
QUA2 Belchertown 74.38 359 *e*P **P 22 02 03.3 -3.0**
comp=Z,268nm,1.0s,mb6.1
BINY Binghamton 74.41 357 *e*P **P 22 02 02.7 -3.8**
comp=Z,161nm,1.3s,mb5.8
BINY LR LR
comp=Z,2µm,20.0s,MS5.5
Z19A T-Link Ranch, 74.42 328 ⇑P **P 22 02 07.2 +0.4**
baz=75
W24A Lazy 6 Ranch, 74.42 332 ⇑P **P 22 02 06.9 +0.2**
baz=75
LAZ Ladron 74.44 330 *e*P **P 22 02 06.9 0.0**
comp=Z,15nm,1.0s,mb4.9
X22A Bernardo 74.47 330 ⇑P **P 22 02 07.5 +0.5**
baz=75
HDIL Hopedale 74.48 346 *e*P **P 22 02 03.6 -3.3**
comp=Z,41nm,0.6s,mb5.5
WES Weston 74.49 0 *e*P **P 22 02 07.1 +0.2**
comp=Z,147nm,1.0s,mb5.9
WES Weston 74.49 0 *e*P **P 22 02 07.1 +0.2**
WES pmax pmax
comp=Z,147nm,1.0s,mb5.9
MAW Mawson 74.54 164 P **P 22 02 07.2 +0.1**
comp=Z,88nm,1.0s,mb5.6,baz=215,slow=7.0,SNR=36
MAW LR LR 22 34 04.5
comp=Z,8µm,20.4s,MS6.0,baz=226,slow=35
MAW Mawson 74.54 164 P **P 22 02 07.2 +0.1**
MAW Mawson 74.54 164 P **P 22 02 07.2 +0.1**
MAW pmax pmax
comp=Z,88nm,1.0s
MAW MLR MLR
comp=Z,8µm,20.4s
Y20A Horse Springs, 74.55 329 ⇓P **P 22 02 08.2 +0.7**
baz=75
Z18A Geronimo 74.59 327 ⇑P **P 22 02 08.3 +0.5**
baz=75
ERPA Erie 74.62 354 PFAKE 22 02 20.0 +12
ERPA LR LR
comp=Z,2µm,21.0s,MS5.4
ANMO Albuquerque 74.62 331 P **P 22 02 08.9 +1.0**
comp=Z,12nm,1.0s,mb4.8,baz=156,slow=7.9,SNR=21
ANMO Albuquerque 74.62 331 *e*P **P 22 02 05.0 -2.9**
comp=Z,28nm,1.0s,mb5.2
ANMO LR LR
comp=Z,5µm,20.0s,MS5.8
ANMO Albuquerque 74.62 331 P **P 22 02 09.0 +1.1**
ANMO pmax pmax
comp=Z,12nm,1.0s
V25A Rancho No Teng 74.66 333 ⇓P **P 22 02 09.0 +0.9**
baz=75
W23A Werner Place, 74.68 331 ⇓P **P 22 02 08.7 +0.4**
baz=75,SNR=10
X21A Alamocita Cree 74.75 330 ⇓P **P 22 02 09.5 +0.9**
baz=75
U26A Atchley Ranch, 74.82 334 ⇑P **P 22 02 09.8 +0.8**
baz=75
V24A Rampart Ranch, 74.82 332 ⇑P **P 22 02 09.4 +0.3**
baz=75
TRY Troy 74.86 358 *e*P **P 22 02 08.3 -0.8**
comp=Z,396nm,1.0s,mb6.3
W22A Albuquerque 74.90 331 ⇑P **P 22 02 10.0 +0.5**
baz=75
KSU1 Kansas State U 74.90 340 *e*P **P 22 02 07.6 -1.8**
comp=Z,25nm,0.8s,mb5.2
Z17A San Carlos Hig 74.97 327 ⇓P **P 22 02 10.7 +0.7**
baz=75
Y19A Nutrioso 74.97 328 ⇓P **P 22 02 10.8 +0.8**
baz=75,SNR=36
214A Organ Pipe Nat 74.98 325 ⇑P **P 22 02 10.3 +0.3**
baz=75
U25A Circle Dot Ran 75.07 333 ⇓P **P 22 02 10.8 +0.4**
baz=75,SNR=9.2
X20A Quemado 75.14 329 ⇓P **P 22 02 11.0 +0.1**
baz=75,SNR=12
Y18A Canyon Day Jun 75.17 328 ⇑P **P 22 02 11.3 +0.2**
baz=76,SNR=7.1
V23A Ortiz Mt. (NFS 75.20 331 ⇑P **P 22 02 12.2 +0.9**
baz=76
AAM Ann Arbor 75.22 351 *e*P **P 22 02 08.0 -3.2**
AAM LR LR
comp=Z,3µm,21.0s,MS5.5
AAM Ann Arbor 75.22 351 *e*P **P 22 02 08.0 -3.2**
AAM MLR MLR
comp=Z,3µm,21.0s,MS5.5
SUR Sutherland 75.25 119 P **P 22 02 12.5 +0.6**
comp=Z,118nm,1.0s,mb5.8,baz=231,slow=3.9,SNR=35
SUR LR LR 22 31 22.5
comp=Z,6µm,18.8s,MS5.9,baz=240,slow=33
SUR Sutherland 75.25 119 *e*P **P 22 02 11.4 -0.4**
comp=Z,112nm,0.9s,mb5.8
W21A San Fidel 75.26 330 ⇑P **P 22 02 12.2 +0.6**
baz=76
X19A St. Johns 75.39 329 ⇑P **P 22 02 12.6 +0.3**
baz=76
Y17A Roosevelt 75.47 327 ⇑P **P 22 02 12.7 -0.1**
baz=76,SNR=34
ACCN Adirondack Com 75.51 358 *e*P **P 22 02 12.8 0.0**
comp=Z,129nm,1.1s,mb5.8
FFD Franklin Falls 75.57 360 *e*P **P 22 02 12.9 -0.3**
comp=Z,182nm,0.7s,mb6.1
CBKS Cedar Bluff 75.59 338 ⇓P **P 22 02 12.7 -0.7**
baz=76,SNR=9.9
CBKS Cedar Bluff 75.59 338 *e*P **P 22 02 08.2 -5.1**
comp=Z,252nm,1.6s,mb5.9
CBKS LR LR
comp=Z,2µm,19.0s,MS5.4
CBKS Cedar Bluff 75.59 338 *e*P **P 22 02 08.3 -5.1**
CBKS pmax pmax
comp=Z,252nm,1.6s,mb5.9
CBKS MLR MLR
comp=Z,2µm,19.0s,MS5.4
W20A Ramah 75.63 329 ⇑P **P 22 02 14.2 +0.5**
baz=76,SNR=32
V22A San Miguel Ran 75.64 331 ⇑P **P 22 02 14.0 +0.3**
baz=76
114A Black Gap (USA 75.66 325 ⇓P **P 22 02 14.1 +0.2**
baz=76,SNR=12
U23A El Rito 75.71 332 ⇓P **P 22 02 14.6 +0.5**
baz=76
T25A Trinidad 75.72 333 ⇑P **P 22 02 15.2 +1.0**
baz=76
X18A Snowflake 75.77 328 ⇑P **P 22 02 15.2 +0.7**
baz=76
HNH Hanover 75.81 359 *e*P **P 22 02 13.9 -0.6**
comp=Z,120nm,0.8s,mb5.9
V21A Milan 75.85 330 ⇓P **P 22 02 15.6 +0.7**
baz=76
T24A Torres, Weston 75.91 333 ⇓P **P 22 02 16.3 +1.0**
baz=76
W19A Sanders 76.01 329 ⇓P **P 22 02 16.2 +0.3**
baz=76,SNR=12
U22A Llaves 76.02 331 ⇑P **P 22 02 15.3 -0.6**
baz=76
113A Mohawk Valley, 76.11 324 ⇓P **P 22 02 16.5 0.0**
baz=76,SNR=7.2
NCB Newcomb 76.11 358 *e*P **P 22 02 15.8 -0.4**
comp=Z,84nm,1.0s,mb5.6
MDV Middlebury 76.11 359 *e*P **P 22 02 12.8 -3.5**
comp=Z,23µm,0.9s
R27A Eads 76.15 335 ⇓P **P 22 02 16.8 +0.2**
baz=76
W18A Petrified Fore 76.16 329 ⇓P **P 22 02 17.1 +0.3**
baz=76
Z14A Wintersburg 76.19 325 ⇓P **P 22 02 17.1 +0.2**
baz=76
V20A Brimhall 76.19 330 ⇓P **P 22 02 17.5 +0.6**
baz=76,SNR=17
S25A Robets Cordova 76.19 334 ⇓P **P 22 02 17.8 +0.9**
baz=76,SNR=7.9
T23A Casias Ranch, 76.26 332 ⇑P **P 22 02 18.0 +0.7**
baz=77
LBNH Lisbon 76.34 360 *e*P **P 22 02 14.2 -3.4**
comp=Z,119nm,0.9s,mb5.8
LBNH Lisbon 76.34 360 *e*P **P 22 02 14.2 -3.3**
LBNH pmax pmax
comp=Z,119nm,0.9s,mb5.8
X16A Lo Mia Camp, P 76.35 327 ⇓P **P 22 02 18.7 +0.9**
baz=77,SNR=39
V19A Window Rock 76.37 329 ⇑P **P 22 02 18.5 +0.6**
baz=77
U21A Nageezi 76.39 331 ⇓P **P 22 02 18.5 +0.5**
baz=77,SNR=24

R26A **Arlington** 76.39 335 ⇓P P 22 02 18.3 +0.3
baz=77
Z13A **Yuma Proving G** 76.40 325 ⇑P P 22 02 18.6 +0.4
baz=77,SNR=16
S24A **Houchin Ranch,** 76.47 333 ⇑P P 22 02 19.1 +0.6
baz=77,SNR=37
R25A **Fountain Ranch** 76.56 334 ⇓P P 22 02 19.4 +0.4
baz=77
W17A **Winslow** 76.57 328 ⇑P P 22 02 19.3 +0.3
baz=77
T22A **Edith** 76.59 332 ⇑P P 22 02 20.2 +1.1
baz=77,SNR=15
SCIA **State Center** 76.64 344 eP P 22 02 16.4 -2.8
comp=Z,134nm,1.1s,mb5.8
SDCO **Great Sand Dun** 76.67 333 ⇓P P 22 02 20.4 +0.9
baz=77
SDCO **Great Sand Dun** 76.67 333 eP P 22 02 16.9 -2.7
comp=Z,37nm,1.1s,mb5.2
WVL **Waterville** 76.69 1 eP P 22 02 18.3 -1.1
comp=Z,256nm,1.1s,mb6.1
Y14A **Wickenburg** 76.69 326 ⇑P P 22 02 20.0 +0.2
baz=77,SNR=12
U20A **Newcomb** 76.70 330 ⇑P P 22 02 20.2 +0.4
baz=77,SNR=13
KSCO **Kaye Shedlock'** 76.74 336 ⇑P P 22 02 20.8 +0.9
baz=77
V18A **Ganado** 76.75 329 ⇓P P 22 02 21.1 +1.1
baz=77
T21A **Navajo Lake** 76.82 331 ⇓P P 22 02 21.1 +0.7
baz=77,SNR=16
S23A **Nye Farm, Mont** 76.83 333 ⇓P P 22 02 21.6 +1.1
baz=77
GLA **Glamis** 76.86 324 ⇓P P 22 02 21.1 +0.4
baz=77
EMMW **East Machias** 76.90 3 eP P 22 02 18.8 -1.9
comp=Z,279nm,0.9s,mb6.2
U19A **Dine' College,** 76.93 330 ⇑P P 22 02 21.7 +0.6
baz=77
JFWS **Jewell Farm** 76.94 346 eP P 22 02 18.5 -2.4
comp=Z,226nm,1.4s,mb5.9
JFWS **Jewell Farm** 76.94 346 eP P 22 02 18.5 -2.4
JFWS pmax pmax
comp=Z,226nm,1.4s,mb5.9
R24A **Sanders Place,** 76.95 333 ⇑P P 22 02 21.9 +0.8
baz=77,SNR=24
FRNY **Flat Rock** 76.96 359 eP P 22 02 20.7 -0.3
comp=Z,135nm,0.9s,mb5.9
Q26A **Hugo** 76.97 335 ⇑P P 22 02 22.4 +1.2
baz=77
V17A **Tonalea, Kykot** 77.06 328 ⇑P P 22 02 22.8 +1.1
baz=77
MSNY **Massena** 77.16 358 eP P 22 02 19.7 -2.4
comp=Z,1μm,0.9s,mb6.8
SADO **Sadowa** 77.18 355 P P 22 02 22.4 +0.2
comp=Z,66nm,1.0s,mb5.5,baz=205,slow=5.2,SNR=19
SADO **Sadowa** 77.18 355 P P 22 02 22.4 +0.2
R23A **Moffat** 77.18 333 ⇓P P 22 02 23.1 +0.6
baz=78,SNR=14
S22A **4UR Ranch, Cre** 77.19 332 ⇑P P 22 02 23.2 +0.7
baz=78,SNR=12
Q25A **Bedland, Calha** 77.23 334 ⇑P P 22 02 23.6 +0.9
baz=78
WUAZ **Wupatki** 77.23 328 ⇓P P 22 02 23.4 +0.7
baz=78,SNR=15
WUAZ **Wupatki** 77.23 328 eP P 22 02 21.9 -0.8
comp=Z,74nm,0.9s,mb5.6
SWSC **Sam W. Stewart** 77.26 323 ⇑P P 22 02 23.7 +0.7
baz=78
Y12C **Blythe** 77.27 324 ⇑P P 22 02 23.6 +0.5
baz=78,SNR=11
T19A **Beclabito** 77.30 330 ⇓P P 22 02 23.7 +0.5
baz=78,SNR=25
U18A **Rough Rock, Ch** 77.32 329 ⇑P P 22 02 23.6 +0.4
baz=78,SNR=14
PKME **Peaks-Kenny Pk** 77.39 2 eP P 22 02 22.3 -1.1
comp=Z,189nm,1.0s,mb6.0
MVCO **Mesa Verde** 77.41 331 eP P 22 02 23.0 -0.7
comp=Z,37nm,0.8s,mb5.4
RAR **Rarotonga** 77.44 253 P P 22 02 23.8 -0.7
comp=Z,10nm,0.7s,mb4.9,baz=187,slow=11,SNR=3.8
RAR LR LR 22 28 06.2
comp=Z,4μm,18.2s,MS5.8,baz=299,slow=29
RAR **Rarotonga** 77.44 253 P P 22 02 23.8 -0.7
RAR **Rarotonga** 77.44 253 P P 22 02 23.8 -0.7
RAR pmax pmax
comp=Z,10.0nm,0.7s
RAR MLR MLR
comp=Z,4μm,18.2s
BGNE **Belgrade** 77.48 340 ⇓P P 22 02 24.5 +0.5
baz=78
S21A **Coal Bank Pass** 77.50 331 ⇓P P 22 02 24.9 +0.7
baz=78,SNR=20
PDMCI **Parker Dam,Lak** 77.53 325 ⇑P P 22 02 24.9 +0.5
baz=78
MONP **Monument Peak** 77.54 323 ⇓P P 22 02 25.0 +0.5
baz=78
R22A **Saguache, Gunn** 77.58 332 ⇑P P 22 02 25.5 +0.9
baz=78
Q24A **Divide** 77.60 334 ⇓P P 22 02 25.2 +0.4
baz=78,SNR=28
U16A **Tuba City** 77.64 328 ⇑P P 22 02 25.7 +0.7
baz=78,SNR=13
P25A **Willow Gulch B** 77.73 335 ⇓P P 22 02 26.1 +0.7
baz=78,SNR=26
O27A **Beecher Island** 77.74 336 ⇑P P 22 02 26.0 +0.5
baz=78
Q23A **Hartsel** 77.81 333 ⇑P P 22 02 26.6 +0.7
baz=78
U17A **Shonto** 77.81 329 ⇓P P 22 02 27.0 +1.0
baz=78,SNR=22
GLMI **Grayling** 77.83 351 eP P 22 02 25.4 -0.5
S20A **Disappointment** 77.88 331 ⇑P P 22 02 27.3 +0.9
baz=78,SNR=12
IRM **Iron Mountain** 77.91 324 ⇓P P 22 02 26.8 +0.3
baz=78,SNR=11
T18A **Mexican Hat** 77.92 330 ⇑P P 22 02 27.4 +0.8
baz=78
R21A **Cimarron** 78.01 332 ⇓P P 22 02 27.7 +0.6
baz=78
W13A **Hualapai Mount** 78.05 326 ⇑P P 22 02 28.0 +0.6
baz=78,SNR=24
O26A **Horse Wrangler** 78.07 336 ⇓P P 22 02 28.6 +1.2
baz=78
PFO **Pinyon Flat Ob** 78.12 323 ⇓P P 22 02 28.7 +0.9
baz=78
PFO **Pinyon Flat Ob** 78.12 323 eP P 22 02 22.7 -5.1
comp=Z,70nm,1.1s,mb5.5
PFO **Pinyon Flat Ob** 78.12 323 eP P 22 02 22.7 -5.1
PFO pmax pmax
comp=Z,70nm,1.1s,mb5.5
S19A **Harvey Farm, M** 78.13 330 ⇓P P 22 02 28.4 +0.7
baz=78,SNR=27
Q22A **Crested Butte,** 78.19 333 ⇑P P 22 02 29.0 +1.0
baz=78
R20A **Redvale** 78.19 331 ⇑P P 22 02 28.9 +0.8
baz=78,SNR=17
T17A **Navajo Res., N** 78.21 329 ⇓P P 22 02 29.0 +0.9
baz=78
P23A **Jefferson** 78.22 334 ⇑P P 22 02 29.5 +1.3
baz=78,SNR=8.6
PV01 **Paradox Valley** 78.22 331 eP P 22 02 25.2 -3.0
comp=Z,3μm,1.0s
O25A **Wiggins** 78.24 335 ⇓P P 22 02 29.4 +1.1
baz=79,SNR=7.5
OGNE **Ogallala** 78.27 337 ⇓P P 22 02 29.8 +1.4
baz=79
OGNE **Ogallala** 78.27 337 eP P 22 02 25.1 -3.3
N27A **Anderson Farm,** 78.31 337 ⇓P P 22 02 30.0 +1.4
baz=79
Q21A **Lamborn Mesa,** 78.42 332 ⇓P P 22 02 30.4 +1.1
baz=79
S18A **Hurst Farm, Bl** 78.44 330 ⇑P P 22 02 30.1 +0.6
baz=79,SNR=49
SMCO **Snowmass** 78.48 333 eP P 22 02 29.6 -0.1
comp=Z,124nm,1.1s,mb5.8
MURC **Murrieta** 78.50 323 ⇑P P 22 02 30.6 +0.7
baz=79
ISCO **Idaho Springs** 78.51 334 ⇓P P 22 02 30.1 +0.3
baz=79,SNR=20
ISCO **Idaho Springs** 78.51 334 eP P 22 02 28.2 -1.5
comp=Z,92nm,1.4s,mb5.5
ISCO **Idaho Springs** 78.51 334 eP P 22 02 28.2 -1.6
ISCO pmax pmax
comp=Z,92nm,1.4s,mb5.5
N26A **Koester Ranch,** 78.56 336 ⇓P P 22 02 31.5 +1.5
baz=79
PV04 **Paradox Valley** 78.58 331 eP P 22 02 29.8 -0.4
O24A **Longmont** 78.59 334 ⇑P P 22 02 31.7 +1.4
baz=79
LDFC **Landfair** 78.62 325 eP P 22 02 31.4 +0.8
comp=Z,87nm,1.1s,mb5.6
R19A **Curley Farm, L** 78.64 331 ⇑P P 22 02 31.5 +0.9
baz=79,SNR=15
S17A **Black Ridge (B** 78.74 329 ⇓P P 22 02 32.0 +0.9
baz=79,SNR=7.2
P22A **Eagle** 78.76 333 ⇓P P 22 02 32.1 +0.9
baz=79,SNR=7.7
Q20A **Ridgley Place,** 78.81 332 ⇑P P 22 02 32.8 +1.3
baz=79
N25A **Grover** 78.85 335 ⇑P P 22 02 32.8 +1.2
baz=79
BBRC **Big Bear Solar** 78.88 323 ⇓P P 22 02 32.7 +0.7
baz=79
M27A **Reverse DX Ran** 78.91 337 ⇓P P 22 02 33.4 +1.5
baz=79
P21A **Newcastle** 78.97 333 ⇑P P 22 02 33.3 +1.0
baz=79
O23A **Lake Granby, G** 78.98 334 ⇑P P 22 02 33.4 +1.1
baz=79,SNR=28
R18A **Canyonlands Na** 78.99 330 ⇓P P 22 02 33.2 +0.8
baz=79
HEC **Hector,Ludlow** 79.03 324 ⇑P P 22 02 33.4 +0.7
baz=79
M26A **McRoberts Ranc** 79.10 336 ⇑P P 22 02 34.3 +1.3
baz=79
N24A **Carr** 79.14 335 ⇓P P 22 02 34.4 +1.2
baz=80
FMP **Fort Macarthur** 79.15 322 ⇑P P 22 02 34.4 +0.9
baz=79
S16A **Weppner Ranch,** 79.16 329 ⇑P P 22 02 34.0 +0.6
baz=79,SNR=10
O22A **Kremmling** 79.17 333 ⇑P P 22 02 34.2 +0.8
baz=80,SNR=23
ECSD **ERO$ Data Cent** 79.21 342 eP P 22 02 31.6 -1.9
comp=Z,185nm,1.2s,mb5.9
ECSD LR LR
comp=Z,3μm,19.0s,MS5.6
Q19A **Hogan Spring (** 79.21 331 ⇑P P 22 02 34.6 +0.9
baz=80,SNR=12
BFSC **Mount Baldy Ra** 79.23 323 ⇓P P 22 02 34.6 +0.7
baz=80
TSUM **Tsumeb** 79.28 106 eP P 22 02 35.1 +0.5
comp=Z,201nm,1.2s,mb5.9
TUQ **Turquoise Moun** 79.31 325 ⇓P P 22 02 35.4 +1.2
baz=80
P20A **De Beque** 79.32 332 ⇑P P 22 02 35.3 +1.1
baz=80
R17A **Hanksville Air** 79.36 330 ⇓P P 22 02 35.4 +0.9
baz=80,SNR=12
M25A **Palm-Egli Farm** 79.39 336 ⇑P P 22 02 36.0 +1.5
baz=80
MWC **Mount Wilson** 79.43 322 eP P 22 02 33.2 -1.7
comp=Z,106nm,1.4s,mb5.6
MWC **Mount Wilson** 79.43 322 eP P 22 02 33.2 -1.7
MWC pmax pmax
comp=Z,106nm,1.4s,mb5.6
PASC **Pasadena Art C** 79.45 322 eP P 22 02 30.4 -4.7
comp=Z,46nm,0.9s,mb5.4
O21A **Pagoda** 79.57 333 ⇑P P 22 02 36.7 +1.1
baz=80,SNR=8.0
R16A **Teasdale** 79.58 329 ⇓P P 22 02 36.5 +0.9
baz=80
N23A **Red Feather La** 79.59 334 ⇓P P 22 02 36.7 +1.1
baz=80,SNR=9.2
GSC **Goldstone** 79.64 324 ⇑P P 22 02 36.7 +0.6
baz=80,SNR=9.6
GSC **Goldstone** 79.64 324 eP P 22 02 36.7 +0.6
comp=Z,43nm,0.9s,mb5.4
GSC **Goldstone** 79.64 324 eP P 22 02 36.7 +0.6
GSC pmax pmax
comp=Z,43nm,0.9s,mb5.4
P19A **Cripple Cowboy** 79.67 332 ⇑P P 22 02 37.5 +1.3
baz=80,SNR=31
M24A **Cheyenne** 79.69 335 ⇑P P 22 02 37.3 +1.1
baz=80,SNR=6.6
SPMN **St. Paul** 79.69 345 ⇑P P 22 02 36.1 0.0
baz=80
Q18A **Rafter H Ranch** 79.69 330 ⇑P P 22 02 37.2 +0.9
baz=80,SNR=11
N22A **Wattenberg Ran** 79.70 334 ⇓P P 22 02 37.4 +1.2
baz=80,SNR=14
PHWY **Pilot Hill** 79.77 335 eP P 22 02 32.4 -4.3
comp=Z,69nm,1.2s,mb5.5
O20A **White River Ci** 79.80 332 ⇑P P 22 02 37.3 +0.5
baz=80
CCUT **Cedar City** 79.81 327 eP P 22 02 37.9 +0.9
comp=Z,117nm,1.1s,mb5.7
SHOC **Shoshone** 79.85 325 ⇓P P 22 02 37.5 +0.3
baz=80
SRU **San Rafael** 79.86 330 eP P 22 02 36.7 -0.5
comp=Z,54nm,0.9s,mb5.5
SRU **San Rafael** 79.86 330 eP P 22 02 36.7 -0.5
SRU pmax pmax
comp=Z,54nm,0.9s,mb5.5
R15A **Junction** 79.86 329 ⇓P P 22 02 38.2 +1.0
baz=80
EDW2 **Edwards Air Fo** 79.91 323 ⇓P P 22 02 38.0 +0.5
baz=80,SNR=7.4
Q16A **Castle Valley** 79.97 330 ⇓P P 22 02 38.7 +0.9
baz=80,SNR=13
L25A **Engebretsen Ra** 80.00 336 ⇑P P 22 02 38.6 +0.8
baz=80
M23A **Laramie** 80.01 335 ⇑P P 22 02 38.6 +0.7
baz=80,SNR=7.9
ARUT **Antelope Range** 80.04 328 eP P 22 02 37.6 -0.6
comp=Z,63nm,1.1s,mb5.5
ARUT **Antelope Range** 80.04 328 eP P 22 02 37.6 -0.6
ARUT pmax pmax
comp=Z,63nm,1.1s,mb5.5
N21A **Black Mountain** 80.06 333 ⇓P P 22 02 39.2 +1.0
baz=80,SNR=8.8
MSU **Marysvale** 80.07 329 eP P 22 02 37.2 -1.1
comp=Z,57nm,1.0s,mb5.5
MSU **Marysvale** 80.07 329 eP P 22 02 37.2 -1.1
MSU pmax pmax
comp=Z,57nm,1.0s,mb5.5
BSC **Santa Cruz Isl** 80.08 321 ⇓P P 22 02 39.2 +0.8
baz=80
OSI **Osito Adit** 80.08 322 ⇑P P 22 02 39.6 +1.2
baz=80
OSI **Osito Adit** 80.08 322 eP P 22 02 37.4 -1.0
comp=Z,60nm,0.9s,mb5.5
P18A **Preston Nutter** 80.18 331 ⇓P P 22 02 39.9 +1.1
baz=80,SNR=35
LRMC **Laurel Mountai** 80.22 323 ⇓P P 22 02 39.9 +0.7
baz=80
L24A **Wheatland** 80.23 335 ⇓P P 22 02 40.7 +1.6
baz=81
P17A **Butcher Ranch,** 80.26 330 ⇑P P 22 02 40.3 +1.0
baz=81,SNR=11
M22A **Cedar Creek Ra** 80.27 334 ⇑P P 22 02 40.4 +1.1
baz=81
O19A **Miners Draw (B** 80.29 332 ⇓P P 22 02 40.0 +0.5
baz=81,SNR=5.6
TMUT **Trail Mountain** 80.31 330 eP P 22 02 39.1 -0.5
comp=Z,83nm,1.4s,mb5.5
K25A **Mack Ranch, Ha** 80.37 336 ⇑P P 22 02 40.8 +1.0
baz=81
N20A **Spence Gulch,** 80.41 333 ⇑P P 22 02 41.1 +1.0
baz=81,SNR=13
BOSA **Boshof** 80.46 118 P P 22 02 41.2 +0.3
comp=Z,130nm,1.0s,mb5.8,baz=242,slow=5.0,SNR=57
BOSA LR LR 22 35 53.6
comp=Z,8μm,18.5s,MS6.1,baz=203,slow=34
BOSA **Boshof** 80.46 118 eP P 22 02 41.0 +0.1
comp=Z,136nm,1.0s,mb5.8
BOSA **Boshof** 80.46 118 P P 22 02 41.2 +0.3
BOSA pmax pmax
comp=Z,130nm,1.0s,mb5.8
BOSA MLR MLR
comp=Z,8μm,18.5s,MS6.1
L23A **Garrett** 80.57 335 ⇓P P 22 02 41.9 +1.0
baz=81
MPMC **Manual Prospec** 80.58 324 ⇓P P 22 02 41.8 +0.6
baz=81,SNR=15
FURC **Furnace Creek,** 80.59 325 ⇓P P 22 02 41.8 +0.7
baz=81,SNR=17
R13A **O'Grain Ranch,** 80.60 327 ⇓P P 22 02 41.8 +0.7
baz=81,SNR=13
O18A **Roosevelt** 80.62 331 ⇑P P 22 02 42.2 +1.0
baz=81,SNR=8.6
M21A **Separation Pea** 80.73 334 ⇓P P 22 02 42.6 +0.8
baz=81
RWWY **Rawlins** 80.75 334 eP P 22 02 40.4 -1.4
comp=Z,108nm,1.2s,mb5.7
L22A **Ellis Ranch, M** 80.76 334 ⇓P P 22 02 42.8 +0.8
baz=81
P16A **Fountain Green** 80.76 330 ⇑P P 22 02 42.9 +0.9
baz=81
ISA **Isabella** 80.76 323 ⇑P P 22 02 42.8 +0.7
baz=81,SNR=11
ISA **Isabella** 80.76 323 eP P 22 02 42.2 +0.1
comp=Z,52nm,0.9s,mb5.5
ISA **Isabella** 80.76 323 eP P 22 02 42.3 +0.2
ISA pmax pmax
comp=Z,52nm,0.9s,mb5.5
K24A **Anderson Ranch** 80.79 336 ⇑P P 22 02 42.7 +0.6
baz=81
DAC **Darwin (Calif)** 80.80 324 PFAKE 22 02 50.0 +7.7
DAC LR LR
comp=Z,3μm,21.0s,MS5.6
N19A **John Jarvie Ra** 80.82 332 ⇑P P 22 02 43.2 +0.9
baz=81,SNR=13
O17A **Robinson Place** 80.86 331 ⇑P P 22 02 43.5 +0.9
baz=81,SNR=19
PKM **Peak Mountain** 80.87 322 ⇓P P 22 02 43.4 +0.7
baz=81,SNR=12
M20A **Sweetwater, Wa** 80.95 333 ⇑P P 22 02 44.1 +1.1
baz=81
P15A **Leamington** 80.99 329 ⇓P P 22 02 43.5 +0.3
baz=81,SNR=8.7
L21A **Rawlins** 81.05 334 ⇑P P 22 02 44.0 +0.6
baz=81,SNR=11
MPU **Maple Canyon** 81.09 330 eP P 22 02 43.4 -0.3
comp=Z,49nm,0.9s,mb5.4
N18A **Larsen Ranch,** 81.09 332 ⇑P P 22 02 43.8 +0.1
baz=81,SNR=9.2
K23A **Bowen Ranch, D** 81.10 335 ⇑P P 22 02 44.5 +0.7
baz=81
CWC **Cottonwood Cre** 81.17 324 ⇑P P 22 02 44.8 +0.5
baz=81,SNR=13
O16A **Springville** 81.19 330 ⇓P P 22 02 44.6 +0.3
baz=82,SNR=13
VES **Vestal, Richgr** 81.21 323 ⇓P P 22 02 45.4 +0.8
baz=82,SNR=17
DAU **Daniels Canyon** 81.26 330 eP P 22 02 44.9 +0.2
comp=Z,34nm,0.8s,mb5.3
DAU **Daniels Canyon** 81.26 330 eP P 22 02 44.9 +0.3
DAU pmax pmax
comp=Z,34nm,0.8s,mb5.3
GRAC **Grapevine Rang** 81.26 325 ⇓P P 22 02 45.3 +0.5
baz=82
J24A **Dixon Ranch, L** 81.28 336 ⇑P P 22 02 45.8 +1.1
baz=82
K22A **Casper** 81.33 335 ⇑P P 22 02 45.7 +0.7
baz=82,SNR=8.3
M19A **Rock Springs** 81.33 332 ⇓P P 22 02 45.6 +0.6
baz=82,SNR=8.9
L20A **Wamsutter** 81.45 333 ⇑P P 22 02 46.2 +0.7
baz=82
R11A **Troy Canyon, C** 81.48 326 ⇑P P 22 02 46.5 +0.6
baz=82,SNR=24
JLU **Jordanelle** 81.50 330 eP P 22 02 42.1 -3.8
comp=Z,28nm,0.8s,mb5.2
N17A **Moffit Pass** 81.53 331 ⇑P P 22 02 47.0 +0.9
baz=82
CASY **Casey** 81.56 181 eP P 22 02 43.2 -2.8
comp=Z,75nm,1.0s,mb5.6
CASY LR LR
comp=Z,2μm,19.0s,MS5.6
K21A **Alcova** 81.58 334 ⇓P P 22 02 46.5 +0.2
baz=82,SNR=22
M18A **Lyman** 81.63 332 ⇑P P 22 02 46.5 0.0
baz=82
O15A **The Old Anders** 81.66 330 ⇑P P 22 02 47.0 +0.3
baz=82
TIN **Tinemaha** 81.73 324 ⇑P P 22 02 47.8 +0.7
baz=82
N16A **Rees Ranch, Co** 81.73 331 ⇓P P 22 02 47.7 +0.6
baz=82,SNR=7.6
DUG **Dugway** 81.74 329 ⇑P P 22 02 47.8 +0.6
baz=82,SNR=27
DUG **Dugway** 81.74 329 eP P 22 02 44.6 -2.6
comp=Z,66nm,1.1s,mb5.5
DUG LR LR
comp=Z,3μm,21.0s,MS5.6
DUG **Dugway** 81.74 329 eP P 22 02 44.6 -2.6
DUG pmax pmax
comp=Z,66nm,1.1s,mb5.5
DUG MLR MLR
comp=Z,3μm,21.0s,MS5.6
RSSD **Black Hills** 81.77 337 eP P 22 02 43.4 -3.9
comp=Z,39nm,1.2s,mb5.2
RSSD **Black Hills** 81.77 337 eP P 22 02 43.4 -3.8
RSSD pmax pmax
comp=Z,39nm,1.2s,mb5.2
M17A **Scullys Gap (B** 81.91 331 ⇓P P 22 02 48.7 +0.7
baz=82
L19A **Farson** 81.92 333 ⇓P P 22 02 48.6 +0.5
baz=82,SNR=10
J22A **Midwest** 81.98 335 ⇑P P 22 02 49.1 +0.7
baz=82
K20A **Yellowstone Ra** 82.01 334 ⇑P P 22 02 49.7 +1.2
baz=82
EYMN **Ely** 82.02 347 eP P 22 02 47.0 -1.4
comp=Z,132nm,1.1s,mb5.8
L18A **Fontenelle, Gr** 82.04 332 ⇑P P 22 02 49.2 +0.5
baz=82
K19A **Absolon Red Bu** 82.34 333 ⇑P P 22 02 50.4 +0.2
baz=83,SNR=9.5
HWUT **Hardware Ranch** 82.39 331 eP P 22 02 47.2 -3.3
comp=Z,81nm,1.1s,mb5.6
HWUT LR LR
comp=Z,5μm,19.0s,MS5.9
I22A **9 Mile Ranch,** 82.40 335 ⇓P P 22 02 50.9 +0.4
baz=83
MLAC **Mammoth Lakes** 82.48 324 ⇓P P 22 02 51.3 +0.2
baz=83
H24A **Dirks Ranch, A** 82.49 337 ⇑P P 22 02 50.7 -0.3
baz=83,SNR=7.1
J20A **Shoshoni** 82.51 334 ⇑P P 22 02 51.6 +0.4
baz=83,SNR=6.4
L17A **Cokeville** 82.52 332 ⇓P P 22 02 51.4 +0.2
baz=83
BW06 **Boulder Array** 82.57 333 ⇑P P 22 02 52.3 +0.9
baz=83
BW06 **Boulder Array** 82.57 333 PFAKE 22 03 00.0 +8.6
BW06 LR LR
comp=Z,684nm,19.0s,MS5.0
PDAR **Pinedale Array** 82.57 333 P P 22 02 51.5 +0.1
comp=Z,6.9nm,0.9s,mb4.7,baz=128,slow=6.2,SNR=18
PDAR PKKPbc PKKPbc 22 21 16.7 -1.7
comp=Z,1.0nm,0.9s,baz=144,slow=2.3,SNR=4.6
PDAR PKPPKP 22 29 26.0
comp=Z,1.0nm,1.1s,baz=162,slow=1.4,SNR=4.0
PDAR LR LR 22 36 01.1
comp=Z,3μm,19.4s,MS5.7,baz=132,slow=33
PDAR **Pinedale Array** 82.57 333 P P 22 02 51.5 +0.1
PDAR PKKPbc PKKPbc 22 21 16.7 -1.7
PDAR P'P' 22 29 26.0
PD02 **Pinedale Array** 82.58 333 eP P 22 02 50.7 -0.8
PD01 **Pinedale Array** 82.58 333 eP P 22 02 50.4 -1.2
LBTB **Lobatse** 82.62 115 P P 22 02 52.6 +0.3
comp=Z,98nm,0.9s,mb5.8,baz=260,slow=5.7,SNR=60
LBTB LR LR 22 35 32.6
comp=Z,4μm,18.1s,MS5.8,baz=254,slow=33
LBTB **Lobatse** 82.62 115 eP P 22 02 51.4 -1.0
comp=Z,158nm,1.1s,mb6.0
LBTB **Lobatse** 82.62 115 P P 22 02 52.6 +0.2
LBTB pmax pmax
comp=Z,98nm,0.9s,mb5.8
LBTB MLR MLR
comp=Z,4μm,18.2s,MS5.8
I21A **Big Trails, Te** 82.62 335 ⇓P P 22 02 52.5 +0.8
baz=83
M15A **Larsen Ranch,** 82.63 330 ⇑P P 22 02 51.9 0.0
baz=83,SNR=14
K18A **Toltan Ranch,** 82.64 332 ⇓P P 22 02 52.2 +0.4
baz=83,SNR=12
L16A **Fish Haven** 82.67 331 ⇑P P 22 02 52.2 +0.2
baz=83
PMOZ **Porto Moniz, M** 82.76 44 eP P 22 02 52.1 -0.6
comp=Z,125nm,1.2s,mb5.8
J19A **Crowheart** 82.80 333 ⇓P P 22 02 52.9 +0.3
baz=83,SNR=13
NVAR **Mina Array Bea** 82.84 325 P P 22 02 52.9 -0.1
comp=Z,11nm,1.0s,mb4.8,baz=148,slow=5.0,SNR=33
NVAR PKKPbc PKKPbc 22 21 27.6 +10
comp=Z,1.1nm,0.8s,baz=276,slow=1.7,SNR=4.4
NVAR **Mina Array Bea** 82.84 325 P P 22 02 52.9 -0.1
NVAR PKKPbc PKKPbc 22 21 27.6 +10
PMAR **Madeira** 82.85 44 eP P 22 02 55.3 +2.1
comp=Z,170nm,1.4s,mb5.9
G24A **Alzada** 82.96 337 ⇑P P 22 02 54.3 +0.9

baz=83
H22A **Clearmont** 82.97 336 ⇓P P 22 02 54.1 +0.6
baz=83
HVU **Hansel Valley** 83.03 330 *e*P P 22 02 52.6 -1.3
comp=Z,30nm,0.8s,mb5.4
HVU **Hansel Valley** 83.03 330 *e*P P 22 02 52.6 -1.3
HVU pmax pmax
comp=Z,30nm,0.8s,mb5.4
I20A **Worland** 83.04 334 ⇑P P 22 02 54.1 +0.2
baz=83,SNR=9.9
L15A **Malad City** 83.06 331 ⇑P P 22 02 54.1 +0.1
baz=83,SNR=21
K17A **Gardner Place,** 83.09 332 ⇑P P 22 02 54.5 +0.3
baz=83
J18A **Kendall Valley** 83.12 333 ⇓P P 22 02 54.4 +0.1
baz=83,SNR=8.5
SAO **San Andreas Ge** 83.14 322 *e*P P 22 02 52.2 -2.4
comp=Z,48nm,1.1s,mb5.4
SAO **San Andreas Ge** 83.14 322 *e*P P 22 02 52.2 -2.4
SAO pmax pmax
comp=Z,48nm,1.1s,mb5.4
AHID **Auburn Hatcher** 83.17 332 *e*P P 22 02 52.0 -2.6
comp=Z,46nm,1.1s,mb5.4
AHID LR LR
comp=Z,3µm,20.0s,MS5.6
G23A **Biddle** 83.17 337 ⇑P P 22 02 55.2 +0.6
baz=84
H21A **Big Horn, Sher** 83.24 335 ⇑P P 22 02 55.6 +0.7
baz=84
AGMN **Agassiz Nation** 83.28 344 *e*P P 22 02 53.2 -1.8
AGMN LR LR
comp=Z,2µm,20.0s,MS5.4
TORD **Torodi Ar. Bea** 83.35 70 P P 22 02 56.2 +0.1
comp=Z,136nm,0.9s,mb6.0,baz=243,slow=3.4,SNR=300
TORD PKKPbc PKKPbc 22 21 24.0 +9.1
comp=Z,0.8nm,0.9s,baz=4.5,slow=1.6,SNR=4.2
TORD LR LR 22 37 24.8
comp=Z,7µm,20.2s,MS6.0,baz=230,slow=34
TORD **Torodi Ar. Bea** 83.35 70 P P 22 02 56.2 +0.1
TORD PKKPbc PKKPbc 22 21 24.0 +9.1
K16A **Soda Springs** 83.42 332 ⇑P P 22 02 56.4 +0.6
baz=84,SNR=24
F24A **Ekalaka** 83.43 338 ⇑P P 22 02 55.8 -0.1
baz=84,SNR=7.6
I19A **Meeteetse** 83.44 334 ⇑P P 22 02 56.6 +0.7
baz=84
L14A **Malta** 83.44 330 ⇑P P 22 02 56.5 +0.5
baz=84
H20A **Greybull** 83.46 335 ⇓P P 22 02 55.6 -0.4
baz=84,SNR=10
I18A **Diamond G Ranc** 83.46 333 ⇓P P 22 02 56.2 +0.1
baz=84,SNR=14
G22A **Birney** 83.49 336 ⇑P P 22 02 56.4 +0.2
baz=84
J17A **Brown Place, J** 83.52 332 ⇑P P 22 02 56.8 +0.5
baz=84
CMB **Columbia Colle** 83.57 323 *e*P P 22 02 54.4 -2.3
comp=Z,49nm,1.2s,mb5.5
CMB **Columbia Colle** 83.57 323 *e*P P 22 02 54.4 -2.3
CMB pmax pmax
comp=Z,49nm,1.2s,mb5.5
REDW **Red Top Meadow** 83.57 332 *e*P P 22 02 54.9 -1.8
comp=Z,37nm,1.1s,mb5.4
SNOW **Snow King Moun** 83.62 332 *e*P P 22 02 53.5 -3.4
comp=Z,29nm,1.0s,mb5.4
F23A **Volborg** 83.64 337 ⇓P P 22 02 57.2 +0.3
baz=84
K15A **Arbon** 83.68 331 ⇓P P 22 02 57.3 +0.1
baz=84
LOHW **Long Hollow** 83.69 333 *e*P P 22 02 55.0 -2.3
comp=Z,20nm,1.0s,mb5.2
TPAW **Teton Pass** 83.72 332 *e*P P 22 02 53.3 -4.1
comp=Z,28nm,1.0s,mb5.3
RRI2 **Red Ridge** 83.75 332 *e*P P 22 02 55.0 -2.5
comp=Z,54nm,1.2s,mb5.5
J16A **Bone** 83.80 332 ⇓P P 22 02 57.9 +0.1
baz=84,SNR=8.9
MDND **Maddock** 83.81 341 ⇓P P 22 02 57.5 -0.2
baz=84,SNR=14
G21A **Lodge Grass** 83.81 336 ⇑P P 22 02 57.5 -0.3
baz=84
K14A **Jones Ranch, D** 83.83 330 ⇑P P 22 02 57.6 -0.3
baz=84,SNR=9.8
MOOW **Moose Ponds** 83.86 333 *e*P P 22 02 51.8 -6.3
comp=Z,17nm,1.1s,mb5.1
DCID1 **Drake Creek** 83.90 332 *e*P P 22 02 53.7 -4.6
comp=Z,65nm,1.1s,mb5.7
BMN **Battle Mountai** 83.90 327 *e*P P 22 02 57.1 -1.3
comp=Z,13nm,1.0s,mb5.0
BMN LR LR
comp=Z,3µm,19.0s,MS5.7
BMN **Battle Mountai** 83.90 327 *e*P P 22 02 57.1 -1.3
BMN pmax pmax
comp=Z,13nm,1.0s,mb5.0
BMN MLR MLR
comp=Z,3µm,19.0s,MS5.7
I17A **Pilgrim Ck.** 83.94 333 ⇑P P 22 02 59.0 +0.5
baz=84,SNR=12
F22A **Rosebud** 83.97 336 ⇓P P 22 02 58.7 +0.1
baz=84
H19A **Powell** 83.97 334 ⇑P P 22 02 58.6 -0.1
baz=84
E24A **Baker** 84.02 338 ⇓P P 22 02 59.0 +0.2
baz=84
FLWY **Flagg Ranch** 84.12 333 *e*P P 22 02 58.8 -0.6
comp=Z,100nm,1.3s,mb5.8
G20A **Bridger** 84.17 335 ⇑P P 22 02 59.1 -0.6
baz=84,SNR=10
WCN **Washoe City** 84.23 324 ⇑P P 22 03 00.1 0.0
baz=84
WCN **Washoe City** 84.23 324 *e*P P 22 02 56.0 -4.1
comp=Z,25nm,1.1s,mb5.3
WCN **Washoe City** 84.23 324 *e*P P 22 02 56.0 -4.1
WCN pmax pmax
comp=Z,25nm,1.1s,mb5.3
H18A **Shoshone NF, C** 84.23 334 ⇓P P 22 03 00.2 +0.3
baz=84,SNR=12
J15A **Blackfoot** 84.24 331 ⇑P P 22 03 00.1 +0.1
baz=84,SNR=8.2
I16A **Newdale** 84.25 332 ⇑P P 22 03 00.3 +0.2
baz=85
E23A **Ismay** 84.29 337 ⇓P P 22 03 00.6 +0.4
baz=85
RLMT **Red Lodge** 84.47 334 ⇑P P 22 03 02.0 +0.9
baz=85
RLMT **Red Lodge** 84.47 334 *e*P P 22 02 57.2 -3.9
comp=Z,38nm,1.0s,mb5.5
YFT **Old Faithful** 84.48 333 *e*P P 22 02 58.5 -2.8
comp=Z,47nm,1.2s,mb5.5
D24A **Glendive** 84.52 338 ⇓P P 22 03 02.5 +1.2
baz=85
J14A **Carey** 84.62 331 ⇑P P 22 03 02.6 +0.7
baz=85
F20A **Billings** 84.64 335 ⇓P P 22 03 02.2 +0.2
baz=85
YNR **Norris Junctio** 84.65 333 *e*P P 22 03 00.1 -2.0
comp=Z,35nm,1.3s,mb5.3
YMR **Madison River** 84.72 333 *e*P P 22 03 00.1 -2.3
comp=Z,154nm,1.3s,mb6.0
G18A **Lazy EL Ranch,** 84.74 334 ⇓P P 22 03 02.7 +0.2
baz=85
I15A **Monteview** 84.75 332 ⇓P P 22 03 02.9 +0.3
baz=85
LAO **LASA Array** 84.76 337 ⇓P P 22 03 02.8 +0.3
baz=85
LAO **LASA Array** 84.76 337 *e*P P 22 02 58.3 -4.3
comp=Z,109nm,1.5s,mb5.8
D23A **Lindsay** 84.85 338 ⇓P P 22 03 03.3 +0.3
baz=85
H16A **Russell Place,** 84.86 333 ⇓P P 22 03 03.7 +0.6
baz=85,SNR=13
E21A **Keefer Ranch,** 84.91 336 ⇓P P 22 03 03.7 +0.4
baz=85
C24A **Savage** 84.92 338 ⇑P P 22 03 03.9 +0.5
baz=85,SNR=6.6
J13A **Cove Ranch, Pi** 84.95 330 ⇑P P 22 03 04.3 +0.6
baz=85,SNR=21
URZ **Urewera** 84.96 227 P P 22 03 04.4 +0.3
comp=Z,7.6nm,0.8s,mb4.9,baz=180,slow=3.0,SNR=3.3
URZ LR LR 22 31 38.7
comp=Z,4µm,19.6s,MS5.8,baz=97,slow=29
URZ **Urewera** 84.96 227 P P 22 03 04.4 +0.3
F19A **Roth Farm, Mol** 84.97 335 ⇑P P 22 03 03.4 -0.3
baz=85
QLMT **Earthquake Lak** 85.03 333 *e*P P 22 03 01.3 -2.7
comp=Z,3.4nm,1.1s,mb4.4
RPZ **Rata Peaks** 85.04 220 P P 22 03 03.8 -0.6
comp=Z,38nm,1.0s,mb5.5,baz=84,slow=3.6,SNR=8.8
RPZ LR LR 22 32 33.6
comp=Z,3µm,18.1s,MS5.7,baz=146,slow=30
RPZ **Rata Peaks** 85.04 220 *e*P P 22 02 59.9 -4.5
comp=Z,52nm,1.0s,mb5.6
MSKU **Masuku** 85.08 89 P P 22 03 05.9 +0.9
comp=Z,128nm,0.9s,mb6.0,baz=246,slow=4.9,SNR=52
MSKU **Masuku** 85.08 89 P P 22 03 06.0 +0.9
I14A **Mackay** 85.09 331 ⇑P P 22 03 04.8 +0.5
baz=85,SNR=14
ULM **Lac du Bonnet** 85.12 345 P P 22 03 03.9 -0.4
comp=Z,39nm,1.0s,mb5.5,baz=164,slow=4.0,SNR=45
ULM **Lac du Bonnet** 85.12 345 *e*P P 22 03 01.3 -3.0
comp=Z,70nm,1.0s,mb5.8
ULM **Lac du Bonnet** 85.12 345 *e*P P 22 03 01.3 -3.0
ULM pmax pmax
comp=Z,70nm,1.0s
D22A **Cohagen** 85.15 337 ⇑P P 22 03 04.6 +0.1
baz=86
G17A **Pierce Place,** 85.18 333 ⇑P P 22 03 05.0 +0.3
baz=86
GCMT **Greycliff** 85.18 334 *e*P P 22 03 00.9 -3.8
comp=Z,18nm,1.0s,mb5.2
HLID **Hailey** 85.19 330 ⇓P P 22 03 05.6 +0.8
baz=86,SNR=26
HLID **Hailey** 85.19 330 *e*P P 22 03 02.2 -2.6
comp=Z,98nm,1.5s,mb5.7
E20A **Meyer Farm, Mu** 85.25 336 ⇑P P 22 03 04.6 -0.4
baz=86,SNR=16
F18A **Big Timber** 85.30 334 ⇓P P 22 03 05.1 -0.2
baz=86,SNR=11
H15A **Lima** 85.33 332 ⇓P P 22 03 06.3 +0.8
baz=86,SNR=14
D21A **La Casta Ranch** 85.34 337 ⇓P P 22 03 05.6 +0.1
baz=86
I13A **Wildhorse Cree** 85.35 331 ⇓P P 22 03 06.5 +0.9
baz=86,SNR=20
C23A **Lambert** 85.40 338 ⇑P P 22 03 06.3 +0.5
baz=86,SNR=10
E19A **Rath Farm, Rou** 85.44 335 ⇑P P 22 03 05.8 -0.2
baz=86,SNR=21
G16A **Moss Hill, Enn** 85.51 333 ⇑P P 22 03 06.5 +0.1
baz=86
C22A **Vida** 85.57 338 ⇓P P 22 03 06.8 +0.1
baz=86
MCMT **McKenzie Canyo** 85.59 332 *e*P P 22 03 02.6 -4.1
comp=Z,11nm,0.8s,mb5.1
H14A **Leadore** 85.62 332 ⇑P P 22 03 07.4 +0.4
baz=86,SNR=14
F17A **Fitzpatrick Pl** 85.65 334 ⇓P P 22 03 07.2 +0.1
baz=86
HOPS **Hopland** 85.67 322 *e*P P 22 03 03.2 -4.1
comp=Z,69nm,1.3s,mb5.7
MFID **Camas Ranch** 85.67 329 ⇑P P 22 03 08.2 +1.0
baz=86,SNR=11
I12A **Atlanta** 85.68 330 ⇓P P 22 03 07.6 +0.4
baz=86,SNR=18
DGMT **Dagmar** 85.69 339 ⇓P P 22 03 07.5 +0.3
baz=86
DGMT **Dagmar** 85.69 339 *e*P P 22 03 04.1 -3.0
comp=Z,70nm,0.7s,mb6.0
DGMT LR LR
comp=Z,2µm,22.0s,MS5.5
G15A **Dillon** 85.73 332 ⇓P P 22 03 07.7 +0.2
baz=86,SNR=6.9
D20A **Manuel Ranch,** 85.75 336 ⇑P P 22 03 07.5 0.0
baz=86,SNR=14
BOZ **Bozeman (W)** 85.80 333 ⇑P P 22 03 07.6 -0.1
baz=86,SNR=6.8
BOZ **Bozeman (W)** 85.80 333 *e*P P 22 03 03.8 -4.0
comp=Z,11nm,0.8s,mb5.1
BOZ LR LR
comp=Z,1µm,20.0s,MS5.3
BOZ **Bozeman (W)** 85.80 333 *e*P P 22 03 03.8 -4.0
BOZ pmax pmax
comp=Z,11nm,0.8s,mb5.1
BOZ MLR MLR
comp=Z,1µm,20.0s,MS5.3
F16A **Kennard Place,** 85.91 333 ⇑P P 22 03 08.3 0.0
baz=86
B23A **Brockton** 85.92 338 ⇑P P 22 03 08.8 +0.4
baz=86
DLMT **Dillon** 85.93 332 *e*P P 22 03 08.4 0.0
comp=Z,73nm,1.2s,mb5.8
E18A **Harlowton** 85.93 335 ⇑P P 22 03 07.9 -0.6
baz=86,SNR=7.3
H13A **Challis** 85.94 331 ⇑P P 22 03 08.3 -0.2
baz=86,SNR=17
A24A **Westby** 86.03 339 ⇓P P 22 03 09.0 +0.2
baz=86
C21A **Desert Coulee** 86.04 337 ⇑P P 22 03 08.2 -0.8
baz=86,SNR=12
D19A **Cripps Ranch,** 86.08 336 ⇓P P 22 03 09.2 +0.1
baz=86,SNR=11
B22A **Reddig Ranch S** 86.10 338 ⇑P P 22 03 09.1 -0.1
baz=86
WVOR **Wild Horse Val** 86.14 327 *e*P P 22 03 07.6 -1.9
comp=Z,66nm,1.3s,mb5.7
WVOR **Wild Horse Val** 86.14 327 *e*P P 22 03 07.6 -2.0
WVOR pmax pmax
comp=Z,66nm,1.3s,mb5.7
G14A **Jackson** 86.17 332 ⇑P P 22 03 09.5 -0.2
baz=86
H12A **Diamond D Ranc** 86.17 331 ⇑P P 22 03 09.7 0.0
baz=86,SNR=8.6
E17A **Martinsdale** 86.19 334 ⇑P P 22 03 09.7 0.0
baz=86,SNR=8.0
C20A **Veseth Ranch,** 86.25 336 ⇓P P 22 03 09.9 0.0
baz=87,SNR=7.7
LRM **Limekiln Ridge** 86.26 333 *e*P P 22 03 07.3 -2.7
comp=Z,449nm,1.2s,mb6.6
F15A **Butte** 86.29 333 ⇓P P 22 03 10.2 0.0
baz=87,SNR=17
G13A **Cobalt** 86.36 331 ⇑P P 22 03 11.0 +0.4
baz=87,SNR=18
D18A **Linhart Farms,** 86.43 335 ⇑P P 22 03 11.2 +0.3
baz=87,SNR=13
KCPM **Cahto Peak** 86.45 322 *e*P P 22 03 07.5 -3.6
comp=Z,29nm,0.8s,mb5.6
KIPM **Iron Peak** 86.48 323 *e*P P 22 03 07.0 -4.4
comp=Z,88nm,1.0s,mb5.9
B21A **Ellsworth Farm** 86.54 337 ⇓P P 22 03 11.5 +0.1
baz=87,SNR=6.0
E16A **East Helena** 86.56 334 ⇑P P 22 03 11.6 +0.1
baz=87,SNR=11
WDC **Whiskeytown Da** 86.59 324 *e*P P 22 03 08.5 -3.3
comp=Z,41nm,1.1s,mb5.6
WDC **Whiskeytown Da** 86.59 324 *e*P P 22 03 08.5 -3.3
WDC pmax pmax
comp=Z,41nm,1.1s,mb5.6
F14A **Wisdom** 86.61 332 ⇓P P 22 03 11.6 -0.2
baz=87,SNR=19
C19A **Slack Wire Ran** 86.62 336 ⇓P P 22 03 12.0 +0.2
baz=87,SNR=7.2
A22A **Carney Farms,** 86.68 338 ⇑P P 22 03 12.2 +0.1
baz=87,SNR=14
D17A **Six Diamond Ra** 86.71 334 ⇑P P 22 03 12.3 0.0
baz=87,SNR=25
HRY **Holter Researc** 86.76 334 *e*P P 22 03 09.8 -2.8
comp=Z,66nm,1.6s,mb5.6
J08A **Circle Bar Ran** 86.79 328 ⇑P P 22 03 13.1 +0.4
baz=87,SNR=13
E15A **Deer Lodge** 86.83 333 ⇓P P 22 03 12.8 0.0
baz=87
B20A **Solberg Farm,** 86.88 337 ⇓P P 22 03 13.0 0.0
baz=87,SNR=9.2
D16A **Dana Ranch, Ca** 86.93 334 ⇑P P 22 03 13.6 +0.3
baz=87,SNR=15
F13A **Darby** 86.97 332 ⇑P P 22 03 13.4 -0.2
baz=87,SNR=17
A21A **Bergtoll Ranch** 87.00 338 ⇑P P 22 03 13.2 -0.4
baz=87,SNR=8.5
SCHQ **Schefferville** 87.04 3 P P 22 03 14.1 +0.4
comp=Z,88nm,1.1s,mb5.9,baz=172,slow=3.9,SNR=32
SCHQ **Schefferville** 87.04 3 *e*P P 22 03 11.3 -2.3
comp=Z,321nm,1.2s,mb6.4
EGMT **Eagleton** 87.12 335 ⇓P P 22 03 14.3 0.0
baz=87
EGMT **Eagleton** 87.12 335 *e*P P 22 03 10.6 -3.6
comp=Z,47nm,1.1s,mb5.6
EGMT LR LR
comp=Z,2µm,21.0s,MS5.5
C17A **Wharram Farm,** 87.14 335 ⇓P P 22 03 14.2 -0.1
baz=88
E14A **Clinton** 87.16 332 ⇑P P 22 03 14.3 -0.2
baz=88,SNR=8.0
B19A **Brinkman Farms** 87.21 336 ⇓P P 22 03 14.3 -0.3
baz=88
A20A **Cobblestone Ra** 87.23 337 ⇓P P 22 03 14.2 -0.5
baz=88,SNR=20
D15A **Lincoln** 87.30 333 ⇑P P 22 03 15.3 +0.2
baz=88,SNR=11
F12A **Elk City** 87.32 331 ⇑P P 22 03 15.1 -0.1
baz=88,SNR=13
KHMM **Horse Mountain** 87.41 323 *e*P P 22 03 11.4 -4.4
comp=Z,203nm,1.3s,mb6.2
K05A **Summer Lake** 87.41 326 ⇓P P 22 03 15.7 -0.1
baz=88
B18A **Beardsley Farm** 87.44 336 ⇓P P 22 03 15.7 -0.1
baz=88,SNR=26
E13A **Victor** 87.45 332 ⇓P P 22 03 15.9 0.0
baz=88,SNR=12
BMO **Blue Mountains** 87.45 329 *e*P P 22 03 12.1 -3.8
comp=Z,21nm,0.9s,mb5.4
BMO LR LR
comp=Z,3µm,19.0s,MS5.7
BMO **Blue Mountains** 87.45 329 *e*P P 22 03 12.1 -3.8
BMO pmax pmax
comp=Z,21nm,0.9s,mb5.4
BMO MLR MLR
comp=Z,3µm,19.0s,MS5.7
CHMT **Chamberlain Mo** 87.47 333 *e*P P 22 03 12.2 -3.8
comp=Z,40nm,1.6s,mb5.4
YBH **Yreka Blue Hor** 87.54 324 *e*P P 22 03 13.2 -3.2
comp=Z,22nm,1.0s,mb5.3
YBH **Yreka Blue Hor** 87.54 324 *e*P P 22 03 13.2 -3.2
YBH pmax pmax
comp=Z,22nm,1.0s
C16A **Fuhringer Ranc** 87.65 334 ⇑P P 22 03 16.7 0.0
baz=88,SNR=13
MSO **Missoula** 87.67 332 ⇑P P 22 03 17.1 +0.2
baz=88
MSO **Missoula** 87.67 332 *e*P P 22 03 14.2 -2.7
comp=Z,29nm,1.4s,mb5.3
B17A **L&G Farms, Che** 87.72 335 ⇑P P 22 03 17.0 -0.1
baz=88,SNR=8.1
I07A **Izee** 87.82 328 ⇓P P 22 03 18.3 +0.6
baz=88,SNR=9.2
A18A **Metzger Ranch,** 87.91 336 ⇓P P 22 03 18.0 0.0
baz=88
C15A **Salmond Ranch,** 87.94 334 ⇑P P 22 03 18.9 +0.7
baz=88,SNR=14
E12A **Beaver Dam Sad** 87.98 331 ⇑P P 22 03 18.4 0.0
baz=88
D13A **Huson** 88.09 332 ⇑P P 22 03 19.4 +0.5
baz=88,SNR=18
B16A **M & M Farms, S** 88.14 335 ⇓P P 22 03 19.1 0.0
baz=88
A17A **Triple J Farms** 88.23 335 ⇓P P 22 03 19.4 -0.1
baz=88,SNR=20
SWMT **Swartz Lake** 88.25 333 *e*P P 22 03 16.9 -2.8
comp=Z,46nm,1.5s,mb5.5
F10A **Beach Ranch, E** 88.31 330 ⇑P P 22 03 19.8 -0.2
baz=89,SNR=6.6
C14A **Swan Lake** 88.37 333 ⇑P P 22 03 20.4 +0.2
baz=89
B15A **Bradely Ranch,** 88.37 334 ⇓P P 22 03 19.7 -0.5
baz=89,SNR=16
YBMT **Yellow Bay** 88.55 333 *e*P P 22 03 17.6 -3.5
comp=Z,28nm,1.2s,mb5.5
A16A **West Butte Ran** 88.55 335 ⇓P P 22 03 20.9 -0.1
baz=89
JTMT **Jette** 88.56 333 *e*P P 22 03 17.3 -3.8
comp=Z,43nm,1.4s,mb5.6
C13A **Hot Springs** 88.62 333 ⇑P P 22 03 21.3 -0.1
baz=89
B14A **Marquette Ranc** 88.68 334 ⇑P P 22 03 21.8 +0.2
baz=89,SNR=9.6
LNOR **Lincton Mounta** 88.68 329 *e*P P 22 03 19.8 -1.9
comp=Z,16nm,1.3s,mb5.2
LNOR **Lincton Mounta** 88.68 329 *e*P P 22 03 19.8 -1.9
LNOR pmax pmax
comp=Z,16nm,1.3s,mb5.2
BLMT **Blacktail Moun** 88.81 333 *e*P P 22 03 18.1 -4.2
comp=Z,55nm,1.2s,mb5.8
BSMT **Bassoo Peak** 88.84 333 *e*P P 22 03 18.6 -3.8
comp=Z,59nm,1.5s,mb5.7
A15A **Johnson Ranch,** 88.99 334 ⇓P P 22 03 22.7 -0.4
baz=89
C12B **Naegeli Ranch,** 88.99 332 ⇑P P 22 03 23.2 0.0
baz=89,SNR=8.7
E09A **Wood Farm, Sta** 89.13 330 ⇓P P 22 03 23.1 -0.7
baz=89
B13A **Whitefish** 89.14 333 ⇓P P 22 03 23.8 -0.1
baz=89,SNR=6.9
G06A **Carlson Farm,** 89.22 328 ⇑P P 22 03 24.0 -0.3
baz=90
A14A **Double T Ranch** 89.24 334 ⇓P P 22 03 23.9 -0.4
baz=90,SNR=8.8
A13A **Flathead Natio** 89.58 333 ⇓P P 22 03 26.3 +0.4
baz=90
HAWA **Hanford** 89.63 329 *e*P P 22 03 22.4 -3.8
comp=Z,67nm,1.2s,mb5.8
RSW **Rattlesnake Hi** 89.66 329 *e*P P 22 03 22.4 -3.9
comp=Z,130nm,1.4s,mb6.1
LSZ **Lusaka** 89.94 108 *e*P P 22 03 27.6 -0.8
comp=Z,108nm,1.2s,mb6.0
LSZ **Lusaka** 89.94 108 *e*P P 22 03 27.6 -0.8
LSZ pmax pmax
comp=Z,108nm,1.2s,mb6.0
A12A **Yaak River Ran** 90.06 333 ⇑P P 22 03 28.5 +0.4
baz=90
OD2 **Odessa Site #2** 90.06 330 *e*P P 22 03 24.6 -3.6
comp=Z,56nm,0.9s,mb5.9
C09A **Chrisman Ranch** 90.20 331 ⇓P P 22 03 29.0 +0.2
baz=90
FFC **Flin Flon** 90.69 343 *e*P P 22 03 28.0 -2.9
comp=Z,36nm,1.1s,mb5.6
FFC LR LR
comp=Z,2µm,20.0s,MS5.6
FFC **Flin Flon** 90.69 343 *i* P P 22 03 30.5 -0.4
FFC **Flin Flon** 90.69 343 P P 22 03 30.8 -0.1
comp=Z,164nm,1.1s,mb6.3,SNR=8.6
LON **Longmire** 90.91 328 *e*P P 22 03 29.1 -3.0
comp=Z,22nm,1.2s,mb5.4
LON **Longmire** 90.91 328 *e*P P 22 03 29.1 -3.0
LON pmax pmax
comp=Z,22nm,1.2s,mb5.4
MORF **Marmelete** 90.91 45 *e*P P 22 03 33.3 +0.9
ETW **Entiat** 90.92 329 *e*P P 22 03 28.2 -3.9
comp=Z,98nm,1.4s,mb5.9
AFI **Afiamalu** 90.99 253 LR LR 22 35 29.2
comp=Z,4µm,18.3s,MS5.9,baz=94,slow=30
PTEO **Sao Teotonio** 91.03 45 *e*P P 22 03 33.7 +0.8
comp=Z,73nm,1.6s,mb5.8
PBDV **Barranco-do-Ve** 91.31 46 *e*P P 22 03 35.3 +1.1
comp=Z,60nm,1.3s,mb5.8
PNCL **Nicolau / Gran** 91.52 45 *e*P P 22 03 35.5 +0.3
comp=Z,48nm,1.4s,mb5.6
PVAQ **Vaqueiros** 91.54 46 *e*P P 22 03 35.9 +0.6
comp=Z,69nm,1.9s,mb5.7
TAM **Tamanrasset** 91.83 64 *e*P P 22 03 37.5 +0.5
comp=Z,43nm,1.2s,mb5.7
TAM **Tamanrasset** 91.83 64 *e*P P 22 03 37.5 +0.5
TAM pmax pmax
comp=Z,43nm,1.2s,mb5.7
PBEJ **Beja** 91.86 45 *e*P P 22 03 37.5 +0.8
comp=Z,42nm,1.6s,mb5.5
EVOP **Sao Brissos** 92.03 45 *e*P P 22 03 37.2 -0.3
comp=Z,62nm,1.2s,mb5.8
EVOP **Sao Brissos** 92.03 45 *e*P P 22 03 37.2 -0.3
EVOP pmax pmax
comp=Z,62nm,1.2s,mb5.8
EVO **Evora** 92.10 45 *e*P P 22 03 37.2 -0.6
comp=Z,62nm,1.2s,mb5.5
EVO *e*R
comp=Z,5µm,20.2s
EVO **Evora** 92.10 45 *e*P P 22 03 38.1 +0.3
comp=Z,28nm,1.8s,mb5.3
PBAR **Barrancos** 92.45 45 *e*P P 22 03 40.2 +0.7
comp=Z,32nm,1.7s,mb5.4
PESTR **Estremoz** 92.57 45 *e*P P 22 03 40.6 +0.6
comp=Z,40nm,1.1s,mb5.8
PTOM **Tomar** 92.57 44 *e*P P 22 03 40.1 +0.1
comp=Z,58nm,1.1s,mb5.9
PMRV **Marv??o** 93.05 44 *e*P P 22 03 42.3 +0.1
comp=Z,31nm,1.5s,mb5.5
PCBR **Castelo Branco** 93.26 44 *e*P P 22 03 43.6 +0.4
comp=Z,26nm,1.5s,mb5.4
MTE **Manteigas** 93.58 43 *e*P P 22 03 45.2 +0.5
comp=Z,46nm,1.2s,mb5.8
MTE **Manteigas** 93.58 43 *e*P P 22 03 43.4 -1.3
comp=Z,32nm,1.1s,mb5.7
PVIS **Viseu** 93.59 43 *e*P P 22 03 43.6 -1.1
comp=Z,39nm,2.2s,mb5.4
MVO **Moncorvo** 94.38 43 *e*P P 22 03 48.5 +0.2
comp=Z,37nm,1.0s,mb5.8

PAB	**San Pablo**	**94.94**	**46**	*e*P		**P**	**22 03 49.2**	**-1.7**
	comp=Z,13nm,0.9s,mb5.4							
PAB	**San Pablo**	**94.94**	**46**	*e*P		**P**	**22 03 49.2**	**-1.7**
PAB				pmax		pmax		
	comp=Z,13nm,0.9s,mb5.4							
PBRG	**Braganca**	**94.95**	**43**	*e*P		**P**	**22 03 51.0**	**+0.1**
	comp=Z,54nm,2.1s,mb5.6							
ESDC	**Sonseca Array**	**95.25**	**46**	P		**P**	**22 03 52.6**	**+0.3**
	comp=Z,8.5nm,0.9s,mb5.2,baz=245,slow=3.8,SNR=29							
ESDC				LR		LR	22 46 12.7	
	comp=Z,2μm,18.6s,MS5.6,baz=205,slow=35							
ESDC	**Sonseca Array**	**95.25**	**46**	P		**P**	**22 03 52.6**	**+0.3**
ESLA	**Sonseca Array**	**95.25**	**46**	PFAKE			22 04 00.0	+7.7
ESLA				LR		LR		
	comp=Z,15μm,20.0s,MS6.5							
FRB	**Frobisher Bay**	**95.92**	**1**	LR		LR	22 45 08.8	
	comp=Z,3μm,19.6s,MS5.7,baz=170,slow=34							
SJPF	**Ste Jean**	**98.97**	**44**	*e*P		**P**	**22 04 09.3**	**+0.2**
	comp=Z,53nm,1.1s,mb5.7							
SJPF	**Ste Jean**	**98.97**	**44**	*e*P		**P**	**22 04 09.3**	**+0.2**
	comp=Z,53nm,1.1s,mb6.0							
SJPF	**Ste Jean**	**98.97**	**44**	*e*P		**P**	**22 04 09.3**	**+0.2**
SJPF				pmax		pmax		
	comp=Z,53nm,1.1s,mb6.0							
ETSF	**Etsaut**	**99.24**	**45**	*e*P		**P**	**22 04 10.4**	**+0.1**
	comp=Z,32nm,0.9s,mb5.5							
ETSF	**Etsaut**	**99.24**	**45**	*e*P		**P**	**22 04 10.4**	**+0.1**
	comp=Z,32nm,0.9s,mb5.8							
ETSF	**Etsaut**	**99.24**	**45**	*e*P		**P**	**22 04 10.4**	**+0.1**
ETSF				pmax		pmax		
	comp=Z,32nm,0.9s,mb5.8							
EPF	**Esparros**	**99.86**	**45**	*e*P		Pdif	22 04 12.9	-0.3
	comp=Z,20nm,1.1s							
EPF	**Esparros**	**99.86**	**45**	*e*P		Pdif	22 04 12.9	-0.3
	comp=Z,20nm,1.1s							
EPF	**Esparros**	**99.86**	**45**	*e*P		Pdif	22 04 12.9	-0.3
EPF				pmax		pmax		
	comp=Z,20nm,1.1s,mb5.5							
YKA	**Yellowknife Ar**	**100.73**	**341**	P		Pdif	22 04 15.1	-2.0
	comp=Z,1.1nm,0.7s,baz=140,slow=4.4,SNR=20							
YKA	**Yellowknife Ar**	**100.73**	**341**	P		Pdif	22 04 15.2	-2.0
YKA	**Yellowknife Ar**	**100.73**	**341**	P		Pdif	22 04 15.2	-1.9
ROSF	**Rostrenen**	**100.93**	**39**	*e*P		Pdif	22 04 17.9	-0.1
ROSF	**Rostrenen**	**100.93**	**39**	*e*P		Pdif	22 04 17.9	-0.1
ROSF	**Rostrenen**	**100.93**	**39**	*e*P		Pdif	22 04 17.9	-0.1
MTLF	**Montolieu**	**101.16**	**46**	*e*P		Pdif	22 04 19.3	+0.3
	comp=Z,67nm,1.6s							
MTLF	**Montolieu**	**101.16**	**46**	*e*P		Pdif	22 04 19.3	+0.3
	comp=Z,67nm,1.6s							
MTLF	**Montolieu**	**101.16**	**46**	*e*P		Pdif	22 04 19.3	+0.3
MTLF				pmax		pmax		
	comp=Z,67nm,1.6s							
LFF	**La Frestale**	**101.19**	**44**	*e*P		Pdif	22 04 18.6	-0.6
	comp=Z,33nm,1.0s							
LFF	**La Frestale**	**101.19**	**44**	*e*P		Pdif	22 04 18.6	-0.6
	comp=Z,33nm,1.0s							
LFF	**La Frestale**	**101.19**	**44**	*e*P		Pdif	22 04 18.6	-0.6
LFF				pmax		pmax		
	comp=Z,33nm,1.0s							
SGMF	**Saint Gilles**	**101.27**	**40**	*e*P		Pdif	22 04 19.0	-0.5
	comp=Z,156nm,1.7s							
SGMF	**Saint Gilles**	**101.27**	**40**	*e*P		Pdif	22 04 19.0	-0.5
	comp=Z,156nm,1.7s							
SGMF	**Saint Gilles**	**101.27**	**40**	*e*P		Pdif	22 04 19.0	-0.5
SGMF				pmax		pmax		
	comp=Z,156nm,1.7s							
FUNA	**Funafuti**	**101.32**	**252**	PFAKE			22 04 30.0	+10
FUNA				LR		LR		
	comp=Z,6μm,19.0s,MS6.2							
MFF	**Saint Martin d**	**101.63**	**42**	*e*P		Pdif	22 04 20.5	-0.6
	comp=Z,31nm,1.1s							
MFF	**Saint Martin d**	**101.63**	**42**	*e*P		Pdif	22 04 20.5	-0.6
	comp=Z,31nm,1.0s							
MFF	**Saint Martin d**	**101.63**	**42**	*e*P		Pdif	22 04 20.5	-0.6
MFF				pmax		pmax		
	comp=Z,31nm,1.0s							
RJF	**Les Rejaudoux**	**101.85**	**44**	*e*P		Pdif	22 04 21.2	-0.9
	comp=Z,32nm,1.2s							
RJF				*e*R				
	comp=Z,9μm,21.5s							
RJF	**Les Rejaudoux**	**101.85**	**44**	*e*P		Pdif	22 04 21.2	-0.9
	comp=Z,32nm,1.2s							
RJF	**Les Rejaudoux**	**101.85**	**44**	*e*P		Pdif	22 04 21.2	-0.9
RJF				pmax		pmax		
	comp=Z,32nm,1.2s							
CAF	**Calviac**	**101.96**	**44**	*e*P		Pdif	22 04 22.1	-0.5
	comp=Z,14nm,0.9s							
CAF	**Calviac**	**101.96**	**44**	*e*P		Pdif	22 04 22.1	-0.5
	comp=Z,14nm,0.9s							
CAF	**Calviac**	**101.96**	**44**	*e*P		Pdif	22 04 22.1	-0.5
CAF				pmax		pmax		
	comp=Z,14nm,0.9s							
GRR	**Gorron**	**102.27**	**40**	*e*P		Pdif	22 04 23.5	-0.5
	comp=Z,46nm,1.2s							
GRR	**Gorron**	**102.27**	**40**	*e*P		Pdif	22 04 23.5	-0.5
	comp=Z,46nm,1.2s							
GRR	**Gorron**	**102.27**	**40**	*e*P		Pdif	22 04 23.5	-0.5
GRR				pmax		pmax		
	comp=Z,46nm,1.2s							
ABPO	**Ambohimpanom**	**102.28**	**122**	PFAKE			22 04 30.0	+6.0
ABPO				LR		LR		
	comp=Z,4μm,19.0s,MS5.9							
DZM	**Mont Dzumac**	**102.44**	**234**	*e*LR		LR	22 38 00.5	
	comp=Z,5μm,22.4s							
CAN	**Canberra**	**102.55**	**213**	PFAKE			22 04 30.0	+4.8
CAN				LR		LR		
	comp=Z,2μm,22.0s,MS5.6							
FLN	**La Foliniere**	**102.69**	**40**	*e*P		Pdif	22 04 25.8	0.0
FLN				*e*R				
	comp=Z,5μm,22.5s							
FLN	**La Foliniere**	**102.69**	**40**	*e*P		Pdif	22 04 25.8	0.0
FLN	**La Foliniere**	**102.69**	**40**	*e*P		Pdif	22 04 25.8	0.0
LDF	**La Druitiere**	**102.79**	**40**	*e*P		Pdif	22 04 25.9	-0.4
	comp=Z,15nm,1.1s							
LDF	**La Druitiere**	**102.79**	**40**	*e*P		Pdif	22 04 25.9	-0.4
	comp=Z,15nm,1.1s							
LDF	**La Druitiere**	**102.79**	**40**	*e*P		Pdif	22 04 25.9	-0.4
LDF				pmax		pmax		
	comp=Z,15nm,1.1s							
BGF	**Bois d'Agland**	**103.32**	**43**	*e*P		Pdif	22 04 29.0	+0.4
	comp=Z,30nm,1.1s							
BGF	**Bois d'Agland**	**103.32**	**43**	*e*P		Pdif	22 04 29.0	+0.4
	comp=Z,30nm,1.1s							
BGF	**Bois d'Agland**	**103.32**	**43**	*e*P		Pdif	22 04 29.0	+0.4
BGF				pmax		pmax		
	comp=Z,30nm,1.1s							
AVF	**Avril sur Loir**	**103.73**	**43**	*e*P		Pdif	22 04 30.7	+0.2
	comp=Z,34nm,1.3s							
AVF	**Avril sur Loir**	**103.73**	**43**	*e*P		Pdif	22 04 30.7	+0.2
	comp=Z,34nm,1.3s							
AVF	**Avril sur Loir**	**103.73**	**43**	*e*P		Pdif	22 04 30.7	+0.2
AVF				pmax		pmax		
	comp=Z,34nm,1.3s							
LMR	**La Mourre**	**103.79**	**47**	*e*P		Pdif	22 04 31.5	+0.8
	comp=Z,57nm,1.2s							
LMR	**La Mourre**	**103.79**	**47**	*e*P		Pdif	22 04 31.5	+0.8
	comp=Z,57nm,1.2s							
LMR	**La Mourre**	**103.79**	**47**	*e*P		Pdif	22 04 31.5	+0.8
LMR				pmax		pmax		
	comp=Z,57nm,1.2s							
SMF	**Signal de Mont**	**103.94**	**43**	*e*P		Pdif	22 04 31.1	-0.3
	comp=Z,39nm,1.1s							
SMF	**Signal de Mont**	**103.94**	**43**	*e*P		Pdif	22 04 31.1	-0.3
	comp=Z,39nm,1.1s							
SMF	**Signal de Mont**	**103.94**	**43**	*e*P		Pdif	22 04 31.1	-0.3
SMF				pmax		pmax		
	comp=Z,39nm,1.1s							
SSF	**Saint Saulge**	**103.97**	**43**	*e*P		Pdif	22 04 31.4	-0.1
	comp=Z,31nm,1.3s							
SSF	**Saint Saulge**	**103.97**	**43**	*e*P		Pdif	22 04 31.4	-0.1
	comp=Z,31nm,1.3s							
SSF	**Saint Saulge**	**103.97**	**43**	*e*P		Pdif	22 04 31.4	-0.1
SSF				pmax		pmax		
	comp=Z,31nm,1.3s							
FRF	**La Foret Royal**	**103.99**	**47**	*e*P		Pdif	22 04 31.3	-0.3
FRF	**La Foret Royal**	**103.99**	**47**	*e*P		Pdif	22 04 31.3	-0.3
FRF	**La Foret Royal**	**103.99**	**47**	*e*P		Pdif	22 04 31.3	-0.3
ORIF	**Oris-en-Rattie**	**104.23**	**46**	*e*P		Pdif	22 04 34.0	+1.3
ORIF				*e*R				
	comp=Z,5μm,18.5s							
ORIF	**Oris-en-Rattie**	**104.23**	**46**	*e*P		Pdif	22 04 34.0	+1.3
ORIF	**Oris-en-Rattie**	**104.23**	**46**	*e*P		Pdif	22 04 34.0	+1.3
LOR	**Lormes**	**104.28**	**43**	*e*P		Pdif	22 04 32.9	0.0
LOR				*e*R				
	comp=Z,6μm,19.2s							
LOR	**Lormes**	**104.28**	**43**	*e*P		Pdif	22 04 32.9	0.0
LOR	**Lormes**	**104.28**	**43**	*e*P		Pdif	22 04 32.9	0.0
BNI	**Bardonecchia**	**104.78**	**46**	PFAKE			22 09 00.0	+10
BNI				LR		LR		
	comp=Z,6μm,22.0s,MS6.1							
LPL	**La Plagne**	**105.06**	**45**	*e*P		Pdif	22 04 36.8	+0.4
	comp=Z,16nm,0.9s							
LPL	**La Plagne**	**105.06**	**45**	*e*P		Pdif	22 04 36.8	+0.4
	comp=Z,16nm,0.9s							
LPL	**La Plagne**	**105.06**	**45**	*e*P		Pdif	22 04 36.8	+0.4
LPL				pmax		pmax		
	comp=Z,16nm,0.9s							
LPG	**La Plagne**	**105.06**	**46**	*e*P		Pdif	22 04 37.2	+0.8
	comp=Z,22nm,1.1s							
LPG	**La Plagne**	**105.06**	**46**	*e*P		Pdif	22 04 37.2	+0.8
	comp=Z,22nm,1.1s							
LPG	**La Plagne**	**105.06**	**46**	*e*P		Pdif	22 04 37.2	+0.8
LPG				pmax		pmax		
	comp=Z,22nm,1.1s							
ESK	**Eskdalemuir**	**105.10**	**33**	PFAKE			22 09 00.0	+10
ESK				LR		LR		
	comp=Z,5μm,19.0s,MS6.0							
HAU	**Haudompre**	**106.11**	**43**	*e*P		Pdif	22 04 41.2	+0.2
HAU				*e*R				
	comp=Z,6μm,19.2s							
HAU	**Haudompre**	**106.11**	**43**	*e*P		Pdif	22 04 41.2	+0.2
HAU	**Haudompre**	**106.11**	**43**	*e*P		Pdif	22 04 41.2	+0.2
HINF	**Hinteralfeld**	**106.30**	**43**	*e*P		Pdif	22 04 42.0	+0.1
HINF	**Hinteralfeld**	**106.30**	**43**	*e*P		Pdif	22 04 42.0	+0.1
HINF	**Hinteralfeld**	**106.30**	**43**	*e*P		Pdif	22 04 42.0	+0.1
ECH	**Echery**	**106.68**	**43**	PFAKE			22 09 00.0	+6.6
ECH				LR		LR		
	comp=Z,5μm,21.0s,MS6.0							
CDF	**Champ du Feu**	**106.85**	**43**	*e*P		Pdif	22 04 44.5	+0.2
	comp=Z,17nm,1.2s							
CDF	**Champ du Feu**	**106.85**	**43**	*e*P		Pdif	22 04 44.5	+0.2
	comp=Z,17nm,1.2s							
CDF	**Champ du Feu**	**106.85**	**43**	*e*P		Pdif	22 04 44.5	+0.2
CDF				pmax		pmax		
	comp=Z,17nm,1.2s							
SUMG	**Summit**	**107.23**	**10**	*i* P		Pdif	22 05 04.2	+18
SUMG				pmax		pmax		
	comp=Z,9.0nm,0.9s							
SUMG	**Summit**	**107.23**	**10**	*i* P		Pdif	22 05 04.2	+18
	comp=Z,9.1nm,0.9s							
BFO	**Black Forest**	**107.42**	**44**	PFAKE			22 09 00.0	+5.2
BFO				LR		LR		
	comp=Z,4μm,19.0s,MS6.0							
CEL	**Celeste**	**107.48**	**56**	PFAKE			22 09 00.0	+4.7
CEL				LR		LR		
	comp=Z,8μm,19.0s,MS6.3							
AQU	**L'Aquila**	**107.70**	**51**	PFAKE			22 09 10.0	+14
AQU				LR		LR		
	comp=Z,4μm,19.0s,MS6.0							
CUC	**Castrocucco**	**108.23**	**54**	PFAKE			22 09 10.0	+13
CUC				LR		LR		
	comp=Z,3μm,19.0s,MS5.9							
RETA	**Reutte**	**108.45**	**45**	⇑*i*P		KiKP	22 09 04.4	
	comp=Z,13nm,1.6s							
STKA	**Stephens Creek**	**108.72**	**209**	PKKPab		PKKPab	22 20 18.8	-3.7
	comp=Z,7.6nm,1.0s,baz=305,slow=5.4,SNR=5.3							
STKA	**Stephens Creek**	**108.72**	**209**	PKKPab		PKKPab	22 20 18.8	-3.7
INK	**Inuvik**	**110.37**	**340**	PKKPab		PKKPab	22 20 09.9	+1.3
	comp=Z,6.9nm,1.1s,baz=313,slow=4.2,SNR=8.7							
INK	**Inuvik**	**110.37**	**340**	PKKPab		PKKPab	22 20 09.9	+1.3
GERES	**GERESS Array B**	**110.82**	**45**	PKiKP		PKiKP	22 09 01.2	0.0
	comp=Z,2.5nm,0.9s,baz=202,slow=0.7,SNR=11							
GERES				PKKPab		PKKPab	22 20 09.9	+2.4
	comp=Z,0.8nm,0.8s,baz=77,slow=3.0,SNR=4.9							
GERES	**GERESS Array B**	**110.82**	**45**	PKiKP		PKiKP	22 09 01.2	0.0
GERES				PKKPab		PKKPab	22 20 09.9	+2.4
GERES	**GERESS Array B**	**110.82**	**45**	*i* PKiKP		PKiKP	22 09 01.2	0.0
GERES							22 20 09.9	
GERES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
GERES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
EGAK	**Eagle**	**110.87**	**335**	PFAKE			22 09 10.0	+9.2
EGAK				LR		LR		
	comp=Z,2μm,19.0s,MS5.8							
CLL	**Collm**	**111.47**	**42**	*i* PKiKP		PKiKP	22 09 03.2	+0.9
CLL				pmax		pmax		
	comp=Z,12nm,1.4s							
CLL				MLR		MLR		
	comp=Z,5μm,19.1s,MS6.1							
CLL	**Collm**	**111.47**	**42**	*i* PKiKP		PKiKP	22 09 03.2	+0.9
	comp=Z,12nm,1.4s							
CLL				*e*PP		PP	22 09 42.0	-2.2
CLL				Lm			22 55 00.0	
	comp=N,2μm,20.3s							
CLL				Lm			22 55 00.0	
	comp=E,4μm,19.0s							
CLL				Lm			22 55 00.0	
	comp=Z,5μm,19.1s							
CONA	**Conrad Observa**	**111.73**	**46**	⇑*i*P		KiKP	22 09 02.9	0.0
	comp=Z,12nm,1.8s							
BRG	**Berggiesshubel**	**111.83**	**43**	*e*(P)		PKiKP	22 09 16.9	+14
	comp=Z,1.6nm,0.6s							
BRG				PKKP		PKKPbc	22 20 06.2	+9.4
	comp=Z,4.6nm,1.0s							
BRG								
	comp=Z,4μm,21.1s							
BRG								
	comp=N,2μm,22.0s							
BRG								
	comp=E,3μm,22.0s							
BRG	**Berggiesshubel**	**111.83**	**43**	*e*PKiKP		PKiKP	22 09 16.9	+14
BRG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BRG				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BRG				MLR		MLR		
	comp=Z,4μm,21.1s,MS6.0							
BRG				MLR		MLR		
	comp=N,2μm,22.0s,MS5.8							
BRG				MLR		MLR		
	comp=E,3μm,22.0s,MS5.8							
VRAC	**Vranov**	**112.74**	**45**	PKiKP		PKiKP	22 09 04.1	-0.7
	comp=E,1.2nm,0.5s,baz=189,slow=3.5,SNR=3.0							
VRAC	**Vranov**	**112.74**	**45**	PKiKP		PKiKP	22 09 04.1	-0.7
VRAC	**Vranov**	**112.74**	**45**	*i* PKiKP		PKiKP	22 09 04.1	-0.7
VRAC				pmax		pmax		
	comp=Z,1.0nm,0.5s							
DPC	**Dobruska-Polom**	**113.00**	**44**	*e*PKiKP		PKiKP	22 09 04.9	-0.3
DPC				*e*			22 09 18.7	
DPC	**Dobruska-Polom**	**113.00**	**44**	*e*PKP		PKiKP	22 09 04.9	-0.3
DPC				*ex*		x	22 09 18.7	
ILAR	**Eielson Array**	**113.00**	**333**	PKiKP		PKiKP	22 09 03.6	-1.2
	comp=Z,2.3nm,0.9s,baz=179,slow=1.7,SNR=15							
ILAR				PKKPab		PKKPab	22 19 52.4	-4.8
	comp=Z,1.2nm,1.1s,baz=291,slow=5.4,SNR=4.7							
ILAR	**Eielson Array**	**113.00**	**333**	PKiKP		PKiKP	22 09 03.6	-1.2
ILAR				PKKPab		PKKPab	22 19 52.4	-4.8
ILAR	**Eielson Array**	**113.00**	**333**	*i* PKiKP		PKiKP	22 09 03.7	-1.1
ILAR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ILAR				pmax		pmax		
	comp=Z,1.0nm,1.1s							
COLA	**College**	**113.41**	**333**	PFAKE			22 09 10.0	+4.4
COLA				LR		LR		
	comp=Z,2μm,19.0s,MS5.6							
TRF	**Thorofare Moun**	**113.75**	**331**	*e*PKPdf		PKiKP	22 09 05.9	-0.4
VYHS	**Vyhne**	**113.78**	**47**	*e*PKiKP		PKiKP	22 09 01.7	-5.1
VYHS	**Vyhne**	**113.78**	**47**	*e*PKP		PKiKP	22 09 01.7	-5.1
PSZ	**Piszkesteto**	**114.22**	**48**	⇓*e*PP		PP	22 10 02.5	-1.4
VTS	**Vitosha**	**114.37**	**54**	⇑PKiKP		PKiKP	22 09 08.4	+0.3
VTS	**Vitosha**	**114.37**	**54**	⇑*i*P		PKiKP	22 09 08.4	+0.3
BZS	**Buzias**	**114.45**	**50**	⇑PKiKP		PKiKP	22 09 08.3	+0.1
BZS	**Buzias**	**114.45**	**50**	⇑*i*P		PKiKP	22 09 08.3	+0.1
NOA	**NORSAR Array B**	**114.54**	**32**	PP		PP	22 10 04.9	-0.9
	comp=Z,5.0nm,1.1s,baz=246,slow=6.8,SNR=3.3							
NOA				PKKPab		PKKPab	22 19 59.8	+9.2
	comp=Z,2.3nm,0.9s,baz=71,slow=4.6,SNR=4.1							
NOA	**NORSAR Array B**	**114.54**	**32**	PP		PP	22 10 04.9	-0.9
NOA				PKKPab		PKKPab	22 19 59.8	+9.2
NIE	**Niedzica**	**115.03**	**46**	*e*PKiKP		PKiKP	22 09 10.0	+0.8
NIE				e			22 10 07.6	
NIE	**Niedzica**	**115.03**	**46**	*i* PKiKP		PKiKP	22 09 10.0	+0.8
NIE				*e*			22 10 07.6	
HFS	**Hagfors**	**115.33**	**33**	PKP		PKPdf	22 09 08.0	-1.4
	comp=Z,7.1nm,0.9s,baz=249,slow=11,SNR=3.7							
HFS				PP		PP	22 10 10.7	-0.7
	comp=Z,8.7nm,0.9s,baz=0.0,slow=2.2,SNR=4.4							
HFS	**Hagfors**	**115.33**	**33**	PKP		PKPdf	22 09 08.0	-1.4
HFS				PP		PP	22 10 10.7	-0.7
HFS	**Hagfors**	**115.33**	**33**	PKIKP		PKPdf	22 09 08.0	-1.4
HFS							22 10 10.7	
HFS				pmax		pmax		
	comp=Z,7.0nm,0.9s							
HFS				pmax		pmax		
	comp=Z,9.0nm,1.0s							
DRGR		**115.59**	**49**	⇓PKIKP		PKPdf	22 09 09.9	-0.4
DRGR		**115.59**	**49**	⇓*i*P		PKPdf	22 09 09.9	-0.4
UZH	**Uzhgorod**	**115.97**	**47**	*e*PKIKP		PKPdf	22 09 10.4	-0.6
UZH				*i*			22 10 12.8	
CTA	**Charters Tower**	**116.42**	**220**	PKKPbc		PKKPbc	22 19 42.4	+1.8
	comp=Z,5.0nm,0.9s,baz=336,slow=2.1,SNR=6.5							
CTA	**Charters Tower**	**116.42**	**220**	PKKPbc		PKKPbc	22 19 42.4	+1.8
CTAO	**Charters Tower**	**116.42**	**220**	PFAKE			22 09 20.0	+7.1
CTAO				LR		LR		
	comp=Z,2μm,20.0s,MS5.7							
KWP	**Kalwaria Pacla**	**116.57**	**46**	*e*PKP		PKPdf	22 09 13.3	+1.2
KWP	**Kalwaria Pacla**	**116.57**	**46**	*e*PKPdf		PKPdf	22 09 12.0	-0.1
KWP	**Kalwaria Pacla**	**116.57**	**46**	⇓PKIKP		PKPdf	22 09 12.9	+0.8
KWP	**Kalwaria Pacla**	**116.57**	**46**	⇓*i*P		PKPdf	22 09 12.9	+0.8
MLR	**Muntele Rosu**	**117.25**	**52**	PKP		PKPdf	22 09 13.8	+0.2
	comp=Z,2.3nm,1.0s,baz=36,slow=9.9,SNR=5.0							
MLR				PP		PP	22 10 24.5	-0.7
	comp=Z,5.0nm,1.2s,baz=280,slow=5.8,SNR=6.2							
MLR	**Muntele Rosu**	**117.25**	**52**	PKP		PKPdf	22 09 13.8	+0.2
MLR				PP		PP	22 10 24.5	-0.7
MLR	**Muntele Rosu**	**117.25**	**52**	PKIKP		PKPdf	22 09 13.8	+0.2
MLR							22 10 24.5	
MLR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
MLR				pmax		pmax		
	comp=Z,5.0nm,1.2s							
MLR	**Muntele Rosu**	**117.25**	**52**	⇓*i*P		PKPdf	22 09 14.1	+0.5
BUR08	**Bucovina Ar. S**	**117.47**	**49**	*e*PKPdf		PKPdf	22 09 14.2	+0.2
BURAR	**Bucovina Array**	**117.47**	**49**	⇑PKIKP		PKPdf	22 09 15.2	+1.3
BURAR	**Bucovina Array**	**117.47**	**49**	⇑*i*P		PKPdf	22 09 15.2	+1.3
VRI	**Vrincioaia**	**117.89**	**51**	⇑PKIKP		PKPdf	22 09 14.7	-0.1
VRI	**Vrincioaia**	**117.89**	**51**	⇑*i*P		PKPdf	22 09 14.7	-0.1
EIL	**Elat**	**118.21**	**71**	PKP		PKPdf	22 09 16.3	+0.3
	comp=Z,7.6nm,1.0s,baz=347,slow=5.0,SNR=5.4							
EIL	**Elat**	**118.21**	**71**	PKP		PKPdf	22 09 16.3	+0.3
SUW	**Suwalki**	**118.22**	**42**	*e*PKP		PKPdf	22 09 16.0	+0.8
SUW	**Suwalki**	**118.22**	**42**	*e*PKPdf		PKPdf	22 09 14.2	-0.9
SUW	**Suwalki**	**118.22**	**42**	*e*PKIKP		PKPdf	22 09 14.2	-1.0
CSS	**Prodhromos**	**118.93**	**65**	PFAKE			22 09 30.0	+13
CSS				LR		LR		
	comp=Z,3μm,22.0s,MS5.8							
ASAR	**Alice Springs**	**119.09**	**207**	PKP		PKPdf	22 09 16.2	-1.8
	comp=Z,4.1nm,1.0s,baz=151,slow=2.0,SNR=18							
ASAR				PKKPbc		PKKPbc	22 19 31.6	+0.4
	comp=Z,2.9nm,0.9s,baz=337,slow=3.2,SNR=15							
ASAR	**Alice Springs**	**119.09**	**207**	PKP		PKPdf	22 09 16.2	-1.8
ASAR				PKKPbc		PKKPbc	22 19 31.6	+0.4
ASAR	**Alice Springs**	**119.09**	**207**	PKIKP		PKPdf	22 09 16.2	-1.8
ASAR				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ASAR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KIS	**Kishinev**	**119.62**	**51**	*e*UNK		PKPdf	22 09 17.0	-1.1
KIS	**Kishinev**	**119.62**	**51**	*e*PKIKP		PKPdf	22 09 17.0	-1.1
KIS				*e*			22 09 31.0	
MMAI	**Mount Meron Ar**	**119.83**	**68**	PKP		PKPdf	22 09 19.4	+0.5
	comp=Z,7.2nm,0.9s,baz=307,slow=0.4,SNR=6.4							
MMAI	**Mount Meron Ar**	**119.83**	**68**	PKP		PKPdf	22 09 19.4	+0.4
NACGM	**Naroch**	**120.49**	**42**	*e*		PKPdf	22 09 17.0	-2.5
ASF	**Jabal al Asfar**	**120.70**	**69**	PKP		PKPdf	22 09 21.3	+0.6
	comp=Z,7.1nm,1.0s,baz=198,slow=2.7,SNR=7.4							
ASF	**Jabal al Asfar**	**120.70**	**69**	PKP		PKPdf	22 09 21.3	+0.6
ASF	**Jabal al Asfar**	**120.70**	**69**	PKIKP		PKPdf	22 09 21.3	+0.6
ASF				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BR131	**Keskin Array S**	**120.76**	**60**	*e*PKPdf		PKPdf	22 09 19.6	-0.9
BR131				LR		LR		
	comp=

VSR	**Storozhevoye**	**127.15**	**48**	PKIKP	PKPdf	22 09 32.6	+0.2
VSR				pmax	pmax		
	comp=Z,30nm,1.2s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.2s						
DGAR	**Diego Garcia**	**127.61**	**133**	PFAKE		22 09 40.0	+5.5
DGAR				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
KLMR	**Klimovskoe**	**127.95**	**35**	*e*PKIKP	PKPdf	22 09 28.1	-5.5
KLMR				pmax	pmax		
	comp=Z,137nm,1.5s						
NAY	**Al-Naaiem**	**128.03**	**76**	*e*P	PKPdf	22 09 34.7	-0.1
NAY				AMb	AMB	22 09 36.4	
	comp=Z,35nm,1.1s						
RDF	**Al-Radifah**	**128.18**	**77**	*e*P	PKPdf	22 09 35.4	+0.3
RDF				AMb	AMB	22 09 37.7	
	comp=Z,69nm,1.1s						
MIB	**Mutribah**	**128.30**	**76**	*e*P	PKPdf	22 09 35.1	-0.2
MIB				AMb	AMB	22 09 37.1	
	comp=Z,60nm,1.0s						
KIV	**Kislovodsk**	**128.37**	**57**	*e*PKPdf	PKPdf	22 09 35.1	+0.1
KIV	**Kislovodsk**	**128.37**	**57**	*e*PKIKP	PKPdf	22 09 35.7	+0.7
KIV				*e*		22 11 39.0	
KIV				pmax	pmax		
	comp=Z,46nm,1.1s						
UMR	**Umm Al-Rimmam**	**128.53**	**76**	*e*P	PKPdf	22 09 35.5	-0.2
UMR				AMb	AMB	22 09 37.6	
	comp=Z,128nm,1.0s						
GNI	**Garni**	**129.10**	**62**	PKP	PKPdf	22 09 37.7	+1.2
	comp=Z,15nm,1.0s,baz=36,slow=22,SNR=5.8						
GNI	**Garni**	**129.10**	**62**	*e*PKPdf	PKPdf	22 09 36.1	-0.4
GNI				PKP	PKPdf	22 09 37.7	+1.2
GNI	**Garni**	**129.10**	**62**	*d i*PKIKP	PKPdf	22 09 37.9	+1.4
BILL	**Bilibino**	**131.61**	**335**	*e*PKPdf	PKPdf	22 09 39.0	-1.4
BILL				*e*SKPbc	SKPbc	22 13 01.6	-0.9
BILL				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
BILL	**Bilibino**	**131.61**	**335** ⇓	*i*PKIKP	PKPdf	22 09 41.3	+0.9
BILL				*e*PS	PS	22 22 01.6	-14
BILL				pmax	pmax		
	comp=Z,27nm,1.1s						
BILL				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.9						
COCO	**West Island**	**134.24**	**164**	PFAKE		22 10 00.0	+13
COCO				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
SOKR	**Solikamsk**	**136.65**	**36** ⇑	*i*PKIKP	PKPdf	22 10 03.5	+13
SOKR				pmax	pmax		
	comp=Z,30nm,0.8s						
ARU	**Arti**	**138.34**	**40**	*e*PKPdf	PKPpre	22 09 46.6	
ARU				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
ARU	**Arti**	**138.34**	**40**	*i* PKIKP	PKPdf	22 09 53.7	+0.4
ARU						22 12 42.5	
ARU				SS	SS	22 30 48.4	-4.8
ARU				MLR	MLR		
	comp=Z,3μm,18.0s,MS6.1						
AKTO	**Aktyubinsk**	**139.07**	**49**	PKhKP	PKPpre	22 09 46.2	
	comp=Z,3.4nm,0.9s,baz=325,slow=6.1,SNR=7.1						
AKTO				PP	PP	22 12 49.1	+0.8
	comp=Z,5.5nm,0.9s,baz=258,slow=11,SNR=4.4						
AKTO	**Aktyubinsk**	**139.07**	**49**	PKPpre	PKPpre	22 09 46.2	
AKTO				PP	PP	22 12 49.1	+0.8
AKTO	**Aktyubinsk**	**139.07**	**49**	PKHKP	PKPpre	22 09 46.2	
AKTO						22 12 49.1	
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PEA0B	**Petropavlovsk-**	**139.34**	**315**	*e*PKPdf	PKPpre	22 09 50.9	
PETK	**Petropavlovsk-**	**139.34**	**315**	PKP	PKPdf	22 09 55.4	+0.2
	comp=Z,11nm,0.9s,baz=29,slow=3.4,SNR=3.7						
PETK	**Petropavlovsk-**	**139.34**	**315**	PKP	PKPdf	22 09 55.4	+0.2
PETK	**Petropavlovsk-**	**139.34**	**315**	PKIKP	PKPdf	22 09 55.4	+0.2
PETK				pmax	pmax		
	comp=Z,11nm,0.9s						
SVE	**Sverdlovsk**	**139.35**	**39**	*i* PKIKP	PKPdf	22 09 55.3	+0.2
SVE				*e*		22 12 49.3	
SVE				pmax	pmax		
	comp=Z,40nm,1.5s						
PCJI	**Pacitan**	**139.48**	**184**	P	PKPdf	22 10 07.4	+11
	comp=Z,63nm,1.0s						
CISI	**Cisompet, Garu**	**140.20**	**179**	P	PKPdf	22 10 08.4	+10
	comp=Z,87nm,1.1s						
LEM	**Lembang**	**140.92**	**179**	P	PKPdf	22 10 00.1	+0.7
	comp=Z,54nm,1.2s						
KAPI	**Kappang**	**141.19**	**198**	PKP	PKPdf	22 09 59.2	-0.7
	comp=Z,13nm,0.9s,baz=162,slow=5.7,SNR=4.4						
KAPI	**Kappang**	**141.19**	**198**	PKP	PKPdf	22 09 59.2	-0.7
MNAI	**Manna**	**143.01**	**171**	P	PKPdf	22 10 18.3	+15
	comp=Z,111nm,1.5s						
LUWI	**Luwuk**	**144.00**	**205**	P	PKPdf	22 10 03.6	-1.3
	comp=Z,2μmcomp=Z,172nm,1.2s						
PBKI	**Pangkalan Bun**	**144.88**	**186**	P	PKPdf	22 10 05.8	-0.6
	comp=Z,3μmcomp=Z,274nm,1.2s						
KRJI	**Kerinci**	**145.01**	**162**	P	PKPab	22 10 07.5	+1.6
KMSI	**Cibinong**	**145.04**	**208**	P	PKPbc	22 10 06.5	+0.5
	comp=Z,8μmcomp=Z,689nm,1.0s						
GTOI	**Gorontalo**	**145.47**	**206**	P	PKPdf	22 10 05.8	-1.6
	comp=Z,5μmcomp=Z,210nm,1.4s						
MNI	**Manado**	**145.47**	**210**	P	PKPdf	22 10 07.4	0.0
	comp=Z,6μmcomp=Z,392nm,1.0s						
MNI	**Manado**	**145.47**	**210**	P	PKPdf	22 10 06.7	-0.7
	comp=Z,2μmcomp=Z,391nm,1.0s						
PPBI	**Pangkal Pinang**	**145.49**	**176**	P	PKPdf	22 10 06.2	-1.3
	comp=Z,2μmcomp=Z,163nm,1.4s						
KAD	**Karad**	**145.67**	**108**	*e*PKP	PKPdf	22 10 06.0	-1.6
BRVK	**Borovoye**	**145.83**	**42**	*e*PKPab	PKPab	22 10 07.5	-0.4
BRVK				LR	LR		
	comp=Z,5μm,21.0s,MS6.3						
BRVK	**Borovoye**	**145.83**	**42**	*e*PKP2	PKPab	22 10 07.5	-0.3
BRVK				MLR	MLR		
	comp=Z,5μm,21.0s,MS6.3						
BVAR	**Borovoye Array**	**145.91**	**42**	PKPbc	PKPbc	22 10 07.8	+0.2
	comp=Z,40nm,0.6s,baz=286,slow=2.5,SNR=110						
BVAR	**Borovoye Array**	**145.91**	**42**	PKPbc	PKPbc	22 10 07.8	+0.2
POO	**Poona**	**146.03**	**106**	*e*PKP	PKPdf	22 10 06.4	-1.7
POO				*i* PP	PP	22 13 29.1	-2.0
BHV	**Bhavnagar**	**146.16**	**99**	*ex*	PKPbc	22 10 09.0	-0.3
PPI	**Padang Panjang**	**146.39**	**165**	P	PKPdf	22 10 10.0	+1.0
	comp=Z,4μmcomp=Z,141nm,1.2s						
PPI	**Padang Panjang**	**146.39**	**165**	P	PKPdf	22 10 09.5	+0.5
	comp=Z,4μmcomp=Z,142nm,1.2s						
KBL	**Kabul**	**147.26**	**75**	*e*PKPdf	PKPdf	22 10 07.6	-2.2
KBL				*e*PKPbc	PKPbc	22 10 10.5	-1.6
YAK	**Yakutsk**	**147.41**	**341**	*i* PKIKP	PKPdf	22 10 09.2	+0.1
YAK				*e*		22 13 34.9	
YAK				pmax	pmax		
	comp=Z,663nm,1.1s						
YAK				pmax	pmax		
	comp=N,72nm,1.4s						
YAK				pmax	pmax		
	comp=E,65nm,1.4s						
YAK				pmax	pmax		
	comp=Z,167nm,2.8s						
YAK				pmax	pmax		
	comp=N,72nm,2.5s						
YAK				pmax	pmax		
	comp=E,78nm,1.9s						
MNSI	**Mandailing Nat**	**147.42**	**163**	P	PKPdf	22 10 10.7	0.0
	comp=E,2μmcomp=E,104nm,1.1s						
MNSI	**Mandailing Nat**	**147.42**	**163**	P	PKPdf	22 10 09.6	-1.1
	comp=E,2μmcomp=E,104nm,1.1s						
STKI	**Sintang**	**147.64**	**186**	P	PKPdf	22 10 14.0	+2.9
	comp=E,3μmcomp=E,84nm,1.5s						
SBSI	**Sibolga**	**147.97**	**162**	P	PKPdf	22 10 10.9	-0.7
	comp=E,131nm,1.0s						
LATR	**Latur**	**148.17**	**108**	*ex*	PKPbc	22 10 14.4	-0.6
KKAR	**Karatay Array**	**148.47**	**59**	*e*PKPbc	PKPbc	22 10 12.6	-2.5
KKAR	**Karatay Array**	**148.47**	**59**	*e*PKIKP	PKPdf	22 10 12.6	+1.1
YUK	**Yuzh-Kuril'sk**	**148.65**	**303**	PKIKP	PKPdf	22 10 10.2	-1.5
TPTI		**149.10**	**158**	P	PKPdf	22 10 15.9	+2.4
	comp=E,126nm,1.2s						
KSM	**Kuching**	**149.12**	**184**	*e*PKPdf	PKPdf	22 10 11.1	-2.4
PSI	**Prapat**	**149.18**	**161**	P	PKPbc	22 10 17.0	-0.8
	comp=E,136nm,1.2s,comp=E,2μm						
PSI	**Prapat**	**149.18**	**161**	P	PKPbc	22 10 17.6	-0.2
	comp=E,136nm,1.2s,comp=E,2μm						
HYB	**Hyderabad**	**149.20**	**112**	*i* PKP	PKPdf	22 10 12.0	-1.4
AKL	**Akola**	**149.70**	**105** ⇓	*i x*	PKPbc	22 10 19.5	+0.7
AKL				AMP		22 10 34.3	
	comp=Z,260nm,1.5s						
AKL				*i* x	x	22 13 30.0	

TSI	**Tuntungan**	**149.74**	**160**	P	PKPbc	22 10 18.9	-0.3
	comp=Z,329nm,1.2s,comp=Z,4μm						
SBUM	**Sibu**	**149.92**	**188**	P	PKPbc	22 10 18.8	-0.8
	comp=Z,60nm,1.8s,comp=Z,1μm						
SBUM	**Sibu**	**149.92**	**188**	P	PKPbc	22 10 18.3	-1.3
	comp=Z,60nm,1.8s,comp=Z,1μm						
DAV	**Davao City (W)**	**150.09**	**216**	PFAKE		22 10 20.0	+5.0
DAV				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
AJM	**Ajmer**	**150.10**	**93**	*e*PKP	PKPdf	22 10 13.0	-1.6
YSS	**Yuzh-Sakhalins**	**150.14**	**309**	*e*PKPbc	PKPdf	22 10 13.8	-0.2
BSI	**Banda Aceh**	**150.51**	**153**	P	PKPbc	22 10 18.8	-2.2
	comp=Z,243nm,0.9s,comp=Z,2μm						
BSI	**Banda Aceh**	**150.51**	**153**	P	PKPbc	22 10 18.9	-2.1
	comp=Z,243nm,0.9s,comp=Z,2μm						
LHMI	**Lhok Sumawe**	**150.86**	**156**	P	PKPbc	22 10 21.2	-0.7
	comp=Z,301nm,0.9s,comp=Z,4μm						
LHMI	**Lhok Sumawe**	**150.86**	**156**	P	PKPbc	22 10 21.5	-0.4
	comp=Z,301nm,0.9s,comp=Z,4μm						
ERM	**Erimo**	**150.90**	**299**	PFAKE		22 10 20.0	+4.6
ERM				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
EKS2	**Erkin-Say**	**150.91**	**60**	P	PKPdf	22 10 15.5	+0.1
	SNR=12						
EKS2				P		22 10 15.5	
	SNR=12						
EKS2	**Erkin-Say**	**150.91**	**60**	*e*PKPdf	PKPdf	22 10 15.3	-0.1
EKS2				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
EKS2	**Erkin-Say**	**150.91**	**60**	*e*PKIKP	PKPdf	22 10 15.3	-0.1
EKS2				MLR	MLR		
	comp=Z,3μm,20.0s,MS6.1						
AML	**Almayashu**	**150.93**	**61**	P	PKPdf	22 10 15.6	+0.2
	SNR=17						
AML				P		22 10 15.6	
	SNR=17						
ASAJ	**Asahikawa**	**150.95**	**304**	PKPbc	PKPbc	22 10 21.1	0.0
	comp=Z,83nm,1.1s,baz=248,slow=10,SNR=8.4						
ASAJ	**Asahikawa**	**150.95**	**304**	*e*PKPdf	PKPdf	22 10 11.4	-3.9
ASAJ				PKPbc	PKPbc	22 10 21.1	0.0
BHPL	**Bhopal**	**151.20**	**101**	*e*PKP	PKPdf	22 10 15.7	-0.7
MYLDM	**Lahad Datu**	**151.25**	**201**	P	PKPbc	22 10 24.2	+1.4
	comp=Z,131nm,1.3s,comp=Z,2μm						
IPM	**Ipoh**	**151.31**	**165**	*e*PKPdf	PKPdf	22 10 13.4	-3.5
IPM	**Ipoh**	**151.31**	**165**	P	PKPbc	22 10 22.2	-0.7
	comp=Z,178nm,1.0s,comp=Z,2μm						
USP	**Ospenovka**	**151.33**	**58**	P	PKPdf	22 10 16.5	+0.5
	SNR=16						
USP				P		22 10 16.5	
	SNR=16						
AAK	**Ala-Archa**	**151.44**	**59**	P	PKPbc	22 10 24.0	+1.7
	SNR=10						
AAK				P		22 10 24.0	
	SNR=10						
AAK	**Ala-Archa**	**151.44**	**59**	*e*PKPdf	PKPdf	22 10 16.9	+0.7
AAK				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
AAK	**Ala-Archa**	**151.44**	**59**	*e*PKIKP	PKPdf	22 10 16.9	+0.7
AAK				MLR	MLR		
	comp=Z,4μm,19.0s,MS6.2						
AAK	**Ala-Archa**	**151.44**	**59**	P	PKPdf	22 10 18.4	+2.2
	comp=Z,9μmcomp=Z,689nm,1.0s						
AAK	**Ala-Archa**	**151.44**	**59**	P	PKPdf	22 10 17.2	+1.0
	comp=Z,9μmcomp=Z,689nm,1.0s						
NVS	**Novosibirsk**	**151.45**	**31**	*e*PKIKP	PKPdf	22 10 14.7	-1.1
NVS				pmax	pmax		
	comp=Z,430nm,1.6s						
NVS				pmax	pmax		
	comp=E,65nm,1.3s						
FRU	**Bishkek**	**151.50**	**59**	*e*PKIKP	PKPdf	22 10 18.0	+1.7
FRU				pmax	pmax		
	comp=Z,540nm,2.0s						
KURK	**Kurchatov**	**151.50**	**41**	PKP	PKPdf	22 10 16.5	+0.5
	comp=Z,8.0nm,1.0s,baz=295,slow=2.3,SNR=24						
KURK				PKPbc	PKPbc	22 10 22.6	+0.4
	comp=Z,44nm,0.7s,baz=298,slow=2.9,SNR=76						
KURK				PKPab	PKPab	22 10 33.4	+2.6
	comp=Z,56nm,0.6s,baz=303,slow=2.9,SNR=22						
KURK	**Kurchatov**	**151.50**	**41**	*e*PKPdf	PKPdf	22 10 15.4	-0.5
KURK				PKP	PKPdf	22 10 16.5	+0.5
KURK				PKPbc	PKPbc	22 10 22.6	+0.4
KURK				PKPab	PKPab	22 10 33.4	+2.6
KURK	**Kurchatov**	**151.50**	**41**	PKIKP	PKPdf	22 10 16.5	+0.5
KURK						22 10 22.6	
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK				pmax	pmax		
	comp=Z,44nm,0.7s						
KURK				pmax	pmax		
	comp=Z,56nm,0.6s						
UCH	**Uchtor**	**151.52**	**60**	P	PKPbc	22 10 24.2	+1.7
	SNR=12						
UCH				P		22 10 24.2	
	SNR=12						
CHMS	**Chumysh**	**151.56**	**59**	P	PKPbc	22 10 22.8	+0.2
	SNR=28						
CHMS				P		22 10 22.8	
	SNR=28						
KBK	**Karagaybulak**	**151.77**	**59**	P	PKPdf	22 10 17.5	+0.8
	SNR=8.8						
KBK				P		22 10 17.5	
	SNR=8.8						
KULM	**Kulim**	**152.01**	**163**	*e*PKPbc	PKPbc	22 10 22.0	-2.5
KULM	**Kulim**	**152.01**	**163**	P	PKPbc	22 10 24.0	-0.5
	comp=Z,109nm,1.7s,comp=Z,2μm						
KZA	**Kyzart**	**152.08**	**60**	P	PKPdf	22 10 19.0	+1.8
	SNR=6.3						
KZA				P		22 10 19.0	
	SNR=6.3						
TKM2	**Tokmak 2**	**152.19**	**59**	P	PKPdf	22 10 17.8	+0.5
	SNR=18						
TKM2				P		22 10 17.8	
	SNR=18						
TKM2	**Tokmak 2**	**152.19**	**59**	*e*PKPdf	PKPdf	22 10 17.0	-0.3
TKM2	**Tokmak 2**	**152.19**	**59**	*e*PKIKP	PKPdf	22 10 17.0	-0.3
THN	**Thein Dam**	**152.48**	**81**	*ex*	PKPbc	22 10 24.0	-1.0
ZAA0	**Zalesovo Array**	**152.74**	**31**	*e*PKPdf	PKPdf	22 10 16.9	-0.8
ZALV	**Zalesovo Beam**	**152.74**	**31**	PKP	PKPdf	22 10 17.9	+0.2
	comp=Z,18nm,1.0s,baz=298,slow=3.2,SNR=47						
ZALV				PKPbc	PKPbc	22 10 24.9	+0.1
	comp=Z,112nm,0.9s,baz=318,slow=2.8,SNR=70						
ZALV				PKPab	PKPab	22 10 36.9	+1.1
	comp=Z,48nm,0.6s,baz=308,slow=3.1,SNR=17						
ZALV	**Zalesovo Beam**	**152.74**	**31**	PKP	PKPdf	22 10 17.9	+0.2
ZALV				PKPbc	PKPbc	22 10 24.9	+0.1
ZALV				PKPab	PKPab	22 10 36.9	+1.1
ZALV	**Zalesovo Beam**	**152.74**	**31**	PKIKP	PKPdf	22 10 17.9	+0.2
ZALV						22 10 25.0	
ZALV				pmax	pmax		
	comp=Z,18nm,1.0s						
ZALV				pmax	pmax		
	comp=Z,112nm,1.0s						
ZALV				pmax	pmax		
	comp=Z,48nm,0.6s						
ULHL	**Ulahol**	**152.78**	**60**	P	PKPbc	22 10 25.4	0.0
	SNR=11						
ULHL				P		22 10 25.4	
	SNR=11						
BHK	**Bhakra**	**152.89**	**84**	*ex*	PKPbc	22 10 27.0	+1.0
KSH	**Kashi**	**152.94**	**66**	PKPbc	PKPdf	22 10 18.8	+0.3
KSH				PKS		22 13 51.6	
KSH				PP	PP	22 14 07.5	-3.4
KSH				SKS	SKSdf	22 17 20.0	-2.3
KSH				AMB	AMB		
	comp=Z,1μm,5.3s						
KSH				LR	LR		
	comp=N,2μm,20.4s						
KSH				LR	LR		
	comp=E,790nm,11.9s						
KSH				LR	LR		
	comp=Z,4μm,19.3s,MS6.2						
NDI	**New Delhi**	**152.94**	**90**	*ex*	PKPbc	22 10 24.0	-2.2
CLNS	**Chul'man**	**153.10**	**340**	*e*PKIKP	PKPbc	22 10 22.2	-3.4
CLNS				*e*PP		22 10 30.0	
CLNS				*e*		22 10 35.3	
CLNS				*e*PPP		22 14 14.0	
CLNS				pmax	pmax		
	comp=Z,57nm,1.0s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,14nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,12nm,1.3s						
CLNS				pmax	pmax		
	comp=E,15nm,1.4s						

CLNS				pmax	pmax		
	comp=N,24nm,1.4s						
ASOR	**Ausora**	**153.43**	**90**	*e*PKP	PKPdf	22 10 17.0	-2.6
SMLA	**Simla**	**153.47**	**84**	*i* P	PKPdf	22 10 19.3	-0.3
SNG	**Songkhla**	**153.81**	**162**	P	PKPab	22 10 41.0	-0.4
	comp=N,120nm,0.8s						
DDI	**Dehra Dun**	**154.05**	**87**	*ex*	PKPdf	22 10 22.5	+2.1
DDI				*ex*	x	22 14 23.5	
HABR	**Khabarovsk**	**154.36**	**316**	*e*PKIKP	PKPdf	22 10 18.7	-1.5
HABR				*e*		22 10 25.5	
HABR				*e*		22 10 27.8	
HABR				*e*		22 10 34.5	
HABR				*e*		22 10 41.6	
HABR				*e*		22 17 24.4	
HABR				*e*SS	SS	22 33 56.4	+1.3
HABR				*e*SSS		22 39 48.8	
BOD	**Bodaibo**	**154.36**	**353**	*e*PKIKP	PKPdf	22 10 19.0	-0.9
BOD				pmax	pmax		
	comp=Z,22nm,1.6s						
MJAR	**Matsushiro Arr**	**155.15**	**288**	PKP	PKPdf	22 10 20.9	-0.9
	comp=Z,6.4nm,1.1s,baz=237,slow=2.2,SNR=8.2						
MJAR				PKPbc	PKPdf	22 10 30.1	+8.4
	comp=Z,13nm,1.1s,baz=221,slow=1.6,SNR=12						
MJAR	**Matsushiro Arr**	**155.15**	**288**	PKP	PKPdf	22 10 20.9	-0.9
MJAR				PKPbc	PKPdf	22 10 30.1	+8.4
MJAR	**Matsushiro Arr**	**155.15**	**288**	PKIKP	PKPdf	22 10 20.9	-0.8
MJAR						22 10 30.1	
MJAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MJAR				pmax	pmax		
	comp=Z,13nm,1.1s						
MAT	**Matsushiro**	**155.15**	**288**	PKP	PKPdf	22 10 20.6	-1.1
MK31	**Makanchi Array**	**155.47**	**47**	*e*PKPdf	PKPdf	22 10 21.0	-0.8
MK31	**Makanchi Array**	**155.47**	**47**	*e*PKIKP	PKPdf	22 10 21.0	-0.8
MKAR	**Makanchi Array**	**155.47**	**47**	PKP	PKPdf	22 10 21.6	-0.2
	comp=Z,10nm,1.0s,baz=300,slow=2.4,SNR=38						
MKAR				PKPab	PKPab	22 10 47.5	-0.1
	comp=Z,53nm,0.8s,baz=294,slow=3.0,SNR=44						
MKAR				PP	PP	22 14 25.6	+1.0
	comp=Z,9.7nm,1.1s,baz=261,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**155.47**	**47**	PKP	PKPdf	22 10 21.6	-0.2
MKAR				PKPab	PKPab	22 10 47.5	-0.1
MKAR				PP	PP	22 14 25.6	+1.0
MKAR	**Makanchi Array**	**155.47**	**47**	PKIKP	PKPdf	22 10 21.6	-0.2
MKAR						22 14 25.6	
MKAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,53nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLR	**Kul'dur**	**155.81**	**321**	*e*PKIKP	PKPdf	22 10 16.0	-6.2
KOLN	**Koldanda**	**158.06**	**96**	*e*P	PKPdf	22 10 25.2	-0.6
	comp=Z,76nm,1.4s						
KOLN	**Koldanda**	**158.06**	**96**	*e*P	PKPdf	22 10 25.2	-0.6
DANN	**Dangsing**	**158.38**	**94**	*e*P	PKPdf	22 10 26.0	-0.1
	comp=Z,177nm,1.2s						
DANN	**Dangsing**	**158.38**	**94**	*e*P	PKPdf	22 10 26.0	-0.1
GKN	**Gorkha**	**159.01**	**96**	*e*P	PKPdf	22 10 26.6	-0.3
	comp=Z,116nm,1.2s						
GKN	**Gorkha**	**159.01**	**96**	*e*P	PKPdf	22 10 26.6	-0.3
DMN	**Daman**	**159.28**	**97**	*e*P	PKPdf	22 10 27.5	+0.3
DMN	**Daman**	**159.28**	**97**	*e*P	PKPdf	22 10 27.5	+0.3
KKN	**Kakani**	**159.48**	**97**	*e*P	PKPdf	22 10 26.9	-0.6
	comp=Z,62nm,1.2s						
KKN	**Kakani**	**159.48**	**97**	*e*P	PKPdf	22 10 26.9	-0.6
KKN	**Kakani**	**159.48**	**97**	*e*PKIKP	PKPdf	22 10 26.9	-0.6
PKI	**Pulchoki**	**159.52**	**98**	*e*P	PKPdf	22 10 26.8	-0.7
	comp=Z,81nm,1.3s						
PKI	**Pulchoki**	**159.52**	**98**	*e*P	PKPdf	22 10 26.8	-0.7
PKI	**Pulchoki**	**159.52**	**98**	*e*PKIKP	PKPdf	22 10 26.8	-0.7
MDJ	**Mudanjiang**	**159.53**	**312**	PKP	PKPdf	22 10 25.6	-1.4
MDJ				pPKP	pPKPdf	22 10 30.6	-9.4
MDJ				sPKP		22 10 31.6	
MDJ				PKS		22 14 01.9	
MDJ				PP	PP	22 14 46.5	-0.4
MDJ				SKS	SKSdf	22 17 32.8	+3.9
MDJ				AMB	AMB		
	comp=Z,380nm,8.7s						
MDJ				LR	LR		
	comp=N,3μm,16.3s						
MDJ				LR	LR		
	comp=E,590nm,25.5s						
MDJ				LR	LR		
	comp=Z,4μm,17.3s,MS6.3						
MDJ	**Mudanjiang**	**159.53**	**312**	*e*PKPdf	PKPdf	22 10 24.5	-2.5
IRK	**Irkutsk**	**160.01**	**7**	*e*PKIKP	PKPdf	22 10 26.9	-0.4
IRK				*e*		22 14 49.3	
IRK				pmax	pmax		
	comp=Z,69nm,2.2s						
GUN	**Gumba**	**160.02**	**97**	*e*P	PKPdf	22 10 28.4	+0.3
GUN	**Gumba**	**160.02**	**97**	*e*P	PKPdf	22 10 28.4	+0.3
JIRN	**Jiri**	**160.20**	**98**	*e*P	PKPdf	22 10 27.8	-0.5
JIRN	**Jiri**	**160.20**	**98**	*e*P	PKPdf	22 10 27.8	-0.5
WMQ	**Urumqi**	**160.22**	**49**	PKP	PKPdf	22 10 28.4	+0.6
WMQ				PP	PP	22 14 54.5	+3.8
WMQ				SKS	SKSdf	22 17 28.5	-1.1
WMQ				SS	SS	22 35 00.6	+2.5
WMQ				LR	LR		
	comp=N,2μm,20.2s						
WMQ				LR	LR		
	comp=E,2μm,21.2s						
WMQ				LR	LR		
	comp=Z,2μm,19.0s						
RAMN	**Ramite**	**160.30**	**101**	*e*P	PKPdf	22 10 28.8	+0.4
RAMN	**Ramite**	**160.30**	**101**	*e*P	PKPdf	22 10

CHG	**Chiang Mai**	**163.97**	**146**	⇑P	PKPdf	22 10 29.9	-2.4
	comp=Z,22nm,1.1s						
CHTO	**Chiang Mai**	**163.97**	**146**	*e*PKPdf	PKPdf	22 10 30.5	-1.9
CHTO				*e*PKPab	PKPab	22 11 23.4	-1.8
CHTO				LR	LR		
	comp=Z,2μm,21.0s						
CHTO	**Chiang Mai**	**163.97**	**146**	*e*PKIKP	PKPdf	22 10 30.5	-1.8
CHTO				MLR	MLR		
	comp=Z,2μm,21.0s						
CHTO	**Chiang Mai**	**163.97**	**146**	P	PKPdf	22 10 31.6	-0.7
SHL	**Shillong**	**164.01**	**111**	*e*PKP	PKPdf	22 10 30.4	-1.8
SHL				*i* x	x	22 11 37.0	
SHL				*i* PP	PP	22 15 10.0	-1.4
SONM	**Songino Array**	**164.58**	**5**	PKP	PKPdf	22 10 31.9	-0.1
	comp=Z,2.0nm,1.0s,baz=333,slow=1.1,SNR=9.1						
SONM				PKPab	PKPab	22 11 27.5	+0.4
	comp=Z,17nm,0.9s,baz=341,slow=4.3,SNR=15						
SONM				PP	PP	22 15 16.0	+3.2
	comp=Z,7.2nm,1.2s,baz=317,slow=3.6,SNR=6.2						
SONM	**Songino Array**	**164.58**	**5**	PKPdf	PKPdf	22 10 31.9	-0.1
SONM				PKPab	PKPab	22 11 27.5	+0.4
SONM				PP	PP	22 15 16.0	+3.2
SONM	**Songino Array**	**164.58**	**5**	PKIKP	PKPdf	22 10 31.9	-0.1
SONM						22 15 16.0	
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,17nm,1.0s						
SONM				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ULN	**Ulaanbaatar**	**164.59**	**3**	*e*PKPdf	PKPdf	22 10 31.1	-0.8
ULN	**Ulaanbaatar**	**164.59**	**3**	*e*PKIKP	PKPdf	22 10 31.1	-0.9
ULN	**Ulaanbaatar**	**164.59**	**3**	P	PKPab	22 11 27.7	+0.5
	comp=Z,110nm,1.2s,comp=Z,1μm						
ULN	**Ulaanbaatar**	**164.59**	**3**	P	PKPdf	22 10 32.4	+0.4
LSA	**Lhasa**	**164.97**	**96**	PKP	PKPdf	22 10 33.1	+0.2
LSA	**Lhasa**	**164.97**	**96**	*e*PKPdf	PKPdf	22 10 32.8	-0.1
LSA				*e*PP	PP	22 15 14.9	-1.8
LSA	**Lhasa**	**164.97**	**96**	*e*PKIKP	PKPdf	22 10 32.8	-0.1
LSA				*e*		22 15 14.9	
CHRT	**Chiangrai**	**165.27**	**146**	P	PKPdf	22 10 32.0	-1.4
	comp=Z,153nm,0.8s						
BJI	**Beijing**	**170.18**	**322**	PKP	PKPdf	22 10 36.5	+0.2
BJI				SS	SS	22 36 43.8	+4.7
BJI				LR	LR		
	comp=N,1μm,25.1s						
BJI				LR	LR		
	comp=E,2μm,29.9s						
BJI				LR	LR		
	comp=Z,2μm,28.5s						
GTA	**Gaotai**	**170.19**	**43**	PKP	PKPdf	22 10 36.6	+0.3
GTA				pPKP	pPKPdf	22 10 42.8	-6.6
GTA				sPKP		22 10 45.3	
GTA				PKPab	PKPab	22 11 53.8	+1.5
GTA				PP	PP	22 15 44.4	+2.0
GTA				SKKS	SKKSac	22 22 26.8	+0.8
GTA				SS	SS	22 36 42.4	+2.9
GTA				AMB	AMB		
	comp=Z,1μm,10.9s						
GTA				LR	LR		
	comp=N,1μm,20.4s						
GTA				LR	LR		
	comp=E,2μm,19.5s						
GTA				LR	LR		
	comp=Z,3μm,20.9s						
BJT	**Baijiatuau**	**170.20**	**322**	*e*PKPdf	PKPdf	22 10 36.2	-0.1
BJT				LR	LR		
	comp=Z,5μm,19.0s						
BJT	**Baijiatuau**	**170.20**	**322**	*e*PKIKP	PKPdf	22 10 36.2	-0.1
BJT				MLR	MLR		
	comp=Z,5μm,19.0s						
NJ2	**Nanjing**	**171.13**	**270**	*e*PKP	PKPdf	22 10 32.0	-5.1
NJ2				pPKP	pPKPdf	22 10 42.6	-7.5
NJ2				sPKP		22 10 46.6	
NJ2				PKS		22 14 03.0	
NJ2				PP	PP	22 15 46.0	-2.1
NJ2				SS	SS	22 36 48.5	-2.2
NJ2				AMB	AMB		
	comp=Z,590nm,9.7s						
NJ2				LR	LR		
	comp=N,4μm,21.5s						
NJ2				LR	LR		
	comp=E,2μm,24.4s						
NJ2				LR	LR		
	comp=Z,5μm,22.1s						
KMI	**Kunming**	**171.16**	**144**	PKP	PKPdf	22 10 37.1	-0.2
KMI				pPKP	pPKPdf	22 10 45.4	-4.9
KMI	**Kunming**	**171.16**	**144**	PKP	PKPdf	22 10 37.1	-0.2
KMI				pPKP	pPKPdf	22 10 45.4	-4.9
KMI				sPKP		22 10 48.6	
KMI	**Kunming**	**171.16**	**144**	PKIKP	PKPdf	22 10 37.1	-0.2
KMI						22 10 45.4	
KMI						22 10 48.6	
HHC	**Hu-ho-hao-te**	**171.26**	**344**	*e*PKP	PKPdf	22 10 36.4	-0.4
HHC				PKS		22 14 07.8	
HHC				PP	PP	22 15 49.8	+2.8
HHC				SKS	SKSdf	22 17 39.1	+2.3
HHC				SKKS	SKKSac	22 22 36.3	+5.4
HHC				SS	SS	22 36 53.5	+4.8
HHC				AMB	AMB		
	comp=Z,440nm,9.5s						
HHC				LR	LR		
	comp=N,2μm,21.2s						
HHC				LR	LR		
	comp=E,2μm,21.0s						
HHC				LR	LR		
	comp=Z,2μm,20.5s						
GYA	**Guiyang**	**173.82**	**165**	*i* PKP	PKPdf	22 10 37.4	-1.0
GYA				PKPab	PKPab	22 12 10.8	+2.2
GYA				PKS		22 14 08.5	
GYA				PP	PP	22 16 03.0	+3.4
GYA				SKKS	SKKSac	22 22 47.1	+3.4
GYA				SS	SS	22 37 18.0	+4.4
GYA				AMB	AMB		
	comp=Z,620nm,8.8s						
GYA				LR	LR		
	comp=N,2μm,23.5s						
GYA				LR	LR		
	comp=E,2μm,25.4s						
GYA				LR	LR		
	comp=Z,2μm,24.6s						
LZH	**Lanzhou**	**174.78**	**45**	⇑PKP	PKPdf	22 10 39.3	+0.9
LZH				pPKP	pPKPdf	22 10 42.6	-8.9
LZH				sPKP		22 10 44.1	
LZH				PP	PP	22 16 05.6	+0.5
LZH				SKS	SKSdf	22 17 38.0	-0.2
LZH				SKKS	SKKSac	22 22 49.1	+0.9
LZH				SS	SS	22 37 27.5	+3.1
LZH				AMB	AMB		
	comp=Z,1μm,8.6s						
LZH				LR	LR		
	comp=N,3μm,18.0s						
LZH				LR	LR		
	comp=E,3μm,17.2s						
LZH				LR	LR		
	comp=Z,5μm,20.0s						
CD2	**Chengdu**	**175.75**	**110**	*e*PKP	PKPdf	22 10 39.8	+0.9
CD2				SKS	SKSdf	22 17 37.4	-1.2
CD2				SKKS	SKKSac	22 22 55.3	+2.0
CD2				AMB	AMB		
	comp=Z,810nm,9.6s						
CD2				LR	LR		
	comp=N,2μm,19.2s						
CD2				LR	LR		
	comp=E,2μm,18.0s						
CD2				LR	LR		
	comp=Z,2μm,19.2s						
ENH	**Enshi**	**177.62**	**203**	*e*PKPdf	PKPdf	22 10 38.6	-0.6
ENH				LR	LR		
	comp=Z,3μm,20.0s						
XAN	**Xi'an**	**178.37**	**344**	PKP	PKPdf	22 10 39.3	+0.1
XAN				LR	LR		
	comp=N,1μm,21.0s						
XAN				LR	LR		
	comp=Z,550nm,21.0s						

IDC ***18*** *21:59:42.3±1.6,3°.09S×150°.36E,h0km,mb3.6/3, mb1 3.9/5,ms1mx3.7/18,mbtmp3.8/5,ML3.2/2,Error ellipse: s-maj=101.0km s-min=23.9km az=119.0,New Ireland region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.04**	**207**	Pn	Pn	22 01 28.5	+1.8
	0.8nm,0.3s,baz=29,slow=8.4,SNR=5.3						
CTA	**Charters Tower**	**17.37**	**193**	P	Pn	22 03 46.5	+0.3
	0.2nm,0.3s,baz=355,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**22.92**	**222**	P	P	22 04 48.0	-0.1
	0.7nm,0.6s,baz=48,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**25.92**	**216**	P	P	22 05 16.0	-0.3
	1.1nm,0.9s,baz=54,slow=8.8,SNR=8.5						
ILAR	**Eielson Array**	**81.51**	**23**	P	P	22 12 01.4	+0.1
	1.0nm,1.1s,baz=225,slow=5.0,SNR=3.2						

IDC ***18*** *22:01:16.1±1.8,32°.75S×71°.61W,h0km,mb4.3/2, mb1 4.3/3,mb1mx3.9/12,mbtmp4.3/3,ML3.9/1,Error ellipse: s-maj=80.9km s-min=41.4km az=96.0*
ISCJB ***18*** *22:01:17.7±1.0,32°.58S±0°.03×72°.10W±0°.08,h30km±5km, mb4.2/2,Error ellipse: s-maj=10.7km s-min=4.8km az=172.9*
GUC ***18*** *22:01:19.7±0.6,32°.62S×71°.87W,h8km±2km,MD4.0, ML3.7*
NEIC ***18*** *22:01:19.7,32°.62S×71°.87W,h8km,ML3.7(GUC),After GUC.*

ISC 18 22:01:18.2±1.1,32°.59S±0°.03×72°.01W±0°.07,h18km±6km, n38,σ0°82/51,mb4.2/2,14C-8D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.54**	**144**	⇓*iP*	**Pg**	**22 01 28.9**	**0.0**
IHA				*i* S	**Sg**	**22 01 35.7**	**-0.4**
IHA	**Instituto Hidr**	**0.54**	**144**	⇓*iP*	**Pg**	**22 01 28.9**	**0.0**
IHA				*i* S	**Sg**	**22 01 35.7**	**-0.4**
CHNG	**Los Chungos**	**0.83**	**32**	⇑*iP*	**Pb**	**22 01 35.0**	**+1.0**
CHNG				*i* S	**Sb**	**22 01 46.6**	**+1.8**
CHNG				AML	AML	22 01 49.4	
	comp=E,3μm,0.6s						
LCCH	**Las Cruces**	**0.96**	**157**	⇑*iP*	**Pb**	**22 01 36.3**	**0.0**
LCCH				*i* S	**Sb**	**22 01 48.6**	**0.0**
LCCH	**Las Cruces**	**0.96**	**157**	⇑*iP*	**Pb**	**22 01 36.3**	**0.0**
LCCH				*i* S	**Sb**	**22 01 48.6**	**0.0**
PTCH	**Petorca**	**0.97**	**71**	⇓*iP*	**Pb**	**22 01 35.8**	**-0.6**
PTCH				*i* S	**Sb**	**22 01 48.9**	**-0.1**
PTCH	**Petorca**	**0.97**	**71**	⇓*iP*	**Pb**	**22 01 35.8**	**-0.6**
PTCH				*i* S	**Sb**	**22 01 48.9**	**-0.1**
PTCH				AML	AML	22 01 51.8	
	comp=N,5μm,0.5s						
JACH	**Jahuel**	**1.20**	**95**	⇑*iP*	**Pn**	**22 01 39.3**	**-0.8**
JACH				*i* S	**Sb**	**22 01 55.0**	**-0.6**
JACH	**Jahuel**	**1.20**	**95**	⇑*iP*	**Pn**	**22 01 39.3**	**-0.8**
JACH				*i* S	**Sb**	**22 01 55.0**	**-0.6**
RCDM	**Rinconada Maip**	**1.35**	**132**	⇑*iP*	**Pn**	**22 01 41.9**	**-0.3**
RCDM				*i* S	**Sn**	**22 01 59.0**	**-0.7**
RCDM	**Rinconada Maip**	**1.35**	**132**	⇑*iP*	**Pn**	**22 01 41.9**	**-0.3**
RCDM				*i* S	**Sn**	**22 01 59.0**	**-0.7**
RCDM				AML	AML	22 02 02.6	
	comp=E,3μm,0.1s						
TACH	**Talagante**	**1.39**	**140**	⇑*iP*	**Pn**	**22 01 43.0**	**+0.3**
TACH				*i* S	**Sn**	**22 02 00.3**	**-0.4**
TACH	**Talagante**	**1.39**	**140**	⇑*iP*	**Pn**	**22 01 43.0**	**+0.3**
TACH				*i* S	**Sn**	**22 02 00.3**	**-0.4**
SAN	**Santiago**	**1.43**	**128**	⇑*iP*	**Pn**	**22 01 43.4**	**+0.2**
SAN				*e*S	**Sn**	**22 02 00.9**	**-0.6**
SAN	**Santiago**	**1.43**	**128**	⇑*iP*	**Pn**	**22 01 43.4**	**+0.2**
SAN				*e*S	**Sn**	**22 02 00.9**	**-0.6**
SAN				AML	AML	22 02 07.9	
	comp=N,2μm,0.4s						
ANTU	**Antumapu**	**1.52**	**131**	⇑*iP*	**Pn**	**22 01 44.9**	**+0.5**
ANTU				*e*S	**Sn**	**22 02 03.6**	**-0.1**
ANTU	**Antumapu**	**1.52**	**131**	⇑*iP*	**Pn**	**22 01 44.9**	**+0.5**
ANTU				*e*S	**Sn**	**22 02 03.6**	**-0.1**
ANTU				AML	AML	22 02 11.8	
	comp=E,2μm,0.7s						
PCH	**Pirque**	**1.63**	**130**	⇓*iP*	**Pn**	**22 01 46.6**	**+0.7**
PCH	**Pirque**	**1.63**	**130**	⇓*iP*	**Pn**	**22 01 46.6**	**+0.7**
SJCH	**San Jose de Ma**	**1.74**	**127**	⇑*iP*	**Pn**	**22 01 48.5**	**+1.0**
SJCH				*e*S	**Sn**	**22 02 10.1**	**+0.7**
SJCH				AML	AML	22 02 15.4	
	comp=E,1μm,0.4s						
LMEL	**Las Melosas**	**1.97**	**130**	⇓*iP*	**Pn**	**22 01 52.1**	**+1.4**
LMEL				*i* S	**Sn**	**22 02 16.8**	**+1.9**
LMEL	**Las Melosas**	**1.97**	**130**	⇓*iP*	**Pn**	**22 01 52.1**	**+1.4**
LMEL				*i* S	**Sn**	**22 02 16.8**	**+1.9**
LMEL				AML	AML	22 02 22.6	
	comp=N,3μm,0.3s						
CFAA	**Coronel Fontan**	**3.35**	**74**	Pn	**Pn**	**22 02 07.8**	**-1.8**
	comp=N,2.1nm,0.3s,baz=75,slow=12,SNR=7.1						
CFAA				Lg		22 02 58.6	
	comp=N,5.1nm,0.3s,baz=134,slow=14,SNR=5.4						
CFAA	**Coronel Fontan**	**3.35**	**74**	Pn	**Pn**	**22 02 07.8**	**-1.8**
CFAA				Lg		22 02 58.6	
LCO	**Las Campanas**	**3.74**	**18**	*e*Pn	**Pn**	**22 02 14.5**	**-0.5**
LCO				*e*Sn	**Sn**	**22 02 58.4**	**-0.3**
PLCA	**Paso Flores**	**8.21**	**172**	Pn	**Pn**	**22 03 16.3**	**-0.1**
	comp=N,0.3nm,0.3s,baz=324,slow=4.0,SNR=4.0						
DBIC	**Dimbokro**	**74.71**	**72**	P	**P**	**22 12 56.1**	**-1.1**
	comp=N,3.2nm,0.8s,mb4.3,baz=212,slow=4.7,SNR=4.5						
DBIC	**Dimbokro**	**74.71**	**72**	P	**P**	**22 12 56.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**83.71**	**70**	P	**P**	**22 13 45.7**	**-0.7**
	comp=N,1.2nm,0.7s,mb4.1,baz=273,slow=4.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**83.71**	**70**	P	**P**	**22 13 45.7**	**-0.7**
	comp=N,1.0nm,0.7s,baz=304,slow=2.7,SNR=3.2						
BVAR	**Borovoye Array**	**146.22**	**42**	PKPbc	PKPbc	22 20 57.5	+0.5
BVAR	**Borovoye Array**	**146.22**	**42**	PKPbc	PKPbc	22 20 57.5	+0.5
KURK	**Kurchatov**	**151.82**	**41**	PKPbc	PKPbc	22 21 11.6	+0.2
	comp=N,0.4nm,0.5s,baz=308,slow=2.9,SNR=4.0						
KURK	**Kurchatov**	**151.82**	**41**	PKPbc	PKPbc	22 21 11.6	+0.2
ZALV	**Zalesovo Beam**	**153.02**	**31**	PKPbc	PKPbc	22 21 14.1	+0.2
	comp=N,0.6nm,0.4s,baz=332,slow=4.0,SNR=2.8						
ZALV				PKPab	PKPab	22 21 24.2	-1.1
	comp=N,0.5nm,0.5s,baz=262,slow=1.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**153.02**	**31**	PKPbc	PKPbc	22 21 14.1	+0.2
ZALV				PKPab	PKPab	22 21 24.2	-1.1
MKAR	**Makanchi Array**	**155.80**	**47**	PKPab	PKPab	22 21 37.3	-0.2
	comp=N,0.7nm,0.8s,baz=274,slow=3.5,SNR=5.8						
MKAR	**Makanchi Array**	**155.80**	**47**	PKPab	PKPab	22 21 37.3	-0.2

GUC 18 22:13:47.4±0.7,32°.46S×71°.88W,h15km±5km,ML3.6, 4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**160**	⇓*iP*	Pg	22 13 58.5	-0.6
IHA				*i* S	Sg	22 14 06.6	-0.4
PTCH	**Petorca**	**0.83**	**76**	*e*P	Pb	22 14 02.8	-0.7
PTCH				*i* S	Sg	22 14 13.7	-0.6
PTCH				AML	AML	22 14 14.5	
	comp=N,3μm,0.1s						
ROCH	**El Roble**	**0.89**	**125**	⇓*iP*	Pb	22 14 03.6	-1.0
ROCH				*i* S	Sb	22 14 15.5	-0.7
JACH	**Jahuel**	**1.11**	**102**	⇑*iP*	Pb	22 14 07.0	-1.2
JACH				*i* S	Sb	22 14 21.8	-0.7
PEL	**Peldehue**	**1.21**	**124**	⇓*iP*	Pn	22 14 08.6	-1.2
PEL				*i* S	Sb	22 14 24.7	-0.8
PEL				AML	AML	22 14 27.0	
	comp=N,4μm,0.7s						
RCDM	**Rinconada Maip**	**1.36**	**139**	*e*P	Pn	22 14 11.2	-0.6
RCDM				*e*S	Sn	22 14 28.4	-1.3
RCDM				AML	AML	22 14 30.3	
	comp=E,1μm,0.1s						
SAN	**Santiago**	**1.42**	**134**	*e*P	Pn	22 14 12.0	-0.7
SAN				*i* S	Sn	22 14 30.4	-0.7
SAN				AML	AML	22 14 32.5	
	comp=N,1μm,0.3s						
TACH	**Talagante**	**1.43**	**147**	⇑*iP*	Pn	22 14 11.9	-0.8
CLCH	**Cerro Calan**	**1.46**	**130**	⇓*iP*	Pn	22 14 12.6	-0.6
CLCH				*i* S	Sn	22 14 31.5	-0.6
CLCH				AML	AML	22 14 33.3	
	comp=N,1μm,0.4s						
CMCH	**Combarbala**	**1.49**	**30**	⇑*iP*	Pn	22 14 12.7	-0.9
CMCH				*i* S	Sn	22 14 32.2	-0.5
CMCH				AML	AML	22 14 38.1	
	comp=N,3μm,0.6s						
ANTU	**Antumapu**	**1.52**	**137**	*e*P	Pn	22 14 13.7	-0.3
ANTU				*i* S	Sn	22 14 33.2	-0.3
ANTU				AML	AML	22 14 38.9	
	comp=N,1μm,0.4s						
FSR	**Penalolen**	**1.52**	**132**	*e*P	Pn	22 14 13.8	-0.3
FSR				*i* S	Sn	22 14 33.3	-0.2
LNV	**Longovilo**	**1.54**	**165**	*e*P	Pn	22 14 13.8	-0.5
PCH	**Pirque**	**1.63**	**136**	⇑*iP*	Pn	22 14 15.1	-0.4
PCH				*i* S	Sn	22 14 36.3	+0.2
SJCH	**San Jose de Ma**	**1.74**	**133**	*e*P	Pn	22 14 16.8	-0.2
CHCH	**Chadas Angostu**	**1.79**	**145**	*e*P	Pn	22 14 17.6	-0.1
CHCH				*i* S	Sn	22 14 40.2	0.0
CACH	**El Canelo**	**1.96**	**147**	*e*P	Pn	22 14 20.8	+0.6
LMEL	**Las Melosas**	**1.97**	**135**	*e*P	Pn	22 14 20.8	+0.6
LMEL				AML	AML	22 14 52.3	
	comp=N,824nm,0.2s						

IDC ***18*** *22:27:58.6±2.0,32°.60S×71°.65W,h0km,mb4.1/2, mb1 3.9/4,mb1mx3.7/13,mbtmp3.8/4,ML3.6/2,Error ellipse: s-maj=84.8km s-min=38.2km az=94.0*
ISCJB ***18*** *22:28:00.8±1.0,32°.49S±0°.03×71°.95W±0°.07,h17km±6km, mb3.9/2,Error ellipse: s-maj=9.4km s-min=4.5km az=172.7*
GUC ***18*** *22:28:02.3±0.8,32°.50S×71°.86W,h14km±5km,ML3.5*
NEIC ***18*** *22:28:02.3,32°.50S×71°.86W,h14km,mb3.9/1, ML3.5(GUC),After GUC.*

ISC 18 22:28:01.2±0.9,32°.49S±0°.03×71°.91W±0°.06,h16km±5km, n41,σ0°85/57,mb3.9/2,12C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**157**	⇑*iP*	**Pg**	**22 28 12.8**	**0.0**
IHA				*i* S	**Sg**	**22 28 21.0**	**+0.4**
IHA	**Instituto Hidr**	**0.58**	**157**	⇑*iP*	**Pg**	**22 28 12.8**	**0.0**
IHA				*i* S	**Sg**	**22 28 21.0**	**+0.4**
CHNG	**Los Chungos**	**0.69**	**30**	⇓*iP*	**Pg**	**22 28 14.8**	**0.0**
CHNG				*i* S	**Sg**	**22 28 24.6**	**+0.7**
CHNG				AML	AML	22 28 26.5	
	comp=N,1μm,0.3s						
PTCH	**Petorca**	**0.86**	**75**	⇑*iP*	**Pb**	**22 28 17.5**	**-0.3**
PTCH				*i* S	**Sb**	**22 28 28.4**	**-0.6**
PTCH	**Petorca**	**0.86**	**75**	⇑*iP*	**Pb**	**22 28 17.5**	**-0.3**
PTCH				*i* S	**Sb**	**22 28 28.4**	**-0.6**
PTCH				AML	AML	22 28 31.7	
	comp=N,2μm,0.5s						
ROCH	**El Roble**	**0.90**	**123**	⇓*iP*	**Pb**	**22 28 18.0**	**-0.5**
ROCH				*i* S	**Sb**	**22 28 29.8**	**-0.4**
ROCH				AML	AML	22 28 32.7	
	comp=N,4μm,0.5s						
LCCH	**Las Cruces**	**1.03**	**164**	*e*P	**Pb**	**22 28 20.1**	**-0.6**
LCCH	**Las Cruces**	**1.03**	**164**	*e*P	**Pb**	**22 28 20.1**	**-0.6**
JACH	**Jahuel**	**1.13**	**100**	⇑*iP*	**Pb**	**22 28 21.6**	**-0.8**
JACH				*i* S	**Sb**	**22 28 36.2**	**-0.6**
JACH	**Jahuel**	**1.13**	**100**	⇑*iP*	**Pb**	**22 28 21.6**	**-0.8**
JACH				*i* S	**Sb**	**22 28 36.2**	**-0.6**
PEL	**Peldehue**	**1.22**	**123**	⇑*iP*	**Pn**	**22 28 23.3**	**-0.4**
PEL				*i* S	**Sb**	**22 28 39.0**	**-0.6**
PEL				AML	AML	22 28 41.5	
	comp=E,4μm,0.5s						
TACH	**Talagante**	**1.42**	**145**	*e*P	**Pn**	**22 28 26.0**	**-0.4**
TACH	**Talagante**	**1.42**	**145**	*e*P	**Pn**	**22 28 26.0**	**-0.4**
TACH				*i* S	**Sn**	**22 28 44.2**	**-0.6**
SAN	**Santiago**	**1.43**	**133**	⇑*iP*	**Pn**	**22 28 26.3**	**-0.2**
SAN				*i* S	**Sn**	**22 28 45.0**	**0.0**
SAN	**Santiago**	**1.43**	**133**	⇑*iP*	**Pn**	**22 28 26.3**	**-0.2**
SAN				*i* S	**Sn**	**22 28 45.0**	**0.0**
SAN				AML	AML	22 28 46.6	
	comp=N,1μm,0.4s						
CLCH	**Cerro Calan**	**1.47**	**129**	⇓*iP*	**Pn**	**22 28 26.9**	**-0.2**
CLCH				*i* S	**Sn**	**22 28 45.8**	**-0.2**
CLCH				AML	AML	22 28 49.3	
	comp=E,2μm,0.6s						
CMCH	**Combarbala**	**1.52**	**31**	⇑*iP*	**Pn**	**22 28 27.4**	**-0.4**
CMCH				*i* S	**Sn**	**22 28 47.3**	**0.0**
CMCH	**Combarbala**	**1.52**	**31**	⇑*iP*	**Pn**	**22 28 27.4**	**-0.4**
CMCH				*i* S	**Sn**	**22 28 47.3**	**0.0**
CMCH				AML	AML	22 28 55.4	
	comp=N,4μm,0.8s						
ANTU	**Antumapu**	**1.52**	**136**	*e*P	**Pn**	**22 28 28.0**	**+0.2**
ANTU				*i* S	**Sn**	**22 28 47.4**	**+0.1**
ANTU	**Antumapu**	**1.52**	**136**	*e*P	**Pn**	**22 28 28.0**	**+0.2**
ANTU				*i* S	**Sn**	**22 28 47.4**	**+0.1**
ANTU				AML	AML	22 28 49.4	
	comp=E,999nm,0.5s						
FCH	**Farellones**	**1.60**	**122**	⇑*iP*	**Pn**	**22 28 31.1**	**+2.2**
FCH				*i* S	**Sn**	**22 28 51.1**	**+1.9**
FCH				AML	AML	22 28 57.0	
	comp=E,520nm,0.2s						
PCH	**Pirque**	**1.63**	**134**	⇓*iP*	**Pn**	**22 28 29.6**	**+0.2**
PCH				*i* S	**Sn**	**22 28 50.3**	**+0.3**
PCH	**Pirque**	**1.63**	**134**	⇓*iP*	**Pn**	**22 28 29.6**	**+0.2**
PCH				*i* S	**Sn**	**22 28 50.3**	**+0.3**
LMEL	**Las Melosas**	**1.97**	**134**	⇓*iP*	**Pn**	**22 28 35.3**	**+1.2**
LMEL				*i* S	**Sn**	**22 29 00.6**	**+2.1**
LMEL	**Las Melosas**	**1.97**	**134**	⇓*iP*	**Pn**	**22 28 35.3**	**+1.2**
LMEL				*i* S	**Sn**	**22 29 00.1**	**+1.6**
LMEL				AML	AML	22 29 06.6	
	comp=N,692nm,0.7s						
CFAA	**Coronel Fontan**	**3.24**	**75**	Pn	**Pn**	**22 28 45.5**	**-5.9**
	comp=N,0.6nm,0.3s,baz=185,slow=20,SNR=2.1						
CFAA				Lg		22 29 37.0	
	comp=N,1.4nm,0.3s,baz=326,slow=23,SNR=7.0						
CFAA	**Coronel Fontan**	**3.24**	**75**	Pn	**Pn**	**22 28 45.5**	**-5.9**
CFAA				Lg		22 29 37.0	
PLCA	**Paso Flores**	**8.30**	**173**	Pn	**Pn**	**22 29 59.8**	**-1.2**
	comp=N,0.2nm,0.3s,baz=331,slow=13,SNR=3.1						
PLCA	**Paso Flores**	**8.30**	**173**	*e*Pn	**Pn**	**22 30 00.7**	**-0.3**
LPAZ	**La Paz**	**16.49**	**13**	Pn	**Pn**	**22 31 54.9**	**+2.9**
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=4.1						
LPAZ	**La Paz**	**16.49**	**13**	Pn	**Pn**	**22 31 54.9**	**+2.9**
DBIC	**Dimbokro**	**74.59**	**72**	P	**P**	**22 39 38.6**	**-1.3**
	comp=N,3.5nm,1.0s,mb4.3,baz=248,slow=5.4,SNR=3.8						
DBIC	**Dimbokro**	**74.59**	**72**	*e*P	**P**	**22 39 38.8**	**-1.1**
	comp=N,0.6nm,0.5s,mb3.8						
TORD	**Torodi Ar. Bea**	**83.59**	**70**	P	**P**	**22 40 28.5**	**-0.7**
	comp=N,0.6nm,0.7s,mb3.8,baz=247,slow=5.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**83.59**	**70

RCDM	**Rinconada Maip**	**1.36**	**133**	*e*P	**Pn**	**22 33 52.0**	**-0.3**
RCDM				*i* S	**Sn**	**22 34 09.1**	**-0.9**
RCDM	**Rinconada Maip**	**1.36**	**133**	*e*P	**Pn**	**22 33 52.0**	**-0.3**
RCDM				*e*S	**Sn**	**22 34 09.1**	**-0.9**
RCDM				AML	AML	22 34 17.2	
	comp=N,6μm,0.3s						
TACH	**Talagante**	**1.41**	**141**	*e*P	**Pn**	**22 33 52.9**	**0.0**
TACH	**Talagante**	**1.41**	**141**	*e*P	**Pn**	**22 33 52.9**	**0.0**
SAN	**Santiago**	**1.43**	**129**	*e*P	**Pn**	**22 33 53.2**	**-0.1**
SAN	**Santiago**	**1.43**	**129**	*e*P	**Pn**	**22 33 53.2**	**-0.1**
SAN				*i* S	**Sn**	**22 34 12.3**	**+0.5**
CLCH	**Cerro Calan**	**1.48**	**125**	*e*P	**Pn**	**22 33 53.7**	**-0.2**
CLCH				*e*S	**Sn**	**22 34 12.5**	**-0.5**
CLCH				AML	AML	22 34 22.9	
	comp=N,12μm,0.7s						
ANTU	**Antumapu**	**1.52**	**132**	*e*P	**Pn**	**22 33 55.0**	**+0.5**
ANTU	**Antumapu**	**1.52**	**132**	*e*P	**Pn**	**22 33 55.0**	**+0.5**
ANTU				AML	AML	22 34 22.5	
	comp=N,9μm,0.7s						
CMCH	**Combarbala**	**1.62**	**32**	*e*P	**Pn**	**22 33 55.6**	**-0.2**
CMCH				*i* S	**Sn**	**22 34 16.2**	**-0.3**
CMCH	**Combarbala**	**1.62**	**32**	*e*P	**Pn**	**22 33 55.6**	**-0.2**
CMCH				*i* S	**Sn**	**22 34 16.2**	**-0.3**
CMCH				AML	AML	22 34 25.8	
	comp=N,26μm,1.1s						
FCH	**Farellones**	**1.63**	**119**	*e*P	**Pn**	**22 33 50.8**	**-5.1**
FCH				*i* S	**Sn**	**22 34 12.3**	**-4.2**
FCH				AML	AML	22 34 16.2	
	comp=N,9μm,0.4s						
PCH	**Pirque**	**1.63**	**131**	*e*P	**Pn**	**22 33 56.6**	**+0.5**
PCH	**Pirque**	**1.63**	**131**	*e*P	**Pn**	**22 33 56.6**	**+0.5**
SJCH	**San Jose de Ma**	**1.75**	**128**	*e*P	**Pn**	**22 33 58.3**	**+0.7**
SJCH	**San Jose de Ma**	**1.75**	**128**	*e*P	**Pn**	**22 33 58.3**	**+0.7**
CHCH	**Chadas Angostu**	**1.77**	**141** ⇊	*i*P	**Pn**	**22 33 58.4**	**+0.4**
CHCH	**Chadas Angostu**	**1.77**	**141** ⇊	*i*P	**Pn**	**22 33 58.4**	**+0.4**
CACH	**El Canelo**	**1.94**	**143**	*e*P	**Pn**	**22 34 02.2**	**+1.9**
CACH	**El Canelo**	**1.94**	**143**	*e*P	**Pn**	**22 34 02.2**	**+1.9**
LMEL	**Las Melosas**	**1.98**	**131**	*e*P	**Pn**	**22 34 02.0**	**+1.2**
LMEL				*i* S	**Sn**	**22 34 28.0**	**+2.8**
LMEL	**Las Melosas**	**1.98**	**131**	*e*P	**Pn**	**22 34 02.0**	**+1.2**
LMEL				*i* S	**Sn**	**22 34 28.0**	**+2.8**
LMEL				AML	AML	22 34 35.3	
	comp=N,6μm,0.6s						
TLL	**Tololo Astrono**	**2.59**	**23**	*e*P	**Pn**	**22 34 13.2**	**+4.0**
TLL	**Tololo Astrono**	**2.59**	**23**	*e*P	**Pn**	**22 34 13.2**	**+4.0**
TLL				AML	AML	22 35 00.6	
	comp=N,3μm,0.8s						
CFAA	**Coronel Fontan**	**3.33**	**74**	Pn	**Pn**	**22 34 12.8**	**-6.5**
	comp=N,1.4nm,0.3s,baz=247,slow=12,SNR=7.0						
CFAA				Lg		22 35 08.8	
	comp=N,12nm,0.3s,baz=125,slow=16,SNR=7.7						
CFAA				LR	LR	22 35 37.2	
	comp=N,160nm,20.4s,baz=353,slow=41						
CFAA	**Coronel Fontan**	**3.33**	**74**	Pn	**Pn**	**22 34 12.8**	**-6.5**
CFAA				Lg		22 35 08.8	
LCO	**Las Campanas**	**3.71**	**18**	*e*Pn	**Pn**	**22 34 23.8**	**-0.7**
LCO				*e*Sn	**Sn**	**22 35 08.9**	**+0.9**
PLCA	**Paso Flores**	**8.24**	**172**	Pn	**Pn**	**22 35 27.4**	**+0.7**
	comp=N,1.0nm,0.3s,baz=326,slow=12,SNR=14						
PLCA	**Paso Flores**	**8.24**	**172**	*e*Pn	**Pn**	**22 35 27.0**	**+0.2**
PLCA				*e*Sn	**Sn**	**22 37 00.4**	**+0.9**
TRQA	**Tornquist**	**9.85**	**127**	*e*Pn	**Pn**	**22 35 46.6**	**-2.2**
TRQA				*e*Sn	**Sn**	**22 37 38.7**	**-0.3**
CPUP	**Villa Florida**	**14.20**	**68**	Pn	**Pn**	**22 36 49.5**	**+1.1**
	comp=N,1.1nm,0.3s,baz=197,slow=9.5,SNR=5.6						
CPUP	**Villa Florida**	**14.20**	**68**	Pn	**Pn**	**22 36 49.5**	**+1.1**
LPAZ	**La Paz**	**16.58**	**13**	Pn	**Pn**	**22 37 20.6**	**+0.8**
	comp=N,0.3nm,0.3s,baz=197,slow=9.6,SNR=13						
LPAZ	**La Paz**	**16.58**	**13**	*e*Pn	**Pn**	**22 37 18.6**	**-1.1**
	comp=N,8.9nm,0.9s						
LPAZ				*e*Sn	**Sn**	**22 40 26.0**	**+2.4**
SIV	**San Ignacio**	**19.25**	**34**	P	**Pn**	**22 37 50.6**	**-2.1**
	comp=N,0.5nm,0.3s,baz=224,slow=11,SNR=10.0						
SIV	**San Ignacio**	**19.25**	**34**	P	**Pn**	**22 37 50.6**	**-2.1**
SPB	**Sao Paulo**	**23.40**	**74**	*e*P	**P**	**22 38 34.2**	**-2.2**
	comp=N,46nm,1.1s,mb4.8						
SAML	**Samuel**	**24.87**	**21**	*e*P	**P**	**22 38 48.8**	**-1.1**
	comp=N,7.9nm,0.9s,mb4.2						
SNAA	**Sanae**	**52.90**	**158**	P	**P**	**22 42 42.8**	**+0.1**
	comp=N,1.9nm,1.0s,mb4.0,baz=277,slow=8.8,SNR=10						
SNAA	**Sanae**	**52.90**	**158**	P	**P**	**22 42 42.8**	**+0.1**
QSPA	**South Pole Qui**	**57.67**	**180**	P	**P**	**22 43 18.4**	**+1.4**
	comp=N,1.2nm,0.4s,mb4.3,baz=153,slow=3.0,SNR=8.5						
QSPA	**South Pole Qui**	**57.67**	**180**	P	**P**	**22 43 18.4**	**+1.4**
SYO	**Syowa Base**	**67.19**	**159** ⇊	*e*P	**P**	**22 44 18.8**	**-2.0**
MAW	**Mawson**	**74.55**	**164**	*e*P	**P**	**22 45 05.6**	**+0.1**
	comp=N,2.2nm,1.0s,mb4.0						
DBIC	**Dimbokro**	**74.69**	**72**	P	**P**	**22 45 06.4**	**-0.7**
	comp=N,6.6nm,0.8s,mb4.6,baz=199,slow=7.4,SNR=8.4						
DBIC	**Dimbokro**	**74.69**	**72**	P	**P**	**22 45 06.4**	**-0.7**
BOSA	**Boshof**	**80.71**	**118**	P	**P**	**22 45 40.1**	**-0.5**
	comp=N,5.6nm,0.9s,mb4.5,baz=226,slow=6.2,SNR=4.2						
BOSA	**Boshof**	**80.71**	**118**	P	**P**	**22 45 40.1**	**-0.5**
NVAR	**Mina Array Bea**	**82.72**	**325**	P	**P**	**22 45 51.5**	**+0.7**
	comp=N,0.2nm,0.4s,mb3.5,baz=172,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**82.72**	**325**	P	**P**	**22 45 51.5**	**+0.7**
LBTB	**Lobatse**	**82.88**	**115**	P	**P**	**22 45 51.9**	**-0.2**
	comp=N,2.7nm,0.5s,mb4.5,baz=296,slow=7.5,SNR=7.4						
LBTB	**Lobatse**	**82.88**	**115**	P	**P**	**22 45 51.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**22 45 55.9**	**-0.4**
	comp=N,5.7nm,0.9s,mb4.7,baz=253,slow=4.5,SNR=30						
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**22 45 55.9**	**-0.4**
WRA	**Warramunga Arr**	**122.03**	**209**	PKP	PKPdf	22 52 21.4	-0.8
	comp=N,0.7nm,1.1s,baz=156,slow=1.5,SNR=3.5						
WRA	**Warramunga Arr**	**122.03**	**209**	PKP	PKPdf	22 52 21.4	-0.8
BVAR	**Borovoye Array**	**146.19**	**42**	PKPbc	PKPbc	22 53 07.3	+0.3
	comp=N,1.5nm,0.7s,baz=285,slow=2.7,SNR=10						
BVAR	**Borovoye Array**	**146.19**	**42**	PKPbc	PKPbc	22 53 07.3	+0.3
AAK	**Ala-Archa**	**151.77**	**59**	*e*PKPdf	PKPdf	22 53 16.1	+0.9
AAK				*e*PKPab	PKPab	22 53 30.5	-0.1
KURK	**Kurchatov**	**151.79**	**41**	PKPbc	PKPbc	22 53 20.9	-0.5
	comp=N,1.4nm,0.5s,baz=300,slow=2.7,SNR=11						
KURK				PKPab	PKPab	22 53 30.6	+0.2
	comp=N,1.2nm,0.4s,baz=292,slow=3.0,SNR=7.3						
KURK	**Kurchatov**	**151.79**	**41**	PKPbc	PKPbc	22 53 20.9	-0.5
KURK				PKPab	PKPab	22 53 30.6	+0.2
ZALV	**Zalesovo Beam**	**152.98**	**31**	PKPbc	PKPbc	22 53 23.6	-0.3
	comp=N,3.1nm,0.8s,baz=302,slow=3.3,SNR=13						
ZALV				PKPab	PKPab	22 53 33.6	-1.6
	comp=N,2.6nm,0.5s,baz=312,slow=3.5,SNR=11						
ZALV	**Zalesovo Beam**	**152.98**	**31**	PKPbc	PKPbc	22 53 23.6	-0.3
ZALV				PKPab	PKPab	22 53 33.6	-1.6
MK31	**Makanchi Array**	**155.77**	**47**	*e*PKPab	PKPab	22 53 46.9	-0.5
MKAR	**Makanchi Array**	**155.77**	**47**	PKPbc	PKPdf	22 53 29.7	+8.9
	comp=N,0.5nm,0.9s,baz=294,slow=1.2,SNR=3.5						
MKAR				PKPab	PKPab	22 53 47.0	-0.4
	comp=N,2.2nm,0.8s,baz=289,slow=3.6,SNR=16						
MKAR	**Makanchi Array**	**155.77**	**47**	PKPbc	PKPdf	22 53 29.7	+8.9
MKAR				PKPab	PKPab	22 53 47.0	-0.4

*NEIC **18** 22:37:07.6, 17°.74N×102°.24W, h8km, MD3.9(MEX), After MEX.*

MEX 18 22:37:07.8±0.6, 17°.69N×102°.26W, h10km±8km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.76**	**96**	*e*P	Pg	22 37 20.6	-2.0
ZIIG				*i* S	Sg	22 37 30.1	-2.5
ZIIG	**Zihuatanejo**	**0.76**	**96**	*e*P	Pg	22 37 20.6	-2.0
ZIIG				*i* S	Sg	22 37 30.1	-2.5
MMIG	**Aquila**	**1.19**	**300**	*i* P	Pb	22 37 27.1	-3.4
MMIG				*i* S	Sb	22 37 41.4	-4.6
CAIG	**El Cayaco**	**2.01**	**108**	*i* P	Pn	22 37 38.4	-3.4
CAIG				*i* S	Sn	22 38 03.5	-3.5
CAIG	**El Cayaco**	**2.01**	**108**	*i* P	Pn	22 37 38.4	-3.4
CAIG				*i* S	Sn	22 38 03.5	-3.5
EZ5V		**2.19**	**325**	*e*P	Pn	22 37 41.3	-2.9
EZ5V				*i* S	Sn	22 38 07.6	-3.8
R15V		**2.20**	**312**	*e*P	Pn	22 37 40.5	-3.9
R15V				*i* S	Sn	22 38 07.2	-4.5
SFJM	**Santa Fe**	**2.88**	**345**	*i* P	Pn	22 37 51.7	-2.0
SFJM				*i* S	Sn	22 38 24.5	-3.9
SFJM	**Santa Fe**	**2.88**	**345**	*i* P	Pn	22 37 51.7	-2.0
SFJM				*i* S	Sn	22 38 24.5	-3.9
UTMO	**Huajuapan**	**4.25**	**87**	*i* P	Pn	22 38 10.1	-2.5
UTMO				*i* S	Sn	22 38 59.5	-2.8
UTMO	**Huajuapan**	**4.25**	**87**	*i* P	Pn	22 38 10.1	-2.5
UTMO				*i* S	Sn	22 38 59.5	-2.8

IDC 18 22:37:40.5±12.0, 7°.88S×128°.06E, h170km±142km, mb2.9/1, mb1 3.1/4, mb1mx3.0/16, mbtmp2.9/4, ML3.6/3, Error ellipse: s-maj=95.2km s-min=52.2km az=27.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.43**	**193**	P	Pn	22 40 06.1	+0.3
	0.3nm,0.3s,baz=31,slow=13,SNR=13						
FITZ				S	Sn	22 42 02.2	+0.6
	0.3nm,0.3s,baz=335,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**13.44**	**154**	P	Pn	22 40 42.7	-1.9
	0.5nm,0.3s,baz=328,slow=14,SNR=24						
WRA				S	Sn	22 43 09.5	-4.5
	0.3nm,0.3s,baz=330,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**16.66**	**161**	P	Pn	22 41 25.1	+0.8
	0.1nm,0.3s,baz=334,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**67.93**	**328**	P	P	22 48 20.9	+0.1
	0.2nm,0.5s,baz=116,slow=8.2,SNR=4.9						

DJA 18 23:01:03.2±19S×118°.47E, h20km, MLv3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.59**	**122**	P	Pn	23 01 30.2	+0.1
TTSI				S	Sn	23 01 50.2	+0.1
SPSI	**Sidrap Palu**	**2.19**	**144**	P	Pn	23 01 38.0	-0.3
SPSI				S	Sn	23 02 07.9	+3.1
LUWI	**Luwuk**	**4.45**	**75**	P	Pn	23 02 10.7	+1.3

*IDC **18** 23:03:31.9±2.4, 32°.46S×71°.79W, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.6/13, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=123.2km s-min=38.1km az=93.0*
*ISCJB **18** 23:03:33.2±1.0, 32°.46S±0°.03×72°.02W±0°.07, h20km±6km, Error ellipse: s-maj=9.4km s-min=4.8km az=172.0*
*GUC **18** 23:03:35.1±0.7, 32°.50S×71°.83W, h6km±4km, ML3.6*
*NEIC **18** 23:03:35.1, 32°.50S×71°.83W, h6km, ML3.6(GUC), After GUC.*

ISC 18 23:03:34.0±1.0, 32°.47S±0°.03×71°.94W±0°.06, h15km±6km, n43, σ0°89/58, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.61**	**156**	*e*P	**Pg**	**23 03 46.0**	**-0.1**
IHA				*i* S	**Sg**	**23 03 55.0**	**+0.7**
IHA	**Instituto Hidr**	**0.61**	**156**	*e*P	**Pg**	**23 03 46.0**	**-0.1**
IHA				*i* S	**Sg**	**23 03 55.0**	**+0.7**
PTCH	**Petorca**	**0.88**	**77** ⇑	*i*P	**Pb**	**23 03 50.7**	**-0.2**
PTCH				*i* S	**Sb**	**23 04 02.6**	**+0.2**
PTCH	**Petorca**	**0.88**	**77** ⇑	*i*P	**Pb**	**23 03 50.7**	**-0.2**
PTCH				*i* S	**Sb**	**23 04 02.6**	**+0.2**
PTCH				AML	AML	23 04 03.0	
	comp=N,5μm,0.3s						
ROCH	**El Roble**	**0.93**	**123** ⇊	*i*P	**Pb**	**23 03 51.5**	**-0.3**
ROCH				*i* S	**Sb**	**23 04 03.9**	**-0.1**
ROCH				AML	AML	23 04 06.1	
	comp=N,3μm,1.1s						
LCCH	**Las Cruces**	**1.05**	**163**	*e*P	**Pb**	**23 03 53.5**	**-0.5**
LCCH	**Las Cruces**	**1.05**	**163**	*e*P	**Pb**	**23 03 53.5**	**-0.5**
JACH	**Jahuel**	**1.16**	**101**	*e*P	**Pn**	**23 03 55.1**	**-0.6**
JACH				*i* S	**Sb**	**23 04 10.0**	**-0.5**
JACH	**Jahuel**	**1.16**	**101** ⇑	*i*P	**Pn**	**23 03 55.1**	**-0.6**
JACH				*i* S	**Sb**	**23 04 10.0**	**-0.5**
PEL	**Peldehue**	**1.25**	**123** ⇑	*i*P	**Pn**	**23 03 56.9**	**-0.1**
PEL				*i* S	**Sb**	**23 04 12.9**	**-0.4**
PEL				AML	AML	23 04 16.8	
	comp=E,4μm,0.5s						
RCDM	**Rinconada Maip**	**1.40**	**137**	*e*P	**Pn**	**23 03 56.9**	**-2.0**
RCDM				*i* S	**Sn**	**23 04 03.9**	**-13**
RCDM	**Rinconada Maip**	**1.40**	**137**	*e*P	**Pn**	**23 03 56.9**	**-2.0**
RCDM				*e*S	**Sn**	**23 04 14.9**	**-2.1**
TACH	**Talagante**	**1.45**	**145**	*e*P	**Pn**	**23 03 60.0**	**+0.3**
TACH				*i* S	**Sn**	**23 04 18.2**	**-0.3**
TACH	**Talagante**	**1.45**	**145**	*e*P	**Pn**	**23 03 60.0**	**+0.3**
TACH				*i* S	**Sn**	**23 04 18.2**	**-0.3**
SAN	**Santiago**	**1.46**	**133**	*e*P	**Pn**	**23 03 59.8**	**+0.1**
SAN				*i* S	**Sn**	**23 04 18.9**	**+0.3**
SAN	**Santiago**	**1.46**	**133**	*e*P	**Pn**	**23 03 59.8**	**+0.1**
SAN				*i* S	**Sn**	**23 04 18.9**	**+0.3**
SAN				AML	AML	23 04 23.0	
	comp=N,1μm,0.5s						
CLCH	**Cerro Calan**	**1.50**	**129**	*e*P	**Pn**	**23 04 00.5**	**+0.1**
CLCH				*i* S	**Sn**	**23 04 19.8**	**+0.2**
CLCH				AML	AML	23 04 28.0	
	comp=E,2μm,0.7s						
CMCH	**Combarbala**	**1.52**	**32** ⇊	*i*P	**Pn**	**23 03 59.8**	**-0.7**
CMCH				*i* S	**Sn**	**23 04 20.0**	**0.0**
CMCH	**Combarbala**	**1.52**	**32** ⇊	*i*P	**Pn**	**23 03 59.8**	**-0.7**
CMCH				*i* S	**Sn**	**23 04 20.0**	**0.0**
CMCH				AML	AML	23 04 32.6	
	comp=E,4μm,0.5s						
ANTU	**Antumapu**	**1.56**	**135**	*e*P	**Pn**	**23 04 01.4**	**+0.3**
ANTU				*i* S	**Sn**	**23 04 21.4**	**+0.4**
ANTU	**Antumapu**	**1.56**	**135**	*e*P	**Pn**	**23 04 01.4**	**+0.3**
ANTU				*i* S	**Sn**	**23 04 21.4**	**+0.4**
ANTU				AML	AML	23 04 27.2	
	comp=N,1μm,0.4s						
FCH	**Farellones**	**1.63**	**122** ⇊	*i*P	**Pn**	**23 03 59.2**	**-3.0**
FCH				*i* S	**Sn**	**23 04 19.3**	**-3.6**
FCH				AML	AML	23 04 20.6	
	comp=N,957nm,0.3s						
PCH	**Pirque**	**1.66**	**134** ⇊	*i*P	**Pn**	**23 04 03.2**	**+0.7**
PCH	**Pirque**	**1.66**	**134** ⇊	*i*P	**Pn**	**23 04 03.2**	**+0.7**
LMEL	**Las Melosas**	**2.01**	**134**	*e*P	**Pn**	**23 04 08.8**	**+1.5**
LMEL				*e*S	**Sn**	**23 04 34.0**	**+1.9**
LMEL	**Las Melosas**	**2.01**	**134**	*e*P	**Pn**	**23 04 08.8**	**+1.5**
LMEL				*e*S	**Sn**	**23 04 34.0**	**+1.9**
LMEL				AML	AML	23 04 42.3	
	comp=N,591nm,0.9s						
CFAA	**Coronel Fontan**	**3.26**	**76**	Pn	**Pn**	**23 04 27.1**	**+2.6**
	comp=N,1.6nm,0.3s,baz=245,slow=9.2,SNR=45						
CFAA				Lg		23 05 11.5	
	comp=N,3.5nm,0.3s,baz=156,slow=17,SNR=9.4						
CFAA	**Coronel Fontan**	**3.26**	**76**	Pn	**Pn**	**23 04 27.1**	**+2.6**
CFAA				Lg		23 05 11.5	
LCO	**Las Campanas**	**3.60**	**18**	*e*Pn	**Pn**	**23 04 28.9**	**-0.4**
LCO				*e*Sn	**Sn**	**23 05 11.9**	**+0.4**
PLCA	**Paso Flores**	**8.33**	**173**	Pn	**Pn**	**23 05 34.4**	**+0.3**
	comp=N,0.3nm,0.3s,baz=1.8,slow=12,SNR=3.0						
PLCA	**Paso Flores**	**8.33**	**173**	*e*Pn	**Pn**	**23 05 33.7**	**-0.4**
LPAZ	**La Paz**	**16.47**	**13**	Pn	**Pn**	**23 07 25.2**	**+0.7**
	comp=N,0.1nm,0.3s,baz=178,slow=11,SNR=3.7						
LPAZ	**La Paz**	**16.47**	**13**	Pn	**Pn**	**23 07 25.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**23 16 01.6**	**-0.5**
	comp=N,0.8nm,0.8s,baz=265,slow=4.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**23 16 01.6**	**-0.5**
BVAR	**Borovoye Array**	**146.09**	**41**	PKPbc	PKPbc	23 23 13.3	+0.5
	comp=N,0.8nm,0.7s,baz=336,slow=3.2,SNR=3.9						
BVAR	**Borovoye Array**	**146.09**	**41**	PKPbc	PKPbc	23 23 13.3	+0.5
KURK	**Kurchatov**	**151.69**	**41**	PKPbc	PKPbc	23 23 26.9	-0.5
	comp=N,0.4nm,0.4s,baz=298,slow=2.8,SNR=5.4						
KURK	**Kurchatov**	**151.69**	**41**	PKPbc	PKPbc	23 23 26.9	-0.5
ZALV	**Zalesovo Beam**	**152.88**	**31**	PKPbc	PKPbc	23 23 29.6	-0.2
	comp=N,0.6nm,0.5s,baz=307,slow=4.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**152.88**	**31**	PKPbc	PKPbc	23 23 29.6	-0.2
MKAR	**Makanchi Array**	**155.67**	**46**	PKPab	PKPab	23 23 53.4	+0.2
	comp=N,0.1nm,0.5s,baz=277,slow=3.1,SNR=5.4						
MKAR	**Makanchi Array**	**155.67**	**46**	PKPab	PKPab	23 23 53.4	+0.2

*IDC **18** 23:38:03.1±2.0, 32°.55S×71°.44W, h0km, mb4.1/2, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=84.5km s-min=37.6km az=95.0*
*ISCJB **18** 23:38:04.6±0.8, 32°.56S±0°.02×71°.93W±0°.06, h21km±5km, mb4.1/2, Error ellipse: s-maj=8.4km s-min=3.8km az=172.9*
*GUC **18** 23:38:05.8±0.6, 32°.57S×71°.86W, h15km±471km, MD4.0, ML3.6*
*NEIC **18** 23:38:05.8, 32°.57S×71°.86W, h15km, mb3.9/2, ML3.6(GUC), After GUC.*

ISC 18 23:38:05.2±0.8, 32°.56S±0°.02×71°.87W±0°.06, h17km±5km, n50, σ0°84/70, mb4.1/2, 19C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.50**	**157** ⇑	*i*P	**Pg**	**23 38 15.4**	**+0.1**
IHA				*i* S	**Sg**	**23 38 22.3**	**+0.3**
IHA	**Instituto Hidr**	**0.50**	**157** ⇑	*i*P	**Pg**	**23 38 15.4**	**+0.1**
IHA				*i* S	**Sg**	**23 38 22.3**	**+0.3**
CHNG	**Los Chungos**	**0.75**	**25** ⇑	*i*P	**Pb**	**23 38 19.7**	**-0.1**
CHNG				*i* S	**Sg**	**23 38 29.8**	**+0.1**
CHNG				AML	AML	23 38 32.9	
	comp=E,3μm,0.5s						
ROCH	**El Roble**	**0.83**	**120** ⇊	*i*P	**Pb**	**23 38 20.9**	**-0.4**
ROCH				*i* S	**Sb**	**23 38 31.8**	**-0.3**
PTCH	**Petorca**	**0.85**	**70** ⇊	*i*P	**Pb**	**23 38 21.4**	**-0.1**
PTCH				*i* S	**Sb**	**23 38 32.8**	**+0.2**
PTCH	**Petorca**	**0.85**	**70** ⇊	*i*P	**Pb**	**23 38 21.4**	**-0.1**
PTCH				*i* S	**Sb**	**23 38 32.8**	**+0.2**
PTCH				AML	AML	23 38 35.4	
	comp=N,4μm,0.4s						
LCCH	**Las Cruces**	**0.94**	**165**	*e*P	**Pb**	**23 38 22.6**	**-0.6**
LCCH				*i* S	**Sb**	**23 38 34.7**	**-0.7**
LCCH	**Las Cruces**	**0.94**	**165**	*e*P	**Pb**	**23 38 22.6**	**-0.6**
LCCH				*i* S	**Sb**	**23 38 34.7**	**-0.7**
JACH	**Jahuel**	**1.08**	**97** ⇑	*i*P	**Pb**	**23 38 24.7**	**-0.8**
JACH				*i* S	**Sb**	**23 38 39.2**	**-0.3**
JACH	**Jahuel**	**1.08**	**97** ⇑	*i*P	**Pb**	**23 38 24.7**	**-0.8**
JACH				*i* S	**Sb**	**23 38 39.2**	**-0.3**
PEL	**Peldehue**	**1.15**	**120** ⇑	*i*P	**Pn**	**23 38 26.0**	**-0.6**
PEL				*i* S	**Sb**	**23 38 41.0**	**-0.5**
PEL				AML	AML	23 38 44.1	
	comp=E,6μm,0.2s						
RCDM	**Rinconada Maip**	**1.28**	**136** ⇑	*i*P	**Pn**	**23 38 27.8**	**-0.6**
RCDM				*i* S	**Sb**	**23 38 44.5**	**-0.7**
RCDM	**Rinconada Maip**	**1.28**	**136** ⇑	*i*P	**Pn**	**23 38 27.8**	**-0.6**
RCDM				*i* S	**Sb**	**23 38 44.5**	**-0.7**
RCDM				AML	AML	23 38 48.5	
	comp=N,1μm,0.2s						
TACH	**Talagante**	**1.34**	**145**	*e*P	**Pn**	**23 38 28.9**	**-0.3**
TACH	**Talagante**	**1.34**	**145**	*e*P	**Pn**	**23 38 28.9**	**-0.3**
SAN	**Santiago**	**1.35**	**132** ⇑	*i*P	**Pn**	**23 38 29.2**	**-0.1**
SAN				*i* S	**Sn**	**23 38 46.5**	**-0.3**
SAN	**Santiago**	**1.35**	**132** ⇑	*i*P	**Pn**	**23 38 29.2**	**-0.1**
SAN				*i* S	**Sn**	**23 38 46.5**	**-0.3**
SAN				AML	AML	23 38 51.4	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**1.40**	**127** ⇑	*i*P	**Pn**	**23 38 29.8**	**-0.2**
CLCH				*i* S	**Sn**	**23 38 47.8**	**-0.2**
CLCH				AML	AML	23 38 50.0	
	comp=N,3μm,0.4s						
ANTU	**Antumapu**	**1.44**	**134**	*e*P	**Pn**	**23 38 30.6**	**0.0**
ANTU				*e*S	**Sn**	**23 38 49.4**	**+0.2**
ANTU	**Antumapu**	**1.44**	**134**	*e*P	**Pn**	**23 38 30.6**	**0.0**
ANTU				*e*S	**Sn**	**23 38 49.4**	**+0.2**
ANTU				AML	AML	23 38 54.8	
	comp=N,1μm,0.4s						
FCH	**Farellones**	**1.53**	**120**	AML	AML	23 38 53.8	
	comp=N,971nm,0.3s						
PCH	**Pirque**	**1.55**	**133** ⇑	*i*P	**Pn**	**23 38 32.3**	**+0.2**
PCH				*i* S	**Sn**	**23 38 52.5**	**+0.7**
PCH	**Pirque**	**1.55**	**133** ⇑	*i*P	**Pn**	**23 38 32.3**	**+0.2**
PCH				*i* S	**Sn**	**23 38 52.5**	**+0.7**
CMCH	**Combarbala**	**1.57**	**28** ⇑	*i*P	**Pn**	**23 38 32.3**	**0.0**
CMCH				*i* S	**Sn**	**23 38 52.8**	**+0.5**
CMCH	**Combarbala**	**1.57**	**28** ⇑	*i*P	**Pn**	**23 38 32.3**	**0.0**
CMCH				*i* S	**Sn**	**23 38 52.8**	**+0.5**
CMCH				AML	AML	23 38 57.1	
	comp=E,6μm,0.6s						
CHCH	**Chadas Angostu**	**1.71**	**144**	*e*P	**Pn**	**23 38 35.0**	**+0.8**

IHA	**Instituto Hidr**	**0.61**	**154**	*eP*		**Pg**		**23 51 34.2 +0.3**
IHA				*i* S		**Sg**		**23 51 42.3 +0.3**
CHNG	**Los Chungos**	**0.71**	**33**	⇑*iP*		**Pg**		**23 51 35.6 0.0**
CHNG				*i* S		**Sg**		**23 51 45.4 +0.4**
PTCH	**Petorca**	**0.89**	**77**	⇑*iP*		**Pb**		**23 51 38.8 -0.3**
PTCH				*i* S		**Sb**		**23 51 50.7 -0.2**
PTCH	**Petorca**	**0.89**	**77**	⇑*iP*		**Pb**		**23 51 38.8 -0.3**
PTCH				*i* S		**Sb**		**23 51 50.7 -0.2**
ROCH	**El Roble**	**0.94**	**122**	⇓*iP*		**Pb**		**23 51 39.5 -0.4**
ROCH				*i* S		**Sb**		**23 51 51.7 -0.5**
LCCH	**Las Cruces**	**1.05**	**162**	*eP*		**Pb**		**23 51 41.5 -0.3**
LCCH	**Las Cruces**	**1.05**	**162**	*eP*		**Pb**		**23 51 41.5 -0.3**
JACH	**Jahuel**	**1.17**	**100**	⇑*iP*		**Pn**		**23 51 43.0 -0.7**
JACH	**Jahuel**	**1.17**	**100**	⇑*iP*		**Pn**		**23 51 43.0 -0.7**
PEL	**Peldehue**	**1.26**	**122**	⇑*iP*		**Pn**		**23 51 44.8 -0.2**
PEL				*i* S		**Sb**		**23 52 01.1 -0.4**
PEL				AML	AML			23 52 04.5
	comp=E,17μm,0.5s							
RCDM	**Rinconada Maip**	**1.40**	**137**	⇑*iP*		**Pn**		**23 51 46.7 -0.2**
RCDM				*i* S		**Sn**		**23 52 04.7 -0.5**
RCDM	**Rinconada Maip**	**1.40**	**137**	⇑*iP*		**Pn**		**23 51 46.7 -0.2**
RCDM				*i* S		**Sn**		**23 52 04.7 -0.5**
RCDM				AML	AML			23 52 08.0
	comp=N,5μm,0.2s							
TACH	**Talagante**	**1.45**	**144**	⇓*iP*		**Pn**		**23 51 47.8 +0.1**
TACH				*i* S		**Sn**		**23 52 05.9 -0.6**
TACH	**Talagante**	**1.45**	**144**	⇓*iP*		**Pn**		**23 51 47.8 +0.1**
TACH				*i* S		**Sn**		**23 52 05.9 -0.6**
SAN	**Santiago**	**1.46**	**132**	*eP*		**Pn**		**23 51 47.9 +0.1**
SAN				*i* S		**Sn**		**23 52 06.7 0.0**
SAN	**Santiago**	**1.46**	**132**	*eP*		**Pn**		**23 51 47.9 +0.1**
SAN				*i* S		**Sn**		**23 52 06.7 0.0**
SAN				AML	AML			23 52 14.1
	comp=N,5μm,0.7s							
CLCH	**Cerro Calan**	**1.51**	**128**	⇑*iP*		**Pn**		**23 51 48.5 +0.1**
CLCH				*i* S		**Sn**		**23 52 07.8 0.0**
CLCH				AML	AML			23 52 15.3
	comp=N,5μm,0.6s							
CMCH	**Combarbala**	**1.53**	**32**	⇑*iP*		**Pn**		**23 51 48.5 -0.3**
CMCH				*i* S		**Sn**		**23 52 08.4 0.0**
CMCH	**Combarbala**	**1.53**	**32**	⇑*iP*		**Pn**		**23 51 48.5 -0.3**
CMCH				*i* S		**Sn**		**23 52 08.4 0.0**
ANTU	**Antumapu**	**1.56**	**135**	*eP*		**Pn**		**23 51 49.6 +0.5**
ANTU				*i* S		**Sn**		**23 52 09.3 +0.2**
ANTU	**Antumapu**	**1.56**	**135**	*eP*		**Pn**		**23 51 49.6 +0.5**
ANTU				*i* S		**Sn**		**23 52 09.3 +0.2**
ANTU				AML	AML			23 52 16.5
	comp=E,6μm,0.5s							
PCH	**Pirque**	**1.67**	**134**	⇓*iP*		**Pn**		**23 51 51.1 +0.5**
PCH	**Pirque**	**1.67**	**134**	⇓*iP*		**Pn**		**23 51 51.1 +0.5**
LMEL	**Las Melosas**	**2.01**	**133**	⇑*iP*		**Pn**		**23 51 56.3 +1.0**
LMEL				*i* S		**Sn**		**23 52 22.3 +2.0**
LMEL	**Las Melosas**	**2.01**	**133**	⇑*iP*		**Pn**		**23 51 56.3 +1.0**
LMEL				*i* S		**Sn**		**23 52 22.3 +2.0**
LMEL				AML	AML			23 52 27.4
	comp=N,3μm,0.6s							
CFAA	**Coronel Fontan**	**3.27**	**76**	Pn		**Pn**		**23 52 15.1 +2.4**
	comp=N,2.2nm,0.3s,baz=253,slow=12,SNR=25							
CFAA				Lg				23 52 59.0
	comp=N,12nm,0.3s,baz=126,slow=21,SNR=7.8							
CFAA	**Coronel Fontan**	**3.27**	**76**	Pn		**Pn**		**23 52 15.1 +2.4**
CFAA				Lg				23 52 59.0
LCO	**Las Campanas**	**3.62**	**18**	*ePn*		**Pn**		**23 52 17.0 -0.5**
LCO				*eSn*		**Sn**		**23 53 00.0 +0.1**
PLCA	**Paso Flores**	**8.32**	**173**	Pn		**Pn**		**23 53 22.3 +0.3**
	comp=N,1.4nm,0.3s,baz=333,slow=11,SNR=36							
PLCA				Lg				23 55 45.2
	comp=N,0.1nm,0.3s,baz=263,slow=20,SNR=3.3							
PLCA	**Paso Flores**	**8.32**	**173**	*ePn*		**Pn**		**23 53 21.9 -0.1**
PLCA				Sn		**Sn**		**23 54 56.3 +0.6**
PLCA				Lg				23 55 45.2
TRQA	**Tornquist**	**9.87**	**127**	*ePn*		**Pn**		**23 53 41.1 -2.2**
TRQA				*eSn*		**Sn**		**23 55 33.4 -0.5**
CPUP	**Villa Florida**	**14.14**	**68**	Pn		**Pn**		**23 54 41.9 +0.2**
	comp=N,0.2nm,0.3s,baz=222,slow=13,SNR=4.1							
CPUP	**Villa Florida**	**14.14**	**68**	*ePn*		**Pn**		**23 54 39.4 -2.3**
	comp=N,10nm,0.5s							
CPUP				*eSn*		**Sn**		**23 57 20.4 +2.0**
LPAZ	**La Paz**	**16.49**	**13**	Pn		**Pn**		**23 55 13.5 +0.7**
	comp=N,0.1nm,0.3s,baz=180,slow=8.7,SNR=3.8							
LPAZ	**La Paz**	**16.49**	**13**	*ePn*		**Pn**		**23 55 13.3 +0.5**
	comp=N,3.7nm,0.7s							
SIV	**San Ignacio**	**19.16**	**34**	P		**Pn**		**23 55 44.9 -0.9**
	comp=N,0.1nm,0.3s,baz=215,slow=13,SNR=4.2							
SIV	**San Ignacio**	**19.16**	**34**	P		**Pn**		**23 55 44.9 -0.9**
SNAA	**Sanae**	**52.97**	**158**	P		**P**		**00 00 37.4 -0.1**
	comp=N,0.7nm,0.6s,mb3.8,baz=285,slow=6.8,SNR=18							
SNAA	**Sanae**	**52.97**	**158**	*eP*		**P**		**00 00 37.6 +0.2**
	comp=N,4.1nm,0.9s,mb4.4							
QSPA	**South Pole Qui**	**57.76**	**180**	P		**P**		**00 01 12.7 +0.9**
	comp=N,3.5nm,0.7s,mb4.5,baz=159,slow=2.4,SNR=10							
QSPA	**South Pole Qui**	**57.76**	**180**	*eP*		**P**		**00 01 12.2 +0.4**
	comp=N,3.2nm,0.6s,mb4.5							
TXAR	**Lajitas Array**	**68.44**	**330**	P		**P**		**00 02 24.2 +0.9**
	comp=N,0.2nm,0.8s,mb3.2,baz=159,slow=7.7,SNR=3.0							
TXAR	**Lajitas Array**	**68.44**	**330**	P		**P**		**00 02 24.1 +0.8**
DBIC	**Dimbokro**	**74.63**	**72**	P		**P**		**00 03 00.4 -0.6**
	comp=N,2.7nm,0.6s,mb4.4,baz=214,slow=4.9,SNR=9.5							
DBIC	**Dimbokro**	**74.63**	**72**	*eP*		**P**		**00 02 59.8 -1.2**
	comp=N,2.5nm,0.6s,mb4.3							
BOSA	**Boshof**	**80.72**	**118**	P		**P**		**00 03 34.1 -0.8**
	comp=N,4.0nm,1.0s,mb4.3,baz=246,slow=8.4,SNR=3.6							
BOSA	**Boshof**	**80.72**	**118**	*eP*		**P**		**00 03 34.2 -0.7**
	comp=N,11nm,1.2s,mb4.7							
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P		**P**		**00 03 49.4 -0.8**
	comp=N,2.2nm,0.7s,mb4.4,baz=256,slow=5.0,SNR=14							
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P		**P**		**00 03 49.4 -0.8**
WRA	**Warramunga Arr**	**122.12**	**209**	PKP	PKPdf			00 10 15.2 -1.5
	comp=N,0.4nm,0.6s,baz=159,slow=1.7,SNR=7.4							
WRA	**Warramunga Arr**	**122.12**	**209**	PKP	PKPdf			00 10 15.2 -1.5
BRVK	**Borovoye**	**146.04**	**41**	*e*PKPab	PKPab			00 11 00.7 -0.6
BVAR	**Borovoye Array**	**146.11**	**41**	PKPbc	PKPbc			00 11 01.0 +0.1
	comp=N,1.5nm,0.5s,baz=281,slow=2.8,SNR=17							
BVAR	**Borovoye Array**	**146.11**	**41**	PKPbc	PKPbc			00 11 01.0 +0.1
KURK	**Kurchatov**	**151.71**	**41**	PKPbc	PKPbc			00 11 14.5 -0.9
	comp=N,1.9nm,0.6s,baz=295,slow=3.1,SNR=20							
KURK				PKPab	PKPab			00 11 20.9 -3.4
	comp=N,1.4nm,0.5s,baz=300,slow=3.0,SNR=14							
KURK	**Kurchatov**	**151.71**	**41**	*e*PKPbc	PKPbc			00 11 14.4 -1.0
KURK				PKPab	PKPab			00 11 20.9 -3.4
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc	PKPbc			00 11 17.4 -0.6
	comp=N,2.3nm,0.7s,baz=306,slow=2.8,SNR=11							
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc	PKPbc			00 11 17.4 -0.6
MKAR	**Makanchi Array**	**155.69**	**46**	PKPab	PKPab			00 11 40.6 -0.7
	comp=N,1.1nm,0.7s,baz=288,slow=3.8,SNR=12							
MKAR	**Makanchi Array**	**155.69**	**46**	PKPab	PKPab			00 11 40.6 -0.7

*IDC **19** 00:00:58.3±2.0, 32°.49S×71°.69W, h0km, mb4.0/2, mb1 3.7/5, mb1mx3.6/14, mbtmp3.7/5, ML3.6/3, MS4.1/1, Ms1 4.1/1, ms1mx3.1/40, Error ellipse: s-maj=83.4km s-min=32.6km az=99.0*

*ISCJB **19** 00:01:00.3±0.9, 32°.49S±0°.03×71°.99W±0°.06, h17km±5km, mb4.1/2, Error ellipse: s-maj=8.8km s-min=4.2km az=175.6*

*NEIC **19** 00:01:02.1, 32°.52S×71°.88W, h15km, mb4.0/2, ML3.9(GUC), After GUC.*

*GUC **19** 00:01:02.1±0.7, 32°.52S×71°.88W, h15km±5km, MD4.0, ML3.9*

ISC 19 00:01:00.9±0.9,**32°.50S**±0°.02×**71°.91W**±0°.06,**h14**km±4km, **n45**,σ0°.83/59,**mb4.1**/2,**3C-14D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**157**	⇓*iP*	**Pg**	**00 01 12.6**	**+0.3**
IHA				*i* S	**Sg**	**00 01 19.9**	**0.0**
IHA	**Instituto Hidr**	**0.58**	**157**	⇓*iP*	**Pg**	**00 01 12.6**	**+0.3**
IHA				*i* S	**Sg**	**00 01 19.9**	**0.0**
CHNG	**Los Chungos**	**0.70**	**30**	⇓*iP*	**Pg**	**00 01 15.0**	**+0.3**
CHNG				*i* S	**Sg**	**00 01 25.0**	**+1.1**
PTCH	**Petorca**	**0.86**	**75**	⇓*iP*	**Pg**	**00 01 17.5**	**-0.2**
PTCH				*i* S	**Sg**	**00 01 28.9**	**-0.1**
PTCH	**Petorca**	**0.86**	**75**	⇓*iP*	**Pg**	**00 01 17.5**	**-0.2**
PTCH				*i* S	**Sg**	**00 01 28.9**	**-0.1**
PTCH				AML	AML	00 01 29.1	
	comp=N,6μm,0.2s						
ROCH	**El Roble**	**0.90**	**122**	⇑*iP*	**Pb**	**00 01 17.8**	**-0.4**
ROCH				*i* S	**Sg**	**00 01 29.6**	**-0.5**
LCCH	**Las Cruces**	**1.02**	**164**	*eP*	**Pb**	**00 01 19.5**	**-0.8**
LCCH				*i* S	**Sb**	**00 01 32.6**	**-1.0**
LCCH	**Las Cruces**	**1.02**	**164**	*eP*	**Pb**	**00 01 19.5**	**-0.8**
LCCH				*i* S	**Sb**	**00 01 32.6**	**-1.0**
JACH	**Jahuel**	**1.13**	**100**	⇑*iP*	**Pb**	**00 01 21.5**	**-0.7**
JACH				*i* S	**Sb**	**00 01 35.9**	**-0.8**
PEL	**Peldehue**	**1.22**	**122**	⇑*iP*	**Pn**	**00 01 23.1**	**-0.5**
PEL				*i* S	**Sb**	**00 01 38.9**	**-0.4**
PEL				AML	AML	00 01 40.9	
	comp=E,9μm,0.3s						
RCDM	**Rinconada Maip**	**1.36**	**137**	⇓*iP*	**Pn**	**00 01 25.2**	**-0.2**
RCDM				*eS*	**Sn**	**00 01 43.2**	**0.0**
TACH	**Talagante**	**1.42**	**145**	⇓*iP*	**Pn**	**00 01 26.2**	**-0.1**
TACH				*i* S	**Sn**	**00 01 43.9**	**-0.8**
SAN	**Santiago**	**1.42**	**133**	*eP*	**Pn**	**00 01 25.5**	**-0.8**
SAN				*i* S	**Sn**	**00 01 44.4**	**-0.3**
SAN	**Santiago**	**1.42**	**133**	*eP*	**Pn**	**00 01 25.5**	**-0.8**
SAN				*i* S	**Sn**	**00 01 44.4**	**-0.3**
CLCH	**Cerro Calan**	**1.46**	**128**	⇓*iP*	**Pn**	**00 01 26.8**	**-0.1**
CLCH				*i* S	**Sn**	**00 01 45.6**	**-0.3**
CLCH				AML	AML	00 01 47.3	
	comp=N,4μm,0.5s						
CLCH				AML	AML	00 01 47.9	
	comp=N,5μm,0.4s						
ANTU	**Antumapu**	**1.52**	**135**	*eP*	**Pn**	**00 01 28.3**	**+0.7**
ANTU				*i* S	**Sn**	**00 01 47.6**	**+0.4**
ANTU				AML	AML	00 01 48.8	
	comp=E,2μm,0.3s						
CMCH	**Combarbala**	**1.53**	**31**	⇓*iP*	**Pn**	**00 01 27.5**	**-0.3**
CMCH				*i* S	**Sn**	**00 01 47.9**	**+0.4**
CMCH	**Combarbala**	**1.53**	**31**	⇓*iP*	**Pn**	**00 01 27.5**	**-0.3**
CMCH				*i* S	**Sn**	**00 01 47.9**	**+0.4**
FCH	**Farellones**	**1.60**	**122**	⇓*iP*	**Pn**	**00 01 33.3**	**+4.6**
FCH				*i* S	**Sn**	**00 01 54.0**	**+4.8**
PCH	**Pirque**	**1.62**	**134**	⇓*iP*	**Pn**	**00 01 29.4**	**+0.3**
PCH				*i* S	**Sn**	**00 01 50.5**	**+0.6**
PCH	**Pirque**	**1.62**	**134**	⇓*iP*	**Pn**	**00 01 29.4**	**+0.3**
PCH				*i* S	**Sn**	**00 01 50.5**	**+0.6**
CHCH	**Chadas Angostu**	**1.78**	**144**	*eP*	**Pn**	**00 01 32.1**	**+0.8**
CACH	**El Canelo**	**1.96**	**146**	⇓*iP*	**Pn**	**00 01 35.2**	**+1.5**
CACH				*i* S	**Sn**	**00 01 59.9**	**+1.9**
LMEL	**Las Melosas**	**1.97**	**134**	*eP*	**Pn**	**00 01 35.1**	**+1.2**
LMEL				*i* S	**Sn**	**00 01 60.0**	**+1.7**
LMEL				AML	AML	00 02 06.0	
	comp=N,1μm,0.3s						
CFAA	**Coronel Fontan**	**3.25**	**75**	Pn	**Pn**	**00 01 52.4**	**+1.0**
	comp=N,1.1nm,0.3s,baz=246,slow=11,SNR=119						
CFAA				Lg		00 02 37.8	
	comp=N,1.7nm,0.3s,baz=94,slow=15,SNR=6.5						
CFAA	**Coronel Fontan**	**3.25**	**75**	Pn	**Pn**	**00 01 52.4**	**+1.0**
CFAA				Lg		00 02 37.8	
PLCA	**Paso Flores**	**8.29**	**173**	Pn	**Pn**	**00 03 00.6**	**-0.1**
	comp=N,0.2nm,0.3s,baz=317,slow=11,SNR=5.2						
PLCA	**Paso Flores**	**8.29**	**173**	*ePn*	**Pn**	**00 03 01.0**	**+0.3**
LPAZ	**La Paz**	**16.50**	**13**	Pn	**Pn**	**00 04 52.0**	**0.0**
	comp=N,0.1nm,0.3s,baz=185,slow=12,SNR=3.6						
LPAZ	**La Paz**	**16.50**	**13**	*ePn*	**Pn**	**00 04 53.2**	**+1.2**
	comp=N,1.0nm,0.3s						
SIV	**San Ignacio**	**19.15**	**33**	P	**Pn**	**00 05 22.7**	**-2.1**
	comp=N,0.1nm,0.3s,baz=238,slow=13,SNR=3.4						
SIV	**San Ignacio**	**19.15**	**33**	P	**Pn**	**00 05 22.7**	**-2.1**
JTS	**JuntasAbangare**	**44.33**	**341**	LR	LR	00 23 32.1	
	comp=N,236nm,19.6s,baz=6.0,slow=30						
DBIC	**Dimbokro**	**74.60**	**72**	P	**P**	**00 12 38.1**	**-1.9**
	comp=N,1.7nm,0.7s,mb4.1,baz=46,slow=11,SNR=3.6						
DBIC	**Dimbokro**	**74.60**	**72**	*eP*	**P**	**00 12 38.8**	**-1.1**
	comp=N,6.4nm,1.2s,mb4.4						
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P	**P**	**00 13 28.1**	**-1.0**
	comp=N,0.7nm,0.7s,mb3.9,baz=264,slow=3.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P	**P**	**00 13 28.1**	**-1.0**
BVAR	**Borovoye Array**	**146.10**	**41**	PKPbc	PKPbc	00 20 40.0	0.0
	comp=N,0.4nm,0.5s,baz=290,slow=2.8,SNR=5.5						
BVAR	**Borovoye Array**	**146.10**	**41**	PKPbc	PKPbc	00 20 40.0	0.0
KURK	**Kurchatov**	**151.70**	**41**	PKPbc	PKPbc	00 20 53.1	-1.4
	comp=N,0.2nm,0.5s,baz=272,slow=3.1,SNR=5.2						
KURK	**Kurchatov**	**151.70**	**41**	PKPbc	PKPbc	00 20 53.1	-1.4
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc	PKPbc	00 20 55.9	-1.2
	comp=N,0.4nm,0.3s,baz=290,slow=3.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc	PKPbc	00 20 55.9	-1.2
MKAR	**Makanchi Array**	**155.68**	**47**	PKPab	PKPab	00 21 19.3	-1.0
	comp=N,0.4nm,0.7s,baz=271,slow=3.2,SNR=4.8						
MKAR	**Makanchi Array**	**155.68**	**47**	PKPab	PKPab	00 21 19.3	-1.0

*IDC **19** 00:21:03.4±0.3, 38°.33S×176°.38E, h188km±3km, mb4.4/13, mb1 4.5/15, mb1mx4.4/18, mbtmp4.4/15, MS3.3/1, Ms1 3.3/1, ms1mx2.8/37, Error ellipse: s-maj=14.2km s-min=11.3km az=22.0*

*ISCJB **19** 00:21:04.3±0.2, 38°.36S±0°.02×176°.03E±0°.04, h193km±1km, mb4.6/35, Error ellipse: s-maj=5.3km s-min=3.5km az=6.7*

*WEL **19** 00:21:05.4±0.3, 38°.25S×176°.14E, h187km±2km, ML5.8/22, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0*

WEL Felt from Nelson to Gisborne, maximum reported intensity MM 5.

*NEIC **19** 00:21:05.7, 38°.25S×176°.09E, h185km, mb4.8/18, After WEL.*

NEIC Felt [IV] at Feilding, Gisborne, Hastings, Hokowhitu, Napier, Palmerston North, Taradale and Wellington. Felt widely in the eastern part of the North Island.

*BJI **19** 00:21:06.6, 38°.30S×176°.10E, h184km, mB5.1/11, mb5.2/12*

ISC 19 00:21:05.2±0.2,**38°.36S**±0°.02×**176°.04E**±0°.04,**h188**km±1km, **h185**km±1.7km:**pP-P**,**n258**,σ1°.03/210,**mb4.7**/35,**15C-4D**, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.20**	**100**	PN	**Pn**	**00 21 30.1**	**+0.1**
UTU	**Utuhina**	**0.22**	**34**	PN	**Pn**	**00 21 30.5**	**+0.4**
PRRZ	**Plateau Road**	**0.31**	**117**	PN	**Pn**	**00 21 30.2**	**0.0**
ALRZ	**Allen Road**	**0.32**	**131**	PN	**Pn**	**00 21 30.2**	**0.0**
ALRZ				SN	**Sn**	**00 21 49.5**	**-0.1**
WHTZ	**Whakaora**	**0.32**	**191**	PN	**Pn**	**00 21 31.2**	**+0.9**
OMRZ	**Omania**	**0.36**	**47**	⇑PN	**Pn**	**00 21 30.2**	**-0.2**
KARZ	**Kaharoa**	**0.37**	**26**	PN	**Pn**	**00 21 30.2**	**-0.2**
RRRZ	**Republican Roa**	**0.38**	**88**	PN	**Pn**	**00 21 30.2**	**-0.2**
TARZ	**Mount Tarawera**	**0.39**	**72**	PN	**Pn**	**00 21 30.3**	**-0.1**
MKRZ	**Makatiti**	**0.40**	**57**	PN	**Pn**	**00 21 30.9**	**+0.4**
WATZ	**Wairara**	**0.42**	**214**	PN	**Pn**	**00 21 31.3**	**+0.7**
LIRZ	**Lichensteins R**	**0.45**	**38**	PN	**Pn**	**00 21 30.4**	**-0.3**
HATZ	**Hinemaiaia**	**0.54**	**175**	PN	**Pn**	**00 21 31.3**	**+0.3**
HATZ				SN	**Sn**	**00 21 50.6**	**-0.4**
RATZ	**Rangitukua**	**0.55**	**202**	PN	**Pn**	**00 21 31.6**	**+0.5**
EDRZ	**Edgecumbe**	**0.61**	**66**	⇑PN	**Pn**	**00 21 30.6**	**-0.7**
MARZ	**Manawahe**	**0.62**	**54**	⇑PN	**Pn**	**00 21 30.9**	**-0.5**
RITZ	**Rihia Road**	**0.64**	**193**	PN	**Pn**	**00 21 32.6**	**+1.1**
TGRZ	**Tauranga**	**0.65**	**16**	PN	**Pn**	**00 21 31.1**	**-0.5**
OPRZ	**Ohinepanea**	**0.65**	**39**	⇑PN	**Pn**	**00 21 30.7**	**-0.9**
OPRZ				SN	**Sn**	**00 21 50.5**	**-1.3**
KATZ	**Kakaramea**	**0.67**	**203**	⇑PN	**Pn**	**00 21 32.7**	**+1.1**
TOZ	**Tahuroa Road**	**0.76**	**326**	PN	**Pn**	**00 21 32.2**	**+0.1**
TOZ				SN	**Sn**	**00 21 52.3**	**-0.5**
KRVZ	**Karewarewa**	**0.80**	**203**	PN	**Pn**	**00 21 33.3**	**+1.0**
WTVZ	**West Tongariro**	**0.83**	**205**	PN	**Pn**	**00 21 33.5**	**+1.0**
URZ	**Urewera**	**0.85**	**84**	⇑*e*PN	**Pn**	**00 21 31.6**	**-1.1**
URZ	**Urewera**	**0.85**	**84**	P	**Pn**	**00 21 31.6**	**-1.0**
	3μm,0.3s,baz=261,slow=4.1,SNR=8906						
URZ				S	**Sn**	**00 21 50.1**	**-3.6**
	1μm,0.3s,baz=200,slow=23,SNR=35						
URZ	**Urewera**	**0.85**	**84**	*e*Pn	**Pn**	**00 21 31.7**	**-1.0**
URZ				*eSn*	**Sn**	**00 21 51.9**	**-1.9**
TWVZ	**Taurewa**	**0.85**	**213**	PN	**Pn**	**00 21 33.6**	**+0.9**
OTVZ	**Oturere**	**0.86**	**200**	PN	**Pn**	**00 21 33.8**	**+1.1**
BKZ	**Black Stump Fm**	**0.88**	**156**	PN	**Pn**	**00 21 33.4**	**+0.5**
NGZ	**Ngauruhoe**	**0.89**	**203**	PN	**Pn**	**00 21 33.8**	**+1.0**
WPVZ	**Whakapapa**	**0.93**	**204**	PN	**Pn**	**00 21 34.0**	**+0.9**
HIZ	**Hauiti**	**0.94**	**260**	PN	**Pn**	**00 21 33.9**	**+0.6**
HIZ				SN	**Sn**	**00 21 56.8**	**+2.0**
NMHZ	**Naumai**	**0.95**	**141**	PN	**Pn**	**00 21 34.6**	**+1.3**
TUVZ	**Tukino**	**0.96**	**198**	PN	**Pn**	**00 21 34.5**	**+1.2**
DRZ	**Dome Shelter**	**0.99**	**202**	PN	**Pn**	**00 21 34.8**	**+1.3**
RAHZ	**Arahi**	**0.99**	**125**	PN	**Pn**	**00 21 34.2**	**+0.6**
TRVZ	**Turoa**	**1.02**	**202**	PN	**Pn**	**00 21 35.0**	**+1.2**
WNVZ	**Wahianoa**	**1.03**	**199**	PN	**Pn**	**00 21 35.0**	**+1.1**
MOVZ	**Moawhango**	**1.07**	**192**	PN	**Pn**	**00 21 34.8**	**+0.7**
PKVZ	**Pokaka**	**1.08**	**210**	PN	**Pn**	**00 21 35.4**	**+1.2**
MYRZ	**Mayor Island**	**1.09**	**9**	PN	**Pn**	**00 21 33.5**	**-0.8**
MTVZ	**Mangateitei**	**1.12**	**203**	⇑PN	**Pn**	**00 21 35.6**	**+1.1**
BHHZ	**Black Hill Sta**	**1.13**	**179**	PN	**Pn**	**00 21 35.3**	**+0.7**
MWZ	**Matawai**	**1.17**	**89**	⇑PN	**Pn**	**00 21 34.2**	**-0.7**
MCHZ	**McNeill Hill**	**1.20**	**155**	PN	**Pn**	**00 21 36.5**	**+1.3**
WIZ	**White Island**	**1.23**	**48**	PN	**Pn**	**00 21 33.9**	**-1.6**
VRZ	**Vera Road**	**1.26**	**232**	PN	**Pn**	**00 21 36.7**	**+1.1**
MKAZ	**Moumakai**	**1.42**	**331**	⇓*e*PN	**Pn**	**00 21 37.0**	**-0.1**
KNZ	**Kokohu**	**1.44**	**118**	⇑PN	**Pn**	**00 21 37.4**	**+0.1**
MHEZ	**Mangahewa**	**1.52**	**241**	PN	**Pn**	**00 21 39.9**	**+1.9**
CKHZ	**Cape Kidnapper**	**1.53**	**148**	PN	**Pn**	**00 21 39.0**	**+0.9**
PRGZ	**Paritu Road**	**1.55**	**112**	⇑PN	**Pn**	**00 21 38.2**	**0.0**
PNHZ	**Pukenui**	**1.56**	**175**	PN	**Pn**	**00 21 39.1**	**+0.8**
KAHZ	**Kahuranaki**	**1.58**	**156**	PN	**Pn**	**00 21 39.5**	**+1.0**
WAZ	**Wanganui**	**1.62**	**210**	⇑PN	**Pn**	**00 21 40.0**	**+1.1**
KUZ	**Kuaotunu**	**1.63**	**351**	PN	**Pn**	**00 21 38.1**	**-0.9**
DREZ	**Durham Road**	**1.66**	**239**	PN	**Pn**	**00 21 41.1**	**+1.9**
OTAZ	**Otara**	**1.66**	**327**	PN	**Pn**	**00 21 39.2**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.66**	**119**	PN	**Pn**	**00 21 39.7**	**+0.3**
CNGZ	**Carnagh Statio**	**1.71**	**95**	Pn	**Pn**	**00 21 39.9**	**+0.1**
WPHZ	**Waipukurau**	**1.73**	**170**	PN	**Pn**	**00 21 40.7**	**+0.7**
PUZ	**Puketiti**	**1.77**	**81**	⇑PN	**Pn**	**00 21 39.1**	**-1.3**
PXZ	**Pawanui**	**1.79**	**159**	PN	**Pn**	**00 21 40.9**	**+0.4**
MTAZ	**Motutapu**	**1.81**	**330**	PN	**Pn**	**00 21 40.5**	**-0.3**
PKE	**Pukeiti**	**1.81**	**242**	PN	**Pn**	**00 21 42.2**	**+1.5**
WTAZ	**Waiatarua**	**1.83**	**320**	PN	**Pn**	**00 21 41.2**	**+0.1**
KAAZ	**Kauri Point**	**1.86**	**325**	PN	**Pn**	**00 21 41.3**	**-0.1**
NRZ	**Ngariki Road**	**1.91**	**239**	PN	**Pn**	**00 21 43.2**	**+1.4**
DVHZ	**Dannevirke**	**1.94**	**177**	PN	**Pn**	**00 21 42.5**	**+0.4**
MXZ	**Matakaoa Point**	**1.96**	**67**	PN	**Pn**	**00 21 41.1**	**-1.3**
RVAZ	**Riverhead Bore**	**1.96**	**323**	PN	**Pn**	**00 21 41.9**	**-0.5**
PRHZ	**Porangahau**	**1.96**	**167**	PN	**Pn**	**00 21 42.9**	**+0.5**
ABAZ	**Army Bay**	**2.00**	**331**	PN	**Pn**	**00 21 42.5**	**-0.3**
POWZ	**Post Office Ro**	**2.04**	**186**	PN	**Pn**	**00 21 43.6**	**+0.4**
BFZ	**Birch Farm**	**2.33**	**176**	PN	**Pn**	**00 21 45.9**	**-0.4**
MRZ	**Mangatainoka R**	**2.33**	**189**	PN	**Pn**	**00 21 46.4**	**0.0**
TIWZ	**Tintock**	**2.42**	**183**	PN	**Pn**	**00 21 47.5**	**+0.2**
**OGW

NWAO	Narrogin (SRO)	47.41 258	P		P		00 29 20.1	-0.6
	6.2nm,0.6s,mb4.4,baz=107,slow=5.1,SNR=6.6							
NWAO	Narrogin (SRO)	47.41 258	P		P		00 29 20.1	-0.6
KLBR	Kellerberrin	47.56 260	*e*P		P		00 29 21.0	-0.8
	12nm,0.7s,mb4.6							
FITZ	Fitzroy Crossi	48.12 280	P		P		00 29 26.1	-0.2
	13nm,0.6s,mb4.8,baz=148,slow=7.7,SNR=47							
FITZ	Fitzroy Crossi	48.12 280	⇑*i*P		P		00 29 26.1	-0.2
FITZ	Fitzroy Crossi	48.12 280	*e*P		P		00 29 26.1	-0.2
	12nm,0.5s,mb4.8							
FITZ			*e*PcP		PcP		00 30 48.9	-2.0
QSPA	South Pole Qui	51.77 180	P		P		00 29 56.2	+3.3
	10nm,0.5s,mb4.7,baz=286,slow=1.4,SNR=31							
QSPA	South Pole Qui	51.77 180	*e*P		P		00 29 55.4	+2.4
	9.8nm,0.5s,mb4.7							
QSPA			*e*PcP		PcP		00 31 03.4	+0.1
MAW	Mawson	63.11 203	P		P		00 31 12.7	+0.5
	3.5nm,0.5s,mb4.5,baz=130,slow=6.7,SNR=10							
MAW	Mawson	63.11 202	P		P		00 31 12.7	+0.5
DAV	Davao City (W)	65.09 302	P		P		00 31 25.6	-0.3
	164nm,0.5s,baz=54,slow=23,SNR=4.2							
DAV	Davao City (W)	65.09 302	P		P		00 31 25.6	-0.3
SYO	Syowa Base	68.21 196	⇓*i*P		P		00 31 44.0	-0.8
SNAA	Sanae	70.27 180	*e*		P		00 31 58.6	+1.1
VNA3	Neumayer Olymp	70.63 178	*e*		P		00 32 00.3	+0.7
VNA3			*e*				00 32 19.8	
VNA3			*e*		pP		00 32 45.0	+0.9
VNA2	Neumayer--Watz	71.00 179	*e*		P		00 32 03.0	+1.2
	baz=193,slow=7.5							
VNA2			*e*				00 32 21.9	
VNA2			*e*		pP		00 32 46.2	-0.2
PLCA	Paso Flores	80.54 135	P		P		00 32 57.5	+1.1
	2.7nm,0.5s,mb4.1,baz=242,slow=5.2,SNR=17							
PLCA	Paso Flores	80.54 135	*e*P		P		00 32 57.8	+1.4
	2.9nm,0.6s,mb4.1							
MJAR	Matsushiro Arr	82.31 330	P		P		00 33 04.0	-1.6
	2.4nm,0.6s,mb4.0,baz=167,slow=7.6,SNR=6.0							
MJAR	Matsushiro Arr	82.31 330	P		P		00 33 04.0	-1.6
QIZ	Qiongzhong	84.27 300	P		P		00 33 18.1	+2.2
QIZ			S		S		00 43 26.5	+0.9
QIZ			pmax		pmax			
	comp=Z,95nm,5.4s							
QIZ			LR		LR			
	comp=Z,430nm,18.2s							
KSRS	Korea Array	87.51 324	P		P		00 33 31.9	+0.5
	comp=Z,13nm,0.6s,mb4.9,baz=144,slow=5.4,SNR=43							
KSAR	Wonju Array Be	87.52 324	P		P		00 33 31.9	+0.4
NJ2	Nanjing	87.97 314	*e*P		P		00 33 35.3	+1.6
NJ2			pmax		pmax			
	comp=Z,20nm,0.6s,mb5.1							
NJ2			pmax		pmax			
	comp=Z,170nm,9.9s							
NJ2			LR		LR			
	comp=N,450nm,20.1s							
NJ2			LR		LR			
	comp=E,960nm,27.5s							
NJ2			LR		LR			
	comp=Z,990nm,24.5s							
LCO	Las Campanas	88.50 126	*e*P		P		00 33 38.0	+1.5
	comp=Z,15nm,1.2s,mb4.7							
GYA	Guiyang	91.47 303	⇓*i*P		P		00 33 52.8	+2.6
GYA			pP		pP		00 34 39.3	+2.5
GYA			sP		sP		00 34 58.9	+2.6
GYA			PP		PP		00 37 34.5	+3.4
GYA			SKS				00 44 05.3	
GYA			S		S		00 44 35.8	+2.4
GYA			sS		sS		00 45 55.6	+0.7
GYA			pmax		pmax			
	comp=Z,20nm,1.0s,mb5.1							
GYA			pmax		pmax			
	comp=Z,120nm,5.2s							
CMAR	Chiang Mai Arr	91.59 292	P		P		00 33 50.5	-0.5
	comp=Z,2.6nm,0.7s,mb4.4,baz=150,slow=3.6,SNR=10							
CMAR	Chiang Mai Arr	91.59 292	P		P		00 33 50.5	-0.5
PETK	Petropavlovsk-	92.47 349	P		P		00 33 53.9	-0.2
	comp=Z,2.4nm,0.8s,mb4.3,baz=141,slow=7.1,SNR=3.1							
PETK	Petropavlovsk-	92.47 349	P		P		00 33 53.9	-0.2
MDJ	Mudanjiang	92.62 329	P		P		00 33 56.8	+1.8
MDJ			pP		pP		00 34 41.6	0.0
MDJ			sP		sP		00 35 00.9	-0.3
MDJ			S		S		00 44 45.3	+2.5
MDJ			sS		sS		00 46 04.6	+0.1
MDJ			pmax		pmax			
	comp=Z,11nm,2.4s,mb4.6							
MDJ			pmax		pmax			
	comp=Z,130nm,4.8s							
MDJ			LR		LR			
	comp=N,470nm,19.8s							
MDJ			LR		LR			
	comp=E,560nm,20.4s							
MDJ			LR		LR			
	comp=Z,360nm,23.6s							
CN2	Changchun	93.72 326	*e*P		P		00 34 05.8	+5.7
BJI	Beijing	95.33 318	P		P		00 34 10.5	+2.9
BJI			S		S		00 45 11.1	+4.4
BJI			pmax		pmax			
	comp=Z,9.0nm,0.4s,mb5.3							
BJI			pmax		pmax			
	comp=Z,90nm,5.3s							
BJI			LR		LR			
	comp=N,620nm,13.0s							
BJI			LR		LR			
	comp=E,420nm,17.6s							
BJI			LR		LR			
	comp=Z,310nm,21.5s							
CD2	Chengdu	96.33 305	*e*P		P		00 34 20.4	+8.0
CD2			PP		PP		00 38 13.4	+4.5
CD2			pmax		pmax			
	comp=Z,10.0nm,0.8s,mb5.2							
CD2			pmax		pmax			
	comp=Z,30nm,5.8s							
CD2			LR		LR			
	comp=N,290nm,12.0s							
CD2			LR		LR			
	comp=E,420nm,16.8s							
CD2			LR		LR			
	comp=Z,390nm,16.6s							
NVAR	Mina Array Bea	97.36 46	P		P		00 34 15.2	-1.6
	comp=Z,0.5nm,0.5s,mb4.1,baz=212,slow=4.9,SNR=3.5							
NVAR	Mina Array Bea	97.36 46	P		P		00 34 15.2	-1.6
HHC	Hu-ho-hao-te	98.37 316	*e*P		P		00 34 29.1	+7.8
HHC			PP		PP		00 38 29.1	+4.7
HHC			pmax		pmax			
	comp=Z,13nm,0.7s,mb5.5							
HHC			pmax		pmax			
	comp=Z,190nm,7.3s							
HHC			LR		LR			
	comp=N,150nm,18.3s							
HHC			LR		LR			
	comp=E,360nm,18.5s							
HHC			LR		LR			
	comp=Z,180nm,18.7s							
TXAR	Lajitas Array	100.69 61	PKKPbc		PKKPbc		00 50 44.8	+0.3
	comp=Z,0.3nm,0.5s,baz=77,slow=4.2,SNR=5.2							
TXAR	Lajitas Array	100.69 61	PKKPbc		PKKPbc		00 50 44.8	+0.3
ILAR	Eielson Array	106.83 16	PKKPbc		PKKPbc		00 50 21.8	-5.6
	comp=Z,0.5nm,0.6s,baz=338,slow=3.3,SNR=11							
ILAR			PKKP		PKKPbc		00 50 40.2	+13
	comp=Z,0.4nm,0.7s,baz=3.3,slow=3.3,SNR=5.8							
ILAR	Eielson Array	106.83 16	PKKPbc		PKKPbc		00 50 21.8	-5.6
ILAR			PKKP		PKKPbc		00 50 40.2	+13
INK	Inuvik	112.80 18	PKKPbc		PKKPbc		00 50 05.6	-2.4
	comp=Z,0.7nm,0.5s,baz=130,slow=2.3,SNR=5.0							
INK	Inuvik	112.80 18	PKKPbc		PKKPbc		00 50 05.6	-2.4
WMQ	Urumqi	114.20 308	*e*P		PKiKP		00 39 22.3	+0.5
YKA	Yellowknife Ar	114.75 29	PKP		PKiKP		00 39 18.9	-3.3
	comp=Z,0.5nm,0.6s,baz=262,slow=1.6,SNR=6.3							
YKA			PKKPbc		PKKPbc		00 49 59.0	-2.3
	comp=Z,0.3nm,0.5s,baz=48,slow=3.6,SNR=4.8							
YKA	Yellowknife Ar	114.75 29	PKP		PKiKP		00 39 18.9	-3.3
YKA			PKKPbc		PKKPbc		00 49 59.0	-2.3
TKL	Tuckaleechee C	118.16 65	PKP		PKPdf		00 39 27.2	-2.5
	comp=Z,2.5nm,0.8s,baz=220,slow=6.9,SNR=4.9							
TKL	Tuckaleechee C	118.16 65	PKP		PKPdf		00 39 27.2	-2.5
MK31	Makanchi Array	118.97 308	*e*PKPdf		PKPdf		00 39 27.2	-3.6
MKAR	Makanchi Array	118.97 308	PKP		PKPdf		00 39 27.5	-3.4
	comp=Z,1.6nm,0.5s,baz=203,slow=1.5,SNR=41							
MKAR			PKKPbc		PKKPbc		00 49 46.6	+0.7
	comp=Z,0.6nm,0.6s,baz=306,slow=4.5,SNR=6.2							
MKAR	Makanchi Array	118.97 308	PKP		PKPdf		00 39 27.5	-3.4
MKAR			PKKPbc		PKKPbc		00 49 46.6	+0.7
ZALV	Zalesovo Beam	120.55 317	PKP		PKPdf		00 39 29.8	-3.8
	comp=Z,1.0nm,0.3s,baz=167,slow=3.4,SNR=7.8							
ZALV	Zalesovo Beam	120.55 317	PKP		PKPdf		00 39 29.8	-3.8
KBL	Kabul	122.58 290	*e*PKPdf		PKPdf		00 39 35.5	-2.7
KURK	Kurchatov	122.79 311	PKP		PKPdf		00 39 34.9	-3.1
	comp=Z,2.2nm,0.5s,baz=118,slow=1.8,SNR=33							
KURK			PP		PP		00 41 22.2	+2.8
	comp=Z,0.4nm,0.4s,baz=122,slow=5.6,SNR=4.8							
KURK	Kurchatov	122.79 311	PKP		PKPdf		00 39 34.9	-3.1
KURK			PP		PP		00 41 22.2	+2.8
KKAR	Karatay Array	125.09 300	*e*PKPdf		PKPdf		00 39 40.0	-2.7
SADO	Sadowa	125.24 57	PKP		PKPdf		00 39 39.9	-3.0
	comp=Z,6.1nm,0.6s,baz=233,slow=4.3,SNR=5.6							
SADO	Sadowa	125.24 57	PKP		PKPdf		00 39 39.9	-3.0
BVAR	Borovoye Array	128.36 312	PKP		PKPdf		00 39 45.8	-2.8
	comp=Z,1.4nm,0.5s,baz=71,slow=1.3,SNR=11							
BVAR	Borovoye Array	128.36 312	PKP		PKPdf		00 39 45.8	-2.8
AKTO	Aktyubinsk	135.34 307	PKP		PKPdf		00 39 59.9	-2.0
	comp=Z,1.4nm,0.5s,baz=107,slow=4.5,SNR=8.0							
AKTO	Aktyubinsk	135.34 307	PKP		PKPdf		00 39 59.9	-2.0
QRN	Al-Qurain	136.21 273	*e*P		PKPdf		00 40 03.1	-1.1
QRN			AMb		AMB		00 40 04.2	
	comp=Z,55nm,0.8s							
RDF	Al-Radifah	136.57 273	*e*P		PKPdf		00 40 03.7	-1.2
RDF			AMb		AMB		00 40 09.4	
	comp=Z,50nm,1.7s							
NAY	Al-Naaiem	136.96 274	*e*P		PKPdf		00 40 03.9	-1.7
SPITS	Spitsbergen Ar	139.18 354	PKP		PKPdf		00 40 06.1	-2.2
	comp=Z,25nm,1.2s,baz=157,slow=11,SNR=6.7							
SPITS	Spitsbergen Ar	139.18 354	PKP		PKPdf		00 40 06.1	-2.2
KEV	Kevo	144.49 342	*e*pkp		PKPdf		00 40 14.2	-3.7
ARCES	ARCESS Array B	145.01 342	PKPbc		PKPbc		00 40 16.4	-2.3
	comp=Z,3.6nm,0.6s,baz=55,slow=3.5,SNR=24							
ARCES	ARCESS Array B	145.01 342	PKPbc		PKPbc		00 40 16.4	-2.3
ASF	Jabal al Asfar	146.28 272	PKPbc		PKPbc		00 40 22.4	-1.2
	comp=Z,4.6nm,0.7s,baz=17,slow=2.0,SNR=12							
ASF	Jabal al Asfar	146.28 272	PKPbc		PKPbc		00 40 22.4	-1.2
EIL	Elat	146.80 267	PKPbc		PKPbc		00 40 23.6	-1.6
	comp=Z,8.0nm,0.6s,baz=358,slow=3.0,SNR=16							
EIL	Elat	146.80 267	PKPbc		PKPbc		00 40 23.6	-1.6
MMAI	Mount Meron Ar	147.76 273	PKPbc		PKPbc		00 40 26.9	-0.8
	comp=Z,21nm,0.6s,baz=82,slow=6.2,SNR=88							
MMAI	Mount Meron Ar	147.76 273	PKPbc		PKPbc		00 40 26.9	-0.8
DBIC	Dimbokro	148.45 178	PKP		PKPdf		00 40 24.6	-1.7
	comp=Z,14nm,0.5s,baz=156,slow=4.5,SNR=12							
DBIC			PKPbc		PKPbc		00 40 28.4	-1.7
	comp=Z,14nm,0.5s,baz=154,slow=3.4,SNR=12							
DBIC	Dimbokro	148.45 178	PKP		PKPdf		00 40 24.6	-1.7
DBIC			*e*PKPdf		PKPdf		00 40 24.7	-1.6
DBIC			PKPbc		PKPbc		00 40 28.4	-1.7
KAF	Kangasniemi	149.85 332	*e*pkp		PKPdf		00 40 28.2	+1.2
CSS	Prodhromos	150.02 275	*e*PKPdf		PKPdf		00 40 29.9	+1.7
FINES	FINESS Array B	150.34 331	PKPbc		PKPbc		00 40 30.5	-2.7
	comp=Z,5.3nm,0.5s,baz=24,slow=3.3,SNR=40							
FINES			PKPab		PKPab		00 40 38.0	-2.3
	comp=Z,6.8nm,0.6s,baz=56,slow=2.3,SNR=12							
FINES	FINESS Array B	150.34 331	PKPbc		PKPbc		00 40 30.5	-2.7
FINES			PKPab		PKPab		00 40 38.0	-2.3
BR131	Keskin Array S	150.90 285	*e*PKPdf		PKPdf		00 40 32.4	+3.1
BR131			*e*PKPbc		PKPbc		00 40 36.6	+1.4
BR131			*e*PKPab		PKPab		00 40 43.0	-0.3
BRTR	Keskin Array B	150.90 285	PKPbc		PKPbc		00 40 32.7	-2.5
	comp=Z,13nm,0.6s,baz=138,slow=4.7,SNR=75							
BRTR			PKPab		PKPab		00 40 42.1	-1.2
	comp=Z,4.4nm,0.7s,baz=101,slow=5.2,SNR=7.7							
BRTR	Keskin Array B	150.90 285	PKPbc		PKPbc		00 40 32.7	-2.5
BRTR			PKPab		PKPab		00 40 42.1	-1.2
AKASG	Malin Array Be	153.55 309	PKPbc		PKPbc		00 40 37.9	-2.9
	comp=Z,1.7nm,0.6s,baz=65,slow=3.0,SNR=7.3							
AKASG			PKPab		PKPab		00 40 51.4	-2.8
	comp=Z,3.5nm,0.7s,baz=64,slow=4.1,SNR=8.9							
AKASG	Malin Array Be	153.55 309	PKPbc		PKPbc		00 40 37.9	-2.9
AKASG			PKPab		PKPab		00 40 51.4	-2.8
BBTS	Babate	153.91 151	PKPbc		PKPbc		00 40 39.5	-3.2
	comp=Z,16nm,0.7s,baz=175,slow=3.4,SNR=4.3							
BBTS	Babate	153.91 151	PKPbc		PKPbc		00 40 39.5	-3.2
TORD	Torodi Ar. Bea	154.39 193	PKP		PKPdf		00 40 33.0	-2.2
	comp=Z,1.8nm,0.8s,baz=238,slow=0.4,SNR=11							
TORD			PKPbc		PKPbc		00 40 41.7	-1.9
	comp=Z,2.6nm,0.6s,baz=190,slow=1.7,SNR=15							
TORD			PKPab		PKPab		00 40 57.7	-0.7
	comp=Z,5.8nm,0.6s,baz=161,slow=2.4,SNR=7.1							
TORD	Torodi Ar. Bea	154.39 193	PKP		PKPdf		00 40 33.0	-2.2
TORD			PKPbc		PKPbc		00 40 41.7	-1.9
TORD			PKPab		PKPab		00 40 57.8	-0.7
HFS	Hagfors	155.50 339	PKPbc		PKPdf		00 40 42.8	+7.5
	comp=Z,4.1nm,0.9s,baz=349,slow=3.0,SNR=4.3							
HFS			PKPab		PKPab		00 40 59.8	-2.3
	comp=Z,4.8nm,0.8s,baz=72,slow=4.7,SNR=3.4							
HFS	Hagfors	155.50 339	PKPbc		PKPdf		00 40 42.8	+7.5
HFS			PKPab		PKPab		00 40 59.8	-2.3
MLR	Muntele Rosu	156.73 297	PKPab		PKPab		00 41 07.1	-0.8
	comp=Z,0.8nm,0.7s,baz=256,slow=1.5,SNR=5.3							
MLR	Muntele Rosu	156.73 297	PKPab		PKPab		00 41 07.1	-0.8
GERES	GERESS Array B	163.50 315	PKPab		PKPab		00 41 36.2	-1.1
	comp=Z,0.8nm,0.6s,baz=54,slow=3.4,SNR=4.9							
GERES	GERESS Array B	163.50 315	PKPab		PKPab		00 41 36.2	-1.1
KEST	Kesra	169.04 260	PKPab		PKPab		00 42 02.6	+0.3
	comp=Z,1.8nm,1.0s,baz=270,slow=9.8,SNR=7.0							
KEST	Kesra	169.04 260	PKPab		PKPab		00 42 02.6	+0.3
ESDC	Sonseca Array	178.69 0	PKPab				00 42 41.6	
	comp=Z,0.1nm,0.3s,baz=5.4,slow=3.4,SNR=5.1							

IDC ***19*** *00:22:32.3±0.9, 32°.46S×71°.78W, h0km, mb4.2/8, mb1 4.3/11, mb1mx4.2/16, mbtmp4.1/11, ML4.2/3, MS3.6/1, Ms1 3.5/1, ms1mx2.8/41, Error ellipse: s-maj=34.4km s-min=19.9km az=74.0*

ISCJB ***19*** *00:22:34.1±0.9, 32°.46S±0°.03×72°.05W±0°.06, h23km±5km, mb4.2/9, Error ellipse: s-maj=8.1km s-min=4.2km az=163.6*

NEIC ***19*** *00:22:35.9, 32°.48S×71°.92W, h29km, mb4.5/6, ML4.1(GUC), After GUC.*

GUC ***19*** *00:22:35.9±0.7, 32°.48S×71°.92W, h29km±4km, MD4.3, ML4.1*

ISC 19 00:22:35.1±1.0, 32°.47S±0°.03×71°.97W±0°.05, h17km±6km, n69, σ0°.81/77, mb4.2/9, 8C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.62	154	*e*P		Pg	00 22 47.2	-0.2
IHA	Instituto Hidr	0.62	154	*e*P		Pg	00 22 47.2	-0.2
CHNG	Los Chungos	0.71	35	⇓*i*P		Pb	00 22 49.0	+0.1
CHNG				*i* S		Sg	00 22 58.7	+0.4
PTCH	Petorca	0.90	77	⇓*i*P		Pb	00 22 51.9	-0.4
PTCH				*i* S		Sb	00 23 03.6	-0.4
PTCH	Petorca	0.90	77	⇓*i*P		Pb	00 22 51.9	-0.4
PTCH				*i* S		Sb	00 23 03.6	-0.4
PTCH				AML	AML		00 23 05.2	
	comp=N,18μm,0.3s							
ROCH	El Roble	0.95	122	⇓*i*P		Pb	00 22 52.5	-0.7
ROCH				*i* S		Sb	00 23 04.6	-0.9
ROCH				AML	AML		00 23 07.0	
	comp=N,11μm,0.7s							
LCCH	Las Cruces	1.06	162	⇓*i*P		Pb	00 22 54.5	-0.5
LCCH	Las Cruces	1.06	162	⇓*i*P		Pb	00 22 54.5	-0.5
JACH	Jahuel	1.18	101	⇑*i*P		Pn	00 22 56.1	-0.8
JACH	Jahuel	1.18	101	⇑*i*P		Pn	00 22 56.1	-0.8
PEL	Peldehue	1.28	122	⇓*i*P		Pn	00 22 57.9	-0.2
PEL				*i* S		Sb	00 23 14.0	-0.8
PEL				AML	AML		00 23 17.0	
	comp=E,19μm,0.4s							
RCDM	Rinconada Maip	1.41	136	*e*P		Pn	00 22 59.7	-0.3
RCDM				*i* S		Sn	00 23 18.1	-0.2
RCDM	Rinconada Maip	1.41	136	*e*P		Pn	00 22 59.7	-0.3
RCDM				*i* S		Sn	00 23 18.1	-0.2
RCDM				AML	AML		00 23 21.4	
	comp=E,4μm,0.3s							
TACH	Talagante	1.47	144	⇓*i*P		Pn	00 23 00.7	0.0
TACH				*i* S		Sn	00 23 19.1	-0.4
TACH	Talagante	1.47	144	⇓*i*P		Pn	00 23 00.7	0.0
TACH				*i* S		Sn	00 23 19.1	-0.4
SAN	Santiago	1.48	132	⇑*i*P		Pn	00 23 01.0	+0.1
SAN				*e*S		Sn	00 23 19.6	-0.2
SAN	Santiago	1.48	132	⇑*i*P		Pn	00 23 01.0	+0.1
SAN				*e*S		Sn	00 23 19.6	-0.2
CLCH	Cerro Calan	1.52	128	⇑*i*P		Pn	00 23 01.6	+0.1
CLCH				*i* S		Sn	00 23 20.7	-0.1
CLCH				AML	AML		00 23 28.4	
	comp=N,6μm,0.5s							
CLCH				AML	AML		00 23 29.0	
	comp=N,7μm,0.5s							
CMCH	Combarbala	1.53	33	⇑*i*P		Pn	00 23 01.9	+0.3
CMCH				*i* S		Sn	00 23 21.6	+0.5
ANTU	Antumapu	1.57	135	AML	AML		00 23 26.7	
	comp=N,6μm,0.4s							
FSR	Penalolen	1.58	130	⇓*i*P		Pn	00 23 02.8	+0.6
FSR				*i* S		Sn	00 23 22.5	+0.2
FSR	Penalolen	1.58	130	⇓*i*P		Pn	00 23 02.8	+0.6
FSR				*i* S		Sn	00 23 22.5	+0.2
FSR				AML	AML		00 23 24.0	
	comp=N,937nm,0.3s							
FCH	Farellones	1.65	122	*e*P		Pn	00 23 03.7	+0.4
FCH	Farellones	1.65	122	*e*P		Pn	00 23 03.7	+0.4
FCH				AML	AML		00 23 26.6	
	comp=N,3μm,0.3s							
PCH	Pirque	1.68	134	⇓*i*P		Pn	00 23 04.0	+0.3
PCH	Pirque	1.68	134	⇓*i*P		Pn	00 23 04.0	+0.3
SJCH	San Jose de Ma	1.79	131	*e*P		Pn	00 23 05.8	+0.6
SJCH				*i* S		Sn	00 23 28.5	+0.9
SJCH				AML	AML		00 23 35.0	
	comp=N,2μm,0.5s							
CACH	El Canelo	2.01	145	⇑*i*P		Pn	00 23 09.3	+1.1
CACH	El Canelo	2.01	145	⇑*i*P		Pn	00 23 09.3	+1.1
LMEL	Las Melosas	2.02	133	*e*P		Pn	00 23 09.3	+0.9
LMEL				*i* S		Sn	00 23 34.9	+1.7
LMEL	Las Melosas	2.02	133	*e*P		Pn	00 23 09.3	+0.9
LMEL				*i* S		Sn	00 23 34.9	+1.7
LMEL				AML	AML		00 23 41.2	
	comp=N,3μm,0.2s							
CFAA	Coronel Fontan	3.29	76	Pn		Pn	00 23 27.4	+1.7
	comp=N,2.9nm,0.3s,baz=246,slow=11,SNR=45							
CFAA				Lg			00 24 11.2	
	comp=N,4.5nm,0.3s,baz=158,slow=10,SNR=12							
CFAA	Coronel Fontan	3.29	76	Pn		Pn	00 23 27.4	+1.7
CFAA				Lg			00 24 11.2	
LCO	Las Campanas	3.61	18	*e*Pn		Pn	00 23 30.4	+0.1
LCO				*e*Sb		Sb	00 24 18.8	-3.3
PLCA	Paso Flores	8.33	173	Pn		Pn	00 24 35.2	+0.2
	comp=N,1.3nm,0.3s,baz=333,slow=11,SNR=29							
PLCA				LR		LR	00 28 17.5	
	comp=N,361nm,19.8s,baz=214,slow=42							
PLCA	Paso Flores	8.33	173	*e*Pn		Pn	00 24 35.1	+0.1
	comp=N,4.3nm,0.5s							
TRQA	Tornquist	9.89	127	*e*Pn		Pn	00 24 57.3	+0.9
	comp=N,8.7nm,0.7s							
CPUP	Villa Florida	14.15	68	Pn		Pn	00 25 55.9	+1.2
	comp=N,0.4nm,0.3s,baz=211,slow=13,SNR=3.6							
CPUP	Villa Florida	14.15	68	*e*Pn		Pn	00 25 55.0	+0.3
	comp=N,15nm,0.6s							
LPAZ	La Paz	16.48	13	Pn		Pn	00 26 26.4	+0.9
	comp=N,0.3nm,0.3s,baz=180,slow=5.4,SNR=16							
LPAZ	La Paz	16.48	13	*e*Pn		Pn	00 26 26.4	+0.8
	comp=N,5.5nm,0.8s							
SIV	San Ignacio	19.16	34	P		Pn	00 26 56.1	-2.5
	comp=N,0.2nm,0.3s,baz=220,slow=14,SNR=6.1							
SIV	San Ignacio	19.16	34	P		Pn	00 26 56.1	-2.5
EFI	East Falkland	21.72	156	*e*P		P	00 27 23.4	-1.9
	comp=N,9.7nm,0.5s,mb4.5							
SNAA	Sanae	52.98	158	P		P	00 31 49.9	-0.4
	comp=N,0.8nm,0.6s,mb3.8,baz=267,slow=7.7,SNR=16							
SNAA	Sanae	52.98	158	*e*P		P	00 31 49.9	-0.4
	comp=N,4.2nm,0.7s,mb4.5							
TXAR	Lajitas Array	68.43	330	P		P	00 33 36.4	+0.4
	comp=N,0.2nm,0.6s,mb3.3,baz=158,slow=7.5,SNR=3.0							
TXAR	Lajitas Array	68.43	330	P		P	00 33 36.4	+0.4
DBIC	Dimbokro	74.64	72	P		P	00 34 13.1	-0.8
	comp=N,3.5nm,0.6s,mb4.5,baz=213,slow=7.0,SNR=13							
DBIC	Dimbokro	74.64	72	*e*P		P	00 34 13.0	-0.8
	comp=N,3.4nm,0.6s,mb4.5							
BOSA	Boshof	80.73	118	P		P	00 34 46.9	-0.8
	comp=N,7.5nm,1.1s,mb4.5,baz=162,slow=22,SNR=7.3							
BOSA	Boshof	80.73	118	*e*P		P	00 34 46.9	-0.8
	comp=N,3.0nm,0.8s,mb4.3							
NVAR	Mina Array Bea	82.66	325	P		P	00 34 58.6	+1.2
	comp=N,0.5nm,0.6s,mb3.7,baz=144,slow=7.3,SNR=3.8							
NVAR	Mina Array Bea	82.66	325	P		P	00 34 58.6	+1.2
LBTB	Lobatse	82.90	115	P		P	00 34 58.4	-0.8
	comp=N,2.8nm,0.9s,mb4.3,baz=129,slow=12,SNR=5.7					

KBK P 00 26 24.3
SNR=40
FRU Bishkek 6.03 19⇑ iPN Pn 00 26 25.5 +1.5
FRU pmax pmax
comp=Z,160nm,1.4s
KK31 Karatay Array 6.04 350 ⇓Pn Pn 00 26 22.8 -1.3
comp=Z,58nm,0.3s,baz=176,slow=13,SNR=996
KK31 Sn Sn 00 27 25.0 -6.9
comp=Z,235nm,0.5s,baz=177,slow=22,SNR=15
KK31 Karatay Array 6.04 350 PN **Pn 00 26 22.8 -1.4**
KK31 pmax pmax
comp=Z,58nm,0.4s
KKAR Karatay Array 6.04 350 *e*Pn **Pn 00 26 22.8 -1.3**
KKAR *e*Sn **Sn 00 27 25.5 -6.5**
KKAR Karatay Array 6.04 350 *e*PN **Pn 00 26 22.8 -1.4**
ULHL Ulahol 6.06 32 P **Pn 00 26 25.4 +0.9**
SNR=62
ULHL P 00 26 25.4
SNR=62
CHMS Chumysh 6.22 19 P **Pn 00 26 27.2 +0.7**
SNR=131
CHMS P 00 26 27.2
SNR=131
TKM2 Tokmak 2 6.40 25 P **Pn 00 26 29.9 +0.9**
SNR=134
TKM2 P 00 26 29.9
SNR=134
TKM2 Tokmak 2 6.40 25 ⇓Pn **Pn 00 26 30.2 +1.2**
comp=Z,178nm,0.5s
TKM2 ⇓Sn **Sn 00 27 39.2 -1.5**
comp=Z,109nm,0.9s
TKM2 Tokmak 2 6.40 25 *e*Pn **Pn 00 26 29.9 +0.9**
TKM2 *e*Sn **Sn 00 27 35.8 -4.9**
TKM2 Tokmak 2 6.40 25 *e*PN **Pn 00 26 29.9 +0.9**
USP Ospenovka 6.41 17 P **Pn 00 26 29.0 -0.1**
SNR=259
USP P 00 26 29.0
SNR=259
BHK Bhakra 6.82 146 *e*PKP **Pn 00 26 36.2 +1.4**
BHK *e*S **Sn 00 27 47.8 -3.2**
SDNR Sundarnagar 7.01 142 *e*PKP **Pn 00 26 38.0 +0.6**
SDNR *e*x **Sn 00 27 52.0 -3.6**
KNDC Almaty 7.17 31 ⇑Pn **Pn 00 26 41.7 +2.3**
comp=Z,132nm,0.5s
KNDC ⇓Sn **Sn 00 28 00.4 +1.1**
comp=Z,112nm,0.8s
SMLA Simla 7.41 143 *i* P **Pn 00 26 43.2 +0.4**
SMLA *i* x **Sn 00 28 01.1 -4.2**
SMLA ⇓AML AML 00 28 03.0
comp=N,4μm,0.3s
SMLA ⇓AML AML 00 28 03.0
comp=E,5μm,0.4s
KKR Kurukshetra 8.25 149 *e*PKP **Pn 00 26 55.0 +0.8**
DDI Dehra Dun 8.51 142 *e*x **Pn 00 26 58.0 +0.4**
DDI *e*PKP 00 26 58.0
DDI *e*x **Sn 00 28 31.8 -0.1**
RTK Rohtak 8.93 154 *e*PKP **Pn 00 27 02.4 -1.0**
NDI New Delhi 9.54 151 *e*PKP **Pn 00 27 09.8 -1.8**
NDI *e*S **Sn 00 28 46.7 -10**
NDI AML AML 00 28 55.8
comp=E,151nm,0.5s
NDI AML AML 00 28 55.9
comp=N,139nm,0.4s
AYAN Aya Nagar 9.69 152 *e*PKP **Pn 00 27 13.6 0.0**
AYAN AML AML 00 29 03.7
comp=Z,116nm,0.5s
KUDL Kundal 9.77 156 *e*PKP **Pn 00 27 13.3 -1.4**
KUDL *e*S **Sn 00 28 52.1 -10**
KUDL AML AML 00 29 01.3
comp=N,64nm,0.2s
KUDL AML AML 00 29 02.9
comp=E,97nm,0.2s
AJM Ajmer 10.89 167 *e*PKP **Pn 00 27 30.0 +0.4**
AJM *e*S **Sn 00 29 20.0 -10**
AGRA Agra 11.12 151 *e*PKP **Pn 00 27 31.4 -1.3**
AGRA *e*S **Sn 00 29 24.4 -11**
AGRA AML AML 00 29 32.1
comp=E,202nm,0.3s
AGRA AML AML 00 29 37.3
comp=N,138nm,0.4s
MK31 Makanchi Array 12.31 35 Pn **Pn 00 27 47.9 -0.4**
comp=N,6.5nm,0.5s,baz=218,slow=12,SNR=287
MK31 Makanchi Array 12.31 35 *e*Pn **Pn 00 27 47.4 -0.9**
MK31 Makanchi Array 12.31 35 *e*P **Pn 00 27 47.4 -0.8**
MKAR Makanchi Array 12.31 35 P **Pn 00 27 48.6 +0.4**
comp=N,1.5nm,0.3s,baz=224,slow=14,SNR=132
MKAR Makanchi Array 12.31 35 *e*Pn **Pn 00 27 47.9 -0.3**
MKAR Makanchi Array 12.31 35 P **Pn 00 27 48.6 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.3s
DANN Dangsing 13.26 128 *e*P **Pn 00 27 58.7 -2.0**
comp=Z,228nm,0.4s
DANN Dangsing 13.26 128 *e*P **Pn 00 27 58.7 -2.0**
comp=Z,228nm,0.4s
KOLN Koldanda 13.57 130 *e*P **Pn 00 28 03.4 -1.3**
comp=Z,112nm,0.3s
KOLN Koldanda 13.57 130 *e*P **Pn 00 28 03.4 -1.3**
comp=Z,112nm,0.3s
GKN Gorkha 14.05 127 *e*P **Pn 00 28 09.5 -1.4**
comp=Z,292nm,0.4s
GKN Gorkha 14.05 127 *e*P **Pn 00 28 09.5 -1.4**
comp=Z,292nm,0.4s
KURK Kurchatov 14.37 17 P **Pn 00 28 09.8 -4.9**
comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=45
KURK Kurchatov 14.37 17 *e*P **Pn 00 28 18.0 +3.3**
comp=Z,41nm,0.8s
KURK Kurchatov 14.37 17 *e*P **Pn 00 28 18.0 +3.3**
KURK pmax pmax
comp=Z,41nm,0.8s
ALBI Allahabad 14.51 142 *e*x x 00 30 42.0
KKN Kakani 14.62 126 *e*P **Pn 00 28 16.3 -1.7**
comp=Z,148nm,0.6s
KKN Kakani 14.62 126 *e*P **Pn 00 28 16.3 -1.7**
comp=Z,148nm,0.6s
KKN Kakani 14.62 126 *e*P **Pn 00 28 16.3 -1.7**
KKN pmax pmax
comp=Z,148nm,0.6s
DMN Daman 14.63 127 *e*P **Pn 00 28 17.0 -1.2**
comp=Z,104nm,0.4s
DMN Daman 14.63 127 *e*P **Pn 00 28 17.0 -1.2**
comp=Z,104nm,0.4s
BHPL Bhopal 14.65 160 *e*PKP **Pn 00 28 20.7 +2.2**
BHPL *e*x x 00 30 51.9
PKI Pulchoki 14.85 126 *e*P **Pn 00 28 19.7 -1.3**
comp=Z,165nm,0.6s
PKI Pulchoki 14.85 126 *e*P **Pn 00 28 19.7 -1.3**
comp=Z,165nm,0.6s
PKI Pulchoki 14.85 126 *e*P **Pn 00 28 19.7 -1.3**
PKI pmax pmax
comp=Z,165nm,0.6s
AB31 Akbulak array 14.90 328 Pn **Pn 00 28 17.4 -4.1**
comp=Z,12nm,0.4s,baz=139,slow=12,SNR=600
AB31 ⇓Sn **Sn 00 30 51.8 -14**
comp=Z,33nm,0.5s,baz=156,slow=23,SNR=17
AB31 Akbulak array 14.90 328 *i* P **Pn 00 28 17.3 -4.1**
AB31 pmax pmax
comp=Z,15nm,0.3s
ABKAR Akbulak array 14.90 328 *e*Pn **Pn 00 28 16.9 -4.5**
comp=Z,21nm,0.3s
ABKAR *e*S **Sn 00 30 48.6 -18**
GUN Gumba 14.93 124 *e*P **Pn 00 28 20.3 -1.6**
comp=Z,96nm,0.3s
GUN Gumba 14.93 124 *e*P **Pn 00 28 20.3 -1.6**
comp=Z,96nm,0.3s
JIRN Jiri 15.30 124 *e*P **Pn 00 28 25.5 -1.1**
comp=Z,472nm,0.4s
VOSK Vostochnaya 15.58 358 ⇓Pn **Pn 00 28 26.5 -3.3**
comp=Z,13nm,1.1s
VOSK ⇑Sn **Sn 00 31 16.4 -6.0**
comp=Z,10nm,0.8s
VOSK Vostochnaya 15.58 358 P **Pn 00 28 26.5 -3.3**
VOSK 00 31 08.4
VOSK pmax pmax
comp=Z,13nm,1.1s
VOSK smax
comp=Z,10.0nm,0.8s
BVA0 Borovoye Array 15.90 357 ⇑Pn **Pn 00 28 31.9 -2.0**
comp=Z,1.3nm,0.5s,baz=160,slow=13,SNR=148
BVA0 Sn **Sn 00 31 18.9 -11**
comp=Z,4.5nm,1.4s,baz=170,slow=26,SNR=11
BVAR Borovoye Array 15.90 357 P **Pn 00 28 31.4 -2.4**
comp=Z,1.4nm,0.3s,baz=165,slow=12,SNR=40
BVAR S **S 00 31 19.4 -16**
comp=Z,1.1nm,0.3s,baz=164,slow=25,SNR=8.5
BVAR Borovoye Array 15.90 357 P **Pn 00 28 31.4 -2.4**
BVAR S **S 00 31 19.4 -16**
BVAR Borovoye Array 15.90 357 P **Pn 00 28 31.4 -2.5**
BVAR S **S 00 31 19.4 -16**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax
comp=N,1.0nm,0.3s
BRVK Borovoye 15.94 356 ⇑Pn **Pn 00 28 31.9 -2.5**
comp=N,21nm,0.6s
BRVK ⇑Sn **Sn 00 31 18.7 -12**
comp=N,40nm,1.5s
BRVK Borovoye 15.94 356 *e*Pn **Pn 00 28 31.7 -2.6**
comp=N,12nm,0.5s
BRVK *e*Sn **Sn 00 31 12.6 -18**
BRVK Borovoye 15.94 356 *e*P **Pn 00 28 31.7 -2.6**
BRVK pmax pmax
comp=Z,12nm,0.5s
RAMN Ramite 16.04 125 *e*P **Pn 00 28 34.9 -0.9**
comp=Z,143nm,0.4s
TAPN Taplejung 16.52 122 *e*P **Pn 00 28 40.9 -0.8**
comp=Z,123nm,0.4s
AKTO Aktyubinsk 16.61 327 P **Pn 00 28 40.6 -1.9**
comp=Z,6.1nm,0.3s,baz=140,slow=13,SNR=128
AKTO S **S 00 31 33.1 -15**
comp=Z,2.1nm,0.3s,baz=143,slow=20,SNR=8.3
AKTO Aktyubinsk 16.61 327 ⇑Pn **Pn 00 28 39.3 -3.2**
comp=Z,4.6nm,0.7s
AKTO ⇑Sn **Sn 00 31 34.2 -13**
comp=Z,3.4nm,0.6s
AKTO Aktyubinsk 16.61 327 P **Pn 00 28 40.6 -1.9**
AKTO S **S 00 31 33.1 -15**
AKTO Aktyubinsk 16.61 327 P **Pn 00 28 40.7 -1.9**
AKTO S **S 00 31 33.1 -15**
AKTO pmax pmax
comp=Z,6.0nm,0.3s
AKTO smax
comp=N,2.0nm,0.3s
ODAN Odare 16.62 124 *e*P **Pn 00 28 41.8 -1.2**
comp=N,111nm,0.4s
LSA Lhasa 17.66 109 *e*Pn **Pn 00 28 58.0 +2.5**
comp=N,24nm,0.6s
LSA Lhasa 17.66 109 *e*P **Pn 00 28 58.0 +2.6**
LSA pmax pmax
comp=Z,23nm,0.6s
POO Poona 18.64 174 *e*x **P 00 29 10.0 +4.6**
ZAA0 Zalesovo Array 19.00 24 *e*P **P 00 29 09.1 +0.1**
ZALV Zalesovo Beam 19.00 24 P **P 00 29 09.5 +0.4**
comp=Z,14nm,0.3s,baz=218,slow=10,SNR=264
ZALV Zalesovo Beam 19.00 24 P **P 00 29 09.5 +0.4**
ZALV Zalesovo Beam 19.00 24 P **P 00 29 09.5 +0.4**
ZALV pmax pmax
comp=Z,14nm,0.3s
NVS Novosibirsk 19.30 20⇑ *i*P **P 00 29 12.3 0.0**
NVS *e*S **S 00 32 41.5 -2.4**
NVS pmax pmax
comp=Z,55nm,0.9s
NVS pmax pmax
comp=N,39nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.6s
NVS smax
comp=N,6.0nm,1.0s
NVS smax
comp=E,10.0nm,1.1s
HYB Hyderabad 20.51 162 *i* P **P 00 29 26.0 +0.3**
HYB *e*S **S 00 33 05.0 -3.4**
DGRG David-gareji 20.97 290 P **P 00 29 29.8 -0.6**
SVE Sverdlovsk 21.08 343 *e*P **P 00 29 31.0 -0.4**
SVE *e*S **S 00 33 12.8 -6.0**
SVE pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
ARU Arti 21.27 339 *e*P **P 00 29 32.9 -0.6**
comp=Z,8.9nm,0.7s,mb4.2
ARU *e*S **S 00 33 16.8 -5.7**
ARU Arti 21.27 339 *d iP* **P 00 29 33.0 -0.4**
ARU S **S 00 33 23.7 +1.2**
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.0
MTA Mtatsminda 21.42 291 P **P 00 29 35.0 -0.1**
GNI Garni 21.42 286 P **P 00 29 36.4 +1.2**
comp=Z,28nm,0.6s,mb4.8,baz=5.1,slow=2.0,SNR=50
GNI Garni 21.42 286 *e*P **P 00 29 36.4 +1.2**
comp=Z,24nm,0.5s,mb4.8
GNI Garni 21.42 286 P **P 00 29 36.4 +1.2**
GNI pmax pmax
comp=Z,28nm,0.6s
TBLG Delisi 21.46 291 *e*P **P 00 29 35.7 +0.1**
TBLG Delisi 21.46 291 P **P 00 29 35.7 +0.1**
MIB Mutribah 21.76 257 *e*P **P 00 29 37.8 -1.1**
MIB AMb AMB 00 29 43.8
comp=Z,65nm,0.9s,mb5.0
KBD Kabd 21.77 256 *e*P **P 00 29 37.9 -1.1**
KBD AMb AMB 00 29 40.5
comp=Z,28nm,0.6s,mb4.7
GOR Gori 21.94 291 P **P 00 29 41.8 +1.1**
RDF Al-Radifah 21.99 255 *e*P **P 00 29 40.5 -0.9**
RDF AMb AMB 00 29 46.9
comp=Z,52nm,1.0s,mb4.8
NAY Al-Naaiem 22.08 256 *e*P **P 00 29 41.1 -1.2**
NAY AMb AMB 00 29 43.4
comp=Z,22nm,0.6s,mb4.7
AKH Akhalkalaki 22.38 290 P **P 00 29 46.5 +1.2**
IMP Imphal 22.47 117 *e*x x 00 29 51.0
ONI Oni 22.47 293 P **P 00 29 48.2 +1.9**
KIV Kislovodsk 23.16 296 *e*P **P 00 29 53.5 +0.8**
comp=Z,27nm,0.6s,mb4.8
KIV *e*S **S 00 33 54.7 0.0**
KIV Kislovodsk 23.16 296 *e*P **P 00 29 54.5 +1.8**
KIV *e* 00 30 18.3
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb3.9
ZAK Zakamensk 25.99 49 *e*P **P 00 30 20.7 +2.5**
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
VSR Storozhevoye 27.12 312 *e*P **P 00 30 27.2 -1.2**
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
SONM Songino Array 27.34 56 P **P 00 30 33.3 +2.9**
comp=Z,5.0nm,0.8s,mb4.1,baz=260,slow=9.3,SNR=38
SONM Songino Array 27.34 56 P **P 00 30 33.3 +2.9**
SONM Songino Array 27.34 56 P **P 00 30 33.3 +2.9**
SONM pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 27.78 56 *e*P **P 00 30 36.7 +2.4**
comp=Z,4.6nm,0.6s,mb4.2
ULN Ulaanbaatar 27.78 56 *e*P **P 00 30 36.7 +2.4**
ULN pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
BR131 Keskin Array S 29.96 287 *e*P **P 00 30 53.9 +0.2**
comp=Z,1.3nm,0.5s,mb3.8
BRTR Keskin Array B 29.96 287 P **P 00 30 54.1 +0.4**
comp=Z,1.9nm,0.6s,mb3.9,baz=100,slow=8.1,SNR=18
BRTR Keskin Array B 29.96 287 P **P 00 30 54.1 +0.4**
BRTR Keskin Array B 29.96 287 P **P 00 30 54.1 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 30.12 121 P **P 00 30 57.5 +2.2**
comp=Z,1.4nm,0.6s,mb3.8,baz=311,slow=8.8,SNR=8.5
CMAR Chiang Mai Arr 30.12 121 P **P 00 30 57.5 +2.2**
CMAR Chiang Mai Arr 30.12 121 P **P 00 30 57.6 +2.2**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 33.13 308 P **P 00 31 19.8 -1.6**
comp=Z,1.6nm,0.5s,mb4.1,baz=80,slow=7.5,SNR=5.9
AKASG Malin Array Be 33.13 308 P **P 00 31 19.8 -1.6**
AKASG Malin Array Be 33.13 308 P **P 00 31 19.8 -1.6**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
PLOR Plostina 34.62 299 ⇓ *iP* **P 00 31 35.9 +1.6**
MLR Muntele Rosu 35.13 298 P **P 00 31 39.3 +0.6**
comp=Z,2.0nm,0.8s,mb4.0,baz=31,slow=18,SNR=11
MLR Muntele Rosu 35.13 298 P **P 00 31 39.3 +0.6**
MLR Muntele Rosu 35.13 298 P **P 00 31 39.3 +0.6**
MLR pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 35.13 298 ⇓ *iP* **P 00 31 40.5 +1.8**
BURAR Bucovina Array 35.57 302 ⇓ *iP* **P 00 31 43.0 +0.6**
JOF Joensuu 35.68 329 *e*P **P 00 31 43.0 -0.2**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
JOF Joensuu 35.68 329 *ep* **P 00 31 43.0 -0.2**
comp=Z,4.2nm,0.4s,mb4.7
KWP Kalwaria Pacla 37.24 306 ⇓ *iP* **P 00 31 57.7 +1.1**
DRGR 37.30 301 ⇓ *iP* **P 00 31 58.1 +0.9**
FINES FINESS Array B 37.37 325 P **P 00 31 57.5 0.0**
comp=Z,2.2nm,0.3s,mb4.5,baz=121,slow=9.1,SNR=38
FINES FINESS Array B 37.37 325 P **P 00 31 57.5 0.0**
FINES FINESS Array B 37.37 325 P **P 00 31 57.5 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 37.49 326 *e*P **P 00 31 57.8 -0.7**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KAF Kangasniemi 37.49 326 *ep* **P 00 31 57.8 -0.7**
comp=Z,4.6nm,0.7s,mb4.5
BZS Buzias 38.15 299 ⇑ *iP* **P 00 32 05.2 +0.9**
KEV Kevo 40.47 338 *e*P **P 00 32 22.0 -1.3**
KEV Kevo 40.47 338 *ep* **P 00 32 22.0 -1.3**
ARCES ARCESS Array B 40.83 337 P **P 00 32 26.6 +0.5**
comp=Z,5.2nm,0.4s,mb4.7,baz=115,slow=8.5,SNR=52
ARCES ARCESS Array B 40.83 337 P **P 00 32 26.6 +0.5**
ARCES ARCESS Array B 40.83 337 P **P 00 32 26.7 +0.5**
ARCES pmax pmax
comp=Z,5.0nm,0.4s
ARE0 ARCESS Array S 40.83 337 *e*P **P 00 32 26.8 +0.6**
KTK1 Kautokeino 41.32 336 *e*P **P 00 32 30.3 0.0**
BRG Berggiesshubel 42.81 308 *i* P **P 00 32 43.0 +0.4**
comp=Z,4.0nm,0.8s,mb4.2
BRG Berggiesshubel 42.81 308 *i* PKP PKiKP 00 41 31.2 -3.7
comp=Z,3.7nm,0.8s
BRG Berggiesshubel 42.81 308 *i* P **P 00 32 43.0 +0.4**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
TRO Tromso 42.97 336 *e*P **P 00 32 43.8 +0.2**
HFS Hagfors 43.02 321 P **P 00 32 44.1 0.0**
comp=Z,6.5nm,0.4s,mb4.8,baz=91,slow=12,SNR=46
HFS Hagfors 43.02 321 P **P 00 32 44.1 0.0**
HFS Hagfors 43.02 321 P **P 00 32 44.1 0.0**
HFS pmax pmax
comp=Z,7.0nm,0.4s
GERES GERESS Array B 43.17 305 PP PP 00 34 31.4 +3.4
comp=Z,0.7nm,0.8s,baz=90,slow=6.7,SNR=3.4
GERES GERESS Array B 43.17 305 PP PP 00 34 31.4 +3.4
CLL Collm 43.37 308 *e*P **P 00 32 47.0 0.0**
CLL Collm 43.37 308 *e*PKPab PKiKP 00 41 31.0 -4.4
MOR8 Moi Rana 43.62 330 *e*P **P 00 32 48.3 -0.5**
KSAR Wonju Array Be 43.93 72 P **P 00 32 54.0 +2.3**
KSAR Wonju Array Be 43.93 72 P **P 00 32 54.1 +2.4**
KSRS Korea Array 43.95 72 P **P 00 32 54.0 +2.1**
comp=Z,1.1nm,0.4s,mb3.9,baz=277,slow=6.1,SNR=6.5
KSRS Korea Array 43.95 72 P **P 00 32 54.1 +2.2**
KSRS pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
NB2 NORSAR Subarra 44.31 323 P **P 00 32 54.2 -0.2**
comp=Z,2.0nm,0.5s,mb4.1,baz=94,slow=7.9
NOA NORSAR Array B 44.31 323 P **P 00 32 54.1 -0.3**
comp=Z,1.9nm,0.5s,mb4.1,baz=94,slow=7.6,SNR=12
NOA PP PP 00 34 55.4 +15
comp=Z,1.5nm,0.8s,baz=97,slow=7.1,SNR=3.3
NOA NORSAR Array B 44.31 323 P **P 00 32 54.1 -0.3**
NOA PP PP 00 34 55.4 +15
NOA NORSAR Array B 44.31 323 P **P 00 32 54.2 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA pmax pmax
comp=Z,2.0nm,0.8s
GRFO Grafenberg 44.68 306 *ep*P pP 00 33 28.4 +2.7
KONO Kongsberg 45.05 321 *e*P **P 00 33 00.3 0.0**
FUORN Ofenpass-Fuorn 45.81 302 *ep*P pP 00 33 37.1 +2.2
DAVOX Davos/Dischmat 46.04 302 P **P 00 33 07.9 -0.4**
comp=Z,3.0nm,0.6s,mb4.2,baz=144,slow=9.0,SNR=6.2
DAVOX Davos/Dischmat 46.04 302 P **P 00 33 07.9 -0.4**
DAVOX Davos/Dischmat 46.04 302 P **P 00 33 07.9 -0.4**
SPITS Spitsbergen Ar 47.03 347 P **P 00 33 16.6 +1.0**
comp=Z,13nm,1.0s,mb4.6,baz=123,slow=14,SNR=9.1
SPITS Spitsbergen Ar 47.03 347 P **P 00 33 16.6 +1.0**
SPITS Spitsbergen Ar 47.03 347 P **P 00 33 16.6 +1.0**
SPITS pmax pmax
comp=Z,13nm,1.0s
LPG La Plagne 48.45 301 *e*P **P 00 33 27.5 +0.6**
LPG La Plagne 48.45 301 *e*P **P 00 33 27.5 +0.6**
LPG La Plagne 48.45 301 *e*P **P 00 33 27.5 +0.6**
LPL La Plagne 48.45 301 *e*P **P 00 33 27.0 0.0**
comp=Z,3.2nm,0.5s,mb4.1
LPL La Plagne 48.45 301 *e*P **P 00 33 27.0 0.0**
comp=Z,3.2nm,0.5s,mb4.4
LPL La Plagne 48.45 301 *e*P **P 00 33 27.0 0.0**
LPL pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
CABF La Chapelle 48.63 303 *e*P **P 00 33 28.4 +0.1**
CABF La Chapelle 48.63 303 *e*P **P 00 33 28.4 +0.1**
CABF La Chapelle 48.63 303 *e*P **P 00 33 28.4 +0.1**
MBDF Montbardon 48.63 300 *e*P **P 00 33 27.6 -0.7**
MBDF Montbardon 48.63 300 *e*P **P 00 33 27.6 -0.7**
MBDF Montbardon 48.63 300 *e*P **P 00 33 27.6 -0.7**
MEZF Maizieres J'vi 48.88 306 *e*P **P 00 33 29.0 -1.2**
MEZF Maizieres J'vi 48.88 306 *e*P **P 00 33 29.0 -1.2**
SFTF Sexfontaines 48.95 305 *e*P **P 00 33 31.2 +0.4**
SFTF Sexfontaines 48.95 305 *e*P **P 00 33 31.2 +0.4**
KEST Kesra 49.55 288 P **P 00 33 35.7 +0.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=317,slow=21,SNR=7.8
KEST Kesra 49.55 288 P **P 00 33 35.7 +0.3**
LOR Lormes 49.95 304 *e*P **P 00 33 37.9 -0.4**
LOR Lormes 49.95 304 *e*P **P 00 33 37.9 -0.4**
LOR Lormes 49.95 304 *e*P **P 00 33 37.9 -0.4**
SSF Saint Saulge 50.23 304 *e*P **P 00 33 39.5 -1.0**
comp=Z,10.0nm,0.9s,mb4.5
SSF Saint Saulge 50.23 304 *e*P **P 00 33 39.5 -1.0**
comp=Z,10.0nm,0.9s,mb4.8
SSF Saint Saulge 50.23 304 *e*P **P 00 33 39.5 -1.0**
SSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AVF Avril sur Loir 50.40 304 *e*P **P 00 33 41.3 -0.5**
comp=Z,6.9nm,0.7s,mb4.4
AVF Avril sur Loir 50.40 304 *e*P **P 00 33 41.3 -0.5**
comp=Z,6.9nm,0.7s,mb4.7
AVF Avril sur Loir 50.40 304 *e*P **P 00 33 41.3 -0.5**
AVF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MJAR Matsushiro Arr 52.01 69 P **P 00 33 54.8 +0.8**
comp=Z,5.1nm,0.9s,mb4.6,baz=290,slow=10,SNR=7.0
MJAR Matsushiro Arr 52.01 69 P **P 00 33 54.8 +0.8**
MJAR Matsushiro Arr 52.01 69 P **P 00 33 54.8 +0.9**
MJAR pmax pmax
comp=Z,5.0nm,0.9s
LDF La Druitiere 52.19 307 *e*P **P 00 33 54.6 -0.4**
LDF La Druitiere 52.19 307 *e*P **P 00 33 54.6 -0.4**
LDF La Druitiere 52.19 307 *e*P **P 00 33 54.6 -0.4**
BILL Bilibino 57.68 26 P **P 00 34 29.3 -5.0**
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ESDC Sonseca Array 57.82 298 P **P 00 34 35.5 -0.2**
comp=Z,1.0nm,0.5s,mb4.1,baz=59,slow=7.0,SNR=11
ESDC pP pP 00 35 05.5 +0.3
comp=Z,0.6nm,0.6s,baz=58,slow=7.5,SNR=2.8
ESDC Sonseca Array 57.82 298 P **P 00 34 35.5 -0.2**
ESDC pP pP 00 35 05.5 +0.3
TORD Torodi Ar. Bea 66.49 269 P **P 00 35 31.7 -2.1**
comp=Z,0.7nm,0.4s,mb3.9,baz=50,slow=5.9,SNR=20
TORD pP pP 00 36 04.1 0.0
comp=Z,2.0nm,0.7s,baz=41,slow=5.6,SNR=4.3
TORD Torodi Ar. Bea 66.49 269 P **P 00 35 31.7 -2.1**
TORD pP pP 00 36 04.1 0.0
FX1 Attu Island--F 67.41 40 P **P 00 35 39.6 +0.5**
comp=Z,3.9nm,0.5s,mb4.5,baz=232,slow=20,SNR=11
FX1 Attu Island--F 67.41 40 P **P 00 35 39.6 +0.5**
FX1 Attu Island--F 67.41 40 P **P 00 35 39.6 +0.5**
FX1 pmax pmax
comp=Z,4.0nm,0.5s
RES Resolute Bay 68.09 356 P **P 00 35 43.7 +0.6**
comp=Z,1.7nm,0.4s,mb4.2,baz=32,slow=8.5,SNR=7.8
RES Resolute Bay 68.09 356 P **P 00 35 43.7 +0.6**
RES Resolute Bay 68.09 356 P **P 00 35 43.7 +0.6**
RES pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
COLD Coldfoot 71.13 16 *e*P **P 00 36 03.0 +1.3**
comp=Z,8.6nm,1.2s,mb4.5
INK Inuvik 73.13 10 P **P 00 36 14.6 +1.0**
comp=Z,8.9nm,0.5s,mb4.8,baz=353,slow=6.7,SNR=84
INK Inuvik 73.13 10 *e*P **P 00 36 14.0 +0.3**
comp=Z,8.6nm,0.5s,mb4.8
INK Inuvik 73.13 10 *e*P **P 00 36 14.0 +0.3**
INK pmax pmax
comp=Z,9.0nm,0.5s
COLA College 73.63 17 *e*P **P 00 36 17.4 +0.7**
comp=Z,7.7nm,0.7s,mb4.5

COLA	**College**	**73.63**	**17**	*eP*	**P**		**00 36 17.4**	**+0.8**
COLA				pmax	pmax			
comp=Z,8.0nm,0.7s,mb4.6								
ILAR	**Eielson Array**	**73.94**	**16**	P	**P**		**00 36 18.4**	**-0.1**
comp=Z,2.0nm,0.7s,mb3.9,baz=324,slow=4.7,SNR=22								
ILAR	**Eielson Array**	**73.94**	**16**	P	**P**		**00 36 18.4**	**-0.1**
ILAR	**Eielson Array**	**73.94**	**16**	P	**P**		**00 36 18.4**	**0.0**
ILAR				pmax	pmax			
comp=Z,2.0nm,0.7s								
PPLA	**Purkeypile**	**74.22**	**19**	*eP*	**P**		**00 36 20.6**	**+0.6**
comp=Z,9.4nm,0.5s,mb4.8								
MCK	**McKinley**	**74.34**	**18**	*eP*	**P**		**00 36 21.2**	**+0.4**
comp=Z,5.0nm,0.4s,mb4.6								
MCK	**McKinley**	**74.34**	**18**	*eP*	**P**		**00 36 21.2**	**+0.4**
MCK				pmax	pmax			
comp=Z,5.0nm,0.4s,mb4.6								
FRB	**Frobisher Bay**	**74.66**	**343**	P	**P**		**00 36 22.2**	**-0.4**
comp=Z,3.5nm,0.8s,mb4.2,baz=15,slow=7.3,SNR=6.0								
FRB	**Frobisher Bay**	**74.66**	**343**	P	**P**		**00 36 22.2**	**-0.4**
FRB	**Frobisher Bay**	**74.66**	**343**	P	**P**		**00 36 22.2**	**-0.4**
FRB				pmax	pmax			
comp=Z,4.0nm,0.8s								
LBTB	**Lobatse**	**75.67**	**223**	P	**P**		**00 36 28.2**	**-0.7**
comp=Z,2.3nm,0.7s,mb4.0,baz=305,slow=19,SNR=5.2								
LBTB	**Lobatse**	**75.67**	**223**	P	**P**		**00 36 28.2**	**-0.7**
LBTB	**Lobatse**	**75.67**	**223**	P	**P**		**00 36 28.2**	**-0.7**
LBTB				pmax	pmax			
comp=Z,2.0nm,0.7s,mb4.0								
PAX	**Paxson**	**75.81**	**17**	*eP*	**P**		**00 36 29.4**	**+0.2**
comp=Z,4.8nm,0.6s,mb4.4								
PAX	**Paxson**	**75.81**	**17**	*eP*	**P**		**00 36 29.4**	**+0.2**
PAX				pmax	pmax			
comp=Z,5.0nm,0.6s,mb4.4								
DAWY	**Dawson**	**76.11**	**14**	*eP*	**P**		**00 36 31.2**	**+0.3**
SML	**Sawmill**	**76.12**	**18**	*eP*	**P**		**00 36 31.6**	**+0.6**
comp=Z,3.0nm,0.5s,mb4.3								
SML	**Sawmill**	**76.12**	**18**	*eP*	**P**		**00 36 31.6**	**+0.6**
SML				pmax	pmax			
comp=Z,3.0nm,0.5s,mb4.3								
KDAK	**Kodiak Island**	**78.30**	**23**	P	**P**		**00 36 41.0**	**-2.2**
comp=Z,13nm,1.1s,mb4.6,baz=7.6,slow=12,SNR=5.3								
KDAK	**Kodiak Island**	**78.30**	**23**	P	**P**		**00 36 41.0**	**-2.2**
KDAK	**Kodiak Island**	**78.30**	**23**	P	**P**		**00 36 41.1**	**-2.1**
KDAK				pmax	pmax			
comp=Z,13nm,1.1s,mb4.6								
YKA	**Yellowknife Ar**	**80.55**	**3**	P	**P**		**00 36 55.8**	**+0.5**
comp=Z,5.2nm,0.4s,mb4.7,baz=349,slow=5.5,SNR=97								
YKA				PP	PP		00 40 00.3	+0.8
comp=Z,0.5nm,0.8s,baz=353,slow=8.0,SNR=4.0								
YKA	**Yellowknife Ar**	**80.55**	**3**	P	**P**		**00 36 55.9**	**+0.5**
YKA				PP	PP		00 40 00.3	+0.8
YKA	**Yellowknife Ar**	**80.55**	**3**	P	**P**		**00 36 55.9**	**+0.6**
YKA				PP	PP		00 40 00.3	
WRA	**Warramunga Arr**	**81.70**	**123**	P	**P**		**00 37 01.8**	**-0.3**
comp=Z,0.8nm,0.7s,mb3.6,baz=328,slow=5.2,SNR=11								
WRA				pP	pP		00 37 36.7	+3.3
comp=Z,0.8nm,0.8s,baz=326,slow=5.1,SNR=2.2								
WRA	**Warramunga Arr**	**81.70**	**123**	P	**P**		**00 37 01.8**	**-0.3**
WRA				pP	pP		00 37 36.7	+3.3
WRA	**Warramunga Arr**	**81.70**	**123**	P	**P**		**00 37 01.8**	**-0.2**
WRA				*PP	pP		00 37 36.7	+3.3
WRA				pmax	pmax			
comp=Z,1.0nm,0.7s								
WRA				pmax	pmax			
comp=Z,1.0nm,0.8s								
SCHQ	**Schefferville**	**81.78**	**337**	P	**P**		**00 37 02.2**	**+0.2**
comp=Z,3.2nm,0.9s,mb4.2,baz=41,slow=6.6,SNR=5.5								
SCHQ	**Schefferville**	**81.78**	**337**	P	**P**		**00 37 02.2**	**+0.2**
DLBC	**Dease Lake**	**83.00**	**11**	P	**P**		**00 37 08.8**	**+0.6**
comp=Z,0.9nm,0.6s,mb3.8,baz=310,slow=5.3,SNR=4.9								
DLBC	**Dease Lake**	**83.00**	**11**	P	**P**		**00 37 08.8**	**+0.6**
ASAR	**Alice Springs**	**84.02**	**126**	P	**P**		**00 37 13.8**	**-0.1**
comp=Z,0.8nm,0.6s,mb3.7,baz=315,slow=5.1,SNR=5.5								
ASAR	**Alice Springs**	**84.02**	**126**	P	**P**		**00 37 13.8**	**-0.1**
ASAR	**Alice Springs**	**84.02**	**126**	P	**P**		**00 37 13.8**	**-0.1**
ASAR				pmax	pmax			
comp=Z,1.0nm,0.6s								
BOZ	**Bozeman (W)**	**97.51**	**3**	*e*PP	PP		00 42 21.2	+6.6
ELK	**Elko**	**102.19**	**6**	*e*PP	PP		00 42 54.8	+4.6
SMCO	**Snowmass**	**104.03**	**359**	*e*Pdif	Pdif		00 38 44.2	-2.0
WMOK	**Wichita Mounta**	**107.95**	**352**	*e*PKKPbc	PKKPbc		00 54 18.0	-4.5
LENM	**Lemitar**	**109.03**	**359**	*e*PKKPbc	PKKPbc		00 54 11.8	-7.4
PLCA	**Paso Flores**	**150.76**	**251**	PKPbc	PKPbc		00 44 33.7	-1.0
comp=Z,1.3nm,0.7s,baz=135,slow=1.4,SNR=3.3								
PLCA	**Paso Flores**	**150.76**	**251**	PKPbc	PKPbc		00 44 33.7	-1.0

IDC ***19*** *00:34:53.0±0.4, 20°.43N×146°.48E, h0km, mb4.5/28, mb1 4.6/30, mb1mx4.6/34, mbtmp4.5/30, ML4.2/2, MS4.2/34, Ms1 4.2/34, ms1mx4.1/59, Error ellipse: s-maj=16.6km s-min=10.5km az=89.0*

ISCJB ***19*** *00:34:57.0±0.2, 20°.33N±0°.03×146°.27E±0°.04, h33km, mb4.8/110, MS4.3/46, Error ellipse: s-maj=5.2km s-min=4.1km az=160.4*

MOS ***19*** *00:34:57.0±1.2, 20°.37N×146°.29E, h33km, mb4.9/16, MS4.2/5, Error ellipse: s-maj=11.7km s-min=6.5km az=111.4*

NEIC ***19*** *00:34:58.7±0.2, 20°.37N×146°.34E, h35km, mb4.9/67, Error ellipse: s-maj=5.3km s-min=4.8km az=87.0*

GCMT ***19*** *00:34:58.8±0.4, 20°.56N×146°.59E, h26km±1km, MW5.0, Moment Tensor Solution. s18,c19; s58,c81; Moment tensor: Scale 10^{16}Nm; M_{rr}3.33±.40; $M_{\theta\theta}$0.41±.23; $M_{\phi\phi}$-3.75±.23; $M_{r\theta}$-0.86±.56; $M_{\theta\phi}$1.89±.13; $M_{\phi r}$-0.64±.33; Best double couple: $M_0$4.10000×10^{16} NP1:ϕ_s318.00000°, δ47.00000°, λ60.00000°. NP2:ϕ_s179.00000°, δ51.00000°, λ118.00000°. Principal axes: T 3.7500, Plg68.0000°, Azm154.0000°; N 0.7400, Plg22.0000°, Azm340.0000°; P -4.4900, Plg2.0000°, Azm249.0000°; Data Used: II IU IC G CN.*

BJI ***19*** *00:35:00.4, 20°.46N×146°.35E, h63km, mB5.1/30, mb4.7/34, Ms4.8/31, Ms7 4.4/31*

ISC 19 00:34:59.0±0.2, 20°.38N±0°.03×146°.32E±0°.04, h35km, (h64km±1.5km:pP-P), n268, σ1$08/256, mb4.8/110, MS4.3/46, 1C-6D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.90**	**192**	Pn	**Pn**	**00 36 39.3**	**+1.6**
31nm,0.3s,baz=138,slow=0.6,SNR=8.1							
GUMO				Sn	**Sn**	**00 38 02.9**	**+7.9**
14nm,0.3s,baz=53,slow=20,SNR=2.4							
GUMO				LR	LR	00 38 58.7	
comp=Z,2μm,21.6s,baz=20,slow=35							
GUMO	**Guam**	**6.90**	**192**	*e*Pn	**Pn**	**00 36 35.7**	**-2.0**
GUMO				*e*Sn	**Sn**	**00 37 53.9**	**-1.1**
GUMO	**Guam**	**6.90**	**192**	*e*P	**Pn**	**00 36 35.7**	**-2.0**
CBIJ	**Chichi jima**	**7.68**	**331**	Pn	**Pn**	**00 36 46.5**	**-1.9**
15nm,0.3s,baz=275,slow=21,SNR=5.4							
CBIJ				Sn	**Sn**	**00 38 10.3**	**-3.9**
9.5nm,0.3s,baz=107,slow=19,SNR=3.7							
CBIJ				T		00 44 44.8	
18nm,0.3s,baz=281,slow=21,SNR=7.1							
CBIJ	**Chichi jima**	**7.68**	**331**	Pn	**Pn**	**00 36 46.5**	**-1.9**
CBIJ				Sn	**Sn**	**00 38 10.3**	**-3.9**
CBIJ				TT		00 44 44.8	
MJAR	**Matsushiro Arr**	**17.59**	**338**	P	**Pn**	**00 38 59.2**	**-2.3**
0.6nm,0.3s,baz=162,slow=10,SNR=10							
MJAR	**Matsushiro Arr**	**17.59**	**338**	P	**Pn**	**00 38 59.2**	**-2.3**
MJAR	**Matsushiro Arr**	**17.59**	**338**	P	**Pn**	**00 38 59.2**	**-2.2**
MAJO	**Matsushiro**	**17.60**	**338**	*e*Pn	**Pn**	**00 39 01.3**	**-0.1**
32nm,1.1s							
MAJO				*e*Sn	**Sn**	**00 42 16.1**	**-0.2**
MAJO	**Matsushiro**	**17.60**	**338**	*e*P	**Pn**	**00 39 01.3**	**-0.1**
MAT	**Matsushiro**	**17.60**	**338**	P	**Pn**	**00 39 00.6**	**-0.8**
MAT				S	**S**	**00 42 13.0**	**-10**
JOW	**Kunigami**	**17.73**	**295**	LR	LR	00 45 29.0	
comp=Z,934nm,18.7s,baz=122,slow=36							
JNU	**Nakatsue**	**18.71**	**316**	*e*P	**Pn**	**00 39 14.6**	**-0.5**
23nm,1.0s							
JNU				*e*sP	sP	00 39 33.5	+5.4
KSRS	**Korea Array**	**23.35**	**321**	P	**P**	**00 40 04.3**	**-0.1**
11nm,0.7s,mb4.4,baz=148,slow=9.4,SNR=18							
KSRS				LR	LR	00 49 08.9	
comp=Z,985nm,18.5s,MS4.3,baz=135,slow=36							
KSAR	**Wonju Array Be**	**23.37**	**321**	P	**P**	**00 40 04.3**	**-0.3**
KSAR	**Wonju Array Be**	**23.37**	**321**	P	**P**	**00 40 04.4**	**-0.2**
SSLB	**Suanglung**	**23.74**	**283**	*e*P	**P**	**00 40 06.1**	**-2.1**
85nm,1.3s,mb5.0							
ASAJ	**Asahikawa**	**23.87**	**353**	P	**P**	**00 40 09.8**	**+0.7**
16nm,0.8s,mb4.5,baz=233,slow=11,SNR=5.3							
ASAJ	**Asahikawa**	**23.87**	**353**	*e*P	**P**	**00 40 10.3**	**+1.2**
82nm,1.6s,mb4.9							
SSE	**Sheshan**	**24.97**	**300**	P	**P**	**00 40 16.4**	**-3.0**
SSE				PcP	PcP	00 43 50.8	-3.3
SSE				S	**S**	**00 44 35.5**	**-5.4**
SSE				sS	sS	00 45 00.6	+3.2
SSE				pmax	pmax		
comp=Z,44nm,0.7s,mb5.1							
SSE				pmax	pmax		
comp=Z,130nm,4.0s							
SSE				LR	LR		
comp=N,510nm,15.5s,MS4.3							
SSE				LR	LR		
comp=E,490nm,15.6s,MS4.3							
SSE				LR	LR		
comp=Z,790nm,17.3s,MS4.3							
SSE	**Sheshan**	**24.97**	**300**	P	**P**	**00 40 16.4**	**-3.0**
comp=Z,44nm,0.7s,mb5.1							
SSE				PcP	PcP	00 43 50.8	-3.3
SSE				S	**S**	**00 44 35.5**	**-5.4**
SSE				sS	sS	00 45 00.6	+3.2
SSE				LR	LR		
comp=Z,790nm,17.3s,MS4.3							
QZH	**Quanzhou**	**25.97**	**285**	⇓*i*P	**P**	**00 40 29.5**	**+1.0**
QZH				S	**S**	**00 44 50.0**	**-6.8**
QZH				LR	LR		
comp=Z,960nm,18.4s,MS4.4							
USRK	**Ussuriysk Arra**	**26.58**	**337**	P	**P**	**00 40 33.6**	**-0.1**
comp=Z,5.5nm,0.8s,mb4.1,baz=151,slow=4.4,SNR=4.5							
USRK				LR	LR	00 51 33.2	
comp=Z,442nm,18.2s,MS4.0,baz=117,slow=38							
MDJ	**Mudanjiang**	**27.87**	**334**	P	**P**	**00 40 46.4**	**+1.0**
MDJ				pP	pP	00 41 01.3	+5.9
MDJ				sP	sP	00 41 08.5	+8.9
MDJ				S	**S**	**00 45 26.8**	**+0.4**
MDJ				ScP	ScP	00 47 35.8	-3.0
MDJ				PcS	PcS	00 47 42.5	+0.1
MDJ				pmax	pmax		
comp=Z,6.0nm,1.7s,mb4.0							
MDJ				pmax	pmax		
comp=Z,58nm,3.8s							
MDJ				LR	LR		
comp=N,470nm,18.0s,MS4.3							
MDJ				LR	LR		
comp=E,560nm,21.5s,MS4.3							
MDJ				LR	LR		
comp=Z,360nm,24.2s,MS3.9							
CN2	**Changchun**	**29.13**	**328**	*e*P	**P**	**00 40 58.9**	**+2.3**
HABR	**Khabarovsk**	**29.46**	**345**	*e*P	sP	00 41 14.6	+0.9
HABR				*e*		00 41 55.9	
HABR						00 44 03.7	
HABR				S	**S**	**00 45 49.3**	**-2.0**
HABR				*e*SS	SS	00 47 22.9	-34
HABR				*e*		00 47 46.9	
HABR				*e*		00 51 34.8	
HABR				pmax	pmax		
comp=N,10.0nm,1.0s							
HABR				pmax	pmax		
comp=E,19nm,1.0s							
HABR				pmax	pmax		
comp=Z,22nm,0.8s,mb4.9							
HABR				MLR	MLR		
comp=Z,276nm,16.0s,MS4.0							
PMG	**Port Moresby**	**29.61**	**178**	P	**P**	**00 40 60.0**	**-1.1**
comp=Z,14nm,0.7s,mb4.8,baz=225,slow=5.4,SNR=5.6							
PMG	**Port Moresby**	**29.61**	**178**	*e*P	**P**	**00 41 00.4**	**-0.7**
comp=Z,62nm,1.2s,mb5.2							
PMG				*e*sP	sP	00 41 21.0	+5.7
PMG	**Port Moresby**	**29.61**	**178**	*d i*P	**P**	**00 41 00.3**	**-0.8**
PMG				pmax	pmax		
comp=Z,31nm,1.2s							
KLR	**Kul'dur**	**31.05**	**341**	*e*P	**P**	**00 41 08.8**	**-4.7**
BJI	**Beijing**	**32.36**	**314**	P	**P**	**00 41 25.8**	**+0.6**
BJI				S	**S**	**00 46 36.3**	**-0.7**
BJI				pmax	pmax		
comp=Z,15nm,0.5s,mb5.1							
BJI				pmax	pmax		
comp=Z,250nm,4.8s							
BJI				LR	LR		
comp=N,630nm,17.3s,MS4.4							
BJI				LR	LR		
comp=E,420nm,18.3s,MS4.4							
BJI				LR	LR		
comp=Z,310nm,22.2s,MS4.0							
COEN	**Coen**	**34.27**	**185**	*e*P	**P**	**00 41 40.9**	**-1.0**
comp=Z,60nm,0.8s,mb5.6							
ENH	**Enshi**	**34.59**	**294**	P	**P**	**00 41 44.4**	**-0.3**
HHC	**Hu-ho-hao-te**	**35.88**	**312**	*e*P	**P**	**00 41 56.5**	**+0.9**
HHC				sP	sP	00 42 19.8	+10
HHC				PP	PP	00 43 18.8	+1.3
HHC				PcP	PcP	00 44 22.3	-0.1
HHC				S	**S**	**00 47 29.8**	**-1.4**
HHC				sS	sS	00 47 55.5	+7.5
HHC				ScP	ScP	00 48 02.8	-3.2
HHC				PcS	PcS	00 48 09.3	-0.4
HHC				ScS	ScS	00 52 05.8	-5.4
HHC				pmax	pmax		
comp=Z,12nm,1.0s,mb4.8							
HHC				pmax	pmax		
comp=Z,130nm,6.1s							
HHC				LR	LR		
comp=N,440nm,14.4s,MS4.5							
HHC				LR	LR		
comp=E,430nm,13.6s,MS4.5							
HHC				LR	LR		
comp=Z,390nm,14.4s,MS4.3							
KAPI	**Kappang**	**36.31**	**229**	LR	LR	00 56 38.3	
comp=Z,291nm,19.5s,MS4.1,baz=360,slow=36							
GYA	**Guiyang**	**36.79**	**287**	P	**P**	**00 42 03.3**	**-0.3**
GYA				pP	pP	00 42 20.5	+6.7
GYA				sP	sP	00 42 28.3	+10
GYA				PP	PP	00 43 31.0	+3.3
GYA				PcP	PcP	00 44 25.6	+0.2
GYA				S	**S**	**00 47 42.8**	**-2.7**
GYA				ScP	ScP	00 48 05.8	-3.8
GYA				SS	SS	00 50 12.3	-15
GYA				pmax	pmax		
comp=Z,20nm,0.8s,mb5.0							
GYA				pmax	pmax		
comp=Z,130nm,4.8s							
GYA				LR	LR		
comp=N,630nm,17.8s,MS4.6							
GYA				LR	LR		
comp=E,590nm,18.4s,MS4.6							
GYA				LR	LR		
comp=Z,670nm,17.6s,MS4.5							
FX1	**Attu Island--F**	**38.49**	**26**	LR	LR	00 56 45.1	
comp=Z,270nm,18.3s,MS4.1,baz=241,slow=34							
CD2	**Chengdu**	**39.57**	**294**	*e*P	**P**	**00 42 26.0**	**-1.0**
CD2				pP	pP	00 42 41.3	+4.1
CD2				sP	sP	00 42 48.5	+7.1
CD2				PP	PP	00 44 02.3	+4.1
CD2				S	**S**	**00 48 24.3**	**-3.2**
CD2				sS	sS	00 48 50.4	+6.0
CD2				SS	SS	00 51 14.0	-9.1
CD2				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.6							
CD2				pmax	pmax		
comp=Z,190nm,7.2s							
CD2				LR	LR		
comp=N,840nm,22.8s,MS4.7							
CD2				LR	LR		
comp=E,700nm,18.0s,MS4.7							
CD2				LR	LR		
comp=Z,550nm,20.4s,MS4.4							
CLNS	**Chul'man**	**39.72**	**342**	*e*P	**P**	**00 42 27.4**	**-0.4**
CLNS				*e**PP	pP	00 42 45.1	+7.1
CLNS				*e*		00 44 02.7	
CLNS				*e*PPP		00 44 29.1	
CLNS				*e*		00 44 39.8	
CLNS				*e*S	**S**	**00 48 28.7**	**-0.3**
CLNS				*e*SSS		00 52 24.3	
CLNS				pmax	pmax		
comp=Z,19nm,1.5s,mb4.6							
CLNS				pmax	pmax		
comp=N,9.0nm,0.9s							
CLNS				pmax	pmax		
comp=E,7.0nm,1.1s							
CLNS				pmax	pmax		
comp=N,4.0nm,1.1s							
CLNS				pmax	pmax		
comp=Z,7.0nm,1.4s,mb4.2							
CLNS				pmax	pmax		
comp=E,6.0nm,1.5s							
CLNS				smax			
comp=N,133nm,16.3s							
CLNS				smax			
comp=E,321nm,13.5s							
CLNS				MLR	MLR		
comp=E,205nm,11.0s,MS4.5							
CLNS				MLR	MLR		
comp=N,369nm,15.0s,MS4.5							
CLNS				MLR	MLR		
comp=Z,372nm,16.0s,MS4.3							
CTA	**Charters Tower**	**40.22**	**180**	P	**P**	**00 42 32.3**	**-0.1**
comp=Z,7.0nm,0.7s,mb4.5,baz=350,slow=8.4,SNR=10							
CTA	**Charters Tower**	**40.22**	**180**	*e*P	**P**	**00 42 32.6**	**+0.2**
CTA	**Charters Tower**	**40.22**	**180**	P	**P**	**00 42 32.3**	**-0.1**
CTA	**Charters Tower**	**40.22**	**180**	P	**P**	**00 42 32.3**	**-0.1**
CTAO	**Charters Tower**	**40.22**	**180**	*e*P	**P**	**00 42 32.7**	**+0.3**
comp=Z,16nm,1.2s,mb4.6							
CTAO	**Charters Tower**	**40.22**	**180**	*e*P	**P**	**00 42 32.7**	**+0.3**
LZH	**Lanzhou**	**40.23**	**302**	*e*P	**P**	**00 42 34.5**	**+2.1**
LZH				pP	pP	00 42 50.1	+7.5
LZH				sP	sP	00 42 57.3	+10
LZH				*e*PP	PP	00 44 12.1	+6.8
LZH				*e*S	**S**	**00 48 37.0**	**-0.2**
LZH				sS	sS	00 49 02.6	+8.5
LZH				pmax	pmax		
comp=Z,27nm,1.1s,mb4.9							
LZH				pmax	pmax		
comp=Z,180nm,5.0s							
LZH				LR	LR		
comp=N,570nm,15.0s,MS4.7							
LZH				LR	LR		
comp=E,500nm,12.3s,MS4.7							
LZH				LR	LR		
comp=Z,860nm,15.2s,MS4.7							
LZH	**Lanzhou**	**40.23**	**302**	*e*P	**P**	**00 42 34.5**	**+2.1**
comp=Z,27nm,1.1s,mb4.9							
LZH				pP	pP	00 42 50.1	+7.5
LZH				sP	sP	00 42 57.3	+10
LZH				*e*PP	PP	00 44 12.1	+6.8
LZH				*e*S	**S**	**00 48 37.0**	**-0.2**
LZH				sS	sS	00 49 02.6	+8.5
LZH				LR	LR		
comp=Z,860nm,15.2s,MS4.7							
LZH	**Lanzhou**	**40.23**	**302**	*e*P	**P**	**00 42 34.5**	**+2.1**
WRAB	**Tennant Creek**	**41.75**	**197**	*e*P	**P**	**00 42 44.6**	**-0.3**
comp=Z,30nm,1.1s,mb4.8							
WRAB	**Tennant Creek**	**41.75**	**197**	*e*P	**P**	**00 42 44.6**	**-0.3**
WB2	**Warramunga Arr**	**41.76**	**197**	*e*P	**P**	**00 42 43.9**	**-1.1**
WRA	**Warramunga Arr**	**41.76**	**197**	P	**P**	**00 42 44.6**	**-0.4**
comp=Z,6.9nm,0.7s,mb4.4,baz=10,slow=8.5,SNR=55							
WRA	**Warramunga Arr**	**41.76**	**197**	P	**P**	**00 42 44.6**	**-0.4**
WRA	**Warramunga Arr**	**41.76**	**197**	P	**P**	**00 42 44.6**	**-0.4**
ULN	**Ulaanbaatar**	**41.84**	**320**	*e*P	**P**	**00 42 45.6**	**+0.2**
comp=Z,3.2nm,0.8s,mb4.0							
ULN	**Ulaanbaatar**	**41.84**	**320**	*e*P	**P**	**00 42 45.7**	**+0.3**
SONM	**Songino Array**	**42.22**	**320**	P	**P**	**00 42 48.2**	**-0.4**
comp=Z,2.0nm,0.7s,mb3.9,baz=133,slow=7.2,SNR=13							
SONM				LR	LR	01 01 01.2	
comp=Z,456nm,18.8s,MS4.4,baz=98,slow=37							
SONM	**Songino Array**	**42.22**	**320**	P	**P**	**00 42 48.2**	**-0.4**
SONM	**Songino Array**	**42.22**	**320**	P	**P**	**00 42 48.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**43.29**	**209**	P	**P**	**00 42 58.3**	**+0.7**
comp=Z,9.6nm,0.7s,mb4.7,baz=48,slow=9.1,SNR=17							
FITZ	**Fitzroy Crossi**	**43.29**	**209**	*e*P	**P**	**00 42 57.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**43.29**	**209**	P	**P**	**00 42 58.3**	**+0.7**
GTA	**Gaotai**	**44.02**	**306**	*e*P	**P**	**00 43 04.1**	**+0.9**
GTA				pP	pP	00 43 19.3	+5.7
GTA				sP	sP	00 43 26.6	+8.8
GTA				S	**S**	**00 49 29.3**	**-3.8**
GTA				sS	sS	00 49 56.4	+6.3
GTA				SS	SS	00 52 38.4	-12
GTA				pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.9							
GTA				pmax	pmax		
comp=Z,180nm,4.7s							
GTA				LR	LR		
comp=N,310nm,16.6s,MS4.5							
GTA				LR	LR		
comp=E,340nm,15.9s,MS4.5							
GTA				LR	LR		
comp=Z,310nm,16.6s,MS4.3							
BOD	**Bodaibo**	**44.21**	**336**	*e*P	**P**	**00 43 03.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**44.61**	**276**	P	**P**	**00 43 09.9**	**+1.7**
comp=Z,1.9nm,0.6s,mb4.1,baz=67,slow=6.2,SNR=11							
CMAR	**Chiang Mai Arr**	**44.61**	**276**	P	**P**	**00 43 09.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**44.61**	**276**	P	**P**	**00 43 09.9**	**+1.7**
AS31	**Alice Springs**	**45.42**	**196**	*e*P	**P**	**00 43 14.0**	**-0.5**
ASAR	**Alice Springs**	**45.42**	**196**	P	**P**	**00 43 13.6**	**-1.0**
comp=Z,1.9nm,0.6s,mb4.1,baz=17,slow=7.7,SNR=24							
ASAR	**Alice Springs**	**45.42**	**196**	P	**P**	**00 43 13.6**	**-1.0**
TLY	**Talaya**	**45.55**	**324**	*e*P	**P**	**00 43 16.3**	**+1.1**
TLY				*e*		00 49 58.3	
TLY				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
TLY				MLR	MLR		
comp=Z,221nm,16.0s,MS4.2							
DZM	**Mont Dzumac**	**46.55**	**154**	*e*LR	LR	00 56 24.8	
comp=Z,474nm,22.2s							
DZM	**Mont Dzumac**	**46.55**	**154**	LR	LR	01 00 30.7	
comp=Z,444nm,19.0s,MS4.4,baz=18,slow=33							
BILL	**Bilibino**	**49.27**	**10**	*e*P	**P**	**00 43 41.6**	**-2.3**
BILL	**Bilibino**	**49.27**	**10**	⇓*i*P	**P**	**00 43 44.5**	**+0.6**
BILL				*i*	pP	00 43 52.9	-1.5
BILL				*e*		00 45 06.2	
BILL				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.7							
BILL				MLR	MLR		
comp=Z,200nm,17.0s,MS4.2							
LSA	**Lhasa**	**50.44**	**292**	*e*P	**P**	**00 43 54.3**	**+0.8**
comp=Z,9.0nm,0.6s,mb5.0							
LSA	**Lhasa**	**50.44**	**292**	*e*P	**P**	**00 43 54.3**	**+0.8**
ARMA	**Armidale**	**50.76**	**174**	*e*P	**P**	**00 43 56.2**	**+0.5**
ARMA	**Armidale**	**50.76**	**174**	*e*P	**P**	**00 43 55.2**	**-0.5**
comp=Z,20nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**52.16**	**185**	P	**P**	**00 44 05.0**	**-1.1**
comp=Z,5.0nm,0.8s,mb4.5,baz=344,slow=8.4,SNR=8.5							
STKA				LR	LR	01 07 31.9	
comp=Z,287nm,18.7s,MS4.3,baz=21,slow=38							
STKA	**Steph

comp=Z,59nm,1.1s,mb5.5
DMN Daman 55.91 290 *e*P **P 00 44 35.0 +1.2**
comp=Z,59nm,1.1s,mb5.5
GKN Gorkha 56.28 291 *e*P **P 00 44 37.0 +0.6**
comp=Z,53nm,1.0s,mb5.5
GKN Gorkha 56.28 291 *e*P **P 00 44 37.0 +0.6**
comp=Z,53nm,1.0s,mb5.5
DANN Dangsing 57.01 291 *e*P **P 00 44 42.5 +1.0**
comp=Z,132nm,0.8s,mb6.0
DANN Dangsing 57.01 291 *e*P **P 00 44 42.5 +1.0**
comp=Z,132nm,0.8s,mb6.0
ZAA0 Zalesovo Array 57.05 322 *e*P **P 00 44 40.6 -0.9**
ZAA0 *e*PcP PcP 00 45 34.4 -1.7
ZALV Zalesovo Beam 57.05 322 P **P 00 44 40.8 -0.6**
comp=Z,6.5nm,0.7s,mb4.8,baz=100,slow=6.9,SNR=25
ZALV LR LR 01 08 51.6
comp=Z,152nm,20.7s,MS4.1,baz=251,slow=36
ZALV Zalesovo Beam 57.05 322 P **P 00 44 40.8 -0.6**
ZALV Zalesovo Beam 57.05 322 P **P 00 44 40.8 -0.6**
KOLN Koldanda 57.22 290 *e*P **P 00 44 44.1 +1.1**
comp=Z,26nm,0.8s,mb5.3
KOLN Koldanda 57.22 290 *e*P **P 00 44 44.1 +1.1**
comp=Z,26nm,0.8s,mb5.3
KDAK Kodiak Island 57.64 34 LR LR 01 05 29.4
comp=Z,388nm,20.6s,MS4.5,baz=171,slow=32
MK31 Makanchi Array 57.74 313 *e*P **P 00 44 46.4 +0.1**
MK31 Makanchi Array 57.74 313 *e*P **P 00 44 46.4 0.0**
MKAR Makanchi Array 57.74 313 P **P 00 44 46.5 +0.2**
comp=Z,3.3nm,0.9s,mb4.4,baz=94,slow=9.0,SNR=21
MKAR LR LR 01 10 46.8
comp=Z,183nm,18.0s,MS4.2,baz=193,slow=37
MKAR Makanchi Array 57.74 313 *e*P **P 00 44 46.5 +0.1**
MKAR Makanchi Array 57.74 313 *e*P **P 00 44 46.5 +0.1**
NVS Novosibirsk 58.13 323 *e*P **P 00 44 47.0 -1.9**
NVS pmax pmax
comp=Z,30nm,1.7s,mb5.0
NVS pmax pmax
comp=E,15nm,1.6s
KLBR Kellerberrin 58.49 209 *e*P **P 00 44 51.6 -0.1**
comp=E,10nm,0.6s,mb5.0
NWAO Narrogin (SRO) 59.86 208 P **P 00 45 01.1 -0.1**
comp=E,12nm,1.1s,mb4.9,baz=359,slow=0.6,SNR=4.4
NWAO LR LR 01 12 18.9
comp=E,230nm,18.5s,MS4.3,baz=69,slow=38
NWAO Narrogin (SRO) 59.86 208 P **P 00 45 01.1 -0.1**
NWAO Narrogin (SRO) 59.86 208 P **P 00 45 01.1 -0.1**
TRF Thorofare Moun 60.12 28 *e*P **P 00 45 02.4 -0.2**
comp=E,13nm,1.0s,mb4.9
KURK Kurchatov 60.43 317 P **P 00 45 05.1 +0.2**
comp=E,6.8nm,0.7s,mb4.8,baz=94,slow=7.8,SNR=54
KURK LR LR 01 12 22.1
comp=E,304nm,18.3s,MS4.5,baz=80,slow=37
KURK Kurchatov 60.43 317 *e*P **P 00 45 04.3 -0.6**
comp=E,27nm,1.3s,mb5.1
KURK Kurchatov 60.43 317 *d i*P **P 00 45 04.6 -0.3**
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SML Sawmill 60.62 30 *e*P **P 00 45 05.9 -0.2**
comp=Z,4.7nm,0.9s,mb4.6
SML Sawmill 60.62 30 *e*P **P 00 45 05.9 -0.2**
COLD Coldfoot 61.18 23 *e*P **P 00 45 10.7 +0.9**
comp=Z,7.0nm,0.3s,mb5.3
ILAR Eielson Array 61.88 27 P **P 00 45 11.9 -2.6**
comp=Z,3.2nm,0.8s,mb4.5,baz=259,slow=4.9,SNR=37
ILAR LR LR 01 14 33.1
comp=Z,162nm,18.3s,MS4.2,baz=258,slow=38
ILAR Eielson Array 61.88 27 P **P 00 45 11.9 -2.6**
ILAR Eielson Array 61.88 27 P **P 00 45 11.9 -2.6**
PAX Paxson 62.15 29 *e*P **P 00 45 16.1 -0.3**
comp=Z,11nm,1.1s,mb4.9
PAX Paxson 62.15 29 *e*P **P 00 45 16.1 -0.3**
KSH Kashi 62.39 305 P **P 00 45 22.1 +3.7**
KSH pP pP 00 45 38.3 +9.2
KSH sP sP 00 45 45.3 +12
KSH PcP PcP 00 46 00.3 +2.6
KSH PP PP 00 47 42.1 +6.3
KSH ScP ScP 00 49 55.6 -1.6
KSH PcS PcS 00 50 02.3 +1.3
KSH S **S 00 53 43.8 +0.9**
KSH sS sS 00 54 11.4 +11
KSH ScS ScS 00 55 05.3 -2.9
KSH SS SS 00 57 50.8 +4.1
KSH pmax pmax
comp=Z,15nm,1.5s,mb4.9
KSH pmax pmax
comp=Z,34nm,3.1s
KSH LR LR
comp=N,140nm,5.4s
KSH LR LR
comp=E,250nm,10.5s
KSH LR LR
comp=Z,190nm,5.3s
TKM2 Tokmak 2 62.46 309 *e*P **P 00 45 19.7 +0.9**
comp=Z,7.5nm,0.9s,mb4.8
TKM2 Tokmak 2 62.46 309 *e*P **P 00 45 19.7 +0.9**
AAK Ala-Archa 63.28 308 *e*P **P 00 45 24.5 +0.2**
comp=Z,12nm,0.9s,mb5.0
AAK Ala-Archa 63.28 308 *e*P **P 00 45 25.0 +0.7**
AAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
EKS2 Erkin-Say 63.81 308 *e*P **P 00 45 29.1 +1.3**
comp=Z,5.6nm,1.0s,mb4.5
EKS2 Erkin-Say 63.81 308 *e*P **P 00 45 29.1 +1.3**
DAWY Dawson 65.00 28 *e*P **P 00 45 35.2 +0.1**
URZ Urewera 65.11 154 LR LR 01 11 41.7
comp=Z,276nm,18.8s,MS4.5,baz=347,slow=34
BVAR Borovoye Array 65.57 320 P **P 00 45 38.9 -0.2**
comp=Z,5.3nm,0.4s,mb4.9,baz=91,slow=7.7,SNR=54
BVAR LR LR 01 14 18.4
comp=Z,368nm,19.0s,MS4.6,baz=70,slow=36
BVAR Borovoye Array 65.57 320 P **P 00 45 38.9 -0.2**
BVAR Borovoye Array 65.57 320 P **P 00 45 38.9 -0.1**
BRVK Borovoye 65.63 320 *e*P **P 00 45 39.3 -0.1**
comp=Z,19nm,1.1s,mb5.0
BRVK Borovoye 65.63 320 *d i*P **P 00 45 39.4 0.0**
BRVK pmax pmax
comp=Z,12nm,1.2s,mb4.8
KKAR Karatay Array 66.16 309 *e*P **P 00 45 43.7 +0.6**
comp=Z,6.9nm,0.8s,mb4.7
KKAR Karatay Array 66.16 309 *e*P **P 00 45 43.7 +0.6**
INK Inuvik 67.60 23 P **P 00 45 50.0 -1.8**
comp=Z,3.9nm,0.8s,mb4.5,baz=274,slow=4.3,SNR=15
INK LR LR 01 18 32.8
comp=Z,146nm,18.2s,MS4.2,baz=290,slow=39
INK Inuvik 67.60 23 *e*P **P 00 45 50.4 -1.3**
comp=Z,8.9nm,1.0s,mb4.8
INK Inuvik 67.60 23 *e*P **P 00 45 50.4 -1.4**
KBL Kabul 68.53 300 *e*P **P 00 45 58.3 +0.1**
comp=Z,14nm,0.8s,mb4.9
KBL Kabul 68.53 300 *e*P **P 00 45 58.3 0.0**
DLBC Dease Lake 69.57 34 P **P 00 46 04.4 +0.2**
comp=Z,7.5nm,1.1s,mb4.5,baz=270,slow=7.9,SNR=4.8
DLBC LR LR 01 14 35.1
comp=Z,159nm,19.6s,MS4.3,baz=228,slow=34
DLBC Dease Lake 69.57 34 *e*P **P 00 46 04.3 +0.1**
SVE Sverdlovsk 70.85 325 *e*P **P 00 46 11.9 -0.2**
SVE pmax pmax
comp=Z,17nm,1.4s,mb4.8
BBB Bella Bella 71.49 40 LR LR 01 11 49.7
comp=Z,119nm,19.8s,MS4.2,baz=278,slow=31
ARU Arti 72.05 324 *e*P **P 00 46 19.1 -0.2**
comp=Z,8.2nm,0.9s,mb4.7
ARU Arti 72.05 324 *c i*P **P 00 46 19.7 +0.4**
ARU *PP pP 00 46 36.4 +6.2
ARU 00 49 01.0
ARU S S 00 55 37.5 -1.0
ARU pmax pmax
comp=Z,16nm,1.7s,mb4.7
ABKAR Akbulak array 72.52 317 *e*P **P 00 46 21.9 -0.4**
comp=Z,3.8nm,0.7s,mb4.4
PPT2 Papeete2 73.33 116 *e*LR LR 01 08 51.8
comp=Z,251nm,26.0s
AKTO Aktyubinsk 73.51 318 P **P 00 46 27.4 -0.7**
comp=Z,1.9nm,0.6s,mb4.2,baz=75,slow=9.5,SNR=8.1
AKTO LR LR 01 18 40.2
comp=Z,214nm,18.6s,MS4.5,baz=240,slow=36
AKTO Aktyubinsk 73.51 318 P **P 00 46 27.4 -0.7**
AKTO Aktyubinsk 73.51 318 P **P 00 46 27.4 0.0**
JCW Jim Creek 76.22 44 *e*P **P 00 46 43.8 0.0**
comp=Z,13nm,0.8s,mb4.9
YKA Yellowknife Ar 76.23 28 P **P 00 46 42.1 -1.5**
comp=Z,2.4nm,0.8s,mb4.2,baz=289,slow=5.5,SNR=23
YKA LR LR 01 17 15.6
comp=Z,24nm,21.4s,MS3.5,baz=120,slow=33
YKA Yellowknife Ar 76.23 28 P **P 00 46 42.1 -1.5**
ETW Entiat 77.42 44 *e*P **P 00 46 50.2 -0.3**
comp=Z,18nm,1.0s,mb5.0
ETW *e*PcP PcP 00 47 00.8 -0.1
TAOE Nuku Hiva Isla 77.88 104 *e*LR LR 01 11 05.7
comp=Z,226nm,25.5s
OD2 Odessa Site #2 78.53 44 *e*P **P 00 46 56.4 -0.4**
comp=Z,13nm,1.2s,mb4.7
OD2 *e*PcP PcP 00 47 05.9 +0.1
CMB Columbia Colle 80.22 53 *e*P **P 00 47 06.8 +0.6**
comp=Z,14nm,1.1s,mb4.8
CMB Columbia Colle 80.22 53 *e*P **P 00 47 06.8 +0.6**
BMO Blue Mountains 80.25 46 *e*P **P 00 47 06.4 +0.2**
comp=Z,9.3nm,1.1s,mb4.6
BMO Blue Mountains 80.25 46 *e*P **P 00 47 06.4 +0.2**
KEV Kevo 80.52 342 *e*P **P 00 47 04.3 -2.9**
KEV Kevo 80.52 342 *e*p **P 00 47 04.3 -2.9**
BSMT Bassoo Peak 80.89 42 *e*P **P 00 47 08.8 -0.8**
comp=Z,19nm,1.4s,mb4.8
ARCES ARCESS Array B 81.08 342 P **P 00 47 09.4 -0.8**
comp=Z,2.9nm,0.8s,mb4.3,baz=351,slow=10,SNR=3.3
ARCES ARCESS Array B 81.08 342 P **P 00 47 09.4 -0.8**
ARCES ARCESS Array B 81.08 342 P **P 00 47 09.4 -0.8**
NVAR Mina Array Bea 81.64 52 P **P 00 47 13.4 -0.3**
comp=Z,6.9nm,0.8s,mb4.7,baz=267,slow=6.3,SNR=17
NVAR LR LR 01 14 45.2
comp=Z,185nm,21.0s,MS4.4,baz=140,slow=29
NVAR Mina Array Bea 81.64 52 P **P 00 47 13.4 -0.3**
MFID Camas Ranch 81.73 47 *e*P **P 00 47 12.2 -1.9**
comp=Z,22nm,1.4s,mb4.9
SLMT Seeley Lake 81.93 43 *e*P **P 00 47 15.4 +0.3**
comp=Z,20nm,1.5s,mb4.8
CHMT Chamberlain Mo 82.20 43 *e*P **P 00 47 19.3 +2.8**
comp=Z,2.4nm,1.2s,mb4.0
HLID Hailey 82.65 46 *e*P **P 00 47 18.5 -0.4**
comp=Z,4.7nm,1.1s,mb4.4
JOF Joensuu 82.74 335 *e*P **P 00 47 15.1 -3.9**
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
JOF Joensuu 82.74 335 *e*p **P 00 47 15.1 -3.9**
comp=Z,4.6nm,0.7s,mb4.6
ELK Elko 83.08 49 *e*P **P 00 47 22.2 +1.0**
comp=Z,11nm,1.0s,mb4.8
ELK Elko 83.08 49 *e*P **P 00 47 22.2 +1.0**
HRY Holter Researc 83.18 43 *e*P **P 00 47 21.2 -0.4**
comp=Z,4.3nm,0.7s,mb4.6
BOZ Bozeman (W) 83.72 44 *e*P **P 00 47 25.5 +1.0**
comp=Z,7.8nm,0.8s,mb4.9
BOZ Bozeman (W) 83.72 44 *e*P **P 00 47 25.5 +1.1**
GSC Goldstone 83.84 55 *e*P **P 00 47 24.8 -0.4**
QLMT Earthquake Lak 84.17 44 *e*P **P 00 47 27.9 +1.2**
comp=Z,2.0nm,1.4s,mb4.0
OBN Obninsk 84.19 327 *e*P **P 00 47 26.9 +0.3**
OBN *i* 00 47 33.9
OBN pmax pmax
comp=Z,15nm,1.2s,mb5.0
VSR Storozhevoye 84.54 323 *e*P **P 00 47 29.0 +0.5**
VSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,1.1s
YNR Norris Junctio 84.70 44 *e*P **P 00 47 30.8 +1.3**
GCMT Greycliff 84.92 43 *e*P **P 00 47 30.5 0.0**
comp=E,2.5nm,0.8s,mb4.4
LKWY Lake 84.94 44 *e*P **P 00 47 32.8 +2.2**
comp=E,50nm,0.7s,mb5.8
TPAW Teton Pass 85.01 45 *e*P **P 00 47 32.7 +1.8**
comp=E,16nm,1.4s,mb5.0
MOOW Moose Ponds 85.04 45 *e*P **P 00 47 31.2 +0.1**
comp=E,7.0nm,1.3s,mb4.6
REDW Red Top Meadow 85.12 46 *e*P **P 00 47 34.0 +2.4**
comp=E,25nm,1.8s,mb5.0
KAF Kangasniemi 85.13 336 *e*P **P 00 47 29.4 -1.8**
KAF Kangasniemi 85.13 336 *e*p **P 00 47 29.4 -1.8**
HWUT Hardware Ranch 85.33 47 *e*P **P 00 47 33.6 +1.0**
comp=E,13nm,1.1s,mb5.0
FFC Flin Flon 85.36 33 *e*P **P 00 47 33.0 +0.4**
comp=E,9.8nm,1.1s,mb4.8
FFC Flin Flon 85.36 33 *e*P **P 00 47 32.9 +0.4**
KIV Kislovodsk 85.43 315 *e*P **P 00 47 34.0 +0.9**
KIV pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
KIV MLR MLR
comp=Z,241nm,18.0s,MS4.6
ARUT Antelope Range 85.46 51 *e*P **P 00 47 33.9 +0.6**
comp=Z,5.1nm,0.8s,mb4.7
ARUT Antelope Range 85.46 51 *e*P **P 00 47 33.9 +0.5**
GNI Garni 85.53 311 LR LR 01 25 54.6
comp=Z,106nm,20.9s,MS4.2,baz=52,slow=36
CCUT Cedar City 85.61 52 *e*P **P 00 47 35.0 +0.9**
comp=Z,9.1nm,1.2s,mb4.9
FINES FINESS Array B 85.61 335 P **P 00 47 31.9 -1.7**
comp=Z,1.5nm,0.5s,mb4.5,baz=45,slow=3.3,SNR=10
FINES FINESS Array B 85.61 335 P **P 00 47 31.9 -1.7**
FINES FINESS Array B 85.61 335 P **P 00 47 31.9 -1.7**
JLU Jordanelle 85.80 48 *e*P **P 00 47 34.6 -0.4**
comp=Z,13nm,1.1s,mb5.1
PDAR Pinedale Array 86.23 46 P **P 00 47 36.5 -0.5**
comp=Z,1.2nm,0.7s,mb4.2,baz=240,slow=1.7,SNR=10
PDAR LR LR 01 19 41.3
comp=Z,122nm,19.5s,MS4.3,baz=149,slow=31
PDAR Pinedale Array 86.23 46 P **P 00 47 36.5 -0.5**
LAO LASA Array 86.71 41 *e*P **P 00 47 39.9 +0.6**
comp=Z,8.3nm,0.7s,mb5.1
SRU San Rafael 87.05 49 *e*P **P 00 47 40.0 -1.2**
comp=Z,6.3nm,0.7s,mb5.0
SRU San Rafael 87.05 49 *e*P **P 00 47 40.0 -1.2**
WUAZ Wupatki 87.87 53 *e*P **P 00 47 44.9 -0.3**
comp=Z,9.6nm,1.0s,mb5.0
PV04 Paradox Valley 88.50 49 *e*P **P 00 47 48.8 +0.7**
MVCO Mesa Verde 89.29 50 *e*P **P 00 47 51.1 -0.8**
comp=Z,4.1nm,0.8s,mb4.8
AKASG Malin Array Be 90.26 326 P **P 00 47 55.3 -0.8**
comp=Z,0.2nm,0.3s,mb3.9,baz=54,slow=4.7,SNR=3.3
AKASG LR LR 01 29 29.5
comp=Z,239nm,19.4s,MS4.6,baz=10.0,slow=36
AKASG Malin Array Be 90.26 326 P **P 00 47 55.3 -0.8**
AKASG Malin Array Be 90.26 326 *i* P **P 00 48 01.2 +5.1**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
ULM Lac du Bonnet 90.89 35 P **P 00 47 58.9 -0.1**
comp=Z,1.4nm,0.6s,mb4.5,baz=250,slow=5.9,SNR=4.1
ULM LR LR 01 31 06.4
comp=Z,120nm,18.3s,MS4.4,baz=294,slow=37
ULM Lac du Bonnet 90.89 35 P **P 00 47 58.9 -0.1**
ULM Lac du Bonnet 90.89 35 P **P 00 47 58.9 -0.1**
HFS Hagfors 91.05 338 P **P 00 47 57.8 -1.8**
comp=Z,1.1nm,0.5s,mb4.4,baz=104,slow=6.1,SNR=3.8
HFS Hagfors 91.05 338 P **P 00 47 57.8 -1.8**
HFS Hagfors 91.05 338 P **P 00 47 57.8 -1.8**
NOA NORSAR Array B 91.20 340 LR LR 01 32 33.3
comp=Z,111nm,19.2s,MS4.3,baz=260,slow=38
LAZ Ladron 91.50 52 *e*P **P 00 48 03.1 +0.9**
comp=Z,2.6nm,1.2s,mb4.4
ANMO Albuquerque 91.76 52 LR LR 01 27 50.3
comp=Z,88nm,18.5s,MS4.2,baz=308,slow=35
BRTR Keskin Array B 93.36 315 P **P 00 48 08.4 -2.3**
comp=Z,1.3nm,1.0s,mb4.3,baz=53,slow=5.8,SNR=3.1
BRTR LR LR 01 33 40.7
comp=Z,117nm,18.7s,MS4.4,baz=149,slow=38
BRTR Keskin Array B 93.36 315 P **P 00 48 08.4 -2.3**
BRTR Keskin Array B 93.36 315 *i* P **P 00 48 17.2 +6.5**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
MNTX Cornudas Mount 94.01 54 *e*P **P 00 48 12.8 -1.1**
comp=Z,2.7nm,0.9s,mb4.7
GDL2 Guadalupe Moun 94.56 53 *e*P **P 00 48 09.4 -7.0**
MLR Muntele Rosu 95.03 322 LR LR 01 32 04.6
comp=Z,81nm,18.2s,MS4.2,baz=304,slow=36
MMAI Mount Meron Ar 95.38 308 LR LR 01 33 29.9
comp=Z,74nm,19.9s,MS4.2,baz=175,slow=37
TXAR Lajitas Array 96.41 56 P **P 00 48 26.4 +1.5**
comp=Z,0.4nm,0.7s,mb3.9,baz=288,slow=3.3,SNR=3.8
TXAR LR LR 01 24 12.4
comp=Z,119nm,20.0s,MS4.4,baz=5.0,slow=31
TXAR Lajitas Array 96.41 56 P **P 00 48 26.4 +1.5**
TXAR Lajitas Array 96.41 56 P **P 00 48 26.4 +1.5**
VRAC Vranov 97.51 329 LR LR 01 37 44.8
comp=Z,271nm,20.5s,MS4.7,baz=296,slow=39
CLL Collm 97.73 333 *e*PP PP 00 52 30.0 +2.2
LSZ Lusaka 121.17 264 *e*PKPdf PKPdf 00 53 49.4 +0.5
LSZ Lusaka 121.17 264 *e*PKIKP PKPdf 00 53 49.4 +0.4
LBTB Lobatse 125.48 253 PKP PKPdf 00 53 57.4 +0.3
comp=Z,4.1nm,0.9s,baz=31,slow=0.3,SNR=4.0
LBTB Lobatse 125.48 253 PKP PKPdf 00 53 57.4 +0.3
LBTB Lobatse 125.48 253 PKIKP PKPdf 00 53 57.4 +0.4
TORD Torodi Ar. Bea 131.83 311 PKhKP PKPpre 00 54 01.0
comp=Z,0.3nm,0.9s,baz=214,slow=0.5,SNR=2.8
TORD PKP PKPdf 00 54 08.1 -1.4
comp=Z,0.6nm,0.9s,baz=323,slow=2.4,SNR=3.2
TORD PP PP 00 56 37.5 +8.2
comp=Z,1.1nm,1.0s,baz=52,slow=7.4,SNR=3.7
TORD Torodi Ar. Bea 131.83 311 PKPpre PKPpre 00 54 01.0
TORD PKP PKPdf 00 54 08.1 -1.4
TORD PP PP 00 56 37.5 +8.2
PLCA Paso Flores 142.69 131 PKP PKPdf 00 54 27.1 -1.6
comp=Z,5.0nm,0.7s,baz=223,slow=16,SNR=15
PLCA Paso Flores 142.69 131 *e*PKPdf PKPdf 00 54 27.2 -1.5
LCO Las Campanas 145.40 112 *e*PKPdf PKPdf 00 54 34.7 +1.0
LPAZ La Paz 147.08 89 PKPbc PKPbc 00 54 40.4 +1.3
comp=Z,3.2nm,0.7s,baz=318,slow=5.4,SNR=8.4
LPAZ La Paz 147.08 89 *e*PKPdf PKPdf 00 54 37.5 +0.6
LPAZ *e*PKPbc PKPbc 00 54 39.2 +0.1
LPAZ PKPbc PKPbc 00 54 40.4 +1.3
CFAA Coronel Fontan 147.12 117 PKPbc PKPbc 00 54 38.2 -0.6
comp=Z,0.9nm,0.8s,baz=264,slow=3.5,SNR=5.4
CFAA Coronel Fontan 147.12 117 PKPbc PKPbc 00 54 38.2 -0.6
SAML Samuel 149.34 73 *e*PKPdf PKPdf 00 54 40.2 -0.5
SAML *e*PKPbc PKPbc 00 54 44.4 -0.7

ATH ***19*** *00:39:48.7, 36.′93N×27.′67E, h84km*
ISK ***19*** *00:39:49.6, 36.′88N±27.′49E, h8km, MD3.1*
ISCJB ***19*** *00:39:50.1±0.6, 36.′88N±0.′03×27.′49E±0.′05, h6km±6km,*
Error ellipse: s-maj=7.2km s-min=4.4km az=153.7
DDA ***19*** *00:39:50.9, 36.′92N×27.′57E, h7km±1km, Md2.7*
CSEM ***19*** *00:39:50.1±0.2, 36.′87N×27.′46E, h8km, MD3.1, Error*
ellipse: s-maj=4.9km s-min=3.0km az=64.0
ISC 19 00:39:50.4±0.6,**36.′87N**±0.′03×**27.′47E**±0.′05,**h10**km±6km,
n23, σ0=**85**/36,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.17**	**150**	*e*PG	**Pg**	**00 39 53.5**	**-0.5**
DAT				*e*SG	**Sg**	**00 39 56.3**	**-0.2**
DAT	**Datca**	**0.17**	**150**	*e*Pg	**Pg**	**00 39 53.5**	**-0.6**
DAT				*e*Sg	**Sg**	**00 39 56.3**	**-0.2**
BODT	**Bodrum**	**0.23**	**325**	*e*PG	**Pg**	**00 39 54.4**	**-0.8**
BODT				*e*SG	**Sg**	**00 39 58.7**	**+0.3**
BODT	**Bodrum**	**0.23**	**325**	*e*Pg	**Pg**	**00 39 54.4**	**-0.8**
BODT				*e*Sg	**Sg**	**00 39 58.7**	**+0.3**
YER	**Yerkesik**	**0.70**	**68**	*e*PG	**Pg**	**00 40 03.8**	**-0.1**
YER				*e*SG	**Sg**	**00 40 13.1**	**0.0**
YER	**Yerkesik**	**0.70**	**68**	*e*Pg	**Pg**	**00 40 03.8**	**-0.1**
YER				*e*Sg	**Sg**	**00 40 13.1**	**0.0**
ARG	**Arkhangelos**	**0.84**	**141**	*e*P	**Pg**	**00 40 06.5**	**-0.1**
ARG				*e*S	**Sg**	**00 40 19.5**	**+2.0**
ARG	**Arkhangelos**	**0.84**	**141**	*e*P	**Pg**	**00 40 06.5**	**-0.1**
ARG				*e*S	**Sg**	**00 40 19.5**	**+2.0**
GCAM	**G?zelcaml?**	**0.85**	**347**	*i* P	**Pg**	**00 40 06.7**	**-0.1**
GCAM				*i* S	**Sg**	**00 40 20.3**	**+2.4**
GCAM	**G?zelcaml?**	**0.85**	**347**	*i* P	**Pg**	**00 40 06.7**	**-0.1**
GCAM				*i* S	**Sg**	**00 40 20.3**	**+2.4**
AYDN	**Tasoluk**	**0.85**	**22**	*i* P	**Pg**	**00 40 06.3**	**-0.6**
AYDN				*i* S	**Sg**	**00 40 17.1**	**-0.8**
AYDN	**Tasoluk**	**0.85**	**22**	*i* P	**Pg**	**00 40 06.3**	**-0.6**
AYDN				*i* S	**Sg**	**00 40 17.1**	**-0.9**
TURN	**Turunc**	**0.91**	**90**	*i* P	**Pg**	**00 40 01.7**	**-6.2**
TURN				*i* S	**Sg**	**00 40 10.1**	**-10**
SMG	**Samos**	**0.98**	**329**	*e*P	**Pg**	**00 40 09.0**	**-0.3**
SMG	**Samos**	**0.98**	**329**	*e*P	**Pg**	**00 40 09.0**	**-0.3**
KARP	**Karpathos**	**1.35**	**191**	*e*P	**Pn**	**00 40 14.3**	**-0.9**
KARP	**Karpathos**	**1.35**	**191**	*e*P	**Pn**	**00 40 14.3**	**-0.9**
IZM	**Izmir**	**1.53**	**354**	*e*PN	**Pn**	**00 40 18.7**	**+0.9**
IZM	**Izmir**	**1.53**	**354**	*e*Pn	**Pn**	**00 40 18.7**	**+0.9**
BLCB	**Balcova**	**1.55**	**347**	*e*PN	**Pn**	**00 40 17.5**	**-0.6**
BLCB	**Balcova**	**1.55**	**347**	*e*Pn	**Pn**	**00 40 17.5**	**-0.6**
APE	**Apeiranthos**	**1.57**	**278**	*e*PN	**Pn**	**00 40 18.7**	**+0.4**
APE	**Apeiranthos**	**1.57**	**278**	*e*Pn	**Pn**	**00 40 18.7**	**+0.4**

ISCJB ***19*** *00:50:53.0±7.9, 20.′42N±0.′09×146.′4E±0.′2, h2km±48km,*
mb4.0/16, Error ellipse: s-maj=26.6km s-min=15.1km
az=8.1
IDC ***19*** *00:50:54.3±0.7, 20.′43N×146.′43E, h0km, mb4.1/16,*
mb1 4.2/18, mb1mx4.1/29, mbtmp4.1/18, ML4.0/2, Error
ellipse: s-maj=22.0km s-min=15.5km az=93.0
NEIC ***19*** *00:50:60.0±0.5, 20.′45N×146.′31E, h35km, Error ellipse:*
s-maj=16.9km s-min=11.1km az=81.0
ISC 19 00:50:56.8±8.4,**20.′41N**±0.′09×**146.′4E**±0.′2,**h15**km±51km,
n38, σ0=**91**/38,**mb4.0**/16,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**7.70**	**331**	Pn	**Pn**	**00 52 47.6**	**-0.8**
	8.3nm,0.3s,baz=285,slow=20,SNR=3.4						
CBIJ				Sn	**Sn**	**00 54 08.3**	**-7.0**
	10nm,0.3s,baz=288,slow=23,SNR=6.0						
CBIJ	**Chichi jima**	**7.70**	**331**	Pn	**Pn**	**00 52 47.6**	**-0.8**
CBIJ				Sn	**Sn**	**00 54 08.3**	**-7.0**
MJAR	**Matsushiro Arr**	**17.60**	**338**	P	**Pn**	**00 55 00.9**	**-0.7**
	0.4nm,0.3s,baz=154,slow=11,SNR=3.4						
MJAR	**Matsushiro Arr**	**17.60**	**338**	P	**Pn**	**00 55 00.9**	**-0.7**
KSRS	**Korea Array**	**23.38**	**321**	P	**P**	**00 56 06.5**	**+1.4**
	4.0nm,0.7s,mb3.9,baz=150,slow=9.2,SNR=14						
KSAR	**Wonju Array Be**	**23.40**	**320**	P	**P**	**00 56 06.5**	**+1.2**
PETK	**Petropavlovsk-**	**33.78**	**12**	P	**P**	**00 57 39.3**	**+1.4**
	8.1nm,1.0s,mb4.6,baz=152,slow=6.5,SNR=3.3						
PETK	**Petropavlovsk-**	**33.78**	**12**	P	**P**	**00 57 39.3**	**+1.4**
WRA	**Warramunga Arr**	**41.81**	**197**	P	**P**	**00 58 46.5**	**+0.4**
	0.8nm,0.5s,mb3.6,baz=18,slow=8.2,SNR=10						
WRA	**Warramunga Arr**	**41.81**	**197**	P	**P**	**00 58 46.5**	**+0.4**
SONM	**Songino Array**	**42.25**	**320**	P	**P**	**00 58 49.6**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=130,slow=8.8,SNR=6.8						
SONM	**Songino Array**	**42.25**	**320**	P	**P**	**00 58 49.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**43.36**	**209**	P	**P**	**00 58 59.0**	**+0.3**
	1.0nm,0.3s,mb4.0,baz=35,slow=12,SNR=8.5						
FITZ	**Fitzroy Crossi**	**43.36**	**209**	P	**P**	**00 58 59.0**	**+0.3**
ASAR	**Alice Springs**	**45.48**	**196**	P	**P**	**00 59 14.8**	**-0.8**
	0.6nm,0.6s,mb3.6,baz=15,slow=7.4,SNR=6.5						
ASAR	**Alice Springs**	**45.48**	**196**	P	**P**	**00 59 14.8**	**-0.8**
ZALV	**Zalesovo Beam**	**57.08**	**322**	P	**P**	**01 00 41.4**	**-0.9**
	2.3nm,0.6s,mb4.4,baz=106,slow=7.4,SNR=16						
ZALV	**Zalesovo Beam**	**57.08**	**322**	P	**P**	**01 00 41.5**	**-0.9**
MKAR	**Makanchi Array**	**57.78**	**313**	P	**P**	**01 00 47.7**	**+0.3**
	1.0nm,0.7s,mb4.0,baz=91,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**57.78**	**313**	P	**P**	**01 00 47.7**	**+0.3**
KURK	**Kurchatov**	**60.46**	**317**	P	**P**	**01 01 05.7**	**-0.2**
	2.0nm,0.6s,mb4.3,baz=93,slow=7.6,SNR=23						
KURK	**Kurchatov**	**60.46**	**317**	P	**P**	**01 01 05.7**	**-0.2**
ILAR	**Eielson Array**	**61.82**	**27**	P	**P**	**01 01 13.2**	**-1.7**
	0.6nm,0.7s,mb3.8,baz=259,slow=4.8,SNR=5.2						
ILAR	**Eielson Array**	**61.82**	**27**	P	**P**	**01 01 13.2**	**-1.7**
BVAR	**Borovoye Array**	**65.60**	**320**	P	**P**	**01 01 39.9**	**-0.1**
	3.9nm,0.6s,mb4.6,baz=90,slow=7.8,SNR=19						
BVAR	**Borovoye Array**	**65.60**	**320**	P	**P**	**01 01 39.9**	**-0.1**
INK	**Inuvik**	**67.54**	**23**	P	**P**	**01 01 52.3**	**+0.1**
	1.1nm,0.7s,mb4.0,baz=240,slow=2.0,SNR=4.3						
INK	**Inuvik**	**67.54**	**23**	P	**P**	**01 01 52.3**	**+0.1**
YKA	**Yellowknife Ar**	**76.17**	**28**	P	**P**	**01 02 43.2**	**-0.9**
	0.6nm,0.6s,mb3.7,baz=287,slow=5.5,SNR=8.3						
YKA	**Yellowknife Ar**	**76.17**	**28**	P	**P**	**01 02 43.2**	**-0.9**
NVAR	**Mina Array Bea**	**81.56**	**52**	P	**P**	**01 03 15.9**	**+1.7**
	2.0nm,0.8s,mb4.1,baz=268,slow=5.0,SNR=7.1						
NVAR	**Mina Array Bea**	**81.56**	**52**	P	**P**	**01 03 15.9**	**+1.7**
FINES	**FINESS Array B**	**85.62**	**335**	P	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.20**	**60**	*e*Pn	**Pn**	**00 58 06.1**	**+0.1**
	23nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.63**	**8**	Pn	**Pn**	**01 00 40.6**	**-0.6**
	0.3nm,0.3s,baz=192,slow=12,SNR=6.5						
CMAR	**Chiang Mai Arr**	**16.63**	**8**	Pn	**Pn**	**01 00 40.6**	**-0.6**
YULB	**Yu-li**	**32.16**	**46**	*e*P	**P**	**01 03 15.3**	**+0.1**
MK31	**Makanchi Array**	**46.40**	**347**	*e*P	**P**	**01 05 13.2**	**-0.4**
MKAR	**Makanchi Array**	**46.40**	**347**	P	**P**	**01 05 13.4**	**-0.2**
	1.3nm,0.7s,mb4.0,baz=163,slow=7.7,SNR=15						
MKAR	**Makanchi Array**	**46.40**	**347**	P	**P**	**01 05 13.4**	**-0.2**
SONM	**Songino Array**	**46.55**	**9**	P	**P**	**01 05 15.8**	**+1.0**
	0.9nm,0.4s,mb4.0,baz=191,slow=9.3,SNR=8.7						
SONM	**Songino Array**	**46.55**	**9**	P	**P**	**01 05 15.8**	**+1.0**
COEN	**Coen**	**48.87**	**110**	P	**P**	**01 05 33.1**	**-0.3**
KURK	**Kurchatov**	**50.94**	**345**	P	**P**	**01 05 48.6**	**+0.1**
	1.0nm,0.7s,mb3.9,baz=168,slow=6.7,SNR=13						
ZALV	**Zalesovo Beam**	**52.76**	**351**	P	**P**	**01 06 02.2**	**+0.1**
	1.1nm,0.4s,mb4.1,baz=178,slow=5.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**52.76**	**351**	P	**P**	**01 06 02.2**	**+0.1**
BVAR	**Borovoye Array**	**55.36**	**341**	P	**P**	**01 06 21.2**	**+0.2**
	0.8nm,0.8s,mb3.8,baz=134,slow=8.3,SNR=4.3						
BVAR	**Borovoye Array**	**55.36**	**341**	P	**P**	**01 06 21.2**	**+0.2**

GUC 19 01:00:10.8±0.8, 32°.57S×71°.90W, h16km±7km, MD3.5, ML2.8, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.76**	**27**	⇓*iP*	Pg	01 00 24.6	-1.1
CHNG				*i* S	Sg	01 00 34.9	-0.7
CHNG				AML	AML	01 00 37.7	
	comp=N,209nm,0.4s						
ROCH	**El Roble**	**0.85**	**119**	⇓*iP*	Pb	01 00 26.2	-1.0
ROCH				*i* S	Sb	01 00 37.5	-0.9
ROCH				AML	AML	01 00 39.9	
	comp=N,508nm,0.2s						
PTCH	**Petorca**	**0.87**	**70**	*e*P	Pb	01 00 26.7	-0.9
PTCH				*i* S	Sb	01 00 38.4	-0.6
PTCH				AML	AML	01 00 43.2	
	comp=E,562nm,0.2s						
PEL	**Peldehue**	**1.17**	**120**	⇑*iP*	Pn	01 00 31.4	-1.1
PEL				*i* S	Sb	01 00 47.1	-0.5
PEL				AML	AML	01 00 49.3	
	comp=E,790nm,0.3s						
RCDM	**Rinconada Maip**	**1.30**	**135**	⇑*iP*	Pn	01 00 33.6	-0.7
RCDM				*i* S	Sb	01 00 50.1	-1.3
RCDM				AML	AML	01 00 53.6	
	comp=E,297nm,0.1s						
CLCH	**Cerro Calan**	**1.41**	**126**	⇓*iP*	Pn	01 00 35.3	-0.6
CLCH				*i* S	Sn	01 00 53.6	-0.6
CLCH				AML	AML	01 00 57.3	
	comp=E,358nm,0.6s						
LNV	**Longovilo**	**1.45**	**164**	*e*P	Pn	01 00 35.2	-1.1
ANTU	**Antumapu**	**1.46**	**134**	*i* S	Sn	01 00 55.2	-0.1
ANTU				AML	AML	01 01 00.7	
	comp=N,176nm,0.7s						
FCH	**Farellones**	**1.55**	**120**	⇑*iP*	Pn	01 00 33.6	-4.2
FCH				*i* S	Sn	01 00 53.7	-3.9
FCH				AML	AML	01 00 55.6	
	comp=E,304nm,0.2s						
CMCH	**Combarbala**	**1.58**	**29**	⇑*iP*	Pn	01 00 37.1	-1.1
CMCH				*i* S	Sn	01 00 57.9	-0.5
CMCH				AML	AML	01 01 04.5	
	comp=N,531nm,0.7s						
CHCH	**Chadas Angostu**	**1.72**	**143**	*e*P	Pn	01 00 40.1	0.0
CHCH				*e*S	Sn	01 01 02.1	+0.4
CACH	**El Canelo**	**1.89**	**145**	*e*P	Pn	01 00 43.3	+0.9
CACH				*e*S	Sn	01 01 10.1	+4.1
LMEL	**Las Melosas**	**1.91**	**132**	*e*P	Pn	01 00 43.5	+0.7
LMEL				*e*S	Sn	01 01 08.0	+1.5
LMEL				AML	AML	01 01 12.3	
	comp=N,196nm,0.2s						

IDC ***19*** *01:01:01.5±1.1, 1°.19N×125°.57E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/51, Error ellipse: s-maj=55.2km s-min=18.0km az=69.0*

NEIC ***19*** *01:01:06.6±0.4, 1°.26N×125°.71E, h35km, mb4.2/4, Error ellipse: s-maj=16.7km s-min=7.7km az=68.0*

ISCJB ***19*** *01:01:11.4±0.6, 1°.00N±0°.07×125°.38E±0°.06, h98km±5km, mb3.9/10, Error ellipse: s-maj=12.9km s-min=8.5km az=40.0*

DJA ***19*** *01:01:12, 0°.75N×125°.40E, h16km, MLv4.2/6*

ISC 19 01:01:12.5±0.6, 0°.99N±0°.07×125°.39E±0°.06, h90km±5km, n29, σ0°.71/29, mb3.9/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**0.71**	**310**	P	**Pn**	**01 01 28.6**	**-0.6**
MNI				S	**Sn**	**01 01 42.1**	**+0.4**
KMSI	**Cibinong**	**1.47**	**254**	P	**Pn**	**01 01 37.2**	**-0.7**
TNTI	**Ternate**	**1.99**	**96**	P	**Pn**	**01 01 45.2**	**+0.6**
GTOI	**Gorontalo**	**2.41**	**262**	P	**Pn**	**01 01 51.1**	**+1.0**
LBMI	**Labuha**	**2.66**	**127**	P	**Pn**	**01 01 52.7**	**-0.8**
LUWI	**Luwuk**	**3.30**	**232**	P	**Pn**	**01 02 02.5**	**+0.3**
MSAI	**Masohi**	**5.57**	**141**	P	**Pn**	**01 02 33.3**	**+0.3**
	889nm29nm,0.5s						
DAV	**Davao City (W)**	**6.05**	**2**	LR	LR	01 04 31.4	
	comp=Z,207nm,18.3s,baz=224,slow=36						
TTSI	**Tana Toraja**	**6.86**	**234**	P	**Pn**	**01 02 50.5**	**0.0**
KAPI	**Kappang**	**8.20**	**223**	Pn	**Pn**	**01 03 05.9**	**-2.9**
	1.2nm,0.3s,baz=194,slow=4.2,SNR=6.2						
KAPI	**Kappang**	**8.20**	**223**	*e*Pn	**Pn**	**01 03 08.9**	**0.0**
WRA	**Warramunga Arr**	**22.57**	**158**	P	**P**	**01 06 04.6**	**-0.9**
	2.6nm,0.5s,mb3.8,baz=336,slow=11,SNR=36						
WRA	**Warramunga Arr**	**22.57**	**158**	P	**P**	**01 06 04.6**	**-0.9**
AS31	**Alice Springs**	**25.86**	**162**	*e*P	**P**	**01 06 37.7**	**+1.8**
ASAR	**Alice Springs**	**25.86**	**162**	P	**P**	**01 06 36.6**	**+0.7**
	1.8nm,0.5s,mb3.8,baz=342,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**25.86**	**162**	P	**P**	**01 06 36.6**	**+0.7**
CTAO	**Charters Tower**	**29.27**	**137**	*e*P	**P**	**01 07 05.4**	**-0.9**
	3.4nm,0.9s,mb4.0						
MK31	**Makanchi Array**	**59.07**	**327**	*e*P	**P**	**01 11 03.3**	**+0.1**
MKAR	**Makanchi Array**	**59.07**	**327**	P	**P**	**01 11 03.4**	**+0.1**
	0.8nm,0.3s,mb4.2,baz=121,slow=7.8,SNR=52						
MKAR	**Makanchi Array**	**59.07**	**327**	P	**P**	**01 11 03.4**	**+0.1**
EKS2	**Erkin-Say**	**62.00**	**319**	*e*P	**P**	**01 11 23.0**	**-0.3**
	3.1nm,0.6s,mb4.5						
KURK	**Kurchatov**	**63.35**	**329**	P	**P**	**01 11 31.8**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=126,slow=6.4,SNR=7.7						
KURK	**Kurchatov**	**63.35**	**329**	P	**P**	**01 11 31.8**	**-0.3**
BVAR	**Borovoye Array**	**68.90**	**328**	P	**P**	**01 12 07.7**	**+0.2**
	0.3nm,0.3s,mb3.6,baz=127,slow=9.2,SNR=6.1						
BVAR	**Borovoye Array**	**68.90**	**328**	P	**P**	**01 12 07.7**	**+0.2**
BRVK	**Borovoye**	**68.97**	**328**	*e*P	**P**	**01 12 08.1**	**+0.1**
	2.6nm,0.6s,mb4.2						
ABKAR	**Akbulak array**	**73.43**	**322**	*e*P	**P**	**01 12 34.4**	**-0.6**
	0.4nm,0.3s,mb3.7						
AKTO	**Aktyubinsk**	**74.98**	**322**	P	**P**	**01 12 44.3**	**+0.3**
	0.7nm,0.3s,mb3.9,baz=111,slow=7.4,SNR=6.8						
AKTO	**Aktyubinsk**	**74.98**	**322**	P	**P**	**01 12 44.3**	**+0.3**

IDC ***19*** *01:08:22.6±0.7, 32°.47S×71°.76W, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/17, mbtmp4.1/12, ML4.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/39, Error ellipse: s-maj=30.7km s-min=17.0km az=85.0*

ISCJB ***19*** *01:08:23.6±1.0, 32°.45S±0°.03×72°.08W±0°.05, h20km±6km, mb4.1/13, Error ellipse: s-maj=7.7km s-min=4.2km az=160.7*

GUC ***19*** *01:08:25.1±0.8, 32°.45S×72°.00W, h15km±7km, ML4.2*

NEIC ***19*** *01:08:25.1, 32°.45S×72°.00W, h15km, mb4.2/5, ML4.2(GUC), After GUC.*

ISC 19 01:08:24.2±1.0, 32°.46S±0°.03×71°.99W±0°.05, h12km±5km, n75, σ0°.89/85, mb4.1/13, 8C-16D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.92**	**78**	⇓*iP*	**Pg**	**01 08 42.1**	**+0.2**
PTCH				*i* S	**Sg**	**01 08 54.5**	**+0.5**
PTCH	**Petorca**	**0.92**	**78**	⇓*iP*	**Pg**	**01 08 42.1**	**+0.2**
PTCH				*i* S	**Sg**	**01 08 54.5**	**+0.5**
PTCH				AML	AML	01 08 58.0	
	comp=N,15μm,0.2s						
ROCH	**El Roble**	**0.97**	**122**	⇓*iP*	**Pg**	**01 08 42.6**	**-0.3**
ROCH				*i* S	**Sg**	**01 08 55.1**	**-0.5**
ROCH				AML	AML	01 08 56.2	
	comp=N,14μm,0.4s						
LCCH	**Las Cruces**	**1.07**	**161**	⇓*iP*	**Pb**	**01 08 44.2**	**-0.6**
LCCH	**Las Cruces**	**1.07**	**161**	⇓*iP*	**Pb**	**01 08 44.2**	**-0.6**
JACH	**Jahuel**	**1.20**	**101**	⇑*iP*	**Pn**	**01 08 46.3**	**-0.5**
JACH	**Jahuel**	**1.20**	**101**	⇑*iP*	**Pn**	**01 08 46.3**	**-0.5**
PEL	**Peldehue**	**1.29**	**122**	⇑*iP*	**Pn**	**01 08 48.0**	**-0.2**
PEL				*i* S	**Sb**	**01 09 04.7**	**-0.4**
PEL				AML	AML	01 09 07.8	
	comp=N,19μm,0.6s						
RCDM	**Rinconada Maip**	**1.43**	**136**	*e*P	**Pn**	**01 08 49.7**	**-0.3**
RCDM				*i* S	**Sn**	**01 09 08.0**	**-0.8**
RCDM				AML	AML	01 09 12.6	
	comp=N,4μm,0.2s						
TACH	**Talagante**	**1.48**	**144**	⇓*iP*	**Pn**	**01 08 50.6**	**-0.1**
TACH				*e*S	**Sn**	**01 09 10.1**	**0.0**
SAN	**Santiago**	**1.49**	**132**	⇑*iP*	**Pn**	**01 08 50.9**	**0.0**
SAN				*i* S	**Sn**	**01 09 10.2**	**-0.1**
SAN	**Santiago**	**1.49**	**132**	⇑*iP*	**Pn**	**01 08 50.9**	**0.0**
SAN				*i* S	**Sn**	**01 09 10.2**	**-0.1**
CMCH	**Combarbala**	**1.53**	**34**	⇓*iP*	**Pn**	**01 08 51.0**	**-0.4**
CMCH				*i* S	**Sn**	**01 09 11.0**	**-0.3**
CMCH	**Combarbala**	**1.53**	**34**	⇓*iP*	**Pn**	**01 08 51.0**	**-0.4**
CMCH				*i* S	**Sn**	**01 09 11.0**	**-0.3**
CLCH	**Cerro Calan**	**1.54**	**128**	⇓*iP*	**Pn**	**01 08 51.7**	**+0.2**
CLCH				*i* S	**Sn**	**01 09 11.6**	**+0.2**
CLCH				AML	AML	01 09 18.1	
	comp=N,11μm,0.3s						
CLCH				AML	AML	01 09 18.6	
	comp=N,12μm,0.3s						
LNV	**Longovilo**	**1.57**	**162**	⇑*iP*	**Pn**	**01 08 50.8**	**-1.2**
LNV				*i* S	**Sn**	**01 09 11.5**	**-0.7**
LACH	**Col Las Americ**	**1.58**	**129**	⇓*iP*	**Pn**	**01 08 52.7**	**+0.7**
LACH				*i* S	**Sn**	**01 09 12.9**	**+0.5**
LACH				AML	AML	01 09 22.2	
	comp=N,2μm,0.6s						
ANTU	**Antumapu**	**1.59**	**135**	AML	AML	01 09 16.7	
	comp=E,4μm,0.3s						
ANTU				AML	AML	01 09 19.6	
	comp=N,5μm,0.7s						
FSR	**Penalolen**	**1.60**	**130**	⇓*iP*	**Pn**	**01 08 53.0**	**+0.7**
FSR				*i* S	**Sn**	**01 09 13.3**	**+0.5**
FSR	**Penalolen**	**1.60**	**130**	⇓*iP*	**Pn**	**01 08 53.0**	**+0.7**
FSR				*i* S	**Sn**	**01 09 13.3**	**+0.5**
FSR				AML	AML	01 09 17.8	
	comp=N,1μm,0.5s						
FCH	**Farellones**	**1.67**	**122**	⇓*iP*	**Pn**	**01 08 50.6**	**-2.7**
FCH				*i* S	**Sn**	**01 09 12.8**	**-2.0**
FCH				AML	AML	01 09 14.5	
	comp=E,4μm,0.3s						
PCH	**Pirque**	**1.70**	**133**	⇓*iP*	**Pn**	**01 08 54.2**	**+0.5**
PCH				*i* S	**Sn**	**01 09 16.6**	**+1.2**
SJCH	**San Jose de Ma**	**1.81**	**131**	AML	AML	01 09 25.2	
	comp=N,3μm,0.4s						
OVCH	**Ovalle**	**1.96**	**20**	*e*P	**Pn**	**01 08 57.8**	**+0.4**
OVCH	**Ovalle**	**1.96**	**20**	*e*P	**Pn**	**01 08 57.8**	**+0.4**
CACH	**El Canelo**	**2.02**	**145**	⇑*iP*	**Pn**	**01 08 59.2**	**+1.1**
CACH	**El Canelo**	**2.02**	**145**	⇑*iP*	**Pn**	**01 08 59.2**	**+1.1**
LMEL	**Las Melosas**	**2.04**	**133**	⇓*iP*	**Pn**	**01 08 59.6**	**+1.2**
LMEL				*i* S	**Sn**	**01 09 26.6**	**+2.8**
LMEL	**Las Melosas**	**2.04**	**133**	⇓*iP*	**Pn**	**01 08 59.6**	**+1.2**
LMEL				*i* S	**Sn**	**01 09 26.6**	**+2.8**
CFAA	**Coronel Fontan**	**3.30**	**76**	Pn	**Pn**	**01 09 18.0**	**+2.3**
	comp=N,3.8nm,0.3s,baz=249,slow=11,SNR=360						
CFAA				Lg		01 10 02.0	
	comp=N,7.8nm,0.3s,baz=98,slow=11,SNR=8.6						
CFAA	**Coronel Fontan**	**3.30**	**76**	Pn	**Pn**	**01 09 18.0**	**+2.3**
CFAA				Lg		01 10 02.0	
LCO	**Las Campanas**	**3.61**	**18**	*e*Pn	**Pn**	**01 09 19.9**	**-0.1**
LCO				*e*Sn	**Sn**	**01 10 02.7**	**+0.1**
LCO				*e*Sg	**Sg**	**01 10 13.9**	**-6.2**
PLCA	**Paso Flores**	**8.34**	**172**	Pn	**Pn**	**01 10 25.1**	**+0.2**
	comp=N,0.7nm,0.3s,baz=330,slow=9.7,SNR=12						
PLCA				LR	LR	01 13 08.9	
	comp=N,63nm,19.4s,baz=2.2,slow=34						
PLCA	**Paso Flores**	**8.34**	**172**	Pn	**Pn**	**01 10 25.1**	**+0.2**
TRQA	**Tornquist**	**9.91**	**127**	*e*Pn	**Pn**	**01 10 47.5**	**+1.1**
CPUP	**Villa Florida**	**14.16**	**68**	Pn	**Pn**	**01 11 44.8**	**+0.2**
	comp=N,0.8nm,0.3s,baz=209,slow=14,SNR=7.4						
CPUP	**Villa Florida**	**14.16**	**68**	*e*Pn	**Pn**	**01 11 42.1**	**-2.5**
LPAZ	**La Paz**	**16.48**	**13**	Pn	**Pn**	**01 12 15.8**	**+0.5**
	comp=N,0.2nm,0.3s,baz=187,slow=6.6,SNR=7.5						
LPAZ	**La Paz**	**16.48**	**13**	Pn	**Pn**	**01 12 15.8**	**+0.5**
SIV	**San Ignacio**	**19.16**	**34**	P	**Pn**	**01 12 45.5**	**-2.9**
	comp=N,0.3nm,0.3s,baz=216,slow=13,SNR=18						
SIV	**San Ignacio**	**19.16**	**34**	P	**Pn**	**01 12 45.5**	**-2.9**
SAML	**Samuel**	**24.78**	**21**	*e*P	**P**	**01 13 45.1**	**-0.9**
	comp=N,2.9nm,0.9s,mb3.8						
VNA3	**Neumayer Olymp**	**50.77**	**158**	*e*	**P**	**01 17 31.7**	**+7.9**
VNA2	**Neumayer--Watz**	**51.42**	**158**	*e*	**P**	**01 17 28.9**	**+0.3**
	baz=295,slow=9.0						
SNAA	**Sanae**	**53.00**	**158**	*e*	**P**	**01 17 40.7**	**+0.4**
SNAA	**Sanae**	**53.00**	**158**	P	**P**	**01 17 40.4**	**+0.1**
	comp=N,0.4nm,0.5s,mb3.6,baz=275,slow=10,SNR=18						
SNAA	**Sanae**	**53.00**	**158**	*e*P	**P**	**01 17 40.4**	**0.0**
	comp=N,1.5nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**57.77**	**180**	P	**P**	**01 18 14.8**	**+0.2**
	comp=N,1.1nm,0.3s,mb4.4,baz=90,slow=1.3,SNR=5.7						
QSPA	**South Pole Qui**	**57.77**	**180**	P	**P**	**01 18 14.8**	**+0.2**
VNDA	**Vanda**	**65.62**	**191**	*e*P	**P**	**01 19 07.2**	**-0.4**
	comp=N,1.6nm,0.6s,mb4.2						
VNDA				*e*pP	pP	01 19 17.9	+6.5
TXAR	**Lajitas Array**	**68.41**	**330**	P	**P**	**01 19 26.7**	**+0.9**
	comp=N,0.2nm,0.6s,mb3.3,baz=163,slow=9.4,SNR=2.8						
TXAR	**Lajitas Array**	**68.41**	**330**	P	**P**	**01 19 26.7**	**+0.9**
WVT	**Waverly**	**69.82**	**346**	*e*P	**P**	**01 19 35.0**	**+0.6**
	comp=N,1.6nm,0.8s,mb4.0						
AMTX	**Amarillo**	**72.56**	**335**	*e*P	**P**	**01 19 44.7**	**-6.4**
	comp=N,6.5nm,0.6s,mb4.7						
MAW	**Mawson**	**74.64**	**164**	P	**P**	**01 20 02.9**	**-0.1**
	comp=N,5.3nm,1.1s,mb4.4,baz=216,slow=8.7,SNR=5.1						
MAW	**Mawson**	**74.64**	**164**	P	**P**	**01 20 02.9**	**-0.1**
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**01 20 03.1**	**-0.8**
	comp=N,4.8nm,0.6s,mb4.6,baz=220,slow=5.0,SNR=13						
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**01 20 03.1**	**-0.8**
BOSA	**Boshof**	**80.75**	**118**	P	**P**	**01 20 37.3**	**-0.5**
	comp=N,2.6nm,0.8s,mb4.2,baz=212,slow=4.8,SNR=4.5						
BOSA	**Boshof**	**80.75**	**118**	P	**P**	**01 20 37.3**	**-0.5**
NVAR	**Mina Array Bea**	**82.64**	**325**	P	**P**	**01 20 48.6**	**+1.3**
	comp=N,0.3nm,0.6s,mb3.5,baz=148,slow=7.4,SNR=2.9						
NVAR	**Mina Array Bea**	**82.64**	**325**	P	**P**	**01 20 48.6**	**+1.3**
LBTB	**Lobatse**	**82.92**	**115**	P	**P**	**01 20 48.0**	**-1.3**
	comp=N,0.6nm,0.3s,mb4.1,baz=253,slow=0.8,SNR=4.5						
LBTB	**Lobatse**	**82.92**	**115**	P	**P**	**01 20 48.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**01 20 52.5**	**-0.5**
	comp=N,2.7nm,0.7s,mb4.5,baz=275,slow=4.3,SNR=22						
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**01 20 52.5**	**-0.5**
BVAR	**Borovoye Array**	**146.11**	**41**	PKPbc	PKPbc	01 28 04.0	+0.3
	comp=N,1.9nm,0.5s,baz=263,slow=2.7,SNR=18						
BVAR	**Borovoye Array**	**146.11**	**41**	PKPbc	PKPbc	01 28 04.0	+0.3
KURK	**Kurchatov**	**151.71**	**41**	PKPbc	PKPbc	01 28 18.1	0.0
	comp=N,1.7nm,0.5s,baz=302,slow=2.8,SNR=16						
KURK				PKPab	PKPab	01 28 28.8	+1.8
	comp=N,1.8nm,0.5s,baz=297,slow=3.1,SNR=8.7						
KURK	**Kurchatov**	**151.71**	**41**	PKPbc	PKPbc	01 28 18.1	0.0
KURK				PKPab	PKPab	01 28 28.8	+1.8
AAK	**Ala-Archa**	**151.71**	**59**	*e*PKPbc	PKPbc	01 28 18.8	+0.3
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc	PKPbc	01 28 20.4	-0.3
	comp=N,1.6nm,0.5s,baz=307,slow=3.7,SNR=12						
ZALV				PKPab	PKPab	01 28 31.6	-0.3
	comp=N,2.6nm,0.5s,baz=304,slow=3.2,SNR=12						
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc	PKPbc	01 28 20.4	-0.3
ZALV				PKPab	PKPab	01 28 31.6	-0.3
MKAR	**Makanchi Array**	**155.70**	**46**	PKPab	PKPab	01 28 43.5	-0.5
	comp=N,1.5nm,0.6s,baz=282,slow=3.5,SNR=20						
MKAR	**Makanchi Array**	**155.70**	**46**	PKPab	PKPab	01 28 43.5	-0.5

IDC ***19*** *01:27:15.7±0.4, 1°.72S×99°.66E, h0km, mb4.5/30, mb1 4.6/30, mb1mx4.5/36, mbtmp4.5/30, MS3.7/6, Ms1 3.7/6, ms1mx3.2/57, Error ellipse: s-maj=19.7km s-min=10.1km az=54.0*

DJA ***19*** *01:27:18, 1°.80S×99°.61E, h10km, MLv5.1/17*

ISCJB ***19*** *01:27:19.8±0.7, 1°.77S±0°.03×99°.69E±0°.05, h38km±6km, mb4.7/67, MS3.8/11, Error ellipse: s-maj=8.9km s-min=4.5km az=152.2*

NEIC ***19*** *01:27:20.2±0.2, 1°.75S×99°.76E, mb4.7/24, Error ellipse: s-maj=7.9km s-min=4.3km az=60.0*

NEIC Felt [III] at Padang and Painan, Sumatra.

BJI ***19*** *01:27:21.0, 1°.52S×100°.02E, h26km, mB5.0/15, mb4.7/29, Ms4.5/12, Ms7 4.0/12*

ISC 19 01:27:21.6±0.6, 1°.77S±0°.03×99°.71E±0°.05, h36km±5km, h26km±1.3km: pP-P, n170, σ1°.13/155, mb4.7/67, MS3.8/11,

1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.13**	**41**	P	**Pn**	**01 27 39.8**	**-1.1**
PDSI				S	**Sn**	**01 27 55.1**	**-0.1**
PPI	**Padang Panjang**	**1.47**	**28**	P	**Pn**	**01 27 44.7**	**-0.9**
KRJI	**Kerinci**	**1.78**	**101**	P	**Pn**	**01 27 50.4**	**+0.6**
KRJI				S	**Sn**	**01 28 18.0**	**+6.8**
BKNI	**Bangkinang**	**2.46**	**33**	P	**Pn**	**01 28 05.1**	**+5.8**
MNSI	**Mandailing Nat**	**2.55**	**357**	P	**Pn**	**01 27 58.9**	**-1.5**
RGRI	**Rengat**	**2.97**	**62**	P	**Pn**	**01 28 12.4**	**+6.1**
KSI	**Kapahiang**	**3.43**	**123**	P	**Pn**	**01 28 13.7**	**+1.1**
MNAI	**Manna**	**4.14**	**129**	P	**Pn**	**01 28 22.9**	**+0.6**
PSI	**Prapat**	**4.60**	**350**	P	**Pn**	**01 28 26.0**	**-2.7**
TSI	**Tuntungan**	**5.36**	**348**	P	**Pn**	**01 28 42.9**	**+3.9**
	1.9nm9μm403nm,0.8s						
LWLI	**Liwa**	**5.41**	**127**	P	**Pn**	**01 28 41.0**	**+1.2**
	2.9nm9μm962nm,0.7s						
MYKOM	**Kota Tinggi**	**5.44**	**50**	P	**Pn**	**01 28 41.5**	**+1.3**
	0.9nm1μm89nm,0.7s						
TPTI		**5.60**	**333**	P	**Pn**	**01 28 42.9**	**+0.5**
	3.2nm71nm,0.7s						
KLI	**Kotabumi**	**5.99**	**121**	P	Px	01 28 58.9	
IPM	**Ipoh**	**6.34**	**12**	*e*Pn	**Pn**	**01 28 52.7**	**+0.1**
	57nm,0.4s						
IPM	**Ipoh**	**6.34**	**12**	P	**Pn**	**01 28 53.3**	**+0.7**
	0.4nm1μm77nm,0.7s						
KULM	**Kulim**	**7.07**	**8**	*e*Pn	**Pn**	**01 29 02.0**	**-0.6**
	40nm,0.6s						
KULM	**Kulim**	**7.07**	**8**	P	**Pn**	**01 29 02.6**	**0.0**
	0.3nm77nm,0.8s						
RBSI	**Rajabasa**	**7.25**	**124**	P	**Pn**	**01 29 06.6**	**+1.5**
	0.3nm731nm99nm,0.8s						
CGJI	**Cibinong**	**7.67**	**129**	P	**Pn**	**01 29 08.8**	**-2.0**
	4μm121nm,0.8s						
DBJI	**Dramaga**	**8.48**	**124**	P	**Pn**	**01 29 21.8**	**-0.1**
	3μm126nm,0.9s						
LEM	**Lembang**	**9.35**	**123**	P	**Pn**	**01 29 36.4**	**+2.5**
	2μm150nm,0.9s						
CISI	**Cisompet, Garu**	**9.91**	**126**	P	**Pn**	**01 29 39.4**	**-2.2**
KKM	**Kota Kinabalu**	**18.21**	**65**	*e*P	**Pn**	**01 31 29.8**	**-2.0**
	16nm,0.7s						
CMAR	**Chiang Mai Arr**	**20.11**	**358**	P	**P**	**01 31 49.9**	**-2.5**
	4.0nm,0.6s,baz=188,slow=10.0,SNR=14						
CMAR				LR	LR	01 39 41.6	
	comp=Z,122nm,19.6s,MS3.3,baz=190,slow=37						
CMAR	**Chiang Mai Arr**	**20.11**	**358**	P	**P**	**01 31 49.9**	**-2.5**
KAPI	**Kappang**	**20.26**	**100**	P	**P**	**01 31 55.4**	**+1.3**
	12nm,0.4s,baz=280,slow=10,SNR=12						
KAPI	**Kappang**	**20.26**	**100**	P	**P**	**01 31 55.4**	**+1.3**
CHTO	**Chiang Mai**	**20.46**	**358**	*e*P	**P**	**01 31 57.1**	**+0.9**
	12nm,0.9s						
KMI	**Kunming**	**26.89**	**6**	P	**P**	**01 33 01.3**	**+2.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.6						
KMI	**Kunming**	**26.89**	**6**	P	**P**	**01 33 01.3**	**+2.1**
	comp=Z,10.0nm,0.5s,mb4.6						
MBWA	**Marble Bar**	**27.43**	**136**	*e*P	**P**	**01 33 04.3**	**+0.1**
	comp=Z,6.2nm,0.6s,mb4.3						
GYA	**Guiyang**	**28.85**	**13**	*e*P	**P**	**01 33 19.0**	**+2.3**
GYA				pP	pP	01 33 25.4	-1.6
GYA				sP	sP	01 33 29.3	-2.0
GYA				PP	PP	01 34 12.5	-10
GYA				S	**S**	**01 38 04.3**	**-0.3**

AS31	Alice Springs	39.62	126	eP	P	01 34 49.4	-0.6
GTA	Gaotai	40.97	0	eP	P	01 35 00.3	-0.6
GTA				pP	pP	01 35 07.4	-4.0
GTA				sP	sP	01 35 10.6	-5.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
HHC	Hu-ho-hao-te	43.77	13	eP	P	01 35 25.3	+1.7
HHC				sP	sP	01 35 35.3	-3.1
HHC				PP	PP	01 37 08.8	+2.8
HHC				PcP	PcP	01 37 11.6	+1.6
HHC				ScP	ScP	01 41 00.9	+1.8
HHC				PcS	PcS	01 41 03.6	+0.8
HHC				S	S	01 41 54.1	+2.4
HHC				sS	sS	01 42 07.0	-2.1
HHC				SS	SS	01 45 02.5	-6.0
HHC				ScS	ScS	01 45 20.4	+0.2
HHC				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
HHC				pmax	pmax		
	comp=Z,170nm,6.4s						
HHC				LR	LR		
	comp=N,300nm,15.6s,MS4.6						
HHC				LR	LR		
	comp=E,480nm,15.9s,MS4.6						
HHC				LR	LR		
	comp=Z,250nm,15.6s,MS4.2						
BJI	Beijing	44.25	18	P	P	01 35 28.8	+1.3
BJI				S	S	01 42 02.9	+4.1
BJI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
BJI				pmax	pmax		
	comp=Z,200nm,4.8s						
BJI				LR	LR		
	comp=N,300nm,15.6s,MS4.5						
BJI				LR	LR		
	comp=E,290nm,16.4s,MS4.5						
BJI				LR	LR		
	comp=Z,54nm,19.6s,MS3.5						
BBOO	Buckleboo	46.02	136	eP	P	01 35 42.2	+0.5
KBL	Kabul	46.18	324	eP	P	01 35 43.8	+0.8
	comp=Z,2.1nm,0.6s,mb4.2						
KSH	Kashi	46.50	335	eP	P	01 35 51.8	+6.4
KSH				pP	pP	01 35 59.3	+3.4
KSH				PcP	PcP	01 37 24.3	+4.8
KSH				ScP	ScP	01 41 15.0	+4.6
KSH				PcS	PcS	01 41 17.9	+3.8
KSH				ScS	ScS	01 45 41.8	+4.1
KSH				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
KSH				pmax	pmax		
	comp=Z,130nm,5.3s						
KSH				LR	LR		
	comp=N,140nm,6.0s						
KSH				LR	LR		
	comp=E,160nm,6.9s						
KSH				LR	LR		
	comp=Z,170nm,5.2s						
WMQ	Urumqi	46.64	348	P	P	01 35 47.4	+1.0
WMQ				pP	pP	01 35 54.9	-2.1
WMQ				sP	sP	01 35 58.3	-3.0
WMQ				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.5						
WMQ				pmax	pmax		
	comp=Z,400nm,6.8s						
KSAR	Wonju Array Be	46.94	31	P	P	01 35 47.4	-1.4
KSRS	Korea Array	46.97	31	P	P	01 35 47.4	-1.7
	comp=Z,2.7nm,0.6s,mb4.3,baz=224,slow=8.0,SNR=8.6						
KSRS				LR	LR	01 57 02.7	
	comp=Z,32nm,19.7s,MS3.3,baz=10.0,slow=38						
CTA	Charters Tower	48.96	115	P	P	01 36 04.5	-0.2
	comp=Z,6.2nm,0.8s,mb4.7,baz=298,slow=8.2,SNR=9.2						
CTA				LR	LR	02 00 58.8	
	comp=Z,69nm,18.1s,MS3.7,baz=41,slow=41						
CTA	Charters Tower	48.96	115	P	P	01 36 04.5	-0.2
CTAO	Charters Tower	48.96	115	eP	P	01 36 04.1	-0.7
	comp=Z,7.1nm,0.8s,mb4.8						
CTAO				epP	pP	01 36 13.9	-1.5
QLP	Quilpie	49.32	124	eP	P	01 36 07.6	+0.1
TKM2	Tokmak 2	49.50	337	eP	P	01 36 09.8	+1.2
	comp=Z,8.8nm,0.7s,mb4.9						
STKA	Stephens Creek	49.52	132	P	P	01 36 09.3	+0.4
	comp=Z,8.3nm,0.8s,mb4.8,baz=310,slow=6.9,SNR=16						
STKA	Stephens Creek	49.52	132	eP	P	01 36 09.1	+0.2
STKA	Stephens Creek	49.52	132	eP	P	01 36 09.2	+0.3
	comp=Z,0.9nm,0.6s,mb4.0						
AAK	Ala-Archa	49.71	336	eP	P	01 36 10.6	+0.4
	comp=Z,14nm,0.8s,mb5.1						
AAK				epP	pP	01 36 18.9	-1.9
SONM	Songino Array	49.74	6	P	P	01 36 10.2	-0.1
	comp=Z,1.8nm,0.4s,mb4.5,baz=189,slow=9.4,SNR=19						
SONM	Songino Array	49.74	6	P	P	01 36 10.2	-0.1
ULN	Ulaanbaatar	49.84	6	eP	P	01 36 10.6	-0.4
	comp=Z,3.4nm,0.9s,mb4.4						
ULN				epP	pP	01 36 18.9	-2.8
CBIJ	Chichi jima	49.95	52	LR	LR	01 56 14.8	
	comp=Z,64nm,21.2s,MS3.6,baz=106,slow=35						
EKS2	Erkin-Say	50.03	335	eP	P	01 36 15.0	+2.4
	comp=Z,8.3nm,0.8s,mb4.8						
MK31	Makanchi Array	50.73	345	eP	P	01 36 17.9	+0.2
MK31				epP	pP	01 36 25.9	-2.5
MKAR	Makanchi Array	50.73	345	P	P	01 36 17.8	+0.1
	comp=Z,3.3nm,0.5s,mb4.6,baz=158,slow=8.2,SNR=62						
MKAR	Makanchi Array	50.73	345	P	P	01 36 17.8	+0.1
CMSA	Cobar Meteorol	52.48	129	eP	P	01 36 31.6	+0.4
MDJ	Mudanjiang	53.30	26	P	P	01 36 37.8	+0.8
MDJ				pP	pP	01 36 44.0	-3.7
MDJ				sP	sP	01 36 46.8	-5.1
MDJ				ScP	ScP	01 41 41.4	+2.0
MDJ				PcS	PcS	01 41 43.8	+0.8
MDJ				S	S	01 44 09.3	+3.2
MDJ				sS	sS	01 44 20.0	-3.8
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.2s,mb4.4						
MDJ				pmax	pmax		
	comp=Z,110nm,5.3s						
MDJ				LR	LR		
	comp=N,45nm,17.7s,MS3.8						
MDJ				LR	LR		
	comp=E,60nm,19.0s,MS3.8						
MDJ				LR	LR		
	comp=Z,64nm,20.9s,MS3.6						
USRK	Ussuriysk Arra	54.09	28	P	P	01 36 41.8	-0.9
	comp=Z,6.9nm,0.9s,mb4.6,baz=230,slow=4.8,SNR=5.5						
KURK	Kurchatov	55.30	344	P	P	01 36 49.6	-1.8
	comp=Z,4.8nm,0.8s,mb4.6,baz=157,slow=7.3,SNR=21						
KURK	Kurchatov	55.30	344	eP	P	01 36 51.5	+0.1
	comp=Z,16nm,0.8s,mb5.1						
KURK				epP	pP	01 36 59.6	-2.5
ZAA0	Zalesovo Array	56.89	350	eP	P	01 37 02.2	-0.5
ZAA0				epP	pP	01 37 10.5	-2.9
ZALV	Zalesovo Beam	56.89	350	P	P	01 37 02.2	-0.4
	comp=Z,8.0nm,0.6s,mb5.0,baz=186,slow=6.4,SNR=46						
ZALV	Zalesovo Beam	56.89	350	P	P	01 37 02.2	-0.4
BVAR	Borovoye Array	59.87	340	P	P	01 37 22.2	-1.2
	comp=Z,2.3nm,0.6s,mb4.4,baz=143,slow=9.3,SNR=20						
BVAR	Borovoye Array	59.87	340	P	P	01 37 22.2	-1.2
BRVK	Borovoye	59.93	340	eP	P	01 37 22.0	-1.9
	comp=Z,5.0nm,0.7s,mb4.7						
BRVK				epP	pP	01 37 30.9	-3.9
ABKAR	Akbulak array	61.30	331	eP	P	01 37 31.8	-1.6
	comp=Z,9.7nm,0.7s,mb5.0						
ABKAR				epP	pP	01 37 40.6	-3.6
KMBO	Kilima Mbogo	62.44	270	eP	P	01 37 42.6	+0.9
	comp=Z,3.8nm,0.9s,mb4.5						
KMBO				epP	pP	01 37 51.7	-0.9
AKTO	Aktyubinsk	63.02	331	P	P	01 37 42.8	-2.1
	comp=Z,1.4nm,0.6s,mb4.3,baz=140,slow=3.5,SNR=6.0						
AKTO	Aktyubinsk	63.02	331	P	P	01 37 42.8	-2.1
CASY	Casey	64.84	175	eP	P	01 37 57.2	+0.6
	comp=Z,17nm,1.2s,mb5.0						
ARU	Arti	66.88	337	eP	P	01 38 08.9	-0.9
	comp=Z,8.0nm,0.9s,mb4.8						
KIV	Kislovodsk	68.18	319	eP	P	01 38 17.1	-1.2
	comp=Z,6.1nm,0.8s,mb4.7						
EIL	Elat	69.15	303	P	P	01 38 24.3	-0.4
	comp=Z,5.1nm,0.9s,mb4.5,baz=352,slow=12,SNR=5.2						
EIL	Elat	69.15	303	P	P	01 38 24.3	-0.4
MMAI	Mount Meron Ar	69.67	306	P	P	01 38 27.2	-0.6
	comp=Z,1.8nm,0.6s,mb4.2,baz=95,slow=5.9,SNR=3.7						
MMAI	Mount Meron Ar	69.67	306	P	P	01 38 27.2	-0.6
MAW	Mawson	70.44	194	P	P	01 38 32.0	+0.1
	comp=Z,6.1nm,0.9s,mb4.5,baz=72,slow=9.6,SNR=4.3						
MAW	Mawson	70.44	194	P	P	01 38 32.0	+0.1
LSZ	Lusaka	71.72	255	eP	P	01 38 40.9	+0.3
	comp=Z,2.5nm,0.9s,mb4.1						
LSZ				epP	pP	01 38 48.8	-2.9
BRTR	Keskin Array B	72.95	312	P	P	01 38 46.2	-1.3
	comp=Z,1.1nm,0.6s,mb4.0,baz=133,slow=7.1,SNR=9.3						
BRTR	Keskin Array B	72.95	312	P	P	01 38 46.2	-1.3
RPZ	Rata Peaks	75.35	135	P	P	01 39 02.3	+0.9
	comp=Z,6.2nm,0.6s,mb4.7,baz=332,slow=4.6,SNR=6.8						
RPZ				LR	LR	02 10 58.7	
	comp=Z,127nm,20.4s,MS4.2,baz=202,slow=35						
RPZ	Rata Peaks	75.35	135	P	P	01 39 02.3	+0.9
BOSA	Boshof	75.52	241	P	P	01 39 02.1	-0.7
	comp=Z,2.0nm,0.8s,mb4.1,baz=149,slow=5.9,SNR=3.5						
BOSA	Boshof	75.52	241	P	P	01 39 02.1	-0.7
SYO	Syowa Base	78.00	199	eP	P	01 39 15.0	-0.9
URZ	Urewera	79.02	128	LR	LR	02 13 03.7	
	comp=Z,80nm,19.5s,MS4.1,baz=234,slow=35						
MLR	Muntele Rosu	79.93	317	P	P	01 39 27.1	+0.2
	comp=Z,1.5nm,0.8s,mb4.0,baz=96,slow=8.9,SNR=6.7						
MLR	Muntele Rosu	79.93	317	P	P	01 39 27.1	+0.2
BUR08	Bucovina Ar. S	80.91	319	eP	P	01 39 32.5	+0.4
BUR08				epP	pP	01 39 41.2	-2.2
JOF	Joensuu	81.88	335	ep	P	01 39 35.9	-1.1
VNDA	Vanda	82.44	169	eP	P	01 39 39.9	+0.1
	comp=Z,2.7nm,1.0s,mb4.1						
FINES	FINESS Array B	83.77	332	P	P	01 39 46.7	-0.1
	comp=Z,2.6nm,0.5s,mb4.6,baz=105,slow=6.3,SNR=20						
FINES	FINESS Array B	83.77	332	P	P	01 39 46.7	-0.1
KAF	Kangasniemi	83.84	333	ep	P	01 39 46.4	-0.8
	comp=Z,6.4nm,0.7s,mb4.9						
ARCES	ARCESS Array B	86.16	340	P	P	01 39 59.0	+0.4
	comp=Z,4.7nm,0.8s,mb4.8,baz=97,slow=8.8,SNR=5.7						
ARCES	ARCESS Array B	86.16	340	P	P	01 39 59.0	+0.4
QSPA	South Pole Qui	88.20	180	P	P	01 40 09.2	+0.8
	comp=Z,3.7nm,0.7s,mb4.8,baz=291,slow=2.3,SNR=9.6						
QSPA	South Pole Qui	88.20	180	P	P	01 40 09.2	+0.8
GERES	GERESS Array B	88.68	319	P	P	01 40 11.3	+0.1
	comp=Z,0.7nm,0.6s,mb4.2,baz=90,slow=4.0,SNR=7.4						
GERES	GERESS Array B	88.68	319	P	P	01 40 11.3	+0.1
HFS	Hagfors	89.53	330	P	P	01 40 14.1	-0.9
	comp=Z,5.4nm,1.0s,mb4.8,baz=155,slow=10,SNR=4.0						
HFS	Hagfors	89.53	330	P	P	01 40 14.1	-0.9
SPITS	Spitsbergen Ar	90.35	348	P	P	01 40 17.9	-0.6
	comp=Z,24nm,1.1s,mb5.4,baz=39,slow=13,SNR=6.0						
SPITS	Spitsbergen Ar	90.35	348	P	P	01 40 17.9	-0.6
DAVOX	Davos/Dischmat	91.16	317	P	P	01 40 22.6	-0.2
	comp=Z,3.4nm,0.6s,mb4.8,baz=120,slow=9.2,SNR=7.1						
DAVOX	Davos/Dischmat	91.16	317	P	P	01 40 22.6	-0.2
NVAR	Mina Array Bea	129.60	39	PKP	PKPdf	01 46 26.9	-0.3
	comp=Z,0.4nm,0.4s,baz=80,slow=6.5,SNR=3.6						
NVAR	Mina Array Bea	129.60	39	PKP	PKPdf	01 46 26.9	-0.3
ULM	Lac du Bonnet	129.91	13	PKP	PKPdf	01 46 26.9	-0.5
	comp=Z,1.2nm,0.5s,baz=30,slow=5.4,SNR=3.0						
ULM	Lac du Bonnet	129.91	13	PKP	PKPdf	01 46 26.9	-0.5
ULM				ePKPdf	PKPdf	01 46 27.0	-0.4
MNTX	Cornudas Mount	141.96	36	ePKPdf	PKPdf	01 46 50.1	-0.2
CPUP	Villa Florida	144.34	217	PKP	PKPdf	01 46 53.5	-1.3
	comp=Z,14nm,0.8s,baz=120,slow=2.4,SNR=43						
CPUP	Villa Florida	144.34	217	ePKPdf	PKPdf	01 46 53.3	-1.4
CPUP				PKP	PKPdf	01 46 53.5	-1.3
TXAR	Lajitas Array	144.69	37	PKP	PKPdf	01 46 54.5	-0.7
	comp=Z,4.1nm,0.6s,baz=286,slow=1.1,SNR=73						
TXAR	Lajitas Array	144.69	37	PKP	PKPdf	01 46 54.5	-0.7
CFAA	Coronel Fontan	144.90	198	PKP	PKPdf	01 46 55.4	-0.2
	comp=Z,1.7nm,0.6s,baz=193,slow=2.4,SNR=28						
CFAA	Coronel Fontan	144.90	198	PKP	PKPdf	01 46 55.4	-0.2
WVT	Waverly	145.10	11	ePKPbc	PKPbc	01 46 54.0	-1.1
MIAR	Mount Ida	145.11	19	ePKPbc	PKPbc	01 46 54.7	-0.6
TZTN	Tazewell	145.26	5	ePKPbc	PKPbc	01 46 54.9	-0.8
JCT	Junction City	145.97	31	ePKPbc	PKPbc	01 46 57.8	-0.4
TKL	Tuckaleechee C	146.12	5	PKPbc	PKPbc	01 46 57.7	-0.7
	comp=Z,3.0nm,0.5s,baz=139,slow=5.9,SNR=7.8						
TKL	Tuckaleechee C	146.12	5	ePKPbc	PKPbc	01 46 57.2	-1.2
NATX	Nacogdoches	147.23	23	ePKPbc	PKPbc	01 47 01.5	-0.2
GOGA	Godfrey	148.38	5	ePKPbc	PKPbc	01 47 04.0	-0.8
LPAZ	La Paz	158.41	213	ePKPdf	PKPdf	01 47 17.4	+1.2
LPAZ				ePKPab	PKPab	01 47 50.9	+0.3
SAML	Samuel	159.90	238	ePKPdf	PKPdf	01 47 18.2	+0.2
SAML				ePKPab	PKPab	01 47 57.0	-0.3

IDC ***19*** *01:30:40.3±9.4,* **56°.49S×28°.26W, h185km±92km, mb3.6/3, mb1 3.5/4, mb1mx3.3/14, mbtmp3.5/4, Error ellipse: s-maj=34.4km s-min=29.6km az=74.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	16.78	159	eP	Pn	01 34 23.8	-0.4
VNA2	Neumayer--Watz	17.02	156	eP	Pn	01 34 26.1	-0.9
	baz=316,slow=12						
SNAA	Sanae	18.59	155	eP	P	01 34 43.1	+0.1
SNAA	Sanae	18.59	155	P	P	01 34 42.5	-0.5
	0.1nm,0.3s,baz=307,slow=11,SNR=22						
QSPA	South Pole Qui	33.76	180	P	P	01 37 04.4	+0.8
	1.1nm,0.3s,baz=217,slow=1.3,SNR=3.7						
LPAZ	La Paz	50.15	307	P	P	01 39 17.4	+0.7
	0.9nm,0.7s,baz=127,slow=7.2,SNR=5.4						
TORD	Torodi Ar. Bea	73.74	30	P	P	01 41 54.0	+0.2
	1.2nm,0.4s,baz=200,slow=6.4,SNR=39						
ILAR	Eielson Array	149.96	311	PKPbc	PKPbc	01 50 06.0	-1.0
	0.4nm,0.8s,baz=124,slow=1.6,SNR=4.2						

IDC ***19*** *01:34:33.0±1.6, 1°.75S×99°.74E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/22, mbtmp3.8/7, Error ellipse: s-maj=82.6km s-min=19.7km az=53.0*
NEIC ***19*** *01:34:37.0±0.7, 1°.74S×99°.74E, mb4.2/3, Error ellipse: s-maj=34.9km s-min=11.0km az=54.0*
DJA ***19*** *01:34:38, 1°.59S×99°.68E, h10km, MLv4.2/6*
ISCJB ***19*** *01:34:41.2±2.0, 1°.6S±0°.1×99°.8E±0°.2, h74km±16km, mb3.9/10, Error ellipse: s-maj=35.0km s-min=10.9km az=152.9*
ISC 19 01:34:42.1±1.8, 1°.6S±0°.1×99°.8E±0°.2, h64km±15km, n31, σ1°.08/28, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.91	44	P	Pn	01 34 57.2	-1.9
PDSI				S	Sn	01 35 12.4	+0.7
PPI	Padang Panjang	1.24	27	P	Pn	01 35 02.0	-1.4
KRJI	Kerinci	1.71	108	P	Pn	01 35 09.7	0.0
KRJI				S	Sn	01 35 36.0	+5.5
BKNI	Bangkinang	2.24	33	P	Pn	01 35 19.0	+2.2
MNSI	Mandailing Nat	2.36	354	P	Pn	01 35 18.0	-0.6
MNAI	Manna	4.17	132	P	Pn	01 35 45.1	+1.8
WRA	Warramunga Arr	38.35	121	P	P	01 41 56.0	-1.2
	1.3nm,0.5s,mb3.9,baz=303,slow=9.0,SNR=14						
WRA	Warramunga Arr	38.35	121	P	P	01 41 56.0	-1.2
ASAR	Alice Springs	39.64	126	P	P	01 42 06.6	-1.3
	1.1nm,0.9s,mb3.6,baz=307,slow=6.7,SNR=6.5						
ASAR	Alice Springs	39.64	126	P	P	01 42 06.6	-1.3
SONM	Songino Array	49.53	6	P	P	01 43 26.4	+0.1
	0.3nm,0.7s,mb3.4,baz=189,slow=8.6,SNR=3.4						
SONM	Songino Array	49.53	6	P	P	01 43 26.4	+0.1
AAK	Ala-Archa	49.58	335	eP	P	01 43 27.2	+0.4
	11nm,1.1s,mb4.8						
MK31	Makanchi Array	50.57	344	eP	P	01 43 34.8	+0.5
MKAR	Makanchi Array	50.57	344	P	P	01 43 34.9	+0.7
	0.4nm,0.3s,mb3.8,baz=157,slow=8.6,SNR=9.8						
MKAR	Makanchi Array	50.57	344	P	P	01 43 34.9	+0.7
ZAA0	Zalesovo Array	56.72	349	eP	P	01 44 19.7	+0.7
ZAA0				epP	pP	01 44 28.1	-7.7
ZALV	Zalesovo Beam	56.72	349	P	P	01 44 19.8	+0.8
	1.1nm,0.5s,mb4.1,baz=151,slow=5.4,SNR=6.8						
ZALV	Zalesovo Beam	56.72	349	P	P	01 44 19.8	+0.8
BVAR	Borovoye Array	59.73	340	P	P	01 44 39.7	-0.4
	0.5nm,0.8s,mb3.6,baz=138,slow=11,SNR=4.0						
BVAR	Borovoye Array	59.73	340	P	P	01 44 39.7	-0.4
BRVK	Borovoye	59.79	340	eP	P	01 44 38.4	-2.0
	0.9nm,0.5s,mb4.1						
ABKAR	Akbulak array	61.19	331	eP	P	01 44 49.7	-0.4
	0.5nm,0.6s,mb3.8						
ABKAR				epP	pP	01 44 58.0	-9.0
BUR08	Bucovina Ar. S	80.85	319	eP	P	01 46 49.9	+0.7
FINES	FINESS Array B	83.66	332	P	P	01 47 03.9	+0.4
	3.8nm,1.0s,mb4.5,baz=105,slow=8.9,SNR=2.6						
FINES	FINESS Array B	83.66	332	P	P	01 47 03.9	+0.4
TXAR	Lajitas Array	144.46	37	PKP	PKPdf	01 54 12.3	+0.4
	0.6nm,0.6s,baz=305,slow=0.9,SNR=10						
TXAR	Lajitas Array	144.46	37	PKP	PKPdf	01 54 12.3	+0.4
CPUP	Villa Florida	144.56	217	PKP	PKPdf	01 54 11.2	-1.0
	1.5nm,0.7s,baz=68,slow=5.9,SNR=5.9						
CPUP	Villa Florida	144.56	217	PKP	PKPdf	01 54 11.2	-1.0
JCT	Junction City	145.74	31	ePKPbc	PKPbc	01 54 15.3	+0.8

NEIC ***19*** *01:40:49.6, 17°.40N×95°.16W, h131km, MD3.9(MEX), After MEX.*
MEX 19 01:40:50.1±0.8, 17°.40N×95°.16W, h127km±7km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.40	139	iP	Pn	01 41 07.0	-1.3
CMIG				iS	Sn	01 41 20.0	-2.1
CMIG	Matias Romero	0.40	139	iP	Pn	01 41 07.0	-1.3
CMIG				iS	Sn	01 41 20.0	-2.1
VHO	Vista Hermosa	1.54	258	iP	Pn	01 41 17.8	-0.7
VHO				iS	Sn	01 41 39.4	-0.6
VHO	Vista Hermosa	1.54	258	iP	Pn	01 41 17.8	-0.7
VHO				iS	Sn	01 41 39.4	-0.6
HUIG	Huatulco	1.86	209	eP	Pn	01 41 20.5	-1.7
HUIG				iS	Sn	01 41 45.0	-1.7
HUIG	Huatulco	1.86	209	eP	Pn	01 41 20.5	-1.7
HUIG				iS	Sn	01 41 45.0	-1.7
TGIG		2.05	107	iP	Pn	01 41 23.3	-1.2
TGIG				iS	Sn	01 41 48.7	-2.1
TGIG		2.05	107	iP	Pn	01 41 23.3	-1.2
TGIG				iS	Sn	01 41 48.7	-2.1
PCIG		2.51	132	iP	Pn	01 41 29.7	-0.6
PCIG				iS	Sn	01 41 59.6	-1.7
PCIG		2.51	132	iP	Pn	01 41 29.7	-0.6
PCIG				iS	Sn	01 41 59.6	-1.7
UTMO	Huajuapan	2.56	280	iP	Pn	01 41 30.1	-0.8
UTMO				iS	Sn	01 42 00.1	-2.2
UTMO	Huajuapan	2.56	280	iP	Pn	01 41 30.1	-0.8
UTMO				iS	Sn	01 42 00.1	-2.2
PNIG	Pinotepa	3.01	251	eP	Pn	01 41 33.7	-3.1
PNIG				iS	Sn	01 42 09.6	-3.2
PNIG	Pinotepa	3.01	251	eP	Pn	01 41 33.7	-3.1
PNIG				iS	Sn	01 42 09.6	-3.2
CCIG	Comitan	3.10	111	iP	Pn	01 41 35.4	-2.6
CCIG				iS	Sn	01 42 13.2	-1.7
CCIG	Comitan	3.10	111	iP	Pn	01 41 35.4	-2.6
CCIG				iS	Sn	01 42 13.2	-1.7

ISCJB ***19*** *01:56:16.7±1.1, 28°.30S±0°.10×67°.38W±0°.09, h132km±16km, mb3.7/3, Error ellipse: s-maj=17.1km s-min=12.3km az=25.1*
NEIC ***19*** *01:56:18.1±0.9, 28°.34S×67°.33W, h129km±10km, mb3.9/2, Error ellipse: s-maj=14.7km s-min=13.1km az=179.0*
IDC ***19*** *01:56:20.0±2.4, 28°.46S×67°.30W, h139km±24km, mb3.4/2, mb1 3.2/5, mb1mx3.1/16, mbtmp3.0/5, Error ellipse: s-maj=41.0km s-min=21.3km az=130.0*
ISC 19 01:56:17.9±1.0, 28°.31S±0°.10×67°.37W±0°.09, h127km±15km, n24, σ0°.88/17, mb3.8/3, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	3.01	256	ePn	Pn	01 57 04.9	+0.4
LCO				eSn	Sn	01 57 39.7	-0.8
CFAA	Coronel Fontan	3.37	193	P	Pn	01 57 10.6	+1.4
	0.8nm,0.3s,baz=7.9,slow=12,SNR=49						
CFAA				S	Sn	01 57 49.2	+0.3
	1.6nm,0.3s,baz=7.4,slow=16,SNR=6.7						
CFAA	Coronel Fontan	3.37	193	P	Pn	01 57 10.6	+1.4
CFAA				S	Sn	01 57 49.2	+0.3
CPUP	Villa Florida	9.14	80	P	Pn	01 58 26.8	0.0
	0.4nm,0.3s,baz=251,slow=18,SNR=3.4						
CPUP	Villa Florida	9.14	80	P	Pn	01 58 26.8	-0.1
TRQA	Tornquist	10.71	157	ePn	Pn	01 58 45.9	-1.9
SIV	San Ignacio	13.57	27	P	Pn	01 59 30.2	+4.9
	0.2nm,0.3s,baz=235,slow=12,SNR=4.5						
SIV	San Ignacio	13.57	27	P	Pn	01 59 30.2	+4.9
SAML	Samuel	19.66	12	eP	P	02 00 37.0	0.0
	1.5nm,0.5s						
WVT	Waverly	66.93	342	eP	P	02 06 55.7	-0.9
	2.6nm,0.6s,mb4.2						
TORD	Torodi Ar. Bea	78.44	68	P	P	02 08 05.7	+0.5
	1.2nm,0.6s,mb3.8,baz=231,slow=5.8,SNR=17						
TORD	Torodi Ar. Bea	78.44	68	P	P	02 08 05.7	+0.5
PDAR	Pinedale Array	80.68	330	P	P	02 08 17.4	+0.8
	0.3nm,0.5s,mb3.4,baz=126,slow=5.9,SNR=3.7						
PDAR	Pinedale Array	80.68	330	P	P	02 08 17.4	+0.8
KIV	Kislovodsk	123.00	54	ePKPdf	PKPdf	02 15 00.1	+1.0
ABKAR	Akbulak array	134.96	47	ePKPdf	PKPdf	02 15 18.1	-3.6
KURK	Kurchatov	145.98	39	PKPbc	PKPbc	02 15 42.9	+0.5
	0.6nm,0.6s,baz=298,slow=3.5,SNR=7.1						
KURK	Kurchatov	145.98	39	PKPbc	PKPbc	02 15 42.9	+0.5
AAK	Ala-Archa	146.11	55	ePKPdf	PKPdf	02 15 40.3	-1.6
ZALV	Zalesovo Beam	147.

ERMK	**Ermenek**	**1.90**	**107**	*i* P	**Pn**	**01 57 40.6 +0.5**
ERMK				*i* S	**Sn**	**01 58 05.6 +1.0**
ERMK	**Ermenek**	**1.90**	**107**	*i* P	**Pn**	**01 57 40.6 +0.4**
ERMK				*i* S	**Sn**	**01 58 05.6 +1.0**
KULA	**Kula-Manisa**	**2.04**	**310**	*e*PN	**Pn**	**01 57 41.5 -0.6**
KULA	**Kula-Manisa**	**2.04**	**310**	*e*Pn	**Pn**	**01 57 41.6 -0.5**
GDZ	**Gediz**	**2.08**	**334**	*i* P	**Pn**	**01 57 42.2 -0.5**
GDZ				*i* S	**Sn**	**01 58 14.7 +5.5**
GDZ	**Gediz**	**2.08**	**334**	*i* P	**Pn**	**01 57 42.2 -0.5**
ESKT	**Eskisehir**	**2.30**	**4**	*e*PN	**Pn**	**01 57 45.3 -0.4**
ESKT	**Eskisehir**	**2.30**	**4**	*e*Pn	**Pn**	**01 57 45.3 -0.4**
SVRH	**Sivrihisar-ESK**	**2.33**	**17**	*e*PN	**Pn**	**01 57 45.5 -0.6**
SVRH	**Sivrihisar-ESK**	**2.33**	**17**	*e*Pn	**Pn**	**01 57 45.5 -0.5**
DEMI	**Demirci**	**2.38**	**321**	*i* P	**Pn**	**01 57 46.6 -0.2**
DEMI				*i* S	**Sn**	**01 58 12.4 -4.0**
DEMI	**Demirci**	**2.38**	**321**	*i* P	**Pn**	**01 57 46.6 -0.1**
DEMI				*i* S	**Sn**	**01 58 12.4 -4.0**
SULT	**Sultanhani-AKS**	**2.47**	**66**	*e*PN	**Pn**	**01 57 47.7 -0.3**
SULT	**Sultanhani-AKS**	**2.47**	**66**	*e*Pn	**Pn**	**01 57 47.7 -0.3**
DAT	**Datca**	**2.51**	**260**	*e*PN	**Pn**	**01 57 48.5 -0.1**
DAT	**Datca**	**2.51**	**260**	*e*Pn	**Pn**	**01 57 48.5 -0.1**
BODT	**Bodrum**	**2.68**	**268**	*e*PN	**Pn**	**01 57 50.7 -0.1**
BODT	**Bodrum**	**2.68**	**268**	*e*Pn	**Pn**	**01 57 50.7 -0.2**
LEF	**Lefka**	**2.77**	**139**	*e*PN	**Pn**	**01 57 51.5 -0.6**
LEF	**Lefka**	**2.77**	**139**	*e*Pn	**Pn**	**01 57 51.5 -0.6**
AKS	**Akhisar**	**2.79**	**307**	*e*PN	**Pn**	**01 57 51.9 -0.5**
AKS	**Akhisar**	**2.79**	**307**	*e*Pn	**Pn**	**01 57 51.9 -0.5**
AFSR	**Af´ar-Bala (A**	**2.92**	**40**	*e*PN	**Pn**	**01 57 54.2 -0.1**
AFSR	**Af´ar-Bala (A**	**2.92**	**40**	*e*Pn	**Pn**	**01 57 54.2 -0.1**
IZM	**Izmir**	**2.93**	**295**	*e*PN	**Pn**	**01 57 53.9 -0.5**
IZM	**Izmir**	**2.93**	**295**	*e*Pn	**Pn**	**01 57 53.9 -0.5**
LFK	**Lefkose**	**3.03**	**129**	*e*PN	**Pn**	**01 57 55.5 -0.2**
LFK	**Lefkose**	**3.03**	**129**	*e*Pn	**Pn**	**01 57 55.5 -0.2**
BLCB	**Balcova**	**3.09**	**293**	*e*PN	**Pn**	**01 57 56.5 0.0**
BLCB	**Balcova**	**3.09**	**293**	*e*Pn	**Pn**	**01 57 56.5 0.0**
MERS	**Mersin**	**3.11**	**95**	*e*PN	**Pn**	**01 57 56.8 -0.1**
MERS	**Mersin**	**3.11**	**95**	*e*Pn	**Pn**	**01 57 56.8 -0.1**
CSS	**Prodhromos**	**3.13**	**135**	*e*PN	**Pn**	**01 57 57.6 +0.6**
CSS	**Prodhromos**	**3.13**	**135**	*e*Pn	**Pn**	**01 57 57.6 +0.6**
LOD	**Lodumlu**	**3.14**	**31**	*e*PN	**Pn**	**01 57 56.9 -0.3**
LOD	**Lodumlu**	**3.14**	**31**	*e*Pn	**Pn**	**01 57 56.9 -0.3**
GULT	**Gulveren**	**3.21**	**358**	*e*PN	**Pn**	**01 57 58.5 +0.3**
GULT	**Gulveren**	**3.21**	**358**	*e*Pn	**Pn**	**01 57 58.5 +0.3**
BALB	**Balikesir**	**3.25**	**319**	*e*PN	**Pn**	**01 57 58.5 -0.3**
BALB	**Balikesir**	**3.25**	**319**	*e*Pn	**Pn**	**01 57 58.5 -0.3**
MDUB	**Mudurnu**	**3.27**	**7**	*e*PN	**Pn**	**01 57 58.8 -0.3**
MDUB	**Mudurnu**	**3.27**	**7**	*e*Pn	**Pn**	**01 57 58.8 -0.3**
KARP	**Karpathos**	**3.28**	**240**	*e*PN	**Pn**	**01 58 01.3 +2.2**
KARP	**Karpathos**	**3.28**	**240**	*e*Pn	**Pn**	**01 58 01.3 +2.2**
ADVT	**Abdulvahap**	**3.29**	**348**	*e*PN	**Pn**	**01 57 59.0 -0.2**
ADVT	**Abdulvahap**	**3.29**	**348**	*e*Pn	**Pn**	**01 57 59.0 -0.3**
ARMT	**Armutlu**	**3.62**	**338**	*e*PN	**Pn**	**01 58 04.1 +0.2**
ARMT	**Armutlu**	**3.62**	**338**	*e*Pn	**Pn**	**01 58 04.1 +0.3**
GONE	**Gonen-Balikesi**	**3.66**	**321**	*e*PN	**Pn**	**01 58 04.5 +0.2**
GONE	**Gonen-Balikesi**	**3.66**	**321**	*e*Pn	**Pn**	**01 58 04.5 +0.2**
NPS	**Neapolis**	**4.52**	**246**	*e*PN	**Pn**	**01 58 19.0 +2.8**
NPS	**Neapolis**	**4.52**	**246**	*e*Pn	**Pn**	**01 58 19.0 +2.8**

*ISCJB **19** 01:59:47.6±1.4, 23°.92N±0°.10×93°.7E±0°.1, h48km±15km, mb3.4/4, Error ellipse: s-maj=20.2km s-min=11.7km az=44.8*
*IDC **19** 01:59:52.4±5.0, 24°.00N×94°.00E, h71km±43km, mb3.1/4, mb1 3.3/5, mb1mx3.1/26, mbtmp3.1/5, ML3.7/1, Error ellipse: s-maj=77.4km s-min=20.7km az=69.0*
ISC 19 01:59:49.3±1.3, 23°.99N±0°.09×93°.7E±0°.1, h45km±14km, n7, σ0°.76/10, mb3.4/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.82**	**15**	*e*PKP	**Pn**	**02 00 05.0**	**+0.5**
IMP				*e*S	**Sn**	**02 00 15.0**	**-0.6**
SHL	**Shillong**	**2.28**	**314**	*i* Pn	**Pn**	**02 00 23.8**	**-0.6**
SHL				*e*SN	**Sn**	**02 00 51.3**	**0.0**
SHL				*e*SN	**Sn**	**02 00 51.3**	**0.0**
CMAR	**Chiang Mai Arr**	**7.36**	**137**	P	**Pn**	**02 01 34.9**	**+0.7**
	0.3nm,0.3s,baz=314,slow=13,SNR=4.7						
MKAR	**Makanchi Array**	**24.53**	**341**	P	**P**	**02 05 05.8**	**+1.3**
	0.2nm,0.5s,mb2.9,baz=157,slow=9.5,SNR=4.6						
SONM	**Songino Array**	**25.86**	**20**	P	**P**	**02 05 16.7**	**+0.2**
	0.6nm,0.4s,mb3.4,baz=197,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**58.94**	**134**	P	**P**	**02 09 42.8**	**-1.5**
	0.3nm,0.6s,mb3.5,baz=323,slow=7.4,SNR=9.0						
ASAR	**Alice Springs**	**61.37**	**138**	P	**P**	**02 10 00.8**	**0.0**
	0.3nm,0.6s,mb3.6,baz=326,slow=7.4,SNR=4.4						

*ISCJB **19** 02:03:07.3±0.9, 36°.74N±0°.08×22°.9E±0°.1, h8km±12km, Error ellipse: s-maj=18.5km s-min=11.4km az=33.5*
*ATH **19** 02:03:07.5, 36°.73N×22°.83E, h5km±3km, MD2.7/3*
*CSEM **19** 02:03:07.4±0.0, 36°.77N×22°.87E, h4km, ML1.6/1, Error ellipse: s-maj=1.4km s-min=1.0km az=77.0*
*THE **19** 02:03:07.7, 36°.75N×22°.86E, h5km±3km, ML1.6/1, Error ellipse: s-maj=3.6km s-min=0.6km az=113.0*
ISC 19 02:03:07.6±1.0, 36°.73N±0°.06×22°.8E±0°.1, h6km±17km, n14, σ0°.40/18, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.09**	**99**	*e*PG	**Pg**	**02 03 09.3**	**-0.2**
VLI				*e*SG	**Sg**	**02 03 10.9**	**0.0**
VLI	**Veliai**	**0.09**	**99**	P	**Pg**	**02 03 09.3**	**-0.2**
VLI				S	**Sg**	**02 03 10.8**	**-0.1**
VLI	**Veliai**	**0.09**	**99**	P	**Pg**	**02 03 09.3**	**-0.2**
VLI				S	**Sg**	**02 03 10.8**	**-0.1**
KYTH	**Kithira**	**0.48**	**160**	*e*PB	**Pg**	**02 03 17.2**	**+0.4**
KYTH	**Kithira**	**0.48**	**160**	P	**Pg**	**02 03 17.1**	**+0.3**
KYTH	**Kithira**	**0.48**	**160**	*e*Pb	**Pg**	**02 03 17.2**	**+0.4**
DID	**Didima**	**0.84**	**23**	*e*PB	**Pg**	**02 03 23.9**	**+0.2**
DID	**Didima**	**0.84**	**23**	P	**Pg**	**02 03 22.6**	**-1.1**
DID				S	**Sg**	**02 03 35.1**	**+0.5**
DID	**Didima**	**0.84**	**23**	P	**Pg**	**02 03 22.6**	**-1.1**
DID	**Didima**	**0.84**	**23**	*e*Pb	**Pg**	**02 03 23.9**	**+0.2**
ITM	**Ithomi**	**0.85**	**302**	P	**Pg**	**02 03 24.0**	**+0.1**
ITM	**Ithomi**	**0.85**	**302**	P	**Pg**	**02 03 24.0**	**+0.1**
GUR	**Goura**	**1.26**	**342**	*e*PB	**Pb**	**02 03 31.5**	**-0.3**
GUR	**Goura**	**1.26**	**342**	*e*Pb	**Pb**	**02 03 31.5**	**-0.3**

*NEIC **19** 02:03:41.5, 16°.75N×94°.93W, h95km, MD3.8(MEX), After MEX.*
MEX 19 02:03:41.2±0.8, 16°.73N×94°.92W, h96km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.36**	**6**	*e*P	Pn	02 03 54.2	-1.4
CMIG				*e*S	Sn	02 04 04.5	-1.8
CMIG	**Matias Romero**	**0.36**	**6**	*e*P	Pn	02 03 54.2	-1.4
CMIG				*e*S	Sn	02 04 04.5	-1.8
HUIG	**Huatulco**	**1.49**	**230**	*e*P	Pn	02 04 04.9	-2.2
HUIG				*e*S	Sn	02 04 25.7	-1.0
HUIG	**Huatulco**	**1.49**	**230**	*e*P	Pn	02 04 04.9	-2.2
HUIG				*e*S	Sn	02 04 25.7	-1.0
TGIG		**1.72**	**88**	*e*P	Pn	02 04 09.0	-1.1
TGIG				*e*S	Sn	02 04 30.4	-1.6
TGIG		**1.72**	**88**	*e*P	Pn	02 04 09.0	-1.1
TGIG				*e*S	Sn	02 04 30.4	-1.6
VHO	**Vista Hermosa**	**1.77**	**281**	*e*P	Pn	02 04 10.5	-0.1
VHO				*i* S	Sn	02 04 32.3	-0.7
VHO	**Vista Hermosa**	**1.77**	**281**	*e*P	Pn	02 04 10.5	-0.1
VHO				*i* S	Sn	02 04 32.3	-0.7
PCIG		**1.93**	**122**	*e*P	Pn	02 04 12.1	-0.6
PCIG				*i* S	Sn	02 04 36.0	-0.7
PCIG		**1.93**	**122**	*e*P	Pn	02 04 12.1	-0.6
PCIG				*i* S	Sn	02 04 36.0	-0.7
CCIG	**Comitan**	**2.71**	**99**	*i* P	Pn	02 04 22.9	-0.1
CCIG				*i* S	Sn	02 04 54.3	-0.7
CCIG	**Comitan**	**2.71**	**99**	*i* P	Pn	02 04 22.9	-0.1
CCIG				*i* S	Sn	02 04 54.3	-0.7
UTMO	**Huajuapan**	**2.96**	**292**	*e*P	Pn	02 04 25.9	-0.4
UTMO				*i* S	Sn	02 04 59.0	-2.1
UTMO	**Huajuapan**	**2.96**	**292**	*e*P	Pn	02 04 25.9	-0.4
UTMO				*i* S	Sn	02 04 59.0	-2.1
PNIG	**Pinotepa**	**3.09**	**264**	*e*P	Pn	02 04 25.7	-2.4
PNIG				*i* S	Sn	02 05 02.4	-1.9
PNIG	**Pinotepa**	**3.09**	**264**	*e*P	Pn	02 04 25.7	-2.4
PNIG				*i* S	Sn	02 05 02.4	-1.9

*CSEM **19** 02:11:24.9, 36°.56N×21°.60E, h26km, MD2.6, After ATH*
*ATH **19** 02:11:24.9, 36°.56N×21°.60E, h26km±4km, MD2.6/3*
ISC 19 02:11:24.6±3.3, 36°.61N±0°.10×21°.4E±0°.3, h28km±9km, n11, σ0°.34/16, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.39**	**43**	*e*PB	**Pb**	**02 11 33.2**	**+0.1**
PYL				*e*SB	**Sb**	**02 11 38.5**	**-0.5**
PYL	**PYLOS**	**0.39**	**43**	*e*Pb	**Pb**	**02 11 33.2**	**+0.1**
PYL				*e*Sb	**Sb**	**02 11 38.5**	**-0.5**
ITM	**Ithomi**	**0.70**	**36**	*e*PN	**Pn**	**02 11 38.5**	**-0.1**
ITM				*e*SN	**Sn**	**02 11 48.3**	**-0.2**
ITM	**Ithomi**	**0.70**	**36**	*e*P	**Pb**	**02 11 38.3**	**0.0**
ITM				*e*S	**Sb**	**02 11 48.1**	**+0.5**
ITM	**Ithomi**	**0.70**	**36**	*e*Pn	**Pn**	**02 11 38.5**	**-0.1**
ITM				*e*Sn	**Sn**	**02 11 48.3**	**-0.2**
VLI	**Veliai**	**1.23**	**85**	*e*PN	**Pn**	**02 11 46.3**	**+0.4**
VLI	**Veliai**	**1.23**	**85**	*e*P	**Pn**	**02 11 46.6**	**+0.7**
VLI	**Veliai**	**1.23**	**85**	*e*Pn	**Pn**	**02 11 46.3**	**+0.4**
KYTH	**Kithira**	**1.35**	**104**	*e*PN	**Pn**	**02 11 47.2**	**-0.4**
KYTH	**Kithira**	**1.35**	**104**	*e*P	**Pn**	**02 11 47.5**	**-0.1**
KYTH	**Kithira**	**1.35**	**104**	*e*Pn	**Pn**	**02 11 47.2**	**-0.4**

IDC 19 02:13:14.7±7.2, 30°.88S×177°.85W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/16, mbtmp3.6/2, Error ellipse: s-maj=303.6km s-min=57.7km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.22**	**267**	P	P	02 21 17.6	0.0
	0.6nm,0.6s,baz=106,slow=7.0,SNR=10						
WRA	**Warramunga Arr**	**44.25**	**273**	P	P	02 21 25.9	-0.2
	0.6nm,0.5s,baz=111,slow=8.0,SNR=10.0						
FINES	**FINESS Array B**	**145.64**	**340**	PKPbc	PKPbc	02 32 53.7	-0.7
	1.8nm,0.8s,baz=321,slow=1.8,SNR=5.5						

*DDA **19** 02:31:56.4, 36°.19N×41°.05E, h2km, Md3.7*
*ISCJB **19** 02:31:57.3±1.6, 36°.05N±0°.04×41°.16E±0°.04, h10km±11km, Error ellipse: s-maj=7.3km s-min=5.5km az=20.9*
*CSEM **19** 02:31:57.7±0.4, 36°.10N×41°.21E, h2km, MD3.7, Error ellipse: s-maj=11.5km s-min=7.0km az=5.0*
*ISK **19** 02:32:02.4, 36°.36N×41°.09E, h32km, MD3.5*
ISC 19 02:31:59.6±2.1, 36°.11N±0°.04×41°.16E±0°.04, h16km±15km, n47, σ1°.32/64, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**1.24**	**346**	*i* P	**Pn**	**02 32 16.9**	**-5.3**
MARD				*i* S	**Sb**	**02 32 38.5**	**+0.1**
SIRN	**S¯–rnak**	**1.71**	**36**	*i* P	**Pn**	**02 32 28.5**	**-0.2**
SIRN				*i* S	**Sn**	**02 32 50.6**	**+0.3**
SIRN	**S¯–rnak**	**1.71**	**36**	*i* P	**Pn**	**02 32 28.5**	**-0.2**
SIRN				*i* S	**Sn**	**02 32 50.6**	**+0.3**
BEST	**Besiri**	**1.78**	**3**	*i* P	**Pn**	**02 32 28.1**	**-1.5**
BEST				*i* S	**Sn**	**02 32 49.6**	**-2.4**
DIYA	**Diyarbakir**	**1.99**	**336**	*i* P	**Pn**	**02 32 30.6**	**-2.0**
DIYA				*i* S	**Sn**	**02 32 53.7**	**-3.5**
CUKT	**Cukurca**	**2.27**	**59**	*e*PN	**Pn**	**02 32 37.3**	**+0.8**
CUKT				*e*SN	**Sn**	**02 33 03.5**	**-0.6**
CUKT	**Cukurca**	**2.27**	**59**	*e*Pn	**Pn**	**02 32 37.3**	**+0.8**
CUKT				*e*Sn	**Sn**	**02 33 03.5**	**-0.6**
URFA	**Urfa**	**2.30**	**306**	*e*PN	**Pn**	**02 32 33.0**	**-3.8**
URFA				*e*SN	**Sn**	**02 33 00.7**	**-4.0**
URFA	**Urfa**	**2.30**	**306**	*e*Pn	**Pn**	**02 32 33.0**	**-3.8**
HAKT	**HAKKARI**	**2.50**	**54**	*i* P	**Pn**	**02 32 39.5**	**-0.2**
HAKT				*i* S	**Sn**	**02 33 10.8**	**+1.0**
HAKT	**HAKKARI**	**2.50**	**54**	*i* P	**Pn**	**02 32 39.5**	**-0.1**
HAKT				*i* S	**Sn**	**02 33 10.9**	**+1.1**
ATAB	**Bozova**	**2.67**	**301**	*i* P	**Pn**	**02 32 43.2**	**+1.4**
ATAB				*i* S	**Sn**	**02 33 12.4**	**-1.4**
ATAB	**Bozova**	**2.67**	**301**	*i* P	**Pn**	**02 32 43.2**	**+1.3**
SVRC	**Sivrice-ELAZID**	**2.70**	**327**	*e*PN	**Pn**	**02 32 41.0**	**-1.3**
SVRC	**Sivrice-ELAZID**	**2.70**	**327**	*e*Pn	**Pn**	**02 32 41.0**	**-1.4**
BINT	**Bingol**	**2.81**	**349**	*e*Pn	**Pn**	**02 32 44.7**	**+0.8**
BNGL	**BINGOL**	**2.84**	**360**	*i* P	**Pn**	**02 32 45.7**	**+1.5**
BNGL				*i* S	**Sn**	**02 33 22.0**	**+3.9**
BNGB	**Bing¯¶l**	**2.90**	**353**	*e*PN	**Pn**	**02 32 44.7**	**-0.4**
ELZG	**Elazig**	**2.95**	**325**	*i* P	**Pn**	**02 32 47.0**	**+1.3**
ELZG				*i* S	**Sn**	**02 33 25.1**	**+4.3**
ELZG	**Elazig**	**2.95**	**325**	*i* P	**Pn**	**02 32 47.0**	**+1.3**
ELZG				*i* S	**Sn**	**02 33 25.0**	**+4.3**
VRTB	**Varto-Mus**	**3.06**	**4**	*e*PN	**Pn**	**02 32 46.8**	**-0.4**
VRTB	**Varto-Mus**	**3.06**	**4**	*e*Pn	**Pn**	**02 32 46.8**	**-0.4**
MALT	**Malatya**	**3.10**	**316**	*e*PN	**Pn**	**02 32 48.0**	**+0.2**
MALT	**Malatya**	**3.10**	**316**	*e*Pn	**Pn**	**02 32 48.0**	**+0.2**
MYA	**Malataya**	**3.11**	**316**	*e*PN	**Pn**	**02 32 46.4**	**-1.5**
MYA	**Malataya**	**3.11**	**316**	*e*Pn	**Pn**	**02 32 46.4**	**-1.5**
PTK	**Pertek**	**3.11**	**334**	*e*PN	**Pn**	**02 32 46.9**	**-1.1**
PTK	**Pertek**	**3.11**	**334**	*e*Pn	**Pn**	**02 32 46.9**	**-1.1**
GAZ	**Gaziantep**	**3.35**	**290**	*e*PN	**Pn**	**02 32 53.1**	**+1.9**
GAZ	**Gaziantep**	**3.35**	**290**	*e*Pn	**Pn**	**02 32 53.1**	**+1.9**
KUZU	**Kuzuini**	**3.36**	**283**	*i* P	**Pn**	**02 32 49.0**	**-2.4**
KUZU				*i* S	**Sn**	**02 33 37.5**	**+6.7**
AKCD	**Akcadag**	**3.38**	**311**	*i* P	**Pn**	**02 32 50.4**	**-1.3**
AKCD				*i* S	**Sn**	**02 33 37.4**	**+6.0**
AKCD	**Akcadag**	**3.38**	**311**	*i* P	**Pn**	**02 32 50.4**	**-1.3**
KMRS	**Kahramanmaras**	**3.69**	**293**	*e*PN	**Pn**	**02 32 57.1**	**+1.2**
KMRS	**Kahramanmaras**	**3.69**	**293**	*e*Pn	**Pn**	**02 32 57.1**	**+1.2**
CLDR	**Caldiran**	**3.74**	**35**	*e*PN	**Pn**	**02 32 57.0**	**+0.4**
CLDR	**Caldiran**	**3.74**	**35**	*e*Pn	**Pn**	**02 32 57.0**	**+0.4**
AGRB	**Hanur-Agry**	**3.75**	**22**	*e*PN	**Pn**	**02 32 57.0**	**+0.2**
AGRB	**Hanur-Agry**	**3.75**	**22**	*e*Pn	**Pn**	**02 32 57.0**	**+0.2**
BHD	**Baghdad**	**3.88**	**136**	*ex*	x	02 32 56.7	
BHD				*ex*	x	02 33 44.3	
BHD	**Baghdad**	**3.88**	**136**	*e*Pn	**Pn**	**02 32 56.7**	**-1.9**
BHD				*e*Sn	**Sn**	**02 33 44.3**	**+0.5**
ANDN	**Andirin**	**4.13**	**292**	*i* P	**Pn**	**02 32 58.6**	**-3.4**
ANDN				*i* S	**Sn**	**02 33 59.2**	**+9.3**
SARI	**SarD1z-Kayseri**	**4.38**	**307**	*e*PN	**Pn**	**02 33 07.4**	**+2.0**
KOZT	**Kozan**	**4.49**	**289**	*e*PN	**Pn**	**02 33 08.6**	**+1.7**
KOZT	**Kozan**	**4.49**	**289**	*e*Pn	**Pn**	**02 33 08.6**	**+1.7**
BNN	**Bunyan**	**5.03**	**305**	*e*PN	**Pn**	**02 33 15.4**	**+1.0**
BNN	**Bunyan**	**5.03**	**305**	*e*Pn	**Pn**	**02 33 15.4**	**+1.0**

*TRN **19** 02:45:09.8, 19°.39N×64°.23W, h28km, MD3.5(RSPR)*
*NEIC **19** 02:45:11.8, 19°.49N×64°.19W, h30km, MD3.5(RSPR), After RSPR.*
RSPR 19 02:45:11.8, 19°.49N×64°.19W, h30km±8km, MD3.5/4, 15C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.34**	**213**	*e*P	Pn	02 45 32.8	-1.7
STVI	**Saint Thomas**	**1.34**	**213**	*e*P	Pn	02 45 32.8	-1.7
STVI				*e*S	Sn	02 45 49.2	-2.1
STVI	**Saint Thomas**	**1.34**	**213**	*e*P	Pn	02 45 32.8	-1.7
STVI				*e*S	Sn	02 45 49.2	-2.1
MTP	**Monte Pirata**	**1.89**	**223**	*e*P	Pn	02 45 40.6	-1.5
MTP	**Monte Pirata**	**1.89**	**223**	*e*P	Pn	02 45 40.6	-1.5
MTP	**Monte Pirata**	**1.89**	**223**	*e*P	Pn	02 45 40.6	-1.5
CBYP	**Canovanas**	**1.99**	**233**	*e*P	Pn	02 45 41.5	-1.9
CBYP	**Canovanas**	**1.99**	**233**	*e*P	Pn	02 45 41.5	-1.9
CBYP				*e*S	Sn	02 46 05.4	-1.9
CBYP	**Canovanas**	**1.99**	**233**	*e*P	Pn	02 45 41.5	-1.9
CBYP				*e*S	Sn	02 46 05.4	-1.9
HUMP	**Col San Antoni**	**2.07**	**230**	*e*P	Pn	02 45 43.0	-1.5
HUMP	**Col San Antoni**	**2.07**	**230**	*e*P	Pn	02 45 43.0	-1.5
HUMP				*e*S	Sn	02 46 07.4	-1.9
HUMP	**Col San Antoni**	**2.07**	**230**	*e*P	Pn	02 45 43.0	-1.5
HUMP				*e*S	Sn	02 46 07.4	-1.9
CRPR	**Cabo Rojo, PR**	**3.14**	**242**	*e*P	Pn	02 45 58.1	-1.1
CRPR	**Cabo Rojo, PR**	**3.14**	**242**	*e*P	Pn	02 45 58.1	-1.1
CRPR	**Cabo Rojo, PR**	**3.14**	**242**	*e*P	Pn	02 45 58.1	-1.1

*IDC **19** 03:04:13.5±1.5, 32°.56S×71°.60W, h0km, mb4.4/4, mb1 4.3/7, mb1mx4.0/15, mbtmp4.2/7, ML4.0/3, MS3.7/8, Ms1 3.6/8, ms1mx3.2/41, Error ellipse: s-maj=65.6km s-min=23.9km az=101.0*
*ISCJB **19** 03:04:14.7±0.9, 32°.47S±0°.02×72°.07W±0°.06, h22km±5km, mb4.2/6, MS3.8/5, Error ellipse: s-maj=8.0km s-min=3.9km az=169.7*
*GUC **19** 03:04:16.9±0.8, 32°.49S×71°.91W, h27km±4km, ML4.5*
*NEIC **19** 03:04:16.9, 32°.49S×71°.91W, h27km, mb4.1/5, ML4.5(GUC), After GUC.*
NEIC Felt [II] at La Ligua, Papudo, Puchuncavi and Zapallar.
*BJI **19** 03:04:17.4, 32°.50S×71°.90W, h40km, mB4.9/1, Ms4.9/1, Ms7 4.5/1*
ISC 19 03:04:14.8±0.9, 32°.48S±0°.02×72°.02W±0°.05, h10km±4km, n62, σ0°.94/65, mb4.2/6, MS3.8/5, 2C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.63**	**150**	*i* P	**Pg**	**03 04 27.9**	**+0.9**
IHA				*i* S	**Sg**	**03 04 34.1**	**-1.2**
IHA	**Instituto Hidr**	**0.63**	**150**	*i* P	**Pg**	**03 04 27.9**	**+0.9**
IHA				*i* S	**Sg**	**03 04 34.1**	**-1.2**
CHNG	**Los Chungos**	**0.74**	**36**	*i* P	**Pg**	**03 04 29.7**	**+0.6**
CHNG				*i* S	**Sg**	**03 04 39.8**	**+1.0**
PTCH	**Petorca**	**0.95**	**77**	*e*P	**Pg**	**03 04 32.8**	**-0.2**
PTCH				*i* S	**Sg**	**03 04 44.6**	**-0.8**
PTCH	**Petorca**	**0.95**	**77**	*e*P	**Pg**	**03 04 32.8**	**-0.2**
PTCH				*i* S	**Sg**	**03 04 44.6**	**-0.8**
PTCH				AML	AML	03 04 46.5	
	comp=N,29μm,0.2s						
ROCH	**El Roble**	**0.98**	**120**	*i* P	**Pg**	**03 04 33.5**	**-0.2**
ROCH				*i* S	**Sg**	**03 04 45.7**	**-0.7**
ROCH				AML	AML	03 04 50.6	
	comp=E,17μm,0.4s						
JACH	**Jahuel**	**1.22**	**100**	*e*P	**Pn**	**03 04 37.0**	**-0.9**
JACH	**Jahuel**	**1.22**	**100**	*e*P	**Pn**	**03 04 37.0**	**-0.9**
PEL	**Peldehue**	**1.30**	**121**	*e*P	**Pn**	**03 04 38.5**	**-0.5**
PEL				*i* S	**Sb**	**03 04 54.8**	**-1.3**
PEL				AML	AML	03 04 58.7	
	comp=E,32μm,0.6s						
TACH	**Talagante**	**1.48**	**142**	*e*P	**Pn**	**03 04 41.8**	**+0.3**
TACH	**Talagante**	**1.48**	**142**	*e*P	**Pn**	**03 04 41.8**	**+0.3**
SAN	**Santiago**	**1.50**	**131**	*e*P	**Pn**	**03 04 41.8**	**+0.1**
SAN				*e*S	**Sn**	**03 05 01.5**	**+0.2**
SAN	**Santiago**	**1.50**	**131**	*e*P	**Pn**	**03 04 41.8**	**+0.1**
SAN				*e*S	**Sn**	**03 05 01.5**	**+0.2**
LNV	**Longovilo**	**1.56**	**161**	*e*P	**Pn**	**03 04 41.8**	**-0.7**
LNV	**Longovilo**	**1.56**	**161**	*e*P	**Pn**	**03 04 41.8**	**-0.7**
CMCH	**Combarbala**	**1.57**	**34**	*e*P	**Pn**	**03 04 42.2**	**-0.4**
CMCH				*i* S	**Sn**	**03 05 01.9**	**-1.0**
CMCH				AML	AML	03 05 10.9	
	comp=N,16μm,0.6s						
LACH	**Col Las Americ**	**1.58**	**128**	*e*P	**Pn**	**03 04 42.9**	**+0.1**
LACH				*i* S	**Sn**	**03 05 03.1**	**-0.2**
FCH	**Farellones**	**1.68**	**121**	*e*P	**Pn**	**03 04 37.7**	**-6.5**
FCH				*i* S	**Sn**	**03 04 58.9**	**-6.8**
PCH	**Pirque**	**1.70**	**132**	*e*P	**Pn**	**03 04 44.9**	**+0.5**
PCH	**Pirque**	**1.70**	**132**	*e*P	**Pn**	**03 04 44.9**	**+0.5**
SJCH	**San Jose de Ma**	**1.81**	**130**	*e*P	**Pn**	**03 04 46.5**	**+0.5**
SJCH				*e*S	**Sn**	**03 05 09.4**	**+0.4**
CACH	**El Canelo**	**2.02**	**144**	*i* P	**Pn**	**03 04 50.3**	**+1.5**
CACH	**El Canelo**	**2.02**	**144**	*i* P	**Pn**	**03 04 50.3**	**+1.5**
LMEL	**Las Melosas**	**2.04**	**132**	*e*P	**Pn**	**03 04 50.0**	**+0.8**
LMEL	**Las Melos

HHC LR LR
comp=Z,80nm,20.0s

NIED ***19*** *03:11:00,38°.30N×143°.50E,h23km,Mw3.5 Best double couple: M₀2.12000×10¹⁴ NP1:φ=27.00000°,δ60.00000°, λ90.00000°. NP2:φ=208.00000°,δ30.00000°,λ91.00000°.*
JMA 19 03:11:43.1±0.2,38°.28N×143°.46E,h16km±5km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.61**	**300**	P	Pn	03 12 11.3	+0.4
JIO	**Ouri**	**1.67**	**277**	P	Pn	03 12 12.1	+0.5
JIO				*e*S	Sn	03 12 33.1	+0.4
JMK	**Ichinoseki**	**1.88**	**292**	P	Pn	03 12 15.4	+0.9
JMK				*e*S	Sn	03 12 38.2	+0.3
JOM	**Ohasama**	**2.07**	**306**	P	Pn	03 12 18.3	+1.1
JMM	**Marumori**	**2.15**	**260**	P	Pn	03 12 18.8	+0.6
JOU	**Okura**	**2.20**	**273**	P	Pn	03 12 20.3	+1.3
JFT	**Otama**	**2.58**	**254**	P	Pn	03 12 26.0	+1.8

ISCJB ***19*** *03:17:58.8±0.3,24°.84N±0°.02×122°.02E±0°.02,h10km, Error ellipse: s-maj=3.2km s-min=2.3km az=17.4*
JMA ***19*** *03:17:58.7±0.4,25°.20N×122°.17E,h15km,M2.9*
TAP ***19*** *03:17:58.5,24°.84N×121°.98E,h7km,ML3.6,C*
NEIC ***19*** *03:18:00.8±2.3,24°.78N×121°.82E,h10km,Error ellipse: s-maj=25.1km s-min=8.8km az=65.0*
ISC 19 03:17:59.1±0.3,24°.84N±0°.02×122°.02E±0°.02,h10km,n50, σ1=04/76,5D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.17**	**351**	⇓*i*P	**Pg**	**03 18 02.4**	**-0.4**
	baz=6.0						
TWB1				S	**Sg**	**03 18 04.8**	**-0.6**
	baz=6.0						
ILA	**Ilan**	**0.26**	**254**	*e*P	**Pg**	**03 18 02.9**	**-1.5**
	baz=248						
ILA				S	**Sg**	**03 18 07.5**	**-0.4**
	baz=248						
TWC	**Suao**	**0.28**	**214**	⇓*i*P	**Pg**	**03 18 04.2**	**-0.5**
	baz=205						
TWC				*i* S	**Sg**	**03 18 07.5**	**-0.9**
	baz=205						
NWF	**Wu-fen Shan**	**0.32**	**317**	⇓*i*P	**Pg**	**03 18 05.3**	**-0.2**
	baz=307						
NWF				*i* S	**Sg**	**03 18 09.9**	**+0.2**
	baz=307						
TWE	**Neicheng**	**0.34**	**250**	*i* P	**Pg**	**03 18 05.0**	**-0.9**
	baz=245						
TWE				S	**Sg**	**03 18 09.5**	**-1.0**
	baz=245						
TWA	**Mucha**	**0.42**	**290**	⇓*i*P	**Pg**	**03 18 06.9**	**-0.5**
	baz=290						
TWA				S	**Sg**	**03 18 12.2**	**-0.7**
	baz=290						
ENTT	**Nioudou**	**0.46**	**244**	P	**Pg**	**03 18 07.1**	**-0.9**
	baz=241						
ENA	**Nanau**	**0.48**	**212**	*e*P	**Pg**	**03 18 07.9**	**-0.6**
	baz=207						
TAP1	**Taipei**	**0.49**	**294**	*e*P	**Pg**	**03 18 08.6**	**-0.1**
	baz=294						
TAP1				*e*S	**Sg**	**03 18 15.1**	**-0.2**
	baz=294						
TATO	**Taipei**	**0.50**	**286**	*e*Pg	**Pg**	**03 18 07.7**	**-1.2**
TATO				*e*Sg	**Sg**	**03 18 14.5**	**-1.0**
TWY	**Chenhua**	**0.58**	**319**	⇓*i*P	**Pg**	**03 18 10.4**	**0.0**
	baz=320						
TWS1	**Kuangyinshan**	**0.60**	**296**	P	**Pg**	**03 18 11.0**	**+0.2**
	baz=296						
TWS1				*e*S	**Sg**	**03 18 19.6**	**+0.8**
	baz=296						
YHNB	**Yeheng**	**0.61**	**254**	*e*Pg	**Pg**	**03 18 09.4**	**-1.5**
NSK	**Sanguang**	**0.62**	**255**	P	**Pg**	**03 18 09.9**	**-1.3**
	baz=253						
NSK				*e*S	**Sg**	**03 18 19.1**	**-0.3**
	baz=253						
NNS	**Nan Shan**	**0.71**	**236**	*e*P	**Pg**	**03 18 11.8**	**-1.1**
	baz=234						
NACB	**Ninganchiao**	**0.77**	**210**	*e*Pg	**Pg**	**03 18 13.1**	**-0.8**
NACB				*e*Sg	**Sg**	**03 18 23.2**	**-0.8**
NCU	**National Centr**	**0.77**	**280**	*e*P	**Pg**	**03 18 14.9**	**+1.0**
	baz=279						
NCU				*e*S	**Sg**	**03 18 25.6**	**+1.6**
	baz=279						
TWD	**Chiawan**	**0.85**	**207**	P	**Pg**	**03 18 14.5**	**-0.9**
	baz=196						
TWD				S	**Sg**	**03 18 25.9**	**-0.6**
	baz=196						
NSTT	**Nanjuang**	**0.95**	**258**	*e*P	**Pg**	**03 18 17.1**	**-0.3**
	baz=256						
NSTT				*e*S	**Sg**	**03 18 30.4**	**+0.7**
	baz=256						
HSN	**Hsinchu**	**0.95**	**268**	*e*P	**Pg**	**03 18 17.1**	**-0.4**
	baz=268						
HSN				*e*S	**Sg**	**03 18 30.4**	**+0.4**
	baz=268						
TWT	**Tachien**	**0.96**	**233**	*e*P	**Pg**	**03 18 17.1**	**-0.6**
	baz=224						
WHF	**Hehuan Shan**	**0.97**	**225**	*e*P	**Pg**	**03 18 16.6**	**-1.3**
	baz=223						
YOJ	**Yonaguni jima**	**0.98**	**112**	P	**Pg**	**03 18 18.1**	**+0.2**
	baz=113						
YOJ				*e*S	**Sg**	**03 18 30.6**	**-0.1**
	baz=113						
YOJ	**Yonaguni jima**	**0.98**	**112**	P	**Pg**	**03 18 18.2**	**+0.3**
YOJ				*e*S	**Sg**	**03 18 32.1**	**+1.4**
ESL	**Shilin**	**1.15**	**208**	*e*P	**Pb**	**03 18 19.5**	**-1.6**
	baz=206						
NSY	**Sanyi**	**1.22**	**250**	*e*P	**Pn**	**03 18 22.9**	**+0.7**
	baz=248						
NSY				*e*S	**Sb**	**03 18 39.7**	**+1.6**
	baz=248						
TWQ1	**Liyutan**	**1.23**	**247**	*e*P	**Pn**	**03 18 22.9**	**+0.5**
	baz=245						
TWQ1				*e*S	**Sb**	**03 18 40.3**	**+1.8**
	baz=245						
SMLT	**Sun Moon Lake**	**1.40**	**227**	*e*P	**Pn**	**03 18 24.6**	**-0.1**
	baz=215						
TCU	**Taichung**	**1.40**	**241**	*e*P	**Pn**	**03 18 25.9**	**+1.1**
	baz=239						
TCU				*e*S	**Sn**	**03 18 45.8**	**+2.5**
	baz=239						
TYC	**Yuchr**	**1.41**	**229**	*e*P	**Pn**	**03 18 24.2**	**-0.7**
	baz=217						
SSLB	**Suanglung**	**1.43**	**223**	*e*Pn	**Pn**	**03 18 24.4**	**-0.7**
EHY	**Hungye**	**1.47**	**206**	*e*P	**Pn**	**03 18 25.5**	**-0.2**
	baz=207						
WNT	**Mingjian**	**1.55**	**232**	*e*P	**Pn**	**03 18 28.5**	**+1.8**
	baz=231						
YULB	**Yu-li**	**1.58**	**205**	*e*Pn	**Pn**	**03 18 27.6**	**+0.3**
TWF1	**Yuli**	**1.62**	**204**	*e*P	**Pn**	**03 18 28.4**	**+0.6**
	baz=214						
IRIF	**Iriomote-Funau**	**1.64**	**108**	P	**Pn**	**03 18 27.1**	**-0.9**
IRIF				*e*S	**Sn**	**03 18 48.4**	**-0.7**
YUS	**Yu-Shan**	**1.66**	**216**	P	**Pn**	**03 18 29.5**	**+1.2**
	baz=216						
ALS	**Alishan**	**1.73**	**220**	*e*P	**Pn**	**03 18 30.7**	**+1.5**
	baz=206						
CHN5	**Tsauling**	**1.74**	**225**	P	**Pn**	**03 18 31.5**	**+2.1**
	baz=224						
CHN5				*e*S	**Sn**	**03 18 55.6**	**+4.0**
	baz=224						
HATJ	**Hateruma jima**	**1.80**	**115**	P	**Pn**	**03 18 31.1**	**+0.8**
JKRS	**Kuro-shima**	**1.91**	**108**	P	**Pn**	**03 18 31.7**	**0.0**
JKRS				*e*S	**Sn**	**03 18 55.1**	**-0.7**
CHN4	**Tsaushan**	**1.97**	**222**	P	**Pn**	**03 18 35.2**	**+2.6**
	baz=209						
JIJ	**Ishigaki jima**	**1.99**	**103**	P	**Pn**	**03 18 32.9**	**+0.1**
JIJ				*e*S	**Sn**	**03 18 57.8**	**0.0**
TPUB	**Ta-pu**	**1.99**	**220**	*e*Pg	**Pg**	**03 18 35.4**	**-1.9**
STYT	**Tauyuan**	**2.03**	**215**	*e*P	**Pn**	**03 18 35.8**	**+2.4**
	baz=204						
WTP	**Ta-pu**	**2.04**	**219**	*e*P	**Pn**	**03 18 36.7**	**+3.1**
	baz=206						
CHN1	**Nanshi**	**2.14**	**220**	*e*P	**Pn**	**03 18 36.6**	**+1.7**
	baz=209						
CHN1				*e*S	**Sn**	**03 19 06.5**	**+5.1**
	baz=209						
TWG	**Pinlang**	**2.19**	**204**	*e*P	**Pn**	**03 18 37.6**	**+2.0**
	baz=206						
TWG	**Pinlang**	**2.19**	**204**	*e*Pn	**Pn**	**03 18 35.6**	**0.0**
TWG				*e*Pg	**Pg**	**03 18 41.1**	**0.0**
EAST	**Anshuo**	**2.67**	**204**	*e*P	**Pn**	**03 18 42.7**	**+0.5**
	baz=195						

ISCJB ***19*** *03:34:28.3±1.2,33°.50N±0°.04×46°.22E±0°.08,h11km±8km, mb3.5/5,Error ellipse: s-maj=10.8km s-min=6.1km az=0.8*
IDC ***19*** *03:34:28.4±2.4,33°.65N×46°.21E,h0km,mb3.6/5, mb1 3.6/6,mb1mx3.4/25,mbtmp3.6/6,ML3.4/1,Error ellipse: s-maj=96.3km s-min=25.9km az=148.0*
TEH ***19*** *03:34:28.8,33°.46N×46°.16E,h8km*
CSEM ***19*** *03:34:29.7±0.5,33°.56N×45°.88E,h20km,ML3.5,Error ellipse: s-maj=13.9km s-min=8.1km az=107.0*
KISR ***19*** *03:34:30.6±1.0,33°.56N×46°.76E,h44km±999km,ML3.5*
SGS ***19*** *03:34:31.5,33°.41N×46°.04E,h29km*
THR ***19*** *03:34:33.5±0.4,33°.72N×46°.49E,h15km,ML3.5*
ISC 19 03:34:29.1±1.3,33°.50N±0°.03×46°.19E±0°.08,h6km±8km, n38,σ1=00/46,mb3.5/5,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.89**	**21**	*e*Pg	**Pg**	**03 34 45.7**	**-0.4**
IGHG				*e*Sg	**Sg**	**03 34 57.9**	**+0.3**
IGHG				*e*		03 35 13.3	
	comp=Z,6μm,0.3s						
IVIS	**Veis**	**1.16**	**28**	*e*Pg	**Pg**	**03 34 50.6**	**-0.8**
IVIS				*e*Sg	**Sg**	**03 35 07.5**	**+1.0**
IVIS				*e*		03 35 11.5	
	comp=Z,5μm,0.1s						
IDHR	**Dehrash**	**1.21**	**8**	*e*Pg	**Pg**	**03 34 51.5**	**-0.8**
IDHR				*e*		03 35 13.9	
	comp=Z,8μm,0.1s						
IKOM	**Komasi**	**1.29**	**58**	*e*Pn	**Pn**	**03 34 52.1**	**-1.5**
IKOM				*e*Sg	**Sg**	**03 35 10.4**	**-0.1**
IKOM				*e*		03 35 14.6	
	comp=Z,23μm,0.3s						
BHD	**Baghdad**	**1.53**	**262**	*ex*	x	03 35 02.3	
BHD				*ex*	x	03 35 10.0	
ILIN	**Lien**	**1.56**	**24**	*e*Pn	**Pn**	**03 34 58.5**	**+1.3**
ILIN				*e*Sg	**Sg**	**03 35 18.6**	**-0.4**
ILIN				*e*		03 35 26.6	
	comp=Z,3μm,0.3s						
SNGE	**Sanandaj**	**1.86**	**31**	*e*Pn	**Pn**	**03 35 02.7**	**+1.3**
SNGE				AML	AML	03 35 33.2	
	comp=E,523nm,0.7s						
SNGE	**Sanandaj**	**1.86**	**31**	*e*Pn	**Pn**	**03 35 02.7**	**+1.3**
SHGR	**Shooshtar-Gavs**	**2.60**	**122**	*e*Pn	**Pn**	**03 35 15.9**	**+4.3**
SHGR				AML	AML	03 36 02.5	
	comp=N,295nm,0.5s						
SHGR				AML	AML	03 36 10.9	
	comp=E,248nm,0.5s						
SHGR	**Shooshtar-Gavs**	**2.60**	**122**	*e*Pn	**Pn**	**03 35 15.9**	**+4.3**
ASAO	**Ashtian**	**3.35**	**71**	*e*Pn	**Pn**	**03 35 23.2**	**+1.2**
ASAO				AML	AML	03 36 32.2	
	comp=N,78nm,0.6s						
ASAO	**Ashtian**	**3.35**	**71**	*e*Pn	**Pn**	**03 35 23.2**	**+1.2**
ZNJK	**Zanjan**	**3.77**	**32**	*e*Pn	**Pn**	**03 35 28.9**	**+1.3**
ZNJK	**Zanjan**	**3.77**	**32**	*e*Pn	**Pn**	**03 35 28.9**	**+1.2**
MIB	**Mutribah**	**3.81**	**165**	*e*P	**Pn**	**03 35 29.6**	**+1.3**
MIB				*e*S	**Sn**	**03 36 13.6**	**+0.1**
MIB				AML	AML	03 36 16.1	
	comp=Z,100nm,0.6s						
MIB	**Mutribah**	**3.81**	**165**	*e*P	**Pn**	**03 35 29.6**	**+1.3**
MIB				*e*S	**Sn**	**03 36 13.6**	**+0.2**
	comp=Z,100nm,0.6s						
UMR	**Umm Al-Rimmam**	**4.14**	**161**	*e*P	**Pn**	**03 35 33.5**	**+0.7**
UMR				*e*S	**Sn**	**03 36 20.3**	**-1.3**
UMR				AML	AML	03 36 23.3	
	comp=Z,38nm,0.3s						
UMR	**Umm Al-Rimmam**	**4.14**	**161**	*e*P	**Pn**	**03 35 33.5**	**+0.6**
NAY	**Al-Naaiem**	**4.33**	**168**	*e*P	**Pn**	**03 35 36.4**	**+1.0**
NAY				*e*S	**Sn**	**03 36 26.4**	**+0.2**
NAY				AML	AML	03 36 28.9	
	comp=Z,25nm,0.5s						
NAY	**Al-Naaiem**	**4.33**	**168**	*e*P	**Pn**	**03 35 36.4**	**+1.0**
NAY				*e*S	**Sn**	**03 36 26.4**	**+0.1**
GHVR	**GHOM**	**4.35**	**76**	*e*Pn	**Pn**	**03 35 36.8**	**+1.1**
GHVR	**GHOM**	**4.35**	**76**	*e*Pn	**Pn**	**03 35 36.8**	**+1.1**
IKLH	**Kolahrood**	**4.51**	**91**	*e*Pn	**Pn**	**03 35 37.8**	**-0.1**
IKLH				*e*		03 37 02.8	
	comp=Z,529nm,0.5s						
RDF	**Al-Radifah**	**4.71**	**165**	*e*P	**Pn**	**03 35 42.1**	**+1.5**
RDF				*e*S	**Sn**	**03 36 35.6**	**+0.1**
RDF				AML	AML	03 36 38.2	
	comp=Z,72nm,0.7s						
RDF	**Al-Radifah**	**4.71**	**165**	*e*P	**Pn**	**03 35 42.1**	**+1.5**
RDF				*e*S	**Sn**	**03 36 35.6**	**+0.1**
IZEF	**Zefreh**	**5.18**	**95**	*e*Pn	**Pn**	**03 35 47.0**	**-0.1**
IZEF				*e*		03 36 11.0	
	comp=Z,149nm,0.3s						
ASF	**Jabal al Asfar**	**7.93**	**263**	Lg		03 38 53.8	
	comp=Z,0.1nm,0.3s,baz=150,slow=22,SNR=3.0						
BTHS		**10.27**	**155**	P	**Pn**	**03 36 55.2**	**-1.7**
BTHS		**10.27**	**155**	P	**Pn**	**03 36 55.2**	**-1.7**
EIL	**Elat**	**10.31**	**251**	Lg		03 40 10.6	
	comp=Z,0.1nm,0.3s,baz=358,slow=6.4,SNR=4.1						
HRDDS		**10.92**	**164**	S	**Sn**	**03 39 00.1**	**-8.3**
HRDDS		**10.92**	**164**	P	**Pn**	**03 37 04.0**	**-1.9**
AKTO	**Aktyubinsk**	**19.03**	**24**	P	**Pn**	**03 38 51.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=203,slow=7.7,SNR=3.1						
BVAR	**Borovoye Array**	**26.08**	**34**	P	**P**	**03 40 02.7**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.3,baz=233,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**30.34**	**53**	P	**P**	**03 40 41.2**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=248,slow=9.7,SNR=7.6						
ZALV	**Zalesovo Beam**	**34.01**	**41**	P	**P**	**03 41 11.8**	**-1.7**
	comp=Z,0.6nm,0.3s,mb4.0,baz=261,slow=8.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**45.19**	**254**	P	**P**	**03 42 47.8**	**+0.8**
	comp=Z,0.4nm,0.8s,mb3.3,baz=71,slow=6.0,SNR=4.1						
YKA	**Yellowknife Ar**	**83.10**	**351**	P	**P**	**03 46 54.6**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=15,slow=5.6,SNR=4.0						

PRU ***19*** *03:40:49.6,47°.30N×18°.31E,h0km*
ISCJB ***19*** *03:40:50.7±0.5,47°.29N±0°.03×18°.37E±0°.03,h14km±4km, Error ellipse: s-maj=5.0km s-min=3.7km az=11.5*
VIE ***19*** *03:40:50.4±0.2,47°.29N×18°.40E,h9km±2km,mb1.9/2, ML2.0/3,Error ellipse: s-maj=1.6km s-min=1.2km az=163.0 54 km SSE of Komarom*
CSEM ***19*** *03:40:51.7±0.2,47°.31N×18°.40E,h15km,ML2.5/2,Error ellipse: s-maj=4.6km s-min=3.4km az=9.0*
ISC 19 03:40:51.8±0.5,47°.29N±0°.03×18°.39E±0°.03,h18km±4km, n27,σ0=86/46,6C-14D,Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUD	**Budapest**	**0.47**	**66**	⇑*e*PB	**Pg**	**03 41 01.0**	**-0.4**
BUD				*e*Sg	**Sg**	**03 41 06.2**	**-1.6**
BUD	**Budapest**	**0.47**	**66**	⇑*e*Pg	**Pg**	**03 41 01.0**	**-0.4**
BUD				⇑*e*Sg	**Sg**	**03 41 06.2**	**-1.6**
PKSN	**Nyarlorinc**	**1.08**	**111**	*e*Pn	**Pg**	**03 41 13.0**	**+0.2**
PKSN				*e*Sn	**Sg**	**03 41 29.0**	**+2.0**
PKSM	**Moragy**	**1.09**	**171**	⇓*e*Pn	**Pg**	**03 41 12.7**	**-0.3**
PKSM				⇓*e*Sn	**Sg**	**03 41 25.8**	**-1.5**
PSZ	**Piszkesteto**	**1.20**	**58**	⇑*i*P	**Pn**	**03 41 13.5**	**-0.1**
PSZ	**Piszkesteto**	**1.20**	**58**	⇓*e*Pn	**Pn**	**03 41 13.5**	**-0.1**
PSZ				⇓*e*Sn	**Sn**	**03 41 30.2**	**+0.8**
VYHS	**Vyhne**	**1.24**	**14**	*e*PG	**Pn**	**03 41 13.9**	**-0.3**
VYHS				*e*SG	**Sn**	**03 41 29.9**	**-0.6**
VYHS	**Vyhne**	**1.24**	**14**	*e*Pn	**Pn**	**03 41 13.9**	**-0.3**
VYHS				*e*Sn	**Sn**	**03 41 29.9**	**-0.6**
SOP	**Sopron**	**1.30**	**288**	*e*Pg	**Pn**	**03 41 15.4**	**+0.3**
SOP				*e*Sg	**Sg**	**03 41 34.6**	**+0.6**
SOP	**Sopron**	**1.30**	**288**	*e*Pn	**Pn**	**03 41 15.4**	**+0.3**
SOP				*e*Sn	**Sg**	**03 41 34.6**	**+0.6**
RHK3	**Tenkes**	**1.41**	**184**	*e*Pn	**Pn**	**03 41 17.1**	**+0.6**
RHK3				*e*Sn	**Sn**	**03 41 33.6**	**-0.9**
CONA	**Conrad Observa**	**1.82**	**291**	⇓*i*Pn	**Pn**	**03 41 22.2**	**-0.1**
CONA				⇓*i*Sg	**Sg**	**03 41 50.9**	**+0.3**
	3.8nm,0.4s						
CONA	**Conrad Observa**	**1.82**	**291**	Pn	**Pn**	**03 41 22.2**	**-0.1**
CONA				Sg	**Sg**	**03 41 50.9**	**+0.3**
	3.8nm,0.4s						
KECS	**Kecovo**	**1.85**	**49**	*e*PG	**Pn**	**03 41 22.1**	**-0.5**
KECS				*e*SG	**Sn**	**03 41 46.4**	**+0.9**
KECS	**Kecovo**	**1.85**	**49**	*e*Pn	**Pn**	**03 41 22.1**	**-0.5**
KECS				*e*Sn	**Sn**	**03 41 46.4**	**+0.9**
ARSA	**Arzberg**	**1.95**	**270**	⇑*i*Pn	**Pn**	**03 41 24.1**	**+0.1**
ARSA				⇑*i*Sg	**Sg**	**03 41 55.5**	**+0.8**
	3.8nm,0.4s						
ARSA	**Arzberg**	**1.95**	**270**	Pn	**Pn**	**03 41 24.1**	**+0.1**
ARSA				Sg	**Sg**	**03 41 55.5**	**+0.8**
	3.8nm,0.4s						
VRAC	**Vranov**	**2.35**	**330**	⇓*i*Pn	**Pn**	**03 41 30.5**	**+1.0**
VRAC	**Vranov**	**2.35**	**330**	⇓*i*Pn	**Pn**	**03 41 30.5**	**+1.0**
VRAC				*e*Sn	**Sn**	**03 41 55.6**	**-2.2**
BZS	**Buzias**	**2.79**	**126**	⇓*i*P	**Pn**	**03 41 35.6**	**+0.1**
BZS	**Buzias**	**2.79**	**126**	⇓*i*Pn	**Pn**	**03 41 35.6**	**+0.1**
DRGR		**3.00**	**98**	⇓*i*P	**Pn**	**03 41 39.0**	**+0.6**
DRGR		**3.00**	**98**	⇓*i*Pn	**Pn**	**03 41 39.0**	**+0.6**
GZR	**Gura Zlata**	**3.58**	**120**	⇓*i*P	**Pn**	**03 41 46.8**	**+0.4**
GZR	**Gura Zlata**	**3.58**	**120**	⇓*i*Pn	**Pn**	**03 41 46.8**	**+0.4**
KHC	**Kasperske Hory**	**3.71**	**302**	*e*PN	**Pn**	**03 41 47.5**	**-0.6**
KHC				*e*SG	**Sg**	**03 42 45.3**	**-5.5**
KHC	**Kasperske Hory**	**3.71**	**302**	Pn	**Pn**	**03 41 47.5**	**-0.6**
KHC				Sg	**Sg**	**03 42 45.3**	**-5.5**

ISCJB ***19*** *03:44:15.9±0.3,33°.62N±0°.06×131°.57E±0°.07, h133km±3km,mb4.0/28,Error ellipse: s-maj=9.5km s-min=9.2km az=8.5*
JMA ***19*** *03:44:17.9±0.1,33°.72N×131°.58E,h117km±1km,M3.3*
NEIC ***19*** *03:44:17.6±0.5,33°.62N×131°.50E,h133km±4km,mb4.2/9, Error ellipse: s-maj=7.6km s-min=6.7km az=52.0*
IDC ***19*** *03:44:18.2±2.2,33°.67N×131°.51E,h136km±20km, mb3.7/19,mb1 3.7/21,mb1mx3.7/31,mbtmp3.6/21,Error ellipse: s-maj=19.6km s-min=12.4km az=68.0*
ISC 19 03:44:17.0±0.3,33°.65N±0°.06×131°.55E±0°.07,h126km±3km, n64,σ0=79/67,mb4.1/28,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKI	**Kunimi**	**0.02**	**131**	P	**Pn**	**03 44 34.3**	**+0.1**
JKI				*e*S	**Sn**	**03 44 46.5**	**-0.5**
OIT2	**Oita 2**	**0.38**	**193**	P	**Pn**	**03 44 35.8**	**+0.7**
JKD	**Kudamatsu**	**0.49**	**33**	P	**Pn**	**03 44 35.0**	**-0.6**
JKD				S	**Sn**	**03 44 47.9**	**-1.8**
JNU	**Nakatsue**	**0.77**	**227**	*e*Pn	**Pn**	**03 44 38.1**	**+0.6**
JNU				*e*Sn	**Sn**	**03 44 52.8**	**-0.3**
JNA	**Nagahama**	**0.78**	**96**	P	**Pn**	**03 44 37.4**	**-0.2**
JNA				S	**Sn**	**03 44 52.4**	**-0.8**
JTZ	**Takazaki**	**1.78**	**193**	P	**Pn**	**03 44 49.4**	**+1.2**
JTU	**Tsushima**	**1.99**	**297**	P	**Pn**	**03 44 50.9**	**+0.3**
KSRS	**Korea Array**	**4.81**	**323**	P	**Pn**	**03 45 28.7**	**+1.2**
	1.4nm,0.3s,baz=141,slow=14,SNR=13						
KSAR	**Wonju Array Be**	**4.83**	**323**	P	**Pn**	**03 45 28.7**	**+1.0**
MAJO	**Matsushiro**	**6.17**	**60**	*e*Pn	**Pn**	**03 45 47.4**	**+1.5**
MJAR	**Matsushiro Arr**	**6.17**	**60**	P	**Pn**	**03 45 46.8**	**+1.0**
	2.0nm,0.3s,baz=240,slow=14,SNR=11						
MJAR	**Matsushiro Arr**	**6.17**	**60**	P	**Pn**	**03 45 46.8**	**+1.0**
ULN	**Ulaanbaatar**	**23.24**	**315**	*e*P	**P**	**03 49 14.1**	**+1.2**
	6.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**23.62**	**314**	P	**P**	**03 49 17.4**	**+1.1**
	5.9nm,0.7s,mb4.0,baz=127,slow=9.9,SNR=41						
SONM	**Songino Array**	**23.62**	**314**	P	**P**	**03 49 17.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**32.80**	**251**	P	**P**	**03 50 38.4**	**0.0**
	2.0nm,0.3s,mb4.4,baz=102,slow=15,SNR=5.8						
CMAR	**Chiang Mai Arr**	**32.80**	**251**	P	**P**	**03 50 38.4**	**0.0**
ZALV	**Zalesovo Beam**	**38.48**	**316**	P	**P**	**03 51 25.7**	**-0.8**
	1.0nm,0.5s,mb3.9,baz=87,slow=9.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**38.48**	**316**	P	**P**	**03 51 25.7**	**-0.8**
MK31	**Makanchi Array**	**39.22**	**305**	*e*P	**P**	**03 51 32.4**	**-0.3**
MKAR	**Makanchi Array**	**39.22**	**305**	P	**P**	**03 51 32.1**	**-0.6**
	0.4nm,0.5s,mb3.5,baz=92,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**39.22**	**305**	P	**P**	**03 51 32.1**	**-0.6**
KURK	**Kurchatov**	**41.81**	**310**	P	**P**	**03 51 53.4**	**-0.6**
	0.5nm,0.2s,mb3.8,baz=97,slow=9.5,SNR=4.0						
KURK	**Kurchatov**	**41.81**	**310**	*e*P	**P**	**03 51 53.8**	**-0.2**
	3.1nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**45.02**	**299**	*e*P	**P**	**03 52 19.1**	**-0.7**
	19nm,1.3s,mb4.7						
EKS2	**Erkin-Say**	**45.53**	**299**	*e*P	**P**	**03 52 24.2**	**+0.3**
	1.2nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**46.96**	**314**	P	**P**	**03 52 35.4**	**+0.6**
	2.4nm,0.5s,mb4.2,baz=95,slow=9.4,SNR=15						
BVAR	**Borovoye Array**	**46.96**	**314**	P	**P**	**03 52 35.4**	**+0.6**
BRVK	**Borovoye**	**47.02**	**314**	*e*P	**P**	**03 52 35.9**	**+0.5**
	2.9nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**53.35**	**177**	P	**P**	**03 53 23.8**	**+0.4**
	1.2nm,0.6s,mb4.1,baz=354,slow=8.1,SNR=9.2						
WRA	**Warramunga Arr**	**53.35**	**177**	P	**P**	**03 53 23.8**	**+0.4**
ARU	**Arti**	**53.55**	**319**	*e*P	**P**	**03 53 24.6**	**+0.2**
ABKAR	**Akbulak array**	**53.91**	**310**	*e*P	**P**	**03 53 26.9**	**-0.3**
	2.1nm,0.7s,mb4.3						
AKTO	**Aktyubinsk**	**54.89**	**311**	P	**P**	**03 53 34.2**	**0.0**
	1.1nm,0.5s,mb4.1,baz=81,slow=12,SNR=5.1						
AKTO	**Aktyubinsk**	**54.89**	**311**	P	**P**	**03 53 34.2**	**0.0**
MBWA	**Marble Bar**	**55.65**	**193**	*e*P	**P**	**03 53 39.2**	**-0.7**
	22nm,1.3s,mb5.0						
ASAR	**Alice Springs**	**57.04**	**177**	P	**P**	**03 53 50.4**	**+0.7**

PTCH *i* S **Sb** **03 49 01.2 +0.3**
PTCH AML AML 03 49 03.1
comp=N,12μm,0.4s
LCCH Las Cruces 0.98 159 *e*P **Pb** **03 48 48.0 -0.9**
LCCH Las Cruces 0.98 159 *e*P **Pb** **03 48 48.0 -0.9**
JACH Jahuel 1.19 96⇑*i*P **Pn** **03 48 51.4 -1.0**
JACH Jahuel 1.19 96⇑*i*P **Pn** **03 48 51.4 -1.0**
PEL Peldehue 1.25 118⇑*i*P **Pn** **03 48 52.6 -0.6**
PEL *i* S **Sb** **03 49 08.8 -0.7**
PEL AML AML 03 49 12.8
comp=N,13μm,0.5s
TACH Talagante 1.41 141⇑*i*P **Pn** **03 48 54.7 -0.6**
TACH Talagante 1.41 141⇑*i*P **Pn** **03 48 54.7 -0.6**
SAN Santiago 1.43 129 *e*P **Pn** **03 48 55.4 -0.3**
SAN *i* S **Sn** **03 49 13.4 -1.0**
SAN Santiago 1.43 129 *e*P **Pn** **03 48 55.4 -0.3**
SAN *i* S **Sn** **03 49 13.4 -1.0**
SAN AML AML 03 49 20.2
comp=N,4μm,0.3s
CLCH Cerro Calan 1.48 125⇑*i*P **Pn** **03 48 56.1 -0.3**
CLCH *i* S **Sn** **03 49 15.3 -0.3**
CLCH AML AML 03 49 18.8
comp=E,7μm,0.7s
LACH Col Las Americ 1.52 126 *e*P **Pn** **03 48 56.8 -0.1**
LACH *e*S **Sn** **03 49 16.1 -0.4**
LACH Col Las Americ 1.52 126 *e*P **Pn** **03 48 56.8 -0.1**
LACH *e*S **Sn** **03 49 16.1 -0.4**
LACH AML AML 03 49 28.9
comp=E,2μm,0.7s
ANTU Antumapu 1.53 132⇑*i*P **Pn** **03 48 57.0 0.0**
ANTU *i* S **Sn** **03 49 16.2 -0.4**
ANTU Antumapu 1.53 132⇑*i*P **Pn** **03 48 57.0 0.0**
ANTU *i* S **Sn** **03 49 16.2 -0.4**
ANTU AML AML 03 49 24.0
comp=N,5μm,0.6s
CMCH Combarbala 1.62 32 *e*P **Pn** **03 48 58.1 -0.2**
CMCH *i* S **Sn** **03 49 19.0 0.0**
FCH Farellones 1.63 119 *i*P **Pn** **03 49 00.1 +1.7**
FCH *i* S **Sn** **03 49 19.2 +0.1**
FCH AML AML 03 49 23.6
comp=E,3μm,1.0s
PCH Pirque 1.64 131⇑*i*P **Pn** **03 48 58.6 +0.2**
PCH *i* S **Sn** **03 49 19.6 +0.3**
PCH Pirque 1.64 131⇑*i*P **Pn** **03 48 58.6 +0.2**
PCH *i* S **Sn** **03 49 19.6 +0.3**
SJCH San Jose de Ma 1.75 128 *e*P **Pn** **03 49 00.5 +0.4**
SJCH San Jose de Ma 1.75 128 *e*P **Pn** **03 49 00.5 +0.4**
SJCH *i* S **Sn** **03 49 22.8 +0.6**
CACH El Canelo 1.94 143⇑*i*P **Pn** **03 49 03.6 +0.9**
CACH El Canelo 1.94 143⇑*i*P **Pn** **03 49 03.6 +0.9**
LMEL Las Melosas 1.98 131 *e*P **Pn** **03 49 04.0 +0.8**
LMEL *i* S **Sn** **03 49 29.6 +1.7**
LMEL AML AML 03 49 36.1
comp=N,4μm,0.9s
CFAA Coronel Fontan 3.33 74 Pn **Pn** **03 49 24.1 +2.2**
comp=N,4.6nm,0.3s,baz=248,slow=12,SNR=126
CFAA Lg 03 50 11.0
comp=N,8.0nm,0.3s,baz=6.7,slow=17,SNR=5.9
CFAA Coronel Fontan 3.33 74 Pn **Pn** **03 49 24.1 +2.2**
CFAA Lg 03 50 11.0
LCO Las Campanas 3.71 18 *e*Pn **Pn** **03 49 26.9 -0.1**
LCO *e*Sn **Sn** **03 50 11.6 +1.0**
LCO *e*Sg **Sg** **03 50 26.4 -2.8**
PLCA Paso Flores 8.24 172 Pn **Pn** **03 50 29.5 +0.3**
comp=N,0.7nm,0.3s,baz=336,slow=9.7,SNR=5.9
PLCA LR LR 03 54 17.5
comp=N,135nm,18.9s,baz=196,slow=42
PLCA Paso Flores 8.24 172 *e*Pn **Pn** **03 50 30.9 +1.7**
TRQA Tornquist 9.85 127 *e*Pn **Pn** **03 50 52.9 +1.6**
comp=N,35nm,1.4s
CPUP Villa Florida 14.20 68 Pn **Pn** **03 51 50.7 -0.2**
comp=N,0.5nm,0.3s,baz=223,slow=10,SNR=4.9
CPUP LR LR 03 57 33.1
comp=N,166nm,20.3s,baz=206,slow=39
CPUP Villa Florida 14.20 68 *e*Pn **Pn** **03 51 52.4 +1.6**
comp=N,7.5nm,0.8s
LPAZ La Paz 16.58 13 Pn **Pn** **03 52 22.9 +0.7**
comp=N,0.3nm,0.3s,baz=192,slow=7.4,SNR=12
LPAZ La Paz 16.58 13 *e*P **Pn** **03 52 23.2 +1.0**
comp=N,6.6nm,0.8s
SIV San Ignacio 19.25 34 P **Pn** **03 52 52.5 -2.6**
comp=N,0.3nm,0.3s,baz=211,slow=15,SNR=12
SIV San Ignacio 19.25 34 P **Pn** **03 52 52.5 -2.6**
SAML Samuel 24.87 21 *e*P **P** **03 53 51.9 -0.6**
comp=N,5.2nm,1.0s,mb4.0
SNAA Sanae 52.91 158 P **P** **03 57 44.4 -0.8**
comp=N,0.5nm,0.5s,mb3.7,baz=278,slow=6.9,SNR=11
SNAA Sanae 52.91 158 *e*P **P** **03 57 45.1 -0.1**
comp=N,2.4nm,0.8s,mb4.2
QSPA South Pole Qui 57.67 180 P **P** **03 58 20.0 +0.5**
comp=N,1.6nm,0.7s,mb4.2,baz=158,slow=1.9,SNR=5.6
QSPA South Pole Qui 57.67 180 P **P** **03 58 20.0 +0.5**
TXAR Lajitas Array 68.50 330 P **P** **03 59 32.2 +0.2**
comp=N,0.3nm,0.7s,mb3.5,baz=148,slow=8.4,SNR=5.0
TXAR Lajitas Array 68.50 330 P **P** **03 59 32.2 +0.2**
WVT Waverly 69.92 346 *e*P **P** **03 59 40.4 -0.3**
comp=N,2.0nm,0.7s,mb4.2
MNTX Cornudas Mount 71.28 330 *e*P **P** **03 59 49.1 +0.2**
comp=N,0.8nm,0.7s,mb3.8
WCI Wyandotte Cave 71.67 348 *e*P **P** **03 59 50.8 -0.4**
comp=N,2.3nm,0.5s,mb4.4
MAW Mawson 74.55 164 *e*P **P** **04 00 09.2 +1.2**
comp=N,0.7nm,0.7s,mb3.7
DBIC Dimbokro 74.69 72 P **P** **04 00 08.9 -0.7**
comp=N,3.9nm,0.6s,mb4.5,baz=223,slow=6.4,SNR=12
DBIC Dimbokro 74.69 72 *e*P **P** **04 00 08.7 -1.0**
comp=N,3.9nm,0.6s,mb4.5
BOSA Boshof 80.71 118 P **P** **04 00 42.1 -1.0**
comp=N,2.6nm,0.8s,mb4.2,baz=35,slow=4.2,SNR=3.9
BOSA Boshof 80.71 118 P **P** **04 00 42.1 -1.0**
LBTB Lobatse 82.88 115 *e*P **P** **04 00 53.9 -0.8**
comp=N,1.9nm,0.4s,mb4.5
TORD Torodi Ar. Bea 83.69 70 P **P** **04 00 58.3 -0.6**
comp=N,3.6nm,0.8s,mb4.6,baz=291,slow=5.6,SNR=26
TORD Torodi Ar. Bea 83.69 70 P **P** **04 00 58.3 -0.6**
ABKAR Akbulak array 140.75 50 *e*PKPdf PKPdf 04 07 59.6 +0.6
BVAR Borovoye Array 146.19 42 PKPbc PKPbc 04 08 09.9 +0.4
comp=N,1.4nm,0.6s,baz=278,slow=3.4,SNR=10
BVAR Borovoye Array 146.19 42 PKPbc PKPbc 04 08 09.9 +0.4
AAK Ala-Archa 151.77 59 *e*PKPdf PKPdf 04 08 18.3 +0.5
AAK *e*PKPab PKPab 04 08 32.9 -0.2
KURK Kurchatov 151.79 41 PKPbc PKPbc 04 08 22.8 -1.1
comp=N,2.1nm,0.6s,baz=291,slow=2.9,SNR=11
KURK PKPab PKPab 04 08 30.9 -2.0
comp=N,1.5nm,0.5s,baz=298,slow=3.0,SNR=9.0
KURK Kurchatov 151.79 41 PKPbc PKPbc 04 08 22.8 -1.2
KURK PKPab PKPab 04 08 30.9 -2.0
ZAA0 Zalesovo Array 152.98 31 *e*PKPbc PKPbc 04 08 25.9 -0.5
ZAA0 *e*PKPab PKPab 04 08 36.0 -1.8
ZALV Zalesovo Beam 152.98 31 PKPbc PKPbc 04 08 26.2 -0.3
comp=N,1.7nm,0.6s,baz=307,slow=3.4,SNR=10
ZALV PKPab PKPab 04 08 35.2 -2.6
comp=N,1.7nm,0.5s,baz=278,slow=4.0,SNR=5.1
ZALV Zalesovo Beam 152.98 31 PKPbc PKPbc 04 08 26.2 -0.3
ZALV PKPab PKPab 04 08 35.2 -2.6
MKAR Makanchi Array 155.77 47 PKPab PKPab 04 08 49.0 -0.9
comp=N,1.5nm,0.7s,baz=283,slow=4.3,SNR=9.4
MKAR Makanchi Array 155.77 47 PKPab PKPab 04 08 49.0 -0.9

NIED ***19*** *03:56:00, 21.°90N×122.°90E, h17km, Mw3.8 Best double couple: M0 6.04000×10^14 NP1:φs 321.00000°, δ75.00000°, λ-34.00000°. NP2:φs 61.00000°, δ57.00000°, λ-163.00000°.*
IDC ***19*** *03:56:32.8±1.5, 21.°84N×122.°93E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/24, mbtmp3.7/7, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=41.1km s-min=26.8km az=69.0*
NEIC ***19*** *03:56:33.3±0.8, 21.°85N×122.°88E, h10km, mb3.9/1, Error ellipse: s-maj=15.8km s-min=10.7km az=45.0*
TAP ***19*** *03:56:37.0, 21.°89N×122.°66E, h47km±1km, ML4.5, C*
JMA ***19*** *03:56:36.9±0.2, 21.°94N×122.°93E, h42km, M4.2*
ISCJB ***19*** *03:56:37.0±0.5, 21.°99N±0.°03×122.°77E±0.°02, h33km, mb3.5/6, Error ellipse: s-maj=3.9km s-min=2.5km az=163.0*
ISC 19 03:56:37.8±0.4, 21.°95N±0.°03×122.°77E±0.°02, h35km, n85, σ1§11/148, mb3.5/6, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.14**	**275**	⇑*i*P		**Pn**	**03 56 55.1**	**-2.1**
	baz=278							
LAY				S		**Sn**	**03 57 08.5**	**-3.0**
	baz=278							
TTN	**Taitung**	**1.70**	**298**	*e*P		**Pn**	**03 57 03.7**	**-1.3**
	baz=310							
TTN				*e*S		**Sn**	**03 57 24.3**	**-1.2**
	baz=310							
CHKT	**Chengkung**	**1.73**	**312**	*e*P		**Pn**	**03 57 03.6**	**-1.8**
	baz=324							
CHKT				*e*S		**Sn**	**03 57 23.4**	**-2.8**
	baz=324							
TWG	**Pinlang**	**1.79**	**299**	P		**Pn**	**03 57 05.0**	**-1.2**
	baz=309							
TWG				*i* S		**Sn**	**03 57 26.2**	**-1.6**
	baz=309							
TWG	**Pinlang**	**1.79**	**299**	*e*Pn		**Pn**	**03 57 04.7**	**-1.5**
TWG				*e*Sn		**Sn**	**03 57 26.7**	**-1.1**
ECL	**Taimali**	**1.80**	**291**	P		**Pn**	**03 57 05.2**	**-1.1**
	baz=284							
ECL				*e*S		**Sn**	**03 57 26.1**	**-1.8**
	baz=284							
TWK1	**Hengchun**	**1.82**	**270**	*e*P		**Pn**	**03 57 06.8**	**+0.1**
	baz=283							
TWK1				*e*S		**Sn**	**03 57 28.4**	**-0.1**
	baz=283							
EAST	**Anshuo**	**1.83**	**284**	⇑*i*P		**Pn**	**03 57 05.8**	**-1.0**
	baz=287							
EAST				*e*S		**Sn**	**03 57 26.1**	**-2.6**
	baz=287							
HEN	**Hengchun**	**1.89**	**272**	P		**Pn**	**03 57 07.5**	**-0.1**
	baz=284							
HEN				*e*S		**Sn**	**03 57 29.6**	**-0.5**
	baz=284							
TWF1	**Yuli**	**1.95**	**316**	P		**Pn**	**03 57 07.2**	**-1.2**
	baz=319							
TWF1				*e*S		**Sn**	**03 57 30.3**	**-1.3**
	baz=319							
YULB	**Yu-li**	**1.98**	**317**	*e*Pn		**Pn**	**03 57 07.3**	**-1.5**
YULB				*e*Sn		**Sn**	**03 57 24.6**	**-7.7**
ELDTW	**Lidau**	**2.04**	**308**	P		**Pn**	**03 57 08.4**	**-1.2**
	baz=318							
ELDTW				S		**Sn**	**03 57 32.3**	**-1.5**
	baz=318							
EHY	**Hungye**	**2.04**	**319**	P		**Pn**	**03 57 08.8**	**-0.9**
	baz=323							
EHY				S		**Sn**	**03 57 32.7**	**-1.3**
	baz=323							
SSD	**Sandimen**	**2.13**	**292**	P		**Pn**	**03 57 10.6**	**-0.3**
	baz=304							
SSD				*e*S		**Sn**	**03 57 35.0**	**-1.1**
	baz=304							
STYT	**Tauyuan**	**2.22**	**303**	⇑*i*P		**Pn**	**03 57 11.8**	**-0.2**
	baz=306							
STYT				*e*S		**Sn**	**03 57 37.5**	**-0.7**
	baz=306							
ESL	**Shilin**	**2.23**	**327**	*e*P		**Pn**	**03 57 11.2**	**-1.0**
	baz=340							
ESL				*e*S		**Sn**	**03 57 36.8**	**-1.6**
	baz=340							
SGLT	**Jiouru**	**2.25**	**290**	P		**Pn**	**03 57 12.4**	**-0.1**
	baz=293							
SGLT				*e*S		**Sn**	**03 57 38.6**	**-0.4**
	baz=293							
TWP	**Hsiaoliuchiu**	**2.27**	**280**	*e*P		**Pn**	**03 57 15.1**	**+2.3**
	baz=282							
TWP				*e*S		**Sn**	**03 57 41.0**	**+1.5**
	baz=282							
YUS	**Yu-Shan**	**2.27**	**313**	P		**Pn**	**03 57 12.8**	**0.0**
	baz=316							
YUS				*e*S		**Sn**	**03 57 39.0**	**-0.6**
	baz=316							
HWA	**Hwalien**	**2.28**	**332**	*e*P		**Pn**	**03 57 11.7**	**-1.3**
	baz=335							
HWA				*e*S		**Sn**	**03 57 39.1**	**-0.8**
	baz=335							
HATJ	**Hateruma jima**	**2.30**	**24**	P		**Pn**	**03 57 12.8**	**-0.4**
HATJ				*e*S		**Sn**	**03 57 39.6**	**-0.7**
SGST	**Jiashian**	**2.31**	**299**	*e*P		**Pn**	**03 57 14.0**	**+0.6**
	baz=302							
SGST				*e*S		**Sn**	**03 57 40.4**	**-0.3**
	baz=302							
TWM1	**Shoushan**	**2.34**	**292**	*e*P		**Pn**	**03 57 15.0**	**+1.3**
	baz=294							
WTP	**Ta-pu**	**2.37**	**303**	*i* P		**Pn**	**03 57 15.2**	**+1.0**
	baz=306							
WTP				*e*S		**Sn**	**03 57 43.6**	**+1.5**
	baz=306							
TWD	**Chiawan**	**2.38**	**333**	P		**Pn**	**03 57 13.7**	**-0.6**
	baz=336							
TWD				*e*S		**Sn**	**03 57 40.7**	**-1.5**
	baz=336							
ALS	**Alishan**	**2.39**	**311**	*e*P		**Pn**	**03 57 15.0**	**+0.6**
	baz=318							
ALS				*e*S		**Sn**	**03 57 41.9**	**-0.5**
	baz=318							
TPUB	**Ta-pu**	**2.39**	**305**	*e*Pn		**Pn**	**03 57 15.0**	**+0.5**
TPUB				*e*Sn		**Sn**	**03 57 40.9**	**-1.7**
CHN1	**Nanshi**	**2.41**	**301**	P		**Pn**	**03 57 16.1**	**+1.3**
	baz=303							
CHN1				*e*S		**Sn**	**03 57 44.1**	**+1.1**
	baz=303							
CHN4	**Tsaushan**	**2.45**	**305**	*e*S		**Sn**	**03 57 47.0**	**+3.1**
	baz=308							
NACB	**Ninganchiao**	**2.46**	**334**	*e*Pn		**Pn**	**03 57 14.5**	**-1.0**
NACB				*e*Sn		**Sn**	**03 57 38.2**	**-6.1**
SSLB	**Suanglung**	**2.48**	**318**	*e*Pn		**Pn**	**03 57 15.7**	**0.0**
SSLB				*e*Sn		**Sn**	**03 57 38.1**	**-6.6**
CHN3	**Shinhua**	**2.49**	**297**	*e*P		**Pn**	**03 57 16.9**	**+1.1**
	baz=299							
YOJ	**Yonaguni jima**	**2.51**	**5**	P		**Pn**	**03 57 16.5**	**+0.4**
YOJ				*e*S		**Sn**	**03 57 46.5**	**+1.1**
IRIF	**Iriomote-Funau**	**2.53**	**20**	P		**Pn**	**03 57 16.3**	**-0.1**
IRIF				*e*S		**Sn**	**03 57 45.5**	**-0.5**
CHN5	**Tsauling**	**2.53**	**311**	*e*P		**Pn**	**03 57 17.5**	**+1.1**
	baz=317							
CHN5				*e*S		**Sn**	**03 57 48.1**	**+2.1**
	baz=317							
JKRS	**Kuro-shima**	**2.54**	**26**	P		**Pn**	**03 57 16.5**	**-0.1**
JKRS				*e*S		**Sn**	**03 57 46.0**	**-0.3**
SMLT	**Sun Moon Lake**	**2.58**	**318**	*e*P		**Pn**	**03 57 17.9**	**+0.8**
	baz=328							
SMLT				*e*S		**Sn**	**03 57 47.0**	**-0.3**
	baz=328							
WHF	**Hehuan Shan**	**2.59**	**328**	P		**Pn**	**03 57 17.3**	**+0.2**
	baz=330							
WHF				*e*S		**Sn**	**03 57 46.7**	**-0.7**
	baz=330							
TYC	**Yuchr**	**2.62**	**318**	*e*P		**Pn**	**03 57 18.5**	**+0.9**
	baz=327							
TYC				*e*S		**Sn**	**03 57 48.8**	**+0.4**
	baz=327							
CHN2	**Minshiung**	**2.64**	**307**	*e*P		**Pn**	**03 57 17.9**	**0.0**
	baz=297							
CHN2				*e*S		**Sn**	**03 57 49.8**	**+1.1**
	baz=297							
ENA	**Nanau**	**2.64**	**339**	*e*P		**Pn**	**03 57 17.9**	**0.0**
	baz=342							
ENA				*e*S		**Sn**	**03 57 48.1**	**-0.6**
	baz=342							
CHY	**Chiayi**	**2.66**	**306**	*e*P		**Pn**	**03 57 18.8**	**+0.7**
	baz=294							
CHY				*e*S		**Sn**	**03 57 50.7**	**+1.6**
	baz=294							
WGK	**Gukeng**	**2.67**	**311**	*e*P		**Pn**	**03 57 19.0**	**+0.7**
	baz=300							
WGK				*e*S		**Sn**	**03 57 51.5**	**+2.1**
	baz=300							
JIJ	**Ishigaki jima**	**2.71**	**27**	P		**Pn**	**03 57 18.3**	**-0.6**
JIJ				*e*S		**Sn**	**03 57 48.8**	**-1.7**
WNT	**Mingjian**	**2.72**	**315**	*e*P		**Pn**	**03 57 20.4**	**+1.5**
	baz=318							
WNT				*e*S		**Sn**	**03 57 51.7**	**+1.2**
	baz=318							
TWT	**Tachien**	**2.72**	**328**	*e*P		**Pn**	**03 57 19.7**	**+0.7**
	baz=330							
TWT				*e*S		**Sn**	**03 57 50.1**	**-0.6**
	baz=330							
CHN8	**Yiju**	**2.74**	**301**	*e*P		**Pn**	**03 57 18.9**	**-0.4**
	baz=303							
CHN8				*e*S		**Sn**	**03 57 51.5**	**+0.3**
	baz=303							
TWC	**Suao**	**2.78**	**342**	P		**Pn**	**03 57 20.5**	**+0.8**
	baz=345							
TWC				S		**Sn**	**03 57 51.7**	**-0.3**
	baz=345							
NNS	**Nan Shan**	**2.79**	**333**	*e*P		**Pn**	**03 57 20.0**	**0.0**
	baz=335							
NNS				*e*S		**Sn**	**03 57 51.6**	**-0.8**
	baz=335							
ENTT	**Nioudou**	**2.90**	**338**	*e*P		**Pn**	**03 57 21.8**	**+0.4**
	baz=340							
ENTT				*e*S		**Sn**	**03 57 54.6**	**-0.4**
	baz=340							
TCU	**Taichung**	**2.92**	**319**	*e*P		**Pn**	**03 57 22.0**	**+0.4**
	baz=330							
TCU				*e*S		**Sn**	**03 57 58.0**	**+2.5**
	baz=330							
TWE	**Neicheng**	**2.94**	**340**	*e*P		**Pn**	**03 57 22.8**	**+0.8**
	baz=342							
TWE				*e*S		**Sn**	**03 57 55.2**	**-0.8**
	baz=342							
YHNB	**Yeheng**	**2.99**	**335**	*e*Pn		**Pn**	**03 57 23.7**	**+0.9**
YHNB				*e*Sn		**Sn**	**03 57 49.1**	**-8.4**
NSK	**Sanguang**	**3.01**	**335**	*e*P		**Pn**	**03 57 23.4**	**+0.4**
	baz=337							
NSK				*e*S		**Sn**	**03 57 57.5**	**-0.2**
	baz=337							
TWQ1	**Liyutan**	**3.01**	**323**	*e*P		**Pn**	**03 57 25.3**	**+2.3**
	baz=334							
TWQ1				*e*S		**Sn**	**03 58 00.4**	**+2.5**
	baz=334							
NSY	**Sanyi**	**3.07**	**323**	*e*P		**Pn**	**03 57 24.2**	**+0.4**
	baz=334							
NSY				*e*S		**Sn**	**03 58 01.5**	**+2.2**
	baz=334							
NSTT	**Nanjuang**	**3.12**	**329**	*e*P		**Pn**	**03 57 25.8**	**+1.2**
	baz=340							
NSTT				*e*S		**Sn**	**03 58 00.1**	**-0.5**
	baz=340							
TWB1	**Santiao Chiao**	**3.13**	**347**	*e*P		**Pn**	**03 57 24.7**	**+0.1**
	baz=349							
TWB1				*e*S		**Sn**	**03 58 01.0**	**+0.3**
	baz=349							
TWA	**Mucha**	**3.21**	**340**	*e*P		**Pn**	**03 57 26.4**	**+0.8**
	baz=342							
TWA				*e*S		**Sn**	**03 58 04.7**	**+2.1**
	baz=342							
JTJ	**Tarama**	**3.21**	**33**	P		**Pn**	**03 57 25.4**	**-0.3**
JTJ				*e*S		**Sn**	**03 58 01.2**	**-1.6**
TATO	**Taipei**	**3.23**	**339**	*e*Pn		**Pn**	**03 57 26.8**	**+0.8**
NWF	**Wu-fen Shan**	**3.23**	**344**	*e*P		**Pn**	**03 57 27.5**	**+1.4**
	baz=346							
NWF				*e*S		**Sn**	**03 58 03.4**	**0.0**
	baz=346							
TWS1	**Kuangyinshan**	**3.37**	**339**	*e*P		**Pn**	**03 57 28.8**	**+0.8**
	baz=341							
TWS1				*e*S		**Sn**	**03 58 06.9**	**+0.1**
	baz=341							
PNG	**Penghu**	**3.38**	**299**	*e*P		**Pn**	**03 57 27.6**	**-0.4**
	baz=301							
PNG				*e*S		**Sn**	**03 58 06.2**	**-0.6**
	baz=301							
TWY	**Chenhua**	**3.48**	**342**	*e*P		**Pn**	**03 57 30.5**	**+1.1**
	baz=344							
TWY				*e*S		**Sn**	**03 58 10.2**	**+0.8**
	baz=344							
JMJ	**Miyako jima 2**	**3.67**	**39**	*e*S		**Sn**	**03 58 14.0**	**-0.2**
JOGS	**Gusukube**	**3.70**	**40**	P		**Pn**	**03 57 32.2**	**-0.2**
JOGS				*e*S		**Sn**	**03 58 13.8**	**-1.0**
JOW	**Kunigami**	**6.98**	**45**	Pn		**Pn**	**03 58 14.0**	**-3.6**
	3.6nm,0.3s,baz=195,slow=15,SNR=7.7							
JOW				Sn		**Sn**	**03 59 29.4**	**-6.4**
	1.1nm,0.3s,baz=126,slow=10,SNR=2.3							
JOW				LR		LR	04 01 11.6	
	comp=Z,96nm,19.8s,baz=265,slow=40							
JOW	**Kunigami**	**6.98**	**45**	Pn		**Pn**	**03 58 14.0**	**-3.6**
JOW				Sn		**Sn**	**03 59 29.4**	**-6.4**
KSAR	**Wonju Array Be**	**16.06**	**15**	Pn		**Pn**	**04 00 21.4**	**+0.5**
KSRS	**Korea Array**	**16.08**	**15**	Pn		**Pn**	**04 00 21.4**	**+0.3**
	0.3nm,0.3s,baz=186,slow=12,SNR=9.5							
MJAR	**Matsushiro Arr**	**19.78**	**39**	P		**Pn**	**04 01 08.0**	**+1.3**
	0.3nm,0.3s,baz=214,slow=7.6,SNR=27							
MJAR	**Matsushiro Arr**	**19.78**	**39**	P		**Pn**	**04 01 08.0**	**+1.3**
SONM	**Songino Array**	**28.98**	**337**	P		**P**	**04 02 35.9**	**+1.9**
	0.2nm,0.4s,mb3.2,baz=142,slow=7.3,SNR=2.6							
SONM	**Songino Array**	**28.98**	**337**	P		**P**	**04 02 35.9**	**+1.9**
PMG	**Port Moresby**	**39.29**	**140**	*e*P		**P**	**04 04 00.6**	**-2.9**
	0.9nm,0.3s,mb4.0							
MKAR	**Makanchi Array**	**40.96**	**317**	P		**P**	**04 04 18.4**	**+1.5**
	0.4nm,0.6s,mb3.2,baz=117,slow=8.3,SNR=3.7							
MKAR	**Makanchi Array**	**40.96**	**317**	P		**P**	**04 04 18.4**	**+1.5**
ZALV	**Zalesovo Beam**	**42.90**	**328**	P		**P**	**04 04 35.9**	**+3.1**
	0.5nm,0.5s,mb3.5,baz=104,slow=6.1,SNR=3.8							
ZALV	**Zalesovo Beam**	**42.90**	**328**	P		**P**	**04 04 35.9**	**+3.1**
WRA	**Warramunga Arr**	**43.15**	**164**	P		**P**	**04 04 34.2**	**-0.9**
	0.5nm,0.8s,mb3.3,baz=331,slow=10,SNR=3.1							
WRA	**Warramunga Arr**	**43.15**	**164**	P		**P**	**04 04 34.2**	**-0.9**
KURK	**Kurchatov**	**44.74**	**321**	P		**P**	**04 04 48.0**	**+0.4**
	0.3nm,0.3s,mb3.6,baz=114,slow=8.2,SNR=4.6							
KURK	**Kurchatov**	**44.74**	**321**	P		**P**	**04 04 48.0**	**+0.4**
CTA	**Charters Tower**	**47.67**	**150**	LR		LR	04 23 07.9	
	comp=Z,65nm,19.6s,baz=236,slow=34							

ISCJB ***19*** *04:04:01.2±0.3, 2.°96N±0.°04×128.°45E±0.°04, h61km, mb4.3/28, Error ellipse: s-maj=6.1km s-min=5.1km az=8.9*
DJA ***19*** *04:04:01, 3.°11N×128.°52E, h30km, mb5.0/13*
IDC ***19*** *04:04:03.0±0.6, 2.°90N×128.°33E, h60km±5km, mb4.0/14, mb1 4.1/15, mb1mx4.0/21, mbtmp4.0/15, MS3.4/9, Ms1 3.4/9, ms1mx3.1/34, Error ellipse: s-maj=25.3km s-min=9.9km az=77.0*
NEIC ***19*** *04:04:02.8±0.2, 2.°90N×128.°35E, mb4.5/13, Error ellipse: s-maj=10.0km s-min=4.4km az=80.0*
BJI ***19*** *04:04:05.0, 2.°80N×128.°20E, h89km, mB5.1/6, mb4.6/7, Ms5.1/1, Ms7 4.7/1*
ISC 19 04:04:03.2±0.3, 2.°94N±0.°04×128.°45E±0.°04, h63km, h63km±1.0km: pP-P, n79, σ0§90/68, mb4.4/27, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.41**	**207**		P	**Pn**	**04 04 40.1**	**-0.3**
TNTI					S	**Sn**	**04 05 14.3**	**+5.5**
SGSI	**Sangihe**	**3.01**	**284**		P	**Pn**	**04 04 47.2**	**-1.3**
SGSI					S	**Sn**	**04 05 23.1**	**-0.3**
LBMI	**Labuha**	**3.68**	**195**		P	**Pn**	**04 04 59.4**	**+1.7**
MNI	**Manado**	**3.90**	**248**		P	**Pn**	**04 05 00.7**	**0.0**
DAV	**Davao City (W)**	**5.00**	**325**		LR	LR	04 06 47.5	
	comp=Z,155nm,21.6s,baz=272,slow=33							
KMSI	**Cibinong**	**5.05**	**242**		P	**Pn**	**04 05 16.7**	**+0.3**
	5.0nm942nm,0.9s							
GTOI	**Gorontalo**	**5.90**	**247**		P	**Pn**	**04 05 27.8**	**-0.3**
	1.0nm3μm268nm,0.6s							
LUWI	**Luwuk**	**6.92**	**235**		P	**Pn**	**04 05 43.8**	**+1.7**
MRSI	**Marisa**	**6.95**	**249**		P	**Pn**	**04 05 43.0**	**+0.5**
	1.1nm2μm340nm,0.9s							
FAKI	**Fak Fak**	**6.95**	**147**		P	**Pn**	**04 05 43.1**	**+0.6**
	0.2nm76nm,0.6s							
KDI	**Kendari**	**9.00**	**220**		P	**Pn**	**04 06 09.5**	**-1.0**
	560nm59nm,0.7s							
TTSI	**Tana Toraja**	**10.48**	**235**		P	**Pn**	**04 06 30.0**	**-0.8**
	790nm41nm,0.9s							
SPSI	**Sidrap Palu**

WRA			ScP	ScP	04 16 24.2	-0.6
WB2	**Warramunga Arr**	**23.47 166**	*e*P	**P**	**04 09 06.8**	**-0.6**
JOW	**Kunigami**	**23.75 360**	LR	LR	04 17 39.4	
comp=Z,160nm,18.1s,baz=55,slow=34						
MBWA	**Marble Bar**	**25.43 199**	*e*P	**P**	**04 09 23.6**	**-1.6**
21nm,1.2s,mb4.5						
AS31	**Alice Springs**	**26.98 169**	*e*P	**P**	**04 09 38.8**	**-0.3**
ASAR	**Alice Springs**	**26.98 169**	P	**P**	**04 09 38.7**	**-0.4**
4.4nm,0.6s,mb4.2,baz=355,slow=7.8,SNR=56						
ASAR			PcP	PcP	04 13 00.1	+0.4
1.7nm,0.6s,baz=351,slow=2.0,SNR=6.7						
ASAR			ScP	ScP	04 16 35.0	+0.3
0.8nm,0.6s,baz=359,slow=3.0,SNR=6.5						
ASAR	**Alice Springs**	**26.98 169**	P	**P**	**04 09 38.7**	**-0.4**
ASAR			PcP	PcP	04 13 00.1	+0.4
ASAR			ScP	ScP	04 16 35.0	+0.3
CTA	**Charters Tower**	**28.80 143**	P	**P**	**04 09 56.8**	**+1.3**
1.4nm,0.4s,mb4.0,baz=324,slow=14,SNR=1.9						
CTA	**Charters Tower**	**28.80 143**	P	**P**	**04 09 56.8**	**+1.3**
FORT	**Forrest**	**33.53 181**	*e*P	**P**	**04 10 35.8**	**-1.2**
18nm,0.7s,mb5.1						
KSAR	**Wonju Array Be**	**34.34 359**	P	**P**	**04 10 43.7**	**-0.2**
KSRS	**Korea Array**	**34.35 359**	P	**P**	**04 10 43.7**	**-0.3**
3.4nm,0.7s,mb4.4,baz=176,slow=9.6,SNR=9.8						
KSRS			LR	LR	04 27 00.5	
comp=Z,37nm,18.1s,baz=329,slow=40						
MJAR	**Matsushiro Arr**	**34.63 14**	P	**P**	**04 10 45.9**	**-0.5**
2.5nm,0.7s,mb4.3,baz=186,slow=9.8,SNR=7.5						
MJAR			pP	pP	04 11 02.0	0.0
4.9nm,0.7s,baz=187,slow=9.7,SNR=7.2						
MJAR			LR	LR	04 22 14.8	
comp=Z,82nm,21.5s,baz=165,slow=32						
MJAR	**Matsushiro Arr**	**34.63 14**	P	**P**	**04 10 45.9**	**-0.5**
MJAR			pP	pP	04 11 02.0	0.0
STKA	**Stephens Creek**	**36.81 161**	P	**P**	**04 11 05.0**	**-0.2**
9.7nm,0.4s,mb5.0,baz=341,slow=7.8,SNR=54						
STKA			pP	pP	04 11 20.3	-0.6
4.8nm,0.7s,baz=327,slow=8.6,SNR=3.4						
STKA			PcP	PcP	04 13 26.8	+0.6
1.6nm,0.6s,baz=351,slow=3.3,SNR=3.0						
STKA			LR	LR	04 25 16.8	
comp=Z,45nm,20.4s,baz=27,slow=35						
STKA	**Stephens Creek**	**36.81 161**	*e*P	**P**	**04 11 05.0**	**-0.2**
1.9nm,0.4s,mb4.3						
STKA			pP	pP	04 11 20.3	-0.6
STKA			PcP	PcP	04 13 26.8	+0.6
USRK	**Ussuriysk Arra**	**41.20 4**	P	**P**	**04 11 43.0**	**+1.2**
9.4nm,0.7s,mb4.5,baz=172,slow=8.1,SNR=17						
USRK			LR	LR	04 29 10.2	
comp=Z,55nm,20.4s,baz=262,slow=36						
MDJ	**Mudanjiang**	**41.51 1**	*e*P	**P**	**04 11 45.7**	**+1.4**
7.7nm,0.8s,mb4.4						
GTA	**Gaotai**	**44.66 328**	*e*P	**P**	**04 12 10.8**	**+1.1**
GTA			pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**48.41 341**	*e*P	**P**	**04 12 38.4**	**-0.6**
comp=Z,2.0nm,0.7s,mb4.3						
SONM	**Songino Array**	**48.60 340**	P	**P**	**04 12 40.4**	**0.0**
comp=Z,0.4nm,0.5s,mb3.7,baz=156,slow=7.0,SNR=3.5						
SONM	**Songino Array**	**48.60 340**	P	**P**	**04 12 40.4**	**0.0**
YAK	**Yakutsk**	**58.95 1**	*e*P	**P**	**04 13 56.5**	**+0.7**
comp=Z,30nm,0.6s						
MK31	**Makanchi Array**	**59.18 325**	*e*P	**P**	**04 13 57.7**	**+0.1**
MKAR	**Makanchi Array**	**59.18 325**	P	**P**	**04 13 57.8**	**+0.1**
comp=Z,2.2nm,0.7s,mb4.3,baz=112,slow=7.9,SNR=21						
MKAR			pP	pP	04 14 13.7	-0.7
comp=Z,2.7nm,0.6s,baz=122,slow=8.5,SNR=11						
MKAR			LR	LR	04 42 10.5	
comp=Z,62nm,19.6s,baz=242,slow=39						
MKAR	**Makanchi Array**	**59.18 325**	P	**P**	**04 13 57.8**	**+0.1**
MKAR			pP	pP	04 14 13.7	-0.7
TKM2	**Tokmak 2**	**61.47 318**	*e*P	**P**	**04 14 13.4**	**0.0**
comp=Z,1.3nm,0.6s,mb4.2						
ZALV	**Zalesovo Beam**	**62.07 333**	P	**P**	**04 14 16.8**	**-0.4**
comp=Z,0.5nm,0.5s,mb3.9,baz=111,slow=7.9,SNR=2.7						
ZALV			pP	pP	04 14 33.2	-0.7
comp=Z,1.3nm,0.6s,baz=129,slow=8.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**62.07 333**	P	**P**	**04 14 16.8**	**-0.4**
ZALV			pP	pP	04 14 33.2	-0.7
EKS2	**Erkin-Say**	**62.59 317**	*e*P	**P**	**04 14 20.9**	**0.0**
comp=Z,4.7nm,0.9s,mb4.6						
KURK	**Kurchatov**	**63.33 327**	P	**P**	**04 14 25.5**	**-0.1**
comp=Z,2.3nm,0.6s,mb4.5,baz=126,slow=5.9,SNR=15						
KURK			pP	pP	04 14 41.7	-0.8
comp=Z,4.7nm,0.8s,baz=127,slow=6.1,SNR=8.9						
KURK	**Kurchatov**	**63.33 327**	P	**P**	**04 14 25.5**	**-0.1**
KURK			pP	pP	04 14 41.7	-0.7
BRVK	**Borovoye**	**68.98 327**	*e*P	**P**	**04 15 01.1**	**-0.7**
comp=Z,4.3nm,0.9s,mb4.4						
ABKAR	**Akbulak array**	**73.84 321**	*e*P	**P**	**04 15 30.6**	**-0.5**
comp=Z,1.2nm,0.7s,mb3.9						
VNDA	**Vanda**	**82.44 173**	*e*P	**P**	**04 16 18.2**	**+0.1**
comp=Z,5.0nm,0.8s,mb4.5						
MCK	**McKinley**	**84.10 26**	*e*P	**P**	**04 16 26.7**	**-0.3**
comp=Z,6.9nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**85.07 25**	P	**P**	**04 16 32.2**	**+0.4**
comp=Z,0.3nm,0.5s,mb3.7,baz=252,slow=5.5,SNR=10						
ILAR			pP	pP	04 16 49.7	+0.2
comp=Z,0.8nm,0.9s,baz=245,slow=7.0,SNR=4.3						
ILAR	**Eielson Array**	**85.07 25**	P	**P**	**04 16 32.2**	**+0.4**
ILAR			pP	pP	04 16 49.7	+0.2
INK	**Inuvik**	**90.26 22**	*e*P	**P**	**04 16 56.0**	**-0.7**
comp=Z,1.2nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	**91.77 340**	P	**P**	**04 17 03.6**	**-0.2**
comp=Z,2.3nm,0.8s,mb4.6,baz=91,slow=6.6,SNR=2.7						
ARCES	**ARCESS Array B**	**91.77 340**	P	**P**	**04 17 03.6**	**-0.2**
YKA	**Yellowknife Ar**	**99.50 25**	P	Pdif	04 17 38.2	-0.9
comp=Z,0.1nm,0.6s,baz=264,slow=4.8,SNR=2.9						
YKA	**Yellowknife Ar**	**99.50 25**	P	Pdif	04 17 38.2	-0.9
TORD	**Torodi Ar. Bea**	**124.79 288**	PKP	PKPdf	04 22 56.2	-0.8
comp=Z,0.5nm,0.8s,baz=28,slow=1.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**124.79 288**	PKP	PKPdf	04 22 56.2	-0.8
PLCA	**Paso Flores**	**138.66 158**	PKP	PKPdf	04 23 25.9	+3.4
comp=Z,1.0nm,0.7s,baz=270,slow=1.0,SNR=4.3						
PLCA	**Paso Flores**	**138.66 158**	PKP	PKPdf	04 23 25.9	+3.4
TRQA	**Tornquist**	**143.77 166**	*e*PKPdf	PKPdf	04 23 30.3	-1.4
CFAA	**Coronel Fontan**	**147.44 153**	PKPbc	PKPbc	04 23 41.2	+0.5
comp=Z,1.6nm,0.6s,baz=221,slow=3.3,SNR=21						
CFAA	**Coronel Fontan**	**147.44 153**	PKPbc	PKPbc	04 23 41.2	+0.5
LCO	**Las Campanas**	**148.32 147**	*e*PKPbc	PKPbc	04 23 44.2	+1.1

KRSC 19 04:06:16.3±0.1, 54°.29N×161°.77E, h42km±21km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**1.37**	**317**	P	Pn	04 06 39.2	+0.3
KMNR	**Kamenistaya**	**1.71**	**330**	P	Pn	04 06 45.1	+1.5
SDLR	**Sedlovina**	**1.99**	**241**	*i* P	Pn	04 06 48.6	+1.2
SDLR				*i* S	Sn	04 07 11.4	+0.4
KBTR	**Krutoberegovo**	**2.01**	**17**	*i* P	Pn	04 06 48.3	+0.6
KBTR				*i* S	Sn	04 07 10.7	-0.9
AVH	**Avacha**	**2.07**	**242**	*i* P	Pn	04 06 50.0	+1.5
AVH				*i* S	Sn	04 07 13.7	+0.7
KOZ	**Kozyrevsk**	**2.08**	**329**	P	Pn	04 06 48.8	+0.2
KOK	**Koryaka**	**2.11**	**243**	*i* P	Pn	04 06 50.5	+1.5
KOK				*e*S	Sn	04 07 14.7	+0.7
PET	**Petropavlovsk**	**2.25**	**237**	*e*P	Pn	04 06 51.5	+0.6
PET				*i* S	Sn	04 07 16.4	-1.0
SMKR	**Semkarok**	**2.30**	**356**	P	Pn	04 06 53.5	+1.8
SMKR				*i* S	Sn	04 07 19.9	+1.1
BDR	**Baidarnaya**	**2.31**	**352**	P	Pn	04 06 52.1	+0.4
BDR				*i* S	Sn	04 07 17.4	-1.4
SRKR	**Sorokina**	**2.39**	**352**	P	Pn	04 06 54.4	+1.5
BKI	**Bering**	**2.60**	**68**	P	Pn	04 06 55.7	-0.1
BKI				*i* S	Sn	04 07 23.7	-2.4
RUS	**Russkaya**	**2.70**	**228**	*i* P	Pn	04 06 57.8	+0.7
RUS				*i* S	Sn	04 07 27.1	-1.3

IDC ***19*** *04:24:09.3±0.5, 32°.47S×71°.84W, h0km, mb4.4/13, mb1 4.5/17, mb1mx4.5/17, mbtmp4.4/17, ML4.4/4, MS4.0/9, Ms1 4.0/9, ms1mx3.7/24, Error ellipse: s-maj=24.9km s-min=14.8km az=82.0*
ISCJB ***19*** *04:24:10.8±0.8, 32°.48S±0°.02×72°.10W±0°.04, h19km±5km, mb4.4/34, MS4.0/7, Error ellipse: s-maj=6.2km s-min=3.5km az=158.7*
GUC ***19*** *04:24:12.4±0.7, 32°.47S×71°.99W, h29km±3km, ML4.7*
NEIC ***19*** *04:24:12.4, 32°.47S×71°.99W, h29km, mb4.5/26, ML4.7(GUC). After GUC.*
ISC 19 04:24:11.8±0.7, 32°.47S±0°.02×71°.99W±0°.04, h14km±4km, n146, σ0°85/127, mb4.4/34, MS4.0/7, 15C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.47**	**98**	↓*i*P	**Pg**	**04 24 21.8**	**+0.6**
IHA	**Instituto Hidr**	**0.63**	**152**	↑*i*P	**Pg**	**04 24 24.2**	**+0.1**
IHA				*e*S	**Sg**	**04 24 31.7**	**-0.8**
IHA	**Instituto Hidr**	**0.63**	**152**	↑*i*P	**Pg**	**04 24 24.2**	**+0.1**
IHA				*e*S	**Sg**	**04 24 31.7**	**-0.8**
CHNG	**Los Chungos**	**0.72**	**36**	↓*i*P	**Pg**	**04 24 25.9**	**+0.1**
CHNG				*i* S	**Sg**	**04 24 36.2**	**+0.9**
CHNG	**Los Chungos**	**0.72**	**36**	↓*i*P	**Pg**	**04 24 25.9**	**+0.1**
CHNG				*i* S	**Sg**	**04 24 36.2**	**+0.9**
PTCH	**Petorca**	**0.92**	**77**	↓*i*P	**Pb**	**04 24 29.2**	**-0.4**
PTCH				*i* S	**Sb**	**04 24 41.6**	**0.0**
PTCH	**Petorca**	**0.92**	**77**	↓*i*P	**Pb**	**04 24 29.2**	**-0.4**
PTCH				*i* S	**Sb**	**04 24 41.6**	**0.0**
PTCH				AML	AML	04 24 42.7	
comp=N,26μm,0.3s							
ROCH	**El Roble**	**0.97**	**122**	↓*i*P	**Pb**	**04 24 29.7**	**-0.6**
ROCH				*i* S	**Sb**	**04 24 42.3**	**-0.7**
ROCH				AML	AML	04 24 45.0	
comp=N,48μm,0.5s							
LCCH	**Las Cruces**	**1.06**	**161**	↑*i*P	**Pb**	**04 24 31.3**	**-0.7**
LCCH	**Las Cruces**	**1.06**	**161**	↑*i*P	**Pb**	**04 24 31.3**	**-0.7**
JACH	**Jahuel**	**1.20**	**101**	↑*i*P	**Pn**	**04 24 33.4**	**-0.8**
JACH	**Jahuel**	**1.20**	**101**	↑*i*P	**Pn**	**04 24 33.4**	**-0.8**
PEL	**Peldehue**	**1.29**	**122**	↑*i*P	**Pn**	**04 24 35.1**	**-0.3**
PEL				*i* S	**Sb**	**04 24 51.8**	**-0.5**
PEL				AML	AML	04 24 54.6	
comp=E,39μm,0.5s							
TACH	**Talagante**	**1.48**	**143**	↓*i*P	**Pn**	**04 24 37.9**	**-0.1**
TACH	**Talagante**	**1.48**	**143**	↓*i*P	**Pn**	**04 24 37.9**	**-0.1**
SAN	**Santiago**	**1.49**	**132**	*e*P	**Pn**	**04 24 38.0**	**-0.1**
SAN				*i* S	**Sn**	**04 24 57.3**	**0.0**
SAN	**Santiago**	**1.49**	**132**	*e*P	**Pn**	**04 24 38.0**	**-0.1**
SAN				*i* S	**Sn**	**04 24 57.3**	**0.0**
SAN				AML	AML	04 25 00.8	
comp=N,12μm,0.6s							
CLCH	**Cerro Calan**	**1.53**	**127**	↓*i*P	**Pn**	**04 24 38.8**	**0.0**
CLCH				*i* S	**Sn**	**04 24 58.5**	**0.0**
CLCH				AML	AML	04 25 06.4	
comp=E,24μm,0.7s							
CMCH	**Combarbala**	**1.54**	**33**	↓*i*P	**Pn**	**04 24 38.3**	**-0.5**
CMCH				*i* S	**Sn**	**04 24 58.9**	**+0.2**
CMCH				AML	AML	04 25 08.4	
comp=E,64μm,0.7s							
LACH	**Col Las Americ**	**1.57**	**129**	↑*i*P	**Pn**	**04 24 39.7**	**+0.4**
LACH				*i* S	**Sn**	**04 24 59.8**	**+0.4**
LACH	**Col Las Americ**	**1.57**	**129**	*e*P	**Pn**	**04 24 39.7**	**+0.4**
LACH				*i* S	**Sn**	**04 24 59.8**	**+0.4**
LACH				AML	AML	04 25 09.1	
comp=N,10μm,0.7s							
ANTU	**Antumapu**	**1.58**	**134**	*e*P	**Pn**	**04 24 39.5**	**+0.1**
ANTU				*i* S	**Sn**	**04 25 00.1**	**+0.4**
ANTU	**Antumapu**	**1.58**	**134**	*e*P	**Pn**	**04 24 39.5**	**+0.1**
ANTU				*i* S	**Sn**	**04 25 00.1**	**+0.4**
FSR	**Penalolen**	**1.59**	**130**	*e*P	**Pn**	**04 24 39.7**	**+0.2**
FSR				*i* S	**Sn**	**04 25 00.1**	**+0.2**
FSR	**Penalolen**	**1.59**	**130**	*e*P	**Pn**	**04 24 39.7**	**+0.2**
FSR				*i* S	**Sn**	**04 25 00.1**	**+0.2**
FCH	**Farellones**	**1.67**	**121**	↓*i*P	**Pn**	**04 24 45.8**	**+5.2**
FCH				*i* S	**Sn**	**04 25 05.7**	**+3.9**
FCH				AML	AML	04 25 08.2	
comp=E,7μm,0.4s							
PCH	**Pirque**	**1.69**	**133**	↑*i*P	**Pn**	**04 24 41.2**	**+0.3**
PCH	**Pirque**	**1.69**	**133**	↑*i*P	**Pn**	**04 24 41.2**	**+0.3**
SJCH	**San Jose de Ma**	**1.81**	**131**	*e*P	**Pn**	**04 24 43.1**	**+0.6**
SJCH				*i* S	**Sn**	**04 25 06.3**	**+1.1**
SJCH				AML	AML	04 25 12.6	
comp=N,9μm,0.6s							
OVCH	**Ovalle**	**1.97**	**20**	*e*P	**Pn**	**04 24 45.0**	**+0.2**
OVCH	**Ovalle**	**1.97**	**20**	*e*P	**Pn**	**04 24 45.0**	**+0.2**
CACH	**El Canelo**	**2.02**	**145**	↑*i*P	**Pn**	**04 24 46.4**	**+1.0**
CACH	**El Canelo**	**2.02**	**145**	↑*i*P	**Pn**	**04 24 46.4**	**+1.0**
LMEL	**Las Melosas**	**2.04**	**133**	↑*i*P	**Pn**	**04 24 46.5**	**+0.9**
LMEL				*i* S	**Sn**	**04 25 12.5**	**+1.7**
LMEL	**Las Melosas**	**2.04**	**133**	↑*i*P	**Pn**	**04 24 46.5**	**+0.9**
LMEL				*i* S	**Sn**	**04 25 12.5**	**+1.7**
LMEL				AML	AML	04 25 16.8	
comp=N,6μm,0.5s							
LSCH	**La Serena**	**2.63**	**14**	*e*P	**Pn**	**04 24 53.8**	**-0.1**
CFAA	**Coronel Fontan**	**3.30**	**76**	Pn	**Pn**	**04 25 05.1**	**+2.0**
comp=N,10nm,0.3s,baz=251,slow=12,SNR=151							
CFAA				Lg		04 25 49.3	
comp=N,10.0nm,0.3s,baz=105,slow=12,SNR=7.9							
CFAA	**Coronel Fontan**	**3.30**	**76**	Pn	**Pn**	**04 25 05.1**	**+2.1**
CFAA				Lg		04 25 49.3	
LCO	**Las Campanas**	**3.62**	**18**	*e*Pn	**Pn**	**04 25 07.2**	**-0.3**
LCO				*e*Sn	**Sn**	**04 25 50.3**	**+0.3**
PLCA	**Paso Flores**	**8.33**	**172**	Pn	**Pn**	**04 26 12.2**	**+0.1**
comp=N,1.1nm,0.3s,baz=334,slow=11,SNR=20							
PLCA	**Paso Flores**	**8.33**	**172**	Pn	**Pn**	**04 26 12.2**	**+0.1**
TRQA	**Tornquist**	**9.90**	**127**	*e*Pn	**Pn**	**04 26 33.7**	**0.0**
comp=N,22nm,0.7s							
CPUP	**Villa Florida**	**14.16**	**68**	Pn	**Pn**	**04 27 29.2**	**-2.8**
comp=N,0.2nm,0.3s,baz=241,slow=14,SNR=4.1							
CPUP				Sn	**Sn**	**04 30 14.4**	**+5.5**
comp=N,1.6nm,0.3s,baz=190,slow=5.9,SNR=4.5							
CPUP				LR	LR	04 33 13.1	
comp=N,572nm,19.9s,baz=226,slow=39							
CPUP	**Villa Florida**	**14.16**	**68**	Pn	**Pn**	**04 27 29.2**	**-2.8**
CPUP				Sn	**Sn**	**04 30 14.4**	**+5.5**
LPAZ	**La Paz**	**16.49**	**13**	Pn	**Pn**	**04 28 03.4**	**+0.7**
comp=N,0.6nm,0.3s,baz=185,slow=7.9,SNR=31							
LPAZ	**La Paz**	**16.49**	**13**	Pn	**Pn**	**04 28 03.4**	**+0.7**
SIV	**San Ignacio**	**19.17**	**34**	P	**Pn**	**04 28 33.1**	**-2.8**
comp=N,0.7nm,0.3s,baz=232,slow=14,SNR=52							
SIV				LR	LR	04 37 13.8	
comp=N,482nm,18.1s,slow=41							
SIV	**San Ignacio**	**19.17**	**34**	P	**Pn**	**04 28 33.1**	**-2.8**
NNA	**Nana**	**20.87**	**347**	*e*P	**P**	**04 28 55.0**	**+1.5**
comp=N,5.1nm,0.6s,baz=233,slow=14,SNR=3.8							
NNA	**Nana**	**20.87**	**347**	*e*P	**P**	**04 28 55.1**	**+1.7**
comp=N,16nm,0.8s							
USHA	**Ushuaia**	**22.50**	**175**	LR	LR	04 39 53.7	
comp=N,397nm,18.1s,MS3.9,baz=344,slow=42							
SPB	**Sao Paulo**	**23.37**	**74**	*e*P	**P**	**04 29 18.9**	**-1.3**
comp=N,43nm,1.0s,mb4.8							
SAML	**Samuel**	**24.79**	**21**	*e*P	**P**	**04 29 32.6**	**-0.7**
comp=N,16nm,0.9s,mb4.6							
PMSA	**Palmer Station**	**32.70**	**174**	LR	LR	04 43 10.1	
comp=N,353nm,18.4s,MS4.1,baz=343,slow=35							
OTAV	**Otavalo**	**33.10**	**348**	*e*P	**P**	**04 30 49.2**	**+1.8**
comp=N,4.9nm,1.0s,mb4.4							
ROSC	**El Rosal**	**37.18**	**356**	P	**P**	**04 31 25.7**	**+3.1**
comp=N,3.6nm,0.6s,mb4.4,baz=101,slow=19,SNR=6.3							
ROSC				LR	LR	04 45 08.4	
comp=N,53nm,18.3s,MS3.4,baz=11,slow=34							
ROSC	**El Rosal**	**37.18**	**356**	*e*P	**P**	**04 31 26.3**	**+3.7**
VNA3	**Neumayer Olymp**	**50.76**	**158**	*e*	**P**	**04 33 16.5**	**+5.6**
VNA2	**Neumayer--Watz**	**51.41**	**158**	*e*	**P**	**04 33 16.1**	**+0.3**
baz=289,slow=8.6							
SNAA	**Sanae**	**52.99**	**158**	*e*	**P**	**04 33 28.1**	**+0.6**
SNAA	**Sanae**	**52.99**	**158**	P	**P**	**04 33 27.5**	**0.0**
comp=N,1.9nm,0.8s,mb4.1,baz=285,slow=6.8,SNR=19							
SNAA	**Sanae**	**52.99**	**158**	*e*P	**P**	**04 33 27.5**	**0.0**
comp=N,6.3nm,0.9s,mb4.5							
RKT	**Rikitea**	**55.80**	**263**	*e*T		05 34 18.3	
comp=N,1.2nm,0.2s							
QSPA	**South Pole Qui**	**57.76**	**180**	P	**P**	**04 34 03.0**	**+1.2**
comp=N,3.3nm,0.6s,mb4.5,baz=146,slow=2.6,SNR=13							
QSPA	**South Pole Qui**	**57.76**	**180**	P	**P**	**04 34 03.0**	**+1.2**
VNDA	**Vanda**	**65.61**	**191**	*e*P	**P**	**04 34 55.5**	**+0.8**
comp=N,2.9nm,1.2s,mb4.2							
SYO	**Syowa Base**	**67.27**	**159**	↑*e*P	**P**	**04 35 03.6**	**-1.9**
TBI	**Tubuai**	**67.72**	**256**	*e*LR	LR	04 55 52.9	
comp=N,186nm,25.8s							
TBI				*e*T		05 49 22.1	
comp=N,3.2nm,0.2s							
TXAR	**Lajitas Array**	**68.42**	**330**	P	**P**	**04 35 13.6**	**+0.5**
comp=N,0.5nm,0.7s,mb3.7,baz=156,slow=8.6,SNR=7.2							
TXAR	**Lajitas Array**	**68.42**	**330**	P	**P**	**04 35 13.6**	**+0.5**
MEH	**Mehetia**	**69.10**	**262**	*e*T		05 50 56.5	
comp=N,24nm,0.3s							
WVT	**Waverly**	**69.83**	**346**	*e*P	**P**	**04 35 20.5**	**-1.2**
comp=N,12nm,1.1s,mb4.7							
TIAR	**Tiarei**	**70.32**	**261**	*e*T		05 52 28.6	
comp=N,6.7nm,0.3s							
PPT2	**Papeete2**	**70.50**	**261**	*e*LR	LR	04 57 01.0	
comp=N,74nm,24.8s							
MNTX	**Cornudas Mount**	**71.20**	**330**	*e*P	**P**	**04 35 29.5**	**-0.7**
comp=N,1.7nm,0.9s,mb4.0							
CCM	**Cathedral Cave**	**72.42**	**344**	*e*P	**P**	**04 35 37.2**	**-0.1**
comp=N,9.8nm,1.1s,mb4.7							
ACSO	**Alum Creek Sta**	**73.05**	**351**	*e*P	**P**	**04 35 39.7**	**-1.4**
comp=N,9.0nm,0.8s,mb4.8							
ANMO	**Albuquerque**	**74.47**	**331**	*e*P	**P**	**04 35 50.1**	**+0.6**
comp=N,3.5nm,1.1s,mb4.2							
MAW	**Mawson**	**74.63**	**164**	P	**P**	**04 35 49.1**	**-1.1**
comp=N,5.6nm,1.1s,mb4.4,baz=233,slow=10,SNR=5.5							
MAW				LR	LR	05 07 14.1	
comp=N,81nm,19.0s,MS4.0,baz=326,slow=35							
MAW	**Mawson**	**74.63**	**164**	P	**P**	**04 35 49.1**	**-1.1**
DBIC	**Dimbokro**	**74.66**	**72**	P	**P**	**04 35 50.7**	**-0.5**
comp=N,14nm,0.7s,mb5.0,baz=215,slow=7.4,SNR=24							
DBIC				LR	LR	05 04 53.7	
comp=N,131nm,18.5s,MS4.3,baz=207,slow=33							
DBIC	**Dimbokro**	**74.66**	**72**	*e*P	**P**	**04 35 50.0**	**-1.1**
comp=N,16nm,0.9s,mb4.9							
SUR	**Sutherland**	**75.54**	**119**	*e*P	**P**	**04 35 56.2**	**+0.1**
comp=N,23nm,1.2s,mb5.0							
SDCO	**Great Sand Dun**	**76.52**	**333**	*e*P	**P**	**04 36 00.9**	**-0.4**
comp=N,1.4nm,0.8s,mb3.9							
SMCO	**Snowmass**	**78.33**	**333**	*e*P	**P**	**04 36 13.0**	**+1.6**
comp=N,5.0nm,0.9s,mb4.4							
ECSD	**EROS Data Cent**	**79.11**	**342**	*e*P	**P**	**04 36 15.1**	**-0.4**
comp=N,8.9nm,0.9s,mb4.7							
TSUM	**Tsumeb**	**79.60**	**106**	*e*P	**P**	**04 36 18.0**	**-0.9**
comp=N,6.8nm,1.0s,mb4.5							
BOSA	**Boshof**	**80.75**	**118**	P	**P**	**04 36 24.6**	**-0.3**
comp=N,5.6nm,0.8s,mb4.5,baz=200,slow=4.5,SNR=8.8							
BOSA				LR	LR	05 07 58.3	
comp=N,90nm,18.6s,MS4.2,baz=174,slow=33							
BOSA	**Boshof**	**80.75**	**118**	*e*P	**P**	**04 36 24.3**	**-0.7**
comp=N,5.7nm,0.8s,mb4.5							
DUG	**Dugway**	**81.57**	**330**	*e*P	**P**	**04 36 29.2**	**+0.3**
comp=N,2.6nm,0.9s,mb4.2							
RSSD	**Black Hills**	**81.64**	**337**	*e*P	**P**	**04 36 29.3**	**+0.2**
comp=N,4.6nm,1.1s,mb4.3							
HWUT	**Hardware Ranch**	**82.23**	**331**	*e*P	**P**	**04 36 32.2**	**-0.1**
comp=N,2.4nm,0.9s,mb4.1							
BW06	**Boulder Array**	**82.42**	**333**	*e*P	**P**	**04 36 33.1**	**-0.1**
PDAR	**Pinedale Array**	**82.42**	**333**	P	**P**	**04 36 33.8**	**+0.6**
comp=N,0.7nm,0.9s,mb3.6,baz=224,slow=10,SNR=3.8							
PDAR	**Pinedale Array**	**82.42**	**333**	P	**P**	**04 36 33.8**	**+0.6**
NVAR	**Mina Array Bea**	**82.65**	**325**	P	**P**	**04 36 36.0**	**+1.5**
comp=N,1.3nm,0.8s,mb4.0,baz=150,slow=6.4,SNR=7.9							
NVAR	**Mina Array Bea**	**82.65**	**325**	P	**P**	**04 36 36.0**	**+1.5**
LBTB	**Lobatse**	**82.91**	**115**	*e*P	**P**	**04 36 35.6**	**-0.9**
comp=N,4.1nm,0.5s,mb4.7							
TPAW	**Teton Pass**	**83.57**	**333**	*e*P	**P**	**04 36 39.1**	**-0.1**
comp=N,2.5nm,0.8s,mb4.4							
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**04 36 39.4**	**-0.9**
comp=N,10nm,0.8s,mb5.0,baz=251,slow=4.7,SNR=62							
TORD				LR	LR	05 14 12.4	
comp=N,101nm,18.3s,MS4.2,baz=290,slow=36							
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**04 36 39.4**	**-0.9**
HLID	**Hailey**	**85.02**	**331**	*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=N,4μm,0.3s						
TACH	**Talagante**	**1.36**	**142**	*e*P	Pn	04 38 49.1	-1.1
SAN	**Santiago**	**1.38**	**129**	*e*P	Pn	04 38 49.9	-0.7
SAN				*e*S	Sn	04 39 07.7	-0.8
CLCH	**Cerro Calan**	**1.43**	**124**	⇑*i*P	Pn	04 38 50.5	-0.8
CLCH				*i* S	Sn	04 39 09.2	-0.6
CLCH				AML	AML	04 39 14.2	
	comp=N,1μm,0.3s						
ANTU	**Antumapu**	**1.47**	**132**	*e*P	Pn	04 38 51.4	-0.5
ANTU				*i* S	Sn	04 39 10.4	-0.5
ANTU				AML	AML	04 39 17.4	
	comp=E,997nm,0.2s						
FSR	**Penalolen**	**1.49**	**127**	*e*P	Pn	04 38 51.8	-0.3
FSR				*e*S	Sn	04 39 11.1	-0.1
FCH	**Farellones**	**1.58**	**118**	*e*P	Pn	04 38 49.1	-4.1
FCH				*i* S	Sn	04 39 08.6	-4.8
PCH	**Pirque**	**1.58**	**131**	⇓*i*P	Pn	04 38 53.2	-0.2
CMCH	**Combarbala**	**1.63**	**30**	*e*P	Pn	04 38 52.6	-1.3
CMCH				*e*S	Sn	04 39 13.3	-1.3
SJCH	**San Jose de Ma**	**1.70**	**128**	*e*P	Pn	04 38 55.1	+0.1
SJCH				AML	AML	04 39 23.0	
	comp=N,674nm,0.9s						
CACH	**El Canelo**	**1.90**	**144**	*e*P	Pn	04 38 58.0	+0.3
LMEL	**Las Melosas**	**1.93**	**131**	*i* P	Pn	04 38 58.6	+0.6
LMEL				*i* S	Sn	04 39 23.4	+1.4
LMEL				AML	AML	04 39 29.2	
	comp=N,1μm,0.2s						

*SKO **19** 04:38:55.9, 41.°92N×20.°64E, h15km, M2.5, ML2.8*
*ISCJB **19** 04:38:57.8±0.2, 41.°93N±0.°02×20.°76E±0.°02, h10km, Error ellipse: s-maj=2.4km s-min=1.8km az=35.7*
*PDG **19** 04:38:57.7±0.4, 41.°97N×20.°77E, h0km±11km, MD3.0/1, ML3.0/9, Error ellipse: s-maj=1.1km s-min=1.4km az=0.0*
*CSEM **19** 04:38:57.4±0.1, 41.°97N×20.°75E, h2km, ML2.9/4, Error ellipse: s-maj=2.9km s-min=2.4km az=57.0*
*BEO **19** 04:38:59.4±0.3, 42.°01N×20.°75E, h11km±3km, ML2.7/1*
*THE **19** 04:38:59.5, 41.°87N×20.°74E, h6km±2km, ML2.9/4, Error ellipse: s-maj=3.2km s-min=1.1km az=232.0*
*TIR **19** 04:39:56.2±0.4, 41.°98N×20.°70E, h0km±508km, ML2.8*
ISC 19 04:38:58.0±0.3,**41.°93N**±0.°02×**20.°79E**±0.°02,**h0**km±3km,
n82,σ1§**22**/143,**14C-12D**,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.36**	**227**	*e*PG	**Pg**	**04 39 03.4**	**-1.5**
PHP				*i* SG	**Sg**	**04 39 09.7**	**+0.1**
PHP	**Peshkopia**	**0.36**	**227**	P	**Pg**	**04 39 04.3**	**-0.6**
PHP				S	**Sg**	**04 39 09.7**	**+0.1**
PHP	**Peshkopia**	**0.36**	**227**	*e*Pg	**Pg**	**04 39 03.4**	**-1.5**
	slow=12,SNR=1.0						
PHP	**Peshkopia**	**0.36**	**227**	P	**Pg**	**04 39 04.3**	**-0.6**
PHP				S	**Sg**	**04 39 09.7**	**+0.1**
SKO	**Skopje**	**0.48**	**85**	*i* Pg	**Pg**	**04 39 07.8**	**+0.5**
SKO				*i* Sg	**Sg**	**04 39 14.9**	**+1.3**
SKO				*e*Lg		04 39 15.7	
	comp=E,580nm,0.2s						
SKO				*e*Lg		04 39 16.0	
	comp=N,842nm,0.3s						
SKO	**Skopje**	**0.48**	**85**	*i* Pg	**Pg**	**04 39 07.8**	**+0.5**
SKO				*i* Sg	**Sg**	**04 39 14.8**	**+1.2**
SKO				*e*Lg		04 39 15.6	
	comp=N,580nm,0.2s						
KRUS	**Krusevo**	**0.66**	**149**	*i* Pg	**Pg**	**04 39 10.1**	**-0.5**
KRUS				*e*Sg	**Sg**	**04 39 19.4**	**+0.2**
KRUS				*e*Lg		04 39 20.8	
	comp=N,1.5nm,0.2s						
KRUS	**Krusevo**	**0.66**	**149**	*i* Pg	**Pg**	**04 39 10.1**	**-0.6**
KRUS				*e*Sg	**Sg**	**04 39 19.3**	**+0.1**
KRUS				*e*Lg		04 39 20.7	
	comp=N,1.5nm,0.2s						
PUK	**Puka**	**0.68**	**280**	*e*PG	**Pg**	**04 39 09.4**	**-1.7**
PUK				*i* SG	**Sg**	**04 39 20.0**	**+0.1**
PUK	**Puka**	**0.68**	**280**	*e*Pg	**Pg**	**04 39 09.4**	**-1.7**
	slow=12,SNR=1.0						
PUK				*i* Sg	**Sg**	**04 39 20.0**	**+0.1**
	slow=12,SNR=1.0						
BCI	**Bajram Curri**	**0.69**	**309**	*e*PG	**Pg**	**04 39 09.6**	**-1.7**
BCI	**Bajram Curri**	**0.69**	**309**	*e*Pg	**Pg**	**04 39 09.6**	**-1.7**
	slow=12						
PVY	**Plav**	**0.91**	**317**	⇓*i*Pg	**Pg**	**04 39 13.2**	**-2.2**
PVY				*e*Sg	**Sg**	**04 39 27.2**	**0.0**
PVY	**Plav**	**0.91**	**317**	⇓*i*Pg	**Pg**	**04 39 13.2**	**-2.2**
PVY				*e*Sg	**Sg**	**04 39 27.2**	**0.0**
TIR	**Tirane**	**0.91**	**230**	*e*Pg	**Pg**	**04 39 16.0**	**+0.6**
TIR				*e*Sg	**Sg**	**04 39 29.0**	**+1.8**
TIR	**Tirane**	**0.91**	**230**	*e*Pg	**Pg**	**04 39 16.0**	**+0.6**
TIR				*e*Sg	**Sg**	**04 39 29.0**	**+1.8**
BIA	**Bitola**	**1.00**	**156**	*i* Pg	**Pg**	**04 39 16.3**	**-0.8**
BIA				*e*Sg	**Sg**	**04 39 29.8**	**-0.3**
BIA				*e*Lg		04 39 30.8	
	comp=E,200nm,0.2s						
BIA				*e*Lg		04 39 31.1	
	comp=N,228nm,0.4s						
BIA	**Bitola**	**1.00**	**156**	*i* Pg	**Pg**	**04 39 16.3**	**-0.8**
BIA				*e*Sg	**Sg**	**04 39 29.7**	**-0.3**
BIA				*e*Lg		04 39 30.7	
	comp=N,200nm,0.2s						
IVA	**Berane**	**1.15**	**325**	⇑*i*Pg	**Pg**	**04 39 18.7**	**-1.4**
IVA				*e*Sg	**Sg**	**04 39 35.6**	**+0.6**
BEY	**Berane**	**1.15**	**325**	⇑*i*Pg	**Pg**	**04 39 18.7**	**-1.4**
BEY				*e*Sg	**Sg**	**04 39 35.6**	**+0.6**
ULC	**Ulcinj**	**1.15**	**272**	⇑*i*Pg	**Pg**	**04 39 19.0**	**-1.2**
ULC				*e*Sg	**Sg**	**04 39 36.8**	**+1.7**
ULC	**Ulcinj**	**1.15**	**272**	⇑*i*Pg	**Pg**	**04 39 19.0**	**-1.2**
ULC				*e*Sg	**Sg**	**04 39 36.8**	**+1.7**
BARS	**Barje**	**1.17**	**40**	*e*Pg	**Pg**	**04 39 19.5**	**-0.9**
BARS				*e*Sg	**Sg**	**04 39 36.0**	**+0.5**
FNA	**Florina**	**1.23**	**159**	P	**Pg**	**04 39 21.0**	**-0.6**
FNA				S	**Sg**	**04 39 39.3**	**+1.8**
FNA	**Florina**	**1.23**	**159**	P	**Pg**	**04 39 21.0**	**-0.6**
FNA				S	**Sg**	**04 39 39.3**	**+1.8**
TTG	**Podgorica**	**1.24**	**294**	⇓*i*Pg	**Pg**	**04 39 19.5**	**-2.3**
TTG				*e*Sg	**Sg**	**04 39 39.4**	**+1.5**
PDG	**Podgorica**	**1.25**	**294**	*i* Pg	**Pg**	**04 39 19.2**	**-2.7**
PDG				*e*Sg	**Sg**	**04 39 38.9**	**+0.8**
PDG	**Podgorica**	**1.25**	**294**	⇓*i*Pg	**Pg**	**04 39 19.5**	**-2.4**
PDG				*e*Sg	**Sg**	**04 39 38.9**	**+0.8**
SELS	**Selova**	**1.31**	**11**	*e*Pg	**Pn**	**04 39 21.3**	**-2.3**
SELS				*e*Sg	**Sn**	**04 39 38.4**	**-3.3**
BUM	**Brajici-Budva**	**1.46**	**285**	⇑*i*Pg	**Pn**	**04 39 24.4**	**-1.2**
BUM				*e*Sg	**Sg**	**04 39 47.0**	**+2.1**
BUM	**Brajici-Budva**	**1.46**	**285**	⇑*i*Pg	**Pn**	**04 39 24.4**	**-1.2**
BUM				*e*Sg	**Sg**	**04 39 47.0**	**+2.1**
VAY	**Valandovo**	**1.47**	**114**	*i* Pg	**Pn**	**04 39 25.0**	**-0.7**
VAY				*e*Sg	**Sn**	**04 39 44.3**	**-1.2**
VAY				*e*Lg		04 39 44.8	
	comp=E,113nm,0.6s						
VAY				*e*Lg		04 39 45.2	
	comp=N,123nm,0.5s						
VAY	**Valandovo**	**1.47**	**114**	*i* Pg	**Pn**	**04 39 24.9**	**-0.8**
VAY				*e*Sg	**Sn**	**04 39 44.3**	**-1.3**
VAY				*e*Lg		04 39 44.7	
	comp=N,113nm,0.6s						
NEST	**Nestorio**	**1.53**	**173**	P	**Pn**	**04 39 26.6**	**+0.1**
NEST				S	**Sb**	**04 39 45.8**	**-1.3**
NEST	**Nestorio**	**1.53**	**173**	P	**Pn**	**04 39 26.6**	**+0.1**
NEST				S	**Sb**	**04 39 45.8**	**-1.3**
GRG	**Griva**	**1.55**	**128**	P	**Pn**	**04 39 27.4**	**+0.5**
GRG				S	**Sn**	**04 39 47.9**	**+0.2**
GRG	**Griva**	**1.55**	**128**	P	**Pn**	**04 39 27.4**	**+0.5**
GRG				S	**Sn**	**04 39 47.9**	**+0.2**
NKY	**Niksic**	**1.60**	**304**	⇑*i*Pg	**Pn**	**04 39 26.3**	**-1.2**
NKY				*e*Sg	**Sg**	**04 39 51.2**	**+1.8**
NKY	**Niksic**	**1.60**	**304**	⇑*i*Pg	**Pn**	**04 39 26.3**	**-1.2**
NKY				*e*Sg	**Sg**	**04 39 51.2**	**+1.8**
IVAS	**Ivanjica**	**1.71**	**344**	*e*Pn	**Pn**	**04 39 28.1**	**-1.0**
IVAS				*e*Sg	**Sn**	**04 39 52.0**	**+0.4**
IVAS	**Ivanjica**	**1.71**	**344**	*e*Pn	**Pn**	**04 39 28.1**	**-1.0**
IVAS				*e*Sg	**Sn**	**04 39 52.0**	**+0.4**
KNT	**Kendrikon**	**1.76**	**115**	P	**Pn**	**04 39 29.7**	**0.0**
KNT				S	**Sn**	**04 39 53.1**	**+0.3**
KNT	**Kendrikon**	**1.76**	**115**	P	**Pn**	**04 39 29.7**	**0.0**
KNT				S	**Sn**	**04 39 53.1**	**+0.3**
HCY	**Herceg Novi**	**1.78**	**288**	⇓*i*Pn	**Pn**	**04 39 29.5**	**-0.6**
HCY				*e*Sn	**Sg**	**04 39 56.7**	**+1.4**
HCY	**Herceg Novi**	**1.78**	**288**	⇓*i*Pn	**Pn**	**04 39 29.5**	**-0.6**
KZN	**Kozani**	**1.78**	**155**	P	**Pg**	**04 39 32.5**	**+0.3**
KZN				S	**Sg**	**04 39 56.3**	**+0.9**
KZN	**Kozani**	**1.78**	**155**	P	**Pg**	**04 39 32.5**	**+0.3**
UPM	**Unac-Piva**	**1.89**	**313**	⇓*i*Pn	**Pn**	**04 39 31.6**	**+0.1**
UPM				*e*Sn	**Sn**	**04 39 58.7**	**+2.8**
UPM	**Unac-Piva**	**1.89**	**313**	⇓*i*Pn	**Pn**	**04 39 31.6**	**+0.1**
ZAPS	**Zavoj**	**1.91**	**45**	*e*Pn	**Pn**	**04 39 31.7**	**-0.1**
ZAPS				*e*Sg	**Sn**	**04 40 00.2**	**+3.7**
VTS	**Vitosha**	**1.91**	**69**	*e*Pn	**Pn**	**04 39 32.3**	**+0.5**
VTS				*e*Sg	**Sg**	**04 40 01.3**	**+1.9**
VTS	**Vitosha**	**1.91**	**69**	⇑*i*P	**Pn**	**04 39 31.7**	**-0.1**
VTS	**Vitosha**	**1.91**	**69**	⇑*i*P	**Pn**	**04 39 31.7**	**-0.1**
VTS	**Vitosha**	**1.91**	**69**	*e*Pn	**Pn**	**04 39 32.3**	**+0.5**
VTS				S	**Sn**	**04 39 57.7**	**+1.1**
VTS				*e*Sg	**Sg**	**04 40 01.3**	**+1.9**
BRY	**Bratogost**	**1.93**	**301**	⇑*i*Pn	**Pn**	**04 39 32.0**	**-0.1**
BRY				*e*Sn	**Sg**	**04 39 59.9**	**-0.1**
BRY	**Bratogost**	**1.93**	**301**	⇑*i*Pn	**Pn**	**04 39 32.0**	**-0.1**
GRUS	**Gruza**	**1.96**	**358**	*e*Pn	**Pn**	**04 39 31.5**	**-0.9**
GRUS				*e*Sg	**Sn**	**04 39 58.8**	**+1.1**
GRUS	**Gruza**	**1.96**	**358**	*e*Pn	**Pn**	**04 39 31.5**	**-0.9**
GRUS				*e*Sg	**Sn**	**04 39 58.8**	**+1.1**
BOLS	**Boljevac**	**2.08**	**24**	*e*Pg	**Pn**	**04 39 34.4**	**+0.3**
BOLS				*e*Sg	**Sn**	**04 40 02.2**	**+1.5**
BOLS	**Boljevac**	**2.08**	**24**	*e*Pg	**Pn**	**04 39 34.4**	**+0.3**
BOLS				*e*Sg	**Sn**	**04 40 02.2**	**+1.5**
MEV	**Metsovon**	**2.17**	**171**	P	**Pg**	**04 39 38.5**	**-1.1**
DIVS	**Divibare**	**2.24**	**345**	*e*Pn	**Pn**	**04 39 35.0**	**-1.4**
DIVS				*e*Sn	**Sn**	**04 40 02.5**	**-2.2**
DIVS				*e*Sg	**Sg**	**04 40 07.6**	**-2.5**
DIVS	**Divibare**	**2.24**	**345**	*e*Pn	**Pn**	**04 39 35.0**	**-1.4**
DIVS				*e*Sg	**Sg**	**04 40 07.6**	**-2.5**
SVIS	**Svilajnac**	**2.35**	**7**	*e*Pg	**Pn**	**04 39 41.6**	**+3.7**
SVIS				*e*Sg	**Sn**	**04 40 12.1**	**+4.6**
STON	**Ston**	**2.48**	**293**	*e*Pn	**Pn**	**04 39 40.5**	**+0.9**
STON				Sn	**Sn**	**04 40 12.6**	**+2.2**
BZS	**Buzias**	**3.73**	**9**	*e*Pn	**Pn**	**04 39 55.6**	**-1.2**
BZS	**Buzias**	**3.73**	**9**	*e*Pg	**Pb**	**04 40 06.3**	**+1.5**
BZS				*e*Sg	**Sb**	**04 40 55.8**	**+5.3**
BZS	**Buzias**	**3.73**	**9**	*e*Pn	**Pn**	**04 39 55.6**	**-1.2**
BZS	**Buzias**	**3.73**	**9**	*e*Pg	**Pb**	**04 40 06.3**	**+1.5**
BZS				*e*Sg	**Sb**	**04 40 55.8**	**+5.3**
GZR	**Gura Zlata**	**3.75**	**22**	⇓*i*P	**Pn**	**04 39 56.7**	**-0.4**
GZR	**Gura Zlata**	**3.75**	**22**	⇓*i*P	**Pn**	**04 39 56.7**	**-0.4**
BLY	**Banja Luka**	**3.85**	**318**	*e*Pg	**Pb**	**04 40 08.3**	**+1.5**
BLY	**Banja Luka**	**3.85**	**318**	*e*Pg	**Pb**	**04 40 08.3**	**+1.5**
PKSM	**Moragy**	**4.55**	**341**	*e*Pn	**Pn**	**04 40 06.1**	**-2.0**
PKSM	**Moragy**	**4.55**	**341**	⇑*i*P	**Pn**	**04 40 06.8**	**-1.3**
PKSM	**Moragy**	**4.55**	**341**	*e*Pn	**Pn**	**04 40 06.1**	**-2.0**
PKSM	**Moragy**	**4.55**	**341**	⇑*i*P	**Pn**	**04 40 06.8**	**-1.3**
NVLJ	**Novalja**	**5.06**	**303**	*e*Pn	**Pn**	**04 40 15.9**	**+0.8**
NVLJ				Sn	**Sn**	**04 41 13.0**	**-1.2**
NVLJ	**Novalja**	**5.06**	**303**	*e*Pn	**Pn**	**04 40 15.9**	**+0.8**
NVLJ				Sn	**Sn**	**04 41 13.0**	**-1.2**
MLR	**Muntele Rosu**	**5.16**	**45**	⇓*i*P	**Pn**	**04 40 16.9**	**+0.5**
MLR	**Muntele Rosu**	**5.16**	**45**	⇓*i*P	**Pn**	**04 40 16.9**	**+0.5**
KECS	**Kecovo**	**6.55**	**358**	*e*PN	**Pn**	**04 40 37.1**	**+1.5**

*NEIC **19** 04:59:28.0, 17.°09N×95.°25W, h115km, MD3.9(MEX), After MEX.*
MEX 19 04:59:27.9±0.8,**17.°09N**×**95.°24W**,**h116**km±7km,**MD3.9**,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.34**	**90**	*e*P	Pn	04 59 43.0	-1.5
CMIG				*i* S	Sn	04 59 55.3	-1.7
CMIG	**Matias Romero**	**0.34**	**90**	*e*P	Pn	04 59 43.0	-1.5
CMIG				*i* S	Sn	04 59 55.3	-1.7
OXX	**Oaxaca**	**1.42**	**270**	*i* P	Pn	04 59 53.1	-1.1
OXX				*i* S	Sn	05 00 12.0	-2.0
OXX	**Oaxaca**	**1.42**	**270**	*i* P	Pn	04 59 53.1	-1.1
OXX				*i* S	Sn	05 00 12.0	-2.0
VHO	**Vista Hermosa**	**1.43**	**270**	*i* P	Pn	04 59 53.5	-0.7
VHO				*i* S	Sn	05 00 13.4	-0.8
VHO	**Vista Hermosa**	**1.43**	**270**	*i* P	Pn	04 59 53.5	-0.7
VHO				*i* S	Sn	05 00 13.4	-0.8
HUIG	**Huatulco**	**1.56**	**212**	*e*P	Pn	04 59 53.8	-2.0
HUIG				*i* S	Sn	05 00 15.8	-1.1
HUIG	**Huatulco**	**1.56**	**212**	*e*P	Pn	04 59 53.8	-2.0
HUIG				*i* S	Sn	05 00 15.8	-1.1
TGIG		**2.05**	**98**	*i* P	Pn	05 00 01.5	-0.3
TGIG				*i* S	Sn	05 00 25.4	-2.3
TGIG		**2.05**	**98**	*i* P	Pn	05 00 01.5	-0.3
TGIG				*i* S	Sn	05 00 25.4	-2.3
PCIG		**2.38**	**125**	*i* P	Pn	05 00 05.2	-0.8
PCIG				*i* S	Sn	05 00 32.5	-2.7
PCIG		**2.38**	**125**	*i* P	Pn	05 00 05.2	-0.8
PCIG				*i* S	Sn	05 00 32.5	-2.7
UTMO	**Huajuapan**	**2.56**	**287**	*e*P	Pn	05 00 06.9	-1.4
UTMO				*i* S	Sn	05 00 36.5	-2.8
UTMO	**Huajuapan**	**2.56**	**287**	*e*P	Pn	05 00 06.9	-1.4
UTMO				*i* S	Sn	05 00 36.5	-2.8
CCIG	**Comitan**	**3.08**	**105**	*i* P	Pn	05 00 14.7	-0.5
CCIG				*i* S	Sn	05 00 50.5	-1.1
CCIG	**Comitan**	**3.08**	**105**	*i* P	Pn	05 00 14.7	-0.5
CCIG				*i* S	Sn	05 00 50.5	-1.1

*IDC **19** 05:14:09.4±1.5, 14.°44S×76.°09W, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.7/17, mbtmp3.6/6, ML3.7/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/18, Error ellipse: s-maj=56.2km s-min=20.1km az=51.0*
*ISCJB **19** 05:14:15.2±3.0, 14.°4S±0.°2×75.°8W±0.°2, h56km±24km, mb3.5/3, Error ellipse: s-maj=44.6km s-min=12.2km az=39.1*
*NEIC **19** 05:14:16.3±2.1, 14.°34S×75.°86W, h48km±17km, Error ellipse: s-maj=33.4km s-min=9.7km az=216.0*
ISC 19 05:14:17.5±2.8,**14.°3S**±0.°2×**75.°8W**±0.°2,**h58**km±22km,**n21**,
σ1§**11**/22,**mb3.5/3**,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.55**	**336**	Pn	**Pn**	**05 14 52.5**	**-4.0**
	12nm,0.3s,baz=175,slow=13,SNR=19						
NNA				Pg	**Pn**	**05 14 56.1**	**-0.4**
	16nm,0.3s,baz=177,slow=18,SNR=20						
NNA				Sn	**Sn**	**05 15 28.6**	**+2.2**
	43nm,0.3s,baz=260,slow=19,SNR=6.0						
NNA	**Nana**	**2.55**	**336**	*e*Pn	**Pn**	**05 14 55.2**	**-1.3**
NNA				*e*Sn	**Sn**	**05 15 25.2**	**-1.2**
ATAH	**Atahualpa**	**7.60**	**340**	Pn	**Pn**	**05 16 06.6**	**+0.9**
	0.6nm,0.3s,baz=74,slow=15,SNR=3.7						
ATAH				Sn	**Sn**	**05 17 38.0**	**+7.5**
	0.2nm,0.3s,baz=348,slow=20,SNR=2.0						
ATAH	**Atahualpa**	**7.60**	**340**	Pn	**Pn**	**05 16 06.6**	**+0.9**
ATAH				Sn	**Sn**	**05 17 38.0**	**+7.5**
LPAZ	**La Paz**	**7.64**	**106**	Pn	**Pn**	**05 16 11.7**	**+5.5**
	1.9nm,0.3s,baz=284,slow=7.2,SNR=59						
LPAZ				LR	LR	05 19 32.2	
	comp=Z,139nm,18.9s,baz=180,slow=41						
LPAZ	**La Paz**	**7.64**	**106**	*e*Pn	**Pn**	**05 16 11.7**	**+5.5**
	8.5nm,0.5s						
SAML	**Samuel**	**13.46**	**68**	*e*Pn	**Pn**	**05 17 25.3**	**-0.5**
SIV	**San Ignacio**	**14.31**	**98**	Pn	**Pn**	**05 17 36.6**	**-0.4**
	0.2nm,0.3s,baz=297,slow=16,SNR=5.6						
SIV				LR	LR	05 23 43.6	
	comp=Z,232nm,18.9s,slow=39						
SIV	**San Ignacio**	**14.31**	**98**	Pn	**Pn**	**05 17 36.6**	**-0.4**
CPUP	**Villa Florida**	**20.99**	**127**	P	**P**	**05 18 56.6**	**+0.4**
	0.9nm,0.7s,baz=268,slow=12,SNR=3.8						
CPUP				LR	LR	05 27 16.9	
	comp=Z,46nm,18.5s,baz=176,slow=37						
CPUP	**Villa Florida**	**20.99**	**127**	P	**P**	**05 18 56.6**	**+0.4**
TXAR	**Lajitas Array**	**51.08**	**328**	P	**P**	**05 23 13.9**	**-0.4**
	0.2nm,0.7s,mb3.1,baz=149,slow=7.2,SNR=3.1						
TXAR	**Lajitas Array**	**51.08**	**328**	P	**P**	**05 23 13.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**81.44**	**74**	P	**P**	**05 26 30.8**	**+1.9**
	2.5nm,0.7s,mb4.3,baz=271,slow=4.1,SNR=24						
TORD	**Torodi Ar. Bea**	**81.44**	**74**	P	**P**	**05 26 30.8**	**+1.9**
YKA	**Yellowknife Ar**	**82.38**	**343**	P	**P**	**05 26 31.3**	**-1.5**
	0.2nm,0.6s,mb3.2,baz=135,slow=5.1,SNR=4.1						
YKA	**Yellowknife Ar**	**82.38**	**343**	P	**P**	**05 26 31.3**	**-1.5**
WRA	**Warramunga Arr**	**134.84**	**222**	PKP	PKPdf	05 33 30.4	-0.4
	0.4nm,0.8s,baz=141,slow=1.6,SNR=3.5						
WRA	**Warramunga Arr**	**134.84**	**222**	PKP	PKPdf	05 33 30.4	-0.4
SONM	**Songino Array**	**146.56**	**357**	PKPbc	PKPbc	05 33 53.3	+0.9
	0.8nm,0.6s,baz=340,slow=1.9,SNR=7.3						
SONM	**Songino Array**	**146.56**	**357**	PKPbc	PKPbc	05 33 53.3	+0.9

TRN 19 05:20:14.9,15.°35N×60.°83W,h35km,MD3.6,M3.5(FDF),
M3.4(FDF),**15C-1D**,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.40**	**268**	*e*P	Pb	05 20 25.9	+1.7
DLPL				*e*S	Sb	05 20 33.9	+3.4
DSTT	**Stowe**	**0.47**	**258**	⇑*e*P	Pn	05 20 27.6	+2.5
DSTT				*e*S	Sb	05 20 34.6	+2.5
DBCT	**Belle View Cho**	**0.50**	**261**	⇓*e*P	Pn	05 20 28.1	+2.5
DBCT				*e*S	Sn	05 20 35.1	+2.1
DWS	**Wesley**	**0.51**	**296**	⇑*e*P	Pn	05 20 26.9	+1.2
DWS				*e*S	Sn	05 20 35.0	+1.8
DFBT	**Forest Bistro**	**0.52**	**258**	*e*P	Pn	05 20 28.1	+2.3
DFBT				*e*S	Sn	05 20 35.5	+2.1
DPMT	**Pointe Michel**	**0.53**	**261**	⇑*e*P	Pn	05 20 28.4	+2.4
DSHT	**Scott's Head**	**0.54**	**256**	*e*P	Pn	05 20 28.6	+2.5
DSHT				*e*S	Sn	05 20 36.4	+2.5
MDN	**Morne-Daniel**	**0.54**	**267**	⇑*e*P	Pn	05 20 28.8	+2.7
MDN				*e*S	Sn	05 20 37.1	+3.1
DVCT	**Vielle Casse P**	**0.61**	**296**	*e*P	Pn	05 20 28.0	+0.9
FDF	**Fort de France**	**0.68**	**207**	*e*P	Pn	05 20 29.5	+1.4
FDF				*e*S	Sn	05 20 39.9	+2.3
MGG	**Marie-Galante**	**0.73**	**321**	⇑*i*P	Pn	05 20 29.3	+0.5
MVM	**Montagne Vaucl**	**0.79**	**184**	*e*P	Pn	05 20 30.6	+1.0
MVM				*e*S	Sn	05 20 41.9	+1.7
BIM	**Bigot**	**0.86**	**196**	*e*P	Pn	05 20 31.7	+1.2
BIM				*e*S	Sn	05 20 44.0	+2.2
TBG	**Guadaloupe-3**	**0.93**	**303**	⇑*i*P	Pn	05 20 32.5	+1.0
SFG	**Saint Francois**	**0.97**	**339**	*e*P	Pn	05 20 32.0	0.0
DEG	**La Desirade**	**0.98**	**347**	⇑*i*P	Pn	05 20 31.6	-0.6
DEG				⇑*e*S	Sn	05 20 44.6	-0.4
DOG	**Dongo Capester**	**1.02**	**312**	⇑*i*P	Pn	05 20 33.9	+1.2
PHG	**Guadaloupe-2**	**1.02**	**311**	⇑*i*P	Pn	05 20 34.1	+1.3
BCG	**Bois Riant Cap**	**1.05**	**314**	⇑*i*P	Pn	05 20 34.4	+1.2
SCG	**Saint Claude**	**1.06**	**310**	⇑*i*P	Pn	05 20 34.6	+1.3
LZG	**Guadaloupe-1**	**1.20**	**311**	⇑*i*P	Pn	05 20 36.5	+1.2
SEG	**Port Louis**	**1.23**	**328**	⇑*i*P	Pn	05 20 36.6	+0.9
SLW	**Petit Monier**	**1.32**	**184**	*e*P	Pn	05 20 37.7	+0.8
SLW				*e*S	Sn	05 20 55.3	+2.0
SLB	**Belfond**	**1.52**	**188**	⇑*i*P	Pn	05 20 42.1	+2.4
SLB				*e*S	Sn	05 21 01.0	+2.7
MCLT	**Moule a Chique**	**1.63**	**184**	*e*P	Pn	05 20 42.6	+1.4
MCLT				*e*S	Sn	05 21 02.9	+2.0
BPA	**Boggy Peak**	**1.96**	**330**	*e*P	Pn	05 20 47.6	+2.0
BPA				*e*S	Sn	05 21 11.3	+2.4
SVV	**Soufriere Volc**	**2.05**	**190**	*e*P	Pn	05 20 49.5	+2.6
SVV				*e*S	Sn	05 21 14.8	+3.5
SVB	**Belmont**	**2.10**	**191**	*e*P	Pn	05 20 49.7	+2.0
SVB				*e*S	Sn	05 21 14.9	+2.3
SKI	**Saint Kitts**	**2.69**	**317**	*e*P	Pn	05 20 58.2	+2.5
SKI				*e*S	Sn	05 21 29.3	+2.2
TOSP	**Speyside**	**4.04**	**176**	*e*P	Pn	05 21 17.0	+2.7
TOSP				*e*S	Sn	05 22 01.1	+0.8

*NIED **19** 05:56:00, 24.°90N×121.°90E, h5km, Mw4.5 Best double couple: M0:5.89000×10^15 NP1:φ:75.00000°, δ:48.00000°, λ:-77.00000°. NP2:φ:236.00000°, δ:43.00000°, λ:-104.00000°.*
*TAP **19** 05:56:46.1, 24.°85N×122.°00E, h

ELDTW	**Lidau**	**1.90 209**	*e*P	**Pn**	**05 57 20.8**	**+0.8**
	baz=211					
CHN2	**Minshiung**	**1.94 228**	*e*P	**Pn**	**05 57 20.8**	**+0.3**
	baz=247					
CHY	**Chiayi**	**1.99 228**	*e*P	**Pn**	**05 57 21.0**	**-0.3**
	baz=247					
TPUB	**Ta-pu**	**2.01 220**	*e*Pn	**Pn**	**05 57 23.3**	**+1.8**
STYT	**Tauyuan**	**2.05 215**	*e*P	**Pn**	**05 57 23.0**	**+1.0**
	baz=204					
WTP	**Ta-pu**	**2.06 219**	*e*P	**Pn**	**05 57 24.0**	**+1.8**
	baz=220					
SGST	**Jiashian**	**2.21 217**	*e*P	**Pn**	**05 57 25.5**	**+1.4**
	baz=205					
TWG	**Pinlang**	**2.21 204**	*e*P	**Pn**	**05 57 24.6**	**+0.4**
	baz=190					
TWG	**Pinlang**	**2.21 204**	*e*Pn	**Pn**	**05 57 25.2**	**+1.0**
SSD	**Sandimen**	**2.46 212**	*e*P	**Pn**	**05 57 29.1**	**+1.5**
	baz=214					
TWM1	**Shoushan**	**2.50 216**	*e*P	**Pn**	**05 57 29.9**	**+1.7**
	baz=217					
EAST	**Anshuo**	**2.69 204**	*e*P	**Pn**	**05 57 32.0**	**+1.2**
	baz=194					
TWK1	**Hengchun**	**3.11 201**	*e*P	**Pn**	**05 57 34.3**	**-2.3**
	baz=191					
QZH	**Quanzhou**	**3.12 272**	Pn	**Pn**	**05 57 34.5**	**-2.3**
QZH			Sn	**Sn**	**05 58 09.8**	**-4.8**
QZH			smax			
	comp=N,660nm,0.8s					
QZH			smax			
	comp=E,370nm,0.7s					
JOW	**Kunigami**	**5.96 69**	P	**Pn**	**05 58 19.8**	**+4.0**
	comp=E,2.1nm,0.3s,baz=220,slow=3.9,SNR=3.5					
JOW	**Kunigami**	**5.96 69**	*e*Pn	**Pn**	**05 58 20.1**	**+4.3**
NJ2	**Nanjing**	**7.70 339**	*e*P	**Pg**	**05 59 10.9**	**-3.2**
NJ2			S	**Sb**	**06 00 39.9**	**+7.0**
NJ2			pmax	pmax		
	comp=Z,20nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,200nm,8.3s					
NJ2			smax			
	comp=N,190nm,0.9s					
NJ2			smax			
	comp=E,240nm,1.0s					
NJ2			LR	LR		
	comp=N,960nm,8.6s					
NJ2			LR	LR		
	comp=E,1μm,8.8s					
NJ2			LR	LR		
	comp=Z,4μm,8.2s					
WHN	**Wuhan**	**8.86 311**	*e*P	**Pn**	**05 59 02.8**	**+7.2**
WHN			S	**Sn**	**06 00 35.1**	**-0.8**
WHN			LR	LR		
	comp=Z,2μm,9.1s					
KSAR	**Wonju Array Be**	**13.51 20**	P	Px	06 00 12.3	
KSRS	**Korea Array**	**13.53 20**	P	Px	06 00 12.3	
	comp=Z,0.4nm,0.3s,baz=198,slow=12,SNR=11					
KSRS			LR	LR	06 05 15.6	
	comp=Z,171nm,21.8s,baz=192,slow=37					
DAV	**Davao City (W)**	**18.01 169**	LR	LR	06 07 59.8	
	comp=Z,195nm,20.4s,baz=42,slow=37					
LZH	**Lanzhou**	**19.23 310**	*e*P	**Pn**	**06 01 12.6**	**-0.3**
LZH			pP	pP	06 01 16.0	+3.1
LZH			sP	sP	06 01 17.3	+4.0
LZH			pmax	pmax		
	comp=Z,22nm,1.4s					
LZH	**Lanzhou**	**19.23 310**	*e*P	**Pn**	**06 01 12.6**	**-0.3**
LZH			pP	pP	06 01 16.0	+3.1
LZH			sP	sP	06 01 17.3	+4.0
USRK	**Ussuriysk Arra**	**20.94 20**	P	**P**	**06 01 34.6**	**+4.0**
	comp=Z,2.2nm,0.7s,baz=180,slow=9.3,SNR=4.1					
CMAR	**Chiang Mai Arr**	**22.37 258**	P	**P**	**06 01 49.9**	**+3.8**
	comp=Z,0.6nm,0.4s,mb3.4,baz=61,slow=8.3,SNR=5.9					
CMAR	**Chiang Mai Arr**	**22.37 258**	P	**P**	**06 01 49.9**	**+3.8**
GTA	**Gaotai**	**23.68 313**	*e*P	**P**	**06 01 59.0**	**-0.6**
GTA			pP		06 02 06.1	
GTA			sP	sP	06 02 10.0	+9.0
GTA			pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.7					
GUMO	**Guam**	**24.26 113**	LR	LR	06 09 40.3	
	comp=Z,163nm,19.3s,MS3.5,baz=278,slow=32					
ASAJ	**Asahikawa**	**25.50 36**	LR	LR	06 12 46.6	
	comp=Z,111nm,18.0s,MS3.4,baz=282,slow=37					
SONM	**Songino Array**	**26.07 336**	P	**P**	**06 02 22.0**	**+0.8**
	comp=Z,3.5nm,0.9s,mb3.9,baz=152,slow=9.1,SNR=16					
SONM			LR	LR	06 13 28.0	
	comp=Z,233nm,20.1s,MS3.7,baz=86,slow=38					
SONM	**Songino Array**	**26.07 336**	P	**P**	**06 02 22.0**	**+0.8**
MKAR	**Makanchi Array**	**38.40 315**	P	**P**	**06 04 09.3**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.4,baz=102,slow=11,SNR=4.4					
MKAR	**Makanchi Array**	**38.40 315**	P	**P**	**06 04 09.3**	**+0.1**
ZALV	**Zalesovo Beam**	**40.11 326**	P	**P**	**06 04 22.8**	**-0.6**
	comp=Z,1.9nm,0.8s,mb3.9,baz=109,slow=8.8,SNR=9.7					
ZALV			LR	LR	06 21 55.9	
	comp=Z,131nm,20.4s,MS3.8,baz=110,slow=38					
ZALV	**Zalesovo Beam**	**40.11 326**	P	**P**	**06 04 22.8**	**-0.6**
KURK	**Kurchatov**	**42.08 319**	P	**P**	**06 04 37.9**	**-1.8**
	comp=Z,0.6nm,0.4s,mb3.6,baz=113,slow=9.1,SNR=5.9					
KURK	**Kurchatov**	**42.08 319**	P	**P**	**06 04 37.9**	**-1.8**
WRA	**Warramunga Arr**	**46.11 164**	P	**P**	**06 05 11.4**	**-0.8**
	comp=Z,5.9nm,0.7s,mb4.6,baz=346,slow=8.7,SNR=38					
WRA	**Warramunga Arr**	**46.11 164**	P	**P**	**06 05 11.4**	**-0.8**
FX1	**Attu Island--F**	**47.32 40**	P	**P**	**06 05 21.2**	**-0.2**
	comp=Z,4.2nm,0.7s,mb4.5,baz=270,slow=6.1,SNR=4.2					
FX1	**Attu Island--F**	**47.32 40**	P	**P**	**06 05 21.2**	**-0.2**
BVAR	**Borovoye Array**	**47.65 320**	P	**P**	**06 05 24.2**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=101,slow=7.7,SNR=3.8					
BVAR	**Borovoye Array**	**47.65 320**	P	**P**	**06 05 24.2**	**+0.1**
ASAR	**Alice Springs**	**49.59 166**	P	**P**	**06 05 39.6**	**+0.5**
	comp=Z,1.1nm,0.7s,mb4.0,baz=341,slow=8.0,SNR=13					
ASAR	**Alice Springs**	**49.59 166**	P	**P**	**06 05 39.6**	**+0.5**
CTA	**Charters Tower**	**50.51 150**	P	**P**	**06 05 46.8**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=354,slow=16,SNR=3.6					
CTA			LR	LR	06 23 44.5	
	comp=Z,147nm,20.5s,MS4.0,baz=349,slow=32					
CTA	**Charters Tower**	**50.51 150**	P	**P**	**06 05 46.8**	**+0.6**
STKA	**Stephens Creek**	**59.43 161**	P	**P**	**06 06 49.1**	**-1.5**
	comp=Z,2.8nm,0.8s,mb4.4,baz=18,slow=8.1,SNR=5.5					
STKA	**Stephens Creek**	**59.43 161**	P	**P**	**06 06 49.1**	**-1.5**
DZM	**Mont Dzumac**	**63.53 134**	LR	LR	06 29 11.2	
	comp=Z,176nm,21.7s,MS4.2,baz=306,slow=30					
ILAR	**Eielson Array**	**68.27 27**	P	**P**	**06 07 48.6**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=267,slow=6.3,SNR=4.3					
ILAR	**Eielson Array**	**68.27 27**	P	**P**	**06 07 48.6**	**+0.1**
ARCES	**ARCESS Array B**	**69.21 338**	LR	LR	06 45 59.0	
	comp=Z,118nm,19.0s,MS4.2,baz=250,slow=43					
FINES	**FINESS Array B**	**71.26 330**	LR	LR	06 42 01.3	
	comp=Z,288nm,18.9s,MS4.6,baz=350,slow=38					
INK	**Inuvik**	**72.32 22**	P	**P**	**06 08 12.5**	**-0.8**
	comp=Z,1.8nm,0.9s,mb4.0,baz=276,slow=8.1,SNR=5.1					
INK	**Inuvik**	**72.32 22**	P	**P**	**06 08 12.5**	**-0.8**
BRTR	**Keskin Array B**	**73.40 306**	P	**P**	**06 08 19.8**	**-0.4**
	comp=Z,1.0nm,1.0s,mb3.7,baz=152,slow=5.6,SNR=3.5					
BRTR	**Keskin Array B**	**73.40 306**	P	**P**	**06 08 19.8**	**-0.4**
YKA	**Yellowknife Ar**	**82.06 23**	P	**P**	**06 09 06.9**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=317,slow=5.1,SNR=6.4					
YKA	**Yellowknife Ar**	**82.06 23**	P	**P**	**06 09 06.9**	**-1.1**
PDAR	**Pinedale Array**	**97.64 36**	LR	LR	06 52 10.1	
	comp=Z,70nm,19.7s,MS4.2,baz=246,slow=34					

TAP 19 05:56:53.0, 24°.85N×122°.00E, h15km, ML4.0, 1C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.15**	**356**	P		Pg	05 56 57.1	+0.2
	baz=349							
TWB1				S		Sg	05 56 59.9	+0.1
	baz=349							
ILA	**Ilan**	**0.24**	**249**	*e*P		Pg	05 56 58.8	+0.4
	baz=241							
ILA				*e*S		Sg	05 57 03.0	+1.0
	baz=241							
TWC	**Suao**	**0.28**	**209**	⇓*e*P		Pg	05 56 58.7	-0.2
	baz=208							
NWF	**Wu-fen Shan**	**0.29**	**318**	⇓*i*P		Pg	05 57 00.1	+0.9
	baz=311							
NWF				*i* S		Sg	05 57 05.0	+1.6
	baz=311							
TWE	**Neicheng**	**0.33**	**246**	⇑*i*P		Pg	05 57 00.1	+0.2
	baz=239							
TWE				*e*S		Sg	05 57 04.7	+0.3
	baz=239							
TWA	**Mucha**	**0.40**	**289**	*e*P		Pg	05 57 01.4	+0.3
	baz=281							
TWA				S		Sg	05 57 07.5	+1.0
	baz=281							
ENTT	**Nioudou**	**0.45**	**242**	*e*P		Pg	05 57 02.4	+0.4
	baz=242							
TAP1	**Taipei**	**0.47**	**293**	*e*P		Pg	05 57 03.4	+1.0
	baz=286							
TAP1				*e*S		Sg	05 57 10.6	+1.8
	baz=286							
TWY	**Chenhua**	**0.56**	**319**	*e*P		Pg	05 57 05.2	+1.2
	baz=318							
NSK	**Sanguang**	**0.61**	**253**	*e*P		Pg	05 57 05.0	0.0
	baz=261							
NNS	**Nan Shan**	**0.70**	**234**	*e*P		Pg	05 57 07.2	+0.5
	baz=235							
NCU	**National Centr**	**0.75**	**279**	*e*P		Pg	05 57 09.5	+1.9
	baz=279							
TWD	**Chiawan**	**0.85**	**206**	*e*P		Pb	05 57 09.8	+0.2
	baz=201							

TAP 19 05:57:17.3, 24°.86N×121°.98E, h12km, ML4.4, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.15**	**4**	⇓*i*P		Pg	05 57 21.1	+0.2
	baz=5.0							
TWB1				*e*S		Sg	05 57 23.4	0.0
	baz=5.0							
ILA	**Ilan**	**0.23**	**246**	P		Pg	05 57 23.2	+1.0
	baz=234							
ILA				S		Sg	05 57 26.7	+1.2
	baz=234							
NWF	**Wu-fen Shan**	**0.28**	**320**	*i* P		Pg	05 57 23.9	+0.9
	baz=314							
NWF				S		Sg	05 57 28.4	+1.6
	baz=314							
TWC	**Suao**	**0.28**	**205**	P		Pg	05 57 23.1	0.0
	baz=205							
TWC				*e*S		Sg	05 57 26.3	-0.6
	baz=205							
TWE	**Neicheng**	**0.32**	**244**	⇑P		Pg	05 57 23.9	+0.2
	baz=233							
TWE				*e*S		Sg	05 57 28.7	+0.6
	baz=233							
TWA	**Mucha**	**0.38**	**288**	*e*P		Pg	05 57 26.1	+1.2
	baz=280							
TWA				*e*S		Sg	05 57 31.0	+1.0
	baz=280							
ENTT	**Nioudou**	**0.43**	**240**	P		Pg	05 57 26.4	+0.4
	baz=238							
TAP1	**Taipei**	**0.45**	**293**	*e*P		Pg	05 57 27.4	+1.2
	baz=285							
TAP1				S		Sg	05 57 33.9	+1.7
	baz=285							
TATO	**Taipei**	**0.46**	**284**	*e*S		Sg	05 57 34.2	+1.7
ENA	**Nanau**	**0.48**	**207**	*e*P		Pg	05 57 27.1	+0.3
	baz=208							
TWY	**Chenhua**	**0.54**	**320**	*e*P		Pg	05 57 29.2	+1.3
	baz=321							
TWY				*e*S		Sg	05 57 36.7	+1.7
	baz=321							
YHNB	**Yeheng**	**0.58**	**251**	*e*S		Sg	05 57 39.9	+3.6
NSK	**Sanguang**	**0.59**	**252**	*e*P		Pg	05 57 29.0	+0.1
	baz=251							
NSK				*e*S		Sg	05 57 37.0	+0.3
	baz=251							
NNS	**Nan Shan**	**0.69**	**233**	*e*P		Pg	05 57 31.7	+0.9
	baz=231							
NCU	**National Centr**	**0.73**	**279**	*e*P		Pg	05 57 33.2	+1.8
	baz=277							
NCU				*e*S		Sg	05 57 43.7	+2.7
	baz=277							
NACB	**Ninganchiao**	**0.77**	**207**	*e*S		Sg	05 57 42.4	+0.1
TWD	**Chiawan**	**0.85**	**204**	*e*P		Pg	05 57 34.7	+0.9
	baz=201							
NSTT	**Nanjuang**	**0.92**	**256**	*e*P		Pg	05 57 37.1	+2.1
	baz=253							
NSTT				*e*S		Sg	05 57 49.3	+2.2
	baz=253							
HSN	**Hsinchu**	**0.92**	**267**	*e*P		Pg	05 57 34.7	-0.4
	baz=265							
HSN				*e*S		Sg	05 57 49.0	+2.0
	baz=265							
NSY	**Sanyi**	**1.19**	**248**	*e*P		Pn	05 57 41.2	+1.4
	baz=245							
NSY				*e*S		Sb	05 57 58.4	+3.2
	baz=245							
SMLT	**Sun Moon Lake**	**1.38**	**226**	*e*P		Pn	05 57 45.2	+2.9
	baz=215							
TYC	**Yuchr**	**1.40**	**227**	*e*P		Pn	05 57 45.4	+2.8
	baz=217							
YUS	**Yu-Shan**	**1.66**	**215**	*e*P		Pn	05 57 50.2	+4.1
	baz=221							
TPUB	**Ta-pu**	**1.98**	**219**	*e*S		Pn	05 57 57.2	+6.5

DJA 19 05:57:41, 1°.38S×121°.17E, h15km, MLv3.7/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.64**	**78**	P		Pn	05 58 09.0	-0.3
LUWI				S		Sn	05 58 30.6	+0.5
MRSI	**Marisa**	**2.00**	**23**	P		Pn	05 58 14.5	+0.2
TTSI	**Tana Toraja**	**2.13**	**219**	P		Pn	05 58 16.5	+0.4
GTOI	**Gorontalo**	**2.72**	**43**	P		Pn	05 58 25.4	+1.2
SPSI	**Sidrap Palu**	**2.92**	**209**	P		Pn	05 58 28.0	+1.0
SPSI				S		Sn	05 59 03.4	+1.5
BNSI	**Bone**	**3.18**	**199**	P		Pn	05 58 31.4	+0.8

TAP 19 06:14:20.6, 24°.81N×121°.93E, h5km±2km, ML2.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.20**	**15**	*i* P		Pg	06 14 25.3	+0.7
	baz=18							
TWB1				*e*S		Sg	06 14 27.8	+0.5
	baz=18							
TWC	**Suao**	**0.21**	**200**	*e*P		Pg	06 14 25.1	+0.3
	baz=184							
TWC				S		Sg	06 14 28.5	+0.9
	baz=184							
TWE	**Neicheng**	**0.26**	**249**	*e*P		Pg	06 14 26.0	+0.4
	baz=249							
NWF	**Wu-fen Shan**	**0.29**	**333**	*e*P		Pg	06 14 27.5	+1.2
	baz=319							
NWF				*e*S		Sg	06 14 30.8	+0.7
	baz=319							
ENTT	**Nioudou**	**0.37**	**243**	*e*P		Pg	06 14 28.8	+1.0
	baz=244							
YHNB	**Yeheng**	**0.52**	**254**	*e*P		Pg	06 14 30.5	-0.2
NACB	**Ninganchiao**	**0.70**	**206**	*e*Pn		Pn	06 14 36.8	-0.5

*TAP **19** 06:14:25.9, 24°.85N×121°.99E, h10km±2km, ML3.7, C*
*IDC **19** 06:14:25.3±2.0, 25°.04N×122°.78E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=170.8km s-min=20.3km az=65.0*
*ISCJB **19** 06:14:26.2±0.6, 24°.85N±0°.03×122°.03E±0°.04, h10km, mb3.5/5, Error ellipse: s-maj=4.9km s-min=3.6km az=172.2*
*NEIC **19** 06:14:28.4±0.8, 24°.61N×121°.53E, h10km, MG3.1(JMA), Error ellipse: s-maj=21.3km s-min=8.5km az=78.0*
ISC 19 06:14:26.9±0.5, 24°.84N±0°.02×122°.00E±0°.04, h10km, n44, σ1°.04/54, mb3.5/5, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.17**	**358**	*e*P		**Pg**	**06 14 29.6**	**-1.0**
	baz=5.0							
TWB1				*e*S		**Sg**	**06 14 32.0**	**-1.0**
	baz=5.0							
ILA	**Ilan**	**0.24**	**251**	*e*P		**Pg**	**06 14 31.8**	**0.0**
	baz=247							
ILA				*e*S		**Sg**	**06 14 35.2**	**+0.2**
	baz=247							
TWC	**Suao**	**0.27**	**210**	P		**Pg**	**06 14 31.5**	**-0.8**
	baz=206							
TWC				*e*S		**Sg**	**06 14 35.0**	**-1.0**
	baz=206							
NWF	**Wu-fen Shan**	**0.30**	**320**	*i* P		**Pg**	**06 14 32.5**	**-0.4**
	baz=310							
NWF				*i* S		**Sg**	**06 14 36.9**	**-0.1**
	baz=310							
TWE	**Neicheng**	**0.32**	**248**	P		**Pg**	**06 14 32.6**	**-0.7**
	baz=244							
TWE				*e*S		**Sg**	**06 14 37.1**	**-0.6**
	baz=244							
TWA	**Mucha**	**0.40**	**290**	*e*P		**Pg**	**06 14 34.1**	**-0.6**
	baz=278							
TWA				*e*S		**Sg**	**06 14 39.8**	**-0.2**
	baz=278							
ENTT	**Nioudou**	**0.44**	**243**	*e*P		**Pg**	**06 14 34.8**	**-0.7**
	baz=241							
TAP1	**Taipei**	**0.47**	**295**	*e*P		**Pg**	**06 14 36.0**	**-0.1**
	baz=293							
TAP1				*e*S		**Sg**	**06 14 42.6**	**+0.3**
	baz=293							
ENA	**Nanau**	**0.47**	**209**	*e*P		**Pg**	**06 14 35.8**	**-0.3**
	baz=208							
TATO	**Taipei**	**0.48**	**286**	*e*Pn		**Pg**	**06 14 35.1**	**-1.1**
TWY	**Chenhua**	**0.56**	**320**	*e*P		**Pg**	**06 14 37.4**	**-0.5**
	baz=320							
NSK	**Sanguang**	**0.60**	**254**	*e*P		**Pg**	**06 14 37.6**	**-1.0**
	baz=263							
NNS	**Nan Shan**	**0.69**	**235**	*e*P		**Pg**	**06 14 39.6**	**-0.7**
	baz=234							
NCU	**National Centr**	**0.74**	**280**	*e*P		**Pg**	**06 14 41.7**	**+0.4**
	baz=279							
TWD	**Chiawan**	**0.84**	**206**	*e*P		**Pg**	**06 14 42.5**	**-0.6**
	baz=198							
NSTT	**Nanjuang**	**0.93**	**257**	*e*P		**Pg**	**06 14 45.3**	**+0.5**
	baz=256							
NSTT				*e*S		**Sg**	**06 14 57.4**	**+0.5**
	baz=256							
HSN	**Hsinchu**	**0.93**	**268**	*e*P		**Pg**	**06 14 44.9**	**0.0**
	baz=268							
HSN				*e*S		**Sg**	**06 14 57.8**	**+0.7**
	baz=268							
TWT	**Tachien**	**0.95**	**232**	*e*P		**Pg**	**06 14 44.2**	**-1.0**
	baz=224							
WHF	**Hehuan Shan**	**0.96**	**224**	*e*P		**Pg**	**06 14 44.7**	**-0.7**
	baz=224							
ESL	**Shilin**	**1.15**	**207**	*e*P		**Pb**	**06 14 47.2**	**-1.6**
	baz=208							
NSY	**Sanyi**	**1.20**	**250**	*e*P		**Pb**	**06 14 50.4**	**+0.7**
	baz=267							
TWQ1	**Liyutan**	**1.22**	**246**	*e*P		**Pn**	**06 14 50.3**	**+0.3**
	baz=246							
TWQ1				*e*S		**Sb**	**06 15 07.1**	**+1.3**
	baz=246							
SMLT	**Sun Moon Lake**	**1.38**	**226**	*e*P		**Pn**	**06 14 52.6**	**+0.3**
	baz=216							
TYC	**Yuchr**	**1.40**	**228**	*e*P		**Pn**	**06 14 52.4**	**0.0**
	baz=218							
SSLB	**Suanglung**	**1.42**	**222**	*e*Pn		**Pn**	**06 14 47.8**	**-5.0**
YULB	**Yu-li**	**1.58**	**204**	*e*Pn		**Pn**	**06 14 53.0**	**-1.9**
TWF1	**Yuli**	**1.61**	**203**	*e*P		**Pn**	**06 14 56.0**	**+0.5**
	baz=215							
YUS	**Yu-Shan**	**1.65**	**215**	*e*P		**Pn**	**06 14 57.4**	**+1.5**
	baz=216							
CHN5	**Tsauling**	**1.73**	**224**	*e*P		**Pn**	**06 14 59.8**	**+2.7**
	baz=216							
CHN4	**Tsaushan**	**1.96**	**221**	*e*P		**Pn**	**06 15 04.6**	**+4.4**
	baz=219							
TPUB	**Ta-pu**	**1.98**	**219**	*e*Pn		**Pn**	**06 14 58.8**	**-1.7**
STYT	**Tauyuan**	**2.02**	**214**	*e*P		**Pn**	**06 15 03.3**	**+2.3**
	baz=205							
CHN1	**Nanshi**	**2.13**	**219**	*e*P		**Pn**	**06 15 04.6**	**+2.1**
	baz=218							
TWG	**Pinlang**	**2.18**	**203**	*e*Pn		**Pn**	**06 15 04.9**	**+1.6**
SONM	**Songino Array**	**26.06**	**336**	P		**P**	**06 20 01.2**	**+0.8**
	1.3nm,0.9s,mb3.4,baz=154,slow=7.2,SNR=6.7							
SONM	**Songino Array**	**26.06**	**336**	P		**P**	**06 20 01.2**	**+0.8**
MKAR	**Makanchi Array**	**38.39**	**315**	P		**P**	**06 21 51.0**	**+2.7**
	0.5nm,0.9s,mb3.2,baz=96,slow=12,SNR=3.8							
MKAR	**Makanchi Array**	**38.39**	**315**	P		**P**	**06 21 51.0**	**+2.7**
ZALV	**Zalesovo Beam**	**40.10**	**326**	P		**P**	**06 22 05.0**	**+2.5**
	0.3nm,0.3s,mb3.5,baz=122,slow=10,SNR=4.9							
ZALV	**Zalesovo Beam**	**40.10**	**326**	P		**P**	**06 22 05.0**	**+2.5**
WRA	**Warramunga Arr**	**46.11**	**164**	P		**P**	**06 22 51.0**	**-0.4**
	1.7nm,0.8s,mb4.0,baz=347,slow=8.4,SNR=5.5							
WRA	**Warramunga Arr**	**46.11**	**164**	P		**P**	**06 22 51.0**	**-0.4**
ASAR	**Alice Springs**	**49.58**	**166**	P		**P**	**06 23 18.6**	**+0.3**
	0.3nm,0.7s,mb3.4,baz=343,slow=7.9,SNR=3.3							
ASAR	**Alice Springs**	**49.58**	**166**	P		**P**	**06 23 18.6**	**+0.3**

*ISCJB **19** 06:16:29.5±1.7, 15°.35S±0°.3×72°.7W±0°.1, h131km±12km, mb3.2/3, Error ellipse: s-maj=46.7km s-min=8.6km az=24.2*
*NEIC **19** 06:16:29.6±1.6, 15°.35S×72°.63W, h122km±12km, MG4.3(ARE), Error ellipse: s-maj=38.0km s-min=12.3km az=199.0*
NEIC Felt [II] at Caraveli, Chuquibamba and Ocona.
*IDC **19** 06:16:31.8±2.1, 13°.71S×71°.84W, h80km±40km, mb3.2/3, mb1 3.6/6, mb1mx3.5/19, mbtmp3.4/6, ML3.8/3, Error ellipse: s-maj=102.6km s-min=11.0km az=26.0*
ISC 19 06:16:30.8±1.6, 15°.25±0°.3×72°.6W±0°.1, h127km±11km, n13, σ0°.71/16, mb3.5/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.47**	**104**	P		**Pn**	**06 17 35.9**	**-0.9**
	4.0nm,0.3s,baz=286,slow=8.1,SNR=72							
LPAZ				S		**Sn**	**06 18 29.1**	**+1.1**
	0.7nm,0.3s,baz=248,slow=8.8,SNR=4.2							
LPAZ	**La Paz**	**4.47**	**104**	P		**Pn**	**06 17 35.9**	**-0.9**
NNA	**Nana**	**5.21**	**308**	P		**Pn**	**06 17 46.5**	**-0.2**
	2.3nm,0.3s,baz=132,slow=13,SNR=11							
NNA				S		**Sn**	**06 18 45.5**	**-0.2**
	8.4nm,0.3s,baz=245,slow=19,SNR=4.5							
NNA	**Nana**	**5.21**	**308**	*e*Pn		**Pn**	**06 17 46.2**	**-0.5**
NNA				*e*Sn		**Sn**	**06 18 46.4**	**+0.6**
SAML	**Samuel**	**11.16**	**57**	*e*P		**Pn**	**06 19 06.4**	**-0.3**
SIV	**San Ignacio**	**11.17**	**95**	P		**Pn**	**06 19 00.8**	**-6.1**
	0.3nm,0.3s,baz=294,slow=13,SNR=11							
SIV	**San Ignacio**	**11.17**	**95**	P		**Pn**	**06 19 00.8**	**-6.1**
TXAR	**Lajitas Array**	**53.49**	**326**	P		**P**	**06 25 39.0**	**+0.8**
	0.2nm,0.6s,mb3.4,baz=164,slow=10,SNR=3.3							
TXAR	**Lajitas Array**	**53.49**	**326**	P		**P**	**06 25 39.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**78.76**	**73**	P		**P**	**06 28 19.0**	**-0.9**
	0.8nm,0.9s,mb3.5,baz=245,slow=5.2,SNR=3.7							
TORD	**Torodi Ar. Bea**	**78.76**	**73**	P		**P**	**06 28 19.0**	**-0.9**
YKA	**Yellowknife Ar**	**84.15**	**342**	P		**P**	**06 28 47.6**	**+0.4**
	0.5nm,0.7s,mb3.5,baz=136,slow=5.4,SNR=9.1							
YKA	**Yellowknife Ar**	**84.15**	**342**	P		**P**	**06 28 47.6**	**+0.4**

IDC 19 06:24:03.1±1.7, 6°.98S×155°.43E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=69.6km s-min=26.7km az=133.0, Bougainville - Solomon Islands region

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

NDI	**New Delhi**	**4.30 256**	*e*PKP	**Pn**	**06 35 00.3**	**+1.1**
NDI			*e*S	**Sn**	**06 35 46.5**	**-2.9**
NDI			AML	AML	06 36 26.1	
	comp=E,74nm,0.8s					
NDI			AML	AML	06 36 28.5	
	comp=N,59nm,0.1s					
SMLA	**Simla**	**4.37 289**	*i* P	**Pn**	**06 35 01.3**	**+1.3**
SMLA			*i* x	**Sn**	**06 35 50.9**	**-0.1**
SMLA			⇓AML	AML	06 35 52.8	
	comp=N,1μm,0.4s					
SMLA			⇓AML	AML	06 35 53.8	
	comp=E,1μm,0.3s					
AYAN	**Aya Nagar**	**4.44 254**	*e*PKP	**Pn**	**06 35 01.7**	**+0.7**
AYAN			*e*x	**Sn**	**06 35 52.4**	**-0.2**
AYAN			AML	AML	06 35 57.4	
	comp=Z,39nm,0.3s					
ALBI	**Allahabad**	**4.45 182**	*e*x	**Pn**	**06 35 01.0**	**-0.3**
SDNR	**Sundarnagar**	**4.64 293**	*e*x	**Pb**	**06 35 12.0**	**-3.2**
BOK	**Bokaro**	**6.91 149**	*e*PKP	**Pn**	**06 35 37.3**	**+2.4**
BOK			*e*S	**Sn**	**06 36 49.4**	**-4.2**
BOK			AML	AML	06 36 57.4	
	comp=N,17nm,0.2s					
BHPL	**Bhopal**	**7.68 213**	*e*x	**Pn**	**06 35 44.3**	**-1.3**
BHPL			*e*S	**Sn**	**06 37 08.6**	**-4.1**
BHPL			AML	AML	06 37 15.7	
	comp=N,22nm,0.1s					
BHPL			AML	AML	06 37 15.9	
	comp=E,40nm,0.1s					
LSA	**Lhasa**	**7.98 88**	*e*Pn	**Pn**	**06 35 50.9**	**+1.3**
LSA			*e*Sn	**Sn**	**06 37 18.5**	**-1.4**
BOM	**Bombay**	**13.67 220**	*e*x	x	06 37 21.3	
BOM			*e*x	x	06 37 37.2	
KKAR	**Karatay Array**	**16.16 328**	*e*P	**Pn**	**06 37 40.4**	**-0.4**
	comp=E,0.6nm,0.5s					
MK31	**Makanchi Array**	**16.99 1**	*e*P	**Pn**	**06 37 52.0**	**+0.7**
MKAR	**Makanchi Array**	**16.99 1**	Pn	**Pn**	**06 37 51.1**	**-0.2**
	comp=E,0.3nm,0.3s,baz=180,slow=11,SNR=9.1					
MKAR	**Makanchi Array**	**16.99 1**	Pn	**Pn**	**06 37 51.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**19.12 122**	P	**Pn**	**06 38 18.2**	**+0.5**
	comp=E,0.1nm,0.3s,baz=314,slow=8.9,SNR=6.6					
CMAR	**Chiang Mai Arr**	**19.12 122**	P	**Pn**	**06 38 18.2**	**+0.5**
KURK	**Kurchatov**	**21.07 354**	P	**P**	**06 38 35.6**	**-2.2**
	comp=E,3.9nm,0.6s,mb3.9,baz=178,slow=10,SNR=61					
KURK	**Kurchatov**	**21.07 354**	*e*P	**P**	**06 38 35.9**	**-1.8**
	comp=E,7.0nm,0.8s,mb4.0					
ZALV	**Zalesovo Beam**	**24.24 4**	P	**P**	**06 39 09.4**	**-1.1**
	comp=E,1.0nm,0.4s,mb3.6,baz=194,slow=9.7,SNR=4.7					
ZALV	**Zalesovo Beam**	**24.24 4**	P	**P**	**06 39 09.4**	**-1.1**
ABKAR	**Akbulak array**	**25.67 325**	*e*P	**P**	**06 39 23.9**	**+0.3**
	comp=E,1.2nm,0.6s,mb3.6					
SONM	**Songino Array**	**26.04 39**	P	**P**	**06 39 27.5**	**+0.6**
	comp=E,0.9nm,0.7s,mb3.4,baz=226,slow=12,SNR=4.0					
SONM	**Songino Array**	**26.04 39**	P	**P**	**06 39 27.5**	**+0.6**
BRTR	**Keskin Array B**	**40.52 298**	P	**P**	**06 41 34.3**	**+1.5**
	comp=E,0.2nm,0.3s,mb3.2,baz=94,slow=8.8,SNR=3.7					
BRTR	**Keskin Array B**	**40.52 298**	P	**P**	**06 41 34.3**	**+1.5**
FINES	**FINESS Array B**	**48.12 328**	P	**P**	**06 42 33.2**	**-0.2**
	comp=E,5.8nm,1.1s,mb4.5,baz=120,slow=10,SNR=4.0					
FINES	**FINESS Array B**	**48.12 328**	P	**P**	**06 42 33.2**	**-0.2**
ARCES	**ARCESS Array B**	**50.84 338**	P	**P**	**06 42 52.6**	**-1.4**
	comp=E,4.0nm,1.0s,mb4.3,baz=99,slow=7.7,SNR=4.8					
ARCES	**ARCESS Array B**	**50.84 338**	P	**P**	**06 42 52.6**	**-1.4**
TORD	**Torodi Ar. Bea**	**75.25 277**	P	**P**	**06 45 37.0**	**-0.2**
	comp=E,0.5nm,0.7s,mb3.6,baz=56,slow=5.7,SNR=3.8					
TORD	**Torodi Ar. Bea**	**75.25 277**	P	**P**	**06 45 37.0**	**-0.2**
ILAR	**Eielson Array**	**78.39 19**	P	**P**	**06 45 56.6**	**+2.6**
	comp=E,0.4nm,0.9s,mb3.4,baz=313,slow=5.3,SNR=3.6					
ILAR	**Eielson Array**	**78.39 19**	P	**P**	**06 45 56.6**	**+2.6**

TAP 19 06:39:03.8, 24°.84N×121°.97E, h5km±1km, ML2.3, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.17**	**5**	⇓*i*P	Pg	06 39 08.1	+1.0
	baz=1.0						
TWB1				*i* S	Sg	06 39 10.5	+1.2
	baz=1.0						
TWC	**Suao**	**0.26**	**206**	*i* P	Pg	06 39 09.5	+0.7
	baz=203						
TWC				S	Sg	06 39 12.6	+0.5
	baz=203						
NWF	**Wu-fen Shan**	**0.29**	**323**	*i* P	Pg	06 39 10.8	+1.4
	baz=308						
NWF				*i* S	Sg	06 39 15.4	+2.3
	baz=308						
TWE	**Neicheng**	**0.30**	**247**	P	Pg	06 39 10.4	+0.8
	baz=244						
TWE				*e*S	Sg	06 39 15.0	+1.5
	baz=244						
TWA	**Mucha**	**0.38**	**292**	*e*P	Pg	06 39 12.2	+1.0
	baz=290						
TWA				*e*S	Sg	06 39 18.1	+2.1
	baz=290						
ENTT	**Nioudou**	**0.42**	**242**	*e*P	Pg	06 39 12.8	+1.0
	baz=239						
ENTT				*e*S	Sg	06 39 19.6	+2.2
	baz=239						
ENA	**Nanau**	**0.46**	**207**	*e*P	Pg	06 39 13.1	+0.4
	baz=206						
ENA				*e*S	Sg	06 39 18.9	+0.2
	baz=206						
TWY	**Chenhua**	**0.55**	**322**	*e*P	Pg	06 39 15.6	+1.3
	baz=308						
TWY				*e*S	Sg	06 39 23.6	+2.1
	baz=308						
NSK	**Sanguang**	**0.58**	**254**	P	Pg	06 39 15.3	+0.4
	baz=252						
NSK				*e*S	Sg	06 39 22.5	0.0
	baz=252						
WHF	**Hehuan Shan**	**0.94**	**223**	*e*P	Pg	06 39 22.8	+0.9
	baz=221						

*ISCJB **19** 06:40:51.4±0.6, 24°.83N±0°.02×122°.07E±0°.03, h3km±4km, mb3.5/5, Error ellipse: s-maj=4.2km s-min=3.6km az=14.9*
*IDC **19** 06:40:51.1±1.9, 24°.92N×122°.23E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, MS3.1/2, Ms1 3.1/2, ms1mx2.5/26, Error ellipse: s-maj=155.4km s-min=19.5km az=65.0*
*JMA **19** 06:40:51.1±0.6, 23°.90N×122°.11E, h0km, M3.0*
*TAP **19** 06:40:52.0, 24°.85N×122°.01E, h12km, ML3.5, C*
*NEIC **19** 06:40:53.1±0.8, 24°.85N×121°.98E, h10km, MG3.0(JMA), Error ellipse: s-maj=12.0km s-min=8.5km az=84.0*

ISC 19 06:40:51.9±0.5, 24°.83N±0°.02×122°.08E±0°.03, h2km±4km, n52, σ0°84/70, mb3.5/5, 7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.19**	**335**	⇓*i*P	**Pg**	**06 40 56.0**	**+0.4**
	baz=346						
TWB1				S	**Sg**	**06 40 58.5**	**+0.3**
	baz=346						
TWC	**Suao**	**0.30**	**223**	⇓*i*P	**Pg**	**06 40 58.0**	**+0.3**
	baz=211						
TWC				S	**Sg**	**06 41 01.4**	**-0.3**
	baz=211						
ILA	**Ilan**	**0.31**	**258**	*e*P	**Pg**	**06 40 57.2**	**-0.5**
	baz=250						
ILA				*e*S	**Sg**	**06 41 01.7**	**-0.1**
	baz=250						
NWF	**Wu-fen Shan**	**0.36**	**312**	⇓*i*P	**Pg**	**06 40 59.1**	**+0.3**
	baz=310						
NWF				*i* S	**Sg**	**06 41 04.1**	**+0.6**
	baz=310						
TWE	**Neicheng**	**0.39**	**254**	*i* P	**Pg**	**06 40 59.1**	**-0.2**
	baz=239						
TWE				S	**Sg**	**06 41 04.1**	**-0.3**
	baz=239						
TWA	**Mucha**	**0.47**	**288**	⇓*i*P	**Pg**	**06 41 00.9**	**-0.1**
	baz=281						
TWA				S	**Sg**	**06 41 06.6**	**-0.5**
	baz=281						
ENTT	**Nioudou**	**0.50**	**248**	P	**Pg**	**06 41 01.2**	**-0.3**
	baz=244						
ENTT				*e*S	**Sg**	**06 41 08.7**	**+0.7**
	baz=244						
ENA	**Nanau**	**0.51**	**217**	⇓P	**Pg**	**06 41 01.6**	**0.0**
	baz=216						
ENA				*e*S	**Sg**	**06 41 07.6**	**-0.5**
	baz=216						
TAP1	**Taipei**	**0.54**	**292**	*i* P	**Pg**	**06 41 02.6**	**+0.3**
	baz=285						
TAP1				*e*S	**Sg**	**06 41 08.2**	**-1.1**
	baz=285						
TATO	**Taipei**	**0.55**	**285**	*e*Pn	**Pg**	**06 41 02.1**	**-0.4**
TWY	**Chenhua**	**0.62**	**316**	⇓*i*P	**Pg**	**06 41 04.2**	**+0.4**
	baz=316						
YHNB	**Yeheng**	**0.66**	**256**	*e*Pg	**Pg**	**06 41 03.5**	**-1.0**
NSK	**Sanguang**	**0.67**	**257**	⇓*i*P	**Pg**	**06 41 04.0**	**-0.7**
	baz=254						
NSK				*e*S	**Sg**	**06 41 13.3**	**-0.1**
	baz=254						
NNS	**Nan Shan**	**0.75**	**239**	*e*P	**Pg**	**06 41 06.2**	**0.0**
	baz=237						
NNS				*e*S	**Sg**	**06 41 16.2**	**+0.2**
	baz=237						
NACB	**Ninganchiao**	**0.79**	**214**	*e*Pg	**Pg**	**06 41 07.1**	**+0.1**
NACB				*e*Sg	**Sg**	**06 41 16.9**	**-0.3**
NCU	**National Centr**	**0.82**	**280**	*e*P	**Pg**	**06 41 07.5**	**-0.1**
	baz=278						
NCU				*e*S	**Sg**	**06 41 18.6**	**+0.3**
	baz=278						
TWD	**Chiawan**	**0.87**	**210**	P	**Pg**	**06 41 08.2**	**-0.4**
	baz=210						
TWD				*e*S	**Sg**	**06 41 19.3**	**-0.4**
	baz=210						
YOJ	**Yonaguni jima**	**0.93**	**113**	P	**Pg**	**06 41 10.7**	**+1.1**
YOJ				S	**Sg**	**06 41 24.5**	**+2.9**
NSTT	**Nanjuang**	**1.00**	**259**	*e*P	**Pg**	**06 41 10.0**	**-1.1**
	baz=258						
NSTT				*e*S	**Sg**	**06 41 24.8**	**+0.8**
	baz=258						
TWT	**Tachien**	**1.00**	**235**	*e*P	**Pg**	**06 41 13.2**	**+2.1**
	baz=224						
WHF	**Hehuan Shan**	**1.01**	**227**	*e*P	**Pg**	**06 41 10.6**	**-0.6**
	baz=226						
ESL	**Shilin**	**1.17**	**210**	*e*P	**Pg**	**06 41 13.7**	**-0.7**
	baz=210						
TWQ1	**Liyutan**	**1.28**	**248**	*e*P	**Pg**	**06 41 15.8**	**-0.6**
	baz=265						
SMLT	**Sun Moon Lake**	**1.43**	**229**	*e*P	**Pn**	**06 41 18.2**	**-0.7**
	baz=221						
TYC	**Yuchr**	**1.45**	**231**	*e*P	**Pn**	**06 41 18.9**	**-0.2**
	baz=222						
SSLB	**Suanglung**	**1.46**	**225**	*e*Pn	**Pn**	**06 41 18.5**	**-0.7**
EHY	**Hungye**	**1.49**	**208**	*e*P	**Pn**	**06 41 19.3**	**-0.4**
	baz=209						
IRIF	**Iriomote-Funau**	**1.58**	**108**	P	**Pn**	**06 41 20.1**	**-0.9**
IRIF				*e*S	**Sn**	**06 41 40.8**	**-1.2**
WNT	**Mingjian**	**1.59**	**234**	*e*P	**Pn**	**06 41 21.6**	**+0.7**
	baz=234						
YULB	**Yu-li**	**1.60**	**207**	*e*Pn	**Pn**	**06 41 21.3**	**+0.1**
TWF1	**Yuli**	**1.64**	**206**	*e*P	**Pn**	**06 41 21.0**	**-0.7**
	baz=216						
YUS	**Yu-Shan**	**1.69**	**218**	*e*P	**Pn**	**06 41 23.4**	**+1.1**
	baz=227						
ALS	**Alishan**	**1.75**	**222**	*e*P	**Pn**	**06 41 25.2**	**+1.9**
	baz=223						
CHN5	**Tsauling**	**1.77**	**226**	*e*P	**Pn**	**06 41 25.0**	**+1.4**
	baz=228						
JKRS	**Kuro-shima**	**1.86**	**108**	P	**Pn**	**06 41 22.9**	**-1.8**
JKRS				*e*S	**Sn**	**06 41 46.0**	**-2.7**
ELDTW	**Lidau**	**1.90**	**211**	*e*P	**Pn**	**06 41 26.4**	**+1.1**
	baz=213						
JIJ	**Ishigaki jima**	**1.94**	**103**	P	**Pn**	**06 41 26.7**	**+0.9**
TPUB	**Ta-pu**	**2.02**	**221**	*e*Pn	**Pn**	**06 41 29.0**	**+2.1**
TPUB				*e*Sg	**Sg**	**06 41 56.2**	**-0.5**
WTP	**Ta-pu**	**2.07**	**221**	*e*P	**Pn**	**06 41 28.4**	**+0.8**
	baz=222						
CHN1	**Nanshi**	**2.17**	**221**	*e*P	**Pn**	**06 41 30.1**	**+1.1**
	baz=223						
TWG	**Pinlang**	**2.20**	**205**	*e*Pn	**Pn**	**06 41 30.0**	**+0.5**
KSRS	**Korea Array**	**13.54**	**20**	LR	LR	06 50 03.7	
	comp=Z,41nm,20.3s,baz=335,slow=41						
SONM	**Songino Array**	**26.10**	**336**	P	**P**	**06 46 26.9**	**-0.1**
	1.5nm,0.9s,mb3.5,baz=142,slow=8.9,SNR=8.8						
SONM				LR	LR	06 56 51.7	
	comp=Z,85nm,18.7s,baz=73,slow=37						
SONM	**Songino Array**	**26.10**	**336**	P	**P**	**06 46 26.9**	**-0.1**
MKAR	**Makanchi Array**	**38.45**	**315**	P	**P**	**06 48 15.0**	**0.0**
	0.3nm,0.7s,mb3.1,baz=92,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**38.45**	**315**	P	**P**	**06 48 15.0**	**0.0**
ZALV	**Zalesovo Beam**	**40.15**	**326**	P	**P**	**06 48 28.2**	**-1.0**
	0.4nm,0.5s,mb3.4,baz=107,slow=7.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**40.15**	**326**	P	**P**	**06 48 28.2**	**-1.0**
WRA	**Warramunga Arr**	**46.08**	**164**	P	**P**	**06 49 16.9**	**-0.5**
	1.7nm,0.6s,mb4.1,baz=345,slow=8.7,SNR=6.1						
WRA	**Warramunga Arr**	**46.08**	**164**	P	**P**	**06 49 16.9**	**-0.5**
ASAR	**Alice Springs**	**49.55**	**166**	P	**P**	**06 49 44.6**	**+0.3**
	0.2nm,0.6s,mb3.4,baz=354,slow=7.6,SNR=3.9						
ASAR	**Alice Springs**	**49.55**	**166**	P	**P**	**06 49 44.6**	**+0.3**

GUC 19 06:42:02.6±0.5, 32°.49S×71°.91W, h13km±3km, MD3.9, ML3.3, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**158**	⇑*i*P	Pg	06 42 13.7	-0.3
IHA				*i* S	Sg	06 42 22.1	+0.3
CHNG	**Los Chungos**	**0.69**	**30**	⇑*i*P	Pg	06 42 15.5	-0.6
CHNG				*i* S	Sg	06 42 25.3	+0.1
PTCH	**Petorca**	**0.85**	**75**	⇓*i*P	Pg	06 42 18.4	-0.7
PTCH				*i* S	Sg	06 42 29.9	-0.4
PTCH				AML	AML	06 42 31.6	
	comp=N,4μm,0.2s						
ROCH	**El Roble**	**0.90**	**123**	⇓*i*P	Pg	06 42 19.0	-1.0
ROCH				AML	AML	06 42 34.3	
	comp=E,1μm,0.4s						
LCCH	**Las Cruces**	**1.03**	**164**	⇑*i*P	Pb	06 42 21.0	-1.2
LCCH				*i* S	Sb	06 42 34.5	-1.1
JACH	**Jahuel**	**1.13**	**100**	⇑*i*P	Pb	06 42 22.6	-1.3
JACH				*i* S	Sb	06 42 37.5	-0.9
PEL	**Peldehue**	**1.22**	**123**	⇑*i*P	Pn	06 42 24.3	-1.0
PEL				*i* S	Sb	06 42 40.5	-0.6
PEL				AML	AML	06 42 43.1	
	comp=E,2μm,0.6s						
TACH	**Talagante**	**1.42**	**145**	⇑*i*P	Pn	06 42 27.2	-0.9
TACH				*i* S	Sn	06 42 45.5	-1.1
SAN	**Santiago**	**1.42**	**133**	*e*P	Pn	06 42 27.3	-0.8
SAN				*e*S	Sn	06 42 46.0	-0.7
SAN				AML	AML	06 42 51.3	
	comp=N,566nm,0.5s						
CLCH	**Cerro Calan**	**1.47**	**129**	⇓*i*P	Pn	06 42 28.0	-0.7
CLCH				*i* S	Sn	06 42 47.2	-0.5
CLCH				AML	AML	06 42 51.0	
	comp=E,1μm,0.4s						
CMCH	**Combarbala**	**1.52**	**31**	⇓*i*P	Pn	06 42 28.1	-1.3
CMCH				*i* S	Sn	06 42 48.0	-0.9
CMCH				AML	AML	06 42 50.3	
	comp=E,3μm,0.5s						
ANTU	**Antumapu**	**1.52**	**136**	⇑*i*P	Pn	06 42 29.0	-0.4
ANTU				*i* S	Sn	06 42 48.9	-0.2
ANTU				AML	AML	06 42 51.5	
	comp=E,681nm,0.3s						
FSR	**Penalolen**	**1.52**	**131**	⇓*i*P	Pn	06 42 29.0	-0.5
FSR				*i* S	Sn	06 42 48.9	-0.2
LNV	**Longovilo**	**1.52**	**164**	*e*P	Pn	06 42 28.6	-0.9
LNV				*i* S	Sn	06 42 48.4	-0.8
PCH	**Pirque**	**1.63**	**134**	⇑*i*P	Pn	06 42 30.5	-0.4
PCH				*e*S	Sn	06 42 52.4	+0.7
SJCH	**San Jose de Ma**	**1.74**	**132**	*e*P	Pn	06 42 32.5	+0.1
SJCH				*i* S	Sn	06 42 55.0	+0.5
CACH	**El Canelo**	**1.96**	**146**	*e*P	Pn	06 42 36.5	+1.0
CACH				*e*S	Sn	06 43 02.9	+3.0
LMEL	**Las Melosas**	**1.97**	**134**	*e*P	Pn	06 42 36.2	+0.6
LMEL				*i* S	Sn	06 43 01.8	+1.7
LMEL				AML	AML	06 43 08.7	
	comp=N,423nm,0.4s						

*ISCJB **19** 06:44:00.7±2.5, 17°.4S±0°.2×70°.1W±0°.2, h103km±25km, mb3.3/2, Error ellipse: s-maj=33.0km s-min=23.6km az=155.3*
*IDC **19** 06:44:00.1±4.9, 17°.56S×70°.30W, h79km±37km, mb3.2/2, mb1 3.5/4, mb1mx3.3/17, mbtmp3.4/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/9, Error ellipse: s-maj=61.2km s-min=24.5km az=117.0*
*NEIC **19** 06:44:00.3±2.5, 17°.51S×70°.15W, h80km±23km, mb3.5/1, Error ellipse: s-maj=29.1km s-min=19.4km az=64.0*
NEIC Felt [II] at Moquegua.

ISC 19 06:44:00.2±2.6, 17°.4S±0°.2×70°.2W±0°.2, h88km±27km, n13, σ0°28/11, mb3.3/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.31**	**61**	P	**Pn**	**06 44 36.8**	**+0.3**
	13nm,0.3s,baz=255,slow=14,SNR=228						
LPAZ				S	**Sn**	**06 45 09.1**	**+4.9**
	18nm,0.3s,baz=133,slow=25,SNR=7.8						
LPAZ	**La Paz**	**2.31**	**61**	*e*Pn	**Pn**	**06 44 36.7**	**+0.2**
LPAZ				*e*Sn	**Sn**	**06 45 09.1**	**+4.9**
SIV	**San Ignacio**	**8.89**	**82**	P	**Pn**	**06 46 05.4**	**-0.5**
	0.5nm,0.3s,baz=284,slow=16,SNR=8.6						
SIV				LR	LR	06 49 21.0	
	comp=Z,36nm,18.1s,slow=36						
SIV	**San Ignacio**	**8.89**	**82**	P	**Pn**	**06 46 05.4**	**-0.5**
ATAH	**Atahualpa**	**12.98**	**321**	LR	LR	06 52 37.7	
	comp=Z,92nm,18.7s,baz=168,slow=40						
CPUP	**Villa Florida**	**14.88**	**129**	LR	LR	06 53 57.1	
	comp=Z,39nm,18.2s,baz=192,slow=40						
OTAV	**Otavalo**	**19.34**	**334**	*e*P	**Pn**	**06 48 20.6**	**-0.1**
	3.1nm,1.1s						
PLCA	**Paso Flores**	**23.22**	**181**	P	**P**	**06 48 59.6**	**+0.1**
	0.8nm,0.6s,mb3.2,baz=16,slow=8.2,SNR=1.9						
PLCA	**Paso Flores**	**23.22**	**181**	P	**P**	**06 48 59.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.22**	**72**	P	**P**	**06 55 45.3**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=255,slow=5.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.22**	**72**	P	**P**	**06 55 45.3**	**+0.1**
SONM	**Songino Array**	**149.56**	**4**	PKPbc	PKPbc	07 03 42.1	+2.7
	0.4nm,0.6s,baz=330,slow=2.0,SNR=2.9						
SONM	**Songino Array**	**149.56**	**4**	PKPbc	PKPbc	07 03 42.1	+2.7

*MOS **19** 06:52:54.8±0.9, 40°.84N×141°.85E, h33km, mb4.9/34, Error ellipse: s-maj=11.1km s-min=6.5km az=114.0*
*ISCJB **19** 06:52:58.9±0.4, 40°.98N±0°.03×141°.97E±0°.04, h66km±2km, mb4.5/71, Error ellipse: s-maj=5.9km s-min=3.7km az=28.7*
*BJI **19** 06:52:59.2, 41°.01N×142°.09E, h77km, mB5.2/20, mb4.8/26, Ms4.4/11, Ms7 4.3/11*
*JMA **19** 06:52:59.1±0.1, 40°.97N×142°.01E, h56km±2km, M4.1 Broadband fault plane solution: P waves. NP1: φs29.00000°, δ86.00000°, λ92.00000°. NP2:φs178.00000°, δ5.00000°, λ58.00000°. Principal axes: T Plg49.0000°, Azm302.0000°; N Plg2.0000°, Azm209.0000°; P Plg41.0000°, Azm117.0000°;*
JMA Felt III J1.
*NIED **19** 06:53:00, 41°.00N×142°.00E, h53km, Mw4.3 Best double couple: M:3.34000×10^15 NP1:φs21.00000°, δ71.00000°, λ91.00000°. NP2:φs199.00000°, δ19.00000°, λ88.00000°.*
*IDC **19** 06:53:01.4±1.7, 40°.97N×141°.91E, h77km±14km, mb3.9/20, mb1 4.1/24, mb1mx4.0/29, mbtmp3.9/24, MS3.4/5, Ms1 3.4/5, ms1mx3.1/34, Error ellipse: s-maj=14.9km s-min=10.2km az=122.0*
*NEIC **19** 06:53:01.4±0.5, 40°.99N×142°.01E, h77km±4km, mb4.9/35, MW4.3(NIED), Error ellipse: s-maj=7.2km s-min=4.7km az=136.0*
NEIC Felt [II] at Misawa. Recorded [3 JMA] in Aomori and [1 JMA] in Iwate. Also recorded [1 JMA] in southwestern Hokkaido.

ISC 19 06:52:59.8±0.4, 40°.98N±0°.03×141°.97E±0°.04, h60km±2km, h78km±.8km: pP-P, n244, σ0°97/259, mb4.7/71, 9C-14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.69**	**210**	⇓P	**Pn**	**06 53 13.1**	**-0.9**
JANG				S	**Sn**	**06 53 23.0**	**-1.4**
JTM	**Tenmabayashi**	**0.71**	**255**	⇓P	**Pn**	**06 53 13.6**	**-0.6**
JTM				S	**Sn**	**06 53 24.0**	**-0.7**
JOT	**Ohata**	**0.80**	**301**	⇓P	**Pn**	**06 53 14.6**	**-0.8**
JOT				*e*S	**Sn**	**06 53 26.0**	**-0.8**
JKB	**Kayabe**	**1.15**	**323**	⇓P	**Pn**	**06 53 19.2**	**-0.6**
JKB				S	**Sn**	**06 53 33.8**	**-0.9**
JAH	**Hinai**	**1.28**	**233**	⇓P	**Pn**	**06 53 21.4**	**-0.2**
JAH				S	**Sn**	**06 53 38.6**	**+0.7**
JSR	**Shiriuchi**	**1.29**	**296**	⇓P	**Pn**	**06 53 21.4**	**-0.3**
ERM	**Erimo**	**1.37**	**40**	*e*Pn	**Pn**	**06 53 23.0**	**+0.3**
ERM	**Erimo**	**1.37**	**40**	*c i*P	**Pn**	**06 53 23.1**	**+0.4**
ERM				pmax	pmax		
	comp=Z,132nm,0.7s						
JEM	**Erimo**	**1.37**	**40**	P	**Pn**	**06 53 23.0**	**+0.2**
JEM				S	**Sn**	**06 53 41.0**	**+1.1**
JNBK	**Urakawa-nobuka**	**1.43**	**24**	P	**Pn**	**06 53 23.7**	**+0.2**
JIW	**Iwasaki**	**1.54**	**256**	P	**Pn**	**06 53 24.7**	**-0.3**
JOM	**Ohasama**	**1.59**	**199**	⇑P	**Pn**	**06 53 25.3**	**-0.4**
JOM				*e*S	**Sn**	**06 53 44.5**	**-0.7**
JNB	**Noboribetsu**	**1.65**	**335**	P	**Pn**	**06 53 25.5**	**-1.0**
JNB				*e*S	**Sn**	**06 53 45.8**	**-0.8**
JYM2	**Yakumo 2**	**1.65**	**314**	⇓P	**Pn**	**06 53 26.3**	**-0.3**
JYM2				*e*S	**Sn**	**06 53 47.3**	**+0.5**
ASAJ	**Asahikawa**	**3.17**	**8**	P	**Pn**	**06 53 47.8**	**+0.5**
	comp=Z,11nm,0.3s,baz=208,slow=9.4,SNR=27						
ASAJ				S	**Sn**	**06 54 26.2**	**+2.4**
	comp=Z,10nm,0.3s,baz=1.9,slow=28,SNR=8.7						
ASAJ	**Asahikawa**	**3.17**	**8**	*e*Pn	**Pn**	**06 53 47.9**	**+0.6**
ASAJ				S	**Sn**	**06 54 26.2**	**+2.4**
ASAJ	**Asahikawa**	**3.17**	**8**	P	**Pn**	**06 53 47.8**	**+0.6**
ASAJ				S	**Sn**	**06 54 26.3**	**+2.5**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				smax			
	comp=N,10.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.20**	**42**	*d i*P	**Pn**	**06 54 01.6**	**+0.3**
YUK				*i* S	**Sn**	**06 54 45.9**	**-3.1**
YUK				pmax	pmax		
	comp=N,95nm,0.2s						
YUK				pmax	pmax		
	comp=E,135nm,0.2s						
YUK				pmax	pmax		
	comp=Z,232nm,0.2s						
YUK				pmax	pmax		
	comp=Z,40μm,0.1s						
YUK				smax			
	comp=E,222nm,0.1s						
YUK				smax			
	comp=N,404nm,0.3s						
YUK				MLR	MLR		
	comp=E,4μm,6.0s						
YUK				MLR	MLR		
	comp=Z,4μm,6.0s						
MAJO	**Matsushiro**	**5.31**	**215**

comp=Z,79nm,19.5s,baz=153,slow=38
BJI Beijing 19.62 276 P Pn 06 57 24.3 -0.7
BJI S **S** **07 01 02.6 +1.4**
BJI pmax pmax
comp=Z,12nm,0.6s
BJI pmax pmax
comp=Z,220nm,5.1s
BJI LR LR
comp=N,540nm,24.9s
BJI LR LR
comp=E,340nm,26.0s
NJ2 Nanjing 20.56 252 *eP* **P 06 57 32.3 -1.1**
NJ2 pmax pmax
comp=Z,20nm,0.6s
YAK Yakutsk 22.35 345 *eP* **P 06 57 48.6 -3.7**
YAK pmax pmax
comp=Z,26nm,1.0s,mb4.6
HHC Hu-ho-hao-te 22.93 280 *eP* **P 06 57 58.8 +0.2**
HHC pP 06 58 17.3
HHC sP sP 06 58 27.0 +7.5
HHC PP 06 58 31.1
HHC PcP PcP 07 01 47.8 +0.9
HHC S **S** **07 02 00.1 -3.8**
HHC sS sS 07 02 28.6 +0.6
HHC SS 07 02 48.4
HHC ScP ScP 07 05 17.9 -1.5
HHC PcS PcS 07 05 25.9 0.0
HHC pmax pmax
comp=Z,18nm,0.5s,mb4.8
HHC pmax pmax
comp=Z,280nm,4.9s
HHC LR LR
comp=N,230nm,12.3s
HHC LR LR
comp=E,210nm,12.2s
HHC LR LR
comp=Z,260nm,11.6s
BOD Bodaibo 24.53 323 *eP* **P 06 58 11.2 -2.2**
ULN Ulaanbaatar 25.71 297 *eP* **P 06 58 24.3 +0.1**
comp=Z,3.4nm,1.0s,mb3.8
ULN Ulaanbaatar 25.71 297 *eP* **P 06 58 24.3 +0.1**
ULN pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
SONM Songino Array 26.15 297 P **P 06 58 27.6 -0.6**
comp=Z,2.7nm,0.6s,mb3.9,baz=82,slow=8.7,SNR=12
SONM LR LR 07 09 04.5
comp=Z,130nm,18.2s,baz=30,slow=37
SONM Songino Array 26.15 297 P **P 06 58 27.6 -0.6**
SONM Songino Array 26.15 297 P **P 06 58 27.6 -0.6**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM MLR MLR
comp=Z,130nm,18.2s
GUMO Guam 27.40 174 LR LR 07 09 27.7
comp=Z,77nm,19.4s,baz=90,slow=36
ZAK Zakamensk 28.34 303 *eP* **P 06 58 46.7 -1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb3.9
LZH Lanzhou 30.06 273 *eP* **P 06 59 06.1 +3.0**
LZH pP pP 06 59 24.3 +6.3
LZH sP sP 06 59 31.8 +6.7
LZH PP PP 07 00 07.0 -4.8
LZH pmax pmax
comp=Z,23nm,1.3s,mb4.8
LZH pmax pmax
comp=Z,56nm,4.2s
LZH LR LR
comp=N,370nm,12.1s
LZH LR LR
comp=E,400nm,11.8s
LZH LR LR
comp=Z,430nm,15.0s
LZH Lanzhou 30.06 273 *eP* **P 06 59 06.1 +3.0**
comp=Z,23nm,1.3s,mb4.8
LZH pP pP 06 59 24.2 +6.2
LZH sP sP 06 59 31.7 +6.6
LZH PP PP 07 00 07.0 -4.8
LZH LR LR
comp=Z,430nm,15.0s
LZH Lanzhou 30.06 273 *eP* **P 06 59 06.1 +3.0**
LZH *PP pP 06 59 24.2 +6.2
LZH 07 00 07.0
LZH pmax pmax
comp=Z,23nm,1.3s,mb4.8
LZH MLR MLR
comp=Z,430nm,15.0s
BILL Bilibino 30.14 18⇑ *eP* **P 06 59 03.8 +0.3**
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
CD2 Chengdu 32.30 264 *eP* **P 06 59 25.4 +2.4**
CD2 pP pP 06 59 43.3 +5.4
CD2 sP sP 06 59 52.4 +7.4
CD2 PP PP 07 00 35.8 -1.0
CD2 S **S** **07 04 33.3 +1.0**
CD2 sS sS 07 05 04.1 +6.3
CD2 SS SS 07 06 32.9 -20
CD2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CD2 pmax pmax
comp=Z,30nm,4.6s
CD2 LR LR
comp=N,250nm,13.2s
CD2 LR LR
comp=Z,120nm,10.8s
GYA Guiyang 32.50 255 *eP* **P 06 59 25.8 +1.1**
GYA pP pP 06 59 44.5 +4.8
GYA sP sP 06 59 54.3 +7.5
GYA PP PP 07 00 37.0 -2.0
GYA PcP PcP 07 02 11.4 +1.0
GYA S **S** **07 04 34.8 -0.6**
GYA sS sS 07 05 07.0 +6.1
GYA ScP ScP 07 05 46.3 -2.6
GYA PcS PcS 07 05 54.3 -1.3
GYA ScS ScS 07 09 45.0 -3.5
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
HVS Khovu-Aksy 34.43 304⇓ *iP* **P 06 59 40.8 -0.4**
HVS pmax pmax
comp=Z,18nm,0.9s,mb5.0
QIZ Qiongzhong 35.08 241 P **P 06 59 48.1 +0.9**
QIZ S **S** **07 05 17.1 +1.6**
QIZ pmax pmax
comp=Z,110nm,3.2s
WMQ Urumqi 39.58 293 P **P 07 00 27.4 +2.4**
WMQ pP pP 07 00 45.8 +5.5
WMQ sP sP 07 00 54.8 +7.5
WMQ pmax pmax
comp=Z,15nm,0.8s,mb4.8
WMQ pmax pmax
comp=Z,150nm,4.4s
ZAA0 Zalesovo Array 39.67 309 *eP* **P 07 00 24.6 -1.1**
ZALV Zalesovo Beam 39.67 309 P **P 07 00 25.3 -0.4**
comp=Z,4.4nm,0.6s,mb4.4,baz=91,slow=8.6,SNR=23
ZALV PcP PcP 07 02 30.9 -0.4
comp=Z,1.0nm,0.4s,baz=90,slow=4.4,SNR=4.4
ZALV Zalesovo Beam 39.67 309 P **P 07 00 25.3 -0.4**
ZALV PcP PcP 07 02 30.9 -0.4
ZALV Zalesovo Beam 39.67 309 P **P 07 00 25.3 -0.3**
ZALV 07 02 30.9
ZALV pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
NVS Novosibirsk 40.52 310 *eP* **P 07 00 31.4 -1.2**
LSA Lhasa 42.42 271 P **P 07 00 49.6 +1.1**
LSA Lhasa 42.42 271 *eP* **P 07 00 49.7 +1.2**
comp=Z,4.7nm,0.7s,mb4.2
LSA Lhasa 42.42 271 *eP* **P 07 00 49.7 +1.2**
LSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MK31 Makanchi Array 42.50 299 *eP* **P 07 00 48.2 -0.7**
MK31 Makanchi Array 42.50 299 *ceP* **P 07 00 48.2 -0.7**
MK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
MKAR Makanchi Array 42.50 299 P **P 07 00 48.5 -0.4**
comp=Z,8.5nm,1.1s,mb4.4,baz=84,slow=9.7,SNR=28
MKAR PcP PcP 07 02 40.2 -0.4
comp=Z,0.7nm,0.7s,baz=84,slow=5.9,SNR=2.9
MKAR Makanchi Array 42.50 299 *eP* **P 07 00 48.6 -0.3**
MKAR PcP PcP 07 02 40.2 -0.4
MKAR Makanchi Array 42.50 299 *eP* **P 07 00 48.6 -0.3**
MKAR 07 02 40.2
CHTO Chiang Mai 42.80 252 *eP* **P 07 00 52.2 +0.5**
comp=Z,5.3nm,0.8s,mb4.3
CHTO Chiang Mai 42.80 252 *eP* **P 07 00 52.2 +0.5**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CMAR Chiang Mai Arr 43.03 252 P **P 07 00 53.9 +0.3**
comp=Z,2.4nm,0.7s,mb4.0,baz=45,slow=7.1,SNR=12
CMAR Chiang Mai Arr 43.03 252 P **P 07 00 53.9 +0.3**
CMAR Chiang Mai Arr 43.03 252 P **P 07 00 53.9 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 43.93 305 PcP PcP 07 02 44.8 -0.6
comp=Z,1.3nm,0.6s,baz=82,slow=3.4,SNR=6.5
KURK Kurchatov 43.93 305 *eP* **P 07 00 59.6 -0.8**
comp=Z,9.2nm,0.8s,mb4.6
KURK PcP PcP 07 02 44.8 -0.6
KURK Kurchatov 43.93 305⇑ *eP* **P 07 00 59.4 -1.0**
KURK pmax pmax
comp=Z,12nm,1.0s,mb4.6
ILAR Eielson Array 45.97 34 P **P 07 01 16.5 +0.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=268,slow=5.7,SNR=18
ILAR Eielson Array 45.97 34 P **P 07 01 16.5 +0.1**
ILAR Eielson Array 45.97 34 P **P 07 01 16.5 +0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
TAPN Taplejung 46.22 271 *eP* **P 07 01 19.3 +0.4**
comp=Z,30nm,0.9s,mb5.2
TAPN Taplejung 46.22 271 *eP* **P 07 01 19.3 +0.4**
comp=Z,30nm,0.9s,mb5.2
ODAN Odare 46.72 270 *eP* **P 07 01 23.1 +0.3**
comp=Z,12nm,0.7s,mb5.0
ODAN Odare 46.72 270 *eP* **P 07 01 23.1 +0.3**
comp=Z,12nm,0.7s,mb4.9
JIRN Jiri 47.21 272 *eP* **P 07 01 26.9 +0.3**
comp=Z,26nm,0.8s,mb5.2
JIRN Jiri 47.21 272 *eP* **P 07 01 26.9 +0.3**
comp=Z,26nm,0.8s,mb5.2
RAMN Ramite 47.27 271 *eP* **P 07 01 27.2 +0.1**
comp=Z,32nm,0.7s,mb5.4
RAMN Ramite 47.27 271 *eP* **P 07 01 27.2 +0.1**
comp=Z,32nm,0.7s,mb5.4
GUN Gumba 47.31 272 *eP* **P 07 01 27.8 +0.4**
comp=Z,102nm,0.8s,mb5.8
GUN Gumba 47.31 272 *eP* **P 07 01 27.8 +0.4**
comp=Z,102nm,0.8s,mb5.8
KKN Kakani 47.83 273 *eP* **P 07 01 31.5 +0.1**
comp=Z,42nm,0.7s,mb5.6
KKN Kakani 47.83 273 *eP* **P 07 01 31.5 +0.1**
comp=Z,42nm,0.7s,mb5.6
KKN Kakani 47.83 273 *eP* **P 07 01 31.5 +0.1**
KKN pmax pmax
comp=Z,42nm,0.7s,mb5.6
PKI Pulchoki 47.84 272 *eP* **P 07 01 31.7 +0.2**
comp=Z,16nm,0.6s,mb5.3
PKI Pulchoki 47.84 272 *eP* **P 07 01 31.7 +0.2**
comp=Z,16nm,0.6s,mb5.2
PKI Pulchoki 47.84 272 *eP* **P 07 01 31.7 +0.2**
PKI pmax pmax
comp=Z,17nm,0.6s,mb5.2
DMN Daman 48.05 272 *eP* **P 07 01 32.9 -0.3**
comp=Z,19nm,0.8s,mb5.2
DMN Daman 48.05 272 *eP* **P 07 01 32.9 -0.3**
comp=Z,19nm,0.8s,mb5.2
GKN Gorkha 48.20 273 *eP* **P 07 01 34.1 -0.2**
comp=Z,32nm,0.7s,mb5.4
GKN Gorkha 48.20 273 *eP* **P 07 01 34.1 -0.2**
comp=Z,32nm,0.7s,mb5.5
TKM2 Tokmak 2 48.23 296 *eP* **P 07 01 34.7 +0.4**
comp=Z,12nm,0.6s,mb5.1
TKM2 Tokmak 2 48.23 296 *eP* **P 07 01 34.7 +0.4**
TKM2 pmax pmax
comp=Z,12nm,0.6s,mb5.1
BVA0 Borovoye Array 48.31 310 *i P* **P 07 01 33.8 -1.0**
BVAR Borovoye Array 48.31 310 P **P 07 01 34.7 -0.1**
comp=Z,3.3nm,0.4s,mb4.7,baz=70,slow=8.0,SNR=27
BVAR PcP PcP 07 03 00.1 -0.6
comp=Z,0.8nm,0.6s,baz=60,slow=3.5,SNR=2.8
BVAR Borovoye Array 48.31 310 P **P 07 01 34.7 -0.1**
BVAR PcP PcP 07 03 00.1 -0.6
BVAR Borovoye Array 48.31 310 P **P 07 01 34.7 -0.1**
BVAR 07 03 00.1
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 48.36 310 *eP* **P 07 01 35.1 -0.1**
comp=Z,3.1nm,0.7s,mb4.5
BRVK Borovoye 48.36 310⇑ *iP* **P 07 01 34.4 -0.8**
BRVK pmax pmax
comp=Z,13nm,2.5s,mb4.5
DANN Dangsing 48.69 274 *eP* **P 07 01 38.3 +0.3**
comp=Z,131nm,0.6s
DANN Dangsing 48.69 274 *eP* **P 07 01 38.3 +0.3**
comp=Z,131nm,0.6s
AAK Ala-Archa 49.09 296 *eP* **P 07 01 42.7 +1.8**
comp=Z,15nm,0.6s,mb5.2
AAK Ala-Archa 49.09 296⇓ *eP* **P 07 01 40.8 -0.1**
AAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
KOLN Koldanda 49.11 274 *eP* **P 07 01 41.1 -0.2**
comp=Z,11nm,0.5s,mb5.1
KOLN Koldanda 49.11 274 *eP* **P 07 01 41.1 -0.2**
comp=Z,11nm,0.5s,mb5.2
KSH Kashi 49.29 291 *eP* **P 07 01 46.6 +4.1**
KSH pP pP 07 02 05.4 +7.2
KSH sP sP 07 02 14.3 +9.2
KSH PcP PcP 07 03 07.4 +2.9
KSH PP PP 07 03 42.8 +6.2
KSH ScP ScP 07 06 54.6 +0.2
KSH PcS PcS 07 07 02.8 +1.8
KSH S **S** **07 08 47.0 +2.8**
KSH sS sS 07 09 20.3 +10
KSH ScS ScS 07 11 27.8 -0.9
KSH SS SS 07 12 17.0 +1.0
KSH pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
KSH pmax pmax
comp=Z,210nm,5.4s
KSH LR LR
comp=N,120nm,5.8s
KSH LR LR
comp=E,110nm,7.8s
KSH LR LR
comp=Z,160nm,5.4s
EKS2 Erkin-Say 49.57 296 *eP* **P 07 01 44.5 0.0**
comp=Z,5.4nm,0.7s,mb4.7
EKS2 Erkin-Say 49.57 296 *eP* **P 07 01 44.5 -0.1**
EKS2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
INK Inuvik 50.70 29 P **P 07 01 53.3 +0.5**
comp=Z,2.7nm,0.7s,mb4.3,baz=306,slow=8.1,SNR=12
INK Inuvik 50.70 29 *eP* **P 07 01 53.0 +0.2**
comp=Z,3.1nm,0.8s,mb4.3
INK Inuvik 50.70 29 *eP* **P 07 01 53.0 +0.2**
INK pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 51.60 298 *ceP* **P 07 01 58.6 -1.3**
KK31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KKAR Karatay Array 51.60 298 *eP* **P 07 01 58.3 -1.6**
comp=Z,2.0nm,0.6s,mb4.2
KKAR Karatay Array 51.60 298 *eP* **P 07 01 58.3 -1.6**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SVE Sverdlovsk 52.53 317 *eP* **P 07 02 06.7 +0.2**
SVE pmax pmax
comp=Z,21nm,0.8s,mb5.1
ARU Arti 53.74 317 *eP* **P 07 02 15.5 0.0**
comp=Z,12nm,0.9s,mb4.8
ARU Arti 53.74 317 *d iP* **P 07 02 15.2 -0.2**
ARU *e* 07 04 12.7
ARU S **S** **07 09 45.7 +0.8**
ARU SS SS 07 13 22.6 -3.1
ARU pmax pmax
comp=Z,26nm,1.7s,mb4.9
AB31 Akbulak array 55.78 308 *ceP* **P 07 02 29.6 -0.7**
AB31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
ABKAR Akbulak array 55.78 308 *eP* **P 07 02 29.9 -0.5**
comp=Z,6.2nm,0.5s,mb4.9
AKTO Aktyubinsk 56.41 310 P **P 07 02 34.0 -0.8**
comp=Z,3.9nm,0.7s,mb4.5,baz=73,slow=13,SNR=12
AKTO Aktyubinsk 56.41 310 P **P 07 02 34.0 -0.8**
AKTO Aktyubinsk 56.41 310 P **P 07 02 34.0 -0.8**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
KBL Kabul 56.48 289 *eP* **P 07 02 35.3 -0.2**
comp=Z,7.0nm,0.8s,mb4.7
KBL Kabul 56.48 289 *eP* **P 07 02 35.3 -0.3**
KBL pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
APA Apatity 59.29 335⇓ *eP* pP 07 03 04.8 -6.0
APA MLR MLR
comp=Z,2μm,25.0s
YKA Yellowknife Ar 60.20 31 P **P 07 03 01.0 0.0**
comp=Z,0.3nm,0.7s,baz=307,slow=6.8,SNR=5.6
YKA Yellowknife Ar 60.20 31 P **P 07 03 01.0 0.0**
YKA Yellowknife Ar 60.20 31 P **P 07 03 01.0 0.0**
ARCES ARCESS Array B 60.47 339 P **P 07 03 02.2 -0.5**
comp=Z,11nm,1.2s,mb4.8,baz=92,slow=8.6,SNR=6.8
ARCES ARCESS Array B 60.47 339 P **P 07 03 02.2 -0.5**
ARCES ARCESS Array B 60.47 339 P **P 07 03 02.3 -0.5**
ARCES pmax pmax
comp=Z,11nm,1.2s
WRAB Tennant Creek 61.01 188 *eP* **P 07 03 05.7 -1.3**
comp=Z,11nm,1.3s,mb4.8
WRAB Tennant Creek 61.01 188 *eP* **P 07 03 05.7 -1.2**
WRAB pmax pmax
comp=Z,11nm,1.3s,mb4.8
WRA Warramunga Arr 61.02 188 P **P 07 03 05.4 -1.6**
comp=Z,1.0nm,0.6s,mb4.2,baz=7.8,slow=7.7,SNR=16
WRA Warramunga Arr 61.02 188 P **P 07 03 05.4 -1.6**
WRA Warramunga Arr 61.02 188 P **P 07 03 05.4 -1.6**
WRA pmax pmax
comp=Z,1.0nm,0.6s
JOF Joensuu 62.71 331 *eP* **P 07 03 15.0 -2.9**
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
JOF Joensuu 62.71 331 *ep* **P 07 03 15.0 -2.9**
comp=Z,4.8nm,0.8s,mb4.7
ASAR Alice Springs 64.75 188 P **P 07 03 31.0 -0.7**
comp=Z,1.1nm,0.8s,mb4.0,baz=356,slow=5.7,SNR=11
ASAR Alice Springs 64.75 188 P **P 07 03 31.0 -0.7**
ASAR Alice Springs 64.75 188 P **P 07 03 31.0 -0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
KAF Kangasniemi 65.02 332 *eP* **P 07 03 31.1 -2.0**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KAF Kangasniemi 65.02 332 *ep* **P 07 03 31.1 -2.0**
comp=Z,6.8nm,0.6s,mb4.8
OBN Obninsk 65.22 322⇓ *iP* **P 07 03 34.1 -0.4**
OBN pmax pmax
comp=Z,12nm,1.0s,mb4.9
FINES FINESS Array B 65.54 332 P **P 07 03 36.0 -0.5**
comp=Z,18nm,0.7s,mb5.2,baz=34,slow=8.4,SNR=31
FINES FINESS Array B 65.54 332 P **P 07 03 36.0 -0.5**
FINES FINESS Array B 65.54 332 P **P 07 03 36.0 -0.5**
FINES pmax pmax
comp=Z,18nm,0.7s
VSR Storozhevoye 66.28 318 *eP* **P 07 03 38.7 -2.7**
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
NB2 NORSAR Subarra 70.73 337 P **P 07 04 08.3 -0.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=38,slow=6.2
NOA NORSAR Array B 70.73 337 P **P 07 04 08.3 -0.6**
comp=Z,4.9nm,0.8s,mb4.5,baz=38,slow=6.1,SNR=12
NOA NORSAR Array B 70.73 337 P **P 07 04 08.3 -0.6**
NOA NORSAR Array B 70.73 337 P **P 07 04 08.3 -0.7**
NOA pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 71.46 322 P **P 07 04 12.9 -0.6**
comp=Z,6.1nm,0.7s,mb4.6,baz=44,slow=6.0,SNR=16
AKASG Malin Array Be 71.46 322 P **P 07 04 12.9 -0.6**
AKASG Malin Array Be 71.46 322 P **P 07 04 13.0 -0.6**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 71.47 322 *eP* **P 07 04 12.3 -1.3**
comp=Z,6.1nm,0.7s,mb4.6
KIEV Kiev 71.47 322 *c iP* **P 07 04 12.7 -1.0**
NVAR Mina Array Bea 72.31 54 P **P 07 04 20.3 +1.4**
comp=Z,0.2nm,0.3s,mb3.6,baz=281,slow=7.2,SNR=2.6
NVAR Mina Array Bea 72.31 54 P **P 07 04 20.3 +1.4**
PDAR Pinedale Array 74.62 46 P **P 07 04 33.1 +0.7**
comp=Z,0.7nm,0.7s,mb3.7,baz=271,slow=1.5,SNR=6.9
PDAR Pinedale Array 74.62 46 P **P 07 04 33.1 +0.7**
BUR08 Bucovina Ar. S 75.48 321 *eP* **P 07 04 37.5 +0.3**
OJC Ojcow 76.02 326 *eP* **P 07 04 40.3 0.0**
OJC Ojcow 76.02 326 *eP* **P 07 04 39.7 -0.5**
comp=Z,7.7nm,0.9s,mb4.6
OJC Ojcow 76.02 326 *eP* **P 07 04 40.3 0.0**
BRTR Keskin Array B 76.57 311 P **P 07 04 43.7 +0.1**
comp=Z,0.8nm,0.6s,mb3.8,baz=50,slow=1.9,SNR=4.1
BRTR Keskin Array B 76.57 311 P **P 07 04 43.7 +0.1**
BRTR Keskin Array B 76.57 311 P **P 07 04 43.7 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
MORC Moravsky Berou 77.30 327 *eP* **P 07 04 48.0 +0.5**
comp=Z,3.6nm,0.8s,mb4.3
MORC Moravsky Berou 77.30 327 *eP* **P 07 04 48.0 +0.5**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CLL Collm 77.90 330 *eP* **P 07 04 51.0 +0.2**
CLL Collm 77.90 330 *eP* **P 07 04 51.0 +0.2**
GERES GERESS Array B 79.59 328 P **P 07 05 00.4 +0.2**
comp=Z,0.6nm,0.5s,mb3.8,baz=84,slow=4.2,SNR=3.7
GERES GERESS Array B 79.59 328 P **P 07 05 00.4 +0.3**
GERES GERESS Array B 79.59 328 P **P 07 05 00.4 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.5s
SCHQ Schefferville 81.44 16 P **P 07 05 09.4 -0.5**
comp=Z,4.9nm,1.0s,mb4.4,baz=252,slow=5.8,SNR=3.8
SCHQ Schefferville 81.44 16 P **P 07 05 09.4 -0.5**
FUORN Ofenpass-Fuorn 82.76 329 *eP* **P 07 05 17.8 +0.8**
comp=Z,102nm,2.8s,mb5.4
PAGF Fort de Pagny 82.83 332 *eP* **P 07 05 17.1 -0.2**
PAGF Fort de Pagny 82.83 332 *eP* **P 07 05 17.1 -0.2**
SFTF Sexfontaines 83.36 333 *eP* **P 07 05 19.9 -0.2**
SFTF Sexfontaines 83.36 333 *eP* **P 07 05 19.9 -0.2**
LOR Lormes 84.58 333 *eP* **P 07 05 26.6 +0.3**
comp=Z,9.0nm,0.8s,mb4.6
LOR Lormes 84.58 333 *eP* **P 07 05 26.6 +0.3**
comp=Z,9.0nm,0.8s,mb5.0
LOR Lormes 84.58 333 *eP* **P 07 05 26.6 +0.3**
LOR pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
FLN La Foliniere 84.69 336 *eP* **P 07 05 27.4 +0.6**
FLN La Foliniere 84.69 336 *eP* **P 07 05 27.4 +0.6**
FLN La Foliniere 84.69 336 *eP* **P 07 05 27.4 +0.6**
LDF La Druitiere 84.73 336 *eP* **P 07 05 26.7 -0.3**
comp=Z,6.7nm,0.7s,mb4.6
LDF La Druitiere 84.73 336 *eP* **P 07 05 26.7 -0.3**
comp=Z,6.7nm,0.7s,mb4.9
LDF La Druitiere 84.73 336 *eP* **P 07 05 26.7 -0.3**
LDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
SSF Saint Saulge 84.88 333 *eP* **P 07 05 28.2 +0.4**
SSF Saint Saulge 84.88 333 *eP* **P 07 05 28.2 +0.4**
SSF Saint Saulge 84.88 333 *eP* **P 07 05 28.2 +0.4**
LPL La Plagne 85.04 330 *eP* **P 07 05 28.8 +0.2**
comp=Z,14nm,1.0s,mb4.8
LPL La Plagne 85.04 330 *eP* **P 07 05 28.8 +0.2**
comp=Z,14nm,1.0s,mb5.0
LPL La Plagne 85.04 330 *eP* **P 07 05 28.8 +0.2**
LPL pmax pmax
comp=Z,14nm,1.0s,mb5.0
LPG La Plagne 85.05 330 *eP* **P 07 05 28.9 +0.2**
comp=Z,20nm,1.0s,mb4.9
LPG La Plagne 85.05 330 *eP* **P 07 05 28.9 +0.2**
comp=Z,20nm,1.0s,mb5.2
LPG La Plagne 85.05 330 *eP* **P 07 05 28.9 +0.2**
LPG pmax pmax
comp=Z,20nm,1.0s,mb5.2
AVF Avril sur Loir 85.17 333 *eP* **P 07 05 29.1 -0.2**
comp=Z,13nm,0.8s,mb4.8
AVF Avril sur Loir 85.17 333 *eP* **P 07 05 29.1 -0.2**
comp=Z,13nm,0.8s,mb5.1
AVF Avril sur Loir 85.17 333 *eP* **P 07 05 29.1 -0.2**
AVF pmax pmax
comp=Z,13nm,0.8s,mb5.1
MBDF Montbardon 85.69 330 *eP* **P 07 05 32.5 +0.6**
MBDF Montbardon 85.69 330 *eP* **P 07 05 32.5 +0.6**
MBDF Montbardon 85.69 330 *eP* **P 07 05 32.5 +0.6**
SGMF Saint Gilles 85.77 337 *eP* **P 07 05 32.2 0.0**
SGMF Saint Gilles 85.77 337 *eP* **P 07 05 32.2 0.0**
SGMF Saint Gilles 85.77 337 *eP* **P 07 05 32.2 0.0**
ORIF Oris-en-Rattie 85.86 330 *eP* **P 07 05 32.6 -0.2**
comp=Z,14nm,0.9s,mb4.9
ORIF Oris-en-Rattie 85.86 330 *eP* **P 07 05 32.6 -0.2**
comp=Z,14nm,0.9s,mb5.2

ORIF	**Oris-en-Rattie**	**85.86**	**330**	*e*P	**P**	**07 05 32.6**	**-0.2**
ORIF				pmax	pmax		
comp=Z,14nm,0.9s,mb5.2							
ROSF	**Rostrenen**	**85.90**	**338**	*e*P	**P**	**07 05 33.1**	**+0.2**
ROSF	**Rostrenen**	**85.90**	**338**	*e*P	**P**	**07 05 33.1**	**+0.2**
ROSF	**Rostrenen**	**85.90**	**338**	*e*P	**P**	**07 05 33.1**	**+0.2**
VIVF	**Saint-Julien-l**	**86.36**	**331**	*e*P	**P**	**07 05 35.1**	**-0.1**
VIVF	**Saint-Julien-l**	**86.36**	**331**	*e*P	**P**	**07 05 35.1**	**-0.1**
VIVF	**Saint-Julien-l**	**86.36**	**331**	*e*P	**P**	**07 05 35.1**	**-0.1**
MFF	**Saint Martin d**	**86.50**	**335**	*e*P	**P**	**07 05 36.0**	**+0.1**
MFF	**Saint Martin d**	**86.50**	**335**	*e*P	**P**	**07 05 36.0**	**+0.1**
MFF	**Saint Martin d**	**86.50**	**335**	*e*P	**P**	**07 05 36.0**	**+0.1**
SMRF	**Simiane la Rot**	**86.78**	**330**	*e*P	**P**	**07 05 37.4**	**+0.1**
SMRF	**Simiane la Rot**	**86.78**	**330**	*e*P	**P**	**07 05 37.4**	**+0.1**
CAF	**Calviac**	**87.23**	**333**	*e*P	**P**	**07 05 40.0**	**+0.5**
CAF	**Calviac**	**87.23**	**333**	*e*P	**P**	**07 05 40.0**	**+0.5**
CAF	**Calviac**	**87.23**	**333**	*e*P	**P**	**07 05 40.0**	**+0.5**
LFF	**La Frestale**	**87.67**	**334**	*e*P	**P**	**07 05 42.0**	**+0.4**
comp=Z,24nm,0.8s,mb5.1							
LFF	**La Frestale**	**87.67**	**334**	*e*P	**P**	**07 05 42.0**	**+0.4**
comp=Z,24nm,0.8s,mb5.5							
LFF	**La Frestale**	**87.67**	**334**	*e*P	**P**	**07 05 42.0**	**+0.4**
LFF				pmax	pmax		
comp=Z,24nm,0.8s,mb5.5							
MTLF	**Montolieu**	**88.56**	**332**	*e*P	**P**	**07 05 46.1**	**+0.3**
MTLF	**Montolieu**	**88.56**	**332**	*e*P	**P**	**07 05 46.1**	**+0.3**
MTLF	**Montolieu**	**88.56**	**332**	*e*P	**P**	**07 05 46.1**	**+0.3**
VNA2	**Neumayer--Watz**	**146.21**	**198**	*e*	PKPdf	07 12 31.8	+0.9
baz=151,slow=3.9							
SIV	**San Ignacio**	**148.10**	**45**	PKPbc	PKPbc	07 12 38.4	-0.5
comp=Z,1.0nm,0.7s,baz=295,slow=5.1,SNR=4.9							
SIV	**San Ignacio**	**148.10**	**45**	PKPbc	PKPbc	07 12 38.4	-0.5

*DDA **19** 07:00:03.9,37.°33N×37.°77E,h7km±4km,Md2.9*
*CSEM **19** 07:00:04.9±0.4,37.°32N×37.°79E,h2km,MD2.9,Error ellipse: s-maj=10.6km s-min=5.3km az=150.0*
*ISCJB **19** 07:00:05.2±0.6,37.°34N±0.°05×37.°78E±0.°04,h9km±7km, Error ellipse: s-maj=8.2km s-min=4.2km az=154.2*
*ISK **19** 07:00:05.7,37.°39N×37.°77E,h10km,MD3.0*
ISC 19 07:00:05.8±0.6,37.°33N±0.°04×37.°78E±0.°04,h15km±7km, n25,σ1§25/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.44**	**72**	*i* P	**Pg**	**07 00 12.2**	**-2.3**
ATAB	**Bozova**	**0.44**	**72**	*i* P	**Pg**	**07 00 12.2**	**-2.3**
GAZ	**Gaziantep**	**0.48**	**251**	*e*PG	**Pg**	**07 00 15.8**	**+0.5**
GAZ	**Gaziantep**	**0.48**	**251**	*e*Pg	**Pg**	**07 00 15.8**	**+0.5**
KMRS	**Kahramanmaras**	**0.72**	**284**	*e*PG	**Pg**	**07 00 19.3**	**-0.5**
KMRS				*e*SG	**Sg**	**07 00 30.4**	**+1.1**
KMRS	**Kahramanmaras**	**0.72**	**284**	*e*Pg	**Pg**	**07 00 19.3**	**-0.5**
KUZU	**Kuzuini**	**0.79**	**225**	*i* P	**Pg**	**07 00 20.0**	**-1.1**
KUZU				*i* S	**Sg**	**07 00 33.0**	**+1.4**
KUZU	**Kuzuini**	**0.79**	**225**	*i* P	**Pg**	**07 00 20.0**	**-1.2**
KUZU				*i* S	**Sg**	**07 00 33.0**	**+1.4**
URFA	**Urfa**	**0.84**	**82**	*e*PG	**Pg**	**07 00 20.9**	**-1.2**
URFA				*e*SG	**Sg**	**07 00 35.0**	**+1.9**
URFA	**Urfa**	**0.84**	**82**	*e*Pg	**Pg**	**07 00 20.9**	**-1.2**
URFA				*e*Sg	**Sg**	**07 00 35.1**	**+2.0**
AKCD	**Akcadag**	**0.97**	**7**	*i* P	**Pg**	**07 00 24.1**	**-0.4**
AKCD				*i* S	**Sg**	**07 00 39.5**	**+2.3**
AKCD	**Akcadag**	**0.97**	**7**	*i* P	**Pg**	**07 00 24.1**	**-0.4**
AKCD				*i* S	**Sg**	**07 00 39.5**	**+2.3**
MALT	**Malatya**	**1.11**	**28**	*e*PG	**Pg**	**07 00 26.8**	**-0.3**
MALT	**Malatya**	**1.11**	**28**	*e*Pg	**Pg**	**07 00 26.8**	**-0.4**
MYA	**Malataya**	**1.12**	**27**	*e*PG	**Pg**	**07 00 26.9**	**-0.5**
MYA				*e*SG	**Sg**	**07 00 41.7**	**-0.2**
MYA	**Malataya**	**1.12**	**27**	*e*Pg	**Pg**	**07 00 26.9**	**-0.5**
MYA				*e*Sg	**Sg**	**07 00 41.7**	**-0.3**
ANDN	**Andirin**	**1.17**	**283**	*i* P	**Pb**	**07 00 25.3**	**-2.3**
ANDN				*i* S	**Sb**	**07 00 41.3**	**-1.2**
ANDN	**Andirin**	**1.17**	**283**	*i* P	**Pb**	**07 00 25.3**	**-2.3**
ANDN				*i* S	**Sb**	**07 00 41.3**	**-1.2**
KOZT	**Kozan**	**1.56**	**276**	*e*PN	**Pn**	**07 00 34.2**	**+1.3**
KOZT	**Kozan**	**1.56**	**276**	*e*Pn	**Pn**	**07 00 34.2**	**+1.3**
SARI	**SarD1z-Kayseri**	**1.59**	**328**	*e*PN	**Pn**	**07 00 32.6**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.60**	**49**	*e*PN	**Pn**	**07 00 34.6**	**+1.1**
SVRC	**Sivrice-ELAZID**	**1.60**	**49**	*e*Pn	**Pn**	**07 00 34.6**	**+1.1**
PTK	**Pertek**	**2.01**	**39**	*e*PN	**Pn**	**07 00 40.1**	**+0.9**
PTK	**Pertek**	**2.01**	**39**	*e*Pn	**Pn**	**07 00 40.1**	**+0.9**

*BJI **19** 07:24:14.5,38.°16N×89.°89E,h20km,mb4.1/2,ML3.9/8, Ms3.6/2,Ms7 3.2/2*
*ISCJB **19** 07:24:18.5±1.4,38.°81N±0.°07×89.°66E±0.°10,h10km,Error ellipse: s-maj=11.0km s-min=10.2km az=33.5*
*IDC **19** 07:24:21.2±7.0,38.°83N×89.°99E,h0km,mb1 3.4/5, mb1mx3.3/30,mbtmp3.4/5,ML3.3/5,Error ellipse: s-maj=83.0km s-min=37.0km az=177.0*
ISC 19 07:24:19.9±1.4,38.°73N±0.°08×89.°79E±0.°10,h10km,n9, σ1§47/12,2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.33**	**343**	*e*Pn	**Pb**	**07 25 52.0**	**-1.1**
WMQ				Sg	**Sg**	**07 27 12.8**	**+1.9**
WMQ				smax			
comp=N,230nm,1.0s							
WMQ				smax			
comp=E,190nm,1.0s							
GTA	**Gaotai**	**7.83**	**82**	*e*P	**Pn**	**07 26 07.3**	**-6.5**
GTA				pP		07 26 11.4	
GTA				pmax	pmax		
comp=Z,5.0nm,0.7s							
MK31	**Makanchi Array**	**9.76**	**328**	⇓Pn	**Sn**	**07 28 28.1**	**-1.8**
comp=Z,3.3nm,0.8s,baz=129,slow=16,SNR=5.2							
MK31				⇓Lg		07 29 40.1	
comp=Z,9.0nm,0.9s,baz=129,slow=29,SNR=3.6							
MKAR	**Makanchi Array**	**9.76**	**328**	Pn	**Pn**	**07 26 39.0**	**-1.3**
comp=Z,0.3nm,0.3s,baz=144,slow=14,SNR=16							
MKAR				Sn	**Sn**	**07 28 29.7**	**-0.2**
comp=Z,0.2nm,0.3s,baz=128,slow=15,SNR=3.2							
KSH	**Kashi**	**10.77**	**279**	P	**Pn**	**07 26 54.0**	**-0.1**
KSH				PP		07 27 02.5	
KSH				S	**Sn**	**07 28 55.9**	**+1.2**
KSH				pmax	pmax		
comp=Z,3.0nm,0.4s							
KSH				LR	LR		
comp=N,85nm,4.4s							
KSH				LR	LR		
comp=E,120nm,5.8s							
KSH				LR	LR		
comp=Z,97nm,6.6s							
KURK	**Kurchatov**	**14.36**	**330**	Pn	**Pn**	**07 27 40.4**	**-2.7**
comp=Z,0.0nm,0.3s,baz=139,slow=14,SNR=5.6							
SONM	**Songino Array**	**15.11**	**48**	Pn	**Pn**	**07 27 53.8**	**+0.5**
comp=Z,0.1nm,0.3s,baz=239,slow=16,SNR=3.8							
SONM				Lg		07 32 15.7	
comp=Z,0.3nm,0.3s,baz=243,slow=29,SNR=5.8							
ZALV	**Zalesovo Beam**	**15.60**	**349**	Pn	**Pn**	**07 28 01.2**	**+1.5**
comp=Z,0.2nm,0.3s,baz=166,slow=13,SNR=7.9							
BVAR	**Borovoye Array**	**19.58**	**323**	P	**Pn**	**07 28 52.1**	**+2.9**
comp=Z,0.1nm,0.3s,baz=113,slow=11,SNR=4.3							

IDC 19 07:27:15.2±1.4,2.°94N×74.°34W,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.5/22,mbtmp3.6/4,ML3.3/1,Error ellipse: s-maj=44.4km s-min=19.3km az=88.0,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.91**	**0**	Pn	Pn	07 27 48.2	-0.8
172nm,0.3s,baz=279,slow=2.1,SNR=344							
ROSC				Sn	Sn	07 28 14.0	+0.2
358nm,0.3s,baz=356,slow=2.6,SNR=20							
ATAH	**Atahualpa**	**10.79**	**202**	Pn	Pn	07 29 53.5	+2.4
0.2nm,0.3s,baz=284,slow=4.2,SNR=2.4							
LPAZ	**La Paz**	**20.06**	**162**	P	P	07 31 50.5	+0.2
0.8nm,0.7s,baz=342,slow=13,SNR=2.3							
SIV	**San Ignacio**	**22.93**	**145**	P	P	07 32 19.3	-1.8
1.5nm,0.6s,baz=334,slow=14,SNR=9.8							
TORD	**Torodi Ar. Bea**	**75.74**	**77**	P	P	07 39 04.9	+1.5
0.2nm,0.6s,baz=282,slow=7.2,SNR=2.1							
ASAR	**Alice Springs**	**145.79**	**231**	PKPbc	PKPbc	07 46 56.2	-1.0
0.3nm,0.5s,baz=125,slow=4.2,SNR=5.9							

*ISCJB **19** 07:30:06.8±0.9,32.°52S±0.°03×71.°97W±0.°04,h21km±6km, mb5.1/135,MS5.0/10,Error ellipse: s-maj=6.6km s-min=4.2km az=139.2*
*GUC **19** 07:30:06.9±0.6,32.°54S×72.°02W,h12km±34km,ML5.1*
*NEIC **19** 07:30:06.0,32.°54S×72.°02W,h12km,mb5.2/116, ML5.1(GUC),After GUC.*
NEIC Felt [III] at La Ligua, Papudo, Valparaiso, Vina del Mar and Zapallar; [II] at Curacavi, San Antonio and Santiago.
*BJI **19** 07:30:08.5,32.°39S×72.°02W,h33km,mB5.2/19,Ms5.6/14, Ms7 5.2/15*
*MOS **19** 07:30:09.1±1.3,32.°42S×71.°79W,h35km,mb5.3/41,Error ellipse: s-maj=15.1km s-min=7.1km az=106.5*
*IDC **19** 07:30:09.6±0.4,32.°52S×71.°84W,h32km±2km,mb4.7/18, mb1 4.8/22,mb1mx4.8/22,mbtmp4.7/22,ML4.7/4,MS4.9/11, Ms1 4.9/11,ms1mx4.7/23,Error ellipse: s-maj=16.7km s-min=10.8km az=74.0*
*GCMT **19** 07:30:11.8±0.2,32.°66S×72.°24W,h22km,MW5.4, Moment Tensor Solution. s71,c107; s88,c143; Moment tensor: Scale 1017Nm; Mrr0.95±.03; Mθθ0.06±.02; Mφφ-1.01±.02; Mrθ0.02±.03; Mθφ0.01±.01; Mφr-1.17±.05; Best double couple: M0 1.50000×1017 NP1:φs359.00000°, δ20.00000°,λ90.00000°. NP2:φs179.00000°,δ70.00000°, λ90.00000°. Principal axes: T 1.4900, Plg65.0000°, Azm89.0000°; N 0.0600, Plg0.0000°, Azm179.0000°; P -1.5600, Plg25.0000°, Azm269.0000°; Data Used: II IU IC G CN.*
ISC 19 07:30:07.1±0.9,32.°51S±0.°03×71.°88W±0.°04,h12km±5km, h32km±1.8km;pP-P,n766,σ0§62/646,mb5.1/135,MS5.0/10, 205C-190D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.55**	**158**	*i* P	**Pg**	**07 30 18.1**	**+0.2**
IHA	**Instituto Hidr**	**0.55**	**158**	*i* P	**Pg**	**07 30 18.1**	**+0.2**
ROCH	**El Roble**	**0.86**	**122**	⇑*i*P	**Pg**	**07 30 24.5**	**+0.6**
ROCH	**El Roble**	**0.86**	**122**	⇓*i*P	**Pg**	**07 30 24.4**	**+0.6**
ROCH				⇑*i*P		07 30 24.5	
ROCH				*i* S	**Sg**	**07 30 38.5**	**+3.3**
ROCH				AML	AML	07 30 39.6	
comp=E,159μm,0.7s							
LCCH	**Las Cruces**	**0.99**	**165**	⇑*i*P	**Pg**	**07 30 25.0**	**-1.3**
LCCH	**Las Cruces**	**0.99**	**165**	⇑*i*P	**Pg**	**07 30 25.0**	**-1.3**
JACH	**Jahuel**	**1.10**	**99**	⇑*i*P	**Pb**	**07 30 28.5**	**+0.4**
JACH	**Jahuel**	**1.10**	**99**	⇑*i*P	**Pb**	**07 30 28.5**	**+0.4**
PEL	**Peldehue**	**1.19**	**122**	AML	AML	07 30 52.3	
comp=N,150μm,0.5s							
TACH	**Talagante**	**1.39**	**145**	⇑*i*P	**Pn**	**07 30 31.9**	**-0.4**
TACH	**Talagante**	**1.39**	**145**	⇑*i*P	**Pn**	**07 30 31.9**	**-0.4**
SAN	**Santiago**	**1.39**	**133**	*e*P	**Pn**	**07 30 32.5**	**+0.2**
SAN				*i* S	**Sn**	**07 30 51.7**	**+1.1**
SAN	**Santiago**	**1.39**	**133**	*e*P	**Pn**	**07 30 32.5**	**+0.2**
SAN				*i* S	**Sn**	**07 30 51.7**	**+1.1**
SAN	**Santiago**	**1.39**	**133**	*e*P	**Pn**	**07 30 32.5**	**+0.2**
SAN				⇓*i*S	**Sn**	**07 30 51.7**	**+1.1**
SAN				AML	AML	07 30 58.5	
comp=E,23μm,1.0s							
ANTU	**Antumapu**	**1.49**	**135**	⇓*i*P	**Pn**	**07 30 34.0**	**+0.4**
ANTU	**Antumapu**	**1.49**	**135**	⇓*i*P	**Pn**	**07 30 34.0**	**+0.4**
ANTU				*i* S	**Sn**	**07 30 53.9**	**+0.9**
ANTU				AML	AML	07 31 01.2	
comp=E,43μm,0.5s							
FCH	**Farellones**	**1.57**	**122**	⇓*i*P	**Pn**	**07 30 33.2**	**-1.6**
FCH				*i* S	**Sn**	**07 30 55.0**	**+0.1**
FCH				AML	AML	07 30 56.6	
comp=N,49μm,0.5s							
PCH	**Pirque**	**1.59**	**134**	⇑*i*P	**Pn**	**07 30 35.7**	**+0.5**
PCH	**Pirque**	**1.59**	**134**	⇑*i*P	**Pn**	**07 30 35.7**	**+0.5**
SJCH	**San Jose de Ma**	**1.71**	**132**	⇑*e*P	**Pn**	**07 30 37.5**	**+0.9**
SJCH				*i* S	**Sn**	**07 31 00.9**	**+2.5**
SJCH				AML	AML	07 31 05.9	
comp=N,26μm,0.7s							
CFAA	**Coronel Fontan**	**3.22**	**75**	Pn	**Pn**	**07 31 00.9**	**+3.4**
comp=N,12nm,0.3s,baz=251,slow=12,SNR=107							
CFAA				Lg		07 31 47.9	
comp=N,57nm,0.3s,baz=91,slow=21,SNR=7.6							
CFAA				LR	LR	07 32 08.9	
comp=N,1μm,21.3s,baz=246,slow=37							
CFAA	**Coronel Fontan**	**3.22**	**75**	Pn	**Pn**	**07 31 00.9**	**+3.4**
CFAA				Lg		07 31 47.9	
LCO	**Las Campanas**	**3.63**	**17**	*e*Pn	**Pn**	**07 31 03.5**	**+0.3**
PLCA	**Paso Flores**	**8.27**	**173**	Pn	**Pn**	**07 32 05.9**	**-0.9**
comp=N,3.8nm,0.3s,baz=333,slow=11,SNR=87							
PLCA				LR	LR	07 34 58.9	
comp=N,3μm,19.2s,baz=349,slow=35							
PLCA	**Paso Flores**	**8.27**	**173**	*e*Pn	**Pn**	**07 32 06.2**	**-0.7**
PLCA	**Paso Flores**	**8.27**	**173**	*e*P	**Pn**	**07 32 06.2**	**-0.7**
TRQA	**Tornquist**	**9.80**	**127**	*e*Pn	**Pn**	**07 32 28.1**	**+0.3**
CPUP	**Villa Florida**	**14.09**	**68**	Pn	**Pn**	**07 33 24.9**	**-1.7**
comp=N,0.5nm,0.3s,baz=222,slow=12,SNR=9.3							
CPUP				Sn	**Sn**	**07 36 07.2**	**+4.3**
comp=N,4.6nm,0.3s,baz=73,slow=14,SNR=2.5							
CPUP				LR	LR	07 39 11.3	
comp=N,8μm,20.9s,baz=230,slow=38							
CPUP	**Villa Florida**	**14.09**	**68**	*e*Pn	**Pn**	**07 33 24.6**	**-2.0**
comp=N,16nm,2.0s							
CPUP	**Villa Florida**	**14.09**	**68**	*e*P	**Pn**	**07 33 24.6**	**-2.0**
CPUP				pmax	pmax		
comp=Z,16nm,2.0s							
LPAZ	**La Paz**	**16.51**	**13**	Pn	**Pn**	**07 33 59.3**	**+0.8**
comp=Z,0.8nm,0.3s,baz=186,slow=9.4,SNR=48							
LPAZ	**La Paz**	**16.51**	**13**	*e*P	**Pn**	**07 33 59.0**	**+0.5**
comp=Z,81nm,1.0s							
LPAZ	**La Paz**	**16.51**	**13**	*e*P	**Pn**	**07 33 59.1**	**+0.5**
LPAZ				pmax	pmax		
comp=Z,81nm,1.0s							
SIV	**San Ignacio**	**19.15**	**33**	P	**Pn**	**07 34 28.7**	**-2.5**
comp=Z,1.5nm,0.3s,baz=232,slow=14,SNR=49							
SIV				LR	LR	07 43 12.4	
comp=Z,7μm,18.3s,slow=41							
SIV	**San Ignacio**	**19.15**	**33**	P	**Pn**	**07 34 28.7**	**-2.5**
NNA	**Nana**	**20.93**	**346**	P	**P**	**07 34 50.2**	**+0.5**
comp=Z,19nm,0.8s,baz=214,slow=7.8,SNR=9.6							
NNA	**Nana**	**20.93**	**346**	*e*P	**P**	**07 34 51.1**	**+1.4**
comp=Z,82nm,1.0s							
NNA	**Nana**	**20.93**	**346**	*ce*P	**P**	**07 34 51.9**	**+2.2**
EFI	**East Falkland**	**21.65**	**156**	*e*P	**P**	**07 34 56.0**	**-1.2**
comp=Z,238nm,1.0s,mb5.6							
EFI	**East Falkland**	**21.65**	**156**	*e*P	**P**	**07 34 56.0**	**-1.2**
EFI	**East Falkland**	**21.65**	**156**	P	**P**	**07 34 56.3**	**-0.9**
comp=Z,676nm,0.7s,mb6.2,SNR=13							
USHA	**Ushuaia**	**22.45**	**175**	P	**P**	**07 35 06.0**	**+0.3**
comp=Z,35nm,1.0s,mb4.8,baz=331,slow=3.1,SNR=6.9							
USHA				LR	LR	07 44 28.1	
comp=Z,3μm,19.4s,MS4.7,baz=338,slow=38							
USHA	**Ushuaia**	**22.45**	**175**	P	**P**	**07 35 06.0**	**+0.3**
SPB	**Sao Paulo**	**23.29**	**74**	*e*P	**P**	**07 35 13.9**	**-1.0**
comp=Z,241nm,1.1s,mb5.5							
SAML	**Samuel**	**24.79**	**21**	*e*P	**P**	**07 35 28.9**	**-0.1**
comp=Z,85nm,1.0s,mb5.2							
ATAH	**Atahualpa**	**25.97**	**345**	P	**P**	**07 35 39.7**	**+0.1**
comp=Z,2.7nm,0.6s,mb4.0,baz=140,slow=7.9,SNR=3.0							
ATAH				LR	LR	07 44 07.2	
comp=Z,2μm,18.0s,MS4.6,baz=349,slow=32							
ATAH	**Atahualpa**	**25.97**	**345**	P	**P**	**07 35 39.7**	**+0.1**
RPN	**Rapa Nui**	**32.82**	**270**	P	**P**	**07 36 40.7**	**+0.1**
comp=Z,56nm,0.9s,mb5.5,baz=103,slow=4.1,SNR=5.5							
RPN	**Rapa Nui**	**32.82**	**270**	P	**P**	**07 36 40.6**	**+0.1**
RPN	**Rapa Nui**	**32.82**	**270**	P	**P**	**07 36 40.7**	**+0.2**
OTAV	**Otavalo**	**33.16**	**348**	*e*P	**P**	**07 36 46.5**	**+3.0**
comp=Z,79nm,1.9s,mb5.3							
OTAV				*e*		07 36 56.8	
ROSC	**El Rosal**	**37.23**	**356**	P	**P**	**07 37 21.7**	**+3.1**
comp=Z,9.1nm,0.6s,mb4.8,baz=132,slow=3.8,SNR=10							
ROSC	**El Rosal**	**37.23**	**356**	*e*P	**P**	**07 37 22.0**	**+3.4**
SDV	**Santo Domingo**	**41.18**	**2**	*e*P	**P**	**07 37 51.6**	**0.0**
comp=Z,31nm,0.9s,mb4.9							
JTS	**JuntasAbangare**	**44.35**	**341**	⇑*e*P	**P**	**07 38 15.8**	**-1.5**
TGUH	**Tegucigalpa,Un**	**48.59**	**340**	*e*P	**P**	**07 38 50.7**	**+0.1**
comp=Z,40nm,0.9s,mb5.4							
TGUH				*e*		07 39 00.4	
ICM	**Isla Caja Muer**	**50.38**	**7**	*e*P	**P**	**07 39 03.8**	**-0.4**
CRPR	**Cabo Rojo, PR**	**50.44**	**6**	*e*P	**P**	**07 39 04.2**	**-0.4**
comp=Z,26nm,1.0s,mb5.2							
CRPR				*e*		07 39 12.6	
OBIP	**Obispado Ponce**	**50.52**	**7**	*e*P	**P**	**07 39 05.7**	**+0.4**
comp=Z,68nm,1.2s,mb5.5							
OBIP				*e*		07 39 17.2	
CELP	**Cerrillos**	**50.55**	**7**	*e*P	**P**	**07 39 05.5**	**-0.1**
LSP	**Las Mesas**	**50.61**	**6**	*e*P	**P**	**07 39 06.1**	**+0.2**
LSP				*e*		07 39 15.3	
SJG	**San Juan**	**50.63**	**7**	P	**P**	**07 39 04.5**	**-1.6**
comp=Z,37nm,1.0s,mb5.3,baz=316,slow=18,SNR=9.9							
SJG	**San Juan**	**50.63**	**7**	P	**P**	**07 39 04.5**	**-1.6**
SJG	**San Juan**	**50.63**	**7**	P	**P**	**07 39 04.5**	**-1.6**
MPR	**Mayaguez**	**50.64**	**6**	*e*P	**P**	**07 39 05.9**	**-0.3**
comp=Z,89nm,1.4s,mb5.5							
MPR				*e*pP	pP	07 39 12.2	+2.2
MTP	**Monte Pirata**	**50.69**	**8**	*e*P	**P**	**07 39 05.2**	**-1.3**
comp=Z,29nm,1.0s,mb5.2							
VNA3	**Neumayer Olymp**	**50.69**	**158**	*e*	**P**	**07 39 05.9**	**-0.1**
HUMP	**Col San Antoni**	**50.70**	**7**	*e*P	**P**	**07 39 06.2**	**-0.4**
comp=Z,76nm,1.9s,mb5.3							
LRS	**Lares**	**50.74**	**6**	*e*P	**P**	**07 39 06.0**	**-0.9**
LRS				*e*		07 39 14.9	
CBYP	**Canovanas**	**50.82**	**7**	*e*P	**P**	**07 39 05.9**	**-1.7**
comp=Z,46nm,1.1s,mb5.3							
VNA2	**Neumayer--Watz**	**51.33**	**158**	*e*	**P**	**07 39 10.8**	**0.0**
SNAA	**Sanae**	**52.91**	**158**	*e*	**P**	**07 39 22.4**	**-0.2**
SNAA				*e*		07 41 51.9	
SNAA	**Sanae**	**52.91**	**158**	*e*P	**P**	**07 39 22.4**	**-0.1**
comp=Z,84nm,1.1s,mb5.6							
SNAA				*e*		07 39 32.8	
SNAA	**Sanae**	**52.91**	**158**	*e*P	**P**	**07 39 22.4**	**-0.2**
SNAA				*e*		07 39 32.8	
SNAA				pmax	pmax		
comp=Z,84nm,1.1s							
CMIG	**Matias Romero**	**54.02**	**332**	P	**P**	**07 39 31.0**	**-0.2**
comp=Z,1.9nm,0.6s,mb4.2,baz=159,slow=17,SNR=4.1							
CMIG				LR	LR	07 56 12.5	
comp=Z,321nm,21.7s,MS4.3,baz=157,slow=29							
CMIG	**Matias Romero**	**54.02**	**332**	P	**P**	**07 39 31.0**	**-0.2**
TEIG	**Tepich**	**54.74**	**341**	P	**P**	**07 39 35.7**	**-0.8**
comp=Z,11nm,0.6s,mb5.1,baz=71,slow=6.2,SNR=10.0							
TEIG	**Tepich**	**54.74**	**341**	P	**P**	**07 39 35.7**	**-0.8**
RKT	**Rikitea**	**55.88**	**263**	*e*P	**P**	**07 39 44.5**	**-0.4**
comp=Z,48nm,1.6s,mb5.3							
RKT				*e*S	**S**	**07 47 25.7**	**-6.7**
comp=Z,810nm,28.5s							
RKT				*e*LR	LR	07 55 54.0	
comp=Z,2μm,27.2s,baz=118							
MAIT	**Maitri**	**57.60**	**157**	*e*P	**P**	**07 39 55.8**	**-0.6**
MAIT				*e*		07 40 07.9	
QSPA	**South Pole Qui**	**57.72**	**180**	P	**P**	**07 39 57.0**	**-0.1**
comp=Z,38nm,1.0s,mb5.4,baz=150,slow=2.7,SNR=78							
QSPA				LR	LR	08 03 49.2	
comp=Z,648nm,21.5s,MS4.7,baz=335,slow=35							
QSPA	**South Pole Qui**	**57.72**	**180**	P	**P**	**07 39 57.0**	**-0.1**
SBA	**Scott Base**	**64.56**	**192**	*e*P	**P**	**07 40 43.8**	**+0.3**
comp=Z,26nm,1.1s,mb5.2							
SBA				*e*		07 40 54.1	
SBA	**Scott Base**	**64.56**	**192**	*e*P	**P**	**07 40 43.8**	**+0.3**
SBA				*e*		07 40 54.1	
SBA				pmax	pmax		
comp=Z,26nm,1.1s,mb5.2							
BBSR	**BB Station**	**64.89**	**7**	*e*P	**P**	**07 40 46.2**	**+0.1**
comp=Z,52nm,1.3s,mb5.4							
BBSR				*e*		07 40 57.8	
VNDA	**Vanda**	**65.58**	**191**	*e*P	**P**	**07 40 50.6**	**+0.5**
comp=Z,14nm,0.9s,mb5.0							
VNDA	**Vanda**	**65.58**	**191**	*e*P	**P**	**07 40 50.6**	**+0.4**
VNDA				pmax	pmax		
comp=Z,14nm,0.9s							
NHSC	**New Hope**	**65.73**	**352**	*e*P	**P**	**07 40 51.4**	**-0.2**
comp=Z,68nm,1.2s,mb5.6							
HKT	**Hockley**	**66.14**	**337**	*e*P	**P**	**07 40 54.3**	**0.0**
comp=Z,16nm,1.2s,mb4.9							
HKT	**Hockley**	**66.14**	**337**	*e*P	**P**	**07 40 54.3**	**0.0**
HKT				pmax	pmax		
comp=Z,16nm,1.2s,mb4.9							
GOGA	**Godfrey**	**66.47**	**349**	*e*P	**P**	**07 40 55.5**	**-0.8**
comp=Z,11nm,1.1s,mb4.8							
GOGA				*e*		07 41 05.5	
GOGA	**Godfrey**	**66.47**	**349**	*e*P	**P**	**07 40 55.5**	**-0.8**
GOGA				*e*		07 41 05.5	
GOGA				pmax	pmax		
comp=Z,11nm,1.1s,mb4.8							
LRAL	**Lakeview Retre**	**66.74**	**346**	*e*P	**P**	**07 41 00.2**	**+2.2**
comp=Z,9.0nm,1.1s,mb4.7							
TAOE	**Nuku Hiva Isla**	**66.98**	**274**

325A Bean Ranch, Si 70.83 330 ⇓P P 07 41 23.2 -0.4
baz=71,SNR=15
226A Malaga, Loving 71.07 331 ⇑P P 07 41 25.1 0.0
baz=71,SNR=8.6
324A Moseley Ranch, 71.11 330 ⇑P P 07 41 24.5 -0.8
baz=71,SNR=8.7
CLNB Carlsbad 71.16 332 eP P 07 41 26.3 +0.8
comp=Z,1.2nm,0.6s,mb4.0
CLNB e 07 41 36.1
MNTX Cornudas Mount 71.28 330 ⇓P P 07 41 26.2 -0.1
baz=72,SNR=23
MNTX Cornudas Mount 71.28 330 eP P 07 41 25.3 -1.0
comp=Z,9.7nm,0.8s,mb4.8
GDL2 Guadalupe Moun 71.30 331 eP P 07 41 26.8 +0.4
127A Arkansas Junct 71.32 332 ⇑P P 07 41 26.2 -0.3
baz=72
225A Deer Hill, Car 71.41 331 ⇑P P 07 41 27.0 -0.1
baz=72
WMOK Wichita Mounta 71.51 337 eP P 07 41 26.5 -1.1
comp=Z,15nm,1.1s,mb4.8
WMOK Wichita Mounta 71.51 337 eP P 07 41 26.5 -1.1
WMOK pmax pmax
comp=Z,15nm,1.1s,mb4.8
126A Clayton Basin, 71.55 332 ⇑P P 07 41 27.7 -0.2
baz=72,SNR=5.3
WCI Wyandotte Cave 71.65 348 eP P 07 41 27.0 -1.4
comp=Z,11nm,0.8s,mb4.8
WCI e 07 41 37.1
WCI Wyandotte Cave 71.65 348 eP P 07 41 27.0 -1.4
WCI e 07 41 37.1
WCI pmax pmax
comp=Z,11nm,0.8s,mb4.8
TUL1 Tulsa 71.66 340 ⇑P P 07 41 28.0 -0.5
baz=72
224A Cornudas Mount 71.67 330 ⇓P P 07 41 28.0 -0.6
baz=72,SNR=11
SDMD Soldier's Deli 71.71 356 eP P 07 41 29.4 +0.7
comp=Z,44nm,1.4s,mb5.2
SDMD e 07 41 39.2
SIUC Southern Illin 71.71 346 eP P 07 41 28.3 -0.5
comp=Z,20nm,0.8s,mb5.1
125A Gardner Draw, 71.82 331 ⇑P P 07 41 28.7 -0.8
baz=72,SNR=6.6
Z27A Tatum 71.83 333 ⇑P P 07 41 29.1 -0.4
baz=72,SNR=6.2
CPRX Cap Rock 71.83 332 eP P 07 41 29.4 -0.1
comp=Z,41nm,0.9s,mb5.4
223A Chaparral, Ant 71.99 330 ⇓P P 07 41 30.3 -0.3
baz=72
Z26A Caprock 72.09 332 ⇓P P 07 41 30.9 -0.2
baz=72,SNR=30
MSTX Muleshoe 72.24 333 ⇓P P 07 41 31.4 -0.6
baz=72,SNR=10
MVL Millersville 72.27 356 eP P 07 41 32.1 +0.1
comp=Z,30nm,1.2s,mb5.1
Y27A Causey 72.31 333 ⇑P P 07 41 32.4 0.0
baz=73
320A Kipp Ranch, An 72.35 328 ⇓P P 07 41 32.7 0.0
baz=73,SNR=7.2
222A Williams Famil 72.37 329 ⇓P P 07 41 32.6 -0.2
baz=73
Z25A Roswell 72.39 332 ⇑P P 07 41 33.6 +0.7
baz=73,SNR=5.7
OLIL Olney 72.47 347 eP P 07 41 33.0 -0.3
comp=Z,21nm,1.0s,mb5.0
221A Mesquite Ranch 72.58 329 ⇓P P 07 41 34.6 +0.5
baz=73
Y26A Elida 72.60 333 ⇑P P 07 41 34.3 +0.1
baz=73
BLO Bloomington 72.61 348 eP P 07 41 32.4 -1.6
comp=Z,24nm,1.0s,mb5.1
BLO e 07 41 42.6
BLO Bloomington 72.61 348 eP P 07 41 32.4 -1.7
BLO e 07 41 42.6
BLO pmax pmax
comp=Z,24nm,1.0s,mb5.1
AMTX Amarillo 72.65 335 ⇓P P 07 41 34.7 +0.3
baz=73
AMTX Amarillo 72.65 335 eP P 07 41 34.1 -0.3
comp=Z,46nm,1.1s,mb5.3
Z24A Sheeppen Canyo 72.69 331 ⇑P P 07 41 35.0 +0.3
baz=73,SNR=7.7
319A Douglas 72.72 327 ⇑P P 07 41 35.4 +0.5
baz=73,SNR=5.8
220A Playas Peak, P 72.83 328 ⇑P P 07 41 35.7 +0.1
baz=73,SNR=16
122A Conniff Cattle 72.83 329 ⇑P P 07 41 35.8 +0.2
baz=73
Y25A Mesa, Roswell 72.94 332 ⇓P P 07 41 36.4 +0.2
baz=73
X27A F and S Farms, 72.96 333 ⇓P P 07 41 36.3 0.0
baz=73
SSPA Standing Stone 72.99 355 eP P 07 41 36.2 -0.2
comp=Z,31nm,1.3s,mb5.1
Z23A Rita Site, Whi 73.00 330 ⇓P P 07 41 36.9 +0.4
baz=73,SNR=10
121A Cookes Peak, D 73.03 329 ⇑P P 07 41 37.3 +0.6
baz=73,SNR=13
318A Bisbee 73.11 327 ⇓P P 07 41 37.3 +0.1
baz=73,SNR=7.2
ACSO Alum Creek Sta 73.11 351 eP P 07 41 36.1 -0.9
comp=Z,36nm,0.9s,mb5.3
X26A CR and CF Fran 73.15 333 ⇑P P 07 41 37.6 +0.2
baz=73
219A White Tail Can 73.24 327 ⇑P P 07 41 38.1 +0.1
baz=74,SNR=17
Y24A Capitan 73.24 331 ⇓P P 07 41 37.9 -0.1
baz=74,SNR=8.2
Z22A Elephant Butte 73.30 330 ⇓P P 07 41 38.2 -0.1
baz=74,SNR=10.0
W27A Bowe Ranch, En 73.32 334 ⇑P P 07 41 38.0 -0.3
baz=74,SNR=5.4
120A U Bar Ranch, L 73.42 328 ⇓P P 07 41 39.2 +0.1
baz=74,SNR=9.1
X25A Clemmons Ranch 73.46 332 ⇓P P 07 41 39.1 -0.2
baz=74
Y23A Lovelace Mesa, 73.50 331 ⇓P P 07 41 39.8 +0.3
baz=74,SNR=12
218A Dragoon 73.58 327 ⇓P P 07 41 40.1 +0.1
baz=74,SNR=11
W26A Owens Ranch, T 73.61 333 ⇓P P 07 41 40.0 -0.1
baz=74,SNR=7.5
Z21A St. Cloud Mine 73.65 329 ⇑P P 07 41 41.1 +0.7
baz=74,SNR=8.1
X24A Lazy VL Ranch, 73.80 332 ⇓P P 07 41 41.4 +0.2
baz=74
Z20A Nine Sixteen R 73.88 329 ⇓P P 07 41 42.0 +0.3
baz=74,SNR=12
Y22A Socorro 73.88 330 ⇓P P 07 41 42.2 +0.5
baz=74
BNM Barren Site 73.93 331 eP P 07 41 42.5 +0.5
comp=Z,9.5nm,1.1s,mb4.6
W25A X Bar L Ranch, 73.99 333 ⇑P P 07 41 42.1 -0.3
baz=74,SNR=6.4
BRYW Bryant College 74.06 0 eP P 07 41 43.2 +0.6
comp=Z,167nm,1.4s,mb5.8
BRYW e 07 41 55.0
LPM Los Pinos Moun 74.07 331 eP P 07 41 43.7 +0.9
LENM Lemitar 74.08 330 eP P 07 41 42.8 -0.2
LENM e 07 41 54.3
118A Homack Ranch, 74.10 327 ⇓P P 07 41 42.9 -0.1
baz=74
X23A Hourglass Bar 74.12 331 ⇓P P 07 41 43.6 +0.5
baz=74,SNR=8.0
TUC Tucson 74.20 326 eP P 07 41 43.8 +0.1
comp=Z,37nm,1.7s,mb5.0
TUC e 07 41 54.3
TUC Tucson 74.20 326 eP P 07 41 43.8 +0.1
TUC e 07 41 54.3
TUC pmax pmax
comp=Z,37nm,1.7s,mb5.0
Y21A Point of Rocks 74.25 330 ⇓P P 07 41 44.8 +1.0
baz=74,SNR=15
Z19A T-Link Ranch, 74.33 328 ⇑P P 07 41 44.4 0.0
baz=75
W24A Lazy 6 Ranch, 74.35 332 ⇓P P 07 41 44.5 +0.1
baz=75
LAZ Ladron 74.36 330 eP P 07 41 45.2 +0.7
comp=Z,14nm,1.3s,mb4.7
X22A Bernardo 74.39 330 ⇑P P 07 41 44.7 0.0
baz=75
QUA2 Belchertown 74.42 360 eP P 07 41 45.4 +0.7
comp=Z,32nm,1.0s,mb5.2
BINY Binghamton 74.44 357 eP P 07 41 44.4 -0.4
comp=Z,24nm,1.1s,mb5.0
BINY e 07 41 54.3
Y20A Horse Springs, 74.46 329 ⇑P P 07 41 45.2 +0.1
baz=75,SNR=5.6
Z18A Geronimo 74.50 327 ⇑P P 07 41 45.1 -0.2
baz=75
ANMO Albuquerque 74.55 331 eP P 07 41 45.9 +0.3
comp=Z,20nm,1.1s,mb5.0
ANMO Albuquerque 74.55 331 eP P 07 41 45.9 +0.3
ANMO pmax pmax
comp=Z,20nm,1.1s
MAW Mawson 74.57 164 P P 07 41 44.7 -0.6
comp=Z,29nm,1.0s,mb5.2,baz=226,slow=6.9,SNR=14
MAW pP pP 07 41 54.7 +5.2
comp=Z,86nm,1.1s,baz=226,slow=8.7,SNR=21
MAW LR LR 08 17 10.8
comp=Z,2μm,18.4s,MS5.3,baz=228,slow=38
MAW Mawson 74.57 164 eP P 07 41 44.5 -0.9
MAW Mawson 74.57 164 eP P 07 41 44.8 -0.6
comp=Z,26nm,1.1s,mb5.1
MAW e 07 41 54.2
MAW pP pP 07 41 54.7 +5.2
MAW Mawson 74.57 164 eP P 07 41 44.8 -0.6
MAW e 07 41 54.3
MAW *PP pP 07 41 54.7 +5.3
MAW pmax pmax
comp=Z,26nm,1.1s
DBIC Dimbokro 74.58 72 P P 07 41 45.8 -0.5
comp=Z,62nm,0.9s,mb5.5,baz=204,slow=6.5,SNR=59
DBIC LR LR 08 10 42.0
comp=Z,1μm,22.0s,MS5.2,baz=213,slow=33
DBIC Dimbokro 74.58 72 eP P 07 41 45.8 -0.6
comp=Z,67nm,0.9s,mb5.6
DBIC Dimbokro 74.58 72 eP P 07 41 45.8 -0.5
DBIC pmax pmax
comp=Z,67nm,0.9s
V25A Rancho No Teng 74.59 333 ⇓P P 07 41 46.0 +0.1
baz=75,SNR=8.8
W23A Werner Place, 74.61 331 ⇑P P 07 41 46.2 +0.3
baz=75,SNR=10.0
X21A Alamocita Cree 74.67 330 ⇑P P 07 41 47.0 +0.7
baz=75,SNR=19
V24A Rampart Ranch, 74.75 332 ⇓P P 07 41 47.0 +0.2
baz=75
U26A Atchley Ranch, 74.75 334 ⇓P P 07 41 46.8 0.0
baz=75
W22A Albuquerque 74.82 331 ⇑P P 07 41 48.1 +0.9
baz=75,SNR=8.3
KSU1 Kansas State U 74.86 340 eP P 07 41 46.8 -0.6
comp=Z,28nm,1.4s,mb5.0
214A Organ Pipe Nat 74.88 325 ⇓P P 07 41 48.0 +0.4
baz=75,SNR=5.6
Z17A San Carlos Hig 74.88 327 ⇑P P 07 41 47.9 +0.4
baz=75
Y19A Nutrioso 74.89 328 ⇓P P 07 41 48.1 +0.6
baz=75,SNR=26
TRY Troy 74.89 359 eP P 07 41 46.7 -0.7
comp=Z,77nm,1.1s,mb5.5
U25A Circle Dot Ran 75.01 333 ⇑P P 07 41 48.5 +0.3
baz=75
X20A Quemado 75.05 329 ⇑P P 07 41 49.3 +0.7
baz=75,SNR=8.0
Y18A Canyon Day Jun 75.08 328 ⇑P P 07 41 49.0 +0.3
baz=75
V23A Ortiz Mt. (NFS 75.13 332 ⇓P P 07 41 49.4 +0.5
baz=75
U24A Moreno Valley 75.35 333 ⇑P P 07 41 50.7 +0.5
baz=76
Y17A Roosevelt 75.38 327 ⇓P P 07 41 50.6 +0.1
baz=76,SNR=13
SUR Sutherland 75.43 119 eP P 07 41 51.8 +0.8
comp=Z,52nm,1.0s,mb5.4
SUR e 07 42 02.6
SUR Sutherland 75.43 119 P P 07 41 51.6 +0.5
comp=Z,284nm,1.0s,mb6.2,SNR=9.8
CBKS Cedar Bluff 75.54 338 ⇓P P 07 41 51.8 +0.6
baz=76
W20A Ramah 75.55 330 ⇓P P 07 41 52.0 +0.6
baz=76,SNR=16
114A Black Gap (USA 75.56 325 ⇓P P 07 41 52.2 +0.6
baz=76,SNR=5.5
V22A San Miguel Ran 75.56 331 ⇑P P 07 41 52.3 +0.8
baz=76
FFD Franklin Falls 75.61 0 eP P 07 41 51.5 -0.1
comp=Z,40nm,0.8s,mb5.4
FFD e 07 42 03.3
U23A El Rito 75.64 332 ⇑P P 07 41 52.3 +0.5
baz=76,SNR=8.4
T25A Trinidad 75.66 334 ⇓P P 07 41 52.7 +0.8
baz=76,SNR=13
X18A Snowflake 75.68 328 ⇑P P 07 41 52.6 +0.4
baz=76
V21A Milan 75.77 331 ⇓P P 07 41 53.2 +0.5
baz=76
T24A Torres, Weston 75.84 333 ⇑P P 07 41 53.9 +0.9
baz=76
W19A Sanders 75.92 329 ⇑P P 07 41 54.2 +0.7
baz=76
U22A Llaves 75.94 332 ⇓P P 07 41 54.2 +0.6
baz=76,SNR=12
113A Mohawk Valley, 76.00 325 ⇑P P 07 41 54.3 +0.2
baz=76
W18A Petrified Fore 76.08 329 ⇓P P 07 41 55.0 +0.6
baz=76
R27A Eads 76.09 335 ⇑P P 07 41 54.9 +0.5
baz=76
Z14A Wintersburg 76.09 326 ⇑P P 07 41 54.8 +0.3
baz=76
V20A Brimhall 76.11 330 ⇑P P 07 41 55.0 +0.4
baz=76,SNR=7.7
S25A Robets Cordova 76.13 334 ⇑P P 07 41 55.3 +0.7
baz=76
MDV Middlebury 76.15 359 eP P 07 41 55.0 +0.4
MDV e 07 42 03.9
T23A Casias Ranch, 76.19 332 ⇑P P 07 41 55.7 +0.7
baz=76
X16A Lo Mia Camp, P 76.26 327 ⇓P P 07 41 55.7 +0.3
baz=76,SNR=21
V19A Window Rock 76.29 330 ⇓P P 07 41 55.9 +0.4
baz=77,SNR=9.0
Z13A Yuma Proving G 76.30 325 ⇑P P 07 41 56.0 +0.3
baz=76,SNR=10.0
U21A Nageezi 76.31 331 ⇑P P 07 41 56.0 +0.3
baz=77,SNR=18
R26A Arlington 76.33 335 ⇓P P 07 41 56.5 +0.7
baz=77
S24A Houchin Ranch, 76.40 333 ⇓P P 07 41 57.0 +0.8
baz=77,SNR=12
W17A Winslow 76.48 328 ⇓P P 07 41 57.4 +0.7
baz=77
T22A Edith 76.51 332 ⇓P P 07 41 57.5 +0.7
baz=77,SNR=13
Y14A Wickenburg 76.59 326 ⇓P P 07 41 57.4 +0.1
baz=77,SNR=6.6
SDCO Great Sand Dun 76.60 333 ⇑P P 07 41 57.7 +0.4
baz=77,SNR=11
SDCO Great Sand Dun 76.60 333 eP P 07 41 58.0 +0.7
comp=Z,12nm,1.0s,mb4.8
U20A Newcomb 76.63 330 ⇑P P 07 41 57.0 -0.5
baz=77,SNR=8.9
V18A Ganado 76.67 329 ⇑P P 07 41 57.6 -0.2
baz=77
KSCO Kaye Shedlock' 76.68 336 ⇓P P 07 41 57.7 0.0
baz=77
WVL Waterville 76.74 2 eP P 07 41 57.8 -0.1
comp=Z,18nm,0.9s,mb5.0
WVL e 07 42 10.2
T21A Navajo Lake 76.75 331 ⇑P P 07 41 58.9 +0.7
baz=77
GLA Glamis 76.76 324 ⇑P P 07 41 58.5 +0.2
baz=77
GLA Glamis 76.76 324 eP P 07 41 58.2 -0.1
comp=Z,15nm,0.8s,mb5.0
GLA e 07 42 09.7
GLA Glamis 76.76 324 eP P 07 41 58.2 -0.1
GLA e 07 42 09.7
GLA pmax pmax
comp=Z,15nm,0.8s,mb5.0
S23A Nye Farm, Mont 76.76 333 ⇑P P 07 41 58.6 +0.4
baz=77
LONY Lake Ozonia 76.80 358 eP P 07 41 58.5 +0.2
U19A Dine' College, 76.84 330 ⇑P P 07 41 58.5 -0.2
baz=77,SNR=8.2
R24A Sanders Place, 76.88 334 ⇑P P 07 41 59.4 +0.5
baz=77
Q26A Hugo 76.91 335 ⇑P P 07 41 59.5 +0.5
baz=77
JFWS Jewell Farm 76.93 346 eP P 07 41 58.3 -0.7
comp=Z,29nm,1.0s,mb5.2
JFWS e 07 42 07.9
JFWS Jewell Farm 76.93 346 eP P 07 41 58.3 -0.7
JFWS e 07 42 07.9
JFWS pmax pmax
comp=Z,29nm,1.0s,mb5.2
V17A Tonalea, Kykot 76.97 328 ⇑P P 07 41 59.5 +0.1
baz=77,SNR=14
FRNY Flat Rock 77.00 359 eP P 07 41 59.3 -0.1
comp=Z,41nm,1.3s,mb5.2
DVTC Desert V Tower 77.08 323 ⇑P P 07 42 00.2 0.0
baz=77
R23A Moffat 77.12 333 ⇓P P 07 42 00.6 +0.4
baz=77
S22A 4UR Ranch, Cre 77.12 332 ⇑P P 07 42 00.6 +0.4
baz=77,SNR=7.0
WUAZ Wupatki 77.14 328 ⇑P P 07 42 01.1 +0.7
baz=77,SNR=12
WUAZ Wupatki 77.14 328 eP P 07 42 01.7 +1.3
comp=Z,21nm,1.0s,mb5.0
SWSC Sam W. Stewart 77.15 323 ⇓P P 07 42 00.7 +0.2
baz=77,SNR=5.9
Q25A Bedland, Calha 77.17 335 ⇓P P 07 42 00.9 +0.5
baz=78
Y12C Blythe 77.17 325 ⇓P P 07 42 00.9 +0.3
baz=77,SNR=5.2
T19A Beclabito 77.22 330 ⇓P P 07 42 01.0 +0.1
baz=78,SNR=18
U18A Rough Rock, Ch 77.24 329 ⇑P P 07 42 01.8 +0.9
baz=78,SNR=8.9
BAR Barrett 77.39 322 eP P 07 42 02.1 +0.2
comp=Z,23nm,1.1s,mb5.0
BAR e 07 42 12.9
PDMCI Parker Dam,Lak 77.43 325 ⇓P P 07 42 02.0 -0.1
baz=78
S21A Coal Bank Pass 77.43 332 ⇓P P 07 42 02.8 +0.8
baz=78,SNR=12
BGNE Belgrade 77.44 340 ⇓P P 07 42 02.5 +0.6
baz=78
PKME Peaks-Kenny Pk 77.44 2 eP P 07 42 02.7 +0.8
comp=Z,38nm,1.0s,mb5.3
PKME e 07 42 13.6
R22A Saguache, Gunn 77.51 333 ⇓P P 07 42 02.8 +0.4
baz=78
Q24A Divide 77.54 334 ⇑P P 07 42 03.1 +0.6
baz=78,SNR=14
U16A Tuba City 77.55 328 ⇓P P 07 42 03.6 +0.9
baz=78,SNR=10
P25A Willow Gulch B 77.67 335 ⇑P P 07 42 03.7 +0.5
baz=78,SNR=16
O27A Beecher Island 77.69 336 ⇓P P 07 42 03.7 +0.4
baz=78
U17A Shonto 77.73 329 ⇓P P 07 42 04.6 +1.0
baz=78,SNR=10
Q23A Hartsel 77.74 334 ⇑P P 07 42 04.4 +0.7
baz=78
S20A Disappointment 77.80 331 ⇓P P 07 42 04.8 +0.7
baz=78,SNR=8.4
IRM Iron Mountain 77.81 324 ⇑P P 07 42 04.5 +0.3
baz=78,SNR=6.6
T18A Mexican Hat 77.84 330 ⇓P P 07 42 05.1 +0.8
baz=78,SNR=7.8
R21A Cimarron 77.94 332 ⇑P P 07 42 05.4 +0.6
baz=78,SNR=7.6
W13A Hualapai Mount 77.96 326 ⇑P P 07 42 05.6 +0.6
baz=78,SNR=7.2
O26A Horse Wrangler 78.02 336 ⇑P P 07 42 05.8 +0.6
baz=78
PFO Pinyon Flat Ob 78.02 323 ⇑P P 07 42 06.3 +1.0
baz=78,SNR=6.0
PFO Pinyon Flat Ob 78.02 323 eP P 07 42 06.3 +0.9
comp=Z,26nm,1.1s,mb5.1
PFO e 07 42 17.1
PFO Pinyon Flat Ob 78.02 323 P P 07 42 06.5 +1.1
comp=Z,126nm,1.2s,mb5.7,SNR=5.0
PFO Pinyon Flat Ob 78.02 323 eP P 07 42 06.3 +0.9
PFO e 07 42 17.1
PFO pmax pmax
comp=Z,26nm,1.1s,mb5.1
S19A Harvey Farm, M 78.05 331 ⇓P P 07 42 05.6 +0.2
baz=78,SNR=14
Q22A Crested Butte, 78.12 333 ⇑P P 07 42 06.5 +0.8
baz=78,SNR=13
R20A Redvale 78.12 331 ⇑P P 07 42 06.4 +0.6
baz=78,SNR=10
T17A Navajo Res., N 78.13 329 ⇓P P 07 42 06.5 +0.6
baz=78,SNR=8.5
PV01 Paradox Valley 78.15 331 eP P 07 42 04.7 -1.3
comp=Z,1μm,1.1s
P23A Jefferson 78.16 334 ⇓P P 07 42 06.9 +0.9
baz=78
O25A Wiggins 78.18 335 ⇓P P 07 42 07.2 +1.1
baz=78
N27A Anderson Farm, 78.26 337 ⇓P P 07 42 07.3 +0.8
baz=79
Q21A Lamborn Mesa, 78.35 332 ⇓P P 07 42 07.7 +0.6
baz=79
S18A Hurst Farm, Bl 78.36 330 ⇑P P 07 42 07.8 +0.6
baz=79,SNR=21
MURC Murrieta 78.39 323 ⇓P P 07 42 07.6 +0.2
baz=79
SMCO Snowmass 78.42 333 eP P 07 42 08.3 +0.9
comp=Z,30nm,0.9s,mb5.2
ISCO Idaho Springs 78.44 334 ⇑P P 07 42 08.5 +0.9
baz=79,SNR=8.4
ISCO Idaho Springs 78.44 334 eP P 07 42 08.6 +1.0
comp=Z,16nm,1.0s,mb4.9
ISCO Idaho Springs 78.44 334 eP P 07 42 08.6 +1.0
ISCO pmax pmax
comp=Z,16nm,1.0s,mb4.9
PV04 Paradox Valley 78.51 331 eP P 07 42 09.4 +1.4
PV04 e 07 42 18.5
N26A Koester Ranch, 78.51 336 ⇑P P 07 42 08.8 +0.9
baz=79
LDFC Landfair 78.53 325 eP P 07 42 09.8 +1.6
comp=Z,22nm,0.9s,mb5.1
LDFC e 07 42 19.8
O24A Longmont 78.53 335 ⇓P P 07 42 08.9 +0.8
baz=79
R19A Curley Farm, L 78.57 331 ⇑P P 07 42 08.8 +0.5
baz=79,SNR=9.0
S17A Black Ridge (B 78.66 329 ⇓P P 07 42 09.3 +0.5
baz=79,SNR=5.5
Q20A Ridgley Place, 78.74 332 ⇑P P 07 42 09.9 +0.7
baz=79
M27A Reverse DX Ran 78.86 337 ⇓P P 07 42 10.3 +0.6
baz=79
PQI Presque Isle 78.89 3 eP P 07 42 09.8 -0.1
comp=Z,41nm,1.0s,mb5.3
PQI e 07 42 21.5
P21A Newcastle 78.90 333 ⇓P P 07 42 10.7 +0.6
baz=79
R18A Canyonlands Na 78.91 330 ⇓P P 07 42 10.7 +0.5
baz=79
O23A Lake Granby, G 78.92 334 ⇓P P 07 42 10.8 +0.7
baz=79,SNR=11
HEC Hector,Ludlow 78.93 324 ⇓P P 07 42 10.8 +0.5
baz=79
S16A Weppner Ranch, 79.08 329 ⇑P P 07 42 11.3 +0.2
baz=79,SNR=5.0
N24A Carr 79.08 335 ⇑P P 07 42 11.5 +0.5
baz=79
O22A Kremmling 79.11 334 ⇓P P 07 42 11.4 +0.2
baz=79,SNR=11
BFSC Mount Baldy Ra 79.13 323 ⇑P P 07 42 11.4 -0.1
baz=79
Q19A Hogan Spring (79.13 331 ⇑P P 07 42 11.9 +0.6
baz=79
ECSD EROS Data Cent 79.18 342 eP P 07 42 10.9 -0.6
comp=Z,36nm,0.8s,mb5.3
ECSD e 07 42 21.4
TUQ Turquoise Moun 79.21 325 ⇓P P 07 42 12.1 +0.3
baz=80
P20A De Beque 79.25 332 ⇑P P 07 42 12.3 +0.3
baz=80,SNR=8.6
R17A Hanksville Air 79.28 330 ⇓P P 07 42 12.2 0.0
baz=80,SNR=7.3
MWC Mount Wilson 79.32 323 eP P 07 42 13.0 +0.5
comp=Z,26nm,1.2s,mb5.0
MWC e 07 42 24.3
MWC Mount Wilson 79.32 323 eP P 07 42 13.0 +0.5
MWC e 07 42 24.3
MWC pmax pmax
comp=Z,26nm,1.2s,mb5.0
M25A Palm-Egli Farm 79.33 336 ⇓P P 07 42 12.9 +0.5
baz=80
PASC Pasadena Art C 79.34 322 eP P 07 42 12.5 -0.2
comp=Z,129nm,1.3s,mb5.7
PASC e 07 42 24.2

O21A Pagoda 79.50 333 ⇓P P 07 42 14.0 +0.6
baz=80
N23A Red Feather La 79.53 334 ⇓P P 07 42 14.0 +0.6
baz=80,SNR=5.7
GSC Goldstone 79.54 324 ⇑P P 07 42 13.8 +0.1
baz=80
GSC Goldstone 79.54 324 *eP* **P 07 42 14.0 +0.3**
comp=Z,25nm,1.3s,mb5.0
GSC *e* 07 42 24.9
GSC Goldstone 79.54 324 *eP* **P 07 42 14.0 +0.3**
GSC *e* 07 42 24.9
GSC pmax pmax
comp=Z,25nm,1.3s,mb5.0
L26A Underwood Farm 79.54 337 ⇓P P 07 42 13.9 +0.4
baz=80
P19A Cripple Cowboy 79.60 332 ⇓P P 07 42 14.1 +0.2
baz=80,SNR=5.1
Q18A Rafter H Ranch 79.61 331 ⇑P P 07 42 14.0 0.0
baz=80,SNR=8.5
M24A Cheyenne 79.63 335 ⇓P P 07 42 14.5 +0.5
baz=80,SNR=5.7
N22A Wattenberg Ran 79.63 334 ⇓P P 07 42 14.6 +0.6
baz=80
SPMN St. Paul 79.67 345 ⇓P P 07 42 13.6 -0.5
baz=80
PHWY Pilot Hill 79.71 335 *eP* **P 07 42 15.1 +0.7**
comp=Z,22nm,1.1s,mb5.0
CCUT Cedar City 79.72 328 *eP* **P 07 42 16.0 +1.4**
comp=Z,30nm,1.2s,mb5.1
CCUT *e* 07 42 26.2
O20A White River Ci 79.73 332 ⇓P P 07 42 14.6 0.0
baz=80,SNR=7.1
SHOC Shoshone 79.75 325 ⇓P P 07 42 15.1 +0.2
baz=80
R15A Junction 79.78 329 ⇑P P 07 42 15.2 +0.3
baz=80
SRU San Rafael 79.78 330 *eP* **P 07 42 15.4 +0.5**
comp=Z,13nm,1.0s,mb4.8
SRU San Rafael 79.78 330 *eP* **P 07 42 15.4 +0.5**
SRU pmax pmax
comp=Z,13nm,1.0s,mb4.8
EDW2 Edwards Air Fo 79.80 323 ⇓P P 07 42 14.8 -0.3
baz=80
K27A Flueckinger Fa 79.86 338 ⇓P P 07 42 15.6 +0.3
baz=80,SNR=6.0
Q16A Castle Valley 79.89 330 ⇑P P 07 42 15.9 +0.4
baz=80,SNR=10.0
L25A Engebretsen Ra 79.94 336 ⇑P P 07 42 16.1 +0.4
baz=80
M23A Laramie 79.95 335 ⇑P P 07 42 15.8 +0.1
baz=80,SNR=7.7
ARUT Antelope Range 79.95 328 *eP* **P 07 42 17.2 +1.3**
comp=Z,26nm,1.2s,mb5.0
ARUT *e* 07 42 27.5
ARUT Antelope Range 79.95 328 *eP* **P 07 42 17.2 +1.3**
ARUT *e* 07 42 27.5
ARUT pmax pmax
comp=Z,26nm,1.2s,mb5.0
OSI Osito Adit 79.97 322 *eP* **P 07 42 16.2 +0.1**
comp=Z,21nm,0.8s,mb5.1
OSI *e* 07 42 26.1
MSU Marysvale 79.99 329 *eP* **P 07 42 17.3 +1.2**
MSU Marysvale 79.99 329 *eP* **P 07 42 17.3 +1.3**
N21A Black Mountain 80.00 333 ⇑P P 07 42 16.8 +0.8
baz=80,SNR=6.3
P18A Preston Nutter 80.11 331 ⇓P P 07 42 17.1 +0.4
baz=80,SNR=8.9
LRMC Laurel Mountai 80.12 324 ⇓P P 07 42 17.1 +0.3
baz=80
L24A Wheatland 80.18 336 ⇓P P 07 42 16.8 -0.1
baz=80
P17A Butcher Ranch, 80.18 330 ⇓P P 07 42 17.4 +0.4
baz=80
O19A Miners Draw (B 80.22 332 ⇑P P 07 42 17.2 0.0
baz=80,SNR=5.6
TMUT Trail Mountain 80.23 330 *eP* **P 07 42 18.8 +1.5**
comp=Z,23nm,1.2s,mb5.0
TMUT *e* 07 42 27.9
N20A Spence Gulch, 80.34 333 ⇓P P 07 42 18.3 +0.4
baz=81
MPMC Manual Prospec 80.48 324 ⇑P P 07 42 18.7 0.0
baz=81
FURC Furnace Creek, 80.49 325 ⇓P P 07 42 18.8 0.0
baz=81
L23A Garrett 80.51 335 ⇓P P 07 42 18.8 +0.1
baz=81
R13A O'Grain Ranch, 80.51 328 ⇑P P 07 42 19.3 +0.4
baz=81
O18A Roosevelt 80.55 331 ⇑P P 07 42 19.2 +0.2
baz=81,SNR=7.1
BOSA Boshof 80.65 118 P **P 07 42 19.5 -0.5**
comp=Z,36nm,0.9s,mb5.3,baz=236,slow=5.4,SNR=32
BOSA pP pP 07 42 30.3 +6.2
comp=Z,55nm,1.0s,baz=223,slow=4.5,SNR=12
BOSA LR LR 08 15 31.4
comp=Z,2μm,18.6s,MS5.4,baz=218,slow=34
BOSA Boshof 80.65 118 *eP* **P 07 42 19.6 -0.5**
comp=Z,76nm,1.1s,mb5.5
BOSA *e* 07 42 30.2
BOSA pP pP 07 42 30.3 +6.2
BOSA Boshof 80.65 118 *eP* **P 07 42 19.6 -0.5**
BOSA *e* 07 42 30.2
BOSA *PP pP 07 42 30.3 +6.2
BOSA pmax pmax
comp=Z,76nm,1.1s,mb5.5
ISA Isabella 80.66 323 ⇑P P 07 42 19.5 -0.2
baz=81
ISA Isabella 80.66 323 *eP* **P 07 42 21.0 +1.3**
comp=Z,19nm,1.1s,mb4.9
ISA *e* 07 42 31.4
ISA Isabella 80.66 323 *eP* **P 07 42 21.0 +1.3**
ISA *e* 07 42 31.4
ISA pmax pmax
comp=Z,19nm,1.1s,mb4.9
M21A Separation Pea 80.67 334 ⇓P P 07 42 20.2 +0.5
baz=81
P16A Fountain Green 80.68 330 ⇓P P 07 42 20.0 +0.2
baz=81
RWWY Rawlins 80.68 334 *eP* **P 07 42 20.4 +0.7**
comp=Z,27nm,1.0s,mb5.1
L22A Ellis Ranch, M 80.70 335 ⇓P P 07 42 20.1 +0.3
baz=81
K24A Anderson Ranch 80.73 336 ⇓P P 07 42 20.3 +0.4
baz=81
N19A John Jarvie Ra 80.75 332 ⇓P P 07 42 20.1 0.0
baz=81,SNR=6.6
PKM Peak Mountain 80.75 322 ⇑P P 07 42 19.8 -0.4
baz=81
O17A Robinson Place 80.79 331 ⇑P P 07 42 20.8 +0.5
baz=81,SNR=11
M20A Sweetwater, Wa 80.88 333 ⇓P P 07 42 20.9 +0.1
baz=81
P15A Leamington 80.91 330 ⇓P P 07 42 21.2 +0.2
baz=81
L21A Rawlins 80.98 334 ⇓P P 07 42 21.2 -0.1
baz=81,SNR=7.4
MPU Maple Canyon 81.01 330 *eP* **P 07 42 22.2 +0.7**
comp=Z,24nm,1.0s,mb5.1
MPU *e* 07 42 31.6
N18A Larsen Ranch, 81.02 332 ⇑P P 07 42 21.8 +0.3
baz=81
K23A Bowen Ranch, D 81.04 336 ⇓P P 07 42 21.6 0.0
baz=81
CWC Cottonwood Cre 81.07 324 ⇓P P 07 42 21.7 -0.2
baz=81
VES Vestal, Richgr 81.11 323 ⇓P P 07 42 21.8 -0.3
baz=81
O16A Springville 81.11 330 ⇑P P 07 42 22.2 +0.1
baz=81,SNR=8.5
GRAC Grapevine Rang 81.16 325 ⇑P P 07 42 22.1 -0.3
baz=81
SMMC Simmler 81.17 322 ⇑P P 07 42 23.0 +0.5
baz=81
J24A Dixon Ranch, L 81.22 336 ⇑P P 07 42 23.0 +0.5
baz=82
M19A Rock Springs 81.27 333 ⇑P P 07 42 23.5 +0.7
baz=82
K22A Casper 81.27 335 ⇑P P 07 42 23.3 +0.4
baz=82,SNR=8.7
L20A Wamsutter 81.38 333 ⇓P P 07 42 23.7 +0.3
baz=82
R11A Troy Canyon, C 81.39 327 ⇓P P 07 42 24.1 +0.6
baz=82,SNR=11
JLU Jordanelle 81.42 331 *eP* **P 07 42 24.2 +0.6**
comp=Z,12nm,1.0s,mb4.8
N17A Moffit Pass 81.45 331 ⇑P P 07 42 24.0 +0.2
baz=82,SNR=6.1
K21A Alcova 81.52 334 ⇑P P 07 42 24.2 +0.1
baz=82,SNR=8.8
RCTC Rector, Farmer 81.55 323 ⇓P P 07 42 24.2 -0.2
baz=82
M18A Lyman 81.56 332 ⇓P P 07 42 24.4 +0.1
baz=82
O15A The Old Anders 81.58 330 ⇑P P 07 42 24.6 +0.1
baz=82
TIN Tinemaha 81.62 324 ⇓P P 07 42 24.7 -0.1
baz=82
DUG Dugway 81.66 330 ⇑P P 07 42 24.5 -0.4
baz=82,SNR=8.2
DUG Dugway 81.66 330 *eP* **P 07 42 25.2 +0.3**
comp=Z,27nm,1.3s,mb5.0
DUG *e* 07 42 43.8
DUG Dugway 81.66 330 *eP* **P 07 42 25.2 +0.3**
DUG *e* 07 42 43.8
DUG pmax pmax
comp=Z,27nm,1.3s,mb5.0
I24A Kuemmerle Ranc 81.68 337 ⇓P P 07 42 25.0 0.0
baz=82
RSSD Black Hills 81.72 337 *eP* **P 07 42 25.2 +0.1**
comp=Z,9.1nm,0.9s,mb4.7
RSSD *e* 07 42 35.5
RSSD Black Hills 81.72 337 *eP* **P 07 42 25.2 +0.1**
RSSD *e* 07 42 35.5
RSSD pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
M17A Scullys Gap (B 81.83 332 ⇑P P 07 42 25.5 -0.3
baz=82
L19A Farson 81.85 333 ⇓P P 07 42 25.6 -0.3
baz=82,SNR=5.2
J22A Midwest 81.92 335 ⇑P P 07 42 25.7 -0.5
baz=82,SNR=6.1
K20A Yellowstone Ra 81.94 334 ⇓P P 07 42 26.5 +0.1
baz=82
L18A Fontenelle, Gr 81.97 332 ⇑P P 07 42 26.2 -0.3
baz=82,SNR=5.4
EYMN Ely 82.00 347 *eP* **P 07 42 26.6 +0.1**
comp=Z,26nm,1.0s,mb5.1
MTUM Tungsten Hills 82.03 324 *eP* **P 07 42 26.4 -0.5**
J21A Lysite 82.21 335 ⇓P P 07 42 27.8 +0.1
baz=82
K19A Absolon Red Bu 82.28 333 ⇓P P 07 42 28.0 -0.1
baz=83
HWUT Hardware Ranch 82.31 331 *eP* **P 07 42 28.0 -0.4**
comp=Z,22nm,1.0s,mb5.0
I22A 9 Mile Ranch, 82.34 336 ⇑P P 07 42 28.0 -0.4
baz=83,SNR=6.6
H24A Dirks Ranch, A 82.44 337 ⇑P P 07 42 28.5 -0.5
baz=83,SNR=5.7
J20A Shoshoni 82.45 334 ⇓P P 07 42 28.7 -0.3
baz=83,SNR=5.9
BW06 Boulder Array 82.50 333 ⇓P P 07 42 29.4 +0.1
baz=83
BW06 Boulder Array 82.50 333 *eP* **P 07 42 29.5 +0.2**
comp=Z,13nm,1.3s,mb4.7
PDAR Pinedale Array 82.50 333 P **P 07 42 29.2 0.0**
comp=Z,2.2nm,1.0s,mb4.0,baz=150,slow=6.3,SNR=13
PDAR Pinedale Array 82.50 333 P **P 07 42 29.2 0.0**
M15A Larsen Ranch, 82.56 330 ⇑P P 07 42 29.7 +0.1
baz=83
I21A Big Trails, Te 82.56 335 ⇑P P 07 42 29.0 -0.6
baz=83,SNR=7.9
K18A Toltan Ranch, 82.57 333 ⇑P P 07 42 29.8 +0.1
baz=83,SNR=8.0
L16A Fish Haven 82.60 331 ⇓P P 07 42 29.6 -0.2
baz=83
J19A Crowheart 82.73 334 ⇓P P 07 42 30.4 -0.1
baz=83
NVAR Mina Array Bea 82.74 325 P **P 07 42 30.9 +0.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=151,slow=5.7,SNR=15
NVAR pP pP 07 42 41.2 +6.5
comp=Z,7.0nm,0.8s,baz=142,slow=5.0,SNR=9.4
NVAR Mina Array Bea 82.74 325 P **P 07 42 30.9 +0.2**
NVAR pP pP 07 42 41.2 +6.5
LBTB Lobatse 82.81 115 *eP* **P 07 42 30.9 -0.6**
comp=Z,63nm,1.1s,mb5.6
LBTB Lobatse 82.81 115 *eP* **P 07 42 30.9 -0.6**
LBTB pmax pmax
comp=Z,63nm,1.1s,mb5.6
H22A Clearmont 82.91 336 ⇑P P 07 42 31.3 0.0
baz=83
G24A Alzada 82.91 338 ⇑P P 07 42 31.4 0.0
baz=83
HVU Hansel Valley 82.95 330 *eP* **P 07 42 31.9 +0.3**
comp=Z,12nm,1.0s,mb4.9
HVU Hansel Valley 82.95 330 *eP* **P 07 42 31.9 +0.2**
HVU pmax pmax
comp=Z,12nm,1.0s,mb4.9
I20A Worland 82.98 335 ⇑P P 07 42 31.5 -0.2
baz=83,SNR=6.7
L15A Malad City 82.98 331 ⇓P P 07 42 31.4 -0.4
baz=83,SNR=7.6
K17A Gardner Place, 83.01 332 ⇑P P 07 42 31.5 -0.4
baz=83
J18A Kendall Valley 83.05 333 ⇓P P 07 42 31.5 -0.6
baz=83,SNR=7.9
G23A Biddle 83.12 337 ⇑P P 07 42 31.8 -0.6
baz=83
ELK Elko 83.17 328 *eP* **P 07 42 33.3 +0.5**
comp=Z,14nm,1.1s,mb4.9
ELK Elko 83.17 328 *eP* **P 07 42 33.3 +0.5**
ELK pmax pmax
comp=Z,14nm,1.1s
H21A Big Horn, Sher 83.18 336 ⇑P P 07 42 32.5 -0.3
baz=84
AGMN Agassiz Nation 83.26 344 *eP* **P 07 42 32.1 -0.9**
comp=Z,27nm,1.1s,mb5.2
AGMN *e* 07 42 42.3
K16A Soda Springs 83.35 332 ⇑P P 07 42 33.5 -0.2
baz=84,SNR=5.8
L14A Malta 83.36 330 ⇑P P 07 42 33.4 -0.4
baz=84,SNR=5.6
I19A Meeteetse 83.37 334 ⇑P P 07 42 33.3 -0.5
baz=84
F24A Ekalaka 83.38 338 ⇓P P 07 42 33.3 -0.5
baz=84
I18A Diamond G Ranc 83.39 333 ⇑P P 07 42 33.6 -0.3
baz=84,SNR=8.1
H20A Greybull 83.40 335 ⇑P P 07 42 33.1 -0.8
baz=84,SNR=6.1
J17A Brown Place, J 83.45 333 ⇑P P 07 42 33.8 -0.4
baz=84
CMB Columbia Colle 83.46 323 *eP* **P 07 42 35.5 +1.1**
comp=Z,15nm,1.2s,mb4.9
CMB Columbia Colle 83.46 323 *eP* **P 07 42 35.5 +1.1**
CMB pmax pmax
comp=Z,15nm,1.2s,mb4.9
REDW Red Top Meadow 83.50 333 *eP* **P 07 42 34.5 0.0**
comp=Z,14nm,1.1s,mb5.0
SNOW Snow King Moun 83.55 333 *eP* **P 07 42 34.7 0.0**
comp=Z,13nm,1.0s,mb5.0
SNOW *e* 07 42 45.2
TORD Torodi Ar. Bea 83.58 70 P **P 07 42 34.9 -0.6**
comp=Z,46nm,0.9s,mb5.6,baz=252,slow=4.6,SNR=204
TORD pP pP 07 42 44.4 +4.8
comp=Z,23nm,0.8s,baz=275,slow=5.0,SNR=12
TORD Torodi Ar. Bea 83.58 70 P **P 07 42 34.9 -0.6**
TORD pP pP 07 42 44.4 +4.8
F23A Volborg 83.58 337 ⇓P P 07 42 34.7 -0.1
baz=84
K15A Arbon 83.61 331 ⇓P P 07 42 34.8 -0.2
baz=84
LOHW Long Hollow 83.62 333 *eP* **P 07 42 34.4 -0.6**
comp=Z,9.5nm,1.3s,mb4.8
LOHW *e* 07 42 45.3
TPAW Teton Pass 83.65 333 *eP* **P 07 42 35.5 +0.3**
comp=Z,14nm,1.0s,mb5.0
RRI2 Red Ridge 83.67 332 *eP* **P 07 42 34.9 -0.5**
comp=Z,15nm,1.2s,mb5.0
J16A Bone 83.73 332 ⇓P P 07 42 35.1 -0.6
baz=84
G21A Lodge Grass 83.76 336 ⇑P P 07 42 35.2 -0.5
baz=84
MDND Maddock 83.78 342 ⇓P P 07 42 35.5 -0.2
baz=84,SNR=8.3
H19A Powell 83.91 334 ⇓P P 07 42 36.1 -0.5
baz=84
F22A Rosebud 83.92 337 ⇑P P 07 42 36.3 -0.3
baz=84
E24A Baker 83.97 338 ⇓P P 07 42 36.7 -0.1
baz=84
FLWY Flagg Ranch 84.05 333 *eP* **P 07 42 37.8 +0.5**
comp=Z,13nm,0.9s,mb5.0
G20A Bridger 84.11 335 ⇓P P 07 42 37.3 -0.2
baz=84
J15A Blackfoot 84.16 332 ⇑P P 07 42 37.5 -0.3
baz=84
H18A Shoshone NF, C 84.17 334 ⇓P P 07 42 37.6 -0.2
baz=84,SNR=9.0
I16A Newdale 84.19 332 ⇑P P 07 42 38.0 +0.1
baz=84
E23A Ismay 84.24 338 ⇑P P 07 42 37.6 -0.5
baz=84
D24A Glendive 84.47 338 ⇓P P 07 42 39.4 0.0
baz=85,SNR=5.0
J14A Carey 84.54 331 ⇓P P 07 42 39.4 -0.4
baz=85
F20A Billings 84.59 335 ⇑P P 07 42 39.8 -0.1
baz=85
YMR Madison River 84.65 333 *eP* **P 07 42 41.0 +0.7**
comp=Z,151nm,1.2s,mb6.0
G18A Lazy EL Ranch, 84.68 334 ⇑P P 07 42 40.3 -0.1
baz=85
I15A Monteview 84.68 332 ⇓P P 07 42 40.4 -0.1
baz=85
LAO LASA Array 84.70 337 ⇑P P 07 42 39.9 -0.6
baz=85
LAO LASA Array 84.70 337 *eP* **P 07 42 39.9 -0.6**
comp=Z,12nm,0.9s,mb5.0
LAO *e* 07 42 50.8
H16A Russell Place, 84.79 333 ⇑P P 07 42 40.9 -0.1
baz=85
D23A Lindsay 84.80 338 ⇑P P 07 42 41.0 0.0
baz=85,SNR=12
E21A Keefer Ranch, 84.86 336 ⇑P P 07 42 41.2 0.0
baz=85
J13A Cove Ranch, Pi 84.87 330 ⇑P P 07 42 41.3 -0.2
baz=85,SNR=8.9
C24A Savage 84.88 339 ⇑P P 07 42 41.0 -0.3
baz=85,SNR=12
F19A Roth Farm, Mol 84.91 335 ⇑P P 07 42 41.0 -0.6
baz=85,SNR=5.4
QLMT Earthquake Lak 84.97 333 *eP* **P 07 42 42.7 +0.8**
QLMT *e* 07 42 53.4
I14A Mackay 85.01 331 ⇓P P 07 42 41.8 -0.4
baz=85
D22A Cohagen 85.10 337 ⇑P P 07 42 42.3 -0.1
baz=85,SNR=5.4
ULM Lac du Bonnet 85.10 345 P **P 07 42 41.1 -1.3**
comp=Z,11nm,0.9s,mb5.0,baz=178,slow=4.3,SNR=13
ULM pP pP 07 42 51.1 +4.7
comp=Z,29nm,1.0s,baz=167,slow=4.3,SNR=14
ULM Lac du Bonnet 85.10 345 *eP* **P 07 42 40.8 -1.6**
comp=Z,26nm,1.0s,mb5.3
ULM *e* 07 42 50.2
ULM Lac du Bonnet 85.10 345 *eP* **P 07 42 40.8 -1.6**
ULM *e* 07 42 50.2
ULM pmax pmax
comp=Z,26nm,1.0s
HLID Hailey 85.11 330 ⇑P P 07 42 42.6 0.0
baz=85,SNR=9.7
HLID Hailey 85.11 330 *eP* **P 07 42 43.3 +0.7**
comp=Z,12nm,1.0s,mb5.0
HLID *e* 07 42 53.0
G17A Pierce Place, 85.12 334 ⇑P P 07 42 42.2 -0.4
baz=85
GCMT Greycliff 85.12 335 *eP* **P 07 42 40.1 -2.5**
comp=Z,7.6nm,1.2s,mb4.7
E20A Meyer Farm, Mu 85.19 336 ⇓P P 07 42 42.4 -0.6
baz=86,SNR=12
F18A Big Timber 85.24 335 ⇑P P 07 42 42.8 -0.4
baz=86,SNR=6.6
H15A Lima 85.26 332 ⇑P P 07 42 43.1 -0.2
baz=86
I13A Wildhorse Cree 85.27 331 ⇓P P 07 42 43.7 +0.2
baz=86,SNR=9.3
D21A La Casta Ranch 85.29 337 ⇓P P 07 42 43.0 -0.4
baz=86
C23A Lambert 85.35 338 ⇓P P 07 42 43.2 -0.5
baz=86,SNR=7.1
E19A Rath Farm, Rou 85.38 335 ⇑P P 07 42 43.4 -0.5
baz=86,SNR=12
G16A Moss Hill, Enn 85.44 333 ⇓P P 07 42 43.8 -0.4
baz=86
MCMT McKenzie Canyo 85.52 332 *eP* **P 07 42 45.4 +0.8**
comp=Z,9.9nm,1.2s,mb4.9
MCMT *e* 07 42 55.0
C22A Vida 85.53 338 ⇑P P 07 42 44.2 -0.4
baz=86
H14A Leadore 85.55 332 ⇓P P 07 42 44.8 0.0
baz=86,SNR=6.4
F17A Fitzpatrick Pl 85.58 334 ⇑P P 07 42 44.8 -0.1
baz=86
MFID Camas Ranch 85.59 330 ⇓P P 07 42 44.8 -0.2
baz=86,SNR=6.5
MFID Camas Ranch 85.59 330 *eP* **P 07 42 44.9 -0.1**
comp=Z,14nm,1.1s,mb5.1
MFID *e* 07 42 55.4
I12A Atlanta 85.60 330 ⇑P P 07 42 45.2 +0.2
baz=86,SNR=8.3
DGMT Dagmar 85.64 339 ⇓P P 07 42 44.9 -0.2
baz=86,SNR=6.8
DGMT Dagmar 85.64 339 *eP* **P 07 42 45.3 +0.2**
comp=Z,31nm,0.9s,mb5.5
DGMT *e* 07 42 54.7
G15A Dillon 85.66 332 ⇑P P 07 42 45.0 -0.3
baz=86,SNR=6.3
D20A Manuel Ranch, 85.70 336 ⇑P P 07 42 45.0 -0.4
baz=86,SNR=10
BOZ Bozeman (W) 85.73 333 ⇓P P 07 42 45.1 -0.5
baz=86
DLMT Dillon 85.86 333 *eP* **P 07 42 46.4 +0.1**
comp=Z,22nm,1.3s,mb5.2
DLMT *e* 07 42 56.9
H13A Challis 85.86 331 ⇑P P 07 42 46.1 -0.3
baz=86,SNR=7.2
E18A Harlowton 85.87 335 ⇓P P 07 42 46.2 -0.1
baz=86
B23A Brockton 85.88 339 ⇑P P 07 42 46.1 -0.2
baz=86
C21A Desert Coulee 85.99 337 ⇑P P 07 42 45.9 -1.0
baz=86,SNR=8.6
D19A Cripps Ranch, 86.02 336 ⇑P P 07 42 45.7 -1.3
baz=86,SNR=5.6
B22A Reddig Ranch S 86.05 338 ⇓P P 07 42 46.7 -0.5
baz=86,SNR=8.4
H12A Diamond D Ranc 86.10 331 ⇓P P 07 42 47.0 -0.5
baz=86
E17A Martinsdale 86.13 334 ⇑P P 07 42 47.5 -0.1
baz=86
LRM Limekiln Ridge 86.19 333 *eP* **P 07 42 48.6 +0.7**
LRM *e* 07 42 58.8
C20A Veseth Ranch, 86.19 336 ⇑P P 07 42 46.8 -1.1
baz=86,SNR=8.4
F15A Butte 86.22 333 ⇓P P 07 42 47.9 -0.2
baz=86,SNR=5.9
G13A Cobalt 86.29 331 ⇓P P 07 42 48.2 -0.3
baz=87,SNR=7.2
D18A Linhart Farms, 86.37 335 ⇓P P 07 42 47.9 -0.9
baz=87,SNR=5.5
WDC Whiskeytown Da 86.48 324 *eP* **P 07 42 49.0 -0.5**
comp=Z,16nm,1.1s,mb5.2
WDC Whiskeytown Da 86.48 324 *eP* **P 07 42 49.0 -0.5**
WDC pmax pmax
comp=Z,16nm,1.1s,mb5.2
B21A Ellsworth Farm 86.49 337 ⇓P P 07 42 48.6 -0.8
baz=87,SNR=5.6
F14A Wisdom 86.54 332 ⇓P P 07 42 49.9 +0.3
baz=87,SNR=5.5
C19A Slack Wire Ran 86.57 336 ⇑P P 07 42 48.9 -0.8
baz=87,SNR=5.7
A22A Carney Farms, 86.63 338 ⇑P P 07 42 49.4 -0.6
baz=87,SNR=12
D17A Six Diamond Ra 86.65 335 ⇓P P 07 42 49.8 -0.4
baz=87,SNR=11
J08A Circle Bar Ran 86.70 328 ⇑P P 07 42 50.2 -0.3
baz=87
E15A Deer Lodge 86.77 333 ⇑P P 07 42 50.5 -0.2
baz=87,SNR=5.3
B20A Solberg Farm, 86.83 337 ⇑P P 07 42 50.1 -0.9
baz=87,SNR=8.9
D16A Dana Ranch, Ca 86.86 334 ⇓P P 07 42 50.9 -0.3
baz=87,SNR=6.0
F13A Darby 86.90 332 ⇑P P 07 42 51.0 -0.4
baz=87,SNR=8.1
A21A Bergtoll Ranch 86.95 338 ⇑P P 07 42 50.7 -0.9
baz=87,SNR=6.1
EGMT Eagleton 87.06 336 ⇓P P 07 42 51.8 -0.4
baz=87
EGMT Eagleton 87.06 336 *eP* **P 07 42 51.3 -0.8**
comp=Z,5.6nm,1.0s,mb4.8
EGMT *e* 07 43 01.8
C17A Wharram Farm, 87.08 335 ⇓P P 07 42 51.5 -0.8

baz=87,SNR=6.1
E14A Clinton 87.09 333 ⇓P **P 07 42 52.2 -0.1**
baz=87
SCHQ Schefferville 87.10 3 P **P 07 42 50.6 -1.6**
comp=Z,20nm,1.1s,mb5.3,baz=146,slow=3.5,SNR=6.2
SCHQ Schefferville 87.10 3 *e*P **P 07 42 51.5 -0.6**
comp=Z,48nm,1.2s,mb5.6
B19A Brinkman Farms 87.15 336 ⇓P **P 07 42 51.7 -0.8**
baz=88
A20A Cobblestone Ra 87.18 337 ⇑P **P 07 42 51.8 -0.9**
baz=88,SNR=12
D15A Lincoln 87.23 334 ⇑P **P 07 42 52.8 -0.2**
baz=88
F12A Elk City 87.25 331 ⇑P **P 07 42 52.6 -0.5**
baz=88
K05A Summer Lake 87.32 326 ⇓P **P 07 42 52.7 -0.9**
baz=88
BMO Blue Mountains 87.37 330 *e*P **P 07 42 52.9 -0.8**
comp=Z,12nm,1.2s,mb5.0
BMO Blue Mountains 87.37 330 *e*P **P 07 42 52.9 -0.8**
BMO pmax pmax
comp=Z,12nm,1.2s,mb5.0
E13A Victor 87.38 332 ⇑P **P 07 42 53.6 -0.1**
baz=88,SNR=7.4
B18A Beardsley Farm 87.39 336 ⇓P **P 07 42 52.8 -0.9**
baz=88,SNR=13
CHMT Chamberlain Mo 87.41 333 *e*P **P 07 42 54.2 +0.4**
CHMT *e* 07 43 03.8
C16A Fuhringer Ranc 87.58 334 ⇑P **P 07 42 54.1 -0.6**
baz=88,SNR=11
MSO Missoula 87.60 333 ⇑P **P 07 42 54.7 -0.1**
baz=88
B17A L&G Farms, Che 87.66 335 ⇓P **P 07 42 54.1 -0.9**
baz=88,SNR=7.6
I07A Izee 87.73 328 ⇓P **P 07 42 55.2 -0.3**
baz=88
SLMT Seeley Lake 87.77 333 *e*P **P 07 42 55.7 +0.1**
A18A Metzger Ranch, 87.86 336 ⇑P **P 07 42 55.0 -1.0**
baz=88,SNR=7.8
C15A Salmond Ranch, 87.88 334 ⇑P **P 07 42 55.6 -0.5**
baz=88,SNR=11
E12A Beaver Dam Sad 87.91 331 ⇓P **P 07 42 55.8 -0.4**
baz=88
D13A Huson 88.02 332 ⇓P **P 07 42 56.3 -0.5**
baz=88,SNR=8.1
B16A M & M Farms, S 88.08 335 ⇓P **P 07 42 56.0 -1.1**
baz=88,SNR=6.0
A17A Triple J Farms 88.18 336 ⇑P **P 07 42 56.6 -0.9**
baz=88,SNR=11
SWMT Swartz Lake 88.19 333 *e*P **P 07 42 57.8 +0.3**
F10A Beach Ranch, E 88.24 330 ⇑P **P 07 42 57.1 -0.7**
baz=88
C14A Swan Lake 88.30 333 ⇓P **P 07 42 57.6 -0.5**
baz=89
B15A Bradely Ranch, 88.31 334 ⇓P **P 07 42 56.8 -1.3**
baz=89,SNR=11
A16A West Butte Ran 88.50 335 ⇓P **P 07 42 58.7 -0.3**
baz=89
C13A Hot Springs 88.55 333 ⇓P **P 07 42 59.0 -0.3**
baz=89
B14A Marquette Ranc 88.61 334 ⇑P **P 07 42 59.1 -0.5**
baz=89
BLMT Blacktail Moun 88.74 333 *e*P **P 07 42 59.6 -0.6**
BLMT *e* 07 43 10.1
BSMT Bassoo Peak 88.77 333 *e*P **P 07 43 00.2 -0.1**
BSMT *e* 07 43 10.3
C12B Naegeli Ranch, 88.92 332 ⇑P **P 07 43 00.6 -0.4**
baz=89
E09A Wood Farm, Sta 89.05 330 ⇓P **P 07 43 01.5 -0.1**
baz=89
B13A Whitefish 89.08 333 ⇑P **P 07 43 01.6 -0.1**
baz=89
G06A Carlson Farm, 89.14 328 ⇑P **P 07 43 01.6 -0.5**
baz=89
A14A Double T Ranch 89.18 334 ⇓P **P 07 43 01.5 -0.7**
baz=90
WALA Waterton Lakes 89.43 334 *e*P **P 07 43 03.1 -0.3**
comp=Z,0.9nm,1.4s,mb3.9
WALA *e* 07 43 12.9
A13A Flathead Natio 89.51 334 ⇓P **P 07 43 03.3 -0.5**
baz=90,SNR=6.3
HAWA Hanford 89.55 329 *e*P **P 07 43 04.4 +0.4**
comp=Z,20nm,1.1s,mb5.4
HAWA *e* 07 43 14.2
RSW Rattlesnake Hi 89.58 329 *e*P **P 07 43 05.0 +0.8**
comp=Z,2.1nm,0.2s,mb5.1
RSW *e* 07 43 14.7
OD2 Odessa Site #2 89.98 330 *e*P **P 07 43 05.9 -0.1**
OD2 *e* 07 43 15.6
A12A Yaak River Ran 89.99 333 ⇓P **P 07 43 05.8 -0.1**
baz=90
FFC Flin Flon 90.67 343 *e*P **P 07 43 07.9 -1.1**
comp=Z,12nm,1.0s,mb5.2
FFC *e* 07 43 18.1
FFC Flin Flon 90.67 343 *e*P **P 07 43 07.9 -1.1**
FFC *e* 07 43 18.1
FFC pmax pmax
comp=Z,12nm,1.0s,mb5.2
ETW Entiat 90.83 330 *e*P **P 07 43 09.3 -0.7**
ETW *e* 07 43 18.6
PTEO Sao Teotonio 91.22 45 *e*P **P 07 43 11.9 -0.2**
comp=Z,78nm,1.7s,mb5.8
PBDV Barranco-do-Ve 91.50 46 *e*P **P 07 43 12.4 -1.0**
TAM Tamanrasset 92.06 64 *e*P **P 07 43 16.3 0.0**
comp=Z,14nm,1.1s,mb5.2
TAM Tamanrasset 92.06 64 *e*P **P 07 43 16.3 0.0**
TAM pmax pmax
comp=Z,15nm,1.1s,mb5.2
MVO Moncorvo 94.57 43 *e*P **P 07 43 26.9 -0.5**
ESDC Sonseca Array 95.45 46 P **P 07 43 30.9 -0.6**
comp=Z,0.7nm,0.5s,mb4.4,baz=248,slow=4.8,SNR=7.0
ESDC pP pP 07 43 41.1 +5.5
comp=Z,1.2nm,0.7s,baz=242,slow=4.5,SNR=2.3
ESDC Sonseca Array 95.45 46 P **P 07 43 30.9 -0.6**
ESDC pP pP 07 43 41.1 +5.5
YKA Yellowknife Ar 100.69 341 P Pdif 07 43 53.3 -1.9
comp=Z,0.4nm,0.7s,baz=141,slow=4.6,SNR=5.8
YKA pP 07 44 04.0
comp=Z,2.2nm,1.0s,baz=144,slow=4.6,SNR=11
YKA PKKP PKKPbc 08 00 16.4 +6.2
comp=Z,0.3nm,0.6s,baz=339,slow=2.5,SNR=4.9
YKA Yellowknife Ar 100.69 341 P Pdif 07 43 53.4 -1.9
YKA pP 07 44 04.0
YKA PKKP PKKPbc 08 00 16.4 +6.2
YKA Yellowknife Ar 100.69 341 P Pdif 07 43 53.4 -1.8
DZM Mont Dzumac 102.22 234 *e*SP SP 07 57 10.8 -7.8
comp=Z,215nm,24.7s
DZM *e*SS SS 08 02 46.4 -3.8
comp=Z,508nm,26.4s
DZM *e*LR LR 08 17 34.3
comp=Z,1μm,22.2s
KHC Kasperske Hory 111.06 45 *e*SKP SKPdf 07 52 12.0 -3.2
KHC *ex* x 07 52 27.0
CLL Collm 111.66 42 *e*P Pdif 07 44 40.0 -4.0
ASAR Alice Springs 118.95 207 PKP PKPdf 07 48 53.5 -2.6
comp=Z,1.1nm,0.9s,baz=143,slow=1.1,SNR=6.9
ASAR pPKP pPKPdf 07 49 04.2 +3.9
comp=Z,3.0nm,0.9s,baz=147,slow=2.1,SNR=11
ASAR Alice Springs 118.95 207 PKP PKPdf 07 48 53.5 -2.6
ASAR pPKP pPKPdf 07 49 04.2 +3.9
ASAR Alice Springs 118.95 207 PKIKP PKPdf 07 48 53.5 -2.6
ASAR 07 49 04.2
BR131 Keskin Array S 120.99 60 *e*PKPdf PKPdf 07 48 58.5 -0.9
BRTR Keskin Array B 120.99 60 PKP PKPdf 07 48 58.6 -0.8
comp=Z,2.8nm,0.8s,baz=174,slow=3.7,SNR=10
BRTR pPKP pPKPdf 07 49 08.8 +5.3
comp=Z,3.8nm,0.9s,baz=166,slow=2.5,SNR=8.5
BRTR Keskin Array B 120.99 60 PKP PKPdf 07 48 58.6 -0.8
BRTR pPKP pPKPdf 07 49 08.8 +5.3
BRTR Keskin Array B 120.99 60*c i* PKIKP PKPdf 07 48 58.5 -0.9
BRTR pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 121.07 47*c i* PKIKP PKPdf 07 48 57.6 -1.5
AKASG Malin Array Be 121.08 47 PKP PKPdf 07 48 57.4 -1.8
comp=Z,3.6nm,0.9s,baz=261,slow=2.3,SNR=6.8
AKASG pPKP pPKPdf 07 49 08.9 +5.6
comp=Z,6.2nm,1.0s,baz=273,slow=2.5,SNR=5.7
AKASG Malin Array Be 121.08 47 PKP PKPdf 07 48 57.4 -1.8
AKASG pPKP pPKPdf 07 49 08.9 +5.6
AKASG Malin Array Be 121.08 47*c i* PKIKP PKPdf 07 48 57.4 -1.8
AKASG pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 122.12 209 PKP PKPdf 07 49 00.3 -1.9
comp=Z,3.2nm,1.0s,baz=154,slow=1.6,SNR=9.4
WRA pPKP pPKPdf 07 49 11.1 +4.7
comp=Z,4.6nm,0.7s,baz=154,slow=1.7,SNR=13
WRA Warramunga Arr 122.12 209 PKP PKPdf 07 49 00.3 -1.9
WRA pPKP pPKPdf 07 49 11.1 +4.7
WRA Warramunga Arr 122.12 209 PKIKP PKPdf 07 49 00.4 -1.8
WRA 07 49 11.1
ARCES ARCESS Array B 122.61 24 PKP PKPdf 07 49 01.1 -0.4
comp=Z,5.8nm,0.9s,baz=256,slow=3.6,SNR=3.2
ARCES ARCESS Array B 122.61 24 PKP PKPdf 07 49 01.1 -0.4
ARCES ARCESS Array B 122.61 24 PKIKP PKPdf 07 49 01.2 -0.4
ANN Anapa 125.07 55 *i* PKIKP PKPdf 07 49 03.6 -3.4
ANN pmax pmax
comp=Z,55nm,1.1s
OBN Obninsk 126.26 43 ⇓*i* PKIKP PKPdf 07 49 07.5 -1.4
OBN *i* 07 49 19.5
OBN *e* 07 51 08.4
OBN pmax pmax
comp=Z,14nm,1.1s
OBN MLR MLR
comp=Z,600nm,17.0s,MS5.3
VSR Storozhevoye 127.35 48 *e*PKIKP PKPdf 07 49 10.1 -1.1
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,8.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 128.12 35 *e*PKIKP PKPdf 07 49 08.6 -3.7
KLMR pmax pmax
comp=Z,50nm,1.5s
GNI Garni 129.33 62*c i* PKIKP PKPdf 07 49 15.7 +0.4
BILL Bilibino 131.55 335 *e*PKPdf PKPdf 07 49 18.2 -0.4
BILL Bilibino 131.55 335 ⇓*i* PKIKP PKPdf 07 49 18.5 -0.2
BILL *i* 07 49 28.1
BILL *e* 07 56 18.0
BILL *e*PS PS 08 01 53.5 +0.9
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.9
SOKR Solíkamsk 136.82 36 *i* PKIKP PKPdf 07 49 36.2 +7.4
SOKR pmax pmax
comp=Z,20nm,1.1s
ARU Arti 138.53 40 *e*PKPdf PKPdf 07 49 31.5 -0.5
ARU Arti 138.53 40 *i* PKIKP PKPdf 07 49 32.1 +0.1
ARU 07 52 21.3
ARU SS SS 08 10 29.3 -6.9
PETK Petropavlovsk- 139.20 315 PKP PKPdf 07 49 33.3 0.0
comp=Z,14nm,1.0s,baz=64,slow=3.4,SNR=4.4
PETK Petropavlovsk- 139.20 315 PKP PKPdf 07 49 33.3 0.0
PETK Petropavlovsk- 139.20 315 PKIKP PKPdf 07 49 33.3 -0.1
AKTO Aktyubinsk 139.27 49 PKP PKPdf 07 49 32.1 -1.5
comp=Z,4.4nm,1.0s,baz=306,slow=3.8,SNR=7.9
AKTO Aktyubinsk 139.27 49 PKP PKPdf 07 49 32.1 -1.5
AKTO Aktyubinsk 139.27 49 PKIKP PKPdf 07 49 32.1 -1.5
AB31 Akbulak array 140.65 50 *i* PKHKP PKPpre 07 49 27.9
AB31 pmax pmax
comp=Z,2.0nm,0.5s
KAD Karad 145.88 108 *e*PKP PKPdf 07 49 45.8 -0.5
BRVK Borovoye 146.02 41 *e*PKPdf PKPdf 07 49 45.0 -0.4
BVAR Borovoye Array 146.09 42 PKPbc PKPbc 07 49 45.2 -1.3
comp=Z,9.6nm,0.6s,baz=290,slow=3.0,SNR=66
BVAR Borovoye Array 146.09 42 PKPbc PKPbc 07 49 45.2 -1.3
BVAR Borovoye Array 146.09 42 PKP2 PKPbc 07 49 45.2 -1.3
YAK Yakutsk 147.37 341 *e*PKPdf PKPdf 07 49 48.4 +1.0
YAK Yakutsk 147.37 341 *e*PKP2 PKPdf 07 49 48.5 +1.1
YAK pmax pmax
comp=N,8.0nm,1.8s
YAK pmax pmax
comp=Z,74nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.8s
KBL Kabul 147.50 76 *e*PKPdf PKPdf 07 49 48.5 -0.1
KBL Kabul 147.50 76 *e*PKIKP PKPdf 07 49 48.5 0.0
KK31 Karatay Array 148.70 59*c i* PKP2 PKPbc 07 49 53.0 -1.0
KK31 pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 148.70 59 *e*PKPbc PKPbc 07 49 53.3 -0.8
KKAR Karatay Array 148.70 59 *e*PKP2 PKPbc 07 49 53.3 -0.7
KSM Kuching 149.06 184 *e*PKPdf PKPdf 07 49 53.3 +1.5
HYB Hyderabad 149.40 112 *i* PKP PKPbc 07 49 55.0 -1.5
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 149.99 309 *e*PKPdf PKPdf 07 49 51.9 -0.3
YSS Yuzh-Sakhalins 149.99 309 *e*PKHKP PKPdf 07 49 51.3 -0.9
ASAJ Asahikawa 150.78 303 *e*PKPdf PKPdf 07 49 53.5 0.0
EKS2 Erkin-Say 151.14 60 P PKPdf 07 49 54.3 +0.2
SNR=6.6
EKS2 P 07 49 54.3
SNR=6.6
EKS2 Erkin-Say 151.14 60 *e*PKPdf PKPdf 07 49 54.3 +0.2
EKS2 *e*PKPbc PKPbc 07 49 60.0 0.0
EKS2 Erkin-Say 151.14 60 *e*PKIKP PKPdf 07 49 54.3 +0.2
EKS2 *e* 07 50 00.0
AML Almayashu 151.16 61 P PKPbc 07 50 00.4 +0.4
SNR=18
AML P 07 50 00.4
SNR=18
IPM Ipoh 151.33 165 *e*PKPdf PKPdf 07 49 54.7 -0.7
USP Óspenovka 151.55 58 P PKPbc 07 50 00.7 -0.2
SNR=21
USP P 07 50 00.7
SNR=21
NVS Novosibirsk 151.61 31 *e*PKIKP PKPdf 07 49 53.1 -1.3
NVS pmax pmax
comp=Z,100nm,1.2s
NVS pmax pmax
comp=E,24nm,1.6s
AAK Ala-Archa 151.66 59 P PKPbc 07 50 01.5 +0.3
SNR=23
AAK P 07 50 01.5
SNR=23
AAK Ala-Archa 151.66 59 *e*PKPdf PKPdf 07 49 55.3 +0.4
AAK *e*PKPbc PKPbc 07 50 01.2 0.0
AAK Ala-Archa 151.66 59 *e*PKIKP PKPdf 07 49 55.3 +0.4
AAK *e* 07 50 01.2
KURK Kurchatov 151.69 41 PKP PKPdf 07 49 54.3 -0.3
comp=E,2.5nm,1.0s,baz=295,slow=2.3,SNR=12
KURK PKPbc PKPbc 07 50 00.2 -0.7
comp=E,24nm,0.9s,baz=298,slow=2.8,SNR=89
KURK pPKPbc pPKPbc 07 50 12.6 +7.4
comp=E,38nm,1.0s,baz=304,slow=2.7,SNR=17
KURK Kurchatov 151.69 41 *e*PKPdf PKPdf 07 49 54.1 -0.5
KURK PKP PKPdf 07 49 54.3 -0.3
KURK *e*PKPbc PKPbc 07 50 00.1 -0.8
KURK pPKPbc pPKPbc 07 50 12.6 +7.4
KURK Kurchatov 151.69 41 *e*PKIKP PKPdf 07 49 54.2 -0.5
KURK 07 49 54.3
KURK *e* 07 50 00.2
FRU Bishkek 151.72 59 *e*PKIKP PKPbc 07 50 01.0 -0.3
FRU *e* 07 50 12.0
FRU pmax pmax
comp=Z,71nm,1.6s
UCH Uchtor 151.74 60 P PKPbc 07 50 02.3 +0.9
SNR=5.7
UCH P 07 50 02.3
SNR=5.7
CHMS Chumysh 151.78 59 P PKPbc 07 50 01.1 -0.4
SNR=9.1
CHMS P 07 50 01.1
SNR=9.1
KBK Karagaybulak 151.99 59 P PKPbc 07 50 02.0 +0.1
SNR=12
KBK P 07 50 02.0
SNR=12
KULM Kulim 152.03 164 *e*PKPdf PKPdf 07 49 55.7 -0.7
KZA Kyzart 152.31 60 P PKPbc 07 50 03.3 +0.6
SNR=13
KZA P 07 50 03.3
SNR=13
TKM2 Tokmak 2 152.41 59 P PKPdf 07 49 55.4 -0.6
SNR=5.4
TKM2 P 07 49 55.4
SNR=5.4
TKM2 Tokmak 2 152.41 59 *e*PKPdf PKPdf 07 49 55.5 -0.5
TKM2 *e*PKPbc PKPbc 07 50 02.5 -0.4
TKM2 *e*PKPab PKPab 07 50 12.9 -0.2
TKM2 Tokmak 2 152.41 59 *e*PKIKP PKPdf 07 49 55.5 -0.5
TKM2 *e* 07 50 02.5
TKM2 *e* 07 50 12.9
ZAA0 Zalesovo Array 152.89 31 *e*PKPdf PKPdf 07 49 55.4 -0.9
ZAA0 *e*PKPbc PKPbc 07 50 02.4 -1.2
ZAA0 *e*PKPab PKPab 07 50 14.3 -0.4
ZALV Zalesovo Beam 152.89 31 PKP PKPdf 07 49 55.4 -1.0
comp=Z,5.9nm,1.0s,baz=285,slow=2.9,SNR=19
ZALV PKPbc PKPbc 07 50 02.7 -0.9
comp=Z,26nm,0.8s,baz=298,slow=3.2,SNR=54
ZALV PKPab PKPab 07 50 14.1 -0.7
comp=Z,44nm,0.9s,baz=294,slow=3.4,SNR=15
ZALV Zalesovo Beam 152.89 31 PKP PKPdf 07 49 55.4 -1.0
ZALV PKPbc PKPbc 07 50 02.7 -0.9
ZALV PKPab PKPab 07 50 14.1 -0.7
ZALV Zalesovo Beam 152.89 31 PKIKP PKPdf 07 49 55.4 -0.9
ZALV 07 50 02.7
ZALV 07 50 14.1
ULHL Ulahol 153.00 60 P PKPbc 07 50 04.5 +0.3
SNR=8.5
ULHL P 07 50 04.5
SNR=8.5
CLNS Chul'man 153.06 340 *e*PKIKP PKPbc 07 50 01.9 -1.9
CLNS pmax pmax
comp=Z,18nm,1.0s
CLNS pmax pmax
comp=N,4.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.8s
KSH Kashi 153.17 66 PKPbc PKPdf 07 49 56.6 -0.6
KSH pPKP pPKPdf 07 50 07.4 +5.9
KSH sPKP 07 50 10.9
KSH PKPab PKPab 07 50 18.3 +1.9
KSH PKS 07 53 29.6
KSH PP PP 07 53 53.3 +2.9
KSH SKS SKSdf 07 56 58.4 -5.7
KSH SKKS SKKSac 08 00 36.9 -3.2
KSH SS SS 08 13 21.0 -3.2
KSH AMB AMB
comp=Z,270nm,6.7s
KSH LR LR
comp=N,85nm,4.9s
KSH LR LR
comp=E,90nm,5.7s
KSH LR LR
comp=Z,100nm,4.9s
BOD Bodaibo 154.38 353 *e*PKIKP PKPbc 07 50 04.5 -2.2
BOD pmax pmax
comp=Z,28nm,1.1s
MJAR Matsushiro Arr 154.94 288 PKPbc PKPbc 07 50 07.1 -1.5
comp=Z,2.0nm,0.8s,baz=150,slow=1.5,SNR=4.6
MJAR Matsushiro Arr 154.94 288 PKPbc PKPbc 07 50 07.1 -1.5
MJAR Matsushiro Arr 154.94 288 PKIKP PKPbc 07 50 07.1 -1.5
MAT Matsushiro 154.94 288 *e*PKP PKPbc 07 50 10.4 +1.8
MK31 Makanchi Array 155.67 47 *e*PKPdf PKPdf 07 49 59.5 -1.0
MK31 Makanchi Array 155.67 47 *e*PKIKP PKPdf 07 49 59.5 -1.0
MKAR Makanchi Array 155.67 47 PKP PKPdf 07 49 59.5 -1.0
comp=Z,3.5nm,1.0s,baz=305,slow=2.5,SNR=17
MKAR PKPab PKPab 07 50 25.8 -1.0
comp=Z,20nm,0.9s,baz=292,slow=3.9,SNR=35
MKAR PP PP 07 54 01.4 -2.4
comp=Z,3.1nm,1.0s,baz=298,slow=5.4,SNR=3.6
MKAR Makanchi Array 155.67 47 PKP PKPdf 07 49 59.5 -1.0
MKAR PKPab PKPab 07 50 25.8 -1.0
MKAR PP PP 07 54 01.4 -2.4
MKAR Makanchi Array 155.67 47 PKIKP PKPdf 07 49 59.5 -1.0
MKAR 07 50 25.8
MKAR 07 54 01.5
KLR Kul'dur 155.69 320 *e*PKIKP PKPdf 07 49 55.8 -4.6
MDJ Mudanjiang 159.38 312 PKP PKPdf 07 50 04.0 -1.2
WMQ Urumqi 160.43 49 PKP PKPdf 07 50 05.8 -0.6
WMQ PP PP 07 54 32.9 +2.9
WMQ SKS SKSdf 07 57 05.8 -5.5
WMQ SS SS 08 14 38.9 -2.3
WMQ AMB AMB
comp=Z,480nm,6.6s
WMQ LR LR
comp=N,750nm,23.0s
WMQ LR LR
comp=E,600nm,28.0s
WMQ LR LR
comp=Z,390nm,22.2s
TLY Talaya 160.57 8 *e*PKIKP PKPdf 07 50 15.2 +8.9
TLY *e* 07 50 47.5
TLY *e* 07 54 25.5
TLY *e*SS SS 08 14 34.7 -6.1
TLY pmax pmax
comp=Z,6.0nm,1.1s
ZAK Zakamensk 161.79 10 *e*PKIKP PKPdf 07 50 22.5 +15
ZAK *e* 07 50 52.4
ZAK pmax pmax
comp=Z,3.0nm,1.5s
BDT Bhumibol Dam 162.71 149 P PKPab 07 50 54.0 -4.0
KSRS Korea Array 163.04 292 PKP PKPdf 07 50 08.1 -1.3
comp=Z,1.4nm,0.7s,baz=54,slow=3.2,SNR=5.0
KSRS pPKP pPKPdf 07 50 18.3 +4.8
comp=Z,3.8nm,1.0s,baz=155,slow=1.1,SNR=4.2
KSRS PKPab PKPab 07 50 59.3 +0.1
comp=Z,1.6nm,0.6s,baz=72,slow=4.2,SNR=3.0
KSAR Wonju Array Be 163.08 292 PKP PKPdf 07 50 08.1 -1.3
KSAR pPKP pPKPdf 07 50 18.3 +4.7
KSAR PKPab PKPab 07 50 59.3 0.0
KSAR Wonju Array Be 163.08 292 PKIKP PKPdf 07 50 08.1 -1.3
KSAR 07 50 18.3
KSAR 07 50 59.3
CMAR Chiang Mai Arr 163.75 147 PKP PKPdf 07 50 09.2 -1.4
comp=Z,2.3nm,0.8s,baz=240,slow=2.7,SNR=13
CMAR pPKP pPKPdf 07 50 19.9 +5.1
comp=Z,4.7nm,0.9s,baz=241,slow=2.6,SNR=6.4
CMAR PKPab PKPab 07 51 00.6 -1.9
comp=Z,3.5nm,1.0s,baz=228,slow=4.9,SNR=6.0
CMAR Chiang Mai Arr 163.75 147 PKP PKPdf 07 50 09.2 -1.4
CMAR pPKP pPKPdf 07 50 19.9 +5.1
CMAR PKPab PKPab 07 51 00.6 -1.9
CMAR Chiang Mai Arr 163.75 147 PKIKP PKPdf 07 50 09.2 -1.3
CMAR 07 50 19.9
CMAR 07 51 00.6
CHG Chiang Mai 164.06 147 P PKPab 07 51 12.4 +8.5
CHTO Chiang Mai 164.06 147 *e*PKPdf PKPdf 07 50 10.2 -0.7
CHTO *e*PKPab PKPab 07 51 01.9 -2.0
CHTO Chiang Mai 164.06 147 *e*PKIKP PKPdf 07 50 10.2 -0.6
CHTO *e* 07 51 01.9
SONM Songino Array 164.64 4 PKP PKPdf 07 50 09.3 -1.1
comp=Z,0.8nm,0.9s,baz=214,slow=1.7,SNR=4.5
SONM pPKP pPKPdf 07 50 19.6 +4.9
comp=Z,1.4nm,1.0s,baz=9.5,slow=4.4,SNR=5.2
SONM PKPab PKPab 07 51 06.4 +0.8
comp=Z,3.1nm,0.9s,baz=329,slow=4.4,SNR=8.3
SONM PP PP 07 54 50.8 -0.5
comp=Z,2.3nm,1.1s,baz=336,slow=3.3,SNR=5.8
SONM Songino Array 164.64 4 PKP PKPdf 07 50 09.3 -1.1
SONM pPKP pPKPdf 07 50 19.6 +4.9
SONM PKPab PKPab 07 51 06.4 +0.8
SONM PP PP 07 54 50.8 -0.5
SONM Songino Array 164.64 4 PKIKP PKPdf 07 50 09.3 -1.1
SONM 07 50 19.6
SONM 07 54 50.8
LSA Lhasa 165.19 96 PKP PKPdf 07 50 11.6 +0.1
LSA Lhasa 165.19 96 *e*PKPdf PKPdf 07 50 11.9 +0.4
LSA Lhasa 165.19 96 *e*PKIKP PKPdf 07 50 11.9 +0.4
BJI Beijing 170.07 321 PKP PKPdf 07 50 14.3 -0.3
BJI LR LR
comp=N,460nm,25.3s
BJI LR LR
comp=E,440nm,25.8s
BJI LR LR
comp=Z,130nm,34.3s
GTA Gaotai 170.38 42 *e*PKP PKPdf 07 50 14.6 -0.2
GTA pPKP pPKPdf 07 50 25.3 +6.2
GTA sPKP 07 50 28.9
GTA PP PP 07 55 24.5 +3.0
GTA SKS SKSdf 07 57 14.0 -4.0
GTA SKKS SKKSac 08 02 07.1 -1.2
GTA SS SS 08 16 17.9 -4.4
GTA AMB AMB
comp=Z,190nm,8.8s
GTA LR LR
comp=N,690nm,15.2s
GTA LR LR
comp=E,570nm,10.0s
GTA LR LR
comp=Z,320nm,11.2s
NJ2 Nanjing 170.90 270 *e*PKP PKPdf 07 50 16.3 +0.9
HHC Hu-ho-hao-te 171.23 343 *e*PKP PKPdf 07 50 13.8 -1.4
HHC PKS 07 53 44.1
HHC PP PP 07 55 27.9 +2.8
HHC SS SS 08 16 29.4 -0.1
HHC AMB AMB
comp=Z,230nm,9.1s
HHC LR LR
comp=N,730nm,21.1s
HHC LR LR
comp=E,480nm,20.8s
HHC LR LR

comp=Z,410nm,21.9s
GYA Guiyang 173.84 168 PKP PKPdf 07 50 15.4 -1.4
GYA PKPab PKPab 07 51 47.0 +0.1
GYA PKS 07 53 45.4
GYA PP PP 07 55 41.3 +3.5
GYA SKKS SKKSac 08 02 23.4 -1.7
GYA SS SS 08 16 53.1 -1.6
GYA AMB AMB
comp=Z,120nm,8.0s
GYA LR LR
comp=N,150nm,23.8s
GYA LR LR
comp=E,140nm,24.4s
GYA LR LR
comp=Z,170nm,22.6s
WHN Wuhan 174.33 251 *e*PKP PKPdf 07 50 14.6 -2.3
WHN PP PP 07 55 40.1 -1.8
LZH Lanzhou 174.98 44 *e*PKP PKPdf 07 50 16.5 -0.4
LZH PKPab PKPab 07 51 53.4 +1.5
LZH *e*PP PP 07 55 47.0 +2.8
LZH AMB AMB
comp=Z,140nm,8.7s
LZH LR LR
comp=N,220nm,18.2s
LZH LR LR
comp=E,220nm,17.5s
LZH LR LR
comp=Z,280nm,20.2s
CD2 Chengdu 175.96 112 *e*PKP PKPdf 07 50 15.6 -1.7
CD2 pPKP pPKPdf 07 50 26.4 +4.9
CD2 sPKP 07 50 31.0
CD2 PKPab PKPab 07 51 56.3 -0.2
CD2 PP PP 07 55 50.3 +0.7
CD2 SKS SKSdf 07 57 13.3 -6.9
CD2 SKKS SKKSac 08 02 31.3 -4.3
CD2 SS SS 08 17 10.5 -7.5
CD2 AMB AMB
comp=Z,120nm,10.8s
XAN Xi'an 178.34 336 PKP PKPdf 07 50 16.1 -1.5
XAN pPKP pPKPdf 07 50 26.9 +5.1
XAN PP PP 07 55 55.4 -4.1
XAN SKKS SKKSac 08 02 46.8 +0.7
XAN AMB AMB
comp=Z,87nm,9.4s
XAN LR LR
comp=N,1μm,31.6s
XAN LR LR
comp=Z,640nm,30.3s

GUC 19 07:37:16.7±0.7, 32°.58S×71°.98W, h27km±4km, MD3.8, ML3.2, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.52**	**147**	⇓*i*P	Pb	07 37 26.7	-0.7
IHA				*e*S	Sb	07 37 34.8	+0.1
CHNG	**Los Chungos**	**0.81**	**30**	⇓*i*P	Pb	07 37 31.3	-0.9
CHNG				*i* S	Sb	07 37 42.6	-0.1
CHNG				AML	AML	07 37 45.4	
comp=E,1μm,0.5s							
PTCH	**Petorca**	**0.94**	**70**	⇑*i*P	Pn	07 37 33.7	-0.5
PTCH				*i* S	Sb	07 37 46.8	+0.3
PTCH				AML	AML	07 37 48.8	
comp=N,3μm,0.4s							
LCCH	**Las Cruces**	**0.95**	**159**	⇑*i*P	Pn	07 37 34.1	-0.2
LCCH				*e*S	Sb	07 37 46.4	-0.5
JACH	**Jahuel**	**1.17**	**95**	⇑*i*P	Pn	07 37 37.2	-0.1
JACH				*i* S	Sn	07 37 53.1	+0.7
TACH	**Talagante**	**1.38**	**141**	⇓*i*P	Pn	07 37 40.6	+0.5
SAN	**Santiago**	**1.41**	**128**	*e*P	Pn	07 37 41.1	+0.6
SAN				*e*S	Sn	07 37 59.4	+1.2
SAN				AML	AML	07 38 06.2	
comp=N,686nm,0.7s							
ANTU	**Antumapu**	**1.50**	**131**	⇑*i*P	Pn	07 37 42.7	+0.9
ANTU				*i* S	Sn	07 38 02.0	+1.6
ANTU				AML	AML	07 38 08.0	
comp=E,915nm,0.4s							
FSR	**Penalolen**	**1.51**	**127**	*i* S	Sn	07 38 02.7	+1.9
PCH	**Pirque**	**1.61**	**130**	⇓*i*P	Pn	07 37 44.5	+1.3
SJCH	**San Jose de Ma**	**1.72**	**128**	*e*P	Pn	07 37 46.3	+1.4
SJCH				*e*S	Sn	07 38 08.2	+2.1
SJCH				AML	AML	07 38 13.5	
comp=N,344nm,1.0s							
CHCH	**Chadas Angostu**	**1.75**	**141**	⇑*i*P	Pn	07 37 46.5	+1.3
CACH	**El Canelo**	**1.92**	**143**	⇑*i*P	Pn	07 37 49.4	+1.9
CACH				*e*S	Sn	07 38 15.2	+4.5

*IDC **19** 07:53:46.5±0.8, 2°.34S×139°.04E, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/19, mbtmp4.1/12, ML3.8/3, Error ellipse: s-maj=32.3km s-min=15.5km az=77.0*
*NEIC **19** 07:53:52.3±0.5, 2°.44S×138°.90E, h35km, mb4.2/8, Error ellipse: s-maj=15.3km s-min=7.6km az=74.0*
ISC 19 07:53:52.6±1.9, 2°.47S±0°.07×138°.8E±0°.1, h35km±19km, n40, σ1§16/44, mb4.2/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.76**	**130**	Pn	**Pn**	**07 56 23.2**	**-1.1**
0.5nm,0.3s,baz=285,slow=18,SNR=2.4							
PMG	**Port Moresby**	**10.76**	**130**	*e*Pn	**Pn**	**07 56 24.9**	**+0.6**
14nm,0.8s							
COEN	**Coen**	**12.19**	**160**	*e*P	**Pn**	**07 56 43.0**	**-0.9**
COEN	**Coen**	**12.19**	**160**	*e*Pn	**Pn**	**07 56 43.1**	**-0.7**
70nm,0.9s							
MTSU	**Mount Surprise**	**16.47**	**161**	*e*P	**Pn**	**07 57 43.0**	**+1.9**
13nm,0.8s							
WRAB	**Tennant Creek**	**17.91**	**194**	*e*P	**Pn**	**07 57 58.5**	**-0.5**
13nm,0.6s							
WB2	**Warramunga Arr**	**17.92**	**194**	*e*P	**Pn**	**07 57 58.8**	**-0.2**
WRA	**Warramunga Arr**	**17.92**	**194**	P	**Pn**	**07 57 57.5**	**-1.6**
0.9nm,0.3s,baz=17,slow=12,SNR=57							
WRA				S	**S**	**08 01 07.5**	**-16**
0.2nm,0.3s,baz=14,slow=22,SNR=3.8							
WRA	**Warramunga Arr**	**17.92**	**194**	P	**Pn**	**07 57 57.5**	**-1.6**
WRA				S	**S**	**08 01 07.5**	**-16**
CTA	**Charters Tower**	**18.95**	**158**	P	**Pn**	**07 58 09.6**	**-2.1**
0.2nm,0.3s,baz=321,slow=7.7,SNR=3.9							
CTA	**Charters Tower**	**18.95**	**158**	P	**Pn**	**07 58 09.6**	**-2.1**
CTAO	**Charters Tower**	**18.95**	**158**	*e*P	**Pn**	**07 58 10.5**	**-1.2**
3.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**20.23**	**219**	P	**P**	**07 58 25.9**	**+1.1**
3.5nm,0.8s,baz=43,slow=16,SNR=6.7							
FITZ				S	**S**	**08 02 08.2**	**-1.8**
2.5nm,0.5s,baz=194,slow=19,SNR=4.5							
FITZ	**Fitzroy Crossi**	**20.23**	**219**	*e*P	**P**	**07 58 26.5**	**+1.7**
5.6nm,0.7s							
FITZ				S	**S**	**08 02 08.2**	**-1.8**
AS31	**Alice Springs**	**21.61**	**192**	*e*P	**P**	**07 58 40.1**	**+0.5**
ASAR	**Alice Springs**	**21.61**	**192**	P	**P**	**07 58 40.0**	**+0.3**
7.6nm,0.6s,mb4.3,baz=22,slow=10,SNR=108							
ASAR				S	**S**	**08 02 35.5**	**-1.6**
1.1nm,0.8s,baz=22,slow=21,SNR=4.9							
ASAR	**Alice Springs**	**21.61**	**192**	P	**P**	**07 58 40.0**	**+0.3**
ASAR				S	**S**	**08 02 35.5**	**-1.6**
EIDS	**Eidsvold**	**25.64**	**154**	*e*P	**P**	**07 59 20.1**	**+1.1**
EIDS	**Eidsvold**	**25.64**	**154**	*e*P	**P**	**07 59 20.6**	**+1.6**
11nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**29.37**	**175**	P	**P**	**07 59 52.8**	**+0.4**
2.9nm,0.5s,mb4.3,baz=335,slow=7.8,SNR=14							
STKA	**Stephens Creek**	**29.37**	**175**	*e*P	**P**	**07 59 52.6**	**+0.2**
STKA	**Stephens Creek**	**29.37**	**175**	*e*P	**P**	**07 59 52.3**	**0.0**
0.7nm,0.7s,mb3.5							
FORT	**Forrest**	**29.95**	**199**	*e*P	**P**	**07 59 59.2**	**+1.7**
15nm,0.6s,mb4.9							
YNG	**Young**	**32.90**	**165**	*e*P	**P**	**08 00 24.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**44.43**	**300**	P	**P**	**08 02 00.7**	**+0.2**
0.6nm,0.4s,mb3.7,baz=125,slow=8.9,SNR=5.2							
CMAR	**Chiang Mai Arr**	**44.43**	**300**	P	**P**	**08 02 00.7**	**+0.2**
MK31	**Makanchi Array**	**69.68**	**322**	*e*P	**P**	**08 05 00.4**	**+1.8**
MKAR	**Makanchi Array**	**69.68**	**322**	P	**P**	**08 04 59.1**	**+0.5**
1.9nm,0.7s,mb4.1,baz=112,slow=7.2,SNR=19							
MKAR	**Makanchi Array**	**69.68**	**322**	P	**P**	**08 04 59.1**	**+0.5**
ZALV	**Zalesovo Beam**	**71.79**	**330**	P	**P**	**08 05 10.5**	**-0.8**
0.5nm,0.4s,mb3.8,baz=99,slow=9.6,SNR=3.6							
ZALV	**Zalesovo Beam**	**71.79**	**330**	P	**P**	**08 05 10.5**	**-0.8**
KURK	**Kurchatov**	**73.59**	**325**	P	**P**	**08 05 21.6**	**-0.6**
2.0nm,1.0s,mb4.0,baz=114,slow=5.9,SNR=7.7							
KURK	**Kurchatov**	**73.59**	**325**	*e*P	**P**	**08 05 21.9**	**-0.2**
1.7nm,0.8s,mb4.0							
BVAR	**Borovoye Array**	**79.19**	**325**	P	**P**	**08 05 53.5**	**-0.3**
1.4nm,0.5s,mb4.2,baz=115,slow=6.7,SNR=9.7							
BVAR	**Borovoye Array**	**79.19**	**325**	P	**P**	**08 05 53.5**	**-0.3**
BRVK	**Borovoye**	**79.26**	**325**	*e*P	**P**	**08 05 53.4**	**-0.8**
2.1nm,0.5s,mb4.3							
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**08 06 24.6**	**-2.1**
0.9nm,0.6s,mb4.2,baz=261,slow=4.6,SNR=21							
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**08 06 24.6**	**-2.1**
TORD	**Torodi Ar. Bea**	**136.32**	**286**	PKP	PKPdf	08 13 11.3	-0.2
0.5nm,0.6s,baz=72,slow=2.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**136.32**	**286**	PKP	PKPdf	08 13 11.3	-0.2

*IDC **19** 07:54:54.5±1.7, 30°.71S×177°.19W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/18, mbtmp4.2/5, MS3.5/1, Ms1 3.5/1, ms1mx3.0/33, Error ellipse: s-maj=51.0km s-min=29.1km az=35.0*
*NEIC **19** 07:54:55.5±1.1, 30°.66S×177°.09W, h10km, mb3.6/1, Error ellipse: s-maj=24.7km s-min=19.4km az=70.0*
ISC 19 07:55:08.4±5.0, 31°.2S±0°.2×177°.8W±0°.3, h77km±38km, n17, σ0§74/13, mb4.0/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.21**	**209**	Pn	**Sn**	**07 58 35.7**	**-0.2**
2.5nm,0.3s,baz=254,slow=22,SNR=7.5							
URZ	**Urewera**	**8.21**	**209**	Pn	**Pn**	**07 57 04.8**	**+0.1**
URZ				Sn	**Sn**	**07 58 35.7**	**-0.2**
DZM	**Mont Dzumac**	**16.71**	**299**	LR	LR	08 03 34.7	
comp=Z,149nm,18.8s,baz=29,slow=31							
CTA	**Charters Tower**	**34.07**	**280**	P	**P**	**08 01 45.4**	**-0.1**
2.2nm,0.6s,mb4.1,baz=107,slow=12,SNR=4.0							
CTA	**Charters Tower**	**34.07**	**280**	P	**P**	**08 01 45.4**	**-0.1**
STKA	**Stephens Creek**	**34.45**	**258**	P	**P**	**08 01 50.2**	**+1.5**
2.7nm,0.6s,mb4.3,baz=92,slow=11,SNR=4.9							
STKA	**Stephens Creek**	**34.45**	**258**	*e*P	**P**	**08 01 50.8**	**+2.0**
0.5nm,0.6s,mb3.5							
ASAR	**Alice Springs**	**43.22**	**268**	P	**P**	**08 03 01.4**	**-0.7**
1.2nm,0.7s,mb3.8,baz=104,slow=7.2,SNR=5.0							
ASAR	**Alice Springs**	**43.22**	**268**	P	**P**	**08 03 01.4**	**-0.7**
WRA	**Warramunga Arr**	**44.27**	**273**	P	**P**	**08 03 09.9**	**-0.6**
0.8nm,0.3s,mb3.9,baz=111,slow=8.2,SNR=9.9							
WRA	**Warramunga Arr**	**44.27**	**273**	P	**P**	**08 03 09.9**	**-0.6**
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**08 04 59.1**	**0.0**
1.8nm,0.4s,mb4.5,baz=344,slow=2.0,SNR=6.3							
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**08 04 59.1**	**0.0**
FINES	**FINESS Array B**	**145.91**	**340**	PKPbc	PKPbc	08 14 34.0	-4.2
3.4nm,0.8s,baz=8.5,slow=2.8,SNR=14							
FINES	**FINESS Array B**	**145.91**	**340**	PKPbc	PKPbc	08 14 34.0	-4.2
TORD	**Torodi Ar. Bea**	**162.07**	**179**	PKPab	PKPab	08 15 45.3	-2.7
0.3nm,0.6s,baz=183,slow=4.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**162.07**	**179**	PKPab	PKPab	08 15 45.3	-2.7

*IDC **19** 07:56:02.8±0.7, 32°.51S×71°.80W, h0km, mb4.3/8, mb1 4.3/12, mb1mx4.2/16, mbtmp4.2/12, ML4.2/4, MS3.5/2, Ms1 3.5/2, ms1mx3.2/22, Error ellipse: s-maj=30.0km s-min=19.0km az=85.0*
*ISCJB **19** 07:56:05.9±0.7, 32°.55S±0°.03×72°.00W±0°.06, h34km±7km, mb4.3/12, Error ellipse: s-maj=8.8km s-min=4.3km az=171.2*
*GUC **19** 07:56:06.1±0.8, 32°.58S×71°.94W, h15km±5km, MD4.3, ML4.3*
*NEIC **19** 07:56:07.7±2.6, 32°.51S×71°.91W, h34km±17km, mb4.5/7, Error ellipse: s-maj=14.2km s-min=8.0km az=86.0*
ISC 19 07:56:05.5±0.8, 32°.56S±0°.02×71°.96W±0°.04, h17km±4km, n68, σ0§84/68, mb4.3/12, 9C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.44**	**88**	*e*P	**Pg**	**07 56 14.7**	**+0.4**
IHA	**Instituto Hidr**	**0.54**	**151**	⇓*i*P	**Pg**	**07 56 16.2**	**+0.1**
IHA				*i* S	**Sg**	**07 56 23.4**	**0.0**
CHNG	**Los Chungos**	**0.77**	**30**	⇓*i*P	**Pb**	**07 56 20.3**	**-0.1**
CHNG				*i* S	**Sg**	**07 56 31.2**	**+0.4**
ROCH	**El Roble**	**0.90**	**118**	⇓*i*P	**Pb**	**07 56 22.0**	**-0.6**
ROCH				*i* S	**Sb**	**07 56 33.5**	**-0.8**
ROCH				AML	AML	07 56 37.5	
comp=E,15μm,0.7s							
PTCH	**Petorca**	**0.91**	**72**	⇓*i*P	**Pb**	**07 56 22.5**	**-0.4**
PTCH				*i* S	**Sb**	**07 56 35.1**	**+0.3**
PTCH				AML	AML	07 56 40.4	
comp=N,10μm,0.3s							
LCCH	**Las Cruces**	**0.97**	**161**	⇑*i*P	**Pb**	**07 56 23.4**	**-0.5**
JACH	**Jahuel**	**1.16**	**97**	⇑*i*P	**Pn**	**07 56 25.9**	**-0.9**
PEL	**Peldehue**	**1.22**	**119**	⇑*i*P	**Pn**	**07 56 27.4**	**-0.4**
PEL				*i* S	**Sb**	**07 56 43.0**	**-0.5**
PEL				AML	AML	07 56 43.6	
comp=E,23μm,0.3s							
TACH	**Talagante**	**1.39**	**142**	⇑*i*P	**Pn**	**07 56 29.8**	**-0.4**
SAN	**Santiago**	**1.41**	**130**	⇑*i*P	**Pn**	**07 56 30.1**	**-0.2**
SAN				*i* S	**Sn**	**07 56 47.9**	**-0.6**
SAN				AML	AML	07 56 52.3	
comp=N,6μm,0.6s							
CLCH	**Cerro Calan**	**1.46**	**126**	⇓*i*P	**Pn**	**07 56 31.0**	**0.0**
CLCH				*e*S	**Sn**	**07 56 49.5**	**-0.3**
CLCH				AML	AML	07 56 53.3	
comp=E,14μm,0.6s							
LNV	**Longovilo**	**1.47**	**162**	⇑*i*P	**Pn**	**07 56 30.3**	**-1.0**
ANTU	**Antumapu**	**1.50**	**133**	*e*P	**Pn**	**07 56 31.6**	**-0.1**
ANTU				*i* S	**Sn**	**07 56 50.8**	**-0.1**
ANTU				AML	AML	07 57 01.7	
comp=E,7μm,0.5s							
FSR	**Penalolen**	**1.51**	**128**	*e*P	**Pn**	**07 56 32.1**	**+0.3**
FSR				*i* S	**Sn**	**07 56 51.2**	**0.0**
CMCH	**Combarbala**	**1.60**	**31**	⇓*i*P	**Pn**	**07 56 32.5**	**-0.4**
CMCH				*i* S	**Sn**	**07 56 53.2**	**0.0**
FCH	**Farellones**	**1.60**	**119**	*i* P	**Pn**	**07 56 31.9**	**-1.1**
FCH				*i* S	**Sn**	**07 56 53.3**	**0.0**
FCH				AML	AML	07 56 56.9	
comp=E,5μm,0.8s							
PCH	**Pirque**	**1.61**	**132**	⇑*i*P	**Pn**	**07 56 33.3**	**+0.2**
SJCH	**San Jose de Ma**	**1.73**	**129**	*e*P	**Pn**	**07 56 35.3**	**+0.6**
SJCH				*e*S	**Sn**	**07 56 57.0**	**+0.6**
SJCH				AML	AML	07 57 02.5	
comp=E,4μm,0.5s							
CACH	**El Canelo**	**1.93**	**144**	⇑*i*P	**Pn**	**07 56 38.9**	**+1.3**
LMEL	**Las Melosas**	**1.95**	**132**	⇑*i*P	**Pn**	**07 56 39.2**	**+1.3**
LMEL				*i* S	**Sn**	**07 57 04.3**	**+2.2**
LMEL				AML	AML	07 57 08.9	
comp=N,4μm,0.3s							
OVCH	**Ovalle**	**2.04**	**19**	*e*P	**Pn**	**07 56 39.6**	**+0.4**
OVCH				*e*S	**Sn**	**07 57 06.4**	**+2.1**
CFAA	**Coronel Fontan**	**3.29**	**74**	Pn	**Pn**	**07 56 58.5**	**+2.2**
comp=N,3.0nm,0.3s,baz=250,slow=12,SNR=58							
CFAA				Lg		07 57 41.3	
comp=N,3.1nm,0.3s,baz=95,slow=15,SNR=3.0							
CFAA				LR	LR	07 58 29.2	
comp=N,201nm,19.0s,baz=344,slow=46							
CFAA	**Coronel Fontan**	**3.29**	**74**	Pn	**Pn**	**07 56 58.5**	**+2.2**
CFAA				Lg		07 57 41.3	
LCO	**Las Campanas**	**3.69**	**17**	*e*Pn	**Pn**	**07 57 01.5**	**-0.3**
PLCA	**Paso Flores**	**8.24**	**173**	Pn	**Pn**	**07 58 04.4**	**+0.2**
comp=N,1.0nm,0.3s,baz=335,slow=10,SNR=30							
PLCA				Lg		08 00 21.9	
comp=N,0.2nm,0.3s,baz=312,slow=19,SNR=4.0							
PLCA	**Paso Flores**	**8.24**	**173**	*e*Pn	**Pn**	**07 58 04.3**	**+0.1**
comp=N,74nm,0.6s							
PLCA				Lg		08 00 21.9	
TRQA	**Tornquist**	**9.82**	**127**	*e*Pn	**Pn**	**07 58 27.3**	**+1.4**
comp=N,12nm,0.7s							
CPUP	**Villa Florida**	**14.17**	**68**	Pn	**Pn**	**07 59 24.9**	**-0.4**
comp=N,0.4nm,0.3s,baz=232,slow=12,SNR=4.4							
CPUP	**Villa Florida**	**14.17**	**68**	*e*Pn	**Pn**	**07 59 25.4**	**0.0**
LPAZ	**La Paz**	**16.56**	**13**	Pn	**Pn**	**07 59 57.1**	**+0.1**
comp=N,0.2nm,0.3s,baz=193,slow=7.8,SNR=17							
LPAZ	**La Paz**	**16.56**	**13**	*e*P	**Pn**	**07 59 57.8**	**+0.7**
comp=N,9.7nm,0.9s							
SIV	**San Ignacio**	**19.22**	**33**	Pn	**Pn**	**08 00 27.2**	**-2.6**
comp=N,0.2nm,0.3s,baz=220,slow=12,SNR=16							
SIV				LR	LR	08 09 29.6	
comp=N,389nm,18.9s,slow=42							
SIV	**San Ignacio**	**19.22**	**33**	Pn	**Pn**	**08 00 27.2**	**-2.6**
SPB	**Sao Paulo**	**23.36**	**74**	*e*P	**P**	**08 01 11.3**	**-2.1**
comp=N,17nm,1.0s,mb4.4							
SAML	**Samuel**	**24.86**	**21**	*e*P	**P**	**08 01 26.2**	**-1.0**
comp=N,6.0nm,1.0s,mb4.1							
VNA2	**Neumayer--Watz**	**51.32**	**158**	*e*	**P**	**08 05 09.0**	**+0.7**
SNAA	**Sanae**	**52.90**	**158**	*e*	**P**	**08 05 20.8**	**+0.7**
QSPA	**South Pole Qui**	**57.68**	**180**	P	**P**	**08 05 55.6**	**+1.1**
comp=N,3.3nm,0.8s,mb4.4,baz=133,slow=5.3,SNR=2.5							
QSPA	**South Pole Qui**	**57.68**	**180**	*e*P	**P**	**08 05 55.3**	**+0.8**
comp=N,13nm,1.0s,mb4.9							
TXAR	**Lajitas Array**	**68.51**	**330**	P	**P**	**08 07 07.6**	**+0.7**
comp=N,0.5nm,0.8s,mb3.5,baz=150,slow=8.2,SNR=6.6							
TXAR	**Lajitas Array**	**68.51**	**330**	P	**P**	**08 07 07.6**	**+0.7**
WVT	**Waverly**	**69.92**	**346**	*e*P	**P**	**08 07 14.9**	**-0.6**
comp=N,4.4nm,0.8s,mb4.4							
MAW	**Mawson**	**74.54**	**164**	P	**P**	**08 07 42.8**	**-0.1**
comp=N,5.6nm,1.0s,mb4.5,baz=207,slow=4.5,SNR=3.3							
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**08 07 43.5**	**-0.8**
comp=N,6.5nm,0.7s,mb4.7,baz=207,slow=7.1,SNR=12							
DBIC	**Dimbokro**	**74.65**	**72**	*e*P	**P**	**08 07 43.3**	**-1.0**
comp=N,5.8nm,0.6s,mb4.7							
ECSD	**EROS Data Cent**	**79.20**	**342**	*e*P	**P**	**08 08 09.0**	**-0.2**
comp=N,4.9nm,0.8s,mb4.5							
BOSA	**Boshof**	**80.68**	**118**	P	**P**	**08 08 17.0**	**-0.9**
comp=N,3.5nm,0.7s,mb4.4,baz=220,slow=6.0,SNR=4.5							
BOSA	**Boshof**	**80.68**	**118**	P	**P**	**08 08 17.0**	**-0.9**
PDAR	**Pinedale Array**	**82.51**	**333**	P	**P**	**08 08 27.3**	**+0.3**
comp=N,0.3nm,0.9s,mb3.3,baz=128,slow=7.3,SNR=2.6							
PDAR	**Pinedale Array**	**82.51**	**333**	P	**P**	**08 08 27.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**08 08 33.1**	**-0.5**
comp=N,4.9nm,0.7s,mb4.7,baz=261,slow=4.4,SNR=33							
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**08 08 33.1**	**-0.5**
ULM	**Lac du Bonnet**	**85.12**	**345**	P	**P**	**08 08 39.9**	**-0.2**
comp=N,1.8nm,0.7s,mb4.3,baz=144,slow=5.2,SNR=3.2							
ULM	**Lac du Bonnet**	**85.12**	**345**	P	**P**	**08 08 39.9**	**-0.2**
BRVK	**Borovoye**	**146.09**	**42**	*e*PKPdf	PKPdf	08 15 42.0	-1.2
BVAR	**Borovoye Array**	**146.17**	**42**	PKPbc	PKPbc	08 15 44.5	+0.2
comp=N,2.6nm,0.6s,baz=299,slow=3.0,SNR=19							
BVAR	**Borovoye Array**	**146.17**	**42**	PKPbc	PKPbc	08 15 44.5	+0.2
KKAR	**Karatay Array**	**148.77**	**59**	*e*PKPbc	PKPbc	08 15 51.5	-0.3
EKS2	**Erkin-Say**	**151.21**	**60**	*e*PKPbc	PKPbc	08 15 57.9	+0.1
AAK	**Ala-Archa**	**151.74**	**59**	*e*PKPbc	PKPbc	08 15 59.3	+0.3
KURK	**Kurchatov**	**151.76**	**41**	PKPbc	PKPbc	08 15 58.5	-0.2
comp=N,3.3nm,0.6s,baz=301,slow=3.0,SNR=21							
KURK	**Kurchatov**	**151.76**	**41**	PKPbc	PKPbc	08 15 58.5	-0.2
TKM2	**Tokmak 2**	**152.48**	**59**	*e*PKPbc	PKPbc	08 15 59.1	-1.5
ZAA0	**Zalesovo Array**	**152.96**	**31**	*e*PKPbc	PKPbc	08 16 00.8	-0.5
ZALV	**Zalesovo Beam**	**152.96**	**31**	PKPbc	PKPbc	08 16 00.8	-0.5
comp=N,3.4nm,0.6s,baz=309,slow=3.1,SNR=21							
ZALV				PKPab	PKPab	08 16 10.6	-2.0
comp=N,2.3nm,0.6s,baz=294,slow=3.4,SNR=7.8							
ZALV	**Zalesovo Beam**	**152.96**	**31**	PKPbc	PKPbc	08 16 00.8	-0.5
ZALV				PKPab	PKPab	08 16 10.6	-2.0
MKAR	**Makanchi Array**	**155.74**	**47**	PKP	PKPdf	08 15 57.3	-0.9
comp=N,0.8nm,1.0s,baz=313,slow=2.8,SNR=4.4							
MKAR	**Makanchi Array**	**155.74**	**47**	PKP	PKPdf	08 15 57.3	-0.9

*BJI **19** 08:06:03.7, 0°.55N×127°.37E, h57km, mB5.2/27, mb4.8/37, Ms4.8/23, Ms7 4.4/24*
*MOS **19** 08:06:07.2±0.9, 1°.30N×126°.87E, h33km, mb5.2/37, Error ellipse: s-maj=13.6km s-min=6.2km az=112.0*
*IDC **19** 08:06:11.5±0.5, 1°.24N×126°.84E, h57km±3km, mb4.5/24, mb1 4.5/25, mb1mx4.5/27, mbtmp4.5/25, MS3.9/9, Ms1 3.9/9, ms1mx3.7/25, Error ellipse: s-maj=15.0km s-min=8.7km az=75.0*
*ISCJB **19** 08:06:12.8±0.4, 1°.25N±0°.02×126°.89E±0°.03, h85km±4km, mb4.9/102, Error ellipse: s-maj=5.3km s-min=3.7km az=168.9*
*NEIC **19** 08:06:13.0±0.9, 1°.23N×126°.84E, h73km±8km, mb5.0/52, Error ellipse: s-maj=6.7km s-min=4.0km az=66.0*
*GCMT **19** 08:06:14.0±0.2, 1°.46N×126°.74E, h73km±2km, MW5.2, Moment Tensor Solution. s43,c53; s65,c100; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.38±.25; $M_{\theta\theta}$4.13±.19; $M_{\phi\phi}$-0.75±.25; $M_{r\theta}$1.54±.14; $M_{\theta\phi}$4.24±.19; $M_{\phi r}$-3.15±.17; Best double couple: $M_0$6.70000×10^{16} NP1:φ275.00000°, δ58.00000°, λ-35.00000°. NP2:φ25.00000°, δ61.00000°, λ-143.00000°. Principal axes: T 6.5900, Plg2.0000°, Azm149.0000°; N 0.2000, Plg44.0000°, Azm58.0000°; P -6.7900, Plg46.0000°, Azm241.0000°; Data Used: II IU IC G CN.*
*DJA **19** 08:06:15.5±0.4, 1°N±4°×12°7E±°, h84km±4km, M5.2/4, mb5.3/34, mB5.6/26, MLv5.5/11, Mw(mB)5.1/26*
ISC 19 08:06:14.1±0.4, 1°.23N±0°.02×126°.90E±0°.03, h82km±3km, h63km±2.6km: pP-P, n311, σ1§13/300, mb4.9/102, 13C-7D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.65**	**134**	P	**Pn**	**08 06 29.1**	**-0.4**
LBMI	**Labuha**	**1.95**	**162**	P	**Pn**	**08 06 46.1**	**+0.7**
MNI	**Manado**	**2.07**	**276**	P	**Pn**	**08 06 46.8**	**-0.2**
SGSI	**Sangihe**	**2.80**	**331**	P	**Pn**	**08 06 55.2**	**-1.6**
NLAI	**Namlea**	**4.44**	**177**	P	**Pn**	**08 07 20.0**	**+0.9**
MSAI	**Masohi**	**4.98**	**156**	P	**Pn**	**08 07 30.5**	**+4.1**
MRSI	**Marisa**	**5.01**	**261**	P	**Pn**	**08 07 27.6**	**+0.7**
2.1nm5μm560nm,1.0s							
AAI	**Ambon**	**5.05**	**165**	P	**Pn**	**08 07 29.4**	**+2.0**
2.7nm8μm691nm,1.0

FITZ	**Fitzroy Crossi**	19.25 184	P	Pn	08 10 30.9	-3.0
	41nm,1.3s					
CISI	**Cisompet, Garu**	20.94 245	P	P	08 10 49.0	-1.5
	2µm143nm,0.7s					
PPBI	**Pangkal Pinang**	21.03 261	P	P	08 10 49.8	-1.7
	4µm63nm,0.8s,mb5.0					
GUMO	**Guam**	21.61 55	LR	LR	08 17 59.5	
	comp=Z,475nm,21.3s,baz=235,slow=33					
COEN	**Coen**	22.09 134	*e*P	P	08 11 03.1	+0.4
	382nm,1.1s,mb5.6					
COEN	**Coen**	22.09 134	P	P	08 11 02.5	-0.2
	705nm51nm,1.2s,mb4.7					
RBSI	**Rajabasa**	22.26 251	P	P	08 11 04.6	0.0
	869nm112nm,0.7s,mb5.3					
WRAB	**Tennant Creek**	22.26 161	*e*P	P	08 11 03.6	-0.9
	145nm,1.1s,mb5.2					
WRAB	**Tennant Creek**	22.26 161	*e*P	P	08 11 03.6	-0.9
WRAB			pmax	pmax		
	comp=Z,145nm,1.1s,mb5.2					
WRAB	**Tennant Creek**	22.26 161	P	P	08 11 03.8	-0.7
	comp=Z,214nm,1.0s,mb5.4					
WRAB	**Tennant Creek**	22.26 161	P	P	08 11 03.0	-1.5
	comp=Z,740nm,1.0s,mb6.0,SNR=42					
WRA	**Warramunga Arr**	22.27 161	P	P	08 11 03.6	-1.0
	comp=Z,80nm,0.8s,mb5.1,baz=340,slow=11,SNR=157					
WRA			S	S	08 15 04.2	-0.3
	comp=Z,13nm,0.9s,baz=329,slow=21,SNR=6.8					
WRA			ScP	ScP	08 18 29.5	+1.2
	comp=Z,6.7nm,1.2s,baz=339,slow=3.0,SNR=5.3					
WRA	**Warramunga Arr**	22.27 161	P	P	08 11 03.6	-0.9
WRA			S	S	08 15 04.2	-0.3
WRA			ScP	ScP	08 18 29.5	+1.2
WRA	**Warramunga Arr**	22.27 161	P	P	08 11 03.6	-1.0
WRA			S	S	08 15 04.2	-0.3
WB2	**Warramunga Arr**	22.27 161	*e*P	P	08 11 03.5	-1.1
CGJI	**Cibinong**	22.55 250	P	P	08 11 06.7	-1.0
	comp=Z,1µmcomp=Z,138nm,0.7s,mb5.4					
TPUB	**Ta-pu**	22.77 345	*e*P	P	08 11 08.1	-1.8
	comp=Z,89nm,1.0s,mb5.0					
PMG	**Port Moresby**	22.78 118	P	P	08 11 10.2	+0.1
	comp=Z,4.6nm,0.5s,mb4.1,baz=317,slow=5.9,SNR=5.5					
PMG	**Port Moresby**	22.78 118	P	P	08 11 10.2	+0.1
PMG	**Port Moresby**	22.78 118	⇓*i*P	P	08 11 12.7	+2.6
PMG			pmax	pmax		
	comp=Z,12nm,1.7s					
MYKOM	**Kota Tinggi**	23.05 272	P	P	08 11 11.8	-0.9
SSLB	**Suanglung**	23.15 346	*e*P	P	08 11 11.1	-2.5
	comp=Z,31nm,0.8s,mb4.7					
MBWA	**Marble Bar**	23.33 197	*e*P	P	08 11 14.0	-1.2
MBWA	**Marble Bar**	23.33 197	*e*P	P	08 11 13.8	-1.4
	comp=Z,48nm,0.8s,mb4.9					
MBWA	**Marble Bar**	23.33 197	P	P	08 11 14.0	-1.2
	comp=Z,80nm,0.9s,mb5.1					
YHNB	**Yeheng**	23.91 348	*e*P	P	08 11 17.6	-2.8
	comp=Z,54nm,1.0s,mb4.8					
XMIS	**Christmas Isla**	24.13 241	*e*P	P	08 11 22.2	-0.4
XMIS	**Christmas Isla**	24.13 241	*e*P	P	08 11 22.3	-0.3
	comp=Z,2µm,1.0s					
XMIS	**Christmas Isla**	24.13 241	P	P	08 11 22.5	-0.1
	comp=Z,2µm,1.2s					
QIZ	**Qiongzhong**	24.34 318	P	P	08 11 24.4	-0.1
QIZ			S	S	08 15 41.3	+3.2
QIZ			LR	LR		
	comp=N,740nm,21.6s					
QIZ			LR	LR		
	comp=Z,520nm,19.5s					
QZH	**Quanzhou**	24.90 342	*e*P	P	08 11 32.3	+2.8
QZH			S	S	08 15 46.0	-1.0
QZH			LR	LR		
	comp=Z,3µm,40.5s					
JOW	**Kunigami**	25.49 3	P	P	08 11 34.0	-0.8
	comp=Z,18nm,0.8s,mb4.5,baz=196,slow=7.4					
JOW	**Kunigami**	25.49 3	P	P	08 11 34.0	-0.8
AS31	**Alice Springs**	25.66 165	*e*P	P	08 11 36.1	-0.3
AS31			*e*S	S	08 16 06.8	+7.7
ASAR	**Alice Springs**	25.67 165	P	P	08 11 36.0	-0.4
	comp=Z,36nm,0.8s,mb4.8,baz=349,slow=7.2,SNR=76					
ASAR			S	S	08 15 59.3	+0.2
	comp=Z,2.8nm,1.0s,baz=355,slow=20,SNR=4.6					
ASAR			ScP	ScP	08 18 38.6	+1.0
	comp=Z,3.5nm,1.0s,baz=334,slow=2.3,SNR=6.3					
ASAR	**Alice Springs**	25.67 165	P	P	08 11 36.0	-0.4
ASAR			S	S	08 15 59.3	+0.2
ASAR			ScP	ScP	08 18 38.6	+1.0
ASAR	**Alice Springs**	25.67 165	P	P	08 11 36.1	-0.4
ASAR			S	S	08 15 59.3	+0.2
IPM	**Ipoh**	26.04 278	*e*P	P	08 11 38.4	-1.6
	comp=Z,37nm,1.3s,mb4.7					
CTA	**Charters Tower**	28.44 139	P	P	08 12 02.3	+0.9
	comp=Z,6.2nm,0.8s,mb4.2,baz=328,slow=10,SNR=7.6					
CTA	**Charters Tower**	28.44 139	*e*P	P	08 12 02.0	+0.6
CTA	**Charters Tower**	28.44 139	P	P	08 12 02.3	+0.9
CTA	**Charters Tower**	28.44 139	P	P	08 12 02.3	+0.9
CTAO	**Charters Tower**	28.44 139	*e*P	P	08 12 02.1	+0.7
	comp=Z,18nm,1.1s,mb4.5					
CTAO	**Charters Tower**	28.44 139	*e*P	P	08 12 02.1	+0.7
CTAO			pmax	pmax		
	comp=Z,18nm,1.1s,mb4.5					
CTAO	**Charters Tower**	28.44 139	P	P	08 12 02.3	+0.9
	comp=Z,15nm,1.4s,mb4.3					
MEEK	**Meekatharra**	28.83 196	*e*P	P	08 12 04.2	-0.6
CBIJ	**Chichi jima**	29.61 28	LR	LR	08 21 34.0	
	comp=Z,223nm,21.0s,baz=164,slow=31					
GYA	**Guiyang**	31.75 324	P	P	08 12 31.9	+1.3
GYA			pP	pP	08 12 46.8	-2.8
GYA			sP	sP	08 12 52.4	-6.8
GYA			PP	PP	08 13 38.9	-4.9
GYA			PcP	PcP	08 15 21.6	+1.2
GYA			S	S	08 17 36.5	+1.8
GYA			sS	sS	08 18 02.0	-5.5
GYA			ScS	ScS	08 22 55.4	+0.4
GYA			pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9					
GYA			pmax	pmax		
	comp=Z,120nm,4.8s					
GYA			LR	LR		
	comp=N,650nm,16.8s					
GYA			LR	LR		
	comp=E,540nm,17.4s					
GYA			LR	LR		
	comp=Z,670nm,17.6s					
FORT	**Forrest**	31.85 178	*e*P	P	08 12 30.9	-0.5
FORT	**Forrest**	31.85 178	*e*P	P	08 12 31.0	-0.4
	comp=Z,120nm,0.7s,mb5.7					
CMAR	**Chiang Mai Arr**	32.33 304	P	P	08 12 35.2	-0.6
	comp=Z,6.0nm,1.1s,mb4.2,baz=122,slow=7.2,SNR=20					
CMAR			PcP	PcP	08 15 23.8	+1.6
	comp=Z,4.1nm,0.9s,baz=170,slow=1.3,SNR=10					
CMAR			ScP	ScP	08 18 60.0	+1.2
	comp=Z,1.5nm,0.7s,baz=162,slow=2.0,SNR=6.3					
CMAR			LR	LR	08 24 59.7	
	comp=Z,110nm,19.3s,baz=338,slow=35					
CMAR	**Chiang Mai Arr**	32.33 304	P	P	08 12 35.2	-0.6
CMAR			PcP	PcP	08 15 23.8	+1.6
CMAR			ScP	ScP	08 18 60.0	+1.2
CMAR	**Chiang Mai Arr**	32.33 304	P	P	08 12 35.2	-0.6
CMAR					08 15 23.8	
CHTO	**Chiang Mai**	32.50 304	*e*P	P	08 12 36.7	-0.6
	comp=Z,22nm,1.5s,mb4.8					
CHTO	**Chiang Mai**	32.50 304	*e*P	P	08 12 36.7	-0.6
CHTO			pmax	pmax		
	comp=Z,22nm,1.5s,mb4.8					
KMBL	**Kambalda**	32.76 188	*e*P	P	08 12 39.2	-0.2
ENH	**Enshi**	33.28 332	*e*P	P	08 12 43.2	-0.7
	comp=Z,15nm,0.8s,mb4.9					
KMI	**Kunming**	33.29 317	P	P	08 12 48.9	+4.8
KMI			S	S	08 18 03.1	+4.4
KMI			pmax	pmax		
	comp=Z,13nm,0.5s,mb5.0					
KMI			LR	LR		
	comp=N,150nm,17.8s					
KMI			LR	LR		
	comp=E,290nm,13.6s					
KMI			LR	LR		
	comp=Z,320nm,24.7s					
KLBR	**Kellerberrin**	33.77 194	*e*P	P	08 12 47.9	-0.3
	comp=Z,45nm,0.9s,mb5.3					
BBOO	**Buckleboo**	34.94 166	*e*P	P	08 12 57.7	-0.6
BBOO	**Buckleboo**	34.94 166	*e*P	P	08 12 57.5	-0.7
	comp=Z,646nm,1.1s					
NWAO	**Narrogin (SRO)**	35.17 194	*e*P	P	08 13 00.2	0.0
	comp=Z,32nm,1.0s,mb5.1					
NWAO	**Narrogin (SRO)**	35.17 194	*e*P	P	08 13 00.2	-0.1
NWAO			pmax	pmax		
	comp=Z,32nm,1.0s					
EIDS	**Eidsvold**	35.31 140	*e*P	P	08 13 01.8	+0.2
EIDS	**Eidsvold**	35.31 140	*e*P	P	08 13 01.9	+0.4
	comp=Z,18nm,0.9s,mb4.9					
STKA	**Stephens Creek**	35.75 158	P	P	08 13 04.6	-0.6
	comp=Z,24nm,0.7s,mb5.2,baz=333,slow=8.3,SNR=48					
STKA			PP	PP	08 14 27.6	-0.4
	comp=Z,13nm,0.8s,baz=314,slow=13,SNR=3.1					
STKA	**Stephens Creek**	35.75 158	*e*P	P	08 13 04.9	-0.3
STKA	**Stephens Creek**	35.75 158	*e*P	P	08 13 05.2	0.0
	comp=Z,5.4nm,0.8s,mb4.5					
STKA			PP	PP	08 14 27.6	-0.4
STKA	**Stephens Creek**	35.75 158	*e*P	P	08 13 05.2	0.0
STKA					08 14 27.6	
STKA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
KSAR	**Wonju Array Be**	36.05 1	P	P	08 13 08.2	+0.5
KSAR			PcP	PcP	08 15 33.5	+1.1
KSAR			ScP	ScP	08 19 12.6	+1.0
KSAR	**Wonju Array Be**	36.05 1	P	P	08 13 08.2	+0.5
KSAR					08 15 33.5	
KSRS	**Korea Array**	36.06 1	P	P	08 13 08.2	+0.4
	comp=Z,1.7nm,0.6s,mb4.1,baz=181,slow=9.6,SNR=5.8					
KSRS			PcP	PcP	08 15 33.5	+1.1
	comp=Z,2.9nm,0.8s,baz=183,slow=3.0,SNR=5.0					
KSRS			ScP	ScP	08 19 12.6	+1.0
	comp=Z,1.9nm,0.7s,baz=197,slow=3.4,SNR=4.9					
KSRS			LR	LR	08 29 58.2	
	comp=Z,107nm,18.7s,baz=180,slow=40					
MAJO	**Matsushiro**	36.67 15	*e*P	P	08 13 12.5	-0.5
	comp=Z,9.3nm,0.8s,mb4.8					
MAJO	**Matsushiro**	36.67 15	*e*P	P	08 13 12.5	-0.5
MAJO			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
MAT	**Matsushiro**	36.67 15	P	P	08 13 11.7	-1.3
MAT			S	S	08 18 49.6	-0.7
MJAR	**Matsushiro Arr**	36.67 15	P	P	08 13 11.0	-1.9
	comp=Z,2.0nm,0.4s,mb4.4,baz=192,slow=10,SNR=7.6					
MJAR			pP	pP	08 13 27.1	-5.2
	comp=Z,9.8nm,0.8s,baz=187,slow=10,SNR=12					
MJAR			PcP	PcP	08 15 35.4	+1.1
	comp=Z,3.1nm,0.9s,baz=181,slow=2.3,SNR=4.8					
MJAR			ScP	ScP	08 19 14.4	+0.5
	comp=Z,4.9nm,1.1s,baz=221,slow=5.0,SNR=5.4					
MJAR			LR	LR	08 26 07.9	
	comp=Z,167nm,21.8s,baz=205,slow=33					
MJAR	**Matsushiro Arr**	36.67 15	P	P	08 13 11.0	-1.9
MJAR			pP	pP	08 13 27.1	-5.2
MJAR			PcP	PcP	08 15 35.4	+1.1
MJAR			ScP	ScP	08 19 14.4	+0.5
MJAR	**Matsushiro Arr**	36.67 15	P	P	08 13 11.0	-2.0
MJAR			*PP	pP	08 13 27.1	-5.2
MJAR					08 15 35.4	
XAN	**Xi'an**	36.72 335	P	P	08 13 14.9	+1.4
XAN			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1					
XAN			LR	LR		
	comp=N,240nm,16.3s					
XAN			LR	LR		
	comp=Z,100nm,22.4s					
CD2	**Chengdu**	36.77 326	*e*P	P	08 13 15.0	+1.1
CD2			pP	pP	08 13 33.3	0.0
CD2			S	S	08 18 53.0	+1.0
CD2			sS	sS	08 19 24.0	-1.3
CD2			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9					
CD2			pmax	pmax		
	comp=Z,40nm,4.6s					
CD2			LR	LR		
	comp=N,380nm,14.4s					
CD2			LR	LR		
	comp=E,560nm,19.2s					
CD2			LR	LR		
	comp=Z,410nm,15.6s					
RKGY	**Rocky Gully**	36.84 194	*e*P	P	08 13 15.6	+1.1
	comp=Z,62nm,0.8s,mb5.6					
ARMA	**Armidale**	39.31 145	*e*P	P	08 13 36.2	+0.9
ARMA	**Armidale**	39.31 145	*e*P	P	08 13 36.7	+1.3
	comp=Z,79nm,1.5s,mb5.3					
BJI	**Beijing**	39.84 347	P	P	08 13 39.9	+0.3
BJI			S	S	08 19 42.0	+3.8
BJI			SS	SS	08 22 42.8	+5.2
BJI			pmax	pmax		
	comp=Z,25nm,0.9s,mb5.0					
BJI			pmax	pmax		
	comp=Z,220nm,5.9s					
BJI			LR	LR		
	comp=N,310nm,27.4s					
BJI			LR	LR		
	comp=E,470nm,26.7s					
BJI			LR	LR		
	comp=Z,99nm,24.6s					
LZH	**Lanzhou**	40.74 331	*e*P	P	08 13 49.5	+2.4
LZH			pP	pP	08 14 04.8	-1.9
LZH			sP	sP	08 14 12.0	-4.1
LZH			*e*PP	PP	08 15 27.5	+4.9
LZH			*e*S	S	08 19 56.0	+4.3
LZH			sS	sS	08 20 21.6	-3.7
LZH			pmax	pmax		
	comp=Z,29nm,1.1s,mb5.0					
LZH			pmax	pmax		
	comp=Z,130nm,5.2s					
LZH	**Lanzhou**	40.74 331	*e*P	P	08 13 49.5	+2.4
	comp=Z,29nm,1.1s,mb5.0					
LZH			pP	pP	08 14 04.8	-1.9
LZH			sP	sP	08 14 12.0	-4.1
LZH			*e*PP	PP	08 15 27.5	+4.9
LZH			*e*S	S	08 19 56.0	+4.3
LZH			sS	sS	08 20 21.6	-3.7
LZH	**Lanzhou**	40.74 331	*e*P	P	08 13 49.5	+2.4
LZH			*PP	pP	08 14 04.8	-1.9
LZH			*e*		08 15 27.5	
LZH			*e*S	S	08 19 56.0	+4.3
LZH			pmax	pmax		
	comp=Z,29nm,1.1s,mb5.0					
HHC	**Hu-ho-hao-te**	41.81 342	*e*P	P	08 13 56.5	+0.7
HHC			pP	pP	08 14 12.5	-2.9
HHC			sP	sP	08 14 19.4	-5.4
HHC			PP	PP	08 15 37.6	+3.5
HHC			PcP	PcP	08 15 51.6	+1.1
HHC			ScP	ScP	08 19 36.1	+2.4
HHC			PcS	PcS	08 19 41.6	-0.4
HHC			S	S	08 20 09.6	+2.2
HHC			sS	sS	08 20 36.3	-4.8
HHC			ScS	ScS	08 23 51.5	+0.8
HHC			pmax	pmax		
	comp=Z,22nm,0.6s,mb5.1					
HHC			pmax	pmax		
	comp=Z,210nm,6.0s					
HHC			LR	LR		
	comp=N,300nm,15.1s					
HHC			LR	LR		
	comp=E,390nm,15.0s					
HHC			LR	LR		
	comp=Z,400nm,14.7s					
VLA	**Vladivostok**	41.95 5	⇓*e*P	P	08 13 55.8	-1.0
VLA			*e*		08 15 34.8	
VLA			*i* S	S	08 20 09.7	+0.4
VLA			pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0					
CN2	**Changchun**	42.41 358	*e*P	P	08 13 57.4	-3.2
CN2			*es*P	sP	08 14 19.9	-10
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6					
USRK	**Ussuriysk Arra**	43.03 5	P	P	08 14 05.4	-0.2
	comp=Z,3.4nm,0.8s,mb4.1,baz=129,slow=52,SNR=4.8					
MDJ	**Mudanjiang**	43.27 3	P	P	08 14 07.8	+0.3
MDJ			pP	pP	08 14 20.9	-6.4
MDJ			sP	sP	08 14 27.3	-9.3
MDJ			PcS	PcS	08 19 48.3	+0.6
MDJ			S	S	08 20 32.4	+3.7
MDJ			sS	sS	08 20 55.1	-7.4
MDJ			pmax	pmax		
	comp=Z,13nm,1.5s,mb4.4					
MDJ			pmax	pmax		
	comp=Z,210nm,5.5s					
MDJ			LR	LR		
	comp=N,380nm,6.6s					
MDJ			LR	LR		
	comp=E,160nm,7.8s					
MDJ			LR	LR		
	comp=Z,310nm,6.9s					
MDJ	**Mudanjiang**	43.27 3	*e*P	P	08 14 07.5	0.0
	comp=Z,20nm,1.1s,mb4.8					
LSA	**Lhasa**	44.23 313	P	P	08 14 15.9	+0.4
LSA	**Lhasa**	44.23 313	*e*P	P	08 14 16.2	+0.7
	comp=Z,12nm,0.6s,mb4.8					
LSA	**Lhasa**	44.23 313	*e*P	P	08 14 16.2	+0.7
LSA			pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8					
ASAJ	**Asahikawa**	44.93 16	P	P	08 14 21.7	+1.0
	comp=Z,3.2nm,0.5s,mb4.3,baz=253,slow=27,SNR=5.2					
ASAJ			LR	LR	08 31 32.0	
	comp=Z,222nm,21.2s,baz=197,slow=34					
ASAJ	**Asahikawa**	44.93 16	P	P	08 14 21.7	+1.0
DZM	**Mont Dzumac**	45.00 123	P	P	08 14 22.3	+0.6
	comp=Z,3.6nm,0.7s,mb4.2,baz=345,slow=12,SNR=6.3					
DZM	**Mont Dzumac**	45.00 123	P	P	08 14 22.3	+0.6
GTA	**Gaotai**	45.33 330	*e*P	P	08 14 27.4	+3.4
GTA			pP	pP	08 14 42.6	-1.3
GTA			sP	sP	08 14 50.3	-3.0
GTA			PcP	PcP	08 16 03.4	+1.0
GTA			ScP	ScP	08 19 49.1	+1.1
GTA			S	S	08 21 00.6	+1.9
GTA			sS	sS	08 21 28.6	-4.1
GTA			SS	SS	08 24 18.9	-4.6
GTA			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3					
GTA			pmax	pmax		
	comp=Z,34nm,5.5s					
GTA			LR	LR		
	comp=N,170nm,10.2s					
GTA			LR	LR		
	comp=E,330nm,8.8s					
GTA			LR	LR		
	comp=Z,260nm,10.7s					
TAPN	**Taplejung**	45.65 308	*e*P	P	08 14 27.2	+0.4
	comp=Z,8.4nm,0.5s,mb4.7					
TAPN	**Taplejung**	45.65 308	*e*P	P	08 14 27.2	+0.4
	comp=Z,8.4nm,0.5s,mb4.7					
RAMN	**Ramite**	46.35 307	*e*P	P	08 14 31.1	-1.2
	comp=Z,24nm,0.7s,mb5.0					
RAMN	**Ramite**	46.35 307	*e*P	P	08 14 31.1	-1.2
	comp=Z,24nm,0.7s,mb5.0					
JIRN	**Jiri**	46.99 308	*e*P	P	08 14 36.9	-0.4
	comp=Z,24nm,0.7s,mb5.0					
JIRN	**Jiri**	46.99 308	*e*P	P	08 14 36.9	-0.4
	comp=Z,24nm,0.7s,mb5.0					
GUN	**Gumba**	47.35 308	*e*P	P	08 14 39.7	-0.4
	comp=Z,26nm,0.5s,mb5.2					
GUN	**Gumba**	47.35 308	*e*P	P	08 14 39.7	-0.4
	comp=Z,26nm,0.5s,mb5.2					
HABR	**Khabarovsk**	47.59 7	*e*P	P	08 14 41.2	-0.3
HABR			*e*		08 16 32.4	
HABR			*e*S	S	08 21 31.7	+1.0
HABR			*e*		08 24 27.1	
HABR			*e*SS	SS	08 25 00.4	+0.5
HABR			*e*SSS		08 26 10.3	
HABR			pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9					
HABR			pmax	pmax		
	comp=N,8.0nm,1.0s					
HABR			pmax	pmax		
	comp=E,10.0nm,0.7s					
HABR			MLR	MLR		
	comp=Z,144nm,18.0s					
DMN	**Daman**	47.83 307	*e*P	P	08 14 42.6	-1.2
	comp=Z,17nm,0.7s,mb5.0					
DMN	**Daman**	47.83 307	*e*P	P	08 14 42.6	-1.2
	comp=Z,17nm,0.7s,mb5.0					
KLR	**Kul'dur**	48.00 4	*e*P	P	08 14 39.8	-4.9
KOLN	**Koldanda**	49.11 306	*e*P	P	08 14 52.8	-0.8
	comp=Z,29nm,0.5s,mb5.4					
KOLN	**Koldanda**	49.11 306	*e*P	P	08 14 52.8	-0.8
	comp=Z,29nm,0.5s,mb5.5					
DANN	**Dangsing**	49.23 307	*e*P	P	08 14 53.9	-0.6
	comp=Z,33nm,0.6s,mb5.4					
DANN	**Dangsing**	49.23 307	*e*P	P	08 14 53.9	-0.6
	comp=Z,33nm,0.6s,mb5.5					
ULN	**Ulaanbaatar**	49.54 343	*e*P	P	08 14 57.6	+1.1
	comp=Z,44nm,1.1s,mb5.3					
ULN	**Ulaanbaatar**	49.54 343	*e*P	P	08 14 57.6	+1.1
ULN			pmax	pmax		
	comp=Z,43nm,1.1s,mb5.3					
SONM	**Songino Array**	49.71 342	P	P	08 14 58.5	+0.7
	comp=Z,3.8nm,0.6s,mb4.5,baz=158,slow=8.1,SNR=30					
SONM			sP	sP	08 15 19.3	-8.0
	comp=Z,12nm,0.8s,baz=157,slow=8.5,SNR=11					
SONM			ScP	ScP	08 20 06.5	+0.2
	comp=Z,1.5nm,0.9s,baz=163,slow=6.2,SNR=4.4					
SONM			LR	LR	08 37 27.5	
	comp=Z,155nm,19.3s,baz=7.3,slow=38					
SONM	**Songino Array**	49.71 342	P	P	08 14 58.5	+0.7
SONM			sP	sP	08 15 19.3	-8.0
SONM			ScP	ScP	08 20 06.5	+0.2
SONM	**Songino Array**	49.71 342	P	P	08 14 58.5	+0.7
HYB	**Hyderabad**	50.15 292	*i* P	P	08 15 00.0	-1.7
ZAK	**Zakamensk**	52.93 341	*e*P	P	08 15 22.0	+0.2
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3					
MSVF	**Nonsavu**	53.76 113	*e*P	P	08 15 30.2	+1.7
	comp=Z,8.8nm,0.8s,mb4.8					
MSVF	**Nonsavu**	53.76 113	*e*P	P	08 15 30.2	+1.7
MSVF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
TLY	**Talaya**	53.94 342	*e*P	P	08 15 27.3	-2.0
	comp=Z,4.6nm,0.8s,mb4.6					
TLY	**Talaya**	53.94 342	*e*P	P	08 15 39.1	+10
TLY			*e*		08 15 51.0	
TLY			pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7					
MOY	**Mondy**	54.78 341	*e*P	P	08 15 36.7	+1.4
WMQ	**Urumqi**	54.87 326	P	P	08 15 37.6	+1.5
WMQ			pP	pP	08 15 53.5	-3.1
WMQ			sP	sP	08 16 00.5	-5.3
WMQ			PP	PP	08 17 42.4	+2.6
WMQ			S	S	08 23 12.3	+1.0
WMQ			pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3					
WMQ			pmax	pmax		
	comp=Z,290nm,6.6s					
WMQ			LR	LR		
	comp=N,260nm,23.4s					
WMQ			LR	LR		
	comp=E,290nm,23.4s					
WMQ			LR	LR		
	comp=Z,200nm,25.8s					
HVS	**Khovu-Aksy**	57.07 336	*d i* P	P	08 15 52.2	+0.5
HVS			pmax	pmax		
	comp=Z,222nm,1.7s,mb5.9					
BOD	**Bodaibo**	57.35 352	*e*P	P	08 15 52.0	-1.5
BOD			pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7					
PETK	**Petropavlovsk-**	57.67 21	P	P	08 15 56.4	+0.5
	comp=Z,13nm,0.9s,mb4.9,baz=207,slow=4.9,SNR=9.2					
PETK	**Petropavlovsk-**	57.67 21	P	P	08 15 56.4	+0.5
PETK	**Petropavlovsk-**	57.67 21	P	P	08 15 56.4	+0.5
MK31	**Makanchi Array**	59.70 326	*e*P	P	08 16 10.7	+0.5
MK31	**Makanchi Array**	59.70 326	*ce*P	P	08 16 10.7	+0.6
MK31			pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6					
MKAR	**Makanchi Array**	59.70 326	P	P	08 16 10.8	+0.7
	comp=Z,19nm,0.7s,mb5.2,baz=122,slow=8.3,SNR=157					
MKAR			sP	sP	08 16 32.1	-7.9
	comp=Z,5.0nm,0.5s,baz=116,slow=7.9,SNR=4.0					
MKAR			ScP	ScP	08 20 50.2	+0.2
	comp=Z,2.2nm,0.9s,baz=103,slow=5.4,SNR=4.6					
MKAR	**Makanchi Array**	59.70 326	P	P	08 16 10.8	+0.7
MKAR			sP	sP	08 16 32.1	-7.9
MKAR			ScP	ScP	08 20 50.2	+0.2
MKAR	**Makanchi Array**	59.70 326	P	P	08 16 10.8	+0.7
YAK	**Yakutsk**	60.69 2	*e*P	P	08 16 15.7	-0.8
YAK			pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0					
KZA	**Kyzart**	61.57 318	P	P	08 16 25.1	+2.1

AAK Ala-Archa 62.32 319 *c iP* **P 08 16 29.4 +1.5**
AAK pmax pmax
comp=Z,60nm,1.7s,mb5.3
USP Ospenovka 62.60 319 P **P 08 16 30.6 +0.8**
SNR=17
USP P 08 16 30.6
SNR=17
AML Almayashu 62.63 318 P **P 08 16 32.2 +2.2**
SNR=16
AML P 08 16 32.2
SNR=16
EKS2 Erkin-Say 62.81 318 P **P 08 16 33.0 +1.8**
SNR=9.5
EKS2 P 08 16 33.0
SNR=9.5
EKS2 Erkin-Say 62.81 318 *eP* **P 08 16 32.5 +1.3**
comp=Z,30nm,1.1s,mb5.1
EKS2 Erkin-Say 62.81 318 *eP* **P 08 16 32.5 +1.3**
EKS2 pmax pmax
comp=Z,29nm,1.1s,mb5.1
ZAA0 Zalesovo Array 62.88 334 *eP* **P 08 16 30.7 -0.7**
ZALV Zalesovo Beam 62.88 334 P **P 08 16 30.6 -0.8**
comp=Z,5.5nm,0.8s,mb4.5,baz=108,slow=4.8,SNR=11
ZALV sP sP 08 16 52.1 -9.3
comp=Z,9.6nm,0.9s,baz=111,slow=8.1,SNR=5.8
ZALV Zalesovo Beam 62.88 334 P **P 08 16 30.6 -0.8**
ZALV sP sP 08 16 52.1 -9.3
ZALV Zalesovo Beam 62.88 334 P **P 08 16 30.6 -0.8**
KBL Kabul 63.18 308 *eP* **P 08 16 33.6 -0.2**
comp=Z,24nm,1.1s,mb5.0
KBL Kabul 63.18 308 *eP* **P 08 16 33.6 -0.2**
KBL pmax pmax
comp=Z,24nm,1.1s,mb5.0
KURK Kurchatov 63.93 328 P **P 08 16 38.5 0.0**
comp=Z,20nm,0.6s,mb5.1,baz=128,slow=6.3,SNR=75
KURK sP sP 08 16 59.6 -8.9
comp=Z,11nm,0.5s,baz=128,slow=5.7,SNR=3.3
KURK Kurchatov 63.93 328 *eP* **P 08 16 38.5 +0.1**
comp=Z,23nm,0.6s,mb5.2
KURK sP sP 08 16 59.6 -8.9
KURK Kurchatov 63.93 328 *d iP* **P 08 16 38.5 +0.1**
KURK pmax pmax
comp=Z,34nm,1.0s,mb5.1
KURK Kurchatov 63.93 328 P **P 08 16 38.5 +0.1**
comp=Z,245nm,0.5s,SNR=18
NVS Novosibirsk 64.17 334 *eP* **P 08 16 37.6 -2.3**
NVS pmax pmax
comp=N,27nm,1.7s
NVS pmax pmax
comp=Z,56nm,1.7s,mb5.1
NVS pmax pmax
comp=E,27nm,1.5s
KK31 Karatay Array 65.17 318 *ceP* **P 08 16 46.8 +0.1**
KK31 pmax pmax
comp=Z,18nm,0.7s,mb5.0
KKAR Karatay Array 65.17 318 *eP* **P 08 16 47.1 +0.4**
comp=Z,35nm,1.0s,mb5.1
KKAR Karatay Array 65.17 318 *eP* **P 08 16 47.1 +0.4**
KKAR pmax pmax
comp=Z,35nm,1.0s,mb5.1
BVA0 Borovoye Array 69.50 327 *i P* **P 08 17 13.6 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 69.50 327 P **P 08 17 13.4 -0.4**
comp=Z,14nm,1.0s,mb4.8,baz=126,slow=7.5,SNR=29
BVAR Borovoye Array 69.50 327 P **P 08 17 13.4 -0.4**
BVAR Borovoye Array 69.50 327 P **P 08 17 13.4 -0.4**
BRVK Borovoye 69.57 327 *eP* **P 08 17 14.3 0.0**
comp=Z,39nm,1.3s,mb5.1
BRVK Borovoye 69.57 327 *d iP* **P 08 17 14.3 +0.1**
BRVK pmax pmax
comp=Z,19nm,1.0s,mb4.9
BRVK Borovoye 69.57 327 P **P 08 17 14.9 +0.7**
comp=Z,106nm,1.1s,mb5.6,SNR=12
BILL Bilibino 71.92 15⇑ *eP* **P 08 17 28.1 -0.1**
BILL pmax pmax
comp=Z,14nm,2.5s,mb4.3
AB31 Akbulak array 74.19 321 *ceP* **P 08 17 41.3 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
ABKAR Akbulak array 74.19 321 *eP* **P 08 17 41.3 -0.7**
comp=Z,4.9nm,0.6s,mb4.4
AKTO Aktyubinsk 75.72 322 P **P 08 17 50.6 -0.1**
comp=Z,7.5nm,0.6s,mb4.6,baz=110,slow=6.6,SNR=22
AKTO Aktyubinsk 75.72 322 P **P 08 17 50.6 -0.1**
AKTO Aktyubinsk 75.72 322 P **P 08 17 50.6 -0.1**
SVE Sverdlovsk 76.17 329⇑ *eP* **P 08 17 52.8 -0.4**
SVE pmax pmax
comp=Z,33nm,1.4s,mb4.9
ARU Arti 77.13 328 *eP* **P 08 17 57.2 -1.4**
comp=Z,8.7nm,0.8s,mb4.5
ARU Arti 77.13 328 *d iP* **P 08 17 57.2 -1.4**
ARU PPP 08 22 34.6
ARU S S 08 27 40.4 -0.7
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
SDPT Sand Point 79.17 34 *eP* **P 08 18 09.4 -0.5**
comp=Z,52nm,0.6s,mb5.5
QRN Al-Qurain 79.75 299 *eP* **P 08 18 13.3 -0.3**
QRN AMb AMB 08 18 15.3
comp=Z,125nm,1.0s,mb5.7
MIB Mutribah 80.33 300 *eP* **P 08 18 16.4 -0.3**
MIB AMb AMB 08 18 18.5
comp=Z,70nm,0.9s,mb5.5
NAY Al-Naaiem 80.37 299 *eP* **P 08 18 16.2 -0.8**
NAY AMb AMB 08 18 20.6
comp=Z,33nm,1.0s,mb5.1
ABPO Ambohimpanom 80.63 251 *eP* **P 08 18 18.4 -0.1**
comp=Z,9.0nm,1.0s,mb4.5
ABPO Ambohimpanom 80.63 251 *eP* **P 08 18 18.4 -0.2**
ABPO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
VNDA Vanda 80.94 173 *eP* **P 08 18 18.7 -0.4**
comp=Z,6.5nm,0.8s,mb4.5
VNDA Vanda 80.94 173 *eP* **P 08 18 18.7 -0.3**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
MAW Mawson 81.48 200 P **P 08 18 22.9 +0.8**
comp=Z,14nm,0.8s,mb4.8,baz=66,slow=6.1,SNR=16
MAW Mawson 81.48 200 *eP* **P 08 18 22.7 +0.6**
MAW Mawson 81.48 200 *eP* **P 08 18 22.5 +0.4**
comp=Z,3.7nm,0.9s,mb4.2
MAW Mawson 81.48 200 *eP* **P 08 18 22.5 +0.4**
MAW pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 81.62 293 P **P 08 18 23.0 -0.7**
comp=Z,175nm,0.9s,mb5.9,SNR=16
SBA Scott Base 81.85 172 *eP* **P 08 18 24.2 +0.4**
comp=Z,21nm,1.5s,mb4.8
SBA Scott Base 81.85 172 *eP* **P 08 18 24.2 +0.3**
SBA pmax pmax
comp=Z,21nm,1.5s,mb4.8
GNI Garni 83.21 310⇑ *eP* **P 08 18 32.9 +1.2**
GNI pmax pmax
comp=Z,26nm,1.7s
KDAK Kodiak Island 83.91 32 P **P 08 18 35.7 +0.8**
comp=Z,8.9nm,0.8s,mb4.6,baz=116,slow=22,SNR=9.0
KDAK Kodiak Island 83.91 32 P **P 08 18 35.7 +0.8**
KDAK Kodiak Island 83.91 32 *ceP* **P 08 18 36.5 +1.7**
RSO Redoubt South 84.17 29 *eP* **P 08 18 35.5 -0.7**
comp=Z,35nm,0.9s,mb5.2
PPLA Purkeypile 84.77 27 *eP* **P 08 18 39.9 +0.8**
comp=Z,25nm,1.3s,mb5.0
PMR Palmer 86.05 28 *eP* **P 08 18 44.6 -0.9**
comp=Z,8.7nm,0.7s,mb4.8
PMR Palmer 86.05 28 *eP* **P 08 18 44.6 -0.9**
PMR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
COLD Coldfoot 86.12 23 *eP* **P 08 18 46.1 +0.4**
comp=Z,8.4nm,0.8s,mb4.7
MCK McKinley 86.32 26 *eP* **P 08 18 45.8 -1.0**
comp=Z,3.5nm,0.7s,mb4.4
MCK McKinley 86.32 26 *eP* **P 08 18 45.8 -1.0**
MCK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ILAR Eielson Array 87.28 25 P **P 08 18 49.7 -1.7**
comp=Z,1.2nm,0.7s,mb3.9,baz=241,slow=5.2,SNR=26
ILAR Eielson Array 87.28 25 P **P 08 18 49.7 -1.7**
ILAR Eielson Array 87.28 25 P **P 08 18 49.7 -1.7**
OBN Obninsk 89.19 325⇑ *iP* **P 08 18 59.7 -1.0**
OBN *e* 08 22 31.9
OBN pmax pmax
comp=Z,19nm,1.2s,mb5.0
KMBO Kilima Mbogo 89.67 269 *eP* **P 08 19 04.7 +0.8**
comp=Z,5.2nm,1.0s,mb4.6
KMBO Kilima Mbogo 89.67 269 *eP* **P 08 19 04.7 +0.8**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
SYO Syowa Base 90.17 201⇑ *eP* **P 08 19 03.8 -1.1**
APA Apatity 90.21 337⇓ *iP* **P 08 19 13.2 +8.0**
APA MLR MLR
comp=Z,3μm,16.0s
DAWY Dawson 90.54 26 *eP* **P 08 19 06.4 -0.4**
BRTR Keskin Array B 91.73 310 P **P 08 19 12.1 -0.8**
comp=Z,1.7nm,0.9s,mb4.3,baz=130,slow=5.4,SNR=6.4
BRTR Keskin Array B 91.73 310 P **P 08 19 12.1 -0.8**
BRTR Keskin Array B 91.73 310 *ceP* **P 08 19 12.1 -0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
SPITS Spitsbergen Ar 92.95 349 P **P 08 19 16.8 -0.9**
comp=Z,12nm,1.0s,mb5.2,baz=35,slow=5.1,SNR=1.9
SPITS Spitsbergen Ar 92.95 349 P **P 08 19 16.8 -0.9**
SPITS Spitsbergen Ar 92.95 349 P **P 08 19 16.8 -0.9**
FINES FINESS Array B 94.10 332 P **P 08 19 25.2 +2.0**
comp=Z,2.0nm,0.9s,mb4.5,baz=86,slow=5.7,SNR=3.5
FINES FINESS Array B 94.10 332 P **P 08 19 25.2 +2.0**
FINES FINESS Array B 94.10 332 P **P 08 19 25.3 +2.0**
UZH Uzhgorod 98.70 319 *eP* **P 08 19 45.3 +0.8**
UZH *e* 08 19 52.0
YKA Yellowknife Ar 101.69 25 P Pdif 08 19 57.6 0.0
comp=Z,0.8nm,0.8s,baz=296,slow=5.1,SNR=7.7
YKA Yellowknife Ar 101.69 25 P Pdif 08 19 57.6 0.0
YKA Yellowknife Ar 101.69 25 P Pdif 08 19 57.6 0.0
ULM Lac du Bonnet 117.06 29 PKP PKPdf 08 24 48.2 -1.5
comp=Z,1.1nm,0.6s,baz=164,slow=4.3,SNR=4.1
ULM Lac du Bonnet 117.06 29 PKP PKPdf 08 24 48.2 -1.5
ULM Lac du Bonnet 117.06 29 PKIKP PKPdf 08 24 48.2 -1.5
MNTX Cornudas Mount 120.68 52 *e*PKPdf PKPdf 08 24 57.0 -0.2
TXAR Lajitas Array 122.97 53 PKP PKPdf 08 25 02.1 +0.4
comp=Z,1.3nm,0.7s,baz=214,slow=1.6,SNR=19
TXAR Lajitas Array 122.97 53 PKP PKPdf 08 25 02.1 +0.4
TXAR Lajitas Array 122.97 53 PKIKP PKPdf 08 25 02.1 +0.4
TORD Torodi Ar. Bea 123.82 287 PKP PKPdf 08 25 03.5 -0.2
comp=Z,5.2nm,0.8s,baz=60,slow=1.9,SNR=28
TORD Torodi Ar. Bea 123.82 287 PKP PKPdf 08 25 03.5 -0.2
JCT Junction City 125.53 51 *e*PKPdf PKPdf 08 25 06.7 +0.1
JCT Junction City 125.53 51 *e*PKIKP PKPdf 08 25 06.7 +0.1
DBIC Dimbokro 131.21 280 PKP PKPdf 08 25 17.2 -0.7
comp=Z,4.0nm,0.8s,baz=95,slow=6.5,SNR=4.9
DBIC SKPbc SKPbc 08 28 36.3 +0.7
comp=Z,5.3nm,0.8s,baz=65,slow=3.7,SNR=5.9
DBIC Dimbokro 131.21 280 PKP PKPdf 08 25 17.2 -0.7
DBIC SKPbc SKPbc 08 28 36.3 +0.7
DBIC Dimbokro 131.21 280 PKIKP PKPdf 08 25 17.2 -0.7
PLCA Paso Flores 137.62 160 PKP PKPdf 08 25 28.8 -0.3
comp=Z,1.9nm,0.8s,baz=290,slow=5.4,SNR=5.8
PLCA Paso Flores 137.62 160 PKP PKPdf 08 25 28.8 -0.3
PLCA Paso Flores 137.62 160 PKIKP PKPdf 08 25 28.8 -0.3
JTS JuntasAbangare 146.30 69 PKPbc PKPbc 08 25 45.0 -1.5
comp=Z,4.3nm,0.7s,baz=318,slow=11,SNR=4.1
JTS JuntasAbangare 146.30 69 PKPbc PKPbc 08 25 45.0 -1.5
JTS JuntasAbangare 146.30 69 PKIKP PKPdf 08 25 45.0 -0.3
ATAH Atahualpa 154.11 104 PKPbc PKPbc 08 26 08.0 +2.3
comp=Z,2.4nm,0.6s,baz=66,slow=4.6,SNR=3.9
ATAH Atahualpa 154.11 104 PKPbc PKPbc 08 26 08.0 +2.4
CPUP Villa Florida 154.71 171 PKP PKPdf 08 25 58.3 +0.3
comp=Z,0.4nm,0.4s,baz=144,slow=2.3,SNR=3.8
CPUP PKPbc PKPbc 08 26 07.0 +0.4
comp=Z,2.1nm,0.7s,baz=197,slow=4.3,SNR=6.1
CPUP PKPab PKPab 08 26 22.3 +0.8
comp=Z,1.9nm,0.6s,baz=162,slow=5.6,SNR=5.9
CPUP Villa Florida 154.71 171 PKP PKPdf 08 25 58.3 +0.3
CPUP PKPbc PKPbc 08 26 07.0 +0.4
CPUP PKPab PKPab 08 26 22.3 +0.8
CPUP Villa Florida 154.71 171 PKIKP PKPdf 08 25 58.3 +0.3
CPUP 08 26 07.0
CPUP 08 26 22.3
ROSC El Rosal 157.95 74 PKP PKPdf 08 26 04.0 +1.4
comp=Z,1.5nm,0.4s,baz=274,slow=23,SNR=3.7
ROSC El Rosal 157.95 74 PKP PKPdf 08 26 04.0 +1.4
LPAZ La Paz 158.95 136 PKP PKPdf 08 26 05.7 +2.1
comp=Z,2.1nm,1.0s,baz=135,slow=4.0,SNR=5.4
LPAZ La Paz 158.95 136 *e*PKPdf PKPdf 08 26 04.6 +1.0
LPAZ PKP PKPdf 08 26 05.7 +2.1
LPAZ La Paz 158.95 136 *e*PKIKP PKPdf 08 26 04.6 +1.0
SDV Santo Domingo 159.85 60 *e*PKPdf PKPdf 08 26 05.0 +0.2
SIV San Ignacio 163.36 152 PKP PKPdf 08 26 09.5 +1.2
comp=Z,2.6nm,0.8s,baz=200,slow=1.8,SNR=9.8
SIV PKPab PKPab 08 26 58.9 -0.3
comp=Z,1.1nm,0.7s,baz=180,slow=6.4,SNR=3.3
SIV San Ignacio 163.36 152 PKP PKPdf 08 26 09.5 +1.2
SIV PKPab PKPab 08 26 58.9 -0.3

NEIC ***19*** *08:06:35.6±1.4, 32°.31S×72°.54W, h10km, mb3.5/1, Error ellipse: s-maj=27.7km s-min=14.2km az=97.0*
IDC ***19*** *08:06:36.6±4.8, 32°.35S×71°.58W, h0km, mb3.9/1, mb1 3.6/4, mb1mx3.5/14, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=180.6km s-min=33.0km az=98.0*
ISCJB ***19*** *08:06:37.2±1.0, 32°.47S±0°.03×72°.10W±0°.07, h20km±6km, Error ellipse: s-maj=10.4km s-min=4.6km az=176.4*
GUC ***19*** *08:06:38.8±0.7, 32°.50S×71°.97W, h26km±4km, ML3.9*
ISC 19 08:06:37.6±1.0, 32°.46S±0°.03×72°.04W±0°.07, h15km±5km, n30, σ0°84/38, 7C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.65**	**149**	⇓*iP*	**Pg**	**08 06 50.0**	**-0.3**
IHA				*e*S	**Sg**	**08 06 58.6**	**-0.5**
CHNG	**Los Chungos**	**0.74**	**38**	⇓*iP*	**Pg**	**08 06 52.0**	**+0.1**
CHNG				*e*S	**Sg**	**08 07 02.5**	**+0.9**
CHNG				AML	AML	08 07 04.7	
comp=E,7μm,0.7s							
PTCH	**Petorca**	**0.96**	**78**	⇓*iP*	**Pb**	**08 06 55.4**	**-0.4**
PTCH				*i* S	**Sb**	**08 07 07.8**	**-0.4**
PTCH				AML	AML	08 07 09.7	
comp=N,7μm,0.3s							
LCCH	**Las Cruces**	**1.08**	**159**	⇑*iP*	**Pb**	**08 06 57.2**	**-0.8**
LCCH				*i* S	**Sb**	**08 07 10.7**	**-1.2**
JACH	**Jahuel**	**1.24**	**101**	⇑*iP*	**Pn**	**08 06 59.6**	**-0.7**
TACH	**Talagante**	**1.50**	**142**	⇑*iP*	**Pn**	**08 07 03.7**	**-0.2**
TACH				*i* S	**Sn**	**08 07 22.1**	**-1.1**
SAN	**Santiago**	**1.52**	**131**	⇑*iP*	**Pn**	**08 07 04.2**	**0.0**
SAN				AML	AML	08 07 25.5	
comp=N,3μm,0.4s							
CMCH	**Combarbala**	**1.56**	**35**	⇓*iP*	**Pn**	**08 07 04.3**	**-0.3**
CMCH				*i* S	**Sn**	**08 07 24.4**	**-0.1**
CMCH				AML	AML	08 07 34.4	
comp=E,6μm,0.7s							
ANTU	**Antumapu**	**1.61**	**133**	⇑*iP*	**Pn**	**08 07 05.7**	**+0.3**
ANTU				*i* S	**Sn**	**08 07 25.6**	**-0.4**
ANTU				AML	AML	08 07 35.8	
comp=N,2μm,0.4s							
FSR	**Penalolen**	**1.62**	**129**	*eP*	**Pn**	**08 07 05.8**	**+0.3**
FSR				*e*S	**Sn**	**08 07 26.2**	**0.0**
PCH	**Pirque**	**1.72**	**133**	⇓*iP*	**Pn**	**08 07 07.4**	**+0.5**
PCH				*e*S	**Sn**	**08 07 29.3**	**+0.7**
SJCH	**San Jose de Ma**	**1.84**	**130**	*eP*	**Pn**	**08 07 09.1**	**+0.6**
SJCH				*e*S	**Sn**	**08 07 31.8**	**+0.3**
SJCH				AML	AML	08 07 38.7	
comp=N,1μm,0.5s							
CACH	**El Canelo**	**2.04**	**144**	⇑*iP*	**Pn**	**08 07 12.4**	**+1.1**
LMEL	**Las Melosas**	**2.07**	**132**	⇑*iP*	**Pn**	**08 07 12.8**	**+1.1**
LMEL				*i* S	**Sn**	**08 07 38.3**	**+1.2**
LMEL				AML	AML	08 07 43.4	
comp=N,2μm,0.3s							
CFAA	**Coronel Fontan**	**3.34**	**76**	Pn	**Pn**	**08 07 33.1**	**+4.0**
comp=N,1.6nm,0.3s,baz=246,slow=8.1,SNR=55							
CFAA				Lg		08 08 16.4	
comp=N,1.6nm,0.3s,baz=42,slow=13,SNR=6.4							
CFAA	**Coronel Fontan**	**3.34**	**76**	Pn	**Pn**	**08 07 33.1**	**+4.0**
CFAA				Lg		08 08 16.4	
LCO	**Las Campanas**	**3.63**	**19**	*e*Pn	**Pn**	**08 07 32.9**	**-0.2**
PLCA	**Paso Flores**	**8.34**	**172**	Pn	**Pn**	**08 08 40.6**	**+2.8**
comp=N,0.3nm,0.3s,baz=342,slow=8.2,SNR=6.6							
PLCA	**Paso Flores**	**8.34**	**172**	Pn	**Pn**	**08 08 40.6**	**+2.8**
CPUP	**Villa Florida**	**14.20**	**68**	Pn	**Pn**	**08 10 02.2**	**+4.2**
comp=N,0.3nm,0.3s,baz=266,slow=14,SNR=2.4							
CPUP	**Villa Florida**	**14.20**	**68**	Pn	**Pn**	**08 10 02.2**	**+4.1**
LPAZ	**La Paz**	**16.49**	**13**	Pn	**Pn**	**08 10 28.5**	**+0.2**
comp=N,0.1nm,0.3s,baz=167,slow=12,SNR=1.9							
LPAZ	**La Paz**	**16.49**	**13**	*e*P	**Pn**	**08 10 28.8**	**+0.5**
comp=N,2.7nm,0.7s							
SIV	**San Ignacio**	**19.18**	**34**	P	**Pn**	**08 10 59.2**	**-2.4**
comp=N,0.1nm,0.3s,baz=208,slow=15,SNR=3.9							
SIV	**San Ignacio**	**19.18**	**34**	P	**Pn**	**08 10 59.2**	**-2.4**
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**08 19 05.3**	**-0.7**
comp=N,0.7nm,0.7s,baz=248,slow=4.2,SNR=4.3							
TORD				pP	pP	08 19 14.6	+3.5
comp=N,1.0nm,0.7s,baz=257,slow=4.3,SNR=6.5							
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**08 19 05.3**	**-0.7**
TORD				pP	pP	08 19 14.6	+3.5
ZALV	**Zalesovo Beam**	**152.92**	**31**	pPKPbc	pPKPbc	08 26 44.3	+5.5
comp=N,1.2nm,0.6s,baz=291,slow=2.2,SNR=4.7							
MKAR	**Makanchi Array**	**155.73**	**46**	PKPab	PKPab	08 26 56.4	-0.6
comp=N,0.7nm,1.0s,baz=302,slow=5.6,SNR=3.8							
MKAR	**Makanchi Array**	**155.73**	**46**	PKPab	PKPab	08 26 56.4	-0.5

IDC ***19*** *08:08:48.8±0.9, 32°.68S×71°.79W, h0km, mb4.2/5, mb1 4.2/7, mb1mx4.0/14, mbtmp4.1/7, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx3.2/23, Error ellipse: s-maj=36.0km s-min=24.9km az=94.0*
NEIC ***19*** *08:08:49.2±0.6, 32°.46S×72°.47W, h10km, mb4.4/5, Error ellipse: s-maj=15.1km s-min=10.1km az=96.0*
ISCJB ***19*** *08:08:51.6±1.0, 32°.47S±0°.03×72°.13W±0°.08, h34km±9km, mb4.2/7, Error ellipse: s-maj=11.4km s-min=4.9km az=177.2*
GUC ***19*** *08:08:52.5±0.5, 32°.47S×71°.94W, h26km±3km, ML3.9*
ISC 19 08:08:51.8±0.9, 32°.46S±0°.03×71°.99W±0°.06, h16km±4km, n50, σ0°90/50, mb4.2/7, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.64**	**153**	*eP*	**Pg**	**08 09 04.1**	**-0.2**
IHA				*i* S	**Sg**	**08 09 13.1**	**+0.4**
CHNG	**Los Chungos**	**0.71**	**36**	*eP*	**Pg**	**08 09 05.5**	**-0.2**
CHNG				*e*S	**Sg**	**08 09 15.3**	**+0.3**
CHNG				AML	AML	08 09 18.0	
comp=E,5μm,0.8s							
PTCH	**Petorca**	**0.91**	**78**	⇓*iP*	**Pb**	**08 09 08.6**	**-0.7**
PTCH				*i* S	**Sb**	**08 09 20.7**	**-0.5**
PTCH				AML	AML	08 09 22.5	
comp=N,12μm,0.2s							
LCCH	**Las Cruces**	**1.07**	**161**	⇓*iP*	**Pb**	**08 09 11.2**	**-0.8**
JACH	**Jahuel**	**1.20**	**101**	⇑*iP*	**Pn**	**08 09 12.8**	**-1.1**
TACH	**Talagante**	**1.48**	**144**	⇓*iP*	**Pn**	**08 09 17.6**	**-0.3**
TACH				*i* S	**Sn**	**08 09 36.2**	**-0.7**
SAN	**Santiago**	**1.49**	**132**	*eP*	**Pn**	**08 09 17.6**	**-0.3**
SAN				*i* S	**Sn**	**08 09 36.6**	**-0.5**
SAN				AML	AML	08 09 42.2	
comp=N,3μm,0.5s							
CMCH	**Combarbala**	**1.53**	**33**	⇑*iP*	**Pn**	**08 09 18.4**	**-0.1**
CMCH				*i* S	**Sn**	**08 09 38.5**	**+0.4**
ANTU	**Antumapu**	**1.58**	**135**	⇑*iP*	**Pn**	**08 09 19.2**	**0.0**
ANTU				*i* S	**Sn**	**08 09 39.4**	**0.0**
ANTU				AML	AML	08 09 44.4	
comp=E,4μm,0.5s							
FSR	**Penalolen**	**1.59**	**130**	*eP*	**Pn**	**08 09 19.5**	**+0.2**
FSR				*i* S	**Sn**	**08 09 39.7**	**+0.1**
PCH	**Pirque**	**1.69**	**134**	⇓*iP*	**Pn**	**08 09 20.8**	**+0.1**
PCH				*e*S	**Sn**	**08 09 42.3**	**+0.2**
SJCH	**San Jose de Ma**	**1.81**	**131**	*eP*	**Pn**	**08 09 22.6**	**+0.3**
SJCH				*i* S	**Sn**	**08 09 45.5**	**+0.6**
SJCH				AML	AML	08 09 50.7	
comp=N,1μm,1.0s							
CACH	**El Canelo**	**2.02**	**145**	*i P*	**Pn**	**08 09 26.3**	**+1.1**
LMEL	**Las Melosas**	**2.04**	**133**	*eP*	**Pn**	**08 09 26.1**	**+0.7**
LMEL				*e*S	**Sn**	**08 09 52.1**	**+1.5**
LMEL				AML	AML	08 09 59.3	
comp=N,2μm,0.2s							
CFAA	**Coronel Fontan**	**3.29**	**76**	Pn	**Pn**	**08 09 46.2**	**+3.4**
comp=N,2.9nm,0.3s,baz=244,slow=12,SNR=3.4							
CFAA				Lg		08 10 30.4	
comp=N,5.6nm,0.3s,baz=51,slow=12,SNR=4.2							
CFAA				LR	LR	08 11 15.3	
comp=N,174nm,18.1s,baz=257,slow=46							
CFAA	**Coronel Fontan**	**3.29**	**76**	Pn	**Pn**	**08 09 46.2**	**+3.4**
CFAA				Lg		08 10 30.4	
PLCA	**Paso Flores**	**8.34**	**172**	Pn	**Pn**	**08 10 51.8**	**-0.2**
comp=N,0.5nm,0.3s,baz=322,slow=12,SNR=6.8							
PLCA				Sn	**Sn**	**08 12 25.6**	**-0.2**
comp=N,0.1nm,0.3s,baz=11,slow=9.4,SNR=1.6							
PLCA				LR	LR	08 13 42.8	
comp=N,138nm,20.8s,baz=351,slow=36							
PLCA	**Paso Flores**	**8.34**	**172**	Pn	**Pn**	**08 10 51.8**	**-0.2**
PLCA				Sn	**Sn**	**08 12 25.6**	**-0.2**
TRQA	**Tornquist**	**9.90**	**127**	*e*Pn	**Pn**	**08 11 16.5**	**+3.1**
comp=N,6.4nm,0.7s							
CPUP	**Villa Florida**	**14.15**	**68**	Pn	**Pn**	**08 12 15.8**	**+4.1**
comp=N,0.4nm,0.3s,baz=231,slow=17,SNR=2.9							
CPUP	**Villa Florida**	**14.15**	**68**	*e*Pn	**Pn**	**08 12 16.6**	**+5.0**
LPAZ	**La Paz**	**16.48**	**13**	Pn	**Pn**	**08 12 43.5**	**+1.1**
comp=N,0.2nm,0.3s,baz=176,slow=7.3,SNR=10							
LPAZ	**La Paz**	**16.48**	**13**	*e*P	**Pn**	**08 12 42.9**	**+0.5**
comp=N,6.3nm,0.9s							
SIV	**San Ignacio**	**19.16**	**34**	P	**Pn**	**08 13 14.7**	**-0.8**
comp=N,0.1nm,0.3s,baz=228,slow=11,SNR=9.0							
SIV	**San Ignacio**	**19.16**	**34**	P	**Pn**	**08 13 14.7**	**-0.8**
SAML	**Samuel**	**24.78**	**21**	*e*P	**P**	**08 14 11.8**	**-1.2**
comp=N,3.7nm,1.0s,mb3.9							
PMSA	**Palmer Station**	**32.71**	**174**	LR	LR	08 29 16.5	
comp=N,372nm,18.4s,baz=161,slow=38							
QSPA	**South Pole Qui**	**57.77**	**180**	P	**P**	**08 18 40.1**	**-1.5**
comp=N,1.4nm,0.3s,mb4.5,baz=142,slow=0.9,SNR=6.5							
QSPA	**South Pole Qui**	**57.77**	**180**	*e*P	**P**	**08 18 39.9**	**-1.7**
comp=N,4.7nm,1.0s,mb4.5							
TXAR	**Lajitas Array**	**68.42**	**330**	P	**P**	**08 19 54.8**	**+1.9**
comp=N,0.2nm,0.7s,mb3.3,baz=158,slow=9.7,SNR=2.9							
TXAR	**Lajitas Array**	**68.42**	**330**	P	**P**	**08 19 54.8**	**+1.9**
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**08 20 29.7**	**-1.2**
comp=N,4.2nm,0.8s,mb4.4,baz=198,slow=5.6,SNR=5.2							
DBIC	**Dimbokro**	**74.65**	**72**	*e*P	**P**	**08 20 29.8**	**-1.0**
comp=N,5.0nm,0.9s,mb4.4							
TMUT	**Trail Mountain**	**80.14**	**330**	*e*P	**P**	**08 21 03.7**	**+2.7**
comp=N,7.1nm,0.7s,mb4.7							
BOSA	**Boshof**	**80.75**	**118**	P	**P**	**08 21 03.8**	**-0.9**
comp=N,2.3nm,0.9s,mb4.1,baz=270,slow=21,SNR=2.2							
BOSA	**Boshof**	**80.75**	**118**	P	**P**	**08 21 03.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**83.64**	**70**	P	**P**	**08 21 19.4**	**-0.6**
comp=N,3.0nm,0.8s,mb4.5,baz=256,slow=4.7,SNR=14							
TORD	**Torodi Ar. Bea**	**83.64**	**70**	P	**P**	**08 21 19.4**	**-0.6**
WRA	**Warramunga Arr**	**122.12**	**210**	PKP	PKPdf	08 27 44.7	-1.6
comp=N,0.4nm,0.9s,baz=153,slow=1.8,SNR=3.6							
WRA	**Warramunga Arr**	**122.12**	**210**	PKP	PKPdf	08 27 44.7	-1.6
BVAR	**Borovoye Array**	**146.11**	**41**	PKPbc	PKPbc	08 28 30.9	+0.3
comp=N,1.1nm,0.5s,baz=297,slow=2.3,SNR=8.2							
BVAR	**Borovoye Array**	**146.11**	**41**	PKPbc	PKPbc	08 28 30.9	+0.3
KURK	**Kurchatov**	**151.71**	**41**	PKPbc	PKPbc	08 28 43.9	-1.2
comp=N,1.8nm,0.6s,baz=300,slow=3.0,SNR=6.3							
KURK	**Kurchatov**	**151.71**	**41**	PKPbc	PKPbc	08 28 43.9	-1.2
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc	PKPbc	08 28 47.3	-0.4
comp=N,1.8nm,0.6s,baz=304,slow=2.7,SNR=4.2							
ZALV

HAQS	Haql	1.98 184	P	Pn	08 18 38.0	-0.4
HAQS	Haql	1.98 184	P	Pn	08 18 38.0	-0.4
HAQS			S	Sn	08 19 03.6	+0.4
SUZ		2.26 239	P	Pn	08 18 42.5	+0.1
	baz=239					
SUZ		2.26 239	P	Pn	08 18 42.5	+0.1
JLOS		2.31 171	P	Pn	08 18 42.7	-0.3
JLOS		2.31 171	P	Pn	08 18 42.7	-0.4
JLOS			S	Sn	08 19 13.3	+1.7
HDHB	Dhahab	2.33 190	P	Pn	08 18 43.5	+0.2
	baz=191					
HDHB	Dhahab	2.33 190	P	Pn	08 18 43.5	+0.2
BDAS	Al Bad'	2.59 179	P	Pn	08 18 45.8	-1.1
BDAS	Al Bad'	2.59 179	P	Pn	08 18 45.8	-1.0
HKAT	Jabal Katrina	2.67 201	P	Pn	08 18 47.7	-0.2
	baz=201					
HKAT	Jabal Katrina	2.67 201	P	Pn	08 18 47.7	-0.2
TR2		2.88 204	P	Pn	08 18 51.0	+0.1
	baz=205					
TR2		2.88 204	P	Pn	08 18 51.0	+0.1
TR1		3.16 198	P	Pn	08 18 55.0	+0.3
	baz=199					
TR1		3.16 198	P	Pn	08 18 55.0	+0.3

IDC 19 08:25:33.5±11.0, 24°.12S×172°.30W, h0km, mb4.4/4, mb1 4.4/5, mb1mx4.0/20, mbtmp4.3/5, Error ellipse: s-maj=221.4km s-min=114.5km az=58.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	19.66	272	P	Pn	08 30 04.7	-0.7
	0.2nm,0.3s,baz=108,slow=18,SNR=3.4						
CTA	Charters Tower	38.51	268	P	P	08 32 57.7	-0.1
	6.4nm,0.7s,baz=99,slow=9.9,SNR=11						
STKA	Stephens Creek	41.19	249	P	P	08 33 19.3	-0.7
	1.4nm,0.5s,baz=99,slow=12,SNR=9.7						
ASAR	Alice Springs	48.92	259	P	P	08 34 21.8	+0.1
	2.2nm,0.5s,baz=91,slow=7.5,SNR=43						
WRA	Warramunga Arr	49.40	264	P	P	08 34 25.6	+0.2
	5.3nm,0.8s,baz=104,slow=8.0,SNR=32						

IDC 19 08:25:44.9±0.9, 32°.53S×71°.75W, h0km, mb4.4/6, mb1 4.4/9, mb1mx4.2/15, mbtmp4.3/9, ML4.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/20, Error ellipse: s-maj=34.9km s-min=20.4km az=94.0
ISCJB 19 08:25:46.9±0.9, 32°.55S±0°.03×71°.99W±0°.06, h26km±5km, mb4.3/8, Error ellipse: s-maj=9.1km s-min=4.4km az=165.6
GUC 19 08:25:48.1±0.8, 32°.58S×71°.89W, h27km±3km, ML4.0
NEIC 19 08:25:49.3±3.0, 32°.53S×71°.95W, h32km±20km, mb4.2/5, Error ellipse: s-maj=18.1km s-min=8.2km az=89.0
ISC 19 08:25:47.7±0.9, 32°.55S±0°.03×71°.92W±0°.06, h17km±5km, n48, σ0°77/52, mb4.3/8, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.52	154	eP	Pg	08 25 58.2	0.0
IHA				i S	Sg	08 26 05.2	-0.1
CHNG	Los Chungos	0.76	28	⇓iP	Pb	08 26 02.3	-0.1
CHNG				i S	Sb	08 26 12.7	+0.3
CHNG				AML	AML	08 26 14.8	
	comp=N,9μm,0.5s						
ROCH	El Roble	0.87	119	⇓iP	Pb	08 26 03.6	-0.7
ROCH				AML	AML	08 26 19.8	
	comp=E,11μm,0.6s						
PTCH	Petorca	0.88	71	⇓iP	Pb	08 26 04.0	-0.5
PTCH				i S	Sb	08 26 16.0	0.0
PTCH				AML	AML	08 26 19.7	
	comp=N,6μm,0.3s						
CLCH	Cerro Calan	1.43	126	⇓iP	Pn	08 26 12.6	-0.3
CLCH				i S	Sn	08 26 30.6	-0.6
CLCH				AML	AML	08 26 32.9	
	comp=N,9μm,0.5s						
LNV	Longovilo	1.46	163	⇑iP	Pn	08 26 12.4	-0.9
LNV				i S	Sn	08 26 31.1	-0.9
ANTU	Antumapu	1.48	134	eP	Pn	08 26 13.2	-0.3
ANTU				eS	Sn	08 26 32.0	-0.3
ANTU				AML	AML	08 26 43.3	
	comp=N,5μm,0.5s						
FSR	Penalolen	1.49	129	⇓iP	Pn	08 26 13.6	0.0
FSR				i S	Sn	08 26 32.2	-0.4
FSR				AML	AML	08 26 40.8	
	comp=N,2μm,0.5s						
FCH	Farellones	1.57	120	⇓iP	Pn	08 26 14.4	-0.3
FCH				AML	AML	08 26 40.6	
	comp=N,3μm,0.3s						
SJCH	San Jose de Ma	1.70	130	eP	Pn	08 26 17.1	+0.5
SJCH				i S	Sn	08 26 38.5	+0.6
SJCH				AML	AML	08 26 44.6	
	comp=N,3μm,0.5s						
CHCH	Chadas Angostu	1.73	143	⇑iP	Pn	08 26 16.2	-0.9
CACH	El Canelo	1.91	145	⇑iP	Pn	08 26 20.6	+1.2
LMEL	Las Melosas	1.93	132	eP	Pn	08 26 20.4	+0.7
LMEL				i S	Sn	08 26 44.8	+1.3
LMEL				AML	AML	08 26 53.2	
	comp=N,3μm,0.7s						
OVCH	Ovalle	2.03	18	eP	Pn	08 26 21.9	+0.8
OVCH				AML	AML	08 26 56.4	
	comp=N,6μm,0.5s						
CFAA	Coronel Fontan	3.26	74	Pn	Pn	08 26 40.3	+2.3
	comp=N,3.4nm,0.3s,baz=247,slow=11,SNR=19						
CFAA				Lg		08 27 24.5	
	comp=N,4.1nm,0.3s,baz=94,slow=14,SNR=6.6						
CFAA	Coronel Fontan	3.26	74	Pn	Pn	08 26 40.3	+2.3
CFAA				Lg		08 27 24.5	
LCO	Las Campanas	3.68	17	ePn	Pn	08 26 43.6	-0.2
LCO				eS	Sn	08 27 34.4	+7.6
PLCA	Paso Flores	8.24	173	Pn	Pn	08 27 46.7	+0.4
	comp=N,1.2nm,0.3s,baz=328,slow=10,SNR=24						
PLCA				LR	LR	08 31 03.7	
	comp=N,198nm,20.7s,baz=349,slow=39						
PLCA	Paso Flores	8.24	173	ePn	Pn	08 27 46.2	-0.1
	comp=N,3.0nm,0.5s						
TRQA	Tornquist	9.80	127	ePn	Pn	08 28 08.2	+0.5
	comp=N,20nm,1.1s						
CPUP	Villa Florida	14.14	68	Pn	Pn	08 29 07.4	+0.3
	comp=N,0.4nm,0.3s,baz=217,slow=14,SNR=2.9						
LPAZ	La Paz	16.55	13	Pn	Pn	08 29 39.9	+0.8
	comp=N,0.4nm,0.3s,baz=186,slow=8.3,SNR=12						
LPAZ	La Paz	16.55	13	eP	Pn	08 29 39.5	+0.4
	comp=N,4.2nm,0.8s						
SIV	San Ignacio	19.20	33	P	Pn	08 30 10.0	-1.7
	comp=N,0.3nm,0.3s,baz=228,slow=12,SNR=9.9						
SIV	San Ignacio	19.20	33	P	Pn	08 30 10.0	-1.7
SAML	Samuel	24.84	21	eP	P	08 31 07.8	-1.4
	comp=N,3.0nm,0.9s,mb3.8						
BBGH	Gun Hill	46.95	17	eP	P	08 34 17.9	+0.3
	comp=N,584nm,1.3s						
VNA2	Neumayer--Watz	51.30	158	e	P	08 34 50.6	+0.2
SNAA	Sanae	52.88	158	e	P	08 35 02.8	+0.7
QSPA	South Pole Qui	57.68	180	P	P	08 35 38.0	+1.4
	comp=N,2.4nm,0.8s,mb4.3,baz=152,slow=2.0,SNR=6.1						
QSPA	South Pole Qui	57.68	180	P	P	08 35 38.0	+1.4
TXAR	Lajitas Array	68.53	330	P	P	08 36 50.0	+0.9
	comp=N,0.4nm,0.6s,mb3.5,baz=157,slow=8.8,SNR=8.6						
TXAR	Lajitas Array	68.53	330	P	P	08 36 50.0	+0.9
WVT	Waverly	69.93	346	eP	P	08 36 57.0	-0.7
	comp=N,5.4nm,0.4s,mb4.8						
MAW	Mawson	74.53	164	P	P	08 37 25.1	+0.1
	comp=N,5.0nm,1.0s,mb4.4,baz=202,slow=7.1,SNR=4.3						
MAW	Mawson	74.53	164	eP	P	08 37 25.2	+0.3
	comp=N,1.9nm,1.1s,mb3.9						
DBIC	Dimbokro	74.62	72	P	P	08 37 25.3	-1.0
	comp=N,4.5nm,0.6s,mb4.6,baz=208,slow=6.7,SNR=9.5						
DBIC	Dimbokro	74.62	72	eP	P	08 37 25.2	-1.1
	comp=N,4.6nm,0.6s,mb4.6						
BOSA	Boshof	80.65	118	P	P	08 37 59.4	-0.5
	comp=N,4.2nm,0.7s,mb4.5,baz=282,slow=3.5,SNR=9.0						
BOSA	Boshof	80.65	118	P	P	08 37 59.4	-0.5
TORD	Torodi Ar. Bea	83.62	70	P	P	08 38 14.8	-0.7
	comp=N,4.5nm,0.8s,mb4.7,baz=261,slow=4.5,SNR=30						
TORD	Torodi Ar. Bea	83.62	70	P	P	08 38 14.8	-0.7
WRA	Warramunga Arr	122.07	209	PKP	PKPdf	08 44 39.9	-2.0
	comp=N,0.3nm,0.6s,baz=161,slow=1.6,SNR=5.4						
WRA	Warramunga Arr	122.07	209	PKP	PKPdf	08 44 39.9	-2.0
ZALV	Zalesovo Beam	152.94	31	PKPbc	PKPbc	08 45 43.1	-0.3
	comp=N,3.1nm,0.5s,baz=318,slow=3.7,SNR=5.8						
ZALV	Zalesovo Beam	152.94	31	PKPbc	PKPbc	08 45 43.1	-0.3
MKAR	Makanchi Array	155.72	47	PKPab	PKPab	08 46 06.3	-0.5
	comp=N,1.4nm,0.6s,baz=266,slow=3.2,SNR=7.4						
MKAR	Makanchi Array	155.72	47	PKPab	PKPab	08 46 06.3	-0.5

JMA 19 08:27:24.1±0.4, 23°.98N×122°.04E, h0km, M2.6
ISCJB 19 08:27:25.6±0.4, 24°.84N±0°.02×122°.01E±0°.02, h10km, Error ellipse: s-maj=3.4km s-min=3.2km az=4.5
TAP 19 08:27:25.1, 24°.85N×122°.00E, h10km±1km, ML3.2, C
ISC 19 08:27:25.8±0.4, 24°.84N±0°.02×122°.01E±0°.02, h10km, n34, σ1°05/45, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.17	353	⇓iP	Pg	08 27 09.0	-0.5
TWB1				i S	Sg	08 27 31.4	-0.7
TWC	Suao	0.27	213	iP	Pg	08 27 30.8	-0.5
	baz=210						
TWC				S	Sg	08 27 34.2	-0.8
	baz=210						
NWF	Wu-fen Shan	0.31	318	⇓iP	Pg	08 27 31.9	-0.1
	baz=309						
NWF				i S	Sg	08 27 36.6	+0.4
	baz=309						
TWE	Neicheng	0.33	249	P	Pg	08 27 31.6	-0.8
	baz=246						
TWE				eS	Sg	08 27 36.5	-0.5
	baz=246						
TWA	Mucha	0.41	290	P	Pg	08 27 33.5	-0.4
	baz=279						
TWA				S	Sg	08 27 39.1	-0.3
	baz=279						
ENTT	Nioudou	0.45	244	P	Pg	08 27 34.1	-0.6
	baz=242						
ENTT				eS	Sg	08 27 39.6	-1.0
	baz=242						
ENA	Nanau	0.48	211	eP	Pg	08 27 34.9	-0.2
	baz=215						
ENA				eS	Sg	08 27 41.4	-0.1
	baz=215						
TAP1	Taipei	0.48	294	eP	Pg	08 27 35.0	-0.3
	baz=302						
TWY	Chenhua	0.57	319	P	Pg	08 27 37.0	0.0
	baz=312						
TWS1	Kuangyinshan	0.60	296	eP	Pg	08 27 37.4	0.0
	baz=296						
NSK	Sanguang	0.61	255	eP	Pg	08 27 36.7	-1.0
	baz=264						
NNS	Nan Shan	0.70	236	eP	Pg	08 27 39.0	-0.4
	baz=235						
NCU	National Centr	0.76	280	eP	Pg	08 27 41.5	+1.0
	baz=279						
TWD	Chiawan	0.84	207	P	Pg	08 27 41.7	-0.4
	baz=207						
TWD				eS	Sg	08 27 51.9	-1.2
	baz=207						
NSTT	Nanjuang	0.94	257	eP	Pg	08 27 43.3	-0.6
	baz=257						
NSTT				eS	Sg	08 27 58.5	+2.3
	baz=257						
TWT	Tachien	0.96	233	eP	Pg	08 27 42.8	-1.5
	baz=226						
WHF	Hehuan Shan	0.97	225	eP	Pg	08 27 43.9	-0.5
	baz=225						
YOJ	Yonaguni jima	0.98	112	P	Pg	08 27 43.9	-0.9
YOJ				eS	Sg	08 27 57.8	+0.2
ESL	Shilin	1.15	207	eP	Pb	08 27 46.6	-1.2
	baz=209						
TWQ1	Liyutan	1.23	247	eP	Pn	08 27 49.4	+0.4
	baz=263						
SMLT	Sun Moon Lake	1.39	227	eP	Pn	08 27 51.1	-0.2
	baz=219						
TYC	Yuchr	1.41	229	eP	Pn	08 27 52.1	+0.7
	baz=220						
EHY	Hungye	1.47	205	eP	Pn	08 27 54.0	+1.6
	baz=209						
TWF1	Yuli	1.62	204	eP	Pn	08 27 55.4	+1.0
	baz=216						
IRIF	Iriomote-Funau	1.64	107	P	Pn	08 27 53.9	-0.9
YUS	Yu-Shan	1.66	216	eP	Pn	08 27 56.4	+1.4
	baz=218						
ALS	Alishan	1.72	220	eP	Pn	08 27 58.8	+2.9
	baz=209						
CHN5	Tsauling	1.73	225	eP	Pn	08 27 57.9	+1.8
	baz=218						
JKRS	Kuro-shima	1.92	108	P	Pn	08 27 56.7	-1.8
CHN4	Tsaushan	1.97	221	eP	Pn	08 28 01.6	+2.3
	baz=226						
JIJ	Ishigaki jima	2.00	103	P	Pn	08 27 59.1	-0.5
JIJ				eS	Sn	08 28 24.8	+0.1
WTP	Ta-pu	2.04	219	eP	Pn	08 28 01.4	+1.2
	baz=224						
CHN1	Nanshi	2.13	220	eP	Pn	08 28 03.7	+2.2
	baz=224						
JTJ	Tarama	2.46	94	P	Pn	08 28 08.2	+2.3

ATH 19 08:27:42.8, 37°.19N×22°.75E, h29km±1km, MD2.9/8
ISCJB 19 08:27:43.9±1.2, 37°.16N±0°.04×22°.70E±0°.09, h48km±17km, Error ellipse: s-maj=11.8km s-min=6.8km az=5.7
CSEM 19 08:27:44.2±0.2, 37°.16N×22°.72E, h40km, MD2.9, Error ellipse: s-maj=6.5km s-min=4.9km az=79.0
THE 19 08:27:45.7, 37°.00N×23°.47E, h22km±42km, ML2.0/1, Error ellipse: s-maj=43.9km s-min=1.3km az=284.0
ISC 19 08:27:44.2±1.2, 37°.15N±0°.04×22°.70E±0°.09, h46km±23km, n24, σ0°75/36, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	Veliai	0.47	157	ePB	Pn	08 27 53.7	-1.1
VLI				eSB	Sn	08 28 00.9	-1.5
VLI	Veliai	0.47	157	P	Pn	08 27 55.2	+0.4
VLI				S	Sn	08 28 03.3	+0.9
VLI	Veliai	0.47	157	ePb	Pn	08 27 53.7	-1.1
VLI	Veliai	0.47	157	P	Pn	08 27 55.2	+0.4
VLI				eSb	Sn	08 28 00.9	-1.5
VLI				S	Sn	08 28 03.3	+0.9
DIDY	Didyma	0.52	51	P	Pn	08 27 55.2	-0.2
DIDY				S	Sn	08 28 04.3	+0.8
DIDY	Didyma	0.52	51	P	Pn	08 27 55.2	-0.2
DIDY				S	Sn	08 28 04.3	+0.8
DID	Didima	0.55	50	ePN	Pn	08 27 53.4	-2.5
DID	Didima	0.55	50	P	Pn	08 27 55.6	-0.3
DID				S	Sn	08 28 04.7	+0.5
DID	Didima	0.55	50	P	Pn	08 27 55.6	-0.3
DID				S	Sn	08 28 04.7	+0.5
ITM	Ithomi	0.62	273	ePN	Pn	08 27 56.4	-0.3
ITM	Ithomi	0.62	273	ePn	Pn	08 27 56.4	-0.3
PYL	PYLOS	0.81	252	ePN	Pn	08 27 59.4	+0.2
PYL	PYLOS	0.81	252	ePn	Pn	08 27 59.4	+0.2
GUR	Goura	0.83	340	ePN	Pn	08 27 58.8	-0.8
GUR				eSN	Sn	08 28 10.6	-0.2
GUR	Goura	0.83	340	ePn	Pn	08 27 58.8	-0.8
GUR				eSn	Sn	08 28 10.6	-0.2
LTK	Loutraki	0.89	13	ePN	Pn	08 27 59.4	-1.0
LTK				eSN	Sn	08 28 12.1	-0.1
LTK	Loutraki	0.89	13	ePn	Pn	08 27 59.4	-1.0
LTK				eSn	Sn	08 28 12.1	-0.1
KYTH	Kithira	0.91	163	ePN	Pn	08 28 01.3	+0.7
KYTH	Kithira	0.91	163	P	Pn	08 28 01.3	+0.7
KYTH	Kithira	0.91	163	P	Pn	08 28 01.3	+0.7
RLS	Riolos of Patr	1.33	313	ePN	Pn	08 28 07.3	+0.9
RLS	Riolos of Patr	1.33	313	ePn	Pn	08 28 07.3	+0.9
EFP	Efpalio	1.42	334	ePN	Pn	08 28 08.4	+0.9
EFP	Efpalio	1.42	334	ePn	Pn	08 28 08.4	+0.9

BJI 19 08:31:49.3, 47°.33N×27°.65W, h5km, mB5.9/31, mb5.5/52, Ms6.0/49, Ms7 5.7/48
ISCJB 19 08:31:50.5±0.1, 47°.03N±0°.02×27°.35W±0°.01, h10km, mb5.5/363, MS5.6/254, Error ellipse: s-maj=3.4km s-min=1.1km az=2.6
IDC 19 08:31:50.2±0.3, 46°.98N×27°.34W, h0km, mb5.0/37, mb1 5.1/39, mb1mx5.0/40, mbtmp5.0/39, ML6.0/1, MS5.6/32, Ms1 5.6/32, ms1mx5.5/37, Error ellipse: s-maj=11.8km s-min=8.8km az=155.0
MOS 19 08:31:51.1±1.0, 47°.03N×27°.33W, h13km, mb5.8/127, MS5.6/79, Error ellipse: s-maj=5.9km s-min=3.5km az=154.1
NEIC 19 08:31:51.5±0.1, 47°.01N×27°.29W, h5km, mb5.7/262, ME5.1, MS5.6/172, MW5.9, MW5.8, Error ellipse: s-maj=3.8km s-min=1.5km az=1.0 Broadband fault plane solution: P waves. NP1:φs0.00000°, δ75.00000°, λ-90.00000°. NP2:φs180.00000°, δ15.00000°, λ-90.00000°. Principal axes: T Plg30.0000°, Azm90.0000°; N Plg0.0000°, Azm0.0000°; P Plg60.0000°, Azm270.0000°; Moment Tensor Solution. s108 Moment tensor: Scale 10^{17} Nm; M_{rr}-2.87; $M_{\theta\theta}$-2.38; $M_{\phi\phi}$5.25; $M_{r\theta}$0.50; $M_{r\phi}$0.33; $M_{\theta\phi}$6.36; Best double couple: $M_0$7.80000×10^{17} NP1:φs185.00000°, δ74.00000°, λ-88.00000°. NP2:φs357.00000°, δ16.00000°, λ-98.00000°. Principal axes: T 8.7600, Plg28.0000°, Azm273.0000°; N -2.3900, Plg2.0000°, Azm4.0000°; P -6.3700, Plg61.0000°, Azm98.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.
CSEM 19 08:31:52.5±0.1, 47°.11N×27°.30W, h11km, mb5.8/99, Ms5.6, Mw5.9 Error ellipse: s-maj=4.1km s-min=1.7km az=2.0
DJA 19 08:31:53, 46°.89N×27°.31W, h10km, mb5.5/9
GCMT 19 08:31:55.5±0.1, 46°.92N×27°.13W, h12km, MW5.9, Moment Tensor Solution. s97,c188; s91,c120; Moment tensor: Scale 10^{17}Nm; M_{rr}-7.44±.06; $M_{\theta\theta}$-0.18±.06; $M_{\phi\phi}$7.61±.05; $M_{r\theta}$0.47±.16; $M_{\theta\phi}$0.73±.05; $M_{\phi r}$-0.02±.16; Best double couple: $M_0$7.60000×10^{17} NP1:φs2.00000°, δ45.00000°, λ-95.00000°. NP2:φs189.00000°, δ45.00000°, λ-85.00000°. Principal axes: T 7.6800, Plg0.0000°, Azm275.0000°; N -0.2100, Plg4.0000°, Azm5.0000°; P -7.4700, Plg86.0000°, Azm184.0000°; Data Used: II IU CN IC G. Surface waves: sta=119, comp=273, per= 50.
SFS 19 08:32:04.0, 46°.77N×25°.60W, h0km, ML5.9
BGS 19 08:32:05.7±1.6, 47°.36N×25°.57W, h10km, mb5.8, MS5.3
SZGRF 19 08:32:08.1, 47°.35N×25°.35W, h33km, mb5.7, MS5.7, Northern Mid-Atlantic Ridge
ISC 19 08:31:52.4±0.1, 47°.01N±0°.02×27°.30W±0°.01, h10km, (h14km±1.4km: pP-P), n2300, σ0°91/2200, mb5.5/363, MS5.6/254, 437C-244D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	Angra Heroismo	8.35	180	eP	Pn	08 33 51.9	-1.6
ADH				eS	Sn	08 35 10.2	-18
ADH				A		08 35 26.3	
	44nm,0.4s						
PMAN	Manadas	8.40	184	eP	Pn	08 33 54.8	+0.7
PSET	Sete Cidades	9.26	172	eP	Pn	08 34 02.2	-3.7
PDA	Ponta Delgada	9.34	172	eP	Pn	08 34 00.5	-6.5
BART	Pico Bartolome	9.36	170	eP	Pn	08 34 04.1	-3.3
BART				eS	Sn	08 35 37.8	-15
BART				A		08 35 43.4	
	97nm,0.6s						
PSMA	Santa Maria	10.14	170	eP	Pn	08 34 13.8	-4.2
PSMN	Pico do Norte,	10.14	170	eP	Pn	08 34 15.5	-2.5
PGAV	Gavieira, Arco	14.48	103	eP	Pn	08 35 14.0	-3.3
	740nm,1.7s						
PGAV				A		08 39 49.1	
	46μm,20.0s						
PGAV				eT		08 48 19.3	
PCAB	Cabril	14.76	104	eP	Pn	08 35 18.1	-3.0
	877nm,1.7s						
PCAB	Cabril	14.76	104	eP	Pn	08 35 18.1	-3.0
	877nm,1.7s						
DSB	Dublin	14.77	57	eP	Pn	08 35 21.1	0.0
	107nm,1.2s						
DSB	Dublin	14.77	57	eP	Pn	08 35 21.1	0.0
	107nm,1.2s						
POLO	Lamas de Olo	15.07	105	eP	Pn	08 35 22.7	-2.6
	270nm,1.9s						
POLO				A		08 40 06.1	
	24μm,20.0s						
POLO				eT		08 48 43.4	
POLO	Lamas de Olo	15.07	105	eP	Pn	08 35 22.7	-2.6
	24μm,20.0s						
GMM	Mts of Mourne	15.32	54	⇑eP	Pn	08 35 26.2	-2.2
PVIS	Viseu	15.33	107	eP	Pn	08 35 24.6	-4.1
	455nm,1.8s						
PVIS	Viseu	15.33	107	eP	Pn	08 35 24.6	-4.1
	455nm,1.8s						
PMAFR	Mafra	15.43	115	eP	Pn	08 35 25.7	-4.3
	958nm,1.2s						
PMAFR				A		08 40 13.3	
	21μm,20.0s						
PMAFR	Mafra	15.43	115	eP	Pn	08 35 25.7	-4.3
	21μm,20.0s						
HTL	Hartland	15.47	67	AMS	AMS	08 39 42.9	
	comp=Z,25μm,22.8s						
PBRG	Braganca	15.57	102	eP	Pn	08 35 29.5	-2.4
	comp=Z,625nm,1.5s						
PBRG				A		08 40 21.6	
	comp=Z,37μm,20.0s						
PTOM	Tomar	15.59	111	eP	Pn	08 35 28.0	-4.1
	comp=Z,255nm,1.9s						
PTOM				eT		08 49 38.7	
LIS	Lisbon	15.65	115	eP	Pn	08 35 28.4	-4.6
LIS				AMb	AMB	08 35 32.4	
	comp=Z,1μm,1.5s						
LIS	Lisbon	15.65	115	eP	Pn	08 35 28.4	-4.6
	comp=Z,1μm,1.5s						
LIS	Lisbon	15.65	115	eP	Pn	08 35 28.4	-4.6
LIS	Lisbon	15.65	115	eP	Pn	08 35 28.4	-4.6
	comp=Z,1μm,1.5s						
MVO	Moncorvo	15.68	105	eP	Pn	08 35 30.8	-2.5
	comp=Z,579nm,1.6s						
MVO				A		08 40 32.3	
	comp=Z,41μm,20.0s						
MVO	Moncorvo	15.68	105	eP	Pn	08 35 30.8	-2.5
	comp=Z,41μm,20.0s						
BST	Brest	15.70	77	eP	Pn	08 35 30.1	-3.4
BST	Brest	15.70	77	eP	Pn	08 35 30.1	-3.4
MTE	Manteigas	15.72	108	eP	Pn	08 35 29.5	-4.3
	comp=Z,370nm,1.7s						
MTE				A		08 40 34.2	
	comp=Z,35μm,18.0s						
MTE				eT		08 49 26.4	
MTE	Manteigas	15.72	108	eP	Pn	08 35 29.7	-4.1
	comp=Z,344nm,1.5s						
MTE	Manteigas	15.72	108	eP	Pn	08 35 29.7	-4.1
	comp=Z,344nm,1.5s						
ALMR	Almeirim	15.75	113	eP	Pn	08 35 29.7	-4.5
ALMR	Almeirim	15.75	113	eP	Pn	08 35 29.7	-4.5
ALMR	Almeirim	15.75	113	eP	Pn	08 35 29.7	-4.5
DYA	Yadsworthy	15.78	69	⇑eP	Pn	08 35 31.6	-2.9
DYA				AMB	AMB	08 35 33.8	
	comp=Z,162nm,1.5s						
DYA				AMS	AMS	08 39 36.8	
	comp=Z,21μm,23.9s						
DYA	Yadsworthy	15.78	69	P	Pn	08 35 31.6	-2.9
DYA				AMB	AMB	08 35 33.8	
	comp=Z,162nm,1.5s						
DYA				AMS	AMS	08 39 36.8	
	comp=Z,21μm,23.9s						
PCBR	Castelo Branco	16.06	109	eP	Pn	08 35 34.6	-3.7
	comp=Z,276nm,1.7s						
PCBR				eT		08 49 45.4	
PMOZ	Porto Moniz, M	16.13	148	eP	Pn	08 35 44.7	+5.5
	comp=Z,553nm,1.6s						
PMOZ	Porto Moniz, M	16.13	148	eP	Pn	08 35 44.7	+5.5
	comp=Z,553nm,1.6s						
GAL1	Galloway	16.21	53	⇑eP	Pn	08 35 39.3	-0.7
GAL1				AMB	AMB	08 35 43.6	
	comp=Z,155nm,2.0s						
GAL1				AMS	AMS	08 40 28.1	
	comp=Z,23μm,15.3s						
ROSF	Rostrenen	16.23	76	eP	Pn	08 35 39.5	-0.8
	comp=Z,691nm,1.3s						
ROSF	Rostren

comp=Z,28µm,20.0s
PMRV eT 08 50 05.5
EVOP Sao Brissos 16.41 114⇑iP Pn 08 35 37.8 -4.9
comp=Z,286nm,0.8s
EVOP Sao Brissos 16.41 114⇑iP Pn 08 35 37.8 -4.9
EVOP pmax pmax
comp=Z,286nm,0.8s
EVOP Sao Brissos 16.41 114⇑iP Pn 08 35 37.8 -4.9
comp=Z,143nm,0.8s
PNCL Nicolau / Gran 16.41 116 eP Pn 08 35 37.9 -4.8
comp=Z,571nm,1.5s
PNCL A 08 40 53.5
comp=Z,24µm,20.0s
EVO Evora 16.47 114⇑iP Pn 08 35 37.8 -5.7
comp=Z,286nm,0.8s
EVO eR
comp=Z,27µm,20.8s
EVO Evora 16.47 114 eP Pn 08 35 38.5 -5.0
comp=Z,322nm,1.5s
EVO eT 08 50 19.9
MCH1 Michaelchurch 16.52 63⇑eP Pn 08 35 42.1 -1.9
MCH1 AMB AMB 08 35 49.4
comp=Z,353nm,2.9s
MCH1 AMS AMS 08 40 48.8
comp=Z,23µm,17.1s
PESTR Estremoz 16.54 112 eP Pn 08 35 39.4 -5.0
comp=Z,557nm,1.7s
PESTR A 08 40 57.8
comp=Z,20µm,20.0s
PESTR Estremoz 16.54 112 eP Pn 08 35 39.4 -5.0
comp=Z,20µm,20.0s
FOEL Foel Wylfa 16.55 60⇑eP Pn 08 35 42.0 -2.3
FOEL AMB AMB 08 35 44.6
comp=Z,592nm,1.6s
GCD Castle Douglas 16.63 53⇑eP Pn 08 35 44.3 -1.1
PTEO Sao Teotonio 16.65 118 eP Pn 08 35 43.4 -2.4
comp=Z,856nm,1.5s
PTEO Sao Teotonio 16.65 118 eP Pn 08 35 43.4 -2.4
comp=Z,856nm,1.5s
PGBU Glenifferbraes 16.67 50⇑eP Pn 08 35 45.3 -0.6
PGBU AMB AMB 08 35 46.6
comp=Z,537nm,1.4s
PGBU AMS AMS 08 40 37.0
comp=Z,18µm,23.1s
HLM1 Long Mynd 16.67 62⇑eP Pn 08 35 43.5 -2.5
HLM1 AMB AMB 08 35 45.9
comp=Z,334nm,1.6s
SGMF Saint Gilles 16.71 77⇑iP Pn 08 35 45.6 -0.8
comp=Z,2µm,1.6s
SGMF Saint Gilles 16.71 77⇑iP Pn 08 35 45.6 -0.8
comp=Z,2µm,1.6s
SGMF Saint Gilles 16.71 77⇑iP Pn 08 35 45.6 -0.8
SGMF pmax pmax
comp=Z,2µm,1.6s
KPL Plockton 16.75 44⇑eP Pn 08 35 47.0 +0.2
KPL AMB AMB 08 35 47.6
comp=Z,278nm,2.9s
KPL AMS AMS 08 40 02.3
comp=Z,15µm,24.0s
KPL Plockton 16.75 44⇑eP Pn 08 35 47.0 +0.1
XDE Dent Fell 16.77 55⇑eP Pn 08 35 45.6 -1.5
MESJ Messejana 16.77 116 eP Pn 08 35 42.4 -4.9
MESJ AMb AMB 08 35 48.8
comp=Z,368nm,1.5s
MESJ Messejana 16.77 116 eP Pn 08 35 42.4 -4.9
comp=Z,368nm,1.5s
MESJ Messejana 16.77 116 eP Pn 08 35 42.4 -4.9
MORF Marmelete 16.85 118 eP Pn 08 35 46.3 -2.0
MORF A 08 41 05.1
comp=Z,24µm,20.0s
MORF Marmelete 16.85 118 eP Pn 08 35 43.5 -4.8
MORF Marmelete 16.85 118 eP Pn 08 35 46.3 -2.0
comp=Z,24µm,20.0s
PFVI Vila Bisbo 16.86 119 eP Pn 08 35 46.5 -1.9
PFVI A 08 41 04.3
comp=Z,28µm,20.0s
PFVI Vila Bisbo 16.86 119 eP Pn 08 35 46.5 -1.9
comp=Z,28µm,20.0s
PBEJ Beja 16.87 115 eP Pn 08 35 45.0 -3.6
comp=Z,396nm,1.9s
EAB Aberfoyle 16.89 49⇑eP Pn 08 35 48.1 -0.6
EAB Aberfoyle 16.89 49⇑eP Pn 08 35 48.1 -0.6
JSA Saint Aubin 16.91 73⇑eP Pn 08 35 46.0 -2.9
JSA AMB AMB 08 35 48.6
comp=Z,315nm,1.6s
JSA AMS AMS 08 40 55.9
comp=Z,30µm,19.2s
JSA Saint Aubin 16.91 73 P Pn 08 35 46.0 -2.9
JSA AMB AMB 08 35 48.6
comp=Z,315nm,1.6s
JSA AMS AMS 08 40 55.9
comp=Z,30µm,19.2s
KAC Achnashellach 16.99 44⇑eP Pn 08 35 49.9 -0.1
KAC Achnashellach 16.99 44⇑eP Pn 08 35 49.9 -0.1
KESW Keswick, Cumbr 17.01 55⇑eP Pn 08 35 48.9 -1.2
KESW AMB AMB 08 35 54.4
comp=Z,649nm,2.1s
KESW Keswick, Cumbr 17.01 55⇑eP Pn 08 35 48.9 -1.3
PCVE Castro Verde 17.01 116 eP Pn 08 35 49.1 -1.3
comp=Z,325nm,1.9s
PCVE A 08 41 10.3
comp=Z,22µm,20.0s
PCVE Castro Verde 17.01 116 eP Pn 08 35 49.1 -1.3
comp=Z,22µm,20.0s
STNC Stoke 17.18 60 eP Pn 08 35 50.5 -1.7
STNC AMB AMB 08 35 56.4
comp=Z,698nm,2.0s
STNC AMS AMS 08 41 18.4
comp=Z,20µm,18.1s
STNC Stoke 17.18 60 eP Pn 08 35 50.5 -1.8
ESK Eskdalemuir 17.18 52⇑eP Pn 08 35 50.9 -1.4
ESK AMB AMB 08 35 51.9
comp=Z,337nm,1.6s
ESK AMS AMS 08 41 04.6
comp=Z,22µm,15.8s
ESK Eskdalemuir 17.18 52 P Pn 08 35 50.9 -1.4
ESK AMB AMB 08 35 51.9
comp=Z,337nm,1.6s
ESK AMS AMS 08 41 04.6
comp=Z,22µm,15.8s
ESK Eskdalemuir 17.18 52 eP Pn 08 35 51.3 -1.0
comp=Z,398nm,1.3s
ESK Eskdalemuir 17.18 52 eP Pn 08 35 51.3 -1.0
ESK pmax pmax
comp=Z,398nm,1.3s
ESK Eskdalemuir 17.18 52 Pn Pn 08 35 52.0 -0.3
comp=Z,1µm,1.2s,SNR=12
ESK Eskdalemuir 17.18 52⇑eP Pn 08 35 50.8 -1.5
SWN1 Swindon 17.20 65⇑eP Pn 08 35 50.8 -1.9
SWN1 AMB AMB 08 35 59.5
comp=Z,634nm,2.4s
SWN1 AMS AMS 08 41 17.3
comp=Z,25µm,22.2s
SSW Stow on the Wo 17.22 64⇑eP Pn 08 35 50.7 -2.1
EAU Auchinoon 17.23 50 eP Pn 08 35 52.6 -0.3
EAU Auchinoon 17.23 50 eP Pn 08 35 52.6 -0.3
PBAR Barrancos 17.30 113 eP Pn 08 35 48.9 -5.0
comp=Z,392nm,1.7s
PBAR A 08 41 20.9
comp=Z,20µm,20.0s
PBDV Barranco-do-Ve 17.33 117 A 08 41 19.7
comp=Z,23µm,22.0s
PVAQ Vaqueiros 17.36 117 eP Pn 08 35 54.0 -0.6
PVAQ A 08 41 10.5
comp=Z,20µm,22.0s
PVAQ Vaqueiros 17.36 117 eP Pn 08 35 54.0 -0.6
comp=Z,20µm,22.0s
KWE Weaver Farm 17.38 60 eP Pn 08 35 52.4 -2.4
EDI Edinburgh 17.39 50⇑eP Pn 08 35 53.6 -1.4
EDI AMB AMB 08 35 56.7
comp=Z,373nm,1.5s
EDI AMS AMS 08 40 36.1
comp=Z,20µm,25.8s
EDI Edinburgh 17.39 50 P Pn 08 35 53.6 -1.4
EDI AMB AMB 08 35 56.7
comp=Z,373nm,1.5s
EDI AMS AMS 08 40 36.1
comp=Z,20µm,25.8s
EDI Edinburgh 17.39 50⇑eP Pn 08 35 53.6 -1.3
MDO Dochfour 17.41 45⇑eP Pn 08 35 55.4 +0.2
MDO Dochfour 17.41 45⇑eP Pn 08 35 55.4 +0.2
EBL Broad Law 17.41 51⇑eP Pn 08 35 54.1 -1.2
EBL Broad Law 17.41 51⇑eP Pn 08 35 54.1 -1.1
WOL Wolverton 17.55 66⇑eP Pn 08 35 55.9 -1.0
WOL AMB AMB 08 36 02.0
comp=Z,1µm,1.8s
WOL AMS AMS 08 41 19.6
comp=Z,21µm,21.6s
WOL Wolverton 17.55 66⇑eP Pn 08 35 55.9 -1.0
XAL Allendale 17.58 54⇑eP Pn 08 35 56.8 -0.6
XAL Allendale 17.58 54⇑eP Pn 08 35 56.8 -0.5
KBI1 Birley Grange 17.61 60⇑eP Pn 08 35 56.6 -1.0
KBI1 Birley Grange 17.61 60⇑eP Pn 08 35 56.6 -1.0
ESY Stoneypath 17.69 51⇑eP Pn 08 35 58.3 -0.4
ESY Stoneypath 17.69 51⇑eP Pn 08 35 58.3 -0.4
GRR Gorron 17.83 76 eP Pn 08 35 59.0 -1.4
comp=Z,3µm,1.8s
GRR Gorron 17.83 76 eP Pn 08 35 59.0 -1.4
comp=Z,3µm,1.8s
GRR Gorron 17.83 76 eP Pn 08 35 59.0 -1.4
GRR pmax pmax
comp=Z,3µm,1.8s
GRR Gorron 17.83 76 eP Pn 08 35 59.0 -1.4
comp=Z,1µm,1.8s
MCD Coleburn Disti 18.01 45⇑eP Pn 08 36 02.5 -0.2
MCD Coleburn Disti 18.01 45⇑eP Pn 08 36 02.5 -0.1
MME1 Meikle Cairn 18.04 46⇑eP Pn 08 36 02.6 -0.4
MME1 Meikle Cairn 18.04 46⇑eP Pn 08 36 02.6 -0.4
FLN La Foliniere 18.04 75 eP Pn 08 36 02.0 -1.0
comp=Z,1µm,1.2s
FLN eR
comp=Z,55µm,22.2s
FLN La Foliniere 18.04 75 eP Pn 08 36 02.0 -1.0
comp=Z,1µm,1.2s
FLN La Foliniere 18.04 75 eP Pn 08 36 02.0 -1.0
FLN pmax pmax
comp=Z,1µm,1.2s
FLN La Foliniere 18.04 75 eP Pn 08 36 02.0 -1.0
comp=Z,718nm,1.2s
BORG Borgarnes 18.07 8 P Pn 08 36 03.8 +0.5
comp=Z,0.4nm,0.3s,baz=68,slow=2.8,SNR=2.6
BORG LR LR 08 41 01.3
comp=Z,10µm,21.2s,baz=187,slow=30
BORG Borgarnes 18.07 8 P Pn 08 36 03.8 +0.5
BORG Borgarnes 18.07 8 P Pn 08 36 03.8 +0.5
BORG MLR MLR
comp=Z,10µm,21.2s
BORG Borgarnes 18.07 8 P Pn 08 36 03.8 +0.5
comp=Z,10µm,21.2s
PAB San Pablo 18.26 106 eP Pn 08 36 03.4 -2.4
comp=Z,311nm,1.3s
PAB San Pablo 18.26 106 eP Pn 08 36 03.4 -2.4
PAB pmax pmax
comp=Z,311nm,1.3s
PAB San Pablo 18.26 106 eP Pn 08 36 03.4 -2.4
comp=Z,311nm,1.3s
LDF La Druitiere 18.29 75 eP Pn 08 36 05.3 -0.8
comp=Z,492nm,1.4s
LDF La Druitiere 18.29 75 eP Pn 08 36 05.3 -0.8
comp=Z,492nm,1.4s
LDF La Druitiere 18.29 75 eP Pn 08 36 05.3 -0.8
LDF pmax pmax
comp=Z,492nm,1.4s
LDF La Druitiere 18.29 75 eP Pn 08 36 05.3 -0.8
comp=Z,246nm,1.4s
ESDC Sonseca Array 18.45 105 P Pn 08 36 05.3 -2.8
comp=Z,12nm,0.3s,baz=293,slow=12,SNR=38
ESDC LR LR 08 41 53.3
comp=Z,24µm,18.6s,baz=300,slow=33
ESDC Sonseca Array 18.45 105 P Pn 08 36 05.3 -2.8
ESLA Sonseca Array 18.45 105 eP Pn 08 36 05.5 -2.6
comp=Z,220nm,1.8s
ESLA Sonseca Array 18.45 105 eP Pn 08 36 05.5 -2.6
comp=Z,220nm,1.8s
MFF Saint Martin d 18.56 81⇑iP Pn 08 36 08.8 -0.6
comp=Z,502nm,1.4s
MFF Saint Martin d 18.56 81⇑iP Pn 08 36 08.8 -0.6
comp=Z,502nm,1.4s
MFF Saint Martin d 18.56 81⇑iP Pn 08 36 08.8 -0.6
MFF pmax pmax
comp=Z,502nm,1.4s
MFF Saint Martin d 18.56 81⇑iP Pn 08 36 08.8 -0.6
comp=Z,251nm,1.4s
OSSF Osses 18.72 92 eP Pn 08 36 11.4 0.0
OSSF Osses 18.72 92 eP Pn 08 36 11.4 0.0
SJPF Ste Jean 18.80 92 eP Pn 08 36 11.4 -0.9
comp=Z,616nm,1.6s
SJPF Ste Jean 18.80 92 eP Pn 08 36 11.4 -0.9
comp=Z,616nm,1.6s
SJPF Ste Jean 18.80 92 eP Pn 08 36 11.4 -0.9
SJPF pmax pmax
comp=Z,616nm,1.6s
SJPF Ste Jean 18.80 92 eP Pn 08 36 11.4 -0.9
comp=Z,308nm,1.6s
SFS San Fernando 18.89 116 iP Pn 08 36 11.4 -2.0
SFS eS Sn 08 39 54.9 +10
ORDF Ordiarp 18.96 92 eP Pn 08 36 15.6 +1.4
ORDF Ordiarp 18.96 92 eP Pn 08 36 15.6 +1.4
SOFL Sornfelli, Far 19.01 30 AMS AMS 08 42 22.7
comp=Z,20µm,17.1s
ELSH Elham, Standar 19.02 67⇑eP Pn 08 36 14.4 -0.5
ELSH AMB AMB 08 36 15.9
comp=Z,678nm,1.8s
ELSH Elham, Standar 19.02 67⇑eP Pn 08 36 14.4 -0.6
CNIL Conil 19.04 116 eP Pn 08 36 14.0 -1.3
LIJA Lijar 19.10 114 iP Pn 08 36 13.8 -2.2
ATE Arette 19.16 92 eP Pn 08 36 16.1 -0.6
ATE Arette 19.16 92 eP Pn 08 36 16.1 -0.6
ETSF Etsaut 19.33 93⇑iP Pn 08 36 17.7 -1.0
comp=Z,296nm,0.9s
ETSF Etsaut 19.33 93⇑iP Pn 08 36 17.7 -1.0
comp=Z,296nm,0.9s
ETSF Etsaut 19.33 93⇑iP Pn 08 36 17.7 -1.0
ETSF pmax pmax
comp=Z,296nm,0.9s
ETSF Etsaut 19.33 93⇑iP Pn 08 36 17.7 -1.0
comp=Z,148nm,0.9s
REYF Montagne du Re 19.38 92 eP Pn 08 36 18.2 -1.1
REYF Montagne du Re 19.38 92 eP Pn 08 36 18.2 -1.1
LFF La Frestale 19.56 86⇑iP Pn 08 36 19.9 -1.6
comp=Z,4µm,1.9s
LFF La Frestale 19.56 86⇑iP Pn 08 36 19.9 -1.6
comp=Z,4µm,1.9s
LFF La Frestale 19.56 86⇑iP Pn 08 36 19.9 -1.6
LFF pmax pmax
comp=Z,4µm,1.9s
LFF La Frestale 19.56 86⇑iP Pn 08 36 19.9 -1.6
comp=Z,2µm,1.9s
LABF Labassere 19.71 92 eP Pn 08 36 21.5 -1.7
LABF Labassere 19.71 92 eP Pn 08 36 21.5 -1.7
VIEF Viey 19.73 92 eP Pn 08 36 22.2 -1.3
VIEF Viey 19.73 92 eP Pn 08 36 22.2 -1.3
EMAL Malaga-Limoner 19.80 113 iP Pn 08 36 23.8 -0.6
EMAL eS Sn 08 40 15.8 +8.9
EPF Esparros 19.89 91 eP Pn 08 36 23.9 -1.6
comp=Z,1µm,1.6s
EPF Esparros 19.89 91 eP Pn 08 36 23.9 -1.6
comp=Z,1µm,1.6s
EPF Esparros 19.89 91 eP Pn 08 36 23.9 -1.6
EPF pmax pmax
comp=Z,1µm,1.6s
EPF Esparros 19.89 91 eP Pn 08 36 23.9 -1.6
comp=Z,532nm,1.6s
RESF Ens 19.98 92 eP Pn 08 36 25.0 -1.4
RESF Ens 19.98 92 eP Pn 08 36 25.0 -1.4
RJF Les Rejaudoux 19.99 84⇑iP Pn 08 36 24.5 -2.1
comp=Z,2µm,1.8s
RJF eR
comp=Z,46µm,22.0s
RJF Les Rejaudoux 19.99 84⇑iP Pn 08 36 24.5 -2.1
comp=Z,2µm,1.8s
RJF Les Rejaudoux 19.99 84⇑iP Pn 08 36 24.5 -2.1
RJF pmax pmax
comp=Z,2µm,1.8s
RJF Les Rejaudoux 19.99 84⇑iP Pn 08 36 24.5 -2.1
comp=Z,790nm,1.8s
LRW Lerwick 20.15 40 AMS AMS 08 43 27.4
comp=Z,14µm,11.7s,MS5.5
MELF Melles 20.24 92 eP P 08 36 27.6 0.0
MELF Melles 20.24 92 eP P 08 36 27.6 0.0
HYF Humbligny 20.32 78⇑iP P 08 36 28.4 0.0
HYF Humbligny 20.32 78⇑iP P 08 36 28.4 0.0
HYF Humbligny 20.32 78⇑iP P 08 36 28.4 0.0
MLS Moulis 20.44 91 eP P 08 36 29.1 -0.6
MLS Moulis 20.44 91 eP P 08 36 29.1 -0.6
CAF Calviac 20.47 85⇑iP P 08 36 29.4 -0.6
comp=Z,802nm,1.4s
CAF Calviac 20.47 85⇑iP P 08 36 29.4 -0.6
comp=Z,802nm,1.4s
CAF Calviac 20.47 85⇑iP P 08 36 29.4 -0.6
CAF pmax pmax
comp=Z,802nm,1.4s
CAF Calviac 20.47 85⇑iP P 08 36 29.4 -0.6
comp=Z,401nm,1.4s
VERF Verneugheol 20.53 83 eP P 08 36 30.7 -0.1
VERF Verneugheol 20.53 83 eP P 08 36 30.7 -0.1
BGF Bois d'Agland 20.59 80⇑iP P 08 36 31.3 -0.1
comp=Z,2µm,1.7s
BGF Bois d'Agland 20.59 80⇑iP P 08 36 31.3 -0.1
comp=Z,2µm,1.7s
BGF Bois d'Agland 20.59 80⇑iP P 08 36 31.3 -0.1
BGF pmax pmax
comp=Z,2µm,1.7s
BGF Bois d'Agland 20.59 80⇑iP P 08 36 31.3 -0.1
comp=Z,1µm,1.7s
AVF Avril sur Loir 20.89 79⇑iP P 08 36 34.3 -0.3
comp=Z,2µm,1.5s
AVF Avril sur Loir 20.89 79⇑iP P 08 36 34.3 -0.3
comp=Z,2µm,1.5s
AVF Avril sur Loir 20.89 79⇑iP P 08 36 34.3 -0.3
AVF pmax pmax
comp=Z,2µm,1.5s
AVF Avril sur Loir 20.89 79⇑iP P 08 36 34.3 -0.3
comp=Z,889nm,1.5s
PYM Petit Puy Mans 20.89 82 eP P 08 36 34.8 +0.2
PYM Petit Puy Mans 20.89 82 eP P 08 36 34.8 +0.2
AGO Saint Agoulin 20.90 81 eP P 08 36 34.9 +0.2
AGO Saint Agoulin 20.90 81 eP P 08 36 34.9 +0.2
SSF Saint Saulge 20.93 79⇑iP P 08 36 34.9 -0.2
comp=Z,2µm,1.6s
SSF Saint Saulge 20.93 79⇑iP P 08 36 34.9 -0.2
comp=Z,2µm,1.6s
SSF Saint Saulge 20.93 79⇑iP P 08 36 34.9 -0.2
SSF pmax pmax
comp=Z,2µm,1.6s
SSF Saint Saulge 20.93 79⇑iP P 08 36 34.9 -0.2
comp=Z,1µm,1.6s
BAIF Baives 21.00 70⇑iP P 08 36 35.7 -0.1
comp=Z,1µm,1.2s,mb5.8
BAIF Baives 21.00 70⇑iP P 08 36 35.7 -0.1
comp=Z,1µm,1.2s,mb6.2
BAIF Baives 21.00 70⇑iP P 08 36 35.7 -0.1
BAIF pmax pmax
comp=Z,1µm,1.2s,mb6.2
BAIF Baives 21.00 70⇑iP P 08 36 35.7 -0.1
comp=Z,674nm,1.2s,mb5.8
SNF Seneffe 21.03 69 P P 08 36 36.1 0.0
comp=Z,510nm,1.9s,mb5.5
UCC Uccle 21.06 68 P P 08 36 35.9 -0.5
comp=Z,386nm,1.6s,mb5.5
MTLF Montolieu 21.07 89⇑iP P 08 36 36.3 -0.3
comp=Z,2µm,1.8s,mb5.8
MTLF Montolieu 21.07 89⇑iP P 08 36 36.3 -0.3
comp=Z,2µm,1.8s,mb6.0
MTLF Montolieu 21.07 89⇑iP P 08 36 36.3 -0.3
MTLF pmax pmax
comp=Z,2µm,1.8s,mb6.0
MTLF Montolieu 21.07 89⇑iP P 08 36 36.3 -0.3
comp=Z,800nm,1.8s,mb5.8
LOR Lormes 21.13 78⇑iP P 08 36 36.9 -0.3
comp=Z,3µm,1.4s,mb6.1
LOR eR
comp=Z,27µm,22.8s
LOR Lormes 21.13 78⇑iP P 08 36 36.9 -0.3
comp=Z,3µm,1.4s,mb6.4
LOR Lormes 21.13 78⇑iP P 08 36 36.9 -0.3
LOR pmax pmax
comp=Z,3µm,1.4s,mb6.4
LOR Lormes 21.13 78⇑iP P 08 36 36.9 -0.3
comp=Z,1µm,1.4s,mb6.1
LBL Lubilhac 21.19 84 eP P 08 36 38.1 +0.3
LBL Lubilhac 21.19 84 eP P 08 36 38.1 +0.3
CARF Carcanieres 21.22 91 eP P 08 36 37.5 -0.7
CARF Carcanieres 21.22 91 eP P 08 36 37.5 -0.7
SMF Signal de Mont 21.25 80⇑iP P 08 36 38.2 -0.2
comp=Z,3µm,1.6s,mb6.1
SMF Signal de Mont 21.25 80⇑iP P 08 36 38.2 -0.2
comp=Z,3µm,1.6s,mb6.4
SMF Signal de Mont 21.25 80⇑iP P 08 36 38.2 -0.2
SMF pmax pmax
comp=Z,3µm,1.6s,mb6.4
SMF Signal de Mont 21.25 80⇑iP P 08 36 38.2 -0.2
comp=Z,2µm,1.6s,mb6.1
DOU Dourbes 21.25 70 P P 08 36 38.5 0.0
comp=Z,348nm,2.0s,mb5.3
PLDF La Plantade 21.25 81 eP P 08 36 38.7 +0.2
PLDF La Plantade 21.25 81 eP P 08 36 38.7 +0.2
VALF Valcebollere 21.28 92 eP P 08 36 38.7 -0.1
VALF Valcebollere 21.28 92 eP P 08 36 38.7 -0.1
GIVF Givet 21.40 70⇑iP P 08 36 39.9 -0.1
comp=Z,2µm,1.3s,mb5.9
GIVF Givet 21.40 70⇑iP P 08 36 39.9 -0.1
comp=Z,2µm,1.3s,mb6.2
GIVF Givet 21.40 70⇑iP P 08 36 39.9 -0.1
GIVF pmax pmax
comp=Z,2µm,1.3s,mb6.2
GIVF Givet 21.40 70⇑iP P 08 36 39.9 -0.1
comp=Z,899nm,1.3s,mb5.9
COLF Collangettes 21.41 83 eP P 08 36 39.7 -0.6
COLF Collangettes 21.41 83 eP P 08 36 39.7 -0.6
LRDF Laroque-de-Fa 21.43 90 eP P 08 36 39.8 -0.7
LRDF Laroque-de-Fa 21.43 90 eP P 08 36 39.8 -0.7
CART Cartagena 21.53 106 eP P 08 36 41.6 0.0
comp=Z,910nm,1.7s,mb5.9
CART Cartagena 21.53 106 iP P 08 36 42.8 +1.3
FILF Fillols 21.59 91 eP P 08 36 40.3 -1.9
FILF Fillols 21.59 91 eP P 08 36 40.3 -1.9
BCLA Clavier 21.68 69 P P 08 36 42.8 -0.3
comp=Z,257nm,1.9s,mb5.3
MEZF Maizieres J'vi 21.72 74⇑iP P 08 36 43.4 -0.1
comp=Z,2µm,1.4s,mb6.1
MEZF Maizieres J'vi 21.72 74⇑iP P 08 36 43.4 -0.1
comp=Z,2µm,1.4s,mb6.4
MEZF Maizieres J'vi 21.72 74⇑iP P 08 36 43.4 -0.1
comp=Z,1µm,1.4s,mb6.1
SFTF Sexfontaines 21.75 75⇑iP P 08 36 43.7 -0.2
comp=Z,2µm,1.2s,mb6.1
SFTF Sexfontaines 21.75 75⇑iP P 08 36 43.7 -0.2
comp=Z,2µm,1.2s,mb6.4
SFTF Sexfontaines 21.75 75⇑iP P 08 36 43.7 -0.2
comp=Z,912nm,1.2s,mb6.1
SJAF Saint Jean de 21.84 91 eP P 08 36 43.5 -1.3
SJAF Saint Jean de 21.84 91 eP P 08 36 43.5 -1.3
BEBN Eben Emael 21.90 68 P P 08 36 44.6 -0.8
comp=Z,154nm,2.0s,mb5.1
LASF Ste Croix 21.95 86⇑iP P 08 36 45.9 -0.1
comp=Z,2µm,1.5s,mb6.0
LASF Ste Croix 21.95 86⇑iP P 08 36 45.9 -0.1
comp=Z,2µm,1.5s,mb6.2
LASF Ste Croix 21.95 86⇑iP P 08 36 45.9 -0.1
comp=Z,834nm,1.5s,mb6.0
SSB Saint Sauveur 22.05 83 eP P 08 36 47.4 +0.2
comp=Z,266nm,1.5s,mb5.5
SSB LR LR
comp=Z,14µm,21.0s,MS5.4
SSB Saint Sauveur 22.05 83 eP P 08 36 47.4 +0.3
SSB pmax pmax
comp=Z,348nm,1.5s,mb5.6
SSB MLR MLR
comp=Z,19µm,21.0s,MS5.5
SSB Saint Sauveur 22.05 83 eP P 08 36 47.0 -0.1
SSB Saint Sauveur 22.05 83 eP P 08 36 47.0 -0.1
MEM Membach 22.12 68 P P 08 36 47.7 0.0
comp=Z,388nm,1.4s,mb5.6
PAGF Fort de Pagny 22.15 74⇑iP P 08 36 47.7 -0.5
comp=Z,758nm,1.7s,mb5.5
PAGF Fort de Pagny 22.15 74⇑iP P 08 36 47.7 -0.5
comp=Z,758nm,1.7s,mb5.8
PAGF Fort de Pagny 22.15 74⇑iP P 08 36 47.7 -0.5
comp=Z,379nm,1.7s,mb5.5
VIVF Saint-Julien-l 22.26 84⇑iP P 08 36 49.7 +0.3
comp=Z,1µm,1.6s,mb5.8
VIVF Saint-Julien-l 22.26 84⇑iP P 08 36 49.7 +0.3
comp=Z,1µm,1.6s,mb6.1
VIVF Saint-Julien-l 22.26 84⇑iP P 08 36 49.7 +0.3
VIVF pmax pmax
comp=Z,1µm,1.6s,mb6.1
VIVF Saint-Julien-l 22.26 84⇑iP P 08 36 49.7 +0.3
comp=Z,633nm,1.6s,mb5.8
WLF Walferdange 22.29 71 P P 08 36 49.6 0.0
comp=Z,213nm,1.6s,mb5.3
WLF Walferdange 22.29 71 eP P 08 36 49.0 -0.6
comp=Z,397nm,1.3s,mb5.7
WLF Walferdange 22.29 71 eP P 08 36 49.7 +0.1
comp=Z,352nm,1.3s,mb5.6
WLF LR LR
comp=Z,23µm,20.0s,MS5.6

WLF Walferdange 22.29 71 *eP* **P 08 36 49.7 +0.1**
WLF pmax pmax
comp=Z,352nm,1.3s,mb5.6
WLF MLR MLR
comp=Z,23µm,20.0s,MS5.6
WLF Walferdange 22.29 71 *eP* **P 08 36 49.7 +0.1**
comp=Z,23µm,20.0s
THEF They Montfort 22.38 75 *eP* **P 08 36 50.0 -0.5**
THEF They Montfort 22.38 75 *eP* **P 08 36 50.0 -0.5**
OG35 Corcelles 22.55 80 *eP* **P 08 36 51.1 -1.3**
OLHC Oulhaca 22.65 112 P **P 08 37 01.0 +7.4**
OLHC Oulhaca 22.65 112 P **P 08 37 01.0 +7.4**
HAU Haudompre 22.65 75⇑ *iP* **P 08 36 52.9 -0.6**
HAU *e*R
comp=Z,29µm,23.0s
HAU Haudompre 22.65 75⇑ *iP* **P 08 36 52.9 -0.6**
comp=Z,1µm,1.3s,mb6.2
HAU Haudompre 22.65 75⇑ *iP* **P 08 36 52.9 -0.6**
HAU pmax pmax
comp=Z,1µm,1.3s,mb6.2
HAU Haudompre 22.65 75⇑ *iP* **P 08 36 52.9 -0.6**
comp=Z,650nm,1.3s,mb5.9
ODZI Dziouia 22.75 112 P **P 08 37 02.0 +7.4**
ODZI Dziouia 22.75 112 P **P 08 37 02.0 +7.4**
CABF La Chapelle 22.76 79⇑ *iP* **P 08 36 54.2 -0.4**
comp=Z,1µm,1.4s,mb5.8
CABF La Chapelle 22.76 79⇑ *iP* **P 08 36 54.2 -0.4**
comp=Z,1µm,1.4s,mb6.1
CABF La Chapelle 22.76 79⇑ *iP* **P 08 36 54.2 -0.4**
CABF pmax pmax
comp=Z,1µm,1.4s,mb6.1
CABF La Chapelle 22.76 79⇑ *iP* **P 08 36 54.2 -0.4**
comp=Z,563nm,1.4s,mb5.8
OG26 St.-Nazaire-De 22.77 84 *eP* **P 08 36 55.5 +0.7**
OG26 St.-Nazaire-De 22.77 84 *eP* **P 08 36 55.5 +0.7**
BUG Bochum--Univer 22.87 66 *eP* **P 08 36 55.3 -0.4**
comp=Z,404nm,1.3s,mb5.7
RUP Ruppelstein 22.87 71 *eP* **P 08 36 54.4 -1.4**
GRN Grenoble 22.88 82 *eP* **P 08 36 56.0 +0.1**
GRN Grenoble 22.88 82 *eP* **P 08 36 56.0 +0.1**
USTO Oran 22.91 110 P **P 08 36 52.0 -4.3**
USTO Oran 22.91 110 P **P 08 36 52.0 -4.3**
HINF Hinteralfeld 23.02 75⇑ *iP* **P 08 36 56.8 -0.6**
comp=Z,3µm,1.9s,mb6.1
HINF Hinteralfeld 23.02 75⇑ *iP* **P 08 36 56.8 -0.6**
comp=Z,3µm,1.9s,mb6.4
HINF Hinteralfeld 23.02 75⇑ *iP* **P 08 36 56.8 -0.6**
HINF pmax pmax
comp=Z,3µm,1.9s,mb6.4
HINF Hinteralfeld 23.02 75⇑ *iP* **P 08 36 56.8 -0.6**
comp=Z,2µm,1.9s,mb6.1
ORIF Oris-en-Rattie 23.07 83⇑ *iP* **P 08 36 58.4 +0.5**
comp=Z,685nm,1.4s,mb5.6
ORIF *e*R
comp=Z,35µm,22.5s
ORIF Oris-en-Rattie 23.07 83⇑ *iP* **P 08 36 58.4 +0.5**
comp=Z,685nm,1.4s,mb5.9
ORIF Oris-en-Rattie 23.07 83⇑ *iP* **P 08 36 58.4 +0.5**
ORIF pmax pmax
comp=Z,685nm,1.4s,mb5.9
ORIF Oris-en-Rattie 23.07 83⇑ *iP* **P 08 36 58.4 +0.5**
comp=Z,343nm,1.4s,mb5.6
LOMF Lomont 23.10 77 *eP* **P 08 36 57.6 -0.6**
LOMF Lomont 23.10 77 *eP* **P 08 36 57.6 -0.6**
GDM Grand'Maison 23.14 82 *eP* **P 08 36 58.6 -0.1**
GDM Grand'Maison 23.14 82 *eP* **P 08 36 58.6 -0.1**
IBBN Ibbenburen 23.15 64 *eP* **P 08 36 58.1 -0.6**
comp=Z,795nm,1.4s,mb6.0
SMRF Simiane la Rot 23.15 85⇑ *iP* **P 08 36 59.5 +0.7**
comp=Z,2µm,1.9s,mb6.0
SMRF Simiane la Rot 23.15 85⇑ *iP* **P 08 36 59.5 +0.7**
comp=Z,2µm,1.9s,mb6.3
SMRF Simiane la Rot 23.15 85⇑ *iP* **P 08 36 59.5 +0.7**
comp=Z,1µm,1.9s,mb6.0
ECH Echery 23.15 74 *eP* **P 08 36 58.1 -0.7**
comp=Z,781nm,1.6s,mb5.9
ECH LR LR
comp=Z,20µm,19.0s,MS5.6
ECH Echery 23.15 74 *eP* **P 08 36 58.1 -0.6**
ECH pmax pmax
comp=Z,781nm,1.6s,mb5.9
ECH MLR MLR
comp=Z,20µm,19.0s,MS5.6
ECH Echery 23.15 74 *eP* **P 08 36 57.7 -1.0**
ECH Echery 23.15 74 *eP* **P 08 36 57.7 -1.0**
ABH Alteburg 23.17 70 *eP* **P 08 36 58.4 -0.5**
CDF Champ du Feu 23.20 74⇑ *iP* **P 08 36 58.8 -0.4**
comp=Z,2µm,1.8s,mb5.9
CDF Champ du Feu 23.20 74⇑ *iP* **P 08 36 58.8 -0.4**
comp=Z,2µm,1.8s,mb6.2
CDF Champ du Feu 23.20 74⇑ *iP* **P 08 36 58.8 -0.4**
CDF pmax pmax
comp=Z,2µm,1.8s,mb6.2
CDF Champ du Feu 23.20 74⇑ *iP* **P 08 36 58.8 -0.4**
comp=Z,861nm,1.8s,mb5.9
MOF Molkenrain 23.20 75 *eP* **P 08 36 59.1 -0.2**
MOF Molkenrain 23.20 75 *eP* **P 08 36 59.1 -0.2**
OG01 Vacheresse 23.23 79 *eP* **P 08 36 59.4 -0.2**
OG01 Vacheresse 23.23 79 *eP* **P 08 36 59.4 -0.2**
RSL Roselend 23.35 81 *eP* **P 08 37 00.2 -0.7**
RSL Roselend 23.35 81 *eP* **P 08 37 00.2 -0.7**
OG25 Le Caire 23.36 84 *eP* **P 08 37 01.3 +0.3**
OG25 Le Caire 23.36 84 *eP* **P 08 37 01.3 +0.3**
ODJA Bouhanifia 23.41 110 P **P 08 36 54.0 -7.6**
SFJD Kangerlussuaq 23.44 337 *eP* **P 08 37 00.5 -1.1**
comp=Z,209nm,1.3s,mb5.4
SFJD LR LR
comp=Z,17µm,20.0s,MS5.5
SFJD Kangerlussuaq 23.44 337 *i* P **P 08 36 59.9 -1.7**
SFJD pmax pmax
comp=Z,35nm,0.9s,mb4.8
SFJD Kangerlussuaq 23.44 337 *i* P **P 08 36 59.9 -1.7**
comp=Z,35nm,1.0s,mb4.7
SFJD *e*S **S 08 41 22.0 +7.7**
SFJD Kangerlussuaq 23.44 337 *eP* **P 08 37 00.5 -1.1**
comp=Z,209nm,1.3s,mb5.4
LANF Langenberg 23.45 72 *eP* **P 08 37 01.5 -0.4**
LANF Langenberg 23.45 72 *eP* **P 08 37 01.5 -0.4**
LIBD Limburg 23.45 74 *eP* **P 08 37 01.5 -0.4**
LPL La Plagne 23.47 81⇑ *iP* **P 08 37 02.1 -0.1**
comp=Z,473nm,1.6s,mb5.4
LPL La Plagne 23.47 81⇑ *iP* **P 08 37 02.1 -0.1**
comp=Z,473nm,1.6s,mb5.7
LPL La Plagne 23.47 81⇑ *iP* **P 08 37 02.1 -0.1**
LPL pmax pmax
comp=Z,473nm,1.6s,mb5.7
LPL La Plagne 23.47 81⇑ *iP* **P 08 37 02.1 -0.1**
comp=Z,237nm,1.6s,mb5.4
LPG La Plagne 23.49 81⇑ *iP* **P 08 37 02.3 0.0**
comp=Z,673nm,1.7s,mb5.5
LPG La Plagne 23.49 81⇑ *iP* **P 08 37 02.3 0.0**
comp=Z,673nm,1.7s,mb5.8
LPG La Plagne 23.49 81⇑ *iP* **P 08 37 02.3 0.0**
LPG pmax pmax
comp=Z,673nm,1.7s,mb5.8
LPG La Plagne 23.49 81⇑ *iP* **P 08 37 02.3 0.0**
comp=Z,336nm,1.7s,mb5.5
OKGL Djebel Kef Que 23.50 108 P **P 08 37 07.0 +4.5**
OKGL Djebel Kef Que 23.50 108 P **P 08 37 07.0 +4.5**
BBS Basel-Blauen 23.53 76 *eP* **P 08 36 59.8 -2.9**
BNI Bardonecchia 23.57 82 *eP* **P 08 37 03.7 +0.6**
comp=Z,228nm,1.4s,mb5.4
BNI LR LR
comp=Z,25µm,21.0s,MS5.7
BNI Bardonecchia 23.57 82 *eP* **P 08 37 03.7 +0.6**
BNI pmax pmax
comp=Z,228nm,1.4s,mb5.4
BNI MLR MLR
comp=Z,25µm,21.0s,MS5.7
BNI Bardonecchia 23.57 82 *eP* **P 08 37 03.7 +0.6**
comp=Z,25µm,21.0s
OJBR Djebel Berber 23.58 109 P **P 08 37 04.0 +0.7**
OJBR Djebel Berber 23.58 109 P **P 08 37 04.0 +0.7**
SENIN Lac Senin/Sane 23.63 79 *eP* **P 08 37 04.0 +0.3**
comp=Z,2µm,2.6s,mb6.1
SENIN Lac Senin/Sane 23.63 79 *eP* **P 08 37 04.0 +0.3**
comp=Z,2µm,2.6s,mb6.1
SCO Scoresbysund 23.68 4 *i* P **P 08 37 03.9 0.0**
SCO pmax pmax
comp=Z,25nm,0.9s,mb4.6
SCO MLR MLR
comp=Z,5µm,14.0s,MS5.1
SCO Scoresbysund 23.68 4 *i* P **P 08 37 03.9 0.0**
comp=Z,25nm,0.9s,mb4.7
SCO
comp=Z,5µm,14.0s
SCO Scoresbysund 23.68 4 *i* P **P 08 37 03.9 0.0**
comp=Z,5µm,14.0s
TNS Taunus Mts 23.71 69 *eP* **P 08 37 04.3 0.0**
comp=Z,151nm,1.4s,mb5.2
TNS Taunus Mts 23.71 69 *eP* **P 08 37 04.3 0.0**
TNS pmax pmax
comp=Z,151nm,1.4s,mb5.2
TNS Taunus Mts 23.71 69 *eP* **P 08 37 04.3 0.0**
comp=Z,151nm,1.4s,mb5.2
MBDF Montbardon 23.73 83⇑ *iP* **P 08 37 04.0 -0.6**
comp=Z,959nm,1.7s,mb5.6
MBDF Montbardon 23.73 83⇑ *iP* **P 08 37 04.0 -0.6**
comp=Z,959nm,1.7s,mb6.0
MBDF Montbardon 23.73 83⇑ *iP* **P 08 37 04.0 -0.6**
MBDF pmax pmax
comp=Z,959nm,1.7s,mb6.0
MBDF Montbardon 23.73 83⇑ *iP* **P 08 37 04.0 -0.6**
comp=Z,479nm,1.7s,mb5.6
FELD Feldberg im Sc 23.77 75 *eP* **P 08 37 04.3 -0.6**
SURF Saint Ours 23.83 84 *eP* **P 08 37 06.2 +0.7**
SURF Saint Ours 23.83 84 *eP* **P 08 37 06.2 +0.7**
EANR 'Ain N'Sour 23.85 107 P **P 08 37 06.4 +0.6**
EANR 'Ain N'Sour 23.85 107 P **P 08 37 06.4 +0.6**
MAHO Mahon 23.88 96 *i* P **P 08 37 07.6 +1.6**
MAHO *e*S **S 08 41 29.5 +7.6**
BFO Black Forest 23.90 74 *eP* **P 08 37 05.3 -0.8**
comp=Z,400nm,2.3s,mb5.4
BFO Black Forest 23.90 74 *eP* **P 08 37 05.5 -0.6**
comp=Z,608nm,2.1s,mb5.7
BFO LR LR
comp=Z,22µm,20.0s,MS5.6
BFO Black Forest 23.90 74 *eP* **P 08 37 05.3 -0.8**
BFO pmax pmax
comp=Z,400nm,2.3s,mb5.4
BFO Black Forest 23.90 74 P **P 08 37 05.3 -0.8**
comp=Z,381nm,2.5s,mb5.4,SNR=14
BFO Black Forest 23.90 74 *eP* **P 08 37 05.5 -0.6**
comp=Z,608nm,2.1s,mb5.7
ECHA Ech Chlef 23.91 107 P **P 08 37 09.8 +3.5**
ECHA Ech Chlef 23.91 107 P **P 08 37 09.8 +3.5**
EBNR Beni Rached 23.93 106 P **P 08 37 07.3 +0.8**
EBNR Beni Rached 23.93 106 P **P 08 37 07.3 +0.8**
LMR La Mourre 24.01 86⇑ *iP* **P 08 37 07.0 -0.1**
comp=Z,936nm,1.8s,mb5.6
LMR La Mourre 24.01 86⇑ *iP* **P 08 37 07.0 -0.1**
comp=Z,936nm,1.8s,mb5.9
LMR La Mourre 24.01 86⇑ *iP* **P 08 37 07.0 -0.1**
LMR pmax pmax
comp=Z,936nm,1.8s,mb5.9
LMR La Mourre 24.01 86⇑ *iP* **P 08 37 07.0 -0.1**
comp=Z,468nm,1.8s,mb5.6
TOD Tromm 24.01 70 *eP* **P 08 37 06.7 -0.4**
FRF La Foret Royal 24.02 86⇑ *iP* **P 08 37 07.3 0.0**
comp=Z,1µm,1.9s,mb5.6
FRF La Foret Royal 24.02 86⇑ *iP* **P 08 37 07.3 0.0**
comp=Z,1µm,1.9s,mb5.9
FRF La Foret Royal 24.02 86⇑ *iP* **P 08 37 07.3 0.0**
FRF pmax pmax
comp=Z,1µm,1.9s,mb5.9
FRF La Foret Royal 24.02 86⇑ *iP* **P 08 37 07.3 0.0**
comp=Z,502nm,1.9s,mb5.6
CALN Calern 24.12 85 *eP* **P 08 37 09.2 +1.0**
CALN Calern 24.12 85 *eP* **P 08 37 09.2 +1.0**
MUD Monsted U'grnd 24.22 54 *i* P **P 08 37 11.2 +2.3**
MUD pmax pmax
comp=Z,96nm,0.9s,mb5.2
MUD MLR MLR
comp=Z,13µm,18.0s,MS5.5
MUD Monsted U'grnd 24.22 54 *i* P **P 08 37 11.2 +2.3**
comp=Z,96nm,0.9s,mb5.2
MUD
comp=Z,13µm,18.0s
MUD Monsted U'grnd 24.22 54 *i* P **P 08 37 11.2 +2.3**
comp=Z,13µm,18.0s
SPAK Spaichingen-Ko 24.24 74 *eP* **P 08 37 08.3 -1.0**
MVIF Mont Vial 24.25 85 *eP* **P 08 37 09.8 +0.4**
MVIF Mont Vial 24.25 85 *eP* **P 08 37 09.8 +0.4**
TOUF Mont Tournerai 24.28 84 *eP* **P 08 37 10.4 +0.8**
TOUF Mont Tournerai 24.28 84 *eP* **P 08 37 10.4 +0.8**
ETRT Tiaret 24.31 108 P **P 08 37 10.2 +0.2**
ETRT Tiaret 24.31 108 P **P 08 37 10.2 +0.2**
STU Stuttgart 24.39 72 *eP* **P 08 37 10.1 -0.5**
comp=Z,188nm,1.2s,mb5.4
STU Stuttgart 24.39 72 *eP* **P 08 37 11.2 +0.6**
comp=Z,168nm,1.1s,mb5.4
STU Stuttgart 24.39 72 *eP* **P 08 37 11.2 +0.6**
STU pmax pmax
comp=Z,168nm,1.1s,mb5.4
STU Stuttgart 24.39 72 *eP* **P 08 37 11.2 +0.6**
comp=Z,168nm,1.1s,mb5.4
AUTN L'Aution 24.41 84 *eP* **P 08 37 11.9 +1.1**
AUTN L'Aution 24.41 84 *eP* **P 08 37 11.9 +1.1**
REVF Revere 24.45 85 *eP* **P 08 37 10.6 -0.6**
REVF Revere 24.45 85 *eP* **P 08 37 10.6 -0.6**
SBF Sospel 24.46 85⇑ *iP* **P 08 37 11.5 +0.3**
comp=Z,464nm,1.2s,mb5.5
SBF Sospel 24.46 85⇑ *iP* **P 08 37 11.5 +0.3**
comp=Z,464nm,1.2s,mb5.8
SBF Sospel 24.46 85⇑ *iP* **P 08 37 11.5 +0.3**
SBF pmax pmax
comp=Z,464nm,1.2s,mb5.8
SBF Sospel 24.46 85⇑ *iP* **P 08 37 11.5 +0.3**
comp=Z,232nm,1.2s,mb5.5
SAOF Saorge 24.50 84 *eP* **P 08 37 12.5 +0.9**
SAOF Saorge 24.50 84 *eP* **P 08 37 12.5 +0.9**
NRDL Niedersach Rie 24.58 63 *eP* **P 08 37 12.3 0.0**
comp=Z,309nm,1.2s,mb5.7
UBBA Unterbreizbach 24.63 67 *eP* **P 08 37 13.4 +0.6**
BSEG Bad Segeberg 24.69 60 *eP* **P 08 37 14.4 +1.1**
comp=Z,786nm,1.2s,mb6.1
BSEG Bad Segeberg 24.69 60 *eP* **P 08 37 14.4 +1.1**
BSEG pmax pmax
comp=Z,786nm,1.2s,mb6.1
BSEG Bad Segeberg 24.69 60 *eP* **P 08 37 14.4 +1.1**
comp=Z,786nm,1.2s,mb6.1
CLZ Clausthal 24.78 65 *eP* **P 08 37 14.7 +0.6**
comp=Z,381nm,1.4s,mb5.7
CLZ Clausthal 24.78 65 *eP* **P 08 37 14.7 +0.6**
CLZ pmax pmax
comp=Z,381nm,1.4s,mb5.7
CLZ Clausthal 24.78 65 *eP* **P 08 37 14.7 +0.6**
comp=Z,381nm,1.4s,mb5.7
TUE Stuetta 24.98 78 *eP* **P 08 37 16.8 +0.9**
comp=Z,341nm,1.4s,mb5.7
TUE LR LR
comp=Z,18µm,21.0s,MS5.6
TUE Stuetta 24.98 78 *eP* **P 08 37 16.8 +0.8**
comp=Z,341nm,1.4s,mb5.7
KONO Kongsberg 25.03 46 *eP* **P 08 37 18.4 +2.1**
comp=Z,172nm,1.0s,mb5.5
KONO LR LR
comp=Z,6µm,21.0s,MS5.1
KONO Kongsberg 25.03 46 *eP* **P 08 37 18.4 +2.1**
KONO pmax pmax
comp=Z,172nm,1.0s,mb5.5
KONO MLR MLR
comp=Z,6µm,21.0s,MS5.1
KONO Kongsberg 25.03 46 *eP* **P 08 37 18.4 +2.1**
comp=Z,6µm,21.0s
DAVA Damuels 25.14 76⇑ *iP* **P 08 37 17.9 +0.5**
comp=Z,321nm,1.3s,mb5.7,SNR=65
DAVOX Davos/Dischmat 25.26 77 P **P 08 37 19.9 +1.4**
comp=Z,80nm,0.9s,mb5.2,baz=288,slow=12,SNR=52
DAVOX LR LR 08 46 20.9
comp=Z,16µm,19.0s,MS5.5,baz=286,slow=34
DAVOX Davos/Dischmat 25.26 77 P **P 08 37 19.9 +1.4**
DAVOX Davos/Dischmat 25.26 77 P **P 08 37 19.9 +1.4**
DAVOX Davos/Dischmat 25.26 77 P **P 08 37 19.9 +1.4**
GRFO Grafenberg 25.55 70 *eP* **P 08 37 22.2 +1.1**
comp=Z,658nm,1.7s,mb5.9
GRFO Grafenberg 25.55 70 *eP* **P 08 37 22.2 +1.1**
GRFO pmax pmax
comp=Z,658nm,1.7s,mb5.9
GRFO Grafenberg 25.55 70 *eP* **P 08 37 22.2 +1.1**
comp=Z,658nm,1.7s,mb5.9
FUORN Ofenpass-Fuorn 25.55 77 *eP* **P 08 37 23.3 +2.1**
comp=Z,208nm,1.4s,mb5.5
FUORN Ofenpass-Fuorn 25.55 77 *eP* **P 08 37 23.3 +2.1**
comp=Z,208nm,1.4s,mb5.5
GRA1 Grafenberg Arr 25.55 70 *eP* **P 08 37 22.3 +1.1**
comp=Z,27µm,19.8s
GRF Grafenberg Arr 25.55 70 *eP* **P 08 37 22.3 +1.1**
comp=Z,248nm,1.2s,mb5.6
GRF *e*L 08 46 35.5
comp=Z,27µm,19.8s
GRF Grafenberg Arr 25.55 70 *eP* **P 08 37 22.3 +1.1**
GRF pmax pmax
comp=Z,248nm,1.2s,mb5.6
GRF MLR MLR
comp=Z,27µm,19.8s,MS5.8
MOX Moxa 25.67 67 *eP* **P 08 37 23.1 +0.9**
comp=Z,109nm,1.2s,mb5.3
MOX Moxa 25.67 67 *eP* **P 08 37 23.1 +0.9**
MOX pmax pmax
comp=Z,109nm,1.2s,mb5.3
MOX Moxa 25.67 67 *eP* **P 08 37 23.1 +0.9**
comp=Z,109nm,1.2s,mb5.3
RETA Reutte 25.68 75⇑ *iP* **P 08 37 23.5 +1.2**
comp=Z,81nm,1.6s,mb5.0,SNR=17
JMIC Jan Mayen 25.68 14 P **P 08 37 25.2 +3.1**
comp=Z,49nm,0.4s,mb5.4,baz=137,slow=9.2,SNR=3.8
JMIC LR LR 08 45 09.8
comp=Z,4µm,18.2s,MS5.0,baz=196,slow=31
JMIC Jan Mayen 25.68 14 P **P 08 37 25.2 +3.1**
FETA Feichten 25.76 76 *iP* **P 08 37 24.1 +1.0**
SNR=80
SCHQ Schefferville 25.83 302 P **P 08 37 23.1 -0.5**
comp=Z,40nm,0.8s,mb5.0,baz=91,slow=8.5,SNR=24
SCHQ LR LR 08 45 32.2
comp=Z,17µm,20.8s,MS5.6,baz=80,slow=32
SCHQ Schefferville 25.83 302 *eP* **P 08 37 22.9 -0.7**
comp=Z,50nm,0.9s,mb5.0
SCHQ Schefferville 25.83 302 *eP* **P 08 37 22.9 -0.7**
comp=Z,50nm,0.9s,mb5.0
FUR Furstenfeldbru 25.86 73 *eP* **P 08 37 23.4 -0.6**
comp=Z,874nm,2.2s,mb5.9
FUR Furstenfeldbru 25.86 73 *eP* **P 08 37 23.4 -0.6**
FUR pmax pmax
comp=Z,874nm,2.2s,mb5.9
FUR Furstenfeldbru 25.86 73 *eP* **P 08 37 23.4 -0.6**
comp=Z,874nm,2.2s,mb5.9
MOTA Moosalm 25.93 75⇑ *i*sP sP 08 37 25.1 -3.8
comp=Z,76nm,1.1s,SNR=21
NAO01 NORSAR Array S 25.95 44 *eP* **P 08 37 24.8 +0.2**
comp=Z,28nm,0.9s,mb4.8
NAO01 LR LR
comp=Z,10µm,20.0s,MS5.3
NAO01 NORSAR Array S 25.95 44 *eP* **P 08 37 24.8 +0.2**
comp=Z,28nm,0.9s,mb4.8
COP Copenhagen 25.97 56 *i* P **P 08 37 26.9 +2.0**
COP *e*S **S 08 42 01.1 +6.0**
COP pmax pmax
comp=Z,130nm,1.1s,mb5.4
COP MLR MLR
comp=Z,5µm,16.0s,MS5.2
COP Copenhagen 25.97 56 *i* P **P 08 37 26.9 +2.0**
comp=Z,126nm,1.1s,mb5.4
COP *e*S **S 08 42 01.1 +6.0**
COP
comp=Z,5µm,16.0s
COP Copenhagen 25.97 56 *i* P **P 08 37 26.9 +2.0**
comp=Z,130nm,1.1s,mb5.4
PGF Pioggiola 26.00 87⇑ *iP* **P 08 37 25.6 +0.4**
comp=Z,666nm,1.6s,mb5.6
PGF Pioggiola 26.00 87⇑ *iP* **P 08 37 25.6 +0.4**
comp=Z,666nm,1.6s,mb5.9
PGF Pioggiola 26.00 87⇑ *iP* **P 08 37 25.6 +0.4**
PGF pmax pmax
comp=Z,667nm,1.6s,mb5.9
PGF Pioggiola 26.00 87⇑ *iP* **P 08 37 25.6 +0.4**
comp=Z,333nm,1.6s,mb5.6
NB2 NORSAR Subarra 26.16 43 P **P 08 37 26.1 -0.4**
comp=Z,1.3nm,0.8s,SNR=4.6
NOA NORSAR Array B 26.16 43 P **P 08 37 26.2 -0.3**
comp=Z,30nm,0.9s,mb4.8,baz=254,slow=9.4,SNR=20
NOA LR LR 08 46 21.0
comp=Z,6µm,21.4s,MS5.1,baz=260,slow=33
NOA NORSAR Array B 26.16 43 P **P 08 37 26.2 -0.3**
NOA NORSAR Array B 26.16 43 P **P 08 37 26.2 -0.3**
NOA pmax pmax
comp=Z,30nm,1.0s
NOA MLR MLR
comp=Z,6µm,21.5s
NOA NORSAR Array B 26.16 43 P **P 08 37 26.2 -0.3**
comp=Z,6µm,21.5s
SUMG Summit 26.16 352 *eP* **P 08 37 26.4 0.0**
comp=Z,156nm,1.0s,mb5.5
SUMG Summit 26.16 352 *eP* **P 08 37 26.4 0.0**
SUMG pmax pmax
comp=Z,156nm,1.0s
SUMG Summit 26.16 352 *i* P **P 08 37 26.9 +0.5**
comp=Z,98nm,0.9s,mb5.3
SUMG Summit 26.16 352 *eP* **P 08 37 26.4 0.0**
comp=Z,156nm,1.0s,mb5.5
ROTZ Rotzenmuhle 26.17 69 *eP* **P 08 37 28.4 +1.6**
comp=Z,3µm,4.8s
TANN Tannenbergstha 26.24 68 *eP* **P 08 37 28.8 +1.5**
comp=Z,347nm,2.3s,mb5.5
WATA Walderalm 26.25 75⇑ *i*sP sP 08 37 27.9 -3.9
comp=Z,114nm,1.3s,SNR=17
NKC Novy Kostel 26.25 68 *eP* **P 08 37 27.9 +0.4**
NKC MLR MLR
comp=Z,11µm,14.0s,MS5.5
NKC Novy Kostel 26.25 68 *eP* **P 08 37 27.9 +0.4**
NKC AMS AMS 08 48 40.0
comp=Z,11µm,14.0s
NKC Novy Kostel 26.25 68 *eP* **P 08 37 27.9 +0.4**
comp=Z,11µm,14.0s
WTTA Wattenberg 26.30 75⇑ *i*sP sP 08 37 28.5 -3.7
comp=Z,217nm,1.3s,SNR=31
CLL Collm 26.46 66 *eP* **P 08 37 30.9 +1.5**
comp=Z,236nm,1.6s,mb5.5
CLL Collm 26.46 66 *eP* **P 08 37 29.0 -0.4**
CLL *e*S **S 08 42 08.0 +5.1**
CLL pmax pmax
comp=Z,648nm,2.3s,mb5.8
CLL MLR MLR
comp=Z,10µm,21.9s,MS5.3
CLL Collm 26.46 66 *eP* **P 08 37 29.0 -0.4**
comp=Z,648nm,2.3s,mb5.8
CLL *e*PP 08 38 08.0
CLL *e*S **S 08 42 08.0 +5.1**
CLL LmV 08 46 00.0
comp=Z,10µm,21.9s
CLL Collm 26.46 66 *eP* **P 08 37 29.0 -0.4**
comp=Z,648nm,2.3s,mb5.8
SET Setif 26.55 102 P **P 08 37 39.0 +8.7**
SET Setif 26.55 102 P **P 08 37 39.0 +8.7**
WET Wettzell 26.71 70 *eP* **P 08 37 33.0 +1.4**
comp=Z,299nm,1.8s,mb5.5
WET Wettzell 26.71 70 *eP* **P 08 37 33.0 +1.4**
WET pmax pmax
comp=Z,299nm,1.8s,mb5.5
WET Wettzell 26.71 70 *eP* **P 08 37 33.0 +1.4**
comp=Z,299nm,1.8s,mb5.5
CKHR Kef el Ahmar 26.73 102 P **P 08 37 32.0 +0.1**
CKHR Kef el Ahmar 26.73 102 P **P 08 37 32.0 +0.1**
RUE Ruedersdorf 26.82 63 *eP* **P 08 37 35.6 +2.9**
comp=Z,219nm,1.0s,mb5.6
RJOB Jochberg 26.96 74 *eP* **P 08 37 36.3 +2.4**
ABTA Abfaltersbach 27.02 76 *i*sP sP 08 37 35.5 -3.2
comp=Z,76nm,1.2s,SNR=15
BRG Berggiesshubel 27.11 66 *i* P **P 08 37 35.6 +0.4**
comp=Z,113nm,1.3s,mb5.2
BRG *e* pP 08 37 40.0 +1.7
comp=Z,486nm,1.9s
BRG
comp=Z,16µm,14.9s
BRG
comp=N,10µm,16.0s
BRG
comp=E,12µm,16.0s
BRG Berggiesshubel 27.11 66 *eP* **P 08 37 36.2 +1.0**
comp=Z,538nm,2.0s,mb5.7
BRG Berggiesshubel 27.11 66 *i* P **P 08 37 35.6 +0.4**
BRG *e* pP 08 37 40.0 +1.8
BRG pmax pmax
comp=Z,113nm,1.3s,mb5.2
BRG pmax pmax
comp=Z,486nm,1.9s,mb5.7
BRG MLR MLR
comp=Z,16µm,14.9s,MS5.7
BRG MLR MLR
comp=N,10µm,16.0s,MS5.7
BRG MLR MLR
comp=E,12µm,16.0s,MS5.7
BRG Berggiesshubel 27.11 66 *i* P **P 08 37 35.6 +0.4**
comp=E,113nm,1.3s,mb5.2
HFS Hagfors 27.15 46 P **P 08 37 36.3 +0.8**
comp=E,18nm,1.0s,mb4.6,baz=248,slow=7.8,SNR=9.4
HFS LR LR 08 47 20.8

comp=E,5μm,18.4s,MS5.1,baz=252,slow=34
HFS Hagfors 27.15 46 P **P 08 37 36.3 +0.8**
HFS Hagfors 27.15 46 P **P 08 37 36.3 +0.8**
HFS pmax pmax
comp=Z,18nm,1.0s
HFS MLR MLR
comp=Z,5μm,18.4s
HFS Hagfors 27.15 46 P **P 08 37 36.3 +0.8**
comp=Z,5μm,18.4s
KHC Kasperske Hory 27.17 70 *e*P **P 08 37 35.8 +0.1**
comp=Z,189nm,1.5s,mb5.4
KHC Kasperske Hory 27.17 70 *e*P **P 08 37 36.1 +0.4**
KHC MLR MLR
comp=Z,24μm,16.0s,MS5.9
KHC Kasperske Hory 27.17 70 *e*P **P 08 37 36.1 +0.4**
KHC *ex* x 08 38 11.5
KHC AMS AMS 08 48 00.0
comp=Z,24μm,16.0s
KHC Kasperske Hory 27.17 70 *e*P **P 08 37 35.8 +0.1**
comp=Z,189nm,1.5s,mb5.4
CAEH 'Ain El Ouahch 27.20 100 P **P 08 37 39.1 +2.9**
CAEH 'Ain El Ouahch 27.20 100 P **P 08 37 39.1 +2.9**
CASM Ain Smara 27.25 101 P **P 08 37 39.3 +2.7**
CASM Ain Smara 27.25 101 P **P 08 37 39.3 +2.7**
GEC2 GERESS Array S 27.30 71 *e*P **P 08 37 38.0 +1.0**
comp=Z,724nm,2.6s,mb5.7
GEC2 GERESS Array S 27.30 71 *e*P **P 08 37 38.0 +1.0**
GEC2 pmax pmax
comp=Z,724nm,2.6s,mb5.7
GEC2 GERESS Array S 27.30 71 *e*P **P 08 37 38.0 +1.0**
comp=Z,724nm,2.6s,mb5.7
GERES GERESS Array B 27.30 71 P **P 08 37 36.7 -0.2**
comp=Z,40nm,1.2s,mb4.8,baz=282,slow=8.1,SNR=46
GERES LR LR 08 48 13.6
comp=Z,24μm,18.1s,MS5.8,baz=267,slow=36
GERES GERESS Array B 27.30 71 P **P 08 37 36.7 -0.2**
GERES GERESS Array B 27.30 71 P **P 08 37 36.7 -0.3**
GERES pmax pmax
comp=Z,40nm,1.2s
GERES MLR MLR
comp=Z,24μm,18.1s
GERES GERESS Array B 27.30 71 P **P 08 37 36.7 -0.3**
comp=Z,24μm,18.1s
CKFL Kef-Lekhel 27.32 100 P **P 08 37 40.1 +2.8**
CKFL Kef-Lekhel 27.32 100 P **P 08 37 40.1 +2.8**
BSD Bornholm Skovb 27.37 57 *i* P **P 08 37 38.1 +0.6**
BSD pmax pmax
comp=Z,52nm,1.0s,mb5.0
BSD MLR MLR
comp=Z,6μm,20.0s,MS5.2
BSD Bornholm Skovb 27.37 57 *i* P **P 08 37 38.1 +0.6**
comp=Z,52nm,1.0s,mb5.0
BSD
comp=Z,6μm,20.0s
BSD Bornholm Skovb 27.37 57 *i* P **P 08 37 38.1 +0.6**
comp=Z,6μm,20.0s
KBA Koelnbreinsper 27.48 75⇑*i*sP sP 08 37 38.6 -4.3
comp=Z,153nm,2.0s
PRA Prague 27.54 68 P **P 08 37 40.0 +0.9**
PRA S **S 08 42 24.0 +4.0**
PRA AMS AMS 08 46 00.0
PVCC Panska Ves 27.55 67 *e*P **P 08 37 40.3 +1.1**
PVCC MLR MLR
comp=Z,10μm,15.3s,MS5.5
PVCC Panska Ves 27.55 67 *e*P **P 08 37 40.3 +1.1**
PVCC AMS AMS 08 48 20.0
comp=Z,10μm,15.3s
PVCC Panska Ves 27.55 67 *e*P **P 08 37 40.3 +1.1**
comp=Z,10μm,15.3s
VSL Villasalto 27.55 92 PFAKE 08 37 50.0 +11
VSL LR LR
comp=Z,6μm,22.0s,MS5.1
PRU Pruhonice 27.62 68 *e*P **P 08 37 41.1 +1.3**
PRU *e* pP 08 37 45.5 +2.6
PRU MLR MLR
comp=Z,20μm,20.9s,MS5.7
PRU Pruhonice 27.62 68 *e*P **P 08 37 41.1 +1.3**
PRU *e*pP pP 08 37 45.5 +2.6
PRU AMS AMS 08 47 30.0
comp=Z,20μm,20.9s
PRU Pruhonice 27.62 68 *e*P **P 08 37 41.1 +1.3**
comp=Z,20μm,20.9s
MYKA Terra Mystica 27.80 76⇑*i*sP sP 08 37 41.3 -4.4
comp=Z,144nm,1.4s
MOA Molln 27.89 73⇓*i*sP sP 08 37 42.1 -4.5
comp=Z,65nm,1.5s,SNR=12
CADS Cadrg 27.97 76 *i* P **P 08 37 43.6 +0.6**
FRB Frobisher Bay 28.12 322 P **P 08 37 43.3 -0.8**
comp=Z,21nm,0.8s,mb4.8,baz=103,slow=8.2,SNR=33
FRB LR LR 08 46 04.3
comp=Z,10μm,19.8s,MS5.4,baz=106,slow=30
FRB Frobisher Bay 28.12 322 P **P 08 37 43.3 -0.8**
FRB Frobisher Bay 28.12 322 P **P 08 37 43.3 -0.8**
FRB pmax pmax
comp=Z,21nm,0.8s
FRB Frobisher Bay 28.12 322 P **P 08 37 43.3 -0.8**
comp=Z,21nm,0.8s,mb4.8
VOY Vojsko 28.13 77 *e*P **P 08 37 41.9 -2.5**
VOY *e* pP 08 37 45.7 -1.8
TRI Trieste 28.14 77 *e*P **P 08 37 44.9 +0.4**
comp=Z,179nm,1.5s,mb5.5
TRI LR LR
comp=Z,12μm,20.0s,MS5.5
TRI Trieste 28.14 77 *e*P **P 08 37 44.9 +0.4**
TRI pmax pmax
comp=Z,179nm,1.5s,mb5.5
TRI MLR MLR
comp=Z,12μm,20.0s,MS5.5
TRI Trieste 28.14 77 *e*P **P 08 37 44.9 +0.4**
comp=Z,12μm,20.0s
TREC Trest 28.36 69 *e*P **P 08 37 47.9 +1.5**
TREC *e* pP 08 37 51.9 +2.5
TREC MLR MLR
comp=Z,28μm,20.2s,MS5.8
TREC Trest 28.36 69 *e*P **P 08 37 47.9 +1.5**
TREC *e*pP pP 08 37 51.9 +2.5
TREC AMS AMS 08 48 00.0
comp=Z,28μm,20.2s
TREC Trest 28.36 69 *e*P **P 08 37 47.9 +1.5**
comp=Z,28μm,20.2s
OBKA Obir 28.43 75⇑*i*pP pP 08 37 46.5 -3.6
comp=Z,119nm,1.3s,SNR=18
UPC Upice 28.46 67 *e*P **P 08 37 48.3 +1.0**
UPC Upice 28.46 67 *e*P **P 08 37 48.3 +1.0**
UPC Upice 28.46 67 *e*P **P 08 37 48.3 +1.0**
LJU Ljubljana 28.55 76 *e*P **P 08 37 48.9 +0.8**
CEY Cerknica 28.58 77 *i* P **P 08 37 49.2 +0.9**
KSP Ksiaz 28.58 66 *e*P **P 08 37 49.5 +1.1**
KSP *e*S **S 08 42 38.2 +1.9**
KSP LMZ 08 46 45.5
comp=Z,11μm,25.6s
KSP Ksiaz 28.58 66 *e*P **P 08 37 48.5 +0.1**
KSP *e*pP pP 08 37 49.4 -2.0
KSP *e*PcP PcP 08 40 59.1 -0.1
KSP LM 08 49 38.0
comp=Z,34nm,17.0s
KSP Ksiaz 28.58 66 *e*P **P 08 37 48.5 +0.1**
KSP *e**PP pP 08 37 49.4 -2.0
KSP *e* 08 40 59.1
KSP MLR MLR
comp=Z,34μm,17.0s,MS6.0
KSP Ksiaz 28.58 66 *e*P **P 08 37 48.5 +0.1**
KSP Ksiaz 28.58 66 *e*PcP PcP 08 40 59.1 -0.1
comp=Z,34μm,17.0s
DPC Dobruska-Polom 28.69 67 *e*P **P 08 37 49.5 +0.2**
DPC Dobruska-Polom 28.69 67 *e*P **P 08 37 49.4 +0.1**
DPC *e* 08 37 54.6
DPC MLR MLR
comp=Z,11μm,23.8s,MS5.4
DPC Dobruska-Polom 28.69 67 *e*P **P 08 37 49.5 +0.2**
DPC Dobruska-Polom 28.69 67 *e*P **P 08 37 49.4 +0.1**
DPC *ex* x 08 37 54.6
DPC AMS AMS 08 47 20.0
comp=Z,11μm,23.8s
DPC Dobruska-Polom 28.69 67 *e*P **P 08 37 49.5 +0.2**
SOKA Soboth 28.70 75⇑*i*P **P 08 37 48.3 -1.2**
comp=Z,63nm,1.1s,mb5.2
PERS Pernice 28.77 75 *e*P **P 08 37 49.9 -0.2**
VISS Visnje 28.83 77 *e*P **P 08 37 51.1 +0.5**
GKP Gorka Klasztor 28.84 61 *e*P **P 08 37 51.7 +1.1**
GKP *e*S **S 08 42 35.2 -5.1**
GKP LMZ 08 47 59.8
comp=Z,19μm,23.0s
GKP Gorka Klasztor 28.84 61 *e*P **P 08 37 51.7 +1.1**
GKP *e*S **S 08 42 35.2 -5.1**
GKP MLR MLR
comp=Z,19μm,23.0s,MS5.7
GKP Gorka Klasztor 28.84 61 *e*P **P 08 37 51.7 +1.1**
comp=Z,19μm,23.0s
ARSA Arzberg 28.87 74⇑*i*sP sP 08 37 50.7 -4.5
comp=Z,155nm,1.4s,SNR=29
PKME Peaks-Kenny Pk 28.90 282 *e*P **P 08 37 50.6 -0.7**
comp=Z,254nm,1.6s,mb5.7
PKME LR LR
comp=Z,20μm,19.0s,MS5.7
PKME Peaks-Kenny Pk 28.90 282 *e*P **P 08 37 50.6 -0.7**
comp=Z,254nm,1.6s,mb5.7
CONA Conrad Observa 28.91 72⇑*i*sP sP 08 37 51.3 -4.4
comp=Z,78nm,1.8s,SNR=23
KRLC Kraliky 29.03 67 *e*P **P 08 37 54.1 +1.8**
VRAC Vranov 29.07 69 P **P 08 37 53.1 +0.4**
comp=Z,26nm,1.2s,mb4.8,baz=278,slow=12,SNR=16
VRAC LR LR 08 49 11.2
comp=Z,29μm,18.8s,MS5.9,baz=263,slow=36
VRAC Vranov 29.07 69 P **P 08 37 53.1 +0.4**
VRAC Vranov 29.07 69⇑P **P 08 37 53.5 +0.8**
VRAC Vranov 29.07 69⇑*i*P **P 08 37 53.5 +0.8**
VRAC Vranov 29.07 69 P **P 08 37 53.5 +0.8**
AQU L'Aquila 29.07 84 *e*P **P 08 37 53.4 +0.6**
comp=Z,133nm,1.1s,mb5.6
AQU LR LR
comp=Z,21μm,21.0s,MS5.7
AQU L'Aquila 29.07 84⇓P **P 08 37 54.6 +1.8**
AQU L'Aquila 29.07 84⇓*i*P **P 08 37 54.6 +1.8**
AQU L'Aquila 29.07 84 *e*P **P 08 37 53.4 +0.6**
comp=Z,133nm,1.1s,mb5.6
SOP Sopron 29.43 72⇓*e*P **P 08 37 57.2 +1.3**
KEST Kesra 29.46 99 P **P 08 37 56.2 -0.2**
comp=Z,28nm,0.9s,mb5.0,baz=241,slow=2.2,SNR=30
KEST LR LR 08 48 54.4
comp=Z,11μm,18.5s,MS5.5,baz=247,slow=35
KEST Kesra 29.46 99 *e*P **P 08 37 56.0 -0.3**
KEST Kesra 29.46 99 *e*P **P 08 37 56.0 -0.3**
MORC Moravsky Berou 29.57 68 *e*P **P 08 37 57.5 +0.4**
comp=Z,84nm,1.4s,mb5.3
MORC Moravsky Berou 29.57 68⇓P **P 08 37 58.2 +1.1**
MORC Moravsky Berou 29.57 68⇓*i*P **P 08 37 58.2 +1.1**
MORC Moravsky Berou 29.57 68 *e*P **P 08 37 57.5 +0.4**
comp=Z,84nm,1.4s,mb5.3
RAC Raciborz 29.92 67 *e*P **P 08 38 00.5 +0.3**
RAC MLR MLR
comp=E,13μm,20.0s,MS5.7
RAC MLR MLR
comp=Z,11μm,18.0s,MS5.5
RAC MLR MLR
comp=N,7μm,14.0s,MS5.7
RAC Raciborz 29.92 67 *e*P **P 08 38 00.5 +0.3**
comp=N,7μm,14.0s
OKC Ostrava-Krasne 29.94 68 *e*P **P 08 38 01.4 +1.0**
OKC MLR MLR
comp=Z,15μm,18.0s,MS5.7
OKC Ostrava-Krasne 29.94 68 *e*P **P 08 38 01.4 +1.0**
OKC AMS AMS 08 49 20.0
comp=Z,15μm,18.0s
OKC Ostrava-Krasne 29.94 68 *e*P **P 08 38 01.4 +1.0**
comp=Z,15μm,18.0s
DAG Danmarks Havn 30.07 4 *i* P **P 08 38 01.4 +0.1**
DAG pmax pmax
comp=Z,16nm,0.9s,mb4.8
DAG MLR MLR
comp=Z,3μm,15.0s,MS5.1
DAG Danmarks Havn 30.07 4 *i* P **P 08 38 01.4 +0.1**
comp=Z,19nm,0.9s,mb4.8
DAG
comp=Z,3μm,15.0s
DAG Danmarks Havn 30.07 4 *i* P **P 08 38 01.4 +0.1**
comp=Z,3μm,15.0s
KOLL Kolacno 30.39 70 *e*P **P 08 38 05.8 +1.4**
KOLL Kolacno 30.39 70 *e*P **P 08 38 05.8 +1.4**
KOLL Kolacno 30.39 70 *e*P **P 08 38 05.8 +1.4**
VYHS Vyhne 30.70 70 *e*P **P 08 38 07.9 +0.8**
VYHS pmax pmax
comp=Z,272nm,2.6s,mb5.6
VYHS Vyhne 30.70 70 *e*P **P 08 38 07.9 +0.8**
VYHS *e*S **S 08 43 08.9 -0.6**
VYHS Vyhne 30.70 70 *e*P **P 08 38 07.9 +0.8**
comp=Z,272nm,2.6s,mb5.6
OJC Ojcow 30.90 66 *e*P **P 08 38 09.1 +0.2**
OJC *e*S **S 08 43 13.3 +0.6**
OJC L 08 48 54.8
comp=Z,11nm,23.3s
OJC Ojcow 30.90 66 *e*P **P 08 38 10.1 +1.3**
comp=Z,142nm,1.5s,mb5.6
OJC Ojcow 30.90 66 *e*P **P 08 38 09.1 +0.2**
OJC *e*S **S 08 43 13.3 +0.6**
OJC MLR MLR
comp=Z,11μm,23.3s,MS5.4
OJC Ojcow 30.90 66 *e*P **P 08 38 09.1 +0.2**
comp=Z,11μm,23.3s
OJC *e*S **S 08 43 13.3 +0.6**
LBNH Lisbon 31.01 281 *e*P **P 08 38 11.8 +1.9**
comp=Z,108nm,1.6s,mb5.4
LBNH LR LR
comp=Z,20μm,20.0s,MS5.8
LBNH Lisbon 31.01 281 *e*P **P 08 38 11.8 +1.8**
LBNH pmax pmax
comp=Z,108nm,1.6s,mb5.4
LBNH MLR MLR
comp=Z,20μm,20.0s,MS5.8
LBNH Lisbon 31.01 281 *e*P **P 08 38 11.8 +1.8**
comp=Z,20μm,20.0s
BUD Budapest 31.09 72⇓*e*P **P 08 38 11.9 +1.3**
BEL Belsk 31.19 63 *e*P **P 08 38 13.3 +1.8**
BEL *e*S **S 08 43 20.1 +2.9**
BEL LMZ 08 50 06.3
comp=Z,13μm,20.9s
BEL Belsk 31.19 63 *e*P **P 08 38 13.3 +1.9**
BEL *e*S **S 08 43 20.2 +3.0**
BEL MLR MLR
comp=Z,13μm,20.9s,MS5.6
BEL Belsk 31.19 63 *e*P **P 08 38 13.3 +1.9**
comp=Z,13μm,20.9s
PKSM Moragy 31.22 74⇓P **P 08 38 13.8 +2.0**
PKSM Moragy 31.22 74⇓*i*P **P 08 38 13.8 +2.0**
PKSM Moragy 31.22 74 P **P 08 38 13.8 +2.0**
WES Weston 31.32 278 *e*P **P 08 38 15.2 +2.6**
comp=Z,446nm,1.6s,mb6.0
WES Weston 31.32 278 *e*P **P 08 38 15.2 +2.6**
WES pmax pmax
comp=Z,446nm,1.6s,mb6.0
WES Weston 31.32 278 *e*P **P 08 38 15.2 +2.6**
comp=Z,446nm,1.6s,mb6.0
NIE Niedzica 31.41 68 *e*P **P 08 38 14.9 +1.5**
NIE Niedzica 31.41 68 *e*P **P 08 38 14.9 +1.5**
NIE Niedzica 31.41 68 *e*P **P 08 38 14.9 +1.5**
PSZ Piszkesteto 31.53 71 *e*P **P 08 38 15.5 +1.0**
comp=Z,483nm,1.9s,mb6.0
PSZ LR LR
comp=Z,10μm,20.0s,MS5.5
PSZ Piszkesteto 31.53 71 *e*P **P 08 38 15.5 +1.0**
PSZ pmax pmax
comp=Z,483nm,1.9s,mb6.0
PSZ MLR MLR
comp=Z,10μm,20.0s,MS5.5
PSZ Piszkesteto 31.53 71⇓*e*P **P 08 38 16.6 +2.1**
PSZ Piszkesteto 31.53 71⇓*i*P **P 08 38 16.7 +2.2**
PSZ Piszkesteto 31.53 71 *e*P **P 08 38 15.5 +1.0**
comp=Z,10μm,20.0s
CUC Castrocucco 31.73 87 *e*P **P 08 38 16.4 +0.1**
comp=Z,196nm,1.2s,mb5.8
CUC LR LR
comp=Z,7μm,19.0s,MS5.3
CUC Castrocucco 31.73 87 *e*P **P 08 38 16.4 +0.1**
comp=Z,196nm,1.2s,mb5.8
KECS Kecovo 31.76 69 *e*P **P 08 38 17.2 +0.8**
KECS pmax pmax
comp=Z,15nm,1.2s,mb4.7
KECS Kecovo 31.76 69 *e*P **P 08 38 17.2 +0.8**
KECS Kecovo 31.76 69 *e*P **P 08 38 17.2 +0.8**
comp=Z,15nm,1.2s,mb4.7
BBSR BB Station 31.94 256 PFAKE 08 38 30.0 +12
BBSR LR LR
comp=Z,9μm,21.0s,MS5.5
MDV Middlebury 31.94 282 *e*P **P 08 38 19.5 +1.4**
MDV Middlebury 31.94 282 *e*P **P 08 38 19.5 +1.4**
STHS Stebnicka Huta 32.00 67 *e*P **P 08 38 19.6 +1.1**
STHS pmax pmax
comp=Z,32nm,1.1s,mb5.1
STHS Stebnicka Huta 32.00 67 *e*P **P 08 38 19.6 +1.1**
STHS Stebnicka Huta 32.00 67 *e*P **P 08 38 19.6 +1.1**
comp=Z,32nm,1.1s,mb5.1
SACV Santiago Islan 32.09 173 PFAKE 08 38 30.0 +10
SACV LR LR
comp=Z,3μm,21.0s,MS4.9
SUW Suwalki 32.26 59 *e*P **P 08 38 21.5 +0.7**
SUW LMZ 08 48 27.6
SUW Suwalki 32.26 59 *e*P **P 08 38 21.6 +0.8**
comp=Z,164nm,1.1s,mb5.8
SUW Suwalki 32.26 59 *e*P **P 08 38 21.5 +0.7**
SUW Suwalki 32.26 59 *e*P **P 08 38 21.5 +0.7**
CRVS Cervenica-Dubn 32.27 68 *e*P **P 08 38 22.2 +1.3**
CRVS pmax pmax
comp=Z,172nm,1.8s,mb5.6
CRVS Cervenica-Dubn 32.27 68 *e*P **P 08 38 22.2 +1.3**
CRVS *e*S **S 08 43 37.4 +3.3**
CRVS Cervenica-Dubn 32.27 68 *e*P **P 08 38 22.2 +1.3**
comp=Z,172nm,1.8s,mb5.6
CEL Celeste 32.61 90 *e*P **P 08 38 23.3 -0.7**
comp=Z,136nm,1.2s,mb5.8
CEL LR LR
comp=Z,5μm,20.0s,MS5.2
CEL Celeste 32.61 90 *e*P **P 08 38 23.3 -0.7**
comp=Z,136nm,1.2s,mb5.8
LONY Lake Ozonia 32.65 283 *e*P **P 08 38 24.5 +0.2**
comp=Z,344nm,2.5s,mb5.8
LONY LR LR
comp=Z,11μm,19.0s,MS5.6
LONY Lake Ozonia 32.65 283 *e*P **P 08 38 24.5 +0.1**
comp=Z,344nm,2.5s,mb5.8
NCB Newcomb 32.65 282 *e*P **P 08 38 26.9 +2.6**
comp=Z,160nm,1.9s,mb5.6
NCB LR LR
comp=Z,19μm,19.0s,MS5.8
NCB Newcomb 32.65 282 *e*P **P 08 38 26.9 +2.5**
comp=Z,160nm,1.9s,mb5.6
ALAS Alassa 32.67 102 *i* P **P 08 38 23.9 -0.7**
comp=Z,123nm,1.8s,mb5.5,SNR=153
ALAS *e*S **S 08 43 41.3 +0.7**
SNR=152
TIP Timpagrande 32.75 88 *e*P **P 08 38 25.8 +0.5**
comp=Z,156nm,1.4s,mb5.8
TIP LR LR
comp=Z,12μm,20.0s,MS5.6
TIP Timpagrande 32.75 88 *e*P **P 08 38 25.8 +0.5**
comp=Z,156nm,1.4s,mb5.8
KOLS Kolonicke sedl 32.77 68 *e*P **P 08 38 26.6 +1.2**
KOLS pmax pmax
comp=Z,51nm,1.4s,mb5.3
KOLS Kolonicke sedl 32.77 68 *e*P **P 08 38 26.6 +1.2**
KOLS Kolonicke sedl 32.77 68 *e*P **P 08 38 26.6 +1.2**
comp=Z,51nm,1.4s,mb5.3
YLE Yale 32.86 277 *e*P **P 08 38 26.8 +0.6**
YLE Yale 32.86 277 *e*P **P 08 38 26.8 +0.6**
KWP Kalwaria Pacla 32.86 67 *e*P **P 08 38 28.1 +1.9**
KWP *e*S **S 08 43 47.4 +4.0**
KWP LMZ 08 48 38.3
comp=Z,10μm,30.8s
KWP Kalwaria Pacla 32.86 67 *e*P **P 08 38 27.5 +1.4**
comp=Z,218nm,1.4s,mb5.9
KWP LR LR
comp=Z,10μm,19.0s,MS5.5
KWP Kalwaria Pacla 32.86 67 *e*P **P 08 38 28.0 +1.9**
KWP *e*S **S 08 43 47.4 +4.0**
KWP Kalwaria Pacla 32.86 67⇓*i*P **P 08 38 27.9 +1.8**
KWP Kalwaria Pacla 32.86 67 *e*P **P 08 38 28.0 +1.9**
UZH Uzhgorod 32.87 69*c i*P **P 08 38 27.5 +1.3**
UZH *e* 08 38 32.7
UZH *e* 08 39 40.3
UZH *e*PPP 08 39 58.5
UZH *e* 08 41 17.0
UZH *e*S **S 08 43 44.3 +0.8**
UZH *e*SS SS 08 45 42.7 -22
UZH *e*SSS 08 46 08.1
UZH *e* 08 48 55.5
UZH MLR MLR
comp=N,3μm,17.0s,MS5.7
UZH MLR MLR
comp=E,14μm,17.0s,MS5.7
UZH MLR MLR
comp=Z,7μm,17.0s,MS5.5
UZH Uzhgorod 32.87 69 *i* P **P 08 38 27.5 +1.3**
UZH *e*S **S 08 43 44.3 +0.8**
WDD Wield Dalam 32.91 94 PFAKE 08 38 40.0 +13
WDD LR LR
comp=Z,10μm,21.0s,MS5.5
LGHD Ghdames 33.01 108 *i* P **P 08 38 27.1 -0.6**
comp=Z,413nm,1.5s,mb6.1,SNR=153
LGHD *e*S **S 08 43 46.2 +0.1**
SNR=28
TRPA Tarpa 33.17 69⇑*i*P **P 08 38 30.8 +1.9**
FINES FINESS Array B 33.32 45 P **P 08 38 29.6 -0.3**
comp=Z,50nm,1.1s,mb5.4,baz=258,slow=5.3,SNR=16
FINES LR LR 08 50 54.0
comp=Z,7μm,20.2s,MS5.4,baz=265,slow=34
FINES FINESS Array B 33.32 45 P **P 08 38 29.6 -0.3**
FINES FINESS Array B 33.32 45 P **P 08 38 29.7 -0.3**
FINES pmax pmax
comp=Z,50nm,1.1s
FINES MLR MLR
comp=Z,7μm,20.2s
FINES FINESS Array B 33.32 45 P **P 08 38 29.6 -0.4**
BZS Buzias 33.38 74 P **P 08 38 31.5 +0.8**
BZS Buzias 33.38 74⇑*i*P **P 08 38 31.5 +0.8**
BZS Buzias 33.38 74 P **P 08 38 31.5 +0.8**
KAF Kangasniemi 33.44 43 *e*P **P 08 38 28.4 -2.6**
KAF pmax pmax
comp=Z,23nm,0.7s,mb5.2
KAF Kangasniemi 33.44 43 *e*p **P 08 38 28.4 -2.6**
comp=Z,23nm,0.7s,mb5.2
KAF Kangasniemi 33.44 43 *e*P **P 08 38 28.4 -2.6**
comp=Z,23nm,0.7s,mb5.2
LVV L'vov 33.64 66 *i* P **P 08 38 33.8 +0.9**
LVV *e* 08 39 42.0
LVV *e*S **S 08 43 57.4 +1.9**
LVV MLR MLR
comp=N,3μm,15.0s,MS5.2
LVV MLR MLR
comp=E,2μm,15.0s,MS5.2
LVV MLR MLR
comp=Z,4μm,15.0s,MS5.2
LVV L'vov 33.64 66 *i* P **P 08 38 33.8 +0.9**
DRGR 33.70 72⇑P **P 08 38 34.3 +0.8**
DRGR 33.70 72⇑*i*P **P 08 38 34.3 +0.8**
DRGR 33.70 72 P **P 08 38 34.3 +0.8**
ISAL Salakas 33.72 55 *e*P **P 08 38 34.6 +1.1**
ISAL AMB AMB 08 38 36.0
comp=Z,30nm,1.3s,mb5.1
VSU Vasula 33.74 50*c i*P **P 08 38 34.4 +0.7**
VSU pmax pmax
comp=Z,101nm,1.0s,mb5.7
VSU Vasula 33.74 50 *i* P **P 08 38 34.4 +0.7**
comp=Z,101nm,1.0s,mb5.7
IZAR Zarasai 33.76 55 *e*P **P 08 38 35.0 +1.0**
IZAR AMB AMB 08 38 36.4
comp=Z,22nm,1.2s,mb5.0
IIGN Ignalina 33.81 56 *e*P **P 08 38 35.3 +1.0**
IIGN AMB AMB 08 38 36.7
comp=Z,36nm,1.4s,mb5.1
TIR Tirane 33.88 82 PFAKE 08 38 40.0 +4.9
TIR LR LR
comp=Z,9μm,19.0s,MS5.5
BMR Baia Mare 33.92 70⇑P **P 08 38 36.1 +0.7**
BMR Baia Mare 33.92 70⇑*i*P **P 08 38 36.1 +0.7**
BMR Baia Mare 33.92 70 P **P 08 38 36.1 +0.7**
GHAR Gharyan 34.09 101 *i* P **P 08 38 37.7 +0.7**
comp=Z,160nm,1.6s,mb5.7,SNR=153
GHAR *e*S **S 08 44 04.9 +2.1**
SNR=152
ARCES ARCESS Array B 34.09 30 P **P 08 38 35.4 -1.2**
comp=Z,16nm,0.9s,mb5.0,baz=254,slow=8.6,SNR=10
ARCES LR LR 08 50 35.6
comp=Z,4μm,20.7s,MS5.1,baz=256,slow=33
ARCES ARCESS Array B 34.09 30 P **P 08 38 35.4 -1.2**
ARCES ARCESS Array B 34.09 30 P **P 08 38 35.4 -1.2**
ARCES pmax pmax
comp=Z,16nm,0.9s
ARCES ARCESS Array B 34.09 30 P **P 08 38 35.4 -1.2**
comp=Z,16nm,0.9s,mb5.0
ARE0 ARCESS Array S 34.09 30 *e*P **P 08 38 35.6 -1.1**
ARE0 ARCESS Array S 34.09 30 *e*P **P 08 38 35.6 -1.0**
PHP Peshkopia 34.13 81 P **P 08 38 39.3 +2.1**
PHP Peshkopia 34.13 81 P **P 08 38 39.3 +2.1**
PHP Peshkopia 34.13 81 P **P 08 38 39.3 +2.1**
PHP Peshkopia 34.13 81 P **P 08 38 39.3 +2.1**
NACGM Naroch 34.19 56 *e*P **P 08 38 36.0 -1.7**
GZR Gura Zlata 34.22 74⇓P **P 08 38 38.4 +0.4**

GZR	**Gura Zlata**	**34.22**	**74**	⇓*i*P	**P**	**08 38 38.4**	**+0.4**
GZR	**Gura Zlata**	**34.22**	**74**	P	**P**	**08 38 38.4**	**+0.4**
BINY	**Binghamton**	**34.54**	**280**	*e*P	**P**	**08 38 39.6**	**-1.2**
	comp=Z,56nm,1.3s,mb5.3						
BINY				LR	LR		
	comp=Z,24μm,20.0s,MS5.9						
BINY	**Binghamton**	**34.54**	**280**	*e*P	**P**	**08 38 39.6**	**-1.2**
	comp=Z,56nm,1.3s,mb5.3						
KEV	**Kevo**	**34.66**	**30**	PFAKE		08 38 50.0	+8.5
KEV				LR	LR		
	comp=Z,4μm,21.0s,MS5.1						
SKO	**Skopje**	**34.68**	**80**	*e*P	**P**	**08 38 43.9**	**+1.9**
KRUS	**Krusevo**	**34.81**	**81**	*e*P	**P**	**08 38 42.9**	**-0.2**
LOT	**Lotru**	**34.85**	**73**	⇑*i*P	**P**	**08 38 44.8**	**+1.3**
MNK	**Minsk**	**34.87**	**57**	⇑*i*P	**P**	**08 38 41.0**	**-2.5**
MNK				*e*		08 39 56.0	
MNK				*e*S	**S**	**08 44 10.0**	**-4.2**
MNK				pmax	pmax		
	comp=E,450nm,1.4s						
MNK				pmax	pmax		
	comp=Z,290nm,1.2s,mb6.1						
MNK				MLR	MLR		
	comp=N,15μm,18.0s,MS5.9						
MNK				MLR	MLR		
	comp=Z,18μm,18.0s,MS5.8						
MNK				MLR	MLR		
	comp=E,12μm,18.0s,MS5.9						
MNK	**Minsk**	**34.87**	**57**	*i*P	**P**	**08 38 41.0**	**-2.5**
	comp=E,290nm,1.2s,mb6.1						
MICGM	**Minsk**	**34.89**	**57**	⇑*i*P	**P**	**08 38 41.0**	**-2.7**
MDB	**Medias**	**35.01**	**72**	P	**P**	**08 38 46.4**	**+1.6**
MDB	**Medias**	**35.01**	**72**	⇑*i*P	**P**	**08 38 46.4**	**+1.6**
MDB	**Medias**	**35.01**	**72**	P	**P**	**08 38 46.4**	**+1.6**
BIA	**Bitola**	**35.02**	**82**	*e*P	**P**	**08 38 44.7**	**-0.2**
BUR08	**Bucovina Ar. S**	**35.02**	**69**	*e*P	**P**	**08 38 46.3**	**+1.4**
BUR08	**Bucovina Ar. S**	**35.02**	**69**	*e*P	**P**	**08 38 46.3**	**+1.4**
BURAR	**Bucovina Array**	**35.05**	**69**	⇑P	**P**	**08 38 46.8**	**+1.7**
BURAR	**Bucovina Array**	**35.05**	**69**	⇑*i*P	**P**	**08 38 46.3**	**+1.2**
BURAR	**Bucovina Array**	**35.05**	**69**	⇑*i*P	**P**	**08 38 46.8**	**+1.7**
FNA	**Florina**	**35.16**	**82**	P	**P**	**08 38 46.7**	**+0.6**
FNA	**Florina**	**35.16**	**82**	P	**P**	**08 38 46.7**	**+0.6**
FNA	**Florina**	**35.16**	**82**	P	**P**	**08 38 46.7**	**+0.6**
FNA	**Florina**	**35.16**	**82**	P	**P**	**08 38 46.7**	**+0.6**
CRAR	**CRAIOVA**	**35.30**	**75**	P	**P**	**08 38 49.5**	**+2.2**
CRAR	**CRAIOVA**	**35.30**	**75**	⇑*i*P	**P**	**08 38 48.6**	**+1.3**
CRAR	**CRAIOVA**	**35.30**	**75**	P	**P**	**08 38 49.5**	**+2.2**
SPITS	**Spitsbergen Ar**	**35.35**	**14**	P	**P**	**08 38 48.8**	**+1.3**
	comp=E,30nm,1.0s,mb5.2,baz=219,slow=2.1,SNR=6.3						
SPITS	**Spitsbergen Ar**	**35.35**	**14**	P	**P**	**08 38 48.8**	**+1.3**
SPITS	**Spitsbergen Ar**	**35.35**	**14**	P	**P**	**08 38 48.8**	**+1.4**
SPITS				pmax	pmax		
	comp=Z,30nm,1.0s						
SPITS	**Spitsbergen Ar**	**35.35**	**14**	P	**P**	**08 38 48.8**	**+1.4**
	comp=Z,30nm,1.0s,mb5.2						
VTS	**Vitosha**	**35.60**	**78**	⇑P	**P**	**08 38 50.6**	**+0.6**
VTS	**Vitosha**	**35.60**	**78**	*e*P	**P**	**08 38 50.9**	**+0.9**
VTS	**Vitosha**	**35.60**	**78**	⇑*i*P	**P**	**08 38 50.6**	**+0.6**
VTS	**Vitosha**	**35.60**	**78**	P	**P**	**08 38 50.6**	**+0.6**
MPEP	**Malo Peshtene**	**35.64**	**77**	*e*P	**P**	**08 38 50.3**	**0.0**
VOIR		**35.70**	**73**	P	**P**	**08 38 52.1**	**+1.4**
VOIR		**35.70**	**73**	⇑*i*P	**P**	**08 38 52.1**	**+1.4**
VOIR		**35.70**	**73**	P	**P**	**08 38 52.1**	**+1.4**
VAY	**Valandovo**	**35.72**	**81**	*e*P	**P**	**08 38 50.1**	**-1.0**
TAM	**Tamanrasset**	**35.75**	**121**	*e*P	**P**	**08 38 51.8**	**+0.4**
	comp=Z,179nm,1.8s,mb5.7						
TAM				LR	LR		
	comp=Z,10μm,20.0s,MS5.6						
TAM	**Tamanrasset**	**35.75**	**121**	*e*P	**P**	**08 38 51.8**	**+0.4**
TAM				pmax	pmax		
	comp=Z,179nm,1.8s,mb5.7						
TAM				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.6						
TAM	**Tamanrasset**	**35.75**	**121**	*e*P	**P**	**08 38 51.8**	**+0.4**
	comp=Z,10μm,20.0s						
JOF	**Joensuu**	**35.76**	**42**	*e*P	**P**	**08 38 50.1**	**-1.0**
JOF				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.3						
JOF	**Joensuu**	**35.76**	**42**	*e*p	**P**	**08 38 50.1**	**-1.0**
	comp=Z,26nm,0.6s,mb5.3						
JOF	**Joensuu**	**35.76**	**42**	*e*P	**P**	**08 38 50.1**	**-1.0**
	comp=Z,26nm,0.6s,mb5.3						
MVL	**Millersville**	**35.77**	**277**	*e*P	**P**	**08 38 52.4**	**+1.0**
	comp=Z,419nm,2.5s,mb5.9						
MVL	**Millersville**	**35.77**	**277**	*e*P	**P**	**08 38 52.4**	**+1.0**
	comp=Z,419nm,2.5s,mb5.9						
GRG	**Griva**	**35.77**	**81**	P	**P**	**08 38 51.4**	**0.0**
GRG	**Griva**	**35.77**	**81**	P	**P**	**08 38 51.4**	**0.0**
GRG	**Griva**	**35.77**	**81**	P	**P**	**08 38 51.4**	**0.0**
GRG	**Griva**	**35.77**	**81**	P	**P**	**08 38 51.4**	**0.0**
KKB	**Krupnik**	**35.83**	**79**	*e*P	**P**	**08 38 54.0**	**+2.1**
VLS	**Valsamata**	**35.86**	**86**	*e*P	**P**	**08 38 53.5**	**+1.3**
HUMR	**Humele**	**36.00**	**74**	⇓*i*P	**P**	**08 38 53.5**	**+0.2**
KNT	**Kendrikon**	**36.02**	**81**	P	**P**	**08 38 54.5**	**+1.0**
KNT	**Kendrikon**	**36.02**	**81**	P	**P**	**08 38 54.5**	**+1.0**
KNT	**Kendrikon**	**36.02**	**81**	P	**P**	**08 38 54.5**	**+1.0**
KNT	**Kendrikon**	**36.02**	**81**	P	**P**	**08 38 54.5**	**+1.0**
THL	**Klokotos Trika**	**36.15**	**84**	*e*P	**P**	**08 38 54.0**	**-0.7**
LSHF	**Shwairf**	**36.20**	**103**	*i*P	**P**	**08 38 55.1**	**-0.1**
	comp=Z,267nm,1.5s,mb6.0,SNR=154						
LSHF				*e*S	**S**	**08 44 36.8**	**+1.6**
	SNR=152						
MLR	**Muntele Rosu**	**36.26**	**72**	⇑P	**P**	**08 38 56.3**	**+0.7**
MLR	**Muntele Rosu**	**36.26**	**72**	⇑*i*P	**P**	**08 38 56.3**	**+0.7**
MLR	**Muntele Rosu**	**36.26**	**72**	P	**P**	**08 38 56.3**	**+0.7**
PGB	**Panagyurishte**	**36.26**	**78**	*e*P	**P**	**08 38 55.7**	**+0.1**
EVR	**Evrytania**	**36.33**	**85**	*e*P	**P**	**08 39 01.0**	**+4.8**
EVR	**Evrytania**	**36.33**	**85**	P	**P**	**08 39 01.0**	**+4.8**
EVR	**Evrytania**	**36.33**	**85**	P	**P**	**08 39 01.0**	**+4.8**
SDMD	**Soldier's Deli**	**36.38**	**276**	*e*P	**P**	**08 38 57.0**	**+0.4**
	comp=Z,146nm,1.8s,mb5.6						
SDMD	**Soldier's Deli**	**36.38**	**276**	*e*P	**P**	**08 38 57.0**	**+0.3**
	comp=Z,146nm,1.8s,mb5.6						
MMB	**Musomiste**	**36.38**	**79**	*e*P	**P**	**08 38 55.7**	**-1.0**
HORT	**Hortiatis**	**36.41**	**81**	P	**P**	**08 38 57.2**	**+0.3**
HORT	**Hortiatis**	**36.41**	**81**	P	**P**	**08 38 57.2**	**+0.3**
HORT	**Hortiatis**	**36.41**	**81**	P	**P**	**08 38 57.2**	**+0.3**
SOH	**Sokhos**	**36.48**	**81**	P	**P**	**08 38 58.9**	**+1.4**
SOH	**Sokhos**	**36.48**	**81**	P	**P**	**08 38 58.9**	**+1.4**
SOH	**Sokhos**	**36.48**	**81**	P	**P**	**08 38 58.9**	**+1.4**
SOH	**Sokhos**	**36.48**	**81**	P	**P**	**08 38 58.9**	**+1.4**
SRS	**Serrai**	**36.50**	**80**	P	**P**	**08 38 58.5**	**+0.8**
SRS	**Serrai**	**36.50**	**80**	P	**P**	**08 38 58.5**	**+0.8**
SRS	**Serrai**	**36.50**	**80**	P	**P**	**08 38 58.5**	**+0.8**
SRS	**Serrai**	**36.50**	**80**	P	**P**	**08 38 58.5**	**+0.8**
RLS	**Riolos of Patr**	**36.52**	**86**	*e*P	**P**	**08 39 00.0**	**+2.2**
SSPA	**Standing Stone**	**36.52**	**279**	*e*P	**P**	**08 38 58.6**	**+0.8**
	comp=Z,216nm,2.0s,mb5.6						
SSPA	**Standing Stone**	**36.52**	**279**	*e*P	**P**	**08 38 58.6**	**+0.8**
	comp=Z,216nm,2.0s,mb5.6						
NVR	**Nevrokopi**	**36.58**	**80**	*e*P	**P**	**08 38 59.0**	**+0.6**
NVR	**Nevrokopi**	**36.58**	**80**	P	**P**	**08 38 59.4**	**+1.0**
NVR	**Nevrokopi**	**36.58**	**80**	P	**P**	**08 38 59.4**	**+1.0**
NVR	**Nevrokopi**	**36.58**	**80**	P	**P**	**08 38 59.4**	**+1.0**
PLOR	**Plostina**	**36.59**	**71**	⇑P	**P**	**08 38 59.8**	**+1.5**
PLOR	**Plostina**	**36.59**	**71**	⇑*i*P	**P**	**08 38 59.8**	**+1.5**
PLOR	**Plostina**	**36.59**	**71**	P	**P**	**08 38 59.8**	**+1.5**
KIEV	**Kiev**	**36.59**	**63**	*e*P	**P**	**08 38 57.5**	**-0.9**
	comp=Z,51nm,1.0s,mb5.3						
KIEV				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
KIEV	**Kiev**	**36.59**	**63**	*c i*P	**P**	**08 38 58.2**	**-0.2**
KIEV	**Kiev**	**36.59**	**63**	*i*P	**P**	**08 38 58.2**	**-0.2**
AKASG	**Malin Array Be**	**36.60**	**63**	P	**P**	**08 38 57.3**	**-1.2**
	comp=Z,24nm,0.9s,mb5.0,baz=283,slow=8.7,SNR=52						
AKASG				PcP	PcP	08 41 20.1	-1.2
	comp=Z,3.4nm,0.8s,baz=277,slow=3.9,SNR=4.7						
AKASG				LR	LR	08 54 52.2	
	comp=Z,11μm,18.1s,MS5.7,baz=295,slow=38						
AKASG	**Malin Array Be**	**36.60**	**63**	P	**P**	**08 38 57.2**	**-1.2**
AKASG				PcP	PcP	08 41 20.1	-1.2
AKASG	**Malin Array Be**	**36.60**	**63**	P	**P**	**08 38 57.3**	**-1.1**
AKASG						08 41 20.1	
AKASG				pmax	pmax		
	comp=Z,24nm,0.9s						
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG				MLR	MLR		
	comp=Z,11μm,18.1s						
AKASG	**Malin Array Be**	**36.60**	**63**	P	**P**	**08 38 57.2**	**-1.2**
AKASG	**Malin Array Be**	**36.60**	**63**	PcP	PcP	08 41 20.1	-1.2
	comp=Z,11μm,18.1s						
AKBB	**Malin Array Si**	**36.60**	**63**	*e*P	**P**	**08 38 57.2**	**-1.3**
AKBB	**Malin Array Si**	**36.60**	**63**	*e*P	**P**	**08 38 57.2**	**-1.2**
AKBB	**Malin Array Si**	**36.60**	**63**	*e*P	**P**	**08 38 57.2**	**-1.2**
AGG	**Agios Georgios**	**36.63**	**84**	*e*P	**P**	**08 39 00.0**	**+1.2**
VRI	**Vrincioaia**	**36.63**	**71**	⇑P	**P**	**08 38 59.8**	**+1.1**
VRI	**Vrincioaia**	**36.63**	**71**	⇑*i*P	**P**	**08 38 59.8**	**+1.1**
VRI	**Vrincioaia**	**36.63**	**71**	P	**P**	**08 38 59.8**	**+1.1**
EFP	**Efpalio**	**36.63**	**85**	*e*P	**P**	**08 39 01.0**	**+2.2**
APA	**Apatity**	**36.69**	**34**	⇓*i*P	**P**	**08 38 58.6**	**-0.4**
APA				*i*S	**S**	**08 44 44.0**	**+2.1**
APA				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.5						
APA				MLR	MLR		
	comp=Z,8μm,16.0s,MS5.6						
APA	**Apatity**	**36.69**	**34**	*i*P	**P**	**08 38 58.6**	**-0.4**
	comp=Z,120nm,1.4s,mb5.5						
PLG	**Polygyros**	**36.74**	**81**	P	**P**	**08 39 00.5**	**+0.7**
PLG	**Polygyros**	**36.74**	**81**	P	**P**	**08 39 00.5**	**+0.7**
PLG	**Polygyros**	**36.74**	**81**	P	**P**	**08 39 00.5**	**+0.7**
PLG	**Polygyros**	**36.74**	**81**	P	**P**	**08 39 00.5**	**+0.7**
TRIZ	**Trizonia**	**36.78**	**85**	P	**P**	**08 39 00.0**	**-0.1**
RZN	**Rozhen**	**37.01**	**79**	*e*P	**P**	**08 39 01.6**	**-0.4**
XOR	**Xorichti**	**37.05**	**83**	P	**P**	**08 39 02.2**	**-0.2**
XOR	**Xorichti**	**37.05**	**83**	P	**P**	**08 39 02.2**	**-0.2**
XOR	**Xorichti**	**37.05**	**83**	P	**P**	**08 39 02.2**	**-0.2**
PAIG	**Paliouri**	**37.11**	**82**	P	**P**	**08 39 04.3**	**+1.4**
PAIG	**Paliouri**	**37.11**	**82**	P	**P**	**08 39 04.3**	**+1.4**
PAIG	**Paliouri**	**37.11**	**82**	P	**P**	**08 39 04.3**	**+1.4**
PAIG	**Paliouri**	**37.11**	**82**	P	**P**	**08 39 04.3**	**+1.4**
SZH	**Strazhica**	**37.14**	**76**	*e*P	**P**	**08 39 03.4**	**+0.3**
GUR	**Goura**	**37.17**	**86**	*e*P	**P**	**08 39 04.0**	**+0.6**
GUR	**Goura**	**37.17**	**86**	P	**P**	**08 39 04.3**	**+0.8**
KAVA	**Kavala**	**37.18**	**80**	P	**P**	**08 39 03.5**	**0.0**
KAVA	**Kavala**	**37.18**	**80**	P	**P**	**08 39 03.5**	**0.0**
KAVA	**Kavala**	**37.18**	**80**	P	**P**	**08 39 03.5**	**0.0**
LVZ	**Lovozero**	**37.18**	**34**	PFAKE		08 39 10.0	+6.9
LVZ				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
ALE	**Alert**	**37.20**	**353**	P	**P**	**08 39 02.0**	**-1.2**
	comp=Z,124nm,1.2s,mb5.6,SNR=7.9						
ATAL	**Atalanti**	**37.26**	**84**	P	**P**	**08 39 02.7**	**-1.5**
ATAL	**Atalanti**	**37.26**	**84**	P	**P**	**08 39 02.7**	**-1.5**
ATAL	**Atalanti**	**37.26**	**84**	P	**P**	**08 39 02.7**	**-1.5**
ERPA	**Erie**	**37.27**	**282**	PFAKE		08 39 10.0	+5.8
ERPA				LR	LR		
	comp=Z,8μm,20.0s,MS5.5						
LKR	**Lokris**	**37.27**	**84**	*e*P	**P**	**08 39 05.0**	**+0.8**
ITM	**Ithomi**	**37.28**	**87**	*e*P	**P**	**08 39 05.0**	**+0.7**
PYL	**PYLOS**	**37.30**	**88**	*e*P	**P**	**08 39 04.0**	**-0.5**
SKIA	**Skiathos**	**37.33**	**83**	P	**P**	**08 39 03.9**	**-0.9**
CBN	**Corbin**	**37.33**	**275**	PFAKE		08 39 10.0	+5.2
CBN				LR	LR		
	comp=Z,11μm,22.0s,MS5.6						
VLX	**Vlachokerasia**	**37.49**	**86**	*e*P	**P**	**08 39 07.0**	**+0.9**
VLX	**Vlachokerasia**	**37.49**	**86**	P	**P**	**08 39 08.3**	**+2.2**
LTK	**Loutraki**	**37.56**	**85**	*e*P	**P**	**08 39 07.0**	**+0.3**
LTK	**Loutraki**	**37.56**	**85**	P	**P**	**08 39 05.5**	**-1.2**
LTK	**Loutraki**	**37.56**	**85**	P	**P**	**08 39 05.5**	**-1.2**
LTK	**Loutraki**	**37.56**	**85**	P	**P**	**08 39 05.5**	**-1.2**
KIS	**Kishinev**	**37.56**	**69**	*e*P	**P**	**08 39 05.0**	**-1.6**
KIS	**Kishinev**	**37.56**	**69**	*e*PP	PP	08 40 33.0	+0.9
	comp=Z,400nm,2.0s						
KIS	**Kishinev**	**37.56**	**69**	*e*PPP		08 40 58.0	
KIS	**Kishinev**	**37.56**	**69**	*e*PcP	PcP	08 41 18.0	-6.3
KIS				*e*S	**S**	**08 44 52.0**	**-3.6**
KIS	**Kishinev**	**37.56**	**69**	*e*PcS	PcS	08 45 14.0	+1.3
KIS				*e*SS	SS	08 47 42.0	+2.1
KIS				*e*SSS		08 48 28.0	
KIS				*e*LQ		08 51 30.0	
KIS				LRM		08 54 36.0	
	comp=Z,13μm,20.0s						
KIS	**Kishinev**	**37.56**	**69**	*e*P	**P**	**08 39 05.0**	**-1.6**
KIS				*e*		08 39 15.0	
KIS				*e*		08 40 33.0	
KIS				*e*PPP		08 40 58.0	
KIS				*e*		08 41 18.0	
KIS				*e*S	**S**	**08 44 52.0**	**-3.6**
KIS				pmax	pmax		
	comp=Z,420nm,2.0s,mb5.8						
KIS				pmax	pmax		
	comp=Z,3μm,10.0s						
KIS				pmax	pmax		
	comp=Z,3μm,12.0s						
KIS				MLR	MLR		
	comp=Z,13μm,20.0s,MS5.7						
KIS				MLR	MLR		
	comp=N,9μm,19.0s,MS5.6						
KIS				MLR	MLR		
	comp=E,4μm,18.0s,MS5.6						
KIS				MLR	MLR		
	comp=Z,13μm,20.0s						
KIS	**Kishinev**	**37.56**	**69**	*e*P	**P**	**08 39 05.0**	**-1.6**
ALLY	**Alegheny Colle**	**37.58**	**282**	*e*P	**P**	**08 39 07.3**	**+0.5**
	comp=Z,85nm,1.3s,mb5.3						
ALLY	**Alegheny Colle**	**37.58**	**282**	*e*P	**P**	**08 39 07.3**	**+0.5**
	comp=Z,85nm,1.3s,mb5.3						
MRKA	**Markates**	**37.64**	**84**	P	**P**	**08 39 08.4**	**+1.0**
CFR	**Carcaliu**	**37.81**	**72**	⇓P	**P**	**08 39 08.8**	**+0.1**
CFR	**Carcaliu**	**37.81**	**72**	⇓*i*P	**P**	**08 39 08.8**	**+0.1**
CFR	**Carcaliu**	**37.81**	**72**	P	**P**	**08 39 08.8**	**+0.1**
LJFR	**Jufra**	**37.81**	**103**	*i*P	**P**	**08 39 07.9**	**-1.1**
	comp=Z,180nm,1.5s,mb5.6,SNR=154						
JMB	**Yambol**	**37.91**	**77**	*e*P	**P**	**08 39 09.8**	**+0.2**
DID	**Didima**	**38.00**	**86**	*e*P	**P**	**08 39 10.0**	**-0.5**
DID	**Didima**	**38.00**	**86**	P	**P**	**08 39 10.5**	**0.0**
NAIG	**Nisos Aigina**	**38.05**	**85**	*e*P	**P**	**08 39 12.0**	**+1.2**
ATH	**Athens Observa**	**38.09**	**85**	*e*P	**P**	**08 39 12.0**	**+0.8**
LIA	**Limnos Island**	**38.14**	**81**	*e*P	**P**	**08 39 12.0**	**+0.4**
PTL	**Penteli**	**38.16**	**85**	*e*P	**P**	**08 39 14.0**	**+2.3**
TLCR		**38.25**	**72**	⇓P	**P**	**08 39 11.9**	**-0.5**
TLCR		**38.25**	**72**	⇓*i*P	**P**	**08 39 11.9**	**-0.5**
TLCR		**38.25**	**72**	P	**P**	**08 39 11.9**	**-0.5**
ALN	**Alexandroupoli**	**38.26**	**79**	*e*P	**P**	**08 39 15.0**	**+2.4**
ALN	**Alexandroupoli**	**38.26**	**79**	P	**P**	**08 39 13.9**	**+1.3**
ALN	**Alexandroupoli**	**38.26**	**79**	P	**P**	**08 39 13.9**	**+1.3**
ALN	**Alexandroupoli**	**38.26**	**79**	P	**P**	**08 39 13.9**	**+1.3**
ALN	**Alexandroupoli**	**38.26**	**79**	P	**P**	**08 39 13.9**	**+1.3**
TIRR	**Tirgusor**	**38.28**	**73**	*e*P	**P**	**08 39 11.3**	**-1.3**
	comp=Z,89nm,1.3s,mb5.3						
TIRR	**Tirgusor**	**38.28**	**73**	*e*P	**P**	**08 39 11.4**	**-1.3**
TIRR				pmax	pmax		
	comp=Z,89nm,1.3s,mb5.3						
TIRR	**Tirgusor**	**38.28**	**73**	⇓P	**P**	**08 39 11.6**	**-1.1**
TIRR	**Tirgusor**	**38.28**	**73**	⇓*i*P	**P**	**08 39 11.6**	**-1.1**
TIRR	**Tirgusor**	**38.28**	**73**	*e*P	**P**	**08 39 11.4**	**-1.3**
	comp=Z,89nm,1.3s,mb5.3						
EDRB	**Edirne**	**38.29**	**77**	*e*P	**P**	**08 39 12.9**	**0.0**
ENEZ	**Enez**	**38.40**	**79**	*e*P	**P**	**08 39 14.3**	**+0.5**
ERIK	**Erikli-Kesan**	**38.68**	**79**	*e*P	**P**	**08 39 15.4**	**-0.7**
BOZC	**Bozcaada**	**38.76**	**81**	*i*P	**P**	**08 39 16.2**	**-0.6**
GELI	**Tayfur-Gelibol**	**38.78**	**80**	*e*P	**P**	**08 39 18.4**	**+1.4**
LUMB	**Murzuk**	**39.08**	**107**	*i*P	**P**	**08 39 19.4**	**-0.2**
	comp=Z,203nm,2.2s,mb5.5,SNR=154						
LUMB				*e*S	**S**	**08 45 20.0**	**+1.0**
	SNR=153						
RKY	**Sarkoy-Tekirda**	**39.11**	**79**	*e*P	**P**	**08 39 17.6**	**-2.2**
MFT	**Murefte**	**39.14**	**79**	*e*P	**P**	**08 39 20.8**	**+0.8**
GLMI	**Grayling**	**39.17**	**289**	*e*P	**P**	**08 39 20.1**	**-0.1**
	comp=Z,36nm,0.8s,mb5.2						
GLMI				LR	LR		
	comp=Z,12μm,22.0s,MS5.7						
GLMI	**Grayling**	**39.17**	**289**	*e*P	**P**	**08 39 20.1**	**-0.1**
	comp=Z,36nm,0.8s,mb5.2						
CNNC	**Cliffs of the**	**39.24**	**271**	*e*P	**P**	**08 39 22.1**	**+1.2**
	comp=Z,38nm,1.0s,mb5.1						
CNNC				LR	LR		
	comp=Z,9μm,21.0s,MS5.6						
CNNC	**Cliffs of the**	**39.24**	**271**	*e*P	**P**	**08 39 22.1**	**+1.2**
	comp=Z,38nm,1.0s,mb5.1						
KRBG	**Karabiga-Canak**	**39.33**	**79**	*e*P	**P**	**08 39 21.4**	**-0.2**
LZLA	**Zalla**	**39.34**	**102**	*i*P	**P**	**08 39 22.1**	**+0.3**
	comp=Z,263nm,1.6s,mb5.7,SNR=154						
RES	**Resolute Bay**	**39.44**	**337**	*e*P	**P**	**08 39 22.0**	**0.0**
	comp=Z,55nm,1.2s,mb5.2						
RES	**Resolute Bay**	**39.44**	**337**	*e*P	**P**	**08 39 22.0**	**-0.1**
RES				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.2						
RES	**Resolute Bay**	**39.44**	**337**	*e*P	**P**	**08 39 22.0**	**-0.1**
	comp=Z,55nm,1.2s,mb5.2						
CHOS	**Chios island**	**39.48**	**83**	*e*P	**P**	**08 39 25.0**	**+2.2**
CHOS	**Chios island**	**39.48**	**83**	P	**P**	**08 39 25.0**	**+2.2**
SLVT	**Silivri**	**39.55**	**78**	*e*P	**P**	**08 39 22.8**	**-0.6**
KARN	**Karanos**	**39.58**	**88**	*e*P	**P**	**08 39 25.0**	**+1.3**
AAM	**Ann Arbor**	**39.63**	**284**	PFAKE		08 39 30.0	+6.0
AAM				LR	LR		
	comp=Z,9μm,22.0s,MS5.6						
OBN	**Obninsk**	**39.65**	**54**	*e*P	**P**	**08 39 23.0**	**-1.0**
	comp=Z,486nm,1.7s,mb6.0						
OBN				LR	LR		
	comp=Z,12μm,20.0s,MS5.7						
OBN	**Obninsk**	**39.65**	**54**	*c i*P	**P**	**08 39 23.7**	**-0.3**
OBN				*i*		08 40 59.7	
OBN				*i*		08 41 30.1	
OBN				*i*S	**S**	**08 45 35.1**	**+8.2**
OBN				pmax	pmax		
	comp=Z,366nm,2.5s,mb5.7						
OBN				MLR	MLR		
	comp=Z,12μm,19.0s,MS5.7						
OBN	**Obninsk**	**39.65**	**54**	*i*P	**P**	**08 39 23.7**	**-0.3**
	comp=Z,366nm,2.5s,mb5.7						
OBN	**Obninsk**	**39.65**	**54**	*i* PcP	PcP	08 41 30.1	-0.6
OBN	**Obninsk**	**39.65**	**54**	P	**P**	**08 39 23.0**	**-1.0**
	comp=Z,653nm,1.1s,mb6.3,SNR=9.3						
EDC	**Edincik**	**39.74**	**79**	*e*P	**P**	**08 39 23.6**	**-1.3**
ELBA	**Catalca**	**39.74**	**77**	*i*P	**P**	**08 39 26.4**	**+1.4**
CTKS	**Kestanelik-??a**	**39.75**	**77**	*e*P	**P**	**08 39 23.6**	**-1.4**
GONE	**Gonen-Balikesi**	**39.76**	**79**	*e*P	**P**	**08 39 27.1**	**+1.9**
BNT	**Bandirma**	**39.77**	**79**	*e*P	**P**	**08 39 26.1**	**+0.9**
VAM	**Vamos**	**39.77**	**88**	*e*P	**P**	**08 39 27.0**	**+1.7**
APE	**Apeiranthos**	**39.80**	**85**	*e*P	**P**	**08 39 24.2**	**-1.2**
KLMR	**Klimovskoe**	**39.85**	**45**	*e*P	**P**	**08 39 23.1**	**-2.5**
KLMR				*e*		08 40 57.7	
KLMR				*e*		08 41 28.8	
KLMR				pmax	pmax		
	comp=Z,198nm,1.6s,mb5.6						
KLMR				pmax	pmax		
	comp=Z,633nm,8.4s						
KLMR				MLR	MLR		
	comp=Z,5μm,18.0s,MS5.4						
KLMR	**Klimovskoe**	**39.85**	**45**	*e*P	**P**	**08 39 23.1**	**-2.5**
	comp=Z,633nm,8.4s						
BALY	**Balya**	**39.86**	**80**	*i*P	**P**	**08 39 18.4**	**-7.7**
BLA	**Blacksburg**	**39.92**	**276**	*e*P	**P**	**08 39 27.4**	**+0.9**
	comp=Z,118nm,1.9s,mb5.3						
BLA				LR	LR		
	comp=Z,4μm,19.0s,MS5.3						
BLA	**Blacksburg**	**39.92**	**276**	*e*P	**P**	**08 39 27.4**	**+0.9**
BLA				pmax	pmax		
	comp=Z,118nm,1.9s,mb5.3						
BLA				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.3						
BLA	**Blacksburg**	**39.92**	**276**	*e*P	**P**	**08 39 27.4**	**+0.9**
	comp=Z,4μm,19.0s						
BGKT	**Bogazkoy**	**39.95**	**77**	*e*P	**P**	**08 39 29.4**	**+2.7**
GVD	**Gavdhos**	**40.01**	**89**	*e*P	**P**	**08 39 28.0**	**+0.7**
GVD	**Gavdhos**	**40.01**	**89**	*e*P	**P**	**08 39 28.1**	**+0.9**
	comp=Z,601nm,1.8s,mb6.0						
GVD	**Gavdhos**	**40.01**	**89**	*e*P	**P**	**08 39 28.1**	**+0.8**
	comp=Z,601nm,1.8s,mb6.0						
MOS	**Moscow**	**40.06**	**53**	*e*P	**P**	**08 39 25.7**	**-1.7**
MOS

comp=N,60nm,0.9s
VSR pmax pmax
comp=E,250nm,1.9s
VSR smax
comp=E,560nm,4.0s
VSR smax
comp=Z,40nm,2.0s
VSR smax
comp=N,260nm,4.0s
VSR MLR MLR
comp=N,4µm,18.0s,MS5.6
VSR MLR MLR
comp=E,6µm,18.0s,MS5.6
VSR MLR MLR
comp=Z,9µm,18.0s,MS5.7
VSR Storozhevoye 42.37 59 *e*P **P 08 39 46.3 -0.2**
VSR *e*S **S 08 46 06.7 -0.8**
comp=Z,260nm,4.0s
CDVI St. Croix 42.39 239 *e*P **P 08 39 46.9 -0.1**
comp=Z,46nm,0.7s,mb5.2
CDVI St. Croix 42.39 239 *e*P **P 08 39 46.9 -0.1**
comp=Z,46nm,0.7s,mb5.2
TZTN Tazewell 42.40 277 *e*P **P 08 39 47.8 +0.9**
comp=Z,142nm,1.6s,mb5.3
TZTN Tazewell 42.40 277 *e*P **P 08 39 47.8 +0.9**
comp=Z,142nm,1.6s,mb5.3
SHUT Suhut-Afyon 42.43 80 *e*P **P 08 39 47.8 +0.7**
MTP Monte Pirata 42.59 240 *e*P **P 08 39 48.7 +0.1**
comp=Z,67nm,1.2s,mb5.2
MTP Monte Pirata 42.59 240 *e*P **P 08 39 48.7 +0.1**
comp=Z,67nm,1.2s,mb5.2
BOLV Bolvadin 42.62 79 *i*P **P 08 39 48.9 +0.3**
SVRH Sivrihisar-ESK 42.63 78 *e*P **P 08 39 47.5 -1.2**
CBYP Canovanas 42.63 241 *e*P **P 08 39 48.5 -0.4**
comp=Z,99nm,1.5s,mb5.3
CBYP Canovanas 42.63 241 *e*P **P 08 39 48.5 -0.5**
comp=Z,99nm,1.5s,mb5.3
FDF Fort de France 42.77 233 PFAKE 08 40 00.0 +10
FDF LR LR
comp=Z,4µm,21.0s,MS5.2
ELL Elmali 42.94 82 *e*P **P 08 39 49.8 -1.6**
BCK Bucak 43.02 81 *e*P **P 08 39 50.6 -1.4**
TKL Tuckaleechee C 43.03 276 *e*P **P 08 39 52.6 +0.6**
TKL Tuckaleechee C 43.03 276 *e*P **P 08 39 52.6 +0.5**
TKL Tuckaleechee C 43.03 276 *e*P **P 08 39 52.6 +0.5**
BLO Bloomington 43.03 282 *e*P **P 08 39 51.7 -0.4**
comp=Z,100nm,1.5s,mb5.3
BLO Bloomington 43.03 282 *e*P **P 08 39 51.7 -0.4**
BLO pmax pmax
comp=Z,100nm,1.5s,mb5.3
BLO Bloomington 43.03 282 *e*P **P 08 39 51.7 -0.4**
comp=Z,100nm,1.5s,mb5.3
KORT Korkueli 43.11 82 *i*P **P 08 39 46.1 -6.5**
AOPR Arecibo Observ 43.12 242 *e*P **P 08 39 53.3 +0.5**
comp=Z,25nm,1.0s,mb4.9
AOPR Arecibo Observ 43.12 242 *e*P **P 08 39 53.3 +0.4**
comp=Z,25nm,1.0s,mb4.9
CELP Cerrillos 43.22 242 *e*P **P 08 39 53.9 +0.2**
CELP Cerrillos 43.22 242 *e*P **P 08 39 53.9 +0.2**
BBGH Gun Hill 43.24 229 PFAKE 08 40 00.0 +6.1
BBGH LR LR
comp=Z,7µm,20.0s,MS5.6
SUTC Sutluce-Ispart 43.29 81 *e*P **P 08 39 53.0 -1.1**
ILGA Ilgaz 43.30 75 *i*P **P 08 39 53.4 -0.7**
WCI Wyandotte Cave 43.37 281 *e*P **P 08 39 55.5 +0.8**
comp=Z,167nm,1.8s,mb5.5
WCI Wyandotte Cave 43.37 281 *e*P **P 08 39 55.5 +0.8**
WCI pmax pmax
comp=Z,167nm,1.8s,mb5.5
WCI Wyandotte Cave 43.37 281 *e*P **P 08 39 55.5 +0.8**
comp=Z,167nm,1.8s,mb5.5
ELDT Eldivan 43.38 76 *i*P **P 08 39 54.7 -0.2**
CANT Cankiri 43.45 75 *e*P **P 08 39 56.1 +0.7**
MPR Mayaguez 43.45 242 *e*P **P 08 39 56.9 +1.3**
comp=Z,53nm,1.0s,mb5.2
MPR Mayaguez 43.45 242 *e*P **P 08 39 56.9 +1.3**
comp=Z,53nm,1.0s,mb5.2
KDHN Kadinhani 43.50 79 *i*P **P 08 39 56.8 +1.0**
KDHN Kadinhani 43.50 79 *i*P **P 08 39 56.8 +1.0**
CRPR Cabo Rojo, PR 43.59 242 *e*P **P 08 39 57.3 +0.6**
comp=Z,162nm,1.5s,mb5.5
CRPR Cabo Rojo, PR 43.59 242 *e*P **P 08 39 57.3 +0.6**
comp=Z,162nm,1.5s,mb5.5
BBAL Bala 43.65 77 *i*P **P 08 39 57.9 +0.8**
BBAL Bala 43.65 77 *i*P **P 08 39 57.9 +0.9**
AFSR Af¯ar-Bala (A 43.66 77 *e*P **P 08 39 56.6 -0.5**
JFWS Jewell Farm 43.67 289 *e*P **P 08 39 58.3 +1.2**
comp=Z,38nm,1.4s,mb4.9
JFWS *e*PcP PcP 08 41 43.9 -0.3
JFWS LR LR
comp=Z,10µm,20.0s,MS5.7
JFWS Jewell Farm 43.67 289 *e*P **P 08 39 58.3 +1.2**
JFWS *e* 08 41 43.9
JFWS pmax pmax
comp=Z,38nm,1.4s,mb4.9
JFWS MLR MLR
comp=Z,10µm,20.0s,MS5.7
JFWS Jewell Farm 43.67 289 *e*P **P 08 39 58.3 +1.2**
comp=Z,38nm,1.4s,mb4.9
LADK Ladik-KONYA 43.83 79 *e*P **P 08 39 57.8 -0.7**
BR131 Keskin Array S 43.90 76 *e*P **P 08 39 59.5 +0.4**
comp=Z,44nm,1.1s,mb5.1
BR131 *e*PcP PcP 08 41 44.9 -0.1
BR131 LR LR
comp=Z,5µm,20.0s,MS5.4
BR131 Keskin Array S 43.90 76 *e*P **P 08 39 59.5 +0.5**
comp=Z,44nm,1.1s,mb5.1
BRTR Keskin Array B 43.90 76 P **P 08 39 59.6 +0.6**
comp=Z,47nm,1.1s,mb5.1,baz=297,slow=5.4,SNR=66
BRTR PcP PcP 08 41 44.6 -0.4
comp=Z,11nm,1.0s,baz=254,slow=1.4,SNR=7.3
BRTR LR LR 08 58 15.9
comp=Z,6µm,21.2s,MS5.5,baz=110,slow=36
BRTR Keskin Array B 43.90 76 P **P 08 39 59.6 +0.6**
BRTR PcP PcP 08 41 44.6 -0.4
BRTR Keskin Array B 43.90 76 P **P 08 39 59.6 +0.6**
BRTR 08 41 44.6
BRTR pmax pmax
comp=Z,47nm,1.1s
BRTR pmax pmax
comp=Z,11nm,1.0s
BRTR MLR MLR
comp=Z,6µm,21.2s
BRTR Keskin Array B 43.90 76 P **P 08 39 59.6 +0.6**
comp=Z,47nm,1.1s,mb5.1
BRTR Keskin Array B 43.90 76 PcP PcP 08 41 44.6 -0.4
comp=Z,6µm,21.2s
ANN Anapa 43.94 68 *e*P **P 08 39 58.5 -0.8**
ANN *e**PP pP 08 40 02.0 -0.4
ANN *e* 08 41 51.6
ANN *e*S **S 08 46 29.5 -1.2**
ANN *e*SS SS 08 49 48.1 +1.2
ANN pmax pmax
comp=Z,214nm,1.7s,mb5.6
ANN MLR MLR
comp=N,7µm,16.0s,MS5.8
ANN MLR MLR
comp=E,5µm,16.0s,MS5.8
ANN MLR MLR
comp=Z,8µm,16.0s,MS5.7
ANN Anapa 43.94 68 *e*P **P 08 39 58.5 -0.8**
comp=Z,214nm,1.7s,mb5.6
ANN *e*S **S 08 46 29.5 -1.2**
KONT Konya--Tatoy 43.96 79 *e*P **P 08 40 00.3 +0.8**
ULM Lac du Bonnet 43.98 301 P **P 08 39 58.6 -0.9**
comp=Z,46nm,1.0s,mb5.2,baz=66,slow=8.6,SNR=28
ULM LR LR 08 56 11.2
comp=Z,9µm,21.0s,MS5.7,baz=69,slow=33
ULM Lac du Bonnet 43.98 301 *e*P **P 08 39 58.5 -1.0**
comp=Z,76nm,1.2s,mb5.3
ULM Lac du Bonnet 43.98 301 P **P 08 39 58.6 -0.9**
ULM pmax pmax
comp=Z,46nm,1.0s
ULM Lac du Bonnet 43.98 301 P **P 08 39 58.6 -0.9**
comp=Z,46nm,1.0s,mb5.2
DIKM Dikmen 44.02 73 *e*P **P 08 40 00.5 +0.5**
GOGA Godfrey 44.08 273 *e*P **P 08 40 01.6 +1.0**
comp=Z,88nm,1.6s,mb5.2
GOGA LR LR
comp=Z,13µm,20.0s,MS5.8
GOGA Godfrey 44.08 273 *e*P **P 08 40 01.6 +1.0**
GOGA pmax pmax
comp=Z,88nm,1.6s,mb5.2
GOGA MLR MLR
comp=Z,13µm,20.0s,MS5.8
GOGA Godfrey 44.08 273 *e*P **P 08 40 01.6 +1.0**
comp=Z,13µm,20.0s
KAMT Kaman 44.13 77 *e*P **P 08 40 02.6 +1.7**
SPMN St. Paul 44.24 293 ⇓P **P 08 40 01.3 -0.3**
baz=44
SPMN ⇓S **S 08 46 34.8 -0.2**
baz=44
OLIL Olney 44.31 282 *e*P **P 08 40 03.0 +0.6**
OLIL *e*PcP PcP 08 41 48.6 +2.2
OLIL Olney 44.31 282 *e*P **P 08 40 03.0 +0.6**
CORM Corum 44.33 75 *e*P **P 08 40 01.6 -0.9**
CDAG Cicekdag 44.44 76 *i*P **P 08 40 00.0 -3.4**
HDMB Hadim 44.57 81 *e*P **P 08 40 05.7 +1.3**
DBIC Dimbokro 44.57 147 P **P 08 40 03.3 -1.3**
comp=Z,24nm,0.7s,mb5.1,baz=326,slow=8.7,SNR=38
DBIC LR LR 08 56 53.3
comp=Z,8µm,19.5s,MS5.7,baz=322,slow=34
DBIC Dimbokro 44.57 147 *e*P **P 08 40 03.5 -1.2**
comp=Z,575nm,2.3s,mb6.0
DBIC Dimbokro 44.57 147 *e*P **P 08 40 03.5 -1.1**
DBIC pmax pmax
comp=Z,575nm,2.3s
DBIC Dimbokro 44.57 147 *e*P **P 08 40 03.5 -1.1**
comp=Z,575nm,2.3s,mb6.0
HAVZ Havza 44.60 74 *i*P **P 08 40 05.9 +1.3**
SULT Sultanhani-AKS 44.61 78 *e*P **P 08 40 06.4 +1.7**
AGMN Agassiz Nation 44.78 298 *e*P **P 08 40 06.3 +0.3**
comp=Z,104nm,1.4s,mb5.5
AGMN LR LR
comp=Z,11µm,19.0s,MS5.8
AGMN Agassiz Nation 44.78 298 *e*P **P 08 40 06.3 +0.4**
comp=Z,104nm,1.4s,mb5.5
KVT Kavak 44.81 73 *e*P **P 08 40 07.1 +0.8**
GAZI Gazipasa 44.85 81 *i*P **P 08 40 06.4 -0.2**
LIC Lamto 44.92 148 ⇓*i*P **P 08 40 05.8 -1.6**
comp=Z,243nm,1.5s,mb5.5,baz=340
LIC *e*R
comp=Z,13µm,22.2s
LIC Lamto 44.92 148 ⇓*i*P **P 08 40 05.8 -1.6**
comp=Z,243nm,1.5s,mb5.8
LIC Lamto 44.92 148 ⇓*i*P **P 08 40 05.8 -1.6**
comp=Z,122nm,1.5s,mb5.5
ERMK Ermenek 45.03 81 *i*P **P 08 40 06.0 -2.1**
GRGR Grenville 45.19 231 PFAKE 08 40 20.0 +10
GRGR LR LR
comp=Z,2µm,20.0s,MS5.1
AVNT Avonos 45.20 77 *i*P **P 08 40 10.4 +1.0**
SDDR Presa de Saban 45.44 247 *e*P **P 08 40 13.3 +1.8**
comp=Z,133nm,1.4s,mb5.6
SDDR LR LR
comp=Z,8µm,20.0s,MS5.7
SDDR Presa de Saban 45.44 247 *e*P **P 08 40 13.3 +1.8**
comp=Z,133nm,1.4s,mb5.6
TOKA Tokat 45.48 74 *i*P **P 08 40 11.7 +0.1**
ERBA Erbaa 45.48 74 *i*P **P 08 40 11.9 +0.3**
WVT Waverly 45.52 279 *e*P **P 08 40 12.0 0.0**
comp=Z,114nm,1.6s,mb5.5
WVT Waverly 45.52 279 *e*P **P 08 40 12.0 0.0**
WVT pmax pmax
comp=Z,114nm,1.6s,mb5.5
WVT Waverly 45.52 279 *e*P **P 08 40 12.0 0.0**
comp=Z,114nm,1.6s,mb5.5
SIUC Southern Illin 45.60 282 *e*P **P 08 40 12.9 +0.3**
comp=Z,48nm,0.9s,mb5.4
SIUC Southern Illin 45.60 282 *e*P **P 08 40 12.9 +0.3**
comp=Z,48nm,0.9s,mb5.4
FFC Flin Flon 45.66 309 *e*P **P 08 40 12.6 -0.2**
comp=Z,159nm,1.3s,mb5.8
FFC LR LR
comp=Z,9µm,21.0s,MS5.7
FFC Flin Flon 45.66 309 *i*P **P 08 40 12.7 -0.2**
FFC Flin Flon 45.66 309 P **P 08 40 12.5 -0.4**
comp=Z,518nm,1.0s,mb6.4,SNR=43
FFC Flin Flon 45.66 309 *i*P **P 08 40 12.7 -0.2**
SLM Saint Louis 45.79 283 *e*P **P 08 40 14.8 +0.7**
comp=Z,174nm,1.5s,mb5.8
SLM Saint Louis 45.79 283 *e*P **P 08 40 14.8 +0.7**
SLM pmax pmax
comp=Z,174nm,1.5s,mb5.8
SLM Saint Louis 45.79 283 *e*P **P 08 40 14.8 +0.7**
comp=Z,174nm,1.5s,mb5.8
BNN Bunyan 45.82 76 *e*P **P 08 40 13.8 -0.5**
LEF Lefka 45.86 82 *e*P **P 08 40 11.5 -3.2**
DWPF Disney 45.90 265 *e*P **P 08 40 15.2 +0.1**
comp=Z,120nm,1.4s,mb5.6
DWPF Disney 45.90 265 *e*P **P 08 40 15.2 +0.1**
comp=Z,119nm,1.4s,mb5.6
GULE Gulek 45.94 79 *i*P **P 08 40 15.3 0.0**
SOC Sochi 45.97 69 *e*P **P 08 40 14.0 -1.4**
SOC *e* 08 42 01.4
SOC *e*S **S 08 47 01.8 +1.8**
SOC *e* 08 50 10.2
SOC pmax pmax
comp=Z,67nm,1.3s,mb5.4
SOC MLR MLR
comp=Z,4µm,12.0s,MS5.6
SOC Sochi 45.97 69 *e*P **P 08 40 14.0 -1.4**
comp=Z,67nm,1.3s,mb5.4
SOC *e*ScS ScS 08 50 10.2 -0.8
comp=Z,4µm,12.0s
MERS Mersin 45.99 79 *e*P **P 08 40 13.7 -2.0**
LKFR Kufra 46.03 102 *i*P **P 08 40 15.8 -0.3**
comp=Z,330nm,1.6s,mb6.0,SNR=156
LKFR *e*S **S 08 47 02.1 +0.7**
SNR=154
SCIA State Center 46.08 289 *e*P **P 08 40 16.4 +0.1**
comp=Z,56nm,1.2s,mb5.4
SCIA LR LR
comp=Z,9µm,21.0s,MS5.7
SCIA State Center 46.08 289 *e*P **P 08 40 16.4 +0.1**
comp=Z,56nm,1.2s,mb5.4
UTMT University of 46.11 280 *e*P **P 08 40 17.4 +0.8**
comp=Z,243nm,1.3s,mb6.0
UTMT University of 46.11 280 *e*P **P 08 40 17.4 +0.8**
comp=Z,243nm,1.3s,mb6.0
SCER sokocermik 46.14 74 *i*P **P 08 40 16.0 -0.9**
CSS Prodhromos 46.24 82 *e*P **P 08 40 19.8 +2.1**
CSS Prodhromos 46.24 82 *e*P **P 08 40 18.3 +0.6**
comp=Z,56nm,1.1s,mb5.4
CSS LR LR
comp=Z,3µm,19.0s,MS5.3
CSS Prodhromos 46.24 82 *e*P **P 08 40 18.3 +0.6**
comp=Z,56nm,1.1s,mb5.4
PINB Pinarbasi 46.28 76 *i*P **P 08 40 20.3 +2.3**
PLAL Pickwick Lake 46.33 278 *e*P **P 08 40 19.1 +0.7**
comp=Z,263nm,1.9s,mb5.8
PLAL LR LR
comp=Z,9µm,22.0s,MS5.7
PLAL Pickwick Lake 46.33 278 *e*P **P 08 40 19.0 +0.6**
comp=Z,262nm,1.9s,mb5.8
GLAT Glass 46.43 280 *e*P **P 08 40 19.9 +0.7**
GLAT Glass 46.43 280 *e*P **P 08 40 19.9 +0.7**
SARI SarD1z-Kayseri 46.48 76 *e*P **P 08 40 19.5 0.0**
KOZT Kozan 46.54 78 *e*P **P 08 40 18.1 -1.9**
HALT Halls 46.66 280 *e*P **P 08 40 21.1 +0.1**
HALT Halls 46.66 280 *e*P **P 08 40 21.1 +0.1**
SUSE Susehri 46.67 73 *i*P **P 08 40 20.3 -0.7**
LRAL Lakeview Retre 46.71 275 *e*P **P 08 40 22.3 +0.9**
comp=Z,122nm,1.7s,mb5.6
LRAL LR LR
comp=Z,13µm,22.0s,MS5.8
LRAL Lakeview Retre 46.71 275 *e*P **P 08 40 22.3 +0.9**
comp=Z,122nm,1.7s,mb5.6
ANDN Andirin 46.83 77 *i*P **P 08 40 21.6 -0.7**
GNAR Gosnell 47.09 280 *e*P **P 08 40 25.1 +0.7**
GNAR Gosnell 47.09 280 *e*P **P 08 40 25.1 +0.8**
GTBY Guantanamo Bay 47.20 252 PFAKE 08 40 40.0 +15
GTBY LR LR
comp=Z,6µm,22.0s,MS5.5
MDND Maddock 47.23 299 ⇓P **P 08 40 24.9 -0.3**
baz=47,SNR=11
MDND ⇑S **S 08 47 18.2 +0.3**
baz=47
KMRS Kahramanmaras 47.24 77 *e*P **P 08 40 26.1 +0.6**
ECSD EROS Data Cent 47.35 293 *e*P **P 08 40 26.3 0.0**
comp=Z,123nm,1.8s,mb5.5
ECSD LR LR
comp=Z,18µm,20.0s,MS6.0
ECSD EROS Data Cent 47.35 293 *e*P **P 08 40 26.3 +0.1**
comp=Z,123nm,1.8s,mb5.5
KEMA Kemaliye 47.35 74 *i*P **P 08 40 27.3 +0.9**
GUMT Gumushane 47.38 72 *e*P **P 08 40 28.0 +1.5**
KELT Kelkit 47.39 73 *i*P **P 08 40 20.3 -6.3**
AKCD Akcadag 47.49 76 *i*P **P 08 40 27.6 +0.2**
OXF Oxford 47.50 278 *e*P **P 08 40 25.7 -1.8**
comp=Z,145nm,1.4s,mb5.7
OXF LR LR
comp=Z,10µm,22.0s,MS5.7
OXF Oxford 47.50 278 *e*P **P 08 40 25.7 -1.8**
OXF pmax pmax
comp=Z,145nm,1.4s,mb5.7
OXF MLR MLR
comp=Z,10µm,22.0s,MS5.7
OXF Oxford 47.50 278 *e*P **P 08 40 25.7 -1.8**
comp=Z,10µm,22.0s
GAZ Gaziantep 47.63 77 *e*P **P 08 40 29.0 +0.5**
EZC Erzincan 47.66 73 *e*P **P 08 40 31.4 +2.7**
HBAR Harrisburg 47.75 280 *e*P **P 08 40 29.3 -0.2**
HBAR Harrisburg 47.75 280 *e*P **P 08 40 29.3 -0.2**
KUZU Kuzuini 47.76 78 *i*P **P 08 40 31.0 +1.4**
BAYT Ayd¯-ntepe-Bay 47.84 72 *e*P **P 08 40 31.8 +1.7**
BRAL Brewton 47.95 273 PFAKE 08 40 40.0 +8.9
BRAL LR LR
comp=Z,9µm,20.0s,MS5.8
ELZG Elazig 48.09 75 *i*P **P 08 40 32.8 +0.7**
PTK Pertek 48.14 74 *e*P **P 08 40 33.5 +1.0**
ATAB Bozova 48.19 76 *i*P **P 08 40 32.4 -0.4**
BCA Borcka 48.25 70 *e*P **P 08 40 33.2 -0.1**
KOPT Kop Dagi 48.27 72 *i*P **P 08 40 26.7 -6.8**
DBOC Borcka 48.33 70 *i*P **P 08 40 37.4 +3.5**
HWQ Hawqa 48.40 81 *e*P **P 08 40 35.5 +0.9**
BHL Bhannes 48.42 82 *e*P **P 08 40 34.9 +0.2**
SOKR Solikamsk 48.43 43*c i*P **P 08 40 34.8 +0.4**
SOKR pmax pmax
comp=Z,140nm,1.3s,mb5.8
SOKR Solikamsk 48.43 43 *i*P **P 08 40 34.8 +0.4**
comp=Z,140nm,1.3s,mb5.8
BRSD Miller 48.46 295 ⇓P **P 08 40 34.5 -0.4**
baz=48
URFA Urfa 48.55 76 *e*P **P 08 40 33.6 -2.0**
ARTV Artvin 48.59 70 *i*P **P 08 40 36.7 +0.9**
DDEM Demirkent 48.62 71 *i*P **P 08 40 37.4 +1.2**
DAGI Agilar 48.63 70 *i*P **P 08 40 37.4 +1.2**
YKA Yellowknife Ar 48.64 322 P **P 08 40 33.0 -3.0**
comp=Z,14nm,0.9s,mb5.0,baz=66,slow=7.0,SNR=66
YKA PcP PcP 08 42 00.2 -1.0
comp=Z,6.4nm,1.0s,baz=63,slow=3.8,SNR=7.2
YKA LR LR 08 58 43.3
comp=Z,440nm,18.4s,MS4.5,baz=65,slow=33
YKA Yellowknife Ar 48.64 322 P **P 08 40 33.0 -3.0**
YKA PcP PcP 08 42 00.2 -1.0
YKA Yellowknife Ar 48.64 322 P **P 08 40 33.0 -3.0**
YKA 08 42 00.2
YKA pmax pmax
comp=Z,14nm,0.9s
YKA pmax pmax
comp=Z,6.0nm,1.0s
YKA Yellowknife Ar 48.64 322 P **P 08 40 33.0 -3.0**
comp=Z,14nm,0.9s,mb5.0
YKA Yellowknife Ar 48.64 322 PcP PcP 08 42 00.2 -1.0
comp=Z,6.0nm,1.0s
ONI Oni 48.83 68 P **P 08 40 39.3 +1.5**
ONI S **S 08 47 46.1 +5.3**
EZM Erzurum 48.89 72 *e*P **P 08 40 40.8 +2.6**
BNGB Bing¨ll 48.94 73 *e*P **P 08 40 39.8 +1.2**
HOMI Horasan 49.17 72 *i*P **P 08 40 40.7 +0.4**
BNGL BINGOL 49.27 73 *i*P **P 08 40 42.3 +1.2**
A24A Westby 49.31 302 ⇓P **P 08 40 41.5 +0.2**
baz=49,SNR=14
UALR University of 49.33 280 *e*P **P 08 40 41.3 -0.3**
comp=Z,142nm,1.6s,mb5.8
UALR University of 49.33 280 *e*P **P 08 40 41.3 -0.4**
comp=Z,142nm,1.6s,mb5.8
VRTB Varto-Mus 49.35 73 *e*P **P 08 40 44.5 +2.7**
AKH Akhalkalaki 49.47 69 P **P 08 40 44.3 +1.6**
BGNE Belgrade 49.51 291 ⇓P **P 08 40 41.8 -1.1**
baz=49
GOR Gori 49.56 68 P **P 08 40 45.2 +1.9**
VBMS Vicksburg 49.59 276 *e*P **P 08 40 43.4 -0.3**
comp=Z,273nm,1.5s,mb6.1
VBMS LR LR
comp=Z,10µm,20.0s,MS5.8
VBMS Vicksburg 49.59 276 *e*P **P 08 40 43.4 -0.3**
comp=Z,273nm,1.5s,mb6.1
DGMT Dagmar 49.64 302 ⇓P **P 08 40 44.1 +0.3**
baz=50,SNR=16
DGMT Dagmar 49.64 302 *e*P **P 08 40 44.4 +0.5**
comp=Z,217nm,1.4s,mb6.0
DGMT LR LR
comp=Z,10µm,22.0s,MS5.8
DGMT Dagmar 49.64 302 *e*P **P 08 40 44.4 +0.5**
comp=Z,217nm,1.4s,mb6.0
KSU1 Kansas State U 49.75 287 *e*P **P 08 40 44.5 -0.3**
comp=Z,198nm,1.6s,mb5.9
KSU1 LR LR
comp=Z,11µm,19.0s,MS5.9
KSU1 Kansas State U 49.75 287 *e*P **P 08 40 44.5 -0.3**
comp=Z,198nm,1.6s,mb5.9
A23A Redstone 49.80 303 ⇑P **P 08 40 46.0 +0.9**
baz=50,SNR=14
DIGO Kars 49.92 70 *i*P **P 08 40 47.0 +0.9**
MTDJ Mount Denham 50.01 252 PFAKE 08 41 00.0 +13
MTDJ LR LR
comp=Z,3µm,21.0s,MS5.3
TBLG Delisi 50.10 68 *e*P **P 08 40 49.8 +2.4**
TBLG Delisi 50.10 68 P **P 08 40 49.8 +2.4**
TBLG Delisi 50.10 68 *e*P **P 08 40 49.8 +2.4**
B23A Brockton 50.11 302 ⇑P **P 08 40 48.5 +1.2**
baz=50,SNR=91
AGRB Hanur-Agry 50.13 71 *e*P **P 08 40 48.1 +0.4**
C24A Savage 50.24 301 ⇓P **P 08 40 49.1 +0.7**
baz=50,SNR=57
MIAR Mount Ida 50.29 281 *e*P **P 08 40 48.5 -0.5**
comp=Z,219nm,1.4s,mb6.0
MIAR LR LR
comp=Z,21µm,19.0s,MS6.2
MIAR Mount Ida 50.29 281 *e*P **P 08 40 48.5 -0.5**
MIAR pmax pmax
comp=Z,219nm,1.4s,mb6.0
MIAR MLR MLR
comp=Z,21µm,19.0s,MS6.2
MIAR Mount Ida 50.29 281 *e*P **P 08 40 48.5 -0.5**
comp=Z,21µm,19.0s
A22A Carney Farms, 50.38 303 ⇑P **P 08 40 49.6 +0.2**
baz=50,SNR=44
D24A Glendive 50.39 300 ⇓P **P 08 40 50.1 +0.5**
baz=50,SNR=21
C23A Lambert 50.55 301 ⇑P **P 08 40 51.5 +0.8**
baz=50,SNR=32
DYDN Diyadin 50.60 71 *i*P **P 08 40 52.7 +1.5**
E24A Baker 50.66 300 ⇓P **P 08 40 51.7 +0.2**
baz=50,SNR=5.3
ARU Arti 50.67 46 *e*P **P 08 40 50.5 -1.0**
comp=Z,435nm,1.9s,mb6.1
ARU LR LR
comp=Z,3µm,20.0s,MS5.3
ARU Arti 50.67 46*d i*P **P 08 40 50.7 -0.8**
ARU *e* 08 42 07.1
ARU *e* 08 42 47.4
ARU *e*PPP 08 43 46.3
ARU S **S 08 48 04.5 -1.7**
ARU 08 50 36.1
ARU SS SS 08 51 43.7 +3.9
ARU SSS 08 53 10.1
ARU pmax pmax
comp=Z,167nm,1.7s,mb5.7
ARU MLR MLR
comp=Z,4µm,16.0s,MS5.5
ARU Arti 50.67 46 P **P 08 40 51.2 -0.3**
comp=Z,495nm,1.0s,mb6.4,SNR=8.6
ARU Arti 50.67 46 *e*P **P 08 40 50.5 -1.0**
comp=Z,435nm,1.9s,mb6.1
ARU Arti 50.67 46 *e*PcP PcP 08 42 07.1 -1.6
ARU S **S 08 48 04.5 -1.7**
B22A Reddig Ranch S 50.77 302 ⇓P **P 08 40 52.7 +0.3**
baz=51,SNR=15
GEVA Gevas 50.87 73 *i*P **P 08 40 54.0 +0.8**
D23A Lindsay 50.88 301 ⇓P **P 08 40 53.8 +0.5**
baz=51,SNR=46
VANB Van 50.92 72 *e*P **P 08 40 54.4 +0.7**
GNI Garni 50.95 70 *e*P **P 08 40 55.0 +1.2**
GNI Garni 50.95 70 *e*P **P 08 40 55.5 +1.7**
comp=Z,119nm,1.4s,mb5.6
GNI LR LR
comp=Z,5µm,19.0s,MS5.5
GNI Garni 50.95 70*d i*P **P 08 40 54.2 +0.4**
GNI pmax pmax
comp=Z,132nm,1.7s
GNI Garni 50.95 70 P **P 08 40 55.6 +1.8**
SNR=16
GNI Garni 50.95 70 *i*P **P 08 40 54.2 +0.4**
comp=Z,132nm,1.7s,mb5.6

A21A	Bergtoll Ranch	50.96	303	⇑P	P	08 40 53.6 -0.2
	baz=51,SNR=42					
CLDR	Caldiran	50.97	71	eP	P	08 40 53.6 -0.4
C22A	Vida	50.99	302	⇑P	P	08 40 53.9 -0.1
	baz=51,SNR=43					
TUL1	Tulsa	50.99	284	⇑P	P	08 40 52.6 -1.6
	baz=51,SNR=18					
F24A	Ekalaka	51.10	299	⇓P	P	08 40 53.8 -1.2
	baz=51,SNR=14					
MAK	Makhachkala	51.18	65	eP	P	08 40 55.5 -0.1
MAK				e		08 42 57.2
MAK				ePPP		08 43 55.7
MAK				eS	S	08 48 08.4 -5.2
MAK				e		08 50 48.7
MAK				pmax	pmax	
	comp=Z,377nm,1.4s,mb6.1					
MAK				MLR	MLR	
	comp=Z,10μm,15.0s,MS6.0					
MAK	Makhachkala	51.18	65	eP	P	08 40 55.5 -0.1
	comp=Z,377nm,1.4s,mb6.1					
E23A	Ismay	51.28	300	⇑P	P	08 40 56.6 +0.3
	baz=51,SNR=24					
B21A	Ellsworth Farm	51.30	303	⇑P	P	08 40 56.4 0.0
	baz=51,SNR=23					
G24A	Alzada	51.36	298	⇑P	P	08 40 56.8 -0.1
	baz=51,SNR=6.2					
K27A	Flueckinger Fa	51.40	294	⇑P	P	08 40 56.4 -0.8
	baz=51,SNR=10					
D22A	Cohagen	51.46	301	⇓P	P	08 40 58.0 +0.4
	baz=51,SNR=46					
SVE	Sverdlovsk	51.49	45	⇓iP	P	08 40 57.7 0.0
SVE				eS	S	08 48 20.6 +3.2
SVE				e		08 50 40.9
SVE				pmax	pmax	
	comp=Z,128nm,1.6s,mb5.6					
SVE				MLR	MLR	
	comp=Z,4μm,15.0s,MS5.6					
SVE	Sverdlovsk	51.49	45	iP	P	08 40 57.7 0.0
	comp=Z,128nm,1.6s,mb5.6					
A20A	Cobblestone Ra	51.59	304	⇓P	P	08 40 58.3 -0.2
	baz=51,SNR=38					
C21A	Desert Coulee	51.65	302	⇓P	P	08 40 58.9 -0.1
	baz=52,SNR=52					
E22A	Miles City	51.69	300	⇑P	P	08 40 59.3 -0.1
	baz=52,SNR=25					
HAKT	HAKKARI	51.71	73	iP	P	08 40 59.6 0.0
LAO	LASA Array	51.73	301	⇓P	P	08 40 59.9 +0.3
	baz=52,SNR=55					
LAO	LASA Array	51.73	301	eP	P	08 41 00.1 +0.5
	comp=Z,490nm,1.7s,mb6.2					
LAO				LR	LR	
	comp=Z,10μm,20.0s,MS5.8					
LAO	LASA Array	51.73	301	eP	P	08 41 00.1 +0.5
	comp=Z,490nm,1.7s,mb6.2					
H24A	Dirks Ranch, A	51.74	298	⇓P	P	08 40 58.6 -1.2
	baz=52,SNR=25					
F23A	Volborg	51.74	299	⇓P	P	08 40 59.3 -0.5
	baz=52,SNR=23					
RSSD	Black Hills	51.76	297	eP	P	08 40 59.4 -0.5
	comp=Z,66nm,1.7s,mb5.3					
RSSD	Black Hills	51.76	297	eP	P	08 40 59.4 -0.5
RSSD				pmax	pmax	
	comp=Z,66nm,1.7s,mb5.3					
RSSD	Black Hills	51.76	297	eP	P	08 40 59.4 -0.5
	comp=Z,66nm,1.7s,mb5.3					
L27A	T5 Ranch, Ells	51.78	294	⇑P	P	08 40 59.4 -0.6
	baz=52					
B20A	Solberg Farm,	51.87	303	⇓P	P	08 41 00.3 -0.4
	baz=52,SNR=18					
CBKS	Cedar Bluff	51.94	289	⇓P	P	08 40 59.6 -1.7
	baz=52					
CBKS	Cedar Bluff	51.94	289	PFAKE		08 41 10.0 +8.7
CBKS				LR	LR	
	comp=Z,18μm,21.0s,MS6.1					
D21A	La Casta Ranch	51.98	301	⇑P	P	08 41 01.4 -0.1
	baz=52,SNR=39					
K26A	Motz Farm, Whi	51.99	295	⇑P	P	08 41 01.1 -0.5
	baz=52,SNR=9.9					
G23A	Biddle	52.01	299	⇑P	P	08 41 01.6 -0.1
	baz=52,SNR=31					
M27A	Reverse DX Ran	52.13	293	⇓P	P	08 41 02.2 -0.5
	baz=52					
F22A	Rosebud	52.22	300	⇑P	P	08 41 03.3 0.0
	baz=52,SNR=12					
OGNE	Ogallala	52.23	292	⇓P	P	08 41 02.2 -1.3
	baz=52					
OGNE	Ogallala	52.23	292	eP	P	08 41 02.9 -0.5
	comp=Z,736nm,2.6s,mb6.2					
OGNE				LR	LR	
	comp=Z,21μm,20.0s,MS6.2					
OGNE	Ogallala	52.23	292	eP	P	08 41 02.9 -0.5
	comp=Z,736nm,2.6s,mb6.2					
C20A	Veseth Ranch,	52.23	303	⇑P	P	08 41 02.9 -0.5
	baz=52,SNR=35					
I24A	Kuemmerle Ranc	52.26	297	⇓P	P	08 41 03.0 -0.6
	baz=52					
L26A	Underwood Farm	52.29	294	⇓P	P	08 41 03.1 -0.8
	baz=52					
E21A	Keefer Ranch,	52.30	301	⇓P	P	08 41 03.9 0.0
	baz=52,SNR=19					
H23A	Clabaugh Cattl	52.35	298	⇑P	P	08 41 03.4 -0.9
	baz=52					
B19A	Brinkman Farms	52.38	304	⇑P	P	08 41 04.0 -0.5
	baz=52,SNR=38					
K25A	Mack Ranch, Ha	52.47	295	⇑P	P	08 41 04.7 -0.4
	baz=52					
G22A	Birney	52.54	299	⇑P	P	08 41 05.5 -0.2
	baz=52,SNR=21					
J24A	Dixon Ranch, L	52.56	296	⇑P	P	08 41 05.5 -0.4
	baz=52					
N27A	Anderson Farm,	52.62	293	⇓P	P	08 41 05.7 -0.6
	baz=52					
D20A	Manuel Ranch,	52.63	302	⇓P	P	08 41 06.4 0.0
	baz=52,SNR=48					
M26A	McRoberts Ranc	52.64	294	⇑P	P	08 41 06.4 0.0
	baz=52					
A18A	Metzger Ranch,	52.65	305	⇑P	P	08 41 06.0 -0.5
	baz=52,SNR=25					
NATX	Nacogdoches	52.67	279	eP	P	08 41 07.1 +0.2
	comp=Z,413nm,1.8s,mb6.1					
NATX				LR	LR	
	comp=Z,18μm,22.0s,MS6.1					
NATX	Nacogdoches	52.67	279	eP	P	08 41 07.1 +0.2
	comp=Z,413nm,1.8s,mb6.1					
INK	Inuvik	52.71	333	eP	P	08 41 05.2 -1.4
	comp=Z,30nm,1.0s,mb5.2					
INK	Inuvik	52.71	333	eP	P	08 41 05.2 -1.4
INK				pmax	pmax	
	comp=Z,30nm,1.0s					
INK	Inuvik	52.71	333	eP	P	08 41 05.2 -1.4
	comp=Z,30nm,1.0s,mb5.2					
F21A	Absaloka Mine,	52.71	300	⇓P	P	08 41 06.7 -0.2
	baz=52					
I23A	Meade Ranch, G	52.71	297	⇑P	P	08 41 06.4 -0.6
	baz=52					
L25A	Engebretsen Ra	52.77	295	⇑P	P	08 41 07.4 0.0
	baz=53					
C19A	Slack Wire Ran	52.82	303	⇑P	P	08 41 07.6 -0.1
	baz=53,SNR=47					
SDV	Santo Domingo	52.86	238	eP	P	08 41 08.7 +0.3
	comp=Z,50nm,1.2s,mb5.3					
SDV				LR	LR	
	comp=Z,1μm,21.0s,MS5.0					
SDV	Santo Domingo	52.86	238	eP	P	08 41 08.7 +0.3
	comp=Z,50nm,1.2s,mb5.3					
B18A	Beardsley Farm	52.89	304	⇓P	P	08 41 07.7 -0.5
	baz=53,SNR=31					
H22A	Clearmont	52.91	298	⇓P	P	08 41 08.1 -0.3
	baz=53,SNR=20					
O27A	Beecher Island	52.93	292	⇓P	P	08 41 07.7 -0.9
	baz=53					
E20A	Meyer Farm, Mu	52.94	301	⇑P	P	08 41 08.5 -0.1
	baz=53,SNR=36					
K24A	Anderson Ranch	52.99	296	⇓P	P	08 41 09.0 0.0
	baz=53					
D19A	Cripps Ranch,	53.03	302	⇓P	P	08 41 09.0 -0.2
	baz=53,SNR=24					
N26A	Koester Ranch,	53.04	293	⇑P	P	08 41 09.1 -0.4
	baz=53					
J23A	Dilts Ranch, B	53.07	297	⇑P	P	08 41 09.3 -0.3
	baz=53					
EGMT	Eagleton	53.07	304	⇓P	P	08 41 09.3 -0.2
	baz=53,SNR=26					
EGMT	Eagleton	53.07	304	eP	P	08 41 09.6 0.0
	comp=Z,207nm,1.4s,mb5.9					
EGMT				LR	LR	
	comp=Z,5μm,19.0s,MS5.6					
EGMT	Eagleton	53.07	304	eP	P	08 41 09.6 0.0
	comp=Z,207nm,1.4s,mb5.9					
G21A	Lodge Grass	53.08	300	⇑P	P	08 41 09.2 -0.5
	baz=53,SNR=22					
A17A	Triple J Farms	53.12	305	⇓P	P	08 41 09.4 -0.5
	baz=53,SNR=47					
RCBR	Riachuelo	53.16	191	eP	P	08 41 09.7 -0.8
	comp=Z,31nm,1.1s,mb5.2					
RCBR				LR	LR	
	comp=Z,3μm,20.0s,MS5.3					
RCBR	Riachuelo	53.16	191	eP	P	08 41 09.7 -0.8
	comp=Z,31nm,1.1s,mb5.2					
M25A	Palm-Egli Farm	53.23	294	⇓P	P	08 41 10.9 +0.1
	baz=53,SNR=14					
RFTA	Plano	53.29	281	eP	P	08 41 11.1 -0.3
RFTA	Plano	53.29	281	eP	P	08 41 11.1 -0.3
H21A	Big Horn, Sher	53.31	299	⇑P	P	08 41 10.5 -0.8
	baz=53,SNR=6.1					
F20A	Billings	53.33	301	⇑P	P	08 41 11.3 -0.2
	baz=53,SNR=21					
E19A	Rath Farm, Rou	53.35	302	⇑P	P	08 41 10.9 -0.7
	baz=53,SNR=24					
I22A	9 Mile Ranch,	53.37	298	⇓P	P	08 41 11.4 -0.4
	baz=53,SNR=47					
O26A	Horse Wrangler	53.43	292	⇑P	P	08 41 12.3 0.0
	baz=53,SNR=5.7					
L24A	Wheatland	53.44	295	⇑P	P	08 41 12.0 -0.3
	baz=53					
K23A	Bowen Ranch, D	53.47	296	⇑P	P	08 41 12.3 -0.3
	baz=53,SNR=9.9					
B17A	L&G Farms, Che	53.52	304	⇑P	P	08 41 12.6 -0.2
	baz=53,SNR=52					
D18A	Linhart Farms,	53.54	303	⇑P	P	08 41 12.9 -0.1
	baz=53,SNR=6.5					
N25A	Grover	53.59	293	⇓P	P	08 41 13.0 -0.5
	baz=53					
A16A	West Butte Ran	53.62	305	⇓P	P	08 41 12.9 -0.6
	baz=53					
J22A	Midwest	53.63	297	⇓P	P	08 41 13.0 -0.7
	baz=53,SNR=21					
WMOK	Wichita Mounta	53.66	284	eP	P	08 41 13.1 -0.9
	comp=Z,70nm,1.4s,mb5.4					
WMOK				LR	LR	
	comp=Z,16μm,20.0s,MS6.1					
WMOK	Wichita Mounta	53.66	284	eP	P	08 41 13.1 -0.9
WMOK				pmax	pmax	
	comp=Z,70nm,1.4s,mb5.4					
WMOK				MLR	MLR	
	comp=Z,16μm,20.0s,MS6.1					
WMOK	Wichita Mounta	53.66	284	eP	P	08 41 13.1 -0.9
	comp=Z,16μm,20.0s					
G20A	Bridger	53.68	300	⇓P	P	08 41 13.4 -0.7
	baz=54,SNR=26					
KSCO	Kaye Shedlock'	53.69	291	⇑P	P	08 41 13.2 -1.0
	baz=54					
M24A	Cheyenne	53.69	294	⇓P	P	08 41 14.7 +0.5
	baz=54,SNR=18					
F19A	Roth Farm, Mol	53.77	301	⇓P	P	08 41 14.8 +0.1
	baz=54,SNR=38					
C17A	Wharram Farm,	53.86	304	⇑P	P	08 41 14.8 -0.5
	baz=54,SNR=42					
L23A	Garrett	53.87	296	⇓P	P	08 41 15.0 -0.5
	baz=54,SNR=20					
I21A	Big Trails, Te	53.90	298	⇑P	P	08 41 15.3 -0.4
	baz=54,SNR=25					
E18A	Harlowton	53.95	302	⇓P	P	08 41 16.1 +0.1
	baz=54,SNR=24					
H20A	Greybull	53.96	299	⇑P	P	08 41 15.9 -0.2
	baz=54,SNR=43					
B16A	M & M Farms, S	53.97	305	⇓P	P	08 41 15.6 -0.5
	baz=54,SNR=42					
O25A	Wiggins	54.01	293	⇓P	P	08 41 15.9 -0.6
	baz=54,SNR=8.8					
D17A	Six Diamond Ra	54.07	303	⇓P	P	08 41 16.8 -0.1
	baz=54,SNR=40					
K22A	Casper	54.08	296	⇑P	P	08 41 16.4 -0.7
	baz=54,SNR=42					
N24A	Carr	54.09	294	⇑P	P	08 41 17.3 +0.2
	baz=54					
PHWY	Pilot Hill	54.18	295	eP	P	08 41 18.3 +0.6
	comp=Z,104nm,1.6s,mb5.5					
PHWY	Pilot Hill	54.18	295	eP	P	08 41 18.3 +0.5
	comp=Z,104nm,1.6s,mb5.5					
F18A	Big Timber	54.19	301	⇑P	P	08 41 17.6 -0.2
	baz=54,SNR=33					
R27A	Eads	54.21	290	⇓P	P	08 41 17.5 -0.6
	baz=54					
GCMT	Greycliff	54.23	301	eP	P	08 41 17.8 -0.3
	comp=Z,54nm,1.1s,mb5.4					
GCMT	Greycliff	54.23	301	eP	P	08 41 17.8 -0.2
	comp=Z,54nm,1.1s,mb5.4					
A15A	Johnson Ranch,	54.23	306	⇓P	P	08 41 17.3 -0.8
	baz=54,SNR=30					
M23A	Laramie	54.25	295	⇓P	P	08 41 18.6 +0.3
	baz=54,SNR=11					
J21A	Lysite	54.26	298	⇓P	P	08 41 18.3 +0.1
	baz=54,SNR=28					
Q26A	Hugo	54.31	291	⇑P	P	08 41 18.6 -0.1
	baz=54					
C16A	Fuhringer Ranc	54.32	304	⇑P	P	08 41 18.6 -0.1
	baz=54,SNR=72					
I20A	Worland	54.33	299	⇓P	P	08 41 19.0 +0.2
	baz=54,SNR=59					
RLMT	Red Lodge	54.36	300	⇓P	P	08 41 19.4 +0.4
	baz=54,SNR=6.6					
RLMT	Red Lodge	54.36	300	eP	P	08 41 20.0 +0.9
	comp=Z,224nm,1.6s,mb5.8					
RLMT				LR	LR	
	comp=Z,12μm,19.0s,MS6.0					
RLMT	Red Lodge	54.36	300	eP	P	08 41 20.0 +1.0
	comp=Z,224nm,1.6s,mb5.8					
L22A	Ellis Ranch, M	54.37	296	⇓P	P	08 41 19.2 +0.1
	baz=54,SNR=51					
P25A	Willow Gulch B	54.38	292	⇓P	P	08 41 18.7 -0.6
	baz=54					
G18A	Lazy EL Ranch,	54.43	301	⇓P	P	08 41 18.8 -0.7
	baz=54					
H19A	Powell	54.44	300	⇑P	P	08 41 19.7 0.0
	baz=54,SNR=45					
B15A	Bradely Ranch,	54.50	305	⇑P	P	08 41 19.4 -0.6
	baz=54,SNR=73					
K21A	Alcova	54.53	297	⇓P	P	08 41 20.0 -0.3
	baz=54,SNR=38					
E17A	Martinsdale	54.55	303	⇑P	P	08 41 19.6 -0.7
	baz=54,SNR=30					
HKT	Hockley	54.58	278	eP	P	08 41 20.4 -0.5
	comp=Z,105nm,1.6s,mb5.6					
HKT	Hockley	54.58	278	eP	P	08 41 20.4 -0.4
HKT				pmax	pmax	
	comp=Z,105nm,1.6s,mb5.6					
HKT	Hockley	54.58	278	eP	P	08 41 20.4 -0.4
	comp=Z,105nm,1.6s,mb5.6					
O24A	Longmont	54.60	293	⇑P	P	08 41 20.8 -0.1
	baz=54,SNR=11					
A14A	Double T Ranch	54.62	306	⇓P	P	08 41 20.2 -0.6
	baz=54,SNR=46					
R26A	Arlington	54.62	290	⇑P	P	08 41 20.7 -0.4
	baz=54,SNR=31					
D16A	Dana Ranch, Ca	54.63	303	⇑P	P	08 41 20.6 -0.4
	baz=54,SNR=57					
J20A	Shoshoni	54.64	298	⇓P	P	08 41 20.9 -0.2
	baz=54,SNR=38					
BHD	Baghdad	54.67	77	ix	x	08 41 19.5
BHD				ix	x	08 42 20.5
BHD				ix	x	08 43 23.0
BHD				ix	x	08 46 04.5
BHD				ix	x	08 48 53.0
N23A	Red Feather La	54.71	294	⇑P	P	08 41 22.1 +0.5
	baz=54,SNR=46					
F17A	Fitzpatrick Pl	54.74	302	⇑P	P	08 41 21.4 -0.4
	baz=54,SNR=24					
Q25A	Bedland, Calha	54.78	292	⇓P	P	08 41 21.9 -0.2
	baz=55,SNR=12					
I19A	Meeteetse	54.80	299	⇑P	P	08 41 22.3 0.0
	baz=55,SNR=51					
C15A	Salmond Ranch,	54.82	305	⇑P	P	08 41 21.6 -0.8
	baz=55,SNR=31					
M22A	Cedar Creek Ra	54.83	295	⇓P	P	08 41 22.6 +0.1
	baz=55,SNR=10					
H18A	Shoshone NF, C	54.84	300	⇓P	P	08 41 22.1 -0.5
	baz=55,SNR=28					
WALA	Waterton Lakes	54.84	307	eP	P	08 41 21.6 -0.9
	comp=Z,3.5nm,1.2s,mb4.3					
WALA	Waterton Lakes	54.84	307	eP	P	08 41 21.6 -0.9
	comp=Z,3.5nm,1.2s,mb4.3					
P24A	Kohler Place,	54.85	292	⇓P	P	08 41 22.5 -0.1
	baz=55					
B14A	Marquette Ranc	54.87	306	⇓P	P	08 41 21.7 -1.0
	baz=55,SNR=17					
HRY	Holter Researc	54.97	303	eP	P	08 41 23.2 -0.2
HRY	Holter Researc	54.97	303	eP	P	08 41 23.2 -0.2
E16A	East Helena	54.98	303	⇑P	P	08 41 23.1 -0.4
	baz=55,SNR=15					
L21A	Rawlins	54.98	296	⇓P	P	08 41 23.7 +0.1
	baz=55,SNR=30					
RWWY	Rawlins	55.04	296	eP	P	08 41 24.4 +0.3
	comp=Z,494nm,1.8s,mb6.2					
RWWY	Rawlins	55.04	296	eP	P	08 41 24.4 +0.4
	comp=Z,494nm,1.8s,mb6.2					
AB31	Akbulak array	55.08	53	ceP	P	08 41 23.7 -0.5
AB31				pmax	pmax	
	comp=Z,57nm,1.3s,mb5.4					
AB31	Akbulak array	55.08	53	eP	P	08 41 23.7 -0.5
	comp=Z,57nm,1.3s,mb5.4					
ABKAR	Akbulak array	55.08	53	eP	P	08 41 24.1 -0.1
ABKAR	Akbulak array	55.08	53	eP	P	08 41 24.1 -0.1
N22A	Wattenberg Ran	55.08	295	⇑P	P	08 41 25.2 +0.8
	baz=55,SNR=6.4					
O23A	Lake Granby, G	55.09	294	⇓P	P	08 41 24.7 +0.3
	baz=55,SNR=8.3					
G17A	Pierce Place,	55.11	301	⇓P	P	08 41 24.8 +0.3
	baz=55					
ISCO	Idaho Springs	55.13	293	⇑P	P	08 41 24.9 +0.2
	baz=55,SNR=28					
ISCO	Idaho Springs	55.13	293	eP	P	08 41 25.1 +0.4
	comp=Z,70nm,1.5s,mb5.5					
ISCO				LR	LR	
	comp=Z,20μm,20.0s,MS6.2					
ISCO	Idaho Springs	55.13	293	eP	P	08 41 25.1 +0.4
ISCO				pmax	pmax	
	comp=Z,70nm,1.5s,mb5.5					
ISCO				MLR	MLR	
	comp=Z,20μm,20.0s,MS6.2					
ISCO	Idaho Springs	55.13	293	eP	P	08 41 25.1 +0.4
	comp=Z,20μm,20.0s					
D15A	Lincoln	55.18	304	⇑P	P	08 41 24.8 -0.1
	baz=55,SNR=89					
M21A	Separation Pea	55.18	296	⇓P	P	08 41 25.0 -0.1
	baz=55,SNR=51					
K20A	Yellowstone Ra	55.19	297	⇑P	P	08 41 24.2 -0.8
	baz=55,SNR=10					
A13A	Flathead Natio	55.19	307	⇑P	P	08 41 24.2 -0.8
	baz=55					
R25A	Fountain Ranch	55.24	291	⇑P	P	08 41 25.6 0.0
	baz=55,SNR=24					
J19A	Crowheart	55.27	298	⇑P	P	08 41 24.8 -0.8
	baz=55,SNR=14					
Q24A	Divide	55.32	292	⇑P	P	08 41 26.0 -0.1
	baz=55,SNR=12					
LKWY	Lake	55.34	300	PFAKE		08 41 40.0 +14
LKWY				LR	LR	
	comp=Z,21μm,20.0s,MS6.2					
F16A	Kennard Place,	55.37	302	⇓P	P	08 41 26.0 -0.4
	baz=55,SNR=9.4					
K19A	Absolon Red Bu	55.40	298	⇓P	P	08 41 25.1 -1.4
	baz=55,SNR=27					
YNR	Norris Junctio	55.42	301	eP	P	08 41 28.8 +2.1
	comp=Z,37nm,1.1s,mb5.3					
YNR	Norris Junctio	55.42	301	eP	P	08 41 28.8 +2.1
	comp=Z,37nm,1.1s,mb5.3					
BOZ	Bozeman (W)	55.45	302	⇓P	P	08 41 26.8 -0.1
	baz=55,SNR=9.3					
BOZ	Bozeman (W)	55.45	302	eP	P	08 41 27.1 +0.2
	comp=Z,96nm,1.4s,mb5.6					
BOZ				LR	LR	
	comp=Z,6μm,21.0s,MS5.6					
BOZ	Bozeman (W)	55.45	302	eP	P	08 41 27.1 +0.2
BOZ				pmax	pmax	
	comp=Z,96nm,1.4s,mb5.6					
BOZ				MLR	MLR	
	comp=Z,6μm,21.0s,MS5.6					
BOZ	Bozeman (W)	55.45	302	eP	P	08 41 27.1 +0.2
	comp=Z,6μm,21.0s					
C14A	Swan Lake	55.47	305	⇑P	P	08 41 26.0 -1.0
	baz=55					
I18A	Diamond G Ranc	55.48	299	⇑P	P	08 41 27.5 +0.3
	baz=55,SNR=23					
AMTX	Amarillo	55.48	286	⇓P	P	08 41 27.4 +0.1
	baz=55,SNR=6.7					
AMTX	Amarillo	55.48	286	eP	P	08 41 28.1 +0.8
	comp=Z,171nm,1.4s,mb5.9					
AMTX				LR	LR	
	comp=Z,12μm,19.0s,MS6.0					
AMTX	Amarillo	55.48	286	eP	P	08 41 28.1 +0.8
	comp=Z,171nm,1.4s,mb5.9					
O22A	Kremmling	55.51	294	⇓P	P	08 41 27.9 +0.5
	baz=55,SNR=30					
P23A	Jefferson	55.52	293	⇑P	P	08 41 28.4 +0.9
	baz=55,SNR=22					
B13A	Whitefish	55.53	306	⇓P	P	08 41 26.8 -0.6
	baz=55,SNR=25					
H17A	Grant Village	55.54	300	⇑P	P	08 41 28.6 +1.0
	baz=55					
L20A	Wamsutter	55.55	297	⇓P	P	08 41 27.9 +0.2
	baz=55,SNR=36					
YBMT	Yellow Bay	55.56	305	eP	P	08 41 25.3 -2.3
YBMT	Yellow Bay	55.56	305	eP	P	08 41 25.3 -2.4
E15A	Deer Lodge	55.59	303	⇑P	P	08 41 27.8 -0.1
	baz=55,SNR=18					
SLMT	Seeley Lake	55.62	305	eP	P	08 41 27.8 -0.3
SLMT	Seeley Lake	55.62	305	eP	P	08 41 27.8 -0.3
S25A	Robets Cordova	55.63	290	⇑P	P	08 41 28.6 +0.3
	baz=56					
YFT	Old Faithful	55.66	300	eP	P	08 41 30.5 +2.0
	comp=Z,144nm,1.4s,mb5.8					
YFT	Old Faithful	55.66	300	eP	P	08 41 30.5 +2.1
	comp=Z,144nm,1.4s,mb5.8					
CHMT	Chamberlain Mo	55.67	304	eP	P	08 41 28.1 -0.3
CHMT	Chamberlain Mo	55.67	304	eP	P	08 41 28.1 -0.3
BLMT	Blacktail Moun	55.67	306	eP	P	08 41 27.8 -0.7
BLMT	Blacktail Moun	55.67	306	eP	P	08 41 27.8 -0.7
R24A	Sanders Place,	55.72	291	⇓P	P	08 41 29.2 +0.3
	baz=56					
SWMT	Swartz Lake	55.75	305	eP	P	08 41 28.3 -0.8
SWMT	Swartz Lake	55.75	305	eP	P	08 41 28.3 -0.8
M20A	Sweetwater, Wa	55.76	296	⇑P	P	08 41 29.3 +0.1
	baz=56,SNR=24					
H16A	Russell Place,	55.76	301	⇓P	P	08 41 29.3 +0.1
	baz=56,SNR=22					
N21A	Black Mountain	55.77	295	⇑P	P	08 41 30.0 +0.7
	baz=56,SNR=43					
JTMT	Jette	55.78	305	eP	P	08 41 28.9 -0.4
JTMT	Jette	55.78	305	eP	P	08 41 28.9 -0.3
TEIG	Tepich	55.78	263	eP	P	08 41 30.3 +0.7
	comp=Z,158nm,1.4s,mb5.8					
TEIG				LR	LR	
	comp=Z,6μm,22.0s,MS5.6					
TEIG	Tepich	55.78	263	eP	P	08 41 30.3 +0.7
	comp=Z,158nm,1.4s,mb5.8					
G16A	Moss Hill, Enn	55.79	302	⇓P	P	08 41 29.0 -0.4
	baz=56					
FLWY	Flagg Ranch	55.79	300	eP	P	08 41 29.5 +0.2
	comp=Z,159nm,1.8s,mb5.8					
FLWY	Flagg Ranch	55.79	300	eP	P	08 41 29.5 +0.1
	comp=Z,159nm,1.8s,mb5.8					
Q23A	Hartsel	55.79	292	⇑P	P	08 41 29.8 +0.4
	baz=56,SNR=8.5					
QLMT	Earthquake Lak	55.80	301	eP	P	08 41 30.0 +0.6
QLMT	Earthquake Lak	55.80	301	eP	P	08 41 30.0 +0.6
I17A	Pilgrim Ck.	55.81	300	⇑P	P	08 41 29.7 +0.2
	baz=56,SNR=8.3					
LRM	Limekiln Ridge	55.83	303	eP	P	08 41 29.6 -0.1
LRM	Limekiln Ridge	55.83

baz=56,SNR=11
C13A Hot Springs 55.98 305 ⇓P P 08 41 29.9 -0.8
baz=56,SNR=15
BSMT Bassoo Peak 56.00 306 eP P 08 41 30.4 -0.4
BSMT Bassoo Peak 56.00 306 eP P 08 41 30.4 -0.4
LOHW Long Hollow 56.00 300 eP P 08 41 30.7 -0.2
comp=Z,87nm,1.4s,mb5.6
LOHW Long Hollow 56.00 300 eP P 08 41 30.7 -0.2
comp=Z,87nm,1.4s,mb5.6
MOOW Moose Ponds 56.01 300 eP P 08 41 31.2 +0.3
comp=Z,96nm,1.4s,mb5.6
MOOW Moose Ponds 56.01 300 eP P 08 41 31.2 +0.3
comp=Z,96nm,1.4s,mb5.6
O21A Pagoda 56.05 295 ⇑P P 08 41 31.8 +0.5
baz=56,SNR=7.9
E14A Clinton 56.09 304 ⇓P P 08 41 31.5 0.0
baz=56,SNR=52
MSO Missoula 56.10 304 ⇓P P 08 41 30.8 -0.8
baz=56,SNR=27
MSO Missoula 56.10 304 eP P 08 41 31.0 -0.6
comp=Z,22nm,1.1s,mb5.1
MSO LR LR
comp=Z,5µm,19.0s,MS5.6
MSO Missoula 56.10 304 eP P 08 41 31.0 -0.6
comp=Z,22nm,1.1s,mb5.1
L19A Farson 56.12 297 ⇓P P 08 41 31.3 -0.4
baz=56,SNR=13
S24A Houchin Ranch, 56.14 291 ⇑P P 08 41 32.1 +0.1
baz=56
DLMT Dillon 56.17 302 eP P 08 41 32.2 +0.2
comp=Z,126nm,1.4s,mb5.8
DLMT Dillon 56.17 302 eP P 08 41 32.2 +0.1
comp=Z,126nm,1.4s,mb5.8
SNOW Snow King Moun 56.18 299 eP P 08 41 32.4 +0.2
comp=Z,181nm,1.5s,mb5.9
SNOW Snow King Moun 56.18 299 eP P 08 41 32.4 +0.2
comp=Z,181nm,1.5s,mb5.9
N20A Spence Gulch, 56.18 296 ⇑P P 08 41 33.0 +0.7
baz=56
R23A Moffat 56.20 292 ⇑P P 08 41 32.9 +0.5
baz=56
J17A Brown Place, J 56.21 299 ⇓P P 08 41 32.5 +0.2
baz=56,SNR=56
G15A Dillon 56.22 302 ⇓P P 08 41 32.3 -0.1
baz=56,SNR=49
K18A Toltan Ranch, 56.23 298 ⇑P P 08 41 31.9 -0.6
baz=56,SNR=14
D13A Huson 56.24 305 ⇓P P 08 41 32.0 -0.6
baz=56,SNR=24
SDCO Great Sand Dun 56.26 291 ⇑P P 08 41 33.2 +0.4
baz=56,SNR=20
SDCO Great Sand Dun 56.26 291 eP P 08 41 33.0 +0.2
comp=Z,77nm,1.8s,mb5.4
SDCO LR LR
comp=Z,16µm,21.0s,MS6.1
SDCO Great Sand Dun 56.26 291 eP P 08 41 33.0 +0.2
comp=Z,77nm,1.8s,mb5.4
TPAW Teton Pass 56.28 300 eP P 08 41 32.9 0.0
comp=Z,83nm,1.4s,mb5.6
TPAW Teton Pass 56.28 300 eP P 08 41 32.9 0.0
comp=Z,83nm,1.4s,mb5.6
W27A Bowe Ranch, En 56.28 287 ⇓P P 08 41 32.6 -0.4
baz=56,SNR=19
REDW Red Top Meadow 56.29 299 eP P 08 41 32.9 -0.1
comp=Z,202nm,1.4s,mb6.0
REDW Red Top Meadow 56.29 299 eP P 08 41 32.8 -0.2
comp=Z,202nm,1.4s,mb6.0
M19A Rock Springs 56.34 297 ⇓P P 08 41 33.1 -0.3
baz=56,SNR=8.5
SMCO Snowmass 56.35 293 eP P 08 41 33.6 +0.2
comp=Z,42nm,1.4s,mb5.3
SMCO Snowmass 56.35 293 eP P 08 41 33.7 +0.3
comp=Z,42nm,1.4s,mb5.3
DCID1 Drake Creek 56.36 300 eP P 08 41 34.0 +0.6
comp=Z,63nm,1.1s,mb5.6
DCID1 Drake Creek 56.36 300 eP P 08 41 34.0 +0.6
comp=Z,63nm,1.1s,mb5.6
U25A Circle Dot Ran 56.36 289 ⇑P P 08 41 34.6 +1.0
baz=56,SNR=33
F14A Wisdom 56.36 303 ⇓P P 08 41 33.1 -0.4
baz=56,SNR=7.9
T24A Torres, Weston 56.37 290 ⇑P P 08 41 34.5 +0.9
baz=56,SNR=11
I16A Newdale 56.37 300 ⇑P P 08 41 34.0 +0.4
baz=56,SNR=6.5
P21A Newcastle 56.44 294 ⇓P P 08 41 35.1 +1.0
baz=56,SNR=36
C12B Naegeli Ranch, 56.46 306 ⇑P P 08 41 34.0 -0.1
baz=56,SNR=26
E13A Victor 56.47 304 ⇓P P 08 41 33.4 -0.8
baz=56,SNR=32
Q22A Crested Butte, 56.49 293 ⇑P P 08 41 34.9 +0.4
baz=56,SNR=15
X27A F and S Farms, 56.56 287 ⇑P P 08 41 34.7 -0.3
baz=56,SNR=7.0
O20A White River Ci 56.58 295 ⇑P P 08 41 35.5 +0.5
baz=56,SNR=18
RRI2 Red Ridge 56.58 300 eP P 08 41 35.0 0.0
comp=Z,214nm,2.0s,mb5.8
RRI2 Red Ridge 56.58 300 eP P 08 41 35.0 0.0
comp=Z,214nm,2.0s,mb5.8
S23A Nye Farm, Mont 56.60 291 ⇓P P 08 41 35.9 +0.6
baz=56,SNR=5.5
MCMT McKenzie Canyo 56.62 302 eP P 08 41 35.5 +0.1
comp=Z,28nm,1.6s,mb5.0
MCMT McKenzie Canyo 56.62 302 eP P 08 41 35.5 +0.2
comp=Z,28nm,1.6s,mb5.0
H15A Lima 56.63 302 ⇑P P 08 41 35.5 +0.1
baz=56,SNR=10
L18A Fontenelle, Gr 56.63 298 ⇑P P 08 41 34.9 -0.6
baz=56,SNR=13
K17A Gardner Place, 56.69 299 ⇓P P 08 41 35.5 -0.3
baz=56,SNR=23
N19A John Jarvie Ra 56.71 296 ⇓P P 08 41 35.6 -0.4
baz=56,SNR=34
W26A Owens Ranch, T 56.73 288 ⇑P P 08 41 36.2 0.0
baz=57
G14A Jackson 56.74 303 ⇑P P 08 41 36.0 -0.1
baz=56,SNR=14
MSTX Muleshoe 56.76 286 ⇑P P 08 41 36.0 -0.4
baz=57,SNR=33
R22A Saguache, Gunn 56.77 292 ⇑P P 08 41 37.5 +1.0
baz=57,SNR=31
AHID Auburn Hatcher 56.79 299 eP P 08 41 36.5 0.0
comp=Z,100nm,1.4s,mb5.7
AHID LR LR
comp=Z,9µm,20.0s,MS5.9
AHID Auburn Hatcher 56.79 299 eP P 08 41 36.5 0.0
comp=Z,99nm,1.4s,mb5.7
J16A Bone 56.80 300 ⇓P P 08 41 36.4 -0.2
baz=57,SNR=11
C11A Tepee Creek (N 56.82 306 P P 08 41 36.1 -0.5
baz=57
V25A Rancho No Teng 56.83 289 ⇑P P 08 41 36.7 -0.2
baz=57,SNR=9.5
I15A Monteview 56.89 301 ⇓P P 08 41 38.1 +0.9
baz=57,SNR=43
U24A Moreno Valley 56.91 290 ⇓P P 08 41 38.4 +0.9
baz=57
F13A Darby 56.92 303 ⇑P P 08 41 36.9 -0.5
baz=57,SNR=36
Q21A Lamborn Mesa, 56.93 293 ⇑P P 08 41 37.9 +0.4
baz=57
JCT Junction City 56.93 281 ⇑P P 08 41 36.7 -1.0
baz=57,SNR=25
JCT Junction City 56.93 281 eP P 08 41 36.6 -1.1
comp=Z,37nm,1.0s,mb5.4
JCT LR LR
comp=Z,18µm,20.0s,MS6.2
JCT Junction City 56.93 281 eP P 08 41 36.6 -1.1
JCT pmax pmax
comp=Z,37nm,1.0s,mb5.4
JCT MLR MLR
comp=Z,18µm,20.0s,MS6.2
JCT Junction City 56.93 281 eP P 08 41 36.6 -1.1
comp=Z,18µm,20.0s
M18A Lyman 56.94 297 ⇑P P 08 41 37.0 -0.7
baz=57,SNR=12
N18A Larsen Ranch, 56.97 296 ⇑P P 08 41 38.1 +0.3
baz=57,SNR=43
T23A Casias Ranch, 57.02 291 ⇑P P 08 41 38.9 +0.7
baz=57,SNR=14
O19A Miners Draw (B 57.03 296 ⇑P P 08 41 38.5 +0.2
baz=57,SNR=64
L17A Cokeville 57.04 298 ⇑P P 08 41 36.7 -1.6
baz=57
K16A Soda Springs 57.04 299 ⇓P P 08 41 38.0 -0.3
baz=57,SNR=8.3

P20A De Beque 57.05 294 ⇑P P 08 41 38.4 0.0
baz=57,SNR=23
H14A Leadore 57.05 302 ⇓P P 08 41 38.5 +0.1
baz=57
Y27A Causey 57.06 286 ⇓P P 08 41 37.9 -0.8
baz=57,SNR=8.1
X26A CR and CF Fran 57.08 287 ⇑P P 08 41 38.1 -0.7
baz=57
W25A X Bar L Ranch, 57.10 288 ⇓P P 08 41 38.7 -0.2
baz=57,SNR=13
S22A 4UR Ranch, Cre 57.10 292 ⇑P P 08 41 39.0 +0.1
baz=57,SNR=17
R21A Cimarron 57.19 293 ⇓P P 08 41 39.7 +0.2
baz=57,SNR=12
DAWY Dawson 57.20 331 eP P 08 41 39.0 -0.1
DAWY Dawson 57.20 331 eP P 08 41 39.0 -0.1
J15A Blackfoot 57.21 300 ⇑P P 08 41 39.7 +0.2
baz=57,SNR=14
DLBC Dease Lake 57.26 322 eP P 08 41 40.1 +0.5
DLBC Dease Lake 57.26 322 eP P 08 41 40.1 +0.5
E12A Beaver Dam Sad 57.26 305 ⇑P P 08 41 38.7 -1.1
baz=57
G13A Cobalt 57.27 303 ⇓P P 08 41 39.9 0.0
baz=57,SNR=46
M17A Scullys Gap (B 57.28 297 ⇓P P 08 41 39.6 -0.4
baz=57,SNR=15
EGAK Eagle 57.30 332 eP P 08 41 39.8 0.0
comp=Z,130nm,1.5s,mb5.7
EGAK LR LR
comp=Z,6µm,19.0s,MS5.7
EGAK Eagle 57.30 332 eP P 08 41 39.8 0.0
comp=Z,130nm,1.5s,mb5.7
Q20A Ridgley Place, 57.31 294 ⇑P P 08 41 40.4 +0.1
baz=57
V24A Rampart Ranch, 57.32 289 ⇑P P 08 41 40.7 +0.3
baz=57,SNR=9.4
P19A Cripple Cowboy 57.33 295 ⇓P P 08 41 39.8 -0.6
baz=57
L16A Fish Haven 57.42 298 ⇓P P 08 41 40.3 -0.7
baz=57,SNR=8.0
Z27A Tatum 57.45 286 ⇓P P 08 41 40.7 -0.6
baz=57
F12A Elk City 57.47 304 ⇑P P 08 41 40.5 -0.7
baz=57
Y26A Elida 57.48 286 ⇓P P 08 41 41.2 -0.3
baz=57
KVTX Kingsville 57.50 277 PFAKE 08 41 50.0 +8.2
KVTX LR LR
comp=Z,7µm,19.0s,MS5.8
I14A Mackay 57.50 301 ⇑P P 08 41 42.2 +0.6
baz=57,SNR=23
U23A El Rito 57.55 290 ⇓P P 08 41 43.0 +1.0
baz=57,SNR=20
T22A Edith 57.59 291 ⇑P P 08 41 42.6 +0.3
baz=57,SNR=33
H13A Challis 57.59 302 ⇑P P 08 41 42.3 +0.1
baz=57,SNR=59
O18A Rosevelt 57.59 296 ⇑P P 08 41 42.2 0.0
baz=57,SNR=42
X25A Clemmons Ranch 57.65 288 ⇓P P 08 41 43.0 +0.2
baz=58
K15A Arbon 57.69 300 ⇑P P 08 41 42.7 -0.2
baz=58
N17A Moffit Pass 57.70 297 ⇑P P 08 41 42.5 -0.4
baz=58,SNR=19
W24A Lazy 6 Ranch, 57.72 289 ⇓P P 08 41 43.9 +0.7
baz=58,SNR=10
HWUT Hardware Ranch 57.75 298 eP P 08 41 42.9 -0.5
comp=Z,150nm,1.5s,mb5.8
HWUT LR LR
comp=Z,6µm,21.0s,MS5.7
HWUT Hardware Ranch 57.75 298 eP P 08 41 42.9 -0.4
comp=Z,150nm,1.5s,mb5.8
S21A Coal Bank Pass 57.77 292 ⇓P P 08 41 44.3 +0.8
baz=58,SNR=40
R20A Redvale 57.82 293 ⇑P P 08 41 43.9 0.0
baz=58,SNR=12
J14A Carey 57.89 301 ⇑P P 08 41 45.0 +0.7
baz=58
I13A Wildhorse Cree 57.90 302 ⇓P P 08 41 44.8 +0.5
baz=58,SNR=61
V23A Ortiz Mt. (NFS 57.90 290 ⇓P P 08 41 45.6 +1.2
baz=58,SNR=15
Q19A Hogan Spring (57.91 294 ⇑P P 08 41 44.0 -0.5
baz=58
127A Arkansas Junct 57.94 285 ⇑P P 08 41 43.9 -0.9
baz=58,SNR=7.3
U22A Llaves 57.95 291 ⇓P P 08 41 45.4 +0.7
baz=58,SNR=13
H12A Diamond D Ranc 57.95 303 ⇓P P 08 41 44.8 +0.1
baz=58
PV01 Paradox Valley 57.97 293 eP P 08 41 45.2 +0.3
comp=Z,131nm,0.5s,mb6.2
PV01 Paradox Valley 57.97 293 eP P 08 41 45.2 +0.2
comp=Z,131nm,0.5s,mb6.2
Z26A Caprock 57.98 286 ⇑P P 08 41 44.7 -0.4
baz=58,SNR=16
L15A Malad City 58.00 299 ⇑P P 08 41 44.3 -0.8
baz=58,SNR=26
T21A Navajo Lake 58.01 292 ⇓P P 08 41 45.5 +0.3
baz=58,SNR=14
S20A Disappointment 58.02 293 ⇓P P 08 41 45.6 +0.3
baz=58
PV04 Paradox Valley 58.03 294 eP P 08 41 45.9 +0.5
PV04 Paradox Valley 58.03 294 eP P 08 41 45.9 +0.6
Y25A Mesa, Roswell 58.04 287 ⇑P P 08 41 45.7 +0.2
baz=58,SNR=9.8
CPRX Cap Rock 58.05 286 eP P 08 41 45.3 -0.3
comp=Z,46nm,1.0s,mb5.5
CPRX Cap Rock 58.05 286 eP P 08 41 45.3 -0.3
comp=Z,46nm,1.0s,mb5.5
O17A Robinson Place 58.08 296 ⇑P P 08 41 45.9 +0.2
baz=58,SNR=27
N16A Rees Ranch, Co 58.10 297 ⇑P P 08 41 45.9 +0.1
baz=58,SNR=12
P18A Preston Nutter 58.12 295 ⇑P P 08 41 46.2 +0.2
baz=58,SNR=33
PV10 Paradox Valley 58.12 294 eP P 08 41 47.1 +1.1
comp=Z,1µm,0.8s,mb6.9
PV10 Paradox Valley 58.12 294 eP P 08 41 47.1 +1.1
comp=Z,1µm,0.8s,mb6.9
X24A Lazy VL Ranch, 58.13 288 ⇑P P 08 41 46.8 +0.7
baz=58
K14A Jones Ranch, D 58.15 300 ⇑P P 08 41 45.9 -0.2
baz=58
COLD Coldfoot 58.20 337 eP P 08 41 46.1 +0.1
comp=Z,149nm,2.0s,mb5.7
COLD Coldfoot 58.20 337 eP P 08 41 46.1 0.0
comp=Z,149nm,2.0s,mb5.7
BRVK Borovoye 58.20 45 eP P 08 41 46.2 -0.2
comp=Z,60nm,1.1s,mb5.5
BRVK LR LR
comp=Z,5µm,20.0s,MS5.6
BRVK Borovoye 58.20 45d iP P 08 41 46.1 -0.2
BRVK pmax pmax
comp=Z,108nm,1.7s,mb5.6
BRVK Borovoye 58.20 45 P P 08 41 46.4 +0.1
comp=Z,280nm,1.6s,mb6.0,SNR=29
BRVK Borovoye 58.20 45 P P 08 41 46.6 +0.3
SNR=37
BRVK Borovoye 58.20 45 eP P 08 41 46.2 -0.1
comp=Z,60nm,1.1s,mb5.5
W23A Werner Place, 58.23 289 ⇑P P 08 41 47.4 +0.6
baz=58,SNR=18
J13A Cove Ranch, Pi 58.23 301 ⇓P P 08 41 47.1 +0.4
baz=58,SNR=46
BCIP Isla Barro Col 58.24 247 PFAKE 08 42 00.0 +13
BCIP LR LR
comp=Z,3µm,20.0s,MS5.4
ROSC El Rosal 58.26 239 P P 08 41 47.4 +0.2
comp=Z,8.9nm,0.7s,mb4.9,baz=123,slow=6.5,SNR=9.8
ROSC LR LR 09 02 59.1
comp=Z,4µm,20.9s,MS5.5,baz=14,slow=32
ROSC El Rosal 58.26 239 eP P 08 41 48.0 +0.8
ROSC El Rosal 58.26 239 eP P 08 41 48.0 +0.8
V22A San Miguel Ran 58.26 290 ⇓P P 08 41 47.9 +0.9
baz=58
DAU Daniels Canyon 58.27 297 eP P 08 41 47.1 +0.1
DAU Daniels Canyon 58.27 297 eP P 08 41 47.1 +0.1
DAU Daniels Canyon 58.27 297 eP P 08 41 47.1 +0.1
BVA0 Borovoye Array 58.27 45 P P 08 41 45.9 -0.9
BVA0 pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
BVA0 Borovoye Array 58.27 45 P P 08 41 45.9 -0.9
comp=Z,9.0nm,1.3s,mb4.6
JLU Jordanelle 58.27 297 eP P 08 41 45.6 -1.4
comp=Z,96nm,1.8s,mb5.5
JLU Jordanelle 58.27 297 eP P 08 41 45.6 -1.4

comp=Z,96nm,1.8s,mb5.5
227A Bennet, Jal 58.30 284 ⇑P P 08 41 46.8 -0.6
baz=58
R19A Curley Farm, L 58.31 294 ⇓P P 08 41 47.7 +0.4
baz=58,SNR=60
M15A Larsen Ranch, 58.36 298 ⇑P P 08 41 47.2 -0.4
baz=58,SNR=8.6
Q18A Rafter H Ranch 58.37 295 ⇓P P 08 41 47.4 -0.3
baz=58,SNR=29
328A Wristen Ranch, 58.38 283 ⇓P P 08 41 46.9 -0.9
baz=58,SNR=14
126A Clayton Basin, 58.39 285 ⇓P P 08 41 47.5 -0.5
baz=58
OD2 Odessa Site #2 58.43 307 eP P 08 41 45.7 -2.3
comp=Z,21nm,1.3s,mb5.0
OD2 Odessa Site #2 58.43 307 eP P 08 41 45.7 -2.3
comp=Z,21nm,1.3s,mb5.0
U21A Nageezi 58.43 291 ⇑P P 08 41 48.7 +0.5
baz=58,SNR=19
F10A Beach Ranch, E 58.45 305 ⇑P P 08 41 47.3 -0.9
baz=58,SNR=16
Z25A Roswell 58.46 286 ⇑P P 08 41 48.4 0.0
baz=58,SNR=18
L14A Malta 58.50 299 ⇓P P 08 41 47.7 -0.8
baz=58
P17A Butcher Ranch, 58.52 296 ⇑P P 08 41 48.5 -0.3
baz=58,SNR=26
Y24A Capitan 58.53 287 ⇑P P 08 41 49.0 +0.1
baz=58,SNR=13
O16A Springville 58.55 297 ⇓P P 08 41 48.9 0.0
baz=58,SNR=24
I12A Atlanta 58.56 302 ⇓P P 08 41 49.5 +0.5
baz=58,SNR=92
ANMO Albuquerque 58.56 289 eP P 08 41 49.6 +0.5
comp=Z,101nm,1.8s,mb5.5
ANMO LR LR
comp=Z,8µm,19.0s,MS5.9
ANMO Albuquerque 58.56 289 eP P 08 41 49.6 +0.5
ANMO pmax pmax
comp=Z,101nm,1.8s
ANMO MLR MLR
comp=Z,8µm,19.0s
ANMO Albuquerque 58.56 289 eP P 08 41 49.6 +0.5
comp=Z,8µm,19.0s
S19A Harvey Farm, M 58.56 293 ⇑P P 08 41 49.1 0.0
baz=58,SNR=34
SRU San Rafael 58.60 295 eP P 08 41 49.2 -0.1
comp=Z,266nm,2.2s,mb5.9
SRU San Rafael 58.60 295 eP P 08 41 49.3 0.0
SRU pmax pmax
comp=Z,266nm,2.2s,mb5.9
SRU San Rafael 58.60 295 eP P 08 41 49.3 0.0
comp=Z,266nm,2.2s,mb5.9
X23A Hourglass Bar 58.61 288 ⇓P P 08 41 50.2 +0.7
baz=58,SNR=23
E09A Wood Farm, Sta 58.64 306 ⇓P P 08 41 48.0 -1.5
baz=58,SNR=14
R18A Canyonlands Na 58.65 294 ⇑P P 08 41 49.6 -0.1
baz=58,SNR=13
NOQ North Oquirrh 58.65 297 eP P 08 41 49.4 -0.2
comp=Z,140nm,1.6s,mb5.7
NOQ North Oquirrh 58.65 297 eP P 08 41 49.4 -0.3
comp=Z,140nm,1.6s,mb5.7
428A Kincaid Ranch, 58.71 283 ⇓P P 08 41 49.9 -0.3
baz=59,SNR=27
MPU Maple Canyon 58.74 297 eP P 08 41 49.0 -1.3
comp=Z,39nm,1.2s,mb5.3
MPU Maple Canyon 58.74 297 eP P 08 41 49.0 -1.3
comp=Z,39nm,1.2s,mb5.3
SKAG Skagway 58.75 325 eP P 08 41 50.2 +0.2
comp=Z,160nm,1.4s,mb5.9
SKAG Skagway 58.75 325 eP P 08 41 50.2 +0.2
comp=Z,160nm,1.4s,mb5.9
W22A Albuquerque 58.75 289 ⇓P P 08 41 51.4 +0.9
baz=59
V21A Milan 58.80 290 ⇓P P 08 41 51.5 +0.8
baz=59
125A Gardner Draw, 58.80 286 ⇑P P 08 41 50.3 -0.5
baz=59,SNR=21
226A Malaga, Loving 58.81 285 ⇑P P 08 41 50.7 -0.2
baz=59,SNR=27
327A Balmorhea Ranc 58.84 284 ⇑P P 08 41 50.8 -0.3
baz=59
Z24A Sheeppen Canyo 58.85 287 ⇓P P 08 41 51.6 +0.5
baz=59,SNR=13
GDL2 Guadalupe Moun 58.90 285 eP P 08 41 51.3 -0.2
GDL2 Guadalupe Moun 58.90 285 eP P 08 41 51.3 -0.2
TMUT Trail Mountain 58.91 296 eP P 08 41 52.0 +0.5
comp=Z,218nm,1.5s,mb6.0
TMUT Trail Mountain 58.91 296 eP P 08 41 52.0 +0.5
comp=Z,218nm,1.5s,mb6.0
WTV Waterville 58.92 308 P P 08 41 50.5 -0.9
WTV Waterville 58.92 308 P P 08 41 50.5 -0.9
Y23A Lovelace Mesa, 58.93 288 ⇑P P 08 41 52.0 +0.3
baz=59,SNR=24
DOT Dot Lake 59.00 332 eP P 08 41 52.5 +0.8
comp=Z,122nm,1.5s,mb5.7
DOT Dot Lake 59.00 332 eP P 08 41 52.5 +0.8
comp=Z,122nm,1.5s,mb5.7
P16A Fountain Green 59.00 296 ⇑P P 08 41 52.3 +0.2
baz=59,SNR=16
U20A Newcomb 59.01 292 ⇓P P 08 41 52.9 +0.7
baz=59,SNR=18
T19A Beclabito 59.05 292 ⇓P P 08 41 52.4 -0.1
baz=59,SNR=20
ILAR Eielson Array 59.07 334 P P 08 41 51.8 -0.4
comp=Z,6.5nm,0.8s,mb4.7,baz=39,slow=4.7,SNR=65
ILAR PcP PcP 08 42 40.2 -0.6
comp=Z,9.5nm,0.9s,baz=20,slow=2.8,SNR=7.9
ILAR LR LR 09 05 59.6
comp=Z,4µm,19.0s,MS5.5,baz=52,slow=35
ILAR PKPPKP 09 11 22.1
comp=Z,1.1nm,1.0s,baz=228,slow=3.7,SNR=4.9
ILAR Eielson Array 59.07 334 P P 08 41 51.8 -0.4
ILAR PcP PcP 08 42 40.2 -0.6
ILAR P'P' 09 11 22.1
ILAR Eielson Array 59.07 334 P P 08 41 51.8 -0.4
ILAR 08 42 40.3
ILAR pmax pmax
comp=Z,7.0nm,0.9s
ILAR pmax pmax
comp=Z,10.0nm,0.9s
ILAR Eielson Array 59.07 334 P P 08 41 51.8 -0.4
comp=Z,7.0nm,0.9s,mb4.7
LPM Los Pinos Moun 59.07 289 eP P 08 41 53.3 +0.6
LPM Los Pinos Moun 59.07 289 eP P 08 41 53.3 +0.7
O15A The Old Anders 59.09 297 ⇓P P 08 41 52.9 +0.2
baz=59,SNR=12
LNOR Lincton Mounta 59.10 306 eP P 08 41 51.8 -0.9
LNOR Lincton Mounta 59.10 306 eP P 08 41 51.8 -0.9
LNOR Lincton Mounta 59.10 306 eP P 08 41 51.8 -0.9
427A Hayter Ranch, 59.11 283 ⇓P P 08 41 52.3 -0.7
baz=59,SNR=20
Q16A Castle Valley 59.12 295 ⇓P P 08 41 53.1 +0.1
baz=59,SNR=32
528A Cox Ranch, San 59.13 282 ⇓P P 08 41 52.7 -0.4
baz=59,SNR=54
S18A Hurst Farm, Bl 59.14 294 ⇓P P 08 41 53.2 +0.1
baz=59,SNR=26
R17A Hanksville Air 59.14 295 ⇓P P 08 41 52.9 -0.1
baz=59,SNR=44
BNM Barren Site 59.16 288 eP P 08 41 54.0 +0.6
comp=Z,99nm,1.6s,mb5.6
BNM Barren Site 59.16 288 eP P 08 41 54.0 +0.7
comp=Z,99nm,1.6s,mb5.6
BMO Blue Mountains 59.17 304 eP P 08 41 51.6 -1.6
comp=Z,23nm,1.1s,mb5.1
BMO LR LR
comp=Z,6µm,20.0s,MS5.7
BMO Blue Mountains 59.17 304 eP P 08 41 51.6 -1.6
BMO pmax pmax
comp=Z,18nm,1.1s,mb5.0
BMO MLR MLR
comp=Z,4µm,20.0s,MS5.6
BMO Blue Mountains 59.17 304 eP P 08 41 51.6 -1.6
comp=Z,4µm,20.0s
ETW Entiat 59.18 308 P P 08 41 52.0 -1.1
ETW Entiat 59.18 308 P P 08 41 52.0 -1.2
MFID Camas Ranch 59.19 302 ⇑P P 08 41 53.1 -0.2
baz=59,SNR=16
MFID Camas Ranch 59.19 302 eP P 08 41 53.3 0.0
comp=Z,38nm,1.4s,mb5.2
MFID Camas Ranch 59.19 302 eP P 08 41 53.3 0.0
comp=Z,38nm,1.4s,mb5.2
X22A Bernardo 59.19 289 ⇓P P 08 41 54.7 +1.2
baz=59,SNR=12
326A Caldwell Ranch 59.20 284 ⇑P P 08 41 53.7 +0.2

baz=59,SNR=35
W21A San Fidel 59.23 290 ⇓P **P 08 41 54.8 +1.1**
baz=59,SNR=11
225A Deer Hill, Car 59.26 285 ⇓P **P 08 41 53.8 -0.2**
baz=59,SNR=20
COLA College 59.28 335 *eP* **P 08 41 53.5 -0.1**
comp=Z,214nm,2.0s,mb5.8
COLA LR LR
comp=Z,4µm,20.0s,MS5.5
COLA College 59.28 335 *eP* **P 08 41 53.5 -0.1**
COLA pmax pmax
comp=Z,214nm,2.0s,mb5.8
COLA MLR MLR
comp=Z,4µm,20.0s,MS5.5
COLA College 59.28 335 *eP* **P 08 41 53.5 -0.1**
comp=Z,4µm,20.0s
WRW Wenatchee Ridg 59.32 309 P **P 08 41 53.0 -1.1**
WRW Wenatchee Ridg 59.32 309 P **P 08 41 53.0 -1.2**
V20A Brimhall 59.33 291 ⇑P **P 08 41 54.9 +0.4**
baz=59,SNR=9.8
LAZ Ladron 59.34 289 *eP* **P 08 41 55.5 +1.0**
comp=Z,72nm,2.0s,mb5.4
LAZ Ladron 59.34 289 *eP* **P 08 41 55.5 +1.0**
comp=Z,72nm,2.0s,mb5.4
DUG Dugway 59.35 297 ⇓P **P 08 41 54.5 0.0**
baz=59,SNR=63
DUG Dugway 59.35 297 *eP* **P 08 41 54.5 0.0**
comp=Z,69nm,1.0s,mb5.6
DUG LR LR
comp=Z,8µm,20.0s,MS5.8
DUG Dugway 59.35 297 *eP* **P 08 41 54.5 0.0**
DUG pmax pmax
comp=Z,69nm,1.0s,mb5.6
DUG MLR MLR
comp=Z,8µm,20.0s,MS5.8
DUG Dugway 59.35 297 *eP* **P 08 41 54.5 0.0**
comp=Z,8µm,20.0s
MENT Mentasta 59.39 332 *eP* **P 08 41 54.7 +0.2**
MENT Mentasta 59.39 332 *eP* **P 08 41 54.7 +0.3**
T18A Mexican Hat 59.40 293 ⇑P **P 08 41 54.9 0.0**
baz=59,SNR=22
Y22D IRIS PASSCAL I 59.40 288 ⇑P **P 08 41 55.8 +0.8**
baz=59
P15A Leamington 59.41 297 ⇓P **P 08 41 54.7 -0.2**
baz=59,SNR=5.9
TGUH Tegucigalpa,Un 59.45 257 *eP* **P 08 41 57.1 +1.6**
comp=Z,211nm,1.8s,mb5.9
TGUH LR LR
comp=Z,6µm,21.0s,MS5.7
TGUH Tegucigalpa,Un 59.45 257 *eP* **P 08 41 57.1 +1.6**
comp=Z,211nm,1.8s,mb5.9
Z23A Rita Site, Whi 59.46 287 ⇑P **P 08 41 55.9 +0.5**
baz=59,SNR=13
HAWA Hanford 59.48 307 *eP* **P 08 41 54.1 -1.2**
comp=Z,72nm,1.5s,mb5.5
HAWA LR LR
comp=Z,5µm,21.0s,MS5.6
HAWA Hanford 59.48 307 *eP* **P 08 41 54.1 -1.2**
comp=Z,72nm,1.5s,mb5.5
U19A Dine' College, 59.50 292 ⇓P **P 08 41 55.8 +0.2**
baz=59,SNR=44
WRAK Wrangell Islan 59.50 321 *eP* **P 08 41 55.5 +0.3**
comp=Z,54nm,1.1s,mb5.5
WRAK LR LR
comp=Z,3µm,21.0s,MS5.4
WRAK Wrangell Islan 59.50 321 *eP* **P 08 41 55.5 +0.2**
comp=Z,54nm,1.1s,mb5.5
RSW Rattlesnake Hi 59.51 307 *eP* **P 08 41 55.0 -0.5**
RSW Rattlesnake Hi 59.51 307 *eP* **P 08 41 55.0 -0.5**
Y22A Socorro 59.52 288 ⇑P **P 08 41 56.1 +0.3**
baz=59,SNR=20
TBM Table Mountain 59.59 308 P **P 08 41 55.2 -0.9**
TBM Table Mountain 59.59 308 P **P 08 41 55.2 -0.8**
628A Black Gap, Mar 59.63 282 ⇓P **P 08 41 56.1 -0.5**
baz=60,SNR=20
426A McDonald Obser 59.64 284 ⇑P **P 08 41 56.8 +0.2**
baz=60,SNR=37
S17A Black Ridge (B 59.68 294 ⇓P **P 08 41 56.6 -0.2**
baz=60,SNR=13
527A Woodward Ranch 59.69 283 ⇓P **P 08 41 56.5 -0.5**
baz=60
R16A Teasdale 59.70 295 ⇑P **P 08 41 57.0 0.0**
baz=60
EBG Ellensburg 59.73 308 P **P 08 41 56.4 -0.6**
EBG Ellensburg 59.73 308 P **P 08 41 56.4 -0.6**
X21A Alamocita Cree 59.73 289 ⇓P **P 08 41 58.1 +0.8**
baz=60,SNR=36
224A Cornudas Mount 59.74 286 ⇓P **P 08 41 57.1 -0.2**
baz=60,SNR=18
V19A Window Rock 59.75 291 ⇑P **P 08 41 57.5 +0.2**
baz=60,SNR=7.8
W20A Ramah 59.77 290 ⇓P **P 08 41 57.7 +0.2**
baz=60,SNR=12
325A Bean Ranch, Si 59.82 285 ⇑P **P 08 41 57.4 -0.5**
baz=60,SNR=7.6
U18A Rough Rock, Ch 59.84 292 ⇑P **P 08 41 57.6 -0.3**
baz=60,SNR=20
123A Bell Site, Whi 59.87 287 ⇑P **P 08 41 58.4 +0.1**
baz=60
MNTX Cornudas Mount 59.88 285 ⇑P **P 08 41 57.4 -1.0**
baz=60,SNR=14
MNTX Cornudas Mount 59.88 285 *eP* **P 08 41 57.2 -1.1**
comp=Z,28nm,1.6s,mb5.0
MNTX LR LR
comp=Z,15µm,19.0s,MS6.1
MNTX Cornudas Mount 59.88 285 *eP* **P 08 41 57.2 -1.1**
comp=Z,28nm,1.6s,mb5.0
PAX Paxson 59.93 332 *eP* **P 08 41 58.4 +0.3**
comp=Z,123nm,1.5s,mb5.7
PAX Paxson 59.93 332 *eP* **P 08 41 58.4 +0.3**
PAX pmax pmax
comp=Z,123nm,1.5s,mb5.7
PAX Paxson 59.93 332 *eP* **P 08 41 58.4 +0.3**
comp=Z,123nm,1.5s,mb5.7
Y21A Point of Rocks 59.93 289 ⇑P **P 08 41 59.5 +0.8**
baz=60,SNR=32
Z22A Elephant Butte 59.94 288 ⇑P **P 08 41 59.1 +0.4**
baz=60,SNR=52
627A Terlingua Ranc 59.98 282 ⇓P **P 08 41 58.9 -0.1**
baz=60,SNR=54
MSU Marysvale 59.99 296 *eP* **P 08 41 59.8 +0.8**
MSU Marysvale 59.99 296 *eP* **P 08 41 59.8 +0.8**
MSU Marysvale 59.99 296 *eP* **P 08 41 59.8 +0.8**
MVU Marysvale 60.02 296 PFAKE 08 42 10.0 +11
MVU LR LR
comp=Z,6µm,20.0s,MS5.7
526A Mary Lane Ranc 60.06 283 ⇑P **P 08 41 59.7 +0.1**
baz=60,SNR=21
T17A Navajo Res., N 60.07 293 ⇑P **P 08 41 59.7 +0.1**
baz=60,SNR=20
324A Moseley Ranch, 60.11 285 ⇓P **P 08 41 58.8 -1.1**
baz=60,SNR=15
S16A Weppner Ranch, 60.12 294 ⇓P **P 08 41 59.8 0.0**
baz=60,SNR=24
X20A Quemado 60.13 290 ⇑P **P 08 42 00.8 +0.8**
baz=60,SNR=20
PNL Peninsula 60.15 327 *eP* **P 08 41 59.6 -0.2**
comp=Z,115nm,1.6s,mb5.7
PNL Peninsula 60.15 327 *eP* **P 08 41 59.6 -0.1**
comp=Z,115nm,1.6s,mb5.7
425A Indio Mountain 60.20 284 ⇑P **P 08 42 00.2 -0.3**
baz=60,SNR=32
JBO Jordan Butte 60.22 306 P **P 08 41 59.6 -0.8**
JBO Jordan Butte 60.22 306 P **P 08 41 59.6 -0.8**
U17A Shonto 60.23 293 ⇑P **P 08 42 01.0 +0.4**
baz=60,SNR=12
R15A Junction 60.24 295 ⇓P **P 08 42 01.4 +0.7**
baz=60,SNR=23
TXAR Lajitas Array 60.25 282 P **P 08 42 00.6 -0.2**
comp=Z,6.9nm,0.8s,mb4.8,baz=69,slow=4.2,SNR=59
TXAR LR LR 09 07 31.2
comp=Z,10µm,19.9s,MS6.0,baz=5.0,slow=36
TXAR PKP2bc 09 11 32.9
comp=Z,1.0nm,1.1s,baz=208,slow=2.4,SNR=4.5
TXAR Lajitas Array 60.25 282 P **P 08 42 00.6 -0.2**
TXAR ⇑*e* 09 11 32.9
TXAR Lajitas Array 60.25 282 P **P 08 42 00.6 -0.2**
TXAR pmax pmax
comp=Z,7.0nm,0.8s
TXAR MLR MLR
comp=Z,10µm,19.9s
TXAR Lajitas Array 60.25 282 P **P 08 42 00.6 -0.2**
comp=Z,10µm,19.9s
122A Conniff Cattle 60.31 287 ⇓P **P 08 42 01.8 +0.5**
baz=60
V18A Ganado 60.32 292 ⇑P **P 08 42 01.0 -0.2**
baz=60

SIT Sitka 60.33 323 *eP* **P 08 42 03.1 +2.1**
comp=Z,34nm,1.2s,mb5.2
SIT Sitka 60.33 323 *eP* **P 08 42 03.1 +2.1**
SIT pmax pmax
comp=Z,34nm,1.2s,mb5.2
SIT Sitka 60.33 323 *eP* **P 08 42 03.1 +2.1**
comp=Z,34nm,1.2s,mb5.2
W19A Sanders 60.35 291 ⇑P **P 08 42 01.4 -0.1**
baz=60,SNR=6.2
Z21A St. Cloud Mine 60.37 288 ⇓P **P 08 42 02.1 +0.5**
baz=60,SNR=20
223A Chaparral, Ant 60.38 286 ⇑P **P 08 42 01.5 -0.2**
baz=60
626A Big Bend Ranch 60.42 283 ⇑P **P 08 42 02.1 +0.1**
baz=60,SNR=31
MCK McKinley 60.44 334 *eP* **P 08 42 01.4 -0.2**
comp=Z,140nm,1.6s,mb5.7
MCK McKinley 60.44 334 *eP* **P 08 42 01.4 -0.2**
MCK pmax pmax
comp=Z,150nm,1.6s,mb5.8
MCK McKinley 60.44 334 *eP* **P 08 42 01.4 -0.2**
comp=Z,150nm,1.6s,mb5.8
Y20A Horse Springs, 60.45 289 ⇓P **P 08 42 02.8 +0.6**
baz=60
ELK Elko 60.47 299 *eP* **P 08 42 02.9 +0.7**
comp=Z,114nm,1.5s,mb5.7
ELK Elko 60.47 299 *eP* **P 08 42 02.9 +0.7**
ELK pmax pmax
comp=Z,114nm,1.5s
ELK Elko 60.47 299 *eP* **P 08 42 02.9 +0.7**
comp=Z,114nm,1.5s,mb5.7
LON Longmire 60.50 308 *eP* **P 08 42 00.3 -2.0**
comp=Z,99nm,2.0s,mb5.5
LON Longmire 60.50 308 *eP* **P 08 42 00.3 -2.0**
LON pmax pmax
comp=Z,99nm,2.0s,mb5.5
LON Longmire 60.50 308 *eP* **P 08 42 00.3 -2.0**
comp=Z,99nm,2.0s,mb5.5
W18A Petrified Fore 60.56 291 ⇓P **P 08 42 02.7 -0.2**
baz=60
JTS JuntasAbangare 60.68 252 P **P 08 42 02.2 -1.7**
comp=Z,4.4nm,1.0s,mb4.5,baz=160,slow=19,SNR=4.6
JTS JuntasAbangare 60.68 252 P **P 08 42 02.2 -1.7**
JTS LR LR
comp=Z,3µm,20.0s,MS5.5
JTS JuntasAbangare 60.68 252 P **P 08 42 02.2 -1.7**
JTS pmax pmax
comp=Z,4.0nm,1.0s
JTS JuntasAbangare 60.68 252 P **P 08 42 02.2 -1.7**
comp=Z,4.0nm,1.0s,mb4.5
ABKT Ailbek 60.69 65 P **P 08 42 04.8 +1.1**
comp=Z,333nm,1.2s,mb6.3,SNR=20
X19A St. Johns 60.71 290 ⇓P **P 08 42 04.5 +0.6**
baz=60,SNR=5.1
J08A Circle Bar Ran 60.75 303 ⇓P **P 08 42 03.7 -0.4**
baz=60,SNR=28
222A Williams Famil 60.76 287 ⇑P **P 08 42 04.6 +0.3**
baz=61,SNR=5.3
G06A Carlson Farm, 60.80 306 ⇓P **P 08 42 03.5 -0.9**
baz=61,SNR=7.0
U16A Tuba City 60.81 293 ⇑P **P 08 42 04.9 +0.3**
baz=61,SNR=50
I07A Izee 60.88 304 ⇑P **P 08 42 03.7 -1.2**
baz=61
V17A Tonalea, Kykot 60.92 292 ⇓P **P 08 42 05.7 +0.3**
baz=61,SNR=41
121A Cookes Peak, D 60.93 288 ⇑P **P 08 42 06.0 +0.5**
baz=61,SNR=31
Y19A Nutrioso 60.98 290 ⇑P **P 08 42 06.5 +0.7**
baz=61,SNR=27
TRF Thorofare Moun 61.05 334 *eP* **P 08 42 05.6 -0.2**
comp=Z,147nm,1.4s,mb5.9
TRF Thorofare Moun 61.05 334 *eP* **P 08 42 05.6 -0.2**
comp=Z,147nm,1.4s,mb5.9
X18A Snowflake 61.07 291 ⇓P **P 08 42 05.8 -0.6**
baz=61,SNR=11
BMRM Bremner River 61.09 330 *eP* **P 08 42 06.2 +0.1**
comp=Z,122nm,1.4s,mb5.8
BMRM Bremner River 61.09 330 *eP* **P 08 42 06.2 +0.1**
comp=Z,122nm,1.4s,mb5.8
Z20A Nine Sixteen R 61.09 289 ⇓P **P 08 42 07.0 +0.5**
baz=61,SNR=16
NLWA Neilton Lookou 61.19 310 *eP* **P 08 42 07.8 +0.7**
comp=Z,998nm,2.8s,mb6.5
NLWA LR LR
comp=Z,10µm,19.0s,MS6.0
NLWA Neilton Lookou 61.19 310 *eP* **P 08 42 07.8 +0.8**
comp=Z,998nm,2.8s,mb6.5
W17A Winslow 61.21 292 ⇑P **P 08 42 07.8 +0.4**
baz=61
ARUT Antelope Range 61.22 296 *eP* **P 08 42 08.0 +0.6**
comp=Z,141nm,1.7s,mb5.8
ARUT Antelope Range 61.22 296 *eP* **P 08 42 08.0 +0.6**
ARUT pmax pmax
comp=Z,141nm,1.7s,mb5.8
ARUT Antelope Range 61.22 296 *eP* **P 08 42 08.0 +0.6**
comp=Z,141nm,1.7s,mb5.8
221A Mesquite Ranch 61.26 287 ⇓P **P 08 42 08.1 +0.4**
baz=61
R13A O'Grain Ranch, 61.30 296 ⇓P **P 08 42 08.4 +0.5**
baz=61,SNR=23
CCUT Cedar City 61.32 295 *eP* **P 08 42 08.6 +0.6**
comp=Z,119nm,1.4s,mb5.8
CCUT Cedar City 61.32 295 *eP* **P 08 42 08.6 +0.6**
comp=Z,119nm,1.4s,mb5.8
WUAZ Wupatki 61.35 292 ⇓P **P 08 42 08.8 +0.5**
baz=61,SNR=19
WUAZ Wupatki 61.35 292 *eP* **P 08 42 08.8 +0.5**
comp=Z,82nm,1.4s,mb5.7
WUAZ LR LR
comp=Z,15µm,20.0s,MS6.1
WUAZ Wupatki 61.35 292 *eP* **P 08 42 08.8 +0.5**
comp=Z,82nm,1.4s,mb5.7
DIV Divide 61.36 331 *eP* **P 08 42 08.2 +0.3**
comp=Z,98nm,1.4s,mb5.8
DIV Divide 61.36 331 *eP* **P 08 42 08.2 +0.3**
comp=Z,98nm,1.4s,mb5.8
Z19A T-Link Ranch, 61.41 289 ⇓P **P 08 42 09.1 +0.4**
baz=61
WVOR Wild Horse Val 61.42 303 *eP* **P 08 42 08.7 0.0**
comp=Z,72nm,1.1s,mb5.7
WVOR LR LR
comp=Z,5µm,21.0s,MS5.7
WVOR Wild Horse Val 61.42 303 *eP* **P 08 42 08.7 +0.1**
WVOR pmax pmax
comp=Z,72nm,1.1s,mb5.7
WVOR MLR MLR
comp=Z,5µm,21.0s,MS5.7
WVOR Wild Horse Val 61.42 303 *eP* **P 08 42 08.7 +0.1**
comp=Z,5µm,21.0s
120A U Bar Ranch, L 61.48 288 ⇑P **P 08 42 09.7 +0.5**
baz=61,SNR=16
RAGM Ragged Mountai 61.53 330 *eP* **P 08 42 09.7 +0.6**
comp=Z,100nm,1.2s,mb5.8
RAGM Ragged Mountai 61.53 330 *eP* **P 08 42 09.7 +0.6**
comp=Z,100nm,1.2s,mb5.8
E03A Lebam 61.57 309 ⇑P **P 08 42 09.0 -0.5**
baz=61
Y18A Canyon Day Jun 61.60 290 ⇑P **P 08 42 10.4 +0.5**
baz=61,SNR=23
RAYN Ar Rayn 61.63 85 P **P 08 42 10.9 +0.6**
comp=Z,127nm,1.8s,mb5.8,SNR=8.8
SML Sawmill 61.69 332 *eP* **P 08 42 10.4 +0.2**
comp=Z,33nm,1.4s,mb5.3
SML Sawmill 61.69 332 *eP* **P 08 42 10.4 +0.3**
SML pmax pmax
comp=Z,33nm,1.4s,mb5.3
SML Sawmill 61.69 332 *eP* **P 08 42 10.4 +0.3**
comp=Z,33nm,1.4s,mb5.3
220A Playas Peak, P 61.82 288 ⇑P **P 08 42 12.0 +0.5**
baz=62,SNR=34
BMN Battle Mountai 61.85 300 *eP* **P 08 42 12.4 +0.8**
comp=Z,74nm,1.4s,mb5.6
BMN LR LR
comp=Z,8µm,21.0s,MS5.8
BMN Battle Mountai 61.85 300 *eP* **P 08 42 12.4 +0.8**
BMN pmax pmax
comp=Z,74nm,1.4s,mb5.6
BMN MLR MLR
comp=Z,8µm,21.0s,MS5.8
BMN Battle Mountai 61.85 300 *eP* **P 08 42 12.4 +0.8**
comp=Z,8µm,21.0s
PPLA Purkeypile 62.03 335 *eP* **P 08 42 11.5 -0.9**
comp=Z,113nm,1.6s,mb5.8
PPLA Purkeypile 62.03 335 *eP* **P 08 42 11.5 -0.9**
comp=Z,113nm,1.6s,mb5.8
Z18A Geronimo 62.04 289 ⇑P **P 08 42 13.2 +0.2**
baz=62,SNR=8.6

X16A Lo Mia Camp, P 62.09 291 ⇓P **P 08 42 14.1 +0.8**
baz=62,SNR=16
PMR Palmer 62.11 333 *eP* **P 08 42 13.0 +0.1**
comp=Z,108nm,1.3s,mb5.8
PMR Palmer 62.11 333 *eP* **P 08 42 13.0 +0.1**
PMR pmax pmax
comp=Z,108nm,1.3s,mb5.8
PMR Palmer 62.11 333 *eP* **P 08 42 13.0 +0.1**
comp=Z,108nm,1.3s,mb5.8
Y17A Roosevelt 62.17 290 ⇓P **P 08 42 14.3 +0.5**
baz=62,SNR=21
320A Kipp Ranch, An 62.18 287 ⇓P **P 08 42 14.5 +0.5**
baz=62,SNR=16
R11A Troy Canyon, C 62.18 297 ⇓P **P 08 42 13.8 0.0**
baz=62,SNR=41
Z17A San Carlos Hig 62.19 290 ⇑P **P 08 42 14.3 +0.3**
baz=62
219A White Tail Can 62.23 288 ⇓P **P 08 42 14.4 +0.1**
baz=62,SNR=21
118A Homack Ranch, 62.28 289 ⇑P **P 08 42 15.0 +0.4**
baz=62,SNR=14
K05A Summer Lake 62.52 304 ⇑P **P 08 42 16.3 +0.3**
baz=62
319A Douglas 62.65 288 ⇑P **P 08 42 17.7 +0.7**
baz=62,SNR=22
RC01 Rabbit Creek A 62.68 333 *eP* **P 08 42 17.2 +0.4**
comp=Z,84nm,1.4s,mb5.7
218A Dragoon 62.76 289 ⇑P **P 08 42 18.3 +0.5**
baz=63
NVS Novosibirsk 62.87 37 ⇓*iP* **P 08 42 17.8 -0.4**
NVS pmax pmax
comp=Z,274nm,1.9s,mb6.1
NVS pmax pmax
comp=N,58nm,1.8s
NVS pmax pmax
comp=E,35nm,1.9s
NVS Novosibirsk 62.87 37 *i* P **P 08 42 17.8 -0.4**
comp=E,58nm,1.8s,mb5.4
TUC Tucson 63.02 289 *eP* **P 08 42 19.5 0.0**
comp=E,15nm,1.6s,mb4.9
TUC LR LR
comp=Z,6µm,21.0s,MS5.8
TUC Tucson 63.02 289 *eP* **P 08 42 19.5 0.0**
TUC pmax pmax
comp=Z,68nm,1.6s,mb5.5
TUC MLR MLR
comp=Z,7µm,21.0s,MS5.8
TUC Tucson 63.02 289 *eP* **P 08 42 19.5 0.0**
comp=Z,7µm,21.0s
318A Bisbee 63.07 288 ⇑P **P 08 42 20.0 +0.1**
baz=63,SNR=9.9
W13A Hualapai Mount 63.20 294 ⇑P **P 08 42 21.1 +0.4**
baz=63,SNR=24
SLKM Skilak Lake 63.28 332 *eP* **P 08 42 20.5 -0.3**
SLKM Skilak Lake 63.28 332 *eP* **P 08 42 20.5 -0.3**
SLKM Skilak Lake 63.28 332 *eP* **P 08 42 20.5 -0.3**
TPH Tonopah 63.35 298 PFAKE 08 42 30.0 +8.4
TPH LR LR
comp=Z,4µm,20.0s,MS5.6
Y14A Wickenburg 63.40 292 ⇓P **P 08 42 22.1 +0.1**
baz=63,SNR=12
KURK Kurchatov 63.67 43 *eP* **P 08 42 22.8 -0.7**
comp=Z,45nm,1.0s,mb5.5
KURK LR LR
comp=Z,3µm,21.0s,MS5.5
KURK Kurchatov 63.67 43 *d iP* **P 08 42 22.8 -0.7**
KURK pmax pmax
comp=Z,86nm,1.7s,mb5.5
KURK Kurchatov 63.67 43 P **P 08 42 23.3 -0.2**
SNR=25
KURK Kurchatov 63.67 43 P **P 08 42 22.0 -1.5**
comp=Z,242nm,1.0s,mb6.2,SNR=26
KURK Kurchatov 63.67 43 P **P 08 42 23.3 -0.2**
SNR=25
TNA Tin City 63.70 343 *eP* **P 08 42 22.3 -1.1**
comp=Z,65nm,1.4s,mb5.5
Z14A Wintersburg 63.73 291 ⇓P **P 08 42 24.5 +0.3**
baz=64,SNR=5.8
NVAR Mina Array Bea 63.77 299 P **P 08 42 23.8 -0.6**
comp=Z,4.7nm,0.8s,mb4.6,baz=58,slow=5.4,SNR=25
NVAR LR LR 09 08 26.8
comp=Z,7µm,21.1s,MS5.8,baz=308,slow=34
NVAR Mina Array Bea 63.77 299 P **P 08 42 23.8 -0.6**
NEE2 Needles Airpor 63.88 294 ⇓P **P 08 42 25.3 +0.2**
baz=64
PDMCI Parker Dam,Lak 63.88 293 ⇑P **P 08 42 25.5 +0.3**
baz=64,SNR=12
LDFC Landfair 63.98 294 *eP* **P 08 42 27.0 +1.2**
comp=Z,112nm,1.3s,mb5.7
WCN Washoe City 64.07 300 ⇓P **P 08 42 26.3 0.0**
baz=64
WCN Washoe City 64.07 300 *eP* **P 08 42 27.2 +0.9**
comp=Z,226nm,2.5s,mb5.8
WCN Washoe City 64.07 300 *eP* **P 08 42 27.2 +0.9**
WCN pmax pmax
comp=Z,226nm,2.5s,mb5.8
WCN Washoe City 64.07 300 *eP* **P 08 42 27.2 +0.9**
comp=Z,226nm,2.5s,mb5.8
114A Black Gap (USA 64.08 291 ⇑P **P 08 42 26.7 +0.1**
baz=64
RSO Redoubt South 64.11 333 *eP* **P 08 42 26.1 -0.1**
GRAC Grapevine Rang 64.13 297 ⇑P **P 08 42 26.5 -0.2**
baz=64,SNR=41
ZAA0 Zalesovo Array 64.16 37 *eP* **P 08 42 26.1 -0.6**
ZALV Zalesovo Beam 64.16 37 P **P 08 42 25.7 -1.0**
comp=Z,9.7nm,1.0s,mb4.8,baz=295,slow=11,SNR=19
ZALV LR LR 09 10 34.3
comp=Z,3µm,21.3s,MS5.4,baz=306,slow=36
ZALV Zalesovo Beam 64.16 37 P **P 08 42 25.6 -1.0**
ZALV Zalesovo Beam 64.16 37 P **P 08 42 25.7 -1.0**
ZALV pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ZALV MLR MLR
comp=Z,3µm,21.3s,MS5.4
ZALV Zalesovo Beam 64.16 37 P **P 08 42 25.7 -1.0**
comp=Z,3µm,21.3s
FURC Furnace Creek, 64.16 296 ⇓P **P 08 42 27.2 +0.2**
baz=64,SNR=23
SHOC Shoshone 64.18 296 ⇑P **P 08 42 27.4 +0.3**
baz=64,SNR=12
SAML Samuel 64.21 220 *eP* **P 08 42 26.3 -1.2**
comp=Z,166nm,1.7s,mb5.8
SAML LR LR
comp=Z,3µm,22.0s,MS5.4
TUQ Turquoise Moun 64.26 295 ⇑P **P 08 42 27.9 +0.3**
baz=64,SNR=16
Z13A Yuma Proving G 64.29 292 ⇑P **P 08 42 27.8 0.0**
baz=64,SNR=27
OTAV Otavalo 64.39 240 *eP* **P 08 42 29.1 +0.4**
comp=Z,22nm,1.5s,mb5.0
OTAV LR LR
comp=Z,4µm,20.0s,MS5.6
Y12C Blythe 64.48 293 ⇑P **P 08 42 29.3 +0.2**
baz=64,SNR=15
214A Organ Pipe Nat 64.56 290 ⇓P **P 08 42 29.7 0.0**
baz=64,SNR=10
IRM Iron Mountain 64.61 293 ⇑P **P 08 42 29.9 -0.1**
baz=64,SNR=19
MLAC Mammoth Lakes 64.61 299 ⇓P **P 08 42 30.1 +0.2**
baz=64
TIN Tinemaha 64.62 298 ⇓P **P 08 42 30.5 +0.5**
baz=64,SNR=10
MTUM Tungsten Hills 64.63 298 *eP* **P 08 42 30.5 +0.5**
KK31 Karatay Array 64.64 53 *ceP* **P 08 42 29.7 -0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KK31 Karatay Array 64.64 53 *eP* **P 08 42 29.7 -0.3**
comp=Z,2.0nm,0.4s,mb4.5
KKAR Karatay Array 64.64 53 *eP* **P 08 42 29.6 -0.4**
KKAR Karatay Array 64.64 53 *eP* **P 08 42 29.6 -0.4**
KKAR Karatay Array 64.64 53 *eP* **P 08 42 29.6 -0.4**
113A Mohawk Valley, 64.64 291 ⇓P **P 08 42 29.9 -0.3**
baz=64,SNR=8.5
MPMC Manual Prospec 64.82 296 ⇓P **P 08 42 31.8 +0.5**
baz=65,SNR=67
BILL Bilibino 64.82 354 *eP* **P 08 42 30.8 0.0**
comp=Z,19nm,1.1s,mb5.0
BILL LR LR
comp=Z,2µm,21.0s,MS5.2
BILL Bilibino 64.82 354 *d iP* **P 08 42 30.5 -0.3**
BILL *i* 08 42 37.6
BILL *e* 08 43 03.2
BILL *e* 08 44 53.3
BILL *eS* **S 08 51 14.6 +3.4**
BILL pmax pmax
comp=Z,60nm,2.5s,mb5.2
BILL Bilibino 64.82 354 *i* P **P 08 42 30.5 -0.3**

comp=Z,60nm,2.5s,mb5.2
BILL Bilibino 64.82 354 *e*PcP PcP 08 43 03.2 -0.9
GSC Goldstone 64.89 295 ⇓P **P 08 42 32.3 +0.5**
baz=65,SNR=44
GSC Goldstone 64.89 295 *e*P **P 08 42 32.4 +0.6**
comp=Z,160nm,1.4s,mb5.9
GSC Goldstone 64.89 295 *e*P **P 08 42 32.4 +0.6**
GSC pmax pmax
comp=Z,160nm,1.4s,mb5.9
GSC Goldstone 64.89 295 *e*P **P 08 42 32.4 +0.6**
comp=Z,160nm,1.4s,mb5.9
HEC Hector,Ludlow 64.90 295 ⇓P **P 08 42 32.3 +0.4**
baz=65,SNR=15
CWC Cottonwood Cre 64.93 297 ⇑P **P 08 42 32.3 +0.3**
baz=65,SNR=10.0
GLA Glamis 65.12 292 ⇓P **P 08 42 33.3 0.0**
baz=65,SNR=6.4
GLA Glamis 65.12 292 *e*P **P 08 42 33.9 +0.6**
comp=Z,80nm,1.4s,mb5.6
GLA Glamis 65.12 292 *e*P **P 08 42 33.9 +0.6**
GLA pmax pmax
comp=Z,80nm,1.4s,mb5.6
GLA Glamis 65.12 292 *e*P **P 08 42 33.9 +0.6**
comp=Z,80nm,1.4s,mb5.6
CMB Columbia Colle 65.27 300 *e*P **P 08 42 34.0 -0.2**
comp=Z,113nm,1.8s,mb5.6
CMB Columbia Colle 65.27 300 *e*P **P 08 42 34.0 -0.2**
CMB pmax pmax
comp=Z,113nm,1.8s,mb5.6
CMB Columbia Colle 65.27 300 *e*P **P 08 42 34.0 -0.2**
comp=Z,113nm,1.8s,mb5.6
RRX Edison Barstow 65.29 295 ⇓P **P 08 42 34.5 +0.2**
baz=65
LRMC Laurel Mountai 65.32 296 ⇑P **P 08 42 34.7 +0.1**
baz=65
KHMM Horse Mountain 65.34 304 *e*P **P 08 42 35.0 +0.4**
comp=Z,118nm,1.4s,mb5.7
BBRC Big Bear Solar 65.64 295 ⇑P **P 08 42 37.2 +0.6**
baz=66
ISA Isabella 65.68 297 ⇓P **P 08 42 37.7 +0.8**
baz=66,SNR=26
ISA Isabella 65.68 297 *e*P **P 08 42 37.5 +0.6**
comp=Z,164nm,1.5s,mb5.8
ISA Isabella 65.68 297 *e*P **P 08 42 37.5 +0.6**
ISA pmax pmax
comp=Z,163nm,1.5s,mb5.8
ISA Isabella 65.68 297 *e*P **P 08 42 37.5 +0.6**
comp=Z,163nm,1.5s,mb5.8
RCTC Rector, Farmer 65.72 298 ⇓P **P 08 42 36.7 -0.5**
baz=66,SNR=12
PFO Pinyon Flat Ob 65.78 294 ⇑P **P 08 42 37.7 +0.1**
baz=66,SNR=12
PFO Pinyon Flat Ob 65.78 294 *e*P **P 08 42 37.8 +0.2**
comp=Z,37nm,1.4s,mb5.2
PFO LR LR
comp=Z,4μm,20.0s,MS5.7
PFO Pinyon Flat Ob 65.78 294 P **P 08 42 37.2 -0.4**
comp=Z,120nm,1.4s,mb5.7,SNR=8.0
PFO Pinyon Flat Ob 65.78 294 *e*P **P 08 42 37.8 +0.2**
PFO pmax pmax
comp=Z,51nm,1.4s,mb5.4
PFO MLR MLR
comp=Z,6μm,20.0s,MS5.8
PFO Pinyon Flat Ob 65.78 294 *e*P **P 08 42 37.8 +0.2**
comp=Z,6μm,20.0s
SWSC Sam W. Stewart 65.81 293 ⇓P **P 08 42 37.7 0.0**
baz=66,SNR=9.6
EDW2 Edwards Air Fo 65.90 296 ⇓P **P 08 42 38.6 +0.3**
baz=66,SNR=10.0
VES Vestal, Richgr 65.94 297 ⇑P **P 08 42 38.1 -0.5**
baz=66,SNR=16
GAMB Gambell 66.04 344 *e*P **P 08 42 38.4 -0.4**
comp=Z,104nm,1.6s,mb5.6
BFSC Mount Baldy Ra 66.12 295 ⇓P **P 08 42 39.5 -0.2**
baz=66,SNR=9.7
KDAK Kodiak Island 66.17 331 PFAKE 08 42 50.0 +10
KDAK LR LR
comp=Z,5μm,19.0s,MS5.7
DVTC Desert V Tower 66.19 293 ⇑P **P 08 42 40.2 0.0**
baz=66,SNR=6.0
ARVC Arvin 66.25 296 ⇓P **P 08 42 40.7 +0.2**
baz=66
MURC Murrieta 66.26 294 ⇑P **P 08 42 40.6 -0.1**
baz=66,SNR=9.1
MWC Mount Wilson 66.38 295 *e*P **P 08 42 41.8 +0.5**
comp=Z,79nm,1.5s,mb5.5
MWC Mount Wilson 66.38 295 *e*P **P 08 42 41.8 +0.4**
MWC pmax pmax
comp=Z,79nm,1.5s,mb5.5
MWC Mount Wilson 66.38 295 *e*P **P 08 42 41.8 +0.4**
comp=Z,79nm,1.5s,mb5.5
PASC Pasadena Art C 66.49 295 *e*P **P 08 42 42.2 0.0**
comp=Z,273nm,1.5s,mb6.1
DECC Green Verdugo 66.53 295 ⇑P **P 08 42 42.0 -0.3**
baz=66
OSI Osito Adit 66.53 296 ⇑P **P 08 42 42.6 +0.3**
baz=66
OSI Osito Adit 66.53 296 *e*P **P 08 42 43.5 +1.1**
comp=Z,74nm,1.3s,mb5.6
BAR Barrett 66.53 293 *e*P **P 08 42 43.1 +0.7**
comp=Z,86nm,1.5s,mb5.6
109C Camp Elliot, M 66.67 294 ⇑P **P 08 42 43.1 -0.2**
baz=66
USP Ospenovka 66.69 51 P **P 08 42 43.2 -0.1**
SNR=8.9
USP P 08 42 43.2
SNR=8.9
EKS2 Erkin-Say 66.71 52 P **P 08 42 44.5 +1.1**
SNR=59
EKS2 P 08 42 44.5
SNR=59
EKS2 Erkin-Say 66.71 52 *e*P **P 08 42 44.4 +1.0**
comp=Z,205nm,1.4s,mb6.0
EKS2 LR LR
comp=Z,6μm,19.0s,MS5.8
EKS2 Erkin-Say 66.71 52 *e*P **P 08 42 44.4 +1.0**
EKS2 pmax pmax
comp=Z,205nm,1.4s,mb6.0
EKS2 MLR MLR
comp=Z,6μm,19.0s,MS5.8
EKS2 Erkin-Say 66.71 52 *e*P **P 08 42 44.4 +1.0**
comp=Z,6μm,19.0s
SAO San Andreas Ge 66.75 299 *e*P **P 08 42 44.6 +0.9**
comp=Z,74nm,1.6s,mb5.5
SAO San Andreas Ge 66.75 299 *e*P **P 08 42 44.7 +1.0**
SAO pmax pmax
comp=Z,74nm,1.6s,mb5.5
SAO San Andreas Ge 66.75 299 *e*P **P 08 42 44.7 +1.0**
comp=Z,74nm,1.6s,mb5.5
SMMC Simmler 66.84 297 ⇑P **P 08 42 43.9 -0.5**
baz=67
FMP Fort Macarthur 66.86 295 ⇑P **P 08 42 44.4 -0.1**
baz=67
CHMS Chumysh 67.00 51 P **P 08 42 45.5 +0.2**
SNR=10
CHMS P 08 42 45.5
SNR=10
PKM Peak Mountain 67.01 297 ⇓P **P 08 42 45.8 +0.4**
baz=67,SNR=12
AML Almayashu 67.03 52 P **P 08 42 46.7 +1.3**
SNR=70
AML P 08 42 46.7
SNR=70
FRU Bishkek 67.04 51 ⇓*i*P **P 08 42 46.0 +0.5**
FRU pmax pmax
comp=Z,171nm,1.8s,mb5.8
FRU Bishkek 67.04 51 *i*P **P 08 42 46.0 +0.5**
comp=Z,171nm,1.8s,mb5.8
BLG Laguna Peak 67.07 296 ⇓P **P 08 42 45.4 -0.4**
baz=67
AAK Ala-Archa 67.12 52 P **P 08 42 47.0 +1.0**
SNR=42
AAK P 08 42 47.0
SNR=42
AAK Ala-Archa 67.12 52 *e*P **P 08 42 46.7 +0.7**
comp=Z,126nm,1.5s,mb5.7
AAK LR LR
comp=Z,5μm,19.0s,MS5.8
AAK Ala-Archa 67.12 52 *d*/*i*P **P 08 42 46.2 +0.2**
AAK pmax pmax
comp=Z,264nm,1.7s,mb6.0
AAK Ala-Archa 67.12 52 P **P 08 42 47.3 +1.3**
comp=Z,225nm,1.5s,mb6.0
AAK Ala-Archa 67.12 52 P **P 08 42 46.1 +0.1**
comp=Z,223nm,1.5s,mb6.0,SNR=15
AAK Ala-Archa 67.12 52 P **P 08 42 47.1 +1.1**
SNR=44
AAK Ala-Archa 67.12 52 *i*P **P 08 42 46.2 +0.2**
comp=Z,264nm,1.7s,mb6.0
CIS Catalina Islan 67.13 295 ⇑P **P 08 42 46.2 0.0**
baz=67
SBC Santa Barbara 67.25 296 ⇓P **P 08 42 47.6 +0.7**
baz=67
BANOM Banah 67.31 76 P **P 08 42 47.3 -0.1**
SNR=7.5
BANOM Banah 67.31 76 P **P 08 42 47.3 -0.2**
SNR=7.5
BSC Santa Cruz Isl 67.50 296 ⇑P **P 08 42 48.1 -0.4**
baz=67
TKM2 Tokmak 2 67.51 51 P **P 08 42 49.2 +0.8**
SNR=49
TKM2 P 08 42 49.2
SNR=49
TKM2 Tokmak 2 67.51 51 *e*P **P 08 42 49.1 +0.7**
comp=Z,146nm,1.5s,mb5.8
TKM2 LR LR
comp=Z,6μm,19.0s,MS5.8
TKM2 Tokmak 2 67.51 51 *e*P **P 08 42 49.1 +0.7**
TKM2 pmax pmax
comp=Z,146nm,1.5s,mb5.8
TKM2 MLR MLR
comp=Z,6μm,19.0s,MS5.8
TKM2 Tokmak 2 67.51 51 *e*P **P 08 42 49.1 +0.7**
comp=Z,6μm,19.0s
SCI San Clemente I 67.51 295 ⇑P **P 08 42 48.7 +0.1**
baz=67
KZA Kyzart 67.90 52 P **P 08 42 52.4 +1.4**
SNR=19
KZA P 08 42 52.4
SNR=19
HATD Hatta, Dubai 67.94 77 P **P 08 42 51.1 -0.3**
SNR=14
HATD Hatta, Dubai 67.94 77 P **P 08 42 51.1 -0.3**
SNR=14
MK31 Makanchi Array 68.15 44 *e*P **P 08 42 52.0 -0.4**
MK31 Makanchi Array 68.15 44 *ce*P **P 08 42 51.8 -0.6**
MK31 pmax pmax
comp=Z,117nm,1.3s,mb5.8
MK31 Makanchi Array 68.15 44 *e*P **P 08 42 51.8 -0.6**
comp=Z,117nm,1.3s,mb5.8
MKAR Makanchi Array 68.15 44 P **P 08 42 51.8 -0.6**
comp=Z,26nm,1.0s,mb5.2,baz=318,slow=4.9,SNR=82
MKAR PKP2bc 09 11 11.3
comp=Z,0.8nm,1.0s,baz=147,slow=2.9,SNR=4.3
MKAR LR LR 09 14 09.9
comp=Z,3μm,18.1s,MS5.6,baz=304,slow=37
MKAR Makanchi Array 68.15 44 P **P 08 42 51.8 -0.6**
MKAR ⇑*e* 09 11 11.3
MKAR Makanchi Array 68.15 44 *ce*P **P 08 42 52.0 -0.4**
MKAR pmax pmax
comp=Z,26nm,1.0s
MKAR Makanchi Array 68.15 44 *e*P **P 08 42 52.0 -0.4**
comp=Z,26nm,1.0s,mb5.2
ULHL Ulahol 68.32 51 P **P 08 42 54.3 +0.8**
SNR=12
ULHL P 08 42 54.3
SNR=12
ARQ Araqi 69.21 78 P **P 08 42 59.0 -0.5**
SNR=14
ARQ Araqi 69.21 78 P **P 08 42 59.0 -0.4**
SNR=14
MBAR Mbarara 69.23 115 PFAKE 08 43 10.0 +10
MBAR LR LR
comp=Z,715nm,22.0s,MS4.9
KBL Kabul 69.56 61 *e*P **P 08 43 01.8 +0.4**
comp=Z,96nm,1.8s,mb5.4
KBL Kabul 69.56 61 *e*P **P 08 43 01.8 +0.4**
KBL pmax pmax
comp=Z,96nm,1.8s,mb5.4
KBL Kabul 69.56 61 *e*P **P 08 43 01.8 +0.4**
comp=Z,96nm,1.8s,mb5.4
SIV San Ignacio 69.67 215 P **P 08 43 01.1 -1.0**
comp=Z,7.0nm,0.8s,mb4.7,baz=58,slow=7.2,SNR=41
SIV LR LR 09 08 55.7
comp=Z,3μm,21.3s,MS5.5,slow=32
SIV San Ignacio 69.67 215 P **P 08 43 01.1 -1.0**
YAK Yakutsk 69.75 11 *e*P **P 08 43 01.5 -0.6**
comp=Z,116nm,1.2s,mb5.7
YAK LR LR
comp=Z,868nm,20.0s,MS5.0
YAK Yakutsk 69.75 11 *e*P **P 08 43 01.2 -0.9**
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,52nm,1.1s,mb5.4
YAK pmax pmax
comp=N,33nm,1.4s
YAK Yakutsk 69.75 11 *e*P **P 08 43 01.2 -0.9**
comp=N,33nm,1.4s,mb5.1
HVS Khovu-Aksy 69.87 35 *d*/*i*P **P 08 43 02.6 -0.4**
HVS pmax pmax
comp=Z,308nm,1.7s,mb6.0
HVS Khovu-Aksy 69.87 35 *i*P **P 08 43 02.6 -0.4**
comp=Z,308nm,1.7s,mb6.0
KSH Kashi 70.09 53 P **P 08 43 05.9 +1.3**
KSH pP pP 08 43 10.6 +2.8
KSH sP sP 08 43 12.9 +3.9
KSH PcP PcP 08 43 28.3 +1.7
KSH PP PP 08 45 42.6 +3.5
KSH S S 08 52 13.6 -1.7
KSH sS sS 08 52 22.4 +1.7
KSH SKS 08 53 02.3
KSH ScS ScS 08 53 04.0 -2.9
KSH SS SS 08 56 45.3 +1.2
KSH pmax pmax
comp=Z,150nm,1.2s,mb5.8
KSH pmax pmax
comp=Z,690nm,2.6s,mb6.1
KSH LR LR
comp=N,4μm,17.9s,MS5.9
KSH LR LR
comp=E,5μm,18.6s,MS5.9
KSH LR LR
comp=Z,3μm,15.7s,MS5.7
ATAH Atahualpa 70.34 235 P **P 08 43 07.0 +0.7**
comp=Z,26nm,1.1s,mb5.1,baz=70,slow=1.9,SNR=25
ATAH LR LR 09 12 10.3
comp=Z,5μm,20.5s,MS5.7,baz=69,slow=34
ATAH Atahualpa 70.34 235 P **P 08 43 07.0 +0.7**
SMDO Samad 70.42 77 P **P 08 43 06.0 -0.8**
SNR=6.8
SMDO Samad 70.42 77 P **P 08 43 06.0 -0.9**
SNR=6.8
BOD Bodaibo 70.72 21 ⇑*i*P **P 08 43 06.4 -1.7**
BOD pmax pmax
comp=Z,134nm,1.8s,mb5.6
BOD Bodaibo 70.72 21 *i*P **P 08 43 06.4 -1.7**
comp=Z,134nm,1.8s,mb5.6
JMDO Jabal Madar 70.93 77 P **P 08 43 09.7 -0.3**
SNR=5.7
JMDO Jabal Madar 70.93 77 P **P 08 43 09.7 -0.3**
SNR=5.7
MOY Mondy 72.16 31 *e*P **P 08 43 17.9 +1.0**
MOY pmax pmax
comp=Z,152nm,1.9s,mb5.6
MOY Mondy 72.16 31 *e*P **P 08 43 17.9 +1.0**
comp=Z,152nm,1.9s,mb5.6
SPB Sao Paulo 72.59 199 PFAKE 08 43 30.0 +10
SPB LR LR
comp=Z,3μm,22.0s,MS5.6
NIL Nilore 72.68 59 PFAKE 08 43 30.0 +10
NIL LR LR
comp=Z,585nm,20.0s,MS4.9
LPAZ La Paz 72.90 221 P **P 08 43 21.5 -0.2**
comp=Z,10nm,1.0s,mb4.7,baz=22,slow=5.1,SNR=36
LPAZ LR LR 09 10 51.3
comp=Z,2μm,21.8s,MS5.4,baz=358,slow=32
LPAZ La Paz 72.90 221 *e*P **P 08 43 21.5 -0.2**
comp=Z,159nm,1.9s,mb5.6
LPAZ La Paz 72.90 221 P **P 08 43 21.5 -0.2**
LPAZ pmax pmax
comp=Z,10.0nm,1.0s
LPAZ La Paz 72.90 221 P **P 08 43 21.5 -0.2**
comp=Z,10.0nm,1.0s,mb4.7
WMQ Urumqi 72.91 43 P **P 08 43 22.4 +0.9**
WMQ pP pP 08 43 27.1 +2.3
WMQ sP sP 08 43 29.4 +3.4
WMQ PP PP 08 46 06.8 +3.6
WMQ S S 08 52 47.1 -0.7
WMQ sS sS 08 52 55.5 +2.3
WMQ pmax pmax
comp=Z,65nm,1.4s,mb5.4
WMQ pmax pmax
comp=Z,390nm,3.0s
WMQ LR LR
comp=N,8μm,17.0s,MS6.1
WMQ LR LR
comp=E,4μm,18.0s,MS6.1
WMQ LR LR
comp=Z,4μm,19.2s,MS5.7
TLY Talaya 73.06 29 *e*P **P 08 43 22.1 -0.1**
comp=Z,160nm,1.9s,mb5.6
TLY LR LR
comp=Z,2μm,20.0s,MS5.3
TLY Talaya 73.06 29 *e*P **P 08 43 21.6 -0.7**
TLY pmax pmax
comp=Z,30nm,1.5s,mb5.0
TLY Talaya 73.06 29 P **P 08 43 23.2 +1.0**
SNR=20
TLY Talaya 73.06 29 P **P 08 43 22.1 -0.1**
comp=Z,133nm,1.8s,mb5.6,SNR=14
TLY Talaya 73.06 29 P **P 08 43 23.2 +0.9**
SNR=20
NNA Nana 73.50 231 P **P 08 43 25.3 0.0**
comp=Z,8.2nm,0.8s,mb4.7,baz=15,slow=4.0,SNR=6.7
NNA Nana 73.50 231 *e*P **P 08 43 24.1 -1.1**
comp=Z,27nm,1.0s,mb5.1
NNA LR LR
comp=Z,3μm,20.0s,MS5.5
NNA Nana 73.50 231 P **P 08 43 25.3 0.0**
NNA pmax pmax
comp=Z,8.0nm,0.8s
NNA Nana 73.50 231 P **P 08 43 25.3 0.0**
comp=Z,8.0nm,0.8s,mb4.7
KMBO Kilima Mbogo 73.76 110 *e*P **P 08 43 28.2 +1.3**
comp=Z,212nm,2.5s,mb5.6
KMBO LR LR
comp=Z,7μm,21.0s,MS6.0
KMBO Kilima Mbogo 73.76 110 *e*P **P 08 43 28.2 +1.3**
KMBO pmax pmax
comp=Z,212nm,2.5s
KMBO MLR MLR
comp=Z,7μm,21.0s
KMBO Kilima Mbogo 73.76 110 P **P 08 43 28.6 +1.7**
SNR=14
KMBO Kilima Mbogo 73.76 110 P **P 08 43 28.6 +1.7**
SNR=14
CLNS Chul'man 73.95 15 *e*P **P 08 43 27.5 +0.1**
CLNS *e**PP pP 08 43 33.9 +3.2
CLNS *e* 08 43 40.7
CLNS *e* 08 46 10.0
CLNS *e*PPP 08 47 54.8
CLNS *e*S S 08 52 54.2 -4.9
CLNS pmax pmax
comp=E,5.0nm,1.2s
CLNS pmax pmax
comp=Z,47nm,1.3s,mb5.3
CLNS pmax pmax
comp=N,23nm,1.5s
CLNS pmax pmax
comp=E,3.0nm,0.6s
CLNS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS smax
comp=E,413nm,13.1s
CLNS smax
comp=N,290nm,13.1s
CLNS MLR MLR
comp=Z,617nm,16.0s,MS5.0
CLNS Chul'man 73.95 15 *e*P **P 08 43 27.5 +0.1**
comp=Z,23nm,1.5s,mb4.9
CLNS Chul'man 73.95 15 *e*PcP PcP 08 43 40.7 -2.0
ZAK Zakamensk 74.03 30 *e*P **P 08 43 27.8 -0.2**
ZAK pmax pmax
comp=Z,23nm,1.8s,mb4.8
ZAK Zakamensk 74.03 30 *e*P **P 08 43 27.8 -0.2**
comp=Z,23nm,1.8s,mb4.8
SONM Songino Array 77.27 30 P **P 08 43 46.5 -0.1**
comp=Z,17nm,0.9s,mb5.0,baz=325,slow=6.1,SNR=83
SONM LR LR 09 20 47.2
comp=Z,2μm,18.1s,MS5.5,baz=325,slow=38
SONM Songino Array 77.27 30 P **P 08 43 46.5 -0.1**
SONM Songino Array 77.27 30 P **P 08 43 46.5 -0.1**
SONM pmax pmax
comp=Z,17nm,0.9s
SONM MLR MLR
comp=Z,2μm,18.1s
SONM Songino Array 77.27 30 P **P 08 43 46.5 -0.1**
comp=Z,2μm,18.1s
KKR Kurukshetra 77.44 60 *e*PKP **P 08 43 47.7 -0.2**
ULN Ulaanbaatar 77.47 30 *e*P **P 08 43 47.8 +0.1**
comp=Z,132nm,1.4s,mb5.7
ULN LR LR
comp=Z,2μm,19.0s,MS5.5
ULN Ulaanbaatar 77.47 30 *e*P **P 08 43 47.8 +0.1**
ULN pmax pmax
comp=Z,132nm,1.4s,mb5.7
ULN MLR MLR
comp=Z,2μm,19.0s,MS5.5
ULN Ulaanbaatar 77.47 30 P **P 08 43 48.1 +0.4**
comp=Z,1μmcomp=Z,71nm,1.8s,mb5.3
ULN Ulaanbaatar 77.47 30 P **P 08 43 48.5 +0.8**
SNR=40
ULN Ulaanbaatar 77.47 30 *e*P **P 08 43 47.8 +0.1**
comp=Z,2μm,19.0s
CPUP Villa Florida 77.88 207 P **P 08 43 48.8 -1.2**
comp=Z,13nm,0.9s,mb4.9,baz=359,slow=5.9,SNR=24
CPUP Villa Florida 77.88 207 P **P 08 43 48.8 -1.2**
CPUP LR LR
comp=Z,277nm,21.0s,MS4.6
CPUP Villa Florida 77.88 207 P **P 08 43 48.8 -1.3**
CPUP pmax pmax
comp=Z,13nm,0.9s
CPUP Villa Florida 77.88 207 P **P 08 43 48.8 -1.3**
comp=Z,13nm,0.9s,mb4.9
NDI New Delhi 78.61 60 *e*PKP **P 08 43 52.3 -2.1**
NDI *ex* x 08 44 52.0
AYAN Aya Nagar 78.70 60 *e*PKP **P 08 43 53.1 -1.9**
AYAN AMb AMB 08 43 58.4
comp=Z,96nm,1.3s,mb5.6
ASOR Ausora 78.89 60 *e*PKP **P 08 43 53.7 -2.2**
HIA Hailar 79.93 21 *e*P **P 08 44 01.9 +0.7**
comp=Z,169nm,1.6s,mb5.7
HIA LR LR
comp=Z,2μm,20.0s,MS5.4
HIA Hailar 79.93 21 *e*P **P 08 44 01.9 +0.7**
HIA pmax pmax
comp=Z,169nm,1.6s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 79.93 21 *e*P **P 08 44 01.9 +0.7**
comp=Z,2μm,20.0s
GTA Gaotai 81.88 39 P **P 08 44 11.6 -0.2**
GTA pP pP 08 44 16.3 +1.1
GTA sP sP 08 44 19.1 +2.7
GTA S S 08 54 20.9 -4.4
GTA SKS 08 54 26.1
GTA sS sS 08 54 29.3 -1.4
GTA SS SS 08 59 42.3 0.0
GTA pmax pmax
comp=Z,39nm,1.1s,mb5.2
GTA pmax pmax
comp=Z,480nm,4.3s
GTA LR LR
comp=N,3μm,22.1s,MS5.7
GTA LR LR
comp=E,2μm,18.5s,MS5.7
GTA LR LR
comp=Z,3μm,19.7s,MS5.7
KLR Kul'dur 82.43 14 *e*P **P 08 44 10.2 -4.3**
KLR *e*S S 08 54 22.5 -8.0
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,360nm,1.8s,mb6.0
KLR pmax pmax
comp=Z,1μm,5.0s
DANN Dangsing 82.66 56 *e*P **P 08 44 15.8 -0.3**
comp=Z,1μm,2.2s,mb6.5
DANN Dangsing 82.66 56 *e*P **P 08 44 15.8 -0.3**
comp=Z,1μm,2.2s,mb6.5
BHPL Bhopal 82.75 64 *e*PKP **P 08 44 13.7 -3.0**
BHPL AMb AMB 08 44 19.8
comp=Z,90nm,1.7s,mb5.5
KOLN Koldanda 83.01 57 *e*P **P 08 44 17.4 -0.5**
comp=Z,94nm,1.5s,mb5.6
KOLN Koldanda 83.01 57 *e*P **P 08 44 17.4 -0.5**
comp=Z,94nm,1.5s,mb5.6
KOLN Koldanda 83.01 57 *e*P **P 08 44 17.4 -0.5**
comp=Z,94nm,1.5s,mb5.6

GKN	Gorkha	83.42	56	eP	P	08 44 19.6	-0.5
	comp=Z,450nm,1.7s,mb6.2						
GKN	Gorkha	83.42	56	eP	P	08 44 19.6	-0.5
	comp=Z,450nm,1.7s,mb6.2						
GKN	Gorkha	83.42	56	eP	P	08 44 19.6	-0.5
	comp=Z,450nm,1.7s,mb6.2						
HABR	Khabarovsk	83.66	12	P	P	08 44 19.2	-1.7
HABR				e	pP	08 44 23.0	-1.2
HABR				e		08 47 31.1	
HABR				ePPP		08 49 22.6	
HABR				eS	S	08 54 40.6	-2.5
HABR				e*SS	sS	08 54 46.2	-2.4
HABR				eSS	SS	09 00 08.1	+0.1
HABR				pmax	pmax		
	comp=N,45nm,1.9s						
HABR				pmax	pmax		
	comp=E,45nm,1.9s						
HABR				pmax	pmax		
	comp=Z,184nm,1.9s,mb5.9						
HABR				MLR	MLR		
	comp=Z,605nm,19.0s,MS5.0						
HABR	Khabarovsk	83.66	12	P	P	08 44 19.2	-1.7
	comp=Z,184nm,1.9s,mb5.9						
KKN	Kakani	83.95	55	eP	P	08 44 22.6	-0.2
	comp=Z,341nm,1.5s,mb6.3						
KKN	Kakani	83.95	55	eP	P	08 44 22.6	-0.2
	comp=Z,341nm,1.5s,mb6.3						
KKN	Kakani	83.95	55	eP	P	08 44 22.6	-0.2
KKN				pmax	pmax		
	comp=Z,341nm,1.5s,mb6.3						
KKN	Kakani	83.95	55	eP	P	08 44 22.6	-0.2
	comp=Z,341nm,1.5s,mb6.3						
POO	Poona	83.98	69	ePKP	P	08 44 20.7	-2.3
POO				AMb	AMB	08 44 25.8	
	comp=Z,114nm,0.8s,mb6.0						
DMN	Daman	83.99	56	eP	P	08 44 23.2	+0.2
	comp=Z,1μm,2.1s,mb6.6						
DMN	Daman	83.99	56	eP	P	08 44 23.2	+0.2
	comp=Z,1μm,2.1s,mb6.6						
DMN	Daman	83.99	56	eP	P	08 44 23.2	+0.2
	comp=Z,1μm,2.1s,mb6.6						
PKI	Pulchoki	84.19	55	eP	P	08 44 23.8	-0.2
	comp=Z,510nm,1.9s,mb6.3						
PKI	Pulchoki	84.19	55	eP	P	08 44 23.8	-0.2
	comp=Z,510nm,1.9s,mb6.3						
PKI	Pulchoki	84.19	55	eP	P	08 44 23.8	-0.2
PKI				pmax	pmax		
	comp=Z,510nm,1.9s,mb6.3						
PKI	Pulchoki	84.19	55	eP	P	08 44 23.8	-0.2
	comp=Z,510nm,1.9s,mb6.3						
GUN	Gumba	84.19	55	eP	P	08 44 24.3	+0.3
	comp=Z,318nm,1.2s,mb6.3						
GUN	Gumba	84.19	55	eP	P	08 44 24.3	+0.3
	comp=Z,318nm,1.2s,mb6.3						
GUN	Gumba	84.19	55	eP	P	08 44 24.3	+0.3
	comp=Z,318nm,1.2s,mb6.3						
JIRN	Jiri	84.56	55	eP	P	08 44 26.2	+0.3
	comp=Z,847nm,2.1s,mb6.5						
JIRN	Jiri	84.56	55	eP	P	08 44 26.2	+0.3
	comp=Z,847nm,2.1s,mb6.5						
JIRN	Jiri	84.56	55	eP	P	08 44 26.2	+0.3
	comp=Z,847nm,2.1s,mb6.5						
BTO	Baotou	84.85	31	eP	P	08 44 26.5	-0.6
KAD	Karad	85.10	70	ePKP	P	08 44 27.5	-1.2
HHC	Hu-ho-hao-te	85.17	30	⇓P	P	08 44 28.6	-0.1
HHC				PP	PP	08 47 45.6	+0.4
HHC				SKS		08 54 51.4	
HHC				S	S	08 54 56.3	-2.2
HHC				SS	SS	09 00 30.3	-0.4
HHC				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.5						
HHC				pmax	pmax		
	comp=Z,430nm,7.0s						
HHC				LR	LR		
	comp=N,3μm,17.3s,MS5.8						
HHC				LR	LR		
	comp=E,2μm,16.7s,MS5.8						
HHC				LR	LR		
	comp=Z,2μm,17.1s,MS5.6						
LCO	Las Campanas	85.20	217	eP	P	08 44 29.4	+0.6
LCO				LR	LR		
	comp=Z,10μm,22.0s,MS6.2						
LCO	Las Campanas	85.20	217	eP	P	08 44 29.4	+0.6
NGP	Nagpur	85.31	64	ePKP	P	08 44 27.5	-2.2
NGP				ex	x	08 51 21.0	
RAMN	Ramite	85.34	55	eP	P	08 44 29.6	-0.2
	comp=Z,202nm,1.3s,mb6.1						
RAMN	Ramite	85.34	55	eP	P	08 44 29.6	-0.2
	comp=Z,202nm,1.3s,mb6.1						
RAMN	Ramite	85.34	55	eP	P	08 44 29.6	-0.2
	comp=Z,202nm,1.3s,mb6.1						
TAPN	Taplejung	85.65	54	eP	P	08 44 31.5	+0.2
	comp=Z,202nm,1.2s,mb6.2						
TAPN	Taplejung	85.65	54	eP	P	08 44 31.5	+0.2
	comp=Z,202nm,1.2s,mb6.2						
TAPN	Taplejung	85.65	54	eP	P	08 44 31.5	+0.2
	comp=Z,202nm,1.2s,mb6.2						
LSA	Lhasa	85.65	50	PP	PP	08 47 50.3	+0.7
LSA				S	S	08 54 56.1	-7.5
LSA				LR	LR		
	comp=Z,3μm,29.4s,MS5.5						
LSA	Lhasa	85.65	50	eP	P	08 44 32.7	+1.4
	comp=Z,74nm,1.4s,mb5.7						
LSA				LR	LR		
	comp=Z,3μm,22.0s,MS5.7						
LSA	Lhasa	85.65	50	eP	P	08 44 32.7	+1.4
LSA				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.7						
LSA				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.7						
LSA	Lhasa	85.65	50	eP	P	08 44 32.7	+1.4
	comp=Z,3μm,22.0s						
ODAN	Odare	85.85	54	eP	P	08 44 31.9	-0.4
	comp=Z,250nm,1.8s,mb6.1						
ODAN	Odare	85.85	54	eP	P	08 44 31.9	-0.4
	comp=Z,250nm,1.8s,mb6.1						
ODAN	Odare	85.85	54	eP	P	08 44 31.9	-0.4
	comp=Z,250nm,1.8s,mb6.1						
YSS	Yuzh-Sakhalins	86.01	7	PFAKE		08 44 40.0	+7.2
YSS				LR	LR		
	comp=Z,172nm,20.0s,MS4.5						
YSS	Yuzh-Sakhalins	86.01	7⇑	eP	P	08 44 33.0	+0.2
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.5						
YSS	Yuzh-Sakhalins	86.01	7	eP	P	08 44 33.0	+0.2
	comp=Z,30nm,1.0s,mb5.5						
LBTB	Lobatse	86.11	134	eP	P	08 44 32.5	-0.9
	comp=Z,131nm,1.7s,mb5.9						
LBTB				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
LBTB	Lobatse	86.11	134	eP	P	08 44 32.5	-0.9
LBTB				pmax	pmax		
	comp=Z,131nm,1.7s,mb5.9						
LBTB				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.7						
LBTB	Lobatse	86.11	134	eP	P	08 44 32.5	-0.9
	comp=Z,3μm,20.0s						
LZH	Lanzhou	86.39	38	⇓P	P	08 44 35.3	+0.4
LZH				pP	pP	08 44 38.5	+0.3
LZH				sP	sP	08 44 41.9	+2.5
LZH				PP	PP	08 47 57.5	+2.2
LZH				SKS		08 55 00.0	
LZH				S	S	08 55 08.0	-2.6
LZH				SS	SS	09 00 49.6	+0.7
LZH				pmax	pmax		
	comp=Z,200nm,1.4s,mb6.2						
LZH				pmax	pmax		
	comp=Z,700nm,6.1s						
LZH				LR	LR		
	comp=N,2μm,15.5s,MS5.8						
LZH				LR	LR		
	comp=E,2μm,17.6s,MS5.8						
LZH				LR	LR		
	comp=Z,4μm,19.2s,MS5.8						
LZH	Lanzhou	86.39	38	⇓P	P	08 44 35.2	+0.3
	comp=Z,196nm,1.4s,mb6.2						
LZH				pP	pP	08 44 38.5	+0.3
LZH				sP	sP	08 44 41.9	+2.5
LZH				PP	PP	08 47 57.5	+2.2
LZH				SKS		08 55 00.0	
LZH				S	S	08 55 08.0	-2.6
LZH				sS	sS	08 56 14.3	+58
LZH				SS	SS	09 00 49.6	+0.7
LZH				LR	LR		
	comp=Z,4μm,19.2s,MS5.8						
LZH	Lanzhou	86.39	38	⇓P	P	08 44 35.2	+0.3
	comp=Z,196nm,1.4s,mb6.2						
LZH				*PP	pP	08 44 38.5	+0.3
LZH				*SP	sP	08 44 41.9	+2.5
LZH						08 47 57.5	
LZH						08 55 00.0	
LZH				S	S	08 55 08.0	-2.6
LZH				*SS	sS	08 56 14.3	+58
LZH				SS	SS	09 00 49.6	+0.7
LZH				pmax	pmax		
	comp=Z,196nm,1.4s,mb6.2						
LZH				MLR	MLR		
	comp=Z,4μm,19.2s,MS5.8						
LZH	Lanzhou	86.39	38	P	P	08 44 35.2	+0.3
	comp=Z,196nm,1.4s,mb6.2						
LZH				pP	pP	08 44 38.5	+0.3
CN2	Changchun	86.42	19	eP	P	08 44 30.1	-4.7
CN2				eS	S	08 55 02.0	-8.6
CN2				eSS	SS	09 00 43.5	-5.2
CN2				pmax	pmax		
	comp=Z,20nm,1.8s,mb5.0						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,22.0s,MS5.6						
CN2				LR	LR		
	comp=E,2μm,22.0s,MS5.6						
CN2				LR	LR		
	comp=Z,1μm,23.0s,MS5.2						
MDJ	Mudanjiang	86.51	16	P	P	08 44 33.8	-1.5
MDJ				S	S	08 55 09.8	-1.6
MDJ				SS	SS	09 00 48.9	-1.1
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
MDJ				pmax	pmax		
	comp=Z,260nm,5.2s						
MDJ				LR	LR		
	comp=N,870nm,20.1s,MS5.2						
MDJ				LR	LR		
	comp=E,820nm,23.9s,MS5.2						
MDJ				LR	LR		
	comp=Z,930nm,20.7s,MS5.2						
MDJ	Mudanjiang	86.51	16	PFAKE		08 44 50.0	+15
MDJ				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
CFAA	Coronel Fontan	86.52	214	P	P	08 44 34.3	-0.9
	comp=Z,0.5nm,0.3s,mb4.2,baz=94,slow=17,SNR=8.5						
CFAA	Coronel Fontan	86.52	214	P	P	08 44 34.3	-0.9
CFAA	Coronel Fontan	86.52	214	P	P	08 44 34.3	-0.9
USRK	Ussuriysk Arra	87.35	15	P	P	08 44 38.4	-1.0
	comp=Z,8.4nm,0.8s,mb5.0,baz=312,slow=2.1,SNR=9.7						
BJI	Beijing	87.42	27	P	P	08 44 38.4	-1.4
BJI				S	S	08 55 17.9	-2.5
BJI				SS	SS	09 01 01.4	-2.2
BJI				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.5						
BJI				pmax	pmax		
	comp=Z,320nm,3.6s						
BJI				LR	LR		
	comp=N,1μm,21.6s,MS5.3						
BJI				LR	LR		
	comp=E,890nm,22.4s,MS5.3						
BJI				LR	LR		
	comp=Z,1μm,32.7s						
BJT	Baijiatuau	87.43	27	PFAKE		08 44 50.0	+10
BJT				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
HYB	Hyderabad	87.80	67	i P	P	08 44 41.0	-0.9
MSEY	Mahe Island	88.47	98	PFAKE		08 45 00.0	+15
MSEY				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
BOSA	Boshof	88.95	136	P	P	08 44 46.5	-0.5
	comp=Z,14nm,1.0s,mb5.2,baz=350,slow=2.7,SNR=12						
BOSA				LR	LR	09 24 15.4	
	comp=Z,5μm,18.2s,MS5.9,baz=322,slow=35						
BOSA	Boshof	88.95	136	eP	P	08 44 46.4	-0.6
	comp=Z,53nm,1.4s,mb5.7						
BOSA	Boshof	88.95	136	P	P	08 44 46.5	-0.5
BOSA				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2						
BOSA				MLR	MLR		
	comp=Z,5μm,18.2s,MS5.9						
BOSA	Boshof	88.95	136	eP	P	08 44 46.3	-0.7
	comp=Z,53nm,1.4s,mb5.7						
YUK	Yuzh-Kuril'sk	89.14	5	eP	P	08 44 42.8	-5.1
YUK				e		08 48 16.9	
YUK				eS	SKSac	08 55 11.7	-5.9
YUK				MLR	MLR		
	comp=N,656nm,22.0s						
YUK				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.3						
SHL	Shillong	89.33	52	ePKP	P	08 44 47.4	-1.8
SHL				ex	x	08 47 48.6	
CAL	Calcutta	89.76	56	ex	P	08 44 54.2	+3.1
CAL				ex	x	08 54 08.0	
SUR	Sutherland	90.12	141	PFAKE		08 45 00.0	+7.7
SUR				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
TRQA	Tornquist	90.20	207	eP	P	08 44 51.3	-1.2
	comp=Z,23nm,2.0s,mb5.2						
TRQA				LR	LR		
	comp=Z,4μm,20.0s,MS5.8						
TRQA	Tornquist	90.20	207	eP	P	08 44 51.3	-1.2
	comp=Z,23nm,2.0s,mb5.2						
XAN	Xi'an	90.23	35	P	P	08 44 51.8	-1.4
XAN				pP	pP	08 45 03.4	+6.9
XAN				SKS		08 55 22.8	
XAN				S	S	08 55 41.3	-5.8
XAN				pmax	pmax		
	comp=Z,7.0nm,2.0s,mb4.6						
XAN				LR	LR		
	comp=N,1μm,31.6s						
XAN				LR	LR		
	comp=Z,640nm,33.0s,MS4.8						
CD2	Chengdu	90.78	40	P	P	08 44 55.1	-0.7
CD2				pP	pP	08 45 00.1	+1.0
CD2				sP	sP	08 45 03.5	+3.2
CD2				PP	PP	08 48 31.9	+1.4
CD2				SKS		08 55 24.0	
CD2				S	S	08 55 47.0	-5.2
CD2				sS	sS	08 55 55.3	-2.5
CD2				SS	SS	09 01 50.9	-2.0
CD2				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.7						
CD2				pmax	pmax		
	comp=Z,330nm,10.8s						
CD2				LR	LR		
	comp=N,3μm,22.8s						
CD2				LR	LR		
	comp=E,2μm,15.6s						
CD2				LR	LR		
	comp=Z,4μm,21.8s,MS5.8						
ERM	Erimo	90.95	7	PFAKE		08 45 10.0	+14
ERM				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
IMP	Imphal	91.06	51	ePKP	P	08 44 57.0	-0.2
INCN	Inchon	92.70	20	PFAKE		08 45 10.0	+5.4
INCN				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
KSRS	Korea Array	93.03	20	P	P	08 45 04.3	-1.8
	comp=Z,5.1nm,0.8s,mb5.0,baz=347,slow=5.0,SNR=12						
KSRS				LR	LR	09 27 38.9	
	comp=Z,760nm,20.2s,MS5.1,baz=345,slow=36						
KSRS	Korea Array	93.03	20	P	P	08 45 04.3	-1.8
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb5.0						
KSRS				MLR	MLR		
	comp=Z,760nm,20.2s,MS5.1						
KSRS	Korea Array	93.03	20	P	P	08 45 04.3	-1.8
	comp=Z,760nm,20.2s						
KSAR	Wonju Array Be	93.03	20	P	P	08 45 04.3	-1.8
KSAR	Wonju Array Be	93.03	20	P	P	08 45 04.3	-1.8
KSAR	Wonju Array Be	93.03	20	P	P	08 45 04.3	-1.8
ABPO	Ambohimpanom	93.64	114	PFAKE		08 45 20.0	+11
ABPO				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
ENH	Enshi	93.77	36	PFAKE		08 45 20.0	+10
ENH				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
KMI	Kunming	95.23	44	P	P	08 45 16.3	-0.1
KMI				S	S	08 56 27.1	-4.8
KMI				SS	SS	09 02 54.3	-2.7
KMI				LR	LR		
	comp=N,1μm,16.4s,MS5.5						
KMI				LR	LR		
	comp=E,1μm,19.4s,MS5.5						
KMI				LR	LR		
	comp=Z,2μm,18.0s,MS5.7						
KMI	Kunming	95.23	44	P	P	08 45 16.2	-0.2
KMI				S	S	08 56 27.1	-4.8
KMI				SS	SS	09 02 54.3	-2.7
KMI				SSS		09 06 40.6	
KMI				LR	LR		
	comp=Z,2μm,18.0s,MS5.7						
KMI	Kunming	95.23	44	P	P	08 45 16.2	-0.2
KMI				S	S	08 56 27.1	-4.8
KMI				SS	SS	09 02 54.3	-2.7
KMI				SSS		09 06 40.6	
KMI				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.7						
KMI	Kunming	95.23	44	P	P	08 45 16.2	-0.2
WHN	Wuhan	95.41	33	P	P	08 45 15.3	-1.8
WHN				S	S	08 56 29.0	-4.3
WHN				LR	LR		
	comp=N,2μm,15.7s,MS6.0						
WHN				LR	LR		
	comp=E,3μm,13.8s,MS6.0						
WHN				LR	LR		
	comp=Z,4μm,18.0s,MS6.0						
PLCA	Paso Flores	95.47	212	P	P	08 45 16.9	+0.1
	comp=Z,5.6nm,1.1s,mb4.9,baz=17,slow=7.6,SNR=7.2						
PLCA	Paso Flores	95.47	212	eP	P	08 45 16.4	-0.4
	comp=Z,96nm,2.1s,mb5.9						
PLCA				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
PLCA	Paso Flores	95.47	212	P	P	08 45 17.0	+0.2
PLCA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PLCA	Paso Flores	95.47	212	eP	P	08 45 16.4	-0.4
	comp=Z,96nm,2.1s,mb5.9						
NJ2	Nanjing	95.59	28	eP	P	08 45 17.5	-0.4
NJ2				pP	pP	08 45 20.4	-0.9
NJ2				S	S	08 56 26.0	-8.9
NJ2				sS	sS	08 56 36.0	-4.5
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.5						
NJ2				pmax	pmax		
	comp=Z,200nm,4.3s						
NJ2				LR	LR		
	comp=N,3μm,20.0s,MS5.8						
NJ2				LR	LR		
	comp=E,2μm,21.7s,MS5.8						
NJ2				LR	LR		
	comp=Z,2μm,27.4s						
MAJO	Matsushiro	95.81	12	PFAKE		08 45 30.0	+11
MAJO				LR	LR		
	comp=Z,932nm,20.0s,MS5.3						
MAT	Matsushiro	95.81	12	P	P	08 45 16.3	-2.5
MAT				S	S	08 56 38.0	+1.4
MJAR	Matsushiro Arr	95.81	12	P	P	08 45 17.2	-1.6
	comp=Z,1.5nm,0.9s,mb4.4,baz=288,slow=13,SNR=4.1						
MJAR	Matsushiro Arr	95.81	12	P	P	08 45 17.2	-1.6
MJAR	Matsushiro Arr	95.81	12	P	P	08 45 17.2	-1.6
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	Matsushiro Arr	95.81	12	P	P	08 45 17.2	-1.6
	comp=Z,2.0nm,0.9s,mb4.5						
GYA	Guiyang	95.89	40⇑	iP	P	08 45 17.8	-1.6
GYA				PP	PP	08 49 12.4	+1.7
GYA				SKS		08 55 54.3	
GYA				S	S	08 56 33.0	-4.7
GYA				SS	SS	09 03 05.4	-0.9
GYA				pmax	pmax		
	comp=Z,60nm,1.0s,mb6.0						
GYA				pmax	pmax		
	comp=Z,210nm,6.2s						
GYA				LR	LR		
	comp=N,6μm,20.8s,MS6.1						
GYA				LR	LR		
	comp=E,4μm,21.4s,MS6.1						
GYA				LR	LR		
	comp=Z,5μm,20.6s,MS6.0						
SSE	Sheshan	97.22	27	P	P	08 45 25.9	+0.6
SSE				S	S	08 56 43.9	-5.1
SSE				pmax	pmax		
	comp=Z,45nm,0.6s,mb6.1						
SSE				pmax	pmax		
	comp=Z,160nm,4.5s						
SSE				LR	LR		
	comp=N,1μm,18.7s,MS5.8						
SSE				LR	LR		
	comp=E,2μm,18.7s,MS5.8						
SSE				LR	LR		
	comp=Z,1μm,17.5s,MS5.5						
SSE	Sheshan	97.22	27	P	P	08 45 25.9	+0.6
	comp=Z,45nm,0.6s,mb6.1						
SSE				S	S	08 56 43.9	-5.1
SSE				LR	LR		
	comp=Z,1μm,17.5s,MS5.5						
SSE	Sheshan	97.22	27	P	P	08 45 25.9	+0.6
	comp=Z,45nm,0.6s,mb6.1						
CHTO	Chiang Mai	98.60	51	PFAKE		08 45 40.0	+8.3
CHTO				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
KIP	Kipapa	98.69	314	PFAKE		08 45 40.0	+7.9
KIP				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
CM31	Chiang Mai Arr	98.89	51	PFAKE		08 45 40.0	+7.0
CM31				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
CMAR	Chiang Mai Arr	98.89	51	P	P	08 45 33.9	+0.9
	comp=Z,0.5nm,0.3s,mb4.5,baz=305,slow=3.2,SNR=2.7						
CMAR				PP	PP	08 49 32.1	-1.9
	comp=Z,1.0nm,0.4s,baz=314,slow=7.1,SNR=7.7						
CMAR				LR	LR	09 36 47.3	
	comp=Z,1μm,20.1s,MS5.5,baz=316,slow=39						
CMAR	Chiang Mai Arr	98.89	51	P	P	08 45 33.9	+0.9
CMAR				PP	PP	08 49 32.1	-1.9
CMAR	Chiang Mai Arr	98.89	51	P	P	08 45 33.9	+0.9
CMAR						08 49 32.1	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	Chiang Mai Arr	98.89	51	P	P	08 45 33.9	+0.9
	comp=Z,1.0nm,0.3s,mb4.8						
CMAR	Chiang Mai Arr	98.89	51	PP	PP	08 49 32.1	-1.9
RER	Riviere de l'E	100.62	109	PFAKE		08 45 50.0	+9.4
RER				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
EFI	East Falkland	101.80	199	PFAKE		08 45 50.0	+4.2
EFI				LR	LR		
	comp=Z,10μm,20.0s,MS6.3						
DGAR	Diego Garcia	102.03	88	PFAKE		08 46 00.0	+13
DGAR				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
QZH	Quanzhou	102.04	31	eP	Pdif	08 45 42.6	-4.3
QZH				eS	Sdif	08 57 24.3	-5.2
QZH				LR	LR		
	comp=N,5μm,17.4s,MS6.1						
QZH				LR	LR		
	comp=E,3μm,16.2s,MS6.1						
QZH				LR	LR		
	comp=Z,4μm,16.7s,MS6.0						
TATO	Taipei	103.00	29	PFAKE		08 46 00.0	+8.8
TATO				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
TATO	Taipei	103.00	29	P	Pdif	08 45 54.3	+3.1
	SNR=14						
YHNB	Yeheng	103.25	29	PFAKE		08 46 00.0	+7.8
YHNB				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
QIZ	Qiongzhong	103.78	41	PFAKE		08 46 00.0	+5.4
QIZ				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
RPN	Rapa Nui	104.25	246	PFAKE		08 46 10.0	+13
RPN				LR	LR		
	comp=Z,9μm,22.0s,MS6.3						
KULM	Kulim	110.63	57	PFAKE		08 50 40.0	+14
KULM				LR	LR		
	comp=Z,810nm,20.0s,MS5.3						
TAOE	Nuku Hiva Isla	111.97	281	eSdif	SKKSac	08 58 06.9	-7.3
	comp=Z,2μm,37.9s						
TAOE	Nuku Hiva Isla	111.97	281	ePS	PS	09 00 44.2	+0.1
	comp=Z,837nm,28.3s						
TAOE				eSS	SS	09 06 53.0	+4.1
	comp=Z,1μm,28.5s						
TAOE				eLR	LR	09 23 47.4	
	comp=Z,5μm,21.9s						
XMAS	Kiritimati	114.52	303	PFAKE		08 50 40.0	+7.0
XMAS				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
PMSA	Palmer Station	115.08	196	PFAKE		08 50 40.0	+7.6

PMSA				LR	LR		
	comp=Z,13µm,21.0s,MS6.5						
KKM	**Kota Kinabalu**	**118.09**	**42**	PFAKE		08 50 50.0	+10
KKM				LR	LR		
	comp=Z,977nm,20.0s,MS5.4						
RKT	**Rikitea**	**118.42**	**266**	*e*PS	PS	09 01 47.2	+4.3
	comp=Z,604nm,29.5s						
RKT				*e*SS	SS	09 08 12.6	-1.3
	comp=Z,2µm,29.8s						
RKT				*e*LR	LR	09 26 44.5	
	comp=Z,3µm,29.0s						
KSM	**Kuching**	**119.12**	**50**	PFAKE		08 50 50.0	+8.1
KSM				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
DAV	**Davao City (W)**	**121.02**	**32**	PFAKE		08 51 00.0	+14
DAV				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
COCO	**West Island**	**121.90**	**72**	PFAKE		08 51 00.0	+13
COCO				LR	LR		
	comp=Z,880nm,20.0s,MS5.4						
PPT2	**Papeete2**	**124.58**	**282**	*e*SS	SS	09 09 33.3	+0.9
	comp=Z,2µm,29.0s						
PPT2				*e*LR	LR	09 29 37.4	
	comp=Z,4µm,23.0s						
PAF	**Port-aux-Franc**	**127.60**	**125**	PFAKE		08 51 10.0	+13
PAF				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
TBI	**Tubuai**	**128.47**	**276**	*e*SS	SS	09 10 23.4	+2.2
	comp=Z,2µm,32.8s						
TBI				*e*LR	LR	09 31 25.3	
	comp=Z,4µm,37.5s						
KAPI	**Kappang**	**129.45**	**45**	PFAKE		08 51 10.0	+8.4
KAPI				LR	LR		
	comp=Z,672nm,20.0s,MS5.3						
MAW	**Mawson**	**132.40**	**149**	PKP	PKPdf	08 51 05.4	-0.1
	comp=Z,5.2nm,1.1s,baz=34,slow=3.6,SNR=4.1						
MAW	**Mawson**	**132.40**	**149**	*e*PKP	PKPdf	08 51 05.0	-0.5
MAW	**Mawson**	**132.40**	**149**	PKP	PKPdf	08 51 05.4	-0.1
MAW				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
MAW	**Mawson**	**132.40**	**149**	PKIKP	PKPdf	08 51 05.4	-0.1
MAW				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MAW	**Mawson**	**132.40**	**149**	PKIKP	PKPdf	08 51 05.4	-0.1
RAR	**Rarotonga**	**133.90**	**287**	PFAKE		08 51 20.0	+10
RAR				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
FUNA	**Funafuti**	**135.49**	**321**	PFAKE		08 51 20.0	+7.0
FUNA				LR	LR		
	comp=Z,4µm,19.0s,MS6.1						
HNR	**Honiara**	**142.04**	**348**	PFAKE		08 51 30.0	+5.0
HNR				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
PMG	**Port Moresby**	**142.23**	**9**	*e*PKPdf	PKPpre	08 51 19.5	
PMG				LR	LR		
	comp=Z,888nm,20.0s,MS5.5						
PMG	**Port Moresby**	**142.23**	**9**	*e*PKHKP	PKPpre	08 51 19.5	
PMG				MLR	MLR		
	comp=Z,888nm,20.0s						
MBWA	**Marble Bar**	**142.90**	**57**	PFAKE		08 51 40.0	+14
MBWA				LR	LR		
	comp=Z,897nm,19.0s,MS5.5						
MSVF	**Nonsavu**	**144.11**	**316**	PFAKE		08 51 40.0	+12
MSVF				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
COEN	**Coen**	**146.09**	**17**	*e*PKP	PKPdf	08 51 30.9	-1.1
COEN	**Coen**	**146.09**	**17**	*e*PKPdf	PKPdf	08 51 31.1	-0.9
COEN	**Coen**	**146.09**	**17**	*e*PKIKP	PKPdf	08 51 31.1	-0.9
MEEK	**Meekatharra**	**146.35**	**65**	*e*PKP	PKPdf	08 51 29.8	-2.3
MORW	**Morawa**	**146.41**	**71**	*e*PKP	PKPdf	08 51 31.1	-1.0
SBA	**Scott Base**	**148.57**	**186**	*e*PKPbc	PKPbc	08 51 37.4	-0.5
SBA				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
SBA	**Scott Base**	**148.57**	**186**	*e*PKP2	PKPbc	08 51 37.4	-0.5
SBA				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.8						
SBA	**Scott Base**	**148.57**	**186**	*e*PKPbc	PKPbc	08 51 37.4	-0.5
WRAB	**Tennant Creek**	**149.11**	**35**	*e*PKPbc	PKPbc	08 51 39.7	-1.3
WRAB				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
WRAB	**Tennant Creek**	**149.11**	**35**	*e*PKP2	PKPbc	08 51 39.7	-1.3
WRAB				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.7						
WRAB	**Tennant Creek**	**149.11**	**35**	*e*PKPbc	PKPbc	08 51 39.7	-1.3
WRA	**Warramunga Arr**	**149.12**	**35**	PKP	PKPdf	08 51 35.2	-1.7
	comp=Z,23nm,1.1s,baz=336,slow=2.5,SNR=8.7						
WRA				PKPbc	PKPbc	08 51 39.8	-1.2
	comp=Z,22nm,1.1s,baz=339,slow=2.7,SNR=36						
WRA	**Warramunga Arr**	**149.12**	**35**	PKP	PKPdf	08 51 35.2	-1.6
WRA				PKPbc	PKPbc	08 51 39.8	-1.2
WRA	**Warramunga Arr**	**149.12**	**35**	PKIKP	PKPdf	08 51 35.2	-1.6
WRA						08 51 39.8	
WRA				pmax	pmax		
	comp=Z,23nm,1.1s						
WRA				pmax	pmax		
	comp=Z,22nm,1.1s						
WRA	**Warramunga Arr**	**149.12**	**35**	PKIKP	PKPdf	08 51 35.2	-1.6
WB2	**Warramunga Arr**	**149.12**	**35**	*e*PKPdf	PKPdf	08 51 36.4	-0.4
WB2				*e*PKPbc	PKPbc	08 51 40.0	-1.0
WB2	**Warramunga Arr**	**149.12**	**35**	*e*PKIKP	PKPdf	08 51 36.4	-0.4
VNDA	**Vanda**	**149.17**	**184**	*e*PKPdf	PKPdf	08 51 34.1	-1.1
VNDA				*e*PKPbc	PKPbc	08 51 39.2	-0.3
VNDA				LR	LR		
	comp=Z,2µm,20.0s,MS6.0						
VNDA	**Vanda**	**149.17**	**184**	*e*PKIKP	PKPdf	08 51 34.1	-1.1
VNDA				*e*		08 51 39.2	
VNDA				MLR	MLR		
	comp=Z,2µm,20.0s						
VNDA	**Vanda**	**149.17**	**184**	*e*PKIKP	PKPdf	08 51 34.1	-1.1
KLBR	**Kellerberrin**	**149.18**	**73**	*e*PKP	PKPdf	08 51 38.8	+2.2
	comp=Z,94nm,1.5s						
NWAO	**Narrogin (SRO)**	**149.68**	**75**	*e*PKPbc	PKPbc	08 51 41.0	-1.1
NWAO				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
NWAO	**Narrogin (SRO)**	**149.68**	**75**	*e*PKP2	PKPbc	08 51 41.0	-1.0
NWAO				MLR	MLR		
	comp=Z,2µm,19.0s						
NWAO	**Narrogin (SRO)**	**149.68**	**75**	P	PKPbc	08 51 41.7	-0.3
	SNR=7.9						
NWAO	**Narrogin (SRO)**	**149.68**	**75**	*e*PKPbc	PKPbc	08 51 41.0	-1.0
MTSU	**Mount Surprise**	**150.38**	**16**	*e*PKP	PKPbc	08 51 43.7	-0.4
	comp=Z,206nm,1.3s						
CASY	**Casey**	**150.70**	**146**	*e*PKP	PKPdf	08 51 31.9	-6.0
CASY	**Casey**	**150.70**	**146**	*e*PKPbc	PKPbc	08 51 42.8	-0.6
CASY				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
CASY	**Casey**	**150.70**	**146**	*e*PKPbc	PKPbc	08 51 42.8	-0.6
RAO	**Raoul Island**	**151.11**	**297**	PFAKE		08 51 50.0	+10
RAO				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
AS31	**Alice Springs**	**152.25**	**39**	*e*PKPdf	PKPdf	08 51 41.6	0.0
AS31				*e*PKPbc	PKPbc	08 51 46.6	-1.7
AS31				*e*PKPab	PKPab	08 51 59.0	+0.8
AS31	**Alice Springs**	**152.25**	**39**	*e*PKIKP	PKPdf	08 51 41.6	0.0
ASAR	**Alice Springs**	**152.25**	**39**	PKP	PKPdf	08 51 39.8	-1.9
	comp=Z,1.4nm,0.9s,baz=331,slow=1.7,SNR=11						
ASAR				PKPbc	PKPbc	08 51 48.0	-0.4
	comp=Z,12nm,0.8s,baz=350,slow=2.0,SNR=38						
ASAR				PP	PP	08 55 30.3	+0.5
	comp=Z,1.8nm,0.9s,baz=339,slow=4.6,SNR=4.3						
ASAR	**Alice Springs**	**152.25**	**39**	PKP	PKPdf	08 51 39.8	-1.9
ASAR				PKPbc	PKPbc	08 51 48.0	-0.4
ASAR				PP	PP	08 55 30.3	+0.5
ASAR	**Alice Springs**	**152.25**	**39**	PKIKP	PKPdf	08 51 39.8	-1.8
ASAR						08 51 48.0	
ASAR						08 55 30.3	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,12nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**152.25**	**39**	PKIKP	PKPdf	08 51 39.8	-1.8
ASAR	**Alice Springs**	**152.25**	**39**	PKPbc	PKPbc	08 51 48.0	-0.3
CTA	**Charters Tower**	**152.63**	**13**	*e*PKP	PKPdf	08 51 41.3	-1.0
CTAO	**Charters Tower**	**152.63**	**13**	*e*PKPdf	PKPdf	08 51 40.8	-1.4
CTAO				*e*PKPbc	PKPbc	08 51 49.4	+0.1
CTAO				LR	LR		
	comp=Z,1µm,22.0s,MS5.7						
CTAO	**Charters Tower**	**152.63**	**13**	*e*PKIKP	PKPdf	08 51 40.8	-1.5
CTAO				*e*		08 51 49.4	
CTAO				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.7						
CTAO	**Charters Tower**	**152.63**	**13**	*e*PKIKP	PKPdf	08 51 40.8	-1.5
DZM	**Mont Dzumac**	**152.75**	**331**	*e*LR	LR	09 42 33.0	
	comp=Z,3µm,31.1s						
STKA	**Stephens Creek**	**162.65**	**33**	PKPab	PKPab	08 52 42.5	-0.2
	comp=Z,3.4nm,0.8s,baz=3.3,slow=23,SNR=4.7						
STKA	**Stephens Creek**	**162.65**	**33**	PKPab	PKPab	08 52 42.5	-0.2
STKA	**Stephens Creek**	**162.65**	**33**	PKP2	PKPab	08 52 42.5	-0.2
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**162.65**	**33**	PKPab	PKPab	08 52 42.5	-0.2
SNZO	**South Karori**	**163.24**	**282**	PFAKE		08 52 00.0	+5.4
SNZO				LR	LR		
	comp=Z,2µm,20.0s						
CAN	**Canberra**	**167.99**	**15**	PFAKE		08 52 10.0	+11
CAN				LR	LR		
	comp=Z,1µm,20.0s						
TAU	**Tasmania Unive**	**174.40**	**45**	PFAKE		08 52 10.0	+8.3
TAU				LR	LR		
	comp=Z,2µm,20.0s						

ISCJB ***19*** *08:35:40.2±0.7, 36°.90N±0°.04×8°.06W±0°.03, h10km, Error ellipse: s-maj=5.4km s-min=3.2km az=17.9*
CSEM ***19*** *08:35:41.8±0.4, 36°.88N×8°.16W, h22km±2km, ML3.6/18, Error ellipse: s-maj=6.1km s-min=4.2km az=9.0*
MDD ***19*** *08:35:42.3±0.8, 36°.83N×8°.22W, h20km±4km, mbLg3.1/24, Error ellipse: s-maj=6.8km s-min=3.9km az=175.0, PRXIMO*
INMG ***19*** *08:35:42.0±1.3, 36°.81N×8°.24W, h24km±3km, ML2.8, Error ellipse: s-maj=5.0km s-min=3.1km az=168.0*
IGIL ***19*** *08:35:42.5, 36°.83N×8°.24W, h9km, ML3.7*
ISC 19 08:35:40.5±0.7**, 36°.87N**±0°.03×**8°.08W**±0°.03**, h10km, n84, σ1s.36**/130**, 1C-2D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.39**	**17**	*i* Pg	**Pg**	**08 35 51.9**	**+3.7**
PBDV				*e*Sg	**Sg**	**08 35 59.0**	**+5.5**
PBDV				A		08 36 00.4	
	290nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.39**	**17**	⇑Pg	**Pg**	**08 35 51.9**	**+3.7**
PBDV				Lg		08 35 59.0	
	290nm,0.1s						
PVAQ	**Vaqueiros**	**0.61**	**28**	*e*P	**Pg**	**08 35 54.9**	**+2.6**
PVAQ				*e*S	**Sg**	**08 36 04.9**	**+4.6**
PVAQ				A		08 36 06.1	
	199nm,0.1s						
PVAQ	**Vaqueiros**	**0.61**	**28**	Pg	**Pg**	**08 35 54.9**	**+2.6**
PVAQ				Lg		08 36 04.9	
	199nm,0.1s						
PVAQ	**Vaqueiros**	**0.61**	**28**	*e*P	**Pg**	**08 35 54.9**	**+2.6**
PVAQ				*e*S	**Sg**	**08 36 04.9**	**+4.6**
	199nm,0.1s						
MORF	**Marmelete**	**0.64**	**314**	*i* Pg	**Pg**	**08 35 53.2**	**+0.4**
MORF				*e*Sg	**Sg**	**08 36 01.5**	**+0.4**
MORF				A		08 36 02.2	
	789nm,0.1s						
MORF	**Marmelete**	**0.64**	**314**	⇓Pg	**Pg**	**08 35 53.2**	**+0.4**
MORF				Lg		08 36 01.5	
	789nm,0.1s						
PFVI	**Vila Bisbo**	**0.66**	**294**	*i* Pg	**Pg**	**08 35 52.8**	**-0.4**
PFVI				*e*Sg	**Sg**	**08 36 00.6**	**-1.2**
PFVI				A		08 36 04.9	
	302nm,0.1s						
PFVI	**Vila Bisbo**	**0.66**	**294**	⇓Pg	**Pg**	**08 35 52.8**	**-0.4**
	426nm,0.2s,SNR=18						
PFVI				Lg		08 36 00.7	
	520nm,0.1s,SNR=13						
PFVI	**Vila Bisbo**	**0.66**	**294**	Pg	**Pg**	**08 35 52.8**	**-0.4**
	426nm,0.2s,SNR=18						
PFVI				*e*Sg	**Sg**	**08 36 00.6**	**-1.2**
	302nm,0.1s						
PFVI				Lg		08 36 00.7	
	520nm,0.1s,SNR=13						
PCVE	**Castro Verde**	**0.76**	**2**	*e*P	**Pg**	**08 35 57.1**	**+1.8**
PCVE				*e*S	**Sg**	**08 36 08.1**	**+2.9**
PCVE				A		08 36 09.5	
	153nm,0.2s						
PCVE	**Castro Verde**	**0.76**	**2**	Pg	**Pg**	**08 35 57.1**	**+1.8**
PCVE				Lg		08 36 08.1	
	153nm,0.2s						
PCVE	**Castro Verde**	**0.76**	**2**	*e*P	**Pg**	**08 35 57.1**	**+1.8**
PCVE				*e*S	**Sg**	**08 36 08.1**	**+2.9**
	153nm,0.2s						
EGRO	**El Granado**	**0.82**	**35**	Pg	**Pg**	**08 35 58.1**	**+1.9**
	16nm,0.1s,SNR=7.9						
EGRO				Lg		08 36 10.0	
	52nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.82**	**35**	Pg	**Pg**	**08 35 58.1**	**+1.8**
	16nm,0.1s,SNR=7.9						
EGRO				Lg		08 36 10.0	
	52nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**0.85**	**323**	*e*P	**Pg**	**08 35 56.9**	**0.0**
PTEO				*e*S	**Sg**	**08 36 08.4**	**+0.4**
PTEO				A		08 36 09.8	
	152nm,0.2s						
PTEO	**Sao Teotonio**	**0.85**	**323**	Pg	**Pg**	**08 35 56.9**	**0.0**
PTEO				Lg		08 36 08.4	
	76nm,0.2s						
PTEO	**Sao Teotonio**	**0.85**	**323**	*e*P	**Pg**	**08 35 56.9**	**0.0**
PTEO				*e*S	**Sg**	**08 36 08.4**	**+0.4**
	152nm,0.2s						
MESJ	**Messejana**	**0.98**	**353**	*e*P	**Pg**	**08 35 59.7**	**+0.3**
MESJ				*e*S	**Sg**	**08 36 13.5**	**+1.5**
MESJ	**Messejana**	**0.98**	**353**	Pg	**Pg**	**08 35 59.7**	**+0.4**
MESJ				Lg		08 36 13.5	
MESJ	**Messejana**	**0.98**	**353**	*e*P	**Pg**	**08 35 59.7**	**+0.4**
MESJ				*e*S	**Sg**	**08 36 13.5**	**+1.4**
PBEJ	**Beja**	**1.17**	**8**	*e*P	**Pg**	**08 36 03.6**	**+0.6**
PBEJ				*e*S	**Sb**	**08 36 19.1**	**+1.1**
PBEJ				A		08 36 24.5	
	133nm,0.1s						
PBEJ	**Beja**	**1.17**	**8**	Pg	**Pg**	**08 36 03.6**	**+0.6**
PBEJ				Lg		08 36 19.1	
	67nm,0.1s						
PBEJ	**Beja**	**1.17**	**8**	*e*P	**Pg**	**08 36 03.6**	**+0.6**
PBEJ				*e*S	**Sb**	**08 36 19.1**	**+1.1**
	133nm,0.1s						
PNCL	**Nicolau / Gran**	**1.29**	**344**	*e*Pn	**Pn**	**08 36 03.7**	**-0.9**
PNCL	**Nicolau / Gran**	**1.29**	**344**	*e*Pg	**Pg**	**08 36 05.4**	**+0.1**
PNCL				*e*Sn	**Sn**	**08 36 21.2**	**-0.8**
PNCL				*e*Sg	**Sg**	**08 36 22.5**	**+0.3**
PNCL				A		08 36 24.8	
	114nm,0.1s						
PNCL	**Nicolau / Gran**	**1.29**	**344**	*e*Pn	**Pn**	**08 36 03.7**	**-0.9**
PNCL	**Nicolau / Gran**	**1.29**	**344**	*e*Pg	**Pg**	**08 36 05.4**	**+0.1**
PNCL				*e*Sn	**Sn**	**08 36 21.2**	**-0.8**
PNCL				*e*Sg	**Sg**	**08 36 22.5**	**+0.3**
	114nm,0.1s						
EMIN	**Mina Concepcio**	**1.44**	**51**	Pg	**Pg**	**08 36 08.7**	**+0.7**
	2.8nm,0.1s,SNR=18						
EMIN				Lg		08 36 30.2	
	24nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.44**	**51**	Pg	**Pg**	**08 36 08.7**	**+0.7**
	2.8nm,0.1s,SNR=18						
EMIN				Lg		08 36 30.2	
	24nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**1.54**	**32**	*e*Pn	**Pn**	**08 36 09.7**	**+1.6**
PBAR	**Barrancos**	**1.54**	**32**	*e*Pg	**Pg**	**08 36 12.5**	**+2.4**
PBAR				*e*Sn	**Sn**	**08 36 28.8**	**+0.6**
PBAR				*e*Sg	**Sg**	**08 36 34.0**	**+3.8**
PBAR				A		08 36 37.5	
	40nm,0.1s						
PBAR	**Barrancos**	**1.54**	**32**	Pn	**Pn**	**08 36 09.7**	**+1.6**
PBAR				Pg	**Pg**	**08 36 12.5**	**+2.4**
PBAR				Sn	**Sn**	**08 36 28.8**	**+0.6**
PBAR				Lg		08 36 34.0	
	40nm,0.1s						
PBAR	**Barrancos**	**1.54**	**32**	*e*Pn	**Pn**	**08 36 09.7**	**+1.6**
PBAR	**Barrancos**	**1.54**	**32**	*e*Pg	**Pg**	**08 36 12.5**	**+2.4**
PBAR				*e*Sn	**Sn**	**08 36 28.8**	**+0.6**
PBAR				*e*Sg	**Sg**	**08 36 34.0**	**+3.8**
	40nm,0.1s						
EVO	**Evora**	**1.66**	**2**	*e*Sg	**Sg**	**08 36 35.7**	**+1.7**
EVO				A		08 36 37.8	
	149nm,0.1s						
EVO	**Evora**	**1.66**	**2**	Lg		08 36 35.7	
	149nm,0.1s						
EVO	**Evora**	**1.66**	**2**	*e*Sg	**Sg**	**08 36 35.7**	**+1.7**
	149nm,0.1s						
MOE	**Montemor**	**1.67**	**353**	*e*Sg	**Sg**	**08 36 35.5**	**+1.4**
MOE	**Montemor**	**1.67**	**353**	Lg		08 36 35.5	
MOE	**Montemor**	**1.67**	**353**	*e*Sg	**Sg**	**08 36 35.5**	**+1.4**
PESTR	**Estremoz**	**2.03**	**11**	*e*Pn	**Pn**	**08 36 15.7**	**+0.9**
PESTR	**Estremoz**	**2.03**	**11**	*e*Pg	**Pg**	**08 36 20.2**	**+0.7**
PESTR				*e*Sn	**Sn**	**08 36 38.8**	**-1.4**
PESTR				*e*Sg	**Sg**	**08 36 46.4**	**+0.5**
PESTR				A		08 36 52.9	
	38nm,0.2s						
PESTR	**Estremoz**	**2.03**	**11**	Pn	**Pn**	**08 36 15.7**	**+0.9**
PESTR				Pg	**Pg**	**08 36 20.2**	**+0.7**
PESTR				Sn	**Sn**	**08 36 38.8**	**-1.4**
PESTR				Lg		08 36 46.4	
	38nm,0.2s						
PESTR	**Estremoz**	**2.03**	**11**	*e*Pn	**Pn**	**08 36 15.7**	**+0.9**
PESTR	**Estremoz**	**2.03**	**11**	*e*Pg	**Pg**	**08 36 20.2**	**+0.7**
PESTR				*e*Sn	**Sn**	**08 36 38.8**	**-1.4**
PESTR				*e*Sg	**Sg**	**08 36 46.4**	**+0.5**
	38nm,0.2s						
EBAD	**Badajoz**	**2.06**	**24**	Pn	**Pn**	**08 36 16.0**	**+0.8**
	1.8nm,0.1s,SNR=4.0						
EBAD				Pg	**Pg**	**08 36 21.9**	**+1.8**
	4.6nm,0.1s,SNR=12						
EBAD				Sn	**Sn**	**08 36 41.5**	**+0.6**
	15nm,0.1s,SNR=7.9						
EBAD				Lg		08 36 49.4	
	17nm,0.1s,SNR=4.8						
EBAD	**Badajoz**	**2.06**	**24**	Pn	**Pn**	**08 36 16.0**	**+0.8**
	1.8nm,0.1s,SNR=4.0						
PMAFR	**Mafra**	**2.29**	**336**	*e*Pn	**Pn**	**08 36 17.8**	**-0.5**
PMAFR				*e*Sn	**Sn**	**08 36 45.6**	**-1.0**
PMAFR				*e*Sg	**Sg**	**08 36 54.1**	**-0.1**
PMAFR				A		08 36 57.9	
	49nm,0.1s						
PMAFR	**Mafra**	**2.29**	**336**	Pn	**Pn**	**08 36 17.8**	**-0.5**
	2.4nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**08 36 45.7**	**-0.9**
	47nm,0.3s,SNR=7.9						
PMAFR				Lg		08 36 56.7	
	51nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.29**	**336**	Pn	**Pn**	**08 36 17.8**	**-0.5**
	2.4nm,0.1s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**08 36 45.6**	**-1.0**
PMAFR				*e*Sg	**Sg**	**08 36 54.1**	**-0.1**
	49nm,0.1s						
PMAFR				Lg		08 36 56.7	
	51nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**2.61**	**12**	*e*Pn	**Pn**	**08 36 23.8**	**+1.0**
PMRV				*e*Sn	**Sn**	**08 36 53.3**	**-1.2**
PMRV				*e*Sg	**Sg**	**08 37 04.0**	**-0.5**
PMRV				A		08 37 07.7	
	54nm,0.4s						
PMRV	**Marv??o**	**2.61**	**12**	Pn	**Pn**	**08 36 23.8**	**+1.0**
PMRV				Sn	**Sn**	**08 36 53.3**	**-1.2**
PMRV				Lg		08 37 04.0	
	54nm,0.4s						
PMRV	**Marv??o**	**2.61**	**12**	*e*Pn	**Pn**	**08 36 23.8**	**+1.0**
PMRV				*e*Sn	**Sn**	**08 36 53.3**	**-1.2**
PMRV				*e*Sg	**Sg**	**08 37 04.0**	**-0.5**
	54nm,0.4s						
PTOM	**Tomar**	**2.76**	**355**	*e*Sn	**Sn**	**08 36 56.5**	**-1.6**
PTOM				*e*Sg	**Sg**	**08 37 07.7**	**-1.4**
PTOM				A		08 37 09.9	
	67nm,0.3s						
PTOM	**Tomar**	**2.76**	**355**	Sn	**Sn**	**08 36 56.5**	**-1.6**
PTOM				Lg		08 37 07.7	
	33nm,0.3s						
PTOM	**Tomar**	**2.76**	**355**	*e*Sn	**Sn**	**08 36 56.5**	**-1.6**
PTOM				*e*Sg	**Sg**	**08 37 07.7**	**-1.4**
	67nm,0.3s						
PCBR	**Castelo Branco**	**3.01**	**9**	*e*Sn	**Sn**	**08 37 02.2**	**-2.0**
PCBR				*e*Sg	**Sg**	**08 37 16.0**	**-1.0**
PCBR				A		08 37 20.1	
	23nm,0.4s						
PCBR	**Castelo Branco**	**3.01**	**9**	Sn	**Sn**	**08 37 02.2**	**-2.0**
PCBR				Lg		08 37 16.0	
	12nm,0.4s						
PCBR	**Castelo Branco**	**3.01**	**9**	*e*Sn	**Sn**	**08 37 02.2**	**-2.0**
PCBR				*e*Sg	**Sg**	**08 37 16.0**	**-1.0**
	23nm,0.4s						
EADA	**Adamuz**	**3.07**	**64**	Pn	**Pn**	**08 36 29.3**	**+0.3**
	4.9nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**08 37 03.6**	**-2.2**
	4.0nm,0.1s,SNR=7.9						
EADA				Lg		08 37 20.5	
	6.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.07**	**64**	Pn	**Pn**	**08 36 29.3**	**+0.3**
	4.9nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**08 37 03.6**	**-2.2**
	4.0nm,0.1s,SNR=7.9						
EADA				Lg		08 37 20.5	
	6.5nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**3.12**	**76**	Sn	**Sn**	**08 37 07.5**	**+0.5**
	4.2nm,0.2s,SNR=7.9						
ELUQ				Lg		08 37 23.2	
	4.6nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**3.12**	**76**	Sn	**Sn**	**08 37 07.5**	**+0.5**
	4.2nm,0.2s,SNR=7.9						
ELUQ				Lg		08 37 23.2	
	4.6nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.56**	**26**	Sn	**Sn**	**08 37 15.1**	**-2.7**
	2.6nm,0.1s,SNR=7.9						
EPLA				Lg		08 37 36.9	
	6.2nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.56**	**26**	Sn	**Sn**	**08 37 15.1**	**-2.7**
	2.6nm,0.1s,SNR=7.9						
EPLA				Lg		08 37 36.9	
	6.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.73**	**83**	Sn	**Sn**	**08 37 22.2**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.73**	**83**	Sn	**Sn**	**08 37 22.2**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.10**	**75**	Sn	**Sn**	**08 37 30.6**	**-0.6**
	1.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.10**	**75**	Sn	**Sn**	**08 37 30.6**	**-0.5**
	1.3nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.37**	**10**	*e*Sn	**Sn**	**08 37 35.2**	**-2.6**
MVO	**Moncorvo**	**4.37**	**10**	Sn	**Sn**	**08 37 35.0**	**-2.8**
	0.8nm,0.1s,SNR=7.9						
MVO				Lg		08 38 02.6	
	49nm,0.6s,SNR=7.9						
MVO	**Moncorvo**	**4.37**	**10**	*e*Sn	**Sn**	**08 37 35.2**	**-2.6**
MVO				Lg		08 38 02.6	
	49nm,0.6s,SNR=7.9						
EHUE	**Huescar**	**4.47**	**76**	Sn	**Sn**	**08 37 39.3**	**-1.0**
	1.2nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**4.47**	**76**	Sn	**Sn**	**08 37 39.3**	**-1.0**
	1.2nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**4.51**	**3**	*e*Sn	**Sn**	**08 37 38.8**	**-2.4**
POLO	**Lamas de Olo**	**4.51**	**3**	*e*Sn	**Sn**	**08 37 38.8**	**-2.4**
GUD	**Guadarrama**	**4.86**	**38**	Sn	**Sn**	**08 37 47.6**	**-2.3**
	1.0nm,0.2s,SNR=7.9						
GUD				Lg		08 38 20.1	
	6.4nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**4.86**	**38**	Sn	**Sn**	**08 37 47.6**	**-2.3**
	1.0nm,0.2s,SNR=7.9						
GUD				Lg		08 38 20.1	
	6.4nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**4.99**	**0**	Sn	**Sn**	**08 37 50.7**	**-2.6**
	1.8nm,0.1s,SNR=7.9						
ELOB				Lg		08 38 22.8	
	4.0nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**4.99**	**0**	Sn	**Sn**	**08 37 50.7**	**-2.5**
	1.8nm,0.1s,SNR=7.9						
ELOB				Lg		08 38 22.8	
	4.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**5.17**	**11**	Sn	**Sn**	**08 37 55.1**	**-2.5**
	0.5nm,0.1s,SNR=7.9						
ECAL				Lg		08 38 28.3	
	32nm,0.7s,SNR=7.9						
ECAL	**Calabor**	**5.17**	**11**	Sn	**Sn**	**08 37 55.1**	**-2.5**
	0.5nm,0.1s,SNR=7.9						
ECAL				Lg		08 38 28.3	
	32nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**5.47**	**69**	Sn	**Sn**	**08 38 02.7**	**-2.2**
	0.5nm,0.1s,SNR=7.9						

GUC 19 08:48:35.2±0.7**, 32°.57S**×**71°.84W, h20km**±13km**, ML3.6, 9C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.34**	**84**	*i* P	Pg	08 48 42.6	+0.1
PACH				*i* S	Sg	08 48 48.1	+0.6
IHA	**Instituto Hidr**	**0.48**	**160**	⇓*i*P	Pb	08 48 44.7	-0.3
IHA				*e*S	Sg	08 48 51.7	+0.1
ROCH	**El Roble**	**0.80**	**120**	⇓*i*P	Pb	08 48 49.9	-0.5
ROCH				*i* S	Sb	08 49 00.9	0.0
ROCH				AML	AML	08 49 01.4	
	comp=N,3µm,0.8s						

PTCH	**Petorca**	**0.83**	**68**⇑	*i*P	Pb	08 48 50.2	-0.7
PTCH				*i*S	Sb	08 49 01.7	+0.1
PTCH				AML	AML	08 49 05.0	
	comp=N,2μm,0.5s						
JACH	**Jahuel**	**1.05**	**96**⇑	*i*P	Pb	08 48 53.7	-1.1
JACH				*i*S	Sb	08 49 07.8	-0.4
PEL	**Peldehue**	**1.12**	**121**⇑	*i*P	Pn	08 48 55.2	-0.6
PEL				*i*S	Sb	08 49 09.9	-0.2
PEL				AML	AML	08 49 13.4	
	comp=N,5μm,0.4s						
TACH	**Talagante**	**1.31**	**145**⇑	*i*P	Pn	08 48 58.0	-0.4
SAN	**Santiago**	**1.32**	**132**⇑	*i*P	Pn	08 48 58.2	-0.4
SAN				*i*S	Sn	08 49 15.7	+0.1
SAN				AML	AML	08 49 19.4	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**1.37**	**127**⇓	*i*P	Pn	08 48 58.9	-0.3
CLCH				*i*S	Sn	08 49 16.9	+0.2
CLCH				AML	AML	08 49 19.2	
	comp=N,2μm,0.3s						
ANTU	**Antumapu**	**1.42**	**135**⇑	*i*P	Pn	08 48 59.8	0.0
ANTU				*i*S	Sn	08 49 18.1	+0.2
ANTU				AML	AML	08 49 22.8	
	comp=E,1μm,0.2s						
LNV	**Longovilo**	**1.42**	**166**	*e*P	Pn	08 48 58.7	-1.3
LNV				*i*S	Sn	08 49 17.0	-1.2
PCH	**Pirque**	**1.52**	**134**⇑	*i*P	Pn	08 49 01.3	0.0
CMCH	**Combarbala**	**1.57**	**27**⇓	*i*P	Pn	08 49 00.9	-1.0
CMCH				*i*S	Sn	08 49 21.7	+0.1
CMCH				AML	AML	08 49 25.8	
	comp=E,4μm,0.7s						
CACH	**El Canelo**	**1.85**	**146**⇑	*i*P	Pn	08 49 07.0	+1.2
CACH				*i*S	Sn	08 49 31.7	+3.0
LMEL	**Las Melosas**	**1.87**	**133**⇑	*i*P	Pn	08 49 07.2	+1.1
LMEL				*e*S	Sn	08 49 31.2	+2.1
LMEL				AML	AML	08 49 34.6	
	comp=N,2μm,0.1s						

MAN 19 08:53:09.9±63N×126°02E, h85km, mb4.4, ML3.2, MS3.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.77**	**211**	*e*P	Pn	08 53 28.1	+2.4
MSLP	**Maasin**	**1.24**	**294**	*e*P	Pn	08 53 29.9	-1.4
BUKP	**Musuan**	**1.98**	**209**	*e*P	Pn	08 53 42.2	+1.4
TBP	**Tagbilaran**	**2.12**	**272**	*e*P	Pn	08 53 44.5	+1.8
TBP				*e*S	Sn	08 54 09.4	+0.9

*JMA **19** 08:53:39.5±0.2, 36°37N×129°84E, h4km, M3.4*
*ISCJB **19** 08:53:40.2±0.4, 36°40N±0°02×129°78E±0°03, h10km, Error ellipse: s-maj=3.8km s-min=2.4km az=137.0*
*KMA **19** 08:53:42.2, 36°45N×129°61E, ML3.4*
ISC 19 08:53:40.8±0.4, 36°38N±0°02×129°75E±0°03, h10km, n35, σ1§43/65, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSYOD	**Yeongdeok**	**0.30**	**292**	P	**Pg**	**08 53 45.1**	**-1.8**
KSPHA	**Pohang**	**0.36**	**238**	P	**Pg**	**08 53 47.8**	**-0.1**
KSPHA				S	**Sg**	**08 53 53.1**	**+0.3**
KSULJ	**Uljin**	**0.42**	**319**	P	**Pg**	**08 53 46.7**	**-2.4**
KSULJ				S	**Sg**	**08 53 49.7**	**-4.9**
KSCHS	**CHEONGSONG**	**0.54**	**271**	P	**Pg**	**08 53 49.8**	**-1.6**
KSADO	**Andong**	**0.65**	**273**	P	**Pg**	**08 53 51.6**	**-1.8**
KSADO				S	**Sg**	**08 53 59.3**	**-2.5**
KSUSN	**Ulsan**	**0.85**	**217**	P	**Pg**	**08 53 56.9**	**-0.3**
KSUSN				S	**Sg**	**08 54 08.9**	**+0.7**
KSDAG	**Daegu**	**0.92**	**229**	P	**Pg**	**08 53 57.8**	**-0.8**
KSDAG				S	**Sg**	**08 54 10.1**	**-0.6**
KSDAU	**Deagu-acc**	**1.04**	**242**	P	**Pg**	**08 53 59.7**	**-1.2**
KSBUS	**Busan**	**1.25**	**205**	P	**Pn**	**08 54 04.0**	**-0.3**
KSBUS				S	**Sb**	**08 54 21.2**	**+0.7**
KSYOW	**Yeongwol**	**1.30**	**308**	P	**Pn**	**08 54 02.6**	**-2.5**
KSYOW				S	**Sb**	**08 54 18.2**	**-4.0**
KSCPR	**CHUPUNGNYEONG**	**1.45**	**264**	P	**Pn**	**08 54 05.5**	**-1.5**
KSCPR				S	**Sn**	**08 54 24.1**	**-2.0**
KSCHJ	**Chungju**	**1.51**	**289**	P	**Pn**	**08 54 06.2**	**-1.7**
KSCHJ				S	**Sn**	**08 54 24.9**	**-2.7**
KSDGY	**Daegwallycong**	**1.56**	**327**	P	**Pn**	**08 54 07.2**	**-1.4**
KSDGY				S	**Sn**	**08 54 26.5**	**-2.4**
KSBON	**Boeun**	**1.58**	**275**	P	**Pn**	**08 54 08.0**	**-0.8**
KSBON				S	**Sn**	**08 54 28.7**	**-0.6**
KSWJU	**Wonju**	**1.70**	**307**	P	**Pn**	**08 54 09.6**	**-1.0**
KSWJU				S	**Sn**	**08 54 30.7**	**-1.6**
KSJIN	**Jinju**	**1.85**	**229**	P	**Pn**	**08 54 13.6**	**+1.0**
KSJIN				S	**Sn**	**08 54 38.5**	**+2.3**
JTU	**Tsushima**	**1.88**	**189**	P	**Pn**	**08 54 12.6**	**-0.4**
JTU				*e*S	**Sn**	**08 54 37.2**	**+0.5**
KSJEO	**Jeonju**	**2.04**	**258**	P	**Pn**	**08 54 16.4**	**+1.2**
KSJEO				S	**Sn**	**08 54 42.9**	**+2.3**
KSCEA	**Cheonan**	**2.05**	**283**	P	**Pn**	**08 54 15.9**	**+0.5**
KSCEA				S	**Sn**	**08 54 42.2**	**+1.1**
KSIJA	**INJE**	**2.07**	**321**	P	**Pn**	**08 54 16.7**	**+1.1**
KSIJA				S	**Sn**	**08 54 42.5**	**+1.1**
KSICN	**Icheon**	**2.08**	**297**	P	**Pn**	**08 54 16.1**	**+0.3**
KSICN				S	**Sn**	**08 54 42.4**	**+0.8**
KSCHC	**Chuncheon**	**2.08**	**313**	P	**Pn**	**08 54 16.6**	**+0.8**
KSCHC				S	**Sn**	**08 54 42.4**	**+0.7**
KSSKC	**Sokcho**	**2.14**	**333**	P	**Pn**	**08 54 17.9**	**+1.3**
KSSKC				S	**Sn**	**08 54 44.6**	**+1.4**
JTY	**Toyota**	**2.37**	**153**	P	**Pn**	**08 54 19.5**	**-0.3**
JTY				S	**Sn**	**08 54 49.3**	**+0.4**
KSSWO	**Suwon**	**2.40**	**292**	P	**Pn**	**08 54 22.5**	**+2.4**
KSSWO				S	**Sn**	**08 54 52.6**	**+3.0**
KSJEU	**Jeongeup**	**2.46**	**250**	P	**Pn**	**08 54 24.6**	**+3.7**
KSJEU				S	**Sn**	**08 54 56.1**	**+5.2**
KSCWO	**Cheorwon**	**2.46**	**314**	P	**Pn**	**08 54 23.8**	**+2.8**
KSCWO				S	**Sn**	**08 54 54.0**	**+3.0**
JGT	**Gotsu**	**2.50**	**122**	P	**Pn**	**08 54 20.8**	**-0.7**
JGT				S	**Sn**	**08 54 51.7**	**-0.4**
KSSEO	**Seoul**	**2.52**	**297**	P	**Pn**	**08 54 24.6**	**+2.8**
KSSEO				S	**Sn**	**08 54 56.2**	**+3.6**
KSKWJ	**Gwangju**	**2.55**	**242**	P	**Pn**	**08 54 26.1**	**+3.8**
KSKWJ				S	**Sn**	**08 54 58.7**	**+5.3**
JHIK	**Hikimi**	**2.56**	**135**	P	**Pn**	**08 54 21.6**	**-0.8**
JHIK				S	**Sn**	**08 54 53.4**	**-0.3**
KSDDC	**Dongducheon**	**2.63**	**306**	P	**Pn**	**08 54 26.5**	**+3.2**
KSDDC				S	**Sn**	**08 54 59.7**	**+4.4**
JHT	**Toyohira**	**2.77**	**127**	P	**Pn**	**08 54 25.1**	**-0.2**
JHT				S	**Sn**	**08 54 57.8**	**-1.0**
JNA	**Nagahama**	**3.60**	**141**	*e*S	**Sn**	**08 55 22.3**	**+3.0**
JTO	**Tosashimizu**	**4.32**	**144**	P	**Pn**	**08 54 47.6**	**+1.0**

*IDC **19** 09:02:38.6±2.6, 32°39S×72°17W, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.6/14, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=114.1km s-min=33.1km az=97.0*
*ISCJB **19** 09:02:40.9±1.5, 32°46S±0°09×72°4W±0°2, h33km, mb3.8/1, Error ellipse: s-maj=26.5km s-min=12.6km az=6.0*
*NEIC **19** 09:02:43.0±1.8, 32°40S×72°41W, h36km±15km, mb3.5/1, Error ellipse: s-maj=27.6km s-min=12.4km az=98.0*
ISC 19 09:02:43.4±1.9, 32°41S±0°09×72°4W±0°2, h38km±21km, n17, σ1§11/14, mb3.8/1, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.61**	**78**	Pn	**Pn**	**09 03 35.9**	**-0.9**
	1.5nm,0.3s,baz=243,slow=2.6,SNR=64						
CFAA				Lg		09 04 22.6	
	3.1nm,0.3s,baz=24,slow=14,SNR=6.3						
CFAA	**Coronel Fontan**	**3.61**	**78**	Pn	**Pn**	**09 03 35.9**	**-0.9**
CFAA				Lg		09 04 22.6	
LCO	**Las Campanas**	**3.68**	**24**	*e*Pn	**Pn**	**09 03 37.6**	**-0.2**
LCO				*e*Sg	**Sn**	**09 04 29.7**	**+10**
PLCA	**Paso Flores**	**8.44**	**170**	Pn	**Pn**	**09 04 42.9**	**-0.1**
	0.4nm,0.3s,baz=342,slow=12,SNR=9.3						
PLCA	**Paso Flores**	**8.44**	**170**	Pn	**Pn**	**09 04 42.9**	**-0.1**
CPUP	**Villa Florida**	**14.45**	**69**	Pn	**Pn**	**09 06 07.0**	**+1.7**
	0.3nm,0.3s,baz=264,slow=18,SNR=2.1						
CPUP	**Villa Florida**	**14.45**	**69**	Pn	**Pn**	**09 06 07.0**	**+1.7**
LPAZ	**La Paz**	**16.51**	**15**	Pn	**Pn**	**09 06 33.4**	**+1.3**
	0.1nm,0.3s,baz=231,slow=12,SNR=2.0						
LPAZ	**La Paz**	**16.51**	**15**	*e*P	**Pn**	**09 06 32.8**	**+0.7**
	3.6nm,0.8s						
SIV	**San Ignacio**	**19.30**	**35**	P	**Pn**	**09 07 04.3**	**-2.1**
	0.0nm,0.3s,baz=188,slow=7.1,SNR=2.6						
SIV	**San Ignacio**	**19.30**	**35**	P	**Pn**	**09 07 04.3**	**-2.1**
TORD	**Torodi Ar. Bea**	**83.94**	**70**	P	**P**	**09 15 10.1**	**+0.3**
	0.6nm,0.8s,mb3.8,baz=253,slow=3.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.94**	**70**	P	**P**	**09 15 10.1**	**+0.3**
ZALV	**Zalesovo Beam**	**153.02**	**30**	PKPbc	PKPbc	09 22 37.2	+1.1
	0.6nm,0.4s,baz=273,slow=5.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**153.02**	**30**	PKPbc	PKPbc	09 22 37.2	+1.1
MKAR	**Makanchi Array**	**155.90**	**46**	PKPab	PKPab	09 22 59.5	-0.7
	0.2nm,0.5s,baz=298,slow=3.1,SNR=3.6						
MKAR	**Makanchi Array**	**155.90**	**46**	PKPab	PKPab	09 22 59.5	-0.7

*IDC **19** 09:25:11.3±1.9, 32°59S×71°65W, h0km, mb4.3/3, mb1 4.0/6, mb1mx3.8/14, mbtmp3.9/6, ML3.8/3, Error ellipse: s-maj=73.8km s-min=30.1km az=94.0*
*ISCJB **19** 09:25:12.9±1.1, 32°53S±0°03×71°93W±0°07, h18km±6km, mb4.1/3, Error ellipse: s-maj=9.5km s-min=4.8km az=166.8*
*NEIC **19** 09:25:14.6±2.8, 32°56S×72°05W, h29km±19km, mb3.6/1, Error ellipse: s-maj=24.6km s-min=9.8km az=96.0*
*GUC **19** 09:25:15.3±0.7, 32°58S×71°69W, h3km±2km, ML3.7*
ISC 19 09:25:13.9±0.9, 32°54S±0°03×71°84W±0°06, h15km±4km, n39, σ0§84/44, mb4.1/3, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.51**	**161**	⇓*i*P	**Pg**	**09 25 24.3**	**+0.2**
IHA				*i*S	**Sg**	**09 25 31.2**	**+0.1**
PTCH	**Petorca**	**0.82**	**71**	⇓*i*P	**Pg**	**09 25 30.1**	**+0.3**
PTCH				*i*S	**Sg**	**09 25 41.1**	**+0.5**
PTCH				AML	AML	09 25 43.4	
	comp=N,5μm,0.4s						
ROCH	**El Roble**	**0.82**	**122**	⇓*i*P	**Pg**	**09 25 29.6**	**-0.3**
ROCH				*i*S	**Sg**	**09 25 40.5**	**-0.3**
ROCH				AML	AML	09 25 41.7	
	comp=N,6μm,0.4s						
JACH	**Jahuel**	**1.06**	**98**⇑	*i*P	**Pb**	**09 25 33.5**	**-0.6**
JACH				*i*S	**Sb**	**09 25 46.5**	**-1.3**
PEL	**Peldehue**	**1.15**	**122**⇑	*i*P	**Pn**	**09 25 34.9**	**-0.5**
PEL				*i*S	**Sb**	**09 25 49.3**	**-0.8**
PEL				AML	AML	09 25 51.9	
	comp=E,9μm,0.7s						
TACH	**Talagante**	**1.35**	**146**⇑	*i*P	**Pn**	**09 25 37.7**	**-0.5**
SAN	**Santiago**	**1.35**	**133**⇑	*i*P	**Pn**	**09 25 37.9**	**-0.3**
SAN				*i*S	**Sn**	**09 25 55.1**	**-0.8**
SAN				AML	AML	09 26 01.2	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**1.39**	**128**	⇓*i*P	**Pn**	**09 25 38.6**	**-0.2**
CLCH				*i*S	**Sn**	**09 25 56.6**	**-0.3**
CLCH				AML	AML	09 25 58.8	
	comp=N,5μm,0.5s						
ANTU	**Antumapu**	**1.44**	**136**	*e*P	**Pn**	**09 25 39.6**	**+0.1**
ANTU				*i*S	**Sn**	**09 25 58.1**	**-0.1**
ANTU				AML	AML	09 26 03.1	
	comp=N,2μm,0.5s						
FSR	**Penalolen**	**1.45**	**131**	*i*S	**Sn**	**09 25 57.9**	**-0.4**
FSR				AML	AML	09 26 06.7	
	comp=N,743nm,0.5s						
CMCH	**Combarbala**	**1.54**	**28**	*e*P	**Pn**	**09 25 40.9**	**+0.1**
CMCH				*i*S	**Sn**	**09 26 01.5**	**+1.0**
CMCH				AML	AML	09 26 05.2	
	comp=E,9μm,0.5s						
PCH	**Pirque**	**1.55**	**134**⇑	*i*P	**Pn**	**09 25 41.1**	**+0.1**
PCH				*e*S	**Sn**	**09 26 01.1**	**+0.2**
SJCH	**San Jose de Ma**	**1.66**	**132**	*e*P	**Pn**	**09 25 43.2**	**+0.6**
SJCH				*i*S	**Sn**	**09 26 04.3**	**+0.6**
SJCH				AML	AML	09 26 10.5	
	comp=N,1μm,0.4s						
CACH	**El Canelo**	**1.89**	**147**⇑	*i*P	**Pn**	**09 25 46.7**	**+1.0**
CACH				*i*S	**Sn**	**09 26 11.4**	**+2.2**
LMEL	**Las Melosas**	**1.90**	**134**	*e*P	**Pn**	**09 25 46.5**	**+0.8**
LMEL				*e*S	**Sn**	**09 26 11.0**	**+1.7**
LMEL				AML	AML	09 26 16.6	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**3.65**	**16**	*e*Pn	**Pn**	**09 26 10.0**	**+0.1**
LCO				*e*S	**Sn**	**09 27 01.6**	**+9.0**
PLCA	**Paso Flores**	**8.24**	**173**	Pn	**Pn**	**09 27 12.2**	**-0.7**
	comp=N,0.4nm,0.3s,baz=336,slow=12,SNR=11						
PLCA	**Paso Flores**	**8.24**	**173**	Pn	**Pn**	**09 27 12.2**	**-0.7**
CPUP	**Villa Florida**	**14.07**	**68**	Pn	**Pn**	**09 28 35.2**	**+2.5**
	comp=N,0.4nm,0.3s,baz=142,slow=13,SNR=2.4						
CPUP	**Villa Florida**	**14.07**	**68**	Pn	**Pn**	**09 28 35.2**	**+2.5**
LPAZ	**La Paz**	**16.52**	**13**	Pn	**Pn**	**09 29 05.9**	**+0.7**
	comp=N,0.1nm,0.3s,baz=191,slow=8.1,SNR=6.3						
LPAZ	**La Paz**	**16.52**	**13**	*e*P	**Pn**	**09 29 06.0**	**+0.8**
	comp=N,4.2nm,0.9s						
SIV	**San Ignacio**	**19.15**	**33**	P	**Pn**	**09 29 36.3**	**-1.4**
	comp=N,0.1nm,0.3s,baz=243,slow=13,SNR=3.9						
SIV	**San Ignacio**	**19.15**	**33**	P	**Pn**	**09 29 36.3**	**-1.4**
DBIC	**Dimbokro**	**74.56**	**72**	P	**P**	**09 36 51.7**	**-0.8**
	comp=N,2.1nm,0.9s,mb4.1,baz=199,slow=6.9,SNR=3.9						
DBIC	**Dimbokro**	**74.56**	**72**	P	**P**	**09 36 51.7**	**-0.8**
BOSA	**Boshof**	**80.60**	**118**	P	**P**	**09 37 25.1**	**-1.1**
	comp=N,1.0nm,0.5s,mb4.0,baz=229,slow=9.3,SNR=3.5						
BOSA	**Boshof**	**80.60**	**118**	P	**P**	**09 37 25.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P	**P**	**09 37 40.7**	**-1.1**
	comp=N,2.0nm,0.9s,mb4.3,baz=258,slow=5.0,SNR=10						
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P	**P**	**09 37 40.7**	**-1.1**
FETA	**Feichten**	**108.40**	**46**⇑	*i*PKKPbc	PKKPbc	09 54 51.0	-1.6
	comp=N,9.1nm,1.2s						
BVAR	**Borovoye Array**	**146.09**	**42**	PKPbc	PKPbc	09 44 52.8	-0.1
	comp=N,0.5nm,0.4s,baz=296,slow=2.9,SNR=4.6						
BVAR	**Borovoye Array**	**146.09**	**42**	PKPbc	PKPbc	09 44 52.8	-0.1
KURK	**Kurchatov**	**151.69**	**41**	PKPbc	PKPbc	09 45 06.4	-0.9
	comp=N,1.1nm,0.6s,baz=298,slow=3.1,SNR=5.4						
KURK	**Kurchatov**	**151.69**	**41**	PKPbc	PKPbc	09 45 06.4	-0.9
ZALV	**Zalesovo Beam**	**152.90**	**31**	PKPbc	PKPbc	09 45 09.2	-0.7
	comp=N,1.1nm,0.5s,baz=299,slow=1.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**152.90**	**31**	PKPbc	PKPbc	09 45 09.2	-0.7
MKAR	**Makanchi Array**	**155.66**	**47**	PKPab	PKPab	09 45 32.5	-0.7
	comp=N,0.5nm,0.7s,baz=273,slow=4.5,SNR=5.0						
MKAR	**Makanchi Array**	**155.66**	**47**	PKPab	PKPab	09 45 32.5	-0.7

WEL 19 09:33:49.8±0.6, 38°79S×175°30E, h217km±4km, ML3.6/13, Error ellipse: s-maj=4.5km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.30**	**158**	PN	Pn	09 34 18.1	-0.1
WTVZ	**West Tongariro**	**0.40**	**145**	PN	Pn	09 34 18.6	+0.2
WTVZ				SN	S	09 34 39.9	-0.9
KRVZ	**Karewarewa**	**0.41**	**138**	PN	Pn	09 34 18.6	+0.2
WPVZ	**Whakapapa**	**0.46**	**155**	PN	Pn	09 34 18.8	+0.2
FWVZ	**Far West T-bar**	**0.51**	**157**	PN	Pn	09 34 19.0	+0.2
WNVZ	**Wahianoa**	**0.58**	**156**	PN	Pn	09 34 19.3	+0.3
MOVZ	**Moawhango**	**0.71**	**150**	PN	Pn	09 34 19.4	-0.2
BHHZ	**Black Hill Sta**	**0.92**	**140**	PN	Pn	09 34 20.6	-0.1
WAZ	**Wanganui**	**0.99**	**194**	PN	Pn	09 34 20.9	-0.2
BKZ	**Black Stump Fm**	**1.01**	**112**	PN	Pn	09 34 21.3	+0.1
PNHZ	**Pukenui**	**1.32**	**148**	PN	Pn	09 34 23.5	+0.1
PNHZ				SN	S	09 34 48.5	-1.3
TSZ	**Takapari Road**	**1.37**	**158**	PN	Pn	09 34 23.8	0.0
URZ	**Urewera**	**1.52**	**70**	PN	Pn	09 34 24.5	-0.6
WPHZ	**Waipukurau**	**1.55**	**145**	PN	Pn	09 34 25.5	+0.2
KAHZ	**Kahuranaki**	**1.58**	**130**	PN	Pn	09 34 26.4	+0.8
CKHZ	**Cape Kidnapper**	**1.63**	**123**	PN	Pn	09 34 26.7	+0.7
POWZ	**Post Office Ro**	**1.64**	**167**	PN	Pn	09 34 25.7	-0.4
DVHZ	**Dannevirke**	**1.65**	**156**	PN	Pn	09 34 25.9	-0.3
PXZ	**Pawanui**	**1.73**	**136**	PN	Pn	09 34 27.1	+0.2
PRHZ	**Porangahau**	**1.80**	**145**	PN	Pn	09 34 27.7	+0.1
MWZ	**Matawai**	**1.81**	**76**	PN	Pn	09 34 27.5	-0.2
KNZ	**Kokohu**	**1.87**	**98**	PN	Pn	09 34 28.6	+0.4
MRZ	**Mangatainoka R**	**1.88**	**173**	PN	Pn	09 34 27.4	-0.9
BFZ	**Birch Farm**	**2.02**	**159**	PN	Pn	09 34 29.0	-0.7
OGWZ	**Otaki Gorge**	**2.03**	**183**	PN	Pn	09 34 28.9	-0.8
MHGZ	**Mahia Peninsul**	**2.07**	**101**	PN	Pn	09 34 30.7	+0.6
HOWZ	**Holdsworth Sta**	**2.11**	**175**	PN	Pn	09 34 29.4	-1.2
DUWZ	**D'Urville Isla**	**2.27**	**207**	PN	Pn	09 34 30.7	-1.5
CNGZ	**Carnagh Statio**	**2.30**	**83**	PN	Pn	09 34 33.2	+0.6
CAW	**Cannon Point**	**2.32**	**184**	PN	Pn	09 34 31.3	-1.4
TMWZ	**Te Maipa**	**2.36**	**169**	PN	Pn	09 34 31.9	-1.2
MTW	**Mount Morrison**	**2.37**	**176**	PN	Pn	09 34 31.8	-1.5
PUZ	**Puketiti**	**2.44**	**74**	PN	Pn	09 34 33.5	-0.5
TCW	**Tory Channel**	**2.54**	**198**	PN	Pn	09 34 33.6	-1.5
MSWZ	**Moikau Station**	**2.62**	**181**	PN	Pn	09 34 34.2	-1.7
PLWZ	**Palliser**	**2.77**	**181**	PN	Pn	09 34 35.7	-1.9
TUWZ	**Tuamarina**	**2.83**	**201**	PN	Pn	09 34 36.4	-1.8
NNZ	**Nelson**	**2.83**	**211**	PN	Pn	09 34 35.9	-2.5
QRZ	**Quartz Range**	**2.94**	**225**	PN	Pn	09 34 36.3	-3.3
BSWZ	**Blackbirch Sta**	**3.12**	**200**	PN	Pn	09 34 39.6	-1.9
THZ	**Tophouse**	**3.49**	**211**	PN	Pn	09 34 43.5	-2.3
KHZ	**Kahutara**	**3.86**	**200**	PN	Pn	09 34 48.2	-2.1
LTZ	**Lake Taylor**	**4.60**	**209**	PN	Pn	09 34 56.4	-3.1
MQZ	**McQueen's Vall**	**5.30**	**201**	SN	S	09 36 01.5	-9.0

*IDC **19** 09:36:01.9±0.4, 32°38S×71°78W, h0km, mb5.3/19, mb1 5.3/23, mb1mx5.3/23, mbtmp5.3/23, ML5.2/4, MS5.5/15, Ms1 5.4/15, ms1mx5.3/23, Error ellipse: s-maj=17.2km s-min=11.5km az=76.0*
*GUC **19** 09:36:04.9±0.8, 32°46S×71°95W, h32km±2km, ML5.8*
*NEIC **19** 09:36:04.9, 32°46S×71°95W, h32km, mb5.5/161, MS5.4/162, MW5.6, ML5.8(GUC), Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}2.62; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-2.17; $M_{r\theta}$-0.80; $M_{\theta\phi}$0.63; $M_{r\phi}$-1.87; Best double couple: $M_0$3.20000×10^{17} NP1:ϕ_s328.00000°, δ31.00000°, λ58.00000°. NP2:ϕ_s184.00000°, δ64.00000°, λ108.00000°. Principal axes: T 3.5000, Plg66.0000°, Azm125.0000°; N -0.6400, Plg15.0000°, Azm356.0000°; P -2.8600, Plg17.0000°, Azm261.0000°; After GUC.*
NEIC Felt [V] at Papudo and Zapallar; [IV] at La Ligua, Puchuncavi, Valparaiso and Vina del Mar; [III] at San Antonio, San Felipe and Santiago; [II] at Illapel, Los Vilos, Melipilla, Rancagua, Salamanca and San Jose de Maipo. Also felt at Paine.
*ISCJB **19** 09:36:06.3±0.1, 32°42S±0°02×71°84W±0°03, h35km, mb5.5/196, MS5.5/181 Error ellipse: s-maj=3.8km s-min=2.0km az=150.5*
*BJI **19** 09:36:06.3, 32°57S×71°45W, h33km, mB5.7/26, Ms5.8/23, Ms7 5.6/28*
*MOS **19** 09:36:06.6±1.0, 32°30S×71°70W, h33km, mb5.7/58, MS5.3/31, Error ellipse: s-maj=13.7km s-min=6.6km az=99.8*
*GCMT **19** 09:36:08.8±0.1, 32°56S×72°10W, h23km, MW5.7, Moment Tensor Solution. s86,c151; s42,c45; Moment tensor: Scale 10^{17}Nm; M_{rr}2.83±.05; $M_{\theta\theta}$0.16±.04; $M_{\phi\phi}$-2.99±.04; $M_{r\theta}$0.61±.07; $M_{\theta\phi}$0.17±.03; $M_{r\phi}$-3.84±.12; Best double couple: $M_0$4.90000×10^{17} NP1:ϕ_s2.00000°, δ19.00000°, λ100.00000°. NP2:ϕ_s172.00000°, δ72.00000°, λ87.00000°. Principal axes: T 4.7900, Plg63.0000°, Azm77.0000°; N 0.1500, Plg3.0000°, Azm173.0000°; P -4.9300, Plg27.0000°, Azm265.0000°; Data Used: II IU CN IC G. Surface waves: sta= 99, comp=190, per= 50.*
*DJA **19** 09:36:19, 32°62S×71°66W, h121km, mb5.4/11*
ISC 19 09:36:08.2±0.1, 32°42S±0°02×71°72W±0°03, h37km, h37km±.6km: pP-P, n1130, σ0§73/804, mb5.5/196, MS5.5/181, 280C-198D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.27**	**116**	⇓*i*P	**Pn**	**09 36 14.0**	**-1.8**
CHNG	**Los Chungos**	**0.57**	**20**	⇓*i*P	**Pn**	**09 36 18.0**	**-1.7**
CHNG				*i*S	**Sn**	**09 36 28.2**	**+0.3**
IHA	**Instituto Hidr**	**0.61**	**173**	⇓*i*P	**Pn**	**09 36 16.9**	**-3.5**
IHA	**Instituto Hidr**	**0.61**	**173**	⇓*i*P	**Pn**	**09 36 16.9**	**-3.5**
ROCH	**El Roble**	**0.82**	**133**	⇓*i*P	**Pn**	**09 36 22.1**	**-1.0**
ROCH				*i*S	**Sn**	**09 36 34.5**	**+0.5**
ROCH				AML	AML	09 36 37.6	
	comp=N,416μm,0.8s						
JACH	**Jahuel**	**0.99**	**106**⇑	*i*P	**Pn**	**09 36 25.6**	**0.0**
JACH	**Jahuel**	**0.99**	**106**⇑	*i*P	**Pn**	**09 36 25.6**	**0.0**
LCCH	**Las Cruces**	**1.06**	**173**⇑	*i*P	**Pn**	**09 36 24.1**	**-2.5**
LCCH	**Las Cruces**	**1.06**	**173**⇑	*i*P	**Pn**	**09 36 24.1**	**-2.5**
PEL	**Peldehue**	**1.14**	**130**⇑	*i*P	**Pn**	**09 36 27.4**	**-0.1**
PEL				*i*S	**Sn**	**09 36 43.6**	**+1.7**
PEL				AML	AML	09 36 46.5	
	comp=N,709μm,0.6s						
SAN	**Santiago**	**1.36**	**139**⇑	*i*P	**Pn**	**09 36 30.6**	**-0.1**
SAN	**Santiago**	**1.36**	**139**⇑	*i*P	**Pn**	**09 36 30.6**	**-0.1**
SAN	**Santiago**	**1.36**	**139**⇑

CPUP Villa Florida 13.93 68 P **Pn** **09 39 20.3 -2.8**
CPUP 09 42 05.6
CPUP pmax pmax
comp=Z,2.0nm,0.3s
CPUP smax
comp=N,11nm,0.3s
CPUP MLR MLR
comp=Z,28µm,18.0s
LPAZ La Paz 16.39 12 Pn **Pn** **09 39 55.2 -0.2**
comp=Z,4.2nm,0.3s,baz=186,slow=7.8,SNR=189
LPAZ Sn **Sn** **09 43 08.1 +12**
baz=7.7,slow=22,SNR=1.4
LPAZ La Paz 16.39 12 *e*Pn **Pn** **09 39 55.2 -0.2**
comp=Z,216nm,0.8s
LPAZ Sn **Sn** **09 43 08.1 +12**
LPAZ *e*S **S** **09 43 11.5 +4.0**
LPAZ La Paz 16.39 12 *e*P **Pn** **09 39 55.2 -0.2**
LPAZ pmax pmax
comp=Z,216nm,0.8s
SIV San Ignacio 19.00 33 P **Pn** **09 40 24.5 -3.1**
comp=Z,4.2nm,0.3s,baz=229,slow=12,SNR=104
SIV LR LR 09 49 06.6
comp=Z,24µm,18.4s,slow=41
SIV San Ignacio 19.00 33 P **Pn** **09 40 24.5 -3.1**
NNA Nana 20.87 346 P **P** **09 40 47.9 +0.8**
comp=Z,29nm,0.7s,baz=215,slow=11,SNR=24
NNA Nana 20.87 346 *e*P **P** **09 40 47.1 0.0**
comp=Z,78nm,0.9s
NNA P 09 40 47.9
NNA *e*S **S** **09 44 36.4 -1.4**
NNA LR LR
comp=Z,5µm,20.0s,MS4.9
NNA Nana 20.87 346 *e*P **P** **09 40 47.1 0.0**
NNA *e*S **S** **09 44 36.4 -1.5**
NNA pmax pmax
comp=Z,79nm,0.9s
NNA MLR MLR
comp=Z,5µm,20.0s
EFI East Falkland 21.68 157 *e*P **P** **09 40 53.7 -1.8**
comp=Z,230nm,0.9s,mb5.6
EFI LR LR
comp=Z,10µm,20.0s,MS5.2
EFI East Falkland 21.68 157 *e*P **P** **09 40 53.7 -1.8**
EFI pmax pmax
comp=Z,230nm,0.9s,mb5.6
EFI MLR MLR
comp=Z,10µm,20.0s,MS5.2
EFI East Falkland 21.68 157 P **P** **09 40 54.7 -0.8**
comp=Z,1µm,1.0s,mb6.3,SNR=16
USHA Ushuaia 22.53 175 P **P** **09 41 04.1 -0.4**
comp=Z,95nm,0.9s,mb5.2,baz=339,slow=5.8,SNR=22
USHA LR LR 09 50 07.8
comp=Z,7µm,20.6s,MS5.1,baz=342,slow=38
USHA Ushuaia 22.53 175 P **P** **09 41 04.1 -0.4**
SPB Sao Paulo 23.14 74 *e*P **P** **09 41 10.4 -0.8**
comp=Z,608nm,1.2s,mb5.9
SPB LR LR
comp=Z,42µm,20.0s,MS5.9
SAML Samuel 24.66 21 *e*P **P** **09 41 24.9 -0.5**
comp=Z,183nm,1.1s,mb5.5
SAML *e*S **S** **09 45 44.4 -0.3**
SAML LR LR
comp=Z,14µm,20.0s,MS5.4
ATAH Atahualpa 25.91 345 P **P** **09 41 38.6 +1.7**
comp=Z,8.3nm,0.7s,mb4.4,baz=155,slow=13,SNR=8.2
ATAH LR LR 09 51 24.5
comp=Z,5µm,18.6s,MS5.1,baz=355,slow=36
ATAH Atahualpa 25.91 345 P **P** **09 41 38.6 +1.7**
PMSA Palmer Station 32.73 174 P **P** **09 42 37.2 +0.3**
comp=Z,32nm,0.8s,mb5.3,baz=347,slow=19,SNR=3.1
PMSA LR LR 09 56 04.5
comp=Z,10µm,19.0s,MS5.5,baz=341,slow=37
PMSA Palmer Station 32.73 174 P **P** **09 42 37.2 +0.3**
RPN Rapa Nui 32.95 269 P **P** **09 42 39.8 +0.4**
comp=Z,21nm,0.8s,mb5.1,baz=128,slow=2.9,SNR=4.6
RPN LR LR 09 52 13.0
comp=Z,9µm,21.1s,MS5.4,baz=94,slow=30
RPN Rapa Nui 32.95 269 P **P** **09 42 39.8 +0.4**
RPN Rapa Nui 32.95 269 P **P** **09 42 39.8 +0.5**
RPN pmax pmax
comp=Z,21nm,0.9s,mb5.1
OTAV Otavalo 33.10 348 *e*P **P** **09 42 42.5 +1.9**
comp=Z,109nm,1.7s,mb5.5
OTAV LR LR
comp=Z,5µm,19.0s,MS5.2
ROSC El Rosal 37.15 356 P **P** **09 43 17.1 +1.5**
comp=Z,22nm,0.6s,mb5.2,baz=127,slow=5.8,SNR=15
ROSC El Rosal 37.15 356 *e*P **P** **09 43 17.1 +1.6**
SDV Santo Domingo 41.08 2 *e*P **P** **09 43 47.5 -0.9**
comp=Z,33nm,0.9s,mb5.0
SDV *e*pP pP 09 43 57.7 -1.4
SDV *e*ScP ScP 09 49 36.1 +1.6
SDV LR LR
comp=Z,1µm,22.0s,MS4.8
BCIP Isla Barro Col 42.07 348 PFAKE 09 44 10.0 +14
BCIP LR LR
comp=Z,3µm,19.0s,MS5.2
RCBR Riachuelo 42.60 59 P **P** **09 44 00.6 -0.3**
comp=Z,40nm,1.2s,mb5.0,baz=216,slow=8.9,SNR=6.0
RCBR Riachuelo 42.60 59 *e*P **P** **09 44 00.3 -0.6**
comp=Z,143nm,1.5s,mb5.5
RCBR P 09 44 00.6
RCBR LR LR
comp=Z,12µm,22.0s,MS5.8
JTS JuntasAbangare 44.31 341 P **P** **09 44 15.6 +1.1**
comp=Z,7.4nm,0.8s,mb4.5,baz=128,slow=7.6,SNR=4.9
JTS JuntasAbangare 44.31 341 P **P** **09 44 15.6 +1.1**
JTS LR LR
comp=Z,4µm,21.0s,MS5.3
JTS JuntasAbangare 44.31 341 *c i*P **P** **09 44 15.1 +0.6**
GRGR Grenville 45.33 14 *e*P **P** **09 44 22.1 -0.6**
comp=Z,79nm,0.5s,mb5.8
GRGR LR LR
comp=Z,4µm,20.0s,MS5.3
BBGH Gun Hill 46.77 16 PFAKE 09 44 40.0 +6.0
BBGH LR LR
comp=Z,6µm,19.0s,MS5.5
FDF Fort de France 47.96 14 PFAKE 09 44 50.0 +6.7
FDF LR LR
comp=Z,5µm,20.0s,MS5.5
TRIS Tristan da Cun 48.36 113 PFAKE 09 45 00.0 +14
TRIS LR LR
comp=Z,5µm,19.0s,MS5.5
TGUH Tegucigalpa,Un 48.55 340 *e*P **P** **09 44 48.0 +0.2**
comp=Z,64nm,1.0s,mb5.6
TGUH *e*pP pP 09 44 58.3 -0.4
ICM Isla Caja Muer 50.27 6 *e*P **P** **09 44 59.9 -1.0**
CRPR Cabo Rojo, PR 50.33 6 *e*P **P** **09 45 00.6 -0.7**
comp=Z,32nm,0.9s,mb5.3
CRPR *e*pP pP 09 45 10.4 -1.8
OBIP Obispado Ponce 50.41 6 *e*P **P** **09 45 01.4 -0.5**
comp=Z,209nm,1.4s,mb6.0
OBIP *e*pP pP 09 45 13.7 +0.8
CELP Cerrillos 50.45 6 *e*P **P** **09 45 01.8 -0.4**
SJG San Juan 50.52 7 *e*P **P** **09 45 02.6 -0.2**
comp=Z,78nm,1.0s,mb5.6
SJG *e*pP pP 09 45 12.0 -1.7
SJG LR LR
comp=Z,3µm,20.0s,MS5.2
SJG San Juan 50.52 7 *e*P **P** **09 45 02.6 -0.2**
SJG *e**PP pP 09 45 12.0 -1.7
SJG pmax pmax
comp=Z,78nm,1.0s
SJG MLR MLR
comp=Z,3µm,20.0s
MTP Monte Pirata 50.57 8 *e*P **P** **09 45 02.1 -1.0**
comp=Z,28nm,1.0s,mb5.2
LRS Lares 50.64 6 *e*P **P** **09 45 03.5 -0.1**
LRS *e*pP pP 09 45 12.9 -1.7
MTDJ Mount Denham 50.66 353 PFAKE 09 45 10.0 +6.2
MTDJ LR LR
comp=Z,2µm,20.0s,MS5.2
ANWB Willy Bob 50.70 12 PFAKE 09 45 10.0 +5.9
ANWB LR LR
comp=Z,4µm,19.0s,MS5.4
CBYP Canovanas 50.71 7 *e*P **P** **09 45 03.2 -1.0**
comp=Z,375nm,1.8s,mb6.0
VNA3 Neumayer Olymp 50.72 158 *e* **P** **09 45 04.0 +0.3**
VNA1 Neumayer--Stat 51.03 157 *e* **P** **09 45 07.0 +1.0**
SDDR Presa de Saban 51.11 1 PFAKE 09 45 20.0 +13
SDDR LR LR
comp=Z,3µm,19.0s,MS5.4
VNA2 Neumayer--Watz 51.37 158 *e* **P** **09 45 08.9 +0.3**
baz=290,slow=9.3
GTBY Guantanamo Bay 52.15 356 PFAKE 09 45 20.0 +5.1
GTBY LR LR
comp=Z,1µm,20.0s,MS5.0
SNAA Sanae 52.95 158 *e* **P** **09 45 20.8 +0.5**
SNAA Sanae 52.95 158 ⇑*i*P **P** **09 45 20.6 +0.2**
SNAA Sanae 52.95 158 P **P** **09 45 20.0 -0.3**
comp=Z,43nm,1.0s,mb5.3,baz=284,slow=6.2,SNR=144
SNAA Sanae 52.95 158 P **P** **09 45 20.0 -0.3**
SNAA *e*P 09 45 20.4
SNAA Sanae 52.95 158 P **P** **09 45 20.0 -0.3**
SNAA pmax pmax
comp=Z,43nm,1.0s
TEIG Tepich 54.69 341 P **P** **09 45 32.3 -1.3**
comp=Z,11nm,0.6s,mb5.1,baz=347,slow=4.8,SNR=9.9
TEIG Tepich 54.69 341 P **P** **09 45 32.3 -1.3**
TEIG *e*P 09 45 33.2
TEIG LR LR
comp=Z,2µm,20.0s,MS5.1
RKT Rikitea 56.03 262 *e*P **P** **09 45 45.5 +2.1**
comp=Z,40nm,1.6s,mb5.2
RKT *e*S **S** **09 53 29.6 +0.1**
comp=Z,2µm,27.2s
RKT *e*SS SS 09 57 18.1 +2.3
comp=Z,918nm,27.5s
RKT *e*LQ 09 59 46.1
comp=Z,807nm,29.8s
RKT *e*LR LR 10 02 04.8
comp=Z,5µm,24.8s,baz=120
MAIT Maitri 57.63 157 *e*P **P** **09 45 53.7 -0.3**
QSPA South Pole Qui 57.81 180 PKPPKP 10 15 43.1
comp=Z,6.2nm,1.1s,baz=278,slow=1.1,SNR=5.2
QSPA South Pole Qui 57.81 180 *e*P **P** **09 45 55.1 -0.1**
comp=Z,121nm,0.9s,mb5.9
QSPA P'P' 10 15 43.1
KVTX Kingsville 64.62 334 PFAKE 09 46 50.0 +8.1
KVTX LR LR
comp=Z,1µm,19.0s,MS5.1
SBA Scott Base 64.67 192 *e*P **P** **09 46 42.8 +1.1**
comp=Z,46nm,1.7s,mb5.2
SBA LR LR
comp=Z,2µm,20.0s,MS5.2
SBA Scott Base 64.67 192 *e*P **P** **09 46 42.8 +1.1**
SBA pmax pmax
comp=Z,46nm,1.7s,mb5.2
SBA MLR MLR
comp=Z,2µm,20.0s,MS5.2
BRAL Brewton 64.73 345 PFAKE 09 46 50.0 +7.5
BRAL LR LR
comp=Z,2µm,19.0s,MS5.2
BBSR BB Station 64.78 7 *e*P **P** **09 46 42.8 0.0**
comp=Z,65nm,0.9s,mb5.7
BBSR LR LR
comp=Z,1µm,22.0s,MS5.0
NHSC New Hope 65.66 352 *e*P **P** **09 46 49.0 +0.5**
comp=Z,71nm,1.1s,mb5.6
NHSC LR LR
comp=Z,2µm,19.0s,MS5.2
VNDA Vanda 65.70 191 *e*P **P** **09 46 48.7 +0.3**
comp=Z,58nm,1.4s,mb5.4
VNDA LR LR
comp=Z,2µm,20.0s,MS5.4
VNDA Vanda 65.70 191 *e*P **P** **09 46 48.7 +0.4**
VNDA pmax pmax
comp=Z,58nm,1.4s
VNDA MLR MLR
comp=Z,2µm,20.0s
SACV Santiago Islan 65.87 52 PFAKE 09 47 00.0 +10
SACV LR LR
comp=Z,3µm,20.0s,MS5.5
COW Cow Castle Cre 65.99 352 *e*P **P** **09 46 50.7 +0.1**
HKT Hockley 66.11 337 *e*P **P** **09 46 52.1 +0.6**
comp=Z,25nm,1.8s,mb4.9
HKT Hockley 66.11 337 *e*P **P** **09 46 52.1 +0.7**
HKT pmax pmax
comp=Z,25nm,1.8s,mb4.9
GOGA Godfrey 66.41 349 *e*P **P** **09 46 52.9 -0.4**
comp=Z,69nm,1.5s,mb5.5
GOGA *e*pP pP 09 47 05.6 +1.1
GOGA LR LR
comp=Z,1µm,21.0s,MS5.1
GOGA Godfrey 66.41 349 *e*P **P** **09 46 52.9 -0.4**
GOGA *e**PP pP 09 47 05.6 +1.1
GOGA pmax pmax
comp=Z,69nm,1.5s,mb5.5
GOGA MLR MLR
comp=Z,1µm,21.0s,MS5.1
LRAL Lakeview Retre 66.68 346 *e*P **P** **09 46 54.9 -0.1**
comp=Z,13nm,1.0s,mb4.9
LRAL LR LR
comp=Z,873nm,20.0s,MS5.0
VBMS Vicksburg 66.69 343 PFAKE 09 47 00.0 +4.8
VBMS LR LR
comp=Z,948nm,20.0s,MS5.0
JSC Jenkinsville 66.95 351 *e*P **P** **09 46 57.0 +0.3**
JSC Jenkinsville 66.95 351 *e*P **P** **09 46 57.0 +0.3**
TAOE Nuku Hiva Isla 67.11 274 *e*S S 09 55 50.3 +0.2
comp=Z,2µm,24.4s
TAOE *e*LR LR 10 07 16.4
comp=Z,5µm,23.3s
SYO Syowa Base 67.24 159 ⇓*i*P **P** **09 46 56.0 -2.2**
SYO Syowa Base 67.24 159 ⇓*i*P **P** **09 46 57.2 -1.0**
NATX Nacogdoches 67.42 339 *e*P **P** **09 47 00.8 +1.1**
comp=Z,20nm,0.6s,mb5.3
NATX LR LR
comp=Z,624nm,20.0s,MS4.8
CNNC Cliffs of the 67.55 355 *e*P **P** **09 47 00.8 +0.3**
comp=Z,53nm,1.1s,mb5.5
CNNC LR LR
comp=Z,1µm,21.0s,MS5.2
TBI Tubuai 67.95 256 *e*S S 09 55 58.1 -2.0
comp=Z,2µm,23.8s
TBI *e*LR LR 10 07 38.4
comp=Z,11µm,25.5s,baz=110
JCT Junction City 67.98 334 ⇑P **P** **09 47 03.2 -0.1**
baz=68
JCT ⇑S S 09 56 01.7 +2.0
baz=68
JCT Junction City 67.98 334 *e*P **P** **09 47 03.1 -0.2**
comp=Z,69nm,1.3s,mb5.5
JCT *e*pP pP 09 47 14.8 +0.2
JCT LR LR
comp=Z,724nm,22.0s,MS4.9
JCT Junction City 67.98 334 *e*P **P** **09 47 03.1 -0.2**
JCT *e**PP pP 09 47 14.8 +0.2
JCT pmax pmax
comp=Z,69nm,1.3s,mb5.5
JCT MLR MLR
comp=Z,724nm,22.0s,MS4.9
628A Black Gap, Mar 68.30 331 ⇓P **P** **09 47 05.2 -0.2**
baz=69,SNR=21
628A ⇓S S 09 56 06.0 +2.4
baz=69
627A Terlingua Ranc 68.48 331 ⇑P **P** **09 47 06.5 0.0**
baz=69
627A ⇓S S 09 56 08.5 +2.8
baz=69
TXAR Lajitas Array 68.49 330 P **P** **09 47 06.0 -0.6**
comp=Z,2.1nm,0.6s,mb4.3,baz=152,slow=8.5,SNR=30
TXAR LR LR 10 13 04.1
comp=Z,3µm,18.2s,MS5.5,baz=145,slow=32
TXAR PKPPKP 10 15 27.1
comp=Z,1.3nm,1.1s,baz=264,slow=1.3,SNR=7.9
TXAR Lajitas Array 68.49 330 P **P** **09 47 06.0 -0.6**
TXAR P'P' 10 15 27.1
TXAR Lajitas Array 68.49 330 P **P** **09 47 06.0 -0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
OXF Oxford 68.62 344 *e*P **P** **09 47 06.6 -0.7**
comp=Z,114nm,1.1s,mb5.7
OXF LR LR
comp=Z,977nm,22.0s,MS5.0
OXF Oxford 68.62 344 *e*P **P** **09 47 06.6 -0.7**
OXF pmax pmax
comp=Z,114nm,1.1s,mb5.7
OXF MLR MLR
comp=Z,977nm,22.0s,MS5.0
TKL Tuckaleechee C 68.66 349 P **P** **09 47 06.2 -1.2**
comp=Z,14nm,0.8s,mb5.0,baz=171,slow=7.4,SNR=27
TKL Tuckaleechee C 68.66 349 P **P** **09 47 06.2 -1.2**
TKL *e*P 09 47 07.2
TKL *e*pP pP 09 47 17.9 -0.8
TKL Tuckaleechee C 68.66 349 P **P** **09 47 06.3 -1.1**
TKL pmax pmax
comp=Z,14nm,0.8s,mb4.9
PLAL Pickwick Lake 68.78 346 *e*P **P** **09 47 08.1 -0.1**
comp=Z,40nm,1.1s,mb5.3
PLAL LR LR
comp=Z,727nm,19.0s,MS4.9
528A Cox Ranch, San 68.85 331 ⇑P **P** **09 47 08.2 -0.6**
baz=69,SNR=14
626A Big Bend Ranch 68.88 330 ⇑P **P** **09 47 08.9 -0.1**
baz=69,SNR=20
527A Woodward Ranch 69.18 331 ⇑P **P** **09 47 10.6 -0.2**
baz=70
RFTA Plano 69.21 338 *e*P **P** **09 47 12.0 +1.1**
526A Mary Lane Ranc 69.30 330 ⇑P **P** **09 47 11.4 -0.2**
baz=70,SNR=18
428A Kincaid Ranch, 69.31 332 ⇓P **P** **09 47 11.1 -0.5**
baz=70
MEH Mehetia 69.33 262 *e*P **P** **09 47 14.4 +2.2**
comp=Z,62nm,1.0s,mb5.5
TZTN Tazewell 69.49 350 *e*P **P** **09 47 12.4 -0.2**
comp=Z,58nm,1.3s,mb5.3
UALR University of 69.59 342 *e*P **P** **09 47 13.8 +0.6**
comp=Z,16nm,0.9s,mb5.0
MIAR Mount Ida 69.70 341 *e*P **P** **09 47 14.6 +0.6**
comp=Z,54nm,1.3s,mb5.3
MIAR LR LR
comp=Z,841nm,19.0s,MS5.0
MIAR Mount Ida 69.70 341 *e*P **P** **09 47 14.6 +0.6**
MIAR pmax pmax
comp=Z,54nm,1.3s,mb5.3
MIAR MLR MLR
comp=Z,841nm,19.0s,MS5.0
427A Hayter Ranch, 69.71 331 ⇑P **P** **09 47 14.0 -0.1**
baz=70
BLA Blacksburg 69.74 353 *e*P **P** **09 47 14.0 -0.1**
comp=Z,84nm,1.6s,mb5.4
BLA LR LR
comp=Z,966nm,20.0s,MS5.0
BLA Blacksburg 69.74 353 *e*P **P** **09 47 14.0 -0.1**
BLA pmax pmax
comp=Z,84nm,1.6s,mb5.4
BLA MLR MLR
comp=Z,966nm,20.0s,MS5.0
426A McDonald Obser 69.81 331 ⇓P **P** **09 47 14.5 -0.2**
baz=70,SNR=16
WVT Waverly 69.84 346 *e*P **P** **09 47 13.3 -1.4**
comp=Z,51nm,0.8s,mb5.5
WVT Waverly 69.84 346 *e*P **P** **09 47 13.3 -1.5**
WVT pmax pmax
comp=Z,51nm,0.8s,mb5.5
328A Wristen Ranch, 69.94 332 ⇓P **P** **09 47 15.0 -0.5**
baz=70,SNR=13
327A Balmorhea Ranc 70.20 331 ⇑P **P** **09 47 17.1 0.0**
baz=70
UTMT University of 70.26 345 *e*P **P** **09 47 17.9 +0.5**
comp=Z,223nm,1.0s,mb6.0
425A Indio Mountain 70.31 330 ⇓P **P** **09 47 17.0 -0.8**
baz=71
326A Caldwell Ranch 70.35 331 ⇓P **P** **09 47 17.7 -0.3**
baz=71
CBN Corbin 70.46 355 PFAKE 09 47 30.0 +12
CBN LR LR
comp=Z,1µm,21.0s,MS5.2
TIAR Tiarei 70.55 261 *e*P **P** **09 47 21.9 +2.2**
comp=Z,59nm,1.2s,mb5.4
PMOR Pomariorio Ree 70.57 264 *e*P **P** **09 47 21.7 +1.9**
comp=Z,24nm,0.9s,mb5.1
227A Bennet, Jal 70.69 332 ⇑P **P** **09 47 19.8 -0.3**
baz=71
PAE Paea 70.70 261 *e*P **P** **09 47 22.8 +2.2**
comp=Z,20nm,1.1s,mb5.0
PPT2 Papeete2 70.73 261 *e*P **P** **09 47 22.3 +1.5**
comp=Z,66nm,1.0s,mb5.5
PPT2 *e*S S 09 56 32.7 -0.2
comp=Z,2µm,24.2s
PPT2 *e*LR LR 10 08 55.5
comp=Z,4µm,24.5s,baz=121
325A Bean Ranch, Si 70.81 330 ⇑P **P** **09 47 19.6 -1.2**
baz=71,SNR=24
226A Malaga, Loving 71.06 331 ⇑P **P** **09 47 21.1 -1.1**
baz=71,SNR=9.5
324A Moseley Ranch, 71.09 330 ⇑P **P** **09 47 21.2 -1.3**
baz=71,SNR=14
CLNB Carlsbad 71.14 332 *e*P **P** **09 47 23.5 +0.6**
comp=Z,38nm,1.9s,mb5.0
CLNB *e*pP pP 09 47 34.6 +0.5
MNTX Cornudas Mount 71.27 330 ⇓P **P** **09 47 21.3 -2.3**
baz=72,SNR=28
MNTX Cornudas Mount 71.27 330 *e*P **P** **09 47 22.0 -1.6**
comp=Z,11nm,0.8s,mb4.8
MNTX LR LR
comp=Z,2µm,19.0s,MS5.5
GDL2 Guadalupe Moun 71.28 331 *e*P **P** **09 47 24.0 +0.4**
comp=Z,27nm,1.1s,mb5.1
GDL2 *e*pP pP 09 47 35.5 +0.4
127A Arkansas Junct 71.30 332 ⇑P **P** **09 47 23.2 -0.5**
baz=72
225A Deer Hill, Car 71.39 331 ⇑P **P** **09 47 23.5 -0.8**
baz=72
WMOK Wichita Mounta 71.48 337 *e*P **P** **09 47 24.4 -0.4**
comp=Z,73nm,1.6s,mb5.4
WMOK *e*pP pP 09 47 35.6 -0.5
WMOK LR LR
comp=Z,1µm,22.0s,MS5.1
WMOK Wichita Mounta 71.48 337 *e*P **P** **09 47 24.4 -0.4**
WMOK *e**PP pP 09 47 35.6 -0.5
WMOK pmax pmax
comp=Z,73nm,1.6s,mb5.4
WMOK MLR MLR
comp=Z,1µm,22.0s,MS5.1
126A Clayton Basin, 71.53 332 ⇓P **P** **09 47 24.9 -0.3**
baz=72
USIN University of 71.58 347 *e*P **P** **09 47 24.8 -0.6**
comp=Z,94nm,1.2s,mb5.6
WCI Wyandotte Cave 71.58 348 *e*P **P** **09 47 24.6 -0.7**
comp=Z,23nm,0.9s,mb5.1
WCI Wyandotte Cave 71.58 348 *e*P **P** **09 47 24.7 -0.6**
WCI pmax pmax
comp=Z,23nm,0.9s,mb5.1
TUL1 Tulsa 71.62 340 ⇓P **P** **09 47 24.7 -0.9**
baz=72
SDMD Soldier's Deli 71.62 356 *e*P **P** **09 47 25.9 +0.4**
comp=Z,49nm,1.1s,mb5.3
SIUC Southern Illin 71.66 345 *e*P **P** **09 47 25.5 -0.2**
comp=Z,29nm,0.9s,mb5.2
224A Cornudas Mount 71.66 330 ⇑P **P** **09 47 24.7 -1.2**
baz=72,SNR=16
125A Gardner Draw, 71.80 331 ⇑P **P** **09 47 25.7 -1.1**
baz=72
Z27A Tatum 71.80 333 ⇑P **P** **09 47 26.3 -0.5**
baz=72
CPRX Cap Rock 71.81 332 *e*P **P** **09 47 26.8 -0.1**
comp=Z,38nm,0.8s,mb5.4
223A Chaparral, Ant 71.98 329 ⇓P **P** **09 47 27.5 -0.3**
baz=72
Z26A Caprock 72.07 332 ⇓P **P** **09 47 27.6 -0.7**
baz=72,SNR=30
MSTX Muleshoe 72.21 333 ⇑P **P** **09 47 27.9 -1.3**
baz=72,SNR=13
Y27A Causey 72.29 333 ⇓P **P** **09 47 29.1 -0.6**
baz=73
320A Kipp Ranch, An 72.34 327 ⇑P **P** **09 47 29.5 -0.5**
baz=73,SNR=12
222A Williams Famil 72.36 329 ⇑P **P** **09 47 29.8 -0.3**
baz=73
Z25A Roswell 72.37 331 ⇑P **P** **09 47 29.3 -0.9**
baz=73,SNR=7.2
OLIL Olney 72.41 347 *e*P **P** **09 47 30.1 -0.1**
comp=Z,57nm,1.2s,mb5.4
123A Bell Site, Whi 72.45 330 ⇑P **P** **09 47 31.1 +0.4**
baz=73
BLO Bloomington 72.54 348 *e*P **P** **09 47 30.1 -0.9**
comp=Z,36nm,0.8s,mb5.3
BLO Bloomington 72.54 348 *e*P **P** **09 47 30.1 -0.9**
BLO pmax pmax
comp=Z,36nm,0.8s,mb5.3
221A Mesquite Ranch 72.57 328 ⇓P **P** **09 47 31.1 -0.4**
baz=73
Y26A Elida 72.58 332 ⇑P **P** **09 47 31.0 -0.3**
baz=73
AMTX Amarillo 72.62 335 ⇓P **P** **09 47 31.0 -0.7**
baz=73
AMTX Amarillo 72.62 335 *e*P **P** **09 47 32.2 +0.6**
comp=Z,140nm,1.6s,mb5.6
AMTX LR LR
comp=Z,944nm,20.0s,MS5.1
Z24A Sheeppen Canyo 72.68 331 ⇑P **P** **09 47 31.2 -0.8**
baz=73,SNR=17
319A Douglas 72.72 327 ⇑P **P** **09 47 32.3 0.0**
baz=73,SNR=9.7
SLM Saint Louis 72.76 345 *e*P **P** **09 47 32.9 +0.6**
comp=Z,17nm,0.6s,mb5.2
SLM Saint Louis 72.76 345 *e*P **P** **09 47 32.9 +0.5**
SLM pmax pmax

comp=Z,17nm,0.6s,mb5.2
BRNJ Basking Ridge 72.78 358 *e*P **P 09 47 34.0 +1.5**
comp=Z,15µm,1.0s
220A Playas Peak, P 72.82 328 ⇑P **P 09 47 32.6 -0.2**
baz=73,SNR=27
122A Conniff Cattle 72.82 329 ⇑P **P 09 47 33.3 +0.4**
baz=73
SSPA Standing Stone 72.91 355 *e*P **P 09 47 33.0 -0.2**
comp=Z,102nm,1.5s,mb5.5
SSPA *e*pP pP 09 47 44.5 -0.1
Y25A Mesa, Roswell 72.92 332 ⇓P **P 09 47 32.9 -0.5**
baz=73
X27A F and S Farms, 72.94 333 ⇑P **P 09 47 32.9 -0.6**
baz=73
Z23A Rita Site, Whi 72.98 330 ⇓P **P 09 47 34.0 +0.2**
baz=73,SNR=8.5
121A Cookes Peak, D 73.02 329 ⇑P **P 09 47 34.0 -0.1**
baz=73,SNR=22
ACSO Alum Creek Sta 73.03 351 *e*P **P 09 47 33.2 -0.8**
comp=Z,61nm,0.8s,mb5.6
ACSO LR LR
comp=Z,908nm,19.0s,MS5.1
318A Bisbee 73.10 326 ⇑P **P 09 47 34.4 -0.2**
baz=73,SNR=9.5
X26A CR and CF Fran 73.12 333 ⇑P **P 09 47 34.3 -0.3**
baz=73
Y24A Capitan 73.22 331 ⇑P **P 09 47 35.1 -0.1**
baz=74,SNR=6.5
219A White Tail Can 73.23 327 ⇓P **P 09 47 35.7 +0.4**
baz=74,SNR=21
Z22A Elephant Butte 73.28 330 ⇓P **P 09 47 35.7 +0.1**
baz=74,SNR=16
W27A Bowe Ranch, En 73.29 334 ⇑P **P 09 47 35.2 -0.4**
baz=74
YLE Yale 73.38 359 *e*P **P 09 47 36.0 0.0**
comp=Z,375nm,1.3s,mb6.2
120A U Bar Ranch, L 73.41 328 ⇑P **P 09 47 36.7 +0.4**
baz=74,SNR=9.8
X25A Clemmons Ranch 73.44 332 ⇑P **P 09 47 35.9 -0.6**
baz=74
Y23A Lovelace Mesa, 73.48 331 ⇓P **P 09 47 36.7 0.0**
baz=74
218A Dragoon 73.57 327 ⇑P **P 09 47 37.2 -0.2**
baz=74,SNR=10
W26A Owens Ranch, T 73.58 333 ⇑P **P 09 47 37.4 +0.1**
baz=74,SNR=7.4
Z21A St. Cloud Mine 73.63 329 ⇑P **P 09 47 38.2 +0.6**
baz=74,SNR=6.0
X24A Lazy VL Ranch, 73.78 332 ⇑P **P 09 47 38.5 0.0**
baz=74
Y22A Socorro 73.87 330 ⇓P **P 09 47 39.4 +0.3**
baz=74
Z20A Nine Sixteen R 73.87 328 ⇑P **P 09 47 39.6 +0.5**
baz=74,SNR=12
BNM Barren Site 73.91 330 *e*P **P 09 47 40.4 +1.2**
comp=Z,20nm,1.3s,mb4.9
BNM *e*pP pP 09 47 50.2 -0.4
W25A X Bar L Ranch, 73.96 333 ⇑P **P 09 47 39.0 -0.6**
baz=74,SNR=6.7
Y22D IRIS PASSCAL I 73.97 330 ⇑P **P 09 47 39.8 +0.2**
baz=74
BRYW Bryant College 73.97 0 *e*P **P 09 47 40.5 +1.1**
comp=Z,216nm,1.1s,mb6.0
LIC Lamto 74.03 72⇑*i*P **P 09 47 40.1 -0.3**
comp=Z,288nm,1.0s,mb5.8,baz=240
LIC *e*R
comp=Z,6µm,22.8s
LIC Lamto 74.03 72⇑*i*P **P 09 47 40.1 -0.3**
comp=Z,288nm,1.0s,mb6.2
LPM Los Pinos Moun 74.05 330 *e*P **P 09 47 41.3 +1.3**
comp=Z,22nm,1.4s,mb4.9
LENM Lemitar 74.07 330 *e*P **P 09 47 42.2 +2.0**
comp=Z,29nm,1.4s,mb5.0
118A Homack Ranch, 74.09 327 ⇑P **P 09 47 40.5 +0.1**
baz=74
KOMG Komaggas 74.10 115⇑*i*P **P 09 47 41.6 +0.9**
KOMG AMB AMB 09 47 42.5
comp=Z,144nm,1.4s,mb5.7
X23A Hourglass Bar 74.10 331 ⇓P **P 09 47 40.8 +0.5**
baz=74,SNR=8.5
ALLY Alegheny Colle 74.11 353 *e*P **P 09 47 40.7 +0.5**
comp=Z,11nm,0.3s,mb5.3
TUC Tucson 74.20 326 *e*P **P 09 47 41.8 +0.9**
comp=Z,74nm,1.9s,mb5.3
TUC *e*pP pP 09 47 52.9 +0.5
TUC LR LR
comp=Z,1µm,19.0s,MS5.2
TUC Tucson 74.20 326 *e*P **P 09 47 41.8 +0.8**
TUC *e**PP pP 09 47 52.9 +0.5
TUC pmax pmax
comp=Z,74nm,1.9s,mb5.3
TUC MLR MLR
comp=Z,1µm,19.0s,MS5.2
Y21A Point of Rocks 74.23 330 ⇓P **P 09 47 41.7 +0.6**
baz=74,SNR=15
Z19A T-Link Ranch, 74.32 328 ⇑P **P 09 47 42.3 +0.6**
baz=75
W24A Lazy 6 Ranch, 74.33 332 ⇑P **P 09 47 42.0 +0.3**
baz=75
QUA2 Belchertown 74.33 360 *e*P **P 09 47 42.7 +1.2**
comp=Z,111nm,1.0s,mb5.7
QUA2 *e*pP pP 09 47 52.7 -0.2
LAZ Ladron 74.34 330 *e*P **P 09 47 44.1 +2.4**
comp=Z,14nm,0.9s,mb4.9
BINY Binghamton 74.35 357 *e*P **P 09 47 42.5 +0.9**
comp=Z,72nm,1.4s,mb5.4
BINY *e*pP pP 09 47 52.0 -1.1
BINY LR LR
comp=Z,1µm,19.0s,MS5.3
X22A Bernardo 74.38 330 ⇑P **P 09 47 42.8 +0.8**
baz=75
DBIC Dimbokro 74.42 71⇑*i*P **P 09 47 42.6 -0.1**
DBIC Dimbokro 74.42 71 P **P 09 47 42.6 -0.1**
comp=Z,117nm,0.7s,mb5.9,baz=208,slow=6.2,SNR=125
DBIC LR LR 10 20 37.4
comp=Z,3µm,18.3s,MS5.6,baz=213,slow=36
DBIC Dimbokro 74.42 71 *e*P **P 09 47 42.6 -0.1**
comp=Z,144nm,0.8s,mb6.0
DBIC Dimbokro 74.42 71 P **P 09 47 42.6 -0.2**
DBIC pmax pmax
comp=Z,117nm,0.7s
DBIC MLR MLR
comp=Z,3µm,18.3s
WES Weston 74.44 0 *e*P **P 09 47 42.7 +0.6**
comp=Z,112nm,1.1s,mb5.7
WES *e*pP pP 09 47 52.7 -0.8
WES Weston 74.44 0 *e*P **P 09 47 42.7 +0.6**
WES *e**PP pP 09 47 52.7 -0.8
WES pmax pmax
comp=Z,112nm,1.1s,mb5.7
Y20A Horse Springs, 74.45 329 ⇑P **P 09 47 43.0 +0.6**
baz=75
Z18A Geronimo 74.50 327 ⇑P **P 09 47 42.8 +0.1**
baz=75
ANMO Albuquerque 74.53 331 *e*P **P 09 47 42.9 +0.1**
comp=Z,54nm,1.5s,mb5.3
ANMO *e*pP pP 09 47 55.1 +0.9
ANMO LR LR
comp=Z,2µm,20.0s,MS5.5
ANMO Albuquerque 74.53 331 *e*P **P 09 47 42.9 0.0**
ANMO *e**PP pP 09 47 55.1 +0.9
ANMO pmax pmax
comp=Z,54nm,1.5s
ANMO MLR MLR
comp=Z,2µm,20.0s
ERPA Erie 74.56 354 PFAKE 09 47 50.0 +7.2
ERPA LR LR
comp=Z,1µm,20.0s,MS5.2
V25A Rancho No Teng 74.57 333 ⇓P **P 09 47 43.0 -0.1**
baz=75,SNR=12
W23A Werner Place, 74.59 331 ⇓P **P 09 47 43.3 +0.1**
baz=75,SNR=12
MAW Mawson 74.62 164 P **P 09 47 42.7 -0.4**
comp=Z,84nm,1.0s,mb5.6,baz=220,slow=6.8,SNR=51
MAW LR LR 10 23 02.4
comp=Z,5µm,19.0s,MS5.8,baz=227,slow=38
MAW Mawson 74.62 164 *e*P **P 09 47 42.4 -0.6**
comp=Z,31nm,1.2s,mb5.1
MAW *e*pP pP 09 47 52.9 -1.6
MAW Mawson 74.62 164 *e*P **P 09 47 42.4 -0.6**
MAW *e**PP pP 09 47 52.9 -1.5
MAW pmax pmax
comp=Z,31nm,1.2s
X21A Alamocita Cree 74.65 330 ⇓P **P 09 47 44.3 +0.7**
baz=75,SNR=13
U26A Atchley Ranch, 74.73 334 ⇑P **P 09 47 43.8 -0.2**
baz=75,SNR=7.4
V24A Rampart Ranch, 74.73 332 ⇓P **P 09 47 44.1 +0.2**
baz=75
TRY Troy 74.80 359 *e*P **P 09 47 44.7 +0.5**
comp=Z,177nm,1.1s,mb5.9
TRY *e*pP pP 09 47 54.8 -0.9
W22A Albuquerque 74.81 331 ⇑P **P 09 47 44.6 +0.1**
baz=75,SNR=7.9
KSU1 Kansas State U 74.82 340 *e*P **P 09 47 44.9 +0.5**
comp=Z,49nm,1.3s,mb5.3
KSU1 LR LR
comp=Z,756nm,19.0s,MS5.0
Z17A San Carlos Hig 74.87 327 ⇑P **P 09 47 45.3 +0.4**
baz=75
Y19A Nutrioso 74.88 328 ⇑P **P 09 47 45.9 +1.0**
baz=75,SNR=36
214A Organ Pipe Nat 74.88 325 ⇓P **P 09 47 45.7 +0.8**
baz=75
U25A Circle Dot Ran 74.98 333 ⇑P **P 09 47 45.7 +0.3**
baz=75,SNR=7.0
CVNA Calvinia 75.02 118⇑*i*P **P 09 47 46.9 +0.9**
CVNA AMB AMB 09 47 48.0
comp=Z,162nm,1.1s,mb5.9
X20A Quemado 75.04 329 ⇓P **P 09 47 46.0 +0.2**
baz=75,SNR=12
Y18A Canyon Day Jun 75.08 328 ⇑P **P 09 47 46.2 +0.1**
baz=75,SNR=6.1
V23A Ortiz Mt. (NFS 75.11 332 ⇓P **P 09 47 46.9 +0.8**
baz=75
AAM Ann Arbor 75.16 351 PFAKE 09 48 00.0 +14
AAM LR LR
comp=Z,1µm,22.0s,MS5.2
W21A San Fidel 75.17 330 ⇑P **P 09 47 47.6 +1.1**
baz=76
X19A St. Johns 75.29 329 ⇑P **P 09 47 47.9 +0.7**
baz=76
U24A Moreno Valley 75.33 333 ⇓P **P 09 47 48.3 +0.9**
baz=76
SUR Sutherland 75.36 119 *e*P **P 09 47 49.2 +1.2**
SUR AMB AMB 09 47 50.2
comp=Z,89nm,1.1s,mb5.6
SUR Sutherland 75.36 119 P **P 09 47 49.1 +1.1**
comp=Z,87nm,0.8s,mb5.7,baz=247,slow=5.4,SNR=45
SUR Sutherland 75.36 119 *e*P **P 09 47 49.4 +1.4**
comp=Z,136nm,1.0s,mb5.8
SUR LR LR
comp=Z,3µm,20.0s,MS5.6
SUR Sutherland 75.36 119 P **P 09 47 49.4 +1.4**
comp=Z,778nm,0.8s,mb6.7,SNR=23
Y17A Roosevelt 75.38 327 ⇑P **P 09 47 48.0 +0.3**
baz=76,SNR=17
CBKS Cedar Bluff 75.50 338 ⇑P **P 09 47 48.3 -0.1**
baz=76
CBKS Cedar Bluff 75.50 338 *e*P **P 09 47 49.4 +1.1**
comp=Z,110nm,1.4s,mb5.6
CBKS LR LR
comp=Z,664nm,19.0s,MS5.0
CBKS Cedar Bluff 75.50 338 *e*P **P 09 47 49.4 +1.0**
CBKS pmax pmax
comp=Z,109nm,1.4s,mb5.6
CBKS MLR MLR
comp=Z,664nm,19.0s,MS5.0
FFD Franklin Falls 75.52 0 *e*P **P 09 47 48.6 +0.3**
comp=Z,145nm,0.9s,mb5.9
W20A Ramah 75.54 330 ⇑P **P 09 47 48.9 +0.2**
baz=76,SNR=21
V22A San Miguel Ran 75.55 331 ⇓P **P 09 47 49.7 +1.0**
baz=76
114A Black Gap (USA 75.56 325 ⇑P **P 09 47 48.9 +0.1**
baz=76
U23A El Rito 75.62 332 ⇓P **P 09 47 49.7 +0.7**
baz=76,SNR=13
T25A Trinidad 75.63 334 ⇓P **P 09 47 49.2 +0.1**
baz=76,SNR=18
X18A Snowflake 75.67 328 ⇑P **P 09 47 49.7 +0.3**
baz=76,SNR=6.3
V21A Milan 75.75 331 ⇓P **P 09 47 50.5 +0.6**
baz=76
HNH Hanover 75.76 360 *e*P **P 09 47 50.1 +0.4**
comp=Z,105nm,1.1s,mb5.7
HNH *e*pP pP 09 47 59.3 -1.8
T24A Torres, Weston 75.82 333 ⇓P **P 09 47 50.8 +0.6**
baz=76
W19A Sanders 75.91 329 ⇓P **P 09 47 51.5 +0.7**
baz=76
U22A Llaves 75.92 331 ⇑P **P 09 47 51.5 +0.6**
baz=76,SNR=16
113A Mohawk Valley, 76.01 324 ⇑P **P 09 47 51.7 +0.3**
baz=76
NCB Newcomb 76.06 358 *e*P **P 09 47 52.0 +0.6**
comp=Z,39nm,1.1s,mb5.2
NCB LR LR
comp=Z,1µm,22.0s,MS5.2
MDV Middlebury 76.06 359 *e*P **P 09 47 51.6 +0.1**
comp=Z,12µm,1.0s
R27A Eads 76.06 335 ⇓P **P 09 47 51.5 -0.1**
baz=76
W18A Petrified Fore 76.07 329 ⇑P **P 09 47 52.4 +0.7**
baz=76
Z14A Wintersburg 76.09 325 ⇓P **P 09 47 52.1 +0.2**
baz=76
V20A Brimhall 76.10 330 ⇑P **P 09 47 52.2 +0.4**
baz=76,SNR=11
S25A Roberts Cordova 76.10 334 ⇓P **P 09 47 52.3 +0.5**
baz=76,SNR=5.5
T23A Casias Ranch, 76.17 332 ⇑P **P 09 47 52.8 +0.6**
baz=76,SNR=8.4
X16A Lo Mia Camp, P 76.25 327 ⇓P **P 09 47 52.9 +0.1**
baz=77,SNR=24
V19A Window Rock 76.27 329 ⇑P **P 09 47 53.3 +0.5**
baz=77,SNR=8.9
LBNH Lisbon 76.29 360 *e*P **P 09 47 53.5 +0.8**
comp=Z,54nm,1.0s,mb5.4
LBNH LR LR
comp=Z,1µm,19.0s,MS5.2
LBNH Lisbon 76.29 360 *e*P **P 09 47 53.5 +0.8**
LBNH pmax pmax
comp=Z,54nm,1.0s,mb5.4
LBNH MLR MLR
comp=Z,1µm,19.0s,MS5.2
U21A Nageezi 76.30 331 ⇓P **P 09 47 53.2 +0.3**
baz=77,SNR=18
Z13A Yuma Proving G 76.30 325 ⇑P **P 09 47 53.0 -0.1**
baz=77,SNR=9.7
R26A Arlington 76.31 335 ⇑P **P 09 47 53.1 +0.1**
baz=77,SNR=13
S24A Houchin Ranch, 76.38 333 ⇓P **P 09 47 54.1 +0.7**
baz=77,SNR=13
W17A Winslow 76.47 328 ⇓P **P 09 47 54.3 +0.3**
baz=77
R25A Fountain Ranch 76.47 334 ⇑P **P 09 47 54.3 +0.4**
baz=77
T22A Edith 76.49 332 ⇑P **P 09 47 54.8 +0.8**
baz=77,SNR=16
SCIA State Center 76.56 344 *e*P **P 09 47 54.6 +0.3**
comp=Z,34nm,0.8s,mb5.3
SCIA LR LR
comp=Z,850nm,21.0s,MS5.0
SDCO Great Sand Dun 76.58 333 ⇑P **P 09 47 54.7 +0.2**
baz=77,SNR=20
SDCO Great Sand Dun 76.58 333 *e*P **P 09 47 55.1 +0.5**
comp=Z,112nm,1.8s,mb5.5
SDCO *e*pP pP 09 48 05.6 -0.3
SDCO LR LR
comp=Z,1µm,19.0s,MS5.2
Y14A Wickenburg 76.59 326 ⇑P **P 09 47 54.9 +0.2**
baz=77,SNR=7.5
U20A Newcomb 76.61 330 ⇓P **P 09 47 54.9 +0.1**
baz=77,SNR=7.6
WVL Waterville 76.64 2 *e*P **P 09 47 55.4 +0.7**
comp=Z,146nm,1.3s,mb5.8
KSCO Kaye Shedlock' 76.65 336 ⇑P **P 09 47 55.2 +0.3**
baz=77
V18A Ganado 76.65 329 ⇑P **P 09 47 55.2 +0.2**
baz=77
LONY Lake Ozonia 76.71 358 *e*P **P 09 47 55.5 +0.4**
comp=Z,58nm,1.1s,mb5.4
LONY *e*pP pP 09 48 05.4 -1.1
T21A Navajo Lake 76.73 331 ⇓P **P 09 47 55.4 0.0**
baz=77,SNR=9.6
S23A Nye Farm, Mont 76.74 333 ⇓P **P 09 47 56.0 +0.6**
baz=77
GLA Glamis 76.76 324 ⇓P **P 09 47 56.1 +0.4**
baz=77
U19A Dine' College, 76.83 330 ⇑P **P 09 47 56.1 +0.1**
baz=77,SNR=13
R24A Sanders Place, 76.86 334 ⇑P **P 09 47 56.5 +0.5**
baz=77
EMMW East Machias 76.86 3 *e*P **P 09 47 55.8 -0.1**
comp=Z,136nm,0.9s,mb5.9
JFWS Jewell Farm 76.87 346 *e*P **P 09 47 56.0 -0.1**
comp=Z,38nm,0.9s,mb5.3
JFWS LR LR
comp=Z,1µm,22.0s,MS5.2
JFWS Jewell Farm 76.87 346 *e*P **P 09 47 56.0 0.0**
JFWS pmax pmax
comp=Z,37nm,0.9s,mb5.3
JFWS MLR MLR
comp=Z,1µm,22.0s,MS5.2
Q26A Hugo 76.88 335 ⇓P **P 09 47 56.7 +0.5**
baz=77
FRNY Flat Rock 76.90 359 *e*P **P 09 47 56.4 +0.2**
comp=Z,55nm,1.0s,mb5.4
V17A Tonalea, Kykot 76.96 328 ⇑P **P 09 47 57.5 +0.8**
baz=77,SNR=16
DVTC Desert V Tower 77.09 323 ⇑P **P 09 47 58.0 +0.5**
baz=77
R23A Moffat 77.09 333 ⇓P **P 09 47 57.7 +0.3**
baz=77
S22A 4UR Ranch, Cre 77.10 332 ⇓P **P 09 47 58.1 +0.7**
baz=77,SNR=10
MSNY Massena 77.10 358 *e*P **P 09 47 58.1 +0.8**
comp=Z,604nm,1.1s,mb6.4
MSNY *e*pP pP 09 48 08.2 -0.5
SADO Sadowa 77.12 355 P **P 09 47 56.1 -1.2**
comp=Z,25nm,0.8s,mb5.2,baz=205,slow=4.0,SNR=14
SADO Sadowa 77.12 355 P **P 09 47 56.1 -1.2**
WUAZ Wupatki 77.13 328 ⇓P **P 09 47 58.5 +0.8**
baz=77,SNR=11
WUAZ Wupatki 77.13 328 *e*P **P 09 47 58.1 +0.4**
comp=Z,180nm,1.9s,mb5.7
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.2
Q25A Bedland, Calha 77.14 335 ⇓P **P 09 47 57.5 -0.1**
baz=78,SNR=8.0
SWSC Sam W. Stewart 77.16 323 ⇑P **P 09 47 58.2 +0.2**
baz=77
Y12C Blythe 77.17 325 ⇑P **P 09 47 58.5 +0.5**
baz=78,SNR=6.4
T19A Beclabito 77.21 330 ⇓P **P 09 47 58.1 0.0**
baz=78,SNR=24
U18A Rough Rock, Ch 77.22 329 ⇑P **P 09 47 58.4 +0.2**
baz=78,SNR=11
MVCO Mesa Verde 77.31 331 *e*P **P 09 47 59.2 +0.5**
comp=Z,60nm,1.4s,mb5.3
PKME Peaks-Kenny Pk 77.35 2 *e*P **P 09 47 59.4 +0.7**
comp=Z,78nm,1.0s,mb5.6
PKME LR LR
comp=Z,2µm,21.0s,MS5.3
RAR Rarotonga 77.36 253 PFAKE 09 48 10.0 +11
RAR LR LR
comp=Z,3µm,19.0s,MS5.6
BGNE Belgrade 77.40 340 ⇓P **P 09 47 58.3 -0.7**
baz=78
BAR Barrett 77.40 322 *e*P **P 09 48 00.4 +1.2**
comp=Z,105nm,1.9s,mb5.4
S21A Coal Bank Pass 77.41 331 ⇑P **P 09 47 59.7 +0.5**
baz=78,SNR=13
PDMCI Parker Dam,Lak 77.43 325 ⇑P **P 09 47 59.5 +0.1**
baz=78
R22A Saguache, Gunn 77.49 332 ⇑P **P 09 47 59.8 +0.2**
baz=78
Q24A Divide 77.51 334 ⇑P **P 09 47 59.9 +0.1**
baz=78,SNR=19
U16A Tuba City 77.54 328 ⇓P **P 09 48 00.3 +0.3**
baz=78,SNR=15
P25A Willow Gulch B 77.64 335 ⇑P **P 09 48 00.7 +0.3**
baz=78,SNR=22
O27A Beecher Island 77.65 336 ⇑P **P 09 48 00.9 +0.4**
baz=78
Q23A Hartsel 77.72 333 ⇑P **P 09 48 01.2 +0.3**
baz=78
U17A Shonto 77.72 329 ⇓P **P 09 48 01.6 +0.7**
baz=78,SNR=7.7
GLMI Grayling 77.77 351 PFAKE 09 48 10.0 +9.0
GLMI LR LR
comp=Z,2µm,22.0s,MS5.3
S20A Disappointment 77.79 331 ⇑P **P 09 48 01.8 +0.5**
baz=78,SNR=9.0
109C Camp Elliot, M 77.79 322 ⇓P **P 09 48 00.4 -1.0**
baz=78
IRM Iron Mountain 77.81 324 ⇓P **P 09 48 01.9 +0.4**
baz=78,SNR=6.3
T18A Mexican Hat 77.83 330 ⇓P **P 09 48 01.5 0.0**
baz=78,SNR=12
P24A Kohler Place, 77.91 334 ⇓P **P 09 48 02.2 +0.2**
baz=78
R21A Cimarron 77.92 332 ⇓P **P 09 48 02.5 +0.4**
baz=78,SNR=6.3
W13A Hualapai Mount 77.95 326 ⇑P **P 09 48 02.8 +0.5**
baz=78,SNR=13
O26A Horse Wrangler 77.98 336 ⇓P **P 09 48 02.7 +0.4**
baz=78,SNR=5.2
PFO Pinyon Flat Ob 78.02 323 ⇑P **P 09 48 03.5 +0.8**
baz=78
PFO Pinyon Flat Ob 78.02 323 *e*P **P 09 48 04.4 +1.6**
comp=Z,39nm,1.3s,mb5.2
PFO LR LR
comp=Z,2µm,21.0s,MS5.4
PFO Pinyon Flat Ob 78.02 323 *e*P **P 09 48 04.4 +1.7**
PFO pmax pmax
comp=Z,39nm,1.3s,mb5.2
PFO MLR MLR
comp=Z,2µm,21.0s,MS5.4
S19A Harvey Farm, M 78.03 331 ⇓P **P 09 48 02.7 0.0**
baz=78,SNR=16
NEE2 Needles Airpor 78.04 325 ⇓P **P 09 48 02.8 +0.1**
baz=78
Q22A Crested Butte, 78.10 333 ⇑P **P 09 48 03.4 +0.4**
baz=78
R20A Redvale 78.10 331 ⇑P **P 09 48 03.2 +0.2**
baz=78,SNR=13
T17A Navajo Res., N 78.11 329 ⇓P **P 09 48 04.0 +0.8**
baz=78,SNR=10
P23A Jefferson 78.13 334 ⇑P **P 09 48 03.9 +0.7**
baz=78
PV01 Paradox Valley 78.13 331 *e*P **P 09 48 03.9 +0.7**
comp=Z,2µm,1.1s
PV01 *e*pP pP 09 48 15.0 +0.3
O25A Wiggins 78.15 335 ⇑P **P 09 48 03.9 +0.6**
baz=78,SNR=6.1
PKA Prieska 78.16 118⇑*i*P **P 09 48 03.9 +0.1**
PKA AMB AMB 09 48 05.1
comp=Z,60nm,1.0s,mb5.5
OGNE Ogallala 78.18 337 ⇓P **P 09 48 03.6 +0.2**
baz=78
OGNE Ogallala 78.18 337 PFAKE 09 48 10.0 +6.6
OGNE LR LR
comp=Z,840nm,20.0s,MS5.1
N27A Anderson Farm, 78.22 337 ⇓P **P 09 48 03.7 +0.1**
baz=79
Q21A Lamborn Mesa, 78.33 332 ⇓P **P 09 48 04.8 +0.6**
baz=79,SNR=7.6
S18A Hurst Farm, Bl 78.35 330 ⇓P **P 09 48 04.9 +0.5**
baz=79,SNR=38
SMCO Snowmass 78.39 333 *e*P **P 09 48 06.1 +1.5**
comp=Z,40nm,1.1s,mb5.3
MURC Murrieta 78.40 323 ⇑P **P 09 48 05.0 +0.2**
baz=79
ISCO Idaho Springs 78.42 334 ⇑P **P 09 48 04.9 +0.1**
baz=79,SNR=15
ISCO Idaho Springs 78.42 334 *e*P **P 09 48 04.9 +0.1**
comp=Z,68nm,1.6s,mb5.3
ISCO LR LR
comp=Z,875nm,19.0s,MS5.1
ISCO Idaho Springs 78.42 334 *e*P **P 09 48 04.9 +0.1**
ISCO pmax pmax
comp=Z,68nm,1.6s,mb5.3
ISCO MLR MLR
comp=Z,875nm,19.0s,MS5.1
N26A Koester Ranch, 78.48 336 ⇑P **P 09 48 05.5 +0.4**
baz=79
PV04 Paradox Valley 78.49 331 *e*P **P 09 48 05.1 -0.1**
PV04 *e*pP pP 09 48 16.8 +0.2
O24A Longmont 78.50 335 ⇑P **P 09 48 05.6 +0.4**
baz=79
R19A Curley Farm, L 78.55 331 ⇑P **P 09 48 05.3 -0.2**
baz=79,SNR=12
SCI San Clemente I 78.61 321 ⇑P **P 09 48 06.2 +0.2**
baz=79
S17A Black Ridge (B 78.65 329 ⇓P **P 09 48 06.2 +0.1**
baz=79,SNR=6.8
SOE Somerset East 78.67 121 *e*P **P 09 48 07.0 +0.5**
SOE AMB AMB 09 48 08.0
comp=Z,152nm,1.1s,mb5.8
Q20A Ridgley Place, 78.72 332 ⇑P **P 09 48 06.7 +0.3**
baz=79

N25A	Grover	78.76	336	⇓P	P	09 48 07.5 +0.9
	baz=79					
BBRC	Big Bear Solar	78.78	323	⇓P	P	09 48 07.6 +0.8
	baz=79					
PQI	Presque Isle	78.79	3	eP	P	09 48 07.3 +0.7
	comp=Z,133nm,1.0s,mb5.8					
M27A	Reverse DX Ran	78.82	337	⇑P	P	09 48 07.4 +0.4
	baz=79					
CIS	Catalina Islan	78.87	322	⇓P	P	09 48 07.1 -0.3
	baz=79					
P21A	Newcastle	78.88	333	⇑P	P	09 48 07.6 +0.3
	baz=79,SNR=8.5					
O23A	Lake Granby, G	78.89	334	⇑P	P	09 48 07.6 +0.2
	baz=79,SNR=10					
R18A	Canyonlands Na	78.89	330	⇓P	P	09 48 07.8 +0.4
	baz=79					
HEC	Hector,Ludlow	78.93	324	⇓P	P	09 48 08.1 +0.4
	baz=79					
M26A	McRoberts Ranc	79.02	336	⇓P	P	09 48 08.3 +0.3
	baz=79					
GRM	Grahamstown	79.03	122	eP	P	09 48 08.7 +0.2
GRM				AMB	AMB	09 48 09.2
	comp=Z,177nm,2.2s,mb5.6					
FMP	Fort Macarthur	79.05	322	⇑P	P	09 48 08.6 +0.2
	baz=79					
N24A	Carr	79.06	335	⇓P	P	09 48 08.4 +0.1
	baz=79,SNR=5.9					
S16A	Weppner Ranch,	79.06	329	⇓P	P	09 48 08.3 -0.1
	baz=79,SNR=6.9					
O22A	Kremmling	79.08	334	⇓P	P	09 48 08.6 +0.2
	baz=79,SNR=15					
Q19A	Hogan Spring (	79.11	331	⇑P	P	09 48 09.0 +0.4
	baz=79,SNR=12					
ECSD	EROS Data Cent	79.13	342	eP	P	09 48 07.7 -0.9
	comp=Z,47nm,1.0s,mb5.4					
ECSD				LR	LR	
	comp=Z,679nm,22.0s,MS4.9					
BFSC	Mount Baldy Ra	79.13	323	⇓P	P	09 48 09.4 +0.6
	baz=79					
TUQ	Turquoise Moun	79.21	325	⇓P	P	09 48 09.6 +0.4
	baz=80					
P20A	De Beque	79.23	332	⇑P	P	09 48 09.6 +0.4
	baz=80,SNR=11					
R17A	Hanksville Air	79.27	330	⇑P	P	09 48 09.3 -0.1
	baz=80,SNR=13					
L27A	T5 Ranch, Ells	79.30	337	⇑P	P	09 48 09.6 +0.1
	baz=80					
M25A	Palm-Egli Farm	79.30	336	⇑P	P	09 48 10.1 +0.5
	baz=80					
RRX	Edison Barstow	79.30	324	⇑P	P	09 48 10.1 +0.4
	baz=80					
MWC	Mount Wilson	79.33	322	eP	P	09 48 10.8 +0.9
	comp=Z,78nm,1.6s,mb5.4					
MWC	Mount Wilson	79.33	322	eP	P	09 48 10.8 +0.9
MWC				pmax	pmax	
	comp=Z,78nm,1.6s,mb5.4					
PASC	Pasadena Art C	79.35	322	eP	P	09 48 11.3 +1.3
	comp=Z,42nm,1.4s,mb5.2					
TSUM	Tsumeb	79.39	106	eP	P	09 48 09.3 -1.5
	comp=Z,137nm,1.2s,mb5.8					
O21A	Pagoda	79.48	333	⇓P	P	09 48 11.1 +0.6
	baz=80,SNR=5.8					
R16A	Teasdale	79.48	329	⇓P	P	09 48 11.2 +0.6
	baz=80					
DECC	Green Verdugo	79.49	322	⇓P	P	09 48 11.4 +0.6
	baz=80					
N23A	Red Feather La	79.50	334	⇓P	P	09 48 11.3 +0.6
	baz=80,SNR=6.9					
L26A	Underwood Farm	79.51	337	⇓P	P	09 48 10.9 +0.3
	baz=80					
GSC	Goldstone	79.54	324	⇑P	P	09 48 11.4 +0.4
	baz=80					
GSC	Goldstone	79.54	324	eP	P	09 48 11.8 +0.8
	comp=Z,118nm,1.9s,mb5.5					
GSC	Goldstone	79.54	324	eP	P	09 48 11.8 +0.8
GSC				pmax	pmax	
	comp=Z,118nm,1.9s,mb5.5					
P19A	Cripple Cowboy	79.58	332	⇓P	P	09 48 11.5 +0.4
	baz=80					
Q18A	Rafter H Ranch	79.60	331	⇑P	P	09 48 11.4 +0.1
	baz=80,SNR=11					
M24A	Cheyenne	79.60	335	⇓P	P	09 48 11.4 +0.3
	baz=80,SNR=6.8					
N22A	Wattenberg Ran	79.61	334	⇓P	P	09 48 11.3 +0.1
	baz=80,SNR=11					
SPMN	St. Paul	79.61	345	⇓P	P	09 48 09.9 -1.3
	baz=80					
PHWY	Pilot Hill	79.68	335	eP	P	09 48 09.1 -2.5
	comp=Z,135nm,1.8s,mb5.6					
CCUT	Cedar City	79.71	328	eP	P	09 48 12.9 +1.0
	comp=Z,121nm,1.7s,mb5.5					
HVD	Gariep Dam	79.71	120	eP	P	09 48 12.9 +0.6
HVD				AMB	AMB	09 48 13.9
	comp=Z,140nm,1.1s,mb5.8					
O20A	White River Ci	79.71	332	⇓P	P	09 48 12.1 +0.3
	baz=80,SNR=7.9					
SHOC	Shoshone	79.75	325	⇑P	P	09 48 12.3 +0.2
	baz=80					
BLG	Laguna Peak	79.76	322	⇓P	P	09 48 12.6 +0.3
	baz=80					
SRU	San Rafael	79.77	330	eP	P	09 48 12.2 +0.1
	comp=Z,17nm,0.9s,mb5.0					
SRU	San Rafael	79.77	330	eP	P	09 48 12.3 +0.1
SRU				pmax	pmax	
	comp=Z,17nm,0.9s,mb5.0					
R15A	Junction	79.77	329	⇑P	P	09 48 12.5 +0.3
	baz=80,SNR=7.8					
EDW2	Edwards Air Fo	79.81	323	⇓P	P	09 48 12.6 +0.1
	baz=80					
K27A	Flueckinger Fa	79.83	338	⇑P	P	09 48 12.7 +0.3
	baz=80,SNR=6.0					
Q16A	Castle Valley	79.88	330	⇓P	P	09 48 12.9 +0.1
	baz=80,SNR=7.6					
L25A	Engebretsen Ra	79.91	336	⇓P	P	09 48 12.9 0.0
	baz=80					
M23A	Laramie	79.92	335	⇑P	P	09 48 13.2 +0.2
	baz=80,SNR=12					
ARUT	Antelope Range	79.94	328	eP	P	09 48 15.0 +1.9
	comp=Z,89nm,1.7s,mb5.4					
ARUT	Antelope Range	79.94	328	eP	P	09 48 15.0 +1.9
ARUT				pmax	pmax	
	comp=Z,89nm,1.7s,mb5.4					
N21A	Black Mountain	79.97	333	⇑P	P	09 48 13.9 +0.7
	baz=80,SNR=8.5					
BSC	Santa Cruz Isl	79.97	321	⇑P	P	09 48 13.5 +0.1
	baz=80					
OSI	Osito Adit	79.97	322	⇑P	P	09 48 13.5 +0.1
	baz=80					
MSU	Marysvale	79.98	329	eP	P	09 48 14.8 +1.6
	comp=Z,59nm,1.6s,mb5.3					
MSU	Marysvale	79.98	329	eP	P	09 48 14.9 +1.6
MSU				pmax	pmax	
	comp=Z,59nm,1.6s,mb5.3					
MVU	Marysvale	79.98	329	PFAKE		09 48 20.0 +6.7
MVU				LR	LR	
	comp=Z,2μm,22.0s,MS5.3					
P18A	Preston Nutter	80.09	331	⇑P	P	09 48 14.0 +0.1
	baz=80,SNR=14					
LRMC	Laurel Mountai	80.12	323	⇓P	P	09 48 14.4 +0.2
	baz=80					
K26A	Motz Farm, Whi	80.13	337	⇓P	P	09 48 14.3 +0.3
	baz=80					
L24A	Wheatland	80.14	336	⇑P	P	09 48 14.5 +0.4
	baz=80					
P17A	Butcher Ranch,	80.16	330	⇑P	P	09 48 13.9 -0.4
	baz=80,SNR=8.3					
M22A	Cedar Creek Ra	80.18	334	⇓P	P	09 48 14.7 +0.3
	baz=80,SNR=8.5					
O19A	Miners Draw (B	80.20	332	⇓P	P	09 48 14.6 +0.2
	baz=80,SNR=15					
TMUT	Trail Mountain	80.21	330	eP	P	09 48 15.2 +0.7
	comp=Z,113nm,1.9s,mb5.5					
K25A	Mack Ranch, Ha	80.28	337	⇑P	P	09 48 15.4 +0.5
	baz=81					
N20A	Spence Gulch,	80.32	333	⇓P	P	09 48 15.4 +0.3
	baz=81					
BRSD	Miller	80.42	341	⇓P	P	09 48 15.0 -0.5
	baz=81					
ARVC	Arvin	80.43	322	⇓P	P	09 48 16.3 +0.5
	baz=81					
L23A	Garrett	80.48	335	⇑P	P	09 48 16.2 +0.2
	baz=81					
MPMC	Manual Prospec	80.48	324	⇑P	P	09 48 16.2 +0.1
	baz=81					
FURC	Furnace Creek,	80.49	325	⇑P	P	09 48 16.5 +0.4
	baz=81					
R13A	O'Grain Ranch,	80.50	328	⇓P	P	09 48 17.2 +1.0
	baz=81					
O18A	Roosevelt	80.53	331	⇑P	P	09 48 16.7 +0.5
	baz=81,SNR=7.0					
BOSA	Boshof	80.57	118	⇑iP	P	09 48 16.8 -0.2
BOSA				AMB	AMB	09 48 17.9
	comp=Z,141nm,1.2s,mb5.8					
BOSA	Boshof	80.57	118	P	P	09 48 16.9 -0.1
	comp=Z,96nm,0.9s,mb5.7,baz=250,slow=3.5,SNR=81					
BOSA				LR	LR	10 21 46.5
	comp=Z,5μm,18.1s,MS5.9,baz=226,slow=34					
BOSA	Boshof	80.57	118	eP	P	09 48 16.8 -0.2
	comp=Z,118nm,1.0s,mb5.8					
BOSA	Boshof	80.57	118	eP	P	09 48 16.8 -0.2
BOSA				pmax	pmax	
	comp=Z,118nm,1.0s,mb5.8					
M21A	Separation Pea	80.64	334	⇓P	P	09 48 16.9 +0.1
	baz=81,SNR=6.3					
RWWY	Rawlins	80.66	334	eP	P	09 48 17.2 +0.3
	comp=Z,26nm,1.1s,mb5.1					
ISA	Isabella	80.66	323	⇓P	P	09 48 17.4 +0.4
	baz=81					
ISA	Isabella	80.66	323	eP	P	09 48 17.9 +0.9
	comp=Z,56nm,1.5s,mb5.3					
ISA	Isabella	80.66	323	eP	P	09 48 17.9 +0.8
ISA				pmax	pmax	
	comp=Z,56nm,1.5s,mb5.3					
P16A	Fountain Green	80.67	330	⇓P	P	09 48 17.4 +0.5
	baz=81					
L22A	Ellis Ranch, M	80.67	335	⇓P	P	09 48 17.7 +0.7
	baz=81					
DAC	Darwin (Calif)	80.70	324	PFAKE		09 48 30.0 +13
DAC				LR	LR	
	comp=Z,1μm,21.0s,MS5.3					
K24A	Anderson Ranch	80.70	336	⇑P	P	09 48 17.2 +0.1
	baz=81					
N19A	John Jarvie Ra	80.73	332	⇓P	P	09 48 17.1 -0.2
	baz=81,SNR=8.7					
PKM	Peak Mountain	80.76	322	⇑P	P	09 48 17.5 -0.1
	baz=81					
O17A	Robinson Place	80.77	331	⇑P	P	09 48 17.9 +0.4
	baz=81,SNR=18					
M20A	Sweetwater, Wa	80.86	333	⇓P	P	09 48 18.0 +0.1
	baz=81					
P15A	Leamington	80.90	329	⇓P	P	09 48 18.4 +0.2
	baz=81					
L21A	Rawlins	80.96	334	⇓P	P	09 48 18.6 +0.1
	baz=81,SNR=8.3					
MPU	Maple Canyon	80.99	330	eP	P	09 48 19.0 +0.3
	comp=Z,117nm,1.8s,mb5.5					
N18A	Larsen Ranch,	81.00	332	⇑P	P	09 48 18.5 -0.2
	baz=81,SNR=12					
K23A	Bowen Ranch, D	81.01	335	⇓P	P	09 48 19.0 +0.3
	baz=81					
CWC	Cottonwood Cre	81.07	324	⇓P	P	09 48 19.9 +0.6
	baz=81					
O16A	Springville	81.10	330	⇓P	P	09 48 19.0 -0.3
	baz=81,SNR=9.2					
VES	Vestal, Richgr	81.11	323	⇑P	P	09 48 19.7 +0.2
	baz=81					
GRAC	Grapevine Rang	81.16	325	⇓P	P	09 48 20.2 +0.5
	baz=82					
DAU	Daniels Canyon	81.17	331	eP	P	09 48 21.2 +1.5
	comp=Z,184nm,2.0s,mb5.7					
DAU	Daniels Canyon	81.17	331	eP	P	09 48 21.2 +1.6
DAU				pmax	pmax	
	comp=Z,184nm,2.0s,mb5.7					
SMMC	Simmler	81.18	322	⇓P	P	09 48 20.9 +1.1
	baz=82					
J24A	Dixon Ranch, L	81.19	336	⇑P	P	09 48 20.4 +0.8
	baz=82					
K22A	Casper	81.24	335	⇑P	P	09 48 20.2 +0.2
	baz=82,SNR=9.4					
M19A	Rock Springs	81.24	332	⇑P	P	09 48 19.7 -0.3
	baz=82,SNR=6.1					
L20A	Wamsutter	81.36	333	⇑P	P	09 48 20.5 -0.1
	baz=82					
R11A	Troy Canyon, C	81.38	327	⇑P	P	09 48 21.2 +0.4
	baz=82,SNR=14					
JLU	Jordanelle	81.41	331	eP	P	09 48 20.9 0.0
	comp=Z,106nm,1.9s,mb5.5					
N17A	Moffit Pass	81.44	331	⇓P	P	09 48 21.6 +0.5
	baz=82,SNR=8.1					
K21A	Alcova	81.49	334	⇑P	P	09 48 21.4 +0.1
	baz=82,SNR=14					
M18A	Lyman	81.54	332	⇑P	P	09 48 21.1 -0.5
	baz=82					
RCTC	Rector, Farmer	81.56	323	⇓P	P	09 48 21.3 -0.5
	baz=82					
J23A	Dilts Ranch, B	81.56	336	⇑P	P	09 48 21.5 -0.1
	baz=82					
CASY	Casey	81.60	181	eP	P	09 48 22.3 +0.6
	comp=Z,74nm,1.1s,mb5.5					
CASY				LR	LR	
	comp=Z,2μm,19.0s,MS5.6					
TIN	Tinemaha	81.63	324	⇓P	P	09 48 22.3 +0.1
	baz=82					
N16A	Rees Ranch, Co	81.64	331	⇑P	P	09 48 22.4 +0.2
	baz=82					
DUG	Dugway	81.64	329	⇓P	P	09 48 22.4 +0.2
	baz=82,SNR=9.1					
DUG	Dugway	81.64	329	eP	P	09 48 22.6 +0.5
	comp=Z,108nm,1.7s,mb5.5					
DUG				LR	LR	
	comp=Z,2μm,22.0s,MS5.4					
DUG	Dugway	81.64	329	eP	P	09 48 22.6 +0.4
DUG				pmax	pmax	
	comp=Z,108nm,1.7s,mb5.5					
DUG				MLR	MLR	
	comp=Z,2μm,22.0s,MS5.4					
I24A	Kuemmerle Ranc	81.64	337	⇑P	P	09 48 22.2 +0.2
	baz=82					
RSSD	Black Hills	81.68	337	eP	P	09 48 21.8 -0.5
	comp=Z,66nm,0.9s,mb5.6					
RSSD	Black Hills	81.68	337	eP	P	09 48 21.8 -0.5
RSSD				pmax	pmax	
	comp=Z,66nm,0.9s,mb5.6					
M17A	Scullys Gap (B	81.82	331	⇑P	P	09 48 23.2 +0.1
	baz=82					
L19A	Farson	81.83	333	⇓P	P	09 48 23.0 -0.1
	baz=82,SNR=11					
J22A	Midwest	81.89	335	⇑P	P	09 48 22.5 -0.9
	baz=82,SNR=7.8					
K20A	Yellowstone Ra	81.92	334	⇑P	P	09 48 22.9 -0.7
	baz=82					
TPH	Tonopah	81.94	325	PFAKE		09 48 30.0 +6.2
TPH				LR	LR	
	comp=Z,1μm,20.0s,MS5.3					
EYMN	Ely	81.94	347	eP	P	09 48 23.4 -0.2
	comp=Z,42nm,1.2s,mb5.2					
EYMN				LR	LR	
	comp=Z,860nm,19.0s,MS5.1					
L18A	Fontenelle, Gr	81.95	332	⇑P	P	09 48 23.1 -0.6
	baz=82,SNR=8.5					
I23A	Meade Ranch, G	82.02	336	⇑P	P	09 48 24.0 0.0
	baz=82					
J21A	Lysite	82.18	335	⇓P	P	09 48 24.8 -0.2
	baz=82					
K19A	Absolon Red Bu	82.25	333	⇑P	P	09 48 24.6 -0.7
	baz=83,SNR=10.0					
HWUT	Hardware Ranch	82.29	331	eP	P	09 48 25.6 +0.1
	comp=Z,52nm,1.2s,mb5.3					
HWUT				epP	pP	09 48 37.3 +0.2
HWUT				LR	LR	
	comp=Z,3μm,19.0s,MS5.6					
I22A	9 Mile Ranch,	82.31	335	⇑P	P	09 48 24.7 -0.9
	baz=83,SNR=8.8					
H24A	Dirks Ranch, A	82.41	337	⇓P	P	09 48 25.2 -0.8
	baz=83,SNR=8.9					
J20A	Shoshoni	82.42	334	⇓P	P	09 48 26.1 0.0
	baz=83,SNR=12					
L17A	Cokeville	82.43	332	⇓P	P	09 48 25.5 -0.7
	baz=83,SNR=7.2					
BW06	Boulder Array	82.47	333	⇑P	P	09 48 25.8 -0.7
	baz=83,SNR=8.7					
BW06	Boulder Array	82.47	333	PFAKE		09 48 40.0 +14
BW06				LR	LR	
	comp=Z,2μm,19.0s,MS5.5					
PDAR	Pinedale Array	82.47	333	P	P	09 48 25.8 -0.7
	comp=Z,2.1nm,0.7s,mb4.2,baz=157,slow=4.8,SNR=16					
PDAR				PKKPbc	PKKPbc	10 06 51.4 -2.7
	comp=Z,0.8nm,0.8s,baz=124,slow=2.5,SNR=4.8					
PDAR	Pinedale Array	82.47	333	P	P	09 48 25.8 -0.7
PDAR				PKKPbc	PKKPbc	10 06 51.4 -2.7
H23A	Clabaugh Cattl	82.53	336	⇑P	P	09 48 25.9 -0.7
	baz=83					
I21A	Big Trails, Te	82.53	335	⇑P	P	09 48 25.8 -0.9
	baz=83,SNR=9.8					
M15A	Larsen Ranch,	82.54	330	⇓P	P	09 48 26.3 -0.5
	baz=83					
K18A	Toltan Ranch,	82.55	333	⇓P	P	09 48 27.0 +0.2
	baz=83,SNR=13					
L16A	Fish Haven	82.58	331	⇑P	P	09 48 26.7 -0.4
	baz=83					
J19A	Crowheart	82.71	333	⇓P	P	09 48 27.3 -0.3
	baz=83,SNR=6.2					
LBTB	Lobatse	82.73	115	⇑iP	P	09 48 27.9 -0.5
LBTB				AMB	AMB	09 48 29.2
	comp=Z,152nm,1.4s,mb5.8					
LBTB	Lobatse	82.73	115	eP	P	09 48 28.0 -0.5
	comp=Z,572nm,1.8s,mb6.3					
LBTB				LR	LR	
	comp=Z,2μm,19.0s,MS5.5					
LBTB	Lobatse	82.73	115	eP	P	09 48 28.0 -0.4
LBTB				pmax	pmax	
	comp=Z,572nm,1.8s,mb6.3					
LBTB				MLR	MLR	
	comp=Z,2μm,19.0s,MS5.5					
NVAR	Mina Array Bea	82.74	325	P	P	09 48 27.9 0.0
	comp=Z,6.6nm,0.8s,mb4.7,baz=154,slow=6.2,SNR=26					
NVAR	Mina Array Bea	82.74	325	P	P	09 48 27.9 0.0
G24A	Alzada	82.88	337	⇑P	P	09 48 28.4 -0.1
	baz=83					
H22A	Clearmont	82.88	336	⇑P	P	09 48 28.3 -0.3
	baz=83					
HVU	Hansel Valley	82.94	330	eP	P	09 48 28.6 -0.3
	comp=Z,129nm,1.9s,mb5.6					
HVU				epP	pP	09 48 40.5 +0.1
HVU	Hansel Valley	82.94	330	eP	P	09 48 28.6 -0.3
HVU				e*PP	pP	09 48 40.5 +0.1
HVU				pmax	pmax	
	comp=Z,129nm,1.9s,mb5.6					
I20A	Worland	82.95	334	⇓P	P	09 48 28.7 -0.2
	baz=83,SNR=11					
L15A	Malad City	82.96	331	⇑P	P	09 48 28.7 -0.3
	baz=83,SNR=7.5					
K17A	Gardner Place,	82.99	332	⇑P	P	09 48 28.7 -0.5
	baz=83					
J18A	Kendall Valley	83.03	333	⇑P	P	09 48 29.1 -0.2
	baz=83,SNR=7.7					
PRYS	Parys	83.05	117	eP	P	09 48 29.5 -0.5
PRYS				AMB	AMB	09 48 31.2
	comp=Z,129nm,2.5s,mb5.5					
AHID	Auburn Hatcher	83.08	332	eP	P	09 48 29.4 -0.2
	comp=Z,49nm,1.5s,mb5.3					
AHID				LR	LR	
	comp=Z,1μm,20.0s,MS5.3					
G23A	Biddle	83.09	337	⇑P	P	09 48 29.1 -0.5
	baz=83					
H21A	Big Horn, Sher	83.15	335	⇓P	P	09 48 28.9 -1.0
	baz=84					
AGMN	Agassiz Nation	83.21	344	eP	P	09 48 29.1 -1.0
	comp=Z,39nm,1.1s,mb5.3					
AGMN				LR	LR	
	comp=Z,999nm,21.0s,MS5.2					
KSR	Koster	83.27	116	eP	P	09 48 31.7 +0.4
KSR				AMB	AMB	09 48 31.9
	comp=Z,47nm,1.8s,mb5.2					
K16A	Soda Springs	83.33	332	⇑P	P	09 48 30.8 -0.1
	baz=84,SNR=8.9					
L14A	Malta	83.34	330	⇑P	P	09 48 30.4 -0.5
	baz=84,SNR=6.3					
F24A	Ekalaka	83.35	338	⇓P	P	09 48 30.3 -0.6
	baz=84,SNR=6.5					
I19A	Meeteetse	83.35	334	⇑P	P	09 48 30.7 -0.2
	baz=84,SNR=6.4					
H20A	Greybull	83.37	335	⇑P	P	09 48 30.4 -0.7
	baz=84,SNR=7.9					
I18A	Diamond G Ranc	83.37	333	⇓P	P	09 48 30.9 -0.2
	baz=84,SNR=11					
G22A	Birney	83.41	336	⇑P	P	09 48 30.6 -0.6
	baz=84					
TORD	Torodi Ar. Bea	83.42	70	P	P	09 48 31.7 -0.4
	comp=Z,90nm,0.8s,mb5.8,baz=250,slow=4.3,SNR=281					
TORD				LR	LR	10 26 23.9
	comp=Z,4μm,18.1s,MS5.8,baz=235,slow=36					
TORD	Torodi Ar. Bea	83.42	70	P	P	09 48 31.7 -0.4
J17A	Brown Place, J	83.43	332	⇓P	P	09 48 31.0 -0.3
	baz=84					
CMB	Columbia Colle	83.47	323	eP	P	09 48 26.5 -5.2
	comp=Z,34nm,1.6s,mb5.1					
CMB	Columbia Colle	83.47	323	eP	P	09 48 26.5 -5.2
CMB				pmax	pmax	
	comp=Z,34nm,1.6s,mb5.1					
REDW	Red Top Meadow	83.48	332	eP	P	09 48 27.2 -4.5
	comp=Z,59nm,1.7s,mb5.3					
SNOW	Snow King Moun	83.53	333	eP	P	09 48 30.4 -1.4
	comp=Z,24nm,1.3s,mb5.2					
F23A	Volborg	83.55	337	⇑P	P	09 48 31.1 -0.9
	baz=84,SNR=9.5					
K15A	Arbon	83.59	331	⇓P	P	09 48 31.7 -0.5
	baz=84					
LOHW	Long Hollow	83.60	333	eP	P	09 48 31.4 -0.8
	comp=Z,40nm,1.6s,mb5.3					
LOHW				epP	pP	09 48 42.7 -1.0
TPAW	Teton Pass	83.63	332	eP	P	09 48 31.8 -0.6
	comp=Z,62nm,1.6s,mb5.5					
TPAW				epP	pP	09 48 44.2 +0.3
RRI2	Red Ridge	83.65	332	eP	P	09 48 33.1 +0.6
	comp=Z,102nm,1.8s,mb5.7					
RRI2				epP	pP	09 48 44.3 +0.2
J16A	Bone	83.71	332	⇑P	P	09 48 32.1 -0.7
	baz=84					
G21A	Lodge Grass	83.73	336	⇑P	P	09 48 32.5 -0.4
	baz=84,SNR=8.7					
MDND	Maddock	83.73	342	⇑P	P	09 48 32.3 -0.5
	baz=84,SNR=5.6					
K14A	Jones Ranch, D	83.74	331	⇓P	P	09 48 32.8 -0.2
	baz=84					
MOOW	Moose Ponds	83.77	333	eP	P	09 48 32.2 -0.9
	comp=Z,26nm,1.5s,mb5.1					
MOOW				epP	pP	09 48 44.2 -0.4
BMN	Battle Mountai	83.81	327	PFAKE		09 48 40.0 +6.6
BMN				LR	LR	
	comp=Z,1μm,21.0s,MS5.2					
DCID1	Drake Creek	83.81	332	eP	P	09 48 29.6 -3.7
	comp=Z,22nm,0.9s,mb5.3					
DCID1				esP	sP	09 48 44.5 -4.5
I17A	Pilgrim Ck.	83.85	333	⇑P	P	09 48 33.5 0.0
	baz=84					
F22A	Rosebud	83.89	336	⇑P	P	09 48 33.2 -0.5
	baz=84,SNR=5.8					
H19A	Powell	83.89	334	⇑P	P	09 48 33.1 -0.6
	baz=84,SNR=8.2					
E24A	Baker	83.94	338	⇓P	P	09 48 33.6 -0.3
	baz=84					
ERPM	east rand prop	84.02	117	eP	P	09 48 35.3 +0.2
ERPM				AMB	AMB	09 48 36.1
	comp=Z,109nm,1.4s,mb5.8					
FLWY	Flagg Ranch	84.03	333	eP	P	09 48 31.7 -2.7
	comp=Z,117nm,1.7s,mb5.7					
FLWY				ePcP	PcP	09 48 35.2 -3.1
FLWY				esP	sP	09 48 45.5 -4.7
G20A	Bridger	84.08	335	⇓P	P	09 48 34.0 -0.7
	baz=84,SNR=9.3					
WCN	Washoe City	84.13	325	⇑P	P	09 48 35.5 +0.4
	baz=84					
H18A	Shoshone NF, C	84.14	334	⇓P	P	09 48 34.2 -0.8
	baz=84,SNR=19					
J15A	Blackfoot	84.14	331	⇑P	P	09 48 34.5 -0.5
	baz=84,SNR=6.2					
I16A	Newdale	84.16	332	⇓P	P	09 48 34.6 -0.5
	baz=84					
E23A	Ismay	84.20	337	⇑P	P	09 48 34.3 -1.0
	baz=84,SNR=6.4					
F21A	Absaloka Mine,	84.22	336	⇓P	P	09 48 34.7 -0.6
	baz=84					
H17A	Grant Village	84.25	333	⇓P	P	09 48 35.2 -0.3
	baz=85					
LKWY	Lake	84.33	333	PFAKE		09 48 40.0 +4.1
LKWY				LR	LR	
	comp=

SNZO LR LR
comp=Z,2μm,19.0s,MS5.5
J14A Carey 84.52 331 ⇓P **P 09 48 37.2 +0.2**
baz=85
F20A Billings 84.56 335 ⇑P **P 09 48 36.6 -0.4**
baz=85
YMR Madison River 84.63 333 *e*P **P 09 48 37.8 +0.3**
comp=Z,65nm,1.2s,mb5.6
G18A Lazy EL Ranch, 84.65 334 ⇑P **P 09 48 37.2 -0.3**
baz=85
I15A Monteview 84.66 332 ⇓P **P 09 48 37.3 -0.4**
baz=85
LAO LASA Array 84.67 337 ⇑P **P 09 48 37.1 -0.5**
baz=85
LAO LASA Array 84.67 337 *e*P **P 09 48 37.7 +0.1**
comp=Z,76nm,1.5s,mb5.6
LAO *ep*P pP 09 48 47.1 -2.1
LAO LR LR
comp=Z,956nm,20.0s,MS5.2
H16A Russell Place, 84.77 333 ⇑P **P 09 48 38.2 0.0**
baz=85,SNR=5.4
D23A Lindsay 84.77 338 ⇑P **P 09 48 37.7 -0.4**
baz=85,SNR=12
E21A Keefer Ranch, 84.83 336 ⇑P **P 09 48 37.9 -0.5**
baz=85
C24A Savage 84.84 338 ⇑P **P 09 48 38.1 -0.3**
baz=85,SNR=21
J13A Cove Ranch, Pi 84.86 330 ⇓P **P 09 48 38.6 -0.1**
baz=85,SNR=11
F19A Roth Farm, Mol 84.89 335 ⇓P **P 09 48 37.9 -0.8**
baz=85,SNR=7.6
QLMT Earthquake Lak 84.94 333 *e*P **P 09 48 40.5 +1.5**
comp=Z,3.9nm,1.2s,mb4.4
QLMT *ep*P pP 09 48 50.2 -0.4
I14A Mackay 85.00 331 ⇑P **P 09 48 39.8 +0.5**
baz=85,SNR=12
ULM Lac du Bonnet 85.04 345 P **P 09 48 38.1 -1.3**
comp=Z,24nm,0.9s,mb5.3,baz=164,slow=3.7,SNR=26
ULM Lac du Bonnet 85.04 345 *e*P **P 09 48 37.7 -1.7**
comp=Z,32nm,1.1s,mb5.4
ULM LR LR
comp=Z,1μm,20.0s,MS5.3
ULM Lac du Bonnet 85.04 345 *e*P **P 09 48 37.7 -1.7**
ULM pmax pmax
comp=Z,32nm,1.1s
ULM MLR MLR
comp=Z,1μm,20.0s
D22A Cohagen 85.06 337 ⇓P **P 09 48 38.4 -1.1**
baz=85,SNR=8.9
HLID Hailey 85.09 330 *e*P **P 09 48 40.0 +0.2**
comp=Z,86nm,1.7s,mb5.6
HLID *ep*P pP 09 48 52.0 +0.7
HLID LR LR
comp=Z,861nm,21.0s,MS5.1
G17A Pierce Place, 85.09 334 ⇓P **P 09 48 39.9 +0.1**
baz=85
GCMT Greycliff 85.09 334 *e*P **P 09 48 40.0 +0.3**
comp=Z,61nm,1.7s,mb5.5
E20A Meyer Farm, Mu 85.16 336 ⇓P **P 09 48 39.3 -0.8**
baz=86,SNR=15
F18A Big Timber 85.21 334 ⇑P **P 09 48 39.5 -0.8**
baz=86,SNR=13
H15A Lima 85.24 332 ⇓P **P 09 48 41.1 +0.6**
baz=86
I13A Wildhorse Cree 85.26 331 ⇓P **P 09 48 40.3 -0.3**
baz=86,SNR=13
D21A La Casta Ranch 85.26 337 ⇑P **P 09 48 40.5 0.0**
baz=86
C23A Lambert 85.32 338 ⇓P **P 09 48 40.3 -0.5**
baz=86,SNR=11
E19A Rath Farm, Rou 85.35 335 ⇑P **P 09 48 40.4 -0.7**
baz=86,SNR=14
G16A Moss Hill, Enn 85.42 333 ⇑P **P 09 48 40.9 -0.5**
baz=86
C22A Vida 85.49 338 ⇑P **P 09 48 40.8 -0.9**
baz=86,SNR=5.9
MCMT McKenzie Canyo 85.50 332 *e*P **P 09 48 42.0 +0.2**
comp=Z,30nm,1.4s,mb5.2
H14A Leadore 85.53 332 ⇓P **P 09 48 41.9 0.0**
baz=86
F17A Fitzpatrick Pl 85.56 334 ⇓P **P 09 48 41.9 -0.2**
baz=86,SNR=5.9
MFID Camas Ranch 85.57 329 ⇑P **P 09 48 41.9 -0.3**
baz=86,SNR=7.0
MFID Camas Ranch 85.57 329 *e*P **P 09 48 42.2 0.0**
comp=Z,55nm,1.6s,mb5.5
MFID *ep*P pP 09 48 52.9 -0.9
I12A Atlanta 85.58 330 ⇑P **P 09 48 41.8 -0.5**
baz=86,SNR=5.7
DGMT Dagmar 85.60 339 ⇑P **P 09 48 42.1 -0.1**
baz=86,SNR=9.4
DGMT Dagmar 85.60 339 *e*P **P 09 48 41.8 -0.4**
comp=Z,274nm,1.6s,mb6.2
DGMT *ep*P pP 09 48 53.1 -0.7
DGMT LR LR
comp=Z,889nm,19.0s,MS5.2
G15A Dillon 85.64 332 ⇓P **P 09 48 42.0 -0.5**
baz=86,SNR=8.8
D20A Manuel Ranch, 85.67 336 ⇑P **P 09 48 41.8 -0.8**
baz=86,SNR=13
BOZ Bozeman (W) 85.70 333 ⇓P **P 09 48 42.6 -0.2**
baz=86
BOZ Bozeman (W) 85.70 333 PFAKE 09 48 50.0 +7.2
BOZ LR LR
comp=Z,1μm,19.0s,MS5.2
F16A Kennard Place, 85.82 333 ⇑P **P 09 48 43.0 -0.4**
baz=86
B23A Brockton 85.84 339 ⇓P **P 09 48 43.2 -0.2**
baz=86,SNR=5.6
DLMT Dillon 85.84 332 *e*P **P 09 48 44.3 +0.8**
comp=Z,64nm,1.5s,mb5.6
DLMT *ep*P pP 09 48 55.2 +0.1
E18A Harlowton 85.84 335 ⇓P **P 09 48 43.0 -0.5**
baz=86
H13A Challis 85.85 331 ⇓P **P 09 48 43.4 -0.2**
baz=86,SNR=12
A24A Westby 85.95 339 ⇑P **P 09 48 43.7 -0.2**
baz=86,SNR=5.5
C21A Desert Coulee 85.95 337 ⇑P **P 09 48 43.1 -0.9**
baz=86,SNR=20
POGA Pongola 85.96 120 *e*P **P 09 48 45.6 +0.8**
POGA AMB AMB 09 48 46.1
comp=Z,82nm,1.5s,mb5.7
D19A Cripps Ranch, 85.99 336 ⇓P **P 09 48 43.4 -0.8**
baz=86,SNR=9.9
B22A Reddig Ranch S 86.01 338 ⇓P **P 09 48 43.6 -0.6**
baz=86,SNR=8.3
WVOR Wild Horse Val 86.04 327 PFAKE 09 48 50.0 +5.4
WVOR LR LR
comp=Z,1μm,21.0s,MS5.3
H12A Diamond D Ranc 86.08 331 ⇑P **P 09 48 44.5 -0.2**
baz=86
G14A Jackson 86.08 332 ⇑P **P 09 48 44.7 0.0**
baz=86
E17A Martinsdale 86.10 334 ⇑P **P 09 48 44.8 0.0**
baz=86,SNR=5.2
C20A Veseth Ranch, 86.16 336 ⇑P **P 09 48 44.1 -0.9**
baz=86,SNR=12
LRM Limekiln Ridge 86.17 333 *e*P **P 09 48 45.5 +0.4**
comp=Z,518nm,1.6s,mb6.5
LRM *ep*P pP 09 48 56.8 +0.1
F15A Butte 86.20 333 ⇑P **P 09 48 45.2 0.0**
baz=86,SNR=9.5
A23A Redstone 86.25 339 ⇓P **P 09 48 44.7 -0.7**
baz=87
G13A Cobalt 86.27 331 ⇑P **P 09 48 45.1 -0.5**
baz=87,SNR=13
D18A Linhart Farms, 86.34 335 ⇑P **P 09 48 45.4 -0.6**
baz=87
MOD Modoc 86.40 326 *e*P **P 09 48 46.9 +0.6**
comp=Z,101nm,1.8s,mb5.8
B21A Ellsworth Farm 86.45 337 ⇓P **P 09 48 45.9 -0.5**
baz=87,SNR=7.8
E16A East Helena 86.47 334 ⇑P **P 09 48 46.2 -0.4**
baz=87
WDC Whiskeytown Da 86.49 324 *e*P **P 09 48 46.3 -0.5**
comp=Z,78nm,1.8s,mb5.6
WDC Whiskeytown Da 86.49 324 *e*P **P 09 48 46.3 -0.5**
WDC pmax pmax
comp=Z,78nm,1.8s,mb5.6
F14A Wisdom 86.52 332 ⇑P **P 09 48 46.5 -0.3**
baz=87,SNR=8.5
C19A Slack Wire Ran 86.54 336 ⇓P **P 09 48 46.3 -0.6**
baz=87,SNR=6.8
A22A Carney Farms, 86.60 338 ⇑P **P 09 48 47.0 -0.1**
baz=87,SNR=23
D17A Six Diamond Ra 86.62 335 ⇓P **P 09 48 47.1 -0.2**
baz=87,SNR=13

HRY Holter Researc 86.67 334 *e*P **P 09 48 46.3 -1.3**
comp=Z,49nm,1.5s,mb5.5
J08A Circle Bar Ran 86.69 328 ⇑P **P 09 48 47.6 -0.2**
baz=87
E15A Deer Lodge 86.74 333 ⇑P **P 09 48 47.8 -0.1**
baz=87,SNR=6.0
B20A Solberg Farm, 86.79 337 ⇑P **P 09 48 47.2 -0.9**
baz=87
D16A Dana Ranch, Ca 86.84 334 ⇑P **P 09 48 48.2 -0.1**
baz=87,SNR=9.2
F13A Darby 86.88 332 ⇑P **P 09 48 47.9 -0.7**
baz=87,SNR=12
A21A Bergtoll Ranch 86.92 338 ⇑P **P 09 48 47.8 -0.9**
baz=87,SNR=8.6
RAO Raoul Island 86.95 237 PFAKE 09 49 00.0 +10
RAO LR LR
comp=Z,2μm,21.0s,MS5.5
SCHQ Schefferville 87.00 3 P **P 09 48 47.8 -1.1**
comp=Z,50nm,1.1s,mb5.7,baz=153,slow=3.4,SNR=15
SCHQ LR LR 10 27 15.3
comp=Z,711nm,21.1s,MS5.0,baz=181,slow=35
SCHQ Schefferville 87.00 3 *e*P **P 09 48 47.1 -1.8**
comp=Z,167nm,1.4s,mb6.1
SCHQ *ep*P pP 09 48 58.6 -1.9
EGMT Eagleton 87.03 336 ⇓P **P 09 48 48.7 -0.6**
baz=87
EGMT Eagleton 87.03 336 *e*P **P 09 48 48.9 -0.4**
comp=Z,117nm,1.7s,mb5.8
EGMT *ep*P pP 09 49 00.2 -0.6
EGMT LR LR
comp=Z,992nm,20.0s,MS5.2
C17A Wharram Farm, 87.06 335 ⇑P **P 09 48 48.7 -0.7**
baz=87,SNR=9.4
E14A Clinton 87.06 333 ⇓P **P 09 48 48.9 -0.5**
baz=87,SNR=6.6
B19A Brinkman Farms 87.12 336 ⇑P **P 09 48 48.9 -0.8**
baz=87,SNR=11
A20A Cobblestone Ra 87.14 337 ⇓P **P 09 48 49.0 -0.8**
baz=88,SNR=21
D15A Lincoln 87.21 333 ⇑P **P 09 48 49.7 -0.5**
baz=88
F12A Elk City 87.23 331 ⇓P **P 09 48 50.1 -0.2**
baz=88
K05A Summer Lake 87.32 326 ⇓P **P 09 48 50.9 +0.1**
baz=88
B18A Beardsley Farm 87.36 336 ⇑P **P 09 48 50.2 -0.6**
baz=88,SNR=14
E13A Victor 87.36 332 ⇑P **P 09 48 50.8 -0.1**
baz=88,SNR=11
BMO Blue Mountains 87.36 329 *e*P **P 09 48 50.6 -0.3**
comp=Z,54nm,1.8s,mb5.5
BMO *ep*P pP 09 49 02.1 -0.4
BMO LR LR
comp=Z,1μm,19.0s,MS5.2
BMO Blue Mountains 87.36 329 *e*P **P 09 48 50.6 -0.4**
BMO *e**PP pP 09 49 02.2 -0.4
BMO pmax pmax
comp=Z,54nm,1.8s,mb5.5
BMO MLR MLR
comp=Z,1μm,19.0s,MS5.2
CHMT Chamberlain Mo 87.38 333 *e*P **P 09 48 51.2 +0.1**
comp=Z,23nm,1.4s,mb5.2
CHMT *ep*P pP 09 49 02.8 +0.2
XMAS Kiritimati 87.47 274 PFAKE 09 49 00.0 +7.7
XMAS LR LR
comp=Z,4μm,19.0s,MS5.8
C16A Fuhringer Ranc 87.56 334 ⇓P **P 09 48 51.4 -0.4**
baz=88,SNR=11
MSNA Messina 87.58 115 *e*P **P 09 48 52.4 -0.3**
MSNA AMB AMB 09 48 54.0
comp=Z,90nm,1.5s,mb5.8
MSO Missoula 87.58 332 ⇑P **P 09 48 51.6 -0.3**
baz=88
MSO Missoula 87.58 332 *e*P **P 09 48 53.2 +1.2**
comp=Z,25nm,1.5s,mb5.2
MSO *ep*P pP 09 49 02.6 -0.9
MSO LR LR
comp=Z,1μm,19.0s,MS5.3
B17A L&G Farms, Che 87.63 335 ⇓P **P 09 48 51.3 -0.9**
baz=88
I07A Izee 87.72 328 ⇓P **P 09 48 52.8 0.0**
baz=88
SLMT Seeley Lake 87.75 333 *e*P **P 09 48 53.3 +0.5**
comp=Z,47nm,1.4s,mb5.5
SLMT *ep*P pP 09 49 04.1 -0.2
A18A Metzger Ranch, 87.83 336 ⇑P **P 09 48 52.1 -1.0**
baz=88,SNR=14
C15A Salmond Ranch, 87.85 334 ⇑P **P 09 48 52.7 -0.5**
baz=88,SNR=13
E12A Beaver Dam Sad 87.89 331 ⇑P **P 09 48 52.9 -0.6**
baz=88
MOPA Mopani 87.97 117 *e*P **P 09 48 55.3 +0.7**
MOPA AMB AMB 09 48 55.8
comp=Z,50nm,1.5s,mb5.5
D13A Huson 88.00 332 ⇑P **P 09 48 53.5 -0.4**
baz=88,SNR=12
B16A M & M Farms, S 88.06 335 ⇓P **P 09 48 52.9 -1.3**
baz=88,SNR=8.6
A17A Triple J Farms 88.14 335 ⇑P **P 09 48 53.7 -0.9**
baz=88,SNR=15
SWMT Swartz Lake 88.16 333 *e*P **P 09 48 55.3 +0.6**
comp=Z,35nm,1.6s,mb5.3
SWMT *ep*P pP 09 49 06.3 0.0
F10A Beach Ranch, E 88.22 330 ⇑P **P 09 48 54.6 -0.4**
baz=88
C14A Swan Lake 88.28 333 ⇑P **P 09 48 55.0 -0.3**
baz=89
B15A Bradely Ranch, 88.28 334 ⇑P **P 09 48 54.0 -1.3**
baz=89,SNR=12
A16A West Butte Ran 88.47 335 ⇓P **P 09 48 55.4 -0.8**
baz=89
C13A Hot Springs 88.52 333 ⇑P **P 09 48 56.1 -0.3**
baz=89
B14A Marquette Ranc 88.59 334 ⇑P **P 09 48 56.3 -0.4**
baz=89
BLMT Blacktail Moun 88.72 333 *e*P **P 09 48 57.9 +0.6**
comp=Z,8.0nm,0.8s,mb5.1
BLMT *ep*P pP 09 49 07.9 -1.0
BSMT Bassoo Peak 88.75 333 *e*P **P 09 48 58.1 +0.6**
comp=Z,32nm,1.5s,mb5.4
A15A Johnson Ranch, 88.90 334 ⇑P **P 09 48 56.8 -1.4**
baz=89,SNR=5.6
C12B Naegeli Ranch, 88.90 332 ⇑P **P 09 48 57.9 -0.3**
baz=89
E09A Wood Farm, Sta 89.04 330 ⇑P **P 09 48 58.2 -0.6**
baz=89
B13A Whitefish 89.05 333 ⇓P **P 09 48 58.6 -0.3**
baz=89,SNR=5.0
G06A Carlson Farm, 89.13 328 ⇑P **P 09 48 59.5 +0.2**
baz=89
A14A Double T Ranch 89.15 334 ⇓P **P 09 48 58.9 -0.4**
baz=90
C11A Tepee Creek (N 89.32 332 ⇑P **P 09 48 59.4 -0.7**
baz=90
WALA Waterton Lakes 89.41 334 *e*P **P 09 49 00.7 +0.2**
comp=Z,2.9nm,1.5s,mb4.4
A13A Flathead Natio 89.49 333 ⇓P **P 09 49 00.6 -0.3**
baz=90
HAWA Hanford 89.54 329 *e*P **P 09 49 01.8 +0.6**
comp=Z,92nm,1.5s,mb5.9
HAWA *ep*P pP 09 49 12.7 -0.1
HAWA LR LR
comp=Z,1μm,20.0s,MS5.4
RSW Rattlesnake Hi 89.56 329 *e*P **P 09 49 02.5 +1.1**
comp=Z,108nm,1.4s,mb6.0
RSW *ep*P pP 09 49 13.4 +0.4
RTC Rabat Centre 89.91 49 PFAKE 09 49 10.0 +6.7
RTC LR LR
comp=Z,4μm,19.0s,MS5.9
A12A Yaak River Ran 89.97 333 ⇓P **P 09 49 02.7 -0.4**
baz=90
OD2 Odessa Site #2 89.97 330 *e*P **P 09 49 03.0 -0.2**
comp=Z,146nm,1.5s,mb6.1
LSZ Lusaka 90.05 108 *e*P **P 09 49 04.8 +0.3**
comp=Z,181nm,1.5s,mb6.2
LSZ *ep*P pP 09 49 15.2 -0.9
LSZ Lusaka 90.05 108 *e*P **P 09 49 04.8 +0.3**
LSZ *e**PP pP 09 49 15.2 -0.9
LSZ pmax pmax
comp=Z,181nm,1.5s,mb6.2
FFC Flin Flon 90.62 343 *e*P **P 09 49 05.5 -0.5**
comp=Z,51nm,1.7s,mb5.6
FFC *ep*P pP 09 49 16.7 -1.0
FFC LR LR
comp=Z,1μm,21.0s,MS5.3
FFC Flin Flon 90.62 343 *e*P **P 09 49 05.5 -0.5**
FFC *e**PP pP 09 49 16.7 -1.0

FFC pmax pmax
comp=Z,51nm,1.7s,mb5.6
FFC MLR MLR
comp=Z,1μm,21.0s,MS5.3
PFVI Vila Bisbo 90.73 45 *e*LR LR 10 22 44.7
comp=Z,4μm,20.0s
ETW Entiat 90.82 329 *e*P **P 09 49 07.3 +0.2**
comp=Z,105nm,1.5s,mb5.9
ETW *ep*P pP 09 49 18.4 -0.4
MORF Marmelete 90.95 45 *e*LR LR 10 22 31.8
comp=Z,4μm,20.0s
PTEO Sao Teotonio 91.06 45 *e*P **P 09 49 08.8 +0.2**
PBDV Barranco-do-Ve 91.34 46 *e*P **P 09 49 11.2 +1.3**
PBDV *e*LR LR 10 22 53.3
comp=Z,2μm,20.0s
E03A Lebam 91.45 327 ⇑P **P 09 49 09.5 -0.6**
baz=92
PCVE Castro Verde 91.53 45 *e*LR LR 10 22 46.8
comp=Z,3μm,20.0s
PNCL Nicolau / Gran 91.55 45 *e*P **P 09 49 11.3 +0.5**
comp=Z,35nm,1.7s,mb5.4
PNCL *e*LR LR 10 22 49.0
comp=Z,2μm,20.0s
PVAQ Vaqueiros 91.58 46 *e*LR LR 10 22 27.5
comp=Z,2μm,20.0s
PMAFR Mafra 91.66 44 *e*LR LR 10 22 42.5
comp=Z,2μm,20.0s
PAF Port-aux-Franc 91.83 156 PFAKE 09 49 20.0 +7.9
PAF LR LR
comp=Z,3μm,20.0s,MS5.7
SFS San Fernando 91.90 47 PFAKE 09 49 20.0 +7.5
SFS LR LR
comp=Z,4μm,20.0s,MS5.8
TAM Tamanrasset 91.90 64 *e*P **P 09 49 13.9 +1.0**
comp=Z,42nm,1.4s,mb5.6
TAM LR LR
comp=Z,6μm,19.0s,MS6.0
TAM Tamanrasset 91.90 64 *e*P **P 09 49 13.9 +1.1**
TAM pmax pmax
comp=Z,42nm,1.4s,mb5.6
TAM MLR MLR
comp=Z,6μm,19.0s,MS6.0
JCW Jim Creek 91.97 329 *e*P **P 09 49 12.1 -0.4**
comp=Z,44nm,1.4s,mb5.6
JCW *ep*P pP 09 49 23.2 -0.9
RPW Rockport 91.98 329 *e*P **P 09 49 11.9 -0.6**
comp=Z,7.9nm,0.6s,mb5.2
RPW *ep*P pP 09 49 23.4 -0.7
EVOP Sao Brissos 92.06 45 *e*P **P 09 49 11.7 -1.5**
comp=Z,19nm,0.9s,mb5.4
EVOP Sao Brissos 92.06 45 *e*P **P 09 49 11.7 -1.5**
EVOP pmax pmax
comp=Z,19nm,0.9s,mb5.4
EVO Evora 92.13 45 *e*P **P 09 49 11.7 -1.8**
comp=Z,19nm,0.9s,mb5.1
EVO *e*R
comp=Z,3μm,20.5s
NLWA Neilton Lookou 92.22 328 PFAKE 09 49 20.0 +6.3
NLWA LR LR
comp=Z,1μm,19.0s,MS5.3
PBAR Barrancos 92.48 45 *e*P **P 09 49 15.3 +0.2**
PBAR *e*LR LR 10 23 29.8
comp=Z,3μm,18.0s
PESTR Estremoz 92.60 45 *e*LR LR 10 23 23.3
comp=Z,2μm,20.0s
A05A Maple Falls 92.64 329 ⇑P **P 09 49 15.0 -0.6**
baz=93
PMRV Marv??o 93.08 44 *e*P **P 09 49 17.8 -0.1**
PMRV *e*LR LR 10 23 16.9
comp=Z,2μm,18.0s
MTE Manteigas 93.62 44 *e*P **P 09 49 20.6 +0.3**
comp=Z,38nm,1.2s,mb5.7
MTE *e*LR LR 10 24 02.0
comp=Z,3μm,22.0s
MTE Manteigas 93.62 44 PFAKE 09 49 30.0 +10
MTE LR LR
comp=Z,4μm,20.0s,MS5.8
POLO Lamas de Olo 94.10 43 *e*LR LR 10 25 06.5
comp=Z,2μm,18.0s
PGAV Gavieira, Arco 94.22 42 *e*LR LR 10 25 21.5
comp=Z,3μm,22.0s
MVO Moncorvo 94.41 43 *e*P **P 09 49 23.8 -0.1**
MVO *e*LR LR 10 23 49.1
comp=Z,3μm,18.0s
PAB San Pablo 94.98 46 PFAKE 09 49 40.0 +13
PAB LR LR
comp=Z,3μm,19.0s,MS5.7
PBRG Braganca 94.98 43 *e*LR LR 10 24 08.5
comp=Z,3μm,18.0s
ESLA Sonseca Array 95.29 46 PFAKE 09 49 40.0 +12
ESLA LR LR
comp=Z,10μm,19.0s,MS6.3
ESDC Sonseca Array 95.29 46 P **P 09 49 27.7 -0.3**
comp=Z,3.8nm,0.9s,mb4.8,baz=248,slow=3.9,SNR=14
ESDC LR LR 10 32 49.1
comp=Z,1μm,19.4s,MS5.4,baz=205,slow=36
ESDC Sonseca Array 95.29 46 P **P 09 49 27.7 -0.3**
MSVF Nonsavu 96.73 244 PFAKE 09 49 40.0 +4.8
MSVF LR LR
comp=Z,1μm,21.0s,MS5.4
TAU Tasmania Unive 96.93 208 PFAKE 09 49 40.0 +4.3
TAU LR LR
comp=Z,2μm,19.0s,MS5.6
SJPF Ste Jean 99.01 44 *e*P **P 09 49 44.6 -0.1**
comp=Z,40nm,1.0s,mb5.6
SJPF Ste Jean 99.01 44 *e*P **P 09 49 44.6 -0.1**
comp=Z,40nm,1.0s,mb5.9
SJPF Ste Jean 99.01 44 *e*P **P 09 49 44.6 -0.1**
SJPF pmax pmax
comp=Z,40nm,1.0s,mb5.9
ETSF Etsaut 99.28 45 *e*P **P 09 49 45.9 0.0**
comp=Z,22nm,1.0s,mb5.3
ETSF Etsaut 99.28 45 *e*P **P 09 49 45.9 0.0**
comp=Z,22nm,1.0s,mb5.6
ETSF Etsaut 99.28 45 *e*P **P 09 49 45.9 0.0**
ETSF pmax pmax
comp=Z,22nm,1.0s,mb5.6
EPF Esparros 99.89 45 *e*P Pdif 09 49 48.3 -0.6
comp=Z,12nm,1.0s
EPF Esparros 99.89 45 *e*P Pdif 09 49 48.3 -0.6
comp=Z,12nm,1.0s
EPF Esparros 99.89 45 *e*P Pdif 09 49 48.3 -0.6
EPF pmax pmax
comp=Z,13nm,1.0s,mb5.3
MBAR Mbarara 100.19 97 PFAKE 09 50 00.0 +10
MBAR LR LR
comp=Z,139nm,19.0s,MS4.5
YKA Yellowknife Ar 100.65 341 P Pdif 09 49 49.9 -2.3
comp=Z,0.8nm,0.6s,baz=142,slow=4.5,SNR=16
YKA PKKPbc PKKPbc 10 06 04.6 -3.0
comp=Z,0.2nm,0.4s,baz=318,slow=3.8,SNR=4.6
YKA Yellowknife Ar 100.65 341 P Pdif 09 49 49.9 -2.3
YKA PKKPbc PKKPbc 10 06 04.6 -3.0
YKA Yellowknife Ar 100.65 341 P Pdif 09 49 49.9 -2.4
YKA pmax pmax
comp=Z,1.0nm,0.6s
MTLF Montolieu 101.20 46 *e*P Pdif 09 49 53.9 -0.8
MTLF Montolieu 101.20 46 *e*P Pdif 09 49 53.9 -0.8
MTLF Montolieu 101.20 46 *e*P Pdif 09 49 53.9 -0.8
FUNA Funafuti 101.24 252 PFAKE 09 50 00.0 +5.1
FUNA LR LR
comp=Z,5μm,20.0s,MS6.0
MFF Saint Martin d 101.66 42 *e*P Pdif 09 49 55.7 -1.1
comp=Z,32nm,1.2s
MFF Saint Martin d 101.66 42 *e*P Pdif 09 49 55.7 -1.1
comp=Z,32nm,1.2s
MFF Saint Martin d 101.66 42 *e*P Pdif 09 49 55.7 -1.1
MFF pmax pmax
comp=Z,32nm,1.2s
RJF Les Rejaudoux 101.88 44 *e*P Pdif 09 49 56.9 -0.8
RJF *e*R
comp=Z,6μm,21.8s
RJF Les Rejaudoux 101.88 44 *e*P Pdif 09 49 56.9 -0.8
RJF Les Rejaudoux 101.88 44 *e*P Pdif 09 49 56.9 -0.8
CAF Calviac 101.99 44 *e*P Pdif 09 49 57.6 -0.6
CAF Calviac 101.99 44 *e*P Pdif 09 49 57.6 -0.6
CAF Calviac 101.99 44 *e*P Pdif 09 49 57.6 -0.6
WRAK Wrangell Islan 102.30 330 PFAKE 09 50 10.0 +10
WRAK LR LR
comp=Z,946nm,20.0s,MS5.3
DZM Mont Dzumac 102.39 234 *e*SS SS 10 08 52.6 +4.9
comp=Z,3μm,28.8s
DZM *e*LR LR 10 23 41.6
comp=Z,5μm,25.5s
ABPO Ambohimpanom 102.39 122 PFAKE 09 50 10.0 +10
ABPO LR LR

comp=Z,2μm,20.0s,MS5.6
CAN Canberra 102.54 213 PFAKE 09 50 10.0 +9.3
CAN LR LR
comp=Z,1μm,20.0s,MS5.5
SSB Saint Sauveur 103.65 45 PFAKE 09 50 20.0 +14
SSB LR LR
comp=Z,3μm,20.0s,MS5.8
VSL Villasalto 103.69 52 PFAKE 09 50 20.0 +14
VSL LR LR
comp=Z,3μm,22.0s,MS5.7
AVF Avril sur Loir 103.77 43 *e*P Pdif 09 50 05.0 -1.1
AVF Avril sur Loir 103.77 43 *e*P Pdif 09 50 05.0 -1.1
AVF Avril sur Loir 103.77 43 *e*P Pdif 09 50 05.0 -1.1
SMF Signal de Mont 103.97 43 *e*P Pdif 09 50 06.5 -0.5
comp=Z,22nm,1.1s
SMF Signal de Mont 103.97 43 *e*P Pdif 09 50 06.5 -0.5
comp=Z,22nm,1.1s
SMF Signal de Mont 103.97 43 *e*P Pdif 09 50 06.5 -0.5
SMF pmax pmax
comp=Z,22nm,1.1s
SSF Saint Saulge 104.00 43 *e*P Pdif 09 50 05.9 -1.3
SSF Saint Saulge 104.00 43 *e*P Pdif 09 50 05.9 -1.3
SSF Saint Saulge 104.00 43 *e*P Pdif 09 50 05.9 -1.3
ORIF Oris-en-Rattie 104.27 46 *e*P Pdif 09 50 08.6 +0.3
comp=Z,9.3nm,0.8s
ORIF *e*R
comp=Z,3μm,18.5s
ORIF Oris-en-Rattie 104.27 46 *e*P Pdif 09 50 08.6 +0.3
comp=Z,9.3nm,0.8s
ORIF Oris-en-Rattie 104.27 46 *e*P Pdif 09 50 08.6 +0.3
ORIF pmax pmax
comp=Z,9.0nm,0.8s
LOR Lormes 104.31 43 *e*P Pdif 09 50 07.6 -1.0
LOR *e*R
comp=Z,3μm,20.0s
LOR Lormes 104.31 43 *e*P Pdif 09 50 07.6 -1.0
LOR Lormes 104.31 43 *e*P Pdif 09 50 07.6 -1.0
BNI Bardonecchia 104.82 46 PFAKE 09 50 20.0 +9.2
BNI LR LR
comp=Z,4μm,21.0s,MS6.0
LPL La Plagne 105.09 46 *e*P Pdif 09 50 12.3 +0.3
LPL La Plagne 105.09 46 *e*P Pdif 09 50 12.3 +0.3
LPL La Plagne 105.09 46 *e*P Pdif 09 50 12.3 +0.3
LPG La Plagne 105.09 46 *e*P Pdif 09 50 11.8 -0.2
LPG La Plagne 105.09 46 *e*P Pdif 09 50 11.8 -0.2
LPG La Plagne 105.09 46 *e*P Pdif 09 50 11.8 -0.2
ESK Eskdalemuir 105.11 33 PFAKE 09 54 40.0 +14
ESK LR LR
comp=Z,2μm,19.0s,MS5.8
JOHN Johnston Islan 105.23 280 PFAKE 09 54 40.0 +13
JOHN LR LR
comp=Z,15μm,22.0s,MS6.5
KMBO Kilima Mbogo 105.34 101 PFAKE 09 54 40.0 +12
KMBO LR LR
comp=Z,3μm,19.0s,MS5.9
WDD Wield Dalam 105.44 57 PFAKE 09 54 40.0 +13
WDD LR LR
comp=Z,5μm,19.0s,MS6.1
HINF Hinteralfeld 106.33 44 *e*P Pdif 09 50 16.5 -1.0
HINF Hinteralfeld 106.33 44 *e*P Pdif 09 50 16.5 -1.0
HINF Hinteralfeld 106.33 44 *e*P Pdif 09 50 16.5 -1.0
ECH Echery 106.71 43 PFAKE 09 54 40.0 +11
ECH LR LR
comp=Z,3μm,20.0s,MS5.8
RER Riviere de l'E 106.79 129 PFAKE 09 54 40.0 +10
RER LR LR
comp=Z,2μm,22.0s,MS5.6
WLF Walferdange 106.86 42 PFAKE 09 54 40.0 +11
WLF LR LR
comp=Z,4μm,20.0s,MS6.0
TUE Stuetta 107.15 46 PFAKE 09 54 40.0 +10
TUE LR LR
comp=Z,5μm,21.0s,MS6.0
BFO Black Forest 107.45 44 PFAKE 09 54 40.0 +10
BFO LR LR
comp=Z,2μm,20.0s,MS5.8
CEL Celeste 107.54 56 PFAKE 09 54 40.0 +9.1
CEL LR LR
comp=Z,5μm,20.0s,MS6.1
AQU L'Aquila 107.75 51 PFAKE 09 54 40.0 +8.9
AQU LR LR
comp=Z,3μm,21.0s,MS5.8
CUC Castrocucco 108.28 54 PFAKE 09 54 40.0 +7.8
CUC LR LR
comp=Z,2μm,19.0s,MS5.7
TIP Timpagrande 108.56 55 PFAKE 09 54 40.0 +7.2
TIP LR LR
comp=Z,4μm,20.0s,MS6.0
STKA Stephens Creek 108.72 210 PKKPab PKKPab 10 05 53.4 -4.6
comp=Z,3.4nm,0.8s,baz=323,slow=1.7,SNR=6.6
STKA Stephens Creek 108.72 210 PKKPab PKKPab 10 05 53.4 -4.6
TRI Trieste 109.51 48 PFAKE 09 54 40.0 +5.7
TRI LR LR
comp=Z,2μm,20.0s,MS5.6
NKC Novy Kostel 110.72 43 AMS AMS 10 40 40.0
comp=Z,2μm,20.0s
EGAK Eagle 110.78 335 PFAKE 09 54 50.0 +14
EGAK LR LR
comp=Z,870nm,19.0s,MS5.3
GERES GERESS Array B 110.85 45 PKiKP PKiKP 09 54 33.5 -3.2
comp=Z,1.3nm,0.8s,baz=177,slow=2.7,SNR=5.4
GERES GERESS Array B 110.85 45 PKiKP PKiKP 09 54 33.5 -3.2
GERES GERESS Array B 110.85 45 *i* PKiKP PKiKP 09 54 33.6 -3.1
GERES pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 110.90 44 AMS AMS 10 42 20.0
comp=Z,2μm,22.5s
CLL Collm 111.50 42 *e*PKiKP PKiKP 09 54 37.0 -0.9
CLL MLR MLR
comp=Z,4μm,18.8s,MS6.0
CLL Collm 111.50 42 *e*PS PS 10 04 54.0 +2.1
CLL *e*SS SS 10 11 00.0 +8.1
CLL Lm 10 41 00.0
comp=N,1μm,20.1s
CLL Lm 10 41 00.0
comp=E,3μm,18.6s
CLL Lm 10 41 00.0
comp=Z,4μm,18.8s
TIR Tirane 111.64 54 PFAKE 09 54 50.0 +12
TIR LR LR
comp=Z,4μm,19.0s,MS6.0
PRU Pruhonice 111.83 44 AMS AMS 10 42 00.0
comp=Z,2μm,18.5s
PVCC Panska Ves 112.08 43 AMS AMS 10 42 10.0
comp=Z,3μm,21.9s
TREC Trest 112.11 45 AMS AMS 10 45 40.0
comp=Z,2μm,16.5s
KDAK Kodiak Island 112.24 325 PFAKE 09 54 50.0 +11
KDAK LR LR
comp=Z,978nm,20.0s,MS5.4
ILAR Eielson Array 112.91 333 PKiKP PKiKP 09 54 39.4 -0.8
comp=Z,1.9nm,0.9s,baz=163,slow=1.6,SNR=15
ILAR PKKPbc PKKPbc 10 05 33.1 +4.0
comp=Z,0.9nm,1.0s,baz=300,slow=5.0,SNR=5.4
ILAR Eielson Array 112.91 333 PKiKP PKiKP 09 54 39.4 -0.8
ILAR PKKPbc PKKPbc 10 05 33.1 +4.0
ILAR Eielson Array 112.91 333 *i* PKIKP PKiKP 09 54 39.4 -0.8
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
DPC Dobruska-Polom 113.03 44 AMS AMS 10 43 00.0
comp=Z,2μm,13.7s
KONO Kongsberg 113.25 33 PFAKE 09 54 50.0 +9.0
KONO LR LR
comp=Z,1μm,20.0s,MS5.5
COLA College 113.32 333 PFAKE 09 54 50.0 +9.1
COLA LR LR
comp=Z,771nm,19.0s,MS5.3
VYHS Vyhne 113.82 47 *e*P Pdif 09 51 09.6 +19
VYHS pmax pmax
comp=N,4.0nm,0.4s
PSZ Piszkesteto 114.26 48 PFAKE 09 54 50.0 +6.7
PSZ LR LR
comp=Z,2μm,20.0s,MS5.6
NWAO Narrogin (SRO) 114.46 188 PFAKE 09 54 50.0 +5.7
NWAO LR LR
comp=Z,1μm,19.0s,MS5.4
BZS Buzias 114.50 50 ⇑PKIKP PKiKP 09 54 41.8 -2.0
BZS Buzias 114.50 50 ⇑*i*P PKiKP 09 54 41.8 -2.0
HNR Honiara 115.51 239 PFAKE 09 55 00.0 +13
HNR LR LR
comp=Z,975nm,20.0s,MS5.4
DRGR 115.63 49 ⇑PKIKP PKPdf 09 54 43.9 -2.0
DRGR 115.63 49 ⇑*i*P PKPdf 09 54 43.8 -2.1

TRPA Tarpa 115.99 48 ⇑*i*P PKPdf 09 54 47.1 +0.5
CTA Charters Tower 116.39 220 PKKPbc PKKPbc 10 05 17.9 +1.7
comp=Z,4.0nm,0.8s,baz=315,slow=5.6,SNR=6.2
CTA Charters Tower 116.39 220 PKKPbc PKKPbc 10 05 17.9 +1.7
CTAO Charters Tower 116.39 220 PFAKE 09 55 00.0 +12
CTAO LR LR
comp=Z,1μm,20.0s,MS5.5
KWP Kalwaria Pacla 116.60 46 PFAKE 09 55 00.0 +12
KWP LR LR
comp=Z,2μm,21.0s,MS5.6
BURAR Bucovina Array 117.52 49 ⇓PKIKP PKPdf 09 54 49.1 -0.5
BURAR Bucovina Array 117.52 49 ⇓*i*P PKPdf 09 54 49.1 -0.5
MSEY Mahe Island 117.81 116 PFAKE 09 55 00.0 +8.8
MSEY LR LR
comp=Z,2μm,20.0s,MS5.8
VRI Vrincioaia 117.94 51 ⇑PKIKP PKPdf 09 54 46.3 -4.1
VRI Vrincioaia 117.94 51 ⇑*i*P PKPdf 09 54 46.3 -4.1
CFR Carcaliu 118.66 53 ⇑PKIKP PKPdf 09 54 51.2 -0.6
CFR Carcaliu 118.66 53 ⇑*i*P PKPdf 09 54 51.2 -0.6
CSS Prodhromos 119.00 65 PFAKE 09 55 00.0 +7.2
CSS LR LR
comp=Z,2μm,22.0s,MS5.7
ASAR Alice Springs 119.09 207 PKP PKPdf 09 54 51.5 -2.0
comp=Z,4.3nm,0.9s,baz=148,slow=2.0,SNR=27
ASAR PKKPbc PKKPbc 10 05 07.2 +0.5
comp=Z,1.8nm,0.8s,baz=342,slow=3.4,SNR=11
ASAR Alice Springs 119.09 207 PKP PKPdf 09 54 51.5 -2.0
ASAR PKKPbc PKKPbc 10 05 07.2 +0.5
ASAR Alice Springs 119.09 207 PKIKP PKPdf 09 54 51.5 -2.0
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR pmax pmax
comp=Z,2.0nm,0.8s
KIS Kishinev 119.66 51 *e*PKP PKPdf 09 54 53.0 -0.7
KIS *e*L 10 34 20.0
KIS LRM 10 52 58.0
comp=Z,1μm,20.0s
KIS Kishinev 119.66 51 *e*PKIKP PKPdf 09 54 53.0 -0.7
KIS *e* 09 54 58.0
BR131 Keskin Array S 120.83 60 *e*PKPdf PKPdf 09 54 55.6 -0.5
BR131 LR LR
comp=Z,2μm,19.0s,MS5.7
BRTR Keskin Array B 120.83 60 PKP PKPdf 09 54 55.5 -0.7
comp=Z,6.5nm,0.9s,baz=189,slow=3.3,SNR=20
BRTR Keskin Array B 120.83 60 PKP PKPdf 09 54 55.5 -0.7
BRTR Keskin Array B 120.83 60 PKIKP PKPdf 09 54 55.5 -0.7
BRTR pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 120.91 47 PFAKE 09 55 10.0 +14
KIEV LR LR
comp=Z,1μm,20.0s,MS5.6
AKASG Malin Array Be 120.92 47 PKP PKPdf 09 54 54.6 -1.4
comp=Z,5.3nm,0.8s,baz=266,slow=2.5,SNR=13
AKASG Malin Array Be 120.92 47 PKP PKPdf 09 54 54.5 -1.5
AKASG Malin Array Be 120.92 47 PKIKP PKPdf 09 54 54.6 -1.4
AKASG pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 121.54 34 PKP PKPdf 09 54 56.2 -0.6
comp=Z,1.5nm,0.7s,baz=143,slow=6.7,SNR=5.4
FINES FINESS Array B 121.54 34 PKP PKPdf 09 54 56.2 -0.6
FINES FINESS Array B 121.54 34 PKIKP PKPdf 09 54 56.2 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.7s
WB2 Warramunga Arr 122.26 209 *e*PKPdf PKPdf 09 54 58.0 -1.6
WRA Warramunga Arr 122.27 209 PKP PKPdf 09 54 57.9 -1.7
comp=Z,10nm,0.8s,baz=159,slow=1.7,SNR=75
WRA PKKPbc PKKPbc 10 04 55.1 +0.3
comp=Z,1.6nm,0.9s,baz=340,slow=4.3,SNR=7.5
WRA Warramunga Arr 122.27 209 PKP PKPdf 09 54 57.9 -1.7
WRA PKKPbc PKKPbc 10 04 55.1 +0.3
WRA Warramunga Arr 122.27 209 PKIKP PKPdf 09 54 57.9 -1.8
WRA pmax pmax
comp=Z,10.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRAB Tennant Creek 122.27 209 *e*PKPdf PKPdf 09 54 58.2 -1.5
WRAB LR LR
comp=Z,2μm,19.0s,MS5.7
WRAB Tennant Creek 122.27 209 *e*PKIKP PKPdf 09 54 58.2 -1.5
WRAB MLR MLR
comp=Z,2μm,19.0s,MS5.7
ARCES ARCESS Array B 122.47 24 PKP PKPdf 09 54 56.9 -1.6
comp=Z,4.7nm,0.9s,baz=284,slow=4.9,SNR=5.2
ARCES ARCESS Array B 122.47 24 PKP PKPdf 09 54 56.9 -1.6
ARCES ARCESS Array B 122.47 24 PKIKP PKPdf 09 54 56.9 -1.5
ARCES pmax pmax
comp=Z,5.0nm,1.0s
KEV Kevo 123.01 24 PFAKE 09 55 10.0 +11
KEV LR LR
comp=Z,2μm,21.0s,MS5.7
PMG Port Moresby 124.27 229 PKP PKPdf 09 55 03.1 -0.5
comp=Z,7.5nm,0.8s,baz=210,slow=13,SNR=3.4
PMG Port Moresby 124.27 229 PKP PKPdf 09 55 03.1 -0.5
PMG LR LR
comp=Z,2μm,21.0s,MS5.8
PMG Port Moresby 124.27 229 *i* PKIKP PKPdf 09 55 04.2 +0.6
PMG pmax pmax
comp=Z,11nm,1.0s
ANN Anapa 124.91 55 *i* PKIKP PKPdf 09 55 01.4 -2.4
ANN *e* 10 02 05.4
ANN pmax pmax
comp=Z,66nm,1.4s
APA Apatity 125.27 27 ⇑*i* PKIKP PKPdf 09 55 04.0 +0.2
APA MLR MLR
comp=Z,3μm,16.0s,MS6.0
MBWA Marble Bar 125.61 193 PFAKE 09 55 10.0 +3.9
MBWA LR LR
comp=Z,1μm,20.0s,MS5.6
LVZ Lovozero 125.74 27 PFAKE 09 55 10.0 +5.3
LVZ LR LR
comp=Z,2μm,20.0s,MS5.7
OBN Obninsk 126.10 42 PFAKE 09 55 20.0 +14
OBN LR LR
comp=Z,3μm,20.0s,MS5.9
OBN Obninsk 126.10 42 *c* *i* PKIKP PKPdf 09 55 05.9 +0.1
OBN *i* 09 55 11.6
OBN pmax pmax
comp=Z,94nm,2.5s
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.7
SOC Sochi 126.24 57 *i* PKIKP PKPdf 09 55 05.9 -0.5
SOC *e*SS SS 10 14 05.6 +2.8
SOC *e*SSS 10 18 38.0
SOC pmax pmax
comp=Z,40nm,0.9s
WAKE Wake Island 126.44 271 PFAKE 09 55 20.0 +12
WAKE LR LR
comp=Z,558nm,19.0s,MS5.3
MOS Moscow 126.76 42 *e*PKIKP PKPdf 09 55 06.0 -1.0
MOS MLR MLR
comp=Z,3μm,18.0s,MS6.0
FITZ Fitzroy Crossi 127.09 201 PKP PKPdf 09 55 07.7 -1.3
comp=Z,8.4nm,1.1s,baz=238,slow=8.5,SNR=5.7
FITZ Fitzroy Crossi 127.09 201 PKP PKPdf 09 55 07.7 -1.2
BHD Baghdad 127.09 71 *i* x PKPdf 09 55 04.6 -3.8
BHD *i* x x 09 57 04.3
BHD *i* x x 10 02 07.3
BHD *i* x x 10 02 17.3
VSR Storozhevoye 127.19 48 *e*PKIKP PKPdf 09 55 07.6 -0.4
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=E,2.0nm,0.3s
VSR MLR MLR
comp=N,1μm,24.0s,MS5.8
VSR MLR MLR
comp=E,2μm,24.0s,MS5.8
VSR MLR MLR
comp=Z,2μm,24.0s,MS5.7
DGAR Diego Garcia 127.72 133 PFAKE 09 55 20.0 +10
DGAR LR LR
comp=Z,2μm,20.0s,MS5.7
KLMR Klimovskoe 127.97 35 *e*PKIKP PKPdf 09 55 07.2 -2.0
KLMR pmax pmax
comp=Z,100nm,1.6s
KLMR MLR MLR
comp=Z,2μm,19.0s,MS5.9
NAY Al-Naaiem 128.12 76 *e*P PKPdf 09 55 10.3 -0.2
NAY AMb AMB 09 55 11.6
comp=Z,21nm,1.0s
MIB Mutribah 128.38 76 *e*P PKPdf 09 55 10.9 -0.1
MIB AMb AMB 09 55 12.2
comp=Z,43nm,1.0s

UMR Umm Al-Rimmam 128.61 76 *e*P PKPdf 09 55 11.7 +0.3
UMR AMb AMB 09 55 12.8
comp=Z,110nm,0.9s
GNI Garni 129.17 62 PFAKE 09 55 20.0 +7.9
GNI LR LR
comp=Z,1μm,20.0s,MS5.6
BILL Bilibino 131.53 335 *e*PKPdf PKPdf 09 55 16.4 +0.6
BILL LR LR
comp=Z,1μm,19.0s,MS5.5
BILL Bilibino 131.53 335 ⇓*i* PKIKP PKPdf 09 55 16.4 +0.6
BILL pmax pmax
comp=Z,21nm,1.1s
BILL MLR MLR
comp=Z,700nm,18.0s,MS5.4
COCO West Island 134.31 164 PFAKE 09 55 30.0 +7.3
COCO LR LR
comp=Z,956nm,20.0s,MS5.5
COCO West Island 134.31 164 *i* PKIKP PKPdf 09 55 20.9 -1.8
SOKR Solikamsk 136.66 35 *i* PKIKP PKPdf 09 55 26.4 +0.8
SOKR pmax pmax
comp=Z,20nm,0.8s
ARU Arti 138.37 40 *e*PKPdf PKPdf 09 55 29.6 +0.8
ARU LR LR
comp=Z,2μm,19.0s,MS5.9
ARU Arti 138.37 40 *i* PKIKP PKPdf 09 55 29.5 +0.6
ARU 09 58 15.5
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.8
AKTO Aktyubinsk 139.11 49 PKhKP PKPpre 09 55 20.9
comp=Z,1.0nm,0.5s,baz=27,slow=4.8,SNR=4.5
AKTO PKP PKPdf 09 55 31.0 +0.6
comp=Z,5.3nm,0.9s,baz=5.8,slow=1.7,SNR=10
AKTO Aktyubinsk 139.11 49 PKP PKPdf 09 55 31.0 +0.6
AKTO Aktyubinsk 139.11 49 PKHKP PKPpre 09 55 20.9
AKTO 09 55 31.0
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO pmax pmax
comp=Z,5.0nm,0.9s
PETK Petropavlovsk- 139.23 315 PKP PKPdf 09 55 29.4 -1.2
comp=Z,18nm,1.0s,baz=116,slow=6.8,SNR=5.2
PETK Petropavlovsk- 139.23 315 PKP PKPdf 09 55 29.4 -1.2
PETK Petropavlovsk- 139.23 315 PKIKP PKPdf 09 55 29.4 -1.1
PETK pmax pmax
comp=Z,18nm,1.0s
SVE Sverdlovsk 139.37 39 *i* PKIKP PKPdf 09 55 31.2 +0.5
SVE pmax pmax
comp=Z,24nm,1.4s
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.9
AB31 Akbulak array 140.49 50 *i* PKHKP PKPpre 09 55 25.4
AB31 pmax pmax
comp=Z,30nm,1.1s
KAPI Kappang 141.21 198 PKP PKPdf 09 55 33.9 -1.6
comp=Z,14nm,0.9s,baz=220,slow=5.8,SNR=4.5
KAPI Kappang 141.21 198 PKP PKPdf 09 55 33.9 -1.6
KAPI LR LR
comp=Z,1μm,21.0s,MS5.6
GUMO Guam 141.71 249 PFAKE 09 55 50.0 +14
GUMO LR LR
comp=Z,1μm,20.0s,MS5.6
GOA Goa 144.49 110 ⇑*i*P PKPdf 09 55 37.6 -3.5
KAD Karad 145.78 108 *ex* PKPdf 09 55 44.0 +0.7
BRVK Borovoye 145.86 41 *e*PKPbc PKPbc 09 55 42.0 -1.0
BRVK LR LR
comp=Z,2μm,21.0s,MS5.9
BVAR Borovoye Array 145.93 41 PKPbc PKPbc 09 55 43.7 +0.5
comp=Z,32nm,0.5s,baz=293,slow=2.8,SNR=190
BVAR Borovoye Array 145.93 41 PKPbc PKPbc 09 55 43.7 +0.5
YAK Yakutsk 147.33 341 *c* *i* PKP2 PKPdf 09 55 45.7 +1.2
YAK pmax pmax
comp=Z,131nm,1.0s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=N,14nm,1.4s
KBL Kabul 147.34 75 *e*PKPbc PKPdf 09 55 46.2 +0.8
KBL Kabul 147.34 75 *e*PKIKP PKPdf 09 55 46.2 +0.8
KKAR Karatay Array 148.53 59 *e*PKPdf PKPdf 09 55 47.3 +0.2
KKAR *e*PKPbc PKPbc 09 55 50.5 -0.3
KKAR *e*PKPab PKPab 09 55 53.9 -0.5
KKAR Karatay Array 148.53 59 *e*PKIKP PKPdf 09 55 47.3 +0.2
KKAR *e* 09 55 53.9
KSM Kuching 149.16 184 PFAKE 09 56 00.0 +11
KSM LR LR
comp=Z,1μm,21.0s,MS5.7
HYB Hyderabad 149.31 112 *i* PKP PKPdf 09 55 48.0 -1.1
comp=Z,60nm,1.0s
AKL Akola 149.81 105 *e*PKP PKPdf 09 55 46.8 -3.1
AKL AMP 09 55 57.1
comp=Z,166nm,2.0s
AKL *i* x x 09 57 03.2
AKL AMS AMS 10 15 32.7
comp=Z,523nm,17.8s,MS5.4
YSS Yuzh-Sakhalins 150.03 309 ⇑*i* PKHKP PKPbc 09 55 53.7 -0.7
DAV Davao City (W) 150.08 216 PFAKE 09 56 00.0 +9.5
DAV LR LR
comp=Z,992nm,19.0s,MS5.6
AJM Ajmer 150.20 93 *ex* PKPbc 09 55 53.0 -2.4
NIL Nilore 150.69 78 PFAKE 09 56 00.0 +9.1
NIL LR LR
comp=Z,69nm,19.0s,MS4.5
ERM Erimo 150.79 299 PFAKE 09 56 00.0 +9.3
ERM LR LR
comp=Z,2μm,21.0s,MS5.9
EKS2 Erkin-Say 150.97 59 P PKPdf 09 55 52.4 +1.4
SNR=16
EKS2 P 09 55 52.4
SNR=16
EKS2 Erkin-Say 150.97 59 *e*PKPdf PKPdf 09 55 52.2 +1.3
EKS2 *e*PKPbc PKPbc 09 55 56.9 +0.1
EKS2 LR LR
comp=Z,1μm,20.0s,MS5.7
EKS2 Erkin-Say 150.97 59 *e*PKIKP PKPdf 09 55 52.3 +1.3
EKS2 *e* 09 55 56.9
EKS2 MLR MLR
comp=Z,1μm,20.0s,MS5.7
AML Almayashu 150.99 61 P PKPdf 09 55 52.7 +1.6
SNR=11
AML P 09 55 52.7
SNR=11
BHPL Bhopal 151.31 101 *e*PKP PKPdf 09 55 50.0 -2.1
IPM Ipoh 151.39 165 *e*PKPdf PKPdf 09 55 52.3 -0.3
IPM *e*PKPbc PKPbc 09 55 57.0 -1.7
USP Ospenovka 151.39 58 P PKPbc 09 55 58.2 +0.5
SNR=22
USP P 09 55 58.2
SNR=22
NVS Novosibirsk 151.46 31 *e*PKIKP PKPdf 09 55 50.5 -0.8
NVS pmax pmax
comp=Z,317nm,1.7s
NVS pmax pmax
comp=E,52nm,1.5s
AAK Ala-Archa 151.50 59 P PKPbc 09 55 58.6 +0.7
SNR=20
AAK P 09 55 58.6
SNR=20
AAK Ala-Archa 151.50 59 PFAKE 09 56 00.0 +8.2
AAK LR LR
comp=Z,2μm,19.0s,MS5.9
AAK Ala-Archa 151.50 59 *c* *i* PKIKP PKPbc 09 55 58.5 +0.5
KURK Kurchatov 151.53 41 PKP PKPdf 09 55 51.4 -0.2
comp=Z,3.6nm,0.9s,baz=301,slow=2.3,SNR=19
KURK PKPbc PKPbc 09 55 57.6 -0.2
comp=Z,35nm,0.5s,baz=305,slow=2.8,SNR=170
KURK PKPab PKPab 09 56 07.3 +0.9
comp=Z,36nm,0.6s,baz=300,slow=3.0,SNR=22
KURK PP PP 09 59 42.3 +4.6
comp=Z,6.9nm,0.9s,baz=268,slow=6.5,SNR=5.0
KURK Kurchatov 151.53 41 PKP PKPdf 09 55 51.4 -0.2
KURK *e*PKPdf PKPdf 09 55 51.9 +0.3
KURK *e*PKPbc PKPbc 09 55 57.4 -0.4
KURK PKPbc PKPbc 09 55 57.6 -0.2
KURK PKPab PKPab 09 56 07.3 +0.9
KURK PP PP 09 59 42.3 +4.6
KURK LR LR
comp=Z,2μm,21.0s,MS5.9
KURK Kurchatov 151.53 41 PKIKP PKPdf 09 55 51.4 -0.2
KURK 09 55 57.6
KURK 09 56 07.3
KURK 09 59 42.3
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK pmax pmax
comp=Z,35nm,0.5s

KURK					pmax	pmax		
	comp=Z,36nm,0.6s							
KURK					pmax	pmax		
	comp=Z,7.0nm,0.9s							
FRU	**Bishkek**	**151.55**	**59**	*e*PKIKP	PKPdf	09 55 53.0	+1.1	
FRU				*i*		09 55 59.0		
FRU				pmax	pmax			
	comp=Z,97nm,2.2s							
UCH	**Uchtor**	**151.58**	**60**	P	PKPbc	09 55 59.6	+1.4	
	SNR=11							
UCH				P		09 55 59.6		
	SNR=11							
CHMS	**Chumysh**	**151.62**	**58**	P	PKPbc	09 55 58.3	+0.1	
	SNR=23							
CHMS				P		09 55 58.3		
	SNR=23							
NGP	**Nagpur**	**151.69**	**106**	*e*PKP	PKPdf	09 55 50.7	-2.1	
NGP				*ex*	x	09 59 25.0		
KBK	**Karagaybulak**	**151.83**	**59**	P	PKPdf	09 55 53.5	+1.2	
	SNR=6.0							
KBK				P		09 55 53.5		
	SNR=6.0							
KULM	**Kulim**	**152.09**	**164**	*e*PKPbc	PKPbc	09 55 57.8	-2.4	
KULM				LR	LR			
	comp=Z,1μm,20.0s,MS5.7							
KZA	**Kyzart**	**152.15**	**60**	P	PKPdf	09 55 54.4	+1.6	
	SNR=6.9							
KZA				P		09 55 54.4		
	SNR=6.9							
TKM2	**Tokmak 2**	**152.25**	**58**	P	PKPdf	09 55 53.8	+0.9	
	SNR=14							
TKM2				P		09 55 53.8		
	SNR=14							
TKM2	**Tokmak 2**	**152.25**	**58**	PFAKE		09 56 00.0	+7.1	
TKM2				LR	LR			
	comp=Z,1μm,19.0s,MS5.7							
THN	**Thein Dam**	**152.57**	**81**	*ex*	PKPbc	09 56 00.0	-0.7	
KKM	**Kota Kinabalu**	**152.73**	**197**	PFAKE		09 56 00.0	+5.4	
KKM				LR	LR			
	comp=Z,807nm,22.0s,MS5.5							
ZALV	**Zalesovo Beam**	**152.74**	**31**	PKP	PKPdf	09 55 53.1	-0.2	
	comp=Z,5.2nm,0.8s,baz=283,slow=2.6,SNR=22							
ZALV				PKPbc	PKPbc	09 55 59.9	-0.5	
	comp=Z,65nm,0.8s,baz=304,slow=3.0,SNR=73							
ZALV				PKPab	PKPab	09 56 09.8	-1.5	
	comp=Z,61nm,0.7s,baz=305,slow=3.1,SNR=16							
ZALV	**Zalesovo Beam**	**152.74**	**31**	PKP	PKPdf	09 55 53.1	-0.2	
ZALV				PKPbc	PKPbc	09 55 59.9	-0.5	
ZALV				PKPab	PKPab	09 56 09.8	-1.5	
ZALV	**Zalesovo Beam**	**152.74**	**31**	PKIKP	PKPdf	09 55 53.1	-0.2	
ZALV						09 55 59.9		
ZALV						09 56 09.8		
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ZALV				pmax	pmax			
	comp=Z,65nm,0.8s							
ZALV				pmax	pmax			
	comp=Z,61nm,0.7s							
ULHL	**Ulahol**	**152.84**	**60**	P	PKPdf	09 55 55.2	+1.4	
	SNR=8.6							
ULHL				P		09 55 55.2		
	SNR=8.6							
KSH	**Kashi**	**153.01**	**66**	*e*PKPbc	PKPdf	09 55 54.8	+0.7	
KSH				pPKP	pPKPdf	09 56 05.6	-0.5	
KSH				sPKP		09 56 09.3		
KSH				PKS		09 59 27.8		
KSH				SKS	SKSdf	10 02 56.5	-1.8	
KSH				AMB	AMB			
	comp=Z,500nm,5.7s							
KSH				LR	LR			
	comp=N,200nm,5.3s							
KSH				LR	LR			
	comp=E,260nm,6.3s							
KSH				LR	LR			
	comp=Z,260nm,8.3s							
CLNS	**Chul'man**	**153.02**	**340**	*e*PKIKP	PKPbc	09 56 00.6	-0.3	
CLNS				pmax	pmax			
	comp=Z,30nm,1.1s							
CLNS				pmax	pmax			
	comp=E,5.0nm,1.0s							
CLNS				pmax	pmax			
	comp=N,13nm,1.0s							
NDI	**New Delhi**	**153.04**	**90**	*ex*	PKPbc	09 56 02.0	+0.1	
DDI	**Dehra Dun**	**154.15**	**87**	*e*PKP	PKPdf	09 55 53.8	-2.3	
DDI				*ex*	x	09 58 18.0		
HABR	**Khabarovsk**	**154.25**	**316**	*e*PKIKP	PKPbc	09 56 03.5	-0.4	
HABR				*e*		09 56 17.1		
HABR				*e*		09 59 52.7		
HABR				*e*		10 03 01.3		
HABR				*e*PPP		10 03 22.0		
HABR				*e*SS	SS	10 19 34.0	+4.3	
HABR				*e*SSS		10 25 26.4		
HABR				pmax	pmax			
	comp=Z,16nm,1.1s							
HABR				pmax	pmax			
	comp=N,8.0nm,0.9s							
HABR				pmax	pmax			
	comp=E,6.0nm,0.7s							
BOD	**Bodaibo**	**154.30**	**353**	*e*PKIKP	PKPdf	09 55 54.4	-1.0	
BOD				pmax	pmax			
	comp=Z,133nm,2.4s							
MJAR	**Matsushiro Arr**	**155.03**	**288**	PKP	PKPdf	09 55 56.3	-0.8	
	comp=Z,2.6nm,0.9s,baz=135,slow=1.9,SNR=5.5							
MJAR				PKPbc	PKPdf	09 56 05.4	+8.3	
	comp=Z,3.8nm,1.0s,baz=120,slow=1.4,SNR=5.3							
MJAR	**Matsushiro Arr**	**155.03**	**288**	PKP	PKPdf	09 55 56.3	-0.8	
MJAR				PKPbc	PKPdf	09 56 05.4	+8.3	
MJAR	**Matsushiro Arr**	**155.03**	**288**	PKIKP	PKPdf	09 55 56.3	-0.8	
MJAR						09 56 05.4		
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MJAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MAJO	**Matsushiro**	**155.04**	**288**	PFAKE		09 56 10.0	+13	
MAJO				LR	LR			
	comp=Z,1μm,20.0s,MS5.7							
MAT	**Matsushiro**	**155.04**	**288**	PKP	PKPdf	09 55 56.2	-0.9	
MKAR	**Makanchi Array**	**155.51**	**47**	PKP	PKPdf	09 55 57.1	-0.2	
	comp=Z,5.8nm,1.0s,baz=288,slow=1.9,SNR=17							
MKAR				PKPbc	PKPdf	09 56 06.4	+9.0	
	comp=Z,6.5nm,0.8s,baz=306,slow=2.3,SNR=14							
MKAR				PKPab	PKPab	09 56 23.2	-0.1	
	comp=Z,33nm,0.8s,baz=290,slow=3.5,SNR=31							
MKAR	**Makanchi Array**	**155.51**	**47**	PKP	PKPdf	09 55 57.1	-0.2	
MKAR				PKPbc	PKPdf	09 56 06.4	+9.0	
MKAR				PKPab	PKPab	09 56 23.2	-0.1	
MKAR	**Makanchi Array**	**155.51**	**47**	PKIKP	PKPdf	09 55 57.2	-0.2	
MKAR						09 56 06.4		
MKAR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MKAR				pmax	pmax			
	comp=Z,33nm,0.8s							
KLR	**Kul'dur**	**155.71**	**321**	*e*PKIKP	PKPdf	09 55 52.8	-4.8	
KOLN	**Koldanda**	**158.17**	**96**	*e*P	PKPdf	09 56 00.5	-0.9	
KOLN	**Koldanda**	**158.17**	**96**	*e*P	PKPdf	09 56 00.5	-0.9	
DANN	**Dangsing**	**158.48**	**94**	*e*P	PKPdf	09 56 01.4	-0.4	
	comp=Z,152nm,1.2s							
DANN	**Dangsing**	**158.48**	**94**	*e*P	PKPdf	09 56 01.4	-0.4	
GKN	**Gorkha**	**159.12**	**96**	*e*P	PKPdf	09 56 01.5	-1.1	
	comp=Z,99nm,1.3s							
GKN	**Gorkha**	**159.12**	**96**	*e*P	PKPdf	09 56 01.5	-1.1	
DMN	**Daman**	**159.38**	**97**	*e*P	PKPdf	09 56 02.6	-0.3	
	comp=Z,87nm,1.5s							
DMN	**Daman**	**159.38**	**97**	*e*P	PKPdf	09 56 02.6	-0.3	
MDJ	**Mudanjiang**	**159.42**	**312**	PKP	PKPdf	09 56 00.4	-2.0	
MDJ				AMB	AMB			
	comp=Z,360nm,6.8s							
MDJ				LR	LR			
	comp=Z,1μm,20.4s,MS5.7							
MDJ	**Mudanjiang**	**159.42**	**312**	PFAKE		09 56 10.0	+7.6	
MDJ				LR	LR			
	comp=Z,1μm,20.0s,MS5.7							
KKN	**Kakani**	**159.59**	**97**	*e*P	PKPdf	09 56 02.2	-0.9	
	comp=Z,91nm,1.5s							
KKN	**Kakani**	**159.59**	**97**	*e*P	PKPdf	09 56 02.2	-0.9	
KKN	**Kakani**	**159.59**	**97**	*e*PKIKP	PKPdf	09 56 02.2	-0.9	
PKI	**Pulchoki**	**159.63**	**98**	*e*P	PKPdf	09 56 02.3	-0.9	
	comp=Z,118nm,1.5s							
PKI	**Pulchoki**	**159.63**	**98**	*e*P	PKPdf	09 56 02.3	-0.9	
PKI	**Pulchoki**	**159.63**	**98**	*e*PKIKP	PKPdf	09 56 02.3	-0.9	
IRK	**Irkutsk**	**159.97**	**7**	*e*PKP2	PKPab	09 56 41.4	-0.9	
IRK				*e*		10 00 24.2		
IRK				pmax	pmax			
	comp=Z,92nm,1.6s							
GUN	**Gumba**	**160.13**	**97**	*e*P	PKPdf	09 56 03.1	-0.6	
	comp=Z,219nm,1.9s							
GUN	**Gumba**	**160.13**	**97**	*e*P	PKPdf	09 56 03.1	-0.6	
WMQ	**Urumqi**	**160.26**	**49**	*e*PKP	PKPdf	09 56 03.0	-0.3	
WMQ				PP	PP	10 00 29.1	+2.7	
WMQ				SKS	SKSdf	10 03 03.1	-2.5	
WMQ				AMB	AMB			
	comp=Z,810nm,6.2s							
WMQ				LR	LR			
	comp=N,2μm,17.0s							
WMQ				LR	LR			
	comp=E,2μm,18.0s							
WMQ				LR	LR			
	comp=Z,1μm,20.8s							
JIRN	**Jiri**	**160.31**	**98**	*e*P	PKPdf	09 56 03.8	-0.1	
	comp=Z,39nm,0.9s							
JIRN	**Jiri**	**160.31**	**98**	*e*P	PKPdf	09 56 03.8	-0.1	
RAMN	**Ramite**	**160.41**	**101**	*e*P	PKPdf	09 56 03.7	-0.4	
RAMN	**Ramite**	**160.41**	**101**	*e*P	PKPdf	09 56 03.7	-0.4	
TLY	**Talaya**	**160.45**	**9**	PFAKE		09 56 10.0	+6.7	
TLY				LR	LR			
	comp=Z,1μm,20.0s							
TLY	**Talaya**	**160.45**	**9**	*e*PKP2	PKPab	09 56 44.0	-0.5	
TLY				*e*		10 00 21.2		
TLY				pmax	pmax			
	comp=Z,29nm,1.1s							
ODAN	**Odare**	**161.03**	**102**	*e*P	PKPdf	09 56 04.3	-0.4	
	comp=Z,62nm,1.0s							
ODAN	**Odare**	**161.03**	**102**	*e*P	PKPdf	09 56 04.3	-0.4	
HIA	**Hailar**	**161.10**	**336**	PFAKE		09 56 10.0	+5.9	
HIA				LR	LR			
	comp=Z,1μm,19.0s							
TAPN	**Taplejung**	**161.47**	**100**	*e*P	PKPdf	09 56 04.9	-0.3	
	comp=Z,39nm,1.1s							
TAPN	**Taplejung**	**161.47**	**100**	*e*P	PKPdf	09 56 04.9	-0.3	
ZAK	**Zakamensk**	**161.67**	**10**	*e*PKIKP	PKPdf	09 56 04.0	-0.6	
ZAK				*e*		09 56 49.2		
ZAK				*e*		10 00 29.2		
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.4s							
KSRS	**Korea Array**	**163.13**	**293**	PKP	PKPdf	09 56 06.0	-0.6	
	comp=Z,5.2nm,1.0s,baz=70,slow=1.1,SNR=11							
KSRS				PKPab	PKPab	09 56 57.4	+0.6	
	comp=Z,2.9nm,0.8s,baz=91,slow=5.2,SNR=5.0							
KSRS	**Korea Array**	**163.13**	**293**	PKIKP	PKPdf	09 56 06.0	-0.5	
KSRS						09 56 57.4		
KSRS				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KSAR	**Wonju Array Be**	**163.16**	**293**	PKP	PKPdf	09 56 06.0	-0.6	
KSAR				PKPab	PKPab	09 56 57.4	+0.4	
KSAR	**Wonju Array Be**	**163.16**	**293**	PKIKP	PKPdf	09 56 06.0	-0.6	
KSAR						09 56 57.4		
CM31	**Chiang Mai Arr**	**163.76**	**147**	PFAKE		09 56 20.0	+12	
CM31				LR	LR			
	comp=Z,860nm,19.0s							
CMAR	**Chiang Mai Arr**	**163.76**	**147**	PKP	PKPdf	09 56 07.7	0.0	
	comp=Z,5.4nm,0.6s,baz=245,slow=2.7,SNR=25							
CMAR				PKPab	PKPab	09 56 58.8	-1.1	
	comp=Z,6.1nm,1.0s,baz=223,slow=4.8,SNR=8.4							
CMAR				PP	PP	10 01 01.9	+17	
	comp=Z,0.7nm,0.3s,baz=238,slow=6.2,SNR=4.1							
CMAR	**Chiang Mai Arr**	**163.76**	**147**	PKP	PKPdf	09 56 07.7	0.0	
CMAR				PKPab	PKPab	09 56 58.8	-1.1	
CMAR				PP	PP	10 01 01.9	+17	
CMAR	**Chiang Mai Arr**	**163.76**	**147**	PKIKP	PKPdf	09 56 07.7	0.0	
CMAR						09 56 58.8		
CMAR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
CMAR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CHTO	**Chiang Mai**	**164.06**	**146**	*e*PKPdf	PKPdf	09 56 07.9	-0.1	
CHTO				LR	LR			
	comp=Z,969nm,21.0s							
CHTO	**Chiang Mai**	**164.06**	**146**	*e*PKIKP	PKPdf	09 56 07.9	0.0	
CHTO				MLR	MLR			
	comp=Z,969nm,21.0s							
SHL	**Shillong**	**164.12**	**111**	*e*PKP	PKPdf	09 56 05.2	-2.6	
SHL				*ex*	x	10 07 30.5		
INCN	**Inchon**	**164.13**	**294**	PFAKE		09 56 20.0	+13	
INCN				LR	LR			
	comp=Z,1μm,20.0s							
SONM	**Songino Array**	**164.53**	**5**	PKP	PKPdf	09 56 06.4	-1.1	
	comp=Z,1.8nm,0.9s,baz=312,slow=2.1,SNR=7.4							
SONM				PKPab	PKPab	09 57 03.2	+0.7	
	comp=Z,9.1nm,0.9s,baz=341,slow=3.5,SNR=16							
SONM	**Songino Array**	**164.53**	**5**	PKP	PKPdf	09 56 06.4	-1.1	
SONM				PKPab	PKPab	09 57 03.2	+0.7	
SONM	**Songino Array**	**164.53**	**5**	PKIKP	PKPdf	09 56 06.4	-1.1	
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SONM				pmax	pmax			
	comp=Z,9.0nm,0.9s							
ULN	**Ulaanbaatar**	**164.54**	**3**	*e*PKPdf	PKPdf	09 56 07.4	-0.1	
ULN				LR	LR			
	comp=Z,1μm,21.0s							
ULN	**Ulaanbaatar**	**164.54**	**3**	*e*PKIKP	PKPdf	09 56 07.4	-0.1	
ULN				MLR	MLR			
	comp=Z,1μm,21.0s							
LSA	**Lhasa**	**165.07**	**96**	PKP	PKPdf	09 56 08.8	+0.3	
LSA				LR	LR			
	comp=E,2μm,30.1s							
LSA				LR	LR			
	comp=Z,1μm,25.2s							
LSA	**Lhasa**	**165.07**	**96**	*e*PKPdf	PKPdf	09 56 09.9	+1.4	
LSA	**Lhasa**	**165.07**	**96**	*e*PKIKP	PKPdf	09 56 09.9	+1.4	
IMP	**Imphal**	**165.29**	**118**	*ex*	PKPab	09 57 10.0	+3.4	
YHNB	**Yeheng**	**166.15**	**239**	PFAKE		09 56 20.0	+10	
YHNB				LR	LR			
	comp=Z,1μm,20.0s							
TATO	**Taipei**	**166.24**	**241**	PFAKE		09 56 20.0	+10	
TATO				LR	LR			
	comp=Z,1μm,21.0s							
QIZ	**Qiongzhong**	**166.59**	**186**	PFAKE		09 56 20.0	+10	
QIZ				LR	LR			
	comp=Z,1μm,20.0s							
BJI	**Beijing**	**170.08**	**322**	PKP	PKPdf	09 56 12.8	+1.0	
BJI				SS	SS	10 22 18.5	+4.6	
BJI				LR	LR			
	comp=N,540nm,17.2s							
BJI				LR	LR			
	comp=E,650nm,22.8s							
BJI				LR	LR			
	comp=Z,510nm,23.6s							
BJT	**Baijiatuau**	**170.10**	**322**	PFAKE		09 56 20.0	+8.2	
BJT				LR	LR			
	comp=Z,2μm,21.0s							
GTA	**Gaotai**	**170.22**	**42**	PKP	PKPdf	09 56 12.8	+0.9	
GTA				pPKP	pPKPdf	09 56 23.4	-0.5	
GTA				sPKP		09 56 27.6		
GTA				PP	PP	10 01 21.6	+3.6	
GTA				SKS	SKSdf	10 03 11.1	-1.3	
GTA				SKKS	SKKSac	10 08 02.3	+0.3	
GTA				SS	SS	10 22 16.5	+0.9	
GTA				AMB	AMB			
	comp=Z,410nm,6.9s							
NJ2	**Nanjing**	**171.03**	**270**	*e*PKP	PKPdf	09 56 12.8	+0.3	
NJ2				pPKP	pPKPdf	09 56 19.1	-5.5	
NJ2				sPKP		09 56 24.3		
NJ2				SKS	SKSdf	10 03 09.5	-3.6	
NJ2				AMB	AMB			
	comp=Z,500nm,6.0s							
NJ2				LR	LR			
	comp=N,750nm,22.0s							
NJ2				LR	LR			
	comp=E,1μm,24.6s							
NJ2				LR	LR			
	comp=Z,340nm,26.6s							
HHC	**Hu-ho-hao-te**	**171.18**	**344**	*e*PKP	PKPdf	09 56 11.8	-0.5	
HHC				sPKP		09 56 25.5		
HHC				PKS		09 59 43.1		
HHC				PP	PP	10 01 25.9	+3.8	
HHC				SKS	SKSdf	10 03 09.9	-2.8	
HHC				SKKS	SKKSac	10 08 06.9	+0.5	
HHC				SS	SS	10 22 23.8	0.0	
HHC				AMB	AMB			
	comp=Z,220nm,9.0s							
HHC				LR	LR			
	comp=N,600nm,20.7s							
HHC				LR	LR			
	comp=E,670nm,20.9s							
HHC				LR	LR			
	comp=Z,940nm,20.0s							
KMI	**Kunming**	**171.26**	**145**	PKP	PKPdf	09 56 13.3	+0.4	
KMI	**Kunming**	**171.26**	**145**	PKP	PKPdf	09 56 13.2	+0.3	
KMI				PKPab	PKPab	09 57 32.5	-0.3	
KMI				PP	PP	10 01 21.4	-1.6	
KMI				SS	SS	10 22 25.0	-0.4	
KMI				LR	LR			
	comp=Z,860nm,19.1s							
KMI	**Kunming**	**171.26**	**145**	PKIKP	PKPdf	09 56 13.2	+0.3	
KMI						09 57 32.5		
KMI						10 01 21.4		
KMI				SS	SS	10 22 25.0	-0.4	
KMI				MLR	MLR			
	comp=Z,860nm,19.1s							
GYA	**Guiyang**	**173.90**	**166**	PKP	PKPdf	09 56 14.1	+0.1	
GYA				PKPab	PKPab	09 57 45.6	+1.2	
GYA				PKS		09 59 44.0		
GYA				PP	PP	10 01 38.4	+3.0	
GYA				SKKS	SKKSac	10 08 20.6	+0.7	
GYA				AMB	AMB			
	comp=Z,210nm,8.0s							
GYA				LR	LR			
	comp=N,450nm,24.8s							
GYA				LR	LR			
	comp=E,240nm,25.4s							
GYA				LR	LR			
	comp=Z,570nm,24.6s							
WHN	**Wuhan**	**174.49**	**252**	PKP	PKPdf	09 56 13.3	-0.7	
WHN				PP	PP	10 01 40.8	+0.9	
WHN				LR	LR			
	comp=Z,2μm,22.5s							
CD2	**Chengdu**	**175.87**	**110**	*e*PKP	PKPdf	09 56 14.5	+0.1	
CD2				pPKP	pPKPdf	09 56 24.1	-2.3	
CD2				PKPab	PKPab	09 57 55.0	+1.6	
CD2				PP	PP	10 01 47.0	+0.5	
CD2				SKS	SKSdf	10 03 12.3	-2.3	
CD2				SS	SS	10 23 09.4	-2.6	
CD2				AMB	AMB			
	comp=Z,890nm,10.8s							
CD2				LR	LR			
	comp=N,1μm,19.2s							
CD2				LR	LR			
	comp=E,650nm,16.8s							
CD2				LR	LR			
	comp=Z,1μm,18.0s							
ENH	**Enshi**	**177.62**	**206**	PFAKE		09 56 20.0	+5.2	
ENH				LR	LR			
	comp=Z,1μm,20.0s							
XAN	**Xi'an**	**178.29**	**342**	PKP	PKPdf	09 56 14.1	-0.6	
XAN				pPKP	pPKPdf	09 56 27.3	+0.5	
XAN				AMB	AMB			
	comp=Z,270nm,9.3s							
XAN				LR	LR			
	comp=N,620nm,22.4s							
XAN				LR	LR			
	comp=Z,350nm,21.1s							

*ISCJB **19** 09:37:38.5±4.4, 6°.8S±0°.2×129°.6E±0°.1, h87km±44km, mb4.1/3, Error ellipse: s-maj=31.9km s-min=22.8km az=163.3*
*IDC **19** 09:37:39.6±6.8, 6°.82S×129°.89E, h94km±70km, mb3.8/2, mb1 4.0/5, mb1mx3.5/17, mbtmp3.9/5, ML4.4/3, Error ellipse: s-maj=69.2km s-min=40.0km az=85.0*
*NEIC **19** 09:37:40.3±3.2, 6°.90S×129°.57E, h87km±31km, mb4.6/3, Error ellipse: s-maj=25.9km s-min=19.0km az=173.0*
ISC 19 09:37:40.3±3.2, 6°.9S±0°.2×129°.6E±0°.1, h86km±31km, n16, σ1°01/16, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.79**	**199**	P	**Pn**	**09 40 26.1**	**+0.7**
	1.1nm,0.3s,baz=23,slow=12,SNR=45						
FITZ				S	Sx	09 42 28.0	
	3.1nm,0.3s,baz=107,slow=22,SNR=7.8						
FITZ	**Fitzroy Crossi**	**11.79**	**199**	*e*Pn	**Pn**	**09 40 26.0**	**+0.6**
FITZ				*e*Sn	Sx	09 42 29.1	
WRAB	**Tennant Creek**	**13.77**	**161**	*e*Pn	**Pn**	**09 40 50.6**	**-1.3**
	13nm,0.5s						
WRAB				*e*Sn	Sx	09 43 15.6	
WRA	**Warramunga Arr**	**13.78**	**161**	P	**Pn**	**09 40 50.4**	**-1.5**
	2.5nm,0.3s,baz=348,slow=13,SNR=57						
WRA				S	Sx	09 43 18.2	
	2.0nm,0.3s,baz=331,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**13.78**	**161**	P	**Pn**	**09 40 50.4**	**-1.5**
WRA				S	Sx	09 43 18.2	
WB2	**Warramunga Arr**	**13.78**	**161**	*e*Pn	**Pn**	**09 40 50.8**	**-1.2**
WB2				*e*Sn	Sx	09 43 14.5	
COEN	**Coen**	**15.10**	**119**	*e*Pn	**Pn**	**09 41 10.9**	**+1.8**
	89nm,0.9s						
COEN				*e*Sn	Sx	09 43 48.6	
MBWA	**Marble Bar**	**17.09**	**213**	*e*P	**Pn**	**09 41 34.6**	**+0.8**
	5.2nm,0.6s						
AS31	**Alice Springs**	**17.19**	**166**	*e*P	**Pn**	**09 41 35.7**	**+0.6**
AS31				*e*S	Sx	09 44 41.4	
ASAR	**Alice Springs**	**17.19**	**166**	P	**Pn**	**09 41 35.6**	**+0.6**
	1.1nm,0.3s,baz=338,slow=9.2,SNR=89						
ASAR				S	Sx	09 44 38.1	
	0.5nm,0.3s,baz=344,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.19**	**166**	P	**Pn**	**09 41 35.6**	**+0.6**
ASAR				S	Sx	09 44 38.1	
FORT	**Forrest**	**23.81**	**183**	*e*P	**P**	**09 42 46.0**	**+0.7**
	19nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**28.33**	**202**	P	**P**	**09 43 25.7**	**-0.4**
	3.1nm,0.6s,mb4.0,baz=17,slow=10,SNR=4.9						
NWAO	**Narrogin (SRO)**	**28.33**	**202**	P	**P**	**09 43 25.7**	**-0.4**
MKAR	**Makanchi Array**	**67.90**	**327**	P	**P**	**09 48 28.9**	**-0.7**
	0.3nm,0.3s,mb3.6,baz=116,slow=8.3,SNR=5.9						
MKAR	**Makanchi Array**	**67.90**	**327**	P	**P**	**09 48 28.9**	**-0.7**

*ISK **19** 09:51:54.6, 37°.27N×31°.89E, h5km, MD2.8*
*DDA **19** 09:51:55.4, 37°.27N×31°.64E, h7km±1km, Md3.0*
*ISCJB **19** 09:51:56.1±0.6, 37°.29N±0°.03×31°.89E±0°.05, h10km, Error ellipse: s-maj=6.5km s-min=4.3km az=149.5*
*CSEM **19** 09:51:56.2±0.4, 37°.30N×31°.90E, h2km, MD2.8, Error ellipse: s-maj=9.3km s-min=6.5km az=68.0*
ISC 19 09:51:56.8±0.7, 37°.30N±0°.04×31°.90E±0°.06, h9km±15km, n12, σ1°12/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	**Hadim**	**0.58**	**126**	*e*PG	**Pg**	**09 52 06.7**	**-1.3**
HDMB				*e*SG	**Sg**	**09 52 15.9**	**+0.4**
HDMB	**Hadim**	**0.58**	**126**	*e*Pg	**Pg**	**09 52 06.7**	**-1.3**
HDMB				*e*Sg	**Sg**	**09 52 15.9**	**+0.4**
SUTC	**Sutluce-Ispart**	**0.74**	**284**	*e*PG	**Pg**	**09 52 10.1**	**-0.9**
SUTC				*e*SG	**Sg**	**09 52 21.2**	**+0.5**
SUTC	**Sutluce-Ispart**	**0.74**	**284**	*e*Pg	**Pg**	**09 52 10.1**	**-0.9**
SUTC				*e*Sg	**Sg**	**09 52 21.2**	**+0.5**
KONT	**Konya--Tatoy**	**0.74**	**29**	*e*PG	**Pg**	**09 52 10.9**	**-0.2**
KONT	**Konya--Tatoy**	**0.74**	**29**	*e*Pg	**Pg**	**09 52 10.9**	**-0.2**

IDC 19 09:54:41.0±1.8, 8°92S×125°31E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=105.5km s-min=26.9km az=67.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.13**	**178**	Pn	Pn	09 56 54.6	+0.4
	0.3nm,0.3s,baz=346,slow=12,SNR=16						
FITZ				Sn	Sn	09 58 34.4	-3.4
	0.1nm,0.3s,baz=139,slow=19,SNR=1.1						
WRA	**Warramunga Arr**	**14.01**	**142**	Pn	Pn	09 57 59.8	-1.1
	0.2nm,0.3s,baz=319,slow=15,SNR=6.9						
WRA				Sn	Sn	10 00 32.2	-5.0
	0.1nm,0.3s,baz=315,slow=28,SNR=4.0						
ASAR	**Alice Springs**	**16.81**	**152**	Pn	Pn	09 58 38.5	+0.5
	0.1nm,0.3s,baz=322,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**67.39**	**329**	P	P	10 05 38.3	+0.1
	0.4nm,0.7s,baz=136,slow=6.3,SNR=2.6						

*ISCJB **19** 10:11:08.5±0.6, 61°05S±0°1×34°1W±0°3, h10km, mb4.4/7, Error ellipse: s-maj=25.4km s-min=7.6km az=143.5*
*IDC **19** 10:11:08.3±1.5, 60°99S×34°46W, h0km, mb4.2/5, mb1 4.2/6, mb1mx4.1/12, mbtmp4.1/6, ML3.2/1, Error ellipse: s-maj=50.0km s-min=27.7km az=27.0*
*NEIC **19** 10:11:10.6±0.8, 60°81S×34°03W, h10km, mb4.7/5, Error ellipse: s-maj=30.2km s-min=14.5km az=215.0*
ISC 19 10:11:10.5±0.6, 61°05S±0°1×34°0W±0°3, h10km, n23, σ1°17/21, mb4.4/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**14.14**	**147**	*e*P	**Pn**	**10 14 30.1**	**-0.4**
VNA1	**Neumayer--Stat**	**14.21**	**144**	*e*P	**Pn**	**10 14 31.9**	**+0.4**
VNA2	**Neumayer--Watz**	**14.60**	**144**	*e*P	**Pn**	**10 14 37.0**	**+0.2**
	baz=300,slow=16						
EFI	**East Falkland**	**16.15**	**294**	*e*P	**Pn**	**10 14 59.2**	**+1.9**
	19nm,0.6s						
SNAA	**Sanae**	**16.25**	**144**	*e*P	**Pn**	**10 15 01.1**	**+2.6**
SNAA	**Sanae**	**16.25**	**144**	Pn	**Pn**	**10 14 58.3**	**-0.2**
	0.1nm,0.3s,baz=328,slow=13,SNR=13						
SNAA				Sn	**Sn**	**10 17 57.3**	**-1.2**
	0.1nm,0.3s,baz=313,slow=18,SNR=4.7						
SNAA	**Sanae**	**16.25**	**144**	*e*P	**Pn**	**10 15 00.0**	**+1.5**
	14nm,1.2s						
SNAA				Sn	**Sn**	**10 17 57.3**	**-1.2**
CPUP	**Villa Florida**	**38.06**	**325**	P	**P**	**10 18 27.3**	**-1.6**
	6.3nm,0.9s,mb4.3,baz=156,slow=8.9,SNR=10.0						
CPUP	**Villa Florida**	**38.06**	**325**	*e*P	**P**	**10 18 26.8**	**-2.1**
	16nm,0.7s,mb4.9						
BOSA	**Boshof**	**50.59**	**78**	P	**P**	**10 20 10.4**	**+1.3**
	3.1nm,0.9s,mb4.2,baz=191,slow=10,SNR=3.2						
BOSA	**Boshof**	**50.59**	**78**	P	**P**	**10 20 10.4**	**+1.3**
LPAZ	**La Paz**	**50.84**	**316**	P	**P**	**10 20 10.5**	**-0.6**
	0.9nm,0.5s,mb4.0,baz=130,slow=9.5,SNR=3.7						
LPAZ	**La Paz**	**50.84**	**316**	P	**P**	**10 20 10.5**	**-0.6**
SAML	**Samuel**	**56.22**	**325**	*e*P	**P**	**10 20 48.4**	**-2.2**
	26nm,1.6s,mb5.0						
OTAV	**Otavalo**	**69.81**	**312**	*e*P	**P**	**10 22 21.8**	**+0.8**
	5.7nm,1.1s,mb4.4						
DBIC	**Dimbokro**	**71.18**	**31**	P	**P**	**10 22 29.1**	**-0.1**
	2.1nm,0.6s,mb4.3,baz=140,slow=12,SNR=5.3						
DBIC	**Dimbokro**	**71.18**	**31**	P	**P**	**10 22 29.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**79.12**	**35**	P	**P**	**10 23 15.3**	**+0.4**
	1.2nm,0.5s,mb4.1,baz=196,slow=7.0,SNR=10						
TORD	**Torodi Ar. Bea**	**79.12**	**35**	P	**P**	**10 23 15.3**	**+0.4**
YKA	**Yellowknife Ar**	**137.38**	**317**	PKP	PKPdf	10 30 31.3	-1.2
	0.1nm,0.5s,baz=130,slow=2.4,SNR=4.0						
YKA	**Yellowknife Ar**	**137.38**	**317**	PKP	PKPdf	10 30 31.3	-1.2
ILAR	**Eielson Array**	**150.43**	**307**	PKPbc	PKPbc	10 30 59.2	-1.2
	2.5nm,0.9s,baz=158,slow=2.0,SNR=20						
ILAR	**Eielson Array**	**150.43**	**307**	PKPbc	PKPbc	10 30 59.2	-1.2

GUC 19 10:11:44.8±0.5, 32°57S×71°85W, h15km±2km, MD3.5, ML3.3, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.49**	**159**	⇑*i*P	Pg	10 11 54.2	-0.3
IHA				*i* S	Sg	10 12 01.4	+0.2
CHNG	**Los Chungos**	**0.74**	**24**	⇓*i*P	Pg	10 11 58.2	-1.0
CHNG				*i* S	Sg	10 12 08.5	-0.5
ROCH	**El Roble**	**0.81**	**120**	⇓*i*P	Pg	10 11 59.6	-1.0
ROCH				*i* S	Sg	10 12 10.6	-0.8
ROCH				AML	AML	10 12 11.2	
	comp=N,1μm,0.3s						
PTCH	**Petorca**	**0.83**	**69**	⇓*i*P	Pb	10 12 00.1	-0.9
PTCH				*i* S	Sg	10 12 11.5	-0.5
PTCH				AML	AML	10 12 14.8	
	comp=N,2μm,0.3s						
LCCH	**Las Cruces**	**0.94**	**166**	*e*P	Pb	10 12 01.4	-1.4
LCCH				*i* S	Sb	10 12 14.2	-0.8
JACH	**Jahuel**	**1.07**	**97**	⇑*i*P	Pb	10 12 03.5	-1.5
JACH				*i* S	Sb	10 12 17.8	-0.9
PEL	**Peldehue**	**1.14**	**121**	⇑*i*P	Pb	10 12 04.9	-1.2
PEL				*i* S	Sb	10 12 20.0	-0.7
PEL				AML	AML	10 12 23.7	
	comp=E,3μm,0.4s						
TACH	**Talagante**	**1.33**	**145**	⇓*i*P	Pn	10 12 07.6	-1.2
SAN	**Santiago**	**1.33**	**132**	⇑*i*P	Pn	10 12 08.0	-0.9
SAN				*i* S	Sn	10 12 25.4	-1.0
CLCH	**Cerro Calan**	**1.38**	**127**	⇓*i*P	Pn	10 12 08.6	-0.9
CLCH				*i* S	Sn	10 12 26.6	-0.9
CLCH				AML	AML	10 12 28.9	
	comp=N,1μm,0.4s						
ANTU	**Antumapu**	**1.43**	**135**	*e*P	Pn	10 12 09.6	-0.6
ANTU				*i* S	Sn	10 12 28.1	-0.7
ANTU				AML	AML	10 12 32.5	
	comp=E,634nm,0.4s						
LNV	**Longovilo**	**1.44**	**165**	*e*P	Pn	10 12 09.2	-1.1
LNV				*i* S	Sn	10 12 27.9	-0.9
PCH	**Pirque**	**1.54**	**134**	⇓*i*P	Pn	10 12 11.2	-0.5
PCH				*i* S	Sn	10 12 31.3	-0.1
CMCH	**Combarbala**	**1.56**	**28**	⇑*i*P	Pn	10 12 10.7	-1.4
CMCH				*i* S	Sn	10 12 30.9	-1.1
CHCH	**Chadas Angostu**	**1.69**	**144**	⇑*i*P	Pn	10 12 13.5	-0.3
CHCH				*e*S	Sn	10 12 35.2	-0.1
CACH	**El Canelo**	**1.87**	**146**	⇑*i*P	Pn	10 12 16.9	+0.6
CACH				*i* S	Sn	10 12 41.8	+2.2
LMEL	**Las Melosas**	**1.88**	**133**	⇑*i*P	Pn	10 12 17.0	+0.6
LMEL				*i* S	Sn	10 12 41.3	+1.4
LMEL				AML	AML	10 12 45.1	
	comp=N,490nm,0.2s						

*ISCJB **19** 10:16:11.4±0.9, 38°03N±0°03×20°38E±0°04, h2km±5km, Error ellipse: s-maj=6.8km s-min=4.7km az=135.7*
*THE **19** 10:16:12.0, 38°01N×20°41E, h4km±1km, ML2.9/8, Error ellipse: s-maj=2.8km s-min=1.7km az=213.0*
*ATH **19** 10:16:13.4, 38°17N×20°50E, h16km, MD3.3/12*
*CSEM **19** 10:16:13.3±0.5, 38°10N×20°42E, h9km, MD3.3, Error ellipse: s-maj=10.1km s-min=5.9km az=56.0*
ISC 19 10:16:11.9±1.0, 38°04N±0°04×20°38E±0°05, h2km±4km, n61, σ1°02/99, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**50**	*e*PB	**Pg**	**10 16 17.0**	**+1.0**
VLS				*e*SB	**Sg**	**10 16 19.4**	**+0.5**
VLS	**Valsamata**	**0.22**	**50**	P	**Pg**	**10 16 16.7**	**+0.7**
VLS				S	**Sg**	**10 16 19.3**	**+0.4**
VLS	**Valsamata**	**0.22**	**50**	P	**Pg**	**10 16 16.7**	**+0.7**
VLS	**Valsamata**	**0.22**	**50**	*e*Pb	**Pg**	**10 16 17.0**	**+1.0**
VLS				*e*Sb	**Sg**	**10 16 19.4**	**+0.5**
KFL	**Anninata**	**0.33**	**78**	P	**Pg**	**10 16 19.0**	**+0.8**
KFL				S	**Sg**	**10 16 22.9**	**+0.4**
KFL	**Anninata**	**0.33**	**78**	P	**Pg**	**10 16 19.0**	**+0.8**
KFL				S	**Sg**	**10 16 22.9**	**+0.4**
LKD2	**Lefkada island**	**0.78**	**16**	P	**Pg**	**10 16 25.5**	**-1.3**
LKD2	**Lefkada island**	**0.78**	**16**	P	**Pg**	**10 16 25.5**	**-1.3**
RLS	**Riolos of Patr**	**0.86**	**88**	*e*PN	**Pg**	**10 16 27.8**	**-0.5**
RLS				*e*SN	**Sg**	**10 16 39.3**	**-0.2**
EFP	**Efpalio**	**1.26**	**72**	*e*PN	**Pn**	**10 16 34.9**	**-1.6**
EFP	**Efpalio**	**1.26**	**72**	P	**Pg**	**10 16 34.1**	**-2.0**
EFP				S	**Sg**	**10 16 52.7**	**+0.2**
EFP	**Efpalio**	**1.26**	**72**	P	**Pg**	**10 16 34.1**	**-2.0**
EFP	**Efpalio**	**1.26**	**72**	*e*Pn	**Pn**	**10 16 34.9**	**-1.6**
EFP				S	**Sg**	**10 16 52.7**	**+0.2**
LAKA	**Lakka**	**1.28**	**80**	P	**Pg**	**10 16 34.9**	**-1.5**
LAKA				S	**Sg**	**10 16 52.8**	**-0.1**
LAKA	**Lakka**	**1.28**	**80**	P	**Pg**	**10 16 34.9**	**-1.5**
LAKA				S	**Sg**	**10 16 52.8**	**-0.1**
RGA	**Parga**	**1.28**	**359**	P	**Pg**	**10 16 36.3**	**-0.1**
RGA				S	**Sg**	**10 16 54.4**	**+1.4**
RGA	**Parga**	**1.28**	**359**	P	**Pg**	**10 16 36.3**	**-0.1**
RGA				S	**Sg**	**10 16 54.4**	**+1.4**
TRIZ	**Trizonia**	**1.37**	**76**	P	**Pn**	**10 16 35.1**	**-2.9**
TRIZ				S	**Sg**	**10 16 55.9**	**-0.1**
TRIZ	**Trizonia**	**1.37**	**76**	P	**Pn**	**10 16 35.1**	**-2.9**
TRIZ				S	**Sg**	**10 16 55.9**	**-0.1**
EVR	**Evrytania**	**1.42**	**52**	*e*PN	**Pn**	**10 16 37.6**	**-1.1**
EVR	**Evrytania**	**1.42**	**52**	P	**Pn**	**10 16 37.7**	**-1.0**
EVR				S	**Sg**	**10 16 58.6**	**+1.0**
EVR	**Evrytania**	**1.42**	**52**	P	**Pn**	**10 16 37.7**	**-1.0**
EVR				S	**Sg**	**10 16 58.6**	**+1.0**
KALE	**Kalithea**	**1.43**	**75**	P	**Pn**	**10 16 37.0**	**-1.8**
KALE				S	**Sg**	**10 16 58.1**	**+0.3**
KALE	**Kalithea**	**1.43**	**75**	P	**Pn**	**10 16 37.0**	**-1.8**
KALE				S	**Sg**	**10 16 58.1**	**+0.3**
IGT	**Igoumenitsa**	**1.49**	**359**	P	**Pn**	**10 16 39.7**	**+0.1**
IGT				S	**Sb**	**10 17 00.6**	**+1.0**
IGT	**Igoumenitsa**	**1.49**	**359**	P	**Pn**	**10 16 39.7**	**+0.1**
IGT				S	**Sb**	**10 17 00.6**	**+1.0**
ITM	**Ithomi**	**1.50**	**124**	*e*PN	**Pn**	**10 16 41.8**	**+2.1**
ITM	**Ithomi**	**1.50**	**124**	*e*Pn	**Pn**	**10 16 41.8**	**+2.1**
GUR	**Goura**	**1.55**	**93**	*e*PN	**Pn**	**10 16 40.7**	**+0.2**
GUR	**Goura**	**1.55**	**93**	P	**Pn**	**10 16 39.8**	**-0.7**
GUR				S	**Sn**	**10 17 01.2**	**0.0**
GUR	**Goura**	**1.55**	**93**	P	**Pn**	**10 16 39.8**	**-0.7**
GUR	**Goura**	**1.55**	**93**	*e*Pn	**Pn**	**10 16 40.5**	**0.0**
GUR				S	**Sn**	**10 17 01.2**	**0.0**
JAN	**Janina**	**1.66**	**13**	*e*PN	**Pn**	**10 16 41.6**	**-0.3**
JAN				*e*SN	**Sn**	**10 17 02.4**	**-1.3**
JAN	**Janina**	**1.66**	**13**	*e*PN	**Pn**	**10 16 41.6**	**-0.3**
JAN				*e*Sn	**Sn**	**10 17 02.4**	**-1.3**
MAKR	**Makrakomi, Fth**	**1.68**	**54**	P	**Pn**	**10 16 43.3**	**+1.0**
MAKR				S	**Sn**	**10 17 05.0**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.68**	**54**	P	**Pn**	**10 16 43.3**	**+1.0**
MAKR				S	**Sn**	**10 17 05.0**	**+0.6**
AGG	**Agios Georgios**	**1.82**	**57**	*e*PN	**Pn**	**10 16 44.3**	**+0.2**
AGG				*e*SN	**Sn**	**10 17 06.4**	**-1.3**
AGG	**Agios Georgios**	**1.82**	**57**	P	**Pn**	**10 16 44.6**	**+0.5**
AGG				S	**Sn**	**10 17 07.1**	**-0.6**
AGG	**Agios Georgios**	**1.82**	**57**	*e*Pn	**Pn**	**10 16 44.3**	**+0.2**
AGG	**Agios Georgios**	**1.82**	**57**	P	**Pn**	**10 16 44.6**	**+0.5**
AGG				*e*Sn	**Sn**	**10 17 06.4**	**-1.3**
AGG				S	**Sn**	**10 17 07.1**	**-0.6**
THL	**Klokotos Trika**	**1.99**	**39**	*e*PN	**Pn**	**10 16 46.6**	**+0.1**
THL				*e*SN	**Sn**	**10 17 10.4**	**-1.5**
THL	**Klokotos Trika**	**1.99**	**39**	P	**Pn**	**10 16 46.7**	**+0.2**
THL				S	**Sn**	**10 17 13.3**	**+1.4**
THL	**Klokotos Trika**	**1.99**	**39**	*e*Pn	**Pn**	**10 16 46.6**	**+0.1**
THL				*e*Sn	**Sn**	**10 17 10.4**	**-1.5**
THL				S	**Sn**	**10 17 13.3**	**+1.4**
LTK	**Loutraki**	**2.04**	**90**	*e*PN	**Pn**	**10 16 47.6**	**+0.4**
LTK	**Loutraki**	**2.04**	**90**	*e*Pn	**Pn**	**10 16 47.6**	**+0.4**
LKR	**Lokris**	**2.15**	**73**	*e*PN	**Pn**	**10 16 48.7**	**0.0**
LKR				*e*SN	**Sn**	**10 17 15.1**	**-0.7**
LKR	**Lokris**	**2.15**	**73**	*e*Pn	**Pn**	**10 16 48.7**	**0.0**
LKR				*e*Sn	**Sn**	**10 17 15.1**	**-0.7**
DID	**Didima**	**2.33**	**102**	*e*PN	**Pn**	**10 16 52.9**	**+1.8**
DID				*e*SN	**Sn**	**10 17 21.3**	**+1.1**
DID	**Didima**	**2.33**	**102**	*e*Pn	**Pn**	**10 16 52.9**	**+1.8**
DID				*e*Sn	**Sn**	**10 17 21.3**	**+1.1**
VIL1	**Vilia, Western**	**2.33**	**86**	*e*PN	**Pn**	**10 16 51.8**	**+0.7**
VLI	**Veliai**	**2.43**	**122**	*e*PN	**Pn**	**10 16 54.8**	**+2.3**
VLI	**Veliai**	**2.43**	**122**	*e*Pn	**Pn**	**10 16 54.8**	**+2.3**
NEO	**Neokhori**	**2.56**	**60**	*e*PB	**Pn**	**10 16 54.2**	**-0.1**
LIT	**Litokhoron**	**2.63**	**38**	*e*PB	**Pn**	**10 16 55.5**	**+0.2**
VLY	**Voula,Athens**	**2.71**	**93**	*e*PN	**Pn**	**10 16 56.9**	**+0.6**
VLY	**Voula,Athens**	**2.71**	**93**	*e*Pn	**Pn**	**10 16 56.9**	**+0.6**
KYTH	**Kithira**	**2.75**	**129**	*e*PB	**Pb**	**10 17 00.0**	**-1.8**
PLG	**Polygyros**	**3.33**	**45**	*e*PN	**Pn**	**10 17 04.4**	**-0.5**
PLG	**Polygyros**	**3.33**	**45**	*e*Pn	**Pn**	**10 17 04.4**	**-0.5**
SOH	**Sokhos**	**3.61**	**39**	*e*PN	**Pn**	**10 17 09.0**	**+0.3**
SOH	**Sokhos**	**3.61**	**39**	*e*Pn	**Pn**	**10 17 09.0**	**+0.3**

*ISCJB **19** 10:16:33.8±1.4, 9°86S±0°06×122°65E±0°10, h98km±16km, mb3.8/5, Error ellipse: s-maj=16.8km s-min=7.9km az=155.8*
*IDC **19** 10:16:34.5±2.8, 9°69S×122°74E, h77km±30km, mb3.6/5, mb1 3.7/8, mb1mx3.6/18, mbtmp3.7/8, MS4.2/2, Ms1 4.2/2, ms1mx3.3/36, Error ellipse: s-maj=70.6km s-min=23.3km az=62.0*
*NEIC **19** 10:16:35.0±1.7, 9°78S×122°70E, h84km±22km, mb4.0/3, Error ellipse: s-maj=32.4km s-min=12.7km az=54.0*
ISC 19 10:16:34.6±1.3, 9°87S±0°07×122°78E±0°10, h89km±15km, n23, σ1°33/32, mb3.8/5, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.68**	**328**	P	**Pn**	**10 17 55.6**	**-1.0**
	4.8nm,0.3s,baz=141,slow=9.3,SNR=8.2						
KAPI	**Kappang**	**5.68**	**328**	*e*Pn	**Pn**	**10 17 55.3**	**-1.3**
KAPI				*e*Pn	**Pn**	**10 17 55.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**8.64**	**162**	P	**Pn**	**10 18 39.7**	**+2.8**
	1.3nm,0.3s,baz=13,slow=8.2,SNR=37						
FITZ				S	**Sn**	**10 20 12.0**	**-0.7**
	5.8nm,0.3s,baz=347,slow=17,SNR=12						
FITZ	**Fitzroy Crossi**	**8.64**	**162**	*e*Pn	**Pn**	**10 18 39.3**	**+2.4**
FITZ				*e*Sn	**Sn**	**10 20 12.5**	**-0.2**
MBWA	**Marble Bar**	**11.60**	**194**	*e*Pn	**Pn**	**10 19 18.9**	**+1.7**
MBWA				*e*Pn	**Pn**	**10 19 19.7**	**+2.5**
MBWA				*e*Sn	**Sn**	**10 21 24.2**	**-0.7**
WRA	**Warramunga Arr**	**14.99**	**133**	P	**Pn**	**10 20 01.1**	**-0.7**
	0.6nm,0.3s,baz=310,slow=15,SNR=27						
WRA				S	**Sn**	**10 22 40.7**	**-6.4**
	2.2nm,0.3s,baz=307,slow=24,SNR=11						
WRA	**Warramunga Arr**	**14.99**	**133**	P	**Pn**	**10 20 01.1**	**-0.6**
WRA				S	**Sn**	**10 22 40.7**	**-6.4**
WRAB	**Tennant Creek**	**14.99**	**133**	*e*P	**Pn**	**10 20 01.4**	**-0.4**
	3.9nm,0.5s						
AS31	**Alice Springs**	**17.35**	**144**	*e*P	**Pn**	**10 20 34.5**	**+3.4**
AS31				*e*S	**S**	**10 23 37.9**	**-7.1**
ASAR	**Alice Springs**	**17.35**	**144**	P	**Pn**	**10 20 34.3**	**+3.1**
	0.6nm,0.3s,baz=320,slow=12,SNR=29						
ASAR				S	**S**	**10 23 42.1**	**-3.0**
	0.9nm,0.3s,baz=313,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.35**	**144**	P	**Pn**	**10 20 34.3**	**+3.1**
ASAR				S	**S**	**10 23 42.1**	**-3.0**
COEN	**Coen**	**20.36**	**104**	*e*P	**P**	**10 21 09.1**	**+4.9**
	16nm,0.5s						
COEN				*e*S	**S**	**10 24 49.3**	**+1.7**
HNR	**Honiara**	**36.63**	**93**	LR	LR	10 37 32.0	
	comp=Z,673nm,18.1s,baz=21,slow=34						
JOW	**Kunigami**	**36.87**	**8**	LR	LR	10 38 12.7	
	comp=Z,177nm,20.9s,baz=322,slow=35						
USRK	**Ussuriysk Arra**	**54.46**	**8**	P	**P**	**10 25 53.0**	**+0.3**
	2.1nm,0.4s,mb4.5,baz=187,slow=6.7,SNR=8.4						
SONM	**Songino Array**	**59.26**	**347**	P	**P**	**10 26 27.0**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=168,slow=8.9,SNR=4.1						
SONM	**Songino Array**	**59.26**	**347**	P	**P**	**10 26 26.9**	**+0.3**
MKAR	**Makanchi Array**	**66.97**	**331**	P	**P**	**10 27 17.8**	**0.0**
	0.7nm,0.6s,mb3.7,baz=141,slow=7.4,SNR=7.5						
MKAR	**Makanchi Array**	**66.97**	**331**	P	**P**	**10 27 17.8**	**0.0**
ZALV	**Zalesovo Beam**	**71.22**	**337**	P	**P**	**10 27 42.9**	**-1.0**
	0.3nm,0.3s,mb3.6,baz=122,slow=5.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**71.22**	**337**	P	**P**	**10 27 42.9**	**-1.0**
KURK	**Kurchatov**	**71.46**	**332**	P	**P**	**10 27 45.3**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=132,slow=5.9,SNR=1.7						
KURK	**Kurchatov**	**71.46**	**332**	*e*P	**P**	**10 27 46.2**	**+0.8**
	1.7nm,0.9s,mb3.9						

RSPR 19 10:16:40.0, 18°89N×66°81W, h16km±3km, 3C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.50**	**214**	*e*S	Sg	10 16 56.3	-0.5
AOPR	**Arecibo Observ**	**0.54**	**174**	⇑*e*P	Pg	10 16 50.0	-0.7
AOPR	**Arecibo Observ**	**0.54**	**174**	*e*S	Sg	10 16 57.7	-0.2
CRPR	**Cabo Rojo, PR**	**0.92**	**198**	⇑*e*P	Pb	10 16 55.7	-1.9
CRPR	**Cabo Rojo, PR**	**0.92**	**198**	*e*S	Sb	10 17 07.0	-2.5
CBYP	**Canovanas**	**1.09**	**124**	*e*S	Sb	10 17 11.7	-2.9
CBYP	**Canovanas**	**1.09**	**124**	*e*S	Sb	10 17 11.7	-2.9
MTP	**Monte Pirata**	**1.43**	**123**	*e*S	Sn	10 17 19.8	-3.9
MTP	**Monte Pirata**	**1.43**	**123**	⇑*e*P	Pn	10 17 02.2	-3.1

*IDC **19** 10:30:07.6±2.1, 32°59S×71°83W, h0km, mb3.8/2, mb1 3.7/5, mb1mx3.6/15, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=97.5km s-min=26.8km az=95.0*
*ISCJB **19** 10:30:08.6±1.1, 32°59S±0°03×72°13W±0°07, h23km±6km, mb3.8/2, Error ellipse: s-maj=10.4km s-min=4.8km az=169.1*
*GUC **19** 10:30:09.7±0.9, 32°60S×72°06W, h24km±10km, ML3.8*
*NEIC **19** 10:30:09.7±3.5, 32°57S×72°33W, h21km±23km, mb3.4/1, Error ellipse: s-maj=25.0km s-min=9.4km az=91.0*
ISC 19 10:30:09.7±1.1, 32°57S±0°03×72°02W±0°07, h15km±6km, n34, σ0°72/36, mb3.8/2, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.55**	**145**	⇓*i*P	**Pg**	**10 30 20.4**	**-0.2**
IHA				*i* S	**Sg**	**10 30 28.2**	**+0.3**
CHNG	**Los Chungos**	**0.82**	**33**	⇓*i*P	**Pb**	**10 30 25.5**	**0.0**
CHNG				*i* S	**Sb**	**10 30 37.0**	**+0.7**
CHNG				AML	AML	10 30 38.8	
	comp=E,2μm,1.0s						
ROCH	**El Roble**	**0.94**	**115**	⇓*i*P	**Pb**	**10 30 26.8**	**-0.8**
ROCH				*i* S	**Sb**	**10 30 39.2**	**-0.7**
ROCH				AML	AML	10 30 41.4	
	comp=N,4μm,0.7s						
PTCH	**Petorca**	**0.97**	**72**	⇓*i*P	**Pb**	**10 30 27.8**	**-0.4**
PTCH				*i* S	**Sb**	**10 30 41.6**	**+0.8**
PTCH				AML	AML	10 30 43.5	
	comp=N,5μm,0.4s						
PEL	**Peldehue**	**1.26**	**117**	⇑*i*P	**Pn**	**10 30 32.1**	**-0.6**
PEL				*i* S	**Sb**	**10 30 48.6**	**-0.5**
PEL				AML	AML	10 30 52.2	
	comp=E,6μm,0.6s						
CLCH	**Cerro Calan**	**1.49**	**124**	⇑*i*P	**Pn**	**10 30 35.6**	**-0.4**
CLCH				*i* S	**Sn**	**10 30 55.0**	**-0.2**
CLCH				AML	AML	10 30 59.9	
	comp=E,4μm,0.5s						
ANTU	**Antumapu**	**1.53**	**131**	*e*P	**Pn**	**10 30 36.0**	**-0.4**
ANTU				*e*S	**Sn**	**10 30 56.2**	**+0.1**
ANTU				AML	AML	10 31 00.8	
	comp=N,3μm,0.6s						
CMCH	**Combarbala**	**1.64**	**32**	⇑*i*P	**Pn**	**10 30 37.7**	**-0.3**
CMCH				*e*S	**Sn**	**10 30 58.2**	**-0.6**
CMCH				AML	AML	10 31 06.7	
	comp=E,8μm,0.6s						
SJCH	**San Jose de Ma**	**1.76**	**128**	*e*P	**Pn**	**10 30 39.9**	**+0.3**
SJCH				*i* S	**Sn**	**10 31 02.8**	**+1.1**
SJCH				AML	AML	10 31 08.8	
	comp=E,872nm,0.4s						
LMEL	**Las Melosas**	**1.98**	**130**	⇑*i*P	**Pn**	**10 30 43.5**	**+0.8**
LMEL				AML	AML	10 31 15.5	
	comp=N,1μm,0.5s						
CFAA	**Coronel Fontan**	**3.35**	**74**	Pn	**Pn**	**10 31 05.7**	**+4.2**
	comp=N,1.0nm,0.3s,baz=249,slow=8.8,SNR=21						
CFAA				Lg		10 31 50.6	
	comp=N,1.0nm,0.3s,baz=95,slow=18,SNR=6.7						
CFAA	**Coronel Fontan**	**3.35**	**74**	Pn	**Pn**	**10 31 05.7**	**+4.2**
CFAA				Lg		10 31 50.6	
LCO	**Las Campanas**	**3.73**	**18**	*e*Pn	**Pn**	**10 31 07.0**	**+0.3**
LCO				*e*Sn	**Sn**	**10 31 50.4**	**+0.1**
PLCA	**Paso Flores**	**8.23**	**172**	Pn	**Pn**	**10 32 08.6**	**+0.1**
	comp=N,0.4nm,0.3s,baz=326,slow=11,SNR=7.5						
PLCA	**Paso Flores**	**8.23**	**172**	Pn	**Pn**	**10 32 08.6**	**+0.1**
TRQA	**Tornquist**	**9.86**	**127**	*e*Pn	**Pn**	**10 32 32.6**	**+1.8**
CPUP	**Villa Florida**	**14.22**	**68**	Pn	**Pn**	**10 33 38.6**	**+8.1**
	comp=N,0.1nm,0.3s,baz=214,slow=11,SNR=1.5						
CPUP	**Villa Florida**	**14.22**	**68**	Pn	**Pn**	**10 33 38.6**	**+8.1**
LPAZ	**La Paz**	**16.59**	**13**	Pn	**Pn**	**10 34 03.5**	**+1.7**
	comp=N,0.0nm,0.3s,baz=249,slow=9.8,SNR=3.6						
LPAZ	**La Paz**	**16.59**	**13**	*e*P	**Pn**	**10 34 03.0**	**+1.1**
	comp=N,3.6nm,1.0s						
SIV	**San Ignacio**	**19.26

DZM Mont Dzumac 19.93 247 P Pn 10 41 54.9 -0.1
2.9nm,0.8s,baz=96,slow=18,SNR=5.0
DZM LR LR 10 48 16.4
comp=Z,448nm,18.1s,baz=201,slow=33
DZM Mont Dzumac 19.93 247 *eP* **Pn 10 41 52.0 -2.9**
3.8nm,0.9s
DZM P 10 41 54.9
URZ Urewera 24.37 198 P P 10 42 38.4 -0.6
6.5nm,0.6s,mb4.3,baz=242,slow=6.2,SNR=6.3
URZ Urewera 24.37 198 P P 10 42 38.4 -0.6
RPZ Rata Peaks 31.26 201 P P 10 43 39.8 -0.8
8.4nm,0.8s,mb4.6,baz=42,slow=18,SNR=3.5
RPZ Rata Peaks 31.26 201 P P 10 43 39.8 -0.8
STKA Stephens Creek 43.82 240 P P 10 45 27.9 +1.0
2.6nm,0.7s,mb4.1,baz=90,slow=7.3,SNR=6.3
STKA Stephens Creek 43.82 240 *eP* **P 10 45 27.9 +1.0**
1.5nm,1.2s,mb3.6
WB2 Warramunga Arr 49.51 257 *eP* **P 10 46 12.2 +0.5**
WRAB Tennant Creek 49.51 257 *eP* **P 10 46 12.3 +0.6**
3.9nm,0.8s,mb4.5
WRA Warramunga Arr 49.52 257 P P 10 46 11.6 -0.1
2.7nm,1.0s,mb4.2,baz=89,slow=6.9,SNR=16
WRA Warramunga Arr 49.52 257 P P 10 46 11.6 -0.1
AS31 Alice Springs 49.82 252 *eP* **P 10 46 13.8 -0.1**
ASAR Alice Springs 49.82 252 P P 10 46 14.0 +0.1
8.4nm,0.7s,mb4.9,baz=84,slow=8.5,SNR=77
ASAR Alice Springs 49.82 252 P P 10 46 14.0 +0.1
NVAR Mina Array Bea 74.41 42 P P 10 48 58.4 -0.2
1.6nm,0.7s,mb4.1,baz=224,slow=8.2,SNR=7.6
NVAR Mina Array Bea 74.41 42 P P 10 48 58.4 -0.2
QSPA South Pole Qui 74.88 180 P P 10 49 01.5 +0.8
7.5nm,0.8s,mb4.7,baz=55,slow=2.3,SNR=18
QSPA South Pole Qui 74.88 180 *eP* **P 10 49 01.6 +0.9**
8.6nm,0.9s,mb4.7
CCUT Cedar City 77.24 45 *eP* **P 10 49 15.6 +0.9**
10nm,0.5s,mb5.0
ARUT Antelope Range 77.30 45 *eP* **P 10 49 17.7 +2.6**
15nm,0.2s
TXAR Lajitas Array 80.80 56 P P 10 49 34.4 -0.1
0.4nm,0.3s,mb3.3,baz=239,slow=8.1,SNR=3.9
TXAR Lajitas Array 80.80 56 P P 10 49 34.4 -0.1
ILAR Eielson Array 82.28 11 P P 10 49 40.0 -1.5
0.4nm,0.6s,mb3.5,baz=237,slow=6.6,SNR=9.4
ILAR Eielson Array 82.28 11 P P 10 49 40.0 -1.5
PDAR Pinedale Array 82.35 42 P P 10 49 41.6 -0.7
0.4nm,0.6s,mb3.5,baz=201,slow=3.9,SNR=3.1
PDAR Pinedale Array 82.35 42 P P 10 49 41.6 -0.7
MAW Mawson 87.90 199 P P 10 50 09.6 -0.2
2.5nm,0.6s,mb4.6,baz=103,slow=10.0,SNR=7.8
MAW Mawson 87.90 199 P P 10 50 09.6 -0.2
YKA Yellowknife Ar 90.03 24 P P 10 50 19.2 -0.5
0.1nm,0.3s,mb3.6,baz=235,slow=4.4,SNR=3.0
YKA Yellowknife Ar 90.03 24 P P 10 50 19.2 -0.5
BRTR Keskin Array B 145.73 321 PKPbc PKPbc 10 57 00.6 +0.9
3.1nm,0.7s,baz=106,slow=3.0,SNR=17
BRTR Keskin Array B 145.73 321 PKPbc PKPbc 10 57 00.6 +0.9

*IDC **19** 10:43:21.8±16.0, 21°.06S×178°.08W, h484km±120km, mb3.0/3, mb1 3.3/4, mb1mx3.0/17, mbtmp3.0/4, Error ellipse: s-maj=294.5km s-min=40.7km az=141.0*
*NEIC **19** 10:43:27.8±7.4, 20°.27S×178°.74W, h521km±40km, mb3.4/1, Error ellipse: s-maj=200.6km s-min=16.9km az=143.0*
ISC 19 10:43:30.6±4.6, 19°.9S±0°.6×179°.1W±0°.5, h535km±27km, n19, σ0s08/12, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.44**	**307**	*eP*	**P**	**10 44 47.4**	**-0.1**
MSVF				*eS*	**S**	**10 45 49.9**	**0.0**
DZM	**Mont Dzumac**	**13.71**	**258**	**P**	**P**	**10 46 27.1**	**+0.1**
0.4nm,0.3s,baz=78,slow=18,SNR=9.3							
DZM	**Mont Dzumac**	**13.71**	**258**	**P**	**P**	**10 46 27.1**	**+0.1**
WB2	**Warramunga Arr**	**43.69**	**262**	*eP*	**P**	**10 50 48.4**	**-0.1**
WRAB	**Tennant Creek**	**43.69**	**262**	*eP*	**P**	**10 50 48.5**	**0.0**
0.4nm,0.3s,mb3.4							
ASAR	**Alice Springs**	**43.70**	**256**	**P**	**P**	**10 50 48.4**	**-0.1**
0.8nm,0.6s,mb3.5,baz=90,slow=8.5,SNR=8.3							
ASAR	**Alice Springs**	**43.70**	**256**	**P**	**P**	**10 50 48.4**	**-0.1**
WRA	**Warramunga Arr**	**43.70**	**262**	**P**	**P**	**10 50 48.6**	**+0.1**
0.4nm,0.3s,mb3.4,baz=96,slow=7.5,SNR=22							
WRA	**Warramunga Arr**	**43.70**	**262**	**P**	**P**	**10 50 48.6**	**+0.1**
ILAR	**Eielson Array**	**87.91**	**13**	**P**	**P**	**10 55 22.8**	**+0.1**
0.2nm,0.4s,mb3.2,baz=215,slow=5.1,SNR=12							
ILAR	**Eielson Array**	**87.91**	**13**	**P**	**P**	**10 55 22.8**	**+0.1**
BVAR	**Borovoye Array**	**117.94**	**320**	PKP	PKPdf	11 01 15.1	-1.0
0.5nm,0.4s,baz=93,slow=2.1,SNR=4.0							
BVAR	**Borovoye Array**	**117.94**	**320**	PKP	PKPdf	11 01 15.1	-1.0
AKASG	**Malin Array Be**	**141.96**	**331**	PKhKP	PKPpre	11 01 54.6	
3.2nm,0.6s,baz=46,slow=4.2,SNR=5.7							
AKASG				PKP	PKPdf	11 01 58.2	-3.2
2.9nm,0.5s,baz=44,slow=3.8,SNR=4.2							
AKASG	**Malin Array Be**	**141.96**	**331**	PKPpre	PKPpre	11 01 54.6	
AKASG				PKP	PKPdf	11 01 58.2	-3.2
BRTR	**Keskin Array B**	**145.66**	**312**	PKPbc	PKPbc	11 02 10.5	+0.7
0.5nm,0.5s,baz=168,slow=4.5,SNR=2.3							
BRTR	**Keskin Array B**	**145.66**	**312**	PKPbc	PKPbc	11 02 10.5	+0.7
GERES	**GERESS Array B**	**149.30**	**343**	PKPbc	PKPbc	11 02 19.4	+0.5
0.5nm,0.6s,baz=339,slow=2.5,SNR=3.0							
GERES	**GERESS Array B**	**149.30**	**343**	PKPbc	PKPbc	11 02 19.4	+0.5

*IDC **19** 10:48:56.5±2.0, 32°.50S×71°.87W, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.7/14, mbtmp3.7/4, ML3.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/25, Error ellipse: s-maj=110.8km s-min=28.2km az=99.0*
*NEIC **19** 10:48:57.7±4.5, 32°.44S×72°.28W, h14km±28km, mb3.8/2, Error ellipse: s-maj=21.0km s-min=9.5km az=94.0*
*ISCJB **19** 10:48:58.3±0.9, 32°.47S±0°.03×72°.04W±0°.06, h22km±5km, mb4.0/2, Error ellipse: s-maj=8.2km s-min=4.4km az=176.2*
*GUC **19** 10:48:59.8±0.9, 32°.50S×71°.85W, h6km±4km, MD4.0, ML3.8*
ISC 19 10:48:59.1±0.8, 32°.47S±0°.03×71°.96W±0°.05, h17km±5km, n37, σ0s76/45, mb4.0/2, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.61**	**154**	⇓*iP*	**Pg**	**10 49 11.2**	**-0.1**
IHA				*i S*	**Sg**	**10 49 19.7**	**+0.3**
CHNG	**Los Chungos**	**0.71**	**34**	⇓*iP*	**Pg**	**10 49 12.3**	**-0.7**
CHNG				*eS*	**Sg**	**10 49 23.4**	**+1.0**
CHNG				AML	AML	10 49 24.4	
comp=N,4μm,0.4s							
PTCH	**Petorca**	**0.90**	**77**	⇑*iP*	**Pb**	**10 49 15.5**	**-0.8**
PTCH				*i S*	**Sb**	**10 49 27.5**	**-0.5**
PTCH				AML	AML	10 49 27.9	
comp=N,14μm,0.3s							
ROCH	**El Roble**	**0.94**	**122**	⇓*iP*	**Pb**	**10 49 16.4**	**-0.6**
ROCH				*i S*	**Sb**	**10 49 28.8**	**-0.5**
ROCH				AML	AML	10 49 31.7	
comp=N,8μm,0.5s							
LCCH	**Las Cruces**	**1.05**	**162**	⇑*iP*	**Pb**	**10 49 18.5**	**-0.4**
LCCH				*eS*	**Sb**	**10 49 32.2**	**-0.1**
JACH	**Jahuel**	**1.18**	**101**	⇑*iP*	**Pn**	**10 49 19.9**	**-0.9**
JACH				*i S*	**Sb**	**10 49 35.0**	**-0.9**
PEL	**Peldehue**	**1.27**	**122**	⇑*iP*	**Pn**	**10 49 21.8**	**-0.3**
PEL				*i S*	**Sb**	**10 49 38.0**	**-0.5**
PEL				AML	AML	10 49 40.4	
comp=E,12μm,0.4s							
TACH	**Talagante**	**1.46**	**144**	⇑*iP*	**Pn**	**10 49 24.9**	**+0.2**
SAN	**Santiago**	**1.47**	**132**	*eP*	**Pn**	**10 49 24.4**	**-0.4**
SAN				*i S*	**Sn**	**10 49 43.6**	**0.0**
SAN				AML	AML	10 49 46.2	
comp=N,3μm,0.8s							
CLCH	**Cerro Calan**	**1.51**	**128**	⇑*iP*	**Pn**	**10 49 25.5**	**+0.1**
CLCH				*i S*	**Sn**	**10 49 45.0**	**+0.3**
CLCH				AML	AML	10 49 56.5	
comp=E,4μm,0.6s							
CMCH	**Combarbala**	**1.53**	**33**	⇑*iP*	**Pn**	**10 49 25.1**	**-0.6**
CMCH				*i S*	**Sn**	**10 49 45.1**	**-0.1**
LNV	**Longovilo**	**1.55**	**163**	⇓*iP*	**Pn**	**10 49 24.9**	**-1.0**
LNV				*i S*	**Sn**	**10 49 44.8**	**-0.8**
ANTU	**Antumapu**	**1.56**	**135**	*eP*	**Pn**	**10 49 26.1**	**0.0**
ANTU				*eS*	**Sn**	**10 49 46.3**	**+0.4**
ANTU				AML	AML	10 49 51.3	
comp=N,3μm,0.4s							
FSR	**Penalolen**	**1.57**	**130**	*eP*	**Pn**	**10 49 26.5**	**+0.3**
FSR				*eS*	**Sn**	**10 49 46.6**	**+0.5**
FSR				AML	AML	10 49 48.3	
comp=E,763nm,0.4s							
PCH	**Pirque**	**1.67**	**134**	⇑*iP*	**Pn**	**10 49 28.3**	**+0.7**
SJCH	**San Jose de Ma**	**1.78**	**131**	*eP*	**Pn**	**10 49 30.0**	**+0.9**
SJCH				*eS*	**Sn**	**10 49 52.5**	**+1.1**
SJCH				AML	AML	10 49 57.2	
comp=N,922nm,0.3s							
CFAA	**Coronel Fontan**	**3.28**	**76**	Pn	**Pn**	**10 49 53.0**	**+3.2**
comp=N,3.4nm,0.3s,baz=245,slow=12,SNR=60							
CFAA				Lg		10 50 33.8	
comp=N,3.1nm,0.3s,baz=28,slow=10,SNR=6.3							
CFAA	**Coronel Fontan**	**3.28**	**76**	Pn	**Pn**	**10 49 53.0**	**+3.2**
CFAA				Lg		10 50 33.8	
LCO	**Las Campanas**	**3.62**	**18**	*ePn*	**Pn**	**10 49 53.8**	**-0.6**
LCO				*eS*	**Sn**	**10 50 44.3**	**+7.6**
PLCA	**Paso Flores**	**8.32**	**173**	Pn	**Pn**	**10 50 59.3**	**+0.4**
comp=N,0.5nm,0.3s,baz=329,slow=7.3,SNR=8.5							
PLCA	**Paso Flores**	**8.32**	**173**	Pn	**Pn**	**10 50 59.3**	**+0.4**
TRQA	**Tornquist**	**9.88**	**127**	*ePn*	**Pn**	**10 51 21.8**	**+1.5**
CPUP	**Villa Florida**	**14.14**	**68**	Pn	**Pn**	**10 52 21.4**	**+2.7**
comp=N,0.5nm,0.3s,baz=220,slow=10,SNR=2.9							
CPUP	**Villa Florida**	**14.14**	**68**	Pn	**Pn**	**10 52 21.4**	**+2.7**
LPAZ	**La Paz**	**16.49**	**13**	*eP*	**Pn**	**10 52 50.5**	**+0.8**
comp=N,0.1nm,0.3s,baz=190,slow=7.2,SNR=3.1							
LPAZ	**La Paz**	**16.49**	**13**	*eP*	**Pn**	**10 52 49.6**	**0.0**
comp=N,2.1nm,0.7s							
USHA	**Ushuaia**	**22.49**	**175**	LR	LR	11 02 37.3	
comp=N,243nm,19.9s,baz=60,slow=37							
QSPA	**South Pole Qui**	**57.76**	**180**	P	**P**	**10 58 48.4**	**-0.2**
comp=N,0.6nm,0.4s,mb4.0,baz=204,slow=0.9,SNR=3.7							
QSPA	**South Pole Qui**	**57.76**	**180**	*eP*	**P**	**10 58 48.7**	**+0.1**
comp=N,1.5nm,0.5s,mb4.3							
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P	**P**	**11 01 26.1**	**-0.9**
comp=N,0.7nm,0.7s,mb3.9,baz=262,slow=3.2,SNR=4.7							
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P	**P**	**11 01 26.1**	**-0.9**
BVAR	**Borovoye Array**	**146.11**	**41**	PKPbc	PKPbc	11 08 38.0	+0.3
comp=N,0.7nm,0.5s,baz=305,slow=5.2,SNR=4.5							
BVAR	**Borovoye Array**	**146.11**	**41**	PKPbc	PKPbc	11 08 38.0	+0.3
ZALV	**Zalesovo Beam**	**152.90**	**31**	PKPbc	PKPbc	11 08 54.3	-0.5
comp=N,0.7nm,0.3s,baz=306,slow=5.0,SNR=3.7							
ZALV	**Zalesovo Beam**	**152.90**	**31**	PKPbc	PKPbc	11 08 54.3	-0.5
MKAR	**Makanchi Array**	**155.69**	**46**	PKPab	PKPab	11 09 18.5	+0.4
comp=N,0.2nm,0.4s,baz=288,slow=5.6,SNR=2.5							
MKAR	**Makanchi Array**	**155.69**	**46**	PKPab	PKPab	11 09 18.5	+0.4

*ISCJB **19** 10:52:57.8±1.4, 21°.76S±0°.08×68°.2W±0°.1, h121km±15km, mb3.6/5, Error ellipse: s-maj=17.0km s-min=13.1km az=22.7*
*IDC **19** 10:52:58.7±2.3, 21°.74S×68°.38W, h111km±20km, mb3.3/5, mb1 3.5/9, mb1mx3.4/18, mbtmp3.3/9, Error ellipse: s-maj=29.3km s-min=19.8km az=80.0*
*NEIC **19** 10:52:58.3±1.1, 21°.77S×68°.36W, h110km±10km, mb4.4/1, Error ellipse: s-maj=17.4km s-min=10.8km az=87.0*
ISC 19 10:52:58.7±1.2, 21°.76S±0°.08×68°.2W±0°.1, h112km±13km, n24, σ1s22/20, mb3.6/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.44**	**1**	P	**Pn**	**10 54 19.5**	**+2.0**
3.7nm,0.3s,baz=198,slow=5.5,SNR=75							
LPAZ	**La Paz**	**5.44**	**1**	*ePn*	**Pn**	**10 54 19.2**	**+1.7**
13nm,0.5s							
SIV	**San Ignacio**	**8.85**	**51**	P	**Pn**	**10 55 04.3**	**+0.6**
1.1nm,0.3s,baz=258,slow=13,SNR=16							
SIV				S	**Sn**	**10 56 40.0**	**-1.6**
0.1nm,0.3s,baz=328,slow=22,SNR=2.8							
SIV	**San Ignacio**	**8.85**	**51**	P	**Pn**	**10 55 04.3**	**+0.6**
SIV				S	**Sn**	**10 56 40.0**	**-1.6**
CFAA	**Coronel Fontan**	**9.81**	**180**	P	**Pn**	**10 55 15.6**	**-1.1**
0.2nm,0.3s,baz=5.1,slow=14,SNR=12							
CFAA	**Coronel Fontan**	**9.81**	**180**	P	**Pn**	**10 55 15.6**	**-1.1**
ATAH	**Atahualpa**	**17.56**	**324**	P	**Pn**	**10 56 56.5**	**0.0**
0.5nm,0.3s,baz=284,slow=23,SNR=3.4							
ATAH	**Atahualpa**	**17.56**	**324**	P	**Pn**	**10 56 56.5**	**0.0**
TXAR	**Lajitas Array**	**61.22**	**325**	P	**P**	**11 03 00.2**	**-1.7**
0.1nm,0.5s,mb3.1,baz=146,slow=8.5,SNR=3.0							
TXAR	**Lajitas Array**	**61.22**	**325**	P	**P**	**11 03 00.2**	**-1.7**
SNAA	**Sanae**	**61.82**	**161**	P	**P**	**11 03 06.9**	**+1.5**
0.4nm,0.6s,mb3.6,baz=273,slow=9.1,SNR=5.2							
SNAA	**Sanae**	**61.82**	**161**	P	**P**	**11 03 06.9**	**+1.5**
DBIC	**Dimbokro**	**68.17**	**73**	P	**P**	**11 03 48.2**	**+0.9**
1.8nm,0.8s,mb4.0,baz=263,slow=10.0,SNR=3.1							
DBIC	**Dimbokro**	**68.17**	**73**	P	**P**	**11 03 48.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**76.81**	**70**	P	**P**	**11 04 39.3**	**+0.7**
0.9nm,0.8s,mb3.6,baz=254,slow=5.9,SNR=5.6							
TORD				pP		11 05 12.1	+5.1
1.0nm,0.8s,baz=264,slow=4.6,SNR=4.3							
TORD	**Torodi Ar. Bea**	**76.81**	**70**	P	**P**	**11 04 39.3**	**+0.7**
TORD				pP	pP	11 05 12.1	+5.1
YKA	**Yellowknife Ar**	**91.65**	**340**	P	**P**	**11 05 51.5**	**-1.2**
0.2nm,0.5s,mb3.6,baz=126,slow=4.3,SNR=4.0							
YKA	**Yellowknife Ar**	**91.65**	**340**	P	**P**	**11 05 51.5**	**-1.1**
ASAR	**Alice Springs**	**129.99**	**207**	PKP	PKPdf	11 11 55.7	-0.2
0.1nm,0.4s,baz=116,slow=2.2,SNR=3.7							
ASAR	**Alice Springs**	**129.99**	**207**	PKP	PKPdf	11 11 55.7	-0.2
MKAR	**Makanchi Array**	**145.44**	**37**	PKPbc	PKPbc	11 12 24.8	+1.2
0.3nm,0.5s,baz=321,slow=3.9,SNR=3.7							
MKAR	**Makanchi Array**	**145.44**	**37**	PKPbc	PKPbc	11 12 24.8	+1.2
SONM	**Songino Array**	**153.62**	**8**	PKPbc	PKPbc	11 12 44.0	-0.2
0.1nm,0.4s,baz=127,slow=27,SNR=2.4							
SONM	**Songino Array**	**153.62**	**8**	PKPbc	PKPbc	11 12 44.0	-0.2

GUC 19 11:07:58.1±0.8, 32°.48S×71°.92W, h27km±4km, MD3.5, ML3.3, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**157**	*eP*	Pb	11 08 09.5	-0.5
IHA				*i S*	Sb	11 08 17.8	-0.2
CHNG	**Los Chungos**	**0.69**	**31**	⇓*iP*	Pb	11 08 10.8	-0.8
CHNG				*i S*	Sb	11 08 21.1	+0.3
CHNG				AML	AML	11 08 23.2	
comp=E,716nm,0.3s							
PTCH	**Petorca**	**0.86**	**76**	*eP*	Pn	11 08 13.9	-0.6
PTCH				*i S*	Sb	11 08 25.8	+0.1
PTCH				AML	AML	11 08 26.1	
comp=N,4μm,0.2s							
ROCH	**El Roble**	**0.91**	**123**	⇓*iP*	Pn	11 08 14.6	-0.5
ROCH				*i S*	Sb	11 08 26.9	-0.1
ROCH				AML	AML	11 08 29.6	
comp=N,1μm,0.6s							
JACH	**Jahuel**	**1.14**	**101**	*eP*	Pn	11 08 18.2	0.0
JACH				*i S*	Sn	11 08 33.4	+0.4
PEL	**Peldehue**	**1.23**	**123**	⇑*iP*	Pn	11 08 19.8	+0.3
PEL				*i S*	Sn	11 08 36.0	+0.7
PEL				AML	AML	11 08 39.2	
comp=E,2μm,0.7s							
TACH	**Talagante**	**1.43**	**145**	⇑*iP*	Pn	11 08 22.7	+0.4
TACH				*i S*	Sn	11 08 40.8	+0.6
SAN	**Santiago**	**1.44**	**133**	*eP*	Pn	11 08 22.6	+0.3
SAN				*i S*	Sn	11 08 41.9	+1.6
SAN				AML	AML	11 08 44.1	
comp=N,578nm,0.8s							
CLCH	**Cerro Calan**	**1.48**	**129**	*eP*	Pn	11 08 23.8	+0.8
CLCH				*i S*	Sn	11 08 43.0	+1.6
CLCH				AML	AML	11 08 47.2	
comp=E,546nm,0.2s							
CMCH	**Combarbala**	**1.52**	**31**	*eP*	Pn	11 08 23.7	+0.2
CMCH				*i S*	Sn	11 08 43.1	+0.8
CMCH				AML	AML	11 08 48.1	
comp=N,2μm,0.7s							
ANTU	**Antumapu**	**1.53**	**135**	*i S*	Sn	11 08 44.5	+1.8
ANTU				AML	AML	11 08 46.5	
comp=N,482nm,0.3s							
FCH	**Farellones**	**1.61**	**122**	⇓*iP*	Pn	11 08 22.9	-1.8
FCH				*i S*	Sn	11 08 43.7	-0.9
FCH				AML	AML	11 08 44.8	
comp=E,496nm,0.3s							
PCH	**Pirque**	**1.64**	**134**	*eP*	Pn	11 08 26.4	+1.3
PCH				*eS*	Sn	11 08 47.7	+2.4
CHCH	**Chadas Angostu**	**1.80**	**144**	⇑*iP*	Pn	11 08 28.6	+1.2
CHCH				*i S*	Sn	11 08 52.2	+3.0
CACH	**El Canelo**	**1.97**	**146**	⇑*iP*	Pn	11 08 31.7	+2.0
CACH				*eS*	Sn	11 08 57.8	+4.2
LMEL	**Las Melosas**	**1.98**	**134**	⇑*iP*	Pn	11 08 31.7	+1.8
LMEL				*i S*	Sn	11 08 57.1	+3.3
LMEL				AML	AML	11 09 01.8	
comp=N,402nm,0.7s							

*IDC **19** 11:43:18.6±1.2, 32°.53S×71°.74W, h0km, mb4.2/4, mb1 4.2/7, mb1mx4.1/14, mbtmp4.1/7, ML4.1/3, Error ellipse: s-maj=41.3km s-min=27.8km az=76.0*
*ISCJB **19** 11:43:20.0±0.9, 32°.59S±0°.03×72°.04W±0°.06, h22km±5km, mb4.1/7, Error ellipse: s-maj=8.1km s-min=4.3km az=164.3*
*GUC **19** 11:43:21.9±0.7, 32°.59S×71°.92W, h15km±4km, MD4.1, ML4.1*
*NEIC **19** 11:43:22.3±2.9, 32°.54S×72°.00W, h28km±19km, mb4.2/5, Error ellipse: s-maj=16.8km s-min=8.5km az=89.0*
ISC 19 11:43:21.0±0.8, 32°.58S±0°.03×71°.94W±0°.05, h15km±4km, n49, σ0s64/53, mb4.1/7, 7C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.51**	**150**	⇓*iP*	**Pg**	**11 43 31.4**	**+0.1**
IHA				*i S*	**Sg**	**11 43 38.3**	**+0.2**
CHNG	**Los Chungos**	**0.79**	**29**	⇓*iP*	**Pg**	**11 43 36.2**	**-0.1**
CHNG				*i S*	**Sg**	**11 43 47.1**	**+0.3**
CHNG				AML	AML	11 43 50.1	
comp=E,8μm,0.5s							
ROCH	**El Roble**	**0.88**	**117**	⇓*iP*	**Pb**	**11 43 37.3**	**-0.6**
ROCH				*i S*	**Sb**	**11 43 49.0**	**-0.5**
ROCH				AML	AML	11 43 51.8	
comp=N,9μm,0.5s							
PTCH	**Petorca**	**0.91**	**70**	⇓*iP*	**Pb**	**11 43 38.2**	**-0.3**
PTCH				*i S*	**Sb**	**11 43 50.0**	**-0.4**
PTCH				AML	AML	11 43 52.4	
comp=N,9μm,0.5s							
LCCH	**Las Cruces**	**0.95**	**161**	⇑*iP*	**Pb**	**11 43 38.4**	**-0.7**
JACH	**Jahuel**	**1.14**	**96**	⇑*iP*	**Pn**	**11 43 41.4**	**-1.0**
PEL	**Peldehue**	**1.20**	**118**	⇑*iP*	**Pn**	**11 43 42.6**	**-0.6**
PEL				*i S*	**Sb**	**11 43 58.3**	**-0.4**
PEL				AML	AML	11 44 00.4	
comp=E,22μm,0.3s							
TACH	**Talagante**	**1.36**	**142**	⇑*iP*	**Pn**	**11 43 44.9**	**-0.6**
SAN	**Santiago**	**1.39**	**129**	⇑*iP*	**Pn**	**11 43 45.5**	**-0.3**
SAN				*i S*	**Sn**	**11 44 03.3**	**-0.5**
SAN				AML	AML	11 44 07.8	
comp=N,6μm,0.4s							
CLCH	**Cerro Calan**	**1.44**	**125**	⇓*iP*	**Pn**	**11 43 46.3**	**-0.2**
CLCH				*i S*	**Sn**	**11 44 05.0**	**0.0**
CLCH				AML	AML	11 44 11.7	
comp=E,13μm,0.5s							
ANTU	**Antumapu**	**1.48**	**132**	*eP*	**Pn**	**11 43 47.2**	**+0.2**
ANTU				*eS*	**Sn**	**11 44 05.9**	**-0.1**
ANTU				AML	AML	11 44 12.2	
comp=E,6μm,0.3s							
FSR	**Penalolen**	**1.49**	**127**	*eP*	**Pn**	**11 43 47.3**	**+0.1**
FSR				*i S*	**Sn**	**11 44 06.0**	**-0.3**
FSR				AML	AML	11 44 15.3	
comp=E,2μm,0.4s							
PCH	**Pirque**	**1.59**	**131**	⇑*iP*	**Pn**	**11 43 48.6**	**0.0**
CMCH	**Combarbala**	**1.61**	**30**	*eP*	**Pn**	**11 43 48.8**	**-0.1**
CMCH				*i S*	**Sn**	**11 44 09.9**	**+0.5**
SJCH	**San Jose de Ma**	**1.70**	**129**	*eP*	**Pn**	**11 43 50.5**	**+0.4**
SJCH				*i S*	**Sn**	**11 44 12.2**	**+0.6**
SJCH				AML	AML	11 44 18.7	
comp=N,2μm,0.7s							
LMEL	**Las Melosas**	**1.93**	**131**	⇑*iP*	**Pn**	**11 43 54.3**	**+1.0**
LMEL				*i S*	**Sn**	**11 44 18.9**	**+1.7**
LMEL				AML	AML	11 44 25.1	
comp=N,4μm,0.4s							
CFAA	**Coronel Fontan**	**3.29**	**74**	Pn	**Pn**	**11 44 13.8**	**+1.8**
comp=N,0.9nm,0.3s,baz=244,slow=12,SNR=96							
CFAA				Lg		11 45 00.7	
comp=N,11nm,0.3s,baz=122,slow=15,SNR=4.9							
CFAA	**Coronel Fontan**	**3.29**	**74**	Pn	**Pn**	**11 44 13.8**	**+1.8**
CFAA				Lg		11 45 00.7	
LCO	**Las Campanas**	**3.71**	**17**	*ePn*	**Pn**	**11 44 17.5**	**-0.3**
PLCA	**Paso Flores**	**8.21**	**173**	Pn	**Pn**	**11 45 19.8**	**+0.2**
comp=N,0.5nm,0.3s,baz=338,slow=10,SNR=6.2							
PLCA	**Paso Flores**	**8.21**	**173**	Pn	**Pn**	**11 45 19.8**	**+0.2**
TRQA	**Tornquist**	**9.80**	**127**	*ePn*	**Pn**	**11 45 42.3**	**+1.0**
comp=N,16nm,1.2s							
CPUP	**Villa Florida**	**14.17**	**68**	Pn	**Pn**	**11 46 41.7**	**+0.6**
comp=N,0.9nm,0.3s,baz=216,slow=9.2,SNR=5.8							
CPUP	**Villa Florida**	**14.17**	**68**	*ePn*	**Pn**	**11 46 42.4**	**+1.4**
LPAZ	**La Paz**	**16.58**	**13**	Pn	**Pn**	**11 47 14.0**	**+1.0**
comp=N,0.2nm,0.3s,baz=190,slow=8.4,SNR=13							
LPAZ	**La Paz**	**16.58**	**13**	*eP*	**Pn**	**11 47 13.0**	**0.0**
comp=N,4.0nm,0.8s							
SIV	**San Ignacio**	**19.23**	**33**	P	**Pn**	**11 47 41.9**	**-3.7**
comp=N,0.4nm,0.3s,baz=232,slow=10,SNR=9.8							
SIV	**San Ignacio**	**19.23**	**33**	P	**Pn**	**11 47 41.9**	**-3.7**
SAML	**Samuel**	**24.87**	**21**	*eP*	**P**	**11 48 42.8**	**-0.4**
comp=N,1.9nm,0.8s,mb3.7							
VNA2	**Neumayer--Watz**	**51.29**	**158**	*e*	**P**	**11 52 24.1**	**+0.2**
baz=289,slow=7.8		

RNF	Rovaniemi	3.24 254	eP	Pn	11 45 41.6	+0.3
RNF			eS	Sn	11 46 20.6	0.0
RNF	Rovaniemi	3.24 254	P	Pn	11 45 41.5	+0.2
RNF			S	Sn	11 46 20.5	-0.1
ARA0	ARCESS Array S	3.57 305	Pn	Pn	11 45 46.2	+0.4
baz=122,slow=14						
ARA0			Sn	Sn	11 46 28.0	-0.6
baz=122,slow=28						
ARA0			Lg		11 46 40.3	
baz=116,slow=37						
ARA0	ARCESS Array S	3.57 305	eP	Pn	11 45 46.2	+0.4
ARA0			eS	Sn	11 46 28.0	-0.6
ARA0			eSG	Sg	11 46 40.3	-3.5
ARA0	ARCESS Array S	3.57 305	P	Pn	11 45 46.1	+0.3
ARA0			Sn	Sn	11 46 28.0	-0.6
baz=122,slow=23,SNR=50						
ARCES	ARCESS Array B	3.57 305	Pn	Pn	11 45 46.7	+0.9
4.0nm,0.3s,baz=122,slow=15,SNR=290						
ARCES			Sn	Sn	11 46 28.7	+0.1
2.5nm,0.3s,baz=119,slow=26,SNR=12						
ARCES			Lg		11 46 42.7	
4.9nm,0.3s,baz=102,slow=29,SNR=12						
HEF	Hetta	3.89 285	eP	Pn	11 45 50.7	+0.5
HEF			eS	Sn	11 46 35.3	-1.2
HEF	Hetta	3.89 285	P	Pn	11 45 50.7	+0.5
HEF			S	Sn	11 46 35.3	-1.2
KTK1	Kautokeino	4.15 293	eP	Pn	11 45 54.1	+0.4
KTK1	Kautokeino	4.15 293	eP	Pn	11 45 54.1	+0.4
KTK1	Kautokeino	4.15 293	eP	Pn	11 45 54.1	+0.4
SNR=49						
JOF	Joensuu	4.91 194	MSG		11 47 21.9	
comp=Z,4.2nm,0.2s						
KIF	Kilpisjarvi	5.01 291	MSG		11 47 24.7	
comp=Z,5.3nm,0.2s						
SUF	Sumiainen	5.95 217	MSG		11 47 53.2	
comp=Z,3.0nm,0.2s						
VAF	Ylistaro	6.60 230	MSG		11 48 19.0	
comp=Z,2.0nm,0.2s						
FIA0	FINESS Array S	7.10 212	Pn	Pn	11 46 32.5	-1.8
baz=26,slow=16						
FIA0			Sn	Sn	11 47 49.8	-5.8
FIA0			Lg		11 48 24.9	
baz=22,slow=28						
FIA0	FINESS Array S	7.10 212	eP	Pn	11 46 32.5	-1.8
FIA0			eS	Sn	11 47 49.8	-5.8
FIA0			eSG	Sg	11 48 24.9	-12
FIA0	FINESS Array S	7.10 212	P	Pn	11 46 32.5	-1.8
FINES	FINESS Array B	7.10 212	Pn	Pn	11 46 33.6	-0.7
comp=Z,0.2nm,0.3s,baz=24,slow=14,SNR=5.4						
FINES			Sn	Sn	11 47 52.5	-3.1
comp=Z,0.3nm,0.3s,baz=25,slow=23,SNR=3.3						
FINES			Lg		11 48 26.1	
comp=Z,0.6nm,0.3s,baz=23,slow=26,SNR=4.4						
SPA0	Spitsbergen Ar	11.63 342	Pn	Pn	11 47 34.5	-1.6
baz=134,slow=16						
SPA0	Spitsbergen Ar	11.63 342	eP	Pn	11 47 34.5	-1.6
SPA0	Spitsbergen Ar	11.63 342	P	Pn	11 47 34.5	-1.6
baz=134,slow=16,SNR=47						
SPITS	Spitsbergen Ar	11.63 342	Pn	Pn	11 47 35.5	-0.6
baz=138,slow=18,SNR=3.4						
SPITS			Sn	Sn	11 49 38.7	-7.7
baz=158,slow=32,SNR=3.5						
NOA	NORSAR Array B	11.79 246	Pn	Pn	11 47 34.6	-3.8
comp=Z,0.1nm,0.3s,baz=39,slow=12,SNR=3.3						

KRSC 19 11:46:33.5±0.6, 54°.41N×160°.18E, h112km±111km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	0.88	359	iP	Pn	11 46 56.1	+2.5
NLC	Nalytchevo	1.34	202	P	Pn	11 47 00.4	+1.9
NLC				iS	Sn	11 47 20.4	+3.0
KMNR	Kamenistaya	1.35	1	P	Pn	11 47 00.8	+2.2
SDLR	Sedlovina	1.37	215	eP	Pn	11 47 01.1	+2.3
AVH	Avacha	1.43	217	eP	Pn	11 47 02.1	+2.5
KOK	Koryaka	1.45	220	eP	Pn	11 47 02.2	+2.5
KPT	Kopyto	1.56	1	P	Pn	11 47 02.4	+1.3
PET	Petropavlovsk	1.66	214	eP	Pn	11 47 04.5	+2.2
PET				eS	Sn	11 47 26.7	+2.5
ESO	Esso	1.74	331	iP	Pn	11 47 03.8	+0.6
SRDR	Sredinnyy	1.93	352	P	Pn	11 47 06.3	+0.7
RUS	Russkaya	2.22	207	eP	Pn	11 47 10.6	+1.3
RUS				eS	Sn	11 47 37.8	+1.1
KBTR	Krutoberegovo	2.35	39	eP	Pn	11 47 13.2	+2.3

*ISCJB **19** 11:52:31.4±0.8, 22°.60N±0°.07×94°.52E±0°.08, h119km±8km, mb4.3/13, Error ellipse: s-maj=14.0km s-min=8.0km az=138.8*
*NEIC **19** 11:52:32.3±0.6, 22°.58N×94°.53E, h108km±6km, mb4.5/3, Error ellipse: s-maj=13.7km s-min=5.7km az=48.0*
*IDC **19** 11:52:33.6±2.1, 22°.67N×94°.66E, h120km±18km, mb3.9/12, mb1 4.0/12, mb1mx3.6/27, mbtmp3.9/12, Error ellipse: s-maj=36.0km s-min=11.7km az=59.0*
ISC 19 11:52:32.8±0.8, 22°.58N±0°.06×94°.43E±0°.07, h112km±7km, n56, σ1°03/69, mb4.3/13, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	2.24	348	ePKP	Pn	11 53 14.0	+5.0
IMP				eS	Sn	11 53 36.0	-0.7
SHL	Shillong	3.78	322	ePN	Pn	11 53 30.0	+0.8
SHL				eSN	Sn	11 54 10.0	-2.9
CMAR	Chiang Mai Arr	5.89	133	P	Pn	11 53 56.7	-1.0
0.3nm,0.3s,baz=310,slow=13,SNR=11							
CMAR	Chiang Mai Arr	5.89	133	P	Pn	11 53 56.7	-1.0
LSA	Lhasa	7.68	338	ePn	Pn	11 54 23.3	+1.4
8.8nm,0.3s							
LSA				eSn	Sn	11 55 48.6	+1.3
ODAN	Odare	7.69	305	ePn	Pn	11 54 23.1	+1.0
ODAN				eSn	Sn	11 55 45.3	-2.3
176nm,0.3s							
ODAN	Odare	7.69	305	ePn	Pn	11 54 23.1	+1.0
ODAN				eSn	Sn	11 55 45.3	-2.3
TAPN	Taplejung	7.73	309	ePn	Pn	11 54 23.4	+0.8
TAPN				eSn	Sn	11 55 47.9	-0.6
152nm,0.5s							
TAPN	Taplejung	7.73	309	ePn	Pn	11 54 23.4	+0.8
TAPN				eSn	Sn	11 55 47.9	-0.6
RAMN	Ramite	8.34	303	ePn	Pn	11 54 32.3	+1.4
RAMN				eSn	Sn	11 56 00.9	-2.5
RAMN	Ramite	8.34	303	ePn	Pn	11 54 32.3	+1.4
RAMN				eSn	Sn	11 56 00.9	-2.5
JIRN	Jiri	9.02	306	ePn	Pn	11 54 40.8	+0.7
JIRN	Jiri	9.02	306	ePn	Pn	11 54 40.8	+0.7
GUN	Gumba	9.38	306	ePn	Pn	11 54 45.6	+0.5
GUN				eSn	Sn	11 56 25.7	-3.0
140nm,0.5s							
GUN	Gumba	9.38	306	ePn	Pn	11 54 45.6	+0.5
GUN				eSn	Sn	11 56 25.7	-3.0
PKI	Pulchoki	9.57	303	ePn	Pn	11 54 48.2	+0.6
PKI	Pulchoki	9.57	303	ePn	Pn	11 54 48.2	+0.6
KKN	Kakani	9.78	304	ePn	Pn	11 54 50.7	+0.3
KKN	Kakani	9.78	304	ePn	Pn	11 54 50.7	+0.3
DMN	Daman	9.82	303	ePn	Pn	11 54 51.4	+0.4
DMN	Daman	9.82	303	ePn	Pn	11 54 51.4	+0.4
GKN	Gorkha	10.38	303	ePn	Pn	11 54 58.5	0.0
GKN	Gorkha	10.38	303	ePn	Pn	11 54 58.5	0.0
KOLN	Koldanda	11.09	300	ePn	Pn	11 55 07.8	-0.2
KOLN				eSn	Sn	11 57 05.0	-5.0
58nm,0.4s							
KOLN	Koldanda	11.09	300	ePn	Pn	11 55 07.8	-0.2
KOLN				eSn	Sn	11 57 05.0	-5.0
DANN	Dangsing	11.22	303	ePn	Pn	11 55 10.0	+0.2
DANN	Dangsing	11.22	303	ePn	Pn	11 55 10.0	+0.2
AAK	Ala-Archa	26.00	325	eP	P	11 57 58.3	+3.2
10nm,0.9s,mb4.2							
MK31	Makanchi Array	26.08	341	eP	P	11 57 56.4	+0.7
MKAR	Makanchi Array	26.08	341	P	P	11 57 56.4	+0.6
3.0nm,0.4s,mb4.1,baz=145,slow=10,SNR=115							
MKAR				ScP	ScP	12 04 48.3	-1.7
0.4nm,0.6s,baz=123,slow=4.5,SNR=5.5							
MKAR	Makanchi Array	26.08	341	P	P	11 57 56.4	+0.6
MKAR				ScP	ScP	12 04 48.3	-1.7
SONM	Songino Array	26.96	18	P	P	11 58 02.1	-1.5
0.2nm,0.4s,baz=184,slow=12,SNR=3.2							
SONM	Songino Array	26.96	18	P	P	11 58 02.1	-1.5
KURK	Kurchatov	30.68	340	P	P	11 58 36.0	-0.6
3.1nm,0.3s,mb4.5,baz=150,slow=8.9,SNR=14							
KURK				ScP	ScP	12 05 02.6	-1.7
0.6nm,0.5s,baz=151,slow=2.8,SNR=9.8							
KURK	Kurchatov	30.68	340	P	P	11 58 36.0	-0.6
KURK				eP		11 58 36.9	
KURK				ScP	ScP	12 05 02.6	-1.7
ZAA0	Zalesovo Array	32.16	349	eP	P	11 58 49.0	-0.5
ZALV	Zalesovo Beam	32.16	349	P	P	11 58 49.1	-0.4
1.7nm,0.3s,mb4.2,baz=160,slow=9.0,SNR=15							
ZALV	Zalesovo Beam	32.16	349	P	P	11 58 49.1	-0.4
BVAR	Borovoye Array	35.50	335	P	P	11 59 18.7	+0.2
2.0nm,0.5s,mb4.3,baz=147,slow=11,SNR=11							
BVAR	Borovoye Array	35.50	335	P	P	11 59 18.7	+0.2
AKTO	Aktyubinsk	39.72	324	P	P	11 59 55.1	+1.0
2.5nm,0.6s,mb4.2,baz=127,slow=9.2,SNR=9.8							
AKTO	Aktyubinsk	39.72	324	P	P	11 59 55.1	+1.0
WRA	Warramunga Arr	57.48	134	P	P	12 02 09.8	-0.6
4.7nm,0.5s,mb4.8,baz=323,slow=7.5,SNR=111							
WRA	Warramunga Arr	57.48	134	P	P	12 02 09.8	-0.6
WRAB	Tennant Creek	57.48	134	eP	P	12 02 09.8	-0.6
2.4nm,0.5s,mb4.5							
WB2	Warramunga Arr	57.49	134	eP	P	12 02 09.8	-0.7
ASAR	Alice Springs	59.88	138	P	P	12 02 26.8	-0.2
3.4nm,0.5s,mb4.6,baz=321,slow=7.0,SNR=80							
ASAR	Alice Springs	59.88	138	P	P	12 02 26.8	-0.2
FINES	FINESS Array B	60.09	329	P	P	12 02 27.6	-0.3
3.4nm,0.9s,mb4.3,baz=107,slow=6.6,SNR=6.1							
FINES	FINESS Array B	60.09	329	P	P	12 02 27.6	-0.3
ARCES	ARCESS Array B	61.69	338	P	P	12 02 38.5	-0.1
2.3nm,0.8s,mb4.2,baz=87,slow=7.4,SNR=5.4							
ARCES	ARCESS Array B	61.69	338	P	P	12 02 38.5	0.0
GERES	GERESS Array B	67.36	315	P	P	12 03 16.1	+0.3
0.2nm,0.3s,mb3.4,baz=53,slow=6.7,SNR=3.3							
GERES	GERESS Array B	67.36	315	P	P	12 03 16.1	+0.3
BOSA	Boshof	83.86	236	P	P	12 04 51.1	+1.0
1.0nm,0.3s,mb4.2,baz=82,slow=7.1,SNR=4.2							
BOSA	Boshof	83.86	236	P	P	12 04 51.1	+1.0

*NEIC **19** 12:05:42.0, 15°.78N×95°.69W, h41km, MD3.8(MEX), After MEX.*
MEX 19 12:05:42.2±0.6, 15°.77N×95°.67W, h34km±15km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.42	270	eP	Pb	12 05 50.0	-1.8
HUIG				eS	Sb	12 05 56.3	-2.0
HUIG	Huatulco	0.42	270	eP	Pb	12 05 50.0	-1.8
HUIG				eS	Sb	12 05 56.3	-2.0
CMIG	Matias Romero	1.52	30	eP	Pn	12 06 05.1	-1.8
CMIG				iS	Sn	12 06 23.1	-2.4
CMIG	Matias Romero	1.52	30	eP	Pn	12 06 05.1	-1.8
CMIG				iS	Sn	12 06 23.1	-2.4
VHO	Vista Hermosa	1.65	322	eP	Pn	12 06 07.7	-1.0
VHO				iS	Sn	12 06 25.9	-2.8
VHO	Vista Hermosa	1.65	322	eP	Pn	12 06 07.7	-1.0
VHO				iS	Sn	12 06 26.1	-2.6
OXX	Oaxaca	1.65	322	iP	Pn	12 06 05.6	-3.2
OXX				iS	Sn	12 06 26.6	-2.2
OXX	Oaxaca	1.65	322	iP	Pn	12 06 06.6	-2.2
OXX				iS	Sn	12 06 26.6	-2.2
PCIG		2.36	91	iP	Pn	12 06 16.2	-2.3
PCIG				iS	Sn	12 06 44.8	-1.6
PCIG		2.36	91	iP	Pn	12 06 16.2	-2.3
PCIG				iS	Sn	12 06 44.8	-1.6
TGIG		2.65	67	iP	Pn	12 06 22.2	-0.3
TGIG				iS	Sn	12 06 53.4	+0.1
TGIG		2.65	67	iP	Pn	12 06 21.7	-0.8
TGIG				iS	Sn	12 06 53.2	-0.1
UTMO	Huajuapan	2.90	315	iP	Pn	12 06 24.4	-1.4
UTMO				iS	Sn	12 06 58.3	-1.2
UTMO	Huajuapan	2.90	315	iP	Pn	12 06 24.4	-1.4
UTMO				iS	Sn	12 06 58.3	-1.2

*IDC **19** 12:24:02.8±0.8, 32°.45S×71°.81W, h0km, mb4.1/6, mb1 4.2/10, mb1mx4.1/15, mbtmp4.0/10, ML4.2/4, Error ellipse: s-maj=30.7km s-min=22.4km az=87.0*
*ISCJB **19** 12:24:06.3±0.8, 32°.43S±0°.03×71°.97W±0°.07, h35km±8km, mb4.1/8, Error ellipse: s-maj=9.8km s-min=4.4km az=173.8*
*GUC **19** 12:24:06.6±0.8, 32°.46S×71°.89W, h26km±4km, MD4.1, ML4.1*
*NEIC **19** 12:24:08.3±1.2, 32°.40S×71°.88W, h37km±10km, mb4.0/4, Error ellipse: s-maj=16.4km s-min=8.3km az=91.0*
ISC 19 12:24:05.9±0.8, 32°.44S±0°.02×71°.92W±0°.05, h17km±4km, n54, σ0°83/59, mb4.1/8, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.63	158	eP	Pg	12 24 17.8	-0.5
IHA				eS	Sg	12 24 26.7	+0.1
CHNG	Los Chungos	0.66	33	⇓iP	Pg	12 24 19.1	+0.1
CHNG				iS	Sg	12 24 28.5	+0.8
CHNG				AML	AML	12 24 29.1	
comp=E,6μm,0.5s							
PTCH	Petorca	0.86	78	⇓iP	Pb	12 24 22.1	-0.2
PTCH				iS	Sb	12 24 33.2	-0.3
PTCH				AML	AML	12 24 35.7	
comp=E,16μm,0.2s							
ROCH	El Roble	0.93	125	⇓iP	Pb	12 24 23.0	-0.6
ROCH				iS	Sb	12 24 34.9	-0.7
ROCH				AML	AML	12 24 39.8	
comp=E,12μm,0.5s							
LCCH	Las Cruces	1.07	164	⇑iP	Pb	12 24 25.4	-0.6
LCCH				iS	Sb	12 24 38.8	-0.9
JACH	Jahuel	1.14	102	⇑iP	Pn	12 24 26.3	-0.8
PEL	Peldehue	1.25	124	⇑iP	Pn	12 24 28.3	-0.3
PEL				iS	Sb	12 24 44.4	-0.6
PEL				AML	AML	12 24 46.6	
comp=N,25μm,0.5s							
RCDM	Rinconada Maip	1.40	138	eP	Pn	12 24 30.1	-0.6
RCDM				eS	Sn	12 24 47.7	-1.1
RCDM				AML	AML	12 24 49.6	
comp=E,4μm,0.6s							
SAN	Santiago	1.46	134	⇑iP	Pn	12 24 31.5	0.0
SAN				eS	Sn	12 24 49.7	-0.5
SAN				AML	AML	12 24 52.1	
comp=N,5μm,0.5s							
CMCH	Combarbala	1.49	32	⇓iP	Pn	12 24 31.7	-0.2
CMCH				iS	Sn	12 24 51.0	+0.1
CMCH				AML	AML	12 24 57.4	
comp=N,20μm,0.6s							
CLCH	Cerro Calan	1.50	130	⇓iP	Pn	12 24 32.1	0.0
CLCH				iS	Sn	12 24 51.3	+0.1
CLCH				AML	AML	12 24 57.8	
comp=E,7μm,0.6s							
ANTU	Antumapu	1.56	136	eP	Pn	12 24 33.0	+0.2
ANTU				eS	Sn	12 24 52.6	0.0
ANTU				AML	AML	12 24 53.6	
comp=E,5μm,0.4s							
FSR	Penalolen	1.56	132	eP	Pn	12 24 33.0	+0.1
FSR				eS	Sn	12 24 52.9	+0.2
FSR				AML	AML	12 24 55.8	
comp=E,1μm,0.5s							
PCH	Pirque	1.67	135	⇓iP	Pn	12 24 34.7	+0.4
PCH				iS	Sn	12 24 55.9	+0.7
SJCH	San Jose de Ma	1.78	133	eP	Pn	12 24 36.5	+0.7
SJCH				iS	Sn	12 24 59.1	+1.1
SJCH				AML	AML	12 25 08.9	
comp=N,2μm,0.5s							
CACH	El Canelo	2.00	147	⇑iP	Pn	12 24 40.1	+1.1
LMEL	Las Melosas	2.01	135	eP	Pn	12 24 40.0	+1.0
LMEL				iS	Sn	12 25 05.6	+1.9
LMEL				AML	AML	12 25 15.5	
comp=N,2μm,0.3s							
CFAA	Coronel Fontan	3.24	76	Pn	Pn	12 24 58.0	+2.1
comp=N,3.9nm,0.3s,baz=242,slow=12,SNR=131							
CFAA				Lg		12 25 41.1	
comp=N,6.1nm,0.3s,baz=158,slow=20,SNR=5.4							
CFAA	Coronel Fontan	3.24	76	Pn	Pn	12 24 58.0	+2.1
CFAA				Lg		12 25 41.1	
LCO	Las Campanas	3.58	17	ePn	Pn	12 25 00.0	0.0
LCO				eS	Sn	12 25 50.0	+7.5
PLCA	Paso Flores	8.35	173	Pn	Pn	12 26 06.1	0.0
comp=N,1.1nm,0.3s,baz=334,slow=11,SNR=27							
PLCA	Paso Flores	8.35	173	ePn	Pn	12 26 05.9	-0.2
comp=N,2.8nm,0.4s							
TRQA	Tornquist	9.87	127	ePn	Pn	12 26 28.9	+2.0
comp=N,6.2nm,0.8s							
CPUP	Villa Florida	14.10	68	Pn	Pn	12 27 24.4	-0.5
comp=N,0.4nm,0.3s,baz=230,slow=16,SNR=2.3							
CPUP	Villa Florida	14.10	68	ePn	Pn	12 27 23.4	-1.5
LPAZ	La Paz	16.45	13	Pn	Pn	12 27 56.9	+0.9
comp=N,0.2nm,0.3s,baz=188,slow=7.4,SNR=12							
LPAZ	La Paz	16.45	13	ePn	Pn	12 27 56.6	+0.6
comp=N,7.4nm,0.7s							
SIV	San Ignacio	19.11	34	P	Pn	12 28 26.7	-2.2
comp=N,0.2nm,0.3s,baz=227,slow=14,SNR=7.6							
SIV	San Ignacio	19.11	34	P	Pn	12 28 26.7	-2.2
SAML	Samuel	24.74	21	eP	P	12 29 25.9	-0.7
comp=N,3.8nm,1.0s,mb3.9							
QSPA	South Pole Qui	57.79	180	eP	P	12 33 56.5	+0.8
comp=N,1.2nm,0.6s,mb4.1							
TXAR	Lajitas Array	68.43	330	P	P	12 35 07.0	+0.2
comp=N,0.4nm,0.7s,mb3.5,baz=145,slow=8.2,SNR=5.0							
TXAR	Lajitas Array	68.43	330	P	P	12 35 07.0	+0.2
DBIC	Dimbokro	74.59	72	P	P	12 35 43.2	-1.2
comp=N,3.3nm,0.6s,mb4.4,baz=200,slow=7.5,SNR=7.4							
DBIC	Dimbokro	74.59	72	eP	P	12 35 42.6	-1.8
comp=N,5.3nm,0.7s,mb4.6							
MAW	Mawson	74.64	164	P	P	12 35 43.6	-0.2
comp=N,1.8nm,0.8s,mb4.0,baz=260,slow=11,SNR=5.7							
MAW	Mawson	74.64	164	P	P	12 35 43.6	-0.2
BOSA	Boshof	80.71	118	P	P	12 36 17.8	-0.6
comp=N,3.0nm,0.9s,mb4.2,baz=286,slow=7.6,SNR=3.7							
BOSA	Boshof	80.71	118	P	P	12 36 17.8	-0.6
NVAR	Mina Array Bea	82.67	325	P	P	12 36 29.3	+1.0
comp=N,0.7nm,0.6s,mb3.8,baz=160,slow=4.7,SNR=4.4							
NVAR	Mina Array Bea	82.67	325	P	P	12 36 29.3	+1.0
TORD	Torodi Ar. Bea	83.59	70	P	P	12 36 32.7	-0.9
comp=N,2.1nm,0.7s,mb4.4,baz=257,slow=4.1,SNR=12							
TORD	Torodi Ar. Bea	83.59	70	P	P	12 36 32.7	-0.9
WRA	Warramunga Arr	122.17	209	PKP	PKPdf	12 42 59.0	-1.3
comp=N,0.5nm,0.6s,baz=154,slow=1.7,SNR=11							
WRA	Warramunga Arr	122.17	209	PKP	PKPdf	12 42 59.0	-1.3
BVAR	Borovoye Array	146.06	41	PKPbc	PKPbc	12 43 44.5	+0.1
comp=N,2.1nm,0.5s,baz=303,slow=2.2,SNR=7.4							
BVAR	Borovoye Array	146.06	41	PKPbc	PKPbc	12 43 44.5	+0.1
KURK	Kurchatov	151.66	41	PKPbc	PKPbc	12 43 58.5	-0.4
comp=N,2.7nm,0.5s,baz=302,slow=2.9,SNR=28							
KURK	Kurchatov	151.66	41	PKPbc	PKPbc	12 43 58.5	-0.4
ZAA0	Zalesovo Array	152.85	31	ePKPbc	PKPbc	12 44 00.8	-0.7
ZALV	Zalesovo Beam	152.85	31	PKPbc	PKPbc	12 44 00.8	-0.7
comp=N,3.0nm,0.6s,baz=304,slow=3.0,SNR=20							
ZALV				PKPab	PKPab	12 44 10.9	-1.6
comp=N,1.1nm,0.6s,baz=306,slow=3.2,SNR=4.7							
ZALV	Zalesovo Beam	152.85	31	PKPbc	PKPbc	12 44 00.8	-0.7
ZALV				PKPab	PKPab	12 44 10.9	-1.6
MKAR	Makanchi Array	155.65	46	PKPab	PKPab	12 44 23.7	-1.0
comp=N,0.8nm,0.6s,baz=284,slow=4.2,SNR=5.9							
MKAR	Makanchi Array	155.65	46	PKPab	PKPab	12 44 23.7	-1.0

*ISK **19** 12:30:16.4, 37°.07N×29°.16E, h5km, MD2.8*
*DDA **19** 12:30:16.8, 37°.04N×29°.11E, h7km±5km, Md2.8*
*ISCJB **19** 12:30:17.9±0.9, 37°.16N±0°.05×29°.32E±0°.08, h35km±15km, Error ellipse: s-maj=12.0km s-min=7.5km az=149.9*
*CSEM **19** 12:30:17.4±0.4, 37°.13N×29°.25E, h22km±6km, MD2.8, Error ellipse: s-maj=11.7km s-min=7.3km az=39.0*
ISC 19 12:30:17.8±0.9, 37°.18N±0°.05×29°.35E±0°.09, h37km±11km, n16, σ1°03/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	Glhisar (BURDU	0.12	102	ePG	Pn	12 30 22.9	-1.3
GLHS				eSG	Sn	12 30 28.6	-0.1
GLHS	Glhisar (BURDU	0.12	102	ePg	Pn	12 30 22.9	-1.3
GLHS				eSg	Sn	12 30 28.6	-0.1
GOLH	Golhisar	0.18	71	iP	Pn	12 30 23.5	-1.1
GOLH				iS	Sn	12 30 30.7	+1.3
GOLH	Golhisar	0.18	71	iP	Pn	12 30 23.5	-1.1
GOLH				iS	Sn	12 30 30.7	+1.4
DNZL	Cakiroluk	0.56	334	iP	Pn	12 30 29.2	-0.2
DNZL				iS	Sn	12 30 38.7	+1.2
DNZL	Cakiroluk	0.56	334	iP	Pn	12 30 29.2	-0.2
DNZL				iS	Sn	12 30 38.7	+1.2
ELL	Elmali	0.62	134	ePG	Pn	12 30 30.9	+0.8
ELL	Elmali	0.62	134	ePg	Pn	12 30 30.9	+0.8
TURN	Turunc	0.67	243	iP	Pn	12 30 29.8	-1.0
TURN				iS	Sn	12 30 41.6	+1.5
TURN	Turunc	0.67	243	iP	Pn	12 30 29.8	-1.0
YER	Yerkesik	0.86	267	ePG	Pn	12 30 31.6	-1.7
YER	Yerkesik	0.86	267	ePg	Pn	12 30 31.7	-1.6
AKAS	Kas	0.97	168	iP	Pn	12 30 34.4	-0.5
AKAS				iS	Sn	12 30 48.1	+0.8
AKAS	Kas	0.97	168	iP	Pn	12 30 34.4	-0.5
AKAS				iS	Sn	12 30 48.1	+0.8
DAT	Datca	1.49	253	ePN	Pn	12 30 42.2	+0.2
DAT	Datca	1.49	253	ePn	Pn	12 30 42.3	+0.2

*ISCJB **19** 13:04:16.7±2.2, 17°.5S±0°.7×178°.6W±0°.4, h632km±15km, mb3.3/6, Error ellipse: s-maj=127.4km s-min=23.2km az=152.8*
*NEIC **19** 13:04:17.2±1.6, 17°.43S×178°.53W, h622km±11km, mb3.6/1, Error ellipse: s-maj=94.9km s-min=17.2km az=153.0*
*IDC **19** 13:04:18.1±7.6, 17°.62S×178°.45W, h639km±86km, mb2.7/5, mb1 3.0/5, mb1mx2.8/18, mbtmp2.7/5, Error ellipse: s-maj=104.8km s-min=31.0km az=149.0*
ISC 19 13:04:17.4±2.1, 17°.4S±0°.7×178°.6W±0°.4, h623km±14km, n14, σ0°44/14, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.26	264	eP	P	13 05 39.9	0.0
WB2	Warramunga Arr	44.58	259	eP	P	13 11

RPZ	**Rata Peaks**	**15.78**	**215**	Pn	**Pn**	**13 10 31.4**	**-1.5**
DZM	**Mont Dzumac**	**17.70**	**297**	*e*P	**Pn**	**13 10 56.9**	**-0.5**
	60nm,1.4s						
DZM				*e*LR	LR	13 14 38.3	
	358nm,25.1s						
DZM	**Mont Dzumac**	**17.70**	**297**	P	**Pn**	**13 10 57.7**	**+0.3**
	0.1nm,0.3s,baz=114,slow=16,SNR=6.5						
DZM				LR	LR	13 15 56.0	
	comp=Z,251nm,20.7s,baz=198,slow=31						
DZM	**Mont Dzumac**	**17.70**	**297**	*e*P	**Pn**	**13 10 56.5**	**-0.8**
	22nm,1.1s						
TBI	**Tubuai**	**25.34**	**78**	*e*LR	LR	13 18 43.1	
	186nm,21.5s,baz=233						
PPT2	**Papeete2**	**28.04**	**67**	*e*LR	LR	13 19 50.9	
	135nm,21.0s,baz=233						
CTA	**Charters Tower**	**35.12**	**280**	P	**P**	**13 13 45.0**	**+0.3**
	5.9nm,0.7s,mb4.6,baz=109,slow=11,SNR=11						
CTA				LR	LR	13 27 06.0	
	comp=Z,188nm,18.2s,MS3.9,baz=50,slow=35						
CTA	**Charters Tower**	**35.12**	**280**	P	**P**	**13 13 45.0**	**+0.3**
CTAO	**Charters Tower**	**35.12**	**280**	*e*P	**P**	**13 13 44.1**	**-0.6**
	5.1nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**35.45**	**258**	P	**P**	**13 13 49.0**	**+1.5**
	8.4nm,0.9s,mb4.7,baz=88,slow=8.4,SNR=11						
STKA				LR	LR	13 27 41.5	
	comp=Z,139nm,18.9s,MS3.7,baz=25,slow=36						
STKA	**Stephens Creek**	**35.45**	**258**	*e*P	**P**	**13 13 49.7**	**+2.2**
STKA	**Stephens Creek**	**35.45**	**258**	P	**P**	**13 13 49.0**	**+1.5**
TAOE	**Nuku Hiva Isla**	**40.58**	**65**	*e*LR	LR	13 26 01.4	
	141nm,22.3s						
ASAR	**Alice Springs**	**44.26**	**267**	P	**P**	**13 15 00.5**	**-0.3**
	2.4nm,0.7s,mb4.1,baz=108,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**44.26**	**267**	P	**P**	**13 15 00.5**	**-0.3**
WRA	**Warramunga Arr**	**45.33**	**272**	P	**P**	**13 15 08.9**	**-0.5**
	6.4nm,0.9s,mb4.5,baz=111,slow=7.8,SNR=8.3						
WRA				LR	LR	13 33 48.3	
	comp=Z,181nm,18.0s,MS4.0,baz=100,slow=36						
WRA	**Warramunga Arr**	**45.33**	**272**	P	**P**	**13 15 08.9**	**-0.5**
QSPA	**South Pole Qui**	**58.82**	**180**	P	**P**	**13 16 58.7**	**+10**
	1.6nm,0.5s,mb4.3,baz=29,slow=2.2,SNR=4.3						
QSPA	**South Pole Qui**	**58.82**	**180**	*e*P	**P**	**13 16 58.3**	**+9.3**
	9.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**122.53**	**313**	PKP	PKPdf	13 25 46.8	+0.5
	0.4nm,0.4s,baz=99,slow=1.9,SNR=7.5						
KURK	**Kurchatov**	**122.53**	**313**	PKP	PKPdf	13 25 46.8	+0.5
KAF	**Kangasniemi**	**145.78**	**341**	*e*p	PKPdf	13 26 30.4	+1.3
	3.6nm,0.7s						
FINES	**FINESS Array B**	**146.39**	**340**	PKPbc	PKPbc	13 26 33.2	+1.8
	5.2nm,0.7s,baz=72,slow=4.2,SNR=13						
FINES	**FINESS Array B**	**146.39**	**340**	PKPbc	PKPbc	13 26 33.2	+1.8
NOA	**NORSAR Array B**	**149.80**	**352**	PKPbc	PKPbc	13 26 41.4	+0.9
	1.7nm,0.9s,baz=14,slow=4.2,SNR=3.6						
NOA	**NORSAR Array B**	**149.80**	**352**	PKPbc	PKPbc	13 26 41.4	+0.9
AKASG	**Malin Array Be**	**152.73**	**323**	PKPbc	PKPbc	13 26 50.2	+2.6
	0.3nm,0.3s,baz=49,slow=2.2,SNR=5.1						
AKASG				PKPab	PKPab	13 27 00.8	+2.3
	1.1nm,0.6s,baz=48,slow=3.8,SNR=5.5						
AKASG	**Malin Array Be**	**152.73**	**323**	PKPbc	PKPbc	13 26 50.2	+2.6
AKASG				PKPab	PKPab	13 27 00.8	+2.3
BRTR	**Keskin Array B**	**154.07**	**297**	PKPbc	PKPbc	13 26 54.0	+3.1
	0.5nm,0.7s,baz=28,slow=3.4,SNR=2.9						
BRTR				PKPab	PKPab	13 27 05.3	+0.7
	0.9nm,0.8s,baz=121,slow=4.8,SNR=4.2						
BRTR	**Keskin Array B**	**154.07**	**297**	PKPbc	PKPbc	13 26 54.0	+3.1
BRTR				PKPab	PKPab	13 27 05.3	+0.7

*ISCJB **19** 13:09:12.6±0.3, 0°.18N±0°.03×122°.53E±0°.03, h183km±3km, mb4.6/41, Error ellipse: s-maj=5.7km s-min=5.0km az=162.2*

*IDC **19** 13:09:13.8±0.8, 0°.16N×122°.31E, h183km±7km, mb4.0/20, mb1 4.1/22, mb1mx4.0/27, mbtmp4.1/22, MS3.4/2, Ms1 3.4/2, ms1mx2.7/31, Error ellipse: s-maj=19.5km s-min=7.2km az=70.0*

*NEIC **19** 13:09:13.3±0.3, 0°.18N×122°.49E, mb4.8/20, Error ellipse: s-maj=12.3km s-min=5.2km az=60.0*

*DJA **19** 13:09:15, 0°.17N×122°.47E, h144km, MLv4.7/17*

ISC 19 13:09:13.7±0.3, 0°.16N±0°.03×122°.53E±0°.03, h177km±2km, h176km±4.6km; pP-P, n121, σ1°.09/119, mb4.6/41, 3C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.67**	**298**	P	**Pn**	**13 09 36.7**	**-2.2**
MRSI				S	**Sn**	**13 09 54.3**	**-3.9**
GTOI	**Gorontalo**	**0.67**	**45**	P	**Pn**	**13 09 37.7**	**-1.2**
GTOI				S	**Sn**	**13 09 56.5**	**-1.8**
LUWI	**Luwuk**	**1.22**	**169**	P	**Pn**	**13 09 42.3**	**-0.5**
LUWI				S	**Sn**	**13 10 03.5**	**-1.8**
KMSI	**Cibinong**	**1.51**	**74**	P	**Pn**	**13 09 46.4**	**+1.0**
KMSI				S	**Sn**	**13 10 11.3**	**+1.5**
MNI	**Manado**	**2.64**	**61**	P	**Pn**	**13 09 58.3**	**+0.5**
MNI				S	**Sn**	**13 10 32.3**	**+0.3**
KDI	**Kendari**	**4.09**	**179**	P	**Pn**	**13 10 15.9**	**0.0**
TTSI	**Tana Toraja**	**4.18**	**220**	P	**Pn**	**13 10 17.1**	**+0.1**
TNTI	**Ternate**	**4.87**	**83**	P	**Pn**	**13 10 27.6**	**+1.7**
SPSI	**Sidrap Palu**	**4.94**	**214**	P	**Pn**	**13 10 26.5**	**-0.3**
LBMI	**Labuha**	**5.03**	**99**	P	**Pn**	**13 10 27.5**	**-0.5**
	1.4nm4μm61nm,0.9s						
LBMI				S	**Sn**	**13 11 24.6**	**-1.7**
	1.4nm4μm61nm,0.9s						
MJSI	**Majene**	**5.12**	**224**	P	**Pn**	**13 10 30.1**	**+1.0**
	0.4nm1μm120nm,0.8s						
BNSI	**Bone**	**5.14**	**208**	P	**Pn**	**13 10 30.5**	**+1.1**
	1.1nm3μm280nm,0.6s						
NLAI	**Namlea**	**5.68**	**127**	P	**Pn**	**13 10 38.0**	**+1.5**
	0.9nm7μm47nm,0.4s						
KAPI	**Kappang**	**5.84**	**208**	P	**Pn**	**13 10 37.7**	**-0.9**
	24nm,0.3s,baz=19,slow=4.8,SNR=90						
KAPI				LR	LR	13 13 16.4	
	comp=Z,90nm,21.7s,baz=273,slow=42						
KAPI	**Kappang**	**5.84**	**208**	‖*i*/P	**Pn**	**13 10 37.7**	**-0.9**
KAPI	**Kappang**	**5.84**	**208**	P	**Pn**	**13 10 37.9**	**-0.7**
	0.6nm2μm168nm,0.7s						
BKSI	**Bulukumba**	**5.95**	**204**	P	**Pn**	**13 10 40.7**	**+0.6**
	0.5nm1μm179nm,1.0s						
MYLDM	**Lahad Datu**	**6.41**	**321**	P	**Pn**	**13 10 47.3**	**+1.2**
	0.6nm1μm81nm,0.9s						
CTBH	**Cotabato--PC H**	**7.22**	**14**	‖*i*/P	**Pn**	**13 10 58.6**	**+1.9**
KBKI	**Kotabaru**	**7.23**	**242**	P	**Pn**	**13 10 56.9**	**0.0**
	0.1nm38nm,1.2s						
KKM	**Kota Kinabalu**	**8.60**	**313**	P	**Pn**	**13 11 15.3**	**+0.4**
	31nm,1.8s						
MMRI	**Maumere**	**8.74**	**182**	P	**Pn**	**13 11 19.4**	**+2.6**
	48nm,1.2s						
MTNI	**Mataram**	**10.79**	**216**	P	Px	13 11 55.2	
IGBI	**Denpasar**	**11.56**	**219**	P	Px	13 12 02.7	
JAGI	**Jajag, Banyuwa**	**11.97**	**224**	P	Px	13 12 06.9	
SJI	**Sawahan**	**13.29**	**234**	P	**Pn**	**13 12 18.9**	**+3.1**
PWJI	**Pagerwojo**	**13.43**	**233**	P	**Pn**	**13 12 18.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.40**	**171**	P	**P**	**13 13 16.3**	**+0.7**
	4.5nm,0.3s,baz=6.0,slow=8.4,SNR=115						
FITZ	**Fitzroy Crossi**	**18.40**	**171**	*e*P	**P**	**13 13 16.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.40**	**171**	P	**P**	**13 13 16.3**	**+0.7**
MBWA	**Marble Bar**	**21.36**	**187**	*e*P	**P**	**13 13 46.2**	**-1.1**
	9.4nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**23.08**	**151**	*e*P	**P**	**13 14 03.6**	**-0.3**
	27nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**23.09**	**151**	P	**P**	**13 14 03.8**	**-0.1**
	15nm,0.7s,mb4.5,baz=330,slow=11,SNR=153						
WRA				S	**S**	**13 18 01.0**	**-0.7**
	0.8nm,0.9s,baz=302,slow=18,SNR=1.3						
WRA	**Warramunga Arr**	**23.09**	**151**	P	**P**	**13 14 03.8**	**-0.1**
WRA				S	**S**	**13 18 01.0**	**-0.7**
WB2	**Warramunga Arr**	**23.09**	**151**	*e*P	**P**	**13 14 03.3**	**-0.7**
AS31	**Alice Springs**	**26.13**	**156**	*e*P	**P**	**13 14 31.7**	**+0.2**
ASAR	**Alice Springs**	**26.13**	**156**	P	**P**	**13 14 31.8**	**+0.3**
	3.1nm,0.5s,mb4.2,baz=342,slow=14,SNR=91						
ASAR				PcP	PcP	13 17 54.1	-0.2
	0.9nm,0.4s,baz=338,slow=2.7,SNR=6.3						
ASAR				S	**S**	**13 18 49.3**	**-0.7**
	1.3nm,0.9s,baz=341,slow=20,SNR=5.6						
ASAR				ScP	ScP	13 21 16.4	-1.1
	0.4nm,0.7s,baz=346,slow=3.0,SNR=5.1						
ASAR	**Alice Springs**	**26.13**	**156**	P	**P**	**13 14 31.8**	**+0.3**
ASAR				PcP	PcP	13 17 54.1	-0.2
ASAR				S	**S**	**13 18 49.3**	**-0.7**
ASAR				ScP	ScP	13 21 16.4	-1.1
CM31	**Chiang Mai Arr**	**29.45**	**309**	*e*P	**P**	**13 15 01.8**	**+0.7**
	3.6nm,0.6s,mb4.3						
CMAR	**Chiang Mai Arr**	**29.45**	**309**	P	**P**	**13 15 02.1**	**+0.9**
	5.4nm,0.7s,mb4.4,baz=133,slow=7.0,SNR=48						
CMAR	**Chiang Mai Arr**	**29.45**	**309**	P	**P**	**13 15 02.1**	**+0.9**
CHTO	**Chiang Mai**	**29.66**	**310**	*e*P	**P**	**13 15 03.6**	**+0.7**
	6.1nm,0.7s,mb4.4						
CTA	**Charters Tower**	**30.73**	**132**	P	**P**	**13 15 14.2**	**+1.8**
	6.9nm,0.9s,mb4.4,baz=326,slow=11,SNR=5.3						
CTA	**Charters Tower**	**30.73**	**132**	P	**P**	**13 15 14.2**	**+1.8**
FORT	**Forrest**	**31.21**	**171**	*e*P	**P**	**13 15 16.2**	**-0.3**
KLBR	**Kellerberrin**	**31.90**	**188**	*e*P	**P**	**13 15 21.6**	**-0.9**
	13nm,0.5s,mb4.9						
NWAO	**Narrogin (SRO)**	**33.29**	**188**	P	**P**	**13 15 34.0**	**-0.5**
	15nm,0.8s,mb4.8,baz=22,slow=13,SNR=7.3						
NWAO	**Narrogin (SRO)**	**33.29**	**188**	P	**P**	**13 15 34.0**	**-0.5**
BBOO	**Buckleboo**	**35.19**	**160**	‖*i*/P	**P**	**13 15 50.5**	**-0.4**
STKA	**Stephens Creek**	**36.62**	**152**	P	**P**	**13 16 04.0**	**+0.9**
	22nm,0.7s,mb4.9,baz=327,slow=8.3,SNR=30						
STKA				PcP	PcP	13 18 22.1	-0.3
	2.5nm,0.6s,baz=2.6,slow=9.3,SNR=3.1						
STKA	**Stephens Creek**	**36.62**	**152**	‖*i*/P	**P**	**13 16 03.9**	**+0.9**
STKA	**Stephens Creek**	**36.62**	**152**	P	**P**	**13 16 04.0**	**+0.9**
STKA				PcP	PcP	13 18 22.1	-0.3
SHL	**Shillong**	**38.90**	**313**	*e*PKP	**P**	**13 16 24.7**	**+2.4**
MJAR	**Matsushiro Arr**	**39.01**	**20**	P	**P**	**13 16 22.3**	**-0.8**
	2.9nm,0.8s,mb4.0,baz=194,slow=9.2,SNR=7.5						
MJAR	**Matsushiro Arr**	**39.01**	**20**	P	**P**	**13 16 22.3**	**-0.8**
LSA	**Lhasa**	**41.91**	**317**	*e*P	**P**	**13 16 48.4**	**+1.4**
	13nm,0.6s,mb4.7						
ODAN	**Odare**	**42.97**	**311**	*e*P	**P**	**13 16 55.9**	**+0.4**
	22nm,0.7s,mb4.9						
ODAN	**Odare**	**42.97**	**311**	*e*P	**P**	**13 16 55.9**	**+0.4**
	22nm,0.7s,mb4.9						
TAPN	**Taplejung**	**42.99**	**312**	*e*P	**P**	**13 16 56.1**	**+0.4**
	29nm,0.7s,mb5.0						
TAPN	**Taplejung**	**42.99**	**312**	*e*P	**P**	**13 16 56.1**	**+0.4**
	29nm,0.7s,mb5.0						
RAMN	**Ramite**	**43.61**	**311**	*e*P	**P**	**13 17 01.4**	**+0.7**
	36nm,0.6s,mb5.2						
RAMN	**Ramite**	**43.61**	**311**	*e*P	**P**	**13 17 01.4**	**+0.7**
	36nm,0.6s,mb5.2						
JIRN	**Jiri**	**44.30**	**311**	*e*P	**P**	**13 17 06.7**	**+0.6**
	16nm,0.3s,mb5.1						
JIRN	**Jiri**	**44.30**	**311**	*e*P	**P**	**13 17 06.7**	**+0.6**
	16nm,0.3s,mb5.1						
GUN	**Gumba**	**44.66**	**311**	*e*P	**P**	**13 17 09.5**	**+0.5**
	38nm,0.5s,mb5.3						
GUN	**Gumba**	**44.66**	**311**	*e*P	**P**	**13 17 09.5**	**+0.5**
	38nm,0.5s,mb5.3						
PKI	**Pulchoki**	**44.84**	**311**	*e*P	**P**	**13 17 10.3**	**-0.2**
	12nm,0.5s,mb4.8						
PKI	**Pulchoki**	**44.84**	**311**	*e*P	**P**	**13 17 10.3**	**-0.2**
	12nm,0.5s,mb4.8						
KKN	**Kakani**	**45.05**	**311**	*e*P	**P**	**13 17 11.8**	**-0.3**
KKN	**Kakani**	**45.05**	**311**	*e*P	**P**	**13 17 11.8**	**-0.3**
DMN	**Daman**	**45.09**	**310**	*e*P	**P**	**13 17 12.5**	**+0.1**
	19nm,0.7s,mb4.8						
DMN	**Daman**	**45.09**	**310**	*e*P	**P**	**13 17 12.5**	**+0.1**
	19nm,0.7s,mb4.8						
GKN	**Gorkha**	**45.65**	**311**	*e*P	**P**	**13 17 16.7**	**-0.1**
	14nm,0.3s,mb5.0						
GKN	**Gorkha**	**45.65**	**311**	*e*P	**P**	**13 17 16.7**	**-0.1**
	14nm,0.3s,mb5.1						
KOLN	**Koldanda**	**46.32**	**310**	*e*P	**P**	**13 17 22.3**	**+0.2**
	44nm,0.6s,mb5.3						
KOLN	**Koldanda**	**46.32**	**310**	*e*P	**P**	**13 17 22.3**	**+0.2**
	44nm,0.6s,mb5.3						
DANN	**Dangsing**	**46.49**	**310**	*e*P	**P**	**13 17 23.5**	**+0.1**
	68nm,0.6s,mb5.5						
DANN	**Dangsing**	**46.49**	**310**	*e*P	**P**	**13 17 23.5**	**+0.1**
	68nm,0.6s,mb5.5						
DZM	**Mont Dzumac**	**48.15**	**120**	P	**P**	**13 17 38.2**	**+2.0**
	3.6nm,0.7s,mb4.1,baz=341,slow=18,SNR=4.3						
DZM	**Mont Dzumac**	**48.15**	**120**	P	**P**	**13 17 38.2**	**+2.0**
SONM	**Songino Array**	**49.52**	**346**	P	**P**	**13 17 46.4**	**+0.2**
	1.8nm,0.6s,mb3.9,baz=161,slow=9.0,SNR=17						
SONM				pP	pP	13 18 25.1	-0.6
	1.1nm,1.1s,baz=155,slow=9.9,SNR=2.1						
SONM				PcP	PcP	13 19 04.4	-1.1
	1.8nm,0.8s,baz=166,slow=3.6,SNR=6.7						
SONM	**Songino Array**	**49.52**	**346**	P	**P**	**13 17 46.4**	**+0.2**
SONM				pP	pP	13 18 25.1	-0.6
SONM				PcP	PcP	13 19 04.4	-1.1
MK31	**Makanchi Array**	**58.23**	**329**	*e*P	**P**	**13 18 48.5**	**-1.0**
MK31				*e*pP	pP	13 19 29.1	-1.1
MK31				*e*PcP	PcP	13 19 36.2	-2.6
MKAR	**Makanchi Array**	**58.23**	**329**	P	**P**	**13 18 48.8**	**-0.7**
	7.7nm,0.5s,mb4.8,baz=121,slow=8.4,SNR=77						
MKAR				pP	pP	13 19 29.7	-0.5
	1.0nm,0.7s,baz=132,slow=7.9,SNR=1.5						
MKAR				PcP	PcP	13 19 35.8	-3.0
	0.6nm,0.5s,baz=130,slow=8.3,SNR=3.5						
MKAR	**Makanchi Array**	**58.23**	**329**	P	**P**	**13 18 48.8**	**-0.7**
MKAR				pP	pP	13 19 29.7	-0.5
MKAR				PcP	PcP	13 19 35.8	-3.0
TKM2	**Tokmak 2**	**59.77**	**322**	*e*P	**P**	**13 18 59.6**	**-0.5**
	4.7nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**60.31**	**321**	*e*P	**P**	**13 19 03.5**	**-0.3**
	14nm,0.7s,mb4.9						
PETK	**Petropavlovsk-**	**60.33**	**24**	P	**P**	**13 19 04.3**	**+0.6**
	4.7nm,0.9s,mb4.3,baz=178,slow=4.0,SNR=6.1						
PETK	**Petropavlovsk-**	**60.33**	**24**	P	**P**	**13 19 04.3**	**+0.6**
KBL	**Kabul**	**60.48**	**310**	*e*P	**P**	**13 19 03.9**	**-1.3**
	19nm,0.9s,mb4.9						
RPZ	**Rata Peaks**	**61.42**	**142**	P	**P**	**13 19 12.6**	**+1.4**
	12nm,0.8s,mb4.8,baz=15,slow=9.9,SNR=6.6						
RPZ	**Rata Peaks**	**61.42**	**142**	P	**P**	**13 19 12.6**	**+1.4**
ZALV	**Zalesovo Beam**	**61.98**	**336**	P	**P**	**13 19 14.0**	**-0.8**
	0.7nm,0.3s,mb3.9,baz=131,slow=6.1,SNR=7.4						
ZALV				PcP	PcP	13 19 51.0	-2.6
	0.3nm,0.3s,baz=108,slow=4.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**61.98**	**336**	P	**P**	**13 19 14.0**	**-0.8**
ZALV				PcP	PcP	13 19 51.0	-2.6
KURK	**Kurchatov**	**62.60**	**330**	P	**P**	**13 19 17.6**	**-1.4**
	7.8nm,0.6s,mb4.7,baz=140,slow=6.2,SNR=81						
KURK				PcP	PcP	13 19 54.5	-1.8
	1.5nm,0.7s,baz=128,slow=4.0,SNR=6.4						
KURK				pP	pP	13 19 59.4	-0.9
	1.6nm,0.8s,baz=125,slow=6.2,SNR=2.7						
KURK	**Kurchatov**	**62.60**	**330**	*e*P	**P**	**13 19 17.9**	**-1.1**
	16nm,0.6s,mb5.0						
KURK				*e*	pP	13 19 54.7	-5.6
KURK				pP	pP	13 19 59.4	-0.9
URZ	**Urewera**	**62.96**	**134**	P	**P**	**13 19 21.9**	**+0.2**
	8.3nm,1.0s,mb4.5,baz=108,slow=16,SNR=4.7						
URZ	**Urewera**	**62.96**	**134**	P	**P**	**13 19 21.9**	**+0.2**
KKAR	**Karatay Array**	**63.09**	**320**	*e*P	**P**	**13 19 20.5**	**-1.9**
RAR	**Rarotonga**	**78.59**	**112**	LR	LR	13 52 57.2	
	comp=Z,107nm,20.8s,baz=82,slow=33						
MAW	**Mawson**	**78.99**	**200**	P	**P**	**13 20 56.1**	**-1.4**
	4.4nm,1.0s,mb4.1,baz=92,slow=4.1,SNR=4.2						
MAW	**Mawson**	**78.99**	**200**	P	**P**	**13 20 56.1**	**-1.4**
VNDA	**Vanda**	**80.47**	**172**	*e*P	**P**	**13 21 04.1**	**-1.2**
	3.2nm,0.8s,mb4.0						
QSPA	**South Pole Qui**	**90.09**	**180**	P	**P**	**13 21 53.5**	**+0.5**
	0.9nm,0.3s,mb4.2,baz=310,slow=3.2,SNR=4.8						
QSPA	**South Pole Qui**	**90.09**	**180**	P	**P**	**13 21 53.5**	**+0.5**
ILAR	**Eielson Array**	**90.11**	**25**	P	**P**	**13 21 51.6**	**-1.7**
	0.5nm,0.7s,mb3.6,baz=247,slow=5.2,SNR=17						
ILAR	**Eielson Array**	**90.11**	**25**	P	**P**	**13 21 51.6**	**-1.7**
AKASG	**Malin Array Be**	**91.98**	**321**	P	**P**	**13 21 59.1**	**-3.2**
	0.4nm,0.4s,mb3.8,baz=71,slow=5.0,SNR=2.6						
AKASG	**Malin Array Be**	**91.98**	**321**	P	**P**	**13 21 59.1**	**-3.2**
ARCES	**ARCESS Array B**	**92.32**	**340**	P	**P**	**13 22 01.5**	**-2.0**
	1.9nm,0.7s,mb4.2,baz=87,slow=6.6,SNR=5.7						
ARCES	**ARCESS Array B**	**92.32**	**340**	P	**P**	**13 22 01.5**	**-2.0**
FINES	**FINESS Array B**	**92.96**	**331**	P	**P**	**13 22 04.5**	**-2.0**
	1.6nm,0.8s,mb4.2,baz=81,slow=6.0,SNR=3.7						
FINES	**FINESS Array B**	**92.96**	**331**	P	**P**	**13 22 04.5**	**-2.0**
TORD	**Torodi Ar. Bea**	**119.92**	**285**	PKP	PKPdf	13 27 42.2	-1.9
	1.0nm,0.8s,baz=116,slow=1.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**119.92**	**285**	PKP	PKPdf	13 27 42.2	-1.9
TXAR	**Lajitas Array**	**127.09**	**52**	PKP	PKPdf	13 27 56.7	-0.8
	0.3nm,0.8s,baz=184,slow=1.4,SNR=3.4						
TXAR	**Lajitas Array**	**127.09**	**52**	PKP	PKPdf	13 27 56.7	-0.8
CFAA	**Coronel Fontan**	**147.10**	**163**	PKPbc	PKPbc	13 28 36.4	0.0
	0.3nm,0.4s,baz=226,slow=3.6,SNR=3.4						
CFAA	**Coronel Fontan**	**147.10**	**163**	PKPbc	PKPbc	13 28 36.4	0.0
LPAZ	**La Paz**	**160.83**	**147**	PKPab	PKPab	13 29 38.5	+1.8
	1.1nm,0.6s,baz=288,slow=3.2,SNR=4.2						
LPAZ	**La Paz**	**160.83**	**147**	PKPab	PKPab	13 29 38.5	+1.8

*ISK **19** 13:16:41.8, 39°.43N×33°.08E, h4km, MD2.8*

*CSEM **19** 13:16:42.6±0.2, 39°.41N×33°.09E, h2km, MD2.8, Error ellipse: s-maj=3.9km s-min=3.6km az=151.0*

*DDA **19** 13:16:42.5, 39°.41N×33°.12E, h11km±2km, Md3.0*

*ISCJB **19** 13:16:43.5±0.4, 39°.41N±0°.03×33°.10E±0°.03, h10km, Error ellipse: s-maj=3.7km s-min=3.5km az=2.8*

ISC 19 13:16:43.0±0.6, 39°.40N±0°.03×33°.10E±0°.03, h1km±5km,

n38, σ0°.90/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af´ar-Bala (A**	**0.05**	**339**	*e*PG	**Pg**	**13 16 42.9**	**-1.1**
AFSR	**Af´ar-Bala (A**	**0.05**	**339**	*e*Pg	**Pg**	**13 16 42.9**	**-1.1**
BBAL	**Bala**	**0.15**	**8**	*i* P	**Pg**	**13 16 45.7**	**-0.1**
BBAL				*i* S	**Sg**	**13 16 48.3**	**+0.6**
BBAL	**Bala**	**0.15**	**8**	*i* P	**Pg**	**13 16 45.7**	**-0.1**
BBAL				*i* S	**Sg**	**13 16 48.3**	**+0.6**
KAMT	**Kaman**	**0.48**	**93**	*e*PG	**Pg**	**13 16 52.0**	**-0.1**
KAMT				*e*SG	**Sg**	**13 16 59.5**	**+1.2**
KAMT	**Kaman**	**0.48**	**93**	*e*Pg	**Pg**	**13 16 52.1**	**0.0**
KAMT				*e*Sg	**Sg**	**13 16 59.6**	**+1.2**
LOD	**Lodumlu**	**0.55**	**333**	*e*PG	**Pg**	**13 16 52.4**	**-1.2**
LOD				*e*SG	**Sg**	**13 17 00.3**	**-0.5**
LOD	**Lodumlu**	**0.55**	**333**	*e*Pg	**Pg**	**13 16 52.4**	**-1.2**
LOD				*e*Sg	**Sg**	**13 17 00.3**	**-0.5**
CDAG	**Cicekdag**	**1.01**	**77**	*i* P	**Pg**	**13 17 01.4**	**-1.0**
CDAG				*i* S	**Sg**	**13 17 15.6**	**+0.1**
CDAG	**Cicekdag**	**1.01**	**77**	*i* P	**Pg**	**13 17 01.4**	**-1.0**
CDAG				*i* S	**Sg**	**13 17 15.6**	**+0.1**
ELDT	**Eldivan**	**1.12**	**13**	*i* P	**Pg**	**13 17 04.1**	**-0.3**
ELDT				*i* S	**Sg**	**13 17 20.4**	**+1.4**
ELDT	**Eldivan**	**1.12**	**13**	*i* P	**Pg**	**13 17 04.1**	**-0.4**
ELDT				*i* S	**Sg**	**13 17 20.4**	**+1.4**
KDHN	**Kadinhani**	**1.16**	**221**	*i* P	**Pg**	**13 17 06.0**	**+0.8**
KDHN				*i* S	**Sg**	**13 17 21.9**	**+1.7**
KDHN	**Kadinhani**	**1.16**	**221**	*i* P	**Pg**	**13 17 06.0**	**+0.8**
KDHN				*i* S	**Sg**	**13 17 21.9**	**+1.7**
SVRH	**Sivrihisar-ESK**	**1.22**	**273**	*e*PN	**Pn**	**13 17 05.2**	**-1.9**
SVRH	**Sivrihisar-ESK**	**1.22**	**273**	*e*Pn	**Pn**	**13 17 05.2**	**-1.9**
SULT	**Sultanhani-AKS**	**1.24**	**165**	*e*PN	**Pn**	**13 17 06.7**	**-0.7**
SULT	**Sultanhani-AKS**	**1.24**	**165**	*e*Pn	**Pn**	**13 17 06.7**	**-0.7**
LADK	**Ladik-KONYA**	**1.32**	**206**	*e*PN	**Pn**	**13 17 08.2**	**-0.3**
LADK	**Ladik-KONYA**	**1.32**	**206**	*e*Pn	**Pn**	**13 17 08.3**	**-0.3**
CORM	**Corum**	**1.42**	**56**	*e*PN	**Pn**	**13 17 08.3**	**-1.6**
CORM	**Corum**	**1.42**	**56**	*e*Pn	**Pn**	**13 17 08.3**	**-1.5**
SGKT	**Sivrigoynuk**	**1.42**	**326**	*i* P	**Pn**	**13 17 08.9**	**-1.0**
SGKT				*i* S	**Sg**	**13 17 29.1**	**+0.4**
SGKT	**Sivrigoynuk**	**1.42**	**326**	*i* P	**Pn**	**13 17 08.9**	**-1.0**
SGKT				*i* S	**Sg**	**13 17

*GCMT **19** 13:57:36.4±0.3, 32.°68S×71.°97W, h24km±2km, MW5.2, Moment Tensor Solution. s50,c64; s54,c64; Moment tensor: Scale 10^16Nm; M_rr3.40±.28; M_θθ2.46±.24; M_φφ-5.86±.24; M_rθ1.98±.43; M_θφ1.20±.17; M_φr-6.78±.76; Best double couple: M_0=8.50000×10^16 NP1:φ_s11.00000°, δ19.00000°, λ118.00000°. NP2:φ_s162.00000°, δ74.00000°, λ81.00000°. Principal axes: T 7.2900, Plg60.0000°, Azm59.0000°; N 2.4800, Plg9.0000°, Azm165.0000°; P -9.7600, Plg28.0000°, Azm259.0000°; Data Used: II IU IC G CN.*

*DJA **19** 13:58:01, 33.°11S×71.°49W, h271km, mb4.8/10*

ISC 19 13:57:31.6±0.6, 32.°53S±0.°03×71.°71W±0.°04, h27km±4km, n683, σ0.°71/551, mb5.0/91, MS4.7/17, 185C-169D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.23**	**93**	*eP*	**Pb**	**13 57 38.2**	**+0.4**
PACH	**Papudo**	**0.23**	**93**	*eP*	**Pb**	**13 57 38.2**	**+0.4**
IHA	**Instituto Hidr**	**0.50**	**174**	⇓*iP*	**Pb**	**13 57 39.8**	**-2.1**
IHA	**Instituto Hidr**	**0.50**	**174**	⇓*iP*	**Pb**	**13 57 39.8**	**-2.1**
CHNG	**Los Chungos**	**0.66**	**15**	⇑*iP*	**Pb**	**13 57 44.4**	**-0.2**
CHNG				*i* S	**Sb**	**13 57 54.8**	**+1.3**
ROCH	**El Roble**	**0.73**	**127**	⇓*iP*	**Pb**	**13 57 45.4**	**-0.4**
ROCH				*i* S	**Sb**	**13 57 56.2**	**+0.7**
ROCH				AML	AML	13 57 57.8	
	comp=N,142μm,0.5s						
JACH	**Jahuel**	**0.95**	**100**	⇑*iP*	**Pn**	**13 57 49.2**	**+0.1**
JACH	**Jahuel**	**0.95**	**100**	⇑*iP*	**Pn**	**13 57 49.2**	**+0.1**
LCCH	**Las Cruces**	**0.95**	**173**	*eP*	**Pn**	**13 57 46.9**	**-2.3**
LCCH	**Las Cruces**	**0.95**	**173**	*eP*	**Pn**	**13 57 46.9**	**-2.3**
PEL	**Peldehue**	**1.06**	**126**	⇑*iP*	**Pn**	**13 57 50.7**	**+0.1**
PEL				*i* S	**Sn**	**13 58 05.7**	**+1.3**
PEL				AML	AML	13 58 08.6	
	comp=E,175μm,0.7s						
RCDM	**Rinconada Maip**	**1.22**	**142**	⇓*iP*	**Pn**	**13 57 52.2**	**-0.7**
RCDM	**Rinconada Maip**	**1.22**	**142**	⇓*iP*	**Pn**	**13 57 52.2**	**-0.7**
RCDM				AML	AML	13 58 12.0	
	comp=N,35μm,0.7s						
SAN	**Santiago**	**1.27**	**137**	⇑*iP*	**Pn**	**13 57 53.6**	**0.0**
SAN				*eS*	**Sn**	**13 58 10.8**	**+1.0**
SAN	**Santiago**	**1.27**	**137**	⇑*iP*	**Pn**	**13 57 53.6**	**0.0**
SAN				*eS*	**Sn**	**13 58 10.8**	**+1.0**
SAN	**Santiago**	**1.27**	**137**	⇑*iP*	**Pn**	**13 57 53.6**	**0.0**
SAN				*eS*	**Sn**	**13 58 10.8**	**+1.0**
TACH	**Talagante**	**1.30**	**150**	⇑*iP*	**Pn**	**13 57 53.2**	**-0.6**
TACH	**Talagante**	**1.30**	**150**	⇑*iP*	**Pn**	**13 57 53.2**	**-0.6**
CLCH	**Cerro Calan**	**1.31**	**132**	⇓*iP*	**Pn**	**13 57 54.3**	**+0.3**
CLCH				*i* S	**Sn**	**13 58 12.3**	**+1.6**
CLCH				AML	AML	13 58 20.1	
	comp=E,100μm,0.7s						
FSR	**Penalolen**	**1.37**	**134**	⇑*iP*	**Pn**	**13 57 55.2**	**+0.3**
FSR				*i* S	**Sn**	**13 58 13.9**	**+1.7**
FSR	**Penalolen**	**1.37**	**134**	⇑*iP*	**Pn**	**13 57 55.2**	**+0.3**
FSR				*i* S	**Sn**	**13 58 13.9**	**+1.7**
ANTU	**Antumapu**	**1.38**	**139**	⇓*iP*	**Pn**	**13 57 55.1**	**+0.1**
ANTU				*eS*	**Sn**	**13 58 13.4**	**+1.2**
ANTU	**Antumapu**	**1.38**	**139**	⇓*iP*	**Pn**	**13 57 55.1**	**+0.1**
ANTU				*eS*	**Sn**	**13 58 13.4**	**+1.2**
ANTU				AML	AML	13 58 18.2	
	comp=E,54μm,0.6s						
PCH	**Pirque**	**1.48**	**138**	*eP*	**Pn**	**13 57 56.6**	**+0.2**
PCH	**Pirque**	**1.48**	**138**	*eP*	**Pn**	**13 57 56.6**	**+0.2**
LMEL	**Las Melosas**	**1.82**	**137**	⇓*iP*	**Pn**	**13 58 02.3**	**+1.1**
LMEL	**Las Melosas**	**1.82**	**137**	⇓*iP*	**Pn**	**13 58 02.3**	**+1.1**
LMEL				*i* S	**Sn**	**13 58 27.0**	**+3.7**
LMEL				AML	AML	13 58 30.3	
	comp=E,23μm,0.6s						
CACH	**El Canelo**	**1.84**	**150**	⇑*iP*	**Pn**	**13 58 01.4**	**+0.1**
CACH	**El Canelo**	**1.84**	**150**	⇑*iP*	**Pn**	**13 58 01.4**	**+0.1**
CFAA	**Coronel Fontan**	**3.08**	**74**	Pn	**Pn**	**13 58 22.1**	**+3.6**
	comp=E,22nm,0.3s,baz=249,slow=12,SNR=59						
CFAA				Lg		13 59 06.7	
	comp=E,108nm,0.3s,baz=71,slow=6.9,SNR=5.5						
CFAA				LR	LR	13 59 51.9	
	comp=E,2μm,19.6s,baz=190,slow=47						
CFAA	**Coronel Fontan**	**3.08**	**74**	Pn	**Pn**	**13 58 22.1**	**+3.6**
CFAA				Lg		13 59 06.7	
LCO	**Las Campanas**	**3.61**	**14**	*e*Pn	**Pn**	**13 58 25.9**	**+0.3**
LCO				*e*Sn	**Sn**	**13 59 08.8**	**+1.4**
PLCA	**Paso Flores**	**8.24**	**174**	Pn	**Pn**	**13 59 28.2**	**-1.0**
	comp=E,3.7nm,0.3s,baz=334,slow=11,SNR=49						
PLCA				Lg		14 01 38.6	
	comp=E,0.6nm,0.3s,baz=270,slow=21,SNR=2.6						
PLCA				LR	LR	14 03 19.0	
	comp=E,2μm,18.4s,baz=349,slow=43						
PLCA	**Paso Flores**	**8.24**	**174**	*e*Pn	**Pn**	**13 59 28.0**	**-1.3**
PLCA				Lg		14 01 38.6	
PLCA	**Paso Flores**	**8.24**	**174**	*eP*	**Pn**	**13 59 28.0**	**-1.3**
TRQA	**Tornquist**	**9.67**	**127**	*e*Pn	**Pn**	**13 59 48.9**	**0.0**
TRQA				*e*Lg		14 02 36.3	
CPUP	**Villa Florida**	**13.96**	**67**	Pn	**Pn**	**14 00 46.0**	**-1.6**
	comp=E,0.7nm,0.3s,baz=228,slow=12,SNR=11						
CPUP				Sn	**Sn**	**14 03 25.1**	**+3.4**
	comp=E,5.2nm,0.3s,baz=242,slow=18,SNR=2.8						
CPUP				LR	LR	14 06 29.4	
	comp=E,3μm,20.8s,baz=231,slow=39						
CPUP	**Villa Florida**	**13.96**	**67**	Pn	**Pn**	**14 00 46.0**	**-1.6**
CPUP				Sn	**Sn**	**14 03 25.1**	**+3.4**
CPUP	**Villa Florida**	**13.96**	**67**	P	**Pn**	**14 00 46.0**	**-1.6**
CPUP						14 03 25.1	
LPAZ	**La Paz**	**16.49**	**12**	Pn	**Pn**	**14 01 21.4**	**+0.4**
	comp=E,2.2nm,0.3s,baz=184,slow=7.9,SNR=141						
LPAZ	**La Paz**	**16.49**	**12**	*e*Pn	**Pn**	**14 01 21.6**	**+0.5**
	comp=E,49nm,0.8s						
LPAZ	**La Paz**	**16.49**	**12**	*eP*	**Pn**	**14 01 21.6**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,49nm,0.8s						
SIV	**San Ignacio**	**19.08**	**33**	P	**Pn**	**14 01 50.2**	**-2.8**
	comp=Z,1.1nm,0.3s,baz=223,slow=13,SNR=82						
SIV				LR	LR	14 10 33.1	
	comp=Z,4μm,18.6s,slow=41						
SIV	**San Ignacio**	**19.08**	**33**	P	**Pn**	**14 01 50.2**	**-2.8**
NNA	**Nana**	**20.98**	**346**	P	**P**	**14 02 13.6**	**+0.8**
	comp=Z,11nm,0.7s,baz=207,slow=8.6,SNR=5.2						
NNA				LR	LR	14 08 26.4	
	comp=Z,836nm,20.3s,MS4.1,baz=172,slow=31						
NNA	**Nana**	**20.98**	**346**	*eP*	**P**	**14 02 12.6**	**-0.1**
	comp=Z,39nm,0.9s						
NNA	**Nana**	**20.98**	**346**	*eP*	**P**	**14 02 12.6**	**-0.1**
NNA				pmax	pmax		
	comp=Z,39nm,0.9s						
EFI	**East Falkland**	**21.58**	**156**	*eP*	**P**	**14 02 17.5**	**-1.4**
	comp=Z,76nm,0.9s,mb5.1						
EFI	**East Falkland**	**21.58**	**156**	*eP*	**P**	**14 02 17.5**	**-1.4**
EFI				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.1						
EFI	**East Falkland**	**21.58**	**156**	P	**P**	**14 02 18.8**	**-0.1**
	comp=Z,425nm,0.6s,mb6.0,SNR=8.0						
USHA	**Ushuaia**	**22.42**	**175**	P	**P**	**14 02 27.7**	**-0.2**
	comp=Z,23nm,1.1s,mb4.5,baz=312,slow=4.1,SNR=4.8						
USHA				LR	LR	14 11 50.3	
	comp=Z,1μm,18.1s,MS4.3,baz=171,slow=39						
USHA	**Ushuaia**	**22.42**	**175**	P	**P**	**14 02 27.7**	**-0.1**
SPB	**Sao Paulo**	**23.16**	**74**	*eP*	**P**	**14 02 34.1**	**-1.8**
	comp=Z,195nm,1.0s,mb5.5						
SAML	**Samuel**	**24.75**	**20**	⇑*iP*	**P**	**14 02 50.3**	**-0.6**
	comp=Z,57nm,1.1s,mb5.0						
ATAH	**Atahualpa**	**26.02**	**345**	P	**P**	**14 03 04.2**	**+1.7**
	comp=Z,3.9nm,0.8s,mb4.0,baz=163,slow=8.5,SNR=3.3						
ATAH				LR	LR	14 11 51.4	
	comp=Z,773nm,18.2s,MS4.3,baz=343,slow=33						
ATAH	**Atahualpa**	**26.02**	**345**	P	**P**	**14 03 04.2**	**+1.7**
RPN	**Rapa Nui**	**32.97**	**269**	LR	LR	14 13 40.0	
	comp=Z,1μm,21.5s,MS4.5,baz=170,slow=30						
OTAV	**Otavalo**	**33.20**	**348**	*eP*	**P**	**14 04 08.1**	**+1.9**
	comp=Z,24nm,1.4s,mb4.9						
ROSC	**El Rosal**	**37.26**	**356**	P	**P**	**14 04 42.4**	**+1.4**
	comp=Z,10.0nm,0.5s,mb4.9,baz=122,slow=9.5,SNR=6.1						
ROSC	**El Rosal**	**37.26**	**356**	P	**P**	**14 04 42.4**	**+1.4**
SDV	**Santo Domingo**	**41.19**	**2**	*eP*	**P**	**14 05 12.7**	**-1.2**
	comp=Z,31nm,1.0s,mb4.9						
ICM	**Isla Caja Muer**	**50.38**	**6**	*eP*	**P**	**14 06 25.0**	**-1.4**
CRPR	**Cabo Rojo, PR**	**50.44**	**6**	*eP*	**P**	**14 06 25.2**	**-1.7**
	comp=Z,22nm,0.8s,mb5.2						
OBIP	**Obispado Ponce**	**50.52**	**6**	*eP*	**P**	**14 06 26.4**	**-1.1**
	comp=Z,53nm,0.9s,mb5.5						
CELP	**Cerrillos**	**50.55**	**6**	*eP*	**P**	**14 06 27.0**	**-0.7**
VNA3	**Neumayer Olymp**	**50.62**	**158**	*e*	**P**	**14 06 27.5**	**-0.2**
SJG	**San Juan**	**50.63**	**7**	*eP*	**P**	**14 06 26.6**	**-1.7**
	comp=Z,53nm,0.9s,mb5.5						
SJG	**San Juan**	**50.63**	**7**	*eP*	**P**	**14 06 26.6**	**-1.7**
SJG				pmax	pmax		
	comp=Z,53nm,0.9s						
LRS	**Lares**	**50.74**	**6**	*eP*	**P**	**14 06 27.7**	**-1.4**
CBYP	**Canovanas**	**50.82**	**7**	*eP*	**P**	**14 06 27.0**	**-2.7**
	comp=Z,27nm,1.3s,mb5.0						
SDDR	**Presa de Saban**	**51.22**	**1**	*eP*	**P**	**14 06 32.7**	**0.0**
	comp=Z,19nm,0.9s,mb5.0						
VNA2	**Neumayer--Watz**	**51.26**	**158**	*e*	**P**	**14 06 32.5**	**0.0**
	baz=284,slow=8.6						
SNAA	**Sanae**	**52.84**	**158**	*e*	**P**	**14 06 44.4**	**+0.1**
SNAA	**Sanae**	**52.84**	**158**	P	**P**	**14 06 43.8**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8,baz=283,slow=6.8,SNR=41						
SNAA	**Sanae**	**52.84**	**158**	⇑*eP*	**P**	**14 06 44.1**	**-0.2**
	comp=Z,69nm,1.3s,mb5.4						
SNAA	**Sanae**	**52.84**	**158**	⇑*eP*	**P**	**14 06 44.1**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,69nm,1.3s						
RKT	**Rikitea**	**56.03**	**263**	*eS*	**S**	**14 14 53.3**	**-1.8**
	comp=Z,270nm,27.2s						
RKT				*e*SS	SS	14 18 42.6	+1.3
	comp=Z,130nm,28.2s						
RKT				*e*LR	LR	14 23 29.6	
	comp=Z,664nm,24.8s,baz=120						
MAIT	**Maitri**	**57.53**	**157**	*eP*	**P**	**14 07 17.5**	**-0.5**
MAIT				*e*		14 07 23.3	
NVL	**N'lazarevskaya**	**57.56**	**157**	*eP*	Px	14 07 33.0	
QSPA	**South Pole Qui**	**57.71**	**180**	*eP*	**P**	**14 07 18.7**	**-0.5**
	comp=Z,51nm,1.2s,mb5.4						
BBSR	**BB Station**	**64.89**	**7**	*eP*	**P**	**14 08 07.8**	**-0.5**
	comp=Z,48nm,1.3s,mb5.4						
VNDA	**Vanda**	**65.60**	**191**	*eP*	**P**	**14 08 12.6**	**+0.2**
	comp=Z,27nm,1.8s,mb5.0						
VNDA	**Vanda**	**65.60**	**191**	*eP*	**P**	**14 08 12.6**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,27nm,1.8s						
GOGA	**Godfrey**	**66.52**	**349**	*eP*	**P**	**14 08 17.2**	**-1.5**
	comp=Z,15nm,1.0s,mb5.0						
GOGA	**Godfrey**	**66.52**	**349**	*eP*	**P**	**14 08 17.3**	**-1.4**
GOGA				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
LRAL	**Lakeview Retre**	**66.78**	**346**	*eP*	**P**	**14 08 19.4**	**-1.0**
	comp=Z,3.9nm,0.6s,mb4.6						
JSC	**Jenkinsville**	**67.06**	**351**	*eP*	**P**	**14 08 21.4**	**-0.8**
JSC	**Jenkinsville**	**67.06**	**351**	*eP*	**P**	**14 08 21.4**	**-0.8**
SYO	**Syowa Base**	**67.13**	**159**	⇓*eP*	**P**	**14 08 19.6**	**-2.7**
TAOE	**Nuku Hiva Isla**	**67.13**	**274**	*e*LR	LR	14 28 42.8	
	comp=Z,740nm,23.2s						
KMSC	**Kings Mountain**	**67.92**	**351**	⇑P	**P**	**14 08 27.3**	**-0.3**
	baz=68						
TBI	**Tubuai**	**67.94**	**256**	*eS*	S	14 17 25.3	-0.3
	comp=Z,223nm,24.0s						
TBI				*e*LR	LR	14 29 03.7	
	comp=Z,1μm,25.5s,baz=114						
JCT	**Junction City**	**68.08**	**334**	⇓P	**P**	**14 08 28.4**	**-0.3**
	baz=68						
JCT	**Junction City**	**68.08**	**334**	*eP*	**P**	**14 08 28.1**	**-0.6**
	comp=Z,17nm,1.0s,mb5.0						
JCT	**Junction City**	**68.08**	**334**	*eP*	**P**	**14 08 28.1**	**-0.6**
JCT				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
628A	**Black Gap, Mar**	**68.40**	**331**	⇑P	**P**	**14 08 31.0**	**+0.3**
	baz=69,SNR=6.5						
627A	**Terlingua Ranc**	**68.58**	**331**	⇑P	**P**	**14 08 31.7**	**-0.1**
	baz=69						
TXAR	**Lajitas Array**	**68.59**	**330**	P	**P**	**14 08 31.9**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.4,baz=152,slow=8.4,SNR=46						
TXAR				LR	LR	14 34 15.4	
	comp=Z,335nm,18.1s,MS4.6,baz=250,slow=32						
TXAR	**Lajitas Array**	**68.59**	**330**	P	**P**	**14 08 31.9**	**-0.1**
TXAR	**Lajitas Array**	**68.59**	**330**	P	**P**	**14 08 31.9**	**0.0**
TKL	**Tuckaleechee C**	**68.76**	**349**	*eP*	**P**	**14 08 31.7**	**-1.2**
TKL	**Tuckaleechee C**	**68.76**	**349**	*eP*	**P**	**14 08 31.7**	**-1.2**
PLAL	**Pickwick Lake**	**68.89**	**346**	*eP*	**P**	**14 08 32.2**	**-1.4**
	comp=Z,21nm,1.0s,mb5.0						
528A	**Cox Ranch, San**	**68.95**	**331**	⇓P	**P**	**14 08 33.8**	**-0.3**
	baz=69,SNR=9.0						
626A	**Big Bend Ranch**	**68.98**	**330**	⇓P	**P**	**14 08 34.6**	**+0.2**
	baz=69,SNR=11						
527A	**Woodward Ranch**	**69.28**	**331**	⇑P	**P**	**14 08 36.3**	**+0.1**
	baz=70						
526A	**Mary Lane Ranc**	**69.40**	**330**	⇑P	**P**	**14 08 37.3**	**+0.4**
	baz=70,SNR=8.9						
428A	**Kincaid Ranch,**	**69.41**	**332**	⇑P	**P**	**14 08 36.8**	**-0.2**
	baz=70						
TZTN	**Tazewell**	**69.60**	**350**	*eP*	**P**	**14 08 36.7**	**-1.3**
	comp=Z,31nm,1.5s,mb5.0						
427A	**Hayter Ranch,**	**69.81**	**331**	⇓P	**P**	**14 08 39.4**	**-0.1**
	baz=70						
MIAR	**Mount Ida**	**69.81**	**341**	*eP*	**P**	**14 08 38.5**	**-0.9**
	comp=Z,15nm,1.3s,mb4.8						
MIAR	**Mount Ida**	**69.81**	**341**	*eP*	**P**	**14 08 38.5**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
BLA	**Blacksburg**	**69.85**	**353**	*eP*	**P**	**14 08 38.4**	**-1.2**
	comp=Z,18nm,1.2s,mb4.9						
BLA	**Blacksburg**	**69.85**	**353**	*eP*	**P**	**14 08 38.4**	**-1.2**
BLA				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
426A	**McDonald Obser**	**69.91**	**331**	⇓P	**P**	**14 08 40.3**	**+0.3**
	baz=70,SNR=11						
WVT	**Waverly**	**69.95**	**346**	*eP*	**P**	**14 08 39.0**	**-1.2**
	comp=Z,64nm,1.0s,mb5.5						
WVT	**Waverly**	**69.95**	**346**	*eP*	**P**	**14 08 39.0**	**-1.2**
WVT				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.5						
328A	**Wristen Ranch,**	**70.04**	**332**	⇑P	**P**	**14 08 40.3**	**-0.6**
	baz=70,SNR=6.1						
425A	**Indio Mountain**	**70.41**	**330**	⇓P	**P**	**14 08 42.8**	**-0.4**
	baz=71						
326A	**Caldwell Ranch**	**70.45**	**331**	⇑P	**P**	**14 08 42.9**	**-0.5**
	baz=71						
TIAR	**Tiarei**	**70.55**	**261**	*eP*	**P**	**14 08 45.4**	**+0.9**
	comp=Z,22nm,1.0s,mb5.0						
BBTS	**Babate**	**70.59**	**57**	LR	LR	14 38 05.9	
	comp=Z,724nm,19.4s,MS4.9,baz=232,slow=34						
PAE	**Paea**	**70.70**	**261**	*eP*	**P**	**14 08 46.3**	**+1.0**
	comp=Z,5.9nm,1.0s,mb4.5						
PPT2	**Papeete2**	**70.73**	**261**	*eP*	**P**	**14 08 46.6**	**+1.1**
	comp=Z,30nm,1.3s,mb5.1						
PPT2				*eS*	S	14 17 56.0	-2.6
	comp=Z,278nm,25.8s						
PPT2				*e*LR	LR	14 30 23.2	
	comp=Z,488nm,24.5s,baz=127						
227A	**Bennet, Jal**	**70.79**	**332**	⇓P	**P**	**14 08 45.4**	**-0.1**
	baz=71						
325A	**Bean Ranch, Si**	**70.91**	**330**	⇓P	**P**	**14 08 45.5**	**-0.7**
	baz=71,SNR=15						
324A	**Moseley Ranch,**	**71.19**	**330**	⇑P	**P**	**14 08 46.4**	**-1.5**
	baz=72,SNR=8.3						
CLNB	**Carlsbad**	**71.24**	**332**	*eP*	**P**	**14 08 48.0**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.1						
MNTX	**Cornudas Mount**	**71.37**	**330**	⇓P	**P**	**14 08 47.6**	**-1.4**
	baz=72,SNR=19						
MNTX	**Cornudas Mount**	**71.37**	**330**	*eP*	**P**	**14 08 47.1**	**-1.8**
	comp=Z,3.7nm,0.6s,mb4.5						
GDL2	**Guadalupe Moun**	**71.39**	**331**	*eP*	**P**	**14 08 48.7**	**-0.4**
127A	**Arkansas Junct**	**71.40**	**332**	⇓P	**P**	**14 08 48.8**	**-0.3**
	baz=72						
225A	**Deer Hill, Car**	**71.49**	**331**	⇑P	**P**	**14 08 49.0**	**-0.7**
	baz=72						
WMOK	**Wichita Mounta**	**71.58**	**337**	*eP*	**P**	**14 08 48.5**	**-1.6**
	comp=Z,49nm,2.3s,mb5.0						
WMOK	**Wichita Mounta**	**71.58**	**337**	*eP*	**P**	**14 08 48.5**	**-1.7**
WMOK				pmax	pmax		
	comp=Z,49nm,2.3s,mb5.0						
126A	**Clayton Basin,**	**71.64**	**332**	⇑P	**P**	**14 08 50.1**	**-0.4**
	baz=72						
WCI	**Wyandotte Cave**	**71.69**	**348**	*eP*	**P**	**14 08 49.0**	**-1.7**
	comp=Z,13nm,0.7s,mb5.0						
WCI	**Wyandotte Cave**	**71.69**	**348**	*eP*	**P**	**14 08 49.0**	**-1.7**
WCI				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
TUL1	**Tulsa**	**71.72**	**340**	⇑P	**P**	**14 08 50.6**	**-0.4**
	baz=72						
SDMD	**Soldier's Deli**	**71.73**	**356**	*eP*	**P**	**14 08 50.9**	**0.0**
	comp=Z,45nm,1.1s,mb5.3						
224A	**Cornudas Mount**	**71.76**	**330**	⇓P	**P**	**14 08 50.6**	**-0.7**
	baz=72,SNR=15						
125A	**Gardner Draw,**	**71.91**	**331**	⇓P	**P**	**14 08 51.2**	**-1.0**
	baz=72,SNR=6.6						
Z27A	**Tatum**	**71.91**	**333**	⇓P	**P**	**14 08 51.4**	**-0.8**
	baz=72						
CPRX	**Cap Rock**	**71.91**	**332**	*eP*	**P**	**14 08 52.0**	**-0.2**
	comp=Z,14nm,0.8s,mb5.0						
Z26A	**Caprock**	**72.17**	**332**	⇓P	**P**	**14 08 53.2**	**-0.6**
	baz=72,SNR=34						
MVL	**Millersville**	**72.29**	**356**	*eP*	**P**	**14 08 54.5**	**+0.3**
	comp=Z,41nm,1.2s,mb5.2						
MSTX	**Muleshoe**	**72.32**	**333**	⇑P	**P**	**14 08 54.0**	**-0.6**
	baz=73,SNR=6.3						
Y27A	**Causey**	**72.39**	**333**	⇓P	**P**	**14 08 54.6**	**-0.4**
	baz=73						
Z25A	**Roswell**	**72.47**	**331**	⇑P	**P**	**14 08 55.0**	**-0.6**
	baz=73						
221A	**Mesquite Ranch**	**72.67**	**328**	⇓P	**P**	**14 08 56.7**	**0.0**
	baz=73						
Y26A	**Elida**	**72.68**	**332**	⇓P	**P**	**14 08 56.9**	**+0.1**
	baz=73						
AMTX	**Amarillo**	**72.72**	**335**	⇓P	**P**	**14 08 57.0**	**0.0**
	baz=73						
AMTX	**Amarillo**	**72.72**	**335**	*eP*	**P**	**14 08 56.2**	**-0.8**
	comp=Z,21nm,1.3s,mb4.9						
Z24A	**Sheeppen Canyo**	**72.78**	**331**	⇑P	**P**	**14 08 57.4**	**0.0**
	baz=73,SNR=7.0						
220A	**Playas Peak, P**	**72.92**	**328**	⇑P	**P**	**14 08 58.4**	**+0.2**
	baz=73,SNR=11						
SSPA	**Standing Stone**	**73.02**	**355**	*eP*	**P**	**14 08 58.0**	**-0.6**
	comp=Z,18nm,1.0s,mb5.0						
Z23A	**Rita Site, Whi**	**73.08**	**330**	⇓P	**P**	**14 08 59.9**	**+0.8**
	baz=73,SNR=8.1						
121A	**Cookes Peak, D**	**73.12**	**329**	⇓P	**P**	**14 09 00.0**	**+0.6**
	baz=74,SNR=12						
ACSO	**Alum Creek Sta**	**73.14**	**351**	*eP*	**P**	**14 08 58.3**	**-1.0**
	comp=Z,50nm,0.8s,mb5.5						
318A	**Bisbee**	**73.20**	**326**	⇑P	**P**	**14 08 59.8**	**-0.1**
	baz=74,SNR=8.4						
X26A	**CR and CF Fran**	**73.23**	**333**	⇓P	**P**	**14 08 60.0**	**0.0**
	baz=74						
Y24A	**Capitan**	**73.33**	**331**	⇓P	**P**	**14 09 00.5**	**-0.1**
	baz=74,SNR=6.6						
219A	**White Tail Can**	**73.33**	**327**	⇓P	**P**	**14 09 01.0**	**+0.3**
	baz=74,SNR=14						
Z22A	**Elephant Butte**	**73.38**	**330**	⇑P	**P**	**14 09 01.6**	**+0.6**
	baz=74,SNR=10						
W27A	**Bowe Ranch, En**	**73.40**	**334**	⇓P	**P**	**14 09 01.0**	**0.0**
	baz=74						
YLE	**Yale**	**73.48**	**359**	*eP*	**P**	**14 09 00.6**	**-0.7**
120A	**U Bar Ranch, L**	**73.51**	**328**	⇑P	**P**	**14 09 02.3**	**+0.6**
	baz=74,SNR=6.4						
X25A	**Clemmons Ranch**	**73.54**	**332**	⇓P	**P**	**14 09 01.4**	**-0.4**
	baz=74						
Y23A	**Lovelace Mesa,**	**73.58**	**331**	⇑P	**P**	**14 09 02.5**	**+0.4**
	baz=74,SNR=6.7						
218A	**Dragoon**	**73.67**	**327**	⇑P	**P**	**14 09 02.8**	**+0.2**
	baz=74,SNR=6.8						
W26A	**Owens Ranch, T**	**73.69**	**333**	⇑P	**P**	**14 09 03.0**	**+0.3**
	baz=74,SNR=5.5						
Z21A	**St. Cloud Mine**	**73.73**	**329**	⇓P	**P**	**14 09 03.7**	**+0.7**
	baz=74,SNR=8.4						
Y22A	**Socorro**	**73.97**	**330**	⇑P	**P**	**14 09 05.0**	**+0.6**
	baz=74						
Z20A	**Nine Sixteen R**	**73.97**	**328**	⇓P	**P**	**14 09 04.9**	**+0.5**
	baz=74,SNR=7.6						
BNM	**Barren Site**	**74.01**	**330**	*eP*	**P**	**14 09 05.2**	**+0.6**
	comp=Z,4.4nm,1.0s,mb4.3						
W25A	**X Bar L Ranch,**	**74.07**	**333**	⇓P	**P**	**14 09 05.3**	**+0.3**
	baz=74						
BRYW	**Bryant College**	**74.08**	**0**	*eP*	**P**	**14 09 05.0**	**+0.2**
	comp=Z,51nm,0.9s,mb5.5						
LPM	**Los Pinos Moun**	**74.15**	**330**	*eP*	**P**	**14 09 05.7**	**+0.3**
118A	**Homack Ranch,**	**74.19**	**327**	⇓P	**P**	**14 09 06.0**	**+0.3**
	baz=74						
TUC	**Tucson**	**74.30**	**326**	*eP*	**P**	**14 09 06.3**	**0.0**
	comp=Z,18nm,1.6s,mb4.8						
TUC	**Tucson**	**74.30**	**326**	*eP*	**P**	**14 09 06.3**	**0.0**
TUC				pmax	pmax	

baz=76
NCB Newcomb 76.16 358 eP P 14 09 14.6 -2.1
comp=Z,19nm,1.0s,mb5.0
R27A Eads 76.16 335 ⇑P P 14 09 16.7 -0.2
baz=76
W18A Petrified Fore 76.17 329 ⇑P P 14 09 17.8 +0.7
baz=76
MDV Middlebury 76.17 359 eP P 14 09 16.7 -0.1
V20A Brimhall 76.20 330 ⇓P P 14 09 17.8 +0.6
baz=76,SNR=6.9
S25A Robets Cordova 76.20 334 ⇑P P 14 09 17.8 +0.6
baz=77,SNR=7.5
T23A Casias Ranch, 76.27 332 ⇑P P 14 09 18.0 +0.5
baz=77
X16A Lo Mia Camp, P 76.35 327 ⇑P P 14 09 18.9 +0.8
baz=77,SNR=11
V19A Window Rock 76.37 329 ⇑P P 14 09 18.8 +0.6
baz=77
U21A Nageezi 76.40 331 ⇓P P 14 09 18.9 +0.5
baz=77,SNR=12
Z13A Yuma Proving G 76.40 325 ⇓P P 14 09 19.0 +0.6
baz=77,SNR=6.9
R26A Arlington 76.41 335 ⇓P P 14 09 18.8 +0.5
baz=77,SNR=10.0
S24A Houchin Ranch, 76.48 333 ⇑P P 14 09 19.7 +1.0
baz=77,SNR=11
W17A Winslow 76.57 328 ⇑P P 14 09 20.4 +1.1
baz=77
R25A Fountain Ranch 76.58 334 ⇑P P 14 09 19.7 +0.4
baz=77
T22A Edith 76.60 332 ⇓P P 14 09 20.5 +1.1
baz=77,SNR=8.8
SDCO Great Sand Dun 76.68 333 ⇓P P 14 09 20.4 +0.5
baz=77,SNR=9.5
SDCO Great Sand Dun 76.68 333 eP P 14 09 19.9 0.0
comp=Z,8.8nm,1.0s,mb4.6
Y14A Wickenburg 76.69 326 ⇓P P 14 09 20.3 +0.3
baz=77
U20A Newcomb 76.71 330 ⇓P P 14 09 20.5 +0.4
baz=77,SNR=7.4
KSCO Kaye Shedlock' 76.75 336 ⇓P P 14 09 21.3 +1.0
baz=77
V18A Ganado 76.75 329 ⇑P P 14 09 20.8 +0.5
baz=77
LONY Lake Ozonia 76.82 358 eP P 14 09 20.2 -0.3
comp=Z,28nm,1.0s,mb5.2
T21A Navajo Lake 76.83 331 ⇑P P 14 09 21.5 +0.8
baz=77
U19A Dine' College, 76.93 330 ⇑P P 14 09 21.3 0.0
baz=77,SNR=6.7
R24A Sanders Place, 76.96 334 ⇑P P 14 09 22.3 +0.9
baz=77
Q26A Hugo 76.99 335 ⇓P P 14 09 22.1 +0.5
baz=77
FRNY Flat Rock 77.01 359 eP P 14 09 20.7 -0.8
comp=Z,29nm,1.0s,mb5.2
V17A Tonalea, Kykot 77.06 328 ⇑P P 14 09 22.7 +0.6
baz=77,SNR=10
R23A Moffat 77.20 333 ⇑P P 14 09 23.2 +0.5
baz=78,SNR=5.2
S22A 4UR Ranch, Cre 77.20 332 ⇓P P 14 09 23.5 +0.7
baz=78,SNR=7.1
MSNY Massena 77.21 358 eP P 14 09 21.6 -1.1
comp=Z,322nm,0.9s
WUAZ Wupatki 77.23 328 ⇑P P 14 09 23.6 +0.6
baz=78,SNR=5.6
WUAZ Wupatki 77.23 328 eP P 14 09 22.7 -0.3
comp=Z,12nm,0.9s,mb4.8
Q25A Bedland, Calha 77.24 335 ⇑P P 14 09 23.1 +0.1
baz=78
Y12C Blythe 77.27 325 ⇑P P 14 09 23.8 +0.5
baz=78
T19A Beclabito 77.31 330 ⇑P P 14 09 23.7 +0.3
baz=78,SNR=9.3
U18A Rough Rock, Ch 77.32 329 ⇑P P 14 09 24.1 +0.6
baz=78
MVCO Mesa Verde 77.42 331 ⇑P P 14 09 24.6 +0.5
baz=78
MVCO Mesa Verde 77.42 331 eP P 14 09 24.4 +0.3
comp=Z,13nm,1.1s,mb4.8
PKME Peaks-Kenny Pk 77.45 2 eP P 14 09 24.0 -0.1
comp=Z,64nm,1.2s,mb5.4
S21A Coal Bank Pass 77.51 331 ⇓P P 14 09 25.4 +0.8
baz=78,SNR=6.0
R22A Saguache, Gunn 77.59 332 ⇓P P 14 09 25.9 +1.0
baz=78
Q24A Divide 77.62 334 ⇓P P 14 09 25.5 +0.4
baz=78,SNR=22
U16A Tuba City 77.64 328 ⇓P P 14 09 25.8 +0.5
baz=78,SNR=8.3
P25A Willow Gulch B 77.74 335 ⇓P P 14 09 26.3 +0.5
baz=78,SNR=6.3
O27A Beecher Island 77.76 336 ⇓P P 14 09 26.4 +0.6
baz=78
S20A Disappointment 77.89 331 ⇓P P 14 09 27.3 +0.7
baz=78
IRM Iron Mountain 77.91 324 ⇓P P 14 09 27.3 +0.4
baz=78
T18A Mexican Hat 77.93 330 ⇓P P 14 09 27.2 +0.3
baz=78,SNR=8.0
R21A Cimarron 78.02 332 ⇑P P 14 09 27.8 +0.4
baz=78
W13A Hualapai Mount 78.05 326 ⇑P P 14 09 28.1 +0.5
baz=78
O26A Horse Wrangler 78.09 336 ⇓P P 14 09 28.2 +0.5
baz=78
PFO Pinyon Flat Ob 78.12 323 ⇓P P 14 09 28.9 +0.8
baz=78
PFO Pinyon Flat Ob 78.12 323 eP P 14 09 28.7 +0.6
comp=Z,9.0nm,1.0s,mb4.7
PFO Pinyon Flat Ob 78.12 323 eP P 14 09 28.7 +0.7
PFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
S19A Harvey Farm, M 78.14 331 ⇑P P 14 09 28.5 +0.5
baz=78,SNR=8.1
Q22A Crested Butte, 78.20 333 ⇓P P 14 09 29.2 +0.8
baz=78,SNR=5.9
R20A Redvale 78.20 331 ⇑P P 14 09 29.2 +0.8
baz=78,SNR=7.3
T17A Navajo Res., N 78.21 329 ⇓P P 14 09 29.2 +0.7
baz=78,SNR=7.8
P23A Jefferson 78.23 334 ⇑P P 14 09 29.8 +1.2
baz=79
O25A Wiggins 78.26 335 ⇑P P 14 09 29.6 +1.0
baz=79
N27A Anderson Farm, 78.33 337 ⇑P P 14 09 29.6 +0.6
baz=79
Q21A Lamborn Mesa, 78.43 332 ⇑P P 14 09 30.3 +0.7
baz=79
S18A Hurst Farm, Bl 78.45 330 ⇓P P 14 09 30.6 +0.9
baz=79,SNR=18
ISCO Idaho Springs 78.52 334 ⇑P P 14 09 30.6 +0.5
baz=79,SNR=11
ISCO Idaho Springs 78.52 334 eP P 14 09 30.4 +0.3
comp=Z,28nm,1.7s,mb4.9
ISCO Idaho Springs 78.52 334 eP P 14 09 30.4 +0.3
ISCO pmax pmax
comp=Z,28nm,1.7s,mb4.9
N26A Koester Ranch, 78.58 336 ⇑P P 14 09 31.1 +0.7
baz=79
O24A Longmont 78.61 335 ⇑P P 14 09 31.3 +0.8
baz=79
R19A Curley Farm, L 78.65 331 ⇓P P 14 09 31.1 +0.3
baz=79,SNR=5.9
S17A Black Ridge (B 78.75 329 ⇑P P 14 09 31.8 +0.4
baz=79
M27A Reverse DX Ran 78.92 337 ⇓P P 14 09 33.2 +0.9
baz=79
P21A Newcastle 78.98 333 ⇑P P 14 09 33.6 +1.0
baz=79
O23A Lake Granby, G 79.00 334 ⇓P P 14 09 33.6 +0.9
baz=79,SNR=9.3
HEC Hector,Ludlow 79.02 324 ⇓P P 14 09 33.6 +0.6
baz=79
N24A Carr 79.16 335 ⇓P P 14 09 34.7 +1.1
baz=80
S16A Weppner Ranch, 79.17 329 ⇓P P 14 09 34.4 +0.7
baz=80
O22A Kremmling 79.19 334 ⇓P P 14 09 34.1 +0.4
baz=80,SNR=9.8
Q19A Hogan Spring (79.22 331 ⇑P P 14 09 34.6 +0.7
baz=80
ECSD EROS Data Cent 79.23 342 eP P 14 09 33.0 -0.9
comp=Z,33nm,1.0s,mb5.2
P20A De Beque 79.33 332 ⇑P P 14 09 35.2 +0.7
baz=80,SNR=6.1
TSUM Tsumeb 79.35 106 eP P 14 09 35.3 +0.1
comp=Z,67nm,1.3s,mb5.4
R17A Hanksville Air 79.37 330 ⇓P P 14 09 34.8 0.0
baz=80,SNR=6.8
O21A Pagoda 79.58 333 ⇓P P 14 09 36.7 +0.8
baz=80
N23A Red Feather La 79.60 334 ⇑P P 14 09 36.9 +0.9
baz=80
GSC Goldstone 79.64 324 ⇑P P 14 09 36.8 +0.4
baz=80
GSC Goldstone 79.64 324 eP P 14 09 36.0 -0.3
comp=Z,8.3nm,1.1s,mb4.6
GSC Goldstone 79.64 324 eP P 14 09 36.0 -0.3
GSC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
P19A Cripple Cowboy 79.68 332 ⇑P P 14 09 37.4 +0.9
baz=80
Q18A Rafter H Ranch 79.70 331 ⇓P P 14 09 36.7 +0.1
baz=80,SNR=7.3
M24A Cheyenne 79.70 335 ⇓P P 14 09 36.9 +0.4
baz=80
N22A Wattenberg Ran 79.71 334 ⇓P P 14 09 37.4 +0.9
baz=80,SNR=7.5
PHWY Pilot Hill 79.78 335 eP P 14 09 37.7 +0.8
comp=Z,8.5nm,0.8s,mb4.7
CCUT Cedar City 79.81 328 eP P 14 09 38.4 +1.2
comp=Z,16nm,1.2s,mb4.8
O20A White River Ci 79.81 332 ⇓P P 14 09 37.7 +0.6
baz=80
SRU San Rafael 79.87 330 eP P 14 09 37.9 +0.4
SRU San Rafael 79.87 330 eP P 14 09 37.9 +0.4
EDW2 Edwards Air Fo 79.90 323 ⇑P P 14 09 38.2 +0.4
baz=80
Q16A Castle Valley 79.98 330 ⇓P P 14 09 39.0 +0.9
baz=80
L25A Engebretsen Ra 80.01 336 ⇑P P 14 09 39.1 +0.9
baz=80
M23A Laramie 80.02 335 ⇓P P 14 09 39.3 +1.0
baz=80
ARUT Antelope Range 80.04 328 eP P 14 09 39.0 +0.6
comp=Z,15nm,1.3s,mb4.8
ARUT Antelope Range 80.04 328 eP P 14 09 39.0 +0.6
ARUT pmax pmax
comp=Z,15nm,1.3s,mb4.8
N21A Black Mountain 80.07 333 ⇑P P 14 09 39.3 +0.7
baz=80
MSU Marysvale 80.08 329 eP P 14 09 39.2 +0.6
MSU Marysvale 80.08 329 eP P 14 09 39.3 +0.7
P18A Preston Nutter 80.19 331 ⇓P P 14 09 39.7 +0.5
baz=80,SNR=7.7
L24A Wheatland 80.25 336 ⇑P P 14 09 40.3 +0.9
baz=81
M22A Cedar Creek Ra 80.29 334 ⇑P P 14 09 40.8 +1.1
baz=81
O19A Miners Draw (B 80.30 332 ⇑P P 14 09 40.5 +0.7
baz=81
N20A Spence Gulch, 80.42 333 ⇑P P 14 09 41.0 +0.6
baz=81
BOSA Boshof 80.51 118 P P 14 09 41.0 -0.5
comp=Z,36nm,0.8s,mb5.3,baz=238,slow=4.7,SNR=44
BOSA LR LR 14 42 58.2
comp=Z,608nm,18.2s,MS5.0,baz=227,slow=34
BOSA Boshof 80.51 118 eP P 14 09 40.9 -0.5
comp=Z,39nm,0.8s,mb5.4
BOSA Boshof 80.51 118 eP P 14 09 40.9 -0.5
BOSA pmax pmax
comp=Z,39nm,0.8s,mb5.4
L23A Garrett 80.58 335 ⇑P P 14 09 42.1 +0.9
baz=81
R13A O'Grain Ranch, 80.60 328 ⇑P P 14 09 42.2 +0.8
baz=81
O18A Roosevelt 80.63 331 ⇓P P 14 09 42.2 +0.7
baz=81
M21A Separation Pea 80.75 334 ⇓P P 14 09 42.4 +0.2
baz=81
ISA Isabella 80.76 323 ⇓P P 14 09 43.0 +0.7
baz=81
ISA Isabella 80.76 323 eP P 14 09 43.0 +0.6
comp=Z,8.7nm,0.9s,mb4.7
ISA Isabella 80.76 323 eP P 14 09 43.0 +0.6
ISA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
L22A Ellis Ranch, M 80.77 335 ⇑P P 14 09 42.6 +0.4
baz=81
K24A Anderson Ranch 80.81 336 ⇑P P 14 09 43.0 +0.5
baz=81
N19A John Jarvie Ra 80.83 332 ⇓P P 14 09 43.2 +0.5
baz=81
PKM Peak Mountain 80.86 322 ⇑P P 14 09 43.2 +0.3
baz=81
O17A Robinson Place 80.87 331 ⇓P P 14 09 43.4 +0.5
baz=81,SNR=7.9
M20A Sweetwater, Wa 80.96 333 ⇑P P 14 09 43.6 +0.3
baz=81
L21A Rawlins 81.06 334 ⇓P P 14 09 44.4 +0.6
baz=81
N18A Larsen Ranch, 81.10 332 ⇓P P 14 09 44.6 +0.5
baz=81
K23A Bowen Ranch, D 81.12 335 ⇑P P 14 09 44.7 +0.6
baz=82
CWC Cottonwood Cre 81.17 324 ⇓P P 14 09 44.7 +0.2
baz=82
O16A Springville 81.20 330 ⇓P P 14 09 45.0 +0.4
baz=82
VES Vestal, Richgr 81.21 323 ⇑P P 14 09 45.0 +0.3
baz=82
GRAC Grapevine Rang 81.26 325 ⇓P P 14 09 45.4 +0.4
baz=82
J24A Dixon Ranch, L 81.29 336 ⇓P P 14 09 45.3 +0.3
baz=82
M19A Rock Springs 81.35 332 ⇑P P 14 09 45.4 +0.1
baz=82
K22A Casper 81.35 335 ⇑P P 14 09 45.5 +0.2
baz=82,SNR=6.5
L20A Wamsutter 81.46 333 ⇓P P 14 09 45.9 -0.1
baz=82
R11A Troy Canyon, C 81.48 327 ⇓P P 14 09 46.5 +0.4
baz=82
N17A Moffit Pass 81.54 331 ⇑P P 14 09 46.9 +0.5
baz=82
K21A Alcova 81.60 334 ⇓P P 14 09 46.5 -0.2
baz=82,SNR=7.8
DUG Dugway 81.75 329 ⇑P P 14 09 47.6 +0.1
baz=82
DUG Dugway 81.75 329 eP P 14 09 47.2 -0.3
comp=Z,22nm,1.5s,mb4.9
DUG Dugway 81.75 329 eP P 14 09 47.2 -0.3
DUG pmax pmax
comp=Z,22nm,1.5s,mb4.9
I24A Kuemmerle Ranc 81.75 337 ⇑P P 14 09 47.3 -0.1
baz=82
RSSD Black Hills 81.79 337 eP P 14 09 47.1 -0.5
comp=Z,8.5nm,1.0s,mb4.6
RSSD Black Hills 81.79 337 eP P 14 09 47.1 -0.5
RSSD pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
L19A Farson 81.93 333 ⇓P P 14 09 48.3 -0.1
baz=82,SNR=6.9
J22A Midwest 82.00 335 ⇓P P 14 09 48.2 -0.5
baz=82,SNR=5.6
K20A Yellowstone Ra 82.02 334 ⇓P P 14 09 48.4 -0.4
baz=82
L18A Fontenelle, Gr 82.05 332 ⇓P P 14 09 48.9 -0.1
baz=82
J21A Lysite 82.28 335 ⇑P P 14 09 50.3 +0.1
baz=83
K19A Absolon Red Bu 82.36 333 ⇓P P 14 09 50.2 -0.4
baz=83
HWUT Hardware Ranch 82.39 331 eP P 14 09 50.4 -0.4
comp=Z,12nm,1.1s,mb4.7
I22A 9 Mile Ranch, 82.42 335 ⇑P P 14 09 50.5 -0.4
baz=83,SNR=6.0
H24A Dirks Ranch, A 82.51 337 ⇓P P 14 09 51.4 0.0
baz=83
J20A Shoshoni 82.53 334 ⇑P P 14 09 51.6 +0.1
baz=83,SNR=5.6
BW06 Boulder Array 82.58 333 ⇑P P 14 09 51.7 -0.1
baz=83
BW06 Boulder Array 82.58 333 eP P 14 09 51.7 -0.1
PDAR Pinedale Array 82.58 333 P P 14 09 50.8 -1.0
comp=Z,2.3nm,1.0s,mb4.2,baz=165,slow=6.2,SNR=11
PDAR Pinedale Array 82.58 333 P P 14 09 50.8 -0.9
PD02 Pinedale Array 82.59 333 eP P 14 09 50.4 -1.4
PD01 Pinedale Array 82.59 333 eP P 14 09 50.9 -1.0
I21A Big Trails, Te 82.63 335 ⇑P P 14 09 51.3 -0.8
baz=83,SNR=7.2
LBTB Lobatse 82.67 115 LR LR 14 41 57.3
comp=Z,301nm,20.5s,MS4.7,baz=246,slow=32
LBTB Lobatse 82.67 115 eP P 14 09 52.1 -0.8
comp=Z,20nm,0.7s,mb5.3
LBTB Lobatse 82.67 115 eP P 14 09 52.1 -0.8
LBTB pmax pmax
comp=Z,21nm,0.7s,mb5.3
J19A Crowheart 82.81 333 ⇑P P 14 09 52.7 -0.3
baz=83,SNR=6.0
NVAR Mina Array Bea 82.84 325 P P 14 09 53.5 +0.2
comp=Z,2.8nm,0.8s,mb4.3,baz=154,slow=5.2,SNR=9.2
NVAR Mina Array Bea 82.84 325 P P 14 09 53.5 +0.2
G24A Alzada 82.98 337 ⇑P P 14 09 54.1 +0.3
baz=83
L15A Malad City 83.06 331 ⇑P P 14 09 54.1 -0.3
baz=83,SNR=5.1
J18A Kendall Valley 83.13 333 ⇓P P 14 09 54.9 +0.3
baz=84
ELK Elko 83.26 328 eP P 14 09 55.5 +0.1
ELK Elko 83.26 328 eP P 14 09 55.5 +0.1
AGMN Agassiz Nation 83.32 344 eP P 14 09 54.4 -1.1
comp=Z,16nm,0.9s,mb5.0
K16A Soda Springs 83.43 332 ⇑P P 14 09 56.3 +0.1
baz=84,SNR=6.1
L14A Malta 83.44 330 ⇑P P 14 09 55.9 -0.4
baz=84
TORD Torodi Ar. Bea 83.44 70 P P 14 09 56.3 -0.6
comp=Z,46nm,0.8s,mb5.6,baz=255,slow=4.6,SNR=253
TORD LR LR 14 47 20.6
comp=Z,518nm,18.0s,MS5.0,baz=235,slow=36
TORD Torodi Ar. Bea 83.44 70 P P 14 09 56.3 -0.6
I19A Meeteetse 83.45 334 ⇑P P 14 09 55.9 -0.3
baz=84
F24A Ekalaka 83.45 338 ⇑P P 14 09 56.0 -0.2
baz=84
H20A Greybull 83.47 335 ⇑P P 14 09 56.1 -0.3
baz=84
I18A Diamond G Ranc 83.47 333 ⇑P P 14 09 56.0 -0.3
baz=84,SNR=5.8
G22A Birney 83.51 336 ⇑P P 14 09 56.5 0.0
baz=84
J17A Brown Place, J 83.53 332 ⇑P P 14 09 57.0 +0.3
baz=84
REDW Red Top Meadow 83.58 332 P P 14 09 56.5 -0.5
comp=Z,8.0nm,1.1s,mb4.8
F23A Volborg 83.65 337 ⇑P P 14 09 56.6 -0.6
baz=84,SNR=5.1
K15A Arbon 83.69 331 ⇑P P 14 09 57.5 0.0
baz=84
J16A Bone 83.81 332 ⇓P P 14 09 58.5 +0.4
baz=84
G21A Lodge Grass 83.83 336 ⇑P P 14 09 58.1 0.0
baz=84
MDND Maddock 83.83 342 ⇑P P 14 09 57.5 -0.7
baz=84,SNR=8.6
K14A Jones Ranch, D 83.84 331 ⇑P P 14 09 58.5 +0.2
baz=84
I17A Pilgrim Ck. 83.95 333 ⇓P P 14 09 58.6 -0.2
baz=84
H19A Powell 83.99 334 ⇑P P 14 09 59.2 +0.2
baz=84
F22A Rosebud 83.99 336 ⇑P P 14 09 58.8 -0.2
baz=84
E24A Baker 84.04 338 ⇓P P 14 09 59.4 +0.1
baz=84
FLWY Flagg Ranch 84.13 333 eP P 14 10 00.3 +0.5
G20A Bridger 84.18 335 ⇓P P 14 09 59.7 -0.3
baz=84
J15A Blackfoot 84.25 331 ⇑P P 14 10 00.3 0.0
baz=85
H18A Shoshone NF, C 84.25 334 ⇓P P 14 09 59.9 -0.5
baz=85,SNR=9.7
E22A Miles City 84.47 337 ⇑P P 14 10 01.1 -0.3
baz=85
RLMT Red Lodge 84.48 334 ⇓P P 14 10 01.5 0.0
baz=85
RLMT Red Lodge 84.48 334 eP P 14 10 01.0 -0.5
comp=Z,13nm,1.3s,mb4.9
D24A Glendive 84.54 338 ⇑P P 14 10 02.0 +0.2
baz=85
J14A Carey 84.62 331 ⇓P P 14 10 02.2 -0.1
baz=85
YMR Madison River 84.73 333 eP P 14 10 02.9 +0.1
comp=Z,17nm,0.9s,mb5.2
G18A Lazy EL Ranch, 84.75 334 ⇓P P 14 10 02.3 -0.6
baz=85,SNR=6.4
I15A Monteview 84.77 332 ⇑P P 14 10 02.9 0.0
baz=85
LAO LASA Array 84.78 337 ⇑P P 14 10 03.0 +0.1
baz=85
H16A Russell Place, 84.87 333 ⇓P P 14 10 03.6 +0.1
baz=85
D23A Lindsay 84.87 338 ⇑P P 14 10 03.0 -0.4
baz=85,SNR=12
E21A Keefer Ranch, 84.93 336 ⇑P P 14 10 03.4 -0.3
baz=85
C24A Savage 84.94 338 ⇑P P 14 10 03.4 -0.4
baz=85,SNR=10
BEKR Beckworth 84.96 325 ⇑P P 14 10 03.6 -0.5
baz=85
J13A Cove Ranch, Pi 84.96 330 ⇑P P 14 10 04.0 +0.1
baz=85,SNR=6.0
F19A Roth Farm, Mol 84.99 335 ⇓P P 14 10 03.6 -0.5
baz=85
I14A Mackay 85.10 331 ⇓P P 14 10 04.6 -0.1
baz=85
ULM Lac du Bonnet 85.15 345 P P 14 10 03.5 -1.3
comp=Z,12nm,0.8s,mb5.0,baz=177,slow=4.8,SNR=17
ULM Lac du Bonnet 85.15 345 eP P 14 10 03.1 -1.6
comp=Z,16nm,1.0s,mb5.1
ULM Lac du Bonnet 85.15 345 eP P 14 10 03.1 -1.6
ULM pmax pmax
comp=Z,16nm,1.0s
D22A Cohagen 85.17 337 ⇑P P 14 10 04.7 -0.2
baz=86
HLID Hailey 85.19 330 eP P 14 10 05.1 -0.1
comp=Z,12nm,1.3s,mb4.9
GCMT Greycliff 85.20 334 eP P 14 10 04.4 -0.7
comp=Z,3.6nm,1.0s,mb4.5
E20A Meyer Farm, Mu 85.26 336 ⇓P P 14 10 04.7 -0.7
baz=86,SNR=13
F18A Big Timber 85.31 334 ⇑P P 14 10 05.1 -0.6
baz=86,SNR=6.4
H15A Lima 85.34 332 ⇑P P 14 10 05.7 -0.2
baz=86
I13A Wildhorse Cree 85.36 331 ⇓P P 14 10 06.0 +0.1
baz=86,SNR=12
D21A La Casta Ranch 85.36 337 ⇑P P 14 10 05.2 -0.7
baz=86,SNR=5.9
C23A Lambert 85.42 338 ⇑P P 14 10 05.5 -0.6
baz=86,SNR=10
E19A Rath Farm, Rou 85.45 335 ⇑P P 14 10 05.9 -0.5
baz=86,SNR=12
C22A Vida 85.59 338 ⇑P P 14 10 06.5 -0.5
baz=86
MCMT McKenzie Canyo 85.60 332 eP P 14 10 06.8 -0.3
comp=Z,4.4nm,0.9s,mb4.7
H14A Leadore 85.63 332 ⇓P P 14 10 07.0 -0.3
baz=86
F17A Fitzpatrick Pl 85.66 334 ⇑P P 14 10 07.3 -0.1
baz=86
MFID Camas Ranch 85.67 329 ⇑P P 14 10 07.4 -0.1
baz=86
MFID Camas Ranch 85.67 329 eP P 14 10 06.9 -0.6
comp=Z,10nm,1.3s,mb4.9
I12A Atlanta 85.68 330 ⇑P P 14 10 07.2 -0.3
baz=86,SNR=6.1
DGMT Dagmar 85.71 339 ⇓P P 14 10 07.0 -0.5
baz=86,SNR=7.2
DGMT Dagmar 85.71 339 eP P 14 10 07.3 -0.2
comp=Z,35nm,1.0s,mb5.5
G15A Dillon 85.74 332 ⇓P P 14 10 07.5 -0.3
baz=86,SNR=5.7
D20A Manuel Ranch, 85.77 336 ⇓P P 14 10 07.1 -0.8
baz=86,SNR=5.5
BOZ Bozeman (W) 85.81 333 ⇓P P 14 10 08.0 -0.1
baz=86
BOZ Bozeman (W) 85.81 333 eP P 14 10 06.5 -1.6
comp=Z,3.0nm,1.1s,mb4.4
BOZ Bozeman (W) 85.81 333 eP P 14 10 06.5 -1.6
BOZ pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
F16A Kennard Place, 85.92 333 ⇓P P 14 10 08.7 0.0
baz=86
DLMT Dillon 85.94 332 eP P 14 10 08.5 -0.3
comp=Z,6.6nm,1.0s,mb4.8
B23A Brockton 85.95 339 ⇑P P 14 10 08.3 -0.4
baz=86
H13A Challis 85.95 331 ⇓P P 14 10 08.7 -0.2
baz=86,SNR=7.0
E18A Harlowton 85.95 335 ⇓P P 14 10 08.4 -0.4
baz=86

A24A	Westby	86.06	339	⇑P	P	14 10 09.4	+0.1	
	baz=86							
C21A	Desert Coulee	86.06	337	⇓P	P	14 10 08.4	-0.9	
	baz=86,SNR=6.3							
D19A	Cripps Ranch,	86.09	336	⇑P	P	14 10 08.9	-0.6	
	baz=86							
B22A	Reddig Ranch S	86.12	338	⇑P	P	14 10 08.8	-0.8	
	baz=86,SNR=11							
H12A	Diamond D Ranc	86.18	331	⇑P	P	14 10 09.8	-0.2	
	baz=86							
E17A	Martinsdale	86.20	334	⇓P	P	14 10 09.9	-0.1	
	baz=86							
C20A	Veseth Ranch,	86.27	336	⇓P	P	14 10 09.0	-1.3	
	baz=87,SNR=8.0							
LRM	Limekiln Ridge	86.27	333	eP	P	14 10 10.3	-0.1	
F15A	Butte	86.30	333	⇑P	P	14 10 10.2	-0.4	
	baz=87,SNR=6.6							
G13A	Cobalt	86.37	331	⇑P	P	14 10 10.7	-0.2	
	baz=87,SNR=8.3							
D18A	Linhart Farms,	86.44	335	⇓P	P	14 10 10.5	-0.7	
	baz=87							
B21A	Ellsworth Farm	86.56	337	⇑P	P	14 10 11.1	-0.7	
	baz=87,SNR=9.2							
F14A	Wisdom	86.62	332	⇓P	P	14 10 11.9	-0.2	
	baz=87,SNR=5.8							
C19A	Slack Wire Ran	86.64	336	⇑P	P	14 10 11.7	-0.5	
	baz=87							
A22A	Carney Farms,	86.70	338	⇓P	P	14 10 11.5	-0.9	
	baz=87,SNR=9.9							
D17A	Six Diamond Ra	86.73	335	⇓P	P	14 10 12.2	-0.4	
	baz=87,SNR=9.4							
J08A	Circle Bar Ran	86.79	328	⇓P	P	14 10 12.6	-0.4	
	baz=87							
E15A	Deer Lodge	86.84	333	⇑P	P	14 10 12.9	-0.3	
	baz=87							
B20A	Solberg Farm,	86.90	337	⇑P	P	14 10 12.2	-1.2	
	baz=87,SNR=13							
D16A	Dana Ranch, Ca	86.94	334	⇓P	P	14 10 13.4	-0.3	
	baz=87,SNR=6.4							
F13A	Darby	86.98	332	⇓P	P	14 10 13.4	-0.5	
	baz=87,SNR=7.7							
A21A	Bergtoll Ranch	87.02	338	⇑P	P	14 10 12.9	-1.1	
	baz=87,SNR=5.5							
SCHQ	Schefferville	87.10	3	P	P	14 10 13.4	-0.9	
	comp=Z,18nm,1.0s,mb5.2,baz=156,slow=3.6,SNR=6.0							
SCHQ				LR	LR	14 48 18.7		
	comp=Z,234nm,18.1s,MS4.6,baz=92,slow=35							
SCHQ	Schefferville	87.10	3	P	P	14 10 13.4	-0.9	
EGMT	Eagleton	87.14	336	⇓P	P	14 10 13.8	-0.7	
	baz=88							
C17A	Wharram Farm,	87.16	335	⇓P	P	14 10 14.1	-0.6	
	baz=88,SNR=7.0							
E14A	Clinton	87.17	333	⇓P	P	14 10 14.5	-0.3	
	baz=88							
B19A	Brinkman Farms	87.22	336	⇑P	P	14 10 13.9	-1.1	
	baz=88,SNR=5.8							
A20A	Cobblestone Ra	87.25	337	⇑P	P	14 10 14.4	-0.7	
	baz=88,SNR=14							
D15A	Lincoln	87.31	333	⇓P	P	14 10 15.2	-0.3	
	baz=88							
F12A	Elk City	87.33	331	⇑P	P	14 10 15.3	-0.2	
	baz=88							
K05A	Summer Lake	87.41	326	⇓P	P	14 10 16.1	0.0	
	baz=88							
B18A	Beardsley Farm	87.46	336	⇑P	P	14 10 15.4	-0.8	
	baz=88,SNR=5.7							
BMO	Blue Mountains	87.46	329	eP	P	14 10 15.6	-0.7	
	comp=Z,2.9nm,0.9s,mb4.5							
BMO	Blue Mountains	87.46	329	eP	P	14 10 15.6	-0.6	
BMO				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.5							
E13A	Victor	87.46	332	⇑P	P	14 10 15.9	-0.3	
	baz=88,SNR=7.8							
CHMT	Chamberlain Mo	87.49	333	eP	P	14 10 15.6	-0.7	
	comp=Z,2.5nm,1.1s,mb4.4							
C16A	Fuhringer Ranc	87.66	334	⇓P	P	14 10 16.4	-0.7	
	baz=88,SNR=5.5							
MSO	Missoula	87.68	332	⇓P	P	14 10 17.3	0.0	
	baz=88							
B17A	L&G Farms, Che	87.73	335	⇑P	P	14 10 17.3	-0.2	
	baz=88							
I07A	Izee	87.82	328	⇓P	P	14 10 17.9	-0.1	
	baz=88							
A18A	Metzger Ranch,	87.93	336	⇓P	P	14 10 18.1	-0.3	
	baz=88							
C15A	Salmond Ranch,	87.96	334	⇓P	P	14 10 18.6	+0.1	
	baz=88							
E12A	Beaver Dam Sad	87.99	331	⇑P	P	14 10 18.9	+0.1	
	baz=88							
D13A	Huson	88.10	332	⇑P	P	14 10 19.3	0.0	
	baz=88							
A17A	Triple J Farms	88.25	335	⇓P	P	14 10 19.1	-0.8	
	baz=89,SNR=7.3							
F10A	Beach Ranch, E	88.32	330	⇑P	P	14 10 19.9	-0.4	
	baz=89							
C14A	Swan Lake	88.38	333	⇑P	P	14 10 20.5	-0.1	
	baz=89							
B15A	Bradely Ranch,	88.39	334	⇓P	P	14 10 20.0	-0.6	
	baz=89							
A16A	West Butte Ran	88.57	335	⇓P	P	14 10 21.1	-0.3	
	baz=89							
C13A	Hot Springs	88.63	333	⇑P	P	14 10 21.5	-0.2	
	baz=89							
B14A	Marquette Ranc	88.69	334	⇓P	P	14 10 21.7	-0.3	
	baz=89							
A14A	Double T Ranch	89.25	334	⇑P	P	14 10 24.0	-0.6	
	baz=90							
C11A	Tepee Creek (N	89.42	332	⇓P	P	14 10 24.8	-0.6	
	baz=90							
A13A	Flathead Natio	89.59	333	⇑P	P	14 10 25.9	-0.3	
	baz=90							
LSZ	Lusaka	90.00	108	eP	P	14 10 29.9	+0.9	
	comp=Z,51nm,1.4s,mb5.7							
LSZ	Lusaka	90.00	108	eP	P	14 10 29.9	+0.9	
LSZ				pmax	pmax			
	comp=Z,51nm,1.4s,mb5.7							
OD2	Odessa Site #2	90.07	330	eP	P	14 10 27.6	-0.8	
FFC	Flin Flon	90.72	343	i P	P	14 10 31.0	-0.3	
ETW	Entiat	90.92	329	eP	P	14 10 33.1	+0.6	
TAM	Tamanrasset	91.94	64	eP	P	14 10 37.4	-0.4	
	comp=Z,14nm,1.3s,mb5.1							
TAM	Tamanrasset	91.94	64	eP	P	14 10 37.4	-0.4	
TAM				pmax	pmax			
	comp=Z,14nm,1.3s,mb5.1							
ESDC	Sonseca Array	95.35	46	P	P	14 10 51.0	-2.1	
	comp=Z,0.4nm,0.4s,mb4.2,baz=236,slow=4.7,SNR=6.2							
ESDC				LR	LR	14 52 52.8		
	comp=Z,223nm,20.3s,MS4.6,baz=235,slow=35							
ESDC	Sonseca Array	95.35	46	P	P	14 10 51.0	-2.1	
YKA	Yellowknife Ar	100.75	341	P	Pdif	14 11 15.1	-2.4	
	comp=Z,0.5nm,0.6s,baz=143,slow=4.7,SNR=8.5							
YKA	Yellowknife Ar	100.75	341	P	Pdif	14 11 15.2	-2.4	
YKA	Yellowknife Ar	100.75	341	P	Pdif	14 11 15.2	-2.3	
DZM	Mont Dzumac	102.33	234	ePS	PS	14 24 45.1	+1.4	
	comp=Z,82nm,29.0s							
DZM				eSS	SS	14 30 20.7	+8.2	
	comp=Z,249nm,27.1s							
DZM				eLR	LR	14 45 03.0		
	comp=Z,476nm,21.6s							
GERES	GERESS Array B	110.92	45	PKiKP	PKiKP	14 16 01.0	-0.8	
	comp=Z,0.8nm,0.8s,baz=116,slow=2.3,SNR=4.4							
GERES	GERESS Array B	110.92	45	PKIKP	PKiKP	14 16 01.0	-0.8	
GERES	GERESS Array B	110.92	45	PKIKP	PKiKP	14 16 01.0	-0.7	
CLL	Collm	111.57	42	ePKIKP	PKiKP	14 16 03.0	+0.1	
CLL				MLR	MLR			
	comp=Z,800nm,17.4s,MS5.4							
CLL	Collm	111.57	42	ePP	PP	14 16 47.0	+1.9	
ILAR	Eielson Array	113.01	333	PKiKP	PKiKP	14 16 03.0	-2.3	
	comp=Z,0.7nm,1.0s,baz=239,slow=1.7,SNR=5.4							
ILAR	Eielson Array	113.01	333	PKiKP	PKiKP	14 16 03.0	-2.3	
ILAR	Eielson Array	113.01	333	PKIKP	PKiKP	14 16 03.0	-2.2	
ASAR	Alice Springs	119.01	207	PKP	PKPdf	14 16 15.6	-2.6	
	comp=Z,0.7nm,0.9s,baz=120,slow=1.9,SNR=6.7							
ASAR	Alice Springs	119.01	207	PKP	PKPdf	14 16 15.6	-2.6	
ASAR	Alice Springs	119.01	207	PKIKP	PKPdf	14 16 15.6	-2.6	
BR131	Keskin Array S	120.87	60	eP	PKPdf	14 16 19.8	-1.3	
BRTR	Keskin Array B	120.87	60	PKP	PKPdf	14 16 20.0	-1.1	
	comp=Z,3.8nm,0.8s,baz=195,slow=2.5,SNR=18							
BRTR	Keskin Array B	120.87	60	PKP	PKPdf	14 16 20.0	-1.1	
BRTR	Keskin Array B	120.87	60	PKIKP	PKPdf	14 16 20.0	-1.1	
AKASG	Malin Array Be	120.99	47	PKP	PKPdf	14 16 18.8	-2.2	
	comp=Z,3.5nm,0.7s,baz=263,slow=2.9,SNR=11							
AKASG	Malin Array Be	120.99	47	PKP	PKPdf	14 16 18.8	-2.2	
AKASG	Malin Array Be	120.99	47	PKIKP	PKPdf	14 16 18.8	-2.2	
FINES	FINESS Array B	121.62	34	PKP	PKPdf	14 16 20.9	-1.0	
	comp=Z,5.2nm,1.0s,baz=167,slow=9.0,SNR=3.6							
FINES	FINESS Array B	121.62	34	PKP	PKPdf	14 16 20.9	-1.0	
FINES	FINESS Array B	121.62	34	PKIKP	PKPdf	14 16 20.9	-1.0	
WRA	Warramunga Arr	122.18	209	PKP	PKPdf	14 16 22.2	-2.2	
	comp=Z,1.2nm,0.6s,baz=152,slow=1.6,SNR=16							
WRA				PKKPbc	PKKPbc	14 26 18.2	-1.7	
	comp=Z,0.5nm,0.6s,baz=336,slow=4.3,SNR=7.3							
WRA	Warramunga Arr	122.18	209	PKP	PKPdf	14 16 22.2	-2.2	
WRA				PKKPbc	PKKPbc	14 26 18.2	-1.7	
WRA	Warramunga Arr	122.18	209	PKIKP	PKPdf	14 16 22.2	-2.2	
OBN	Obninsk	126.17	43	⇓iPKIKP	PKPdf	14 16 29.9	-0.9	
OBN				pmax	pmax			
	comp=Z,13nm,1.1s							
OBN				MLR	MLR			
	comp=Z,200nm,18.0s,MS4.8							
KLMR	Klimovskoe	128.05	35	ePKIKP	PKPdf	14 16 31.2	-3.0	
KLMR				pmax	pmax			
	comp=Z,38nm,1.3s							
KIV	Kislovodsk	128.47	57	diPKIKP	PKPdf	14 16 35.2	-0.3	
KIV				pmax	pmax			
	comp=Z,29nm,2.5s							
GNI	Garni	129.20	62	⇓iPKIKP	PKPdf	14 16 37.2	+0.1	
GNI				pmax	pmax			
	comp=Z,12nm,1.7s							
BILL	Bilibino	131.63	335	ePKPdf	PKPdf	14 16 40.0	-0.8	
BILL				eSKPbc	SKPbc	14 20 03.4	-1.0	
BILL	Bilibino	131.63	335	⇑iPKIKP	PKPdf	14 16 39.9	-0.9	
BILL				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SOKR	Solikamsk	136.74	36	i PKIKP	PKPdf	14 16 49.6	-1.0	
SOKR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
SOKR				MLR	MLR			
	comp=Z,350nm,19.0s,MS5.1							
ARU	Arti	138.44	40	ePKPdf	PKPdf	14 16 53.5	-0.3	
ARU	Arti	138.44	40	i PKIKP	PKPdf	14 16 53.7	-0.2	
ARU						14 19 40.7		
ARU				SS	SS	14 37 46.9	-8.9	
AKTO	Aktyubinsk	139.17	49	PKhKP	PKPpre	14 16 45.8		
	comp=Z,2.0nm,0.9s,baz=50,slow=1.9,SNR=5.5							
AKTO				PKP	PKPdf	14 16 55.0	-0.4	
	comp=Z,3.4nm,0.9s,baz=342,slow=4.5,SNR=9.2							
AKTO				PP	PP	14 19 48.4	-0.8	
	comp=Z,2.0nm,0.9s,baz=288,slow=6.4,SNR=4.9							
AKTO	Aktyubinsk	139.17	49	PKPpre	PKPpre	14 16 45.8		
AKTO				PKP	PKPdf	14 16 55.0	-0.4	
AKTO				PP	PP	14 19 48.4	-0.8	
AKTO	Aktyubinsk	139.17	49	PKHKP	PKPpre	14 16 45.8		
AKTO						14 16 55.0		
AKTO						14 19 48.4		
SVE	Sverdlovsk	139.45	39	ePKIKP	PKPdf	14 16 53.7	-2.0	
SVE				pmax	pmax			
	comp=Z,16nm,1.4s							
AB31	Akbulak array	140.54	50	i PKHKP	PKPpre	14 16 49.2		
AB31				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ABKAR	Akbulak array	140.54	50	ePKPpre	PKPpre	14 16 49.1		
ABKAR				ePKPdf	PKPdf	14 16 56.5	-1.5	
BRVK	Borovoye	145.93	42	ePKPdf	PKPdf	14 17 07.0	-0.3	
BRVK	Borovoye	145.93	42	diPKP2	PKPab	14 17 08.1	-0.4	
BVA0	Borovoye Array	146.00	42	i PKP2	PKPbc	14 17 07.2	-1.0	
BVA0				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BVAR	Borovoye Array	146.00	42	PKPbc	PKPbc	14 17 07.1	-1.2	
	comp=Z,13nm,0.7s,baz=296,slow=3.0,SNR=77							
BVAR	Borovoye Array	146.00	42	PKPbc	PKPbc	14 17 07.1	-1.2	
BVAR	Borovoye Array	146.00	42	PKP2	PKPbc	14 17 07.1	-1.1	
POO	Poona	146.10	106	ePKP	PKPdf	14 17 07.3	-1.3	
KBL	Kabul	147.36	76	ePKPdf	PKPdf	14 17 09.9	-0.4	
KBL	Kabul	147.36	76	ePKIKP	PKPdf	14 17 09.9	-0.4	
YAK	Yakutsk	147.43	341	ePKPbc	PKPbc	14 17 11.0	-1.1	
YAK	Yakutsk	147.43	341	ePKP2	PKPbc	14 17 10.8	-1.3	
YAK				pmax	pmax			
	comp=N,10.0nm,1.5s							
YAK				pmax	pmax			
	comp=E,11nm,1.6s							
YAK				pmax	pmax			
	comp=Z,105nm,1.0s							
KK31	Karatay Array	148.58	59	i PKP2	PKPbc	14 17 14.0	-1.7	
KK31				pmax	pmax			
	comp=Z,7.0nm,0.6s							
KKAR	Karatay Array	148.58	59	ePKPdf	PKPdf	14 17 12.1	+0.1	
KKAR				ePKPbc	PKPbc	14 17 15.1	-0.6	
KKAR	Karatay Array	148.58	59	ePKIKP	PKPdf	14 17 12.1	+0.1	
KKAR				e		14 17 15.1		
HYB	Hyderabad	149.26	112	i PKP	PKPdf	14 17 16.0	+2.1	
YSS	Yuzh-Sakhalins	150.11	309	ePKIKP	PKPbc	14 17 18.0	-1.4	
YSS				e		14 17 31.8		
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
EKS2	Erkin-Say	151.01	60	P	PKPdf	14 17 16.0	+0.1	
	SNR=10							
EKS2				P		14 17 16.0		
	SNR=10							
EKS2	Erkin-Say	151.01	60	ePKPdf	PKPdf	14 17 15.9	0.0	
EKS2				ePKPbc	PKPbc	14 17 21.8	+0.1	
EKS2	Erkin-Say	151.01	60	ePKIKP	PKPdf	14 17 15.9	0.0	
EKS2				e		14 17 21.8		
AML	Almayashu	151.03	61	P	PKPdf	14 17 16.4	+0.5	
	SNR=7.3							
AML				P		14 17 16.4		
	SNR=7.3							
BHPL	Bhopal	151.27	101	ePKP	PKPdf	14 17 15.3	-1.6	
IPM	Ipoh	151.28	165	ePKPbc	PKPbc	14 17 21.2	-2.1	
USP	Ospenovka	151.43	58	P	PKPbc	14 17 22.6	-0.1	
	SNR=29							
USP				P		14 17 22.6		
	SNR=29							
NVS	Novosibirsk	151.54	31	ePKIKP	PKPbc	14 17 20.9	-1.6	
NVS				e		14 21 00.8		
NVS				pmax	pmax			
	comp=N,6.0nm,1.1s							
NVS				pmax	pmax			
	comp=E,15nm,1.1s							
NVS				pmax	pmax			
	comp=Z,67nm,1.1s							
AAK	Ala-Archa	151.54	59	P	PKPbc	14 17 22.4	-0.5	
	SNR=39							
AAK				P		14 17 22.4		
	SNR=39							
AAK	Ala-Archa	151.54	59	ePKPdf	PKPdf	14 17 16.5	-0.2	
AAK				ePKPbc	PKPbc	14 17 23.4	+0.4	
AAK	Ala-Archa	151.54	59	ePKIKP	PKPdf	14 17 16.5	-0.2	
AAK				e		14 17 23.4		
FRU	Bishkek	151.60	59	i PKIKP	PKPbc	14 17 23.0	0.0	
FRU				pmax	pmax			
	comp=Z,78nm,1.6s							
KURK	Kurchatov	151.60	41	PKP	PKPdf	14 17 15.7	-0.8	
	comp=Z,2.2nm,0.9s,baz=298,slow=2.3,SNR=16							
KURK				PKPbc	PKPbc	14 17 22.1	-0.7	
	comp=Z,29nm,0.8s,baz=307,slow=2.8,SNR=163							
KURK				PKPab	PKPab	14 17 31.2	-0.3	
	comp=Z,20nm,0.7s,baz=309,slow=3.2,SNR=19							
KURK				PP	PP	14 21 06.0	+3.2	
	comp=Z,2.0nm,0.8s,baz=281,slow=6.2,SNR=5.0							
KURK	Kurchatov	151.60	41	PKP	PKPdf	14 17 15.7	-0.8	
KURK				ePKPdf	PKPdf	14 17 15.8	-0.7	
KURK				ePKPbc	PKPbc	14 17 22.0	-0.7	
KURK				PKPab	PKPab	14 17 31.1	-0.3	
KURK				ePKPab	PKPab	14 17 31.4	-0.1	
KURK				PP	PP	14 21 06.0	+3.2	
KURK	Kurchatov	151.60	41	PKIKP	PKPdf	14 17 15.7	-0.8	
KURK				e		14 17 15.8		
KURK				e		14 17 22.0		
KURK						14 17 31.2		
KURK						14 21 06.0		
UCH	Uchtor	151.62	60	P	PKPbc	14 17 24.1	+0.9	
	SNR=6.7							
UCH				P		14 17 24.1		
	SNR=6.7							
CHMS	Chumysh	151.66	59	P	PKPbc	14 17 23.1	-0.1	
	SNR=23							
CHMS				P		14 17 23.1		
	SNR=23							
KBK	Karagaybulak	151.87	59	P	PKPbc	14 17 23.9	+0.3	
	SNR=16							
KBK				P		14 17 23.9		
	SNR=16							
KZA	Kyzart	152.18	60	P	PKPbc	14 17 25.1	+0.7	
	SNR=14							
KZA				P		14 17 25.1		
	SNR=14							
TKM2	Tokmak 2	152.29	59	P	PKPdf	14 17 17.9	+0.1	
	SNR=6.7							
TKM2				P		14 17 17.9		
	SNR=6.7							
TKM2	Tokmak 2	152.29	59	ePKPdf	PKPdf	14 17 17.3	-0.5	
TKM2				ePKPbc	PKPbc	14 17 24.4	-0.2	
TKM2	Tokmak 2	152.29	59	ePKIKP	PKPdf	14 17 17.3	-0.5	
TKM2				e		14 17 24.4		
ZAA0	Zalesovo Array	152.83	31	ePKPdf	PKPdf	14 17 16.9	-1.3	
ZAA0				ePKPbc	PKPbc	14 17 24.3	-1.1	
ZAA0				ePKPab	PKPab	14 17 36.3	-0.2	
ZALV	Zalesovo Beam	152.83	31	PKP	PKPdf	14 17 17.0	-1.3	
	comp=Z,6.8nm,1.0s,baz=298,slow=3.2,SNR=20							
ZALV				PKPbc	PKPbc	14 17 24.3	-1.1	
	comp=Z,34nm,0.7s,baz=296,slow=3.3,SNR=72							
ZALV				PKPab	PKPab	14 17 36.4	-0.1	
	comp=Z,22nm,0.7s,baz=301,slow=3.5,SNR=12							
ZALV	Zalesovo Beam	152.83	31	PKP	PKPdf	14 17 17.0	-1.3	
ZALV				PKPbc	PKPbc	14 17 24.3	-1.1	
ZALV				PKPab	PKPab	14 17 36.4	-0.1	
ZALV	Zalesovo Beam	152.83	31	PKIKP	PKPdf	14 17 17.0	-1.2	
ZALV						14 17 24.3		
ULHL	Ulahol	152.88	60	P	PKPdf	14 17 17.4	-1.3	
	SNR=6.0							
ULHL				P		14 17 17.4		
	SNR=6.0							
KSH	Kashi	153.04	66	PKPbc	PKPdf	14 17 18.9	-0.2	
KSH				pPKP	pPKPdf	14 17 29.8	+1.6	
KSH				sPKP		14 17 33.3		
KSH				PKS		14 20 51.8		
KSH				SKS	SKSdf	14 24 20.5	-3.7	
KSH				AMB	AMB			
	comp=Z,250nm,5.8s							
KSH				LR	LR			
	comp=N,42nm,3.9s							
KSH				LR	LR			
	comp=E,44nm,4.0s							
KSH				LR	LR			
	comp=Z,47nm,3.5s							
VIS	Vishakhapatnam	153.11	117	ePKP	PKPdf	14 17 19.0	-0.8	
CLNS	Chul'man	153.12	340	ePKIKP	PKPbc	14 17 24.7	-1.3	
CLNS				pmax	pmax			
	comp=Z,15nm,1.0s							
CLNS				pmax	pmax			
	comp=N,4.0nm,0.9s							
CLNS				pmax	pmax			
	comp=E,4.0nm,1.3s							
DDI	Dehra Dun	154.14	87	ePKP	PKPdf	14 17 21.0	+0.1	
BOD	Bodaibo	154.41	353	ePKIKP	PKPbc	14 17 27.9	-0.8	
BOD				pmax	pmax			
	comp=Z,794nm,0.7s							
MK31	Makanchi Array	155.57	47	ePKPdf	PKPdf	14 17 21.2	-1.2	
MK31				ePKPab	PKPab	14 17 47.8	-0.6	
MK31	Makanchi Array	155.57	47	ePKIKP	PKPdf	14 17 21.2	-1.1	
MK31				e		14 17 47.8		
MKAR	Makanchi Array	155.57	47	PKP	PKPdf	14 17 21.2	-1.1	
	comp=Z,2.7nm,1.0s,baz=276,slow=2.2,SNR=12							
MKAR				PKPbc	PKPdf	14 17 30.7	+8.4	
	comp=Z,4.6nm,0.9s,baz=62,slow=2.9,SNR=11							
MKAR				PKPab	PKPab	14 17 47.9	-0.5	
	comp=Z,14nm,0.7s,baz=304,slow=2.4,SNR=25							
MKAR				PP	PP	14 21 22.9	-2.5	
	comp=Z,4.0nm,1.1s,baz=289,slow=3.7,SNR=3.6							
MKAR	Makanchi Array	155.57	47	PKP	PKPdf	14 17 21.2	-1.1	
MKAR				PKPbc	PKPdf	14 17 30.7	+8.3	
MKAR				PKPab	PKPab	14 17 47.9	-0.5	
MKAR				PP	PP	14 21 22.9	-2.5	
MKAR	Makanchi Array	155.57	47	PKIKP	PKPdf	14 17 21.2	-1.1	
MKAR						14 17 30.7		
MKAR						14 21 22.9		
DANN	Dangsing	158.46	95	eP	PKPdf	14 17 26.3	-0.3	
	comp=Z,40nm,1.0s							
DANN	Dangsing	158.46	95	eP	PKPdf	14 17 26.3	-0.3	
GKN	Gorkha	159.09	96	eP	PKPdf	14 17 26.1	-1.3	
	comp=Z,28nm,1.1s							
GKN	Gorkha	159.09	96	eP	PKPdf	14 17 26.1	-1.3	
DMN	Daman	159.35	98	eP	PKPdf	14 17 26.6	-1.1	
DMN	Daman	159.35	98	eP	PKPdf	14 17 26.6	-1.1	
MDJ	Mudanjiang	159.50	312	PKP	PKPdf	14 17 25.9	-1.4	
KKN	Kakani	159.56	97	eP	PKPdf	14 17 26.8	-1.1	
	comp=Z,13nm,0.9s							
KKN	Kakani	159.56	97	eP	PKPdf	14 17 26.8	-1.1	
KKN	Kakani	159.56	97	ePKIKP	PKPdf	14 17 26.8	-1.1	
PKI	Pulchoki	159.60	98	eP	PKPdf	14 17 26.9	-1.1	
	comp=Z,15nm,1.0s							
PKI	Pulchoki	159.60	98	eP	PKPdf	14 17 26.9	-1.1	
PKI	Pulchoki	159.60	98	ePKIKP	PKPdf	14 17 26.9	-1.1	
GUN	Gumba	160.10	97	eP	PKPdf	14 17 27.8	-0.8	
	comp=Z,27nm,1.3s							
GUN	Gumba	160.10	97	eP	PKPdf	14 17 27.8	-0.8	
JIRN	Jiri	160.28	98	eP	PKPdf	14 17 28.0	-0.8	
	comp=Z,37nm,1.2s							
JIRN	Jiri	160.28	98	eP	PKPdf	14 17 28.0	-0.8	
WMQ	Urumqi	160.32	49	ePKP	PKPdf	14 17 26.6	-1.7	
RAMN	Ramite	160.37	101	eP	PKPdf	14 17 28.1	-0.8	
	comp=Z,38nm,1.2s							
RAMN	Ramite	160.37	101	eP	PKPdf	14 17 28.1	-0.8	
ODAN	Odare	160.99	102	eP	PKPdf	14 17 28.7	-0.9	
	comp=Z,29nm,1.1s							
ODAN	Odare	160.99	102	eP	PKPdf	14 17 28.7	-0.9	
TAPN	Taplejung	161.44	101	eP	PKPdf	14 17 29.3	-0.7	
	comp=Z,22nm,1.3s						

LZH					LR	LR				
	comp=N,230nm,17.9s									
LZH					LR	LR				
	comp=E,220nm,17.4s									
LZH					LR	LR				
	comp=Z,290nm,20.0s									
LZH	**Lanzhou**	**174.88**	**45**	*e*PKP	PKPdf	14 17 37.5	-1.3			
LZH				pPKP	pPKPdf	14 17 47.2	-0.8			
LZH				sPKP		14 17 50.4				
LZH				PKPab	PKPab	14 19 14.0	+0.5			
LZH				*e*PP	PP	14 23 07.6	+1.7			
LZH				*e*SS	SS	14 44 23.7	-3.3			
LZH				LR	LR					
	comp=Z,290nm,20.0s									
LZH	**Lanzhou**	**174.88**	**45**	*e*PKIKP	PKPdf	14 17 37.5	-1.3			
LZH						14 17 47.2				
LZH						14 17 50.4				
LZH				*e*		14 23 07.6				
LZH				*e*SS	SS	14 44 23.7	-3.3			
LZH				MLR	MLR					
	comp=Z,290nm,20.0s									
CD2	**Chengdu**	**175.81**	**111**	*e*PKP	PKPdf	14 17 36.5	-2.8			
XAN	**Xi'an**	**178.40**	**341**	PKP	PKPdf	14 17 37.8	-1.8			
XAN				pPKP	pPKPdf	14 17 47.6	-1.1			

MAN 19 14:07:49.18°.05N×120°.59E, h13km, mb4.0, ML2.8, MS2.5, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.18**	**226**	⇓*i*P	Pg	14 07 55.1	+2.0
SIPP				*e*S	Sg	14 08 03.6	+7.7
PIP	**Pasuquin**	**0.28**	**5**	⇓*i*P	Pg	14 07 57.1	+2.3
PIP				*e*S	Sg	14 08 05.7	+7.0
ABRA	**Dolores**	**0.41**	**164**	*e*P	Pg	14 07 56.9	-0.3
ABRA				*e*S	Sg	14 08 09.0	+6.2
CAUP	**Cauayan**	**1.61**	**133**	*e*P	Pn	14 08 18.6	+1.5
CAUP				*e*S	Sn	14 08 30.7	-7.0

*ISCJB **19** 14:09:53.0±2.3, 6°.8S±0°.1×146°.1E±0°.1, h2km±13km, Error ellipse: s-maj=22.4km s-min=14.4km az=141.5*
*IDC **19** 14:09:54.0±1.7, 6°.67S×146°.16E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/15, mbtmp3.3/4, ML2.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/18, Error ellipse: s-maj=39.0km s-min=19.1km az=78.0*
*NEIC **19** 14:09:59.1±1.2, 6°.87S×146°.18E, h35km, Error ellipse: s-maj=22.7km s-min=16.2km az=121.0*

ISC 19 14:09:56.4±2.2, 6°.86S±0°.09×146°.1E±0°.1, h12km±13km, n11, σ0°.89/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.74**	**157**	P*n*	**Pn**	**14 10 40.5**	**+0.2**
	1.0nm,0.3s,baz=288,slow=6.4,SNR=5.0						
PMG				P*g*	**Pg**	**14 10 48.6**	**-0.4**
	4.4nm,0.3s,baz=341,slow=11,SNR=13						
PMG				S*n*	**Sn**	**14 11 14.1**	**+0.7**
	3.9nm,0.3s,baz=349,slow=16,SNR=4.2						
PMG				L*g*		14 11 24.7	
	4.1nm,0.3s,baz=118,slow=14,SNR=4.5						
PMG	**Port Moresby**	**2.74**	**157**	*e*P*n*	**Pn**	**14 10 40.2**	**-0.1**
PMG				*e*P*g*	**Pg**	**14 10 48.4**	**-0.7**
PMG				S*n*	**Sn**	**14 11 14.1**	**+0.7**
PMG				L*g*		14 11 24.7	
COEN	**Coen**	**7.62**	**202**	*e*P*n*	**Pn**	**14 11 47.5**	**+0.2**
COEN				*e*S*n*	**Sn**	**14 13 11.9**	**-1.7**
WB2	**Warramunga Arr**	**17.30**	**220**	*e*P	**Pn**	**14 13 57.8**	**-0.1**
WRA	**Warramunga Arr**	**17.30**	**220**	P	**Pn**	**14 13 59.2**	**+1.2**
WRA	**Warramunga Arr**	**17.30**	**220**	P	**Pn**	**14 13 59.2**	**+1.2**
ASAR	**Alice Springs**	**20.41**	**214**	P	**P**	**14 14 34.5**	**+1.0**
	0.5nm,0.6s,baz=33,slow=12,SNR=8.3						
ASAR	**Alice Springs**	**20.41**	**214**	P	**P**	**14 14 34.5**	**+1.0**
KAPI	**Kappang**	**26.27**	**273**	LR	LR	14 26 00.1	
	comp=Z,39nm,19.6s,baz=266,slow=37						
ILAR	**Eielson Array**	**86.62**	**23**	P	**P**	**14 22 38.4**	**-1.0**
	0.5nm,0.7s,baz=245,slow=4.8,SNR=6.9						
ILAR	**Eielson Array**	**86.62**	**23**	P	**P**	**14 22 38.4**	**-1.0**

*ISCJB **19** 14:10:09.0±0.6, 39°.29N±0°.05×34°.15E±0°.04, h10km, Error ellipse: s-maj=6.6km s-min=3.9km az=9.9*
*CSEM **19** 14:10:08.9±0.2, 39°.29N×34°.15E, h15km, MD2.7, Error ellipse: s-maj=6.1km s-min=3.6km az=5.0*
*ISK **19** 14:10:09.3, 39°.35N×34°.09E, h21km, MD2.7*
*DDA **19** 14:10:09.2, 39°.29N×34°.16E, h7km±2km, Md2.9*

ISC 19 14:10:09.6±0.6, 39°.29N±0°.05×34°.15E±0°.04, h10km, n14, σ0°.73/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.35**	**283**	*e*P*g*	**Pg**	**14 10 16.1**	**-0.4**
KAMT				*e*S*g*	**Sg**	**14 10 21.8**	**+0.7**
KAMT	**Kaman**	**0.35**	**283**	*e*P*g*	**Pg**	**14 10 16.1**	**-0.4**
KAMT				*e*S*g*	**Sg**	**14 10 21.8**	**+0.7**
CDAG	**Cicekdag**	**0.37**	**28**	*i*P	**Pg**	**14 10 16.4**	**-0.6**
CDAG				*i*S	**Sg**	**14 10 22.7**	**+0.7**
CDAG	**Cicekdag**	**0.37**	**28**	*i*P	**Pg**	**14 10 16.4**	**-0.6**
CDAG				*i*S	**Sg**	**14 10 22.7**	**+0.7**
AVNT	**Avonos**	**0.75**	**133**	*i*P	**Pg**	**14 10 23.3**	**-0.9**
AVNT				*i*S	**Sg**	**14 10 35.0**	**+1.0**
AVNT	**Avonos**	**0.75**	**133**	*i*P	**Pg**	**14 10 23.3**	**-0.9**
AVNT				*i*S	**Sg**	**14 10 35.0**	**+1.0**
BBAL	**Bala**	**0.83**	**288**	*i*P	**Pg**	**14 10 25.4**	**-0.3**
BBAL				*i*S	**Sg**	**14 10 37.6**	**+1.1**
BBAL	**Bala**	**0.83**	**288**	*i*P	**Pg**	**14 10 25.4**	**-0.3**
BBAL				*i*S	**Sg**	**14 10 37.7**	**+1.2**
AFSR	**Afar-Bala (A**	**0.85**	**281**	*e*PG	**Pg**	**14 10 24.9**	**-1.1**
AFSR				*e*SG	**Sg**	**14 10 37.0**	**-0.1**
AFSR	**Afar-Bala (A**	**0.85**	**281**	*e*P*g*	**Pg**	**14 10 24.9**	**-1.1**
AFSR				*e*S*g*	**Sg**	**14 10 37.0**	**-0.1**
CORM	**Corum**	**0.96**	**23**	*e*PG	**Pg**	**14 10 27.5**	**-0.6**
CORM	**Corum**	**0.96**	**23**	*e*P*g*	**Pg**	**14 10 27.5**	**-0.6**
YOZ	**Yozgat**	**0.97**	**69**	*e*PG	**Pg**	**14 10 28.8**	**+0.4**
YOZ	**Yozgat**	**0.97**	**69**	*e*P*g*	**Pg**	**14 10 28.8**	**+0.5**

GUC 19 14:10:34.7±0.6, 32°.59S×71°.83W, h15km±4km, MD3.6, ML3.1, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.46**	**160**	*e*P	Pg	14 10 43.9	-0.1
IHA				*i*S	Sg	14 10 50.1	-0.1
CHNG	**Los Chungos**	**0.76**	**22**	⇓*i*P	Pg	14 10 48.5	-1.0
CHNG				*e*S	Sg	14 10 58.7	-0.8
CHNG				AML	AML	14 11 01.5	
	comp=E,394nm,0.5s						
ROCH	**El Roble**	**0.79**	**119**	⇓*i*P	Pg	14 10 49.4	-0.7
ROCH				*i*S	Sg	14 11 00.0	-0.4
ROCH				AML	AML	14 11 01.3	
	comp=N,1μm,0.3s						
JACH	**Jahuel**	**1.05**	**95**	⇑*i*P	Pb	14 10 53.1	-1.4
JACH				*i*S	Sb	14 11 07.5	-0.6
PEL	**Peldehue**	**1.11**	**120**	⇑*i*P	Pb	14 10 54.6	-1.0
PEL				*i*S	Sb	14 11 09.4	-0.5
PEL				AML	AML	14 11 12.4	
	comp=N,3μm,0.3s						
RCDM	**Rinconada Maip**	**1.24**	**136**	*e*P	Pn	14 10 56.3	-1.2
RCDM				*i*S	Sb	14 11 12.3	-1.4
RCDM				AML	AML	14 11 16.1	
	comp=N,385nm,0.9s						
SAN	**Santiago**	**1.31**	**132**	*e*P	Pn	14 10 57.0	-1.4
SAN				*e*S	Sb	14 11 14.5	-1.0
SAN				AML	AML	14 11 19.2	
	comp=N,475nm,0.2s						
CLCH	**Cerro Calan**	**1.35**	**127**	⇓*i*P	Pn	14 10 58.2	-0.8
CLCH				*i*S	Sn	14 11 15.9	-0.8
CLCH				AML	AML	14 11 21.8	
	comp=N,666nm,0.5s						
ANTU	**Antumapu**	**1.40**	**134**	*i*S	Sn	14 11 17.3	-0.6
ANTU				AML	AML	14 11 20.1	
	comp=E,437nm,0.3s						
LNV	**Longovilo**	**1.41**	**166**	*e*P	Pn	14 10 58.9	-0.9
FCH	**Farellones**	**1.49**	**120**	*e*P	Pn	14 11 03.8	+2.9
FCH				*i*S	Sn	14 11 20.6	+0.6
FCH				AML	AML	14 11 22.5	
	comp=N,775nm,0.4s						
PCH	**Pirque**	**1.51**	**133**	⇓*i*P	Pn	14 11 00.8	-0.4
PCH				*e*S	Sn	14 11 20.2	-0.3
CHCH	**Chadas Angostu**	**1.66**	**144**	*e*P	Pn	14 11 03.1	-0.2
CHCH				*e*S	Sn	14 11 24.5	+0.1
CACH	**El Canelo**	**1.84**	**146**	*e*P	Pn	14 11 06.7	+1.0
CACH				*i*S	Sn	14 11 30.8	+2.1
LMEL	**Las Melosas**	**1.85**	**133**	*e*P	Pn	14 11 06.2	+0.3
LMEL				*i*S	Sn	14 11 30.3	+1.2
LMEL				AML	AML	14 11 34.5	
	comp=N,389nm,0.4s						

*ISCJB **19** 14:25:03.1±0.3, 7°.06S±0°.05×13°.01W±0°.07, h10km, mb4.5/44, MS4.4/5, Error ellipse: s-maj=10.3km s-min=7.4km az=16.8*
*IDC **19** 14:25:03.3±0.5, 7°.06S×12°.99W, h0km, mb4.3/26, mb1 4.4/27, mb1mx4.3/33, mbtmp4.3/27, ML3.6/1, MS4.3/5, Ms1 4.3/5, ms1mx3.7/29, Error ellipse: s-maj=17.6km s-min=12.7km az=104.0*
*NEIC **19** 14:25:05.1±0.3, 7°.06S×12°.95W, h10km, mb4.9/18, Error ellipse: s-maj=9.5km s-min=7.1km az=106.0*

ISC 19 14:25:05.1±0.3, 7°.09S±0°.05×12°.99W±0°.07, h10km, n121, σ0°.88/113, mb4.5/44, MS4.4/5, 4C-3D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**15.43**	**31**	*e*P	**Pn**	**14 28 40.5**	**-2.6**
	47nm,1.1s,baz=220						
LIC				*e*R			
	580nm,18.2s						
LIC	**Lamto**	**15.43**	**31**	*e*P	**Pn**	**14 28 40.5**	**-2.6**
	47nm,1.1s						
DBIC	**Dimbokro**	**15.90**	**31**	P*n*	**Pn**	**14 28 46.6**	**-2.5**
	0.2nm,0.3s,baz=189,slow=12,SNR=9.5						
DBIC	**Dimbokro**	**15.90**	**31**	*e*P	**Pn**	**14 28 45.2**	**-4.0**
	15nm,1.1s						
BBTS	**Babate**	**21.90**	**351**	P	**P**	**14 29 57.8**	**-0.8**
	63nm,0.9s,mb5.1,baz=167,slow=3.7,SNR=9.3						
BBTS	**Babate**	**21.90**	**351**	P	**P**	**14 29 57.8**	**-0.8**
RCBR	**Riachuelo**	**22.80**	**272**	P	**P**	**14 30 05.1**	**-3.2**
	28nm,1.3s,mb4.5						
TORD	**Torodi Ar. Bea**	**24.84**	**36**	P	**P**	**14 30 26.2**	**-1.8**
	8.0nm,0.7s,mb4.4,baz=221,slow=10.0,SNR=41						
TORD	**Torodi Ar. Bea**	**24.84**	**36**	P	**P**	**14 30 26.2**	**-1.8**
MSKU	**Masuku**	**27.06**	**80**	P	**P**	**14 30 46.8**	**-1.3**
	14nm,0.7s,mb4.6,baz=187,slow=24,SNR=5.3						
MSKU	**Masuku**	**27.06**	**80**	P	**P**	**14 30 46.8**	**-1.3**
SUR	**Sutherland**	**40.26**	**133**	P	**P**	**14 32 43.1**	**+0.7**
	2.9nm,0.6s,mb4.2,baz=299,slow=10,SNR=4.2						
SUR	**Sutherland**	**40.26**	**133**	P	**P**	**14 32 43.1**	**+0.7**
LBTB	**Lobatse**	**40.94**	**120**	P	**P**	**14 32 48.0**	**-0.2**
	6.8nm,1.1s,mb4.2,baz=313,slow=5.3,SNR=3.6						
LBTB	**Lobatse**	**40.94**	**120**	P	**P**	**14 32 48.0**	**-0.2**
LSZ	**Lusaka**	**41.15**	**105**	*e*P	**P**	**14 32 50.2**	**+0.2**
	8.7nm,1.0s,mb4.3						
BOSA	**Boshof**	**41.95**	**125**	P	**P**	**14 32 56.2**	**-0.2**
	6.6nm,0.9s,mb4.2,baz=308,slow=6.7,SNR=5.0						
BOSA	**Boshof**	**41.95**	**125**	P	**P**	**14 32 56.2**	**-0.2**
EVOP	**Sao Brissos**	**45.61**	**5**	*e*P	**P**	**14 33 26.0**	**+0.4**
	44nm,1.5s,mb5.2						
EVO	**Evora**	**45.63**	**5**	*e*P	**P**	**14 33 26.0**	**+0.2**
	44nm,1.5s,mb4.9						
CPUP	**Villa Florida**	**46.28**	**240**	LR	LR	14 50 46.2	
	comp=Z,120nm,19.0s,MS3.9,baz=133,slow=33						
ESDC	**Sonseca Array**	**47.27**	**9**	P	**P**	**14 33 39.8**	**+1.1**
	0.4nm,0.4s,mb3.7,baz=190,slow=6.7,SNR=6.2						
ESDC	**Sonseca Array**	**47.27**	**9**	P	**P**	**14 33 39.8**	**+1.1**
KEST	**Kesra**	**47.50**	**25**	P	**P**	**14 33 41.1**	**+0.6**
	5.0nm,0.9s,mb4.5,baz=164,slow=2.4,SNR=6.6						
KEST	**Kesra**	**47.50**	**25**	P	**P**	**14 33 41.1**	**+0.6**
SIV	**San Ignacio**	**47.83**	**255**	P	**P**	**14 33 43.2**	**-0.3**
	1.8nm,1.0s,mb4.0,baz=104,slow=6.6,SNR=4.7						
SIV	**San Ignacio**	**47.83**	**255**	P	**P**	**14 33 43.2**	**-0.3**
SAML	**Samuel**	**49.70**	**264**	*e*P	**P**	**14 33 58.0**	**+0.1**
	8.9nm,1.1s,mb4.7						
SJPF	**Ste Jean**	**51.10**	**11**	*e*P	**P**	**14 34 08.3**	**+0.4**
	43nm,1.2s,mb5.0						
SJPF	**Ste Jean**	**51.10**	**11**	*e*P	**P**	**14 34 08.3**	**+0.4**
	43nm,1.2s,mb5.2						
CAF	**Calviac**	**53.52**	**13**	*e*P	**P**	**14 34 26.2**	**+0.3**
CAF	**Calviac**	**53.52**	**13**	*e*P	**P**	**14 34 26.2**	**+0.3**
ORIF	**Oris-en-Rattie**	**54.49**	**16**	*e*P	**P**	**14 34 33.3**	**+0.4**
ORIF				*e*R			
	459nm,19.0s						
ORIF	**Oris-en-Rattie**	**54.49**	**16**	*e*P	**P**	**14 34 33.3**	**+0.4**
MBDF	**Montbardon**	**54.57**	**17**	*e*P	**P**	**14 34 34.9**	**+1.4**
	23nm,1.0s,mb4.9						
MBDF	**Montbardon**	**54.57**	**17**	*e*P	**P**	**14 34 34.9**	**+1.4**
	23nm,1.0s,mb5.2						
LPAZ	**La Paz**	**54.62**	**255**	P	**P**	**14 34 34.6**	**+0.2**
	1.1nm,0.6s,mb4.1,baz=158,slow=3.1,SNR=5.9						
LPAZ	**La Paz**	**54.62**	**255**	*e*P	**P**	**14 34 34.2**	**-0.3**
	2.5nm,0.8s,mb4.3						
LPAZ				*e*		14 34 42.3	
MFF	**Saint Martin d**	**54.67**	**11**	*e*P	**P**	**14 34 34.2**	**0.0**
MFF	**Saint Martin d**	**54.67**	**11**	*e*P	**P**	**14 34 34.2**	**0.0**
TCF	**Toulx Ste Croi**	**54.85**	**13**	*e*P	**P**	**14 34 36.1**	**+0.6**
TCF	**Toulx Ste Croi**	**54.85**	**13**	*e*P	**P**	**14 34 36.1**	**+0.6**
LPG	**La Plagne**	**55.26**	**17**	*e*P	**P**	**14 34 40.0**	**+1.4**
	21nm,0.9s,mb4.8						
LPG	**La Plagne**	**55.26**	**17**	*e*P	**P**	**14 34 40.0**	**+1.4**
	21nm,0.9s,mb5.2						
LPL	**La Plagne**	**55.28**	**17**	*e*P	**P**	**14 34 39.9**	**+1.3**
	24nm,0.9s,mb4.9						
LPL	**La Plagne**	**55.28**	**17**	*e*P	**P**	**14 34 39.9**	**+1.3**
	24nm,0.9s,mb5.2						
SMF	**Signal de Mont**	**55.56**	**14**	*e*P	**P**	**14 34 40.6**	**-0.1**
SMF	**Signal de Mont**	**55.56**	**14**	*e*P	**P**	**14 34 40.6**	**-0.1**
AVF	**Avril sur Loir**	**55.58**	**14**	*e*P	**P**	**14 34 41.0**	**+0.2**
AVF	**Avril sur Loir**	**55.58**	**14**	*e*P	**P**	**14 34 41.0**	**+0.2**
CABF	**La Chapelle**	**56.10**	**16**	*e*P	**P**	**14 34 44.6**	**+0.1**
	36nm,1.1s,mb5.0						
CABF	**La Chapelle**	**56.10**	**16**	*e*P	**P**	**14 34 44.6**	**+0.1**
	36nm,1.1s,mb5.3						
GRR	**Gorron**	**56.27**	**10**	*e*P	**P**	**14 34 45.7**	**0.0**
GRR	**Gorron**	**56.27**	**10**	*e*P	**P**	**14 34 45.7**	**0.0**
CFAA	**Coronel Fontan**	**56.86**	**237**	P	**P**	**14 34 49.4**	**-0.9**
	0.2nm,0.4s,mb3.5,baz=9.5,slow=6.1,SNR=4.0						
CFAA	**Coronel Fontan**	**56.86**	**237**	P	**P**	**14 34 49.4**	**-0.9**
DAVOX	**Davos/Dischmat**	**57.36**	**18**	P	**P**	**14 34 53.1**	**-0.4**
	6.2nm,0.8s,mb4.7,baz=213,slow=11,SNR=10						
DAVOX	**Davos/Dischmat**	**57.36**	**18**	P	**P**	**14 34 53.1**	**-0.4**
HAU	**Haudompre**	**57.45**	**15**	*e*P	**P**	**14 34 54.1**	**0.0**
	43nm,1.3s,mb5.0						
HAU				*e*R			
	600nm,17.8s						
HAU	**Haudompre**	**57.45**	**15**	*e*P	**P**	**14 34 54.1**	**0.0**
	43nm,1.3s,mb5.3						
MEZF	**Maizieres J'vi**	**57.59**	**14**	*e*P	**P**	**14 34 55.4**	**+0.3**
MEZF	**Maizieres J'vi**	**57.59**	**14**	*e*P	**P**	**14 34 55.4**	**+0.3**
DAVA	**Damuels**	**57.81**	**18**	⇑*i*P	**P**	**14 34 56.3**	**-0.4**
	14nm,0.9s,mb5.0						
FETA	**Feichten**	**57.85**	**19**	⇓*i*P	**P**	**14 34 56.4**	**-0.6**
	9.9nm,1.0s,mb4.8						
CDF	**Champ du Feu**	**58.08**	**16**	*e*P	**P**	**14 34 58.9**	**+0.4**
CDF	**Champ du Feu**	**58.08**	**16**	*e*P	**P**	**14 34 58.9**	**+0.4**
MOTA	**Moosalm**	**58.25**	**19**	⇑*i*P	**P**	**14 34 59.1**	**-0.6**
	5.1nm,0.7s,mb4.7						
BFO	**Black Forest**	**58.29**	**17**	*e*P	**P**	**14 34 59.9**	**-0.1**
	9.6nm,1.3s,mb4.7						
WTTA	**Wattenberg**	**58.36**	**19**	⇓*i*P	**P**	**14 35 01.0**	**+0.5**
	18nm,0.9s,mb5.1						
BAIF	**Baives**	**58.85**	**13**	*e*P	**P**	**14 35 03.4**	**-0.5**
BAIF	**Baives**	**58.85**	**13**	*e*P	**P**	**14 35 03.4**	**-0.5**
GERES	**GERESS Array B**	**60.42**	**20**	P	**P**	**14 35 14.4**	**-0.3**
	3.2nm,0.8s,mb4.4,baz=191,slow=6.1,SNR=19						
GERES	**GERESS Array B**	**60.42**	**20**	P	**P**	**14 35 14.4**	**-0.4**
KHC	**Kasperske Hory**	**60.62**	**20**	*e*P	**P**	**14 35 16.5**	**+0.4**
KHC				*ex*	x	14 35 35.0	
KHC				*ex*	x	14 35 42.2	
VYHS	**Vyhne**	**62.01**	**23**	*e*P	**P**	**14 35 25.9**	**+0.4**
MORC	**Moravsky Berou**	**62.56**	**22**	⇑*i*P	**P**	**14 35 30.5**	**+1.3**
DPC	**Dobruska-Polom**	**62.60**	**21**	*e*P	**P**	**14 35 29.9**	**+0.5**
DPC				*ex*	x	14 35 36.1	
KECS	**Kecovo**	**62.66**	**24**	*e*P	**P**	**14 35 30.6**	**+0.7**
MLR	**Muntele Rosu**	**62.88**	**30**	P	**P**	**14 35 31.4**	**0.0**
	1.4nm,0.8s,mb4.2,baz=287,slow=19,SNR=8.0						
MLR	**Muntele Rosu**	**62.88**	**30**	P	**P**	**14 35 31.4**	**0.0**
MLR	**Muntele Rosu**	**62.88**	**30**	⇓*i*P	**P**	**14 35 31.2**	**-0.2**
CRVS	**Cervenica-Dubn**	**63.40**	**25**	*e*P	**P**	**14 35 36.6**	**+1.8**
BRTR	**Keskin Array B**	**63.42**	**39**	P	**P**	**14 35 35.4**	**+0.3**
	2.5nm,0.8s,mb4.4,baz=201,slow=6.2,SNR=12						
BRTR	**Keskin Array B**	**63.42**	**39**	P	**P**	**14 35 35.4**	**+0.3**
BR131	**Keskin Array S**	**63.42**	**39**	*e*P	**P**	**14 35 34.2**	**-0.9**
	2.5nm,0.8s,mb4.4						
BR131				*e*		14 35 43.1	
STHS	**Stebnicka Huta**	**63.71**	**24**	*e*P	**P**	**14 35 38.6**	**+1.8**
VNA2	**Neumayer--Watz**	**63.86**	**178**	*e*	**P**	**14 35 38.2**	**+0.7**
SNAA	**Sanae**	**64.82**	**176**	*e*	**P**	**14 35 44.8**	**+1.0**
SNAA	**Sanae**	**64.82**	**176**	P	**P**	**14 35 44.2**	**+0.4**
	3.1nm,0.9s,mb4.3,baz=341,slow=6.1,SNR=15						
SNAA	**Sanae**	**64.82**	**176**	*e*P	**P**	**14 35 44.1**	**+0.3**
	7.5nm,0.8s,mb4.8						
KIEV	**Kiev**	**68.10**	**27**	*e*P	**P**	**14 36 03.5**	**-1.6**
	13nm,0.8s,mb5.0						
AKBB	**Malin Array Si**	**68.11**	**27**	*e*P	**P**	**14 36 03.7**	**-1.5**
AKBB				*e*		14 36 10.7	
AKASG	**Malin Array Be**	**68.12**	**27**	P	**P**	**14 36 04.0**	**-1.2**
	7.2nm,0.8s,mb4.7,baz=227,slow=7.1,SNR=11						
AKASG				LR	LR	15 05 19.2	
	comp=Z,149nm,19.9s,MS4.2,baz=305,slow=36						
AKASG	**Malin Array Be**	**68.12**	**27**	P	**P**	**14 36 04.0**	**-1.2**
HFS	**Hagfors**	**70.27**	**14**	P	**P**	**14 36 17.5**	**-0.9**
	2.5nm,0.6s,mb4.3,baz=176,slow=4.0,SNR=4.5						
HFS	**Hagfors**	**70.27**	**14**	P	**P**	**14 36 17.5**	**-0.9**
NOA	**NORSAR Array B**	**70.53**	**12**	P	**P**	**14 36 20.2**	**+0.3**
	0.7nm,0.8s,mb3.7,baz=194,slow=7.8,SNR=2.8						
NOA	**NORSAR Array B**	**70.53**	**12**	P	**P**	**14 36 20.2**	**+0.3**
SYO	**Syowa Base**	**70.63**	**162**	⇑*e*P	**P**	**14 36 19.4**	**-1.1**
FINES	**FINESS Array B**	**74.77**	**18**	P	**P**	**14 36 44.5**	**-0.7**
	1.5nm,0.5s,mb4.1,baz=212,slow=5.5,SNR=9.8						
FINES	**FINESS Array B**	**74.77**	**18**	P	**P**	**14 36 44.5**	**-0.7**
MAW	**Mawson**	**78.10**	**158**	P	**P**	**14 37 04.8**	**+0.8**
	9.4nm,0.7s,mb4.8,baz=288,slow=8.0,SNR=18						
MAW	**Mawson**	**78.10**	**158**	P	**P**	**14 37 04.8**	**+0.8**
ARCES	**ARCESS Array B**	**80.89**	**13**	P	**P**	**14 37 20.5**	**+1.5**
	1.8nm,0.6s,mb4.2,baz=233,slow=5.9,SNR=3.8						
ARCES	**ARCESS Array B**	**80.89**	**13**	P	**P**	**14 37 20.5**	**+1.5**
AKTO	**Aktyubinsk**	**83.56**	**37**	P	**P**	**14 37 33.2**	**-0.3**
	2.9nm,1.0s,mb4.3,baz=267,slow=3.3,SNR=6.4						
AKTO	**Aktyubinsk**	**83.56**	**37**	P	**P**	**14 37 33.2**	**-0.3**
ABKAR	**Akbulak array**	**84.37**	**39**	*e*P	**P**	**14 37 36.4**	**-1.2**
	1.7nm,0.8s,mb4.2						
ULM	**Lac du Bonnet**	**90.86**	**320**	P	**P**	**14 38 08.6**	**-0.3**
	2.0nm,0.9s,mb4.5,baz=105,slow=12,SNR=2.9						
ULM	**Lac du Bonnet**	**90.86**	**320**	P	**P**	**14 38 08.6**	**-0.3**
BVAR	**Borovoye Array**	**91.64**	**37**	P	**P**	**14 38 12.6**	**+0.1**
	0.5nm,0.6s,mb4.0,baz=204,slow=3.2,SNR=3.4						
BVAR				LR	LR	15 22 17.6	
	comp=Z,278nm,19.6s,MS4.7,baz=107,slow=38						
BVAR	**Borovoye Array**	**91.64**	**37**	P	**P**	**14 38 12.6**	**+0.1**
TXAR	**Lajitas Array**	**94.01**	**299**	P	**P**	**14 38 23.8**	**-0.2**
	0.7nm,0.8s,mb4.1,baz=116,slow=5.7,SNR=5.6						
TXAR	**Lajitas Array**	**94.01**	**299**	P	**P**	**14 38 23.8**	**-0.2**
KURK	**Kurchatov**	**96.46**	**40**	LR	LR	15 27 46.5	
	comp=Z,258nm,19.1s,MS4.7,baz=225,slow=39						
MKAR	**Makanchi Array**	**98.74**	**44**	LR	LR	15 32 07.9	
	comp=Z,196nm,18.1s,MS4.6,baz=287,slow=41						
ASAR	**Alice Springs**	**135.50**	**134**	PKhKP	PKPpre	14 44 14.4	
	0.2nm,0.5s,baz=228,slow=2.6,SNR=3.9						
ASAR				PKP	PKPdf	14 44 24.4	-2.1
	0.7nm,0.9s,baz=227,slow=2.6,SNR=3.7						
ASAR	**Alice Springs**	**135.50**	**134**	PKPpre	PKPpre	14 44 14.4	
ASAR				PKP	PKPdf	14 44 24.4	-2.1
WRA	**Warramunga Arr**	**138.11**	**130**	PKhKP	PKPpre	14 44 20.4	
	0.5nm,0.9s,baz=241,slow=3.3,SNR=6.3						
WRA				PKP	PKPdf	14 44 29.9	-1.5
	0.7nm,0.9s,baz=232,slow=2.3,SNR=4.0						
WRA	**Warramunga Arr**	**138.11**	**130**	PKPpre	PKPpre	14 44 20.4	
WRA				PKP	PKPdf	14 44 29.9	-1.5
CTAO	**Charters Tower**	**146.14**	**143**	*e*PKPdf	PKPdf	14 44 46.1	+0.4

*JMA **19** 14:31:57.4±0.1, 33°.

KROS eSg Sg 14 42 30.3 -1.7
KROS A 14 42 32.1
92nm,0.4s
ZEA Zeya 1.30 238 ePg Pg 14 42 15.0 -2.0
ZEA AMB AMB 14 42 16.3
27nm,0.1s
ZEA sPg 14 42 17.8
ZEA eSg Sg 14 42 31.8 -2.1
ZEA A 14 42 32.8
150nm,0.2s
EKMR Ekimchan 2.67 120 ePn Pn 14 42 35.5 -0.1
EKMR ePg Pg 14 42 40.1 -3.1
EKMR AMB AMB 14 42 42.7
6.0nm,0.4s
EKMR eSg Sg 14 43 14.4 -3.4
EKMR A 14 43 23.5
27nm,0.4s
EKMR A 14 43 23.5
22nm,0.4s
GRNR Gornyy 5.79 127 eSg Sg 14 44 53.0 -4.7

IDC 19 14:51:35.4±6.9, 18°.93S×176°.00W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/17, mbtmp3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=306.1km s-min=66.0km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.18**	**196**	LR	LR	15 02 12.7	
comp=Z,69nm,19.7s,baz=168,slow=32							
WRA	**Warramunga Arr**	**46.70**	**260**	P	P	15 00 06.7	+0.2
0.3nm,0.3s,baz=97,slow=7.6,SNR=18							
ASAR	**Alice Springs**	**46.73**	**255**	P	P	15 00 06.2	-0.3
0.8nm,0.8s,baz=91,slow=7.6,SNR=17							
BRTR	**Keskin Array B**	**147.12**	**315**	PKPbc	PKPbc	15 11 20.0	-0.6
0.5nm,0.6s,baz=355,slow=5.1,SNR=3.8							

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*IDC **19** 15:11:03.7±0.6, 40°.87N×48°.50E, h0km, mb4.1/19, mb1 4.2/25, mb1mx4.1/31, mbtmp4.1/25, ML4.0/5, MS3.5/5, Ms1 3.5/5, ms1mx3.1/43, Error ellipse: s-maj=14.9km s-min=7.8km az=158.0*
*BJI **19** 15:11:05.4, 40°.80N×48°.60E, h10km, mB4.7/1, mb4.5/12, Ms4.6/1, Ms7 4.1/1*
*MOS **19** 15:11:05.3±1.6, 40°.90N×48°.72E, h14km, mb4.6/28, Error ellipse: s-maj=5.6km s-min=4.0km az=127.4*
*ISCJB **19** 15:11:05.6±0.4, 40°.87N±0°.02×48°.70E±0°.02, h19km±3km, mb4.2/38, MS3.5/2, Error ellipse: s-maj=2.8km s-min=2.5km az=37.2*
*NNC **19** 15:11:06.3±4.6, 40°.75N×49°.42E, h0km, mb4.3, Error ellipse: s-maj=42.0km s-min=33.5km az=112.0*
*TIF **19** 15:11:06.5, 40°.85N×48°.44E, h18km±1km*
*CSEM **19** 15:11:06.1±0.1, 40°.89N×48°.61E, h12km, mb4.4/16, mb4.5/21, Error ellipse: s-maj=3.7km s-min=3.0km az=48.0*
*NEIC **19** 15:11:06.6±0.7, 40°.93N×48°.58E, h17km±5km, mb4.4/16, MN4.5(TEH), Error ellipse: s-maj=5.5km s-min=4.3km az=157.0*
*THR **19** 15:11:06.8±0.8, 40°.66N×48°.46E, h15km±11km, ML4.7*
*TEH **19** 15:11:10.1, 40°.63N×48°.49E, h18km*
ISC 19 15:11:06.7±0.4, 40°.90N±0°.01×48°.66E±0°.02, h13km±2km, n434, σ1$32/486, mb4.2/37, MS3.5/2, 30C-35D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.12**	**206**	P	**Pg**	**15 11 08.1**	**-1.8**
PQL				S	**Sg**	**15 11 10.6**	**-1.6**
PQL	**Pirkuli**	**0.12**	**206**	P	**Pg**	**15 11 08.1**	**-1.8**
PQL				S	**Sg**	**15 11 10.6**	**-1.6**
SIZA	**Siyzn**	**0.26**	**45**	P	**Pg**	**15 11 14.0**	**+1.9**
SIZA				S	**Sg**	**15 11 20.6**	**+4.8**
SIZA	**Siyzn**	**0.26**	**45**	P	**Pg**	**15 11 14.0**	**+1.9**
QUB	**Quba**	**0.54**	**335**	P	**Pg**	**15 11 16.6**	**-0.6**
QUB				S	**Sg**	**15 11 24.4**	**+0.1**
KSMR	**Kasumkent**	**0.81**	**331**	*e*PG	**Pg**	**15 11 22.5**	**0.0**
KSMR				*e*S	**Sg**	**15 11 32.0**	**-1.1**
KSMR	**Kasumkent**	**0.81**	**331**	*e*Pg	**Pg**	**15 11 22.5**	**0.0**
KSMR				*e*Sg	**Sg**	**15 11 32.0**	**-1.1**
AKT	**Akhty**	**0.91**	**310**	⇑*i*PG	**Pg**	**15 11 21.0**	**-3.4**
AKT				*e*S	**Sg**	**15 11 36.0**	**-0.3**
AKT	**Akhty**	**0.91**	**310**	*i* Pg	**Pg**	**15 11 21.0**	**-3.4**
AKT				*e*Sg	**Sg**	**15 11 36.0**	**-0.3**
SEKA	**Sheki**	**1.15**	**286**	P	**Pb**	**15 11 24.8**	**-3.6**
SEKA				S	**Sb**	**15 11 41.6**	**-1.7**
SEKA	**Sheki**	**1.15**	**286**	P	**Pb**	**15 11 24.8**	**-3.6**
SEKA				S	**Sb**	**15 11 41.6**	**-1.6**
DRN	**Derbent**	**1.16**	**348**	⇑*i*PG	**Pg**	**15 11 28.8**	**-0.3**
DRN				*e*S	**Sg**	**15 11 45.8**	**+1.6**
DRN	**Derbent**	**1.16**	**348**	*i* Pg	**Pg**	**15 11 28.8**	**-0.3**
DRN				*e*Sg	**Sg**	**15 11 45.8**	**+1.6**
URKR	**Urkarakh**	**1.48**	**329**	⇑*i*PG	**Pn**	**15 11 33.0**	**-0.1**
URKR				*i* S	**Sg**	**15 11 54.0**	**-0.6**
URKR				pmax	pmax		
comp=Z,2μm,0.2s							
URKR	**Urkarakh**	**1.48**	**329**	*i* Pg	**Pn**	**15 11 33.0**	**-0.1**
comp=Z,2μm,0.2s							
URKR				*i* Sg	**Sg**	**15 11 54.0**	**-0.6**
KMKR	**Kumukh**	**1.70**	**317**	⇑*i*PN	**Pn**	**15 11 35.5**	**-0.6**
KMKR				*e*S	**Sg**	**15 12 02.5**	**+1.0**
KMKR	**Kumukh**	**1.70**	**317**	*i* Pn	**Pn**	**15 11 35.5**	**-0.6**
KMKR				*e*Sg	**Sg**	**15 12 02.5**	**+1.0**
SGKR	**Sergokala**	**1.73**	**335**	*e*PN	**Pn**	**15 11 38.0**	**+1.5**
SGKR				S	**Sg**	**15 12 03.5**	**+1.0**
SGKR	**Sergokala**	**1.73**	**335**	*e*Pn	**Pn**	**15 11 38.0**	**+1.5**
SGKR				Sg	**Sg**	**15 12 03.5**	**+1.0**
GRMI	**Germi**	**2.17**	**196**	*e*Pg	**Pn**	**15 11 41.0**	**-1.4**
MAK	**Makhachkala**	**2.24**	**338**	⇓*i*PN	**Pn**	**15 11 46.5**	**+3.1**
MAK				*i*		15 12 18.2	
MAK				pmax	pmax		
comp=Z,2μm,1.0s							
MAK				smax			
comp=N,5.0nm,0.9s							
MAK				smax			
comp=E,8.0nm,0.8s							
MAK				MLR	MLR		
comp=Z,2μm,16.0s							
MAK	**Makhachkala**	**2.24**	**338**	*i* Pn	**Pn**	**15 11 46.5**	**+3.1**
comp=Z,2μm,1.0s							
MAK				*i* Sb	**Sb**	**15 12 18.2**	**+3.7**
comp=Z,2μm,16.0s							
UNCR	**Uncukul**	**2.29**	**323**	*e*PN	**Pn**	**15 11 47.0**	**+2.8**
UNCR				*e*S	**Sg**	**15 12 22.0**	**+1.6**
UNCR	**Uncukul**	**2.29**	**323**	*e*Pn	**Pn**	**15 11 47.0**	**+2.8**
UNCR				*e*Sg	**Sg**	**15 12 22.0**	**+1.6**
DBC	**Dubki**	**2.52**	**328**	*i* PN	**Pn**	**15 11 49.9**	**+2.5**
DBC				*i* S	**Sb**	**15 12 26.5**	**+3.7**
DBC	**Dubki**	**2.52**	**328**	*i* Pn	**Pn**	**15 11 49.9**	**+2.5**
DBC				*i* Sb	**Sb**	**15 12 26.5**	**+3.7**
DGRG	**David-gareji**	**2.54**	**284**	P	**Pn**	**15 11 46.5**	**-1.2**
DGRG				S	**Sn**	**15 12 19.3**	**+0.9**
IHRS	**Heris**	**2.86**	**206**	Pn	**Pn**	**15 11 50.8**	**-1.2**
IHRS	**Heris**	**2.86**	**206**	*e*Pn	**Pn**	**15 11 50.9**	**-1.1**
IHRS				*e*		15 11 55.1	
comp=Z,12μm,0.1s							
IHRS	**Heris**	**2.86**	**206**	*e*Pn	**Pn**	**15 11 50.9**	**-1.1**
MTA	**Mtatsminda**	**3.02**	**287**	P	**Pn**	**15 11 53.6**	**-0.6**
KAPZ	**Kaputan**	**3.07**	**261**	⇑*i*P	**Pn**	**15 11 53.5**	**-1.4**
KAPZ				*i* S	**Sn**	**15 12 33.4**	**+1.9**
KAPZ	**Kaputan**	**3.07**	**261**	⇑*i*PN	**Pn**	**15 11 53.5**	**-1.4**
KAPZ				*i* S	**Sn**	**15 12 33.4**	**+2.0**
KAPZ	**Kaputan**	**3.07**	**261**	⇑*i*P	**Pn**	**15 11 53.5**	**-1.4**
KAPZ				*i* Sn	**Sn**	**15 12 33.4**	**+2.0**
TBLG	**Delisi**	**3.07**	**287**	*e*PN	**Pn**	**15 11 54.1**	**-0.8**
TBLG				*e*S	**Sn**	**15 12 34.5**	**+3.1**
TBLG	**Delisi**	**3.07**	**287**	P	**Pn**	**15 11 54.1**	**-0.7**
TBLG				S	**Sn**	**15 12 34.5**	**+3.1**
TBLG	**Delisi**	**3.07**	**287**	*e*Pn	**Pn**	**15 11 54.1**	**-0.8**
TBLG				*e*Sn	**Sn**	**15 12 34.5**	**+3.1**
GNI	**Garni**	**3.08**	**257**	Pn	**Pn**	**15 11 54.5**	**-0.5**
comp=Z,30nm,0.3s,baz=347,slow=1.3,SNR=40							
GNI				Lg		15 12 37.7	
comp=Z,54nm,0.3s,baz=321,slow=8.0,SNR=4.9							
GNI				LR	LR	15 13 21.4	
comp=Z,540nm,19.0s,baz=58,slow=46							
GNI	**Garni**	**3.08**	**257**	*e*P	**Pn**	**15 11 55.0**	**0.0**
GNI	**Garni**	**3.08**	**257**	*e*Pn	**Pn**	**15 11 53.9**	**-1.1**
GNI				Lg		15 12 37.8	
GNI	**Garni**	**3.08**	**257**	*d i*PN	**Pn**	**15 11 54.4**	**-0.6**
GNI				pmax	pmax		
comp=Z,108nm,0.6s							
GNI	**Garni**	**3.08**	**257**	*e*Pn	**Pn**	**15 11 53.8**	**-1.2**
GNI	**Garni**	**3.08**	**257**	*e*P	**Pn**	**15 11 55.0**	**0.0**
IMRD	**Marand**	**3.15**	**227**	*e*Pn	**Pn**	**15 11 54.8**	**-1.2**
IMRD				*e*Sg	**Sb**	**15 12 40.1**	**-0.8**
IMRD				*e*		15 12 52.1	
comp=Z,26μm,0.3s							
IMRD	**Marand**	**3.15**	**227**	*e*Pn	**Pn**	**15 11 54.8**	**-1.2**
ISRB	**Sarab**	**3.16**	**194**	Pn	**Pn**	**15 11 55.8**	**-0.3**
ISRB	**Sarab**	**3.16**	**194**	⇑*e*Pn	**Pn**	**15 11 55.8**	**-0.3**
ISRB				*e*		15 12 08.1	
comp=Z,5μm,0.1s							
ISRB				*e*Sg	**Sb**	**15 12 38.7**	**-2.4**
ISRB	**Sarab**	**3.16**	**194**	⇑*e*Pn	**Pn**	**15 11 55.8**	**-0.3**
ITBZ	**Tabriz**	**3.29**	**217**	Pn	**Pn**	**15 11 56.8**	**-1.1**
ITBZ	**Tabriz**	**3.29**	**217**	*e*Pn	**Pn**	**15 11 57.0**	**-0.9**
ITBZ				*e*		15 12 12.4	
comp=Z,7μm,0.2s							
ITBZ	**Tabriz**	**3.29**	**217**	*e*Pn	**Pn**	**15 11 57.0**	**-0.9**
AMBZ	**Amberd**	**3.39**	**263**	⇓*i*P	**Pn**	**15 11 58.5**	**-0.7**
AMBZ	**Amberd**	**3.39**	**263**	⇓*i*P	**Pn**	**15 11 58.5**	**-0.7**
MAKU	**Maku**	**3.42**	**245**	*e*Pn	**Pn**	**15 11 58.4**	**-1.2**
MAKU	**Maku**	**3.42**	**245**	*e*Pn	**Pn**	**15 11 58.4**	**-1.2**
ISHB	**Shabestar**	**3.51**	**223**	Pn	**Pn**	**15 11 59.8**	**-1.2**
ISHB	**Shabestar**	**3.51**	**223**	⇑*e*Pn	**Pn**	**15 11 59.7**	**-1.3**
ISHB				*e*		15 12 15.5	
comp=Z,5μm,0.2s							
ISHB	**Shabestar**	**3.51**	**223**	Pn	**Pn**	**15 11 59.8**	**-1.2**
VRNZ	**Vardanashen**	**3.51**	**258**	⇓*i*P	**Pn**	**15 12 03.3**	**+2.3**
VRNZ				*i* S	**Sb**	**15 12 51.5**	**+0.2**
VRNZ	**Vardanashen**	**3.51**	**258**	⇓*i*PN	**Pn**	**15 12 03.3**	**+2.3**
VRNZ				*i* S	**Sb**	**15 12 51.5**	**+0.3**
VRNZ	**Vardanashen**	**3.51**	**258**	*i* Pn	**Pn**	**15 12 03.3**	**+2.3**
VRNZ				*i* Sb	**Sb**	**15 12 51.5**	**+0.3**
GOR	**Gori**	**3.59**	**289**	P	**Pn**	**15 12 02.2**	**+0.1**
GOR				S	**Sn**	**15 12 41.9**	**-2.4**
AKSZ	**Araks**	**3.71**	**261**	⇓*i*P	**Pn**	**15 12 06.4**	**+2.7**
AKSZ				*i* S	**Sn**	**15 12 53.4**	**+6.3**
VNNZ	**Vanand**	**3.77**	**259**	⇑*i*P	**Pn**	**15 12 05.6**	**+1.1**
VNNZ				*i* S	**Sn**	**15 12 55.7**	**+6.9**
VNNZ	**Vanand**	**3.77**	**259**	⇑*i*PN	**Pn**	**15 12 05.6**	**+1.1**
VNNZ				*i* S	**Sn**	**15 12 55.7**	**+6.9**
VNNZ	**Vanand**	**3.77**	**259**	⇑*i*P	**Pn**	**15 12 05.6**	**+1.1**
IAZR	**Azarshahr**	**3.83**	**214**	Pn	**Pn**	**15 12 04.3**	**-1.0**
IAZR	**Azarshahr**	**3.83**	**214**	*e*	**Pg**	**15 12 21.3**	**+1.3**
comp=Z,10μm,0.2s							
IAZR				*e*Pn	**Pn**	**15 12 04.2**	**-1.1**
AKH	**Akhalkalaki**	**3.94**	**279**	P	**Pn**	**15 12 07.7**	**+0.9**
AKH				S	**Sn**	**15 12 57.5**	**+4.8**
CLDR	**Caldiran**	**4.04**	**246**	*e*P	**Pn**	**15 12 07.6**	**-0.6**
CLDR	**Caldiran**	**4.04**	**246**	P	**Pn**	**15 12 07.6**	**-0.6**
CLDR	**Caldiran**	**4.04**	**246**	P	**Pn**	**15 12 07.6**	**-0.6**
ZNJK	**Zanjan**	**4.22**	**180**	*e*Pn	**Pn**	**15 12 10.2**	**-0.5**
ZNJK	**Zanjan**	**4.22**	**180**	*e*Pn	**Pn**	**15 12 10.2**	**-0.5**
KARS	**Kars**	**4.25**	**268**	*e*P	**Pn**	**15 12 14.9**	**+3.8**
KARS	**Kars**	**4.25**	**268**	P	**Pn**	**15 12 14.9**	**+3.8**
KARS	**Kars**	**4.25**	**268**	PN	**Pn**	**15 12 14.9**	**+3.8**
ONI	**Oni**	**4.25**	**295**	P	**Pn**	**15 12 11.4**	**+0.4**
ONI				S	**Sb**	**15 13 15.1**	**+2.6**
AGRB	**Hanur-Agry**	**4.53**	**255**	*e*P	**Pn**	**15 12 16.7**	**+1.7**
AGRB	**Hanur-Agry**	**4.53**	**255**	*e*P	**Pn**	**15 12 16.7**	**+1.7**
VANB	**Van**	**4.67**	**242**	*e*P	**Pn**	**15 12 16.5**	**-0.4**
VANB	**Van**	**4.67**	**242**	Pn	**Pn**	**15 12 16.5**	**-0.4**
VANB	**Van**	**4.67**	**242**	*e*P	**Pn**	**15 12 16.5**	**-0.3**
THKV	**Tehran--Karaj**	**5.27**	**160**	*e*Pn	**Pn**	**15 12 24.7**	**-0.4**
THKV	**Tehran--Karaj**	**5.27**	**160**	*e*Pn	**Pn**	**15 12 24.7**	**-0.4**
CHTH	**Charan**	**5.34**	**158**	*e*Pn	**Pn**	**15 12 26.4**	**+0.3**
CHTH	**Charan**	**5.34**	**158**	*e*Pn	**Pn**	**15 12 26.5**	**+0.4**
CUKT	**Cukurca**	**5.36**	**229**	*e*P	**Pn**	**15 12 22.5**	**-3.9**
CUKT	**Cukurca**	**5.36**	**229**	*e*P	**Pn**	**15 12 22.5**	**-3.8**
KIV	**Kislovodsk**	**5.38**	**307**	*e*Pn	**Pn**	**15 12 26.1**	**-0.4**
KIV	**Kislovodsk**	**5.38**	**307**	*e*P	**Pn**	**15 12 25.9**	**-0.7**
KIV				*e*S	**Sn**	**15 13 33.1**	**+4.8**
KIV				pmax	pmax		
comp=Z,8.0nm,1.1s							
KIV	**Kislovodsk**	**5.38**	**307**	*e*P	**Pn**	**15 12 25.9**	**-0.7**
comp=Z,8.0nm,1.1s							
IMHD	**Mahdasht**	**5.44**	**162**	*e*Pn	**Pn**	**15 12 28.2**	**+0.8**
IMHD				*e*		15 12 30.6	
comp=Z,2μm,0.1s							
IMHD	**Mahdasht**	**5.44**	**162**	*e*Pn	**Pn**	**15 12 28.2**	**+0.8**
DAMV	**Damavand**	**5.87**	**153**	*e*Pn	**Pn**	**15 12 34.1**	**+0.8**
DAMV				AML	AML	15 13 43.1	
comp=E,315nm,0.4s							
DAMV				AML	AML	15 13 44.0	
comp=N,348nm,0.2s							
DAMV	**Damavand**	**5.87**	**153**	*e*Pn	**Pn**	**15 12 34.1**	**+0.8**
SNGE	**Sanandaj**	**5.88**	**191**	*e*Pn	**Pn**	**15 12 32.2**	**-1.3**
SNGE	**Sanandaj**	**5.88**	**191**	*e*Pn	**Pn**	**15 12 32.2**	**-1.4**
IDMV	**Damavand**	**5.94**	**152**	Pn	**Pn**	**15 12 35.6**	**+1.3**
IDMV	**Damavand**	**5.94**	**152**	*e*Pn	**Pn**	**15 12 35.2**	**+0.9**
IDMV				*e*		15 13 53.3	
comp=Z,2μm,0.3s							
IDMV	**Damavand**	**5.94**	**152**	*e*Pn	**Pn**	**15 12 35.2**	**+0.9**
IFIR	**Firoozkooh**	**6.15**	**147**	Pn	**Pn**	**15 12 38.0**	**+0.7**
IFIR	**Firoozkooh**	**6.15**	**147**	*e*Pn	**Pn**	**15 12 38.2**	**+0.9**
IFIR				*e*		15 12 40.6	
comp=Z,2μm,0.1s							
IFIR	**Firoozkooh**	**6.15**	**147**	Pn	**Pn**	**15 12 38.0**	**+0.7**
ISHM	**Shahmirzad**	**6.25**	**143**	*e*Pn	**Pn**	**15 12 38.1**	**-0.5**
ISHM				*e*		15 13 52.0	
comp=Z,5μm,0.2s							
ISHM	**Shahmirzad**	**6.25**	**143**	*e*Pn	**Pn**	**15 12 38.1**	**-0.5**
BNGB	**Bing¶l**	**6.42**	**255**	*e*P	**Pn**	**15 12 43.9**	**+2.9**
ASAO	**Ashtian**	**6.43**	**170**	*e*Pn	**Pn**	**15 12 40.9**	**-0.1**
ASAO	**Ashtian**	**6.43**	**170**	*e*Pn	**Pn**	**15 12 40.9**	**-0.1**
ILAS	**Lasjerd**	**6.46**	**147**	*e*Pn	**Pn**	**15 12 42.8**	**+1.3**
ILAS				*e*		15 14 09.8	
comp=Z,1μm,0.3s							
ILAS	**Lasjerd**	**6.46**	**147**	*e*Pn	**Pn**	**15 12 42.8**	**+1.3**
IVIS	**Veis**	**6.52**	**193**	*e*Pn	**Pn**	**15 12 44.3**	**+2.0**
IVIS				*e*		15 12 45.8	
comp=Z,475nm,0.2s							
BINT	**Bingol**	**6.60**	**255**	*e*P	**Pn**	**15 12 43.9**	**+0.5**
GHVR	**GHÖM**	**6.74**	**161**	*e*Pn	**Pn**	**15 12 45.1**	**-0.2**
GHVR	**GHOM**	**6.74**	**161**	*e*Pn	**Pn**	**15 12 45.1**	**-0.2**
IGHG	**Ghaleghazi**	**6.76**	**195**	Pn	**Pn**	**15 12 47.4**	**+1.8**
IGHG	**Ghaleghazi**	**6.76**	**195**	Pn	**Pn**	**15 12 47.4**	**+1.8**
IKOM	**Komasi**	**6.77**	**188**	*e*Pn	**Pn**	**15 12 47.6**	**+1.9**
IKOM				*e*		15 12 49.6	
comp=Z,641nm,0.3s							
IKOM	**Komasi**	**6.77**	**188**	*e*Pn	**Pn**	**15 12 47.6**	**+1.9**
IANJ	**Anjilo**	**6.82**	**141**	Pn	**Pn**	**15 12 46.7**	**+0.3**
IANJ	**Anjilo**	**6.82**	**141**	Pn	**Pn**	**15 12 46.7**	**+0.3**
BJRD	**Bojnurd**	**7.50**	**112**	*e*Pn	**Pn**	**15 12 58.3**	**+2.6**
BJRD	**Bojnurd**	**7.50**	**112**	*e*Pn	**Pn**	**15 12 58.3**	**+2.6**
ISFR	**Sfrayin**	**8.22**	**115**	*e*	**Pn**	**15 13 07.6**	**+1.9**
comp=Z,4μm,0.3s							
ISFR				*e*Pn	**Pn**	**15 13 06.2**	**+0.5**
IZEF	**Zefreh**	**8.51**	**159**	*e*	Px	15 13 31.0	
comp=Z,103nm,0.3s							
IZEF				*e*Pn	**Pn**	**15 13 09.6**	**0.0**
NASN	**Na'in**	**8.74**	**156**	*e*Pn	**Pn**	**15 13 13.3**	**+0.6**
NASN	**Na'in**	**8.74**	**156**	*e*Pn	**Pn**	**15 13 13.3**	**+0.6**
IPAY	**Payeh**	**9.22**	**115**	*e*Pn	**Pn**	**15 13 19.5**	**+0.2**
IPAY				*e*		15 13 24.8	
comp=Z,535nm,0.2s							
IPAY	**Payeh**	**9.22**	**115**	*e*Pn	**Pn**	**15 13 19.5**	**+0.2**
ISRO	**Mashad**	**9.62**	**115**	*e*Pn	**Pn**	**15 13 24.6**	**-0.2**
ISRO	**Mashad**	**9.62**	**115**	*e*Pn	**Pn**	**15 13 24.6**	**-0.2**
IMOG	**Moghan**	**9.64**	**116**	*e*Pn	**Pn**	**15 13 24.9**	**-0.1**
IMOG	**Moghan**	**9.64**	**116**	*e*Pn	**Pn**	**15 13 24.9**	**-0.1**
TABS	**Tabas**	**9.88**	**134**	*e*Pn	**Pn**	**15 13 29.4**	**+1.0**
TABS	**Tabas**	**9.88**	**134**	*e*Pn	**Pn**	**15 13 29.4**	**+1.0**
IMYA	**Miami**	**10.04**	**113**	*e*Pn	**Pn**	**15 13 29.4**	**-1.1**
IMYA	**Miami**	**10.04**	**113**	*e*Pn	**Pn**	**15 13 29.4**	**-1.1**
ITEG	**Tejag**	**11.35**	**132**	*e*Pn	**Pn**	**15 13 49.5**	**+1.0**
ITEG				*e*		15 13 51.5	
comp=Z,714nm,0.1s							
ITEG	**Tejag**	**11.35**	**132**	*e*Pn	**Pn**	**15 13 49.5**	**+1.0**
BR131	**Keskin Array S**	**11.53**	**269**	*e*Pn	**Pn**	**15 13 52.5**	**+1.5**
comp=Z,3.4nm,0.9s							
BRTR	**Keskin Array B**	**11.53**	**269**	Pn	**Pn**	**15 13 53.8**	**+2.8**
baz=94,slow=12,SNR=7.9							
BRTR	**Keskin Array B**	**11.53**	**269**	Pn	**Pn**	**15 13 53.8**	**+2.8**
BRTR	**Keskin Array B**	**11.53**	**269**	P	**Pn**	**15 13 53.8**	**+2.8**
AB31	**Akbulak array**	**11.54**	**40**	Pn	**Pn**	**15 13 49.0**	**-2.1**
comp=Z,3.0nm,0.4s,baz=217,slow=13,SNR=109							
AB31				⇑Sn	**Sn**	**15 15 58.0**	**-1.7**
comp=Z,8.8nm,0.6s,baz=212,slow=24,SNR=2.6							
ABKAR	**Akbulak array**	**11.54**	**40**	*e*Pn	**Pn**	**15 13 49.9**	**-1.1**
ABKAR	**Akbulak array**	**11.54**	**40**	*e*Pn	**Pn**	**15 13 49.9**	**-1.2**
AKTK	**Aktyubinsk**	**11.56**	**31**	P	**Pn**	**15 13 50.4**	**-0.9**
comp=Z,2.0nm,0.3s							
AKTO	**Aktyubinsk**	**11.56**	**31**	Pn	**Pn**	**15 13 50.4**	**-0.9**
comp=Z,2.0nm,0.3s,baz=207,slow=14,SNR=30							
AKTO				Sn	**Sn**	**15 15 55.9**	**-4.2**
comp=Z,1.2nm,0.3s,baz=44,slow=18,SNR=2.2							
AKTO	**Aktyubinsk**	**11.56**	**31**	⇓Pn	**Pn**	**15 13 52.2**	**+1.0**
comp=Z,1.3nm,0.6s							
AKTO				⇓Sn	**Sn**	**15 15 59.7**	**-0.4**
comp=Z,2.8nm,0.8s							
AKTO	**Aktyubinsk**	**11.56**	**31**	Pn	**Pn**	**15 13 50.4**	**-0.9**
AKTO				Sn	**Sn**	**15 15 55.9**	**-4.2**
AKTO	**Aktyubinsk**	**11.56**	**31**	P	**Pn**	**15 13 50.4**	**-0.9**
AKTO						15 15 55.9	
AKTO				pmax	pmax		
comp=Z,2.0nm,0.3s							
AKTO				smax			
comp=N,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**11.56**	**31**	Pn	**Pn**	**15 13 52.2**	**+0.9**
comp=N,1.3nm,0.6s							
AKTO				Sn	**Sn**	**15 15 59.7**	**-0.4**
comp=N,2.8nm,0.8s							
VSR	**Storozhevoye**	**12.24**	**331**	*e*P	**Pn**	**15 14 00.0**	**-0.5**
VSR				pmax	pmax		
comp=E,3.0nm,0.4s							
VSR				pmax	pmax		
comp=Z,6.0nm,0.4s							
VSR	**Storozhevoye**	**12.24**	**331**	*e*P	**Pn**	**15 14 00.0**	**-0.5**
ASF	**Jabal al Asfar**	**12.85**	**231**	Pn	**Pn**	**15 14 10.7**	**+1.8**
baz=290,slow=5.3,SNR=6.1							
ASF	**Jabal al Asfar**	**12.85**	**231**	Pn	**Pn**	**15 14 10.7**	**+1.8**
ASF	**Jabal al Asfar**	**12.85**	**231**	P	**Pn**	**15 14 10.7**	**+1.7**
MMAI	**Mount Meron Ar**	**13.19**	**238**	LR	LR	15 20 06.8	
comp=Z,210nm,20.2s,baz=40,slow=42							
TLCR		**15.12**	**293**	⇓P	**Pn**	**15 14 43.1**	**+3.2**
TLCR		**15.12**	**293**	⇓*i*P	**Pn**	**15 14 43.1**	**+3.2**
TLCR		**15.12**	**293**	P	**Pn**	**15 14 43.1**	**+3.2**
KIS	**Kishinev**	**15.52**	**300**	*e*UNK	**Pn**	**15 14 46.0**	**+0.9**
KIS	**Kishinev**	**15.52**	**300**	*e*P	**Pn**	**15 14 46.0**	**+0.9**
EIL	**Elat**	**15.81**	**229**	Pn	**Pn**	**15 14 48.2**	**-0.8**
comp=Z,0.1nm,0.3s,baz=337,slow=7.7,SNR=3.0							
EIL				LR	LR	15 21 59.1	
comp=Z,99nm,18.7s,baz=54,slow=42							
EIL	**Elat**	**15.81**	**229**	Pn	**Pn**	**15 14 48.2**	**-0.8**
EIL	**Elat**	**15.81**	**229**	Pn	**Pn**	**15 14 48.2**	**-0.8**
OBN	**Obninsk**	**16.33**	**335**	*e*P	**Pn**	**15 14 55.9**	**+0.4**
OBN				pmax	pmax		
comp=Z,48nm,1.6s							
OBN	**Obninsk**	**16.33**	**335**	*e*P	**Pn**	**15 14 55.9**	**+0.4**
comp=Z,48nm,1.6s							
KK31	**Karatay Array**	**16.39**	**75**	⇓Pn	**Pn**	**15 14 54.5**	**-1.9**
comp=Z,8.2nm,0.5s,baz=278,slow=12,SNR=16							
KK31				⇑Sn	**Sn**	**15 17 53.2**	**-4.8**
comp=Z,2.4nm,0.5s,baz=276,slow=24,SNR=4.3							
KK31	**Karatay Array**	**16.39**	**75**	Pn	**Pn**	**15 14 54.5**	**-1.8**
comp=Z,8.2nm,0.5s,SNR=16							
KKAR	**Karatay Array**	**16.39**	**75**	*e*Pn	**Pn**	**15 14 54.1**	**-2.3**
comp=Z,13nm,0.5s							
KKAR	**Karatay Array**	**16.39**	**75**	*e*P	**Pn**	**15 14 54.1**	**-2.2**
KKAR				pmax	pmax		
comp=Z,13nm,0.5s							
MOS	**Moscow**	**16.53**	**338**	*e*P	**Pn**	**15 15 01.9**	**+3.8**
MOS				*e*		15 18 09.2	
MOS				pmax	pmax		
comp=Z,76nm,1.0s							
MOS	**Moscow**	**16.53**	**338**	*e*P

VOSK Vostochnaya 19.23 45 ⇓Pn Pn 15 15 30.3 -1.1
comp=Z,16nm,0.7s
VOSK Vostochnaya 19.23 45 Pn **Pn 15 15 30.3 -1.1**
comp=Z,16nm,0.7s
AAK Ala-Archa 19.33 76 *eP* **Pn 15 15 32.0 -0.6**
comp=Z,54nm,0.6s
AAK Ala-Archa 19.33 76⇑ *eP* **Pn 15 15 32.4 -0.2**
AAK pmax pmax
comp=Z,69nm,1.7s
AAK Ala-Archa 19.33 76 *eP* **Pn 15 15 32.4 -0.2**
comp=Z,69nm,1.7s
SOKR Solikamsk 19.38 13⇓ *iP* **Pn 15 15 32.3 -0.8**
SOKR S **Sn 15 19 00.1 -10**
SOKR pmax pmax
comp=Z,20nm,0.8s
SOKR Solikamsk 19.38 13 *i* P **Pn 15 15 32.3 -0.8**
comp=Z,20nm,0.8s
GZR Gura Zlata 19.38 292 ⇓P Pn 15 15 31.1 -2.1
GZR Gura Zlata 19.38 292⇓ *iP* **Pn 15 15 31.1 -2.1**
GZR Gura Zlata 19.38 292 ⇓ P **Pn 15 15 31.1 -2.1**
LVV L'vov 19.40 306 *eP* **Pn 15 15 32.0 -1.4**
LVV L'vov 19.40 306 *eP* **Pn 15 15 32.0 -1.4**
FRU Bishkek 19.41 76 *eP* **Pn 15 15 35.0 +1.4**
FRU pmax pmax
comp=Z,57nm,1.8s
FRU Bishkek 19.41 76 *eP* **Pn 15 15 35.0 +1.4**
comp=Z,57nm,1.8s
DRGR 19.58 296 ⇓P Pn 15 15 35.3 -0.3
DRGR 19.58 296⇓ *iP* **Pn 15 15 35.3 -0.3**
DRGR 19.58 296 P **Pn 15 15 35.3 -0.3**
KBK Karagaybulak 19.66 76 P **Pn 15 15 36.3 -0.3**
SNR=14
KBK P 15 15 36.3
SNR=14
TRPA Tarpa 19.92 300⇓ *iP* **Pn 15 15 39.5 -0.1**
TRPA Tarpa 19.92 300⇓ *iP* **Pn 15 15 39.5 -0.1**
KZA Kyzart 19.93 78 P **Pn 15 15 39.4 -0.4**
SNR=7.2
KZA P 15 15 39.4
SNR=7.2
TKM2 Tokmak 2 20.12 75 P **P 15 15 40.5 +0.3**
SNR=11
TKM2 P 15 15 40.5
SNR=11
TKM2 Tokmak 2 20.12 75 ⇑Pn **P 15 15 40.6 +0.4**
comp=Z,8.3nm,0.7s
TKM2 Tokmak 2 20.12 75 *eP* **P 15 15 40.1 -0.1**
comp=Z,10nm,0.8s
TKM2 Tokmak 2 20.12 75 *i* P **P 15 15 40.5 +0.3**
TKM2 Tokmak 2 20.12 75 *i* P **P 15 15 40.5 +0.3**
UZH Uzhgorod 20.19 301 *eP* **P 15 15 32.2 -8.7**
UZH *e* 15 15 56.0
UZH *e* 15 16 07.6
BZS Buzias 20.21 293⇓ P **P 15 15 42.8 +1.7**
BZS Buzias 20.21 293⇓ *iP* **P 15 15 42.8 +1.7**
BZS Buzias 20.21 293 ⇓ P **P 15 15 42.8 +1.7**
KOLS Kolonicke sedl 20.27 302 *eP* **P 15 15 43.6 +1.9**
KOLS pmax pmax
comp=Z,30nm,1.6s
KOLS Kolonicke sedl 20.27 302 *eP* **P 15 15 43.6 +1.9**
KOLS Kolonicke sedl 20.27 302 *eP* **P 15 15 43.6 +1.9**
comp=Z,30nm,1.6s
ULHL Ulahol 20.65 77 P **P 15 15 47.4 +1.5**
SNR=14
ULHL P 15 15 47.4
SNR=14
IIGN Ignalina 20.69 322 *eP* **P 15 15 43.7 -2.6**
IIGN AMB AMB 15 15 52.6
comp=Z,9.5nm,0.9s
IIGN Ignalina 20.69 322 *eP* **P 15 15 43.7 -2.5**
comp=Z,9.5nm,0.9s,SNR=33
KLMR Klimovskoe 20.76 347 *eP* **P 15 15 46.2 -0.8**
KLMR *e*S **S 15 19 30.9 -7.3**
KLMR pmax pmax
comp=Z,30nm,0.6s
KLMR Klimovskoe 20.76 347 *eP* **P 15 15 46.2 -0.8**
comp=Z,30nm,0.6s
CRVS Cervenica-Dubn 20.78 302 *eP* **P 15 15 46.5 -0.8**
CRVS pmax pmax
comp=Z,43nm,1.8s
CRVS Cervenica-Dubn 20.78 302 *eP* **P 15 15 46.5 -0.8**
CRVS Cervenica-Dubn 20.78 302 *eP* **P 15 15 46.5 -0.8**
comp=Z,43nm,1.8s
GRUS Gruza 20.82 288 *eP* **P 15 15 47.5 -0.2**
ISAL Salakas 20.86 322 *eP* **P 15 15 45.6 -2.5**
ISAL AMB AMB 15 15 53.1
comp=Z,14nm,1.4s
ISAL Salakas 20.86 322 *eP* **P 15 15 45.6 -2.5**
comp=Z,14nm,1.4s,SNR=29
IZAR Zarasai 20.91 323 *eP* **P 15 15 46.0 -2.6**
IZAR AMB AMB 15 15 53.0
comp=Z,6.2nm,1.3s
TRUS Trudelj 21.03 289 *eP* **P 15 15 49.9 -0.2**
STHS Stebnicka Huta 21.04 303 *eP* **P 15 15 50.9 +0.8**
STHS Stebnicka Huta 21.04 303 *eP* **P 15 15 50.9 +0.8**
STHS Stebnicka Huta 21.04 303 *eP* **P 15 15 50.9 +0.8**
IVAS Ivanjica 21.23 287 *eP* **P 15 15 51.2 -1.1**
DIVS Divibare 21.33 288 *eP* **P 15 15 54.7 +1.4**
KECS Kecovo 21.33 300 *eP* **P 15 15 52.5 -0.8**
KECS pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
KECS Kecovo 21.33 300 *eP* **P 15 15 52.5 -0.8**
KECS Kecovo 21.33 300 *eP* **P 15 15 52.5 -0.8**
comp=Z,9.0nm,0.9s,mb4.1
NIE Niedzica 21.63 303 *eP* **P 15 15 59.3 +2.9**
NIE Niedzica 21.63 303 *eP* **P 15 15 59.3 +2.9**
PSZ Piszkesteto 21.63 299 *eP* **P 15 15 55.7 -0.8**
comp=Z,22nm,1.0s,mb4.5
PSZ Piszkesteto 21.63 299 *eP* **P 15 15 55.7 -0.8**
PSZ pmax pmax
comp=Z,22nm,1.0s,mb4.5
PSZ Piszkesteto 21.63 299⇓ *eP* **P 15 15 59.6 +3.1**
PSZ Piszkesteto 21.63 299 *eP* **P 15 15 55.7 -0.8**
comp=Z,22nm,1.0s,mb4.5
OJC Ojcow 22.14 305 *eP* **P 15 16 01.7 -0.1**
OJC Ojcow 22.14 305 *eP* **P 15 16 01.7 -0.1**
OJC Ojcow 22.14 305 *eP* **P 15 16 01.7 -0.1**
BUD Budapest 22.16 297⇑ *ep*P pP 15 16 05.9 0.0
PKSM Moragy 22.32 294 *eP* **P 15 16 03.0 -0.8**
VSU Vasula 22.41 329⇓ *eP* **P 15 16 02.0 -2.7**
VSU pmax pmax
comp=Z,40nm,1.2s,mb4.7
VSU Vasula 22.41 329 *eP* **P 15 16 02.0 -2.7**
comp=Z,40nm,1.2s,mb4.7
VYHS Vyhne 22.42 300 *eP* **P 15 16 04.8 -0.1**
VYHS pmax pmax
comp=Z,6.0nm,1.4s,mb3.8
VYHS Vyhne 22.42 300 *eP* **P 15 16 04.8 -0.1**
VYHS Vyhne 22.42 300 *eP* **P 15 16 04.8 -0.1**
comp=Z,6.0nm,1.4s,mb3.8
KOLL Kolacno 22.71 300 *eP* **P 15 16 11.5 +3.5**
KOLL Kolacno 22.71 300 *e* **P 15 16 11.5 +3.5**
KURK Kurchatov 22.93 55 P **P 15 16 09.4 -0.9**
comp=Z,2.3nm,0.7s,mb3.7,baz=260,slow=11,SNR=29
KURK S **S 15 20 21.0 +1.0**
comp=Z,0.3nm,0.6s,baz=296,slow=2.2,SNR=2.0
KURK Kurchatov 22.93 55 ⇑Pn **P 15 16 13.0 +2.7**
comp=Z,19nm,1.2s,mb4.4
KURK Kurchatov 22.93 55 *eP* **P 15 16 10.5 +0.2**
comp=Z,12nm,0.8s,mb4.4
KURK S **S 15 20 21.0 +1.0**
KURK Kurchatov 22.93 55⇑ *iP* **P 15 16 12.5 +2.2**
KURK pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
KURK Kurchatov 22.93 55 *eP* **P 15 16 10.5 +0.2**
comp=Z,12nm,0.8s,mb4.4
KURK S **S 15 20 21.0 +1.0**
MORC Moravsky Berou 23.47 303 P **P 15 16 17.6 +1.6**
comp=Z,15nm,1.1s,mb4.3
MORC Moravsky Berou 23.47 303 ⇑P **P 15 16 18.9 +3.0**
MORC Moravsky Berou 23.47 303⇑ *iP* **P 15 16 18.9 +3.0**
SOP Sopron 23.84 297⇓ *eP* **P 15 16 21.6 +2.1**
VRAC Vranov 24.00 301 LR LR 15 26 06.6
comp=Z,144nm,18.4s,MS3.5,baz=192,slow=38
DPC Dobruska-Polom 24.34 304 *eP* **P 15 16 27.9 +3.9**
DPC *e* 15 16 32.5
DPC Dobruska-Polom 24.34 304 *eP* **P 15 16 27.9 +3.9**
DPC *ex* x 15 16 32.5
JOF Joensuu 24.35 341 *eP* **P 15 16 22.4 -1.6**
JOF pmax pmax
comp=Z,15nm,0.5s,mb4.7
JOF Joensuu 24.35 341 *ep* **P 15 16 22.4 -1.6**
comp=Z,15nm,0.5s,mb4.7
JOF Joensuu 24.35 341 *eP* **P 15 16 22.4 -1.6**
comp=Z,15nm,0.5s,mb4.7

UPC Upice 24.57 304 *eP* **P 15 16 28.9 +2.8**
UPC *e* 15 16 37.8
UPC Upice 24.57 304 *eP* **P 15 16 28.9 +2.8**
UPC *ex* x 15 16 37.8
FINES FINESS Array B 24.73 334 P **P 15 16 25.6 -1.9**
comp=Z,8.1nm,0.3s,mb4.7,baz=140,slow=10,SNR=46
FINES FINESS Array B 24.73 334 P **P 15 16 25.6 -1.9**
FINES FINESS Array B 24.73 334 P **P 15 16 25.6 -1.8**
FINES pmax pmax
comp=Z,8.0nm,0.4s
FINES FINESS Array B 24.73 334 P **P 15 16 25.6 -1.8**
comp=Z,8.0nm,0.4s,mb4.6
MK31 Makanchi Array 24.83 65 Pn **P 15 16 28.9 +0.3**
comp=Z,5.7nm,0.6s,mb4.3,baz=264,slow=7.7,SNR=70
MK31 Makanchi Array 24.83 65 *eP* **P 15 16 28.9 +0.4**
MK31 Makanchi Array 24.83 65 *eP* **P 15 16 28.9 +0.4**
MK31 Makanchi Array 24.83 65 Pn **P 15 16 28.9 +0.4**
comp=Z,5.7nm,0.6s,mb4.3,SNR=70
MKAR Makanchi Array 24.83 65 P **P 15 16 28.9 +0.4**
comp=Z,2.9nm,0.4s,mb4.1,baz=262,slow=8.5,SNR=36
MKAR Makanchi Array 24.83 65 P **P 15 16 28.9 +0.4**
MKAR Makanchi Array 24.83 65 P **P 15 16 28.9 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 24.83 65 P **P 15 16 28.9 +0.4**
comp=Z,3.0nm,0.4s,mb4.2
KAF Kangasniemi 25.15 335 *eP* **P 15 16 29.4 -1.8**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
KAF Kangasniemi 25.15 335 *ep* **P 15 16 29.4 -1.8**
comp=Z,8.1nm,0.5s,mb4.5
KAF Kangasniemi 25.15 335 *eP* **P 15 16 29.4 -1.8**
comp=Z,8.0nm,0.5s,mb4.5
GERES GERESS Array B 25.84 300 P **P 15 16 35.9 -1.7**
comp=Z,1.0nm,0.5s,mb3.6,baz=94,slow=9.9,SNR=11
GERES GERESS Array B 25.84 300 P **P 15 16 35.9 -1.7**
GERES GERESS Array B 25.84 300 P **P 15 16 35.9 -1.7**
GERES GERESS Array B 25.84 300 P **P 15 16 35.9 -1.7**
KHC Kasperske Hory 25.94 300 *eP* **P 15 16 38.5 -0.1**
KHC Kasperske Hory 25.94 300 *eP* **P 15 16 38.5 -0.1**
KHC *ex* x 15 16 49.5
KHC Kasperske Hory 25.94 300 P **P 15 16 38.5 -0.1**
DDI Dehra Dun 26.01 105 *ex* x 15 16 41.0
CLL Collm 26.58 305 *i* P **P 15 16 49.3 +5.0**
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
CLL Collm 26.58 305 *i* sP sP 15 16 49.3 -0.6
comp=Z,7.0nm,1.0s
CLL L 15 29 00.0
comp=Z,300nm,20.6s
NVS Novosibirsk 26.74 47 *eP* **P 15 16 45.4 -0.3**
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,2.0nm,0.9s
NVS pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
ZALV Zalesovo Beam 27.40 49 P **P 15 16 50.9 -0.8**
comp=Z,0.5nm,0.4s,mb3.4,baz=251,slow=8.9,SNR=3.2
ZALV LR LR 15 29 38.9
comp=Z,132nm,19.6s,MS3.5,baz=52,slow=40
ZALV Zalesovo Beam 27.40 49 P **P 15 16 50.9 -0.8**
ZALV Zalesovo Beam 27.40 49 P **P 15 16 50.9 -0.7**
ZALV MLR MLR
comp=Z,132nm,19.6s,MS3.5
ZALV Zalesovo Beam 27.40 49 P **P 15 16 50.9 -0.7**
DAVOX Davos/Dischmat 28.37 295 P **P 15 16 59.8 -0.6**
comp=Z,1.0nm,0.4s,mb3.8,baz=130,slow=16,SNR=2.5
DAVOX Davos/Dischmat 28.37 295 P **P 15 16 59.8 -0.6**
DAVOX Davos/Dischmat 28.37 295 P **P 15 16 59.8 -0.6**
DAVOX Davos/Dischmat 28.37 295 P **P 15 16 59.8 -0.6**
HFS Hagfors 28.89 324 P **P 15 17 03.1 -1.8**
comp=Z,4.6nm,0.4s,mb4.6,baz=113,slow=9.8,SNR=28
HFS Hagfors 28.89 324 P **P 15 17 03.1 -1.8**
HFS Hagfors 28.89 324 P **P 15 17 03.1 -1.8**
HFS pmax pmax
comp=Z,5.0nm,0.4s
HFS Hagfors 28.89 324 P **P 15 17 03.1 -1.8**
NB2 NORSAR Subarra 30.39 324 P **P 15 17 15.6 -2.5**
comp=Z,2.4nm,0.5s,mb4.2,baz=119,slow=9.3
NB2 NORSAR Subarra 30.39 324 P **P 15 17 15.6 -2.5**
comp=Z,2.4nm,0.5s,mb4.2,SNR=3.4
NOA NORSAR Array B 30.39 324 P **P 15 17 16.1 -2.1**
comp=Z,3.9nm,0.7s,mb4.3,baz=119,slow=8.5,SNR=12
NOA NORSAR Array B 30.39 324 P **P 15 17 16.1 -2.1**
NOA NORSAR Array B 30.39 324 P **P 15 17 16.1 -2.0**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 30.39 324 P **P 15 17 16.0 -2.1**
MBDF Montbardon 30.72 291 *eP* **P 15 17 17.5 -3.7**
comp=Z,13nm,0.8s,mb4.5
MBDF Montbardon 30.72 291 *eP* **P 15 17 17.5 -3.7**
comp=Z,13nm,0.8s,mb4.8
MBDF Montbardon 30.72 291 *eP* **P 15 17 17.5 -3.7**
MBDF pmax pmax
comp=Z,13nm,0.8s,mb4.8
FRF La Foret Royal 30.99 289 *eP* **P 15 17 18.2 -5.4**
FRF La Foret Royal 30.99 289 *eP* **P 15 17 18.2 -5.4**
FRF La Foret Royal 30.99 289 *eP* **P 15 17 18.2 -5.4**
KEV Kevo 31.06 346 *eP* **P 15 17 23.4 -0.6**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
KEV Kevo 31.06 346 *ep* **P 15 17 23.4 -0.6**
comp=Z,5.4nm,0.8s,mb4.4
ARCES ARCESS Array B 31.17 345 P **P 15 17 24.7 -0.2**
comp=Z,3.2nm,0.6s,mb4.3,baz=147,slow=10,SNR=17
ARCES ARCESS Array B 31.17 345 P **P 15 17 24.7 -0.2**
ARCES ARCESS Array B 31.17 345 P **P 15 17 24.7 -0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 31.17 345 P **P 15 17 24.7 -0.2**
VIVF Saint-Julien-I 32.18 292 *eP* **P 15 17 30.7 -3.4**
VIVF Saint-Julien-I 32.18 292 *eP* **P 15 17 30.7 -3.4**
VIVF Saint-Julien-I 32.18 292 *eP* **P 15 17 30.7 -3.4**
LSA Lhasa 36.11 94 *eP* **P 15 18 09.6 +1.2**
comp=Z,4.4nm,0.8s,mb4.4
LSA Lhasa 36.11 94 *eP* **P 15 18 09.6 +1.2**
LSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LSA Lhasa 36.11 94 *eP* **P 15 18 09.6 +1.2**
comp=Z,4.4nm,0.8s,mb4.4
GTA Gaotai 38.67 75 *eP* **P 15 18 30.9 +0.9**
GTA pP pP 15 18 35.4 +1.4
GTA sP sP 15 18 38.5 +2.9
GTA pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
ESDC Sonseca Array 39.66 286 P **P 15 18 36.7 -1.5**
comp=Z,1.4nm,0.7s,mb3.8,baz=74,slow=8.4,SNR=8.0
ESDC Sonseca Array 39.66 286 P **P 15 18 36.7 -1.5**
ESDC Sonseca Array 39.66 286 P **P 15 18 36.7 -1.5**
SONM Songino Array 41.01 60 P **P 15 18 50.0 +0.7**
comp=Z,0.4nm,0.4s,mb3.5,baz=278,slow=9.3,SNR=4.7
SONM Songino Array 41.01 60 P **P 15 18 50.0 +0.7**
SONM Songino Array 41.01 60 P **P 15 18 50.0 +0.7**
SONM Songino Array 41.01 60 P **P 15 18 50.0 +0.7**
ULN Ulaanbaatar 41.44 60 *eP*n **P 15 18 53.6 +0.8**
comp=Z,19nm,1.4s,mb4.5
ULN Ulaanbaatar 41.44 60 *eP* **P 15 18 53.6 +0.8**
ULN pmax pmax
comp=Z,19nm,1.4s,mb4.5
ULN Ulaanbaatar 41.44 60 *eP* **P 15 18 53.6 +0.8**
comp=Z,19nm,1.4s,mb4.5
BOD Bodaibo 43.93 45 *eP* **P 15 19 13.8 +0.9**
BOD Bodaibo 43.93 45 *eP* **P 15 19 13.8 +0.9**
KMI Kunming 47.27 92 P **P 15 19 40.6 +0.8**
KMI pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KMI Kunming 47.27 92 P **P 15 19 40.6 +0.8**
comp=Z,10.0nm,1.0s,mb4.7
KMI Kunming 47.27 92 P **P 15 19 40.6 +0.8**
KMI pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KMI Kunming 47.27 92 P **P 15 19 40.6 +0.8**
comp=Z,10.0nm,1.0s,mb4.7
CHTO Chiang Mai 48.09 102 *eP* **P 15 19 45.8 -0.4**
comp=Z,3.3nm,0.9s,mb4.4
CHTO Chiang Mai 48.09 102 *eP* **P 15 19 45.8 -0.4**
CHTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
CHTO Chiang Mai 48.09 102 *eP* **P 15 19 45.8 -0.4**
comp=Z,3.0nm,0.9s,mb4.3
CMAR Chiang Mai Arr 48.31 102 P **P 15 19 47.8 -0.1**
comp=Z,2.2nm,0.9s,mb4.2,baz=301,slow=8.0,SNR=18
CMAR PcP PcP 15 21 14.5 -0.1
comp=Z,0.6nm,0.7s,baz=302,slow=5.8,SNR=2.3

CMAR Chiang Mai Arr 48.31 102 P **P 15 19 47.8 -0.1**
CMAR PcP PcP 15 21 14.5 -0.1
CMAR Chiang Mai Arr 48.31 102 P **P 15 19 47.8 -0.1**
CMAR 15 21 14.5
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 48.31 102 P **P 15 19 47.8 -0.1**
comp=Z,2.0nm,0.9s,mb4.2
TORD Torodi Ar. Bea 49.36 250 P **P 15 19 53.2 -2.7**
comp=Z,1.7nm,0.9s,mb4.1,baz=42,slow=7.6,SNR=9.5
TORD Torodi Ar. Bea 49.36 250 P **P 15 19 53.2 -2.7**
TORD Torodi Ar. Bea 49.36 250 P **P 15 19 53.2 -2.7**
DBIC Dimbokro 58.47 250 P **P 15 20 59.9 -2.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=45,slow=10.0,SNR=3.0
DBIC Dimbokro 58.47 250 P **P 15 20 59.9 -2.6**
DBIC Dimbokro 58.47 250 P **P 15 20 59.9 -2.7**
DBIC pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 58.47 250 P **P 15 20 59.9 -2.7**
comp=Z,2.0nm,0.8s,mb4.2
KSAR Wonju Array Be 59.49 65 P **P 15 21 09.2 -0.3**
KSAR Wonju Array Be 59.49 65 P **P 15 21 09.2 -0.2**
KSAR Wonju Array Be 59.49 65 P **P 15 21 09.2 -0.2**
KSRS Korea Array 59.52 65 P **P 15 21 09.2 -0.4**
comp=Z,2.0nm,0.7s,mb4.3,baz=299,slow=6.6,SNR=5.3
KSRS Korea Array 59.52 65 P **P 15 21 09.2 -0.4**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
KSRS Korea Array 59.52 65 P **P 15 21 09.2 -0.4**
comp=Z,2.0nm,0.7s,mb4.3
BILL Bilibino 61.83 22⇑ *eP* **P 15 21 25.1 +0.2**
BILL pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
BILL Bilibino 61.83 22 *eP* **P 15 21 25.1 +0.2**
comp=Z,5.0nm,1.2s,mb4.5
MJAR Matsushiro Arr 66.96 61 P **P 15 21 59.4 +0.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=326,slow=15,SNR=3.3
MJAR Matsushiro Arr 66.96 61 P **P 15 21 59.4 +0.4**
MJAR Matsushiro Arr 66.96 61 P **P 15 21 59.4 +0.4**
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 66.96 61 P **P 15 21 59.4 +0.4**
comp=Z,1.0nm,0.6s,mb4.0
BOSA Boshof 72.48 201 P **P 15 22 33.1 +0.3**
comp=Z,2.7nm,0.9s,mb4.2,baz=331,slow=21,SNR=6.1
BOSA Boshof 72.48 201 P **P 15 22 33.1 +0.3**
BOSA Boshof 72.48 201 P **P 15 22 33.2 +0.4**
BOSA pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BOSA Boshof 72.48 201 P **P 15 22 33.2 +0.4**
comp=Z,3.0nm,1.0s,mb4.2
ILAR Eielson Array 73.97 7 P **P 15 22 40.8 -0.5**
comp=Z,0.4nm,0.8s,mb3.4,baz=313,slow=3.3,SNR=4.5
ILAR Eielson Array 73.97 7 P **P 15 22 40.8 -0.4**
ILAR Eielson Array 73.97 7 P **P 15 22 40.8 -0.5**
ILAR Eielson Array 73.97 7 P **P 15 22 40.8 -0.5**
YKA Yellowknife Ar 76.08 352 P **P 15 22 49.8 -3.7**
comp=Z,0.2nm,0.4s,mb3.4,baz=5.6,slow=6.5,SNR=4.9
YKA Yellowknife Ar 76.08 352 P **P 15 22 49.9 -3.7**
YKA Yellowknife Ar 76.08 352 P **P 15 22 49.9 -3.6**
WRA Warramunga Arr 99.64 108 P Pdif 15 24 48.8 -1.2
comp=Z,0.5nm,0.6s,baz=320,slow=4.1,SNR=8.0
WRA Warramunga Arr 99.64 108 P Pdif 15 24 48.8 -1.2
WRA Warramunga Arr 99.64 108 P Pdif 15 24 48.8 -1.1
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 99.64 108 P Pdif 15 24 48.8 -1.1
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 118.47 198 *e* PKPdf 15 29 56.5 +3.8
baz=3.1,slow=3.6

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*IDC **19** 15:16:24.9±1.2, 1°.04N×126°.32E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=149.1km s-min=18.8km az=69.0*
*ISCJB **19** 15:16:27.7±0.8, 0°.8N±0°.2×125°.9E±0°.5, h33km, mb3.6/6, Error ellipse: s-maj=70.4km s-min=11.9km az=161.3*
*NEIC **19** 15:16:29.8±0.6, 0°.88N×126°.13E, h35km, mb3.6/1, Error ellipse: s-maj=59.5km s-min=9.5km az=71.0*
ISC 19 15:16:29.9±0.8, 0°.8N±0°.2×126°.0E±0°.5, h35km, n14, σ0.58/14, mb3.6/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.80**	**181**	P	**Pn**	**15 20 46.9**	**-0.3**
WRAB	**Tennant Creek**	**22.20**	**159**	*eP*	**P**	**15 21 23.0**	**-0.3**
	1.3nm,0.6s,mb3.5						
WRA	**Warramunga Arr**	**22.20**	**159**	P	**P**	**15 21 23.2**	**-0.1**
	1.0nm,0.6s,mb3.4,baz=339,slow=10,SNR=21						
WRA	**Warramunga Arr**	**22.20**	**159**	P	**P**	**15 21 23.2**	**-0.1**
WB2	**Warramunga Arr**	**22.20**	**159**	*eP*	**P**	**15 21 22.6**	**-0.8**
AS31	**Alice Springs**	**25.52**	**163**	*eP*	**P**	**15 21 55.5**	**+0.1**
ASAR	**Alice Springs**	**25.52**	**163**	P	**P**	**15 21 56.9**	**+1.5**
	0.8nm,0.4s,mb3.6,baz=344,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.52**	**163**	P	**P**	**15 21 56.9**	**+1.5**
SONM	**Songino Array**	**49.82**	**343**	P	**P**	**15 25 19.1**	**-0.3**
	0.1nm,0.5s,mb3.1,baz=172,slow=6.1,SNR=2.9						
SONM	**Songino Array**	**49.82**	**343**	P	**P**	**15 25 19.1**	**-0.3**
ZALV	**Zalesovo Beam**	**62.84**	**334**	P	**P**	**15 26 52.2**	**+0.1**
	0.3nm,0.4s,mb3.8,baz=101,slow=7.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**62.84**	**334**	P	**P**	**15 26 52.2**	**+0.1**
KURK	**Kurchatov**	**63.80**	**329**	P	**P**	**15 26 58.5**	**0.0**
	1.1nm,0.8s,mb4.0,baz=129,slow=6.1,SNR=13						
KURK	**Kurchatov**	**63.80**	**329**	P	**P**	**15 26 58.5**	**0.0**

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*ISCJB **19** 15:21:00.7±0.6, 28°.00S±0°.04×66°.91W±0°.08, h157km±9km, mb3.8/6, Error ellipse: s-maj=11.5km s-min=6.7km az=178.0*
*IDC **19** 15:21:00.9±1.4, 27°.93S×67°.07W, h141km±13km, mb3.7/5, mb1 3.7/9, mb1mx3.5/18, mbtmp3.6/9, MS3.6/2, Ms1 3.6/2, ms1mx2.7/27, Error ellipse: s-maj=22.9km s-min=12.5km az=102.0*
*NEIC **19** 15:21:01.7±0.7, 27°.97S×66°.88W, h147km±7km, mb3.8/3, Error ellipse: s-maj=11.5km s-min=8.8km az=93.0*
ISC 19 15:21:01.7±0.6, 27°.98S±0°.04×66°.90W±0°.08, h147km±9km, n38, σ0.88/32, mb3.8/6, 1C, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**3.50**	**252**	⇑*i*Pn	**Pn**	**15 21 56.3**	**+1.0**
LCO				*e*Sn	**Sn**	**15 22 36.9**	**0.0**
CFAA	**Coronel Fontan**	**3.80**	**198**	P	**Pn**	**15 21 59.9**	**+0.7**
	5.6nm,0.3s,baz=17,slow=12,SNR=163						
CFAA				S	**Sn**	**15 22 42.9**	**-1.0**
	9.1nm,0.3s,baz=152,slow=18,SNR=12						
CFAA	**Coronel Fontan**	**3.80**	**198**	P	**Pn**	**15 21 59.9**	**+0.7**
CFAA				S	**Sn**	**15 22 42.9**	**-1.0**
LVC	**Limon Verde**	**5.64**	**341**	*e*Pn	**Pn**	**15 22 25.5**	**+1.9**
LVC				*e*Sn	**Sn**	**15 23 26.8**	**-0.7**
CPUP	**Villa Florida**	**8.68**	**81**	P	**Pn**	**15 23 04.5**	**+0.3**
	1.0nm,0.3s,baz=230,slow=11,SNR=8.8						
CPUP	**Villa Florida**	**8.68**	**81**	*e*Pn	**Pn**	**15 23 03.9**	**-0.3**
TRQA	**Tornquist**	**10.87**	**159**	*e*Pn	**Pn**	**15 23 31.8**	**-1.2**
LPAZ	**La Paz**	**11.69**	**354**	P	**Pn**	**15 23 44.1**	**+0.1**
	1.0nm,0.3s,baz=167,slow=12,SNR=16						
LPAZ				S	**Sn**	**15 25 52.7**	**-0.5**
	0.2nm,0.3s,baz=100,slow=22,SNR=1.3						
LPAZ	**La Paz**	**11.69**	**354**	*e*Pn	**Pn**	**15 23 42.4**	**-1.6**
LPAZ				S	**Sn**	**15 25 52.7**	**-0.5**
SIV	**San Ignacio**	**13.09**	**26**	P	**Pn**	**15 24 02.3**	**+0.1**
	0.1nm,0.3s,baz=223,slow=16,SNR=4.1						
SIV	**San Ignacio**	**13.09**	**26**	P	**Pn**	**15 24 02.3**	**+0.1**
SPB	**Sao Paulo**	**18.06**	**80**	*eP*	**P**	**15 25 01.9**	**0.0**
	9.9nm,0.8s						
SAML	**Samuel**	**19.25**	**11**	*eP*	**P**	**15 25 15.4**	**+0.6**
	3.7nm,0.9s						
ROSC	**El Rosal**	**33.42**	**346**	LR	LR	15 42 32.3	
	comp=Z,26nm,19.0s,baz=6.5,slow=39						
VNA3	**Neumayer Olymp**	**53.39**	**160**	*e*	**P**	**15 29 57.5**	**-8.0**
SNAA	**Sanae**	**55.59**	**160**	*e*	**P**	**15 30 22.8**	**+1.4**
SNAA	**Sanae**	**55.59**	**160**	P	**P**	**15 30 22.1**	**+0.6**
	0.7nm,0.5s,mb3.7,baz=276,slow=8.7,SNR=17						
SNAA	**Sanae**	**55.59**	**160**	P	**P**	**15 30 22.1**	**+0.7**
DBIC	**Dimbokro**	**69.02**	**70**	P	**P**	**15 31 51.5**	**-0.2**
	1.7nm,0.6s,mb3.9,baz=228,slow=12,SNR=3.2						
DBIC	**Dimbokro**	**69.02**	**70**	P	**P**	**15 31 51.5**	**-0.2**
WMOK	**Wichita Mounta**	**69.28**	**332**	P	**P**	**15 31 52.8**	**0.0**
	0.8nm,0.7s,mb3.6						
SUR	**Sutherland**	**73.82**	**118**	LR	LR	15 59 16.4	
	comp=Z,140nm,18.3s,slow=31						
TORD	**Torodi Ar. Bea**	**77.94**	**68**	P	**P**	**15 32 43.8**	**0.0**
	2.8nm,0.5s,mb4.1,baz=268,slow=5.7,SNR=28						

TORD Torodi Ar. Bea 77.94 68 P **P 15 32 43.8 0.0**
BOSA Boshof 78.87 116 P **P 15 32 49.6 +0.9**
4.6nm,0.8s,mb4.1,baz=278,slow=3.5,SNR=9.3
BOSA Boshof 78.87 116 P **P 15 32 49.6 +0.9**
PDAR Pinedale Array 80.60 330 P **P 15 32 55.6 -1.9**
0.3nm,0.7s,mb3.1,baz=114,slow=11,SNR=2.6
PDAR Pinedale Array 80.60 330 P **P 15 32 55.6 -1.9**
ASAR Alice Springs 124.88 203 PKP PKPdf 15 39 44.3 -0.4
0.3nm,0.4s,baz=124,slow=1.6,SNR=9.4
ASAR Alice Springs 124.88 203 PKP PKPdf 15 39 44.3 -0.4
WRA Warramunga Arr 128.12 206 PKP PKPdf 15 39 50.5 -0.5
0.2nm,0.3s,baz=154,slow=2.0,SNR=21
WRA Warramunga Arr 128.12 206 PKP PKPdf 15 39 50.5 -0.5
AAK Ala-Archa 145.58 55 *e*PKPdf PKPdf 15 40 24.2 +2.0
AAK *e*PKPbc PKPbc 15 40 25.4 +2.6
ZALV Zalesovo Beam 146.80 31 PKPbc PKPbc 15 40 27.1 +1.1
1.1nm,0.6s,baz=343,slow=4.6,SNR=6.2
ZALV Zalesovo Beam 146.80 31 PKPbc PKPbc 15 40 27.1 +1.1
MK31 Makanchi Array 149.43 44 *e*PKPab PKPab 15 40 38.7 +0.3
MKAR Makanchi Array 149.43 44 PKPbc PKPbc 15 40 34.3 +1.2
0.4nm,0.5s,baz=318,slow=1.9,SNR=2.8
MKAR PKPab PKPab 15 40 38.7 +0.4
0.9nm,0.4s,baz=292,slow=3.4,SNR=13
MKAR Makanchi Array 149.43 44 PKPbc PKPbc 15 40 34.3 +1.2
MKAR PKPab PKPab 15 40 38.7 +0.4

GUC 19 15:33:15.8±0.6, 32°.47S×71°.88W, h26km±3km, MD3.7, ML3.5, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**160**	*e*P	Pb	15 33 27.0	-0.5
IHA				*i* S	Sb	15 33 35.6	+0.1
CHNG	**Los Chungos**	**0.67**	**29**	⇓*i*P	Pb	15 33 28.3	-0.6
CHNG				*i* S	Sb	15 33 37.6	-0.1
CHNG				AML	AML	15 33 38.5	
	comp=E,2μm,0.3s						
PTCH	**Petorca**	**0.83**	**76**	⇑*i*P	Pb	15 33 31.3	-0.3
PTCH				*i* S	Sb	15 33 42.5	+0.2
PTCH				AML	AML	15 33 44.8	
	comp=E,6μm,0.2s						
ROCH	**El Roble**	**0.89**	**125**	⇓*i*P	Pb	15 33 32.0	-0.5
ROCH				*i* S	Sb	15 33 44.0	0.0
ROCH				AML	AML	15 33 46.1	
	comp=N,2μm,0.9s						
JACH	**Jahuel**	**1.10**	**101**	⇑*i*P	Pn	15 33 35.4	-0.1
JACH				*i* S	Sn	15 33 50.2	+0.2
PEL	**Peldehue**	**1.21**	**124**	⇑*i*P	Pn	15 33 37.3	+0.3
PEL				*i* S	Sn	15 33 53.0	+0.6
PEL				AML	AML	15 33 55.5	
	comp=N,5μm,0.5s						
RCDM	**Rinconada Maip**	**1.36**	**139**	*e*P	Pn	15 33 39.4	+0.4
RCDM				*e*S	Sn	15 33 56.9	+0.7
RCDM				AML	AML	15 33 59.9	
	comp=N,1μm,0.6s						
SAN	**Santiago**	**1.42**	**134**	*e*P	Pn	15 33 40.4	+0.5
SAN				*i* S	Sn	15 33 58.8	+1.2
SAN				AML	AML	15 34 01.7	
	comp=N,956nm,0.8s						
CLCH	**Cerro Calan**	**1.46**	**130**	*e*P	Pn	15 33 41.0	+0.6
CLCH				*i* S	Sn	15 34 00.1	+1.4
CLCH				AML	AML	15 34 06.7	
	comp=E,1μm,0.5s						
FSR	**Penalolen**	**1.52**	**132**	*e*S	Sn	15 34 01.9	+1.8
PCH	**Pirque**	**1.62**	**135**	⇓*i*P	Pn	15 33 43.8	+1.1
CHCH	**Chadas Angostu**	**1.78**	**145**	*e*P	Pn	15 33 46.2	+1.3
CACH	**El Canelo**	**1.96**	**147**	⇑*i*P	Pn	15 33 49.2	+1.9
LMEL	**Las Melosas**	**1.96**	**135**	*e*P	Pn	15 33 49.2	+1.8
LMEL				*e*S	Sn	15 34 14.4	+3.2
LMEL				AML	AML	15 34 20.1	
	comp=N,876nm,0.3s						

MAN 19 16:45:23, 9°.04N×123°.13E, h25km, mb4.2, ML3.0, MS2.7, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.32**	**19**	⇓*i*P	Pb	16 45 31.9	+1.6
SNPH				*i* S	Sb	16 45 37.5	+2.3
TBP	**Tagbilaran**	**0.97**	**48**	*e*P	Pn	16 45 41.2	+0.1
TBP				*e*S	Sb	16 45 54.2	+0.6
PAGZ	**Pagadian**	**1.21**	**168**	*e*P	Pn	16 45 44.6	+0.2
PAGZ				*e*S	Sn	16 45 58.0	-2.0
GUIM	**Jordan**	**1.66**	**341**	*e*P	Pn	16 45 53.5	+2.9
GUIM				*e*S	Sn	16 46 12.2	+1.1

IDC ***19*** *16:48:46.5±0.4, 32°.56S×71°.94W, h0km, mb4.8/16, mb1 4.8/20, mb1mx4.8/21, mbtmp4.7/20, ML4.6/4, MS4.6/14, Ms1 4.6/14, ms1mx4.4/27, Error ellipse: s-maj=19.9km s-min=12.0km az=83.0*
ISCJB ***19*** *16:48:48.9±1.5, 32°.55S±0°.03×71°.97W±0°.04, h14km±9km, mb4.9/68, MS4.7/15, Error ellipse: s-maj=6.3km s-min=3.5km az=139.1*
NEIC ***19*** *16:48:50.2, 32°.61S×71°.99W, h13km, mb5.0/57, ML4.9(GUC), After GUC.*
NEIC Felt [III] at La Ligua and [II] at Cabildo, Casablanca, San Antonio, Santiago, Valparaiso and Vina del Mar.
GUC ***19*** *16:48:50.2±0.4, 32°.61S×71°.99W, h13km±4km, ML4.9*
MOS ***19*** *16:48:50.9±1.2, 32°.56S×71°.89W, h33km, mb5.3/29, Error ellipse: s-maj=16.6km s-min=7.7km az=105.0*
BJI ***19*** *16:48:52.1, 32°.50S×71°.80W, h26km, mB5.2/11, Ms5.2/8, Ms7 4.9/10*
GCMT ***19*** *16:48:53.6±0.2, 32°.60S×72°.25W, h29km±1km, MW5.2, Moment Tensor Solution. s47,c59; s66,c91; Moment tensor: Scale 10^16^Nm; M_{rr}4.93±.24; $M_{\theta\theta}$0.57±.16; $M_{\phi\phi}$-5.50±.18; $M_{r\theta}$-0.08±.22; $M_{\theta\phi}$0.44±.12; $M_{\phi r}$-4.97±.27; Best double couple: $M_0$7.20000×10^16^ NP1:ϕ_s351.00000°, δ23.00000°, λ82.00000°. NP2:ϕ_s180.00000°, δ67.00000°, λ93.00000°. Principal axes: T 6.9300, Plg68.0000°, Azm96.0000°; N 0.5800, Plg3.0000°, Azm358.0000°; P -7.5100, Plg22.0000°, Azm267.0000°; Data Used: II IU IC G CN.*

ISC 19 16:48:50.4±0.8, 32°.59S±0°.03×71°.90W±0°.04, h15km±4km, n594, σ0°.73/465, mb4.9/69, MS4.7/15, 156C-143D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.49**	**153**	⇓*i*P	**Pg**	**16 49 00.2**	**+0.1**
IHA	**Instituto Hidr**	**0.49**	**153**	⇓*i*P	**Pg**	**16 49 00.2**	**+0.1**
CHNG	**Los Chungos**	**0.79**	**26**	⇑*i*P	**Pg**	**16 49 05.3**	**-0.4**
CHNG				*i* S	**Sg**	**16 49 17.0**	**+1.0**
ROCH	**El Roble**	**0.84**	**117**	AML	AML	16 49 21.7	
	comp=E,117μm,0.6s						
PTCH	**Petorca**	**0.89**	**69**	⇓*i*P	**Pg**	**16 49 07.5**	**0.0**
PTCH				*i* S	**Sg**	**16 49 20.8**	**+1.6**
PTCH	**Petorca**	**0.89**	**69**	⇓*i*P	**Pg**	**16 49 07.5**	**0.0**
PTCH				*i* S	**Sg**	**16 49 20.8**	**+1.6**
PTCH				AML	AML	16 49 23.9	
	comp=N,49μm,0.4s						
LCCH	**Las Cruces**	**0.93**	**162**	⇑*i*P	**Pb**	**16 49 07.2**	**-1.1**
LCCH	**Las Cruces**	**0.93**	**162**	⇑*i*P	**Pb**	**16 49 07.2**	**-1.1**
PEL	**Peldehue**	**1.16**	**119**	⇑*i*P	**Pn**	**16 49 12.0**	**-0.2**
PEL				AML	AML	16 49 32.8	
	comp=E,120μm,0.7s						
RCDM	**Rinconada Maip**	**1.28**	**134**	*e*P	**Pn**	**16 49 13.1**	**-0.7**
RCDM				*i* S	**Sb**	**16 49 30.9**	**+0.2**
RCDM	**Rinconada Maip**	**1.28**	**134**	*e*P	**Pn**	**16 49 13.1**	**-0.7**
RCDM				*i* S	**Sb**	**16 49 30.9**	**+0.2**
RCDM				AML	AML	16 49 38.9	
	comp=N,20μm,0.8s						
TACH	**Talagante**	**1.33**	**143**	⇑*i*P	**Pn**	**16 49 13.9**	**-0.6**
TACH	**Talagante**	**1.33**	**143**	⇑*i*P	**Pn**	**16 49 13.9**	**-0.6**
SAN	**Santiago**	**1.35**	**130**	*e*P	**Pn**	**16 49 14.5**	**-0.3**
SAN				*i* S	**Sn**	**16 49 33.0**	**+0.5**
SAN	**Santiago**	**1.35**	**130**	*e*P	**Pn**	**16 49 14.5**	**-0.3**
SAN				*i* S	**Sn**	**16 49 33.0**	**+0.5**
SAN	**Santiago**	**1.35**	**130**	*e*P	**Pn**	**16 49 14.5**	**-0.3**
SAN				*i* S	**Sn**	**16 49 33.0**	**+0.5**
SAN				AML	AML	16 49 45.0	
	comp=N,20μm,0.6s						
CLCH	**Cerro Calan**	**1.40**	**125**	⇓*i*P	**Pn**	**16 49 15.6**	**+0.1**
CLCH				*e*S	**Sn**	**16 49 34.7**	**+1.0**
CLCH				AML	AML	16 49 39.2	
	comp=N,45μm,0.8s						
CLCH				AML	AML	16 49 43.8	
	comp=E,52μm,0.7s						

ANTU	**Antumapu**	**1.44**	**133**	*e*P	**Pn**	**16 49 16.1**	**+0.1**
ANTU				*i* S	**Sn**	**16 49 35.6**	**+0.8**
ANTU	**Antumapu**	**1.44**	**133**	*e*P	**Pn**	**16 49 16.1**	**+0.1**
ANTU				*i* S	**Sn**	**16 49 35.6**	**+0.8**
ANTU				AML	AML	16 49 40.8	
	comp=N,27μm,0.4s						
FCH	**Farellones**	**1.54**	**119**	AML	AML	16 49 35.3	
	comp=N,17μm,0.2s						
PCH	**Pirque**	**1.55**	**132**	⇑*i*P	**Pn**	**16 49 17.8**	**+0.2**
PCH	**Pirque**	**1.55**	**132**	⇑*i*P	**Pn**	**16 49 17.8**	**+0.2**
SJCH	**San Jose de Ma**	**1.67**	**129**	*e*P	**Pn**	**16 49 19.9**	**+0.7**
SJCH	**San Jose de Ma**	**1.67**	**129**	*e*P	**Pn**	**16 49 19.9**	**+0.7**
SJCH				AML	AML	16 49 46.2	
	comp=N,15μm,0.6s						
LMEL	**Las Melosas**	**1.90**	**132**	⇑*i*P	**Pn**	**16 49 23.2**	**+0.9**
LMEL				*i* S	**Sn**	**16 49 48.7**	**+2.7**
LMEL	**Las Melosas**	**1.90**	**132**	⇑*i*P	**Pn**	**16 49 23.2**	**+0.9**
LMEL				*i* S	**Sn**	**16 49 48.7**	**+2.7**
LMEL				AML	AML	16 49 56.0	
	comp=E,22μm,0.7s						
OVCH	**Ovalle**	**2.07**	**17**	AML	AML	16 50 04.1	
	comp=N,20μm,0.5s						
CFAA	**Coronel Fontan**	**3.26**	**73**	Pn	**Pn**	**16 49 43.3**	**+2.2**
	baz=252,slow=14						
CFAA				Lg		16 50 30.6	
	comp=N,49nm,0.3s,baz=96,slow=12,SNR=11						
CFAA				LR	LR	16 50 51.0	
	comp=N,583nm,21.3s,baz=207,slow=38						
CFAA	**Coronel Fontan**	**3.26**	**73**	Pn	**Pn**	**16 49 43.3**	**+2.2**
CFAA				Lg		16 50 30.6	
LCO	**Las Campanas**	**3.71**	**16**	*e*Pn	**Pn**	**16 49 46.1**	**-1.2**
PLCA	**Paso Flores**	**8.20**	**173**	Pn	**Pn**	**16 50 48.2**	**-0.6**
	comp=N,1.6nm,0.3s,baz=331,slow=10,SNR=22						
PLCA				Sn	**Sn**	**16 52 34.6**	**+13**
	comp=N,0.3nm,0.3s,baz=25,slow=17,SNR=2.0						
PLCA				Lg		16 53 04.5	
	comp=N,0.3nm,0.3s,baz=72,slow=24,SNR=2.6						
PLCA				LR	LR	16 53 40.2	
	comp=N,1μm,18.1s,baz=349,slow=36						
PLCA	**Paso Flores**	**8.20**	**173**	*e*Pn	**Pn**	**16 50 48.1**	**-0.7**
PLCA				Sn	**Sn**	**16 52 34.6**	**+13**
PLCA				Lg		16 53 04.5	
PLCA	**Paso Flores**	**8.20**	**173**	*e*P	**Pn**	**16 50 48.2**	**-0.6**
TRQA	**Tornquist**	**9.77**	**127**	*e*Pn	**Pn**	**16 51 10.3**	**-0.1**
LVC	**Limon Verde**	**10.29**	**16**	*e*Pn	**Pn**	**16 51 12.6**	**-4.9**
CPUP	**Villa Florida**	**14.14**	**68**	Pn	**Pn**	**16 52 09.9**	**-0.4**
	comp=N,1.3nm,0.3s,baz=220,slow=12,SNR=16						
CPUP				Sn	**Sn**	**16 54 48.5**	**+1.6**
	comp=N,1.3nm,0.3s,baz=261,slow=17,SNR=2.0						
CPUP				Lg		16 55 58.1	
	comp=N,3.9nm,0.3s,baz=331,slow=20,SNR=3.4						
CPUP				LR	LR	16 57 53.5	
	comp=N,4μm,20.9s,baz=230,slow=39						
CPUP	**Villa Florida**	**14.14**	**68**	Pn	**Pn**	**16 52 09.9**	**-0.3**
CPUP				Sn	**Sn**	**16 54 48.5**	**+1.6**
CPUP				Lg		16 55 58.1	
CPUP	**Villa Florida**	**14.14**	**68**	P	**Pn**	**16 52 09.9**	**-0.3**
CPUP						16 54 48.5	
LPAZ	**La Paz**	**16.59**	**13**	Pn	**Pn**	**16 52 42.0**	**-0.6**
	comp=N,0.5nm,0.3s,baz=183,slow=9.2,SNR=62						
LPAZ	**La Paz**	**16.59**	**13**	*e*Pn	**Pn**	**16 52 41.0**	**-1.5**
	comp=N,46nm,0.8s						
LPAZ	**La Paz**	**16.59**	**13**	*e*P	**Pn**	**16 52 41.1**	**-1.5**
LPAZ				pmax	pmax		
	comp=Z,46nm,0.8s						
SIV	**San Ignacio**	**19.23**	**33**	P	**Pn**	**16 53 12.0**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=234,slow=14,SNR=45						
SIV				LR	LR	17 01 55.1	
	comp=Z,3μm,18.2s,slow=41						
SIV	**San Ignacio**	**19.23**	**33**	P	**Pn**	**16 53 12.0**	**-3.1**
NNA	**Nana**	**21.00**	**346**	LR	LR	17 00 13.1	
	comp=Z,803nm,18.6s,MS4.1,baz=273,slow=33						
NNA	**Nana**	**21.00**	**346**	*e*P	**P**	**16 53 33.9**	**+0.4**
	comp=Z,51nm,1.3s,mb4.7						
NNA	**Nana**	**21.00**	**346**	*i* P	**P**	**16 53 35.0**	**+1.5**
EFI	**East Falkland**	**21.59**	**156**	*e*P	**P**	**16 53 37.8**	**-1.7**
	comp=Z,84nm,0.9s,mb5.2						
EFI	**East Falkland**	**21.59**	**156**	*e*P	**P**	**16 53 37.8**	**-1.7**
EFI				pmax	pmax		
	comp=Z,84nm,0.9s,mb5.2						
USHA	**Ushuaia**	**22.37**	**175**	P	**P**	**16 53 48.1**	**+0.3**
	comp=Z,15nm,0.9s,mb4.4,baz=338,slow=5.4,SNR=3.5						
USHA				LR	LR	17 02 03.5	
	comp=Z,1μm,21.3s,MS4.3,baz=172,slow=36						
USHA	**Ushuaia**	**22.37**	**175**	P	**P**	**16 53 48.1**	**+0.3**
SPB	**Sao Paulo**	**23.33**	**74**	*e*P	**P**	**16 53 56.0**	**-2.4**
	comp=Z,161nm,1.0s,mb5.4						
SAML	**Samuel**	**24.87**	**21**	*e*P	**P**	**16 54 11.4**	**-1.3**
	comp=Z,58nm,1.0s,mb5.1						
ATAH	**Atahualpa**	**26.04**	**345**	LR	LR	17 02 50.4	
	comp=Z,594nm,18.4s,MS4.2,baz=352,slow=32						
OTAV	**Otavalo**	**33.23**	**348**	*e*P	**P**	**16 55 27.1**	**+0.1**
	comp=Z,8.0nm,0.8s,mb4.7						
SDV	**Santo Domingo**	**41.26**	**2**	*e*P	**P**	**16 56 33.7**	**-1.5**
	comp=Z,14nm,1.0s,mb4.6						
RCBR	**Riachuelo**	**42.82**	**59**	LR	LR	17 16 13.6	
	comp=Z,2μm,18.1s,MS5.1,baz=217,slow=38						
ICM	**Isla Caja Muer**	**50.46**	**7**	*e*P	**P**	**16 57 46.0**	**-1.7**
CRPR	**Cabo Rojo, PR**	**50.52**	**6**	*e*P	**P**	**16 57 46.6**	**-1.5**
	comp=Z,19nm,1.0s,mb5.0						
VNA3	**Neumayer Olymp**	**50.62**	**158**	*e*	**P**	**16 57 48.2**	**-0.2**
VNA3				*e*		16 57 59.9	
CELP	**Cerrillos**	**50.63**	**7**	*e*P	**P**	**16 57 47.4**	**-1.7**
SJG	**San Juan**	**50.71**	**7**	P	**P**	**16 57 46.8**	**-2.8**
	comp=Z,9.6nm,0.3s,mb5.2,baz=179,slow=24,SNR=5.0						
SJG	**San Juan**	**50.71**	**7**	*e*P	**P**	**16 57 46.9**	**-2.8**
	comp=Z,49nm,1.1s,mb5.3						
SJG	**San Juan**	**50.71**	**7**	*e*P	**P**	**16 57 46.9**	**-2.7**
SJG				pmax	pmax		
	comp=Z,49nm,1.1s						
LRS	**Lares**	**50.82**	**6**	*e*P	**P**	**16 57 48.8**	**-1.7**
VNA2	**Neumayer--Watz**	**51.27**	**158**	*e*	**P**	**16 57 52.8**	**-0.4**
	baz=296,slow=9.0						
VNA2				*e*		16 58 04.5	
SNAA	**Sanae**	**52.85**	**158**	*e*	**P**	**16 58 04.6**	**-0.4**
SNAA	**Sanae**	**52.85**	**158**	P	**P**	**16 58 04.2**	**-0.8**
	comp=Z,6.5nm,0.9s,mb4.6,baz=280,slow=7.0,SNR=33						
SNAA	**Sanae**	**52.85**	**158**	*e*P	**P**	**16 58 04.8**	**-0.2**
	comp=Z,34nm,1.0s,mb5.2						
SNAA	**Sanae**	**52.85**	**158**	*e*P	**P**	**16 58 04.8**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,34nm,1.0s						
TEIG	**Tepich**	**54.80**	**341**	P	**P**	**16 58 17.6**	**-2.3**
	comp=Z,11nm,1.0s,mb4.9,baz=53,slow=5.1,SNR=3.6						
TEIG	**Tepich**	**54.80**	**341**	P	**P**	**16 58 17.6**	**-2.3**
RKT	**Rikitea**	**55.86**	**263**	*e*LR	LR	17 14 55.2	
	comp=Z,677nm,25.8s						
MAIT	**Maitri**	**57.53**	**157**	*e*P	**P**	**16 58 38.3**	**-0.6**
MAIT				*e*		16 58 49.7	
QSPA	**South Pole Qui**	**57.64**	**180**	P	**P**	**16 58 39.2**	**-0.3**
	comp=Z,16nm,1.0s,mb5.0,baz=123,slow=2.9,SNR=24						
QSPA				LR	LR	17 22 42.4	
	comp=Z,257nm,21.0s,MS4.3,baz=337,slow=35						
QSPA	**South Pole Qui**	**57.64**	**180**	*e*P	**P**	**16 58 39.0**	**-0.5**
	comp=Z,35nm,1.0s,mb5.3						
VNDA	**Vanda**	**65.50**	**191**	*e*P	**P**	**16 59 31.9**	**-0.7**
	comp=Z,20nm,1.5s,mb4.9						
VNDA	**Vanda**	**65.50**	**191**	*e*P	**P**	**16 59 31.9**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,20nm,1.5s						
TAOE	**Nuku Hiva Isla**	**66.97**	**274**	*e*LR	LR	17 20 12.7	
	comp=Z,638nm,23.5s						
SYO	**Syowa Base**	**67.13**	**159**	⇓*i*P	**P**	**16 59 40.2**	**-2.9**
SYO	**Syowa Base**	**67.13**	**159**	⇓*e*PcP	PcP	17 00 09.6	-1.5
TBI	**Tubuai**	**67.77**	**256**	*e*S	S	17 08 46.5	+1.0
	comp=Z,219nm,23.5s						
TBI				*e*LR	LR	17 20 19.5	
	comp=Z,1μm,25.8s						
JCT	**Junction City**	**68.07**	**334**	⇓P	**P**	**16 59 49.0**	**-0.4**
	baz=68						
JCT	**Junction City**	**68.07**	**334**	*e*P	**P**	**16 59 48.4**	**-1.0**
	comp=Z,24nm,1.2s,mb5.1						
JCT	**Junction City**	**68.07**	**334**	*e*P	**P**	**16 59 48.4**	**-1.0**
JCT				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
628A	**Black Gap, Mar**	**68.38**	**331**	⇓P	**P**	**16 59 50.9**	**-0.4**
	baz=69						
627A	**Terlingua Ranc**	**68.55**	**331**	⇑P	**P**	**16 59 52.3**	**-0.2**
	baz=69						
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**16 59 51.2**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=149,slow=8.2,SNR=12						
TXAR				LR	LR	17 25 49.7	
	comp=Z,402nm,18.0s,MS4.7,baz=5.0,slow=32						
TXAR				PKP2bc		17 28 00.3	
	comp=Z,0.1nm,0.3s,baz=66,slow=2.7,SNR=4.4						
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**16 59 51.2**	**-1.3**
TXAR				⇑*e*		17 28 00.3	
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**16 59 51.3**	**-1.3**
OXF	**Oxford**	**68.75**	**345**	*e*P	**P**	**16 59 51.2**	**-2.4**
	comp=Z,57nm,1.1s,mb5.4						
OXF	**Oxford**	**68.75**	**345**	*e*P	**P**	**16 59 51.2**	**-2.4**
OXF				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.4						
TKL	**Tuckaleechee C**	**68.80**	**350**	*e*P	**P**	**16 59 51.9**	**-2.0**
TKL	**Tuckaleechee C**	**68.80**	**350**	*e*P	**P**	**16 59 51.9**	**-2.0**
528A	**Cox Ranch, San**	**68.93**	**332**	⇑P	**P**	**16 59 54.4**	**-0.4**
	baz=69						
626A	**Big Bend Ranch**	**68.95**	**330**	⇓P	**P**	**16 59 54.9**	**-0.1**
	baz=69,SNR=7.2						
527A	**Woodward Ranch**	**69.25**	**331**	⇑P	**P**	**16 59 56.6**	**-0.2**
	baz=70						
526A	**Mary Lane Ranc**	**69.38**	**330**	⇓P	**P**	**16 59 57.4**	**-0.2**
	baz=70						
428A	**Kincaid Ranch,**	**69.39**	**332**	⇑P	**P**	**16 59 57.6**	**0.0**
	baz=70						
427A	**Hayter Ranch,**	**69.79**	**331**	⇑P	**P**	**17 00 00.1**	**0.0**
	baz=70						
MIAR	**Mount Ida**	**69.82**	**341**	*e*P	**P**	**16 59 58.4**	**-1.8**
	comp=Z,22nm,0.5s,mb5.3						
MIAR	**Mount Ida**	**69.82**	**341**	*e*P	**P**	**16 59 58.4**	**-1.8**
MIAR				pmax	pmax		
	comp=Z,22nm,0.5s,mb5.3						
426A	**McDonald Obser**	**69.88**	**331**	⇑P	**P**	**17 00 00.4**	**-0.3**
	baz=70,SNR=5.7						
WVT	**Waverly**	**69.97**	**346**	*e*P	**P**	**16 59 59.5**	**-1.6**
	comp=Z,78nm,1.5s,mb5.4						
WVT	**Waverly**	**69.97**	**346**	*e*P	**P**	**16 59 59.5**	**-1.6**
WVT				pmax	pmax		
	comp=Z,78nm,1.5s,mb5.4						
328A	**Wristen Ranch,**	**70.02**	**332**	⇓P	**P**	**17 00 01.1**	**-0.4**
	baz=70						
425A	**Indio Mountain**	**70.39**	**330**	⇑P	**P**	**17 00 03.5**	**-0.3**
	baz=71						
326A	**Caldwell Ranch**	**70.43**	**331**	⇑P	**P**	**17 00 04.3**	**+0.2**
	baz=71						
PAE	**Paea**	**70.52**	**261**	*e*P	**P**	**17 00 07.9**	**+2.8**
	comp=Z,9.4nm,1.3s,mb4.5						
PPT2	**Papeete2**	**70.56**	**261**	*e*P	**P**	**17 00 07.9**	**+2.6**
	comp=Z,32nm,1.2s,mb5.1						
PPT2				*e*S	S	17 09 17.6	-1.0
	comp=Z,261nm,24.5s						
PPT2				*e*LR	LR	17 21 36.8	
	comp=Z,507nm,25.5s						
BBTS	**Babate**	**70.76**	**58**	P	**P**	**17 00 05.7**	**-0.8**
	comp=Z,48nm,0.8s,mb5.5,baz=250,slow=1.6,SNR=8.6						
BBTS	**Babate**	**70.76**	**58**	P	**P**	**17 00 05.7**	**-0.8**
227A	**Bennet, Jal**	**70.77**	**332**	⇓P	**P**	**17 00 06.1**	**0.0**
	baz=71						
325A	**Bean Ranch, Si**	**70.89**	**330**	⇓P	**P**	**17 00 06.4**	**-0.4**
	baz=71,SNR=6.5						
324A	**Moseley Ranch,**	**71.16**	**330**	⇓P	**P**	**17 00 07.2**	**-1.3**
	baz=72,SNR=5.2						
MNTX	**Cornudas Mount**	**71.34**	**330**	⇑P	**P**	**17 00 08.3**	**-1.3**
	baz=72,SNR=7.1						
MNTX	**Cornudas Mount**	**71.34**	**330**	*e*P	**P**	**17 00 07.4**	**-2.2**
	comp=Z,11nm,1.0s,mb4.7						
MNTX				*es*P	sP	17 00 18.1	+2.0
127A	**Arkansas Junct**	**71.38**	**332**	⇓P	**P**	**17 00 09.2**	**-0.6**
	baz=72						
225A	**Deer Hill, Car**	**71.47**	**331**	⇓P	**P**	**17 00 10.1**	**-0.3**
	baz=72						
WMOK	**Wichita Mounta**	**71.58**	**337**	*e*P	**P**	**17 00 08.9**	**-2.0**
	comp=Z,54nm,2.3s,mb5.1						
WMOK	**Wichita Mounta**	**71.58**	**337**	*e*P	**P**	**17 00 08.9**	**-2.0**
WMOK				pmax	pmax		
	comp=Z,53nm,2.3s,mb5.1						
126A	**Clayton Basin,**	**71.61**	**332**	⇑P	**P**	**17 00 10.8**	**-0.4**
	baz=72						
224A	**Cornudas Mount**	**71.73**	**330**	⇓P	**P**	**17 00 11.5**	**-0.4**
	baz=72						
125A	**Gardner Draw,**	**71.88**	**331**	⇓P	**P**	**17 00 12.2**	**-0.6**
	baz=72						
Z27A	**Tatum**	**71.89**	**333**	⇓P	**P**	**17 00 12.3**	**-0.5**
	baz=72						
CPRX	**Cap Rock**	**71.89**	**332**	*e*P	**P**	**17 00 12.1**	**-0.7**
	comp=Z,27nm,1.0s,mb5.1						
CPRX				*e*		17 00 23.1	
Z26A	**Caprock**	**72.15**	**332**	⇑P	**P**	**17 00 13.6**	**-0.7**
	baz=72,SNR=8.8						
MSTX	**Muleshoe**	**72.30**	**333**	⇑P	**P**	**17 00 14.8**	**-0.5**
	baz=73						
MVL	**Millersville**	**72.34**	**356**	*e*P	**P**	**17 00 15.3**	**-0.1**
	comp=Z,38nm,0.9s,mb5.3						
Z25A	**Roswell**	**72.45**	**332**	⇑P	**P**	**17 00 15.9**	**-0.3**
	baz=73						
221A	**Mesquite Ranch**	**72.64**	**329**	⇑P	**P**	**17 00 17.4**	**0.0**
	baz=73						
Y26A	**Elida**	**72.66**	**

comp=Z,35nm,0.8s,mb5.3,baz=207,slow=6.6,SNR=49
DBIC LR LR 17 33 34.4
comp=Z,421nm,18.1s,MS4.8,baz=212,slow=36
DBIC Dimbokro 74.62 72 eP P 17 00 28.1 -1.3
comp=Z,44nm,0.9s,mb5.4
DBIC Dimbokro 74.62 72 eP P 17 00 28.2 -1.3
DBIC pmax pmax
comp=Z,44nm,0.9s
V25A Rancho No Teng 74.65 333 ⇓P P 17 00 29.3 +0.2
baz=75
W23A Werner Place, 74.67 331 ⇑P P 17 00 29.4 +0.2
baz=75
X21A Alamocita Cree 74.73 330 ⇑P P 17 00 29.4 -0.2
baz=75,SNR=7.0
V24A Rampart Ranch, 74.81 332 ⇓P P 17 00 29.7 -0.4
baz=75
U26A Atchley Ranch, 74.81 334 ⇓P P 17 00 29.7 -0.3
baz=75
214A Organ Pipe Nat 74.93 325 ⇓P P 17 00 30.8 0.0
baz=75
Y19A Nutrioso 74.94 329 ⇓P P 17 00 31.3 +0.4
baz=75
U25A Circle Dot Ran 75.07 333 ⇑P P 17 00 31.9 +0.4
baz=75
X20A Quemado 75.11 329 ⇑P P 17 00 32.2 +0.4
baz=75
Y18A Canyon Day Jun 75.14 328 ⇓P P 17 00 32.3 +0.3
baz=75
V23A Ortiz Mt. (NFS 75.19 332 ⇑P P 17 00 32.8 +0.6
baz=76
W21A San Fidel 75.24 330 ⇓P P 17 00 33.1 +0.6
baz=76
X19A St. Johns 75.36 329 ⇓P P 17 00 33.5 +0.3
baz=76
SUR Sutherland 75.41 119 eP P 17 00 34.6 +0.7
comp=Z,36nm,1.0s,mb5.2
SUR epP pP 17 00 45.5 +6.8
Y17A Roosevelt 75.44 327 ⇑P P 17 00 33.5 -0.2
baz=76,SNR=6.8
CBKS Cedar Bluff 75.61 338 ⇓P P 17 00 34.9 +0.4
baz=76
CBKS Cedar Bluff 75.61 338 eP P 17 00 33.9 -0.7
comp=Z,25nm,1.0s,mb5.1
CBKS Cedar Bluff 75.61 338 eP P 17 00 33.9 -0.6
CBKS pmax pmax
comp=Z,25nm,1.0s,mb5.1
W20A Ramah 75.61 330 ⇑P P 17 00 34.9 +0.2
baz=76,SNR=6.2
114A Black Gap (USA 75.62 325 ⇑P P 17 00 34.6 -0.2
baz=76
V22A San Miguel Ran 75.63 331 ⇓P P 17 00 34.8 +0.1
baz=76
U23A El Rito 75.70 332 ⇑P P 17 00 35.6 +0.5
baz=76
T25A Trinidad 75.72 334 ⇓P P 17 00 35.6 +0.4
baz=76
T24A Torres, Weston 75.91 333 ⇓P P 17 00 36.7 +0.4
baz=76
W19A Sanders 75.98 329 ⇑P P 17 00 37.5 +0.7
baz=76
U22A Llaves 76.00 332 ⇓P P 17 00 37.5 +0.6
baz=76
W18A Petrified Fore 76.14 329 ⇑P P 17 00 38.2 +0.6
baz=76
R27A Eads 76.15 335 ⇑P P 17 00 37.9 +0.2
baz=76
V20A Brimhall 76.17 330 ⇓P P 17 00 37.7 -0.2
baz=76
S25A Robets Cordova 76.19 334 ⇓P P 17 00 37.9 +0.1
baz=76,SNR=5.5
T23A Casias Ranch, 76.25 332 ⇓P P 17 00 38.9 +0.6
baz=77
X16A Lo Mia Camp, P 76.31 327 ⇑P P 17 00 39.3 +0.6
baz=77
V19A Window Rock 76.34 330 ⇓P P 17 00 39.3 +0.5
baz=77
Z13A Yuma Proving G 76.36 325 ⇓P P 17 00 39.3 +0.3
baz=77
U21A Nageezi 76.37 331 ⇑P P 17 00 39.1 +0.1
baz=77,SNR=5.2
R26A Arlington 76.40 335 ⇓P P 17 00 39.5 +0.4
baz=77
S24A Houchin Ranch, 76.46 333 ⇑P P 17 00 39.6 +0.2
baz=77,SNR=6.4
R25A Fountain Ranch 76.56 334 ⇓P P 17 00 40.1 +0.1
baz=77
T22A Edith 76.58 332 ⇑P P 17 00 40.3 +0.3
baz=77
Y14A Wickenburg 76.65 326 ⇑P P 17 00 40.4 -0.1
baz=77
SDCO Great Sand Dun 76.67 333 ⇓P P 17 00 40.5 -0.1
baz=77,SNR=6.3
SDCO Great Sand Dun 76.67 333 eP P 17 00 40.0 -0.5
comp=Z,7.3nm,0.9s,mb4.6
U20A Newcomb 76.69 330 ⇑P P 17 00 40.7 0.0
baz=77
V18A Ganado 76.72 329 ⇑P P 17 00 41.3 +0.3
baz=77
KSCO Kaye Shedlock' 76.74 336 ⇓P P 17 00 41.2 +0.2
baz=77
T21A Navajo Lake 76.81 331 ⇓P P 17 00 41.8 +0.4
baz=77
U19A Dine' College, 76.90 330 ⇓P P 17 00 42.2 +0.2
baz=77
R24A Sanders Place, 76.94 334 ⇑P P 17 00 42.6 +0.4
baz=77
Q26A Hugo 76.98 335 ⇑P P 17 00 42.6 +0.3
baz=77
V17A Tonalea, Kykot 77.03 328 ⇑P P 17 00 43.1 +0.4
baz=77
R23A Moffat 77.18 333 ⇑P P 17 00 43.9 +0.4
baz=78
S22A 4UR Ranch, Cre 77.18 332 ⇑P P 17 00 44.1 +0.6
baz=78
WUAZ Wupatki 77.20 328 ⇑P P 17 00 44.2 +0.5
baz=78
WUAZ Wupatki 77.20 328 eP P 17 00 44.1 +0.4
comp=Z,16nm,1.0s,mb4.9
Y12C Blythe 77.22 325 ⇑P P 17 00 44.0 +0.2
baz=78
Q25A Bedland, Calha 77.23 335 ⇑P P 17 00 44.4 +0.7
baz=78
T19A Beclabito 77.28 330 ⇓P P 17 00 43.8 -0.3
baz=78,SNR=5.3
U18A Rough Rock, Ch 77.30 329 ⇑P P 17 00 44.5 +0.3
baz=78
MVCO Mesa Verde 77.39 331 ⇑P P 17 00 44.8 +0.1
baz=78
MVCO Mesa Verde 77.39 331 eP P 17 00 44.3 -0.4
comp=Z,20nm,1.1s,mb5.0
S21A Coal Bank Pass 77.49 332 ⇓P P 17 00 45.7 +0.5
baz=78
R22A Saguache, Gunn 77.57 333 ⇓P P 17 00 46.3 +0.6
baz=78
Q24A Divide 77.60 334 ⇓P P 17 00 45.9 +0.1
baz=78,SNR=6.4
P25A Willow Gulch B 77.73 335 ⇓P P 17 00 47.1 +0.6
baz=78
IRM Iron Mountain 77.86 324 ⇓P P 17 00 47.7 +0.3
baz=78
S20A Disappointment 77.86 331 ⇓P P 17 00 48.2 +0.9
baz=78
T18A Mexican Hat 77.90 330 ⇑P P 17 00 47.9 +0.3
baz=78
R21A Cimarron 78.00 332 ⇓P P 17 00 49.1 +1.0
baz=78
W13A Hualapai Mount 78.01 326 ⇓P P 17 00 48.9 +0.7
baz=78
PFO Pinyon Flat Ob 78.07 323 ⇑P P 17 00 49.2 +0.7
baz=78
PFO Pinyon Flat Ob 78.07 323 eP P 17 00 49.2 +0.7
comp=Z,12nm,1.1s,mb4.8
PFO Pinyon Flat Ob 78.07 323 eP P 17 00 49.2 +0.6
PFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
O26A Horse Wrangler 78.08 336 ⇓P P 17 00 49.3 +0.8
baz=78
S19A Harvey Farm, M 78.11 331 ⇑P P 17 00 49.3 +0.6
baz=78
R20A Redvale 78.18 331 ⇓P P 17 00 49.7 +0.6
baz=78
T17A Navajo Res., N 78.18 329 ⇓P P 17 00 49.8 +0.7
baz=78
PV01 Paradox Valley 78.21 331 eP P 17 00 49.8 +0.5
comp=Z,696nm,0.9s
P23A Jefferson 78.22 334 ⇓P P 17 00 50.4 +1.2
baz=78
S18A Hurst Farm, Bl 78.42 330 ⇑P P 17 00 50.7 +0.3
baz=79,SNR=5.3
ISCO Idaho Springs 78.51 334 ⇓P P 17 00 51.0 +0.2
baz=79
ISCO Idaho Springs 78.51 334 eP P 17 00 50.4 -0.4
comp=Z,10nm,1.1s,mb4.7
ISCO Idaho Springs 78.51 334 eP P 17 00 50.4 -0.4
ISCO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
R19A Curley Farm, L 78.63 331 ⇑P P 17 00 51.7 +0.2
baz=79
HEC Hector,Ludlow 78.98 324 ⇑P P 17 00 53.6 +0.1
baz=79
S16A Weppner Ranch, 79.14 329 ⇓P P 17 00 54.4 +0.1
baz=79
O22A Kremmling 79.17 334 ⇑P P 17 00 54.4 -0.1
baz=80
BFSC Mount Baldy Ra 79.18 323 ⇑P P 17 00 54.7 0.0
baz=80
Q19A Hogan Spring (79.19 331 ⇑P P 17 00 54.5 -0.1
baz=80
ECSD EROS Data Cent 79.25 342 eP P 17 00 52.9 -1.9
comp=Z,30nm,0.9s,mb5.2
RRX Edison Barstow 79.35 324 ⇓P P 17 00 55.5 -0.1
baz=80
TSUM Tsumeb 79.49 106 eP P 17 00 55.0 -1.9
comp=Z,60nm,1.4s,mb5.3
R16A Teasdale 79.56 329 ⇑P P 17 00 57.3 +0.7
baz=80
N23A Red Feather La 79.59 334 ⇑P P 17 00 57.6 +0.9
baz=80
GSC Goldstone 79.59 324 ⇑P P 17 00 57.4 +0.5
baz=80
GSC Goldstone 79.59 324 eP P 17 00 58.1 +1.2
comp=Z,9.7nm,1.0s,mb4.7
GSC Goldstone 79.59 324 eP P 17 00 58.1 +1.2
GSC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
P19A Cripple Cowboy 79.66 332 ⇑P P 17 00 57.9 +0.7
baz=80
Q18A Rafter H Ranch 79.67 331 ⇑P P 17 00 57.6 +0.3
baz=80
M24A Cheyenne 79.69 335 ⇓P P 17 00 58.3 +1.1
baz=80
PHWY Pilot Hill 79.77 335 eP P 17 00 57.7 0.0
comp=Z,15nm,1.0s,mb4.9
CCUT Cedar City 79.78 328 eP P 17 00 58.1 +0.3
comp=Z,14nm,1.0s,mb4.8
BLG Laguna Peak 79.80 322 ⇓P P 17 00 58.9 +0.8
baz=80
SRU San Rafael 79.84 330 eP P 17 00 57.0 -1.2
comp=Z,13nm,1.0s,mb4.8
SRU San Rafael 79.84 330 eP P 17 00 57.0 -1.2
SRU pmax pmax
comp=Z,13nm,1.0s,mb4.8
Q16A Castle Valley 79.95 330 ⇓P P 17 00 59.4 +0.7
baz=80
ARUT Antelope Range 80.01 328 eP P 17 00 58.4 -0.7
comp=Z,19nm,1.2s,mb4.9
ARUT e 17 01 08.6
ARUT Antelope Range 80.01 328 eP P 17 00 58.4 -0.7
ARUT e 17 01 08.6
ARUT pmax pmax
comp=Z,19nm,1.2s,mb4.9
M23A Laramie 80.01 335 ⇑P P 17 00 59.3 +0.3
baz=80
MSU Marysvale 80.05 329 eP P 17 00 58.7 -0.5
MSU Marysvale 80.05 329 eP P 17 00 58.7 -0.6
N21A Black Mountain 80.06 333 ⇓P P 17 01 00.2 +0.9
baz=80
P18A Preston Nutter 80.17 331 ⇓P P 17 01 00.6 +0.7
baz=80
P17A Butcher Ranch, 80.24 330 ⇓P P 17 01 01.5 +1.2
baz=81
M22A Cedar Creek Ra 80.27 334 ⇑P P 17 01 01.9 +1.5
baz=81
SBC Santa Barbara 80.40 322 ⇑P P 17 01 02.1 +0.8
baz=81
N20A Spence Gulch, 80.41 333 ⇑P P 17 01 01.6 +0.5
baz=81
MPMC Manual Prospec 80.53 324 ⇑P P 17 01 02.3 +0.4
baz=81
FURC Furnace Creek, 80.55 325 ⇓P P 17 01 02.2 +0.2
baz=81
O18A Roosevelt 80.61 331 ⇑P P 17 01 03.0 +0.7
baz=81
BOSA Boshof 80.62 118 P P 17 01 01.8 -1.1
comp=Z,23nm,0.9s,mb5.1,baz=218,slow=4.3,SNR=22
BOSA LR LR 17 34 12.9
comp=Z,726nm,18.5s,MS5.1,baz=208,slow=34
BOSA Boshof 80.62 118 eP P 17 01 01.5 -1.4
comp=Z,27nm,0.9s,mb5.2
BOSA Boshof 80.62 118 eP P 17 01 01.5 -1.4
BOSA pmax pmax
comp=Z,27nm,0.9s,mb5.2
ISA Isabella 80.71 323 ⇓P P 17 01 04.0 +1.1
baz=81
M21A Separation Pea 80.73 334 ⇓P P 17 01 04.0 +1.1
baz=81
L22A Ellis Ranch, M 80.76 335 ⇑P P 17 01 04.1 +1.0
baz=81
K24A Anderson Ranch 80.80 336 ⇓P P 17 01 04.0 +0.8
baz=81
PKM Peak Mountain 80.81 322 ⇑P P 17 01 04.0 +0.5
baz=81
N19A John Jarvie Ra 80.81 332 ⇓P P 17 01 03.7 +0.4
baz=81
O17A Robinson Place 80.85 331 ⇑P P 17 01 04.1 +0.6
baz=81
P15A Leamington 80.97 330 ⇑P P 17 01 04.7 +0.5
baz=81
N18A Larsen Ranch, 81.08 332 ⇑P P 17 01 05.5 +0.7
baz=81
K23A Bowen Ranch, D 81.11 336 ⇑P P 17 01 05.2 +0.3
baz=81
CWC Cottonwood Cre 81.12 324 ⇑P P 17 01 05.7 +0.6
baz=81
O16A Springville 81.17 330 ⇑P P 17 01 05.8 +0.6
baz=82
GRAC Grapevine Rang 81.21 325 ⇑P P 17 01 06.5 +0.9
baz=82
J24A Dixon Ranch, L 81.29 336 ⇑P P 17 01 06.5 +0.7
baz=82
K22A Casper 81.33 335 ⇑P P 17 01 06.3 +0.3
baz=82
R11A Troy Canyon, C 81.44 327 ⇑P P 17 01 07.0 +0.2
baz=82
L20A Wamsutter 81.44 333 ⇑P P 17 01 06.9 +0.3
baz=82
N17A Moffit Pass 81.52 331 ⇓P P 17 01 07.4 +0.3
baz=82
K21A Alcova 81.58 334 ⇓P P 17 01 07.9 +0.5
baz=82
M18A Lyman 81.62 332 ⇑P P 17 01 08.3 +0.7
baz=82
O15A The Old Anders 81.64 330 ⇑P P 17 01 08.0 +0.3
baz=82
J23A Dilts Ranch, B 81.66 336 ⇓P P 17 01 08.0 +0.3
baz=82
N16A Rees Ranch, Co 81.72 331 ⇓P P 17 01 07.9 -0.2
baz=82
DUG Dugway 81.72 330 ⇓P P 17 01 07.9 -0.2
baz=82
DUG Dugway 81.72 330 eP P 17 01 06.5 -1.6
comp=Z,14nm,1.2s,mb4.8
DUG Dugway 81.72 330 eP P 17 01 06.5 -1.6
DUG pmax pmax
comp=Z,14nm,1.2s,mb4.8
I24A Kuemmerle Ranc 81.74 337 ⇓P P 17 01 08.1 -0.1
baz=82
RSSD Black Hills 81.78 337 eP P 17 01 07.2 -1.2
comp=Z,9.2nm,0.9s,mb4.7
RSSD e 17 01 16.9
RSSD Black Hills 81.78 337 eP P 17 01 07.2 -1.2
RSSD e 17 01 16.9
RSSD pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
L19A Farson 81.91 333 ⇑P P 17 01 09.4 +0.2
baz=82
J22A Midwest 81.98 335 ⇑P P 17 01 10.0 +0.5
baz=82
K20A Yellowstone Ra 82.01 334 ⇑P P 17 01 09.9 +0.3
baz=82
K19A Absolon Red Bu 82.34 334 ⇓P P 17 01 11.3 0.0
baz=83
HWUT Hardware Ranch 82.37 331 eP P 17 01 08.7 -2.8
comp=Z,21nm,1.4s,mb4.9
HWUT e 17 01 19.0
I22A 9 Mile Ranch, 82.41 336 ⇑P P 17 01 11.2 -0.5
baz=83,SNR=6.1
H24A Dirks Ranch, A 82.51 337 ⇓P P 17 01 12.5 +0.3
baz=83
J20A Shoshoni 82.51 334 ⇑P P 17 01 12.2 0.0
baz=83
BW06 Boulder Array 82.56 333 ⇑P P 17 01 12.4 -0.1
baz=83
PDAR Pinedale Array 82.56 333 P P 17 01 11.7 -0.9
comp=Z,0.8nm,0.9s,mb3.8,baz=163,slow=11,SNR=4.9
PDAR Pinedale Array 82.56 333 P P 17 01 11.7 -0.9
PD01 Pinedale Array 82.58 333 eP P 17 01 11.4 -1.2
I21A Big Trails, Te 82.62 335 ⇑P P 17 01 12.9 +0.1
baz=83
K18A Toltan Ranch, 82.64 333 ⇓P P 17 01 13.5 +0.6
baz=83
LBTB Lobatse 82.79 115 eP P 17 01 13.3 -1.1
comp=Z,39nm,1.1s,mb5.3
LBTB Lobatse 82.79 115 eP P 17 01 13.3 -1.1
LBTB pmax pmax
comp=Z,39nm,1.1s,mb5.3
J19A Crowheart 82.80 334 ⇓P P 17 01 14.3 +0.6
baz=83
NVAR Mina Array Bea 82.80 325 P P 17 01 13.7 -0.2
comp=Z,0.9nm,0.6s,mb4.0,baz=149,slow=5.8,SNR=4.6
NVAR Mina Array Bea 82.80 325 P P 17 01 13.7 -0.2
H22A Clearmont 82.98 336 ⇓P P 17 01 14.9 +0.3
baz=83
G24A Alzada 82.98 338 ⇓P P 17 01 15.4 +0.8
baz=83
L15A Malad City 83.04 331 ⇓P P 17 01 15.3 +0.3
baz=83
I20A Worland 83.04 335 ⇑P P 17 01 16.0 +1.0
baz=83
J18A Kendall Valley 83.12 333 ⇑P P 17 01 16.3 +1.0
baz=83
ELK Elko 83.22 328 eP P 17 01 16.5 +0.5
comp=Z,8.8nm,1.0s,mb4.7
ELK Elko 83.22 328 eP P 17 01 16.5 +0.5
ELK pmax pmax
comp=Z,9.0nm,1.0s
AGMN Agassiz Nation 83.33 344 eP P 17 01 15.2 -1.2
comp=Z,12nm,0.9s,mb4.9
K16A Soda Springs 83.41 332 ⇑P P 17 01 17.0 +0.1
baz=84
L14A Malta 83.42 330 ⇑P P 17 01 17.1 +0.2
baz=84
I19A Meeteetse 83.44 334 ⇑P P 17 01 17.6 +0.6
baz=84
F24A Ekalaka 83.45 338 ⇓P P 17 01 17.0 -0.1
baz=84
I18A Diamond G Ranc 83.46 333 ⇓P P 17 01 17.3 +0.2
baz=84
H20A Greybull 83.46 335 ⇑P P 17 01 17.4 +0.3
baz=84
G22A Birney 83.50 336 ⇑P P 17 01 17.9 +0.5
baz=84
J17A Brown Place, J 83.51 333 ⇑P P 17 01 18.0 +0.6
baz=84
CMB Columbia Colle 83.52 323 eP P 17 01 17.0 -0.6
comp=Z,8.4nm,1.1s,mb4.8
CMB Columbia Colle 83.52 323 eP P 17 01 17.0 -0.6
CMB pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
TORD Torodi Ar. Bea 83.62 70 P P 17 01 17.3 -1.4
comp=Z,30nm,0.8s,mb5.5,baz=253,slow=4.6,SNR=138
TORD LR LR 17 39 11.6
comp=Z,529nm,18.1s,MS5.0,baz=230,slow=36
TORD Torodi Ar. Bea 83.62 70 P P 17 01 17.3 -1.4
K15A Arbon 83.67 331 ⇑P P 17 01 18.8 +0.5
baz=84
J16A Bone 83.79 332 ⇓P P 17 01 19.5 +0.7
baz=84
K14A Jones Ranch, D 83.82 331 ⇓P P 17 01 19.8 +0.8
baz=84
MDND Maddock 83.84 342 ⇑P P 17 01 19.1 +0.1
baz=84
H18A Shoshone NF, C 84.23 334 ⇑P P 17 01 21.0 0.0
baz=85
E22A Miles City 84.46 337 ⇑P P 17 01 22.3 +0.1
baz=85
RLMT Red Lodge 84.47 334 ⇓P P 17 01 21.5 -0.8
baz=85
RLMT Red Lodge 84.47 334 eP P 17 01 22.3 +0.1
comp=Z,16nm,1.4s,mb5.0
D24A Glendive 84.54 338 ⇑P P 17 01 22.4 -0.2
baz=85
G18A Lazy EL Ranch, 84.74 334 ⇓P P 17 01 23.6 0.0
baz=85
D23A Lindsay 84.87 338 ⇓P P 17 01 24.3 0.0
baz=85
J13A Cove Ranch, Pi 84.93 331 ⇑P P 17 01 24.5 -0.1
baz=85
C24A Savage 84.94 339 ⇓P P 17 01 23.9 -0.7
baz=85,SNR=5.1
F19A Roth Farm, Mol 84.98 335 ⇓P P 17 01 24.5 -0.3
baz=85
QLMT Earthquake Lak 85.03 333 eP P 17 01 25.1 0.0
I14A Mackay 85.07 331 ⇓P P 17 01 25.4 0.0
baz=85
D22A Cohagen 85.16 337 ⇑P P 17 01 25.6 -0.1
baz=86
HLID Hailey 85.17 330 eP P 17 01 25.5 -0.3
comp=Z,12nm,1.3s,mb4.8
ULM Lac du Bonnet 85.17 345 P P 17 01 23.9 -1.7
comp=Z,7.0nm,1.0s,mb4.8,baz=184,slow=6.1,SNR=7.6
ULM Lac du Bonnet 85.17 345 P P 17 01 23.9 -1.7
ULM Lac du Bonnet 85.17 345 P P 17 01 23.9 -1.7
G17A Pierce Place, 85.18 334 ⇑P P 17 01 25.8 -0.1
baz=86
GCMT Greycliff 85.19 335 eP P 17 01 23.7 -2.2
comp=Z,5.0nm,1.2s,mb4.5
E20A Meyer Farm, Mu 85.25 336 ⇑P P 17 01 25.7 -0.5
baz=86
F18A Big Timber 85.30 335 ⇑P P 17 01 26.2 -0.2
baz=86
H15A Lima 85.32 332 ⇓P P 17 01 26.6 0.0
baz=86
I13A Wildhorse Cree 85.33 331 ⇑P P 17 01 26.8 +0.1
baz=86
C23A Lambert 85.42 338 ⇓P P 17 01 26.6 -0.3
baz=86
E19A Rath Farm, Rou 85.44 335 ⇑P P 17 01 27.2 +0.1
baz=86
MCMT McKenzie Canyo 85.58 332 eP P 17 01 28.1 +0.3
comp=Z,4.4nm,1.0s,mb4.6
H14A Leadore 85.61 332 ⇓P P 17 01 28.9 +0.9
baz=86
MFID Camas Ranch 85.64 330 ⇓P P 17 01 29.2 +1.0
baz=86
MFID Camas Ranch 85.64 330 eP P 17 01 27.3 -0.9
comp=Z,9.0nm,1.0s,mb5.0
F17A Fitzpatrick Pl 85.64 334 ⇓P P 17 01 28.8 +0.7
baz=86
I12A Atlanta 85.66 330 ⇑P P 17 01 29.0 +0.7
baz=86
DGMT Dagmar 85.71 339 eP P 17 01 27.8 -0.6
comp=Z,35nm,1.0s,mb5.5
G15A Dillon 85.72 333 ⇑P P 17 01 28.9 +0.4
baz=86
BOZ Bozeman (W) 85.79 333 ⇓P P 17 01 29.0 +0.2
baz=86
DLMT Dillon 85.92 333 eP P 17 01 28.4 -1.2
comp=Z,13nm,1.2s,mb5.0
DLMT e 17 01 38.5
H13A Challis 85.92 331 ⇓P P 17 01 29.4 -0.1
baz=86
E18A Harlowton 85.94 335 ⇑P P 17 01 29.6 +0.1
baz=86
B23A Brockton 85.95 339 ⇓P P 17 01 29.8 +0.3
baz=86
C21A Desert Coulee 86.06 337 ⇓P P 17 01 30.0 -0.1
baz=86
A24A Westby 86.06 339 ⇑P P 17 01 30.1 0.0
baz=86
D19A Cripps Ranch, 86.08 336 ⇓P P 17 01 30.5 +0.2
baz=86
B22A Reddig Ranch S 86.12 338 ⇓P P 17 01 30.4 0.0
baz=86
H12A Diamond D Ranc 86.16 331 ⇑P P 17 01 31.1 +0.4
baz=86
LRM Limekiln Ridge 86.25 333 eP P 17 01 30.6 -0.6
comp=Z,88nm,1.2s,mb5.9
F15A Butte 86.28 333 ⇓P P 17 01 31.7 +0.4
baz=87
G13A Cobalt 86.35 331 ⇑P P 17 01 31.9 +0.3
baz=87
D18A Linhart Farms, 86.43 335 ⇓P P 17 01 32.3 +0.3
baz=87

B21A	Ellsworth Farm	86.55	337	⇓P		P	17 01 32.7 +0.1
	baz=87						
F14A	Wisdom	86.60	332	⇓P		P	17 01 33.0 +0.1
	baz=87						
C19A	Slack Wire Ran	86.63	336	⇓P		P	17 01 32.9 0.0
	baz=87						
A22A	Carney Farms,	86.70	338	⇑P		P	17 01 33.3 0.0
	baz=87						
D17A	Six Diamond Ra	86.71	335	⇓P		P	17 01 33.6 +0.2
	baz=87						
J08A	Circle Bar Ran	86.76	328	⇓P		P	17 01 33.9 +0.2
	baz=87						
E15A	Deer Lodge	86.83	333	⇓P		P	17 01 34.2 +0.3
	baz=87						
D16A	Dana Ranch, Ca	86.93	334	⇑P		P	17 01 34.6 +0.2
	baz=87						
F13A	Darby	86.96	332	⇓P		P	17 01 34.7 +0.1
	baz=87						
C17A	Wharram Farm,	87.15	335	⇑P		P	17 01 35.2 -0.3
	baz=88						
E14A	Clinton	87.15	333	⇓P		P	17 01 35.1 -0.4
	baz=88						
SCHQ	Schefferville	87.17	3	P		P	17 01 33.8 -1.7
	comp=Z,15nm,1.1s,mb5.1,baz=103,slow=3.5,SNR=3.8						
SCHQ	Schefferville	87.17	3	P		P	17 01 33.8 -1.7
B19A	Brinkman Farms	87.22	336	⇑P		P	17 01 35.9 +0.1
	baz=88						
A20A	Cobblestone Ra	87.25	337	⇑P		P	17 01 36.0 +0.1
	baz=88						
D15A	Lincoln	87.30	334	⇓P		P	17 01 36.1 -0.1
	baz=88						
F12A	Elk City	87.31	331	⇑P		P	17 01 36.1 -0.2
	baz=88						
K05A	Summer Lake	87.38	326	⇑P		P	17 01 36.3 -0.4
	baz=88						
BMO	Blue Mountains	87.43	330	*e*P		P	17 01 35.6 -1.4
	comp=Z,4.7nm,0.9s,mb4.7						
E13A	Victor	87.44	332	⇑P		P	17 01 37.0 +0.1
	baz=88						
B18A	Beardsley Farm	87.45	336	⇓P		P	17 01 36.9 -0.1
	baz=88						
C16A	Fuhringer Ranc	87.65	334	⇑P		P	17 01 37.7 -0.2
	baz=88						
B17A	L&G Farms, Che	87.72	335	⇑P		P	17 01 38.4 +0.2
	baz=88						
I07A	Izee	87.79	328	⇑P		P	17 01 39.0 +0.4
	baz=88						
SLMT	Seeley Lake	87.83	333	*e*P		P	17 01 38.3 -0.5
C15A	Salmond Ranch,	87.94	334	⇓P		P	17 01 39.3 0.0
	baz=88						
E12A	Beaver Dam Sad	87.97	331	⇓P		P	17 01 39.8 +0.3
	baz=88						
D13A	Huson	88.08	332	⇑P		P	17 01 40.1 +0.1
	baz=88						
B16A	M & M Farms, S	88.15	335	⇓P		P	17 01 40.3 0.0
	baz=88						
A17A	Triple J Farms	88.24	336	⇑P		P	17 01 40.8 +0.2
	baz=89						
F10A	Beach Ranch, E	88.30	330	⇑P		P	17 01 41.1 0.0
	baz=89						
B15A	Bradely Ranch,	88.37	334	⇑P		P	17 01 41.5 +0.1
	baz=89						
C13A	Hot Springs	88.61	333	⇓P		P	17 01 43.2 +0.7
	baz=89						
B14A	Marquette Ranc	88.68	334	⇓P		P	17 01 43.6 +0.9
	baz=89						
A15A	Johnson Ranch,	88.99	334	⇑P		P	17 01 44.5 +0.2
	baz=89						
E09A	Wood Farm, Sta	89.11	330	⇓P		P	17 01 44.9 0.0
	baz=89						
B13A	Whitefish	89.14	333	⇑P		P	17 01 45.1 +0.2
	baz=90						
G06A	Carlson Farm,	89.19	328	⇑P		P	17 01 45.4 +0.1
	baz=90						
A14A	Double T Ranch	89.24	334	⇑P		P	17 01 45.6 +0.2
	baz=90						
C11A	Tepee Creek (N	89.40	332	⇓P		P	17 01 46.4 +0.2
	baz=90						
WALA	Waterton Lakes	89.49	334	*e*P		P	17 01 44.5 -2.1
WALA				*e*			17 01 55.1
A13A	Flathead Natio	89.58	334	⇓P		P	17 01 47.1 +0.1
	baz=90						
OD2	Odessa Site #2	90.04	330	*e*P		P	17 01 47.7 -1.5
TAM	Tamanrasset	92.11	64	*e*P		P	17 01 58.9 -0.6
	comp=Z,15nm,1.3s,mb5.2						
TAM	Tamanrasset	92.11	64	*e*P		P	17 01 58.9 -0.5
TAM					pmax	pmax	
	comp=Z,15nm,1.3s,mb5.2						
ESDC	Sonseca Array	95.52	46	P		P	17 02 13.5 -1.2
	comp=Z,0.6nm,0.6s,mb4.2,baz=263,slow=4.0,SNR=6.8						
ESDC					LR	LR	17 45 46.9
	comp=Z,237nm,21.4s,MS4.6,baz=235,slow=36						
ESDC	Sonseca Array	95.52	46	P		P	17 02 13.5 -1.2
YKA	Yellowknife Ar	100.76	341	P		Pdif	17 02 36.2 -2.2
	comp=Z,0.2nm,0.5s,baz=138,slow=3.9,SNR=4.1						
YKA	Yellowknife Ar	100.76	341	P		Pdif	17 02 36.2 -2.2
YKA	Yellowknife Ar	100.76	341	P		Pdif	17 02 36.2 -2.2
DZM	Mont Dzumac	102.16	234	*e*PS		PS	17 16 02.5 +0.2
	comp=Z,78nm,28.5s						
DZM				*e*SS		SS	17 21 32.3 +0.2
	comp=Z,241nm,26.4s						
DZM				*e*LR		LR	17 36 16.4
	comp=Z,443nm,22.2s						
ILAR	Eielson Array	112.99	333	PKiKP		PKiKP	17 07 24.2 -1.8
	comp=Z,0.4nm,0.9s,baz=186,slow=3.4,SNR=5.3						
ILAR	Eielson Array	112.99	333	PKiKP		PKiKP	17 07 24.2 -1.8
ILAR	Eielson Array	112.99	333	PKIKP		PKiKP	17 07 24.2 -1.9
ASAR	Alice Springs	118.87	207	PKP		PKPdf	17 07 36.1 -2.7
	comp=Z,0.5nm,0.9s,baz=151,slow=2.9,SNR=4.3						
ASAR				PKKPbc		PKKPbc	17 17 51.7 -1.4
	comp=Z,0.6nm,0.9s,baz=333,slow=3.2,SNR=4.5						
ASAR	Alice Springs	118.87	207	PKP		PKPdf	17 07 36.1 -2.7
ASAR				PKKPbc		PKKPbc	17 17 51.7 -1.4
ASAR	Alice Springs	118.87	207	PKIKP		PKPdf	17 07 36.1 -2.7
BR131	Keskin Array S	121.04	60	*e*PKPdf		PKPdf	17 07 40.7 -1.6
BRTR	Keskin Array B	121.04	60	PKP		PKPdf	17 07 40.0 -2.3
	comp=Z,1.8nm,0.9s,baz=208,slow=2.6,SNR=10						
BRTR	Keskin Array B	121.04	60	PKP		PKPdf	17 07 40.0 -2.3
BRTR	Keskin Array B	121.04	60	PKIKP		PKPdf	17 07 40.0 -2.4
KIEV	Kiev	121.14	47	⇑*i*PKIKP		PKPdf	17 07 39.3 -2.9
AKASG	Malin Array Be	121.15	47	PKP		PKPdf	17 07 39.2 -3.0
	comp=Z,0.2nm,0.2s,baz=260,slow=2.1,SNR=4.8						
AKASG	Malin Array Be	121.15	47	PKP		PKPdf	17 07 39.2 -3.0
AKASG	Malin Array Be	121.15	47	PKIKP		PKPdf	17 07 39.2 -3.0
WRA	Warramunga Arr	122.04	209	PKP		PKPdf	17 07 42.6 -2.4
	comp=Z,1.3nm,1.0s,baz=154,slow=1.9,SNR=8.4						
WRA	Warramunga Arr	122.04	209	PKP		PKPdf	17 07 42.6 -2.4
WRA	Warramunga Arr	122.04	209	PKIKP		PKPdf	17 07 42.6 -2.4
OBN	Obninsk	126.33	43	*i* PKIKP		PKPdf	17 08 01.8 +10
OBN					pmax	pmax	
	comp=Z,14nm,1.3s						
KIV	Kislovodsk	128.64	57	⇑*i*PKIKP		PKPdf	17 07 54.2 -2.6
KIV				*i*			17 09 59.7
KIV					pmax	pmax	
	comp=Z,9.0nm,1.2s						
KIV					MLR	MLR	
	comp=Z,200nm,17.0s,MS4.9						
BILL	Bilibino	131.62	335	*e*PKPdf		PKPdf	17 08 00.9 -0.8
BILL	Bilibino	131.62	335	⇓*i*PKIKP		PKPdf	17 08 00.0 -1.7
BILL				*i*			17 08 12.1
BILL					pmax	pmax	
	comp=Z,6.0nm,1.2s						
BILL					MLR	MLR	
	comp=Z,100nm,15.0s,MS4.6						
ARU	Arti	138.60	40	*e*PKPdf		PKPdf	17 08 14.4 -0.7
ARU	Arti	138.60	40	*i* PKIKP		PKPdf	17 08 14.5 -0.5
ARU							17 11 02.8
ARU					SS	SS	17 29 11.5 -8.2
SVE	Sverdlovsk	139.60	39	*e*PKIKP		PKPdf	17 08 28.7 +12
SVE					pmax	pmax	
	comp=Z,20nm,1.3s						
AB31	Akbulak array	140.71	50	*i* PKHKP		PKPpre	17 08 10.5
ABKAR	Akbulak array	140.71	50	*e*PKPpre		PKPpre	17 08 10.3
ABKAR				*e*PKPdf		PKPdf	17 08 17.9 -1.2
KAD	Karad	145.87	108	*e*PKP		PKPdf	17 08 28.6 -0.6
BRVK	Borovoye	146.09	42	*e*PKPdf		PKPdf	17 08 27.2 -1.2
BRVK	Borovoye	146.09	42	*c i* PKP2		PKPbc	17 08 27.9 -1.5
BRVK					pmax	pmax	
	comp=Z,44nm,1.7s						
BVA0	Borovoye Array	146.16	42	*i* PKP2		PKPab	17 08 29.6 -0.7
BVA0					pmax	pmax	
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	146.16	42	PKPbc		PKPbc	17 08 28.0 -1.6
	comp=Z,8.6nm,0.8s,baz=290,slow=2.6,SNR=38						
BVAR	Borovoye Array	146.16	42	PKPbc		PKPbc	17 08 28.0 -1.6
BVAR	Borovoye Array	146.16	42	PKP2		PKPbc	17 08 28.0 -1.6
POO	Poona	146.24	106	*e*PKP		PKPdf	17 08 29.6 -0.1
YAK	Yakutsk	147.44	341	*e*PKPdf		PKPdf	17 08 30.3 -0.1
YAK	Yakutsk	147.44	341	*e*PKP2		PKPdf	17 08 30.6 +0.2
YAK					pmax	pmax	
	comp=Z,50nm,1.1s						
YAK					pmax	pmax	
	comp=E,8.0nm,1.9s						
YAK					pmax	pmax	
	comp=N,5.0nm,0.9s						
KBL	Kabul	147.53	76	*e*PKPdf		PKPdf	17 08 29.8 -1.7
KBL	Kabul	147.53	76	*e*PKIKP		PKPdf	17 08 29.8 -1.7
KK31	Karatay Array	148.75	59	*c i* PKP2		PKPbc	17 08 35.4 -1.7
KK31					pmax	pmax	
	comp=Z,1.0nm,0.3s						
KKAR	Karatay Array	148.75	59	*e*PKPbc		PKPbc	17 08 35.6 -1.4
KKAR	Karatay Array	148.75	59	*e*PKP2		PKPbc	17 08 35.6 -1.5
HYB	Hyderabad	149.39	112	*i* PKP		PKPdf	17 08 35.0 0.0
ASAJ	Asahikawa	150.81	303	PKPbc		PKPbc	17 08 40.1 -1.9
	comp=Z,14nm,1.0s,baz=61,slow=8.6,SNR=4.2						
ASAJ	Asahikawa	150.81	303	*e*PKPbc		PKPbc	17 08 41.8 -0.3
ASAJ				*e*PKPab		PKPab	17 08 49.6 +0.4
EKS2	Erkin-Say	151.19	60	P		PKPbc	17 08 42.6 -0.4
	SNR=20						
EKS2				P			17 08 42.6
	SNR=20						
EKS2	Erkin-Say	151.19	60	*e*PKPdf		PKPdf	17 08 36.7 -0.4
EKS2				*e*PKPbc		PKPbc	17 08 42.3 -0.7
EKS2				*e*PKPab		PKPab	17 08 51.5 +0.6
EKS2	Erkin-Say	151.19	60	*e*PKIKP		PKPdf	17 08 36.7 -0.4
EKS2				*e*			17 08 42.3
EKS2				*e*			17 08 51.6
AML	Almayashu	151.21	61	P		PKPbc	17 08 42.8 -0.3
	SNR=19						
AML				P			17 08 42.8
	SNR=19						
IPM	Ipoh	151.26	165	*e*PKPdf		PKPdf	17 08 39.2 +1.1
BHPL	Bhopal	151.42	101	*e*PKP		PKPdf	17 08 38.4 +0.4
USP	Ospenovka	151.61	58	P		PKPbc	17 08 43.1 -0.8
	SNR=17						
USP				P			17 08 43.1
	SNR=17						
NVS	Novosibirsk	151.68	31	*e*PKIKP		PKPbc	17 08 41.4 -2.3
NVS					pmax	pmax	
	comp=N,3.0nm,1.1s						
NVS					pmax	pmax	
	comp=E,17nm,1.1s						
NVS					pmax	pmax	
	comp=Z,34nm,1.1s						
AAK	Ala-Archa	151.72	60	P		PKPbc	17 08 43.9 -0.3
	SNR=21						
AAK				P			17 08 43.9
	SNR=21						
AAK	Ala-Archa	151.72	60	*e*PKPdf		PKPdf	17 08 36.8 -1.1
AAK				*e*PKPbc		PKPbc	17 08 43.6 -0.6
AAK	Ala-Archa	151.72	60	*e*PKIKP		PKPdf	17 08 36.8 -1.1
AAK				*e*			17 08 43.6
KURK	Kurchatov	151.76	41	PKP		PKPdf	17 08 36.3 -1.4
	comp=Z,0.4nm,0.4s,baz=302,slow=2.1,SNR=7.2						
KURK				PKPbc		PKPbc	17 08 41.8 -2.3
	comp=Z,12nm,0.8s,baz=297,slow=2.9,SNR=71						
KURK	Kurchatov	151.76	41	PKP		PKPdf	17 08 36.3 -1.4
KURK				*e*PKPdf		PKPdf	17 08 37.0 -0.6
KURK				PKPbc		PKPbc	17 08 41.8 -2.3
KURK				*e*PKPbc		PKPbc	17 08 42.8 -1.2
KURK				*e*PKPab		PKPab	17 08 52.1 -0.9
KURK	Kurchatov	151.76	41	PKIKP		PKPdf	17 08 36.3 -1.4
KURK				*e*			17 08 37.0
KURK				*e*			17 08 42.8
KURK				*e*			17 08 52.1
FRU	Bishkek	151.77	59	*e*PKIKP		PKPbc	17 08 43.0 -1.3
FRU				*e*			17 08 53.0
FRU					pmax	pmax	
	comp=Z,46nm,1.2s						
CHMS	Chumysh	151.84	59	P		PKPbc	17 08 43.6 -0.8
	SNR=11						
CHMS				P			17 08 43.6
	SNR=11						
KBK	Karagaybulak	152.04	59	P		PKPbc	17 08 44.5 -0.5
	SNR=8.8						
KBK				P			17 08 44.5
	SNR=8.8						
KZA	Kyzart	152.36	61	P		PKPbc	17 08 45.6 -0.1
	SNR=9.9						
KZA				P			17 08 45.6
	SNR=9.9						
TKM2	Tokmak 2	152.47	59	P		PKPbc	17 08 45.4 -0.5
	SNR=14						
TKM2				P			17 08 45.4
	SNR=14						
TKM2	Tokmak 2	152.47	59	*e*PKPdf		PKPdf	17 08 38.0 -1.0
TKM2				*e*PKPbc		PKPbc	17 08 45.0 -0.9
TKM2				*e*PKPab		PKPab	17 08 54.6 -1.6
TKM2	Tokmak 2	152.47	59	*e*PKIKP		PKPdf	17 08 38.0 -1.0
TKM2				*e*			17 08 45.0
TKM2				*e*			17 08 54.6
ZAA0	Zalesovo Array	152.97	31	*e*PKPdf		PKPdf	17 08 37.1 -2.2
ZAA0				*e*PKPbc		PKPbc	17 08 45.0 -1.7
ZAA0				*e*PKPab		PKPab	17 08 56.4 -1.5
ZALV	Zalesovo Beam	152.97	31	PKP		PKPdf	17 08 37.7 -1.6
	comp=Z,3.9nm,1.0s,baz=302,slow=2.8,SNR=12						
ZALV				PKPbc		PKPbc	17 08 45.2 -1.5
	comp=Z,16nm,0.9s,baz=298,slow=3.2,SNR=44						
ZALV				PKPab		PKPab	17 08 54.7 -3.2
	comp=Z,21nm,0.8s,baz=301,slow=2.9,SNR=15						
ZALV	Zalesovo Beam	152.97	31	PKP		PKPdf	17 08 37.7 -1.6
ZALV				PKPbc		PKPbc	17 08 45.2 -1.5
ZALV				PKPab		PKPab	17 08 54.7 -3.2
ZALV	Zalesovo Beam	152.97	31	PKIKP		PKPdf	17 08 37.7 -1.7
ZALV							17 08 45.2
ZALV							17 08 54.7
CLNS	Chul'man	153.13	339	*e*PKIKP		PKPbc	17 08 45.1 -1.8
CLNS					pmax	pmax	
	comp=Z,12nm,1.1s						
CLNS					pmax	pmax	
	comp=N,5.0nm,1.0s						
CLNS					pmax	pmax	
	comp=E,5.0nm,1.0s						
NDI	New Delhi	153.19	90	*e*PKP		PKPdf	17 08 40.6 +0.1
NDI				AMS		AMS	17 55 47.3
	comp=Z,396nm,15.9s,MS5.3						
KSH	Kashi	153.22	66	PKPbc		PKPdf	17 08 39.6 -0.6
KSH				pPKP		pPKPdf	17 08 50.3 +5.1
KSH				sPKP			17 08 53.9
KSH				PKPab		PKPab	17 09 00.8 +1.3
KSH				PKS			17 12 12.6
KSH				PP		PP	17 12 35.3 +1.7
KSH				SKS		SKSdf	17 15 41.3 -5.4
KSH				SKKS		SKKSac	17 19 19.0 -4.0
KSH				SS		SS	17 32 02.3 -5.1
KSH				AMB		AMB	
	comp=Z,350nm,6.1s						
KSH				LR		LR	
	comp=N,85nm,4.6s						
KSH				LR		LR	
	comp=E,75nm,4.5s						
KSH				LR		LR	
	comp=Z,210nm,7.5s						
VIS	Vishakhapatnam	153.22	118	*e*PKP		PKPdf	17 08 40.3 -0.5
BOD	Bodaibo	154.45	353	*e*PKIKP		PKPbc	17 08 47.6 -2.1
BOD					pmax	pmax	
	comp=Z,12nm,1.2s						
MJAR	Matsushiro Arr	154.94	287	PKPbc		PKPbc	17 08 48.7 -2.8
	comp=Z,3.2nm,1.1s,baz=283,slow=1.3,SNR=3.8						
MJAR	Matsushiro Arr	154.94	287	PKPbc		PKPbc	17 08 48.7 -2.8
MJAR	Matsushiro Arr	154.94	287	PKIKP		PKPbc	17 08 48.7 -2.8
MK31	Makanchi Array	155.74	47	*e*PKPdf		PKPdf	17 08 42.0 -1.5
MK31	Makanchi Array	155.74	47	*e*PKIKP		PKPdf	17 08 42.0 -1.5
MKAR	Makanchi Array	155.74	47	PKP		PKPdf	17 08 42.3 -1.1
	comp=Z,1.5nm,1.0s,baz=302,slow=2.7,SNR=8.2						
MKAR				PKPab		PKPab	17 09 08.4 -1.6
	comp=Z,12nm,0.8s,baz=304,slow=3.2,SNR=22						
MKAR				PP		PP	17 12 45.7 -1.4
	comp=Z,1.3nm,0.8s,baz=316,slow=5.1,SNR=3.5						
MKAR	Makanchi Array	155.74	47	PKP		PKPdf	17 08 42.3 -1.1
MKAR				PKPab		PKPab	17 09 08.4 -1.6
MKAR				PP		PP	17 12 45.7 -1.4
MKAR	Makanchi Array	155.74	47	PKIKP		PKPdf	17 08 42.3 -1.2
MKAR							17 09 08.4
MKAR							17 12 45.7
KLR	Kul'dur	155.74	320	*e*PKIKP		PKPdf	17 08 46.8 +3.4
KOLN	Koldanda	158.30	96	*e*P		PKPdf	17 08 45.8 -1.6
	comp=Z,4.3nm,0.3s						
KOLN	Koldanda	158.30	96	*e*P		PKPdf	17 08 45.8 -1.6
DANN	Dangsing	158.62	95	*e*P		PKPdf	17 08 46.7 -1.0
	comp=Z,16nm,0.9s						
DANN	Dangsing	158.62	95	*e*P		PKPdf	17 08 46.7 -1.0
GKN	Gorkha	159.25	97	*e*P		PKPdf	17 08 46.7 -1.8
GKN	Gorkha	159.25	97	*e*P		PKPdf	17 08 46.7 -1.8
MDJ	Mudanjiang	159.42	312	PKP		PKPdf	17 08 48.8 +0.7
DMN	Daman	159.51	98	*e*P		PKPdf	17 08 47.3 -1.5
DMN	Daman	159.51	98	*e*P		PKPdf	17 08 47.3 -1.5
KKN	Kakani	159.72	98	*e*P		PKPdf	17 08 47.6 -1.4
KKN	Kakani	159.72	98	*e*P		PKPdf	17 08 47.6 -1.4
KKN	Kakani	159.72	98	*e*PKIKP		PKPdf	17 08 47.6 -1.4
PKI	Pulchoki	159.75	98	*e*P		PKPdf	17 08 47.5 -1.6
PKI	Pulchoki	159.75	98	*e*P		PKPdf	17 08 47.5 -1.6
PKI	Pulchoki	159.75	98	*e*PKIKP		PKPdf	17 08 47.5 -1.6
CAL	Calcutta	159.85	115	*e*PKP		PKPdf	17 08 49.0 -0.3
CAL				AMS		AMS	17 58 14.9
	comp=Z,141nm,20.2s,MS4.8						
GUN	Gumba	160.26	98	*e*P		PKPdf	17 08 48.0 -1.6
GUN	Gumba	160.26	98	*e*P		PKPdf	17 08 48.0 -1.6
JIRN	Jiri	160.43	99	*e*P		PKPdf	17 08 48.3 -1.5
JIRN	Jiri	160.43	99	*e*P		PKPdf	17 08 48.3 -1.5
WMQ	Urumqi	160.49	49	*e*PKP		PKPdf	17 08 47.8 -1.6
RAMN	Ramite	160.52	101	*e*P		PKPdf	17 08 48.9 -1.0
	comp=Z,16nm,1.0s						
RAMN	Ramite	160.52	101	*e*P		PKPdf	17 08 48.9 -1.0
ODAN	Odare	161.14	102	*e*P		PKPdf	17 08 49.2 -1.4
	comp=Z,20nm,1.1s						
ODAN	Odare	161.14	102	*e*P		PKPdf	17 08 49.2 -1.4
TAPN	Taplejung	161.59	101	*e*P		PKPdf	17 08 49.7 -1.4
TAPN	Taplejung	161.59	101	*e*P		PKPdf	17 08 49.7 -1.4
ZAK	Zakamensk	161.87	10	*e*PKP2		PKPab	17 09 31.6 -4.7
ZAK					pmax	pmax	
	comp=Z,5.0nm,1.1s						
KSRS	Korea Array	163.06	292	PKP		PKPdf	17 08 48.1 -4.1
	comp=Z,0.4nm,0.3s,baz=90,slow=1.2,SNR=2.9						
KSRS				PKPab		PKPab	17 09 42.0 -0.2
	comp=Z,1.2nm,0.8s,baz=109,slow=3.5,SNR=2.9						
KSAR	Wonju Array Be	163.09	292	PKP		PKPdf	17 08 48.1 -4.2
KSAR				PKPab		PKPab	17 09 42.0 -0.3
KSAR	Wonju Array Be	163.09	292	PKIKP		PKPdf	17 08 48.1 -4.2
KSAR							17 09 42.0
CMAR	Chiang Mai Arr	163.69	147	PKP		PKPdf	17 08 52.0 -1.4
	comp=Z,1.5nm,0.9s,baz=246,slow=3.4,SNR=10						
CMAR				PKPab		PKPab	17 09 41.2 -4.0
	comp=Z,2.1nm,1.0s,baz=224,slow=5.0,SNR=7.1						
CMAR	Chiang Mai Arr	163.69	147	PKP		PKPdf	17 08 52.0 -1.4
CMAR				PKPab		PKPab	17 09 41.2 -4.0
CMAR	Chiang Mai Arr	163.69	147	PKIKP		PKPdf	17 08 52.0 -1.4
CMAR							17 09 41.2
SHL	Shillong	164.20	112	*e*PKP		PKPdf	17 08 52.5 -1.2
SONM	Songino Array	164.72	4	PKP		PKPdf	17 08 49.8 -3.6
	comp=Z,0.3nm,0.6s,baz=18,slow=5.0,SNR=2.7						
SONM				PKPab		PKPab	17 09 47.9 -1.0
	comp=Z,1.8nm,0.8s,baz=335,slow=3.3,SNR=5.5						
SONM				PP		PP	17 13 43.6 +9.0
	comp=Z,3.3nm,1.2s,baz=321,slow=4.2,SNR=4.6						
SONM	Songino Array	164.72	4	PKP		PKPdf	17 08 49.8 -3.6
SONM				PKPab		PKPab	17 09 47.9 -1.0
SONM				PP		PP	17 13 43.6 +9.0
SONM	Songino Array	164.72	4	PKIKP		PKPdf	17 08 49.8 -3.6
SONM							17 09 47.9
SONM							17 13 43.6
LSA	Lhasa	165.20	97	PKP		PKPdf	17 08 53.6 -0.8
LSA	Lhasa	165.20	97	*e*PKPdf		PKPdf	17 08 53.8 -0.6
LSA	Lhasa	165.20	97	*e*PKIKP		PKPdf	17 08 53.8 -0.6
QIZ	Qiongzhong	166.40	187	PKP		PKPdf	17 08 54.8 -0.9
QIZ				pPKP		pPKPdf	17 08 59.1 -1.6
QIZ				sPKP			17 09 06.6
QIZ				PP		PP	17 13 43.3 -0.1
QIZ				SS		SS	17 34 25.1 +1.4
QIZ				AMB		AMB	
	comp=Z,230nm,3.9s						
GTA	Gaotai	170.45	42	*e*PKP		PKPdf	17 08 57.4 -0.4
GTA				pPKP		pPKPdf	17 09 06.8 +4.0
GTA				sPKP			17 09 12.3
HHC	Hu-ho-hao-te	171.30	342	*e*PKP		PKPdf	17 08 56.1 -2.1
HHC				sPKP			17 09 10.1
HHC				PKS			17 12 27.9
HHC				PP		PP	17 14 10.0 +1.7
HHC				SKS		SKSdf	17 15 54.8 -6.2
HHC				SKKS		SKKSac	17 20 51.5 -3.6
HHC				SS		SS	17 35 09.8 -3.1
HHC				AMB		AMB	
	comp=Z,190nm,9.6s						
HHC				LR		LR	
	comp=N,200nm,21.3s						
HHC				LR		LR	
	comp=E,360nm,21.6s						
HHC				LR		LR	
	comp=Z,170nm,20.1s						
GYA	Guiyang	173.76	168	PKP		PKPdf	17 08 58.8 -0.9
GYA				sPKP			17 09 14.3
GYA				PKPab		PKPab	17 10 31.5 +2.1
GYA				PKS			17 12 30.0
GYA				PP		PP	17 14 22.6 +2.2
GYA				SKKS		SKKSac	17 21 05.4 -2.0
GYA				SS		SS	17 35 34.8 -1.9
GYA				AMB		AMB	
	comp=Z,120nm,8.1s						
GYA				LR		LR	
	comp=N,140nm,23.0s						
GYA				LR		LR	
	comp=E,120nm,24.2s						
GYA				LR		LR	
	comp=Z,150nm,22.7s						
LZH	Lanzhou

RES	Resolute Bay	6.08	126	PN	Pn	16 59 38.3	+3.2
RES				SN	Sn	17 00 47.5	+2.8
RES				Trac		17 00 52.7	
comp=Z,3.1nm,0.1s							
INK	Inuvik	12.03	217	ePn	Pn	17 00 55.5	-0.9
JERN	Jeri Cho Mine,	13.12	176	PN	Pn	17 01 12.8	+1.5
JERN				SN	Sn	17 03 34.9	-2.0
JERN				Trac		17 03 39.0	
comp=Z,3.2nm,0.3s							
NUNN	Nunuq Camp, NU	15.31	142	Pn	Pn	17 01 40.9	-0.2
NUNN				Sn	Sn	17 04 28.4	-2.0
NUNN	Nunuq Camp, NU	15.31	142	PN	Pn	17 01 40.9	-0.2
NUNN				SN	Sn	17 04 28.4	-2.0
YKA	Yellowknife Ar	16.64	182	Pn	Pn	17 01 58.9	+0.7
0.2nm,0.3s,baz=360,slow=12,SNR=7.7							
YKA	Yellowknife Ar	16.64	182	Pn	Pn	17 01 59.0	+0.7
ILAR	Eielson Array	17.18	233	Pn	Pn	17 02 05.2	+0.2
0.1nm,0.3s,baz=16,slow=12,SNR=10							
ILAR	Eielson Array	17.18	233	Pn	Pn	17 02 05.2	+0.2
FINES	FINESS Array B	37.75	30	P	P	17 05 23.0	+2.4
2.9nm,1.0s,baz=359,slow=10.0,SNR=2.5							
FINES	FINESS Array B	37.75	30	P	P	17 05 23.0	+2.4

NNC 19 17:21:39.5±2.6, 36°.92N×70°.09E, h0km, mb3.7, mpv3.3, 6C, Error ellipse: s-maj=23.8km s-min=20.0km az=94.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.19	3	⇑Pn	Pn	17 23 15.0	+2.9
0.8nm,0.3s,baz=172,slow=12,SNR=20							
KK31				⇑Sn	Sn	17 24 30.1	+6.6
1.4nm,0.4s,baz=188,slow=24,SNR=4.7							
TKM2	Tokmak 2	7.34	34	⇑Pn	Pn	17 23 27.6	-0.3
0.8nm,0.5s							
TKM2				⇑Sn	Sn	17 24 53.5	+1.7
3.6nm,0.8s							
AB31	Akbulak array	14.37	332	⇑Pn	Pn	17 25 03.7	-0.4
0.7nm,0.3s,baz=155,slow=13,SNR=38							
AB31				⇑Sn	Sn	17 27 45.2	+1.1
0.8nm,0.7s,baz=147,slow=24,SNR=4.4							

*NOU **19** 17:28:57.3±0.6, 19°.68S×170°.31E, h30km, MD2.9, ML2.4*
*NEIC **19** 17:29:01.8±1.1, 21°.86S×170°.61E, h147km±12km, mb4.5/6, Error ellipse: s-maj=15.0km s-min=11.6km az=176.0*
*ISCJB **19** 17:29:02.6±1.5, 21°.95±0°.1×170°.5E±0°.1, h169km±12km, mb3.8/6, Error ellipse: s-maj=20.4km s-min=15.7km az=33.5*
*IDC **19** 17:29:05.0±3.0, 21°.92S×170°.37E, h171km±23km, mb3.4/5, mb1 3.7/8, mb1mx3.5/19, mbtmp3.6/8, Error ellipse: s-maj=31.0km s-min=23.2km az=40.0*

ISC 19 17:29:02.2±0.9, 21°.95±0°.1×170°.64E±0°.07, h151km±9km, n25, σ0°98/28, mb3.8/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.50	264	eP	Pn	17 29 56.4	+0.4
BAYA				eS	Sn	17 30 39.2	+1.4
BAYA				AMP		17 30 40.9	
comp=Z,8.2nm,4.2s							
LASL	Noumea	3.83	264	eP	Pn	17 29 59.8	-0.4
DZM	Mont Dzumac	3.91	266	P	Pn	17 30 01.5	+0.2
comp=Z,5.1nm,0.3s,baz=74,slow=19,SNR=108							
DZM				S	Sn	17 30 45.7	-1.3
comp=Z,2.1nm,0.3s,baz=132,slow=19,SNR=7.6							
DZM	Mont Dzumac	3.91	266	ePn	Pn	17 30 00.9	-0.4
DZM				P		17 30 01.5	
DZM				S	Sn	17 30 45.7	-1.3
DZM				eSn	Sn	17 30 46.3	-0.8
NOUC	Port Laguerre	4.04	266	eP	Pn	17 30 02.4	-0.5
NOUC				eS	Sn	17 30 51.2	+1.0
NOUC				AMP		17 30 57.0	
comp=Z,27nm,1.9s							
MSVF	Nonsavu	8.08	61	ePn	Pn	17 30 55.8	-1.0
comp=Z,9.0nm,0.6s							
HNR	Honiara	16.07	319	P	Pn	17 32 40.3	+0.5
comp=Z,2.7nm,0.3s,baz=332,slow=2.4,SNR=4.6							
HNR	Honiara	16.07	319	P	Pn	17 32 40.3	+0.5
URZ	Urewera	17.28	163	P	Pn	17 32 55.6	+1.3
comp=Z,1.1nm,0.3s,baz=313,slow=3.1,SNR=6.0							
URZ	Urewera	17.28	163	eP	Pn	17 32 53.8	-0.5
comp=Z,16nm,0.7s							
EIDS	Eidsvold	18.27	255	eP	P	17 33 03.6	-0.8
comp=Z,25nm,1.3s							
SNZO	South Karori	19.70	171	eP	P	17 33 27.3	+7.5
comp=Z,88nm,1.1s							
ASAR	Alice Springs	33.87	260	P	P	17 35 29.2	-1.4
comp=Z,0.4nm,0.4s,mb3.5,baz=78,slow=8.6,SNR=22							
ASAR	Alice Springs	33.87	260	P	P	17 35 29.2	-1.4
WRA	Warramunga Arr	33.92	266	P	P	17 35 29.6	-1.5
comp=Z,0.6nm,0.7s,mb3.5,baz=96,slow=8.5,SNR=14							
WRA	Warramunga Arr	33.92	266	P	P	17 35 29.6	-1.5
SBA	Scott Base	56.09	181	P	P	17 38 25.6	+0.5
comp=Z,19nm,1.4s,mb4.7							
QSPA	South Pole Qui	68.22	180	P	P	17 39 46.0	+0.1
comp=Z,1.7nm,1.0s,mb3.8,baz=17,slow=4.7,SNR=4.6							
QSPA	South Pole Qui	68.22	180	eP	P	17 39 45.9	0.0
comp=Z,6.0nm,1.4s,mb4.1							
CMAR	Chiang Mai Arr	80.77	294	P	P	17 41 00.1	+0.7
comp=Z,0.7nm,0.8s,mb3.3,baz=126,slow=3.9,SNR=5.6							
CMAR	Chiang Mai Arr	80.77	294	P	P	17 41 00.1	+0.7
PDAR	Pinedale Array	97.42	47	P	P	17 42 20.6	+2.0
comp=Z,0.4nm,0.7s,mb3.8,baz=217,slow=4.3,SNR=3.1							
PDAR	Pinedale Array	97.42	47	P	P	17 42 20.6	+2.0
GERES	GERESS Array B	147.40	331	PKPbc	PKPbc	17 48 27.0	-1.1
comp=Z,1.0nm,0.8s,baz=46,slow=3.9,SNR=6.9							
GERES	GERESS Array B	147.40	331	PKPbc	PKPbc	17 48 27.0	-1.1

GUC 19 17:32:09.7±0.6, 32°.58S×71°.76W, h11km±4km, MD3.8, ML3.3, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.45	167	eP	Pg	17 32 19.0	+0.3
IHA				i S	Sg	17 32 25.9	+1.2
CHNG	Los Chungos	0.73	18	eP	Pg	17 32 23.6	-0.3
CHNG				eS	Sg	17 32 33.7	+0.3
PTCH	Petorca	0.77	66	eP	Pg	17 32 24.7	0.0
PTCH				eS	Sg	17 32 35.5	+0.8
PTCH				AML	AML	17 32 38.5	
comp=N,1μm,0.4s							
JACH	Jahuel	0.99	96	⇑iP	Pg	17 32 27.8	-1.0
JACH				i S	Sg	17 32 41.5	-0.2
PEL	Peldehue	1.06	122	eP	Pb	17 32 29.1	-1.1
PEL				eS	Sb	17 32 43.4	-0.6
PEL				AML	AML	17 32 46.4	
comp=N,3μm,0.5s							
RCDM	Rinconada Maip	1.21	139	eP	Pn	17 32 31.3	-1.2
RCDM				eS	Sb	17 32 47.7	-0.5
RCDM				AML	AML	17 32 50.6	
comp=E,945nm,0.1s							
SAN	Santiago	1.27	134	eP	Pn	17 32 31.9	-1.4
CLCH	Cerro Calan	1.31	129	eP	Pn	17 32 32.7	-1.2
CLCH				eS	Sb	17 32 50.3	-0.8
CLCH				AML	AML	17 32 52.7	
comp=N,942nm,0.4s							
LNV	Longovilo	1.40	168	eP	Pn	17 32 33.0	-2.2
FCH	Farellones	1.44	121	eP	Pn	17 32 32.6	-3.1
PCH	Pirque	1.47	135	⇑eP	Pn	17 32 35.4	-0.8
CHCH	Chadas Angostu	1.64	146	eP	Pn	17 32 38.1	-0.3
CACH	El Canelo	1.81	148	eP	Pn	17 32 41.2	+0.4
LMEL	Las Melosas	1.82	134	eP	Pn	17 32 41.1	+0.3
LMEL				eS	Sn	17 33 05.3	+1.5
LMEL				AML	AML	17 33 09.8	
comp=N,613nm,0.2s							

MAN 19 17:32:57, 9°.22N×122°.42E, h20km, mb4.4, ML3.3, MS3.2, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.82	81	⇓iP	Pb	17 33 12.1	-0.4
SNPH				i S	Sb	17 33 22.9	-0.2
GUIM	Jordan	1.41	7	eP	Pn	17 33 21.8	+0.2
GUIM				eS	Sn	17 33 40.9	+1.3
IPIL	Ipil	1.43	174	eP	Pn	17 33 22.4	+0.7
IPIL				eS	Sn	17 33 40.5	+0.6
TBP	Tagbilaran	1.50	72	eP	Pn	17 33 23.2	+0.5
TBP				eS	Sn	17 33 42.4	+0.6
PAGZ	Pagadian	1.66	145	eP	Pn	17 33 26.7	+1.7
CUYO	Cuyo Island	2.13	320	eP	Pn	17 33 32.9	+1.4
RCP	Roxas	2.35	8	⇑eP	Pn	17 33 37.0	+2.4
MSLP	Maasin	2.57	69	eP	Pn	17 33 39.8	+2.2
BUSP	Coron	3.53	322	eP	Pn	17 33 51.9	+1.2
ENPP	El Nido	3.55	304	eP	Pn	17 33 52.3	+1.3

*ISCJB **19** 17:38:04.1±0.5, 50°.13N±0°.03×19°.15E±0°.03, h0km, Error ellipse: s-maj=4.8km s-min=2.5km az=14.2*
*WAR **19** 17:38:05.2, 50°.10N×19°.22E*
*CSEM **19** 17:38:05.2±0.2, 50°.13N×19°.15E, h0km±2km, ML2.8/4, Error ellipse: s-maj=5.4km s-min=2.7km az=6.0*
*IPEC **19** 17:38:05.0±0.2, 50°.22N×19°.16E, h0km, ML2.0/3, Error ellipse: s-maj=2.9km s-min=1.1km az=169.0*
*PRU **19** 17:38:05.9, 50°.14N×19°.13E, h0km*

ISC 19 17:38:05.2±0.5, 50°.12N±0°.03×19°.16E±0°.03, h0km, n36, σ0°96/61, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.42	76	ePg	Pg	17 38 13.0	-0.3
OJC				eSg	Sg	17 38 18.5	-0.3
OJC	Ojcow	0.42	76	ePg	Pg	17 38 12.9	-0.4
baz=270							
OJC				eSg	Sg	17 38 18.5	-0.3
OKC	Ostrava-Krasne	0.71	247	ePG	Pg	17 38 19.2	+0.4
OKC				eSG	Sg	17 38 28.9	+0.9
19nm,0.4s							
OKC	Ostrava-Krasne	0.71	247	Pg	Pg	17 38 19.2	+0.4
OKC				Sg	Sg	17 38 28.9	+0.9
19nm,0.4s							
NIE	Niedzica	1.03	133	ePg	Pg	17 38 24.5	-0.3
NIE				eSg	Sg	17 38 39.4	+1.3
NIE	Niedzica	1.03	133	ePg	Pg	17 38 24.5	-0.3
NIE				eSg	Sg	17 38 39.4	+1.3
LIKS	Likavka	1.07	182	ePG	Pg	17 38 26.8	+1.1
LIKS				eSG	Sg	17 38 39.9	+0.3
LIKS	Likavka	1.07	182	ePg	Pg	17 38 26.8	+1.1
LIKS				eSg	Sg	17 38 39.9	+0.3
MORC	Moravsky Berou	1.10	252	ePg	Pg	17 38 26.5	+0.3
baz=66							
MORC				eSg	Sg	17 38 40.8	+0.4
23nm,0.3s,baz=66							
STHS	Stebnicka Huta	1.52	117	ePN	Pn	17 38 34.4	+0.7
STHS	Stebnicka Huta	1.52	117	ePn	Pn	17 38 34.4	+0.7
KRLC	Kraliky	1.53	269	eSG	Sn	17 38 53.6	-0.7
KRLC	Kraliky	1.53	269	Sg	Sn	17 38 53.6	-0.7
KOLL	Kolacno	1.62	198	eSN	Sn	17 38 56.9	+0.4
KOLL	Kolacno	1.62	198	eSn	Sn	17 38 57.0	+0.5
VYHS	Vyhne	1.64	187	ePN	Pn	17 38 34.5	-0.7
VYHS				eSN	Sn	17 38 55.7	-1.3
VYHS	Vyhne	1.64	187	ePn	Pn	17 38 34.5	-0.7
VYHS				eSn	Sn	17 38 55.7	-1.3
DPC	Dobruska-Polom	1.83	278	ePG	Pn	17 38 37.5	-0.4
DPC				eSG	Sn	17 39 02.0	+0.2
14nm,0.3s							
DPC	Dobruska-Polom	1.83	278	ePn	Pn	17 38 37.7	-0.2
baz=93							
DPC				eSg	Sn	17 39 02.2	+0.4
baz=93							
VRAC	Vranov	1.85	245	ePn	Pn	17 38 38.5	+0.4
baz=60							
VRAC				eSg	Sg	17 39 04.3	-0.3
10nm,0.3s,baz=60							
KECS	Kecovo	1.85	152	ePn	Pn	17 38 37.2	-1.0
KECS				eSN	Sn	17 39 00.7	-1.6
KECS	Kecovo	1.85	152	ePn	Pn	17 38 37.2	-1.0
KECS				eSn	Sn	17 39 00.7	-1.6
CRVS	Cervenica-Dubn	1.93	128	ePN	Pg	17 38 41.4	-0.8
CRVS				eSN	Sg	17 39 06.6	-0.7
CRVS	Cervenica-Dubn	1.93	128	ePn	Pg	17 38 41.4	-0.8
CRVS				eSn	Sg	17 39 06.6	-0.7
KSP	Ksiaz	1.97	293	ePg	Pg	17 38 42.9	0.0
KSP				eSg	Sg	17 39 08.3	-0.1
KSP	Ksiaz	1.97	293	ePg	Sg	17 38 42.9	0.0
KSP				eSg	Sg	17 39 08.3	-0.1
KRUC	Moravsky	2.09	241	ePn	Pn	17 38 41.8	+0.4
baz=56							
KRUC				eSn	Sn	17 39 10.3	+2.3
10nm,0.6s,baz=56							
KOLS	Kolonicke sedl	2.35	119	e	Pg	17 38 51.8	+1.6
KOLS	Kolonicke sedl	2.35	119	eSN	Sn	17 39 15.1	+0.5
KOLS	Kolonicke sedl	2.35	119	eSn	Sn	17 39 15.1	+0.5
PRU	Pruhonice	2.98	269	eSG	Sg	17 39 38.0	-2.8
2.5nm,0.3s							
PRU	Pruhonice	2.98	269	Sg	Sg	17 39 38.0	-2.8
2.5nm,0.3s							
BRG	Berggiesshubel	3.41	285	SG	Sg	17 39 54.3	-0.5
4.1nm,0.4s							
KHC	Kasperske Hory	3.76	257	ePN	Pn	17 39 04.5	+0.1
KHC				ex	x	17 39 17.0	
KHC				eSN	Sn	17 39 48.5	-0.8
KHC				eSG	Sg	17 40 04.5	-1.4
KHC	Kasperske Hory	3.76	257	Pn	Pn	17 39 04.5	+0.1
KHC				Sn	Sn	17 39 48.5	-0.8
KHC				Sg	Sg	17 40 04.5	-1.4
CLL	Collm	4.09	289	eSg	Sg	17 40 19.0	+2.5

*TRN **19** 17:40:32.4, 19°.48N×64°.53W, h34km, MD3.4(RSPR)*

RSPR 19 17:40:33.9, 19°.57N×64°.50W, h32km±18km, MD3.4/3, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	1.28	200	⇑eP	Pn	17 40 54.2	-1.4
STVI	Saint Thomas	1.28	200	⇑eP	Pn	17 40 54.2	-1.4
STVI				eS	Sn	17 41 09.9	-1.8
MTP	Monte Pirata	1.77	214	⇑eP	Pn	17 41 01.3	-1.0
MTP	Monte Pirata	1.77	214	⇑eP	Pn	17 41 01.3	-1.0
CBYP	Canovanas	1.82	225	⇑eP	Pn	17 41 01.4	-1.6
CBYP	Canovanas	1.82	225	⇑eP	Pn	17 41 01.4	-1.6
CBYP				eS	Sn	17 41 23.4	-1.5

*IDC **19** 17:43:21.9±1.1, 32°.63S×71°.86W, h0km, mb4.1/4, mb1 4.1/8, mb1mx4.0/15, mbtmp4.0/8, ML4.2/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/28, Error ellipse: s-maj=35.6km s-min=27.3km az=92.0*
*ISCJB **19** 17:43:25.0±1.0, 32°.60S±0°.03×71°.92W±0°.08, h30km±6km, mb4.0/5, Error ellipse: s-maj=11.1km s-min=5.1km az=165.2*
*NEIC **19** 17:43:26.1, 32°.61S×71°.83W, h30km, mb3.7/2, ML4.2(GUC), After GUC.*
NEIC Felt [II] at Petorca and Puchuncavi.
*GUC **19** 17:43:26.1±0.7, 32°.61S×71°.83W, h30km±6km, ML4.2*

ISC 19 17:43:25.6±1.0, 32°.61S±0°.03×71°.87W±0°.07, h21km±6km, n49, σ0°85/50, mb4.0/5, 11C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.46	155	⇑iP	Pb	17 43 35.2	+0.2
IHA	Instituto Hidr	0.46	155	⇑iP	Pb	17 43 35.2	+0.2
CHNG	Los Chungos	0.79	24	i P	Pb	17 43 40.3	-0.3
CHNG				i S	Sb	17 43 51.3	+0.4
ROCH	El Roble	0.81	117	⇓iP	Pb	17 43 40.7	-0.3
ROCH				i S	Sb	17 43 51.0	-0.5
ROCH				AML	AML	17 43 52.4	
comp=N,12μm,0.5s							
LCCH	Las Cruces	0.90	164	eP	Pb	17 43 42.5	+0.1
LCCH	Las Cruces	0.90	164	eP	Pb	17 43 42.5	+0.1
JACH	Jahuel	1.08	94	⇑iP	Pn	17 43 44.5	-0.9
JACH	Jahuel	1.08	94	⇑iP	Pn	17 43 44.5	-0.9
PEL	Peldehue	1.13	118	⇑iP	Pn	17 43 45.9	-0.2
PEL				i S	Sb	17 44 00.5	-0.3
PEL				AML	AML	17 44 02.6	
comp=E,18μm,0.4s							
TACH	Talagante	1.30	143	⇑iP	Pn	17 43 48.4	-0.1
TACH	Talagante	1.30	143	⇑iP	Pn	17 43 48.4	-0.1
SAN	Santiago	1.32	130	⇑iP	Pn	17 43 48.9	+0.1
SAN				i S	Sn	17 44 05.6	-0.1
SAN	Santiago	1.32	130	⇑iP	Pn	17 43 48.9	+0.1
SAN				i S	Sn	17 44 05.6	-0.1
CLCH	Cerro Calan	1.37	125	⇓iP	Pn	17 43 49.6	+0.2
CLCH				i S	Sn	17 44 07.2	+0.3
CLCH				AML	AML	17 44 13.9	
comp=E,7μm,0.7s							
LNV	Longovilo	1.40	164	eP	Pn	17 43 49.4	-0.4
LNV	Longovilo	1.40	164	eP	Pn	17 43 49.4	-0.4
PCH	Pirque	1.52	132	⇑iP	Pn	17 43 52.0	+0.5
PCH	Pirque	1.52	132	⇑iP	Pn	17 43 52.0	+0.5
CACH	El Canelo	1.84	145	eP	Pn	17 43 57.6	+1.7
CACH	El Canelo	1.84	145	eP	Pn	17 43 57.6	+1.7
CFAA	Coronel Fontan	3.24	73	Pn	Pn	17 44 17.6	+2.4
comp=E,3.4nm,0.3s,baz=247,slow=12,SNR=99							
CFAA				Lg		17 45 04.3	
comp=E,3.5nm,0.3s,baz=82,slow=18,SNR=5.3							
CFAA	Coronel Fontan	3.24	73	Pn	Pn	17 44 17.6	+2.4
CFAA				Lg		17 45 04.3	
LCO	Las Campanas	3.73	16	ePn	Pn	17 44 22.0	+0.1
LCO				eSn	Sn	17 45 06.3	+1.3
PLCA	Paso Flores	8.18	173	Pn	Pn	17 45 23.6	+0.8
comp=E,0.5nm,0.3s,baz=330,slow=11,SNR=5.4							
PLCA	Paso Flores	8.18	173	ePn	Pn	17 45 19.9	-3.0
TRQA	Tornquist	9.73	127	ePn	Pn	17 45 45.0	+0.7
comp=E,16nm,1.1s							
LVC	Limon Verde	10.30	15	ePn	Pn	17 45 46.6	-5.4
LVC				eSn	Sn	17 47 43.0	-3.9
CPUP	Villa Florida	14.12	67	Pn	Pn	17 46 45.1	+0.8
comp=E,0.9nm,0.3s,baz=227,slow=10,SNR=5.0							
CPUP				LR	LR	17 52 25.6	
comp=E,143nm,20.4s,baz=38,slow=38							
CPUP	Villa Florida	14.12	67	ePn	Pn	17 46 42.0	-2.4
LPAZ	La Paz	16.60	13	Pn	Pn	17 47 17.8	+0.8
comp=E,0.2nm,0.3s,baz=196,slow=7.0,SNR=10							
LPAZ	La Paz	16.60	13	ePn	Pn	17 47 16.7	-0.4
comp=E,3.2nm,0.9s							
SIV	San Ignacio	19.23	33	P	Pn	17 47 48.0	-1.4
comp=E,0.3nm,0.3s,baz=211,slow=11,SNR=7.7							
SIV	San Ignacio	19.23	33	P	Pn	17 47 48.0	-1.4
SAML	Samuel	24.88	21	eP	P	17 48 45.5	-1.4
comp=E,2.9nm,0.9s,mb3.8							
TXAR	Lajitas Array	68.59	330	P	P	17 54 27.3	+0.5
comp=E,0.3nm,0.6s,mb3.4,baz=157,slow=10.0,SNR=4.3							
TXAR	Lajitas Array	68.59	330	P	P	17 54 27.3	+0.5
DBIC	Dimbokro	74.61	72	P	P	17 55 03.0	-0.4
comp=E,2.3nm,0.6s,mb4.3,baz=242,slow=7.0,SNR=6.8							
DBIC	Dimbokro	74.61	72	P	P	17 55 03.0	-0.4
BOSA	Boshof	80.59	118	P	P	17 55 36.5	-0.3
comp=E,1.5nm,0.7s,mb4.1,baz=255,slow=6.3,SNR=4.5							
BOSA	Boshof	80.59	118	P	P	17 55 36.5	-0.3
TORD	Torodi Ar. Bea	83.61	70	P	P	17 55 52.2	-0.4
comp=E,2.6nm,0.7s,mb4.5,baz=264,slow=4.3,SNR=19							
TORD	Torodi Ar. Bea	83.61	70	P	P	17 55 52.2	-0.4
WRA	Warramunga Arr	122.04	209	PKP	PKPdf	18 02 18.3	-0.7
comp=E,0.6nm,1.1s,baz=158,slow=1.8,SNR=6.0							
WRA	Warramunga Arr	122.04	209	PKP	PKPdf	18 02 18.3	-0.7
ZAA0	Zalesovo Array	152.97	31	ePKPbc	PKPbc	18 03 20.1	-0.5
ZALV	Zalesovo Beam	152.97	31	PKPbc	PKPbc	18 03 20.6	0.0
comp=E,3.1nm,0.7s,baz=303,slow=2.8,SNR=17							
ZALV	Zalesovo Beam	152.97	31	PKPbc	PKPbc	18 03 20.6	0.0
MKAR	Makanchi Array	155.73	47	PKPab	PKPab	18 03 43.2	-0.7
comp=E,0.9nm,0.7s,baz=281,slow=3.7,SNR=5.3							
MKAR	Makanchi Array	155.73	47	PKPab	PKPab	18 03 43.2	-0.7

*ISCJB **19** 17:44:50.0±4.9, 32°.58S±0°.10×72°.6W±0°.3, h27km±36km, mb4.2/2, Error ellipse: s-maj=40.3km s-min=15.8km az=6.5*
*IDC **19** 17:44:50.3±2.6, 32°.59S×71°.90W, h0km, mb4.2/2, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=94.3km s-min=29.5km az=93.0*
*NEIC **19** 17:44:52.5±4.0, 32°.55S×72°.44W, h26km±28km, Error ellipse: s-maj=29.5km s-min=12.0km az=97.0*

ISC 19 17:44:53.7±2.3, 32°.5S±0°.1×72°.4W±0°.3, h40km±20km, n17, σ0°79/13, mb4.2/2, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.69	76	Pn	Pn	17 45 48.6	+0.4
1.3nm,0.3s,baz=259,slow=10.7,SNR=2.9							
CFAA				Lg		17 46 34.1	
4.5nm,0.3s,baz=134,slow=18,SNR=4.4							
CFAA	Coronel Fontan	3.69	76	Pn	Pn	17 45 48.6	+0.4
CFAA				Lg		17 46 34.1	
PLCA	Paso Flores	8.31	170	Pn	Pn	17 46 51.5	-0.1
0.4nm,0.3s,baz=346,slow=8.3,SNR=3.7							
PLCA	Paso Flores	8.31	170	ePn	Pn	17 46 51.1	-0.5
LPAZ	La Paz	16.65	15	Pn	Pn	17 48 45.5	+1.3
0.1nm,0.3s,baz=205,slow=9.9,SNR=2.2							
LPAZ	La Paz	16.65	15	ePn	Pn	17 48 45.1	+0.9
SIV	San Ignacio	19.44	35	P	Pn	17 49 16.7	-1.6
0.4nm,0.3s,baz=244,slow=10,SNR=4.6							
SIV	San Ignacio	19.44	35	P	Pn	17 49 16.7	-1.6
SAML	Samuel	25.00	22	P	P	17 50 13.5	-0.3
BOSA	Boshof	81.04	118	P	P	17 57 05.3	+0.5
1.7nm,0.8s,mb4.0,baz=240,slow=8.1,SNR=2.7							
BOSA	Boshof	81.04	118	P	P	17 57 05.3	+0.5
TORD	Torodi Ar. Bea	84.03	70	P	P	17 57 20.6	+0.1
1.7nm,0.7s,mb4.3,baz=257,slow=4.5,SNR=7.3							
TORD	Torodi Ar. Bea	84.03	70	P	P	17 57 20.6	+0.1
ZALV	Zalesovo Beam	153.16	30	PKPbc	PKPbc	18 04 48.7	+2.1
1.5nm,0.8s,baz=325,slow=2.3,SNR=3.1							
ZALV	Zalesovo Beam	153.16	30	PKPbc	PKPbc	18 04 48.7	+2.1
MKAR	Makanchi Array	156.03	46	PKPab	PKPab	18 05 12.2	+1.3
0.8nm,0.7s,baz=305,slow=3.8,SNR=4.6							
MKAR	Makanchi Array	156.03	46	PKPab	PKPab	18 05 12.2	+1.3

*ISCJB **19** 18:02:55.8±0.8, 24°.14S±0°.08×67°.1W±0°.1, h179km±17km, Error ellipse: s-maj=20.2km s-min=13.3km az=178.0*
*NEIC **19** 18:02:56.8±0.8, 24°.10S×67°.05W, h169km±10km, mb3.6/3, Error ellipse: s-maj=16.3km s-min=11.5km az=95.0*
*IDC **19** 18:02:58.6±4.0, 24°.04S×66°.85W, h177km±31km, mb3.3/1, mb1 3.1/4, mb1mx3.0/16, mbtmp3.0/4, Error ellipse: s-maj=46.4km s-min=31.5km az=45.0*

GUC 19 18:13:37.6±0.7, 32°.39S×71°.64W, h50km±9km, MD4.1, ML3.8, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.52**	**13**	⇑*iP*	Pn	18 13 48.8	-0.3
PTCH	**Petorca**	**0.62**	**78**	⇑*eP*	Pn	18 13 50.9	+0.7
PTCH				*eS*	Sn	18 14 00.8	+1.4
PTCH				AML	AML	18 14 01.6	
	comp=N,11μm,0.3s						
IHA	**Instituto Hidr**	**0.63**	**180**	⇓*iP*	Pn	18 13 50.8	+0.4
IHA				*eS*	Sn	18 14 00.6	+0.9
ROCH	**El Roble**	**0.78**	**138**	⇓*iP*	Pn	18 13 52.9	+0.5
ROCH				*eS*	Sn	18 14 04.6	+1.4
JACH	**Jahuel**	**0.93**	**108**	⇑*iP*	Pn	18 13 54.6	+0.3
PEL	**Peldehue**	**1.10**	**133**	⇑*iP*	Pn	18 13 57.4	+0.8
PEL				*eS*	Sn	18 14 12.0	+1.2
PEL				AML	AML	18 14 13.1	
	comp=N,12μm,0.4s						
RCDM	**Rinconada Maip**	**1.30**	**148**	*eP*	Pn	18 13 59.8	+0.4
RCDM				*eS*	Sn	18 14 16.5	+0.9
RCDM				AML	AML	18 14 19.4	
	comp=N,3μm,0.1s						
SAN	**Santiago**	**1.34**	**142**	*eP*	Pn	18 14 00.4	+0.5
SAN				*i S*	Sn	18 14 17.5	+0.9
CLCH	**Cerro Calan**	**1.36**	**137**	*eP*	Pn	18 14 00.8	+0.6
CLCH				*eS*	Sn	18 14 18.4	+1.2
CLCH				AML	AML	18 14 25.1	
	comp=E,2μm,0.7s						
TACH	**Talagante**	**1.39**	**155**	*eP*	Pn	18 14 01.3	+0.7
TACH				*i S*	Sn	18 14 18.7	+0.9
ANTU	**Antumapu**	**1.45**	**144**	*eP*	Pn	18 14 01.9	+0.5
ANTU				*eS*	Sn	18 14 20.5	+1.3
ANTU				AML	AML	18 14 23.5	
	comp=E,1μm,0.4s						
FCH	**Farellones**	**1.47**	**130**	⇓*eP*	Pn	18 14 00.5	-1.2
FCH				*eS*	Sn	18 14 20.7	+0.9
FCH				AML	AML	18 14 22.2	
	comp=E,1μm,0.6s						
PCH	**Pirque**	**1.55**	**143**	*eP*	Pn	18 14 03.5	+0.7
PCH				*i S*	Sn	18 14 23.2	+1.5
LNV	**Longovilo**	**1.57**	**173**	*eP*	Pn	18 14 02.8	-0.2
SJCH	**San Jose de Ma**	**1.65**	**139**	*eP*	Pn	18 14 04.9	+0.8
SJCH				*eS*	Sn	18 14 25.7	+1.6
CHCH	**Chadas Angostu**	**1.75**	**152**	*eP*	Pn	18 14 06.3	+0.9
OVCH	**Ovalle**	**1.82**	**12**	*eP*	Pn	18 14 05.9	-0.5
OVCH				*eS*	Sn	18 14 27.1	-1.2
OVCH				AML	AML	18 14 29.9	
	comp=N,767nm,0.6s						
LMEL	**Las Melosas**	**1.89**	**141**	*eP*	Pn	18 14 08.6	+1.3
LMEL				*eS*	Sn	18 14 31.9	+1.9
LMEL				AML	AML	18 14 33.2	
	comp=N,1μm,0.1s						
CACH	**El Canelo**	**1.93**	**153**	*eP*	Pn	18 14 09.6	+1.6

GUC 19 18:26:24.7±0.5, 32°.62S×71°.81W, h15km±999km, MD4.1, ML3.6, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.76**	**118**	⇓*iP*	Pg	18 26 38.8	-0.6
ROCH				*eS*	Sg	18 26 49.0	-0.4
ROCH				AML	AML	18 26 49.8	
	comp=E,3μm,0.7s						
CHNG	**Los Chungos**	**0.78**	**20**	⇓*iP*	Pg	18 26 38.7	-1.2
CHNG				*i S*	Sg	18 26 49.2	-0.8
PTCH	**Petorca**	**0.82**	**65**	⇑*iP*	Pg	18 26 39.9	-0.7
PTCH				*i S*	Sg	18 26 51.2	-0.3
PTCH				AML	AML	18 26 54.5	
	comp=E,4μm,0.2s						
JACH	**Jahuel**	**1.02**	**94**	⇑*iP*	Pb	18 26 42.8	-1.4
PEL	**Peldehue**	**1.08**	**119**	⇑*eP*	Pb	18 26 43.7	-1.3
PEL				*eS*	Sb	18 26 58.3	-0.7
PEL				AML	AML	18 27 01.1	
	comp=N,6μm,0.5s						
RCDM	**Rinconada Maip**	**1.21**	**136**	*eP*	Pn	18 26 45.8	-1.2
RCDM				*i S*	Sb	18 27 01.2	-1.5
RCDM				AML	AML	18 27 09.2	
	comp=E,2μm,0.1s						
SAN	**Santiago**	**1.27**	**131**	*eP*	Pn	18 26 46.8	-1.1
SAN				*eS*	Sb	18 27 03.5	-1.0
CLCH	**Cerro Calan**	**1.32**	**126**	⇓*iP*	Pn	18 26 47.7	-0.9
CLCH				*eS*	Sb	18 27 04.8	-1.0
CLCH				AML	AML	18 27 09.9	
	comp=E,2μm,0.6s						
ANTU	**Antumapu**	**1.37**	**134**	*eP*	Pn	18 26 48.8	-0.4
ANTU				AML	AML	18 27 11.9	
	comp=E,1μm,0.1s						
LNV	**Longovilo**	**1.37**	**166**	*eP*	Pn	18 26 47.5	-1.8
FCH	**Farellones**	**1.46**	**119**	⇓*eP*	Pn	18 26 42.5	-7.9
PCH	**Pirque**	**1.47**	**133**	⇓*eP*	Pn	18 26 50.1	-0.6
PCH				*i S*	Sn	18 27 09.6	-0.1
SJCH	**San Jose de Ma**	**1.59**	**130**	*eP*	Pn	18 26 52.2	-0.1
SJCH				*eS*	Sn	18 27 11.8	-0.8
CHCH	**Chadas Angostu**	**1.63**	**144**	*eP*	Pn	18 26 52.6	-0.2
CACH	**El Canelo**	**1.80**	**146**	⇑*iP*	Pn	18 26 55.8	+0.6
LMEL	**Las Melosas**	**1.82**	**133**	*eP*	Pn	18 26 55.9	+0.4
LMEL				*i S*	Sn	18 27 19.1	+0.9
LMEL				AML	AML	18 27 22.3	
	comp=N,1μm,0.1s						

*ISCJB **19** 18:29:02.6±0.2, 45°.04N±0°.01×106°.79W±0°.02, h0km, Error ellipse: s-maj=1.9km s-min=1.8km az=32.0*
*IDC **19** 18:29:02.3±1.1, 45°.11N×107°.07W, h0km, mb1 3.7/4, mb1mx3.4/27, mbtmp3.4/4, ML2.9/3, Error ellipse: s-maj=35.0km s-min=7.8km az=131.0*
*NEIC **19** 18:29:03.0±0.5, 45°.10N×106°.71W, h0km, ML3.1, Error ellipse: s-maj=6.5km s-min=5.6km az=58.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] NNE of Sheridan.

ISC 19 18:29:03.4±0.2, 45°.05N±0°.01×106°.77W±0°.02, h0km, n118, σ0°78/143, 38C-40D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G21A	**Lodge Grass**	**0.35**	**299**	P	**Pg**	**18 29 10.2**	**0.0**
	baz=0.4,SNR=331						
G21A				⇑S	**Sg**	**18 29 15.9**	**+1.2**
	baz=0.4						
G22A	**Birney**	**0.38**	**64**	P	**Pg**	**18 29 10.8**	**+0.2**
	baz=0.4,SNR=28						
H21A	**Big Horn, Sher**	**0.47**	**204**	P	**Pg**	**18 29 12.3**	**0.0**
	baz=0.5,SNR=257						
H22A	**Clearmont**	**0.55**	**147**	P	**Pg**	**18 29 13.9**	**+0.1**
	baz=0.5,SNR=124						
H22A				⇓S	**Sg**	**18 29 20.8**	**-0.1**
	baz=0.5						
F21A	**Absaloka Mine,**	**0.81**	**342**	⇓P	**Pg**	**18 29 18.6**	**-0.3**
	baz=0.8,SNR=49						
F22A	**Rosebud**	**0.81**	**26**	P	**Pg**	**18 29 18.8**	**-0.2**
	baz=0.8,SNR=106						
F22A				⇓S	**Sg**	**18 29 29.8**	**+0.4**
	baz=0.8						
G23A	**Biddle**	**0.99**	**81**	⇓P	**Pg**	**18 29 22.2**	**-0.1**
	baz=1.0,SNR=66						
G23A				⇑S	**Sg**	**18 29 35.5**	**+0.4**
	baz=1.0						
G20A	**Bridger**	**1.03**	**280**	⇑S	**Sg**	**18 29 36.3**	**-0.3**
	baz=1.0						
H20A	**Greybull**	**1.04**	**238**	⇓S	**Sg**	**18 29 36.6**	**-0.2**
	baz=1.0						
H23A	**Clabaugh Cattl**	**1.09**	**116**	P	**Pg**	**18 29 23.3**	**-1.0**
	baz=1.1,SNR=47						
F23A	**Volborg**	**1.17**	**55**	⇓P	**Pg**	**18 29 25.0**	**-0.8**
	baz=1.2,SNR=32						
F23A				⇓S	**Sg**	**18 29 42.0**	**+1.0**
	baz=1.2						
I22A	**9 Mile Ranch,**	**1.18**	**170**	P	**Pg**	**18 29 25.2**	**-0.7**
	baz=1.2,SNR=458						
I22A				⇑S	**Sg**	**18 29 41.5**	**+0.3**
	baz=1.2						
F20A	**Billings**	**1.23**	**308**	⇓S	**Sg**	**18 29 42.4**	**-0.3**
	baz=1.2						
I23A	**Meade Ranch, G**	**1.44**	**139**	⇑P	**Pn**	**18 29 29.8**	**-0.9**
	baz=1.4,SNR=22						
I23A				⇓S	**Sg**	**18 29 49.5**	**-0.1**
	baz=1.4						
I20A	**Worland**	**1.47**	**222**	P	**Pn**	**18 29 30.0**	**-1.1**
	baz=1.5,SNR=394						
I20A				⇓S	**Sg**	**18 29 50.4**	**-0.1**
	baz=1.5						
E22A	**Miles City**	**1.50**	**22**	⇓P	**Pn**	**18 29 30.8**	**-0.7**
	baz=1.5,SNR=33						
E22A				⇑S	**Sg**	**18 29 51.8**	**+0.2**
	baz=1.5						
E21A	**Keefer Ranch,**	**1.50**	**352**	⇑P	**Pn**	**18 29 30.9**	**-0.7**
	baz=1.5,SNR=33						
E21A				⇓S	**Sg**	**18 29 51.6**	**-0.1**
	baz=1.5						
H24A	**Dirks Ranch, A**	**1.61**	**100**	P	**Pn**	**18 29 32.1**	**-0.8**
	baz=1.6,SNR=182						
H19A	**Powell**	**1.62**	**257**	⇓P	**Pn**	**18 29 32.7**	**-0.5**
	baz=1.6,SNR=170						
H19A				⇑S	**Sn**	**18 29 54.2**	**-0.5**
	baz=1.6						
J22A	**Midwest**	**1.65**	**173**	P	**Pn**	**18 29 33.0**	**-0.6**
	baz=1.6,SNR=213						
J22A				⇑S	**Sn**	**18 29 54.2**	**-1.3**
	baz=1.6						
LAO	**LASA Array**	**1.68**	**13**	⇓P	**Pn**	**18 29 33.9**	**0.0**
	baz=1.7,SNR=11						
G24A	**Alzada**	**1.69**	**80**	⇑P	**Pn**	**18 29 33.9**	**-0.2**
	baz=1.7,SNR=16						
G24A				⇑S	**Sn**	**18 29 56.6**	**+0.2**
	baz=1.7						
F19A	**Roth Farm, Mol**	**1.73**	**298**	P	**Pn**	**18 29 34.2**	**-0.4**
	baz=1.7,SNR=214						
F19A				⇓S	**Sn**	**18 29 56.4**	**-0.9**
	baz=1.7						
E20A	**Meyer Farm, Mu**	**1.73**	**327**	⇓P	**Pn**	**18 29 33.9**	**-0.8**
	baz=1.7,SNR=99						
E20A				⇓S	**Sn**	**18 29 57.0**	**-0.6**
	baz=1.7						
RLMT	**Red Lodge**	**1.77**	**273**	⇑P	**Pn**	**18 29 34.9**	**-0.3**
	baz=1.8,SNR=558						
RLMT				⇓S	**Sn**	**18 29 58.4**	**0.0**
	baz=1.8						
RLMT	**Red Lodge**	**1.77**	**273**	*e*Pn	**Pn**	**18 29 34.6**	**-0.6**
E23A	**Ismay**	**1.77**	**35**	⇓P	**Pn**	**18 29 35.1**	**-0.1**
	baz=1.8,SNR=16						
E23A				⇓Sb	**Sb**	**18 29 60.0**	**+0.5**
	baz=1.8						
J21A	**Lysite**	**1.77**	**196**	P	**Pn**	**18 29 34.4**	**-0.9**
	baz=1.8,SNR=327						
J21A				⇑S	**Sn**	**18 29 57.8**	**-0.7**
	baz=1.8						
F24A	**Ekalaka**	**1.82**	**63**	⇓P	**Pn**	**18 29 35.9**	**0.0**
	baz=1.8,SNR=9.7						
F24A				⇑Sb	**Sb**	**18 30 01.7**	**+0.9**
	baz=1.8						
J23A	**Dilts Ranch, B**	**1.87**	**152**	⇓P	**Pn**	**18 29 36.7**	**+0.2**
	baz=1.9,SNR=85						
J23A				⇑Sb	**Sb**	**18 30 03.2**	**+1.1**
	baz=1.9						
I19A	**Meeteetse**	**1.89**	**238**	P	**Pn**	**18 29 35.8**	**-1.0**
	baz=1.9,SNR=183						
J20A	**Shoshoni**	**1.94**	**210**	⇑P	**Pn**	**18 29 37.4**	**-0.2**
	baz=1.9,SNR=161						
I24A	**Kuemmerle Ranc**	**1.94**	**127**	P	**Pn**	**18 29 37.2**	**-0.4**
	baz=1.9,SNR=531						
G18A	**Lazy EL Ranch,**	**1.99**	**279**	⇑P	**Pn**	**18 29 38.1**	**-0.1**
	baz=2.0,SNR=628						
E19A	**Rath Farm, Rou**	**1.99**	**316**	⇓P	**Pn**	**18 29 37.8**	**-0.4**
	baz=2.0,SNR=71						
D21A	**La Casta Ranch**	**2.02**	**356**	⇑P	**Pn**	**18 29 38.9**	**+0.3**
	baz=2.0,SNR=15						
H18A	**Shoshone NF, C**	**2.09**	**261**	P	**Pn**	**18 29 39.1**	**-0.5**
	baz=2.1,SNR=376						
D22A	**Cohagen**	**2.14**	**11**	⇑P	**Pn**	**18 29 40.3**	**0.0**
	baz=2.1,SNR=26						
RSSD	**Black Hills**	**2.17**	**115**	*e*Pn	**Pn**	**18 29 40.1**	**-0.5**
GCMT	**Greycliff**	**2.17**	**291**	*e*Pn	**Pn**	**18 29 40.2**	**-0.5**
F18A	**Big Timber**	**2.24**	**293**	P	**Pn**	**18 29 41.2**	**-0.4**
	baz=2.2,SNR=149						
D20A	**Manuel Ranch,**	**2.25**	**336**	⇑P	**Pn**	**18 29 41.5**	**-0.3**
	baz=2.3,SNR=18						
D20A				⇓Sb	**Sb**	**18 30 14.2**	**+1.0**
	baz=2.3						
E24A	**Baker**	**2.29**	**48**	⇑P	**Pn**	**18 29 42.4**	**+0.1**
	baz=2.3,SNR=12						
D23A	**Lindsay**	**2.38**	**27**	⇑P	**Pn**	**18 29 44.0**	**+0.4**
	baz=2.4,SNR=20						
K22A	**Casper**	**2.41**	**176**	⇓P	**Pn**	**18 29 44.0**	**+0.1**
	baz=2.4,SNR=27						
J19A	**Crowheart**	**2.43**	**223**	⇓P	**Pn**	**18 29 44.7**	**+0.4**
	baz=2.4,SNR=235						
K21A	**Alcova**	**2.44**	**188**	⇓P	**Pn**	**18 29 44.9**	**+0.4**
	baz=2.4,SNR=63						
I18A	**Diamond G Ranc**	**2.57**	**239**	⇑P	**Pn**	**18 29 46.4**	**+0.2**
	baz=2.6,SNR=23						
E18A	**Harlowton**	**2.67**	**306**	⇑P	**Pn**	**18 29 47.5**	**0.0**
	baz=2.7,SNR=31						
D24A	**Glendive**	**2.67**	**39**	⇓P	**Pn**	**18 29 47.9**	**+0.3**
	baz=2.7,SNR=21						
K19A	**Absolon Red Bu**	**2.68**	**215**	⇓P	**Pn**	**18 29 48.2**	**+0.4**
	baz=2.7,SNR=116						
YNR	**Norris Junctio**	**2.80**	**264**	*e*Pn	**Pn**	**18 29 50.6**	**+1.2**
G17A	**Pierce Place,**	**2.82**	**277**	⇓P	**Pn**	**18 29 50.1**	**+0.4**
	baz=2.8,SNR=17						
F17A	**Fitzpatrick Pl**	**2.87**	**289**	⇑P	**Pn**	**18 29 50.7**	**+0.4**
	baz=2.9,SNR=44						
YFT	**Old Faithful**	**2.96**	**260**	*e*Pn	**Pn**	**18 29 53.6**	**+2.1**
C24A	**Savage**	**2.96**	**32**	⇓P	**Pn**	**18 29 52.3**	**+0.7**
	baz=3.0,SNR=42						
C24A				⇓S	**Sn**	**18 30 28.1**	**+0.2**
	baz=3.0						
FLWY	**Flagg Ranch**	**2.97**	**252**	*e*Pn	**Pn**	**18 29 53.7**	**+2.0**
YMR	**Madison River**	**3.01**	**264**	*e*Pn	**Pn**	**18 29 54.4**	**+2.2**
L23A	**Garrett**	**3.04**	**165**	⇑P	**Pn**	**18 29 52.2**	**-0.4**
	baz=3.0,SNR=23						
PD02	**Pinedale Array**	**3.04**	**223**	*e*Pn	**Pn**	**18 29 54.1**	**+1.4**
BW06	**Boulder Array**	**3.04**	**222**	*e*Pn	**Pn**	**18 29 54.5**	**+1.8**
PDAR	**Pinedale Array**	**3.04**	**222**	Pn	**Pn**	**18 29 53.5**	**+0.7**
	15nm,0.3s,baz=53,slow=17,SNR=352						
PDAR				Pg	**Pg**	**18 29 55.4**	**-6.3**
	15nm,0.3s,baz=54,slow=17,SNR=358						
PDAR				Lg		18 30 34.2	
	15nm,0.3s,baz=34,slow=32,SNR=14						
PDAR	**Pinedale Array**	**3.04**	**222**	Pn	**Pn**	**18 29 53.5**	**+0.7**
PDAR				Pg	**Pg**	**18 29 55.4**	**-6.3**
PDAR				Lg		18 30 34.2	
PD01	**Pinedale Array**	**3.05**	**223**	*e*Pn	**Pn**	**18 29 53.3**	**+0.5**
LOHW	**Long Hollow**	**3.10**	**244**	*e*Pn	**Pn**	**18 29 52.6**	**-1.0**
C19A	**Slack Wire Ran**	**3.11**	**330**	⇑P	**Pn**	**18 29 53.6**	**-0.1**
	baz=3.1,SNR=5.8						
MOOW	**Moose Ponds**	**3.13**	**247**	*e*Pn	**Pn**	**18 29 52.7**	**-1.2**
SNOW	**Snow King Moun**	**3.27**	**242**	*e*Pn	**Pn**	**18 29 58.2**	**+2.3**
QLMT	**Earthquake Lak**	**3.31**	**268**	*e*Pn	**Pn**	**18 29 57.7**	**+1.2**
TPAW	**Teton Pass**	**3.38**	**244**	*e*Pn	**Pn**	**18 29 56.8**	**-0.6**
REDW	**Red Top Meadow**	**3.38**	**241**	*e*Pn	**Pn**	**18 29 57.8**	**+0.3**
D17A	**Six Diamond Ra**	**3.44**	**309**	⇓P	**Pn**	**18 29 57.6**	**-0.6**
	baz=3.4,SNR=20						
BOZ	**Bozeman (W)**	**3.48**	**282**	⇓P	**Pn**	**18 29 58.1**	**-0.6**
	baz=3.5,SNR=54						
BOZ	**Bozeman (W)**	**3.48**	**282**	*e*Pn	**Pn**	**18 29 58.0**	**-0.7**
G16A	**Moss Hill, Enn**	**3.57**	**275**	⇓P	**Pn**	**18 29 59.7**	**-0.2**
	baz=3.6,SNR=26						
EGMT	**Eagleton**	**3.62**	**326**	*e*Pn	**Pn**	**18 30 00.1**	**-0.4**
M23A	**Laramie**	**3.66**	**168**	⇑P	**Pn**	**18 30 01.5**	**+0.2**
	baz=3.7,SNR=8.9						
RRI2	**Red Ridge**	**3.69**	**244**	*e*Pn	**Pn**	**18 30 03.3**	**+1.8**
DGMT	**Dagmar**	**3.85**	**26**	⇑P	**Pn**	**18 30 04.4**	**+0.7**
	baz=3.9,SNR=14						
DGMT	**Dagmar**	**3.85**	**26**	*e*Pn	**Pn**	**18 30 04.2**	**+0.4**
PHWY	**Pilot Hill**	**3.87**	**165**	*e*Pn	**Pn**	**18 30 04.2**	**+0.1**
D16A	**Dana Ranch, Ca**	**3.87**	**302**	⇑P	**Pn**	**18 30 03.2**	**-0.9**
	baz=3.9,SNR=9.4						
AHID	**Auburn Hatcher**	**3.87**	**235**	Pn	**Pn**	**18 30 06.0**	**+1.9**
HRY	**Holter Researc**	**3.90**	**297**	*e*Pn	**Pn**	**18 30 06.0**	**+1.5**
LRM	**Limekiln Ridge**	**4.07**	**283**	*e*Pn	**Pn**	**18 30 06.5**	**-0.3**
F15A	**Butte**	**4.10**	**283**	⇑P	**Pn**	**18 30 06.9**	**-0.3**
	baz=4.1,SNR=11						
DLMT	**Dillon**	**4.13**	**276**	*e*Pn	**Pn**	**18 30 07.1**	**-0.5**
A24A	**Westby**	**4.31**	**25**	⇓P	**Pn**	**18 30 10.5**	**+0.3**
	baz=4.3,SNR=11						
MCMT	**McKenzie Canyo**	**4.32**	**269**	*e*Pn	**Pn**	**18 30 11.0**	**+0.8**
E15A	**Deer Lodge**	**4.33**	**291**	⇓P	**Pn**	**18 30 09.6**	**-0.8**
	baz=4.3,SNR=10						
D15A	**Lincoln**	**4.47**	**298**	⇑P	**Pn**	**18 30 12.2**	**-0.1**
	baz=4.5						
CHMT	**Chamberlain Mo**	**4.88**	**295**	*e*Pn	**Pn**	**18 30 17.5**	**-0.5**
O22A	**Kremmling**	**4.89**	**178**	⇑P	**Pn**	**18 30 18.9**	**+0.8**
	baz=4.9,SNR=11						
HWUT	**Hardware Ranch**	**4.91**	**227**	*e*Pn	**Pn**	**18 30 19.0**	**+0.7**
O19A	**Miners Draw (B**	**5.06**	**201**	⇓P	**Pn**	**18 30 21.0**	**+0.6**
	baz=5.0,SNR=12						
A16A	**West Butte Ran**	**5.11**	**321**	⇑P	**Pn**	**18 30 20.6**	**-0.5**
	baz=5.1						
SLMT	**Seeley Lake**	**5.16**	**298**	*e*Pn	**Pn**	**18 30 23.7**	**+1.9**
	4.6nm,0.5s						
ISCO	**Idaho Springs**	**5.32**	**170**	*e*Pn	**Pn**	**18 30 23.6**	**-0.4**
	4.6nm,0.5s						
OGNE	**Ogallala**	**5.38**	**138**	Pn	**Pn**	**18 30 25.1**	**+0.3**
	42nm,0.5s						
SWMT	**Swartz Lake**	**5.58**	**299**	*e*Pn	**Pn**	**18 30 26.8**	**-0.7**
	4.0nm,0.4s						
YBMT	**Yellow Bay**	**5.74**	**302**	*e*Pn	**Pn**	**18 30 29.3**	**-0.4**
	12nm,0.4s						
JTMT	**Jette**	**5.85**	**300**	*e*Pn	**Pn**	**18 30 31.5**	**+0.2**
	4.3nm,0.4s						
P18A	**Preston Nutter**	**6.00**	**207**	⇓P	**Pn**	**18 30 34.3**	**+0.9**
	baz=6.0,SNR=17						
F12A	**Elk City**	**6.01**	**280**	⇑P	**Pn**	**18 30 33.4**	**-0.2**
	baz=6.0						
BSMT	**Bassoo Peak**	**6.21**	**300**	*e*Pg	**Pg**	**18 30 56.3**	**-5.9**
	3.0nm,0.5s						
WALA	**Waterton Lakes**	**6.31**	**312**	*e*Pn	**Pn**	**18 30 35.6**	**-2.0**
	0.1nm,0.5s						
WALA				*e*Pg	**Pg**	**18 30 58.4**	**-5.8**
SRU	**San Rafael**	**6.56**	**206**	*e*Pn	**Pn**	**18 30 40.9**	**-0.2**
	5.6nm,0.4s						
TMUT	**Trail Mountain**	**6.63**	**211**	*e*Pn	**Pn**	**18 30 39.9**	**-2.1**
	6.2nm,0.5s						
S19A	**Harvey Farm, M**	**7.51**	**194**	⇓P	**Pn**	**18 30 53.7**	**-0.5**
	baz=7.5,SNR=9.7						
S18A	**Hurst Farm, Bl**	**7.74**	**199**	⇑P	**Pn**	**18 30 56.8**	**-0.5**
	baz=7.7,SNR=14						
S17A	**Black Ridge (B**	**8.01**	**204**	⇑P	**Pn**	**18 31 00.3**	**-0.5**
	baz=8.0,SNR=12						
ULM	**Lac du Bonnet**	**9.00**	**51**	Pn	**Pn**	**18 31 13.5**	**-1.0**
	0.9nm,0.3s,baz=244,slow=11,SNR=14						
ULM				Lg		18 33 38.7	
	0.3nm,0.3s,baz=0.4,slow=16,SNR=3.0						
ULM	**Lac du Bonnet**	**9.00**	**51**	Pn	**Pn**	**18 31 13.5**	**-1.0**
ULM				Lg		18 33 38.7	
V18A	**Ganado**	**9.64**	**196**	⇑P	**Pn**	**18 31 22.8**	**-0.4**
	baz=9.6						
TXAR	**Lajitas Array**	**15.88**	**170**	Pn	**Pn**	**18 32 49.2**	**+1.0**
	0.0nm,0.3s,baz=0.0,slow=12,SNR=3.2						
TXAR	**Lajitas Array**	**15.88**	**170**	Pn	**Pn**	**18 32 49.2**	**+1.0**
YKA	**Yellowknife Ar**	**18.05**	**348**	P	**Pn**	**18 33 11.7**	**-3.6**
	0.1nm,0.3s,baz=167,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**18.05**	**348**	P	**Pn**	**18 33 11.7**	**-3.6**

IDC 19 19:17:00.3±1.9, 17°.66S×173°.91W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=134.9km s-min=30.0km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.52**	**242**	P	P	19 24 57.0	-0.7
	1.0nm,0.7s,baz=90,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**48.89**	**259**	P	P	19 25 48.7	+0.4
	0.6nm,0.6s,baz=97,slow=7.2,SNR=13						
ASAR	**Alice Springs**	**48.98**	**254**	P	P	19 25 49.4	+0.5
	1.8nm,0.6s,baz=88,slow=8.2,SNR=44						
TXAR	**Lajitas Array**	**82.27**	**56**	P	P	19 29 24.8	+0.8
	0.6nm,0.9s,baz=213,slow=6.5,SNR=3.5						
BRTR	**Keskin Array B**	**147.56**	**318**	PKPbc	PKPbc	19 36 45.3	-1.5
	0.3nm,0.8s,baz=67,slow=3.7,SNR=2.3						

*IDC **19** 19:25:50.6±0.5, 32°.53S×71°.64W, h0km, mb4.5/12, mb1 4.7/15, mb1mx4.6/16, mbtmp4.5/15, ML4.5/3, MS4.6/16, Ms1 4.5/16, ms1mx4.4/23, Error ellipse: s-maj=26.5km s-min=16.1km az=74.0*
*ISCJB **19** 19:25:53.7±0.9, 32°.55S±0°.03×71°.88W±0°.05, h32km±6km, mb4.7/38, MS4.6/13, Error ellipse: s-maj=7.0km s-min=3.7km az=151.5*
*GUC **19** 19:25:54.7±0.8, 32°.58S×71°.81W, h14km±8km, ML4.9*
*MOS **19** 19:25:54.8±1.2, 32°.52S×71°.74W, h33km, mb5.1/16, Error ellipse: s-maj=18.1km s-min=8.5km az=103.0*
*NEIC **19** 19:25:54.1±1.0, 32°.50S×71°.75W, h23km±7km, mb4.9/32, ML4.9(GUC), Error ellipse: s-maj=7.6km s-min=4.0km az=75.0*
NEIC Felt [III] at Cabildo, Casablanca, La Ligua, Melipilla, Quillota, Valparaiso and Vina del Mar; [II] at La Calera, Rancagua and Santiago. Also felt at Limache.
*BJI **19** 19:25:58.0, 32°.50S×71°.60W, h45km, mB5.0/7, Ms5.2/8, Ms7 5.0/8*

ISC 19 19:25:54.7±0.8, 32°.54S±0°.03×71°.79W±0°.05, h26km±5km, n210, σ0°91/136, mb4.7/38, MS4.6/13, 14C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.50**	**166**	⇓*iP*	**Pb**	**19 26 03.9**	**-1.1**
IHA	**Instituto Hidr**	**0.50**	**166**	⇓*iP*	**Pb**	**19 26 03.9**	**-1.1**
CHNG	**Los Chungos**	**0.70**	**20**	⇓*iP*	**Pb**	**19 26 08.2**	**-0.1**
CHNG				*i S*	**Sb**	**19

CPUP Lg 19 32 57.5
CPUP Villa Florida 14.03 68 P Pn 19 29 11.8 0.0
CPUP 19 31 51.5
LPAZ La Paz 16.52 12 Pn **Pn 19 29 45.5 +0.8**
comp=N,0.8nm,0.3s,baz=180,slow=7.4,SNR=51
LPAZ La Paz 16.52 12 *e*Pn **Pn 19 29 45.3 +0.6**
comp=N,24nm,0.9s
LPAZ *e*PP 19 29 57.0
LPAZ La Paz 16.52 12 *e*P **Pn 19 29 45.3 +0.6**
LPAZ pmax pmax
comp=Z,24nm,0.9s
SIV San Ignacio 19.13 33 P **Pn 19 30 14.9 -1.9**
comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=43
SIV LR LR 19 38 57.0
comp=Z,3μm,18.6s,slow=41
SIV San Ignacio 19.13 33 P **Pn 19 30 14.9 -1.9**
NNA Nana 20.98 346 LR LR 19 37 27.9
comp=Z,684nm,18.2s,MS4.1,baz=170,slow=33
NNA Nana 20.98 346 *e*Pn **P 19 30 37.0 +1.0**
comp=Z,77nm,1.4s
NNA Nana 20.98 346 *e*P **P 19 30 37.1 +1.1**
NNA pmax pmax
comp=Z,77nm,1.4s
EFI East Falkland 21.60 156 *e*P **P 19 30 41.8 -0.6**
comp=Z,33nm,0.6s,mb4.9
EFI East Falkland 21.60 156 *e*P **P 19 30 41.8 -0.6**
EFI pmax pmax
comp=Z,33nm,0.6s,mb4.9
USHA Ushuaia 22.41 175 P **P 19 30 52.3 +1.2**
comp=Z,8.7nm,0.8s,mb4.2,baz=301,slow=11,SNR=4.1
USHA LR LR 19 40 24.4
comp=Z,883nm,19.1s,MS4.2,baz=343,slow=39
USHA Ushuaia 22.41 175 P **P 19 30 52.3 +1.2**
SPB Sao Paulo 23.22 74 *e*P **P 19 30 58.6 -1.4**
comp=Z,50nm,0.9s,mb4.9
SAML Samuel 24.79 21 *e*P **P 19 31 14.1 -0.5**
comp=Z,13nm,0.9s,mb4.5
ATAH Atahualpa 26.01 345 LR LR 19 40 05.7
comp=Z,653nm,18.6s,MS4.2,baz=328,slow=33
RPN Rapa Nui 32.90 269 LR LR 19 42 03.3
comp=Z,1μm,19.2s,MS4.6,baz=99,slow=30
OTAV Otavalo 33.20 348 P **P 19 32 28.9 -0.7**
SDV Santo Domingo 41.20 2 P **P 19 33 36.6 -0.8**
comp=Z,12nm,0.9s,mb4.5
VNA3 Neumayer Olymp 50.63 158 *e* **P 19 34 49.2 -1.9**
VNA2 Neumayer--Watz 51.28 158 *e* **P 19 34 56.5 +0.5**
VNA2 *e* 19 35 08.3
VNA2 *e* 19 36 11.6
SNAA Sanae 52.86 158 *e* **P 19 35 08.5 +0.8**
SNAA *e* 19 36 18.0
SNAA Sanae 52.86 158 *e*P **P 19 35 08.2 +0.5**
comp=Z,15nm,1.0s,mb4.9
SNAA Sanae 52.86 158 *e*P **P 19 35 08.2 +0.5**
SNAA pmax pmax
comp=Z,15nm,1.0s
TEIG Tepich 54.79 341 *e*P **P 19 35 22.6 +0.2**
comp=Z,16nm,0.9s,mb5.1
RKT Rikitea 55.96 263 *e*S **S 19 43 18.0 +0.3**
comp=Z,360nm,27.3s
RKT *e*LR LR 19 52 00.2
comp=Z,643nm,25.2s
QSPA South Pole Qui 57.70 180 *e*P **P 19 35 43.0 +0.5**
comp=Z,20nm,1.0s,mb5.1
VNDA Vanda 65.57 191 P **P 19 36 38.1 +2.5**
comp=Z,11nm,1.6s,mb4.6
VNDA Vanda 65.57 191 P **P 19 36 38.1 +2.5**
VNDA pmax pmax
comp=Z,11nm,1.6s
GOGA Godfrey 66.52 349 *e*P **P 19 36 41.1 -1.0**
comp=Z,150nm,2.9s,mb5.5
GOGA Godfrey 66.52 349 *e*P **P 19 36 41.1 -1.0**
GOGA pmax pmax
comp=Z,150nm,2.9s,mb5.5
TAOE Nuku Hiva Isla 67.07 274 *e*LR LR 19 57 07.9
comp=Z,678nm,24.3s
SYO Syowa Base 67.15 159‖ *e*P **P 19 36 43.9 -1.9**
SYO Syowa Base 67.15 159‖ *e*pP pP 19 36 56.5 +2.5
TBI Tubuai 67.87 256 *e*S S 19 45 49.9 +1.6
comp=Z,223nm,24.8s
TBI *e*LR LR 19 57 30.2
comp=Z,1μm,25.8s,baz=109
JCT Junction City 68.06 334 *e*P **P 19 36 52.2 +0.2**
JCT Junction City 68.06 334 *e*P **P 19 36 52.2 +0.2**
TXAR Lajitas Array 68.57 330 P **P 19 36 56.2 +1.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=155,slow=8.2,SNR=17
TXAR LR LR 20 02 38.8
comp=Z,291nm,18.2s,MS4.5,baz=180,slow=32
TXAR Lajitas Array 68.57 330 P **P 19 36 56.2 +1.1**
TXAR Lajitas Array 68.57 330 P **P 19 36 56.3 +1.1**
OXF Oxford 68.72 344 *e*P **P 19 36 55.5 -0.5**
comp=Z,34nm,1.1s,mb5.2
OXF Oxford 68.72 344 *e*P **P 19 36 55.5 -0.5**
OXF pmax pmax
comp=Z,34nm,1.1s,mb5.2
TKL Tuckaleechee C 68.76 350 *e*P **P 19 36 53.6 -2.6**
TKL Tuckaleechee C 68.76 350 *e*P **P 19 36 53.6 -2.6**
MIAR Mount Ida 69.80 341 *e*P **P 19 37 03.0 +0.3**
comp=Z,11nm,1.2s,mb4.7
MIAR Mount Ida 69.80 341 *e*P **P 19 37 03.0 +0.3**
MIAR pmax pmax
comp=Z,11nm,1.2s,mb4.7
WVT Waverly 69.94 346 *e*P **P 19 37 03.3 -0.2**
comp=Z,22nm,0.8s,mb5.1
WVT Waverly 69.94 346 *e*P **P 19 37 03.3 -0.2**
WVT pmax pmax
comp=Z,22nm,0.8s,mb5.1
BBTS Babate 70.65 57 LR LR 20 06 30.4
comp=Z,527nm,21.0s,MS4.8,baz=342,slow=35
PPT2 Papeete2 70.66 261 *e*S S 19 46 22.6 +1.3
comp=Z,222nm,25.0s
PPT2 *e*LR LR 19 58 46.5
comp=Z,437nm,24.5s,baz=112
MNTX Cornudas Mount 71.35 330 *e*P **P 19 37 11.7 -0.5**
comp=Z,5.3nm,1.0s,mb4.4
BLO Bloomington 72.65 348 *e*P **P 19 37 20.4 +0.6**
BLO Bloomington 72.65 348 *e*P **P 19 37 20.4 +0.6**
ACSO Alum Creek Sta 73.14 351 *e*P **P 19 37 22.9 +0.1**
comp=Z,21nm,0.7s,mb5.2
DBIC Dimbokro 74.51 71 P **P 19 37 31.0 -0.4**
comp=Z,22nm,0.8s,mb5.1,baz=211,slow=6.0,SNR=31
DBIC LR LR 20 06 24.6
comp=Z,429nm,22.0s,MS4.7,baz=207,slow=33
DBIC Dimbokro 74.51 71 *e*P **P 19 37 30.6 -0.8**
comp=Z,20nm,0.8s,mb5.1
DBIC Dimbokro 74.51 71 *e*P **P 19 37 30.6 -0.8**
DBIC pmax pmax
comp=Z,20nm,0.8s
MAW Mawson 74.52 164 P **P 19 37 30.8 +0.2**
comp=Z,11nm,0.9s,mb4.8,baz=240,slow=6.1,SNR=12
MAW LR LR 20 12 48.9
comp=Z,681nm,18.8s,MS5.0,baz=221,slow=38
MAW Mawson 74.52 164 *e*P **P 19 37 31.0 +0.4**
MAW Mawson 74.52 164 *e*P **P 19 37 30.8 +0.2**
comp=Z,3.6nm,1.0s,mb4.3
MAW Mawson 74.52 164 *e*P **P 19 37 30.8 +0.2**
MAW pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 74.61 331 P **P 19 37 33.1 +1.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=200,slow=2.7,SNR=4.4
ANMO Albuquerque 74.61 331 *e*P **P 19 37 33.0 +1.6**
comp=Z,11nm,1.3s,mb4.6
ANMO Albuquerque 74.61 331 *e*P **P 19 37 33.1 +1.6**
ANMO pmax pmax
comp=Z,11nm,1.3s
SUR Sutherland 75.35 119 *e*P **P 19 37 36.7 +0.7**
comp=Z,21nm,0.8s,mb5.1
WUAZ Wupatki 77.21 328 *e*P **P 19 37 53.9 +7.6**
comp=Z,12nm,1.1s,mb4.7
MVCO Mesa Verde 77.39 331 *e*P **P 19 37 47.7 +0.4**
comp=Z,16nm,1.3s,mb4.8
ECSD EROS Data Cent 79.22 342 *e*P **P 19 37 57.1 -0.1**
comp=Z,13nm,0.8s,mb4.9
CCUT Cedar City 79.78 328 P **P 19 37 59.8 -0.6**
comp=Z,15nm,1.4s,mb4.7
SRU San Rafael 79.85 330 *e*P **P 19 38 01.8 +1.1**
comp=Z,10nm,1.3s,mb4.6
SRU San Rafael 79.85 330 *e*P **P 19 38 01.8 +1.1**
SRU pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
BOSA Boshof 80.56 118 P **P 19 38 05.2 +0.2**
comp=Z,18nm,1.0s,mb5.0,baz=225,slow=6.4,SNR=18
BOSA LR LR 20 11 13.6
comp=Z,535nm,18.2s,MS4.9,baz=166,slow=34
BOSA Boshof 80.56 118 *e*P **P 19 38 04.3 -0.8**
comp=Z,13nm,0.8s,mb4.9
BOSA Boshof 80.56 118 *e*P **P 19 38 04.3 -0.8**
BOSA pmax pmax
comp=Z,13nm,0.8s,mb4.9
ISA Isabella 80.73 323 *e*P **P 19 38 04.8 -0.7**
ISA Isabella 80.73 323 *e*P **P 19 38 04.9 -0.7**
DUG Dugway 81.72 329 *e*P **P 19 38 11.9 +1.2**
comp=Z,9.6nm,1.3s,mb4.6
DUG Dugway 81.72 329 *e*P **P 19 38 11.9 +1.2**
DUG pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
RSSD Black Hills 81.77 337 *e*P **P 19 38 11.3 +0.4**
comp=Z,4.8nm,1.0s,mb4.4
RSSD Black Hills 81.77 337 *e*P **P 19 38 11.3 +0.4**
RSSD pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
HWUT Hardware Ranch 82.37 331 *e*P **P 19 38 13.1 -1.0**
PDAR Pinedale Array 82.56 333 P **P 19 38 16.2 +1.2**
comp=Z,0.5nm,0.7s,mb3.7,baz=159,slow=6.8,SNR=4.4
PDAR Pinedale Array 82.56 333 P **P 19 38 16.2 +1.2**
LBTB Lobatse 82.72 115 *e*P **P 19 38 15.5 -1.1**
comp=Z,17nm,1.1s,mb5.0
LBTB Lobatse 82.72 115 *e*P **P 19 38 15.5 -1.1**
LBTB pmax pmax
comp=Z,17nm,1.1s,mb5.0
NVAR Mina Array Bea 82.81 325 P **P 19 38 17.4 +1.0**
comp=Z,0.5nm,0.6s,mb3.8,baz=120,slow=8.7,SNR=4.0
NVAR Mina Array Bea 82.81 325 P **P 19 38 17.4 +1.0**
AGMN Agassiz Nation 83.31 344 *e*P **P 19 38 18.2 -0.6**
comp=Z,6.3nm,0.8s,mb4.7
TORD Torodi Ar. Bea 83.51 70 P **P 19 38 20.2 -0.5**
comp=Z,15nm,0.8s,mb5.2,baz=250,slow=4.5,SNR=87
TORD LR LR 20 15 44.5
comp=Z,425nm,18.1s,MS4.9,baz=210,slow=36
TORD Torodi Ar. Bea 83.51 70 P **P 19 38 20.2 -0.5**
ULM Lac du Bonnet 85.14 345 P **P 19 38 27.0 -1.1**
comp=Z,5.6nm,0.9s,mb4.7,baz=182,slow=3.6,SNR=9.2
ULM Lac du Bonnet 85.14 345 P **P 19 38 27.0 -1.1**
ULM Lac du Bonnet 85.14 345 P **P 19 38 27.0 -1.1**
MSKU Masuku 85.23 89 LR LR 20 12 46.5
comp=Z,202nm,18.0s,MS4.5,baz=184,slow=33
DGMT Dagmar 85.70 339 *e*P **P 19 38 31.1 +0.3**
comp=Z,13nm,0.9s,mb5.2
DLMT Dillon 85.92 332 *e*P **P 19 38 32.2 +0.1**
comp=Z,10nm,1.3s,mb4.9
SCHQ Schefferville 87.12 3 P **P 19 38 37.1 -0.5**
comp=Z,7.9nm,1.0s,mb4.9,baz=216,slow=13,SNR=4.0
SCHQ LR LR 20 16 53.5
comp=Z,197nm,18.0s,MS4.6,baz=87,slow=35
SCHQ Schefferville 87.12 3 P **P 19 38 37.1 -0.5**
OD2 Odessa Site #2 90.05 330 *e*P **P 19 38 51.4 -0.3**
ESDC Sonseca Array 95.41 46 P **P 19 39 16.5 -0.3**
comp=Z,0.1nm,0.3s,mb3.8,baz=251,slow=1.6,SNR=5.3
ESDC LR LR 20 21 23.6
comp=Z,244nm,20.4s,MS4.7,baz=340,slow=35
ESDC Sonseca Array 95.41 46 P **P 19 39 16.5 -0.3**
YKA Yellowknife Ar 100.74 341 P Pdif 19 39 39.7 -1.2
comp=Z,0.2nm,0.5s,baz=137,slow=4.5,SNR=3.9
YKA Yellowknife Ar 100.74 341 P Pdif 19 39 39.7 -1.2
YKA Yellowknife Ar 100.74 341 P Pdif 19 39 39.7 -1.2
DZM Mont Dzumac 102.27 234 *e*PS PS 19 52 56.0 -10
comp=Z,94nm,27.4s
DZM *e*SS SS 19 58 37.8 +2.6
comp=Z,124nm,25.1s
DZM *e*LR LR 20 13 25.5
comp=Z,443nm,21.9s
GERES GERESS Array B 110.97 45 PKiKP PKiKP 19 44 24.6 -0.6
comp=Z,0.4nm,0.6s,baz=111,slow=3.0,SNR=4.5
GERES GERESS Array B 110.97 45 PKiKP PKiKP 19 44 24.6 -0.6
GERES GERESS Array B 110.97 45 PKiKP PKiKP 19 44 24.6 -0.6
ILAR Eielson Array 112.99 333 PKiKP PKiKP 19 44 28.1 -0.4
comp=Z,0.5nm,0.9s,baz=175,slow=3.6,SNR=4.9
ILAR Eielson Array 112.99 333 PKiKP PKiKP 19 44 28.1 -0.4
ILAR Eielson Array 112.99 333 PKiKP PKiKP 19 44 28.2 -0.4
BR131 Keskin Array S 120.93 60 *e*PKPdf PKPdf 19 44 42.5 -2.2
BRTR Keskin Array B 120.93 60 PKP PKPdf 19 44 43.9 -0.8
comp=Z,1.7nm,0.8s,baz=195,slow=2.4,SNR=12
BRTR Keskin Array B 120.93 60 PKP PKPdf 19 44 43.9 -0.8
BRTR Keskin Array B 120.93 60 PKiKP PKPdf 19 44 43.9 -0.7
KIEV Kiev 121.03 47 *i*PKiKP PKPdf 19 44 44.1 -0.3
AKASG Malin Array Be 121.04 47 PKP PKPdf 19 44 43.3 -1.2
comp=Z,0.6nm,0.4s,baz=267,slow=2.9,SNR=6.1
AKASG Malin Array Be 121.04 47 PKP PKPdf 19 44 43.3 -1.2
AKASG Malin Array Be 121.04 47 PKiKP PKPdf 19 44 43.3 -1.2
WRA Warramunga Arr 122.14 209 PKP PKPdf 19 44 46.6 -1.0
comp=Z,0.9nm,0.7s,baz=152,slow=1.9,SNR=14
WRA Warramunga Arr 122.14 209 PKP PKPdf 19 44 46.6 -1.0
WRA Warramunga Arr 122.14 209 PKiKP PKPdf 19 44 46.7 -1.0
OBN Obninsk 126.22 43 *i*PKiKP PKPdf 19 44 55.4 +1.1
OBN pmax pmax
comp=Z,29nm,2.5s
ARU Arti 138.49 40 *i*PKiKP PKPdf 19 45 17.5 +0.2
ARU 19 48 05.5
ABKAR Akbulak array 140.60 50 *e*PKPpre PKPpre 19 45 13.1
ABKAR *e*PKPdf PKPdf 19 45 21.7 +0.3
BRVK Borovoye 145.99 42 *c i*PKP2 PKPab 19 45 31.8 -0.3
BRVK pmax pmax
comp=Z,37nm,2.5s
BVAR Borovoye Array 146.06 42 PKPbc PKPbc 19 45 32.0 +0.2
comp=Z,6.7nm,0.7s,baz=310,slow=2.7,SNR=26
BVAR Borovoye Array 146.06 42 PKP2 PKPab 19 45 32.0 -0.4
BVAR Borovoye Array 146.06 42 PKP2 PKPbc 19 45 32.0 +0.2
POO Poona 146.16 106‖ *i*P PKPdf 19 45 30.0 -2.1
comp=Z,30nm,1.0s
YAK Yakutsk 147.42 341 *e*PKPbc PKPbc 19 45 34.7 -0.7
YAK Yakutsk 147.42 341 *e*PKP2 PKPbc 19 45 34.5 -0.9
YAK pmax pmax
comp=Z,27nm,0.7s
KBL Kabul 147.43 76 *e*PKPdf PKPdf 19 45 33.8 0.0
KBL Kabul 147.43 76 *e*PKiKP PKPdf 19 45 33.8 0.0
KKAR Karatay Array 148.64 59 *e*PKPbc PKPbc 19 45 38.4 -0.8
KKAR Karatay Array 148.64 59 *e*PKP2 PKPbc 19 45 38.4 -0.9
HYB Hyderabad 149.32 112 *i*PKP PKPdf 19 45 36.0 -1.4
EKS2 Erkin-Say 151.08 60 P PKPdf 19 45 40.5 +1.2
SNR=6.1
EKS2 P 19 45 40.5
SNR=6.1
EKS2 Erkin-Say 151.08 60 *e*PKPdf PKPdf 19 45 40.2 +0.8
EKS2 *e*PKPbc PKPbc 19 45 45.6 +0.4
EKS2 Erkin-Say 151.08 60 *e*PKiKP PKPdf 19 45 40.2 +0.8
EKS2 *e* 19 45 45.6
AML Almayashu 151.10 61 P PKPbc 19 45 45.6 +0.3
SNR=20
AML P 19 45 45.6
SNR=20
USP Ospenovka 151.50 58 P PKPbc 19 45 46.6 +0.4
SNR=17
USP P 19 45 46.6
SNR=17
NVS Novosibirsk 151.59 31 *e*PKiKP PKPbc 19 45 45.5 -0.5
NVS pmax pmax
comp=N,2.0nm,1.1s
NVS pmax pmax
comp=E,5.0nm,1.1s
NVS pmax pmax
comp=Z,22nm,1.1s
AAK Ala-Archa 151.61 59 P PKPbc 19 45 47.3 +0.9
SNR=23
AAK P 19 45 47.3
SNR=23
AAK Ala-Archa 151.61 59 *e*PKPdf PKPdf 19 45 40.7 +0.5
AAK *e*PKPbc PKPbc 19 45 47.0 +0.6
AAK Ala-Archa 151.61 59 *c i*PKiKP PKPbc 19 45 47.1 +0.7
KURK Kurchatov 151.66 41 PKP PKPdf 19 45 39.9 -0.1
comp=Z,0.8nm,0.8s,baz=306,slow=2.4,SNR=7.3
KURK PKPbc PKPbc 19 45 46.1 -0.1
comp=Z,12nm,0.7s,baz=299,slow=3.1,SNR=75
KURK Kurchatov 151.66 41 PKP PKPdf 19 45 39.9 -0.1
KURK PKPbc PKPbc 19 45 46.1 -0.1
KURK Kurchatov 151.66 41 PKiKP PKPdf 19 45 39.9 -0.1
KURK 19 45 46.1
CHMS Chumysh 151.73 59 P PKPbc 19 45 47.0 +0.3
SNR=18
CHMS P 19 45 47.0
SNR=18
KBK Karagaybulak 151.93 59 P PKPbc 19 45 48.3 +1.1
SNR=7.0
KBK P 19 45 48.3
SNR=7.0
KZA Kyzart 152.25 60 P PKPbc 19 45 49.1 +1.2
SNR=12
KZA P 19 45 49.1
SNR=12
TKM2 Tokmak 2 152.35 59 P PKPbc 19 45 48.5 +0.3
SNR=12
TKM2 P 19 45 48.5
SNR=12
TKM2 Tokmak 2 152.35 59 *e*PKPdf PKPdf 19 45 40.7 -0.6
TKM2 *e*PKPbc PKPbc 19 45 47.9 -0.2
TKM2 Tokmak 2 152.35 59 *e*PKiKP PKPdf 19 45 40.7 -0.6
TKM2 *e* 19 45 47.9
ZALV Zalesovo Beam 152.87 31 PKP PKPdf 19 45 41.8 +0.1
comp=Z,1.9nm,0.8s,baz=298,slow=3.2,SNR=8.7
ZALV PKPbc PKPbc 19 45 48.2 -0.7
comp=Z,12nm,0.7s,baz=295,slow=3.2,SNR=45
ZALV Zalesovo Beam 152.87 31 PKP PKPdf 19 45 41.8 +0.1
ZALV PKPbc PKPbc 19 45 48.2 -0.7
ZALV Zalesovo Beam 152.87 31 PKiKP PKPdf 19 45 41.8 +0.1
ZALV 19 45 48.2
ULHL Ulahol 152.95 60 P PKPbc 19 45 50.7 +1.2
SNR=6.4
ULHL P 19 45 50.7
SNR=6.4
KSH Kashi 153.11 66 *e*PKPbc PKPbc 19 45 49.8 -0.1
KSH pPKP pPKPdf 19 46 00.3 +9.1
KSH sPKP 19 46 04.0
KSH PKPab PKPab 19 46 24.1 +23
KSH PKS 19 49 22.0
KSH PP PP 19 50 04.5 +29
KSH SKS SKSdf 19 52 50.3 +2.5
KSH SKKS SKKSac 19 56 47.9 +24
KSH SS SS 20 09 55.5 +48
KSH AMB AMB
comp=Z,260nm,7.7s
KSH LR LR
comp=N,89nm,5.4s
KSH LR LR
comp=E,59nm,3.7s
KSH LR LR
comp=Z,83nm,4.2s
BOD Bodaibo 154.41 353 *e*PKiKP PKPbc 19 45 52.4 +0.3
BOD pmax pmax
comp=Z,12nm,1.1s
MKAR Makanchi Array 155.63 47 PKP PKPdf 19 45 45.5 -0.3
comp=Z,0.9nm,0.8s,baz=299,slow=1.2,SNR=5.5
MKAR PKPab PKPab 19 46 10.7 -1.4
comp=Z,5.7nm,0.8s,baz=284,slow=3.3,SNR=16
MKAR Makanchi Array 155.63 47 PKP PKPdf 19 45 45.5 -0.3
MKAR PKPab PKPab 19 46 10.7 -1.4
MKAR Makanchi Array 155.63 47 PKiKP PKPdf 19 45 45.5 -0.3
MKAR 19 46 10.7
MDJ Mudanjiang 159.46 312 PKP PKPdf 19 45 49.5 -1.1
WMQ Urumqi 160.38 49 *e*PKP PKPdf 19 45 51.0 -0.7
ZAK Zakamensk 161.80 10 *e*PKP2 PKPab 19 46 43.8 +5.3
ZAK pmax pmax
comp=Z,3.0nm,1.3s
CMAR Chiang Mai Arr 163.68 147 PKP PKPdf 19 45 55.2 -0.6
comp=Z,1.0nm,0.8s,baz=252,slow=3.4,SNR=7.1
CMAR PKPab PKPab 19 46 44.8 -2.9
comp=Z,1.0nm,0.9s,baz=222,slow=7.5,SNR=5.3
CMAR Chiang Mai Arr 163.68 147 PKP PKPdf 19 45 55.2 -0.6
CMAR PKPab PKPab 19 46 44.8 -2.9
CMAR Chiang Mai Arr 163.68 147 PKiKP PKPdf 19 45 55.2 -0.6
CMAR 19 46 44.8
SONM Songino Array 164.66 5 PKP PKPdf 19 45 55.2 -0.6
comp=Z,0.7nm,0.6s,baz=353,slow=7.5,SNR=3.7
SONM PKPab PKPab 19 46 51.9 +0.7
comp=Z,1.5nm,0.9s,baz=8.5,slow=2.9,SNR=3.1
SONM Songino Array 164.66 5 PKP PKPdf 19 45 55.2 -0.6
SONM PKPab PKPab 19 46 51.9 +0.7
SONM Songino Array 164.66 5 PKiKP PKPdf 19 45 55.2 -0.6
SONM 19 46 51.9
GTA Gaotai 170.34 42 PKP PKPdf 19 46 00.6 +0.4
HHC Hu-ho-hao-te 171.28 343 *e*PKP PKPdf 19 45 59.6 -1.0
HHC sPKP 19 46 16.1
HHC PKS 19 49 31.5
HHC PP PP 19 51 13.4 +2.6
HHC SKS SKSdf 19 52 58.4 -3.8
HHC SKKS SKKSac 19 57 55.6 -0.7
HHC SS SS 20 12 12.8 -1.2
HHC AMB AMB
comp=Z,160nm,9.9s
HHC LR LR
comp=N,290nm,21.3s
HHC LR LR
comp=E,240nm,20.8s
HHC LR LR
comp=Z,320nm,20.1s
GYA Guiyang 173.79 167 PKP PKPdf 19 46 01.0 -1.2
GYA sPKP 19 46 20.8
GYA PKPab PKPab 19 47 32.3 +0.2
GYA PKS 19 49 32.5
GYA PP PP 19 51 25.9 +2.8
GYA SKKS SKKSac 19 58 05.3 -3.5
GYA SS SS 20 12 35.6 -2.8
GYA AMB AMB
comp=Z,120nm,8.5s
GYA LR LR
comp=N,120nm,25.0s
GYA LR LR
comp=E,110nm,26.2s
GYA LR LR
comp=Z,140nm,25.7s
LZH Lanzhou 174.94 44 *e*PKP PKPdf 19 46 02.5 +0.3
LZH pPKP pPKPdf 19 46 16.4 +5.5
LZH sPKP 19 46 20.5
LZH PKPab PKPab 19 47 39.6 +2.4
LZH LR LR
comp=E,160nm,18.4s
LZH LR LR
comp=Z,200nm,20.1s
CD2 Chengdu 175.87 112 *e*PKP PKPdf 19 46 03.0 +0.3

IDC 19 19:33:41.3±4.4, 5°.92S×129°.21E, h303km±44km, mb2.5/1, mb1 2.9/4, mb1mx2.8/16, mbtmp2.7/4, Error ellipse: s-maj=61.4km s-min=14.3km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.60**	**196**	P	Pn	19 36 29.8	-1.3
	0.4nm,0.3s,baz=16,slow=11,SNR=20						
FITZ				S	S	19 38 52.7	+1.7
	0.1nm,0.3s,baz=313,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**14.81**	**161**	P	P	19 36 56.5	+0.3
	0.2nm,0.3s,baz=340,slow=11,SNR=16						
WRA				S	S	19 39 52.5	+15
	0.1nm,0.3s,baz=336,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**18.22**	**166**	P	P	19 37 33.5	+0.4
	0.3nm,0.3s,baz=342,slow=12,SNR=32						
ASAR				S	S	19 40 46.4	+0.8
	0.1nm,0.3s,baz=344,slow=16,SNR=9.0						
MKAR	**Makanchi Array**	**66.89**	**327**	P	P	19 44 01.4	+0.1
	0.1nm,0.5s,baz=111,slow=6.6,SNR=2.7						

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*IDC **19** 19:38:18.6±2.1, 32°.60S×71°.60W, h0km, mb4.2/3, mb1 4.0/5, mb1mx3.8/13, mbtmp4.0/5, ML3.9/2, Error ellipse: s-maj=75.5km s-min=33.4km az=90.0*
*ISCJB **19** 19:38:21.2±2.6, 32°.7S±0°.1×72°.0W±0°.3, h38km±24km, mb4.1/3, Error ellipse: s-maj=48.3km s-min=18.9km az=174.8*
*NEIC **19** 19:38:23.3±1.8, 32°.58S×71°.95W, h38km±14km, mb3.3/1, Error ellipse: s-maj=31.0km s-min=13.7km az=86.0*
ISC 19 19:38:23.6±2.3, 32°.6S±0°.1×72°.1W±0°.3, h47km±19km, n17, σ0s20/11, mb4.1/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**8.18**	**172**	Pn	**Pn**	**19 40 19.7**	**0.0**
	0.4nm,0.3s,baz=67,slow=5.2,SNR=6.3						
PLCA	**Paso Flores**	**8.18**	**172**	Pn	**Pn**	**19 40 19.7**	**0.0**
TRQA	**Tornquist**	**9.85**	**126**	*e*Pn	**Pn**	**19 40 42.5**	**0.0**
LPAZ	**La Paz**	**16.65**	**13**	Pn	**Pn**	**19 42 13.9**	**+0.2**
	0.1nm,0.3s,baz=222,slow=5.3,SNR=4.5						
LPAZ	**La Paz**	**16.65**	**13**	*e*Pn	**Pn**	**19 42 13.4**	**-0.3**
	1.6nm,0.6s						
DBIC	**Dimbokro**	**74.75**	**72**	P	**P**	**19 49 59.5**	**+0.5**
	2.5nm,1.0s,mb4.1,baz=197,slow=11,SNR=3.0						
DBIC	**Dimbokro**	**74.75**	**72**	P	**P**	**19 49 59.1**	**+0.1**
BOSA	**Boshof**	**80.72**	**118**	P	**P**	**19 50 31.9**	**-0.1**
	2.4nm,1.0s,mb4.1,baz=225,slow=5.7,SNR=4.0						
BOSA	**Boshof**	**80.72**	**118**	P	**P**	**19 50 31.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.75**	**70**	P	**P**	**19 50 47.9**	**-0.2**
	0.8nm,0.6s,mb4.0,baz=270,slow=3.6,SNR=8.2						
TORD	**Torodi Ar. Bea**	**83.75**	**70**	P	**P**	**19 50 47.9**	**-0.1**
KURK	**Kurchatov**	**151.87**	**41**	PKPbc	PKPbc	19 58 14.2	+1.5
	0.8nm,0.5s,baz=301,slow=2.8,SNR=10						
KURK	**Kurchatov**	**151.87**	**41**	PKPbc	PKPbc	19 58 14.2	+1.5
ZALV	**Zalesovo Beam**	**153.06**	**31**	PKPbc	PKPbc	19 58 16.8	+1.5
	0.7nm,0.5s,baz=285,slow=2.8,SNR=4.8						

ZALV	**Zalesovo Beam**	**153.06**	**31**	PKPbc	PKPbc	19 58 16.8	+1.5
MKAR	**Makanchi Array**	**155.85**	**47**	PKPab	PKPab	19 58 39.2	+0.2
	0.3nm,0.7s,baz=266,slow=3.6,SNR=6.0						
MKAR	**Makanchi Array**	**155.85**	**47**	PKPab	PKPab	19 58 39.2	+0.2

*TIF **19** 19:41:21.2, 43°.18N×46°.16E, h9km±6km*
*CSEM **19** 19:41:22.4, 43°.25N×46°.11E, h15km, mb3.9, After OBN*
*MOS **19** 19:41:22.4±1.8, 43°.25N×46°.11E, h15km, mb3.9/1, Error ellipse: s-maj=10.5km s-min=6.8km az=35.5*
ISC 19 19:41:22.5±0.4, 43°.17N±0°.03×46°.07E±0°.02, h9km±7km, n46, σ1§14/85, 4C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.28 303**		⇓*i*PG	**Pg**	**19 41 27.2**	**-0.9**
GRO	**Groznyy**	**0.28 303**		*i* Pg	**Pg**	**19 41 27.2**	**-0.9**
BTLR	**Botlikh**	**0.52 168**		*e*PG	**Pg**	**19 41 32.2**	**-0.3**
BTLR				*e*S	**Sg**	**19 41 40.0**	**+0.8**
BTLR	**Botlikh**	**0.52 168**		*e*Pg	**Pg**	**19 41 32.2**	**-0.3**
BTLR				*e*Sg	**Sg**	**19 41 40.0**	**+0.8**
DBC	**Dubki**	**0.57 105**		*i* PG	**Pg**	**19 41 32.3**	**-1.3**
DBC				*i* S	**Sg**	**19 41 40.4**	**-0.7**
DBC	**Dubki**	**0.57 105**		*i* Pg	**Pg**	**19 41 32.3**	**-1.3**
DBC				*i* Sg	**Sg**	**19 41 40.4**	**-0.7**
UNCR	**Uncukul**	**0.70 130**		⇑*e*PG	**Pg**	**19 41 35.5**	**-0.5**
UNCR				*i* S	**Sg**	**19 41 45.0**	**0.0**
UNCR				pmax	pmax		
	comp=Z,34nm,0.2s						
UNCR	**Uncukul**	**0.70 130**		*e*Pg	**Pg**	**19 41 35.5**	**-0.5**
	comp=Z,34nm,0.2s						
UNCR				*i* Sg	**Sg**	**19 41 45.0**	**0.0**
KRNR	**Karanay**	**0.70 119**		*e*PG	**Pg**	**19 41 34.8**	**-1.2**
KRNR				*i* S	**Sg**	**19 41 46.0**	**+0.9**
KRNR				pmax	pmax		
	comp=Z,34nm,0.2s						
KRNR	**Karanay**	**0.70 119**		*e*Pg	**Pg**	**19 41 34.8**	**-1.2**
	comp=Z,34nm,0.2s						
KRNR				*i* Sg	**Sg**	**19 41 46.0**	**+0.9**
BUJR	**Buynaksk**	**0.83 114**		*e*PG	**Pg**	**19 41 40.0**	**+1.5**
BUJR				*i* S	**Sg**	**19 41 51.5**	**+2.1**
BUJR				pmax	pmax		
	comp=Z,40nm,0.2s						
BUJR	**Buynaksk**	**0.83 114**		*e*Pg	**Pg**	**19 41 40.0**	**+1.5**
	comp=Z,40nm,0.2s						
BUJR				*i* Sg	**Sg**	**19 41 51.5**	**+2.1**
VLKR	**Vladikavkaz**	**1.03 264**		*e*PG	**Pg**	**19 41 41.5**	**-0.8**
VLKR				*e*S	**Sg**	**19 41 57.3**	**+1.6**
VLKR	**Vladikavkaz**	**1.03 264**		*e*Pg	**Pg**	**19 41 41.5**	**-0.8**
VLKR				*e*Sg	**Sg**	**19 41 57.3**	**+1.6**
TRKR	**Terskaya**	**1.12 300**		⇑*i*PG	**Pg**	**19 41 43.6**	**-0.5**
TRKR				*i* S	**Sg**	**19 42 00.8**	**+2.1**
TRKR	**Terskaya**	**1.12 300**		*i* Pg	**Pg**	**19 41 43.6**	**-0.5**
TRKR				*i* Sg	**Sg**	**19 42 00.8**	**+2.1**
KMKR	**Kumukh**	**1.28 143**		⇓*i*PG	**Pg**	**19 41 47.0**	**-0.1**
KMKR				*e*S	**Sg**	**19 42 04.5**	**+0.7**
KMKR				pmax	pmax		
	comp=Z,45nm,0.3s						
KMKR	**Kumukh**	**1.28 143**		*i* Pg	**Pg**	**19 41 47.0**	**-0.1**
	comp=Z,45nm,0.3s						
KMKR				*e*Sg	**Sg**	**19 42 04.5**	**+0.7**
ARNR	**Ardon**	**1.31 272**		*e*PG	**Pg**	**19 41 46.7**	**-1.0**
ARNR				*e*S	**Sg**	**19 42 05.8**	**+1.1**
ARNR	**Ardon**	**1.31 272**		*e*Pg	**Pg**	**19 41 46.7**	**-1.0**
ARNR				*e*Sg	**Sg**	**19 42 05.8**	**+1.1**
KMSR	**Komsomolskaya**	**1.32 280**		⇓*i*PG	**Pg**	**19 41 47.8**	**0.0**
KMSR				*i* S	**Sg**	**19 42 06.9**	**+2.0**
KMSR	**Komsomolskaya**	**1.32 280**		*i* Pg	**Pg**	**19 41 47.8**	**0.0**
KMSR				*i* Sg	**Sg**	**19 42 06.9**	**+2.0**
LACR	**Lac**	**1.35 256**		⇓*i*PG	**Pn**	**19 41 46.9**	**-0.6**
LACR				*i* S	**Sg**	**19 42 06.0**	**+0.1**
LACR	**Lac**	**1.35 256**		*i* Pg	**Pn**	**19 41 46.9**	**-0.6**
LACR				*i* Sg	**Sg**	**19 42 06.0**	**+0.1**
PRTR	**Priterechnaya**	**1.43 295**		⇑*i*PG	**Pg**	**19 41 48.7**	**-1.2**
PRTR				*i* S	**Sg**	**19 42 09.8**	**+1.3**
PRTR	**Priterechnaya**	**1.43 295**		*i* Pg	**Pg**	**19 41 48.7**	**-1.2**
PRTR				*i* Sg	**Sg**	**19 42 09.8**	**+1.3**
KORR	**Kora**	**1.47 268**		*e*PG	**Pn**	**19 41 49.2**	**0.0**
KORR				*e*S	**Sg**	**19 42 10.5**	**+0.7**
KORR	**Kora**	**1.47 268**		*e*Pg	**Pn**	**19 41 49.2**	**0.0**
KORR				*e*Sg	**Sg**	**19 42 10.5**	**+0.7**
URKR	**Urkarakh**	**1.52 130**		⇓*i*PG	**Pg**	**19 41 51.5**	**-0.3**
URKR				*i* S	**Sg**	**19 42 13.0**	**+1.5**
URKR	**Urkarakh**	**1.52 130**		*i* Pg	**Pg**	**19 41 51.5**	**-0.3**
URKR				*i* Sg	**Sg**	**19 42 13.0**	**+1.5**
LSNR	**Lesken**	**1.65 274**		*e*PN	**Pn**	**19 41 52.7**	**+1.0**
LSNR				*i* S	**Sg**	**19 42 16.1**	**+0.4**
LSNR	**Lesken**	**1.65 274**		*e*Pn	**Pn**	**19 41 52.7**	**+1.0**
LSNR				*i* Sg	**Sg**	**19 42 16.1**	**+0.4**
TBLG	**Delisi**	**1.74 215**		*e*PN	**Pg**	**19 41 54.9**	**-1.0**
TBLG	**Delisi**	**1.74 215**		P	**Pg**	**19 41 55.0**	**-1.0**
TBLG				S	**Sg**	**19 42 18.6**	**+0.1**
TBLG	**Delisi**	**1.74 215**		*e*Pn	**Pg**	**19 41 54.9**	**-1.0**
MTA	**Mtatsminda**	**1.75 213**		P	**Pg**	**19 41 54.8**	**-1.3**
DGRG	**David-gareji**	**1.79 197**		P	**Pg**	**19 41 55.6**	**-1.3**
DGRG				S	**Sg**	**19 42 22.3**	**+2.2**
DIGR	**Digorskoe uzhe**	**1.85 263**		⇑*i*PN	**Pn**	**19 41 54.8**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.85 263**		*i* Pn	**Pn**	**19 41 54.8**	**+0.4**
GOR	**Gori**	**1.87 232**		P	**Pg**	**19 41 57.2**	**-1.2**
GOR				S	**Sg**	**19 42 22.5**	**-0.2**
ONI	**Oni**	**2.01 254**		P	**Pg**	**19 41 58.5**	**-2.6**
ONI				S	**Sg**	**19 42 26.9**	**-0.2**
AKT	**Akhty**	**2.09 143**		*e*PN	**Pg**	**19 42 01.5**	**-1.0**
AKT				*e*S	**Sg**	**19 42 30.0**	**+0.5**
AKT	**Akhty**	**2.09 143**		*e*Pn	**Pg**	**19 42 01.5**	**-1.0**
AKT				*e*Sb	**Sg**	**19 42 30.0**	**+0.5**
KSMR	**Kasumkent**	**2.18 135**		*e*PN	**Pg**	**19 42 03.0**	**-1.3**
KSMR				*e*S	**Sg**	**19 42 34.0**	**+1.4**
KSMR	**Kasumkent**	**2.18 135**		*e*Pn	**Pg**	**19 42 03.0**	**-1.3**
KSMR				*e*Sb	**Sg**	**19 42 34.0**	**+1.4**
AKH	**Akhalkalaki**	**2.60 228**		P	**Pg**	**19 42 09.4**	**-2.9**
AKH				S	**Sg**	**19 42 42.6**	**-3.4**

GUC 19 19:47:13.7±0.5, 32°.62S×71°.67W, h3km±1km, MD3.8, ML3.1, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41 176**		*e*P	Pg	19 47 22.1	+0.6
ROCH	**El Roble**	**0.66 122**		⇓*i*P	Pg	19 47 27.5	+1.1
ROCH				*i* S	Sg	19 47 37.8	+2.9
ROCH				AML	AML	19 47 39.2	
	comp=N,1μm,0.6s						
PTCH	**Petorca**	**0.72**	**61**	*e*P	Pg	19 47 28.4	+0.8
PTCH				*e*S	Sg	19 47 39.6	+2.7
PTCH				AML	AML	19 47 42.3	
	comp=N,2μm,0.3s						
JACH	**Jahuel**	**0.91**	**94**	⇑*i*P	Pg	19 47 31.4	+0.2
JACH				*i* S	Sg	19 47 45.1	+2.0
PEL	**Peldehue**	**0.98 122**		⇑*e*P	Pg	19 47 32.7	+0.1
PEL				*e*S	Sg	19 47 47.2	+1.9
PEL				AML	AML	19 47 49.8	
	comp=N,2μm,0.2s						
SAN	**Santiago**	**1.19 135**		*e*P	Pg	19 47 35.7	-0.9
CLCH	**Cerro Calan**	**1.23 129**		⇓*i*P	Pg	19 47 36.3	-1.0
CLCH				*i* S	Sg	19 47 53.8	+0.5
CLCH				AML	AML	19 47 57.3	
	comp=E,713nm,0.8s						
ANTU	**Antumapu**	**1.29 138**		*e*P	Pg	19 47 37.4	-1.0
ANTU				*e*S	Sg	19 47 55.4	+0.3
ANTU				AML	AML	19 48 00.7	
	comp=E,670nm,0.1s						
LNV	**Longovilo**	**1.35 171**		*e*P	Pn	19 47 34.6	-4.8
FCH	**Farellones**	**1.36 122**		⇓*e*P	Pn	19 47 37.8	-1.7
FCH				*e*S	Sg	19 47 56.9	-0.6
FCH				AML	AML	19 47 59.4	
	comp=N,564nm,0.3s						
PCH	**Pirque**	**1.40 136**		⇓*e*P	Pn	19 47 38.9	-1.1
PCH				*i* S	Sg	19 47 58.4	-0.2
CHCH	**Chadas Angostu**	**1.56 147**		*e*P	Pn	19 47 41.5	-0.8
CACH	**El Canelo**	**1.74 149**		*e*P	Pn	19 47 44.5	-0.3

GUC 19 19:52:57.5±0.6, 32°.49S×71°.82W, h7km±3km, MD3.8, ML3.1, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.56 165**		*e*P	Pg	19 53 08.3	+0.1
IHA				*i* S	Sg	19 53 17.6	+2.1
PTCH	**Petorca**	**0.78**	**74**	*e*P	Pg	19 53 12.7	+0.2
PTCH				*i* S	Sg	19 53 24.4	+1.6
PTCH				AML	AML	19 53 26.5	
	comp=N,1μm,0.4s						
ROCH	**El Roble**	**0.83 126**		*e*P	Pg	19 53 13.6	+0.1
ROCH				*e*S	Sg	19 53 26.1	+1.8
JACH	**Jahuel**	**1.05 101**		⇑*e*P	Pg	19 53 17.0	-0.7
JACH				*e*S	Sg	19 53 31.7	+0.4
PEL	**Peldehue**	**1.16 125**		*e*P	Pg	19 53 18.9	-0.8
PEL				*e*S	Sg	19 53 35.1	+0.4
PEL				AML	AML	19 53 40.0	
	comp=E,2μm,0.4s						
RCDM	**Rinconada Maip**	**1.31 140**		*e*P	Pn	19 53 21.1	-1.1
RCDM				*e*S	Sb	19 53 38.9	-0.5
RCDM				AML	AML	19 53 42.9	
	comp=E,507nm,0.3s						
CLCH	**Cerro Calan**	**1.41 130**		*e*P	Pn	19 53 22.8	-0.7
CLCH				*e*S	Sb	19 53 42.1	-0.1
CLCH				AML	AML	19 53 48.2	
	comp=N,508nm,0.3s						
ANTU	**Antumapu**	**1.47 138**		*e*P	Pn	19 53 23.5	-0.9
ANTU				*e*S	Sn	19 53 43.2	-0.6
ANTU				AML	AML	19 53 49.8	
	comp=N,560nm,0.3s						
LNV	**Longovilo**	**1.50 167**		*e*P	Pn	19 53 23.4	-1.4
FCH	**Farellones**	**1.53 124**		⇑*i*P	Pn	19 53 24.4	-0.9
FCH				*i* S	Sn	19 53 45.0	-0.5
FCH				AML	AML	19 53 48.9	
	comp=N,351nm,0.2s						
PCH	**Pirque**	**1.57 136**		*e*P	Pn	19 53 25.3	-0.5
CHCH	**Chadas Angostu**	**1.74 146**		*e*P	Pn	19 53 27.8	-0.3
LMEL	**Las Melosas**	**1.92 135**		*e*P	Pn	19 53 30.7	+0.2
LMEL				*e*S	Sn	19 53 56.3	+1.4
LMEL				AML	AML	19 54 04.2	
	comp=N,408nm,0.2s						
CACH	**El Canelo**	**1.92 148**		*e*P	Pn	19 53 30.8	+0.2

*ISCJB **19** 19:58:27.5±0.3, 36°.25N±0°.02×76°.33E±0°.04, h10km, mb4.0/17, Error ellipse: s-maj=5.2km s-min=3.1km az=164.7*
*IDC **19** 19:58:27.5±0.9, 36°.20N×76°.11E, h0km, mb3.9/11, mb1 4.0/16, mb1mx3.9/30, mbtmp3.9/16, ML3.5/5, Error ellipse: s-maj=20.1km s-min=17.8km az=50.0*
*NNC **19** 19:58:31.4±3.1, 36°.59N×75°.96E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=26.1km s-min=15.0km az=173.0*
*NEIC **19** 19:58:33.2±0.6, 36°.20N×76°.22E, h42km±7km, mb4.0/8, Error ellipse: s-maj=9.8km s-min=4.8km az=58.0*
ISC 19 19:58:29.5±0.3, 36°.25N±0°.02×76°.35E±0°.04, h10km, n92, σ1§61/116, mb4.0/17, 5C-1D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.62 225**		P	**Pb**	**19 59 32.1**	**-1.4**
THN	**Thein Dam**	**3.84 188**		*e*PKP	Px	19 59 56.0	
THN				*e*S	**Sg**	**20 00 35.8**	**+2.9**
CEP	**Cherat**	**4.37 238**		P	**Pn**	**19 59 38.9**	**+3.0**
CEP				S	**Sn**	**20 00 29.0**	**+2.1**
SDNR	**Sundarnagar**	**4.76 174**		*e*PKP	**Pb**	**19 59 51.0**	**-2.1**
SDNR				*ex*	**Sg**	**20 01 03.0**	**+0.5**
THW	**Thamme Wali**	**5.13 229**		P	**Pn**	**19 59 48.4**	**+2.0**
SMLA	**Simla**	**5.15 172**		*i* x	**Pg**	**20 00 06.3**	**-1.9**
DDI	**Dehra Dun**	**6.08 166**		*e*PKP	**Pn**	**20 00 07.0**	**+7.6**
DDI				*ex*	x	20 01 21.5	
KBL	**Kabul**	**6.20 256**		*e*Pn	**Pn**	**20 00 01.7**	**+0.6**
	12nm,0.7s						
AAK	**Ala-Archa**	**6.54 348**		*e*Pn	**Pn**	**20 00 09.2**	**+3.6**
	65nm,0.8s						
TKM2	**Tokmak 2**	**6.69 355**		Pn	**Pn**	**20 00 05.7**	**-2.1**
	11nm,0.8s						
TKM2				⇑Lg		20 01 52.9	
	99nm,1.5s						
TKM2	**Tokmak 2**	**6.69 355**		*e*Pn	**Pn**	**20 00 08.9**	**+1.1**
	7.6nm,0.6s						
EKS2	**Erkin-Say**	**6.71 344**		*e*Pn	**Pn**	**20 00 11.3**	**+3.3**
	5.0nm,0.6s						
AYAN	**Aya Nagar**	**7.77 175**		*e*PKP	**Pn**	**20 00 29.3**	**+6.6**
AYAN				*e*S	**Sn**	**20 01 48.7**	**-2.0**
KUDL	**Kundal**	**8.08 179**		*e*PKP	**Pn**	**20 00 33.5**	**+6.6**
KUDL				*e*S	**Sn**	**20 01 56.6**	**-1.7**
KK31	**Karatay Array**	**8.19 328**		⇑Pn	**Pn**	**20 00 28.4**	**+0.1**
	2.2nm,0.6s,baz=151,slow=14,SNR=26						
KK31				Sn	**Sn**	**20 02 00.1**	**-0.8**
	8.7nm,0.6s,baz=156,slow=22,SNR=3.5						
KKAR	**Karatay Array**	**8.19 328**		*e*Pn	**Pn**	**20 00 28.7**	**+0.3**
	4.5nm,0.5s						
KKAR				*e*Sn	**Sn**	**20 01 49.2**	**-12**
AGRA	**Agra**	**9.09 171**		*e*S	**Sn**	**20 02 18.1**	**-5.1**
AGRA				AML	AML	20 02 23.9	
	comp=E,53nm,0.3s						
AGRA				AML	AML	20 02 27.9	
	comp=N,67nm,0.3s						
DANN	**Dangsing**	**10.06 139**		*e*P	**Pn**	**20 00 56.7**	**+2.6**
	comp=N,20nm,0.3s						
DANN				*e*S	**Sn**	**20 02 46.0**	**-1.1**
DANN	**Dangsing**	**10.06 139**		*e*P	**Pn**	**20 00 56.7**	**+2.6**
	comp=N,20nm,0.3s						
DANN				*e*S	**Sn**	**20 02 46.0**	**-1.1**
KOLN	**Koldanda**	**10.45 142**		*e*P	**Pn**	**20 01 02.1**	**+2.7**
	comp=N,20nm,0.5s						
KOLN				*e*S	**Sn**	**20 02 55.7**	**-0.9**
KOLN	**Koldanda**	**10.45 142**		*e*P	**Pn**	**20 01 02.1**	**+2.7**
	comp=N,20nm,0.5s						
KOLN				*e*S	**Sn**	**20 02 55.7**	**-0.9**
GKN	**Gorkha**	**10.81 137**		*e*P	**Pn**	**20 01 06.6**	**+2.3**
	comp=N,30nm,0.5s						
GKN				*e*S	**Sn**	**20 03 03.0**	**-2.4**
GKN	**Gorkha**	**10.81 137**		*e*P	**Pn**	**20 01 06.6**	**+2.3**
	comp=N,30nm,0.5s						
GKN				*e*S	**Sn**	**20 03 03.0**	**-2.4**
KKN	**Kakani**	**11.33 136**		*e*P	**Pn**	**20 01 13.2**	**+1.7**
	comp=N,16nm,0.5s						
KKN				*e*S	**Sn**	**20 03 15.2**	**-3.0**
KKN	**Kakani**	**11.33 136**		*e*P	**Pn**	**20 01 13.2**	**+1.7**
	comp=N,16nm,0.5s						
KKN				*e*S	**Sn**	**20 03 15.2**	**-3.0**
DMN	**Daman**	**11.38 137**		*e*P	**Pn**	**20 01 14.3**	**+2.2**
	comp=N,11nm,0.4s						
DMN				*e*S	**Sn**	**20 03 17.8**	**-1.5**
DMN	**Daman**	**11.38 137**		*e*P	**Pn**	**20 01 14.3**	**+2.2**
	comp=N,11nm,0.4s						
DMN				*e*S	**Sn**	**20 03 17.8**	**-1.5**
MK31	**Makanchi Array**	**11.44**	**21**	Pn	**Pn**	**20 01 15.5**	**+2.7**
	comp=N,1.2nm,0.6s,baz=198,slow=12,SNR=30						
MK31				⇑Sn	**Sn**	**20 03 25.5**	**+5.0**
	comp=N,4.7nm,1.1s						
MK31	**Makanchi Array**	**11.44**	**21**	*e*Pn	**Pn**	**20 01 14.6**	**+1.8**
MKAR	**Makanchi Array**	**11.44**	**21**	Pn	**Pn**	**20 01 14.8**	**+2.0**
	comp=N,0.1nm,0.3s,baz=204,slow=13,SNR=6.7						
MKAR	**Makanchi Array**	**11.44**	**21**	Pn	**Pn**	**20 01 14.8**	**+2.0**
PKI	**Pulchoki**	**11.57 136**		*e*P	**Pn**	**20 01 16.6**	**+1.8**
	comp=N,16nm,0.5s						
PKI				*e*S	**Sn**	**20 03 21.7**	**-2.4**
PKI	**Pulchoki**	**11.57 136**		*e*P	**Pn**	**20 01 16.6**	**+1.8**
	comp=N,16nm,0.5s						
PKI				*e*S	**Sn**	**20 03 21.7**	**-2.4**
GUN	**Gumba**	**11.59 133**		*e*P	**Pn**	**20 01 16.9**	**+1.9**
	comp=N,14nm,0.4s						
GUN	**Gumba**	**11.59 133**		*e*P	**Pn**	**20 01 16.9**	**+1.9**
	comp=N,14nm,0.4s						
JIRN	**Jiri**	**11.96 133**		*e*P	**Pn**	**20 01 21.9**	**+1.8**
	comp=N,32nm,0.5s						
JIRN				*e*S	**Sn**	**20 03 30.3**	**-3.2**
JIRN	**Jiri**	**11.96 133**		*e*P	**Pn**	**20 01 21.9**	**+1.8**
	comp=N,32nm,0.5s						
JIRN				*e*S	**Sn**	**20 03 30.3**	**-3.2**
RAMN	**Ramite**	**12.73 134**		*e*P	**Pn**	**20 01 30.8**	**+0.2**
	comp=N,11nm,0.5s						
RAMN				*e*S	**Sn**	**20 03 48.6**	**-3.8**
RAMN	**Ramite**	**12.73 134**		*e*P	**Pn**	**20 01 30.8**	**+0.2**
	comp=N,11nm,0.5s						
RAMN				*e*S	**Sn**	**20 03 48.6**	**-3.8**
TAPN	**Taplejung**	**13.11 129**		*e*P	**Pn**	**20 01 36.1**	**+0.3**
	comp=N,8.9nm,0.5s						
TAPN	**Taplejung**	**13.11 129**		*e*P	**Pn**	**20 01 36.1**	**+0.3**
	comp=N,8.9nm,0.5s						
ODAN	**Odare**	**13.27 132**		*e*P	**Pn**	**20 01 37.9**	**0.0**
	comp=N,11nm,0.5s						
ODAN	**Odare**	**13.27 132**		*e*P	**Pn**	**20 01 37.9**	**0.0**
	comp=N,11nm,0.5s						
LSA	**Lhasa**	**14.03 114**		Pn	**Pn**	**20 01 52.5**	**+4.1**
	comp=N,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**14.46**	**6**	Pn	**Pn**	**20 01 53.4**	**-0.7**
	comp=N,1.4nm,1.3s						
KURK	**Kurchatov**	**14.55**	**6**	Pn	**Pn**	**20 01 53.6**	**-1.7**
	comp=N,0.0nm,0.3s,baz=192,slow=12,SNR=18						
KURK				Lg		20 06 07.5	
	comp=N,0.0nm,0.3s,baz=193,slow=32,SNR=4.2						
KURK	**Kurchatov**	**14.55**	**6**	⇑Pn	**Pn**	**20 01 54.9**	**-0.4**
	comp=N,9.4nm,1.0s						
KURK	**Kurchatov**	**14.55**	**6**	*e*Pn	**Pn**	**20 01 51.1**	**-4.3**
KURK				Lg		20 06 07.5	
VOSK	**Vostochnaya**	**16.90 349**		Pn	**Pn**	**20 02 24.1**	**-1.8**
	comp=N,5.2nm,0.9s						
BVA0	**Borovoye Array**	**17.29 348**		Pn	**Pn**	**20 02 30.4**	**-0.5**
	comp=N,1.8nm,1.4s,baz=234,slow=35,SNR=22						
BVAR	**Borovoye Array**	**17.29 348**		P	**Pn**	**20 02 32.2**	**+1.3**
	comp=N,0.5nm,0.3s,baz=154,slow=12,SNR=12						
BVAR	**Borovoye Array**	**17.29 348**		P	**Pn**	**20 02 32.2**	**+1.3**
BRVK	**Borovoye**	**17.34 348**		⇓Pn	**Pn**	**20 02 30.4**	**-1.1**
	comp=N,18nm,1.1s						
BRVK	**Borovoye**	**17.34 348**		*e*Pn	**Pn**	**20 02 32.6**	**+1.1**
	comp=N,6.5nm,0.7s						
AB31	**Akbulak array**	**17.67 322**		Pn	**Pn**	**20 02 34.2**	**-1.4**
	comp=N,0.8nm,0.5s,baz=132,slow=12,SNR=16						
AB31				⇑Sn	**Sn**	**20 05 46.4**	**-6.0**
	comp=N,1.7nm,0.8s,baz=146,slow=22						
ABKAR	**Akbulak array**	**17.67 322**		*e*Pn	**Pn**	**20 02 33.4**	**-2.2**
	comp=N,1.2nm,0.5s						
ZAA0	**Zalesovo Array**	**18.66**	**16**	*e*Pn	**Pn**	**20 02 46.4**	**-1.2**
ZALV	**Zalesovo Beam**	**18.66**	**16**	P	**Pn**	**20 02 47.1**	**-0.5**
	comp=N,0.4nm,0.3s,baz=204,slow=12,SNR=17						
ZALV	**Zalesovo Beam**	**18.66**	**16**	P	**Pn**	**20 02 47.1**	**-0.5**
AKTO	**Aktyubinsk**	**19.39 323**		P	**Pn**	**20 02 54.9**	**-1.6**
	comp=N,0.4nm,0.3s,baz=111,slow=12,SNR=5.6						
AKTO	**Aktyubinsk**	**19.39 323**		Pn	**Pn**	**20 02 54.7**	**-1.8**
	comp=N,0.6nm,0.7s						
AKTO	**Aktyubinsk**	**19.39 323**		P	**Pn**	**20 02 54.9**	**-1.6**
ARU	**Arti**	**23.49 335**		*e*Pn	**P**	**20 03 35.1**	**-4.3**
SONM	**Songino Array**	**24.98**	**53**	P	**P**	**20 03 55.4**	**+2.3**
	comp=N,4.7nm,0.8s,mb4.1,baz=260,slow=9.7,SNR=10						
SONM	**Songino Array**	**24.98**	**53**	P	**P**	**20 03 55.4**	**+2.3**
ULN	**Ulaanbaatar**	**25.42**	**53**	*e*P	**P**	**20 03 59.5**	**+2.4**
	comp=N,3.4nm,0.8s,mb3.9						
CHTO	**Chiang Mai**	**26.41 125**		*e*P	**P**	**20 04 06.4**	**0.0**
	comp=N,1.5nm,0.6s,mb3.7						
CMAR	**Chiang Mai Arr**	**26.67 126**		P	**P**	**20 04 10.6**	**+2.0**
	comp=N,2.6nm,0.7s,mb3.9,baz=307,slow=11,SNR=23						
CMAR	**Chiang Mai Arr**	**26.67 126**		P	**P**	**20 04 10.6**	**+2.0**
FINES	**FINESS Array B**	**40.13 325**		P	**P**	**20 06 04.5**	**-0.7**
	comp=N,1.7nm,0.8s,mb3.8,baz=116,slow=12,SNR=5.5						
FINES	**FINESS Array B**	**40.13 325**		P	**P**	**20 06 04.5**	**-0.7**
ARCES	**ARCESS Array B**	**43.06 336**		P	**P**	**20 06 28.0**	**-1.0**
	comp=N,4.1nm,1.0s,mb4.1,baz=83,slow=12,SNR=4.5						
ARCES	**ARCESS Array B**	**43.06 336**		P	**P**	**20 06 28.0**	**-1.1**
MORC	**Moravsky Berou**	**43.97 307**		*e*P	**P**	**20 06 40.1**	**+3.4**
	comp=N,2.2nm,0.9s,mb3.9						
HFS	**Hagfors**	**45.93 322**		P	**P**	**20 06 52.7**	**+0.5**
	comp=N,1.4nm,0.5s,mb4.2,baz=111,slow=8.4,SNR=4.9						
HFS	**Hagfors**	**45.93 322**		P	**P**	**20 06 52.7**	**+0.5**
NB2	**NORSAR Subarra**	**47.18 323**		P	**P**	**20 07 02.1**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**47.18 323**		P	**P**	**20 07 02.3**	**+0.4**
	comp=Z,2.4nm,1.1s,mb4.0,baz=85,slow=5.9,SNR=3.7						
NOA	**NORSAR Array B**	**47.18 323**		P	**P**	**20 07 02.3**	**+0.4**
MAJO	**Matsushiro**	**49.01**	**70**	P	**P**	**20 07 16.0**	**-0.4**
	comp=Z,10.0nm,1.2s,mb4.7						
MJAR	**Matsushiro Arr**	**49.01**	**70**	P	**P**	**20 07 17.6**	**+1.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=288,slow=9.8,SNR=6.4						
MJAR	**Matsushiro Arr**	**49.01**	**70**	P	**P**	**20 07 17.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**70.03 272**		P	**P**	**20 09 38.8**	**-3.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=43,slow=5.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**70.03 272**		P	**P**	**20 09 38.8**	**-3.0**
ILAR	**Eielson Array**	**73.77**	**18**	P	**P**	**20 10 02.

COEN Coen 17.30 255 P **Pn** **20 06 23.2 +3.3**
comp=Z,1μmcomp=Z,92nm,1.1s
EIDS Eidsvold 17.69 209 *e*P **Pn** **20 06 27.1 +2.4**
EIDS Eidsvold 17.69 209 *e*P **Pn** **20 06 26.1 +1.5**
comp=Z,140nm,1.2s
FUNA Funafuti 18.62 87 *e*P **Pn** **20 06 30.3 -5.8**
MSVF Nonsavu 18.80 116 *e*P **Pn** **20 06 37.5 -0.7**
comp=Z,28nm,1.1s
MSVF Nonsavu 18.80 116 *e*P **Pn** **20 06 37.5 -0.7**
MSVF pmax pmax
comp=Z,28nm,1.1s
JAY Jayapura 20.90 289 P **P** **20 07 04.2 +3.8**
ARMA Armidale 21.94 201 *e*P **P** **20 07 11.8 +0.5**
ARMA Armidale 21.94 201 *e*P **P** **20 07 11.7 +0.4**
comp=Z,95nm,1.2s,mb5.1
QLP Quilpie 22.51 221 *e*P **P** **20 07 17.1 -0.4**
SMPI Sarmi 22.95 289 P **P** **20 07 23.8 +1.6**
WRAB Tennant Creek 27.00 245 *e*P **P** **20 07 59.3 -0.3**
comp=Z,56nm,1.0s,mb5.0
WRAB Tennant Creek 27.00 245 *e*P **P** **20 07 59.3 -0.3**
WRAB pmax pmax
comp=Z,56nm,1.0s,mb5.0
WRAB Tennant Creek 27.00 245 P **P** **20 07 59.5 -0.1**
comp=Z,124nm,0.9s,mb5.4
WRAB Tennant Creek 27.00 245 P **P** **20 07 59.0 -0.6**
comp=Z,299nm,1.1s,mb5.7,SNR=23
WB2 Warramunga Arr 27.00 245 *e*P **P** **20 07 59.4 -0.2**
WRA Warramunga Arr 27.02 245 P **P** **20 07 59.6 0.0**
comp=Z,40nm,0.8s,mb5.0,baz=75,slow=9.8,SNR=105
WRA PcP PcP 20 11 20.6 0.0
comp=Z,1.6nm,0.4s,baz=62,slow=2.6,SNR=5.0
WRA Warramunga Arr 27.02 245 P **P** **20 07 59.6 0.0**
WRA PcP PcP 20 11 20.6 0.0
WRA Warramunga Arr 27.02 245 P **P** **20 07 59.7 0.0**
WRA 20 11 20.6
CNB Canberra Magne 27.17 200 *e*P **P** **20 08 01.9 +1.0**
CAN Canberra 27.30 201 *e*P **P** **20 08 02.8 +0.8**
comp=Z,33nm,1.3s,mb4.7
CAN Canberra 27.30 201 *e*P **P** **20 08 02.8 +0.7**
CAN pmax pmax
comp=Z,33nm,1.3s,mb4.7
STKA Stephens Creek 27.91 216 P **P** **20 08 07.2 -0.3**
comp=Z,18nm,0.6s,mb4.9,baz=20,slow=7.6,SNR=50
STKA LR LR 20 18 57.4
comp=Z,1μm,18.6s,MS4.5,baz=337,slow=36
STKA Stephens Creek 27.91 216 *e*P **P** **20 08 07.2 -0.3**
STKA Stephens Creek 27.91 216 P **P** **20 08 07.2 -0.3**
STKA Stephens Creek 27.91 216 P **P** **20 08 07.3 -0.2**
GUMO Guam 28.01 326 LR LR 20 18 07.8
comp=Z,732nm,21.4s,MS4.2,baz=294,slow=34
AS31 Alice Springs 28.71 238 *e*P **P** **20 08 14.0 -0.8**
ASAR Alice Springs 28.71 238 P **P** **20 08 13.8 -1.0**
comp=Z,5.6nm,0.5s,mb4.6,baz=62,slow=10.0,SNR=94
ASAR PcP PcP 20 11 24.6 -0.1
comp=Z,4.3nm,0.9s,baz=50,slow=1.7,SNR=5.4
ASAR Alice Springs 28.71 238 P **P** **20 08 13.8 -1.0**
ASAR PcP PcP 20 11 24.6 -0.1
ASAR Alice Springs 28.71 238 P **P** **20 08 13.8 -1.0**
ASAR 20 11 24.6
ARPS Mount Arapiles 31.54 209 *e*P **P** **20 08 40.0 +0.4**
comp=Z,24nm,0.7s,mb5.1
URZ Urewera 31.94 155 P **P** **20 08 40.6 -2.5**
comp=Z,3.4nm,0.6s,mb4.4,baz=346,slow=17,SNR=3.1
URZ LR LR 20 18 02.4
comp=Z,242nm,21.4s,MS3.9,baz=329,slow=30
URZ Urewera 31.94 155 P **P** **20 08 40.7 -2.4**
BBOO Buckleboo 31.94 221 *e*P **P** **20 08 42.8 -0.5**
comp=Z,427nm,0.6s
FITZ Fitzroy Crossi 34.62 253 *e*P **P** **20 09 06.4 -0.4**
FITZ Fitzroy Crossi 34.62 253 *e*P **P** **20 09 06.3 -0.5**
comp=Z,24nm,0.7s,mb5.2
TAU Tasmania Unive 34.76 197 *e*P **P** **20 09 08.8 +1.2**
comp=Z,46nm,1.1s,mb5.3
TAU Tasmania Unive 34.76 197 *e*P **P** **20 09 08.8 +1.2**
TAU pmax pmax
comp=Z,46nm,1.1s,mb5.3
DAV Davao City (W) 38.57 295 P **P** **20 09 41.2 +0.6**
comp=Z,233nm,0.4s,mb6.3,baz=63,slow=6.8,SNR=4.0
DAV Davao City (W) 38.57 295 P **P** **20 09 41.2 +0.6**
KAPI Kappang 40.56 274 P **P** **20 09 57.0 -0.1**
comp=Z,10nm,0.8s,mb4.5,baz=96,slow=15,SNR=2.4
KAPI Kappang 40.56 274 P **P** **20 09 57.0 -0.1**
MBWA Marble Bar 40.60 249 *e*P **P** **20 09 57.0 -0.4**
MBWA Marble Bar 40.60 249 *e*P **P** **20 09 56.8 -0.6**
comp=Z,42nm,1.0s,mb5.0
MBWA Marble Bar 40.60 249 P **P** **20 09 56.8 -0.6**
comp=Z,54nm,1.0s,mb5.1
MEEK Meekatharra 42.76 241 *e*P **P** **20 10 15.2 +0.2**
MYLDM Lahad Datu 44.35 288 P **P** **20 10 30.1 +2.1**
comp=Z,53nm,1.3s,mb5.1
KLBR Kellerberrin 44.92 235 *e*P **P** **20 10 36.4 +4.1**
comp=Z,14nm,0.9s,mb4.8
NWAO Narrogin (SRO) 45.78 233 *e*P **P** **20 10 39.0 -0.1**
NWAO Narrogin (SRO) 45.78 233 *e*P **P** **20 10 39.0 -0.1**
KKM Kota Kinabalu 46.78 288 *e*P **P** **20 10 45.9 -1.3**
comp=Z,58nm,1.0s,mb5.5
JOW Kunigami 48.05 320 P **P** **20 10 57.0 +0.2**
comp=Z,14nm,0.5s,mb5.3,baz=156,slow=6.7,SNR=15
JOW Kunigami 48.05 320 P **P** **20 10 57.0 +0.2**
PPT2 Papeete2 49.07 105 *e*S **S** **20 18 15.0 +7.7**
comp=Z,139nm,24.8s
PPT2 *e*LR LR 20 25 04.7
comp=Z,705nm,22.2s
TIAR Tiarei 49.29 105 *e*P **P** **20 11 05.3 -1.2**
comp=Z,19nm,0.9s,mb5.1
TBI Tubuai 49.62 112 *e*LQ 20 23 14.9
comp=Z,1μm,30.2s
TBI *e*LR LR 20 25 22.3
comp=Z,400nm,24.2s
PMOR Pomariorio Ree 50.66 101 *e*P **P** **20 11 16.8 -0.2**
comp=Z,40nm,0.9s,mb5.3
MJAR Matsushiro Arr 50.74 337 P **P** **20 11 15.8 -1.4**
comp=Z,5.9nm,0.6s,mb4.7,baz=167,slow=8.2,SNR=24
MJAR LR LR 20 29 57.1
comp=Z,235nm,18.9s,MS4.2,baz=110,slow=33
MJAR Matsushiro Arr 50.74 337 P **P** **20 11 15.8 -1.4**
MJAR Matsushiro Arr 50.74 337 P **P** **20 11 15.8 -1.3**
MAJO Matsushiro 50.74 337 *e*P **P** **20 11 15.1 -2.0**
comp=Z,9.0nm,0.6s,mb4.9
MAJO Matsushiro 50.74 337 *e*P **P** **20 11 15.1 -2.1**
MAJO pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
MAT Matsushiro 50.74 337 P **P** **20 11 16.0 -1.2**
MAT S **S** **20 18 34.2 +4.3**
KSM Kuching 51.13 280 *e*P **P** **20 11 21.0 +0.5**
comp=Z,22nm,0.9s,mb5.1
QZH Quanzhou 53.51 311 ⇓*i*P **P** **20 11 43.0 +5.0**
QZH pmax pmax
comp=Z,1μm,5.4s
YUK Yuzh-Kuril'sk 55.33 347 *e*P **P** **20 11 47.6 -3.2**
KSRS Korea Array 56.12 329 P **P** **20 11 56.9 +0.3**
comp=Z,19nm,1.0s,mb5.1,baz=148,slow=7.5,SNR=23
KSRS LR LR 20 35 55.0
comp=Z,211nm,18.5s,MS4.3,baz=129,slow=36
KSAR Wonju Array Be 56.13 329 P **P** **20 11 56.9 +0.2**
KSAR Wonju Array Be 56.13 329 P **P** **20 11 56.9 +0.2**
QIZ Qiongzhong 57.55 300 P **P** **20 12 07.4 +0.3**
QIZ pP pP 20 12 17.9 -1.0
QIZ sP sP 20 12 23.3 -0.3
QIZ PcS PcS 20 17 01.3 -0.4
QIZ S **S** **20 20 03.8 +1.4**
QIZ sS sS 20 20 24.1 +2.2
QIZ SS SS 20 23 55.6 +2.5
QIZ LR LR
comp=Z,430nm,27.5s,MS4.4
NJ2 Nanjing 57.62 318 *e*P **P** **20 12 08.0 +0.6**
NJ2 pP pP 20 12 20.3 +1.1
NJ2 sP sP 20 12 22.8 -1.1
NJ2 S **S** **20 20 04.5 +1.6**
NJ2 sS sS 20 20 24.0 +1.5
NJ2 pmax pmax
comp=Z,20nm,1.1s,mb5.1
NJ2 pmax pmax
comp=Z,190nm,4.3s
NJ2 LR LR
comp=N,250nm,23.0s
NJ2 LR LR
comp=E,460nm,17.0s
NJ2 LR LR
comp=Z,360nm,13.6s
TAOE Nuku Hiva Isla 58.61 94 *e*LR LR 20 29 23.1
comp=Z,650nm,25.3s
YSS Yuzh-Sakhalins 58.80 346 *e*P **P** **20 12 14.3 -1.0**
YSS Yuzh-Sakhalins 58.80 346 *e*P **P** **20 12 14.0 -1.3**
YSS MLR MLR
comp=Z,1μm,18.0s,MS5.0
USRK Ussuriysk Arra 59.73 337 P **P** **20 12 22.4 +0.5**
comp=Z,24nm,0.9s,mb5.2,baz=182,slow=5.8,SNR=20
MDJ Mudanjiang 61.04 335 P **P** **20 12 30.8 0.0**
MDJ pP pP 20 12 42.5 -0.2
MDJ sP sP 20 12 47.4 +0.1
MDJ ScP ScP 20 17 11.3 -0.8
MDJ PcS PcS 20 17 16.1 -0.1
MDJ S **S** **20 20 47.3 +0.6**
MDJ sS sS 20 21 07.5 +1.1
MDJ pmax pmax
comp=Z,26nm,1.4s,mb5.2
MDJ pmax pmax
comp=Z,45nm,3.8s
MDJ LR LR
comp=N,170nm,22.1s,MS4.3
MDJ LR LR
comp=E,190nm,25.3s,MS4.3
MDJ LR LR
comp=Z,260nm,25.3s,MS4.3
MDJ Mudanjiang 61.04 335 *e*P **P** **20 12 30.7 -0.1**
CN2 Changchun 62.21 332 *e*P **P** **20 12 38.4 -0.2**
CN2 *e*PP PP 20 14 57.8 +1.8
CN2 *e*S **S** **20 21 00.8 -0.7**
CN2 *e*SS SS 20 25 07.1 +1.7
CN2 pmax pmax
comp=Z,70nm,1.0s,mb5.8
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,16.0s,MS4.9
CN2 LR LR
comp=E,400nm,16.0s,MS4.9
CN2 LR LR
comp=Z,300nm,17.0s,MS4.5
HABR Khabarovsk 62.33 341 *e*P **P** **20 12 37.9 -1.5**
HABR *PP pP 20 12 48.1 -3.2
HABR *e*SP sP 20 12 52.0 -4.0
HABR 20 13 17.8
HABR *e*S **S** **20 21 02.4 -0.5**
HABR *e*SS sS 20 21 19.3 -3.3
HABR *e* 20 22 27.3
HABR *e*SS SS 20 25 07.3 +0.1
HABR pmax pmax
comp=N,25nm,1.6s
HABR pmax pmax
comp=Z,52nm,1.6s,mb5.4
HABR pmax pmax
comp=E,63nm,1.9s
HABR MLR MLR
comp=Z,210nm,16.0s,MS4.4
PETK Petropavlovsk- 62.85 358 P **P** **20 12 42.5 -0.3**
comp=Z,11nm,0.9s,mb5.0,baz=199,slow=7.6,SNR=5.9
PETK LR LR 20 36 09.2
comp=Z,463nm,18.9s,MS4.7,baz=163,slow=32
PETK Petropavlovsk- 62.85 358 P **P** **20 12 42.5 -0.3**
PETK Petropavlovsk- 62.85 358 P **P** **20 12 42.5 -0.3**
RKT Rikitea 62.90 111 *e*LR LR 20 31 29.1
comp=Z,763nm,25.8s
ENH Enshi 63.17 311 *e*P **P** **20 12 43.4 -1.9**
comp=Z,11nm,1.0s,mb4.9
GYA Guiyang 63.48 306 ⇑*i*P **P** **20 12 49.0 +1.5**
GYA pP pP 20 13 02.6 +3.1
GYA sP sP 20 13 09.3 +5.2
GYA PcP PcP 20 13 24.8 +0.8
GYA PP PP 20 15 12.0 +4.4
GYA ScP ScP 20 17 22.1 -1.3
GYA S **S** **20 21 17.8 -0.3**
GYA sS sS 20 21 40.6 +2.6
GYA SS SS 20 25 28.0 +2.0
GYA pmax pmax
comp=Z,30nm,1.0s,mb5.4
GYA pmax pmax
comp=Z,130nm,5.1s
GYA LR LR
comp=N,620nm,18.0s,MS4.9
GYA LR LR
comp=E,510nm,19.2s,MS4.9
GYA LR LR
comp=Z,640nm,18.7s,MS4.8
FX1 Attu Island--F 63.54 9 LR LR 20 39 15.0
comp=Z,164nm,18.1s,MS4.2,baz=215,slow=35
KLR Kul'dur 64.08 340 *e*P **P** **20 12 47.0 -3.9**
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.5
BJI Beijing 64.40 324 P **P** **20 12 54.4 +1.1**
BJI S **S** **20 21 32.1 +3.1**
BJI SS SS 20 25 44.4 +4.5
BJI pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BJI pmax pmax
comp=Z,130nm,3.7s
BJI LR LR
comp=N,270nm,26.6s,MS4.6
BJI LR LR
comp=E,390nm,25.9s,MS4.6
BJI LR LR
comp=Z,200nm,27.2s,MS4.2
CASY Casey 65.54 200 P **P** **20 12 57.1 -3.1**
XAN Xi'an 65.55 314 P **P** **20 13 00.3 -0.5**
XAN pP pP 20 13 12.0 -0.8
XAN pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KMI Kunming 66.08 303 ⇓P **P** **20 13 05.9 +1.4**
KMI pP pP 20 13 14.4 -2.1
KMI S S 20 21 51.0 +0.8
KMI pmax pmax
comp=Z,18nm,1.3s,mb4.9
KMI LR LR
comp=N,130nm,14.9s,MS4.5
KMI LR LR
comp=E,170nm,14.9s,MS4.5
KMI LR LR
comp=Z,270nm,16.8s,MS4.5
KMI Kunming 66.08 303 ⇓P **P** **20 13 05.9 +1.4**
comp=Z,18nm,1.3s,mb4.9
KMI pP pP 20 13 14.4 -2.1
KMI S S 20 21 51.0 +0.8
KMI LR LR
comp=Z,270nm,16.8s,MS4.5
KMI Kunming 66.08 303 ⇓P **P** **20 13 05.9 +1.4**
KMI *PP pP 20 13 14.4 -2.1
KMI S S 20 21 51.0 +0.8
KMI pmax pmax
comp=Z,18nm,1.3s,mb4.9
KMI MLR MLR
comp=Z,270nm,16.8s,MS4.5
CHRT Chiangrai 66.60 297 ⇑P **P** **20 13 07.0 -0.9**
comp=Z,116nm,0.7s,mb6.0
CM31 Chiang Mai Arr 66.86 295 *e*P **P** **20 13 10.0 +0.4**
comp=Z,3.9nm,0.6s,mb4.6
CMAR Chiang Mai Arr 66.86 295 P **P** **20 13 09.8 +0.3**
comp=Z,8.7nm,0.7s,mb4.9,baz=125,slow=5.2,SNR=70
CMAR Chiang Mai Arr 66.86 295 P **P** **20 13 09.8 +0.3**
CMAR Chiang Mai Arr 66.86 295 P **P** **20 13 09.9 +0.3**
CHG Chiang Mai 66.98 295 P **P** **20 13 10.3 0.0**
CHTO Chiang Mai 66.98 295 *e*P **P** **20 13 09.9 -0.4**
comp=Z,18nm,1.2s,mb5.0
CHTO Chiang Mai 66.98 295 *e*P **P** **20 13 09.9 -0.4**
CHTO pmax pmax
comp=Z,18nm,1.2s,mb5.0
CHTO Chiang Mai 66.98 295 P **P** **20 13 10.4 +0.1**
comp=Z,18nm,1.6s,mb4.8
VNDA Vanda 67.55 180 *e*P **P** **20 13 13.1 +0.1**
comp=Z,7.7nm,0.8s,mb4.8
VNDA Vanda 67.55 180 *e*P **P** **20 13 13.1 +0.1**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
HHC Hu-ho-hao-te 67.66 322 *e*P **P** **20 13 14.9 +0.7**
HHC sP sP 20 13 30.4 -0.4
HHC PcP PcP 20 13 41.1 +0.2
HHC PP PP 20 15 46.3 +2.4
HHC ScP 20 17 41.1
HHC PcS 20 17 43.8
HHC S S 20 22 09.6 +1.0
HHC sS sS 20 22 28.3 -0.3
HHC ScS ScS 20 23 08.1 -1.4
HHC SS SS 20 26 32.9 +2.4
HHC pmax pmax
comp=Z,14nm,0.7s,mb5.1
HHC pmax pmax
comp=Z,100nm,6.8s
HHC LR LR
comp=N,190nm,16.4s,MS4.7
HHC LR LR
comp=E,300nm,17.1s,MS4.7
HHC LR LR
comp=Z,230nm,17.3s,MS4.5
CD2 Chengdu 67.79 309 P **P** **20 13 15.4 +0.2**
CD2 pP pP 20 13 27.4 +0.1
CD2 sP sP 20 13 31.3 -0.6
CD2 PP PP 20 15 47.8 +2.5
CD2 S S 20 22 10.8 +0.2
CD2 SS SS 20 26 34.5 +1.6
CD2 pmax pmax
comp=Z,40nm,1.1s,mb5.4
CD2 pmax pmax
comp=Z,150nm,9.8s
CD2 LR LR
comp=N,220nm,16.8s,MS4.9
CD2 LR LR
comp=E,630nm,21.6s,MS4.9
CD2 LR LR
comp=Z,350nm,19.2s,MS4.6
SBA Scott Base 67.96 179 *e*P **P** **20 13 09.6 -5.9**
SBA Scott Base 67.96 179 *e*P **P** **20 13 09.6 -5.9**
HIA Hailar 68.91 333 *e*P **P** **20 13 21.6 -0.2**
comp=Z,21nm,0.8s,mb5.1
HIA Hailar 68.91 333 *e*P **P** **20 13 21.6 -0.2**
HIA pmax pmax
comp=Z,21nm,0.8s
LZH Lanzhou 70.17 314 *e*P **P** **20 13 30.0 +0.1**
LZH pP pP 20 13 43.3 +1.3
LZH sP sP 20 13 48.5 +1.9
LZH *e*PP PP 20 16 08.3 +2.5
LZH *e*S S 20 22 37.3 -1.3
LZH sS sS 20 22 59.1 +0.5
LZH pmax pmax
comp=Z,21nm,1.1s,mb5.0
LZH pmax pmax
comp=Z,130nm,7.6s
LZH LR LR
comp=N,270nm,17.5s,MS4.7
LZH LR LR
comp=E,320nm,17.6s,MS4.7
LZH LR LR
comp=Z,380nm,18.2s,MS4.7
LZH Lanzhou 70.17 314 *e*P **P** **20 13 30.0 +0.1**
comp=Z,21nm,1.1s,mb5.0
LZH pP pP 20 13 43.2 +1.2
LZH sP sP 20 13 48.5 +1.9
LZH *e*PP PP 20 16 08.2 +2.4
LZH *e*S S 20 22 37.2 -1.4
LZH sS sS 20 22 59.1 +0.5
LZH LR LR
comp=Z,380nm,18.2s,MS4.7
LZH Lanzhou 70.17 314 *e*P **P** **20 13 30.0 +0.1**
LZH *PP pP 20 13 43.2 +1.2
LZH *SP sP 20 13 48.5 +1.9
LZH *e* 20 16 08.2
LZH *e*S S 20 22 37.2 -1.4
LZH *SS sS 20 22 59.1 +0.5
LZH pmax pmax
comp=Z,21nm,1.1s,mb5.0
LZH MLR MLR
comp=Z,380nm,18.2s,MS4.7
CLNS Chul'man 72.70 340 *e*P **P** **20 13 45.2 +0.5**
CLNS pmax pmax
comp=Z,20nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,0.7s
ULN Ulaanbaatar 74.39 326 *e*P **P** **20 13 54.9 0.0**
comp=E,53nm,1.6s,mb5.2
ULN Ulaanbaatar 74.39 326 *e*P **P** **20 13 54.9 +0.1**
ULN pmax pmax
comp=Z,53nm,1.6s,mb5.2
ULN Ulaanbaatar 74.39 326 P **P** **20 13 55.8 +1.0**
comp=Z,23nm,1.6s,mb4.9
GTA Gaotai 74.55 316 *e*P **P** **20 13 56.6 +0.6**
GTA pP pP 20 14 09.6 +1.5
GTA sP sP 20 14 15.1 +2.4
GTA S S 20 23 27.0 -1.6
GTA sS sS 20 23 50.8 +2.0
GTA SS SS 20 28 18.5 +2.1
GTA pmax pmax
comp=Z,14nm,1.1s,mb4.8
GTA pmax pmax
comp=Z,150nm,5.0s
GTA LR LR
comp=N,300nm,9.7s
GTA LR LR
comp=E,230nm,10.7s
GTA LR LR
comp=Z,190nm,12.8s,MS4.6
SONM Songino Array 74.73 326 P **P** **20 13 57.7 +0.8**
comp=Z,9.8nm,0.6s,mb4.9,baz=141,slow=5.7,SNR=24
SONM LR LR 20 44 18.1
comp=Z,232nm,18.5s,MS4.5,baz=344,slow=34
SONM Songino Array 74.73 326 P **P** **20 13 57.7 +0.8**
SONM Songino Array 74.73 326 P **P** **20 13 57.7 +0.9**
YAK Yakutsk 75.65 346 *e*P **P** **20 14 01.0 -0.8**
comp=Z,62nm,0.8s,mb5.6
YAK Yakutsk 75.65 346 *e*P **P** **20 14 01.1 -0.7**
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,47nm,0.9s,mb5.4
YAK pmax pmax
comp=N,11nm,1.4s
LSA Lhasa 77.34 304 P **P** **20 14 11.1 -1.0**
LSA Lhasa 77.34 304 *e*P **P** **20 14 12.8 +0.7**
comp=N,16nm,1.3s,mb4.8
LSA Lhasa 77.34 304 *e*P **P** **20 14 12.8 +0.7**
LSA pmax pmax
comp=Z,16nm,1.3s,mb4.8
BOD Bodaibo 77.37 337 *e*P **P** **20 14 10.5 -1.1**
BOD pmax pmax
comp=Z,10.0nm,1.9s,mb4.4
KDAK Kodiak Island 77.60 24 *i*P **P** **20 14 13.6 +0.7**
ZAK Zakamensk 77.84 327 *e*P **P** **20 14 12.7 -1.7**
ZAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BILL Bilibino 77.91 2 *e*P **P** **20 14 14.1 -0.3**
comp=Z,73nm,1.1s,mb5.5
BILL Bilibino 77.91 2*c i*P **P** **20 14 14.1 -0.3**
BILL *i* pP 20 14 24.8 -1.8
BILL pmax pmax
comp=Z,73nm,1.3s,mb5.5
TLY Talaya 78.35 328 P **P** **20 14 14.3 -2.9**
TLY Talaya 78.35 328 *e*P **P** **20 14 14.1 -3.1**
TLY *e*S S 20 24 03.6 -6.0
TLY pmax pmax
comp=Z,11nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,118nm,20.0s,MS4.2
TNA Tin City 78.90 13 *e*P **P** **20 14 19.8 -0.1**
comp=Z,28nm,0.9s,mb5.2
TAPN Taplejung 79.49 300 *e*P **P** **20 14 25.0 +1.0**
comp=Z,37nm,1.2s,mb5.2
TAPN Taplejung 79.49 300 *e*P **P** **20 14 25.0 +1.0**
comp=Z,37nm,1.2s,mb5.2
ODAN Odare 79.62 300 *e*P **P** **20 14 24.7 0.0**
comp=Z,71nm,1.2s,mb5.5
ODAN Odare 79.62 300 *e*P **P** **20 14 24.7 0.0**
comp=Z,71nm,1.2s,mb5.5
QSPA South Pole Qui 80.04 180 *e*P **P** **20 14 26.0 0.0**
comp=Z,37nm,1.0s,mb5.3
RAMN Ramite 80.32 300 *e*P **P** **20 14 28.4 -0.1**
comp=Z,44nm,1.5s,mb5.2
RAMN Ramite 80.32 300 *e*P **P** **20 14 28.4 -0.1**
comp=Z,44nm,1.5s,mb5.2
SLKM Skilak Lake 80.33 22 *e*P **P** **20 14 26.9 -0.9**
SLKM Skilak Lake 80.33 22 *e*P **P** **20 14 26.9 -0.9**
JIRN Jiri 80.87 300 *e*P **P** **20 14 31.6 +0.1**
JIRN Jiri 80.87 300 *e*P **P** **20 14 31.6 +0.1**
RC01 Rabbit Creek A 80.89 22 *e*P **P** **20 14 29.8 -1.0**
comp=Z,32nm,1.1s,mb5.2
GUN Gumba 81.20 300 *e*P **P** **20 14 33.2 0.0**
comp=Z,53nm,1.3s,mb5.3
GUN Gumba 81.20 300 *e*P **P** **20 14 33.2 0.0**
comp=Z,53nm,1.3s,mb5.3
PMR Palmer 81.43 22 *e*P **P** **20 14 33.1 -0.6**
comp=Z,13nm,0.8s,mb4.9
PMR Palmer 81.43 22 *e*P **P** **20 14 33.1 -0.6**
PMR pmax pmax
comp=Z,13nm,0.8s,mb4.9

PKI	Pulchoki	81.51	300	eP		P	20 14 34.9	0.0
	comp=Z,75nm,1.6s,mb5.4							
PKI	Pulchoki	81.51	300	eP		P	20 14 34.9	0.0
	comp=Z,75nm,1.6s,mb5.4							
PKI	Pulchoki	81.51	300	eP		P	20 14 34.9	0.0
PKI					pmax	pmax		
	comp=Z,75nm,1.6s,mb5.4							
KKN	Kakani	81.68	300	eP		P	20 14 35.5	-0.3
KKN	Kakani	81.68	300	eP		P	20 14 35.5	-0.3
KKN	Kakani	81.68	300	eP		P	20 14 35.5	-0.3
DMN	Daman	81.78	300	eP		P	20 14 36.4	+0.1
	comp=Z,62nm,1.2s,mb5.4							
DMN	Daman	81.78	300	eP		P	20 14 36.4	+0.1
	comp=Z,62nm,1.2s,mb5.4							
SML	Sawmill	81.87	22	eP		P	20 14 35.1	-0.8
	comp=Z,17nm,1.5s,mb4.8							
SML	Sawmill	81.87	22	eP		P	20 14 35.1	-0.8
SML					pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8							
TRF	Thorofare Moun	82.24	20	eP		P	20 14 36.0	-1.9
	comp=Z,21nm,0.9s,mb5.1							
GKN	Gorkha	82.29	300	eP		P	20 14 38.3	-0.6
	comp=Z,58nm,1.2s,mb5.4							
GKN	Gorkha	82.29	300	eP		P	20 14 38.3	-0.6
	comp=Z,58nm,1.2s,mb5.4							
DIV	Divide	82.42	23	eP		P	20 14 38.2	-0.6
	comp=Z,19nm,0.7s,mb5.1							
MDRS	Chennai	82.77	285	ex		x	20 14 46.2	
MDRS				ex		x	20 21 34.2	
MDRS				ex		x	20 35 14.2	
MDRS				ex		x	20 43 38.2	
MDRS				ex		x	20 50 22.2	
MDRS				ex		x	21 03 58.2	
BMRM	Bremner River	82.78	24	eP		P	20 14 40.9	+0.1
	comp=Z,61nm,1.3s,mb5.5							
MCK	McKinley	82.88	20	eP		P	20 14 39.0	-2.2
	comp=Z,106nm,1.0s,mb5.8							
MCK	McKinley	82.88	20	eP		P	20 14 39.0	-2.2
MCK					pmax	pmax		
	comp=Z,106nm,1.0s,mb5.8							
KOLN	Koldanda	83.11	300	eP		P	20 14 42.3	-0.9
KOLN	Koldanda	83.11	300	eP		P	20 14 42.3	-0.9
DANN	Dangsing	83.12	300	eP		P	20 14 42.4	-0.9
	comp=Z,70nm,1.3s,mb5.5							
DANN	Dangsing	83.12	300	eP		P	20 14 42.4	-0.9
	comp=Z,70nm,1.3s,mb5.5							
MAW	Mawson	83.73	202	P		P	20 14 46.6	+0.9
	comp=Z,3.6nm,0.6s,mb4.7,baz=109,slow=8.4,SNR=14							
MAW					LR	LR	20 47 12.8	
	comp=Z,242nm,18.6s,MS4.6,baz=113,slow=32							
MAW	Mawson	83.73	202	eP		P	20 14 46.1	+0.5
MAW	Mawson	83.73	202	eP		P	20 14 46.0	+0.3
	comp=Z,5.2nm,1.2s,mb4.5							
MAW	Mawson	83.73	202	eP		P	20 14 46.0	+0.4
MAW					pmax	pmax		
	comp=Z,5.0nm,1.2s							
COLA	College	83.97	20	eP		P	20 14 45.6	-1.2
	comp=Z,47nm,0.8s,mb5.7							
COLA	College	83.97	20	eP		P	20 14 45.6	-1.2
COLA					pmax	pmax		
	comp=Z,47nm,0.8s,mb5.7							
ILAR	Eielson Array	84.23	20	P		P	20 14 47.0	-1.2
	comp=Z,14nm,0.8s,mb5.2,baz=252,slow=4.4,SNR=109							
ILAR					PKKPbc	PKKPbc	20 32 59.1	-5.2
	comp=Z,0.3nm,0.5s,baz=348,slow=1.8,SNR=9.2							
ILAR					LR	LR	20 46 41.9	
	comp=Z,282nm,20.3s,MS4.6,baz=334,slow=32							
ILAR	Eielson Array	84.23	20	P		P	20 14 47.0	-1.2
ILAR					PKKPbc	PKKPbc	20 32 59.1	-5.2
ILAR	Eielson Array	84.23	20	P		P	20 14 47.0	-1.1
PNL	Peninsula	84.24	26	eP		P	20 14 47.9	-0.4
	comp=Z,50nm,1.0s,mb5.6							
WMQ	Urumqi	84.63	316	P		P	20 14 49.8	-0.8
WMQ					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.8							
WMQ					pmax	pmax		
	comp=Z,230nm,5.0s							
WMQ					LR	LR		
	comp=N,190nm,18.0s,MS4.7							
WMQ					LR	LR		
	comp=E,220nm,18.6s,MS4.7							
WMQ					LR	LR		
	comp=Z,200nm,21.6s,MS4.5							
DIB	Dawson Inlet,	84.66	34	T			21 47 24.4	
COLD	Coldfoot	84.76	17	eP		P	20 14 51.0	+0.2
	comp=Z,8.0nm,0.8s,mb4.9							
HYB	Hyderabad	85.27	289	i P		P	20 14 53.0	-1.4
EGAK	Eagle	86.24	21	eP		P	20 14 58.2	+0.1
	comp=Z,62nm,1.1s,mb5.8							
YBH	Yreka Blue Hor	86.95	47	eP		P	20 15 02.9	+0.8
	comp=Z,13nm,0.9s,mb5.2							
YBH	Yreka Blue Hor	86.95	47	eP		P	20 15 02.9	+0.7
YBH					pmax	pmax		
	comp=Z,13nm,0.9s							
CMB	Columbia Colle	87.71	51	eP		P	20 15 04.7	-1.3
	comp=Z,4.0nm,0.8s,mb4.7							
CMB	Columbia Colle	87.71	51	eP		P	20 15 04.7	-1.2
CMB					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7							
WCN	Washoe City	88.50	50	⇑P		P	20 15 10.0	+0.3
	baz=88							
MOD	Modoc	88.73	47	eP		P	20 15 10.7	0.0
	comp=Z,2.5nm,0.4s,mb4.9							
EDW2	Edwards Air Fo	88.84	54	⇑P		P	20 15 12.0	+0.6
	baz=89							
BFSC	Mount Baldy Ra	88.97	55	⇑P		P	20 15 11.6	-0.4
	baz=89							
MK31	Makanchi Array	89.15	318	eP		P	20 15 10.7	-1.8
MK31	Makanchi Array	89.15	318	eP		P	20 15 10.7	-1.8
MKAR	Makanchi Array	89.15	318	P		P	20 15 11.9	-0.6
	comp=Z,2.6nm,0.8s,mb4.6,baz=110,slow=6.6,SNR=14							
MKAR					PKKP	PKKPbc	20 32 46.5	-5.1
	comp=Z,0.8nm,0.9s,baz=265,slow=2.5,SNR=4.1							
MKAR					LR	LR	20 57 12.3	
	comp=Z,159nm,18.8s,MS4.5,baz=356,slow=37							
MKAR	Makanchi Array	89.15	318		P	P	20 15 11.9	-0.6
MKAR					PKKP	PKKPbc	20 32 46.5	-5.1
MKAR	Makanchi Array	89.15	318	P		P	20 15 11.9	-0.6
LRMC	Laurel Mountai	89.21	54	⇑P		P	20 15 13.8	+0.7
	baz=89							
JCW	Jim Creek	89.26	41	eP		P	20 15 12.0	-1.0
	comp=Z,6.9nm,0.5s,mb5.2							
NVAR	Mina Array Bea	89.39	51	P		P	20 15 14.8	+0.9
	comp=Z,6.8nm,0.8s,mb5.0,baz=239,slow=5.6,SNR=25							
NVAR					LR	LR	20 49 47.8	
	comp=Z,346nm,18.4s,MS4.8,baz=126,slow=32							
NVAR	Mina Array Bea	89.39	51	P		P	20 15 14.8	+0.9
MPMC	Manual Prospec	89.50	53	⇓P		P	20 15 15.1	+0.7
	baz=90							
ZAA0	Zalesovo Array	89.62	325	P		P	20 15 13.2	-1.3
ZALV	Zalesovo Beam	89.62	325	P		P	20 15 12.9	-1.6
	comp=Z,0.6nm,0.3s,mb4.3,baz=115,slow=5.6,SNR=6.4							
ZALV					PKKP	PKKPbc	20 32 45.8	-4.9
	comp=Z,0.5nm,0.4s,baz=224,slow=4.1,SNR=4.3							
ZALV	Zalesovo Beam	89.62	325	P		P	20 15 12.9	-1.6
ZALV					PKKP	PKKPbc	20 32 45.8	-4.9
ZALV	Zalesovo Beam	89.62	325	P		P	20 15 12.9	-1.7
MONP	Monument Peak	89.69	57	⇑P		P	20 15 15.6	+0.2
	baz=90							
GRAC	Grapevine Rang	89.80	52	⇓P		P	20 15 16.2	+0.3
	baz=90							
PFO	Pinyon Flat Ob	89.81	56	⇑P		P	20 15 16.0	+0.1
	baz=90							
I07A	Izee	89.83	45	⇓P		P	20 15 16.3	+0.5
	baz=90,SNR=5.8							
GSC	Goldstone	89.88	54	⇑P		P	20 15 16.6	+0.4
	baz=90							
DVTC	Desert V Tower	89.91	57	⇓P		P	20 15 16.8	+0.4
	baz=90							
WVOR	Wild Horse Val	90.06	47	eP		P	20 15 17.4	+0.5
	comp=Z,33nm,1.3s,mb5.5							
WVOR	Wild Horse Val	90.06	47	eP		P	20 15 17.4	+0.5
WVOR					pmax	pmax		
	comp=Z,33nm,1.3s,mb5.5							
FURC	Furnace Creek,	90.08	53	⇓P		P	20 15 17.6	+0.4
	baz=90							
ETW	Entiat	90.14	42	eP		P	20 15 16.9	-0.3
	comp=Z,9.2nm,0.7s,mb5.2							
HEC	Hector,Ludlow	90.16	55	⇓P		P	20 15 17.8	+0.2
	baz=90							
SWSC	Sam W. Stewart	90.21	57	⇓P		P	20 15 17.5	-0.3
	baz=90							
HAWA	Hanford	90.37	43	eP		P	20 15 18.4	+0.1
	comp=Z,14nm,1.0s,mb5.2							
J08A	Circle Bar Ran	90.39	46	⇓P		P	20 15 18.6	+0.2
	baz=90,SNR=6.1							
SHOC	Shoshone	90.42	54	⇑P		P	20 15 19.1	+0.3
	baz=90							
TUQ	Turquoise Moun	90.61	54	⇓P		P	20 15 20.3	+0.6
	baz=91							
BMN	Battle Mountai	90.65	49	eP		P	20 15 20.1	+0.4
	comp=Z,30nm,1.4s,mb5.4							
BMN	Battle Mountai	90.65	49	eP		P	20 15 20.1	+0.4
BMN					pmax	pmax		
	comp=Z,30nm,1.4s,mb5.4							
IRM	Iron Mountain	90.98	56	⇑P		P	20 15 21.9	+0.5
	baz=91							
GLA	Glamis	91.03	57	⇑P		P	20 15 21.8	+0.2
	baz=91							
OD2	Odessa Site #2	91.16	42	eP		P	20 15 21.5	-0.4
	comp=Z,19nm,0.3s,mb5.9							
LDFC	Landfair	91.20	55	eP		P	20 15 22.3	-0.1
	comp=Z,6.3nm,0.5s,mb5.2							
SYO	Syowa Base	91.23	198	⇑eP		P	20 15 19.9	-2.0
E09A	Wood Farm, Sta	91.33	43	⇓P		P	20 15 23.0	+0.3
	baz=91							
Y12C	Blythe	91.42	56	⇑P		P	20 15 23.1	-0.3
	baz=91							
R11A	Troy Canyon, C	91.46	51	⇑P		P	20 15 23.7	+0.2
	baz=92							
BMO	Blue Mountains	91.54	45	eP		P	20 15 23.6	-0.2
	comp=Z,27nm,1.4s,mb5.4							
BMO	Blue Mountains	91.54	45	eP		P	20 15 23.6	-0.1
BMO					pmax	pmax		
	comp=Z,27nm,1.4s,mb5.4							
PDMCI	Parker Dam,Lak	91.83	56	⇓P		P	20 15 26.1	+0.8
	baz=92							
F10A	Beach Ranch, E	91.84	44	⇓P		P	20 15 25.4	+0.4
	baz=92							
KSH	Kashi	91.99	310	P		P	20 15 27.3	+1.4
KSH				pP		pP	20 15 40.6	+2.3
KSH				sP		sP	20 15 45.9	+3.0
KSH				PP		PP	20 19 10.3	+4.3
KSH				SKS			20 25 54.8	
KSH				S		S	20 26 21.8	-3.1
KSH				sS		sS	20 26 46.5	+0.8
KSH				SS		SS	20 32 37.5	+2.9
KSH					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7							
KSH					pmax	pmax		
	comp=Z,140nm,5.5s							
KSH					LR	LR		
	comp=N,180nm,6.4s							
KSH					LR	LR		
	comp=E,250nm,7.2s							
KSH					LR	LR		
	comp=Z,280nm,7.1s							
W13A	Hualapai Mount	92.19	55	⇓P		P	20 15 27.0	+0.1
	baz=92							
MFID	Camas Ranch	92.29	46	⇓P		P	20 15 27.1	-0.1
	baz=92,SNR=8.1							
MFID	Camas Ranch	92.29	46	eP		P	20 15 27.7	+0.5
	comp=Z,3.3nm,0.6s,mb4.8							
KURK	Kurchatov	92.46	321	P		P	20 15 26.5	-1.3
	comp=Z,1.6nm,1.0s,mb4.3,baz=105,slow=3.4,SNR=11							
KURK	Kurchatov	92.46	321	P		P	20 15 26.5	-1.3
KURK	Kurchatov	92.46	321	⇓eP		P	20 15 26.2	-1.6
KURK					pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.9							
R13A	O'Grain Ranch,	92.68	52	⇑P		P	20 15 30.2	+1.0
	baz=93							
I12A	Atlanta	92.86	46	⇑P		P	20 15 30.1	+0.3
	baz=93,SNR=18							
C11A	Tepee Creek (N	92.88	42	⇑P		P	20 15 29.7	-0.1
	baz=93							
E12A	Beaver Dam Sad	93.05	44	⇑P		P	20 15 30.3	-0.4
	baz=93							
F12A	Elk City	93.14	44	⇓P		P	20 15 30.4	-0.7
	baz=93							
H12A	Diamond D Ranc	93.19	45	⇓P		P	20 15 31.3	-0.1
	baz=93,SNR=8.3							
J13A	Cove Ranch, Pi	93.47	47	⇑P		P	20 15 33.4	+0.7
	baz=94							
I13A	Wildhorse Cree	93.60	46	⇓P		P	20 15 33.7	+0.5
	baz=94,SNR=34							
H13A	Challis	93.62	46	⇓P		P	20 15 33.6	+0.3
	baz=94,SNR=14							
G13A	Cobalt	93.73	45	⇑P		P	20 15 33.7	-0.1
	baz=94,SNR=9.8							
F13A	Darby	93.78	44	⇑P		P	20 15 34.5	+0.4
	baz=94							
L14A	Malta	93.91	48	⇑P		P	20 15 35.2	+0.5
	baz=94							
J14A	Carey	93.93	47	⇑P		P	20 15 35.7	+0.9
	baz=94							
E13A	Victor	94.00	44	⇑P		P	20 15 35.3	+0.3
	baz=94							
K14A	Jones Ranch, D	94.04	48	⇑P		P	20 15 35.6	+0.3
	baz=94							
I14A	Mackay	94.08	46	⇑P		P	20 15 35.7	+0.2
	baz=94,SNR=13							
P15A	Leamington	94.22	51	⇓P		P	20 15 35.8	-0.4
	baz=94							
H14A	Leadore	94.25	46	⇑P		P	20 15 36.6	+0.4
	baz=94							
G14A	Jackson	94.29	45	⇑P		P	20 15 36.7	+0.2
	baz=94							
L15A	Malad City	94.53	48	⇓P		P	20 15 37.8	+0.2
	baz=95							
K15A	Arbon	94.53	48	⇑P		P	20 15 38.0	+0.4
	baz=95							
J15A	Blackfoot	94.72	47	⇓P		P	20 15 39.2	+0.8
	baz=95							
H15A	Lima	94.76	46	⇑P		P	20 15 38.9	+0.3
	baz=95,SNR=14							
I15A	Monteview	94.78	46	⇓P		P	20 15 39.3	+0.7
	baz=95							
G15A	Dillon	94.96	45	⇓P		P	20 15 40.1	+0.6
	baz=95							
K16A	Soda Springs	95.24	48	⇑P		P	20 15 40.6	-0.3
	baz=95							
R17A	Hanksville Air	95.25	52	⇑P		P	20 15 40.9	0.0
	baz=95							
C15A	Salmond Ranch,	95.28	43	⇑P		P	20 15 40.8	-0.1
	baz=95							
G16A	Moss Hill, Enn	95.45	45	⇓P		P	20 15 42.1	+0.4
	baz=96							
I16A	Newdale	95.47	47	⇑P		P	20 15 41.5	-0.4
	baz=96							
BOZ	Bozeman (W)	95.63	45	⇑P		P	20 15 43.0	+0.5
	baz=96							
BOZ	Bozeman (W)	95.63	45	eP		P	20 15 41.9	-0.6
	comp=Z,2.7nm,0.8s,mb4.7							
BOZ	Bozeman (W)	95.63	45	eP		P	20 15 41.9	-0.6
BOZ					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.8							
QLMT	Earthquake Lak	95.65	46	eP		P	20 15 43.0	+0.4
	comp=Z,0.2nm,0.3s,mb4.0							
F16A	Kennard Place,	95.65	45	⇑P		P	20 15 42.4	-0.2
	baz=96							
H16A	Russell Place,	95.76	46	⇑P		P	20 15 43.9	+0.8
	baz=96,SNR=6.3							
C16A	Fuhringer Ranc	95.86	43	⇑P		P	20 15 43.8	+0.3
	baz=96							
D16A	Dana Ranch, Ca	95.88	43	⇓P		P	20 15 44.2	+0.6
	baz=96							
J17A	Brown Place, J	95.95	47	⇑P		P	20 15 44.8	+0.7
	baz=96							
MOOW	Moose Ponds	95.98	47	eP		P	20 15 44.8	+0.6
	comp=Z,3.9nm,1.1s,mb4.8							
G17A	Pierce Place,	96.20	45	⇓P		P	20 15 45.3	+0.2
	baz=96							
F17A	Fitzpatrick Pl	96.34	45	⇑P		P	20 15 46.3	+0.5
	baz=96							
S19A	Harvey Farm, M	96.38	53	⇓P		P	20 15 45.8	-0.4
	baz=96							
YKA	Yellowknife Ar	96.45	28	P		P	20 15 44.7	-1.1
	comp=Z,9.2nm,0.6s,mb5.4,baz=259,slow=4.6,SNR=132							
YKA					LR	LR	20 51 25.7	
	comp=Z,28nm,20.3s,MS3.7,baz=175,slow=31							
YKA	Yellowknife Ar	96.45	28	P		P	20 15 44.7	-1.1
YKA	Yellowknife Ar	96.45	28	P		P	20 15 44.7	-1.1
C17A	Wharram Farm,	96.50	43	⇓P		P	20 15 46.4	0.0
	baz=96							
B17A	L&G Farms, Che	96.56	42	⇓P		P	20 15 46.4	-0.3
	baz=97							
I18A	Diamond G Ranc	96.64	47	⇑P		P	20 15 47.1	0.0
	baz=97							
PD01	Pinedale Array	96.70	48	eP		P	20 15 47.8	+0.4
A17A	Triple J Farms	96.71	42	⇑P		P	20 15 47.3	0.0
	baz=97							
PD02	Pinedale Array	96.71	48	eP		P	20 15 47.8	+0.3
BW06	Boulder Array	96.71	48	⇑P		P	20 15 48.1	+0.5
	baz=97							
PDAR	Pinedale Array	96.71	48	P		P	20 15 47.8	+0.2
	comp=Z,5.0nm,0.9s,mb5.0,baz=237,slow=2.8,SNR=28							
PDAR	Pinedale Array	96.71	48	P		P	20 15 47.8	+0.2
H18A	Shoshone NF, C	96.88	46	⇑P		P	20 15 48.4	+0.2
	baz=97							
E18A	Harlowton	96.94	44	⇓P		P	20 15 48.8	+0.4
	baz=97							
F18A	Big Timber	96.99	45	⇓P		P	20 15 49.0	+0.3
	baz=97							
D18A	Linhart Farms,	97.09	43	⇑P		P	20 15 49.3	+0.2
	baz=97							
J19A	Crowheart	97.14	47	⇓P		P	20 15 49.9	+0.4
	baz=97							
EGMT	Eagleton	97.22	43	⇓P		P	20 15 49.9	+0.2
	baz=97							
K19A	Absolon Red Bu	97.24	48	⇓P		P	20 15 50.3	+0.4
	baz=97							
H19A	Powell	97.36	46	⇓P		P	20 15 50.9	+0.6
	baz=97							
F19A	Roth Farm, Mol	97.52	45	⇓P		P	20 15 51.8	+0.7
	baz=98							
C19A	Slack Wire Ran	97.66	43	⇑P		P	20 15 51.8	+0.2
	baz=98							
E19A	Rath Farm, Rou	97.70	44	⇓P		P	20 15 52.2	+0.4
	baz=98							
D19A	Cripps Ranch,	97.71	44	⇑P		P	20 15 52.3	+0.4
	baz=98							
SNAA	Sanae	97.79	185	e		P	20 15 52.0	+0.2
B19A	Brinkman Farms	97.81	42	⇓P		P	20 15 52.6	+0.3
	baz=98							
G20A	Bridger	97.96	46	⇑P		P	20 15 53.4	+0.3
	baz=98							
E20A	Meyer Farm, Mu	98.15	44	⇓P		P	20 15 54.1	+0.2
	baz=98							
D20A	Manuel Ranch,	98.21	44	⇑P		P	20 15 54.1	0.0
	baz=98							
J21A	Lysite	98.32	47	⇓P		P	20 15 55.4	+0.7
	baz=98							
X23A	Hourglass Bar	98.37	56	⇑P		P	20 15 55.4	+0.2
	baz=98							
VNA3	Neumayer Olymp	98.71	183	e		P	20 15 55.6	-0.4
VNA2	Neumayer--Watz	98.88	184	e		P	20 15 56.2	-0.5
	baz=184,slow=4.8							
A21A	Bergtoll Ranch	99.19	42	⇓P		P	20 15 58.3	-0.1
	baz=99							
LAO	LASA Array	99.48	44	⇓P		P	20 16 00.4	+0.5
	baz=100							
D22A	Cohagen	99.54	44	⇓P		P	20 15 59.9	-0.2
	baz=100							
B22A	Reddig Ranch S	99.75	43	⇑P		Pdif	20 16 00.6	-0.3
	baz=100							
A22A	Carney Farms,	99.85	42	⇓P		Pdif	20 16 01.3	-0.1
	baz=100							
TXAR	Lajitas Array	99.95	62	PP		PP	20 20 03.5	-4.5
	comp=Z,0.5nm,0.7s,baz=246,slow=8.1,SNR=6.6							
TXAR					PKKPbc	PKKPbc	20 32 21.3	-0.9
	comp=Z,0.3nm,0.6s,baz=116,slow=3.1,SNR=4.6							
TXAR					LR	LR	20 55 03.9	
	comp=Z,389nm,18.2s,MS5.0,baz=135,slow=32							
TXAR	Lajitas Array	99.95	62	PP		PP	20 20 03.5	-4.5
TXAR					PKKPbc	PKKPbc	20 32 21.3	-0.9
D23A	Lindsay	100.21	44	⇑P		Pdif	20 16 03.3	+0.4
	baz=100							
C23A	Lambert	100.26	43	⇓P		Pdif	20 16 03.5	+0.3
	baz=100							
B23A	Brockton	100.43	42	⇓P		Pdif	20 16 04.3	+0.4
	baz=100							
DGMT	Dagmar	100.96	42	⇑P		Pdif	20 16 06.2	-0.1
	baz=101							
A24A	Westby	101.11	42	⇓P		Pdif	20 16 06.8	-0.1
	baz=101							
APA	Apatity	112.71	341	⇓iPKIKP		PKiKP	20 20 50.0	-2.9
APA				i			20 27 30.0	
APA					MLR	MLR		
	comp=Z,2μm,21.0s,MS5.6							
ARCES	ARCESS Array B	113.91	344	PKiKP		PKiKP	20 20 53.8	-1.4
	comp=Z,4.0nm,0.9s,baz=46,slow=2.7,SNR=7.8							
ARCES	ARCESS Array B	113.91	344	PKIKP		PKiKP	20 20 53.8	-1.4
ARCES	ARCESS Array B	113.91	344	PKIKP		PKiKP	20 20 53.8	-1.4
BHD	Baghdad	117.11	302	ex		PP	20 22 03.5	-9.3
FINES	FINESS Array B	118.77	337	PKP		PKPdf	20 21 02.4	-2.4
	comp=Z,7.1nm,1.2s,baz=110,slow=5.1,SNR=4.2							
FINES	FINESS Array B	118.77	337	PKP		PKPdf	20 21 02.4	-2.4
FINES	FINESS Array B	118.77	337	PKIKP		PKPdf	20 21 02.4	-2.3
BOSA	Boshof	122.14	227	PKP		PKPdf	20 21 11.5	-0.8
	comp=Z,2.4nm,0.7s,baz=143,slow=3.2,SNR=10							
BOSA	Boshof	122.14	227	PKP		PKPdf	20 21 11.5	-0.8
BOSA	Boshof	122.14	227	PKIKP		PKPdf	20 21 11.5	-0.8
AKASG	Malin Array Be	123.02	325	PKP		PKPdf	20 21 11.5	-1.7
	comp=Z,0.5nm,0.4s,baz=41,slow=3.0,SNR=4.1							
AKASG	Malin Array Be	123.02	325	PKP		PKPdf	20 21 11.5	-1.7
AKASG	Malin Array Be	123.02	325	PKIKP		PKPdf	20 21 11.5	-1.7
NB2	NORSAR Subarra	124.18	342	PKPdf		PKPdf	20 21 12.8	-2.3
	comp=Z,5.3nm,1.4s,baz=39,slow=1.9							
NOA	NORSAR Array B	124.18	342	PKP		PKPdf	20 21 13.8	-1.3
	comp=Z,2.3nm,0.8s,baz=39,slow=1.8,SNR=6.4							
NOA	NORSAR Array B	124.18	342	PKP		PKPdf	20 21 13.8	-1.3
NOA	NORSAR Array B	124.18	342	PKIKP		PKPdf	20 21 13.9	-1.2
BRTR	Keskin Array B	124.33	312	PKP		PKPdf	20 21 14.9	-1.2
	comp=Z,0.5nm,0.8s,baz=147,slow=7.4,SNR=3.9							
BRTR					PKKP		20 31 43.0	
	comp=Z,0.9nm,1.0s,baz=229,slow=7.5,SNR=3.8							
BRTR	Keskin Array B	124.33	312	PKP		PKPdf	20 21 14.9	-1.2
BRTR					PKKP		20 31 43.0	
BRTR	Keskin Array B	124.33	312	PKIKP		PKPdf	20 21 14.9	-1.2
LPAZ

PBDV	**Barranco-do-Ve**	**150.85**	**341**	*e*PKP	PKPbc	20 22 10.8	+1.0
MORF	**Marmelete**	**151.03**	**342**	*e*PKP	PKPbc	20 22 10.9	+0.7
TAM	**Tamanrasset**	**152.77**	**301**	*e*PKPbc	PKPbc	20 22 14.1	-0.5
TAM	**Tamanrasset**	**152.77**	**301**	*e*PKIKP	PKPbc	20 22 14.1	-0.5
TORD	**Torodi Ar. Bea**	**158.89**	**281**	PKP	PKPdf	20 22 14.3	-1.4
	comp=Z,0.9nm,0.9s,baz=37,slow=0.9,SNR=4.8						
TORD				PKPab	PKPab	20 22 51.0	-0.9
	comp=Z,4.3nm,0.9s,baz=77,slow=2.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**158.89**	**281**	PKP	PKPdf	20 22 14.3	-1.4
TORD				PKPab	PKPab	20 22 51.0	-0.9
DBIC	**Dimbokro**	**165.04**	**259**	PKPab	PKPab	20 23 18.7	-0.3
	comp=Z,9.8nm,1.1s,baz=90,slow=4.5,SNR=6.7						
DBIC	**Dimbokro**	**165.04**	**259**	PKPab	PKPab	20 23 18.7	-0.3
DBIC	**Dimbokro**	**165.04**	**259**	PKP2	PKPab	20 23 18.7	-0.3

JMA 19 20:10:46.8,37°.51N×138°.25E,h25km±1km,M1.3,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.37**	**86**	P	Pb	20 10 54.7	-0.1
JIZZ				*e*S	Sb	20 11 01.0	+0.7
JJN	**Nakama**	**0.41**	**190**	P	Pb	20 10 55.5	0.0
JJN				S	Sb	20 11 01.8	+0.3
JSD	**Sado**	**0.53**	**1**	P	Pb	20 10 57.2	-0.3
JSD				S	Sb	20 11 04.5	-0.2
JHK	**Hiroka**	**0.66**	**113**	P	Pb	20 10 59.0	-0.7
JHK				S	Sb	20 11 07.8	-0.8
JSZ	**Suzu**	**0.71**	**265**	P	Pb	20 10 59.9	-0.6
JSZ				S	Sb	20 11 09.8	0.0
JNS	**Sasagawa**	**0.90**	**70**	P	Pb	20 11 03.3	-0.5
JNS				S	Sb	20 11 15.3	0.0
MAT	**Matsushiro**	**0.97**	**182**	P	Pn	20 11 04.1	-0.6
MAT				S	Sb	20 11 16.8	-0.4
MAT	**Matsushiro**	**0.97**	**182**	P	Pn	20 11 04.2	-0.5
JKT	**Katashina**	**1.09**	**133**	P	Pn	20 11 06.3	-0.1
JKT				S	Sn	20 11 20.4	-0.3
JFY	**Yanaizu**	**1.16**	**95**	P	Pn	20 11 08.0	+0.6
JFY				S	Sn	20 11 22.6	+0.1

*ISCJB **19** 20:23:26.3±1.0,51°.45N±0°.05×16°.12E±0°.04,h0km,Error ellipse: s-maj=7.8km s-min=3.4km az=3.6*
*CSEM **19** 20:23:27.7±0.6,51°.44N×16°.06E,h2km,ML3.2/4*
*PRU **19** 20:23:28.8,51°.44N×16°.09E,h0km,Felt In Harrachov*
*WAR **19** 20:23:28.0,51°.52N×16°.11E,ML2.3,Mining Induced*
ISC 19 20:23:27.7±1.0,51°.47N±0°.05×16°.10E±0°.04,h0km,n21, σ0=87/39,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**20 23 40.5**	**+0.5**
KSP				*e*Sg	**Sg**	**20 23 50.0**	**+1.7**
UPC	**Upice**	**0.97**	**183**	*e*PG	**Pg**	**20 23 46.8**	**+0.6**
UPC	**Upice**	**0.97**	**183**	Pg	**Pg**	**20 23 46.8**	**+0.6**
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*PG	**Pg**	**20 23 49.3**	**-0.1**
DPC				*e*SG	**Sg**	**20 24 04.5**	**+0.5**
	14nm,0.3s						
DPC	**Dobruska-Polom**	**1.13**	**173**	Pg	**Pg**	**20 23 49.3**	**-0.1**
DPC				Sg	**Sg**	**20 24 04.5**	**+0.5**
	14nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**226**	*e*PG	**Pg**	**20 23 53.7**	**+0.1**
PVCC				*e*SG	**Sg**	**20 24 11.6**	**+0.6**
	48nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**226**	Pg	**Pg**	**20 23 53.7**	**+0.1**
PVCC				Sg	**Sg**	**20 24 11.6**	**+0.6**
	48nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**247**	PG	**Pg**	**20 23 55.9**	**-0.2**
BRG				SG	**Sg**	**20 24 16.3**	**+1.0**
	24nm,0.4s						
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	**Pg**	**20 24 01.2**	**-0.7**
PRU				*e*SG	**Sg**	**20 24 25.0**	**0.0**
	14nm,0.3s						
PRU	**Pruhonice**	**1.79**	**214**	Pg	**Pg**	**20 24 01.2**	**-0.7**
PRU				Sg	**Sg**	**20 24 25.0**	**0.0**
	14nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**20 24 01.2**	**-0.5**
MORC				*e*Sg	**Sg**	**20 24 25.9**	**-3.8**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*SG	**Sg**	**20 24 33.9**	**-1.0**
OKC	**Ostrava-Krasne**	**2.10**	**141**	Sg	**Sg**	**20 24 33.9**	**-1.0**
VRAC	**Vranov**	**2.19**	**171**	*e*Pn	**Pn**	**20 24 05.5**	**+0.2**
VRAC				*e*Sg	**Sg**	**20 24 37.6**	**-0.4**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PG	**Pg**	**20 24 17.2**	**-0.7**
NKC				*e*SG	**Sg**	**20 24 52.9**	**+1.0**
	12nm,0.4s						
NKC	**Novy Kostel**	**2.62**	**243**	Pg	**Pg**	**20 24 17.2**	**-0.7**
NKC				Sg	**Sg**	**20 24 52.9**	**+1.0**
	12nm,0.4s						
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**20 24 19.3**	**+0.6**
OJC				*e*Sg	**Sg**	**20 24 54.0**	**+0.9**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**20 24 19.3**	**+0.6**
OJC				*e*Sg	**Sg**	**20 24 54.0**	**+0.9**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**20 24 15.4**	**+1.1**
KHC				*e*PG	**Pg**	**20 24 20.4**	**-1.8**
KHC				*e*SN	**Sn**	**20 24 48.5**	**-0.7**
KHC				*e*SG	**Sg**	**20 24 57.6**	**-1.5**
KHC	**Kasperske Hory**	**2.85**	**216**	Pn	**Pn**	**20 24 15.4**	**+1.1**
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**20 24 31.5**	**-1.1**
NIE				*e*S	**Sg**	**20 25 16.7**	**+0.2**

IDC 19 20:41:53.7±2.0,6°.13S×130°.42E,h0km,mb3.8/1, mb1 3.9/4,mb1mx3.6/15,mbtmp3.7/4,ML3.5/3,Error ellipse: s-maj=87.4km s-min=16.8km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.78**	**201**	Pn	Pn	20 44 56.3	-0.5
	0.3nm,0.3s,baz=27,slow=11,SNR=13						
FITZ				Sn	Sn	20 46 58.6	-21
	0.3nm,0.3s,baz=292,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**14.25**	**165**	Pn	Pn	20 45 17.9	+1.0
	0.2nm,0.3s,baz=349,slow=12,SNR=16						
WRA				Sn	Sn	20 47 44.5	-11
	0.4nm,0.3s,baz=346,slow=22,SNR=6.1						
ASAR	**Alice Springs**	**17.75**	**169**	P	Pn	20 46 03.0	+0.6
	0.3nm,0.3s,baz=345,slow=10.0,SNR=26						
ASAR				S	Sn	20 49 21.9	+1.0
	0.1nm,0.3s,baz=350,slow=21,SNR=5.4						
MKAR	**Makanchi Array**	**67.73**	**326**	P	P	20 52 53.1	+0.1
	0.4nm,0.4s,baz=116,slow=8.2,SNR=12						

*NEIC **19** 20:50:59.5,36°.29S×177°.78E,h185km,mb4.2/2,After WEL.*
WEL 19 20:50:59.6±0.7,36°.36S×178°.09E,h194km±4km,ML4.0/9, Error ellipse: s-maj=6.9km s-min=6.2km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.22**	**172**	PN	Pn	20 51 30.4	0.0
MXZ				SN	Sn	20 51 54.0	-0.3
MXZ	**Matakaoa Point**	**1.22**	**172**	Pn	Pn	20 51 30.4	0.0
MXZ				Sn	Sn	20 51 54.0	-0.3
PUZ	**Puketiti**	**1.72**	**176**	PN	Pn	20 51 35.0	+0.2
PUZ				SN	Sn	20 52 01.6	-0.7
PUZ	**Puketiti**	**1.72**	**176**	Pn	Pn	20 51 35.0	+0.2
PUZ				Sn	Sn	20 52 01.6	-0.7
OPRZ	**Ohinepanea**	**1.93**	**219**	PN	Pn	20 51 37.1	+0.3
MWZ	**Matawai**	**2.02**	**193**	PN	Pn	20 51 37.8	0.0
MWZ				SN	Sn	20 52 08.3	+0.5
MWZ	**Matawai**	**2.02**	**193**	Pn	Pn	20 51 37.8	0.0
URZ	**Urewera**	**2.05**	**202**	PN	Pn	20 51 37.4	-0.8
URZ	**Urewera**	**2.05**	**202**	Pn	Pn	20 51 37.4	-0.8
URZ				*e*Sn	Sn	20 52 05.4	-2.9
CNGZ	**Carnagh Statio**	**2.13**	**177**	PN	Pn	20 51 39.9	+0.9
CNGZ	**Carnagh Statio**	**2.13**	**177**	Pn	Pn	20 51 39.9	+0.9
TARZ	**Mount Tarawera**	**2.26**	**213**	*e*PN	Pn	20 51 41.9	+1.5
PRGZ	**Paritu Road**	**2.57**	**184**	PN	Pn	20 51 43.7	-0.2
PRGZ	**Paritu Road**	**2.57**	**184**	Pn	Pn	20 51 43.7	-0.2
RAHZ	**Arahi**	**2.68**	**197**	PN	Pn	20 51 45.0	-0.1
RAHZ	**Arahi**	**2.68**	**197**	Pn	Pn	20 51 45.0	-0.1
KNZ	**Kokohu**	**2.68**	**187**	PN	Pn	20 51 44.7	-0.4
KNZ	**Kokohu**	**2.68**	**187**	Pn	Pn	20 51 44.7	-0.4
MHGZ	**Mahia Peninsul**	**2.80**	**183**	PN	Pn	20 51 46.6	+0.1
MHGZ	**Mahia Peninsul**	**2.80**	**183**	Pn	Pn	20 51 46.6	+0.1
NMHZ	**Naumai**	**2.92**	**200**	PN	Pn	20 51 47.9	0.0
NMHZ	**Naumai**	**2.92**	**200**	Pn	Pn	20 51 47.9	0.0
BKZ	**Black Stump Fm**	**3.08**	**204**	PN	Pn	20 51 48.6	-1.1
BKZ	**Black Stump Fm**	**3.08**	**204**	Pn	Pn	20 51 48.6	-1.2
MCHZ	**McNeill Hill**	**3.27**	**199**	PN	Pn	20 51 51.7	-0.4
MCHZ	**McNeill Hill**	**3.27**	**199**	Pn	Pn	20 51 51.7	-0.4
KRVZ	**Karewarewa**	**3.35**	**215**	PN	Pn	20 51 52.7	-0.4
KRVZ	**Karewarewa**	**3.35**	**215**	Pn	Pn	20 51 53.0	-0.1
CKHZ	**Cape Kidnapper**	**3.39**	**193**	PN	Pn	20 51 52.7	-0.9
CKHZ	**Cape Kidnapper**	**3.39**	**193**	Pn	Pn	20 51 52.7	-0.9
BHHZ	**Black Hill Sta**	**3.51**	**206**	PN	Pn	20 51 53.6	-1.4
BHHZ	**Black Hill Sta**	**3.51**	**206**	Pn	Pn	20 51 53.6	-1.4
FWVZ	**Far West T-bar**	**3.52**	**214**	PN	Pn	20 51 54.4	-0.7
FWVZ	**Far West T-bar**	**3.52**	**214**	Pn	Pn	20 51 54.5	-0.7
MOVZ	**Moawhango**	**3.56**	**211**	PN	Pn	20 51 54.0	-1.7
KAHZ	**Kahuranaki**	**3.56**	**195**	PN	Pn	20 51 54.9	-0.8
KAHZ	**Kahuranaki**	**3.56**	**195**	Pn	Pn	20 51 54.9	-0.8
PXZ	**Pawanui**	**3.79**	**194**	PN	Pn	20 51 56.9	-1.6
PXZ	**Pawanui**	**3.79**	**194**	Pn	Pn	20 51 56.9	-1.6
PNHZ	**Pukenui**	**3.85**	**202**	PN	Pn	20 51 57.2	-2.0
PNHZ	**Pukenui**	**3.85**	**202**	Pn	Pn	20 51 57.2	-2.0
WPHZ	**Waipukurau**	**3.92**	**199**	PN	Pn	20 51 58.3	-1.8
WPHZ	**Waipukurau**	**3.92**	**199**	Pn	Pn	20 51 58.3	-1.8
TSZ	**Takapari Road**	**4.06**	**204**	PN	Pn	20 51 59.2	-2.7
TSZ	**Takapari Road**	**4.06**	**204**	Pn	Pn	20 51 59.2	-2.7
PRHZ	**Porangahau**	**4.07**	**196**	PN	Pn	20 52 00.1	-1.8
PRHZ	**Porangahau**	**4.07**	**196**	Pn	Pn	20 52 00.1	-1.8
DVHZ	**Dannevirke**	**4.22**	**200**	PN	Pn	20 52 01.6	-2.2
DVHZ	**Dannevirke**	**4.22**	**200**	Pn	Pn	20 52 01.6	-2.2
POWZ	**Post Office Ro**	**4.42**	**204**	PN	Pn	20 52 04.4	-2.0
POWZ	**Post Office Ro**	**4.42**	**204**	Pn	Pn	20 52 04.4	-2.0
BFZ	**Birch Farm**	**4.55**	**198**	PN	Pn	20 52 05.7	-2.3
BFZ	**Birch Farm**	**4.55**	**198**	Pn	Pn	20 52 05.7	-2.3
MRZ	**Mangatainoka R**	**4.73**	**204**	PN	Pn	20 52 07.2	-3.0
MRZ				SN	Sn	20 53 00.7	-5.3
MRZ	**Mangatainoka R**	**4.73**	**204**	Pn	Pn	20 52 07.2	-3.1
TIWZ	**Tintock**	**4.74**	**201**	PN	Pn	20 52 08.0	-2.4
TIWZ	**Tintock**	**4.74**	**201**	Pn	Pn	20 52 08.0	-2.4
HOWZ	**Holdsworth Sta**	**4.96**	**203**	PN	Pn	20 52 10.0	-3.3
HOWZ	**Holdsworth Sta**	**4.96**	**203**	Pn	Pn	20 52 10.0	-3.3
TMWZ	**Te Maipa**	**5.04**	**199**	PN	Pn	20 52 11.4	-2.9
TMWZ	**Te Maipa**	**5.04**	**199**	Pn	Pn	20 52 11.4	-2.9
MTW	**Mount Morrison**	**5.20**	**202**	PN	Pn	20 52 12.8	-3.5
MTW	**Mount Morrison**	**5.20**	**202**	Pn	Pn	20 52 12.8	-3.5
CAW	**Cannon Point**	**5.30**	**206**	PN	Pn	20 52 14.0	-3.6
TRWZ	**Traveller**	**5.37**	**200**	PN	Pn	20 52 15.5	-3.1
TRWZ	**Traveller**	**5.37**	**200**	Pn	Pn	20 52 15.5	-3.1
PAWZ	**Paruwai Farm**	**5.43**	**202**	PN	Pn	20 52 15.7	-3.6
PAWZ	**Paruwai Farm**	**5.43**	**202**	Pn	Pn	20 52 15.7	-3.6
MSWZ	**Moikau Station**	**5.51**	**203**	PN	Pn	20 52 16.7	-3.7
MSWZ	**Moikau Station**	**5.51**	**203**	Pn	Pn	20 52 16.7	-3.7
SNZO	**South Karori**	**5.61**	**207**	PN	Pn	20 52 17.6	-4.0
SNZO	**South Karori**	**5.61**	**207**	*e*Pn	Pn	20 52 15.2	-6.4
	15nm,0.4s						
SNZO				*e*Sn	Sn	20 53 20.1	-6.2
BHW	**Baring Head**	**5.63**	**205**	PN	Pn	20 52 17.7	-4.2
BHW	**Baring Head**	**5.63**	**205**	Pn	Pn	20 52 17.7	-4.2
PLWZ	**Palliser**	**5.65**	**202**	PN	Pn	20 52 18.3	-3.8
PLWZ	**Palliser**	**5.65**	**202**	Pn	Pn	20 52 18.3	-3.8
TCW	**Tory Channel**	**5.69**	**210**	PN	Pn	20 52 18.6	-4.1
TCW	**Tory Channel**	**5.69**	**210**	Pn	Pn	20 52 18.6	-4.1
TUWZ	**Tuamarina**	**6.01**	**211**	*e*PN	Pn	20 52 22.5	-4.3
BSWZ	**Blackbirch Sta**	**6.27**	**210**	*e*PN	Pn	20 52 26.1	-4.1
THZ	**Tophouse**	**6.74**	**215**	PN	Pn	20 52 32.0	-4.2
THZ	**Tophouse**	**6.74**	**215**	Pn	Pn	20 52 32.0	-4.2
KHZ	**Kahutara**	**7.00**	**209**	PN	Pn	20 52 35.2	-4.4
KHZ	**Kahutara**	**7.00**	**209**	Pn	Pn	20 52 35.2	-4.4
LTZ	**Lake Taylor**	**7.83**	**213**	PN	Pn	20 52 46.1	-4.4
LTZ	**Lake Taylor**	**7.83**	**213**	Pn	Pn	20 52 46.1	-4.4
MQZ	**McQuen's Vall**	**8.44**	**208**	PN	Pn	20 52 53.1	-5.4
ODZ	**Otahua Downs**	**10.35**	**211**	*e*PN	Pn	20 53 18.6	-4.7
WRAB	**Tennant Creek**	**41.52**	**281**	*e*P	P	20 58 25.3	-2.6
	2.3nm,0.5s						

GUC 19 20:57:31.0±0.5,32°.63S×71°.94W,h6km±2km,ML3.8,2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.47**	**148**	*e*P	Pg	20 57 40.7	+0.7
IHA				*e*S	Sg	20 57 47.8	+1.6
ROCH	**El Roble**	**0.85**	**114**	*e*P	Pg	20 57 47.6	+0.2
ROCH				*e*S	Sg	20 58 00.2	+1.8
PTCH	**Petorca**	**0.93**	**67**	*e*P	Pg	20 57 48.7	-0.1
PTCH				*e*S	Sg	20 58 02.4	+1.5
JACH	**Jahuel**	**1.14**	**93**	*e*P	Pg	20 57 51.8	-1.0
PEL	**Peldehue**	**1.17**	**116**	*e*P	Pg	20 57 52.5	-1.0
PEL				*e*S	Sg	20 58 09.2	+0.5
PEL				AML	AML	20 58 12.7	
	comp=E,8μm,0.2s						
RCDM	**Rinconada Maip**	**1.28**	**132**	*e*P	Pn	20 57 54.3	-1.1
RCDM				*e*S	Sg	20 58 11.8	-0.4
TACH	**Talagante**	**1.32**	**141**	||*e*P	Pn	20 57 54.9	-1.0
SAN	**Santiago**	**1.35**	**128**	*e*P	Pn	20 57 55.6	-0.8
LNV	**Longovilo**	**1.40**	**162**	*e*P	Pn	20 57 55.9	-1.1
CLCH	**Cerro Calan**	**1.41**	**123**	*e*P	Pn	20 57 56.4	-0.7
CLCH				*e*S	Sb	20 58 15.5	-0.3
CLCH				AML	AML	20 58 20.7	
	comp=N,3μm,0.5s						
ANTU	**Antumapu**	**1.44**	**131**	*e*P	Pn	20 57 56.9	-0.7
ANTU				*e*S	Sb	20 58 16.6	-0.3
ANTU				AML	AML	20 58 24.3	
	comp=E,1μm,0.6s						
FCH	**Farellones**	**1.55**	**117**	*e*P	Pn	20 58 03.5	+4.4
FCH				AML	AML	20 58 24.4	
	comp=N,1μm,0.8s						
PCH	**Pirque**	**1.55**	**130**	*e*P	Pn	20 57 59.1	0.0
SJCH	**San Jose de Ma**	**1.67**	**128**	*e*P	Pn	20 58 00.5	-0.2
SJCH				*e*S	Sn	20 58 22.9	+0.5
CHCH	**Chadas Angostu**	**1.69**	**141**	||*e*P	Pn	20 58 00.6	-0.5
CACH	**El Canelo**	**1.86**	**143**	*e*P	Pn	20 58 04.2	+0.8
LMEL	**Las Melosas**	**1.90**	**130**	*e*P	Pn	20 58 04.3	+0.5
LMEL				*e*S	Sn	20 58 29.4	+1.3
LMEL				AML	AML	20 58 36.3	
	comp=N,1μm,0.2s						

IDC 19 21:09:30.6±1.4,36°.40N×76°.31E,h0km,mb3.4/2, mb1 3.4/5,mb1mx3.2/27,mbtmp3.3/5,ML3.0/3,Error ellipse: s-maj=33.2km s-min=28.8km az=91.0, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.31**	**21**	Pn	Pn	21 12 14.8	+1.5
	0.0nm,0.3s,baz=203,slow=14,SNR=3.3						
BVAR	**Borovoye Array**	**17.14**	**348**	P	Pn	21 13 33.0	+1.7
	0.1nm,0.3s,baz=161,slow=9.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**18.52**	**16**	P	Pn	21 13 47.8	-0.6
	0.1nm,0.3s,baz=202,slow=11,SNR=3.4						
CMAR	**Chiang Mai Arr**	**26.78**	**126**	P	P	21 15 12.5	+0.3
	0.2nm,0.3s,baz=307,slow=11,SNR=4.1						
TORD	**Torodi Ar. Bea**	**70.00**	**272**	P	P	21 20 44.2	-0.1
	0.2nm,0.5s,baz=45,slow=6.1,SNR=3.0						

*IDC **19** 21:33:07.2±0.8,32°.46S×71°.99W,h0km,mb4.1/7, mb1 4.2/11,mb1mx4.1/17,mbtmp4.1/11,ML4.2/4,MS3.3/2, Ms1 3.3/2,ms1mx2.9/23,Error ellipse: s-maj=31.7km s-min=17.7km az=93.0*
*ISCJB **19** 21:33:09.8±0.9,32°.55S±0°.03×72°.07W±0°.06,h27km±5km, mb4.1/8,Error ellipse: s-maj=8.7km s-min=4.4km az=172.7*
*GUC **19** 21:33:10.7±0.5,32°.55S×71°.96W,h32km±2km,ML4.4*
*NEIC **19** 21:33:10.7,32°.55S×71°.96W,h32km,mb3.9/3, ML4.4(GUC),After GUC.*
NEIC Felt [II] at La Ligua, Santiago, Valparaiso and Vina del Mar.
ISC 19 21:33:10.6±1.0,32°.55S±0°.03×71°.98W±0°.05,h17km±6km, n63,σ0=93/71,mb4.1/8,6C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.56**	**149**	||*e*P	**Pg**	**21 33 21.3**	**-0.3**
IHA				*i* S	**Sg**	**21 33 29.4**	**+0.3**
IHA	**Instituto Hidr**	**0.56**	**149**	||*e*P	**Pg**	**21 33 21.3**	**-0.3**
IHA				*i* S	**Sg**	**21 33 29.4**	**+0.3**
CHNG	**Los Chungos**	**0.78**	**32**	||*e*P	**Pb**	**21 33 26.6**	**+0.9**
CHNG				*i* S	**Sb**	**21 33 37.4**	**+1.4**
PTCH	**Petorca**	**0.94**	**73**	*e*P	**Pb**	**21 33 27.6**	**-0.7**
PTCH				*i* S	**Sb**	**21 33 40.2**	**-0.2**
PTCH	**Petorca**	**0.94**	**73**	*e*P	**Pb**	**21 33 27.6**	**-0.7**
PTCH				*i* S	**Sb**	**21 33 40.2**	**-0.2**
LCCH	**Las Cruces**	**0.99**	**160**	*e*P	**Pb**	**21 33 28.2**	**-1.0**
LCCH	**Las Cruces**	**0.99**	**160**	*e*P	**Pb**	**21 33 28.2**	**-1.0**
JACH	**Jahuel**	**1.18**	**97**	*e*P	**Pn**	**21 33 31.0**	**-1.3**
JACH				*i* S	**Sb**	**21 33 46.7**	**-0.8**
JACH	**Jahuel**	**1.18**	**97**	*e*P	**Pn**	**21 33 31.0**	**-1.3**
JACH				*i* S	**Sb**	**21 33 46.7**	**-0.8**
SAN	**Santiago**	**1.43**	**129**	*e*P	**Pn**	**21 33 35.2**	**-0.5**
SAN				*i* S	**Sn**	**21 33 53.7**	**-0.5**
SAN	**Santiago**	**1.43**	**129**	*e*P	**Pn**	**21 33 35.2**	**-0.5**
SAN				*i* S	**Sn**	**21 33 53.7**	**-0.5**
SAN				AML	AML	21 33 59.6	
	comp=E,9μm,0.4s						
ANTU	**Antumapu**	**1.52**	**132**	||*i*P	**Pn**	**21 33 37.3**	**+0.3**
ANTU				*i* S	**Sn**	**21 33 57.0**	**+0.6**
ANTU	**Antumapu**	**1.52**	**132**	||*i*P	**Pn**	**21 33 37.3**	**+0.3**
ANTU				*i* S	**Sn**	**21 33 57.0**	**+0.6**
ANTU				AML	AML	21 34 02.8	
	comp=N,7μm,0.3s						
PCH	**Pirque**	**1.63**	**131**	||*i*P	**Pn**	**21 33 38.4**	**-0.1**
PCH	**Pirque**	**1.63**	**131**	||*i*P	**Pn**	**21 33 38.4**	**-0.1**
SJCH	**San Jose de Ma**	**1.75**	**129**	*e*P	**Pn**	**21 33 40.2**	**+0.1**
SJCH				*i* S	**Sn**	**21 34 04.6**	**+2.6**
SJCH	**San Jose de Ma**	**1.75**	**129**	*e*P	**Pn**	**21 33 40.2**	**+0.1**
SJCH				*i* S	**Sn**	**21 34 02.6**	**+0.6**
CACH	**El Canelo**	**1.94**	**144**	*e*P	**Pn**	**21 33 43.7**	**+0.9**
CACH				*i* S	**Sn**	**21 34 08.5**	**+1.7**
CACH	**El Canelo**	**1.94**	**144**	*e*P	**Pn**	**21 33 43.7**	**+0.9**
CACH				*i* S	**Sn**	**21 34 08.5**	**+1.7**
OVCH	**Ovalle**	**2.05**	**19**	AML	AML	21 34 20.6	
	comp=N,4μm,0.7s						
TLL	**Tololo Astrono**	**2.58**	**23**	||*i*P	**Pn**	**21 33 52.1**	**+0.5**
TLL				*i* S	**Sn**	**21 34 23.2**	**+0.7**
TLL	**Tololo Astrono**	**2.58**	**23**	||*i*P	**Pn**	**21 33 52.1**	**+0.5**
TLL				*i* S	**Sn**	**21 34 23.2**	**+0.7**
TLL				AML	AML	21 34 33.2	
	comp=E,3μm,0.7s						
CFAA	**Coronel Fontan**	**3.31**	**74**	Pn	**Pn**	**21 34 03.6**	**+1.9**
	comp=E,6.8nm,0.3s,baz=249,slow=12,SNR=73						
CFAA				Lg		21 34 48.8	
	comp=E,10nm,0.3s,baz=131,slow=16,SNR=6.7						
CFAA	**Coronel Fontan**	**3.31**	**74**	Pn	**Pn**	**21 34 03.6**	**+2.0**
CFAA				Lg		21 34 48.8	
LCO	**Las Campanas**	**3.69**	**18**	*e*Pn	**Pn**	**21 34 06.9**	**0.0**
LCO				*e*Sn	**Sn**	**21 34 49.8**	**-0.3**
PLCA	**Paso Flores**	**8.25**	**172**	Pn	**Pn**	**21 35 09.8**	**+0.4**
	comp=E,0.9nm,0.3s,baz=343,slow=13,SNR=1.5						
PLCA				LR	LR	21 38 36.0	
	comp=E,173nm,20.1s,baz=290,slow=39						
PLCA	**Paso Flores**	**8.25**	**172**	*e*Pn	**Pn**	**21 35 09.3**	**-0.1**
TRQA	**Tornquist**	**9.85**	**127**	*e*Pn	**Pn**	**21 35 32.2**	**+0.9**
TRQA				*e*Sn	**Sn**	**21 37 19.0**	**-2.4**
CPUP	**Villa Florida**	**14.19**	**68**	Pn	**Pn**	**21 36 30.1**	**-0.7**
	comp=E,0.6nm,0.3s,baz=216,slow=14,SNR=3.9						
CPUP				Sn	**Sn**	**21 39 13.8**	**+6.1**
	comp=E,0.4nm,0.3s,baz=200,slow=8.1,SNR=3.0						
CPUP	**Villa Florida**	**14.19**	**68**	Pn	**Pn**	**21 36 30.1**	**-0.7**
CPUP				Sn	**Sn**	**21 39 13.8**	**+6.1**
LPAZ	**La Paz**	**16.56**	**13**	Pn	**Pn**	**21 37 02.6**	**+0.5**
	comp=E,0.2nm,0.3s,baz=186,slow=8.7,SNR=9.4						
LPAZ	**La Paz**	**16.56**	**13**	*e*P	**Pn**	**21 37 02.6**	**+0.5**
	comp=E,3.0nm,0.7s						
SIV	**San Ignacio**	**19.23**	**34**	P	**Pn**	**21 37 32.0**	**-2.9**
	comp=E,0.3nm,0.3s,baz=218,slow=13,SNR=9.9						
SIV				LR	LR	21 46 33.8	
	comp=E,107nm,20.9s,slow=42

ISC 19 22:08:08.1±0.7, 51°53N±0°03×16°13E±0°04, h0km, n38, σ0°83/68, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**171**	*e*Pg	**Pg**	**22 08 22.5**	**+1.1**
KSP				*e*Sg	**Sg**	**22 08 31.8**	**+1.4**
KSP	**Ksiaz**	**0.70**	**171**	*e*Pg	**Pg**	**22 08 22.5**	**+1.1**
KSP				*e*Sg	**Sg**	**22 08 31.8**	**+1.4**
KSP	**Ksiaz**	**0.70**	**171**	*e*Pg	**Pg**	**22 08 22.5**	**+1.1**
KSP				*e*Sg	**Sg**	**22 08 31.8**	**+1.4**
UPC	**Upice**	**1.03**	**184**	*e*PG	**Pg**	**22 08 28.5**	**+0.7**
UPC	**Upice**	**1.03**	**184**	Pg	**Pg**	**22 08 28.5**	**+0.7**
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*SG	**Sg**	**22 08 46.8**	**+0.6**
	25nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**174**	Sg	**Sg**	**22 08 46.8**	**+0.6**
	25nm,0.4s						
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG	**Pg**	**22 08 35.2**	**+0.2**
PVCC				*e*SG	**Sg**	**22 08 53.6**	**+0.4**
	142nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**225**	Pg	**Pg**	**22 08 35.2**	**+0.2**
PVCC				Sg	**Sg**	**22 08 53.6**	**+0.4**
	142nm,0.2s						
KRLC	**Kraliky**	**1.52**	**164**	*e*PG	**Pg**	**22 08 37.6**	**+0.5**
KRLC	**Kraliky**	**1.52**	**164**	Pg	**Pg**	**22 08 37.6**	**+0.5**
BRG	**Berggiesshubel**	**1.52**	**245**	PG	**Pg**	**22 08 37.3**	**0.0**
BRG				SG	**Sg**	**22 08 58.3**	**+1.3**
	59nm,0.5s						
PRU	**Pruhonice**	**1.84**	**214**	*e*PN	**Pn**	**22 08 41.0**	**0.0**
PRU				*e*PG	**Pg**	**22 08 42.9**	**-0.5**
PRU				*e*SG	**Sg**	**22 09 07.2**	**-0.1**
	20nm,0.3s						
PRU	**Pruhonice**	**1.84**	**214**	Pn	**Pn**	**22 08 41.0**	**0.0**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**22 08 42.5**	**-0.2**
MORC				*e*Sg	**Sg**	**22 09 11.1**	**-0.4**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*SG	**Sg**	**22 09 15.5**	**-0.9**
	24nm,0.4s						
OKC	**Ostrava-Krasne**	**2.13**	**142**	Sg	**Sg**	**22 09 15.5**	**-0.9**
	24nm,0.4s						
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	**Pn**	**22 08 47.4**	**+0.9**
VRAC				*e*Sg	**Sg**	**22 09 19.1**	**-1.1**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**22 08 53.1**	**+0.8**
NKC				*e*PG	**Pg**	**22 08 59.0**	**-0.2**
NKC				*e*SG	**Sg**	**22 09 33.6**	**-0.2**
	36nm,0.4s						
NKC	**Novy Kostel**	**2.67**	**242**	Pn	**Pn**	**22 08 53.1**	**+0.8**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**22 08 59.4**	**+0.1**
OJC				*e*Sg	**Sg**	**22 09 34.1**	**+0.3**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**22 08 59.4**	**+0.1**
OJC				*e*Sg	**Sg**	**22 09 34.1**	**+0.3**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**22 08 55.5**	**0.0**
KHC				*e*PG	**Pg**	**22 09 01.8**	**-2.0**
KHC				*e*SN	**Sn**	**22 09 31.0**	**-0.1**
KHC				*e*SG	**Sg**	**22 09 40.4**	**-1.0**
	11nm,0.3s						
KHC	**Kasperske Hory**	**2.91**	**215**	Pn	**Pn**	**22 08 55.5**	**0.0**
KHC	**Kasperske Hory**	**2.91**	**215**	Pg	**Pg**	**22 09 01.8**	**-2.0**
KHC				Sn	**Sn**	**22 09 31.0**	**-0.1**
KHC				Sg	**Sg**	**22 09 40.4**	**-1.0**
	11nm,0.3s						
KOLL	**Kolacno**	**3.30**	**153**	*e*PN	**Pn**	**22 09 00.4**	**-0.6**
KOLL				*e*SG	**Sg**	**22 09 53.8**	**-0.2**
KOLL	**Kolacno**	**3.30**	**153**	*e*Pn	**Pn**	**22 09 00.4**	**-0.6**
KOLL				*e*Sg	**Sg**	**22 09 53.8**	**-0.2**
NIE	**Niedzica**	**3.41**	**127**	*e*P	**Pg**	**22 09 14.4**	**+1.0**
NIE				*e*S	**Sg**	**22 09 57.3**	**-0.2**
VYHS	**Vyhne**	**3.51**	**149**	*e*PN	**Pn**	**22 09 04.5**	**+0.7**
VYHS				*e*SG	**Sg**	**22 09 57.6**	**-3.1**
VYHS	**Vyhne**	**3.51**	**149**	*e*Pn	**Pn**	**22 09 04.5**	**+0.7**
VYHS				*e*Sg	**Sg**	**22 09 57.6**	**-3.1**
CONA	**Conrad Observa**	**3.61**	**183**	⇓*i*Pn	**Pn**	**22 09 05.3**	**+0.1**
CONA				⇓*i*Sg	**Sg**	**22 10 03.3**	**-0.7**
	11nm,0.4s						
CONA	**Conrad Observa**	**3.61**	**183**	Pn	**Pn**	**22 09 05.3**	**+0.1**
CONA				Sg	**Sg**	**22 10 03.3**	**-0.7**
	11nm,0.4s						
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**22 09 04.7**	**-1.3**
BSD				*i* S	**Sn**	**22 09 46.1**	**-3.7**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**22 09 04.8**	**-1.2**
	SNR=49						
BSD				*i* S	**Sn**	**22 09 46.1**	**-3.7**
MOA	**Molln**	**3.88**	**199**	⇑*i*Pn	**Pn**	**22 09 09.6**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**22 10 12.4**	**-0.2**
	5.9nm,0.3s						
MOA	**Molln**	**3.88**	**199**	Pn	**Pn**	**22 09 09.6**	**+0.7**
MOA				Sg	**Sg**	**22 10 12.4**	**-0.2**
	5.9nm,0.3s						
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*SG	**Sg**	**22 10 16.7**	**+3.6**
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*Sg	**Sg**	**22 10 16.7**	**+3.6**

GUC 19 22:10:10.5±0.7, 32°48S×72°15W, h6km±9km, MD4.0, ML3.6, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.70**	**142**	*e*P	Pg	22 10 24.3	+0.4
IHA				*i* S	Sg	22 10 35.3	+2.4
CHNG	**Los Chungos**	**0.81**	**43**	⇑*i*P	Pg	22 10 26.0	0.0
CHNG				*i* S	Sg	22 10 37.8	+1.2
PTCH	**Petorca**	**1.05**	**79**	*e*P	Pg	22 10 30.4	-0.4
PTCH				*i* S	Sg	22 10 45.1	+0.7
PTCH				AML	AML	22 10 48.5	
	comp=N,2μm,0.3s						
ROCH	**El Roble**	**1.08**	**118**	⇓*i*P	Pg	22 10 30.8	-0.4
ROCH				*e*S	Sg	22 10 46.1	+0.8
ROCH				AML	AML	22 10 50.4	
	comp=N,2μm,0.4s						
JACH	**Jahuel**	**1.33**	**99**	*e*P	Pn	22 10 34.4	-1.2
JACH				*i* S	Sb	22 10 52.7	-0.4
PEL	**Peldehue**	**1.40**	**119**	⇓*e*P	Pn	22 10 35.9	-0.7
PEL				*e*S	Sb	22 10 54.6	-0.6
PEL				AML	AML	22 10 58.4	
	comp=E,3μm,0.5s						
RCDM	**Rinconada Maip**	**1.52**	**132**	*e*P	Pn	22 10 37.9	-0.3
RCDM				*e*S	Sn	22 10 58.3	+0.1
SAN	**Santiago**	**1.59**	**128**	*e*P	Pn	22 10 38.7	-0.4
LNV	**Longovilo**	**1.60**	**157**	*e*P	Pn	22 10 38.3	-1.0
CLCH	**Cerro Calan**	**1.64**	**124**	*e*P	Pn	22 10 39.5	-0.3
CLCH				*e*S	Sn	22 11 01.8	+0.6
CLCH				AML	AML	22 11 11.1	
	comp=N,2μm,0.4s						
FCH	**Farellones**	**1.78**	**119**	*e*P	Pn	22 10 40.5	-1.3
FCH				*e*S	Sn	22 11 05.3	+0.6
PCH	**Pirque**	**1.79**	**130**	*e*P	Pn	22 10 41.8	-0.1
CHCH	**Chadas Angostu**	**1.92**	**140**	*e*P	Pn	22 10 44.2	+0.5
CHCH				*i* S	Sn	22 11 10.8	+2.6
CACH	**El Canelo**	**2.09**	**142**	*e*P	Pn	22 10 47.2	+1.2
LMEL	**Las Melosas**	**2.13**	**130**	*e*P	Pn	22 10 47.7	+1.1
LMEL				*e*S	Sn	22 11 15.2	+1.8
LMEL				AML	AML	22 11 24.6	
	comp=N,341nm,0.5s						
TLL	**Tololo Astrono**	**2.57**	**27**	*e*P	Pn	22 10 51.2	-1.4
TLL				AML	AML	22 11 44.6	
	comp=E,248nm,0.8s						

IDC ***19*** *22:33:14.1±0.4, 9°98S×160°53E, h0km, mb5.3/27, mb1 5.4/29, mb1mx5.4/29, mbtmp5.3/29, ML4.7/2, MS4.5/20, Ms1 4.6/20, ms1mx4.4/31, Error ellipse: s-maj=12.7km s-min=11.7km az=91.0*

MOS ***19*** *22:33:18.4±0.8, 9°88S×160°37E, h33km, mb5.6/40, MS4.7/5, Error ellipse: s-maj=8.3km s-min=6.9km az=79.5*

BJI ***19*** *22:33:18.3, 9°49S×160°50E, h26km, mB5.4/32, mb5.3/51, Ms5.2/38, Ms7 4.8/39*

ISCJB ***19*** *22:33:18.8±0.1, 9°95S±0°03×160°35E±0°02, h35km, mb5.4/167, MS4.7/34, Error ellipse: s-maj=4.4km s-min=3.1km az=165.8*

NEIC ***19*** *22:33:20.1±0.1, 9°96S×160°40E, mb5.4/105, MS4.8/2, Error ellipse: s-maj=4.2km s-min=3.4km az=139.0*

NEIC Felt [II] at Honiara.

GCMT ***19*** *22:33:22.6±0.2, 10°12S×160°33E, h35km, MW5.2, Moment Tensor Solution. s68,c108; s80,c135; Moment tensor: Scale 10^16 Nm; Mrr 5.18±.21; Mθθ -4.59±.16; Mφφ -0.59±.16; Mrθ 4.89±.22; Mθφ 5.43±.13; Mφr 0.50±.20; Best double couple: M0 8.80000×10^16 NP1:φs336.00000°, δ40.00000°, λ142.00000°. NP2:φs97.00000°, δ67.00000°, λ57.00000°. Principal axes: T 8.1100, Plg55.0000°, Azm324.0000°; N 1.2700, Plg30.0000°, Azm112.0000°; P -9.3800, Plg15.0000°, Azm211.0000°; Data Used: II IU IC*

G CN.

DJA ***19*** *22:33:32, 10°02S×160°06E, h131km, mb5.5/28*

ISC 19 22:33:20.6±0.1, 9°95S±0°03×160°40E±0°02, h37km, h37km±2.3km: pP-P, n641, σ0°68/498, mb5.4/167, MS4.7/34, 90C-78D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.68**	**319**	Pn	**Pn**	**22 33 34.2**	**+0.5**
	4μm,0.3s,baz=147,slow=7.4,SNR=369						
HNR				Sn	**Sn**	**22 33 45.2**	**+2.2**
	16μm,0.3s,baz=18,slow=20,SNR=62						
HNR	**Honiara**	**0.68**	**319**	*e*Pn	**Pn**	**22 33 34.2**	**+0.6**
HNR				*e*Sn	**Sn**	**22 33 42.7**	**-0.4**
HNR	**Honiara**	**0.68**	**319**	*e*P	**Pn**	**22 33 34.3**	**+0.6**
HNR				*e*		22 33 42.7	
PMG	**Port Moresby**	**13.06**	**271**	Pn	**Pn**	**22 36 29.1**	**+5.3**
	0.4nm,0.3s,baz=106,slow=7.8,SNR=24						
PMG	**Port Moresby**	**13.06**	**271**	*e*Pn	**Pn**	**22 36 23.2**	**-0.5**
	107nm,1.1s						
PMG	**Port Moresby**	**13.06**	**271**	*ce*P	**Pn**	**22 36 29.7**	**+5.9**
PMG				pmax	pmax		
	comp=Z,191nm,1.7s						
NOUC	**Port Laguerre**	**13.35**	**156**	*e*P	**Pn**	**22 36 25.8**	**-1.8**
DZM	**Mont Dzumac**	**13.38**	**155**	*e*Pn	**Pn**	**22 36 28.2**	**+0.2**
	comp=Z,215nm,1.2s						
DZM				*e*LR	LR	22 39 31.6	
	comp=Z,4μm,23.3s						
DZM	**Mont Dzumac**	**13.38**	**155**	Pn	**Pn**	**22 36 26.5**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=1.1,slow=17,SNR=30						
DZM				Sn	**Sn**	**22 38 47.8**	**-7.7**
	comp=Z,0.8nm,0.3s,baz=76,slow=19,SNR=5.2						
DZM				LR	LR	22 40 53.1	
	comp=Z,4μm,19.2s,baz=15,slow=34						
DZM	**Mont Dzumac**	**13.38**	**155**	*e*Pn	**Pn**	**22 36 28.0**	**0.0**
	comp=Z,86nm,1.1s						
DZM				*e*Sn	**Sn**	**22 38 50.2**	**-5.3**
CTA	**Charters Tower**	**16.97**	**232**	P	**Pn**	**22 37 16.0**	**+0.8**
	comp=Z,4.5nm,0.3s,baz=57,slow=14,SNR=133						
CTA	**Charters Tower**	**16.97**	**232**	*e*P	**Pn**	**22 37 15.5**	**+0.3**
CTA	**Charters Tower**	**16.97**	**232**	P	**Pn**	**22 37 16.0**	**+0.8**
CTA	**Charters Tower**	**16.97**	**232**	P	**Pn**	**22 37 16.0**	**+0.8**
CTAO	**Charters Tower**	**16.97**	**232**	*e*Pn	**Pn**	**22 37 15.5**	**+0.3**
	comp=Z,423nm,0.9s						
CTAO	**Charters Tower**	**16.97**	**232**	*e*P	**Pn**	**22 37 15.5**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,423nm,0.9s						
COEN	**Coen**	**17.32**	**255**	*e*Pn	**Pn**	**22 37 19.1**	**-0.5**
	comp=Z,490nm,0.9s						
COEN	**Coen**	**17.32**	**255**	P	**Pn**	**22 37 21.0**	**+1.4**
	comp=Z,2μmcomp=Z,106nm,1.3s						
EIDS	**Eidsvold**	**17.71**	**209**	*e*P	**Pn**	**22 37 25.7**	**+1.3**
EIDS	**Eidsvold**	**17.71**	**209**	*e*Pn	**Pn**	**22 37 24.0**	**-0.3**
	comp=Z,111nm,0.7s						
MSVF	**Nonsavu**	**18.79**	**116**	*e*Pn	**Pn**	**22 37 38.1**	**+0.4**
	comp=Z,76nm,1.3s						
MSVF	**Nonsavu**	**18.79**	**116**	*e*P	**Pn**	**22 37 38.1**	**+0.4**
MSVF				pmax	pmax		
	comp=Z,76nm,1.3s						
MSVF	**Nonsavu**	**18.79**	**116**	P	**Pn**	**22 37 44.7**	**+7.0**
	comp=Z,214nm,1.4s,SNR=5.5						
KWAJ	**Kwajalein Atol**	**19.96**	**21**	*e*Pn	**Pn**	**22 37 51.5**	**-0.1**
	comp=Z,225nm,0.7s						
KWAJ	**Kwajalein Atol**	**19.96**	**21**	*e*P	**Pn**	**22 37 51.5**	**-0.1**
KWAJ				pmax	pmax		
	comp=Z,225nm,0.7s						
JAY	**Jayapura**	**20.91**	**289**	P	**P**	**22 38 00.4**	**+0.3**
	comp=Z,6μmcomp=Z,307nm,1.2s						
ARMA	**Armidale**	**21.95**	**201**	*e*P	**P**	**22 38 11.2**	**+0.1**
ARMA	**Armidale**	**21.95**	**201**	*e*P	**P**	**22 38 11.1**	**0.0**
	comp=Z,88nm,0.9s,mb5.2						
QLP	**Quilpie**	**22.53**	**221**	*e*P	**P**	**22 38 17.0**	**-0.2**
QIS	**Mount Isa**	**22.64**	**240**	*e*P	**P**	**22 38 19.6**	**+1.1**
SMPI	**Sarmi**	**22.96**	**289**	P	**P**	**22 38 21.0**	**-0.9**
	comp=Z,1μm,1.0s,mb6.3						
BAKI	**Biak**	**25.67**	**288**	P	**P**	**22 38 48.8**	**+1.5**
	comp=Z,3μmcomp=Z,280nm,1.1s,mb5.7						
WRAB	**Tennant Creek**	**27.02**	**245**	*e*P	**P**	**22 38 59.4**	**+0.1**
	comp=Z,57nm,1.0s,mb5.1						
WRAB				*e*PcP	PcP	22 42 20.8	+0.5
WRAB	**Tennant Creek**	**27.02**	**245**	*e*P	**P**	**22 38 59.4**	**0.0**
WRAB				*e*		22 42 20.8	
WRAB				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**27.02**	**245**	P	**P**	**22 38 59.6**	**+0.2**
	comp=Z,2μmcomp=Z,114nm,1.2s,mb5.3						
WRAB	**Tennant Creek**	**27.02**	**245**	P	**P**	**22 38 59.0**	**-0.4**
	comp=Z,312nm,0.8s,mb5.9,SNR=34						
WB2	**Warramunga Arr**	**27.02**	**245**	*e*P	**P**	**22 38 59.5**	**+0.1**
WB2				*e*PcP	PcP	22 42 20.6	+0.3
WRA	**Warramunga Arr**	**27.03**	**245**	P	**P**	**22 38 59.6**	**+0.2**
	comp=Z,28nm,0.9s,mb4.8,baz=74,slow=9.6,SNR=185						
WRA				PcP	PcP	22 42 20.7	+0.3
	comp=Z,12nm,1.0s,baz=73,slow=2.9,SNR=5.9						
WRA	**Warramunga Arr**	**27.03**	**245**	P	**P**	**22 38 59.6**	**+0.2**
WRA				PcP	PcP	22 42 20.7	+0.3
WRA	**Warramunga Arr**	**27.03**	**245**	P	**P**	**22 38 59.7**	**+0.2**
WRA						22 42 20.7	
CNB	**Canberra Magne**	**27.18**	**200**	*e*P	**P**	**22 39 01.0**	**+0.3**
CAN	**Canberra**	**27.32**	**201**	*e*P	**P**	**22 39 02.5**	**+0.6**
	comp=Z,42nm,0.9s,mb5.0						
CAN	**Canberra**	**27.32**	**201**	*e*P	**P**	**22 39 02.5**	**+0.6**
CAN				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.0						
AFI	**Afiamalu**	**27.50**	**101**	P	**P**	**22 39 02.4**	**-1.3**
	comp=Z,19nm,0.2s,mb5.2,baz=234,slow=8.7,SNR=3.4						
AFI				LR	LR	22 48 03.7	
	comp=Z,1μm,18.6s,MS4.5,baz=272,slow=32						
AFI	**Afiamalu**	**27.50**	**101**	P	**P**	**22 39 02.4**	**-1.3**
AFI	**Afiamalu**	**27.50**	**101**	P	**P**	**22 39 02.4**	**-1.3**
STKA	**Stephens Creek**	**27.92**	**216**	P	**P**	**22 39 07.2**	**-0.1**
	comp=Z,27nm,0.6s,mb5.1,baz=18,slow=8.1,SNR=69						
STKA				LR	LR	22 50 06.9	
	comp=Z,1μm,18.3s,MS4.6,baz=300,slow=36						
STKA	**Stephens Creek**	**27.92**	**216**	*e*P	**P**	**22 39 06.9**	**-0.4**
STKA	**Stephens Creek**	**27.92**	**216**	*e*P	**P**	**22 39 07.2**	**-0.2**
	comp=Z,6.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**27.92**	**216**	*e*P	**P**	**22 39 07.2**	**-0.1**
STKA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AS31	**Alice Springs**	**28.73**	**238**	*e*P	**P**	**22 39 14.1**	**-0.5**
ASAR	**Alice Springs**	**28.73**	**238**	P	**P**	**22 39 14.2**	**-0.5**
	comp=Z,3.6nm,0.5s,mb4.4,baz=61,slow=10,SNR=57						
ASAR				PcP	PcP	22 42 24.1	-0.3
	comp=Z,7.7nm,1.0s,baz=69,slow=3.7,SNR=5.1						
ASAR	**Alice Springs**	**28.73**	**238**	P	**P**	**22 39 14.2**	**-0.5**
ASAR				PcP	PcP	22 42 24.1	-0.3
ASAR	**Alice Springs**	**28.73**	**238**	P	**P**	**22 39 14.2**	**-0.4**
ASAR						22 42 24.2	
TOO	**Toolangi**	**30.61**	**204**	*e*P	**P**	**22 39 31.8**	**+0.7**
URZ	**Urewera**	**31.94**	**155**	P	**P**	**22 39 41.2**	**-1.6**
	comp=Z,11nm,1.0s,mb4.7,baz=286,slow=7.4,SNR=5.1						
URZ				LR	LR	22 50 56.4	
	comp=Z,658nm,19.5s,MS4.3,baz=334,slow=33						
URZ	**Urewera**	**31.94**	**155**	P	**P**	**22 39 41.2**	**-1.6**
BBOO	**Buckleboo**	**31.96**	**221**	*e*P	**P**	**22 39 42.7**	**-0.4**
BBOO	**Buckleboo**	**31.96**	**221**	*e*P	**P**	**22 39 42.8**	**-0.3**
	comp=Z,596nm,0.7s,mb6.5						
MOO	**Moorlands**	**34.38**	**197**	*e*P	**P**	**22 40 05.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**34.63**	**253**	P	**P**	**22 40 06.1**	**-0.5**
	comp=Z,33nm,0.7s,mb5.3,baz=107,slow=7.8,SNR=50						
FITZ				LR	LR	22 53 38.9	
	comp=Z,567nm,18.5s,MS4.3,baz=79,slow=35						
FITZ	**Fitzroy Crossi**	**34.63**	**253**	*e*P	**P**	**22 40 06.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**34.63**	**253**	*e*P	**P**	**22 40 06.3**	**-0.3**
	comp=Z,28nm,0.7s,mb5.3						
FITZ				*e*PcP	PcP	22 42 40.8	+0.2
FITZ	**Fitzroy Crossi**	**34.63**	**253**	P	**P**	**22 40 06.6**	**0.0**
	comp=Z,54nm,1.2s,mb5.3						
TAU	**Tasmania Unive**	**34.77**	**197**	*e*P	**P**	**22 40 08.1**	**+0.7**
	comp=Z,85nm,0.9s,mb5.7						
TAU	**Tasmania Unive**	**34.77**	**197**	*e*P	**P**	**22 40 08.1**	**+0.7**
TAU				pmax	pmax		
	comp=Z,85nm,0.9s,mb5.7						
RPZ	**Rata Peaks**	**34.90**	**166**	P	**P**	**22 40 07.3**	**-1.2**
	comp=Z,16nm,0.9s,mb5.0,baz=354,slow=11,SNR=3.5						
RPZ				LR	LR	22 52 34.2	
	comp=Z,238nm,20.3s,MS3.9,baz=318,slow=33						
RPZ	**Rata Peaks**	**34.90**	**166**	P	**P**	**22 40 07.3**	**-1.2**
FORT	**Forrest**	**36.51**	**231**	*e*P	**P**	**22 40 23.7**	**+1.1**
MMRI	**Maumere**	**37.67**	**269**	P	**P**	**22 40 32.2**	**-0.4**
	comp=Z,172nm,1.2s,mb5.7						
KMSI	**Cibinong**	**37.72**	**284**	P	**P**	**22 40 34.1**	**+1.1**
	comp=Z,4μmcomp=Z,467nm,1.1s,mb6.1						
KDI	**Kendari**	**37.95**	**276**	P	**P**	**22 40 35.1**	**+0.1**
	comp=Z,38nm,1.1s,mb5.0						
LUWI	**Luwuk**	**38.44**	**281**	P	**P**	**22 40 39.5**	**+0.3**
	comp=Z,3μmcomp=Z,233nm,1.4s,mb5.7						
GTOI	**Gorontalo**	**38.66**	**284**	P	**P**	**22 40 42.0**	**+1.0**
	comp=Z,2μmcomp=Z,187nm,1.1s,mb5.7						
MRSI	**Marisa**	**39.65**	**283**	P	**P**	**22 40 48.3**	**-0.9**
	comp=Z,640nmcomp=Z,64nm,1.2s,mb5.2						
BKSI	**Bulukumba**	**40.16**	**274**	P	**P**	**22 40 53.8**	**+0.3**
	comp=Z,498nmcomp=Z,41nm,1.1s,mb5.1						
BNSI	**Bone**	**40.33**	**275**	P	**P**	**22 40 55.6**	**+0.7**
	comp=Z,2μmcomp=Z,190nm,1.0s,mb5.8						
KAPI	**Kappang**	**40.58**	**274**	P	**P**	**22 40 56.3**	**-0.7**
	comp=Z,75nm,0.9s,mb5.3,baz=105,slow=5.6,SNR=22						
KAPI				PcP	PcP	22 42 58.0	-0.8
KAPI	**Kappang**	**40.58**	**274**	*e*P	**P**	**22 40 56.1**	**-0.9**
	comp=Z,109nm,1.0s,mb5.4						
KAPI				*e*PcP	PcP	22 42 58.2	-0.7
KAPI	**Kappang**	**40.58**	**274**	P	**P**	**22 40 56.4**	**-0.5**
	comp=Z,1μmcomp=Z,124nm,1.1s,mb5.5						
MBWA	**Marble Bar**	**40.62**	**249**	*e*P	**P**	**22 40 57.0**	**-0.2**
MBWA	**Marble Bar**	**40.62**	**249**	*e*P	**P**	**22 40 56.8**	**-0.4**
	comp=Z,37nm,0.8s,mb5.1						
MBWA				*e*PcP	PcP	22 42 58.5	-0.3
MBWA	**Marble Bar**	**40.62**	**249**	P	**P**	**22 40 57.5**	**+0.3**
	comp=Z,60nm,1.0s,mb5.2						
SPSI	**Sidrap Palu**	**40.74**	**275**	P	**P**	**22 40 57.8**	**-0.5**
	comp=Z,812nmcomp=Z,68nm,0.9s,mb5.3						
CBIJ	**Chichi jima**	**40.84**	**335**	P	**P**	**22 40 57.1**	**-1.8**
	comp=Z,182nm,0.9s,mb5.7,baz=101,slow=8.9,SNR=4.3						
CBIJ	**Chichi jima**	**40.84**	**335**	P	**P**	**22 40 57.1**	**-1.8**
TTSI	**Tana Toraja**	**40.87**	**277**	P	**P**	**22 41 00.1**	**+0.8**
	comp=Z,876nmcomp=Z,46nm,0.9s,mb5.1						
MTNI	**Mataram**	**43.65**	**268**	P	**P**	**22 41 21.0**	**-1.0**
	comp=Z,8μmcomp=Z,114nm,1.0s,mb5.5						
MYLDM	**Lahad Datu**	**44.36**	**288**	P	**P**	**22 41 29.8**	**+2.1**
MYLDM	**Lahad Datu**	**44.36**	**288**	P	**P**	**22 41 27.7**	**0.0**
	comp=Z,1μmcomp=Z,131nm,1.2s,mb5.5						
KBKI	**Kotabaru**	**44.39**	**275**	P	**P**	**22 41 28.2**	**+0.2**
	comp=Z,871nmcomp=Z,47nm,1.2s,mb5.1						
IGBI	**Denpasar**	**44.64**	**268**	P	**P**	**22 41 29.1**	**-0.8**
	comp=Z,8μmcomp=Z,107nm,1.0s,mb5.6						
TSM	**Tawau**	**44.66**	**286**	P	**P**	**22 41 30.5**	**+0.4**
MORW	**Morawa**	**45.61**	**239**	*e*P	**P**	**22 41 37.5**	**+0.1**
JAGI	**Jajag, Banyuwa**	**45.65**	**268**	P	**P**	**22 41 36.2**	**-1.8**
	comp=Z,1μmcomp=Z,146nm,1.0s,mb5.9						
BBKI	**Banjar Baru**	**45.66**	**275**	P	**P**	**22 41 38.8**	**+0.7**
	comp=Z,3μmcomp=Z,132nm,1.6s,mb5.6						
SDKM	**Sandakan**	**45.74**	**288**	P	**P**	**22 41 39.4**	**+0.7**
NWAO	**Narrogin (SRO)**	**45.80**	**233**	P	**P**	**22 41 42.6**	**+3.7**
	comp=Z,7.9nm,0.6s,mb4.8,baz=49,slow=9.1,SNR=6.1						
NWAO	**Narrogin (SRO)**	**45.80**	**233**	P	**P**	**22 41 42.6**	**+3.7**
NWAO	**Narrogin (SRO)**	**45.80**	**233**	P	**P**	**22 41 42.7**	**+3.8**
BLJI	**Banyuglugur**	**46.27**	**269**	P	**P**	**22 41 42.8**	**-0.1**
	comp=Z,52nm,1.1s,mb5.4						
KKM	**Kota Kinabalu**	**46.79**	**288**	P	**P**	**22 41 47.7**	**+0.7**
KKM	**Kota Kinabalu**	**46.79**	**288**	*e*P	**P**	**22 41 46.9**	**0.0**
	comp=Z,156nm,0.9s,mb5.9						
PWJI	**Pagerwojo**	**48.01**	**268**	P	**P**	**22 41 55.6**	**-0.8**
	comp=Z,60nm,0.8s,mb5.7						
JOW	**Kunigami**	**48.05**	**320**	*e*P	**P**	**22 41 56.7**	**+0.2**
	comp=Z,18nm,0.6s,mb5.3						
SJI	**Sawahan**	**48.07**	**269**	P	**P**	**22 41 56.8**	**-0.1**
PPT2	**Papeete2**	**49.06**	**105**	*e*S	**S**	**22 49 11.3**	**+4.2**
	comp=Z,137nm,22.5s						
PPT2				*e*L

IPM	**Ipoh**	**60.85**	**281**	*e*P	**P**	**22 43 29.6**	**-0.2**
	comp=Z,88nm,1.3s,mb5.7						
MDJ	**Mudanjiang**	**61.04**	**335**	P	**P**	**22 43 30.8**	**+0.3**
MDJ				pP	pP	22 43 39.9	-1.7
MDJ				sP	sP	22 43 43.6	-2.4
MDJ				ScP	ScP	22 48 12.8	+0.7
MDJ				PcS	PcS	22 48 16.4	+0.5
MDJ				S	**S**	**22 51 47.3**	**+0.7**
MDJ				sS	sS	22 52 02.9	-2.2
MDJ				pmax	pmax		
	comp=Z,92nm,1.3s,mb5.8						
MDJ				pmax	pmax		
	comp=Z,190nm,4.0s						
MDJ				LR	LR		
	comp=N,420nm,26.0s,MS4.5						
MDJ				LR	LR		
	comp=E,140nm,23.6s,MS4.5						
MDJ				LR	LR		
	comp=Z,620nm,23.1s,MS4.7						
MDJ	**Mudanjiang**	**61.04**	**335**	*e*P	**P**	**22 43 30.5**	**0.0**
	comp=Z,109nm,1.1s,mb5.9						
CN2	**Changchun**	**62.20**	**332**	*e*P	**P**	**22 43 38.1**	**-0.2**
CN2				*e*PP	PP	22 45 57.5	+1.8
CN2				*e*S	**S**	**22 52 01.0**	**-0.4**
CN2				*e*SS	SS	22 56 06.8	+1.5
CN2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=Z,500nm,20.0s,MS4.7						
COCO	**West Island**	**62.30**	**261**	*i* P	**P**	**22 43 42.4**	**+2.8**
HABR	**Khabarovsk**	**62.33**	**341**	*e*P	**P**	**22 43 39.0**	**-0.1**
HABR				*e**PP	pP	22 43 49.1	-1.2
HABR				*e**SP	sP	22 43 53.3	-1.3
HABR				*e*		22 44 17.0	
HABR				*e*		22 45 57.6	
HABR				PPP		22 47 25.0	
HABR				*e*S	**S**	**22 52 06.4**	**+3.6**
HABR				*e*		22 53 28.8	
HABR				*e*SS	SS	22 56 12.8	+5.7
HABR				pmax	pmax		
	comp=N,70nm,1.8s						
HABR				pmax	pmax		
	comp=E,46nm,1.0s						
HABR				pmax	pmax		
	comp=Z,89nm,1.0s,mb5.8						
HABR				MLR	MLR		
	comp=Z,450nm,17.0s,MS4.7						
PETK	**Petropavlovsk-**	**62.84**	**358**	P	**P**	**22 43 42.2**	**-0.1**
	comp=Z,25nm,0.9s,mb5.3,baz=159,slow=8.7,SNR=9.6						
PETK				LR	LR	23 07 09.8	
	comp=Z,621nm,19.3s,MS4.8,baz=166,slow=32						
PETK	**Petropavlovsk-**	**62.84**	**358**	P	**P**	**22 43 42.2**	**-0.1**
PETK	**Petropavlovsk-**	**62.84**	**358**	P	**P**	**22 43 42.3**	**-0.1**
RKT	**Rikitea**	**62.89**	**111**	*e*LR	LR	23 02 31.6	
	comp=Z,1μm,26.0s						
ENH	**Enshi**	**63.17**	**311**	*e*P	**P**	**22 43 44.1**	**-1.0**
	comp=Z,24nm,1.0s,mb5.3						
GYA	**Guiyang**	**63.49**	**306**	⇑*i*P	**P**	**22 43 47.3**	**0.0**
GYA				pP	pP	22 44 01.5	+3.0
GYA				PcP	PcP	22 44 25.3	+1.5
GYA				PP	PP	22 46 13.3	+6.0
GYA				ScP	ScP	22 48 23.5	0.0
GYA				S	**S**	**22 52 20.0**	**+1.8**
GYA				sS	sS	22 52 35.6	-1.1
GYA				SS	SS	22 56 30.0	+4.0
GYA				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
GYA				pmax	pmax		
	comp=Z,150nm,5.0s						
GYA				LR	LR		
	comp=N,820nm,18.6s,MS5.0						
GYA				LR	LR		
	comp=E,610nm,19.0s,MS5.0						
GYA				LR	LR		
	comp=Z,740nm,18.9s,MS4.9						
FX1	**Attu Island--F**	**63.52**	**9**	P	**P**	**22 43 46.8**	**-0.2**
	comp=Z,60nm,0.7s,mb5.7,baz=284,slow=18,SNR=12						
FX1	**Attu Island--F**	**63.52**	**9**	P	**P**	**22 43 46.8**	**-0.2**
FX1	**Attu Island--F**	**63.52**	**9**	P	**P**	**22 43 46.8**	**-0.1**
KLR	**Kul'dur**	**64.08**	**340**	*e*P	**P**	**22 43 46.0**	**-4.6**
KLR				pmax	pmax		
	comp=E,62nm,1.4s						
KLR				pmax	pmax		
	comp=Z,190nm,1.4s,mb5.9						
BJT	**Baijiatuau**	**64.39**	**324**	*e*P	**P**	**22 43 52.5**	**-0.4**
	comp=Z,12nm,0.5s,mb5.2						
BJT	**Baijiatuau**	**64.39**	**324**	*e*P	**P**	**22 43 52.5**	**-0.4**
BJT				pmax	pmax		
	comp=Z,12nm,0.5s						
BJI	**Beijing**	**64.40**	**324**	P	**P**	**22 43 52.6**	**-0.4**
BJI				PP	PP	22 46 17.0	+1.9
BJI				S	**S**	**22 52 32.9**	**+3.9**
BJI				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
BJI				pmax	pmax		
	comp=Z,280nm,3.7s						
BJI				LR	LR		
	comp=N,320nm,26.7s,MS4.5						
BJI				LR	LR		
	comp=E,280nm,26.2s,MS4.5						
BJI				LR	LR		
	comp=Z,290nm,27.8s,MS4.3						
NST	**Nakhon Sawan**	**64.87**	**292**	P	**P**	**22 43 57.0**	**+0.5**
XAN	**Xi'an**	**65.55**	**314**	P	**P**	**22 43 59.8**	**-0.8**
XAN				pP	pP	22 44 10.1	-1.7
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KMI	**Kunming**	**66.09**	**303**	⇑P	**P**	**22 44 05.4**	**+1.2**
KMI				pP	pP	22 44 17.9	+2.4
KMI				S	S	22 52 52.9	+2.6
KMI				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.5						
KMI				LR	LR		
	comp=N,160nm,21.2s,MS4.5						
KMI				LR	LR		
	comp=E,260nm,16.8s,MS4.5						
KMI				LR	LR		
	comp=Z,310nm,21.2s,MS4.5						
KMI	**Kunming**	**66.09**	**303**	⇑P	**P**	**22 44 05.4**	**+1.2**
	comp=Z,61nm,1.2s,mb5.5						
KMI				pP	pP	22 44 17.9	+2.4
KMI				S	S	22 52 52.9	+2.6
KMI				LR	LR		
	comp=Z,310nm,21.2s,MS4.5						
KMI	**Kunming**	**66.09**	**303**	⇑P	**P**	**22 44 05.4**	**+1.2**
KMI				*PP	pP	22 44 17.9	+2.4
KMI				S	S	22 52 52.9	+2.6
KMI				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.5						
KMI				MLR	MLR		
	comp=Z,310nm,21.2s,MS4.5						
CHRT	**Chiangrai**	**66.61**	**297**	⇑P	**P**	**22 44 07.0**	**-0.7**
	comp=Z,460nm,0.6s						
CM31	**Chiang Mai Arr**	**66.87**	**295**	*e*P	**P**	**22 44 09.9**	**+0.6**
	comp=Z,18nm,0.5s,mb5.4						
CMAR	**Chiang Mai Arr**	**66.87**	**295**	P	**P**	**22 44 10.0**	**+0.7**
	comp=Z,37nm,0.8s,mb5.5,baz=121,slow=4.9,SNR=151						
CMAR				PKP2bc		23 12 41.2	
	comp=Z,1.0nm,0.6s,baz=284,slow=3.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**66.87**	**295**	P	**P**	**22 44 10.0**	**+0.7**
CMAR				⇑*e*		23 12 41.2	
CMAR	**Chiang Mai Arr**	**66.87**	**295**	P	**P**	**22 44 10.0**	**+0.7**
CHG	**Chiang Mai**	**66.99**	**295**	⇑P	**P**	**22 44 10.3**	**+0.2**
	comp=Z,10nm,1.1s,mb4.8						
CHTO	**Chiang Mai**	**66.99**	**295**	*e*P	**P**	**22 44 10.2**	**+0.1**
	comp=Z,43nm,1.0s,mb5.4						
CHTO	**Chiang Mai**	**66.99**	**295**	*e*P	**P**	**22 44 10.2**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.4						
VNDA	**Vanda**	**67.56**	**180**	*e*P	**P**	**22 44 13.2**	**+0.5**
	comp=Z,16nm,0.9s,mb5.0						
VNDA	**Vanda**	**67.56**	**180**	*e*P	**P**	**22 44 13.2**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC	**Hu-ho-hao-te**	**67.66**	**322**	*e*P	**P**	**22 44 14.3**	**+0.4**
HHC				sP	sP	22 44 29.0	-0.5
HHC				PcP	PcP	22 44 41.1	+0.4
HHC				PP	PP	22 46 45.3	+1.7
HHC				ScP		22 48 41.0	
HHC				PcS		22 48 45.1	
HHC				S	S	22 53 08.8	+0.2
HHC				sS	sS	22 53 26.1	-1.2
HHC				ScS	ScS	22 54 06.5	-3.1
HHC				SS	SS	22 57 31.9	+1.5
HHC				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.4						
HHC				pmax	pmax		
	comp=Z,170nm,6.5s						
HHC				LR	LR		
	comp=N,270nm,16.8s,MS4.7						
HHC				LR	LR		
	comp=E,320nm,16.6s,MS4.7						
HHC				LR	LR		
	comp=Z,290nm,17.0s,MS4.6						
CD2	**Chengdu**	**67.80**	**309**	⇑*i*P	**P**	**22 44 15.3**	**+0.3**
CD2				pP	pP	22 44 25.3	-1.0
CD2				sP	sP	22 44 29.6	-1.0
CD2				PP	PP	22 46 47.1	+2.1
CD2				S	S	22 53 10.6	-0.1
CD2				sS	sS	22 53 27.8	-1.6
CD2				ScS	ScS	22 54 07.9	-3.2
CD2				SS	SS	22 57 34.4	+1.5
CD2				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.6						
CD2				pmax	pmax		
	comp=Z,220nm,10.8s						
CD2				LR	LR		
	comp=N,260nm,24.0s,MS4.6						
CD2				LR	LR		
	comp=E,360nm,22.8s,MS4.6						
CD2				LR	LR		
	comp=Z,410nm,28.0s						
BTO	**Baotou**	**68.46**	**321**	*e*P	**P**	**22 44 19.3**	**+0.3**
HIA	**Hailar**	**68.90**	**333**	*e*P	**P**	**22 44 21.4**	**-0.1**
	comp=Z,63nm,0.7s,mb5.7						
HIA	**Hailar**	**68.90**	**333**	*e*P	**P**	**22 44 21.4**	**-0.1**
HIA				pmax	pmax		
	comp=Z,63nm,0.7s						
LZH	**Lanzhou**	**70.17**	**314**	⇑P	**P**	**22 44 30.4**	**+0.8**
LZH				pP	pP	22 44 41.3	+0.3
LZH				sP	sP	22 44 45.8	+0.5
LZH				PP	PP	22 47 08.3	+2.9
LZH				*e*S	S	22 53 38.3	-0.3
LZH				sS	sS	22 53 56.0	-1.4
LZH				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.3						
LZH				pmax	pmax		
	comp=Z,200nm,8.5s						
LZH				LR	LR		
	comp=N,740nm,17.8s,MS5.1						
LZH				LR	LR		
	comp=E,560nm,17.5s,MS5.1						
LZH				LR	LR		
	comp=Z,870nm,18.2s,MS5.0						
LZH	**Lanzhou**	**70.17**	**314**	⇑P	**P**	**22 44 30.4**	**+0.8**
	comp=Z,45nm,1.1s,mb5.3						
LZH				pP	pP	22 44 41.2	+0.2
LZH				sP	sP	22 44 45.7	+0.4
LZH				PP	PP	22 47 08.3	+2.9
LZH				*e*S	S	22 53 38.2	-0.4
LZH				sS	sS	22 53 56.0	-1.4
LZH				LR	LR		
	comp=Z,870nm,18.2s,MS5.0						
LZH	**Lanzhou**	**70.17**	**314**	⇑P	**P**	**22 44 30.4**	**+0.8**
LZH				*PP	pP	22 44 41.2	+0.2
LZH				*SP	sP	22 44 45.7	+0.4
LZH						22 47 08.3	
LZH				*e*S	S	22 53 38.2	-0.4
LZH				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.3						
LZH				MLR	MLR		
	comp=Z,870nm,18.2s,MS5.0						
CLNS	**Chul'man**	**72.70**	**340**	*e*P	**P**	**22 44 44.9**	**+0.5**
CLNS				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.5						
CLNS				pmax	pmax		
	comp=N,26nm,0.9s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CHGN	**Chignik**	**74.29**	**22**	*e*P	**P**	**22 44 52.9**	**-0.9**
ULN	**Ulaanbaatar**	**74.39**	**326**	*e*P	**P**	**22 44 55.1**	**+0.6**
	comp=E,33nm,0.9s,mb5.3						
ULN				*e*PP	PP	22 47 38.5	-2.7
ULN	**Ulaanbaatar**	**74.39**	**326**	*e*P	**P**	**22 44 55.1**	**+0.6**
ULN				*e*		22 47 38.5	
ULN				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.3						
GTA	**Gaotai**	**74.55**	**316**	P	**P**	**22 44 56.5**	**+0.8**
GTA				pP	pP	22 45 06.5	-0.6
GTA				sP	sP	22 45 11.3	-0.1
GTA				S	S	22 54 29.8	+1.2
GTA				sS	sS	22 54 48.0	+0.5
GTA				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.4						
GTA				pmax	pmax		
	comp=Z,220nm,7.1s						
GTA				LR	LR		
	comp=N,340nm,18.8s,MS4.8						
GTA				LR	LR		
	comp=E,240nm,19.5s,MS4.8						
GTA				LR	LR		
	comp=Z,260nm,19.5s,MS4.5						
SONM	**Songino Array**	**74.73**	**326**	P	**P**	**22 44 57.0**	**+0.5**
	comp=Z,29nm,0.7s,mb5.3,baz=139,slow=5.6,SNR=97						
SONM				LR	LR	23 19 46.8	
	comp=Z,451nm,18.7s,MS4.8,baz=52,slow=37						
SONM	**Songino Array**	**74.73**	**326**	P	**P**	**22 44 57.0**	**+0.5**
SONM	**Songino Array**	**74.73**	**326**	P	**P**	**22 44 57.0**	**+0.5**
YAK	**Yakutsk**	**75.64**	**346**	*e*P	**P**	**22 45 01.1**	**-0.3**
	comp=Z,123nm,0.7s,mb5.9						
YAK	**Yakutsk**	**75.64**	**346**	*c i*P	**P**	**22 45 01.1**	**-0.4**
YAK				pmax	pmax		
	comp=E,18nm,1.5s						
YAK				pmax	pmax		
	comp=Z,149nm,1.1s,mb5.8						
YAK				pmax	pmax		
	comp=N,41nm,1.5s						
LSA	**Lhasa**	**77.34**	**304**	P	**P**	**22 45 12.5**	**+0.7**
LSA	**Lhasa**	**77.34**	**304**	*e*P	**P**	**22 45 12.6**	**+0.7**
	comp=N,31nm,1.1s,mb5.2						
LSA	**Lhasa**	**77.34**	**304**	*e*P	**P**	**22 45 12.6**	**+0.8**
LSA				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
BOD	**Bodaibo**	**77.37**	**337**	*e*P	**P**	**22 45 10.0**	**-1.3**
BOD				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
KDAK	**Kodiak Island**	**77.59**	**24**	P	**P**	**22 45 12.5**	**-0.1**
	comp=Z,44nm,0.9s,mb5.4,baz=178,slow=1.8,SNR=8.0						
KDAK	**Kodiak Island**	**77.59**	**24**	P	**P**	**22 45 12.5**	**-0.1**
KDAK	**Kodiak Island**	**77.59**	**24**	*i* P	**P**	**22 45 12.6**	**0.0**
ZAK	**Zakamensk**	**77.84**	**327**	*e*P	**P**	**22 45 13.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
BILL	**Bilibino**	**77.90**	**2**	*e*P	**P**	**22 45 13.9**	**-0.2**
	comp=Z,134nm,1.0s,mb5.8						
BILL	**Bilibino**	**77.90**	**2**	*c i*P	**P**	**22 45 14.0**	**-0.1**
BILL				*i*	pP	22 45 23.4	-2.2
BILL				*e*		22 48 09.8	
BILL				*e*S	S	22 54 59.9	-4.3
BILL				pmax	pmax		
	comp=Z,196nm,1.3s,mb5.9						
TLY	**Talaya**	**78.35**	**328**	*e*P	**P**	**22 45 14.0**	**-2.9**
TLY				*e*S	S	22 55 10.0	+0.4
TLY				*e*SS	SS	23 00 09.5	-3.7
TLY				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
TLY				MLR	MLR		
	comp=Z,184nm,18.0s,MS4.5						
SVW2	**Sparrevohn**	**78.80**	**20**	*e*P	**P**	**22 45 19.9**	**+0.7**
	comp=Z,58nm,1.0s,mb5.5						
TNA	**Tin City**	**78.89**	**13**	*e*P	**P**	**22 45 19.3**	**-0.3**
	comp=Z,64nm,0.9s,mb5.5						
TNA				*e*PP	PP	22 48 19.3	+0.6
RSO	**Redoubt South**	**79.35**	**22**	*e*P	**P**	**22 45 21.2**	**-1.0**
	comp=Z,64nm,0.7s,mb5.7						
TAPN	**Taplejung**	**79.49**	**300**	*e*P	**P**	**22 45 24.0**	**+0.2**
	comp=Z,124nm,1.2s,mb5.7						
TAPN	**Taplejung**	**79.49**	**300**	*e*P	**P**	**22 45 24.0**	**+0.2**
	comp=Z,124nm,1.2s,mb5.7						
ODAN	**Odare**	**79.63**	**300**	*e*P	**P**	**22 45 24.6**	**+0.1**
	comp=Z,199nm,1.1s,mb6.0						
ODAN	**Odare**	**79.63**	**300**	*e*P	**P**	**22 45 24.6**	**+0.1**
	comp=Z,199nm,1.1s,mb6.0						
QSPA	**South Pole Qui**	**80.05**	**180**	*e*P	**P**	**22 45 25.9**	**0.0**
	comp=Z,33nm,0.9s,mb5.3						
SLKM	**Skilak Lake**	**80.31**	**22**	*e*P	**P**	**22 45 26.9**	**-0.6**
SLKM	**Skilak Lake**	**80.31**	**22**	*e*P	**P**	**22 45 26.9**	**-0.5**
RAMN	**Ramite**	**80.33**	**300**	*e*P	**P**	**22 45 28.3**	**0.0**
	comp=Z,98nm,1.4s,mb5.5						
RAMN	**Ramite**	**80.33**	**300**	*e*P	**P**	**22 45 28.3**	**0.0**
	comp=Z,98nm,1.4s,mb5.5						
SEW	**Seward**	**80.34**	**23**	*e*P	**P**	**22 45 27.0**	**-0.6**
	comp=Z,50nm,0.9s,mb5.5						
RC01	**Rabbit Creek A**	**80.87**	**22**	*e*P	**P**	**22 45 30.1**	**-0.3**
	comp=Z,117nm,1.3s,mb5.7						
JIRN	**Jiri**	**80.88**	**300**	*e*P	**P**	**22 45 31.4**	**+0.2**
	comp=Z,120nm,1.4s,mb5.6						
JIRN	**Jiri**	**80.88**	**300**	*e*P	**P**	**22 45 31.4**	**+0.2**
	comp=Z,120nm,1.4s,mb5.6						
PPLA	**Purkeypile**	**81.21**	**20**	*e*P	**P**	**22 45 32.0**	**-0.2**
	comp=Z,70nm,1.4s,mb5.4						
GUN	**Gumba**	**81.21**	**300**	*e*P	**P**	**22 45 33.1**	**+0.1**
	comp=Z,299nm,1.7s,mb6.0						
GUN	**Gumba**	**81.21**	**300**	*e*P	**P**	**22 45 33.1**	**+0.1**
	comp=Z,299nm,1.7s,mb6.0						
PMR	**Palmer**	**81.42**	**22**	*e*P	**P**	**22 45 32.8**	**-0.5**
	comp=Z,100nm,1.2s,mb5.6						
PMR	**Palmer**	**81.42**	**22**	*e*P	**P**	**22 45 32.8**	**-0.5**
PMR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.6						
PKI	**Pulchoki**	**81.52**	**300**	*e*P	**P**	**22 45 34.5**	**-0.1**
	comp=Z,166nm,1.4s,mb5.8						
PKI	**Pulchoki**	**81.52**	**300**	*e*P	**P**	**22 45 34.5**	**-0.1**
	comp=Z,166nm,1.4s,mb5.8						
PKI	**Pulchoki**	**81.52**	**300**	*e*P	**P**	**22 45 34.5**	**-0.1**
PKI				pmax	pmax		
	comp=Z,166nm,1.4s,mb5.8						
KKN	**Kakani**	**81.69**	**300**	*e*P	**P**	**22 45 35.5**	**0.0**
	comp=Z,126nm,1.7s,mb5.6						
KKN	**Kakani**	**81.69**	**300**	*e*P	**P**	**22 45 35.5**	**0.0**
	comp=Z,126nm,1.7s,mb5.6						
KKN	**Kakani**	**81.69**	**300**	*e*P	**P**	**22 45 35.5**	**0.0**
KKN				pmax	pmax		
	comp=Z,126nm,1.7s,mb5.6						
DMN	**Daman**	**81.79**	**300**	*e*P	**P**	**22 45 36.2**	**+0.1**
	comp=Z,199nm,1.2s,mb5.9						
DMN	**Daman**	**81.79**	**300**	*e*P	**P**	**22 45 36.2**	**+0.1**
	comp=Z,199nm,1.2s,mb5.9						
SML	**Sawmill**	**81.85**	**22**	*e*P	**P**	**22 45 35.2**	**-0.4**
	comp=Z,26nm,1.2s,mb5.0						
SML	**Sawmill**	**81.85**	**22**	*e*P	**P**	**22 45 35.2**	**-0.4**
SML				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
TRF	**Thorofare Moun**	**82.22**	**20**	*e*P	**P**	**22 45 36.4**	**-1.1**
	comp=Z,38nm,0.8s,mb5.4						
GKN	**Gorkha**	**82.29**	**300**	*e*P	**P**	**22 45 38.3**	**-0.4**
	comp=Z,201nm,1.1s,mb6.0						
GKN	**Gorkha**	**82.29**	**300**	*e*P	**P**	**22 45 38.3**	**-0.4**
	comp=Z,201nm,1.1s,mb6.0						
DIV	**Divide**	**82.41**	**23**	*e*P	**P**	**22 45 38.3**	**-0.2**
	comp=Z,36nm,0.9s,mb5.3						
BMRM	**Bremner River**	**82.77**	**24**	*e*P	**P**	**22 45 40.0**	**-0.4**
	comp=Z,79nm,1.1s,mb5.7						
MCK	**McKinley**	**82.87**	**20**	*e*P	**P**	**22 45 40.0**	**-0.8**
	comp=Z,222nm,0.9s,mb6.2						
MCK	**McKinley**	**82.87**	**20**	*e*P	**P**	**22 45 40.1**	**-0.8**
MCK				pmax	pmax		
	comp=Z,222nm,0.9s,mb6.2						
KOLN	**Koldanda**	**83.12**	**300**	*e*P	**P**	**22 45 42.4**	**-0.6**
	comp=Z,54nm,0.9s,mb5.6						
KOLN	**Koldanda**	**83.12**	**300**	*e*P	**P**	**22 45 42.4**	**-0.6**
	comp=Z,54nm,0.9s,mb5.6						
DANN	**Dangsing**	**83.13**	**300**	*e*P	**P**	**22 45 42.5**	**-0.6**
	comp=Z,152nm,1.3s,mb5.9						
DANN	**Dangsing**	**83.13**	**300**	*e*P	**P**	**22 45 42.5**	**-0.6**
	comp=Z,152nm,1.3s,mb5.9						
PAX	**Paxson**	**83.62**	**22**	*e*P	**P**	**22 45 43.9**	**-0.9**
	comp=Z,8.2nm,0.8s,mb4.9						
PAX	**Paxson**	**83.62**	**22**	*e*P	**P**	**22 45 43.9**	**-0.9**
PAX				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
MAW	**Mawson**	**83.74**	**202**	P	**P**	**22 45 45.8**	**+0.4**
	comp=Z,7.5nm,0.8s,mb4.9,baz=105,slow=7.4,SNR=8.2						
MAW				LR	LR	23 17 52.5	
	comp=Z,488nm,20.2s,MS4.9,baz=99,slow=32						
MAW	**Mawson**	**83.74**	**202**	*e*P	**P**	**22 45 45.9**	**+0.5**
MAW	**Mawson**	**83.74**	**202**	*e*P	**P**	**22 45 45.3**	**-0.2**
	comp=Z,8.8nm,1.2s,mb4.8						
MAW	**Mawson**	**83.74**	**202**	*e*P	**P**	**22 45 45.3**	**-0.1**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.2s						
COLA	**College**	**83.96**	**20**	*e*P	**P**	**22 45 45.3**	**-1.2**
	comp=Z,114nm,0.8s,mb6.0						
COLA	**College**	**83.96**	**20**	*e*P	**P**	**22 45 45.3**	**-1.1**
COLA				pmax	pmax		
	comp=Z,114nm,0.8s,mb6.0						
ILAR	**Eielson Array**	**84.22**	**20**	P	**P**	**22 45 46.6**	**-1.2**
	comp=Z,37nm,1.0s,mb5.5,baz=258,slow=4.2,SNR=142						
ILAR				PKKPbc	PKKPbc	23 03 58.9	-5.2
	comp=Z,0.3nm,0.8s,baz=342,slow=1.1,SNR=6.8						
ILAR				LR	LR	23 21 42.2	
	comp=Z,374nm,19.2s,MS4.8,baz=62,slow=34						
ILAR	**Eielson Array**	**84.22**	**20**	P	**P**	**22 45 46.6**	**-1.2**
ILAR				PKKPbc	PKKPbc	23 03 58.9	-5.2
ILAR	**Eielson Array**	**84.22**	**20**	P	**P**	**22 45 46.6**	**-1.2**
PNL	**Peninsula**	**84.22**	**26**	*e*P	**P**	**22 45 48.1**	**+0.2**
	comp=Z,92nm,0.9s,mb5.9						
MENT	**Mentasta**	**84.25**	**22**	*e*P	**P**	**22 45 47.6**	**-0.3**
DOT	**Dot Lake**	**84.53**	**22**	*e*P	**P**	**22 45 49.1**	**-0.3**
	comp=Z,15nm,0.8s,mb5.2						
WMQ	**Urumqi**	**84.63**	**316**	P	**P**	**22 45 50.4**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.2						
WMQ				pmax	pmax		
	comp=Z,410nm,6.2s						
WMQ				LR	LR		
	comp=N,250nm,20.6s,MS4.7						
WMQ				LR	LR		
	comp=E,230nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,210nm,23.4s,MS4.5						
DIB	**Dawson Inlet,**	**84.64**	**34**	T		00 18 19.7	
COLD	**Coldfoot**	**84.75**	**17**	*e*P	**P**	**22 45 50.6**	**+0.2**
	comp=Z,26nm,0.9s,mb5.3						
HYB	**Hyderabad**	**85.28**	**289**	*i* P	**P**	**22 45 52.5**	**-1.7**
SKAG	**Skagway**	**85.94**	**27**	*e*P	**P**	**22 45 56.0**	**-0.5**
	comp=Z,49nm,1.0s,mb5.7						
WRAK	**Wrangell Islan**	**86.04**	**31**	*e*P	**P**	**22 45 56.6**	**-0.5**
	comp=Z,36nm,1.0s,mb5.5						
EGAK	**Eagle**	**86.22**	**21**	*e*P	**P**	**22 45 58.1**	**+0.3**
	comp=Z,130nm,1.1s,mb6.1						
YBH	**Yreka Blue Hor**	**86.94**	**47**	*e*P	**P**	**22 46 02.6**	**+0.8**
	comp=Z,23nm,0.9s,mb5.4						
YBH				*e*PP	PP	22 49 23.5	-1.9
YBH	**Yreka Blue Hor**	**86.

comp=Z,15nm,0.9s,mb5.3
EDW2 Edwards Air Fo 88.83 54 ⇓P P 22 46 11.3 +0.2
baz=89,SNR=5.2
BFSC Mount Baldy Ra 88.95 55 ⇓P P 22 46 11.3 -0.3
baz=89
CWC Cottonwood Cre 89.10 53 ⇓P P 22 46 12.5 +0.2
baz=89,SNR=9.9
MK31 Makanchi Array 89.15 318 *eP* **P 22 46 11.0 -1.2**
MK31 Makanchi Array 89.15 318 *eP* **P 22 46 11.0 -1.3**
MKAR Makanchi Array 89.15 318 P P 22 46 11.3 -1.0
comp=Z,7.8nm,0.8s,mb5.1,baz=100,slow=6.3,SNR=33
MKAR Makanchi Array 89.15 318 P P 22 46 11.3 -1.0
MKAR Makanchi Array 89.15 318 P P 22 46 11.3 -1.0
MURC Murrieta 89.19 56 ⇓P P 22 46 12.4 -0.3
baz=89
LRMC Laurel Mountai 89.20 54 ⇑P P 22 46 13.1 +0.3
baz=89,SNR=12
JCW Jim Creek 89.24 41 *eP* **P 22 46 12.1 -0.5**
comp=Z,18nm,0.8s,mb5.5
NVAR Mina Array Bea 89.38 51 P P 22 46 13.7 +0.2
comp=Z,12nm,0.9s,mb5.2,baz=240,slow=6.0,SNR=32
NVAR LR LR 23 22 56.3
comp=Z,531nm,18.3s,MS5.0,baz=109,slow=33
NVAR Mina Array Bea 89.38 51 P P 22 46 13.7 +0.2
MPMC Manual Prospec 89.48 53 ⇓P P 22 46 14.4 +0.3
baz=90,SNR=14
ZAA0 Zalesovo Array 89.62 325 *eP* **P 22 46 12.6 -1.7**
ZALV Zalesovo Beam 89.62 325 P P 22 46 12.1 -2.2
comp=Z,3.7nm,0.8s,mb4.8,baz=108,slow=4.8,SNR=16
ZALV LR LR 23 25 06.8
comp=Z,188nm,20.5s,MS4.5,baz=77,slow=35
ZALV Zalesovo Beam 89.62 325 P P 22 46 12.1 -2.2
ZALV Zalesovo Beam 89.62 325 P P 22 46 12.1 -2.2
MONP Monument Peak 89.67 57 ⇑P P 22 46 15.7 +0.6
baz=90
GRAC Grapevine Rang 89.78 52 ⇓P P 22 46 15.2 -0.3
baz=90
PFO Pinyon Flat Ob 89.79 56 ⇓P P 22 46 15.5 -0.1
baz=90
I07A Izee 89.82 45 ⇑P P 22 46 16.0 +0.6
baz=90
GSC Goldstone 89.86 54 ⇑P P 22 46 16.1 +0.2
baz=90,SNR=5.6
GSC Goldstone 89.86 54 *eP* **P 22 46 15.9 0.0**
GSC Goldstone 89.86 54 *eP* **P 22 46 15.9 0.0**
POO Poona 89.88 289 ⇓*iP* **P 22 46 12.0 -4.3**
comp=Z,30nm,1.0s,mb5.6
DVTC Desert V Tower 89.89 57 ⇑P P 22 46 16.3 +0.2
baz=90
WVOR Wild Horse Val 90.05 47 *eP* **P 22 46 16.9 +0.3**
comp=Z,37nm,1.1s,mb5.6
WVOR Wild Horse Val 90.05 47 *eP* **P 22 46 16.9 +0.3**
WVOR pmax pmax
comp=Z,37nm,1.1s,mb5.6
FURC Furnace Creek, 90.07 53 ⇓P P 22 46 17.1 +0.3
baz=90,SNR=9.1
ETW Entiat 90.13 42 *eP* **P 22 46 16.6 -0.2**
comp=Z,24nm,0.8s,mb5.6
HEC Hector,Ludlow 90.15 55 ⇑P P 22 46 17.2 0.0
baz=90,SNR=7.9
SWSC Sam W. Stewart 90.20 57 ⇑P P 22 46 17.2 -0.3
baz=90
RSW Rattlesnake Hi 90.32 43 *eP* **P 22 46 18.4 +0.6**
comp=Z,22nm,0.8s,mb5.5
HAWA Hanford 90.36 43 *eP* **P 22 46 18.2 +0.3**
comp=Z,20nm,0.9s,mb5.4
J08A Circle Bar Ran 90.38 46 ⇑P P 22 46 17.6 -0.5
baz=90
SHOC Shoshone 90.41 54 ⇓P P 22 46 18.4 -0.1
baz=90
TUQ Turquoise Moun 90.60 54 ⇓P P 22 46 19.3 0.0
baz=91,SNR=11
INK Inuvik 90.62 20 P P 22 46 18.0 -0.6
comp=Z,18nm,1.0s,mb5.4,baz=246,slow=4.5,SNR=30
INK Inuvik 90.62 20 P P 22 46 18.0 -0.6
INK Inuvik 90.62 20 P P 22 46 18.0 -0.6
BMN Battle Mountai 90.64 49 *eP* **P 22 46 19.9 +0.5**
comp=Z,18nm,0.9s,mb5.4
BMN Battle Mountai 90.64 49 *eP* **P 22 46 19.9 +0.5**
BMN pmax pmax
comp=Z,18nm,0.9s,mb5.4
NVS Novosibirsk 90.77 326 *eP* **P 22 46 14.8 -4.8**
NVS pmax pmax
comp=N,4.0nm,1.6s
NVS pmax pmax
comp=E,9.0nm,1.6s
NVS pmax pmax
comp=Z,21nm,1.6s,mb5.2
IRM Iron Mountain 90.97 56 ⇑P P 22 46 21.2 +0.1
baz=91
GLA Glamis 91.02 57 *eP* **P 22 46 21.6 +0.2**
comp=Z,8.5nm,0.9s,mb5.1
GLA Glamis 91.02 57 *eP* **P 22 46 21.6 +0.3**
GLA pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LNOR Lincton Mounta 91.08 44 *eP* **P 22 46 21.2 -0.1**
comp=Z,10nm,1.2s,mb5.0
LNOR Lincton Mounta 91.08 44 *eP* **P 22 46 21.2 -0.1**
LNOR pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
OD2 Odessa Site #2 91.14 42 *eP* **P 22 46 21.4 -0.1**
comp=Z,52nm,0.8s,mb5.9
LDFC Landfair 91.18 55 *eP* **P 22 46 22.9 +0.8**
comp=Z,46nm,1.2s,mb5.7
SYO Syowa Base 91.25 198 ⇑*eP* **P 22 46 20.0 -1.7**
E09A Wood Farm, Sta 91.32 43 ⇓P P 22 46 22.1 -0.3
baz=91
Y12C Blythe 91.40 56 ⇓P P 22 46 22.7 -0.4
baz=92
R11A Troy Canyon, C 91.45 51 ⇑P P 22 46 23.5 +0.3
baz=92,SNR=17
BMO Blue Mountains 91.53 45 *eP* **P 22 46 23.4 0.0**
comp=Z,14nm,0.9s,mb5.3
BMO Blue Mountains 91.53 45 *eP* **P 22 46 23.4 0.0**
BMO pmax pmax
comp=Z,14nm,0.9s,mb5.3
PDMCI Parker Dam,Lak 91.82 56 ⇑P P 22 46 25.1 +0.1
baz=92
F10A Beach Ranch, E 91.82 44 ⇓P P 22 46 24.8 +0.1
baz=92
113A Mohawk Valley, 91.84 57 ⇓P P 22 46 24.8 -0.3
baz=92
KSH Kashi 91.99 310 P P 22 46 27.1 +1.4
KSH pP pP 22 46 40.6 +3.3
KSH PP PP 22 50 10.3 +4.6
KSH SKS 22 56 54.8
KSH S S 22 57 21.5 -3.5
KSH sS sS 22 57 46.4 +2.0
KSH SS SS 23 03 37.6 +3.0
KSH pmax pmax
comp=Z,11nm,1.2s,mb5.1
KSH pmax pmax
comp=Z,120nm,6.7s
KSH LR LR
comp=N,280nm,8.1s
KSH LR LR
comp=E,250nm,7.5s
KSH LR LR
comp=Z,270nm,5.9s
Z13A Yuma Proving G 92.01 57 ⇓P P 22 46 26.2 +0.3
baz=92
W13A Hualapai Mount 92.17 55 ⇑P P 22 46 26.6 0.0
baz=92
MFID Camas Ranch 92.27 46 ⇑P P 22 46 27.2 +0.4
baz=92,SNR=14
MFID Camas Ranch 92.27 46 *eP* **P 22 46 27.1 +0.3**
comp=Z,30nm,1.2s,mb5.5
KURK Kurchatov 92.46 321 PP PP 22 50 04.5 -4.6
comp=Z,2.2nm,0.9s,baz=101,slow=7.6,SNR=4.3
KURK PKKPbc PKKPbc 23 03 38.9 -4.3
comp=Z,0.3nm,0.3s,baz=299,slow=3.2,SNR=6.1
KURK Kurchatov 92.46 321 *eP* **P 22 46 25.7 -1.9**
comp=Z,9.2nm,1.0s,mb5.1
KURK PP PP 22 50 04.5 -4.6
KURK PKKPbc PKKPbc 23 03 38.9 -4.3
KURK Kurchatov 92.46 321 *eP* **P 22 46 25.7 -1.9**
KURK 22 50 04.5
KURK 23 03 38.9
KURK pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
KURK Kurchatov 92.46 321 P P 22 46 25.1 -2.5
comp=Z,56nm,1.4s,mb5.7,SNR=9.5
R13A O'Grain Ranch, 92.66 52 ⇓P P 22 46 29.7 +0.9
baz=93,SNR=6.5
I12A Atlanta 92.84 46 ⇓P P 22 46 30.1 +0.6
baz=93,SNR=28
C11A Tepee Creek (N 92.86 42 ⇓P P 22 46 29.7 +0.2
baz=93
E12A Beaver Dam Sad 93.04 44 ⇑P P 22 46 29.9 -0.5
baz=93
H12A Diamond D Ranc 93.18 45 ⇓P P 22 46 31.3 +0.3
baz=93,SNR=13
HLID Hailey 93.31 47 *eP* **P 22 46 32.3 +0.7**
comp=Z,27nm,1.0s,mb5.6
C12B Naegeli Ranch, 93.35 42 ⇑P P 22 46 31.7 -0.1
baz=94,SNR=6.0
J13A Cove Ranch, Pi 93.45 47 ⇑P P 22 46 33.0 +0.6
baz=94,SNR=16
A12A Yaak River Ran 93.47 41 ⇑P P 22 46 32.3 0.0
baz=94,SNR=5.3
I13A Wildhorse Cree 93.58 46 ⇑P P 22 46 34.0 +1.0
baz=94,SNR=64
H13A Challis 93.60 46 ⇑P P 22 46 33.4 +0.5
baz=94,SNR=40
AAK Ala-Archa 93.66 312 *eP* **P 22 46 32.5 -0.8**
comp=Z,23nm,1.3s,mb5.5
AAK Ala-Archa 93.66 312 *eP* **P 22 46 32.5 -0.8**
AAK pmax pmax
comp=Z,23nm,1.3s,mb5.5
U15A North Rim 93.68 54 ⇓P P 22 46 34.1 +0.6
baz=94
G13A Cobalt 93.71 45 ⇓P P 22 46 33.7 +0.2
baz=94,SNR=25
F13A Darby 93.77 44 ⇑P P 22 46 33.6 -0.1
baz=94,SNR=30
BSMT Bassoo Peak 93.83 42 *eP* **P 22 46 33.5 -0.4**
comp=Z,9.4nm,1.0s,mb5.2
L14A Malta 93.89 48 ⇑P P 22 46 35.1 +0.7
baz=94,SNR=11
J14A Carey 93.91 47 ⇓P P 22 46 35.0 +0.5
baz=94
D13A Huson 93.92 43 ⇓P P 22 46 34.4 0.0
baz=94
C13A Hot Springs 93.94 42 ⇑P P 22 46 34.5 0.0
baz=94
E13A Victor 93.98 44 ⇑P P 22 46 35.6 +0.9
baz=94,SNR=11
K14A Jones Ranch, D 94.03 48 ⇓P P 22 46 35.8 +0.8
baz=94,SNR=12
X16A Lo Mia Camp, P 94.04 56 ⇑P P 22 46 36.0 +0.8
baz=94
I14A Mackay 94.06 46 ⇑P P 22 46 36.0 +0.8
baz=94,SNR=19
MSU Marysvale 94.11 52 *eP* **P 22 46 37.3 +1.8**
comp=Z,3.9nm,0.9s,mb4.8
MSU Marysvale 94.11 52 *eP* **P 22 46 37.3 +1.8**
MSU pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
B13A Whitefish 94.14 42 ⇑P P 22 46 35.4 0.0
baz=94
HVU Hansel Valley 94.19 48 *eP* **P 22 46 36.2 +0.4**
comp=Z,12nm,1.0s,mb5.3
HVU Hansel Valley 94.19 48 *eP* **P 22 46 36.2 +0.4**
HVU pmax pmax
comp=Z,12nm,1.0s,mb5.3
MSO Missoula 94.22 43 ⇑P P 22 46 36.3 +0.5
baz=94
H14A Leadore 94.24 46 ⇓P P 22 46 36.1 +0.2
baz=94
A13A Flathead Natio 94.27 41 ⇓P P 22 46 36.4 +0.4
baz=94
G14A Jackson 94.28 45 ⇑P P 22 46 36.3 +0.2
baz=94,SNR=8.3
F14A Wisdom 94.44 44 ⇓P P 22 46 36.9 +0.1
baz=94
S16A Weppner Ranch, 94.44 53 ⇓P P 22 46 37.0 0.0
baz=94
L15A Malad City 94.52 48 ⇑P P 22 46 37.8 +0.6
baz=95
K15A Arbon 94.52 48 ⇓P P 22 46 37.8 +0.5
baz=95,SNR=7.1
MCMT McKenzie Canyo 94.64 45 *eP* **P 22 46 38.1 +0.3**
comp=Z,4.4nm,1.0s,mb4.8
CHMT Chamberlain Mo 94.70 43 *eP* **P 22 46 36.5 -1.4**
comp=Z,6.1nm,1.3s,mb4.9
J15A Blackfoot 94.70 47 ⇓P P 22 46 38.9 +0.9
baz=95
H15A Lima 94.75 46 ⇑P P 22 46 39.0 +0.7
baz=95,SNR=28
V17A Tonalea, Kykot 94.75 55 ⇓P P 22 46 38.8 +0.3
baz=95
I15A Monteview 94.76 46 ⇑P P 22 46 38.8 +0.5
baz=95,SNR=6.8
318A Bisbee 94.78 59 ⇑P P 22 46 38.9 +0.2
baz=95
O16A Springville 94.89 50 ⇓P P 22 46 39.4 +0.4
baz=95
DLMT Dillon 94.90 45 *eP* **P 22 46 39.3 +0.4**
comp=Z,10nm,1.1s,mb5.2
B14A Marquette Ranc 94.92 42 ⇑P P 22 46 38.6 -0.4
baz=95,SNR=7.9
A14A Double T Ranch 94.92 41 ⇑P P 22 46 38.7 -0.2
baz=95
G15A Dillon 94.94 45 ⇓P P 22 46 39.4 +0.3
baz=95,SNR=6.0
118A Homack Ranch, 94.98 58 ⇑P P 22 46 39.3 -0.3
baz=95
E15A Deer Lodge 95.03 44 ⇑P P 22 46 39.4 -0.1
baz=95,SNR=5.0
F15A Butte 95.05 44 ⇑P P 22 46 39.3 -0.3
baz=95
Y18A Canyon Day Jun 95.09 57 ⇓P P 22 46 39.7 -0.4
baz=95
D15A Lincoln 95.21 43 ⇓P P 22 46 40.1 -0.2
baz=95
K16A Soda Springs 95.23 48 ⇑P P 22 46 41.3 +0.8
baz=95
R17A Hanksville Air 95.23 52 ⇑P P 22 46 40.8 +0.2
baz=95
C15A Salmond Ranch, 95.27 43 ⇑P P 22 46 40.1 -0.5
baz=95,SNR=20
X18A Snowflake 95.27 56 ⇓P P 22 46 41.0 +0.1
baz=95
J16A Bone 95.28 47 ⇓P P 22 46 41.2 +0.5
baz=95
A15A Johnson Ranch, 95.37 41 ⇑P P 22 46 40.9 -0.1
baz=96
B15A Bradely Ranch, 95.38 42 ⇑P P 22 46 40.0 -1.0
baz=96
G16A Moss Hill, Enn 95.43 45 ⇑P P 22 46 41.6 +0.3
baz=96,SNR=8.8
I16A Newdale 95.45 47 ⇑P P 22 46 42.1 +0.6
baz=96,SNR=9.5
219A White Tail Can 95.48 59 ⇑P P 22 46 41.8 -0.1
baz=96
RRI2 Red Ridge 95.50 47 *eP* **P 22 46 42.8 +1.1**
comp=Z,13nm,0.9s,mb5.3
U18A Rough Rock, Ch 95.61 54 ⇓P P 22 46 41.7 -0.7
baz=96
BOZ Bozeman (W) 95.61 45 ⇓P P 22 46 42.4 +0.2
baz=96,SNR=7.8
BOZ Bozeman (W) 95.61 45 *eP* **P 22 46 42.4 +0.2**
comp=Z,6.9nm,0.9s,mb5.1
BOZ Bozeman (W) 95.61 45 *eP* **P 22 46 42.4 +0.2**
BOZ pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
QLMT Earthquake Lak 95.64 46 *eP* **P 22 46 43.2 +0.9**
F16A Kennard Place, 95.64 45 ⇓P P 22 46 42.5 +0.2
baz=96,SNR=6.6
E16A East Helena 95.71 44 ⇑P P 22 46 42.6 0.0
baz=96
H16A Russell Place, 95.75 46 ⇓P P 22 46 43.6 +0.8
baz=96,SNR=11
Y19A Nutrioso 95.76 57 ⇓P P 22 46 43.2 +0.1
baz=96
C16A Fuhringer Ranc 95.85 43 ⇓P P 22 46 42.8 -0.4
baz=96,SNR=15
D16A Dana Ranch, Ca 95.87 43 ⇓P P 22 46 43.3 0.0
baz=96,SNR=8.1
J17A Brown Place, J 95.94 47 ⇑P P 22 46 44.2 +0.5
baz=96,SNR=7.0
B16A M & M Farms, S 95.96 42 ⇑P P 22 46 43.6 0.0
baz=96
MOOW Moose Ponds 95.97 47 *eP* **P 22 46 43.8 0.0**
comp=Z,7.9nm,1.0s,mb5.1
A16A West Butte Ran 96.11 42 ⇑P P 22 46 44.3 0.0
baz=96
U19A Dine' College, 96.12 54 ⇑P P 22 46 44.7 0.0
baz=96
G17A Pierce Place, 96.19 45 ⇓P P 22 46 45.0 +0.2
baz=96
Z20A Nine Sixteen R 96.19 58 ⇑P P 22 46 44.9 -0.2
baz=96
E17A Martinsdale 96.26 44 ⇑P P 22 46 45.2 +0.1
baz=96,SNR=6.4
F17A Fitzpatrick Pl 96.32 45 ⇓P P 22 46 46.1 +0.7
baz=96,SNR=14
YKA Yellowknife Ar 96.43 28 P P 22 46 44.4 -1.1
comp=Z,20nm,0.8s,mb5.6,baz=258,slow=4.6,SNR=226
YKA PP PP 22 50 33.4 -6.3
comp=Z,1.5nm,0.9s,baz=259,slow=8.0,SNR=4.9
YKA PKKPbc PKKPbc 23 03 29.0 -4.0
comp=Z,0.4nm,0.8s,baz=81,slow=2.8,SNR=5.3
YKA LR LR 23 29 56.8
comp=Z,31nm,18.4s,MS3.8,baz=45,slow=35
YKA Yellowknife Ar 96.43 28 P P 22 46 44.4 -1.1
YKA PP PP 22 50 33.4 -6.3
YKA PKKPbc PKKPbc 23 03 29.0 -4.0
YKA Yellowknife Ar 96.43 28 P P 22 46 44.4 -1.1
X20A Quemado 96.46 56 ⇑P P 22 46 46.0 -0.3
baz=96
D17A Six Diamond Ra 96.47 43 ⇓P P 22 46 46.0 0.0
baz=97,SNR=10
Y20A Horse Springs, 96.47 57 ⇑P P 22 46 45.1 -1.3
baz=97
C17A Wharram Farm, 96.48 43 ⇓P P 22 46 45.8 -0.3
baz=97,SNR=25
B17A L&G Farms, Che 96.54 42 ⇓P P 22 46 46.0 -0.4
baz=97,SNR=17
I18A Diamond G Ranc 96.63 47 ⇓P P 22 46 46.8 0.0
baz=97,SNR=7.1
KBL Kabul 96.67 304 *eP* **P 22 46 45.2 -2.0**
comp=Z,3.0nm,0.8s,mb4.8
KBL Kabul 96.67 304 *eP* **P 22 46 45.2 -2.0**
KBL pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
PD01 Pinedale Array 96.68 48 *eP* **P 22 46 46.6 -0.5**
A17A Triple J Farms 96.69 42 ⇓P P 22 46 46.5 -0.5
baz=97,SNR=7.6
PD02 Pinedale Array 96.69 48 *eP* **P 22 46 47.0 -0.2**
BW06 Boulder Array 96.70 48 ⇑P P 22 46 47.8 +0.6
baz=97
PDAR Pinedale Array 96.70 48 P P 22 46 47.5 +0.4
comp=Z,8.5nm,0.9s,mb5.2,baz=234,slow=1.6,SNR=47
PDAR LR LR 23 28 27.2
comp=Z,254nm,18.4s,MS4.7,baz=288,slow=34
PDAR Pinedale Array 96.70 48 P P 22 46 47.5 +0.4
E18A Harlowton 96.92 44 ⇑P P 22 46 48.7 +0.6
baz=97
F18A Big Timber 96.98 45 ⇓P P 22 46 48.7 +0.3
baz=97
GCMT Greycliff 97.00 45 *eP* **P 22 46 49.2 +0.8**
comp=Z,5.9nm,0.9s,mb5.0
Y21A Point of Rocks 97.07 57 ⇑P P 22 46 49.7 +0.6
baz=97
J19A Crowheart 97.13 47 ⇑P P 22 46 49.4 +0.3
baz=97
EGMT Eagleton 97.20 43 ⇓P P 22 46 49.1 -0.3
baz=97,SNR=9.0
EGMT Eagleton 97.20 43 *eP* **P 22 46 49.4 0.0**
comp=Z,32nm,1.0s,mb5.7
K19A Absolon Red Bu 97.22 48 ⇓P P 22 46 49.8 +0.2
baz=97
B18A Bearsley Farm 97.23 42 ⇓P P 22 46 49.7 +0.3
baz=97
A18A Metzger Ranch, 97.25 42 ⇓P P 22 46 49.4 -0.1
baz=97
H19A Powell 97.34 46 ⇑P P 22 46 50.6 +0.5
baz=97
U21A Nageezi 97.38 54 ⇓P P 22 46 50.7 +0.3
baz=98
S21A Coal Bank Pass 97.42 53 ⇓P P 22 46 50.9 +0.3
baz=98
F19A Roth Farm, Mol 97.50 45 ⇓P P 22 46 51.1 +0.3
baz=98
Z22A Elephant Butte 97.56 58 ⇑P P 22 46 51.7 +0.3
baz=98
C19A Slack Wire Ran 97.64 43 ⇑P P 22 46 52.2 +0.8
baz=98
E19A Rath Farm, Rou 97.68 44 ⇑P P 22 46 51.7 +0.2
baz=98
D19A Cripps Ranch, 97.69 44 ⇑P P 22 46 51.9 +0.3
baz=98
SNAA Sanae 97.80 185 *e* **P 22 46 51.3 -0.3**
SNAA Sanae 97.80 185 *eP* **P 22 46 50.3 -1.4**
comp=Z,5.8nm,1.0s,mb5.1
SNAA Sanae 97.80 185 *eP* **P 22 46 50.3 -1.3**
SNAA pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 97.87 322 PP PP 22 50 40.0 -11
comp=Z,2.1nm,1.0s,baz=98,slow=7.9,SNR=4.2
BVAR Borovoye Array 97.87 322 PP PP 22 50 40.0 -11
BRVK Borovoye 97.93 322 *deP* **P 22 46 50.4 -2.1**
BRVK pmax pmax
comp=Z,11nm,1.4s,mb5.2
BRVK Borovoye 97.93 322 P P 22 46 51.4 -1.1
comp=Z,32nm,1.2s,mb5.7,SNR=5.1
E20A Meyer Farm, Mu 98.14 44 ⇓P P 22 46 53.9 +0.3
baz=98
ANMO Albuquerque 98.17 56 P P 22 46 53.4 -0.7
comp=Z,2.3nm,1.0s,mb4.7,baz=236,slow=4.6,SNR=2.8
ANMO Albuquerque 98.17 56 P P 22 46 53.4 -0.7
ANMO Albuquerque 98.17 56 P P 22 46 53.4 -0.6
D20A Manuel Ranch, 98.19 44 ⇑P P 22 46 54.2 +0.4
baz=98
Y23A Lovelace Mesa, 98.39 57 ⇓P P 22 46 54.6 -0.4
baz=98
A21A Bergtoll Ranch 99.17 42 ⇓P P 22 46 58.2 0.0
baz=99
A22A Carney Farms, 99.83 42 ⇑P Pdif 22 47 00.9 -0.2
baz=100
TXAR Lajitas Array 99.94 62 PP PP 22 51 03.6 -3.9
comp=Z,0.9nm,0.9s,baz=240,slow=5.1,SNR=7.9
TXAR PKKPbc PKKPbc 23 03 20.4 -1.5
comp=Z,0.9nm,0.8s,baz=104,slow=4.4,SNR=7.8
TXAR LR LR 23 23 50.4
comp=Z,480nm,19.6s,MS5.0,baz=345,slow=30
TXAR Lajitas Array 99.94 62 PP PP 22 51 03.6 -3.9
TXAR PKKPbc PKKPbc 23 03 20.4 -1.5
Z26A Caprock 100.05 58 ⇑P Pdif 22 47 02.7 +0.7
baz=100
S25A Robets Cordova 100.07 53 ⇓P Pdif 22 47 03.3 +1.2
baz=100
E23A Ismay 100.08 44 ⇓P Pdif 22 47 02.9 +0.8
baz=100
D23A Lindsay 100.19 44 ⇓P Pdif 22 47 03.3 +0.7
baz=100
C23A Lambert 100.25 43 ⇑P Pdif 22 47 03.4 +0.6
baz=100
B23A Brockton 100.41 42 ⇓P Pdif 22 47 03.8 +0.2
baz=100
DGMT Dagmar 100.94 42 ⇓P Pdif 22 47 05.9 -0.1
baz=101
DGMT Dagmar 100.94 42 *e*Pdif Pdif 22 47 05.8 -0.2
comp=Z,8.3nm,0.7s
A24A Westby 101.09 42 ⇓P Pdif 22 47 06.8 +0.2
baz=101
FFC Flin Flon 102.45 36 *i P* Pdif 22 47 12.1 -0.6
APA Apatity 112.70 341 ⇓*i* PKIKP PKiKP 22 51 51.2 -1.5
APA *i* 22 58 28.0
APA MLR MLR
comp=Z,2μm,23.0s,MS5.5
FINES FINESS Array B 118.77 337 PKP PKPdf 22 52 02.8 -1.6
comp=Z,5.1nm,1.0s,baz=41,slow=7.4,SNR=4.4
FINES FINESS Array B 118.77 337 PKP PKPdf 22 52 02.9 -1.6
FINES FINESS Array B 118.77 337 PKIKP PKPdf 22 52 02.9 -1.6
ANN Anapa 120.14 316 *i* PKIKP PKPdf 22 52 04.5 -3.1
ANN pmax pmax
comp=Z,49nm,1.5s
BOSA Boshof 122.16 227 PKP PKPdf 22 52 11.0 -1.1
comp=Z,4.2nm,0.7s,baz=23,slow=4.9,SNR=14
BOSA Boshof 122.16 227 PKP PKPdf 22 52 11.0 -1.1
BOSA Boshof 122.16 227 PKIKP PKPdf 22 52 11.0 -1.1
AKASG Malin Array Be 123.02 325 PKP PKPdf 22 52 11.0 -2.0
comp=Z,4.0nm,0.8s,baz=65,slow=1.8,SNR=7.5
AKASG PP PP 22 53 51.0 -1.1
comp=Z,0.3nm,0.3s,baz=55,slow=6.3,SNR=4.6
AKASG Malin Array Be 123.02 325 PKP PKPdf 22 52 11.0 -2.0
AKASG PP PP 22 53 51.0 -1.1
AKASG Malin Array Be 123.02 325 PKIKP PKPdf 22 52 11.0 -2.0
AKASG 22 53 51.1
KIEV Kiev 123.03 325 ⇓*i* PKIKP PKPdf 22 52 11.3 -1.7
NB2 NORSAR Subarra 124.17 342 PKPdf PKPdf 22 52 13.6 -1.3
comp=Z,5.0nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 124.17 342 PKP PKPdf 22 52 13.5 -1.4
comp=Z,5.4nm,0.9s,baz=38,slow=1.9,SNR=10
NOA NORSAR Array B 124.17 342 PKP PKPdf 22 52 13.5 -1.4
NOA NORSAR Array B 124.17 342 PKIKP PKPdf 22 52 13.5 -1.4
BRTR Keskin Array B 124.33 312 PKP PKPdf 22 52 14.1 -1.8
comp=Z,1.2nm,0.8s,baz=133,slow=2.3,SNR=6.6
BRTR Keskin Array B 124.33 312 PKP PKPdf 22 52 14.1 -1.8
BRTR Keskin Array B 124.33 312 PKIKP PKPdf 22 52 14.1 -1.8

LPAZ	La Paz	125.36 118	PKP	PKPdf	22 52 17.8	-0.7
	comp=Z,1.6nm,0.7s,baz=339,slow=1.2,SNR=11					
LPAZ	La Paz	125.36 118	*e*PKPdf	PKPdf	22 52 17.9	-0.6
LPAZ	La Paz	125.36 118	*e*PKIKP	PKPdf	22 52 17.9	-0.6
KOLS	Kolonicke sedl	127.79 326	*e*PKIKP	PKPdf	22 52 22.7	+0.5
UZH	Uzhgorod	127.94 326	*e*PKIKP	PKPdf	22 52 29.5	+7.0
CRVS	Cervenica-Dubn	128.25 326	*e*PKIKP	PKPdf	22 52 23.1	0.0
CPUP	Villa Florida	128.58 135	PKP	PKPdf	22 52 22.6	-1.9
	comp=Z,4.9nm,0.8s,baz=265,slow=2.5,SNR=16					
CPUP	Villa Florida	128.58 135	PKP	PKPdf	22 52 22.6	-1.9
CPUP	Villa Florida	128.58 135	PKIKP	PKPdf	22 52 22.6	-1.8
SDV	Santo Domingo	129.68 87	*e*PKPdf	PKPdf	22 52 25.4	-1.4
VYHS	Vyhne	129.90 327	*e*PKIKP	PKPdf	22 52 26.2	0.0
BRG	Berggiesshubel	130.77 332	*e*PKIKP	PKPdf	22 52 28.0	+0.2
BRG					22 54 43.4	
BRG			pmax	pmax		
	comp=Z,14nm,1.7s					
BRG			pmax	pmax		
	comp=N,12nm,1.5s					
SIV	San Ignacio	131.53 122	PKP	PKPdf	22 52 28.2	-2.1
	comp=N,3.2nm,1.0s,baz=226,slow=2.9,SNR=6.5					
SIV	San Ignacio	131.53 122	PKP	PKPdf	22 52 28.2	-2.1
KHC	Kasperske Hory	132.14 331	*e*PKIKP	PKPdf	22 52 29.5	-0.9
KHC	Kasperske Hory	132.14 331	*e*PKPDF	PKPdf	22 52 29.5	-0.9
GERES	GERESS Array B	132.28 331	PKP	PKPdf	22 52 29.6	-1.1
	comp=N,1.8nm,0.8s,baz=48,slow=2.0,SNR=11					
GERES	GERESS Array B	132.28 331	PKP	PKPdf	22 52 29.6	-1.1
GERES	GERESS Array B	132.28 331	PKIKP	PKPdf	22 52 29.6	-1.1
GIVF	Givet	135.15 338	*e*PKIKP	PKPdf	22 52 34.8	-1.3
	comp=N,84nm,1.4s					
GIVF	Givet	135.15 338	*e*PKPdf	PKPdf	22 52 34.8	-1.3
GIVF	Givet	135.15 338	*e*PKIKP	PKPdf	22 52 34.8	-1.3
CDF	Champ du Feu	135.51 335	*e*PKIKP	PKPdf	22 52 35.2	-1.6
	comp=N,13nm,1.1s					
CDF	Champ du Feu	135.51 335	*e*PKPdf	PKPdf	22 52 35.2	-1.6
CDF	Champ du Feu	135.51 335	*e*PKIKP	PKPdf	22 52 35.2	-1.6
TUE	Stuetta	136.04 331	*e*PKPdf	PKPdf	22 52 36.2	-1.7
HINF	Hinteralfeld	136.16 334	*e*PKIKP	PKPdf	22 52 36.4	-1.6
	comp=N,13nm,1.1s					
HINF	Hinteralfeld	136.16 334	*e*PKPdf	PKPdf	22 52 36.4	-1.6
HINF	Hinteralfeld	136.16 334	*e*PKIKP	PKPdf	22 52 36.4	-1.6
HAU	Haudompre	136.22 335	*e*PKIKP	PKPdf	22 52 36.5	-1.6
	comp=N,11nm,0.9s					
HAU			*e*R			
	comp=N,602nm,18.8s					
HAU	Haudompre	136.22 335	*e*PKPdf	PKPdf	22 52 36.5	-1.6
HAU	Haudompre	136.22 335	*e*PKIKP	PKPdf	22 52 36.5	-1.6
MEZF	Maizieres J'vi	136.36 336	*e*PKIKP	PKPdf	22 52 36.5	-1.9
	comp=N,76nm,1.4s					
MEZF	Maizieres J'vi	136.36 336	*e*PKPdf	PKPdf	22 52 36.5	-1.9
SFTF	Sexfontaines	136.60 336	*e*PKIKP	PKPdf	22 52 37.5	-1.3
	comp=N,16nm,0.9s					
SFTF	Sexfontaines	136.60 336	*e*PKPdf	PKPdf	22 52 37.5	-1.3
CABF	La Chapelle	137.42 334	*e*PKIKP	PKPdf	22 52 39.4	-1.0
	comp=N,29nm,1.2s					
CABF	La Chapelle	137.42 334	*e*PKPdf	PKPdf	22 52 39.4	-1.0
CABF	La Chapelle	137.42 334	*e*PKIKP	PKPdf	22 52 39.4	-1.0
LOR	Lormes	137.83 336	*e*PKIKP	PKPdf	22 52 39.7	-1.4
LOR			*e*R			
	comp=N,630nm,18.0s					
LOR	Lormes	137.83 336	*e*PKPdf	PKPdf	22 52 39.7	-1.4
LOR	Lormes	137.83 336	*e*PKIKP	PKPdf	22 52 39.7	-1.4
SSF	Saint Saulge	138.13 336	*e*PKIKP	PKPdf	22 52 40.4	-1.3
SSF	Saint Saulge	138.13 336	*e*PKPdf	PKPdf	22 52 40.4	-1.3
SSF	Saint Saulge	138.13 336	*e*PKIKP	PKPdf	22 52 40.4	-1.3
AVF	Avril sur Loir	138.42 336	*e*PKIKP	PKPdf	22 52 40.2	-2.0
AVF	Avril sur Loir	138.42 336	*e*PKPdf	PKPdf	22 52 40.2	-2.0
AVF	Avril sur Loir	138.42 336	*e*PKIKP	PKPdf	22 52 40.2	-2.0
GRR	Gorron	138.57 341	*e*PKIKP	PKPdf	22 52 41.8	-0.7
GRR	Gorron	138.57 341	*e*PKPdf	PKPdf	22 52 41.8	-0.7
GRR	Gorron	138.57 341	*e*PKIKP	PKPdf	22 52 41.8	-0.7
BGF	Bois d'Agland	138.81 336	*e*PKIKP	PKPdf	22 52 41.7	-1.3
	comp=N,38nm,1.2s					
BGF	Bois d'Agland	138.81 336	*e*PKPdf	PKPdf	22 52 41.7	-1.3
BGF	Bois d'Agland	138.81 336	*e*PKIKP	PKPdf	22 52 41.7	-1.3
ORIF	Oris-en-Rattie	138.82 332	*e*PKIKP	PKPdf	22 52 41.7	-1.3
	comp=N,23nm,1.1s					
ORIF			*e*R			
	comp=N,560nm,21.2s					
ORIF	Oris-en-Rattie	138.82 332	*e*PKPdf	PKPdf	22 52 41.7	-1.3
ORIF	Oris-en-Rattie	138.82 332	*e*PKIKP	PKPdf	22 52 41.7	-1.3
TCF	Toulx Ste Croi	139.28 337	*e*PKIKP	PKPdf	22 52 42.5	-1.3
	comp=N,28nm,1.3s					
TCF	Toulx Ste Croi	139.28 337	*e*PKPdf	PKPdf	22 52 42.5	-1.3
TCF	Toulx Ste Croi	139.28 337	*e*PKIKP	PKPdf	22 52 42.5	-1.3
MFF	Saint Martin d	139.89 339	*e*PKIKP	PKPdf	22 52 43.5	-1.4
	comp=N,31nm,1.2s					
MFF	Saint Martin d	139.89 339	*e*PKPdf	PKPdf	22 52 43.5	-1.4
MFF	Saint Martin d	139.89 339	*e*PKIKP	PKPdf	22 52 43.5	-1.4
RJF	Les Rejaudoux	140.37 337	*e*PKIKP	PKPdf	22 52 44.5	-1.3
RJF			*e*R			
	comp=N,784nm,22.2s					
RJF	Les Rejaudoux	140.37 337	*e*PKPdf	PKPdf	22 52 44.5	-1.3
RJF	Les Rejaudoux	140.37 337	*e*PKIKP	PKPdf	22 52 44.5	-1.3
CAF	Calviac	140.46 336	*e*PKIKP	PKPdf	22 52 43.8	-2.2
	comp=N,26nm,1.3s					
CAF	Calviac	140.46 336	*e*PKPdf	PKPdf	22 52 43.8	-2.2
CAF	Calviac	140.46 336	*e*PKIKP	PKPdf	22 52 43.8	-2.2
LFF	La Frestale	140.97 337	*e*PKIKP	PKPdf	22 52 45.7	-1.2
	comp=N,26nm,1.1s					
LFF	La Frestale	140.97 337	*e*PKPdf	PKPdf	22 52 45.7	-1.2
LFF	La Frestale	140.97 337	*e*PKIKP	PKPdf	22 52 45.7	-1.2
EPF	Esparros	142.73 336	*e*PKIKP	PKPdf	22 52 48.9	-1.2
	comp=N,23nm,1.1s					
EPF	Esparros	142.73 336	*e*PKPdf	PKPdf	22 52 48.9	-1.2
EPF	Esparros	142.73 336	*e*PKIKP	PKPdf	22 52 48.9	-1.2
ETSF	Etsaut	143.20 336	*e*PKIKP	PKPdf	22 52 48.2	-2.8
	comp=N,18nm,0.8s					
ETSF	Etsaut	143.20 336	*e*PKPdf	PKPdf	22 52 48.2	-2.8
ETSF	Etsaut	143.20 336	*e*PKIKP	PKPdf	22 52 48.2	-2.8
PBRG	Braganca	146.31 343	*e*PKP	PKPdf	22 52 57.0	+0.6
PGAV	Gavieira, Arco	146.59 345	*e*PKP	PKPdf	22 52 58.1	+1.2
MVO	Moncorvo	146.98 342	*e*PKP	PKPdf	22 52 59.2	+1.6
POLO	Lamas de Olo	147.01 344	*e*PKP	PKPdf	22 52 59.5	+1.9
PVRL	Vila Real	147.08 343	*e*PKP	PKPdf	22 52 59.6	+1.9
ESDC	Sonseca Array	147.28 337	PKPbc	PKPbc	22 52 57.9	-2.5
	comp=N,9.1nm,1.0s,baz=24,slow=2.6,SNR=36					
ESDC			PP	PP	22 56 24.9	0.0
	comp=N,0.8nm,0.8s,baz=22,slow=5.8,SNR=4.6					
ESDC	Sonseca Array	147.28 337	PKPbc	PKPbc	22 52 57.9	-2.5
ESDC			PP	PP	22 56 24.9	0.0
PAB	San Pablo	147.54 338	*e*PKPbc	PKPbc	22 53 00.8	-0.3
PAB	San Pablo	147.54 338	*e*PKP2	PKPbc	22 53 00.8	-0.3
PVIS	Viseu	147.65 343	*e*PKP	PKPbc	22 53 01.1	-0.3
CART	Castagena	147.78 332	*e*PKPdf	PKPdf	22 52 59.6	+0.6
MTE	Manteigas	147.84 343	*e*PKP	PKPbc	22 53 01.8	-0.1
MTE	Manteigas	147.84 343	*e*PKPbc	PKPbc	22 53 02.0	0.0
PCBR	Castelo Branco	148.33 342	*e*PKP	PKPbc	22 53 02.4	-0.9
PMRV	Marv??o	148.68 342	*e*PKP	PKPbc	22 53 03.6	-0.6
PTOM	Tomar	148.81 343	*e*PKP	PKPbc	22 53 04.2	-0.3
PESTR	Estremoz	149.26 341	*e*PKP	PKPbc	22 53 04.9	-0.8
PMTG	Montargil	149.27 343	*e*PKP	PKPbc	22 53 04.9	-0.8
EVO	Evora	149.70 342	*e*PKIKP	PKPbc	22 53 06.2	-0.5
	comp=N,72nm,1.1s					
EVO			*e*R			
	comp=N,508nm,18.2s					
EVO	Evora	149.70 342	*e*PKP	PKPbc	22 53 06.3	-0.4
PBAR	Barrancos	149.71 340	*e*PKP	PKPbc	22 53 06.3	-0.5
EVOP	Sao Brissos	149.74 342	*e*PKPdf	PKPbc	22 53 06.2	-0.6
EVOP	Sao Brissos	149.74 342	*e*PKP2	PKPbc	22 53 06.2	-0.6
PBEJ	Beja	150.11 341	*e*PKP	PKPbc	22 53 07.5	-0.3
PNCL	Nicolau / Gran	150.24 342	*e*PKP	PKPbc	22 53 07.6	-0.5
PCVE	Castro Verde	150.53 341	*e*PKP	PKPbc	22 53 08.6	-0.2
PVAQ	Vaqueiros	150.63 340	*e*PKP	PKPbc	22 53 08.8	-0.2
PTEO	Sao Teotonio	150.82 342	*e*PKP	PKPbc	22 53 09.9	+0.4
PBDV	Barranco-do-Ve	150.85 341	*e*PKP	PKPbc	22 53 10.2	+0.6
MORF	Marmelete	151.02 342	*e*PKP	PKPbc	22 53 10.1	+0.1
PFVI	Vila Bisbo	151.23 342	*e*PKP	PKPbc	22 53 10.6	+0.1
TAM	Tamanrasset	152.78 301	*e*PKPdf	PKPdf	22 53 07.3	0.0
TAM			*e*PKPbc	PKPbc	22 53 14.5	+0.1
TAM	Tamanrasset	152.78 301	*e*PKIKP	PKPdf	22 53 07.3	+0.1
TAM			*e*		22 53 14.5	
TORD	Torodi Ar. Bea	158.90 281	PKP	PKPdf	22 53 13.8	-1.7
	comp=N,1.5nm,0.8s,baz=50,slow=1.1,SNR=8.5					
TORD			PKPab	PKPab	22 53 51.1	-0.7
	comp=N,19nm,1.0s,baz=73,slow=4.0,SNR=27					
TORD	Torodi Ar. Bea	158.90 281	PKP	PKPdf	22 53 13.8	-1.7
TORD			PKPab	PKPab	22 53 51.1	-0.7
DBIC	Dimbokro	165.05 259	PKP	PKPdf	22 53 19.9	-2.0
	comp=N,2.8nm,0.9s,baz=167,slow=5.1,SNR=4.1					
DBIC			PKPab	PKPab	22 54 18.4	-0.3
	comp=N,24nm,0.9s,baz=88,slow=4.4,SNR=24					
DBIC			PP	PP	22 58 02.5	-3.2
	comp=N,4.8nm,1.1s,baz=108,slow=7.3,SNR=3.9					
DBIC	Dimbokro	165.05 259	PKP	PKPdf	22 53 19.9	-2.0
DBIC			PKPab	PKPab	22 54 18.4	-0.3
DBIC			PP	PP	22 58 02.5	-3.1
DBIC	Dimbokro	165.05 259	PKIKP	PKPdf	22 53 19.9	-2.0
DBIC					22 54 18.5	
DBIC					22 58 02.5	
LIC	Lamto	165.11 257	*e*PKIKP	PKPdf	22 53 20.3	-1.7
	comp=N,9.5nm,0.8s					
LIC			*e*R			
	comp=N,405nm,22.5s					
LIC	Lamto	165.11 257	*e*PKPdf	PKPdf	22 53 20.3	-1.7

*ISCJB **19** 22:55:18.1±0.6, 31°.66S±0°.08×49°.5W±0°.1, h10km, mb3.9/10, Error ellipse: s-maj=12.7km s-min=10.9km az=151.3*
*IDC **19** 22:55:18.4±0.7, 31°.77S×49°.59W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, ML4.8/2, MS3.1/3, Ms1 3.1/3, ms1mx3.0/25, Error ellipse: s-maj=22.0km s-min=18.0km az=61.0*
*NEIC **19** 22:55:19.8±0.5, 31°.67S×49°.55W, h10km, mb4.0/5, Error ellipse: s-maj=12.7km s-min=10.5km az=61.0*

ISC 19 22:55:20.0±0.5, 31°.66S±0°.07×49°.58W±0°.09, h10km, n41, σ1°.904/35, mb3.9/10, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPB	Sao Paulo	8.26	14	Pn	Pn	22 57 18.4	-1.5
CPUP	Villa Florida	8.61	306	Pn	Pn	22 57 23.4	-1.4
	11nm,0.3s,baz=120,slow=13,SNR=42						
CPUP				Sn	Sn	22 58 54.6	-7.4
	16nm,0.3s,baz=123,slow=18,SNR=5.5						
CPUP				Lg		22 59 48.6	
	15nm,0.3s,baz=207,slow=11,SNR=3.8						
CPUP	Villa Florida	8.61	306	*e*Pn	Pn	22 57 23.2	-1.5
CPUP				*e*Sn	Sn	22 58 54.0	-7.9
CPUP				Lg		22 59 48.6	
CPUP				*e*Sg	Sn	22 59 57.4	+55
TRQA	Tornquist	12.02	235	*e*Pn	Pn	22 58 06.9	-4.5
TRQA				*e*		22 58 23.3	
TRQA				*e*Sn	Sn	23 00 11.3	-14
CFAA	Coronel Fontan	15.90	265	Sn	Sn	23 02 16.8	+17
	0.0nm,0.3s,baz=262,slow=15,SNR=2.7						
CFAA				Lg		23 03 33.5	
	0.1nm,0.3s,baz=21,slow=20,SNR=3.8						
CFAA				LR	LR	23 05 21.9	
	comp=Z,16nm,19.2s,baz=94,slow=38						
CFAA	Coronel Fontan	15.90	265	Sn	Sn	23 02 16.8	+17
CFAA				Lg		23 03 33.5	
SIV	San Ignacio	18.78	323	P	Pn	22 59 41.8	+1.8
	0.2nm,0.3s,baz=168,slow=14,SNR=9.4						
SIV				S	Sn	23 03 20.8	+11
	0.1nm,0.3s,baz=249,slow=18,SNR=2.3						
SIV				Lg		23 05 11.0	
	0.1nm,0.3s,baz=112,slow=19,SNR=5.1						
SIV	San Ignacio	18.78	323	P	Pn	22 59 41.8	+1.8
SIV				S	Sn	23 03 20.8	+11
SIV				Lg		23 05 11.0	
PLCA	Paso Flores	19.16	236	P	Pn	22 59 45.6	+1.2
	0.3nm,0.3s,baz=64,slow=12,SNR=6.6						
PLCA				Lg		23 05 25.3	
	0.1nm,0.3s,baz=310,slow=13,SNR=3.1						
PLCA				LR	LR	23 07 24.7	
	comp=Z,125nm,19.4s,baz=359,slow=38						
PLCA	Paso Flores	19.16	236	*e*P	Pn	22 59 44.8	+0.4
	6.4nm,0.9s						
PLCA				Lg		23 05 25.3	
LVC	Limon Verde	19.40	293	*e*P	Pn	22 59 46.7	-0.7
	4.0nm,0.8s						
LPAZ	La Paz	22.78	308	P	P	23 00 23.5	+0.8
	6.4nm,0.7s,mb4.2,baz=138,slow=6.9,SNR=32						
LPAZ	La Paz	22.78	308	*e*P	P	23 00 22.9	+0.1
	8.9nm,0.8s,mb4.2						
SAML	Samuel	25.89	328	*e*P	P	23 00 51.3	-0.9
	2.8nm,0.7s,mb3.9						
USHA	Ushuaia	26.76	205	P	P	23 00 59.6	-0.1
	4.1nm,0.6s,mb4.1,baz=28,slow=9.9,SNR=3.9						
USHA	Ushuaia	26.76	205	P	P	23 00 59.6	-0.1
RCBR	Riachuelo	28.71	29	LR	LR	23 13 31.8	
	comp=Z,88nm,21.0s,baz=196,slow=38						
SNAA	Sanae	47.13	162	P	P	23 03 51.5	-0.4
	0.2nm,0.5s,mb3.3,baz=274,slow=12,SNR=11						
SNAA	Sanae	47.13	162	*e*P	P	23 03 50.6	-1.3
SNAA				*e*		23 04 00.6	
DBIC	Dimbokro	57.21	56	P	P	23 05 08.2	+0.6
	2.2nm,1.0s,mb4.2,baz=225,slow=7.1,SNR=2.7						
DBIC	Dimbokro	57.21	56	P	P	23 05 08.4	+0.8
	2.1nm,0.9s,mb4.2						
QSPA	South Pole Qui	58.59	180	P	P	23 05 16.3	-0.1
	0.9nm,0.3s,mb4.2,baz=233,slow=1.9,SNR=3.5						
QSPA	South Pole Qui	58.59	180	P	P	23 05 16.3	-0.1
BOSA	Boshof	63.58	109	P	P	23 05 50.0	-1.1
	4.1nm,1.2s,mb4.3,baz=240,slow=10,SNR=4.0						
BOSA	Boshof	63.58	109	P	P	23 05 50.0	-1.1
TORD	Torodi Ar. Bea	66.32	56	P	P	23 06 09.6	+0.6
	1.0nm,0.7s,mb4.0,baz=254,slow=7.6,SNR=7.9						
TORD	Torodi Ar. Bea	66.32	56	P	P	23 06 09.6	+0.6
TXAR	Lajitas Array	79.50	314	P	P	23 07 27.9	+0.9
	0.4nm,0.7s,mb3.5,baz=137,slow=7.7,SNR=5.7						
TXAR	Lajitas Array	79.50	314	P	P	23 07 27.9	+0.9
ESDC	Sonseca Array	82.63	34	P	P	23 07 45.0	+1.6
	0.1nm,0.3s,mb3.4,baz=220,slow=6.0,SNR=4.1						
ESDC	Sonseca Array	82.63	34	P	P	23 07 45.0	+1.6
ASAR	Alice Springs	124.89	184	PKP	PKPdf	23 14 19.4	-1.4
	0.7nm,0.5s,baz=165,slow=1.7,SNR=12						
ASAR	Alice Springs	124.89	184	PKP	PKPdf	23 14 19.4	-1.4
WRA	Warramunga Arr	128.56	185	PKP	PKPdf	23 14 26.7	-1.2
	2.1nm,0.5s,baz=235,slow=4.4,SNR=12						
WRA	Warramunga Arr	128.56	185	PKP	PKPdf	23 14 26.7	-1.2
MKAR	Makanchi Array	140.40	53	PKhKP	PKPpre	23 14 44.3	
	0.6nm,0.9s,baz=346,slow=1.9,SNR=3.3						
MKAR	Makanchi Array	140.40	53	PKPpre	PKPpre	23 14 44.3	
ZALV	Zalesovo Beam	140.71	42	PKhKP	PKPpre	23 14 44.5	
	0.3nm,0.4s,baz=322,slow=1.7,SNR=2.7						
ZALV	Zalesovo Beam	140.71	42	PKPpre	PKPpre	23 14 44.5	
CMAR	Chiang Mai Arr	148.72	107	PKPbc	PKPbc	23 15 08.2	+0.1
	2.1nm,0.5s,baz=235,slow=4.4,SNR=12						
CMAR	Chiang Mai Arr	148.72	107	PKPbc	PKPbc	23 15 08.2	+0.1

GUC 19 22:57:14.4±0.6, 32°.65S×72°.01W, h15km±6km, MD3.8, ML3.2, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.49	141	*e*P	Pg	22 57 23.8	-0.4
CHNG	Los Chungos	0.88	30	↓↓*e*P	Pb	22 57 30.0	-1.3
CHNG				*e*S	Sb	22 57 41.8	-1.0
PTCH	Petorca	0.99	68	↑↑*e*P	Pb	22 57 32.2	-1.1
PTCH				*e*S	Sb	22 57 45.9	-0.3
JACH	Jahuel	1.20	92	*e*P	Pn	22 57 35.1	-1.5
JACH				*i* S	Sb	22 57 51.3	-0.8
PEL	Peldehue	1.22	114	↑↑*i*P	Pn	22 57 36.1	-0.9
PEL				*e*S	Sb	22 57 52.0	-0.8
PEL				AML	AML	22 57 56.4	
	comp=N,1μm,0.5s						
RCDM	Rinconada Maip	1.32	130	*e*P	Pn	22 57 37.4	-0.8
RCDM				*e*S	Sb	22 57 54.0	-1.6
SAN	Santiago	1.39	126	*e*P	Pn	22 57 38.4	-0.9
SAN				*e*S	Sn	22 57 57.3	-0.1
LNV	Longovilo	1.40	159	*e*P	Pn	22 57 37.7	-1.7
CLCH	Cerro Calan	1.45	122	AML	AML	22 58 07.3	
	comp=N,457nm,0.6s						
ANTU	Antumapu	1.48	129	*e*P	Pn	22 57 40.5	+0.1
PCH	Pirque	1.59	128	*e*P	Pn	22 57 41.4	-0.6
PCH				*i* S	Sn	22 58 02.6	+0.3
CHCH	Chadas Angostu	1.72	139	*e*P	Pn	22 57 43.8	0.0
CACH	El Canelo	1.89	142	*e*P	Pn	22 57 47.4	+1.3
CACH				*i* S	Sn	22 58 12.1	+2.5
TLL	Tololo Astrono	2.68	23	*e*P	Pn	22 57 57.4	+0.5
TLL				AML	AML	22 58 39.2	
	comp=E,76nm,0.5s						

GUC 19 23:13:47.4±0.6, 32°.46S×72°.15W, h32km±2km, MD4.0, ML3.5, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.71	143	*e*P	Pn	23 14 00.6	-0.5
IHA				*e*S	Sb	23 14 10.7	-0.1
CHNG	Los Chungos	0.80	44	*i* P	Pn	23 14 02.0	-0.3
CHNG				↓↓*i*P		23 14 02.0	
CHNG				*i* S	Sn	23 14 13.3	+0.2
PTCH	Petorca	1.05	80	*e*P	Pn	23 14 06.0	+0.2
PTCH				*e*S	Sn	23 14 20.5	+1.1
PTCH				AML	AML	23 14 23.0	
	comp=N,2μm,0.1s						
ROCH	El Roble	1.09	118	↓↓*e*P	Pn	23 14 06.7	+0.4
ROCH				*e*S	Sn	23 14 22.0	+1.7
ROCH				AML	AML	23 14 24.5	
	comp=N,2μm,0.3s						
JACH	Jahuel	1.33	100	*e*P	Pn	23 14 10.4	+0.7
JACH				*i* S	Sn	23 14 28.0	+1.7
PEL	Peldehue	1.41	119	*e*P	Pn	23 14 11.8	+1.0
PEL				*e*S	Sn	23 14 30.7	+2.5
PEL				AML	AML	23 14 38.0	
	comp=E,2μm,0.4s						
RCDM	Rinconada Maip	1.52	133	*e*P	Pn	23 14 14.1	+1.7
RCDM				*e*S	Sn	23 14 34.1	+3.0
TACH	Talagante	1.56	140	*e*P	Pn	23 14 14.3	+1.3
SAN	Santiago	1.59	129	*e*P	Pn	23 14 14.9	+1.5
SAN				*e*S	Sn	23 14 35.7	+2.9
LNV	Longovilo	1.61	158	*e*P	Pn	23 14 14.1	+0.5
CLCH	Cerro Calan	1.65	125	*e*P	Pn	23 14 15.7	+1.6
CLCH				*e*S	Sn	23 14 37.3	+3.3
CLCH				AML	AML	23 14 49.4	
	comp=E,1μm,0.5s						
ANTU	Antumapu	1.69	131	*e*P	Pn	23 14 16.1	+1.5
ANTU				*e*S	Sn	23 14 38.5	+3.4
ANTU				AML	AML	23 14 42.2	
	comp=N,650nm,0.8s						
FCH	Farellones	1.79	119	↑↑*e*P	Pn	23 14 16.4	+0.5
FCH				*e*S	Sn	23 14 39.5	+1.9
FCH				AML	AML	23 14 42.0	
	comp=N,621nm,0.3s						
PCH	Pirque	1.80	131	*e*P	Pn	23 14 17.9	+1.8
PCH				*e*S	Sn	23 14 40.5	+2.7
CHCH	Chadas Angostu	1.93	140	*e*P	Pn	23 14 19.3	+1.3
CACH	El Canelo	2.10	142	*e*P	Pn	23 14 22.9	+2.6
LMEL	Las Melosas	2.14	131	*e*P	Pn	23 14 23.0	+2.2
TLL	Tololo Astrono	2.56	27	*e*P	Pn	23 14 27.7	+1.1
TLL				AML	AML	23 15 13.8	
	comp=E,309nm,0.9s						

JMA 19 23:30:47.5±0.6, 45°.90N×144°.76E, h364km, M3.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.63	164	P	Pn	23 31 44.7	-0.1
NEM2				*e*S	S	23 32 29.8	-1.2
JAK	Akkeshi	2.90	181	P	Pn	23 31 47.5	+0.4
JAK				*e*S	S	23 32 34.4	-0.7
JCH	Churui	3.44	197	P	Pn	23 31 51.5	-0.4
JCH				*e*S	S	23 32 41.3	-2.5
JOT	Ohata	5.26	212	*e*S	S	23 33 14.2	-3.7
JANG	Nango	6.01	204	*e*S	S	23 33 29.3	-3.9

*NIED **19** 23:43:00.36°.50N×142°.60E, h5km, Mw3.8 Best double couple: M0:6.54000×10^14 NP1:φ0=23.00000°, δ0.00000°, λ110.00000°. NP2:φ0=173.00000°, δ44.00000°, λ68.00000°.*
*IDC **19** 23:43:21.8±0.8, 36°.52N×142°.64E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.9/24, mbtmp3.8/15, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/35, Error ellipse: s-maj=20.8km s-min=18.3km az=107.0*
*ISCJB **19** 23:43:23.4±1.6, 36°.51N±0°.04×142°.51E±0°.05, h20km±12km, mb3.7/13, Error ellipse: s-maj=6.9km s-min=5.7km az=40.0*
*JMA **19** 23:43:23.5±0.3, 36°.50N×142°.57E, h37km, M3.7*

ISC 19 23:43:23.9±1.7, 36°.53N±0°.04×142°.46E±0°.05, h11km±11km, n34, σ0°.79/44, mb3.7/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.45	294	P	Pn	23 43 49.2	-0.8
JFK	Kawauchi	1.51	304	P	Pn	23 43 50.1	-0.8
JFK				*e*S	Sn	23 44 10.6	-0.1
JHO	Hitachi

KLSI		2.49	95	S		Sn	00 04 03.5 +3.0
CGJI	Cibinong	4.03	122	P		Pn	00 03 52.8 +0.4
CGJI				S		Sn	00 04 37.4 -1.0
PPI	Padang Panjang	4.41	335	P		Pn	00 03 59.0 +1.3
LEM	Lembang	5.83	114	P		Px	00 04 32.5
MNSI	Mandailing Nat	5.89	333	P		Pn	00 04 17.9 0.0
	0.4nm2µm33nm,0.6s						
CISI	Cisompet, Garu	6.32	119	P		Pn	00 04 24.0 +0.1
	0.7nm3µm88nm,0.6s						
MYKOM	Kota Tinggi	6.44	14	P		Pn	00 04 27.9 +2.4
	0.2nm35nm,0.8s						
XMIS	Christmas Isla	6.84	151	P		Pn	00 04 25.9 -5.1
	1.7nm202nm,1.0s						
UGM	Wanagama	8.91	113	P		Pn	00 04 59.3 0.0
	80nm,1.3s						
IPM	Ipoh	8.99	352	Pn		Pn	00 04 55.5 -5.0
TPTI		9.21	327	P		Pn	00 05 03.9 +0.4
	15nm,0.6s						
COCO	West Island	9.33	215	*e*Pn		Pn	00 05 02.7 -2.4
COCO				*e*Sn		Sn	00 06 48.6 0.0
PCJI	Pacitan	9.61	113	P		Pn	00 05 09.0 +0.1
	44nm,1.2s						
GMJI	Gumukmas	11.75	109	P		Pn	00 05 38.6 +0.4
	21nm,1.0s						
JAGI	Jajag, Banyuwa	12.47	109	P		Pn	00 05 47.3 -0.8
	31nm,1.2s						
KAPI	Kappang	17.46	92	LR		LR	00 13 42.7
	comp=Z,29nm,19.0s,baz=232,slow=38						
PCI	Palu	17.93	79	P		pP	00 07 11.4 +0.4
KDI	Kendari	20.33	89	P		P	00 07 31.6 +6.6
GTOI	Gorontalo	21.37	77	P		P	00 07 36.4 +0.2
CMAR	Chiang Mai Arr	23.03	352	P		P	00 07 52.7 -1.1
	2.6nm,0.8s,mb3.7,baz=184,slow=8.7,SNR=14						
CMAR	Chiang Mai Arr	23.03	352	P		P	00 07 52.7 -1.1
FITZ	Fitzroy Crossi	26.58	122	P		P	00 08 26.4 0.0
	3.6nm,0.5s,mb4.2,baz=314,slow=7.7,SNR=14						
FITZ	Fitzroy Crossi	26.58	122	*e*P		P	00 08 26.5 +0.1
	8.3nm,0.9s,mb4.3						
TAPN	Taplejung	34.63	337	*e*P		P	00 09 37.7 +0.5
	6.8nm,0.4s,mb4.9						
TAPN	Taplejung	34.63	337	*e*P		P	00 09 37.7 +0.5
	6.8nm,0.4s,mb4.9						
RAMN	Ramite	34.73	335	*e*P		P	00 09 38.8 +0.7
	5.4nm,0.3s,mb4.9						
RAMN	Ramite	34.73	335	*e*P		P	00 09 38.8 +0.7
	5.4nm,0.3s,mb5.0						
WRA	Warramunga Arr	34.82	119	P		P	00 09 38.9 -0.2
	0.7nm,0.3s,mb4.1,baz=298,slow=9.1,SNR=41						
WRA	Warramunga Arr	34.82	119	P		P	00 09 38.9 -0.2
WB2	Warramunga Arr	34.83	119	*e*P		P	00 09 38.7 -0.4
WB2				*e*PP		PP	00 10 57.0 -2.0
JIRN	Jiri	35.52	335	*e*P		P	00 09 45.5 +0.6
	9.2nm,0.3s,mb5.1						
JIRN	Jiri	35.52	335	*e*P		P	00 09 45.5 +0.6
	9.2nm,0.3s,mb5.2						
GUN	Gumba	35.87	335	*e*P		P	00 09 48.5 +0.6
	18nm,0.4s,mb5.4						
GUN	Gumba	35.87	335	*e*P		P	00 09 48.5 +0.6
	18nm,0.4s,mb5.4						
ASAR	Alice Springs	35.99	125	P		P	00 09 49.0 0.0
	1.5nm,0.5s,mb4.2,baz=295,slow=7.9,SNR=18						
ASAR	Alice Springs	35.99	125	P		P	00 09 49.0 0.0
AS31	Alice Springs	35.99	125	*e*P		P	00 09 49.0 -0.1
AS31				*e*			00 09 57.2
KKN	Kakani	36.02	334	*e*P		P	00 09 49.2 0.0
KKN	Kakani	36.02	334	*e*P		P	00 09 49.2 0.0
GKN	Gorkha	36.49	333	*e*P		P	00 09 53.7 +0.5
	6.8nm,0.3s,mb5.1						
GKN	Gorkha	36.49	333	*e*P		P	00 09 53.7 +0.5
	6.8nm,0.3s,mb5.1						
KOLN	Koldanda	36.77	332	*e*P		P	00 09 56.4 +0.8
KOLN	Koldanda	36.77	332	*e*P		P	00 09 56.4 +0.8
DANN	Dangsing	37.19	332	*e*P		P	00 09 59.5 +0.4
	14nm,0.4s,mb5.1						
DANN	Dangsing	37.19	332	*e*P		P	00 09 59.5 +0.4
	14nm,0.4s,mb5.1						
STKA	Stephens Creek	45.83	131	P		P	00 11 10.8 +0.9
	2.1nm,0.5s,mb4.3,baz=309,slow=8.7,SNR=8.7						
STKA	Stephens Creek	45.83	131	*e*P		P	00 11 10.4 +0.4
	0.6nm,0.4s,mb3.9						
SONM	Songino Array	52.23	4	P		P	00 11 57.6 -0.9
	3.1nm,0.7s,mb4.3,baz=174,slow=7.1,SNR=7.0						
SONM	Songino Array	52.23	4	P		P	00 11 57.6 -0.9
TKM2	Tokmak 2	53.00	336	*e*P		P	00 12 04.4 +0.1
	2.3nm,0.4s,mb4.5						
EKS2	Erkin-Say	53.56	334	*e*P		P	00 12 08.4 -0.1
	3.0nm,0.6s,mb4.4						
MK31	Makanchi Array	54.03	343	*e*P		P	00 12 11.0 -0.8
MKAR	Makanchi Array	54.03	343	P		P	00 12 10.9 -0.9
	2.2nm,0.6s,mb4.3,baz=151,slow=8.6,SNR=36						
MKAR	Makanchi Array	54.03	343	P		P	00 12 10.9 -0.9
KURK	Kurchatov	58.62	343	*e*P		P	00 12 43.9 -0.6
	4.1nm,0.8s,mb4.5						
ZAA0	Zalesovo Array	60.03	348	*e*P		P	00 12 52.4 -1.7
ZALV	Zalesovo Beam	60.03	348	P		P	00 12 52.9 -1.2
	2.6nm,0.4s,mb4.6,baz=158,slow=6.3,SNR=23						
ZALV	Zalesovo Beam	60.03	348	P		P	00 12 52.9 -1.1
ABKAR	Akbulak array	64.89	331	*e*P		P	00 13 25.4 -1.3
	2.8nm,0.5s,mb4.5						
LBTB	Lobatse	76.02	245	P		P	00 14 36.6 +1.6
	1.6nm,0.7s,mb4.1,baz=108,slow=3.2,SNR=2.8						
LBTB	Lobatse	76.02	245	*e*P		P	00 14 37.1 +2.0
BOSA	Boshof	76.44	242	P		P	00 14 38.9 +1.4
	1.1nm,0.6s,mb3.9,baz=81,slow=5.6,SNR=4.3						
BOSA	Boshof	76.44	242	*e*P		P	00 14 39.4 +2.0
BRTR	Keskin Array B	76.64	312	P		P	00 14 38.3 0.0
	0.7nm,0.8s,mb3.6,baz=124,slow=4.4,SNR=4.7						
BRTR	Keskin Array B	76.64	312	P		P	00 14 38.3 0.0
TXAR	Lajitas Array	145.18	42	PKPbc		PKPbc	00 22 25.3 +0.4
	0.7nm,0.5s,baz=252,slow=1.7,SNR=9.5						

ISCJB ***20*** *00:06:50.2±0.3, 71°.01N±0°.03×7°.06W±0°.06, h10km, mb4.0/27, MS3.4/3, Error ellipse: s-maj=4.5km s-min=2.8km az=171.3*

NAO ***20*** *00:06:50.6±1.3, 70°.96N×6°.92W, ML3.0*

SZGRF ***20*** *00:06:50.3, 70°.75N×9°.57W, h33km, mb4.4, MS3.6, Jan Mayen Island region*

CSEM ***20*** *00:06:51.4±0.1, 70°.90N×7°.04W, h2km, mb4.3/14, Error ellipse: s-maj=4.8km s-min=3.6km az=173.0*

BER ***20*** *00:06:52.7±3.4, 70°.83N×7°.18W, h10km, MD2.9, ML3.5, ML3.0(NAO)*

IDC ***20*** *00:06:52.8±0.7, 70°.82N×6°.93W, h0km, mb3.7/11, mb1 4.0/14, mb1mx3.9/29, mbtmp3.9/14, ML3.6/2, MS3.5/3, Ms1 3.6/3, ms1mx3.1/33, Error ellipse: s-maj=25.4km s-min=13.3km az=50.0*

NEIC ***20*** *00:06:54.0±0.4, 70°.90N×6°.51W, h10km, mb4.4/3, Error ellipse: s-maj=9.0km s-min=5.7km az=88.0*

REY ***20*** *00:06:57.1, 70°.26N×7°.21W, h10km, ML4.1, ML3.4*

ISC 20 00:06:52.5±0.2, 70°.95N±0°.03×7°.15W±0°.06, h10km, n228, σ1§26/248, mb4.0/27, MS3.4/3, 1C-5D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	Jan Mayen East	0.38	277	‖*iP*	Pg	00 07 00.2	+0.2
JNE	Jan Mayen East	0.38	277	‖*iP*	Pg	00 07 00.2	+0.3
	SNR=103						
JNW	Jan Mayen West	0.43	281	‖*iP*	Pg	00 07 00.8	0.0
JNW	Jan Mayen West	0.43	281	‖*iP*	Pg	00 07 00.8	0.0
	SNR=101						
JMIC	Jan Mayen	0.45	275	Pg	Pg	00 07 01.1	0.0
JMIC				Lg		00 07 07.2	
JMIC	Jan Mayen	0.45	275	*e*P	Pg	00 07 01.0	-0.2
JMIC				*e*S	Sg	00 07 07.2	+0.1
JMIC				AML	AML	00 07 08.1	
	comp=Z,43µm,0.3s						
JMIC	Jan Mayen	0.45	275	Pn	Pg	00 07 00.7	-0.5
	comp=Z,2µm,0.3s,baz=150,slow=18,SNR=327						
JMIC				Sn	Sg	00 07 07.1	0.0
	comp=Z,13µm,0.3s,baz=135,slow=17,SNR=274						
JMIC	Jan Mayen	0.45	275	Pn	Pg	00 07 00.7	-0.5
JMIC				Sn	Sg	00 07 07.1	0.0
JMIC	Jan Mayen	0.45	275	Pn	Pg	00 07 00.7	-0.5
JMIC	Jan Mayen	0.45	275	Pg	Pg	00 07 01.1	-0.1
JMIC				*e*S	Sg	00 07 07.2	+0.1
	comp=Z,43µm,0.3s,SNR=101						
JMIC				Lg		00 07 07.2	
JMI	Jan Mayen	0.52	268	*e*P	Pg	00 07 02.6	0.0
JMI				AML	AML	00 07 12.2	
	comp=Z,23µm,0.4s						
JMI	Jan Mayen	0.52	268	*e*P	Pg	00 07 02.6	0.0
	SNR=100						

SCO	Scoresbysund	4.93	272	*i*P		Pb	00 08 15.9 -2.8
SCO				*e*S		Sb	00 09 16.7 -1.2
ILEI	Leirhofn	5.69	221	P		Pn	00 08 14.6 -2.3
IGRI	Grimsey	5.93	227	P		Pn	00 08 21.0 +0.9
IGIL	Gilhagi	5.94	219	P		Pn	00 08 18.4 -2.0
IHED	Heoinshofoi	6.14	222	P		Pn	00 08 21.1 -2.0
IFLA	Flatey	6.20	224	P		Pn	00 08 23.7 -0.2
IBRE	Brettingsstaoi	6.25	224	P		Pn	00 08 25.0 +0.5
IGRS	Grimsstaoir	6.28	216	P		Pn	00 08 24.1 -0.9
IGRA	Granastaoir	6.34	222	P		Pn	00 08 24.5 -1.3
IKVO	Krokottuvotn	6.37	219	P		Pn	00 08 25.7 -0.5
IREN	Reynihlio	6.43	219	P		Pn	00 08 26.1 -1.0
ISIG	Siglufjorour	6.47	227	P		Pn	00 08 29.4 +1.8
IHLA	Hella	6.50	225	P		Pn	00 08 29.1 +1.1
IGLU	Glumsstadir	6.69	210	P		Pn	00 08 29.6 -1.0
IADA	Aoalbol	6.74	212	P		Pn	00 08 30.0 -1.3
ISVA	Svartarkot	6.77	219	P		Pn	00 08 31.9 +0.1
IHVA	Hvannstoosfjol	6.85	213	P		Pn	00 08 31.4 -1.4
IMKO	Mokollar	6.92	214	P		Pn	00 08 32.9 -0.8
IVSH	V-Sauoahnukur	6.96	212	P		Pn	00 08 32.8 -1.5
IBRU	Bruarjokull	7.00	213	P		Pn	00 08 34.5 -0.4
IKRE	Kreppuhraun	7.10	214	P		Pn	00 08 35.2 -1.0
LOF	Lofoten	7.76	101	*e*Pn		Pn	00 08 35.8 -9.5
LOF				AML		AML	00 10 08.9
	comp=Z,11nm,0.8s						
STEI	Steigen	8.41	100	*e*Pn		Pn	00 08 52.7 -1.5
BJO	Bjornoya	8.55	53	*e*Pn		Pn	00 08 56.1 0.0
BJO	Bjornoya	8.55	53	*e*Pn		Pn	00 08 56.1 +0.1
	SNR=50						
STOK	Stokkvaagen	8.66	112	*e*Pn		Pn	00 08 56.3 -1.3
STOK				*e*Sn		Sn	00 10 26.2 -8.9
STOK				AML		AML	00 10 35.9
	comp=Z,23nm,0.5s						
FLOS	Flostrand	8.77	112	*e*Pn		Pn	00 08 58.0 -1.0
FLOS				AML		AML	00 10 35.5
	comp=Z,26nm,0.6s						
TRO	Tromso	8.87	86	*e*Pn		Pn	00 08 57.9 -2.6
TRO				*e*Sn		Sn	00 10 33.8 -6.5
TRO	Tromso	8.87	86	*e*Pn		Pn	00 08 57.9 -2.6
	SNR=50						
MOR8	Moi Rana	9.20	111	*e*Pn		Pn	00 09 04.4 -0.6
MOR8				AML		AML	00 10 49.2
	comp=Z,18nm,0.6s						
MOR8	Moi Rana	9.20	111	*e*Pn		Pn	00 09 04.4 -0.6
	SNR=50						
KBS	Kingsbay	9.35	23	Pn		Pn	00 09 05.9 -1.1
KBS				Sn		Sn	00 10 43.5 -8.4
KBS	Kingsbay	9.35	23	*e*Pn		Pn	00 09 06.1 -0.8
KBS				*e*Sn		Sn	00 10 45.5 -6.4
KBS				AML		AML	00 10 48.8
	comp=Z,10nm,0.4s						
KBS	Kingsbay	9.35	23	*e*Pn		Pn	00 09 06.3 -0.7
KBS	Kingsbay	9.35	23	*e*Pn		Pn	00 09 06.3 -0.6
SPB4	Spitsbergen Ar	9.48	30	*e*Pn		Pn	00 09 09.2 +0.4
SPB4				*e*Sn		Sn	00 10 49.8 -5.3
SPB4	Spitsbergen Ar	9.48	30	*e*Pn		Pn	00 09 09.2 +0.4
SPA0	Spitsbergen Ar	9.48	30	Pn		Pn	00 09 09.3 +0.5
	baz=224,slow=11						
SPA0				Sn		Sn	00 10 53.7 -1.5
	baz=220,slow=22						
SPA0	Spitsbergen Ar	9.48	30	Pn		Pn	00 09 09.3 +0.5
	baz=224,slow=11,SNR=50						
SPITS	Spitsbergen Ar	9.48	30	Pn		Pn	00 09 09.5 +0.7
	baz=207,slow=15,SNR=273						
SPITS				Sn		Sn	00 10 53.7 -1.5
	baz=217,slow=22,SNR=5.3						
SPITS	Spitsbergen Ar	9.48	30	Pn		Pn	00 09 09.5 +0.7
SPITS				Sn		Sn	00 10 53.7 -1.5
SPITS	Spitsbergen Ar	9.48	30	Pn		Pn	00 09 09.5 +0.7
NSS	Namsos	9.65	122	*e*Pn		Pn	00 09 09.5 -1.7
NSS				*e*Sn		Sn	00 10 48.8 -11
NSS				AML		AML	00 10 54.0
	comp=Z,28nm,0.5s						
NSS	Namsos	9.65	122	*e*Pn		Pn	00 09 09.5 -1.7
	SNR=50						
SUMG	Summit	9.87	294	*i*P		Pn	00 09 15.2 +1.0
HOPEN	Hopen	10.45	44	*e*Pn		Pn	00 09 23.2 +1.1
HOPEN	Hopen	10.45	44	*e*Pn		Pn	00 09 23.2 +1.2
	SNR=50						
KTK1	Kautokeino	10.53	86	*e*Pn		Pn	00 09 21.8 -1.3
KTK1	Kautokeino	10.53	86	*e*Pn		Pn	00 09 21.8 -1.3
	SNR=50						
FOO	Floro	10.57	147	*e*Pn		Pn	00 09 20.7 -3.0
FOO				*e*Sn		Sn	00 11 11.4 -10
FOO				AML		AML	00 11 16.5
	comp=Z,60nm,0.4s						
FOO	Floro	10.57	147	*e*Pn		Pn	00 09 20.7 -3.0
	SNR=50						
ARA0	ARCESS Array S	11.06	82	Pn		Pn	00 09 29.0 -1.3
	baz=286,slow=11						
ARA0	ARCESS Array S	11.06	82	Pn		Pn	00 09 29.0 -1.4
	baz=286,slow=11,SNR=50						
ARCES	ARCESS Array B	11.06	82	Pn		Pn	00 09 29.0 -1.3
	comp=Z,1.2nm,0.3s,baz=288,slow=12,SNR=57						
ARCES				Sn		Sn	00 11 33.9 +0.1
	comp=Z,0.0nm,0.3s,baz=283,slow=21,SNR=2.3						
ARCES	ARCESS Array B	11.06	82	Pn		Pn	00 09 29.0 -1.3
ARCES				Sn		Sn	00 11 34.0 +0.1
ARCES	ARCESS Array B	11.06	82	Pn		Pn	00 09 29.0 -1.4
ARCES				Sn		Sn	00 11 34.0 +0.2
ARE0	ARCESS Array S	11.06	82	*e*Pn		Pn	00 09 29.1 -1.2
ARE0	ARCESS Array S	11.06	82	*e*Pn		Pn	00 09 29.1 -1.3
HYA	Hoyanger	11.18	145	*e*Pn		Pn	00 09 30.5 -1.5
HYA				*e*Sn		Sn	00 11 29.6 -7.3
HYA	Hoyanger	11.18	145	*e*Pn		Pn	00 09 30.5 -1.5
	SNR=50						
KEV	Kevo	11.46	80	*e*Pn		Pn	00 09 31.0 -4.9
KEV	Kevo	11.46	80	*ep*		Pn	00 09 33.4 -2.5
	comp=Z,6.8nm,0.7s						
ASK	Askoy	11.63	148	*e*Pn		Pn	00 09 35.6 -2.7
NB2	NORSAR Subarra	12.37	134	Pn		Pn	00 09 46.9 -1.4
	baz=319,slow=16						
NB2	NORSAR Subarra	12.37	134	Pn		Pn	00 09 46.8 -1.5
	baz=319,slow=14,SNR=50						
NOA	NORSAR Array B	12.37	134	Pn		Pn	00 09 45.8 -2.5
	comp=Z,0.4nm,0.3s,baz=331,slow=13,SNR=4.2						
NOA	NORSAR Array B	12.37	134	Pn		Pn	00 09 45.8 -2.5
NOA	NORSAR Array B	12.37	134	Pn		Pn	00 09 45.8 -2.5
ODD1	Odda	12.43	146	*e*Pn		Pn	00 09 46.2 -2.9
ODD1				AML		AML	00 12 00.7
	comp=Z,8.6nm,0.5s						
ODD1	Odda	12.43	146	*e*Pn		Pn	00 09 46.2 -2.9
	SNR=50						
NAO01	NORSAR Array S	12.46	135	*e*Pn		Pn	00 09 46.1 -3.4
NAO01				*e*Sn		Sn	00 12 01.3 -6.9
KONO	Kongsberg	13.25	140	*e*Pn		Pn	00 09 57.9 -2.4
KONO	Kongsberg	13.25	140	*e*Pn		Pn	00 09 57.9 -2.5
HFS	Hagfors	13.76	132	Pn		Pn	00 10 05.5 -1.7
	baz=330,slow=10						
HFS	Hagfors	13.76	132	Pn		Pn	00 10 06.0 -1.3
	comp=Z,1.0nm,0.3s,baz=340,slow=12,SNR=29						
HFS	Hagfors	13.76	132	Pn		Pn	00 10 06.0 -1.3
HFS	Hagfors	13.76	132	Pn		Pn	00 10 05.9 -1.3
KAF	Kangasniemi	15.75	107	*ep*		Pn	00 10 31.9 -2.1
	comp=Z,4.6nm,0.6s						
ESK	Eskdalemuir	15.79	172	*e*Pn		Pn	00 10 33.7 -0.8
ESK	Eskdalemuir	15.79	172	*e*Pn		Pn	00 10 33.7 -0.8
FIA0	FINESS Array S	16.19	109	P		Pn	00 10 38.9 -0.8
	baz=322,slow=12						
FINES	FINESS Array B	16.19	109	Pn		Pn	00 10 38.8 -0.9
	comp=Z,0.7nm,0.3s,baz=323,slow=11,SNR=22						
FINES	FINESS Array B	16.19	109	Pn		Pn	00 10 38.8 -0.8
FINES	FINESS Array B	16.19	109	Pn		Pn	00 10 38.8 -0.8
JOF	Joensuu	16.77	99	*ep*		Pn	00 10 42.6 -4.4
	comp=Z,2.3nm,0.5s						
BAIF	Baives	21.62	160	*e*P		P	00 11 43.1 +0.8
BAIF	Baives	21.62	160	*e*P		P	00 11 43.1 +0.8
BAIF	Baives	21.62	160	*e*P		P	00 11 43.1 +0.8
GIVF	Givet	21.64	159	*e*P		P	00 11 45.3 +2.7
GIVF	Givet	21.64	159	*e*P		P	00 11 45.3 +2.7
CLL	Collm	21.75	144	*e*P		P	00 11 45.0 +1.3
	comp=Z,18nm,1.8s,mb4.2						
FLN	La Foliniere	22.48	168	*e*P		P	00 11 50.9 -0.6
FLN	La Foliniere	22.48	168	*e*P		P	00 11 50.9 -0.6
FLN	La Foliniere	22.48	168	*e*P		P	00 11 50.9 -0.6
LDF	La Druitiere	22.67	168	*e*P		P	00 11 53.5 0.0
LDF	La Druitiere	22.67	168	*e*P		P	00 11 53.5 0.0
LDF	La Druitiere	22.67	168	*e*P		P	00 11 53.5 0.0
NKC	Novy Kostel	22.68	146	*e*P		P	00 11 55.2 +1.6
NKC	Novy Kostel	22.68	146	P		P	00 11 55.2 +1.6
PVCC	Panska Ves	22.80	142	*e*P		P	00 11 55.9 +1.0
PVCC	Panska Ves	22.80	142	P		P	00 11 55.9 +1.0
GRR	Gorron	22.83	169	*e*P		P	00 11 55.2 0.0

GRR	Gorron	22.83	169	*e*P		P	00 11 55.2 0.0
GRR	Gorron	22.83	169	*e*P		P	00 11 55.2 0.0
KSP	Ksiaz	22.86	140	*e*P		P	00 11 57.5 +2.0
SGMF	Saint Gilles	22.87	172	*e*P		P	00 11 55.6 -0.1
SGMF	Saint Gilles	22.87	172	*e*P		P	00 11 55.6 -0.1
SGMF	Saint Gilles	22.87	172	*e*P		P	00 11 55.6 -0.1
GRF	Grafenberg Arr	22.98	148	*e*P		P	00 11 58.3 +1.5
	comp=Z,14nm,1.3s,mb4.2						
GRF				*e*L			00 20 54.6
	comp=Z,204nm,20.5s						
UPC	Upice	23.12	140	*e*P		P	00 11 59.8 +1.6
UPC	Upice	23.12	140	P		P	00 11 59.8 +1.6
MEZF	Maizieres J'vi	23.25	159	*e*P		P	00 12 01.0 +1.4
	comp=Z,12nm,0.6s,mb4.2						
MEZF	Maizieres J'vi	23.25	159	*e*P		P	00 12 01.0 +1.4
	comp=Z,12nm,0.6s,mb4.5						
MEZF	Maizieres J'vi	23.25	159	*e*P		P	00 12 01.0 +1.4
	comp=Z,5.9nm,0.6s,mb4.2						
PAGF	Fort de Pagny	23.28	158	*e*P		P	00 12 01.5 +1.6
	comp=Z,6.8nm,0.8s,mb3.8						
PAGF	Fort de Pagny	23.28	158	*e*P		P	00 12 01.5 +1.6
	comp=Z,6.8nm,0.8s,mb4.1						
PAGF	Fort de Pagny	23.28	158	*e*P		P	00 12 01.5 +1.6
	comp=Z,3.4nm,0.8s,mb3.8						
PRU	Pruhonice	23.31	143	*e*P		P	00 12 01.9 +1.6
PRU	Pruhonice	23.31	143	P		P	00 12 01.9 +1.6
DPC	Dobruska-Polom	23.33	140	*e*P		P	00 12 01.9 +1.4
DPC	Dobruska-Polom	23.33	140	P		P	00 12 01.9 +1.4
SFTF	Sexfontaines	23.54	159	*e*P		P	00 12 03.3 +0.6
	comp=Z,38nm,1.1s,mb4.4						
SFTF	Sexfontaines	23.54	159	*e*P		P	00 12 03.3 +0.6
	comp=Z,38nm,1.1s,mb4.7						
SFTF	Sexfontaines	23.54	159	*e*P		P	00 12 03.3 +0.6
	comp=Z,19nm,1.1s,mb4.4						
CDF	Champ du Feu	23.62	156	*e*P		P	00 12 04.1 +0.7
	comp=Z,12nm,0.9s,mb4.0						
CDF	Champ du Feu	23.62	156	*e*P		P	00 12 04.1 +0.7
	comp=Z,12nm,0.9s,mb4.3						
CDF	Champ du Feu	23.62	156	*e*P		P	00 12 04.1 +0.7
	comp=Z,5.9nm,0.9s,mb4.0						
RES	Resolute Bay	23.93	319	P		P	00 12 10.3 +4.3
	comp=Z,1.3nm,0.6s,mb3.6,baz=41,slow=9.3,SNR=5.1						
RES				LR		LR	00 21 42.6
	comp=Z,106nm,19.1s,MS3.3,baz=66,slow=37						
RES	Resolute Bay	23.93	319	P		P	00 12 10.3 +4.3
KHC	Kasperske Hory	23.95	145	*e*P		P	00 12 07.6 +1.2
KHC	Kasperske Hory	23.95	145	P		P	00 12 07.6 +1.2
GERES	GERESS Array B	24.24	145	P		P	00 12 10.6 +1.5
	comp=Z,2.1nm,0.7s,mb3.7,baz=348,slow=9.0,SNR=17						
GERES	GERESS Array B	24.24	145	P		P	00 12 10.6 +1.5
GERES	GERESS Array B	24.24	145	P		P	00 12 10.6 +1.5
LOR	Lormes	24.33	162	*e*P		P	00 12 10.1 +0.2
	comp=Z,11nm,0.8s,mb4.1						
LOR	Lormes	24.33	162	*e*P		P	00 12 10.1 +0.2
	comp=Z,11nm,0.8s,mb4.3						
LOR	Lormes	24.33	162	*e*P		P	00 12 10.1 +0.2
	comp=Z,5.5nm,0.8s,mb4.1						
SSF	Saint Saulge	24.50	162	*e*P		P	00 12 11.5 0.0
	comp=Z,12nm,0.7s,mb4.2						
SSF	Saint Saulge	24.50	162	*e*P		P	00 12 11.5 0.0
	comp=Z,12nm,0.7s,mb4.5						
SSF	Saint Saulge	24.50	162	*e*P		P	00 12 11.5 0.0
	comp=Z,5.9nm,0.7s,mb4.2						
MFF	Saint Martin d	24.66	168	*e*P		P	00 12 13.1 +0.2
MFF	Saint Martin d	24.66	168	*e*P		P	00 12 13.1 +0.2
MFF	Saint Martin d	24.66	168	*e*P		P	00 12 13.1 +0.2
AVF	Avril sur Loir	24.76	163	*e*P		P	00 12 13.9 +0.1
AVF	Avril sur Loir	24.76	163	*e*P		P	00 12 13.9 +0.1
AVF	Avril sur Loir	24.76	163	*e*P		P	00 12 13.9 +0.1
BGF	Bois d'Agland	24.94	163	*e*P		P	00 12 16.2 +0.8
	comp=Z,16nm,0.7s,mb4.3						
BGF	Bois d'Agland	24.94	163	*e*P		P	00 12 16.2 +0.8
	comp=Z,16nm,

comp=Z,1.0nm,0.9s,mb3.7,baz=330,slow=6.7,SNR=3.6
MKAR Makanchi Array 46.49 71 P P 00 15 20.2 +1.0
MKAR Makanchi Array 46.49 71 P P 00 15 20.2 +1.0
TORD Torodi Ar. Bea 58.03 170 P P 00 16 45.6 +0.4
comp=Z,0.6nm,0.6s,mb3.8,baz=349,slow=7.4,SNR=15
TORD Torodi Ar. Bea 58.03 170 P P 00 16 45.6 +0.4
TORD Torodi Ar. Bea 58.03 170 P P 00 16 45.6 +0.4
TXAR Lajitas Array 64.67 286 P P 00 17 31.1 +1.0
comp=Z,0.5nm,0.8s,mb3.6,baz=89,slow=5.7,SNR=3.4
TXAR Lajitas Array 64.67 286 P P 00 17 31.1 +1.0
TXAR Lajitas Array 64.67 286 P P 00 17 31.1 +1.0

*ISCJB **20** 00:21:03.6±0.8, 36°.92N±0°.05×28°.28E±0°.05, h10km, Error ellipse: s-maj=7.3km s-min=4.8km az=28.0*
*ISK **20** 00:21:03.1, 37°.19N×28°.20E, h26km, ML2.2*
*CSEM **20** 00:21:04.5±0.7, 36°.93N×28°.26E, h5km, MD2.8, Error ellipse: s-maj=13.4km s-min=7.6km az=140.0*
*DDA **20** 00:21:05.1, 36°.97N×28°.25E, h7km±3km, Md2.8*
ISC 20 00:21:04.2±0.8, **36°.93N**±0°.05×**28°.30E**±0°.05, **h10**km, **n13**, σ0s**88**/23, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.20	355	*e*PG	Pg	00 21 08.6	+0.1
YER				*e*SG	Sg	00 21 11.7	+0.3
YER	Yerkesik	0.20	355	*e*Pg	Pg	00 21 08.6	+0.1
YER				*e*Sg	Sg	00 21 11.7	+0.3
TURN	Turunc	0.25	104	⇑*i*Pg	Pg	00 21 09.0	-0.3
TURN				*i* Sg	Sg	00 21 12.4	-0.3
DAT	Datca	0.62	251	*e*PG	Pg	00 21 16.5	+0.3
DAT				*e*SG	Sg	00 21 27.8	+3.5
DAT	Datca	0.62	251	*e*Pg	Pg	00 21 16.5	+0.3
DAT				*e*Sg	Sg	00 21 27.8	+3.5
AYDN	Tasoluk	0.80	335	*e*P	Pg	00 21 19.5	-0.2
AYDN				*e*S	Sg	00 21 29.0	-1.2
AYDN	Tasoluk	0.80	335	*e*P	Pg	00 21 19.5	-0.2
AYDN				*e*S	Sg	00 21 29.0	-1.2
BODT	Bodrum	0.81	279	*e*PG	Pg	00 21 18.0	-1.8
BODT	Bodrum	0.81	279	*e*Pg	Pg	00 21 18.0	-1.8
DNZL	Cakiroluk	0.96	38	*e*P	Pg	00 21 23.7	+1.0
DNZL				*e*S	Sg	00 21 39.6	+4.4
DNZL	Cakiroluk	0.96	38	*e*P	Pg	00 21 23.7	+1.0
GCAM	G?zelcaml?	1.15	312	*e*P	Pg	00 21 26.9	+0.7
GCAM				*e*S	Sg	00 21 41.6	+0.5
GCAM	G?zelcaml?	1.15	312	*e*P	Pg	00 21 27.0	+0.7
GCAM				*e*S	Sg	00 21 41.7	+0.5

MAN 20 00:24:29, 6°.50N×126°.72E, h36km, mb4.1, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.64	314	*e*P	Pn	00 24 42.9	+1.3
MATI				*e*S	Sn	00 24 52.8	+2.3
GSPH	General Santos	1.81	257	⇑*e*P	Pn	00 24 54.9	-2.8
GSPH				*e*S	Sn	00 25 17.0	-2.4
BUKP	Musuan	2.14	310	*e*P	Pn	00 25 03.5	+1.3
BUKP				*e*S	Sn	00 25 29.1	+1.5

*ISK **20** 00:53:10.8, 40°.88N×35°.95E, h17km, ML1.7*
*ISCJB **20** 00:53:11.1±1.7, 40°.9N±0°.1×35°.90E±0°.05, h9km±20km, Error ellipse: s-maj=21.5km s-min=6.1km az=2.6*
*DDA **20** 00:53:12.0, 41°.03N×36°.04E, h7km±1km, Md2.7*
*CSEM **20** 00:53:11.2±0.2, 40°.85N×35°.89E, h12km, MD2.7, Error ellipse: s-maj=4.1km s-min=3.3km az=176.0*
ISC 20 00:53:11.5±0.8, **40°.84N**±0°.05×**35°.89E**±0°.05, **h12**km±13km, **n12**, σ0s**65**/22, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	Kavak	0.26	26	PG	Pg	00 53 16.5	-0.4
KVT				*e*SG	Sg	00 53 19.5	-1.1
KVT	Kavak	0.26	26	*i* Pg	Pg	00 53 16.5	-0.4
KVT				*e*Sg	Sg	00 53 19.5	-1.1
HAVZ	Havza	0.27	330	*i* P	Pg	00 53 17.4	+0.4
HAVZ				*i* S	Sg	00 53 21.2	+0.5
HAVZ	Havza	0.27	330	*i* P	Pg	00 53 17.4	+0.4
HAVZ				*i* S	Sg	00 53 21.2	+0.5
ERBA	Erbaa	0.67	104	*e*P	Pg	00 53 24.4	-0.1
ERBA				*e*S	Sg	00 53 34.2	+0.8
ERBA	Erbaa	0.67	104	*e*P	Pg	00 53 24.4	-0.1
ERBA				*e*S	Sg	00 53 34.2	+0.9
CTKT	Corum	0.87	256	*e*P	Pg	00 53 28.4	+0.2
CTKT				*e*S	Sg	00 53 39.0	-0.5
CTKT	Corum	0.87	256	*e*P	Pg	00 53 28.4	+0.2
CTKT				*e*S	Sg	00 53 39.0	-0.5
DIKM	Dikmen	0.94	329	*e*PG	Pg	00 53 28.8	-0.8
DIKM				*e*SG	Sg	00 53 42.9	+1.1
DIKM	Dikmen	0.94	329	*e*Pg	Pg	00 53 28.8	-0.8
DIKM				*e*Sg	Sg	00 53 42.9	+1.1
CORM	Corum	1.17	236	*e*PN	Pn	00 53 33.5	-0.2
CORM	Corum	1.17	236	*e*Pn	Pn	00 53 33.5	-0.2

*ISCJB **20** 01:07:30.3±3.3, 57°.9S±0°.1×26°.1W±0°.2, h117km±33km, mb4.2/13, Error ellipse: s-maj=19.8km s-min=16.0km az=20.2*
*IDC **20** 01:07:31.5±5.4, 57°.95S×26°.09W, h110km±48km, mb4.0/8, mb1 4.0/9, mb1mx3.9/16, mbtmp3.9/9, Error ellipse: s-maj=20.2km s-min=18.9km az=53.0*
*NEIC **20** 01:07:32.0±1.9, 57°.89S×26°.12W, h116km±17km, mb4.1/10, Error ellipse: s-maj=9.8km s-min=7.8km az=216.0*
ISC 20 01:07:32.0±3.2, **57°.9S**±0°.1×**26°.1W**±0°.2, **h115**km±33km, **n48**, σ0s**58**/28, **mb4.2**/13, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.84	157	*e*P	Pn	01 10 55.6	+0.1
VNA3	Neumayer Olymp	15.03	159	*e*P	Pn	01 10 57.0	-0.9
VNA3				*e*		01 13 26.0	
VNA2	Neumayer--Watz	15.24	156	*e*P	Pn	01 11 00.4	-0.1
baz=317,slow=16
VNA2 | | | | *e* | | 01 13 35.8 | |
SNAA Sanae 16.79 154 *e*P Pn 01 11 21.5 +1.8
SNAA | | | | *e* | | 01 14 11.4 | |
SNAA Sanae 16.79 154 P Pn 01 11 20.1 +0.4
0.6nm,0.3s,baz=313,slow=13,SNR=70
SNAA | | | | S | S | 01 14 12.0 | -15
0.1nm,0.3s,baz=308,slow=19,SNR=3.7
SNAA Sanae 16.79 154 *e*P Pn 01 11 20.7 +0.9
9.1nm,0.6s
QSPA South Pole Qui 32.33 180 P P 01 13 49.7 +0.2
2.2nm,0.5s,mb4.2,baz=216,slow=1.1,SNR=7.7
QSPA South Pole Qui 32.33 180 P P 01 13 49.7 +0.2
PLCA Paso Flores 32.95 282 *e*P P 01 13 55.1 -0.1
2.3nm,0.8s,mb4.1
VNDA Vanda 44.73 182 *e*P P 01 15 33.6 +0.6
0.9nm,0.5s,mb3.8
BOSA Boshof 45.89 73 P P 01 15 42.4 -0.2
1.7nm,0.5s,mb4.0,baz=207,slow=11,SNR=9.7
BOSA Boshof 45.89 73 *e*P P 01 15 42.5 -0.2
1.5nm,0.6s,mb3.9
LBTB Lobatse 49.02 71 P P 01 16 06.8 0.0
4.4nm,0.6s,mb4.5,baz=230,slow=8.2,SNR=13
LBTB Lobatse 49.02 71 *e*P P 01 16 06.7 -0.2
4.9nm,0.7s,mb4.5
SIV San Ignacio 49.30 313 P P 01 16 08.9 -0.2
1.0nm,0.5s,mb4.0,baz=203,slow=7.7,SNR=3.9
SIV San Ignacio 49.30 313 P P 01 16 08.9 -0.2
TSUM Tsumeb 50.11 58 *e*P P 01 16 14.8 -0.4
2.3nm,0.9s,mb4.1
LPAZ La Paz 51.95 305 P P 01 16 30.0 +1.1
0.7nm,0.6s,mb3.9,baz=166,slow=4.2,SNR=2.9
LPAZ La Paz 51.95 305 *e*P P 01 16 29.6 +0.7
1.0nm,0.7s,mb4.0
SAML Samuel 56.54 314 *e*P P 01 17 02.1 -0.1
1.2nm,0.7s,mb4.0
NNA Nana 59.67 299 *e*P P 01 17 23.2 -0.8
17nm,1.2s,mb4.9
DBIC Dimbokro 66.63 23 P P 01 18 10.3 +0.4
3.2nm,0.5s,mb4.4,baz=180,slow=7.9,SNR=15
DBIC Dimbokro 66.63 23 *e*P P 01 18 10.1 +0.2
3.4nm,0.5s,mb4.4
TORD Torodi Ar. Bea 74.40 28 P P 01 18 57.8 +0.8
6.4nm,0.6s,mb4.5,baz=196,slow=6.5,SNR=108
TORD Torodi Ar. Bea 74.40 28 P P 01 18 57.8 +0.8
ASAR Alice Springs 97.03 162 P P 01 20 49.8 -0.8
0.3nm,0.6s,mb3.9,baz=186,slow=4.0,SNR=6.5
ASAR Alice Springs 97.03 162 P P 01 20 49.8 -0.8

CMAR Chiang Mai Arr 123.84 111 PKP PKPdf 01 26 16.2 +0.2
0.8nm,0.4s,baz=224,slow=2.5,SNR=3.1
CMAR Chiang Mai Arr 123.84 111 PKP PKPdf 01 26 16.2 +0.2
FINES FINESS Array B 125.75 28 PKP PKPdf 01 26 18.1 -0.2
6.5nm,1.0s,baz=258,slow=1.3,SNR=8.4
FINES FINESS Array B 125.75 28 PKP PKPdf 01 26 18.1 -0.2
ABKAR Abkulak array 127.92 56 *e*PKPdf PKPdf 01 26 22.4 -0.4
EKS2 Erkin-Say 129.67 71 *e*PKPdf PKPdf 01 26 26.6 +0.1
AAK Ala-Archa 130.01 71 *e*PKPdf PKPdf 01 26 27.7 +0.6
ARCES ARCESS Array B 132.45 22 PKP PKPdf 01 26 30.7 -0.2
8.4nm,1.1s,baz=197,slow=2.7,SNR=3.8
ARCES ARCESS Array B 132.45 22 PKP PKPdf 01 26 30.7 -0.2
MKAR Makanchi Array 136.89 73 PKP PKPdf 01 26 40.0 +0.2
0.3nm,0.5s,baz=210,slow=1.6,SNR=5.3
MKAR Makanchi Array 136.89 73 PKP PKPdf 01 26 40.0 +0.2
KURK Kurchatov 137.64 66 PKP PKPdf 01 26 42.5 +1.4
0.5nm,0.5s,baz=225,slow=2.2,SNR=5.6
KURK Kurchatov 137.64 66 PKP PKPdf 01 26 42.5 +1.4
YKA Yellowknife Ar 137.95 316 PKP PKPdf 01 26 41.3 +0.1
1.1nm,0.6s,baz=128,slow=2.4,SNR=22
YKA Yellowknife Ar 137.95 316 PKP PKPdf 01 26 41.4 +0.1
ZALV Zalesovo Beam 142.62 65 PKhKP PKPpre 01 26 46.4
0.5nm,0.4s,baz=204,slow=3.2,SNR=3.9
ZALV Zalesovo Beam 142.62 65 PKPpre PKPpre 01 26 46.4
SONM Songino Array 150.20 89 PKPbc PKPbc 01 27 08.4 +0.3
3.5nm,0.5s,baz=230,slow=2.4,SNR=4.6
SONM Songino Array 150.20 89 PKPbc PKPbc 01 27 08.4 +0.3
ILAR Eielson Array 151.78 309 PKPbc PKPbc 01 27 11.0 -0.3
1.3nm,1.0s,baz=122,slow=1.9,SNR=10
ILAR Eielson Array 151.78 309 PKPbc PKPbc 01 27 11.0 -0.3

*ISCJB **20** 01:08:55.0±0.3, 30°.08S±0°.02×70°.77W±0°.07, h93km±3km, mb3.7/8, Error ellipse: s-maj=9.4km s-min=4.0km az=2.3*
*GUC **20** 01:08:55.8±0.8, 30°.09S×70°.73W, h82km±3km, ML4.5*
*NEIC **20** 01:08:55.0, 30°.14S×70°.72W, h82km, mb4.0/5, After GUC.*
NEIC Felt [IV] at Coquimbo and La Serena; [III] at Andacollo, La Higuera and Vicuna.
*IDC **20** 01:08:56.7±0.9, 30°.12S×70°.75W, h86km±7km, mb3.4/5, mb1 3.7/9, mb1mx3.6/18, mbtmp3.5/9, Error ellipse: s-maj=25.1km s-min=10.2km az=47.0*
ISC 20 01:08:56.1±0.3, **30°.09S**±0°.02×**70°.76W**±0°.06, **h86**km±3km, **n54**, σ0s**83**/59, **mb3.7**/8, **4C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.09	204	⇓*i*P	Pn	01 09 08.7	+0.4
TLL				*i* S	Sn	01 09 17.9	+0.7
TLL	Tololo Astrono	0.09	204	⇓*i*P	Pn	01 09 08.7	+0.4
TLL				*i* S	Sn	01 09 17.9	+0.7
TLL				AML	AML	01 09 18.3	
comp=E,24μm,0.4s
LSCH La Serena 0.46 293 *e*P Pn 01 09 09.9 -0.1
LSCH | | | | *i* S | Sn | 01 09 20.1 | -0.3
LSCH La Serena 0.46 293 *e*P Pn 01 09 09.9 -0.1
LSCH | | | | *i* S | Sn | 01 09 20.1 | -0.3
LSCH | | | | AML | AML | 01 09 20.6 | |
comp=N,11μm,0.3s
OVCH Ovalle 0.64 216 ⇑*i*P Pn 01 09 11.2 -0.4
OVCH | | | | *i* S | Sn | 01 09 23.0 | -0.2
OVCH Ovalle 0.64 216 ⇑*i*P Pn 01 09 11.2 -0.4
OVCH | | | | *i* S | Sn | 01 09 23.0 | -0.2
OVCH | | | | AML | AML | 01 09 25.6 | |
comp=N,14μm,0.2s
LCO Las Campanas 1.08 3 *e*Pn Pn 01 09 16.4 0.0
LCO | | | | *e*Sn | Sn | 01 09 31.9 | +0.3
LCO Las Campanas 1.08 3 ⇓*i*P Pn 01 09 16.6 +0.2
LCO | | | | *i* S | Sn | 01 09 32.6 | +1.0
VACH Vallenar 1.51 0 AML AML 01 09 48.1
comp=N,13μm,0.1s
CHNG Los Chungos 1.90 199 *e*P Pn 01 09 26.9 +0.2
CHNG | | | | *i* S | Sn | 01 09 50.0 | -0.2
PTCH Petorca 2.17 184 ⇑*i*P Pn 01 09 30.6 +0.1
PTCH | | | | *i* S | Sn | 01 09 56.4 | -0.2
PTCH | | | | AML | AML | 01 10 01.9 | |
comp=N,5μm,0.2s
CFAA Coronel Fontan 2.65 125 P Pn 01 09 37.7 +1.0
comp=N,5.9nm,0.3s,baz=302,slow=14,SNR=214
CFAA | | | | S | Sn | 01 10 09.1 | +1.1
comp=N,18nm,0.3s,baz=38,slow=19,SNR=20
CFAA Coronel Fontan 2.65 125 P Pn 01 09 37.7 +1.0
CFAA | | | | S | Sn | 01 10 09.1 | +1.1
CPCH Copiapo 2.75 8 ⇑*i*P Pn 01 09 37.8 -0.3
CPCH | | | | *i* S | Sn | 01 10 10.3 | -0.1
CPCH | | | | AML | AML | 01 10 21.5 | |
comp=E,10μm,0.1s
ROCH El Roble 2.88 184 *e*P Pn 01 09 40.0 0.0
ROCH | | | | *e*S | Sn | 01 10 14.1 | +0.4
ROCH | | | | AML | AML | 01 10 27.4 | |
comp=N,1μm,0.8s
CDCH Caldera 3.01 359 *e*P Pn 01 09 41.9 +0.2
CDCH | | | | *e*S | Sn | 01 10 16.9 | 0.0
CDCH Caldera 3.01 359 *e*P Pn 01 09 41.9 +0.2
CDCH | | | | *e*S | Sn | 01 10 16.9 | 0.0
CDCH | | | | AML | AML | 01 10 29.4 | |
comp=N,654nm,0.7s
PEL Peldehue 3.05 179 AML AML 01 10 38.4
comp=N,2μm,0.5s
FCH Farellones 3.25 173 AML AML 01 10 37.2
comp=E,679nm,0.2s
CLCH Cerro Calan 3.30 177 AML AML 01 10 43.0
comp=E,1μm,0.4s
RCDM Rinconada Maip 3.39 181 AML AML 01 10 46.1
comp=E,782nm,0.3s
ANTU Antumapu 3.47 178 AML AML 01 10 46.3
comp=E,790nm,0.5s
LVC Limon Verde 7.63 13 *e*Pn Pn 01 10 43.0 -1.6
comp=E,9.9nm,0.6s
LVC | | | | *e*Sn | Sn | 01 12 08.2 | -1.2
PLCA Paso Flores 10.62 179 *e*Pn Pn 01 11 23.1 -2.1
TRQA Tornquist 10.78 140 *e*Pn Pn 01 11 26.1 -1.2
comp=E,5.1nm,0.6s
TRQA | | | | *e*Sn | Sn | 01 13 20.7 -5.3
CPUP Villa Florida 12.42 76 P Pn 01 11 49.5 -0.3
comp=E,1.7nm,0.3s,baz=231,slow=14,SNR=12
CPUP Villa Florida 12.42 76 *e*Pn Pn 01 11 49.0 -0.7
LPAZ La Paz 13.95 11 P Pn 01 12 11.3 +1.4
comp=E,0.2nm,0.3s,baz=186,slow=7.0,SNR=9.4
LPAZ La Paz 13.95 11 *e*Pn Pn 01 12 12.2 +2.3
comp=E,1.6nm,0.7s
SIV San Ignacio 16.61 34 P Pn 01 12 43.5 -0.3
comp=E,0.2nm,0.3s,baz=237,slow=10,SNR=9.6
SIV San Ignacio 16.61 34 P Pn 01 12 43.5 -0.3
SAML Samuel 22.20 20 *e*P P 01 13 45.5 +0.1
comp=E,1.1nm,0.5s,mb3.4
VNA2 Neumayer--Watz 53.22 158 *e* P 01 18 05.2 +0.1
baz=289,slow=9.3
SNAA Sanae 54.81 159 *e* P 01 18 17.7 +1.0
SNAA Sanae 54.81 159 P P 01 18 16.5 -0.3
comp=E,0.6nm,0.8s,mb3.7,baz=289,slow=9.0,SNR=7.8
SNAA Sanae 54.81 159 *e*P P 01 18 17.1 +0.4
comp=E,1.1nm,0.4s,mb4.2
QSPA South Pole Qui 60.14 180 P P 01 18 54.7 +0.7
comp=E,1.6nm,0.4s,mb4.4,baz=189,slow=2.4,SNR=5.7
QSPA South Pole Qui 60.14 180 *e*P P 01 18 54.1 +0.1
comp=E,2.2nm,0.6s,mb4.4
TXAR Lajitas Array 66.90 329 P P 01 19 40.5 +1.3
comp=E,0.5nm,0.7s,mb3.4,baz=146,slow=8.3,SNR=5.8
TXAR Lajitas Array 66.90 329 P P 01 19 40.5 +1.3
MNTX Cornudas Mount 69.69 329 *e*P P 01 19 56.1 -0.4
comp=E,0.8nm,1.0s,mb3.5
TSUM Tsumeb 79.24 106 *e*P P 01 20 50.7 -1.6
HWUT Hardware Ranch 80.67 330 *e*P P 01 20 59.2 -0.2
comp=E,2.2nm,0.8s,mb4.0
PDAR Pinedale Array 80.79 332 P P 01 21 02.2 +2.3
comp=E,0.5nm,0.9s,mb3.3,baz=140,slow=4.4,SNR=3.1
PDAR Pinedale Array 80.79 332 P P 01 21 02.2 +2.3
TORD Torodi Ar. Bea 81.85 70 P P 01 21 06.2 0.0
comp=E,0.5nm,0.9s,mb3.4,baz=281,slow=5.2,SNR=4.0
TORD | | | | pP | pP | 01 21 28.6 | -0.3
comp=E,0.3nm,0.6s,baz=225,slow=3.9,SNR=1.9
TORD Torodi Ar. Bea 81.85 70 P P 01 21 06.2 0.0
TORD | | | | pP | pP | 01 21 28.6 | -0.3
WRA Warramunga Arr 124.70 209 PKP PKPdf 01 27 45.7 -0.6
comp=E,0.4nm,0.5s,baz=153,slow=1.7,SNR=7.2
WRA Warramunga Arr 124.70 209 PKP PKPdf 01 27 45.7 -0.6
KURK Kurchatov 149.23 39 PKPbc PKPbc 01 28 34.4 0.0
comp=E,0.8nm,0.6s,baz=311,slow=3.6,SNR=7.0
KURK | | | | pPKPbc | pPKPbc | 01 28 58.2 | 0.0
comp=E,0.4nm,0.5s,baz=308,slow=3.3,SNR=2.5
KURK Kurchatov 149.23 39 PKPbc PKPbc 01 28 34.4 0.0
KURK | | | | pPKPbc | pPKPbc | 01 28 58.2 | 0.0
ZAA0 Zalesovo Array 150.32 30 *e*PKPbc PKPbc 01 28 36.9 +0.1

ZALV Zalesovo Beam 150.32 30 PKPbc PKPbc 01 28 37.4 +0.5
comp=E,2.0nm,0.5s,baz=304,slow=3.1,SNR=12
ZALV | | | | pPKPbc | pPKPbc | 01 29 01.4 +0.7
comp=E,0.5nm,0.4s,baz=291,slow=3.5,SNR=2.4
ZALV Zalesovo Beam 150.32 30 PKPbc PKPbc 01 28 37.4 +0.5
ZALV | | | | pPKPbc | pPKPbc | 01 29 01.4 +0.7

*CSEM **20** 01:14:07.0, 12°.15N×44°.64E, h5km, ML3.6, After DHMR*
DHMR 20 01:14:07.0±1.3, **12°.15N**×**44°.64E**, **h6**km±6km, **ML3.6, 5C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	Aden	0.70	28	⇑*i*P	Pg	01 14 20.2	-0.3
ADEN				*i* S	Sg	01 14 30.0	+0.3
ADEN				AML	AML	01 14 36.7	
comp=E,3μm,0.4s
ADEN Aden 0.70 28 ⇑*i*P Pg 01 14 20.2 -0.3
ADEN | | | | *i* S | Sg | 01 14 30.0 | +0.3
comp=E,1μm,0.4s
TRBA At Turbah 1.19 335 ⇑*i*P Pg 01 14 29.3 -0.5
TRBA | | | | *i* S | Sg | 01 14 46.1 | +0.9
TRBA | | | | AML | AML | 01 14 54.1 | |
comp=E,1μm,1.1s
LBOS 1.81 19 *i* P Pn 01 14 39.1 +0.4
LBOS | | | | *i* P | | 01 14 39.2 | |
LBOS | | | | *i* S | Sn | 01 15 05.3 +3.3
UDYN Al 'Udayn 1.92 340 ⇑*i*P Pn 01 14 41.7 +1.5
UDYN | | | | *i* S | Sn | 01 15 08.1 +3.4
UDYN | | | | AML | AML | 01 15 16.6 | |
comp=E,945nm,0.6s
UDYN Al 'Udayn 1.92 340 ⇑*i*P Pn 01 14 41.7 +1.5
UDYN | | | | *i* S | Sn | 01 15 08.1 +3.4
comp=E,472nm,0.6s
BDHA Al Bayda' 2.02 26 *i* P Pn 01 14 42.7 +1.0
BDHA | | | | *i* S | Sn | 01 15 11.8 +4.5
BDHA Al Bayda' 2.02 26 *i* P Pn 01 14 42.7 +1.0
BDHA | | | | *i* S | Sn | 01 15 11.8 +4.5
DHBB Dhamar BB 2.42 354 *i* P Pn 01 14 49.7 +2.6
DHBB | | | | *i* S | Sn | 01 15 22.7 +5.7
DHBB Dhamar BB 2.42 354 *i* P Pn 01 14 49.7 +2.6
DHBB | | | | *i* S | Sn | 01 15 22.7 +5.7
HAJJ Hajjah 3.67 344 *i* S Sn 01 15 53.1 +5.2
HAJJ | | | | AML | AML | 01 16 16.2 | |
comp=Z,255nm,0.6s
HAJJ Hajjah 3.67 344 *i* S Sn 01 15 53.1 +5.2
comp=Z,128nm,0.6s

TRN 20 01:20:19.9, 17°.10N×60°.35W, h19km, MD3.7, M3.8(FDF), M3.3(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	La Desirade	1.03	221	*e*P	Pb	01 20 40.4	+1.2
DEG				*e*S	Sb	01 20 55.7	+3.2
SEG	Port Louis	1.30	238	*e*P	Pn	01 20 45.1	+2.0
BPA	Boggy Peak	1.44	268	*e*P	Pn	01 20 46.4	+1.4
BPA				*e*S	Sn	01 21 06.8	+3.4
MGG	Marie-Galante	1.50	218	*e*P	Pn	01 20 47.5	+1.7
BCG	Bois Riant Cap	1.58	230	*e*P	Pn	01 20 49.0	+2.1
DOG	Dongo Capester	1.61	229	*e*P	Pn	01 20 49.6	+2.3
PHG	Guadaloupe-2	1.64	229	*e*P	Pn	01 20 50.0	+2.2
LZG	Guadaloupe-1	1.66	235	*e*P	Pn	01 20 50.4	+2.3
TBG	Guadaloupe-3	1.75	225	*e*P	Pn	01 20 51.1	+1.8
SKI	Saint Kitts	2.29	276	*e*P	Pn	01 20 58.3	+1.6
SKI				*e*S	Sn	01 21 27.1	+2.7
FDF	Fort de France	2.48	198	*e*P	Pn	01 21 01.2	+2.0
FDF				*e*S	Sn	01 21 32.1	+3.2
MVM	Montagne Vaucl	2.58	192	*e*P	Pn	01 21 02.4	+1.6

*CSEM **20** 01:20:32.3±0.1, 41°.91N×23°.12E, h2km, ML2.1, Error ellipse: s-maj=3.3km s-min=1.9km az=73.0*
*THE **20** 01:20:33.0, 41°.88N×23°.11E, h5km, ML2.3/7, Error ellipse: s-maj=1.1km s-min=0.7km az=297.0*
*SKO **20** 01:20:33.1, 41°.93N×23°.03E, h6km, M2.0, ML2.2*
*ATH **20** 01:20:34.1, 41°.81N×23°.15E, h5km±3km, MD3.4/4*
*BEO **20** 01:20:35.4±0.8, 41°.99N×23°.08E, h5km, ML2.1/4*
ISC 20 01:20:32.4±0.4, **41°.91N**±0°.02×**23°.12E**±0°.04, **h1**km±5km, **n41**, σ0s**86**/74, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	Vitosha	0.68	5	*e*Pg	Pg	01 20 45.5	+0.1
VTS				*e*Sg	Sg	01 20 54.9	+0.6
VTS	Vitosha	0.68	5	P	Pg	01 20 45.8	+0.4
VTS	Vitosha	0.68	5	*e*Pg	Pg	01 20 45.5	+0.1
VTS	Vitosha	0.68	5	P	Pg	01 20 45.8	+0.4
VTS				*e*Sg	Sg	01 20 54.9	+0.6
VAY	Valandovo	0.72	215	*i* Pg	Pg	01 20 45.7	-0.5
VAY				*i* Sg	Sg	01 20 55.7	+0.2
VAY				*e*Lg		01 20 55.9	
comp=E,73nm,0.3s
VAY | | | | *e*Lg | | 01 20 58.4 | |
comp=N,127nm,0.5s
VAY Valandovo 0.72 215 *i* Pg Pg 01 20 45.7 -0.5
VAY | | | | *i* Sg | Sg | 01 20 55.7 +0.2
VAY | | | | *e*Lg | | 01 20 55.9 | |
comp=N,73nm,0.3s
KNT Kendrikon 0.77 193 P Pg 01 20 47.1 0.0
KNT | | | | S | Sg | 01 20 57.2 +0.2
KNT Kendrikon 0.77 193 P Pg 01 20 47.1 0.0
KNT | | | | S | Sg | 01 20 57.2 +0.2
NVR Nevrokopi 0.79 135 *e*PB Pg 01 20 47.8 +0.3
NVR | | | | *e*SB Sg 01 20 57.7 0.0
NVR Nevrokopi 0.79 135 P Pg 01 20 47.8 +0.3
NVR Nevrokopi 0.79 135 P Pg 01 20 47.8 +0.3
NVR | | | | *e*Sb Sg 01 20 57.7 0.0
SRS Serrai 0.87 156 P Pg 01 20 49.1 +0.1
SRS | | | | S Sg 01 21 01.4 +1.1
SRS Serrai 0.87 156 P Pg 01 20 49.1 +0.1
SRS | | | | S Sg 01 21 01.4 +1.1
GRG Griva 1.10 210 P Pg 01 20 53.3 -0.1
GRG | | | | S Sg 01 21 08.0 +0.4
GRG Griva 1.10 210 P Pg 01 20 53.3 -0.1
GRG | | | | S Sg 01 21 08.0 +0.4
SOH Sokhos 1.10 171 *e*PB Pg 01 20 53.2 -0.3
SOH | | | | *e*SB Sg 01 21 07.4 -0.4
SOH Sokhos 1.10 171 P Pg 01 20 53.3 -0.2
SOH | | | | S Sg 01 21 08.7 +0.9
SOH Sokhos 1.10 171 P Pg 01 20 53.3 -0.2
SOH | | | | *e*Sb Sg 01 21 07.4 -0.4
SOH | | | | S Sg 01 21 08.7 +0.9
PLD Plovdiv 1.19 80 P Pg 01 20 55.4 +0.2
PLD Plovdiv 1.19 80 P Pg 01 20 55.4 +0.2
THE Thessaloniki 1.28 185 P Pg 01 20 56.6 -0.4
THE | | | | S Sg 01 21 14.3 +0.7
THE Thessaloniki 1.28 185 P Pg 01 20 56.6 -0.4
THE | | | | S Sg 01 21 14.3 +0.7
HORT Hortiatis 1.31 181 P Pg 01 20 57.1 -0.4
HORT | | | | S Sg 01 21 15.0 +0.5
HORT Hortiatis 1.31 181 P Pg 01 20 57.1 -0.4
HORT | | | | S Sg 01 21 15.0 +0.5
BARS Barje 1.32 313 *e*Pg Pn 01 20 56.9 -1.0
BARS | | | | *e*Sg Sn 01 21 14.5 -1.7
BARS Barje 1.32 313 *e*Pg Pn 01 20 56.9 -1.0
BARS | | | | *e*Sg Sn 01 21 14.5 -1.7
KAVA Kavala 1.39 131 P Pn 01 20 58.3 -0.5
KAVA | | | | S Sg 01 21 17.2 +0.2
KAVA Kavala 1.39 131 P Pn 01 20 58.3 -0.5
KAVA | | | | S Sg 01 21 17.2 +0.2
ZAPS Zavoj 1.41 345 *e*Pg Pn 01 20 59.3 +0.2
ZAPS | | | | *e*Sg Sn 01 21 18.4 +0.2
PLG Polygyros 1.56 171 *e*PG Pg 01 21 00.9 -1.3
PLG Polygyros 1.56 171 P Pn 01 21 00.5 -0.6
PLG | | | | S Sn 01 21 21.1 -0.8
PLG Polygyros 1.56 171 P Pn 01 21 00.5 -0.6
PLG Polygyros 1.56 171 *e*Pg Pg 01 21 00.9 -1.3
PLG | | | | S Sn 01 21 21.1 -0.8
SELS Selova 1.97 312 *e*Pn Pn 01 21 08.3 +1.4
SELS | | | | *e*Sg Sg 01 21 35.2 -0.6
SELS Selova 1.97 312 *e*Pn Pn 01 21 08.3 +1.4
SELS | | | | *e*Sg Sg 01 21 35.2 -0.6
ALN Alexandroupoli 2.42 114 *e*PN Pg 01 21 16.6 -2.2
ALN Alexandroupoli 2.42 114 *e*Pn Pg 01 21 16.6 -2.2
GRUS Gruza 2.65 319 *e*Pn Pn 01 21 18.6 +2.4
GRUS | | | | *e*Sg Sg 01 21 57.3 -0.2
IVAS Ivanjica 2.75 308 *e*Pn Pn 01 21 20.2 +2.7
IVAS | | | | *e*Sg Sg 01 22 00.2 -0.4

DIVS	**Divibare**	**3.17**	**315**	*e*Pn	**Pn**	**01 21 24.2**	**+0.9**
DIVS				*e*Sg	**Sg**	**01 22 13.7**	**-0.5**
DIVS	**Divibare**	**3.17**	**315**	*e*Pn	**Pn**	**01 21 24.2**	**+0.9**
DIVS				*e*Sg	**Sg**	**01 22 13.7**	**-0.5**

*SOF **20** 01:24:22.4, 41°.92N×23°.11E, h19km, MD2.6*
*ISCJB **20** 01:24:23.1±0.3, 41°.92N±0°.02×23°.05E±0°.04, h10km, Error ellipse: s-maj=4.3km s-min=2.3km az=157.4*
*CSEM **20** 01:24:23.9±0.1, 41°.91N×23°.12E, h2km, ML1.5, Error ellipse: s-maj=3.7km s-min=2.4km az=62.0*
*THE **20** 01:24:24.2, 41°.88N×23°.12E, h4km±1km, ML2.0/4, Error ellipse: s-maj=1.5km s-min=0.8km az=284.0*
*SKO **20** 01:24:24.6, 41°.92N×23°.07E, h5km, M1.6, ML1.9*
*BEO **20** 01:24:26.0±0.9, 41°.96N×23°.12E, h5km, ML1.5/2*

ISC 20 01:24:24.1±0.3, **41°.91N**±0°.02×**23°.11E**±0°.04, **h10km, n39,** σ0°**75**/59, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.04**	**204**	*i* Pg	**Pg**	**01 24 26.4**	**+0.4**
KKB	**Krupnik**	**0.04**	**204**	*i* Pg	**Pg**	**01 24 26.4**	**+0.4**
MMB	**Musomiste**	**0.56**	**124**	*i* Pg	**Pg**	**01 24 35.0**	**0.0**
MMB	**Musomiste**	**0.56**	**124**	*i* Pg	**Pg**	**01 24 35.0**	**0.0**
VTS	**Vitosha**	**0.69**	**6**	*e*Pg	**Pg**	**01 24 37.0**	**-0.4**
VTS				*e*Sg	**Sg**	**01 24 46.1**	**-0.3**
VTS	**Vitosha**	**0.69**	**6**	P	**Pg**	**01 24 37.1**	**-0.3**
VTS	**Vitosha**	**0.69**	**6**	*i* Pg	**Pg**	**01 24 36.9**	**-0.5**
VTS	**Vitosha**	**0.69**	**6**	*e*Pg	**Pg**	**01 24 37.0**	**-0.4**
VTS				*e*Sg	**Sg**	**01 24 46.1**	**-0.3**
VAY	**Valandovo**	**0.71**	**215**	*i* Pg	**Pg**	**01 24 37.8**	**+0.1**
VAY				*i* Sg	**Sg**	**01 24 46.9**	**-0.2**
VAY				*e*Lg		01 24 47.2	
	comp=E,37nm,0.6s						
VAY				*e*Lg		01 24 47.8	
	comp=N,54nm,0.5s						
VAY	**Valandovo**	**0.71**	**215**	*i* Pg	**Pg**	**01 24 37.8**	**0.0**
VAY				*i* Sg	**Sg**	**01 24 46.8**	**-0.2**
VAY				*e*Lg		01 24 47.2	
	comp=N,37nm,0.6s						
KNT	**Kendrikon**	**0.76**	**192**	P	**Pg**	**01 24 38.4**	**-0.3**
KNT				S	**Sg**	**01 24 48.4**	**-0.2**
KNT	**Kendrikon**	**0.76**	**192**	P	**Pg**	**01 24 38.4**	**-0.3**
KNT				S	**Sg**	**01 24 48.4**	**-0.2**
NVR	**Nevrokopi**	**0.79**	**134**	P	**Pg**	**01 24 39.0**	**-0.4**
NVR	**Nevrokopi**	**0.79**	**134**	P	**Pg**	**01 24 39.0**	**-0.4**
SRS	**Serrai**	**0.87**	**155**	P	**Pg**	**01 24 40.3**	**-0.5**
SRS				S	**Sg**	**01 24 52.2**	**+0.1**
SRS	**Serrai**	**0.87**	**155**	P	**Pg**	**01 24 40.3**	**-0.5**
SRS				S	**Sg**	**01 24 52.2**	**+0.1**
SOH	**Sokhos**	**1.10**	**170**	P	**Pg**	**01 24 44.5**	**-0.7**
SOH				S	**Sg**	**01 24 59.6**	**+0.1**
SOH	**Sokhos**	**1.10**	**170**	P	**Pg**	**01 24 44.5**	**-0.7**
SOH				S	**Sg**	**01 24 59.6**	**+0.1**
PLD	**Plovdiv**	**1.21**	**80**	P	**Pn**	**01 24 46.8**	**-0.2**
PLD	**Plovdiv**	**1.21**	**80**	*i* Pg	**Pg**	**01 24 47.4**	**+0.2**
PLD	**Plovdiv**	**1.21**	**80**	P	**Pn**	**01 24 46.8**	**-0.2**
PLD	**Plovdiv**	**1.21**	**80**	*i* Pg	**Pg**	**01 24 47.4**	**+0.2**
RZN	**Rozhen**	**1.22**	**100**	*i* Pg	**Pg**	**01 24 46.8**	**-0.7**
RZN	**Rozhen**	**1.22**	**100**	*i* Pg	**Pg**	**01 24 46.8**	**-0.7**
HORT	**Hortiatis**	**1.31**	**180**	P	**Pn**	**01 24 48.5**	**+0.1**
HORT				S	**Sb**	**01 25 06.2**	**+0.7**
HORT	**Hortiatis**	**1.31**	**180**	P	**Pn**	**01 24 48.5**	**+0.1**
HORT				S	**Sb**	**01 25 06.2**	**+0.7**
BARS	**Barje**	**1.32**	**314**	*e*Pg	**Pg**	**01 24 48.3**	**-1.1**
BARS				*e*Sg	**Sg**	**01 25 05.7**	**-0.9**
BARS	**Barje**	**1.32**	**314**	*e*Pg	**Pg**	**01 24 48.3**	**-1.1**
BARS				*e*Sg	**Sg**	**01 25 05.7**	**-0.9**
KAVA	**Kavala**	**1.39**	**130**	P	**Pn**	**01 24 49.5**	**-0.1**
KAVA				S	**Sn**	**01 25 08.5**	**+0.5**
KAVA	**Kavala**	**1.39**	**130**	P	**Pn**	**01 24 49.5**	**-0.1**
KAVA				S	**Sn**	**01 25 08.5**	**+0.5**
ZAPS	**Zavoj**	**1.41**	**346**	*e*Pg	**Pg**	**01 24 50.9**	**-0.3**
ZAPS				*e*Sg	**Sg**	**01 25 09.6**	**+0.1**
MPEP	**Malo Peshtene**	**1.52**	**18**	*i* Pg	**Pn**	**01 24 52.5**	**+1.2**
SELS	**Selova**	**1.97**	**312**	*e*Pn	**Pn**	**01 24 59.7**	**+2.2**
SELS				*e*Sg	**Sg**	**01 25 27.0**	**-0.4**
GRUS	**Gruza**	**2.65**	**319**	*e*Pn	**Pn**	**01 25 09.0**	**+2.2**
GRUS	**Gruza**	**2.65**	**319**	*e*Pg	**Pg**	**01 25 13.3**	**-1.5**
GRUS				*e*Sg	**Sg**	**01 25 49.5**	**+0.4**
GRUS	**Gruza**	**2.65**	**319**	*e*Pn	**Pn**	**01 25 09.0**	**+2.2**
GRUS	**Gruza**	**2.65**	**319**	*e*Pg	**Pg**	**01 25 13.3**	**-1.5**
GRUS				*e*Sg	**Sg**	**01 25 49.5**	**+0.4**
DIVS	**Divibare**	**3.17**	**315**	*e*Sg	**Sg**	**01 26 06.4**	**+0.7**
DIVS	**Divibare**	**3.17**	**315**	*e*Sg	**Sg**	**01 26 06.4**	**+0.7**

*IDC **20** 01:44:23.6±0.8, 32°.64S×71°.77W, h0km, mb4.3/7, mb1 4.4/11, mb1mx4.3/15, mbtmp4.2/11, ML4.5/4, MS3.8/10, Ms1 3.8/10, ms1mx3.7/20, Error ellipse: s-maj=25.9km s-min=21.4km az=37.0*
*ISCJB **20** 01:44:26.1±0.7, 32°.58S±0°.02×71°.96W±0°.05, h28km±4km, mb4.4/22, MS4.0/6, Error ellipse: s-maj=6.9km s-min=3.8km az=166.0*
*NEIC **20** 01:44:27.0, 32°.60S×71°.80W, h33km, mb4.5/18, ML4.8(GUC), After GUC.*
NEIC Felt [III] at La Ligua, Papudo, Valparaiso and Zapallar; [II] at Chacabuco, Melipilla, Puchuncavi, Quintero and Rancagua.
*GUC **20** 01:44:27.7±0.5, 32°.61S×71°.81W, h33km±2km, ML4.8*

ISC 20 01:44:27.1±0.8, **32°.58S**±0°.02×**71°.88W**±0°.05, **h22km**±5km, **n90,** σ0°**87**/81, **mb4.4**/22, **MS4.0**/6, **3C-8D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.49**	**156**	⇓*i*P	**Pb**	**01 44 36.8**	**-0.3**
IHA				*i* S	**Sb**	**01 44 44.4**	**+0.5**
IHA	**Instituto Hidr**	**0.49**	**156**	⇓*i*P	**Pb**	**01 44 36.8**	**-0.3**
IHA				*i* S	**Sb**	**01 44 44.4**	**+0.5**
CHNG	**Los Chungos**	**0.76**	**25**	⇓*i*P	**Pb**	**01 44 41.9**	**+0.2**
CHNG				*i* S	**Sb**	**01 44 52.6**	**+1.0**
ROCH	**El Roble**	**0.83**	**118**	*i* P	**Pb**	**01 44 42.6**	**-0.2**
ROCH				*i* S	**Sb**	**01 44 53.4**	**-0.2**
ROCH				AML	AML	01 44 54.7	
	comp=N,60μm,0.3s						
PTCH	**Petorca**	**0.86**	**69**	⇓*i*P	**Pb**	**01 44 43.6**	**+0.2**
PTCH				*i* S	**Sb**	**01 44 55.2**	**+0.7**
PTCH	**Petorca**	**0.86**	**69**	⇓*i*P	**Pb**	**01 44 43.6**	**+0.2**
PTCH				*i* S	**Sb**	**01 44 55.2**	**+0.7**
LCCH	**Las Cruces**	**0.93**	**164**	⇑*i*P	**Pb**	**01 44 43.8**	**-0.8**
LCCH	**Las Cruces**	**0.93**	**164**	⇑*i*P	**Pb**	**01 44 43.8**	**-0.8**
PEL	**Peldehue**	**1.15**	**120**	⇑*i*P	**Pn**	**01 44 48.0**	**0.0**
PEL				*e*S	**Sb**	**01 45 02.7**	**-0.2**
PEL				AML	AML	01 45 05.7	
	comp=N,122μm,0.3s						
RCDM	**Rinconada Maip**	**1.28**	**136**	AML	AML	01 45 09.2	
	comp=E,20μm,0.2s						
TACH	**Talagante**	**1.33**	**144**	*e*P	**Pn**	**01 44 50.0**	**-0.4**
TACH	**Talagante**	**1.33**	**144**	*e*P	**Pn**	**01 44 50.0**	**-0.4**
SAN	**Santiago**	**1.35**	**131**	*e*P	**Pn**	**01 44 50.2**	**-0.4**
SAN				*i* S	**Sn**	**01 45 07.0**	**-0.8**
SAN	**Santiago**	**1.35**	**131**	*e*P	**Pn**	**01 44 50.2**	**-0.4**
SAN				*i* S	**Sn**	**01 45 07.0**	**-0.8**
SAN				AML	AML	01 45 15.1	
	comp=E,17μm,0.4s						
CLCH	**Cerro Calan**	**1.39**	**126**	⇓*i*P	**Pn**	**01 44 51.5**	**+0.3**
CLCH				*i* S	**Sn**	**01 45 09.3**	**+0.3**
CLCH				AML	AML	01 45 12.7	
	comp=E,36μm,0.4s						
ANTU	**Antumapu**	**1.44**	**134**	AML	AML	01 45 15.2	
	comp=N,29μm,0.2s						
FCH	**Farellones**	**1.53**	**120**	⇓*e*P	**Pn**	**01 44 53.7**	**+0.5**
FCH				*i* S	**Sn**	**01 45 13.2**	**+0.8**
FCH				AML	AML	01 45 15.5	
	comp=E,27μm,0.2s						
LMEL	**Las Melosas**	**1.89**	**132**	AML	AML	01 45 28.9	
	comp=N,18μm,0.2s						
TLL	**Tololo Astrono**	**2.57**	**21**	AML	AML	01 45 56.7	
	comp=N,8μm,0.5s						
CFAA	**Coronel Fontan**	**3.24**	**74**	Pn	**Pn**	**01 45 15.6**	**-1.0**
	comp=N,0.9nm,0.3s,baz=253,slow=14,SNR=2.4						
CFAA				Sn	**Sn**	**01 46 06.1**	**+12**
	comp=N,35nm,0.3s,baz=6.0,slow=19,SNR=9.7						
CFAA				LR	LR	01 46 49.8	
	comp=N,269nm,19.6s,baz=217,slow=46						
CFAA	**Coronel Fontan**	**3.24**	**74**	Pn	**Pn**	**01 45 15.6**	**-1.0**
CFAA				Sn	**Sn**	**01 46 06.1**	**+12**
LCO	**Las Campanas**	**3.70**	**16**	*e*Pn	**Pn**	**01 45 22.8**	**-0.1**
LCO				*e*Sn	**Sn**	**01 46 06.3**	**+0.4**
LCO				*e*Sb	**Sb**	**01 46 15.5**	**-0.6**
VACH	**Vallenar**	**4.10**	**14**	⇓*i*P	**Pn**	**01 45 29.6**	**+1.1**
VACH				*i* S	**Sn**	**01 46 16.7**	**+0.8**
PLCA	**Paso Flores**	**8.21**	**173**	Pn	**Pn**	**01 46 25.1**	**+0.2**
	comp=N,1.1nm,0.3s,baz=334,slow=12,SNR=9.7						
PLCA				LR	LR	01 49 40.5	
	comp=N,444nm,19.2s,baz=343,slow=39						
PLCA	**Paso Flores**	**8.21**	**173**	*e*Pn	**Pn**	**01 46 24.9**	**0.0**
TRQA	**Tornquist**	**9.76**	**127**	*e*Pn	**Pn**	**01 46 47.4**	**+1.3**
	comp=N,17nm,0.6s						
LVC	**Limon Verde**	**10.27**	**16**	*e*Pn	**Pn**	**01 46 50.9**	**-2.2**
	comp=N,20nm,0.6s						
CPUP	**Villa Florida**	**14.12**	**68**	Pn	**Pn**	**01 47 44.9**	**-0.9**
	comp=N,1.5nm,0.3s,baz=226,slow=14,SNR=7.5						
CPUP				Sn	**Sn**	**01 50 26.2**	**+4.4**
	comp=N,1.5nm,0.3s,baz=239,slow=18,SNR=3.0						
CPUP				LR	LR	01 53 26.9	
	comp=N,423nm,20.5s,baz=239,slow=39						
CPUP	**Villa Florida**	**14.12**	**68**	*e*Pn	**Pn**	**01 47 44.6**	**-1.2**
CPUP				Sn	**Sn**	**01 50 26.2**	**+4.4**
LPAZ	**La Paz**	**16.57**	**13**	Pn	**Pn**	**01 48 19.3**	**+1.1**
	comp=N,0.6nm,0.3s,baz=196,slow=10.0,SNR=31						
LPAZ	**La Paz**	**16.57**	**13**	*e*Pn	**Pn**	**01 48 19.2**	**+1.0**
	comp=N,9.4nm,0.8s						
SIV	**San Ignacio**	**19.20**	**33**	P	**Pn**	**01 48 48.3**	**-2.3**
	comp=N,0.5nm,0.3s,baz=218,slow=13,SNR=20						
SIV				LR	LR	01 57 40.5	
	comp=N,409nm,18.9s,slow=42						
SIV	**San Ignacio**	**19.20**	**33**	P	**Pn**	**01 48 48.3**	**-2.3**
USHA	**Ushuaia**	**22.38**	**175**	LR	LR	01 59 31.8	
	comp=N,281nm,19.5s,MS3.7,baz=347,slow=41						
SPB	**Sao Paulo**	**23.31**	**74**	*e*P	**P**	**01 49 33.3**	**-0.5**
	comp=N,24nm,1.0s,mb4.6						
SAML	**Samuel**	**24.85**	**21**	*e*P	**P**	**01 49 48.0**	**-0.1**
	comp=N,6.5nm,0.9s,mb4.2						
ATAH	**Atahualpa**	**26.03**	**345**	LR	LR	01 58 49.2	
	comp=N,91nm,19.0s,MS3.3,baz=345,slow=33						
VNA3	**Neumayer Olymp**	**50.63**	**158**	*e*	**P**	**01 53 25.0**	**+1.0**
VNA2	**Neumayer--Watz**	**51.27**	**158**	*e*	**P**	**01 53 29.6**	**+0.7**
	baz=284,slow=9.0						
SNAA	**Sanae**	**52.85**	**158**	*e*	**P**	**01 53 41.6**	**+1.0**
SNAA	**Sanae**	**52.85**	**158**	*e*P	**P**	**01 53 41.2**	**+0.6**
	comp=N,9.2nm,1.1s,mb4.6						
QSPA	**South Pole Qui**	**57.66**	**180**	*e*P	**P**	**01 54 16.0**	**+0.9**
	comp=N,4.6nm,1.1s,mb4.4						
VNDA	**Vanda**	**65.52**	**191**	*e*P	**P**	**01 55 07.9**	**-0.4**
	comp=N,1.1nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**01 55 29.0**	**+0.9**
	comp=N,0.7nm,0.6s,mb3.8,baz=151,slow=8.1,SNR=13						
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**01 55 29.0**	**+0.9**
WVT	**Waverly**	**69.96**	**346**	*e*P	**P**	**01 55 36.4**	**-0.2**
	comp=N,9.5nm,0.9s,mb4.7						
MNTX	**Cornudas Mount**	**71.34**	**330**	*e*P	**P**	**01 55 44.6**	**-0.5**
	comp=N,1.5nm,0.7s,mb4.0						
WCI	**Wyandotte Cave**	**71.71**	**348**	*e*P	**P**	**01 55 46.0**	**-1.2**
	comp=N,2.9nm,0.6s,mb4.4						
MAW	**Mawson**	**74.50**	**164**	LR	LR	02 27 25.7	
	comp=N,96nm,20.2s,MS4.1,baz=312,slow=35						
DBIC	**Dimbokro**	**74.60**	**72**	P	**P**	**01 56 04.5**	**-0.4**
	comp=N,8.3nm,0.6s,mb4.9,baz=214,slow=6.9,SNR=24						
DBIC				LR	LR	02 25 20.0	
	comp=N,96nm,18.3s,MS4.1,baz=192,slow=33						
DBIC	**Dimbokro**	**74.60**	**72**	*e*P	**P**	**01 56 04.4**	**-0.5**
	comp=N,8.7nm,0.8s,mb4.7						
ANMO	**Albuquerque**	**74.61**	**331**	*e*P	**P**	**01 56 02.1**	**-2.3**
	comp=N,2.1nm,1.0s,mb4.0						
SUR	**Sutherland**	**75.40**	**119**	*e*P	**P**	**01 56 10.2**	**+0.8**
	comp=N,39nm,1.5s,mb5.1						
RAR	**Rarotonga**	**77.19**	**253**	P	**P**	**01 56 24.1**	**+4.5**
	comp=N,15nm,0.4s,mb5.3,baz=84,slow=5.8,SNR=2.9						
RAR	**Rarotonga**	**77.19**	**253**	P	**P**	**01 56 24.1**	**+4.5**
ECSD	**EROS Data Cent**	**79.24**	**342**	*e*P	**P**	**01 56 30.4**	**+0.1**
	comp=N,8.5nm,1.1s,mb4.6						
TSUM	**Tsumeb**	**79.48**	**106**	*e*P	**P**	**01 56 32.4**	**+0.1**
	comp=N,3.1nm,0.9s,mb4.2						
BOSA	**Boshof**	**80.62**	**118**	P	**P**	**01 56 37.8**	**-0.5**
	comp=N,7.3nm,0.8s,mb4.7,baz=251,slow=4.0,SNR=20						
BOSA				LR	LR	02 28 40.9	
	comp=N,124nm,19.4s,MS4.3,baz=165,slow=33						
BOSA	**Boshof**	**80.62**	**118**	*e*P	**P**	**01 56 37.9**	**-0.4**
	comp=N,6.8nm,0.7s,mb4.7						
RSSD	**Black Hills**	**81.78**	**337**	*e*P	**P**	**01 56 44.6**	**+0.7**
	comp=N,1.3nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**82.56**	**333**	P	**P**	**01 56 49.8**	**+1.7**
	comp=N,0.2nm,0.7s,mb3.3,baz=131,slow=6.1,SNR=2.5						
PDAR	**Pinedale Array**	**82.56**	**333**	P	**P**	**01 56 49.8**	**+1.7**
LBTB	**Lobatse**	**82.78**	**115**	*e*P	**P**	**01 56 49.6**	**-0.3**
	comp=N,5.2nm,0.4s,mb4.9						
NVAR	**Mina Array Bea**	**82.79**	**325**	P	**P**	**01 56 50.7**	**+1.3**
	comp=N,0.5nm,0.4s,mb3.9,baz=176,slow=5.0,SNR=2.7						
NVAR	**Mina Array Bea**	**82.79**	**325**	P	**P**	**01 56 50.7**	**+1.3**
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P	**P**	**01 56 53.6**	**-0.5**
	comp=N,7.6nm,0.8s,mb4.9,baz=253,slow=4.9,SNR=59						
TORD				LR	LR	02 31 52.4	
	comp=N,90nm,18.9s,MS4.2,baz=345,slow=34						
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P	**P**	**01 56 53.6**	**-0.5**
ULM	**Lac du Bonnet**	**85.16**	**345**	P	**P**	**01 57 00.7**	**-0.4**
	comp=N,1.9nm,0.8s,mb4.2,baz=94,slow=3.2,SNR=4.7						
ULM	**Lac du Bonnet**	**85.16**	**345**	*e*P	**P**	**01 57 00.6**	**-0.5**
	comp=N,2.9nm,0.8s,mb4.5						
TAM	**Tamanrasset**	**92.09**	**64**	*e*P	**P**	**01 57 33.0**	**-1.8**
BRTR	**Keskin Array B**	**121.02**	**60**	PKP	PKPdf	02 03 17.4	-0.4
	comp=N,0.9nm,0.8s,baz=204,slow=2.9,SNR=6.9						
BRTR	**Keskin Array B**	**121.02**	**60**	PKP	PKPdf	02 03 17.4	-0.4
WRA	**Warramunga Arr**	**122.07**	**209**	PKP	PKPdf	02 03 19.4	-1.1
	comp=N,0.3nm,0.6s,baz=161,slow=1.7,SNR=2.9						
WRA	**Warramunga Arr**	**122.07**	**209**	PKP	PKPdf	02 03 19.4	-1.1
BRVK	**Borovoye**	**146.07**	**42**	*e*PKPbc	PKPbc	02 04 04.7	-0.1
BVAR	**Borovoye Array**	**146.14**	**42**	PKPbc	PKPbc	02 04 05.0	-0.1
	comp=N,4.3nm,0.7s,baz=301,slow=3.0,SNR=26						
BVAR	**Borovoye Array**	**146.14**	**42**	PKPbc	PKPbc	02 04 05.0	-0.1
KBL	**Kabul**	**147.51**	**76**	*e*PKPbc	PKPbc	02 04 08.7	-0.9
KKAR	**Karatay Array**	**148.73**	**59**	*e*PKPbc	PKPbc	02 04 11.7	-0.8
EKS2	**Erkin-Say**	**151.17**	**60**	*e*PKPdf	PKPdf	02 04 13.3	+0.8
EKS2				*e*PKPbc	PKPbc	02 04 18.4	0.0
AAK	**Ala-Archa**	**151.69**	**60**	*e*PKPbc	PKPbc	02 04 20.2	+0.6
AAK				*e*PKPab	PKPab	02 04 28.7	+0.2
KURK	**Kurchatov**	**151.74**	**41**	PKPbc	PKPbc	02 04 19.5	0.0
	comp=N,5.7nm,0.6s,baz=303,slow=3.1,SNR=47						
KURK				PKPab	PKPab	02 04 28.3	-0.1
	comp=N,3.8nm,0.7s,baz=300,slow=3.4,SNR=14						
KURK	**Kurchatov**	**151.74**	**41**	*e*PKPbc	PKPbc	02 04 19.0	-0.5
KURK				*e*PKPab	PKPab	02 04 28.4	0.0
TKM2	**Tokmak 2**	**152.44**	**59**	*e*PKPbc	PKPbc	02 04 21.5	+0.2
ZAA0	**Zalesovo Array**	**152.95**	**31**	*e*PKPbc	PKPbc	02 04 21.4	-0.6
ZAA0				*e*PKPab	PKPab	02 04 31.2	-2.2
ZALV	**Zalesovo Beam**	**152.95**	**31**	PKPbc	PKPbc	02 04 21.9	-0.1
	comp=N,5.9nm,0.6s,baz=308,slow=3.1,SNR=28						
ZALV	**Zalesovo Beam**	**152.95**	**31**	PKPbc	PKPbc	02 04 21.9	-0.1
MK31	**Makanchi Array**	**155.71**	**47**	*e*PKPab	PKPab	02 04 44.9	-0.5
MKAR	**Makanchi Array**	**155.71**	**47**	PKPab	PKPab	02 04 45.3	-0.1
	comp=N,3.8nm,0.7s,baz=290,slow=3.2,SNR=22						
MKAR	**Makanchi Array**	**155.71**	**47**	PKPab	PKPab	02 04 45.3	-0.1

*TRN **20** 01:46:49.9, 19°.34N×64°.17W, h55km, MD3.4(RSPR)*

RSPR 20 01:46:50.7, 19°.48N×64°.18W, h49km±6km, **MD3.4**/4, **6C-2D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.76**	**191**	⇓*e*P	Pn	01 47 04.2	-1.0
ABV				*e*S	Sn	01 47 14.7	-0.9
ABV	**Anegada**	**0.76**	**191**	⇓*e*P	Pn	01 47 04.2	-1.0
ABV				*e*S	Sn	01 47 14.7	-0.9
STVI	**Saint Thomas**	**1.34**	**213**	⇑*e*P	Pn	01 47 12.1	-1.0
STVI	**Saint Thomas**	**1.34**	**213**	⇑*e*P	Pn	01 47 12.5	-0.5
STVI				*e*S	Sn	01 47 28.7	-1.0
MTP	**Monte Pirata**	**1.89**	**224**	⇑*e*P	Pn	01 47 19.9	-0.7
MTP	**Monte Pirata**	**1.89**	**224**	⇑*e*P	Pn	01 47 19.9	-0.7
HUMP	**Col San Antoni**	**2.07**	**230**	⇑*e*P	Pn	01 47 22.1	-0.9
HUMP	**Col San Antoni**	**2.07**	**230**	⇑*e*P	Pn	01 47 22.7	-0.3
HUMP				*e*S	Sn	01 47 46.7	-0.8

*ISCJB **20** 01:52:24.8±0.5, 15°.90N±0°.05×43°.38E±0°.06, h10km, Error ellipse: s-maj=10.4km s-min=3.4km az=144.4*
*CSEM **20** 01:52:24.0±0.2, 15°.89N×43°.36E, h2km, ML4.1, Error ellipse: s-maj=13.8km s-min=4.3km az=58.0*
*DHMR **20** 01:52:26.1±1.7, 15°.69N×43°.38E, h6km±12km, ML4.1*
*SGS **20** 01:52:27.1, 15°.90N×43°.29E, h7km*

ISC 20 01:52:25.0±0.5, **15°.94N**±0°.05×**43°.41E**±0°.07, **h10km, n19,** σ1°**10**/33, **1C-10D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**0.30**	**142**	⇓*i*P	**Pg**	**01 52 30.2**	**-0.7**
HAJJ				*i* S	**Sg**	**01 52 33.5**	**-1.5**
HAJJ				AML	AML	01 52 33.9	
	comp=Z,63μm,0.6s						
HAJJ	**Hajjah**	**0.30**	**142**	⇓*i*P	**Pg**	**01 52 30.2**	**-0.8**
	comp=Z,31μm,0.6s						
HAJJ				*i* S	**Sg**	**01 52 33.5**	**-1.5**
SANA	**San'a**	**0.94**	**125**	⇓*i*P	**Pg**	**01 52 42.0**	**-1.1**
SANA				*i* S	**Sg**	**01 52 53.7**	**-1.7**
JAZS	**Jizan**	**1.22**	**337**	P	**Pn**	**01 52 47.8**	**-0.3**
JAZS	**Jizan**	**1.22**	**337**	P	**Pn**	**01 52 47.8**	**-0.3**
JAZS				S	**Sb**	**01 53 04.6**	**+0.6**
FRSS	**Farasan al Kab**	**1.48**	**303**	P	**Pn**	**01 52 51.0**	**-0.6**
FRSS	**Farasan al Kab**	**1.48**	**303**	P	**Pn**	**01 52 51.0**	**-0.6**
FRSS				S	**Sn**	**01 53 09.2**	**-1.8**
DHBB	**Dhamar BB**	**1.66**	**145**	⇓*i*P	**Pn**	**01 52 53.5**	**-0.6**
DHBB				*i* S	**Sn**	**01 53 15.0**	**-0.4**
DHBB	**Dhamar BB**	**1.66**	**145**	*i* P	**Pn**	**01 52 54.5**	**+0.4**
DHBB				*i* S	**Sn**	**01 53 15.6**	**+0.2**
DJNS	**Zahran al Janu**	**1.76**	**4**	P	**Pn**	**01 52 56.8**	**+1.2**
DJNS	**Zahran al Janu**	**1.76**	**4**	P	**Pn**	**01 52 56.8**	**+1.2**
UDYN	**Al 'Udayn**	**2.03**	**164**	⇓*i*P	**Pn**	**01 52 58.5**	**-0.8**
UDYN				*i* S	**Sn**	**01 53 23.8**	**-0.9**
UDYN				AML	AML	01 53 24.7	
	comp=E,995nm,0.5s						
UDYN	**Al 'Udayn**	**2.03**	**164**	⇓*i*P	**Pn**	**01 52 59.6**	**+0.3**
UDYN				*i* S	**Sn**	**01 53 23.9**	**-0.8**
	comp=E,497nm,0.5s						
RADA	**Ahram - Rada'a**	**2.04**	**137**	⇓*i*P	**Pn**	**01 52 59.1**	**-0.3**
RADA				*i* S	**Sn**	**01 53 25.1**	**+0.2**
LBOS		**2.72**	**139**	⇑*i*P	**Pn**	**01 53 10.2**	**+1.5**
LBOS				*i* S	**Sn**	**01 53 45.5**	**+3.9**
TRBA	**At Turbah**	**2.77**	**166**	⇓*i*P	**Pn**	**01 53 09.9**	**+0.4**
TRBA				*i* S	**Sn**	**01 53 44.4**	**+1.3**
TRBA				AML	AML	01 53 56.6	
	comp=E,1μm,0.5s						
BDHA	**Al Bayda'**	**2.85**	**133**	⇓*i*P	**Pn**	**01 53 12.5**	**+1.8**
BDHA				*i* S	**Sn**	**01 53 49.9**	**+4.8**
BDHA	**Al Bayda'**	**2.85**	**133**	⇓*i*P	**Pn**	**01 53 12.5**	**+1.9**
ADEN	**Aden**	**3.49**	**154**	*i* P	**Pn**	**01 53 19.7**	**+0.3**
ADEN				*i* S	**Sn**	**01 54 02.8**	**+1.9**

*ISCJB **20** 02:06:35.6±0.6, 39°.91N±0°.04×39°.06E±0°.04, h10km, Error ellipse: s-maj=5.4km s-min=4.9km az=157.9*
*DDA **20** 02:06:35.3, 39°.91N×39°.07E, h7km±2km, Md2.8*
*CSEM **20** 02:06:36.2±0.4, 39°.94N×39°.03E, h2km, MD2.8, Error ellipse: s-maj=9.8km s-min=7.8km az=134.0*

ISC 20 02:06:36.2±0.6, **39°.92N**±0°.04×**39°.06E**±0°.05, **h10km, n11,** σ0°**81**/18, **1D, Turkey**

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

FCH	Farellones	1.39	121	⇓iP	Pn	02 46 52.1	-0.8
FCH				i S	Sg	02 47 12.0	+0.8
FCH				AML	AML	02 47 14.9	
	comp=N,185nm,0.1s						
PCH	Pirque	1.42	136	⇓iP	Pn	02 46 52.5	-0.8
PCH				i S	Sb	02 47 11.7	-0.5
CHCH	Chadas Angostu	1.59	146	eP	Pn	02 46 55.2	-0.5
LMEL	Las Melosas	1.76	135	eP	Pn	02 46 58.0	0.0
LMEL				i S	Sn	02 47 21.8	+0.9
LMEL				AML	AML	02 47 25.9	
	comp=N,135nm,0.2s						
CACH	El Canelo	1.76	149	eP	Pn	02 46 58.6	+0.5

*ISCJB **20** 02:53:56.8±0.7, 10°.4N±0°.2×43°.1W±0°.1, h10km, mb3.7/8, MS3.6/10, Error ellipse: s-maj=24.6km s-min=15.6km az=155.5*
*IDC **20** 02:53:56.9±1.0, 10°.37N×43°.07W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.7/7, MS3.6/11, Ms1 3.6/11, ms1mx3.4/33, Error ellipse: s-maj=34.6km s-min=22.1km az=177.0*
*NEIC **20** 02:53:58.4±0.6, 10°.36N×43°.07W, h10km, mb4.3/3, Error ellipse: s-maj=22.0km s-min=14.0km az=156.0*
ISC 20 02:53:58.6±0.7, 10°.4N±0°.2×43°.1W±0°.1, h10km, n22, σ0°67/15, mb3.7/8, MS3.6/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	Riachuelo	17.61	156	LR	LR	03 03 06.4	
	comp=Z,121nm,21.9s,baz=333,slow=31						
BBTS	Babate	26.24	78	LR	LR	03 06 51.1	
	comp=Z,189nm,19.6s,MS3.6,baz=69,slow=30						
SAML	Samuel	27.74	227	eP	P	02 59 47.1	-0.4
	9.5nm,1.4s,mb4.2						
ROSC	El Rosal	31.46	262	LR	LR	03 13 39.3	
	comp=Z,107nm,18.5s,MS3.5,baz=16,slow=38						
SIV	San Ignacio	31.69	214	LR	LR	03 12 45.4	
	comp=Z,100nm,18.8s,MS3.5,slow=36						
LPAZ	La Paz	36.29	223	P	P	03 01 03.2	+0.7
	1.2nm,0.8s,mb3.9,baz=40,slow=8.7,SNR=4.9						
LPAZ	La Paz	36.29	223	eP	P	03 01 03.2	+0.7
	1.5nm,0.9s,mb3.9						
DBIC	Dimbokro	37.95	92	P	P	03 01 17.1	+0.3
	5.3nm,0.8s,mb4.3,baz=271,slow=11,SNR=7.8						
DBIC				LR	LR	03 13 58.4	
	comp=Z,71nm,18.7s,MS3.5,baz=260,slow=32						
DBIC	Dimbokro	37.95	92	eP	P	03 01 17.4	+0.6
	6.1nm,0.8s,mb4.4						
ATAH	Atahualpa	39.24	245	LR	LR	03 17 06.3	
	comp=Z,72nm,20.6s,MS3.5,baz=163,slow=35						
NNA	Nana	40.25	237	LR	LR	03 17 39.7	
	comp=Z,68nm,18.4s,MS3.5,baz=137,slow=35						
TORD	Torodi Ar. Bea	43.87	82	P	P	03 02 04.5	-1.1
	2.0nm,0.8s,mb3.9,baz=278,slow=7.8,SNR=12						
TORD				LR	LR	03 17 49.7	
	comp=Z,71nm,20.0s,MS3.6,baz=295,slow=33						
TORD	Torodi Ar. Bea	43.87	82	P	P	03 02 04.5	-1.1
ESDC	Sonseca Array	45.33	43	P	P	03 02 17.3	+0.4
	0.6nm,0.7s,mb3.5,baz=247,slow=9.2,SNR=4.5						
ESDC	Sonseca Array	45.33	43	P	P	03 02 17.3	+0.4
TXAR	Lajitas Array	59.41	298	P	P	03 04 00.8	-0.9
	0.2nm,0.8s,mb3.2,baz=58,slow=8.6,SNR=2.5						
TXAR	Lajitas Array	59.41	298	P	P	03 04 00.8	-0.9
PDAR	Pinedale Array	65.79	312	LR	LR	03 31 24.4	
	comp=Z,82nm,18.9s,MS4.0,baz=199,slow=34						
YKA	Yellowknife Ar	72.36	332	P	P	03 05 24.5	0.0
	0.2nm,0.9s,mb3.1,baz=105,slow=6.3,SNR=3.3						
YKA				LR	LR	03 33 05.3	
	comp=Z,7.6nm,18.6s,MS3.0,baz=300,slow=32						
YKA	Yellowknife Ar	72.36	332	P	P	03 05 24.4	0.0
ILAR	Eielson Array	86.51	335	P	P	03 06 42.3	+0.8
	0.5nm,0.9s,mb3.7,baz=66,slow=4.8,SNR=4.5						
ILAR				LR	LR	03 44 39.9	
	comp=Z,63nm,19.1s,MS4.0,baz=178,slow=35						
ILAR	Eielson Array	86.51	335	P	P	03 06 42.3	+0.8

*IDC **20** 03:05:56.6±0.9, 16°.40N×122°.98E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, ML5.0/1, Error ellipse: s-maj=32.6km s-min=14.4km az=66.0*
*MAN **20** 03:05:58, 16°.07N×122°.31E, h1km, mb4.7, ML3.6, MS3.5*
*NEIC **20** 03:06:02.0±0.5, 16°.29N×122°.91E, h35km, mb4.4/5, Error ellipse: s-maj=16.6km s-min=8.1km az=66.0*
ISC 20 03:05:58.7±1.7, 16°.08N±0°.06×122°.36E±0°.09, h5km±10km, n35, σ1°12/38, mb4.0/14, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALP	Baler	0.82	246	eP	Pg	03 06 14.1	-0.5
CAUP	Cauayan	1.00	329	eP	Pg	03 06 17.2	-0.7
BCPH	Baguio City Da	1.73	280	⇑iP	Pn	03 06 28.3	-1.2
BCPH				i S	Sn	03 06 48.3	-3.8
SGCP	Mt. Cagua	2.17	352	eP	Pn	03 06 37.6	+2.0
ABRA	Dolores	2.22	315	eP	Pn	03 06 36.2	0.0
BOLP	Bolinao	2.37	278	eP	Pn	03 06 40.0	+1.7
SCZP	Santa Cruz	2.37	263	eP	Pn	03 06 39.8	+1.5
TGY	Tagaytay City	2.40	215	Pn	Pn	03 06 45.3	+6.6
	204nm,0.3s,baz=58,slow=3.5,SNR=9.6						
TGY				Sn	Sn	03 07 21.9	+13
	368nm,0.3s,baz=292,slow=19,SNR=7.3						
TGY	Tagaytay City	2.40	215	Pn	Pn	03 06 45.3	+6.6
TGY				Sn	Sn	03 07 21.9	+13
PVCP	Virac	3.02	145	eP	Pn	03 06 49.0	+1.9
CMAR	Chiang Mai Arr	22.48	279	P	P	03 11 04.9	+5.7
	1.3nm,0.3s,mb3.8,baz=92,slow=8.0,SNR=8.2						
CMAR	Chiang Mai Arr	22.48	279	P	P	03 11 04.9	+5.7
KULM	Kulim	23.84	246	eP	P	03 11 17.1	+3.9
	7.5nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	34.12	174	P	P	03 12 44.5	-0.1
	2.3nm,0.7s,mb4.2,baz=0.0,slow=8.1,SNR=4.1						
FITZ	Fitzroy Crossi	34.12	174	P	P	03 12 44.5	-0.1
WRAB	Tennant Creek	37.68	161	eP	P	03 13 14.0	-1.1
	5.5nm,0.9s,mb4.3						
WRA	Warramunga Arr	37.68	161	P	P	03 13 14.8	-0.4
	1.2nm,0.5s,mb3.9,baz=343,slow=9.1,SNR=13						
WRA	Warramunga Arr	37.68	161	P	P	03 13 14.8	-0.4
WB2	Warramunga Arr	37.69	161	eP	P	03 13 14.2	-1.0
ASAR	Alice Springs	41.08	164	P	P	03 13 43.8	+0.2
	2.0nm,0.6s,mb3.9,baz=349,slow=7.5,SNR=34						
ASAR	Alice Springs	41.08	164	P	P	03 13 43.8	+0.2
MKAR	Makanchi Array	45.13	321	P	P	03 14 17.2	+1.0
	0.8nm,0.8s,mb3.6,baz=110,slow=8.4,SNR=3.8						
MKAR	Makanchi Array	45.13	321	P	P	03 14 17.2	+1.0
ZALV	Zalesovo Beam	47.73	331	P	P	03 14 34.3	-2.2
	0.4nm,0.3s,mb3.9,baz=119,slow=10,SNR=4.4						
ZALV	Zalesovo Beam	47.73	331	P	P	03 14 34.3	-2.2
KURK	Kurchatov	49.15	324	P	P	03 14 46.1	-1.4
	1.2nm,0.6s,mb4.1,baz=121,slow=8.2,SNR=10.0						
KURK	Kurchatov	49.15	324	eP	P	03 14 48.4	+0.9
	10nm,1.1s,mb4.8						
STKA	Stephens Creek	51.13	159	P	P	03 15 02.6	0.0
	0.7nm,0.4s,mb4.0,baz=335,slow=11,SNR=2.7						
STKA	Stephens Creek	51.13	159	P	P	03 15 02.6	0.0
BVAR	Borovoye Array	54.75	324	P	P	03 15 28.5	-0.7
	0.3nm,0.3s,mb3.8,baz=107,slow=8.0,SNR=3.4						
BVAR	Borovoye Array	54.75	324	P	P	03 15 28.5	-0.7
BRVK	Borovoye	54.82	324	eP	P	03 15 30.4	+0.7
	3.7nm,0.9s,mb4.4						
ABKAR	Akbulak array	60.03	318	eP	P	03 16 06.3	-0.2
	0.8nm,0.7s,mb3.9						
AKTO	Aktyubinsk	61.46	319	P	P	03 16 15.5	-0.7
	0.7nm,0.7s,mb3.9,baz=81,slow=9.7,SNR=2.9						
AKTO	Aktyubinsk	61.46	319	P	P	03 16 15.5	-0.7

*IDC **20** 03:12:18.7±1.2, 32°.53S×71°.73W, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.8/14, mbtmp3.8/7, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/20, Error ellipse: s-maj=43.6km s-min=24.6km az=83.0*
*ISCJB **20** 03:12:20.3±0.8, 32°.56S±0°.03×72°.02W±0°.05, h25km±5km, mb4.0/8, Error ellipse: s-maj=7.9km s-min=4.9km az=158.6*
*GUC **20** 03:12:23.1±0.7, 32°.62S×71°.84W, h15km±8km, ML3.9*
*NEIC **20** 03:12:23.1, 32°.62S×71°.84W, h15km, mb4.1/4, ML3.9(GUC), After GUC.*
ISC 20 03:12:21.4±0.9, 32°.56S±0°.03×71°.94W±0°.05, h19km±5km, n61, σ0°91/83, mb4.0/8, 13C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	Papudo	0.42	87	⇓iP	Pg	03 12 30.7	+0.5
PACH	Papudo	0.42	87	⇓iP	Pg	03 12 30.7	+0.5
IHA	Instituto Hidr	0.53	152	⇓iP	Pb	03 12 31.8	-0.1
IHA				i S	Sg	03 12 38.2	-0.9
IHA	Instituto Hidr	0.53	152	⇓iP	Pb	03 12 31.8	-0.1
IHA				i S	Sg	03 12 38.2	-0.9
ROCH	El Roble	0.88	118	⇓iP	Pb	03 12 37.6	-0.4
ROCH				i S	Sb	03 12 48.5	-0.8
ROCH				AML	AML	03 12 50.0	
	comp=N,8μm,0.4s						
PTCH	Petorca	0.90	71	⇓iP	Pb	03 12 38.5	+0.2
PTCH				i S	Sb	03 12 50.4	+0.4
PTCH	Petorca	0.90	71	⇓iP	Pb	03 12 38.5	+0.2
PTCH				i S	Sb	03 12 50.4	+0.4
PTCH				AML	AML	03 12 55.4	
	comp=N,9μm,0.3s						
LCCH	Las Cruces	0.96	161	⇓iP	Pb	03 12 38.9	-0.4
LCCH	Las Cruces	0.96	161	⇓iP	Pb	03 12 38.9	-0.4
JACH	Jahuel	1.14	96	⇑iP	Pn	03 12 41.6	-0.6
JACH	Jahuel	1.14	96	⇑iP	Pn	03 12 41.6	-0.6
PEL	Peldehue	1.20	119	⇑iP	Pn	03 12 42.9	-0.2
PEL				i S	Sb	03 12 57.5	-1.1
PEL				AML	AML	03 13 00.2	
	comp=E,13μm,0.3s						
RCDM	Rinconada Maip	1.32	135	⇑iP	Pn	03 12 44.4	-0.4
RCDM				i S	Sn	03 13 00.3	-1.6
RCDM				AML	AML	03 13 05.6	
	comp=E,2μm,1.0s						
TACH	Talagante	1.37	143	⇑iP	Pn	03 12 45.2	-0.3
TACH	Talagante	1.37	143	⇑iP	Pn	03 12 45.2	-0.3
SAN	Santiago	1.39	130	⇑iP	Pn	03 12 45.7	0.0
SAN				eS	Sn	03 13 02.8	-0.7
SAN	Santiago	1.39	130	⇑iP	Pn	03 12 45.7	0.0
SAN				eS	Sn	03 13 02.8	-0.7
SAN				AML	AML	03 13 09.0	
	comp=N,3μm,0.5s						
CLCH	Cerro Calan	1.44	126	⇓iP	Pn	03 12 46.5	+0.1
CLCH				i S	Sn	03 13 04.3	-0.5
CLCH				AML	AML	03 13 11.3	
	comp=N,5μm,0.5s						
LNV	Longovilo	1.46	163	eP	Pn	03 12 45.8	-0.8
ANTU	Antumapu	1.48	133	eP	Pn	03 12 47.1	+0.1
ANTU				eS	Sn	03 13 05.2	-0.6
ANTU	Antumapu	1.48	133	eP	Pn	03 12 47.1	+0.1
ANTU				eS	Sn	03 13 05.2	-0.6
ANTU				AML	AML	03 13 08.2	
	comp=E,4μm,0.5s						
FSR	Penalolen	1.50	128	eP	Pn	03 12 47.0	-0.1
FSR				i S	Sn	03 13 05.7	-0.4
FSR	Penalolen	1.50	128	eP	Pn	03 12 47.0	-0.1
FSR				i S	Sn	03 13 05.7	-0.4
FCH	Farellones	1.58	119	i P	Pn	03 12 38.5	-10
FCH				i S	Sn	03 12 58.3	-10
PCH	Pirque	1.59	132	⇓iP	Pn	03 12 49.0	+0.5
PCH	Pirque	1.59	132	⇓iP	Pn	03 12 48.9	+0.4
PCH				i S	Sn	03 13 09.0	+0.5
SJCH	San Jose de Ma	1.71	129	eP	Pn	03 12 50.8	+0.7
SJCH				i S	Sn	03 13 11.8	+0.4
CACH	El Canelo	1.91	145	⇑iP	Pn	03 12 54.3	+1.5
CACH				i S	Sn	03 13 18.8	+2.5
CACH	El Canelo	1.91	145	⇑iP	Pn	03 12 54.3	+1.5
CACH				i S	Sn	03 13 18.8	+2.5
LMEL	Las Melosas	1.94	132	⇑iP	Pn	03 12 54.6	+1.4
LMEL				i S	Sn	03 13 18.2	+1.2
LMEL	Las Melosas	1.94	132	⇑iP	Pn	03 12 54.6	+1.4
LMEL				i S	Sn	03 13 18.2	+1.2
LMEL				AML	AML	03 13 23.2	
	comp=N,2μm,0.2s						
CFAA	Coronel Fontan	3.28	74	Pn	Pn	03 13 13.5	+1.8
	comp=N,2.9nm,0.3s,baz=247,slow=13,SNR=105						
CFAA				Sn	Sn	03 14 01.9	+12
	comp=N,3.9nm,0.3s,baz=142,slow=19,SNR=9.7						
CFAA	Coronel Fontan	3.28	74	Pn	Pn	03 13 13.5	+1.8
CFAA				Sn	Sn	03 14 01.9	+12
LCO	Las Campanas	3.70	17	ePn	Pn	03 13 18.0	+0.6
LCO				eSn	Sn	03 14 00.2	-0.2
LCO				eSg	Sg	03 14 11.7	-8.4
PLCA	Paso Flores	8.23	173	Pn	Pn	03 14 20.1	+0.5
	comp=N,0.6nm,0.3s,baz=339,slow=13,SNR=12						
PLCA	Paso Flores	8.23	173	Pn	Pn	03 14 20.1	+0.5
TRQA	Tornquist	9.81	127	ePn	Pn	03 14 43.0	+1.7
CPUP	Villa Florida	14.16	68	Pn	Pn	03 15 41.2	+0.4
	comp=N,0.2nm,0.3s,baz=238,slow=15,SNR=2.1						
CPUP				Sn	Sn	03 18 22.7	+5.4
	comp=N,0.3nm,0.3s,baz=131,slow=20,SNR=2.9						
CPUP				LR	LR	03 21 56.7	
	comp=N,81nm,21.5s,baz=192,slow=41						
CPUP	Villa Florida	14.16	68	Pn	Pn	03 15 41.2	+0.4
CPUP				Sn	Sn	03 18 22.7	+5.3
LPAZ	La Paz	16.57	13	Pn	Pn	03 16 09.0	-3.6
	comp=N,0.6nm,0.3s,baz=218,slow=8.7,SNR=16						
LPAZ	La Paz	16.57	13	Pn	Pn	03 16 09.0	-3.6
SIV	San Ignacio	19.22	33	P	Pn	03 16 42.3	-3.0
	comp=N,0.1nm,0.3s,baz=231,slow=13,SNR=5.6						
SIV				LR	LR	03 25 27.2	
	comp=N,74nm,21.6s,slow=41						
SIV	San Ignacio	19.22	33	P	Pn	03 16 42.3	-3.0
SAML	Samuel	24.86	21	eP	P	03 17 41.9	-0.8
	comp=N,1.2nm,0.8s,mb3.5						
SNAA	Sanae	52.88	158	P	P	03 21 35.3	-0.1
	comp=N,0.5nm,0.9s,mb3.4,baz=252,slow=7.1,SNR=5.2						
SNAA	Sanae	52.88	158	eP	P	03 21 35.8	+0.4
	comp=N,9.0nm,1.5s,mb4.5						
TXAR	Lajitas Array	68.53	330	P	P	03 23 23.4	+1.0
	comp=N,0.3nm,0.6s,mb3.4,baz=152,slow=7.8,SNR=4.7						
TXAR	Lajitas Array	68.53	330	P	P	03 23 23.4	+1.0
AMTX	Amarillo	72.67	335	eP	P	03 23 45.6	-2.0
	comp=N,5.5nm,0.7s,mb4.6						
ANMO	Albuquerque	74.57	331	eP	P	03 23 53.5	-5.3
	comp=N,0.6nm,0.6s,mb3.7						
DBIC	Dimbokro	74.64	72	P	P	03 23 59.6	-0.1
	comp=N,2.4nm,0.7s,mb4.2,baz=215,slow=7.0,SNR=4.7						
DBIC	Dimbokro	74.64	72	P	P	03 23 59.6	-0.1
BOSA	Boshof	80.66	118	P	P	03 24 32.8	-0.4
	comp=N,1.2nm,0.5s,mb4.0,baz=258,slow=6.2,SNR=3.8						
BOSA	Boshof	80.66	118	P	P	03 24 32.8	-0.4
TORD	Torodi Ar. Bea	83.64	70	P	P	03 24 48.8	-0.1
	comp=N,1.3nm,0.6s,mb4.2,baz=256,slow=4.3,SNR=20						
TORD	Torodi Ar. Bea	83.64	70	P	P	03 24 48.8	-0.1
AAK	Ala-Archa	151.73	59	ePKPbc	PKPbc	03 32 13.6	-0.7
ZALV	Zalesovo Beam	152.96	31	PKPbc	PKPbc	03 32 16.7	0.0
	comp=N,1.4nm,0.6s,baz=318,slow=1.9,SNR=8.2						
ZALV				PKPab	PKPab	03 32 28.9	+0.9
	comp=N,0.7nm,0.5s,baz=316,slow=4.0,SNR=4.2						
ZALV	Zalesovo Beam	152.96	31	PKPbc	PKPbc	03 32 16.6	-0.1
ZALV				PKPab	PKPab	03 32 28.9	+0.9
MKAR	Makanchi Array	155.74	47	PKPab	PKPab	03 32 40.0	-0.1
	comp=N,1.0nm,0.7s,baz=283,slow=3.5,SNR=6.7						
MKAR	Makanchi Array	155.74	47	PKPab	PKPab	03 32 40.0	-0.1

GUC 20 03:16:12.6±0.6, 32°.65S×71°.98W, h8km±3km, MD3.8, ML3.4, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.47	143	eP	Pg	03 16 22.1	+0.3
CHNG	Los Chungos	0.87	28	eP	Pg	03 16 28.7	-0.6
CHNG				eS	Sg	03 16 40.9	+0.4
PTCH	Petorca	0.97	67	eP	Pg	03 16 30.8	-0.4
PTCH				eS	Sg	03 16 44.8	+0.9
PTCH				AML	AML	03 16 46.4	
	comp=N,2μm,0.4s						
JACH	Jahuel	1.17	92	⇑iP	Pb	03 16 33.7	-1.3
JACH				i S	Sg	03 16 49.8	-0.5
RCDM	Rinconada Maip	1.29	131	eP	Pn	03 16 35.6	-1.3
TACH	Talagante	1.33	139	eP	Pn	03 16 36.1	-1.3
SAN	Santiago	1.37	126	eP	Pn	03 16 37.2	-0.7
SAN				eS	Sb	03 16 55.3	-0.7
LNV	Longovilo	1.39	160	eP	Pn	03 16 36.1	-2.1
CLCH	Cerro Calan	1.42	122	AML	AML	03 17 04.0	
	comp=N,1μm,0.4s						
PCH	Pirque	1.56	129	eP	Pn	03 16 40.3	-0.4
PCH				i S	Sn	03 17 01.4	+0.3
SJCH	San Jose de Ma	1.69	126	eP	Pn	03 16 42.2	-0.1
SJCH				eS	Sn	03 17 04.3	+0.3
CHCH	Chadas Angostu	1.69	139	eP	Pn	03 16 42.1	-0.4
CACH	El Canelo	1.86	142	eP	Pn	03 16 45.6	+0.9
LMEL	Las Melosas	1.91	129	eP	Pn	03 16 46.0	+0.6
LMEL				i S	Sn	03 17 09.9	+0.3
LMEL				AML	AML	03 17 14.7	
	comp=N,637nm,0.6s						

*IDC **20** 03:17:26.8±0.7, 10°.32N×126°.29E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/24, mbtmp4.2/14, ML5.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/26, Error ellipse: s-maj=37.2km s-min=13.1km az=72.0*
*ISCJB **20** 03:17:33.2±0.9, 10°.25N±0°.04×126°.28E±0°.07, h64km±7km, mb4.2/21, Error ellipse: s-maj=11.3km s-min=6.2km az=167.2*
*NEIC **20** 03:17:33.4±1.8, 10°.25N×126°.19E, h46km±15km, mb4.4/9, Error ellipse: s-maj=15.9km s-min=6.6km az=63.0*
*MAN **20** 03:17:34, 10°.24N×126°.20E, h29km, mb4.9, ML3.8, MS3.8*
ISC 20 03:17:34.4±0.9, 10°.26N±0°.04×126°.27E±0°.07, h58km±8km, n65, σ0°92/56, mb4.2/21, 5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	Maasin	1.40	265	eP	Pn	03 17 55.9	-1.7
BUTP	Butuan	1.43	207	eP	Pn	03 17 56.9	-1.2
PLP	Palo	1.56	306	⇓eP	Pn	03 17 58.8	-1.1
PLP				eS	Sn	03 18 17.1	-1.9
OCLP	Ormoc	1.81	296	eP	Pn	03 18 03.9	+0.6
CGP	Cagayan de Oro	2.37	221	⇓eP	Pn	03 18 10.8	-0.1
CGP				eS	Sn	03 18 38.5	-0.4
TBP	Tagbilaran	2.44	257	eP	Pn	03 18 11.8	0.0
TBP				eS	Sn	03 18 40.3	-0.2
BUKP	Musuan	2.65	207	eP	Pn	03 18 15.6	+0.9
CNP	Catarman	2.74	325	eP	Pn	03 18 16.3	+0.3
SNPH	Sibulan	3.13	253	⇓iP	Pn	03 18 23.1	+1.9
SNPH				i S	Sn	03 18 59.2	+1.8
DAV	Davao City (W)	3.24	192	Pn	Pn	03 18 21.7	-1.1
	154nm,0.3s,baz=243,slow=7.4,SNR=3.7						
DAV				LR	LR	03 20 05.9	
	comp=Z,446nm,18.1s,baz=161,slow=48						
DAV	Davao City (W)	3.24	192	Pn	Pn	03 18 21.7	-1.1
CTBH	Cotabato--PC H	3.62	214	⇓iP	Pn	03 18 28.7	+0.7
RCP	Roxas	3.70	291	⇓eP	Pn	03 18 29.3	+0.3
PAGZ	Pagadian	3.72	230	eP	Pn	03 18 30.3	+0.9
PVCP	Virac	3.91	328	eP	Pn	03 18 33.6	+1.6
GUMO	Guam	18.49	78	LR	LR	03 27 22.0	
	comp=Z,82nm,20.3s,baz=23,slow=32						
IPM	Ipoh	25.68	259	eP	P	03 22 58.2	-1.0
	12nm,0.8s,mb4.5						
KULM	Kulim	25.85	261	eP	P	03 23 00.8	-0.1
	12nm,1.0s,mb4.4						
CMAR	Chiang Mai Arr	27.67	290	P	P	03 23 18.2	+1.0
	1.5nm,0.7s,mb3.8,baz=95,slow=8.0,SNR=7.3						
CMAR	Chiang Mai Arr	27.67	290	P	P	03 23 18.2	+1.0
FITZ	Fitzroy Crossi	28.18	181	P	P	03 23 21.8	+0.2
	7.5nm,0.9s,mb4.3,baz=2.0,slow=12,SNR=16						
FITZ	Fitzroy Crossi	28.18	181	P	P	03 23 21.8	+0.2
WRA	Warramunga Arr	31.04	165	P	P	03 23 45.8	-1.1
	1.3nm,0.6s,mb3.9,baz=345,slow=9.4,SNR=11						
WRA	Warramunga Arr	31.04	165	P	P	03 23 45.8	-1.1
WB2	Warramunga Arr	31.04	165	eP	P	03 23 45.7	-1.2
AS31	Alice Springs	34.53	168	eP	P	03 24 16.6	-0.8
ASAR	Alice Springs	34.53	168	P	P	03 24 17.1	-0.3
	1.3nm,0.5s,mb4.2,baz=349,slow=6.6,SNR=23						
ASAR	Alice Springs	34.53	168	P	P	03 24 17.1	-0.3
CTAO	Charters Tower	36.00	147	eP	P	03 24 31.4	+1.3
	5.5nm,1.1s,mb4.4						
FORT	Forrest	40.83	178	eP	P	03 25 10.9	+0.4
	24nm,0.8s,mb4.9						
ULN	Ulaanbaatar	40.84	340	eP	P	03 25 10.8	+0.4
	2.0nm,0.6s,mb3.9						
NWAO	Narrogin (SRO)	43.80	191	P	P	03 25 35.0	+0.4
	19nm,1.1s,mb4.8,baz=21,slow=12,SNR=6.3						
NWAO	Narrogin (SRO)	43.80	191	P	P	03 25 35.0	+0.4
STKA	Stephens Creek	44.39	161	P	P	03 25 39.6	+0.3
	2.7nm,0.5s,mb4.2,baz=331,slow=9.8,SNR=10						
STKA	Stephens Creek	44.39	161	P	P	03 25 39.6	+0.3
MK31	Makanchi Array	52.04	323	eP	P	03 26 38.2	0.0
MKAR	Makanchi Array	52.04	323	P	P	03 26 37.9	-0.3
	0.9nm,0.6s,mb3.9,baz=119,slow=7.1,SNR=11						
MKAR				PcP	PcP	03 27 49.9	+0.2
	0.8nm,0.6s,baz=116,slow=4.7,SNR=4.4						
MKAR	Makanchi Array	52.04	323	P	P	03 26 37.9	-0.3
MKAR				PcP	PcP	03 27 49.9	+0.2
ZALV	Zalesovo Beam	54.64	331	P	P	03 26 56.1	-1.0
	0.8nm,0.5s,mb4.0,baz=119,slow=6.7,SNR=4.7						
ZALV	Zalesovo Beam	54.64	331	P	P	03 26 56.1	-1.0
KURK	Kurchatov	56.08	326	P	P	03 27 07.2	-0.4
	1.4nm,0.6s,mb4.2,baz=125,slow=6.7,SNR=12						
KURK	Kurchatov	56.08	326	eP	P	03 27 07.0	-0.6
	2.2nm,0.7s,mb4.3						
BRVK	Borovoye	61.75	325	eP	P	03 27 46.5	-0.3
	2.8nm,0.9s,mb4.4

PVCP				*e*S		**Sb**	**04 10 55.1**	**-0.4**
PLP	**Palo**	**1.78**	**176**	⇓*e*P		**Pn**	**04 10 56.4**	**+0.7**
RCP	**Roxas**	**2.47**	**236**	⇑*i*P		**Pn**	**04 11 06.2**	**+1.0**
KAPI	**Kappang**	**18.55**	**196**	LR		LR	04 22 10.3	
comp=Z,14nm,18.7s,baz=350,slow=37								
WRA	**Warramunga Arr**	**33.99**	**164**	P		**P**	**04 17 08.5**	**-0.2**
0.3nm,0.4s,mb3.5,baz=345,slow=9.0,SNR=2.7								
ASAR	**Alice Springs**	**37.45**	**166**	P		**P**	**04 17 37.9**	**-0.5**
0.5nm,0.5s,mb3.6,baz=346,slow=6.9,SNR=6.9								
STKA	**Stephens Creek**	**47.37**	**161**	P		**P**	**04 18 58.5**	**-0.5**
3.4nm,0.9s,mb4.3,baz=332,slow=7.8,SNR=5.9								

IDC 20 04:25:59.0±4.1, 11°.05S×165°.94E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/17, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.8/20, Error ellipse: s-maj=174.5km s-min=32.4km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.96**	**242**	LR	LR	04 37 05.0	
comp=Z,70nm,19.1s,baz=53,slow=32							
WRA	**Warramunga Arr**	**31.66**	**250**	P	P	04 32 23.4	-0.8
0.2nm,0.4s,baz=86,slow=9.3,SNR=3.3							
ASAR	**Alice Springs**	**32.96**	**243**	P	P	04 32 37.0	+1.4
0.5nm,0.8s,baz=71,slow=9.2,SNR=4.4							
ILAR	**Eielson Array**	**83.45**	**18**	P	P	04 38 28.4	+0.4
0.7nm,1.0s,baz=240,slow=5.1,SNR=5.7							
MKAR	**Makanchi Array**	**93.65**	**317**	P	P	04 39 16.8	-0.6
1.4nm,0.8s,baz=95,slow=6.1,SNR=8.5							

NEIC 20 04:33:41.5, 51°.69N×176°.92E, h15km, ML3.6(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.02**	**75**	P	Pb	04 33 59.1	-1.8
LSNW	**Little Sitkin**	**1.03**	**74**	P	Pb	04 33 59.0	-2.0
SMY	**Shemya**	**2.02**	**302**	P	Pn	04 34 13.0	-1.9
SMY				S	Sn	04 34 38.5	-1.5
KOWE	**Korovin West**	**5.49**	**79**	P	Pn	04 35 02.5	-0.2
ATKA	**Atka Island**	**5.52**	**81**	P	Pn	04 35 02.6	-0.5
ATKA				S	Sn	04 36 05.0	-1.2

NIED ***20*** *04:41:00, 40°.90N×142°.10E, h44km, Mw3.6 Best double couple: M*$_0$*3.09000×10*^{14} *NP1:*ϕ_s*38.00000°,* δ*71.00000°,* λ*107.00000°. NP2:*ϕ_s*175.00000°,* δ*25.00000°,* λ*50.00000°.*
IDC ***20*** *04:41:29.3±1.2, 40°.85N×142°.20E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=46.6km s-min=22.6km az=78.0*
ISCJB ***20*** *04:41:36.5±0.5, 40°.90N±0°.03×142°.09E±0°.06, h66km±4km, mb4.1/11, Error ellipse: s-maj=7.8km s-min=4.7km az=31.2*
JMA ***20*** *04:41:37.2±0.1, 40°.91N×142°.12E, h52km±2km, M3.8*
JMA Felt I J1.
NEIC ***20*** *04:41:38.9±0.7, 40°.90N×142°.19E, h75km±7km, mb4.4/4, Error ellipse: s-maj=13.7km s-min=7.8km az=107.0*

ISC 20 04:41:37.6±0.5, 40°.91N±0°.03×142°.08E±0°.06, h57km±4km, n32, σ**0^{s}66/42, mb4.2/11, 5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.69**	**219**	⇓P		**Pn**	**04 41 51.1**	**-0.4**
JANG				S		**Sn**	**04 42 00.9**	**-0.7**
JTM	**Tenmabayashi**	**0.78**	**261**	⇓P		**Pn**	**04 41 52.4**	**-0.2**
JTM				S		**Sn**	**04 42 03.5**	**-0.1**
JOT	**Ohata**	**0.91**	**302**	⇓P		**Pn**	**04 41 53.9**	**-0.5**
JOT				S		**Sn**	**04 42 06.3**	**-0.4**
JKB	**Kayabe**	**1.26**	**321**	⇓P		**Pn**	**04 41 58.7**	**-0.2**
JKB				S		**Sn**	**04 42 14.2**	**-0.6**
JAH	**Hinai**	**1.31**	**237**	⇓P		**Pn**	**04 42 00.0**	**+0.3**
JAH				S		**Sn**	**04 42 16.7**	**+0.5**
ERM	**Erimo**	**1.37**	**36**	*e*Pn		**Pn**	**04 42 01.9**	**+1.4**
ERM				*e*Sn		**Sn**	**04 42 16.9**	**-0.6**
JEM	**Erimo**	**1.37**	**36**	P		**Pn**	**04 42 01.0**	**+0.5**
JEM				*e*S		**Sn**	**04 42 17.7**	**+0.1**
JSR	**Shiriuchi**	**1.40**	**297**	P		**Pn**	**04 42 01.0**	**+0.2**
JSR				*e*S		**Sn**	**04 42 18.7**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.46**	**20**	P		**Pn**	**04 42 01.7**	**0.0**
JNBK				*e*S		**Sn**	**04 42 19.6**	**-0.1**
JOM	**Ohasama**	**1.56**	**203**	P		**Pn**	**04 42 02.9**	**-0.1**
JOM				S		**Sn**	**04 42 21.5**	**-0.6**
JIW	**Iwasaki**	**1.61**	**259**	P		**Pn**	**04 42 03.9**	**+0.3**
MAJO	**Matsushiro**	**5.31**	**216**	*e*Pn		**Pn**	**04 42 57.1**	**+2.8**
MJAR	**Matsushiro Arr**	**5.31**	**216**	Pn		**Pn**	**04 42 55.2**	**+1.0**
0.5nm,0.3s,baz=31,slow=12,SNR=3.3								
MJAR	**Matsushiro Arr**	**5.31**	**216**	Pn		**Pn**	**04 42 55.2**	**+1.0**
ZALV	**Zalesovo Beam**	**39.78**	**309**	P		**P**	**04 49 04.2**	**-0.5**
0.6nm,0.4s,mb3.6,baz=99,slow=9.9,SNR=4.4								
ZALV	**Zalesovo Beam**	**39.78**	**309**	P		**P**	**04 49 04.2**	**-0.5**
MK31	**Makanchi Array**	**42.61**	**299**	*e*P		**P**	**04 49 27.5**	**-0.4**
MKAR	**Makanchi Array**	**42.61**	**299**	P		**P**	**04 49 28.1**	**+0.2**
0.7nm,0.5s,mb3.7,baz=84,slow=11,SNR=22								
MKAR	**Makanchi Array**	**42.61**	**299**	P		**P**	**04 49 28.1**	**+0.2**
TKM2	**Tokmak 2**	**48.33**	**296**	*e*P		**P**	**04 50 14.2**	**+0.9**
1.9nm,0.6s,mb4.3								
AAK	**Ala-Archa**	**49.20**	**296**	*e*P		**P**	**04 50 19.9**	**0.0**
3.5nm,0.7s,mb4.5								
PMG	**Port Moresby**	**50.28**	**173**	*e*P		**P**	**04 50 27.1**	**-1.1**
7.2nm,0.8s,mb4.8								
KULM	**Kulim**	**51.27**	**238**	*e*P		**P**	**04 50 36.9**	**+1.0**
14nm,1.0s,mb4.8								
ABKAR	**Akbulak array**	**55.89**	**308**	*e*P		**P**	**04 51 09.2**	**0.0**
1.3nm,0.5s,mb4.2								
RES	**Resolute Bay**	**58.73**	**15**	P		**P**	**04 51 28.6**	**-0.3**
0.7nm,0.3s,mb4.2,baz=300,slow=7.1,SNR=4.0								
RES	**Resolute Bay**	**58.73**	**15**	P		**P**	**04 51 28.6**	**-0.3**
WRA	**Warramunga Arr**	**60.96**	**188**	P		**P**	**04 51 43.8**	**-0.9**
0.4nm,0.3s,mb4.0,baz=7.0,slow=7.6,SNR=7.1								
WRA	**Warramunga Arr**	**60.96**	**188**	P		**P**	**04 51 43.8**	**-0.9**
ASAR	**Alice Springs**	**64.69**	**188**	P		**P**	**04 52 09.0**	**-0.5**
0.3nm,0.7s,mb3.4,baz=2.7,slow=7.9,SNR=4.4								
ASAR	**Alice Springs**	**64.69**	**188**	P		**P**	**04 52 09.0**	**-0.5**
FINES	**FINESS Array B**	**65.64**	**332**	P		**P**	**04 52 15.3**	**0.0**
3.1nm,0.7s,mb4.4,baz=40,slow=7.9,SNR=15								
FINES	**FINESS Array B**	**65.64**	**332**	P		**P**	**04 52 15.3**	**0.0**

SKO ***20*** *05:24:46.4, 41°.30N×20°.35E, h15km, M3.3, ML3.6*
BEO ***20*** *05:24:47.8±0.6, 41°.26N×20°.43E, h5km±3km, ML3.1/1*
ATH ***20*** *05:24:47.4, 41°.60N×20°.60E, h8km±1km, MD3.6/10*
TIR ***20*** *05:24:47.1, 41°.37N×20°.31E, h18km, ML3.5*
THE ***20*** *05:24:48.8, 41°.38N×20°.41E, h0km±1km, ML3.2/7, Error ellipse: s-maj=1.7km s-min=0.7km az=297.0*
PDG ***20*** *05:24:48.7±0.1, 41°.34N×20°.32E, h2km, MD3.5/5, ML3.5/9, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
ISCJB ***20*** *05:24:48.1±0.3, 41°.40N±0°.01×20°.40E±0°.02, h2km±2km, Error ellipse: s-maj=2.7km s-min=1.7km az=149.2*
CSEM ***20*** *05:24:48.7±0.1, 41°.39N×20°.41E, h2km, ML3.2/7, Error ellipse: s-maj=3.2km s-min=2.0km az=49.0*

ISC 20 05:24:49.2±0.3, 41°.39N±0°.01×20°.42E±0°.02, h1km±2km, n181, σ**1^{s}28/289, 14C-16D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.30**	**3**	*e*PG	**Pg**	**05 24 54.8**	**-0.1**
PHP				*i* SG	**Sg**	**05 25 00.5**	**+1.7**
PHP	**Peshkopia**	**0.30**	**3**	P	**Pg**	**05 24 55.0**	**+0.1**
PHP				S	**Sg**	**05 25 00.0**	**+1.2**
PHP	**Peshkopia**	**0.30**	**3**	*e*Pg	**Pg**	**05 24 54.8**	**-0.1**
PHP				S	**Sg**	**05 25 00.0**	**+1.2**
PHP				*i* Sg	**Sg**	**05 25 00.5**	**+1.7**
TIR	**Tirane**	**0.42**	**265**	*e*PG	**Pg**	**05 24 55.7**	**-1.5**
TIR				*i* SG	**Sg**	**05 25 02.0**	**-0.6**
TIR	**Tirane**	**0.42**	**265**	*e*Pg	**Pg**	**05 24 55.9**	**-1.3**
TIR				*e*Sg	**Sg**	**05 25 01.8**	**-0.8**
TIR	**Tirane**	**0.42**	**265**	P	**Pg**	**05 24 56.1**	**-1.1**
TIR				S	**Sg**	**05 25 02.7**	**+0.1**
TIR	**Tirane**	**0.42**	**265**	P	**Pg**	**05 24 56.1**	**-1.1**
TIR				*e*Sg	**Sg**	**05 25 01.8**	**-0.8**
TIR				S	**Sg**	**05 25 02.7**	**+0.1**
KRUS	**Krusevo**	**0.62**	**91**	⇑*i*Pg	**Pg**	**05 24 59.8**	**-1.3**
KRUS				*i* Sg	**Sg**	**05 25 09.5**	**+0.4**
KRUS	**Krusevo**	**0.62**	**91**	⇑*i*Pg	**Pg**	**05 24 59.7**	**-1.4**
KRUS				*i* Sg	**Sg**	**05 25 09.5**	**+0.3**
PUK	**Puka**	**0.77**	**329**	*e*PG	**Pg**	**05 25 01.8**	**-2.0**
PUK				*i* SG	**Sg**	**05 25 14.2**	**+0.4**
PUK	**Puka**	**0.77**	**329**	*e*Pg	**Pg**	**05 25 01.8**	**-2.0**
PUK				*i* Sg	**Sg**	**05 25 14.2**	**+0.4**
BIA	**Bitola**	**0.77**	**118**	*i* Pg	**Pg**	**05 25 02.1**	**-1.8**
BIA				*i* Sg	**Sg**	**05 25 14.1**	**+0.1**
BIA				*e*Lg		05 25 14.7	
comp=N,596nm,0.2s							
BIA				*e*Lg		05 25 16.1	
comp=E,651nm,0.2s							
BIA	**Bitola**	**0.77**	**118**	*i* Pg	**Pg**	**05 25 02.1**	**-1.9**
BIA				*i* Sg	**Sg**	**05 25 14.1**	**+0.1**
BIA				*e*Lg		05 25 14.7	
comp=E,596nm,0.2s							
FNA	**Florina**	**0.94**	**130**	P	**Pg**	**05 25 06.2**	**-1.0**
FNA				S	**Sg**	**05 25 20.4**	**+1.1**
FNA	**Florina**	**0.94**	**130**	P	**Pg**	**05 25 06.2**	**-1.0**
FNA				S	**Sg**	**05 25 20.4**	**+1.1**
SKO	**Skopje**	**0.96**	**52**	*i* Pg	**Pg**	**05 25 07.3**	**-0.3**
SKO				*i* Sg	**Sg**	**05 25 22.1**	**+2.0**
SKO				*e*Lg		05 25 24.5	
comp=E,1μm,0.5s							
SKO				*e*Lg		05 25 24.8	
comp=N,1μm,0.4s							
SKO	**Skopje**	**0.96**	**52**	*i* Pg	**Pg**	**05 25 07.2**	**-0.4**
SKO				*i* Sg	**Sg**	**05 25 22.0**	**+2.0**
SKO				*e*Lg		05 25 24.5	
comp=N,1μm,0.5s							
BCI	**Bajram Curri**	**1.01**	**345**	*e*PG	**Pg**	**05 25 08.0**	**-0.6**
BCI				*i* SG	**Sg**	**05 25 22.8**	**+1.1**
BCI	**Bajram Curri**	**1.01**	**345**	*e*Pg	**Pg**	**05 25 08.0**	**-0.6**
BCI				*i* Sg	**Sg**	**05 25 22.8**	**+1.1**
ULC	**Ulcinj**	**1.05**	**304**	⇑*i*Pg	**Pg**	**05 25 07.3**	**-2.0**
ULC				*e*Sg	**Sg**	**05 25 23.3**	**+0.3**
ULC	**Ulcinj**	**1.05**	**304**	⇑*i*Pg	**Pg**	**05 25 07.3**	**-2.0**
ULC				*e*Sg	**Sg**	**05 25 23.3**	**+0.3**
NEST	**Nestorio**	**1.08**	**154**	P	**Pg**	**05 25 08.8**	**-1.1**
NEST				S	**Sg**	**05 25 25.0**	**+1.1**
NEST	**Nestorio**	**1.08**	**154**	P	**Pg**	**05 25 08.8**	**-1.1**
NEST				S	**Sg**	**05 25 25.0**	**+1.1**
LSK	**Leskovik**	**1.24**	**174**	*e*PG	**Pg**	**05 25 10.9**	**-2.1**
LSK				*i* SG	**Sg**	**05 25 28.2**	**-0.9**
LSK	**Leskovik**	**1.24**	**174**	*e*Pg	**Pg**	**05 25 10.9**	**-2.1**
LSK				*i* Sg	**Sg**	**05 25 28.2**	**-0.9**
PVY	**Plav**	**1.25**	**344**	⇑*i*Pg	**Pg**	**05 25 12.2**	**-1.0**
PVY				*e*Sg	**Sg**	**05 25 32.7**	**+3.2**
PVY	**Plav**	**1.25**	**344**	⇑*i*Pg	**Pg**	**05 25 12.2**	**-1.0**
PVY				*e*Sg	**Sg**	**05 25 32.7**	**+3.2**
TTG	**Podgorica**	**1.35**	**321**	⇓*i*Pg	**Pg**	**05 25 13.1**	**-2.0**
TTG				*e*Sg	**Sg**	**05 25 34.9**	**+2.2**
PDG	**Podgorica**	**1.36**	**321**	*e*Pn	**Pg**	**05 25 13.1**	**-2.1**
PDG				*e*Sg	**Sg**	**05 25 35.5**	**+2.7**
PDG	**Podgorica**	**1.36**	**321**	⇓*i*Pg	**Pg**	**05 25 13.1**	**-2.1**
PDG				*e*Sg	**Sg**	**05 25 34.9**	**+2.1**
BUM	**Brajici-Budva**	**1.46**	**309**	⇑*i*Pg	**Pg**	**05 25 15.2**	**-2.0**
BUM				*e*Sg	**Sg**	**05 25 37.6**	**+1.5**
BUM	**Brajici-Budva**	**1.46**	**309**	⇑*i*Pg	**Pg**	**05 25 15.2**	**-2.0**
BUM				*e*Sg	**Sg**	**05 25 37.6**	**+1.5**
KZN	**Kozani**	**1.49**	**136**	*e*PB	**Pb**	**05 25 16.9**	**-0.7**
KZN				*e*SB	**Sb**	**05 25 38.3**	**+1.4**
KZN	**Kozani**	**1.49**	**136**	*e*P	**Sg**	**05 25 36.0**	**-0.9**
KZN	**Kozani**	**1.49**	**136**	P	**Pn**	**05 25 16.8**	**-0.2**
KZN				S	**Sg**	**05 25 38.0**	**+1.1**
KZN	**Kozani**	**1.49**	**136**	*e*Pb	**Pb**	**05 25 16.9**	**-0.7**
KZN				S	**Sg**	**05 25 38.0**	**+1.1**
KZN				*e*Sb	**Sb**	**05 25 38.3**	**+1.4**
IVA	**Berane**	**1.53**	**345**	⇓*i*Pg	**Pg**	**05 25 17.5**	**-1.1**
IVA				*e*Sg	**Sg**	**05 25 41.7**	**+3.3**
BEY	**Berane**	**1.54**	**345**	⇓*i*Pg	**Pg**	**05 25 17.5**	**-1.1**
BEY				*e*Sg	**Sg**	**05 25 41.7**	**+3.2**
SRN	**Sarande**	**1.54**	**192**	*e*PG	**Pg**	**05 25 17.7**	**-0.9**
SRN				*i* SG	**Sg**	**05 25 40.5**	**+1.9**
SRN	**Sarande**	**1.54**	**192**	*e*Pg	**Pg**	**05 25 17.7**	**-0.9**
SRN				*i* Sg	**Sg**	**05 25 40.5**	**+1.9**
GRG	**Griva**	**1.56**	**105**	P	**Pn**	**05 25 16.9**	**-1.0**
GRG				S	**Sn**	**05 25 39.2**	**+0.5**
GRG	**Griva**	**1.56**	**105**	P	**Pn**	**05 25 16.9**	**-1.0**
GRG				S	**Sn**	**05 25 39.2**	**+0.5**
JAN	**Janina**	**1.76**	**169**	*e*PN	**Pn**	**05 25 22.3**	**+1.6**
JAN				*e*SN	**Sn**	**05 25 48.2**	**+4.5**
JAN	**Janina**	**1.76**	**169**	*e*P	**Sg**	**05 25 48.0**	**+2.4**
JAN	**Janina**	**1.76**	**169**	*e*Pn	**Pn**	**05 25 22.3**	**+1.6**
BARS	**Barje**	**1.77**	**36**	*e*Pn	**Pn**	**05 25 20.4**	**-0.4**
BARS				*e*Sg	**Sg**	**05 25 47.7**	**+1.8**
BARS	**Barje**	**1.77**	**36**	*e*Pn	**Pn**	**05 25 20.4**	**-0.4**
BARS				*e*Sg	**Sg**	**05 25 47.7**	**+1.8**
NKY	**Niksic**	**1.78**	**324**	⇓*i*Pn	**Pn**	**05 25 21.8**	**+0.8**
NKY				*e*Sn	**Sn**	**05 25 47.1**	**+2.9**
NKY	**Niksic**	**1.78**	**324**	⇓*i*Pn	**Pn**	**05 25 21.8**	**+0.8**
NKY				*e*Sn	**Sn**	**05 25 47.1**	**+2.9**
HCY	**Herceg Novi**	**1.79**	**307**	⇑*i*Pn	**Pn**	**05 25 20.6**	**-0.5**
HCY				*e*Sn	**Sn**	**05 25 46.8**	**+2.4**
HCY	**Herceg Novi**	**1.79**	**307**	⇑*i*Pn	**Pn**	**05 25 20.6**	**-0.5**
HCY				*e*Sn	**Sn**	**05 25 46.8**	**+2.4**
IGT	**Igoumenitsa**	**1.85**	**182**	P	**Pn**	**05 25 21.9**	**-0.1**
IGT				S	**Sn**	**05 25 46.2**	**+0.1**
IGT	**Igoumenitsa**	**1.85**	**182**	P	**Pn**	**05 25 21.9**	**-0.1**
IGT				S	**Sn**	**05 25 46.2**	**+0.1**
KNT	**Kendrikon**	**1.88**	**96**	P	**Pn**	**05 25 21.3**	**-1.1**
KNT				S	**Sn**	**05 25 47.7**	**+1.0**
KNT	**Kendrikon**	**1.88**	**96**	P	**Pn**	**05 25 21.3**	**-1.1**
KNT				S	**Sn**	**05 25 47.7**	**+1.0**
SELS	**Selova**	**1.90**	**16**	*e*Pn	**Pn**	**05 25 22.7**	**0.0**
SELS				*e*Sg	**Sg**	**05 25 51.7**	**+1.4**
KKB	**Krupnik**	**2.05**	**76**	*i* P	**Pn**	**05 25 24.9**	**+0.1**
KKB	**Krupnik**	**2.05**	**76**	*i* P	**Pn**	**05 25 24.9**	**+0.1**
BRY	**Bratogost**	**2.06**	**318**	⇓*i*Pn	**Pn**	**05 25 25.1**	**+0.2**
BRY				*e*Sn	**Sn**	**05 25 53.8**	**+2.6**
BRY	**Bratogost**	**2.06**	**318**	⇓*i*Pn	**Pn**	**05 25 25.1**	**+0.2**
BRY				*e*Sn	**Sn**	**05 25 53.8**	**+2.6**
RGA	**Parga**	**2.06**	**181**	P	**Pn**	**05 25 24.7**	**-0.2**
RGA	**Parga**	**2.06**	**181**	P	**Pn**	**05 25 24.7**	**-0.2**
UPM	**Unac-Piva**	**2.13**	**329**	⇑*i*Pn	**Pn**	**05 25 26.6**	**+0.7**
UPM				*e*Sn	**Sn**	**05 25 56.0**	**+3.0**
UPM	**Unac-Piva**	**2.13**	**329**	⇑*i*Pn	**Pn**	**05 25 26.6**	**+0.7**
UPM				*e*Sn	**Sn**	**05 25 56.0**	**+3.0**
HORT	**Hortiatis**	**2.17**	**110**	P	**Pn**	**05 25 25.4**	**-1.0**
HORT	**Hortiatis**	**2.17**	**110**	P	**Pn**	**05 25 25.4**	**-1.0**
THL	**Klokotos Trika**	**2.19**	**146**	*e*PN	**Pn**	**05 25 27.6**	**+1.0**
THL				*e*SN	**Sn**	**05 25 57.4**	**+3.1**
THL	**Klokotos Trika**	**2.19**	**146**	*e*P	**Pn**	**05 25 28.0**	**+1.4**
THL	**Klokotos Trika**	**2.19**	**146**	P	**Pn**	**05 25 26.1**	**-0.5**
THL	**Klokotos Trika**	**2.19**	**146**	P	**Pn**	**05 25 26.1**	**-0.5**
THL	**Klokotos Trika**	**2.19**	**146**	*e*Pn	**Pn**	**05 25 27.6**	**+1.0**
THL				*e*Sn	**Sn**	**05 25 57.4**	**+3.1**
IVAS	**Ivanjica**	**2.20**	**355**	*e*Pn	**Pn**	**05 25 26.4**	**-0.4**
IVAS				*e*Sg	**Sg**	**05 26 00.8**	**+1.1**
IVAS	**Ivanjica**	**2.20**	**355**	*e*Pn	**Pn**	**05 25 26.4**	**-0.4**
IVAS				*e*Sg	**Sg**	**05 26 00.8**	**+1.1**
SOH	**Sokhos**	**2.29**	**103**	*e*PN	**Pn**	**05 25 26.6**	**-1.4**
SOH	**Sokhos**	**2.29**	**103**	P	**Pn**	**05 25 27.0**	**-1.0**
SOH	**Sokhos**	**2.29**	**103**	*e*Pn	**Pn**	**05 25 26.6**	**-1.4**
SOH	**Sokhos**	**2.29**	**103**	P	**Pn**	**05 25 27.0**	**-1.0**
VTS	**Vitosha**	**2.40**	**59**	*e*Pn	**Pn**	**05 25 29.6**	**0.0**
VTS				*e*Sn	**Sn**	**05 25 59.3**	**-0.3**
VTS	**Vitosha**	**2.40**	**59**	*i* P	**Pn**	**05 25 29.5**	**-0.1**
VTS	**Vitosha**	**2.40**	**59**	⇑*i*P	**Pn**	**05 25 29.5**	**-0.1**
VTS				S	**Sn**	**05 25 51.6**	**-8.0**
VTS	**Vitosha**	**2.40**	**59**	⇑*i*P	**Pn**	**05 25 29.5**	**-0.1**
VTS				*e*Sn	**Sn**	**05 25 59.3**	**-0.3**
SRS	**Serrai**	**2.41**	**95**	P	**Pn**	**05 25 28.6**	**-1.0**
SRS				S	**Sn**	**05 26 00.2**	**+0.5**
SRS	**Serrai**	**2.41**	**95**	P	**Pn**	**05 25 28.6**	**-1.0**
SRS				S	**Sn**	**05 26 00.2**	**+0.5**
MMB	**Musomiste**	**2.49**	**84**	*i* P	**Pn**	**05 25 30.3**	**-0.5**
MMB	**Musomiste**	**2.49**	**84**	*i* P	**Pn**	**05 25 30.3**	**-0.5**
ZAPS	**Zavoj**	**2.50**	**40**	*e*Pn	**Pn**	**05 25 31.3**	**+0.4**
ZAPS				*e*Sg	**Sg**	**05 26 09.4**	**0.0**
ZAPS	**Zavoj**	**2.50**	**40**	*e*Pn	**Pn**	**05 25 31.3**	**+0.4**
ZAPS				*e*Sg	**Sg**	**05 26 09.4**	**0.0**
PLG	**Polygyros**	**2.51**	**113**	*e*PN	**Pn**	**05 25 30.3**	**-0.7**
PLG				*e*SN	**Sn**	**05 26 01.2**	**-1.0**
PLG	**Polygyros**	**2.51**	**113**	*e*P	**Pn**	**05 25 30.5**	**-0.5**
PLG	**Polygyros**	**2.51**	**113**	*e*Pn	**Pn**	**05 25 30.3**	**-0.7**
PLG				*e*Sn	**Sn**	**05 26 01.2**	**-1.0**
GRUS	**Gruza**	**2.51**	**5**	*e*Pn	**Pn**	**05 25 30.1**	**-1.0**
GRUS	**Gruza**	**2.51**	**5**	*e*Pn	**Pn**	**05 25 30.1**	**-1.0**
STON	**Ston**	**2.51**	**307**	*i* Pn	**Pn**	**05 25 28.9**	**-2.1**
STON				Sn	**Sn**	**05 26 04.9**	**+2.6**
STON	**Ston**	**2.51**	**307**	*i* Pn	**Pn**	**05 25 28.9**	**-2.1**
STON				Sn	**Sn**	**05 26 04.8**	**+2.5**
TAR1	**Taranto**	**2.53**	**251**	*e*Pn	**Pn**	**05 25 32.3**	**+1.0**
NVR	**Nevrokopi**	**2.59**	**90**	*e*PN	**Pn**	**05 25 30.2**	**-2.0**
NVR				*e*SN	**Sn**	**05 26 00.9**	**-3.3**
NVR	**Nevrokopi**	**2.59**	**90**	*e*P	**Pn**	**05 25 31.5**	**-0.7**
NVR	**Nevrokopi**	**2.59**	**90**	P	**Pn**	**05 25 31.5**	**-0.7**
NVR	**Nevrokopi**	**2.59**	**90**	*e*Pn	**Pn**	**05 25 30.2**	**-2.0**
NVR	**Nevrokopi**	**2.59**	**90**	P	**Pn**	**05 25 31.5**	**-0.7**
NVR				*e*Sn	**Sn**	**05 26 00.9**	**-3.3**
EVR	**Evrytania**	**2.69**	**156**	*e*PN	**Pn**	**05 25 35.7**	**+2.2**
EVR				*e*SN	**Sn**	**05 26 10.4**	**+3.8**
EVR	**Evrytania**	**2.69**	**156**	*e*P	**Pn**	**05 25 35.5**	**+2.0**
EVR	**Evrytania**	**2.69**	**156**	*e*Pn	**Pn**	**05 25 35.7**	**+2.2**
EVR				*e*Sn	**Sn**	**05 26 10.4**	**+3.8**
BOLS	**Boljevac**	**2.69**	**24**	*e*Pn	**Pn**	**05 25 34.2**	**+0.7**
BOLS				*e*Sn	**Sn**	**05 26 06.9**	**+0.2**
BOLS	**Boljevac**	**2.69**	**24**	*e*Pn	**Pn**	**05 25 34.2**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.71**	**151**	P	**Pn**	**05 25 33.2**	**-0.6**
MAKR	**Makrakomi, Fth**	**2.71**	**151**	P	**Pn**	**05 25 33.2**	**-0.6**
DIVS	**Divibare**	**2.73**	**353**	*e*Pn	**Pn**	**05 25 33.1**	**-1.0**
DIVS				*e*Sn	**Sn**	**05 26 08.6**	**+0.9**
DIVS	**Divibare**	**2.73**	**353**	*e*Pn	**Pn**	**05 25 33.1**	**-1.0**
DIVS				*e*Sn	**Sn**	**05 26 08.6**	**+0.9**
AGG	**Agios Georgios**	**2.78**	**148**	*e*PN	**Pn**	**05 25 36.3**	**+1.6**
AGG				*e*SN	**Sn**	**05 26 12.0**	**+3.1**
AGG	**Agios Georgios**	**2.78**	**148**	*e*P	**Pn**	**05 25 33.0**	**-1.7**
AGG	**Agios Georgios**	**2.78**	**148**	P	**Pn**	**05 25 34.1**	**-0.6**
AGG				S	**Sn**	**05 26 09.1**	**+0.2**
AGG	**Agios Georgios**	**2.78**	**148**	P	**Pn**	**05 25 34.1**	**-0.6**
AGG	**Agios Georgios**	**2.78**	**148**	*e*Pn	**Pn**	**05 25 36.3**	**+1.6**
AGG				S	**Sn**	**05 26 09.1**	**+0.2**
AGG				*e*Sn	**Sn**	**05 26 12.0**	**+3.1**
SVIS	**Svilajnac**	**2.94**	**11**	*e*Pn	**Pn**	**05 25 36.5**	**-0.4**
SVIS				*e*Sn	**Sn**	**05 26 13.7**	**+0.9**
NEO	**Neokhori**	**2.98**	**133**	*e*PN	**Pn**	**05 25 37.9**	**+0.3**
NEO				*e*SN	**Sn**	**05 26 15.0**	**+1.0**
NEO	**Neokhori**	**2.98**	**133**	*e*P	**Pn**	**05 25 37.0**	**-0.6**
NEO	**Neokhori**	**2.98**	**133**	*e*Pn	**Pn**	**05 25 37.9**	**+0.3**
NEO				*e*Sn	**Sn**	**05 26 15.0**	**+1.0**
MPEP	**Malo Peshtene**	**3.15**	**50**	P	**Pn**	**05 25 49.0**	**+9.2**
EFP	**Efpalio**	**3.17**	**158**	*e*P	**Pn**	**05 25 41.5**	**+1.4**
VLS	**Valsamata**	**3.21**	**178**	*e*P	**Pn**	**05 25 39.0**	**-1.6**
RZN	**Rozhen**	**3.24**	**83**	P	**Pn**	**05 25

DREZ	Durham Road	1.15 321	PN	Pn	05 47 53.7	+0.1
DUWZ	D'Urville Isla	1.16 232	PN	Pn	05 47 53.2	-0.5
PRHZ	Porangahau	1.17 99	PN	Pn	05 47 53.5	-0.4
TMWZ	Te Maipa	1.17 150	PN	Pn	05 47 54.1	+0.2
MHEZ	Mangahewa	1.19 328	PN	Pn	05 47 54.5	+0.4
NRZ	Ngariki Road	1.19 309	PN	Pn	05 47 54.1	-0.1
KATZ	Kakaramea	1.20 22	PN	Pn	05 47 55.0	+0.7
PKE	Pukeiti	1.26 315	PN	Pn	05 47 55.0	0.0
SNZO	South Karori	1.26 195	PN	Pn	05 47 54.4	-0.6
TCW	Tory Channel	1.29 210	PN	Pn	05 47 55.1	-0.4
PAWZ	Paruwai Farm	1.31 170	PN	Pn	05 47 56.4	+0.7
RATZ	Rangitukua	1.32 22	PN	Pn	05 47 56.6	+0.8
MSWZ	Moikau Station	1.32 176	PN	Pn	05 47 55.3	-0.6
PXZ	Pawanui	1.33 88	PN	Pn	05 47 55.2	-0.8
MCHZ	McNeill Hill	1.37 62	PN	Pn	05 47 56.7	+0.2
KAHZ	Kahuranaki	1.38 78	PN	Pn	05 47 56.3	-0.3
BKZ	Black Stump Fm	1.40 49	PN	Pn	05 47 57.1	+0.2
HATZ	Hinemaiaia	1.41 32	PN	Pn	05 47 56.9	-0.2
WATZ	Wairara	1.46 19	PN	Pn	05 47 58.5	+0.9
PLWZ	Palliser	1.48 176	PN	Pn	05 47 57.0	-0.9
CKHZ	Cape Kidnapper	1.56 75	PN	Pn	05 47 58.4	-0.7
HIZ	Hauiti	1.59 352	PN	Pn	05 47 59.1	-0.3
HIZ			SN	Sn	05 48 19.1	+0.1
TUWZ	Tuamarina	1.61 214	PN	Pn	05 47 59.4	-0.3
NMHZ	Naumai	1.63 53	PN	Pn	05 48 00.2	+0.1
NNZ	Nelson	1.74 229	PN	Pn	05 48 00.8	-0.7
ALRZ	Allen Road	1.79 32	PN	Pn	05 48 02.0	-0.2
BSWZ	Blackbirch Sta	1.88 210	ePN	Pn	05 48 02.9	-0.4
RAHZ	Arahi	1.92 53	PN	Pn	05 48 03.3	-0.6
QRZ	Quartz Range	2.11 249	PN	Pn	05 48 05.3	-1.2
KNZ	Kokohu	2.24 62	PN	Pn	05 48 06.7	-1.5
MHGZ	Mahia Peninsul	2.34 67	PN	Pn	05 48 08.5	-1.1
THZ	Tophouse	2.37 225	PN	Pn	05 48 09.6	-0.4
TOZ	Tahuroa Road	2.38 7	ePN	Pn	05 48 08.6	-1.5
URZ	Urewera	2.39 41	ePN	Pn	05 48 08.7	-1.6
PRGZ	Paritu Road	2.43 62	PN	Pn	05 48 09.3	-1.5
MWZ	Matawai	2.56 48	ePN	Pn	05 48 10.2	-2.3
KHZ	Kahutara	2.61 207	ePN	Pn	05 48 11.9	-1.4
MKAZ	Moumakai	2.98 1	PN	Pn	05 48 18.0	-0.3
DSZ	Denniston Nort	3.01 236	PN	Pn	05 48 16.8	-1.9
MXZ	Matakaoa Point	3.54 46	PN	Pn	05 48 24.4	-1.6
MQZ	McQueen's Vall	4.06 206	SN	Sn	05 49 11.2	-8.0
FOZ	Fox Glacier	5.34 228	ePN	Pn	05 48 45.9	-4.6
ODZ	Otahua Downs	5.95 212	ePN	Pn	05 48 55.0	-3.9

GUC 20 05:52:35.4±0.6, 32°.53S×72°.00W, h26km±3km, MD3.9, ML3.5, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.58	149	eP	Pb	05 52 46.3	-0.7
IHA				eS	Sb	05 52 55.1	+0.2
CHNG	Los Chungos	0.77	33	⇓iP	Pb	05 52 49.6	-0.5
CHNG				eS	Sb	05 52 59.9	-0.3
PTCH	Petorca	0.94	74	eP	Pn	05 52 52.5	-0.4
PTCH				eS	Sb	05 53 05.2	+0.2
PTCH				AML	AML	05 53 07.0	
	comp=N,4μm,0.3s						
ROCH	El Roble	0.94	118	⇓iP	Pn	05 52 52.5	-0.5
ROCH				iS	Sb	05 53 05.5	+0.4
ROCH				AML	AML	05 53 06.6	
	comp=N,2μm,0.3s						
JACH	Jahuel	1.19	98	eP	Pn	05 52 56.3	-0.1
JACH				iS	Sn	05 53 12.2	+0.4
PEL	Peldehue	1.26	120	eP	Pn	05 52 57.6	+0.2
PEL				eS	Sn	05 53 14.3	+0.8
PEL				AML	AML	05 53 19.1	
	comp=E,3μm,0.3s						
TACH	Talagante	1.43	142	eP	Pn	05 53 00.1	+0.4
SAN	Santiago	1.45	130	eP	Pn	05 53 00.4	+0.4
SAN				eS	Sn	05 53 19.6	+1.4
CLCH	Cerro Calan	1.50	126	eP	Pn	05 53 01.3	+0.6
CLCH				eS	Sn	05 53 21.1	+1.6
CLCH				AML	AML	05 53 24.1	
	comp=E,809nm,0.5s						
LNV	Longovilo	1.51	161	eP	Pn	05 53 00.3	-0.5
ANTU	Antumapu	1.55	133	eP	Pn	05 53 02.2	+0.9
ANTU				eS	Sn	05 53 22.0	+1.5
ANTU				AML	AML	05 53 29.2	
	comp=E,804nm,0.5s						
FCH	Farellones	1.64	120	⇓iP	Pn	05 53 00.0	-2.6
FCH				eS	Sn	05 53 22.0	-0.8
FCH				AML	AML	05 53 27.4	
	comp=E,874nm,0.3s						
PCH	Pirque	1.66	132	eP	Pn	05 53 03.9	+1.1
SJCH	San Jose de Ma	1.77	129	eP	Pn	05 53 05.6	+1.2
SJCH				eS	Sn	05 53 29.5	+3.5
CHCH	Chadas Angostu	1.80	142	eP	Pn	05 53 05.7	+1.0
CACH	El Canelo	1.97	144	eP	Pn	05 53 09.1	+1.9
LMEL	Las Melosas	2.00	132	eP	Pn	05 53 09.4	+1.9
LMEL				eS	Sn	05 53 34.7	+3.0
TLL	Tololo Astrono	2.56	24	eP	Pn	05 53 20.1	+4.9
LCO	Las Campanas	3.68	18	eP	Pn	05 53 30.6	+0.1
LCO				AML	AML	05 54 34.4	
	comp=E,74nm,0.8s						

*ISCJB **20** 06:00:56.3±0.6, 14°.69N±0°.05×93°.87W±0°.03, h10km, mb4.0/15, MS3.2/3, Error ellipse: s-maj=7.4km s-min=4.8km az=4.2*
*IDC **20** 06:00:57.6±1.7, 15°.06N×93°.32W, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/24, mbtmp3.9/14, ML3.7/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=66.4km s-min=16.3km az=46.0*
*MEX **20** 06:01:00.8±0.8, 14°.70N×93°.94W, h16km±14km, MD4.3*
*NEIC **20** 06:01:00.6, 14°.72N×93°.93W, h8km, mb4.1/9, MD4.3(MEX), After MEX.*

ISC 20 06:00:57.9±0.6, 14°.73N±0°.05×93°.83W±0°.04, h10km, n57, σ1§37/65, mb4.0/15, MS3.2/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.14	31	eP	Pb	06 01 19.1	-0.5
PCIG				eS	Sb	06 01 34.3	-0.1
THIG		1.52	83	eP	Pn	06 01 25.5	+0.3
THIG				eS	Sn	06 01 44.0	-1.1
TGIG		2.15	18	eP	Pn	06 01 33.4	-0.4
TGIG				eS	Sn	06 01 58.8	-1.7
CCIG	Comitan	2.25	46	eP	Pn	06 01 37.7	+2.6
CCIG				eS	Sn	06 02 05.3	+2.4
CCIG	Comitan	2.25	46	eP	Pn	06 01 37.4	+2.3
CCIG				iS	Sn	06 02 03.7	+0.8
HUIG	Huatulco	2.43	295	eP	Pn	06 01 36.0	-1.6
HUIG				eS	Sn	06 02 05.6	-1.8
HUIG	Huatulco	2.43	295	eP	Pn	06 01 36.6	-1.6
HUIG				eS	Sn	06 02 02.3	-5.2
CMIG	Matias Romero	2.56	337	Pn	Pn	06 01 38.1	-1.3
	17nm,0.3s,baz=153,slow=10,SNR=217						
CMIG				Lg		06 02 07.7	
	47nm,0.3s,baz=122,slow=17,SNR=18						
CMIG				LR	LR	06 02 55.3	
	comp=Z,261nm,19.9s,baz=145,slow=47						
CMIG	Matias Romero	2.56	337	eP	Pn	06 01 38.6	-0.8
CMIG				eS	Sn	06 02 07.7	-2.9
CMIG	Matias Romero	2.56	337	eP	Pn	06 01 38.6	-0.8
CMIG				eS	Sn	06 02 07.7	-2.9
OXX	Oaxaca	3.64	310	eP	Pn	06 01 56.0	+1.8
VHO	Vista Hermosa	3.64	310	eP	Pn	06 01 54.0	-0.2
VHO				eS	Sn	06 02 35.9	-1.4
VHO	Vista Hermosa	3.64	310	eP	Pn	06 01 54.0	-0.2
VHO				eS	Sn	06 02 33.9	-3.3
PPM	Popocatepetl	6.30	314	eP	Pn	06 02 36.0	+5.1
TGUH	Tegucigalpa,Un	6.39	95	ePn	Pn	06 02 37.8	+5.7
	48nm,0.8s						
TEIG	Tepich	7.61	43	Pn	Pn	06 02 49.0	+0.1
	19nm,0.3s,baz=244,slow=1.3,SNR=65						
TEIG	Tepich	7.61	43	ePn	Pn	06 02 49.2	+0.3
	56nm,0.4s						
JTS	JuntasAbangare	9.72	116	Pn	Pn	06 03 23.3	+5.4
	0.9nm,0.3s,baz=303,slow=11,SNR=13						
JTS				Lg		06 05 55.2	
	0.5nm,0.3s,baz=146,slow=18,SNR=7.4						
JTS	JuntasAbangare	9.72	116	ePn	Pn	06 03 23.4	+5.5
	13nm,0.6s						
JTS				Lg		06 05 55.2	
JCT	Junction City	16.61	342	eP	Pn	06 04 54.9	+4.0
	5.9nm,0.6s						
TXAR	Lajitas Array	17.14	330	P	Pn	06 04 59.9	+2.3
	0.1nm,0.3s,baz=152,slow=13,SNR=12						
TXAR	Lajitas Array	17.14	330	P	Pn	06 04 59.9	+2.3

MIAR	Mount Ida	19.73	1	eP	Pn	06 05 30.0	+0.9
	8.6nm,1.0s					
GDL2	Guadalupe Moun	19.87	333	eP	Pn	06 05 31.5	+0.6
	35nm,0.7s					
MNTX	Cornudas Mount	19.92	330	eP	Pn	06 05 32.2	+0.7
	2.1nm,0.8s					
OXF	Oxford	20.10	11	eP	P	06 05 35.2	+3.5
	34nm,1.2s					
WMOK	Wichita Mounta	20.42	348	eP	P	06 05 35.9	+0.7
	2.1nm,0.6s					
AMTX	Amarillo	21.28	342	eP	P	06 05 45.2	+0.7
	19nm,0.7s,mb4.5					
ROSC	El Rosal	21.55	115	P	P	06 05 47.2	-0.4
	1.9nm,0.5s,mb3.8,baz=280,slow=19,SNR=2.2					
ROSC	El Rosal	21.55	115	P	P	06 05 47.2	-0.4
BNM	Barren Site	22.53	331	eP	P	06 06 00.9	+3.0
	2.5nm,0.7s,mb3.8					
TKL	Tuckaleechee C	22.71	22	LR	LR	06 14 54.5	
	comp=Z,59nm,19.8s,MS3.0,baz=67,slow=38					
ANMO	Albuquerque	23.12	333	P	P	06 06 05.4	+1.2
	0.6nm,0.6s,mb3.2,baz=136,slow=13,SNR=3.8					
ANMO	Albuquerque	23.12	333	P	P	06 06 05.4	+1.2
SJG	San Juan	26.75	79	LR	LR	06 15 01.3	
	comp=Z,49nm,19.6s,MS3.1,baz=270,slow=32						
ECSD	EROS Data Cent	29.00	356	eP	P	06 06 56.3	-1.5
	3.5nm,0.6s,mb4.3						
PDAR	Pinedale Array	31.05	337	P	P	06 07 17.7	+1.9
	0.5nm,0.8s,mb3.4,baz=128,slow=7.4,SNR=3.2						
PDAR	Pinedale Array	31.05	337	P	P	06 07 17.8	+1.9
NVAR	Mina Array Bea	32.00	322	P	P	06 07 26.9	+2.5
	0.9nm,0.6s,mb3.8,baz=137,slow=8.6,SNR=7.9						
NVAR	Mina Array Bea	32.00	322	P	P	06 07 26.9	+2.5
SADO	Sadowa	32.43	20	LR	LR	06 23 38.5	
	comp=Z,87nm,18.4s,MS3.5,baz=232,slow=43						
ULM	Lac du Bonnet	35.47	358	P	P	06 07 51.4	-2.9
	2.8nm,0.9s,mb4.2,baz=184,slow=15,SNR=3.0						
ULM	Lac du Bonnet	35.47	358	P	P	06 07 51.4	-2.9
SIV	San Ignacio	44.48	132	P	P	06 09 09.3	-0.3
	0.6nm,0.6s,mb3.5,baz=312,slow=14,SNR=3.8						
SIV	San Ignacio	44.48	132	P	P	06 09 09.3	-0.3
YKA	Yellowknife Ar	49.92	348	P	P	06 09 51.3	-0.2
	1.8nm,0.6s,mb4.3,baz=154,slow=7.3,SNR=51						
YKA	Yellowknife Ar	49.92	348	P	P	06 09 51.3	-0.2
ILAR	Eielson Array	61.48	337	P	P	06 11 14.5	+0.1
	0.5nm,0.6s,mb3.8,baz=151,slow=5.2,SNR=14						
ILAR	Eielson Array	61.48	337	P	P	06 11 14.5	+0.1
NOA	NORSAR Array B	84.35	28	P	P	06 13 30.2	+0.2
	1.1nm,0.6s,mb4.2,baz=292,slow=5.2,SNR=3.3						
NOA	NORSAR Array B	84.35	28	P	P	06 13 30.2	+0.2
ARCES	ARCESS Array B	86.00	18	P	P	06 13 36.6	-1.6
	7.4nm,1.0s,mb4.9,baz=330,slow=4.6,SNR=9.4						
ARCES	ARCESS Array B	86.00	18	P	P	06 13 36.6	-1.6
FINES	FINESS Array B	90.59	25	P	P	06 13 59.1	-1.0
	3.8nm,0.9s,mb4.7,baz=251,slow=5.8,SNR=5.3						
FINES	FINESS Array B	90.59	25	P	P	06 13 59.1	-1.0
TORD	Torodi Ar. Bea	91.93	76	P	P	06 14 05.5	-1.8
	0.1nm,0.5s,mb3.4,baz=308,slow=4.7,SNR=2.6						
TORD	Torodi Ar. Bea	91.93	76	P	P	06 14 05.5	-1.8

PRE 20 06:03:56.6±0.8, 28°.74S×32°.82E, h5km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	Pongola	1.73	322	eP	Pn	06 04 27.9	+0.5
POGA				eS	Sn	06 04 49.9	0.0
POGA				AML	AML	06 04 53.9	
	comp=Z,316nm,0.4s						
ERPM	east rand prop	4.71	299	eP	Pn	06 05 09.2	+0.9
ERPM				eS	Sn	06 06 03.2	-0.2
ERPM				AML	AML	06 06 39.9	
	comp=Z,31nm,0.7s						
SLR	Silverton	5.03	305	eP	Pn	06 05 13.5	+0.8
SLR				eS	Sn	06 06 09.4	-1.8
SLR				AML	AML	06 06 49.2	
	comp=Z,39nm,0.6s						
PRYS	Parys	5.16	289	eP	Pn	06 05 15.1	+0.6
PRYS				eS	Sn	06 06 12.8	-1.7
PRYS				AML	AML	06 06 47.2	
	comp=Z,22nm,0.6s						
HVD	Gariep Dam	6.64	252	eS	Sn	06 06 48.4	-2.4
HVD				AML	AML	06 07 42.7	
	comp=Z,21nm,0.5s						
BOSA	Boshof	6.65	269	eP	Pn	06 05 36.1	+1.2
BOSA				eS	Sn	06 06 48.2	-2.9
BOSA				AML	AML	06 07 31.3	
	comp=Z,17nm,0.6s						
LBTB	Lobatse	7.44	298	eP	Pn	06 05 46.7	+0.9
LBTB				eS	Sn	06 07 07.8	-2.8
LBTB				AML	AML	06 07 59.4	
	comp=Z,18nm,0.6s						

*BJI **20** 06:10:27.8, 30°.43S×177°.16W, h5km, mB5.6/18, mb5.3/19, Ms5.4/12, Ms7 4.9/13*
*IDC **20** 06:10:27.2±0.6, 31°.08S×177°.80W, h0km, mb4.6/13, mb1 4.7/14, mb1mx4.7/18, mbtmp4.6/14, ML3.0/1, MS4.5/20, Ms1 4.5/20, ms1mx4.2/34, Error ellipse: s-maj=20.4km s-min=16.6km az=154.0*
*ISCJB **20** 06:10:30.5±2.1, 31°.66S±0°.04×177°.67W±0°.07, h33km±13km, mb4.9/39, MS4.6/27, Error ellipse: s-maj=10.3km s-min=5.1km az=20.3*
*MOS **20** 06:10:32.0±1.4, 31°.04S×177°.84W, h33km, mb5.1/14, Error ellipse: s-maj=14.6km s-min=10.3km az=95.2*
*GCMT **20** 06:10:32.5±0.3, 31°.07S×177°.37W, h19km±1km, MW5.0, Moment Tensor Solution. s29,c36; s60,c81; Moment tensor: Scale 10^{16}Nm; M_{rr}2.46±.19; $M_{\theta\theta}$0.25±.13; $M_{\phi\phi}$-2.71±.13; $M_{r\theta}$-0.34±.34; $M_{\theta\phi}$-0.84±.09; $M_{\phi r}$2.85±.31; Best double couple: $M_0$4.00000×10^{16} NP1:ϕ=213.00000°, δ25.00000°, λ122.00000°. NP2:ϕ=359.00000°, δ69.00000°, λ76.00000°. Principal axes: T 3.8400, Plg63.0000°, Azm246.0000°; N 0.2200, Plg13.0000°, Azm4.0000°; P -4.0700, Plg23.0000°, Azm99.0000°; Data Used: II G IU CN IC.*
*NEIC **20** 06:10:33.3±1.3, 31°.05S×177°.79W, h39km±10km, mb4.9/22 Error ellipse: s-maj=11.0km s-min=7.3km az=134.0*

ISC 20 06:10:31.8±2.1, 31°.55S±0°.04×177°.66W±0°.07, h30km±14km, n241, σ1§32/137, mb4.9/39, MS4.6/27, 4C-6D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.30	354	ePn	Pn	06 11 00.0	-7.8
RAO				eSn	Sn	06 11 28.3	-6.8
RAO	Raoul Island	2.30	354	eP	Pn	06 11 00.0	-7.8
RAO				e		06 11 28.3	
URZ	Urewera	7.95	211	Pn	Pn	06 12 25.5	+0.2
	3.9nm,0.3s,baz=256,slow=5.2,SNR=12						
URZ				Sn	Sn	06 13 57.7	+3.5
	20nm,0.3s,baz=171,slow=18,SNR=10						
URZ	Urewera	7.95	211	ePn	Pn	06 12 25.3	0.0
URZ				eSn	Sn	06 13 59.2	+5.0
WCZ	Waipu Caves	7.96	235	PN	Pn	06 12 32.3	+6.8
OUZ	Omahuta	8.17	241	ePn	Pn	06 12 36.0	+7.6
OUZ	Omahuta	8.17	241	PN	Pn	06 12 35.6	+7.2
MHGZ	Mahia Peninsul	8.40	204	SN	Sn	06 14 08.5	+3.2
CKHZ	Cape Kidnapper	9.15	206	SN	Sn	06 14 24.5	+0.9
BHHZ	Black Hill Sta	9.42	211	PN	Pn	06 12 45.8	+0.3
BHHZ				SN	Sn	06 14 31.6	+1.2
PXZ	Pawanui	9.55	206	SN	Sn	06 14 33.4	-0.2
DVHZ	Dannevirke	10.06	208	SN	Sn	06 14 44.9	-1.0
BFZ	Birch Farm	10.35	207	SN	Sn	06 14 51.9	-1.3
MRZ	Mangatainoka R	10.60	209	ePN	Pn	06 12 59.1	-2.5
MRZ				SN	Sn	06 14 56.9	-2.4
TCW	Tory Channel	11.62	212	SN	Sn	06 15 18.8	-5.4
NNZ	Nelson	12.04	214	SN	Sn	06 15 30.4	-4.0
THZ	Tophouse	12.69	214	ePN	Pn	06 13 29.5	-0.7
THZ				SN	Sn	06 15 45.0	-5.3
KHZ	Kahutara	12.91	210	ePn	Pn	06 13 32.5	-0.7
KHZ				eSn	Sn	06 15 54.9	-1.0
KHZ	Kahutara	12.91	210	ePN	Pn	06 13 30.4	-2.8
KHZ				SN	Sn	06 15 49.1	-6.8
MSVF	Nonsavu	14.30	343	ePn	Pn	06 13 47.9	-4.3
MSVF	Nonsavu	14.30	343	eP	Pn	06 13 47.9	-4.4
MQZ	McQueen's Vall	14.34	210	SN	Sn	06 16 20.2	-10
RPZ	Rata Peaks	15.06	213	Pn	Pn	06 14 03.4	+1.0
	2.5nm,0.3s,baz=33,slow=4.8,SNR=6.6						
RPZ				Sn	Sn	06 16 40.7	-7.5
	2.9nm,0.3s,baz=9.2,slow=17,SNR=6.8						
RPZ	Rata Peaks	15.06	213	eP	Pn	06 14 03.6	+1.3
	22nm,0.5s						
ODZ	Otahua Downs	16.27	211	eP	Pn	06 14 24.0	+5.9
	133nm,0.8s						
ODZ	Otahua Downs	16.27	211	ePN	Pn	06 14 16.2	-2.0
ODZ				SN	Sn	06 17 08.4	-9.3
DZM	Mont Dzumac	17.02	300	eP	Pn	06 14 28.4	+0.6
	174nm,1.3s						
DZM				eLR	LR	06 18 16.8	
	3μm,21.4s						
DZM	Mont Dzumac	17.02	300	eP	Pn	06 14 31.0	+3.2
DZM	Mont Dzumac	17.02	300	LR	LR	06 19 23.4	
	comp=Z,2μm,21.9s,baz=320,slow=32						
DZM	Mont Dzumac	17.02	300	eP	Pn	06 14 28.1	+0.3
	80nm,1.2s						
NOUC	Port Laguerre	17.11	299	eP	Pn	06 14 31.3	+2.5
AFI	Afiamalu	18.37	18	P	Pn	06 14 38.8	-5.6
	3.1nm,0.3s,baz=91,slow=12,SNR=4.8						
AFI	Afiamalu	18.37	18	P	Pn	06 14 38.8	-5.6
AFI	Afiamalu	18.37	18	P	Pn	06 14 38.8	-5.6
TBI	Tubuai	26.27	79	eS	S	06 20 30.6	-4.8
	128nm,32.8s						
TBI				eLQ		06 21 05.7	
	700nm,26.5s						
TBI				eLR	LR	06 22 36.5	
	1μm,26.0s,baz=244						
ARMA	Armidale	26.31	264	eP	P	06 16 08.2	+3.3
ARMA	Armidale	26.31	264	eP	P	06 16 08.4	+3.5
	132nm,1.9s,mb5.1						
EIDS	Eidsvold	28.10	275	eP	P	06 16 21.9	+0.9
	20nm,1.0s,mb4.7						
YNG	Young	28.55	255	eP	P	06 16 28.1	+3.2
PPT2	Papeete2	28.98	68	eLQ		06 22 04.6	
	470nm,23.8s						
PPT2				eLR	LR	06 23 55.7	
	724nm,24.8s,baz=234						
TIAR	Tiarei	29.18	68	eP	P	06 16 27.3	-3.4
	44nm,0.9s,mb5.2						
RMQ	Roma	29.72	271	eP	P	06 16 37.5	+2.0
	26nm,0.8s,mb5.0						
TOO	Toolangi	30.79	249	eP	P	06 16 47.0	+2.2
ARPS	Mount Arapiles	33.73	250	eP	P	06 17 12.1	+1.5
	28nm,0.9s,mb5.2						
CTA	Charters Tower	34.28	281	LR	LR	06 30 03.5	
	comp=Z,1μm,18.4s,MS4.7,baz=68,slow=34						
CTA	Charters Tower	34.28	281	eP	P	06 17 15.9	+0.4
CTAO	Charters Tower	34.28	281	eP	P	06 17 15.1	-0.5
	44nm,0.8s,mb5.4						
CTAO	Charters Tower	34.28	281	eP	P	06 17 15.1	-0.4
CTAO				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.4						
STKA	Stephens Creek	34.52	258	P	P	06 17 18.8	+1.4
	comp=Z,11nm,0.7s,mb4.9,baz=100,slow=8.6,SNR=20						
STKA				PcP	PcP	06 19 52.1	+0.1
	comp=Z,6.0nm,0.8s,baz=90,slow=5.1,SNR=3.0						
STKA				ScP	ScP	06 23 38.6	+3.5
	comp=Z,2.2nm,0.7s,baz=306,slow=9.7,SNR=3.5						
STKA				LR	LR	06 29 57.5	
	comp=Z,856nm,19.3s,MS4.5,baz=51,slow=34						
STKA	Stephens Creek	34.52	258	eP	P	06 17 18.8	+1.3
STKA	Stephens Creek	34.52	258	eP	P	06 17 19.2	+1.7
	comp=Z,4.4nm,0.9s,mb4.4						
STKA				PcP	PcP	06 19 52.1	+0.1
STKA				ScP	ScP	06 23 38.6	+3.5
STKA	Stephens Creek	34.52	258	eP	P	06 17 19.2	+1.7
STKA						06 19 52.1	
STKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MTSU	Mount Surprise	36.81	282	eP	P	06 17 37.3	+0.1
	comp=Z,53nm,0.9s,mb5.4						
RKT	Rikitea	38.65	88	eS	S	06 23 46.7	-0.9
	comp=Z,146nm,23.9s						
RKT				eLR	LR	06 28 18.9	
	comp=Z,856nm,30.2s,baz=250						
BBOO	Buckleboo	38.95	256	eP	P	06 17 54.8	-0.4
	comp=Z,619nm,1.0s						
PMG	Port Moresby	39.37	296	P	P	06 17 56.7	-2.1
	comp=Z,8.9nm,0.8s,mb4.5,baz=105,slow=12,SNR=3.4						
PMG	Port Moresby	39.37	296	P	P	06 17 56.7	-2.1
PMG	Port Moresby	39.37	296	eP	P	06 17 56.3	-2.5
PMG				pmax	pmax		
	comp=Z,28nm,1.7s						
COEN	Coen	39.87	287	eP	P	06 18 01.9	-1.1
	comp=Z,2μm,2.6s						
TAOE	Nuku Hiva Isla	41.51	65	eLR	LR	06 29 41.4	
	comp=Z,414nm,25.3s						
AS31	Alice Springs	43.35	268	eP	P	06 18 31.3	-0.2
ASAR	Alice Springs	43.35	268	P	P	06 18 31.2	-0.3
	comp=Z,21nm,0.8s,mb4.9,baz=110,slow=7.8,SNR=158						
ASAR				PcP	PcP	06 20 19.2	-0.7
	comp=Z,2.4nm,0.7s,baz=120,slow=5.4,SNR=3.2						
ASAR				ScP	ScP	06 24 11.2	+2.0
	comp=Z,4.3nm,0.9s,baz=118,slow=4.0,SNR=16						
ASAR				S	S	06 24 57.1	-0.3
	comp=Z,0.8nm,0.9s,baz=103,slow=16,SNR=4.1						
ASAR	Alice Springs	43.35	268	P	P	06 18 31.2	-0.3
ASAR				PcP	PcP	06 20 19.2	-0.7
ASAR				ScP	ScP	06 24 11.2	+2.0
ASAR				S	S	06 24 57.1	-0.3
ASAR	Alice Springs	43.35	268	P	P	06 18 31.2	-0.3
ASAR						06 20 19.2	
ASAR				S	S	06 24 57.2	-0.2
WB2	Warramunga Arr	44.43	273	eP	P	06 18 39.0	-1.2
WRAB	Tennant Creek	44.43	273	eP	P	06 18 39.4	-0.9
	comp=Z,20nm,0.7s,mb5.0						
WRAB	Tennant Creek	44.43	273	eP	P	06 18 39.4	-0.8
WRAB				pmax	pmax		

MJAR	**Matsushiro Arr**	**79.35**	**325**	P	**P**	**06 22 31.0**	**-3.6**
	comp=Z,4.0nm,0.9s,mb4.3,baz=164,slow=5.1,SNR=4.9						
MJAR				LR	LR	06 52 59.1	
	comp=Z,104nm,19.1s,MS4.2,baz=65,slow=32						
MJAR	**Matsushiro Arr**	**79.35**	**325**	P	**P**	**06 22 31.0**	**-3.6**
MJAR	**Matsushiro Arr**	**79.35**	**325**	P	**P**	**06 22 31.0**	**-3.6**
PLCA	**Paso Flores**	**81.51**	**133**	LR	LR	06 51 06.5	
	comp=Z,256nm,18.1s,MS4.6,baz=184,slow=30						
KSRS	**Korea Array**	**85.41**	**320**	P	**P**	**06 23 05.3**	**-1.0**
	comp=Z,3.1nm,0.9s,mb4.4,baz=114,slow=4.3,SNR=4.9						
KSRS				LR	LR	06 58 47.2	
	comp=Z,115nm,19.9s,MS4.3,baz=307,slow=34						
KSAR	**Wonju Array Be**	**85.42**	**319**	P	**P**	**06 23 05.3**	**-1.0**
KSAR	**Wonju Array Be**	**85.42**	**319**	P	**P**	**06 23 05.3**	**-1.0**
ISA	**Isabella**	**86.91**	**44**	*e*P	**P**	**06 23 13.8**	**0.0**
	comp=Z,17nm,1.4s,mb5.1						
ISA	**Isabella**	**86.91**	**44**	*e*P	**P**	**06 23 13.8**	**0.0**
ISA				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.1						
PETK	**Petropavlovsk-**	**87.00**	**345**	P	**P**	**06 23 11.8**	**-1.9**
	comp=Z,3.0nm,0.6s,mb4.7,baz=127,slow=6.0,SNR=5.8						
PETK	**Petropavlovsk-**	**87.00**	**345**	P	**P**	**06 23 11.8**	**-1.9**
PETK	**Petropavlovsk-**	**87.00**	**345**	P	**P**	**06 23 11.8**	**-1.9**
NJ2	**Nanjing**	**87.21**	**310**	*e*P	**P**	**06 23 15.8**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
CMB	**Columbia Colle**	**87.42**	**42**	*e*P	**P**	**06 23 15.7**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.7						
CMB	**Columbia Colle**	**87.42**	**42**	*e*P	**P**	**06 23 15.7**	**-0.5**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
GSC	**Goldstone**	**87.68**	**46**	*e*P	**P**	**06 23 17.4**	**0.0**
	comp=Z,9.9nm,1.3s,mb4.9						
GSC	**Goldstone**	**87.68**	**46**	*e*P	**P**	**06 23 17.4**	**-0.1**
GSC				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.9						
USRK	**Ussuriysk Arra**	**88.27**	**326**	LR	LR	06 59 57.2	
	comp=Z,107nm,19.6s,MS4.3,baz=66,slow=34						
LDFC	**Landfair**	**88.58**	**47**	*e*P	**P**	**06 23 22.6**	**+0.9**
	comp=Z,42nm,1.6s,mb5.5						
NVAR	**Mina Array Bea**	**88.89**	**43**	P	**P**	**06 23 22.7**	**-0.4**
	comp=Z,2.5nm,0.9s,mb4.6,baz=220,slow=7.5,SNR=13						
NVAR				LR	LR	06 59 17.1	
	comp=Z,399nm,18.8s,MS4.9,baz=103,slow=33						
NVAR	**Mina Array Bea**	**88.89**	**43**	P	**P**	**06 23 22.7**	**-0.4**
TUC	**Tucson**	**89.61**	**51**	*e*P	**P**	**06 23 26.6**	**-0.1**
	comp=Z,5.9nm,1.4s,mb4.7						
TUC	**Tucson**	**89.61**	**51**	*e*P	**P**	**06 23 26.6**	**0.0**
TUC				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.7						
MDJ	**Mudanjiang**	**89.73**	**325**	P	**P**	**06 23 27.8**	**+0.9**
MDJ				pP	pP	06 23 31.1	-5.4
MDJ				sP	sP	06 23 32.3	-7.6
MDJ				PP	PP	06 26 55.8	-4.0
MDJ				S	S	06 34 19.0	+2.6
MDJ				pmax	pmax		
	comp=Z,12nm,1.3s,mb5.1						
MDJ				pmax	pmax		
	comp=Z,160nm,4.7s						
MDJ				LR	LR		
	comp=Z,86nm,24.4s,MS4.1						
HABR	**Khabarovsk**	**90.19**	**331**	*e*P	**P**	**06 23 28.0**	**-0.9**
HABR				*e*		06 26 58.4	
HABR				*e*S	SKSac	06 33 56.7	-0.8
HABR				*e*		06 34 22.1	
HABR				SS	SS	06 40 15.3	-5.6
HABR				*e*SSS		06 43 51.1	
HABR				pmax	pmax		
	comp=N,36nm,1.9s						
HABR				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.6						
HABR				pmax	pmax		
	comp=E,10.0nm,0.6s						
HABR				MLR	MLR		
	comp=Z,237nm,19.0s,MS4.6						
WUAZ	**Wupatki**	**91.21**	**48**	*e*P	**P**	**06 23 34.4**	**+0.4**
	comp=Z,5.4nm,1.2s,mb4.8						
CN2	**Changchun**	**91.23**	**323**	*e*P	**P**	**06 23 32.3**	**-1.6**
CN2				*es*P	sP	06 23 38.0	-8.9
CN2				*e*S	S	06 34 27.0	-3.2
CN2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.5						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS5.2						
CN2				LR	LR		
	comp=E,400nm,16.0s,MS5.2						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS4.8						
CCUT	**Cedar City**	**91.25**	**46**	*e*P	**P**	**06 23 34.8**	**+0.7**
	comp=Z,11nm,1.6s,mb4.9						
KDAK	**Kodiak Island**	**91.46**	**13**	LR	LR	06 55 41.0	
	comp=Z,143nm,20.6s,MS4.4,baz=283,slow=30						
GYA	**Guiyang**	**92.37**	**300**	P	**P**	**06 23 41.0**	**+1.4**
GYA				PP	PP	06 27 23.5	+2.5
GYA				SKS		06 34 12.8	
GYA				S	S	06 34 41.0	-0.3
GYA				SS	SS	06 40 56.3	+3.2
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.4						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,620nm,19.6s,MS5.2						
GYA				LR	LR		
	comp=E,510nm,20.0s,MS5.2						
GYA				LR	LR		
	comp=Z,640nm,19.9s,MS5.1						
TXAR	**Lajitas Array**	**92.77**	**57**	P	**P**	**06 23 41.2**	**-0.2**
	comp=Z,0.6nm,1.0s,mb4.0,baz=222,slow=1.7,SNR=4.0						
TXAR				LR	LR	07 00 39.5	
	comp=Z,287nm,18.2s,MS4.8,baz=95,slow=32						
TXAR	**Lajitas Array**	**92.77**	**57**	P	**P**	**06 23 41.2**	**-0.2**
TXAR	**Lajitas Array**	**92.77**	**57**	P	**P**	**06 23 41.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**94.05**	**289**	P	**P**	**06 23 48.4**	**+0.9**
	comp=Z,1.3nm,0.8s,mb4.4,baz=130,slow=3.7,SNR=4.5						
CMAR	**Chiang Mai Arr**	**94.05**	**289**	P	**P**	**06 23 48.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**94.05**	**289**	P	**P**	**06 23 48.4**	**+0.9**
PDAR	**Pinedale Array**	**96.77**	**43**	PKKPbc	PKKPbc	06 40 43.1	+0.5
	comp=Z,0.5nm,0.6s,baz=123,slow=4.6,SNR=4.6						
PDAR				LR	LR	07 03 43.3	
	comp=Z,296nm,18.6s,MS4.8,baz=259,slow=33						
PDAR	**Pinedale Array**	**96.77**	**43**	PKKPbc	PKKPbc	06 40 43.1	+0.5
CD2	**Chengdu**	**96.94**	**302**	*e*P	**P**	**06 24 01.0**	**+0.5**
CD2				sP	sP	06 24 08.0	-5.5
CD2				PP	PP	06 27 58.6	+2.0
CD2				SKS		06 34 36.0	
CD2				S	S	06 35 19.0	-2.0
CD2				sS	sS	06 35 27.0	-10
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				pmax	pmax		
	comp=Z,30nm,6.8s						
CD2				LR	LR		
	comp=N,1μm,15.6s						
CD2				LR	LR		
	comp=Z,340nm,18.0s,MS4.9						
HHC	**Hu-ho-hao-te**	**97.24**	**314**	*e*P	**P**	**06 24 01.8**	**+0.3**
HHC				pP	pP	06 24 06.3	-4.9
HHC				sP	sP	06 24 09.3	-5.3
HHC				PP	PP	06 27 59.8	+1.1
HHC				S	S	06 35 20.1	-3.0
HHC				sS	sS	06 35 28.4	-11
HHC				SS	SS	06 42 00.9	-1.1
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.2						
HHC				pmax	pmax		
	comp=Z,120nm,6.2s						
HHC				LR	LR		
	comp=N,170nm,15.5s,MS4.9						
HHC				LR	LR		
	comp=E,210nm,14.3s,MS4.9						
HHC				LR	LR		
	comp=Z,100nm,12.7s,MS4.5						
LPAZ	**La Paz**	**97.41**	**114**	LR	LR	06 59 47.1	
	comp=Z,64nm,18.8s,MS4.1,baz=51,slow=30						
ILAR	**Eielson Array**	**98.98**	**13**	P	**P**	**06 24 06.0**	**-2.7**
	comp=Z,0.2nm,0.8s,baz=207,slow=3.7,SNR=3.9						
ILAR				LR	LR	07 03 15.1	
	comp=Z,99nm,18.3s,MS4.3,baz=130,slow=32						
ILAR	**Eielson Array**	**98.98**	**13**	P	**P**	**06 24 06.0**	**-2.7**
ILAR	**Eielson Array**	**98.98**	**13**	P	**P**	**06 24 06.0**	**-2.8**
CPUP	**Villa Florida**	**99.05**	**128**	LR	LR	07 05 12.3	
	comp=Z,145nm,18.6s,MS4.5,baz=79,slow=33						
LZH	**Lanzhou**	**99.64**	**306**	*e*P	Pdif	06 24 13.3	+0.8
LZH				pP	pP	06 24 16.5	-5.6
LZH				sP	sP	06 24 17.8	-7.7
LZH				*e*PP	PP	06 28 19.8	+2.7
LZH				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.3						
LZH				pmax	pmax		
	comp=Z,72nm,8.9s						
LZH				LR	LR		
	comp=E,190nm,17.0s						
LZH				LR	LR		
	comp=Z,370nm,19.8s,MS4.9						
LZH	**Lanzhou**	**99.64**	**306**	*e*P	Pdif	06 24 13.2	+0.7
	comp=Z,16nm,1.3s						
LZH				pP	pP	06 24 16.5	-5.6
LZH				sP	sP	06 24 17.8	-7.7
LZH				*e*PP	PP	06 28 19.7	+2.6
LZH	**Lanzhou**	**99.64**	**306**	*e*P	Pdif	06 24 13.2	+0.7
LZH				*e*		06 28 19.7	
LZH				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.3						
BILL	**Bilibino**	**100.01**	**354**↑	*e*P	Pdif	06 24 14.6	+0.5
BILL				pmax	pmax		
	comp=Z,15nm,2.4s						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.7						
YKA	**Yellowknife Ar**	**106.36**	**26**	PKiKP	PKiKP	06 28 51.1	-1.5
	comp=Z,0.1nm,0.5s,baz=250,slow=1.6,SNR=4.7						
YKA				PKKPbc	PKKPbc	06 40 13.8	-1.3
	comp=Z,0.2nm,0.7s,baz=38,slow=2.8,SNR=5.3						
YKA	**Yellowknife Ar**	**106.36**	**26**	PKiKP	PKiKP	06 28 51.1	-1.5
YKA				PKKPbc	PKKPbc	06 40 13.8	-1.3
WMQ	**Urumqi**	**114.16**	**308**	*e*PKP	PKiKP	06 29 08.1	+0.1
MKAR	**Makanchi Array**	**118.73**	**310**	PKP	PKPdf	06 29 15.2	-1.5
	comp=Z,1.3nm,0.7s,baz=222,slow=1.3,SNR=9.1						
MKAR	**Makanchi Array**	**118.73**	**310**	PKP	PKPdf	06 29 15.2	-1.5
MKAR	**Makanchi Array**	**118.73**	**310**	PKIKP	PKPdf	06 29 15.2	-1.5
ZALV	**Zalesovo Beam**	**119.08**	**318**	PKP	PKPdf	06 29 15.6	-1.6
	comp=Z,0.6nm,0.5s,baz=0.0,slow=0.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**119.08**	**318**	PKP	PKPdf	06 29 15.6	-1.6
ZALV	**Zalesovo Beam**	**119.08**	**318**	PKIKP	PKPdf	06 29 15.6	-1.5
KURK	**Kurchatov**	**122.05**	**313**	*e*PKPdf	PKPdf	06 29 21.4	-1.5
KURK	**Kurchatov**	**122.05**	**313**	*c i*PKIKP	PKPdf	06 29 21.3	-1.6
KURK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TKM2	**Tokmak 2**	**122.27**	**304**	*e*PKPdf	PKPdf	06 29 22.4	-1.3
TKM2	**Tokmak 2**	**122.27**	**304**	*e*PKIKP	PKPdf	06 29 22.4	-1.2
AAK	**Ala-Archa**	**122.99**	**303**	*e*PKPdf	PKPdf	06 29 24.3	-0.7
AAK	**Ala-Archa**	**122.99**	**303**	‖ *i*PKIKP	PKPdf	06 29 24.4	-0.6
KBL	**Kabul**	**124.93**	**292**	*e*P	PKPdf	06 29 28.9	-0.1
KBL	**Kabul**	**124.93**	**292**	*e*PKIKP	PKPdf	06 29 28.9	-0.1
KKAR	**Karatay Array**	**125.94**	**303**	*e*PKPdf	PKPdf	06 29 29.8	-0.9
KKAR	**Karatay Array**	**125.94**	**303**	*e*PKIKP	PKPdf	06 29 29.8	-0.9
BRVK	**Borovoye**	**127.49**	**315**	‖ *i*PKIKP	PKPdf	06 29 31.9	-1.4
BRVK				pmax	pmax		
	comp=Z,11nm,1.7s						
ARU	**Arti**	**134.16**	**320**	*i*PKIKP	PKPdf	06 29 44.5	-1.3
ARU				SS	SS	06 50 00.9	-3.5
ARCES	**ARCESS Array B**	**139.77**	**348**	PKhKP	PKPpre	06 29 49.0	
	comp=Z,2.8nm,0.8s,baz=62,slow=5.6,SNR=5.4						
ARCES				PKP	PKPdf	06 29 54.2	-1.6
	comp=Z,2.3nm,0.6s,baz=79,slow=2.2,SNR=5.4						
ARCES				SKPbc	SKPbc	06 33 31.4	+2.1
	comp=Z,7.5nm,1.0s,baz=28,slow=8.2,SNR=4.5						
ARCES	**ARCESS Array B**	**139.77**	**348**	PKPpre	PKPpre	06 29 49.0	
ARCES				PKP	PKPdf	06 29 54.2	-1.6
ARCES				SKPbc	SKPbc	06 33 31.4	+2.1
ARCES	**ARCESS Array B**	**139.77**	**348**	PKHKP	PKPpre	06 29 49.0	
ARCES						06 29 54.2	
JOF	**Joensuu**	**143.59**	**338**	*e*PKHKP	PKPpre	06 29 56.7	
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	**Joensuu**	**143.59**	**338**	*ep*	PKPpre	06 29 56.7	
	comp=Z,3.0nm,0.6s						
GNI	**Garni**	**144.85**	**296**	*e*PKPdf	PKPdf	06 30 04.6	-1.2
GNI	**Garni**	**144.85**	**296**	*e*PKIKP	PKPdf	06 30 04.4	-1.4
MOS	**Moscow**	**145.44**	**325**	*e*PKIKP	PKPdf	06 30 03.1	-3.2
MOS				pmax	pmax		
	comp=Z,90nm,0.8s						
MOS				pmax	pmax		
	comp=Z,90nm,0.8s						
KAF	**Kangasniemi**	**145.73**	**340**	*e*PKP2	PKPdf	06 30 03.5	-3.1
KAF	**Kangasniemi**	**145.73**	**340**	*ep*	PKPdf	06 30 03.5	-3.1
KIV	**Kislovodsk**	**146.10**	**303**	*e*PKPdf	PKPdf	06 30 08.0	+0.2
KIV	**Kislovodsk**	**146.10**	**303**	*e*PKP2	PKPdf	06 30 08.0	+0.2
OBN	**Obninsk**	**146.28**	**324**	*e*PKPdf	PKPdf	06 30 07.1	-0.6
OBN	**Obninsk**	**146.28**	**324**κ	*i*PKP2	PKPdf	06 30 07.7	0.0
OBN				pmax	pmax		
	comp=Z,147nm,0.7s						
FINES	**FINESS Array B**	**146.32**	**340**	PKPbc	PKPbc	06 30 07.0	-1.9
	comp=Z,40nm,0.8s,baz=57,slow=3.1,SNR=79						
FINES	**FINESS Array B**	**146.32**	**340**	PKPbc	PKPbc	06 30 07.0	-1.9
FINES	**FINESS Array B**	**146.32**	**340**	PKP2	PKPbc	06 30 07.0	-1.8
VSR	**Storozhevoye**	**146.58**	**317**	*e*PKP2	PKPdf	06 30 08.0	-0.3
VSR				pmax	pmax		
	comp=N,8.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,100nm,0.8s						
VSU	**Vasula**	**148.39**	**336**	*ce*PKP2	PKPbc	06 30 13.8	-0.8
ANN	**Anapa**	**149.65**	**306**	*i*PKHKP	PKPbc	06 30 16.5	-1.8
ANN				pmax	pmax		
	comp=Z,90nm,1.2s						
NB2	**NORSAR Subarra**	**149.93**	**351**	PKP	PKPbc	06 30 16.7	-1.7
	comp=Z,2.0nm,0.6s,baz=14,slow=2.6						
NOA	**NORSAR Array B**	**149.93**	**351**	PKPbc	PKPbc	06 30 16.9	-1.5
	comp=Z,3.7nm,0.8s,baz=14,slow=4.2,SNR=9.5						
NOA	**NORSAR Array B**	**149.93**	**351**	PKPbc	PKPbc	06 30 16.9	-1.5
NOA	**NORSAR Array B**	**149.93**	**351**	PKHKP	PKPbc	06 30 16.9	-1.5
SIM	**Simferopol'**	**151.88**	**307**	*e*PKIKP	PKPdf	06 30 09.2	-7.9
SIM				pmax	pmax		
	comp=Z,27nm,0.8s						
AKASG	**Malin Array Be**	**152.38**	**322**	PKPbc	PKPbc	06 30 23.2	-1.2
	comp=Z,14nm,0.9s,baz=48,slow=2.5,SNR=29						
AKASG	**Malin Array Be**	**152.38**	**322**	PKPbc	PKPbc	06 30 23.2	-1.2
AKASG	**Malin Array Be**	**152.38**	**322**	PKIKP	PKPbc	06 30 23.3	-1.2
AKBB	**Malin Array Si**	**152.38**	**322**	*e*PKPbc	PKPbc	06 30 23.1	-1.3
AKBB	**Malin Array Si**	**152.38**	**322**	*e*PKIKP	PKPbc	06 30 23.2	-1.3
KIEV	**Kiev**	**152.40**	**322**	*e*PKPbc	PKPbc	06 30 22.9	-1.6
KIEV	**Kiev**	**152.40**	**322**	*e*PKIKP	PKPbc	06 30 22.9	-1.6
BR131	**Keskin Array S**	**153.39**	**297**	*e*PKPbc	PKPbc	06 30 26.2	-0.9
BRTR	**Keskin Array B**	**153.39**	**297**	PKPbc	PKPbc	06 30 26.4	-0.7
	comp=Z,5.9nm,0.9s,baz=116,slow=2.9,SNR=26						
BRTR	**Keskin Array B**	**153.39**	**297**	PKPbc	PKPbc	06 30 26.4	-0.7
BRTR	**Keskin Array B**	**153.39**	**297**	PKIKP	PKPbc	06 30 26.4	-0.7
BUR08	**Bucovina Ar. S**	**156.29**	**319**	*e*PKPdif	PKPdf	06 30 35.3	+12
BUR08				*e*PKPab	PKPab	06 30 49.5	-1.8
KWP	**Kalwaria Pacla**	**156.35**	**326**	*e*PKPab	PKPab	06 30 50.2	-1.4
KWP	**Kalwaria Pacla**	**156.35**	**326**	*e*PKP2	PKPab	06 30 50.2	-1.3
UZH	**Uzhgorod**	**157.22**	**324**	*e*PKIKP	PKPdf	06 30 26.8	+2.5
UZH				*e*		06 30 32.0	
UZH				*e*		06 30 46.6	
CRVS	**Cervenica-Dubn**	**157.44**	**326**	*e*PKP2	PKPab	06 30 54.2	-2.1
CRVS	**Cervenica-Dubn**	**157.44**	**326**	*e*PKP	PKPab	06 30 54.2	-2.1
KSP	**Ksiaz**	**158.12**	**336**	*e*PKPab	PKPab	06 30 57.5	-1.6
KSP	**Ksiaz**	**158.12**	**336**	*e*PKP2	PKPab	06 30 57.5	-1.6
KECS	**Kecovo**	**158.20**	**326**	*e*PKP2	PKPab	06 30 50.4	-9.2
KECS	**Kecovo**	**158.20**	**326**	*e*	PKPab	06 30 50.4	-9.2
KECS	**Kecovo**	**158.20**	**326**	*e*PKP	PKPab	06 30 56.8	-2.8
OKC	**Ostrava-Krasne**	**158.23**	**332**	*e*PKP2	PKPab	06 30 57.8	-1.8
OKC	**Ostrava-Krasne**	**158.23**	**332**	*e*PKPAB	PKPab	06 30 57.8	-1.8
UPC	**Upice**	**158.50**	**336**	*e*PKP2	PKPab	06 30 59.0	-1.8
UPC	**Upice**	**158.50**	**336**	*e*PKPAB	PKPab	06 30 59.0	-1.8
DPC	**Dobruska-Polom**	**158.52**	**335**	*e*PKP2	PKPab	06 30 59.3	-1.6
DPC	**Dobruska-Polom**	**158.52**	**335**	*e*PKPAB	PKPab	06 30 59.3	-1.6
CLL	**Collm**	**158.75**	**341**	*i*PKIKP	PKPdf	06 30 28.0	+1.9
CLL				*i*		06 30 59.3	
CLL				pmax	pmax		
	comp=Z,23nm,1.9s						
CLL				pmax	pmax		
	comp=Z,11nm,0.9s						
CLL	**Collm**	**158.75**	**341**	*e*PKPdf	PKPdf	06 30 28.0	+1.9
	comp=Z,23nm,1.9s						
CLL				*i* PKPab	PKPab	06 30 59.3	-2.5
	comp=Z,11nm,0.9s						
BRG	**Berggiesshubel**	**158.86**	**339**	*i* PKP	PKPab	06 31 00.3	-2.0
	comp=Z,9.6nm,1.0s						
BRG	**Berggiesshubel**	**158.86**	**339**	*i* PKP2	PKPab	06 31 00.3	-2.0
BRG				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VYHS	**Vyhne**	**158.96**	**328**	*e*PKP2	PKPab	06 31 01.2	-1.6
VYHS	**Vyhne**	**158.96**	**328**	*e*PKP	PKPab	06 31 01.2	-1.6
PVCC	**Panska Ves**	**158.97**	**338**	*e*PKP2	PKPab	06 31 01.0	-1.8
PVCC	**Panska Ves**	**158.97**	**338**	*e*PKPAB	PKPab	06 31 01.0	-1.8
PRU	**Pruhonice**	**159.44**	**337**	*e*PKP2	PKPab	06 31 02.9	-2.0
PRU	**Pruhonice**	**159.44**	**337**	*e*PKPAB	PKPab	06 31 02.9	-2.0
NKC	**Novy Kostel**	**159.87**	**341**	*e*PKP2	PKPab	06 31 04.9	-1.8
NKC	**Novy Kostel**	**159.87**	**341**	*e*PKPAB	PKPab	06 31 04.9	-1.8
KHC	**Kasperske Hory**	**160.50**	**337**	*e*PKP2	PKPab	06 31 07.8	-1.7
KHC	**Kasperske Hory**	**160.50**	**337**	*e*PKPAB	PKPab	06 31 07.8	-1.7
GERES	**GERESS Array B**	**160.71**	**337**	PKPab	PKPab	06 31 08.6	-1.8
	comp=Z,1.8nm,0.7s,baz=29,slow=3.0,SNR=7.2						
GERES	**GERESS Array B**	**160.71**	**337**	PKPab	PKPab	06 31 08.6	-1.8
GERES	**GERESS Array B**	**160.71**	**337**	PKP2	PKPab	06 31 08.6	-1.8
TORD	**Torodi Ar. Bea**	**161.67**	**178**	PKP	PKPdf	06 30 29.8	-0.7
	comp=Z,0.9nm,0.9s,baz=21,slow=1.5,SNR=4.2						
TORD				PKPab	PKPab	06 31 16.1	+0.7
	comp=Z,3.0nm,0.9s,baz=185,slow=4.2,SNR=11						
TORD	**Torodi Ar. Bea**	**161.67**	**178**	PKP	PKPdf	06 30 29.8	-0.7
TORD				PKPab	PKPab	06 31 16.1	+0.7
SSF	**Saint Saulge**	**164.49**	**357**	*e*PKP2	PKPab	06 31 25.0	-2.0
	comp=Z,16nm,1.1s						
SMF	**Signal de Mont**	**164.88**	**356**	*e*PKP2	PKPab	06 31 26.6	-2.1
ESDC	**Sonseca Array**	**170.41**	**31**	PKP	PKPdf	06 30 37.6	+0.9
	comp=Z,0.1nm,0.3s,baz=232,slow=6.3,SNR=3.5						
ESDC	**Sonseca Array**	**170.41**	**31**	PKP	PKPdf	06 30 37.6	+0.9

*ISCJB **20** 06:25:44.7±0.5, 22°.83N±0°.02×121°.77E±0°.03, h15km±6km,*
Error ellipse: s-maj=4.4km s-min=3.6km az=172.6
*TAP **20** 06:25:46.0, 22°.84N×121°.69E, h12km, ML3.7, C*
*JMA **20** 06:25:47.2±0.2, 23°.00N×121°.94E, h0km, M3.1*
ISC 20 06:25:44.4±0.5, 22°.83N±0°.02×121°.74E±0°.02, h9km±3km,
n42, σ0=88/74, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.44**	**307**	*i* P	**Pg**	**06 25 53.8**	**+0.8**
	baz=313						
CHKT				*i* S	**Sg**	**06 25 59.4**	**+0.6**
	baz=313						
TTN	**Taitung**	**0.56**	**262**	*i* P	**Pg**	**06 25 56.1**	**+0.8**
	baz=261						
TTN				S	**Sg**	**06 26 03.6**	**+1.1**
	baz=261						
TWG	**Pinlang**	**0.62**	**269**	*e*P	**Pg**	**06 25 56.6**	**+0.1**
	baz=270						
TWG				*e*S	**Sg**	**06 26 05.5**	**+0.9**
	baz=270						
TWF1	**Yuli**	**0.66**	**321**	‖ *i*P	**Pg**	**06 25 57.8**	**+0.6**
	baz=327						
TWF1				S	**Sg**	**06 26 06.2**	**+0.4**
	baz=327						
ELDTW	**Lidau**	**0.76**	**298**	P	**Pg**	**06 25 58.8**	**-0.2**
	baz=314						
ELDTW				S	**Sg**	**06 26 09.1**	**+0.1**
	baz=314						
EHY	**Hungye**	**0.77**	**330**	P	**Pg**	**06 25 59.9**	**+0.5**
	baz=335						
EHY				S	**Sg**	**06 26 10.2**	**+0.7**
	baz=335						
LAY	**Lan-yu**	**0.81**	**193**	‖ *i*P	**Pg**	**06 26 00.0**	**-0.1**
	baz=187						
LAY				*e*S	**Sg**	**06 26 10.8**	**+0.2**
	baz=187						
TAW	**Tawu**	**0.92**	**239**	*e*P	**Pg**	**06 26 01.8**	**-0.3**
	baz=238						
TAW				*e*S	**Sg**	**06 26 12.8**	**-1.2**
	baz=238						
EAST	**Anshuo**	**0.94**	**242**	P	**Pg**	**06 26 02.2**	**-0.4**
	baz=241						
EAST				*e*S	**Sg**	**06 26 13.3**	**-1.5**
	baz=241						
STYT	**Tauyuan**	**0.97**	**290**	*i* P	**Pg**	**06 26 02.5**	**-0.5**
	baz=303						
STYT				*e*S	**Sg**	**06 26 13.7**	**-1.9**
	baz=303						
YUS	**Yu-Shan**	**0.98**	**312**	*e*P	**Pg**	**06 26 03.2**	**-0.1**
	baz=316						
YUS				*e*S	**Sg**	**06 26 15.5**	**-0.5**
	baz=316						
ESL	**Shilin**	**1.02**	**344**	P	**Pg**	**06 26 03.3**	**-0.7**
	baz=360						
ESL				*e*S	**Sg**	**06 26 16.1**	**-1.1**
	baz=360						
SSD	**Sandimen**

IRIF	Iriomote-Funau	2.36	50	P	Pn	06 26 24.6	+1.3
IRIF				S	Sn	06 26 52.0	-0.3
JKRS	Kuro-shima	2.50	56	S	Sn	06 26 56.5	+0.5
JIJ	Ishigaki jima	2.68	55	S	Sn	06 26 58.9	-1.3
JTJ	Tarama	3.25	56	P	Pn	06 26 37.4	+1.8
JTJ				S	Sn	06 27 14.2	-0.3

TAP 20 06:26:46.6, 22°.86N×121°.72E, h8km, ML3.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.40	307	*i* P	Pg	06 26 54.5	0.0
CHKT	baz=306			*i* S	Sg	06 26 59.8	+0.1
TTN	Taitung	0.54	259	P	Pg	06 26 56.7	-0.3
TTN	baz=258			S	Sg	06 27 04.5	+0.5
TWG	Pinlang	0.59	266	*i* P	Pg	06 26 57.3	-0.8
TWG	baz=265			S	Sg	06 27 06.1	+0.2
TWF1	Yuli	0.62	322	P	Pg	06 26 58.5	-0.2
TWF1	baz=322			*e*S	Sg	06 27 06.6	-0.3
ELDTW	Lidau	0.72	297	P	Pg	06 26 59.8	-0.8
ELDTW	baz=297			*e*S	Sg	06 27 09.2	-0.7
EHY	Hungye	0.74	331	P	Pg	06 27 00.9	+0.1
LAY	Lan-yu	0.83	191	*e*P	Pg	06 27 00.6	-2.1
EAST	Anshuo	0.93	240	*e*P	Pg	06 27 03.2	-1.3
STYT	Tauyuan	0.93	289	P	Pg	06 27 03.4	-1.2
STYT	baz=288			*e*S	Sg	06 27 16.5	-0.2
YUS	Yu-Shan	0.94	312	P	Pg	06 27 04.4	-0.3
YUS	baz=311			*e*S	Sg	06 27 16.2	-0.7
ESL	Shilin	0.98	345	*e*P	Pg	06 27 05.3	-0.3
SSD	Sandimen	1.01	264	*e*P	Pg	06 27 04.6	-1.4
ALS	Alishan	1.06	308	P	Pg	06 27 06.9	-0.1
ALS	baz=307			*e*S	Sg	06 27 20.8	+0.1
SGST	Jiashian	1.07	282	*e*P	Pg	06 27 06.0	-1.1
SGST	baz=281			*e*S	Sg	06 27 21.5	+0.5
WTP	Ta-pu	1.08	291	*e*P	Pg	06 27 07.2	-0.3
WTP	baz=290			*e*S	Sg	06 27 22.4	+0.8
CHN1	Nanshi	1.14	287	*e*P	Pg	06 27 07.9	-0.7
CHN1	baz=286			*e*S	Sg	06 27 23.1	-0.2
CHN4	Tsaushan	1.14	296	*e*P	Pg	06 27 08.8	+0.2
CHN4	baz=295			*e*S	Sg	06 27 24.9	+1.5
TWM1	Shoushan	1.19	268	*e*P	Pb	06 27 10.4	+0.9
CHN5	Tsauling	1.20	308	P	Pb	06 27 09.6	-0.1
CHN5	baz=307			*e*S	Sg	06 27 26.7	+1.3
TWD	Chiawan	1.22	355	*e*P	Pb	06 27 06.8	-3.1
TWK1	Hengchun	1.24	223	*e*P	Pn	06 27 07.6	-2.7
SMLT	Sun Moon Lake	1.26	324	*e*P	Pn	06 27 10.4	-0.3
SMLT	baz=323			*e*S	Sb	06 27 26.3	-0.9
TYC	Yuchr	1.30	323	*e*P	Pn	06 27 11.4	+0.2
TYC	baz=323			*e*S	Sb	06 27 28.5	+0.1
WHF	Hehuan Shan	1.34	342	*e*P	Pn	06 27 10.2	-1.5
ENTT	Nioudou	1.78	356	*e*P	Pn	06 27 18.7	+1.0

IDC 20 06:30:19.9±2.4, 20°.60S×70°.72W, h0km, mb4.3/2, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, ML3.4/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/23, Error ellipse: s-maj=53.7km s-min=45.0km az=131.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.95	30	Pn	Pn	06 31 37.6	+2.1
LPAZ	0.5nm,0.3s,baz=217,slow=7.1,SNR=17			Pg	Pg	06 31 49.0	-5.9
LPAZ	0.6nm,0.3s,baz=215,slow=8.7,SNR=10			LR	LR	06 33 43.1	
SIV	comp=Z,66nm,18.6s,baz=242,slow=41 San Ignacio	10.25	65	Pn	Pn	06 32 48.2	-0.2
SCHQ	0.3nm,0.3s,baz=259,slow=17,SNR=7.2 Schefferville	75.20	2	P	P	06 42 04.0	+0.1
TORD	5.6nm,0.6s,baz=215,slow=7.3,SNR=9.3 Torodi Ar. Bea	78.66	71	P	P	06 42 24.5	+0.1
RPZ	0.3nm,0.4s,baz=248,slow=5.2,SNR=7.3 Rata Peaks	94.61	220	LR	LR	07 15 55.9	
	comp=Z,179nm,19.5s,baz=204,slow=29						

*IDC **20** 06:43:02.6±0.9, 30°.28N×67°.33E, h0km, mb3.9/15, mb1 4.1/15, mb1mx3.9/31, mbtmp3.9/15, Error ellipse: s-maj=22.0km s-min=20.4km az=59.0*
*NEIC **20** 06:43:04.3±0.7, 30°.30N×67°.31E, h10km, mb4.0/5, Error ellipse: s-maj=12.4km s-min=10.7km az=145.0*
*ISCJB **20** 06:43:06.3±0.6, 30°.41N±0°.07×67°.42E±0°.06, h33km, mb3.9/17, Error ellipse: s-maj=10.9km s-min=7.5km az=19.9*

ISC 20 06:43:07.5±4.6, 30°.4N±0°.1×67°.33E±0°.09, h29km±31km, n49, σ0°.94/49, mb3.9/17, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	4.39	19	*e*Pn	Pn	06 44 14.6	+2.5
NDI	New Delhi	8.78	99	*e*PKP	Sn	06 46 50.0	-0.4
DDI	Dehra Dun	9.27	88	*ex*	Pn	06 45 20.0	+0.8
AML	Almayashu	12.79	22	P	Pn	06 46 07.1	-0.3
AML	SNR=30			P		06 46 07.1	
KKAR	Karatay Array	12.94	10	*e*Pn	Pn	06 46 09.6	+0.2
EKS2	1.2nm,0.3s Erkin-Say	13.29	21	P	Pn	06 46 14.9	+0.7
EKS2	SNR=5.3			P		06 46 14.9	
AAK	Ala-Archa	13.50	23	P	Pn	06 46 16.3	-0.7
AAK	SNR=7.4			P		06 46 16.3	
AAK	Ala-Archa	13.50	23	*e*Pn	Pn	06 46 16.2	-0.8
CHMS	26nm,0.6s Chumysh	13.91	23	P	Pn	06 46 21.1	-1.6
CHMS	SNR=6.4			P		06 46 21.1	
TKM2	Tokmak 2	14.15	26	P	Pn	06 46 24.6	-1.2
TKM2	SNR=12			P		06 46 24.6	
TKM2	Tokmak 2	14.15	26	*e*Pn	Pn	06 46 24.4	-1.4
ABKAR	6.5nm,0.7s Akbulak array	19.66	345	*e*P	Pn	06 47 35.2	-0.3
MK31	1.6nm,0.6s Makanchi Array	20.07	31	*e*P	P	06 47 37.1	-1.3
MKAR	Makanchi Array	20.07	31	P	P	06 47 37.4	-1.0
MKAR	1.1nm,0.5s,baz=209,slow=10,SNR=12 Makanchi Array	20.07	31	P	P	06 47 37.4	-1.0
LSA	Lhasa	20.63	86	*e*P	P	06 47 45.7	+1.0

	3.5nm,0.5s						
AKTO	Aktyubinsk	21.21	343	P	P	06 47 51.7	+0.9
	1.6nm,0.6s,mb3.6,baz=174,slow=12,SNR=7.2						
AKTO	Aktyubinsk	21.21	343	P	P	06 47 51.7	+0.9
KURK	Kurchatov	21.99	19	P	P	06 47 59.1	-0.1
	4.0nm,0.8s,mb3.9,baz=208,slow=10,SNR=21						
KURK	Kurchatov	21.99	19	*e*P	P	06 47 59.7	+0.6
	7.2nm,1.2s,mb4.0						
BVAR	Borovoye Array	22.73	5	P	P	06 48 07.2	+0.3
	1.1nm,0.6s,mb3.5,baz=181,slow=11,SNR=9.1						
BVAR	Borovoye Array	22.73	5	P	P	06 48 07.2	+0.3
BRVK	Borovoye	22.76	5	*e*P	P	06 48 07.0	-0.2
	3.4nm,0.8s,mb3.8						
ZAA0	Zalesovo Array	26.73	23	*e*P	P	06 48 46.4	+2.1
ZALV	Zalesovo Beam	26.73	23	P	P	06 48 44.9	+0.6
	2.6nm,0.6s,mb3.9,baz=223,slow=11,SNR=16						
ZALV	Zalesovo Beam	26.73	23	P	P	06 48 44.9	+0.6
AKASG	Malin Array Be	34.83 317		P	P	06 49 55.8	0.0
	1.2nm,0.7s,mb4.0,baz=102,slow=7.0,SNR=4.9						
AKASG	Malin Array Be	34.83 317		P	P	06 49 55.8	0.0
PSZ	Piszkesteto	40.04 310		*e*P	P	06 50 41.0	+1.1
	14nm,1.4s,mb4.5						
FINES	FINESS Array B	41.10 331		P	P	06 50 48.0	-0.5
	4.2nm,0.9s,mb4.1,baz=133,slow=6.1,SNR=3.4						
FINES	FINESS Array B	41.10 331		P	P	06 50 48.0	-0.5
ARCES	ARCESS Array B	45.76 341		P	P	06 51 26.8	+0.8
	4.1nm,1.0s,mb4.3,baz=126,slow=8.0,SNR=9.0						
ARCES	ARCESS Array B	45.76 341		P	P	06 51 26.8	+0.8
LPG	La Plagne	48.98 306		*e*P	P	06 51 49.3	-2.0
	31nm,1.5s,mb4.8						
LPG	La Plagne	48.98 306		*e*P	P	06 51 49.3	-2.0
	31nm,1.5s						
ESDC	Sonseca Array	57.73 300		P	P	06 52 55.1	-0.6
	0.3nm,0.5s,mb3.6,baz=54,slow=6.9,SNR=6.0						
ESDC	Sonseca Array	57.73 300		P	P	06 52 55.1	-0.6
TORD	Torodi Ar. Bea	62.55 270		P	P	06 53 29.1	0.0
	2.2nm,0.8s,mb4.3,baz=62,slow=6.4,SNR=14						
TORD	Torodi Ar. Bea	62.55 270		P	P	06 53 29.1	0.0
INK	Inuvik	80.39	8	P	P	06 55 16.2	+0.4
	2.1nm,0.8s,mb4.1,baz=357,slow=7.4,SNR=9.3						
INK	Inuvik	80.39	8	P	P	06 55 16.2	+0.4
ILAR	Eielson Array	81.46	14	P	P	06 55 21.1	-0.4
	0.2nm,0.9s,mb3.0,baz=329,slow=3.2,SNR=4.3						
ILAR	Eielson Array	81.46	14	P	P	06 55 21.1	-0.4
WRA	Warramunga Arr	81.55 119		P	P	06 55 22.1	-0.6
	0.4nm,0.8s,mb3.4,baz=322,slow=4.5,SNR=3.3						
WRA	Warramunga Arr	81.55 119		P	P	06 55 22.1	-0.6
ASAR	Alice Springs	83.45 122		P	P	06 55 32.4	-0.2
	0.9nm,0.8s,mb3.9,baz=315,slow=5.9,SNR=9.1						
ASAR	Alice Springs	83.45 122		P	P	06 55 32.4	-0.2
YKA	Yellowknife Ar	87.43	1	P	P	06 55 52.2	+0.4
	1.0nm,0.8s,mb4.1,baz=348,slow=5.2,SNR=11						
YKA	Yellowknife Ar	87.43	1	P	P	06 55 52.2	+0.4

GUC 20 06:44:50.9±0.7, 32°.48S×72°.08W, h5km±9km, MD3.8, ML2.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.66	146	*e*P	Pg	06 45 04.4	+0.8
IHA				*i* S	Sg	06 45 14.1	+1.9
CHNG	Los Chungos	0.78	40	*e*P	Pg	06 45 05.9	+0.1
CHNG				*e*S	Sg	06 45 17.6	+1.7
PTCH	Petorca	1.00	78	*e*P	Pg	06 45 10.0	-0.1
PTCH				*e*S	Sg	06 45 24.4	+1.3
PTCH				AML	AML	06 45 25.5	
	comp=N,533nm,0.4s						
ROCH	El Roble	1.03	119	*e*P	Pg	06 45 10.3	-0.3
ROCH				*e*S	Sg	06 45 25.3	+1.3
ROCH				AML	AML	06 45 29.3	
	comp=N,505nm,0.6s						
JACH	Jahuel	1.27	99	*e*P	Pg	06 45 14.2	-1.1
JACH				*i* S	Sg	06 45 32.0	+0.1
PEL	Peldehue	1.35	120	*e*P	Pn	06 45 15.5	-0.9
PEL				*e*S	Sb	06 45 34.5	+0.2
PEL				AML	AML	06 45 37.9	
	comp=E,752nm,0.2s						
TACH	Talagante	1.52	141	*e*P	Pn	06 45 17.9	-0.8
LNV	Longovilo	1.58	159	*e*P	Pn	06 45 18.4	-1.1
CLCH	Cerro Calan	1.59	125	*e*P	Pn	06 45 19.4	-0.3
CLCH				*e*S	Sn	06 45 40.9	+0.3
CLCH				AML	AML	06 45 50.7	
	comp=N,261nm,0.4s						
FCH	Farellones	1.73	120	*e*P	Pn	06 45 15.9	-5.8
FCH				*e*S	Sn	06 45 39.1	-4.9
FCH				AML	AML	06 45 40.6	
	comp=N,233nm,0.3s						
PCH	Pirque	1.74	131	*e*P	Pn	06 45 21.7	-0.1
CHCH	Chadas Angostu	1.88	141	*e*P	Pn	06 45 24.8	+1.1
CACH	El Canelo	2.05	143	*e*P	Pn	06 45 27.5	+1.5

GUC 20 06:50:05.2±0.6, 32°.61S×71°.91W, h15km±4km, MD4.0, ML3.3, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.47	152	*e*P	Pg	06 50 14.5	-0.1
IHA				*e*S	Sg	06 50 21.2	+0.3
CHNG	Los Chungos	0.80	26	⇓*i*P	Pg	06 50 19.7	-1.1
CHNG				*e*S	Sg	06 50 30.5	-0.8
ROCH	El Roble	0.84	116	*e*P	Pb	06 50 20.5	-0.9
ROCH				*e*S	Sg	06 50 32.2	-0.2
ROCH				AML	AML	06 50 36.9	
	comp=E,1μm,0.8s						
PTCH	Petorca	0.90	68	*e*P	Pb	06 50 21.6	-0.8
PTCH				*e*S	Sb	06 50 33.6	-0.5
PTCH				AML	AML	06 50 37.9	
	comp=N,1μm,0.5s						
JACH	Jahuel	1.11	94	⇓*e*P	Pb	06 50 24.6	-1.5
PEL	Peldehue	1.16	118	⇑*i*P	Pn	06 50 25.9	-1.0
PEL				*i* S	Sb	06 50 41.1	-0.6
TACH	Talagante	1.32	142	⇑*i*P	Pn	06 50 28.1	-1.0
SAN	Santiago	1.34	129	*e*P	Pn	06 50 28.6	-0.8
CLCH	Cerro Calan	1.39	125	*e*P	Pn	06 50 29.1	-1.0
CLCH				*e*S	Sn	06 50 47.5	-0.6
CLCH				AML	AML	06 50 55.6	
	comp=E,2μm,0.7s						
LNV	Longovilo	1.41	163	*e*P	Pn	06 50 28.1	-2.1
ANTU	Antumapu	1.43	132	*e*P	Pn	06 50 29.8	-0.8
ANTU				*e*S	Sn	06 50 48.4	-0.8
ANTU				AML	AML	06 50 51.3	
	comp=N,616nm,0.7s						
FSR	Penalolen	1.45	127	*e*P	Pn	06 50 30.6	-0.2
FCH	Farellones	1.54	118	⇓*i*P	Pn	06 50 24.8	-7.2
FCH				AML	AML	06 50 51.0	
	comp=E,858nm,0.3s						
PCH	Pirque	1.54	131	*e*P	Pn	06 50 31.7	-0.4
PCH				*i* S	Sn	06 50 52.9	+1.0
SJCH	San Jose de Ma	1.66	129	*e*P	Pn	06 50 33.6	-0.1
SJCH				*e*S	Sn	06 50 55.1	+0.4
CHCH	Chadas Angostu	1.69	142	*e*P	Pn	06 50 33.6	-0.5
CACH	El Canelo	1.86	144	⇓*e*P	Pn	06 50 37.2	+0.7
CACH				*e*S	Sn	06 51 02.3	+2.6
LMEL	Las Melosas	1.89	131	*e*P	Pn	06 50 37.4	+0.5
LMEL				*e*S	Sn	06 51 01.9	+1.5
LMEL				AML	AML	06 51 08.1	
	comp=N,811nm,0.2s						
TLL	Tololo Astrono	2.61	21	*e*P	Pn	06 50 46.4	-0.5

CASC 20 06:55:07.9±3.2, 8°.35N×83°.03W, h3km±8km, MD3.9, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.33	335	⇓*i*P	Pg	06 55 14.7	+0.4
BRU2	Volcan	0.55	37	⇓*i*P	Pg	06 55 19.9	+1.4
BRU2				*e*S	Sg	06 55 29.0	+3.3
CTCR	Cotoan	0.60	26	*i* P	Pg	06 55 20.7	+1.2
CNI	Changuinola	1.17	25	*e*P	Pg	06 55 14.0	-16
BUS	Buena Vista	1.40	329	*e*P	Pn	06 55 33.2	-1.1
BUS				*e*S	Sg	06 55 55.0	+2.2
QCR	Quepos	1.55	314	*e*P	Pn	06 55 35.2	-1.2
QCR				⇓*e*P		06 55 35.5	
QCR				*e*S	Sn	06 55 55.8	-1.2
URSC	Urasca	1.65	333	*e*P	Pn	06 55 37.3	-0.4
URSC				*e*S	Sn	06 56 03.4	+3.9
LAJ	Bijagual	1.85	324	*e*P	Pn	06 55 42.8	+2.3
LAJ				*e*S	Sn	06 56 07.9	+3.5
SJS	Escuela Geolog	1.88	327	*e*P	Pn	06 55 41.7	+0.8
SJS				*e*S	Sn	06 56 08.1	+3.0
CGA2	Cerro Gallo 2	2.18	319	*e*P	Pn	06 55 45.7	+0.7
CGA2				*e*S	Sn	06 56 15.0	+2.4
JCR	Jicaral	2.54	306	*e*P	Pn	06 55 50.9	+0.9
BCIP	Isla Barro Col	3.25	75	*e*P	Pn	06 56 03.0	+3.1
PTP	Ponta Puerca	19.57	58	⇑*i*P	x	06 55 13.8	

GUC 20 07:05:18.1±0.6, 32°.61S×71°.79W, h14km±4km, MD3.7, ML2.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.44	163	*e*P	Pg	07 05 26.9	+0.1
IHA				*e*S	Sg	07 05 33.6	+0.9
ROCH	El Roble	0.75	119	*e*P	Pg	07 05 32.3	-0.4
ROCH				*e*S	Sg	07 05 42.9	+0.3
ROCH				AML	AML	07 05 47.1	
	comp=E,377nm,0.2s						
CHNG	Los Chungos	0.76	19	*e*P	Pg	07 05 31.8	-1.1
CHNG				*e*S	Sg	07 05 42.5	-0.4
PTCH	Petorca	0.80	65	*e*P	Pg	07 05 33.1	-0.6
PTCH				*e*S	Sg	07 05 44.4	+0.1
PTCH				AML	AML	07 05 48.5	
	comp=N,534nm,0.3s						
JACH	Jahuel	1.01	95	*i* P	Pb	07 05 36.2	-1.2
JACH				*i* S	Sb	07 05 49.9	-0.7
PEL	Peldehue	1.07	120	⇑*e*P	Pb	07 05 37.5	-1.0
PEL				*e*S	Sb	07 05 51.7	-0.6
TACH	Talagante	1.27	146	*e*P	Pn	07 05 40.4	-1.0
CLCH	Cerro Calan	1.32	127	*e*P	Pn	07 05 40.9	-1.1
CLCH				*e*S	Sb	07 05 58.7	-0.6
CLCH				AML	AML	07 06 03.2	
	comp=E,170nm,0.4s						
ANTU	Antumapu	1.37	135	*e*P	Pn	07 05 41.5	-1.2
ANTU				*e*S	Sn	07 05 60.0	-0.7
ANTU				AML	AML	07 06 05.3	
	comp=N,145nm,0.3s						
LNV	Longovilo	1.38	167	*e*P	Pn	07 05 41.8	-1.2
FCH	Farellones	1.45	120	*e*P	Pn	07 05 44.0	+0.1
FCH				*e*S	Sn	07 05 59.8	-3.0
FCH				AML	AML	07 06 03.7	
	comp=E,186nm,0.3s						
PCH	Pirque	1.47	134	*e*P	Pn	07 05 43.3	-0.9
PCH				*i* S	Sn	07 06 02.9	-0.4
CHCH	Chadas Angostu	1.63	145	*e*P	Pn	07 05 46.7	+0.3
CACH	El Canelo	1.81	147	*e*P	Pn	07 05 49.6	+0.8
CACH				*e*S	Sn	07 06 13.8	+2.3
LMEL	Las Melosas	1.82	133	*e*P	Pn	07 05 49.2	+0.3
LMEL				AML	AML	07 06 17.2	
	comp=N,127nm,0.5s						

*ISCJB **20** 07:12:04.6±0.5, 24°.02S±0°.03×66°.71W±0°.05, h184km±4km, mb4.5/62, Error ellipse: s-maj=7.6km s-min=4.8km az=156.3*
*IDC **20** 07:12:05.7±1.1, 23°.99S×66°.66W, h182km±9km, mb4.1/17, mb1 4.2/22, mb1mx4.1/24, mbtmp4.0/22, MS2.7/1, Ms1 2.8/1, ms1mx2.2/24, Error ellipse: s-maj=13.3km s-min=8.4km az=65.0*
*BJI **20** 07:12:05.8, 24°.00S×66°.60W, h172km, mB5.0/4*
*NEIC **20** 07:12:05.7±0.6, 24°.00S×66°.64W, h182km±5km, mb4.5/55, Error ellipse: s-maj=7.7km s-min=5.3km az=64.0*
*GUC **20** 07:12:07.5±0.5, 23°.85S×67°.21W, h224km±7km, ML5.4*

ISC 20 07:12:05.5±0.4, 24°.00S±0°.03×66°.69W±0°.05, h177km±3km, n150, σ1°.07/142, mb4.5/62, 2C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.76	308	*e*P	Pn	07 12 43.4	+3.6
LVC	Limon Verde	2.46	304	*e*Pn	Pn	07 12 49.5	+1.9
LVC				*e*Sn	Sn	07 13 21.9	+6.3
LVC	Limon Verde	2.46	304	⇓*e*P	Pn	07 12 49.7	+2.0
LVC				*e*S	Sn	07 13 21.7	+6.1
PB09	Plate Boundary	3.21	312	*e*P	Pn	07 12 58.0	+1.3
PB09				*e*S	Sn	07 13 36.9	+3.3
PB09				AML	AML	07 13 41.6	
	comp=E,9μm,0.4s						
CEN1	Los Morros	3.27	280	*e*P	Pn	07 12 59.2	+1.8
CEN1				*e*S	Sn	07 13 38.0	+2.9
MACH	Maria Elena	3.34	302	*e*P	Pn	07 12 59.5	+1.2
MACH				*i* S	Sn	07 13 38.5	+1.8
ANCH	Antofagasta	3.42	274	*e*P	Pn	07 12 59.9	+0.6
ANCH				*e*S	Sn	07 13 38.9	+0.4
ANCH				AML	AML	07 13 42.7	
	comp=E,4μm,0.5s						
MECH	Mejillones	3.56	284	*e*P	Pn	07 13 01.2	+0.2
MECH				*e*S	Sn	07 13 41.8	-0.2
MECH				AML	AML	07 13 47.0	
	comp=N,4μm,0.5s						
PB07	Plate Boundary	3.71	307	*e*P	Pn	07 13 03.5	+0.6
PB07				*i* S	Sn	07 13 45.8	+0.1
PB07				AML	AML	07 13 47.9	
	comp=E,2μm,0.4s						
PB01	Plate Boundary	3.91	318	⇑*e*P	Pn	07 13 06.0	+0.6
PB01				*e*S	Sn	07 13 50.5	+0.1
PB01				AML	AML	07 13 54.8	
	comp=E,2μm,0.2s						
CDCH	Caldera	4.83	230	*e*P	Pn	07 13 16.0	-1.1
LCO	Las Campanas	6.15	215	*e*Pn	Pn	07 13 33.7	-0.7
LCO				*e*Sn	Sn	07 14 32.6	-12
ARCH	Arica	6.43	328	*e*P	Pn	07 13 37.3	-0.8
TLL	Tololo Astrono	7.16	210	*e*P	Pn	07 13 47.1	-0.6
CFAA	Coronel Fontan	7.70	190	P	Pn	07 13 54.8	0.0
	comp=E,0.5nm,0.3s,baz=3.6,slow=12,SNR=94						
CFAA				S	Sn	07 15 16.8	-4.4
	comp=E,1.5nm,0.3s,baz=135,slow=22,SNR=22						
CFAA	Coronel Fontan	7.70	190	P	Pn	07 13 54.8	0.0
CFAA				S	Sn	07 15 16.8	-4.4
LPAZ	La Paz	7.79	350	P	Pn	07 13 57.5	+1.5
	comp=E,7.5nm,0.3s,baz=175,slow=9.6,SNR=119						
LPAZ				S	Sn	07 15 21.5	-1.9
	comp=E,2.6nm,0.3s,baz=261,slow=22,SNR=6.2						
LPAZ				LR	LR	07 17 11.0	
	comp=E,50nm,18.1s,baz=165,slow=39						
LPAZ	La Paz	7.79	350	*e*Pn	Pn	07 13 57.6	+1.6
LPAZ				*e*Sn	Sn	07 15 25.4	+2.1
CPUP	Villa Florida	8.79	107	P	Pn	07 14 10.4	+1.2
	comp=E,1.6nm,0.3s,baz=270,slow=11,SNR=59						
CPUP	Villa Florida	8.79	107	*e*Pn	Pn	07 14 10.0	+0.8
SIV	San Ignacio	9.55	35	P	Pn	07 14 19.3	+0.1
	comp=E,3.4nm,0.3s,baz=226,slow=14,SNR=46						
SIV	San Ignacio	9.55	35	P	Pn	07 14 19.3	+0.1
TRQA	Tornquist	14.58	165	*e*Pn	Pn	07 15 21.4	-2.0
SAML	Samuel	15.33	13	*e*P	Pn	07 15 32.5	-0.4
	comp=E,6.8nm,0.8s						
NNA	Nana	15.35	319	P	Pn	07 15 33.8	+0.8
	comp=E,1.0nm,0.3s,baz=153,slow=11,SNR=10						
NNA				S	S	07 18 20.4	-3.5
	comp=E,0.7nm,0.3s,baz=221,slow=20,SNR=3.8						
NNA	Nana	15.35	319	*e*P	Pn	07 15 33.4	+0.3
	comp=E,9.7nm,0.8s						
NNA				S	S	07 18 20.4	-3.5
PLCA	Paso Flores	17.00	190	P	Pn	07 15 52.2	-0.7
	comp=E,0.6nm,0.3s,baz=15,slow=11,SNR=22						
PLCA				PcP	PcP	07 20 27.2	-0.4
	comp=E,0.2nm,0.3s,baz=284,slow=2.2,SNR=4.5						
PLCA	Paso Flores	17.00	190	*e*P	Pn	07 15 51.9	-0.9
	comp=E,13nm,0.7s						
PLCA				PcP	PcP	07 20 27.2	-0.4
SPB	Sao Paulo	17.63	93	*e*P	Pn	07 15 59.7	-0.8
	comp=E,41nm,0.6s						
ATAH	Atahualpa	20.18	324	P	P	07 16 28.6	+2.0
	comp=E,4.4nm,0.7s,baz=205,slow=10,SNR=4.3						
ATAH	Atahualpa	20.18	324	P	P	07 16 28.6	+2.0
OTAV	Otavalo	26.66	333	*e*P	P	07 17 29.6	+1.6
	comp=E,2.2nm,0.8s,mb3.8						
SDV	Santo Domingo	32.91	353	*e*P	P	07 18 21.3	-1.8
	comp=E,3.1nm,0.5s,mb4.3						
RCBR	Riachuelo	34.67	64	P	P	07 18 38.2	-0.2
	comp=E,4.3nm,0.7s,mb4.2,baz=7.6,slow=12,SNR=4.9						
RCBR	Ri

SNAA	Sanae	59.26 161	P	P	07 21 48.4	+0.5
	comp=E,1.5nm,0.6s,mb4.0,baz=287,slow=6.9,SNR=17					
SNAA	Sanae	59.26 161	eP	P	07 21 48.6	+0.7
	comp=E,5.0nm,0.9s,mb4.3					
LRAL	Lakeview Retre	59.93 340	eP	P	07 21 51.5	-1.4
	comp=E,7.7nm,0.6s,mb4.7					
OXF	Oxford	62.06 339	eP	P	07 22 05.4	-1.8
	comp=E,15nm,0.5s,mb5.1					
JCT	Junction City	62.79 328	eP	P	07 22 11.9	-0.2
	comp=E,18nm,0.6s,mb5.1					
WVT	Waverly	63.05 341	eP	P	07 22 11.8	-1.9
	comp=E,23nm,0.7s,mb5.1					
MIAR	Mount Ida	63.57 335	eP	P	07 22 16.3	-0.9
	comp=E,6.5nm,0.7s,mb4.6					
TXAR	Lajitas Array	63.84 324	P	P	07 22 18.6	-0.4
	comp=E,2.3nm,0.6s,mb4.2,baz=147,slow=7.9,SNR=34					
TXAR	Lajitas Array	63.84 324	P	P	07 22 18.6	-0.4
PARMO	Parma	64.14 340	eP	P	07 22 20.3	-0.6
WCI	Wyandotte Cave	64.57 343	eP	P	07 22 21.5	-2.2
	comp=E,11nm,0.6s,mb4.9					
SIUC	Southern Illin	64.93 340	eP	P	07 22 24.3	-1.7
	comp=E,8.3nm,0.5s,mb4.8					
BLO	Bloomington	65.52 343	eP	P	07 22 27.6	-2.1
	comp=E,14nm,0.5s,mb5.1					
QSPA	South Pole Qui	66.21 180	eP	P	07 22 34.6	+0.9
	comp=E,18nm,0.6s,mb5.1					
MNTX	Cornudas Mount	66.61 325	eP	P	07 22 35.5	-1.3
	comp=E,4.4nm,0.8s,mb4.3					
DBIC	Dimbokro	67.53 71	P	P	07 22 41.8	-1.3
	comp=E,6.2nm,0.6s,mb4.5,baz=212,slow=7.1,SNR=18					
DBIC	Dimbokro	67.53 71	eP	P	07 22 41.4	-1.7
	comp=E,6.2nm,0.6s,mb4.5					
KSU1	Kansas State U	68.73 335	eP	P	07 22 48.8	-1.2
	comp=E,5.1nm,0.6s,mb4.4					
LPM	Los Pinos Moun	69.30 325	eP	P	07 22 54.2	+0.6
ANMO	Albuquerque	69.70 326	P	P	07 22 56.7	+0.6
	comp=E,6.5nm,0.8s,mb4.4,baz=136,slow=6.8,SNR=33					
ANMO	Albuquerque	69.70 326	eP	P	07 22 56.5	+0.4
	comp=E,4.5nm,0.8s,mb4.2					
JFWS	Jewell Farm	70.03 342	eP	P	07 22 57.0	-0.9
	comp=E,22nm,0.6s,mb5.1					
TUC	Tucson	70.06 321	eP	P	07 22 58.6	+0.3
	comp=E,5.0nm,1.1s,mb4.2					
SDCO	Great Sand Dun	71.43 328	eP	P	07 23 07.0	+0.5
	comp=E,3.6nm,0.6s,mb4.3					
MVCO	Mesa Verde	72.50 326	eP	P	07 23 13.5	+0.7
	comp=E,37nm,1.8s,mb4.8					
WUAZ	Wupatki	72.75 323	eP	P	07 23 15.4	+1.1
	comp=E,6.9nm,0.8s,mb4.4					
ECSD	EROS Data Cent	72.78 338	eP	P	07 23 13.4	-0.9
	comp=E,9.3nm,0.6s,mb4.7					
ISCO	Idaho Springs	73.12 330	eP	P	07 23 17.4	+1.0
	comp=E,44nm,2.3s,mb4.8					
PV01	Paradox Valley	73.24 327	eP	P	07 23 18.2	+1.0
	comp=E,188nm,0.5s					
SYO	Syowa Base	73.45 159	eP	P	07 23 17.1	-0.9
PV04	Paradox Valley	73.61 327	eP	P	07 23 18.1	-1.2
PV10	Paradox Valley	73.66 327	eP	P	07 23 20.3	+0.6
	comp=E,48nm,0.7s,mb5.3					
CCUT	Cedar City	75.32 323	eP	P	07 23 30.8	+1.6
	comp=E,9.3nm,0.9s,mb4.4					
MSU	Marysvale	75.39 325	eP	P	07 23 30.9	+1.4
ARUT	Antelope Range	75.54 323	eP	P	07 23 31.5	+1.1
	comp=E,6.3nm,0.9s,mb4.2					
RSSD	Black Hills	75.93 333	eP	P	07 23 33.1	+0.6
	comp=E,4.5nm,0.8s,mb4.2					
TORD	Torodi Ar. Bea	76.30 69	P	P	07 23 34.0	-1.2
	comp=E,6.1nm,0.4s,mb4.5,baz=256,slow=5.7,SNR=119					
TORD	Torodi Ar. Bea	76.30 69	P	P	07 23 34.0	-1.2
JLU	Jordanelle	76.57 327	eP	P	07 23 37.0	+0.8
	comp=E,4.5nm,0.6s,mb4.3					
AGMN	Agassiz Nation	76.57 340	eP	P	07 23 35.1	-0.9
	comp=E,12nm,0.9s,mb4.5					
ISA	Isabella	76.94 319	eP	P	07 23 38.4	0.0
	comp=E,4.7nm,0.8s,mb4.2					
DUG	Dugway	76.96 325	eP	P	07 23 38.5	+0.1
BW06	Boulder Array	77.29 329	eP	P	07 23 40.2	0.0
	comp=E,48nm,2.4s,mb4.7					
PDAR	Pinedale Array	77.29 329	P	P	07 23 40.1	0.0
	comp=E,2.3nm,0.6s,mb4.0,baz=138,slow=8.1,SNR=31					
PDAR	Pinedale Array	77.29 329	P	P	07 23 40.1	0.0
HWUT	Hardware Ranch	77.38 327	eP	P	07 23 40.8	+0.2
	comp=E,6.0nm,0.6s,mb4.4					
TSUM	Tsumeb	77.38 106	eP	P	07 23 40.9	-0.4
	comp=E,4.0nm,0.9s,mb4.0					
ULM	Lac du Bonnet	78.31 341	P	P	07 23 44.8	-0.8
	comp=E,8.5nm,0.5s,mb4.6,baz=153,slow=6.2,SNR=34					
ULM	Lac du Bonnet	78.31 341	eP	P	07 23 44.3	-1.3
	comp=E,7.7nm,0.5s,mb4.6					
SNOW	Snow King Moun	78.38 329	eP	P	07 23 47.1	+0.9
	comp=E,5.7nm,0.7s,mb4.3					
LOHW	Long Hollow	78.43 329	eP	P	07 23 47.0	+0.6
	comp=E,32nm,1.8s,mb4.7					
SCHQ	Schefferville	78.50 360	P	P	07 23 45.6	-0.9
	comp=E,2.2nm,0.4s,mb4.1,baz=70,slow=3.1,SNR=9.6					
SCHQ	Schefferville	78.50 360	P	P	07 23 45.6	-0.9
MOOW	Moose Ponds	78.60 329	eP	P	07 23 47.7	+0.4
	comp=E,3.0nm,0.7s,mb4.0					
ELK	Elko	78.63 324	eP	P	07 23 48.1	+0.5
	comp=E,3.4nm,0.8s,mb4.0					
NVAR	Mina Array Bea	78.71 321	P	P	07 23 48.7	+0.6
	comp=E,1.5nm,0.6s,mb3.8,baz=145,slow=5.4,SNR=12					
NVAR	Mina Array Bea	78.71 321	P	P	07 23 48.7	+0.6
FLWY	Flagg Ranch	78.83 329	eP	P	07 23 49.9	+1.3
	comp=E,78nm,2.2s,mb5.0					
RLMT	Red Lodge	78.97 331	eP	P	07 23 49.8	+0.4
	comp=E,7.2nm,0.6s,mb4.5					
DGMT	Dagmar	79.57 336	eP	P	07 23 53.0	+0.5
	comp=E,28nm,0.8s,mb5.0					
GCMT	Greycliff	79.67 331	eP	P	07 23 53.4	+0.3
	comp=E,8.8nm,1.0s,mb4.3					
HLID	Hailey	80.24 327	eP	P	07 23 57.3	+1.1
	comp=E,8.9nm,0.8s,mb4.5					
MCMT	McKenzie Canyo	80.40 329	eP	P	07 23 58.2	+1.1
	comp=E,6.9nm,1.0s,mb4.2					
BOSA	Boshof	80.48 117	P	P	07 23 57.5	-0.5
	comp=E,2.7nm,0.7s,mb4.0,baz=205,slow=7.7,SNR=11					
BOSA	Boshof	80.48 117	P	P	07 23 57.5	-0.5
DLMT	Dillon	80.68 329	eP	P	07 23 59.0	+0.4
	comp=E,16nm,1.4s,mb4.5					
LRM	Limekiln Ridge	80.96 330	eP	P	07 24 00.9	+0.9
HRY	Holter Researc	81.34 330	eP	P	07 24 02.7	+0.7
MAW	Mawson	81.36 163	P	P	07 24 02.5	+0.6
	comp=E,7.4nm,0.7s,mb4.4,baz=206,slow=7.4,SNR=17					
MAW	Mawson	81.36 163	eP	P	07 24 02.8	+0.9
	comp=E,1.4nm,0.7s,mb3.7					
EGMT	Eagleton	81.44 332	eP	P	07 24 02.1	-0.4
	comp=E,9.1nm,0.9s,mb4.4					
LBTB	Lobatse	82.13 114	eP	P	07 24 06.3	-0.5
	comp=E,1.6nm,0.4s,mb4.0					
SLMT	Seeley Lake	82.50 330	eP	P	07 24 08.2	+0.2
BMO	Blue Mountains	82.61 326	eP	P	07 24 08.7	0.0
	comp=E,1.9nm,0.8s,mb3.9					
TAM	Tamanrasset	84.14 62	eP	P	07 24 17.7	+0.7
	comp=E,4.4nm,0.9s,mb4.2					
OD2	Odessa Site #2	85.08 327	eP	P	07 24 21.3	+0.2
ETW	Entiat	86.03 327	eP	P	07 24 26.0	+0.2
ESDC	Sonseca Array	86.20 43	P	P	07 24 27.8	+0.9
	comp=E,1.0nm,0.8s,mb3.6,baz=238,slow=4.1,SNR=5.8					
ESDC	Sonseca Array	86.20 43	P	P	07 24 27.8	+0.9
YKA	Yellowknife Ar	94.22 340	P	P	07 25 02.9	-0.8
	comp=E,3.7nm,0.5s,mb4.8,baz=136,slow=4.7,SNR=132					
YKA	Yellowknife Ar	94.22 340	P	P	07 25 03.0	-0.8
ASAR	Alice Springs	128.58 204	PKP	PKPdf	07 30 51.2	-0.9
	comp=E,4.0nm,0.7s,baz=135,slow=1.9,SNR=46					
ASAR			SKPbc		07 33 53.0	
	comp=E,0.3nm,0.5s,baz=152,slow=3.6,SNR=4.7					
ASAR	Alice Springs	128.58 204	PKP	PKPdf	07 30 51.2	-0.9
ASAR			SKPbc		07 33 53.0	
AKTO	Aktyubinsk	130.08 43	PKP	PKPdf	07 30 53.7	-0.3
	comp=E,0.3nm,0.3s,baz=222,slow=2.4,SNR=7.0					
AKTO			SKPbc	SKPbc	07 33 57.6	-2.6
	comp=E,1.9nm,0.8s,baz=229,slow=2.4,SNR=7.3					
AKTO	Aktyubinsk	130.08 43	PKP	PKPdf	07 30 53.7	-0.3
AKTO			SKPbc	SKPbc	07 33 57.6	-2.6
WRA	Warramunga Arr	131.76 207	PKP	PKPdf	07 30 57.5	-0.7
	comp=E,2.8nm,0.5s,baz=164,slow=1.6,SNR=33					
WRA			SKPbc	SKPbc	07 34 04.8	-2.7
	comp=E,2.5nm,0.7s,baz=156,slow=3.7,SNR=16					
WRA	Warramunga Arr	131.76 207	PKP	PKPdf	07 30 57.5	-0.7
WRA			SKPbc	SKPbc	07 34 04.8	-2.7
PETK	Petropavlovsk-	135.78 323	PKP	PKPdf	07 31 04.8	+0.1
	comp=E,1.1nm,0.7s,baz=111,slow=4.2,SNR=5.0					
PETK	Petropavlovsk-	135.78 323	PKP	PKPdf	07 31 04.8	+0.1
BVAR	Borovoye Array	136.62 37	PKP	PKPdf	07 31 06.8	+0.6
	comp=E,0.8nm,0.5s,baz=285,slow=3.4,SNR=5.9					
BVAR	Borovoye Array	136.62 37	PKP	PKPdf	07 31 06.8	+0.6
ZAA0	Zalesovo Array	143.25 28	ePKPdf	PKPdf	07 31 14.9	-3.3
ZALV	Zalesovo Beam	143.25 28	PKP	PKPdf	07 31 15.2	-3.0
	comp=E,4.4nm,0.4s,baz=303,slow=4.2,SNR=39					
ZALV			SKPbc	SKPbc	07 34 38.0	-1.9
	comp=E,0.7nm,0.5s,baz=283,slow=3.5,SNR=3.7					
ZALV	Zalesovo Beam	143.25 28	PKP	PKPdf	07 31 15.2	-3.0
ZALV			SKPbc	SKPbc	07 34 38.0	-1.9
KSH	Kashi	144.96 55	PKP	PKPdf	07 31 20.8	-0.8
KSH			pPKP	pPKPdf	07 32 02.8	-5.2
KSH			sPKP		07 32 20.0	
KSH			PP	PP	07 34 39.4	-2.3
KSH			PKS		07 34 55.3	
KSH			SKS	SKSdf	07 38 12.4	-1.8
KSH			SKKS	SKKSac	07 41 11.3	-5.1
KSH			AMB	AMB		
	comp=Z,320nm,6.7s					
KSH			LR	LR		
	comp=N,77nm,4.2s					
KSH			LR	LR		
	comp=E,100nm,6.3s					
KSH			LR	LR		
	comp=Z,72nm,5.0s					
MK31	Makanchi Array	146.34 40	ePKPdf	PKPdf	07 31 24.0	+0.2
MKAR	Makanchi Array	146.34 40	PKPbc	PKPbc	07 31 23.8	-1.5
	comp=Z,10nm,0.6s,baz=332,slow=2.0,SNR=89					
MKAR	Makanchi Array	146.34 40	PKPbc	PKPbc	07 31 23.8	-1.5
WMQ	Urumqi	151.16 40	ePKPbc	PKPdf	07 31 31.8	+0.2
MJAR	Matsushiro Arr	155.21 306	PKPab	PKPab	07 32 02.6	-0.9
	comp=Z,0.7nm,0.3s,baz=66,slow=1.5,SNR=4.8					
MJAR	Matsushiro Arr	155.21 306	PKPab	PKPab	07 32 02.6	-0.9
HHC	Hu-ho-hao-te	163.13 5	ePKP	PKPdf	07 31 46.1	-0.6
HHC			pPKP	pPKPdf	07 32 28.3	-5.0
HHC			sPKP		07 32 45.4	
HHC			PKS		07 35 18.4	
HHC			PP	PP	07 36 23.4	+1.3
HHC			SKS	SKSdf	07 38 33.3	-1.4
HHC			SKKS	SKKSac	07 42 53.9	+0.3
HHC			SS	SS	07 56 31.8	+0.3
HHC			AMB	AMB		
	comp=Z,130nm,5.6s					
LZH	Lanzhou	165.44 32	ePKP	PKPdf	07 31 49.8	+0.8
LZH			pPKP	pPKPdf	07 32 31.5	-4.1
LZH			sPKP		07 32 50.0	
LZH			PKPab	PKPab	07 32 52.0	+4.0
NJ2	Nanjing	170.60 330	ePKP	PKPdf	07 31 53.3	+0.7
GYA	Guiyang	173.50 66	ePKP	PKPdf	07 31 52.8	-1.3
GYA			pPKP	pPKPdf	07 32 38.8	-2.0
GYA			sPKP		07 32 55.4	
GYA			PKPab	PKPab	07 33 25.0	+0.8
GYA			PKS		07 35 23.3	
GYA			PP	PP	07 37 18.6	+2.1
GYA			AMB	AMB		
	comp=Z,90nm,8.0s					

*MOS **20** 07:25:40.5±0.4,54.°00N×163.°47E,h25km,mb4.2/1,Error ellipse: s-maj=28.1km s-min=18.6km az=57.1*

KRSC 20 07:25:42.3±0.1,54.°05N×163.°32E,h40km±29km,ML4.1,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.93	52	P	Pn	07 26 12.2	-0.3
BKI				*i* S	Sn	07 26 34.4	-1.1
BKI	Bering	1.93	52	PN	Pn	07 26 12.2	-0.3
BKI				S	Sn	07 26 34.4	-1.1
KBTR	Krutoberegovo	2.18	353	eP	Pn	07 26 16.6	+0.6
KBTR				*i* S	Sn	07 26 42.3	+0.5
KBTR	Krutoberegovo	2.18	353	PN	Pn	07 26 16.6	+0.6
KBTR				S	Sn	07 26 42.3	+0.5
SPN	Mys Shipunski	2.19	245	P	Pn	07 26 16.9	+0.8
SPN	Mys Shipunski	2.19	245	PN	Pn	07 26 16.9	+0.8
TUMR	Tumrok	2.22	305	P	Pn	07 26 19.1	+2.6
KMNR	Kamenistaya	2.47	315	P	Pn	07 26 22.5	+2.6
KMNR				*i* S	Sn	07 26 52.4	+3.6
NLC	Nalytchevo	2.53	251	P	Pn	07 26 22.0	+1.3
NLC	Nalytchevo	2.53	251	PN	Pn	07 26 22.0	+1.3
SDLR	Sedlovina	2.75	255	eP	Pn	07 26 25.6	+1.8
SMKR	Semkarok	2.75	338	P	Pn	07 26 25.4	+1.6
SMKR				*i* S	Sn	07 26 58.1	+2.4
BDR	Baidarnaya	2.80	335	P	Pn	07 26 26.3	+1.8
BDR				*i* S	Sn	07 26 59.6	+2.7
AVH	Avacha	2.84	256	eP	Pn	07 26 27.2	+2.2
AVH				*i* S	Sn	07 26 59.9	+2.0
SRKR	Sorokina	2.88	336	P	Pn	07 26 27.7	+2.0
KOK	Koryaka	2.89	257	eP	Pn	07 26 27.8	+2.1
PET	Petropavlovsk	2.97	252	eP	Pn	07 26 28.7	+1.9
PET	Petropavlovsk	2.97	252	PN	Pn	07 26 28.7	+1.9
ESO	Esso	3.26	307	eP	Pn	07 26 33.3	+2.5
ESO				*i* S	Sn	07 27 11.5	+3.2
ESO	Esso	3.26	307	PN	Pn	07 26 33.3	+2.5
ESO				S	Sn	07 27 11.5	+3.2
RUS	Russkaya	3.31	243	eP	Pn	07 26 32.7	+1.2
RUS				*i* S	Sn	07 27 08.0	-1.6
RUS	Russkaya	3.31	243	PN	Pn	07 26 32.7	+1.2

*THR **20** 07:30:14.6±0.3,35.°69N×59.°27E,h15km,ML3.6*
*CSEM **20** 07:30:18.3,35.°47N×59.°04E,h14km,ML3.5,After THR*
*ISCJB **20** 07:30:20.6±0.9,35.°30N±0.°04×58.°93E±0.°09,h7km±11km, Error ellipse: s-maj=13.0km s-min=6.1km az=170.7*
*TEH **20** 07:30:23.6,35.°35N×58.°96E,h29km*

ISC 20 07:30:22.2±0.8,35.°33N±0.°04×59.°01E±0.°09,h15km±9km,
n21,σ0.°68/24,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRO	Mashad	1.05	21	ePg	Pg	07 30 42.7	+0.2
ISRO				*e*		07 31 07.5	
	comp=Z,2μm,0.3s						
IPAY	Payeh	1.12	359	ePg	Pg	07 30 43.6	-0.2
IPAY				*e*		07 31 02.9	
	comp=Z,2μm,0.1s						
IAKL	Akhelmad	1.29	351	ePn	Pn	07 30 45.1	-0.6
IAKL				*e*		07 31 11.1	
	comp=Z,2μm,0.2s						
IMYA	Miami	1.35	41	ePg	Pg	07 30 48.7	+0.6
IMYA				*e*		07 30 54.2	
	comp=Z,1μm,0.2s						
IKRD	Kardeh	1.50	345	ePg	Pg	07 30 51.1	0.0
IKRD				*e*		07 30 57.6	
	comp=Z,2μm,0.2s						
SHRT	Shahrakht	1.98	147	ePg	Pn	07 30 54.7	-0.4
SHRT				eSg	Sg	07 31 24.0	-1.9
SHRT				AML	AML	07 31 29.7	
	comp=N,301nm,0.3s						
SHRT	Shahrakht	1.98	147	ePn	Pn	07 30 54.8	-0.4
SHRT				eSg	Sg	07 31 24.0	-1.9
IEMG	Emamgholi	2.11	352	ePn	Pn	07 30 57.0	+0.1
IEMG				*e*		07 31 05.0	
	comp=Z,1000nm,0.1s						
IMON	Monand	2.19	166	ePn	Pn	07 30 59.0	+0.9
IMON				*e*		07 31 02.1	
	comp=Z,8μm,0.2s						
TABS	Tabas	2.29	224	ePn	Pn	07 30 59.4	0.0
TABS				AML	AML	07 31 39.9	
	comp=N,280nm,0.6s						
TABS	Tabas	2.29	224	ePn	Pn	07 30 59.4	0.0
ITEG	Tejag	2.43	185	ePn	Pn	07 31 01.5	+0.1
ITEG				*e*		07 31 41.9	
	comp=E,3μm,0.2s						
ISHV	Shirvan	2.44	335	ePn	Pn	07 31 01.1	-0.5
IDAH	Dahanechah	2.67	164	*e*	Pg	07 31 14.6	+1.1
	comp=Z,1μm,0.1s						
IDAH				ePn	Pn	07 31 05.1	+0.4
IKOO	Kooshah	2.89	180	ePn	Pn	07 31 07.8	+0.1
IKOO				*e*		07 32 05.3	
	comp=Z,692nm,0.2s						
IBAF	Bafgh	4.71	219	ePn	Pn	07 31 33.2	+0.5
IBAF				*e*		07 33 06.3	
	comp=Z,292nm,0.2s						
ICHK	Chekchek	4.91	233	ePn	Pn	07 31 34.4	-1.1
ICHK				*e*		07 33 24.4	
	comp=Z,335nm,0.2s						
KRBR	Kerman	5.66	200	ePn	Pn	07 31 46.5	+0.8
KRBR				AML	AML	07 33 32.0	
	comp=N,19nm,0.4s						
KRBR	Kerman	5.66	200	ePn	Pn	07 31 46.5	+0.8
NASN	Na'in	5.73	246	ePn	Pn	07 31 46.4	-0.3
NASN	Na'in	5.73	246	ePn	Pn	07 31 46.4	-0.4

*IDC **20** 07:44:02.4±1.6,24.°12N×141.°54E,h141km±13km, mb3.6/13,mb1 3.8/15,mb1mx3.7/24,mbtmp3.6/15,Error ellipse: s-maj=17.9km s-min=12.4km az=94.0*
*NEIC **20** 07:44:03.6±1.2,24.°09N×141.°64E,h154km±11km, mb4.5/11,Error ellipse: s-maj=12.7km s-min=9.4km az=77.0*
*JMA **20** 07:44:04.1±0.2,24.°30N×141.°53E,h171km,M4.6*
*ISCJB **20** 07:44:05.0±1.0,24.°37N±0.°07×141.°6E±0.°1,h170km±8km, mb4.4/32,Error ellipse: s-maj=15.5km s-min=10.8km az=1.9*

ISC 20 07:44:03.8±1.1,24.°19N±0.°07×141.°72E±0.°10,h152km±9km,
n66,σ1.°11/67,mb4.4/32,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	2.46	10	P	Pn	07 44 45.3	+0.8
JHHJ				eS	Sn	07 45 17.0	+1.0
CBIJ	Chichi jima	2.92	8	P	Pn	07 44 51.3	+1.1
	157nm,0.3s,baz=175,slow=5.1,SNR=153						
CBIJ				S	Sn	07 45 26.1	-0.1
	87nm,0.3s,baz=271,slow=18,SNR=5.6						
CBIJ	Chichi jima	2.92	8	P	Pn	07 44 51.3	+1.1
CBIJ				S	Sn	07 45 26.1	-0.1
CBIJ	Chichi jima	2.92	8	P	Pn	07 44 51.0	+0.8
CBIJ				eS	Sn	07 45 26.9	+0.7
JHJ2	Mitsune	9.04	350	eS	Sn	07 47 43.9	-7.4
BSO1	Boso 1	10.44	357	P	Pn	07 46 29.6	0.0
BSO4	Boso 4	10.82	354	P	Pn	07 46 33.7	-0.9
BSO4				eS	Sn	07 48 29.6	-4.7
JOD2	Odawara 2	11.27	349	P	Pn	07 46 39.4	-1.0
JOD2				eS	Sn	07 48 40.9	-4.0
JRY	Ryogami san	12.03	349	P	Pn	07 46 49.2	-1.2
JRY				eS	Sn	07 48 57.4	-6.0
KSRS	Korea Array	17.72	321	P	Pn	07 47 59.2	-2.0
	0.2nm,0.3s,baz=137,slow=12,SNR=2.7						
KSAR	Wonju Array Be	17.74	321	P	Pn	07 47 59.2	-2.1
USRK	Ussuriysk Arra	21.48	341	P	P	07 48 39.6	-0.7
	2.1nm,0.6s,mb3.7,baz=151,slow=10,SNR=4.2						
CMAR	Chiang Mai Arr	40.14	270	P	P	07 51 24.1	-1.0
	2.2nm,0.7s,mb3.9,baz=63,slow=7.8,SNR=8.9						
CMAR	Chiang Mai Arr	40.14	270	P	P	07 51 24.1	-1.0
WRAB	Tennant Creek	44.44	190	eP	P	07 51 58.7	-1.1
	3.1nm,0.6s,mb4.1						
WRA	Warramunga Arr	44.45	190	P	P	07 51 58.5	-1.4
	1.2nm,0.3s,mb4.0,baz=7.3,slow=8.5,SNR=14						
WRA	Warramunga Arr	44.45	190	P	P	07 51 58.5	-1.4
LSA	Lhasa	45.13	289	eP	P	07 52 07.5	+2.2
	5.6nm,0.5s,mb4.5						
BILL	Bilibino	46.37	12	eP	P	07 52 15.9	+1.6
	2.9nm,0.7s,mb4.0						
ASAR	Alice Springs	48.18	190	P	P	07 52 27.1	-1.8
	0.3nm,0.4s,baz=16,slow=11,SNR=4.5						
ASAR	Alice Springs	48.18	190	P	P	07 52 27.1	-1.8
TAPN	Taplejung	48.43	286	eP	P	07 52 32.2	+1.3
	16nm,0.4s,mb5.0						
ODAN	Odare	48.79	285	eP	P	07 52 34.6	+0.9
	48nm,0.5s,mb5.4						
RAMN	Ramite	49.47	286	eP	P	07 52 39.8	+0.9
JIRN	Jiri	49.71	287	eP	P	07 52 42.2	+1.5
	76nm,0.6s,mb5.5						
GUN	Gumba	49.94	287	eP	P	07 52 43.8	+1.3
	37nm,0.4s,mb5.4						
PKI	Pulchoki	50.41	287	eP	P	07 52 46.8	+0.8
	17nm,0.5s,mb4.9						
KKN	Kakani	50.49	287	eP	P	07 52 47.3	+0.8
	17nm,0.5s,mb4.9						
DMN	Daman	50.67	287	eP	P	07 52 48.7	+0.8
	20nm,0.3s,mb5.2						
GKN	Gorkha	51.01	287	eP	P	07 52 51.1	+0.6
	41nm,0.7s,mb5.2						
ZALV	Zalesovo Beam	51.43	321	P	P	07 52 52.1	-1.0
	0.9nm,0.3s,mb3.9,baz=114,slow=6.6,SNR=6.8						
ZALV				PcP	PcP	07 54 04.8	-0.6
	2.7nm,0.6s,baz=112,slow=3.7,SNR=12						
ZALV	Zalesovo Beam	51.43	321	P	P	07 52 52.1	-1.0
ZALV				PcP	PcP	07 54 04.8	-0.6
DANN	Dangsing	51.72	288	eP	P	07 52 57.1	+1.4
	193nm,0.7s						
KOLN	Koldanda	51.96	287	eP	P	07 52 58.1	+0.6
MKAR	Makanchi Array	52.03	311	P	P	07 52 57.6	-0.1
	2.0nm,0.6s,mb4.0,baz=88,slow=9.0,SNR=21						
MKAR				PcP	PcP	07 54 07.8	0.0
	0.5nm,0.6s,baz=100,slow=5.3,SNR=3.6						
MKAR	Makanchi Array	52.03	311	P	P	07 52 57.6	-0.1
MKAR				PcP	PcP	07 54 07.8	0.0
PYUN	Piuthan	52.43	288	eP	P	07 53 02.1	+1.1
KURK	Kurchatov	54.74	316	eP	P	07 53 16.2	-1.3
	2.7nm,0.5s,mb4.2						
STKA	Stephens Creek	55.75	180	P	P	07 53 23.6	-1.2
	0.8nm,0.5s,mb3.8,baz=356,slow=11,SNR=4.7						
STKA	Stephens Creek	55.75	180	P	P	07 53 23.6	-1.2
TKM2	Tokmak 2	56.77	307	eP	P	07 53 32.2	+0.2
	5.1nm,0.6s,mb4.5						
AAK	Ala-Archa	57.60	306	eP	P	07 53 38.4	+0.6
	14nm,0.5s,mb5.0						
BRVK	Borovoye	59.97	319	eP	P	07 53 53.5	-0.6
	4.3nm,0.6s,mb4.5						
ILAR	Eielson Array	60.46	28	P	P	07

IVAS				*e*Sg	**Sg**	**07 45 25.7**	**+0.5**
IVAS	**Ivanjica**	**1.98**	**89**	*e*Pn	**Pn**	**07 44 56.7**	**+1.6**
NVLJ	**Novalja**	**2.10**	**299**	*e*Pn	**Pn**	**07 44 59.0**	**+2.1**
NVLJ				Sn	**Sg**	**07 45 28.4**	**-0.7**
NVLJ	**Novalja**	**2.10**	**299**	*e*Pn	**Pn**	**07 44 58.9**	**+2.1**
NVLJ				Sn	**Sg**	**07 45 28.4**	**-0.7**
GRUS	**Gruza**	**2.40**	**81**	*e*Pn	**Pn**	**07 45 01.9**	**+0.9**
GRUS				*e*Sg	**Sg**	**07 45 38.2**	**-0.6**
GRUS	**Gruza**	**2.40**	**81**	*e*Pn	**Pn**	**07 45 01.9**	**+0.9**
GRUS				*e*Sg	**Sg**	**07 45 38.2**	**-0.6**
SELS	**Selova**	**2.71**	**96**	*e*Pn	**Pn**	**07 45 07.0**	**+1.8**
SELS	**Selova**	**2.71**	**96**	*e*Pn	**Pn**	**07 45 07.0**	**+1.8**
BARS	**Barje**	**3.29**	**102**	*e*Pn	**Pn**	**07 45 14.7**	**+1.5**
BARS	**Barje**	**3.29**	**102**	*e*Pn	**Pn**	**07 45 14.7**	**+1.5**
ZAPS	**Zavoj**	**3.80**	**93**	*e*Pn	**Pn**	**07 45 24.0**	**+3.8**
ZAPS				*e*Sn	**Sn**	**07 46 05.5**	**+0.6**

*ISCJB **20** 07:48:08.7±0.6, 40.°16N±0.°04×25.°12E±0.°03, h10km±5km, Error ellipse: s-maj=6.0km s-min=4.0km az=2.7*
*CSEM **20** 07:48:08.9±0.2, 40.°14N×25.°10E, h15km, ML2.2/5, Error ellipse: s-maj=4.7km s-min=2.8km az=5.0*
*ISK **20** 07:48:08.4, 40.°14N×25.°13E, h13km, MD2.9*
*THE **20** 07:48:09.1, 40.°18N×25.°09E, h7km±1km, ML2.2/5, Error ellipse: s-maj=1.6km s-min=0.6km az=138.0*
*DDA **20** 07:48:09.5, 40.°40N×25.°40E, h7km±5km, Md2.8*
ISC 20 07:48:09.0±0.5, **40.°15N**±0.°04×**25.°10E**±0.°03, **h15**km±5km, **n35**, σ0**°74**/54, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.26**	**165**	P	**Pg**	**07 48 15.2**	**+0.7**
LIA				S	**Sg**	**07 48 19.0**	**+0.7**
LIA	**Limnos Island**	**0.26**	**165**	P	**Pg**	**07 48 15.2**	**+0.7**
LIA				S	**Sg**	**07 48 19.0**	**+0.7**
BOZC	**Bozcaada**	**0.79**	**112**	*i* P	**Pg**	**07 48 24.5**	**+0.1**
BOZC				*i* S	**Sg**	**07 48 34.3**	**-0.5**
OUR	**Ouranopolis**	**0.88**	**283**	P	**Pb**	**07 48 25.4**	**-0.5**
OUR				S	**Sg**	**07 48 37.7**	**+0.3**
OUR	**Ouranopolis**	**0.88**	**283**	P	**Pb**	**07 48 25.4**	**-0.5**
OUR				S	**Sg**	**07 48 37.7**	**+0.3**
KAVA	**Kavala**	**0.96**	**332**	P	**Pb**	**07 48 27.0**	**-0.3**
KAVA				S	**Sb**	**07 48 39.8**	**0.0**
KAVA	**Kavala**	**0.96**	**332**	P	**Pb**	**07 48 27.0**	**-0.3**
KAVA				S	**Sb**	**07 48 39.8**	**0.0**
ENEZ	**Enez**	**1.00**	**54**	*e*PG	**Pg**	**07 48 27.2**	**-1.0**
ENEZ				*e*SG	**Sg**	**07 48 41.5**	**+0.2**
ENEZ	**Enez**	**1.00**	**54**	*e*Pg	**Pg**	**07 48 27.3**	**-0.9**
ENEZ				*e*Sg	**Sg**	**07 48 41.5**	**+0.2**
EZN	**Ezine**	**1.00**	**108**	*e*PG	**Pg**	**07 48 27.8**	**-0.4**
EZN				*e*SG	**Sg**	**07 48 40.9**	**-0.4**
EZN	**Ezine**	**1.00**	**108**	*e*Pg	**Pg**	**07 48 27.8**	**-0.4**
EZN				*e*Sg	**Sg**	**07 48 40.9**	**-0.3**
ALN	**Alexandroupoli**	**1.04**	**44**	P	**Pb**	**07 48 28.1**	**-0.6**
ALN				S	**Sb**	**07 48 42.8**	**+0.7**
ALN	**Alexandroupoli**	**1.04**	**44**	P	**Pb**	**07 48 28.1**	**-0.6**
ALN				S	**Sb**	**07 48 42.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.08**	**76**	*e*PG	**Pg**	**07 48 29.8**	**-0.1**
GELI				*e*SG	**Sg**	**07 48 44.6**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.08**	**76**	*e*Pg	**Pg**	**07 48 29.8**	**0.0**
GELI				*e*Sg	**Sg**	**07 48 44.7**	**+0.7**
PAIG	**Paliouri**	**1.11**	**259**	P	**Pb**	**07 48 29.6**	**-0.3**
PAIG	**Paliouri**	**1.11**	**259**	P	**Pb**	**07 48 29.6**	**-0.3**
ERIK	**Erikli-Kesan**	**1.20**	**64**	*e*PN	**Pn**	**07 48 30.4**	**-0.8**
ERIK	**Erikli-Kesan**	**1.20**	**64**	*e*Pn	**Pn**	**07 48 30.4**	**-0.8**
LPK	**Lapseki**	**1.29**	**79**	*e*PN	**Pn**	**07 48 31.4**	**-1.1**
LPK	**Lapseki**	**1.29**	**79**	*e*Pn	**Pn**	**07 48 31.4**	**-1.1**
SRS	**Serrai**	**1.50**	**311**	P	**Pn**	**07 48 34.9**	**-0.5**
SRS				S	**Sn**	**07 48 55.4**	**+0.7**
SRS	**Serrai**	**1.50**	**311**	P	**Pn**	**07 48 34.9**	**-0.5**
SRS				S	**Sn**	**07 48 55.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.68**	**71**	*e*PN	**Pn**	**07 48 38.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.68**	**71**	*e*Pn	**Pn**	**07 48 38.4**	**+0.6**
SART	**Tekirdag**	**1.68**	**71**	*i* P	**Pn**	**07 48 35.1**	**-2.7**
SART				*i* S	**Sn**	**07 48 59.9**	**+0.9**
SART	**Tekirdag**	**1.68**	**71**	*i* P	**Pn**	**07 48 35.1**	**-2.7**
SART				*i* S	**Sn**	**07 48 59.9**	**+0.9**
KRBG	**Karabiga-Canak**	**1.70**	**81**	*e*PN	**Pn**	**07 48 37.6**	**-0.5**
KRBG	**Karabiga-Canak**	**1.70**	**81**	*e*Pn	**Pn**	**07 48 37.6**	**-0.5**
MFT	**Murefte**	**1.78**	**68**	*e*PN	**Pn**	**07 48 39.9**	**+0.7**
MFT	**Murefte**	**1.78**	**68**	*e*Pn	**Pn**	**07 48 39.9**	**+0.7**
GONE	**Gonen-Balikesi**	**1.99**	**92**	*e*PN	**Pn**	**07 48 43.1**	**+1.1**
GONE	**Gonen-Balikesi**	**1.99**	**92**	*e*Pn	**Pn**	**07 48 43.1**	**+1.1**
EDRB	**Edirne**	**2.10**	**36**	*e*PN	**Pn**	**07 48 44.6**	**+1.0**
EDRB	**Edirne**	**2.10**	**36**	*e*Pn	**Pn**	**07 48 44.6**	**+0.9**

*IDC **20** 08:55:14.9±0.8, 42.°13S×16.°12W, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/13, mbtmp4.0/8, MS4.1/10, Ms1 4.0/10, ms1mx3.9/16, Error ellipse: s-maj=30.2km s-min=20.2km az=180.0*
*ISCJB **20** 08:55:16.1±0.6, 41.°8S±0.°1×16.°2W±0.°1, h10km, mb4.2/10, MS4.1/10, Error ellipse: s-maj=18.8km s-min=15.1km az=21.1*
*NEIC **20** 08:55:17.6±0.6, 41.°73S×16.°14W, h10km, mb4.5/5, Error ellipse: s-maj=21.8km s-min=16.9km az=188.0*
ISC 20 08:55:18.0±0.6, **41.°8S**±0.°1×**16.°2W**±0.°1, **h10**km, **n33**, σ0**89**/19, **mb4.2**/10, **MS4.1**/10, **1D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**30.79**	**84**	LR	LR	09 10 43.3	
	comp=Z,328nm,20.7s,MS4.0,baz=310,slow=30						
BOSA	**Boshof**	**36.00**	**82**	P	**P**	**09 02 18.2**	**-0.9**
	1.2nm,0.9s,mb3.8,baz=247,slow=7.7,SNR=2.0						
BOSA				LR	LR	09 13 31.0	
	comp=Z,209nm,21.3s,MS3.9,baz=64,slow=30						
BOSA	**Boshof**	**36.00**	**82**	P	**P**	**09 02 18.2**	**-0.9**
CPUP	**Villa Florida**	**37.02**	**281**	P	**P**	**09 02 28.0**	**+0.2**
	5.5nm,0.9s,mb4.4,baz=117,slow=8.8,SNR=12						
CPUP				LR	LR	09 14 57.1	
	comp=Z,233nm,18.8s,MS4.0,baz=125,slow=32						
CPUP	**Villa Florida**	**37.02**	**281**	*e*P	**P**	**09 02 27.6**	**-0.2**
	16nm,0.8s,mb4.9						
SYO	**Syowa Base**	**39.59**	**152**	*e*P	**P**	**09 02 48.2**	**-0.8**
PLCA	**Paso Flores**	**40.29**	**253**	LR	LR	09 18 20.8	
	comp=Z,202nm,18.1s,MS4.0,baz=148,slow=34						
CFAA	**Coronel Fontan**	**42.37**	**266**	P	**P**	**09 03 11.2**	**-1.2**
	0.5nm,1.0s,mb3.1,baz=124,slow=11,SNR=4.1						
CFAA	**Coronel Fontan**	**42.37**	**266**	P	**P**	**09 03 11.2**	**-1.2**
MAW	**Mawson**	**48.13**	**150**	P	**P**	**09 03 52.9**	**-4.8**
	0.6nm,0.5s,mb3.9,baz=123,slow=17,SNR=2.1						
MAW				LR	LR	09 19 49.8	
	comp=Z,178nm,18.1s,MS4.1,baz=87,slow=31						
MAW	**Mawson**	**48.13**	**150**	*e*P	**P**	**09 03 57.9**	**+0.2**
	0.7nm,0.8s,mb3.7						
QSPA	**South Pole Qui**	**48.48**	**180**	*e*P	**P**	**09 04 01.4**	**+1.3**
	12nm,0.9s,mb4.9						
DBIC	**Dimbokro**	**49.32**	**15**	LR	LR	09 19 53.1	
	comp=Z,79nm,21.3s,MS3.7,baz=132,slow=30						
LPAZ	**La Paz**	**51.10**	**284**	P	**P**	**09 04 20.4**	**-0.4**
	1.9nm,1.0s,mb4.0,baz=96,slow=7.3,SNR=4.6						
LPAZ				LR	LR	09 25 05.8	
	comp=Z,175nm,20.9s,MS4.1,baz=258,slow=35						
LPAZ	**La Paz**	**51.10**	**284**	*e*P	**P**	**09 04 24.2**	**+3.4**
	11nm,1.6s,mb4.5						
SAML	**Samuel**	**52.64**	**295**	*e*P	**P**	**09 04 32.5**	**0.0**
	3.3nm,0.9s,mb4.3						
TORD	**Torodi Ar. Bea**	**57.09**	**21**	P	**P**	**09 05 03.9**	**-0.5**
	2.6nm,1.0s,mb4.2,baz=209,slow=8.2,SNR=12						
TORD				LR	LR	09 24 15.1	
	comp=Z,119nm,18.8s,MS4.0,baz=15,slow=30						
TORD	**Torodi Ar. Bea**	**57.09**	**21**	*e*P	**P**	**09 05 03.9**	**-0.5**
ROSC	**El Rosal**	**70.26**	**296**	LR	LR	09 35 36.9	
	comp=Z,195nm,19.1s,MS4.4,baz=9.6,slow=34						
ESDC	**Sonseca Array**	**81.83**	**10**	P	**P**	**09 07 37.5**	**+0.7**
	4.0nm,1.0s,mb4.3,baz=184,slow=5.9,SNR=13						
ESDC	**Sonseca Array**	**81.83**	**10**	P	**P**	**09 07 37.5**	**+0.7**
BRTR	**Keskin Array B**	**92.89**	**36**	P	**P**	**09 08 31.9**	**+1.2**
	1.1nm,0.8s,mb4.3,baz=323,slow=18,SNR=5.3						
BRTR	**Keskin Array B**	**92.89**	**36**	P	**P**	**09 08 31.9**	**+1.2**
GERES	**GERESS Array B**	**94.01**	**19**	LR	LR	09 46 21.6	
	comp=Z,162nm,18.9s,MS4.5,baz=281,slow=32						
ZALV	**Zalesovo Beam**	**128.31**	**48**	PKP	PKPdf	09 14 22.8	**-1.0**
	0.5nm,0.6s,baz=224,slow=4.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**128.31**	**48**	PKP	PKPdf	09 14 22.8	**-1.0**
YKA	**Yellowknife Ar**	**129.69**	**323**	PKP	PKPdf	09 14 25.2	-0.9
	1.6nm,0.9s,baz=108,slow=2.2,SNR=17						
YKA	**Yellowknife Ar**	**129.69**	**323**	PKP	PKPdf	09 14 25.2	-0.9
ILAR	**Eielson Array**	**143.96**	**326**	PKP	PKPdf	09 14 50.1	-2.4
	1.7nm,1.0s,baz=51,slow=0.9,SNR=15						
ILAR	**Eielson Array**	**143.96**	**326**	PKP	PKPdf	09 14 50.1	-2.4
COLA	**College**	**144.33**	**327**	*e*PKPdf	PKPdf	09 14 50.9	-2.2
TRF	**Thorofare Moun**	**145.77**	**325**	*e*PKPdf	PKPdf	09 14 54.8	-0.8
TNA	**Tin City**	**151.35**	**336**	*e*PKPbc	PKPbc	09 15 10.2	-0.5

*NEIC **20** 08:58:57.0, 39.°88S×175.°11E, h72km, ML3.6(WEL), After WEL.*
WEL 20 08:58:57.0±0.2, **39.°89S**×**175.°12E**, **h72**km±3km, **ML3.6**/17, **Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTVZ	**Mangateitei**	**0.57**	**29**	PN	Pn	08 59 10.3	-0.3
MTVZ				SN	Sn	08 59 20.2	-0.3
MTVZ	**Mangateitei**	**0.57**	**29**	Pn	Pn	08 59 10.3	-0.3
MTVZ				Sn	Sn	08 59 20.2	-0.3
PKVZ	**Pokaka**	**0.62**	**17**	PN	Pn	08 59 10.6	-0.5
PKVZ				SN	Sn	08 59 20.6	-0.9
PKVZ	**Pokaka**	**0.62**	**17**	Pn	Pn	08 59 10.6	-0.5
PKVZ				Sn	Sn	08 59 20.6	-0.9
WNVZ	**Wahianoa**	**0.67**	**34**	PN	Pn	08 59 11.6	-0.1
WNVZ				SN	Sn	08 59 22.3	-0.1
WNVZ	**Wahianoa**	**0.67**	**34**	Pn	Pn	08 59 11.6	-0.1
WNVZ				Sn	Sn	08 59 22.3	-0.1
TSZ	**Takapari Road**	**0.67**	**105**	PN	Pn	08 59 11.9	+0.3
TSZ	**Takapari Road**	**0.67**	**105**	Pn	Pn	08 59 11.9	+0.3
TRVZ	**Turoa**	**0.67**	**30**	PN	Pn	08 59 11.6	-0.1
TRVZ	**Turoa**	**0.67**	**30**	Pn	Pn	08 59 11.6	-0.1
MOVZ	**Moawhango**	**0.68**	**46**	PN	Pn	08 59 11.3	-0.5
MOVZ	**Moawhango**	**0.68**	**46**	Pn	Pn	08 59 11.3	-0.5
DRZ	**Dome Shelter**	**0.70**	**30**	Sn	Sn	08 59 23.1	0.0
POWZ	**Post Office Ro**	**0.71**	**136**	PN	Pn	08 59 12.2	+0.1
POWZ	**Post Office Ro**	**0.71**	**136**	Pn	Pn	08 59 12.2	+0.1
FWVZ	**Far West T-bar**	**0.71**	**28**	PN	Pn	08 59 11.9	-0.2
FWVZ	**Far West T-bar**	**0.71**	**28**	Pn	Pn	08 59 11.9	-0.2
TUVZ	**Tukino**	**0.74**	**34**	PN	Pn	08 59 12.5	0.0
TUVZ	**Tukino**	**0.74**	**34**	Pn	Pn	08 59 12.5	0.0
WPVZ	**Whakapapa**	**0.76**	**26**	PN	Pn	08 59 12.4	-0.2
WPVZ	**Whakapapa**	**0.76**	**26**	Pn	Pn	08 59 12.4	-0.2
NGZ	**Ngauruhoe**	**0.80**	**28**	PN	Pn	08 59 12.8	-0.3
NGZ				SN	Sn	08 59 24.7	-0.4
NGZ	**Ngauruhoe**	**0.80**	**28**	Pn	Pn	08 59 12.8	-0.3
VRZ	**Vera Road**	**0.81**	**340**	PN	Pn	08 59 12.6	-0.6
VRZ	**Vera Road**	**0.81**	**340**	Pn	Pn	08 59 12.6	-0.6
RAEZ	**Rainy Point**	**0.82**	**317**	PN	Pn	08 59 13.2	-0.2
RAEZ	**Rainy Point**	**0.82**	**317**	Pn	Pn	08 59 13.2	-0.2
BHHZ	**Black Hill Sta**	**0.83**	**62**	PN	Pn	08 59 13.3	-0.2
BHHZ	**Black Hill Sta**	**0.83**	**62**	Pn	Pn	08 59 13.3	-0.2
PNHZ	**Pukenui**	**0.83**	**92**	PN	Pn	08 59 13.9	+0.4
PNHZ	**Pukenui**	**0.83**	**92**	Pn	Pn	08 59 13.9	+0.4
OTVZ	**Oturere**	**0.83**	**31**	PN	Pn	08 59 13.5	0.0
OTVZ				SN	Sn	08 59 25.3	-0.5
OTVZ	**Oturere**	**0.83**	**31**	Pn	Pn	08 59 13.5	0.0
TWVZ	**Taurewa**	**0.85**	**17**	PN	Pn	08 59 13.0	-0.7
TWVZ	**Taurewa**	**0.85**	**17**	Pn	Pn	08 59 13.0	-0.7
WTVZ	**West Tongariro**	**0.85**	**26**	PN	Pn	08 59 13.3	-0.4
WTVZ	**West Tongariro**	**0.85**	**26**	Pn	Pn	08 59 13.3	-0.4
MRZ	**Mangatainoka R**	**0.85**	**156**	PN	Pn	08 59 13.7	0.0
MRZ	**Mangatainoka R**	**0.85**	**156**	Pn	Pn	08 59 13.7	0.0
KRVZ	**Karewarewa**	**0.89**	**27**	PN	Pn	08 59 13.7	-0.5
KRVZ	**Karewarewa**	**0.89**	**27**	Pn	Pn	08 59 13.7	-0.5
DVHZ	**Dannevirke**	**0.91**	**118**	PN	Pn	08 59 14.2	-0.2
DVHZ	**Dannevirke**	**0.91**	**118**	Pn	Pn	08 59 14.2	-0.2
OGWZ	**Otaki Gorge**	**0.93**	**178**	PN	Pn	08 59 15.0	+0.3
OGWZ	**Otaki Gorge**	**0.93**	**178**	Pn	Pn	08 59 15.0	+0.3
DFE	**Dawson Falls**	**0.96**	**305**	PN	Pn	08 59 15.2	+0.1
DFE	**Dawson Falls**	**0.96**	**305**	Pn	Pn	08 59 15.2	+0.1
DREZ	**Durham Road**	**0.99**	**314**	PN	Pn	08 59 15.6	+0.2
DREZ	**Durham Road**	**0.99**	**314**	Pn	Pn	08 59 15.6	+0.2
NEZ	**North Egmont**	**1.00**	**307**	PN	Pn	08 59 15.7	+0.2
NEZ	**North Egmont**	**1.00**	**307**	Pn	Pn	08 59 15.7	+0.2
KATZ	**Kakaramea**	**1.01**	**26**	PN	Pn	08 59 15.2	-0.5
KATZ	**Kakaramea**	**1.01**	**26**	Pn	Pn	08 59 15.2	-0.5
MHEZ	**Mangahewa**	**1.01**	**322**	PN	Pn	08 59 15.8	+0.1
MHEZ	**Mangahewa**	**1.01**	**322**	Pn	Pn	08 59 15.8	+0.1
HOWZ	**Holdsworth Sta**	**1.06**	**163**	PN	Pn	08 59 16.1	-0.1
HOWZ				SN	Sn	08 59 30.0	0.0
HOWZ	**Holdsworth Sta**	**1.06**	**163**	Pn	Pn	08 59 16.1	-0.1
NRZ	**Ngariki Road**	**1.07**	**300**	PN	Pn	08 59 16.4	+0.1
NRZ	**Ngariki Road**	**1.07**	**300**	Pn	Pn	08 59 16.4	+0.1
TIWZ	**Tintock**	**1.07**	**147**	PN	Pn	08 59 16.3	-0.1
RITZ	**Rihia Road**	**1.07**	**33**	PN	Pn	08 59 16.3	-0.1
PKE	**Pukeiti**	**1.11**	**308**	PN	Pn	08 59 17.2	+0.3
PKE	**Pukeiti**	**1.11**	**308**	Pn	Pn	08 59 17.2	+0.3
RATZ	**Rangitukua**	**1.13**	**27**	PN	Pn	08 59 16.8	-0.4
RATZ	**Rangitukua**	**1.13**	**27**	Pn	Pn	08 59 17.4	+0.2
CAW	**Cannon Point**	**1.22**	**182**	PN	Pn	08 59 18.3	0.0
CAW	**Cannon Point**	**1.22**	**182**	Pn	Pn	08 59 18.4	0.0
WATZ	**Wairara**	**1.27**	**22**	PN	Pn	08 59 18.6	-0.3
WATZ	**Wairara**	**1.27**	**22**	Pn	Pn	08 59 18.6	-0.3
BKZ	**Black Stump Fm**	**1.28**	**56**	PN	Pn	08 59 19.0	-0.1
BKZ	**Black Stump Fm**	**1.28**	**56**	Pn	Pn	08 59 19.0	-0.1
DUWZ	**D'Urville Isla**	**1.29**	**225**	PN	Pn	08 59 19.2	-0.1
DUWZ	**D'Urville Isla**	**1.29**	**225**	Pn	Pn	08 59 19.2	-0.1
MCHZ	**McNeill Hill**	**1.30**	**71**	PN	Pn	08 59 19.7	+0.4
MCHZ	**McNeill Hill**	**1.30**	**71**	Pn	Pn	08 59 19.7	+0.4
MTW	**Mount Morrison**	**1.31**	**167**	PN	Pn	08 59 19.4	0.0
MTW	**Mount Morrison**	**1.31**	**167**	Pn	Pn	08 59 19.4	0.0
PXZ	**Pawanui**	**1.35**	**97**	*e*PN	Pn	08 59 19.9	-0.1
PXZ	**Pawanui**	**1.35**	**97**	Pn	Pn	08 59 20.1	+0.1
TMWZ	**Te Maipa**	**1.36**	**155**	*e*PN	Pn	08 59 19.7	-0.4
TMWZ	**Te Maipa**	**1.36**	**155**	Pn	Pn	08 59 19.9	-0.2
KAHZ	**Kahuranaki**	**1.36**	**87**	*e*PN	Pn	08 59 20.3	+0.3
KAHZ	**Kahuranaki**	**1.36**	**87**	Pn	Pn	08 59 20.5	+0.5
WHTZ	**Whakaora**	**1.38**	**28**	PN	Pn	08 59 20.6	+0.2
WHTZ	**Whakaora**	**1.38**	**28**	Pn	Pn	08 59 20.6	+0.2
HIZ	**Hauiti**	**1.38**	**351**	PN	Pn	08 59 19.9	-0.6
HIZ	**Hauiti**	**1.38**	**351**	Pn	Pn	08 59 19.9	-0.6
WEL	**Wellington**	**1.43**	**191**	PN	Pn	08 59 20.5	-0.4
WEL	**Wellington**	**1.43**	**191**	Pn	Pn	08 59 20.6	-0.4
SNZO	**South Karori**	**1.46**	**192**	PN	Pn	08 59 21.0	-0.5
SNZO	**South Karori**	**1.46**	**192**	Pn	Pn	08 59 20.9	-0.5
TCW	**Tory Channel**	**1.47**	**206**	PN	Pn	08 59 21.3	-0.3
TCW	**Tory Channel**	**1.47**	**206**	Pn	Pn	08 59 21.3	-0.3
PAWZ	**Paruwai Farm**	**1.51**	**171**	*e*PN	Pn	08 59 24.6	+2.4
PAWZ	**Paruwai Farm**	**1.51**	**171**	Pn	Pn	08 59 25.1	+2.9
NMHZ	**Naumai**	**1.52**	**60**	PN	Pn	08 59 22.9	+0.6
NMHZ	**Naumai**	**1.52**	**60**	Pn	Pn	08 59 22.9	+0.6
CKHZ	**Cape Kidnapper**	**1.53**	**82**	*e*PN	Pn	08 59 24.4	+2.0
MSWZ	**Moikau Station**	**1.53**	**176**	PN	Pn	08 59 21.7	-0.7
BHW	**Baring Head**	**1.53**	**187**	PN	Pn	08 59 21.8	-0.6
BHW	**Baring Head**	**1.53**	**187**	Pn	Pn	08 59 21.8	-0.6
PLWZ	**Palliser**	**1.69**	**177**	PN	Pn	08 59 23.6	-0.8
PLWZ	**Palliser**	**1.69**	**177**	Pn	Pn	08 59 23.6	-0.8
TUWZ	**Tuamarina**	**1.78**	**210**	PN	Pn	08 59 25.0	-0.8
RAHZ	**Arahi**	**1.81**	**58**	*e*PN	Pn	08 59 25.6	-0.4
NNZ	**Nelson**	**1.88**	**224**	PN	Pn	08 59 26.4	-0.6
NNZ	**Nelson**	**1.88**	**224**	Pn	Pn	08 59 26.4	-0.6
KNZ	**Kokohu**	**2.16**	**67**	*e*PN	Pn	08 59 29.5	-1.3
TOZ	**Tahuroa Road**	**2.17**	**8**	PN	Pn	08 59 29.7	-1.3
TOZ	**Tahuroa Road**	**2.17**	**8**	Pn	Pn	08 59 29.9	-1.1
QRZ	**Quartz Range**	**2.19**	**244**	PN	Pn	08 59 30.0	-1.2
QRZ	**Quartz Range**	**2.19**	**244**	Pn	Pn	08 59 30.1	-1.1
URZ	**Urewera**	**2.24**	**44**	PN	Pn	08 59 30.7	-1.3
URZ	**Urewera**	**2.24**	**44**	Pn	Pn	08 59 30.7	-1.3
MHGZ	**Mahia Peninsul**	**2.28**	**72**	*e*PN	Pn	08 59 31.0	-1.4
MHGZ	**Mahia Peninsul**	**2.28**	**72**	Pn	Pn	08 59 31.6	-0.8
PRGZ	**Paritu Road**	**2.35**	**67**	PN	Pn	08 59 31.9	-1.4
PRGZ	**Paritu Road**	**2.35**	**67**	Pn	Pn	08 59 32.1	-1.2
MWZ	**Matawai**	**2.43**	**51**	*e*PN	Pn	08 59 32.6	-1.9
THZ	**Tophouse**	**2.52**	**221**	PN	Pn	08 59 35.1	-0.6
THZ	**Tophouse**	**2.52**	**221**	Pn	Pn	08 59 35.1	-0.6
MKAZ	**Moumakai**	**2.77**	**1**	PN	Pn	08 59 38.3	-0.8
MKAZ	**Moumakai**	**2.77**	**1**	Pn	Pn	08 59 38.3	-0.8
KHZ	**Kahutara**	**2.80**	**205**	PN	Pn	08 59 38.0	-1.4
KHZ	**Kahutara**	**2.80**	**205**	Pn	Pn	08 59 38.0	-1.4
DSZ	**Denniston Nort**	**3.13**	**232**	PN	Pn	08 59 42.5	-1.4
DSZ	**Denniston Nort**	**3.13**	**232**	Pn	Pn	08 59 42.5	-1.4
RVAZ	**Riverhead Bore**	**3.14**	**352**	*e*PN	Pn	08 59 43.3	-0.7
LTZ	**Lake Taylor**	**3.60**	**216**	*e*PN	Pn	08 59 48.1	-2.3
LTZ	**Lake Taylor**	**3.60**	**216**	Pn	Pn	08 59 48.2	-2.2
MQZ	**McQueen's Vall**	**4.24**	**205**	*e*PN	Pn	08 59 55.3	-3.8
WVZ	**Waitaha Valley**	**4.58**	**224**	*e*PN	Pn	09 00 04.1	+0.4
FOZ	**Fox Glacier**	**5.48**	**226**	*e*PN	Pn	09 00 14.8	-1.2
ODZ	**Otahua Downs**	**6.13**	**211**	PN	Pn	09 00 21.8	-3.0
ODZ	**Otahua Downs**	**6.13**	**211**	Pn	Pn	09 00 21.8	-3.0

*ISCJB **20** 09:12:27.1±0.4, 46.°00N±0.°01×0.°70W±0.°02, h1km±2km, Error ellipse: s-maj=2.9km s-min=2.2km az=150.4*
*CSEM **20** 09:12:29.8±0.1, 46.°00N×0.°71W, h10km, ML3.1/25, Error ellipse: s-maj=2.5km s-min=1.9km az=60.0*
*LDG **20** 09:12:31.1±0.1, 46.°00N×0.°72W, h2km, Md2.9/3, Ml3.0/31, Error ellipse: s-maj=1.0km s-min=0.8km az=63.0*
*NEIC **20** 09:12:31.1, 46.°00N×0.°72W, h2km, ML3.0(LDG), After LDG.*
*STR **20** 09:12:33.4±0.3, 46.°01N×0.°55W, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 20 09:12:29.8±0.3, **46.°00N**±0.°01×**0.°69W**±0.°02, **h13**km±2km, **n135**, σ1**°04**/295, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIF	**Chize**	**0.24**	**56**	Pg	**Pg**	**09 12 36.9**	**+2.1**
CHIF				Sg	**Sg**	**09 12 39.8**	**+1.6**
CHIF	**Chize**	**0.24**	**56**	Pg	**Pg**	**09 12 36.9**	**+2.1**
CHIF				Sg	**Sg**	**09 12 39.8**	**+1.6**
MFF	**Saint Martin d**	**0.71**	**32**	*e*Pg	**Pg**	**09 12 45.2**	**+1.6**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**09 12 54.3**	**+1.4**
	43nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**0.71**	**32**	*e*Pg	**Pg**	**09 12 45.2**	**+1.6**
MFF				*e*Sg	**Sg**	**09 12 54.3**	**+1.4**
MFF	**Saint Martin d**	**0.71**	**32**	*e*Pg	**Pg**	**09 12 45.2**	**+1.6**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**09 12 54.3**	**+1.4**
	22nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.46**	**136**	*e*Pn	**Pn**	**09 12 57.0

HYF				*e*Pg	**Pg**	09 13 19.9	-0.1
HYF				*e*Sg	**Sg**	09 13 54.0	0.0
HYF	**Humbligny**	**2.62**	**60**	*e*Pn	**Pn**	09 13 12.8	+0.9
LDF	**La Druitiere**	**2.62**	**8**	*e*Pn	**Pn**	09 13 12.5	+0.6
	SNR=1.0						
LDF	**La Druitiere**	**2.62**	**8**	*e*Pg	**Pg**	09 13 19.7	-0.3
LDF				*e*Sn	**Sn**	09 13 43.1	-0.5
	SNR=1.0						
LDF				*e*Sg	**Sg**	09 13 53.4	-0.6
	21nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**2.62**	**8**	*e*Pn	**Pn**	09 13 12.5	+0.6
LDF				*e*Pg	**Pg**	09 13 19.7	-0.3
LDF				*e*Sn	**Sn**	09 13 43.1	-0.5
LDF				*e*Sg	**Sg**	09 13 53.4	-0.6
LDF	**La Druitiere**	**2.62**	**8**	*e*Pn	**Pn**	09 13 12.5	+0.6
	SNR=1.0						
LDF	**La Druitiere**	**2.62**	**8**	*e*Pg	**Pg**	09 13 19.7	-0.3
LDF				*e*Sn	**Sn**	09 13 43.1	-0.5
	SNR=1.0						
LDF				*e*Sg	**Sg**	09 13 53.4	-0.6
	11nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**2.77**	**3**	*e*Pn	**Pn**	09 13 14.6	+0.8
FLN				*e*Sg	**Sg**	09 13 58.0	-0.6
	25nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**2.77**	**3**	*e*Pn	**Pn**	09 13 14.6	+0.8
FLN				*e*Sg	**Sg**	09 13 58.0	-0.6
FLN	**La Foliniere**	**2.77**	**3**	*e*Pn	**Pn**	09 13 14.6	+0.8
FLN				*e*Sg	**Sg**	09 13 58.0	-0.6
	12nm,0.3s,SNR=1.0						
LBL	**Lubilhac**	**2.87**	**104**	Pn	**Pn**	09 13 17.1	+1.8
LBL				Sg	**Sg**	09 14 04.7	+2.8
LBL	**Lubilhac**	**2.87**	**104**	Pn	**Pn**	09 13 17.1	+1.8
LBL				Sg	**Sg**	09 14 04.7	+2.8
AVF	**Avril sur Loir**	**2.91**	**73**	*e*Pn	**Pn**	09 13 16.4	+0.6
	SNR=1.0						
AVF	**Avril sur Loir**	**2.91**	**73**	*e*Pg	**Pg**	09 13 25.2	-0.3
AVF				*e*Sn	**Sn**	09 13 50.0	-0.6
	SNR=1.0						
AVF				*e*Sg	**Sg**	09 14 02.7	-0.5
	18nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**2.91**	**73**	*e*Pn	**Pn**	09 13 16.4	+0.6
AVF				*e*Pg	**Pg**	09 13 25.2	-0.3
AVF				*e*Sn	**Sn**	09 13 50.0	-0.6
AVF				*e*Sg	**Sg**	09 14 02.7	-0.5
AVF	**Avril sur Loir**	**2.91**	**73**	*e*Pn	**Pn**	09 13 16.4	+0.6
	SNR=1.0						
AVF	**Avril sur Loir**	**2.91**	**73**	*e*Pg	**Pg**	09 13 25.2	-0.3
AVF				*e*Sn	**Sn**	09 13 50.0	-0.6
	SNR=1.0						
AVF				*e*Sg	**Sg**	09 14 02.7	-0.5
	8.9nm,0.5s,SNR=1.0						
SJPF	**Ste Jean**	**2.91**	**188**	*e*Pn	**Pn**	09 13 16.7	+0.8
SJPF				*e*Sn	**Sn**	09 13 49.7	-1.0
SJPF				*e*Sg	**Sg**	09 14 02.2	-1.2
	8.1nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**2.91**	**188**	*e*Pn	**Pn**	09 13 16.7	+0.8
SJPF				*e*Sn	**Sn**	09 13 49.7	-1.0
SJPF				*e*Sg	**Sg**	09 14 02.2	-1.2
SJPF	**Ste Jean**	**2.91**	**188**	*e*Pn	**Pn**	09 13 16.7	+0.8
SJPF				*e*Sn	**Sn**	09 13 49.7	-1.0
SJPF				*e*Sg	**Sg**	09 14 02.2	-1.2
	4.1nm,0.3s,SNR=1.0						
ROSF	**Rostrenen**	**2.93**	**324**	*e*Pn	**Pn**	09 13 16.8	+0.8
	SNR=1.0						
ROSF	**Rostrenen**	**2.93**	**324**	*e*Pg	**Pg**	09 13 25.3	-0.6
ROSF				*e*Sg	**Sg**	09 14 02.6	-1.1
	20nm,0.5s,SNR=1.0						
ROSF	**Rostrenen**	**2.93**	**324**	*e*Pn	**Pn**	09 13 16.8	+0.8
ROSF				*e*Pg	**Pg**	09 13 25.3	-0.6
ROSF				*e*Sg	**Sg**	09 14 02.6	-1.1
ROSF	**Rostrenen**	**2.93**	**324**	*e*Pn	**Pn**	09 13 16.8	+0.8
	SNR=1.0						
ROSF	**Rostrenen**	**2.93**	**324**	*e*Pg	**Pg**	09 13 25.3	-0.6
ROSF				*e*Sg	**Sg**	09 14 02.6	-1.1
	10nm,0.5s,SNR=1.0						
PLDF	**La Plantade**	**3.01**	**89**	Pn	**Pn**	09 13 18.7	+1.6
PLDF				Sg	**Sg**	09 14 08.5	+2.2
PLDF	**La Plantade**	**3.01**	**89**	Pn	**Pn**	09 13 18.7	+1.6
PLDF				Sg	**Sg**	09 14 08.5	+2.2
EPF	**Esparros**	**3.06**	**166**	*e*Pn	**Pn**	09 13 19.0	+1.1
	SNR=1.0						
EPF	**Esparros**	**3.06**	**166**	*e*Pg	**Pg**	09 13 27.7	-0.7
EPF				*e*Sn	**Sn**	09 13 53.4	-1.0
EPF				*e*Sg	**Sg**	09 14 07.1	-1.0
	11nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.06**	**166**	*e*Pn	**Pn**	09 13 19.0	+1.1
EPF				*e*Pg	**Pg**	09 13 27.7	-0.7
EPF				*e*Sn	**Sn**	09 13 53.4	-1.0
EPF				*e*Sg	**Sg**	09 14 07.1	-1.0
EPF	**Esparros**	**3.06**	**166**	*e*Pn	**Pn**	09 13 19.0	+1.1
	SNR=1.0						
EPF	**Esparros**	**3.06**	**166**	*e*Pg	**Pg**	09 13 27.7	-0.7
EPF				*e*Sn	**Sn**	09 13 53.4	-1.0
EPF				*e*Sg	**Sg**	09 14 07.1	-1.0
	5.5nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.08**	**68**	*e*Pn	**Pn**	09 13 19.0	+0.8
	SNR=1.0						
SSF	**Saint Saulge**	**3.08**	**68**	*e*Pg	**Pg**	09 13 28.3	-0.6
SSF				*e*Sn	**Sn**	09 13 54.4	-0.6
	SNR=1.0						
SSF				*e*Sg	**Sg**	09 14 08.0	-0.8
	10nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.08**	**68**	*e*Pn	**Pn**	09 13 19.0	+0.8
SSF				*e*Pg	**Pg**	09 13 28.3	-0.6
SSF				*e*Sn	**Sn**	09 13 54.4	-0.6
SSF				*e*Sg	**Sg**	09 14 08.0	-0.8
SSF	**Saint Saulge**	**3.08**	**68**	*e*Pn	**Pn**	09 13 19.0	+0.8
	SNR=1.0						
SSF	**Saint Saulge**	**3.08**	**68**	*e*Pg	**Pg**	09 13 28.3	-0.6
SSF				*e*Sn	**Sn**	09 13 54.4	-0.6
	SNR=1.0						
SSF				*e*Sg	**Sg**	09 14 08.0	-0.8
	5.1nm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**3.10**	**178**	*e*Pn	**Pn**	09 13 19.2	+0.7
ETSF	**Etsaut**	**3.10**	**178**	*e*Pg	**Pg**	09 13 28.6	-0.7
ETSF				*e*Sn	**Sn**	09 13 54.6	-0.9
ETSF				*e*Sg	**Sg**	09 14 08.4	-1.1
	4.6nm,0.3s						
ETSF	**Etsaut**	**3.10**	**178**	*e*Pn	**Pn**	09 13 19.2	+0.7
ETSF				*e*Pg	**Pg**	09 13 28.6	-0.7
ETSF				*e*Sn	**Sn**	09 13 54.6	-0.9
ETSF				*e*Sg	**Sg**	09 14 08.4	-1.1
ETSF	**Etsaut**	**3.10**	**178**	*e*Pn	**Pn**	09 13 19.2	+0.7
ETSF	**Etsaut**	**3.10**	**178**	*e*Pg	**Pg**	09 13 28.6	-0.7
ETSF				*e*Sn	**Sn**	09 13 54.6	-0.9
ETSF				*e*Sg	**Sg**	09 14 08.4	-1.1
	2.3nm,0.3s						
SMF	**Signal de Mont**	**3.21**	**77**	*e*Pn	**Pn**	09 13 20.9	+1.0
	SNR=1.0						
SMF	**Signal de Mont**	**3.21**	**77**	*e*Pg	**Pg**	09 13 30.6	-0.6
SMF				*e*Sn	**Sn**	09 13 57.4	-0.5
	SNR=1.0						
SMF				*e*Sg	**Sg**	09 14 12.1	-0.6
	6.5nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.21**	**77**	*e*Pn	**Pn**	09 13 20.9	+1.0
SMF				*e*Pg	**Pg**	09 13 30.6	-0.6
SMF				*e*Sn	**Sn**	09 13 57.4	-0.5
SMF				*e*Sg	**Sg**	09 14 12.1	-0.6
SMF	**Signal de Mont**	**3.21**	**77**	*e*Pn	**Pn**	09 13 20.9	+1.0
	SNR=1.0						
SMF	**Signal de Mont**	**3.21**	**77**	*e*Pg	**Pg**	09 13 30.6	-0.6
SMF				*e*Sn	**Sn**	09 13 57.4	-0.5
	SNR=1.0						
SMF				*e*Sg	**Sg**	09 14 12.1	-0.6
	3.2nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.37**	**141**	*e*Pn	**Pn**	09 13 22.7	+0.5
MTLF	**Montolieu**	**3.37**	**141**	*e*Pg	**Pg**	09 13 33.4	-1.0
MTLF				*e*Sn	**Sn**	09 14 01.1	-1.0
	SNR=1.0						
MTLF				*e*Sg	**Sg**	09 14 17.2	-0.9
	8.9nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.37**	**141**	*e*Pn	**Pn**	09 13 22.7	+0.5
MTLF				*e*Pg	**Pg**	09 13 33.4	-1.0
MTLF				*e*Sn	**Sn**	09 14 01.1	-1.0
MTLF				*e*Sg	**Sg**	09 14 17.2	-0.9
MTLF	**Montolieu**	**3.37**	**141**	*e*Pn	**Pn**	09 13 22.7	+0.5
MTLF	**Montolieu**	**3.37**	**141**	*e*Pg	**Pg**	09 13 33.4	-1.0
MTLF				*e*Sn	**Sn**	09 14 01.1	-1.0
	SNR=1.0						
MTLF				*e*Sg	**Sg**	09 14 17.2	-0.9
	4.4nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.38**	**66**	*e*Pn	**Pn**	09 13 23.0	+0.7
	baz=245,SNR=1.0						
LOR	**Lormes**	**3.38**	**66**	*e*Pg	**Pg**	09 13 34.1	-0.5
	baz=241						
LOR				*e*Sg	**Sg**	09 14 17.6	-0.7
	8.8nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.38**	**66**	*e*Pn	**Pn**	09 13 23.0	+0.7
LOR				*e*Pg	**Pg**	09 13 34.1	-0.5
LOR				*e*Sg	**Sg**	09 14 17.6	-0.7
LOR	**Lormes**	**3.38**	**66**	*e*Pn	**Pn**	09 13 23.0	+0.7
	baz=245,SNR=1.0						
LOR	**Lormes**	**3.38**	**66**	*e*Pg	**Pg**	09 13 34.1	-0.5
	baz=241						
LOR				*e*Sg	**Sg**	09 14 17.6	-0.7
	4.4nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**3.75**	**119**	*e*Pn	**Pn**	09 13 28.5	+1.1
	SNR=1.0						
LASF				*e*Sn	**Sn**	09 14 10.3	-1.2
LASF				*e*Sg	**Sg**	09 14 29.3	-1.0
	8.6nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.75**	**119**	*e*Pn	**Pn**	09 13 28.5	+1.1
LASF				*e*Sn	**Sn**	09 14 10.3	-1.2
LASF				*e*Sg	**Sg**	09 14 29.3	-1.0
LASF	**Ste Croix**	**3.75**	**119**	*e*Pn	**Pn**	09 13 28.5	+1.1
	SNR=1.0						
LASF				*e*Sn	**Sn**	09 14 10.3	-1.2
LASF				*e*Sg	**Sg**	09 14 29.3	-1.0
	4.3nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.95**	**105**	*e*Pn	**Pn**	09 13 30.8	+0.7
VIVF	**Saint-Julien-l**	**3.95**	**105**	*e*Pg	**Pg**	09 13 44.4	-1.0
VIVF				*e*Sn	**Sn**	09 14 14.2	-2.0
	SNR=1.0						
VIVF				*e*Sg	**Sg**	09 14 35.0	-1.5
	12nm,0.5s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.95**	**105**	*e*Pn	**Pn**	09 13 30.8	+0.7
VIVF				*e*Pg	**Pg**	09 13 44.4	-1.0
VIVF				*e*Sn	**Sn**	09 14 14.2	-2.0
VIVF				*e*Sg	**Sg**	09 14 35.0	-1.5
VIVF	**Saint-Julien-l**	**3.95**	**105**	*e*Pn	**Pn**	09 13 30.8	+0.7
VIVF	**Saint-Julien-l**	**3.95**	**105**	*e*Pg	**Pg**	09 13 44.4	-1.0
VIVF				*e*Sn	**Sn**	09 14 14.2	-2.0
	SNR=1.0						
VIVF				*e*Sg	**Sg**	09 14 35.0	-1.5
	5.8nm,0.5s,SNR=1.0						
SFTF	**Sexfontaines**	**4.49**	**59**	*e*Pn	**Pn**	09 13 38.3	+0.8
SFTF				*e*Sn	**Sn**	09 14 28.2	-1.4
	7.1nm,0.6s						
SFTF	**Sexfontaines**	**4.49**	**59**	*e*Pn	**Pn**	09 13 38.3	+0.8
SFTF				*e*Sn	**Sn**	09 14 28.2	-1.4
SFTF	**Sexfontaines**	**4.49**	**59**	*e*Pn	**Pn**	09 13 38.3	+0.8
SFTF				*e*Sn	**Sn**	09 14 28.2	-1.4
	3.5nm,0.6s						
MEZF	**Maizieres J'vi**	**4.64**	**55**	*e*Pn	**Pn**	09 13 40.2	+0.6
	baz=231						
MEZF				*e*Sn	**Sn**	09 14 31.7	-1.6
	3.1nm,0.3s						
MEZF	**Maizieres J'vi**	**4.64**	**55**	*e*Pn	**Pn**	09 13 40.2	+0.6
MEZF				*e*Sn	**Sn**	09 14 31.7	-1.6
MEZF	**Maizieres J'vi**	**4.64**	**55**	*e*Pn	**Pn**	09 13 40.2	+0.6
MEZF				*e*Sn	**Sn**	09 14 31.7	-1.6
	1.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.75**	**101**	*e*Pn	**Pn**	09 13 41.9	+0.8
ORIF				*e*Sg	**Sg**	09 15 00.1	-2.1
	3.5nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.75**	**101**	*e*Pn	**Pn**	09 13 41.9	+0.8
ORIF				*e*Sg	**Sg**	09 15 00.1	-2.1
ORIF	**Oris-en-Rattie**	**4.75**	**101**	*e*Pn	**Pn**	09 13 41.9	+0.8
ORIF				*e*Sg	**Sg**	09 15 00.1	-2.1
	1.8nm,0.5s						
PAGF	**Fort de Pagny**	**5.06**	**57**	*e*Pn	**Pn**	09 13 45.7	+0.4
PAGF				*e*Sn	**Sn**	09 14 41.7	-1.9
	1.6nm,0.5s						
PAGF	**Fort de Pagny**	**5.06**	**57**	*e*Pn	**Pn**	09 13 45.7	+0.4
PAGF				*e*Sn	**Sn**	09 14 41.7	-1.9
PAGF	**Fort de Pagny**	**5.06**	**57**	*e*Pn	**Pn**	09 13 45.7	+0.4
PAGF				*e*Sn	**Sn**	09 14 41.7	-1.9
	0.8nm,0.5s						
HAU	**Haudompre**	**5.21**	**65**	*e*Pn	**Pn**	09 13 48.0	+0.5
HAU				*e*Sg	**Sg**	09 15 14.8	-2.3
	3.8nm,0.4s						
HAU	**Haudompre**	**5.21**	**65**	*e*Pn	**Pn**	09 13 48.0	+0.5
HAU				*e*Sg	**Sg**	09 15 14.8	-2.3
HAU	**Haudompre**	**5.21**	**65**	*e*Pn	**Pn**	09 13 48.0	+0.5
HAU				*e*Sg	**Sg**	09 15 14.8	-2.3
	1.9nm,0.4s						
BAIF	**Baives**	**5.22**	**37**	*e*Pn	**Pn**	09 13 48.0	+0.4
	SNR=1.0						
BAIF				*e*Sn	**Sn**	09 14 45.5	-2.1
	1.7nm,0.3s,SNR=1.0						
BAIF	**Baives**	**5.22**	**37**	*e*Pn	**Pn**	09 13 48.0	+0.4
BAIF				*e*Sn	**Sn**	09 14 45.5	-2.1
BAIF	**Baives**	**5.22**	**37**	*e*Pn	**Pn**	09 13 48.0	+0.4
	SNR=1.0						
BAIF				*e*Sn	**Sn**	09 14 45.5	-2.1
	0.9nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**5.48**	**68**	*e*Pn	**Pn**	09 13 51.6	+0.5
HINF				*e*Sg	**Sg**	09 15 22.9	-2.7
	3.4nm,0.4s						
HINF	**Hinteralfeld**	**5.48**	**68**	*e*Pn	**Pn**	09 13 51.6	+0.5
HINF				*e*Sg	**Sg**	09 15 22.9	-2.7
HINF	**Hinteralfeld**	**5.48**	**68**	*e*Pn	**Pn**	09 13 51.6	+0.5
HINF				*e*Sg	**Sg**	09 15 22.9	-2.7
	1.7nm,0.4s						
GIVF	**Givet**	**5.52**	**40**	*e*Pn	**Pn**	09 13 52.3	+0.6
GIVF				*e*Sn	**Sn**	09 14 52.5	-2.5
	4.1nm,0.3s						
GIVF	**Givet**	**5.52**	**40**	*e*Pn	**Pn**	09 13 52.3	+0.6
GIVF				*e*Sn	**Sn**	09 14 52.5	-2.5
GIVF	**Givet**	**5.52**	**40**	*e*Pn	**Pn**	09 13 52.3	+0.6
GIVF				*e*Sn	**Sn**	09 14 52.5	-2.5
	2.0nm,0.3s						

NEIC ***20*** *09:13:29.9, 15°.88N×95°.39W, h16km, MD3.9(MEX), After MEX.*

MEX 20 09:13:29.8±1.0, 15°.87N×95°.40W, h17km±16km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.69**	**261**	*i* P	Pg	09 13 40.7	-2.6
HUIG				*e*S	Sg	09 13 49.5	-3.0
HUIG	**Huatulco**	**0.69**	**261**	*i* P	Pg	09 13 40.7	-2.6
HUIG				*e*S	Sg	09 13 49.5	-3.0
CMIG	**Matias Romero**	**1.31**	**22**	*i* P	Pn	09 13 49.5	-3.8
CMIG				*e*S	Sn	09 14 05.2	-5.3
CMIG	**Matias Romero**	**1.31**	**22**	*i* P	Pn	09 13 49.5	-3.8
CMIG				*e*S	Sn	09 14 05.2	-5.3
VHO	**Vista Hermosa**	**1.75**	**313**	*i* P	Pn	09 13 57.6	-1.8
VHO				*e*S	Sn	09 14 16.2	-5.1
VHO	**Vista Hermosa**	**1.75**	**313**	*i* P	Pn	09 13 57.6	-1.8
VHO				*e*S	Sn	09 14 16.2	-5.1
TGIG		**2.37**	**67**	*i* P	Pn	09 14 05.4	-2.5
TGIG				*e*S	Sn	09 14 31.5	-5.0
TGIG		**2.37**	**67**	*i* P	Pn	09 14 05.4	-2.5
TGIG				*e*S	Sn	09 14 31.5	-5.0

IDC ***20*** *09:15:39.3±1.3, 27°.47N×142°.86E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/37, Error ellipse: s-maj=33.1km s-min=15.9km az=129.0*

JMA ***20*** *09:15:40.8±0.4, 27°.72N×142°.78E, h0km, M3.4*

ISCJB ***20*** *09:15:43.3±1.8, 27°.81N±0°.04×142°.5E±0°.3, h26km±11km, mb3.8/4, Error ellipse: s-maj=43.7km s-min=6.8km az=3.7*

ISC 20 09:15:44.5±2.0, 27.71N±0°.05×142.6E±0°.2, h24km±12km, n10, σ0.91/13, mb3.8/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.70**	**208**	Pn	**Pn**	**09 15 57.2**	**-1.6**
	102nm,0.3s,baz=296,slow=19,SNR=124						
CBIJ				Sn	**Sn**	**09 16 09.0**	**+0.2**
	319nm,0.3s,baz=294,slow=20,SNR=24						
CBIJ	**Chichi jima**	**0.70**	**208**	P	**Pb**	**09 15 57.1**	**-0.9**
CBIJ				*e*S	**Sb**	**09 16 08.2**	**+1.0**
JHHJ	**Haha-jima-NKT**	**1.13**	**197**	P	**Pn**	**09 16 04.3**	**-0.5**
JHHJ				*e*S	**Sn**	**09 16 19.8**	**+0.3**
JHO	**Hitachi**	**9.03**	**350**	P	**Pn**	**09 17 54.1**	**+0.8**
JHO				*e*S	**Sn**	**09 19 32.7**	**-1.4**
MJAR	**Matsushiro Arr**	**9.54**	**338**	Pn	**Pn**	**09 18 01.1**	**+0.8**
	0.3nm,0.3s,baz=138,slow=11,SNR=4.6						
GUMO	**Guam**	**14.22**	**171**	LR	LR	09 22 49.2	
	comp=Z,67nm,18.4s,baz=97,slow=31						
WRA	**Warramunga Arr**	**48.04**	**190**	P	**P**	**09 24 17.9**	**-4.0**
	0.7nm,0.4s,mb4.0,baz=10,slow=8.6,SNR=8.3						
BVAR	**Borovoye Array**	**57.81**	**317**	P	**P**	**09 25 34.6**	**+0.9**
	1.3nm,0.6s,mb4.2,baz=90,slow=6.8,SNR=10						
YKA	**Yellowknife Ar**	**71.45**	**29**	P	**P**	**09 27 03.2**	**+0.7**
	0.3nm,0.8s,mb3.3,baz=289,slow=5.8,SNR=4.4						
FINES	**FINESS Array B**	**77.54**	**334**	P	**P**	**09 27 37.8**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=76,slow=5.9,SNR=6.1						

MOS ***20*** *09:59:45.0±1.1, 48°.63N×154°.74E, h61km, mb4.1/9, Error ellipse: s-maj=17.2km s-min=7.2km az=56.1*

ISCJB ***20*** *09:59:45.2±0.8, 48°.68N±0°.08×154°.7E±0°.1, h61km±8km, mb4.0/16, Error ellipse: s-maj=16.0km s-min=5.1km az=139.4*

NEIC ***20*** *09:59:47.3±0.9, 48°.62N×154°.69E, h66km±9km, mb3.9/1, Error ellipse: s-maj=16.9km s-min=6.6km az=141.0*

IDC ***20*** *09:59:47.3±3.1, 48°.65N×154°.51E, h62km±27km, mb3.7/15, mb1 3.9/18, mb1mx3.8/29, mbtmp3.7/18, ML3.4/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/42, Error ellipse: s-maj=19.9km s-min=11.8km az=150.0*

KRSC ***20*** *09:59:49.0±2.6, 49°.58N×153°.84E, h5km±5km, ML4.6*

SKHL ***20*** *09:59:53.4±4.1, 48°.62N×154°.03E, h62km±16km, mb4.9/4*

ISC 20 09:59:47.2±0.7, 48°.71N±0°.07×154°.61E±0°.09, h62km±7km, n85, σ1.15/93, mb4.0/16, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.21**	**26**	*e*PN	**Pn**	**10 00 28.6**	**+7.1**
SKR				*e*		10 00 45.0	
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				smax			
	comp=N,650nm,0.4s						
SKR				smax			
	comp=E,1μm,0.3s						
SKR	**Severo-Kuril's**	**2.21**	**26**	*e*P	**Pn**	**10 00 28.6**	**+7.1**
SKR				AMB	AMB	10 00 31.5	
	comp=E,80nm,0.4s						
SKR				AMB	AMB	10 00 31.5	
	comp=E,150nm,0.5s						
SKR				*i* S	**Sn**	**10 00 55.0**	**+7.4**
SKR				A		10 00 56.5	
	comp=E,650nm,0.4s						
SKR				A		10 00 56.5	
	comp=E,270nm,0.4s						
SKR				A		10 00 56.5	
	comp=E,1μm,0.2s						
GRL	**Gorelyy**	**4.44**	**28**	P	**Pn**	**10 00 49.5**	**-2.4**
RUS	**Russkaya**	**4.48**	**32**	*e*P	**Pn**	**10 00 52.1**	**-0.4**
RUS				*i* S	**Sn**	**10 01 38.1**	**-5.2**
RUS	**Russkaya**	**4.48**	**32**	PN	**Pn**	**10 00 52.1**	**-0.4**
PEA0B	**Petropavlovsk-**	**4.82**	**23**	*e*Pn	**Pn**	**10 00 58.5**	**+1.4**
PETK	**Petropavlovsk-**	**4.82**	**23**	P	**Pn**	**10 00 59.1**	**+2.0**
	comp=E,2.2nm,0.3s,baz=186,slow=13,SNR=27						
PETK				LR	LR	10 03 05.2	
	comp=E,162nm,20.9s,baz=230,slow=40						
PETK	**Petropavlovsk-**	**4.82**	**23**	P	**Pn**	**10 00 59.1**	**+2.0**
PETK	**Petropavlovsk-**	**4.82**	**23**	PN	**Pn**	**10 00 59.1**	**+2.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,162nm,20.9s						
PET	**Petropavlovsk**	**5.02**	**29**	*e*Pn	**Pn**	**10 00 59.4**	**-0.5**
PET				*e*Sn	**Sn**	**10 01 56.2**	**-0.3**
PET	**Petropavlovsk**	**5.02**	**29**	*e*PN	**Pn**	**10 00 59.4**	**-0.5**
PET				*e*		10 01 56.3	
SDLR	**Sedlovina**	**5.31**	**29**	P	**Pn**	**10 01 03.0**	**-0.9**
SPN	**Mys Shipunski**	**5.57**	**36**	P	**Pn**	**10 01 07.2**	**-0.2**
SPN				*i* S	**Sn**	**10 02 04.6**	**-5.4**
SPN	**Mys Shipunski**	**5.57**	**36**	PN	**Pn**	**10 01 07.2**	**-0.2**
KUR	**Kuril'sk**	**5.78**	**236**	PN	**Pn**	**10 01 12.0**	**+1.7**
KUR				*e*S	**Sn**	**10 02 20.0**	**+4.9**
KUR				pmax	pmax		
	comp=Z,170nm,0.8s						
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,110nm,0.8s						
KUR				smax			
	comp=N,280nm,0.9s						
KUR				smax			
	comp=E,140nm,0.9s						
KUR	**Kuril'sk**	**5.78**	**236**	*e*P	**Pn**	**10 01 12.0**	**+1.7**
KUR				AMB	AMB	10 01 27.3	
	comp=E,100nm,0.6s						
KUR				AMB	AMB	10 01 27.3	
	comp=E,50nm,0.5s						
KUR				*e*S	**Sn**	**10 02 20.0**	**+4.9**
KUR				A		10 02 35.5	
	comp=E,280nm,0.9s						
KUR				A	

INK	**Inuvik**	**39.46**	**34**	P	**P**	**10 07 11.9**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=308,slow=5.0,SNR=4.9						
INK	**Inuvik**	**39.46**	**34**	P	**P**	**10 07 11.9**	**+1.1**
INK	**Inuvik**	**39.46**	**34**	P	**P**	**10 07 11.9**	**+1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.31**	**305**	P	**P**	**10 07 34.5**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.2,baz=66,slow=7.0,SNR=3.0						
ZALV				PcP	PcP	10 09 26.9	0.0
	comp=Z,1.6nm,0.7s,baz=72,slow=4.7,SNR=9.7						
ZALV	**Zalesovo Beam**	**42.31**	**305**	P	**P**	**10 07 34.5**	**0.0**
ZALV				PcP	PcP	10 09 26.9	0.0
ZALV	**Zalesovo Beam**	**42.31**	**305**	P	**P**	**10 07 34.5**	**0.0**
ZALV						10 09 27.0	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
MKAR	**Makanchi Array**	**46.96**	**296**	P	**P**	**10 08 11.1**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=59,slow=7.8,SNR=9.2						
MKAR				PcP	PcP	10 09 43.0	0.0
	comp=Z,1.9nm,1.0s,baz=48,slow=6.6,SNR=3.5						
MKAR	**Makanchi Array**	**46.96**	**296**	P	**P**	**10 08 11.1**	**-0.5**
MKAR				PcP	PcP	10 09 43.0	0.0
MKAR	**Makanchi Array**	**46.96**	**296**	P	**P**	**10 08 11.1**	**-0.5**
MKAR						10 09 43.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**47.14**	**303**	P	**P**	**10 08 13.2**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=67,slow=8.3,SNR=8.7						
KURK				PcP	PcP	10 09 43.3	-0.3
	comp=Z,1.1nm,0.7s,baz=59,slow=3.4,SNR=5.7						
KURK	**Kurchatov**	**47.14**	**303**	P	**P**	**10 08 13.2**	**+0.2**
KURK				PcP	PcP	10 09 43.3	-0.3
KURK	**Kurchatov**	**47.14**	**303**	P	**P**	**10 08 13.2**	**+0.3**
KURK						10 09 43.3	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
YKA	**Yellowknife Ar**	**48.76**	**38**	P	**P**	**10 08 25.9**	**+0.7**
	comp=Z,0.9nm,0.9s,mb3.8,baz=298,slow=7.3,SNR=7.4						
YKA				PcP	PcP	10 09 49.6	+0.4
	comp=Z,0.3nm,0.6s,baz=304,slow=3.5,SNR=4.6						
YKA	**Yellowknife Ar**	**48.76**	**38**	P	**P**	**10 08 25.9**	**+0.7**
YKA				PcP	PcP	10 09 49.6	+0.4
YKA	**Yellowknife Ar**	**48.76**	**38**	P	**P**	**10 08 25.9**	**+0.7**
YKA						10 09 49.6	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**10 08 37.4**	**-0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=57,slow=5.5,SNR=3.5						
BVAR				PcP	PcP	10 09 55.4	0.0
	comp=Z,1.2nm,0.7s,baz=32,slow=5.8,SNR=5.3						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**10 08 37.5**	**-0.5**
BVAR				PcP	PcP	10 09 55.4	0.0
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**10 08 37.5**	**-0.4**
BVAR						10 09 55.4	
CHTO	**Chiang Mai**	**53.56**	**256**	*e*P	**P**	**10 09 01.3**	**-0.4**
	comp=Z,6.7nm,0.7s,mb4.7						
CHTO	**Chiang Mai**	**53.56**	**256**	*e*P	**P**	**10 09 01.3**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
CMAR	**Chiang Mai Arr**	**53.82**	**256**	P	**P**	**10 09 04.9**	**+1.2**
	comp=Z,7.3nm,0.8s,mb4.7,baz=35,slow=7.3,SNR=25						
CMAR	**Chiang Mai Arr**	**53.82**	**256**	P	**P**	**10 09 04.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**53.82**	**256**	P	**P**	**10 09 04.9**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NVAR	**Mina Array Bea**	**60.65**	**64**	P	**P**	**10 09 52.7**	**+1.1**
	comp=Z,0.8nm,0.7s,mb4.0,baz=298,slow=6.1,SNR=7.1						
NVAR	**Mina Array Bea**	**60.65**	**64**	P	**P**	**10 09 52.7**	**+1.1**
PDAR	**Pinedale Array**	**62.79**	**55**	P	**P**	**10 10 07.3**	**+1.4**
	comp=Z,1.8nm,0.9s,mb4.2,baz=294,slow=2.9,SNR=11						
PDAR	**Pinedale Array**	**62.79**	**55**	P	**P**	**10 10 07.3**	**+1.4**
NOA	**NORSAR Array B**	**66.70**	**342**	P	**P**	**10 10 29.7**	**-1.4**
	comp=Z,0.8nm,0.7s,mb3.9,baz=24,slow=6.3,SNR=3.2						
NOA	**NORSAR Array B**	**66.70**	**342**	P	**P**	**10 10 29.7**	**-1.4**
NOA	**NORSAR Array B**	**66.70**	**342**	P	**P**	**10 10 29.7**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**70.69**	**200**	P	**P**	**10 10 55.1**	**-1.2**
	comp=Z,2.3nm,0.9s,mb4.1,baz=17,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**70.69**	**200**	P	**P**	**10 10 55.1**	**-1.2**
WRA	**Warramunga Arr**	**70.69**	**200**	P	**P**	**10 10 55.1**	**-1.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**74.39**	**200**	P	**P**	**10 11 17.9**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=14,slow=5.4,SNR=13						
ASAR	**Alice Springs**	**74.39**	**200**	P	**P**	**10 11 17.9**	**-0.2**
ASAR	**Alice Springs**	**74.39**	**200**	P	**P**	**10 11 17.9**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**10 11 26.2**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=302,slow=5.1,SNR=14						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**10 11 26.2**	**+0.5**
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**10 11 26.2**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SAML	**Samuel**	**129.27**	**51**	*e*PKPdf	PKPdf	10 18 48.6	-0.1

NOU ***20*** *10:00:08.6±0.5, 20.35S×170.50E, h30km, MD3.0, ML2.4*
IDC 20 10:00:11.7±7.4, 21.48S×170.40E, h146km±42km, mb3.1/2, mb1 3.3/3, mb1mx3.1/16, mbtmp3.1/3, Error ellipse: s-maj=171.0km s-min=52.9km az=158.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.33**	**258**	*e*S	Sn	10 01 45.4	+2.5
NORM	**Noumea**	**3.71**	**258**	*e*P	Pn	10 01 09.5	+1.4
NORM				*e*S	Sn	10 01 53.8	+2.0
DZM	**Mont Dzumac**	**3.72**	**260**	P	Pn	10 01 08.0	-0.2
	2.0nm,0.3s,baz=70,slow=18,SNR=43						
DZM				S	Sn	10 01 52.7	+0.7
	3.3nm,0.3s,baz=204,slow=20,SNR=3.0						
NOUC	**Port Laguerre**	**3.86**	**260**	*e*P	Pn	10 01 11.5	+1.6
NOUC				*e*S	Sn	10 01 58.7	+3.6
NOUC				AMP		10 02 11.5	
	comp=Z,17nm,4.3s						
ASAR	**Alice Springs**	**33.71**	**259**	P	P	10 06 39.3	0.0
	comp=Z,0.5nm,0.6s,baz=84,slow=8.5,SNR=7.7						
WRA	**Warramunga Arr**	**33.72**	**266**	P	P	10 06 39.1	-0.2
	comp=Z,0.3nm,0.4s,baz=97,slow=8.3,SNR=5.9						
GERES	**GERESS Array B**	**146.97**	**331**	PKPbc	PKPbc	10 19 36.6	-0.4
	comp=Z,0.9nm,0.6s,baz=30,slow=2.7,SNR=3.5						

NIED ***20*** *10:29:00, 36.50N×142.60E, h5km, Mw6.4 Best double couple: M0=4.30000×10^18 NP1:φs=347.00000°, δ66.00000°, λ78.00000°. NP2:φs=194.00000°, δ26.00000°, λ115.00000°.*
JMA ***20*** *10:29:16.7±0.3, 36.53N×142.70E, h0km, M6.6*
JMA Felt III J1.
IDC ***20*** *10:29:19.6±0.4, 36.50N×142.58E, h0km, mb5.5/39, mb1 5.5/45, mb1mx5.5/45, mbtmp5.5/45, ML4.7/5, MS6.3/44, Ms1 6.3/44, ms1mx6.2/52, Error ellipse: s-maj=11.6km s-min=10.2km az=111.0*
ISCJB ***20*** *10:29:20.3±0.1, 36.48N±0.01×142.51E±0.01, h11km, mb6.0/487, MS6.4/288, Error ellipse: s-maj=2.1km s-min=1.4km az=165.2*
BJI ***20*** *10:29:21.5, 36.66N×142.07E, h10km, mB6.4/43, mb5.8/66, Ms6.7/78, Ms7 6.5/65*
TEH ***20*** *10:29:22.0, 36.60N×142.36E, h10km*
MOS ***20*** *10:29:23.5±1.1, 36.51N×142.45E, h33km, mb6.3/154, MS6.5/104, Error ellipse: s-maj=6.0km s-min=4.0km az=109.9*
NEIC ***20*** *10:29:23.1±0.1, 36.54N×142.43E, h19km, mb6.0/286, ME6.0, MS6.3/181, MW6.3, MW6.2, MW6.4(NIED), Error ellipse: s-maj=3.3km s-min=2.2km az=153.0 Broadband fault plane solution: P waves. NP1:φs335.00000°, δ70.00000°, λ70.00000°. NP2:φs202.00000°, δ28.00000°, λ133.00000°. Principal axes: T Plg60.0000°, Azm216.0000°; N Plg0.0000°, Azm0.0000°; P Plg22.0000°, Azm80.0000°; Moment Tensor Solution. s145 Moment tensor: Scale 10^18 Nm; Mrr1.08; Mθθ1.25; Mφφ-2.33; Mrθ-0.79; Mφθ-0.20; Mφr1.89; Best double couple: M0=2.90000×10^18 NP1:φs335.00000°, δ76.00000°, λ59.00000°. NP2:φs222.00000°, δ34.00000°, λ153.00000°. Principal axes: T 2.4600, Plg49.0000°, Azm210.0000°; N 0.7100, Plg29.0000°, Azm343.0000°; P -3.1700, Plg24.0000°, Azm88.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Fukushima, Tokyo, Warabi and Yokohama. Recorded [3 JMA] in Fukushima, Miyagi and Yamagata; [2 JMA] in Akita, Chiba, Gumma, Ibaraki, Iwate, Niigata, Saitama and Tochigi; [1 JMA] in Aomori, Kanagawa, Nagano, Shizuoka and Tokyo.
BGS ***20*** *10:29:24.1±2.7, 36.24N×141.43E, h20km, mb6.1, MS6.6*
SZGRF ***20*** *10:29:28.2, 37.11N×142.98E, h33km, mb6.2, MS6.8, Off east coast of Honshu, Japan*
GCMT ***20*** *10:29:29.2±0.1, 36.56N×142.54E, h12km, MW6.3, Moment Tensor Solution. s103,c221; s99,c194; Moment tensor: Scale 10^18Nm; Mrr3.10±.02; Mθθ0.46±.02; Mφφ-3.56±.02; Mrθ-1.23±.04; Mφθ0.01±.01; Mφr1.64±.04; Best double couple: M0=3.90000×10^18 NP1:φs199.00000°, δ35.00000°, λ122.00000°. NP2:φs341.00000°, δ61.00000°, λ70.00000°. Principal axes: T 3.9000, Plg67.0000°, Azm212.0000°; N 0.0600, Plg18.0000°, Azm351.0000°; P -3.9600, Plg14.0000°, Azm86.0000°; Data Used: II IU CN IC G. Mantle waves from 108 sta. Surface waves: sta=121, comp=314, per= 50.*
DJA ***20*** *10:29:30, 36.35N×142.08E, h51km, Mw6.5/91*
ISC 20 10:29:20.2±0.6, 36.55N±0.01×142.50E±0.01, h0km±3km, n2009, σ0=92/1965, mb6.0/487, MS6.4/287, 371C-249D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.48**	**293**	⇑P	**Pn**	**10 29 46.8**	**-1.2**
ONAJ				*e*S	**Sb**	**10 30 08.7**	**+0.9**
JFK	**Kawauchi**	**1.54**	**303**	⇑P	**Pn**	**10 29 47.6**	**-1.3**
JHO	**Hitachi**	**1.56**	**273**	⇑P	**Pn**	**10 29 47.9**	**-1.3**
JHO				*e*S	**Sn**	**10 30 10.7**	**+0.7**
CHOJ	**Chosi**	**1.57**	**238**	⇑P	**Pn**	**10 29 48.3**	**-1.1**
JMM	**Marumori**	**1.90**	**314**	⇑P	**Pn**	**10 29 52.5**	**-1.3**
JMM				*e*S	**Sn**	**10 30 19.6**	**+1.2**
JFT	**Otama**	**1.99**	**300**	P	**Pn**	**10 29 54.6**	**-0.5**
JIO	**Ouri**	**2.11**	**335**	⇑P	**Pn**	**10 29 55.5**	**-1.3**
JSB	**Shiboa**	**2.12**	**282**	⇑P	**Pn**	**10 29 57.1**	**+0.3**
BSO1	**Boso 1**	**2.26**	**214**	P	**Pn**	**10 29 57.6**	**-1.2**
JOU	**Okura**	**2.33**	**322**	⇑P	**Pn**	**10 29 59.3**	**-0.5**
JFY	**Yanaizu**	**2.40**	**292**	⇑P	**Pn**	**10 30 00.8**	**+0.1**
JAG	**Ashikaga**	**2.46**	**268**	⇑P	**Pn**	**10 30 00.7**	**-0.9**
JYS	**Shiratake**	**2.56**	**311**	⇑P	**Pn**	**10 30 02.9**	**-0.1**
JMK	**Ichinoseki**	**2.61**	**337**	P	**Pn**	**10 30 02.5**	**-1.1**
JKT	**Katashina**	**2.63**	**276**	P	**Pn**	**10 30 04.0**	**+0.2**
JNS	**Sasagawa**	**2.84**	**297**	P	**Pn**	**10 30 07.1**	**+0.3**
JHK	**Hiroka**	**2.88**	**285**	P	**Pn**	**10 30 07.9**	**+0.6**
JYK	**Kaneyama**	**2.91**	**325**	⇑P	**Pn**	**10 30 07.6**	**-0.2**
JRY	**Ryogami san**	**2.96**	**261**	P	**Pn**	**10 30 07.5**	**-0.9**
JYA	**Atsumi**	**3.01**	**314**	P	**Pn**	**10 30 09.3**	**+0.1**
JOD2	**Odawara 2**	**3.05**	**246**	P	**Pn**	**10 30 09.1**	**-0.6**
JOM	**Ohasama**	**3.07**	**342**	⇑P	**Pn**	**10 30 08.8**	**-1.2**
JGK	**Kuni**	**3.11**	**271**	⇑P	**Pn**	**10 30 10.9**	**+0.4**
AJI	**Ajiro2**	**3.15**	**243**	P	**Pn**	**10 30 10.2**	**-0.9**
JAW	**Awa shima**	**3.21**	**307**	P	**Pn**	**10 30 13.5**	**+1.6**
JYN	**Shimob**	**3.38**	**253**	P	**Pn**	**10 30 14.4**	**+0.3**
MJAR	**Matsushiro Arr**	**3.46**	**271**	Pn	**Pn**	**10 30 15.6**	**+0.3**
	140nm,0.3s,baz=91,slow=13,SNR=461						
MJAR				Sn	**Sn**	**10 30 54.4**	**-2.5**
	138nm,0.3s,baz=87,slow=14,SNR=4.9						
MJAR	**Matsushiro Arr**	**3.46**	**271**	Pn	**Pn**	**10 30 15.6**	**+0.3**
MJAR				Sn	**Sn**	**10 30 54.4**	**-2.5**
MJAR	**Matsushiro Arr**	**3.46**	**271**	P	**Pn**	**10 30 15.6**	**+0.3**
MJAR						10 30 54.4	
MJAR				pmax	pmax		
	comp=Z,141nm,0.3s						
MJAR				smax			
	comp=N,139nm,0.3s						
MAJO	**Matsushiro**	**3.46**	**271**	*e*Pn	**Pn**	**10 30 16.1**	**+0.8**
MAJO				*e*Sg	**Sg**	**10 31 18.6**	**+7.2**
MAJO	**Matsushiro**	**3.46**	**271**	*e*P	**Pn**	**10 30 16.1**	**+0.8**
MAT	**Matsushiro**	**3.46**	**271**	P	**Pn**	**10 30 15.1**	**-0.2**
MAT				S	**Sn**	**10 30 56.4**	**-0.6**
MAT	**Matsushiro**	**3.46**	**271**	P	**Pn**	**10 30 16.0**	**+0.7**
JNG	**Nsakai**	**3.55**	**269**	P	**Pn**	**10 30 17.0**	**+0.4**
JSD	**Sado**	**3.69**	**295**	P	**Pn**	**10 30 19.1**	**+0.5**
JNY	**Yasuok**	**3.95**	**254**	P	**Pn**	**10 30 23.0**	**+1.0**
ERM	**Erimo**	**5.49**	**5**	*e*Pn	**Pn**	**10 30 41.3**	**-1.9**
ERM				*e*Sn	**Sn**	**10 31 44.7**	**-2.2**
ERM	**Erimo**	**5.49**	**5**	*ce*P	**Pn**	**10 30 40.9**	**-2.2**
ERM				pmax	pmax		
	comp=Z,460nm,0.6s						
JKN2	**Miekihoku**	**5.58**	**247**	P	**Pn**	**10 30 45.0**	**+0.5**
ASAJ	**Asahikawa**	**7.56**	**1**	Pn	**Pn**	**10 31 10.1**	**-1.5**
	comp=Z,15nm,0.3s,baz=207,slow=13,SNR=69						
ASAJ				Sn	**Sn**	**10 32 35.5**	**-2.5**
	comp=Z,46nm,0.3s,baz=311,slow=20,SNR=3.9						
ASAJ				LR	LR	10 35 05.1	
	comp=Z,301μm,18.4s,baz=181,slow=45						
ASAJ	**Asahikawa**	**7.56**	**1**	*e*Pn	**Pn**	**10 31 10.2**	**-1.5**
ASAJ				Sn	**Sn**	**10 32 35.5**	**-2.5**
ASAJ				*e*Sn	**Sn**	**10 32 37.0**	**-1.0**
ASAJ	**Asahikawa**	**7.56**	**1**	P	**Pn**	**10 31 10.1**	**-1.5**
ASAJ						10 32 35.6	
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
ASAJ				smax			
	comp=N,46nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,301μm,18.4s						
YUK	**Yuzh-Kuril'sk**	**7.91**	**18**	*d*iP	**Pn**	**10 31 14.0**	**-2.4**
YUK				*i*S	**Sn**	**10 32 39.4**	**-7.1**
YUK				pmax	pmax		
	comp=E,373nm,0.3s						
YUK				pmax	pmax		
	comp=N,629nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=Z,130μm,0.8s						
YUK				MLR	MLR		
	comp=N,185μm,15.0s						
YUK				MLR	MLR		
	comp=E,160μm,15.0s						
YUK				MLR	MLR		
	comp=Z,172μm,15.0s						
CBIJ	**Chichi jima**	**9.43**	**182**	Pn	**Pn**	**10 31 34.0**	**-3.2**
	comp=Z,37nm,0.3s,baz=33,slow=8.2,SNR=31						
CBIJ				Sn	**Sn**	**10 33 18.6**	**-5.4**
	comp=Z,125nm,0.3s,baz=285,slow=20,SNR=4.6						
CBIJ	**Chichi jima**	**9.43**	**182**	Pn	**Pn**	**10 31 34.0**	**-3.2**
CBIJ				Sn	**Sn**	**10 33 18.6**	**-5.4**
KUR	**Kuril'sk**	**9.58**	**23**	*e*P	**Pn**	**10 31 40.0**	**+0.7**
KUR				pmax	pmax		
	comp=N,540nm,0.8s						
KUR				pmax	pmax		
	comp=E,640nm,0.8s						
KUR				pmax	pmax		
	comp=Z,1μm,0.8s						
KUR				pmax	pmax		
	comp=N,26μm,2.0s						
KUR				pmax	pmax		
	comp=E,56μm,2.0s						
JKIT	**Kitakata**	**9.91**	**250**	P	**Pn**	**10 31 45.4**	**+1.5**
JNU	**Nakatsue**	**10.15**	**254**	*e*Pn	**Pn**	**10 31 47.8**	**+0.7**
JNU	**Nakatsue**	**10.15**	**254**	P	**Pn**	**10 31 47.7**	**+0.6**
YSS	**Yuzh-Sakhalins**	**10.40**	**1**	*e*Pn	**Pn**	**10 31 49.3**	**-1.3**
YSS	**Yuzh-Sakhalins**	**10.40**	**1**	*c i*P	**Pn**	**10 31 49.0**	**-1.6**
YSS				*e*S	**Sn**	**10 33 45.0**	**-2.8**
YSS				pmax	pmax		
	comp=Z,1μm,1.4s						
YSS				pmax	pmax		
	comp=Z,6μm,8.0s						
YSS				MLR	MLR		
	comp=Z,243μm,16.0s						
YSS				MLR	MLR		
	comp=N,227μm,15.0s						
YSS				MLR	MLR		
	comp=E,292μm,14.0s						
VLA	**Vladivostok**	**10.47**	**312**	κ *i*P	**Pn**	**10 31 54.9**	**+3.4**
VLA				*e*S	**Sn**	**10 33 54.8**	**+5.4**
VLA				pmax	pmax		
	comp=Z,448nm,1.2s						
JTZ	**Takazaki**	**10.52**	**247**	P	**Pn**	**10 31 52.9**	**+0.6**
USRK	**Ussuriysk Arra**	**11.07**	**317**	Pn	**Pn**	**10 32 00.7**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=132,slow=12,SNR=25						
USRK				LR	LR	10 35 57.6	
	comp=Z,135μm,21.3s,baz=202,slow=36						
KSRS	**Korea Array**	**11.70**	**279**	Pn	**Pn**	**10 32 10.5**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=91,slow=13,SNR=69						
KSRS				LR	LR	10 36 40.0	
	comp=Z,161μm,20.2s,baz=80,slow=37						
KSRS	**Korea Array**	**11.70**	**279**	P	**Pn**	**10 32 10.5**	**+2.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,161μm,20.2s						
KSAR	**Wonju Array Be**	**11.73**	**279**	Pn	**Pn**	**10 32 10.5**	**+1.7**
KSAR	**Wonju Array Be**	**11.73**	**279**	P	**Pn**	**10 32 10.5**	**+1.8**
UGL	**Uglegorsk**	**12.53**	**359**	*e*P	**Pn**	**10 32 23.0**	**+3.4**
UGL				S	**Sn**	**10 34 38.0**	**-1.8**
UGL				pmax	pmax		
	comp=Z,230nm,0.9s						
UGL				smax			
	comp=N,20μm,12.0s						
UGL				smax			
	comp=E,21μm,12.0s						
UGL				MLR	MLR		
	comp=N,351μm,16.0s						
UGL				MLR	MLR		
	comp=E,204μm,16.0s						
UGL				MLR	MLR		
	comp=Z,32μm,16.0s						
MDJ	**Mudanjiang**	**12.69**	**313**	P	**Pn**	**10 32 22.6**	**+0.8**
MDJ				S	**Sn**	**10 34 42.6**	**-1.2**
MDJ				PcP	PcP	10 37 57.6	-1.8
MDJ				ScP	ScP	10 41 30.9	-2.7
MDJ				ScS	ScS	10 45 06.8	-2.9
MDJ				pmax	pmax		
	comp=Z,64nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,9μm,10.7s						
MDJ				LR	LR		
	comp=N,264μm,18.6s						
MDJ				LR	LR		
	comp=E,158μm,17.7s						
MDJ				LR	LR		
	comp=Z,166μm,17.7s						
MDJ	**Mudanjiang**	**12.69**	**313**	*e*Pn	**Pn**	**10 32 21.1**	**-0.8**
	comp=Z,4μm,2.0s						
MDJ				*e*Sn	**Sn**	**10 34 59.2**	**+15**
INCN	**Inchon**	**12.72**	**279**	*e*Pn	**Pn**	**10 32 23.6**	**+1.3**
HABR	**Khabarovsk**	**13.12**	**338**	*e*P	**Pn**	**10 32 25.2**	**-2.5**
HABR				*e*		10 34 51.6	
HABR				pmax	pmax		
	comp=N,61nm,2.3s						
HABR				pmax	pmax		
	comp=E,97nm,2.3s						
HABR				pmax	pmax		
	comp=Z,48nm,2.3s						
HABR				MLR	MLR		
	comp=E,381μm,19.0s						
HABR				MLR	MLR		
	comp=Z,393μm,18.0s						
HABR				MLR	MLR		
	comp=N,182μm,19.0s						
CN2	**Changchun**	**14.90**	**304**	⇑P	**Pn**	**10 32 52.0**	**0.0**
CN2				*es*P	sP	10 32 57.0	-1.0
CN2				*e*S	**Sn**	**10 35 36.8**	**-1.0**
KLR	**Kul'dur**	**14.90**	**332**	*e*P	**Pn**	**10 32 45.7**	**-6.4**
KLR				pmax	pmax		
	comp=N,100nm,1.8s						
KLR				pmax	pmax		
	comp=E,170nm,1.8s						
KLR				pmax	pmax		
	comp=Z,300nm,1.8s						
KLR				pmax	pmax		
	comp=N,2μm,14.0s						
KLR				pmax	pmax		
	comp=E,2μm,14.0s						
KLR				pmax	pmax		
	comp=Z,4μm,14.0s						
JOW	**Kunigami**	**15.49**	**235**	Pn	**Pn**	**10 32 56.9**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=48,slow=14,SNR=8.8						
JOW	**Kunigami**	**15.49**	**235**	Pn	**Pn**	**10 32 56.9**	**-3.1**
	comp=Z,44nm,1.2s						
JOW				*e*Sn	**Sn**	**10 36 01.5**	**+9.2**
SNY	**Shenyang**	**15.59**	**296**	⇑P	**Pn**	**10 32 59.1**	**-2.0**
SNY				pmax	pmax		
	comp=Z,87nm,1.3s						
SNY				LR	LR		
	comp=N,184μm,11.7s						
SNY				LR	LR		
	comp=E,216μm,13.2s						
SNY				LR	LR		
	comp=Z,274μm,12.8s						
DL2	**Dalian**	**16.68**	**284**	⇑ *i*P	**Pn**	**10 33 14.5**	**-0.8**
DL2				S	**Sn**	**10 36 21.5**	**+0.4**
DL2				pmax	pmax		
	comp=Z,230nm,1.2s						
DL2				LR	LR		
	comp=N,94μm,17.9s						
DL2				LR	LR		
	comp=Z,90μm,16.2s						
OKH	**Okha**	**17.01**	**1**	*e*P	**Pn**	**10 33 19.9**	**+0.6**
OKH				*e*S	**Sn**	**10 36 26.8**	**-2.0**
OKH				pmax	pmax		
	comp=Z,10μm,12.0s						
OKH				smax			
	comp=E,15μm,12.0s						
OKH				smax			
	comp=N,18μm,9.0s						
SKR	**Severo-Kuril's**	**17.19**	**30**	*e*P	**Pn**	**10 33 28.0**	**+6.4**
SKR				pmax	pmax		
	comp=Z,1μm,1.3s						
SKR				pmax	pmax		
	comp=N,270nm,1.0s						
SKR				pmax	pmax		
	comp=E,270nm,1.0s						
SKR				pmax	pmax		
	comp=N,14μm,14.0s						
SKR				pmax	pmax		
	comp=E,12μm,14.0s						
SKR				pmax	pmax		
	comp=Z,17μm,14.0s						
SKR				MLR	MLR		
	comp=N,49μm,14.0s						
SKR				MLR	MLR		
	comp=E,122μm,14.0s						
SKR				MLR	MLR		
	comp=Z,156μm,14.0s						
SSE	**Sheshan**	**18.51**	**259**	P	**Pn**	**10 33 38.3**	**+0.2**
SSE				pP	pP	10 33 41.5	+3.4
SSE				S	**Sn**	**10 37 01.8**	**-3.8**
SSE				pmax	pmax		
	comp=Z,46nm,0.9s						
SSE				pmax	pmax		
	comp=Z,12μm,12.0s						
SSE				LR	LR		
	comp=N,197μm,17.1s						
SSE				LR	LR		
	comp=E,25μm,17.1s						
SSE				LR	LR		
	comp=Z,133μm,13.6s						
SSE	**Sheshan**	**18.51**	**259**	P	**Pn**	**10 33 38.2**	**+0.1**
	comp=Z,46nm,0.9s						
SSE				pP	pP	10 33 41.5	+3.4
SSE				S	**Sn**	**10 37 01.8**	**-3.8**
SSE	

PET				MLR	MLR	
	comp=Z,82μm,18.0s					
PET				MLR	MLR	
	comp=Z,77μm,17.0s					
NJ2	**Nanjing**	**20.03 264**	*e*P	**P**	**10 33 53.0**	**-1.7**
NJ2			pP		10 33 56.6	
NJ2			sP	sP	10 34 00.0	+5.3
NJ2			PP		10 34 07.8	
NJ2			S	**S**	**10 37 26.0**	**-15**
NJ2			pmax	pmax		
	comp=Z,15μm,4.8s					
NJ2			LR	LR		
	comp=N,179μm,20.3s,MS6.5					
NJ2			LR	LR		
	comp=E,127μm,18.2s,MS6.5					
NJ2			LR	LR		
	comp=Z,158μm,20.2s,MS6.3					
TIA	**Tai'an**	**20.42 277**	⇑P	**P**	**10 33 59.1**	**+0.2**
TIA			pmax	pmax		
	comp=Z,220nm,1.1s					
TIA			LR	LR		
	comp=N,129μm,18.1s,MS6.3					
TIA			LR	LR		
	comp=E,77μm,21.6s,MS6.3					
TIA			LR	LR		
	comp=Z,230μm,15.7s					
HIA	**Hailar**	**20.87 315**	*e*P	**P**	**10 34 00.6**	**-3.0**
	comp=Z,426nm,1.1s					
HIA			*e*S	**S**	**10 37 51.6**	**-5.4**
HIA			LR	LR		
	comp=Z,114μm,20.0s,MS6.2					
HIA	**Hailar**	**20.87 315**	*e*P	**P**	**10 34 00.6**	**-3.0**
HIA			*e*S	**S**	**10 37 51.6**	**-5.4**
HIA			pmax	pmax		
	comp=Z,426nm,1.1s					
HIA			MLR	MLR		
	comp=Z,114μm,20.0s					
BJI	**Beijing**	**20.93 288**	P	**P**	**10 34 01.3**	**-3.1**
BJI			S	**S**	**10 37 55.3**	**-3.1**
BJI			pmax	pmax		
	comp=Z,160nm,1.9s					
BJI			pmax	pmax		
	comp=Z,3μm,3.5s					
BJI			LR	LR		
	comp=N,104μm,12.2s,MS6.6					
BJI			LR	LR		
	comp=E,136μm,12.7s,MS6.6					
BJI			LR	LR		
	comp=Z,37μm,14.2s,MS5.9					
BJT	**Baijiatuau**	**20.93 288**	*e*P	**P**	**10 34 00.8**	**-3.6**
	comp=Z,300nm,0.7s					
BJT			*e*S	**S**	**10 37 55.5**	**-3.1**
BJT			LR	LR		
	comp=Z,54μm,19.0s,MS6.0					
BJT	**Baijiatuau**	**20.93 288**	*e*P	**P**	**10 34 00.8**	**-3.6**
BJT			*e*S	**S**	**10 37 55.5**	**-3.0**
BJT			pmax	pmax		
	comp=Z,299nm,0.7s					
BJT			MLR	MLR		
	comp=Z,54μm,19.0s					
TATO	**Taipei**	**21.38 243**	*e*P	**P**	**10 34 06.6**	**-2.8**
	comp=Z,988nm,1.8s,mb5.8					
TATO			LR	LR		
	comp=Z,94μm,19.0s,MS6.2					
YHNB	**Yeheng**	**21.64 243**	*e*P	**P**	**10 34 11.0**	**-1.2**
	comp=Z,394nm,1.5s,mb5.6					
YHNB			*e*S	**S**	**10 38 18.5**	**+5.8**
YHNB			LR	LR		
	comp=Z,83μm,20.0s,MS6.1					
NACB	**Ninganchiao**	**21.80 241**	*e*P	**P**	**10 34 10.3**	**-3.5**
	comp=Z,144nm,1.1s,mb5.3					
NACB			*e*S	**S**	**10 38 09.7**	**-6.0**
SSLB	**Suanglung**	**22.50 242**	*e*P	**P**	**10 34 18.4**	**-2.8**
	comp=Z,348nm,1.1s,mb5.7					
YULB	**Yu-li**	**22.51 240**	*e*P	**P**	**10 34 21.1**	**-0.3**
	comp=Z,202nm,1.1s,mb5.6					
GUMO	**Guam**	**22.96 174**	P	**P**	**10 34 28.1**	**+1.9**
	comp=Z,1μm,1.2s,mb6.3,baz=293,slow=7.7,SNR=6.9					
GUMO	**Guam**	**22.96 174**	P	**P**	**10 34 28.1**	**+1.8**
GUMO			LR	LR		
	comp=Z,40μm,19.0s,MS5.9					
GUMO	**Guam**	**22.96 174**	P	**P**	**10 34 28.1**	**+1.9**
GUMO	**Guam**	**22.96 174**	P	**P**	**10 34 29.4**	**+3.2**
	comp=Z,2μm,1.3s,mb6.5					
TPUB	**Ta-pu**	**23.03 241**	*e*P	**P**	**10 34 23.5**	**-3.5**
	comp=Z,631nm,1.1s,mb6.1					
TWG	**Pinlang**	**23.04 239**	*e*P	**P**	**10 34 27.2**	**+0.2**
	comp=Z,283nm,0.9s,mb5.8					
CLNS	**Chul'man**	**23.48 335**	*e*P	**P**	**10 34 30.3**	**-1.2**
CLNS			*e*		10 35 07.3	
CLNS			*e*		10 38 12.8	
CLNS			*e*S	**S**	**10 38 44.6**	**-1.0**
CLNS			*e*SS		10 39 26.0	
CLNS			pmax	pmax		
	comp=Z,810nm,1.3s,mb6.1					
CLNS			pmax	pmax		
	comp=N,752nm,1.5s					
CLNS			pmax	pmax		
	comp=E,485nm,1.2s					
CLNS			pmax	pmax		
	comp=Z,480nm,1.4s,mb5.8					
CLNS			pmax	pmax		
	comp=E,423nm,1.2s					
CLNS			pmax	pmax		
	comp=N,545nm,1.3s					
CLNS			smax			
	comp=N,35μm,13.4s					
CLNS			smax			
	comp=E,23μm,13.7s					
CLNS			MLR	MLR		
	comp=Z,136μm,18.0s,MS6.5					
CLNS			MLR	MLR		
	comp=N,77μm,17.0s,MS6.4					
CLNS			MLR	MLR		
	comp=E,91μm,18.0s,MS6.4					
QZH	**Quanzhou**	**23.52 247**	⇑*i*P	**P**	**10 34 29.0**	**-3.1**
QZH			S	**S**	**10 38 41.5**	**-5.1**
QZH			pmax	pmax		
	comp=Z,590nm,1.4s,mb5.9					
QZH			pmax	pmax		
	comp=Z,7μm,9.5s					
QZH			LR	LR		
	comp=N,167μm,17.0s,MS6.7					
QZH			LR	LR		
	comp=E,99μm,15.2s,MS6.7					
QZH			LR	LR		
	comp=Z,168μm,19.2s,MS6.5					
TIY	**Taiyuan**	**23.96 282**	*e*P	**P**	**10 34 35.8**	**-0.3**
TIY			LR	LR		
	comp=N,28μm,12.0s,MS6.7					
TIY			LR	LR		
	comp=E,183μm,14.1s,MS6.7					
TIY			LR	LR		
	comp=Z,187μm,15.0s,MS6.7					
HHC	**Hu-ho-hao-te**	**24.46 290**	*e*P	**P**	**10 34 38.0**	**-2.7**
HHC			pP		10 34 47.3	
HHC			sP	sP	10 34 51.4	+11
HHC			PP		10 35 13.8	
HHC			S	**S**	**10 38 51.9**	**-10**
HHC			sS	sS	10 39 05.5	+3.8
HHC			SS		10 39 41.3	
HHC			PcS	PcS	10 41 59.3	0.0
HHC			pmax	pmax		
	comp=Z,64nm,1.2s,mb5.0					
HHC			pmax	pmax		
	comp=Z,5μm,4.5s					
HHC			LR	LR		
	comp=N,69μm,10.3s,MS6.6					
HHC			LR	LR		
	comp=E,80μm,11.1s,MS6.6					
HHC			LR	LR		
	comp=Z,86μm,11.6s,MS6.5					
BTO	**Baotou**	**25.63 289**	*e*P	**P**	**10 34 49.9**	**-1.5**
BTO			S	**S**	**10 39 16.3**	**-4.2**
BTO			pmax	pmax		
	comp=Z,42nm,1.5s					
BTO			LR	LR		
	comp=N,28μm,12.6s,MS6.2					
BTO			LR	LR		
	comp=E,40μm,12.2s,MS6.2					
CIT	**Chita**	**25.63 316**	*e*P	**P**	**10 34 51.3**	**+0.1**
CIT			*e*		10 35 42.7	
CIT			*e*		10 39 19.5	
CIT			pmax	pmax		
	comp=Z,4μm,2.7s,mb6.6					
PIP	**Pasuquin**	**26.48 233**	⇑*e*P	**P**	**10 35 02.9**	**+3.7**
YAK	**Yakutsk**	**26.74 347**	*e*P	**P**	**10 35 00.3**	**-0.8**
	comp=Z,903nm,0.8s,mb6.5					
YAK			*e*S	**S**	**10 39 33.9**	**-3.7**
YAK			LR	LR		
	comp=Z,99μm,19.0s,MS6.4					
YAK	**Yakutsk**	**26.74 347**	*c i*P	**P**	**10 35 00.2**	**-0.9**
YAK			*e**PP		10 35 06.8	
YAK			*e*		10 35 43.5	
YAK			*i* S	**S**	**10 39 36.1**	**-1.4**
YAK			*e*SS		10 40 48.9	
YAK			pmax	pmax		
	comp=Z,1μm,1.7s,mb6.3					
YAK			pmax	pmax		
	comp=N,739nm,1.5s					
YAK			pmax	pmax		
	comp=E,254nm,1.5s					
YAK			pmax	pmax		
	comp=Z,3μm,3.5s					
YAK			pmax	pmax		
	comp=E,652nm,1.8s					
YAK			pmax	pmax		
	comp=N,685nm,1.6s					
YAK			smax			
	comp=N,44μm,11.4s					
YAK			smax			
	comp=E,28μm,9.4s					
YAK			MLR	MLR		
	comp=Z,133μm,13.0s,MS6.7					
YAK			MLR	MLR		
	comp=N,129μm,16.0s,MS6.6					
YAK			MLR	MLR		
	comp=E,59μm,20.0s,MS6.6					
CAUP	**Cauayan**	**26.77 229**	*e*P	**P**	**10 35 01.7**	**-0.1**
ABRA	**Dolores**	**26.92 231**	*e*P	**P**	**10 35 04.7**	**+1.6**
FX1	**Attu Island--F**	**26.95 43**	P	**P**	**10 35 03.1**	**0.0**
	comp=E,47nm,0.9s,mb5.2,baz=236,slow=11,SNR=4.8					
FX1			LR	LR	10 43 39.1	
	comp=E,53μm,19.6s,MS6.1,baz=255,slow=32					
FX1	**Attu Island--F**	**26.95 43**	P	**P**	**10 35 03.1**	**0.0**
FX1	**Attu Island--F**	**26.95 43**	P	**P**	**10 35 03.1**	**0.0**
FX1			pmax	pmax		
	comp=Z,47nm,0.9s					
WAKE	**Wake Island**	**27.29 123**	PFAKE		10 35 20.0	+14
WAKE			LR	LR		
	comp=Z,68μm,20.0s,MS6.2					
XAN	**Xi'an**	**27.45 275**	P	**P**	**10 35 06.5**	**-1.3**
XAN			pP		10 35 14.3	
XAN			S	**S**	**10 39 45.3**	**-3.9**
XAN			pmax	pmax		
	comp=Z,96nm,1.3s,mb5.4					
XAN			pmax	pmax		
	comp=Z,1μm,5.4s					
XAN			LR	LR		
	comp=N,62μm,22.1s					
XAN			LR	LR		
	comp=Z,21μm,18.2s,MS5.8					
BALP	**Baler**	**27.85 227**	*e*P	**P**	**10 35 09.9**	**-1.6**
PVCP	**Virac**	**28.15 220**	*e*P	**P**	**10 35 14.4**	**+0.2**
ENH	**Enshi**	**28.17 267**	*e*P	**P**	**10 35 13.2**	**-1.1**
	comp=Z,1μm,1.0s,mb6.7					
ENH			LR	LR		
	comp=Z,85μm,19.0s,MS6.4					
HKC	**Hong Kong Obse**	**28.34 248**	*e*P	**P**	**10 35 20.0**	**+4.1**
ULN	**Ulaanbaatar**	**28.35 305**	*e*P	**P**	**10 35 15.8**	**0.0**
	comp=Z,313nm,0.9s,mb6.1					
ULN			*e*ScP	ScP	10 41 59.1	-12
ULN			LR	LR		
	comp=Z,38μm,19.0s,MS6.0					
ULN	**Ulaanbaatar**	**28.35 305**	*e*P	**P**	**10 35 15.8**	**+0.1**
ULN			pmax	pmax		
	comp=Z,313nm,0.9s,mb6.1					
ULN			MLR	MLR		
	comp=Z,38μm,19.0s,MS6.0					
ULN	**Ulaanbaatar**	**28.35 305**	P	**P**	**10 35 16.4**	**+0.7**
	comp=Z,9μmcomp=Z,463nm,1.0s,mb6.2					
ULN	**Ulaanbaatar**	**28.35 305**	P	**P**	**10 35 16.3**	**+0.6**
	SNR=140					
BOLP	**Bolinao**	**28.37 231**	*e*P	**P**	**10 35 14.2**	**-1.9**
BOD	**Bodaibo**	**28.41 328**	*e*P	**P**	**10 35 15.3**	**-0.8**
BOD			pmax	pmax		
	comp=Z,772nm,1.4s,mb6.3					
GZH	**Guangzhou**	**28.51 250**	P	**P**	**10 35 13.1**	**-4.3**
GZH			S	**S**	**10 39 58.5**	**-7.6**
GZH			LR	LR		
	comp=N,94μm,16.1s,MS6.7					
GZH			LR	LR		
	comp=E,116μm,18.6s,MS6.7					
GZH			LR	LR		
	comp=Z,164μm,15.3s,MS6.8					
SONM	**Songino Array**	**28.78 304**	P	**P**	**10 35 20.2**	**+0.7**
	comp=Z,359nm,0.9s,mb6.2,baz=106,slow=8.7,SNR=173					
SONM			LR	LR	10 47 42.3	
	comp=Z,43μm,18.4s,MS6.1,baz=100,slow=38					
SONM	**Songino Array**	**28.78 304**	P	**P**	**10 35 20.2**	**+0.7**
SONM	**Songino Array**	**28.78 304**	P	**P**	**10 35 20.2**	**+0.6**
SONM			pmax	pmax		
	comp=Z,359nm,0.9s					
SONM			MLR	MLR		
	comp=Z,43μm,18.4s					
SCZP	**Santa Cruz**	**28.83 230**	*e*P	**P**	**10 35 21.5**	**+1.2**
BOAC	**Boac**	**29.52 224**	*e*P	**P**	**10 35 26.0**	**-0.4**
TGY	**Tagaytay City**	**29.52 226**	P	**P**	**10 35 25.9**	**-0.4**
	comp=Z,192nm,0.6s,mb6.1,baz=190,slow=11,SNR=4.9					
TGY			LR	LR	10 45 12.2	
	comp=Z,70nm,21.7s,baz=233,slow=32					
TGY	**Tagaytay City**	**29.52 226**	P	**P**	**10 35 25.9**	**-0.4**
TGY	**Tagaytay City**	**29.52 226**	P	**P**	**10 35 25.9**	**-0.5**
TGY			pmax	pmax		
	comp=Z,192nm,0.6s					
PLP	**Palo**	**29.82 216**	⇓*e*P	**P**	**10 35 25.9**	**-3.1**
LUBP	**Lubang**	**30.22 227**	*e*P	**P**	**10 35 32.3**	**-0.3**
OTRP	**Odiongan**	**30.32 223**	*e*P	**P**	**10 35 33.4**	**-0.1**
RCP	**Roxas**	**30.60 221**	⇑*e*P	**P**	**10 35 35.8**	**-0.1**
MSLP	**Maasin**	**30.77 216**	*e*P	**P**	**10 35 36.6**	**-0.8**
LZH	**Lanzhou**	**31.01 281**	⇑P	**P**	**10 35 39.3**	**-0.2**
LZH			pP		10 35 42.5	
LZH			sP	sP	10 35 43.9	+4.4
LZH			PP	PP	10 36 41.3	-8.0
LZH			S	**S**	**10 40 43.0**	**-2.3**
LZH			sS	sS	10 40 49.5	+4.2
LZH			pmax	pmax		
	comp=Z,880nm,1.2s,mb6.6					
LZH			pmax	pmax		
	comp=Z,5μm,5.0s					
LZH			LR	LR		
	comp=N,84μm,13.2s,MS6.9					
LZH			LR	LR		
	comp=E,183μm,14.6s,MS6.9					
LZH			LR	LR		
	comp=Z,201μm,15.5s,MS6.9					
LZH	**Lanzhou**	**31.01 281**	⇑P	**P**	**10 35 39.3**	**-0.2**
	comp=Z,885nm,1.2s,mb6.6					
LZH			pP		10 35 42.5	
LZH			sP	sP	10 35 43.9	+4.4
LZH			PP	PP	10 36 41.2	-8.1
LZH			S	**S**	**10 40 43.0**	**-2.3**
LZH			sS	sS	10 40 49.5	+4.2
LZH			SS	SS	10 42 26.2	-31
LZH			LR	LR		
	comp=Z,201μm,15.5s,MS6.9					
LZH	**Lanzhou**	**31.01 281**	⇑P	**P**	**10 35 39.3**	**-0.2**
LZH					10 36 41.2	
LZH			S	**S**	**10 40 43.0**	**-2.3**
LZH			SS	SS	10 42 26.2	-31
LZH			pmax	pmax		
	comp=Z,885nm,1.2s,mb6.6					
LZH			MLR	MLR		
	comp=Z,201μm,15.5s,MS6.9					
IRK	**Irkutsk**	**31.07 313**	*e*P	**P**	**10 35 39.2**	**-0.6**
IRK			pmax	pmax		
	comp=Z,620nm,3.0s					
ZAK	**Zakamensk**	**31.26 309**	⇑*i*P	**P**	**10 35 41.7**	**+0.3**
ZAK			*e*		10 38 43.6	
ZAK			pmax	pmax		
	comp=Z,245nm,1.1s,mb6.0					
TLY	**Talaya**	**31.31 311**	*e*P	**P**	**10 35 42.0**	**+0.2**
	comp=Z,289nm,1.3s,mb6.0					
TLY			LR	LR		
	comp=Z,61μm,19.0s,MS6.3					
TLY	**Talaya**	**31.31 311**	*i* P	**P**	**10 35 42.0**	**+0.1**
TLY			*e*		10 36 47.1	
TLY			*e*S	**S**	**10 40 51.8**	**+2.2**
TLY			*e*SSS		10 42 59.6	
TLY			pmax	pmax		
	comp=Z,221nm,1.1s,mb6.0					
TLY			MLR	MLR		
	comp=Z,38μm,15.0s,MS6.2					
TLY	**Talaya**	**31.31 311**	P	**P**	**10 35 42.6**	**+0.7**
	SNR=54					
TLY	**Talaya**	**31.31 311**	P	**P**	**10 35 42.1**	**+0.2**
	comp=Z,995nm,1.8s,mb6.4,SNR=34					
BUTP	**Butuan**	**31.45 213**	*e*P	**P**	**10 35 43.3**	**-0.1**
GUIM	**Jordan**	**31.47 220**	*e*P	**P**	**10 35 43.9**	**+0.3**
BUSP	**Coron**	**31.63 225**	*e*P	**P**	**10 35 43.8**	**-1.2**
GYA	**Guiyang**	**32.01 262**	⇑*i*P	**P**	**10 35 47.3**	**-1.0**
GYA			PcP	PcP	10 38 39.5	+1.2
GYA			S	**S**	**10 40 57.6**	**-3.4**
GYA			ScP	ScP	10 42 21.4	-1.6
GYA			SS	SS	10 42 50.0	-28
GYA			pmax	pmax		
	comp=Z,140nm,1.0s,mb5.8					
GYA			pmax	pmax		
	comp=Z,5μm,5.8s					
GYA			LR	LR		
	comp=N,106μm,20.2s,MS6.6					
GYA			LR	LR		
	comp=E,80μm,22.4s,MS6.6					
GYA			LR	LR		
	comp=Z,79μm,23.3s,MS6.3					
CUYO	**Cuyo Island**	**32.11 223**	*e*P	**P**	**10 35 56.1**	**+6.8**
CD2	**Chengdu**	**32.55 272**	⇓*i*P	**P**	**10 35 52.4**	**-0.7**
CD2			pP		10 35 57.0	
CD2			sP	sP	10 35 59.8	+6.7
CD2			PcP	PcP	10 38 39.8	+0.1
CD2			S	**S**	**10 41 05.3**	**-4.1**
CD2			sS	sS	10 41 12.5	+3.0
CD2			PcS	PcS	10 42 23.6	-1.2
CD2			SS	SS	10 43 00.4	-29
CD2			ScS	ScS	10 46 19.4	-4.9
CD2			pmax	pmax		
	comp=Z,300nm,1.2s,mb6.1					
CD2			pmax	pmax		
	comp=Z,6μm,12.0s					
CD2			LR	LR		
	comp=N,128μm,12.0s,MS6.9					
CD2			LR	LR		
	comp=E,118μm,14.4s,MS6.9					
CD2			LR	LR		
	comp=Z,73μm,15.6s,MS6.5					
BUKP	**Musuan**	**32.66 213**	*e*P	**P**	**10 35 53.6**	**-0.5**
MOY	**Mondy**	**32.92 311**	*e*P	**P**	**10 35 55.8**	**-0.2**
MOY			pmax	pmax		
	comp=Z,651nm,3.1s					
MATI	**Mati**	**32.99 211**	*e*P	**P**	**10 35 55.6**	**-1.3**
DAV	**Davao City (W)**	**33.16 212**	P	**P**	**10 35 57.4**	**-1.1**
	comp=Z,225nm,0.4s,mb6.5,baz=58,slow=11,SNR=7.8					
DAV	**Davao City (W)**	**33.16 212**	*e*P	**P**	**10 35 58.2**	**-0.3**
	comp=Z,488nm,0.8s,mb6.5					
DAV			LR	LR		
	comp=Z,29μm,20.0s,MS6.0					
DAV	**Davao City (W)**	**33.16 212**	P	**P**	**10 36 05.9**	**+7.4**
DAV	**Davao City (W)**	**33.16 212**	⇓*e*P	**P**	**10 36 02.3**	**+3.8**
DAV	**Davao City (W)**	**33.16 212**	P	**P**	**10 35 58.3**	**-0.2**
	SNR=18					
PAGZ	**Pagadian**	**33.46 216**	*e*P	**P**	**10 36 00.4**	**-0.7**
QIZ	**Qiongzhong**	**33.54 248**	P	**P**	**10 36 02.3**	**+0.6**
QIZ			sP	sP	10 36 05.4	+3.6
QIZ			S	**S**	**10 41 23.4**	**-1.5**
QIZ			pmax	pmax		
	comp=Z,190nm,1.3s,mb5.9					
QIZ			pmax	pmax		
	comp=Z,5μm,10.5s					
QIZ			LR	LR		
	comp=N,72μm,20.3s,MS6.4					
QIZ			LR	LR		
	comp=E,29μm,18.4s,MS6.4					
QIZ			LR	LR		
	comp=Z,62μm,12.9s					
QIZ	**Qiongzhong**	**33.54 248**	*e*P	**P**	**10 36 01.7**	**-0.1**
	comp=Z,342nm,1.2s,mb6.2					
QIZ			*e*S	**S**	**10 41 26.6**	**+1.7**
QIZ			LR	LR		
	comp=Z,43μm,20.0s,MS6.2					
GTA	**Gaotai**	**33.54 288**	P	**P**	**10 36 01.8**	**+0.2**
GTA			pP		10 36 06.5	
GTA			sP	sP	10 36 09.4	+7.7
GTA			PcP	PcP	10 38 44.5	+2.2
GTA			S	**S**	**10 41 21.0**	**-3.6**
GTA			sS	sS	10 41 30.1	+5.4
GTA			pmax	pmax		
	comp=Z,57nm,1.4s,mb5.3					
GTA			pmax	pmax		
	comp=Z,6μm,4.7s					
GTA			LR	LR		
	comp=N,141μm,16.9s,MS6.8					
GTA			LR	LR		
	comp=E,50μm,19.5s,MS6.8					
GTA			LR	LR		
	comp=Z,54μm,22.6s,MS6.2					
CTBH	**Cotabato--PC H**	**33.61 214**	⇑*e*P	**P**	**10 36 02.2**	**-0.2**
BILL	**Bilibino**	**34.25 16**	*e*P	**P**	**10 36 06.6**	**-0.8**
	comp=Z,337nm,1.4s,mb6.1					
BILL			LR	LR		
	comp=Z,44μm,20.0s,MS6.2					
BILL	**Bilibino**	**34.25 16**	*c i*P	**P**	**10 36 06.6**	**-0.8**
BILL			*i*		10 36 12.0	
BILL			*i* S	**S**	**10 41 33.8**	**-1.2**
BILL			pmax	pmax		
	comp=Z,1μm,1.8s,mb6.4					
BILL			pmax	pmax		
	comp=Z,332nm,1.4s,mb6.1					
BILL			MLR	MLR		
	comp=Z,58μm,20.0s,MS6.3					
MIDW	**Midway**	**34.69 92**	PFAKE		10 36 20.0	+8.3
MIDW			LR	LR		
	comp=Z,36μm,20.0s,MS6.1					
BATP	**Bataraza**	**35.59 225**	*e*P	**P**	**10 36 19.8**	**+0.3**
KMI	**Kunming**	**35.76 263**	P	**P**	**10 36 20.8**	**-0.1**
KMI			pP		10 36 23.9	
KMI			PP	PP	10 37 41.4	-0.6
KMI			S	**S**	**10 41 56.5**	**-2.6**
KMI			sS	sS	10 42 01.3	+2.2
KMI			pmax	pmax		
	comp=Z,240nm,1.1s,mb5.9					
KMI			pmax	pmax		
	comp=Z,2μm,3.8s					
KMI			LR	LR		
	comp=N,58μm,16.5s,MS6.6					
KMI			LR	LR		
	comp=E,74μm,19.1s,MS6.6					
KMI			LR	LR		
	comp=Z,101μm,21.6s,MS6.5					
KMI	**Kunming**	**35.76 263**	P	**P**	**10 36 20.7**	**-0.2**
	comp=Z,239nm,1.1s,mb5.9					
KMI			pP		10 36 23.9	
KMI			sP	sP	10 36 24.8	+3.8
KMI			PP	PP	10 37 41.4	-0.6
KMI			PPP		10 38 00.5	
KMI			S	**S**	**10 41 56.5**	**-2.6**
KMI			sS	sS	10 42 01.3	+2.2
KMI			SS	SS	10 44 20.0	-14
KMI			SSS		10 44 44.3	
KMI			LR	LR		
	comp=Z,101μm,21.6s,MS6.5					
KMI	**Kunming**	**35.76 263**	P	**P**	**10 36 20.7**	**-0.2**
KMI					10 37 41.4	
KMI			PPP		10 38 00.5	
KMI			S	**S**	**10 41 56.5**	**-2.6**
KMI			SS	SS	10 44 20.0	-14
KMI			SSS		10 44 44.3	
KMI			pmax	pmax		
	comp=Z,239nm,1.1s,mb5.9					
KMI			MLR	MLR		
	comp=Z,101μm,21.6s,MS6.5					
SGSI	**Sangihe**	**36.24 210**	P	**P**	**10 36 27.1**	**+2.0**
	comp=Z,1μm,1.4s,mb6.6					
NIKO	**Nikolski**	**37.44 48**	*e*P	**P**	**10 36 35.2**	**+0.2**
	comp=Z,99nm,0.8s,mb5.6					
BAKI	**Biak**	**38.01 190**	P	**P**	**10 36 42.0**	**+1.9**
	comp=Z,455nm,1.1s,mb6.1					
MYLDM	**Lahad Datu**	**38.20 221**	P	**P**	**10 36 43.3**	**+1.6**
	comp=Z,562nm,1.4s,mb6.1					
MYLDM	**Lahad Datu**	**38.20 221**	P	**P**	**10 36 43.0**	**+1.2**
	comp=Z,577nm,1.2s,mb6.2					
TNTI	**Ternate**	**38.26 205**	P	**P**	**10 36 42.3**	**+0.1**
	comp=Z,451nm,1.3s,mb6.0					
TNTI	**Ternate**	**38.26 205**	P	**P**	**10 36 41.8**	**-0.4**
	comp=Z,594nm,1.4s,mb6.1					
SMPI	**Sarmi**	**38.50 186**	P	**P**	**10 36 45.2**	**+1.0**
	comp=Z,811nm,1.2s,mb6.2					

GAMB	**Gambell**	**38.69**	**31**	*e*P	**P**	**10 36 47.0 +1.7**
	comp=Z,7.9nm,0.8s					
KKM	**Kota Kinabalu**	**38.73**	**225**	*e*P	**P**	**10 36 46.3 +0.1**
	comp=Z,760nm,1.5s,mb6.1					
KKM				LR	LR	
	comp=Z,20μm,20.0s,MS5.9					
KKM	**Kota Kinabalu**	**38.73**	**225**	P	**P**	**10 36 48.3 +2.0**
	comp=Z,302nm,2.0s,mb5.6					
KKM	**Kota Kinabalu**	**38.73**	**225**	P	**P**	**10 36 47.5 +1.2**
	comp=Z,330nm,1.7s,mb5.7					
JAY	**Jayapura**	**38.90**	**183**	P	**P**	**10 36 49.9 +2.3**
	comp=Z,10μmcomp=Z,217nm,1.2s,mb5.7					
UNV	**Unalaska Valle**	**38.93**	**47**	P	**P**	**10 36 46.1 -1.4**
	comp=Z,20nm,0.8s					
UBT	**Ubonrachathani**	**39.49**	**247**	⇑P	**P**	**10 36 54.0 +1.4**
LBMI	**Labuha**	**39.53**	**204**	P	**P**	**10 36 54.4 +1.5**
	comp=Z,478nm,1.1s,mb6.0					
LBMI	**Labuha**	**39.53**	**204**	P	**P**	**10 36 54.3 +1.4**
	comp=Z,806nm,1.7s,mb6.1					
KMSI	**Cibinong**	**39.70**	**210**	P	**P**	**10 36 55.8 +1.5**
	comp=Z,2μm,0.9s,mb6.6					
GTOI	**Gorontalo**	**40.04**	**211**	P	**P**	**10 36 56.4 -0.7**
	comp=Z,702nm,0.9s,mb6.3					
GTOI	**Gorontalo**	**40.04**	**211**	P	**P**	**10 36 55.9 -1.2**
	comp=Z,858nm,1.1s,mb6.3					
FAKI	**Fak Fak**	**40.41**	**196**	P	**P**	**10 37 00.2 0.0**
	comp=Z,10μmcomp=Z,320nm,1.5s,mb5.7					
MRSI	**Marisa**	**40.64**	**213**	P	**P**	**10 37 01.9 -0.2**
	comp=Z,766nm,1.2s,mb6.3					
MRSI	**Marisa**	**40.64**	**213**	P	**P**	**10 37 02.2 +0.1**
	comp=Z,766nm,1.2s,mb6.3					
TNA	**Tin City**	**40.85**	**29**	*e*P	**P**	**10 37 03.5 +0.2**
	comp=Z,182nm,1.4s,mb5.6					
LUWI	**Luwuk**	**41.65**	**211**	P	**P**	**10 37 09.9 -0.6**
	comp=Z,8μmcomp=Z,404nm,1.2s,mb6.0					
MSAI	**Masohi**	**41.66**	**201**	P	**P**	**10 37 12.8 +2.3**
	comp=Z,4μmcomp=Z,221nm,1.5s,mb5.7					
MSAI	**Masohi**	**41.66**	**201**	P	**P**	**10 37 11.4 +0.9**
	comp=Z,4μmcomp=Z,221nm,1.5s,mb5.7					
WMQ	**Urumqi**	**41.84**	**298**	P	**P**	**10 37 12.1 +0.4**
WMQ				pP		10 37 16.6
WMQ				sP	sP	10 37 19.1 +7.3
WMQ				PP	PP	10 38 51.9 +3.7
WMQ				S	**S**	**10 43 28.4 -2.0**
WMQ				SS	SS	10 46 28.5 -7.5
WMQ				pmax	pmax	
	comp=Z,430nm,2.2s,mb5.8					
WMQ				pmax	pmax	
	comp=Z,10μm,3.4s					
WMQ				LR	LR	
	comp=N,262μm,17.8s,MS7.2					
WMQ				LR	LR	
	comp=E,70μm,19.0s,MS7.2					
WMQ				LR	LR	
	comp=Z,64μm,21.2s,MS6.5					
CHTO	**Chiang Mai**	**42.03**	**257**	*e*P	**P**	**10 37 12.8 -0.7**
	comp=Z,76nm,0.8s,mb5.5					
CHTO				*e*S	**S**	**10 43 36.0 +2.3**
CHTO				LR	LR	
	comp=Z,30μm,20.0s,MS6.2					
CHTO	**Chiang Mai**	**42.03**	**257**	*e*P	**P**	**10 37 12.8 -0.7**
CHTO				*e*S	**S**	**10 43 36.0 +2.3**
CHTO				pmax	pmax	
	comp=Z,76nm,0.8s,mb5.5					
CHTO				MLR	MLR	
	comp=Z,30μm,20.0s,MS6.2					
CHTO	**Chiang Mai**	**42.03**	**257**	P	**P**	**10 37 13.4 -0.1**
	comp=Z,5μmcomp=Z,151nm,1.3s,mb5.6					
CHTO	**Chiang Mai**	**42.03**	**257**	P	**P**	**10 37 13.4 -0.2**
	SNR=34					
NLAI	**Namlea**	**42.11**	**203**	P	**P**	**10 37 16.0 +1.8**
	comp=Z,7μmcomp=Z,300nm,1.1s,mb5.9					
NLAI	**Namlea**	**42.11**	**203**	P	**P**	**10 37 15.4 +1.2**
	comp=Z,7μmcomp=Z,300nm,1.1s,mb5.9					
AAI	**Ambon**	**42.20**	**202**	P	**P**	**10 37 15.7 +0.8**
	comp=Z,662nm,1.0s,mb6.3					
AAI	**Ambon**	**42.20**	**202**	P	**P**	**10 37 15.4 +0.5**
	comp=Z,663nm,1.0s,mb6.3					
CM31	**Chiang Mai Arr**	**42.23**	**257**	*e*P	**P**	**10 37 15.3 +0.2**
	comp=Z,67nm,0.8s,mb5.4					
CM31				LR	LR	
	comp=Z,32μm,21.0s,MS6.2					
CMAR	**Chiang Mai Arr**	**42.23**	**257**	P	**P**	**10 37 15.0 -0.2**
	comp=Z,26nm,0.9s,mb5.0,baz=44,slow=6.6,SNR=61					
CMAR				LR	LR	10 57 13.6
	comp=Z,29μm,19.0s,MS6.2,baz=62,slow=40					
CMAR	**Chiang Mai Arr**	**42.23**	**257**	P	**P**	**10 37 15.0 -0.2**
CMAR	**Chiang Mai Arr**	**42.23**	**257**	P	**P**	**10 37 15.0 -0.2**
CMAR				pmax	pmax	
	comp=Z,26nm,0.9s					
CMAR				MLR	MLR	
	comp=Z,29μm,19.0s					
ZAA0	**Zalesovo Array**	**42.89**	**313**	*e*P	**P**	**10 37 19.4 -0.7**
ZAA0				*e*PcP	PcP	10 39 12.8 +1.9
ZAA0				*e*S	**S**	**10 43 49.2 +3.7**
ZALV	**Zalesovo Beam**	**42.89**	**313**	P	**P**	**10 37 19.5 -0.6**
	comp=Z,174nm,0.8s,mb5.8,baz=97,slow=7.4,SNR=118					
ZALV				PcP	PcP	10 39 14.4 +3.5
	comp=Z,63nm,0.8s,baz=92,slow=3.1,SNR=4.0					
ZALV				LR	LR	10 54 52.2
	comp=Z,31μm,18.6s,MS6.2,baz=88,slow=36					
ZALV	**Zalesovo Beam**	**42.89**	**313**	P	**P**	**10 37 19.5 -0.6**
ZALV				PcP	PcP	10 39 14.4 +3.5
ZALV	**Zalesovo Beam**	**42.89**	**313**	P	**P**	**10 37 19.5 -0.6**
ZALV						10 39 14.4
ZALV				pmax	pmax	
	comp=Z,175nm,0.9s,mb5.8					
ZALV				MLR	MLR	
	comp=Z,31μm,18.6s,MS6.2					
TLE	**Tual**	**42.95**	**194**	P	**P**	**10 37 21.7 +0.7**
	comp=Z,761nm,1.1s,mb6.3					
IMP	**Imphal**	**42.99**	**268**	*e*PKP	**P**	**10 37 23.0 +1.7**
IMP				*ex*	x	10 43 43.0
LSA	**Lhasa**	**43.13**	**276**	P	**P**	**10 37 23.3 +0.9**
LSA				pP		10 37 32.0
LSA				S	**S**	**10 43 48.9 -0.8**
LSA				LR	LR	
	comp=N,26μm,23.2s					
LSA				LR	LR	
	comp=E,45μm,14.3s					
LSA				LR	LR	
	comp=Z,50μm,33.2s					
LSA	**Lhasa**	**43.13**	**276**	*e*P	**P**	**10 37 23.1 +0.7**
	comp=Z,184nm,1.0s,mb5.8					
LSA				*e*S	**S**	**10 44 00.9 +11**
LSA				LR	LR	
	comp=Z,33μm,20.0s,MS6.2					
LSA	**Lhasa**	**43.13**	**276**	*e*P	**P**	**10 37 23.1 +0.7**
LSA				pmax	pmax	
	comp=Z,184nm,1.0s,mb5.8					
LSA				MLR	MLR	
	comp=Z,33μm,20.0s,MS6.2					
SMKI	**Samarinda**	**43.66**	**218**	P	**P**	**10 37 29.4 +2.6**
	comp=Z,434nm,1.7s,mb5.9					
SMKI	**Samarinda**	**43.66**	**218**	P	**P**	**10 37 28.5 +1.7**
	comp=Z,545nm,1.5s,mb6.1					
CHGN	**Chignik**	**43.71**	**44**	*e*P	**P**	**10 37 27.2 +0.4**
NVS	**Novosibirsk**	**43.81**	**314**	⇑*i*P	**P**	**10 37 26.7 -0.8**
NVS				*e*S	**S**	**10 44 00.3 +1.3**
NVS				pmax	pmax	
	comp=N,61nm,1.2s					
NVS				pmax	pmax	
	comp=E,282nm,1.2s					
NVS				pmax	pmax	
	comp=Z,360nm,1.2s,mb6.0					
NVS				smax		
	comp=N,52nm,1.9s					
NVS				smax		
	comp=E,192nm,1.9s					
SBUM	**Sibu**	**43.95**	**227**	P	**P**	**10 37 29.0 -0.1**
	comp=E,5μmcomp=E,183nm,1.2s,mb5.7					
SHL	**Shillong**	**44.28**	**270**	*e*PKP	**P**	**10 37 31.8 0.0**
SHL				*ex*	x	10 44 15.0
KDI	**Kendari**	**44.37**	**209**	P	**P**	**10 37 32.7 +0.3**
	comp=E,7μmcomp=E,78nm,1.2s,mb5.3					
KDI	**Kendari**	**44.37**	**209**	P	**P**	**10 37 32.2 -0.2**
	comp=E,7μmcomp=E,220nm,1.3s,mb5.7					
TTSI	**Tana Toraja**	**44.71**	**213**	P	**P**	**10 37 35.7 +0.5**
	comp=E,4μmcomp=E,156nm,1.4s,mb5.7					
TTSI	**Tana Toraja**	**44.71**	**213**	P	**P**	**10 37 35.4 +0.2**
	comp=E,4μmcomp=E,156nm,1.4s,mb5.7					
MK31	**Makanchi Array**	**45.12**	**303**	*e*P	**P**	**10 37 37.8 -0.3**
MK31	**Makanchi Array**	**45.12**	**303**	*e*P	**P**	**10 37 37.8 -0.3**
MKAR	**Makanchi Array**	**45.12**	**303**	P	**P**	**10 37 37.9 -0.2**
	comp=E,374nm,1.1s,mb6.2,baz=86,slow=9.9,SNR=117					
MKAR				LR	LR	10 56 32.6
	comp=E,20μm,21.0s,MS6.0,baz=294,slow=36					
MKAR	**Makanchi Array**	**45.12**	**303**	P	**P**	**10 37 37.9 -0.2**
MKAR	**Makanchi Array**	**45.12**	**303**	P	**P**	**10 37 37.9 -0.2**
MKAR				pmax	pmax	
	comp=Z,374nm,1.1s					
MKAR				MLR	MLR	
	comp=Z,20μm,21.0s					
SVW2	**Sparrevohn**	**45.38**	**37**	*e*P	**P**	**10 37 42.1 +2.1**
	comp=Z,152nm,1.4s,mb5.7					
MJSI	**Majene**	**45.53**	**214**	P	**P**	**10 37 41.5 -0.2**
	comp=Z,7μmcomp=Z,580nm,1.0s,mb6.5					
SPSI	**Sidrap Palu**	**45.55**	**213**	P	**P**	**10 37 41.2 -0.7**
	comp=Z,7μmcomp=Z,411nm,1.2s,mb6.3					
AGT	**Agartala**	**45.57**	**269**	*ex*	**P**	**10 37 39.0 -3.0**
AGT				*ex*	x	10 39 00.0
BBSI	**Bau Bau**	**45.79**	**208**	P	**P**	**10 37 43.8 +0.1**
	comp=Z,731nm,1.2s,mb6.6					
BNSI	**Bone**	**45.80**	**212**	P	**P**	**10 37 43.7 -0.1**
	comp=Z,829nm,1.1s,mb6.7					
KSM	**Kuching**	**45.86**	**228**	*e*P	**P**	**10 37 44.5 +0.2**
	comp=Z,471nm,1.4s,mb6.3					
KSM				*e*S	**S**	**10 44 29.0 -0.6**
KSM				LR	LR	
	comp=Z,10μm,22.0s,MS5.7					
KSM	**Kuching**	**45.86**	**228**	P	**P**	**10 37 44.0 -0.4**
	comp=Z,9μmcomp=Z,286nm,1.3s,mb6.2					
PMG	**Port Moresby**	**45.91**	**174**	P	**P**	**10 37 45.2 +0.5**
	comp=Z,340nm,1.1s,mb6.3,baz=358,slow=11,SNR=10					
PMG				LR	LR	10 53 36.4
	comp=Z,11μm,20.2s,MS5.8,baz=202,slow=32					
PMG	**Port Moresby**	**45.91**	**174**	P	**P**	**10 37 45.2 +0.5**
	comp=Z,26nm,1.2s,mb5.1					
PMG				*e*S	**S**	**10 44 27.2 -3.0**
PMG	**Port Moresby**	**45.91**	**174**	*c i*P	**P**	**10 37 43.7 -1.0**
PMG	**Port Moresby**	**45.91**	**174**	P	**P**	**10 37 45.3 +0.6**
	comp=Z,10μmcomp=Z,398nm,1.3s,mb6.3					
STKI	**Sintang**	**46.31**	**225**	P	**P**	**10 37 47.7 -0.2**
	comp=Z,547nm,1.1s,mb6.5					
KAPI	**Kappang**	**46.50**	**212**	LR	LR	10 56 55.0
	comp=Z,16μm,19.3s,MS6.0,baz=21,slow=36					
KAPI	**Kappang**	**46.50**	**212**	*e*P	**P**	**10 37 48.0 -1.4**
	comp=Z,667nm,1.1s,mb6.6					
KAPI	**Kappang**	**46.50**	**212**	P	**P**	**10 37 49.4 +0.1**
	comp=Z,655nm,1.3s,mb6.5					
KAPI	**Kappang**	**46.50**	**212**	P	**P**	**10 37 49.0 -0.3**
	SNR=41					
OHAK	**Old Harbor**	**46.52**	**42**	*e*P	**P**	**10 37 48.8 -0.2**
	comp=Z,234nm,1.3s,mb6.2					
BKSI	**Bulukumba**	**46.62**	**211**	P	**P**	**10 37 50.1 -0.2**
	comp=Z,6μmcomp=Z,316nm,1.0s,mb6.4					
KBKI	**Kotabaru**	**46.64**	**218**	P	**P**	**10 37 50.5 +0.1**
	comp=Z,8μmcomp=Z,248nm,1.2s,mb6.2					
JOHN	**Johnston Islan**	**46.66**	**102**	PFAKE		10 38 00.0 +9.3
JOHN				LR	LR	
	comp=Z,48μm,21.0s,MS6.4					
RSO	**Redoubt South**	**46.75**	**38**	*e*P	**P**	**10 37 51.4 +0.6**
	comp=Z,370nm,1.0s,mb6.5					
PLKI	**Palangkaraya**	**46.85**	**221**	P	**P**	**10 37 51.5 -0.6**
	comp=Z,590nm,1.0s,mb6.7					
TAPN	**Taplejung**	**46.85**	**275**	*e*P	**P**	**10 37 52.3 +0.2**
	comp=Z,2μm,1.4s					
TAPN	**Taplejung**	**46.85**	**275**	*e*P	**P**	**10 37 52.3 +0.2**
	comp=Z,2μm,1.4s					
KDAK	**Kodiak Island**	**46.88**	**42**	P	**P**	**10 37 50.2 -1.6**
	comp=Z,60nm,0.6s,mb5.9,baz=273,slow=8.0,SNR=33					
KDAK				LR	LR	10 57 06.1
	comp=Z,44μm,20.9s,MS6.4,baz=259,slow=36					
KDAK	**Kodiak Island**	**46.88**	**42**	*e*P	**P**	**10 37 50.4 -1.4**
	comp=Z,137nm,0.7s,mb6.2					
KDAK	**Kodiak Island**	**46.88**	**42**	*i* P	**P**	**10 37 51.3 -0.6**
KDAK	**Kodiak Island**	**46.88**	**42**	P	**P**	**10 37 51.0 -0.9**
	comp=Z,1μm,0.7s,mb7.2,SNR=17					
KURK	**Kurchatov**	**46.92**	**309**	P	**P**	**10 37 52.2 -0.1**
	comp=Z,305nm,0.9s,mb6.4,baz=84,slow=7.9,SNR=214					
KURK				LR	LR	10 58 19.7
	comp=Z,51μm,19.9s,MS6.5,baz=80,slow=37					
KURK	**Kurchatov**	**46.92**	**309**	P	**P**	**10 37 52.2 -0.1**
	comp=Z,59nm,1.0s,mb5.7					
KURK				*e*S	**S**	**10 44 42.0 -2.1**
KURK	**Kurchatov**	**46.92**	**309**	*ce*P	**P**	**10 37 51.7 -0.6**
KURK				pmax	pmax	
	comp=Z,548nm,1.0s,mb6.6					
KURK				MLR	MLR	
	comp=Z,59μm,19.0s,MS6.6					
KURK	**Kurchatov**	**46.92**	**309**	P	**P**	**10 37 52.1 -0.2**
	SNR=221					
KURK	**Kurchatov**	**46.92**	**309**	P	**P**	**10 37 51.9 -0.4**
	comp=Z,3μm,1.0s,mb7.3					
PPLA	**Purkeypile**	**47.07**	**35**	*e*P	**P**	**10 37 54.0 +0.7**
	comp=Z,642nm,1.5s,mb6.5					
PPLA				*e*S	**S**	**10 44 52.8 +6.9**
ODAN	**Odare**	**47.32**	**275**	*e*P	**P**	**10 37 55.6 -0.1**
	comp=Z,1μm,1.4s,mb6.8					
ODAN	**Odare**	**47.32**	**275**	*e*P	**P**	**10 37 55.6 -0.1**
	comp=Z,1μm,1.4s,mb6.8					
BBKI	**Banjar Baru**	**47.44**	**219**	P	**P**	**10 37 55.8 -0.9**
	comp=Z,1μm,1.1s,mb6.9					
RAMN	**Ramite**	**47.91**	**275**	*e*P	**P**	**10 38 00.4 0.0**
	comp=Z,715nm,0.9s,mb6.8					
RAMN	**Ramite**	**47.91**	**275**	*e*P	**P**	**10 38 00.4 0.0**
	comp=Z,715nm,0.9s,mb6.8					
JIRN	**Jiri**	**47.94**	**276**	*e*P	**P**	**10 38 01.0 +0.5**
	comp=Z,317nm,0.8s,mb6.5					
JIRN	**Jiri**	**47.94**	**276**	*e*P	**P**	**10 38 01.0 +0.5**
	comp=Z,317nm,0.8s,mb6.5					
TRF	**Thorofare Moun**	**47.95**	**34**	*e*P	**P**	**10 38 00.8 +0.7**
	comp=Z,294nm,1.3s,mb6.2					
TRF				*e*S	**S**	**10 44 55.4 -3.0**
SLKM	**Skilak Lake**	**48.00**	**38**	*e*P	**P**	**10 38 00.7 +0.1**
SLKM	**Skilak Lake**	**48.00**	**38**	*e*P	**P**	**10 38 00.7 +0.2**
GUN	**Gumba**	**48.08**	**277**	*e*P	**P**	**10 38 01.7 +0.1**
GUN	**Gumba**	**48.08**	**277**	*e*P	**P**	**10 38 01.7 +0.1**
COLD	**Coldfoot**	**48.16**	**29**	*e*P	**P**	**10 38 01.8 +0.2**
	comp=Z,37nm,0.9s,mb5.5					
RC01	**Rabbit Creek A**	**48.22**	**37**	*e*P	**P**	**10 38 01.8 -0.5**
	comp=Z,248nm,1.2s,mb6.2					
SEW	**Seward**	**48.40**	**38**	*e*P	**P**	**10 38 03.7 0.0**
	comp=Z,268nm,1.2s,mb6.2					
PBKI	**Pangkalan Bun**	**48.48**	**223**	P	**P**	**10 38 04.6 -0.2**
	comp=Z,9μmcomp=Z,623nm,1.1s,mb6.6					
PMR	**Palmer**	**48.50**	**36**	*e*P	**P**	**10 38 05.1 +0.7**
	comp=Z,530nm,2.2s,mb6.3					
PMR	**Palmer**	**48.50**	**36**	*e*P	**P**	**10 38 05.1 +0.7**
PMR				pmax	pmax	
	comp=Z,530nm,2.2s,mb6.3					
MCK	**McKinley**	**48.55**	**34**	*e*P	**P**	**10 38 04.7 -0.1**
	comp=Z,97nm,0.9s,mb5.8					
MCK				*e*S	**S**	**10 45 01.9 -5.1**
MCK	**McKinley**	**48.55**	**34**	*e*P	**P**	**10 38 04.7 -0.1**
MCK				*e*S	**S**	**10 45 01.9 -5.1**
MCK				pmax	pmax	
	comp=Z,97nm,0.9s,mb5.8					
CAL	**Calcutta**	**48.57**	**269**	*e*PKP	**P**	**10 38 03.4 -2.1**
CAL				*ex*	x	10 45 14.3
HNR	**Honiara**	**48.59**	**157**	*e*P	**P**	**10 38 06.1 +0.6**
	comp=Z,784nm,1.4s,mb6.5					
HNR				LR	LR	
	comp=Z,20μm,21.0s,MS6.1					
HNR	**Honiara**	**48.59**	**157**	*e*P	**P**	**10 38 06.1 +0.6**
HNR				pmax	pmax	
	comp=Z,784nm,1.4s,mb6.5					
HNR				MLR	MLR	
	comp=Z,20μm,21.0s,MS6.1					
PKI	**Pulchoki**	**48.60**	**276**	*e*P	**P**	**10 38 05.6 0.0**
PKI	**Pulchoki**	**48.60**	**276**	*e*P	**P**	**10 38 05.6 0.0**
PKI	**Pulchoki**	**48.60**	**276**	*e*P	**P**	**10 38 05.6 0.0**
KKN	**Kakani**	**48.61**	**277**	*e*P	**P**	**10 38 05.8 +0.1**
	comp=Z,455nm,1.1s,mb6.4					
KKN	**Kakani**	**48.61**	**277**	*e*P	**P**	**10 38 05.8 +0.1**
	comp=Z,455nm,1.1s,mb6.4					
KKN	**Kakani**	**48.61**	**277**	*e*P	**P**	**10 38 05.8 +0.1**
KKN				pmax	pmax	
	comp=Z,455nm,1.1s,mb6.4					
MMRI	**Maumere**	**48.81**	**207**	P	**P**	**10 38 06.5 -0.8**
	comp=Z,9μmcomp=Z,467nm,1.2s,mb6.4					
DMN	**Daman**	**48.83**	**277**	*e*P	**P**	**10 38 07.4 0.0**
DMN	**Daman**	**48.83**	**277**	*e*P	**P**	**10 38 07.4 0.0**
SML	**Sawmill**	**48.87**	**36**	*e*P	**P**	**10 38 07.2 0.0**
	comp=Z,64nm,1.1s,mb5.6					
SML				*e*S	**S**	**10 45 18.6 +7.2**
SML	**Sawmill**	**48.87**	**36**	*e*P	**P**	**10 38 07.3 +0.1**
SML				*e*S	**S**	**10 45 18.6 +7.2**
SML				pmax	pmax	
	comp=Z,64nm,1.1s,mb5.6					
COLA	**College**	**49.03**	**32**	*e*P	**P**	**10 38 08.7 +0.3**
	comp=Z,77nm,0.8s,mb5.8					
COLA				*e*S	**S**	**10 45 12.6 -1.0**
COLA				LR	LR	
	comp=Z,16μm,20.0s,MS6.0					
COLA	**College**	**49.03**	**32**	*e*P	**P**	**10 38 08.7 +0.3**
COLA				*e*S	**S**	**10 45 12.6 -1.0**
COLA				pmax	pmax	
	comp=Z,77nm,0.8s,mb5.8					
COLA				MLR	MLR	
	comp=Z,16μm,20.0s,MS6.0					
GKN	**Gorkha**	**49.03**	**277**	*e*P	**P**	**10 38 08.7 -0.3**
	comp=Z,953nm,1.2s,mb6.7					
GKN	**Gorkha**	**49.03**	**277**	*e*P	**P**	**10 38 08.7 -0.3**
	comp=Z,953nm,1.2s,mb6.7					
KULM	**Kulim**	**49.34**	**241**	*e*P	**P**	**10 38 11.1 -0.3**
	comp=Z,215nm,1.2s,mb6.0					
KULM				*e*S	**S**	**10 45 21.6 +2.5**
KULM				LR	LR	
	comp=Z,28μm,19.0s,MS6.3					
KULM	**Kulim**	**49.34**	**241**	P	**P**	**10 38 10.9 -0.5**
	comp=Z,5μmcomp=Z,148nm,1.7s,mb5.7					
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**10 38 10.4 -1.2**
	comp=Z,56nm,0.9s,mb5.6,baz=266,slow=6.4,SNR=141					
ILAR				LR	LR	10 58 50.4
	comp=Z,22μm,18.7s,MS6.2,baz=267,slow=36					
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**10 38 10.4 -1.2**
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**10 38 10.4 -1.2**
ILAR				pmax	pmax	
	comp=Z,57nm,0.9s					
ILAR				MLR	MLR	
	comp=Z,22μm,18.7s					
DANN	**Dangsing**	**49.58**	**278**	*e*P	**P**	**10 38 13.5 +0.3**
	comp=Z,1μm,1.0s,mb6.8					
DANN	**Dangsing**	**49.58**	**278**	*e*P	**P**	**10 38 13.5 +0.3**
	comp=Z,1μm,1.0s,mb6.8					
AAA	**Alma-Ata**	**49.58**	**299**	*e*P	**P**	**10 38 13.7 +0.7**
AAA				*e*S	**S**	**10 45 20.5 -1.5**
AAA				pmax	pmax	
	comp=Z,5μm,12.9s					
AAA				smax		
	comp=E,20μm,17.5s					
AAA				MLR	MLR	
	comp=Z,74μm,18.0s,MS6.7					
IPM	**Ipoh**	**49.65**	**240**	*e*P	**P**	**10 38 12.7 -1.1**
	comp=Z,338nm,1.2s,mb6.2					
IPM				*e*S	**S**	**10 45 28.9 +5.5**
IPM	**Ipoh**	**49.65**	**240**	P	**P**	**10 38 12.8 -1.0**
	comp=Z,4μmcomp=Z,219nm,1.5s,mb5.9					
MYKOM	**Kota Tinggi**	**49.69**	**235**	P	**P**	**10 38 13.0 -1.1**
	comp=Z,4μmcomp=Z,131nm,1.9s,mb5.5					
KOLN	**Koldanda**	**49.96**	**278**	*e*P	**P**	**10 38 16.1 +0.1**
	comp=Z,337nm,0.9s,mb6.3					
KOLN	**Koldanda**	**49.96**	**278**	*e*P	**P**	**10 38 16.1 +0.1**
	comp=Z,337nm,0.9s,mb6.3					
DIV	**Divide**	**50.14**	**37**	*e*P	**P**	**10 38 17.5 +0.6**
	comp=Z,468nm,1.3s,mb6.3					
PAX	**Paxson**	**50.14**	**34**	*e*P	**P**	**10 38 18.0 +1.1**
	comp=Z,85nm,1.0s,mb5.6					
PAX				*e*S	**S**	**10 45 28.5 -0.8**
PAX	**Paxson**	**50.14**	**34**	*e*P	**P**	**10 38 18.0 +1.1**
PAX				*e*S	**S**	**10 45 28.5 -0.7**
PAX				pmax	pmax	
	comp=Z,85nm,1.0s,mb5.6					
COEN	**Coen**	**50.23**	**179**	*e*P	**P**	**10 38 17.5 -0.5**
	comp=Z,1μm,1.0s,mb6.8					
COEN				*e*S	**S**	**10 45 33.3 +1.9**
COEN	**Coen**	**50.23**	**179**	P	**P**	**10 38 18.0 -0.1**
	comp=Z,4μmcomp=Z,235nm,1.1s,mb6.0					
PYUN	**Piuthan**	**50.30**	**278**	*e*P	**P**	**10 38 19.5 +0.8**
PYUN	**Piuthan**	**50.30**	**278**	*e*P	**P**	**10 38 19.5 +0.8**
ULHL	**Ulahol**	**50.37**	**298**	P	**P**	**10 38 19.4 +0.5**
	SNR=24					
ULHL				P		10 38 19.4
	SNR=24					
WSI	**Waingapu**	**50.49**	**209**	P	**P**	**10 38 19.7 -0.4**
	comp=Z,1μm,0.7s					
TKM2	**Tokmak 2**	**50.63**	**299**	P	**P**	**10 38 21.5 +0.5**
	SNR=237					
TKM2				P		10 38 21.5
	SNR=237					
TKM2	**Tokmak 2**	**50.63**	**299**	*e*P	**P**	**10 38 21.5 +0.6**
	comp=Z,76nm,1.4s,mb5.4					
TKM2				LR	LR	
	comp=Z,67μm,20.0s,MS6.7					
TKM2	**Tokmak 2**	**50.63**	**299**	P	**P**	**10 38 22.3 +1.4**
TKM2				pmax	pmax	
	comp=Z,501nm,1.4s,mb6.2					
BMRM	**Bremner River**	**50.72**	**37**	*e*P	**P**	**10 38 20.4 -0.9**
	comp=Z,211nm,1.1s,mb6.0					
DOT	**Dot Lake**	**50.73**	**34**	*e*P	**P**	**10 38 20.9 -0.4**
	comp=Z,19nm,0.7s,mb5.1					
TPI	**Tanjungpandan**	**50.82**	**227**	P	**P**	**10 38 21.8 -0.8**
	comp=Z,3μmcomp=Z,174nm,1.0s,mb6.0					
MENT	**Mentasta**	**50.94**	**34**	*e*P	**P**	**10 38 24.7 +1.7**
KMMI	**Kalianget**	**50.96**	**218**	P	**P**	**10 38 22.9 -0.7**
	comp=Z,8μmcomp=Z,612nm,1.3s,mb6.4					
KZA	**Kyzart**	**51.12**	**298**	P	**P**	**10 38 26.3 +1.6**
	SNR=54					
KZA				P		10 38 26.3
	SNR=54					
KBK	**Karagaybulak**	**51.16**	**299**	P	**P**	**10 38 25.4 +0.4**
	SNR=167					
KBK				P		10 38 25.4
	SNR=167					
CHMS	**Chumysh**	**51.20**	**299**	P	**P**	**10 38 25.3 +0.1**
	SNR=45					
CHMS				P		10 38 25.3
	SNR=45					
PPBI	**Pangkal Pinang**	**51.26**	**229**	P	**P**	**10 38 25.3 -0.7**
	comp=Z,5μmcomp=Z,176nm,1.1s,mb5.9					
USP	**Ospenovka**	**

BVAR Borovoye Array 51.55 313 P **P** **10 38 27.3 -0.3**
BVAR Borovoye Array 51.55 313 P **P** **10 38 27.3 -0.3**
BVAR pmax pmax
comp=Z,19nm,0.5s
BVAR MLR MLR
comp=Z,47µm,18.8s
UCH Uchtor 51.60 299 P **P** **10 38 31.6 +3.4**
SNR=18
UCH P 10 38 31.6
SNR=18
BRVK Borovoye 51.60 313 *e*P **P** **10 38 26.4 -1.6**
comp=Z,115nm,0.9s,mb5.8
BRVK *e*S **S** **10 45 50.1 +0.3**
BRVK LR LR
comp=Z,56µm,19.0s,MS6.6
BRVK Borovoye 51.60 313 *e*P **P** **10 38 26.4 -1.7**
BRVK *e*S **S** **10 45 50.1 +0.4**
BRVK pmax pmax
comp=Z,115nm,0.9s,mb5.8
BRVK MLR MLR
comp=Z,56µm,19.0s,MS6.6
BRVK Borovoye 51.60 313 P **P** **10 38 27.8 -0.3**
comp=Z,849nm,1.0s,mb6.6,SNR=61
BRVK Borovoye 51.60 313 P **P** **10 38 28.2 +0.2**
SNR=74
BWNR Bhubaneshwar 51.72 268 *e*PKP **P** **10 38 29.0 -0.4**
BWNR *ex* x 10 45 53.2
BLJI Banyuglugur 51.74 218 P **P** **10 38 34.2 +4.7**
comp=Z,5µmcomp=Z,175nm,1.0s,mb5.9
BYJI Banyuwangi 51.78 216 P **P** **10 38 29.4 -0.4**
comp=Z,935nm,1.0s,mb6.7
NBBI Negara 51.79 216 P **P** **10 38 29.4 -0.4**
comp=Z,611nm,1.4s,mb6.3
PTH Pithoragarh 51.88 281 *e*PKP **P** **10 38 30.9 +0.4**
PTH *ex* x 10 44 17.3
EGAK Eagle 51.89 32 *e*P **P** **10 38 31.3 +1.3**
comp=Z,214nm,1.4s,mb5.9
EGAK *e*S **S** **10 45 58.0 +4.6**
EGAK LR LR
comp=Z,19µm,20.0s,MS6.1
IGBI Denpasar 51.93 215 P **P** **10 38 29.8 -1.1**
comp=Z,197nm,1.0s,mb6.0
EKS2 Erkin-Say 51.99 299 P **P** **10 38 31.4 +0.2**
SNR=54
EKS2 P 10 38 31.4
SNR=54
EKS2 Erkin-Say 51.99 299 *e*P **P** **10 38 31.2 +0.1**
comp=Z,74nm,1.8s,mb5.3
EKS2 *e*PcP PcP 10 39 38.1 -5.4
EKS2 LR LR
comp=Z,58µm,20.0s,MS6.6
EKS2 Erkin-Say 51.99 299 *e*P **P** **10 38 31.2 +0.1**
EKS2 *e* 10 39 38.1
EKS2 pmax pmax
comp=Z,73nm,1.8s,mb5.3
EKS2 MLR MLR
comp=Z,58µm,20.0s,MS6.6
LHMI Lhok Sumawe 52.03 244 P **P** **10 38 31.0 -0.8**
comp=Z,478nm,1.3s,mb6.3
TSI Tuntungan 52.06 241 P **P** **10 38 30.7 -1.3**
comp=Z,7µmcomp=Z,170nm,1.4s,mb5.8
JAGI Jajag, Banyuwa 52.10 217 P **P** **10 38 31.8 -0.4**
comp=Z,5µmcomp=Z,285nm,1.3s,mb6.0
AML Almayashu 52.21 299 P **P** **10 38 34.0 +1.2**
SNR=238
AML P 10 38 34.0
SNR=238
GMJI Gumukmas 52.27 217 P **P** **10 38 32.3 -1.1**
comp=Z,6µmcomp=Z,174nm,1.1s,mb5.9
ALBI Allahabad 52.49 276 *ex* **P** **10 38 32.0 -3.1**
BKNI Bangkinang 52.64 236 P **P** **10 38 36.6 +0.3**
comp=Z,7µmcomp=Z,583nm,1.3s,mb6.3
SJI Sawahan 52.65 220 P **P** **10 38 36.8 +0.5**
comp=Z,9µmcomp=Z,434nm,2.2s,mb6.0
KRKI Karangkates 52.66 219 P **P** **10 38 36.8 +0.4**
comp=Z,1µm,0.8s,mb6.8
SMRI Semarang 52.76 221 P **P** **10 38 36.7 -0.4**
comp=Z,533nm,2.1s,mb6.1
PWJI Pagerwojo 52.88 219 P **P** **10 38 37.2 -0.7**
comp=Z,9µmcomp=Z,695nm,0.9s,mb6.6
BSI Banda Aceh 53.06 246 P **P** **10 38 38.5 -0.9**
comp=Z,2µmcomp=Z,113nm,1.2s,mb5.7
TPTI 53.22 242 P **P** **10 38 38.9 -1.6**
comp=Z,80nm,1.3s,mb5.5
DDI Dehra Dun 53.26 283 *ex* **P** **10 38 38.0 -2.7**
DDI *ex* **S** **10 46 19.0 +5.9**
MNSI Mandailing Nat 53.29 238 P **P** **10 38 40.9 -0.2**
comp=Z,3µmcomp=Z,110nm,1.2s,mb5.7
PCJI Pacitan 53.34 220 P **P** **10 38 41.3 -0.1**
comp=Z,7µmcomp=Z,354nm,1.3s,mb6.2
BJII Banjamegara 53.39 222 P **P** **10 38 41.5 -0.3**
comp=Z,336nm,2.5s,mb5.8
KIP Kipapa 53.40 89 PFAKE 10 38 50.0 +8.2
KIP LR LR
comp=Z,13µm,19.0s,MS6.0
UGM Wanagama 53.45 221 P **P** **10 38 41.9 -0.3**
comp=Z,908nm,1.8s,mb6.4
PNL Peninsula 53.48 38 *e*P **P** **10 38 42.5 +0.6**
comp=Z,119nm,1.1s,mb5.7
SDNR Sundarnagar 53.62 285 *e*PKP **P** **10 38 43.0 -0.3**
SMLA Simla 53.62 285 *i* P **P** **10 38 41.8 -1.6**
SMLA AMb AMB 10 38 44.3
comp=Z,43nm,0.1s,mb6.3
SMLA *i* S **S** **10 46 16.7 -1.2**
PPI Padang Panjang 53.65 236 P **P** **10 38 44.5 +0.8**
comp=Z,4µmcomp=Z,77nm,1.4s,mb5.5
BHK Bhakra 54.08 285 *e*PKP **P** **10 38 45.4 -1.3**
KK31 Karatay Array 54.12 301 P **P** **10 38 46.3 -0.6**
KK31 pmax pmax
comp=Z,684nm,1.6s,mb6.4
KKAR Karatay Array 54.12 301 *e*P **P** **10 38 46.3 -0.5**
comp=Z,230nm,1.0s,mb6.2
KKAR Karatay Array 54.12 301 *e*P **P** **10 38 46.3 -0.6**
KKAR pmax pmax
comp=Z,230nm,1.0s,mb6.2
LEM Lembang 54.13 224 P **P** **10 38 46.7 -0.5**
comp=Z,672nm,1.0s,mb6.6
KLI Kotabumi 54.17 229 P **P** **10 38 47.5 0.0**
comp=Z,707nm,1.1s,mb6.6
THN Thein Dam 54.21 287 *e*PKP **P** **10 38 45.8 -1.8**
CBJI Citeko 54.24 226 P **P** **10 38 52.1 +4.1**
comp=Z,623nm,0.9s,mb6.6
BLSI Bandar Lampung 54.33 228 P **P** **10 38 50.6 +1.9**
comp=Z,6µmcomp=Z,373nm,1.0s,mb6.4
KKR Kurukshetra 54.38 283 *e*PKP **P** **10 38 48.4 -0.5**
KKR AMb AMB 10 38 51.4
comp=Z,380nm,0.7s,mb6.5
DBJI Dramaga 54.40 226 P **P** **10 38 49.2 0.0**
comp=Z,8µmcomp=Z,261nm,2.1s,mb5.9
RBSI Rajabasa 54.42 227 P **P** **10 38 52.7 +3.4**
comp=Z,1µmcomp=Z,144nm,0.8s,mb6.1
INK Inuvik 54.42 27 P **P** **10 38 48.8 +0.1**
comp=Z,23nm,0.8s,mb5.2,baz=276,slow=6.2,SNR=48
INK LR LR 11 03 15.6
comp=Z,23µm,21.8s,MS6.2,baz=279,slow=37
INK Inuvik 54.42 27 P **P** **10 38 48.8 +0.1**
INK Inuvik 54.42 27 P **P** **10 38 48.8 +0.1**
INK pmax pmax
comp=Z,23nm,0.8s
INK MLR MLR
comp=Z,23µm,21.8s
CISI Cisompet, Garu 54.62 224 P **P** **10 38 50.0 -0.7**
comp=Z,5µmcomp=Z,180nm,1.2s,mb6.0
KSI Kapahiang 54.62 232 P **P** **10 38 53.8 +3.0**
comp=Z,296nm,1.0s,mb6.2
NDI New Delhi 54.63 282 *e*PKP **P** **10 38 49.7 -1.0**
NDI AMb AMB 10 38 57.3
comp=Z,348nm,1.3s,mb6.2
NDI *ex* x 10 46 26.0
AGRA Agra 54.70 280 *e*PKP **P** **10 38 50.5 -0.8**
AGRA AMb AMB 10 38 53.3
comp=Z,170nm,0.7s,mb6.2
LWLI Liwa 54.77 229 P **P** **10 38 52.5 +0.6**
comp=Z,6µmcomp=Z,359nm,0.9s,mb6.4
AYAN Aya Nagar 54.78 282 *e*PKP **P** **10 38 51.0 -0.9**
AYAN AMb AMB 10 38 59.9
comp=Z,254nm,1.0s,mb6.2
JBP Jabalpur 54.98 274 *e*PKP **P** **10 38 52.8 -0.5**
JBP *ex* x 10 46 38.5
CGJI Cibinong 55.06 227 P **P** **10 38 53.5 -0.5**
comp=Z,2µmcomp=Z,118nm,0.8s,mb6.0
RTK Rohtak 55.10 283 *e*PKP **P** **10 38 53.9 -0.3**
RTK AMb AMB 10 39 01.3
comp=Z,166nm,0.8s,mb6.1
SKAG Skagway 55.54 38 *e*P **P** **10 38 58.7 +1.8**
comp=Z,296nm,1.8s,mb6.0

KHET Khetri 56.01 282 *e*PKP **P** **10 38 60.0 -0.8**
KHET AMb AMB 10 39 03.7
comp=Z,182nm,1.1s,mb6.0
SVE Sverdlovsk 56.09 319 ⇓*i*P **P** **10 39 00.9 +0.1**
SVE *e* 10 41 01.0
SVE *e*S **S** **10 46 51.0 +0.6**
SVE pmax pmax
comp=Z,418nm,1.4s,mb6.3
SVE pmax pmax
comp=Z,3µm,17.9s
SVE smax
comp=N,7µm,13.9s
SVE MLR MLR
comp=E,82µm,16.0s
SVE MLR MLR
comp=Z,89µm,16.0s,MS7.0
CTA Charters Tower 56.44 176 *e*P **P** **10 39 02.7 -0.9**
CTAO Charters Tower 56.44 176 *e*P **P** **10 39 03.5 -0.1**
comp=Z,55nm,1.1s,mb5.5
CTAO *e*S **S** **10 46 58.6 +3.0**
CTAO LR LR
comp=Z,10µm,21.0s,MS5.9
CTAO Charters Tower 56.44 176 *e*P **P** **10 39 03.5 -0.1**
CTAO *e*S **S** **10 46 58.6 +3.0**
CTAO pmax pmax
comp=Z,55nm,1.1s,mb5.5
CTAO MLR MLR
comp=Z,10µm,21.0s,MS5.9
CTAO Charters Tower 56.44 176 P **P** **10 39 04.7 +1.1**
comp=Z,3µmcomp=Z,44nm,2.2s,mb5.1
FUNA Funafuti 56.54 135 PFAKE 10 39 20.0 +15
FUNA LR LR
comp=Z,14µm,20.0s,MS6.0
FITZ Fitzroy Crossi 56.64 199 *e*P **P** **10 39 04.1 -1.0**
FITZ Fitzroy Crossi 56.64 199 *e*P **P** **10 39 04.3 -0.8**
comp=Z,204nm,1.2s,mb6.0
FITZ *e*S **S** **10 46 55.8 -2.6**
FITZ Fitzroy Crossi 56.64 199 P **P** **10 39 05.3 +0.2**
comp=Z,5µmcomp=Z,175nm,1.2s,mb6.0
PUH Pauahi 56.69 90 *e*P **P** **10 39 09.6 +3.9**
WRAB Tennant Creek 56.70 189 *e*P **P** **10 39 03.8 -1.7**
comp=Z,306nm,1.0s,mb6.3
WRAB *e*S **S** **10 46 55.0 -4.1**
WRAB LR LR
comp=Z,12µm,21.0s,MS6.0
WRAB Tennant Creek 56.70 189 *e*P **P** **10 39 03.8 -1.7**
WRAB *e*S **S** **10 46 55.0 -4.1**
WRAB pmax pmax
comp=Z,306nm,1.0s,mb6.3
WRAB MLR MLR
comp=Z,12µm,21.0s,MS6.0
WRAB Tennant Creek 56.70 189 P **P** **10 39 04.1 -1.4**
comp=Z,9µmcomp=Z,470nm,1.3s,mb6.4
WRAB Tennant Creek 56.70 189 P **P** **10 39 03.2 -2.3**
comp=Z,1µm,1.0s,SNR=16
WB2 Warramunga Arr 56.71 189 *e*P **P** **10 39 03.7 -1.9**
WB2 *e*S **S** **10 46 59.8 +0.6**
WRA Warramunga Arr 56.71 189 P **P** **10 39 03.7 -1.9**
comp=Z,64nm,1.0s,mb5.6,baz=8.3,slow=7.0,SNR=70
WRA LR LR 11 02 13.2
comp=Z,9µm,18.5s,MS5.9,baz=10.0,slow=35
WRA PKP2bc 11 09 06.7
comp=Z,5.3nm,1.1s,baz=165,slow=2.1,SNR=6.2
WRA Warramunga Arr 56.71 189 P **P** **10 39 03.7 -1.8**
WRA ⇑*e* 11 09 06.7
WRA Warramunga Arr 56.71 189 P **P** **10 39 03.7 -1.9**
WRA pmax pmax
comp=Z,64nm,1.0s
NGP Nagpur 56.73 273 *e*PKP **P** **10 39 05.5 -0.5**
NGP *i* x x 10 47 03.8
BHPL Bhopal 56.99 276 *e*PKP **P** **10 39 06.5 -1.3**
BHPL AMb AMB 10 39 11.0
comp=Z,172nm,1.1s,mb6.0
ARU Arti 57.30 319 *e*P **P** **10 39 09.1 -0.4**
comp=Z,711nm,1.4s,mb6.5
ARU *e*S **S** **10 47 08.5 +2.0**
ARU LR LR
comp=Z,51µm,21.0s,MS6.6
ARU Arti 57.30 319*c i*P **P** **10 39 09.2 -0.3**
ARU *e* 10 40 01.2
ARU *e* 10 41 18.4
ARU S **S** **10 47 06.9 +0.4**
ARU 10 48 56.6
ARU SS SS 10 50 51.7 -3.3
ARU pmax pmax
comp=Z,348nm,1.2s,mb6.3
ARU pmax pmax
comp=Z,481nm,6.2s
ARU MLR MLR
comp=Z,50µm,16.0s,MS6.7
ARU Arti 57.30 319 P **P** **10 39 09.7 +0.2**
comp=Z,2µm,0.8s,mb7.1,SNR=60
AJM Ajmer 57.66 281 *ex* **P** **10 39 10.0 -2.5**
CRAG Craig 57.84 42 *e*P **P** **10 39 13.6 +0.3**
comp=Z,157nm,1.4s,mb5.8
WRAK Wrangell Islan 57.95 41 *e*P **P** **10 39 15.7 +1.7**
comp=Z,44nm,0.9s,mb5.5
WRAK LR LR
comp=Z,26µm,21.0s,MS6.3
XMIS Christmas Isla 58.22 224 *e*P **P** **10 39 13.4 -3.0**
XMIS Christmas Isla 58.22 224 P **P** **10 39 15.3 -1.1**
comp=Z,1µm,1.1s,mb6.9
KBL Kabul 58.41 292 *e*P **P** **10 39 17.0 -0.6**
comp=Z,398nm,1.1s,mb6.4
KBL Kabul 58.41 292 *e*P **P** **10 39 17.0 -0.6**
KBL pmax pmax
comp=Z,398nm,1.1s,mb6.4
DLBC Dease Lake 58.47 38 LR LR 11 00 52.6
comp=Z,12µm,21.8s,MS6.0,baz=296,slow=32
AKL Akola 58.59 274 ⇓*i*P **P** **10 39 19.3 +0.2**
AKL *i* S **S** **10 47 23.2 -1.1**
AB31 Akbulak array 58.92 311 P **P** **10 39 20.2 -0.7**
AB31 pmax pmax
comp=Z,338nm,1.1s,mb6.3
ABKAR Akbulak array 58.92 311 *e*P **P** **10 39 20.1 -0.8**
HYB Hyderabad 59.07 269 *i* P **P** **10 39 21.5 -0.9**
comp=Z,150nm,1.0s,mb6.0
HYB *e*S **S** **10 47 30.0 -0.6**
HYB LR LR 11 06 00.0
comp=Z,39nm,28.0s
AKTO Aktyubinsk 59.65 312 P **P** **10 39 25.2 -0.8**
comp=Z,87nm,0.8s,mb5.8,baz=70,slow=8.2,SNR=58
AKTO LR LR 11 06 32.0
comp=Z,46µm,18.6s,MS6.6,baz=198,slow=37
AKTO Aktyubinsk 59.65 312 P **P** **10 39 25.2 -0.8**
AKTO Aktyubinsk 59.65 312 P **P** **10 39 25.2 -0.8**
AKTO pmax pmax
comp=Z,87nm,0.8s,mb5.8
AKTO MLR MLR
comp=Z,46µm,18.6s,MS6.6
LATR Latur 60.14 272 *e*PKP **P** **10 39 29.0 -0.8**
AS31 Alice Springs 60.43 189 *e*P **P** **10 39 30.0 -1.5**
ASAR Alice Springs 60.43 189 P **P** **10 39 29.9 -1.6**
comp=Z,18nm,0.8s,mb5.1,baz=18,slow=6.9,SNR=71
ASAR PKPPKP 11 08 51.9
comp=Z,2.4nm,1.2s,baz=182,slow=2.8,SNR=4.9
ASAR Alice Springs 60.43 189 P **P** **10 39 29.9 -1.6**
ASAR P'P' 11 08 51.9
ASAR Alice Springs 60.43 189 P **P** **10 39 29.9 -1.6**
ASAR pmax pmax
comp=Z,18nm,0.9s
ALE Alert 60.54 4 P **P** **10 39 31.8 +0.1**
comp=Z,378nm,1.5s,mb6.3,SNR=9.9
HOPEN Hopen 60.72 346 *e*P **P** **10 39 35.7 +2.7**
HOPEN AMB AMB 10 39 54.1
comp=Z,407nm,1.4s,mb6.3
HOPEN *e*S **S** **10 47 52.6 +2.2**
HOPEN AMS AMS 11 08 43.3
comp=Z,36µm,20.7s,MS6.5
SPA0 Spitsbergen Ar 61.17 349 *e*P **P** **10 39 41.1 +5.2**
SPA0 *e*S **S** **10 47 55.2 -0.8**
KBS Kingsbay 61.28 350 *e*P **P** **10 39 41.4 +4.7**
KBS *e*S **S** **10 48 00.8 +3.3**
KBS *e*SS SS 10 52 00.3 +3.6
KBS AMS AMS 11 09 40.6
comp=Z,14µm,18.5s,MS6.2
KBS Kingsbay 61.28 350 *e*P **P** **10 39 37.3 +0.5**
comp=Z,276nm,1.8s,mb6.1
KBS LR LR
comp=Z,20µm,19.0s,MS6.3
KBS Kingsbay 61.28 350 *e*P **P** **10 39 37.3 +0.6**
KBS pmax pmax
comp=Z,276nm,1.8s,mb6.1
KBS MLR MLR
comp=Z,20µm,19.0s,MS6.3

MBWA Marble Bar 61.29 204 *e*P **P** **10 39 35.8 -1.6**
comp=Z,150nm,1.0s,mb6.1
MBWA LR LR
comp=Z,6µm,21.0s,MS5.7
MBWA Marble Bar 61.29 204 P **P** **10 39 37.0 -0.4**
comp=Z,4µmcomp=Z,214nm,0.9s,mb6.3
MBWA Marble Bar 61.29 204 P **P** **10 39 37.9 +0.5**
SNR=9.7
EIDS Eidsvold 62.11 171 *e*P **P** **10 39 38.5 -4.4**
comp=Z,74nm,1.0s,mb5.9
POO Poona 62.26 273 *e*PKP **P** **10 39 43.7 -0.5**
POO AMb AMB 10 39 47.9
comp=Z,344nm,1.0s,mb6.5
DZM Mont Dzumac 62.53 155 *e*P **P** **10 39 46.6 +0.9**
comp=Z,944nm,1.3s,mb6.8
DZM *e*S **S** **10 48 13.0 -1.4**
comp=Z,18µm,28.2s
DZM *e*LQ 10 55 27.6
comp=Z,46µm,27.2s
DZM *e*LR LR 10 58 27.0
comp=Z,27µm,23.9s
DZM Mont Dzumac 62.53 155 *e*P **P** **10 39 46.3 +0.6**
comp=Z,370nm,1.1s,mb6.4
KAD Karad 62.65 272 *e*PKP **P** **10 39 47.0 +0.2**
RES Resolute Bay 62.85 15 LR LR 11 08 08.0
comp=Z,11µm,21.8s,MS6.0,baz=298,slow=37
LVZ Lovozero 62.91 336 *e*P **P** **10 39 47.9 +0.1**
comp=Z,164nm,1.3s,mb6.0
LVZ LR LR
comp=Z,58µm,19.0s,MS6.8
LVZ Lovozero 62.91 336*c i*P **P** **10 39 47.6 -0.2**
LVZ pmax pmax
comp=Z,117nm,1.2s,mb5.9
LVZ MLR MLR
comp=Z,46µm,16.0s,MS6.7
BJO Bjornoya 63.12 345 *e*S **S** **10 48 22.1 +1.4**
BJO *e*SS SS 10 52 25.0 -0.5
BJO AMS AMS 11 12 43.1
comp=Z,47µm,16.3s,MS6.8
APA Apatity 63.49 336 ⇓*i*P **P** **10 39 52.0 +0.4**
APA *i* 10 40 10.0
APA *i* S **S** **10 48 26.0 +0.6**
APA *i* 10 49 44.0
APA *i* SS SS 10 52 26.0 -5.5
APA pmax pmax
comp=Z,270nm,1.6s,mb6.1
APA pmax pmax
comp=Z,3µm,5.0s
APA MLR MLR
comp=Z,59µm,15.0s,MS6.9
MSVF Nonsavu 63.58 142 *e*P **P** **10 39 53.8 +1.1**
comp=Z,200nm,1.4s,mb6.2
MSVF LR LR
comp=Z,18µm,21.0s,MS6.2
MSVF Nonsavu 63.58 142 *e*P **P** **10 39 53.8 +1.0**
MSVF pmax pmax
comp=Z,200nm,1.4s,mb6.2
MSVF MLR MLR
comp=Z,18µm,21.0s,MS6.2
YKA Yellowknife Ar 63.79 30 P **P** **10 39 52.6 -1.0**
comp=Z,11nm,0.8s,mb5.1,baz=299,slow=6.8,SNR=59
YKA LR LR 11 06 17.4
comp=Z,2µm,20.0s,MS5.2,baz=180,slow=35
YKA PKPPKP 11 08 47.1
comp=Z,1.2nm,0.9s,baz=115,slow=2.8,SNR=8.0
YKA Yellowknife Ar 63.79 30 P **P** **10 39 52.6 -1.0**
YKA P'P' 11 08 47.1
YKA Yellowknife Ar 63.79 30 P **P** **10 39 52.7 -1.0**
GOA Goa 63.92 270⇑*e*PKP **P** **10 39 55.0 -0.2**
GOA *i* x x 10 48 35.1
IMYA Miami 64.17 297 *e*P **P** **10 39 56.6 0.0**
KEV Kevo 64.21 340 *e*P **P** **10 39 57.7 +1.4**
comp=Z,208nm,1.5s,mb6.1
KEV LR LR
comp=Z,44µm,19.0s,MS6.7
KEV Kevo 64.21 340 *e*P **P** **10 39 57.7 +1.4**
KEV pmax pmax
comp=Z,208nm,1.5s,mb6.1
KEV MLR MLR
comp=Z,44µm,19.0s,MS6.7
KEV Kevo 64.21 340 *e*p **P** **10 39 52.5 -3.8**
comp=Z,26nm,0.8s,mb5.5
ISRO Mashad 64.63 297 *e*P **P** **10 39 59.9 +0.2**
KLMR Klimovskoe 64.63 328*d i*P **P** **10 39 58.9 -0.3**
KLMR *e* 10 42 17.4
KLMR *e*S **S** **10 48 40.4 +0.6**
KLMR pmax pmax
comp=Z,336nm,1.2s,mb6.5
KLMR pmax pmax
comp=Z,955nm,6.1s
KLMR MLR MLR
comp=Z,35µm,14.0s,MS6.7
ARCES ARCESS Array B 64.76 340 P **P** **10 40 00.7 +0.8**
comp=Z,21nm,0.8s,mb5.4,baz=58,slow=8.6,SNR=15
ARCES LR LR 11 13 45.8
comp=Z,47µm,18.0s,MS6.7,baz=250,slow=41
ARCES ARCESS Array B 64.76 340 P **P** **10 40 00.7 +0.8**
ARCES ARCESS Array B 64.76 340 P **P** **10 40 00.7 +0.8**
ARCES pmax pmax
comp=Z,21nm,0.8s
ARE0 ARCESS Array S 64.76 340 *e*P **P** **10 39 59.9 -0.1**
ARE0 *e*S **S** **10 48 40.5 -0.6**
ARE0 ARCESS Array S 64.76 340 *e*P **P** **10 40 00.1 +0.1**
COCO West Island 64.80 231 *e*P **P** **10 40 00.8 -0.1**
comp=Z,345nm,1.2s,mb6.5
COCO LR LR
comp=Z,6µm,22.0s,MS5.7
COCO West Island 64.80 231 *e*P **P** **10 40 00.8 -0.1**
COCO pmax pmax
comp=Z,345nm,1.2s,mb6.5
COCO MLR MLR
comp=Z,6µm,22.0s,MS5.7
COCO West Island 64.80 231 P **P** **10 40 04.3 +3.4**
comp=Z,7µmcomp=Z,291nm,1.1s,mb6.4
ABKT Ailbek 64.83 300 P **P** **10 40 00.5 -0.4**
comp=Z,979nm,1.0s,SNR=20
XMAS Kiritimati 64.99 107 P **P** **10 40 03.7 +1.4**
comp=Z,464nm,1.4s,mb6.5
XMAS LR LR
comp=Z,35µm,22.0s,MS6.5
IAKL Akhelmad 65.00 298 *e*P **P** **10 40 03.1 +1.0**
IKRD Kardeh 65.09 298 *e*P **P** **10 39 59.0 -3.7**
ISHV Shirvan 65.31 299 *e*P **P** **10 40 05.5 +1.4**
TRD Trivandrum 65.36 262⇓*e*PKP **P** **10 40 13.7 +9.0**
TRD *e*S S 10 49 03.7 +14
KTK1 Kautokeino 65.72 340 *e*P **P** **10 40 07.0 +0.8**
KTK1 AMB AMB 10 40 22.5
comp=Z,357nm,2.1s,mb6.2
KTK1 *e*S S 10 48 52.8 -0.1
KTK1 *e*SS SS 10 53 11.8 +5.7
KTK1 AMS AMS 11 13 58.1
comp=Z,66µm,17.7s,MS6.9
IMON Monand 65.97 294 *e*P **P** **10 40 11.0 +2.6**
IDAH Dahanechah 66.04 294 *e*P **P** **10 40 07.9 -0.9**
AFI Afiamalu 66.15 131 LR LR 11 02 36.0
comp=Z,12µm,20.7s,MS6.1,baz=328,slow=30
DAG Danmarks Havn 66.33 355 *i* P **P** **10 40 09.9 -0.1**
DAG *i* S S 10 49 01.8 +1.6
DAG pmax pmax
comp=Z,16nm,0.8s,mb5.3
DAG MLR MLR
comp=Z,7µm,16.0s,MS6.0
DAG Danmarks Havn 66.33 355 *i* P **P** **10 40 09.9 -0.1**
comp=Z,21nm,0.8s,mb5.4
DAG *i* S S 10 49 01.8 +1.6
DAG
comp=Z,7µm,16.0s
NLWA Neilton Lookou 66.40 48 *e*P **P** **10 40 12.5 +1.6**
comp=Z,262nm,1.3s,mb6.3
NLWA LR LR
comp=Z,12µm,22.0s,MS6.1
TRO Tromso 66.46 341 *e*P **P** **10 40 15.1 +4.2**
TRO *e*S S 10 49 01.7 -0.2
TRO AMS AMS 11 16 21.3
comp=Z,33µm,17.2s,MS6.6
A05A Maple Falls 66.67 46 ⇑P **P** **10 40 13.0 +0.4**
baz=66
A05A ⇓S S 10 49 05.1 +0.1
baz=66
ITEG Tejag 66.78 294 *e*P **P** **10 40 15.1 +1.5**
JOF Joensuu 66.80 332 *e*P **P** **10 40 11.7 -1.5**
JOF pmax pmax
comp=Z,51nm,0.8s,mb5.8
JOF Joensuu 66.80 332 *e*p **P** **10 40 11.7 -1.5**
comp=Z,51nm,0.8s,mb5.8
IKOO Kooshah 66.83 294 *e*P **P** **10 40 14.4 +0.5**

GNW Green Mountain 66.93 47 *e*P **P 10 40 14.9 +0.7**
comp=Z,63nm,1.3s,mb5.7
E03A Lebam 66.99 48 ⇓P **P 10 40 14.9 +0.2**
baz=67
E03A ⇑S S 10 49 11.2 +2.1
baz=67
JCW Jim Creek 67.15 46 *e*P **P 10 40 15.9 +0.3**
comp=Z,133nm,1.1s,mb6.1
ARMA Armidale 67.16 171 *e*P **P 10 40 15.7 -0.1**
comp=Z,171nm,1.2s,mb6.2
RPW Rockport 67.27 46 *e*P **P 10 40 15.8 -0.5**
comp=Z,48nm,1.4s,mb5.5
LON Longmire 67.94 48 *e*P **P 10 40 20.4 -0.3**
comp=Z,43nm,1.1s,mb5.6
LON Longmire 67.94 48 *e*P **P 10 40 20.4 -0.3**
LON pmax pmax
comp=Z,43nm,1.1s,mb5.6
STKA Stephens Creek 68.07 181 P **P 10 40 20.1 -1.4**
comp=Z,11nm,0.8s,mb5.2,baz=359,slow=7.7,SNR=18
STKA LR LR 11 07 48.7
comp=Z,12μm,18.9s,MS6.1,baz=357,slow=34
STKA Stephens Creek 68.07 181 ⇑*i*P **P 10 40 20.1 -1.4**
STKA Stephens Creek 68.07 181 *e*P **P 10 40 20.4 -1.0**
comp=Z,16nm,0.9s,mb5.2
STKA Stephens Creek 68.07 181 P **P 10 40 20.1 -1.4**
STKA pmax pmax
comp=Z,11nm,0.8s
COR Corvallis 68.12 50 *e*P **P 10 40 23.7 +1.8**
comp=Z,151nm,1.1s,mb6.1
COR Corvallis 68.12 50 *e*P **P 10 40 23.7 +1.8**
COR pmax pmax
comp=Z,151nm,1.1s,mb6.1
MOS Moscow 68.16 324 *e*P **P 10 40 21.9 0.0**
MOS *e* 10 40 46.3
MOS *e* 10 42 52.1
MOS *e*PPP 10 44 32.2
MOS *e*S S 10 49 21.8 -1.0
MOS *e* 10 50 17.0
MOS *e*SS SS 10 53 45.3 +0.9
MOS pmax pmax
comp=Z,618nm,1.4s,mb6.6
MOS pmax pmax
comp=E,167nm,1.3s
MOS pmax pmax
comp=N,209nm,1.3s
MOS pmax pmax
comp=Z,2μm,2.6s,mb6.9
MOS MLR MLR
comp=N,34μm,13.0s,MS6.9
MOS MLR MLR
comp=E,37μm,13.0s,MS6.9
MOS MLR MLR
comp=Z,62μm,14.0s,MS7.0
FORT Forrest 68.33 193 *e*P **P 10 40 22.5 -0.6**
FORT Forrest 68.33 193 *e*P **P 10 40 23.1 0.0**
comp=Z,230nm,0.8s,mb6.5
ETW Entiat 68.38 46 *e*P **P 10 40 23.7 +0.3**
comp=Z,162nm,1.2s,mb6.1
IGLO Ghaloghah 68.52 300 *e*P **P 10 40 24.7 +0.2**
STEI Steigen 68.61 341 *e*P **P 10 40 26.5 +2.0**
IKIA Kiasar 68.77 300 *e*P **P 10 40 25.8 -0.3**
IANJ Anjilo 68.98 299 *e*P **P 10 40 28.0 +0.6**
OBN Obninsk 69.01 324 *e*P **P 10 40 26.5 -0.7**
comp=Z,510nm,1.3s,mb6.6
OBN *e*PP PP 10 42 56.9 -2.2
OBN LR LR
comp=Z,28μm,20.0s,MS6.5
OBN Obninsk 69.01 324α *i*P **P 10 40 26.8 -0.4**
OBN *e* 10 40 34.5
OBN *e* 10 40 41.3
OBN *i* 10 43 02.9
OBN *i*S S 10 49 34.6 +1.7
OBN *i*PS 10 49 58.8
OBN *e* 10 50 25.6
OBN *e*SS SS 10 54 02.3 +4.8
OBN pmax pmax
comp=Z,441nm,1.2s,mb6.6
OBN pmax pmax
comp=Z,2μm,3.0s
OBN MLR MLR
comp=Z,34μm,15.0s,MS6.7
OBN Obninsk 69.01 324 P **P 10 40 27.9 +0.7**
comp=Z,1μm,1.5s,mb7.0,SNR=12
PUL Pulkovo 69.06 330*c i*P **P 10 40 29.7 +2.3**
PUL pmax pmax
comp=Z,470nm,1.1s,mb6.6
PUL MLR MLR
comp=Z,28μm,19.0s,MS6.5
KAF Kangasniemi 69.14 333 *e*P **P 10 40 26.3 -1.6**
KAF pmax pmax
comp=Z,64nm,0.7s,mb6.0
KAF Kangasniemi 69.14 333 *e*p **P 10 40 26.3 -1.6**
comp=Z,64nm,0.7s,mb6.0
ISHM Shahmirzad 69.25 300 *e*P **P 10 40 30.1 +1.1**
BBOO Buckleboo 69.26 186 *e*P **P 10 40 28.6 -0.3**
comp=Z,3μm,1.0s
HUMO Hull Mountain 69.34 52 *e*P **P 10 40 30.8 +1.3**
comp=Z,144nm,1.7s,mb5.9
HMDM Hanimaadhoo 69.40 263 P **P 10 40 33.4 +3.1**
comp=Z,8μmcomp=Z,429nm,1.3s,mb6.5
G06A Carlson Farm, 69.42 49 ⇓P **P 10 40 29.9 -0.1**
G06A baz=69 ⇑S S 10 49 41.4 +3.4
baz=69
OD2 Odessa Site #2 69.43 46 *e*P **P 10 40 29.8 -0.2**
comp=Z,283nm,1.6s,mb6.2
RSW Rattlesnake Hi 69.44 47 *e*P **P 10 40 31.1 +1.1**
comp=Z,193nm,1.5s,mb6.1
IALA Alasht 69.44 300 *e*P **P 10 40 29.3 -1.0**
MAK Makhachkala 69.45 309 *e*P **P 10 40 25.5 -4.7**
MAK *e*S S 10 49 32.0 -6.5
MAK *e*SS SS 10 53 59.6 -5.3
MAK pmax pmax
comp=Z,449nm,1.4s,mb6.5
MAK smax
comp=E,11μm,12.4s
MAK smax
comp=N,7μm,8.1s
MAK MLR MLR
comp=Z,44μm,17.0s,MS6.8
HAWA Hanford 69.47 47 *e*P **P 10 40 29.2 -1.1**
comp=Z,88nm,1.2s,mb5.9
HAWA LR LR
comp=Z,9μm,20.0s,MS6.0
VOR Voronezh 69.57 320 *e*P **P 10 40 29.0 -1.8**
VOR pmax pmax
comp=Z,630nm,1.4s,mb6.5
FINES FINESS Array B 69.65 333 P **P 10 40 30.5 -0.6**
comp=Z,118nm,0.8s,mb6.1,baz=54,slow=7.1,SNR=49
FINES LR LR 11 14 13.6
comp=Z,33μm,18.2s,MS6.6,baz=47,slow=39
FINES FINESS Array B 69.65 333 P **P 10 40 30.5 -0.6**
FINES FINESS Array B 69.65 333 P **P 10 40 30.5 -0.6**
FINES pmax pmax
comp=Z,118nm,0.8s
FINES MLR MLR
comp=Z,33μm,18.2s
IPRN Peran 69.69 300 *e*P **P 10 40 32.6 +0.8**
ILAS Lasjerd 69.70 299 *e*P **P 10 40 33.1 +1.3**
IFIR Firoozkooh 69.71 300 *e*P **P 10 40 32.8 +0.9**
KHMM Horse Mountain 69.73 54 *e*P **P 10 40 33.6 +1.6**
comp=Z,108nm,1.3s,mb5.8
IBAF Bafgh 69.77 295 *e*P **P 10 40 32.2 -0.2**
VSR Storozhevoye 69.87 319 *e*P **P 10 40 32.0 -0.6**
VSR *e**PP 10 40 38.2
VSR *e* 10 43 06.6
VSR *e*S S 10 49 41.6 -1.6
VSR pmax pmax
comp=N,350nm,1.5s
VSR pmax pmax
comp=E,520nm,1.5s
VSR pmax pmax
comp=Z,680nm,1.5s,mb6.6
VSR pmax pmax
comp=N,230nm,1.4s
VSR pmax pmax
comp=E,300nm,1.4s
VSR pmax pmax
comp=Z,430nm,1.4s,mb6.4
VSR pmax pmax
comp=E,1μm,3.7s
VSR pmax pmax
comp=Z,2μm,3.7s
VSR pmax pmax
comp=N,260nm,1.9s
VSR smax
comp=N,2μm,5.4s
VSR smax
comp=E,4μm,5.4s
VSR smax
comp=Z,2μm,5.4s
VSR MLR MLR
comp=N,28μm,16.0s,MS6.9
VSR MLR MLR
comp=E,47μm,16.0s,MS6.9
VSR MLR MLR
comp=Z,94μm,16.0s,MS7.1
YBH Yreka Blue Hor 69.95 53 *e*P **P 10 40 33.9 +0.7**
comp=Z,166nm,1.6s,mb5.9
YBH Yreka Blue Hor 69.95 53 *e*P **P 10 40 33.9 +0.6**
YBH pmax pmax
comp=Z,165nm,1.6s
MOR8 Moi Rana 70.12 340 *e*P **P 10 40 32.3 -1.6**
MOR8 AMB AMB 10 40 53.1
comp=Z,200nm,1.9s,mb5.9
E09A Wood Farm, Sta 70.22 46 ⇑P **P 10 40 35.1 +0.3**
baz=70,SNR=16
E09A ⇑S S 10 49 48.2 +0.8
baz=70
IDMV Damavand 70.24 300 *e*P **P 10 40 35.9 +0.7**
ICHK Chekchek 70.28 296 *e*P **P 10 40 36.4 +0.9**
A12A Yaak River Ran 70.32 43 ⇓P **P 10 40 35.7 +0.2**
baz=70,SNR=13
KCPM Cahto Peak 70.45 55 *e*P **P 10 40 39.3 +3.0**
comp=Z,21nm,0.8s,mb5.3
LNOR Lincton Mounta 70.48 47 *e*P **P 10 40 38.4 +1.9**
comp=Z,53nm,1.1s,mb5.6
LNOR Lincton Mounta 70.48 47 *e*P **P 10 40 38.4 +1.9**
LNOR pmax pmax
comp=Z,53nm,1.1s,mb5.6
IMEH Mehriz 70.57 295 *e*P **P 10 40 37.9 +0.6**
C11A Tepee Creek (N 70.59 44 ⇑P **P 10 40 37.2 +0.1**
baz=70
WDC Whiskeytown Da 70.66 54 *e*P **P 10 40 38.6 +1.0**
comp=Z,46nm,1.1s,mb5.5
WDC Whiskeytown Da 70.66 54 *e*P **P 10 40 38.6 +0.9**
WDC pmax pmax
comp=Z,46nm,1.1s,mb5.5
I07A Izee 70.71 49 ⇓P **P 10 40 38.0 +0.1**
baz=70
JMIC Jan Mayen 70.78 350 AMS AMS 11 16 26.1
comp=Z,12μm,16.6s,MS6.2
A13A Flathead Natio 71.01 43 ⇑P **P 10 40 39.6 0.0**
baz=71
F10A Beach Ranch, E 71.05 47 ⇓P **P 10 40 40.7 +0.8**
baz=71
C12B Naegeli Ranch, 71.10 44 ⇑P **P 10 40 40.3 +0.1**
baz=71,SNR=6.5
IMHD Mahdasht 71.14 301 *e*P **P 10 40 40.6 0.0**
SUMG Summit 71.17 0 *e*P **P 10 40 40.6 +0.4**
comp=Z,185nm,1.3s,mb6.0
SUMG Summit 71.17 0⇓*i*P **P 10 40 42.9 +2.7**
SUMG *i*S S 10 50 00.0 +2.3
SUMG pmax pmax
comp=Z,32nm,1.0s
SUMG MLR MLR
comp=Z,17μm,18.0s
SUMG Summit 71.17 0⇓*i*P **P 10 40 42.9 +2.7**
comp=Z,32nm,1.0s,mb5.4
SUMG *i*S S 10 50 00.0 +2.3
SUMG
comp=Z,17μm,18.0s
IBND Bandar-abas 71.20 291 *e*P **P 10 40 40.9 -0.3**
IBND *e*P 10 40 42.5
B13A Whitefish 71.29 43 ⇓P **P 10 40 41.6 +0.2**
baz=71,SNR=28
VSU Vasula 71.31 330*c i*P **P 10 40 41.1 -0.2**
VSU pmax pmax
comp=Z,316nm,1.3s,mb6.3
VSU MLR MLR
comp=Z,38μm,20.0s,MS6.7
MOD Modoc 71.39 51 *e*P **P 10 40 42.3 +0.3**
comp=Z,72nm,1.3s,mb5.7
BSMT Bassoo Peak 71.40 44 *e*P **P 10 40 42.8 +0.7**
comp=Z,201nm,2.2s,mb5.9
A14A Double T Ranch 71.52 42 ⇑P **P 10 40 42.3 -0.4**
baz=71,SNR=17
BLMT Blacktail Moun 71.55 44 *e*P **P 10 40 43.9 +0.9**
comp=Z,28nm,0.9s,mb5.4
BMO Blue Mountains 71.62 48 *e*P **P 10 40 43.2 -0.1**
comp=Z,97nm,1.4s,mb5.7
BMO LR LR
comp=Z,8μm,21.0s,MS5.9
BMO Blue Mountains 71.62 48 *e*P **P 10 40 43.3 -0.1**
BMO pmax pmax
comp=Z,97nm,1.4s,mb5.7
BMO MLR MLR
comp=Z,8μm,21.0s,MS5.9
C13A Hot Springs 71.62 44 ⇑P **P 10 40 43.0 -0.4**
baz=71,SNR=11
KLBR Kellerberrin 71.64 202 *e*P **P 10 40 42.9 -0.5**
comp=Z,118nm,1.1s,mb5.9
J08A Circle Bar Ran 71.73 49 ⇑P **P 10 40 43.8 -0.3**
baz=72,SNR=20
JTMT Jette 71.75 44 *e*P **P 10 40 44.3 +0.2**
comp=Z,34nm,0.9s,mb5.5
JTMT *e*PP PP 10 43 23.6 +0.8
CAN Canberra 71.76 174 *e*P **P 10 40 43.6 -0.5**
comp=Z,198nm,1.4s,mb6.0
CAN LR LR
comp=Z,13μm,20.0s,MS6.2
CAN Canberra 71.76 174 *e*P **P 10 40 43.6 -0.5**
CAN pmax pmax
comp=Z,198nm,1.4s,mb6.0
CAN MLR MLR
comp=Z,13μm,20.0s,MS6.2
E12A Beaver Dam Sad 71.76 45 ⇑P **P 10 40 44.2 0.0**
baz=72
CNB Canberra Magne 71.78 174 *e*P **P 10 40 48.1 +3.9**
MTA Mtatsminda 71.82 309 P **P 10 40 44.2 -0.4**
MTA S S 10 50 05.1 -1.1
YBMT Yellow Bay 71.83 44 *e*P **P 10 40 45.6 +1.0**
comp=Z,34nm,1.0s,mb5.4
TBLG Delisi 71.84 309 *e*P **P 10 40 44.8 0.0**
TBLG Delisi 71.84 309 P **P 10 40 44.9 +0.1**
KIV Kislovodsk 71.89 312 *e*P **P 10 40 45.1 +0.1**
comp=Z,813nm,1.0s,mb6.8
KIV *e*S S 10 50 09.0 +2.1
KIV LR LR
comp=Z,34μm,19.0s,MS6.6
KIV Kislovodsk 71.89 312α *i*P **P 10 40 45.2 +0.2**
KIV *i* 10 40 53.5
KIV *i* 10 41 02.9
KIV *i* 10 43 31.2
KIV *e*PPP 10 45 08.1
KIV *i*S S 10 50 08.7 +1.8
KIV pmax pmax
comp=Z,664nm,1.2s,mb6.6
KIV pmax pmax
comp=Z,1μm,1.3s,mb6.8
KIV MLR MLR
comp=Z,33μm,15.0s,MS6.7
KIV Kislovodsk 71.89 312 P **P 10 40 45.6 +0.6**
SNR=133
KIV Kislovodsk 71.89 312 P **P 10 40 45.2 +0.2**
comp=Z,4μm,1.0s,mb7.5,SNR=74
A15A Johnson Ranch, 71.89 42 ⇑P **P 10 40 44.3 -0.7**
baz=72,SNR=19
WBK Wadi Bani Khal 71.91 285 P **P 10 40 46.7 +1.2**
SNR=12
B14A Marquette Ranc 71.95 43 ⇓P **P 10 40 45.2 -0.2**
baz=72,SNR=23
D13A Huson 72.02 44 ⇓P **P 10 40 45.0 -0.8**
baz=72,SNR=19
C14A Swan Lake 72.03 44 ⇑P **P 10 40 46.0 +0.2**
baz=72
SWMT Swartz Lake 72.04 44 *e*P **P 10 40 46.0 +0.1**
comp=Z,76nm,1.1s,mb5.7
NSS Namsos 72.05 340 *e*P **P 10 40 46.0 +0.4**
NSS AMB AMB 10 41 10.3
comp=Z,178nm,1.8s,mb5.9
NSS *e*S S 10 50 05.8 -2.2
NSS AMS AMS 11 17 54.1
comp=Z,50μm,17.5s,MS6.8
GOR Gori 72.09 309 P **P 10 40 47.0 +0.7**
WVOR Wild Horse Val 72.14 50 *e*P **P 10 40 47.0 +0.4**
comp=Z,234nm,1.8s,mb6.0
WVOR LR LR
comp=Z,14μm,22.0s,MS6.2
WVOR Wild Horse Val 72.14 50 *e*P **P 10 40 47.0 +0.5**
WVOR pmax pmax
comp=Z,234nm,1.8s,mb6.0
WVOR MLR MLR
comp=Z,14μm,22.0s,MS6.2
ONI Oni 72.17 310 P **P 10 40 46.6 -0.1**
ONI S S 10 50 10.7 +0.5
BANOM Banah 72.19 289 P **P 10 40 47.2 0.0**
SNR=12
B15A Bradely Ranch, 72.37 43 ⇓P **P 10 40 47.9 +0.1**
baz=72,SNR=33
SMDO Samad 72.39 286 P **P 10 40 49.5 +1.1**
SNR=24
MSO Missoula 72.46 44 ⇑P **P 10 40 48.4 0.0**
baz=72,SNR=19
MSO Missoula 72.46 44 *e*P **P 10 40 48.0 -0.4**
comp=Z,54nm,1.3s,mb5.5
MSO LR LR
comp=Z,5μm,21.0s,MS5.8
SLMT Seeley Lake 72.47 44 *e*P **P 10 40 48.0 -0.5**
comp=Z,56nm,0.8s,mb5.8
A16A West Butte Ran 72.52 42 ⇑P **P 10 40 48.3 -0.4**
baz=72
IPAR Pars 72.53 294 *e*P **P 10 40 49.1 0.0**
E13A Victor 72.54 45 ⇓P **P 10 40 48.0 -0.9**
baz=72,SNR=11
C15A Salmond Ranch, 72.66 43 ⇑P **P 10 40 49.5 0.0**
baz=72,SNR=40
HOQ Hoqain 72.68 287 P **P 10 40 51.0 +1.0**
SNR=17
SCO Scoresbysund 72.68 355⇓*i*P **P 10 40 51.5 +2.2**
SCO *i*S S 10 50 19.4 +4.2
SCO pmax pmax
comp=Z,22nm,0.9s,mb5.3
SCO MLR MLR
comp=Z,10μm,18.0s,MS6.1
SCO Scoresbysund 72.68 355⇓*i*P **P 10 40 51.5 +2.2**
comp=Z,22nm,0.9s,mb5.3
SCO *i*S S 10 50 19.4 +4.2
SCO
comp=Z,10μm,18.0s
GNI Garni 72.70 307 P **P 10 40 51.1 +1.2**
comp=Z,79nm,1.1s,mb5.8,baz=162,slow=5.0,SNR=36
GNI LR LR 11 12 32.2
comp=Z,20μm,21.3s,MS6.4,baz=58,slow=36
GNI Garni 72.70 307 *e*P **P 10 40 51.0 +1.0**
GNI Garni 72.70 307 *e*P **P 10 40 50.1 +0.2**
comp=Z,493nm,1.5s,mb6.4
GNI *e*S S 10 50 21.0 +4.7
GNI Garni 72.70 307*c i*P **P 10 40 50.4 +0.5**
GNI pmax pmax
comp=Z,244nm,1.2s
GNI MLR MLR
comp=Z,21μm,20.0s
GNI Garni 72.70 307 P **P 10 40 51.2 +1.3**
SNR=45
JMDO Jabal Madar 72.72 285 P **P 10 40 51.3 +1.0**
SNR=18
ISRV Sarvestan 72.73 294 *e*P **P 10 40 49.5 -0.8**
B16A M & M Farms, S 72.78 42 ⇓P **P 10 40 49.8 -0.4**
baz=73,SNR=9.9
AKH Akhalkalaki 72.79 309 P **P 10 40 51.2 +0.7**
AKH S S 10 50 19.9 +2.5
CHMT Chamberlain Mo 72.80 44 *e*P **P 10 40 50.4 0.0**
comp=Z,17nm,1.1s,mb5.1
F13A Darby 72.83 45 ⇑P **P 10 40 50.0 -0.6**
baz=73,SNR=32
HATD Hatta, Dubai 72.91 288 P **P 10 40 52.0 +0.5**
SNR=34
E14A Clinton 72.95 45 ⇓P **P 10 40 50.5 -0.8**
baz=73,SNR=12
A17A Triple J Farms 73.00 41 ⇓P **P 10 40 50.9 -0.7**
baz=73,SNR=13
NWAO Narrogin (SRO) 73.04 202 *e*P **P 10 40 51.6 -0.2**
comp=Z,97nm,0.9s,mb5.9
NWAO LR LR
comp=Z,5μm,22.0s,MS5.8
NWAO Narrogin (SRO) 73.04 202 *e*P **P 10 40 51.6 -0.2**
NWAO pmax pmax
comp=Z,97nm,0.9s
NWAO MLR MLR
comp=Z,5μm,22.0s
ASHO Ashiyiah 73.04 288 P **P 10 40 52.9 +0.6**
SNR=23
C16A Fuhringer Ranc 73.11 43 ⇑P **P 10 40 51.5 -0.8**
baz=73,SNR=34
D15A Lincoln 73.13 44 ⇑P **P 10 40 51.7 -0.7**
baz=73,SNR=11
WCN Washoe City 73.15 53 ⇑P **P 10 40 52.5 -0.1**
baz=73,SNR=15
WCN Washoe City 73.15 53 *e*P **P 10 40 53.3 +0.6**
comp=Z,45nm,1.0s,mb5.6
WCN Washoe City 73.15 53 *e*P **P 10 40 53.3 +0.7**
WCN pmax pmax
comp=Z,45nm,1.0s,mb5.5
NAZ Nazwa, Dubai 73.18 289 P **P 10 40 53.6 +0.5**
SNR=12
BSY Bisya 73.22 286 P **P 10 40 53.8 +0.5**
SNR=19
H12A Diamond D Ranc 73.23 47 ⇑P **P 10 40 52.7 -0.4**
baz=73,SNR=9.2
G13A Cobalt 73.28 46 ⇓P **P 10 40 53.2 -0.1**
baz=73,SNR=33
MFID Camas Ranch 73.30 48 ⇑P **P 10 40 53.7 +0.3**
baz=73,SNR=20
MFID Camas Ranch 73.30 48 *e*P **P 10 40 53.7 +0.3**
comp=Z,154nm,1.5s,mb5.9
B17A L&G Farms, Che 73.34 42 ⇓P **P 10 40 53.6 +0.1**
baz=73
F14A Wisdom 73.37 45 ⇑P **P 10 40 52.6 -1.1**
baz=73,SNR=21
MICGM Minsk 73.39 326⇑*i*P **P 10 40 53.0 -0.8**
MNK Minsk 73.41 326*c i*P **P 10 40 53.0 -0.9**
MNK *e* 10 43 34.0
MNK *e*S S 10 50 24.0 +0.1
MNK pmax pmax
comp=Z,540nm,1.2s
MNK pmax pmax
comp=E,790nm,1.8s
MNK pmax pmax
comp=N,840nm,1.5s
MNK smax
comp=E,17μm,10.0s
MNK smax
comp=N,20μm,10.0s
MNK MLR MLR
comp=N,80μm,14.0s
MNK MLR MLR
comp=Z,179μm,14.0s
MNK MLR MLR
comp=E,88μm,12.0s
ARQ Araqi 73.42 287 P **P 10 40 55.1 +0.6**
SNR=35
DIGO Kars 73.42 308⇑*i*P **P 10 40 53.2 -1.0**
E15A Deer Lodge 73.42 44 ⇓P **P 10 40 53.5 -0.7**
baz=73,SNR=36
SAO San Andreas Ge 73.43 56 P **P 10 40 54.1 -0.3**
comp=E,104nm,1.5s,mb5.7
SAO San Andreas Ge 73.43 56 P **P 10 40 54.1 -0.2**
SAO pmax pmax
comp=Z,105nm,1.5s,mb5.8
CMB Columbia Colle 73.44 55 *e*P **P 10 40 53.7 -0.7**
comp=Z,64nm,1.0s,mb5.7
CMB Columbia Colle 73.44 55 *e*P **P 10 40 53.7 -0.7**
CMB pmax pmax
comp=Z,64nm,1.0s,mb5.7
A18A Metzger Ranch, 73.47 41 ⇑P **P 10 40 53.5 -0.8**
baz=73,SNR=22
KARS Kars 73.49 308 *e*P **P 10 40 58.2 +3.6**
I12A Atlanta 73.50 48 ⇑P **P 10 40 54.4 -0.2**
baz=73,SNR=30
H13A Challis 73.58 47 ⇓P **P 10 40 54.4 -0.6**
baz=73,SNR=35
NACGM Naroch 73.61 327 *e*P **P 10 40 52.0 -3.1**
ASUD Al Ashush, Dub 73.63 289 P **P 10 40 55.6 -0.1**
SNR=12
FFC Flin Flon 73.64 33 *e*P **P 10 40 54.7 -0.6**
comp=Z,184nm,1.3s,mb6.0
FFC LR LR
comp=Z,10μm,21.0s,MS6.1
FFC Flin Flon 73.64 33 *i*P **P 10 40 55.1 -0.1**
FFC Flin Flon 73.64 33 P **P 10 40 54.5 -0.7**
comp=Z,457nm,1.1s,mb6.4,SNR=14
G14A Jackson 73.64 46 ⇑P **P 10 40 55.3 -0.1**
baz=73
D16A Dana Ranch, Ca 73.67 43 ⇑P **P 10 40 55.8 +0.2**
baz=74,SNR=19
DYDN Diyadin 73.71 307⇑*i*P **P 10 40 56.8 +0.8**
HRY Holter Researc 73.71 44 *e*P **P 10 40 56.4 +0.6**
comp=Z,71nm,1.0s,mb5.7
C17A Wharram Farm, 73.75 42 ⇑P **P 10 40 54.6 -1.4**

baz=74,SNR=17
CLDR Caldiran 73.78 307 *e*P **P 10 40 58.7 +2.3**
B18A Beardsley Farm 73.82 41 ⇓P **P 10 40 56.2 -0.2**
baz=74,SNR=33
F15A Butte 73.85 45 ⇓P **P 10 40 56.6 0.0**
baz=74,SNR=61
SOC Sochi 73.87 312*c i*P **P 10 40 56.2 -0.6**
SOC *e* 10 41 09.1
SOC *e* 10 43 39.1
SOC *e*PPP 10 45 23.7
SOC *i* S S 10 50 28.1 -1.4
SOC *e* 10 51 03.1
SOC pmax pmax
comp=Z,281nm,1.2s,mb6.2
SOC pmax pmax
comp=Z,2μm,3.0s
SOC MLR MLR
comp=Z,47μm,17.0s,MS6.8
LRM Limekiln Ridge 73.88 45 *e*P **P 10 40 56.9 +0.1**
comp=Z,1μm,1.0s,mb6.8
ARTV Artvin 73.90 309⇑*i*P **P 10 40 56.1 -0.8**
E16A East Helena 73.90 44 ⇑P **P 10 40 57.0 +0.1**
baz=74,SNR=12
BCA Borcka 73.94 310 *e*P **P 10 40 57.7 +0.5**
DAGI Agillar 73.97 309⇑*i*P **P 10 40 57.4 -0.1**
DBOC Borcka 73.97 310⇑*i*P **P 10 40 57.3 -0.1**
I13A Wildhorse Cree 74.03 47 ⇓P **P 10 40 58.1 +0.4**
baz=74,SNR=28
EGMT Eagleton 74.06 42 ⇑P **P 10 40 57.4 -0.5**
baz=74,SNR=21
EGMT Eagleton 74.06 42 *e*P **P 10 40 57.6 -0.2**
comp=Z,148nm,1.3s,mb5.9
EGMT LR LR
comp=Z,13μm,20.0s,MS6.2
HLID Hailey 74.06 47 PFAKE 10 41 10.0 +12
HLID LR LR
comp=Z,9μm,20.0s,MS6.0
H14A Leadore 74.06 46 ⇓P **P 10 40 57.1 -0.8**
baz=74,SNR=12
DLMT Dillon 74.07 45 *e*P **P 10 40 58.0 +0.1**
comp=Z,98nm,1.1s,mb5.8
DLMT *e*S S 10 50 34.0 +2.3
D17A Six Diamond Ra 74.08 43 ⇓P **P 10 40 57.9 -0.1**
baz=74,SNR=21
AGRB Hanur-Agry 74.14 308 *e*P **P 10 40 59.6 +1.2**
DBAD Bademkaya 74.14 309⇑*i*P **P 10 40 58.6 +0.2**
DDEM Demirkent 74.17 309⇑*i*P **P 10 40 58.1 -0.5**
B19A Brinkman Farms 74.23 41 ⇑P **P 10 40 58.0 -0.8**
baz=74,SNR=8.4
MCMT McKenzie Canyo 74.24 46 *e*P **P 10 40 58.0 -0.9**
comp=Z,7.3nm,0.8s
G15A Dillon 74.25 45 ⇑P **P 10 40 58.6 -0.4**
baz=74
J13A Cove Ranch, Pi 74.30 47 ⇓P **P 10 40 59.6 +0.3**
baz=74,SNR=20
TUTA Tutak 74.35 308⇑*i*P **P 10 41 00.1 +0.5**
F16A Kennard Place, 74.37 44 ⇓P **P 10 40 59.3 -0.4**
baz=74,SNR=44
E17A Martinsdale 74.39 43 ⇑P **P 10 40 59.6 -0.2**
baz=74
I14A Mackay 74.42 47 ⇓P **P 10 41 00.7 +0.7**
baz=74,SNR=48
VANB Van 74.43 307 *e*P **P 10 41 01.1 +1.0**
BOZ Bozeman (W) 74.45 44 ⇓P **P 10 41 00.1 0.0**
baz=74,SNR=109
BOZ Bozeman (W) 74.45 44 *e*P **P 10 41 00.5 +0.4**
comp=Z,74nm,1.0s,mb5.7
BOZ LR LR
comp=Z,9μm,19.0s,MS6.1
BOZ Bozeman (W) 74.45 44 *e*P **P 10 41 00.5 +0.4**
BOZ pmax pmax
comp=Z,74nm,1.0s,mb5.7
BOZ MLR MLR
comp=Z,9μm,19.0s,MS6.1
H15A Lima 74.48 46 ⇑P **P 10 41 00.6 +0.2**
baz=74,SNR=10.0
ANN Anapa 74.50 314*c i*P **P 10 40 59.8 -0.6**
ANN *e* 10 43 48.8
ANN *i* S S 10 50 38.2 +1.7
ANN pmax pmax
comp=N,127nm,1.4s
ANN pmax pmax
comp=E,209nm,1.4s
ANN pmax pmax
comp=Z,447nm,1.4s,mb6.3
ANN pmax pmax
comp=N,335nm,6.6s
ANN pmax pmax
comp=E,342nm,6.6s
ANN pmax pmax
comp=Z,2μm,6.6s
ANN smax
comp=N,7μm,12.7s
ANN smax
comp=E,5μm,12.7s
ANN smax
comp=Z,2μm,12.7s
A20A Cobblestone Ra 74.50 40 ⇓P **P 10 40 59.8 -0.6**
baz=74,SNR=14
D18A Linhart Farms, 74.53 42 ⇑P **P 10 41 00.0 -0.6**
baz=74,SNR=13
HOMI Horasan 74.56 308⇑*i*P **P 10 41 01.6 +0.7**
NVAR Mina Array Bea 74.58 54 P **P 10 41 01.2 +0.2**
comp=Z,9.2nm,0.7s,mb4.9,baz=289,slow=5.3,SNR=48
NVAR PKPPKP 11 08 22.2
comp=Z,0.2nm,0.5s,baz=48,slow=1.3,SNR=3.5
NVAR LR LR 11 09 20.5
comp=Z,12μm,20.3s,MS6.2,baz=65,slow=32
NVAR Mina Array Bea 74.58 54 P **P 10 41 01.2 +0.2**
NVAR P'P' 11 08 22.2
G16A Moss Hill, Enn 74.60 45 ⇓P **P 10 41 00.9 -0.2**
baz=74,SNR=24
C19A Slack Wire Ran 74.61 42 ⇓P **P 10 41 00.8 -0.2**
baz=74,SNR=32
MLAC Mammoth Lakes 74.68 54 ⇓P **P 10 41 01.8 +0.1**
baz=74
B20A Solberg Farm, 74.72 41 ⇑P **P 10 41 01.1 -0.6**
baz=74
J14A Carey 74.73 47 ⇑P **P 10 41 02.2 +0.4**
baz=74
GEVA Gevas 74.81 306⇑*i*P **P 10 41 02.5 +0.2**
HAKT HAKKARI 74.81 306⇑*i*P **P 10 41 00.9 -1.4**
MOL Molde 74.81 340 *e*P **P 10 41 04.0 +2.1**
MOL AMB AMB 10 41 31.3
comp=Z,261nm,1.1s,mb6.2
MOL *e*S S 10 50 40.3 +0.9
MOL AMS AMS 11 19 00.4
comp=Z,29μm,17.3s,MS6.6
F17A Fitzpatrick Pl 74.84 44 ⇓P **P 10 41 02.5 +0.1**
baz=75,SNR=24
E18A Harlowton 74.85 43 ⇑P **P 10 41 01.9 -0.6**
baz=75,SNR=18
HFS Hagfors 74.89 336 LR LR 11 17 48.4
comp=Z,46μm,18.7s,MS6.8,baz=27,slow=39
I15A Monteview 74.94 46 ⇓P **P 10 41 03.6 +0.6**
baz=75,SNR=11
A21A Bergtoll Ranch 74.95 40 ⇓P **P 10 41 02.9 -0.1**
baz=75,SNR=17
NB2 NORSAR Subarra 74.97 338 P **P 10 41 02.7 -0.2**
comp=Z,298nm,1.4s,mb6.1,baz=38,slow=5.9
NOA NORSAR Array B 74.97 338 P **P 10 41 02.2 -0.7**
comp=Z,124nm,1.1s,mb5.9,baz=39,slow=5.8,SNR=36
NOA LR LR 11 18 43.8
comp=Z,34μm,18.6s,MS6.7,baz=30,slow=40
NOA NORSAR Array B 74.97 338 P **P 10 41 02.2 -0.7**
NOA NORSAR Array B 74.97 338 P **P 10 41 02.2 -0.7**
NOA pmax pmax
comp=Z,125nm,1.1s
NOA MLR MLR
comp=Z,34μm,18.6s
ERZM Erzurum 74.98 309⇑*i*P **P 10 41 03.4 +0.1**
D19A Cripps Ranch, 75.05 42 ⇑P **P 10 41 03.1 -0.5**
baz=75,SNR=24
QLMT Earthquake Lak 75.05 45 *e*P **P 10 41 04.6 +1.0**
comp=Z,14nm,1.1s,mb4.9
NC602 NORSAR Array S 75.11 337 *e*P **P 10 41 06.5 +2.8**
NC602 *e*S S 10 50 46.3 +3.6
G17A Pierce Place, 75.15 44 ⇓P **P 10 41 04.8 +0.6**
baz=75,SNR=11
RCTC Rector, Farmer 75.16 56 ⇓P **P 10 41 04.2 -0.2**
baz=75
C20A Veseth Ranch, 75.18 41 ⇑P **P 10 41 03.9 -0.5**
baz=75,SNR=22
SMMC Simmler 75.21 57 ⇓P **P 10 41 05.1 +0.3**
baz=75
AKASG Malin Array Be 75.22 323 P **P 10 41 03.9 -0.6**
comp=Z,120nm,0.8s,mb6.0,baz=46,slow=5.9,SNR=72
AKASG LR LR 11 13 32.1
comp=Z,27μm,18.5s,MS6.6,baz=50,slow=35
AKASG Malin Array Be 75.22 323 P **P 10 41 03.9 -0.6**
AKASG Malin Array Be 75.22 323 P **P 10 41 03.9 -0.6**
AKASG pmax pmax
comp=Z,120nm,0.8s
AKASG MLR MLR
comp=Z,27μm,18.5s
AKBB Malin Array Si 75.22 323 *e*P **P 10 41 03.9 -0.6**
AKBB *e*PP PP 10 43 52.4 +0.2
AKBB Malin Array Si 75.22 323 *e*P **P 10 41 03.9 -0.6**
AKBB *e* 10 43 52.4
NAO01 NORSAR Array S 75.22 338 *e*P **P 10 41 06.0 +1.6**
comp=Z,148nm,1.3s,mb5.8
NAO01 LR LR
comp=Z,44μm,19.0s,MS6.8
KIEV Kiev 75.23 323 *e*P **P 10 41 03.7 -0.8**
comp=Z,459nm,1.4s,mb6.3
KIEV *e*PP PP 10 43 51.1 -1.2
KIEV *e*S S 10 50 51.1 +6.6
KIEV LR LR
comp=Z,27μm,20.0s,MS6.5
KIEV Kiev 75.23 323 *e*P **P 10 41 03.7 -0.8**
KIEV *e* 10 43 51.1
KIEV pmax pmax
comp=Z,459nm,1.4s,mb6.3
KIEV MLR MLR
comp=Z,27μm,20.0s,MS6.5
H16A Russell Place, 75.23 45 ⇑P **P 10 41 04.5 -0.2**
baz=75,SNR=25
B21A Ellsworth Farm 75.25 40 ⇑P **P 10 41 04.4 -0.4**
baz=75,SNR=5.5
RAO Raoul Island 75.28 145 PFAKE 10 41 20.0 +15
RAO LR LR
comp=Z,10μm,20.0s,MS6.1
J15A Blackfoot 75.32 47 ⇓P **P 10 41 06.1 +0.9**
baz=75
KTUT Trabzon 75.35 310 *e*P **P 10 41 05.3 -0.2**
VRTB Varto-Mus 75.35 308 *e*P **P 10 41 09.5 +4.0**
F18A Big Timber 75.36 43 ⇑P **P 10 41 04.9 -0.6**
baz=75,SNR=30
K14A Jones Ranch, D 75.39 48 ⇑P **P 10 41 05.2 -0.5**
baz=75,SNR=18
TIN Tinemaha 75.41 55 ⇓P **P 10 41 05.3 -0.5**
baz=75
YMR Madison River 75.41 45 *e*P **P 10 41 06.6 +0.9**
comp=Z,165nm,1.4s,mb5.9
KOPT Kop Dagi 75.46 309⇑*i*P **P 10 41 07.3 +1.2**
GCMT Greycliff 75.46 43 *e*P **P 10 41 06.5 +0.5**
comp=Z,91nm,1.3s,mb5.6
BAYT Ayd¨–ntepe-Bay 75.46 310 *e*P **P 10 41 06.7 +0.6**
A22A Carney Farms, 75.46 39 ⇓P **P 10 41 04.4 -1.5**
baz=75,SNR=22
TPH Tonopah 75.48 53 PFAKE 10 41 20.0 +14
TPH LR LR
comp=Z,12μm,20.0s,MS6.2
D20A Manuel Ranch, 75.50 42 ⇓P **P 10 41 05.9 -0.2**
baz=75
VES Vestal, Richgr 75.53 56 ⇑P **P 10 41 06.0 -0.6**
baz=75,SNR=13
E19A Rath Farm, Rou 75.53 43 ⇑P **P 10 41 06.4 0.0**
baz=75,SNR=53
YNR Norris Junctio 75.55 45 *e*P **P 10 41 06.1 -0.4**
comp=Z,114nm,1.3s,mb5.8
PKM Peak Mountain 75.57 57 ⇓P **P 10 41 06.8 0.0**
baz=75
C21A Desert Coulee 75.59 41 ⇑P **P 10 41 06.6 -0.1**
baz=75,SNR=7.4
I16A Newdale 75.59 46 ⇓P **P 10 41 07.1 +0.3**
baz=75,SNR=62
YFT Old Faithful 75.62 45 *e*P **P 10 41 08.0 +1.0**
comp=Z,319nm,1.6s,mb6.2
L14A Malta 75.66 48 ⇓P **P 10 41 07.7 +0.5**
baz=76,SNR=14
BNGL BINGOL 75.66 308⇑*i*P **P 10 41 07.3 0.0**
K15A Arbon 75.69 47 ⇓P **P 10 41 08.0 +0.6**
baz=76,SNR=15
SUW Suwalki 75.77 328 *e*P **P 10 41 07.3 -0.3**
SUW *e*pP 10 41 09.3
SUW *e*PcP PcP 10 41 17.2 -3.1
SUW *e*S S 10 50 51.0 +0.7
SUW LMZ 11 18 37.5
comp=Z,40μm,19.0s
SUW Suwalki 75.77 328 *e*P **P 10 41 06.7 -0.9**
comp=Z,526nm,1.3s,mb6.5
SUW Suwalki 75.77 328 *e*P **P 10 41 07.3 -0.3**
SUW *e* 10 41 17.2
SUW *e*S S 10 50 51.0 +0.7
SUW MLR MLR
comp=Z,40μm,19.0s,MS6.7
LKWY Lake 75.80 45 *e*P **P 10 41 09.8 +1.9**
comp=Z,90nm,1.1s,mb5.8
LKWY LR LR
comp=Z,16μm,19.0s,MS6.3
LKWY Lake 75.80 45 *e*P **P 10 41 09.8 +1.9**
LKWY pmax pmax
comp=Z,90nm,1.1s,mb5.8
LKWY MLR MLR
comp=Z,16μm,19.0s,MS6.3
H17A Grant Village 75.80 45 ⇑P **P 10 41 07.9 0.0**
baz=76,SNR=12
G18A Lazy EL Ranch, 75.81 44 ⇑P **P 10 41 07.5 -0.4**
baz=76
F19A Roth Farm, Mol 75.82 43 ⇓P **P 10 41 07.9 -0.2**
baz=76,SNR=22
CWC Cottonwood Cre 75.86 55 ⇑P **P 10 41 08.3 -0.1**
baz=76
B22A Reddig Ranch S 75.86 40 ⇓P **P 10 41 07.7 -0.5**
baz=76
E20A Meyer Farm, Mu 75.86 42 ⇓P **P 10 41 08.2 -0.1**
baz=76,SNR=35
J16A Bone 75.88 46 ⇓P **P 10 41 08.8 +0.4**
baz=76,SNR=15
SBC Santa Barbara 75.90 58 ⇑P **P 10 41 09.0 +0.3**
baz=76
FLWY Flagg Ranch 75.92 45 *e*P **P 10 41 09.1 +0.4**
comp=Z,391nm,1.7s,mb6.3
FLWY *e*S S 10 51 02.8 +10
DCID1 Drake Creek 75.94 46 *e*P **P 10 41 09.7 +0.9**
comp=Z,218nm,1.3s,mb6.1
BNGB Bing ¶ll 75.94 308 *e*P **P 10 41 09.8 +0.9**
GRAC Grapevine Rang 76.00 54 ⇓P **P 10 41 09.4 +0.1**
baz=76
RRI2 Red Ridge 76.00 46 *e*P **P 10 41 09.6 +0.4**
comp=Z,232nm,1.5s,mb6.1
A23A Redstone 76.01 39 ⇑P **P 10 41 09.1 0.0**
baz=76
ISA Isabella 76.04 56 ⇑P **P 10 41 09.0 -0.5**
baz=76
ISA Isabella 76.04 56 *e*P **P 10 41 09.1 -0.4**
comp=Z,51nm,1.2s,mb5.5
ISA Isabella 76.04 56 *e*P **P 10 41 09.1 -0.4**
ISA pmax pmax
comp=Z,51nm,1.2s,mb5.5
HVU Hansel Valley 76.09 48 *e*P **P 10 41 10.3 +0.7**
comp=Z,112nm,1.5s,mb5.8
HVU Hansel Valley 76.09 48 *e*P **P 10 41 10.3 +0.7**
HVU pmax pmax
comp=Z,111nm,1.5s,mb5.8
I17A Pilgrim Ck. 76.09 45 ⇑P **P 10 41 09.6 0.0**
baz=76,SNR=9.9
RLMT Red Lodge 76.09 44 ⇑P **P 10 41 09.8 +0.2**
baz=76,SNR=21
RLMT Red Lodge 76.09 44 *e*P **P 10 41 10.3 +0.7**
comp=Z,315nm,0.7s,mb6.5
RLMT *e*PcP PcP 10 41 20.9 -0.9
RLMT LR LR
comp=Z,10μm,19.0s,MS6.2
MOOW Moose Ponds 76.09 46 *e*P **P 10 41 10.6 +0.9**
comp=Z,111nm,1.4s,mb5.8
ARVC Arvin 76.11 57 ⇓P **P 10 41 09.4 -0.5**
baz=76
D21A La Casta Ranch 76.12 41 ⇓P **P 10 41 09.3 -0.5**
baz=76,SNR=20
TPAW Teton Pass 76.13 46 *e*P **P 10 41 10.6 +0.7**
comp=Z,193nm,1.4s,mb6.0
TPAW *e*S S 10 51 04.1 +9.4
H18A Shoshone NF, C 76.14 44 ⇑P **P 10 41 10.2 +0.3**
baz=76
KELT Kelkit 76.15 310⇑*i*P **P 10 41 09.2 -0.8**
K16A Soda Springs 76.16 47 ⇑P **P 10 41 09.8 -0.3**
baz=76,SNR=19
L15A Malad City 76.19 48 ⇓P **P 10 41 10.7 +0.5**
baz=76,SNR=17
ERZN Erzincan 76.19 309 *e*P **P 10 41 10.9 +0.6**
BSC Santa Cruz Isl 76.21 58 ⇓P **P 10 41 10.4 -0.1**
baz=76
LOHW Long Hollow 76.26 46 *e*P **P 10 41 11.8 +1.2**
comp=Z,164nm,1.8s,mb5.9
SNOW Snow King Moun 76.26 46 *e*P **P 10 41 11.6 +1.0**
comp=Z,206nm,1.5s,mb6.0
REDW Red Top Meadow 76.27 46 *e*P **P 10 41 11.5 +0.9**
comp=Z,132nm,1.4s,mb5.9
DAC Darwin (Calif) 76.27 55 PFAKE 10 41 20.0 +9.2
DAC LR LR
comp=Z,14μm,21.0s,MS6.3
B23A Brockton 76.27 39 ⇓P **P 10 41 09.3 -1.2**
baz=76,SNR=31
C22A Vida 76.27 40 ⇑P **P 10 41 10.2 -0.4**
baz=76
SIM Simferopol' 76.29 316*de*P **P 10 41 00.1 -11**
SIM *e*S S 10 50 47.0 -9.3
SIM pmax pmax
comp=Z,155nm,1.0s,mb6.1
FOO Floro 76.29 341 *e*P **P 10 41 10.2 -0.2**
FOO *e*S S 10 50 59.1 +3.4
F20A Billings 76.29 43 ⇓P **P 10 41 10.4 -0.3**
baz=76
SFJD Kangerlussuaq 76.30 5 *e*P **P 10 41 09.2 -1.2**
comp=Z,66nm,0.8s,mb5.8
SFJD LR LR
comp=Z,17μm,19.0s,MS6.4
SFJD Kangerlussuaq 76.30 5 *e*P **P 10 41 09.2 -1.2**
SFJD pmax pmax
comp=Z,66nm,0.8s,mb5.8
SFJD MLR MLR
comp=Z,17μm,19.0s,MS6.4
SFJD Kangerlussuaq 76.30 5 *i*P **P 10 41 11.9 +1.5**
comp=Z,26nm,0.9s,mb5.4
SFJD
comp=Z,12μm,20.0s
J17A Brown Place, J 76.35 46 ⇑P **P 10 41 11.4 +0.3**
baz=76,SNR=16
R11A Troy Canyon, C 76.37 52 ⇑P **P 10 41 11.5 +0.2**
baz=76,SNR=33
E21A Keefer Ranch, 76.41 42 ⇓P **P 10 41 11.5 +0.2**
baz=76,SNR=13
MPMC Manual Prospec 76.46 55 ⇑P **P 10 41 12.0 +0.1**
baz=76,SNR=20
OSI Osito Adit 76.47 57 ⇑P **P 10 41 11.3 -0.7**
baz=76
OSI Osito Adit 76.47 57 *e*P **P 10 41 12.8 +0.9**
comp=Z,48nm,0.8s,mb5.7
M15A Larsen Ranch, 76.47 48 ⇓P **P 10 41 11.6 -0.2**
baz=76
A24A Westby 76.47 38 ⇓P **P 10 41 11.2 -0.5**
baz=76
AHID Auburn Hatcher 76.49 47 P **P 10 41 13.4 +1.6**
comp=Z,211nm,1.7s,mb6.0
AHID LR LR
comp=Z,14μm,22.0s,MS6.2
D22A Cohagen 76.50 41 ⇓P **P 10 41 11.8 -0.1**
baz=76,SNR=20
H19A Powell 76.53 44 ⇑P **P 10 41 12.0 -0.1**
baz=76,SNR=15
BLG Laguna Peak 76.53 58 ⇑P **P 10 41 11.7 -0.6**
baz=76
KONO Kongsberg 76.56 338 *e*P **P 10 41 14.8 +2.8**
KONO AMB AMB 10 41 28.4
comp=Z,197nm,2.0s,mb5.9
KONO *e*S S 10 50 56.8 -2.1
KONO AMS AMS 11 20 02.9
comp=Z,33μm,16.9s,MS6.7
KONO Kongsberg 76.56 338 *e*P **P 10 41 13.9 +1.9**
comp=Z,274nm,1.6s,mb6.1
KONO LR LR
comp=Z,44μm,19.0s,MS6.8
KONO Kongsberg 76.56 338 *e*P **P 10 41 13.9 +1.9**
KONO pmax pmax
comp=Z,274nm,1.6s,mb6.1
KONO MLR MLR
comp=Z,44μm,19.0s,MS6.8
C23A Lambert 76.60 40 ⇑P **P 10 41 12.3 -0.1**
baz=76,SNR=14
K17A Gardner Place, 76.60 47 ⇑P **P 10 41 12.0 -0.5**
baz=76
G20A Bridger 76.62 43 ⇑P **P 10 41 12.0 -0.6**
baz=76,SNR=14
FURC Furnace Creek, 76.64 55 ⇑P **P 10 41 11.9 -1.0**
baz=76,SNR=26
I18A Diamond G Ranc 76.66 45 ⇑P **P 10 41 12.9 +0.1**
baz=76,SNR=13
LRMC Laurel Mountai 76.67 56 ⇓P **P 10 41 12.7 -0.3**
baz=76,SNR=13
DGMT Dagmar 76.67 39 ⇑P **P 10 41 12.4 -0.4**
baz=76,SNR=9.2
DGMT Dagmar 76.67 39 *e*P **P 10 41 12.8 -0.1**
comp=Z,171nm,1.3s,mb6.0
DGMT LR LR
comp=Z,11μm,19.0s,MS6.2
MIB Mutribah 76.69 297 *e*P **P 10 41 12.0 -1.3**
MIB AMb AMB 10 41 21.2
comp=Z,394nm,1.1s,mb6.5
L16A Fish Haven 76.75 47 ⇑P **P 10 41 12.7 -0.6**
baz=77
LAO LASA Array 76.77 41 ⇑P **P 10 41 13.4 0.0**
baz=76,SNR=14
LAO LASA Array 76.77 41 *e*P **P 10 41 13.6 +0.2**
comp=Z,124nm,1.1s,mb6.0
LAO LR LR
comp=Z,13μm,20.0s,MS6.2
KBD Kabd 76.79 296 *e*P **P 10 41 12.8 -1.1**
KBD AMb AMB 10 41 28.9
comp=Z,292nm,1.8s,mb6.1
PTK Pertek 76.81 309 *e*P **P 10 41 14.0 +0.2**
EDW2 Edwards Air Fo 76.81 56 ⇓P **P 10 41 13.7 -0.2**
baz=77,SNR=20
F21A Absaloka Mine, 76.83 42 ⇓P **P 10 41 13.0 -0.8**
baz=77,SNR=10
MARD Mardin 76.86 307⇑*i*P **P 10 41 13.4 -0.7**
HWUT Hardware Ranch 76.91 48 *e*P **P 10 41 14.6 +0.3**
comp=Z,258nm,1.6s,mb6.1
HWUT LR LR
comp=Z,8μm,19.0s,MS6.1
I19A Meeteetse 76.92 45 ⇓P **P 10 41 14.6 +0.3**
baz=77,SNR=12
DIYA Diyarbakir 76.92 308⇑*i*P **P 10 41 14.4 -0.1**
DECC Green Verdugo 76.95 57 ⇓P **P 10 41 13.9 -0.7**
baz=77
D23A Lindsay 76.99 40 ⇓P **P 10 41 14.7 0.0**
baz=77,SNR=31
DUG Dugway 77.01 50 ⇑P **P 10 41 14.6 -0.4**
baz=77,SNR=34
DUG Dugway 77.01 50 *e*P **P 10 41 15.4 +0.5**
comp=Z,114nm,1.2s,mb5.9
DUG LR LR
comp=Z,9μm,19.0s,MS6.1
DUG Dugway 77.01 50 *e*P **P 10 41 15.5 +0.6**
DUG pmax pmax
comp=Z,114nm,1.2s,mb5.9
DUG MLR MLR
comp=Z,9μm,19.0s,MS6.1
L17A Cokeville 77.03 47 ⇓P **P 10 41 14.7 -0.3**
baz=77
RDF Al-Radifah 77.04 296 *e*P **P 10 41 14.5 -0.7**
RDF AMb AMB 10 41 23.7
comp=Z,836nm,1.0s,mb6.8
OUZ Omahuta 77.04 154 *e*P **P 10 41 18.8 +3.9**
comp=Z,327nm,1.5s,mb6.2
E22A Miles City 77.07 41 ⇑P **P 10 41 14.2 -1.0**
baz=77
NAY Al-Naaiem 77.08 297 *e*P **P 10 41 14.0 -1.5**
NAY AMb AMB 10 41 23.4
comp=Z,272nm,1.3s,mb6.2
PASC Pasadena Art C 77.09 57 *e*P **P 10 41 15.8 +0.3**
comp=Z,387nm,2.3s,mb6.1
RST Umm Al-Ruwaisa 77.11 297 *e*P **P 10 41 14.5 -1.2**
RST AMb AMB 10 41 29.1
comp=Z,72nm,1.0s,mb5.8
MWC Mount Wilson 77.14 57 *e*P **P 10 41 15.7 0.0**
comp=Z,94nm,1.4s,mb5.7
MWC Mount Wilson 77.14 57 *e*P **P 10 41 15.7 -0.1**
MWC pmax pmax
comp=Z,94nm,1.4s,mb5.7
KEMA Kemaliye 77.15 309⇑*i*P **P 10 41 16.0 +0.3**
NOQ North Ouirrh 77.16 49 *e*P **P 10 41 15.8 +0.1**
comp=Z,76nm,0.9s,mb5.8
C24A Savage 77.17 40 ⇑P **P 10 41 15.0 -0.6**
baz=77,SNR=13
G21A Lodge Grass 77.17 43 ⇑P **P 10 41 15.0 -0.7**
baz=77,SNR=11
SVRC Siwrice-ELAZID 77.17 308 *e*P **P 10 41 19.4 +3.6**
O15A The Old Anders 77.17 49 ⇑P **P 10 41 15.2 -0.6**
baz=77

K18A Toltan Ranch, 77.18 46 ⇑P P 10 41 15.5 -0.3
baz=77,SNR=16
RSDY Resadiye-TOKAT 77.19 311 *eP* **P 10 41 17.2 +1.3**
H20A Greybull 77.19 44 ⇑P P 10 41 15.2 -0.7
baz=77
BER Bergen 77.22 340 *eS* S 10 51 06.6 +0.7
BER AMS AMS 11 20 51.4
comp=Z,57µm,16.2s,MS7.0
FMP Fort Macarthur 77.28 58 ⇑P P 10 41 16.2 -0.3
baz=77
ELZG Elazig 77.30 309 ⇑*iP* **P 10 41 17.4 +0.9**
F22A Rosebud 77.33 42 ⇓P **P 10 41 16.0 -0.6**
baz=77,SNR=15
SHOC Shoshone 77.36 55 ⇑P P 10 41 16.1 -0.9
baz=77
GSC Goldstone 77.36 55 ⇓P **P 10 41 16.7 -0.2**
baz=77,SNR=9.6
GSC Goldstone 77.36 55 *eP* **P 10 41 17.2 +0.3**
comp=Z,44nm,1.2s,mb5.5
GSC Goldstone 77.36 55 *eP* **P 10 41 17.2 +0.3**
GSC pmax pmax
comp=Z,44nm,1.2s,mb5.5
J19A Crowheart 77.36 45 ⇓P **P 10 41 16.8 -0.1**
baz=77,SNR=40
ERBA Erbaa 77.36 311 ⇑*iP* **P 10 41 17.2 +0.3**
PD02 Pinedale Array 77.37 46 *eP* **P 10 41 16.6 -0.2**
E23A Ismay 77.38 41 ⇓P **P 10 41 16.5 -0.4**
baz=77,SNR=28
BW06 Boulder Array 77.38 46 ⇑P **P 10 41 16.4 -0.5**
baz=77,SNR=20
BW06 Boulder Array 77.38 46 *eP* **P 10 41 14.6 -2.4**
comp=Z,300nm,0.7s,mb6.5
BW06 LR LR
comp=Z,10µm,20.0s,MS6.1
PDAR Pinedale Array 77.38 46 P **P 10 41 16.9 -0.1**
comp=Z,6.9nm,0.8s,baz=289,slow=2.8,SNR=34
PDAR PKPPKP 11 08 21.7
comp=Z,0.9nm,1.0s,baz=100,slow=1.0,SNR=3.9
PDAR LR LR 11 09 53.0
comp=Z,9µm,20.6s,MS6.1,baz=330,slow=31
PDAR Pinedale Array 77.38 46 P **P 10 41 16.9 -0.1**
PDAR P'P' 11 08 21.7
CIS Catalina Islan 77.38 58 ⇑P **P 10 41 16.8 -0.3**
baz=77
BFSC Mount Baldy Ra 77.41 57 ⇓P **P 10 41 16.7 -0.6**
baz=77
I20A Worland 77.46 44 ⇑P **P 10 41 17.3 -0.1**
baz=77,SNR=14
RRX Edison Barstow 77.47 56 ⇓P **P 10 41 17.0 -0.6**
baz=77
D24A Glendive 77.49 40 ⇑P **P 10 41 17.1 -0.4**
baz=77,SNR=17
R13A O'Grain Ranch, 77.50 52 ⇑P **P 10 41 17.4 -0.3**
baz=77,SNR=18
M17A Scullys Gap (B 77.53 47 ⇑P **P 10 41 17.9 +0.1**
baz=77,SNR=18
SCI San Clemente I 77.53 58 ⇑P **P 10 41 17.5 -0.4**
baz=77
KVT Kavak 77.55 312 *eP* **P 10 41 18.9 +1.0**
JLU Jordanelle 77.59 49 *eP* **P 10 41 18.7 +0.6**
comp=Z,187nm,0.5s,mb6.5
L18A Fontenelle, Gr 77.62 47 ⇑P **P 10 41 18.5 +0.2**
baz=77,SNR=7.9
SCER sogukcermik 77.63 311 ⇑*iP* **P 10 41 17.8 -0.6**
H21A Big Horn, Sher 77.64 43 ⇓P **P 10 41 17.5 -0.8**
baz=77,SNR=20
DIKM Dikmen 77.67 313 *eP* **P 10 41 17.9 -0.6**
G22A Birney 77.67 42 ⇓P **P 10 41 17.9 -0.6**
baz=77,SNR=9.1
P15A Leamington 77.72 50 ⇓P **P 10 41 19.1 +0.3**
baz=78,SNR=17
HAVZ Havza 77.75 312 ⇑*iP* **P 10 41 19.3 +0.3**
TOKA Tokat 77.75 311 ⇑*iP* **P 10 41 19.1 0.0**
K19A Absolon Red Bu 77.76 46 ⇓P **P 10 41 18.5 -0.5**
baz=78,SNR=18
N17A Moffit Pass 77.76 48 ⇑P **P 10 41 19.2 +0.1**
baz=78,SNR=14
MALT Malatya 77.76 309 *eP* **P 10 41 18.6 -0.5**
O16A Springville 77.80 49 ⇓P **P 10 41 18.7 -0.6**
baz=78,SNR=14
F23A Volborg 77.83 42 ⇓P **P 10 41 18.1 -1.2**
baz=78,SNR=28
DAU Daniels Canyon 77.83 49 *eP* **P 10 41 20.4 +0.9**
comp=Z,83nm,1.1s,mb5.8
DAU Daniels Canyon 77.83 49 *eP* **P 10 41 20.4 +0.9**
DAU pmax pmax
comp=Z,83nm,1.1s,mb5.8
KIS Kishinev 77.83 320⇓*eP* **P 10 41 20.0 +0.6**
comp=Z,3µm,6.5s
KIS Kishinev 77.83 320 *e*PcP PcP 10 41 25.5 -3.8
KIS Kishinev 77.83 320 *e*PP PP 10 44 20.0 +5.7
KIS Kishinev 77.83 320 *e*PS 10 51 50.0
KIS *e*SS SS 10 56 45.0 +33
KIS *e*SSS 11 00 30.0
KIS *e*LR LR 11 06 20.0
comp=Z,65µm,15.0s
KIS Kishinev 77.83 320⇓*eP* **P 10 41 20.0 +0.6**
KIS *e* 10 41 25.5
KIS *e* 10 44 20.0
KIS *e* 10 46 07.0
KIS *e*S S 10 51 12.0 -1.1
KIS *e*PS 10 51 50.0
KIS pmax pmax
comp=Z,590nm,2.0s,mb6.4
KIS pmax pmax
comp=Z,3µm,6.5s
KIS pmax pmax
comp=Z,2µm,8.0s
KIS smax
comp=N,7µm,8.0s
KIS smax
comp=E,11µm,11.0s
KIS MLR MLR
comp=Z,65µm,15.0s,MS7.1
KIS Kishinev 77.83 320 *e*S S 10 51 12.0 -1.1
comp=Z,11µm,11.0s
MPU Maple Canyon 77.84 49 *eP* **P 10 41 20.1 +0.6**
comp=Z,93nm,1.1s,mb5.8
E24A Baker 77.86 40 ⇓P **P 10 41 19.4 -0.1**
baz=78,SNR=6.4
J20A Shoshoni 77.86 45 ⇑P **P 10 41 18.5 -1.1**
baz=78,SNR=16
TUQ Turquoise Moun 77.86 55 ⇑P **P 10 41 19.1 -0.6**
baz=78,SNR=18
BBRC Big Bear Solar 77.89 56 ⇓P **P 10 41 19.2 -0.7**
baz=78
L19A Farson 77.91 46 ⇑P **P 10 41 19.9 0.0**
baz=78,SNR=18
M18A Lyman 77.91 47 ⇓P **P 10 41 20.0 +0.1**
baz=78,SNR=16
HEC Hector,Ludlow 77.95 56 ⇓P **P 10 41 19.8 -0.5**
baz=78
HOMB Homborsund 78.01 337 *e*S S 10 51 15.6 +0.9
I21A Big Trails, Te 78.02 44 ⇓P **P 10 41 19.6 -0.8**
baz=78,SNR=28
URFA Urfa 78.04 308 *eP* **P 10 41 20.9 +0.2**
H22A Clearmont 78.04 43 ⇓P **P 10 41 19.6 -1.0**
baz=78
ARUT Antelope Range 78.07 52 *eP* **P 10 41 21.4 +0.6**
comp=Z,116nm,1.3s,mb5.8
ARUT *e*PcP PcP 10 41 30.8 +0.3
ARUT Antelope Range 78.07 52 *eP* **P 10 41 21.4 +0.5**
ARUT *e* 10 41 30.8
ARUT pmax pmax
comp=Z,115nm,1.3s,mb5.8
P16A Fountain Green 78.07 49 ⇓P **P 10 41 20.5 -0.4**
baz=78,SNR=10
MURC Murrieta 78.09 57 ⇑P **P 10 41 20.6 -0.4**
baz=78
AKCD Akcadag 78.09 309 ⇑*iP* **P 10 41 21.9 +0.9**
K20A Yellowstone Ra 78.15 45 ⇑P **P 10 41 20.9 -0.3**
baz=78,SNR=11
G23A Biddle 78.17 42 ⇓P **P 10 41 20.4 -0.9**
baz=78,SNR=19
BZK Bozkurt 78.21 314 *eP* **P 10 41 22.2 +0.6**
J21A Lysite 78.22 44 ⇑P **P 10 41 20.9 -0.7**
baz=78,SNR=13
BORG Borgarnes 78.24 353 PFAKE 10 41 30.0 +8.7
BORG LR LR
comp=Z,12µm,19.0s,MS6.2
F24A Ekalaka 78.25 41 ⇑P **P 10 41 21.6 -0.1**
baz=78,SNR=10
CCUT Cedar City 78.26 52 *eP* **P 10 41 22.5 +0.5**
comp=Z,510nm,0.6s,mb6.8
O17A Robinson Place 78.27 49 ⇑P **P 10 41 21.7 -0.3**
baz=78,SNR=14
BSD Bornholm Skovb 78.28 332 *i* P **P 10 41 23.5 +1.8**
BSD pmax pmax
comp=Z,140nm,1.2s,mb6.0
BSD MLR MLR
comp=Z,29µm,16.0s,MS6.7
BSD Bornholm Skovb 78.28 332 *i* P **P 10 41 23.5 +1.8**
comp=Z,141nm,1.2s,mb6.0
BSD
comp=Z,29µm,16.0s
LVV L'vov 78.29 324 *eP* **P 10 41 22.1 +0.3**
LVV *e* 10 41 29.3
LVV *e* 10 44 24.6
LVV *e*S S 10 51 14.0 -3.9
LVV *e* 10 56 12.0
BEL Belsk 78.33 327 *eP* **P 10 41 22.4 +0.4**
BEL *e*pP 10 41 24.5
BEL *e*PcP PcP 10 41 29.4 -2.0
BEL *e*S S 10 51 22.8 +4.6
BEL LMZ 11 20 10.8
comp=Z,38µm,18.0s
BEL Belsk 78.33 327 *eP* **P 10 41 22.4 +0.4**
BEL *e* 10 41 29.4
BEL *e*S S 10 51 22.8 +4.5
BEL MLR MLR
comp=Z,38µm,18.0s,MS6.8
IAS Iasi 78.34 321 ⇓P **P 10 41 25.0 +2.8**
IAS Iasi 78.34 321 ⇓*iP* **P 10 41 25.0 +2.8**
ATAB Bozova 78.35 308 ⇑*iP* **P 10 41 22.2 -0.2**
M19A Rock Springs 78.40 47 ⇓P **P 10 41 22.0 -0.7**
baz=78
MVU Marysvale 78.40 51 PFAKE 10 41 30.0 +7.3
MVU LR LR
comp=Z,9µm,20.0s,MS6.1
I22A 9 Mile Ranch, 78.41 44 ⇑P **P 10 41 22.3 -0.3**
baz=78,SNR=13
MSU Marysvale 78.42 51 *eP* **P 10 41 23.7 +0.9**
comp=Z,194nm,1.5s,mb6.0
MSU Marysvale 78.42 51 *eP* **P 10 41 23.7 +0.9**
MSU pmax pmax
comp=Z,194nm,1.5s,mb6.0
N18A Larsen Ranch, 78.43 47 ⇑P **P 10 41 21.9 -0.9**
baz=78
LEOM Leova 78.47 320 ⇑P **P 10 41 25.1 +2.2**
LEOM Leova 78.47 320 ⇑*iP* **P 10 41 25.1 +2.2**
TMUT Trail Mountain 78.54 49 *eP* **P 10 41 25.7 +2.2**
comp=Z,136nm,1.4s,mb5.8
R15A Junction 78.54 51 ⇓P **P 10 41 23.8 +0.3**
baz=78,SNR=16
L20A Wamsutter 78.56 46 ⇓P **P 10 41 23.6 +0.1**
baz=78,SNR=18
109C Camp Elliot, M 78.57 58 ⇑P **P 10 41 23.0 -0.7**
baz=78
H23A Clabaugh Cattl 78.58 43 ⇓P **P 10 41 22.2 -1.4**
baz=78
CTKT Corum 78.58 312 ⇑*iP* **P 10 41 22.9 -0.7**
PFO Pinyon Flat Ob 78.58 57 ⇑P **P 10 41 22.7 -1.1**
baz=78
PFO Pinyon Flat Ob 78.58 57 *eP* **P 10 41 24.6 +0.8**
comp=Z,52nm,1.3s,mb5.4
PFO LR LR
comp=Z,24µm,20.0s,MS6.5
PFO Pinyon Flat Ob 78.58 57 *eP* **P 10 41 24.7 +0.9**
PFO pmax pmax
comp=Z,52nm,1.3s,mb5.4
PFO MLR MLR
comp=Z,24µm,20.0s,MS6.5
G24A Alzada 78.61 41 ⇑P **P 10 41 23.1 -0.6**
baz=78
LDFC Landfair 78.61 55 *eP* **P 10 41 24.6 +0.6**
comp=Z,145nm,1.4s,mb5.8
SARI SarD1z-Kayseri 78.62 310 *eP* **P 10 41 26.0 +2.1**
DGAR Diego Garcia 78.67 252 *eP* **P 10 41 22.8 -1.6**
comp=Z,667nm,1.4s,mb6.5
DGAR LR LR
comp=Z,7µm,19.0s,MS6.0
DGAR Diego Garcia 78.67 252 ⇑*iP* **P 10 41 24.3 -0.2**
O18A Roosevelt 78.67 48 ⇓P **P 10 41 24.7 +0.6**
baz=78,SNR=27
P17A Butcher Ranch, 78.72 49 ⇓P **P 10 41 24.3 -0.1**
baz=78,SNR=25
J22A Midwest 78.72 44 ⇓P **P 10 41 23.9 -0.5**
baz=78,SNR=41
COP Copenhagen 78.75 334 ⇓*iP* **P 10 41 26.4 +2.1**
COP *i* S S 10 51 25.4 +2.7
COP pmax pmax
comp=Z,120nm,0.8s,mb6.0
COP MLR MLR
comp=Z,19µm,15.0s,MS6.5
COP Copenhagen 78.75 334 ⇓*iP* **P 10 41 26.4 +2.1**
comp=Z,122nm,0.8s,mb6.0
COP *i* S S 10 51 25.4 +2.7
COP
comp=Z,19µm,15.0s
GKP Gorka Klasztor 78.77 330 *eP* **P 10 41 24.4 -0.1**
GKP *e*pP 10 41 26.3
GKP *e*PcP PcP 10 41 28.7 -4.6
GKP *e*S S 10 51 18.0 -4.9
GKP LMZ 11 21 16.7
comp=Z,54µm,16.7s
GKP Gorka Klasztor 78.77 330 *eP* **P 10 41 24.4 0.0**
GKP *e* 10 41 28.7
GKP *e*S S 10 51 18.0 -4.9
GKP MLR MLR
comp=Z,54µm,16.7s,MS7.0
N19A John Jarvie Ra 78.77 47 ⇑P **P 10 41 24.3 -0.4**
baz=79,SNR=10.0
K21A Alcova 78.79 45 ⇑P **P 10 41 24.2 -0.6**
baz=79,SNR=23
Q16A Castle Valley 78.79 50 ⇓P **P 10 41 25.1 +0.3**
baz=79,SNR=14
PINB Pinarbasi 78.80 310 ⇑*iP* **P 10 41 25.6 +0.7**
GZT Gaziantep 78.89 308 ⇑*iP* **P 10 41 25.1 -0.3**
PRAR RASCA 78.90 322 ⇓*iP* **P 10 41 28.0 +2.7**
H24A Dirks Ranch, A 78.92 42 ⇑P **P 10 41 24.3 -1.1**
baz=79,SNR=22
P18A Preston Nutter 78.92 49 ⇑P **P 10 41 25.7 +0.1**
baz=79,SNR=19
I23A Meade Ranch, G 78.93 43 ⇓P **P 10 41 25.1 -0.5**
baz=79
CORM Corum 78.95 312 *eP* **P 10 41 27.9 +2.2**
M20A Sweetwater, Wa 78.98 46 ⇑P **P 10 41 26.4 +0.6**
baz=79,SNR=15
BAR Barrett 78.99 58 *eP* **P 10 41 25.4 -0.7**
comp=Z,92nm,1.4s,mb5.6
TLCR 79.03 319 ⇑P **P 10 41 27.5 +1.5**
TLCR 79.03 319 ⇑*iP* **P 10 41 27.5 +1.5**
KWP Kalwaria Pacla 79.03 325 *eP* **P 10 41 26.5 +0.5**
KWP *e*pP 10 41 28.5
KWP *e*PcP PcP 10 41 30.6 -3.9
KWP *e*S S 10 51 19.6 -6.2
KWP LMZ 11 21 52.6
comp=Z,51µm,16.6s
KWP Kalwaria Pacla 79.03 325 *eP* **P 10 41 26.2 +0.2**
comp=Z,941nm,1.3s,mb6.7
KWP LR LR
comp=Z,27µm,19.0s,MS6.6
KWP Kalwaria Pacla 79.03 325 *eP* **P 10 41 26.5 +0.5**
KWP *e* 10 41 30.6
KWP *e*S S 10 51 19.6 -6.3
KWP Kalwaria Pacla 79.03 325 ⇑*iP* **P 10 41 26.1 +0.1**
MONP Monument Peak 79.03 57 ⇑P **P 10 41 26.3 0.0**
baz=79
BNN Bunyan 79.04 310 *eP* **P 10 41 26.1 -0.1**
SRU San Rafael 79.07 49 *eP* **P 10 41 26.5 +0.1**
comp=Z,121nm,1.0s,mb5.9
SRU *e*S S 10 51 26.0 -0.7
SRU San Rafael 79.07 49 *eP* **P 10 41 26.5 +0.1**
SRU *e*S S 10 51 26.0 -0.7
SRU pmax pmax
comp=Z,121nm,1.0s,mb5.9
NEE2 Needles Airpor 79.12 55 ⇓P **P 10 41 26.2 -0.5**
baz=79
IRM Iron Mountain 79.13 56 ⇑P **P 10 41 26.2 -0.6**
baz=79,SNR=13
L21A Rawlins 79.15 45 ⇓P **P 10 41 26.7 -0.1**
baz=79,SNR=16
RAR Rarotonga 79.17 127 PFAKE 10 41 40.0 +13
RAR LR LR
comp=Z,15µm,20.0s,MS6.3
O19A Miners Draw (B 79.18 48 ⇑P **P 10 41 26.3 -0.7**
baz=79,SNR=8.9
K22A Casper 79.19 45 ⇓P **P 10 41 26.6 -0.3**
baz=79,SNR=16
TAU Tasmania Unive 79.20 176 P **P 10 41 34.3 +7.6**
comp=Z,158nm,1.5s,mb5.8
TAU LR LR
comp=Z,7µm,20.0s,MS6.0
TAU Tasmania Unive 79.20 176 P **P 10 41 34.3 +7.7**
TAU pmax pmax
comp=Z,159nm,1.5s,mb5.8
TAU MLR MLR
comp=Z,7µm,20.0s,MS6.0
KMRS Kahramanmaras 79.21 309 *eP* **P 10 41 28.1 +1.0**
GAZ Gaziantep 79.22 308 *eP* **P 10 41 30.5 +3.3**
BUR08 Bucovina Ar. S 79.22 322 *eP* **P 10 41 27.4 +0.3**
BUR08 *e*PP PP 10 44 22.9 -3.0
BURAR Bucovina Array 79.23 322 ⇑P **P 10 41 27.3 +0.2**
BURAR Bucovina Array 79.23 322 ⇑*iP* **P 10 41 27.3 +0.2**
J23A Dilts Ranch, B 79.25 43 ⇓P **P 10 41 26.5 -0.7**
baz=79
MUD Monsted U'grnd 79.26 336 *i* P **P 10 41 29.2 +2.1**
MUD pmax pmax
comp=Z,58nm,1.0s,mb5.6
MUD MLR MLR
comp=Z,39µm,17.0s,MS6.8
MUD Monsted U'grnd 79.26 336 *i* P **P 10 41 29.2 +2.1**
comp=Z,58nm,1.0s,mb5.6
MUD
comp=Z,39µm,17.0s
S16A Weppner Ranch, 79.27 51 ⇑P **P 10 41 27.1 -0.3**
baz=79
CANT Cankiri 79.28 313 *eP* **P 10 41 30.7 +3.2**
Q18A Rafter H Ranch 79.31 49 ⇑P **P 10 41 27.6 -0.1**
baz=79,SNR=15
N20A Spence Gulch, 79.35 47 ⇓P **P 10 41 27.6 -0.3**
baz=79
MDND Maddock 79.37 37 ⇑P **P 10 41 27.8 -0.1**
baz=79
M21A Separation Pea 79.38 46 ⇓P **P 10 41 27.4 -0.6**
baz=79
R17A Hanksville Air 79.39 50 ⇑P **P 10 41 27.7 -0.4**
baz=79,SNR=26
DVTC Desert V Tower 79.39 57 ⇑P **P 10 41 28.4 +0.2**
baz=79
CFR Carcaliu 79.39 319 ⇑P **P 10 41 29.5 +1.5**
CFR Carcaliu 79.39 319 ⇑*iP* **P 10 41 29.5 +1.5**
W13A Hualapai Mount 79.40 54 ⇑P **P 10 41 28.2 0.0**
baz=79,SNR=12
RWWY Rawlins 79.42 46 *eP* **P 10 41 28.7 +0.5**
comp=Z,48nm,0.8s,mb5.6
SWSC Sam W. Stewart 79.42 57 ⇓P **P 10 41 28.3 -0.1**
baz=79
ULM Lac du Bonnet 79.43 34 P **P 10 41 27.0 -1.1**
comp=Z,5.8nm,0.8s,mb4.7,baz=316,slow=8.4,SNR=8.7
ULM LR LR 11 14 29.1
comp=Z,15µm,21.1s,MS6.3,baz=90,slow=34
ULM Lac du Bonnet 79.43 34 *eP* **P 10 41 27.9 -0.2**
comp=Z,106nm,1.5s,mb5.7
ULM Lac du Bonnet 79.43 34 P **P 10 41 27.0 -1.1**
ULM pmax pmax
comp=Z,6.0nm,0.8s
CDAG Cicekdag 79.45 312 ⇑*iP* **P 10 41 28.5 +0.1**
ELDT Eldivan 79.47 313 ⇑*iP* **P 10 41 28.8 +0.2**
PETR 79.50 320 ⇓*iP* **P 10 41 31.9 +3.3**
ANDN Andirin 79.51 309 ⇑*iP* **P 10 41 28.5 -0.3**
KUZU Kuzuini 79.55 308 ⇑*iP* **P 10 41 28.6 -0.4**
RSSD Black Hills 79.61 42 *eP* **P 10 41 28.7 -0.5**
comp=Z,114nm,1.4s,mb5.6
RSSD *e*PP PP 10 44 30.0 +0.9
RSSD Black Hills 79.61 42 *eP* **P 10 41 28.7 -0.5**
RSSD *e* 10 44 30.0
RSSD pmax pmax
comp=Z,114nm,1.4s,mb5.6
U15A North Rim 79.62 52 ⇑P **P 10 41 29.8 +0.4**
baz=80,SNR=23
K23A Bowen Ranch, D 79.63 44 ⇑P **P 10 41 28.4 -1.0**
baz=79
L22A Ellis Ranch, M 79.64 45 ⇑P **P 10 41 29.8 +0.4**
baz=79,SNR=7.3
VRI Vrincioaia 79.66 320 ⇑P **P 10 41 29.9 +0.4**
VRI Vrincioaia 79.66 320 ⇑*iP* **P 10 41 29.9 +0.4**
P19A Cripple Cowboy 79.68 48 ⇓P **P 10 41 29.5 -0.2**
baz=80,SNR=30
AVNT Avonos 79.69 311 ⇑*iP* **P 10 41 29.4 -0.4**
PLOR Plostina 79.71 320 ⇓P **P 10 41 32.1 +2.4**
PLOR Plostina 79.71 320 ⇓*iP* **P 10 41 32.1 +2.4**
PDMCI Parker Dam,Lak 79.72 55 ⇑P **P 10 41 29.3 -0.7**
baz=80
TIRR Tirgusor 79.72 318 *eP* **P 10 41 28.4 -1.4**
comp=Z,48nm,1.4s,mb5.2
TIRR Tirgusor 79.72 318 ⇑P **P 10 41 31.8 +2.0**
TIRR Tirgusor 79.72 318 ⇑*iP* **P 10 41 31.8 +2.0**
KOLS Kolonicke sedl 79.73 325 *eP* **P 10 41 31.2 +1.4**
KOLS *e*S S 10 51 34.4 +1.1
KOLS Kolonicke sedl 79.73 325 *eP* **P 10 41 31.2 +1.4**
J24A Dixon Ranch, L 79.79 43 ⇑P **P 10 41 29.3 -0.9**
baz=80
Y12C Blythe 79.79 56 ⇓P **P 10 41 30.3 -0.1**
baz=80,SNR=9.6
O20A White River Ci 79.80 47 ⇓P **P 10 41 30.5 +0.2**
baz=80,SNR=14
S17A Black Ridge (B 79.81 51 ⇑P **P 10 41 30.2 -0.2**
baz=80,SNR=17
BR131 Keskin Array S 79.83 312 *eP* **P 10 41 30.1 -0.4**
comp=Z,118nm,1.1s,mb5.7
BR131 *e*PP PP 10 44 34.1 +2.9
BR131 LR LR
comp=Z,15µm,20.0s,MS6.3
BRTR Keskin Array B 79.83 312 P **P 10 41 30.4 -0.1**
comp=Z,73nm,1.1s,mb5.5,baz=101,slow=4.6,SNR=44
BRTR PP PP 10 44 36.5 +5.3
comp=Z,11nm,0.9s,baz=74,slow=6.6,SNR=4.2
BRTR LR LR 11 18 45.0
comp=Z,18µm,21.4s,MS6.4,baz=144,slow=37
BRTR Keskin Array B 79.83 312 P **P 10 41 30.4 -0.1**
BRTR PP PP 10 44 36.5 +5.3
BRTR Keskin Array B 79.83 312 P **P 10 41 30.4 -0.1**
BRTR 10 44 36.5
BRTR pmax pmax
comp=Z,73nm,1.1s
BRTR pmax pmax
comp=Z,11nm,0.9s
BRTR MLR MLR
comp=Z,18µm,21.4s
N21A Black Mountain 79.83 46 ⇑P **P 10 41 29.8 -0.7**
baz=80,SNR=13
STHS Stebnicka Huta 79.86 325 *eP* **P 10 41 31.5 +1.0**
STHS pmax pmax
comp=Z,200nm,1.1s,mb6.0
STHS Stebnicka Huta 79.86 325 *eP* **P 10 41 31.5 +1.0**
GRER 79.86 320 ⇑*iP* **P 10 41 30.7 +0.1**
KOZT Kozan 79.90 309 *eP* **P 10 41 32.6 +1.6**
R18A Canyonlands Na 79.91 50 ⇓P **P 10 41 30.7 -0.3**
baz=80,SNR=17
OJC Ojcow 79.93 327 *eP* **P 10 41 30.9 +0.1**
OJC *e*S S 10 51 35.4 0.0
OJC *e*SS SS 10 56 43.9 +0.4
OJC L 11 19 33.2
comp=Z,38nm,19.4s
OJC Ojcow 79.93 327 *eP* **P 10 41 30.9 +0.1**
OJC *e*S S 10 51 35.4 0.0
OJC *e*SS SS 10 56 43.9 +0.4
OJC MLR MLR
comp=Z,38µm,19.4s,MS6.8
UZH Uzhgorod 79.93 324 *eP* **P 10 41 28.7 -2.2**
UZH *e* 10 41 38.5
UZH *e* 10 41 44.9
UZH *e*S S 10 51 26.9 -8.6
UZH *e*PS 10 52 31.9
UZH *e*SS SS 10 56 40.9 -2.8
UZH MLR MLR
comp=N,31µm,15.0s,MS7.0
UZH MLR MLR
comp=E,50µm,15.0s,MS7.0
UZH MLR MLR
comp=Z,34µm,15.0s,MS6.8
Q19A Hogan Spring (79.94 49 ⇓P **P 10 41 30.6 -0.5**
baz=80,SNR=19
M22A Cedar Creek Ra 79.95 46 ⇓P **P 10 41 31.0 -0.1**
baz=80,SNR=9.5
L23A Garrett 80.00 45 ⇓P **P 10 41 30.8 -0.6**
baz=80,SNR=10
GLA Glamis 80.01 56 ⇑P **P 10 41 31.7 +0.1**
baz=80,SNR=8.3
GLA Glamis 80.01 56 *eP* **P 10 41 31.9 +0.3**
comp=Z,41nm,1.0s,mb5.3
GLA Glamis 80.01 56 *eP* **P 10 41 31.9 +0.3**
GLA pmax pmax
comp=Z,41nm,1.0s,mb5.3
BMR Baia Mare 80.03 323 P **P 10 41 32.3 +0.9**

BMR **Baia Mare** 80.03 323⇑*i*P P 10 41 34.0 +2.6
K24A **Anderson Ranch** 80.10 44 ⇑P P 10 41 30.9 -1.0
baz=80
KDZE **Karadeniz Ereo** 80.10 314 *e*P P 10 41 32.0 +0.1
P20A **De Beque** 80.12 48 ⇑P P 10 41 31.9 -0.2
baz=80,SNR=13
CRVS **Cervenica-Dubn** 80.13 325 *e*P P 10 41 32.2 +0.3
CRVS pmax pmax
comp=Z,175nm,1.4s,mb5.8
CRVS **Cervenica-Dubn** 80.13 325 *e*P P 10 41 32.1 +0.2
TRPA **Tarpa** 80.17 324⇑*i*P P 10 41 32.5 +0.3
PGOR **Pogoanele** 80.18 319⇑*i*P P 10 41 34.8 +2.5
AMRR **Amara** 80.19 319 ⇓P P 10 41 34.9 +2.5
AMRR **Amara** 80.19 319⇓*i*P P 10 41 34.9 +2.5
O21A **Pagoda** 80.21 47 ⇓P P 10 41 32.3 -0.2
baz=80,SNR=13
T17A **Navajo Res., N** 80.21 51 ⇓P P 10 41 32.3 -0.4
baz=80
CEYT **Ceyhan** 80.24 309 *e*P P 10 41 36.0 +3.2
LOD **Lodumlu** 80.24 313 *e*P P 10 41 31.6 -1.2
BBAL **Bala** 80.25 312⇑*i*P P 10 41 32.9 +0.2
NIE **Niedzica** 80.28 326 *e*P P 10 41 33.1 +0.4
NIE *e*pP 10 41 35.8 -1.3
NIE *e*PcP PcP 10 41 41.0 +1.1
NIE **Niedzica** 80.28 326 *e*P P 10 41 33.1 +0.4
NIE *e* 10 41 41.0
S18A **Hurst Farm, Bl** 80.28 50 ⇑P P 10 41 32.6 -0.4
baz=80,SNR=21
MLR **Muntele Rosu** 80.32 320 P P 10 41 33.2 +0.2
comp=Z,7.5nm,1.0s,baz=35,slow=4.2,SNR=25
MLR LR LR 11 19 23.8
comp=Z,12μm,21.2s,baz=41,slow=37
MLR **Muntele Rosu** 80.32 320 P P 10 41 33.2 +0.2
MLR **Muntele Rosu** 80.32 320 ⇑P P 10 41 34.0 +1.0
MLR **Muntele Rosu** 80.32 320⇑*i*P P 10 41 34.0 +1.0
AFSR **Af'ar-Bala (A** 80.34 312 *e*P P 10 41 33.0 -0.3
R19A **Curley Farm, L** 80.36 49 ⇑P P 10 41 33.2 -0.1
baz=80,SNR=23
M23A **Laramie** 80.41 45 ⇑P P 10 41 33.9 +0.3
baz=80
N22A **Wattenberg Ran** 80.42 46 ⇓P P 10 41 33.6 -0.1
baz=80
L24A **Wheatland** 80.48 44 ⇑P P 10 41 33.5 -0.5
baz=80
PV04 **Paradox Valley** 80.51 49 *e*P P 10 41 33.2 -1.0
Q20A **Ridgley Place,** 80.52 48 ⇓P P 10 41 34.1 -0.2
baz=80,SNR=15
U16A **Tuba City** 80.53 52 ⇑P P 10 41 33.9 -0.5
baz=80,SNR=24
U17A **Shonto** 80.55 51 ⇓P P 10 41 34.1 -0.4
baz=80,SNR=5.6
SECR 80.57 320⇓*i*P P 10 41 36.6 +2.2
YAYL **Yayladag** 80.62 308⇑*i*P P 10 41 35.0 +0.1
N23A **Red Feather La** 80.66 46 ⇑P P 10 41 35.0 0.0
baz=80,SNR=13
P21A **Newcastle** 80.66 47 ⇓P P 10 41 35.3 +0.3
baz=80
MDB **Medias** 80.67 322 P P 10 41 37.6 +2.7
PHWY **Pilot Hill** 80.67 45 *e*P P 10 41 35.0 0.0
comp=Z,65nm,1.2s,mb5.5
GULE **Gulek** 80.67 310⇑*i*P P 10 41 35.1 0.0
Y14A **Wickenburg** 80.68 55 ⇓P P 10 41 35.0 -0.2
baz=80
K25A **Mack Ranch, Ha** 80.70 43 ⇑P P 10 41 34.7 -0.4
baz=80
Z13A **Yuma Proving G** 80.70 56 ⇓P P 10 41 35.5 +0.2
baz=81,SNR=16
T18A **Mexican Hat** 80.70 51 ⇓P P 10 41 34.4 -0.9
baz=80,SNR=15
RAC **Raciborz** 80.73 327 *e*P P 10 41 35.7 +0.5
RAC *e*S S 10 51 42.5 -1.3
RAC MLR MLR
comp=Z,27μm,17.0s,MS6.7
RUE **Ruedersdorf** 80.74 331 *e*P P 10 41 35.9 +0.7
comp=Z,317nm,1.3s,mb6.2
KRTS **Karatas** 80.75 309 *e*P P 10 41 34.9 -0.6
WUAZ **Wupatki** 80.77 53 ⇓P P 10 41 36.2 +0.5
baz=81,SNR=13
WUAZ **Wupatki** 80.77 53 *e*P P 10 41 36.1 +0.5
comp=Z,136nm,1.3s,mb5.8
WUAZ LR LR
comp=Z,13μm,22.0s,MS6.2
S19A **Harvey Farm, M** 80.78 50 ⇓P P 10 41 35.7 +0.1
baz=81,SNR=24
O22A **Kremmling** 80.78 46 ⇓P P 10 41 35.7 +0.1
baz=81,SNR=7.7
MDUB **Mudurnu** 80.79 314 *e*P P 10 41 37.3 +1.6
VOIR 80.81 321 ⇓P P 10 41 36.3 +0.6
VOIR 80.81 321⇓*i*P P 10 41 36.3 +0.6
AGMN **Agassiz Nation** 80.83 35 *e*P P 10 41 34.8 -0.9
comp=Z,174nm,1.6s,mb5.8
AGMN LR LR
comp=Z,17μm,21.0s,MS6.4
SULT **Sultanhani-AKS** 80.87 311 *e*P P 10 41 36.6 +0.4
PV01 **Paradox Valley** 80.88 49 *e*P P 10 41 36.3 +0.2
comp=Z,46nm,0.2s,mb6.2
KECS **Kecovo** 80.88 325 *e*P P 10 41 36.8 +0.8
KECS pmax pmax
comp=Z,64nm,1.4s,mb5.5
KECS **Kecovo** 80.88 325 *e*P P 10 41 36.8 +0.8
KECS *e*PP PP 10 44 41.5 +1.9
BSEG **Bad Segeberg** 80.89 334 *e*P P 10 41 35.8 -0.1
comp=Z,485nm,1.3s,mb6.4
BSEG **Bad Segeberg** 80.89 334 *e*P P 10 41 35.8 -0.1
BSEG pmax pmax
comp=Z,485nm,1.3s,mb6.4
113A **Mohawk Valley,** 80.89 56 ⇓P P 10 41 35.5 -0.9
baz=81
M24A **Cheyenne** 80.92 45 ⇓P P 10 41 36.3 0.0
baz=81,SNR=10
OKC **Ostrava-Krasne** 80.93 327 *e*P P 10 41 36.0 -0.2
OKC *e*S S 10 51 51.2 +5.3
OKC MLR MLR
comp=Z,35μm,14.7s,MS6.8
OKC **Ostrava-Krasne** 80.93 327 *e*P P 10 41 36.0 -0.2
OKC *e*pP 10 41 38.8
OKC *e*S S 10 51 51.2 +5.3
OKC AMS AMS 11 22 50.0
comp=Z,35μm,14.7s
L25A **Engebretsen Ra** 80.95 44 ⇓P P 10 41 35.7 -0.7
baz=81
R20A **Redvale** 80.96 49 ⇓P P 10 41 36.7 +0.1
baz=81,SNR=22
KSP **Ksiaz** 80.97 329 *e*P P 10 41 36.2 -0.2
KSP *e*pP 10 41 38.7
KSP *e*S S 10 51 40.3 -6.0
KSP LMZ 11 27 29.9
comp=Z,40μm,16.6s
KSP **Ksiaz** 80.97 329 *e*P P 10 41 36.4 0.0
KSP *e*pP 10 41 38.6
KSP *e*S S 10 51 39.5 -6.8
KSP *e*SS SS 10 56 53.0 -6.1
KSP LM 11 27 34.0
comp=Z,82nm,16.6s
KSP **Ksiaz** 80.97 329⇑*e*P P 10 41 36.4 0.0
KSP *e*S S 10 51 39.5 -6.8
KSP *e*SS SS 10 56 53.0 -6.1
K26A **Motz Farm, Whi** 81.02 43 ⇑P P 10 41 36.1 -0.8
baz=81
P22A **Eagle** 81.02 47 ⇓P P 10 41 37.5 +0.6
baz=81,SNR=7.7
Q21A **Lamborn Mesa,** 81.03 48 ⇑P P 10 41 37.2 +0.2
baz=81,SNR=19
DRGR 81.03 323 P P 10 41 37.2 +0.4
DRGR 81.03 323⇑*i*P P 10 41 37.6 +0.8
V17A **Tonalea, Kykot** 81.07 52 ⇓P P 10 41 37.7 +0.4
baz=81
Z14A **Wintersburg** 81.07 55 ⇓P P 10 41 37.0 -0.3
baz=81
LIKS **Likavka** 81.09 326 *e*P P 10 41 39.8 +2.7
LIKS pmax pmax
comp=Z,114nm,1.1s,mb5.8
LIKS **Likavka** 81.09 326 *e*P P 10 41 39.8 +2.7
MERS **Mersin** 81.09 309 *e*P P 10 41 39.8 +2.4
PRD **Provadia** 81.11 318 P P 10 41 38.4 +1.1
O23A **Lake Granby, G** 81.12 46 ⇓P P 10 41 37.7 +0.3
baz=81
U18A **Rough Rock, Ch** 81.16 51 ⇓P P 10 41 37.8 +0.1
baz=81,SNR=19
SPNC **Sapanca-Adapaz** 81.16 315 *e*P P 10 41 39.1 +1.5
S20A **Disappointment** 81.20 49 ⇓P P 10 41 38.0 +0.1
baz=81,SNR=19
GULT **Gulveren** 81.21 314 *e*P P 10 41 39.1 +1.2
SILT **Sile** 81.23 315 *e*P P 10 41 38.0 0.0
MORC **Moravsky Berou** 81.24 327 *e*P P 10 41 37.8 -0.1
comp=Z,310nm,1.4s,mb6.1
MORC **Moravsky Berou** 81.24 327 ⇑P P 10 41 38.3 +0.4
MORC **Moravsky Berou** 81.24 327⇑*i*P P 10 41 38.3 +0.4
SVRH **Sivrihisar-ESK** 81.26 313 *e*P P 10 41 40.6 +2.4
N24A **Carr** 81.31 45 ⇓P P 10 41 39.1 +0.6
baz=81
DPC **Dobruska-Polom** 81.33 328 *e*P P 10 41 38.4 0.0
DPC *e*S S 10 51 50.0 -0.1
DPC MLR MLR
comp=Z,36μm,13.1s,MS6.9
DPC **Dobruska-Polom** 81.33 328 *e*P P 10 41 38.4 0.0
DPC *e*pP 10 41 41.4
DPC *e*S S 10 51 50.0 -0.1
DPC AMS AMS 11 24 10.0
comp=Z,36μm,13.1s
R21A **Cimarron** 81.34 48 ⇑P P 10 41 39.2 +0.6
baz=81,SNR=14
UPC **Upice** 81.34 329 *e*P P 10 41 38.1 -0.3
UPC **Upice** 81.34 329 *e*P P 10 41 38.1 -0.3
UPC *e*pP 10 41 41.0
KRLC **Kraliky** 81.35 328 *e*P P 10 41 38.6 +0.2
KRLC *e*pP 10 41 41.0
KRLC *e*x x 10 41 56.5
KRLC *e*x x 10 42 13.5
M25A **Palm-Egli Farm** 81.38 44 ⇑P P 10 41 38.4 -0.4
baz=81
X16A **Lo Mia Camp, P** 81.41 53 ⇓P P 10 41 39.4 +0.3
baz=81,SNR=19
Q22A **Crested Butte,** 81.41 48 ⇓P P 10 41 39.4 +0.4
baz=81,SNR=10
T19A **Beclabito** 81.42 50 ⇓P P 10 41 38.3 -0.8
baz=81,SNR=19
LOT **Lotru** 81.46 321⇑*i*P P 10 41 41.4 +2.3
W17A **Winslow** 81.46 53 ⇑P P 10 41 38.6 -0.7
baz=81
HUMR **Humele** 81.48 320⇑*i*P P 10 41 40.7 +1.5
114A **Black Gap (USA** 81.49 56 ⇓P P 10 41 39.5 0.0
baz=81,SNR=5.8
KLYT **Kilyos** 81.51 316 *e*P P 10 41 38.0 -1.4
MVCO **Mesa Verde** 81.51 50 ⇑P P 10 41 39.3 -0.3
baz=81,SNR=32
MVCO **Mesa Verde** 81.51 50 *e*P P 10 41 39.9 +0.4
comp=Z,124nm,1.3s,mb5.9
MVCO LR LR
comp=Z,9μm,21.0s,MS6.1
KDHN **Kadinhani** 81.51 312⇑*i*P P 10 41 39.8 +0.2
L26A **Underwood Farm** 81.52 43 ⇓P P 10 41 38.0 -1.5
baz=81
K27A **Flueckinger Fa** 81.53 42 ⇑P P 10 41 38.7 -0.9
baz=81,SNR=9.6
FKH **Fakeheh** 81.54 306 *e*P P 10 41 40.1 +0.4
PSZ **Piszkesteto** 81.56 325 *e*P P 10 41 38.8 -0.8
comp=Z,473nm,1.3s,mb6.5
PSZ LR LR
comp=Z,25μm,19.0s,MS6.6
PSZ **Piszkesteto** 81.56 325 ⇓P P 10 41 40.7 +1.1
PSZ **Piszkesteto** 81.56 325⇑*e*PcP PcP 10 41 41.9 -3.7
PSZ **Piszkesteto** 81.56 325⇓*i*P P 10 41 40.7 +1.1
ISCO **Idaho Springs** 81.56 46 ⇑P P 10 41 40.1 +0.3
baz=81,SNR=17
ISCO **Idaho Springs** 81.56 46 *e*P P 10 41 40.5 +0.8
comp=Z,130nm,1.6s,mb5.8
ISCO LR LR
comp=Z,8μm,19.0s,MS6.1
ISCO **Idaho Springs** 81.56 46 *e*P P 10 41 40.5 +0.7
ISCO pmax pmax
comp=Z,129nm,1.6s,mb5.8
ISCO MLR MLR
comp=Z,8μm,19.0s,MS6.1
V18A **Ganado** 81.56 52 ⇑P P 10 41 40.5 +0.6
baz=81,SNR=20
LADK **Ladik-KONYA** 81.56 312 *e*P P 10 41 38.9 -0.9
BORA **Eskisehir** 81.60 314⇑*i*P P 10 41 39.3 -0.7
ESKT **Eskisehir** 81.61 313⇑*i*P P 10 41 37.8 -2.2
VYHS **Vyhne** 81.62 326 *e*P P 10 41 40.1 +0.2
VYHS pmax pmax
comp=Z,116nm,1.3s,mb5.8
VYHS **Vyhne** 81.62 326 *e*P P 10 41 40.1 +0.2
VYHS *e*PP PP 10 44 46.8 +1.1
VYHS *e*S S 10 51 54.3 +1.2
VYHS *e*SS SS 10 57 07.3 -1.5
S21A **Coal Bank Pass** 81.65 49 ⇓P P 10 41 40.9 +0.6
baz=82,SNR=36
U19A **Dine' College,** 81.65 51 ⇑P P 10 41 40.6 +0.2
baz=82,SNR=18
ADVT **Abdulvahap** 81.65 315 *e*P P 10 41 40.4 +0.1
O24A **Longmont** 81.66 46 ⇓P P 10 41 40.8 +0.5
baz=82,SNR=9.4
BGKT **Bogazkoy** 81.70 316 *e*P P 10 41 40.5 0.0
P23A **Jefferson** 81.71 47 ⇓P P 10 41 40.6 0.0
baz=82,SNR=8.8
BUY **Buyukada** 81.73 315⇑*i*P P 10 41 39.4 -1.2
KONT **Konya--Tatoy** 81.73 311 *e*P P 10 41 41.0 +0.3
CAVI **Cavuskoy** 81.75 314 *e*P P 10 41 40.9 +0.1
KOLL **Kolacno** 81.75 326 *e*P P 10 41 41.7 +1.1
KOLL **Kolacno** 81.75 326 *e*P P 10 41 41.7 +1.1
N25A **Grover** 81.77 45 ⇓P P 10 41 40.9 0.0
baz=82
YLV **Yalova** 81.77 315 *e*P P 10 41 42.8 +1.9
CTYL **Yal??k??y-??at** 81.78 316 *e*P P 10 41 39.1 -1.8
HWQ **Hawqa** 81.82 307 *e*P P 10 41 41.1 -0.1
CTKS **Kestanelik-??a** 81.82 316 *e*P P 10 41 41.9 +0.8
SZH **Strazhica** 81.85 319 P P 10 41 43.0 +1.8
X17A **Forest Lakes** 81.87 53 ⇑P P 10 41 41.9 +0.4
baz=82,SNR=15
L27A **T5 Ranch, Ells** 81.91 43 ⇓P P 10 41 41.2 -0.4
baz=82
R22A **Saguache, Gunn** 81.91 48 ⇑P P 10 41 42.1 +0.4
baz=82,SNR=11
BRG **Berggiesshubel** 81.92 330 *i* P P 10 41 41.1 -0.3
comp=Z,28nm,1.3s,mb5.2
BRG *i* 10 41 43.3
comp=Z,139nm,1.4s
BRG S S 10 51 58.0 +1.9
BRG SS SS 10 57 13.0 0.0
BRG PKKP PKKPbc 11 00 43.3 +32
comp=Z,14nm,1.3s
BRG
comp=Z,47μm,14.1s
BRG
comp=N,27μm,14.0s
BRG
comp=E,27μm,14.0s
BRG **Berggiesshubel** 81.92 330 *e*P P 10 41 41.2 -0.2
comp=Z,168nm,1.5s,mb6.0
BRG **Berggiesshubel** 81.92 330 *i* P P 10 41 41.1 -0.3
BRG S S 10 51 58.0 +1.9
BRG SS SS 10 57 13.0 0.0
BRG 11 00 43.3
BRG pmax pmax
comp=Z,139nm,1.4s,mb5.9
BRG MLR MLR
comp=Z,47μm,14.1s,MS7.0
BRG MLR MLR
comp=N,27μm,14.0s,MS6.9
BRG MLR MLR
comp=E,27μm,14.0s,MS6.9
PVCC **Panska Ves** 81.93 329 *e*P P 10 41 41.6 +0.1
PVCC *e*S S 10 51 55.9 -0.3
PVCC MLR MLR
comp=Z,37μm,14.6s,MS6.9
PVCC **Panska Ves** 81.93 329 *e*P P 10 41 41.6 +0.1
PVCC *e*pP 10 41 44.2
PVCC *e*S S 10 51 55.9 -0.3
PVCC AMS AMS 11 21 40.0
comp=Z,37μm,14.6s
CLL **Collm** 81.95 331 *e*P P 10 41 41.0 -0.6
comp=Z,336nm,1.4s,mb6.3
CLL **Collm** 81.95 331⇑*i*P P 10 41 41.0 -0.6
CLL *e*S S 10 51 56.0 -0.4
CLL pmax pmax
comp=Z,179nm,1.3s,mb6.0
CLL MLR MLR
comp=Z,43μm,16.6s,MS6.9
CLL **Collm** 81.95 331⇑*i*P P 10 41 41.0 -0.6
comp=Z,179nm,1.3s,mb6.0
CLL *e*Pmax 10 41 42.0
CLL *e*Plp 10 41 45.0
CLL *i* 10 41 48.3
comp=Z,336nm,1.4s
CLL *e*S S 10 51 56.0 -0.4
comp=N,7μm,17.7s
CLL *e*S S 10 51 56.0 -0.4
comp=E,8μm,23.7s
CLL *e*(SP) 10 52 34.0
CLL *e*SS SS 10 57 14.0 +0.4
CLL *e*SSS 11 00 54.0
CLL LV 11 19 00.0
comp=Z,34μm,18.5s
CLL Lmax 11 23 00.0
GEMT **Gemlik** 81.97 315 *e*P P 10 41 43.3 +1.4
SLVT **Silivri** 81.99 316 *e*P P 10 41 43.3 +1.3
GZR **Gura Zlata** 81.99 322 ⇓P P 10 41 42.4 +0.5
GZR **Gura Zlata** 81.99 322⇓*i*P P 10 41 42.4 +0.5
VRAC **Vranov** 82.00 328 P P 10 41 42.4 +0.5
comp=Z,86nm,1.0s,mb5.8,baz=40,slow=6.5
VRAC LR LR 11 21 17.5
comp=Z,34μm,18.4s,MS6.8,baz=34,slow=38
VRAC **Vranov** 82.00 328 P P 10 41 42.4 +0.5
VRAC **Vranov** 82.00 328 P P 10 41 42.4 +0.5
VRAC pmax pmax
comp=Z,86nm,1.0s
VRAC MLR MLR
comp=Z,34μm,18.4s
VRAC **Vranov** 82.00 328⇓*i*P P 10 41 42.7 +0.8
Q23A **Hartsel** 82.02 47 ⇓P P 10 41 41.0 -1.2
baz=82
U20A **Newcomb** 82.03 50 ⇓P P 10 41 42.1 -0.1
baz=82,SNR=8.9
214A **Organ Pipe Nat** 82.03 56 ⇓P P 10 41 42.3 0.0
baz=82
JMB **Yambol** 82.05 318 P P 10 41 44.7 +2.4
W18A **Petrified Fore** 82.06 52 ⇓P P 10 41 42.9 +0.4
baz=82
BRSD **Miller** 82.06 39 ⇑P P 10 41 41.3 -1.1
baz=82
ARMT **Armutlu** 82.06 315 *e*P P 10 41 44.5 +2.1
BOLV **Bolvadin** 82.07 313⇑*i*P P 10 41 42.4 -0.2
NRDL **Niedersach Rie** 82.12 333 *e*P P 10 41 42.1 -0.3
comp=Z,204nm,1.5s,mb6.0
V19A **Window Rock** 82.12 51 ⇓P P 10 41 42.7 -0.1
baz=82
P24A **Kohler Place,** 82.16 46 ⇑P P 10 41 43.2 +0.3
baz=82
EREN **Erenkoy** 82.16 309 *e*P P 10 41 44.7 +1.7
S22A **4UR Ranch, Cre** 82.18 48 ⇓P P 10 41 43.9 +0.8
baz=82,SNR=16
MDNY **Mudanya-Bursa** 82.18 315 *e*P P 10 41 41.9 -1.1
O25A **Wiggins** 82.22 45 ⇓P P 10 41 43.2 0.0
baz=82
CRAR **CRAIOVA** 82.23 321 ⇓P P 10 41 45.2 +2.0
CRAR **CRAIOVA** 82.23 321⇓*i*P P 10 41 45.2 +2.0
ERMK **Ermenek** 82.23 310⇑*i*P P 10 41 41.0 -2.3
SMOL **Smolenice** 82.23 327 *e*P P 10 41 44.3 +1.2
SMOL **Smolenice** 82.23 327 *e*P P 10 41 44.3 +1.2
BHL **Bhannes** 82.24 307 *e*P P 10 41 44.9 +1.4
T21A **Navajo Lake** 82.24 49 ⇑P P 10 41 44.0 +0.6
baz=82
Y17A **Roosevelt** 82.24 54 ⇓P P 10 41 43.5 0.0
baz=82,SNR=12
W19A **Sanders** 82.28 52 ⇑P P 10 41 43.9 +0.3
baz=82,SNR=6.6
HDMB **Hadim** 82.29 311 *e*P P 10 41 43.3 -0.3
X18A **Snowflake** 82.30 53 ⇑P P 10 41 44.4 +0.6
baz=82,SNR=5.5
CRLT **Corlu** 82.32 316 *e*P P 10 41 44.7 +1.0
PRA **Prague** 82.33 329 P P 10 41 44.0 +0.4
PRA S S 10 52 07.0 +6.6
PRA AMS AMS 11 20 00.0
ALT **Altintas** 82.35 313 *e*P P 10 41 44.3 +0.4
PRU **Pruhonice** 82.35 329 *e*P P 10 41 43.6 -0.1
PRU *e*S S 10 52 00.2 -0.4
PRU MLR MLR
comp=Z,42μm,13.9s,MS7.0
PRU **Pruhonice** 82.35 329 *e*P P 10 41 43.6 -0.1
PRU *e*pP 10 41 46.2
PRU *e*S S 10 52 00.2 -0.4
PRU AMS AMS 11 24 20.0
comp=Z,42μm,13.9s
RCY **Rachaya** 82.38 306 *e*P P 10 41 43.4 -0.8
EDRB **Edirne** 82.38 317 *e*P P 10 41 46.1 +2.1
Q24A **Divide** 82.38 47 ⇓P P 10 41 44.6 +0.5
baz=82,SNR=11
BZS **Buzias** 82.40 323 ⇑P P 10 41 43.7 -0.4
BZS **Buzias** 82.40 323⇑*i*P P 10 41 43.7 -0.4
SHUT **Suhut-Afyon** 82.42 313 *e*P P 10 41 47.1 +2.8
V20A **Brimhall** 82.43 51 ⇓P P 10 41 44.3 -0.1
baz=82,SNR=20
KAC **Achnashellach** 82.46 343 *e*P P 10 41 44.6 +0.4
KAC **Achnashellach** 82.46 343 P P 10 41 44.6 +0.4
TREC **Trest** 82.49 328 *e*P P 10 41 44.8 +0.3
TREC *e*S S 10 52 04.1 +2.1
TREC MLR MLR
comp=Z,38μm,14.2s,MS6.9
TREC **Trest** 82.49 328 *e*P P 10 41 44.8 +0.3
TREC *e*pP 10 41 47.0
TREC *e*S S 10 52 04.1 +2.1
TREC AMS AMS 11 23 10.0
comp=Z,38μm,14.2s
R23A **Moffat** 82.49 48 ⇓P P 10 41 45.1 +0.4
baz=82,SNR=21
ASF **Jabal al Asfar** 82.50 305 P P 10 41 45.0 +0.1
comp=Z,30nm,1.0s,mb5.5,baz=254,slow=0.7,SNR=18
ASF LR LR 11 22 22.3
comp=Z,10μm,20.3s,MS6.2,baz=286,slow=38
ASF **Jabal al Asfar** 82.50 305 P P 10 41 45.0 +0.1
ASF **Jabal al Asfar** 82.50 305 P P 10 41 45.0 +0.1
ASF pmax pmax
comp=Z,30nm,1.0s
ASF MLR MLR
comp=Z,10μm,20.3s
U21A **Nageezi** 82.53 50 ⇓P P 10 41 45.0 +0.1
baz=82,SNR=16
TKR **Tekirdag** 82.53 316 *e*P P 10 41 46.1 +1.3
CLZ **Clausthal** 82.54 332 *e*P P 10 41 44.6 -0.1
comp=Z,427nm,1.3s,mb6.5
CLZ **Clausthal** 82.54 332 *e*P P 10 41 44.6 -0.1
CLZ pmax pmax
comp=Z,427nm,1.3s,mb6.5
KCTX **Karacabey (Bur** 82.55 315 *e*P P 10 41 45.2 +0.2
PHNC **Paralimni** 82.58 308 P P 10 41 46.5 +1.3
comp=Z,4.0nm,1.2s
P25A **Willow Gulch B** 82.59 46 ⇓P P 10 41 45.4 +0.3
baz=82
O26A **Horse Wrangler** 82.59 45 ⇓P P 10 41 45.0 -0.1
baz=82
T22A **Edith** 82.61 49 ⇑P P 10 41 45.9 +0.6
baz=82,SNR=25
GDZ **Gediz** 82.69 314⇑*i*P P 10 41 44.3 -1.4
KPL **Plockton** 82.69 343 *e*P P 10 41 47.5 +2.2
KPL AMB AMB 10 41 51.1
comp=Z,678nm,3.2s
KPL AMS AMS 11 26 55.7
comp=Z,13μm,17.7s,MS6.3
KPL **Plockton** 82.69 343 P P 10 41 47.5 +2.2
KPL AMB AMB 10 41 51.1
comp=Z,678nm,3.2s
KPL AMS AMS 11 26 55.7
comp=Z,13μm,17.7s
S23A **Nye Farm, Mont** 82.70 48 ⇑P P 10 41 45.9 +0.1
baz=82
Y18A **Canyon Day Jun** 82.72 53 ⇑P P 10 41 46.4 +0.4
baz=83,SNR=19
LFK **Lefkose** 82.72 309 *e*P P 10 41 46.1 +0.2
Z17A **San Carlos Hig** 82.73 54 ⇓P P 10 41 46.1 0.0
baz=83
EDC **Edincik** 82.78 316 *e*P P 10 41 48.7 +2.5
X19A **St. Johns** 82.78 52 ⇓P P 10 41 46.2 -0.1
baz=83,SNR=28
MFT **Murefte** 82.81 316 *e*P P 10 41 46.6 +0.3
W20A **Ramah** 82.84 51 ⇑P P 10 41 46.5 0.0
baz=83,SNR=12
SUTC **Sutluce-Ispart** 82.86 312 *e*P P 10 41 46.5 -0.1
GAZI **Gazipasa** 82.86 310⇑*i*P P 10 41 45.9 -0.8
TANN **Tannenbergstha** 82.86 330 *e*P P 10 41 46.2 -0.2
comp=Z,136nm,1.8s,mb5.9
R24A **Sanders Place,** 82.89 47 ⇑P P 10 41 47.2 +0.4
baz=83,SNR=16
DIM **Dimitrovgrad** 82.90 318 P P 10 41 49.5 +2.8
SNZO **South Karori** 82.91 156 PFAKE 10 42 00.0 +14
SNZO LR LR
comp=Z,10μm,21.0s,MS6.2
SART **Tekirdag** 82.93 316⇑*i*P P 10 41 44.8 -2.1
RKY **Sarkoy-Tekirda** 82.93 316 *e*P P 10 41 49.5 +2.6
DURS **Dursunbey** 82.93 315⇑*i*P P 10 41 46.3 -0.6
MPEP **Malo Peshtene** 82.94 320 P P 10 41 49.0 +2.1
V21A **Milan** 82.94 50 ⇑P P 10 41 46.8 -0.3
baz=83
Q25A **Bedland, Calha** 82.94 46 ⇓P P 10 41 47.3 +0.3
baz=83,SNR=11

MMAI **Mount Meron Ar 82.96 306** P **P 10 41 47.6 +0.4**
comp=Z,128nm,1.0s,mb6.1,baz=44,slow=4.4,SNR=38
MMAI LR LR 11 22 35.3
comp=Z,20µm,19.1s,MS6.5,baz=30,slow=38
MMAI Mount Meron Ar 82.96 306 P **P 10 41 47.6 +0.4**
SDCO Great Sand Dun 82.97 48 ⇓P **P 10 41 47.1 -0.1**
baz=83,SNR=17
SDCO Great Sand Dun 82.97 48 *e*P **P 10 41 47.9 +0.6**
comp=Z,90nm,1.5s,mb5.8
SDCO LR LR
comp=Z,7µm,21.0s,MS6.0
MAMC Mammari 82.99 309 P **P 10 41 48.6 +1.3**
NKC Novy Kostel 83.01 330 *e*P **P 10 41 46.7 -0.5**
NKC *e*S S 10 52 10.1 +2.8
NKC MLR MLR
comp=Z,37µm,13.6s,MS6.9
NKC Novy Kostel 83.01 330 *e*P **P 10 41 46.7 -0.5**
NKC *e*pP 10 41 49.7
NKC *e*S S 10 52 10.1 +2.8
NKC AMS AMS 11 26 10.0
comp=Z,37µm,13.6s
MOX Moxa 83.02 331 *e*P **P 10 41 46.9 -0.3**
comp=Z,179nm,1.5s,mb6.1
MOX Moxa 83.02 331 *e*P **P 10 41 46.9 -0.3**
MOX pmax pmax
comp=Z,179nm,1.5s,mb6.1
CSS Prodhromos 83.05 309 P **P 10 41 47.9 +0.2**
comp=Z,1.8nm,1.5s
CSS Prodhromos 83.05 309 *e*P **P 10 41 46.9 -0.8**
CSS Prodhromos 83.05 309 *e*P **P 10 41 47.0 -0.6**
comp=Z,200nm,1.1s,mb6.3
CSS LR LR
comp=Z,14µm,20.0s,MS6.3
U22A Llaves 83.05 50 ⇓P **P 10 41 48.2 +0.6**
baz=83,SNR=15
KRBG Karabiga-Canak 83.06 316 *e*P **P 10 41 47.9 +0.3**
EYMN Ely 83.07 33 *e*P **P 10 41 47.2 -0.3**
comp=Z,98nm,1.4s,mb5.8
EYMN LR LR
comp=Z,12µm,21.0s,MS6.3
GONE Gonen-Balikesi 83.08 315 *e*P **P 10 41 47.7 0.0**
Y19A Nutrioso 83.10 53 ⇑P **P 10 41 48.1 +0.1**
baz=83,SNR=9.3
BCK Bucak 83.11 312 *e*P **P 10 41 46.1 -1.8**
IBBN Ibbenburen 83.11 334 *e*P **P 10 41 47.2 -0.5**
comp=Z,412nm,1.4s,mb6.5
T23A Casias Ranch, 83.12 49 ⇓P **P 10 41 48.3 +0.3**
baz=83,SNR=11
TUC Tucson 83.15 55 *e*P **P 10 41 48.5 +0.2**
comp=Z,84nm,1.6s,mb5.7
TUC LR LR
comp=Z,19µm,20.0s,MS6.5
TUC Tucson 83.15 55 *e*P **P 10 41 48.5 +0.3**
TUC pmax pmax
comp=Z,84nm,1.6s,mb5.7
TUC MLR MLR
comp=Z,19µm,20.0s,MS6.5
Z18A Geronimo 83.15 54 ⇑P **P 10 41 48.1 -0.1**
baz=83
KHAL Karahalli 83.16 313 ⇑*i*P **P 10 41 47.5 -0.7**
DEMI Demirci 83.17 314 ⇑*i*P **P 10 41 47.5 -0.6**
PMOR Pomariorio Ree 83.18 114 *e*P **P 10 41 49.6 +1.1**
comp=Z,508nm,1.4s,mb6.6
X20A Quemado 83.21 52 ⇑P **P 10 41 49.4 +0.9**
baz=83,SNR=28
S24A Houchin Ranch, 83.22 48 ⇓P **P 10 41 47.8 -0.7**
baz=83,SNR=19
LEF Lefka 83.23 309 *e*P **P 10 41 50.4 +1.8**
KDZ Kurdzhali 83.24 318 P **P 10 41 50.6 +2.1**
BALB Balikesir 83.24 315 *e*P **P 10 41 48.7 +0.1**
SOP Sopron 83.24 327 ⇓*e*PcP **P 10 41 50.8 +2.4**
PGB Panagyurishte 83.28 319 P **P 10 41 51.2 +2.5**
PLD Plovdiv 83.31 318 P **P 10 41 49.5 +0.6**
ERIK Erikli-Kesan 83.31 316 *e*P **P 10 41 51.5 +2.6**
V22A San Miguel Ran 83.32 50 ⇓P **P 10 41 49.1 +0.1**
baz=83
BALY Balya 83.32 315 ⇑*i*P **P 10 41 47.3 -1.7**
EDI Edinburgh 83.36 341 AMS AMS 11 25 27.2
comp=Z,19µm,18.6s,MS6.5
CONA Conrad Observa 83.36 327 *i* PcP **P 10 41 49.5 +0.4**
comp=Z,299nm,1.5s,mb6.3,SNR=52
W21A San Fidel 83.38 51 ⇓P **P 10 41 49.0 -0.4**
baz=83
LPK Lapseki 83.38 316 *e*P **P 10 41 49.0 -0.3**
ALFC Alevga 83.38 309 P **P 10 41 49.0 -0.4**
comp=Z,3.8nm,1.2s
PKSM Moragy 83.39 325 ⇑P **P 10 41 49.5 +0.3**
PKSM Moragy 83.39 325 ⇑*i*P **P 10 41 49.5 +0.3**
ALN Alexandroupoli 83.41 317 *e*P **P 10 41 51.5 +2.1**
KHC Kasperske Hory 83.41 329 *e*P **P 10 41 49.0 -0.2**
comp=Z,216nm,1.2s,mb6.3
KHC Kasperske Hory 83.41 329 *e*P **P 10 41 49.2 -0.1**
KHC *e*S S 10 52 11.8 +0.4
KHC MLR MLR
comp=Z,35µm,13.6s,MS6.9
KHC Kasperske Hory 83.41 329 *e*P **P 10 41 49.2 -0.1**
KHC *e*pP 10 41 51.8
KHC *e*S S 10 52 11.8 +0.4
KHC AMS AMS 11 27 00.0
comp=Z,35µm,13.6s
EAB Aberfoyle 83.42 342 *e*P **P 10 41 49.3 +0.1**
EAB Aberfoyle 83.42 342 P **P 10 41 49.3 +0.1**
R25A Fountain Ranch 83.43 47 ⇑P **P 10 41 49.0 -0.6**
baz=83
ANTB Antalya 83.44 312 *e*P **P 10 41 49.0 -0.7**
EBL Broad Law 83.46 341 *e*P **P 10 41 50.6 +1.2**
EBL Broad Law 83.46 341 P **P 10 41 50.6 +1.2**
ENEZ Enez 83.47 317 *e*P **P 10 41 47.5 -2.2**
ROTZ Rotzenmuhle 83.47 330 *e*P **P 10 41 49.9 +0.3**
comp=Z,384nm,1.5s,mb6.4
118A Homack Ranch, 83.48 54 ⇑P **P 10 41 49.9 0.0**
baz=83
U23A El Rito 83.49 49 ⇑P **P 10 41 50.1 +0.2**
baz=83,SNR=32
UBBA Unterbreizbach 83.50 332 *e*P **P 10 41 49.1 -0.6**
Z19A T-Link Ranch, 83.52 53 ⇑P **P 10 41 49.9 -0.2**
baz=83
GELI Tayfur-Gelibol 83.52 316 *e*P **P 10 41 49.0 -1.0**
RDO Rodhopi 83.52 317 *e*P **P 10 41 59.5 +10**
KULA Kula-Manisa 83.55 314 *e*P **P 10 41 50.5 +0.3**
KORT Korkueli 83.56 312 ⇑*i*P **P 10 41 49.4 -0.8**
GEC2 GERESS Array S 83.58 329 *e*P **P 10 41 49.7 -0.4**
comp=Z,153nm,1.5s,mb6.0
GEC2 GERESS Array S 83.58 329 *e*P **P 10 41 49.7 -0.4**
GEC2 pmax pmax
comp=Z,153nm,1.5s,mb6.0
GERES GERESS Array B 83.58 329 P **P 10 41 49.2 -0.9**
comp=Z,32nm,0.8s,mb5.6,baz=36,slow=3.9,SNR=27
GERES PP PP 10 45 05.4 +3.6
comp=Z,6.9nm,0.9s,baz=40,slow=6.9,SNR=4.2
GERES LR LR 11 20 50.6
comp=Z,30µm,18.2s,MS6.7,baz=249,slow=37
GERES GERESS Array B 83.58 329 P **P 10 41 49.2 -0.9**
GERES PP PP 10 45 05.4 +3.6
GERES GERESS Array B 83.58 329 P **P 10 41 49.2 -0.9**
GERES 10 45 05.4
GERES pmax pmax
comp=Z,32nm,0.8s
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES MLR MLR
comp=Z,30µm,18.3s
RZN Rozhen 83.59 318 P **P 10 41 52.5 +2.2**
PPT2 Papeete2 83.65 117 *e*P **P 10 41 52.2 +1.4**
comp=Z,154nm,1.3s,mb6.1
PPT2 *e*S S 10 52 10.1 -4.4
comp=Z,24µm,33.5s
PPT2 *e*SS SS 10 57 37.0 -4.5
comp=Z,4µm,24.2s
PPT2 *e*LQ 11 03 57.2
comp=Z,19µm,28.5s
PPT2 *e*LR LR 11 07 55.7
comp=Z,67µm,30.5s,baz=312
S25A Robets Cordova 83.67 47 ⇓P **P 10 41 51.1 +0.3**
baz=84,SNR=12
T24A Torres, Weston 83.69 48 ⇑P **P 10 41 51.8 +0.9**
baz=84,SNR=8.3
PAE Paea 83.69 117 *e*P **P 10 41 51.0 -0.1**
comp=Z,45nm,1.4s,mb5.5
WET Wettzell 83.69 329 *e*P **P 10 41 50.7 0.0**
comp=Z,233nm,1.4s,mb6.2
WET Wettzell 83.69 329 *e*P **P 10 41 50.7 0.0**
WET pmax pmax
comp=Z,233nm,1.4s,mb6.2
Y20A Horse Springs, 83.69 52 ⇓P **P 10 41 51.7 +0.7**
baz=84,SNR=28

PPCY Paphos 83.72 309 P **P 10 41 50.6 -0.5**
X21A Alamocita Cree 83.72 52 ⇑P **P 10 41 51.2 +0.1**
baz=84,SNR=17
VTS Vitosha 83.75 320 P **P 10 41 53.5 +2.4**
VTS Vitosha 83.75 320 ⇑*i*P **P 10 41 51.2 +0.1**
ECSD EROS Data Cent 83.75 39 *e*P **P 10 41 49.9 -1.2**
comp=Z,73nm,1.1s,mb5.8
ECSD LR LR
comp=Z,10µm,20.0s,MS6.2
PGBU Glenifferbraes 83.79 342 *e*P **P 10 41 52.2 +1.1**
PGBU AMB AMB 10 42 00.3
comp=Z,584nm,1.5s,mb6.6
PGBU AMS AMS 11 21 23.7
comp=Z,12µm,16.4s,MS6.3
PGBU Glenifferbraes 83.79 342 P **P 10 41 52.2 +1.1**
PGBU AMB AMB 10 42 00.3
comp=Z,584nm,1.5s,mb6.6
PGBU AMS AMS 11 21 23.7
comp=Z,12µm,16.4s
TIAR Tiarei 83.79 117 *e*P **P 10 41 51.7 +0.1**
comp=Z,283nm,1.3s,mb6.3
AKHS Akhisar 83.80 314 ⇑*i*P **P 10 41 50.1 -1.3**
R26A Arlington 83.82 46 ⇓P **P 10 41 50.8 -0.7**
baz=84,SNR=18
218A Dragoon 83.85 55 ⇑P **P 10 41 52.1 +0.3**
baz=84,SNR=18
GOLH Golhisar 83.88 312 ⇑*i*P **P 10 41 50.0 -1.8**
V23A Ortiz Mt. (NFS 83.88 50 ⇑P **P 10 41 52.7 +0.8**
baz=84,SNR=12
DNZL Cakiroluk 83.88 313 ⇑*i*P **P 10 41 51.6 -0.2**
W22A Albuquerque 83.89 51 ⇓P **P 10 41 52.1 +0.1**
baz=84
ESK Eskdalemuir 83.91 341 AMS AMS 11 25 16.9
comp=Z,25µm,16.4s,MS6.7
ESK Eskdalemuir 83.91 341 *e*P **P 10 41 52.3 +0.6**
comp=Z,275nm,1.5s,mb6.3
ESK LR LR
comp=Z,26µm,19.0s,MS6.6
ESK Eskdalemuir 83.91 341 *e*P **P 10 41 52.3 +0.6**
ESK pmax pmax
comp=Z,275nm,1.5s,mb6.3
ESK MLR MLR
comp=Z,26µm,19.0s,MS6.6
GRF Grafenberg Arr 83.93 331 *e*P **P 10 41 52.1 +0.2**
GRF *e*L 11 23 32.0
comp=Z,38µm,18.3s
GRF Grafenberg Arr 83.93 331 *e*P **P 10 41 52.1 +0.2**
GRF MLR MLR
comp=Z,38µm,18.3s,MS6.8
GRFO Grafenberg 83.93 331 *e*P **P 10 41 51.1 -0.8**
comp=Z,637nm,1.5s,mb6.6
GRFO Grafenberg 83.93 331 *e*P **P 10 41 51.1 -0.8**
GRFO pmax pmax
comp=Z,637nm,1.5s,mb6.6
GLHS Glhisar (BURDU 83.97 312 *e*P **P 10 41 56.0 +3.7**
U24A Moreno Valley 83.99 49 ⇑P **P 10 41 53.6 +1.2**
baz=84,SNR=12
ELL Elmali 83.99 312 *e*P **P 10 41 54.7 +2.2**
EZN Ezine 84.00 316 *e*P **P 10 41 50.4 -2.1**
RPZ Rata Peaks 84.00 160 *e*P **P 10 41 53.8 +1.8**
comp=Z,244nm,1.3s,mb6.3
BUG Bochum–Univer 84.00 334 *e*P **P 10 41 51.7 -0.5**
T25A Trinidad 84.03 48 ⇓P **P 10 41 52.2 -0.5**
baz=84,SNR=12
ARSA Arzberg 84.03 327 ⇓*i*PcP **P 10 41 52.7 +0.3**
comp=Z,133nm,1.2s,mb6.0,SNR=27
Z20A Nine Sixteen R 84.07 53 ⇑P **P 10 41 52.9 0.0**
baz=84
Y21A Point of Rocks 84.08 52 ⇑P **P 10 41 52.8 -0.1**
baz=84,SNR=23
MOA Molln 84.12 328 ⇑*i*P **P 10 41 52.9 0.0**
comp=Z,173nm,1.3s,mb6.1,SNR=18
BOZC Bozcaada 84.14 316 ⇑*i*P **P 10 41 51.6 -1.5**
LAZ Ladron 84.16 51 *e*P **P 10 41 54.3 +0.9**
comp=Z,32nm,1.3s,mb5.4
X22A Bernardo 84.17 51 ⇓P **P 10 41 54.1 +0.7**
baz=84
MMB Musomiste 84.19 319 P **P 10 41 53.3 -0.1**
318A Bisbee 84.22 55 ⇓P **P 10 41 54.0 +0.3**
baz=84,SNR=14
ANMO Albuquerque 84.22 50 *e*P **P 10 41 53.7 0.0**
comp=Z,106nm,1.3s,mb5.9
ANMO LR LR
comp=Z,8µm,19.0s,MS6.1
ANMO Albuquerque 84.22 50 *e*P **P 10 41 53.7 0.0**
ANMO pmax pmax
comp=Z,106nm,1.3s
ANMO MLR MLR
comp=Z,8µm,19.0s
W23A Werner Place, 84.28 50 ⇓P **P 10 41 54.5 +0.6**
baz=84,SNR=11
NVR Nevrokopi 84.28 318 *e*P **P 10 41 54.0 +0.1**
KKB Krupnik 84.33 319 P **P 10 41 56.1 +2.0**
219A White Tail Can 84.35 54 ⇓P **P 10 41 54.0 -0.3**
baz=84,SNR=18
120A U Bar Ranch, L 84.40 53 ⇑P **P 10 41 55.0 +0.4**
baz=84,SNR=15
LENM Lemitar 84.42 51 *e*P **P 10 41 55.8 +1.2**
comp=Z,59nm,1.5s,mb5.6
PRK Paraskevi 84.42 316 *e*P **P 10 41 56.5 +1.9**
V24A Rampart Ranch, 84.44 49 ⇑P **P 10 41 55.5 +0.7**
baz=84,SNR=24
GCD Castle Douglas 84.50 341 *e*P **P 10 41 54.4 -0.3**
GCD Castle Douglas 84.50 341 P **P 10 41 54.4 -0.3**
Y22D IRIS PASSCAL I 84.51 51 ⇑P **P 10 41 54.6 -0.5**
baz=84
AKAS Kas 84.52 312 ⇑*i*P **P 10 41 52.8 -2.4**
SPMN St. Paul 84.52 36 ⇑P **P 10 41 55.1 +0.1**
baz=84
U25A Circle Dot Ran 84.52 48 ⇑P **P 10 41 55.2 0.0**
baz=84,SNR=16
KESW Keswick, Cumbr 84.53 341 *e*P **P 10 41 55.5 +0.7**
KESW AMB AMB 10 41 59.0
comp=Z,374nm,3.1s
KESW Keswick, Cumbr 84.53 341 P **P 10 41 55.5 +0.7**
KESW AMB AMB 10 41 59.0
comp=Z,374nm,3.1s
Z21A St. Cloud Mine 84.53 52 ⇑P **P 10 41 55.0 -0.3**
baz=84,SNR=16
LPM Los Pinos Moun 84.53 51 *e*P **P 10 41 55.5 +0.3**
comp=Z,90nm,1.7s,mb5.7
TNS Taunus Mts 84.57 332 *e*P **P 10 41 54.9 -0.2**
comp=Z,218nm,1.5s,mb6.2
TNS Taunus Mts 84.57 332 *e*P **P 10 41 54.9 -0.2**
TNS pmax pmax
comp=Z,218nm,1.5s,mb6.2
Y22A Socorro 84.57 51 ⇓P **P 10 41 55.6 +0.1**
baz=84,SNR=18
BLCB Balcova 84.57 315 *e*P **P 10 41 55.5 +0.1**
LIA Limnos Island 84.58 317 *e*P **P 10 41 56.5 +1.1**
AYDN Tasoluk 84.58 314 ⇑*i*P **P 10 41 55.6 +0.2**
KSL Kastellorizon 84.58 312 *e*P **P 10 41 56.0 +0.5**
BGNE Belgrade 84.62 41 ⇑P **P 10 41 54.5 -1.1**
baz=84
X23A Hourglass Bar 84.64 51 ⇓P **P 10 41 56.0 +0.2**
baz=84,SNR=10.0
BNM Barren Site 84.64 51 *e*P **P 10 41 55.8 0.0**
comp=Z,108nm,1.6s,mb5.8
GROS Grobnik 84.64 326 *e*P **P 10 41 57.0 +1.5**
PERS Pernice 84.68 327 *i* P **P 10 41 55.2 -0.6**
PERS *e*S S 10 52 22.5 -1.8
SOKA Soboth 84.68 327 ⇑*i*P **P 10 41 55.5 -0.2**
comp=Z,325nm,1.3s,mb6.4
TURN Turunc 84.69 313 ⇑*i*P **P 10 41 56.0 0.0**
GAL1 Galloway 84.70 342 *e*P **P 10 41 56.2 +0.5**
GAL1 AMB AMB 10 42 04.5
comp=Z,290nm,1.4s,mb6.3
GAL1 AMS AMS 11 23 42.6
comp=Z,17µm,19.1s,MS6.5
GAL1 Galloway 84.70 342 P **P 10 41 56.2 +0.5**
GAL1 AMB AMB 10 42 04.5
comp=Z,290nm,1.4s,mb6.3
GAL1 AMS AMS 11 23 42.6
comp=Z,17µm,19.1s
YER Yerkesik 84.70 313 *e*P **P 10 41 56.6 +0.5**
W24A Lazy 6 Ranch, 84.70 50 ⇓P **P 10 41 56.4 +0.3**
baz=84,SNR=21
XDE Dent Fell 84.70 341 *e*P **P 10 41 56.5 +0.8**
XDE Dent Fell 84.70 341 P **P 10 41 56.5 +0.8**
319A Douglas 84.73 55 ⇓P **P 10 41 56.1 -0.2**
baz=85,SNR=8.0
V25A Rancho No Teng 84.77 49 ⇓P **P 10 41 56.5 0.0**
baz=85
RJOB Jochberg 84.83 329 *e*P **P 10 41 56.5 0.0**
220A Playas Peak, P 84.89 54 ⇓P **P 10 41 57.2 +0.1**
baz=85,SNR=18

MEH Mehetia 84.92 116 *e*P **P 10 41 57.4 +0.1**
comp=Z,365nm,1.4s,mb6.4
U26A Atchley Ranch, 84.92 48 ⇑P **P 10 41 57.5 +0.3**
baz=85,SNR=12
SOH Sokhos 84.93 318 *e*P **P 10 41 59.0 +1.9**
GCAM G?zelcaml? 84.93 314 ⇑*i*P **P 10 41 56.6 -0.6**
121A Cookes Peak, D 84.96 53 ⇑P **P 10 41 57.1 -0.4**
baz=85
VAY Valandovo 84.99 319 *e*P **P 10 41 57.1 -0.4**
Z22A Elephant Butte 85.01 52 ⇓P **P 10 41 57.9 +0.2**
baz=85,SNR=18
BEBN Eben Emael 85.10 334 P **P 10 41 57.2 -0.5**
comp=Z,75nm,1.7s,mb5.6
KBA Koelnbreinsper 85.11 328 ⇑*i*PcP **P 10 41 58.9 +1.0**
comp=Z,131nm,1.2s,mb6.0
ODZ Otahua Downs 85.11 160 *e*P **P 10 41 57.9 +0.3**
comp=Z,1µm,1.4s,mb7.0
X24A Lazy VL Ranch, 85.11 50 ⇑P **P 10 41 58.0 -0.2**
baz=85
SKO Skopje 85.11 320 *e*P **P 10 41 59.8 +1.7**
FUR Furstenfeldbru 85.12 330 *e*P **P 10 41 57.8 -0.1**
comp=Z,458nm,1.4s,mb6.5
FUR Furstenfeldbru 85.12 330 *e*P **P 10 41 57.8 -0.1**
FUR pmax pmax
comp=Z,458nm,1.4s,mb6.5
MEM Membach 85.14 334 P **P 10 41 57.7 -0.3**
comp=Z,122nm,1.5s,mb5.9
CHOS Chios island 85.14 315 *e*P **P 10 41 58.0 -0.2**
Y23A Lovelace Mesa, 85.14 51 ⇓P **P 10 41 58.6 +0.2**
baz=85,SNR=20
SMG Samos 85.15 314 *e*P **P 10 42 02.0 +3.7**
PDKS Podkum 85.17 326 *e*P **P 10 41 59.5 +1.2**
PLG Polygyros 85.20 318 *e*P **P 10 41 58.0 -0.5**
TAOE Nuku Hiva Isla 85.20 105 *e*PP PP 10 45 11.3 -5.2
comp=Z,839nm,25.6s
TAOE *e*S S 10 52 26.0 -4.3
comp=Z,14µm,26.0s
TAOE *e*SS SS 10 58 12.3 +7.8
comp=Z,3µm,23.7s
TAOE *e*LR LR 11 08 47.7
comp=Z,61µm,23.8s
IVA Berane 85.24 322 ⇑*i*P **P 10 41 58.7 0.0**
320A Kipp Ranch, An 85.25 54 ⇓P **P 10 41 58.8 -0.1**
baz=85
W25A X Bar L Ranch, 85.28 49 ⇑P **P 10 41 58.8 -0.2**
baz=85,SNR=17
KBI1 Birley Grange 85.28 339 *e*P **P 10 41 57.2 -1.4**
KBI1 Birley Grange 85.28 339 P **P 10 41 57.2 -1.4**
221A Mesquite Ranch 85.30 53 ⇑P **P 10 41 58.9 -0.3**
baz=85
BODT Bodrum 85.32 313 *e*P **P 10 41 54.6 -4.6**
MYKA Terra Mystica 85.33 327 ⇓*i*P **P 10 41 58.2 -0.9**
comp=Z,107nm,1.2s,mb5.9
122A Conniff Cattle 85.35 52 ⇓P **P 10 41 59.5 +0.1**
baz=85
EIL Elat 85.38 304 P **P 10 41 59.1 -0.5**
comp=Z,106nm,1.1s,mb6.0,baz=47,slow=1.9,SNR=34
EIL LR LR 11 23 31.7
comp=Z,16µm,19.2s,MS6.4,baz=66,slow=38
EIL Elat 85.38 304 P **P 10 41 59.1 -0.5**
DAT Datca 85.39 313 *e*P **P 10 41 54.6 -4.9**
LJU Ljubljana 85.40 327 *i* P **P 10 41 57.9 -1.5**
LJU *e*S S 10 52 23.8 -7.6
ARG Arkhangelos 85.41 312 *e*P **P 10 41 54.0 -5.7**
PVY Plav 85.42 321 ⇑*i*P **P 10 42 00.6 +1.0**
GORS Gorjuse 85.42 327 *i* P **P 10 41 58.9 -0.6**
STU Stuttgart 85.46 331 *e*P **P 10 41 59.3 -0.3**
comp=Z,469nm,1.5s,mb6.5
STU Stuttgart 85.46 331 *e*P **P 10 41 59.3 -0.4**
comp=Z,438nm,1.4s,mb6.5
STU Stuttgart 85.46 331 *e*P **P 10 41 59.3 -0.3**
STU pmax pmax
comp=Z,438nm,1.4s,mb6.5
Z23A Rita Site, Whi 85.47 52 ⇑P **P 10 41 59.4 -0.7**
baz=85
BOJS Bojanci 85.49 326 *i* P **P 10 42 00.9 +1.1**
BOJS *e*S S 10 52 23.8 -8.4
UPM Unac-Piva 85.49 322 ⇑*i*P **P 10 42 02.2 +2.3**
BCI Bajram Curri 85.53 321 *e*P **P 10 42 02.4 +2.3**
Y24A Capitan 85.53 51 ⇓P **P 10 41 59.5 -0.8**
baz=85
BCLA Clavier 85.54 334 P **P 10 41 59.4 -0.6**
comp=Z,138nm,1.5s,mb5.9
UCC Uccle 85.55 335 P **P 10 42 00.1 +0.1**
comp=Z,78nm,1.7s,mb5.6
SCHQ Schefferville 85.56 17 P **P 10 41 59.5 -0.5**
comp=Z,21nm,0.9s,mb5.3,baz=346,slow=7.7,SNR=11
SCHQ LR LR 11 22 00.2
comp=Z,11µm,20.5s,MS6.2,baz=341,slow=37
SCHQ Schefferville 85.56 17 *e*P **P 10 41 59.7 -0.3**
comp=Z,120nm,1.4s,mb5.8
GMM Mts of Mourne 85.58 342 *e*P **P 10 41 59.4 -0.7**
GMM Mts of Mourne 85.58 342 P **P 10 41 59.4 -0.7**
CBKS Cedar Bluff 85.58 44 ⇑P **P 10 41 58.3 -2.2**
baz=85
CBKS Cedar Bluff 85.58 44 *e*P **P 10 41 57.9 -2.5**
comp=Z,210nm,1.3s,mb6.1
CBKS LR LR
comp=Z,8µm,20.0s,MS6.1
CBKS Cedar Bluff 85.58 44 *e*P **P 10 41 57.9 -2.5**
CBKS pmax pmax
comp=Z,210nm,1.3s,mb6.1
CBKS MLR MLR
comp=Z,8µm,20.0s,MS6.1
X25A Clemmons Ranch 85.61 50 ⇑P **P 10 41 60.0 -0.7**
baz=85
KRUS Krusevo 85.65 320 *e*P **P 10 42 00.5 -0.2**
222A Williams Famil 85.68 53 ⇑P **P 10 42 00.5 -0.5**
baz=86
VOY Vojsko 85.69 327 *e*P **P 10 42 00.6 -0.2**
VOY *e* 10 42 01.8
VOY *e* 10 42 30.8
WTTA Wattenberg 85.69 329 ⇑*i*PcP **P 10 42 01.5 +0.7**
comp=Z,113nm,1.5s,mb5.8,SNR=13
JAVS Javornik 85.72 327 *i* P **P 10 41 59.6 -1.4**
JAVS *e*S S 10 52 27.5 -7.0
ABTA Abfaltersbach 85.72 328 ⇓*i*P **P 10 42 00.1 -0.9**
comp=Z,81nm,1.1s,mb5.8,SNR=13
NKY Niksic 85.74 322 ⇑*i*P **P 10 42 02.1 +0.9**
W26A Owens Ranch, T 85.78 49 ⇑P **P 10 42 01.6 0.0**
baz=86
LANF Langenberg 85.82 332 *e*P **P 10 42 00.8 -0.6**
SNF Seneffe 85.82 335 P **P 10 42 00.9 -0.5**
comp=Z,153nm,1.6s,mb5.9
PHP Peshkopia 85.84 320 *e*P **P 10 42 02.0 +0.3**
MOTA Moosalm 85.84 329 ⇓*i*PcP **P 10 42 01.3 -0.3**
comp=Z,225nm,1.4s,mb6.1,SNR=8.4
PUK Puka 85.85 321 *e*P **P 10 42 02.9 +1.2**
BIA Bitola 85.86 320 *e*P **P 10 42 01.4 -0.4**
123A Bell Site, Whi 85.87 52 ⇑P **P 10 42 01.8 -0.2**
baz=86
RETA Reutte 85.87 330 *i* PcP **P 10 42 01.5 -0.1**
comp=Z,290nm,1.3s,mb6.3,SNR=54
WLF Walferdange 85.87 333 P **P 10 42 01.8 +0.1**
comp=Z,212nm,1.8s,mb6.0
WLF Walferdange 85.87 333 *e*P **P 10 42 01.8 +0.1**
comp=Z,361nm,1.5s,mb6.3
WLF Walferdange 85.87 333 *e*P **P 10 42 01.5 -0.1**
comp=Z,342nm,1.4s,mb6.3
WLF LR LR
comp=Z,26µm,20.0s,MS6.6
WLF Walferdange 85.87 333 *e*P **P 10 42 01.5 -0.2**
WLF pmax pmax
comp=Z,342nm,1.4s,mb6.3
WLF MLR MLR
comp=Z,26µm,20.0s,MS6.6
TTG Podgorica 85.89 322 ⇑*i*P **P 10 42 01.1 -0.8**
BRY Bratogost 85.90 322 ⇑*i*P **P 10 42 01.4 -0.5**
LIT Litokhoron 85.90 318 *e*P **P 10 42 03.0 +1.0**
Z24A Sheeppen Canyo 85.97 51 ⇓P **P 10 42 02.1 -0.4**
baz=86
GIVF Givet 85.98 334 *e*P **P 10 42 01.6 -0.6**
comp=Z,602nm,1.6s,mb6.2
GIVF Givet 85.98 334 *e*P **P 10 42 01.6 -0.6**
comp=Z,602nm,1.6s,mb6.5
GIVF Givet 85.98 334 *e*P **P 10 42 01.6 -0.6**
GIVF pmax pmax
comp=Z,602nm,1.6s,mb6.5
TRI Trieste 85.99 327 *e*P **P 10 42 02.3 0.0**
comp=Z,156nm,1.3s,mb6.0
TRI LR LR
comp=Z,27µm,21.0s,MS6.6
TRI Trieste 85.99 327 *e*P **P 10 42 02.3 -0.1**
TRI pmax pmax
comp=Z,156nm,1.3s,mb6.0
TRI MLR MLR

comp=Z,27µm,21.0s,MS6.6
Y25A Mesa, Roswell 86.00 50 ⇑P P 10 42 01.9 -0.7
baz=86,SNR=13
SKDS Skadanscina 86.01 327 *e*P **P 10 41 59.9 -2.5**
DOU Dourbes 86.06 334 P **P 10 42 04.1 +1.5**
comp=Z,76nm,1.8s,mb5.5
FOEL Foel Wylfa 86.07 340 *e*P **P 10 42 00.9 -1.7**
FOEL AMB AMB 10 42 11.4
comp=Z,367nm,1.6s,mb6.2
FOEL Foel Wylfa 86.07 340 P **P 10 42 00.9 -1.7**
FOEL AMB AMB 10 42 11.4
comp=Z,367nm,1.6s,mb6.2
X26A CR and CF Fran 86.12 49 ⇑P P 10 42 03.5 +0.3
baz=86
KZN Kozani 86.14 319 *e*P **P 10 42 04.5 +1.3**
BFO Black Forest 86.15 331 *e*P **P 10 42 02.6 -0.5**
comp=Z,379nm,1.4s,mb6.3
BFO Black Forest 86.15 331 *e*P **P 10 42 02.5 -0.6**
comp=Z,346nm,1.4s,mb6.3
BFO LR LR
comp=Z,21µm,22.0s,MS6.5
BFO Black Forest 86.15 331 *e*P **P 10 42 02.5 -0.6**
BFO pmax pmax
comp=Z,346nm,1.4s,mb6.3
BFO MLR MLR
comp=Z,21µm,22.0s,MS6.5
BFO Black Forest 86.15 331 P **P 10 42 02.4 -0.7**
comp=Z,974nm,1.1s,mb6.8,SNR=11
BUM Brajici-Budva 86.17 322 ⇑*i*P **P 10 42 03.4 +0.1**
223A Chaparral, Ant 86.17 53 ⇓P **P 10 42 03.9 +0.3**
baz=86
W27A Bowe Ranch, En 86.23 48 ⇓P **P 10 42 03.2 -0.5**
baz=86,SNR=17
BAIF Baives 86.23 335 *e*P **P 10 42 02.9 -0.5**
comp=Z,336nm,1.3s,mb6.0
BAIF Baives 86.23 335 *e*P **P 10 42 02.9 -0.5**
comp=Z,336nm,1.3s,mb6.3
BAIF Baives 86.23 335 *e*P **P 10 42 02.9 -0.5**
BAIF pmax pmax
comp=Z,336nm,1.3s,mb6.3
ULC Ulcinj 86.24 321 ⇑*i*P **P 10 42 04.3 +0.7**
FETA Feichten 86.25 329 ⇑*i*P **P 10 42 02.6 -1.1**
comp=Z,94nm,1.2s,mb5.8,SNR=16
HCY Herceg Novi 86.26 322 *i*P **P 10 42 04.0 +0.3**
ELSH Elham, Standar 86.32 337 *e*P **P 10 42 06.0 +2.1**
ELSH AMB AMB 10 42 12.2
comp=Z,300nm,1.3s,mb6.3
ELSH Elham, Standar 86.32 337 P **P 10 42 06.0 +2.1**
ELSH AMB AMB 10 42 12.2
comp=Z,300nm,1.3s,mb6.3
STON Ston 86.33 323 P **P 10 41 59.7 -4.4**
APE Apeiranthos 86.35 314 *e*P **P 10 42 06.0 +1.7**
APE Apeiranthos 86.35 314 ⇓*i*P **P 10 42 04.3 0.0**
TIR Tirane 86.38 321 *e*P **P 10 42 04.2 -0.1**
TIR Tirane 86.38 321 *e*P **P 10 42 04.2 -0.1**
comp=Z,563nm,1.6s,mb6.5
TIR *e*PP PP 10 45 22.6 -2.1
TIR LR LR
comp=Z,48µm,21.0s,MS6.9
TIR Tirane 86.38 321 *e*P **P 10 42 04.2 -0.1**
TIR *e* 10 45 22.6
TIR pmax pmax
comp=Z,563nm,1.6s,mb6.5
TIR MLR MLR
comp=Z,48µm,21.0s,MS6.9
NVLJ Novalja 86.38 325 P **P 10 42 02.1 -2.2**
DAVA Damuels 86.39 330 *i* PcP PcP 10 42 04.4 -2.4
comp=Z,177nm,1.4s,SNR=28
Z25A Roswell 86.41 51 ⇑P **P 10 42 04.7 +0.1**
baz=86,SNR=22
SKP1 Kophill 86.42 338 *e*P **P 10 42 04.8 +0.5**
SKP1 Kophill 86.42 338 P **P 10 42 04.8 +0.5**
KBN Korca 86.43 320 *e*P **P 10 42 05.2 +0.6**
KARP Karpathos 86.44 312 *e*P **P 10 42 06.0 +1.2**
X27A F and S Farms, 86.49 49 ⇓P **P 10 42 05.3 +0.3**
baz=86,SNR=15
CDF Champ du Feu 86.49 332 *e*P **P 10 42 04.2 -0.5**
comp=Z,538nm,1.3s,mb6.2
CDF Champ du Feu 86.49 332 *e*P **P 10 42 04.2 -0.5**
comp=Z,538nm,1.3s,mb6.5
CDF Champ du Feu 86.49 332 *e*P **P 10 42 04.2 -0.5**
CDF pmax pmax
comp=Z,538nm,1.3s,mb6.5
SSW Stow on the Wo 86.51 339 *e*P **P 10 42 04.9 +0.1**
SSW Stow on the Wo 86.51 339 P **P 10 42 04.9 +0.1**
Y26A Elida 86.53 50 ⇑P **P 10 42 04.7 -0.6**
baz=86
THL Klokotos Trika 86.54 318 *e*P **P 10 42 07.0 +1.8**
DSB Dublin 86.59 342 *e*P **P 10 42 04.8 -0.3**
comp=Z,257nm,1.6s,mb6.2
LKR Lokris 86.66 317 *e*P **P 10 42 06.0 +0.2**
ECH Echery 86.70 332 *e*P **P 10 42 05.1 -0.7**
comp=Z,207nm,1.3s,mb6.2
ECH LR LR
comp=Z,20µm,20.0s,MS6.5
ECH Echery 86.70 332 *e*P **P 10 42 05.1 -0.7**
ECH pmax pmax
comp=Z,207nm,1.3s,mb6.2
ECH MLR MLR
comp=Z,20µm,20.0s,MS6.5
ECH Echery 86.70 332 *e*P **P 10 42 05.5 -0.3**
224A Cornudas Mount 86.70 52 ⇑P **P 10 42 06.0 -0.2**
baz=86,SNR=12
ATH Athens Observa 86.74 316 *e*P **P 10 42 11.0 +4.8**
AGG Agios Georgios 86.76 318 *e*P **P 10 42 07.0 +0.7**
VLY Voula,Athens 86.79 316 *e*P **P 10 42 05.0 -1.4**
SCIA State Center 86.79 38 *e*P **P 10 42 05.6 -0.8**
comp=Z,219nm,1.3s,mb6.2
SCIA LR LR
comp=Z,12µm,22.0s,MS6.2
DAVOX Davos/Dischmat 86.80 330 P **P 10 42 06.7 +0.4**
comp=Z,26nm,0.9s,mb5.4,baz=21,slow=5.7,SNR=23
DAVOX LR LR 11 24 17.2
comp=Z,39µm,18.9s,MS6.8,baz=26,slow=38
DAVOX Davos/Dischmat 86.80 330 P **P 10 42 06.7 +0.4**
DAVOX Davos/Dischmat 86.80 330 P **P 10 42 06.7 +0.4**
MCH1 Michaelchurch 86.81 339 *e*P **P 10 42 06.3 0.0**
MCH1 AMB AMB 10 42 11.3
comp=Z,299nm,3.1s
MCH1 AMS AMS 11 26 29.3
comp=Z,27µm,17.7s,MS6.7
MCH1 Michaelchurch 86.81 339 P **P 10 42 06.3 0.0**
MCH1 AMB AMB 10 42 11.3
comp=Z,299nm,3.1s
MCH1 AMS AMS 11 26 29.3
comp=Z,27µm,17.7s
VIL1 Vilia, Western 86.83 316 *e*P **P 10 42 08.5 +1.9**
125A Gardner Draw, 86.86 51 ⇓P **P 10 42 06.6 -0.3**
baz=87,SNR=14
Z26A Caprock 86.88 50 ⇑P **P 10 42 06.6 -0.3**
baz=87,SNR=12
SWN1 Swindon 86.89 339 *e*P **P 10 42 06.9 +0.2**
SWN1 AMB AMB 10 42 15.6
comp=Z,584nm,1.6s,mb6.6
SWN1 AMS AMS 11 27 55.7
comp=Z,26µm,15.8s,MS6.7
SWN1 Swindon 86.89 339 P **P 10 42 06.9 +0.2**
SWN1 AMB AMB 10 42 15.6
comp=Z,584nm,1.6s,mb6.6
SWN1 AMS AMS 11 27 55.7
comp=Z,26µm,15.8s
PAGF Fort de Pagny 86.95 333 *e*P **P 10 42 06.8 -0.2**
comp=Z,199nm,1.3s,mb5.9
PAGF Fort de Pagny 86.95 333 *e*P **P 10 42 06.8 -0.2**
comp=Z,199nm,1.3s,mb6.2
Y27A Causey 86.97 49 ⇓P **P 10 42 07.1 -0.2**
baz=87
MOF Molkenrain 87.01 332 *e*P **P 10 42 06.7 -0.6**
MNTX Cornudas Mount 87.04 52 ⇓P **P 10 42 07.4 -0.4**
baz=87,SNR=13
MNTX Cornudas Mount 87.04 52 *e*P **P 10 42 07.0 -0.8**
comp=Z,53nm,1.6s,mb5.5
MNTX LR LR
comp=Z,5µm,21.0s,MS5.9
KSU1 Kansas State U 87.09 42 *e*P **P 10 42 06.7 -1.2**
comp=Z,93nm,1.0s,mb6.0
KSU1 LR LR
comp=Z,10µm,20.0s,MS6.2
JAN Janina 87.10 319 *e*P **P 10 42 13.5 +5.6**
CPRX Cap Rock 87.11 50 *e*P **P 10 42 07.8 -0.3**
comp=Z,49nm,1.6s,mb5.5
EVR Evrytania 87.12 318 *e*P **P 10 42 12.0 +4.0**
225A Deer Hill, Car 87.12 52 ⇑P **P 10 42 08.1 -0.1**
baz=87
LTK Loutraki 87.12 317 *e*P **P 10 42 06.0 -2.1**
THEF They Montfort 87.13 333 *e*P **P 10 42 07.6 -0.3**

HINF Hinteralfeld 87.14 332 *e*P **P 10 42 07.1 -0.8**
comp=Z,361nm,1.7s,mb6.0
HINF Hinteralfeld 87.14 332 *e*P **P 10 42 07.1 -0.8**
comp=Z,361nm,1.7s,mb6.3
HINF Hinteralfeld 87.14 332 *e*P **P 10 42 07.1 -0.8**
HINF pmax pmax
comp=Z,361nm,1.7s,mb6.3
MSTX Muleshoe 87.14 49 ⇑P **P 10 42 08.1 -0.1**
baz=87
324A Moseley Ranch, 87.15 53 ⇓P **P 10 42 08.3 0.0**
baz=87,SNR=7.5
HAU Haudompre 87.17 332 *e*P **P 10 42 07.3 -0.8**
comp=Z,232nm,1.4s,mb5.9
HAU *e*R
comp=Z,34µm,19.8s
HAU Haudompre 87.17 332 *e*P **P 10 42 07.3 -0.8**
comp=Z,232nm,1.4s,mb6.2
HAU Haudompre 87.17 332 *e*P **P 10 42 07.3 -0.8**
HAU pmax pmax
comp=Z,232nm,1.4s,mb6.2
AMTX Amarillo 87.18 48 ⇑P **P 10 42 08.4 0.0**
baz=87
AMTX Amarillo 87.18 48 *e*P **P 10 42 08.1 -0.3**
comp=Z,118nm,1.1s,mb6.0
AMTX LR LR
comp=Z,11µm,21.0s,MS6.3
MEZF Maizieres J'vi 87.24 333 *e*P **P 10 42 08.2 -0.2**
comp=Z,608nm,1.4s,mb6.3
MEZF Maizieres J'vi 87.24 333 *e*P **P 10 42 08.2 -0.2**
comp=Z,608nm,1.4s,mb6.6
TUE Stuetta 87.26 330 *e*P **P 10 42 08.0 -0.5**
comp=Z,162nm,1.3s,mb6.1
TUE LR LR
comp=Z,29µm,19.0s,MS6.7
126A Clayton Basin, 87.27 51 ⇓P **P 10 42 08.7 -0.2**
baz=87
ZKR Zakros 87.30 313 *e*P **P 10 42 11.5 +2.5**
Z27A Tatum 87.32 50 ⇑P **P 10 42 08.5 -0.6**
baz=87
DID Didima 87.34 316 *e*P **P 10 42 08.0 -1.1**
GDL2 Guadalupe Moun 87.35 51 *e*P **P 10 42 09.0 -0.3**
comp=Z,198nm,0.9s,mb6.3
SRN Sarande 87.38 319 *e*P **P 10 42 07.5 -1.8**
EFP Efpalio 87.42 317 *e*P **P 10 42 13.0 +3.5**
JFWS Jewell Farm 87.47 36 *e*P **P 10 42 08.6 -1.1**
comp=Z,41nm,1.0s,mb5.6
JFWS LR LR
comp=Z,21µm,22.0s,MS6.5
JFWS Jewell Farm 87.47 36 *e*P **P 10 42 08.6 -1.0**
JFWS pmax pmax
comp=Z,41nm,1.0s,mb5.6
JFWS MLR MLR
comp=Z,21µm,22.0s,MS6.5
SFTF Sexfontaines 87.49 333 *e*P **P 10 42 09.1 -0.5**
comp=Z,590nm,1.3s,mb6.3
SFTF Sexfontaines 87.49 333 *e*P **P 10 42 09.1 -0.5**
comp=Z,590nm,1.3s,mb6.7
325A Bean Ranch, Si 87.52 52 ⇓P **P 10 42 10.4 +0.3**
baz=87,SNR=12
TBI Tubuai 87.53 121 *e*S S 10 52 48.6 -3.9
comp=Z,11µm,31.0s
TBI *e*SS SS 10 58 33.7 -4.8
comp=Z,3µm,26.2s
TBI *e*LQ 11 05 48.5
comp=Z,18µm,32.8s
TBI *e*LR LR 11 09 51.2
comp=Z,43µm,26.0s,baz=311
GUR Goura 87.53 317 *e*P **P 10 42 10.5 +0.5**
LOMF Lomont 87.54 332 *e*P **P 10 42 09.2 -0.7**
NPS Neapolis 87.55 313 *e*P **P 10 42 12.5 +2.3**
226A Malaga, Loving 87.61 51 ⇓P **P 10 42 10.8 +0.3**
baz=87,SNR=11
CLNB Carlsbad 87.61 51 *e*P **P 10 42 10.8 +0.2**
comp=Z,28nm,0.6s,mb5.8
127A Arkansas Junct 87.66 50 ⇑P **P 10 42 10.7 -0.1**
baz=88
HEX Exmoor 87.87 339 *e*P **P 10 42 11.8 +0.4**
HEX Exmoor 87.87 339 P **P 10 42 11.8 +0.4**
425A Indio Mountain 87.90 53 ⇓P **P 10 42 11.8 -0.2**
baz=88,SNR=9.9
VLX Vlachokerasia 87.92 316 *e*P **P 10 42 14.0 +2.1**
RLS Riolos of Patr 87.92 317 *e*P **P 10 42 13.0 +1.1**
IDI Anoyia 87.96 314 *e*P **P 10 42 12.6 +0.4**
comp=Z,147nm,1.2s,mb6.2
VLI Velíai 88.07 316 *e*P **P 10 42 05.0 -7.6**
HTL Hartland 88.12 340 AMS AMS 11 27 28.2
comp=Z,36µm,18.0s,MS6.8
227A Bennet, Jal 88.15 51 ⇑P **P 10 42 12.9 -0.2**
baz=88
326A Caldwell Ranch 88.19 52 ⇑P **P 10 42 13.2 -0.1**
baz=88,SNR=13
SIVA Sivas 88.19 313 *e*P **P 10 42 14.5 +1.2**
VAM Vamos 88.28 314 *e*P **P 10 42 16.0 +2.4**
ITM Ithomi 88.31 317 *e*P **P 10 42 14.5 +0.8**
VLS Valsamata 88.31 318 *e*P **P 10 42 17.0 +3.2**
CABF La Chapelle 88.43 332 *e*P **P 10 42 13.8 -0.3**
comp=Z,241nm,1.6s,mb6.0
CABF La Chapelle 88.43 332 *e*P **P 10 42 13.8 -0.3**
comp=Z,241nm,1.6s,mb6.3
CABF La Chapelle 88.43 332 *e*P **P 10 42 13.8 -0.3**
CABF pmax pmax
comp=Z,241nm,1.6s,mb6.3
OG01 Vacheresse 88.44 331 *e*P **P 10 42 14.6 +0.4**
KARN Karanos 88.44 314 *e*P **P 10 42 14.0 -0.4**
327A Balmorhea Ranc 88.46 51 ⇑P **P 10 42 14.4 -0.2**
baz=88
DYA Yadsworthy 88.47 339 AMS AMS 11 27 28.3
comp=Z,27µm,16.9s,MS6.7
GLMI Grayling 88.48 31 *e*P **P 10 42 13.9 -0.5**
comp=Z,155nm,0.8s,mb6.4
GLMI LR LR
comp=Z,13µm,22.0s,MS6.3
426A McDonald Obser 88.59 52 ⇑P **P 10 42 15.3 +0.1**
baz=88,SNR=8.1
PYL PYLOS 88.61 316 *e*P **P 10 42 16.5 +1.3**
LOR Lormes 88.71 333 *e*P **P 10 42 14.9 -0.6**
comp=Z,538nm,1.5s,mb6.3
LOR *e*R
comp=Z,27µm,17.5s
LOR Lormes 88.71 333 *e*P **P 10 42 14.9 -0.6**
comp=Z,538nm,1.5s,mb6.5
LOR Lormes 88.71 333 *e*P **P 10 42 14.9 -0.6**
LOR pmax pmax
comp=Z,538nm,1.5s,mb6.5
AQU L'Aquila 88.77 325 *e*P **P 10 42 14.9 -1.0**
comp=Z,198nm,1.1s,mb6.3
AQU LR LR
comp=Z,42µm,19.0s,MS6.9
AQU L'Aquila 88.77 325 *e*P **P 10 42 14.9 -0.9**
AQU pmax pmax
comp=Z,198nm,1.1s,mb6.3
AQU MLR MLR
comp=Z,42µm,19.0s,MS6.9
AQU L'Aquila 88.77 325 ⇓*i*P **P 10 42 18.7 +2.9**
427A Hayter Ranch, 88.87 52 ⇑P **P 10 42 16.4 -0.1**
baz=89,SNR=11
328A Wristen Ranch, 88.88 51 ⇑P **P 10 42 16.2 -0.3**
baz=89
FLN La Foliniere 88.91 337 *e*P **P 10 42 15.8 -0.5**
comp=Z,495nm,1.5s,mb6.2
FLN *e*R
comp=Z,44µm,17.8s
FLN La Foliniere 88.91 337 *e*P **P 10 42 15.8 -0.5**
comp=Z,495nm,1.5s,mb6.5
FLN La Foliniere 88.91 337 *e*P **P 10 42 15.8 -0.5**
FLN pmax pmax
comp=Z,495nm,1.5s,mb6.5
LDF La Druitiere 88.94 336 *e*P **P 10 42 15.9 -0.6**
comp=Z,323nm,1.7s,mb6.0
LDF La Druitiere 88.94 336 *e*P **P 10 42 15.9 -0.6**
comp=Z,323nm,1.7s,mb6.3
LDF La Druitiere 88.94 336 *e*P **P 10 42 15.9 -0.6**
LDF pmax pmax
comp=Z,323nm,1.7s,mb6.3
526A Mary Lane Ranc 88.96 53 ⇑P **P 10 42 17.3 +0.3**
baz=89,SNR=11
WMOK Wichita Mounta 88.99 46 *e*P **P 10 42 16.7 -0.3**
comp=Z,100nm,1.4s,mb5.9
WMOK LR LR
comp=Z,9µm,20.0s,MS6.2
WMOK Wichita Mounta 88.99 46 *e*P **P 10 42 16.7 -0.3**
WMOK pmax pmax
comp=Z,100nm,1.4s,mb5.8
WMOK MLR MLR
comp=Z,9µm,20.0s,MS6.2
RSL Roselend 88.99 331 *e*P **P 10 42 17.6 +0.8**
SSF Saint Saulge 89.02 333 *e*P **P 10 42 16.4 -0.5**

comp=Z,344nm,1.7s,mb6.0
SSF Saint Saulge 89.02 333 *e*P **P 10 42 16.4 -0.5**
comp=Z,344nm,1.7s,mb6.3
SSF Saint Saulge 89.02 333 *e*P **P 10 42 16.4 -0.5**
SSF pmax pmax
comp=Z,344nm,1.7s,mb6.3
JSA Saint Aubin 89.06 338 AMS AMS 11 28 20.8
comp=Z,30µm,16.5s,MS6.8
LPL La Plagne 89.09 331 *e*P **P 10 42 17.0 -0.3**
comp=Z,237nm,1.6s,mb5.9
LPL La Plagne 89.09 331 *e*P **P 10 42 17.0 -0.3**
comp=Z,237nm,1.6s,mb6.2
LPL La Plagne 89.09 331 *e*P **P 10 42 17.0 -0.3**
LPL pmax pmax
comp=Z,237nm,1.6s,mb6.2
LPG La Plagne 89.10 331 *e*P **P 10 42 17.1 -0.2**
comp=Z,136nm,1.1s,mb5.8
LPG La Plagne 89.10 331 *e*P **P 10 42 17.1 -0.2**
comp=Z,136nm,1.0s,mb6.1
LPG La Plagne 89.10 331 *e*P **P 10 42 17.1 -0.2**
LPG pmax pmax
comp=Z,136nm,1.0s,mb6.1
OG35 Corcelles 89.10 332 *e*P **P 10 42 18.5 +1.2**
HYF Humbligny 89.15 334 *e*P **P 10 42 17.5 0.0**
HYF Humbligny 89.15 334 *e*P **P 10 42 17.5 0.0**
527A Woodward Ranch 89.21 52 ⇓P **P 10 42 18.3 +0.2**
baz=89,SNR=9.5
SMF Signal de Mont 89.25 333 *e*P **P 10 42 17.4 -0.6**
comp=Z,480nm,1.5s,mb6.2
SMF Signal de Mont 89.25 333 *e*P **P 10 42 17.4 -0.6**
comp=Z,480nm,1.5s,mb6.5
SMF Signal de Mont 89.25 333 *e*P **P 10 42 17.4 -0.6**
SMF pmax pmax
comp=Z,481nm,1.5s,mb6.5
626A Big Bend Ranch 89.27 53 ⇓P **P 10 42 18.4 -0.1**
baz=89
AVF Avril sur Loir 89.30 333 *e*P **P 10 42 17.8 -0.4**
comp=Z,243nm,1.2s,mb6.0
AVF Avril sur Loir 89.30 333 *e*P **P 10 42 17.8 -0.4**
comp=Z,243nm,1.2s,mb6.3
AVF Avril sur Loir 89.30 333 *e*P **P 10 42 17.8 -0.4**
AVF pmax pmax
comp=Z,243nm,1.2s,mb6.3
GRR Gorron 89.36 337 *e*P **P 10 42 18.1 -0.4**
comp=Z,948nm,1.7s,mb6.5
GRR Gorron 89.36 337 *e*P **P 10 42 18.1 -0.4**
comp=Z,948nm,1.7s,mb6.8
GRR Gorron 89.36 337 *e*P **P 10 42 18.1 -0.4**
GRR pmax pmax
comp=Z,948nm,1.7s,mb6.8
428A Kincaid Ranch, 89.40 51 ⇓P **P 10 42 19.2 +0.2**
baz=89,SNR=11
CUC Castrocucco 89.43 322 *e*P **P 10 42 18.2 -0.7**
comp=Z,55nm,1.2s,mb5.7
CUC LR LR
comp=Z,22µm,20.0s,MS6.6
BNI Bardonecchia 89.50 330 *e*P **P 10 42 19.6 +0.4**
comp=Z,243nm,1.9s,mb6.1
BNI LR LR
comp=Z,20µm,20.0s,MS6.5
BNI Bardonecchia 89.50 330 *e*P **P 10 42 19.6 +0.4**
BNI pmax pmax
comp=Z,243nm,1.9s,mb6.1
BNI MLR MLR
comp=Z,20µm,20.0s,MS6.5
TIP Timpagrande 89.58 321 *e*P **P 10 42 19.2 -0.4**
comp=Z,154nm,1.3s,mb6.1
TIP LR LR
comp=Z,30µm,20.0s,MS6.7
BGF Bois d'Agland 89.68 333 *e*P **P 10 42 19.7 -0.3**
comp=Z,128nm,1.2s,mb5.7
BGF Bois d'Agland 89.68 333 *e*P **P 10 42 19.7 -0.3**
comp=Z,128nm,1.2s,mb6.0
BGF Bois d'Agland 89.68 333 *e*P **P 10 42 19.7 -0.3**
BGF pmax pmax
comp=Z,128nm,1.2s,mb6.0
TXAR Lajitas Array 89.72 53 P **P 10 42 19.7 -0.8**
comp=Z,7.4nm,0.7s,mb5.0,baz=291,slow=3.8,SNR=62
TXAR PKPPKP 11 08 00.7
comp=Z,1.4nm,1.2s,baz=48,slow=1.3,SNR=3.3
TXAR LR LR 11 17 29.3
comp=Z,16µm,20.3s,MS6.4,baz=355,slow=32
TXAR Lajitas Array 89.72 53 P **P 10 42 19.8 -0.8**
TXAR P'P' 11 08 00.7
TXAR Lajitas Array 89.72 53 P **P 10 42 19.7 -0.8**
TXAR pmax pmax
comp=Z,7.0nm,0.7s
528A Cox Ranch, San 89.72 52 ⇓P **P 10 42 20.1 -0.5**
baz=90
MBDF Montbardon 89.73 330 *e*P **P 10 42 19.6 -0.7**
comp=Z,282nm,1.6s,mb6.0
MBDF Montbardon 89.73 330 *e*P **P 10 42 19.6 -0.7**
comp=Z,282nm,1.6s,mb6.2
MBDF Montbardon 89.73 330 *e*P **P 10 42 19.6 -0.7**
MBDF pmax pmax
comp=Z,282nm,1.6s,mb6.2
627A Terlingua Ranc 89.82 53 ⇓P **P 10 42 21.3 +0.3**
baz=90
TUL1 Tulsa 89.85 44 ⇑P **P 10 42 19.9 -1.1**
baz=90
PLDF La Plantade 89.90 333 *e*P **P 10 42 21.0 -0.1**
ORIF Oris-en-Rattie 89.92 331 *e*P **P 10 42 20.7 -0.5**
comp=Z,500nm,1.9s,mb6.1
ORIF *e*R
comp=Z,28µm,18.5s
ORIF Oris-en-Rattie 89.92 331 *e*P **P 10 42 20.7 -0.5**
comp=Z,500nm,1.9s,mb6.4
ORIF Oris-en-Rattie 89.92 331 *e*P **P 10 42 20.7 -0.5**
ORIF pmax pmax
comp=Z,500nm,1.9s,mb6.4
SGMF Saint Gilles 90.01 337 *e*P **P 10 42 21.3 -0.2**
comp=Z,657nm,1.6s,mb6.3
SGMF Saint Gilles 90.01 337 *e*P **P 10 42 21.3 -0.2**
comp=Z,657nm,1.6s,mb6.6
SGMF Saint Gilles 90.01 337 *e*P **P 10 42 21.3 -0.2**
SGMF pmax pmax
comp=Z,657nm,1.6s,mb6.6
SAOF Saorge 90.02 329 *e*P **P 10 42 20.6 -1.1**
AUTN L'Aution 90.06 329 *e*P **P 10 42 22.4 +0.5**
628A Black Gap, Mar 90.12 52 ⇑P **P 10 42 22.3 -0.1**
baz=90
TOUF Mont Tournerai 90.12 329 *e*P **P 10 42 22.9 +0.8**
SSB Saint Sauveur 90.14 332 *e*P **P 10 42 21.8 -0.4**
comp=Z,82nm,1.4s,mb5.8
SSB LR LR
comp=Z,16µm,19.0s,MS6.5
SSB Saint Sauveur 90.14 332 *e*P **P 10 42 21.8 -0.4**
SSB pmax pmax
comp=Z,82nm,1.4s,mb5.8
SSB MLR MLR
comp=Z,16µm,19.0s,MS6.5
SSB Saint Sauveur 90.14 332 *e*P **P 10 42 23.2 +1.0**
TCF Toulx Ste Croi 90.14 334 *e*P **P 10 42 21.9 -0.3**
comp=Z,480nm,1.9s,mb6.1
TCF Toulx Ste Croi 90.14 334 *e*P **P 10 42 21.9 -0.3**
comp=Z,480nm,1.9s,mb6.4
TCF Toulx Ste Croi 90.14 334 *e*P **P 10 42 21.9 -0.3**
TCF pmax pmax
comp=Z,480nm,1.9s,mb6.4
ROSF Rostrenen 90.16 338 *e*P **P 10 42 22.0 -0.2**
comp=Z,535nm,1.7s,mb6.2
ROSF Rostrenen 90.16 338 *e*P **P 10 42 22.0 -0.2**
comp=Z,535nm,1.7s,mb6.5
ROSF Rostrenen 90.16 338 *e*P **P 10 42 22.0 -0.2**
ROSF pmax pmax
comp=Z,535nm,1.7s,mb6.5
SBF Sospel 90.17 329 *e*P **P 10 42 20.9 -1.5**
comp=Z,352nm,1.3s,mb6.2
SBF Sospel 90.17 329 *e*P **P 10 42 20.9 -1.5**
comp=Z,352nm,1.3s,mb6.4
SBF Sospel 90.17 329 *e*P **P 10 42 20.9 -1.5**
SBF pmax pmax
comp=Z,353nm,1.3s,mb6.4
MVIF Mont Vial 90.26 329 *e*P **P 10 42 22.7 -0.1**
OG25 Le Caire 90.30 330 *e*P **P 10 42 22.8 -0.2**
PYM Petit Puy Mans 90.31 333 *e*P **P 10 42 23.4 +0.4**
MSEY Mahe Island 90.36 264 PFAKE 10 42 30.0 +6.3
MSEY LR LR
comp=Z,11µm,20.0s,MS6.3
BST Brest 90.42 338 *e*P **P 10 42 23.2 -0.2**
OG26 St.-Nazaire-De 90.43 331 *e*P **P 10 42 23.7 +0.1**
VIVF Saint-Julien-I 90.44 331 *e*P **P 10 42 23.1 -0.5**
comp=Z,198nm,1.3s,mb5.9
VIVF Saint-Julien-I 90.44 331 *e*P **P 10 42 23.1 -0.5**
comp=Z,198nm,1.3s,mb6.2
VIVF Saint-Julien-I 90.44 331 *e*P **P 10 42 23.1 -0.5**
VIVF pmax pmax

comp=Z,198nm,1.3s,mb6.2
QUIF Quistinic 90.50 338 *e*P **P 10 42 23.4 -0.4**
comp=Z,427nm,1.9s,mb6.0
QUIF Quistinic 90.50 338 *e*P **P 10 42 23.4 -0.4**
comp=Z,427nm,1.9s,mb6.3
QUIF Quistinic 90.50 338 *e*P **P 10 42 23.4 -0.4**
QUIF pmax pmax
comp=Z,427nm,1.9s,mb6.3
PGF Pioggiola 90.58 328 *e*P **P 10 42 23.1 -1.2**
comp=Z,351nm,1.4s,mb6.2
PGF Pioggiola 90.58 328 *e*P **P 10 42 23.1 -1.2**
comp=Z,351nm,1.4s,mb6.5
PGF Pioggiola 90.58 328 *e*P **P 10 42 23.1 -1.2**
PGF pmax pmax
comp=Z,351nm,1.4s,mb6.5
LBL Lubilhac 90.67 333 *e*P **P 10 42 24.1 -0.5**
MFF Saint Martin d 90.69 335 *e*P **P 10 42 24.5 -0.2**
comp=Z,487nm,1.4s,mb6.3
MFF Saint Martin d 90.69 335 *e*P **P 10 42 24.5 -0.2**
comp=Z,487nm,1.4s,mb6.6
MFF Saint Martin d 90.69 335 *e*P **P 10 42 24.5 -0.2**
MFF pmax pmax
comp=Z,487nm,1.4s,mb6.6
FRF La Foret Royal 90.74 330 *e*P **P 10 42 23.7 -1.3**
comp=Z,344nm,1.5s,mb6.2
FRF La Foret Royal 90.74 330 *e*P **P 10 42 23.7 -1.3**
comp=Z,344nm,1.5s,mb6.5
FRF La Foret Royal 90.74 330 *e*P **P 10 42 23.7 -1.3**
FRF pmax pmax
comp=Z,344nm,1.5s,mb6.5
SLM Saint Louis 90.76 39 *e*P **P 10 42 25.0 -0.2**
comp=Z,126nm,1.3s,mb6.1
SLM Saint Louis 90.76 39 *e*P **P 10 42 25.0 -0.2**
SLM pmax pmax
comp=Z,126nm,1.3s,mb6.1
SMRF Simiane la Rot 90.83 330 *e*P **P 10 42 24.9 -0.5**
comp=Z,308nm,1.4s,mb6.1
SMRF Simiane la Rot 90.83 330 *e*P **P 10 42 24.9 -0.5**
comp=Z,308nm,1.4s,mb6.4
ATD Arta Tunnel 90.84 285 P **P 10 42 27.1 +1.1**
comp=Z,18nm,0.8s,mb5.4,baz=56,slow=3.6,SNR=6.6
ATD LR LR 11 26 01.2
comp=Z,9μm,20.1s,MS6.2,baz=44,slow=37
ATD Arta Tunnel 90.84 285 P **P 10 42 27.1 +1.1**
AAM Ann Arbor 90.93 32 P **P 10 42 28.0 +2.1**
comp=Z,23nm,0.9s,mb5.5
AAM Ann Arbor 90.93 32 P **P 10 42 28.0 +2.1**
AAM pmax pmax
comp=Z,23nm,0.9s,mb5.5
LMR La Mourre 90.99 330 *e*P **P 10 42 25.0 -1.2**
comp=Z,500nm,1.3s,mb6.4
LMR La Mourre 90.99 330 *e*P **P 10 42 25.0 -1.2**
comp=Z,500nm,1.3s,mb6.7
LMR La Mourre 90.99 330 *e*P **P 10 42 25.0 -1.2**
LMR pmax pmax
comp=Z,500nm,1.3s,mb6.7
FVM French Village 91.16 39 *e*P **P 10 42 27.7 +0.6**
comp=Z,96nm,1.4s,mb5.9
FVM French Village 91.16 39 *e*P **P 10 42 27.7 +0.6**
FVM pmax pmax
comp=Z,96nm,1.4s,mb5.9
OSPF L'Ospedale 91.22 327 *e*P **P 10 42 24.8 -2.5**
RJF Les Rejaudoux 91.23 334 *e*P **P 10 42 27.2 -0.1**
comp=Z,285nm,1.4s,mb6.1
RJF *e*R
comp=Z,37μm,19.0s
RJF Les Rejaudoux 91.23 334 *e*P **P 10 42 27.2 -0.1**
comp=Z,285nm,1.4s,mb6.4
RJF Les Rejaudoux 91.23 334 *e*P **P 10 42 27.2 -0.1**
RJF pmax pmax
comp=Z,285nm,1.4s,mb6.4
CAF Calviac 91.36 333 *e*P **P 10 42 28.0 +0.1**
comp=Z,312nm,1.4s,mb6.2
CAF Calviac 91.36 333 *e*P **P 10 42 28.0 +0.1**
comp=Z,312nm,1.4s,mb6.5
CAF Calviac 91.36 333 *e*P **P 10 42 28.0 +0.1**
CAF pmax pmax
comp=Z,312nm,1.4s,mb6.5
JCT Junction City 91.37 50 ⇓P **P 10 42 27.8 -0.4**
baz=91
JCT Junction City 91.37 50 *e*P **P 10 42 28.9 +0.7**
comp=Z,27nm,0.8s,mb5.6
JCT LR LR
comp=Z,13μm,22.0s,MS6.3
JCT Junction City 91.37 50 *e*P **P 10 42 28.9 +0.7**
JCT pmax pmax
comp=Z,27nm,0.8s,mb5.6
JCT MLR MLR
comp=Z,13μm,22.0s,MS6.3
LASF Ste Croix 91.42 332 *e*P **P 10 42 27.8 -0.3**
comp=Z,250nm,1.3s,mb6.1
LASF Ste Croix 91.42 332 *e*P **P 10 42 27.8 -0.3**
comp=Z,250nm,1.3s,mb6.4
RFTA Plano 91.44 46 *e*P **P 10 42 27.9 -0.6**
OLIL Olney 91.74 37 *e*P **P 10 42 29.8 +0.1**
comp=Z,163nm,1.4s,mb6.2
LFF La Frestale 91.83 334 *e*P **P 10 42 30.1 +0.1**
comp=Z,428nm,1.3s,mb6.3
LFF La Frestale 91.83 334 *e*P **P 10 42 30.1 +0.1**
comp=Z,428nm,1.3s,mb6.6
LFF La Frestale 91.83 334 *e*P **P 10 42 30.1 +0.1**
LFF pmax pmax
comp=Z,428nm,1.3s,mb6.6
SIUC Southern Illin 91.98 39 *e*P **P 10 42 30.7 -0.2**
comp=Z,50nm,0.9s,mb5.8
MIAR Mount Ida 92.08 43 *e*P **P 10 42 30.4 -1.0**
comp=Z,135nm,1.3s,mb6.1
MIAR LR LR
comp=Z,10μm,19.0s,MS6.3
MIAR Mount Ida 92.08 43 *e*P **P 10 42 30.4 -1.0**
MIAR pmax pmax
comp=Z,135nm,1.3s,mb6.1
MIAR MLR MLR
comp=Z,10μm,19.0s,MS6.3
BLO Bloomington 92.15 36 *e*P **P 10 42 33.6 +1.9**
comp=Z,56nm,1.3s,mb5.7
BLO Bloomington 92.15 36 *e*P **P 10 42 33.6 +2.0**
BLO pmax pmax
comp=Z,56nm,1.3s,mb5.7
LONY Lake Ozonia 92.51 26 PFAKE 10 42 40.0 +6.8
LONY LR LR
comp=Z,10μm,22.0s,MS6.2
UALR University of 92.58 42 *e*P **P 10 42 33.0 -0.7**
comp=Z,96nm,1.5s,mb6.0
ERPA Erie 92.62 30 PFAKE 10 42 40.0 +6.3
ERPA LR LR
comp=Z,12μm,19.0s,MS6.4
MTLF Montolieu 92.66 332 *e*P **P 10 42 33.8 -0.1**
comp=Z,354nm,1.6s,mb6.2
MTLF Montolieu 92.66 332 *e*P **P 10 42 33.8 -0.1**
comp=Z,354nm,1.6s,mb6.5
MTLF Montolieu 92.66 332 *e*P **P 10 42 33.8 -0.1**
MTLF pmax pmax
comp=Z,354nm,1.6s,mb6.5
VSL Villasalto 92.89 326 PFAKE 10 42 50.0 +15
VSL LR LR
comp=Z,15μm,20.0s,MS6.4
ACSO Alum Creek Sta 92.91 33 *e*P **P 10 42 36.1 +1.0**
comp=Z,44nm,1.0s,mb5.8
ACSO LR LR
comp=Z,10μm,19.0s,MS6.3
GNAR Gosnell 92.92 40 *e*P **P 10 42 35.6 +0.3**
WCI Wyandotte Cave 93.01 36 *e*P **P 10 42 35.3 -0.3**
comp=Z,68nm,1.4s,mb5.9
WCI Wyandotte Cave 93.01 36 *e*P **P 10 42 35.3 -0.3**
WCI pmax pmax
comp=Z,68nm,1.4s,mb5.9
NCB Newcomb 93.20 26 PFAKE 10 42 50.0 +14
NCB LR LR
comp=Z,9μm,22.0s,MS6.2
WDD Wield Dalam 93.25 320 PFAKE 10 42 50.0 +13
WDD LR LR
comp=Z,20μm,19.0s,MS6.6
MLS Moulis 93.41 333 *e*P **P 10 42 37.6 +0.2**
NATX Nacogdoches 93.52 46 *e*P **P 10 42 40.2 +2.1**
comp=Z,102nm,1.4s,mb6.0
NATX LR LR
comp=Z,10μm,20.0s,MS6.3
EPF Esparros 93.62 333 *e*P **P 10 42 37.6 -0.8**
comp=Z,162nm,1.7s,mb5.8
EPF Esparros 93.62 333 *e*P **P 10 42 37.6 -0.8**
comp=Z,162nm,1.7s,mb6.1
EPF Esparros 93.62 333 *e*P **P 10 42 37.6 -0.8**
EPF pmax pmax
comp=Z,162nm,1.7s,mb6.1
PKME Peaks-Kenny Pk 93.65 22 PFAKE 10 42 50.0 +12
PKME LR LR
comp=Z,9μm,19.0s,MS6.2
LBNH Lisbon 93.74 24 PFAKE 10 42 50.0 +11
LBNH LR LR
comp=Z,19μm,20.0s,MS6.5
RESF Ens 93.82 333 *e*P **P 10 42 40.1 +0.8**
VIEF Viey 93.87 333 *e*P **P 10 42 40.1 +0.6**
WVT Waverly 93.91 39 *e*P **P 10 42 40.2 +0.4**
comp=Z,65nm,1.5s,mb5.7
WVT Waverly 93.91 39 *e*P **P 10 42 40.3 +0.5**
WVT pmax pmax
comp=Z,65nm,1.5s,mb5.7
ETSF Etsaut 94.06 334 *e*P **P 10 42 40.8 +0.4**
comp=Z,85nm,1.2s,mb5.6
ETSF Etsaut 94.06 334 *e*P **P 10 42 40.8 +0.4**
comp=Z,85nm,1.2s,mb6.0
ETSF Etsaut 94.06 334 *e*P **P 10 42 40.8 +0.4**
ETSF pmax pmax
comp=Z,85nm,1.2s,mb6.0
BINY Binghamton 94.11 28 PFAKE 10 42 50.0 +9.4
BINY LR LR
comp=Z,12μm,19.0s,MS6.4
HKT Hockley 94.15 48 *e*P **P 10 42 39.6 -1.5**
comp=Z,56nm,1.5s,mb5.7
HKT Hockley 94.15 48 *e*P **P 10 42 39.6 -1.4**
HKT pmax pmax
comp=Z,56nm,1.5s,mb5.7
OXF Oxford 94.35 41 *e*P **P 10 42 42.2 +0.3**
comp=Z,94nm,1.2s,mb6.0
OXF LR LR
comp=Z,7μm,19.0s,MS6.2
OXF Oxford 94.35 41 *e*P **P 10 42 42.2 +0.3**
OXF pmax pmax
comp=Z,94nm,1.2s,mb6.0
OXF MLR MLR
comp=Z,7μm,19.0s,MS6.2
KVTX Kingsville 94.62 51 PFAKE 10 42 50.0 +6.8
KVTX LR LR
comp=Z,11μm,19.0s,MS6.3
PLAL Pickwick Lake 94.68 40 PFAKE 10 42 50.0 +6.6
PLAL LR LR
comp=Z,12μm,20.0s,MS6.3
VBMS Vicksburg 95.51 43 PFAKE 10 43 00.0 +13
VBMS LR LR
comp=Z,11μm,19.0s,MS6.4
TZTN Tazewell 95.66 36 *e*P **P 10 42 53.2 +5.3**
comp=Z,34nm,1.2s,mb5.8
KEST Kesra 95.94 323 P **P 10 42 50.0 +0.9**
comp=Z,19nm,1.2s,mb5.5,baz=342,slow=5.4,SNR=3.8
KEST LR LR 11 31 41.6
comp=Z,10μm,18.2s,MS6.3,baz=228,slow=39
KEST Kesra 95.94 323 *e*P **P 10 42 49.0 -0.2**
BLA Blacksburg 96.53 33 PFAKE 10 43 00.0 +8.2
BLA LR LR
comp=Z,14μm,22.0s,MS6.4
LRAL Lakeview Retre 96.76 40 PFAKE 10 43 00.0 +7.1
LRAL LR LR
comp=Z,11μm,22.0s,MS6.3
CBN Corbin 96.99 31 PFAKE 10 43 00.0 +6.2
CBN LR LR
comp=Z,15μm,21.0s,MS6.5
PBRG Braganca 97.10 337 *e*P **P 10 42 57.0 +2.7**
comp=Z,44nm,1.9s,mb5.8
PBRG *e*S S 10 54 23.3 +4.8
PBRG *e*LQ 11 15 22.2
PBRG *e*LR LR 11 21 05.1
comp=Z,16μm,18.0s
PGAV Gavieira, Arco 97.42 338 *e*S S 10 54 29.3 +8.1
PGAV *e*SS SS 11 01 03.0 +5.4
PGAV *e*LQ 11 18 00.7
PGAV *e*LR LR 11 24 03.4
comp=Z,25μm,18.0s
RKT Rikitea 97.76 113 *e*SKSac SKSac 10 53 30.1 -6.2
comp=Z,4μm,27.2s
RKT Rikitea 97.76 113 *e*PS PS 10 55 49.3 +2.0
comp=Z,4μm,33.0s
RKT *e*SS SS 11 01 03.6 -1.8
comp=Z,5μm,28.8s
RKT *e*LR LR 11 14 35.4
comp=Z,40μm,25.2s,baz=308
MVO Moncorvo 97.78 337 *e*P **P 10 43 00.6 +3.3**
comp=Z,48nm,1.4s,mb6.0
MVO *e*S S 10 54 21.5 -2.8
MVO *e*SS SS 11 01 16.4 +14
MVO *e*LQ 11 16 04.4
MVO *e*LR LR 11 21 27.5
comp=Z,21μm,18.0s
POLO Lamas de Olo 97.82 338 *e*P **P 10 43 01.4 +3.9**
comp=Z,31nm,1.2s,mb5.9
POLO *e*S S 10 54 28.7 +4.0
POLO *e*SS SS 11 01 10.1 +6.8
POLO *e*LQ 11 15 49.8
POLO *e*LR LR 11 21 43.6
comp=Z,11μm,18.0s
KMSC Kings Mountain 97.84 35 P **P 10 42 56.6 -1.1**
baz=98
ESDC Sonseca Array 98.11 334 P **P 10 43 00.1 +1.3**
comp=Z,3.8nm,0.9s,mb5.1,baz=11,slow=3.3,SNR=15
ESDC LR LR 11 29 38.8
comp=Z,19μm,18.7s,MS6.6,baz=45,slow=37
ESDC Sonseca Array 98.11 334 P **P 10 43 00.1 +1.3**
ESLA Sonseca Array 98.11 334 PFAKE 10 43 10.0 +11
ESLA LR LR
comp=Z,105μm,19.0s,MS7.3
GOGA Godfrey 98.23 37 PFAKE 10 43 10.0 +10
GOGA LR LR
comp=Z,8μm,21.0s,MS6.2
BRAL Brewton 98.31 41 PFAKE 10 43 10.0 +10
BRAL LR LR
comp=Z,11μm,20.0s,MS6.3
PAB San Pablo 98.36 335 *e*P **P 10 43 01.8 +1.9**
comp=Z,22nm,1.4s,mb5.7
PAB LR LR
comp=Z,24μm,19.0s,MS6.7
PAB San Pablo 98.36 335 *e*P **P 10 43 01.8 +1.8**
PAB pmax pmax
comp=Z,22nm,1.4s,mb5.7
PAB MLR MLR
comp=Z,24μm,19.0s,MS6.7
MTE Manteigas 98.63 337 *e*S S 10 54 30.0 -1.6
MTE *e*SS SS 11 01 26.5 +12
MTE *e*LQ 11 16 06.9
MTE *e*LR LR 11 21 55.5
comp=Z,27μm,18.0s
MTE Manteigas 98.63 337 PFAKE 10 43 10.0 +8.8
MTE LR LR
comp=Z,27μm,19.0s,MS6.8
CNNC Cliffs of the 99.29 33 PFAKE 10 43 20.0 +16
CNNC LR LR
comp=Z,14μm,20.0s,MS6.5
PMRV Marv??o 99.47 337 *e*S S 10 54 43.4 +4.7
PMRV *e*LQ 11 16 28.0
PMRV *e*LR LR 11 22 36.0
comp=Z,19μm,18.0s
RER Riviere de l'E 99.80 251 PFAKE 10 43 20.0 +14
RER LR LR
comp=Z,5μm,21.0s,MS6.0
PESTR Estremoz 100.05 337 *e*P Pdif 10 43 10.5 +3.0
comp=Z,35nm,1.7s
PESTR *e*S Sdif 10 54 43.3 -0.1
PESTR *e*LQ 11 16 37.3
PESTR *e*LR LR 11 21 17.4
comp=Z,20μm,18.0s
NHSC New Hope 100.06 35 PFAKE 10 43 20.0 +12
NHSC LR LR
comp=Z,16μm,21.0s,MS6.5
PMTG Montargil 100.06 337 *e*S Sdif 10 54 43.1 -0.5
PMTG *e*LQ 11 16 45.5
PMTG *e*LR LR 11 22 51.2
comp=Z,21μm,18.0s
EVO Evora 100.48 337 *e*P Pdif 10 43 12.7 +3.3
comp=Z,99nm,1.7s
EVO *e*R
comp=Z,26μm,20.8s
PMAFR Mafra 100.49 338 *e*S Sdif 10 54 53.6 +6.5
PMAFR *e*LQ 11 16 50.1
PMAFR *e*LR LR 11 22 06.0
comp=Z,30μm,18.0s
PBAR Barrancos 100.50 336 *e*LQ 11 17 51.7
PBAR *e*LR LR 11 23 43.1
comp=Z,25μm,18.0s
EVOP Sao Brissos 100.52 337 *e*P Pdif 10 43 12.7 +3.1
comp=Z,99nm,1.7s
EVOP Sao Brissos 100.52 337 *e*P Pdif 10 43 12.7 +3.1
EVOP pmax pmax
comp=Z,99nm,1.7s
PNCL Nicolau / Gran 101.03 337 *e*S Sdif 10 54 58.8 +7.1
PNCL *e*LQ 11 16 44.9
PNCL *e*LR LR 11 23 15.9
comp=Z,22μm,18.0s
PCVE Castro Verde 101.32 337 *e*LQ 11 18 00.1
PCVE *e*LR LR 11 24 58.8
comp=Z,17μm,20.0s
PVAQ Vaqueiros 101.42 336 *e*S Sdif 10 54 58.8 +3.9
PVAQ *e*SS SS 11 02 03.1 +9.4
PVAQ *e*LQ 11 17 08.5
PVAQ *e*LR LR 11 23 39.3
comp=Z,31μm,18.0s
PBDV Barranco-do-Ve 101.64 336 *e*LQ 11 17 30.6
PBDV *e*LR LR 11 25 16.1
comp=Z,33μm,20.0s
SFS San Fernando 101.77 335 PFAKE 10 43 30.0 +15
SFS LR LR
comp=Z,82μm,19.0s,MS7.3
MORF Marmelete 101.81 337 *e*LQ 11 19 20.8
MORF *e*LR LR 11 23 51.8
comp=Z,16μm,18.0s
PFVI Vila Bisbo 102.02 337 *e*LQ 11 17 08.8
PFVI *e*LR LR 11 23 27.2
comp=Z,23μm,18.0s
DRV Dumont d'Urvil 102.90 181 PP PP 10 47 32.0 -1.9
DRV SKKS SKSac 10 53 59.0 -0.4
DRV SP SP 10 56 35.0 -5.7
DRV SS SS 11 02 14.0 -1.7
DRV R 11 19 00.0
KMBO Kilima Mbogo 102.91 278 PFAKE 10 43 30.0 +10
KMBO LR LR
comp=Z,10μm,22.0s,MS6.3
RTC Rabat Centre 104.23 334 PFAKE 10 43 40.0 +14
RTC LR LR
comp=Z,12μm,20.0s,MS6.4
ABPO Ambohimpanom 105.19 257 *e*PKPdf PKiKP 10 47 48.0 +3.0
ABPO LR LR
comp=Z,7μm,22.0s,MS6.2
CASY Casey 105.42 193 PFAKE 10 48 00.0 +16
CASY LR LR
comp=Z,3μm,19.0s,MS5.9
TEIG Tepich 105.93 49 PFAKE 10 48 00.0 +14
TEIG LR LR
comp=Z,6μm,19.0s,MS6.2
PAF Port-aux-Franc 106.76 221 PFAKE 10 48 00.0 +13
PAF LR LR
comp=Z,4μm,19.0s,MS6.0
BBSR BB Station 106.87 24 PFAKE 10 48 00.0 +12
BBSR LR LR
comp=Z,7μm,20.0s,MS6.2
MBAR Mbarara 107.74 283 PFAKE 10 48 00.0 +10
MBAR LR LR
comp=Z,729nm,20.0s,MS5.2
TAM Tamanrasset 108.36 318 PFAKE 10 48 00.0 +9.1
TAM LR LR
comp=Z,14μm,20.0s,MS6.5
TGUH Tegucigalpa,Un 111.20 53 PFAKE 10 48 10.0 +14
TGUH LR LR
comp=Z,7μm,22.0s,MS6.2
GTBY Guantanamo Bay 113.54 39 PFAKE 10 48 10.0 +9.2
GTBY LR LR
comp=Z,6μm,19.0s,MS6.2
MTDJ Mount Denham 113.68 42 PFAKE 10 48 10.0 +8.9
MTDJ LR LR
comp=Z,9μm,22.0s,MS6.3
VNDA Vanda 114.42 175 *e*PKPdf PKiKP 10 47 59.5 -1.2
VNDA LR LR
comp=Z,5μm,22.0s,MS6.0
VNDA Vanda 114.42 175 *e*PKIKP PKiKP 10 47 59.5 -1.2
VNDA MLR MLR
comp=Z,5μm,22.0s
SBA Scott Base 115.08 174 PFAKE 10 48 10.0 +8.0
SBA LR LR
comp=Z,3μm,19.0s,MS5.9
JTS JuntasAbangare 115.51 53 PFAKE 10 48 20.0 +15
JTS LR LR
comp=Z,6μm,22.0s,MS6.2
SDDR Presa de Saban 116.21 36 PFAKE 10 48 20.0 +14
SDDR LR LR
comp=Z,10μm,20.0s,MS6.4
TORD Torodi Ar. Bea 118.29 316 PKP PKPdf 10 48 09.4 -0.6
comp=Z,11nm,1.1s,baz=24,slow=1.8,SNR=16
TORD PKKPab PKKPab 10 58 34.2 +1.4
comp=Z,3.5nm,1.1s,baz=236,slow=4.2,SNR=6.1
TORD Torodi Ar. Bea 118.29 316 PKP PKPdf 10 48 09.4 -0.6
TORD PKKPab PKKPab 10 58 34.2 +1.4
SJG San Juan 119.27 32 PFAKE 10 48 20.0 +8.1
SJG LR LR
comp=Z,8μm,21.0s,MS6.3
MAW Mawson 119.48 206 PKP PKPdf 10 48 11.3 +0.7
comp=Z,4.1nm,0.8s,baz=85,slow=4.2,SNR=5.0
MAW Mawson 119.48 206 PKP PKPdf 10 48 11.3 +0.7
MAW *e*PKPdf PKPdf 10 48 11.4 +0.8
MAW LR LR
comp=Z,4μm,22.0s,MS6.0
MAW Mawson 119.48 206 PKIKP PKPdf 10 48 11.3 +0.7
MAW pmax pmax
comp=Z,4.0nm,0.8s
RPN Rapa Nui 119.51 103 PFAKE 10 48 20.0 +8.0
RPN LR LR
comp=Z,17μm,22.0s,MS6.6
BCIP Isla Barro Col 119.60 50 PFAKE 10 48 20.0 +7.4
BCIP LR LR
comp=Z,4μm,20.0s,MS6.0
ANWB Willy Bob 121.40 27 PFAKE 10 48 30.0 +14
ANWB LR LR
comp=Z,7μm,21.0s,MS6.3
MSKU Masuku 121.49 294 PKP PKPdf 10 48 15.7 -0.5
comp=Z,51nm,1.1s,baz=10,slow=4.8,SNR=10.0
MSKU Masuku 121.49 294 PKP PKPdf 10 48 15.8 -0.5
MSKU LR LR
comp=Z,2.0nm,21.0s
FDF Fort de France 124.32 28 PFAKE 10 48 30.0 +8.4
FDF LR LR
comp=Z,7μm,21.0s,MS6.3
SDV Santo Domingo 125.12 41 *e*PKPdf PKPdf 10 48 22.2 -1.0
SDV LR LR
comp=Z,3μm,22.0s,MS5.9
LBTB Lobatse 125.45 263 *e*PKPdf PKPdf 10 48 23.5 +0.1
LBTB LR LR
comp=Z,7μm,22.0s,MS6.2
LBTB Lobatse 125.45 263 *e*PKIKP PKPdf 10 48 23.5 +0.1
LBTB MLR MLR
comp=Z,7μm,22.0s,MS6.2
QSPA South Pole Qui 126.29 180 *e*PKPdf PKPdf 10 48 22.0 -1.4
QSPA *e*PP PP 10 50 27.4 +8.6
QSPA LR LR
comp=Z,6μm,22.0s,MS6.2
ROSC El Rosal 126.33 48 *e*PKPdf PKPdf 10 48 27.3 +1.8
comp=Z,14nm,0.7s,baz=308,slow=5.0,SNR=6.5
ROSC El Rosal 126.33 48 *e*PKPdf PKPdf 10 48 26.2 +0.6
ROSC PKP PKPdf 10 48 27.3 +1.8
BBGH Gun Hill 126.38 27 PFAKE 10 48 40.0 +14
BBGH LR LR
comp=Z,10μm,22.0s,MS6.5
GRGR Grenville 126.50 30 PFAKE 10 48 40.0 +14
GRGR LR LR
comp=Z,6μm,21.0s,MS6.2
SACV Santiago Islan 127.11 343 PFAKE 10 48 40.0 +13
SACV LR LR
comp=Z,6μm,21.0s,MS6.3
DBIC Dimbokro 127.24 318 PKP PKPdf 10 48 27.1 -0.2
comp=Z,32nm,1.1s,baz=43,slow=2.5,SNR=15
DBIC PP PP 10 50 26.0 +0.5
comp=Z,17nm,1.0s,baz=358,slow=11,SNR=4.5
DBIC Dimbokro 127.24 318 *e*PKPdf PKPdf 10 48 26.7 -0.5
DBIC PKP PKPdf 10 48 27.1 -0.2
DBIC *e*PP PP 10 50 21.5 -3.9
DBIC PP PP 10 50 26.0 +0.5
DBIC LR LR
comp=Z,11μm,19.0s,MS6.5
DBIC Dimbokro 127.24 318 *e*PKIKP PKPdf 10 48 26.7 -0.6
DBIC 10 50 26.0
DBIC MLR MLR
comp=Z,11μm,19.0s
OTAV Otavalo 127.28 55 *e*PKPdf PKPdf 10 48 29.2 +1.9
OTAV LR LR
comp=Z,6μm,22.0s,MS6.2
BOSA Boshof 127.34 259 PKP PKPdf 10 48 25.9 -1.1
comp=Z,3.3nm,0.4s,baz=114,slow=2.4,SNR=16
BOSA Boshof 127.34 259 *e*PKPdf PKPdf 10 48 25.8 -1.1
BOSA LR LR
comp=Z,6μm,20.0s,MS6.3
BOSA Boshof 127.34 259 *e*PKIKP PKPdf 10 48 25.8 -1.1
BOSA MLR MLR
comp=Z,6μm,20.0s,MS6.3

LIC	**Lamto**	**127.70**	**318**	⇑*i*PKIKP	PKPdf	10 48 29.2	+1.0
	comp=Z,196nm,1.3s						
LIC				*e*R			
	comp=Z,20μm,21.0s						
LIC	**Lamto**	**127.70**	**318**	⇑*i*PKPdf	PKPdf	10 48 29.2	+1.0
TSUM	**Tsumeb**	**129.01**	**274**	*e*PKPdf	PKPdf	10 48 30.7	+0.3
SUR	**Sutherland**	**132.37**	**257**	PFAKE		10 48 50.0	+14
SUR				LR	LR		
	comp=Z,7μm,20.0s,MS6.4						
NNA	**Nana**	**137.03**	**66**	*e*PKPdf	PKPdf	10 48 43.6	-2.0
NNA				LR	LR		
	comp=Z,9μm,19.0s,MS6.5						
NNA	**Nana**	**137.03**	**66**	*e*PKIKP	PKPdf	10 48 43.7	-1.9
NNA				MLR	MLR		
	comp=Z,9μm,19.0s						
SNAA	**Sanae**	**140.53**	**196**	PKhKP	PKPpre	10 48 42.4	
	comp=Z,3.8nm,0.9s,baz=149,slow=2.5,SNR=12						
SNAA	**Sanae**	**140.53**	**196**	PKPpre	PKPpre	10 48 42.4	
SNAA				*e*PKPdf	PKPdf	10 48 44.8	-5.5
SNAA	**Sanae**	**140.53**	**196**	PKHKP	PKPpre	10 48 42.4	
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SAML	**Samuel**	**143.96**	**47**	*e*PKPdf	PKPdf	10 48 55.9	-2.3
SAML				LR	LR		
	comp=Z,7μm,22.0s,MS6.4						
SHEL	**Horse Pasture**	**145.16**	**298**	*e*PKPbc	PKPbc	10 48 58.1	-1.5
SHEL				LR	LR		
	comp=Z,8μm,19.0s,MS6.5						
SHEL	**Horse Pasture**	**145.16**	**298**	*e*PKIKP	PKPbc	10 48 58.1	-1.6
SHEL				MLR	MLR		
	comp=Z,8μm,19.0s,MS6.5						
LPAZ	**La Paz**	**146.17**	**62**	PKPbc	PKPbc	10 49 02.7	-0.2
	comp=Z,53nm,0.9s,baz=359,slow=3.8,SNR=40						
LPAZ	**La Paz**	**146.17**	**62**	*e*PKPdf	PKPdf	10 49 02.6	+0.8
LPAZ				LR	LR		
	comp=Z,15μm,22.0s,MS6.7						
PMSA	**Palmer Station**	**147.61**	**159**	PFAKE		10 49 10.0	+7.2
PMSA				LR	LR		
	comp=Z,7μm,19.0s,MS6.4						
RCBR	**Riachuelo**	**149.39**	**357**	*e*PKPbc	PKPbc	10 49 12.2	+0.5
RCBR				LR	LR		
	comp=Z,6μm,19.0s,MS6.4						
LVC	**Limon Verde**	**149.51**	**72**	*e*PKPbc	PKPbc	10 49 13.8	+2.1
LVC				LR	LR		
	comp=Z,15μm,19.0s,MS6.8						
LCO	**Las Campanas**	**151.19**	**85**	PKPdf	PKPdf	10 49 09.5	-0.2
LCO				LR	LR		
	comp=Z,10μm,22.0s,MS6.6						
PLCA	**Paso Flores**	**153.94**	**109**	PKP	PKPdf	10 49 12.6	-0.8
	comp=Z,3.7nm,1.0s,baz=304,slow=1.3,SNR=2.5						
PLCA	**Paso Flores**	**153.94**	**109**	PKP	PKPdf	10 49 12.6	-0.8
PLCA				*e*PKPdf	PKPdf	10 49 12.7	-0.6
PLCA				LR	LR		
	comp=Z,5μm,19.0s,MS6.4						
PLCA	**Paso Flores**	**153.94**	**109**	PKIKP	PKPdf	10 49 12.6	-0.8
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
EFI	**East Falkland**	**158.97**	**142**	PFAKE		10 49 30.0	+10
EFI				LR	LR		
	comp=Z,11μm,22.0s,MS6.6						
TRIS	**Tristan da Cun**	**159.84**	**261**	PFAKE		10 49 30.0	+9.0
TRIS				LR	LR		
	comp=Z,5μm,19.0s,MS6.4						
CPUP	**Villa Florida**	**160.28**	**64**	PKP	PKPdf	10 49 21.1	-0.7
	comp=Z,22nm,1.2s,baz=3.1,slow=2.1,SNR=8.2						
CPUP	**Villa Florida**	**160.28**	**64**	PKP	PKPdf	10 49 21.1	-0.7
CPUP				LR	LR		
	comp=Z,1μm,19.0s						
CPUP	**Villa Florida**	**160.28**	**64**	PKIKP	PKPdf	10 49 21.2	-0.7
CPUP				pmax	pmax		
	comp=Z,22nm,1.2s						
TRQA	**Tornquist**	**160.48**	**102**	*e*PKPdf	PKPdf	10 49 21.0	-0.7
TRQA				LR	LR		
	comp=Z,13μm,22.0s						
SPB	**Sao Paulo**	**164.50**	**36**	*e*PKPdf	PKPdf	10 49 26.0	-0.2
SPB				*e*PP	PP	10 54 08.6	+2.3
SPB				LR	LR		
	comp=Z,7μm,19.0s						

ISCJB ***20*** *10:31:23.4±0.4,36°.71N±0°.03×71°.27E±0°.06,h193km±7km, mb3.7/2, Error ellipse: s-maj=8.2km s-min=4.7km az=174.6*
NEIC ***20*** *10:31:24.4±0.6,36°.68N×71°.34E,h183km±10km,mb4.0/5, Error ellipse: s-maj=11.2km s-min=5.5km az=62.0*
IDC ***20*** *10:31:25.3±10.0,36°.47N×71°.34E,h214km±108km, mb3.5/2,mb1 3.1/7,mb1mx3.0/29,mbtmp3.1/7,Error ellipse: s-maj=62.2km s-min=49.2km az=169.0*
NNC ***20*** *10:31:30.9±4.2,37°.24N×71°.05E,h186km±44km,mb2.7, mpv3.6,Error ellipse: s-maj=37.4km s-min=19.8km az=16.0*

ISC 20 10:31:24.4±0.4,36°.71N±0°.03×71°.30E±0°.06,h185km±7km, n57,σ0=10/64,mb3.8/2,3C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.84**	**221**	*e*Pn		**Pn**		**10 32 12.2**	**+0.9**
KBL				*e*S		**Sn**		**10 32 47.3**	**-0.5**
CHCP	**Chirah Chowk**	**3.44**	**152**	P		**Pn**		**10 32 20.0**	**+1.3**
THW	**Thamme Wali**	**3.92**	**174**	⇓P		**Pn**		**10 32 25.3**	**+0.6**
THW				S		**Sn**		**10 33 10.0**	**-1.8**
SARP	**Sargodha**	**4.91**	**166**	P		**Pn**		**10 32 38.3**	**+1.0**
AML	**Almayashu**	**5.72**	**18**	P		**Pn**		**10 32 48.4**	**+0.7**
	SNR=23								
AML				P				10 32 48.4	
	SNR=23								
UCH	**Uchtor**	**6.05**	**23**	P		**Sn**		**10 33 58.9**	**-2.1**
	SNR=6.5								
UCH				P		**Sn**		**10 33 58.9**	**-2.1**
	SNR=6.5								
EKS2	**Erkin-Say**	**6.25**	**17**	P		**Pn**		**10 32 55.7**	**+1.2**
	SNR=8.7								
EKS2				P				10 32 55.7	
	SNR=8.7								
EKS2	**Erkin-Say**	**6.25**	**17**	*e*Pn		**Pn**		**10 32 55.3**	**+0.8**
	3.4nm,0.4s								
AAK	**Ala-Archa**	**6.41**	**22**	P		**Pn**		**10 32 57.7**	**+1.0**
	SNR=9.0								
AAK				P				10 32 57.7	
	SNR=9.0								
AAK	**Ala-Archa**	**6.41**	**22**	*e*Pn		**Pn**		**10 32 57.2**	**+0.6**
	30nm,0.4s								
AAK				*e*S		**Sn**		**10 34 09.4**	**-0.2**
KK31	**Karatay Array**	**6.42**	**355**	P		**Pn**		**10 32 56.7**	**0.0**
	2.4nm,0.3s,baz=185,slow=18,SNR=44								
KK31				⇓S		**Sn**		**10 34 04.7**	**-5.0**
	8.6nm,0.5s,baz=179,slow=20,SNR=3.7								
KKAR	**Karatay Array**	**6.42**	**355**	*e*Pn		**Pn**		**10 32 57.0**	**+0.3**
	5.7nm,0.4s								
USP	**Ospenovka**	**7.00**	**20**	P		**Pn**		**10 33 04.6**	**+0.3**
	SNR=5.7								
USP				P				10 33 04.6	
	SNR=5.7								
TKM2	**Tokmak 2**	**7.03**	**27**	P		**Pn**		**10 33 05.8**	**+1.0**
	SNR=8.3								
TKM2				P				10 33 05.8	
	SNR=8.3								
TKM2	**Tokmak 2**	**7.03**	**27**	⇑P		**Pn**		**10 33 05.4**	**+0.6**
	5.3nm,0.9s								
TKM2				⇑S		**Sn**		**10 34 22.4**	**-1.8**
	12nm,0.8s								
TKM2	**Tokmak 2**	**7.03**	**27**	*e*Pn		**Pn**		**10 33 05.5**	**+0.7**
	5.4nm,0.8s								
MK31	**Makanchi Array**	**12.98**	**36**	⇓P		**Pn**		**10 34 25.8**	**+3.9**
	3.4nm,0.9s,baz=203,slow=9.0,SNR=8.5								
MKAR	**Makanchi Array**	**12.98**	**36**	P		**Pn**		**10 34 26.1**	**+4.1**
	0.2nm,0.3s,baz=210,slow=11,SNR=9.3								
MKAR	**Makanchi Array**	**12.98**	**36**	P		**Pn**		**10 34 26.1**	**+4.1**
DANN	**Dangsing**	**13.41**	**125**	*e*P		**Pn**		**10 34 26.1**	**-1.4**
	14nm,0.4s								
DANN	**Dangsing**	**13.41**	**125**	*e*P		**Pn**		**10 34 26.1**	**-1.4**
	14nm,0.4s								
KOLN	**Koldanda**	**13.70**	**127**	*e*P		**Pn**		**10 34 27.2**	**-3.9**
	14nm,0.4s								
KOLN	**Koldanda**	**13.70**	**127**	*e*P		**Pn**		**10 34 27.2**	**-3.9**
	14nm,0.4s								
GKN	**Gorkha**	**14.22**	**124**	*e*P		**Pn**		**10 34 36.1**	**-1.5**
	17nm,0.4s								
GKN	**Gorkha**	**14.22**	**124**	*e*P		**Pn**		**10 34 36.1**	**-1.5**
	17nm,0.4s								
KKN	**Kakani**	**14.79**	**123**	*e*P		**Pn**		**10 34 44.2**	**-0.4**
	24nm,0.4s								
KKN	**Kakani**	**14.79**	**123**	*e*P		**Pn**		**10 34 44.2**	**-0.4**
	24nm,0.4s								
DMN	**Daman**	**14.79**	**124**	*e*P		**Pn**		**10 34 44.0**	**-0.6**
	19nm,0.5s								
DMN	**Daman**	**14.79**	**124**	*e*P		**Pn**		**10 34 44.0**	**-0.6**
	19nm,0.5s								
KURK	**Kurchatov**	**14.96**	**18**	P		**Pn**		**10 34 45.9**	**-0.6**
	0.1nm,0.3s,baz=204,slow=11,SNR=5.1								
KURK	**Kurchatov**	**14.96**	**18**	P		**Pn**		**10 34 45.9**	**-0.6**
PKI	**Pulchoki**	**15.02**	**123**	*e*P		**Pn**		**10 34 47.4**	**0.0**
PKI	**Pulchoki**	**15.02**	**123**	*e*P		**Pn**		**10 34 47.4**	**0.0**
AB31	**Akbulak array**	**15.02**	**330**	⇑P		**Pn**		**10 34 45.8**	**-1.4**
	1.3nm,0.5s,baz=136,slow=11,SNR=26								
AB31				S		**S**		**10 37 24.6**	**-10**
	0.9nm,0.7s,baz=154,slow=21,SNR=9.7								
ABKAR	**Akbulak array**	**15.02**	**330**	*e*Pn		**Pn**		**10 34 46.1**	**-1.1**
	2.6nm,0.6s								
GUN	**Gumba**	**15.12**	**121**	*e*P		**Pn**		**10 34 48.8**	**+0.1**
	11nm,0.4s								
GUN	**Gumba**	**15.12**	**121**	*e*P		**Pn**		**10 34 48.8**	**+0.1**
	11nm,0.4s								
JIRN	**Jiri**	**15.49**	**121**	*e*P		**Pn**		**10 34 53.5**	**+0.3**
	54nm,0.4s								
JIRN	**Jiri**	**15.49**	**121**	*e*P		**Pn**		**10 34 53.5**	**+0.3**
	54nm,0.4s								
RAMN	**Ramite**	**16.22**	**123**	*e*P		**Pn**		**10 35 01.3**	**-0.8**
RAMN	**Ramite**	**16.22**	**123**	*e*P		**Pn**		**10 35 01.3**	**-0.8**
BVA0	**Borovoye Array**	**16.33**	**358**	⇓P		**Pn**		**10 35 04.5**	**+1.5**
	0.1nm,0.6s,baz=177,slow=12,SNR=5.5								
BVAR	**Borovoye Array**	**16.33**	**358**	P		**Pn**		**10 35 03.8**	**+0.8**
	0.2nm,0.3s,baz=165,slow=12,SNR=6.0								
BVAR	**Borovoye Array**	**16.33**	**358**	P		**Pn**		**10 35 03.8**	**+0.8**
AKTO	**Aktyubinsk**	**16.72**	**329**	P		**Pn**		**10 35 07.9**	**+0.1**
	0.9nm,0.3s,baz=136,slow=12,SNR=14								
AKTO	**Aktyubinsk**	**16.72**	**329**	⇓P		**Pn**		**10 35 08.0**	**+0.2**
	1.0nm,0.8s								
AKTO	**Aktyubinsk**	**16.72**	**329**	P		**Pn**		**10 35 07.9**	**+0.1**
TAPN	**Taplejung**	**16.74**	**119**	*e*P		**Pn**		**10 35 10.8**	**+2.6**
	13nm,0.4s								
TAPN	**Taplejung**	**16.74**	**119**	*e*P		**Pn**		**10 35 10.8**	**+2.6**
	13nm,0.4s								
ODAN	**Odare**	**16.82**	**121**	*e*P		**Pn**		**10 35 10.4**	**+1.2**
	18nm,0.7s								
ODAN	**Odare**	**16.82**	**121**	*e*P		**Pn**		**10 35 10.4**	**+1.2**
	18nm,0.7s								
ZALV	**Zalesovo Beam**	**19.63**	**24**	P		**P**		**10 35 39.5**	**+1.0**
	0.3nm,0.3s,baz=217,slow=11,SNR=6.4								
ZALV	**Zalesovo Beam**	**19.63**	**24**	P		**P**		**10 35 39.5**	**+1.0**
FINES	**FINESS Array B**	**37.44**	**326**	P		**P**		**10 38 20.0**	**+0.6**
	3.2nm,0.9s,mb3.9,baz=123,slow=10,SNR=4.8								
FINES	**FINESS Array B**	**37.44**	**326**	P		**P**		**10 38 20.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**65.96**	**269**	P		**P**		**10 41 48.9**	**-2.1**
	0.8nm,0.6s,mb3.7,baz=54,slow=5.8,SNR=5.9								
TORD	**Torodi Ar. Bea**	**65.96**	**269**	P		**P**		**10 41 48.9**	**-2.1**

MOS ***20*** *10:34:55.3±1.8,35°.96N×143°.78E,h33km,mb4.6/12,Error ellipse: s-maj=23.7km s-min=17.7km az=34.2*
ISCJB ***20*** *10:35:06.4±1.6,36°.63N±0°.04×142°.56E±0°.05,h7km±10km, mb4.5/23,Error ellipse: s-maj=7.6km s-min=6.0km az=164.7*
JMA ***20*** *10:35:08.0±0.3,36°.63N×142°.50E,h15km,M4.8*
JMA Felt I J1.
NEIC ***20*** *10:35:08.1,36°.63N×142°.50E,h15km,MG4.8(JMA),After JMA.*
IDC ***20*** *10:35:10.7±0.6,37°.44N×142°.55E,h0km,mb4.5/23, mb1 4.7/25,mb1mx4.6/31,mbtmp4.5/25,Error ellipse: s-maj=17.8km s-min=14.4km az=79.0*

ISC 20 10:35:08.9±1.9,36°.63N±0°.05×142°.49E±0°.05,h12km±12km, n86,σ0=91/88,mb4.5/23,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.44**	**290**	P		**Pn**		**10 35 34.4**	**-0.4**
JFK	**Kawauchi**	**1.49**	**300**	P		**Pn**		**10 35 34.3**	**-1.2**
JFK				*e*S		**Sn**		**10 35 53.5**	**-1.4**
JHO	**Hitachi**	**1.55**	**270**	P		**Pn**		**10 35 35.5**	**-0.8**
JHO				*e*S		**Sn**		**10 35 54.9**	**-1.4**
CHOJ	**Chosi**	**1.61**	**236**	P		**Pn**		**10 35 36.7**	**-0.5**
CHOJ				*e*S		**Sn**		**10 35 58.0**	**+0.1**
JMM	**Marumori**	**1.83**	**313**	P		**Pn**		**10 35 39.8**	**-0.4**
JMM				*e*S		**Sn**		**10 36 03.5**	**+0.2**
JFT	**Otama**	**1.94**	**298**	*e*S		**Sn**		**10 36 07.4**	**+1.5**
JIO	**Ouri**	**2.04**	**334**	*e*S		**Sn**		**10 36 08.8**	**+0.5**
JAG	**Ashikaga**	**2.46**	**266**	P		**Pn**		**10 35 48.3**	**-0.5**
JAG				*e*S		**Sn**		**10 36 18.1**	**-0.6**
JMK	**Ichinoseki**	**2.53**	**337**	P		**Pn**		**10 35 48.9**	**-0.9**
JMK				*e*S		**Sn**		**10 36 20.3**	**-0.2**
JYK	**Kaneyama**	**2.84**	**324**	P		**Pn**		**10 35 54.1**	**0.0**
JRY	**Ryogami san**	**2.96**	**259**	P		**Pn**		**10 35 55.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.45**	**270**	Pn		**Pn**		**10 36 02.8**	**+0.4**
	26nm,0.3s,baz=85,slow=8.3,SNR=8.6								
MJAR	**Matsushiro Arr**	**3.45**	**270**	Pn		**Pn**		**10 36 02.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.45**	**270**	P		**Pn**		**10 36 02.8**	**+0.4**
MJAR				pmax		pmax			
	comp=Z,26nm,0.3s								
MAJO	**Matsushiro**	**3.45**	**270**	*e*Pn		**Pn**		**10 36 03.0**	**+0.5**
MAJO	**Matsushiro**	**3.45**	**270**	*e*P		**Pn**		**10 36 03.0**	**+0.6**
ASAJ	**Asahikawa**	**7.48**	**1**	Pn		**Pn**		**10 36 57.1**	**-0.6**
	comp=Z,3.5nm,0.3s,baz=180,slow=6.1,SNR=6.6								
ASAJ	**Asahikawa**	**7.48**	**1**	Pn		**Pn**		**10 36 57.1**	**-0.6**
ASAJ	**Asahikawa**	**7.48**	**1**	P		**Pn**		**10 36 57.1**	**-0.6**
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.3s								
USRK	**Ussuriysk Arra**	**11.00**	**317**	Pn		**Pn**		**10 37 47.6**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=128,slow=13,SNR=6.8								
KSRS	**Korea Array**	**11.68**	**278**	Pn		**Pn**		**10 37 57.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=90,slow=13,SNR=6.5								
KSRS	**Korea Array**	**11.68**	**278**	P		**Pn**		**10 37 57.2**	**+1.9**
KSAR	**Wonju Array Be**	**11.71**	**278**	Pn		**Pn**		**10 37 57.2**	**+1.5**
KSAR	**Wonju Array Be**	**11.71**	**278**	P		**Pn**		**10 37 57.2**	**+1.5**
JOW	**Kunigami**	**15.53**	**235**	Pn		**Pn**		**10 38 57.0**	**+9.2**
	comp=Z,0.8nm,0.3s,baz=32,slow=9.5,SNR=1.9								
SONM	**Songino Array**	**28.73**	**304**	P		**P**		**10 41 06.9**	**+0.9**
	comp=Z,27nm,0.8s,mb5.0,baz=104,slow=8.9,SNR=12								
SONM	**Songino Array**	**28.73**	**304**	P		**P**		**10 41 06.9**	**+0.9**
SONM	**Songino Array**	**28.73**	**304**	P		**P**		**10 41 06.9**	**+0.9**
SONM				pmax		pmax			
	comp=Z,27nm,0.8s								
ZALV	**Zalesovo Beam**	**42.83**	**313**	P		**P**		**10 43 06.9**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.6,baz=90,slow=6.1,SNR=5.4								
ZALV	**Zalesovo Beam**	**42.83**	**313**	P		**P**		**10 43 06.9**	**+0.4**
ZALV	**Zalesovo Beam**	**42.83**	**313**	P		**P**		**10 43 06.9**	**+0.5**
ZALV				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.5								
MKAR	**Makanchi Array**	**45.07**	**303**	P		**P**		**10 43 24.6**	**0.0**
	comp=Z,9.1nm,0.7s,mb4.7,baz=85,slow=9.0,SNR=5.3								
MKAR	**Makanchi Array**	**45.07**	**303**	P		**P**		**10 43 24.6**	**0.0**
MKAR	**Makanchi Array**	**45.07**	**303**	P		**P**		**10 43 24.6**	**+0.1**
MKAR				pmax		pmax			
	comp=Z,9.0nm,0.7s								
KAPI	**Kappang**	**46.57**	**212**	P		**P**		**10 43 45.0**	**+8.3**
	comp=Z,33nm,0.9s,mb5.3,baz=26,slow=9.4,SNR=4.6								
KURK	**Kurchatov**	**46.86**	**309**	P		**P**		**10 43 39.2**	**+0.5**
	comp=Z,19nm,0.8s,mb5.0,baz=81,slow=7.5,SNR=7.1								
KURK	**Kurchatov**	**46.86**	**309**	P		**P**		**10 43 39.2**	**+0.5**
KURK	**Kurchatov**	**46.86**	**309**	P		**P**		**10 43 39.2**	**+0.6**
KURK				pmax		pmax			
	comp=Z,19nm,0.8s,mb5.1								
ILAR	**Eielson Array**	**49.37**	**32**	P		**P**		**10 43 56.2**	**-1.7**
	comp=Z,2.7nm,0.8s,mb4.3,baz=264,slow=5.4,SNR=7.2								
ILAR	**Eielson Array**	**49.37**	**32**	P		**P**		**10 43 56.2**	**-1.7**
ILAR	**Eielson Array**	**49.37**	**32**	P		**P**		**10 43 56.2**	**-1.6**
ILAR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BVAR	**Borovoye Array**	**51.48**	**313**	P		**P**		**10 44 13.9**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=64,slow=9.8,SNR=2.8								
BVAR	**Borovoye Array**	**51.48**	**313**	P		**P**		**10 44 13.9**	**-0.1**
BVAR	**Borovoye Array**	**51.48**	**313**	P		**P**		**10 44 13.9**	**-0.1**
BVAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
INK	**Inuvik**	**54.35**	**27**	P		**P**		**10 44 33.3**	**-1.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=275,slow=11,SNR=2.9								
INK	**Inuvik**	**54.35**	**27**	P		**P**		**10 44 33.3**	**-1.6**
INK	**Inuvik**	**54.35**	**27**	P		**P**		**10 44 33.3**	**-1.6**
INK				pmax		pmax			
	comp=Z,2.0nm,0.7s								
WRA	**Warramunga Arr**	**56.79**	**189**	P		**P**		**10 45 02.2**	**+9.3**
	comp=Z,18nm,0.8s,mb5.1,baz=5.8,slow=7.3,SNR=12								
AKTO	**Aktyubinsk**	**59.59**	**312**	P		**P**		**10 45 12.7**	**+0.4**
	comp=Z,6.1nm,0.8s,mb4.7,baz=76,slow=8.3,SNR=5.4								
AKTO	**Aktyubinsk**	**59.59**	**312**	P		**P**		**10 45 12.7**	**+0.4**
AKTO	**Aktyubinsk**	**59.59**	**312**	P		**P**		**10 45 12.7**	**+0.4**
AKTO				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.7								
ASAR	**Alice Springs**	**60.52**	**189**	P		**P**		**10 45 28.8**	**+10**
	comp=Z,9.8nm,0.9s,mb4.9,baz=3.2,slow=6.3,SNR=8.8								
DZM	**Mont Dzumac**	**62.61**	**155**	P		**P**		**10 45 42.8**	**+10**
	comp=Z,13nm,0.9s,mb5.1,baz=352,slow=14,SNR=4.3								
YKA	**Yellowknife Ar**	**63.72**	**30**	P		**P**		**10 45 40.3**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=302,slow=6.9,SNR=3.0								
YKA	**Yellowknife Ar**	**63.72**	**30**	P		**P**		**10 45 40.3**	**+0.3**
YKA	**Yellowknife Ar**	**63.72**	**30**	P		**P**		**10 45 40.3**	**+0.3**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
STKA	**Stephens Creek**	**68.15**	**181**	P		**P**		**10 46 17.1**	**+8.4**
	comp=Z,5.2nm,0.8s,mb4.6,baz=340,slow=12,SNR=3.6								
FINES	**FINESS Array B**	**69.57**	**333**	P		**P**		**10 46 17.1**	**-0.2**
	comp=Z,3.9nm,0.7s,mb4.4,baz=50,slow=9.2,SNR=2.5								
FINES	**FINESS Array B**	**69.57**	**333**	P		**P**		**10 46 17.1**	**-0.2**
FINES	**FINESS Array B**	**69.57**	**333**	P		**P**		**10 46 17.1**	**-0.2**
FINES				pmax		pmax			
	comp=Z,4.0nm,0.7s								
NVAR	**Mina Array Bea**	**74.53**	**54**	P		**P**		**10 46 47.5**	**0.0**
	comp=Z,2.6nm,1.0s,mb4.1,baz=297,slow=4.0,SNR=4.1								
NVAR	**Mina Array Bea**	**74.53**	**54**	P		**P**		**10 46 47.5**	**0.0**
NB2	**NORSAR Subarra**	**74.89**	**338**	P		**P**		**10 46 56.5**	**+7.4**
	comp=Z,35nm,1.4s,mb5.1,baz=40,slow=6.2								
NOA	**NORSAR Array B**	**74.89**	**338**	P		**P**		**10 46 48.3**	**-0.9**
	comp=Z,1.9nm,0.8s,mb4.0,baz=40,slow=5.9,SNR=2.2								
NOA	**NORSAR Array B**	**74.89**	**338**	P		**P**		**10 46 48.3**	**-0.8**
NOA	**NORSAR Array B**	**74.89**	**338**	P		**P**		**10 46 48.3**	**-0.8**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**75.14**	**323**	P		**P**		**10 46 50.8**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.6,baz=47,slow=5.9,SNR=6.6								
AKASG	**Malin Array Be**	**75.14**	**323**	P		**P**		**10 46 50.8**	**0.0**
AKASG	**Malin Array Be**	**75.14**	**323**	P		**P**		**10 46 50.8**	**0.0**
AKASG				pmax		pmax			
	comp=Z,5.0nm,0.6s								
PDAR	**Pinedale Array**	**77.33**	**46**	P		**P**		**10 47 02.3**	**-1.1**
	comp=Z,1.0nm,0.9s,mb3.7,baz=336,slow=2.0,SNR=1.9								
PDAR	**Pinedale Array**	**77.33**	**46**	P		**P**		**10 47 02.3**	**-1.1**
KIS	**Kishinev**	**77.76**	**320**	*e*PPP				10 45 59.0	
BRTR	**Keskin Array B**	**79.77**	**312**	P		**P**		**10 47 17.5**	**+0.7**
	comp=Z,4.5nm,1.1s,mb4.3,baz=30,slow=3.9,SNR=3.2								
BRTR	**Keskin Array B**	**79.77**	**312**	P		**P**		**10 47 17.5**	**+0.7**
BRTR	**Keskin Array B**	**79.77**	**312**	P		**P**		**10 47 17.5**	**+0.6**
BRTR				pmax		pmax			
	comp=Z,5.0nm,1.1s								
MMAI	**Mount Meron Ar**	**82.91**	**306**	P		**P**		**10 47 35.0**	**+1.4**
	comp=Z,4.9nm,0.9s,mb4.5,baz=28,slow=6.5,SNR=2.5								
MMAI	**Mount Meron Ar**	**82.91**	**306**	P		**P**		**10 47 35.0**	**+1.4**
GERES	**GERESS Array B**	**83.51**	**329**	P		**P**		**10 47 36.7**	**+0.2**
	comp=Z,2.4nm,0.8s,mb4.4,baz=47,slow=7.1,SNR=2.6								
GERES	**GERESS Array B**	**83.51**	**329**	P		**P**		**10 47 36.7**	**+0.2**
GERES	**GERESS Array B**	**83.51**	**329**	P		**P**		**10 47 36.7**	**+0.2**
GERES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
TXAR	**Lajitas Array**	**89.68**	**53**	P		**P**		**10 48 09.1**	**+2.1**
	comp=Z,0.7nm,0.7s,mb4.1,baz=317,slow=3.8,SNR=2.7								
TXAR	**Lajitas Array**	**89.68**	**53**	P		**P**		**10 48 09.1**	**+2.1**
TXAR	**Lajitas Array**	**89.68**	**53**	P		**P**		**10 48

MOS ***20*** *10:48:27.9s0.9,36.°89Nx142.°38E,h40km,mb5.2/79,Error ellipse: s-maj=7.4km s-min=4.6km az=116.9*

ISC 20 10:48:24.3s1.0,36.°59Nx0.°02x142.°46Ex0.°02,h12km±6km, h17km±3.3km:pP-P,n456,σ0s90/474,mb5.0/137,MS5.5/11, 37C-18D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.43**	**291**	P	**Pn**	**10 48 49.3**	**-0.7**
JFK	**Kawauchi**	**1.49**	**302**	P	**Pn**	**10 48 49.8**	**-1.0**
JFK				*e*S	**Sn**	**10 49 09.6**	**-0.6**
JHO	**Hitachi**	**1.52**	**271**	P	**Pn**	**10 48 50.8**	**-0.5**
JHO				*e*S	**Sn**	**10 49 09.7**	**-1.3**
CHOJ	**Chosi**	**1.57**	**236**	P	**Pn**	**10 48 51.6**	**-0.4**
CHOJ				*e*S	**Sn**	**10 49 12.3**	**+0.1**
JMM	**Marumori**	**1.84**	**314**	P	**Pn**	**10 48 54.8**	**-0.9**
JMM				*e*S	**Sn**	**10 49 19.1**	**+0.2**
JFT	**Otama**	**1.94**	**299**	P	**Pn**	**10 48 56.9**	**-0.1**
JFT				*e*S	**Sn**	**10 49 21.1**	**-0.1**
JIO	**Ouri**	**2.06**	**335**	P	**Pn**	**10 48 57.0**	**-1.7**
JOU	**Okura**	**2.28**	**322**	P	**Pn**	**10 49 01.5**	**-0.2**
JOU				*e*S	**Sn**	**10 49 30.0**	**+0.3**
BSO1	**Boso 1**	**2.28**	**212**	P	**Pn**	**10 49 01.7**	**0.0**
BSO1				*e*S	**Sn**	**10 49 28.7**	**-1.0**
JAG	**Ashikaga**	**2.43**	**267**	P	**Pn**	**10 49 03.9**	**+0.1**
JAG				*e*S	**Sn**	**10 49 34.1**	**+0.7**
JMK	**Ichinoseki**	**2.55**	**338**	P	**Pn**	**10 49 04.1**	**-1.4**
JMK				*e*S	**Sn**	**10 49 36.4**	**-0.1**
JNS	**Sasagawa**	**2.79**	**297**	P	**Pn**	**10 49 11.4**	**+2.6**
JHK	**Hiroka**	**2.84**	**284**	P	**Pn**	**10 49 11.0**	**+1.6**
JYK	**Kaneyama**	**2.86**	**325**	P	**Pn**	**10 49 09.0**	**-0.7**
JRY	**Ryogami san**	**2.93**	**260**	P	**Pn**	**10 49 10.3**	**-0.4**
JRY				*e*S	**Sn**	**10 49 45.6**	**-0.2**
JOM	**Ohasama**	**3.02**	**343**	P	**Pn**	**10 49 11.8**	**-0.1**
JOM				*e*S	**Sn**	**10 49 45.1**	**-2.9**
JOD2	**Odawara 2**	**3.04**	**245**	P	**Pn**	**10 49 12.7**	**+0.5**
JGK	**Kuni**	**3.08**	**271**	P	**Pn**	**10 49 14.0**	**+1.3**
JYN	**Shimob**	**3.36**	**252**	P	**Pn**	**10 49 18.1**	**+1.6**
JYN				*e*S	**Sn**	**10 49 58.5**	**+2.2**
MJAR	**Matsushiro Arr**	**3.42**	**270**	Pn	**Pn**	**10 49 18.4**	**+1.0**
	40nm,0.3s,baz=101,slow=7.4,SNR=88						
MJAR	**Matsushiro Arr**	**3.42**	**270**	Pn	**Pn**	**10 49 18.4**	**+1.0**
MJAR	**Matsushiro Arr**	**3.42**	**270**	P	**Pn**	**10 49 18.4**	**+0.9**
MJAR				pmax	pmax		
	comp=Z,40nm,0.3s						
MAJO	**Matsushiro**	**3.43**	**270**	*e*Pn	**Pn**	**10 49 18.6**	**+1.2**
MAJO	**Matsushiro**	**3.43**	**270**	*e*P	**Pn**	**10 49 18.6**	**+1.1**
MAT	**Matsushiro**	**3.43**	**270**	P	**Pn**	**10 49 17.4**	**-0.1**
MAT				S	**Sn**	**10 49 55.7**	**-2.3**
MAT	**Matsushiro**	**3.43**	**270**	P	**Pn**	**10 49 18.6**	**+1.1**
ERM	**Erimo**	**5.44**	**5**	Pn	**Pn**	**10 49 43.3**	**-1.9**
	comp=Z,1μm,0.6s,SNR=9.8						
ERM	**Erimo**	**5.44**	**5**	*e*Pn	**Pn**	**10 49 43.3**	**-1.9**
ERM				*e*Sn	**Sn**	**10 50 43.9**	**-3.9**
ERM	**Erimo**	**5.44**	**5**	*i* P	**Pn**	**10 49 43.3**	**-1.9**
ASAJ	**Asahikawa**	**7.52**	**1**	Pn	**Pn**	**10 50 12.3**	**-1.3**
	comp=Z,3.8nm,0.3s,baz=192,slow=10,SNR=20						
ASAJ				Sn	**Sn**	**10 51 33.1**	**-5.7**
	comp=Z,3.2nm,0.3s,baz=25,slow=19,SNR=4.6						
ASAJ	**Asahikawa**	**7.52**	**1**	*e*Pn	**Pn**	**10 50 12.8**	**-0.9**
ASAJ				Sn	**Sn**	**10 51 33.1**	**-5.7**
ASAJ				*e*Sn	**Sn**	**10 51 35.4**	**-3.4**
ASAJ	**Asahikawa**	**7.52**	**1**	P	**Pn**	**10 50 12.4**	**-1.3**
ASAJ						10 51 33.1	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.88**	**18**	*i* P	**Pn**	**10 50 11.4**	**-7.2**
YUK				*i* S	**Sn**	**10 51 39.9**	**-7.7**
YUK				pmax	pmax		
	comp=N,84nm,0.6s						
YUK				pmax	pmax		
	comp=E,146nm,0.6s						
YUK				pmax	pmax		
	comp=Z,241nm,0.6s						
YUK				pmax	pmax		
	comp=Z,15μm,0.6s						
YUK				MLR	MLR		
	comp=N,23μm,10.0s						
YUK				MLR	MLR		
	comp=E,32μm,10.0s						
YUK				MLR	MLR		
	comp=Z,53μm,10.0s						
CBIJ	**Chichi jima**	**9.47**	**182**	Pn	**Pn**	**10 50 38.0**	**-2.5**
	comp=Z,15nm,0.3s,baz=37,slow=20,SNR=6.1						
CBIJ	**Chichi jima**	**9.47**	**182**	Pn	**Pn**	**10 50 38.0**	**-2.5**
JNU	**Nakatsue**	**10.13**	**253**	Pn	**Pn**	**10 50 49.8**	**+0.3**
JNU				*e*Sn	**Sn**	**10 52 37.0**	**-6.0**
YSS	**Yuzh-Sakhalins**	**10.36**	**1**	*e*Pn	**Pn**	**10 50 51.3**	**-1.3**
YSS	**Yuzh-Sakhalins**	**10.36**	**1**	*e*P	**Pn**	**10 50 50.8**	**-1.8**
YSS				*e*		10 52 41.8	
VLA	**Vladivostok**	**10.41**	**312**	⇓*i*P	**Pn**	**10 50 55.6**	**+2.3**
VLA				*i* S	**Sn**	**10 52 55.2**	**+5.3**
VLA				pmax	pmax		
	comp=Z,35nm,1.0s						
USRK	**Ussuriysk Arra**	**11.01**	**317**	Pn	**Pn**	**10 51 03.0**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=129,slow=13,SNR=13						
KSRS	**Korea Array**	**11.66**	**279**	Pn	**Pn**	**10 51 13.2**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=89,slow=13,SNR=16						
KSRS	**Korea Array**	**11.66**	**279**	P	**Pn**	**10 51 13.2**	**+2.8**
KSAR	**Wonju Array Be**	**11.69**	**279**	Pn	**Pn**	**10 51 13.2**	**+2.3**
KSAR	**Wonju Array Be**	**11.69**	**279**	P	**Pn**	**10 51 13.2**	**+2.4**
MDJ	**Mudanjiang**	**12.63**	**313**	P	**Pn**	**10 51 23.0**	**-0.7**
MDJ				pmax	pmax		
	comp=Z,39nm,1.1s						
MDJ	**Mudanjiang**	**12.63**	**313**	*e*Pn	**Pn**	**10 51 22.9**	**-0.8**
	comp=Z,44nm,1.1s						
HABR	**Khabarovsk**	**13.06**	**338**	*e*P	**Pn**	**10 51 30.6**	**+1.1**
HABR				pmax	pmax		
	comp=Z,237nm,2.9s						
CN2	**Changchun**	**14.85**	**304**	*e*P	**Pn**	**10 51 54.9**	**+1.0**
CN2				*es*P	sP	10 52 01.0	-3.7
CN2				*e*S	**Sn**	**10 54 39.8**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,33μm,12.0s						
CN2				LR	LR		
	comp=E,11μm,12.0s						
CN2				LR	LR		
	comp=Z,18μm,13.0s						
JOW	**Kunigami**	**15.49**	**235**	Pn	**Pn**	**10 52 02.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=350,slow=19,SNR=2.6						
JOW	**Kunigami**	**15.49**	**235**	Pn	**Pn**	**10 52 02.2**	**-0.3**
SNY	**Shenyang**	**15.54**	**295**	⇑P	**Pn**	**10 52 07.8**	**+4.7**
SNY				pmax	pmax		
	comp=Z,130nm,0.6s						
DL2	**Dalian**	**16.64**	**284**	P	**Pn**	**10 52 19.0**	**+1.7**
PETK	**Petropavlovsk-**	**19.66**	**28**	P	**Pn**	**10 52 52.9**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=210,slow=8.3,SNR=5.7						
PETK	**Petropavlovsk-**	**19.66**	**28**	P	**Pn**	**10 52 52.9**	**-1.4**
PETK	**Petropavlovsk-**	**19.66**	**28**	P	**Pn**	**10 52 52.9**	**-1.4**
NJ2	**Nanjing**	**20.00**	**264**	*e*P	**P**	**10 52 55.3**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
HIA	**Hailar**	**20.81**	**315**	*e*P	**P**	**10 53 02.7**	**-2.7**
HIA	**Hailar**	**20.81**	**315**	*e*P	**P**	**10 53 02.7**	**-2.7**
BJI	**Beijing**	**20.89**	**287**	P	**P**	**10 53 05.1**	**-1.2**
BJI				S	**S**	**10 56 57.5**	**-1.4**
BJI				pmax	pmax		
	comp=Z,17nm,0.9s						
BJI				pmax	pmax		
	comp=Z,32μm,12.0s						
BJI				LR	LR		
	comp=N,12μm,10.9s,MS5.8						
BJI				LR	LR		
	comp=E,18μm,11.8s,MS5.8						
BJI				LR	LR		
	comp=Z,6μm,16.8s,MS5.1						
BJT	**Baijiatuau**	**20.89**	**287**	*e*P	**P**	**10 53 04.5**	**-1.8**
	comp=Z,16nm,0.3s						
BJT	**Baijiatuau**	**20.89**	**287**	*e*P	**P**	**10 53 04.5**	**-1.8**
BJT				pmax	pmax		
	comp=Z,16nm,0.3s						
TPUB	**Ta-pu**	**23.03**	**241**	*e*P	**P**	**10 53 26.9**	**-2.3**
	comp=Z,60nm,1.1s,mb4.9						
CLNS	**Chul'man**	**23.43**	**335**	*e*P	**P**	**10 53 32.1**	**-1.1**
CLNS				pmax	pmax		
	comp=Z,38nm,1.1s,mb4.7						
CLNS				pmax	pmax		
	comp=E,19nm,1.2s						
CLNS				pmax	pmax		
	comp=N,32nm,1.4s						
WHN	**Wuhan**	**24.14**	**264**	P	**P**	**10 53 42.0**	**+1.9**
HHC	**Hu-ho-hao-te**	**24.41**	**290**	*e*P	**P**	**10 53 39.4**	**-3.1**
HHC				pP		10 53 48.5	
HHC				sP	sP	10 53 52.8	+5.2
HHC				PP		10 54 14.4	
HHC				S	**S**	**10 57 52.5**	**-10**
HHC				sS	sS	10 58 07.3	-0.7
HHC				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
HHC				pmax	pmax		
	comp=Z,5μm,4.6s						
HHC				LR	LR		
	comp=N,4μm,14.8s,MS5.1						
HHC				LR	LR		
	comp=E,3μm,11.4s,MS5.1						
HHC				LR	LR		
	comp=Z,4μm,12.5s,MS5.1						
YAK	**Yakutsk**	**26.69**	**347**	*e*P	**P**	**10 54 02.0**	**-0.9**
	comp=Z,70nm,0.9s,mb5.2						
YAK	**Yakutsk**	**26.69**	**347**	*e*P	**P**	**10 54 02.0**	**-0.9**
YAK				*e**PP	pP	10 54 11.6	+5.0
YAK				*e*S	**S**	**10 58 38.4**	**+0.6**
YAK				pmax	pmax		
	comp=N,49nm,1.1s						
YAK				pmax	pmax		
	comp=E,20nm,1.2s						
YAK				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=E,29μm,12.1s						
YAK				pmax	pmax		
	comp=N,34μm,11.2s						
YAK				pmax	pmax		
	comp=Z,53μm,12.9s						
YAK				smax			
	comp=N,29μm,14.4s						
YAK				smax			
	comp=E,24μm,11.2s						
YAK				MLR	MLR		
	comp=N,10μm,14.0s,MS5.7						
YAK				MLR	MLR		
	comp=Z,12μm,12.0s,MS5.7						
YAK				MLR	MLR		
	comp=E,9μm,14.0s,MS5.7						
XAN	**Xi'an**	**27.41**	**275**	P	**P**	**10 54 09.3**	**-0.4**
XAN				pP	pP	10 54 14.6	+1.2
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
ENH	**Enshi**	**28.14**	**267**	*e*P	**P**	**10 54 15.8**	**-0.5**
	comp=Z,63nm,0.8s,mb5.3						
ULN	**Ulaanbaatar**	**28.30**	**305**	*e*P	**P**	**10 54 18.3**	**+0.8**
	comp=Z,32nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**28.30**	**305**	*e*P	**P**	**10 54 18.3**	**+0.8**
ULN				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.9						
BOD	**Bodaibo**	**28.35**	**328**	*e*P	**P**	**10 54 17.7**	**-0.2**
BOD				pmax	pmax		
	comp=Z,35nm,1.1s,mb4.9						
SONM	**Songino Array**	**28.73**	**304**	P	**P**	**10 54 22.2**	**+0.8**
	comp=Z,36nm,0.8s,mb5.2,baz=102,slow=8.7,SNR=140						
SONM	**Songino Array**	**28.73**	**304**	P	**P**	**10 54 22.2**	**+0.8**
SONM	**Songino Array**	**28.73**	**304**	P	**P**	**10 54 22.2**	**+0.9**
SONM				pmax	pmax		
	comp=Z,36nm,0.8s						
LZH	**Lanzhou**	**30.97**	**281**	⇓P	**P**	**10 54 42.0**	**+0.7**
LZH				pP	pP	10 54 45.3	+0.3
LZH				PP	PP	10 55 43.3	-7.9
LZH				*e*S	**S**	**10 59 43.8**	**-1.9**
LZH				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.1						
LZH				pmax	pmax		
	comp=Z,170nm,5.6s						
LZH				LR	LR		
	comp=N,2μm,13.0s,MS5.0						
LZH				LR	LR		
	comp=E,2μm,12.6s,MS5.0						
LZH				LR	LR		
	comp=Z,3μm,18.2s						
LZH	**Lanzhou**	**30.97**	**281**	⇓P	**P**	**10 54 42.0**	**+0.7**
	comp=Z,39nm,1.2s,mb5.1						
LZH				pP	pP	10 54 45.2	+0.2
LZH				sP	sP	10 54 46.7	+0.2
LZH				PP	PP	10 55 43.2	-8.0
LZH				*e*S	**S**	**10 59 43.8**	**-1.9**
LZH				sS	sS	10 59 51.0	-0.8
LZH	**Lanzhou**	**30.97**	**281**	⇓P	**P**	**10 54 42.0**	**+0.7**
LZH						10 55 43.2	
LZH				*e*S	**S**	**10 59 43.8**	**-1.9**
LZH				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.1						
ZAK	**Zakamensk**	**31.20**	**309**	*e*P	**P**	**10 54 42.9**	**-0.3**
ZAK				*e*		10 57 37.0	
ZAK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.6						
TLY	**Talaya**	**31.26**	**311**	*e*P	**P**	**10 54 43.8**	**+0.1**
TLY	**Talaya**	**31.26**	**311**	*e*P	**P**	**10 54 42.8**	**-0.8**
TLY				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
GYA	**Guiyang**	**31.98**	**262**	⇑*i*P	**P**	**10 54 49.6**	**-0.7**
GYA				PP	PP	10 55 56.8	-5.7
GYA				PcP	PcP	10 57 40.8	+0.6
GYA				S	**S**	**11 00 00.8**	**-0.8**
GYA				ScP	ScP	11 01 23.4	-0.1
GYA				SS	SS	11 01 50.6	-28
GYA				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
GYA				pmax	pmax		
	comp=Z,180nm,5.4s						
GYA				LR	LR		
	comp=N,680nm,17.5s,MS4.5						
GYA				LR	LR		
	comp=E,550nm,18.4s,MS4.5						
GYA				LR	LR		
	comp=Z,690nm,17.6s,MS4.4						
CD2	**Chengdu**	**32.52**	**271**	*e*P	**P**	**10 54 54.5**	**-0.5**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
GTA	**Gaotai**	**33.50**	**288**	*e*P	**P**	**10 55 04.3**	**+0.8**
GTA				pP	pP	10 55 08.4	+1.2
GTA				sP	sP	10 55 11.8	+3.1
GTA				S	**S**	**11 00 27.0**	**+2.0**
GTA				sS	sS	11 00 34.0	+2.9
GTA				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
GTA				LR	LR		
	comp=N,11μm,11.9s,MS5.8						
GTA				LR	LR		
	comp=E,6μm,15.0s,MS5.8						
GTA				LR	LR		
	comp=Z,9μm,12.1s,MS5.7						
BILL	**Bilibino**	**34.22**	**16**	*e*P	**P**	**10 55 08.5**	**-0.9**
	comp=Z,25nm,1.4s,mb5.0						
BILL	**Bilibino**	**34.22**	**16**	⇓*i*P	**P**	**10 55 08.9**	**-0.5**
BILL				*e*		10 56 21.3	
BILL				*e*		10 57 46.2	
BILL				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
KMI	**Kunming**	**35.73**	**263**	P	**P**	**10 55 23.0**	**+0.1**
KMI				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
KMI	**Kunming**	**35.73**	**263**	P	**P**	**10 55 23.0**	**+0.1**
	comp=Z,27nm,1.3s,mb5.0						
KMI	**Kunming**	**35.73**	**263**	P	**P**	**10 55 23.0**	**+0.1**
KMI				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
WMQ	**Urumqi**	**41.79**	**297**	*e*P	**P**	**10 56 12.8**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.1						
CHTO	**Chiang Mai**	**42.01**	**257**	*e*P	**P**	**10 56 15.8**	**+0.3**
	comp=Z,16nm,1.2s,mb4.5						
CHTO	**Chiang Mai**	**42.01**	**257**	*e*P	**P**	**10 56 15.8**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.5						
CMAR	**Chiang Mai Arr**	**42.21**	**257**	P	**P**	**10 56 17.0**	**-0.2**
	comp=Z,2.0nm,0.7s,mb3.8,baz=46,slow=9.2,SNR=10						
CMAR				PcP	PcP	10 58 12.2	+0.9
	comp=Z,0.9nm,0.3s,baz=38,slow=1.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**42.21**	**257**	P	**P**	**10 56 17.0**	**-0.2**
CMAR				PcP	PcP	10 58 12.2	+0.9
CMAR	**Chiang Mai Arr**	**42.21**	**257**	P	**P**	**10 56 17.0**	**-0.2**
CMAR						10 58 12.2	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAA0	**Zalesovo Array**	**42.83**	**313**	*e*P	**P**	**10 56 21.9**	**+0.1**
ZALV	**Zalesovo Beam**	**42.83**	**313**	P	**P**	**10 56 21.4**	**-0.5**
	comp=Z,18nm,1.0s,mb4.8,baz=94,slow=7.0,SNR=38						
ZALV				PcP	PcP	10 58 12.4	-0.4
	comp=Z,4.5nm,0.8s,baz=90,slow=2.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**42.83**	**313**	P	**P**	**10 56 21.4**	**-0.5**
ZALV				PcP	PcP	10 58 12.4	-0.4
ZALV	**Zalesovo Beam**	**42.83**	**313**	P	**P**	**10 56 21.4**	**-0.5**
ZALV						10 58 12.4	
ZALV				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**43.09**	**276**	*e*P	**P**	**10 56 25.7**	**+1.4**
	comp=Z,6.4nm,0.6s,mb4.5						
LSA	**Lhasa**	**43.09**	**276**	*e*P	**P**	**10 56 25.7**	**+1.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
NVS	**Novosibirsk**	**43.75**	**314**	*e*P	**P**	**10 56 28.7**	**-0.6**
NVS				*e*		10 58 15.3	
NVS				*e*		10 58 52.3	
NVS				pmax	pmax		
	comp=N,7.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,24nm,1.5s						
NVS				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.8						
MK31	**Makanchi Array**	**45.07**	**303**	*e*P	**P**	**10 56 40.0**	**+0.1**
MK31	**Makanchi Array**	**45.07**	**303**	*i* P	**P**	**10 56 39.9**	**0.0**
MK31				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.2						
MKAR	**Makanchi Array**	**45.07**	**303**	P	**P**	**10 56 39.5**	**-0.4**
	comp=Z,13nm,0.8s,mb4.8,baz=88,slow=9.4,SNR=61						
MKAR	**Makanchi Array**	**45.07**	**303**	*e*P	**P**	**10 56 40.0**	**+0.1**
MKAR	**Makanchi Array**	**45.07**	**303**	*e*P	**P**	**10 56 40.0**	**+0.1**
PMG	**Port Moresby**	**45.96**	**174**	P	**P**	**10 56 46.9**	**-0.3**
	comp=Z,33nm,1.0s,mb5.2,baz=307,slow=4.9,SNR=2.5						
PMG	**Port Moresby**	**45.96**	**174**	P	**P**	**10 56 46.9**	**-0.3**
PMG	**Port Moresby**	**45.96**	**174**	P	**P**	**10 56 46.9**	**-0.4**
PMG				pmax	pmax		
	comp=Z,33nm,1.0s						
KAPI	**Kappang**	**46.52**	**212**	P	**P**	**10 56 51.3**	**-0.4**
	comp=Z,22nm,0.9s,mb5.1,baz=27,slow=12,SNR=6.0						
KAPI	**Kappang**	**46.52**	**212**	P	**P**	**10 56 51.3**	**-0.4**
	comp=Z,6.6nm,1.7s,mb4.3						
RSO	**Redoubt South**	**46.73**	**38**	*e*P	**P**	**10 56 54.0**	**+1.2**
TAPN	**Taplejung**	**46.81**	**275**	*e*P	**P**	**10 56 54.4**	**+0.4**
	comp=Z,33nm,0.9s,mb5.3						
TAPN	**Taplejung**	**46.81**	**275**	*e*P	**P**	**10 56 54.4**	**+0.4**
	comp=Z,33nm,0.9s,mb5.3						
KURK	**Kurchatov**	**46.87**	**309**	P	**P**	**10 56 54.0**	**-0.1**
	comp=Z,30nm,0.8s,mb5.2,baz=84,slow=8.1,SNR=104						
KURK	**Kurchatov**	**46.87**	**309**	*e*P	**P**	**10 56 53.9**	**-0.2**
	comp=Z,42nm,0.9s,mb5.4						
KURK	**Kurchatov**	**46.87**	**309**	P	**P**	**10 56 54.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
KDAK	**Kodiak Island**	**46.87**	**42**	P	**P**	**10 56 53.5**	**-0.5**
	comp=Z,14nm,0.7s,mb5.0,baz=268,slow=9.3,SNR=7.0						
KDAK	**Kodiak Island**	**46.87**	**42**	P	**P**	**10 56 53.5**	**-0.5**
KDAK	**Kodiak Island**	**46.87**	**42**	P	**P**	**10 56 53.5**	**-0.5**
KDAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
PPLA	**Purkeypile**	**47.05**	**35**	*e*P	**P**	**10 56 56.9**	**+1.5**
	comp=Z,58nm,1.4s,mb5.3						
ODAN	**Odare**	**47.28**	**275**	*e*P	**P**	**10 56 58.1**	**+0.5**
ODAN	**Odare**	**47.28**	**275**	*e*P	**P**	**10 56 58.1**	**+0.5**
RAMN	**Ramite**	**47.88**	**275**	*e*P	**P**	**10 57 02.5**	**+0.2**
	comp=Z,94nm,1.0s,mb5.8						
RAMN	**Ramite**	**47.88**	**275**	*e*P	**P**	**10 57 02.5**	**+0.2**
	comp=Z,94nm,1.0s,mb5.8						
JIRN	**Jiri**	**47.90**	**276**	*e*P	**P**	**10 57 03.1**	**+0.7**
JIRN	**Jiri**	**47.90**	**276**	*e*P	**P**	**10 57 03.1**	**+0.7**
GUN	**Gumba**	**48.04**	**277**	*e*P	**P**	**10 57 04.0**	**+0.5**
	comp=Z,57nm,0.8s,mb5.7						
GUN	**Gumba**	**48.04**	**277**	*e*P	**P**	**10 57 04.0**	**+0.5**
	comp=Z,57nm,0.8s,mb5.7						
MCK	**McKinley**	**48.53**	**34**	P	**P**	**10 57 05.8**	**-1.0**
	comp=Z,98nm,2.1s,mb5.5						
MCK	**McKinley**	**48.53**	**34**	P	**P**	**10 57 05.9**	**-0.9**
MCK				pmax	pmax		
	comp=Z,98nm,2.1s,mb5.5						
PKI	**Pulchoki**	**48.56**	**276**	*e*P	**P**	**10 57 07.7**	**+0.2**
PKI	**Pulchoki**	**48.56**	**276**	*e*P	**P**	**10 57 07.7**	**+0.2**
PKI	**Pulchoki**	**48.56**	**276**	*e*P	**P**	**10 57 07.7**	**+0.2**
KKN	**Kakani**	**48.57**	**277**	*e*P	**P**	**10 57 07.9**	**+0.3**
KKN	**Kakani**	**48.57**	**277**	*e*P	**P**	**10 57 07.9**	**+0.3**
KKN	**Kakani**	**48.57**	**277**	*e*P	**P**	**10 57 07.9**	**+0.3**
DMN	**Daman**	**48.79**	**277**	*e*P	**P**	**10 57 09.5**	**+0.2**
DMN	**Daman**	**48.79**	**277**	*e*P	**P**	**10 57 09.5**	**+0.2**
GKN	**Gorkha**	**48.99**	**277**	*e*P	**P**	**10 57 11.2**	**+0.4**
GKN	**Gorkha**	**48.99**	**277**	*e*P	**P**	**10 57 11.2**	**+0.4**
COLA	**College**	**49.01**	**32**	P	**P**	**10 57 10.6**	**+0.1**
	comp=Z,7.9nm,0.8s,mb4.8						
COLA	**College**	**49.01**	**32**	P	**P**	**10 57 10.6**	**+0.2**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**10 57 12.6**	**-1.0**
	comp=Z,7.9nm,1.0s,mb4.7,baz=266,slow=6.5,SNR=43						
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**10 57 12.6**	**-1.0**
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**10 57 12.6**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DANN	**Dangsing**	**49.54**	**278**	*e*P	**P**	**10 57 15.7**	**+0.6**
DANN	**Dangsing**	**49.54**	**278**	*e*P	**P**	**10 57 15.7**	**+0.6**
KOLN	**Koldanda**	**49.92**	**278**	*e*P	**P**	**10 57 18.2**	**+0.3**
KOLN	**Koldanda**	**49.92**	**278**	*e*P	**P**	**10 57 18.2**	**+0.3**
DIV	**Divide**	**50.12**	**37**	*e*P	**P**	**10 57 19.9**	**+0.9**
	comp=

comp=Z,5.0nm,0.7s
BRVK Borovoye 51.55 313 *e*P **P 10 57 30.1 +0.3**
comp=Z,15nm,1.1s,mb4.8
BRVK Borovoye 51.55 313⇓*i*P **P 10 57 30.3 +0.5**
BRVK pmax pmax
comp=Z,31nm,2.5s,mb4.8
EKS2 Erkin-Say 51.94 299 *e*P **P 10 57 32.8 -0.1**
comp=Z,125nm,2.8s,mb5.3
EKS2 Erkin-Say 51.94 299 *e*P **P 10 57 32.8 -0.1**
EKS2 pmax pmax
comp=Z,125nm,2.8s,mb5.3
AML Almayashu 52.16 299 P **P 10 57 36.0 +1.4**
SNR=18
AML P 10 57 36.0
SNR=18
KK31 Karatay Array 54.08 301 P **P 10 57 49.0 +0.3**
KK31 pmax pmax
comp=Z,22nm,1.0s,mb5.0
KKAR Karatay Array 54.08 301 *e*P **P 10 57 48.6 -0.1**
KKAR Karatay Array 54.08 301 *e*P **P 10 57 48.6 -0.1**
INK Inuvik 54.40 27 P **P 10 57 50.2 -0.4**
comp=Z,8.9nm,1.1s,mb4.6,baz=274,slow=6.2,SNR=15
INK Inuvik 54.40 27 P **P 10 57 50.2 -0.4**
INK Inuvik 54.40 27 P **P 10 57 50.2 -0.4**
INK pmax pmax
comp=Z,9.0nm,1.1s
SVE Sverdlovsk 56.03 319⇑*i*P **P 10 58 03.3 +0.7**
SVE pmax pmax
comp=Z,23nm,1.0s,mb5.2
WRAB Tennant Creek 56.74 189 *e*P **P 10 58 06.2 -1.7**
comp=Z,63nm,1.4s,mb5.5
WRAB Tennant Creek 56.74 189 *e*P **P 10 58 06.3 -1.6**
WRAB pmax pmax
comp=Z,63nm,1.4s,mb5.5
WRAB Tennant Creek 56.74 189 P **P 10 58 06.1 -1.8**
comp=Z,161nm,1.4s,mb5.9,SNR=7.9
WB2 Warramunga Arr 56.75 189 *e*P **P 10 58 06.4 -1.6**
WRA Warramunga Arr 56.75 189 P **P 10 58 06.4 -1.6**
comp=Z,32nm,1.1s,mb5.3,baz=7.8,slow=7.2,SNR=56
WRA Warramunga Arr 56.75 189 P **P 10 58 06.4 -1.6**
WRA Warramunga Arr 56.75 189 P **P 10 58 06.4 -1.6**
WRA pmax pmax
comp=Z,32nm,1.1s
ARU Arti 57.25 319 *e*P **P 10 58 11.0 -0.2**
comp=Z,138nm,2.0s,mb5.6
ARU Arti 57.25 319*d i*P **P 10 58 11.5 +0.3**
ARU S **S 11 06 09.5 +2.9**
ARU SS SS 11 09 55.5 +0.3
ARU pmax pmax
comp=Z,41nm,1.7s,mb5.2
ARU Arti 57.25 319 P **P 10 58 11.6 +0.4**
comp=Z,133nm,1.3s,mb5.8,SNR=5.1
KBL Kabul 58.36 292 *e*P **P 10 58 18.7 -0.7**
comp=Z,17nm,0.9s,mb5.1
KBL Kabul 58.36 292 *e*P **P 10 58 18.7 -0.7**
KBL pmax pmax
comp=Z,17nm,0.9s,mb5.1
DLBC Dease Lake 58.46 38 P **P 10 58 18.6 -1.1**
comp=Z,5.9nm,1.1s,mb4.5,baz=315,slow=5.7,SNR=4.5
DLBC Dease Lake 58.46 38 P **P 10 58 18.6 -1.1**
AB31 Akbulak array 58.87 311 P **P 10 58 21.9 -0.8**
AB31 pmax pmax
comp=Z,14nm,0.7s,mb5.1
ABKAR Akbulak array 58.87 311 *e*P **P 10 58 22.4 -0.3**
HYB Hyderabad 59.04 269 *i*P **P 10 58 24.0 -0.3**
AKTO Aktyubinsk 59.60 312 P **P 10 58 26.9 -0.8**
comp=Z,9.3nm,0.8s,mb4.9,baz=84,slow=9.2,SNR=23
AKTO Aktyubinsk 59.60 312 P **P 10 58 26.9 -0.9**
AKTO Aktyubinsk 59.60 312 P **P 10 58 26.9 -0.8**
AKTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AS31 Alice Springs 60.47 189 *e*P **P 10 58 33.1 -0.8**
ASAR Alice Springs 60.47 189 P **P 10 58 32.4 -1.5**
comp=Z,10nm,1.1s,mb4.8,baz=2.1,slow=6.1,SNR=44
ASAR Alice Springs 60.47 189 P **P 10 58 32.4 -1.5**
ASAR Alice Springs 60.47 189 P **P 10 58 32.4 -1.5**
ASAR pmax pmax
comp=Z,10.0nm,1.1s
DZM Mont Dzumac 62.59 155 *e*P **P 10 58 48.0 -0.3**
comp=Z,28nm,1.3s,mb5.2
YKA Yellowknife Ar 63.77 30 P **P 10 58 54.0 -1.6**
comp=Z,4.3nm,1.0s,mb4.4,baz=295,slow=6.6,SNR=5.5
YKA Yellowknife Ar 63.77 30 P **P 10 58 54.0 -1.6**
YKA Yellowknife Ar 63.77 30 P **P 10 58 54.0 -1.6**
YKA pmax pmax
comp=Z,4.0nm,1.0s
KLMR Klimovskoe 64.58 328 *e*P **P 10 58 56.2 -4.8**
KLMR pmax pmax
comp=Z,28nm,1.3s,mb5.1
JOF Joensuu 66.75 332 *e*P **P 10 59 14.0 -1.0**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
JOF Joensuu 66.75 332 *e*p **P 10 59 14.0 -1.0**
comp=Z,3.9nm,0.5s,mb4.7
LON Longmire 67.93 48 *e*P **P 10 59 23.1 +0.3**
comp=Z,7.9nm,0.7s,mb4.8
LON Longmire 67.93 48 *e*P **P 10 59 23.1 +0.3**
LON pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
MOS Moscow 68.11 324 *e*P **P 10 59 23.2 -0.5**
MOS pmax pmax
comp=Z,73nm,1.1s,mb5.6
STKA Stephens Creek 68.11 181 P **P 10 59 22.4 -1.5**
comp=Z,4.7nm,1.0s,mb4.5,baz=356,slow=9.8,SNR=5.6
STKA Stephens Creek 68.11 181 *e*P **P 10 59 23.8 0.0**
STKA Stephens Creek 68.11 181 *e*P **P 10 59 23.8 -0.1**
ETW Entiat 68.37 46 *e*P **P 10 59 25.9 +0.4**
OBN Obninsk 68.95 324⇓*e*P **P 10 59 29.1 +0.1**
OBN *e* 10 59 37.2
OBN *e* 10 59 53.0
OBN pmax pmax
comp=Z,83nm,1.8s,mb5.4
OBN MLR MLR
comp=Z,7μm,15.0s,MS6.0
KAF Kangasniemi 69.08 333 *e*P **P 10 59 28.4 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
KAF Kangasniemi 69.08 333 *e*p **P 10 59 28.4 -1.3**
comp=Z,4.1nm,0.5s,mb4.6
OD2 Odessa Site #2 69.42 46 *e*P **P 10 59 32.3 +0.3**
FINES FINESS Array B 69.60 333 P **P 10 59 31.9 -0.9**
comp=Z,18nm,1.1s,mb4.9,baz=54,slow=7.1,SNR=11
FINES FINESS Array B 69.60 333 P **P 10 59 31.9 -0.9**
FINES FINESS Array B 69.60 333 P **P 10 59 31.9 -1.0**
FINES pmax pmax
comp=Z,18nm,1.1s
VSR Storozhevoye 69.82 319 *e*P **P 10 59 33.8 -0.6**
VSR pmax pmax
comp=Z,30nm,1.2s,mb5.1
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,30nm,1.3s
LNOR Lincton Mounta 70.48 47 *e*P **P 10 59 39.2 +0.6**
comp=E,2.2nm,0.8s,mb4.1
LNOR Lincton Mounta 70.48 47 *e*P **P 10 59 39.2 +0.7**
LNOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
SUMG Summit 71.13 0 *e*P **P 10 59 43.2 +1.1**
comp=Z,301nm,2.9s,mb5.7
SUMG Summit 71.13 0 *i*P **P 10 59 40.9 -1.1**
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 71.13 0 *i*P **P 10 59 40.9 -1.1**
comp=Z,6.8nm,1.0s,mb4.5
BMO Blue Mountains 71.61 48 *e*P **P 10 59 45.6 +0.1**
comp=Z,10.0nm,1.3s,mb4.6
BMO Blue Mountains 71.61 48 *e*P **P 10 59 45.6 +0.2**
BMO pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
KIV Kislovodsk 71.83 311 *e*P **P 10 59 47.0 +0.2**
comp=Z,57nm,1.1s,mb5.4
KIV Kislovodsk 71.83 311*ce*P **P 10 59 47.6 +0.8**
KIV *e* 10 59 54.8
KIV pmax pmax
comp=Z,68nm,1.2s,mb5.5
KIV MLR MLR
comp=Z,4μm,15.0s,MS5.8
KIV Kislovodsk 71.83 311 P **P 10 59 47.5 +0.7**
comp=Z,269nm,0.9s,mb6.2,SNR=5.8
SWMT Swartz Lake 72.03 44 *e*P **P 10 59 48.0 +0.1**
WVOR Wild Horse Val 72.13 50 *e*P **P 10 59 49.1 +0.5**
comp=Z,22nm,1.8s,mb4.8
WVOR Wild Horse Val 72.13 50 *e*P **P 10 59 49.2 +0.6**
WVOR pmax pmax
comp=Z,22nm,1.8s,mb4.8

SLMT Seeley Lake 72.46 44 *e*P **P 10 59 50.5 0.0**
GNI Garni 72.64 307⇓*i*P **P 10 59 53.1 +1.4**
GNI pmax pmax
comp=Z,21nm,1.3s
CMB Columbia Colle 73.44 55 *e*P **P 10 59 57.0 +0.6**
comp=Z,14nm,1.4s,mb4.7
CMB Columbia Colle 73.44 55 *e*P **P 10 59 57.0 +0.5**
CMB pmax pmax
comp=Z,14nm,1.4s,mb4.7
FFC Flin Flon 73.62 33 *e*P **P 10 59 57.0 -0.2**
comp=Z,250nm,3.0s
FFC Flin Flon 73.62 33 *e*P **P 10 59 57.0 -0.2**
FFC pmax pmax
comp=Z,250nm,3.0s
FFC Flin Flon 73.62 33 P **P 10 59 57.7 +0.5**
comp=Z,64nm,1.2s,mb5.4,SNR=5.9
HRY Holter Researc 73.70 44 *e*P **P 10 59 58.5 +0.7**
SOC Sochi 73.82 312 *i*P **P 10 59 57.0 -1.6**
SOC pmax pmax
comp=Z,25nm,0.8s,mb5.2
LRM Limekiln Ridge 73.87 45 *e*P **P 10 59 59.8 +0.9**
EGMT Eagleton 74.05 42 *e*P **P 11 00 00.2 +0.4**
comp=Z,108nm,2.3s,mb5.4
HLID Hailey 74.06 47 *e*P **P 11 00 00.3 +0.4**
comp=Z,5.8nm,1.2s,mb4.4
DLMT Dillon 74.06 45 *e*P **P 11 00 00.1 +0.1**
comp=Z,19nm,1.2s,mb4.9
BOZ Bozeman (W) 74.44 44 *e*P **P 11 00 02.4 +0.2**
comp=Z,15nm,1.3s,mb4.8
BOZ Bozeman (W) 74.44 44 *e*P **P 11 00 02.4 +0.2**
BOZ pmax pmax
comp=Z,15nm,1.3s,mb4.8
ANN Anapa 74.44 314 *e*P **P 11 00 00.5 -1.7**
ANN pmax pmax
comp=Z,55nm,1.4s,mb5.3
NVAR Mina Array Bea 74.58 54 P **P 11 00 03.7 +0.5**
comp=Z,4.6nm,1.0s,mb4.4,baz=294,slow=6.7,SNR=19
NVAR Mina Array Bea 74.58 54 P **P 11 00 03.7 +0.5**
NB2 NORSAR Subarra 74.92 338 P **P 11 00 04.5 -0.2**
comp=Z,1.9nm,0.7s,mb4.1,baz=41,slow=5.9
NOA NORSAR Array B 74.92 338 P **P 11 00 04.3 -0.3**
comp=Z,8.7nm,1.0s,mb4.6,baz=39,slow=5.7,SNR=5.7
NOA NORSAR Array B 74.92 338 P **P 11 00 04.3 -0.3**
NOA NORSAR Array B 74.92 338 P **P 11 00 04.4 -0.3**
NOA pmax pmax
comp=Z,9.0nm,1.0s
QLMT Earthquake Lak 75.04 45 *e*P **P 11 00 06.6 +0.9**
AKASG Malin Array Be 75.16 323 P **P 11 00 05.6 -0.7**
comp=Z,8.2nm,0.7s,mb4.8,baz=45,slow=5.8,SNR=26
AKASG Malin Array Be 75.16 323 P **P 11 00 05.6 -0.7**
AKASG Malin Array Be 75.16 323 P **P 11 00 05.6 -0.7**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 75.16 323 *e*P **P 11 00 05.5 -0.7**
AKBB Malin Array Si 75.16 323 *e*P **P 11 00 05.5 -0.8**
KIEV Kiev 75.17 323 *e*P **P 11 00 05.4 -1.0**
comp=Z,34nm,1.4s,mb5.1
KIEV Kiev 75.17 323 *e*P **P 11 00 05.4 -0.9**
KIEV pmax pmax
comp=Z,34nm,1.4s,mb5.1
GCMT Greycliff 75.45 43 *e*P **P 11 00 08.9 +0.9**
comp=Z,42nm,2.0s,mb5.0
FLWY Flagg Ranch 75.91 45 *e*P **P 11 00 12.3 +1.6**
comp=Z,28nm,1.4s,mb5.0
RLMT Red Lodge 76.08 44 *e*P **P 11 00 12.3 +0.6**
comp=Z,52nm,2.0s,mb5.1
MOOW Moose Ponds 76.09 46 *e*P **P 11 00 12.8 +1.1**
comp=Z,48nm,2.1s,mb5.1
TPAW Teton Pass 76.13 46 *e*P **P 11 00 13.2 +1.3**
comp=Z,19nm,1.4s,mb4.8
LOHW Long Hollow 76.25 46 *e*P **P 11 00 13.3 +0.7**
comp=Z,4.8nm,1.3s,mb4.3
REDW Red Top Meadow 76.26 46 *e*P **P 11 00 13.2 +0.5**
comp=Z,7.5nm,1.2s,mb4.5
DGMT Dagmar 76.66 39 *e*P **P 11 00 14.5 -0.4**
comp=Z,44nm,1.4s,mb5.2
BHD Baghdad 76.75 302 *i*x x 11 00 14.0
BHD *i*x x 11 10 04.0
HWUT Hardware Ranch 76.91 48 *e*P **P 11 00 16.7 +0.3**
comp=Z,23nm,1.4s,mb4.9
DUG Dugway 77.01 49 *e*P **P 11 00 17.7 +0.7**
comp=Z,13nm,1.2s,mb4.7
DUG Dugway 77.01 49 *e*P **P 11 00 17.7 +0.7**
DUG pmax pmax
comp=Z,13nm,1.2s,mb4.7
PD02 Pinedale Array 77.36 46 *e*P **P 11 00 19.1 +0.2**
BW06 Boulder Array 77.37 46 *e*P **P 11 00 19.4 +0.4**
comp=Z,86nm,2.8s,mb5.2
PDAR Pinedale Array 77.38 46 P **P 11 00 18.7 -0.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=305,slow=3.2,SNR=8.7
PDAR Pinedale Array 77.38 46 P **P 11 00 18.7 -0.3**
JLU Jordanelle 77.59 49 *e*P **P 11 00 21.0 +0.8**
comp=Z,20nm,1.5s,mb4.8
KIS Kishinev 77.78 320 *e*P **P 11 00 21.0 -0.1**
KIS Kishinev 77.78 320 *e*P **P 11 00 21.0 -0.1**
ARUT Antelope Range 78.06 52 *e*P **P 11 00 23.1 +0.2**
comp=Z,12nm,1.3s,mb4.7
ARUT Antelope Range 78.06 52 *e*P **P 11 00 23.1 +0.2**
ARUT pmax pmax
comp=Z,12nm,1.3s,mb4.7
CCUT Cedar City 78.26 52 *e*P **P 11 00 24.8 +0.8**
comp=Z,12nm,1.3s,mb4.7
MSU Marysvale 78.42 51 *e*P **P 11 00 25.6 +0.8**
MSU Marysvale 78.42 51 *e*P **P 11 00 25.7 +0.8**
SRU San Rafael 79.07 49 *e*P **P 11 00 28.6 +0.1**
comp=Z,18nm,1.2s,mb4.9
SRU San Rafael 79.07 49 *e*P **P 11 00 28.6 +0.2**
SRU pmax pmax
comp=Z,18nm,1.2s,mb4.9
BUR08 Bucovina Ar. S 79.17 322 *e*P **P 11 00 29.5 +0.7**
BURAR Bucovina Array 79.18 322⇑P **P 11 00 29.9 +1.0**
BURAR Bucovina Array 79.18 322⇑*i*P **P 11 00 29.9 +1.0**
VRI Vrincioaia 79.61 320⇓P **P 11 00 33.3 +2.0**
VRI Vrincioaia 79.61 320⇓*i*P **P 11 00 33.3 +2.0**
BR131 Keskin Array S 79.77 312 *e*P **P 11 00 31.7 -0.6**
comp=Z,9.3nm,1.1s,mb4.6
BRTR Keskin Array B 79.77 312 P **P 11 00 31.9 -0.4**
comp=Z,7.5nm,1.1s,mb4.5,baz=87,slow=3.5,SNR=19
BRTR Keskin Array B 79.77 312 P **P 11 00 31.9 -0.4**
BRTR Keskin Array B 79.77 312 P **P 11 00 31.9 -0.4**
BRTR pmax pmax
comp=Z,8.0nm,1.1s
STHS Stebnicka Huta 79.80 325 *e*P **P 11 00 32.7 +0.5**
STHS pmax pmax
comp=Z,12nm,1.0s,mb4.8
STHS Stebnicka Huta 79.80 325 *e*P **P 11 00 32.6 +0.4**
OJC Ojcow 79.87 327 *e*P **P 11 00 33.1 +0.5**
comp=Z,54nm,1.3s,mb5.3
OJC Ojcow 79.87 327 *e*P **P 11 00 33.1 +0.5**
OJC pmax pmax
comp=Z,54nm,1.3s,mb5.3
UZH Uzhgorod 79.88 324 *e*P **P 11 00 30.3 -2.4**
UZH *e* 11 00 44.3
UZH *e*S S 11 10 28.3 -7.4
UZH MLR MLR
comp=Z,7μm,12.5s,MS6.2
CRVS Cervenica-Dubn 80.07 325 *e*P **P 11 00 34.1 +0.4**
CRVS pmax pmax
comp=Z,15nm,1.5s,mb4.7
CRVS Cervenica-Dubn 80.07 325 *e*P **P 11 00 34.1 +0.4**
TRPA Tarpa 80.11 324⇑*i*P **P 11 00 34.8 +0.8**
PV04 Paradox Valley 80.50 49 *e*P **P 11 00 37.3 +1.0**
WUAZ Wupatki 80.77 53 *e*P **P 11 00 38.0 +0.3**
comp=Z,16nm,1.3s,mb4.8
KECS Kecovo 80.82 325 *e*P **P 11 00 36.9 -0.9**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 80.82 325 *e*P **P 11 00 36.9 -0.9**
OKC Ostrava-Krasne 80.88 327 *e*P **P 11 00 38.7 +0.7**
OKC Ostrava-Krasne 80.88 327 *e*P **P 11 00 38.7 +0.7**
KSP Ksiaz 80.92 329 *e*P **P 11 00 38.0 -0.2**
KSP Ksiaz 80.92 329 *e*P **P 11 00 38.0 -0.2**
DRGR 80.98 323⇓P **P 11 00 39.2 +0.6**
DRGR 80.98 323⇓*i*P **P 11 00 39.2 +0.6**
MORC Moravsky Berou 81.19 327 *e*P **P 11 00 40.0 +0.3**
comp=Z,24nm,1.3s,mb5.0
MORC Moravsky Berou 81.19 327 *e*P **P 11 00 40.0 +0.3**
MORC pmax pmax
comp=Z,24nm,1.3s,mb5.0
MORC Moravsky Berou 81.19 327⇓*i*P **P 11 00 40.4 +0.7**
DPC Dobruska-Polom 81.28 328 *e*P **P 11 00 40.7 +0.5**
comp=Z,35nm,1.5s,mb5.1
DPC Dobruska-Polom 81.28 328 *e*P **P 11 00 40.7 +0.6**
DPC Dobruska-Polom 81.28 328 *e*P **P 11 00 40.7 +0.6**
UPC Upice 81.29 329 *e*P **P 11 00 40.3 +0.1**

UPC Upice 81.29 329 *e*P **P 11 00 40.3 +0.1**
KRLC Kraliky 81.29 328 *e*P **P 11 00 40.8 +0.6**
MVCO Mesa Verde 81.50 50 *e*P **P 11 00 42.1 +0.5**
comp=Z,17nm,1.3s,mb4.8
PSZ Piszkesteto 81.50 325 *e*P **P 11 00 42.3 +0.9**
comp=Z,26nm,1.2s,mb5.0
PSZ Piszkesteto 81.50 325⇓P **P 11 00 42.3 +0.9**
PSZ Piszkesteto 81.50 325⇓*e*P **P 11 00 42.5 +1.1**
PSZ Piszkesteto 81.50 325⇓*i*P **P 11 00 42.3 +0.9**
VYHS Vyhne 81.57 326 *e*P **P 11 00 42.0 +0.3**
VYHS pmax pmax
comp=Z,11nm,1.3s,mb4.6
VYHS Vyhne 81.57 326 *e*P **P 11 00 42.0 +0.3**
KOLL Kolacno 81.70 326 *e*P **P 11 00 43.7 +1.3**
KOLL Kolacno 81.70 326 *e*P **P 11 00 43.7 +1.3**
PVCC Panska Ves 81.87 329 *e*P **P 11 00 43.7 +0.4**
PVCC Panska Ves 81.87 329 *e*P **P 11 00 43.7 +0.4**
CLL Collm 81.90 331⇑*i*P **P 11 00 42.9 -0.5**
CLL pmax pmax
comp=Z,23nm,1.3s,mb5.0
CLL Collm 81.90 331⇑*i*P **P 11 00 42.9 -0.5**
comp=Z,23nm,1.3s,mb5.0
VRAC Vranov 81.95 328 P **P 11 00 43.6 -0.1**
comp=Z,9.7nm,1.1s,mb4.7,baz=54,slow=7.2,SNR=7.7
VRAC Vranov 81.95 328 P **P 11 00 43.6 -0.1**
VRAC Vranov 81.95 328 P **P 11 00 43.6 -0.1**
VRAC pmax pmax
comp=Z,10.0nm,1.1s
SMOL Smolenice 82.18 327 *e*P **P 11 00 45.9 +1.0**
SMOL Smolenice 82.18 327 *e*P **P 11 00 45.9 +1.0**
PRU Pruhonice 82.30 329 *e*P **P 11 00 45.6 +0.1**
PRU *e* 11 00 53.1
PRU Pruhonice 82.30 329 *e*P **P 11 00 45.6 +0.1**
PRU *ex* x 11 00 53.1
BZS Buzias 82.35 323⇑P **P 11 00 46.3 +0.4**
BZS Buzias 82.35 323⇑*i*P **P 11 00 46.3 +0.4**
TREC Trest 82.43 328 *e*P **P 11 00 46.3 +0.1**
TREC Trest 82.43 328 *e*P **P 11 00 46.3 +0.1**
ASF Jabal al Asfar 82.45 305 P **P 11 00 46.1 -0.5**
comp=Z,2.2nm,0.6s,mb4.3,baz=18,slow=3.2,SNR=3.5
ASF Jabal al Asfar 82.45 305 P **P 11 00 46.1 -0.5**
ASF Jabal al Asfar 82.45 305 P **P 11 00 46.1 -0.6**
ASF pmax pmax
comp=Z,2.0nm,0.6s
MMAI Mount Meron Ar 82.91 306 P **P 11 00 49.4 +0.4**
comp=Z,11nm,1.0s,mb4.8,baz=63,slow=6.6,SNR=10
MMAI Mount Meron Ar 82.91 306 P **P 11 00 49.4 +0.4**
NKC Novy Kostel 82.96 330 *e*P **P 11 00 49.0 0.0**
NKC Novy Kostel 82.96 330 *e*P **P 11 00 49.0 0.0**
SDCO Great Sand Dun 82.97 48 *e*P **P 11 00 50.5 +1.3**
comp=Z,18nm,1.5s,mb4.9
SOP Sopron 83.19 327⇑*e*PcP PcP 11 00 51.0 -3.8
PKSM Moragy 83.34 324⇑P **P 11 00 50.3 -0.7**
PKSM Moragy 83.34 324⇑*i*P **P 11 00 50.3 -0.7**
KHC Kasperske Hory 83.36 329 *e*P **P 11 00 51.2 +0.1**
comp=Z,17nm,1.2s,mb5.0
KHC Kasperske Hory 83.36 329 *e*P **P 11 00 51.0 -0.1**
KHC *e* 11 00 59.5
KHC Kasperske Hory 83.36 329 *e*P **P 11 00 51.0 -0.1**
KHC *ex* x 11 00 59.5
GERES GERESS Array B 83.53 329 P **P 11 00 51.1 -0.8**
comp=Z,3.4nm,0.8s,mb4.5,baz=26,slow=5.4,SNR=6.8
GERES GERESS Array B 83.53 329 P **P 11 00 51.1 -0.8**
GERES GERESS Array B 83.53 329 P **P 11 00 51.2 -0.7**
GRF Grafenberg Arr 83.87 331 *e*P **P 11 00 54.0 +0.3**
comp=Z,32nm,1.4s,mb5.3
GRF *e*L 11 39 27.3
comp=Z,3μm,21.7s
GRF Grafenberg Arr 83.87 331 *e*P **P 11 00 54.0 +0.3**
GRF pmax pmax
comp=Z,32nm,1.4s,mb5.3
GRF MLR MLR
comp=Z,3μm,21.7s,MS5.6
GRFO Grafenberg 83.87 331 *e*P **P 11 00 53.4 -0.3**
comp=Z,31nm,1.3s,mb5.3
GRFO Grafenberg 83.87 331 *e*P **P 11 00 53.4 -0.3**
GRFO pmax pmax
comp=Z,31nm,1.3s,mb5.3
PERS Pernice 84.62 327 *i*P **P 11 00 57.1 -0.5**
JAVS Javornik 85.66 327 *i*P **P 11 01 01.5 -1.2**
GIVF Givet 85.92 334 *e*P **P 11 01 04.0 0.0**
GIVF Givet 85.92 334 *e*P **P 11 01 04.0 0.0**
GIVF Givet 85.92 334 *e*P **P 11 01 04.0 0.0**
BFO Black Forest 86.10 331 *e*P **P 11 01 04.5 -0.4**
comp=Z,33nm,1.3s,mb5.4
BFO Black Forest 86.10 331 *e*P **P 11 01 04.5 -0.4**
BFO pmax pmax
comp=Z,33nm,1.3s,mb5.4
BFO Black Forest 86.10 331 P **P 11 01 05.7 +0.8**
comp=Z,98nm,1.3s,mb5.9,SNR=6.8
BAIF Baives 86.17 335⇑P **P 11 01 04.7 -0.5**
comp=Z,50nm,1.3s,mb5.3
BAIF Baives 86.17 335⇑*i*P **P 11 01 04.7 -0.5**
comp=Z,50nm,1.3s,mb5.6
BAIF Baives 86.17 335⇑*i*P **P 11 01 04.7 -0.5**
BAIF pmax pmax
comp=Z,50nm,1.3s,mb5.6
CDF Champ du Feu 86.44 332⇑*i*P **P 11 01 06.1 -0.4**
comp=Z,45nm,1.3s,mb5.2
CDF Champ du Feu 86.44 332⇑*i*P **P 11 01 06.1 -0.4**
comp=Z,45nm,1.3s,mb5.5
CDF Champ du Feu 86.44 332⇑*i*P **P 11 01 06.1 -0.4**
CDF pmax pmax
comp=Z,45nm,1.3s,mb5.5
FUORN Ofenpass-Fuorn 86.71 329 *e*P **P 11 01 08.4 +0.5**
comp=Z,17nm,1.1s,mb5.2
PAGF Fort de Pagny 86.89 333⇑*i*P **P 11 01 08.6 -0.2**
comp=Z,18nm,1.4s,mb4.8
PAGF Fort de Pagny 86.89 333⇑*i*P **P 11 01 08.6 -0.2**
comp=Z,18nm,1.4s,mb5.1
HAU Haudompre 87.12 332 *e*P **P 11 01 09.2 -0.7**
comp=Z,19nm,1.2s,mb4.9
HAU Haudompre 87.12 332 *e*P **P 11 01 09.2 -0.7**
comp=Z,19nm,1.2s,mb5.2
HAU Haudompre 87.12 332 *e*P **P 11 01 09.2 -0.7**
HAU pmax pmax
comp=Z,19nm,1.2s,mb5.2
MEZF Maizieres J'vi 87.19 333 *e*P **P 11 01 10.0 -0.2**
comp=Z,78nm,1.6s,mb5.4
MEZF Maizieres J'vi 87.19 333 *e*P **P 11 01 10.0 -0.2**
comp=Z,78nm,1.5s,mb5.7
TUE Stuetta 87.21 330 *e*P **P 11 01 10.7 +0.3**
comp=Z,16nm,1.4s,mb5.0
SFTF Sexfontaines 87.44 333 *e*P **P 11 01 10.9 -0.5**
comp=Z,64nm,1.2s,mb5.4
SFTF Sexfontaines 87.44 333 *e*P **P 11 01 10.9 -0.5**
comp=Z,64nm,1.3s,mb5.7
LOR Lormes 88.66 333⇑*i*P **P 11 01 16.6 -0.7**
comp=Z,37nm,1.4s,mb5.2
LOR Lormes 88.66 333⇑*i*P **P 11 01 16.6 -0.7**
comp=Z,37nm,1.4s,mb5.5
LOR Lormes 88.66 333⇑*i*P **P 11 01 16.6 -0.7**
LOR pmax pmax
comp=Z,37nm,1.4s,mb5.5
FLN La Foliniere 88.86 336 *e*P **P 11 01 17.6 -0.6**
comp=Z,190nm,1.9s,mb5.8
FLN La Foliniere 88.86 336 *e*P **P 11 01 17.6 -0.6**
comp=Z,190nm,1.9s,mb6.1
FLN La Foliniere 88.86 336 *e*P **P 11 01 17.6 -0.6**
FLN pmax pmax
comp=Z,190nm,1.9s,mb6.1
LDF La Druitiere 88.89 336⇑*i*P **P 11 01 17.5 -0.8**
comp=Z,17nm,1.1s,mb5.0
LDF La Druitiere 88.89 336⇑*i*P **P 11 01 17.5 -0.8**
comp=Z,17nm,1.1s,mb5.3
LDF La Druitiere 88.89 336⇑*i*P **P 11 01 17.5 -0.8**
LDF pmax pmax
comp=Z,17nm,1.1s,mb5.3
SSF Saint Saulge 88.96 333 *e*P **P 11 01 18.3 -0.4**
comp=Z,34nm,1.5s,mb5.2
SSF Saint Saulge 88.96 333 *e*P **P 11 01 18.3 -0.4**
comp=Z,34nm,1.5s,mb5.5
SSF Saint Saulge 88.96 333 *e*P **P 11 01 18.3 -0.4**
SSF pmax pmax
comp=Z,34nm,1.5s,mb5.5
HYF Humbligny 89.09 334 *e*P **P 11 01 19.4 +0.1**
HYF Humbligny 89.09 334 *e*P **P 11 01 19.4 +0.1**
AVF Avril sur Loir 89.25 333 *e*P **P 11 01 19.6 -0.4**
AVF Avril sur Loir 89.25 333 *e*P **P 11 01 19.6 -0.4**
AVF Avril sur Loir 89.25 333 *e*P **P 11 01 19.6 -0.4**
GRR Gorron 89.30 337⇑*i*P **P 11 01 19.9 -0.4**
GRR Gorron 89.30 337⇑*i*P **P 11 01 19.9 -0.4**
GRR Gorron 89.30 337⇑*i*P **P 11 01 19.9 -0.4**
BGF Bois d'Agland 89.63 333 *e*P **P 11 01 21.6 -0.2**
BGF Bois d'Agland 89.63 333 *e*P **P 11 01 21.6 -0.2**

BGF	Bois d'Agland	89.63	333	eP		P	11 01 21.6	-0.2
TXAR	Lajitas Array	89.72	53	P		P	11 01 21.9	-0.7
	comp=Z,3.8nm,1.1s,mb4.7,baz=306,slow=3.0,SNR=9.1							
TXAR	Lajitas Array	89.72	53	P		P	11 01 21.9	-0.7
TXAR	Lajitas Array	89.72	53	P		P	11 01 21.9	-0.7
TXAR				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TCF	Toulx Ste Croi	90.09	334	eP		P	11 01 23.7	-0.3
TCF	Toulx Ste Croi	90.09	334	eP		P	11 01 23.7	-0.3
TCF	Toulx Ste Croi	90.09	334	eP		P	11 01 23.7	-0.3
VIVF	Saint-Julien-l	90.39	331	eP		P	11 01 25.0	-0.4
	comp=Z,20nm,1.1s,mb5.0							
VIVF	Saint-Julien-l	90.39	331	eP		P	11 01 25.0	-0.4
	comp=Z,20nm,1.1s,mb5.3							
VIVF	Saint-Julien-l	90.39	331	eP		P	11 01 25.0	-0.4
VIVF				pmax	pmax			
	comp=Z,20nm,1.1s,mb5.4							
MFF	Saint Martin d	90.63	335	eP		P	11 01 26.5	0.0
	comp=Z,25nm,1.2s,mb5.1							
MFF	Saint Martin d	90.63	335	eP		P	11 01 26.5	0.0
	comp=Z,25nm,1.2s,mb5.4							
MFF	Saint Martin d	90.63	335	eP		P	11 01 26.5	0.0
MFF				pmax	pmax			
	comp=Z,25nm,1.2s,mb5.4							
RJF	Les Rejaudoux	91.18	334⇑	iP		P	11 01 28.9	-0.2
	comp=Z,32nm,1.2s,mb5.2							
RJF	Les Rejaudoux	91.18	334⇑	iP		P	11 01 28.9	-0.2
	comp=Z,32nm,1.2s,mb5.5							
RJF	Les Rejaudoux	91.18	334⇑	iP		P	11 01 28.9	-0.2
RJF				pmax	pmax			
	comp=Z,32nm,1.2s,mb5.5							
CAF	Calviac	91.31	333⇑	iP		P	11 01 29.8	+0.1
	comp=Z,28nm,1.2s,mb5.2							
CAF	Calviac	91.31	333⇑	iP		P	11 01 29.8	+0.1
	comp=Z,28nm,1.2s,mb5.5							
CAF	Calviac	91.31	333⇑	iP		P	11 01 29.8	+0.1
CAF				pmax	pmax			
	comp=Z,28nm,1.2s,mb5.5							
MIAR	Mount Ida	92.07	43	eP		P	11 01 33.5	+0.1
	comp=Z,19nm,1.3s,mb5.3							
MIAR	Mount Ida	92.07	43	eP		P	11 01 33.6	+0.2
MIAR				pmax	pmax			
	comp=Z,19nm,1.3s,mb5.3							
MTLF	Montolieu	92.61	332	eP		P	11 01 35.7	0.0
MTLF	Montolieu	92.61	332	eP		P	11 01 35.7	0.0
MTLF	Montolieu	92.61	332	eP		P	11 01 35.7	0.0
TORD	Torodi Ar. Bea	118.24	316	PKP		PKPdf	11 07 10.7	-1.2
	comp=Z,1.4nm,1.1s,baz=41,slow=2.9,SNR=3.6							
TORD				PP	PP		11 08 13.3	-13
	comp=Z,1.4nm,1.1s,baz=29,slow=6.0,SNR=3.2							
TORD	Torodi Ar. Bea	118.24	316	PKP		PKPdf	11 07 10.7	-1.2
TORD				PP	PP		11 08 13.3	-13
SDV	Santo Domingo	125.11	41	ePKPdf		PKPdf	11 07 24.2	-1.0
VNA2	Neumayer--Watz	142.12	196	e		PKPdf	11 07 50.3	-4.9
	baz=61,slow=0.9							
VNA2				e			11 07 58.7	
VNA3	Neumayer Olymp	142.35	194	e		PKPdf	11 07 50.9	-4.7
VNA3				e			11 07 58.8	
SAML	Samuel	143.95	47	ePKPdf		PKPdf	11 07 57.8	-2.4
LPAZ	La Paz	146.18	61	PKPbc		PKPbc	11 08 04.9	0.0
	comp=Z,7.8nm,1.1s,baz=342,slow=1.7,SNR=20							
LPAZ	La Paz	146.18	61	PKPbc		PKPbc	11 08 04.9	0.0
LPAZ	La Paz	146.18	61	PKP2		PKPab	11 08 04.9	-0.7
LPAZ				pmax	pmax			
	comp=Z,8.0nm,1.1s							
LVC	Limon Verde	149.53	72	ePKPdf		PKPdf	11 08 13.8	+4.6
LCO	Las Campanas	151.22	84	ePKPdf		PKPdf	11 08 17.8	+6.0

*NEIC **20** 10:55:21.3, 36°.56N×142°.51E, $h66^{km}$, MG4.0(JMA), After JMA.*
NEIC Recorded [3 JMA] in Miyagi and [1 JMA] in Iwate.
JMA 20 10:55:21.3±0.2, 36°.56N×142°.50E, $h66^{km}$, M4.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.47	292	P	Pn	10 55 46.2	+0.5
JFK	Kawauchi	1.53	302	P	Pn	10 55 47.1	+0.6
JHO	Hitachi	1.56	272	P	Pn	10 55 47.1	+0.3
JHO				eS	Sn	10 56 06.4	+0.3
CHOJ	Chosi	1.58	238	P	Pn	10 55 47.8	+0.6
BSO1	Boso 1	2.27	214	P	Pn	10 55 57.4	+0.9
JAG	Ashikaga	2.46	268	P	Pn	10 56 00.3	+1.3
JRY	Ryogami san	2.96	260	P	Pn	10 56 06.9	+1.1
JOD2	Odawara 2	3.06	246	P	Pn	10 56 07.4	+0.2
JYN	Shimob	3.38	253	P	Pn	10 56 13.5	+1.9
MJAR	Matsushiro Arr	3.46	271	Pn	Pn	10 56 14.5	+1.9
	4.5nm,0.3s,baz=326,slow=2.5,SNR=19						
MJAR	Matsushiro Arr	3.46	271	Pn	Pn	10 56 14.5	+1.9
MAJO	Matsushiro	3.46	271	ePn	Pn	10 56 15.3	+2.7
MAT	Matsushiro	3.46	271	P	Pn	10 56 15.1	+2.5
MAT				eS	Sn	10 56 55.1	+2.7
MAT	Matsushiro	3.46	271	P	Pn	10 56 15.4	+2.8
JHJ2	Mitsune	4.09	213	P	Pn	10 56 21.0	-0.3
JHJ2				eS	Sn	10 57 06.7	-1.1

*IDC **20** 10:55:32.1±0.7, 38°.94N×141°.13E, $h0^{km}$, mb3.9/17, mb1 4.0/19, mb1mx4.0/25, mbtmp3.9/19, ML3.2/2, Error ellipse: s-maj=21.9km s-min=16.4km az=71.0*
*ISCJB **20** 10:55:34.4±0.4, 38°.80N±0°.03×140°.83E±0°.04, $h23^{km}\pm3^{km}$, mb3.8/20, Error ellipse: s-maj=5.2km s-min=4.2km az=42.2*
*JMA **20** 10:55:34.7, 38°.81N×140°.81E, $h4^{km}\pm1^{km}$, M3.9 Broadband fault plane solution: P waves. NP1: ϕ_s=9.00000°, δ61.00000°, λ91.00000°. NP2: ϕ_s=188.00000°, δ29.00000°, λ89.00000°. Principal axes: T Plg74.0000°, Azm281.0000°; N Plg1.0000°, Azm189.0000°; P Plg16.0000°, Azm99.0000°;*
JMA Felt III J1.
*NEIC **20** 10:55:34.7, 38°.81N×140°.81E, $h4^{km}$, MG3.9(JMA), After JMA.*
ISC 20 10:55:34.6±0.4, 38°.80N±0°.03×140°.82E±0°.03, $h11^{km}\pm3^{km}$, n58, σ1§01/64, mb3.8/20, 4C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	Ichinoseki	0.35	63	P	Pg	10 55 41.4	-0.1
JMK				S	Sg	10 55 46.4	+0.2
JYK	Kaneyama	0.38	289	⇓P	Pg	10 55 42.0	-0.1
JYK				eS	Sg	10 55 47.1	-0.1
JOU	Okura	0.45	196	⇑P	Pg	10 55 43.6	+0.2
JOU				S	Sg	10 55 49.9	+0.6
JIO	Ouri	0.54	129	⇓P	Pg	10 55 45.0	0.0
JIO				eS	Sg	10 55 52.3	+0.2
JRG	Rokugo	0.62	346	⇑P	Pg	10 55 46.6	+0.1
JOM	Ohasama	0.77	28	⇓P	Pg	10 55 49.0	-0.4
JOM				S	Sg	10 55 58.9	-0.6
JYS	Shirataka	0.83	226	⇑P	Pg	10 55 50.5	0.0
JYS				S	Sg	10 55 61.6	+0.3
JYA	Atsumi	0.89	257	⇓P	Pg	10 55 51.3	-0.4
JYA				S	Sg	10 56 03.2	-0.1
JMM	Marumori	0.93	181	⇑P	Pg	10 55 51.8	-0.7
JMM				S	Sg	10 56 04.2	-0.4
ERM	Erimo	3.68	28	ePn	Pn	10 56 33.6	+2.3
ASAJ	Asahikawa	5.48	14	Pn	Pn	10 56 58.2	+2.1
	1.2nm,0.3s,baz=204,slow=12,SNR=5.8						
ASAJ	Asahikawa	5.48	14	Pn	Pn	10 56 58.2	+2.1
USRK	Ussuriysk Arra	8.54	312	Pn	Pn	10 57 39.0	+1.0
	0.5nm,0.3s,baz=124,slow=15,SNR=6.9						
JNU	Nakatsue	9.85	238	ePn	Pn	10 57 55.0	-1.0
KSRS	Korea Array	10.25	266	Pn	Pn	10 58 04.8	+3.2
	0.8nm,0.3s,baz=75,slow=14,SNR=12						
KSAR	Wonju Array Be	10.28	266	Pn	Pn	10 58 04.8	+2.8
SONM	Songino Array	26.44	301	P	P	11 01 12.9	+1.7
	0.4nm,0.4s,mb3.3,baz=98,slow=7.4,SNR=2.9						
SONM	Songino Array	26.44	301	P	P	11 01 12.9	+1.7
ZALV	Zalesovo Beam	40.40	311	P	P	11 03 11.9	-0.4
	1.1nm,0.7s,mb3.7,baz=89,slow=7.5,SNR=4.5						
ZALV	Zalesovo Beam	40.40	311	P	P	11 03 11.9	-0.4
MKAR	Makanchi Array	42.80	300	P	P	11 03 31.2	-1.0
	0.9nm,0.9s,mb3.5,baz=85,slow=9.0,SNR=3.3						
MKAR	Makanchi Array	42.80	300	P	P	11 03 31.2	-1.0
KURK	Kurchatov	44.49	307	P	P	11 03 42.9	-2.8
	1.2nm,0.4s,mb4.0,baz=79,slow=8.5,SNR=6.8						
KURK	Kurchatov	44.49	307	P	P	11 03 42.9	-2.8
ILAR	Eielson Array	48.27	33	P	P	11 04 10.8	-4.3
	0.4nm,0.8s,mb3.5,baz=270,slow=7.6,SNR=4.5						
ILAR	Eielson Array	48.27	33	P	P	11 04 10.8	-4.3
BVAR	Borovoye Array	49.05	311	P	P	11 04 20.9	-0.4
	0.5nm,0.6s,mb3.7,baz=81,slow=8.9,SNR=3.5						
BVAR	Borovoye Array	49.05	311	P	P	11 04 20.9	-0.4
INK	Inuvik	53.04	28	P	P	11 04 51.8	+0.7
	0.6nm,0.4s,mb3.9,baz=276,slow=6.0,SNR=11						
INK	Inuvik	53.04	28	P	P	11 04 51.8	+0.7
AKTO	Aktyubinsk	57.16	311	P	P	11 05 20.9	-0.3
	1.3nm,0.7s,mb4.1,baz=48,slow=11,SNR=3.9						
AKTO	Aktyubinsk	57.16	311	P	P	11 05 20.9	-0.3
WRA	Warramunga Arr	58.74	187	P	P	11 05 32.1	-0.3
	1.2nm,0.5s,mb4.2,baz=4.1,slow=7.3,SNR=14						
WRA	Warramunga Arr	58.74	187	P	P	11 05 32.1	-0.3
ARCES	ARCESS Array B	62.19	339	P	P	11 05 53.3	-2.2
	2.9nm,0.9s,mb4.4,baz=62,slow=8.5,SNR=4.8						
ARCES	ARCESS Array B	62.19	339	P	P	11 05 53.3	-2.2
ASAR	Alice Springs	62.47	187	P	P	11 05 58.4	+0.6
	0.9nm,0.7s,mb4.0,baz=13,slow=6.2,SNR=9.1						
ASAR	Alice Springs	62.47	187	P	P	11 05 58.4	+0.6
YKA	Yellowknife Ar	62.52	30	P	P	11 05 54.7	-3.1
	0.1nm,0.5s,mb3.2,baz=302,slow=5.7,SNR=4.0						
YKA	Yellowknife Ar	62.52	30	P	P	11 05 54.7	-3.1
FINES	FINESS Array B	67.04	332	P	P	11 06 26.5	-0.8
	4.3nm,0.9s,mb4.5,baz=34,slow=8.4,SNR=7.0						
FINES	FINESS Array B	67.04	332	P	P	11 06 26.5	-0.8
STKA	Stephens Creek	70.32	179	P	P	11 06 48.2	+0.3
	0.8nm,0.7s,mb3.8,baz=315,slow=4.3,SNR=2.6						
STKA	Stephens Creek	70.32	179	P	P	11 06 48.2	+0.3
NOA	NORSAR Array B	72.38	337	P	P	11 06 59.4	-0.8
	1.4nm,0.8s,mb3.9,baz=41,slow=6.0,SNR=3.0						
NOA	NORSAR Array B	72.38	337	P	P	11 06 59.4	-0.8
AKASG	Malin Array Be	72.62	322	P	P	11 07 01.2	-0.5
	1.4nm,0.4s,mb4.3,baz=46,slow=6.3,SNR=9.8						
AKASG	Malin Array Be	72.62	322	P	P	11 07 01.2	-0.5
NVAR	Mina Array Bea	74.31	53	P	P	11 07 12.5	+0.5
	1.4nm,0.9s,mb3.9,baz=275,slow=4.4,SNR=6.4						
NVAR	Mina Array Bea	74.31	53	P	P	11 07 12.5	+0.5
PDAR	Pinedale Array	76.77	45	P	P	11 07 25.4	-0.6
	0.5nm,0.6s,mb3.6,baz=342,slow=5.7,SNR=4.5						
PDAR	Pinedale Array	76.77	45	P	P	11 07 25.4	-0.6
BRTR	Keskin Array B	77.34	311	P	P	11 07 30.4	+1.1
	0.4nm,0.4s,mb3.7,baz=52,slow=9.3,SNR=3.6						
BRTR	Keskin Array B	77.34	311	P	P	11 07 30.4	+1.2
GERES	GERESS Array B	80.97	328	P	P	11 07 49.5	+0.6
	0.3nm,0.4s,mb3.6,baz=35,slow=3.6,SNR=2.2						
GERES	GERESS Array B	80.97	328	P	P	11 07 49.5	+0.6
LPAZ	La Paz	146.16	57	PKPbc	PKPbc	11 15 15.8	+0.6
	0.6nm,0.5s,baz=342,slow=3.2,SNR=3.5						
LPAZ	La Paz	146.16	57	PKPbc	PKPbc	11 15 15.8	+0.6

*IDC **20** 11:10:21.4±0.9, 1°.35N×127°.09E, $h0^{km}$, mb4.0/9, mb1 4.1/10, mb1mx4.0/21, mbtmp4.0/10, ML3.8/1, Error ellipse: s-maj=100.2km s-min=14.1km az=69.0*
*NEIC **20** 11:10:27.1±0.4, 1°.22N×126°.83E, $h35^{km}$, mb4.4/2, Error ellipse: s-maj=27.7km s-min=6.2km az=67.0*
*ISCJB **20** 11:10:32.1±0.9, 1°.07N±0°.07×126°.75E±0°.07, $h101^{km}\pm8^{km}$, mb4.0/11, Error ellipse: s-maj=14.7km s-min=6.9km az=137.0*
*DJA **20** 11:10:34, 0°.83N×126°.72E, $h35^{km}$, mb4.4/14*
ISC 20 11:10:33.4±0.9, 1°.04N±0°.07×126°.75E±0°.07, $h96^{km}\pm9^{km}$, n46, σ0§84/47, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.67	114	P	Pn	11 10 45.1	-5.2
LBMI	Labuha	1.83	156	P	Pn	11 11 03.0	-0.7
MNI	Manado	1.95	282	P	Pn	11 11 03.1	-2.1
MNI				S	Sn	11 11 29.1	-0.4
SGSI	Sangihe	2.89	335	P	Pn	11 11 25.3	+7.6
GTOI	Gorontalo	3.76	264	P	Pn	11 11 30.4	+1.1
NLAI	Namlea	4.27	175	P	Pn	11 11 35.3	-0.9
LUWI	Luwuk	4.49	242	P	Pn	11 11 38.6	-0.6
AAI	Ambon	4.92	163	P	Pn	11 11 45.5	+0.5
APSI	Ampana	5.46	249	P	Pn	11 11 52.1	-0.3
DAV	Davao City (W)	6.10	349	P	Pn	11 12 07.2	+6.1
	1.2nm196nm,0.4s						
KDI	Kendari	6.46	220	P	Pn	11 12 05.5	-0.5
	0.1nm11nm,0.9s						
FAKI	Fak Fak	6.76	126	P	Pn	11 12 11.6	+1.5
	0.2nm28nm,1.0s						
BBSI	Bau Bau	7.71	213	P	Pn	11 12 22.6	-0.5
	0.3nm79nm,1.1s						
SPSI	Sidrap Palu	8.57	234	P	Pn	11 12 35.9	+1.2
	17nm,1.2s						
BKSI	Bulukumba	9.15	226	P	Pn	11 12 43.7	+1.0
	19nm,1.2s						
MYLDM	Lahad Datu	9.20	297	P	Pn	11 12 44.2	+0.8
	40nm,1.4s						
KKM	Kota Kinabalu	11.63	296	P	Pn	11 13 18.0	+1.7
	38nm,1.1s						
SMPI	Sarmi	12.33	104	P	Pn	11 13 30.0	+4.3
	29nm,1.4s						
PCJI	Pacitan	18.04	239	P	Pn	11 14 42.2	+4.3
	45nm,2.3s						
FITZ	Fitzroy Crossi	19.06	183	P	Pn	11 14 49.3	-0.7
	0.2nm,0.3s,baz=239,slow=16,SNR=9.7						
FITZ	Fitzroy Crossi	19.06	183	P	Pn	11 14 49.3	-0.7
FITZ	Fitzroy Crossi	19.06	183	P	Pn	11 14 49.7	-0.3
	16nm,2.5s						
COEN	Coen	22.07	133	eP	P	11 15 20.4	-0.2
	24nm,1.1s,mb4.4						
COEN	Coen	22.07	133	P	P	11 15 19.8	-0.8
	16nm,2.4s,mb3.9						
WRAB	Tennant Creek	22.14	161	eP	P	11 15 21.1	-0.2
	8.0nm,0.8s,mb4.1						
WRAB	Tennant Creek	22.14	161	P	P	11 15 20.8	-0.5
WRA	Warramunga Arr	22.14	161	P	P	11 15 20.9	-0.5
	5.7nm,0.6s,mb4.1,baz=339,slow=11,SNR=73						
WRA				PcP	PcP	11 19 15.5	+0.3
	0.2nm,0.5s,baz=350,slow=1.6,SNR=3.4						
WRA	Warramunga Arr	22.14	161	P	P	11 15 20.9	-0.5
WRA				PcP	PcP	11 19 15.5	+0.3
WB2	Warramunga Arr	22.15	161	eP	P	11 15 21.0	-0.4
AS31	Alice Springs	25.53	165	eP	P	11 15 53.5	+0.3
ASAR	Alice Springs	25.53	165	P	P	11 15 54.0	+0.9
	2.6nm,0.4s,mb4.0,baz=347,slow=13,SNR=27						
ASAR				PcP	PcP	11 19 22.6	+0.2
	0.2nm,0.5s,baz=342,slow=2.0,SNR=4.5						
ASAR	Alice Springs	25.53	165	P	P	11 15 54.0	+0.9
ASAR				PcP	PcP	11 19 22.6	+0.2
STKA	Stephens Creek	35.64	158	P	P	11 17 23.0	+0.9
	1.4nm,0.4s,mb4.2,baz=329,slow=7.6,SNR=12						
STKA	Stephens Creek	35.64	158	P	P	11 17 23.0	+0.9
SONM	Songino Array	49.84	342	P	P	11 19 16.2	-0.4
	1.4nm,0.8s,mb4.0,baz=159,slow=6.3,SNR=5.4						
SONM	Songino Array	49.84	342	P	P	11 19 16.2	-0.4
MKAR	Makanchi Array	59.77	326	P	P	11 20 28.2	-0.1
	0.8nm,0.5s,mb4.0,baz=120,slow=7.6,SNR=12						
MKAR	Makanchi Array	59.77	326	P	P	11 20 28.2	-0.1
ZALV	Zalesovo Beam	62.98	334	P	P	11 20 49.0	-0.8
	0.7nm,0.7s,mb3.7,baz=114,slow=7.3,SNR=4.0						
ZALV	Zalesovo Beam	62.98	334	P	P	11 20 49.0	-0.8
KURK	Kurchatov	64.01	328	P	P	11 20 55.8	-0.9
	4.2nm,0.8s,mb4.3,baz=128,slow=6.2,SNR=36						
KURK	Kurchatov	64.01	328	eP	P	11 20 56.2	-0.4
BVAR	Borovoye Array	69.58	328	P	P	11 21 31.8	-0.2
	1.0nm,0.9s,mb3.7,baz=131,slow=6.8,SNR=5.5						
BVAR	Borovoye Array	69.58	328	P	P	11 21 31.8	-0.2
AKTO	Aktyubinsk	75.77	322	P	P	11 22 09.0	+0.3
	0.6nm,0.6s,mb3.5,baz=102,slow=10,SNR=4.0						
AKTO	Aktyubinsk	75.77	322	P	P	11 22 09.0	+0.3

*NEIC **20** 11:15:00.7, 36°.57N×142°.61E, $h21^{km}$, MG3.2(JMA), After JMA.*
*JMA **20** 11:15:00.7±0.3, 36°.57N×142°.61E, $h21^{km}$, M3.2*
*IDC **20** 11:15:00.5±3.7, 36°.57N×142°.59E, $h0^{km}$, mb3.6/3, mb1 3.7/5, mb1mx3.5/25, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=75.4km s-min=27.6km az=159.0*
ISC 20 11:15:01.6±1.6, 36°.58N±0°.06×142°.50E±0°.06, $h7^{km}\pm10^{km}$, n24, σ0§76/32, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.46	291	P	Pn	11 15 27.6	-0.8
JFK	Kawauchi	1.52	301	eS	Sn	11 15 48.5	-0.8
JHO	Hitachi	1.56	272	P	Pn	11 15 28.4	-1.3
JMM	Marumori	1.87	314	P	Pn	11 15 33.3	-0.7
JMM				eS	Sn	11 15 58.4	+0.5
JFT	Otama	1.97	299	P	Pn	11 15 34.9	-0.5
JFT				eS	Sn	11 16 01.0	+0.7
BSO1	Boso 1	2.29	213	P	Pn	11 15 39.1	-0.7
JAG	Ashikaga	2.46	267	P	Pn	11 15 41.9	-0.2
JYK	Kaneyama	2.89	325	P	Pn	11 15 47.8	-0.2
JRY	Ryogami san	2.96	260	P	Pn	11 15 48.4	-0.6
JRY				eS	Sn	11 16 24.4	-0.4
JOD2	Odawara 2	3.07	246	P	Pn	11 15 50.9	+0.4
JOD2				eS	Sn	11 16 27.6	+0.2
JYN	Shimob	3.39	253	P	Pn	11 15 55.7	+0.9
MJAR	Matsushiro Arr	3.46	271	Pn	Pn	11 15 56.3	+0.5
	4.2nm,0.3s,baz=88,slow=16,SNR=29						
MJAR				Sn	Sn	11 16 40.2	+3.2
	baz=74,slow=17,SNR=3.1						
MJAR	Matsushiro Arr	3.46	271	Pn	Pn	11 15 56.3	+0.5
MJAR				Sn	Sn	11 16 40.2	+3.2
MAJO	Matsushiro	3.46	271	ePn	Pn	11 15 56.6	+0.8
MAJO				eSg	Sg	11 16 53.0	+0.3
MAT	Matsushiro	3.46	271	P	Pn	11 15 56.7	+0.9
MAT				S	Sn	11 16 35.6	-1.5
MAT	Matsushiro	3.46	271	P	Pn	11 15 56.8	+1.0
ASAJ	Asahikawa	7.53	1	Pn	Pn	11 16 51.6	0.0
	0.6nm,0.3s,baz=349,slow=22,SNR=5.6						
ASAJ	Asahikawa	7.53	1	Pn	Pn	11 16 51.6	0.0
SONM	Songino Array	28.76	304	P	P	11 21 00.5	+0.8
	1.6nm,0.9s,mb3.7,baz=92,slow=8.9,SNR=3.9						
SONM	Songino Array	28.76	304	P	P	11 21 00.5	+0.8
KURK	Kurchatov	46.90	309	P	P	11 23 33.0	+0.6
	0.4nm,0.5s,mb3.6,baz=81,slow=8.0,SNR=4.2						
KURK	Kurchatov	46.90	309	P	P	11 23 33.0	+0.6
ILAR	Eielson Array	49.41	32	P	P	11 23 51.5	0.0
	0.4nm,0.8s,mb3.5,baz=256,slow=5.4,SNR=4.2						
ILAR	Eielson Array	49.41	32	P	P	11 23 51.5	0.0

*NEIC **20** 11:19:46.7±0.5, 7°.04S×129°.57E, $h10^{km}$, mb4.4/1, Error ellipse: s-maj=26.0km s-min=7.3km az=73.0*
*IDC **20** 11:19:54.4±5.1, 7°.30S×129°.51E, $h83^{km}\pm54^{km}$, mb3.7/7, mb1 4.0/10, mb1mx3.8/17, mbtmp3.8/10, ML4.4/3, Error ellipse: s-maj=45.7km s-min=24.8km az=59.0*
ISC 20 11:19:52.3±2.2, 7°.2S±0°.1×129°.6E±0°.2, $h58^{km}\pm24^{km}$, n25, σ0§65/32, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.50	199	P	Pn	11 22 33.7	-0.1
	2.5nm,0.3s,baz=25,slow=10,SNR=57						
FITZ				S	Sn	11 24 30.5	-10
	4.4nm,0.3s,baz=46,slow=13,SNR=11						
FITZ	Fitzroy Crossi	11.50	199	P	Pn	11 22 33.7	-0.1
	8.7nm,0.6s						
FITZ				S	Sn	11 24 30.5	-10
WRAB	Tennant Creek	13.49	160	ePn	Pn	11 23 00.8	-0.1
	11nm,0.8s						
WRA	Warramunga Arr	13.50	160	P	Pn	11 23 00.9	-0.1
	1.6nm,0.3s,baz=346,slow=13,SNR=59						
WRA				S	Sn	11 25 21.4	-8.1
	1.6nm,0.3s,baz=332,slow=22,SNR=12						
WRA	Warramunga Arr	13.50	160	P	Pn	11 23 00.9	-0.1
WRA				S	Sn	11 25 21.4	-8.1
WB2	Warramunga Arr	13.50	160	ePn	Pn	11 23 00.7	-0.4
AS31	Alice Springs	16.90	166	ePn	Pn	11 23 45.6	+0.6
AS31				eSn	Sn	11 26 37.2	-15
ASAR	Alice Springs	16.91	166	P	Pn	11 23 45.6	+0.6
	1.5nm,0.3s,baz=334,slow=10,SNR=77						
ASAR				S	S	11 26 43.5	-16
	0.6nm,0.3s,baz=330,slow=14,SNR=6.8						
ASAR	Alice Springs	16.91	166	P	Pn	11 23 45.6	+0.6
ASAR				S	S	11 26 43.5	-16
FORT	Forrest	23.51	183	eP	P	11 24 57.6	+0.4
	5.6nm,0.5s,mb4.2						
STKA	Stephens Creek	27.00	157	P	P	11 25 28.0	-0.8
	1.1nm,0.6s,mb3.6,baz=315,slow=8.6,SNR=5.2						
STKA	Stephens Creek	27.00	157	P	P	11 25 28.0	-0.8
CMAR	Chiang Mai Arr	39.52	311	P	P	11 27 17.8	0.0
	1.4nm,0.6s,mb3.9,baz=136,slow=7.3,SNR=9.4						
CMAR	Chiang Mai Arr	39.52	311	P	P	11 27 17.8	0.0
MJAR	Matsushiro Arr	44.25	10	P	P	11 27 56.2	+0.2
	2.0nm,0.9s,mb3.9,baz=177,slow=9.4,SNR=4.1						
MJAR	Matsushiro Arr	44.25	10	P	P	11 27 56.1	+0.2
SONM	Songino Array	58.48	342	P	P	11 29 43.8	+1.5
	0.7nm,0.6s,mb3.9,baz=156,slow=5.4,SNR=3.1						
SONM	Songino Array	58.48	342	P	P	11 29 43.8	+1.5
MK31	Makanchi Array	68.15	327

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.59**	**94**	*eP*	**Pg**	**11 29 46.0**	**+1.1**
IHA	**Instituto Hidr**	**0.67**	**142**	*eP*	**Pg**	**11 29 46.5**	**+0.1**
CHNG	**Los Chungos**	**0.82**	**41**	⇑*iP*	**Pg**	**11 29 48.8**	**-0.4**
CHNG				*eS*	**Sg**	**11 30 01.8**	**+2.0**
PTCH	**Petorca**	**1.05**	**77**	⇑*iP*	**Pg**	**11 29 53.0**	**-0.5**
PTCH				*eS*	**Sg**	**11 30 08.6**	**+1.5**
ROCH	**El Roble**	**1.06**	**117**	⇑*iP*	**Pg**	**11 29 53.2**	**-0.6**
ROCH				*eS*	**Sg**	**11 30 08.3**	**+0.7**
ROCH				AML	AML	11 30 13.9	
	comp=E,86μm,0.7s						
JACH	**Jahuel**	**1.31**	**98**	⇓*iP*	**Pn**	**11 29 56.9**	**-0.8**
PEL	**Peldehue**	**1.38**	**118**	⇓*iP*	**Pn**	**11 29 58.4**	**-0.3**
PEL				*eS*	**Sb**	**11 30 17.5**	**+0.7**
PEL				AML	AML	11 30 22.9	
	comp=E,91μm,0.7s						
TACH	**Talagante**	**1.53**	**139**	*eP*	**Pn**	**11 30 00.1**	**-0.6**
SAN	**Santiago**	**1.56**	**128**	⇓*eP*	**Pn**	**11 30 01.1**	**0.0**
SAN				*eS*	**Sn**	**11 30 22.6**	**+1.2**
LNV	**Longovilo**	**1.57**	**158**	⇑*iP*	**Pn**	**11 29 59.4**	**-2.0**
CLCH	**Cerro Calan**	**1.61**	**124**	⇑*iP*	**Pn**	**11 30 01.8**	**0.0**
CLCH				AML	AML	11 30 35.6	
	comp=E,35μm,0.8s						
ANTU	**Antumapu**	**1.65**	**131**	*eP*	**Pn**	**11 30 02.3**	**-0.1**
ANTU				*eS*	**Sn**	**11 30 25.2**	**+1.6**
ANTU				AML	AML	11 30 32.7	
	comp=E,28μm,0.6s						
FSR	**Penalolen**	**1.67**	**126**	*eP*	**Pn**	**11 30 02.4**	**-0.2**
FCH	**Farellones**	**1.76**	**119**	⇑*iP*	Px	11 30 19.6	
PCH	**Pirque**	**1.76**	**130**	⇓*iP*	**Pn**	**11 30 04.1**	**+0.2**
SJCH	**San Jose de Ma**	**1.88**	**128**	*eP*	**Pn**	**11 30 05.9**	**+0.3**
SJCH				*eS*	**Sn**	**11 30 31.7**	**+2.5**
CHCH	**Chadas Angostu**	**1.89**	**139**	⇓*iP*	**Pn**	**11 30 05.6**	**-0.1**
OVCH	**Ovalle**	**2.05**	**23**	*eP*	**Pn**	**11 30 06.0**	**-1.9**
OVCH				AML	AML	11 30 45.8	
	comp=Z,17μm,0.6s						
CACH	**El Canelo**	**2.06**	**142**	⇑*iP*	**Pn**	**11 30 08.3**	**+0.2**
LMEL	**Las Melosas**	**2.10**	**130**	*eP*	**Pn**	**11 30 08.9**	**+0.3**
LMEL				AML	AML	11 30 46.6	
	comp=E,9μm,0.5s						
NICH	**Los Niches**	**2.61**	**163**	*eP*	**Pn**	**11 30 14.6**	**-1.0**
LSCH	**La Serena**	**2.69**	**17**	*eP*	**Pn**	**11 30 14.9**	**-1.8**
CFAA	**Coronel Fontan**	**3.43**	**76**	Pn	**Pn**	**11 30 28.8**	**+2.0**
	comp=E,1.2nm,0.3s,baz=251,slow=12,SNR=90						
CFAA				Lg		11 31 21.0	
	comp=E,14nm,0.3s,baz=32,slow=18,SNR=4.6						
CFAA				LR	LR	11 31 21.3	
	comp=E,921nm,21.3s,baz=219,slow=32						
CFAA	**Coronel Fontan**	**3.43**	**76**	Pn	**Pn**	**11 30 28.8**	**+2.0**
CFAA				Lg		11 31 21.0	
COCH	**Cobquecura**	**3.66**	**188**	*eP*	**Pn**	**11 30 27.6**	**-2.5**
LCO	**Las Campanas**	**3.69**	**20**	*ePn*	**Pn**	**11 30 28.3**	**-2.2**
VACH	**Vallenar**	**4.09**	**17**	*eP*	**Pn**	**11 30 33.8**	**-2.1**
CCHI	**Chillan**	**4.09**	**179**	*eP*	**Pn**	**11 30 35.7**	**-0.2**
PLCA	**Paso Flores**	**8.31**	**172**	Pn	**Pn**	**11 31 32.5**	**-1.5**
	comp=E,0.3nm,0.3s,baz=332,slow=12,SNR=9.3						
PLCA				Lg		11 33 51.9	
	comp=E,0.4nm,0.3s,baz=79,slow=14,SNR=2.2						
PLCA	**Paso Flores**	**8.31**	**172**	*e*Pn	**Pn**	**11 31 33.1**	**-0.8**
PLCA				Lg		11 33 51.9	
TRQA	**Tornquist**	**9.98**	**127**	*e*Pn	**Pn**	**11 31 56.4**	**-0.3**
TRQA				*e*Sn	**Sn**	**11 34 06.6**	**+18**
LVC	**Limon Verde**	**10.25**	**17**	*e*Pn	**Pn**	**11 31 55.0**	**-5.6**
LVC				*e*Sn	Sn	11 34 17.6	+22
CPUP	**Villa Florida**	**14.29**	**68**	Pn	**Pn**	**11 32 54.6**	**-1.1**
	comp=E,0.4nm,0.3s,baz=225,slow=12,SNR=13						
CPUP				Lg		11 36 59.5	
	comp=E,1.8nm,0.3s,baz=321,slow=20,SNR=4.7						
CPUP				LR	LR	11 38 51.5	
	comp=E,6μm,18.2s,baz=61,slow=39						
CPUP	**Villa Florida**	**14.29**	**68**	Pn	**Pn**	**11 32 54.6**	**-1.1**
CPUP				Lg		11 36 59.5	
LPAZ	**La Paz**	**16.54**	**14**	Pn	**Pn**	**11 33 24.5**	**-1.0**
	comp=E,0.6nm,0.3s,baz=186,slow=6.8,SNR=24						
LPAZ				Lg		11 38 26.1	
	baz=180,slow=21,SNR=2.3						
LPAZ	**La Paz**	**16.54**	**14**	*e*Pn	**Pn**	**11 33 24.6**	**-0.9**
LPAZ				Lg		11 38 26.1	
SIV	**San Ignacio**	**19.26**	**34**	P	**Pn**	**11 33 56.1**	**-2.9**
	comp=E,2.1nm,0.3s,baz=225,slow=12,SNR=80						
SIV				S	**Sn**	**11 37 41.9**	**+6.9**
	baz=241,slow=23,SNR=1.5						
SIV				Lg		11 39 53.8	
	baz=327,slow=13,SNR=1.6						
SIV	**San Ignacio**	**19.26**	**34**	P	**Pn**	**11 33 56.1**	**-2.9**
SIV				S	**Sn**	**11 37 41.9**	**+6.9**
SIV				Lg		11 39 53.8	
NNA	**Nana**	**20.87**	**347**	P	**P**	**11 34 15.3**	**-0.2**
	comp=E,3.9nm,0.4s,baz=197,slow=9.3,SNR=3.8						
NNA	**Nana**	**20.87**	**347**	*eP*	**P**	**11 34 18.1**	**+2.5**
USHA	**Ushuaia**	**22.48**	**174**	P	**P**	**11 34 33.8**	**+1.2**
	comp=E,16nm,0.9s,mb4.5,baz=354,slow=10,SNR=5.5						
USHA	**Ushuaia**	**22.48**	**174**	P	**P**	**11 34 33.8**	**+1.2**
SPB	**Sao Paulo**	**23.50**	**74**	*eP*	**P**	**11 34 41.2**	**-2.4**
	comp=E,127nm,1.2s,mb5.2						
SAML	**Samuel**	**24.86**	**21**	*eP*	**P**	**11 34 54.6**	**-1.5**
	comp=E,21nm,1.0s,mb4.6						
ATAH	**Atahualpa**	**25.90**	**346**	P	**P**	**11 35 08.3**	**+2.7**
	comp=E,1.5nm,0.4s,mb3.9,baz=143,slow=16,SNR=5.6						
ATAH	**Atahualpa**	**25.90**	**346**	P	**P**	**11 35 08.3**	**+2.7**
OTAV	**Otavalo**	**33.10**	**348**	*eP*	**P**	**11 36 10.0**	**+0.5**
	comp=E,22nm,1.3s,mb4.9						
SDV	**Santo Domingo**	**41.18**	**2**	*eP*	**P**	**11 37 19.6**	**+1.5**
	comp=E,14nm,0.9s,mb4.6						
TGUH	**Tegucigalpa,Un**	**48.51**	**340**	*eP*	**P**	**11 38 19.3**	**+2.8**
	comp=E,13nm,0.6s,mb5.1						
TRIS	**Tristan da Cun**	**48.65**	**113**	*eP*	**P**	**11 38 16.2**	**-1.3**
	comp=E,239nm,0.3s						
VNA3	**Neumayer Olymp**	**50.78**	**158**	*e*	**P**	**11 38 33.0**	**-0.2**
VNA3				*e*		11 38 38.4	
VNA1	**Neumayer--Stat**	**51.08**	**157**	*e*	**P**	**11 38 36.8**	**+1.3**
VNA2	**Neumayer--Watz**	**51.42**	**158**	*e*	**P**	**11 38 37.5**	**-0.6**
	baz=288,slow=6.4						
SNAA	**Sanae**	**53.00**	**158**	*e*	**P**	**11 38 49.7**	**-0.1**
SNAA				*e*	pP	11 38 54.2	+1.0
SNAA	**Sanae**	**53.00**	**158**	P	**P**	**11 38 49.1**	**-0.7**
	comp=E,6.5nm,0.8s,mb4.6,baz=288,slow=5.9,SNR=22						
SNAA	**Sanae**	**53.00**	**158**	*eP*	**P**	**11 38 49.7**	**-0.1**
	comp=E,31nm,1.1s,mb5.2						
TEIG	**Tepich**	**54.66**	**341**	P	**P**	**11 39 01.8**	**-0.6**
	comp=E,8.5nm,0.7s,mb4.9,baz=24,slow=8.2,SNR=5.9						
TEIG	**Tepich**	**54.66**	**341**	*eP*	**P**	**11 39 02.1**	**-0.3**
	comp=E,18nm,1.0s,mb5.1						
MAIT	**Maitri**	**57.70**	**157**	*eP*	**P**	**11 39 22.9**	**-0.7**
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**	**11 39 22.8**	**-0.9**
	comp=E,7.7nm,0.8s,mb4.8,baz=145,slow=3.5,SNR=25						
QSPA	**South Pole Qui**	**57.73**	**180**	*eP*	**P**	**11 39 23.1**	**-0.6**
	comp=E,30nm,1.1s,mb5.2						
SYO	**Syowa Base**	**67.29**	**159**	⇑*eP*	**P**	**11 40 25.2**	**-2.5**
JCT	**Junction City**	**67.90**	**334**	*eP*	**P**	**11 40 31.3**	**-0.7**
	comp=E,42nm,1.4s,mb5.3						
TXAR	**Lajitas Array**	**68.39**	**331**	P	**P**	**11 40 34.2**	**-0.9**
	comp=E,1.7nm,0.7s,mb4.2,baz=151,slow=8.3,SNR=17						
TXAR	**Lajitas Array**	**68.39**	**331**	P	**P**	**11 40 34.2**	**-0.9**
OXF	**Oxford**	**68.61**	**345**	P	**P**	**11 40 35.3**	**-1.1**
	comp=E,39nm,1.1s,mb5.2						
MEH	**Mehetia**	**68.98**	**262**	*eP*	**P**	**11 40 41.3**	**+2.1**
	comp=E,36nm,1.0s,mb5.3						
WVT	**Waverly**	**69.83**	**347**	*eP*	**P**	**11 40 42.2**	**-1.7**
	comp=E,213nm,2.3s,mb5.7						
TIAR	**Tiarei**	**70.20**	**261**	*eP*	**P**	**11 40 48.7**	**+2.0**
	comp=E,20nm,0.9s,mb5.1						
PAE	**Paea**	**70.34**	**261**	*eP*	**P**	**11 40 49.6**	**+2.0**
	comp=E,11nm,1.1s,mb4.7						
PPT2	**Papeete2**	**70.38**	**261**	*eP*	**P**	**11 40 49.9**	**+2.1**
	comp=E,52nm,1.4s,mb5.3						
WMOK	**Wichita Mounta**	**71.42**	**337**	*eP*	**P**	**11 40 53.8**	**+0.2**
	comp=E,62nm,2.1s,mb5.2						
CPRX	**Cap Rock**	**71.72**	**332**	*eP*	**P**	**11 40 54.4**	**-1.1**
	comp=E,31nm,0.9s,mb5.2						
BNM	**Barren Site**	**73.81**	**331**	*eP*	**P**	**11 41 09.8**	**+1.9**
	comp=E,11nm,1.4s,mb4.6						
LPM	**Los Pinos Moun**	**73.95**	**331**	*eP*	**P**	**11 41 09.5**	**+0.8**
TUC	**Tucson**	**74.07**	**327**	*eP*	**P**	**11 41 12.4**	**+2.9**
	comp=E,22nm,1.7s,mb4.8						
LAZ	**Ladron**	**74.24**	**330**	P	**P**	**11 41 11.5**	**+1.1**
	comp=E,11nm,1.4s,mb4.6						
MAW	**Mawson**	**74.64**	**164**	P	**P**	**11 41 11.7**	**-0.6**
	comp=E,6.9nm,0.9s,mb4.6,baz=236,slow=7.2,SNR=7.4						
MAW	**Mawson**	**74.64**	**164**	P	**P**	**11 41 11.7**	**-0.6**
	comp=E,4.9nm,1.1s,mb4.3						
DBIC	**Dimbokro**	**74.78**	**72**	P	**P**	**11 41 12.7**	**-1.4**
	comp=E,13nm,0.9s,mb4.8,baz=191,slow=6.1,SNR=15						
DBIC	**Dimbokro**	**74.78**	**72**	*eP*	**P**	**11 41 12.8**	**-1.3**
	comp=E,26nm,1.1s,mb5.1						
SDCO	**Great Sand Dun**	**76.50**	**333**	*eP*	**P**	**11 41 23.7**	**+0.4**
	comp=E,13nm,1.3s,mb4.7						
WUAZ	**Wupatki**	**77.02**	**328**	*eP*	**P**	**11 41 28.1**	**+1.9**
	comp=E,40nm,1.5s,mb5.1						
MVCO	**Mesa Verde**	**77.22**	**331**	*eP*	**P**	**11 41 27.7**	**+0.4**
	comp=E,95nm,2.2s,mb5.3						
BAR	**Barrett**	**77.25**	**323**	*eP*	**P**	**11 41 29.5**	**+1.8**
	comp=E,19nm,1.4s,mb4.8						
PFO	**Pinyon Flat Ob**	**77.88**	**323**	*eP*	**P**	**11 41 33.5**	**+2.3**
	comp=E,33nm,1.8s,mb5.0						
PV01	**Paradox Valley**	**78.04**	**331**	*eP*	**P**	**11 41 32.2**	**+0.3**
	comp=E,1μm,1.4s						
SMCO	**Snowmass**	**78.31**	**333**	*eP*	**P**	**11 41 30.2**	**-3.1**
	comp=E,30nm,1.1s,mb5.1						
ISCO	**Idaho Springs**	**78.34**	**334**	*eP*	**P**	**11 41 34.7**	**+1.1**
	comp=E,17nm,1.2s,mb4.9						
PV04	**Paradox Valley**	**78.39**	**331**	*eP*	**P**	**11 41 35.0**	**+1.1**
LDFC	**Landfair**	**78.39**	**325**	*eP*	**P**	**11 41 34.9**	**+0.9**
	comp=E,14nm,1.1s,mb4.8						
ECSD	**EROS Data Cent**	**79.10**	**342**	*eP*	**P**	**11 41 36.2**	**-1.5**
	comp=E,17nm,1.0s,mb4.9						
GSC	**Goldstone**	**79.40**	**324**	*eP*	**P**	**11 41 39.2**	**-0.3**
	comp=E,41nm,2.0s,mb5.0						
CCUT	**Cedar City**	**79.59**	**328**	*eP*	**P**	**11 41 41.2**	**+0.7**
	comp=E,117nm,2.5s,mb5.4						
SRU	**San Rafael**	**79.67**	**331**	*eP*	**P**	**11 41 41.7**	**+0.8**
	comp=E,13nm,1.1s,mb4.8						
TSUM	**Tsumeb**	**79.70**	**106**	*eP*	**P**	**11 41 41.1**	**-0.6**
	comp=E,23nm,1.3s,mb4.9						
ARUT	**Antelope Range**	**79.82**	**328**	*eP*	**P**	**11 41 42.2**	**+0.5**
	comp=E,17nm,1.2s,mb4.8						
MSU	**Marysvale**	**79.87**	**329**	*eP*	**P**	**11 41 42.3**	**+0.4**
BOSA	**Boshof**	**80.84**	**118**	P	**P**	**11 41 47.0**	**-0.7**
	comp=E,9.5nm,1.0s,mb4.7,baz=217,slow=4.6,SNR=9.9						
BOSA	**Boshof**	**80.84**	**118**	*eP*	**P**	**11 41 46.5**	**-1.2**
	comp=E,21nm,1.2s,mb4.9						
MPU	**Maple Canyon**	**80.89**	**330**	*eP*	**P**	**11 41 47.2**	**-0.2**
	comp=E,11nm,1.0s,mb4.8						
JLU	**Jordanelle**	**81.31**	**331**	*eP*	**P**	**11 41 49.4**	**-0.3**
	comp=E,87nm,2.4s,mb5.3						
DUG	**Dugway**	**81.54**	**330**	*eP*	**P**	**11 41 50.8**	**0.0**
	comp=E,21nm,1.3s,mb4.9						
RSSD	**Black Hills**	**81.62**	**337**	*eP*	**P**	**11 41 51.1**	**-0.1**
	comp=E,69nm,2.5s,mb5.1						
RSSD				*ep*P	pP	11 42 03.9	+9.2
MTUM	**Tungsten Hills**	**81.89**	**324**	*eP*	**P**	**11 41 51.7**	**-1.1**
HWUT	**Hardware Ranch**	**82.20**	**331**	*eP*	**P**	**11 41 55.0**	**+0.7**
	comp=E,16nm,1.1s,mb4.9						
PDAR	**Pinedale Array**	**82.39**	**333**	P	**P**	**11 41 53.9**	**-1.4**
	comp=E,0.8nm,0.7s,mb3.8,baz=168,slow=8.8,SNR=5.4						
PDAR	**Pinedale Array**	**82.39**	**333**	P	**P**	**11 41 53.9**	**-1.4**
BW06	**Boulder Array**	**82.39**	**333**	*eP*	**P**	**11 41 57.0**	**+1.7**
	comp=E,14nm,1.4s,mb4.7						
PD02	**Pinedale Array**	**82.40**	**333**	*eP*	**P**	**11 41 55.3**	**0.0**
NVAR	**Mina Array Bea**	**82.61**	**325**	P	**P**	**11 41 56.3**	**-0.2**
	comp=E,2.7nm,0.7s,mb4.4,baz=142,slow=5.3,SNR=23						
NVAR	**Mina Array Bea**	**82.61**	**325**	P	**P**	**11 41 56.3**	**-0.2**
HVU	**Hansel Valley**	**82.84**	**331**	*eP*	**P**	**11 41 58.5**	**+0.9**
	comp=E,9.9nm,1.0s,mb4.8						
LBTB	**Lobatse**	**83.01**	**115**	*eP*	**P**	**11 41 57.8**	**-1.4**
	comp=E,53nm,1.7s,mb5.3						
ELK	**Elko**	**83.04**	**328**	*eP*	**P**	**11 41 57.9**	**-0.8**
	comp=E,10nm,1.1s,mb4.8						
LOHW	**Long Hollow**	**83.51**	**333**	*eP*	**P**	**11 42 00.7**	**-0.4**
	comp=E,7.7nm,1.3s,mb4.7						
TPAW	**Teton Pass**	**83.54**	**333**	*eP*	**P**	**11 42 01.7**	**+0.5**
	comp=E,10nm,1.1s,mb4.9						
TORD	**Torodi Ar. Bea**	**83.78**	**70**	P	**P**	**11 42 01.7**	**-1.4**
	comp=E,9.7nm,0.9s,mb5.0,baz=248,slow=5.1,SNR=46						
TORD	**Torodi Ar. Bea**	**83.78**	**70**	P	**P**	**11 42 01.7**	**-1.4**
FLWY	**Flagg Ranch**	**83.95**	**333**	*eP*	**P**	**11 42 03.2**	**0.0**
	comp=E,18nm,1.3s,mb5.0						
RLMT	**Red Lodge**	**84.30**	**335**	*eP*	**P**	**11 42 06.0**	**+1.0**
	comp=E,20nm,1.5s,mb5.0						
QLMT	**Earthquake Lak**	**84.86**	**333**	*eP*	**P**	**11 42 09.0**	**+1.2**
	comp=E,0.2nm,0.5s						
OHCM	**Honcut**	**84.87**	**324**	*eP*	**P**	**11 42 07.8**	**-0.3**
HLID	**Hailey**	**84.99**	**331**	*eP*	**P**	**11 42 08.1**	**-0.5**
	comp=E,14nm,1.3s,mb4.9						
GCMT	**Greycliff**	**85.02**	**335**	*eP*	**P**	**11 42 09.6**	**+0.9**
	comp=E,5.0nm,1.2s,mb4.5						
ULM	**Lac du Bonnet**	**85.03**	**345**	P	**P**	**11 42 05.7**	**-3.0**
	comp=E,3.1nm,0.9s,mb4.5,baz=170,slow=2.7,SNR=5.5						
ULM	**Lac du Bonnet**	**85.03**	**345**	P	**P**	**11 42 05.7**	**-3.0**
MCMT	**McKenzie Canyo**	**85.41**	**332**	*eP*	**P**	**11 42 10.3**	**-0.4**
	comp=E,4.2nm,1.1s,mb4.5						
DGMT	**Dagmar**	**85.56**	**339**	*eP*	**P**	**11 42 11.8**	**+0.5**
	comp=E,51nm,1.6s,mb5.5						
LRM	**Limekiln Ridge**	**86.08**	**333**	P	**P**	**11 42 16.5**	**+2.6**
SCHQ	**Schefferville**	**87.09**	**3**	P	**P**	**11 42 17.2**	**-1.5**
	comp=E,9.6nm,1.0s,mb5.0,baz=357,slow=9.1,SNR=4.0						
SCHQ	**Schefferville**	**87.09**	**3**	P	**P**	**11 42 17.2**	**-1.5**
SLMT	**Seeley Lake**	**87.66**	**333**	*eP*	**P**	**11 42 20.6**	**-1.1**
OD2	**Odessa Site #2**	**89.86**	**330**	*eP*	**P**	**11 42 30.7**	**-1.3**
	comp=E,22nm,1.3s,mb5.3						
YKA	**Yellowknife Ar**	**100.61**	**341**	P	Pdif	11 43 18.6	-2.8
	comp=E,0.2nm,0.6s,baz=138,slow=4.4,SNR=6.2						
YKA	**Yellowknife Ar**	**100.61**	**341**	P	Pdif	11 43 18.6	-2.8
ASAR	**Alice Springs**	**118.86**	**207**	PKP	PKPdf	11 48 19.8	-2.7
	comp=E,0.6nm,0.7s,baz=149,slow=2.7,SNR=6.7						
ASAR	**Alice Springs**	**118.86**	**207**	PKP	PKPdf	11 48 19.8	-2.7
BRTR	**Keskin Array B**	**121.17**	**60**	PKP	PKPdf	11 48 24.6	-1.7
	comp=E,0.8nm,0.7s,baz=168,slow=6.3,SNR=4.7						
BRTR	**Keskin Array B**	**121.17**	**60**	PKP	PKPdf	11 48 24.6	-1.7
WRA	**Warramunga Arr**	**122.03**	**210**	PKP	PKPdf	11 48 25.8	-2.9
	comp=E,1.5nm,0.7s,baz=169,slow=1.6,SNR=20						
WRA	**Warramunga Arr**	**122.03**	**210**	PKP	PKPdf	11 48 25.8	-2.9
ABKAR	**Akbulak array**	**140.80**	**50**	*e*PKPdf	PKPdf	11 48 55.1	-7.8
BRVK	**Borovoye**	**146.15**	**41**	*e*PKPbc	PKPbc	11 49 12.6	-0.6
BVAR	**Borovoye Array**	**146.22**	**41**	PKPbc	PKPbc	11 49 12.9	-0.6
	comp=E,5.9nm,0.6s,baz=283,slow=3.1,SNR=26						
BVAR	**Borovoye Array**	**146.22**	**41**	PKPbc	PKPbc	11 49 12.9	-0.6
YAK	**Yakutsk**	**147.29**	**341**	*e*PKPbc	PKPbc	11 49 14.7	-1.6
KKAR	**Karatay Array**	**148.88**	**59**	*e*PKPbc	PKPbc	11 49 19.6	-1.5
HYB	**Hyderabad**	**149.60**	**113**	*i* PKP	PKPdf	11 49 21.0	+2.0
IPM	**Ipoh**	**151.40**	**166**	*e*PKPdf	PKPdf	11 49 24.6	+2.6
KURK	**Kurchatov**	**151.82**	**41**	PKPbc	PKPbc	11 49 26.4	-1.4
	comp=E,5.9nm,0.9s,baz=298,slow=2.9,SNR=41						
KURK	**Kurchatov**	**151.82**	**41**	*e*PKPbc	PKPbc	11 49 26.6	-1.3
AAK	**Ala-Archa**	**151.84**	**59**	*e*PKPbc	PKPbc	11 49 27.7	-0.5
ZALV	**Zalesovo Beam**	**152.99**	**31**	PKP	PKPdf	11 49 22.0	-1.1
	comp=E,1.4nm,0.9s,baz=242,slow=3.2,SNR=6.8						
ZALV				PKPbc	PKPbc	11 49 29.1	-1.3
	comp=E,14nm,0.8s,baz=298,slow=3.2,SNR=34						
ZALV				PKPab	PKPab	11 49 39.8	-1.9
	comp=E,8.7nm,0.7s,baz=305,slow=3.1,SNR=9.3						
ZALV	**Zalesovo Beam**	**152.99**	**31**	PKP	PKPdf	11 49 22.0	-1.1
ZALV				PKPbc	PKPbc	11 49 29.1	-1.3
ZALV				PKPab	PKPab	11 49 39.8	-1.9
KSH	**Kashi**	**153.36**	**66**	PKPbc	PKPbc	11 49 30.6	-1.1
KSH				pPKP	pPKPdf	11 49 41.4	+14
KSH				sPKP		11 49 44.9	
KSH				PKPab	PKPab	11 50 07.6	+24
KSH				PKS		11 53 02.9	
KSH				PP	PP	11 53 49.1	+31
KSH				SKS	SKSdf	11 56 30.9	-0.1
KSH				SKKS	SKKSac	12 00 31.9	+24
KSH				SS	SS	12 13 44.4	+51
KSH				AMB	AMB		
	comp=Z,4μm,12.3s						
KSH				LR	LR		
	comp=N,670nm,10.4s						
KSH				LR	LR		
	comp=E,550nm,9.9s						
KSH				LR	LR		
	comp=Z,880nm,11.0s						
MK31	**Makanchi Array**	**155.81**	**46**	*e*PKPab	PKPab	11 49 52.5	-1.5
MKAR	**Makanchi Array**	**155.81**	**46**	PKPbc	PKPdf	11 49 35.4	+8.1
	comp=Z,1.8nm,0.9s,baz=322,slow=3.7,SNR=4.8						
MKAR				PKPab	PKPab	11 49 53.0	-1.0
	comp=Z,4.6nm,0.7s,baz=287,slow=3.4,SNR=14						
MKAR	**Makanchi Array**	**155.81**	**46**	PKPbc	PKPdf	11 49 35.4	+8.1
MKAR				PKPab	PKPab	11 49 53.0	-1.0
WMQ	**Urumqi**	**160.58**	**49**	*e*PKP	PKPdf	11 49 31.8	-1.3
CN2	**Changchun**	**162.19**	**314**	*e*PKP	PKPdf	11 49 34.3	-0.5
CMAR	**Chiang Mai Arr**	**163.88**	**148**	PKP	PKPdf	11 49 35.9	-1.3
	comp=Z,1.1nm,0.9s,baz=244,slow=2.8,SNR=5.8						
CMAR				PKPab	PKPab	11 50 28.2	-1.4
	comp=Z,0.8nm,0.9s,baz=216,slow=2.9,SNR=2.5						
CMAR	**Chiang Mai Arr**	**163.88**	**148**	PKP	PKPdf	11 49 35.9	-1.3
CMAR				PKPab	PKPab	11 50 28.2	-1.4
SONM	**Songino Array**	**164.64**	**4**	PKPab	PKPab	11 50 32.0	-0.2
	comp=Z,1.8nm,0.9s,baz=343,slow=1.9,SNR=7.4						
SONM	**Songino Array**	**164.64**	**4**	PKPab	PKPab	11 50 32.0	-0.2
GTA	**Gaotai**	**170.51**	**41**	*e*PKPbc	PKPdf	11 49 48.3	+6.8
GTA				pPKP	pPKPdf	11 49 58.9	+14
GTA				sPKP		11 50 03.0	
NJ2	**Nanjing**	**170.69**	**270**	*e*PKP	PKPdf	11 49 41.9	+0.1
HHC	**Hu-ho-hao-te**	**171.15**	**341**	*e*PKP	PKPdf	11 49 40.4	-1.4
HHC				pPKP	pPKPdf	11 49 51.1	+5.7
HHC				sPKP		11 49 54.5	
HHC				PKS		11 53 11.9	
HHC				PP	PP	11 54 53.9	+2.6
HHC				SKS	SKSdf	11 56 38.8	-6.3
HHC				SKKS	SKKSac	12 01 35.0	-3.5
HHC				SS	SS	12 15 50.3	-5.2
HHC				LR	LR		
	comp=N,430nm,12.6s						
HHC				LR	LR		
	comp=E,2μm,12.9s						
HHC				LR	LR		
	comp=Z,1μm,11.2s						
GYA	**Guiyang**	**173.89**	**170**	PKP	PKPdf	11 49 42.0	-1.4
GYA				sPKP		11 49 57.8	
GYA				PKPab	PKPab	11 51 14.3	+0.6
GYA				PKS		11 53 13.6	
GYA				SKKS	SKKSac	12 01 48.8	-3.3
GYA				SS	SS	12 16 19.4	-2.6
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
GYA				LR	LR		
	comp=N,120nm,24.0s						
GYA				LR	LR		
	comp=E,110nm,25.2s						
GYA				LR	LR		
	comp=Z,140nm,25.7s						
LZH	**Lanzhou**	**175.11**	**42**	*e*PKP	PKPdf	11 49 43.5	0.0
LZH				pPKP	pPKPdf	11 49 54.6	+7.4
LZH				sPKP		11 49 58.5	
LZH				PKPab	PKPab	11 51 20.6	+1.5
LZH				LR	LR		
	comp=N,180nm,18.2s						
LZH				LR	LR		
	comp=E,170nm,17.8s						
LZH				LR	LR		
	comp=Z,250nm,20.3s						
LZH	**Lanzhou**	**175.11**	**42**	*e*PKP	PKPdf	11 49 43.5	0.0
LZH				pPKP	pPKPdf	11 49 54.6	+7.4
LZH				sPKP		11 49 58.5	
LZH				PKPab	PKPab	11 51 20.6	+1.5
LZH				LR	LR		
	comp=Z,250nm,20.3s						
CD2	**Chengdu**	**176.16**	**113**	*e*PKP	PKPdf	11 49 42.1	-1.8

NEIC ***20*** *11:29:35.8, 36.°55N

WEL 20 11:52:06.1±0.7, 36.°99S×177.°32E, h178km±8km, ML3.6/3, 1C, Error ellipse: s-maj=9.4km s-min=9.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ				SN	Sn	11 52 58.4	-0.4
PUZ	**Puketiti**	**1.31 146**	⇑	PN	Pn	11 52 36.2	+0.2
PUZ				SN	Sn	11 52 58.1	-1.2
MWZ	**Matawai**	**1.35 173**		PN	Pn	11 52 36.7	+0.3
MWZ				SN	Sn	11 53 00.0	0.0
KNZ	**Kokohu**	**2.05 172**		PN	Pn	11 52 43.5	+0.1
NMHZ	**Naumai**	**2.15 191**		PN	Pn	11 52 43.7	-0.8
MHGZ	**Mahia Peninsul**	**2.21 168**		*e*PN	Pn	11 52 45.5	+0.3
MCHZ	**McNeill Hill**	**2.50 191**		*e*PN	Pn	11 52 48.9	+0.3
MCHZ				SN	Sn	11 53 23.0	+1.4
KAHZ	**Kahuranaki**	**2.82 187**		PN	Pn	11 52 52.3	-0.1
WPHZ	**Waipukurau**	**3.15 192**		*e*PN	Pn	11 52 55.2	-1.1
WPHZ				SN	Sn	11 53 34.5	-1.1
PRHZ	**Porangahau**	**3.32 189**		PN	Pn	11 52 57.4	-1.0

*NEIC **20** 11:53:06.1, 38.°73S×175.°28E, h220km, MG4.1(WEL), After WEL.*

WEL 20 11:53:06.1±0.4, 38.°74S×175.°25E, h220km±3km, ML4.1/17, 2C, Error ellipse: s-maj=2.0km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.37 156**		PN	Pn	11 53 35.0	-0.1
TWVZ				SN	S	11 53 56.9	-0.8
TWVZ	**Taurewa**	**0.37 156**		Pn	Pn	11 53 35.0	-0.1
HIZ	**Hauiti**	**0.38 306**		PN	Pn	11 53 34.8	-0.3
HIZ	**Hauiti**	**0.38 306**		Pn	Pn	11 53 34.9	-0.3
WATZ	**Wairara**	**0.38 86**		PN	Pn	11 53 35.2	+0.1
WATZ	**Wairara**	**0.38 86**		Pn	Pn	11 53 35.2	+0.1
KATZ	**Kakaramea**	**0.42 124**		PN	Pn	11 53 35.2	0.0
KATZ	**Kakaramea**	**0.42 124**		Pn	Pn	11 53 35.2	0.0
RATZ	**Rangitukua**	**0.43 108**		PN	Pn	11 53 35.0	-0.2
RATZ				SN	S	11 53 58.1	+0.3
RATZ	**Rangitukua**	**0.43 108**		Pn	Pn	11 53 35.0	-0.2
RATZ				Sn	S	11 53 58.1	+0.3
WTVZ	**West Tongariro**	**0.46 145**		PN	Pn	11 53 35.4	+0.1
WTVZ				SN	S	11 53 56.8	-1.4
WTVZ	**West Tongariro**	**0.46 145**		Pn	Pn	11 53 35.4	+0.1
WTVZ				Sn	S	11 53 56.8	-1.4
KRVZ	**Karewarewa**	**0.47 139**		PN	Pn	11 53 35.5	+0.2
KRVZ				SN	S	11 53 57.1	-1.1
KRVZ	**Karewarewa**	**0.47 139**		Pn	Pn	11 53 35.5	+0.2
KRVZ				Sn	S	11 53 57.1	-1.1
NGZ	**Ngauruhoe**	**0.52 148**		PN	Pn	11 53 35.7	+0.2
NGZ	**Ngauruhoe**	**0.52 148**		Pn	Pn	11 53 35.7	+0.2
WPVZ	**Whakapapa**	**0.52 154**		PN	Pn	11 53 35.7	+0.2
WPVZ	**Whakapapa**	**0.52 154**		Pn	Pn	11 53 35.7	+0.2
RITZ	**Rihia Road**	**0.54 117**		PN	Pn	11 53 35.8	+0.2
RITZ	**Rihia Road**	**0.54 117**		Pn	Pn	11 53 35.8	+0.2
OTVZ	**Oturere**	**0.54 143**		PN	Pn	11 53 36.1	+0.6
VRZ	**Vera Road**	**0.54 224**		PN	Pn	11 53 35.3	-0.3
PKVZ	**Pokaka**	**0.56 172**		PN	Pn	11 53 35.6	0.0
PKVZ	**Pokaka**	**0.56 172**		Pn	Pn	11 53 35.6	0.0
MTVZ	**Mangateitei**	**0.67 165**		PN	Pn	11 53 36.2	+0.1
MTVZ	**Mangateitei**	**0.67 165**		Pn	Pn	11 53 36.2	+0.1
HATZ	**Hinemaiaia**	**0.68 103**		PN	Pn	11 53 35.7	-0.4
HATZ	**Hinemaiaia**	**0.68 103**		Pn	Pn	11 53 35.8	-0.4
MOVZ	**Moawhango**	**0.78 150**		PN	Pn	11 53 36.3	-0.2
MOVZ	**Moawhango**	**0.78 150**		Pn	Pn	11 53 36.4	-0.2
RAEZ	**Rainy Point**	**0.86 230**		PN	Pn	11 53 36.6	-0.5
DREZ	**Durham Road**	**0.93 241**		PN	Pn	11 53 37.2	-0.2
BHHZ	**Black Hill Sta**	**0.98 140**	⇑	PN	Pn	11 53 37.5	-0.2
TOZ	**Tahuroa Road**	**1.02 11**		PN	Pn	11 53 37.7	-0.4
TOZ	**Tahuroa Road**	**1.02 11**		Pn	Pn	11 53 37.7	-0.4
WAZ	**Wanganui**	**1.04 191**		PN	Pn	11 53 38.2	+0.1
WAZ	**Wanganui**	**1.04 191**		Pn	Pn	11 53 38.2	+0.1
NEZ	**North Egmont**	**1.04 239**		PN	Pn	11 53 38.4	+0.3
NEZ	**North Egmont**	**1.04 239**		Pn	Pn	11 53 38.4	+0.3
BKZ	**Black Stump Fm**	**1.06 114**		PN	Pn	11 53 38.1	-0.2
BKZ	**Black Stump Fm**	**1.06 114**		Pn	Pn	11 53 38.1	-0.2
DFE	**Dawson Falls**	**1.07 236**		PN	Pn	11 53 38.4	+0.1
DFE	**Dawson Falls**	**1.07 236**		Pn	Pn	11 53 38.4	+0.1
PKE	**Pukeiti**	**1.08 245**		PN	Pn	11 53 38.3	-0.1
PKE	**Pukeiti**	**1.08 245**		Pn	Pn	11 53 38.3	-0.1
NWEZ	**Newall Road**	**1.20 243**		Pn	Pn	11 53 37.2	-2.0
NMHZ	**Naumai**	**1.27 107**		PN	Pn	11 53 40.8	+0.6
MCHZ	**McNeill Hill**	**1.33 122**		PN	Pn	11 53 40.8	+0.7
PNHZ	**Pukenui**	**1.39 148**		PN	Pn	11 53 40.7	+0.1
PNHZ	**Pukenui**	**1.39 148**		Pn	Pn	11 53 40.7	+0.1
TSZ	**Takapari Road**	**1.43 157**		PN	Pn	11 53 40.9	0.0
TSZ	**Takapari Road**	**1.43 157**		Pn	Pn	11 53 40.9	0.0
RAHZ	**Arahi**	**1.45 98**		PN	Pn	11 53 41.2	+0.1
RAHZ	**Arahi**	**1.45 98**		Pn	Pn	11 53 41.2	+0.1
URZ	**Urewera**	**1.54 73**		PN	Pn	11 53 40.6	-1.3
URZ	**Urewera**	**1.54 73**		*e*Pn	Pn	11 53 40.6	-1.3
URZ				*e*Sn	S	11 54 06.4	-3.4
WPHZ	**Waipukurau**	**1.62 145**		PN	Pn	11 53 42.4	-0.1
KAHZ	**Kahuranaki**	**1.65 130**		PN	Pn	11 53 43.0	+0.3
CKHZ	**Cape Kidnapper**	**1.69 123**		PN	Pn	11 53 43.5	+0.3
CKHZ	**Cape Kidnapper**	**1.69 123**		Pn	Pn	11 53 43.5	+0.3
POWZ	**Post Office Ro**	**1.70 166**		PN	Pn	11 53 42.7	-0.5
POWZ	**Post Office Ro**	**1.70 166**		Pn	Pn	11 53 42.9	-0.4
DVHZ	**Dannevirke**	**1.71 156**		PN	Pn	11 53 43.0	-0.4
DVHZ	**Dannevirke**	**1.71 156**		Pn	Pn	11 53 43.0	-0.4
MWZ	**Matawai**	**1.83 78**		PN	Pn	11 53 43.5	-1.0
PRHZ	**Porangahau**	**1.87 145**		PN	Pn	11 53 44.4	-0.4
KNZ	**Kokohu**	**1.92 99**		PN	Pn	11 53 44.8	-0.4
MRZ	**Mangatainoka R**	**1.94 173**		PN	Pn	11 53 44.7	-0.7
MRZ	**Mangatainoka R**	**1.94 173**		Pn	Pn	11 53 44.7	-0.7
PRGZ	**Paritu Road**	**2.07 96**		PN	Pn	11 53 46.2	-0.6
OGWZ	**Otaki Gorge**	**2.08 182**	⇑	PN	Pn	11 53 46.2	-0.6
BFZ	**Birch Farm**	**2.09 159**		PN	Pn	11 53 46.1	-0.8
BFZ				SN	S	11 54 16.4	-2.6
TIWZ	**Tintock**	**2.10 167**		PN	Pn	11 53 46.2	-0.8
TIWZ	**Tintock**	**2.10 167**		Pn	Pn	11 53 46.2	-0.8
MHGZ	**Mahia Peninsul**	**2.12 102**		PN	Pn	11 53 46.6	-0.6
KIW	**Kapiti Island**	**2.14 187**		PN	Pn	11 53 46.3	-1.1
KIW	**Kapiti Island**	**2.14 187**		Pn	Pn	11 53 46.4	-1.1
HOWZ	**Holdsworth Sta**	**2.17 175**		PN	Pn	11 53 46.7	-1.1
HOWZ	**Holdsworth Sta**	**2.17 175**		Pn	Pn	11 53 46.7	-1.0
DUWZ	**D'Urville Isla**	**2.30 206**		PN	Pn	11 53 47.8	-1.2
DUWZ	**D'Urville Isla**	**2.30 206**		Pn	Pn	11 53 47.9	-1.2
CAW	**Cannon Point**	**2.37 183**		PN	Pn	11 53 48.7	-1.1
TMWZ	**Te Maipa**	**2.42 168**		PN	Pn	11 53 49.2	-1.1
TMWZ	**Te Maipa**	**2.42 168**		Pn	Pn	11 53 49.2	-1.1
MTW	**Mount Morrison**	**2.43 175**		PN	Pn	11 53 49.0	-1.3
MTW	**Mount Morrison**	**2.43 175**		Pn	Pn	11 53 49.0	-1.3
PUZ	**Puketiti**	**2.46 75**		SN	S	11 54 22.2	-3.5
WEL	**Wellington**	**2.57 188**		PN	Pn	11 53 50.5	-1.4
WEL	**Wellington**	**2.57 188**		Pn	Pn	11 53 50.6	-1.3
TCW	**Tory Channel**	**2.58 196**		PN	Pn	11 53 50.9	-1.1
TCW	**Tory Channel**	**2.58 196**		Pn	Pn	11 53 50.9	-1.1
SNZO	**South Karori**	**2.60 189**		PN	Pn	11 53 50.7	-1.5
SNZO	**South Karori**	**2.60 189**		Pn	Pn	11 53 50.7	-1.5
PAWZ	**Paruwai Farm**	**2.65 177**		PN	Pn	11 53 51.3	-1.5
PAWZ	**Paruwai Farm**	**2.65 177**		Pn	Pn	11 53 51.3	-1.5
MSWZ	**Moikau Station**	**2.67 180**		PN	Pn	11 53 51.6	-1.5
MSWZ	**Moikau Station**	**2.67 180**		Pn	Pn	11 53 51.6	-1.5
TRWZ	**Traveller**	**2.68 173**		PN	Pn	11 53 51.8	-1.4
TRWZ	**Traveller**	**2.68 173**		Pn	Pn	11 53 51.8	-1.4
PLWZ	**Palliser**	**2.83 180**		PN	Pn	11 53 53.2	-1.6
PLWZ	**Palliser**	**2.83 180**		Pn	Pn	11 53 53.2	-1.6
NNZ	**Nelson**	**2.86 209**		PN	Pn	11 53 53.2	-2.0
NNZ	**Nelson**	**2.86 209**		Pn	Pn	11 53 53.2	-2.0
TUWZ	**Tuamarina**	**2.87 200**		PN	Pn	11 53 53.7	-1.6
TUWZ	**Tuamarina**	**2.87 200**		Pn	Pn	11 53 53.7	-1.6
QRZ	**Quartz Range**	**2.96 224**		PN	Pn	11 53 53.6	-2.6
QRZ	**Quartz Range**	**2.96 224**		Pn	Pn	11 53 53.6	-2.6
BSWZ	**Blackbirch Sta**	**3.15 199**		PN	Pn	11 53 57.1	-1.4
BSWZ	**Blackbirch Sta**	**3.15 199**		Pn	Pn	11 53 57.1	-1.4
THZ	**Tophouse**	**3.51 210**		PN	Pn	11 54 00.2	-2.5
THZ	**Tophouse**	**3.51 210**		Pn	Pn	11 54 00.2	-2.5
KHZ	**Kahutara**	**3.90 199**		PN	Pn	11 54 05.3	-2.0
DSZ	**Denniston Nort**	**4.00 220**		PN	Pn	11 54 05.4	-3.1
DSZ	**Denniston Nort**	**4.00 220**		Pn	Pn	11 54 05.4	-3.1
LTZ	**Lake Taylor**	**4.63 208**		PN	Pn	11 54 13.4	-2.8
LTZ	**Lake Taylor**	**4.63 208**		Pn	Pn	11 54 13.4	-2.9
CRLZ	**Canterbury Las**	**5.22 201**		SN	S	11 55 18.1	-7.2
MQZ	**McQueen's Vall**	**5.34 201**		PN	Pn	11 54 21.2	-3.9
WVZ	**Waitaha Valley**	**5.52 217**		SN	S	11 55 23.9	-8.1
LBZ	**Lake Benmore**	**6.80 212**		SN	S	11 55 52.1	-10
ODZ	**Otahua Downs**	**7.18 207**		PN	Pn	11 54 45.5	-3.1

*IDC **20** 12:12:15.6±14.0, 23.°07S×179.°81E, h534km±167km, mb3.1/5, mb1 3.3/5, mb1mx3.1/16, mbtmp3.1/5, Error ellipse: s-maj=98.5km s-min=56.9km az=165.0*
*ISCJB **20** 12:12:16.6±3.9, 23.°2S±0.°5×179.°8E±0.°4, h560km±35km, mb3.7/7, Error ellipse: s-maj=93.7km s-min=20.1km az=149.6*
*NEIC **20** 12:12:16.9±3.4, 23.°16S×179.°87E, h559km±27km, mb4.3/2, Error ellipse: s-maj=78.2km s-min=17.0km az=148.0*

ISC 20 12:12:17.3±3.8, 23.°2S±0.°5×179.°8E±0.°4, h556km±33km, n19, σ0°48/15, mb3.7/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.63 343**		*e*Pn	**P**	**12 13 53.0**	**-0.1**
CTAO	**Charters Tower**	**31.30 269**		*e*P	**P**	**12 17 53.9**	**+1.1**
6.9nm,0.4s,mb4.5							
STKA	**Stephens Creek**	**34.84 247**		P	**P**	**12 18 22.1**	**-0.4**
0.8nm,0.4s,mb3.6,baz=84,slow=12,SNR=6.0							
STKA	**Stephens Creek**	**34.84 247**		P	**P**	**12 18 22.1**	**-0.4**
AS31	**Alice Springs**	**41.98 260**		*e*P	**P**	**12 19 20.8**	**+0.4**
ASAR	**Alice Springs**	**41.99 260**		P	**P**	**12 19 20.1**	**-0.3**
1.3nm,0.5s,mb3.8,baz=94,slow=7.3,SNR=36							
ASAR	**Alice Springs**	**41.99 260**		P	**P**	**12 19 20.1**	**-0.3**
WB2	**Warramunga Arr**	**42.27 265**		*e*P	**P**	**12 19 22.3**	**-0.4**
WRAB	**Tennant Creek**	**42.28 265**		*e*P	**P**	**12 19 22.3**	**-0.4**
1.8nm,0.4s,mb4.0							
WRA	**Warramunga Arr**	**42.28 265**		P	**P**	**12 19 22.8**	**0.0**
1.2nm,0.3s,mb3.9,baz=90,slow=5.9,SNR=145							
WRA	**Warramunga Arr**	**42.28 265**		P	**P**	**12 19 22.8**	**0.0**
TXAR	**Lajitas Array**	**90.19 58**		P	**P**	**12 24 19.4**	**+0.4**
0.3nm,0.7s,mb3.2,baz=205,slow=5.5,SNR=4.2							
TXAR	**Lajitas Array**	**90.19 58**		P	**P**	**12 24 19.4**	**+0.4**
ILAR	**Eielson Array**	**91.34 14**		P	**P**	**12 24 23.0**	**-0.4**
0.2nm,0.9s,mb3.0,baz=215,slow=5.4,SNR=2.9							
ILAR	**Eielson Array**	**91.34 14**		P	**P**	**12 24 23.0**	**-0.4**
HFS	**Hagfors**	**141.78 349**		PKhKP	PKPpre	12 30 41.8	
2.6nm,0.5s,baz=61,slow=3.2,SNR=15							
HFS	**Hagfors**	**141.78 349**		PKPpre	PKPpre	12 30 41.8	
AKASG	**Malin Array Be**	**144.24 328**		PKP	PKPdf	12 30 49.8	-0.2
0.7nm,0.5s,baz=43,slow=4.2,SNR=4.0							
AKASG	**Malin Array Be**	**144.24 328**		PKP	PKPdf	12 30 49.8	-0.2

*ISCJB **20** 12:20:44.3±0.5, 35.°64S±0.°04×179.°71W±0.°07, h10km, mb4.7/15, Error ellipse: s-maj=8.4km s-min=5.3km az=17.0*
*IDC **20** 12:20:44.3±0.6, 35.°42S×179.°79W, h0km, mb4.7/11, mb1 4.7/12, mb1mx4.6/18, mbtmp4.7/12, ML4.6/1, MS4.3/3, Ms1 4.3/3, ms1mx3.7/29, Error ellipse: s-maj=18.9km s-min=17.9km az=77.0*
*NEIC **20** 12:20:48.5±3.5, 35.°42S×179.°79W, h28km±23km, mb4.8/7, Error ellipse: s-maj=13.3km s-min=11.3km az=113.0*

ISC 20 12:20:50.2±0.9, 35.°73S±0.°05×179.°81W±0.°08, h40km±7km, n116, σ1°36/109, mb4.7/15, 2C, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.38 219**		PN	**Pn**	**12 21 27.5**	**+0.8**
MXZ				SN	**Sn**	**12 22 01.5**	**+7.0**
MXZ				T		12 24 06.6	
PUZ	**Puketiti**	**2.81 213**		PN	**Pn**	**12 21 33.5**	**+1.0**
PUZ				SN	**Sn**	**12 22 10.9**	**+5.8**
MWZ	**Matawai**	**3.36 219**		PN	**Pn**	**12 21 41.1**	**+0.9**
URZ	**Urewera**	**3.53 223**		Pn	**Pn**	**12 21 43.5**	**+1.0**
45nm,0.3s,baz=34,slow=5.2,SNR=245							
URZ				Sn	**Sn**	**12 22 29.5**	**+6.5**
24nm,0.3s,baz=354,slow=20,SNR=4.2							
URZ				LR	LR	12 23 20.8	
comp=Z,2μm,21.9s,baz=252,slow=42							
URZ	**Urewera**	**3.53 223**		Pn	**Pn**	**12 21 43.5**	**+1.0**
URZ				Sn	**Sn**	**12 22 29.5**	**+6.5**
URZ	**Urewera**	**3.53 223**		PN	**Pn**	**12 21 43.3**	**+0.8**
URZ				SN	**Sn**	**12 22 28.5**	**+5.5**
OPRZ	**Ohinepanea**	**3.60 233**		PN	**Pn**	**12 21 44.8**	**+1.2**
PRGZ	**Paritu Road**	**3.68 209**		PN	**Pn**	**12 21 44.9**	**+0.4**
KUZ	**Kuaotunu**	**3.75 253**		*e*PN	**Pn**	**12 21 46.8**	**+1.2**
KNZ	**Kokohu**	**3.85 211**		PN	**Pn**	**12 21 46.9**	**0.0**
MHGZ	**Mahia Peninsul**	**3.87 207**		PN	**Pn**	**12 21 47.0**	**-0.2**
KARZ	**Kaharoa**	**3.91 233**		PN	**Pn**	**12 21 48.8**	**+1.1**
RAHZ	**Arahi**	**4.03 217**		PN	**Pn**	**12 21 50.7**	**+1.3**
PRRZ	**Plateau Road**	**4.11 227**		PN	**Pn**	**12 21 51.3**	**+0.9**
TOZ	**Tahuroa Road**	**4.26 241**		PN	**Pn**	**12 21 53.0**	**+0.4**
MKAZ	**Moumakai**	**4.28 250**		PN	**Pn**	**12 21 53.7**	**+0.9**
NMHZ	**Naumai**	**4.31 218**		PN	**Pn**	**12 21 54.3**	**+1.1**
OTAZ	**Otara**	**4.42 252**		PN	**Pn**	**12 21 58.2**	**+3.4**
BKZ	**Black Stump Fm**	**4.52 220**		PN	**Pn**	**12 21 56.7**	**+0.6**
MCHZ	**McNeill Hill**	**4.63 216**		PN	**Pn**	**12 21 58.0**	**+0.4**
CKHZ	**Cape Kidnapper**	**4.63 211**		PN	**Pn**	**12 21 56.7**	**-1.0**
RVAZ	**Riverhead Bore**	**4.66 255**		PN	**Pn**	**12 21 59.4**	**+1.4**
RATZ	**Rangitukua**	**4.71 227**		PN	**Pn**	**12 21 59.7**	**+0.9**
WCZ	**Waipu Caves**	**4.76 266**		PN	**Pn**	**12 22 01.5**	**+2.2**
KAHZ	**Kahuranaki**	**4.83 212**		PN	**Pn**	**12 21 59.4**	**-1.0**
KRVZ	**Karewarewa**	**4.94 226**		PN	**Pn**	**12 22 03.3**	**+1.4**
BHHZ	**Black Hill Sta**	**4.98 220**		PN	**Pn**	**12 22 03.1**	**+0.7**
PXZ	**Pawanui**	**5.04 211**		PN	**Pn**	**12 22 01.8**	**-1.4**
PXZ				SN	**Sn**	**12 23 03.0**	**+2.8**
WPVZ	**Whakapapa**	**5.07 225**		*e*PN	**Pn**	**12 22 05.1**	**+1.5**
HIZ	**Hauiti**	**5.09 235**		PN	**Pn**	**12 22 05.7**	**+1.8**
MOVZ	**Moawhango**	**5.09 223**		PN	**Pn**	**12 22 03.8**	**-0.2**
WNVZ	**Wahianoa**	**5.12 224**		*e*PN	**Pn**	**12 22 04.6**	**+0.3**
PNHZ	**Pukenui**	**5.24 216**		*e*PN	**Pn**	**12 22 06.2**	**+0.2**
PRHZ	**Porangahau**	**5.33 211**		*e*PN	**Pn**	**12 22 05.6**	**-1.6**
OUZ	**Omahuta**	**5.41 273**		*e*Pn	**Pn**	**12 22 07.5**	**-0.8**
226nm,0.7s							
OUZ	**Omahuta**	**5.41 273**		PN	**Pn**	**12 22 07.3**	**-1.0**
TSZ	**Takapari Road**	**5.47 216**		*e*PN	**Pn**	**12 22 08.8**	**-0.3**
TSZ				*e*SN	**Sn**	**12 23 14.2**	**+3.5**
DVHZ	**Dannevirke**	**5.56 214**		*e*PN	**Pn**	**12 22 09.0**	**-1.3**
BFZ	**Birch Farm**	**5.84 211**		PN	**Pn**	**12 22 12.2**	**-1.9**
TIWZ	**Tintock**	**6.07 213**		*e*PN	**Pn**	**12 22 15.6**	**-1.8**
MRZ	**Mangatainoka R**	**6.12 215**		PN	**Pn**	**12 22 16.8**	**-1.3**
MRZ				*e*SN	**Sn**	**12 23 26.5**	**-0.2**
MTW	**Mount Morrison**	**6.55 213**		*e*PN	**Pn**	**12 22 21.5**	**-2.5**
TUWZ	**Tuamarina**	**7.50 219**		*e*PN	**Pn**	**12 22 34.3**	**-2.7**
NNZ	**Nelson**	**7.65 222**		*e*SN	**Sn**	**12 24 03.9**	**-0.5**
QRZ	**Quartz Range**	**7.89 228**		*e*SN	**Sn**	**12 24 08.6**	**-1.6**
THZ	**Tophouse**	**8.29 221**		*e*PN	**Pn**	**12 22 43.7**	**-4.1**
THZ				SN	**Sn**	**12 24 18.5**	**-1.5**
CTZ	**Chatham Island**	**8.36 164**		*e*PN	**Pn**	**12 22 47.2**	**-1.6**
CTZ				SN	**Sn**	**12 24 15.1**	**-6.8**
KHZ	**Kahutara**	**8.44 216**		*e*PN	**Pn**	**12 22 47.8**	**-2.2**
KHZ				SN	**Sn**	**12 24 23.1**	**-0.8**
LTZ	**Lake Taylor**	**9.34 219**		*e*PN	**Pn**	**12 22 59.6**	**-2.6**
MQZ	**McQueen's Vall**	**9.85 214**		SN	**Sn**	**12 24 53.8**	**-4.7**
RPZ	**Rata Peaks**	**10.63 219**		Pn	**Pn**	**12 23 17.6**	**-2.3**
1.6nm,0.3s,baz=195,slow=17,SNR=6.0							
RPZ				Sn	**Sn**	**12 25 14.7**	**-2.8**
2.1nm,0.3s,baz=319,slow=19,SNR=5.8							
RPZ	**Rata Peaks**	**10.63 219**		Pn	**Pn**	**12 23 17.6**	**-2.3**
RPZ				*e*Sn	**Sn**	**12 25 07.6**	**-10**
RPZ				Sn	**Sn**	**12 25 14.7**	**-2.8**
ODZ	**Otahua Downs**	**11.80 215**		*e*PN	**Pn**	**12 23 30.8**	**-5.1**
MSVF	**Nonsavu**	**18.03 353**		*e*Pn	**Pn**	**12 24 51.8**	**-5.9**
13nm,0.8s							
DZM	**Mont Dzumac**	**18.14 315**		LR	LR	12 30 13.6	
comp=Z,1μm,18.2s,baz=64,slow=32							
AFI	**Afiamalu**	**22.90 20**		P	**P**	**12 25 48.3**	**-2.2**
20nm,0.9s,mb4.5,baz=205,slow=10,SNR=3.2							
AFI	**Afiamalu**	**22.90 20**		P	**P**	**12 25 48.3**	**-2.2**
EIDS	**Eidsvold**	**27.02 284**		*e*P	**P**	**12 26 29.7**	**+1.1**
29nm,1.4s,mb4.6							
CMSA	**Cobar Meteorol**	**28.94 268**		*e*P	**P**	**12 26 46.1**	**+0.4**
STKA	**Stephens Creek**	**32.16 266**		P	**P**	**12 27 15.2**	**+1.0**
4.9nm,0.8s,mb4.4,baz=111,slow=9.3,SNR=10							
STKA	**Stephens Creek**	**32.16 266**		*e*P	**P**	**12 27 15.1**	**+1.0**
STKA	**Stephens Creek**	**32.16 266**		P	**P**	**12 27 15.2**	**+1.1**
CTA	**Charters Tower**	**33.60 288**		P	**P**	**12 27 27.2**	**+0.5**
13nm,0.9s,mb4.9,baz=99,slow=9.3,SNR=16							
CTA	**Charters Tower**	**33.60 288**		*e*P	**P**	**12 27 27.1**	**+0.4**
CTA	**Charters Tower**	**33.60 288**		P	**P**	**12 27 27.2**	**+0.5**
CTAO	**Charters Tower**	**33.60 288**		*e*P	**P**	**12 27 26.8**	**0.0**
18nm,1.0s,mb5.0							
MTSU	**Mount Surprise**	**36.22 289**		*e*P	**P**	**12 27 49.4**	**0.0**
12nm,0.5s,mb5.1							
COEN	**Coen**	**39.64 294**		*e*P	**P**	**12 28 17.6**	**-0.7**
COEN	**Coen**	**39.64 294**		*e*P	**P**	**12 28 17.4**	**-0.8**
54nm,0.6s,mb5.5							
AS31	**Alice Springs**	**41.62 274**		*e*P	**P**	**12 28 33.8**	**-0.7**
ASAR	**Alice Springs**	**41.62 274**		P	**P**	**12 28 34.0**	**-0.5**
6.8nm,0.7s,mb4.4,baz=114,slow=7.4,SNR=55							
ASAR	**Alice Springs**	**41.62 274**		P	**P**	**12 28 34.0**	**-0.5**
WB2	**Warramunga Arr**	**43.08 279**		*e*P	**P**	**12 28 45.2**	**-1.3**
WRAB	**Tennant Creek**	**43.09 279**		*e*P	**P**	**12 28 45.2**	**-1.4**
17nm,0.6s,mb5.0							
WRA	**Warramunga Arr**	**43.09 279**		P	**P**	**12 28 45.3**	**-1.3**
14nm,0.6s,mb4.9,baz=120,slow=7.7,SNR=191							
WRA				LR	LR	12 45 48.1	
comp=Z,504nm,21.2s,baz=20,slow=35							
WRA	**Warramunga Arr**	**43.09 279**		P	**P**	**12 28 45.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.07 275**		*e*P	**P**	**12 29 48.1**	**-0.7**
MEEK	**Meekatharra**	**52.71 262**		*e*P	**P**	**12 29 59.5**	**-1.4**
MBWA	**Marble Bar**	**54.34 268**		*e*P	**P**	**12 30 11.3**	**-1.6**
QSPA	**South Pole Qui**	**54.39 180**		*e*P	**P**	**12 30 15.9**	**+3.4**
16nm,0.9s,mb5.0,baz=36,slow=2.0,SNR=43							
QSPA	**South Pole Qui**	**54.39 180**		*e*P	**P**	**12 30 15.5**	**+3.0**
18nm,0.9s,mb5.0							
QSPA				*e*PcP	PcP	12 31 18.1	+2.3
MAW	**Mawson**	**66.80 202**		P	**P**	**12 31 39.5**	**+2.3**
4.0nm,0.7s,mb4.6,baz=0.5,slow=1.0,SNR=5.7							
MAW	**Mawson**	**66.80 202**		*e*P	**P**	**12 31 39.3**	**+2.1**
1.6nm,1.0s,mb4.0							
SYO	**Syowa Base**	**71.59 194**	⇑	*e*P	**P**	**12 32 06.0**	**-0.8**
SYO	**Syowa Base**	**71.59 194**	⇑	*e*P	**P**	**12 32 20.4**	**+14**
SNAA	**Sanae**	**72.88 179**		*e*	**P**	**12 32 16.9**	**+2.4**
VNA2	**Neumayer--Watz**	**73.51 177**		*e*	**P**	**12 32 20.3**	**+2.1**
baz=147,slow=2.5							
VNA1	**Neumayer--Stat**	**73.75 177**		*e*	**P**	**12 32 22.0**	**+2.4**
PLCA	**Paso Flores**	**79.98 133**		P	**P**	**12 32 56.6**	**+1.3**
4.0nm,0.9s,mb4.4,baz=216,slow=3.4,SNR=5.6							
PLCA	**Paso Flores**	**79.98 133**		P	**P**	**12 32 56.6**	**+1.3**
**PET

s-min=2.7km az=170.4
NIED **20** *12:22:00,36˚60N×142˚50E,h8km,Mw4.9 Best double couple: M₀2.81000×10¹⁶ NP1:φs52.00000°,δ71.00000°, λ148.00000°. NP2:φs153.00000°,δ60.00000°,λ22.00000°.*
IDC **20** *12:22:00.1±0.4,36˚49N×142˚54E,h0km,mb4.9/27, mb1 5.0/34,mb1mx5.0/36,mbtmp4.9/34,ML4.2/6,MS4.2/1, Ms1 4.2/1,ms1mx2.9/28,Error ellipse: s-maj=12.1km s-min=10.2km az=107.0*
JMA **20** *12:22:01.3±0.2,36˚56N×142˚55E,h24km,M5.4*
JMA Felt II J1.
NEIC **20** *12:22:01.8±0.1,36˚52N×142˚49E,h10km,mb5.4/128, MW4.9(NIED),Error ellipse: s-maj=3.8km s-min=2.6km az=149.0*
NEIC Felt at Yokosuka. Recorded [2 JMA] in Fukushima and Miyagi and [1 JMA] in Yamagata.
TEH **20** *12:22:03.0,36˚63N×142˚47E,h10km*
SZGRF **20** *12:22:03.8,36˚00N×141˚06E,h33km,mb5.6,MS4.8,Near east coast of eastern Honshu, Japan*
BJI **20** *12:22:03.3,36˚63N×141˚84E,h10km,mB5.5/24,mb5.2/65, Ms5.2/44,Ms7 4.9/42*
MOS **20** *12:22:05.2±0.8,36˚81N×142˚44E,h33km,mb5.5/78, MS4.9/9,Error ellipse: s-maj=7.0km s-min=4.3km az=114.1*
DJA **20** *12:22:13,36˚49N×142˚18E,h96km,mb5.3/58*
ISC 20 12:22:01.1±0.9,36˚56N±0˚02×142˚46E±0˚02,h4km±5km, h9km±2.6km:pP-P,n690,σ0:97/701,mb5.3/247,MS5.0/20, 31C-29D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.44**	**293**	P	**Pn**	**12 22 27.5**	**-0.5**
ONAJ				*e*S	**Sb**	**12 22 46.7**	**-0.5**
JFK	**Kawauchi**	**1.50**	**303**	P	**Pn**	**12 22 28.2**	**-0.7**
JFK				*e*S	**Sn**	**12 22 47.8**	**-1.1**
JHO	**Hitachi**	**1.52**	**272**	P	**Pn**	**12 22 28.4**	**-0.7**
JHO				*e*S	**Sn**	**12 22 48.7**	**-0.7**
CHOJ	**Chosi**	**1.55**	**237**	P	**Pn**	**12 22 29.2**	**-0.3**
CHOJ				*e*S	**Sn**	**12 22 49.3**	**-0.8**
JMM	**Marumori**	**1.86**	**315**	P	**Pn**	**12 22 33.5**	**-0.3**
JMM				*e*S	**Sn**	**12 22 56.9**	**-0.9**
JFT	**Otama**	**1.95**	**300**	P	**Pn**	**12 22 35.4**	**+0.4**
JFT				*e*S	**Sn**	**12 22 59.9**	**0.0**
JIO	**Ouri**	**2.09**	**335**	P	**Pn**	**12 22 36.8**	**-0.1**
JIO				*e*S	**Sn**	**12 23 01.9**	**-1.4**
BSO1	**Boso 1**	**2.25**	**213**	P	**Pn**	**12 22 39.0**	**-0.2**
BSO1				*e*S	**Sn**	**12 23 08.2**	**+0.8**
JAG	**Ashikaga**	**2.43**	**268**	P	**Pn**	**12 22 41.2**	**-0.4**
JAG				*e*S	**Sn**	**12 23 11.4**	**-0.3**
JMK	**Ichinoseki**	**2.58**	**338**	P	**Pn**	**12 22 43.4**	**-0.3**
JMK				*e*S	**Sn**	**12 23 15.3**	**-0.2**
JNS	**Sasagawa**	**2.81**	**298**	P	**Pn**	**12 22 46.9**	**+0.1**
JNS				*e*S	**Sn**	**12 23 23.7**	**+2.6**
JYK	**Kaneyama**	**2.88**	**325**	P	**Pn**	**12 22 47.9**	**+0.1**
JYK				*e*S	**Sn**	**12 23 23.4**	**+0.4**
JRY	**Ryogami san**	**2.93**	**260**	P	**Pn**	**12 22 48.0**	**-0.4**
JRY				*e*S	**Sn**	**12 23 23.8**	**-0.2**
JOD2	**Odawara 2**	**3.03**	**246**	P	**Pn**	**12 22 49.9**	**+0.1**
JYN	**Shimob**	**3.35**	**253**	P	**Pn**	**12 22 55.9**	**+1.7**
MJAR	**Matsushiro Arr**	**3.42**	**271**	Pn	**Pn**	**12 22 56.2**	**+1.0**
	52nm,0.3s,baz=86,slow=12,SNR=116						
MJAR				Sn	**Sn**	**12 23 36.7**	**+0.4**
	31nm,0.3s,baz=64,slow=6.3,SNR=4.5						
MJAR				LR	LR	12 24 20.9	
	comp=Z,3μm,20.2s,baz=110,slow=41						
MJAR	**Matsushiro Arr**	**3.42**	**271**	Pn	**Pn**	**12 22 56.2**	**+0.9**
MJAR				Sn	**Sn**	**12 23 36.7**	**+0.4**
MJAR	**Matsushiro Arr**	**3.42**	**271**	P	**Pn**	**12 22 56.2**	**+0.9**
MJAR						12 23 36.7	
MAJO	**Matsushiro**	**3.42**	**271**	*e*Pn	**Pn**	**12 22 56.8**	**+1.6**
MAJO				*e*Sn	**Sn**	**12 23 41.8**	**+5.5**
MAJO	**Matsushiro**	**3.42**	**271**	*e*P	**Pn**	**12 22 56.8**	**+1.5**
MAJO				*e*		12 23 41.8	
MAT	**Matsushiro**	**3.42**	**271**	P	**Pn**	**12 22 56.0**	**+0.7**
MAT				S	**Sn**	**12 23 36.5**	**+0.2**
MAT	**Matsushiro**	**3.42**	**271**	P	**Pn**	**12 22 56.7**	**+1.4**
ERM	**Erimo**	**5.47**	**5**	Pn	**Pn**	**12 23 21.8**	**-1.6**
	2μm,0.6s,SNR=12						
ERM	**Erimo**	**5.47**	**5**	*e*Pn	**Pn**	**12 23 21.4**	**-2.0**
ERM				*e*Sn	**Sn**	**12 24 21.0**	**-5.8**
ERM	**Erimo**	**5.47**	**5**	*e*P	**Pn**	**12 23 21.4**	**-2.0**
ERM				*e*		12 24 21.0	
ASAJ	**Asahikawa**	**7.55**	**1**	Pn	**Pn**	**12 23 51.2**	**-0.7**
	16nm,0.3s,baz=208,slow=14,SNR=27						
ASAJ				Sn	**Sn**	**12 25 15.4**	**-2.5**
	5.4nm,0.3s,baz=126,slow=32,SNR=5.8						
ASAJ	**Asahikawa**	**7.55**	**1**	Pn	**Pn**	**12 23 51.2**	**-0.7**
ASAJ				*e*Sn	**Sn**	**12 25 12.8**	**-5.1**
ASAJ				Sn	**Sn**	**12 25 15.4**	**-2.5**
ASAJ	**Asahikawa**	**7.55**	**1**	P	**Pn**	**12 23 51.3**	**-0.6**
ASAJ						12 25 15.4	
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.91**	**18**	*c iP*	**Pn**	**12 23 52.6**	**-4.2**
YUK				*e*S	**Sn**	**12 25 18.8**	**-7.8**
YUK				pmax	pmax		
	comp=N,91nm,0.7s						
YUK				pmax	pmax		
	comp=E,168nm,0.7s						
YUK				pmax	pmax		
	comp=Z,254nm,0.7s						
YUK				pmax	pmax		
	comp=Z,21μm,0.8s						
CBIJ	**Chichi jima**	**9.44**	**182**	Pn	**Pn**	**12 24 15.3**	**-2.6**
	comp=Z,18nm,0.3s,baz=268,slow=22,SNR=12						
CBIJ				Sn	**Sn**	**12 25 56.3**	**-8.2**
	comp=Z,32nm,0.3s,baz=226,slow=21,SNR=4.4						
CBIJ	**Chichi jima**	**9.44**	**182**	Pn	**Pn**	**12 24 15.3**	**-2.6**
CBIJ				Sn	**Sn**	**12 25 56.3**	**-8.2**
JNU	**Nakatsue**	**10.12**	**254**	*e*Pn	**Pn**	**12 24 29.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**10.39**	**1**	*e*Pn	**Pn**	**12 24 29.5**	**-1.3**
YSS	**Yuzh-Sakhalins**	**10.39**	**1**	⇑*iP*	**Pn**	**12 24 29.0**	**-1.8**
YSS				*e*S	**Sn**	**12 26 23.0**	**-4.6**
YSS				pmax	pmax		
	comp=Z,250nm,1.1s						
VLA	**Vladivostok**	**10.43**	**312**	⇓*iP*	**Pn**	**12 24 33.9**	**+2.5**
VLA				*e*S	**Sn**	**12 26 33.3**	**+4.6**
VLA				pmax	pmax		
	comp=Z,95nm,1.0s						
USRK	**Ussuriysk Arra**	**11.03**	**317**	Pn	**Pn**	**12 24 41.6**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=123,slow=13,SNR=22						
USRK				Sn	**Sn**	**12 26 50.3**	**+6.9**
	baz=158,slow=5.6,SNR=2.1						
KSRS	**Korea Array**	**11.66**	**279**	Pn	**Pn**	**12 24 51.1**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=92,slow=13,SNR=59						
KSRS	**Korea Array**	**11.66**	**279**	P	**Pn**	**12 24 51.2**	**+2.9**
KSAR	**Wonju Array Be**	**11.69**	**279**	Pn	**Pn**	**12 24 51.1**	**+2.5**
KSAR	**Wonju Array Be**	**11.69**	**279**	P	**Pn**	**12 24 51.2**	**+2.5**
MDJ	**Mudanjiang**	**12.65**	**313**	P	**Pn**	**12 25 04.0**	**+2.2**
MDJ				S	**Sn**	**12 27 25.8**	**+2.7**
MDJ				PcP	PcP	12 30 38.4	-1.2
MDJ				ScP	ScP	12 34 13.8	+0.5
MDJ				ScS	ScS	12 37 46.4	-3.0
MDJ				pmax	pmax		
	comp=Z,13nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,2μm,11.1s						
MDJ				LR	LR		
	comp=N,3μm,12.1s						
MDJ				LR	LR		
	comp=E,3μm,13.2s						
MDJ				LR	LR		
	comp=Z,3μm,15.3s						
MDJ	**Mudanjiang**	**12.65**	**313**	*e*Pn	**Pn**	**12 25 04.5**	**+2.7**
	comp=Z,65nm,1.0s						
INCN	**Inchon**	**12.69**	**279**	*e*Pn	**Pn**	**12 25 04.3**	**+2.0**
HABR	**Khabarovsk**	**13.09**	**338**	*e*P	**Pn**	**12 25 04.3**	**-3.5**
HABR				*e*		12 27 29.1	
HABR				pmax	pmax		
	comp=E,72nm,2.0s						
HABR				pmax	pmax		
	comp=Z,69nm,1.6s						
HABR				pmax	pmax		
	comp=N,41nm,1.2s						
HABR				MLR	MLR		
	comp=Z,1μm,12.0s						
CN2	**Changchun**	**14.87**	**304**	*e*P	**Pn**	**12 25 30.6**	**-1.4**
CN2				*es*P	sP	12 25 37.0	-2.6
CN2				*e*S	**Sn**	**12 28 15.4**	**-1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,3μm,13.0s						
CN2				LR	LR		
	comp=E,2μm,13.0s						
CN2				LR	LR		
	comp=Z,3μm,13.0s						
KLR	**Kul'dur**	**14.88**	**332**	*e*P	**Pn**	**12 25 24.8**	**-7.3**
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,57nm,1.6s						
JOW	**Kunigami**	**15.47**	**235**	Pn	**Pn**	**12 25 38.3**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=48,slow=14,SNR=5.4						
JOW	**Kunigami**	**15.47**	**235**	Pn	**Pn**	**12 25 38.3**	**-1.9**
	comp=Z,8.0nm,1.2s						
SNY	**Shenyang**	**15.55**	**296**	⇓P	**Pn**	**12 25 40.1**	**-1.0**
SNY				pmax	pmax		
	comp=Z,18nm,1.1s						
SNY				LR	LR		
	comp=N,5μm,11.7s						
SNY				LR	LR		
	comp=E,6μm,13.2s						
SNY				LR	LR		
	comp=Z,4μm,13.8s						
DL2	**Dalian**	**16.65**	**284**	P	**Pn**	**12 25 52.3**	**-3.0**
DL2				pmax	pmax		
	comp=Z,30nm,1.2s						
SKR	**Severo-Kuril's**	**17.19**	**31**	*e*P	Px	12 26 14.5	
PETK	**Petropavlovsk-**	**19.69**	**28**	P	**Pn**	**12 26 30.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=196,slow=10,SNR=20						
PETK	**Petropavlovsk-**	**19.69**	**28**	P	**Pn**	**12 26 30.5**	**-2.1**
PETK	**Petropavlovsk-**	**19.69**	**28**	P	**Pn**	**12 26 30.5**	**-2.0**
PET	**Petropavlovsk**	**20.00**	**30**	*e*P	**Pn**	**12 26 33.7**	**-2.5**
	comp=Z,215nm,1.3s						
PET	**Petropavlovsk**	**20.00**	**30**	*e*P	**Pn**	**12 26 33.7**	**-2.5**
PET				pmax	pmax		
	comp=Z,215nm,1.3s						
NJ2	**Nanjing**	**20.00**	**264**	*e*P	**Pn**	**12 26 32.8**	**-3.6**
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
HIA	**Hailar**	**20.84**	**315**	*e*P	**P**	**12 26 41.6**	**-2.0**
	comp=Z,89nm,1.1s						
HIA	**Hailar**	**20.84**	**315**	*e*P	**P**	**12 26 41.6**	**-2.0**
HIA				pmax	pmax		
	comp=Z,89nm,1.1s						
BJI	**Beijing**	**20.89**	**288**	P	**P**	**12 26 44.3**	**0.0**
BJI				pmax	pmax		
	comp=Z,34nm,1.0s						
BJI				pmax	pmax		
	comp=Z,1μm,10.5s						
BJI				LR	LR		
	comp=N,2μm,12.9s,MS4.9						
BJI				LR	LR		
	comp=E,2μm,12.1s,MS4.9						
BJI				LR	LR		
	comp=Z,700nm,15.9s,MS4.1						
BJT	**Baijiatuau**	**20.90**	**288**	*e*P	**P**	**12 26 43.4**	**-1.0**
	comp=Z,65nm,0.9s						
BJT	**Baijiatuau**	**20.90**	**288**	*e*P	**P**	**12 26 43.4**	**-1.0**
BJT				pmax	pmax		
	comp=Z,65nm,0.9s						
YHNB	**Yeheng**	**21.62**	**243**	*e*P	**P**	**12 26 52.3**	**0.0**
	comp=Z,50nm,1.2s,mb4.8						
SSLB	**Suanglung**	**22.47**	**241**	*e*P	**P**	**12 26 58.8**	**-2.6**
	comp=Z,96nm,1.4s,mb5.0						
YULB	**Yu-li**	**22.48**	**240**	*e*P	**P**	**12 27 01.9**	**+0.4**
	comp=Z,60nm,1.4s,mb4.8						
TPUB	**Ta-pu**	**23.01**	**241**	*e*P	**P**	**12 27 04.8**	**-2.4**
	comp=Z,119nm,1.1s,mb5.2						
TWG	**Pinlang**	**23.01**	**239**	*e*P	**P**	**12 27 07.7**	**+0.5**
	comp=Z,103nm,1.0s,mb5.2						
CLNS	**Chul'man**	**23.46**	**335**	*e*P	**P**	**12 27 11.0**	**-0.5**
CLNS				*e*		12 27 36.0	
CLNS				*e*		12 31 02.2	
CLNS				*e*S	**S**	**12 31 20.3**	**-4.8**
CLNS				*es*S		12 32 00.4	
CLNS				pmax	pmax		
	comp=Z,214nm,1.5s,mb5.3						
CLNS				pmax	pmax		
	comp=N,234nm,1.6s						
CLNS				pmax	pmax		
	comp=E,66nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,52nm,1.3s,mb4.8						
CLNS				pmax	pmax		
	comp=E,28nm,1.2s						
CLNS				pmax	pmax		
	comp=N,81nm,1.3s						
CLNS				smax			
	comp=E,1μm,12.3s						
CLNS				smax			
	comp=N,704nm,13.9s						
CLNS				MLR	MLR		
	comp=N,1μm,13.0s,MS4.6						
CLNS				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,641nm,14.0s,MS4.6						
QZH	**Quanzhou**	**23.49**	**247**	P	**P**	**12 27 06.6**	**-5.5**
QZH				S	**S**	**12 31 14.0**	**-12**
QZH				LR	LR		
	comp=N,3μm,11.1s,MS5.2						
QZH				LR	LR		
	comp=E,4μm,13.5s,MS5.2						
QZH				LR	LR		
	comp=Z,4μm,13.0s,MS5.1						
WHN	**Wuhan**	**24.14**	**264**	⇓P	**P**	**12 27 16.5**	**-1.6**
WHN				pmax	pmax		
	comp=Z,410nm,1.3s,mb5.7						
HHC	**Hu-ho-hao-te**	**24.42**	**290**	*e*P	**P**	**12 27 17.5**	**-3.2**
HHC				pP		12 27 26.6	
HHC				sP	sP	12 27 31.3	+8.9
HHC				PP		12 27 52.5	
HHC				S	**S**	**12 31 28.3**	**-13**
HHC				sS	sS	12 31 45.1	+2.1
HHC				SS		12 32 20.8	
HHC				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.7						
HHC				pmax	pmax		
	comp=Z,620nm,6.2s						
HHC				LR	LR		
	comp=N,2μm,10.9s,MS5.2						
HHC				LR	LR		
	comp=E,4μm,13.2s,MS5.2						
HHC				LR	LR		
	comp=Z,4μm,12.2s,MS5.1						
BTO	**Baotou**	**25.60**	**289**	*e*P	**P**	**12 27 28.4**	**-3.0**
CIT	**Chita**	**25.60**	**316**	*e*P	**P**	**12 27 32.7**	**+1.4**
CIT				*e*		12 28 13.1	
CIT				*e*		12 28 21.4	
CIT				*e*		12 31 58.7	
CIT				pmax	pmax		
	comp=Z,536nm,1.5s,mb5.8						
YAK	**Yakutsk**	**26.72**	**347**	*e*P	**P**	**12 27 40.9**	**-0.4**
	comp=Z,251nm,1.1s,mb5.7						
YAK	**Yakutsk**	**26.72**	**347**	*e*P	**P**	**12 27 39.8**	**-1.5**
YAK				*e**PP	pP	12 27 50.3	+7.8
YAK				*e*		12 28 25.2	
YAK				*es*S	**S**	**12 32 15.2**	**-1.9**
YAK				pmax	pmax		
	comp=Z,284nm,1.5s,mb5.6						
YAK				pmax	pmax		
	comp=N,223nm,1.4s						
YAK				pmax	pmax		
	comp=E,87nm,1.5s						
YAK				pmax	pmax		
	comp=Z,143nm,1.8s,mb5.2						
YAK				pmax	pmax		
	comp=N,167nm,1.5s						
YAK				pmax	pmax		
	comp=E,142nm,1.5s						
YAK				smax			
	comp=N,198nm,2.0s						
YAK				smax			
	comp=E,678nm,3.3s						
YAK				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.8						
YAK				MLR	MLR		
	comp=N,2μm,16.0s,MS4.8						
YAK				MLR	MLR		
	comp=E,631nm,15.0s,MS4.8						
XAN	**Xi'an**	**27.41**	**275**	P	**P**	**12 27 47.3**	**-0.5**
XAN				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.6						
XAN				LR	LR		
	comp=N,1μm,15.0s,MS4.7						
XAN				LR	LR		
	comp=E,510nm,13.5s,MS4.7						
XAN				LR	LR		
	comp=Z,460nm,14.1s,MS4.2						
ENH	**Enshi**	**28.14**	**267**	*e*P	**P**	**12 27 53.7**	**-0.7**
	comp=Z,341nm,1.2s,mb5.8						
ULN	**Ulaanbaatar**	**28.32**	**305**	*e*P	**P**	**12 27 56.1**	**+0.4**
	comp=Z,48nm,1.0s,mb5.1						
ULN	**Ulaanbaatar**	**28.32**	**305**	*e*P	**P**	**12 27 56.1**	**+0.4**
ULN				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.1						
ULN	**Ulaanbaatar**	**28.32**	**305**	P	**P**	**12 27 57.0**	**+1.2**
	SNR=19						
BOD	**Bodaibo**	**28.38**	**328**	*e*P	**P**	**12 27 56.4**	**+0.2**
BOD				pmax	pmax		
	comp=Z,152nm,1.3s,mb5.5						
SONM	**Songino Array**	**28.75**	**304**	P	**P**	**12 28 00.3**	**+0.7**
	comp=Z,42nm,0.7s,mb5.3,baz=105,slow=8.7,SNR=4.9						
SONM	**Songino Array**	**28.75**	**304**	P	**P**	**12 28 00.3**	**+0.7**
SONM	**Songino Array**	**28.75**	**304**	P	**P**	**12 28 00.3**	**+0.7**
LZH	**Lanzhou**	**30.98**	**281**	⇑P	**P**	**12 28 19.6**	**+0.1**
LZH				pP	pP	12 28 22.8	+2.1
LZH				sP	sP	12 28 24.3	+3.1
LZH				PP	PP	12 29 21.3	-7.9
LZH				*e*S	**S**	**12 33 22.6**	**-2.1**
LZH				sS	sS	12 33 28.3	+1.6
LZH				pmax	pmax		
	comp=Z,96nm,1.2s,mb5.5						
LZH				pmax	pmax		
	comp=Z,260nm,5.4s						
LZH				LR	LR		
	comp=N,2μm,12.0s,MS5.3						
LZH				LR	LR		
	comp=E,3μm,12.1s,MS5.3						
LZH				LR	LR		
	comp=Z,5μm,17.0s,MS5.2						
LZH	**Lanzhou**	**30.98**	**281**	⇑P	**P**	**12 28 19.6**	**+0.1**
	comp=Z,96nm,1.2s,mb5.5						
LZH				pP	pP	12 28 22.8	+2.1
LZH				sP	sP	12 28 24.3	+3.1
LZH				PP	PP	12 29 21.2	-8.0
LZH				*e*S	**S**	**12 33 22.6**	**-2.1**
LZH				sS	sS	12 33 28.3	+1.6
LZH				LR	LR		
	comp=Z,5μm,17.0s,MS5.2						
LZH	**Lanzhou**	**30.98**	**281**	⇑P	**P**	**12 28 19.6**	**+0.1**
LZH						12 29 21.2	
LZH				*e*S	**S**	**12 33 22.6**	**-2.1**
LZH				pmax	pmax		
	comp=Z,96nm,1.2s,mb5.5						
LZH				MLR	MLR		
	comp=Z,5μm,17.0s,MS5.2						
ZAK	**Zakamensk**	**31.22**	**309**	*e*P	**P**	**12 28 21.5**	**+0.1**
ZAK				*e*		12 33 32.1	
ZAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.8						
TLY	**Talaya**	**31.28**	**311**	*e*P	**P**	**12 28 22.8**	**+0.9**
	comp=Z,22nm,0.8s,mb5.0						
TLY	**Talaya**	**31.28**	**311**	*e*P	**P**	**12 28 22.3**	**+0.4**
TLY				*e*		12 28 32.4	
TLY				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.0						
TLY				MLR	MLR		
	comp=Z,802nm,14.0s,MS4.5						
TLY	**Talaya**	**31.28**	**311**	P	**P**	**12 28 22.7**	**+0.8**
	comp=Z,154nm,0.9s,mb5.8,SNR=7.1						
GYA	**Guiyang**	**31.98**	**262**	⇑*iP*	**P**	**12 28 27.3**	**-1.1**
GYA				PP	PP	12 29 36.5	-4.0
GYA				PcP	PcP	12 31 20.5	+2.1
GYA				S	**S**	**12 33 40.4**	**0.0**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
GYA				pmax	pmax		
	comp=Z,180nm,5.0s						
GYA				LR	LR		
	comp=N,880nm,17.2s,MS4.6						
GYA				LR	LR		
	comp=E,750nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=Z,990nm,17.8s,MS4.5						
CD2	**Chengdu**	**32.52**	**271**	⇓*iP*	**P**	**12 28 32.6**	**-0.5**
CD2				pP	pP	12 28 37.0	+2.7
CD2				sP	sP	12 28 40.0	+5.2
CD2				PP	PP	12 29 40.5	-5.9
CD2				PcP	PcP	12 31 20.0	+0.1
CD2				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.7						
CD2				pmax	pmax		
	comp=Z,210nm,4.8s						
CD2				LR	LR		
	comp=N,4μm,13.2s,MS5.3						
CD2				LR	LR		
	comp=E,3μm,14.4s,MS5.3						
CD2				LR	LR		
	comp=Z,2μm,14.4s,MS5.0						
MOY	**Mondy**	**32.89**	**311**	*e*P	**P**	**12 28 35.9**	**-0.1**
MOY				pmax	pmax		
	comp=Z,50nm,2.7s,mb5.0						
DAV	**Davao City (W)**	**33.16**	**212**	P	**P**	**12 28 38.5**	**-0.2**
	comp=Z,138nm,0.4s,mb6.2,baz=42,slow=9.5,SNR=5.3						
DAV	**Davao City (W)**	**33.16**	**212**	*e*P	**P**	**12 28 38.6**	**-0.1**
	comp=Z,118nm,0.4s,mb6.2						
DAV	**Davao City (W)**	**33.16**	**212**	P	**P**	**12 28 38.9**	**+0.2**
	SNR=5.0						
GTA	**Gaotai**	**33.51**	**288**	*e*P	**P**	**12 28 41.6**	**0.0**
GTA				pP	pP	12 28 45.9	+3.0
GTA				sP	sP	12 28 49.3	+6.0
GTA				S	**S**	**12 34 00.8**	**-3.2**
GTA				sS	sS	12 34 08.4	+2.4
GTA				ScS	ScS	12 39 07.3	-1.4
GTA				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.3						
GTA				pmax	pmax		
	comp=Z,1μm,5.5s						
GTA				LR	LR		
	comp=N,1μm,13.8s,MS5.0						
GTA				LR	LR		
	comp=E,2μm,13.8s,MS5.0						
GTA				LR	LR		
	comp=Z,2μm,13.3s,MS5.0						
QIZ	**Qiongzhong**	**33.51**	**247**	P	**P**	**12 28 43.9**	**+2.1**
QIZ				S	**S**	**12 34 06.4**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.3						
QIZ				LR	LR		
	comp=N,2μm,15.8s,MS5.0						
QIZ				LR	LR		
	comp=E,970nm,16.5s,MS5.0						
BILL	**Bilibino**	**34.25**	**16**	*e*P	**P**	**12 28 46.8**	**-1.0**
	comp=E,120nm,1.3s,mb5.7						
BILL	**Bilibino**	**34.25**	**16**	*d iP*	**P**	**12 28 46.9**	**-0.8**
BILL				*e*		12 29 58.1	
BILL				*e*		12 31 24.4	
BILL				pmax	pmax		
	comp=Z,144nm,1.6s,mb5.7						
KMI	**Kunming**	**35.73**	**263**	P	**P**	**12 29 00.9**	**-0.1**
KMI				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.2						
KMI				LR	LR		
	comp=N,2μm,13.9s,MS5.0						
KMI				LR	LR		
	comp=E,1μm,17.2s,MS5.0						
KMI				LR	LR		
	comp=Z,2μm,13.9s,MS5.1						
KMI	**Kunming**	**35.73**	**263**	P	**P**	**12 29 00.9**	**-0.1**
	comp=Z,42nm,1.3s,mb5.2						
KMI				LR	LR		
	comp=Z,2μm,13.9s,MS5.1						
KMI	**Kunming**	**35.73**	**263**	P	**P**	**12 29 00.9**	**-0.1**
KMI				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.2						
KMI				MLR	MLR		
	comp=Z,2μm,13.9s,MS5.1						
BAKI	**Biak**	**38.02**	**190**	P	**P**	**12 29 20.0**	**-0.5**
	comp=Z,2μmcomp=Z,96nm,1.2s,mb5.4						
MYLDM	**Lahad Datu**	**38.19**	**221**	P	**P**	**12 29 23.6**	**+1.6**
MYLDM	**Lahad Datu**	**38.19**	**221**	P	**P**	**12 29 22.3**	**+0.3**
	comp=Z,154nm,1.2s,mb5.6						
MYLDM	**Lahad Datu**	**38.19**	**221**	P	**P**	**12 29 24.2**	**+2.2**
	comp=Z,155nm,1.2s,mb5.6

SDKM **Sandakan** 38.50 223 P P 12 29 25.6 +1.0
SMPI **Sarmi** 38.51 186 P P 12 29 25.2 +0.6
comp=Z,169nm,1.4s,mb5.6
KKM **Kota Kinabalu** 38.72 225 P P 12 29 28.0 +1.6
KKM **Kota Kinabalu** 38.72 225 eP P 12 29 26.6 +0.2
comp=Z,80nm,1.4s,mb5.3
KKM **Kota Kinabalu** 38.72 225 P P 12 29 31.1 +4.7
comp=Z,1µmcomp=Z,96nm,1.0s,mb5.5
TSM **Tawau** 39.27 221 P P 12 29 31.4 +0.4
UBT **Ubonrachathani** 39.46 247 ⇓P P 12 29 33.8 +1.1
LBMI **Labuha** 39.53 204 P P 12 29 34.0 +0.8
comp=Z,2µmcomp=Z,80nm,1.9s,mb5.1
GTOI **Gorontalo** 40.03 211 P P 12 29 36.2 -1.2
comp=Z,1µmcomp=Z,110nm,1.3s,mb5.4
GTOI **Gorontalo** 40.03 211 P P 12 29 37.2 -0.2
comp=Z,1µmcomp=Z,110nm,1.3s,mb5.4
FAKI **Fak Fak** 40.41 196 P P 12 29 40.7 +0.2
comp=Z,51nm,2.0s,mb4.9
MRSI **Marisa** 40.63 213 P P 12 29 42.2 -0.1
comp=Z,2µmcomp=Z,124nm,1.2s,mb5.4
CHRT **Chiangrai** 40.76 258 ⇑P P 12 29 42.5 -0.9
comp=Z,224nm,1.0s,mb5.8
MSAI **Masohi** 41.66 201 P P 12 29 52.4 +1.6
comp=Z,1µmcomp=Z,45nm,1.4s,mb4.9
WMQ **Urumqi** 41.80 298 P P 12 29 52.8 +1.1
WMQ pP pP 12 29 57.3 +4.3
WMQ sP sP 12 29 59.8 +6.3
WMQ PP PP 12 31 32.8 +4.6
WMQ S S 12 36 09.6 -0.2
WMQ pmax pmax
comp=Z,45nm,1.0s,mb5.0
WMQ pmax pmax
comp=Z,620nm,4.2s
WMQ LR LR
comp=N,5µm,17.0s,MS5.6
WMQ LR LR
comp=E,2µm,12.0s,MS5.6
WMQ LR LR
comp=Z,760nm,16.2s,MS4.7
CHG **Chiang Mai** 42.00 257 ⇑P P 12 29 53.5 -0.1
comp=Z,28nm,1.2s,mb4.8
CHTO **Chiang Mai** 42.00 257 eP P 12 29 53.5 -0.1
comp=Z,42nm,1.3s,mb4.9
CHTO **Chiang Mai** 42.00 257 eP P 12 29 53.5 -0.1
CHTO pmax pmax
comp=Z,42nm,1.3s,mb4.9
CHTO **Chiang Mai** 42.00 257 P P 12 29 53.1 -0.5
comp=Z,896nmcomp=Z,33nm,1.2s,mb4.8
AAI **Ambon** 42.20 201 P P 12 29 55.9 +0.7
comp=Z,4µmcomp=Z,144nm,1.4s,mb5.4
CM31 **Chiang Mai Arr** 42.20 257 eP P 12 29 55.7 +0.5
comp=Z,18nm,1.0s,mb4.7
CMAR **Chiang Mai Arr** 42.20 257 P P 12 29 55.6 +0.4
comp=Z,4.5nm,0.8s,mb4.1,baz=49,slow=5.5,SNR=23
CMAR **Chiang Mai Arr** 42.20 257 P P 12 29 55.6 +0.4
CMAR **Chiang Mai Arr** 42.20 257 P P 12 29 55.7 +0.5
BTM **Bintulu** 42.83 226 P P 12 30 00.2 -0.2
BDT **Bhumibol Dam** 42.84 255 P P 12 30 00.0 -0.5
comp=Z,16nm,1.0s,mb4.7
ZAA0 **Zalesovo Array** 42.85 313 eP P 12 30 00.1 -0.1
ZAA0 ePcP PcP 12 31 51.0 -0.1
ZALV **Zalesovo Beam** 42.85 313 P P 12 30 00.5 +0.4
comp=Z,12nm,0.5s,mb4.8,baz=95,slow=7.4,SNR=42
ZALV **Zalesovo Beam** 42.85 313 P P 12 30 00.5 +0.4
ZALV **Zalesovo Beam** 42.85 313 P P 12 30 00.5 +0.3
NST **Nakhon Sawan** 42.89 252 P P 12 30 00.0 -0.9
LSA **Lhasa** 43.09 276 eP P 12 30 03.6 +1.2
comp=Z,37nm,1.0s,mb5.1
LSA **Lhasa** 43.09 276 eP P 12 30 03.6 +1.2
LSA pmax pmax
comp=Z,37nm,1.0s,mb5.1
NVS **Novosibirsk** 43.77 314 eP P 12 30 06.7 -0.9
NVS *i* S S 12 36 37.6 -0.8
NVS pmax pmax
comp=Z,56nm,1.2s,mb5.2
NVS pmax pmax
comp=E,41nm,1.3s
NVS smax
comp=N,179nm,3.5s
NVS smax
comp=E,100nm,2.0s
SBUM **Sibu** 43.93 226 P P 12 30 09.8 +0.5
SBUM **Sibu** 43.93 226 P P 12 30 07.8 -1.5
comp=E,29nm,1.2s,mb4.9
SBUM **Sibu** 43.93 226 P P 12 30 11.2 +1.9
comp=E,30nm,1.2s,mb4.9
KDI **Kendari** 44.36 209 P P 12 30 13.1 +0.4
comp=E,723nmcomp=E,39nm,1.4s,mb4.9
TTSI **Tana Toraja** 44.70 213 P P 12 30 14.3 -1.1
comp=E,2µmcomp=E,22nm,1.4s,mb4.8
MK31 **Makanchi Array** 45.08 303 eP P 12 30 18.0 -0.1
MK31 **Makanchi Array** 45.08 303 *i* P P 12 30 18.2 0.0
MK31 pmax pmax
comp=Z,47nm,1.0s,mb5.3
MKAR **Makanchi Array** 45.08 303 P P 12 30 18.3 +0.1
comp=Z,29nm,0.9s,mb5.1,baz=88,slow=10,SNR=45
MKAR **Makanchi Array** 45.08 303 P P 12 30 18.3 +0.1
MKAR **Makanchi Array** 45.08 303 P P 12 30 18.3 +0.1
NNT **Nongplab** 45.10 249 P P 12 30 19.8 +1.2
SVW2 **Sparrevohn** 45.39 37 eP P 12 30 21.9 +1.5
comp=Z,71nm,1.4s,mb5.3
SPSI **Sidrap Palu** 45.55 213 P P 12 30 20.2 -1.9
comp=Z,35nm,1.3s,mb5.1
SPSI **Sidrap Palu** 45.55 213 P P 12 30 23.0 +0.9
comp=Z,35nm,1.3s,mb5.1
BNSI **Bone** 45.79 212 P P 12 30 24.1 0.0
comp=Z,1µmcomp=Z,80nm,1.9s,mb5.3
BNSI **Bone** 45.79 212 P P 12 30 24.8 +0.7
comp=Z,1µmcomp=Z,130nm,1.3s,mb5.7
KSM **Kuching** 45.84 228 P P 12 30 25.6 +1.1
KSM **Kuching** 45.84 228 P P 12 30 22.3 -2.2
comp=Z,44nm,1.3s,mb5.2
PMG **Port Moresby** 45.93 174 P P 12 30 25.4 +0.2
comp=Z,73nm,1.1s,mb5.5,baz=355,slow=6.1,SNR=6.8
PMG **Port Moresby** 45.93 174 P P 12 30 25.4 +0.2
PMG **Port Moresby** 45.93 174 ceP P 12 30 27.2 +2.1
PMG pmax pmax
comp=Z,77nm,1.0s
STKI **Sintang** 46.30 225 P P 12 30 28.8 +0.7
comp=Z,8µmcomp=Z,80nm,1.2s,mb5.5
STKI **Sintang** 46.30 225 P P 12 30 29.2 +1.1
comp=Z,8µmcomp=Z,83nm,0.9s,mb5.7
KAPI **Kappang** 46.49 212 P P 12 30 29.3 -0.3
comp=Z,29nm,0.9s,mb5.2,baz=26,slow=5.3,SNR=11
KAPI **Kappang** 46.49 212 eP P 12 30 29.2 -0.4
comp=Z,191nm,1.4s,mb5.8
KAPI **Kappang** 46.49 212 P P 12 30 30.0 +0.4
comp=Z,1µmcomp=Z,102nm,1.4s,mb5.5
KAPI **Kappang** 46.49 212 P P 12 30 30.4 +0.8
comp=Z,1µmcomp=Z,76nm,1.3s,mb5.5
KAPI **Kappang** 46.49 212 P P 12 30 30.6 +1.0
SNR=8.2
BKSI **Bulukumba** 46.61 211 P P 12 30 30.3 -0.2
comp=Z,730nmcomp=Z,28nm,1.2s,mb5.1
KBKI **Kotabaru** 46.63 217 P P 12 30 30.8 +0.1
comp=Z,726nmcomp=Z,39nm,1.1s,mb5.3
RSO **Redoubt South** 46.76 38 eP P 12 30 31.9 +0.7
comp=Z,145nm,1.1s,mb5.8
TAPN **Taplejung** 46.82 275 eP P 12 30 32.7 +0.6
TAPN **Taplejung** 46.82 275 eP P 12 30 32.7 +0.6
KURK **Kurchatov** 46.89 309 P P 12 30 32.9 +0.5
comp=Z,36nm,0.9s,mb5.3,baz=83,slow=7.9,SNR=77
KURK **Kurchatov** 46.89 309 P P 12 30 32.9 +0.5
comp=Z,5.7nm,0.9s,mb4.5
KURK **Kurchatov** 46.89 309 ceP P 12 30 32.4 +0.1
KURK pmax pmax
comp=Z,74nm,1.2s,mb5.5
KURK **Kurchatov** 46.89 309 P P 12 30 32.5 +0.2
SNR=18
KURK **Kurchatov** 46.89 309 P P 12 30 32.6 +0.3
comp=Z,324nm,0.9s,mb6.3,SNR=21
KDAK **Kodiak Island** 46.89 42 P P 12 30 31.5 -0.8
comp=Z,41nm,0.9s,mb4.4,baz=219,slow=2.0,SNR=12
KDAK **Kodiak Island** 46.89 42 P P 12 30 31.5 -0.8
comp=Z,24nm,1.6s,mb4.9
KDAK **Kodiak Island** 46.89 42 *i* P P 12 30 31.7 -0.6
PPLA **Purkeypile** 47.08 35 eP P 12 30 34.5 +0.8
comp=Z,158nm,1.4s,mb5.8
ODAN **Odare** 47.28 275 eP P 12 30 36.1 +0.3
comp=Z,76nm,1.1s,mb5.5
ODAN **Odare** 47.28 275 eP P 12 30 36.1 +0.3
comp=Z,76nm,1.1s,mb5.5
BBKI **Banjar Baru** 47.43 219 P P 12 30 36.8 -0.1
comp=Z,4µmcomp=Z,176nm,1.5s,mb5.8
RAMN **Ramite** 47.88 275 eP P 12 30 40.7 +0.3
comp=Z,149nm,0.9s,mb6.0

RAMN **Ramite** 47.88 275 eP P 12 30 40.7 +0.3
comp=Z,149nm,0.9s,mb6.0
JIRN **Jiri** 47.90 276 eP P 12 30 41.2 +0.7
comp=Z,194nm,1.1s,mb6.1
JIRN **Jiri** 47.90 276 eP P 12 30 41.2 +0.7
comp=Z,194nm,1.1s,mb6.0
TRF **Thorofare Moun** 47.95 34 eP P 12 30 40.8 +0.4
comp=Z,30nm,1.2s,mb5.2
SLKM **Skilak Lake** 48.01 38 eP P 12 30 40.4 -0.5
SLKM **Skilak Lake** 48.01 38 eP P 12 30 40.4 -0.5
GUN **Gumba** 48.04 277 eP P 12 30 42.1 +0.5
comp=Z,136nm,0.9s,mb6.0
GUN **Gumba** 48.04 277 eP P 12 30 42.1 +0.5
comp=Z,136nm,0.9s,mb6.0
RC01 **Rabbit Creek A** 48.23 37 eP P 12 30 41.4 -1.2
comp=Z,137nm,1.5s,mb5.8
PBKI **Pangkalan Bun** 48.46 223 P P 12 30 46.3 +1.3
comp=Z,146nm,1.3s,mb5.8
PMR **Palmer** 48.51 36 eP P 12 30 44.7 0.0
comp=Z,103nm,1.4s,mb5.7
PMR **Palmer** 48.51 36 eP P 12 30 44.7 0.0
PMR pmax pmax
comp=Z,103nm,1.4s,mb5.7
MCK **McKinley** 48.56 34 eP P 12 30 44.8 -0.4
comp=Z,90nm,1.5s,mb5.6
MCK **McKinley** 48.56 34 eP P 12 30 44.8 -0.3
MCK pmax pmax
comp=Z,90nm,1.5s,mb5.6
PKI **Pulchoki** 48.56 276 eP P 12 30 45.8 +0.1
comp=Z,66nm,1.0s,mb5.6
PKI **Pulchoki** 48.56 276 eP P 12 30 45.8 +0.1
comp=Z,66nm,1.0s,mb5.6
PKI **Pulchoki** 48.56 276 eP P 12 30 45.8 +0.1
PKI pmax pmax
comp=Z,66nm,1.0s,mb5.6
KKN **Kakani** 48.57 277 eP P 12 30 45.9 +0.2
comp=Z,79nm,1.0s,mb5.7
KKN **Kakani** 48.57 277 eP P 12 30 45.9 +0.2
comp=Z,79nm,1.0s,mb5.7
KKN **Kakani** 48.57 277 eP P 12 30 45.9 +0.2
KKN pmax pmax
comp=Z,79nm,1.0s,mb5.7
MMRI **Maumere** 48.81 207 P P 12 30 47.8 +0.3
comp=Z,2µmcomp=Z,99nm,1.2s,mb5.7
MMRI **Maumere** 48.81 207 P P 12 30 49.1 +1.6
comp=Z,2µmcomp=Z,85nm,1.5s,mb5.6
GKN **Gorkha** 49.00 277 eP P 12 30 49.2 +0.2
comp=Z,162nm,1.0s,mb6.0
GKN **Gorkha** 49.00 277 eP P 12 30 49.2 +0.2
comp=Z,162nm,1.0s,mb6.0
COLA **College** 49.03 32 eP P 12 30 48.6 -0.1
comp=Z,54nm,1.4s,mb5.4
COLA **College** 49.03 32 eP P 12 30 48.7 0.0
COLA pmax pmax
comp=Z,54nm,1.4s,mb5.4
KULM **Kulim** 49.31 241 P P 12 30 51.3 -0.2
ILAR **Eielson Array** 49.45 32 P P 12 30 51.5 -0.4
comp=Z,20nm,0.9s,mb5.2,baz=270,slow=6.7,SNR=28
ILAR **Eielson Array** 49.45 32 P P 12 30 51.5 -0.4
ILAR **Eielson Array** 49.45 32 P P 12 30 51.5 -0.4
DANN **Dangsing** 49.55 278 eP P 12 30 53.8 +0.6
comp=Z,136nm,0.8s,mb6.0
DANN **Dangsing** 49.55 278 eP P 12 30 53.8 +0.6
comp=Z,136nm,0.8s,mb6.0
IPM **Ipoh** 49.62 240 P P 12 30 54.1 +0.2
IPM **Ipoh** 49.62 240 eP P 12 30 53.8 -0.1
comp=Z,63nm,1.3s,mb5.5
IPM **Ipoh** 49.62 240 P P 12 30 53.5 -0.4
comp=Z,45nm,1.3s,mb5.3
MYKOM **Kota Tinggi** 49.67 235 P P 12 30 55.2 +1.0
MYKOM **Kota Tinggi** 49.67 235 P P 12 30 55.3 +1.1
comp=Z,39nm,1.5s,mb5.2
KGM **Kluang** 49.85 236 P P 12 30 56.4 +0.8
KOLN **Koldanda** 49.92 278 eP P 12 30 56.2 +0.1
comp=Z,33nm,0.8s,mb5.4
KOLN **Koldanda** 49.92 278 eP P 12 30 56.2 +0.1
comp=Z,33nm,0.8s,mb5.4
DIV **Divide** 50.15 37 eP P 12 30 57.7 +0.4
comp=Z,148nm,1.3s,mb5.9
DIV ePcP PcP 12 32 13.7 -2.9
COEN **Coen** 50.25 179 eP P 12 30 59.2 +0.7
COEN **Coen** 50.25 179 eP P 12 30 59.0 +0.6
comp=Z,282nm,1.4s,mb6.1
COEN **Coen** 50.25 179 P P 12 30 59.0 +0.5
comp=Z,28nm,1.7s,mb5.0
TKM2 **Tokmak 2** 50.59 299 P P 12 31 02.1 +1.1
SNR=27
TKM2 P pP 12 31 02.1 -0.1
SNR=27
TKM2 **Tokmak 2** 50.59 299 eP P 12 31 01.8 +0.9
comp=Z,81nm,1.1s,mb5.6
TKM2 **Tokmak 2** 50.59 299 eP P 12 31 01.8 +0.8
TKM2 pmax pmax
comp=Z,81nm,1.1s,mb5.6
BMRM **Bremner River** 50.73 37 eP P 12 31 01.8 +0.1
comp=Z,92nm,1.3s,mb5.5
KMMI **Kalianget** 50.95 218 P P 12 31 04.3 +0.4
comp=Z,118nm,1.4s,mb5.6
MENT **Mentasta** 50.95 34 eP P 12 31 03.7 +0.4
KZA **Kyzart** 51.09 298 P P 12 31 06.7 +2.0
SNR=10
KZA P pP 12 31 06.7 +0.8
SNR=10
KBK **Karagaybulak** 51.13 299 P P 12 31 06.0 +1.0
SNR=19
KBK P pP 12 31 06.0 -0.3
SNR=19
PPBI **Pangkal Pinang** 51.24 229 P P 12 31 06.8 +0.7
comp=Z,3µmcomp=Z,53nm,1.5s,mb5.2
PPBI **Pangkal Pinang** 51.24 229 P P 12 31 08.6 +2.5
comp=Z,3µmcomp=Z,53nm,1.5s,mb5.2
USP **Ospenovka** 51.27 300 P P 12 31 06.4 +0.4
SNR=9.2
USP P pP 12 31 06.4 -0.9
SNR=9.2
MTNI **Mataram** 51.29 214 P P 12 31 05.5 -0.9
comp=Z,83nm,1.2s,mb5.5
FRU **Bishkek** 51.31 299 *i* P P 12 31 08.0 +1.7
FRU pmax pmax
comp=Z,50nm,1.2s,mb5.3
KSH **Kashi** 51.37 295 P P 12 31 10.5 +3.7
KSH pP pP 12 31 15.0 +6.9
KSH sP sP 12 31 17.5 +8.9
KSH PcP PcP 12 32 24.4 +2.9
KSH PP PP 12 33 08.8 +5.1
KSH ScP ScP 12 36 19.1 +0.3
KSH PcS PcS 12 36 20.9 +1.6
KSH S S 12 38 28.8 +2.0
KSH sS sS 12 38 37.1 +8.2
KSH ScS ScS 12 40 57.3 -0.8
KSH SS SS 12 42 03.6 +1.5
KSH pmax pmax
comp=Z,41nm,1.6s,mb5.1
KSH pmax pmax
comp=Z,370nm,5.2s
KSH LR LR
comp=N,900nm,12.4s,MS5.1
KSH LR LR
comp=E,830nm,12.0s,MS5.1
KSH LR LR
comp=Z,1µm,12.5s,MS5.1
AAK **Ala-Archa** 51.45 299 P P 12 31 07.9 +0.5
SNR=8.9
AAK P pP 12 31 07.9 -0.8
SNR=8.9
AAK **Ala-Archa** 51.45 299 eP P 12 31 07.8 +0.3
comp=Z,129nm,1.3s,mb5.7
AAK **Ala-Archa** 51.45 299 eP P 12 31 07.8 +0.4
AAK pmax pmax
comp=Z,129nm,1.3s,mb5.7
AAK **Ala-Archa** 51.45 299 P P 12 31 07.0 -0.4
comp=Z,77nm,1.2s,mb5.5
AAK **Ala-Archa** 51.45 299 P P 12 31 07.0 -0.4
comp=Z,89nm,1.3s,mb5.5,SNR=7.9
AAK **Ala-Archa** 51.45 299 P P 12 31 08.3 +0.8
SNR=7.6
ABJI **Asem Bagus** 51.46 217 P P 12 31 06.7 -1.0
comp=Z,581nm,0.6s,mb6.7
BVA0 **Borovoye Array** 51.51 313 *i* P P 12 31 07.9 +0.2
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BVAR **Borovoye Array** 51.51 313 P P 12 31 07.8 +0.1
comp=Z,13nm,1.0s,mb4.8,baz=85,slow=7.9,SNR=18
BVAR **Borovoye Array** 51.51 313 P P 12 31 07.8 +0.1
BVAR **Borovoye Array** 51.51 313 P P 12 31 07.8 +0.1
BRVK **Borovoye** 51.57 313 eP P 12 31 08.0 -0.1
comp=Z,20nm,1.1s,mb5.0

BRVK **Borovoye** 51.57 313 ⇓*i* P P 12 31 08.8 +0.7
BRVK pmax pmax
comp=Z,16nm,1.0s,mb4.9
BRVK **Borovoye** 51.57 313 P P 12 31 08.9 +0.8
comp=Z,85nm,1.3s,mb5.5,SNR=8.1
BRVK **Borovoye** 51.57 313 P P 12 31 09.2 +1.1
SNR=7.8
BYJI **Banyuwangi** 51.77 216 P P 12 31 10.3 +0.3
NBBI **Negara** 51.78 216 P P 12 31 10.4 +0.3
comp=Z,2µmcomp=Z,139nm,1.2s,mb5.8
TSI **Tuntungan** 52.04 241 P P 12 31 09.9 -2.2
comp=Z,60nm,1.4s,mb5.3
JAGI **Jajag, Banyuwa** 52.09 216 P P 12 31 10.0 -2.4
comp=Z,52nm,1.2s,mb5.3
AML **Almayashu** 52.17 299 P P 12 31 14.4 +1.6
SNR=24
AML P pP 12 31 14.4 +0.3
SNR=24
GMJI **Gumukmas** 52.26 217 P P 12 31 15.1 +1.4
comp=Z,38nm,1.2s,mb5.2
PSI **Prapat** 52.28 240 P P 12 31 13.9 0.0
comp=Z,31nm,1.3s,mb5.1
BKNI **Bangkinang** 52.62 236 P P 12 31 16.7 +0.3
comp=Z,2µmcomp=Z,136nm,1.3s,mb5.7
SJI **Sawahan** 52.64 220 P P 12 31 16.1 -0.4
comp=Z,3µmcomp=Z,85nm,1.6s,mb5.4
KRKI **Karangkates** 52.65 219 P P 12 31 15.3 -1.3
comp=Z,207nm,0.9s,mb6.0
PWJI **Pagerwojo** 52.86 219 P P 12 31 16.0 -2.1
comp=Z,2µmcomp=Z,127nm,1.0s,mb5.8
BSI **Banda Aceh** 53.03 246 P P 12 31 17.3 -2.2
comp=Z,23nm,1.3s,mb5.0
DDI **Dehra Dun** 53.23 283 ex P 12 31 20.0 -0.8
MNSI **Mandailing Nat** 53.27 238 P P 12 31 19.6 -1.6
comp=Z,24nm,1.1s,mb5.0
BJII **Banjamegara** 53.38 222 P P 12 31 22.4 +0.4
comp=Z,60nm,1.4s,mb5.3
UGM **Wanagama** 53.43 221 P P 12 31 21.6 -0.8
comp=Z,276nm,1.4s,mb6.0
PPI **Padang Panjang** 53.63 236 P P 12 31 23.4 -0.4
comp=Z,19nm,1.4s,mb4.8
KK31 **Karatay Array** 54.09 301 *i* P P 12 31 27.9 +1.0
KK31 pmax pmax
comp=Z,20nm,0.9s,mb5.0
KKAR **Karatay Array** 54.09 301 eP P 12 31 28.0 +1.1
comp=Z,43nm,1.1s,mb5.3
KKAR **Karatay Array** 54.09 301 eP P 12 31 28.0 +1.1
KKAR pmax pmax
comp=Z,43nm,1.1s,mb5.3
LEM **Lembang** 54.12 224 P P 12 31 27.2 -0.2
comp=Z,122nm,1.3s,mb5.7
KRJI **Kerinci** 54.14 234 P P 12 31 26.2 -1.4
comp=Z,390nm,0.9s,mb6.3
KLI **Kotabumi** 54.15 229 P P 12 31 27.1 -0.5
comp=Z,145nm,1.3s,mb5.8
INK **Inuvik** 54.43 27 P P 12 31 28.9 -0.1
comp=Z,19nm,0.9s,mb5.0,baz=280,slow=6.9,SNR=44
INK **Inuvik** 54.43 27 P P 12 31 28.9 -0.1
INK **Inuvik** 54.43 27 P P 12 31 28.9 -0.1
CISI **Cisompet, Garu** 54.60 224 P P 12 31 27.9 -3.0
comp=Z,47nm,1.6s,mb5.3
SKAG **Skagway** 55.55 38 eP P 12 31 38.6 +1.4
comp=Z,73nm,1.3s,mb5.5
SVE **Sverdlovsk** 56.06 319 ⇓*i* P P 12 31 41.5 +0.6
SVE pmax pmax
comp=Z,31nm,0.9s,mb5.3
CTA **Charters Tower** 56.45 176 P P 12 31 41.8 -2.2
comp=Z,1.9nm,0.5s,mb4.3,baz=15,slow=9.8,SNR=5.3
CTA **Charters Tower** 56.45 176 eP P 12 31 42.4 -1.6
CTA **Charters Tower** 56.45 176 P P 12 31 41.8 -2.2
CTA **Charters Tower** 56.45 176 P P 12 31 41.8 -2.2
CTAO **Charters Tower** 56.45 176 eP P 12 31 43.4 -0.6
comp=Z,18nm,1.5s,mb4.9
CTAO **Charters Tower** 56.45 176 eP P 12 31 43.4 -0.6
CTAO pmax pmax
comp=Z,18nm,1.5s,mb4.9
CTAO **Charters Tower** 56.45 176 P P 12 31 44.0 0.0
comp=Z,13nm,1.4s,mb4.8
FITZ **Fitzroy Crossi** 56.64 199 eP P 12 31 45.7 +0.3
FITZ **Fitzroy Crossi** 56.64 199 eP P 12 31 45.7 +0.3
comp=Z,82nm,1.4s,mb5.6
FITZ **Fitzroy Crossi** 56.64 199 P P 12 31 45.6 +0.2
comp=Z,43nm,1.4s,mb5.3
WRAB **Tennant Creek** 56.70 189 eP P 12 31 45.2 -0.7
WRAB **Tennant Creek** 56.70 189 eP P 12 31 45.2 -0.6
WRAB **Tennant Creek** 56.70 189 P P 12 31 45.1 -0.7
comp=Z,92nm,1.1s,mb5.7
WRAB **Tennant Creek** 56.70 189 P P 12 31 45.6 -0.2
comp=Z,301nm,1.0s,mb6.3,SNR=10
WB2 **Warramunga Arr** 56.72 189 eP P 12 31 45.1 -0.8
WRA **Warramunga Arr** 56.72 189 P P 12 31 43.1 -2.8
comp=Z,31nm,1.0s,mb5.3,baz=7.2,slow=7.6,SNR=19
WRA **Warramunga Arr** 56.72 189 P P 12 31 43.1 -2.8
WRA **Warramunga Arr** 56.72 189 P P 12 31 43.2 -2.7
ARU **Arti** 57.27 319 eP P 12 31 49.4 -0.1
comp=Z,33nm,1.0s,mb5.3
ARU **Arti** 57.27 319 *d i* P P 12 31 49.5 0.0
ARU S S 12 39 47.6 +1.7
ARU SS SS 12 43 28.1 -6.4
ARU pmax pmax
comp=Z,64nm,1.7s,mb5.4
ARU **Arti** 57.27 319 P P 12 31 49.9 +0.4
comp=Z,172nm,0.8s,mb6.1,SNR=8.5
KBL **Kabul** 58.37 292 eP P 12 31 57.7 0.0
comp=Z,37nm,1.0s,mb5.4
KBL **Kabul** 58.37 292 eP P 12 31 57.7 +0.1
KBL pmax pmax
comp=Z,37nm,1.0s,mb5.4
AB31 **Akbulak array** 58.89 311 eP P 12 32 00.5 -0.5
AB31 pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
ABKAR **Akbulak array** 58.89 311 eP P 12 32 00.5 -0.5
comp=Z,4.7nm,0.5s,mb4.8
HYB **Hyderabad** 59.03 269 *i* P P 12 32 02.0 -0.5
AS31 **Alice Springs** 60.44 189 eP P 12 32 11.2 -0.6
ASAR **Alice Springs** 60.44 189 P P 12 32 10.9 -0.9
comp=Z,15nm,1.1s,mb4.9,baz=10.0,slow=5.3,SNR=31
ASAR **Alice Springs** 60.44 189 P P 12 32 10.9 -0.9
ASAR **Alice Springs** 60.44 189 P P 12 32 11.0 -0.8
ALE **Alert** 60.53 4 P P 12 32 11.9 0.0
comp=Z,114nm,1.4s,mb5.8,SNR=8.8
MBWA **Marble Bar** 61.29 204 eP P 12 32 17.4 -0.3
MBWA **Marble Bar** 61.29 204 eP P 12 32 17.1 -0.5
comp=Z,92nm,1.6s,mb5.7
MBWA **Marble Bar** 61.29 204 P P 12 32 17.8 +0.1
POO **Poona** 62.23 273 ex P 12 32 21.0 -3.3
DZM **Mont Dzumac** 62.56 155 eP P 12 32 26.4 +0.2
comp=Z,148nm,1.3s,mb6.0
KAD **Karad** 62.61 272 ex P 12 32 26.5 -0.3
QLP **Quilpie** 62.83 178 eP P 12 32 27.5 -0.4
APA **Apatity** 63.46 336 ⇓*i* P P 12 32 31.4 -0.3
APA *i* 12 32 45.0
APA pmax pmax
comp=Z,404nm,1.4s,mb6.4
YKA **Yellowknife Ar** 63.80 30 P P 12 32 33.5 -0.5
comp=Z,9.6nm,1.0s,mb4.8,baz=297,slow=6.5,SNR=61
YKA **Yellowknife Ar** 63.80 30 P P 12 32 33.5 -0.5
YKA **Yellowknife Ar** 63.80 30 P P 12 32 33.5 -0.5
IMYA **Miami** 64.13 297 eP P 12 32 35.8 -0.8
KEV **Kevo** 64.18 340 eP P 12 32 36.3 -0.1
KEV **Kevo** 64.18 340 ep P 12 32 36.3 -0.1
KLMR **Klimovskoe** 64.61 328 eP P 12 32 35.3 -4.0
KLMR *e* 12 35 00.9
KLMR pmax pmax
comp=Z,96nm,1.5s,mb5.6
KLMR pmax pmax
comp=Z,535nm,6.3s
ARCES **ARCESS Array B** 64.73 340 P P 12 32 40.2 +0.2
comp=Z,5.5nm,0.9s,mb4.6,baz=44,slow=7.1,SNR=5.7
ARCES **ARCESS Array B** 64.73 340 P P 12 32 40.2 +0.2
ARCES **ARCESS Array B** 64.73 340 P P 12 32 40.3 +0.3
IAKL **Akhelmad** 64.97 298 eP P 12 32 39.5 -2.6
IDAH **Dahanechah** 66.00 294 eP P 12 32 48.6 -0.3
DAG **Danmarks Havn** 66.32 355 *i* P P 12 32 49.6 -0.6
DAG pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
DAG **Danmarks Havn** 66.32 355 *i* P P 12 32 49.6 -0.6
comp=Z,6.0nm,1.1s,mb4.5
ITEG **Tejag** 66.75 294 eP P 12 32 53.5 -0.2
JOF **Joensuu** 66.78 332 eP P 12 32 50.5 -2.8
JOF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
JOF **Joensuu** 66.78 332 ep P 12 32 50.5 -2.8
comp=Z,6.2nm,0.6s,mb4.8
IKOO **Kooshah** 66.79 294 eP P 12 32 54.1 +0.2
JCW **Jim Creek** 67.17 46 eP P 12 32 56.7 +0.7

comp=Z,45nm,1.2s,mb5.4
ARMA Armidale 67.18 171 *e*P P **12 32 56.5 +0.4**
STKA Stephens Creek 68.08 181 P P **12 33 01.4 -0.4**
comp=Z,8.5nm,1.1s,mb4.7,baz=9.6,slow=6.2,SNR=6.3
STKA Stephens Creek 68.08 181 *e*P P **12 33 01.1 -0.7**
STKA Stephens Creek 68.08 181 P P **12 33 01.4 -0.4**
STKA Stephens Creek 68.08 181 P P **12 33 01.4 -0.4**
MOS Moscow 68.13 324 *e*P P **12 33 00.9 -1.1**
MOS pmax pmax
comp=Z,114nm,1.4s,mb5.7
FORT Forrest 68.33 193 *e*P P **12 33 02.6 -0.8**
ETW Entiat 68.39 46 *e*P P **12 33 04.3 +0.5**
comp=Z,51nm,1.3s,mb5.4
OBN Obninsk 68.98 324 *e*P P **12 33 07.7 +0.4**
comp=Z,30nm,0.6s,mb5.4
OBN Obninsk 68.98 324⇓ *e*P P **12 33 07.7 +0.4**
OBN *e* 12 33 13.7
OBN *e* 12 33 21.0
OBN pmax pmax
comp=Z,117nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,600nm,13.0s,MS5.0
KAF Kangasniemi 69.11 333 *e*P P **12 33 06.3 -1.7**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KAF Kangasniemi 69.11 333 *e*p P **12 33 06.3 -1.7**
comp=Z,6.7nm,0.6s,mb4.8
BBOO Buckleboo 69.27 186 *e*P P **12 33 09.0 -0.2**
MAK Makhachkala 69.41 309 *e*P P **12 33 07.3 -2.9**
MAK *e*S S 12 42 13.0 -4.9
MAK pmax pmax
comp=Z,250nm,1.2s,mb6.0
MAK MLR MLR
comp=Z,2μm,13.0s,MS5.5
OD2 Odessa Site #2 69.44 46 *e*P P **12 33 10.3 0.0**
comp=Z,32nm,1.2s,mb5.1
RSW Rattlesnake Hi 69.45 47 *e*P P **12 33 11.2 +0.8**
comp=Z,28nm,1.2s,mb5.1
FINES FINESS Array B 69.62 333 P P **12 33 11.2 +0.1**
comp=Z,15nm,0.9s,mb4.9,baz=34,slow=10,SNR=14
FINES FINESS Array B 69.62 333 P P **12 33 11.2 +0.1**
FINES FINESS Array B 69.62 333 P P **12 33 11.3 +0.1**
LNOR Lincton Mounta 70.50 47 *e*P P **12 33 16.9 +0.1**
comp=Z,26nm,1.3s,mb5.0
LNOR Lincton Mounta 70.50 47 *e*P P **12 33 17.0 +0.2**
LNOR pmax pmax
comp=Z,26nm,1.3s,mb5.0
YNG Young 70.71 175 *e*P P **12 33 18.7 +0.7**
SUMG Summit 71.16 0 *e*P P **12 33 21.1 +0.7**
comp=Z,53nm,1.3s,mb5.3
SUMG Summit 71.16 0 *i*P P **12 33 21.0 +0.6**
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG Summit 71.16 0 *i*P P **12 33 21.0 +0.6**
comp=Z,14nm,1.1s,mb4.8
VSU Vasula 71.29 330⇓ *i*P P **12 33 22.0 +0.6**
VSU pmax pmax
comp=Z,60nm,1.5s,mb5.3
ZEI Tsey 71.76 310 *e*P P **12 33 24.5 -0.1**
ZEI pmax pmax
comp=Z,21nm,1.4s,mb4.9
KIV Kislovodsk 71.85 311 *e*P P **12 33 26.2 +1.1**
comp=Z,71nm,1.1s,mb5.5
KIV Kislovodsk 71.85 311 *ce*P P **12 33 25.9 +0.8**
KIV *e* 12 33 40.2
KIV pmax pmax
comp=Z,83nm,1.2s,mb5.5
KIV MLR MLR
comp=Z,900nm,17.0s,MS5.1
KIV Kislovodsk 71.85 311 P P **12 33 26.8 +1.7**
SNR=14
KIV Kislovodsk 71.85 311 P P **12 33 26.4 +1.3**
comp=Z,340nm,1.1s,mb6.2,SNR=8.1
SWMT Swartz Lake 72.05 44 *e*P P **12 33 26.6 +0.4**
comp=Z,28nm,1.2s,mb5.1
SLMT Seeley Lake 72.49 44 *e*P P **12 33 28.8 -0.1**
comp=Z,38nm,1.3s,mb5.2
IPAR Pars 72.50 294 *e*P P **12 33 28.9 -0.3**
GNI Garni 72.66 307 *e*P P **12 33 31.6 +1.6**
comp=Z,35nm,1.1s,mb5.2
GNI Garni 72.66 307 *c i*P P **12 33 31.0 +1.0**
GNI pmax pmax
comp=Z,42nm,1.3s
SCO Scoresbysund 72.67 355 *i*P P **12 33 29.8 +0.3**
SCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
SCO Scoresbysund 72.67 355 *i*P P **12 33 29.8 +0.3**
comp=Z,6.4nm,1.1s,mb4.5
ISRV Sarvestan 72.69 294 *e*P P **12 33 28.7 -1.7**
CHMT Chamberlain Mo 72.81 44 *e*P P **12 33 30.6 -0.2**
comp=Z,12nm,1.4s,mb4.6
ARPS Mount Arapiles 72.96 181 *e*P P **12 33 30.9 -0.6**
comp=Z,71nm,1.2s,mb5.5
MFID Camas Ranch 73.32 48 *e*P P **12 33 34.4 +0.6**
comp=Z,36nm,1.5s,mb5.1
MICGM Minsk 73.36 326 *e*P P **12 33 33.0 -0.9**
MNK Minsk 73.38 326 *e*P P **12 33 33.0 -1.0**
MNK pmax pmax
comp=Z,190nm,1.2s,mb5.9
FFC Flin Flon 73.65 33 *e*P P **12 33 35.2 -0.3**
comp=Z,62nm,1.4s,mb5.3
FFC Flin Flon 73.65 33 *e*P P **12 33 35.2 -0.3**
FFC pmax pmax
comp=Z,62nm,1.4s,mb5.3
FFC Flin Flon 73.65 33 P P **12 33 35.5 0.0**
comp=Z,163nm,1.4s,mb5.8,SNR=11
HRY Holter Researc 73.72 44 *e*P P **12 33 36.7 +0.6**
comp=Z,26nm,1.0s,mb5.1
LRM Limekiln Ridge 73.90 45 *e*P P **12 33 37.9 +0.7**
comp=Z,478nm,1.2s,mb6.3
EGMT Eagleton 74.07 42 *e*P P **12 33 38.0 -0.1**
comp=Z,41nm,1.3s,mb5.2
DLMT Dillon 74.08 45 *e*P P **12 33 38.7 +0.5**
comp=Z,40nm,1.2s,mb5.2
MCMT McKenzie Canyo 74.25 46 *e*P P **12 33 39.6 +0.3**
comp=Z,2.5nm,1.1s,mb4.1
ANN Anapa 74.46 314 *e*P P **12 33 40.7 +0.2**
ANN *e*S S 12 43 15.2 -0.8
ANN pmax pmax
comp=Z,77nm,1.4s,mb5.4
BOZ Bozeman (W) 74.46 44 *e*P P **12 33 41.1 +0.6**
comp=Z,32nm,1.4s,mb5.0
BOZ Bozeman (W) 74.46 44 *e*P P **12 33 41.1 +0.6**
BOZ pmax pmax
comp=Z,32nm,1.4s,mb5.1
NVAR Mina Array Bea 74.60 54 P P **12 33 42.4 +0.9**
comp=Z,9.4nm,1.0s,mb4.7,baz=283,slow=6.4,SNR=38
NVAR Mina Array Bea 74.60 54 P P **12 33 42.4 +0.9**
NB2 NORSAR Subarra 74.95 338 P P **12 33 42.9 -0.1**
comp=Z,0.6nm,0.7s,baz=47,slow=6.2
NOA NORSAR Array B 74.95 338 P P **12 33 43.2 +0.2**
comp=Z,11nm,1.0s,mb4.7,baz=39,slow=5.7,SNR=11
NOA NORSAR Array B 74.95 338 P P **12 33 43.2 +0.2**
NOA NORSAR Array B 74.95 338 P P **12 33 43.2 +0.2**
QLMT Earthquake Lak 75.06 45 *e*P P **12 33 44.8 +0.8**
comp=Z,4.2nm,1.3s,mb4.2
AKASG Malin Array Be 75.19 323 P P **12 33 44.2 -0.3**
comp=Z,13nm,0.8s,mb4.9,baz=45,slow=5.7,SNR=26
AKASG Malin Array Be 75.19 323 P P **12 33 44.2 -0.3**
AKASG Malin Array Be 75.19 323 P P **12 33 44.3 -0.3**
AKBB Malin Array Si 75.19 323 *e*P P **12 33 44.3 -0.3**
AKBB Malin Array Si 75.19 323 *e*P P **12 33 44.3 -0.3**
KIEV Kiev 75.20 323 *e*P P **12 33 44.3 -0.3**
comp=Z,61nm,1.3s,mb5.4
KIEV Kiev 75.20 323⇓ *i*P P **12 33 43.6 -1.0**
GCMT Greycliff 75.47 43 *e*P P **12 33 46.5 +0.2**
comp=Z,30nm,1.4s,mb5.0
SUW Suwalki 75.74 328 *e*P P **12 33 47.7 0.0**
SUW Suwalki 75.74 328 *e*P P **12 33 47.7 0.0**
FLWY Flagg Ranch 75.93 45 *e*P P **12 33 50.7 +1.7**
comp=Z,54nm,1.4s,mb5.3
DCID1 Drake Creek 75.95 46 *e*P P **12 33 50.6 +1.6**
comp=Z,58nm,1.3s,mb5.3
RLMT Red Lodge 76.11 44 *e*P P **12 33 50.3 +0.3**
comp=Z,35nm,1.4s,mb5.1
MOOW Moose Ponds 76.11 46 *e*P P **12 33 50.9 +0.9**
comp=Z,32nm,1.4s,mb5.1
TPAW Teton Pass 76.15 46 *e*P P **12 33 50.6 +0.4**
comp=Z,43nm,1.5s,mb5.2
SFJD Kangerlussuaq 76.28 5 *e*P P **12 33 50.7 +0.1**
comp=Z,141nm,1.8s,mb5.6
SFJD Kangerlussuaq 76.28 5 *e*P P **12 33 50.7 +0.1**
SFJD pmax pmax
comp=Z,141nm,1.8s,mb5.6
SFJD Kangerlussuaq 76.28 5 *i*P P **12 33 50.7 +0.1**
comp=Z,9.2nm,0.9s,mb4.7

DGMT Dagmar 76.68 39 *e*P P **12 33 53.2 +0.1**
comp=Z,75nm,1.4s,mb5.4
BHD Baghdad 76.76 302 *ex* x 12 33 52.5
BHD *i* x x 12 43 36.5
LAO LASA Array 76.78 41 *e*P P **12 33 54.3 +0.5**
comp=Z,48nm,1.2s,mb5.3
NOQ North Oquirrh 77.17 49 *e*P P **12 33 56.4 +0.3**
comp=Z,84nm,1.5s,mb5.5
PDAR Pinedale Array 77.40 46 P P **12 33 57.4 +0.1**
comp=Z,3.9nm,1.0s,mb4.3,baz=262,slow=3.0,SNR=18
PDAR Pinedale Array 77.40 46 P P **12 33 57.4 +0.1**
DAU Daniels Canyon 77.84 49 *e*P P **12 34 00.9 +1.1**
comp=Z,34nm,1.3s,mb5.1
DAU Daniels Canyon 77.84 49 *e*P P **12 34 00.9 +1.1**
DAU pmax pmax
comp=Z,34nm,1.3s,mb5.1
ARUT Antelope Range 78.08 52 *e*P P **12 34 01.5 +0.3**
comp=Z,35nm,1.4s,mb5.1
ARUT Antelope Range 78.08 52 *e*P P **12 34 01.5 +0.3**
ARUT pmax pmax
comp=Z,35nm,1.4s,mb5.1
LVV L'vov 78.26 324 *e*P P **12 34 01.7 -0.2**
LVV *e* 12 37 02.3
LVV MLR MLR
comp=Z,1μm,17.0s,MS5.2
LVV MLR MLR
comp=N,300nm,16.0s,MS4.9
LVV MLR MLR
comp=E,400nm,16.0s,MS4.9
BEL Belsk 78.30 327 *e*P P **12 34 03.0 +0.8**
BEL Belsk 78.30 327 *e*P P **12 34 03.0 +0.9**
MSU Marysvale 78.44 51 *e*P P **12 34 04.0 +0.8**
comp=E,29nm,1.3s,mb5.0
MSU Marysvale 78.44 51 *e*P P **12 34 04.0 +0.8**
MSU pmax pmax
comp=Z,29nm,1.3s,mb5.0
TMUT Trail Mountain 78.56 49 *e*P P **12 34 04.6 +0.8**
comp=Z,30nm,1.4s,mb5.0
PFO Pinyon Flat Ob 78.61 57 *e*P P **12 34 04.2 +0.1**
comp=Z,16nm,1.4s,mb4.8
PFO Pinyon Flat Ob 78.61 57 *e*P P **12 34 04.2 0.0**
PFO pmax pmax
comp=Z,16nm,1.4s,mb4.8
LDFC Landfair 78.63 55 *e*P P **12 34 04.5 +0.2**
comp=Z,24nm,1.3s,mb5.0
LDFC *e*PP PP 12 37 01.5 -0.2
KWP Kalwaria Pacla 79.00 325 *e*P P **12 34 07.2 +1.1**
KWP Kalwaria Pacla 79.00 325 *e*P P **12 34 06.9 +0.8**
comp=Z,99nm,1.3s,mb5.6
KWP Kalwaria Pacla 79.00 325 ⇑P P **12 34 07.4 +1.3**
KWP Kalwaria Pacla 79.00 325 ⇑*i*P P **12 34 07.4 +1.3**
SRU San Rafael 79.09 49 *e*P P **12 34 06.8 +0.1**
comp=Z,30nm,1.2s,mb5.1
SRU San Rafael 79.09 49 *e*P P **12 34 06.8 +0.1**
SRU pmax pmax
comp=Z,30nm,1.2s,mb5.1
BUR08 Bucovina Ar. S 79.19 322 *e*P P **12 34 07.5 +0.4**
BURAR Bucovina Array 79.20 322 ⇓P P **12 34 08.1 +0.9**
BURAR Bucovina Array 79.20 322 ⇓*i*P P **12 34 08.1 +0.9**
ULM Lac du Bonnet 79.43 34 P P **12 34 07.5 -0.9**
comp=Z,8.5nm,1.1s,mb4.6,baz=290,slow=4.0,SNR=7.7
ULM Lac du Bonnet 79.43 34 P P **12 34 07.5 -0.9**
ULM Lac du Bonnet 79.43 34 P P **12 34 07.6 -0.8**
RSSD Black Hills 79.62 42 *e*P P **12 34 08.9 -0.6**
comp=Z,18nm,1.3s,mb4.8
RSSD Black Hills 79.62 42 *e*P P **12 34 08.9 -0.6**
RSSD pmax pmax
comp=Z,18nm,1.3s,mb4.8
VRI Vrincioaia 79.63 320 ⇓P P **12 34 11.8 +2.2**
VRI Vrincioaia 79.63 320 ⇓*i*P P **12 34 11.8 +2.2**
KOLS Kolonicke sedl 79.70 325 *e*P P **12 34 13.7 +3.8**
KOLS Kolonicke sedl 79.70 325 *e* P **12 34 13.7 +3.8**
BR131 Keskin Array S 79.79 312 *e*P P **12 34 10.8 +0.3**
comp=Z,29nm,1.4s,mb5.0
BRTR Keskin Array B 79.80 312 P P **12 34 11.3 +0.8**
comp=Z,8.6nm,1.1s,mb4.6,baz=88,slow=4.1,SNR=15
BRTR Keskin Array B 79.80 312 P P **12 34 11.3 +0.8**
BRTR Keskin Array B 79.80 312 P P **12 34 11.4 +0.8**
STHS Stebnicka Huta 79.83 325 *e*P P **12 34 11.9 +1.3**
STHS pmax pmax
comp=Z,17nm,1.4s,mb4.8
STHS Stebnicka Huta 79.83 325 *e*P P **12 34 11.9 +1.3**
OJC Ojcow 79.90 327 *e*P P **12 34 11.8 +0.9**
OJC Ojcow 79.90 327 *e*P P **12 34 11.8 +0.9**
UZH Uzhgorod 79.90 324 *e*P P **12 34 08.1 -2.9**
CRVS Cervenica-Dubn 80.10 325 *e*P P **12 34 12.9 +0.9**
CRVS pmax pmax
comp=Z,32nm,1.6s,mb5.0
CRVS Cervenica-Dubn 80.10 325 *e*P P **12 34 12.9 +0.9**
TRPA Tarpa 80.14 324 ⇓*i*P P **12 34 13.4 +1.1**
NIE Niedzica 80.25 326 *e*P P **12 34 13.7 +0.9**
NIE Niedzica 80.25 326 *e*P P **12 34 13.7 +0.9**
MLR Muntele Rosu 80.29 320 ⇓P P **12 34 16.7 +3.6**
MLR Muntele Rosu 80.29 320 ⇓*i*P P **12 34 16.6 +3.5**
PV04 Paradox Valley 80.52 49 *e*P P **12 34 15.1 +0.5**
KECS Kecovo 80.85 325 *e*P P **12 34 16.3 +0.2**
KECS pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
KECS Kecovo 80.85 325 *e*P P **12 34 16.3 +0.2**
PV01 Paradox Valley 80.89 49 *e*P P **12 34 16.8 +0.3**
comp=Z,4μm,1.3s
OKC Ostrava-Krasne 80.91 327 *i*P P **12 34 16.7 +0.3**
OKC Ostrava-Krasne 80.91 327 *i*P P **12 34 16.7 +0.3**
KSP Ksiaz 80.95 329 *e*P P **12 34 17.3 +0.8**
KSP Ksiaz 80.95 329 *e*P P **12 34 16.9 +0.4**
KSP Ksiaz 80.95 329⇓ *e*P P **12 34 16.9 +0.4**
DRGR 81.00 323 ⇑P P **12 34 18.4 +1.5**
DRGR 81.00 323 ⇑*i*P P **12 34 18.4 +1.5**
MORC Moravsky Berou 81.21 327 *e*P P **12 34 18.3 +0.3**
comp=Z,40nm,1.4s,mb5.2
MORC Moravsky Berou 81.21 327 ⇑P P **12 34 18.8 +0.8**
MORC Moravsky Berou 81.21 327 ⇑*i*P P **12 34 18.8 +0.8**
DPC Dobruska-Polom 81.31 328 *i*P P **12 34 18.8 +0.3**
DPC Dobruska-Polom 81.31 328 *i*P P **12 34 18.8 +0.3**
UPC Upice 81.32 329 *i*P P **12 34 19.1 +0.6**
UPC *e* 12 34 25.1
UPC Upice 81.32 329 *i*P P **12 34 19.1 +0.6**
UPC *e*pP pP 12 34 25.1 +5.3
PSZ Piszkesteto 81.53 325 *e*P P **12 34 20.4 +0.6**
comp=Z,46nm,1.4s,mb5.2
PSZ Piszkesteto 81.53 325 ⇓P P **12 34 21.0 +1.3**
PSZ Piszkesteto 81.53 325 ⇓*e*P P **12 34 20.7 +1.0**
PSZ Piszkesteto 81.53 325 ⇓*i*P P **12 34 21.0 +1.3**
VYHS Vyhne 81.59 326 *e*P P **12 34 20.7 +0.7**
VYHS pmax pmax
comp=Z,16nm,1.4s,mb4.8
VYHS Vyhne 81.59 326 *e*P P **12 34 20.7 +0.7**
KOLL Kolacno 81.72 326 *e*P P **12 34 21.1 +0.4**
KOLL Kolacno 81.72 326 *e*P P **12 34 21.1 +0.4**
BRG Berggiesshubel 81.89 330 *i*P P **12 34 21.7 +0.2**
comp=Z,30nm,1.6s,mb5.0
BRG Berggiesshubel 81.89 330 *i*P P **12 34 21.7 +0.2**
BRG pmax pmax
comp=Z,30nm,1.6s,mb5.0
PVCC Panska Ves 81.90 329 *i*P P **12 34 22.3 +0.7**
PVCC *e* 12 34 28.4
PVCC Panska Ves 81.90 329 *i*P P **12 34 22.3 +0.7**
PVCC *e*pP pP 12 34 28.4 +5.5
CLL Collm 81.92 331 ⇓*i*P P **12 34 21.0 -0.7**
CLL *e*S S 12 44 35.0 -1.0
CLL pmax pmax
comp=Z,38nm,1.4s,mb5.1
CLL Collm 81.92 331 ⇓*i*P P **12 34 21.0 -0.7**
comp=Z,38nm,1.4s,mb5.1
GZR Gura Zlata 81.96 322 ⇓P P **12 34 22.6 +0.6**
GZR Gura Zlata 81.96 322 ⇓*i*P P **12 34 22.6 +0.6**
VRAC Vranov 81.97 328 ⇑P P **12 34 22.9 +0.9**
VRAC Vranov 81.97 328 ⇑*i*P P **12 34 22.9 +0.9**
BUD Budapest 82.25 325 ⇑*e*P P **12 34 24.3 +0.8**
PRU Pruhonice 82.32 329 *i*P P **12 34 23.9 +0.1**
PRU Pruhonice 82.32 329 *i*P P **12 34 23.9 +0.1**
BZS Buzias 82.37 323 P P **12 34 25.2 +1.0**
NKC Novy Kostel 82.98 330 *i*P P **12 34 27.6 +0.3**
NKC Novy Kostel 82.98 330 *i*P P **12 34 27.6 +0.3**
TUC Tucson 83.17 55 *e*P P **12 34 28.7 +0.1**
comp=Z,15nm,1.5s,mb4.8
TUC Tucson 83.17 55 *e*P P **12 34 28.7 +0.1**
TUC pmax pmax
comp=Z,15nm,1.5s,mb4.8
KDZ Kurdzhali 83.21 318 P P **12 34 30.0 +1.4**
SOP Sopron 83.22 327 ⇑*e*PcP PcP 12 34 29.5 -3.6
PMOR Pomariorio Ree 83.22 114 *e*P P **12 34 26.3 -2.6**
comp=Z,77nm,1.5s,mb5.5

CONA Conrad Observa 83.34 327 ⇑*i*pP pP 12 34 30.2 -0.3
comp=Z,32nm,1.3s,SNR=9.6
PKSM Moragy 83.36 324 ⇑P P **12 34 25.9 -3.4**
PKSM Moragy 83.36 324 ⇑*i*P P **12 34 25.9 -3.4**
KHC Kasperske Hory 83.39 329 *e*P P **12 34 29.7 +0.3**
comp=Z,19nm,1.2s,mb5.0
KHC Kasperske Hory 83.39 329 *i*P P **12 34 29.8 +0.4**
KHC *e* 12 34 35.0
KHC Kasperske Hory 83.39 329 *i*P P **12 34 29.8 +0.4**
KHC *ex* x 12 34 35.0
KHC *ex* x 12 34 49.0
GERES GERESS Array B 83.56 329 P P **12 34 30.3 0.0**
comp=Z,2.4nm,0.7s,mb4.5,baz=73,slow=1.8,SNR=11
GERES GERESS Array B 83.56 329 P P **12 34 30.3 0.0**
GERES GERESS Array B 83.56 329 P P **12 34 30.3 0.0**
VTS Vitosha 83.72 320 ⇑P P **12 34 32.3 +1.1**
VTS Vitosha 83.72 320 P P **12 34 32.0 +0.8**
VTS Vitosha 83.72 320 ⇑*i*P P **12 34 32.3 +1.1**
PAE Paea 83.73 117 *e*P P **12 34 29.0 -2.5**
comp=Z,6.9nm,1.1s,mb4.7
TIAR Tiarei 83.83 117 *e*P P **12 34 29.5 -2.5**
comp=Z,74nm,1.5s,mb5.6
GRF Grafenberg Arr 83.90 331 *e*P P **12 34 32.8 +0.8**
comp=Z,55nm,1.5s,mb5.5
GRF *e*L 13 14 59.9
comp=Z,448nm,21.4s
GRF Grafenberg Arr 83.90 331 *e*P P **12 34 32.8 +0.8**
GRF pmax pmax
comp=Z,55nm,1.5s,mb5.5
GRF MLR MLR
comp=Z,400nm,21.4s,MS4.8
GRFO Grafenberg 83.90 331 *e*P P **12 34 32.1 +0.1**
comp=Z,80nm,1.4s,mb5.7
GRFO Grafenberg 83.90 331 *e*P P **12 34 32.1 +0.1**
GRFO pmax pmax
comp=Z,80nm,1.4s,mb5.7
ARSA Arzberg 84.00 327 ⇓*i*P P **12 34 32.6 +0.1**
comp=Z,15nm,1.4s,mb4.9
MMB Musomiste 84.16 319 P P **12 34 34.0 +0.5**
LAZ Ladron 84.18 51 *e*P P **12 34 34.4 +0.6**
comp=Z,18nm,1.6s,mb5.0
LENM Lemitar 84.43 51 *e*P P **12 34 35.8 +0.8**
comp=Z,4.5nm,1.0s,mb4.5
LPM Los Pinos Moun 84.55 51 *e*P P **12 34 36.1 +0.5**
comp=Z,8.9nm,1.3s,mb4.7
PERS Pernice 84.65 327 *i*P P **12 34 35.8 -0.1**
SOKA Soboth 84.66 327 ⇑*i*pP pP 12 34 36.1 -1.2
comp=Z,34nm,1.4s
BNM Barren Site 84.66 51 *e*P P **12 34 36.2 0.0**
comp=Z,14nm,1.3s,mb4.9
VAY Valandovo 84.96 319 *e*P P **12 34 36.8 -0.8**
BEBN Eben Emael 85.07 334 P P **12 34 38.4 +0.5**
SKO Skopje 85.08 320 *e*P P **12 34 37.3 -0.9**
MEM Membach 85.11 334 P P **12 34 37.4 -0.7**
VISS Visnje 85.41 326 *i*P P **12 34 41.8 +2.0**
STU Stuttgart 85.43 331 *e*P P **12 34 39.2 -0.6**
comp=Z,43nm,1.0s,mb5.5
STU Stuttgart 85.43 331 *e*P P **12 34 39.2 -0.6**
STU pmax pmax
comp=Z,43nm,1.0s,mb5.5
BOJS Bojanci 85.46 326 *i*P P **12 34 42.4 +2.4**
BCLA Clavier 85.52 334 P P **12 34 39.3 -0.8**
comp=Z,27nm,2.4s,mb5.0
SCHQ Schefferville 85.56 16 P P **12 34 40.0 -0.3**
comp=Z,15nm,1.1s,mb5.2,baz=311,slow=2.9,SNR=4.0
SCHQ Schefferville 85.56 16 P P **12 34 40.0 -0.3**
CBKS Cedar Bluff 85.59 44 *e*P P **12 34 40.2 -0.5**
comp=Z,23nm,0.8s,mb5.5
CBKS Cedar Bluff 85.59 44 *e*P P **12 34 40.2 -0.6**
CBKS pmax pmax
comp=Z,23nm,0.8s,mb5.5
KRUS Krusevo 85.62 320 *e*P P **12 34 39.9 -0.9**
JAVS Javornik 85.69 327 *i*P P **12 34 40.3 -0.8**
SNF Seneffe 85.80 335 P P **12 34 41.5 -0.1**
comp=Z,20nm,1.6s,mb5.1
MOTA Moosalm 85.81 329 ⇓*i*PcP PcP 12 34 41.8 -2.7
comp=Z,22nm,1.3s
BIA Bitola 85.83 320 *e*P P **12 34 41.3 -0.6**
RETA Reutte 85.84 329 ⇑*i*PcP PcP 12 34 42.0 -2.6
comp=Z,29nm,1.1s,SNR=5.8
WLF Walferdange 85.84 333 P P **12 34 41.8 0.0**
comp=Z,27nm,2.0s,mb5.1
GIVF Givet 85.95 334 *e*P P **12 34 41.4 -0.9**
GIVF Givet 85.95 334 *e*P P **12 34 41.4 -0.9**
GIVF Givet 85.95 334 *e*P P **12 34 41.4 -0.9**
DOU Dourbes 86.04 334 P P **12 34 42.6 -0.2**
BFO Black Forest 86.13 331 *e*P P **12 34 42.9 -0.3**
comp=Z,35nm,1.3s,mb5.4
BFO Black Forest 86.13 331 *e*P P **12 34 42.9 -0.3**
BFO pmax pmax
comp=Z,35nm,1.3s,mb5.4
BFO Black Forest 86.13 331 P P **12 34 43.7 +0.5**
comp=Z,123nm,1.3s,mb6.0,SNR=9.0
BAIF Baives 86.20 335 *e*P P **12 34 42.9 -0.7**
comp=Z,80nm,1.7s,mb5.4
BAIF Baives 86.20 335 *e*P P **12 34 42.9 -0.7**
comp=Z,80nm,1.7s,mb5.7
BAIF Baives 86.20 335 *e*P P **12 34 42.9 -0.7**
BAIF pmax pmax
comp=Z,80nm,1.7s,mb5.7
DAVA Damuels 86.36 330 ⇑*i*PcP PcP 12 34 44.6 -2.3
comp=Z,23nm,1.2s
CDF Champ du Feu 86.46 332 *e*P P **12 34 44.2 -0.7**
comp=Z,71nm,1.4s,mb5.4
CDF Champ du Feu 86.46 332 *e*P P **12 34 44.2 -0.7**
comp=Z,71nm,1.4s,mb5.7
CDF Champ du Feu 86.46 332 *e*P P **12 34 44.2 -0.7**
CDF pmax pmax
comp=Z,71nm,1.4s,mb5.7
ECH Echery 86.67 332 *e*P P **12 34 45.3 -0.6**
comp=Z,17nm,1.2s,mb5.2
ECH Echery 86.67 332 *e*P P **12 34 45.3 -0.6**
ECH pmax pmax
comp=Z,17nm,1.2s,mb5.2
ECH Echery 86.67 332 *e*P P **12 34 45.7 -0.2**
PAGF Fort de Pagny 86.92 333 *e*P P **12 34 46.8 -0.3**
comp=Z,33nm,1.4s,mb5.1
PAGF Fort de Pagny 86.92 333 *e*P P **12 34 46.8 -0.3**
comp=Z,33nm,1.4s,mb5.4
HINF Hinteralfeld 87.11 332 *e*P P **12 34 47.0 -1.1**
comp=Z,26nm,1.2s,mb5.0
HINF Hinteralfeld 87.11 332 *e*P P **12 34 47.0 -1.1**
comp=Z,26nm,1.2s,mb5.3
HINF Hinteralfeld 87.11 332 *e*P P **12 34 47.0 -1.1**
HINF pmax pmax
comp=Z,26nm,1.2s,mb5.3
HAU Haudompre 87.15 332 *e*P P **12 34 47.2 -1.0**
comp=Z,30nm,1.3s,mb5.1
HAU Haudompre 87.15 332 *e*P P **12 34 47.2 -1.0**
comp=Z,30nm,1.3s,mb5.4
HAU Haudompre 87.15 332 *e*P P **12 34 47.2 -1.0**
HAU pmax pmax
comp=Z,31nm,1.3s,mb5.4
MEZF Maizieres J'vi 87.21 333 *e*P P **12 34 48.2 -0.3**
comp=Z,104nm,1.6s,mb5.5
MEZF Maizieres J'vi 87.21 333 *e*P P **12 34 48.2 -0.3**
comp=Z,104nm,1.6s,mb5.8
SFTF Sexfontaines 87.47 333 *e*P P **12 34 49.1 -0.7**
comp=Z,78nm,1.3s,mb5.5
SFTF Sexfontaines 87.47 333 *e*P P **12 34 49.1 -0.7**
comp=Z,78nm,1.3s,mb5.8
CABF La Chapelle 88.41 332 *e*P P **12 34 53.6 -0.7**
comp=Z,95nm,1.8s,mb5.4
CABF La Chapelle 88.41 332 *e*P P **12 34 53.6 -0.7**
comp=Z,95nm,1.8s,mb5.7
CABF La Chapelle 88.41 332 *e*P P **12 34 53.6 -0.7**
CABF pmax pmax
comp=Z,95nm,1.8s,mb5.7
LOR Lormes 88.69 333 *e*P P **12 34 54.9 -0.7**
comp=Z,100nm,1.6s,mb5.6
LOR Lormes 88.69 333 *e*P P **12 34 54.9 -0.7**
comp=Z,100nm,1.6s,mb5.9
LOR Lormes 88.69 333 *e*P P **12 34 54.9 -0.7**
LOR pmax pmax
comp=Z,100nm,1.6s,mb5.9
FLN La Foliniere 88.88 336 *e*P P **12 34 55.7 -0.8**
comp=Z,162nm,1.6s,mb5.8
FLN La Foliniere 88.88 336 *e*P P **12 34 55.7 -0.8**
comp=Z,162nm,1.6s,mb6.1
FLN La Foliniere 88.88 336 *e*P P **12 34 55.7 -0.8**
FLN pmax pmax
comp=Z,162nm,1.6s,mb6.1
LDF La Druitiere 88.91 336 *e*P P **12 34 55.7 -0.9**
LDF La Druitiere 88.91 336 *e*P P **12 34 55.7 -0.9**
LDF La Druitiere 88.91 336 *e*P P **12 34 55.7 -0.9**
SSF Saint Saulge 88.99 333 *e*P P **12 34 56.3 -0.7**

comp=Z,42nm,1.5s,mb5.2
SSF Saint Saulge 88.99 333 *e*P **P 12 34 56.3 -0.7**
comp=Z,42nm,1.5s,mb5.5
SSF Saint Saulge 88.99 333 *e*P **P 12 34 56.3 -0.7**
SSF pmax pmax
comp=Z,42nm,1.5s,mb5.5
SMF Signal de Mont 89.22 333 *e*P **P 12 34 57.5 -0.6**
SMF Signal de Mont 89.22 333 *e*P **P 12 34 57.5 -0.6**
SMF Signal de Mont 89.22 333 *e*P **P 12 34 57.5 -0.6**
AVF Avril sur Loir 89.27 333 *e*P **P 12 34 57.8 -0.6**
comp=Z,38nm,1.2s,mb5.3
AVF Avril sur Loir 89.27 333 *e*P **P 12 34 57.8 -0.6**
comp=Z,38nm,1.2s,mb5.6
AVF Avril sur Loir 89.27 333 *e*P **P 12 34 57.8 -0.6**
AVF pmax pmax
comp=Z,38nm,1.2s,mb5.6
GRR Gorron 89.33 337 *e*P **P 12 34 58.3 -0.3**
GRR Gorron 89.33 337 *e*P **P 12 34 58.3 -0.3**
GRR Gorron 89.33 337 *e*P **P 12 34 58.3 -0.3**
BGF Bois d'Agland 89.66 333 *e*P **P 12 34 59.7 -0.5**
BGF Bois d'Agland 89.66 333 *e*P **P 12 34 59.7 -0.5**
BGF Bois d'Agland 89.66 333 *e*P **P 12 34 59.7 -0.5**
MBDF Montbardon 89.70 330 *e*P **P 12 34 59.8 -0.6**
MBDF Montbardon 89.70 330 *e*P **P 12 34 59.8 -0.6**
MBDF Montbardon 89.70 330 *e*P **P 12 34 59.8 -0.6**
TXAR Lajitas Array 89.74 53 P **P 12 35 01.0 +0.1**
comp=Z,3.7nm,0.8s,mb4.7,baz=301,slow=3.6,SNR=33
TXAR Lajitas Array 89.74 53 P **P 12 35 01.0 +0.1**
TXAR Lajitas Array 89.74 53 P **P 12 35 01.0 +0.1**
ORIF Oris-en-Rattie 89.89 331 *e*P **P 12 35 00.8 -0.5**
ORIF Oris-en-Rattie 89.89 331 *e*P **P 12 35 00.8 -0.5**
ORIF Oris-en-Rattie 89.89 331 *e*P **P 12 35 00.8 -0.5**
SGMF Saint Gilles 89.98 337 *e*P **P 12 35 01.4 -0.3**
SGMF Saint Gilles 89.98 337 *e*P **P 12 35 01.4 -0.3**
SGMF Saint Gilles 89.98 337 *e*P **P 12 35 01.4 -0.3**
TCF Toulx Ste Croi 90.11 334 *e*P **P 12 35 02.1 -0.2**
comp=Z,20nm,1.1s,mb5.0
TCF Toulx Ste Croi 90.11 334 *e*P **P 12 35 02.1 -0.2**
comp=Z,20nm,1.1s,mb5.4
TCF Toulx Ste Croi 90.11 334 *e*P **P 12 35 02.1 -0.2**
TCF pmax pmax
comp=Z,20nm,1.1s,mb5.4
ROSF Rostrenen 90.13 338 *e*P **P 12 35 02.1 -0.2**
comp=Z,92nm,1.4s,mb5.6
ROSF Rostrenen 90.13 338 *e*P **P 12 35 02.1 -0.2**
comp=Z,92nm,1.4s,mb5.9
ROSF Rostrenen 90.13 338 *e*P **P 12 35 02.1 -0.2**
ROSF pmax pmax
comp=Z,92nm,1.4s,mb5.9
VIVF Saint-Julien-l 90.42 331 *e*P **P 12 35 02.9 -0.8**
comp=Z,89nm,1.7s,mb5.5
VIVF Saint-Julien-l 90.42 331 *e*P **P 12 35 02.9 -0.8**
comp=Z,89nm,1.7s,mb5.8
VIVF Saint-Julien-l 90.42 331 *e*P **P 12 35 02.9 -0.8**
VIVF pmax pmax
comp=Z,89nm,1.7s,mb5.8
MFF Saint Martin d 90.66 335 *e*P **P 12 35 04.6 -0.2**
comp=Z,48nm,1.3s,mb5.4
MFF Saint Martin d 90.66 335 *e*P **P 12 35 04.6 -0.2**
comp=Z,48nm,1.3s,mb5.7
MFF Saint Martin d 90.66 335 *e*P **P 12 35 04.6 -0.2**
MFF pmax pmax
comp=Z,48nm,1.3s,mb5.7
RJF Les Rejaudoux 91.21 334 *e*P **P 12 35 07.1 -0.3**
comp=Z,42nm,1.3s,mb5.3
RJF Les Rejaudoux 91.21 334 *e*P **P 12 35 07.1 -0.3**
comp=Z,42nm,1.3s,mb5.6
RJF Les Rejaudoux 91.21 334 *e*P **P 12 35 07.1 -0.3**
RJF pmax pmax
comp=Z,42nm,1.3s,mb5.6
CAF Calviac 91.33 333 *e*P **P 12 35 08.2 +0.2**
comp=Z,51nm,1.5s,mb5.3
CAF Calviac 91.33 333 *e*P **P 12 35 08.2 +0.2**
comp=Z,51nm,1.5s,mb5.6
CAF Calviac 91.33 333 *e*P **P 12 35 08.2 +0.2**
CAF pmax pmax
comp=Z,51nm,1.5s,mb5.6
JCT Junction City 91.39 50 *e*P **P 12 35 07.5 -1.0**
comp=Z,15nm,1.4s,mb5.1
JCT Junction City 91.39 50 *e*P **P 12 35 07.5 -1.0**
JCT pmax pmax
comp=Z,15nm,1.4s,mb5.1
HBAR Harrisburg 92.91 41 *e*P **P 12 35 15.6 +0.1**
HKT Hockley 94.17 48 *e*P **P 12 35 21.8 +0.4**
comp=Z,12nm,1.4s,mb5.1
HKT Hockley 94.17 48 *e*P **P 12 35 21.8 +0.4**
HKT pmax pmax
comp=Z,12nm,1.4s,mb5.1
SDV Santo Domingo 125.14 41 *e*PKPdf PKPdf 12 41 03.2 -0.2
QSPA South Pole Qui 126.30 180 PKP PKPdf 12 41 03.1 -0.5
comp=Z,8.2nm,1.2s,baz=129,slow=2.1,SNR=8.2
QSPA South Pole Qui 126.30 180 PKP PKPdf 12 41 03.1 -0.5
ROSC El Rosal 126.34 48 PKP PKPdf 12 41 06.8 +1.0
comp=Z,3.8nm,0.4s,baz=81,slow=20,SNR=5.6
ROSC El Rosal 126.34 48 PKP PKPdf 12 41 06.8 +1.0
ATAH Atahualpa 132.65 62 PKP PKPdf 12 41 19.6 +1.8
comp=Z,4.6nm,0.8s,baz=272,slow=2.3,SNR=8.4
ATAH Atahualpa 132.65 62 PKP PKPdf 12 41 19.6 +1.8
SNAA Sanae 140.54 196 *e* PKPdf 12 41 25.3 -5.3
SNAA *e* 12 44 29.8
VNA2 Neumayer--Watz 142.09 196 *e* PKPdf 12 41 29.2 -4.2
baz=100,slow=3.2
VNA2 *e* 12 44 39.1
VNA3 Neumayer Olymp 142.32 194 *e* PKPdf 12 41 29.6 -4.2
VNA1 Neumayer--Stat 142.49 196 *e* PKPdf 12 41 30.3 -3.8
SAML Samuel 143.98 47 *e*PKPdf PKPdf 12 41 35.6 -2.8
LPAZ La Paz 146.19 61 PKPbc PKPbc 12 41 43.5 +0.4
comp=Z,15nm,0.9s,baz=343,slow=3.7,SNR=34
LPAZ La Paz 146.19 61 *e*PKPbc PKPbc 12 41 43.5 +0.3
LPAZ La Paz 146.19 61 *e*PKP2 PKPab 12 41 43.5 -0.3
LVC Limon Verde 149.54 72 *e*PKPdf PKPdf 12 41 49.1 +1.5
SIV San Ignacio 150.73 52 PKPbc PKPbc 12 41 54.7 -0.3
SIV PKPab PKPab 12 42 01.2 -0.8
SIV San Ignacio 150.73 52 PKPbc PKPbc 12 41 54.7 -0.3
SIV PKPab PKPab 12 42 01.2 -0.8
LCO Las Campanas 151.22 84 *e*PKPbc PKPbc 12 41 56.4 +0.4
LCO *e*PKPab PKPab 12 42 03.8 0.0
PLCA Paso Flores 153.97 109 PKPbc PKPbc 12 42 01.4 -0.3
comp=Z,6.9nm,1.1s,baz=288,slow=6.0,SNR=3.9
PLCA Paso Flores 153.97 109 PKPbc PKPbc 12 42 01.4 -0.3
CPUP Villa Florida 160.31 64 PKPab PKPab 12 42 40.8 -1.9
comp=Z,2.2nm,0.9s,baz=332,slow=4.3,SNR=3.4
CPUP Villa Florida 160.31 64 PKPab PKPab 12 42 40.8 -1.9
CPUP Villa Florida 160.31 64 PKP2 PKPab 12 42 40.8 -1.9

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*IDC **20** 12:31:23.4±0.9, 36°.51N×142°.64E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.8/26, mbtmp3.8/11, ML3.9/3, Error ellipse: s-maj=22.1km s-min=18.1km az=88.0*
*ISCJB **20** 12:31:25.3±1.8, 36°.59N±0°.04×142°.57E±0°.05, h25km±14km, mb3.8/8, Error ellipse: s-maj=6.9km s-min=6.1km az=21.3*
*NEIC **20** 12:31:25.5, 36°.58N×142°.53E, h25km, MG3.6(JMA), After JMA.*
*JMA **20** 12:31:25.5±0.3, 36°.58N×142°.53E, h25km, M3.6*
ISC 20 12:31:25.8±1.8, 36°.59N±0°.03×142°.52E±0°.05, h16km±12km, n34, σ0°.95/50, mb3.8/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.47**	**291**	P	**Pn**	**12 31 50.4**	**-1.3**
ONAJ				*e*S	**Sn**	12 32 10.2	-0.4
JFK	**Kawauchi**	**1.53**	**301**	P	**Pn**	**12 31 53.8**	**+1.3**
JFK				S	**Sn**	12 32 11.4	-0.6
JHO	**Hitachi**	**1.57**	**271**	P	**Pn**	**12 31 51.8**	**-1.2**
JHO				*e*S	**Sn**	12 32 12.1	-0.9
CHOJ	**Chosi**	**1.61**	**237**	P	**Pn**	**12 31 53.2**	**-0.4**
CHOJ				*e*S	**Sn**	12 32 12.9	-1.1
JMM	**Marumori**	**1.88**	**313**	P	**Pn**	**12 31 57.5**	**+0.2**
JMM				S	**Sn**	12 32 20.5	-0.1
JFT	**Otama**	**1.98**	**299**	P	**Pn**	**12 31 58.0**	**-0.7**
JFT				S	**Sn**	12 32 23.4	+0.3
JIO	**Ouri**	**2.08**	**334**	P	**Pn**	**12 31 59.6**	**-0.5**
JIO				*e*S	**Sn**	12 32 25.6	-0.1
BSO1	**Boso 1**	**2.30**	**213**	P	**Pn**	**12 32 03.4**	**+0.3**
BSO1				*e*S	**Sn**	12 32 31.6	+0.5
JAG	**Ashikaga**	**2.48**	**267**	P	**Pn**	**12 32 04.8**	**-0.7**
JAG				S	**Sn**	12 32 35.0	-0.4
JMK	**Ichinoseki**	**2.57**	**337**	P	**Pn**	**12 32 06.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.47**	**271**	Pn	**Pn**	**12 32 20.0**	**+0.8**
	5.6nm,0.3s,baz=89,slow=14,SNR=47						
MJAR				Sn	**Sn**	12 33 02.3	+2.4
	2.1nm,0.3s,baz=75,slow=15,SNR=4.4						
MJAR	**Matsushiro Arr**	**3.47**	**271**	Pn	**Pn**	**12 32 20.0**	**+0.8**
MJAR				Sn	**Sn**	12 33 02.3	+2.4
MAJO	**Matsushiro**	**3.47**	**271**	*e*Pn	**Pn**	**12 32 20.5**	**+1.3**
MAT	**Matsushiro**	**3.47**	**271**	P	**Pn**	**12 32 20.3**	**+1.1**
MAT				S	**Sn**	12 32 59.8	-0.2
ASAJ	**Asahikawa**	**7.52**	**0**	Pn	**Pn**	**12 33 14.2**	**-0.6**
	2.3nm,0.3s,baz=229,slow=12,SNR=22						
ASAJ				Sn	**Sn**	12 34 38.5	-1.2
	1.0nm,0.3s,baz=124,slow=31,SNR=2.7						
ASAJ	**Asahikawa**	**7.52**	**0**	Pn	**Pn**	**12 33 14.2**	**-0.6**
ASAJ				Sn	**Sn**	12 34 38.5	-1.2
CBIJ	**Chichi jima**	**9.47**	**182**	Pn	**Pn**	**12 33 38.9**	**-2.7**
	4.1nm,0.3s,baz=275,slow=19,SNR=6.0						
CBIJ				Sn	**Sn**	12 35 22.0	-5.7
	8.8nm,0.3s,baz=316,slow=19,SNR=3.6						
CBIJ	**Chichi jima**	**9.47**	**182**	Pn	**Pn**	**12 33 38.9**	**-2.7**
CBIJ				Sn	**Sn**	12 35 22.0	-5.7
SONM	**Songino Array**	**28.77**	**304**	P	**P**	**12 37 24.4**	**+1.7**
	2.0nm,0.7s,mb3.9,baz=106,slow=9.5,SNR=10						
SONM	**Songino Array**	**28.77**	**304**	P	**P**	**12 37 24.4**	**+1.7**
ZALV	**Zalesovo Beam**	**42.87**	**313**	P	**P**	**12 39 24.3**	**+1.1**
	0.5nm,0.4s,mb3.6,baz=89,slow=6.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**42.87**	**313**	P	**P**	**12 39 24.3**	**+1.1**
MKAR	**Makanchi Array**	**45.11**	**303**	P	**P**	**12 39 42.3**	**+1.1**
	1.5nm,0.9s,mb3.8,baz=85,slow=9.0,SNR=6.8						
MKAR	**Makanchi Array**	**45.11**	**303**	P	**P**	**12 39 42.3**	**+1.1**
KURK	**Kurchatov**	**46.90**	**309**	P	**P**	**12 39 56.2**	**+0.9**
	2.0nm,0.6s,mb4.2,baz=84,slow=7.9,SNR=8.7						
KURK	**Kurchatov**	**46.90**	**309**	P	**P**	**12 39 56.2**	**+0.9**
ILAR	**Eielson Array**	**49.40**	**32**	P	**P**	**12 40 15.2**	**+0.9**
	0.7nm,0.8s,mb3.7,baz=261,slow=6.1,SNR=7.7						
ILAR	**Eielson Array**	**49.40**	**32**	P	**P**	**12 40 15.2**	**+0.9**
WRA	**Warramunga Arr**	**56.75**	**189**	P	**P**	**12 41 08.3**	**-0.6**
	1.0nm,0.8s,mb3.9,baz=7.9,slow=7.1,SNR=10						
WRA	**Warramunga Arr**	**56.75**	**189**	P	**P**	**12 41 08.3**	**-0.6**
ASAR	**Alice Springs**	**60.48**	**189**	P	**P**	**12 41 35.0**	**+0.1**
	0.6nm,0.9s,mb3.6,baz=0.8,slow=5.9,SNR=4.9						
ASAR	**Alice Springs**	**60.48**	**189**	P	**P**	**12 41 35.0**	**+0.1**
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**12 41 56.2**	**-0.3**
	0.2nm,0.7s,mb3.3,baz=306,slow=6.5,SNR=4.0						
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**12 41 56.2**	**-0.3**

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*IDC **20** 12:34:29.8±1.6, 36°.42N×142°.83E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/24, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=41.2km s-min=22.5km az=64.0*
*ISCJB **20** 12:34:30.8±2.3, 36°.51N±0°.06×142°.58E±0°.07, h25km±20km, mb3.4/4, Error ellipse: s-maj=10.8km s-min=9.1km az=137.6*
*NEIC **20** 12:34:30.1, 36°.52N×142°.50E, h10km, MG3.3(JMA), After JMA.*
*JMA **20** 12:34:30.1±0.3, 36°.52N×142°.50E, h10km, M3.3*
ISC 20 12:34:31.5±2.4, 36°.52N±0°.06×142°.47E±0°.09, h11km±18km, n21, σ0°.79/28, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.46**	**294**	P	**Pn**	**12 34 56.9**	**-0.8**
ONAJ				*e*S	**Sn**	12 35 17.1	+0.4
JFK	**Kawauchi**	**1.53**	**304**	*e*S	**Sn**	12 35 17.9	-0.5
JHO	**Hitachi**	**1.53**	**274**	P	**Pn**	12 34 57.1	-1.5
JHO				S	**Sn**	12 35 18.2	-0.3
CHOJ	**Chosi**	**1.54**	**238**	P	**Pn**	12 34 58.3	-0.5
JMM	**Marumori**	**1.89**	**316**	P	**Pn**	12 35 02.6	-1.0
JMM				S	**Sn**	12 35 27.1	-0.3
JFT	**Otama**	**1.97**	**301**	P	**Pn**	12 35 05.3	+0.6
JFT				*e*S	**Sn**	12 35 29.8	+0.4
JAG	**Ashikaga**	**2.43**	**269**	P	**Pn**	12 35 10.9	-0.1
JAG				*e*S	**Sn**	12 35 40.6	-0.1
JOD2	**Odawara 2**	**3.02**	**246**	S	**Sn**	12 35 55.4	+0.2
MJAR	**Matsushiro Arr**	**3.43**	**272**	Pn	**Pn**	12 35 26.2	+1.4
	1.2nm,0.3s,baz=85,slow=8.8,SNR=4.9						
MJAR				Sn	**Sn**	12 36 15.1	+10
	0.9nm,0.3s,baz=154,slow=11,SNR=2.8						
MJAR	**Matsushiro Arr**	**3.43**	**272**	Pn	**Pn**	12 35 26.2	+1.4
MJAR				Sn	**Sn**	12 36 15.1	+10
MAJO	**Matsushiro**	**3.43**	**272**	*e*Pn	**Pn**	12 35 26.1	+1.3
ASAJ	**Asahikawa**	**7.58**	**1**	Pn	**Pn**	12 36 21.9	+0.1
	0.3nm,0.3s,baz=36,slow=8.9,SNR=3.9						
ASAJ	**Asahikawa**	**7.58**	**1**	Pn	**Pn**	12 36 21.9	+0.1
SONM	**Songino Array**	**28.77**	**304**	P	**P**	12 40 30.5	+1.6
	0.5nm,0.5s,mb3.5,baz=108,slow=7.9,SNR=3.8						
SONM	**Songino Array**	**28.77**	**304**	P	**P**	12 40 30.5	+1.6
MKAR	**Makanchi Array**	**45.10**	**303**	P	**P**	12 42 51.8	+4.3
	0.3nm,0.7s,mb3.2,baz=82,slow=9.9,SNR=2.9						
MKAR	**Makanchi Array**	**45.10**	**303**	P	**P**	12 42 51.8	+4.3
WRA	**Warramunga Arr**	**56.68**	**189**	P	**P**	12 44 14.3	-0.5
	0.5nm,0.9s,mb3.5,baz=5.9,slow=7.4,SNR=5.4						
WRA	**Warramunga Arr**	**56.68**	**189**	P	**P**	12 44 14.3	-0.5
ASAR	**Alice Springs**	**60.41**	**189**	P	**P**	12 44 40.5	-0.2
	0.3nm,0.8s,mb3.4,baz=4.0,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**60.41**	**189**	P	**P**	12 44 40.5	-0.2

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*ISCJB **20** 12:42:14.5±0.6, 6°.92N±0°.07×73°.09W±0°.08, h161km±7km, mb3.4/4, Error ellipse: s-maj=16.7km s-min=7.1km az=41.7*
*NEIC **20** 12:42:15.4±0.8, 6°.73N×73°.00W, h167km±10km, Error ellipse: s-maj=28.2km s-min=12.4km az=127.0*
*IDC **20** 12:42:16.2±2.7, 6°.71N×73°.19W, h169km±20km, mb3.2/4, mb1 3.5/5, mb1mx3.2/21, mbtmp3.3/5, MS3.5/1, Ms1 3.5/1, ms1mx3.2/17, Error ellipse: s-maj=52.7km s-min=22.6km az=90.0*
*FUNV **20** 12:42:16.0, 6°.92N×73°.13W, h168km, MW3.6*
ISC 20 12:42:15.5±0.6, 6°.89N±0°.08×73°.06W±0°.08, h156km±7km, n26, σ0°.75/31, mb3.4/4, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**37**	*e*P	**Pn**	**12 42 43.5**	**+0.8**
CAPV				*e*S	**Sn**	12 43 05.0	+1.3
ROSC	**El Rosal**	**2.38**	**212**	P	**Pn**	**12 42 55.5**	**+0.1**
	62nm,0.3s,baz=85,slow=6.4,SNR=163						
ROSC				S	**Sn**	12 43 24.9	-1.4
	48nm,0.3s,baz=83,slow=22,SNR=6.6						
ROSC				LR	LR	12 43 52.2	
	comp=Z,995nm,19.1s,baz=195,slow=44						
ROSC	**El Rosal**	**2.38**	**212**	P	**Pn**	**12 42 55.5**	**+0.1**
ROSC				S	**Sn**	12 43 24.9	-1.4
ROSC				*e*Sn	**Sn**	12 43 26.6	+0.4
VIGV	**El Vigia**	**2.57**	**41**	*e*P	**Pn**	12 42 58.4	+0.7
VIGV				*e*S	**Sn**	12 43 29.6	-0.8
SOCV	**Socops**	**2.59**	**57**	*e*P	**Pn**	12 42 59.0	+0.9
SOCV				*e*S	**Sn**	12 43 30.6	-0.3
SDV	**Santo Domingo**	**3.12**	**50**	*e*Pn	**Pn**	12 43 05.6	+1.0
SDV				*e*Sn	**Sn**	12 43 42.6	-0.1
ELOV	**Elorza**	**3.56**	**88**	*e*P	**Pn**	12 43 10.4	+0.2
VIRV	**Villa del Rosa**	**3.65**	**10**	↑*i*P	**Pn**	12 43 10.8	-0.6
VIRV				*e*S	**Sn**	12 43 51.1	-3.7
SANV	**Sanarito**	**4.35**	**53**	*e*P	**Pn**	12 43 20.6	+0.2
CURV	**Curarigua**	**4.37**	**44**	*e*P	**Pn**	12 43 20.6	-0.1
CURV				*e*S	**Sn**	12 44 07.4	-4.1
BAUV	**El Baul**	**5.38**	**67**	*e*P	**Pn**	12 43 33.1	-0.9
MAPV	**Macapo**	**5.42**	**57**	*e*P	**Pn**	12 43 33.5	-1.0
MONV	**Montecano**	**5.89**	**31**	*e*P	**Pn**	12 43 40.0	-0.8
TURV	**Turiamo**	**6.26**	**55**	*e*P	**Pn**	12 43 45.6	-0.1
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**12 49 05.7**	**+0.1**
	0.3nm,0.5s,mb3.2,baz=128,slow=9.0,SNR=7.4						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**12 49 05.7**	**+0.1**
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**12 50 39.3**	**+0.2**
	0.2nm,0.5s,mb3.0,baz=130,slow=9.9,SNR=3.1						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**12 50 39.3**	**+0.2**
SCHQ	**Schefferville**	**48.07**	**5**	P	**P**	**12 50 40.0**	**+1.0**
	2.8nm,0.7s,mb4.0,baz=186,slow=9.2,SNR=3.8						
SCHQ	**Schefferville**	**48.07**	**5**	P	**P**	**12 50 40.0**	**+1.0**
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**12 52 26.7**	**-0.2**
	0.4nm,0.5s,mb3.5,baz=132,slow=6.6,SNR=12						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**12 52 26.8**	**-0.1**
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	PKPbc	13 01 45.0	-1.5
	0.6nm,0.7s,baz=121,slow=3.6,SNR=8.9						
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	PKPbc	13 01 45.0	-1.5
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	13 01 47.8	-1.7
	0.3nm,0.4s,baz=106,slow=2.9,SNR=19						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	13 01 47.8	-1.7

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*IDC **20** 12:50:01.9±0.9, 32°.64S×71°.89W, h0km, mb4.2/6, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, ML4.0/4, Error ellipse: s-maj=30.8km s-min=21.4km az=100.0*
*ISCJB **20** 12:50:05.4±0.8, 32°.61S±0°.03×71°.99W±0°.07, h34km±7km, mb4.1/6, Error ellipse: s-maj=9.9km s-min=5.1km az=170.0*
*NEIC **20** 12:50:06.9±2.8, 32°.58S×72°.03W, h34km±19km, mb3.5/1, Error ellipse: s-maj=16.4km s-min=8.4km az=91.0*
*GUC **20** 12:50:06.3±0.6, 32°.60S×71°.84W, h30km±3km, MD4.2, ML4.1*
ISC 20 12:50:05.4±0.9, 32°.61S±0°.03×71°.93W±0°.06, h19km±4km, n44, σ0°.90/50, mb4.1/6, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.42**	**80**	*e*P	**Pg**	**12 50 14.1**	**-0.1**
IHA	**Instituto Hidr**	**0.48**	**149**	↓*i*P	**Pg**	**12 50 15.5**	**+0.4**
IHA				*e*S	**Sg**	12 50 21.9	+0.1
CHNG	**Los Chungos**	**0.81**	**27**	↓*i*P	**Pb**	**12 50 20.5**	**-0.5**
CHNG				*i* S	**Sb**	12 50 31.1	-0.5
ROCH	**El Roble**	**0.85**	**115**	↓*i*P	**Pb**	**12 50 21.1**	**-0.5**
ROCH				*i* S	**Sb**	12 50 31.8	-0.9
ROCH				AML	AML	12 50 34.1	
	comp=N,10μm,0.8s						
JACH	**Jahuel**	**1.13**	**94**	↑*i*P	**Pn**	**12 50 25.0**	**-1.2**
PEL	**Peldehue**	**1.17**	**117**	*i* P	**Pn**	**12 50 26.4**	**-0.4**
PEL				*e*S	**Sb**	12 50 41.4	-0.6
PEL				AML	AML	12 50 42.3	
	comp=E,15μm,0.4s						
TACH	**Talagante**	**1.33**	**142**	↑*i*P	**Pn**	**12 50 28.9**	**-0.1**
SAN	**Santiago**	**1.35**	**129**	↑*e*P	**Pn**	**12 50 29.2**	**-0.1**
SAN				*e*S	**Sn**	12 50 45.9	-0.9
CLCH	**Cerro Calan**	**1.41**	**124**	↓*i*P	**Pn**	**12 50 30.0**	**-0.1**
CLCH				*e*S	**Sn**	12 50 47.7	-0.3
CLCH				AML	AML	12 50 55.5	
	comp=N,5μm,0.5s						
LNV	**Longovilo**	**1.41**	**162**	↑*e*P	**Pn**	**12 50 29.6**	**-0.5**
ANTU	**Antumapu**	**1.45**	**132**	*e*P	**Pn**	**12 50 30.7**	**+0.1**
ANTU				*e*S	**Sn**	12 50 48.5	-0.5
ANTU				AML	AML	12 50 54.4	
	comp=E,4μm,0.8s						
PCH	**Pirque**	**1.56**	**131**	↑*i*P	**Pn**	**12 50 32.3**	**+0.2**
PCH				*i* S	**Sn**	12 50 52.1	+0.4
CACH	**El Canelo**	**1.87**	**144**	↑*i*P	**Pn**	**12 50 37.9**	**+1.6**
LMEL	**Las Melosas**	**1.90**	**131**	*e*P	**Pn**	**12 50 38.0**	**+1.2**
LMEL				*e*S	**Sn**	12 51 01.3	+1.1
LMEL				AML	AML	12 51 08.1	
	comp=E,3μm,0.1s						
CFAA	**Coronel Fontan**	**3.29**	**73**	**Pn**	**Pn**	**12 50 58.8**	**+2.8**
	comp=E,1.7nm,0.3s,baz=248,slow=12,SNR=70						
CFAA				Lg		12 51 43.7	
	comp=E,3.0nm,0.3s,baz=15,slow=11,SNR=8.7						
CFAA	**Coronel Fontan**	**3.29**	**73**	**Pn**	**Pn**	**12 50 58.8**	**+2.8**
CFAA				Lg		12 51 43.7	
LCO	**Las Campanas**	**3.74**	**17**	*e*Pn	**Pn**	**12 51 01.6**	**-0.5**
LCO				*e*Sn	**Sn**	12 51 47.4	+1.7
PLCA	**Paso Flores**	**8.18**	**173**	Pn	**Pn**	**12 52 03.5**	**+0.4**
	comp=E,0.7nm,0.3s,baz=331,slow=10,SNR=12						
PLCA				Lg		12 54 16.8	
	comp=E,0.1nm,0.3s,baz=113,slow=7.5,SNR=2.9						
PLCA	**Paso Flores**	**8.18**	**173**	Pn	**Pn**	**12 52 03.5**	**+0.4**
PLCA				Lg		12 54 16.8	
TRQA	**Tornquist**	**9.77**	**127**	*e*Pn	**Pn**	**12 52 26.6**	**+1.6**
	comp=E,20nm,1.3s						
CPUP	**Villa Florida**	**14.17**	**68**	Pn	**Pn**	**12 53 25.4**	**+0.2**
	comp=E,0.2nm,0.3s,baz=227,slow=14,SNR=1.7						
CPUP				Sn	**Sn**	12 56 04.5	+2.7
	comp=E,0.1nm,0.3s,baz=229,slow=13,SNR=3.7						
CPUP	**Villa Florida**	**14.17**	**68**	Pn	**Pn**	**12 53 25.4**	**+0.2**
CPUP				Sn	**Sn**	12 56 04.5	+2.7
LPAZ	**La Paz**	**16.61**	**13**	Pn	**Pn**	**12 53 57.5**	**+0.3**
	comp=E,0.1nm,0.3s,baz=144,slow=5.4,SNR=11						
LPAZ	**La Paz**	**16.61**	**13**	*e*Pn	**Pn**	**12 53 57.5**	**+0.1**
	comp=E,3.4nm,0.9s						
SIV	**San Ignacio**	**19.26**	**33**	P	**Pn**	**12 54 28.1**	**-1.8**
	comp=E,0.1nm,0.3s,baz=241,slow=11,SNR=7.1						
SIV	**San Ignacio**	**19.26**	**33**	P	**Pn**	**12 54 28.1**	**-1.8**
QSPA	**South Pole Qui**	**57.62**	**180**	P	**P**	**12 59 53.2**	**-0.4**
	comp=E,1.8nm,1.0s,mb4.1,baz=165,slow=3.4,SNR=6.3						
QSPA	**South Pole Qui**	**57.62**	**180**	P	**P**	**12 59 53.2**	**-0.4**
TXAR	**Lajitas Array**	**68.57**	**330**	P	**P**	**13 01 07.4**	**+0.5**
	comp=E,0.6nm,0.9s,mb3.5,baz=150,slow=9.1,SNR=5.7						
TXAR	**Lajitas Array**	**68.57**	**330**	P	**P**	**13 01 07.4**	**+0.5**
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**13 01 42.9**	**-1.0**
	comp=E,2.5nm,0.6s,mb4.3,baz=225,slow=7.8,SNR=5.8						
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**13 01 42.9**	**-1.0**
BOSA	**Boshof**	**80.64**	**118**	P	**P**	**13 02 16.7**	**-0.5**
	comp=E,3.5nm,1.0s,mb4.2,baz=236,slow=3.7,SNR=5.0						
BOSA	**Boshof**	**80.64**	**118**	P	**P**	**13 02 16.7**	**-0.5**
LBTB	**Lobatse**	**82.81**	**115**	P	**P**	**13 02 28.4**	**-0.3**

*DJA **20** 13:11:45, 1.01N×126.72E, h12km, MLv4.3/7*
ISC 20 13:11:45.3±0.9, 1.09N±0.09×126.88E±0.06, h83km±10km, n16, σ1§02/18, mb3.7/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.57**	**123**	P	**Pn**	**13 11 58.4**	**-1.5**
LBMI	**Labuha**	**1.82**	**160**	P	**Pn**	**13 12 16.4**	**+1.5**
MNI	**Manado**	**2.08**	**280**	P	**Pn**	**13 12 17.0**	**-1.3**
SGSI	**Sangihe**	**2.92**	**332**	P	**Pn**	**13 12 32.1**	**+2.5**
KMSI	**Cibinong**	**2.95**	**260**	P	**Pn**	**13 12 29.8**	**-0.2**
KMSI				S	**Sn**	**13 13 04.8**	**+0.4**
GTOI	**Gorontalo**	**3.90**	**263**	P	**Pn**	**13 12 43.6**	**+0.7**
LUWI	**Luwuk**	**4.62**	**243**	P	**Pn**	**13 12 53.9**	**+1.1**
MRSI	**Marisa**	**4.98**	**263**	P	**Pn**	**13 12 57.4**	**-0.2**
MRSI				S	**Sn**	**13 13 50.5**	**-3.5**
KDI	**Kendari**	**6.58**	**220**	P	**Pn**	**13 13 19.5**	**+0.1**
	750nm21nm,0.6s						
TTSI	**Tana Toraja**	**8.17**	**240**	P	**Pn**	**13 13 41.0**	**-0.1**
	15nm,0.7s						
BNSI	**Bone**	**8.69**	**231**	P	**Pn**	**13 13 47.8**	**-0.5**
	16nm,0.7s						
SPSI	**Sidrap Palu**	**8.70**	**235**	P	**Pn**	**13 13 48.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.11**	**184**	P	**Pn**	**13 16 02.7**	**-0.6**
	0.2nm,0.3s,baz=9.8,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**22.14**	**161**	P	**P**	**13 16 33.7**	**-0.6**
	2.0nm,0.5s,mb3.7,baz=337,slow=10,SNR=40						
ASAR	**Alice Springs**	**25.53**	**165**	P	**P**	**13 17 07.5**	**+1.2**
	1.7nm,0.6s,mb3.6,baz=344,slow=11,SNR=20						
MKAR	**Makanchi Array**	**59.81**	**326**	P	**P**	**13 21 41.0**	**-0.9**
	0.4nm,0.4s,mb3.8,baz=120,slow=7.3,SNR=11						

GUC 20 13:31:35.9±0.6, 22.75S×70.24W, h38km±7km, ML3.6, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MECH	**Mejillones**	**0.40**	**208**	⇑*i*P	Pn	13 31 44.6	-0.7
MECH				*i*S	Sn	13 31 51.6	-0.1
MECH				AML	AML	13 31 52.3	
	comp=N,19μm,0.3s						
CEN1	**Los Morros**	**0.64**	**176**	⇓*i*P	Pn	13 31 51.5	+3.0
CEN1				*e*S	Sn	13 32 02.8	+5.3
CEN1				AML	AML	13 32 04.7	
	comp=E,2μm,0.1s						
MACH	**Maria Elena**	**0.71**	**39**	⇓*i*P	Pn	13 31 50.0	+0.6
MACH				*i*S	Sn	13 32 00.1	+0.9
ANCH	**Antofagasta**	**0.94**	**189**	⇓*i*P	Pn	13 31 52.4	-0.2
ANCH				*i*S	Sn	13 32 04.7	-0.2
ANCH				AML	AML	13 32 07.0	
	comp=N,3μm,0.3s						

*IDC **20** 13:32:14.0±0.9, 41.15S×92.03W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/16, mbtmp3.9/8, ML3.6/1, Error ellipse: s-maj=39.1km s-min=20.6km az=80.0*
*ISCJB **20** 13:32:14.0±0.7, 41.2S±0.1×92.1W±0.2, h10km, mb4.1/9, Error ellipse: s-maj=22.6km s-min=15.6km az=146.6*
*NEIC **20** 13:32:15.6±0.5, 41.16S×92.11W, h10km, mb4.6/2, Error ellipse: s-maj=17.5km s-min=12.2km az=56.0*
ISC 20 13:32:15.9±0.7, 41.2S±0.1×92.1W±0.2, h10km, n19, σ0§49/19, mb4.1/9, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.30**	**96**	Pn	**Pn**	**13 36 05.2**	**+0.5**
	0.1nm,0.3s,baz=270,slow=9.7,SNR=3.1						
PLCA	**Paso Flores**	**16.30**	**96**	Pn	**Pn**	**13 36 05.2**	**+0.5**
LPAZ	**La Paz**	**32.30**	**47**	P	**P**	**13 38 44.3**	**-0.7**
	0.8nm,0.5s,mb3.8,baz=230,slow=5.1,SNR=4.5						
LPAZ	**La Paz**	**32.30**	**47**	P	**P**	**13 38 44.3**	**-0.7**
QSPA	**South Pole Qui**	**49.06**	**180**	P	**P**	**13 41 02.5**	**0.0**
	1.1nm,0.5s,mb4.2,baz=177,slow=1.0,SNR=23						
QSPA	**South Pole Qui**	**49.06**	**180**	*e*P	**P**	**13 41 02.5**	**0.0**
SNAA	**Sanae**	**51.31**	**156**	P	**P**	**13 41 19.3**	**-0.3**
	0.4nm,0.2s,mb3.9,baz=264,slow=10,SNR=9.1						
SNAA	**Sanae**	**51.31**	**156**	P	**P**	**13 41 19.3**	**-0.3**
TXAR	**Lajitas Array**	**70.96**	**349**	P	**P**	**13 43 33.0**	**-0.2**
	0.7nm,0.7s,mb3.7,baz=180,slow=8.9,SNR=6.8						
TXAR	**Lajitas Array**	**70.96**	**349**	P	**P**	**13 43 33.0**	**-0.2**
TUC	**Tucson**	**75.12**	**344**	*e*P	**P**	**13 43 57.9**	**0.0**
	3.6nm,0.9s,mb4.3						
TUC				*e*pP	pP	13 44 05.4	+4.2
ANMO	**Albuquerque**	**76.89**	**348**	P	**P**	**13 44 08.6**	**+0.7**
	1.5nm,0.8s,mb4.0,baz=153,slow=6.8,SNR=4.6						
ANMO	**Albuquerque**	**76.89**	**348**	P	**P**	**13 44 08.6**	**+0.7**
PV01	**Paradox Valley**	**80.35**	**347**	*e*P	**P**	**13 44 26.2**	**-0.6**
	425nm,0.9s						
PV01				*e*pP	pP	13 44 34.0	+3.8
NVAR	**Mina Array Bea**	**82.75**	**340**	P	**P**	**13 44 40.5**	**+0.9**
	0.4nm,0.6s,mb3.6,baz=164,slow=3.6,SNR=3.5						
NVAR	**Mina Array Bea**	**82.75**	**340**	P	**P**	**13 44 40.5**	**+0.9**
PDAR	**Pinedale Array**	**85.03**	**347**	P	**P**	**13 44 50.6**	**-0.4**
	2.3nm,0.8s,mb4.4,baz=164,slow=6.0,SNR=20						
PDAR	**Pinedale Array**	**85.03**	**347**	P	**P**	**13 44 50.6**	**-0.4**
TPAW	**Teton Pass**	**85.97**	**346**	*e*P	**P**	**13 44 56.0**	**+0.3**
	5.8nm,0.9s,mb4.8						

*IDC **20** 13:42:09.2±1.4, 37.03N×142.46E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/25, mbtmp3.5/8, ML2.8/2, Error ellipse: s-maj=27.4km s-min=25.0km az=105.0*
*ISCJB **20** 13:42:11.6±0.9, 36.79N±0.09×142.39E±0.08, h33km, mb3.5/6, Error ellipse: s-maj=13.8km s-min=8.9km az=19.3*
*JMA **20** 13:42:15.1±0.2, 36.52N×141.87E, h40km, M1.7*
ISC 20 13:42:14.3±0.9, 36.9N±0.1×142.35E±0.08, h35km, n16, σ1§35/17, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.26**	**279**	P	**Pn**	**13 42 34.0**	**-1.4**
ONAJ				*e*S	Sx	13 42 46.5	
JFK	**Kawauchi**	**1.27**	**292**	*e*S	**Sn**	**13 42 50.6**	**-0.6**
JHO	**Hitachi**	**1.46**	**259**	P	**Pn**	**13 42 33.7**	**-4.5**
JHO				*e*S	Sx	13 42 47.9	
JMM	**Marumori**	**1.57**	**308**	*e*S	**Sn**	**13 42 59.9**	**+1.2**
JFT	**Otama**	**1.72**	**291**	P	**Pn**	**13 42 40.9**	**-0.8**
JFT				*e*S	**Sn**	**13 43 01.1**	**-1.3**
JOU	**Okura**	**1.98**	**318**	P	**Pn**	**13 42 47.2**	**+1.9**
JAG	**Ashikaga**	**2.38**	**259**	P	**Pn**	**13 42 47.1**	**-3.7**
JKT	**Katashina**	**2.49**	**268**	*e*S	Sx	13 43 13.0	
MJAR	**Matsushiro Arr**	**3.35**	**265**	Pn	**Pn**	**13 43 02.0**	**-2.1**
	1.1nm,0.3s,baz=85,slow=8.6,SNR=11						
MJAR				Sn	**Sn**	**13 43 45.1**	**+2.5**
	0.8nm,0.3s,baz=148,slow=6.3,SNR=4.5						
ASAJ	**Asahikawa**	**7.21**	**1**	Pn	**Pn**	**13 43 52.5**	**-4.5**
	0.1nm,0.3s,baz=96,slow=22,SNR=2.0						
SONM	**Songino Array**	**28.48**	**304**	P	**P**	**13 48 06.4**	**+0.4**
	1.1nm,0.9s,mb3.5,baz=100,slow=8.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**42.55**	**312**	P	**P**	**13 50 07.3**	**+0.9**
	0.2nm,0.3s,mb3.3,baz=117,slow=8.4,SNR=2.5						
MKAR	**Makanchi Array**	**44.82**	**302**	P	**P**	**13 50 25.5**	**+0.8**
	0.4nm,0.7s,mb3.4,baz=104,slow=10,SNR=2.4						
KURK	**Kurchatov**	**46.60**	**308**	P	**P**	**13 50 38.5**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=80,slow=7.9,SNR=4.2						
ILAR	**Eielson Array**	**49.20**	**32**	P	**P**	**13 50 57.1**	**-1.5**
	0.4nm,0.8s,mb3.5,baz=268,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**57.04**	**189**	P	**P**	**13 51 58.0**	**+1.2**
	0.6nm,0.7s,mb3.7,baz=6.0,slow=8.7,SNR=6.2						

*MOS **20** 13:49:56.7±1.2, 8.91N×126.48E, h33km, mb5.2/30, Error ellipse: s-maj=13.7km s-min=5.9km az=115.7*
*MAN **20** 13:49:58, 8.91N×126.87E, h54km, mb5.5, ML4.6, MS4.9*
*ISCJB **20** 13:50:01.0±0.5, 8.87N±0.02×126.62E±0.04, h75km±4km, mb4.8/91, Error ellipse: s-maj=7.4km s-min=3.8km az=169.4*
*IDC **20** 13:50:00.4±1.8, 8.87N×126.51E, h48km±16km, mb4.4/27, mb1 4.5/28, mb1mx4.4/30, mbtmp4.4/28, ML4.3/1, MS4.0/9, Ms1 4.0/9, ms1mx3.7/43, Error ellipse: s-maj=18.9km s-min=10.1km az=80.0*
*BJI **20** 13:50:01.1, 8.85N×126.54E, h77km, mB5.1/28, mb4.9/42, Ms4.7/23, MS7 4.4/23*
*NEIC **20** 13:50:02.6±0.8, 8.87N×126.54E, h71km±7km, mb5.0/38, Error ellipse: s-maj=7.0km s-min=4.4km az=75.0*
NEIC Felt at Butuan and Cagayan.
*DJA **20** 13:50:07, 8.60N×126.57E, h15km, mb4.9/17*
ISC 20 13:50:03.0±0.5, 8.87N±0.02×126.58E±0.04, h75km±4km, h74km±1.6km: pP-P, n284, σ1§03/280, mb4.8/91, 6C-8D,

Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.95**	**276**	*e*P	**Pn**	**13 50 17.8**	**-3.3**
BUTP				*e*S	**Sn**	**13 50 32.3**	**-2.4**
BUKP	**Musuan**	**1.79**	**237**	*e*P	**Pn**	**13 50 31.9**	**-0.1**
CGP	**Cagayan de Oro**	**1.91**	**258**	⇑*e*P	**Pn**	**13 50 30.2**	**-3.3**
CGP				*e*S	**Sn**	**13 50 58.7**	**+1.9**
MATI	**Mati**	**1.94**	**189**	*e*P	**Pn**	**13 50 31.2**	**-2.8**
DAV	**Davao City (W)**	**2.04**	**209**	P	**Pn**	**13 50 33.4**	**-2.0**
	110nm,0.3s,baz=54,slow=2.9,SNR=42						
DAV				S	**Sn**	**13 51 04.5**	**+4.4**
	140nm,0.3s,baz=53,slow=22,SNR=9.4						
DAV	**Davao City (W)**	**2.04**	**209**	*e*Pn	**Pn**	**13 50 34.3**	**-1.1**
DAV				S	**Sn**	**13 51 04.5**	**+4.4**
DAV	**Davao City (W)**	**2.04**	**209**	P	**Pn**	**13 50 35.6**	**+0.2**
MSLP	**Maasin**	**2.11**	**307**	*e*P	**Pn**	**13 50 35.9**	**-0.3**
PLP	**Palo**	**2.77**	**326**	⇓*e*P	**Pn**	**13 50 42.8**	**-2.4**
PLP				*e*S	**Sn**	**13 51 17.8**	**+0.2**
TBP	**Tagbilaran**	**2.80**	**287**	*e*P	**Pn**	**13 50 46.2**	**+0.7**
CTBH	**Cotabato--PC H**	**2.83**	**235**	⇑*e*P	**Pn**	**13 50 45.3**	**-0.7**
OCLP	**Ormoc**	**2.91**	**318**	*e*P	**Pn**	**13 50 46.2**	**-0.9**
GSPH	**General Santos**	**3.20**	**210**	⇑*e*P	**Pn**	**13 50 50.0**	**-1.1**
GSPH				*e*S	**Sn**	**13 51 28.7**	**+0.6**
PAGZ	**Pagadian**	**3.32**	**252**	*e*P	**Pn**	**13 50 53.0**	**+0.4**
SNPH	**Sibulan**	**3.33**	**278**	⇓*e*P	**Pn**	**13 50 53.2**	**+0.4**
SNPH				*e*S	**Sn**	**13 51 44.9**	**+14**
GUIM	**Jordan**	**4.30**	**294**	*e*P	**Pn**	**13 51 05.5**	**-0.5**
RCP	**Roxas**	**4.62**	**306**	⇓*e*P	**Pn**	**13 51 10.6**	**+0.2**
SGSI	**Sangihe**	**5.25**	**191**	P	**Pn**	**13 51 23.8**	**+4.7**
PVCP	**Virac**	**5.26**	**333**	*e*P	**Pn**	**13 51 17.8**	**-1.3**
PVCP	**Virac**	**5.26**	**333**	*e*P	**Pn**	**13 51 17.6**	**-1.6**
PVCP				*e*S	**Sn**	**13 52 20.7**	**+2.2**
OTRP	**Odiongan**	**5.67**	**308**	*e*P	**Pn**	**13 51 26.5**	**+1.9**
CUYO	**Cuyo Island**	**5.82**	**290**	*e*P	**Pn**	**13 51 27.3**	**+0.5**
BOAC	**Boac**	**6.51**	**315**	*e*P	**Pn**	**13 51 35.1**	**-1.1**
BOAC	**Boac**	**6.51**	**315**	*e*P	**Pn**	**13 51 35.2**	**-1.0**
BOAC				*e*S	Px	13 52 04.0	
BUSP	**Coron**	**7.00**	**297**	*e*P	**Pn**	**13 51 43.3**	**+0.4**
ENPP	**El Nido**	**7.42**	**289**	*e*P	**Pn**	**13 51 49.0**	**+0.4**
TGY	**Tagaytay City**	**7.59**	**314**	P	**Pn**	**13 51 52.0**	**+1.1**
	29nm,0.3s,baz=160,slow=14,SNR=4.9						
TGY	**Tagaytay City**	**7.59**	**314**	P	**Pn**	**13 51 52.0**	**+1.1**
TGY	**Tagaytay City**	**7.59**	**314**	P	**Pn**	**13 51 52.0**	**+1.1**
LUBP	**Lubang**	**7.87**	**308**	*e*P	**Pn**	**13 51 56.1**	**+1.4**
TNTI	**Ternate**	**8.08**	**174**	P	**Pn**	**13 52 01.7**	**+4.0**
	0.9nm3μm235nm,0.9s						
KMSI	**Cibinong**	**8.64**	**198**	P	Px	13 52 21.6	
MYLDM	**Lahad Datu**	**8.81**	**246**	P	**Pn**	**13 52 12.5**	**+4.8**
	62nm,1.3s						
GTOI	**Gorontalo**	**8.92**	**204**	P	**Pn**	**13 52 06.9**	**-2.2**
	1μm136nm,0.9s						
CAUP	**Cauayan**	**9.27**	**330**	*e*P	**Pn**	**13 52 11.1**	**-2.7**
LBMI	**Labuha**	**9.49**	**174**	P	**Pn**	**13 52 19.5**	**+2.5**
	1μm104nm,1.6s						
MRSI	**Marisa**	**9.53**	**209**	P	**Pn**	**13 52 17.9**	**+0.4**
	954nm105nm,1.0s						
BOLP	**Bolinao**	**9.90**	**320**	*e*P	**Pn**	**13 52 25.5**	**+3.0**
LUWI	**Luwuk**	**10.55**	**201**	P	**Pn**	**13 52 34.9**	**+3.5**
	1μm124nm,0.9s						
KKM	**Kota Kinabalu**	**10.65**	**255**	P	**Pn**	**13 52 37.7**	**+4.9**
	62nm,1.4s						
KDI	**Kendari**	**13.34**	**197**	P	**Pn**	**13 53 12.8**	**+3.5**
	17nm,1.0s						
TTSI	**Tana Toraja**	**13.62**	**210**	P	**Pn**	**13 53 16.1**	**+3.1**
	666nm54nm,1.1s						
BNSI	**Bone**	**14.68**	**206**	P	Px	13 53 37.0	
KAPI	**Kappang**	**15.38**	**207**	LR	LR	14 00 21.4	
	comp=Z,287nm,18.3s,baz=40,slow=40						
TPUB	**Ta-pu**	**15.44**	**339**	*e*Pn	**Pn**	**13 53 36.0**	**-0.5**
	30nm,0.8s						
BKSI	**Bulukumba**	**15.50**	**205**	P	**Pn**	**13 53 44.5**	**+7.2**
	23nm,1.1s						
SBUM	**Sibu**	**15.64**	**247**	P	**Pn**	**13 53 45.5**	**+6.4**
	45nm,1.3s						
SSLB	**Suanglung**	**15.78**	**341**	*e*Pn	**Pn**	**13 53 39.6**	**-1.2**
KBKI	**Kotabaru**	**15.93**	**221**	P	**Pn**	**13 53 52.4**	**+10**
	52nm,1.9s						
YHNB	**Yeheng**	**16.48**	**343**	*e*P	**Pn**	**13 53 49.6**	**+0.1**
	61nm,1.2s						
JOW	**Kunigami**	**17.94**	**5**	P	**Pn**	**13 54 10.4**	**+3.0**
	1.9nm,0.3s,baz=179,slow=7.9,SNR=7.1						
JOW				LR	LR	13 59 34.0	
	comp=Z,433nm,18.4s,baz=200,slow=32						
JOW	**Kunigami**	**17.94**	**5**	*e*Pn	**Pn**	**13 54 06.7**	**-0.7**
	14nm,0.8s						
GUMO	**Guam**	**18.54**	**74**	LR	LR	14 00 11.2	
	comp=Z,247nm,19.3s,baz=267,slow=33						
QIZ	**Qiongzhong**	**19.11**	**304**	P	**Pn**	**13 54 20.6**	**-0.9**
QIZ				pP	pP	13 54 33.8	-1.4
QIZ				sP	sP	13 54 43.3	-1.4
QIZ				S	**S**	**13 57 52.9**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,350nm,6.0s						
QIZ				LR	LR		
	comp=Z,890nm,14.0s						
KMMI	**Kalianget**	**20.20**	**219**	P	**P**	**13 54 38.4**	**+6.5**
	comp=Z,2μmcomp=Z,113nm,1.0s						
MTNI	**Mataram**	**20.25**	**211**	P	**P**	**13 54 39.0**	**+6.6**
	comp=Z,3μmcomp=Z,40nm,1.0s						
SJI	**Sawahan**	**22.13**	**222**	P	**P**	**13 55 01.0**	**+8.4**
	comp=Z,4μmcomp=Z,43nm,0.2s,mb5.3						
BJII	**Banjamegara**	**23.27**	**227**	P	**P**	**13 55 09.5**	**+5.2**
CBIJ	**Chichi jima**	**23.38**	**37**	LR	LR	14 02 48.4	
	comp=Z,209nm,19.3s,baz=43,slow=33						
NJ2	**Nanjing**	**24.16**	**344**	*e*P	**P**	**13 55 11.6**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.5						
WHN	**Wuhan**	**24.40**	**334**	P	**P**	**13 55 13.0**	**-1.4**
JNU	**Nakatsue**	**24.46**	**9**	*e*P	**P**	**13 55 14.2**	**-0.7**
GYA	**Guiyang**	**25.74**	**315**	P	**P**	**13 55 26.8**	**+0.2**
GYA				pP	pP	13 55 44.3	+0.2
GYA				sP	sP	13 55 54.6	+1.6
GYA				PP		13 56 10.9	
GYA				PcP	PcP	13 58 57.0	+1.9
GYA				S	**S**	**13 59 48.8**	**-1.5**
GYA				sS	sS	14 00 19.8	-0.8
GYA				SS		14 00 57.6	
GYA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,580nm,15.2s						
GYA				LR	LR		
	comp=E,450nm,16.0s						
GYA				LR	LR		
	comp=Z,590nm,14.8s						
IPM	**Ipoh**	**25.74**	**262**	*e*P	**P**	**13 55 27.3**	**+0.4**
	comp=Z,80nm,1.0s,mb5.1						
KULM	**Kulim**	**25.97**	**264**	*e*P	**P**	**13 55 29.5**	**+0.6**
	comp=Z,35nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**26.82**	**182**	P	**P**	**13 55 36.2**	**-0.2**
	comp=Z,8.9nm,0.7s,mb4.4,baz=15,slow=12,SNR=9.9						
FITZ	**Fitzroy Crossi**	**26.82**	**182**	*e*P	**P**	**13 55 36.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**26.82**	**182**	P	**P**	**13 55 36.2**	**-0.2**
KMI	**Kunming**	**27.86**	**308**	P	**P**	**13 55 41.4**	**-4.3**
KMI				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
KMI	**Kunming**	**27.86**	**308**	P	**P**	**13 55 41.4**	**-4.3**
	comp=Z,14nm,1.1s,mb4.4						
KMI	**Kunming**	**27.86**	**308**	P	**P**	**13 55 41.4**	**-4.3**
KMI				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
CM31	**Chiang Mai Arr**	**28.45**	**292**	*e*P	**P**	**13 55 52.4**	**+1.3**
	comp=Z,17nm,1.0s,mb4.5						
CMAR	**Chiang Mai Arr**	**28.45**	**292**	P	**P**	**13 55 51.8**	**+0.7**
	comp=Z,9.3nm,0.9s,mb4.3,baz=107,slow=7.0,SNR=52						
CMAR				PcP	PcP	13 59 03.6	+1.9
	comp=Z,2.2nm,0.7s,baz=110,slow=0.4,SNR=8.5						
CMAR	**Chiang Mai Arr**	**28.45**	**292**	P	**P**	**13 55 51.8**	**+0.7**
CMAR				PcP	PcP	13 59 03.6	+1.9
CMAR	**Chiang Mai Arr**	**28.45**	**292**	P	**P**	**13 55 51.8**	**+0.7**
CMAR						13 59 03.6	
	comp=Z,9.0nm,1.0s,mb4.3						
KSAR	**Wonju Array Be**	**28.47**	**2**	P	**P**	**13 55 51.4**	**+0.4**
KSAR	**Wonju Array Be**	**28.47**	**2**	P	**P**	**13 55 51.4**	**+0.4**
KSRS	**Korea Array**	**28.48**	**2**	P	**P**	**13 55 51.4**	**+0.3**
	comp=Z,7.1nm,1.1s,mb4.1,baz=166,slow=10.0,SNR=11						
CHTO	**Chiang Mai**	**28.55**	**293**	*e*P	**P**	**13 55 52.3**	**+0.4**
	comp=Z,8.9nm,1.0s,mb4.3						
CHTO	**Chiang Mai**	**28.55**	**293**	*e*P	**P**	**13 55 52.3**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
MJAR	**Matsushiro Arr**	**29.51**	**19**	P	**P**	**13 56 00.3**	**+0.1**
	comp=Z,1.7nm,0.8s,mb3.7,baz=188,slow=9.9,SNR=3.3						
MJAR				LR	LR	14 06 03.8	
	comp=Z,160nm,18.6s,baz=190,slow=33						
MJAR	**Matsushiro Arr**	**29.51**	**19**	P	**P**	**13 56 00.3**	**+0.1**
MJAR	**Matsushiro Arr**	**29.51**	**19**	P	**P**	**13 56 00.3**	**+0.1**
WRAB	**Tennant Creek**	**29.63**	**165**	*e*P	**P**	**13 56 01.4**	**0.0**
WRAB	**Tennant Creek**	**29.63**	**165**	*e*P	**P**	**13 56 01.4**	**0.0**
WRA	**Warramunga Arr**	**29.63**	**165**	P	**P**	**13 56 01.6**	**+0.2**
	comp=Z,1.5nm,0.7s,mb3.7,baz=346,slow=9.0,SNR=5.8						
WRA	**Warramunga Arr**	**29.63**	**165**	P	**P**	**13 56 01.6**	**+0.2**
WRA	**Warramunga Arr**	**29.63**	**165**	P	**P**	**13 56 01.6**	**+0.2**
CD2	**Chengdu**	**30.55**	**319**	*e*P	**P**	**13 56 11.8**	**+2.3**
CD2				pP	pP	13 56 29.4	+2.2
CD2				sP	sP	13 56 38.6	+2.6
CD2				PP	PP	13 57 14.6	-5.2
CD2				S	**S**	**14 01 07.0**	**+1.1**
CD2				sS	sS	14 01 37.8	+1.4
CD2				SS	SS	14 02 53.0	-26
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				pmax	pmax		
	comp=Z,20nm,4.8s						
CD2				LR	LR		
	comp=N,680nm,15.6s						
CD2				LR	LR		
	comp=E,730nm,12.0s						
CD2				LR	LR		
	comp=Z,810nm,15.6s						
MBWA	**Marble Bar**	**30.59**	**193**	*e*P	**P**	**13 56 09.5**	**-0.4**
QIS	**Mount Isa**	**31.93**	**156**	*e*P	**P**	**13 56 20.6**	**-1.1**
MTSU	**Mount Surprise**	**32.04**	**147**	*e*P	**P**	**13 56 23.1**	**+0.4**
	comp=Z,18nm,1.0s,mb4.8						
BJI	**Beijing**	**32.40**	**345**	P	**P**	**13 56 26.8**	**+1.2**
BJI				S	**S**	**14 01 36.5**	**+2.0**
BJI				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
BJI				pmax	pmax		
	comp=Z,190nm,5.2s						
BJI				LR	LR		
	comp=N,440nm,16.1s						
BJI				LR	LR		
	comp=E,330nm,12.5s						
BJI				LR	LR		
	comp=Z,160nm,19.8s						
SNY	**Shenyang**	**32.93**	**356**	⇑P	**P**	**13 56 30.9**	**+0.7**
SNY				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.5						
SNY				LR	LR		
	comp=N,230nm,12.6s						
SNY				LR	LR		
	comp=E,570nm,14.4s						
SNY				LR	LR		
	comp=Z,620nm,12.3s						
ASAR	**Alice Springs**	**33.12**	**168**	P	**P**	**13 56 30.9**	**-1.1**
	comp=Z,0.5nm,0.3s,mb3.8,baz=354,slow=7.3,SNR=11						
ASAR				ScP	ScP	14 02 55.0	+3.3
	comp=Z,1.1nm,0.8s,baz=354,slow=2.0,SNR=5.5						
ASAR	**Alice Springs**	**33.12**	**168**	P	**P**	**13 56 30.9**	**-1.1**
ASAR				ScP	ScP	14 02 55.0	+3.3
ASAR	**Alice Springs**	**33.12**	**168**	P	**P**	**13 56 31.0**	**-1.1**
LZH	**Lanzhou**	**34.10**	**326**	*e*P	**P**	**13 56 45.8**	**+5.3**
LZH				pP	pP	13 57 03.8	+5.5
LZH				sP	sP	13 57 13.0	+5.9
LZH				*e*S	**S**	**14 02 06.0**	**+5.0**
LZH				sS	sS	14 02 36.5	+4.8
LZH				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.8						
LZH				pmax	pmax		
	comp=Z,110nm,6.0s						
LZH				LR	LR		
	comp=N,560nm,13.0s						
LZH				LR	LR		
	comp=E,480nm,14.1s						
LZH				LR	LR		
	comp=Z,790nm,15.2s						
HHC	**Hu-ho-hao-te**	**34.52**	**340**	*e*P	**P**	**13 56 43.6**	**-0.5**
HHC				pP	pP	13 57 01.8	-0.2
HHC				sP	sP	13 57 10.6	-0.2
HHC				PP	PP	13 58 02.4	-1.3
HHC				S	**S**	**14 02 06.3**	**-1.2**
HHC				sS	sS	14 02 36.8	-1.4
HHC				SS	SS	14 04 22.8	-17
HHC				ScS	ScS	14 06 56.4	-2.8
HHC				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.0						
HHC				pmax	pmax		
	comp=Z,230nm,7.1s						
HHC				LR	LR		
	comp=N,340nm,16.7s						
HHC				LR	LR		
	comp=E,790nm,16.7s						
HHC				LR	LR		
	comp=Z,410nm,11.6s						
CTA	**Charters Tower**	**34.69**	**146**	P	**P**	**13 56 46.1**	**+0.4**
	comp=Z

comp=Z,112nm,0.7s,mb5.8
ODAN Odare 41.14 301 *e*P **P 13 57 40.3 +0.2**
comp=Z,112nm,0.7s,mb5.8
RAMN Ramite 41.84 301 *e*P **P 13 57 46.2 +0.4**
comp=Z,60nm,0.7s,mb5.4
RAMN Ramite 41.84 301 *e*P **P 13 57 46.2 +0.4**
comp=Z,60nm,0.7s,mb5.4
ULN Ulaanbaatar 42.23 340 *e*P **P 13 57 48.3 -0.4**
comp=Z,5.7nm,0.8s,mb4.3
ULN Ulaanbaatar 42.23 340 *e*P **P 13 57 48.3 -0.3**
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
JIRN Jiri 42.41 302 *e*P **P 13 57 50.8 +0.4**
comp=Z,74nm,0.6s,mb5.6
JIRN Jiri 42.41 302 *e*P **P 13 57 50.8 +0.4**
comp=Z,74nm,0.6s,mb5.6
BBOO Buckleboo 42.42 168 *e*P **P 13 57 49.7 -0.6**
BBOO Buckleboo 42.42 168 *e*P **P 13 57 50.0 -0.3**
comp=Z,167nm,0.7s,mb5.9
SONM Songino Array 42.43 340 P **P 13 57 49.8 -0.4**
comp=Z,1.7nm,0.5s,mb4.0,baz=157,slow=8.8,SNR=10
SONM PcP PcP 13 59 43.0 +1.0
comp=Z,1.8nm,1.0s,baz=158,slow=3.3,SNR=3.5
SONM ScP ScP 14 03 31.1 +4.7
comp=Z,1.1nm,1.0s,baz=171,slow=5.5,SNR=5.1
SONM Songino Array 42.43 340 P **P 13 57 49.8 -0.4**
SONM PcP PcP 13 59 43.0 +1.0
SONM ScP ScP 14 03 31.1 +4.7
SONM Songino Array 42.43 340 P **P 13 57 49.8 -0.4**
SONM 13 59 43.0
NWAO Narrogin (SRO) 42.51 192 P **P 13 57 50.9 -0.1**
comp=Z,18nm,0.7s,mb4.9,baz=2.4,slow=8.3,SNR=8.1
NWAO Narrogin (SRO) 42.51 192 P **P 13 57 50.9 -0.1**
NWAO Narrogin (SRO) 42.51 192 P **P 13 57 50.9 -0.1**
GUN Gumba 42.75 302 *e*P **P 13 57 53.4 +0.3**
comp=Z,42nm,0.5s,mb5.4
GUN Gumba 42.75 302 *e*P **P 13 57 53.4 +0.3**
comp=Z,42nm,0.5s,mb5.4
STKA Stephens Creek 42.99 161 P **P 13 57 53.8 -1.1**
comp=Z,4.7nm,0.7s,mb4.3,baz=316,slow=9.5,SNR=3.1
STKA Stephens Creek 42.99 161 *e*P **P 13 57 54.1 -0.8**
STKA Stephens Creek 42.99 161 *e*P **P 13 57 54.3 -0.6**
STKA Stephens Creek 42.99 161 *e*P **P 13 57 54.3 -0.6**
PKI Pulchoki 43.04 301 *e*P **P 13 57 55.2 -0.3**
comp=Z,20nm,0.5s,mb5.1
PKI Pulchoki 43.04 301 *e*P **P 13 57 55.2 -0.3**
comp=Z,20nm,0.5s,mb5.1
PKI Pulchoki 43.04 301 *e*P **P 13 57 55.2 -0.3**
PKI pmax pmax
comp=Z,20nm,0.5s,mb5.1
KKN Kakani 43.21 301 *e*P **P 13 57 56.4 -0.5**
comp=Z,28nm,0.7s,mb5.1
KKN Kakani 43.21 301 *e*P **P 13 57 56.4 -0.5**
comp=Z,28nm,0.7s,mb5.1
KKN Kakani 43.21 301 *e*P **P 13 57 56.4 -0.5**
KKN pmax pmax
comp=Z,28nm,0.7s,mb5.1
DMN Daman 43.31 301 *e*P **P 13 57 57.4 -0.3**
comp=Z,30nm,0.7s,mb5.2
DMN Daman 43.31 301 *e*P **P 13 57 57.4 -0.3**
comp=Z,30nm,0.7s,mb5.1
GKN Gorkha 43.82 301 *e*P **P 13 58 01.3 -0.5**
comp=Z,24nm,0.7s,mb5.0
GKN Gorkha 43.82 301 *e*P **P 13 58 01.3 -0.5**
comp=Z,24nm,0.7s,mb5.0
KOLN Koldanda 44.63 301 *e*P **P 13 58 08.5 +0.2**
comp=Z,63nm,0.6s,mb5.5
KOLN Koldanda 44.63 301 *e*P **P 13 58 08.5 +0.2**
comp=Z,63nm,0.6s,mb5.5
DANN Dangsing 44.66 302 *e*P **P 13 58 08.6 +0.1**
comp=Z,60nm,0.6s,mb5.5
DANN Dangsing 44.66 302 *e*P **P 13 58 08.6 +0.1**
comp=Z,60nm,0.6s,mb5.5
MDRS Chennai 45.63 280 *e*PKP **P 13 58 15.0 -1.4**
MDRS *ex* x 13 58 42.2
ZAK Zakamensk 45.67 339 *e*P **P 13 58 14.6 -1.5**
ZAK *e* 13 59 53.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
HYB Hyderabad 47.42 285 *i* P **P 13 58 30.5 +0.1**
MOY Mondy 47.55 339 *e*P **P 13 58 31.0 +0.2**
CLNS Chul'man 47.87 359 *e*P **P 13 58 34.0 +0.8**
CLNS pmax pmax
comp=Z,23nm,1.1s,mb4.9
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=N,12nm,0.9s
WMQ Urumqi 48.51 323 P **P 13 58 38.8 +0.5**
WMQ pP pP 13 58 57.4 +0.3
WMQ sP sP 13 59 06.3 +0.7
WMQ pmax pmax
comp=Z,28nm,0.8s,mb5.2
WMQ pmax pmax
comp=Z,340nm,5.8s
BHPL Bhopal 49.11 293 *e*PKP **P 13 58 43.2 -0.1**
BHPL AMb AMB 13 58 45.2
comp=Z,25nm,0.7s,mb5.3
BOD Bodaibo 49.79 351 *e*P **P 13 58 48.4 +0.5**
BOD pmax pmax
comp=Z,18nm,1.2s,mb4.9
PETK Petropavlovsk- 50.78 24 P **P 13 58 56.6 +1.2**
comp=Z,5.0nm,0.8s,mb4.6,baz=163,slow=3.6,SNR=6.1
PETK Petropavlovsk- 50.78 24 P **P 13 58 56.6 +1.2**
PETK Petropavlovsk- 50.78 24 P **P 13 58 56.6 +1.1**
POO Poona 51.96 287 *e*PKP **P 13 59 05.0 +0.2**
POO AMb AMB 13 59 06.1
comp=Z,13nm,0.6s,mb5.1
YAK Yakutsk 53.11 2 *e*P **P 13 59 12.7 +0.1**
comp=Z,27nm,0.8s,mb5.3
YAK Yakutsk 53.11 2 *e*P **P 13 59 11.4 -1.2**
YAK pmax pmax
comp=Z,36nm,1.4s,mb5.2
YAK pmax pmax
comp=N,17nm,1.6s
YAK pmax pmax
comp=E,6.0nm,1.4s
MK31 Makanchi Array 53.32 323 *e*P **P 13 59 14.3 -0.1**
MK31 Makanchi Array 53.32 323 *e*P **P 13 59 14.3 -0.1**
MKAR Makanchi Array 53.32 323 P **P 13 59 14.3 -0.1**
comp=E,31nm,0.7s,mb5.4,baz=125,slow=7.2,SNR=162
MKAR PcP PcP 14 00 21.6 +0.6
comp=E,7.4nm,0.8s,baz=131,slow=5.0,SNR=5.1
MKAR LR LR 14 23 13.5
comp=E,209nm,18.4s,baz=171,slow=37
MKAR Makanchi Array 53.32 323 P **P 13 59 14.3 -0.1**
MKAR PcP PcP 14 00 21.6 +0.6
MKAR Makanchi Array 53.32 323 P **P 13 59 14.3 -0.1**
MKAR 14 00 21.7
KSH Kashi 54.39 313 P **P 13 59 23.8 +1.4**
KSH pP pP 13 59 42.8 +1.4
KSH sP sP 13 59 51.5 +1.6
KSH PcP PcP 14 00 27.1 +1.8
KSH PP PP 14 01 27.9 +2.8
KSH ScP ScP 14 04 17.0 -0.1
KSH PcS PcS 14 04 25.1 +0.2
KSH S **S 14 06 52.9 -2.3**
KSH sS sS 14 07 26.3 -1.3
KSH ScS ScS 14 09 02.3 -2.5
KSH SS SS 14 10 35.6 -2.8
KSH pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KSH pmax pmax
comp=Z,150nm,5.8s
KSH LR LR
comp=N,190nm,7.4s
KSH LR LR
comp=E,250nm,7.2s
KSH LR LR
comp=Z,340nm,6.3s
KZA Kyzart 55.81 315 P **P 13 59 33.5 +1.0**
SNR=13
KZA P 13 59 33.5
SNR=13
TKM2 Tokmak 2 55.88 316 P **P 13 59 33.4 +0.3**
SNR=9.3
TKM2 P 13 59 33.4
SNR=9.3
TKM2 Tokmak 2 55.88 316 *e*P **P 13 59 33.1 +0.1**
comp=Z,14nm,1.2s,mb4.9
TKM2 Tokmak 2 55.88 316 *i* P **P 13 59 33.3 +0.3**
ZAA0 Zalesovo Array 55.99 332 *e*P **P 13 59 32.6 -1.0**
ZALV Zalesovo Beam 55.99 332 P **P 13 59 32.6 -1.0**
comp=Z,11nm,0.7s,mb5.0,baz=118,slow=6.6,SNR=61
ZALV Zalesovo Beam 55.99 332 P **P 13 59 32.6 -1.0**
ZALV Zalesovo Beam 55.99 332 P **P 13 59 32.7 -0.9**

KBK Karagaybulak 56.22 316 P **P 13 59 36.5 +1.0**
SNR=13
KBK P 13 59 36.5
SNR=13
CHMS Chumysh 56.48 316 P **P 13 59 37.2 -0.2**
SNR=6.2
CHMS P 13 59 37.2
SNR=6.2
AAK Ala-Archa 56.53 316 *e*P **P 13 59 37.1 -0.6**
comp=Z,16nm,0.8s,mb5.1
AAK Ala-Archa 56.53 316 *d i*P **P 13 59 37.6 -0.1**
AAK pmax pmax
comp=Z,12nm,1.2s,mb4.8
USP Ospenovka 56.75 316 P **P 13 59 39.2 0.0**
SNR=11
USP P 13 59 39.2
SNR=11
AML Almayashu 56.91 315 P **P 13 59 41.2 +0.8**
SNR=18
AML P 13 59 41.2
SNR=18
EKS2 Erkin-Say 57.03 316 P **P 13 59 41.8 +0.5**
SNR=12
EKS2 P 13 59 41.8
SNR=12
EKS2 Erkin-Say 57.03 316 *e*P **P 13 59 38.7 -2.5**
comp=Z,7.7nm,0.8s,mb4.8
EKS2 Erkin-Say 57.03 316 *e*P **P 13 59 38.7 -2.5**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
NVS Novosibirsk 57.27 332⇑ *i*P **P 13 59 41.7 -1.0**
NVS pmax pmax
comp=Z,35nm,1.0s,mb5.3
NVS pmax pmax
comp=N,14nm,0.9s
NVS pmax pmax
comp=E,18nm,1.0s
KURK Kurchatov 57.39 326 P **P 13 59 43.2 -0.3**
comp=E,33nm,0.8s,mb5.4,baz=126,slow=6.4,SNR=190
KURK Kurchatov 57.39 326 *e*P **P 13 59 43.2 -0.3**
comp=E,55nm,0.9s,mb5.6
KURK Kurchatov 57.39 326 *e*P **P 13 59 43.2 -0.4**
KURK pmax pmax
comp=Z,55nm,0.9s,mb5.6
KBL Kabul 58.37 305 *e*P **P 13 59 50.7 -0.1**
comp=Z,8.8nm,0.6s,mb5.0
KBL Kabul 58.37 305 *e*P **P 13 59 50.7 -0.1**
KBL pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
KK31 Karatay Array 59.45 315 *i* P **P 13 59 57.2 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KKAR Karatay Array 59.45 315 *e*P **P 13 59 57.6 -0.5**
comp=Z,12nm,0.9s,mb4.9
KKAR Karatay Array 59.45 315 *e*P **P 13 59 57.6 -0.5**
KKAR pmax pmax
comp=Z,12nm,0.9s,mb4.9
BVA0 Borovoye Array 62.98 326 *i* P **P 14 00 21.3 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BVAR Borovoye Array 62.98 326 P **P 14 00 21.4 -0.4**
comp=Z,11nm,0.8s,mb4.8,baz=125,slow=8.7,SNR=76
BVAR PcP PcP 14 00 59.3 +0.2
comp=Z,5.6nm,0.9s,baz=103,slow=4.7,SNR=5.5
BVAR Borovoye Array 62.98 326 P **P 14 00 21.4 -0.4**
BVAR PcP PcP 14 00 59.3 +0.2
BVAR Borovoye Array 62.98 326 P **P 14 00 21.4 -0.4**
BVAR 14 00 59.3
BRVK Borovoye 63.05 326 *e*P **P 14 00 22.0 -0.2**
comp=Z,16nm,0.8s,mb5.0
BRVK Borovoye 63.05 326 *e*P **P 14 00 22.0 -0.2**
BRVK pmax pmax
comp=Z,16nm,0.8s,mb5.0
BILL Bilibino 64.66 15 *e*P **P 14 00 32.7 +0.2**
comp=Z,8.5nm,1.1s,mb4.5
BILL Bilibino 64.66 15⇓ *i*P **P 14 00 33.6 +1.1**
BILL pmax pmax
comp=Z,19nm,1.6s,mb4.7
AFI Afiamalu 65.22 110 LR LR 14 24 32.9
comp=Z,122nm,18.3s,baz=124,slow=32
ABKT Ailbek 67.62 307 P **P 14 00 53.4 +1.3**
comp=Z,196nm,0.8s,SNR=8.5
AB31 Akbulak array 68.13 320 *i* P **P 14 00 54.6 -0.4**
AB31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ABKAR Akbulak array 68.13 320 *e*P **P 14 00 54.6 -0.5**
comp=Z,5.0nm,0.8s,mb4.4
SVE Sverdlovsk 69.55 328⇓ *i*P **P 14 01 03.6 -0.1**
SVE pmax pmax
comp=Z,37nm,1.1s,mb5.1
AKTO Aktyubinsk 69.59 321 P **P 14 01 03.9 -0.1**
comp=Z,6.6nm,0.7s,mb4.6,baz=94,slow=7.0,SNR=24
AKTO Aktyubinsk 69.59 321 P **P 14 01 03.9 -0.1**
AKTO Aktyubinsk 69.59 321 P **P 14 01 03.9 -0.1**
ARU Arti 70.56 327 *e*P **P 14 01 09.2 -0.6**
comp=Z,18nm,0.8s,mb5.0
ARU Arti 70.56 327 *c i*P **P 14 01 09.0 -0.8**
ARU S S 14 10 21.2 +3.8
ARU SS SS 14 14 50.0 +0.1
ARU pmax pmax
comp=Z,30nm,1.0s,mb5.1
RDF Al-Radifah 76.20 298 *e*P **P 14 01 42.1 -1.5**
MIB Mutribah 76.34 299 *e*P **P 14 01 43.1 -1.3**
MIB AMb AMB 14 01 45.8
comp=Z,52nm,0.7s,mb5.4
NAY Al-Naaiem 76.45 298 *e*P **P 14 01 43.7 -1.4**
NAY AMb AMB 14 01 46.0
comp=Z,24nm,0.7s,mb5.0
GNI Garni 78.11 309 *e*P **P 14 01 54.0 -0.2**
comp=Z,23nm,1.3s,mb4.8
GNI *e* pP 14 02 11.1 -3.1
GNI Garni 78.11 309⇓ *e*P **P 14 01 53.9 -0.2**
GNI pmax pmax
comp=Z,15nm,1.2s
ZEI Tsey 78.67 312 *e*P **P 14 01 56.8 -0.3**
ZEI pmax pmax
comp=Z,18nm,1.0s,mb4.9
KIV Kislovodsk 79.52 313 *e*P **P 14 02 02.7 +1.0**
comp=Z,16nm,0.9s,mb4.8
KIV Kislovodsk 79.52 313 P **P 14 02 02.0 +0.3**
KIV *e* 14 02 09.1
KIV pmax pmax
comp=Z,22nm,1.2s,mb4.9
MCK McKinley 79.66 27 *e*P **P 14 02 03.1 +1.0**
comp=Z,14nm,1.2s,mb4.7
MCK McKinley 79.66 27 *e*P **P 14 02 03.1 +1.0**
MCK pmax pmax
comp=Z,14nm,1.2s,mb4.7
ILAR Eielson Array 80.56 26 P **P 14 02 06.8 -0.1**
comp=Z,1.4nm,0.8s,mb3.9,baz=240,slow=5.0,SNR=27
ILAR Eielson Array 80.56 26 P **P 14 02 06.8 -0.1**
KLMR Klimovskoe 80.89 330 *e*P **P 14 02 06.1 -2.6**
KLMR pmax pmax
comp=Z,39nm,1.3s,mb5.1
MENT Mentasta 82.04 28 *e*P **P 14 02 17.1 +2.4**
LVZ Lovozero 82.58 338 *e*P **P 14 02 14.7 -2.7**
comp=Z,264nm,1.6s,mb5.8
LVZ Lovozero 82.58 338 *e*P **P 14 02 14.7 -2.8**
LVZ pmax pmax
comp=Z,264nm,1.6s,mb5.8
LVZ Lovozero 82.58 338 P **P 14 02 14.8 -2.7**
comp=Z,438nm,0.6s,SNR=21
OBN Obninsk 82.80 325 P **P 14 02 19.0 +0.1**
OBN *e* 14 02 29.1
OBN 14 05 35.0
JOF Joensuu 84.57 333 *e*P **P 14 02 25.4 -2.3**
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
JOF Joensuu 84.57 333 *ep* P **P 14 02 25.4 -2.3**
comp=Z,6.3nm,0.7s,mb4.7
ASF Jabal al Asfar 85.07 302 P **P 14 02 32.3 +1.4**
comp=Z,0.8nm,0.3s,mb4.1,baz=294,slow=2.3,SNR=3.9
ASF Jabal al Asfar 85.07 302 P **P 14 02 32.3 +1.4**
ASF Jabal al Asfar 85.07 302 P **P 14 02 32.3 +1.3**
ARCES ARCESS Array B 85.60 340 P **P 14 02 33.6 +0.8**
comp=Z,5.3nm,0.6s,mb4.6,baz=80,slow=6.7,SNR=16
ARCES ARCESS Array B 85.60 340 P **P 14 02 33.6 +0.8**
ARCES ARCESS Array B 85.60 340 P **P 14 02 33.7 +0.9**
BRTR Keskin Array B 86.65 310 P **P 14 02 38.4 -0.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=65,slow=4.4,SNR=6.7
BRTR Keskin Array B 86.65 310 P **P 14 02 38.4 -0.3**
BRTR Keskin Array B 86.65 310 P **P 14 02 38.4 -0.2**
KAF Kangasniemi 87.00 332 *e*P **P 14 02 38.8 -1.0**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4

KAF Kangasniemi 87.00 332 *ep* **P 14 02 38.8 -1.0**
comp=Z,4.3nm,0.8s,mb4.4
EIL Elat 87.07 299 P **P 14 02 41.4 +0.5**
comp=Z,12nm,0.9s,mb4.8,baz=34,slow=3.5,SNR=8.7
EIL Elat 87.07 299 P **P 14 02 41.4 +0.5**
FINES FINESS Array B 87.26 332 P **P 14 02 40.5 -0.5**
comp=Z,6.1nm,0.9s,mb4.5,baz=112,slow=4.0,SNR=13
FINES FINESS Array B 87.26 332 P **P 14 02 40.5 -0.5**
FINES FINESS Array B 87.26 332 P **P 14 02 40.6 -0.5**
AKASG Malin Array Be 87.83 321 P **P 14 02 43.5 -0.6**
comp=Z,1.8nm,0.6s,mb4.3,baz=67,slow=4.8,SNR=5.8
AKASG Malin Array Be 87.83 321 P **P 14 02 43.5 -0.6**
AKASG Malin Array Be 87.83 321 P **P 14 02 43.5 -0.6**
UZH Uzhgorod 92.70 320 *e*P **P 14 03 13.4 +6.6**
UZH *e* 14 03 26.1
HFS Hagfors 93.42 332 LR LR 14 50 46.3
comp=Z,362nm,18.7s,baz=68,slow=39
YKA Yellowknife Ar 94.91 24 P **P 14 03 18.0 +1.4**
comp=Z,5.7nm,0.7s,mb5.1,baz=301,slow=4.7,SNR=62
YKA Yellowknife Ar 94.91 24 P **P 14 03 18.1 +1.4**
YKA Yellowknife Ar 94.91 24 P **P 14 03 18.1 +1.5**
GERES GERESS Array B 97.98 322 P **P 14 03 31.0 +0.1**
comp=Z,2.3nm,0.9s,mb4.7,baz=96,slow=5.4,SNR=5.3
GERES GERESS Array B 97.98 322 P **P 14 03 31.0 +0.1**
GERES GERESS Array B 97.98 322 P **P 14 03 31.0 +0.1**
TXAR Lajitas Array 118.50 50 PKP PKPdf 14 08 44.1 +1.4
comp=Z,0.3nm,0.6s,baz=276,slow=0.8,SNR=5.3
TXAR Lajitas Array 118.50 50 PKP PKPdf 14 08 44.1 +1.4
TXAR Lajitas Array 118.50 50 PKIKP PKPdf 14 08 44.2 +1.4
TORD Torodi Ar. Bea 121.06 291 PKP PKPdf 14 08 47.9 -0.1
comp=Z,1.6nm,0.8s,baz=44,slow=1.5,SNR=9.2
TORD Torodi Ar. Bea 121.06 291 PKP PKPdf 14 08 47.9 -0.1
DBIC Dimbokro 129.19 286 PKP PKPdf 14 09 05.2 +1.5
comp=Z,2.6nm,1.0s,baz=120,slow=7.1,SNR=3.1
DBIC Dimbokro 129.19 286 PKP PKPdf 14 09 05.2 +1.5
DBIC Dimbokro 129.19 286 PKIKP PKPdf 14 09 05.2 +1.5
PLCA Paso Flores 144.81 157 PKP PKPdf 14 09 33.4 +1.8
comp=Z,5.0nm,1.0s,baz=157,slow=7.1,SNR=3.1
PLCA Paso Flores 144.81 157 PKP PKPdf 14 09 33.4 +1.8
PLCA Paso Flores 144.81 157 PKIKP PKPdf 14 09 33.4 +1.8
LPAZ La Paz 163.87 119 PKP PKPdf 14 10 00.3 +1.9
comp=Z,1.7nm,0.9s,baz=6.6,slow=6.8,SNR=4.7
LPAZ La Paz 163.87 119 PKP PKPdf 14 10 00.3 +1.9
LPAZ La Paz 163.87 119 PKIKP PKPdf 14 10 00.4 +1.9

DJA 20 13:51:03, 2.48S×139.32E, h121km, MLv3.6/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.78**	**309**	P	Pn	Pn	13 51 24.4	+1.3
JAY	**Jayapura**	**1.38**	**91**	P	Pn	Pn	13 51 28.7	-0.5
JAY				S	Sn	Sn	13 51 51.6	+2.5
WAMI	**Wamena**	**1.52**	**204**	P	Pn	Pn	13 51 34.3	+3.5
WAMI				S	Sn	Sn	13 51 55.5	+3.6

*IDC **20** 14:18:45.0±0.8, 32.38S×72.48W, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.8/16, mbtmp3.7/9, ML3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=27.8km s-min=21.7km az=91.0*

*ISCJB **20** 14:18:46.6±1.4, 32.42S±0.04×72.41W±0.08, h21km±9km, mb3.5/5, Error ellipse: s-maj=11.5km s-min=6.2km az=157.6*

*NEIC **20** 14:18:47.8, 32.48S×72.34W, h30km, ML4.1(GUC), After GUC.*

*GUC **20** 14:18:47.8±0.9, 32.48S×72.34W, h30km±6km, MD4.0, ML4.1*

ISC 20 14:18:47.3±1.2, 32.43S±0.04×72.33W±0.07, h14km±7km, n49,o091/53, mb3.5/5, 10C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.83**	**136**⇑	*i*P	**Pg**		**14 19 02.6**	**-0.9**
IHA	**Instituto Hidr**	**0.83**	**136**⇑	*i*P	**Pg**		**14 19 02.6**	**-0.9**
CHNG	**Los Chungos**	**0.89**	**53**⇑	*i*P	**Pg**		**14 19 04.4**	**-0.1**
CHNG				*i* S	**Sg**		**14 19 17.1**	**+0.9**
CHNG				AML	AML		14 19 23.8	
comp=E,6μm,0.6s								
LCCH	**Las Cruces**	**1.23**	**149**	*e*P	**Pn**		**14 19 09.0**	**-1.1**
LCCH	**Las Cruces**	**1.23**	**149**	*e*P	**Pn**		**14 19 09.0**	**-1.1**
ROCH	**El Roble**	**1.24**	**116**⇑	*i*P	**Pn**		**14 19 09.2**	**-1.0**
ROCH				*i* S	**Sb**		**14 19 25.4**	**-0.9**
ROCH				AML	AML		14 19 30.7	
comp=N,11μm,0.7s								
JACH	**Jahuel**	**1.49**	**100**⇓	*i*P	**Pn**		**14 19 12.9**	**-0.7**
JACH	**Jahuel**	**1.49**	**100**⇓	*i*P	**Pn**		**14 19 12.9**	**-0.7**
PEL	**Peldehue**	**1.56**	**118**⇓	*i*P	**Pn**		**14 19 14.3**	**-0.3**
PEL				*i* S	**Sn**		**14 19 34.1**	**-0.5**
PEL				AML	AML		14 19 39.4	
comp=E,8μm,0.3s								
TACH	**Talagante**	**1.69**	**137**⇑	*i*P	**Pn**		**14 19 16.3**	**-0.2**
TACH	**Talagante**	**1.69**	**137**⇑	*i*P	**Pn**		**14 19 16.3**	**-0.2**
SAN	**Santiago**	**1.74**	**127**	*e*P	**Pn**		**14 19 17.1**	**0.0**
SAN				*e*S	**Sn**		**14 19 39.1**	**+0.1**
SAN	**Santiago**	**1.74**	**127**	*e*P	**Pn**		**14 19 17.1**	**0.0**
SAN				*e*S	**Sn**		**14 19 39.1**	**+0.1**
SAN				AML	AML		14 19 48.2	
comp=N,2μm,0.3s								
CLCH	**Cerro Calan**	**1.79**	**123**⇑	*i*P	**Pn**		**14 19 17.8**	**0.0**
CLCH				*i* S	**Sn**		**14 19 41.2**	**+0.8**
CLCH				AML	AML		14 19 49.5	
comp=N,4μm,0.5s								
ANTU	**Antumapu**	**1.83**	**129**	*e*P	**Pn**		**14 19 18.5**	**+0.2**
ANTU	**Antumapu**	**1.83**	**129**	*e*P	**Pn**		**14 19 18.5**	**+0.2**
ANTU				AML	AML		14 19 49.8	
comp=E,3μm,0.5s								
PCH	**Pirque**	**1.94**	**128**⇓	*i*P	**Pn**		**14 19 20.0**	**+0.2**
PCH	**Pirque**	**1.94**	**128**⇓	*i*P	**Pn**		**14 19 20.0**	**+0.2**
FCH	**Farellones**	**1.94**	**118**⇑	*i*P	Px		14 18 58.3	
FCH				*i* S	Sx		14 19 23.7	
FCH				AML	AML		14 19 32.4	
comp=N,2μm,0.7s								
CHCH	**Chadas Angostu**	**2.06**	**137**	*e*P	**Pn**		**14 19 21.5**	**0.0**
CHCH	**Chadas Angostu**	**2.06**	**137**	*e*P	**Pn**		**14 19 21.5**	**0.0**
CACH	**El Canelo**	**2.22**	**140**⇑	*i*P	**Pn**		**14 19 24.2**	**+0.5**
CACH	**El Canelo**	**2.22**	**140**⇑	*i*P	**Pn**		**14 19 24.2**	**+0.5**
LMEL	**Las Melosas**	**2.28**	**129**	*e*P	**Pn**		**14 19 25.1**	**+0.5**
LMEL	**Las Melosas**	**2.28**	**129**	*e*P	**Pn**		**14 19 25.1**	**+0.5**
LMEL				AML	AML		14 20 08.3	
comp=N,841nm,0.7s								
CFAA	**Coronel Fontan**	**3.57**	**78**	Pn	**Pn**		**14 19 44.5**	**+2.2**
comp=N,1.2nm,0.3s,baz=248,slow=12,SNR=38								
CFAA				Lg			14 20 36.9	
comp=N,3.6nm,0.3s,baz=80,slow=9.5,SNR=8.2								
CFAA	**Coronel Fontan**	**3.57**	**78**	Pn	**Pn**		**14 19 44.5**	**+2.2**
CFAA				Lg			14 20 36.9	
LCO	**Las Campanas**	**3.68**	**23**	*e*Pn	**Pn**		**14 19 42.8**	**-1.0**
LCO				*e*			14 20 26.3	
LVC	**Limon Verde**	**10.23**	**18**	*e*Pn	**Pn**		**14 21 12.6**	**-1.2**
comp=N,7.0nm,0.8s								
LVC				*e*Sn	**Sn**		**14 23 07.3**	**-1.1**
CPUP	**Villa Florida**	**14.41**	**69**	Pn	**Pn**		**14 22 12.8**	**+1.9**
comp=N,0.4nm,0.3s,baz=226,slow=7.8,SNR=3.8								
CPUP				Sn	**Sn**		**14 25 05.5**	**+15**
comp=N,0.4nm,0.3s,baz=236,slow=15,SNR=2.5								
CPUP				Lg			14 26 08.8	
comp=N,0.4nm,0.3s,baz=152,slow=17,SNR=2.3								
CPUP				LR	LR		14 28 06.9	
comp=N,85nm,21.4s,baz=59,slow=39								
CPUP	**Villa Florida**	**14.41**	**69**	Pn	**Pn**		**14 22 12.8**	**+1.9**
CPUP				Sn	**Sn**		**14 25 05.5**	**+15**
CPUP				Lg			14 26 08.8	
LPAZ	**La Paz**	**16.51**	**14**	Pn	**Pn**		**14 22 40.1**	**+1.6**
comp=N,0.2nm,0.3s,baz=186,slow=5.6,SNR=9.1								
LPAZ	**La Paz**	**16.51**	**14**	Pn	**Pn**		**14 22 40.1**	**+1.6**
SIV	**San Ignacio**	**19.29**	**35**	P	**Pn**		**14 23 11.9**	**-1.0**
comp=N,0.3nm,0.3s,baz=227,slow=19,SNR=12								
SIV	**San Ignacio**	**19.29**	**35**	P	**Pn**		**14 23 11.9**	**-1.0**
SNAA	**Sanae**	**53.13**	**158**	P	**P**		**14 28 04.7**	**+0.6**
comp=N,0.2nm,0.3s,mb3.5,baz=297,slow=10.0,SNR=2.4								
SNAA	**Sanae**	**53.13**	**158**	P	**P**		**14 28 04.7**	**+0.6**
QSPA	**South Pole Qui**	**57.81**	**180**	P	**P**		**14 28 39.0**	**+1.4**
comp=N,0.6nm,0.7s,mb3.7,baz=163,slow=4.7,SNR=5.6								
QSPA	**South Pole Qui**	**57.81**	**180**	P	**P**		**14 28 39.0**	**+1.4**
TXAR	**Lajitas Array**	**68.24**	**331**	P	**P**		**14 29 48.6**	**+1.0**
comp=N,0.1nm,0.5s,mb3.1,baz=157,slow=4.9,SNR=2.3								
TXAR	**Lajitas Array**	**68.24**	**331**	P	**P**		**14 29 48.6**	**+1.0**
NVAR	**Mina Array Bea**	**82.45**	**325**	P	**P**		**14 31 07.8**	**-1.2**
comp=N,0.3nm,0.6s,mb3.4,baz=140,slow=7.1,SNR=3.0								
NVAR	**Mina Array Bea**	**82.45**	**325**	P	**P**		**14 31 07.8**	**-1.2**

TORD	**Torodi Ar. Bea**	83.91	70	P	P	14 31 17.2	+0.1
	comp=N,0.9nm,0.6s,mb4.1,baz=281,slow=3.9,SNR=6.6						
TORD	**Torodi Ar. Bea**	83.91	70	P	P	14 31 17.2	+0.1
WRA	**Warramunga Arr**	122.01	210	PKP	PKPdf	14 37 41.5	-0.4
	comp=N,0.2nm,0.6s,baz=154,slow=1.6,SNR=3.3						
WRA	**Warramunga Arr**	122.01	210	PKP	PKPdf	14 37 41.5	-0.4
ZALV	**Zalesovo Beam**	153.01	30	PKPbc	PKPbc	14 38 43.1	-0.6
	comp=N,0.8nm,0.5s,baz=298,slow=2.5,SNR=3.7						
ZALV				PKPab	PKPab	14 38 53.7	-1.4
	comp=N,1.4nm,0.9s,baz=339,slow=3.6,SNR=3.4						
ZALV	**Zalesovo Beam**	153.01	30	PKPbc	PKPbc	14 38 43.1	-0.6
ZALV				PKPab	PKPab	14 38 53.7	-1.4

IDC 20 14:31:13.0±1.4, 23°.99S×116°.05W, h0km, mb3.6/2, mb1 4.0/2, mb1mx3.7/15, mbtmp3.6/2, MS4.0/3, Ms1 4.0/3, ms1mx3.5/20, Error ellipse: s-maj=60.7km s-min=42.4km az=11.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	17.37	269	eLR	LR	14 39 08.3	
	672nm,27.0s						
RKT				eT		14 52 36.6	
	1.4nm,0.3s						
TAOE	**Nuku Hiva Isla**	27.51	299	eLR	LR	14 43 59.1	
	316nm,25.9s						
TBI	**Tubuai**	30.57	264	eLR	LR	14 45 08.2	
	189nm,28.0s						
PPT2	**Papeete2**	31.93	275	eLR	LR	14 45 47.3	
	328nm,26.8s						
PLCA	**Paso Flores**	41.41	125	LR	LR	14 51 57.7	
	comp=Z,139nm,19.3s,baz=186,slow=30						
LPAZ	**La Paz**	45.47	90	P	P	14 39 34.6	+0.4
	1.1nm,0.8s,baz=251,slow=4.0,SNR=4.3						
AFI	**Afiamalu**	53.36	270	LR	LR	14 58 19.2	
	comp=Z,134nm,20.5s,baz=114,slow=30						
PDAR	**Pinedale Array**	66.69	5	P	P	14 42 05.5	0.0
	0.3nm,0.8s,baz=199,slow=7.4,SNR=2.6						
DZM	**Mont Dzumac**	70.45	254	eLR	LR	15 04 11.3	
	119nm,24.4s						
DZM	**Mont Dzumac**	70.45	254	LR	LR	15 06 49.4	
	comp=Z,133nm,18.9s,baz=352,slow=30						
ZALV	**Zalesovo Beam**	146.23	338	PKPbc	PKPbc	14 50 53.7	-1.3
	0.8nm,0.7s,baz=82,slow=3.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	146.97	267	PKPbc	PKPbc	14 50 56.5	-1.8
	0.3nm,0.7s,baz=88,slow=1.6,SNR=2.9						
BRTR	**Keskin Array B**	150.03	51	PKPbc	PKPbc	14 51 05.8	+0.1
	1.4nm,0.9s,baz=274,slow=2.3,SNR=4.0						
MKAR	**Makanchi Array**	152.90	332	PKPbc	PKPbc	14 51 13.8	+1.8
	0.7nm,0.8s,baz=18,slow=0.5,SNR=2.9						

*IDC **20** 14:31:41.6±0.9, 38°.82N×71°.04E, h0km, mb3.8/14, mb1 3.9/19, mb1mx3.8/32, mbtmp3.8/19, ML3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.6/37, Error ellipse: s-maj=17.6km s-min=14.0km az=158.0*

*NNC **20** 14:31:42.6±2.0, 38°.87N×70°.58E, h0km, mb4.1, mpv4.3, Error ellipse: s-maj=15.4km s-min=13.3km az=29.0*

*MOS **20** 14:31:45.7±1.3, 38°.90N×70°.82E, h33km, mb4.0/2, Error ellipse: s-maj=11.8km s-min=6.7km az=85.3*

*NEIC **20** 14:31:48.1±0.9, 38°.88N×70°.90E, h44km±10km, mb4.1/6, Error ellipse: s-maj=10.0km s-min=5.9km az=58.0*

ISC 20 14:31:47.2±1.7, 38°.83N±0°.03×70°.75E±0°.05, h33km±14km, n121, σ1$51/133, mb3.7/17, 11C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	3.99	33	P	Pn	14 32 47.2	+1.2
	SNR=278						
AML				P		14 32 47.2	
	SNR=278						
KK31	**Karatay Array**	4.27	358	⇓Pn	Pn	14 32 49.3	-0.6
	24nm,0.6s,baz=177,slow=12,SNR=12						
KK31				⇑Sn	Sn	14 33 40.6	+2.1
	45nm,0.6s,baz=189,slow=15,SNR=3.6						
KK31				⇑Lg		14 33 54.3	
	54nm,0.5s,baz=187,slow=30,SNR=3.6						
KKAR	**Karatay Array**	4.27	358	ePn	Pn	14 32 50.1	+0.3
KKAR				eSn	Sn	14 33 35.8	-2.7
KKAR	**Karatay Array**	4.27	358	ePN	Pn	14 32 50.1	+0.2
UCH	**Uchtor**	4.44	39	P	Pn	14 32 55.7	+3.5
	SNR=18						
UCH				P		14 32 55.7	
	SNR=18						
EKS2	**Erkin-Say**	4.46	30	P	Pn	14 32 54.2	+1.8
	SNR=45						
EKS2				P		14 32 54.2	
	SNR=45						
EKS2	**Erkin-Say**	4.46	30	ePn	Pn	14 32 54.0	+1.6
EKS2				eSn	Sn	14 33 42.4	-0.8
EKS2	**Erkin-Say**	4.46	30	ePN	Pn	14 32 54.1	+1.6
EKS2				e		14 33 42.4	
KBL	**Kabul**	4.50	198	ePn	Pn	14 32 56.3	+3.4
KBL	**Kabul**	4.50	198	ePN	Pn	14 32 56.3	+3.3
KZA	**Kyzart**	4.72	45	P	Pn	14 32 58.6	+2.6
	SNR=36						
KZA				P		14 32 58.6	
	SNR=36						
AAK	**Ala-Archa**	4.74	36	P	Pn	14 32 58.2	+1.8
	SNR=96						
AAK				P		14 32 58.2	
	SNR=96						
AAK	**Ala-Archa**	4.74	36	ePn	Pn	14 32 57.5	+1.2
AAK	**Ala-Archa**	4.74	36	ePN	Pn	14 32 57.5	+1.2
FRU	**Bishkek**	4.96	35	i PN	Pn	14 33 02.0	+2.7
FRU				i S	Sn	14 34 03.0	+7.6
FRU				e		14 34 07.0	
FRU				pmax	pmax		
	comp=Z,60nm,1.9s						
FRU				pmax	pmax		
	comp=E,400nm,1.9s						
KBK	**Karagaybulak**	4.97	38	P	Pn	14 33 01.9	+2.3
	SNR=65						
KBK				P		14 33 01.9	
	SNR=65						
CHMS	**Chumysh**	5.15	35	P	Pn	14 33 03.8	+1.9
	SNR=16						
CHMS				P		14 33 03.8	
	SNR=16						
USP	**Ospenovka**	5.26	31	P	Pn	14 33 04.4	+1.0
	SNR=95						
USP				P		14 33 04.4	
	SNR=95						
ULHL	**Ulahol**	5.39	49	P	Pn	14 33 09.0	+3.7
	SNR=7.1						
ULHL				P		14 33 09.0	
	SNR=7.1						
TKM2	**Tokmak 2**	5.49	40	P	Pn	14 33 09.4	+2.8
	SNR=42						
TKM2				P		14 33 09.4	
	SNR=42						
TKM2	**Tokmak 2**	5.49	40	⇓Pn	Pn	14 33 07.9	+1.3
	comp=E,21nm,0.4s						
TKM2				⇑Sn	Sn	14 34 11.5	+2.9
	comp=E,32nm,0.7s						
TKM2				⇑Lg		14 34 40.1	
	comp=E,34nm,0.8s						
TKM2	**Tokmak 2**	5.49	40	ePn	Pn	14 33 07.4	+0.8
TKM2	**Tokmak 2**	5.49	40	ePN	Pn	14 33 07.4	+0.8
MK31	**Makanchi Array**	11.61	43	Pn	Pn	14 34 30.8	+0.2
	comp=E,12nm,1.3s,baz=215,slow=33,SNR=14						
MKAR	**Makanchi Array**	11.61	43	Pn	Pn	14 34 26.4	-4.1
	comp=E,0.2nm,0.3s,baz=222,slow=13,SNR=9.8						
MKAR				Lg		14 37 54.8	
	comp=E,0.1nm,0.3s,baz=239,slow=28,SNR=3.2						
MKAR	**Makanchi Array**	11.61	43	Pn	Pn	14 34 26.4	-4.1
MKAR	**Makanchi Array**	11.61	43	P	Pn	14 34 26.5	-4.0
AB31	**Akbulak array**	12.99	327	⇓Pn	Pn	14 34 44.4	-4.9
	comp=E,3.6nm,0.5s,baz=152,slow=11,SNR=161						
AB31				⇑Sn	Sn	14 37 03.9	-8.6
	comp=E,25nm,0.9s,baz=148,slow=22,SNR=15						
ABKAR	**Akbulak array**	12.99	327	ePn	Pn	14 34 44.9	-4.4
KURBB	**Kurchatov Arra**	13.01	23	⇓Pn	Pn	14 34 47.3	-2.3
	comp=E,0.5nm,0.6s						
KURBB				⇓Lg		14 38 36.9	
	comp=E,4.6nm,0.9s						
KURK	**Kurchatov**	13.12	23	Pn	Pn	14 34 45.6	-5.5
	comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=12						
KURK				Lg		14 38 37.6	
	comp=E,0.1nm,0.3s,baz=214,slow=35,SNR=5.4						
KURK	**Kurchatov**	13.12	23	⇑Pn	Pn	14 34 47.7	-3.4
	comp=E,2.7nm,1.2s						
KURK				⇑Lg		14 38 39.7	
	comp=E,34nm,1.4s						
KURK	**Kurchatov**	13.12	23	Pn	Pn	14 34 45.6	-5.5
KURK	**Kurchatov**	13.12	23	P	Pn	14 34 45.6	-5.5
VOSK	**Vostochnaya**	13.90	1	⇓Pn	Pn	14 34 58.9	-2.7
	comp=E,5.9nm,1.2s						
VOSK				⇓Sn	Sn	14 37 36.3	+1.7
	comp=E,6.7nm,1.3s						
VOSK				⇑Lg		14 39 02.6	
	comp=E,18nm,1.4s						
BVA0	**Borovoye Array**	14.20	359	Pn	Pn	14 35 04.7	-1.1
	comp=E,0.5nm,0.7s,baz=0.0,slow=0.1,SNR=8.7						
BVA0				⇓Sn	Sn	14 37 40.6	-1.4
	comp=E,0.8nm,1.1s						
BVA0				⇑Lg		14 39 09.8	
	comp=E,2.9nm,1.4s,baz=185,slow=38,SNR=3.9						
BVAR	**Borovoye Array**	14.20	359	Pn	Pn	14 35 02.1	-3.6
	comp=E,0.3nm,0.3s,baz=164,slow=14,SNR=6.1						
BVAR				Sn	Sn	14 37 36.7	-5.3
	comp=E,0.3nm,0.3s,baz=161,slow=23,SNR=3.7						
BVAR				Lg		14 38 53.0	
	comp=E,0.2nm,0.3s,baz=202,slow=26,SNR=3.8						
BVAR	**Borovoye Array**	14.20	359	Pn	Pn	14 35 02.1	-3.6
BVAR	**Borovoye Array**	14.20	359	P	Pn	14 35 02.1	-3.7
BRVK	**Borovoye**	14.23	359	⇑Sn	Sn	14 37 41.5	-1.4
	comp=E,18nm,1.5s						
BRVK				⇓Lg		14 39 10.0	
	comp=E,40nm,2.2s						
BRVK	**Borovoye**	14.23	359	ePn	Pn	14 35 05.5	-0.7
	comp=E,4.5nm,0.7s						
BRVK				eSn	Sn	14 37 38.6	-4.2
BRVK	**Borovoye**	14.23	359	eP	Pn	14 35 05.5	-0.7
BRVK				e		14 37 38.6	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKTO	**Aktyubinsk**	14.70	326	Pn	Pn	14 35 11.2	-1.4
	comp=Z,0.3nm,0.3s,baz=136,slow=20,SNR=5.0						
AKTO				Sn	Sn	14 37 45.2	-9.0
	comp=Z,0.2nm,0.3s,baz=24,slow=18,SNR=4.8						
AKTO	**Aktyubinsk**	14.70	326	⇑Pn	Pn	14 35 10.9	-1.7
	comp=Z,1.0nm,0.7s						
AKTO				⇓Sn	Sn	14 37 47.7	-6.4
	comp=Z,2.6nm,1.1s						
AKTO	**Aktyubinsk**	14.70	326	Pn	Pn	14 35 11.2	-1.4
AKTO	**Aktyubinsk**	14.70	326	P	Pn	14 35 11.2	-1.4
DANN	**Dangsing**	15.04	130	eP	Pn	14 35 15.3	-2.0
	comp=Z,4.2nm,0.3s						
DANN	**Dangsing**	15.04	130	eP	Pn	14 35 15.3	-2.0
	comp=Z,4.2nm,0.3s						
KOLN	**Koldanda**	15.38	132	eP	Pn	14 35 20.4	-1.3
KOLN	**Koldanda**	15.38	132	eP	Pn	14 35 20.4	-1.3
GKN	**Gorkha**	15.82	129	eP	Pn	14 35 25.5	-1.9
	comp=Z,14nm,0.4s						
GKN	**Gorkha**	15.82	129	eP	Pn	14 35 25.5	-1.9
	comp=Z,14nm,0.4s						
KKN	**Kakani**	16.37	128	eP	Pn	14 35 33.1	-1.3
	comp=Z,6.8nm,0.5s						
KKN	**Kakani**	16.37	128	eP	Pn	14 35 33.1	-1.3
	comp=Z,6.8nm,0.5s						
KKN	**Kakani**	16.37	128	eP	Pn	14 35 33.1	-1.3
KKN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PKI	**Pulchoki**	16.60	128	eP	Pn	14 35 37.1	-0.3
PKI	**Pulchoki**	16.60	128	eP	Pn	14 35 37.1	-0.3
PKI	**Pulchoki**	16.60	128	eP	Pn	14 35 37.1	-0.3
GUN	**Gumba**	16.66	126	eP	Pn	14 35 37.6	-0.5
GUN	**Gumba**	16.66	126	eP	Pn	14 35 37.6	-0.5
JIRN	**Jiri**	17.03	126	eP	Pn	14 35 43.2	+0.5
	comp=Z,14nm,0.5s						
JIRN	**Jiri**	17.03	126	eP	Pn	14 35 43.2	+0.5
	comp=Z,14nm,0.5s						
RAMN	**Ramite**	17.79	127	eP	Pn	14 35 53.2	+1.0
	comp=Z,8.0nm,0.5s						
RAMN	**Ramite**	17.79	127	eP	Pn	14 35 53.2	+1.0
	comp=Z,8.0nm,0.5s						
ZAA0	**Zalesovo Array**	17.91	28	ePn	Pn	14 35 51.1	-2.4
ZALV	**Zalesovo Beam**	17.91	28	P	Pn	14 35 50.8	-2.7
	comp=Z,0.6nm,0.3s,baz=227,slow=12,SNR=16						
ZALV				LR	LR	14 43 15.1	
	comp=Z,106nm,18.3s,baz=129,slow=39						
ZALV	**Zalesovo Beam**	17.91	28	P	Pn	14 35 50.8	-2.7
ZALV	**Zalesovo Beam**	17.91	28	P	Pn	14 35 50.8	-2.7
NVS	**Novosibirsk**	18.10	24	eP	Pn	14 35 53.4	-2.4
NVS				pmax	pmax		
	comp=Z,32nm,2.2s						
ODAN	**Odare**	18.35	126	eP	Pn	14 35 59.6	+0.6
	comp=Z,9.0nm,0.6s						
ODAN	**Odare**	18.35	126	eP	Pn	14 35 59.6	+0.6
	comp=Z,9.0nm,0.6s						
ARU	**Arti**	19.38	339	ePn	Pn	14 36 09.9	-1.4
	comp=Z,3.5nm,0.6s						
ARU	**Arti**	19.38	339	P	Pn	14 36 11.0	-0.2
GNI	**Garni**	20.10	282	P	P	14 36 18.2	+0.3
	comp=Z,1.7nm,0.4s,baz=146,slow=7.3,SNR=2.2						
GNI	**Garni**	20.10	282	P	P	14 36 18.2	+0.3
GNI	**Garni**	20.10	282	P	P	14 36 18.3	+0.3
ZEI	**Tsey**	20.67	290	eP	P	14 36 28.9	+4.7
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ONI	**Oni**	21.00	289	P	P	14 36 28.2	+0.6
MIB	**Mutribah**	21.29	252	eP	P	14 36 33.5	+2.6
MIB				AMb	AMB	14 36 36.1	
	comp=Z,28nm,1.2s,mb4.5						
RST	**Umm Al-Ruwaisa**	21.70	252	eP	P	14 36 36.7	+1.4
RST				AMb	AMB	14 36 41.3	
	comp=Z,3.4nm,0.9s,mb3.8						
ZAK	**Zakamensk**	25.67	53	eP	P	14 37 19.4	+5.6
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
SONM	**Songino Array**	27.24	59	P	P	14 37 28.3	+0.3
	comp=Z,0.2nm,0.5s,mb2.9,baz=274,slow=8.9,SNR=2.4						
SONM	**Songino Array**	27.24	59	P	P	14 37 28.2	+0.3
SONM	**Songino Array**	27.24	59	P	P	14 37 28.3	+0.3
BRTR	**Keskin Array B**	28.62	284	P	P	14 37 42.6	+2.2
	comp=Z,1.2nm,0.9s,mb3.6,baz=78,slow=7.1,SNR=4.9						
BRTR	**Keskin Array B**	28.62	284	P	P	14 37 42.6	+2.2
BRTR	**Keskin Array B**	28.62	284	P	P	14 37 42.6	+2.2
AKASG	**Malin Array Be**	31.38	306	P	P	14 38 06.7	+2.0
	comp=Z,0.7nm,0.5s,mb3.7,baz=108,slow=9.6,SNR=2.8						
AKASG	**Malin Array Be**	31.38	306	P	P	14 38 06.7	+2.1
AKASG	**Malin Array Be**	31.38	306	P	P	14 38 06.7	+2.0
FINES	**FINESS Array B**	35.46	324	P	P	14 38 39.4	-0.7
	comp=Z,3.2nm,0.8s,mb4.3,baz=125,slow=12,SNR=3.4						
FINES	**FINESS Array B**	35.46	324	P	P	14 38 39.4	-0.7
FINES	**FINESS Array B**	35.46	324	P	P	14 38 39.4	-0.7
ARCES	**ARCESS Array B**	38.93	337	P	P	14 39 08.3	-1.1
	comp=Z,4.2nm,1.0s,mb4.1,baz=96,slow=8.3,SNR=3.1						
ARCES	**ARCESS Array B**	38.93	337	P	P	14 39 08.3	-1.1
ARCES	**ARCESS Array B**	38.93	337	P	P	14 39 08.3	-1.1
HFS	**Hagfors**	41.13	320	P	P	14 39 26.8	-1.0
	comp=Z,1.7nm,0.4s,mb4.0,baz=102,slow=11,SNR=10						
HFS	**Hagfors**	41.13	320	P	P	14 39 26.8	-1.0
HFS	**Hagfors**	41.13	320	P	P	14 39 26.8	-1.0
NOA	**NORSAR Array B**	42.42	322	P	P	14 39 39.0	+0.7
	comp=Z,1.0nm,0.8s,mb3.5,baz=90,slow=8.5,SNR=2.8						
NOA	**NORSAR Array B**	42.42	322	P	P	14 39 39.0	+0.7
NOA	**NORSAR Array B**	42.42	322	P	P	14 39 39.0	+0.7
DAVOX	**Davos/Dischmat**	44.37	301	P	P	14 39 55.5	+1.3
	comp=Z,0.6nm,0.3s,mb3.8,baz=22,slow=11,SNR=3.6						
DAVOX	**Davos/Dischmat**	44.37	301	P	P	14 39 55.5	+1.3
DAVOX	**Davos/Dischmat**	44.37	301	P	P	14 39 55.5	+1.3
ESDC	**Sonseca Array**	56.22	296	P	P	14 41 25.6	+1.6
	comp=Z,0.2nm,0.4s,mb3.5,baz=53,slow=6.8,SNR=6.0						
ESDC	**Sonseca Array**	56.22	296	P	P	14 41 25.6	+1.6
TORD	**Torodi Ar. Bea**	65.60	267	P	P	14 42 28.4	+0.3
	comp=Z,0.6nm,0.9s,mb3.6,baz=45,slow=7.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	65.60	267	P	P	14 42 28.4	+0.3
ILAR	**Eielson Array**	72.60	16	P	P	14 43 09.7	-1.0
	comp=Z,0.4nm,0.9s,mb3.3,baz=316,slow=3.8,SNR=4.0						
ILAR	**Eielson Array**	72.60	16	P	P	14 43 09.7	-1.0
ILAR	**Eielson Array**	72.60	16	P	P	14 43 09.7	-1.0
YKA	**Yellowknife Ar**	78.93	3	P	P	14 43 46.3	-0.6
	comp=Z,0.3nm,0.5s,mb3.5,baz=350,slow=5.5,SNR=6.9						
YKA	**Yellowknife Ar**	78.93	3	P	P	14 43 46.4	-0.6
YKA	**Yellowknife Ar**	78.93	3	P	P	14 43 46.3	-0.6
WRA	**Warramunga Arr**	83.39	122	P	P	14 44 10.8	-0.4
	comp=Z,0.8nm,1.0s,mb3.7,baz=327,slow=5.3,SNR=12						
WRA	**Warramunga Arr**	83.39	122	P	P	14 44 10.8	-0.4
WRA	**Warramunga Arr**	83.39	122	P	P	14 44 10.8	-0.4
ASAR	**Alice Springs**	85.74	125	P	P	14 44 22.3	-0.6
	comp=Z,0.3nm,0.8s,mb3.6,baz=315,slow=4.8,SNR=5.7						
ASAR	**Alice Springs**	85.74	125	P	P	14 44 22.4	-0.6
ASAR	**Alice Springs**	85.74	125	P	P	14 44 22.3	-0.7

*NIED **20** 14:43:00, 36°.60N×142°.50E, h5km, Mw3.8 Best double couple: M0=5.53000×10^14 NP1:φ0=256.00000°, δ71.00000°, λ126.00000°. NP2:φ0=11.00000°, δ40.00000°, λ31.00000°.*

*IDC **20** 14:43:30.7±1.0, 36°.53N×142°.58E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.6/24, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=29.6km s-min=20.8km az=108.0*

*ISCJB **20** 14:43:31.2±2.0, 36°.62N±0°.04×142°.59E±0°.05, h20km±16km, mb3.6/5, Error ellipse: s-maj=7.5km s-min=7.0km az=21.0*

*JMA **20** 14:43:32.0±0.2, 36°.58N×142°.49E, h19km, M3.5*

*NEIC **20** 14:43:32.0, 36°.58N×142°.49E, h19km, MG3.5(JMA), After JMA.*

ISC 20 14:43:32.9±2.0, 36°.60N±0°.04×142°.46E±0°.06, h16km±13km, n26, σ0$85/39, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	1.43	291	P	Pn	14 43 57.3	-0.9
ONAJ				eS	Sn	14 44 16.2	-0.4
JFK	**Kawauchi**	1.48	301	P	Pn	14 43 58.5	-0.5
JFK				eS	Sn	14 44 17.9	-0.1
JHO	**Hitachi**	1.52	271	P	Pn	14 43 59.0	-0.5
JHO				S	Sn	14 44 19.3	+0.3
JMM	**Marumori**	1.84	314	P	Pn	14 44 03.1	-0.7
JMM				eS	Sn	14 44 26.5	-0.2
JFT	**Otama**	1.93	299	P	Pn	14 44 05.7	+0.6
JFT				eS	Sn	14 44 30.1	+1.0
BSO1	**Boso 1**	2.29	212	P	Pn	14 44 09.7	-0.3
BSO1				eS	Sn	14 44 37.8	-0.1
JAG	**Ashikaga**	2.43	267	P	Pn	14 44 12.2	+0.2
JAG				eS	Sn	14 44 41.8	+0.4
JRY	**Ryogami san**	2.94	260	P	Pn	14 44 18.6	-0.3
MJAR	**Matsushiro Arr**	3.42	270	Pn	Pn	14 44 26.0	+0.3
	5.1nm,0.3s,baz=90,slow=15,SNR=53						
MJAR				Sn	Sn	14 45 09.8	+3.9
	2.0nm,0.3s,baz=77,slow=14,SNR=5.1						
MJAR	**Matsushiro Arr**	3.42	270	Pn	Pn	14 44 26.0	+0.3
MJAR				Sn	Sn	14 45 09.8	+3.9
MAJO	**Matsushiro**	3.43	270	ePn	Pn	14 44 26.9	+1.3
MAT	**Matsushiro**	3.43	270	P	Pn	14 44 27.0	+1.3
MAT				eS	Sn	14 45 03.6	-2.4
MAT	**Matsushiro**	3.43	270	P	Pn	14 44 27.1	+1.4
ASAJ	**Asahikawa**	7.51	1	Pn	Pn	14 45 20.6	-1.1
	0.6nm,0.3s,baz=30,slow=7.8,SNR=7.1						
ASAJ				Sn	Sn	14 46 46.6	+0.1
	0.3nm,0.3s,baz=148,slow=19,SNR=1.8						
ASAJ	**Asahikawa**	7.51	1	Pn	Pn	14 45 20.6	-1.1
ASAJ				ePn	Pn	14 45 20.8	-0.9
ASAJ				Sn	Sn	14 46 46.6	+0.1
SONM	**Songino Array**	28.73	304	P	P	14 49 31.2	+1.9
	1.8nm,0.8s,mb3.9,baz=99,slow=9.3,SNR=12						
SONM	**Songino Array**	28.73	304	P	P	14 49 31.2	+1.9
KURK	**Kurchatov**	46.86	309	eP	P	14 52 00.9	-1.2
ILAR	**Eielson Array**	49.41	32	P	P	14 52 21.7	+0.1
	0.9nm,0.8s,mb3.8,baz=268,slow=6.8,SNR=10						
ILAR	**Eielson Array**	49.41	32	P	P	14 52 21.7	+0.1
WRA	**Warramunga Arr**	56.76	189	P	P	14 53 16.3	+0.2
	0.8nm,1.0s,mb3.7,baz=6.6,slow=7.1,SNR=3.8						
WRA	**Warramunga Arr**	56.76	189	P	P	14 53 16.3	+0.2
ASAR	**Alice Springs**	60.48	189	P	P	14 53 41.3	-0.7
	0.2nm,0.9s,mb3.2,baz=0.1,slow=6.5,SNR=4.4						
ASAR	**Alice Springs**	60.48	189	P	P	14 53 41.3	-0.7
YKA	**Yellowknife Ar**	63.76	30	P	P	14 54 04.5	+0.9
	0.3nm,0.8s,mb3.4,baz=295,slow=6.2,SNR=3.7						
YKA	**Yellowknife Ar**	63.76	30	P	P	14 54 04.5	+0.9

*NIED **20** 14:51:00, 36°.30N×141°.50E, h23km, Mw4.4 Best double couple: M0=4.15000×10^15 NP1:φ0=29.00000°, δ68.00000°, λ90.00000°. NP2:φ0=210.00000°, δ22.00000°, λ91.00000°.*

*BJI **20** 14:51:03.6, 36°.28N×141°.73E, h12km, mB4.9/28, mb4.6/43, Ms4.5/25, Ms7 4.0/24*

*IDC **20** 14:51:05.8±0.5, 36°.21N×141°.44E, h0km, mb4.3/20, mb1 4.5/23, mb1mx4.4/28, mbtmp4.4/23, ML4.3/3, MS3.7/9, Ms1 3.7/9, ms1mx3.3/39, Error ellipse: s-maj=15.1km s-min=12.9km az=107.0*

*ISCJB **20** 14:51:07.3±0.9, 36°.20N±0°.04×141°.59E±0°.05, h25km±6km, mb4.5/67, MS4.0/13, Error ellipse: s-maj=6.8km s-min=6.1km az=139.6*

*NEIC **20** 14:51:07.9±2.2, 36°.20N×141°.50E, h15km±14km, mb4.8/16, MW4.3(NIED), Error ellipse: s-maj=5.1km s-min=4.5km az=91.0*

*NEIC Recorded [1 JMA] in Chiba,

KSAR Wonju Array Be 11.00 280 P **Pn 14 53 48.6 +3.8**
MDJ Mudanjiang 12.34 316 P **Pn 14 54 04.8 +1.7**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,100nm,4.1s
HABR Khabarovsk 13.12 341 P Px 14 54 24.8
HABR *e* 14 56 38.6
HABR MLR MLR
comp=Z,303nm,16.0s
CN2 Changchun 14.43 306 *e*P **Pn 14 54 36.3 +4.6**
CN2 *es*P sP 14 54 43.0 -2.3
CN2 *e*S **Sn 14 57 21.1 +10**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,12.0s
CN2 LR LR
comp=E,2μm,12.0s
CN2 LR LR
comp=Z,2μm,13.0s
JOW Kunigami 14.67 234 Pn **Pn 14 54 39.5 +4.4**
comp=Z,1.7nm,0.3s,baz=57,slow=14,SNR=5.9
JOW Kunigami 14.67 234 Pn **Pn 14 54 39.5 +4.4**
SNY Shenyang 15.01 297 ||P **Pn 14 54 38.1 -1.5**
SNY pmax pmax
comp=Z,14nm,1.7s
SNY LR LR
comp=N,240nm,15.9s
SNY LR LR
comp=E,310nm,15.0s
SNY LR LR
comp=Z,330nm,17.1s
NJ2 Nanjing 19.21 264 *e*P **Pn 14 55 34.3 +1.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
PETK Petropavlovsk- 20.33 29 LR LR 15 04 20.1
comp=Z,100nm,18.1s,MS3.2,baz=108,slow=39
WHN Wuhan 23.35 264 P **P 14 56 14.0 -2.0**
CLNS Chul'man 23.44 337 *e*P **P 14 56 15.6 -1.0**
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=Z,16nm,1.0s,mb4.4
CLNS pmax pmax
comp=E,7.0nm,1.1s
HHC Hu-ho-hao-te 23.82 290 *e*P **P 14 56 19.3 -1.1**
HHC pP 14 56 23.5
HHC sP sP 14 56 26.8 -0.6
HHC PP 14 56 52.5
HHC S **S 15 00 30.3 -5.0**
HHC sS sS 15 00 37.8 -5.7
HHC SS 15 01 20.6
HHC pmax pmax
comp=Z,11nm,1.0s,mb4.2
HHC pmax pmax
comp=Z,160nm,6.2s
HHC LR LR
comp=N,240nm,10.5s,MS4.4
HHC LR LR
comp=E,760nm,13.6s,MS4.4
HHC LR LR
comp=Z,250nm,9.8s
XAN Xi'an 26.69 275 P **P 14 56 45.3 -1.2**
XAN pP pP 14 56 49.4 -2.1
XAN pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
YAK Yakutsk 26.86 348 *e*P **P 14 56 47.2 -0.6**
comp=Z,35nm,0.9s,mb4.9
YAK Yakutsk 26.86 348 *e*P **P 14 56 46.9 -0.8**
YAK pmax pmax
comp=Z,40nm,1.3s,mb4.8
YAK pmax pmax
comp=N,25nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.4s
ENH Enshi 27.37 267 *e*P **P 14 56 48.8 -3.9**
FX1 Attu Island--F 27.71 43 LR LR 15 05 45.3
comp=E,112nm,20.1s,MS3.4,baz=240,slow=32
ULN Ulaanbaatar 27.88 305 *e*P **P 14 56 56.3 -0.7**
comp=E,3.1nm,0.6s,mb4.1
ULN Ulaanbaatar 27.88 305 *e*P **P 14 56 56.3 -0.7**
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BOD Bodaibo 28.25 328 *e*P **P 14 56 59.8 -0.4**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.2
SONM Songino Array 28.31 305 P **P 14 57 00.7 -0.2**
comp=Z,5.7nm,0.6s,mb4.4,baz=107,slow=9.1,SNR=50
SONM LR LR 15 08 41.0
comp=Z,160nm,19.1s,MS3.6,baz=49,slow=37
SONM Songino Array 28.31 305 P **P 14 57 00.7 -0.2**
SONM Songino Array 28.31 305 P **P 14 57 00.7 -0.1**
LZH Lanzhou 30.30 281 *e*P **P 14 57 19.5 +0.9**
LZH *e*PP PP 14 58 20.0 -7.0
LZH pmax pmax
comp=Z,20nm,1.3s,mb4.7
LZH pmax pmax
comp=Z,68nm,5.3s
LZH LR LR
comp=N,360nm,14.2s,MS4.3
LZH LR LR
comp=E,410nm,15.6s,MS4.3
LZH LR LR
comp=Z,520nm,17.4s,MS4.2
LZH Lanzhou 30.30 281 *e*P **P 14 57 19.5 +0.9**
comp=Z,20nm,1.3s,mb4.7
LZH *e*PP PP 14 58 20.0 -7.0
LZH LR LR
comp=Z,520nm,17.4s,MS4.2
LZH Lanzhou 30.30 281 *e*P **P 14 57 19.5 +0.9**
LZH *e* 14 58 20.0
LZH pmax pmax
comp=Z,20nm,1.3s,mb4.7
LZH MLR MLR
comp=Z,520nm,17.4s,MS4.2
ZAK Zakamensk 30.83 309 *e*P **P 14 57 22.6 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
TLY Talaya 30.92 312 *e*P **P 14 57 24.1 +0.2**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,184nm,17.0s,MS3.8
GYA Guiyang 31.19 262 P **P 14 57 25.4 -1.2**
GYA PP PP 14 58 30.4 -6.6
GYA PcP PcP 15 00 21.3 0.0
GYA ScP ScP 15 04 03.8 +0.3
GYA SS SS 15 04 20.1 -25
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,540nm,17.0s,MS4.4
GYA LR LR
comp=E,450nm,17.8s,MS4.4
GYA LR LR
comp=Z,490nm,17.0s,MS4.2
CD2 Chengdu 31.77 271 ⇑*i*P **P 14 57 31.6 -0.1**
CD2 pP pP 14 57 36.0 -0.8
CD2 sP sP 14 57 39.3 +0.5
CD2 PP PP 14 58 37.8 -5.7
CD2 S **S 15 02 41.6 +0.5**
CD2 sS sS 15 02 48.9 -0.6
CD2 SS SS 15 04 33.9 -23
CD2 pmax pmax
comp=Z,20nm,0.8s,mb5.0
CD2 pmax pmax
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,360nm,14.4s,MS4.3
CD2 LR LR
comp=E,370nm,14.4s,MS4.3
CD2 LR LR
comp=Z,260nm,18.0s,MS4.0
GTA Gaotai 32.89 288 *e*P **P 14 57 41.3 -0.1**
GTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=N,150nm,13.8s,MS4.0
GTA LR LR
comp=E,210nm,16.6s,MS4.0
GTA LR LR
comp=Z,240nm,16.1s,MS4.0
KMI Kunming 34.94 263 P **P 14 58 02.1 +2.7**
KMI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KMI Kunming 34.94 263 P **P 14 58 02.1 +2.7**
KMI Kunming 34.94 263 P **P 14 58 02.1 +2.7**
CHTO Chiang Mai 41.19 257 *e*P **P 14 58 51.7 -0.4**
comp=Z,7.1nm,1.2s,mb4.2
CHTO Chiang Mai 41.19 257 *e*P **P 14 58 51.7 -0.4**
CHTO pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
WMQ Urumqi 41.28 298 P **P 14 58 52.9 +0.3**
WMQ pP pP 14 58 57.4 -0.3
WMQ sP sP 14 58 59.9 +0.1
WMQ pmax pmax
comp=Z,31nm,1.0s,mb4.9
WMQ pmax pmax
comp=Z,320nm,5.2s
CM31 Chiang Mai Arr 41.39 256 *e*P **P 14 58 53.5 -0.3**
comp=Z,1.3nm,0.5s,mb3.8
CM31 *ep*P pP 14 58 58.3 -0.7
CMAR Chiang Mai Arr 41.39 256 P **P 14 58 53.6 -0.1**
comp=Z,1.8nm,0.7s,mb3.8,baz=54,slow=6.6,SNR=16
CMAR Chiang Mai Arr 41.39 256 P **P 14 58 53.6 -0.1**
CMAR Chiang Mai Arr 41.39 256 P **P 14 58 53.7 -0.1**
LSA Lhasa 42.38 276 P **P 14 59 02.3 +0.6**
LSA Lhasa 42.38 276 *e*P **P 14 59 03.0 +1.2**
comp=Z,4.1nm,0.6s,mb4.2
LSA *ep*P pP 14 59 07.3 +0.4
LSA Lhasa 42.38 276 *e*P **P 14 59 03.0 +1.3**
LSA *e**PP pP 14 59 07.3 +0.4
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
ZAA0 Zalesovo Array 42.52 313 *e*P **P 14 59 02.3 -0.3**
ZAA0 *e* 14 59 13.2
ZALV Zalesovo Beam 42.52 313 P **P 14 59 02.6 +0.1**
comp=Z,7.4nm,0.6s,mb4.6,baz=91,slow=7.0,SNR=47
ZALV Zalesovo Beam 42.52 313 P **P 14 59 02.6 +0.1**
ZALV Zalesovo Beam 42.52 313 P **P 14 59 02.6 +0.1**
NVS Novosibirsk 43.45 314 *e*P **P 14 59 08.9 -1.2**
NVS pmax pmax
comp=Z,32nm,2.0s,mb4.7
NVS pmax pmax
comp=E,40nm,2.1s
MK31 Makanchi Array 44.62 303 *e*P **P 14 59 19.1 -0.5**
MK31 Makanchi Array 44.62 303 *e*P **P 14 59 19.1 -0.5**
MKAR Makanchi Array 44.62 303 P **P 14 59 19.6 +0.1**
comp=E,10nm,0.8s,mb4.7,baz=88,slow=8.6,SNR=39
MKAR LR LR 15 18 37.2
comp=E,109nm,18.9s,MS3.8,baz=354,slow=37
MKAR Makanchi Array 44.62 303 P **P 14 59 19.6 +0.1**
MKAR Makanchi Array 44.62 303 P **P 14 59 19.7 +0.1**
KAPI Kappang 45.83 211 P **P 14 59 29.3 -0.2**
comp=E,18nm,0.8s,mb5.1,baz=29,slow=4.1,SNR=8.3
KAPI Kappang 45.83 211 P **P 14 59 29.3 -0.2**
TAPN Taplejung 46.09 275 *e*P **P 14 59 31.9 +0.4**
comp=E,16nm,0.7s,mb5.1
TAPN Taplejung 46.09 275 *e*P **P 14 59 31.9 +0.4**
comp=E,16nm,0.7s,mb5.1
KURK Kurchatov 46.49 309 LR LR 15 19 44.1
comp=E,100nm,18.1s,MS3.8,baz=90,slow=37
KURK Kurchatov 46.49 309 *e*P **P 14 59 33.9 -0.5**
comp=E,18nm,0.8s,mb5.0
KURK Kurchatov 46.49 309 *e*P **P 14 59 33.9 -0.5**
KURK pmax pmax
comp=Z,18nm,0.8s,mb5.0
ODAN Odare 46.56 274 *e*P **P 14 59 35.3 +0.1**
comp=Z,19nm,0.7s,mb5.1
ODAN Odare 46.56 274 *e*P **P 14 59 35.3 +0.1**
comp=Z,19nm,0.7s,mb5.1
RAMN Ramite 47.16 275 *e*P **P 14 59 40.2 +0.3**
comp=Z,107nm,0.8s
RAMN Ramite 47.16 275 *e*P **P 14 59 40.2 +0.3**
comp=Z,107nm,0.8s
JIRN Jiri 47.18 276 *e*P **P 14 59 40.6 +0.5**
comp=Z,62nm,0.8s,mb5.6
JIRN Jiri 47.18 276 *e*P **P 14 59 40.6 +0.5**
comp=Z,62nm,0.8s,mb5.6
GUN Gumba 47.33 276 *e*P **P 14 59 41.8 +0.6**
comp=Z,55nm,0.9s,mb5.5
GUN Gumba 47.33 276 *e*P **P 14 59 41.8 +0.6**
comp=Z,55nm,0.9s,mb5.5
PKI Pulchoki 47.85 276 *e*P **P 14 59 45.3 0.0**
comp=Z,30nm,0.8s,mb5.4
PKI Pulchoki 47.85 276 *e*P **P 14 59 45.3 0.0**
comp=Z,30nm,0.8s,mb5.4
PKI Pulchoki 47.85 276 *e*P **P 14 59 45.3 0.0**
PKI pmax pmax
comp=Z,30nm,0.8s,mb5.4
KKN Kakani 47.86 277 *e*P **P 14 59 45.6 +0.2**
KKN Kakani 47.86 277 *e*P **P 14 59 45.6 +0.2**
KKN Kakani 47.86 277 *e*P **P 14 59 45.6 +0.2**
DMN Daman 48.08 276 *e*P **P 14 59 47.2 +0.2**
DMN Daman 48.08 276 *e*P **P 14 59 47.2 +0.2**
GKN Gorkha 48.29 277 *e*P **P 14 59 48.9 +0.2**
comp=Z,101nm,0.9s
GKN Gorkha 48.29 277 *e*P **P 14 59 48.9 +0.2**
comp=Z,101nm,0.9s
DANN Dangsing 48.84 278 *e*P **P 14 59 53.7 +0.8**
comp=Z,94nm,0.9s
DANN Dangsing 48.84 278 *e*P **P 14 59 53.7 +0.8**
comp=Z,94nm,0.9s
KOLN Koldanda 49.22 277 *e*P **P 14 59 55.9 +0.1**
KOLN Koldanda 49.22 277 *e*P **P 14 59 55.9 +0.1**
TKM2 Tokmak 2 50.09 299 *e*P **P 15 00 03.4 +1.2**
comp=Z,49nm,0.9s,mb5.5
TKM2 *ep*P pP 15 00 08.1 +0.6
TKM2 Tokmak 2 50.09 299 *e*P **P 15 00 03.4 +1.2**
TKM2 *e**PP pP 15 00 08.1 +0.6
TKM2 pmax pmax
comp=Z,49nm,0.9s,mb5.5
ILAR Eielson Array 50.11 32 P **P 15 00 03.1 +1.0**
comp=Z,3.5nm,0.8s,mb4.5,baz=263,slow=5.8,SNR=39
ILAR Eielson Array 50.11 32 P **P 15 00 03.1 +1.0**
ILAR Eielson Array 50.11 32 P **P 15 00 03.1 +1.0**
KSH Kashi 50.81 295 *e*P **P 15 00 11.9 +4.1**
KSH pP pP 15 00 16.4 +3.4
KSH sP sP 15 00 18.9 +3.9
KSH PcP PcP 15 01 26.6 +2.1
KSH PP PP 15 02 09.8 +6.0
KSH ScP ScP 15 05 21.3 +1.3
KSH PcS PcS 15 05 22.9 +1.0
KSH S **S 15 07 29.0 +6.0**
KSH sS sS 15 07 37.3 +5.7
KSH ScS ScS 15 09 58.8 +0.9
KSH SS SS 15 11 03.3 +6.0
KSH pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KSH pmax pmax
comp=Z,40nm,4.0s
KSH LR LR
comp=N,130nm,5.4s
KSH LR LR
comp=E,220nm,7.7s
KSH LR LR
comp=Z,180nm,7.1s
AAK Ala-Archa 50.95 299 *e*P **P 15 00 08.9 +0.2**
comp=Z,28nm,1.0s,mb5.2
AAK Ala-Archa 50.95 299 *d i*P **P 15 00 08.7 0.0**
AAK pmax pmax
comp=Z,21nm,1.5s,mb4.8
BVA0 Borovoye Array 51.17 313 P **P 15 00 09.8 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
BRVK Borovoye 51.23 313 *e*P **P 15 00 10.1 -0.6**
comp=Z,9.0nm,0.9s,mb4.7
BRVK Borovoye 51.23 313 *ce*P **P 15 00 10.3 -0.4**
BRVK pmax pmax
comp=Z,12nm,1.1s,mb4.7
EKS2 Erkin-Say 51.45 299 *e*P **P 15 00 12.6 +0.1**
comp=Z,4.2nm,0.8s,mb4.4
EKS2 Erkin-Say 51.45 299 *e*P **P 15 00 12.6 +0.1**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KK31 Karatay Array 53.60 301 P **P 15 00 28.4 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KKAR Karatay Array 53.60 301 *e*P **P 15 00 28.5 +0.1**
comp=Z,11nm,0.9s,mb4.8
KKAR Karatay Array 53.60 301 *e*P **P 15 00 28.5 +0.1**
KKAR pmax pmax
comp=Z,11nm,0.9s,mb4.8
INK Inuvik 55.05 27 P **P 15 00 39.8 +1.2**
comp=Z,1.8nm,0.6s,mb4.3,baz=301,slow=7.3,SNR=15
INK Inuvik 55.05 27 P **P 15 00 39.8 +1.2**
INK Inuvik 55.05 27 P **P 15 00 39.8 +1.2**
SVE Sverdlovsk 55.80 319 ||*i*P **P 15 00 44.3 +0.1**
SVE pmax pmax
comp=Z,17nm,0.9s,mb5.1
WRAB Tennant Creek 56.28 188 *e*P **P 15 00 47.0 -0.9**
WRAB Tennant Creek 56.28 188 *e*P **P 15 00 47.1 -0.8**
WB2 Warramunga Arr 56.29 188 *e*P **P 15 00 46.8 -1.2**
WRA Warramunga Arr 56.29 188 P **P 15 00 47.2 -0.8**
comp=Z,2.5nm,0.9s,mb4.2,baz=5.8,slow=7.2,SNR=22
WRA Warramunga Arr 56.29 188 P **P 15 00 47.2 -0.8**
WRA Warramunga Arr 56.29 188 P **P 15 00 47.2 -0.8**
ARU Arti 57.01 319 *e*P **P 15 00 52.5 -0.3**
comp=Z,14nm,0.9s,mb5.0
ARU Arti 57.01 319 *c i*P **P 15 00 52.6 -0.2**
ARU *e* 15 02 58.9
ARU S **S 15 08 47.3 +1.0**
ARU SS SS 15 12 39.5 +5.1
ARU pmax pmax
comp=Z,24nm,1.2s,mb5.1
KBL Kabul 57.78 291 *e*P **P 15 00 58.2 -0.4**
comp=Z,3.6nm,0.6s,mb4.6
KBL Kabul 57.78 291 *e*P **P 15 00 58.2 -0.4**
KBL pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
HYB Hyderabad 58.27 269 *i*P **P 15 01 01.0 -1.3**
ABKAR Akbulak array 58.52 311 *e*P **P 15 01 03.0 -0.5**
comp=Z,7.0nm,0.6s,mb4.9
ASAR Alice Springs 60.02 188 P **P 15 01 13.6 -0.4**
comp=Z,0.9nm,0.9s,mb3.8,baz=12,slow=11,SNR=6.6
ASAR Alice Springs 60.02 188 P **P 15 01 13.6 -0.4**
ASAR Alice Springs 60.02 188 P **P 15 01 13.6 -0.4**
APA Apatity 63.44 336 ⇑*e*P **P 15 01 39.4 +2.7**
APA MLR MLR
comp=Z,1μm,24.0s,MS5.0
KEV Kevo 64.21 339 *e*P **P 15 01 43.6 +1.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KEV Kevo 64.21 339 *ep* **P 15 01 43.6 +1.9**
comp=Z,0.5nm,0.4s,mb3.9
YKA Yellowknife Ar 64.45 30 P **P 15 01 44.0 +0.7**
comp=Z,0.7nm,0.8s,mb3.8,baz=301,slow=6.7,SNR=12
YKA Yellowknife Ar 64.45 30 P **P 15 01 44.0 +0.7**
YKA Yellowknife Ar 64.45 30 P **P 15 01 44.0 +0.7**
ARCES ARCESS Array B 64.77 340 P **P 15 01 45.7 +0.4**
comp=Z,2.2nm,0.7s,mb4.3,baz=52,slow=7.9,SNR=6.5
ARCES LR LR 15 37 15.7
comp=Z,179nm,18.6s,MS4.3,baz=358,slow=43
ARCES ARCESS Array B 64.77 340 P **P 15 01 45.7 +0.4**
ARCES ARCESS Array B 64.77 340 P **P 15 01 45.7 +0.4**
DAG Danmarks Havn 66.57 355 *i*P **P 15 01 57.0 +0.1**
DAG *i* 15 02 08.0
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
JOF Joensuu 66.70 332 *e*P **P 15 01 55.7 -2.2**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
JOF Joensuu 66.70 332 *ep* **P 15 01 55.7 -2.2**
comp=Z,3.7nm,0.6s,mb4.6
STKA Stephens Creek 67.76 180 P **P 15 02 05.0 +0.2**
comp=Z,0.7nm,0.7s,mb3.8,baz=354,slow=12,SNR=1.8
STKA Stephens Creek 67.76 180 P **P 15 02 05.0 +0.2**
STKA Stephens Creek 67.76 180 P **P 15 02 05.1 +0.2**
OBN Obninsk 68.78 323 ||*e*P **P 15 02 11.0 -0.1**
OBN pmax pmax
comp=Z,16nm,0.9s,mb5.0
KAF Kangasniemi 69.05 333 *e*P **P 15 02 11.3 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KAF Kangasniemi 69.05 333 *ep* **P 15 02 11.3 -1.4**
comp=Z,4.8nm,0.7s,mb4.5
FINES FINESS Array B 69.56 332 P **P 15 02 15.5 -0.3**
comp=Z,7.3nm,0.8s,mb4.7,baz=56,slow=10,SNR=10
FINES FINESS Array B 69.56 332 P **P 15 02 15.5 -0.3**
FINES FINESS Array B 69.56 332 P **P 15 02 15.5 -0.3**
ZEI Tsey 71.38 310 *e*P **P 15 02 25.9 -1.4**
ZEI pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
SUMG Summit 71.47 360 *i*P **P 15 02 28.9 +1.5**
SUMG *e* 15 02 40.7
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 71.47 360 *i*P **P 15 02 28.9 +1.5**
comp=Z,5.1nm,0.9s,mb4.5
SUMG *e* 15 02 40.7
KIV Kislovodsk 71.49 311 *de*P **P 15 02 29.0 +1.0**
KIV *e* pP 15 02 34.4 +1.0
KIV *e* 15 02 40.1
KIV *e* 15 02 50.6
KIV pmax pmax
comp=Z,20nm,1.1s,mb5.0
NB2 NORSAR Subarra 74.95 337 P **P 15 02 48.1 0.0**
comp=Z,10nm,1.1s,mb4.7,baz=41,slow=5.9
NOA NORSAR Array B 74.95 337 P **P 15 02 47.8 -0.3**
comp=Z,4.9nm,0.8s,mb4.5,baz=40,slow=5.7,SNR=9.0
NOA NORSAR Array B 74.95 337 P **P 15 02 47.8 -0.3**
NOA NORSAR Array B 74.95 337 P **P 15 02 47.8 -0.3**
AKASG Malin Array Be 74.98 322 P **P 15 02 48.0 -0.5**
comp=Z,8.8nm,0.6s,mb4.9,baz=46,slow=5.9,SNR=39
AKASG Malin Array Be 74.98 322 P **P 15 02 48.0 -0.5**
AKASG Malin Array Be 74.98 322 P **P 15 02 48.0 -0.4**
KIEV Kiev 74.99 322 ||*i*P **P 15 02 47.5 -1.0**
NVAR Mina Array Bea 75.39 53 P **P 15 02 53.0 +2.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=288,slow=6.7,SNR=10
NVAR Mina Array Bea 75.39 53 P **P 15 02 53.0 +2.0**
MIB Mutribah 76.13 297 *e*P **P 15 02 54.6 -0.8**
MIB AMb AMB 15 02 55.7
comp=Z,13nm,1.6s,mb4.6
RDF Al-Radifah 76.46 296 *e*P **P 15 02 56.8 -0.6**
NAY Al-Naaiem 76.50 296 *e*P **P 15 02 56.7 -0.8**
NAY AMb AMB 15 02 58.6
comp=Z,13nm,1.6s,mb4.6
PDAR Pinedale Array 78.16 45 P **P 15 03 07.7 +1.1**
comp=Z,1.0nm,0.7s,mb3.9,baz=267,slow=3.5,SNR=8.8
PDAR Pinedale Array 78.16 45 P **P 15 03 07.7 +1.1**
BURAR Bucovina Array 78.99 322 ||*i*P **P 15 03 11.8 +0.8**
BRTR Keskin Array B 79.44 312 P **P 15 03 14.1 +0.3**
comp=Z,4.7nm,1.0s,mb4.4,baz=104,slow=5.2,SNR=13
BRTR Keskin Array B 79.44 312 P **P 15 03 14.1 +0.3**
BRTR Keskin Array B 79.44 312 P **P 15 03 14.1 +0.4**
KSP Ksiaz 80.82 328 *e*P **P 15 03 21.2 +0.3**
KSP Ksiaz 80.82 328 *e*P **P 15 03 21.2 +0.3**
MORC Moravsky Berou 81.07 327 ⇑*i*P **P 15 03 23.2 +0.9**
DPC Dobruska-Polom 81.17 328 *e*P **P 15 03 23.4 +0.6**
DPC Dobruska-Polom 81.17 328 *e*P **P 15 03 23.4 +0.6**
CLL Collm 81.83 330 *i*P **P 15 03 25.3 -0.9**
CLL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CLL Collm 81.83 330 *i*P **P 15 03 25.3 -0.9**
comp=Z,8.0nm,1.1s,mb4.6
PRU Pruhonice 82.20 329 *e*P **P 15 03 28.6 +0.4**
PRU Pruhonice 82.20 329 *e*P **P 15 03 28.6 +0.4**
KHC Kasperske Hory 83.26 329 *e*P **P 15 03 32.8 -1.0**
KHC Kasperske Hory 83.26 329 *e*P **P 15 03 32.8 -1.0**
GERES GERESS Array B 83.43 328 P **P 15 03 34.4 -0.3**
comp=Z,0.8nm,0.6s,mb4.0,baz=36,slow=5.0,SNR=5.9
GERES GERESS Array B 83.43 328 P **P 15 03 34.4 -0.3**
GERES GERESS Array B 83.43 328 P **P 15 03 34.4 -0.2**
VTS Vitosha 83.47 319 ||*i*P **P 15 03 36.0 +1.0**
PMOR Pomariorio Ree 83.78 114 *e*T 16 35 53.1
comp=Z,3.4nm,0.2s
PPT2 Papeete2 84.22 117 *e*LR LR 15 30 07.8
comp=Z,66nm,22.5s
MEH Mehetia 85.49 116 *e*T 16 38 00.7
comp=Z,14nm,0.2s
TXAR Lajitas Array 90.53 52 P **P 15 04 10.3 +0.7**
comp=Z,1.0nm,0.9s,mb4.1,baz=291,slow=3.8,SNR=7.7
TXAR Lajitas Array 90.53 52 P **P 15 04 10.3 +0.7**
TXAR Lajitas Array 90.53 52 P **P 15 04 10.3 +0.7**
LPAZ La Paz 147.01 61 PKPbc PKPbc 15 10 51.6 +1.1
comp=Z,2.2nm,0.8s,baz=341,slow=3.9,SNR=8.9
LPAZ La Paz 147.01 61 PKPbc PKPbc 15 10 51.6 +1.1

IDC 20 15:00:33.8±35.0, 31°24'S×175°69'W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/17, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=641.0km s-min=64.7km az=93.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.17**	**218**	Pn	Pn		15 02 46.2	-1.1
	0.1nm,0.3s,baz=45,slow=20,SNR=3.5							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ				Sn	Sn	15 04 17.1	-14
	1.1nm,0.3s,baz=183,slow=22,SNR=7.9						
STKA	**Stephens Creek**	**36.23**	**258**	P	P	15 07 39.8	+1.2
	1.5nm,1.0s,baz=90,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**45.05**	**267**	P	P	15 08 51.4	-0.2
	0.3nm,0.7s,baz=101,slow=7.2,SNR=6.7						
WRA	**Warramunga Arr**	**46.11**	**272**	P	P	15 08 59.4	-0.6
	0.2nm,0.3s,baz=111,slow=8.1,SNR=9.5						

*ISCJB **20** 15:07:44.9±0.6, 31°.18N±0°.08×104°.00E±0°.08, h10km, mb3.2/4, Error ellipse: s-maj=14.0km s-min=5.7km az=137.0*
*BJI **20** 15:07:45.8, 31°.23N×103°.74E, h13km, ML3.4/13, Ms3.0/1, Ms7 2.7/1*
*IDC **20** 15:07:45.4±1.2, 31°.17N×103°.91E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/24, mbtmp3.3/5, Error ellipse: s-maj=46.4km s-min=21.7km az=50.0*
*NEIC **20** 15:07:48.4±0.9, 31°.19N×103°.97E, h20km, Error ellipse: s-maj=25.9km s-min=13.2km az=213.0*
ISC 20 15:07:46.7±0.6, 31°.15N±0°.07×103°.95E±0°.08, h10km, n14, σ1§05/18, mb3.2/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.29**	**214**	Pg	**Pg**	**15 07 51.3**	**-1.3**
CD2				Sg	**Sg**	**15 07 56.6**	**+0.1**
CD2				smax			
	comp=N,5μm,0.7s						
CD2				smax			
	comp=E,5μm,0.7s						
ENH	**Enshi**	**4.85**	**99**	*e*Pn	**Pn**	**15 08 59.4**	**-0.3**
XAN	**Xi'an**	**5.09**	**54**	Pn	**Pn**	**15 09 02.8**	**-0.2**
XAN				Pg	**Pb**	**15 09 18.3**	**+2.5**
XAN				Sn	**Sn**	**15 10 00.5**	**-1.3**
XAN				Sg	**Sg**	**15 10 26.4**	**-3.7**
XAN				smax			
	comp=N,27nm,0.8s						
XAN				smax			
	comp=E,15nm,0.8s						
XAN				LR	LR		
	comp=N,160nm,9.9s						
XAN				LR	LR		
	comp=E,40nm,7.1s						
XAN				LR	LR		
	comp=Z,49nm,6.8s						
GYA	**Guiyang**	**5.25**	**152**	*e*Pg	**Pg**	**15 09 22.6**	**-4.7**
GYA				smax			
	comp=N,40nm,0.7s						
GYA				smax			
	comp=E,40nm,0.8s						
KSAR	**Wonju Array Be**	**20.72**	**66**	P	**P**	**15 12 27.9**	**+0.7**
KSRS	**Korea Array**	**20.75**	**66**	P	**P**	**15 12 27.9**	**+0.4**
	comp=E,2.2nm,0.8s,baz=263,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**22.85**	**319**	P	**P**	**15 12 50.8**	**+0.8**
	comp=E,0.3nm,0.7s,mb2.8,baz=128,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**22.85**	**319**	P	**P**	**15 12 50.8**	**+0.8**
KURK	**Kurchatov**	**27.12**	**323**	P	**P**	**15 13 28.7**	**-1.0**
	comp=E,0.3nm,0.8s,mb2.9,baz=125,slow=9.9,SNR=3.9						
KURK	**Kurchatov**	**27.12**	**323**	P	**P**	**15 13 28.7**	**-1.0**
WRA	**Warramunga Arr**	**58.59**	**146**	P	**P**	**15 17 43.7**	**-0.1**
	comp=E,0.4nm,0.6s,mb3.6,baz=339,slow=7.7,SNR=5.3						
WRA	**Warramunga Arr**	**58.59**	**146**	P	**P**	**15 17 43.7**	**-0.1**
ASAR	**Alice Springs**	**61.60**	**149**	P	**P**	**15 18 05.7**	**+1.2**
	comp=E,0.2nm,0.6s,mb3.4,baz=337,slow=6.4,SNR=4.7						
ASAR	**Alice Springs**	**61.60**	**149**	P	**P**	**15 18 05.7**	**+1.2**

*ISCJB **20** 15:09:49.4±0.7, 34°.14N±0°.05×14°.53W±0°.07, h10km, Error ellipse: s-maj=10.7km s-min=3.6km az=40.3*
*CSEM **20** 15:09:53.7±0.4, 34°.33N×15°.12W, h10km, ML2.5, Error ellipse: s-maj=24.9km s-min=6.9km az=134.0*
*INMG **20** 15:09:59.7±1.2, 34°.32N×15°.14W, h10km, ML2.5, Error ellipse: s-maj=9.2km s-min=2.2km az=130.0*
*MDD **20** 15:10:00.2±2.6, 33°.95N×14°.15W, h0km, mb4.4/3, Error ellipse: s-maj=50.1km s-min=8.9km az=117.0, PRXIMO*
ISC 20 15:09:51.0±0.7, 34°.19N±0°.05×14°.67W±0°.07, h10km, n61, σ1§12/104, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**1.79**	**232**	*e*P	**Pn**	**15 10 22.6**	**+0.7**
PMPS				*e*S	**Sn**	**15 10 39.3**	**-5.4**
PMPS				A		15 10 40.7	
	35nm,0.3s						
PMPS	**Porto Santo**	**1.79**	**232**	P	**Pn**	**15 10 22.6**	**+0.7**
PMPS				S	**Sn**	**15 10 39.3**	**-5.4**
	18nm,0.3s						
PMPS	**Porto Santo**	**1.79**	**232**	*e*P	**Pn**	**15 10 22.6**	**+0.7**
PMPS				*e*S	**Sn**	**15 10 39.3**	**-5.4**
	35nm,0.3s						
PMAR	**Madeira**	**2.38**	**233**	*e*Pn	**Pn**	**15 10 30.1**	**+0.1**
PMAR				*e*Sn	**Sn**	**15 10 53.8**	**-5.4**
PMAR				A		15 10 59.8	
	42nm,0.2s						
PMAR	**Madeira**	**2.38**	**233**	P	**Pn**	**15 10 30.1**	**+0.1**
PMAR				S	**Sn**	**15 10 53.8**	**-5.4**
	21nm,0.2s						
PMAR	**Madeira**	**2.38**	**233**	*e*Pn	**Pn**	**15 10 30.1**	**+0.1**
PMAR				*e*Sn	**Sn**	**15 10 53.8**	**-5.4**
	42nm,0.2s						
PMOZ	**Porto Moniz, M**	**2.51**	**238**	*e*Pn	**Pn**	**15 10 31.7**	**-0.2**
PMOZ				*e*Sn	**Sn**	**15 10 55.3**	**-7.3**
PMOZ	**Porto Moniz, M**	**2.51**	**238**	*e*Pn	**Pn**	**15 10 31.7**	**-0.2**
PMOZ				*e*Sn	**Sn**	**15 10 55.3**	**-7.3**
CFUE	**Fuerteventura**	**5.56**	**173**	P	**Pn**	**15 11 19.2**	**+5.5**
	2.2nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**15 12 17.8**	**+0.2**
	15nm,0.2s,SNR=7.9						
CFUE	**Fuerteventura**	**5.56**	**173**	P	**Pn**	**15 11 19.2**	**+5.5**
	2.2nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**15 12 17.8**	**+0.2**
	15nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.59**	**57**	*e*Pn	**Pn**	**15 11 20.6**	**+6.5**
PFVI				*e*Sn	**Sn**	**15 12 19.2**	**+0.8**
PFVI				A		15 12 22.6	
	4.3nm,0.2s						
PFVI	**Vila Bisbo**	**5.59**	**57**	P	**Pn**	**15 11 20.6**	**+6.4**
	1.7nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**15 12 18.4**	**-0.1**
	5.4nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.59**	**57**	P	**Pn**	**15 11 20.6**	**+6.5**
	1.7nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**15 12 18.4**	**0.0**
	5.4nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**15 12 19.2**	**+0.8**
	4.3nm,0.2s						
CFTV	**Fuerteventura**	**5.78**	**175**	P	**Pn**	**15 11 22.5**	**+5.7**
	0.6nm,0.1s,SNR=7.9						
CFTV				S	**Sn**	**15 12 22.2**	**-0.8**
	2.2nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**5.78**	**175**	P	**Pn**	**15 11 22.5**	**+5.8**
	0.6nm,0.1s,SNR=7.9						
CFTV				S	**Sn**	**15 12 22.2**	**-0.8**
	2.2nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.88**	**53**	*e*Pn	**Pn**	**15 11 23.8**	**+5.7**
PTEO				*e*Sn	**Sn**	**15 12 26.9**	**+1.5**
PTEO	**Sao Teotonio**	**5.88**	**53**	P	**Pn**	**15 11 23.8**	**+5.7**
PTEO				S	**Sn**	**15 12 26.9**	**+1.5**
PTEO	**Sao Teotonio**	**5.88**	**53**	*e*Pn	**Pn**	**15 11 23.8**	**+5.7**
PTEO				*e*Sn	**Sn**	**15 12 26.9**	**+1.5**
PBDV	**Barranco-do-Ve**	**6.27**	**59**	*e*Pn	**Pn**	**15 11 30.7**	**+7.2**
PBDV				*e*Sn	**Sn**	**15 12 36.9**	**+1.7**
PBDV	**Barranco-do-Ve**	**6.27**	**59**	P	**Pn**	**15 11 30.7**	**+7.2**
PBDV				S	**Sn**	**15 12 36.9**	**+1.7**
PBDV	**Barranco-do-Ve**	**6.27**	**59**	*e*Pn	**Pn**	**15 11 30.7**	**+7.2**
PBDV				*e*Sn	**Sn**	**15 12 36.9**	**+1.7**
PNCL	**Nicolau / Gran**	**6.32**	**50**	*e*Pn	**Pn**	**15 11 31.8**	**+7.6**
PNCL				*e*Sn	**Sn**	**15 12 37.5**	**+1.0**
PNCL				A		15 12 42.9	
	1.9nm,0.3s						
PNCL	**Nicolau / Gran**	**6.32**	**50**	*e*Pn	**Pn**	**15 11 31.8**	**+7.6**
PNCL				*e*Sn	**Sn**	**15 12 37.5**	**+1.0**
	1.9nm,0.3s						
PCVE	**Castro Verde**	**6.38**	**56**	*e*Pn	**Pn**	**15 11 32.9**	**+7.9**
PCVE				*e*Sn	**Sn**	**15 12 39.1**	**+1.1**
PCVE				A		15 12 43.0	
	2.1nm,0.5s						
PCVE	**Castro Verde**	**6.38**	**56**	P	**Pn**	**15 11 32.9**	**+7.9**
PCVE				S	**Sn**	**15 12 39.1**	**+1.1**
	2.1nm,0.5s						
PCVE	**Castro Verde**	**6.38**	**56**	*e*Pn	**Pn**	**15 11 32.9**	**+7.9**
PCVE				*e*Sn	**Sn**	**15 12 39.1**	**+1.1**
	2.1nm,0.5s						
EGOM	**La Gomera**	**6.39**	**201**	S	**Sn**	**15 12 32.4**	**-5.8**
	2.7nm,0.1s,SNR=4.0						
EGOM	**La Gomera**	**6.39**	**201**	S	**Sn**	**15 12 32.4**	**-5.8**
	2.7nm,0.1s,SNR=4.0						
PMAFR	**Mafra**	**6.43**	**41**	S	**Sn**	**15 12 36.6**	**-2.6**
	9.0nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**6.43**	**41**	S	**Sn**	**15 12 36.6**	**-2.6**
	9.0nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**15 12 38.3**	**-0.9**
PVAQ	**Vaqueiros**	**6.50**	**58**	*e*Pn	**Pn**	**15 11 33.3**	**+6.7**
PVAQ				*e*Sn	**Sn**	**15 12 41.3**	**+0.6**
PVAQ				A		15 12 50.4	
	2.7nm,0.1s						
PVAQ	**Vaqueiros**	**6.50**	**58**	P	**Pn**	**15 11 33.3**	**+6.7**
PVAQ				S	**Sn**	**15 12 41.3**	**+0.6**
	2.7nm,0.1s						
PVAQ	**Vaqueiros**	**6.50**	**58**	*e*Pn	**Pn**	**15 11 33.3**	**+6.7**
PVAQ				*e*Sn	**Sn**	**15 12 41.3**	**+0.6**
	2.7nm,0.1s						
EGRO	**El Granado**	**6.72**	**58**	P	**Pn**	**15 11 36.5**	**+6.8**
	1.1nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**15 12 46.2**	**-0.1**
	1.5nm,0.1s,SNR=4.8						
EGRO	**El Granado**	**6.72**	**58**	P	**Pn**	**15 11 36.5**	**+6.8**
	1.1nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**15 12 46.2**	**-0.1**
	1.5nm,0.1s,SNR=4.8						
EVO	**Evora**	**6.90**	**49**	*e*Pn	**Pn**	**15 11 40.1**	**+8.0**
EVO				*e*Sn	**Sn**	**15 12 51.3**	**+0.6**
EVO				A		15 12 54.5	
	3.5nm,0.1s						
EVO	**Evora**	**6.90**	**49**	P	**Pn**	**15 11 40.1**	**+8.0**
EVO				S	**Sn**	**15 12 51.3**	**+0.6**
	3.5nm,0.1s						
EVO	**Evora**	**6.90**	**49**	*e*Pn	**Pn**	**15 11 40.1**	**+8.0**
EVO				*e*Sn	**Sn**	**15 12 51.3**	**+0.6**
	3.5nm,0.1s						
PMTG	**Montargil**	**7.11**	**45**	*e*Sn	**Sn**	**15 12 52.8**	**-3.1**
PMTG	**Montargil**	**7.11**	**45**	*e*Sn	**Sn**	**15 12 52.8**	**-3.1**
PBAR	**Barrancos**	**7.34**	**55**	*e*Pn	**Pn**	**15 11 45.2**	**+7.0**
PBAR				*e*Sn	**Sn**	**15 13 01.5**	**0.0**
PBAR	**Barrancos**	**7.34**	**55**	P	**Pn**	**15 11 45.2**	**+7.0**
PBAR				S	**Sn**	**15 13 01.5**	**0.0**
PBAR	**Barrancos**	**7.34**	**55**	*e*Pn	**Pn**	**15 11 45.2**	**+7.0**
PBAR				*e*Sn	**Sn**	**15 13 01.5**	**0.0**
PESTR	**Estremoz**	**7.37**	**49**	*e*Sn	**Sn**	**15 13 02.3**	**+0.1**
PESTR	**Estremoz**	**7.37**	**49**	S	**Sn**	**15 13 02.3**	**+0.1**
PESTR	**Estremoz**	**7.37**	**49**	*e*Sn	**Sn**	**15 13 02.3**	**+0.1**
EMIN	**Mina Concepcio**	**7.40**	**59**	P	**Pn**	**15 11 43.6**	**+4.6**
	0.8nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**15 13 02.6**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.40**	**59**	P	**Pn**	**15 11 43.6**	**+4.6**
	0.8nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**15 13 02.6**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**7.67**	**51**	P	**Pn**	**15 11 49.3**	**+6.6**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**15 13 08.1**	**-1.5**
	2.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**7.67**	**51**	P	**Pn**	**15 11 49.3**	**+6.6**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**15 13 08.1**	**-1.5**
	2.9nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**7.83**	**46**	*e*Sn	**Sn**	**15 13 12.3**	**-1.4**
PMRV	**Marv??o**	**7.83**	**46**	S	**Sn**	**15 13 12.3**	**-1.4**
PMRV	**Marv??o**	**7.83**	**46**	*e*Sn	**Sn**	**15 13 12.3**	**-1.4**
EJIF	**Jimena Fronter**	**7.85**	**71**	T		15 17 27.2	
	SNR=7.9						
EMIJ	**Mijas**	**8.42**	**71**	T		15 17 29.5	
	SNR=7.9						
EADA	**Adamuz**	**9.07**	**61**	P	**Pn**	**15 12 06.2**	**+4.2**
	0.7nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**15 13 41.8**	**-2.3**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**9.07**	**61**	P	**Pn**	**15 12 06.2**	**+4.3**
	0.7nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**15 13 41.8**	**-2.3**
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**9.27**	**32**	S	**Sn**	**15 13 41.9**	**-7.0**
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**9.27**	**32**	S	**Sn**	**15 13 41.9**	**-7.0**
	0.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**9.95**	**37**	S	**Sn**	**15 14 00.9**	**-4.7**
	0.8nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**9.95**	**37**	S	**Sn**	**15 14 00.9**	**-4.7**
	0.8nm,0.3s,SNR=7.9						

IDC 20 15:35:50.6±3.0, 41°.96S×16°.32W, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.8/12, mbtmp3.9/5, MS3.4/4, Ms1 3.4/4, ms1mx3.3/24, Error ellipse: s-maj=98.7km s-min=36.3km az=153.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**36.11**	**82**	LR	LR	15 54 07.0	
	comp=Z,79nm,19.2s,baz=166,slow=30						
CPUP	**Villa Florida**	**36.97**	**282**	P	P	15 43 01.9	+0.3
	0.9nm,0.6s,baz=140,slow=7.9,SNR=3.4						
CPUP				LR	LR	15 56 48.2	
	comp=Z,76nm,18.7s,baz=138,slow=34						
PLCA	**Paso Flores**	**40.16**	**253**	LR	LR	15 57 07.5	
	comp=Z,86nm,18.9s,baz=357,slow=32						
CFAA	**Coronel Fontan**	**42.28**	**267**	LR	LR	15 58 18.8	
	comp=Z,15nm,20.8s,baz=122,slow=32						
DBIC	**Dimbokro**	**49.52**	**15**	P	P	15 44 42.9	-0.2
	2.0nm,0.9s,baz=151,slow=13,SNR=2.6						
TORD	**Torodi Ar. Bea**	**57.29**	**21**	P	P	15 45 39.8	-0.3
	1.7nm,0.9s,baz=198,slow=7.0,SNR=8.5						
ESDC	**Sonseca Array**	**82.03**	**10**	P	P	15 48 12.4	+0.3
	0.2nm,0.3s,baz=191,slow=5.2,SNR=4.8						
BRTR	**Keskin Array B**	**93.09**	**36**	P	P	15 49 07.0	+1.1
	2.9nm,1.1s,baz=194,slow=5.2,SNR=7.6						
YKA	**Yellowknife Ar**	**129.78**	**323**	PKP	PKPdf	15 54 59.5	-1.2
	0.1nm,0.5s,baz=105,slow=1.8,SNR=5.5						

*IDC **20** 15:42:58.7±0.3, 8°.88N×126°.52E, h0km, mb4.9/37, mb1 4.9/37, mb1mx4.9/38, mbtmp4.9/37, MS5.0/26, Ms1 5.0/26, ms1mx4.9/33, Error ellipse: s-maj=17.3km s-min=9.0km az=66.0*
*MOS **20** 15:43:02.3±1.1, 8°.86N×126°.53E, h33km, mb5.5/51, MS5.1/18, Error ellipse: s-maj=11.9km s-min=5.0km az=117.9*
*MAN **20** 15:43:03, 8°.94N×126°.93E, h83km, mb5.8, ML4.8, MS5.3*
MAN INTENSITY II - BISLIG CITY.
*ISCJB **20** 15:43:06.5±0.1, 8°.93N±0°.02×126°.64E±0°.03, h68km, mb5.1/161, Error ellipse: s-maj=3.6km s-min=2.7km az=175.0*
*BJI **20** 15:43:06.2, 8°.93N×126°.61E, h73km, mB5.4/46, mb5.0/60, Ms5.2/66, Ms7 5.2/63*
*GCMT **20** 15:43:06.7±0.1, 8°.89N×126°.84E, h21km, MW5.6, Moment Tensor Solution. s94,c167; s99,c202; Moment tensor: Scale 10^{17}Nm; M_{rr}2.13±.04; $M_{\theta\theta}$0.34±.03; $M_{\phi\phi}$-2.48±.03; $M_{r\theta}$0.44±.06; $M_{\theta\phi}$0.12±.02; $M_{\phi r}$2.25±.09; Best double couple: $M_0$3.30000×10^{17} NP1:ϕ_s165.00000°, δ24.00000°, λ69.00000°. NP2:ϕ_s8.00000°, δ68.00000°, λ99.00000°. Principal axes: T 3.1200, Plg66.0000°, Azm294.0000°; N 0.2700, Plg8.0000°, Azm184.0000°; P -3.4000, Plg22.0000°, Azm91.0000°; Data Used: II IU IC G CN. Surface waves from 108 sta.*
*NEIC **20** 15:43:08.1±0.8, 8°.84N×126°.53E, h69km±7km, mb5.2/60 Error ellipse: s-maj=6.4km s-min=3.8km az=70.0*
NEIC Felt [I PIVS] at Bislig.
*DJA **20** 15:43:09, 8°.79N×127°.08E, h28km, Mw5.4/40*
ISC 20 15:43:08.4±0.1, 8°.93N±0°.02×126°.62E±0°.02, h70km, h70km±3.1km: pP-P, n521, σ1§18/503, mb5.1/161, 19C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.96**	**256**	⇑*i*P	**Pn**	**15 43 38.6**	**-1.0**
CGP				*i* S	**Sn**	**15 44 05.2**	**+1.9**
DAV	**Davao City (W)**	**2.12**	**209**	Pn	**Pn**	**15 43 41.1**	**-0.6**
	193nm,0.3s,baz=14,slow=2.0,SNR=28						
DAV				Sn	**Sn**	**15 44 12.9**	**+5.9**
	873nm,0.3s,baz=144,slow=24,SNR=8.5						
DAV				LR	LR	15 44 19.2	
	comp=Z,29μm,19.1s,baz=334,slow=40						
DAV	**Davao City (W)**	**2.12**	**209**	*e*Pn	**Pn**	**15 43 40.2**	**-1.5**
DAV				Sn	**Sn**	**15 44 12.9**	**+5.9**
PLP	**Palo**	**2.75**	**324**	⇓*e*P	**Pn**	**15 43 48.5**	**-1.7**
PLP				*e*S	**Sn**	**15 44 27.1**	**+4.8**
TBP	**Tagbilaran**	**2.83**	**286**	*e*P	**Pn**	**15 43 51.4**	**+0.1**
TBP				*e*S	**Sn**	**15 44 28.5**	**+4.2**
CTBH	**Cotabato--PC H**	**2.90**	**234**	⇑*e*P	**Pn**	**15 43 51.3**	**-1.0**
GSPH	**General Santos**	**3.28**	**211**	⇓*e*P	**Pn**	**15 43 55.5**	**-1.9**
GSPH				*e*S	**Sn**	**15 44 44.9**	**+10**
SNPH	**Sibulan**	**3.37**	**277**	⇓*e*P	**Pn**	**15 43 59.0**	**+0.3**
SNPH				*e*S	**Sn**	**15 44 42.4**	**+4.9**
CNP	**Catarman**	**4.04**	**332**	*e*P	**Pn**	**15 44 13.4**	**+5.5**
IPIL	**Ipil**	**4.17**	**254**	*e*P	**Pn**	**15 44 09.8**	**+0.2**
IPIL				*e*S	**Sn**	**15 44 55.5**	**-1.6**
RCP	**Roxas**	**4.62**	**305**	⇑*e*P	**Pn**	**15 44 16.3**	**+0.4**
PVCP	**Virac**	**5.23**	**333**	*e*P	**Pn**	**15 44 23.3**	**-0.8**
SGSI	**Sangihe**	**5.32**	**192**	P	**Pn**	**15 44 28.1**	**+2.7**
	24nm2μm,0.8s						
SGSI				S	**Sn**	**15 45 31.8**	**+6.4**
	24nm2μm,0.8s						
AUQP	**San Andres**	**5.84**	**319**	*e*P	**Pn**	**15 44 31.9**	**-0.5**
BOAC	**Boac**	**6.50**	**314**	*e*P	**Pn**	**15 44 41.5**	**0.0**
TGY	**Tagaytay City**	**7.58**	**313**	Pn	**Pn**	**15 44 57.1**	**+0.8**
	26nm,0.3s,baz=312,slow=4.6,SNR=18						
TGY				LR	LR	15 48 00.8	
	comp=Z,78nm,19.3s,baz=104,slow=40						
TGY	**Tagaytay City**	**7.58**	**313**	Pn	**Pn**	**15 44 57.1**	**+0.8**
TGY	**Tagaytay City**	**7.58**	**313**	P	**Pn**	**15 44 57.1**	**+0.8**
MNI	**Manado**	**7.65**	**194**	P	**Pn**	**15 44 57.8**	**+0.6**
	2.1nm6μm690nm,1.0s						
TNTI	**Ternate**	**8.14**	**175**	P	**Pn**	**15 45 02.7**	**-1.2**
	2.7nm9μm777nm,1.1s						
KMSI	**Cibinong**	**8.71**	**198**	P	**Pn**	**15 45 15.1**	**+3.4**
	586nm,1.0s						
MYLDM	**Lahad Datu**	**8.88**	**246**	P	**Pn**	**15 45 15.0**	**+0.9**
GTOI	**Gorontalo**	**8.99**	**204**	P	**Pn**	**15 45 12.8**	**-2.8**
GTOI				S	**Sn**	**15 46 50.4**	**-4.9**
LBMI	**Labuha**	**9.55**	**175**	P	**Pn**	**15 45 19.6**	**-3.6**
	6μm298nm,1.2s						
TSM	**Tawau**	**9.84**	**243**	P	**Pn**	**15 45 28.8**	**+1.7**
KDM	**Kudat**	**9.90**	**259**	P	**Pn**	**15 45 29.5**	**+1.5**
SDKM	**Sandakan**	**9.91**	**251**	P	**Pn**	**15 45 30.2**	**+2.1**
LUWI	**Luwuk**	**10.62**	**201**	P	**Pn**	**15 45 39.7**	**+1.8**
	6μm308nm,1.2s						
KKM	**Kota Kinabalu**	**10.71**	**255**	P	**Pn**	**15 45 39.9**	**+0.9**
KKM	**Kota Kinabalu**	**10.71**	**255**	*e*Pn	**Pn**	**15 45 42.4**	**+3.4**
MSAI	**Masohi**	**12.41**	**169**	P	**Pn**	**15 46 01.3**	**-1.0**
	491nm43nm,0.9s						
AAI	**Ambon**	**12.63**	**173**	P	**Pn**	**15 46 03.5**	**-1.8**
	2μm106nm,0.8s						
FAKI	**Fak Fak**	**13.04**	**154**	P	**Pn**	**15 46 07.6**	**-3.2**
	3μm108nm,1.3s						
SMKI	**Samarinda**	**13.22**	**226**	P	Px	15 46 27.6	
KDI	**Kendari**	**13.41**	**197**	P	**Pn**	**15 46 18.4**	**+2.6**
	1μm48nm,0.8s						
TTSI	**Tana Toraja**	**13.70**	**210**	P	**Pn**	**15 46 22.2**	**+2.7**
	3μm177nm,1.0s						
BAKI	**Biak**	**13.80**	**136**	P	**Pn**	**15 46 27.3**	**+6.4**
SPSI	**Sidrap Palu**	**14.52**	**208**	P	**Pn**	**15 46 33.5**	**+3.2**
	4μm97nm,1.9s						
BNSI	**Bone**	**14.75**	**206**	P	**Pn**	**15 46 35.1**	**+1.7**
	5μm155nm,0.8s						
TWG	**Pinlang**	**14.80**	**340**	*e*Pn	**Pn**	**15 46 35.3**	**+1.4**
	34nm,0.6s						
YULB	**Yu-li**	**15.26**	**341**	*e*Pn	**Pn**	**15 46 39.5**	**-0.3**
	35nm,0.9s						
TPUB	**Ta-pu**	**15.40**	**339**	*e*Pn	**Pn**	**15 46 42.0**	**+0.3**
	107nm,0.9s						
KAPI	**Kappang**	**15.45**	**207**	Pn	**Pn**	**15 46 42.7**	**+0.3**
	1.0nm,0.3s,baz=59,slow=4.1,SNR=10						
KAPI				LR	LR	15 53 19.9	
	comp=Z,3μm,19.4s,baz=197,slow=40						
KAPI	**Kappang**	**15.45**	**207**	*e*Pn	**Pn**	**15 46 42.9**	**+0.5**
	122nm,1.3s						
BKSI	**Bulukumba**	**15.57**	**205**	P	**Pn**	**15 46 45.1**	**+1.2**
	1μm63nm,0.9s						
TLE	**Tual**	**15.70**	**157**	P	**Pn**	**15 46 44.4**	**-1.1**
	6μm176nm,1.9s						
SBUM	**Sibu**	**15.71**	**247**	P	**Pn**	**15 46 47.9**	**+2.3**
KBKI	**Kotabaru**	**16.01**	**221**	P	**Pn**	**15 46 55.3**	**+5.9**
	3μm122nm,1.1s						
SMPI	**Sarmi**	**16.21**	**131**	P	**Pn**	**15 46 49.1**	**-2.9**
	5μm178nm,1.4s						
BBKI	**Banjar Baru**	**17.02**	**224**	P	**Pn**	**15 47 09.7**	**+7.7**
	4μm142nm,0.8s						
STKI	**Sintang**	**17.47**	**241**	P	Px	15 47 17.4	
	108nm,1.2s,7μm						
QZH	**Quanzhou**	**17.67**	**335**	⇑*i*P	**Pn**	**15 47 06.0**	**-3.9**
QZH				S	**S**	**15 50 26.0**	**-3.7**
QZH				pmax	pmax		
	comp=Z,150nm,1.2s						
QZH				pmax	pmax		
	comp=Z,3μm,10.0s						
QZH				LR	LR		
	comp=N,15μm,17.6s						
QZH				LR	LR		
	comp=E,4μm,16.0s						
QZH				LR	LR		
	comp=Z,15μm,17.0s						
KSM	**Kuching

SSE LR LR
comp=Z,5μm,17.1s
PPBI Pangkal Pinang 23.20 243 P **P** **15 48 18.0 +8.5**
comp=Z,3μmcomp=Z,62nm,1.5s,mb4.7
CBIJ Chichi jima 23.31 37 P **P** **15 48 10.2 -0.1**
comp=Z,76nm,0.9s,mb5.0,baz=287,slow=17,SNR=3.7
CBIJ LR LR 15 55 44.6
comp=Z,3μm,19.9s,baz=142,slow=33
CBIJ Chichi jima 23.31 37 P **P** **15 48 10.2 -0.1**
BJII Banjamegara 23.35 227 P **P** **15 48 14.9 +4.1**
comp=Z,6μmcomp=Z,296nm,1.5s,mb5.4
MYKOM Kota Tinggi 23.74 254 P **P** **15 48 15.2 +0.7**
NJ2 Nanjing 24.11 344 *e*P **P** **15 48 17.5 -0.1**
NJ2 pP 15 48 31.9
NJ2 sP sP 15 48 42.3 -0.2
NJ2 S **S** **15 52 32.0 +1.6**
NJ2 pmax pmax
comp=Z,20nm,0.5s,mb4.7
NJ2 pmax pmax
comp=Z,2μm,7.6s
NJ2 LR LR
comp=N,3μm,16.1s
NJ2 LR LR
comp=E,2μm,22.0s
NJ2 LR LR
comp=Z,3μm,17.2s
WHN Wuhan 24.37 334 P **P** **15 48 18.8 -1.2**
WHN S **S** **15 52 34.9 +0.3**
WHN pmax pmax
comp=Z,2μm,10.1s
WHN LR LR
comp=N,4μm,13.8s
WHN LR LR
comp=E,11μm,18.3s
WHN LR LR
comp=Z,12μm,18.4s
JNU Nakatsue 24.39 9 *e*P **P** **15 48 19.4 -0.7**
comp=Z,74nm,1.3s,mb4.9
LEM Lembang 24.57 231 P **P** **15 48 29.2 +7.2**
comp=Z,4μmcomp=Z,239nm,0.9s,mb5.6
CISI Cisompet, Garu 24.89 229 P **P** **15 48 32.3 +7.4**
comp=Z,2μmcomp=Z,99nm,1.0s,mb5.2
CBJI Citeko 24.92 233 P pP 15 48 35.7 -6.1
comp=Z,348nm,1.4s,comp=Z,8μm
DBJI Dramaga 25.08 233 P pP 15 48 35.7 -7.5
comp=Z,149nm,1.6s,comp=Z,3μm
SBJI Serang 25.32 235 P **P** **15 48 37.3 +8.5**
comp=Z,5μmcomp=Z,476nm,1.5s,mb5.7
KLI Kotabumi 25.66 239 P pP 15 48 40.8 -7.8
comp=Z,196nm,1.0s,comp=Z,3μm
GYA Guiyang 25.73 315 ⇓*i*P **P** **15 48 34.8 +2.4**
GYA pP pP 15 48 49.8 +0.8
GYA PP 15 49 15.4
GYA PcP PcP 15 52 01.3 +0.3
GYA S **S** **15 52 54.8 -1.5**
GYA sS sS 15 53 24.6 -0.4
GYA SS 15 54 01.9
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.6
GYA pmax pmax
comp=Z,140nm,4.8s
GYA LR LR
comp=N,840nm,15.0s
GYA LR LR
comp=E,750nm,16.8s
GYA LR LR
comp=Z,990nm,14.0s
IPM Ipoh 25.80 262 *e*P **P** **15 48 33.6 +0.4**
comp=Z,240nm,1.2s,mb5.5
RGRI Rengat 25.89 250 P pP 15 48 44.5 -6.1
comp=Z,63nm,1.0s
KULM Kulim 26.02 264 *e*P **P** **15 48 37.0 +1.8**
comp=Z,128nm,1.2s,mb5.2
LWLI Liwa 26.42 239 P **P** **15 48 40.2 +1.4**
ENH Enshi 26.60 325 *e*P **P** **15 48 40.7 +0.5**
comp=Z,32nm,1.2s,mb4.7
NST Nakhon Sawan 26.72 287 P **P** **15 48 42.0 +0.6**
comp=Z,75nm,1.2s,mb5.1
FITZ Fitzroy Crossi 26.88 182 P **P** **15 48 41.3 -1.5**
comp=Z,12nm,0.5s,mb4.7,baz=34,slow=15,SNR=26
FITZ Fitzroy Crossi 26.88 182 *e*P **P** **15 48 40.8 -2.0**
FITZ Fitzroy Crossi 26.88 182 P **P** **15 48 41.3 -1.5**
KSI Kapahiang 27.02 243 P **P** **15 48 49.8 +5.6**
comp=Z,108nm,0.8s,mb5.4
PMG Port Moresby 27.39 131 P **P** **15 48 46.0 -1.4**
comp=Z,9.2nm,0.8s,mb4.4,baz=323,slow=10,SNR=4.6
PMG Port Moresby 27.39 131 P **P** **15 48 46.0 -1.4**
PMG Port Moresby 27.39 131 P **P** **15 48 46.0 -1.4**
PMG Port Moresby 27.39 131 P **P** **15 48 48.9 +1.5**
comp=Z,874nmcomp=Z,42nm,1.2s,mb4.8
PPI Padang Panjang 27.74 252 P **P** **15 48 54.6 +4.0**
comp=Z,756nmcomp=Z,43nm,0.9s,mb5.0
KMI Kunming 27.86 308 P **P** **15 48 52.6 +1.0**
KMI pP pP 15 49 10.3 +2.0
KMI PP PP 15 49 44.6 -11
KMI S **S** **15 53 27.4 -2.7**
KMI pmax pmax
comp=Z,15nm,1.2s,mb4.4
KMI LR LR
comp=N,2μm,19.0s
KMI LR LR
comp=E,4μm,19.3s
KMI LR LR
comp=Z,6μm,19.7s
KMI Kunming 27.86 308 P **P** **15 48 52.6 +1.0**
comp=Z,15nm,1.2s,mb4.4
KMI pP pP 15 49 10.2 +1.9
KMI PP PP 15 49 44.6 -11
KMI S **S** **15 53 27.4 -2.7**
KMI LR LR
comp=Z,6μm,19.7s
KMI Kunming 27.86 308 P **P** **15 48 52.6 +1.0**
KMI *PP pP 15 49 10.2 +1.9
KMI 15 49 44.6
KMI S **S** **15 53 27.4 -2.7**
KMI pmax pmax
comp=Z,15nm,1.2s,mb4.4
KMI MLR MLR
comp=Z,6μm,19.7s
COEN Coen 28.05 144 *e*P **P** **15 48 54.0 +0.7**
comp=Z,269nm,0.9s,mb5.8
BDT Bhumibol Dam 28.11 290 P **P** **15 48 55.0 +1.1**
CHRT Chiangrai 28.13 296 ⇓P **P** **15 48 52.0 -2.1**
comp=Z,147nm,1.0s,mb5.5
TSI Tuntungan 28.40 261 P **P** **15 49 01.8 +5.3**
comp=Z,118nm,1.1s,mb5.3
KSAR Wonju Array Be 28.41 2 P **P** **15 48 56.1 -0.1**
KSAR Wonju Array Be 28.41 2 P **P** **15 48 56.2 -0.1**
KSRS Korea Array 28.42 2 P **P** **15 48 56.1 -0.2**
comp=Z,26nm,1.1s,mb4.7,baz=176,slow=8.7,SNR=28
KSRS LR LR 15 59 12.4
comp=Z,2μm,20.3s,baz=180,slow=34
CM31 Chiang Mai Arr 28.47 292 *e*P **P** **15 48 57.1 -0.1**
comp=Z,11nm,0.7s,mb4.5
CMAR Chiang Mai Arr 28.47 292 P **P** **15 48 56.6 -0.5**
comp=Z,24nm,1.1s,mb4.6,baz=110,slow=6.0,SNR=83
CMAR PcP PcP 15 52 07.0 -0.7
comp=Z,6.8nm,1.2s,baz=83,slow=2.8,SNR=4.4
CMAR ScP ScP 15 55 51.8 +8.9
comp=Z,0.5nm,0.7s,baz=101,slow=0.9,SNR=3.6
CMAR Chiang Mai Arr 28.47 292 P **P** **15 48 56.6 -0.5**
CMAR PcP PcP 15 52 07.0 -0.7
CMAR ScP ScP 15 55 51.8 +8.9
CMAR Chiang Mai Arr 28.47 292 P **P** **15 48 56.7 -0.4**
CMAR 15 52 07.0
TIA Tai'an 28.50 344 ⇑P **P** **15 48 55.8 -1.3**
TIA S **S** **15 53 43.8 +4.0**
TIA pmax pmax
comp=Z,20nm,1.1s,mb4.7
TIA pmax pmax
comp=Z,810nm,8.8s
TIA LR LR
comp=N,1μm,19.6s
TIA LR LR
comp=E,3μm,15.7s
TIA LR LR
comp=Z,3μm,15.7s
CHG Chiang Mai 28.57 293 ⇑P **P** **15 48 58.5 +0.5**
CHTO Chiang Mai 28.57 293 *e*P **P** **15 48 57.7 -0.3**
comp=Z,43nm,1.3s,mb4.9
CHTO Chiang Mai 28.57 293 *e*P **P** **15 48 57.7 -0.3**
CHTO pmax pmax
comp=Z,43nm,1.3s,mb4.9
CHTO Chiang Mai 28.57 293 P **P** **15 48 59.0 +1.0**
SNR=12
MAT Matsushiro 29.43 19 P **P** **15 49 04.8 -0.6**
MAT S **S** **15 53 55.0 +0.5**
MJAR Matsushiro Arr 29.43 19 P **P** **15 49 02.0 -3.4**
comp=Z,2.7nm,0.9s,mb3.9,baz=200,slow=10,SNR=4.2
MJAR Matsushiro Arr 29.43 19 P **P** **15 49 02.0 -3.4**
MJAR Matsushiro Arr 29.43 19 P **P** **15 49 02.0 -3.4**
LHMI Lhok Sumawe 29.67 265 P **P** **15 49 17.4 +10**
WRAB Tennant Creek 29.67 165 *e*P **P** **15 49 04.9 -2.8**
comp=Z,50nm,1.1s,mb5.1
WRAB Tennant Creek 29.67 165 *e*P **P** **15 49 06.0 -1.7**
WRAB pmax pmax
comp=Z,50nm,1.1s,mb5.1
WRAB Tennant Creek 29.67 165 P **P** **15 49 06.0 -1.7**
comp=Z,68nm,0.6s,mb5.5,SNR=6.0
WRA Warramunga Arr 29.68 165 P **P** **15 49 04.9 -2.8**
comp=Z,2.3nm,0.5s,mb4.0,baz=346,slow=8.9,SNR=31
WRA Warramunga Arr 29.68 165 P **P** **15 49 04.9 -2.8**
WRA Warramunga Arr 29.68 165 P **P** **15 49 04.9 -2.8**
WB2 Warramunga Arr 29.68 165 *e*P **P** **15 49 05.0 -2.8**
XAN Xi'an 29.82 329 P **P** **15 49 07.1 -1.8**
XAN pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
XAN pmax pmax
comp=Z,110nm,13.0s
XAN LR LR
comp=N,2μm,17.2s
XAN LR LR
comp=Z,810nm,15.9s
DL2 Dalian 30.18 352 P **P** **15 49 13.3 +1.3**
DL2 S **S** **15 54 06.6 +0.4**
DL2 pmax pmax
comp=Z,50nm,1.2s,mb5.0
DL2 pmax pmax
comp=Z,400nm,9.2s
DL2 LR LR
comp=N,450nm,17.0s
DL2 LR LR
comp=E,1μm,16.0s
DL2 LR LR
comp=Z,1μm,20.7s
CD2 Chengdu 30.54 319 *e*P **P** **15 49 16.5 +1.3**
CD2 pP pP 15 49 34.3 +2.2
CD2 sP sP 15 49 43.4 +3.1
CD2 PP PP 15 50 19.3 -6.1
CD2 PcP PcP 15 52 14.8 +2.0
CD2 S **S** **15 54 11.8 -0.1**
CD2 sS sS 15 54 42.6 +1.8
CD2 SS SS 15 55 55.1 -30
CD2 ScS ScS 15 59 43.5 -2.2
CD2 pmax pmax
comp=Z,20nm,0.7s,mb5.0
CD2 LR LR
comp=N,7μm,16.8s
CD2 LR LR
comp=E,7μm,15.6s
CD2 LR LR
comp=Z,9μm,14.4s
MBWA Marble Bar 30.66 193 *e*P **P** **15 49 14.9 -1.4**
comp=Z,26nm,0.8s,mb5.0
TIY Taiyuan 31.39 338 *e*P **P** **15 49 24.1 +1.4**
TIY sP sP 15 49 47.0 -0.8
TIY PP PP 15 50 25.9 -8.9
TIY S **S** **15 54 25.8 +0.6**
TIY pmax pmax
comp=Z,290nm,6.4s
TIY LR LR
comp=N,790nm,10.3s
TIY LR LR
comp=E,2μm,15.1s
TIY LR LR
comp=Z,1μm,20.4s
BJT Baijiatuau 32.33 345 *e*P **P** **15 49 30.2 -0.7**
comp=Z,25nm,0.4s,mb5.3
BJT Baijiatuau 32.33 345 *e*P **P** **15 49 30.2 -0.7**
BJT pmax pmax
comp=Z,25nm,0.4s
BJI Beijing 32.35 345 P **P** **15 49 31.6 +0.5**
BJI S **S** **15 54 42.3 +2.3**
BJI pmax pmax
comp=Z,53nm,1.2s,mb5.2
BJI pmax pmax
comp=Z,530nm,3.6s
BJI LR LR
comp=N,1μm,19.2s
BJI LR LR
comp=E,2μm,17.6s
BJI LR LR
comp=Z,1μm,18.6s
BJI Beijing 32.35 345 P **P** **15 49 31.4 +0.3**
BJI S **S** **15 54 42.3 +2.3**
BJI pmax pmax
comp=Z,51nm,1.1s,mb5.2
BJI pmax pmax
comp=Z,630nm,5.4s
BJI LR LR
comp=N,1μm,15.2s
BJI LR LR
comp=E,1μm,13.4s
BJI LR LR
comp=Z,830nm,20.9s
SNY Shenyang 32.87 356 ⇑P **P** **15 49 35.6 0.0**
SNY S **S** **15 54 52.6 +4.5**
SNY pmax pmax
comp=Z,180nm,1.1s,mb5.8
SNY LR LR
comp=N,3μm,19.2s
SNY LR LR
comp=E,2μm,14.7s
SNY LR LR
comp=Z,4μm,18.0s
AS31 Alice Springs 33.17 168 *e*P **P** **15 49 36.0 -2.4**
ASAR Alice Springs 33.17 168 P **P** **15 49 35.8 -2.6**
comp=Z,2.1nm,0.4s,mb4.3,baz=355,slow=7.1,SNR=56
ASAR PcP PcP 15 52 23.4 +3.5
comp=Z,1.6nm,0.6s,baz=345,slow=3.2,SNR=2.6
ASAR Alice Springs 33.17 168 P **P** **15 49 35.8 -2.6**
ASAR PcP PcP 15 52 23.4 +3.5
ASAR Alice Springs 33.17 168 P **P** **15 49 35.8 -2.6**
ASAR 15 52 23.4
LZH Lanzhou 34.07 326 *e*P **P** **15 49 46.0 -0.1**
LZH pP pP 15 50 03.9 +0.8
LZH sP sP 15 50 12.8 +1.5
LZH PP PP 15 51 02.5 -2.0
LZH S **S** **15 55 06.0 -0.9**
LZH sS sS 15 55 35.6 -0.3
LZH SS SS 15 57 19.3 -18
LZH pmax pmax
comp=Z,39nm,1.3s,mb5.1
LZH pmax pmax
comp=Z,230nm,5.0s
LZH LR LR
comp=N,2μm,14.8s
LZH LR LR
comp=E,4μm,16.3s
LZH LR LR
comp=Z,5μm,18.1s
LZH Lanzhou 34.07 326 *e*P **P** **15 49 46.0 -0.1**
comp=Z,39nm,1.3s,mb5.1
LZH pP pP 15 50 03.9 +0.8
LZH sP sP 15 50 12.7 +1.4
LZH PP PP 15 51 02.5 -2.0
LZH S **S** **15 55 06.0 -0.9**
LZH sS sS 15 55 35.6 -0.3
LZH SS SS 15 57 19.2 -18
LZH LR LR
comp=Z,5μm,18.1s
LZH Lanzhou 34.07 326 *e*P **P** **15 49 46.0 -0.1**
LZH *PP pP 15 50 03.9 +0.8
LZH 15 51 02.5
LZH S **S** **15 55 06.0 -0.9**
LZH SS SS 15 57 19.2 -18
LZH pmax pmax
comp=Z,39nm,1.3s,mb5.1
LZH MLR MLR
comp=Z,5μm,18.1s
HHC Hu-ho-hao-te 34.48 340 *e*P **P** **15 49 50.3 +0.7**
HHC pP pP 15 50 08.8 +2.2
HHC sP sP 15 50 17.4 +2.6
HHC PP PP 15 51 08.8 -0.2
HHC PcP PcP 15 52 23.8 +0.3
HHC S **S** **15 55 13.3 +0.2**
HHC sS sS 15 55 43.4 +1.3
HHC SS SS 15 57 29.3 -16
HHC pmax pmax
comp=Z,26nm,1.0s,mb5.0
HHC pmax pmax
comp=Z,530nm,8.1s
HHC LR LR
comp=N,1μm,14.5s
HHC LR LR
comp=E,870nm,11.1s
HHC LR LR
comp=Z,2μm,17.5s
CTA Charters Tower 34.71 146 P **P** **15 49 50.6 -1.2**
comp=Z,5.7nm,0.6s,mb4.6,baz=327,slow=11,SNR=13
CTA LR LR 16 05 51.8
comp=Z,3μm,19.4s,baz=333,slow=40
CTA Charters Tower 34.71 146 *e*P **P** **15 49 50.4 -1.4**
CTA Charters Tower 34.71 146 P **P** **15 49 50.6 -1.2**
CTA Charters Tower 34.71 146 P **P** **15 49 50.6 -1.2**
CTAO Charters Tower 34.71 146 *e*P **P** **15 49 50.5 -1.3**
comp=Z,11nm,0.7s,mb4.8
CTAO Charters Tower 34.71 146 *e*P **P** **15 49 50.8 -1.0**
CTAO pmax pmax
comp=Z,33nm,1.2s,mb5.0
CN2 Changchun 34.75 359 *e*P **P** **15 49 52.0 +0.1**
CN2 *es*P sP 15 50 17.0 -0.1
CN2 *e*S **S** **15 55 17.0 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
CN2 pmax pmax
comp=Z,600nm,8.0s
CN2 LR LR
comp=N,1μm,14.0s
CN2 LR LR
comp=E,1μm,14.0s
CN2 LR LR
comp=Z,1μm,15.0s
BTO Baotou 34.83 338 *e*P **P** **15 49 49.6 -3.0**
IMP Imphal 34.90 301 *e*PKP **P** **15 49 52.0 -1.5**
IMP *ex* x 15 52 25.0
USRK Ussuriysk Arra 35.45 7 P **P** **15 49 58.0 +0.1**
comp=Z,35nm,0.8s,mb5.2,baz=204,slow=8.3,SNR=28
USRK LR LR 16 03 11.7
comp=Z,1μm,20.3s,baz=357,slow=34
MDJ Mudanjiang 35.64 4 P **P** **15 50 00.4 +0.9**
MDJ pP pP 15 50 17.3 +0.7
MDJ sP sP 15 50 25.8 +1.0
MDJ PP PP 15 51 21.4 -0.3
MDJ S **S** **15 55 32.3 +1.5**
MDJ sS sS 15 56 02.1 +2.2
MDJ pmax pmax
comp=Z,85nm,1.3s,mb5.5
MDJ pmax pmax
comp=Z,510nm,6.1s
MDJ LR LR
comp=N,2μm,19.1s
MDJ LR LR
comp=E,800nm,17.1s
MDJ LR LR
comp=Z,2μm,20.1s
MDJ Mudanjiang 35.64 4 *e*P **P** **15 49 59.9 +0.3**
comp=Z,295nm,1.5s,mb6.0
MDJ *e* pP 15 50 12.6 -4.0
SHL Shillong 36.91 301 *e*PKP **P** **15 50 10.5 -0.2**
SHL *ex* x 15 55 57.5
ASAJ Asahikawa 37.71 19 *e*P **P** **15 50 18.3 +1.2**
comp=Z,54nm,1.4s,mb5.2
HNR Honiara 37.87 118 LR LR 16 04 00.8
comp=Z,2μm,20.3s,baz=101,slow=33
GTA Gaotai 38.68 326 *e*P **P** **15 50 24.8 -0.5**
GTA pP pP 15 50 42.8 +0.3
GTA sP sP 15 50 51.9 +1.2
GTA PcP PcP 15 52 38.9 +2.8
GTA S **S** **15 56 19.1 +2.1**
GTA sS sS 15 56 49.5 +3.1
GTA pmax pmax
comp=Z,5.0nm,1.3s,mb4.2
GTA pmax pmax
comp=Z,420nm,5.7s
GTA LR LR
comp=N,3μm,17.6s
GTA LR LR
comp=E,3μm,17.6s
GTA LR LR
comp=Z,5μm,17.8s
YUK Yuzh-Kuril'sk 38.77 22 *i*P **P** **15 50 20.6 -5.4**
YUK *i* PPP 15 52 40.7
YUK *i* S **S** **15 56 19.7 +1.4**
YUK *i* SS SS 15 59 05.0 -6.7
YUK *i* SSS 15 59 33.6
YUK pmax pmax
comp=E,519nm,1.5s
YUK pmax pmax
comp=Z,1μm,1.5s
YUK pmax pmax
comp=N,417nm,1.5s
YUK pmax pmax
comp=Z,1μm,1.7s
YUK MLR MLR
comp=Z,1μm,19.0s
YUK MLR MLR
comp=N,1μm,19.0s
LSA Lhasa 39.09 307 P **P** **15 50 28.8 -0.2**
LSA Lhasa 39.09 307 *e*P **P** **15 50 28.9 -0.1**
comp=N,20nm,0.6s,mb5.1
LSA Lhasa 39.09 307 *e*P **P** **15 50 28.9 -0.1**
LSA pmax pmax
comp=Z,20nm,0.6s,mb5.1
CAL Calcutta 39.13 295 *e*PKP **P** **15 50 28.6 -0.7**
CAL *ex* x 15 52 23.0
CAL *ex* x 15 52 23.0
FORT Forrest 39.51 178 *e*P **P** **15 50 31.0 -1.3**
FORT Forrest 39.51 178 *e*P **P** **15 50 32.7 +0.4**
comp=Z,70nm,0.7s,mb5.6
HABR Khabarovsk 40.05 9 *e*P **P** **15 50 36.3 -0.3**
HABR *e**PP pP 15 50 44.8 -9.1
HABR *e**SP sP 15 50 49.3 -13
HABR *e* 15 52 07.9
HABR *e*S **S** **15 56 42.0 +4.7**
HABR *e**SS sS 15 56 56.8 -10
HABR *e*SSS 16 00 04.4
HABR *e* 16 00 38.8
HABR pmax pmax
comp=E,81nm,1.7s
HABR pmax pmax
comp=Z,165nm,1.7s,mb5.6
HABR pmax pmax
comp=N,91nm,2.3s
HABR MLR MLR
comp=Z,2μm,19.0s
KLR Kul'dur 40.40 5 *e*P **P** **15 50 35.8 -3.7**
KLR *e*S **S** **15 56 38.5 -4.0**
KLR pmax pmax
comp=Z,140nm,1.8s,mb5.5
KLR pmax pmax
comp=Z,1μm,10.5s
KLR MLR MLR
comp=N,2μm,15.5s
KLR MLR MLR
comp=E,900nm,15.5s
KLR MLR MLR
comp=Z,3μm,15.5s
HIA Hailar 40.62 353 *e*P **P** **15 50 41.0 -0.3**
comp=Z,70nm,1.2s,mb5.4
HIA Hailar 40.62 353 *e*P **P** **15 50 41.0 -0.3**
HIA pmax pmax
comp=Z,70nm,1.2s
TAPN Taplejung 41.04 302 *e*P **P** **15 50 45.1 0.0**
comp=Z,63nm,0.5s,mb5.7
TAPN Taplejung 41.04 302 *e*P **P** **15 50 45.1 0.0**
comp=Z,63nm,0.5s,mb5.7
ODAN Odare 41.15 301 *e*P **P** **15 50 45.9 -0.1**
comp=Z,62nm,0.5s,mb5.7
ODAN Odare 41.15 301 *e*P **P** **15 50 45.9 -0.1**
comp=Z,62nm,0.5s,mb5.7
KLBR Kellerberrin 41.18 192 *e*P **P** **15 50 45.1 -1.0**
comp=Z,39nm,0.8s,mb5.3
EIDS Eidsvold 41.59 146 *e*P **P** **15 50 50.8 +1.3**
comp=Z,262nm,2.4s,mb5.5
RAMN Ramite 41.85 301 *e*P **P** **15 50 51.8 0.0**
comp=Z,90nm,0.7s,mb5.6
RAMN Ramite 41.85 301 *e*P **P** **15 50 51.8 0.0**
comp=Z,90nm,0.7s,mb5.6
ULN Ulaanbaatar 42.19 340 *e*P **P** **15 50 53.7 -0.5**
comp=Z,24nm,1.0s,mb4.9
ULN Ulaanbaatar 42.19 340 *e*P **P** **15 50 53.7 -0.5**
ULN pmax pmax
comp=Z,24nm,1.0s,mb4.9
SONM Songino Array 42.39 340 P **P** **15 50 54.8 -0.9**
comp=Z,6.3nm,0.9s,mb4.3,baz=164,slow=6.7,SNR=33
SONM PcP PcP 15 52 47.8 -0.1

comp=Z,1.5nm,0.6s,baz=162,slow=4.4,SNR=2.6
SONM ScP ScP 15 56 38.6 +6.0
comp=Z,1.6nm,1.0s,baz=151,slow=3.1,SNR=4.3
SONM LR LR 16 10 16.9
comp=Z,2μm,19.0s,baz=158,slow=39
SONM Songino Array 42.39 340 P **P 15 50 54.9 -0.9**
SONM PcP PcP 15 52 47.8 -0.1
SONM ScP ScP 15 56 38.6 +6.0
SONM Songino Array 42.39 340 P **P 15 50 54.9 -0.9**
SONM 15 52 47.8
JIRN Jiri 42.41 301 *e*P **P 15 50 56.4 0.0**
JIRN Jiri 42.41 301 *e*P **P 15 50 56.4 0.0**
BBOO Buckleboo 42.47 168 *e*P **P 15 50 55.0 -1.6**
comp=Z,1μm,0.9s
NWAO Narrogin (SRO) 42.58 192 P **P 15 50 57.0 -0.4**
comp=Z,27nm,0.7s,mb5.1,baz=21,slow=7.8,SNR=21
NWAO Narrogin (SRO) 42.58 192 *e*P **P 15 50 57.0 -0.4**
comp=Z,67nm,1.0s,mb5.3
NWAO Narrogin (SRO) 42.58 192 *e*P **P 15 50 57.0 -0.5**
NWAO pmax pmax
comp=Z,67nm,1.0s
GUN Gumba 42.75 302 *e*P **P 15 50 58.9 -0.2**
comp=Z,62nm,0.4s,mb5.7
STKA Stephens Creek 43.03 161 P **P 15 50 59.3 -1.9**
comp=Z,4.3nm,0.4s,mb4.5,baz=288,slow=5.1,SNR=2.9
STKA Stephens Creek 43.03 161 *e*P **P 15 50 59.2 -2.0**
STKA Stephens Creek 43.03 161 *e*P **P 15 50 59.8 -1.4**
comp=Z,6.9nm,0.8s,mb4.4
STKA Stephens Creek 43.03 161 *e*P **P 15 50 59.8 -1.4**
PKI Pulchoki 43.05 301 *e*P **P 15 51 00.9 -0.6**
PKI Pulchoki 43.05 301 *e*P **P 15 51 00.9 -0.6**
PKI Pulchoki 43.05 301 *e*P **P 15 51 00.9 -0.6**
KKN Kakani 43.22 301 *e*P **P 15 51 02.3 -0.6**
KKN Kakani 43.22 301 *e*P **P 15 51 02.3 -0.6**
KKN Kakani 43.22 301 *e*P **P 15 51 02.3 -0.6**
DMN Daman 43.31 301 *e*P **P 15 51 03.7 +0.1**
DMN Daman 43.31 301 *e*P **P 15 51 03.7 +0.1**
GKN Gorkha 43.83 301 *e*P **P 15 51 07.4 -0.4**
comp=Z,41nm,0.5s,mb5.4
GKN Gorkha 43.83 301 *e*P **P 15 51 07.4 -0.4**
comp=Z,41nm,0.5s,mb5.4
CIT Chita 44.27 348 *e*P **P 15 51 10.1 -0.8**
CIT *e* 15 51 16.7
CIT pmax pmax
comp=Z,162nm,1.5s,mb5.5
KOLN Koldanda 44.64 301 *e*P **P 15 51 13.9 -0.4**
comp=Z,92nm,0.5s,mb5.8
KOLN Koldanda 44.64 301 *e*P **P 15 51 13.9 -0.4**
comp=Z,92nm,0.5s,mb5.8
DANN Dangsing 44.67 301 *e*P **P 15 51 14.1 -0.4**
DANN Dangsing 44.67 301 *e*P **P 15 51 14.1 -0.4**
ARMA Armidale 45.91 149 *e*P **P 15 51 25.9 +1.7**
ARMA Armidale 45.91 149 *e*P **P 15 51 24.4 +0.3**
comp=Z,52nm,1.3s,mb5.1
TLY Talaya 46.60 340 *e*P **P 15 51 30.1 +0.7**
comp=Z,24nm,1.0s,mb4.9
TLY Talaya 46.60 340 *e*P **P 15 51 29.7 +0.4**
TLY *e* 15 53 20.6
TLY *e*S **S 15 58 15.6 +2.5**
TLY *e*SS SS 16 01 26.2 -14
TLY pmax pmax
comp=Z,21nm,1.1s,mb4.8
TLY MLR MLR
comp=Z,935nm,20.0s
JBP Jabalpur 46.79 293 *e*PKP **P 15 51 30.7 -0.6**
JBP *ex* x 15 58 32.2
NGP Nagpur 47.35 290 *e*PKP **P 15 51 34.8 -0.9**
NGP *ex* x 15 58 37.0
HYB Hyderabad 47.45 285 *i* P **P 15 51 36.0 -0.5**
HYB *e*S **S 15 58 28.0 +1.9**
MOY Mondy 47.51 339 *e*P **P 15 51 36.2 -0.2**
MOY pmax pmax
comp=Z,36nm,2.2s,mb4.8
CLNS Chul'man 47.81 359 *e*P **P 15 51 40.6 +2.0**
CLNS *e* 15 53 07.5
CLNS *e* 15 53 32.3
CLNS *e*PPP 15 54 18.7
CLNS *e*S **S 15 58 34.6 +4.6**
CLNS pmax pmax
comp=Z,68nm,1.2s,mb5.3
CLNS pmax pmax
comp=E,16nm,1.1s
CLNS pmax pmax
comp=N,46nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
CLNS pmax pmax
comp=N,13nm,1.4s
CLNS pmax pmax
comp=E,9.0nm,1.3s
CLNS smax
comp=E,256nm,14.1s
CLNS smax
comp=N,206nm,12.6s
CLNS MLR MLR
comp=Z,563nm,16.0s
CLNS MLR MLR
comp=N,666nm,16.0s
CLNS MLR MLR
comp=E,1μm,19.0s
WMQ Urumqi 48.49 323 P **P 15 51 46.0 +1.9**
WMQ pP pP 15 52 04.8 +3.0
WMQ sP sP 15 52 13.5 +3.6
WMQ PP PP 15 53 39.8 +2.4
WMQ S **S 15 58 40.3 +0.2**
WMQ SS SS 16 02 08.1 -2.7
WMQ pmax pmax
comp=Z,60nm,0.8s,mb5.5
WMQ pmax pmax
comp=Z,570nm,8.0s
WMQ LR LR
comp=N,5μm,16.8s
WMQ LR LR
comp=E,4μm,19.8s
WMQ LR LR
comp=Z,3μm,18.0s
CAN Canberra 48.82 156 *e*P **P 15 51 46.7 0.0**
comp=Z,42nm,1.1s,mb5.3
CAN Canberra 48.82 156 *e*P **P 15 51 46.7 0.0**
CAN pmax pmax
comp=Z,42nm,1.1s,mb5.3
CNB Canberra Magne 48.97 155 *e*P **P 15 51 46.7 -1.1**
TRD Trivandrum 49.06 274⇑ *e*PKP **P 15 51 57.7 +8.7**
TRD *e*S **S 15 59 07.7 +19**
BHPL Bhopal 49.13 293 *e*PKP **P 15 51 47.4 -2.0**
LATR Latur 49.41 287 *e*PKP **P 15 51 52.0 +0.4**
TOO Toolangi 49.52 160 *e*P **P 15 51 51.6 -0.4**
DZM Mont Dzumac 49.74 129 *e*P **P 15 52 00.6 +6.7**
comp=Z,63nm,1.1s,mb5.5
DZM *e*S **S 15 59 02.4 +4.3**
comp=Z,3μm,25.6s
DZM *e*LR LR 16 06 19.3
comp=Z,3μm,23.8s
DZM Mont Dzumac 49.74 129 P **P 15 51 54.4 +0.4**
comp=Z,3.2nm,0.4s,mb4.6,baz=338,slow=19,SNR=7.3
DZM LR LR 16 09 48.0
comp=Z,2μm,21.4s,baz=102,slow=32
DZM Mont Dzumac 49.74 129 P **P 15 51 54.4 +0.4**
BOD Bodaibo 49.74 351 *e*P **P 15 51 53.5 +0.1**
BOD pmax pmax
comp=Z,60nm,1.3s,mb5.4
DDI Dehra Dun 50.00 302 *ex* **P 15 51 52.8 -3.1**
NDI New Delhi 50.32 300 *e*PKP **P 15 51 55.7 -2.6**
NDI AMb AMB 15 51 56.0
comp=Z,26nm,0.5s,mb5.4
AYAN Aya Nagar 50.35 300 *e*PKP **P 15 51 57.8 -0.8**
PEA0B Petropavlovsk- 50.71 24 *e*P **P 15 52 02.8 +2.0**
PETK Petropavlovsk- 50.71 24 P **P 15 52 00.8 -0.1**
comp=Z,13nm,0.9s,mb5.0,baz=199,slow=6.4,SNR=14
PETK Petropavlovsk- 50.71 24 P **P 15 52 00.8 0.0**
PETK Petropavlovsk- 50.71 24 P **P 15 52 00.8 0.0**
PET Petropavlovsk 51.03 24 *e*P **P 15 52 05.5 +2.3**
PET *e*S **S 15 59 18.4 +3.2**
KAD Karad 51.61 285 *e*PKP **P 15 52 09.1 +0.9**
GOA Goa 51.91 283⇓ *e*PKP **P 15 52 09.4 -1.0**
POO Poona 51.99 286 *ex* **P 15 52 07.3 -3.7**
POO AMb AMB 15 52 14.9
comp=Z,43nm,1.6s,mb5.2
YAK Yakutsk 53.05 2 *e*P **P 15 52 17.8 -0.2**
comp=Z,98nm,1.1s,mb5.8
YAK Yakutsk 53.05 2 *c i*P **P 15 52 17.4 -0.6**
YAK *e**PP pP 15 52 30.1 -5.9
YAK *e* 15 53 21.7
YAK *e*S **S 15 59 41.7 -0.8**
YAK *e**SS sS 15 59 56.5 -17
YAK *e* 16 02 01.0
YAK pmax pmax
comp=Z,83nm,1.4s,mb5.6
YAK pmax pmax
comp=N,57nm,1.5s
YAK pmax pmax
comp=E,13nm,1.6s
YAK pmax pmax
comp=Z,41nm,2.1s,mb5.1
YAK pmax pmax
comp=E,145nm,3.3s
YAK pmax pmax
comp=N,184nm,4.1s
YAK smax
comp=N,265nm,3.8s
YAK smax
comp=E,144nm,3.2s
YAK MLR MLR
comp=Z,1μm,26.0s
YAK MLR MLR
comp=E,988nm,17.0s
YAK MLR MLR
comp=N,1μm,22.0s
MK31 Makanchi Array 53.30 323 *e*P **P 15 52 19.7 -0.5**
MK31 Makanchi Array 53.30 323 *e*P **P 15 52 19.6 -0.6**
MK31 pmax pmax
comp=Z,46nm,0.7s,mb5.6
MKAR Makanchi Array 53.30 323 P **P 15 52 19.3 -0.9**
comp=Z,52nm,0.8s,mb5.6,baz=125,slow=7.6,SNR=160
MKAR LR LR 16 17 03.5
comp=Z,2μm,19.9s,baz=252,slow=38
MKAR Makanchi Array 53.30 323 P **P 15 52 19.3 -0.9**
MKAR Makanchi Array 53.30 323 P **P 15 52 19.3 -0.9**
KSH Kashi 54.38 313 P **P 15 52 29.3 +1.1**
KSH pP pP 15 52 48.4 +2.1
KSH sP sP 15 52 57.1 +2.9
KSH PcP PcP 15 53 32.8 +1.5
KSH PP PP 15 54 33.5 +2.6
KSH ScP ScP 15 57 22.6 -1.0
KSH PcS PcS 15 57 30.8 0.0
KSH S **S 15 59 58.6 -2.8**
KSH sS sS 16 00 31.9 -0.1
KSH ScS ScS 16 02 07.8 -3.4
KSH SS SS 16 03 41.3 -3.3
KSH pmax pmax
comp=Z,15nm,0.8s,mb5.1
KSH pmax pmax
comp=Z,350nm,6.5s
KSH LR LR
comp=N,1μm,15.6s
KSH LR LR
comp=E,1μm,12.9s
KSH LR LR
comp=Z,2μm,14.2s
KZA Kyzart 55.80 315 P **P 15 52 38.9 +0.5**
SNR=30
KZA P 15 52 38.9
SNR=30
TKM2 Tokmak 2 55.87 316 P **P 15 52 38.4 -0.5**
SNR=23
TKM2 P 15 52 38.4
SNR=23
TKM2 Tokmak 2 55.87 316 P **P 15 52 38.2 -0.7**
TKM2 pmax pmax
comp=Z,26nm,1.3s,mb5.1
ZAA0 Zalesovo Array 55.96 332 *e*P **P 15 52 37.7 -1.6**
ZALV Zalesovo Beam 55.96 332 P **P 15 52 37.7 -1.6**
comp=Z,13nm,0.7s,mb5.1,baz=125,slow=6.3,SNR=42
ZALV LR LR 16 19 19.7
comp=Z,1μm,18.8s,baz=130,slow=39
ZALV Zalesovo Beam 55.96 332 P **P 15 52 37.7 -1.6**
ZALV Zalesovo Beam 55.96 332 P **P 15 52 37.7 -1.6**
KBK Karagaybulak 56.21 316 P **P 15 52 41.2 -0.1**
SNR=28
KBK P 15 52 41.2
SNR=28
UCH Uchtor 56.36 315 P **P 15 52 45.0 +2.6**
SNR=7.9
UCH P 15 52 45.0
SNR=7.9
CHMS Chumysh 56.47 316 P **P 15 52 42.7 -0.5**
SNR=15
CHMS P 15 52 42.7
SNR=15
AAK Ala-Archa 56.52 316 *e*P **P 15 52 43.5 0.0**
comp=Z,20nm,1.3s,mb5.0
AAK Ala-Archa 56.52 316 *c i*P **P 15 52 43.8 +0.3**
AAK pmax pmax
comp=Z,29nm,1.2s,mb5.2
AAK Ala-Archa 56.52 316 P **P 15 52 43.6 +0.1**
comp=Z,52nm,0.4s,mb5.9,SNR=5.5
USP Ospenovka 56.74 316 P **P 15 52 44.3 -0.8**
SNR=30
USP P 15 52 44.3
SNR=30
AML Almayashu 56.90 315 P **P 15 52 46.8 +0.6**
SNR=27
AML P 15 52 46.8
SNR=27
EKS2 Erkin-Say 57.02 316 P **P 15 52 46.9 -0.2**
SNR=22
EKS2 P 15 52 46.9
SNR=22
EKS2 Erkin-Say 57.02 316 *e*P **P 15 52 46.7 -0.4**
comp=Z,24nm,0.9s,mb5.2
EKS2 Erkin-Say 57.02 316 *e*P **P 15 52 47.2 +0.1**
EKS2 pmax pmax
comp=Z,24nm,0.9s,mb5.2
NVS Novosibirsk 57.24 332⇑ *i*P **P 15 52 46.3 -2.1**
NVS *e*S **S 16 00 41.1 +2.3**
NVS pmax pmax
comp=Z,79nm,1.2s,mb5.6
NVS pmax pmax
comp=N,38nm,1.3s
NVS pmax pmax
comp=E,43nm,1.3s
NVS smax
comp=N,27nm,1.9s
NVS smax
comp=E,40nm,1.9s
MSVF Nonsavu 57.28 118 *e*P **P 15 52 51.5 +2.2**
comp=E,38nm,1.0s,mb5.4
MSVF Nonsavu 57.28 118 *e*P **P 15 52 51.5 +2.2**
MSVF pmax pmax
comp=Z,38nm,1.0s,mb5.4
MSVF Nonsavu 57.28 118 P **P 15 52 51.4 +2.1**
comp=Z,188nm,0.8s,mb6.2,SNR=5.5
KURK Kurchatov 57.36 326 P **P 15 52 48.2 -1.1**
comp=Z,24nm,0.4s,mb5.6,baz=124,slow=7.0,SNR=270
KURK Kurchatov 57.36 326 *e*P **P 15 52 48.2 -1.1**
comp=Z,118nm,1.0s,mb5.9
KURK Kurchatov 57.36 326 *c i*P **P 15 52 48.4 -0.9**
KURK pmax pmax
comp=Z,170nm,1.2s,mb6.0
KURK Kurchatov 57.36 326 P **P 15 52 48.7 -0.6**
SNR=61
KURK Kurchatov 57.36 326 P **P 15 52 48.4 -0.9**
comp=Z,671nm,0.8s,SNR=88
KBL Kabul 58.38 305 *e*P **P 15 52 56.5 -0.2**
comp=Z,14nm,0.8s,mb5.0
KBL Kabul 58.38 305 *e*P **P 15 52 56.5 -0.3**
KBL pmax pmax
comp=Z,14nm,0.8s,mb5.0
KKAR Karatay Array 59.44 315 *e*P **P 15 53 03.2 -0.8**
KKAR Karatay Array 59.44 315 *e*P **P 15 53 03.2 -0.7**
BVA0 Borovoye Array 62.96 326 P **P 15 53 26.0 -1.5**
BVA0 pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
BVAR Borovoye Array 62.96 326 P **P 15 53 26.5 -1.1**
comp=Z,8.5nm,0.6s,mb4.9,baz=123,slow=7.6,SNR=57
BVAR Borovoye Array 62.96 326 P **P 15 53 26.5 -1.0**
BVAR Borovoye Array 62.96 326 P **P 15 53 26.5 -1.0**
BRVK Borovoye 63.03 326 *e*P **P 15 53 27.0 -1.0**
comp=Z,60nm,1.3s,mb5.4
BRVK Borovoye 63.03 326 *e*P **P 15 53 27.0 -1.0**
BRVK pmax pmax
comp=Z,60nm,1.3s,mb5.4
BRVK Borovoye 63.03 326 P **P 15 53 27.4 -0.6**
comp=Z,197nm,1.0s,mb6.0,SNR=25
BRVK Borovoye 63.03 326 P **P 15 53 27.4 -0.7**
SNR=17
BILL Bilibino 64.59 15 *e*P **P 15 53 39.5 +1.5**
comp=Z,21nm,0.9s,mb5.0
BILL Bilibino 64.59 15 *c i*P **P 15 53 38.5 +0.5**
BILL *i* 15 56 06.9
BILL *i* S **S 16 02 18.8 +6.8**
BILL *e*SS SS 16 06 35.5 +12
BILL pmax pmax
comp=Z,38nm,1.6s,mb5.0
BILL MLR MLR
comp=Z,600nm,19.0s
AFI Afiamalu 65.20 110 LR LR 16 18 33.0
comp=Z,1μm,18.8s,baz=116,slow=33
RPZ Rata Peaks 66.08 146 P **P 15 53 47.4 -0.6**
comp=Z,13nm,0.5s,mb5.0,baz=182,slow=2.9,SNR=6.4
RPZ LR LR 16 20 25.6
comp=Z,2μm,21.3s,baz=307,slow=34
RPZ Rata Peaks 66.08 146 P **P 15 53 47.4 -0.6**
URZ Urewera 66.44 139 P **P 15 53 48.3 -2.1**
comp=Z,8.6nm,0.8s,mb4.6,baz=0.0,slow=4.0,SNR=2.7
URZ LR LR 16 19 36.4
comp=Z,1μm,21.9s,baz=306,slow=33
URZ Urewera 66.44 139 P **P 15 53 48.3 -2.1**
ABKT Ailbek 67.62 307 P **P 15 53 58.0 0.0**
comp=Z,381nm,1.4s,mb6.0,SNR=19
AB31 Akbulak array 68.11 320 *i* P **P 15 53 59.6 -1.3**
AB31 pmax pmax
comp=Z,25nm,0.9s,mb5.0
ABKAR Akbulak array 68.11 320 *e*P **P 15 54 00.1 -0.8**
UNV Unalaska Valle 69.26 36 *e*P **P 15 54 13.0 +5.1**
comp=Z,523nm,2.5s,mb5.9
SVE Sverdlovsk 69.52 328⇑ *i*P **P 15 54 09.0 -0.4**
SVE *e*S S 16 03 20.4 +8.8
SVE *e* 16 04 01.0
SVE pmax pmax
comp=Z,101nm,1.2s,mb5.5
SVE MLR MLR
comp=Z,1μm,18.0s
AKTO Aktyubinsk 69.57 321 P **P 15 54 08.9 -1.0**
comp=Z,16nm,1.0s,mb4.8,baz=106,slow=7.5,SNR=18
AKTO Aktyubinsk 69.57 321 P **P 15 54 08.9 -1.0**
AKTO Aktyubinsk 69.57 321 P **P 15 54 08.9 -1.0**
GAMB Gambell 69.73 25 *e*P **P 15 54 11.6 +1.0**
comp=Z,23nm,1.0s,mb5.0
AKUT Akutan 69.74 35 *e*P **P 15 54 12.3 +1.5**
ARU Arti 70.53 327 *e*P **P 15 54 14.3 -1.3**
comp=Z,74nm,1.2s,mb5.4
ARU Arti 70.53 327 *d i*P **P 15 54 14.7 -0.9**
ARU PPP 15 58 30.3
ARU S S 16 03 26.4 +2.9
ARU SS SS 16 07 55.7 -0.1
ARU pmax pmax
comp=Z,75nm,1.2s,mb5.4
ARU Arti 70.53 327 P **P 15 54 14.8 -0.8**
comp=Z,346nm,0.5s,SNR=15
TNA Tin City 71.88 23 *e*P **P 15 54 25.5 +1.9**
comp=Z,12nm,1.1s,mb4.7
CHGN Chignik 74.28 34 *e*P **P 15 54 38.4 +0.4**
CHGN *e* 15 54 51.4
QRN Al-Qurain 75.89 297 *e*P **P 15 54 47.0 -0.8**
MAK Makhachkala 76.02 312 *e*P **P 15 54 46.9 -1.3**
MAK *e* 15 57 40.7
MAK *e*S S 16 04 26.1 0.0
MAK *e*SS SS 16 09 17.7 -2.4
MAK pmax pmax
comp=Z,198nm,1.1s,mb5.8
MAK MLR MLR
comp=Z,1μm,19.0s
RDF Al-Radifah 76.21 298 *e*P **P 15 54 48.9 -0.8**
RDF AMb AMB 15 54 50.8
comp=Z,53nm,0.6s,mb5.5
MIB Mutribah 76.35 298 *e*P **P 15 54 49.2 -1.2**
MIB AMb AMB 15 54 51.4
comp=Z,81nm,0.6s,mb5.6
NAY Al-Naaiem 76.46 298 *e*P **P 15 54 49.8 -1.3**
NAY AMb AMB 15 54 55.1
comp=Z,45nm,1.3s,mb5.0
KDAK Kodiak Island 77.59 33 LR LR 16 25 23.6
comp=Z,1μm,21.0s,baz=263,slow=33
MTA Mtatsminda 78.03 311 P **P 15 54 59.1 -0.5**
TBLG Delisi 78.07 311 *e*P **P 15 54 59.9 +0.1**
TBLG Delisi 78.07 311 P **P 15 54 60.0 +0.1**
PPLA Purkeypile 78.09 28 *e*P **P 15 55 01.7 +2.3**
GNI Garni 78.11 309 P **P 15 55 00.6 +0.6**
comp=Z,7.5nm,0.7s,mb4.5,baz=168,slow=4.5,SNR=12
GNI Garni 78.11 309 P **P 15 55 00.7 +0.6**
GNI Garni 78.11 309 *c i*P **P 15 55 00.6 +0.5**
GNI pmax pmax
comp=Z,49nm,1.2s
RAR Rarotonga 78.19 114 LR LR 16 23 50.1
comp=Z,594nm,20.7s,baz=277,slow=31
GOR Gori 78.54 311 P **P 15 55 02.0 -0.4**
ZEI Tsey 78.67 312 *e*P **P 15 55 03.4 +0.3**
ZEI pmax pmax
comp=Z,50nm,1.4s,mb5.2
TRF Thorofare Moun 78.98 27 *e*P **P 15 55 07.0 +2.7**
comp=Z,48nm,1.4s,mb5.1
ONI Oni 79.00 312 P **P 15 55 05.3 +0.4**
AKH Akhalkalaki 79.02 310 P **P 15 55 03.9 -1.1**
RC01 Rabbit Creek A 79.17 29 *e*P **P 15 55 06.2 +0.8**
comp=Z,72nm,1.4s,mb5.3
COLD Coldfoot 79.18 23 *e*P **P 15 55 07.4 +2.0**
comp=Z,59nm,1.5s,mb5.2
SEW Seward 79.29 30 *e*P **P 15 55 05.9 -0.2**
PMR Palmer 79.47 29 *e*P **P 15 55 07.6 +0.6**
comp=Z,41nm,1.1s,mb5.2
PMR Palmer 79.47 29 *e*P **P 15 55 07.6 +0.6**
PMR pmax pmax
comp=Z,41nm,1.1s,mb5.2
KIV Kislovodsk 79.51 313 *e*P **P 15 55 08.1 +0.5**
comp=Z,55nm,1.3s,mb5.2
KIV Kislovodsk 79.51 313 *e*P **P 15 55 08.1 +0.4**
KIV pmax pmax
comp=Z,55nm,1.3s,mb5.2
KIV Kislovodsk 79.51 313 P **P 15 55 07.1 -0.6**
comp=Z,192nm,1.0s,mb5.9,SNR=6.6
MCK McKinley 79.59 27 *e*P **P 15 55 08.4 +0.8**
comp=Z,40nm,1.0s,mb5.2
MCK McKinley 79.59 27 *e*P **P 15 55 08.4 +0.8**
MCK pmax pmax
comp=Z,43nm,1.0s,mb5.2
SML Sawmill 79.85 29 *e*P **P 15 55 09.8 +0.7**
SML Sawmill 79.85 29 *e*P **P 15 55 09.8 +0.7**
COLA College 80.07 26 *e*P **P 15 55 10.4 +0.1**
comp=Z,13nm,1.0s,mb4.7
COLA College 80.07 26 *e*P **P 15 55 10.4 +0.2**
COLA pmax pmax
comp=Z,13nm,1.0s,mb4.7
ILAR Eielson Array 80.49 26 P **P 15 55 12.5 0.0**
comp=Z,4.4nm,1.0s,mb4.2,baz=238,slow=5.2,SNR=30
ILAR LR LR 16 32 55.9
comp=Z,468nm,19.4s,baz=30,slow=37
ILAR Eielson Array 80.49 26 P **P 15 55 12.5 0.0**
ILAR Eielson Array 80.49 26 P **P 15 55 12.5 0.0**
KLMR Klimovskoe 80.86 330 *e*P **P 15 55 11.1 -3.4**
KLMR pmax pmax
comp=Z,130nm,1.3s,mb5.6
KLMR MLR MLR
comp=Z,2μm,15.0s
DIV Divide 81.09 29 *e*P **P 15 55 16.2 +0.4**
PAX Paxson 81.16 28 *e*P **P 15 55 17.5 +1.4**
comp=Z,74nm,1.5s,mb5.3
PAX Paxson 81.16 28 *e*P **P 15 55 17.5 +1.4**
PAX pmax pmax
comp=Z,73nm,1.5s,mb5.3
VSR Storozhevoye 81.52 321 *e*P **P 15 55 17.1 -1.1**
VSR pmax pmax
comp=Z,20nm,1.2s,mb4.8
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.1s
SOC Sochi 81.68 313 *e*P **P 15 55 15.7 -3.6**
SOC pmax pmax
comp=Z,13nm,0.6s,mb4.9
ATD Arta Tunnel 82.21 280 P **P 15 55 19.4 -3.2**
comp=Z,10nm,0.8s,mb4.7,baz=75,slow=3.6,SNR=2.2
ATD Arta Tunnel 82.21 280 P **P 15 55 19.4 -3.2**
LVZ Lovozero 82.54 338 *e*P **P 15 55 24.6 +1.3**
comp=Z,100nm,1.4s,mb5.5
LVZ Lovozero 82.54 338 *i* P **P 15 55 23.2 0.0**
LVZ pmax pmax
comp=Z,152nm,2.5s,mb5.4
OBN Obninsk 82.78 325 *αe*P **P 15 55 24.9 +0.2**
OBN *e* pP 15 55 40.1 -3.9
OBN *e* 16 05 43.0
OBN pmax pmax
comp=Z,39nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,1μm,19.0s

OPO Ambohidratompo 82.93 250 P **P** **15 55 26.3 0.0**
comp=Z,1.0nm,0.5s,mb4.0,baz=112,slow=1.3,SNR=5.0
OPO Ambohidratompo 82.93 250 P **P** **15 55 26.3 0.0**
EGAK Eagle 82.94 26 *e*P **P** **15 55 27.8 +2.4**
comp=Z,24nm,1.1s,mb4.9
APA Apatity 83.04 337 ⇓*i*P **P** **15 55 27.0 +1.1**
APA *i* pP 15 55 46.0 +0.9
APA pmax pmax
comp=Z,80nm,1.3s,mb5.4
APA MLR MLR
comp=Z,2μm,23.0s
JOF Joensuu 84.53 333 *e*P **P** **15 55 33.2 -0.4**
JOF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
JOF Joensuu 84.53 333 *e*p **P** **15 55 33.2 -0.4**
comp=Z,8.3nm,0.5s,mb4.9
KEV Kevo 85.00 340 *e*P **P** **15 55 34.7 -1.1**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KEV Kevo 85.00 340 *e*p **P** **15 55 34.7 -1.1**
comp=Z,5.0nm,0.7s,mb4.5
ASF Jabal al Asfar 85.08 302 P **P** **15 55 38.1 +1.1**
comp=Z,8.6nm,0.8s,mb4.7,baz=343,slow=2.2,SNR=7.8
ASF Jabal al Asfar 85.08 302 P **P** **15 55 38.1 +1.1**
ASF Jabal al Asfar 85.08 302 P **P** **15 55 38.1 +1.1**
SPITS Spitsbergen Ar 85.39 349 P **P** **15 55 37.5 -0.1**
comp=Z,13nm,0.7s,mb5.0,baz=108,slow=17,SNR=2.6
SPITS Spitsbergen Ar 85.39 349 P **P** **15 55 37.5 -0.1**
SPITS Spitsbergen Ar 85.39 349 P **P** **15 55 37.5 -0.1**
SPB4 Spitsbergen Ar 85.39 349 *e*P **P** **15 55 37.9 +0.3**
ARCES ARCESS Array B 85.56 340 P **P** **15 55 38.4 -0.2**
comp=Z,4.0nm,0.5s,mb4.6,baz=88,slow=6.6,SNR=23
ARCES LR LR 16 39 04.9
comp=Z,665nm,19.0s,baz=344,slow=39
ARCES ARCESS Array B 85.56 340 P **P** **15 55 38.4 -0.2**
ARCES ARCESS Array B 85.56 340 P **P** **15 55 38.4 -0.2**
ARE0 ARCESS Array S 85.56 340 *e*P **P** **15 55 39.0 +0.4**
MMAI Mount Meron Ar 86.22 303 P **P** **15 55 42.9 +0.3**
comp=Z,37nm,1.0s,mb5.3,baz=80,slow=6.0,SNR=21
MMAI Mount Meron Ar 86.22 303 P **P** **15 55 42.9 +0.3**
BR131 Keskin Array S 86.65 310 *e*P **P** **15 55 44.0 -0.6**
comp=Z,1.2nm,0.4s,mb4.2
BRTR Keskin Array B 86.65 310 P **P** **15 55 43.6 -0.9**
comp=Z,1.3nm,0.4s,mb4.2,baz=127,slow=3.9,SNR=13
BRTR LR LR 16 40 40.9
comp=Z,444nm,19.1s,baz=233,slow=40
BRTR Keskin Array B 86.65 310 P **P** **15 55 43.6 -0.9**
BRTR Keskin Array B 86.65 310 P **P** **15 55 43.7 -0.9**
PPT2 Papeete2 86.82 108 *e*P **P** **15 55 47.5 +1.7**
comp=Z,41nm,1.3s,mb5.2
PPT2 *e*S S 16 06 18.1 -0.5
comp=Z,1μm,27.8s
PPT2 *e*SS SS 16 12 06.1 +3.8
comp=Z,384nm,26.0s
PPT2 *e*LR LR 16 23 29.0
comp=Z,1μm,23.2s
PAE Paea 86.83 108 *e*P **P** **15 55 47.7 +1.9**
comp=Z,11nm,1.4s,mb4.6
KAF Kangasniemi 86.97 332 *e*P **P** **15 55 44.3 -1.3**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KAF Kangasniemi 86.97 332 *e*p **P** **15 55 44.3 -1.3**
comp=Z,4.5nm,0.6s,mb4.6
EIL Elat 87.08 299 P **P** **15 55 46.5 -0.4**
comp=Z,25nm,1.0s,mb5.1,baz=30,slow=2.7,SNR=18
EIL Elat 87.08 299 P **P** **15 55 46.5 -0.4**
FINES FINESS Array B 87.23 332 P **P** **15 55 46.1 -0.8**
comp=Z,4.2nm,0.5s,mb4.7,baz=83,slow=4.3,SNR=31
FINES LR LR 16 38 41.7
comp=Z,2μm,18.7s,baz=336,slow=38
FINES FINESS Array B 87.23 332 P **P** **15 55 46.1 -0.8**
FINES FINESS Array B 87.23 332 P **P** **15 55 46.1 -0.8**
VSU Vasula 87.59 329 *e*P **P** **15 55 48.8 +0.1**
VSU pmax pmax
comp=Z,36nm,1.2s,mb5.3
CSS Prodhromos 87.63 305 *e*P **P** **15 55 49.5 +0.1**
AKASG Malin Array Be 87.82 321 P **P** **15 55 48.8 -1.1**
comp=Z,2.4nm,0.5s,mb4.5,baz=73,slow=4.0,SNR=13
AKASG LR LR 16 40 47.6
comp=Z,964nm,19.0s,baz=80,slow=40
AKASG Malin Array Be 87.82 321 P **P** **15 55 48.8 -1.1**
AKASG Malin Array Be 87.82 321 P **P** **15 55 48.8 -1.2**
AKBB Malin Array Si 87.82 321 *e*P **P** **15 55 49.0 -1.0**
AKBB Malin Array Si 87.82 321 *e*P **P** **15 55 49.0 -1.0**
KIEV Kiev 87.83 321 *e*P **P** **15 55 49.8 -0.2**
KIEV Kiev 87.83 321 *e*P **P** **15 55 49.8 -0.2**
PMOR Pomariorio Ree 87.96 105 *e*P **P** **15 55 53.1 +1.8**
comp=Z,44nm,1.0s,mb5.4
TBI Tubuai 87.97 114 *e*S S 16 06 32.4 +3.0
comp=Z,2μm,27.0s
TBI *e*SS SS 16 12 19.4 +0.5
comp=Z,594nm,30.0s
TBI *e*LR LR 16 23 52.6
comp=Z,2μm,27.2s
MEH Mehetia 88.29 108 *e*P **P** **15 55 54.8 +2.0**
comp=Z,86nm,1.3s,mb5.6
VNDA Vanda 88.56 173 *e*P **P** **15 55 53.0 +0.1**
VNDA Vanda 88.56 173 *e*P **P** **15 55 53.0 +0.1**
MAW Mawson 88.57 200 LR LR 16 29 57.2
comp=Z,390nm,19.8s,baz=63,slow=32
ALE Alert 88.58 1 P **P** **15 55 53.1 0.0**
comp=Z,103nm,1.3s,mb5.7,SNR=5.6
KMBO Kilima Mbogo 89.55 269 *e*P **P** **15 55 59.2 +0.3**
KMBO Kilima Mbogo 89.55 269 *e*P **P** **15 55 59.2 +0.3**
TIRR Tirgusor 89.62 315 *e*P **P** **15 56 02.9 +4.3**
TIRR Tirgusor 89.62 315 *e*P **P** **15 56 02.9 +4.3**
SUW Suwalki 90.63 325 *e*P **P** **15 56 03.6 +0.5**
SUW Suwalki 90.63 325 *e*P **P** **15 56 03.6 +0.5**
BUR08 Bucovina Ar. S 91.07 318 *e*P **P** **15 56 05.5 +0.3**
MLR Muntele Rosu 91.10 316 P **P** **15 56 05.2 -0.3**
comp=Z,0.5nm,0.8s,baz=105,slow=4.6,SNR=2.0
MLR Muntele Rosu 91.10 316 P **P** **15 56 05.2 -0.3**
MLR Muntele Rosu 91.10 316 P **P** **15 56 05.2 -0.3**
LVV L'vov 91.26 321 *e*P **P** **15 56 06.1 0.0**
LVV MLR MLR
comp=N,500nm,18.0s
LVV MLR MLR
comp=E,900nm,18.0s
LVV MLR MLR
comp=Z,1μm,18.0s
DAG Danmarks Havn 92.12 352 *i*P **P** **15 56 08.6 -1.0**
DAG pmax pmax
comp=Z,14nm,0.8s,mb5.2
DAG Danmarks Havn 92.12 352 *i*P **P** **15 56 08.6 -1.0**
comp=Z,19nm,0.8s,mb5.4
UZH Uzhgorod 92.69 320 *e*P **P** **15 56 12.5 -0.2**
UZH *e* 15 56 20.5
UZH *e* pP 15 56 27.1 -5.1
UZH MLR MLR
comp=N,600nm,21.0s
UZH MLR MLR
comp=E,1μm,21.0s
UZH MLR MLR
comp=Z,670nm,21.0s
STHS Stebnicka Huta 93.11 321 *e*P **P** **15 56 16.6 +1.9**
STHS *e* 15 56 29.5
STHS Stebnicka Huta 93.11 321 *e*P **P** **15 56 16.6 +1.9**
STHS *e* 15 56 29.5
CRVS Cervenica-Dubn 93.13 320 *e*P **P** **15 56 16.0 +1.2**
CRVS *e* 15 56 27.0
CRVS pmax pmax
comp=Z,28nm,1.3s,mb5.4
CRVS Cervenica-Dubn 93.13 320 *e*P **P** **15 56 16.0 +1.2**
CRVS *e* 15 56 27.0
HFS Hagfors 93.39 332 P **P** **15 56 14.6 -1.1**
comp=Z,3.8nm,0.5s,mb5.0,baz=97,slow=5.1,SNR=10
HFS Hagfors 93.39 332 P **P** **15 56 14.6 -1.1**
HFS Hagfors 93.39 332 P **P** **15 56 14.6 -1.1**
OJC Ojcow 93.76 322 *e*P **P** **15 56 18.4 +0.8**
OJC Ojcow 93.76 322 *e*P **P** **15 56 18.8 +1.2**
OJC Ojcow 93.76 322 *e*P **P** **15 56 18.8 +1.2**
KECS Kecovo 93.88 320 *e*P **P** **15 56 17.0 -1.2**
KECS pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
KECS Kecovo 93.88 320 *e*P **P** **15 56 17.0 -1.2**
NOA NORSAR Array B 94.11 334 P **P** **15 56 17.9 -1.0**
comp=Z,3.6nm,1.0s,mb4.7,baz=66,slow=4.6,SNR=3.8
NOA LR LR 16 41 48.4
comp=Z,908nm,19.0s,baz=65,slow=38
NOA NORSAR Array B 94.11 334 P **P** **15 56 17.9 -1.0**
NOA NORSAR Array B 94.11 334 P **P** **15 56 18.0 -1.0**
TAOE Nuku Hiva Isla 94.51 98 *e*S S 16 07 31.5 +2.3
comp=Z,768nm,27.9s
TAOE *e*SS SS 16 13 58.9 +5.4
comp=Z,288nm,23.7s
TAOE *e*LR LR 16 26 46.6
comp=Z,2μm,31.1s
YKA Yellowknife Ar 94.83 24 P **P** **15 56 23.0 +0.7**
comp=Z,4.9nm,0.8s,mb5.0,baz=300,slow=4.4,SNR=49
YKA PKKPbc PKKPbc 16 13 20.7 -0.1
comp=Z,0.2nm,0.4s,baz=120,slow=3.0,SNR=4.2
YKA LR LR 16 37 09.4
comp=Z,53nm,21.8s,baz=40,slow=34
YKA Yellowknife Ar 94.83 24 P **P** **15 56 23.0 +0.7**
YKA PKKPbc PKKPbc 16 13 20.7 -0.1
YKA Yellowknife Ar 94.83 24 P **P** **15 56 23.0 +0.7**
VYHS Vyhne 94.91 321 *e*P **P** **15 56 23.6 +0.6**
VYHS *e* 15 56 34.6
VYHS pmax pmax
comp=Z,5.0nm,1.5s,mb4.7
VYHS Vyhne 94.91 321 *e*P **P** **15 56 23.6 +0.6**
VYHS *e* 15 56 34.6
VYHS *e*pP pP 15 56 43.0 +0.6
VRAC Vranov 96.02 322 P **P** **15 56 28.4 +0.4**
comp=Z,5.8nm,0.9s,mb5.0,baz=65,slow=3.9,SNR=4.8
VRAC Vranov 96.02 322 P **P** **15 56 28.4 +0.4**
VRAC Vranov 96.02 322 P **P** **15 56 28.4 +0.4**
BRG Berggiesshubel 97.01 324 *i*P **P** **15 56 32.3 -0.1**
comp=Z,15nm,1.4s,mb5.2
BRG Berggiesshubel 97.01 324 *i*P **P** **15 56 32.3 -0.1**
BRG pmax pmax
comp=Z,15nm,1.4s,mb5.2
SYO Syowa Base 97.21 201⇑*e*P **P** **15 56 31.2 -1.6**
SYO Syowa Base 97.21 201⇑*e*P **P** **15 56 32.7 -0.1**
CLL Collm 97.38 325 *e*P **P** **15 56 41.0 +6.9**
CLL *e*S S 16 07 48.0 -4.6
CLL pmax pmax
comp=Z,15nm,1.5s,mb5.2
CLL MLR MLR
comp=Z,1μm,19.3s
CLL Collm 97.38 325 *e*(P) **P** **15 56 36.0 +1.9**
CLL *e*(PP) 16 00 48.0
CLL *e*S S 16 07 48.0 -4.6
CLL *e*PS PS 16 09 24.0 +0.4
CLL LmV 16 46 00.0
comp=Z,1μm,19.3s
KHC Kasperske Hory 97.92 322 *e*P **P** **15 56 37.9 +1.3**
KHC Kasperske Hory 97.92 322 *e*P **P** **15 56 37.9 +1.3**
GERES GERESS Array B 97.96 322 P **P** **15 56 36.5 -0.2**
comp=Z,2.5nm,0.9s,mb4.7,baz=51,slow=5.3,SNR=10
GERES LR LR 16 48 27.7
comp=Z,1μm,19.0s,baz=326,slow=40
GERES GERESS Array B 97.96 322 P **P** **15 56 36.5 -0.2**
GERES GERESS Array B 97.96 322 P **P** **15 56 36.6 -0.2**
SUMG Summit 98.08 356 *e*P **P** **15 56 37.7 +0.9**
SUMG pmax pmax
comp=Z,5.0nm,1.2s
SUMG Summit 98.08 356 *i*P **P** **15 56 37.7 +0.9**
comp=Z,4.9nm,1.2s,mb4.9
QSPA South Pole Qui 98.80 180 *e*P **P** **15 56 39.9 +0.1**
comp=Z,5.4nm,1.0s,mb5.0
QSPA *e*pP pP 15 56 47.7 -12
GRF Grafenberg Arr 99.09 324 *e*P **P** **15 56 43.1 +1.3**
comp=Z,18nm,1.4s,mb5.4
GRF Grafenberg Arr 99.09 324 *e*P **P** **15 56 43.1 +1.3**
GRF pmax pmax
comp=Z,18nm,1.4s,mb5.4
RKT Rikitea 101.14 112 *e*SKSac SKSac 16 07 29.2 +4.2
comp=Z,322nm,26.8s
RKT *e*LR LR 16 30 01.8
comp=Z,1μm,27.2s
DAVOX Davos/Dischmat 101.16 321 P Pdif 15 56 51.0 +0.1
comp=Z,1.4nm,0.6s,baz=6.9,slow=21,SNR=3.7
DAVOX Davos/Dischmat 101.16 321 P Pdif 15 56 51.0 +0.1
DAVOX Davos/Dischmat 101.16 321 P Pdif 15 56 51.0 +0.1
NVAR Mina Array Bea 103.50 47 Pdiff Pdif 15 57 03.9 +2.6
comp=Z,0.3nm,0.5s,baz=328,slow=3.2,SNR=2.4
NVAR Mina Array Bea 103.50 47 Pdif Pdif 15 57 03.9 +2.6
LPG La Plagne 103.68 321 *e*PP PP 16 01 15.8 -3.3
comp=Z,23nm,1.2s
LPL La Plagne 103.68 321 *e*PP PP 16 01 15.8 -3.3
comp=Z,24nm,1.2s
PDAR Pinedale Array 107.49 40 PKKPab PKKPab 16 12 56.0 -2.4
comp=Z,1.4nm,0.8s,baz=116,slow=4.8,SNR=7.5
PDAR Pinedale Array 107.49 40 PKKPab PKKPab 16 12 56.0 -2.4
ESDC Sonseca Array 113.46 320 PP PP 16 02 31.4 +1.2
comp=Z,2.4nm,1.1s,baz=49,slow=7.7,SNR=5.5
ESDC Sonseca Array 113.46 320 PP PP 16 02 31.4 +1.2
SCHQ Schefferville 115.48 9 PKP PKPdf 16 01 42.9 +0.7
comp=Z,3.8nm,1.0s,baz=270,slow=5.1,SNR=2.3
SCHQ Schefferville 115.48 9 PKP PKPdf 16 01 42.9 +0.7
TXAR Lajitas Array 118.43 50 PKP PKPdf 16 01 49.6 +1.0
comp=Z,0.4nm,0.4s,baz=290,slow=0.2,SNR=7.0
TXAR PKKPab PKKPab 16 12 08.4 -1.6
comp=Z,0.5nm,1.0s,baz=108,slow=6.7,SNR=4.1
TXAR Lajitas Array 118.43 50 PKP PKPdf 16 01 49.6 +1.0
TXAR PKKPab PKKPab 16 12 08.4 -1.6
TXAR Lajitas Array 118.43 50 PKIKP PKPdf 16 01 49.6 +0.9
JCT Junction City 120.67 47 *e*PKPdf PKPdf 16 01 53.7 +0.8
JCT Junction City 120.67 47 *e*PKIKP PKPdf 16 01 53.7 +0.8
TORD Torodi Ar. Bea 121.08 291 PKP PKPdf 16 01 53.4 -0.7
comp=Z,2.1nm,0.6s,baz=58,slow=1.8,SNR=20
TORD PP PP 16 03 24.6 +0.2
comp=Z,2.2nm,1.0s,baz=54,slow=5.8,SNR=4.8
TORD PKKPab PKKPab 16 12 04.3 +6.1
comp=Z,1.5nm,0.7s,baz=268,slow=3.9,SNR=10.0
TORD Torodi Ar. Bea 121.08 291 PKP PKPdf 16 01 53.4 -0.7
TORD PP PP 16 03 24.6 +0.2
TORD PKKPab PKKPab 16 12 04.3 +6.1
MIAR Mount Ida 122.41 39 *e*PKPdf PKPdf 16 01 57.9 +1.8
MIAR Mount Ida 122.41 39 *e*PKIKP PKPdf 16 01 57.9 +1.7
DBIC Dimbokro 129.22 286 PKP PKPdf 16 02 09.6 -0.1
comp=Z,3.0nm,0.6s,baz=14,slow=3.1,SNR=4.3
DBIC Dimbokro 129.22 286 PKP PKPdf 16 02 09.6 -0.1
DBIC *e*PKPdf PKPdf 16 02 11.5 +1.7
DBIC Dimbokro 129.22 286 PKIKP PKPdf 16 02 09.6 -0.1
LIC Lamto 129.51 286 *e*PKIKP PKPdf 16 02 07.1 -3.2
LIC Lamto 129.51 286 *e*PKPdf PKPdf 16 02 07.1 -3.2
CMIG Matias Romero 131.50 58 PKP PKPdf 16 02 15.7 +1.7
comp=Z,2.3nm,0.7s,baz=302,slow=3.9,SNR=2.7
CMIG Matias Romero 131.50 58 PKP PKPdf 16 02 15.7 +1.7
JTS JuntasAbangare 143.23 59 PKP PKPdf 16 02 36.2 +0.5
comp=Z,2.0nm,0.3s,baz=313,slow=19,SNR=2.2
JTS JuntasAbangare 143.23 59 PKP PKPdf 16 02 36.2 +0.5
JTS JuntasAbangare 143.23 59 PKIKP PKPdf 16 02 36.2 +0.6
PLCA Paso Flores 144.85 157 PKP PKPdf 16 02 39.5 +1.8
comp=Z,8.0nm,1.0s,baz=230,slow=2.7,SNR=4.7
PLCA Paso Flores 144.85 157 PKP PKPdf 16 02 39.5 +1.8
PLCA *e*PKPdf PKPdf 16 02 42.2 +4.6
PLCA Paso Flores 144.85 157 PKIKP PKPdf 16 02 39.5 +1.8
SJG San Juan 150.32 25 PKPbc PKPbc 16 02 54.0 +1.4
comp=Z,5.6nm,0.3s,baz=180,slow=20,SNR=3.5
SJG San Juan 150.32 25 PKPbc PKPbc 16 02 54.0 +1.4
SJG San Juan 150.32 25 PKIKP PKPbc 16 02 54.0 +1.4
CFAA Coronel Fontan 153.54 151 PKPbc PKPbc 16 02 59.5 -0.1
comp=Z,0.3nm,0.6s,baz=245,slow=4.2,SNR=6.3
CFAA Coronel Fontan 153.54 151 PKPbc PKPbc 16 02 59.5 -0.1
ATAH Atahualpa 155.16 88 PKPbc PKPdf 16 03 09.8 +15
comp=Z,4.6nm,0.7s,baz=292,slow=5.4,SNR=4.5
SDV Santo Domingo 155.33 45 *e*PKPdf PKPdf 16 02 56.0 +1.2
CPUP Villa Florida 162.29 168 PKPab PKPab 16 03 49.9 0.0
comp=Z,1.0nm,0.6s,baz=132,slow=5.0,SNR=3.0
CPUP Villa Florida 162.29 168 PKPab PKPab 16 03 49.9 0.0
CPUP Villa Florida 162.29 168 PKP2 PKPab 16 03 49.9 0.0
LPAZ La Paz 163.86 118 PKP PKPdf 16 03 06.3 +1.9
comp=Z,2.2nm,1.0s,baz=35,slow=2.6,SNR=7.5
LPAZ PKPab PKPab 16 04 00.1 +2.8
comp=Z,2.3nm,0.8s,baz=250,slow=3.7,SNR=2.5
LPAZ La Paz 163.86 118 *e*PKPdf PKPdf 16 03 06.0 +1.5
LPAZ PKP PKPdf 16 03 06.3 +1.9
LPAZ PKPab PKPab 16 04 00.1 +2.8
LPAZ La Paz 163.86 118 *e*PKIKP PKPdf 16 03 06.0 +1.5
SIV San Ignacio 169.72 134 PKP PKPdf 16 03 09.4 +0.6
comp=Z,1.7nm,0.8s,baz=169,slow=3.4,SNR=7.7
SIV San Ignacio 169.72 134 PKP PKPdf 16 03 09.4 +0.6
SAML Samuel 170.31 91 *e*PKPdf PKPdf 16 03 09.0 -0.3

*IDC **20** 15:46:29.8±7.4, 36°.28N×71°.47E, h134km±60km, mb3.5/8, mb1 3.5/13, mb1mx3.4/30, mbtmp3.4/13, Error ellipse: s-maj=53.0km s-min=29.6km az=161.0*
*ISCJB **20** 15:46:34.5±0.4, 36°.66N±0°.03×71°.41E±0°.05, h177km±7km, mb3.7/8, Error ellipse: s-maj=7.4km s-min=4.6km az=159.0*
*NEIC **20** 15:46:35.4±0.6, 36°.65N×71°.43E, h172km±7km, mb4.5/12, Error ellipse: s-maj=8.6km s-min=4.6km az=56.0*
*NNC **20** 15:46:41.5±2.9, 37°.12N×71°.20E, h175km±29km, mb2.7, mpv3.7, Error ellipse: s-maj=25.2km s-min=14.3km az=7.0*

ISC 20 15:46:35.4±0.4, 36°.66N±0°.03×71°.43E±0°.05, h170km±6km, n69, o0°90/76, mb3.7/8, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.87**	**223**	*e*Pn	**Pn**	**15 47 23.0**	**+1.0**
KBL				*e*Sn	**Sn**	**15 47 58.4**	**+0.3**
THN	**Thein Dam**	**5.50**	**139**	*e*PKP	**Pn**	**15 47 56.7**	**+1.0**
THN				*e*S	**Sn**	**15 48 57.7**	**-0.9**
EKS2	**Erkin-Say** 3.1nm,0.5s	**6.26**	**16**	*e*Pn	**Pn**	**15 48 05.8**	**+0.2**
AAK	**Ala-Archa** 18nm,0.4s	**6.42**	**21**	*e*Pn	**Pn**	**15 48 08.1**	**+0.4**
AAK				*e*Sn	**Sn**	**15 49 20.8**	**+0.5**
KK31	**Karatay Array** 2.9nm,0.2s,baz=171,slow=11,SNR=214	**6.48**	**354**	P	**Pn**	**15 48 08.7**	**+0.3**
KK31				S	**Sn**	**15 49 17.5**	**-4.2**
KKAR	**Karatay Array** 13nm,0.3s	**6.48**	**354**	*e*Pn	**Pn**	**15 48 08.7**	**+0.2**
KKAR				*e*Sn	**Sn**	**15 49 18.4**	**-3.3**
SDNR	**Sundarnagar**	**6.90**	**137**	*e*S	**Sn**	**15 49 28.0**	**-3.8**
TKM2	**Tokmak 2** 2.9nm,0.7s	**7.03**	**26**	⇑P	**Pn**	**15 48 17.2**	**+1.4**
TKM2				⇑S	**Sn**	**15 49 34.0**	**-0.8**
TKM2	**Tokmak 2** 3.9nm,0.7s	**7.03**	**26**	*e*Pn	**Pn**	**15 48 16.6**	**+0.8**
SMLA	**Simla**	**7.29**	**138**	*i* P	**Pn**	**15 48 19.4**	**+0.1**
SMLA				*i* S	**Sn**	**15 49 37.1**	**-4.1**
SMLA	comp=E,1μm,0.4s			⇓AML	AML	15 49 39.8	
SMLA	comp=N,1μm,0.3s			⇓AML	AML	15 49 41.3	
DDI	**Dehra Dun**	**8.39**	**137**	*e*S	**Sn**	**15 50 03.8**	**-3.9**
NDI	**New Delhi**	**9.32**	**147**	*e*S	**Sn**	**15 50 20.7**	**-9.2**
NDI				AML	AML	15 50 27.1	
NDI	comp=N,33nm,0.4s			AML	AML	15 50 29.3	
AYAN	**Aya Nagar**	**9.46**	**148**	*e*S	**Sn**	**15 50 25.3**	**-7.9**
MK31	**Makanchi Array** comp=E,0.7nm,0.4s,baz=223,slow=42,SNR=13	**12.96**	**35**	P	**Pn**	**15 49 38.0**	**+4.7**
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=208,slow=9.3,SNR=4.8	**12.96**	**35**	P	**Pn**	**15 49 34.0**	**+0.7**
MKAR	**Makanchi Array**	**12.96**	**35**	P	**Pn**	**15 49 34.0**	**+0.7**
DANN	**Dangsing** comp=E,6.3nm,0.3s	**13.29**	**125**	*e*P	**Pn**	**15 49 37.2**	**-0.4**
DANN	**Dangsing** comp=E,6.3nm,0.3s	**13.29**	**125**	*e*P	**Pn**	**15 49 37.2**	**-0.4**
KOLN	**Koldanda**	**13.58**	**127**	*e*P	**Pn**	**15 49 40.4**	**-0.8**
KOLN	**Koldanda**	**13.58**	**127**	*e*P	**Pn**	**15 49 40.4**	**-0.8**
GKN	**Gorkha** comp=E,8.9nm,0.3s	**14.10**	**124**	*e*P	**Pn**	**15 49 47.1**	**-0.6**
GKN	**Gorkha** comp=E,8.9nm,0.3s	**14.10**	**124**	*e*P	**Pn**	**15 49 47.1**	**-0.6**
KKN	**Kakani** comp=E,21nm,0.7s	**14.67**	**123**	*e*P	**Pn**	**15 49 55.2**	**+0.4**
KKN	**Kakani** comp=E,21nm,0.7s	**14.67**	**123**	*e*P	**Pn**	**15 49 55.2**	**+0.4**
DMN	**Daman** comp=E,7.8nm,0.5s	**14.67**	**124**	*e*P	**Pn**	**15 49 55.5**	**+0.7**
DMN	**Daman** comp=E,7.8nm,0.5s	**14.67**	**124**	*e*P	**Pn**	**15 49 55.5**	**+0.7**
KURBB	**Kurchatov Arra** comp=E,0.3nm,0.6s	**14.87**	**18**	⇓P	**Pn**	**15 49 59.1**	**+2.0**
PKI	**Pulchoki**	**14.90**	**123**	*e*P	**Pn**	**15 49 58.5**	**+0.8**
PKI	**Pulchoki**	**14.90**	**123**	*e*P	**Pn**	**15 49 58.5**	**+0.8**
KURK	**Kurchatov** comp=E,0.1nm,0.3s,baz=206,slow=11,SNR=16	**14.97**	**18**	P	**Pn**	**15 49 55.9**	**-2.5**
KURK	**Kurchatov**	**14.97**	**18**	P	**Pn**	**15 49 55.9**	**-2.5**
GUN	**Gumba** comp=E,9.2nm,0.4s	**15.00**	**121**	*e*P	**Pn**	**15 49 58.7**	**-0.2**
GUN	**Gumba** comp=E,9.2nm,0.4s	**15.00**	**121**	*e*P	**Pn**	**15 49 58.7**	**-0.2**
AB31	**Akbulak array** comp=E,0.5nm,0.4s,baz=141,slow=13,SNR=32	**15.12**	**330**	P	**Pn**	**15 49 59.2**	**-1.0**
ABKAR	**Akbulak array** comp=E,1.0nm,0.4s	**15.12**	**330**	*e*Pn	**Pn**	**15 49 58.5**	**-1.6**
JIRN	**Jiri** comp=E,26nm,0.5s	**15.37**	**122**	*e*P	**Pn**	**15 50 03.9**	**+0.4**
JIRN	**Jiri** comp=E,26nm,0.5s	**15.37**	**122**	*e*P	**Pn**	**15 50 03.9**	**+0.4**
VOSK	**Vostochnaya** comp=E,3.0nm,0.9s	**16.07**	**359**	⇓P	**Pn**	**15 50 10.4**	**-1.4**
RAMN	**Ramite** comp=E,11nm,0.5s	**16.10**	**123**	*e*P	**Pn**	**15 50 12.4**	**0.0**
RAMN	**Ramite** comp=E,11nm,0.5s	**16.10**	**123**	*e*P	**Pn**	**15 50 12.4**	**0.0**
BVA0	**Borovoye Array** comp=E,0.2nm,0.5s,baz=196,slow=10,SNR=4.4	**16.38**	**358**	⇓P	**Pn**	**15 50 15.8**	**+0.2**
BVAR	**Borovoye Array** comp=E,0.6nm,0.3s,baz=152,slow=8.8,SNR=20	**16.38**	**358**	P	**Pn**	**15 50 15.1**	**-0.4**
BVAR	**Borovoye Array**	**16.38**	**358**	P	**Pn**	**15 50 15.1**	**-0.4**
TAPN	**Taplejung**	**16.62**	**119**	*e*P	**Pn**	**15 50 19.0**	**+0.4**
TAPN	**Taplejung**	**16.62**	**119**	*e*P	**Pn**	**15 50 19.0**	**+0.4**
ODAN	**Odare** comp=E,4.6nm,0.4s	**16.70**	**121**	*e*P	**Pn**	**15 50 19.9**	**+0.3**
ODAN	**Odare** comp=E,4.6nm,0.4s	**16.70**	**121**	*e*P	**Pn**	**15 50 19.9**	**+0.3**
AKTO	**Aktyubinsk** comp=E,1.0nm,0.3s,baz=139,slow=9.8,SNR=25	**16.82**	**329**	P	**Pn**	**15 50 21.1**	**+0.2**
AKTO	**Aktyubinsk** comp=E,0.4nm,0.5s	**16.82**	**329**	⇑P	**Pn**	**15 50 20.4**	**-0.4**
AKTO	**Aktyubinsk**	**16.82**	**329**	P	**Pn**	**15 50 21.1**	**+0.2**
ZALV	**Zalesovo Beam** comp=E,0.6nm,0.3s,baz=220,slow=11,SNR=9.7	**19.63**	**24**	P	**P**	**15 50 51.3**	**+0.7**
ZALV	**Zalesovo Beam**	**19.63**	**24**	P	**P**	**15 50 51.3**	**+0.7**
AKASG	**Malin Array Be** comp=E,0.7nm,0.4s,mb3.8,baz=83,slow=7.8,SNR=4.8	**33.12**	**309**	P	**P**	**15 52 55.4**	**+0.2**
AKASG	**Malin Array Be**	**33.12**	**309**	P	**P**	**15 52 55.4**	**+0.2**
FINES	**FINESS Array B** comp=E,1.3nm,0.4s,mb4.0,baz=121,slow=9.4,SNR=14	**37.55**	**326**	P	**P**	**15 53 33.3**	**+0.5**
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**15 53 33.3**	**+0.5**
ARCES	**ARCESS Array B** comp=E,1.5nm,0.6s,mb3.8,baz=111,slow=9.2,SNR=9.1	**41.13**	**337**	P	**P**	**15 54 03.1**	**+0.8**
ARCES	**ARCESS Array B**	**41.13**	**337**	P	**P**	**15 54 03.1**	**+0.8**
HFS	**Hagfors** comp=E,2.6nm,0.4s,mb4.2,baz=102,slow=12,SNR=11	**43.16**	**322**	P	**P**	**15 54 19.0**	**+0.2**
HFS	**Hagfors**	**43.16**	**322**	P	**P**	**15 54 19.0**	**+0.2**
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.5s,mb3.9,baz=96,slow=7.9	**44.47**	**323**	P	**P**	**15 54 29.2**	**0.0**
NOA	**NORSAR Array B** comp=Z,1.8nm,0.5s,mb4.0,baz=96,slow=7.8,SNR=7.2	**44.47**	**323**	P	**P**	**15 54 29.4**	**+0.1**
NOA	**NORSAR Array B**	**44.47**	**323**	P	**P**	**15 54 29.4**	**+0.1**
ESDC	**Sonseca Array** 3.1nm,0.6s,baz=115,slow=12,SNR=4.5	**57.69**	**298**	P	**P**	**15 56 08.2**	**+0.1**
ESDC	**Sonseca Array**	**57.69**	**298**	P	**P**	**15 56 08.2**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.5s,mb3.6,baz=45,slow=6.1,SNR=4.7	**66.07**	**269**	P	**P**	**15 57 02.3**	**-2.0**
TORD	**Torodi Ar. Bea**	**66.07**	**269**	P	**P**	**15 57 02.3**	**-2.0**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.5s,mb3.0,baz=349,slow=5.4,SNR=3.6	**81.07**	**3**	P	**P**	**15 58 31.5**	**+0.4**
YKA	**Yellowknife Ar**	**81.07**	**3**	P	**P**	**15 58 31.5**	**+0.4**

IDC 20 15:47:49.5±1.7, 31°.23S×176°.77W, h0km, mb4.0/4, mb1 4.3/6, mb1mx4.1/19, mbtmp4.1/6, ML3.8/2, Error ellipse: s-maj=47.6km s-min=26.9km az=136.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.6nm,0.3s,baz=344,slow=17,SNR=6.5	**8.63**	**214**	Pn	**Pn**	15 49 56.4	+0.8
URZ	0.7nm,0.3s,baz=120,slow=16,SNR=4.7			Sn	**Sn**	15 51 33.9	+0.2
RPZ	**Rata Peaks** 0.6nm,0.3s,baz=342,slow=18,SNR=2.8	**15.75**	**214**	Pn	**

mb1 3.8/9, mb1mx3.6/23, mbtmp3.7/9, Error ellipse: s-maj=72.7km s-min=16.7km az=71.0

ISC 20 15:50:20.7±1.6, 8°92N±0°06×126°5E±0°1, h79km±14km, n15, σ1°09/19, mb4.0/9, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.74**	**234**	*eP*	**Pn**	**15 50 48.6**	**-0.5**
BUKP				*eS*	**Sn**	**15 51 11.9**	**+1.2**
CGP	**Cagayan de Oro**	**1.83**	**256**	↑*iP*	**Pn**	**15 50 49.6**	**-0.6**
CGP				*i S*	**Sn**	**15 51 11.3**	**-1.5**
DAV	**Davao City (W)**	**2.04**	**206**	P	**Pn**	**15 50 55.0**	**+1.9**
DAV				S	**Sn**	**15 51 22.3**	**+4.5**
PLP	**Palo**	**2.68**	**327**	↓*eP*	**Pn**	**15 50 59.8**	**-1.9**
PLP				*eS*	**Sn**	**15 51 33.4**	**+0.1**
PAGZ	**Pagadian**	**3.25**	**251**	*eP*	**Pn**	**15 51 10.2**	**+0.8**
PAGZ				*eS*	Sn	15 51 19.9	-27
RCP	**Roxas**	**4.52**	**306**	↑*eP*	**Pn**	**15 51 27.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**26.86**	**182**	P	**P**	**15 55 52.8**	**-1.3**
	4.7nm,0.8s,mb4.0,baz=15,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**33.18**	**168**	P	**P**	**15 56 47.8**	**-2.1**
	1.0nm,0.9s,mb3.7,baz=350,slow=7.2,SNR=2.5						
SONM	**Songino Array**	**42.36**	**340**	P	**P**	**15 58 07.7**	**+0.8**
	3.0nm,1.4s,mb3.8,baz=163,slow=6.0,SNR=2.9						
MKAR	**Makanchi Array**	**53.23**	**323**	P	**P**	**15 59 31.1**	**+0.1**
	2.2nm,0.6s,mb4.3,baz=129,slow=8.3,SNR=11						
MKAR				PcP	PcP	16 00 38.2	+0.2
	0.6nm,0.8s,baz=105,slow=5.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**55.91**	**332**	P	**P**	**15 59 49.8**	**-0.5**
	0.5nm,0.4s,mb3.9,baz=134,slow=8.3,SNR=3.4						
KURK	**Kurchatov**	**57.30**	**326**	P	**P**	**16 00 00.2**	**-0.1**
	2.2nm,0.5s,mb4.4,baz=132,slow=5.8,SNR=22						
BVAR	**Borovoye Array**	**62.90**	**326**	P	**P**	**16 00 38.5**	**0.0**
	0.6nm,0.6s,mb3.7,baz=102,slow=5.9,SNR=4.0						
FINES	**FINESS Array B**	**87.18**	**332**	P	**P**	**16 02 59.1**	**+1.1**
	4.3nm,1.0s,mb4.3,baz=67,slow=3.6,SNR=5.3						
YKA	**Yellowknife Ar**	**94.90**	**24**	P	**P**	**16 03 34.9**	**+1.0**
	0.4nm,0.7s,mb4.0,baz=303,slow=4.4,SNR=5.0						

GUC 20 15:54:35.0±0.7, 32°49S×72°30W, h23km±4km, ML3.6, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.77**	**134**	*eP*	Pb	15 54 49.6	-0.1
IHA				*i S*	Sb	15 55 00.6	+0.7
CHNG	**Los Chungos**	**0.91**	**49**	*eP*	Pb	15 54 50.9	-1.1
CHNG				*eS*	Sb	15 55 03.7	0.0
PTCH	**Petorca**	**1.18**	**80**	*eP*	Pn	15 54 55.5	-0.5
PTCH				*eS*	Sn	15 55 11.2	-0.1
PTCH				AML	AML	15 55 15.7	
	comp=N,2μm,0.2s						
ROCH	**El Roble**	**1.19**	**114**	*eP*	Pn	15 54 55.8	-0.4
ROCH				*eS*	Sn	15 55 11.8	+0.2
ROCH				AML	AML	15 55 14.1	
	comp=N,1μm,0.6s						
JACH	**Jahuel**	**1.45**	**98**	*i* P	Pn	15 54 59.6	-0.2
PEL	**Peldehue**	**1.51**	**116**	↓*eP*	Pn	15 55 01.0	+0.4
PEL				*eS*	Sn	15 55 20.4	+0.9
PEL				AML	AML	15 55 25.8	
	comp=E,3μm,0.7s						
RCDM	**Rinconada Maip**	**1.60**	**129**	↓*iP*	Pn	15 55 02.2	+0.4
TACH	**Talagante**	**1.63**	**136**	*eP*	Pn	15 55 02.6	+0.4
LNV	**Longovilo**	**1.64**	**153**	*eP*	Pn	15 55 01.4	-1.0
SAN	**Santiago**	**1.68**	**125**	*eP*	Pn	15 55 03.4	+0.4
SAN				*eS*	Sn	15 55 25.3	+1.6
CLCH	**Cerro Calan**	**1.74**	**122**	*eP*	Pn	15 55 04.2	+0.5
CLCH				*i S*	Sn	15 55 27.3	+2.2
CLCH				AML	AML	15 55 42.5	
	comp=E,1μm,0.6s						
PCH	**Pirque**	**1.88**	**128**	↓*iP*	Pn	15 55 06.7	+1.1
FCH	**Farellones**	**1.89**	**117**	*eP*	Pn	15 55 08.3	+2.6
FCH				*eS*	Sn	15 55 34.1	+5.2
FCH				AML	AML	15 55 39.3	
	comp=N,542nm,0.4s						
CHCH	**Chadas Angostu**	**2.00**	**137**	*eP*	Pn	15 55 09.2	+1.9
CACH	**El Canelo**	**2.16**	**139**	↓*eP*	Pn	15 55 11.1	+1.6
LMEL	**Las Melosas**	**2.22**	**128**	*eP*	Pn	15 55 12.3	+1.9
LMEL				*eS*	Sn	15 55 39.9	+2.8
LMEL				AML	AML	15 55 49.5	
	comp=N,392nm,0.8s						

*IDC **20** 16:09:14.7±4.8, 18°97S×177°46W, h585km±53km, mb3.3/7, mb1 3.5/9, mb1mx3.2/21, mbtmp3.3/9, Error ellipse: s-maj=36.5km s-min=25.5km az=32.0*

*ISCJB **20** 16:09:15.4±1.5, 19°0S±0°2×177°5W±0°2, h622km±13km, mb4.0/10, Error ellipse: s-maj=29.7km s-min=23.7km az=38.1*

*NEIC **20** 16:09:16.0±1.1, 19°04S×177°52W, h605km±10km, mb4.5/4, Error ellipse: s-maj=20.7km s-min=14.6km az=133.0*

ISC 20 16:09:16.2±1.5, 19°0S±0°2×177°5W±0°2, h612km±13km, n32, σ0°86/26, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.39**	**286**	*eP*	**P**	**16 10 44.9**	**-0.5**
DZM	**Mont Dzumac**	**15.34**	**256**	P	**P**	**16 12 28.3**	**+1.2**
	0.4nm,0.3s,baz=84,slow=19,SNR=4.5						
DZM	**Mont Dzumac**	**15.34**	**256**	P	**P**	**16 12 28.3**	**+1.2**
URZ	**Urewera**	**19.78**	**193**	P	**P**	**16 13 06.8**	**-0.4**
	1.6nm,0.3s,baz=330,slow=5.2,SNR=12						
URZ	**Urewera**	**19.78**	**193**	*eP*	**P**	**16 13 06.1**	**-1.1**
	22nm,0.9s						
CTAO	**Charters Tower**	**34.13**	**262**	*eP*	**P**	**16 15 12.3**	**0.0**
	6.8nm,1.2s,mb4.2						
PMG	**Port Moresby**	**35.49**	**281**	P	**P**	**16 15 24.1**	**+0.5**
	9.7nm,0.8s,mb4.5,baz=75,slow=12,SNR=3.5						
PMG	**Port Moresby**	**35.49**	**281**	*ePn*	**Pn**	**16 15 22.6**	**-1.1**
STKA	**Stephens Creek**	**38.88**	**243**	P	**P**	**16 15 52.5**	**+1.5**
	2.2nm,0.3s,mb4.1,baz=3.8,slow=8.4,SNR=4.8						
STKA	**Stephens Creek**	**38.88**	**243**	*eP*	**P**	**16 15 51.7**	**+0.7**
	0.6nm,0.6s,mb3.3						
WRAB	**Tennant Creek**	**45.28**	**260**	*eP*	**P**	**16 16 40.8**	**-0.3**
	5.0nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**45.29**	**260**	P	**P**	**16 16 41.0**	**-0.2**
	4.2nm,0.4s,mb4.4,baz=98,slow=7.3,SNR=168						
WRA				PcP	PcP	16 18 08.9	+1.2
	0.6nm,0.6s,baz=101,slow=3.4,SNR=3.1						
WRA	**Warramunga Arr**	**45.29**	**260**	P	**P**	**16 16 41.0**	**-0.2**
WRA				PcP	PcP	16 18 08.9	+1.2
AS31	**Alice Springs**	**45.33**	**255**	*eP*	**P**	**16 16 41.7**	**+0.2**
ASAR	**Alice Springs**	**45.34**	**255**	P	**P**	**16 16 41.9**	**+0.4**
	8.0nm,0.7s,mb4.4,baz=91,slow=7.7,SNR=254						
ASAR				PcP	PcP	16 18 08.9	+1.2
	0.5nm,0.6s,baz=101,slow=3.7,SNR=4.7						
ASAR				S	**S**	**16 22 37.5**	**-1.7**
	0.5nm,0.7s,baz=91,slow=16,SNR=4.5						
ASAR	**Alice Springs**	**45.34**	**255**	P	**P**	**16 16 41.9**	**+0.4**
ASAR				PcP	PcP	16 18 08.9	+1.2
ASAR				S	**S**	**16 22 37.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**53.70**	**261**	P	**P**	**16 17 43.3**	**+0.6**
	1.2nm,0.3s,mb3.7,baz=162,slow=9.5,SNR=21						
FITZ	**Fitzroy Crossi**	**53.70**	**261**	P	**P**	**16 17 43.3**	**+0.6**
MBWA	**Marble Bar**	**58.65**	**256**	*eP*	**P**	**16 18 16.4**	**-0.2**
ENH	**Enshi**	**85.57**	**304**	P	**P**	**16 20 48.5**	**-2.8**
	8.5nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**86.73**	**13**	P	**P**	**16 20 56.4**	**+0.5**
	0.1nm,0.4s,mb2.9,baz=234,slow=4.7,SNR=5.4						
ILAR	**Eielson Array**	**86.73**	**13**	P	**P**	**16 20 56.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**90.05**	**289**	P	**P**	**16 21 13.0**	**+0.6**
	0.4nm,0.7s,mb3.4,baz=94,slow=2.1,SNR=4.7						
CMAR	**Chiang Mai Arr**	**90.05**	**289**	P	**P**	**16 21 13.0**	**+0.6**
MKAR	**Makanchi Array**	**110.49**	**314**	PKiKP	PKiKP	16 26 40.5	+0.4
	0.4nm,0.8s,baz=175,slow=1.8,SNR=5.2						
MKAR	**Makanchi Array**	**110.49**	**314**	PKiKP	PKiKP	16 26 40.5	+0.5
ARCES	**ARCESS Array B**	**127.51**	**350**	PKP	PKPdf	16 27 13.7	+1.7
	1.0nm,0.8s,baz=31,slow=2.1,SNR=3.7						
ARCES	**ARCESS Array B**	**127.51**	**350**	PKP	PKPdf	16 27 13.7	+1.7
BRTR	**Keskin Array B**	**146.14**	**314**	PKPbc	PKPbc	16 27 50.6	+1.4
	0.4nm,0.5s,baz=161,slow=5.5,SNR=3.2						
BRTR	**Keskin Array B**	**146.14**	**314**	PKPbc	PKPbc	16 27 50.6	+1.4
GERES	**GERESS Array B**	**148.86**	**346**	PKPbc	PKPbc	16 27 56.7	+0.8
	0.4nm,0.5s,baz=101,slow=3.1,SNR=2.8						
GERES	**GERESS Array B**	**148.86**	**346**	PKPbc	PKPbc	16 27 56.7	+0.8

DJA 20 16:13:25, 8°87S×109°59E, h30km, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.33**	**44**	P	Pn	16 13 48.4	+0.9
UGM				S	Sn	16 14 04.5	+0.4
BJII	**Banjamegara**	**1.53**	**4**	P	Pn	16 13 52.6	+2.3
PCJI	**Pacitan**	**1.71**	**67**	P	Pn	16 13 53.4	+0.7
SMRI	**Semarang**	**2.00**	**25**	P	Pn	16 13 58.6	+1.9
CISI	**Cisompet, Garu**	**2.19**	**306**	P	Pn	16 13 59.3	-0.1
PWJI	**Pagerwojo**	**2.35**	**69**	P	Pn	16 14 02.8	+1.3
SJI	**Sawahan**	**2.43**	**63**	P	Pn	16 14 04.4	+1.7

GUC 20 16:14:38.6±0.7, 32°47S×72°19W, h26km±4km, MD4.2, ML3.6, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.72**	**140**	*eP*	Pb	16 14 52.6	+0.1
CHNG	**Los Chungos**	**0.83**	**45**	↓*iP*	Pb	16 14 53.5	-0.8
CHNG				*eS*	Sb	16 15 05.2	+0.1
PTCH	**Petorca**	**1.08**	**79**	*eP*	Pn	16 14 57.6	-0.5
PTCH				*eS*	Sn	16 15 12.4	+0.2
PTCH				AML	AML	16 15 13.2	
	comp=N,3μm,0.2s						
ROCH	**El Roble**	**1.11**	**117**	↓*iP*	Pn	16 14 58.3	-0.1
ROCH				*eS*	Sn	16 15 13.4	+0.5
JACH	**Jahuel**	**1.36**	**99**	*eP*	Pn	16 15 02.1	+0.2
JACH				*i S*	Sn	16 15 19.3	+0.1
PEL	**Peldehue**	**1.43**	**118**	↑*eP*	Pn	16 15 03.6	+0.8
PEL				*eS*	Sn	16 15 22.4	+1.6
PEL				AML	AML	16 15 26.5	
	comp=E,3μm,0.4s						
RCDM	**Rinconada Maip**	**1.54**	**132**	*eP*	Pn	16 15 04.9	+0.5
RCDM				*i S*	Sn	16 15 24.8	+1.3
SAN	**Santiago**	**1.61**	**128**	*eP*	Pn	16 15 05.9	+0.5
SAN				*eS*	Sn	16 15 26.9	+1.6
LNV	**Longovilo**	**1.62**	**156**	*eP*	Pn	16 15 04.8	-0.7
CLCH	**Cerro Calan**	**1.67**	**124**	↑*eP*	Pn	16 15 07.3	+1.2
CLCH				*eS*	Sn	16 15 28.7	+2.0
CLCH				AML	AML	16 15 38.9	
	comp=N,993nm,0.5s						
FCH	**Farellones**	**1.81**	**119**	↑*eP*	Pn	16 15 08.6	+0.6
FCH				AML	AML	16 15 33.9	
	comp=N,593nm,0.3s						
PCH	**Pirque**	**1.82**	**130**	↓*eP*	Pn	16 15 09.6	+1.5
OVCH	**Ovalle**	**2.04**	**25**	*eP*	Pn	16 15 11.1	-0.1
CACH	**El Canelo**	**2.11**	**141**	*eP*	Pn	16 15 14.4	+2.1
LMEL	**Las Melosas**	**2.16**	**130**	*eP*	Pn	16 15 14.3	+1.5
LMEL				*eS*	Sn	16 15 42.1	+3.3
LMEL				AML	AML	16 15 49.7	
	comp=N,487nm,0.7s						

*IDC **20** 16:24:22.1±0.6, 2°82S×139°12E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.1/17, mbtmp4.1/14, ML4.1/2, MS4.0/9, Ms1 4.0/9, ms1mx3.7/30, Error ellipse: s-maj=25.1km s-min=13.6km az=73.0*

*ISCJB **20** 16:24:25.3±1.9, 2°92S±0°05×138°99E±0°09, h34km±18km, mb4.2/20, MS4.0/5, Error ellipse: s-maj=14.4km s-min=7.7km az=11.2*

*NEIC **20** 16:24:27.3±1.6, 2°86S×139°05E, h39km±15km, mb4.6/11, Error ellipse: s-maj=12.2km s-min=9.1km az=82.0*

ISC 20 16:24:27.5±1.5, 2°90S±0°06×138°97E±0°09, h35km±16km, n64, σ1°03/61, mb4.2/20, MS4.0/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.39**	**129**	Pn	**Pn**	**16 26 55.6**	**+1.6**
	1.3nm,0.3s,baz=312,slow=3.7,SNR=6.7						
PMG				Sn	**Sn**	**16 28 56.0**	**+6.7**
	0.6nm,0.3s,baz=258,slow=20,SNR=2.1						
PMG	**Port Moresby**	**10.39**	**129**	*ePn*	**Pn**	**16 26 55.2**	**+1.1**
	41nm,0.9s						
PMG				Sn	**Sn**	**16 28 56.0**	**+6.7**
COEN	**Coen**	**11.74**	**160**	*ePn*	**Pn**	**16 27 12.3**	**-0.2**
	84nm,0.5s						
GUMO	**Guam**	**17.40**	**20**	LR	LR	16 35 05.0	
	comp=Z,223nm,18.4s,baz=90,slow=37						
WRAB	**Tennant Creek**	**17.52**	**195**	*ePn*	**Pn**	**16 28 28.3**	**-0.7**
	34nm,0.9s						
WRAB				*e*Sn	**Sn**	**16 31 35.1**	**-8.1**
WB2	**Warramunga Arr**	**17.53**	**195**	*ePn*	**Pn**	**16 28 28.4**	**-0.7**
WB2				*e*Sn	**Sn**	**16 31 29.6**	**-14**
WRA	**Warramunga Arr**	**17.53**	**195**	P	**Pn**	**16 28 28.4**	**-0.8**
	0.8nm,0.3s,baz=15,slow=12,SNR=45						
WRA				S	**S**	**16 31 39.1**	**-11**
	0.6nm,0.3s,baz=17,slow=22,SNR=4.6						
WRA				LR	LR	16 35 55.0	
	comp=Z,909nm,18.1s,baz=30,slow=39						
WRA	**Warramunga Arr**	**17.53**	**195**	P	**Pn**	**16 28 28.4**	**-0.8**
WRA				S	**S**	**16 31 39.1**	**-11**
CTA	**Charters Tower**	**18.50**	**158**	P	**Pn**	**16 28 41.4**	**+0.3**
	0.3nm,0.3s,baz=344,slow=16,SNR=5.0						
CTA				LR	LR	16 36 18.2	
	comp=Z,1μm,19.2s,baz=352,slow=39						
CTA	**Charters Tower**	**18.50**	**158**	*eP*	**Pn**	**16 28 41.4**	**+0.3**
CTA	**Charters Tower**	**18.50**	**158**	P	**Pn**	**16 28 41.4**	**+0.3**
CTAO	**Charters Tower**	**18.50**	**158**	*eP*	**Pn**	**16 28 38.6**	**-2.5**
FITZ	**Fitzroy Crossi**	**19.97**	**220**	P	**Pn**	**16 28 58.2**	**-0.6**
	4.8nm,0.6s,baz=61,slow=14,SNR=24						
FITZ				S	**S**	**16 32 33.7**	**-6.1**
	6.0nm,0.7s,baz=94,slow=15,SNR=2.9						
FITZ				LR	LR	16 37 34.6	
	comp=Z,283nm,19.3s,baz=44,slow=39						
FITZ	**Fitzroy Crossi**	**19.97**	**220**	*eP*	**Pn**	**16 28 57.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.97**	**220**	P	**Pn**	**16 28 58.2**	**-0.6**
FITZ				S	**S**	**16 32 33.7**	**-6.1**
AS31	**Alice Springs**	**21.21**	**193**	*eP*	**P**	**16 29 10.9**	**+0.6**
AS31				*eS*	**S**	**16 33 02.3**	**-1.9**
ASAR	**Alice Springs**	**21.21**	**193**	P	**P**	**16 29 11.2**	**+0.9**
	4.7nm,0.5s,mb4.1,baz=17,slow=9.9,SNR=106						
ASAR				S	**S**	**16 33 07.3**	**+3.0**
	3.7nm,0.7s,baz=12,slow=28,SNR=4.7						
ASAR	**Alice Springs**	**21.21**	**193**	P	**P**	**16 29 11.2**	**+0.9**
ASAR				S	**S**	**16 33 07.3**	**+3.0**
HNR	**Honiara**	**21.83**	**108**	P	**P**	**16 29 15.9**	**-1.0**
	19nm,0.6s,mb4.8,baz=11,slow=3.9,SNR=4.4						
HNR	**Honiara**	**21.83**	**108**	P	**P**	**16 29 15.0**	**-2.0**
	79nm,1.0s,mb5.1						
MBWA	**Marble Bar**	**26.08**	**224**	P	**P**	**16 29 58.2**	**+0.2**
	42nm,1.5s,mb4.7						
STKA	**Stephens Creek**	**28.93**	**175**	P	**P**	**16 30 23.5**	**+0.1**
	2.7nm,0.8s,mb4.0,baz=348,slow=11,SNR=7.8						
STKA				LR	LR	16 43 05.5	
	comp=Z,792nm,19.8s,MS4.3,baz=14,slow=39						
STKA	**Stephens Creek**	**28.93**	**175**	*eP*	**P**	**16 30 22.9**	**-0.4**
STKA	**Stephens Creek**	**28.93**	**175**	P	**P**	**16 30 23.5**	**+0.1**
CBIJ	**Chichi jima**	**29.98**	**6**	LR	LR	16 41 48.3	
	comp=Z,163nm,18.2s,MS3.7,baz=117,slow=35						
NACB	**Ninganchiao**	**31.78**	**329**	*eP*	**P**	**16 30 45.4**	**-3.3**
	19nm,0.8s,mb5.0						
TOO	**Toolangi**	**35.02**	**171**	*eP*	**P**	**16 31 19.4**	**+2.7**
KSAR	**Wonju Array Be**	**41.44**	**347**	P	**P**	**16 32 11.1**	**+0.3**
KSRS	**Korea Array**	**41.45**	**347**	P	**P**	**16 32 11.1**	**+0.3**
	0.7nm,0.6s,mb3.5,baz=163,slow=8.7,SNR=3.5						
KSRS				LR	LR	16 45 42.2	
	comp=Z,108nm,21.9s,MS3.7,baz=190,slow=31						
CMAR	**Chiang Mai Arr**	**44.76**	**300**	P	**P**	**16 32 38.8**	**+0.8**
	0.5nm,0.8s,mb3.4,baz=106,slow=5.3,SNR=5.0						
CMAR				PcP	PcP	16 34 21.1	+1.3
	1.0nm,0.9s,baz=152,slow=3.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**44.76**	**300**	P	**P**	**16 32 38.8**	**+0.8**
CMAR				PcP	PcP	16 34 21.1	+1.3
RPZ	**Rata Peaks**	**49.59**	**150**	P	**P**	**16 33 15.1**	**-0.1**
	9.6nm,0.7s,mb4.9,baz=25,slow=9.7,SNR=5.2						
RPZ	**Rata Peaks**	**49.59**	**150**	P	**P**	**16 33 15.1**	**-0.1**
LSA	**Lhasa**	**56.04**	**309**	P	**P**	**16 34 04.2**	**+1.2**
	1.6nm,0.7s,mb4.2						
PETK	**Petropavlovsk-**	**57.99**	**13**	P	**P**	**16 34 16.1**	**-0.4**
	2.1nm,0.8s,mb4.2,baz=132,slow=4.8,SNR=5.1						
PETK				LR	LR	16 57 50.6	
	comp=Z,121nm,18.1s,MS4.0,baz=275,slow=35						
PETK	**Petropavlovsk-**	**57.99**	**13**	P	**P**	**16 34 16.1**	**-0.4**
SONM	**Songino Array**	**58.01**	**335**	P	**P**	**16 34 16.7**	**+0.1**
	0.3nm,0.8s,mb3.4,baz=148,slow=8.5,SNR=2.8						
SONM				LR	LR	17 01 02.3	
	comp=Z,168nm,18.0s,MS4.2,baz=100,slow=38						
SONM	**Songino Array**	**58.01**	**335**	P	**P**	**16 34 16.8**	**+0.1**
YAK	**Yakutsk**	**65.15**	**355**	P	**P**	**16 35 04.4**	**-0.1**
	5.1nm,0.5s,mb4.8						
MK31	**Makanchi Array**	**70.10**	**322**	*eP*	**P**	**16 35 36.5**	**+0.4**
MKAR	**Makanchi Array**	**70.10**	**322**	P	**P**	**16 35 36.6**	**+0.4**
	1.3nm,0.6s,mb4.1,baz=100,slow=8.6,SNR=17						
MKAR	**Makanchi Array**	**70.10**	**322**	P	**P**	**16 35 36.6**	**+0.4**
ZALV	**Zalesovo Beam**	**72.23**	**330**	P	**P**	**16 35 47.7**	**-1.2**
	0.4nm,0.3s,mb3.8,baz=102,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**72.23**	**330**	P	**P**	**16 35 47.7**	**-1.2**
VNDA	**Vanda**	**75.56**	**175**	*eP*	**P**	**16 36 08.0**	**0.0**
	11nm,1.2s,mb4.7						
BRVK	**Borovoye**	**79.69**	**325**	P	**P**	**16 36 25.3**	**-6.2**
	4.0nm,1.2s,mb4.2						
MAW	**Mawson**	**82.04**	**202**	P	**P**	**16 36 45.5**	**+1.7**
	2.9nm,0.8s,mb4.3,baz=69,slow=8.1,SNR=4.7						
MAW	**Mawson**	**82.04**	**202**	*eP*	**P**	**16 36 45.2**	**+1.5**
	1.0nm,0.9s,mb3.8						
ABKAR	**Akbulak array**	**85.04**	**320**	*eP*	**P**	**16 36 58.6**	**-0.8**
	0.6nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**16 37 00.5**	**-3.0**
	0.8nm,0.7s,mb4.1,baz=260,slow=4.5,SNR=15						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**16 37 00.5**	**-3.0**
QSPA	**South Pole Qui**	**87.04**	**180**	*eP*	**P**	**16 37 09.2**	**+0.4**
	14nm,1.0s,mb5.1						
ARCES	**ARCESS Array B**	**100.78**	**341**	P	Pdif	16 38 10.9	-1.4
	6.2nm,1.2s,baz=76,slow=7.5,SNR=4.2						
ARCES	**ARCESS Array B**	**100.78**	**341**	P	Pdif	16 38 10.9	-1.4
TORD	**Torodi Ar. Bea**	**136.56**	**286**	PKP	PKPdf	16 43 47.0	+0.1
	1.0nm,0.7s,baz=66,slow=2.1,SNR=8.0						
TORD	**Torodi Ar. Bea**	**136.56**	**286**	PKP	PKPdf	16 43 47.0	+0.1
DBIC	**Dimbokro**	**143.77**	**277**	PKhKP	PKPpre	16 43 57.1	
	1.7nm,0.6s,baz=103,slow=7.1,SNR=4.8						
DBIC	**Dimbokro**	**143.77**	**277**	PKPpre	PKPpre	16 43 57.1	
CPUP	**Villa Florida**	**146.94**	**152**	PKPbc	PKPbc	16 44 06.3	-0.8
	0.9nm,0.6s,baz=193,slow=2.7,SNR=5.0						
CPUP	**Villa Florida**	**146.94**	**152**	PKPbc	PKPbc	16 44 06.3	-0.8
LPAZ	**La Paz**	**147.12**	**126**	PKPbc	PKPbc	16 44 08.3	+0.5
	2.0nm,0.8s,baz=197,slow=3.5,SNR=7.5						
LPAZ	**La Paz**	**147.12**	**126**	PKPbc	PKPbc	16 44 08.3	+0.5
SIV	**San Ignacio**	**152.70**	**134**	PKPbc	PKPbc	16 44 20.9	-0.7
	0.5nm,0.5s,baz=278,slow=7.4,SNR=3.3						
SIV				PKPab	PKPab	16 44 30.8	-1.4
	1.2nm,0.8s,baz=251,slow=2.7,SNR=4.8						
SIV	**San Ignacio**	**152.70**	**134**	PKPbc	PKPbc	16 44 20.9	-0.7
SIV				PKPab	PKPab	16 44 30.8	-1.4

IDC 20 16:28:27.4±2.8, 31°27S×176°71W, h0km, mb4.0/3, mb1 4.2/5, mb1mx4.0/18, mbtmp4.1/5, ML3.7/2, Error ellipse: s-maj=67.9km s-min=32.5km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.63**	**214**	Pn	Pn	16 30 34.1	+0.6
	0.4nm,0.3s,baz=341,slow=18,SNR=2.4						
URZ				Sn	Sn	16 32 10.9	-0.5
	1.0nm,0.3s,baz=0.0,slow=20,SNR=3.9						
RPZ	**Rata Peaks**	**15.75**	**214**	Pn	Pn	16 32 08.5	-1.9
	0.6nm,0.3s,baz=26,slow=17,SNR=2.8						
STKA	**Stephens Creek**	**35.37**	**258**	P	P	16 35 25.9	+1.2
	0.9nm,0.5s,baz=90,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**44.17**	**267**	P	P	16 36 37.6	-0.4
	1.2nm,0.6s,baz=101,slow=7.7,SNR=4.1						
WRA	**Warramunga Arr**	**45.24**	**272**	P	P	16 36 46.1	-0.5
	1.2nm,0.3s,baz=111,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**146.34**	**340**	PKPbc	PKPbc	16 48 08.4	-0.8
	2.5nm,0.7s,baz=35,slow=3.4,SNR=22						

IDC 20 16:31:40.7±51.0, 23°77S×176°17W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=942.3km s-min=159.6km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.03**	**248**	P	P	16 38 60.0	-0.9
	0.9nm,0.6s,baz=90,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**45.52**	**260**	P	P	16 40 02.3	0.0
	0.3nm,0.4s,baz=96,slow

KURK	Kurchatov	57.47	326	*e*P		P	16 45 20.7 -0.5
	6.8nm,1.0s,mb4.6						
ARU	Arti	70.63	327	P		P	16 46 46.3 -1.1
	3.0nm,0.5s,mb4.5						
ILAR	Eielson Array	80.43	26	P		P	16 47 44.4 +0.9
	0.3nm,0.8s,mb3.2,baz=236,slow=4.9,SNR=5.3						
ILAR	Eielson Array	80.43	26	P		P	16 47 44.4 +0.9
FINES	FINESS Array B	87.32	332	P		P	16 48 19.7 +1.1
	3.8nm,0.9s,mb4.6,baz=67,slow=4.7,SNR=6.6						
FINES	FINESS Array B	87.32	332	P		P	16 48 19.7 +1.1
YKA	Yellowknife Ar	94.78	24	P		P	16 48 56.3 +3.0
	0.2nm,0.7s,mb3.7,baz=301,slow=4.4,SNR=5.3						
YKA	Yellowknife Ar	94.78	24	P		P	16 48 56.4 +3.1

IDC ***20*** *16:43:06.6±0.5,32°.46S×71°.97W,h0km,mb4.6/13, mb1 4.7/17,mb1mx4.7/17,mbtmp4.6/17,ML4.6/4,MS4.2/7, Ms1 4.2/7,ms1mx4.0/26,Error ellipse: s-maj=20.1km s-min=14.4km az=69.0*

ISCJB ***20*** *16:43:08.8±0.7,32°.44S±0°.03×72°.17W±0°.04,h21km±5km, mb4.8/37,MS4.4/3,Error ellipse: s-maj=6.6km s-min=3.6km az=150.3*

BJI ***20*** *16:43:08.7,32°.40S×71°.90W,h12km,mB4.9/5,Ms5.2/5, Ms7 5.0/5*

GUC ***20*** *16:43:09.4±0.8,32°.45S×72°.13W,h30km±3km,ML4.8*

NEIC ***20*** *16:43:10.4±1.0,32°.40S×71°.98W,h23km±6km,mb4.9/25, ML4.8(GUC),Error ellipse: s-maj=8.0km s-min=3.9km az=79.0*

NEIC Felt [III] at Puchuncavi and [II] at Quilpue, Santiago and Villa Alemana.

ISC 20 16:43:09.1±0.7,32°.44S±0°.03×72°.11W±0°.04,h12km±4km, n155,σ0°.98/128,mb4.8/37,MS4.4/3,11C-14D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.57	99	⇓*i*P	Pg	16 43 20.7	+0.4
PACH	Papudo	0.57	99	⇓*i*P	Pg	16 43 20.7	+0.4
IHA	Instituto Hidr	0.70	146	⇓*i*P	Pg	16 43 22.5	-0.2
IHA				*e*S	Sg	16 43 32.8	+0.8
IHA	Instituto Hidr	0.70	146	⇓*i*P	Pg	16 43 22.5	-0.2
IHA				*e*S	Sg	16 43 32.8	+0.8
CHNG	Los Chungos	0.76	43	⇓*i*P	Pg	16 43 23.9	0.0
CHNG				*i* S	Sg	16 43 34.9	+1.0
PTCH	Petorca	1.01	80	⇓*i*P	Pb	16 43 28.0	-0.6
PTCH				*i* S	Sb	16 43 41.9	0.0
PTCH	Petorca	1.01	80	⇓*i*P	Pb	16 43 28.0	-0.6
PTCH				*i* S	Sb	16 43 41.9	0.0
PTCH				AML	AML	16 43 44.0	
	comp=N,63μm,0.3s						
ROCH	El Roble	1.06	120	⇓*i*P	Pb	16 43 28.7	-0.8
ROCH				*i* S	Sb	16 43 43.8	+0.5
ROCH				AML	AML	16 43 46.5	
	comp=N,59μm,0.7s						
LCCH	Las Cruces	1.12	156	*e*P	Pb	16 43 29.5	-1.0
LCCH	Las Cruces	1.12	156	*e*P	Pb	16 43 29.5	-1.0
JACH	Jahuel	1.30	101	⇑*i*P	Pn	16 43 32.4	-0.7
JACH	Jahuel	1.30	101	⇑*i*P	Pn	16 43 32.4	-0.7
PEL	Peldehue	1.39	121	⇑*i*P	Pn	16 43 34.1	-0.2
PEL				*i* S	Sn	16 43 51.9	-0.6
PEL				AML	AML	16 43 56.5	
	comp=E,55μm,0.2s						
RCDM	Rinconada Maip	1.51	134	*e*P	Pn	16 43 35.5	-0.4
RCDM				*i* S	Sn	16 43 54.9	-0.7
RCDM				AML	AML	16 43 58.0	
	comp=N,11μm,0.5s						
TACH	Talagante	1.56	141	⇓*i*P	Pn	16 43 36.2	-0.4
TACH	Talagante	1.56	141	⇓*i*P	Pn	16 43 36.2	-0.4
SAN	Santiago	1.58	130	⇑*i*P	Pn	16 43 37.0	+0.1
SAN	Santiago	1.58	130	⇑*i*P	Pn	16 43 37.0	+0.1
SAN				AML	AML	16 44 10.3	
	comp=N,15μm,0.7s						
CLCH	Cerro Calan	1.63	126	*e*P	Pn	16 43 37.5	-0.1
CLCH				*e*S	Sn	16 43 59.2	+0.8
CLCH				AML	AML	16 44 10.4	
	comp=E,33μm,0.5s						
ANTU	Antumapu	1.67	133	*e*P	Pn	16 43 38.3	+0.2
ANTU				*i* S	Sn	16 44 00.1	+0.5
ANTU	Antumapu	1.67	133	*e*P	Pn	16 43 38.3	+0.2
ANTU				*i* S	Sn	16 44 00.1	+0.5
ANTU				AML	AML	16 44 13.5	
	comp=N,19μm,0.5s						
FSR	Penalolen	1.68	128	*e*P	Pn	16 43 38.2	-0.1
FSR				*i* S	Sn	16 44 00.4	+0.6
FSR	Penalolen	1.68	128	*e*P	Pn	16 43 38.2	-0.1
FSR				*i* S	Sn	16 44 00.4	+0.6
FCH	Farellones	1.77	120	⇑*i*P	Pn	16 43 38.2	-1.2
FCH				*i* S	Sn	16 44 01.7	-0.1
FCH				AML	AML	16 44 09.1	
	comp=N,10μm,0.6s						
PCH	Pirque	1.78	132	⇓*i*P	Pn	16 43 40.1	+0.4
PCH	Pirque	1.78	132	⇓*i*P	Pn	16 43 40.1	+0.4
SJCH	San Jose de Ma	1.90	129	*e*P	Pn	16 43 41.6	+0.4
SJCH				*i* S	Sn	16 44 05.7	+0.6
SJCH				AML	AML	16 44 18.6	
	comp=N,9μm,0.8s						
OVCH	Ovalle	1.99	23	⇓*i*P	Pn	16 43 41.8	-0.8
OVCH	Ovalle	1.99	23	⇓*i*P	Pn	16 43 41.8	-0.8
CACH	El Canelo	2.09	143	⇑*i*P	Pn	16 43 44.7	+0.7
CACH	El Canelo	2.09	143	⇑*i*P	Pn	16 43 44.7	+0.7
LMEL	Las Melosas	2.12	132	*e*P	Pn	16 43 44.9	+0.5
LMEL				*i* S	Sn	16 44 11.8	+1.1
LMEL	Las Melosas	2.12	132	*e*P	Pn	16 43 44.9	+0.5
LMEL				*i* S	Sn	16 44 11.8	+1.1
LMEL				AML	AML	16 44 20.2	
	comp=N,8μm,0.5s						
CFAA	Coronel Fontan	3.39	77	Pn	Pn	16 44 03.7	+1.9
	comp=N,7.3nm,0.3s,baz=251,slow=12,SNR=118						
CFAA				Pg	Pg	16 44 06.5	-7.7
	comp=N,7.9nm,0.3s,baz=223,slow=13,SNR=141						
CFAA				Lg		16 44 52.0	
	comp=N,24nm,0.3s,baz=30,slow=20,SNR=9.7						
CFAA				LR	LR	16 45 21.4	
	comp=N,676nm,20.2s,baz=257,slow=41						
CFAA	Coronel Fontan	3.39	77	Pn	Pn	16 44 03.7	+1.9
CFAA				Lg		16 44 52.0	
LCO	Las Campanas	3.63	20	*e*Pn	Pn	16 44 03.7	-1.4
LCO				*e*Sn	Sn	16 44 44.2	-3.6
PLCA	Paso Flores	8.37	172	Pn	Pn	16 45 10.5	+0.3
	comp=N,0.9nm,0.3s,baz=333,slow=12,SNR=9.1						
PLCA				Lg		16 47 30.4	
	comp=N,0.3nm,0.3s,baz=303,slow=16,SNR=2.6						
PLCA				LR	LR	16 48 58.7	
	comp=N,905nm,21.2s,baz=351,slow=42						
PLCA	Paso Flores	8.37	172	*e*Pn	Pn	16 45 10.1	0.0
	comp=N,42nm,1.1s						
PLCA				Lg		16 47 30.4	
TRQA	Tornquist	9.99	127	*e*Pn	Pn	16 45 31.6	-0.9
	comp=N,160nm,1.2s						
LVC	Limon Verde	10.19	17	*e*Pn	Pn	16 45 29.7	-5.6
	comp=N,43nm,0.8s						
LVC				*e*Pg	Pn	16 45 51.8	+16
LVC				*e*S	Sn	16 47 47.1	+18
CPUP	Villa Florida	14.24	68	Pn	Pn	16 46 29.9	-0.8
	comp=N,0.8nm,0.3s,baz=221,slow=12,SNR=7.5						
CPUP				Sn	Sn	16 49 11.0	+2.3
	comp=N,2.0nm,0.3s,baz=174,slow=12,SNR=3.0						
CPUP				Lg		16 50 15.9	
	comp=N,1.7nm,0.3s,baz=319,slow=20,SNR=2.1						
CPUP				LR	LR	16 52 22.8	
	comp=N,2μm,18.2s,baz=345,slow=39						
CPUP	Villa Florida	14.24	68	*e*Pn	Pn	16 46 28.2	-2.5
CPUP				Sn	Sn	16 49 11.0	+2.3
CPUP				Lg		16 50 15.9	
LPAZ	La Paz	16.48	14	Pn	Pn	16 47 00.1	-0.1
	comp=N,1.1nm,0.3s,baz=181,slow=6.3,SNR=56						
LPAZ	La Paz	16.48	14	⇑*i*Pn	Pn	16 46 59.8	-0.4
	comp=N,59nm,0.8s						
SIV	San Ignacio	19.20	34	P	Pn	16 47 30.7	-3.1
	comp=N,2.0nm,0.3s,baz=227,slow=13,SNR=94						
SIV				LR	LR	16 55 56.7	
	comp=N,715nm,19.3s,slow=40						
SIV	San Ignacio	19.20	34	P	Pn	16 47 30.7	-3.1
NNA	Nana	20.82	347	P	P	16 47 51.2	+0.7
	comp=N,12nm,0.6s,baz=204,slow=11,SNR=10.0						
NNA	Nana	20.82	347	*e*Pn	P	16 47 50.7	+0.2
	comp=N,12nm,0.9s						
EFI	East Falkland	21.79	156	*e*P	P	16 47 59.9	-0.9
	comp=N,140nm,1.3s,mb5.2						
USHA	Ushuaia	22.53	174	P	P	16 48 10.4	+1.8
	comp=N,21nm,1.0s,mb4.5,baz=0.3,slow=4.8,SNR=5.8						
USHA				LR	LR	16 57 49.8	
	comp=N,2μm,18.8s,MS4.5,baz=22,slow=39						
USHA	Ushuaia	22.53	174	P	P	16 48 10.4	+1.8
SPB	Sao Paulo	23.46	74	*e*P	P	16 48 16.6	-2.1
	comp=N,102nm,1.3s,mb5.1						
SAML	Samuel	24.80	21	*e*P	P	16 48 29.9	-1.2
	comp=N,44nm,1.4s,mb4.8						
ATAH	Atahualpa	25.85	346	P	P	16 48 42.1	+1.5
	comp=N,2.9nm,0.6s,mb4.0,baz=137,slow=23,SNR=3.7						
ATAH	Atahualpa	25.85	346	P	P	16 48 42.1	+1.5
OTAV	Otavalo	33.05	348	*e*P	P	16 49 47.3	+2.7
	comp=N,19nm,1.4s,mb4.8						
OTAV				*e*PcP	PcP	16 52 29.8	+1.6
ROSC	El Rosal	37.15	356	P	P	16 50 22.5	+2.6
	comp=N,5.5nm,0.3s,mb4.8,baz=269,slow=22,SNR=3.9						
ROSC	El Rosal	37.15	356	P	P	16 50 22.5	+2.6
SDV	Santo Domingo	41.12	2	*e*P	P	16 50 52.8	-0.3
	comp=N,15nm,0.9s,mb4.6						
FDF	Fort de France	48.07	14	P	P	16 51 49.9	+1.4
	comp=N,52nm,1.0s,mb5.5						
VNA3	Neumayer Olymp	50.82	158	*e*	P	16 52 09.4	+0.4
VNA1	Neumayer--Stat	51.13	157	*e*	P	16 52 18.3	+7.0
VNA2	Neumayer--Watz	51.47	158	*e*	P	16 52 14.4	+0.6
	baz=285,slow=9.1						
SNAA	Sanae	53.05	158	*e*	P	16 52 26.6	+1.0
SNAA				*e*		16 52 38.4	
SNAA	Sanae	53.05	158	P	P	16 52 25.1	-0.4
	comp=N,4.3nm,0.8s,mb4.4,baz=293,slow=5.4,SNR=24						
SNAA	Sanae	53.05	158	P	P	16 52 25.1	-0.4
TEIG	Tepich	54.61	341	P	P	16 52 37.3	-0.3
	comp=N,40nm,1.2s,mb5.3						
QSPA	South Pole Qui	57.79	180	⇑*e*P	P	16 52 59.3	-0.3
	comp=N,37nm,1.0s,mb5.4						
TAOE	Nuku Hiva Isla	66.79	274	*e*LR	LR	17 14 11.7	
	comp=N,258nm,25.0s						
SYO	Syowa Base	67.33	159	⇑*e*P	P	16 54 01.6	-1.9
TBI	Tubuai	67.63	256	*e*S	S	17 03 01.9	-1.3
	comp=N,374nm,27.0s						
TBI				*e*LR	LR	17 14 32.4	
	comp=N,447nm,27.0s						
TXAR	Lajitas Array	68.35	331	P	P	16 54 10.6	+0.3
	comp=N,2.0nm,0.8s,mb4.2,baz=151,slow=9.1,SNR=16						
TXAR	Lajitas Array	68.35	331	P	P	16 54 10.6	+0.3
TZTN	Tazewell	69.46	350	*e*P	P	16 54 18.5	+1.5
	comp=N,96nm,0.8s,mb5.8						
PPT2	Papeete2	70.41	261	*e*S	S	17 03 34.0	-2.2
	comp=N,173nm,23.5s						
PPT2				*e*LR	LR	17 15 49.8	
	comp=N,210nm,27.2s						
MAW	Mawson	74.69	164	P	P	16 54 47.8	-0.3
	comp=N,4.1nm,0.5s,mb4.6,baz=208,slow=7.5,SNR=12						
MAW	Mawson	74.69	164	*e*P	P	16 54 47.5	-0.6
MAW	Mawson	74.69	164	*e*P	P	16 54 47.5	-0.6
	comp=N,7.3nm,1.2s,mb4.5						
DBIC	Dimbokro	74.74	72	P	P	16 54 48.2	-1.1
	comp=N,14nm,0.7s,mb5.0,baz=202,slow=6.2,SNR=30						
DBIC	Dimbokro	74.74	72	*e*P	P	16 54 47.9	-1.3
	comp=N,17nm,0.8s,mb5.0						
WUAZ	Wupatki	76.98	328	*e*P	P	16 55 02.5	+1.0
	comp=N,17nm,1.2s,mb4.9						
RAR	Rarotonga	77.05	253	LR	LR	17 23 21.7	
	comp=N,253nm,19.5s,MS4.5,baz=294,slow=31						
MVCO	Mesa Verde	77.18	331	*e*P	P	16 55 03.1	+0.5
	comp=N,7.3nm,1.0s,mb4.6						
SMCO	Snowmass	78.27	333	*e*P	P	16 55 11.5	+2.9
	comp=N,113nm,0.7s,mb5.9						
LDFC	Landfair	78.36	325	*e*P	P	16 55 10.4	+1.2
	comp=N,27nm,1.4s,mb5.0						
MSU	Marysvale	79.83	329	*e*P	P	16 55 17.6	+0.4
	comp=N,7.3nm,1.2s,mb4.5						
ISA	Isabella	80.49	323	*e*P	P	16 55 21.4	+0.6
	comp=N,6.2nm,1.0s,mb4.5						
BOSA	Boshof	80.85	118	P	P	16 55 22.3	-0.9
	comp=N,6.0nm,1.0s,mb4.5,baz=248,slow=3.8,SNR=7.8						
BOSA	Boshof	80.85	118	*e*P	P	16 55 22.2	-1.0
	comp=N,23nm,1.1s,mb5.0						
DUG	Dugway	81.50	330	*e*P	P	16 55 26.2	+0.1
	comp=N,9.0nm,1.2s,mb4.6						
RSSD	Black Hills	81.58	337	*e*P	P	16 55 26.7	+0.2
	comp=N,4.8nm,1.1s,mb4.3						
HWUT	Hardware Ranch	82.16	331	*e*P	P	16 55 29.2	-0.4
	comp=N,3.1nm,0.4s,mb4.6						
PDAR	Pinedale Array	82.35	333	P	P	16 55 30.3	-0.2
	comp=N,1.7nm,1.0s,mb3.9,baz=150,slow=6.3,SNR=8.7						
PDAR	Pinedale Array	82.35	333	P	P	16 55 30.3	-0.2
NVAR	Mina Array Bea	82.58	325	P	P	16 55 32.3	+0.5
	comp=N,3.1nm,0.8s,mb4.4,baz=154,slow=5.8,SNR=16						
NVAR	Mina Array Bea	82.58	325	P	P	16 55 32.3	+0.5
LBTB	Lobatse	83.01	115	*e*P	P	16 55 33.4	-1.2
	comp=N,28nm,1.3s,mb5.1						
TORD	Torodi Ar. Bea	83.74	70	P	P	16 55 37.4	-1.0
	comp=N,7.4nm,0.8s,mb4.9,baz=262,slow=4.3,SNR=58						
TORD	Torodi Ar. Bea	83.74	70	P	P	16 55 37.4	-1.0
RLMT	Red Lodge	84.26	335	*e*P	P	16 55 40.0	-0.3
	comp=N,7.7nm,1.4s,mb4.6						
RPZ	Rata Peaks	84.79	221	LR	LR	17 25 34.3	
	comp=N,140nm,20.9s,MS4.3,baz=268,slow=30						
QLMT	Earthquake Lak	84.82	333	*e*P	P	16 55 43.6	+0.5
	comp=N,0.6nm,1.0s,mb3.7						
ULM	Lac du Bonnet	84.98	345	P	P	16 55 42.2	-1.6
	comp=N,5.1nm,1.0s,mb4.6,baz=168,slow=3.2,SNR=5.4						
ULM	Lac du Bonnet	84.98	345	P	P	16 55 42.2	-1.6
SCHQ	Schefferville	87.04	3	P	P	16 55 53.1	-0.7
	comp=N,5.6nm,0.7s,mb4.9,baz=174,slow=3.5,SNR=8.3						
SCHQ	Schefferville	87.04	3	P	P	16 55 53.1	-0.7
SLMT	Seeley Lake	87.62	333	*e*P	P	16 55 56.5	-0.4
	comp=N,8.9nm,1.4s,mb4.8						
OD2	Odessa Site #2	89.83	330	*e*P	P	16 56 06.3	-1.0
	comp=N,21nm,1.2s,mb5.3						
ESDC	Sonseca Array	95.54	46	P	P	16 56 33.3	-0.6
	comp=N,0.1nm,0.3s,mb3.7,baz=223,slow=3.7,SNR=4.5						
ESDC	Sonseca Array	95.54	46	P	P	16 56 33.3	-0.6
YKA	Yellowknife Ar	100.57	341	P	Pdif	16 56 54.1	-2.5
	comp=N,0.3nm,0.7s,baz=135,slow=4.3,SNR=7.0						
YKA	Yellowknife Ar	100.57	341	P	Pdif	16 56 54.1	-2.5
DZM	Mont Dzumac	102.11	234	*e*LR	LR	17 30 34.6	
	comp=N,160nm,21.8s						
ILAR	Eielson Array	112.78	333	PKiKP	PKiKP	17 01 44.2	-0.6
	comp=N,0.6nm,1.0s,baz=151,slow=2.1,SNR=4.6						
ILAR	Eielson Array	112.78	333	PKiKP	PKiKP	17 01 44.2	-0.6
ASAR	Alice Springs	118.92	207	PKP	PKPdf	17 01 56.2	-1.8
	comp=N,0.8nm,0.8s,baz=143,slow=1.7,SNR=11						
ASAR	Alice Springs	118.92	207	PKP	PKPdf	17 01 56.2	-1.8
BRTR	Keskin Array B	121.12	60	PKP	PKPdf	17 02 01.1	-0.5
	comp=N,0.7nm,0.8s,baz=90,slow=3.7,SNR=3.8						
BRTR	Keskin Array B	121.12	60	PKP	PKPdf	17 02 01.1	-0.5
WRA	Warramunga Arr	122.09	210	PKP	PKPdf	17 02 02.6	-1.6
	comp=N,1.7nm,0.6s,baz=159,slow=1.6,SNR=32						
WRA	Warramunga Arr	122.09	210	PKP	PKPdf	17 02 02.6	-1.6
BILL	Bilibino	131.41	335	*e*PKPdf	PKPdf	17 02 20.3	-0.1
ABKAR	Akubak array	140.75	50	*e*PKPpre	PKPpre	17 02 28.1	
BRVK	Borovoye	146.10	41	*e*PKPdf	PKPdf	17 02 47.8	+0.3
YAK	Yakutsk	147.25	341	*e*PKPdf	PKPdf	17 02 50.1	+0.9
KKAR	Karatay Array	148.83	59	*e*PKPdf	PKPbc	17 02 55.0	-1.3
HYB	Hyderabad	149.60	112	*i* PKP	PKPbc	17 02 57.5	-1.5
EKS2	Erkin-Say	151.27	59	P	PKPbc	17 03 02.3	0.0
	SNR=7.3						
EKS2				P		17 03 02.3	
	SNR=7.3						
EKS2	Erkin-Say	151.27	59	*e*PKPdf	PKPdf	17 02 55.2	-1.1
EKS2				*e*PKPbc	PKPbc	17 03 02.0	-0.3
AML	Almayashu	151.29	60	P	PKPbc	17 03 02.7	+0.4
	SNR=7.5						
AML				P		17 03 02.7	
	SNR=7.5						
USP	Ospenovka	151.68	58	P	PKPbc	17 03 03.0	-0.3
	SNR=7.5						
USP				P		17 03 03.0	
	SNR=7.5						
KURK	Kurchatov	151.77	41	*e*PKPbc	PKPbc	17 03 02.3	-0.8
AAK	Ala-Archa	151.79	59	P	PKPbc	17 03 03.7	+0.2
	SNR=8.3						
AAK				P		17 03 03.7	
	SNR=8.3						
AAK	Ala-Archa	151.79	59	*e*PKPbc	PKPbc	17 03 03.4	-0.1
TKM2	Tokmak 2	152.54	58	P	PKPbc	17 03 05.4	+0.2
	SNR=6.0						
TKM2				P		17 03 05.4	
	SNR=6.0						
TKM2	Tokmak 2	152.54	58	*e*PKPdf	PKPdf	17 02 56.4	-1.9
TKM2				*e*PKPbc	PKPbc	17 03 04.7	-0.4
ZAA0	Zalesovo Array	152.93	31	*e*PKPdf	PKPdf	17 02 56.2	-2.2
ZAA0				*e*PKPbc	PKPbc	17 03 04.5	-1.2
ZALV	Zalesovo Beam	152.93	31	PKP	PKPdf	17 02 56.8	-1.7
	comp=N,0.9nm,0.8s,baz=263,slow=3.9,SNR=5.8						
ZALV				PKPbc	PKPbc	17 03 05.2	-0.5
	comp=N,4.7nm,0.5s,baz=294,slow=3.1,SNR=35						
ZALV	Zalesovo Beam	152.93	31	PKP	PKPdf	17 02 56.8	-1.7
ZALV				PKPbc	PKPbc	17 03 05.2	-0.5
KSH	Kashi	153.32	66	PKPbc	PKPbc	17 03 06.6	-0.4
KSH				PKPab	PKPab	17 03 39.8	+21
KSH				PKS		17 06 39.0	
KSH				PP	PP	17 07 19.3	+26
KSH				SKS	SKSdf	17 10 10.9	+4.7
KSH				SKKS	SKKSac	17 14 07.1	+24
KSH				SS	SS	17 27 12.3	+44
KSH				AMB	AMB		
	comp=Z,200nm,5.6s						
KSH				LR	LR		
	comp=N,41nm,4.2s						
KSH				LR	LR		
	comp=E,29nm,3.0s						
KSH				LR	LR		
	comp=Z,83nm,4.1s						
MKAR	Makanchi Array	155.76	46	PKPbc	PKPdf	17 03 11.6	+8.9
	comp=Z,0.9nm,0.8s,baz=298,slow=2.5,SNR=5.5						
MKAR				PKPab	PKPab	17 03 28.2	-0.9
	comp=Z,5.1nm,0.8s,baz=291,slow=4.2,SNR=15						
MKAR	Makanchi Array	155.76	46	PKPbc	PKPdf	17 03 11.6	+8.9
MKAR				PKPab	PKPab	17 03 28.2	-0.9
WMQ	Urumqi	160.52	49	*e*PKP	PKPdf	17 03 07.3	-1.2
KSRS	Korea Array	162.84	292	PKP	PKPdf	17 03 10.3	-0.8
	comp=Z,1.4nm,0.8s,baz=129,slow=1.8,SNR=4.3						
KSRS				PKPab	PKPab	17 04 01.9	+1.6
	comp=Z,1.2nm,0.7s,baz=152,slow=2.5,SNR=3.4						
KSAR	Wonju Array Be	162.87	292	PKP	PKPdf	17 03 10.3	-0.9
KSAR				PKPab	PKPab	17 04 01.9	+1.5
CMAR	Chiang Mai Arr	163.91	148	PKP	PKPdf	17 03 12.3	-0.4
	comp=Z,1.1nm,0.9s,baz=244,slow=2.9,SNR=11						
CMAR				PKPab	PKPab	17 04 03.3	-1.9
	comp=Z,0.4nm,0.8s,baz=205,slow=4.0,SNR=3.3						
CMAR	Chiang Mai Arr	163.91	148	PKP	PKPdf	17 03 12.3	-0.4
CMAR				PKPab	PKPab	17 04 03.3	-1.9
SONM	Songino Array	164.59	4	PKPab	PKPab	17 04 07.4	0.0
	comp=Z,2.9nm,0.9s,baz=333,slow=4.3,SNR=15						
SONM	Songino Array	164.59	4	PKPab	PKPab	17 04 07.4	0.0
GTA	Gaotai	170.45	41	*e*PKP	PKPdf	17 03 17.1	+0.2
GTA				pPKP	pPKPdf	17 03 23.9	+2.8
NJ2	Nanjing	170.71	271	*e*PKP	PKPdf	17 03 13.3	-4.0
HHC	Hu-ho-hao-te	171.11	342	*e*PKP	PKPdf	17 03 10.8	-6.4
HHC				pPKP	pPKPdf	17 03 20.8	-0.6
HHC				sPKP		17 03 25.1	
HHC				AMB	AMB		
	comp=Z,240nm,8.2s						
HHC				LR	LR		
	comp=N,2μm,16.5s						
HHC				LR	LR		
	comp=E,1μm,16.7s						
HHC				LR	LR		
	comp=Z,2μm,20.4s						
GYA	Guiyang	173.94	170	*e*PKP	PKPdf	17 03 17.9	-1.0
GYA				PKPab	PKPab	17 04 50.6	+1.3
GYA				PKS		17 06 47.8	
GYA				PP	PP	17 08 44.0	+3.7
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
LZH	Lanzhou	175.06	42	*e*PKP	PKPdf	17 03 20.0	+1.1
LZH				pPKP	pPKPdf	17 03 23.5	+0.4
LZH				sPKP		17 03 24.9	
LZH				PKPab	PKPab	17 04 56.1	+1.9
LZH				*e*PP	PP	17 08 51.3	+4.8
LZH				*e*SS	SS	17 30 09.5	-0.4
LZH				AMB	AMB		
	comp=Z,93nm,9.0s						
LZH				LR	LR		
	comp=N,180nm,18.2s						
LZH				LR	LR		
	comp=E,200nm,17.8s						
LZH				LR	LR		
	comp=Z,270nm,20.3s						
LZH	Lanzhou	175.06	42	*e*PKP	PKPdf	17 03 20.0	+1.1
LZH				pPKP	pPKPdf	17 03 23.5	+0.4
LZH				sPKP		17 03 24.9	
LZH				PKPab	PKPab	17 04 56.1	+1.9
LZH				*e*PP	PP	17 08 51.2	+4.7
LZH				*e*SS	SS	17 30 09.5	-0.4

IDC ***20*** *16:45:34.7±1.1,2°.88S×139°.43E,h0km,mb3.7/6, mb1 4.0/8,mb1mx3.8/15,mbtmp3.9/8,ML3.5/2,MS3.7/7, Ms1 3.7/7,ms1mx3.4/38,Error ellipse: s-maj=38.8km s-min=19.6km az=86.0*

NEIC ***20*** *16:45:39.6±0.8,2°.96S×139°.42E,h35km,mb3.9/2,Error ellipse: s-maj=18.8km s-min=12.1km az=92.0*

ISC 20 16:45:41.6±2.0,3°.07S±0°.08×139°.5E±0°.2,h53km±21km, n27,σ1°.17/34,mb3.5/6,MS3.5/3,1D,Irian Jaya

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTVZ	Oturere	0.59	132	PN	Pn	16 55 37.1	+1.2
MOVZ	Moawhango	0.81	142	PN	Pn	16 55 37.3	+0.3
MOVZ				SN	Sn	16 55 59.1	-0.7
WAZ	Wanganui	0.99	185	PN	Pn	16 55 38.4	+0.4
BKZ	Black Stump Fm	1.15	111	PN	Pn	16 55 39.5	+0.3
BKZ				SN	Sn	16 56 03.0	-0.6
MCHZ	McNeill Hill	1.41	119	SN	Sn	16 56 07.8	+0.6
PNHZ	Pukenui	1.42	144	PN	Pn	16 55 41.5	+0.2
TSZ	Takapari Road	1.45	153	PN	Pn	16 55 41.6	+0.1
RAHZ	Arahi	1.55	96	PN	Pn	16 55 43.0	+0.6
URZ	Urewera	1.65	73	PN	Pn	16 55 42.7	-0.7
URZ				SN	Sn	16 56 10.1	-0.9
WPHZ	Waipukurau	1.66	142	PN	Pn	16 55 43.4	+0.1
POWZ	Post Office Ro	1.70	163	PN	Pn	16 55 43.3	-0.4
KAHZ	Kahuranaki	1.71	127	PN	Pn	16 55 44.4	+0.5
DVHZ	Dannevirke	1.73	152	PN	Pn	16 55 43.7	-0.4
CKHZ	Cape Kidnapper	1.77	121	PN	Pn	16 55 45.0	+0.5
PXZ	Pawanui	1.85	133	PN	Pn	16 55 45.1	-0.1
PXZ				SN	Sn	16 56 13.4	-1.1
PRHZ	Porangahau	1.91	142	PN	Pn	16 55 45.6	-0.1
MRZ	Mangatainoka R	1.92	169	PN	Pn	16 55 45.0	-0.9
MRZ				SN	Sn	16 56 12.8	-3.0
MWZ	Matawai	1.95	78	PN	Pn	16 55 45.8	-0.4
OGWZ	Otaki Gorge	2.05	179	PN	Pn	16 55 46.4	-0.8
TIWZ	Tintock	2.09	164	PN	Pn	16 55 46.7	-1.0
BFZ	Birch Farm	2.10	156	PN	Pn	16 55 46.8	-0.9
HOWZ	Holdsworth Sta	2.15	172	PN	Pn	16 55 47.0	-1.2
MHGZ	Mahia Peninsul	2.22	101	PN	Pn	16 55 49.4	+0.5
DUWZ	D'Urville Isla	2.23	204	PN	Pn	16 55 47.7	-1.3
CAW	Cannon Point	2.34	181	PN	Pn	16 55 48.8	-1.4
MTW	Mount Morrison	2.41	173	PN	Pn	16 55 49.2	-1.7
TMWZ	Te Maipa	2.41	166	SN	Sn	16 56 21.7	-3.3
TCW	Tory Channel	2.52	194	PN	Pn	16 55 50.7	-1.5
SNZO	South Karori	2.56	187	PN	Pn	16 55 50.7	-1.8
MSWZ	Moikau Station	2.65	178	PN	Pn	16 55 51.6	-2.0
NNZ	Nelson	2.78	208	PN	Pn	16 55 52.8	-2.4
PLWZ	Palliser	2.80	178	PN	Pn	16 55 53.2	-2.1
TUWZ	Tuamarina	2.80	198	PN	Pn	16 55 53.4	-1.9
QRZ	Quartz Range	2.86	223	PN	Pn	16 55 53.1	-2.9
BSWZ	Blackbirch Sta	3.09	197	PN	Pn	16 55 56.7	-2.0
THZ	Tophouse	3.43	209	PN	Pn	16 55 59.6	-3.1
KHZ	Kahutara	3.83	198	PN	Pn	16 56 04.8	-2.9
DSZ	Denniston Nort	3.90	219	PN	Pn	16 56 04.6	-3.9
LTZ	Lake Taylor	4.55	207	PN	Pn	16 56 12.9	-3.7
CRLZ	Canterbury Las	5.16	201	SN	Sn	16 57 16.4	-8.3
MQZ	McQueen's Vall	5.27	200	PN	Pn	16 56 20.8	-4.8
MQZ				SN	Sn	16 57 18.5	-8.8
ODZ	Otahua Downs	7.10	207	SN	Sn	16 58 00.6	-9.3

IDC ***20*** *16:56:26.7±1.7, 36°.64N×142°.33E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/24, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=38.2km s-min=24.2km az=63.0*

ISCJB ***20*** *16:56:29.0±1.3, 36°.67N±0°.05×142°.4E±0°.1, h33km±14km, mb3.5/3, Error ellipse: s-maj=16.3km s-min=7.5km az=14.8*

JMA ***20*** *16:56:30.5±0.4, 36°.69N×142°.16E, h53km, M3.4*

ISC 20 16:56:31.3±2.6, 36°.68N±0°.05×142°.11E±0°.10, h28km±22km, n18, σ0°.73/22, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.14	292	P	Pn	16 56 50.6	-0.7
JFK	Kawauchi	1.21	305	P	Pn	16 56 51.6	-0.7
JHO	Hitachi	1.24	267	P	Pn	16 56 52.3	-0.5
CHOJ	Chosi	1.40	227	P	Pn	16 56 54.8	-0.2
JMM	Marumori	1.59	319	P	Pn	16 56 56.9	-0.7
JFT	Otama	1.65	301	P	Pn	16 56 58.7	+0.3
JIO	Ouri	1.88	341	P	Pn	16 57 00.5	-1.0
JIO				eS	Sn	16 57 23.7	-0.6
JOU	Okura	2.04	326	P	Pn	16 57 04.2	+0.4
JFY	Yanaizu	2.06	291	P	Pn	16 57 05.0	+1.0
JAG	Ashikaga	2.15	264	P	Pn	16 57 05.5	+0.1
BSO1	Boso 1	2.22	205	P	Pn	16 57 06.3	+0.1
JMK	Ichinoseki	2.38	343	P	Pn	16 57 08.1	-0.4
MJAR	Matsushiro Arr	3.14	269	Pn	Pn	16 57 20.1	+1.1
	5.3nm,0.3s,baz=98,slow=19,SNR=76						
MJAR				Sn	Sn	16 58 01.1	+5.6
	2.9nm,0.3s,baz=93,slow=13,SNR=4.6						
MAT	Matsushiro	3.14	269	P	Pn	16 57 20.5	+1.5
MAT				S	Sn	16 57 54.9	-0.7
ASAJ	Asahikawa	7.44	3	Pn	Pn	16 58 17.7	-0.3
	0.4nm,0.3s,baz=245,slow=26,SNR=5.8						
ASAJ				Sn	Sn	16 59 42.8	+1.3
	0.2nm,0.3s,baz=284,slow=19,SNR=2.1						
SONM	Songino Array	28.45	304	P	P	17 02 24.4	+0.7
	1.3nm,0.8s,mb3.6,baz=104,slow=9.1,SNR=12						
WRA	Warramunga Arr	56.79	189	P	P	17 06 12.4	-0.6
	0.1nm,0.4s,mb3.2,baz=6.8,slow=7.3,SNR=3.6						
ASAR	Alice Springs	60.51	189	P	P	17 06 38.8	0.0
	0.3nm,0.9s,mb3.4,baz=7.6,slow=8.4,SNR=3.5						

IDC 20 17:02:55.1±1.7, 15°.29S×175°.21W, h244km±53km, mb3.2/4, mb1 3.6/5, mb1mx3.2/18, mbtmp3.3/5, Error ellipse: s-maj=375.4km s-min=18.7km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.60	68	P	Pn	17 03 55.8	+1.8
	7.8nm,0.3s,baz=156,slow=1.4,SNR=19						
AFI				S	S	17 04 40.4	-0.2
	4.2nm,0.3s,baz=72,slow=21,SNR=2.8						
WRA	Warramunga Arr	48.16	257	P	P	17 11 10.9	-0.5
	0.6nm,0.6s,baz=90,slow=7.6,SNR=7.2						
ASAR	Alice Springs	48.48	252	P	P	17 11 13.7	-0.1
	2.6nm,0.4s,baz=90,slow=7.9,SNR=56						
NVAR	Mina Array Bea	75.43	43	P	P	17 14 12.6	+0.3
	0.1nm,0.3s,baz=218,slow=8.7,SNR=3.9						
PDAR	Pinedale Array	83.36	42	P	P	17 14 54.8	-0.2
	0.4nm,0.6s,baz=222,slow=2.7,SNR=3.5						
BRTR	Keskin Array B	144.95	320	PKP	PKPdf	17 22 04.4	+1.0
	0.3nm,0.6s,baz=65,slow=5.4,SNR=2.5						

IDC 20 17:03:52.5±2.2, 6°.80S×130°.01E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.3/16, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=87.0km s-min=28.5km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.02	200	Pn	Pn	17 06 45.3	+0.1
	0.2nm,0.3s,baz=32,slow=10,SNR=15						
FITZ				Sn	Sn	17 08 48.2	-12
	0.1nm,0.3s,baz=291,slow=22,SNR=4.1						
WRA	Warramunga Arr	13.73	163	Pn	Pn	17 07 08.1	-0.4
	0.1nm,0.3s,baz=346,slow=13,SNR=1.9						
WRA				Sn	Sn	17 09 28.3	-14
	0.3nm,0.3s,baz=331,slow=22,SNR=7.7						
ASAR	Alice Springs	17.18	168	P	Pn	17 07 54.5	+0.3
	0.1nm,0.3s,baz=335,slow=9.2,SNR=5.7						
MKAR	Makanchi Array	68.06	327	P	P	17 14 54.0	+0.1
	0.8nm,0.9s,baz=121,slow=7.6,SNR=6.6						

MOS ***20*** *17:06:58.4±0.9, 31°.41S×68°.18W, h89km, mb5.4/45, Error ellipse: s-maj=12.6km s-min=7.1km az=97.5*

NEIC ***20*** *17:07:01.0±0.1, 31°.58S×68°.11W, mb5.3/141, MD5.5(SJA), Error ellipse: s-maj=5.3km s-min=3.2km az=69.0*

NEIC Felt [V] at San Juan and [IV] at Mendoza. Also felt at Cordoba.

BJI ***20*** *17:07:00.8, 31°.04S×68°.08W, h108km, mB5.3/16*

ISCJB ***20*** *17:07:00.0±0.1, 31°.54S±0°.02×68°.19W±0°.03, h107km, mb5.3/157, Error ellipse: s-maj=3.7km s-min=2.4km az=33.8*

IDC ***20*** *17:07:01.6±0.3, 31°.64S×68°.19W, h109km±2km, mb4.9/16, mb1 4.9/20, mb1mx4.9/21, mbtmp4.8/20, MS4.2/2, Ms1 4.2/2, ms1mx3.7/23, Error ellipse: s-maj=12.5km s-min=9.2km az=55.0*

GUC ***20*** *17:07:02.1±0.5, 31°.56S×68°.39W, h126km±27km, ML5.6*

GCMT ***20*** *17:07:05.7±0.2, 31°.72S×68°.14W, h123km±1km, MW5.2, Moment Tensor Solution. s52,c66; s79,c129; Moment tensor: Scale 10^16 Nm; Mrr-6.91±.21; Mθθ2.71±.24; Mφφ4.20±.30; Mrθ-1.31±.17; Mrφ5.76±.22; Mθφ3.11±.23; Best double couple: M0 9.00000×10^16 NP1:φs66.00000°, δ46.00000°, λ-52.00000°. NP2:φs198.00000°, δ56.00000°, λ-122.00000°. Principal axes: T 9.4000, Plg5.0000°,*

Azm310.0000°; N -0.8800, Plg26.0000°, Azm217.0000°; P -8.5300, Plg63.0000°, Azm51.0000°; Data Used: II IU IC G CN.

ISC 20 17:07:01.7±0.1, 31°.56S±0°.02×68°.23W±0°.03, h109km, h109km±.6km: pP-P, n567, σ0°.87/337, mb5.3/157, 14C-23D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.04	185	P	Pn	17 07 16.9	+0.1
	3μm,0.3s,baz=221,slow=0.6						
CFAA				S	Sn	17 07 28.7	+0.7
	2μm,0.3s,baz=66,slow=23,SNR=97						
CFAA	Coronel Fontan	0.04	185	P	Pn	17 07 16.9	+0.1
CFAA				S	Sn	17 07 28.7	+0.7
JACH	Jahuel	2.29	240	eP	Pn	17 07 38.8	+0.4
PTCH	Petorca	2.40	252	eP	Pn	17 07 39.8	0.0
PTCH				eS	Sn	17 08 08.2	-0.8
FCH	Farellones	2.47	224	eP	Pn	17 07 42.0	+1.3
FCH				eS	Sn	17 08 12.0	+1.2
FCH				AML	AML	17 08 15.8	
	comp=E,11μm,0.5s						
PEL	Peldehue	2.61	232	eP	Pn	17 07 42.4	-0.1
PEL				eS	Sn	17 08 13.5	-0.4
PEL				AML	AML	17 08 16.2	
	comp=N,34μm,0.3s						
CLCH	Cerro Calan	2.67	226	iP	Pn	17 07 43.7	+0.4
CLCH				eS	Sn	17 08 15.3	-0.1
CLCH				AML	AML	17 08 20.2	
	comp=E,32μm,0.6s						
OVCH	Ovalle	2.72	290	iP	Pn	17 07 44.1	+0.1
OVCH				i S	Sn	17 08 15.6	-0.9
OVCH				AML	AML	17 08 17.9	
	comp=N,38μm,0.7s						
FSR	Penalolen	2.72	225	eP	Pn	17 07 44.5	+0.5
SJCH	San Jose de Ma	2.74	220	eP	Pn	17 07 44.9	+0.7
SJCH				eS	Sn	17 08 16.7	-0.2
ROCH	El Roble	2.74	238	eP	Pn	17 07 43.9	-0.4
ROCH				eS	Sn	17 08 16.0	-1.0
ROCH				AML	AML	17 08 19.6	
	comp=N,30μm,0.3s						
SAN	Santiago	2.79	227	eP	Pn	17 07 45.1	+0.2
CHNG	Los Chungos	2.80	263	eP	Pn	17 07 44.0	-1.0
CHNG				eS	Sn	17 08 15.8	-2.6
PCH	Pirque	2.81	223	iP	Pn	17 07 45.5	+0.3
LMEL	Las Melosas	2.82	216	iP	Pn	17 07 46.0	+0.7
LMEL				eS	Sn	17 08 19.5	+0.7
ANTU	Antumapu	2.85	225	eP	Pn	17 07 46.0	+0.4
ANTU				eS	Sn	17 08 19.3	-0.2
ANTU				AML	AML	17 08 22.1	
	comp=E,14μm,0.5s						
RCDM	Rinconada Maip	2.90	228	eP	Pn	17 07 46.5	+0.2
RCDM				eS	Sn	17 08 20.6	-0.2
RCDM				AML	AML	17 08 24.6	
	comp=E,12μm,0.3s						
LSCH	La Serena	3.07	302	eP	Pn	17 07 48.6	-0.1
LSCH				eS	Sn	17 08 23.5	-1.4
TACH	Talagante	3.09	227	iP	Pn	17 07 48.2	-0.7
CACH	El Canelo	3.23	217	iP	Pn	17 07 51.2	+0.4
IHA	Instituto Hidr	3.23	242	eP	Pn	17 07 48.7	-2.1
LCO	Las Campanas	3.32	319	ePn	Pn	17 07 52.6	+0.7
LNV	Longovilo	3.59	227	eP	Pn	17 07 53.3	-2.2
VACH	Vallenar	3.69	323	eP	Pn	17 07 57.6	+0.6
VACH				eS	Sn	17 08 39.0	-0.7
NICH	Los Niches	4.25	215	eP	Pn	17 08 01.5	-2.9
CPCH	Copiapo	4.58	336	eP	Pn	17 08 08.8	-0.1
CDCH	Caldera	5.02	333	iP	Pn	17 08 15.0	+0.2
LNCH	Linares	5.11	212	eP	Pn	17 08 15.6	-0.4
COCH	Cobquecura	5.93	219	eP	Pn	17 08 22.3	-4.8
CCHI	Chillan	5.95	211	eP	Pn	17 08 24.0	-3.4
ANCH	Antofagasta	8.08	346	eP	Pn	17 08 53.9	-2.5
TRQA	Tornquist	8.27	143	iPn	Pn	17 08 57.1	-1.7
	comp=E,1μm,0.8s						
LVC	Limon Verde	8.94	356	ePn	Pn	17 09 06.6	-1.4
PLCA	Paso Flores	9.34	191	P	Pn	17 09 11.7	-1.6
	comp=E,1.7nm,0.3s,baz=0.8,slow=12,SNR=10.0						
PLCA	Paso Flores	9.34	191	ePn	Pn	17 09 10.3	-3.0
	comp=E,134nm,1.2s						
PLCA	Paso Flores	9.34	191	eP	Pn	17 09 10.3	-3.0
PLCA				pmax	pmax		
	comp=Z,134nm,1.2s						
CPUP	Villa Florida	10.88	64	P	Pn	17 09 32.5	-1.7
	comp=Z,8.1nm,0.3s,baz=219,slow=11,SNR=31						
CPUP	Villa Florida	10.88	64	ePn	Pn	17 09 31.3	-2.9
CPUP	Villa Florida	10.88	64	eP	Pn	17 09 31.3	-2.9
LPAZ	La Paz	15.21	0	P	Pn	17 10 31.9	+1.2
	comp=Z,1.9nm,0.3s,baz=178,slow=7.2,SNR=57						
LPAZ	La Paz	15.21	0	ePn	Pn	17 10 31.3	+0.6
	comp=Z,139nm,0.9s						
LPAZ	La Paz	15.21	0	eP	Pn	17 10 31.3	+0.6
LPAZ				pmax	pmax		
	comp=Z,139nm,0.9s						
SIV	San Ignacio	16.82	24	P	Pn	17 10 49.5	-1.2
	comp=Z,3.1nm,0.3s,baz=228,slow=14,SNR=88						
SIV	San Ignacio	16.82	24	P	Pn	17 10 49.5	-1.2
SPB	Sao Paulo	20.05	72	eP	P	17 11 25.6	-0.7
	comp=Z,120nm,1.1s						
SPB				e		17 11 59.7	
NNA	Nana	21.04	336	P	P	17 11 38.1	+1.1
	comp=Z,370nm,0.7s,mb4.8,baz=208,slow=8.9,SNR=24						
NNA	Nana	21.04	336	eP	P	17 11 37.8	+0.8
	comp=Z,168nm,1.3s,mb5.2						
NNA				epP		17 12 04.4	
NNA	Nana	21.04	336	eP	P	17 11 37.8	+0.9
NNA				e*PP		17 12 04.4	
NNA				pmax	pmax		
	comp=Z,168nm,1.3s						
NNA	Nana	21.04	336	P	P	17 11 38.0	+1.1
	comp=Z,362nm,0.7s,mb5.8,SNR=7.2						
EFI	East Falkland	21.45	162	eP	P	17 11 38.7	-2.3
	comp=Z,207nm,0.8s,mb5.5						
EFI				epP		17 12 02.8	
EFI	East Falkland	21.45	162	eP	P	17 11 38.7	-2.3
EFI				pmax	pmax		
	comp=Z,207nm,0.8s,mb5.5						
EFI	East Falkland	21.45	162	P	P	17 11 39.4	-1.6
	comp=Z,998nm,0.8s,mb6.2,SNR=23						
SAML	Samuel	22.99	13	eP	P	17 11 57.0	-0.2
	comp=Z,141nm,1.1s,mb5.2						
SAML				epP		17 12 21.6	
SAML				esP	sP	17 12 32.1	0.0
USHA	Ushuaia	23.26	180	P	P	17 11 60.0	+0.7
	comp=Z,83nm,0.9s,mb5.1,baz=341,slow=6.7,SNR=36						
USHA	Ushuaia	23.26	180	P	P	17 11 60.0	+0.7
ATAH	Atahualpa	26.09	337	P	P	17 12 27.9	+2.5
	comp=Z,8.2nm,0.8s,mb4.2,baz=182,slow=7.6,SNR=10						
ATAH	Atahualpa	26.09	337	P	P	17 12 27.9	+2.5
OTAV	Otavalo	33.08	341	eP	P	17 13 29.2	+2.0
	comp=Z,32nm,1.1s,mb5.1						
PMSA	Palmer Station	33.34	177	P	P	17 13 28.5	-0.4
	comp=Z,42nm,0.9s,mb5.2,baz=318,slow=12,SNR=3.0						
PMSA	Palmer Station	33.34	177	P	P	17 13 28.5	-0.4
ROSC	El Rosal	36.68	350	P	P	17 14 00.3	+2.2
	comp=Z,16nm,0.5s,mb5.2,baz=108,slow=3.5,SNR=9.5						
ROSC	El Rosal	36.68	350	eP	P	17 13 59.9	+1.8
RCBR	Riachuelo	39.63	57	eP	P	17 14 22.2	-0.8
	comp=Z,116nm,1.5s,mb5.5						
RCBR				epP	pP	17 14 49.0	+1.2
SDV	Santo Domingo	40.28	356	eP	P	17 14 27.1	-1.1
	comp=Z,50nm,1.1s,mb5.2						
BCIP	Isla Barro Col	41.99	343	P	P	17 14 41.3	-0.9
JTS	JuntasAbangare	44.59	336	eP	P	17 15 03.0	-0.2
	comp=Z,58nm,1.3s,mb5.2						
JTS	JuntasAbangare	44.59	336	eP	P	17 15 03.0	-0.1
JTS				pmax	pmax		
	comp=Z,58nm,1.3s						
FDF	Fort de France	46.53	9	eP	P	17 15 16.8	-1.5
	comp=Z,110nm,0.9s,mb5.6						
FDF				epP	pP	17 15 45.2	+1.4
FDF	Fort de France	46.53	9	eP	P	17 15 16.8	-1.5
FDF				e*PP	pP	17 15 45.2	+1.4
FDF				pmax	pmax		
	comp=Z,111nm,0.9s,mb5.6						
TGUH	Tegucigalpa,Un	48.90	335	eP	P	17 15 37.0	+0.3
	comp=Z,114nm,0.8s,mb5.8						
ICM	Isla Caja Muer	49.20	2	eP	P	17 15 37.9	-1.0
CELP	Cerrillos	49.38	2	eP	P	17 15 39.1	-1.2
CELP				epP	pP	17 16 04.8	-1.2
SJG	San Juan	49.43	3	eP	P	17 15 39.1	-1.5
	comp=Z,80nm,1.1s,mb5.6						
SJG	San Juan	49.43	3	eP	P	17 15 39.1	-1.5
SJG				pmax	pmax		
	comp=Z,80nm,1.1s						
LRS	Lares	49.59	2	eP	P	17 15 40.6	-1.3
MTDJ	Mount Denham	50.30	348	eP	P	17 15 47.0	-0.2
	comp=Z,171nm,1.4s,mb5.8						
SDDR	Presa de Saban	50.34	356	P	P	17 15 45.4	-2.1
	comp=Z,59nm,1.6s,mb5.3						
VNA3	Neumayer Olymp	50.44	159	e	P	17 15 48.1	+0.4
VNA3				e	pP	17 16 14.9	+1.4
VNA3				e		17 16 33.5	
VNA1	Neumayer--Stat	50.69	158	e	P	17 15 50.5	+0.9
VNA1				e	pP	17 16 17.2	+1.7
VNA2	Neumayer--Watz	51.05	158	e	P	17 15 52.5	+0.2
	baz=288,slow=8.8						
VNA2				e	pP	17 16 19.5	+1.3
VNA2				e		17 17 45.7	
GTBY	Guantanamo Bay	51.62	352	eP	P	17 15 56.9	-0.2
SNAA	Sanae	52.66	159	e	P	17 16 05.0	+0.8
SNAA				e	pP	17 16 32.1	+1.9
SNAA	Sanae	52.66	159	iP	P	17 16 04.7	+0.5
	comp=Z,138nm,1.3s,mb5.8						
SNAA				epP	pP	17 16 30.3	+0.1
SNAA	Sanae	52.66	159	iP	P	17 16 04.7	+0.5
SNAA				e*PP	pP	17 16 30.3	+0.1
SNAA				pmax	pmax		
	comp=Z,138nm,1.3s						
TEIG	Tepich	54.97	337	iP	P	17 16 21.3	-0.3
	comp=Z,74nm,0.4s,mb6.1						
MAIT	Maitri	57.27	157	eP	P	17 16 37.3	-0.1
MAIT				e	pP	17 17 02.7	-1.1
QSPA	South Pole Qui	58.67	180	LR	LR	17 40 40.2	
	comp=Z,183nm,18.8s,baz=173,slow=34						
QSPA	South Pole Qui	58.67	180	iP	P	17 16 47.4	+0.4
	comp=Z,218nm,1.1s,mb6.1						
QSPA				epP	pP	17 17 14.2	+0.7
DWPF	Disney	60.66	347	eP	P	17 17 01.1	-0.2
	comp=Z,24nm,0.9s,mb5.2						
BBSR	BB Station	63.68	3	P	P	17 17 17.6	-3.7
KVTX	Kingsville	65.23	331	eP	P	17 17 33.5	+1.9
	comp=Z,92nm,0.9s,mb5.6						
KVTX				epP	pP	17 18 00.6	+2.1
SBA	Scott Base	66.09	191	eP	P	17 17 37.6	+1.1
	comp=Z,39nm,1.3s,mb5.1						
SBA				epP	pP	17 18 05.0	+1.5
SBA	Scott Base	66.09	191	eP	P	17 17 37.6	+1.1
SBA				e*PP	pP	17 18 05.0	+1.5
SBA				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.1						
GOGA	Godfrey	66.20	346	eP	P	17 17 36.6	-1.1
	comp=Z,38nm,1.4s,mb5.0						
GOGA				epP	pP	17 18 03.3	-1.5
GOGA				esP	sP	17 18 14.8	-1.8
GOGA	Godfrey	66.20	346	eP	P	17 17 36.6	-1.1
GOGA				e*PP	pP	17 18 03.3	-1.5
GOGA				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.0						
HKT	Hockley	66.56	334	eP	P	17 17 40.2	+0.2
	comp=Z,78nm,1.6s,mb5.3						
HKT	Hockley	66.56	334	eP	P	17 17 40.2	+0.2
HKT				pmax	pmax		
	comp=Z,78nm,1.6s,mb5.3						
LRAL	Lakeview Retre	66.65	343	eP	P	17 17 39.5	-1.0
	comp=Z,38nm,1.6s,mb5.0						
LRAL				epP	pP	17 18 05.3	-2.3
VBMS	Vicksburg	66.85	340	eP	P	17 17 41.9	+0.1
	comp=Z,235nm,1.4s,mb5.8						
VBMS				esP	sP	17 18 21.3	+0.5
SYO	Syowa Base	66.94	158	iP	P	17 17 40.0	-2.0
SYO	Syowa Base	66.94	158	iPcP	PcP	17 18 07.0	-2.7
VNDA	Vanda	67.09	190	eP	P	17 17 43.6	+0.7
	comp=Z,54nm,1.4s,mb5.2						
VNDA				epP	pP	17 18 12.0	+2.0
VNDA	Vanda	67.09	190	eP	P	17 17 43.6	+0.7
VNDA				e*PP	pP	17 18 12.0	+2.0
VNDA				pmax	pmax		
	comp=Z,54nm,1.4s						
NATX	Nacogdoches	67.77	336	iP	P	17 17 48.5	+0.8
	comp=Z,109nm,1.0s,mb5.6						
TKL	Tuckaleechee C	68.44	346	eP	P	17 17 50.4	-1.3
TKL				epP	pP	17 18 18.5	-0.5
TKL				esP	sP	17 18 31.1	+0.4
TKL	Tuckaleechee C	68.44	346	eP	P	17 17 50.4	-1.3
TKL				e*PP	pP	17 18 18.5	-0.5
JCT	Junction City	68.59	331	eP	P	17 17 53.1	+0.3
	comp=Z,81nm,1.0s,mb5.5						
JCT				epP	pP	17 18 21.4	+1.4
JCT	Junction City	68.59	331	eP	P	17 17 53.1	+0.3
JCT				e*PP	pP	17 18 21.4	+1.4
JCT				pmax	pmax		
	comp=Z,81nm,1.0s,mb5.5						
OXF	Oxford	68.68	341	eP	P	17 17 51.7	-1.6
	comp=Z,76nm,0.9s,mb5.5						
OXF				epP	pP	17 18 21.0	+0.5
OXF				esP	sP	17 18 31.5	-0.8
OXF	Oxford	68.68	341	eP	P	17 17 51.7	-1.6
OXF				e*PP	pP	17 18 21.0	+0.5
OXF				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.5						
PLAL	Pickwick Lake	68.77	343	eP	P	17 17 53.2	-0.7
	comp=Z,14nm,0.9s,mb4.8						
PLAL				ePcP	PcP	17 18 18.9	+1.1
PLAL				epP	pP	17 18 22.2	+1.1
PLAL				esP	sP	17 18 32.4	-0.5
TZTN	Tazewell	69.25	347	eP	P	17 17 54.3	-2.5
	comp=Z,26nm,1.1s,mb5.0						
TZTN				ePcP	PcP	17 18 16.1	-3.6
TZTN				epP	pP	17 18 25.4	+1.4
TXAR	Lajitas Array	69.30	327	P	P	17 17 57.9	+0.7
	comp=Z,12nm,0.8s,mb4.8,baz=150,slow=8.0,SNR=106						
TXAR				pP	pP	17 18 26.5	+2.0

comp=Z,35nm,0.9s,mb5.2,baz=209,slow=6.1,SNR=63
DBIC pP pP 17 18 38.4 +0.9
comp=Z,72nm,0.9s,baz=206,slow=6.8,SNR=22
DBIC sP sP 17 18 49.6 +0.3
comp=Z,70nm,0.9s,baz=205,slow=6.5,SNR=11
DBIC Dimbokro 71.34 70⇓ *iP* **P 17 18 09.9 -0.2**
comp=Z,98nm,0.9s,mb5.6
DBIC *ep*P pP 17 18 38.1 +0.7
DBIC pP pP 17 18 38.4 +0.9
DBIC *es*P sP 17 18 49.7 +0.4
DBIC Dimbokro 71.34 70⇓ *iP* **P 17 18 09.9 -0.2**
DBIC *P pP 17 18 38.4 +0.9
DBIC pmax pmax
comp=Z,97nm,0.9s
WCI Wyandotte Cave 71.45 345 *e*P **P 17 18 08.9 -1.2**
comp=Z,25nm,0.8s,mb5.1
WCI *ep*P pP 17 18 34.9 -2.6
WCI Wyandotte Cave 71.45 345 *e*P **P 17 18 08.9 -1.2**
WCI *e*PP pP 17 18 34.9 -2.6
WCI pmax pmax
comp=Z,25nm,0.8s,mb5.1
SIUC Southern Illin 71.65 343 *e*P **P 17 18 10.9 -0.5**
comp=Z,74nm,1.2s,mb5.4
SIUC *ep*P pP 17 18 37.2 -1.6
SIUC *es*P sP 17 18 50.6 +0.1
WMOK Wichita Mounta 71.94 334 *e*P **P 17 18 12.3 -0.8**
comp=Z,25nm,0.9s,mb5.0
WMOK *e*PcP PcP 17 18 31.6 +0.4
WMOK *ep*P pP 17 18 41.7 +1.1
WMOK Wichita Mounta 71.94 334 *e*P **P 17 18 12.3 -0.8**
WMOK *e* 17 18 31.6
WMOK *e*PP pP 17 18 41.7 +1.1
WMOK pmax pmax
comp=Z,25nm,0.9s,mb5.0
MNTX Cornudas Mount 72.08 327 *e*P **P 17 18 13.2 -0.9**
comp=Z,24nm,0.8s,mb5.1
MNTX *ep*P pP 17 18 41.1 -0.4
FVM French Village 72.22 342 *e*P **P 17 18 14.0 -0.7**
comp=Z,89nm,1.0s,mb5.5
FVM *ep*P pP 17 18 40.2 -2.0
FVM *es*P sP 17 18 53.9 -0.1
FVM French Village 72.22 342 *e*P **P 17 18 14.0 -0.7**
FVM *e*PP pP 17 18 40.2 -2.0
FVM pmax pmax
comp=Z,89nm,1.0s,mb5.5
OLIL Olney 72.34 344 *e*P **P 17 18 14.0 -1.4**
comp=Z,93nm,1.3s,mb5.5
MEH Mehetia 72.40 260 *e*P **P 17 18 16.0 -0.4**
comp=Z,69nm,1.2s,mb5.4
BLO Bloomington 72.40 345 *e*P **P 17 18 14.6 -1.2**
comp=Z,20nm,0.8s,mb5.0
BLO *ep*P pP 17 18 43.2 -0.1
BLO Bloomington 72.40 345 *e*P **P 17 18 14.6 -1.1**
BLO *e*PP pP 17 18 43.2 0.0
BLO pmax pmax
comp=Z,19nm,0.8s,mb5.0
ACSO Alum Creek Sta 72.73 348⇓ *iP* **P 17 18 17.1 -0.6**
comp=Z,128nm,1.3s,mb5.6
ACSO *ep*P pP 17 18 43.3 -1.9
ACSO *es*P sP 17 18 56.1 -0.9
SUR Sutherland 73.16 118 *e*P **P 17 18 21.4 +0.7**
comp=Z,29nm,0.7s,mb5.2
SUR *ep*P pP 17 18 48.9 +0.7
SUR *es*P sP 17 19 00.5 +0.5
SUR Sutherland 73.16 118 P **P 17 18 22.5 +1.8**
comp=Z,262nm,0.6s,mb6.2,SNR=15
AMTX Amarillo 73.20 332 *e*P **P 17 18 20.8 +0.2**
comp=Z,183nm,1.4s,mb5.7
AMTX *e*PcP PcP 17 18 37.3 +0.7
AMTX *ep*P pP 17 18 49.8 +1.6
AMTX *es*P sP 17 19 00.4 +0.5
PMOR Pomariorio Ree 73.62 262 *e*P **P 17 18 24.3 +0.7**
comp=Z,30nm,1.2s,mb4.9
PAE Paea 73.77 259 *e*P **P 17 18 25.4 +1.0**
comp=Z,12nm,1.1s,mb4.5
PAE *ep*P pP 17 18 53.6 +1.6
comp=Z,5.9nm,0.8s
PPT2 Papeete2 73.80 259 *e*P **P 17 18 25.7 +1.1**
comp=Z,52nm,1.1s,mb5.2
PPT2 *ep*P pP 17 18 53.5 +1.3
comp=Z,55nm,1.2s
PPT2 *e*LR LR 17 40 59.4
comp=Z,249nm,34.5s
TRY Troy 74.10 356 *e*P **P 17 18 25.4 -0.2**
comp=Z,74nm,0.9s,mb5.4
TRY *ep*P pP 17 18 52.8 -0.4
MAW Mawson 74.57 163 P **P 17 18 28.2 -0.1**
comp=Z,40nm,0.8s,mb5.2,baz=209,slow=6.3,SNR=56
MAW pP pP 17 18 55.3 -0.5
comp=Z,27nm,0.8s,baz=231,slow=9.8,SNR=6.3
MAW Mawson 74.57 163⇓ *iP* **P 17 18 28.1 -0.1**
MAW *e* pP 17 18 55.1 -0.7
MAW Mawson 74.57 163 *e*P **P 17 18 27.7 -0.5**
comp=Z,9.8nm,0.8s,mb4.6
MAW *ep*P pP 17 18 54.7 -1.1
MAW pP pP 17 18 55.3 -0.5
MAW Mawson 74.57 163 *e*P **P 17 18 27.7 -0.5**
MAW *e*PP pP 17 18 54.7 -1.1
MAW pmax pmax
comp=Z,10.0nm,0.8s
KSU1 Kansas State U 75.09 338 *e*P **P 17 18 31.0 -0.5**
comp=Z,32nm,0.8s,mb5.1
KSU1 *ep*P pP 17 18 59.8 +0.7
TUC Tucson 75.20 324 *e*P **P 17 18 32.9 +0.6**
comp=Z,48nm,1.7s,mb5.0
TUC *e*PcP PcP 17 18 46.4 +1.2
TUC *ep*P pP 17 19 00.3 +0.3
TUC Tucson 75.20 324 *e*P **P 17 18 32.9 +0.6**
TUC *e* 17 18 46.4
TUC *e*PP pP 17 19 00.3 +0.4
TUC pmax pmax
comp=Z,48nm,1.7s,mb5.0
ANMO Albuquerque 75.30 328 *e*P **P 17 18 33.6 +0.8**
comp=Z,45nm,1.1s,mb5.1
ANMO *ep*P pP 17 18 59.9 -0.5
ANMO Albuquerque 75.30 328 *e*P **P 17 18 33.6 +0.8**
ANMO *e*PP pP 17 18 59.9 -0.5
ANMO pmax pmax
comp=Z,45nm,1.1s
MDV Middlebury 75.33 356 *e*P **P 17 18 32.8 0.0**
comp=Z,4μm,1.0s
MDV *ep*P pP 17 19 00.5 +0.1
NCB Newcomb 75.37 356 *e*P **P 17 18 32.0 -0.9**
comp=Z,43nm,1.2s,mb5.0
CBKS Cedar Bluff 75.91 335 *e*P **P 17 18 36.5 +0.3**
comp=Z,104nm,0.9s,mb5.6
CBKS *ep*P pP 17 19 02.7 -1.1
CBKS Cedar Bluff 75.91 335 *e*P **P 17 18 36.5 +0.3**
CBKS *e*PP pP 17 19 02.7 -1.2
CBKS pmax pmax
comp=Z,104nm,0.9s,mb5.6
FRNY Flat Rock 76.19 356 *e*P **P 17 18 37.4 -0.2**
comp=Z,18nm,0.7s,mb4.9
FRNY *ep*P pP 17 19 05.3 0.0
MSNY Massena 76.44 355 *e*P **P 17 18 39.0 +0.1**
comp=Z,319nm,1.0s,mb6.0
SCIA State Center 76.64 341 *e*P **P 17 18 39.8 -0.5**
comp=Z,73nm,1.1s,mb5.3
SCIA *ep*P pP 17 19 06.3 -1.6
JFWS Jewell Farm 76.82 344 *e*P **P 17 18 40.5 -0.7**
comp=Z,98nm,1.4s,mb5.3
JFWS *ep*P pP 17 19 07.7 -1.2
JFWS Jewell Farm 76.82 344 *e*P **P 17 18 40.5 -0.7**
JFWS *e*PP pP 17 19 07.7 -1.2
JFWS pmax pmax
comp=Z,98nm,1.4s,mb5.3
SDCO Great Sand Dun 77.23 331 *e*P **P 17 18 44.6 +1.0**
comp=Z,9.7nm,0.8s,mb4.6
SDCO *ep*P pP 17 19 10.9 -0.5
WUAZ Wupatki 78.06 325 *e*P **P 17 18 49.8 +1.5**
comp=Z,54nm,1.0s,mb5.2
MVCO Mesa Verde 78.09 328 *e*P **P 17 18 49.3 +0.9**
comp=Z,25nm,0.8s,mb5.0
MVCO *ep*P pP 17 19 16.3 +0.1
BOSA Boshof 78.32 116 P **P 17 18 50.1 0.0**
comp=Z,39nm,0.8s,mb5.2,baz=252,slow=4.9,SNR=64
BOSA pP pP 17 19 18.2 +0.3
comp=Z,22nm,0.8s,baz=254,slow=5.0,SNR=5.1
BOSA LR LR 17 48 47.9
comp=Z,162nm,18.3s,baz=346,slow=32
BOSA Boshof 78.32 116 *e*P **P 17 18 49.5 -0.6**
comp=Z,97nm,1.0s,mb5.5
BOSA *ep*P pP 17 19 17.6 -0.3
BOSA pP pP 17 19 18.2 +0.3
BOSA *es*P sP 17 19 29.2 -0.5
BOSA Boshof 78.32 116 *e*P **P 17 18 49.6 -0.5**
BOSA *e*PP pP 17 19 17.6 -0.3
BOSA *P pP 17 19 18.2 +0.3
BOSA pmax pmax
comp=Z,97nm,1.0s,mb5.5
OGNE Ogallala 78.62 335 *e*P **P 17 18 51.2 0.0**
comp=Z,241nm,1.8s,mb5.7
OGNE *ep*P pP 17 19 19.3 +0.2
PV01 Paradox Valley 78.88 329 *e*P **P 17 18 53.7 +1.0**
comp=Z,3μm,1.1s
ISCO Idaho Springs 79.02 332 *e*P **P 17 18 54.4 +1.0**
comp=Z,37nm,0.9s,mb5.2
ISCO *ep*P pP 17 19 20.9 -0.5
ISCO Idaho Springs 79.02 332 *e*P **P 17 18 54.4 +1.0**
ISCO *e*PP pP 17 19 20.9 -0.4
ISCO pmax pmax
comp=Z,37nm,0.9s,mb5.2
PV04 Paradox Valley 79.25 329 *e*P **P 17 18 55.0 +0.3**
ECSD EROS Data Cent 79.30 339 *e*P **P 17 18 54.5 -0.4**
comp=Z,68nm,0.9s,mb5.5
ECSD *ep*P pP 17 19 19.0 -3.8
TORD Torodi Ar. Bea 80.35 68 P **P 17 19 01.2 0.0**
comp=Z,38nm,1.0s,mb5.2,baz=255,slow=5.6,SNR=134
TORD pP pP 17 19 29.8 +0.6
comp=Z,65nm,0.8s,baz=256,slow=5.1,SNR=20
TORD PKKPbc PKKPbc 17 37 42.6 +0.5
comp=Z,0.4nm,0.5s,baz=50,slow=2.0,SNR=4.2
TORD Torodi Ar. Bea 80.35 68 P **P 17 19 01.2 0.0**
TORD pP pP 17 19 29.8 +0.6
TORD PKKPbc PKKPbc 17 37 42.6 +0.5
LBTB Lobatse 80.37 113 *e*P **P 17 19 00.9 -0.4**
comp=Z,90nm,1.0s,mb5.5
LBTB *ep*P pP 17 19 28.4 -0.9
LBTB *es*P sP 17 19 39.9 -1.1
LBTB Lobatse 80.37 113 *e*P **P 17 19 00.9 -0.4**
LBTB *e*PP pP 17 19 28.4 -0.9
LBTB pmax pmax
comp=Z,90nm,1.0s,mb5.5
SRU San Rafael 80.56 328 *e*P **P 17 19 02.4 +0.6**
comp=Z,65nm,1.3s,mb5.3
SRU *ep*P pP 17 19 30.5 +0.8
SRU *es*P sP 17 19 43.5 +2.1
SRU San Rafael 80.56 328 *e*P **P 17 19 02.4 +0.6**
SRU *e*PP pP 17 19 30.5 +0.7
SRU pmax pmax
comp=Z,65nm,1.3s,mb5.3
CCUT Cedar City 80.64 325 *e*P **P 17 19 03.8 +1.6**
comp=Z,51nm,1.0s,mb5.3
CCUT *ep*P pP 17 19 30.6 +0.4
CCUT *es*P sP 17 19 43.0 +1.1
MSU Marysvale 80.84 327 *e*P **P 17 19 04.3 +1.0**
comp=Z,33nm,1.0s,mb5.1
MSU *ep*P pP 17 19 29.5 -1.8
MSU Marysvale 80.84 327 *e*P **P 17 19 04.3 +1.0**
MSU *e*PP pP 17 19 29.5 -1.8
MSU pmax pmax
comp=Z,33nm,1.0s,mb5.1
ARUT Antelope Range 80.87 325 *e*P **P 17 19 05.0 +1.5**
comp=Z,43nm,1.0s,mb5.2
ARUT Antelope Range 80.87 325 *e*P **P 17 19 05.0 +1.5**
ARUT pmax pmax
comp=Z,43nm,1.0s,mb5.2
MIR Mirnyy 81.15 173⇑ *iP* **P 17 19 03.2 -1.5**
MIR *i* pP 17 19 31.0 -1.7
MIR pmax pmax
comp=Z,43nm,1.4s,mb5.1
RWWY Rawlins 81.26 332 *e*P **P 17 19 06.4 +1.0**
comp=Z,132nm,1.1s,mb5.7
RWWY *ep*P pP 17 19 33.3 -0.2
RWWY *es*P sP 17 19 46.6 +1.5
MPU Maple Canyon 81.79 328 *e*P **P 17 19 09.1 +0.8**
comp=Z,25nm,0.9s,mb5.0
MPU *ep*P pP 17 19 36.6 +0.2
MPU *es*P sP 17 19 49.3 +1.4
ISA Isabella 81.82 321 *e*P **P 17 19 09.3 +0.7**
ISA *ep*P pP 17 19 37.9 +1.2
ISA Isabella 81.82 321 *e*P **P 17 19 09.3 +0.7**
ISA *e*PP pP 17 19 37.9 +1.3
DAU Daniels Canyon 81.94 328 *e*P **P 17 19 09.6 +0.5**
comp=Z,24nm,1.0s,mb5.0
DAU Daniels Canyon 81.94 328 *e*P **P 17 19 09.6 +0.5**
DAU pmax pmax
comp=Z,24nm,1.0s,mb5.0
RSSD Black Hills 82.11 335 *e*P **P 17 19 10.1 +0.2**
comp=Z,45nm,1.1s,mb5.2
RSSD *ep*P pP 17 19 37.8 -0.1
RSSD Black Hills 82.11 335 *e*P **P 17 19 10.1 +0.3**
RSSD *e*PP pP 17 19 37.8 -0.1
RSSD pmax pmax
comp=Z,45nm,1.1s,mb5.2
JLU Jordanelle 82.18 328 *e*P **P 17 19 11.3 +1.0**
comp=Z,16nm,0.9s,mb4.8
JLU *ep*P pP 17 19 37.9 -0.5
CASY Casey 82.47 179 *e*P **P 17 19 10.2 -1.4**
CASY *ep*P pP 17 19 37.7 -2.0
DUG Dugway 82.48 327 *e*P **P 17 19 12.3 +0.5**
comp=Z,23nm,0.9s,mb5.0
DUG *ep*P pP 17 19 40.8 +0.8
DUG Dugway 82.48 327 *e*P **P 17 19 12.4 +0.5**
DUG *e*PP pP 17 19 40.8 +0.8
DUG pmax pmax
comp=Z,23nm,0.9s,mb5.0
HWUT Hardware Ranch 83.05 329 *e*P **P 17 19 15.1 +0.3**
comp=Z,21nm,0.8s,mb5.0
HWUT *ep*P pP 17 19 42.6 -0.3
PDAR Pinedale Array 83.13 331 P **P 17 19 15.2 +0.1**
comp=Z,18nm,0.8s,mb5.0,baz=133,slow=4.4,SNR=82
PDAR pP pP 17 19 43.6 +0.4
comp=Z,10nm,0.9s,baz=117,slow=5.3,SNR=5.2
PDAR PKKPbc PKKPbc 17 37 34.4 -3.2
comp=Z,1.1nm,0.8s,baz=139,slow=3.1,SNR=6.8
PDAR Pinedale Array 83.13 331 P **P 17 19 15.2 +0.1**
PDAR pP pP 17 19 43.6 +0.4
PDAR PKKPbc PKKPbc 17 37 34.4 -3.2
AGMN Agassiz Nation 83.26 342 *e*P **P 17 19 15.0 -0.7**
comp=Z,25nm,0.9s,mb5.0
AGMN *ep*P pP 17 19 42.8 -1.1
HVU Hansel Valley 83.72 328 *e*P **P 17 19 18.2 0.0**
comp=Z,31nm,0.9s,mb5.1
HVU *ep*P pP 17 19 44.6 -1.8
HVU *es*P sP 17 19 59.4 +1.4
HVU Hansel Valley 83.72 328 *e*P **P 17 19 18.2 0.0**
HVU *e*PP pP 17 19 44.6 -1.8
HVU pmax pmax
comp=Z,31nm,0.9s,mb5.1
AHID Auburn Hatcher 83.78 330 *e*P **P 17 19 18.4 -0.1**
comp=Z,57nm,1.3s,mb5.2
NVAR Mina Array Bea 83.81 323 P **P 17 19 19.6 +0.8**
comp=Z,22nm,0.9s,mb5.0,baz=159,slow=6.2,SNR=39
NVAR pP pP 17 19 48.2 +1.3
comp=Z,13nm,0.9s,baz=159,slow=6.3,SNR=5.2
NVAR PKKPbc PKKPbc 17 37 35.6 0.0
comp=Z,1.2nm,0.8s,baz=265,slow=2.8,SNR=7.5
NVAR Mina Array Bea 83.81 323 P **P 17 19 19.6 +0.8**
NVAR pP pP 17 19 48.2 +1.3
NVAR PKKPbc PKKPbc 17 37 35.6 0.0
REDW Red Top Meadow 84.16 330 *e*P **P 17 19 20.6 +0.2**
comp=Z,94nm,1.7s,mb5.3
SNOW Snow King Moun 84.20 330 *e*P **P 17 19 20.6 0.0**
comp=Z,37nm,1.3s,mb5.0
LOHW Long Hollow 84.26 331 *e*P **P 17 19 21.1 +0.2**
comp=Z,38nm,1.3s,mb5.1
LOHW *ep*P pP 17 19 47.1 -1.9
TPAW Teton Pass 84.30 330 *e*P **P 17 19 22.0 +0.9**
comp=Z,45nm,1.3s,mb5.1
TPAW *ep*P pP 17 19 50.1 +0.8
RRI2 Red Ridge 84.34 330 *e*P **P 17 19 21.7 +0.3**
comp=Z,34nm,1.1s,mb5.1
RRI2 *ep*P pP 17 19 47.6 -1.9
MOOW Moose Ponds 84.43 331 *e*P **P 17 19 21.9 +0.2**
comp=Z,7.2nm,0.8s,mb4.5
DCID1 Drake Creek 84.49 330 P **P 17 19 22.9 +0.9**
comp=Z,14nm,0.5s,mb5.0
CMB Columbia Colle 84.61 321 *e*P **P 17 19 23.4 +0.5**
comp=Z,15nm,0.9s,mb4.9
CMB Columbia Colle 84.61 321 *e*P **P 17 19 23.4 +0.6**
CMB pmax pmax
comp=Z,15nm,0.9s,mb4.9
FLWY Flagg Ranch 84.68 331 *e*P **P 17 19 23.7 +0.7**
comp=Z,40nm,1.0s,mb5.3
FLWY *ep*P pP 17 19 50.3 -1.0
RLMT Red Lodge 84.95 332 *e*P **P 17 19 24.6 +0.3**
comp=Z,66nm,1.2s,mb5.4
RLMT *ep*P pP 17 19 52.4 -0.1
YFT Old Faithful 85.04 331 *e*P **P 17 19 26.8 +2.0**
comp=Z,32nm,1.0s,mb5.2
ULM Lac du Bonnet 85.06 343 P **P 17 19 24.2 -0.6**
comp=Z,39nm,0.8s,mb5.4,baz=160,slow=5.4,SNR=60
ULM pP pP 17 19 52.7 -0.3
comp=Z,21nm,0.8s,baz=151,slow=4.7,SNR=7.4
ULM PKKPbc PKKPbc 17 37 30.6 -2.7
comp=Z,3.8nm,0.9s,baz=338,slow=5.7,SNR=5.0
ULM Lac du Bonnet 85.06 343 *e*P **P 17 19 23.6 -1.1**
comp=Z,46nm,1.0s,mb5.4
ULM *ep*P pP 17 19 52.8 -0.2
ULM PKKPbc PKKPbc 17 37 30.6 -2.7
ULM Lac du Bonnet 85.06 343 *e*P **P 17 19 23.6 -1.2**
ULM *e*PP pP 17 19 52.8 -0.2
ULM pmax pmax
comp=Z,46nm,1.0s
LAO LASA Array 85.11 335 *e*P **P 17 19 25.1 0.0**
comp=Z,48nm,0.9s,mb5.4
LAO *ep*P pP 17 19 52.2 -1.1
YNR Norris Junctio 85.19 331 *e*P **P 17 19 26.6 +1.1**
comp=Z,12nm,1.0s,mb4.8
WCN Washoe City 85.21 322 *e*P **P 17 19 26.3 +0.5**
comp=Z,20nm,1.5s,mb4.8
WCN Washoe City 85.21 322 *e*P **P 17 19 26.3 +0.5**
WCN pmax pmax
comp=Z,20nm,1.5s,mb4.8
YMR Madison River 85.27 331 *e*P **P 17 19 27.0 +1.1**
comp=Z,138nm,1.3s,mb5.7
YMR *ep*P pP 17 19 53.8 -0.4
YMR *es*P sP 17 20 07.8 +2.0
QLMT Earthquake Lak 85.59 331 *e*P **P 17 19 28.6 +1.1**
comp=Z,5.8nm,1.1s,mb4.4
QLMT *ep*P pP 17 19 57.1 +1.3
QLMT *es*P sP 17 20 09.9 +2.5
GCMT Greycliff 85.66 332 *e*P **P 17 19 28.1 +0.2**
comp=Z,88nm,1.5s,mb5.5
GCMT *ep*P pP 17 19 56.0 -0.2
GCMT *es*P sP 17 20 08.9 +1.2
DGMT Dagmar 85.93 337 *e*P **P 17 19 29.2 +0.1**
comp=Z,108nm,1.1s,mb5.7
DGMT *ep*P pP 17 19 56.8 -0.6
SCHQ Schefferville 86.05 1 P **P 17 19 29.1 -0.5**
comp=Z,32nm,0.9s,mb5.2,baz=162,slow=5.6,SNR=21
SCHQ pP pP 17 19 58.0 +0.2
comp=Z,12nm,0.9s,baz=200,slow=8.4,SNR=3.4
SCHQ Schefferville 86.05 1 P **P 17 19 29.1 -0.5**
SCHQ pP pP 17 19 58.0 +0.2
MCMT McKenzie Canyo 86.19 330 *e*P **P 17 19 31.6 +1.1**
comp=Z,32nm,0.9s,mb5.2
MCMT *ep*P pP 17 19 58.7 -0.1
MCMT *es*P sP 17 20 12.1 +1.7
BOZ Bozeman (W) 86.34 331 *e*P **P 17 19 31.0 -0.2**
comp=Z,36nm,1.6s,mb5.0
BOZ *ep*P pP 17 19 58.8 -0.7
BOZ Bozeman (W) 86.34 331 *e*P **P 17 19 31.0 -0.2**
BOZ *e*PP pP 17 19 58.8 -0.7
BOZ pmax pmax
comp=Z,36nm,1.6s,mb5.0
MFID Camas Ranch 86.40 327 *e*P **P 17 19 32.0 +0.4**
comp=Z,25nm,0.9s,mb5.1
MFID *ep*P pP 17 19 58.8 -1.1
DLMT Dillon 86.51 330 *e*P **P 17 19 32.5 +0.4**
comp=Z,72nm,1.3s,mb5.4
DLMT *ep*P pP 17 20 00.5 +0.1
HOPS Hopland 86.75 320 *e*P **P 17 19 34.0 +0.6**
comp=Z,54nm,1.5s,mb5.3
LRM Limekiln Ridge 86.82 331 *e*P **P 17 19 34.3 +0.7**
comp=Z,473nm,1.2s,mb6.3
LRM *ep*P pP 17 20 01.1 -0.8
LRM *es*P sP 17 20 14.2 +0.8
WVOR Wild Horse Val 86.98 325 *e*P **P 17 19 34.9 +0.4**
comp=Z,48nm,1.3s,mb5.3
WVOR *ep*P pP 17 20 03.6 +0.8
WVOR *es*P sP 17 20 17.6 +3.3
WVOR Wild Horse Val 86.98 325 *e*P **P 17 19 34.9 +0.5**
WVOR *e*PP pP 17 20 03.6 +0.8
WVOR pmax pmax
comp=Z,48nm,1.3s,mb5.3
HRY Holter Researc 87.28 332 *e*P **P 17 19 36.1 +0.4**
comp=Z,68nm,1.6s,mb5.3
HRY *ep*P pP 17 20 05.1 +1.0
MOD Modoc 87.41 324 *e*P **P 17 19 37.3 +0.8**
comp=Z,48nm,0.9s,mb5.4
MOD *ep*P pP 17 20 06.4 +1.5
KCPM Cahto Peak 87.52 321 *e*P **P 17 19 38.7 +1.6**
comp=Z,51nm,1.2s,mb5.4
KCPM *ep*P pP 17 20 07.4 +2.0
EGMT Eagleton 87.54 334 *e*P **P 17 19 36.7 -0.2**
comp=Z,61nm,1.1s,mb5.5
EGMT *ep*P pP 17 20 04.9 -0.4
EGMT *es*P sP 17 20 16.9 0.0
RPZ Rata Peaks 87.56 219 P **P 17 19 37.1 -0.4**
comp=Z,30nm,1.0s,mb5.3,baz=165,slow=11,SNR=3.7
RPZ Rata Peaks 87.56 219 P **P 17 19 37.1 -0.4**
WDC Whiskeytown Da 87.60 322 *e*P **P 17 19 36.8 -0.6**
comp=Z,24nm,0.9s,mb5.2
WDC *ep*P pP 17 20 03.8 -2.0
WDC Whiskeytown Da 87.60 322 *e*P **P 17 19 36.8 -0.7**
WDC *e*PP pP 17 20 03.8 -2.0
WDC pmax pmax
comp=Z,24nm,0.9s,mb5.2
CHMT Chamberlain Mo 88.03 331 *e*P **P 17 19 39.7 +0.4**
comp=Z,28nm,1.4s,mb5.1
CHMT *e* 17 19 57.5
BMO Blue Mountains 88.19 327 *e*P **P 17 19 40.2 +0.1**
comp=Z,13nm,1.2s,mb4.8
BMO *ep*P pP 17 20 07.8 -0.7
BMO Blue Mountains 88.19 327 *e*P **P 17 19 40.3 +0.2**
BMO *e*PP pP 17 20 07.8 -0.7
BMO pmax pmax
comp=Z,13nm,1.2s,mb4.8
MSO Missoula 88.25 331 *e*P **P 17 19 40.5 +0.1**
comp=Z,40nm,1.6s,mb5.2
MSO *ep*P pP 17 20 11.1 +2.3
PTEO Sao Teotonio 88.38 43 *ep*P pP 17 20 11.2 +1.5
SLMT Seeley Lake 88.39 331 *e*P **P 17 19 41.4 +0.4**
comp=Z,33nm,0.9s,mb5.4
SLMT *ep*P pP 17 20 07.5 -1.9
SLMT *es*P sP 17 20 21.9 +0.9
YBH Yreka Blue Hor 88.52 322 *e*P **P 17 19 41.5 -0.3**
comp=Z,18nm,0.9s,mb5.1
YBH *ep*P pP 17 20 10.8 +0.6
YBH *es*P sP 17 20 21.1 -0.6
YBH Yreka Blue Hor 88.52 322 *e*P **P 17 19 41.5 -0.3**
YBH *e*PP pP 17 20 10.8 +0.6
YBH pmax pmax
comp=Z,18nm,0.9s
PBDV Barranco-do-Ve 88.65 44 *e*P **P 17 19 43.5 +1.0**
comp=Z,54nm,1.8s,mb5.3
PBDV *ep*P pP 17 20 12.7 +1.8
SWMT Swartz Lake 88.81 331 *e*P **P 17 19 43.0 +0.1**
comp=Z,29nm,1.1s,mb5.2
SWMT *ep*P pP 17 20 12.1 +0.7
PCVE Castro Verde 88.84 44 *e*P **P 17 19 44.2 +0.8**
PCVE *ep*P pP 17 20 13.2 +1.4
TAM Tamanrasset 88.87 62 *e*P **P 17 19 44.4 +0.5**
comp=Z,6.9nm,1.0s,mb4.6
TAM *ep*P pP 17 20 11.9 -0.4
TAM Tamanrasset 88.87 62 *e*P **P 17 19 44.4 +0.5**
TAM *e*PP pP 17 20 11.9 -0.4
TAM pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
PVAQ Vaqueiros 88.88 44 *e*P **P 17 19 43.8 +0.2**
YBMT Yellow Bay 89.09 331 *e*P **P 17 19 44.8 +0.5**
comp=Z,9.5nm,0.7s,mb4.9
YBMT *ep*P pP 17 20 10.8 -2.0
JTMT Jette 89.11 331 *e*P **P 17 19 44.5 +0.1**
comp=Z,13nm,0.6s,mb5.2
JTMT *ep*P pP 17 20 13.4 +0.5
JTMT *es*P sP 17 20 23.2 -1.2
PBEJ Beja 89.21 43 *e*P **P 17 19 45.6 +0.5**
PBEJ *ep*P pP 17 20 15.2 +1.6
BLMT Blacktail Moun 89.36 331 *e*P **P 17 19 46.2 +0.7**
comp=Z,66nm,1.2s,mb5.5
BLMT *ep*P pP 17 20 12.5 -1.5
EVOP Sao Brissos 89.39 43 *e*P **P 17 19 46.0 0.0**
comp=Z,24nm,1.0s,mb5.2
EVOP *ep*P pP 17 20 15.2 +0.8
EVOP Sao Brissos 89.39 43 *e*P **P 17 19 46.0 0.0**
EVOP *e*PP pP 17 20 15.2 +0.8
EVOP pmax pmax
comp=Z,24nm,1.0s,mb5.2
BSMT Bassoo Peak 89.41 331 *e*P **P 17 19 46.0 +0.3**
comp=Z,45nm,1.4s,mb5.3
EVO Evora 89.46 43 *e*P **P 17 19 46.0 -0.3**
comp=Z,24nm,1.0s,mb4.9

EVO *e*pP pP 17 20 15.2 +0.5
PMTG Montargil 89.70 42 *e*P **P 17 19 47.5 +0.1**
PMTG *e*pP pP 17 20 17.0 +1.2
PBAR Barrancos 89.79 44 *e*P **P 17 19 48.0 +0.2**
PBAR *e*pP pP 17 20 17.6 +1.3
PESTR Estremoz 89.93 43 *e*P **P 17 19 48.9 +0.4**
comp=Z,25nm,2.3s,mb4.9
PESTR *e*pP pP 17 20 18.3 +1.4
PTOM Tomar 89.96 42 *e*P **P 17 19 49.2 +0.6**
PTOM *e*pP pP 17 20 18.4 +1.3
HAWA Hanford 90.37 327 *e*P **P 17 19 50.8 +0.5**
comp=Z,49nm,1.3s,mb5.5
HAWA *e*pP pP 17 20 18.4 -0.3
RSW Rattlesnake Hi 90.40 327 *e*P **P 17 19 51.0 +0.5**
comp=Z,40nm,1.2s,mb5.4
RSW *e*pP pP 17 20 20.0 +1.1
PMRV Marv??o 90.42 43 *e*P **P 17 19 50.9 +0.2**
PMRV *e*pP pP 17 20 19.9 +0.7
PCBR Castelo Branco 90.65 42 *e*P **P 17 19 52.0 +0.2**
FFC Flin Flon 90.72 341 *e*P **P 17 19 51.2 -0.5**
comp=Z,34nm,1.1s,mb5.4
FFC *e*pP pP 17 20 18.8 -1.4
FFC Flin Flon 90.72 341 *e*P **P 17 19 51.2 -0.5**
FFC *e**PP pP 17 20 18.8 -1.4
FFC pmax pmax
comp=Z,34nm,1.1s,mb5.4
FFC Flin Flon 90.72 341 P **P 17 19 51.7 0.0**
comp=Z,157nm,1.0s,mb6.1,SNR=10
OD2 Odessa Site #2 90.75 328 *e*P **P 17 19 52.0 0.0**
comp=Z,114nm,1.2s,mb5.9
OD2 *e*pP pP 17 20 20.1 -0.4
OD2 *es*P sP 17 20 36.7 +4.7
PGAV Gavieira, Arco 91.62 40 *e*P **P 17 19 56.2 0.0**
ETW Entiat 91.64 328 *e*P **P 17 19 56.5 +0.3**
comp=Z,63nm,0.9s,mb5.8
ETW *e*pP pP 17 20 23.7 -1.0
ETW *es*P sP 17 20 36.2 0.0
LON Longmire 91.70 326 *e*P **P 17 19 55.9 -0.5**
comp=Z,14nm,1.0s,mb5.1
LON *e*pP pP 17 20 22.8 -2.1
LON Longmire 91.70 326 *e*P **P 17 19 55.9 -0.6**
LON *e**PP pP 17 20 22.8 -2.2
LON pmax pmax
comp=Z,14nm,1.0s,mb5.2
MVO Moncorvo 91.78 41 *e*P **P 17 19 57.3 +0.3**
comp=Z,22nm,1.3s,mb5.2
MVO *e*pP pP 17 20 26.3 +0.8
PBRG Braganca 92.37 41 *e*P **P 17 20 00.3 +0.6**
ESDC Sonseca Array 92.59 44 P **P 17 20 01.0 +0.2**
comp=Z,2.9nm,0.9s,mb4.6,baz=240,slow=4.2,SNR=14
ESDC pP pP 17 20 30.1 +0.8
comp=Z,3.6nm,0.8s,baz=248,slow=4.2,SNR=6.7
ESDC Sonseca Array 92.59 44 P **P 17 20 01.0 +0.2**
ESDC pP pP 17 20 30.1 +0.8
ESLA Sonseca Array 92.59 44 *e*P **P 17 20 00.3 -0.4**
ESLA *e*pP pP 17 20 29.6 +0.4
JCW Jim Creek 92.80 327 *e*P **P 17 19 59.7 -1.8**
comp=Z,42nm,1.0s,mb5.7
JCW *e*pP pP 17 20 29.2 -0.8
SJPF Ste Jean 96.35 43 *e*P **P 17 20 18.0 +0.1**
comp=Z,69nm,1.5s,mb5.6
SJPF Ste Jean 96.35 43 *e*P **P 17 20 18.0 +0.1**
comp=Z,69nm,1.5s,mb5.9
SJPF *e*pP pP 17 20 45.3 -1.1
SJPF Ste Jean 96.35 43 *e*P **P 17 20 18.0 +0.1**
SJPF *e**PP pP 17 20 45.3 -1.1
SJPF pmax pmax
comp=Z,69nm,1.5s,mb5.9
ETSF Etsaut 96.60 43 *e*P **P 17 20 19.3 +0.2**
comp=Z,25nm,1.3s,mb5.2
ETSF *e*pP pP 17 20 46.4 -1.2
ETSF Etsaut 96.60 43 *e*P **P 17 20 19.3 +0.2**
comp=Z,25nm,1.3s,mb5.5
ETSF *e*pP pP 17 20 46.4 -1.2
ETSF Etsaut 96.60 43 *e*P **P 17 20 19.3 +0.2**
ETSF *e**PP pP 17 20 46.4 -1.2
ETSF pmax pmax
comp=Z,25nm,1.3s,mb5.5
ROSF Rostrenen 98.45 38 *e*P **P 17 20 26.3 -0.9**
comp=Z,49nm,1.1s,mb5.7
ROSF Rostrenen 98.45 38 *e*P **P 17 20 26.3 -0.9**
comp=Z,49nm,1.1s,mb6.0
ROSF Rostrenen 98.45 38 *e*P **P 17 20 26.3 -0.9**
ROSF pmax pmax
comp=Z,49nm,1.1s,mb6.0
MTLF Montolieu 98.50 44 *e*P **P 17 20 26.9 -0.7**
MTLF Montolieu 98.50 44 *e*P **P 17 20 26.9 -0.7**
MTLF Montolieu 98.50 44 *e*P **P 17 20 26.9 -0.7**
LFF La Frestale 98.58 42 *e*P **P 17 20 27.5 -0.4**
comp=Z,46nm,1.2s,mb5.6
LFF La Frestale 98.58 42 *e*P **P 17 20 27.5 -0.4**
comp=Z,46nm,1.2s,mb5.9
LFF La Frestale 98.58 42 *e*P **P 17 20 27.5 -0.4**
LFF pmax pmax
comp=Z,46nm,1.2s,mb5.9
MFF Saint Martin d 99.07 40 *e*P **P 17 20 29.6 -0.4**
MFF Saint Martin d 99.07 40 *e*P **P 17 20 29.6 -0.4**
MFF Saint Martin d 99.07 40 *e*P **P 17 20 29.6 -0.4**
RJF Les Rejaudoux 99.24 42 *e*P **P 17 20 30.1 -0.7**
comp=Z,23nm,1.2s,mb5.3
RJF Les Rejaudoux 99.24 42 *e*P **P 17 20 30.1 -0.7**
comp=Z,23nm,1.2s,mb5.6
RJF Les Rejaudoux 99.24 42 *e*P **P 17 20 30.1 -0.7**
RJF pmax pmax
comp=Z,23nm,1.2s,mb5.6
CAF Calviac 99.33 43 *e*P Pdif 17 20 30.9 -0.6
comp=Z,33nm,1.4s
CAF Calviac 99.33 43 *e*P Pdif 17 20 30.9 -0.6
comp=Z,33nm,1.4s
CAF Calviac 99.33 43 *e*P Pdif 17 20 30.9 -0.6
CAF pmax pmax
comp=Z,33nm,1.4s,mb5.7
FLN La Foliniere 100.18 38 *e*P Pdif 17 20 34.1 -1.2
FLN La Foliniere 100.18 38 *e*P Pdif 17 20 34.1 -1.2
FLN La Foliniere 100.18 38 *e*P Pdif 17 20 34.1 -1.2
TCF Toulx Ste Croi 100.20 42 *e*P Pdif 17 20 34.6 -0.8
TCF Toulx Ste Croi 100.20 42 *e*P Pdif 17 20 34.6 -0.8
TCF Toulx Ste Croi 100.20 42 *e*P Pdif 17 20 34.6 -0.8
BGF Bois d'Agland 100.72 42 *e*P Pdif 17 20 37.2 -0.5
comp=Z,37nm,1.4s
BGF Bois d'Agland 100.72 42 *e*P Pdif 17 20 37.2 -0.5
comp=Z,37nm,1.4s
BGF Bois d'Agland 100.72 42 *e*P Pdif 17 20 37.2 -0.5
BGF pmax pmax
comp=Z,37nm,1.4s
YKA Yellowknife Ar 100.83 340 P Pdif 17 20 37.1 -1.0
comp=Z,2.7nm,0.6s,baz=139,slow=4.3,SNR=61
YKA pP 17 21 05.4
comp=Z,1.5nm,0.7s,baz=138,slow=4.7,SNR=5.7
YKA PP PP 17 24 46.8 -0.3
comp=Z,0.4nm,0.8s,baz=136,slow=8.2,SNR=5.3
YKA PKKPbc PKKPbc 17 36 49.0 -3.0
comp=Z,0.3nm,0.6s,baz=322,slow=3.6,SNR=9.6
YKA Yellowknife Ar 100.83 340 P Pdif 17 20 37.1 -1.0
YKA pP 17 21 05.4
YKA PP PP 17 24 46.8 -0.3
YKA PKKPbc PKKPbc 17 36 49.0 -3.0
YKA Yellowknife Ar 100.83 340 P Pdif 17 20 37.2 -1.0
YKA 17 24 46.8
AVF Avril sur Loir 101.14 42 *e*P Pdif 17 20 38.7 -0.8
AVF Avril sur Loir 101.14 42 *e*P Pdif 17 20 38.7 -0.8
AVF Avril sur Loir 101.14 42 *e*P Pdif 17 20 38.7 -0.8
SMF Signal de Mont 101.33 42 *e*P Pdif 17 20 40.0 -0.4
comp=Z,31nm,1.3s
SMF Signal de Mont 101.33 42 *e*P Pdif 17 20 40.0 -0.4
comp=Z,31nm,1.3s
SMF Signal de Mont 101.33 42 *e*P Pdif 17 20 40.0 -0.4
SMF pmax pmax
comp=Z,31nm,1.3s
SSF Saint Saulge 101.38 41 *e*P Pdif 17 20 39.7 -0.9
comp=Z,12nm,1.1s
SSF Saint Saulge 101.38 41 *e*P Pdif 17 20 39.7 -0.9
comp=Z,12nm,1.1s
SSF Saint Saulge 101.38 41 *e*P Pdif 17 20 39.7 -0.9
SSF pmax pmax
comp=Z,12nm,1.1s
LOR Lormes 101.69 41 *e*P Pdif 17 20 41.1 -0.9
LOR Lormes 101.69 41 *e*P Pdif 17 20 41.1 -0.9
LOR Lormes 101.69 41 *e*P Pdif 17 20 41.1 -0.9
LPL La Plagne 102.40 44 *e*P Pdif 17 20 45.6 +0.5
LPL La Plagne 102.40 44 *e*P Pdif 17 20 45.6 +0.5
LPL La Plagne 102.40 44 *e*P Pdif 17 20 45.6 +0.5
LPG La Plagne 102.40 44 *e*P Pdif 17 20 45.8 +0.6
comp=Z,27nm,1.3s
LPG La Plagne 102.40 44 *e*P Pdif 17 20 45.8 +0.6
comp=Z,27nm,1.3s
LPG La Plagne 102.40 44 *e*P Pdif 17 20 45.8 +0.6
LPG pmax pmax
comp=Z,27nm,1.3s
GERES GERESS Array B 108.17 44 PKiKP PKiKP 17 25 14.8 -1.7
comp=Z,1.1nm,0.9s,baz=222,slow=1.8,SNR=5.5
GERES PP PP 17 25 45.8 +3.9
comp=Z,1.0nm,0.8s,baz=222,slow=1.8,SNR=4.0
GERES PKKPbc PKKPbc 17 36 27.4 -1.8
comp=Z,0.2nm,0.3s,baz=57,slow=4.9,SNR=3.8
GERES PKKP PKKPbc 17 36 41.3 +12
comp=Z,1.1nm,1.0s,baz=46,slow=3.9,SNR=4.7
GERES GERESS Array B 108.17 44 PKiKP PKiKP 17 25 14.8 -1.7
GERES PP PP 17 25 45.8 +3.9
GERES PKKPbc PKKPbc 17 36 27.4 -1.8
GERES PKKP PKKPbc 17 36 41.3 +12
BRG Berggiesshubel 109.23 42 *e*(P) PKKPbc 17 36 25.0 -0.9
comp=Z,5.5nm,1.1s
INK Inuvik 110.54 339 PKKPbc PKKPbc 17 36 20.2 -1.9
comp=Z,2.0nm,0.9s,baz=291,slow=4.3,SNR=7.0
INK Inuvik 110.54 339 PKKPbc PKKPbc 17 36 20.2 -1.9
ILAR Eielson Array 113.49 333 PP PP 17 26 21.1 +1.4
comp=Z,2.0nm,1.0s,baz=109,slow=6.2,SNR=6.3
ILAR PKKPbc PKKPbc 17 36 09.6 -2.7
comp=Z,1.0nm,0.8s,baz=302,slow=3.9,SNR=8.8
ILAR Eielson Array 113.49 333 PP PP 17 26 21.1 +1.4
ILAR PKKPbc PKKPbc 17 36 09.6 -2.7
MLR Muntele Rosu 114.45 50⇑ *i*P PKKPab 17 36 21.6 +9.2
MLR S PKKPdf 17 36 29.6 -1.9
PLOR Plostina 115.04 50⇓ *i*P PKKPab 17 36 13.5 +3.7
PLOR Plostina 115.04 50 S PKKPab 17 36 16.1 +6.3
VRI Vrincioaia 115.10 50⇓ *i*P PKKPab 17 36 14.4 +4.9
VRI Vrincioaia 115.10 50 S PKKPab 17 36 17.8 +8.3
BRTR Keskin Array B 117.84 59 PKP PKPdf 17 25 35.1 0.0
comp=Z,3.1nm,0.8s,baz=188,slow=3.7,SNR=19
BRTR PKKPab PKKPab 17 35 60.0 +2.0
comp=Z,1.2nm,0.8s,baz=67,slow=4.1,SNR=5.7
BRTR Keskin Array B 117.84 59 PKP PKPdf 17 25 35.1 0.0
BRTR PKKPab PKKPab 17 35 60.0 +2.0
BRTR Keskin Array B 117.84 59 PKIKP PKPdf 17 25 35.2 0.0
KIEV Kiev 118.18 46 *e*P PKPdf 17 25 34.2 -1.2
KIEV *ep*PKPdf pPKPdf 17 26 01.9 -3.3
KIEV *es*PKPdf 17 26 16.6
KIEV Kiev 118.18 46 *e*PKIKP PKPdf 17 25 34.2 -1.3
KIEV *e* 17 26 01.9
AKASG Malin Array Be 118.19 46 *e*PKP PKPdf 17 25 34.5 -1.0
comp=Z,5.4nm,0.8s,baz=260,slow=2.7,SNR=17
AKASG pPKP pPKPdf 17 26 04.2 -1.0
comp=Z,4.6nm,0.7s,baz=263,slow=3.0,SNR=7.5
AKASG Malin Array Be 118.19 46 PKP PKPdf 17 25 34.5 -1.0
AKASG pPKP pPKPdf 17 26 04.2 -1.0
AKASG Malin Array Be 118.19 46 PKIKP PKPdf 17 25 34.5 -1.0
AKASG 17 26 04.2
CTA Charters Tower 118.91 217 PKP PKPdf 17 25 36.9 -1.1
comp=Z,4.2nm,1.0s,baz=40,slow=9.2,SNR=4.4
CTA Charters Tower 118.91 217 PKP PKPdf 17 25 36.9 -1.1
CTA Charters Tower 118.91 217 PKIKP PKPdf 17 25 36.9 -1.1
FINES FINESS Array B 119.19 33 PKP PKPdf 17 25 37.0 -0.1
comp=Z,4.1nm,0.8s,baz=147,slow=1.0,SNR=17
FINES PKKPbc PKKPbc 17 35 51.6 -0.4
comp=Z,2.2nm,0.8s,baz=64,slow=3.2,SNR=5.7
FINES FINESS Array B 119.19 33 PKP PKPdf 17 25 37.0 -0.1
FINES PKKPbc PKKPbc 17 35 51.6 -0.4
FINES FINESS Array B 119.19 33 PKIKP PKPdf 17 25 37.0 -0.1
KAF Kangasniemi 119.44 33 *e*PKIKP PKPdf 17 25 36.0 -1.5
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 119.44 33 *ep* PKPdf 17 25 36.0 -1.5
comp=Z,2.0nm,0.4s
SPITS Spitsbergen Ar 119.55 14 PKP PKPdf 17 25 37.1 -0.3
comp=Z,16nm,1.2s,baz=24,slow=19,SNR=2.3
SPITS Spitsbergen Ar 119.55 14 PKP PKPdf 17 25 37.1 -0.3
SPITS Spitsbergen Ar 119.55 14 PKIKP PKPdf 17 25 37.1 -0.3
ARCES ARCESS Array B 120.48 24 PKP PKPdf 17 25 38.3 -1.0
comp=Z,4.5nm,0.9s,baz=242,slow=5.1,SNR=11
ARCES PKKPbc PKKPbc 17 35 44.4 -3.0
comp=Z,3.2nm,0.7s,baz=82,slow=3.1,SNR=10
ARCES ARCESS Array B 120.48 24 PKP PKPdf 17 25 38.3 -1.0
ARCES PKKPbc PKKPbc 17 35 44.4 -3.0
ARCES ARCESS Array B 120.48 24 PKIKP PKPdf 17 25 38.3 -1.0
ASAR Alice Springs 121.14 204 PKP PKPdf 17 25 40.6 -1.5
comp=Z,5.7nm,0.5s,baz=136,slow=1.7,SNR=134
ASAR pPKP pPKPdf 17 26 10.4 -1.5
comp=Z,3.7nm,0.6s,baz=138,slow=1.8,SNR=7.1
ASAR PKKPbc PKKPbc 17 35 44.2 0.0
comp=Z,2.5nm,0.8s,baz=352,slow=3.5,SNR=6.1
ASAR Alice Springs 121.14 204 PKP PKPdf 17 25 40.6 -1.5
ASAR pPKP pPKPdf 17 26 10.4 -1.5
ASAR PKKPbc PKKPbc 17 35 44.2 0.0
ASAR Alice Springs 121.14 204 PKIKP PKPdf 17 25 40.7 -1.5
ASAR 17 26 10.4
AS31 Alice Springs 121.14 204 *e*PKPdf PKPdf 17 25 40.4 -1.7
AS31 *ep*PKPdf pPKPdf 17 26 08.9 -3.0
MTSU Mount Surprise 121.54 217 *e*PKP PKPdf 17 25 42.3 -0.7
comp=Z,18nm,1.0s
QIS Mount Isa 121.70 211 *e*PKP PKPdf 17 25 42.2 -1.1
JOF Joensuu 121.86 32 *e*PKIKP PKPdf 17 25 41.2 -1.0
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF Joensuu 121.86 32 *ep* PKPdf 17 25 41.2 -1.0
comp=Z,5.5nm,0.5s
ANN Anapa 122.00 54 *i* PKIKP PKPdf 17 25 40.6 -2.4
ANN pmax pmax
comp=Z,55nm,1.2s
TNA Tin City 122.24 331 *e*PKPdf PKPdf 17 25 42.1 -0.7
TNA *ep*PKPdf pPKPdf 17 26 09.5 -3.0
OBN Obninsk 123.48 42⇑ *i*PKIKP PKPdf 17 25 44.3 -1.2
OBN *e* 17 26 15.2
OBN pmax pmax
comp=Z,85nm,2.5s
WB2 Warramunga Arr 124.39 206 *e*PKPdf PKPdf 17 25 47.4 -1.1
WB2 *ep*PKPdf pPKPdf 17 26 16.1 -2.1
WRA Warramunga Arr 124.40 206 PKP PKPdf 17 25 47.4 -1.1
comp=Z,21nm,0.6s,baz=161,slow=1.7,SNR=323
WRA pPKP pPKPdf 17 26 17.1 -1.2
comp=Z,10nm,0.5s,baz=165,slow=1.5,SNR=11
WRA Warramunga Arr 124.40 206 PKP PKPdf 17 25 47.4 -1.1
WRA pPKP pPKPdf 17 26 17.1 -1.2
WRA Warramunga Arr 124.40 206 PKIKP PKPdf 17 25 47.4 -1.1
WRA 17 26 17.1
WRAB Tennant Creek 124.40 206 *e*PKPdf PKPdf 17 25 47.4 -1.1
WRAB *ep*PKPdf pPKPdf 17 26 16.9 -1.3
WRAB Tennant Creek 124.40 206 *e*PKIKP PKPdf 17 25 47.4 -1.1
WRAB *e* 17 26 16.9
VSR Storozhevoye 124.44 47 *e*PKIKP PKPdf 17 25 46.6 -0.9
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,1.0s
RST Umm Al-Ruwaisa 124.92 74 *e*P PKPdf 17 25 48.2 -0.9
NAY Al-Naaiem 125.03 74 *e*P PKPdf 17 25 49.0 -0.3
MIB Mutribah 125.30 74 *e*P PKPdf 17 25 49.9 0.0
KIV Kislovodsk 125.48 56 *d* /PKIKP PKPdf 17 25 49.5 -0.2
KIV *i* 17 26 21.3
KIV pmax pmax
comp=Z,36nm,1.7s
AKH Akhalkalaki 125.51 59 P PKPdf 17 25 49.4 -0.4
UMR Umm Al-Rimmam 125.53 74 *e*P PKPdf 17 25 50.4 +0.1
KLMR Klimovskoe 125.56 35 *e*PKIKP PKPdf 17 25 47.5 -1.8
KLMR pmax pmax
comp=Z,54nm,1.2s
COEN Coen 125.62 218 *e*PKP PKPdf 17 25 50.6 -0.3
ONI Oni 125.74 58 P PKPdf 17 25 50.0 -0.3
ZEI Tsey 126.10 58 *i* PKIKP PKPdf 17 25 49.0 -1.9
ZEI pmax pmax
comp=Z,10.0nm,1.1s
GNI Garni 126.15 61 *i* PKIKP PKPdf 17 25 51.3 +0.2
GNI pmax pmax
comp=Z,15nm,1.7s
TBLG Delisi 126.50 59 *e*PKIKP PKPdf 17 25 51.5 -0.2
TBLG Delisi 126.50 59 P PKPdf 17 25 51.5 -0.2
MTA Mtatsminda 126.53 59 P PKPdf 17 25 51.7 -0.1
PMG Port Moresby 127.02 226 PKP PKPdf 17 25 53.2 -0.5
comp=Z,19nm,0.9s,baz=120,slow=9.1,SNR=6.2
PMG Port Moresby 127.02 226 PKP PKPdf 17 25 53.2 -0.5
PMG Port Moresby 127.02 226 PKIKP PKPdf 17 25 53.2 -0.4
MBWA Marble Bar 127.03 189 *e*PKP PKPdf 17 25 52.5 -1.0
MBWA Marble Bar 127.03 189 *e*PKPdf PKPdf 17 25 52.2 -1.3
MBWA *ep*PKPdf pPKPdf 17 26 21.7 -1.5
FITZ Fitzroy Crossi 128.86 197 *e*PKP PKPdf 17 25 55.7 -1.4
BILL Bilibino 132.00 336⇑ *i*PKIKP PKPdf 17 26 01.7 +0.3
BILL pmax pmax
comp=Z,19nm,1.1s
ARU Arti 135.82 40 *e*PKPdf PKPdf 17 26 06.7 -2.2
ARU *ep*PKPdf pPKPdf 17 26 39.1 +0.5
ARU Arti 135.82 40 *i* PKIKP PKPdf 17 26 09.4 +0.5
ARU 17 28 47.8
ARU SS SS 17 46 33.9 -4.7
AKTO Aktyubinsk 136.32 48 PKIKP PKPdf 17 26 09.8 -0.2
AKTO pmax pmax
comp=Z,2.0nm,1.2s
SVE Sverdlovsk 136.85 39 *e*PKIKP PKPdf 17 26 10.1 -0.7
SVE pmax pmax
comp=Z,11nm,1.2s
AB31 Akbulak array 137.66 50 PKIKP PKPdf 17 26 12.0 -0.5
AB31 pmax pmax
comp=Z,11nm,0.7s
ABKAR Akbulak array 137.66 50 *e*PKPpre PKPpre 17 26 00.7
ABKAR *e*PKPdf PKPdf 17 26 12.4 -0.2
ABKAR *ep*PKPdf pPKPdf 17 26 39.0 -3.3
ABKAR *es*PKPdf 17 26 55.2
ABKAR *e*SKP 17 29 31.1
PETK Petropavlovsk- 140.67 317 PKhKP PKPpre 17 26 11.0
comp=Z,2.9nm,0.7s,baz=113,slow=12,SNR=9.8
PETK Petropavlovsk- 140.67 317 PKPpre PKPpre 17 26 11.0
PETK Petropavlovsk- 140.67 317 PKHKP PKPpre 17 26 11.0
AAI Ambon 141.61 207 P PKPdf 17 26 14.2 -6.7
BKSI Bulukumba 142.47 194 P PKPdf 17 26 17.9 -4.5
BRVK Borovoye 143.25 42 *e*PKPdf PKPdf 17 26 19.9 -2.6
BRVK *ep*PKPdf pPKPdf 17 26 49.5 -2.8
BRVK Borovoye 143.25 42 *e*PKIKP PKPdf 17 26 19.9 -2.6
BRVK *e* 17 26 49.5
BVA0 Borovoye Array 143.32 42 *i* PKIKP PKPdf 17 26 20.2 -2.4
BVA0 pmax pmax
comp=Z,3.0nm,1.4s
BNSI Bone 143.37 194 P PKPdf 17 26 21.8 -2.2
KSI Kapahiang 143.91 164 P PKPdf 17 26 23.0 -2.0
comp=Z,3μmcomp=Z,301nm,1.0s
KBL Kabul 144.26 73 *e*PKPdf PKPdf 17 26 22.3 -2.6
KBL *ep*PKPdf pPKPdf 17 26 52.4 -2.3
KBL Kabul 144.26 73 *e*PKIKP PKPdf 17 26 22.3 -2.6
KBL *e* 17 26 52.4
MJSI Majene 144.41 192 P PKPdf 17 26 31.2 +5.3
comp=Z,0.3nmcomp=Z,92nm,1.1s
LBMI Labuha 144.67 208 P PKPdf 17 26 24.3 -2.0
comp=Z,300nm,0.8s,comp=Z,3μm
LBMI Labuha 144.67 208 P PKPdf 17 26 24.7 -1.6
comp=Z,3μmcomp=Z,301nm,0.8s
TTSI Tana Toraja 144.74 194 P PKPdf 17 26 24.3 -2.1
comp=Z,89nm,1.1s
GUMO Guam 144.78 247 PKP PKPdf 17 26 25.2 -1.1
comp=Z,249nm,0.8s,baz=146,slow=1.7,SNR=8.8
GUMO pPKP pPKPdf 17 26 54.7 -1.3
comp=Z,236nm,0.8s,baz=177,slow=4.8,SNR=5.6
GUMO Guam 144.78 247 *e*PKPdf PKPdf 17 26 25.0 -1.4
GUMO PKP PKPdf 17 26 25.2 -1.1
GUMO *ep*PKPdf pPKPdf 17 26 53.8 -2.3
GUMO pPKP pPKPdf 17 26 54.8 -1.3
GUMO Guam 144.78 247 *e*PKIKP PKPdf 17 26 25.0 -1.3
GUMO *e* 17 26 53.8
GUMO 17 26 54.8
KRJI Kerinci 145.13 162 P PKPbc 17 26 28.9 +2.1
KK31 Karatay Array 145.55 59 *i* PKP2 PKPdf 17 26 26.4 -0.4
KK31 pmax pmax
comp=Z,26nm,0.8s
KKAR Karatay Array 145.55 59 *e*PKPdf PKPdf 17 26 26.5 -0.3
KKAR *ep*PKPdf pPKPdf 17 26 56.6 0.0
KKAR Karatay Array 145.55 59 *e*PKP2 PKPdf 17 26 26.5 -0.3
TNTI Ternate 146.00 209 P PKPdf 17 26 28.2 -0.4
comp=Z,127nm,0.9s
HYB Hyderabad 146.80 107 *i* PKP PKPdf 17 26 30.0 +0.3
KMSI Cibinong 147.08 203 P PKPbc 17 26 31.7 -0.9
comp=Z,434nm,0.8s
YAK Yakutsk 147.38 344 *e*PKPbc PKPbc 17 26 31.6 -0.3
YAK *ep*PKPdf pPKPdf 17 26 56.2 -2.9
YAK Yakutsk 147.38 344 *e*PKIKP PKPdf 17 26 29.2 -0.1
YAK *e* 17 27 00.3
YAK pmax pmax
comp=Z,152nm,1.0s
YAK pmax pmax
comp=N,20nm,1.5s
YAK pmax pmax
comp=E,12nm,1.1s
GTOI Gorontalo 147.45 201 P PKPbc 17 26 32.5 -1.1
comp=E,0.4nmcomp=E,2μmcomp=E,163nm,0.8s
MNI Manado 147.60 205 P PKPbc 17 26 33.6 -0.4
MRSI Marisa 147.62 199 P PKPdf 17 26 31.8 +0.5
comp=E,0.1nmcomp=E,40nm,0.9s
EKS2 Erkin-Say 147.99 59 P PKPdf 17 26 32.3 +1.3
SNR=55
EKS2 P 17 26 32.3
SNR=55
EKS2 Erkin-Say 147.99 59 *e*PKPdf PKPdf 17 26 31.7 +0.8
EKS2 *e*PKPbc PKPbc 17 26 35.0 +0.9
EKS2 *ep*PKPdf pPKPdf 17 27 01.4 +0.6
EKS2 Erkin-Say 147.99 59 *e*PKIKP PKPdf 17 26 31.7 +0.8
EKS2 *e* 17 26 35.0
EKS2 *e* 17 27 01.4
AML Almayashu 147.99 60 P PKPdf 17 26 32.8 +1.9
SNR=36
AML P 17 26 32.8
SNR=36
USP Ospenovka 148.43 58 P PKPdf 17 26 32.1 +0.4
SNR=58
USP P 17 26 32.1
SNR=58
AAK Ala-Archa 148.52 59 P PKPdf 17 26 25.0 -6.8
SNR=7.1
AAK P 17 26 25.0
SNR=7.1
AAK Ala-Archa 148.52 59 *e*PKPdf PKPdf 17 26 32.2 +0.4
AAK *e*PKPbc PKPbc 17 26 36.7 +1.2
AAK *ep*PKPdf pPKPdf 17 27 04.5 +2.9
AAK Ala-Archa 148.52 59 *e*PKIKP PKPdf 17 26 32.2 +0.4
AAK *e* 17 26 36.7
AAK *e* 17 27 04.5
FRU Bishkek 148.58 58⇑ *i*PKIKP PKPdf 17 26 33.0 +1.1
FRU *i* 17 26 36.0
FRU *i* 17 27 06.0
FRU pmax pmax
comp=Z,260nm,2.0s
CHMS Chumysh 148.65 58 P PKPbc 17 26 36.7 +0.8
SNR=24
CHMS P 17 26 36.7
SNR=24
KBK Karagaybulak 148.84 59 P PKPbc 17 26 37.1 +0.7
SNR=55
KBK P 17 26 37.1
SNR=55
KURK Kurchatov 148.92 42 PKP PKPdf 17 26 32.5 +0.4
comp=Z,45nm,0.8s,baz=298,slow=3.1,SNR=33
KURK PKPbc PKPbc 17 26 36.7 +0.4
comp=Z,45nm,0.8s,baz=297,slow=3.2,SNR=149
KURK pPKPbc pPKPbc 17 27 04.3 -1.5
comp=Z,37nm,0.7s,baz=299,slow=3.2,SNR=12
KURK PP PP 17 30 09.7 +1.6
comp=Z,0.9nm,0.4s,baz=290,slow=6.3,SNR=4.9
KURK Kurchatov 148.92 42 *e*PKPdf PKPdf 17 26 31.9 -0.3
KURK PKP PKPdf 17 26 32.5 +0.4
KURK *e*PKPbc PKPbc 17 26 36.5 +0.2
KURK PKPbc PKPbc 17 26 36.7 +0.4
KURK *ep*PKPdf pPKPdf 17 27 02.7 +0.7
KURK pPKPbc pPKPbc 17 27 04.3 -1.5
KURK PP PP 17 30 09.7 +1.6
KURK Kurchatov 148.92 42 *e*PKIKP PKPdf 17 26 31.9 -0.3
KURK 17 26 32.6
KURK 17 26 36.7
KURK 17 27 04.4
KURK 17 30 09.7
KZA Kyzart 149.15 60 P PKPbc 17 26 38.5 +1.3
SNR=45
KZA P 17 26 38.5
SNR=45
NVS Novosibirsk 149.17 33⇑ *i*PKIKP PKPdf 17 26 32.8 +0.3
NVS *e* 17 27 03.8
NVS pmax pmax
comp=E,46nm,1.4s
NVS pmax pmax
comp=Z,197nm,1.4s
TKM2 Tokmak 2 149.28 58 P PKPdf 17 26 38.3 +5.3
SNR=7.1
TKM2 P 17 26 38.3
SNR=7.1
TKM2 Tokmak 2 149.28 58 *e*PKPdf PKPdf 17 26 33.1 +0.1
TKM2 *e*PKPbc PKPbc 17 26 38.2 +0.8

TKM2 *e*PKPdf pPKPdf 17 27 04.1 +1.3
ULHL Ulahol 149.85 59 P PKPbc 17 26 40.4 +1.5
SNR=7.2
ULHL P 17 26 40.4
SNR=7.2
KSH Kashi 149.96 65 PKPbc PKPdf 17 26 34.8 +0.6
KSH PKPab PKPab 17 26 47.5 +2.2
KSH pPKP pPKPdf 17 27 01.6 -2.4
KSH PKS 17 30 08.3
KSH SKS SKSdf 17 33 31.3 -0.8
KSH SKKS SKKSac 17 36 55.0 0.0
KSH AMB AMB
comp=Z,270nm,5.8s
KSH LR LR
comp=N,230nm,11.4s
KSH LR LR
comp=E,160nm,4.9s
KSH LR LR
comp=Z,220nm,6.4s
KSM Kuching 150.04 177 *e*PKPbc PKPbc 17 26 39.6 -0.7
KSM *e*PKPab PKPab 17 26 46.7 +0.5
KSM *ep*PKPdf pPKPdf 17 27 14.3 +9.4
SDNR Sundarnagar 150.41 81 *ex* PKPbc 17 26 41.0 +0.4
ZAA0 Zalesovo Array 150.45 33 *e*PKPdf PKPdf 17 26 33.5 -1.0
ZAA0 *e*PKPbc PKPbc 17 26 39.9 -0.1
ZAA0 *ep*PKPdf pPKPdf 17 27 04.1 -0.2
ZALV Zalesovo Beam 150.45 33 PKP PKPdf 17 26 34.4 -0.2
comp=Z,2.5nm,0.6s,baz=270,slow=2.7,SNR=16
ZALV PKPbc PKPbc 17 26 40.4 +0.5
comp=Z,115nm,0.8s,baz=296,slow=3.2,SNR=246
ZALV pPKPbc pPKPbc 17 27 07.6 -1.9
comp=Z,50nm,0.7s,baz=318,slow=3.7,SNR=8.7
ZALV Zalesovo Beam 150.45 33 PKP PKPdf 17 26 34.4 -0.2
ZALV PKPbc PKPbc 17 26 40.4 +0.5
ZALV pPKPbc pPKPbc 17 27 07.6 -1.9
ZALV Zalesovo Beam 150.45 33 PKIKP PKPdf 17 26 34.4 -0.1
ZALV 17 27 07.6
IPM Ipoh 151.23 157 *e*PKPdf PKPdf 17 26 36.5 -0.5
IPM *e*PKPbc PKPbc 17 26 42.2 -0.9
IPM *ep*PKPdf pPKPdf 17 27 10.8 +4.0
YSS Yuzh-Sakhalins 151.74 312 ⇓/*e* PKIKP PKPbc 17 26 42.3 -0.8
YSS 17 27 12.6
YSS pmax pmax
comp=Z,60nm,0.8s
KULM Kulim 151.86 156 *e*PKPdf PKPdf 17 26 36.7 -1.2
KULM *e*PKPbc PKPbc 17 26 43.6 -0.8
KULM *ep*PKPdf pPKPdf 17 27 08.3 +0.5
MK31 Makanchi Array 152.75 48 *e*PKPdf PKPdf 17 26 38.1 -0.1
MK31 *e*PKPbc PKPbc 17 26 45.5 +0.1
MK31 *e*PKPab PKPab 17 26 56.7 0.0
MK31 *ep*PKPdf pPKPdf 17 27 12.8 +4.8
MK31 Makanchi Array 152.75 48 *e*PKIKP PKPdf 17 26 38.1 -0.1
MK31 *e* 17 27 12.8
MKAR Makanchi Array 152.75 48 PKP PKPdf 17 26 38.0 -0.2
comp=Z,3.2nm,1.0s,baz=316,slow=3.3,SNR=11
MKAR PKPbc PKPbc 17 26 45.3 -0.1
comp=Z,29nm,0.8s,baz=302,slow=2.2,SNR=84
MKAR PKPab PKPab 17 26 57.0 +0.3
comp=Z,14nm,0.8s,baz=289,slow=2.6,SNR=15
MKAR pPKPbc pPKPbc 17 27 15.5 +0.4
comp=Z,27nm,0.7s,baz=304,slow=2.2,SNR=12
MKAR pPKPab pPKPab 17 27 25.8 +0.3
comp=Z,21nm,0.7s,baz=300,slow=2.4,SNR=6.3
MKAR Makanchi Array 152.75 48 PKP PKPdf 17 26 38.0 -0.2
MKAR PKPbc PKPbc 17 26 45.3 -0.1
MKAR PKPab PKPab 17 26 57.0 +0.3
MKAR pPKPbc pPKPbc 17 27 15.5 +0.4
MKAR pPKPab pPKPab 17 27 25.8 +0.3
MKAR Makanchi Array 152.75 48 PKIKP PKPdf 17 26 38.0 -0.2
MKAR 17 27 15.5
ASAJ Asahikawa 152.78 306 PKPbc PKPbc 17 26 44.8 -0.8
comp=Z,32nm,0.9s,baz=256,slow=4.8,SNR=8.3
ASAJ Asahikawa 152.78 306 PKPbc PKPbc 17 26 44.8 -0.8
CLNS Chul'man 153.13 344 *e*PKIKP PKPbc 17 26 45.4 -0.5
CLNS pmax pmax
comp=Z,30nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.1s
BOD Bodaibo 153.70 357 *e*PKIKP PKPdf 17 26 37.4 -1.8
BOD pmax pmax
comp=Z,21nm,1.0s
KOLN Koldanda 155.26 92 *e*P PKPdf 17 26 42.3 -0.1
comp=Z,17nm,0.8s
KOLN Koldanda 155.26 92 *e*P PKPdf 17 26 42.3 -0.1
DANN Dangsing 155.55 90 *e*P PKPdf 17 26 43.1 +0.3
comp=Z,81nm,1.0s
DANN Dangsing 155.55 90 *e*P PKPdf 17 26 43.1 +0.3
GKN Gorkha 156.21 92 *e*P PKPdf 17 26 43.4 -0.2
comp=Z,55nm,1.2s
GKN Gorkha 156.21 92 *e*P PKPdf 17 26 43.4 -0.2
DMN Daman 156.50 93 *e*P PKPdf 17 26 44.1 +0.1
comp=Z,39nm,1.1s
DMN Daman 156.50 93 *e*P PKPdf 17 26 44.1 +0.1
KKN Kakani 156.70 92 *e*P PKPdf 17 26 44.3 0.0
comp=Z,40nm,1.3s
KKN Kakani 156.70 92 *e*P PKPdf 17 26 44.3 0.0
KKN Kakani 156.70 92 *e*PKIKP PKPdf 17 26 44.3 0.0
PKI Pulchoki 156.75 93 *e*P PKPdf 17 26 44.2 -0.2
PKI Pulchoki 156.75 93 *e*P PKPdf 17 26 44.2 -0.2
PKI Pulchoki 156.75 93 *e*PKIKP PKPdf 17 26 44.2 -0.2
KLR Kul'dur 156.82 325 *e*PKIKP PKPdf 17 26 37.9 -5.8
GUN Gumba 157.25 93 *e*P PKPdf 17 26 45.2 +0.2
comp=Z,32nm,1.0s
GUN Gumba 157.25 93 *e*P PKPdf 17 26 45.2 +0.2
WMQ Urumqi 157.45 50 PKP PKPdf 17 26 44.9 +0.2
WMQ PP PP 17 30 59.1 +2.6
WMQ AMB AMB
comp=Z,290nm,4.6s
WMQ LR LR
comp=N,640nm,18.0s
WMQ LR LR
comp=E,530nm,21.8s
WMQ LR LR
comp=Z,520nm,22.0s
MJAR Matsushiro Arr 157.57 290 PKP PKPdf 17 26 44.8 -0.3
comp=Z,1.9nm,0.6s,baz=123,slow=4.5,SNR=4.1
MJAR PKPab PKPab 17 27 17.9 +0.2
comp=Z,17nm,0.9s,baz=124,slow=2.2,SNR=19
MJAR pPKPab pPKPab 17 27 47.2 +0.8
comp=Z,7.9nm,0.8s,baz=98,slow=2.7,SNR=5.1
MJAR Matsushiro Arr 157.57 290 PKP PKPdf 17 26 44.8 -0.3
MJAR PKPab PKPab 17 27 17.9 +0.2
MJAR pPKPab pPKPab 17 27 47.2 +0.8
MJAR Matsushiro Arr 157.57 290 PKIKP PKPdf 17 26 44.8 -0.3
MJAR 17 27 17.9
MAT Matsushiro 157.57 290 *e*PKP PKPdf 17 26 43.8 -1.3
RAMN Ramite 157.59 95 *e*P PKPdf 17 26 45.9 +0.5
RAMN Ramite 157.59 95 *e*P PKPdf 17 26 45.9 +0.5
ODAN Odare 158.23 96 *e*P PKPdf 17 26 46.7 +0.5
ODAN Odare 158.23 96 *e*P PKPdf 17 26 46.7 +0.5
MOY Mondy 158.40 18 *e*PKIKP PKPdf 17 26 46.7 +1.1
MOY pmax pmax
comp=Z,28nm,2.3s
TAPN Taplejung 158.65 95 *e*P PKPdf 17 26 47.0 +0.3
comp=Z,58nm,1.3s
TAPN Taplejung 158.65 95 *e*P PKPdf 17 26 47.0 +0.3
TLY Talaya 159.03 14 *e*PKP2 PKPab 17 27 23.1 -0.3
TLY pmax pmax
comp=Z,24nm,1.0s
USRK Ussuriysk Arra 159.71 314 PKPab PKPab 17 27 27.4 +0.7
comp=Z,16nm,0.9s,baz=52,slow=6.5,SNR=13
ZAK Zakamensk 160.16 16 *e*PKIKP PKPdf 17 26 44.8 -2.9
ZAK *e* 17 27 28.4
ZAK pmax pmax
comp=Z,4.0nm,1.3s
LSA Lhasa 162.16 91 PKP PKPdf 17 26 51.1 +0.6
LSA Lhasa 162.16 91 *e*PKPdf PKPdf 17 26 51.5 +1.0
LSA *ep*PKPdf pPKPdf 17 27 22.0 +1.6
LSA Lhasa 162.16 91 *e*PKIKP PKPdf 17 26 51.5 +1.0
LSA *e* 17 27 22.0
CM31 Chiang Mai Arr 162.55 135 *e*PKPdf PKPdf 17 26 51.4 +0.2
CMAR Chiang Mai Arr 162.55 135 PKP PKPdf 17 26 51.3 +0.1
comp=Z,7.2nm,0.9s,baz=253,slow=2.9,SNR=55
CMAR PKPab PKPab 17 27 35.1 -4.6
comp=Z,3.6nm,0.8s,baz=238,slow=5.0,SNR=7.7
CMAR PP PP 17 31 26.4 +2.5
comp=Z,0.3nm,0.5s,baz=217,slow=7.2,SNR=4.7
CMAR Chiang Mai Arr 162.55 135 PKP PKPdf 17 26 51.3 +0.1
CMAR PKPab PKPab 17 27 35.1 -4.6
CMAR PP PP 17 31 26.4 +2.5
CMAR Chiang Mai Arr 162.55 135 PKIKP PKPdf 17 26 51.3 +0.1
CMAR 17 31 26.4

CHTO Chiang Mai 162.82 135 *e*PKPdf PKPdf 17 26 51.3 -0.1
CHTO *e*PKPab PKPab 17 27 39.8 -1.1
CHTO Chiang Mai 162.82 135 *e*PKIKP PKPdf 17 26 51.3 -0.1
CHTO *e* 17 27 39.8
SONM Songino Array 163.24 13 PKP PKPdf 17 26 51.0 0.0
comp=Z,3.3nm,1.0s,baz=245,slow=0.5,SNR=14
SONM PKPab PKPab 17 27 42.0 +0.1
comp=Z,7.3nm,0.8s,baz=330,slow=5.0,SNR=20
SONM pPKPab pPKPab 17 28 12.0 +1.5
comp=Z,3.8nm,0.8s,baz=329,slow=4.8,SNR=4.4
SONM PP PP 17 31 27.2 +0.5
comp=Z,5.8nm,1.4s,baz=358,slow=9.5,SNR=4.5
SONM Songino Array 163.24 13 PKP PKPdf 17 26 51.0 0.0
SONM PKPab PKPab 17 27 42.0 +0.1
SONM pPKPab pPKPab 17 28 12.0 +1.5
SONM PP PP 17 31 27.2 +0.5
SONM Songino Array 163.24 13 PKIKP PKPdf 17 26 51.0 0.0
SONM 17 27 42.0
SONM 17 31 27.2
ULN Ulaanbaatar 163.32 11 *e*PKPdf PKPdf 17 26 50.6 -0.4
ULN *e*PKPab PKPab 17 27 42.9 +0.6
ULN Ulaanbaatar 163.32 11 *e*PKIKP PKPdf 17 26 50.7 -0.3
CN2 Changchun 163.70 322 *e*PKP PKPdf 17 26 52.3 +0.8
KSRS Korea Array 165.45 298 PKP PKPdf 17 26 53.0 -0.3
comp=Z,3.9nm,0.9s,baz=51,slow=0.7,SNR=11
KSRS PKPab PKPab 17 27 53.2 +1.1
comp=Z,2.6nm,0.8s,baz=72,slow=4.7,SNR=5.2
KSAR Wonju Array Be 165.48 298 PKP PKPdf 17 26 53.0 -0.4
KSAR PKPab PKPab 17 27 53.2 +1.0
KSAR Wonju Array Be 165.48 298 PKIKP PKPdf 17 26 53.0 -0.3
GTA Gaotai 167.51 48 *e*PKP PKPdf 17 26 55.3 +0.5
GTA pPKP pPKPdf 17 27 22.8 -1.9
GTA sPKP 17 27 32.8
GTA PP PP 17 31 52.0 +2.2
GTA SKS SKSdf 17 33 47.9 -0.7
GTA SKKS SKKSac 17 38 27.0 +0.3
GTA AMB AMB
comp=Z,190nm,6.7s
GTA LR LR
comp=N,260nm,15.4s
GTA LR LR
comp=E,270nm,14.3s
GTA LR LR
comp=Z,410nm,16.9s
HHC Hu-ho-hao-te 170.73 1 *e*PKP PKPdf 17 26 57.0 +0.2
HHC pPKP pPKPdf 17 27 24.4 -2.3
HHC sPKP 17 27 34.8
HHC PKS 17 30 28.1
HHC PP PP 17 32 07.8 +2.9
HHC SKS SKSdf 17 33 48.9 -1.2
HHC SKKS SKKSac 17 38 44.3 +2.3
HHC AMB AMB
comp=Z,93nm,6.2s
HHC LR LR
comp=N,1μm,16.2s
HHC LR LR
comp=E,1μm,13.3s
HHC LR LR
comp=Z,2μm,17.0s
BJI Beijing 170.82 338 PKP PKPdf 17 26 56.8 0.0
LZH Lanzhou 172.01 53 PKP PKPdf 17 26 56.0 -1.6
LZH pPKP pPKPdf 17 27 28.5 +1.0
LZH sPKP 17 27 38.0
LZH PKPab PKPab 17 28 22.0 +0.8
LZH PKS 17 30 27.0
LZH PP PP 17 32 13.3 +0.7
LZH SKS SKSdf 17 33 49.0 -1.9
LZH SKKS SKKSac 17 38 50.1 +1.2
LZH AMB AMB
comp=Z,200nm,5.2s
LZH LR LR
comp=N,1μm,19.0s
LZH LR LR
comp=E,1μm,18.6s
LZH LR LR
comp=Z,1μm,20.1s
LZH Lanzhou 172.01 53 PKP PKPdf 17 26 56.0 -1.6
LZH pPKP pPKPdf 17 27 28.5 +1.0
LZH sPKP 17 27 38.0
LZH PKPab PKPab 17 28 22.0 +0.8
LZH PKS 17 30 27.0
LZH PP PP 17 32 13.2 +0.6
LZH SKS SKSdf 17 33 49.0 -1.9
LZH SKKS SKKSac 17 38 50.1 +1.2
LZH SS SS 17 53 10.3 -2.6
LZH LR LR
comp=Z,1μm,20.1s
LZH Lanzhou 172.01 53 PKIKP PKPdf 17 26 56.0 -1.6
LZH 17 27 28.5
LZH 17 32 13.2
LZH 17 33 49.0
LZH SS SS 17 53 10.3 -2.6
LZH MLR MLR
comp=Z,1μm,20.1s
CD2 Chengdu 173.11 93 *e*PKP PKPdf 17 26 57.9 -0.3
CD2 sPKP 17 27 38.5
CD2 PKPab PKPab 17 28 27.3 +1.0
CD2 PP PP 17 32 19.5 +0.8
CD2 SKKS SKKSac 17 38 55.3 +0.7
GYA Guiyang 173.23 137 PKP PKPdf 17 26 56.8 -1.6
GYA pPKP pPKPdf 17 27 26.0 -2.3
GYA sPKP 17 27 37.4
GYA PKPab PKPab 17 28 26.5 -0.2
GYA PKS 17 30 27.9
GYA PP PP 17 32 20.0 +1.8
GYA AMB AMB
comp=Z,140nm,8.3s
NJ2 Nanjing 173.95 276 *e*PKP PKPdf 17 26 58.8 +0.3
XAN Xi'an 176.56 43 PKP PKPdf 17 26 58.5 -0.6
XAN pPKP pPKPdf 17 27 30.3 +1.2
XAN LR LR
comp=N,1μm,15.5s
XAN LR LR
comp=E,470nm,16.6s
XAN LR LR
comp=Z,510nm,18.2s
ENH Enshi 177.66 123 *e*PKPdf PKPdf 17 26 58.6 -0.8
ENH *ep*PKPdf pPKPdf 17 27 28.7 -0.6
ENH *e*PKPab PKPab 17 28 45.0 -1.4

IDC 20 17:21:16.9±53.0, 19°.12S×179°.56W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/38, Error ellipse: s-maj=955.8km s-min=146.4km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.08**	**56**	LR	LR	17 25 55.0	
	comp=Z,121nm,19.7s,baz=132,slow=31						
STKA	**Stephens Creek**	**37.10**	**242**	P	P	17 28 28.6	-0.6
	4.6nm,1.2s,baz=85,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**43.36**	**261**	P	P	17 29 21.5	+0.3
	0.2nm,0.3s,baz=95,slow=7.7,SNR=9.1						
ASAR	**Alice Springs**	**43.43**	**255**	P	P	17 29 21.9	+0.1
	1.3nm,0.6s,baz=87,slow=8.4,SNR=17						

*IDC **20** 17:26:37.5±0.7, 16°.88N×147°.79E, h0km, mb4.4/21, mb1 4.6/23, mb1mx4.5/30, mbtmp4.5/23, ML4.4/2, Error ellipse: s-maj=18.9km s-min=15.6km az=115.0*
*ISCJB **20** 17:26:38.2±5.1, 16°.93N±0°.06×147°.67E±0°.09, h12km±32km, mb4.5/38, Error ellipse: s-maj=14.8km s-min=9.3km az=8.5*
*NEIC **20** 17:26:42.6±2.9, 16°.88N×147°.70E, h33km±20km, mb4.7/17, Error ellipse: s-maj=9.6km s-min=6.2km az=101.0*

ISC 20 17:26:41.7±3.8, 16°.89N±0°.06×147°.70E±0°.09, h25km±26km, n76, σ0°77/72, mb4.5/38, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.27**	**220**	Pn	**Pn**	**17 27 46.0**	**+0.9**
	12nm,0.3s,baz=340,slow=12,SNR=11						
GUMO	**Guam**	**4.27**	**220**	Pn	**Pn**	**17 27 46.0**	**+0.9**
	11nm,0.3s,baz=255,slow=22,SNR=5.7						
CBIJ	**Chichi jima**	**11.37**	**334**	Pn	**Pn**	**17 29 22.5**	**0.0**
	11nm,0.3s,baz=255,slow=22,SNR=5.7						
CBIJ	**Chichi jima**	**11.37**	**334**	Pn	**Pn**	**17 29 22.5**	**0.0**
MJAR	**Matsushiro Arr**	**21.30**	**339**	P	**P**	**17 31 26.3**	**-0.3**
	11nm,0.7s,mb4.3,baz=171,slow=10.0,SNR=46						
MJAR	**Matsushiro Arr**	**21.30**	**339**	P	**P**	**17 31 26.3**	**-0.3**
MAJO	**Matsushiro**	**21.31**	**339**	*e*P	**P**	**17 31 27.1**	**+0.6**
	15nm,0.6s,mb4.5						
MAT	**Matsushiro**	**21.31**	**339**	P	**P**	**17 31 26.4**	**-0.2**

YULB Yu-li 25.59 289 P **P 17 32 08.0 -1.1**
YHNB Yeheng 25.77 292 *e*P **P 17 32 08.3 -2.3**
14nm,0.7s,mb4.6
KSRS Korea Array 26.90 323 P **P 17 32 19.8 -0.9**
2.2nm,0.8s,mb3.7,baz=140,slow=9.0,SNR=6.2
KSAR Wonju Array Be 26.91 323 P **P 17 32 19.8 -1.1**
ASAJ Asahikawa 27.48 352 P **P 17 32 27.2 +1.4**
11nm,0.9s,mb4.4,baz=40,slow=2.4,SNR=4.7
ASAJ Asahikawa 27.48 352 P **P 17 32 27.2 +1.4**
WRAB Tennant Creek 38.87 200 *e*P **P 17 34 05.0 -0.2**
11nm,0.7s,mb4.7
WB2 Warramunga Arr 38.88 200 *e*P **P 17 34 05.2 0.0**
WRA Warramunga Arr 38.88 200 P **P 17 34 05.1 -0.1**
12nm,0.8s,mb4.7,baz=16,slow=9.5,SNR=12
WRA Warramunga Arr 38.88 200 P **P 17 34 05.1 -0.1**
KSM Kuching 39.84 251 P **P 17 34 12.7 -0.8**
36nm,1.3s,mb4.9
ASAR Alice Springs 42.50 199 P **P 17 34 34.2 -0.8**
0.3nm,0.6s,baz=19,slow=8.9,SNR=5.6
ASAR Alice Springs 42.50 199 P **P 17 34 34.2 -0.8**
SONM Songino Array 45.74 322 P **P 17 35 00.0 -0.8**
3.6nm,0.9s,mb4.3,baz=136,slow=7.9,SNR=13
SONM Songino Array 45.74 322 P **P 17 35 00.0 -0.8**
CM31 Chiang Mai Arr 46.37 280 P **P 17 35 06.2 0.0**
4.0nm,0.7s,mb4.5
CMAR Chiang Mai Arr 46.37 280 P **P 17 35 08.0 +1.7**
4.6nm,0.9s,mb4.4,baz=70,slow=6.2,SNR=21
CMAR Chiang Mai Arr 46.37 280 P **P 17 35 08.0 +1.7**
MBWA Marble Bar 46.71 217 *e*P **P 17 35 08.3 -0.4**
7.7nm,0.6s,mb4.8
YAK Yakutsk 46.85 348 *e*P **P 17 35 09.4 0.0**
16nm,0.7s,mb5.1
STKA Stephens Creek 48.84 187 P **P 17 35 28.8 +3.7**
LSA Lhasa 53.02 295 *e*Pn **P 17 35 59.0 +2.2**
16nm,1.0s,mb4.9
ZAA0 Zalesovo Array 60.60 323 *e*P **P 17 36 49.7 -0.4**
ZALV Zalesovo Beam 60.60 323 P **P 17 36 49.8 -0.3**
3.1nm,0.6s,mb4.6,baz=108,slow=7.4,SNR=19
ZALV Zalesovo Beam 60.60 323 P **P 17 36 49.8 -0.3**
MKAR Makanchi Array 61.08 314 P **P 17 36 54.2 +0.7**
1.2nm,0.5s,mb4.3,baz=90,slow=7.7,SNR=26
MKAR Makanchi Array 61.08 314 P **P 17 36 54.2 +0.7**
SML Sawmill 63.02 29 *e*P **P 17 37 06.4 +0.1**
2.5nm,0.8s,mb4.4
KURK Kurchatov 63.88 319 P **P 17 37 12.7 +0.5**
14nm,0.8s,mb5.1,baz=98,slow=6.8,SNR=59
KURK Kurchatov 63.88 319 P **P 17 37 12.7 +0.5**
COLA College 64.06 25 P **P 17 37 12.8 -0.3**
ILAR Eielson Array 64.43 26 P **P 17 37 14.5 -1.0**
2.1nm,0.6s,mb4.3,baz=251,slow=6.2,SNR=35
ILAR Eielson Array 64.43 26 P **P 17 37 14.5 -1.0**
TKM2 Tokmak 2 65.67 310 *e*P **P 17 37 24.8 +0.8**
BVAR Borovoye Array 69.08 321 P **P 17 37 46.1 +0.8**
3.2nm,0.5s,mb4.5,baz=99,slow=7.6,SNR=15
BVAR Borovoye Array 69.08 321 P **P 17 37 46.1 +0.8**
BRVK Borovoye 69.14 321 *e*P **P 17 37 46.2 +0.4**
4.4nm,0.8s,mb4.4
KKAR Karatay Array 69.39 310 *e*P **P 17 37 47.5 0.0**
12nm,1.0s,mb4.8
INK Inuvik 70.29 23 P **P 17 37 52.6 +0.1**
3.1nm,0.7s,mb4.4,baz=271,slow=7.1,SNR=12
INK Inuvik 70.29 23 P **P 17 37 52.6 +0.1**
KBL Kabul 71.43 301 *e*P **P 17 38 01.9 +1.7**
6.3nm,1.0s,mb4.5
DLBC Dease Lake 71.74 33 P **P 17 38 02.3 +0.8**
3.2nm,0.7s,mb4.4,baz=67,slow=21,SNR=5.1
DLBC Dease Lake 71.74 33 P **P 17 38 02.3 +0.8**
ARU Arti 75.64 325 *e*P **P 17 38 24.6 +0.2**
17nm,0.8s,mb5.0
ABKAR Akbulak array 75.95 318 *e*P **P 17 38 25.9 -0.5**
3.4nm,0.6s,mb4.5
AKTO Aktyubinsk 76.97 319 P **P 17 38 31.9 -0.3**
1.7nm,0.4s,mb4.3,baz=89,slow=8.3,SNR=9.7
AKTO Aktyubinsk 76.97 319 P **P 17 38 31.9 -0.3**
YKA Yellowknife Ar 78.68 28 P **P 17 38 41.4 -0.1**
3.8nm,0.7s,mb4.4,baz=284,slow=5.7,SNR=37
YKA Yellowknife Ar 78.68 28 P **P 17 38 41.4 0.0**
RES Resolute Bay 80.72 14 P **P 17 38 52.5 +0.1**
2.0nm,1.0s,mb4.0,baz=324,slow=7.1,SNR=4.4
RES Resolute Bay 80.72 14 P **P 17 38 52.5 +0.1**
NVAR Mina Array Bea 82.74 52 P **P 17 39 03.6 0.0**
1.4nm,0.7s,mb4.1,baz=260,slow=6.3,SNR=9.8
NVAR Mina Array Bea 82.74 52 P **P 17 39 03.6 0.0**
MFID Camas Ranch 83.16 47 *e*P **P 17 39 05.7 0.0**
7.4nm,1.1s,mb4.6
ARCES ARCESS Array B 84.78 343 P **P 17 39 13.4 -0.1**
9.7nm,1.0s,mb4.9,baz=54,slow=6.2,SNR=8.6
ARCES ARCESS Array B 84.78 343 P **P 17 39 13.4 -0.1**
HRY Holter Researc 84.85 43 *e*P **P 17 39 14.5 +0.2**
3.6nm,0.6s,mb4.7
FFC Flin Flon 87.58 33 *e*P **P 17 39 27.4 -0.1**
3.9nm,0.8s,mb4.7
PDAR Pinedale Array 87.72 46 P **P 17 39 28.7 +0.2**
0.9nm,0.6s,mb4.2,baz=247,slow=2.6,SNR=5.3
PDAR Pinedale Array 87.72 46 P **P 17 39 28.7 +0.2**
FINES FINESS Array B 89.31 336 P **P 17 39 35.1 -0.5**
1.5nm,0.6s,mb4.5,baz=76,slow=3.2,SNR=12
FINES FINESS Array B 89.31 336 P **P 17 39 35.1 -0.5**
ULM Lac du Bonnet 92.99 35 P **P 17 39 52.4 -0.5**
2.3nm,0.6s,mb4.8,baz=301,slow=5.9,SNR=4.7
ULM Lac du Bonnet 92.99 35 P **P 17 39 52.4 -0.5**
DBIC Dimbokro 144.16 309 PKP PKPdf 17 46 13.8 -2.5
2.3nm,0.8s,baz=31,slow=1.0,SNR=4.8
DBIC Dimbokro 144.16 309 PKP PKPdf 17 46 13.8 -2.5
LPAZ La Paz 145.68 94 *e*PKPdf PKPdf 17 46 20.3 +1.5
SAML Samuel 148.92 79 *e*PKPbc PKPbc 17 46 27.4 -0.9

*BJI **20** 17:27:39.2, 12°.74N×143°.17E, h127km, mB5.1/4, mb5.1/10*
*ISCJB **20** 17:27:40.2±0.8, 12°.78N±0°.05×143°.15E±0°.07, h137km±9km, mb4.7/49, Error ellipse: s-maj=11.0km s-min=8.3km az=11.5*
*NEIC **20** 17:27:40.6±0.8, 12°.77N×143°.10E, h124km±7km, mb5.0/25, Error ellipse: s-maj=6.7km s-min=5.4km az=79.0*
*IDC **20** 17:27:41.0±1.2, 12°.78N×143°.14E, h126km±12km, mb4.2/18, mb1 4.3/19, mb1mx4.1/28, mbtmp4.2/19, Error ellipse: s-maj=16.1km s-min=11.0km az=97.0*
*DJA **20** 17:27:43, 12°.74N×143°.20E, h143km, mb4.9/11*

ISC 20 17:27:41.2±0.8, 12°.77N±0°.05×143°.15E±0°.07, h130km±9km, n106, σ0°77/101, mb4.7/49, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.86**	**64**	P	**Pn**	**17 28 13.9**	**+0.4**
	91nm,0.3s,baz=232,slow=3.0,SNR=15						
GUMO				S	**Sn**	**17 28 37.9**	**-0.3**
	866nm,0.3s,baz=2.3,slow=23,SNR=46						
GUMO	**Guam**	**1.86**	**64**	*e*Pn	**Pn**	**17 28 12.7**	**-0.8**
GUMO				*e*Sn	**Sn**	**17 28 37.5**	**-0.6**
GUMO	**Guam**	**1.86**	**64**	P	**Pn**	**17 28 16.7**	**+3.2**
FAKI	**Fak Fak**	**18.98**	**216**	P	**P**	**17 31 57.6**	**+4.9**
	82nm,1.0s						
JOW	**Kunigami**	**19.76**	**317**	P	**P**	**17 32 02.5**	**+1.4**
	9.1nm,0.3s,baz=133,slow=11,SNR=24						
JOW	**Kunigami**	**19.76**	**317**	P	**P**	**17 32 02.5**	**+1.4**
MSAI	**Masohi**	**21.36**	**222**	P	**P**	**17 32 20.1**	**+1.8**
	361nm29nm,0.9s,mb4.6						
AAI	**Ambon**	**22.10**	**223**	P	**P**	**17 32 25.5**	**-0.6**
	2μm73nm,1.1s,mb5.0						
YULB	**Yu-li**	**23.27**	**300**	*e*P	**P**	**17 32 36.7**	**-0.6**
NACB	**Ninganchiao**	**23.34**	**302**	P	**P**	**17 32 38.0**	**+0.1**
	50nm,1.2s,mb4.8						
SSLB	**Suanglung**	**23.72**	**301**	*e*P	**P**	**17 32 40.2**	**-1.2**
	54nm,0.9s,mb5.1						
YHNB	**Yeheng**	**23.74**	**303**	*e*P	**P**	**17 32 41.7**	**+0.2**
	80nm,1.3s,mb5.1						
TATO	**Taipei**	**23.78**	**304**	P	**P**	**17 32 41.8**	**-0.2**
TPUB	**Ta-pu**	**23.80**	**299**	*e*P	**P**	**17 32 40.6**	**-1.6**
	88nm,1.3s,mb5.1						
MRSI	**Marisa**	**24.32**	**241**	P	**P**	**17 32 56.0**	**+9.0**
LUWI	**Luwuk**	**24.44**	**237**	P	**P**	**17 32 46.8**	**-1.3**
	2μm251nm,1.1s,mb5.7						
MYLDM	**Lahad Datu**	**25.47**	**255**	P	**P**	**17 33 00.2**	**+2.7**
	58nm,1.2s,mb5.0						
KDI	**Kendari**	**26.31**	**232**	P	**P**	**17 33 05.3**	**+0.3**
	17nm,1.1s,mb4.6						
WRAB	**Tennant Creek**	**33.63**	**195**	*e*P	**P**	**17 34 09.4**	**0.0**
	14nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**33.65**	**195**	P	**P**	**17 34 09.6**	**0.0**
	11nm,0.7s,mb4.7,baz=15,slow=9.2,SNR=58						
WRA				PcP	PcP	17 36 46.9	+0.1
	1.7nm,0.9s,baz=14,slow=3.6,SNR=4.0						
WRA	**Warramunga Arr**	**33.65**	**195**	P	**P**	**17 34 09.6**	**0.0**
WRA				PcP	PcP	17 36 46.9	+0.1
FITZ	**Fitzroy Crossi**	**35.21**	**210**	P	**P**	**17 34 22.9**	**-0.2**

6.2nm,0.8s,mb4.3,baz=39,slow=12,SNR=6.0
FITZ PcP PcP 17 36 52.8 +1.4
5.1nm,0.8s,baz=344,slow=1.6,SNR=4.7
FITZ Fitzroy Crossi 35.21 210 P **P 17 34 22.9 -0.2**
FITZ PcP PcP 17 36 52.8 +1.4
ENH Enshi 35.65 305 *e*P **P 17 34 26.8 0.0**
15nm,0.7s,mb4.7
AS31 Alice Springs 37.33 194 *e*P **P 17 34 41.3 +0.3**
ASAR Alice Springs 37.33 194 P **P 17 34 41.1 0.0**
2.4nm,0.8s,mb3.9,baz=341,slow=6.4,SNR=27
ASAR Alice Springs 37.33 194 P **P 17 34 41.1 0.0**
HIA Hailar 41.20 337 P **P 17 35 13.4 +0.5**
PETK Petropavlovsk- 41.88 13 P **P 17 35 19.6 +1.2**
2.8nm,0.8s,mb3.9,baz=66,slow=3.6,SNR=7.2
PETK Petropavlovsk- 41.88 13 P **P 17 35 19.6 +1.2**
CHRT Chiangrai 42.12 286 ⇓P **P 17 35 19.5 -1.4**
124nm,0.9s,mb5.5
IPM Ipoh 42.41 263 *e*P **P 17 35 22.7 -0.6**
16nm,1.0s,mb4.6
KULM Kulim 42.58 264 *e*P **P 17 35 24.8 +0.1**
72nm,1.1s,mb5.2
KULM Kulim 42.58 264 P **P 17 35 25.3 +0.6**
52nm,1.1s,mb5.1
CM31 Chiang Mai Arr 42.87 283 *e*P **P 17 35 27.3 +0.4**
20nm,0.9s,mb4.8
CMAR Chiang Mai Arr 42.87 283 P **P 17 35 27.4 +0.4**
14nm,0.8s,mb4.6,baz=88,slow=6.1,SNR=24
CMAR Chiang Mai Arr 42.87 283 P **P 17 35 27.4 +0.4**
STKA Stephens Creek 44.42 182 P **P 17 35 38.7 -0.3**
2.7nm,0.5s,mb4.1,baz=346,slow=6.8,SNR=3.5
STKA Stephens Creek 44.42 182 P **P 17 35 38.7 -0.3**
PSI Prapat 44.85 261 P **P 17 35 42.6 -0.3**
35nm,1.1s,mb4.9
BBOO Buckleboo 45.83 188 *e*P **P 17 35 50.5 +0.4**
353nm,0.8s
ULN Ulaanbaatar 46.12 327 *e*P **P 17 35 53.3 +1.0**
8.2nm,1.2s,mb4.2
ULN Ulaanbaatar 46.12 327 P **P 17 35 56.0 +3.7**
318nm11nm,1.4s,mb4.3
SONM Songino Array 46.45 326 P **P 17 35 55.9 +1.0**
3.3nm,0.5s,mb4.2,baz=144,slow=7.3,SNR=13
SONM Songino Array 46.45 326 P **P 17 35 55.9 +1.0**
GTA Gaotai 46.48 313 *e*P **P 17 35 56.1 +0.8**
GTA pmax pmax
comp=Z,25nm,0.9s,mb4.8
YAK Yakutsk 50.13 352 *e*P **P 17 36 23.1 +0.2**
comp=Z,12nm,0.8s,mb4.6
LSA Lhasa 50.89 298 P **P 17 36 30.3 +1.2**
LSA Lhasa 50.89 298 *e*P **P 17 36 29.9 +0.8**
comp=Z,9.5nm,0.8s,mb4.5
TAPN Taplejung 53.66 295 *e*P **P 17 36 49.6 0.0**
comp=Z,26nm,0.9s,mb5.0
TAPN Taplejung 53.66 295 *e*P **P 17 36 49.6 0.0**
comp=Z,26nm,0.9s,mb5.0
RAMN Ramite 54.62 294 *e*P **P 17 36 56.3 -0.3**
comp=Z,45nm,1.0s,mb5.2
RAMN Ramite 54.62 294 *e*P **P 17 36 56.3 -0.3**
comp=Z,45nm,1.0s,mb5.2
JIRN Jiri 55.03 295 *e*P **P 17 36 59.9 +0.4**
JIRN Jiri 55.03 295 *e*P **P 17 36 59.9 +0.4**
GUN Gumba 55.32 295 *e*P **P 17 37 01.7 +0.1**
comp=Z,84nm,0.9s,mb5.5
GUN Gumba 55.32 295 *e*P **P 17 37 01.7 +0.1**
comp=Z,84nm,0.9s,mb5.5
PKI Pulchoki 55.71 295 *e*P **P 17 37 03.8 -0.7**
PKI Pulchoki 55.71 295 *e*P **P 17 37 03.8 -0.7**
KKN Kakani 55.84 295 *e*P **P 17 37 05.1 -0.3**
comp=Z,30nm,0.9s,mb5.1
KKN Kakani 55.84 295 *e*P **P 17 37 05.1 -0.3**
comp=Z,30nm,0.9s,mb5.1
DMN Daman 55.98 295 *e*P **P 17 37 06.0 -0.4**
DMN Daman 55.98 295 *e*P **P 17 37 06.0 -0.4**
GKN Gorkha 56.42 295 *e*P **P 17 37 09.3 -0.2**
GKN Gorkha 56.42 295 *e*P **P 17 37 09.3 -0.2**
DANN Dangsing 57.21 296 *e*P **P 17 37 15.2 +0.1**
comp=Z,71nm,0.6s,mb5.6
DANN Dangsing 57.21 296 *e*P **P 17 37 15.2 +0.1**
comp=Z,71nm,0.6s,mb5.7
KOLN Koldanda 57.33 295 *e*P **P 17 37 15.8 -0.1**
comp=Z,25nm,0.8s,mb5.1
KOLN Koldanda 57.33 295 *e*P **P 17 37 15.8 -0.1**
comp=Z,25nm,0.8s,mb5.1
MKAR Makanchi Array 60.92 317 P **P 17 37 40.6 +0.3**
comp=Z,1.7nm,0.7s,mb4.0,baz=96,slow=7.8,SNR=4.1
MKAR Makanchi Array 60.92 317 P **P 17 37 40.6 +0.3**
ZALV Zalesovo Beam 61.32 325 P **P 17 37 42.6 -0.3**
comp=Z,5.8nm,0.5s,mb4.7,baz=115,slow=7.0,SNR=14
ZALV Zalesovo Beam 61.32 325 P **P 17 37 42.6 -0.3**
KURK Kurchatov 64.14 320 P **P 17 38 02.1 +0.6**
comp=Z,21nm,0.6s,mb5.1,baz=105,slow=6.6,SNR=23
KURK Kurchatov 64.14 320 *e*P **P 17 38 01.4 -0.1**
comp=Z,33nm,0.8s,mb5.2
TKM2 Tokmak 2 65.00 311 *e*P **P 17 38 06.8 -0.5**
comp=Z,3.2nm,0.7s,mb4.3
AAK Ala-Archa 65.78 311 *e*P **P 17 38 12.8 +0.4**
comp=Z,24nm,1.0s,mb5.0
EKS2 Erkin-Say 66.31 311 *e*P **P 17 38 15.8 0.0**
comp=Z,2.5nm,0.7s,mb4.2
PMR Palmer 68.29 28 P **P 17 38 27.2 -0.7**
BVAR Borovoye Array 69.53 322 P **P 17 38 36.0 +0.3**
comp=Z,10nm,0.4s,mb4.9,baz=105,slow=8.1,SNR=28
BVAR Borovoye Array 69.53 322 P **P 17 38 36.0 +0.3**
BRVK Borovoye 69.60 322 *e*P **P 17 38 36.5 +0.4**
comp=Z,11nm,0.5s,mb4.8
COLA College 69.64 25 P **P 17 38 32.8 -3.3**
KBL Kabul 69.85 302 *e*P **P 17 38 36.7 -1.4**
comp=Z,26nm,1.1s,mb4.9
ILAR Eielson Array 70.02 25 P **P 17 38 37.5 -1.0**
comp=Z,0.9nm,0.5s,mb3.8,baz=249,slow=5.8,SNR=9.2
ILAR Eielson Array 70.02 25 P **P 17 38 37.5 -1.0**
ARU Arti 76.48 325 *e*P **P 17 39 16.4 -0.2**
comp=Z,13nm,0.9s,mb4.6
AKTO Aktyubinsk 77.19 319 P **P 17 39 20.5 -0.1**
comp=Z,2.0nm,0.6s,mb4.0,baz=103,slow=8.1,SNR=5.8
AKTO Aktyubinsk 77.19 319 P **P 17 39 20.5 -0.1**
YKA Yellowknife Ar 84.35 27 P **P 17 39 58.9 +0.4**
comp=Z,0.3nm,0.3s,baz=288,slow=4.9,SNR=7.7
YKA Yellowknife Ar 84.35 27 P **P 17 39 58.9 +0.4**
RES Resolute Bay 85.72 13 P **P 17 40 05.8 +0.7**
comp=Z,1.5nm,0.5s,mb4.0,baz=330,slow=4.6,SNR=5.4
RES Resolute Bay 85.72 13 P **P 17 40 05.8 +0.7**
ARCES ARCESS Array B 87.34 342 P **P 17 40 13.0 -0.1**
comp=Z,3.1nm,0.9s,mb4.1,baz=77,slow=6.4,SNR=11
ARCES ARCESS Array B 87.34 342 P **P 17 40 13.0 -0.1**
NVAR Mina Array Bea 88.73 51 P **P 17 40 21.2 +0.9**
comp=Z,1.5nm,0.7s,mb4.0,baz=265,slow=5.6,SNR=6.0
NVAR Mina Array Bea 88.73 51 P **P 17 40 21.2 +0.9**
FINES FINESS Array B 91.19 335 P **P 17 40 30.0 -1.3**
comp=Z,1.3nm,0.4s,mb4.3,baz=62,slow=4.7,SNR=9.8
FINES FINESS Array B 91.19 335 P **P 17 40 30.0 -1.3**
CLL Collm 102.94 331 *e*Pdif Pdif 17 41 26.0 +1.5
SNAA Sanae 117.66 192 *e* PKPdf 17 46 12.5 +1.3
VNA2 Neumayer–Watz 119.13 191 *e* PKPdf 17 46 15.2 +1.1
baz=247,slow=1.4
TORD Torodi Ar. Bea 133.92 303 PKP PKPdf 17 46 44.3 +0.4
comp=Z,0.9nm,0.9s,baz=44,slow=1.2,SNR=4.4
TORD Torodi Ar. Bea 133.92 303 PKP PKPdf 17 46 44.3 +0.4
LPAZ La Paz 149.53 100 PKPbc PKPbc 17 47 19.4 +3.2
comp=Z,3.7nm,0.8s,baz=326,slow=1.4,SNR=6.3
LPAZ La Paz 149.53 100 PKPbc PKPbc 17 47 19.4 +3.2

MAN 20 17:27:50,10.°55N×122.°47E,h81km,mb4.2,ML3.0,MS2.8,
1C-1D,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.04**	**15**	⇑*e*P	Pn	17 28 10.3	+0.8
RCP				*e*S	Sn	17 28 26.3	+2.1
SNPH	**Sibulan**	**1.42**	**148**	⇓*i*P	Pn	17 28 15.9	+1.5
SNPH				*i* S	Sn	17 28 35.2	+2.4
CUYO	**Cuyo Island**	**1.45**	**282**	*e*P	Pn	17 28 16.0	+1.3
OTRP	**Odiongan**	**1.85**	**346**	*e*P	Pn	17 28 22.5	+2.6
BUSP	**Coron**	**2.65**	**303**	*e*P	Pn	17 28 32.7	+2.1

WEL 20 17:34:15.0±0.5,38.°59S×175.°36E,h208km±3km,ML3.8/12,
Error ellipse: s-maj=4.9km s-min=3.8km az=90.0,North
Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.48**	**173**	PN	Pn	17 34 42.9	+0.1
WPVZ	**Whakapapa**	**0.63**	**167**	PN	Pn	17 34 43.8	+0.4
WPVZ				SN	Sn	17 35 06.8	+1.0
MOVZ	**Moawhango**	**0.87**	**159**	PN	Pn	17 34 44.6	-0.1
MOVZ				SN	Sn	17 35 07.2	-0.8
BHHZ	**Black Hill Sta**	**1.05**	**149**	PN	Pn	17 34 45.7	-0.1
BHHZ				SN	Sn	17 35 09.2	-0.8
BKZ	**Black Stump Fm**	**1.06**	**123**	PN	Pn	17 34 45.9	0.0
BKZ				SN	Sn	17 35 09.9	0.0
WAZ	**Wanganui**	**1.20**	**194**	SN	Sn	17 35 11.3	-0.5
NMHZ	**Naumai**	**1.24**	**115**	PN	Pn	17 34 48.2	+1.0
MCHZ	**McNeill Hill**	**1.35**	**130**	PN	Pn	17 34 48.8	+0.8
RAHZ	**Arahi**	**1.39**	**104**	PN	Pn	17 34 48.9	+0.5
RAHZ				SN	Sn	17 35 15.7	+1.3
URZ	**Urewera**	**1.42**	**77**	PN	Pn	17 34 47.9	-0.7
URZ				SN	Sn	17 35 14.0	-0.7
PNHZ	**Pukenui**	**1.48**	**154**	PN	Pn	17 34 48.9	-0.1
TSZ	**Takapari Road**	**1.54**	**162**	PN	Pn	17 34 49.2	-0.4
KAHZ	**Kahuranaki**	**1.69**	**136**	PN	Pn	17 34 51.2	+0.2
WPHZ	**Waipukurau**	**1.70**	**151**	PN	Pn	17 34 50.7	-0.3
WPHZ				SN	Sn	17 35 18.7	-0.7
CKHZ	**Cape Kidnapper**	**1.71**	**129**	PN	Pn	17 34 51.5	+0.3
MWZ	**Matawai**	**1.72**	**82**	PN	Pn	17 34 51.0	-0.4
MWZ				SN	Sn	17 35 18.6	-1.0
DVHZ	**Dannevirke**	**1.82**	**160**	PN	Pn	17 34 51.3	-0.9
PXZ	**Pawanui**	**1.85**	**141**	PN	Pn	17 34 52.1	-0.5
PXZ				SN	Sn	17 35 21.3	-0.7
KNZ	**Kokohu**	**1.86**	**104**	PN	Pn	17 34 52.5	-0.1
PRHZ	**Porangahau**	**1.95**	**150**	PN	Pn	17 34 52.8	-0.6
PRGZ	**Paritu Road**	**2.00**	**100**	PN	Pn	17 34 53.8	-0.3
MHGZ	**Mahia Peninsul**	**2.07**	**107**	PN	Pn	17 34 54.8	+0.1
MRZ	**Mangatainoka R**	**2.08**	**175**	PN	Pn	17 34 53.2	-1.6
MRZ				SN	Sn	17 35 23.3	-2.7
BFZ	**Birch Farm**	**2.20**	**162**	PN	Pn	17 34 54.7	-1.3
TIWZ	**Tintock**	**2.22**	**170**	SN	Sn	17 35 26.3	-2.4
OGWZ	**Otaki Gorge**	**2.23**	**184**	PN	Pn	17 34 54.7	-1.6
CNGZ	**Carnagh Statio**	**2.24**	**88**	PN	Pn	17 34 56.7	+0.2
HOWZ	**Holdsworth Sta**	**2.31**	**177**	PN	Pn	17 34 55.1	-2.1
PUZ	**Puketiti**	**2.34**	**78**	PN	Pn	17 34 56.9	-0.7
PUZ				SN	Sn	17 35 29.6	-1.2
DUWZ	**D'Urville Isla**	**2.47**	**206**	PN	Pn	17 34 56.3	-2.6
CAW	**Cannon Point**	**2.52**	**185**	PN	Pn	17 34 57.2	-2.3
CAW				SN	Sn	17 35 30.5	-4.0
TMWZ	**Te Maipa**	**2.55**	**171**	*e*PN	Pn	17 34 57.4	-2.4
MTW	**Mount Morrison**	**2.57**	**178**	PN	Pn	17 34 57.5	-2.5
TCW	**Tory Channel**	**2.75**	**197**	PN	Pn	17 34 59.4	-2.6
TCW				SN	Sn	17 35 33.4	-5.6
SNZO	**South Karori**	**2.76**	**190**	PN	Pn	17 34 59.3	-2.9
PAWZ	**Paruwai Farm**	**2.79**	**179**	SN	Sn	17 35 35.2	-4.7
PLWZ	**Palliser**	**2.98**	**181**	PN	Pn	17 35 01.6	-3.1
NNZ	**Nelson**	**3.03**	**209**	PN	Pn	17 35 01.5	-3.8
TUWZ	**Tuamarina**	**3.04**	**200**	PN	Pn	17 35 02.0	-3.3
QRZ	**Quartz Range**	**3.12**	**223**	PN	Pn	17 35 01.9	-4.5
BSWZ	**Blackbirch Sta**	**3.32**	**200**	PN	Pn	17 35 05.5	-3.2
THZ	**Tophouse**	**3.69**	**210**	PN	Pn	17 35 08.5	-4.6
KHZ	**Kahutara**	**4.07**	**199**	PN	Pn	17 35 13.9	-3.8
DSZ	**Denniston Nort**	**4.17**	**220**	PN	Pn	17 35 13.6	-5.4
LTZ	**Lake Taylor**	**4.80**	**208**	PN	Pn	17 35 21.8	-5.1
MQZ	**McQueen's Vall**	**5.50**	**201**	PN	Pn	17 35 29.6	-6.3
WVZ	**Waitaha Valley**	**5.69**	**217**	PN	Pn	17 35 32.2	-6.0
ODZ	**Otahua Downs**	**7.35**	**207**	PN	Pn	17 35 53.6	-6.0

NIED ***20*** *17:37:00,36.°60N×142.°30E,h17km,Mw5.0 Best double couple: M₀=4.09000×10¹⁶ NP1:φ=10.00000°,δ77.00000°, λ77.00000°. NP2:φ=236.00000°,δ18.00000°,λ134.00000°.*
IDC ***20*** *17:37:15.3±0.5,36.°68N×142.°23E,h0km,mb4.5/27, mb1 4.6/32,mb1mx4.5/38,mbtmp4.5/32,ML4.2/4,MS4.3/6, Ms1 4.4/6,ms1mx3.9/37,Error ellipse: s-maj=15.4km s-min=11.4km az=96.0*
NEIC ***20*** *17:37:16.4±0.2,36.°61N×142.°20E,h10km,mb5.2/80, MW5.0(NIED),Error ellipse: s-maj=6.1km s-min=4.6km az=131.0*
NEIC Recorded [2 JMA] in Ibaraki and [1 JMA] in Chiba, Fukushima, Gumma, Miyagi, Saitama, Tochigi and Yamagata.
ISCJB ***20*** *17:37:17.6±0.8,36.°68N±0.°03×142.°20E±0.°03,h25km±5km, mb5.0/141,MS4.9/32,Error ellipse: s-maj=4.6km s-min=4.0km az=38.6*
JMA ***20*** *17:37:17.6±0.2,36.°67N×142.°26E,h45km,M5.2*
JMA Felt II J1.
SZGRF ***20*** *17:37:17.7,35.°77N×142.°21E,h33km,mb5.3,Off east coast of Honshu, Japan*
BJI ***20*** *17:37:17.5,36.°70N×142.°11E,h30km,mB5.3/36,mb5.0/60, Ms5.0/55,Ms7 4.8/50*
MOS ***20*** *17:37:19.6±1.0,36.°83N×142.°11E,h33km,mb5.4/55, MS4.9/13,Error ellipse: s-maj=8.0km s-min=4.5km az=121.5*
GCMT ***20*** *17:37:25.2±0.4,36.°71N×142.°19E,h25km,MW5.1, Moment Tensor Solution. s25,c27; s57,c85; Moment tensor: Scale 10¹⁶Nm; Mrr2.37±.19; Mθθ-0.84±.14; Mφφ-1.53±.13; Mrθ 1.96±.31; Mθφ-1.64±.09; Mφr4.70±.27; Best double couple: M₀5.70000×10¹⁶ NP1:φ=237.00000°, δ16.00000°,λ122.00000°. NP2:φ=24.00000°,δ77.00000°, λ82.00000°. Principal axes: T 5.6000, Plg57.0000°, Azm283.0000°; N 0.2800, Plg8.0000°, Azm26.0000°; P -5.8700, Plg31.0000°, Azm121.0000°; Data Used: II G IU IC CN.*
DJA ***20*** *17:37:38,36.°56N×138.°62E,h10km,mb5.1/6*
ISC 20 17:37:18.3±0.9,36.°70N±0.°02×142.°21E±0.°03,h19km±5km,
h34km±1.3km:pP-P,n482,σ0=95/512,mb5.0/141,MS4.9/32,
46C-9D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.20**	**290**	P	**Pn**	**17 37 38.8**	**-1.3**
ONAJ				*e*S	**Sb**	**17 37 54.4**	**-1.2**
JFK	**Kawauchi**	**1.26**	**302**	P	**Pn**	**17 37 39.6**	**-1.3**
JHO	**Hitachi**	**1.32**	**267**	⇑P	**Pn**	**17 37 40.7**	**-1.0**
JMM	**Marumori**	**1.62**	**316**	⇑P	**Pn**	**17 37 45.2**	**-0.7**
JMM				*e*S	**Sn**	**17 38 05.7**	**-0.6**
JFT	**Otama**	**1.71**	**299**	P	**Pn**	**17 37 47.1**	**+0.1**
JFT				*e*S	**Sn**	**17 38 08.9**	**+0.6**
JSB	**Shiboa**	**1.85**	**279**	⇑P	**Pn**	**17 37 49.4**	**+0.3**
JIO	**Ouri**	**1.88**	**339**	P	**Pn**	**17 37 48.8**	**0.7**
JIO				*e*S	**Sn**	**17 38 11.7**	**-1.0**
JOU	**Okura**	**2.07**	**324**	P	**Pn**	**17 37 52.9**	**+0.9**
TOK	**Tokyo**	**2.22**	**244**	P	**Pn**	**17 37 54.7**	**+0.6**
JAG	**Ashikaga**	**2.23**	**264**	⇑P	**Pn**	**17 37 54.0**	**-0.3**
BSO1	**Boso 1**	**2.27**	**207**	P	**Pn**	**17 37 55.4**	**+0.6**
JKT	**Katashina**	**2.38**	**273**	P	**Pn**	**17 37 56.6**	**+0.3**
JMK	**Ichinoseki**	**2.38**	**341**	⇑P	**Pn**	**17 37 56.0**	**-0.4**
JHK	**Hiroka**	**2.61**	**283**	⇑P	**Pn**	**17 38 00.1**	**+0.6**
JYK	**Kaneyama**	**2.66**	**327**	P	**Pn**	**17 38 00.4**	**+0.3**
JRY	**Ryogami san**	**2.75**	**257**	⇑P	**Pn**	**17 38 01.0**	**-0.4**
JRY				*e*S	**Sn**	**17 38 33.7**	**-0.5**
JOM	**Ohasama**	**2.86**	**346**	P	**Pn**	**17 38 02.7**	**-0.3**
JGK	**Kuni**	**2.87**	**268**	⇑P	**Pn**	**17 38 04.0**	**+0.9**
JOD2	**Odawara 2**	**2.91**	**241**	P	**Pn**	**17 38 03.6**	**+0.1**
JOD2				*e*S	**Sn**	**17 38 37.3**	**-0.7**
AJI	**Ajiro2**	**3.02**	**238**	P	**Pn**	**17 38 04.7**	**-0.4**
MJAR	**Matsushiro Arr**	**3.22**	**268**	Pn	**Pn**	**17 38 08.7**	**+0.8**
65nm,0.3s,baz=228,slow=25,SNR=592							
MJAR				Sn	**Sn**	**17 38 51.1**	**+5.4**
80nm,0.3s,baz=65,slow=23,SNR=10.0							
MJAR	**Matsushiro Arr**	**3.22**	**268**	Pn	**Pn**	**17 38 08.7**	**+0.8**
MJAR				Sn	**Sn**	**17 38 51.1**	**+5.4**
MJAR	**Matsushiro Arr**	**3.22**	**268**	P	**Pn**	**17 38 08.7**	**+0.8**
MJAR						17 38 51.1	
MAJO	**Matsushiro**	**3.22**	**268**	⇑*e*Pn	**Pn**	**17 38 08.6**	**+0.8**
MAJO				*e*Sn	**Sn**	**17 38 52.3**	**+6.6**
MAJO	**Matsushiro**	**3.22**	**268**	⇑*e*P	**Pn**	**17 38 08.6**	**+0.7**
MAJO				*e*		17 38 52.3	
MAT	**Matsushiro**	**3.22**	**268**	P	**Pn**	**17 38 08.5**	**+0.6**
MAT				S	**Sn**	**17 38 42.0**	**-3.8**
MAT	**Matsushiro**	**3.22**	**268**	P	**Pn**	**17 38 08.3**	**+0.4**
JJN	**Nakama**	**3.27**	**278**	P	**Pn**	**17 38 10.3**	**+1.8**
JIZS	**Izushimoda**	**3.35**	**235**	P	**Pn**	**17 38 09.1**	**-0.6**
JNT	**Takato**	**3.39**	**257**	P	**Pn**	**17 38 11.1**	**+0.9**
JNY	**Yasuok**	**3.77**	**251**	⇑P	**Pn**	**17 38 16.6**	**+1.2**
JGN	**Niukaw**	**3.97**	**265**	P	**Pn**	**17 38 19.8**	**+1.6**
ERM	**Erimo**	**5.36**	**8**	*e*P	**Pn**	**17 38 34.3**	**-3.0**
JKN2	**Miekihoku**	**5.43**	**245**	⇓P	**Pn**	**17 38 38.7**	**+0.5**
ASAJ	**Asahikawa**	**7.42**	**2**	Pn	**Pn**	**17 39 04.3**	**-1.2**
3.0nm,0.3s,baz=214,slow=13,SNR=24							
ASAJ				Sn	**Sn**	**17 40 24.6**	**-4.4**
3.6nm,0.3s,baz=252,slow=18,SNR=2.2							
ASAJ	**Asahikawa**	**7.42**	**2**	*e*Pn	**Pn**	**17 39 04.8**	**-0.7**
14nm,0.6s							
ASAJ				*e*Sn	**Sn**	**17 40 21.1**	**-8.0**
ASAJ				Sn	**Sn**	**17 40 24.6**	**-4.4**
ASAJ	**Asahikawa**	**7.42**	**2**	P	**Pn**	**17 39 04.3**	**-1.2**
ASAJ						17 40 24.7	
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
ASAJ				smax			
comp=N,4.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**7.84**	**20**	*i*P	**Pn**	**17 39 08.4**	**-2.9**
YUK				*i* S	**Sn**	**17 40 32.1**	**-7.4**
YUK				pmax	pmax		
comp=N,102nm,0.4s							
YUK				pmax	pmax		
comp=E,159nm,0.4s							
YUK				pmax	pmax		
comp=Z,197nm,0.4s							
YUK				pmax	pmax		
comp=Z,26μm,0.4s							
KUR	**Kuril'sk**	**9.54**	**25**	P	Px	17 39 52.4	
KUR				S	**Sn**	**17 41 14.5**	**-6.7**
KUR				smax			
comp=N,140nm,0.7s							
KUR				smax			
comp=E,170nm,0.7s							
CBIJ	**Chichi jima**	**9.57**	**180**	Pn	**Pn**	**17 39 32.6**	**-2.5**
comp=E,17nm,0.3s,baz=115,slow=18,SNR=9.9							
CBIJ				Sn	**Sn**	**17 41 09.8**	**-12**
comp=E,18nm,0.3s,baz=217,slow=20,SNR=3.1							
CBIJ				LR	LR	17 43 16.1	
comp=E,616nm,19.0s,baz=310,slow=38							
CBIJ	**Chichi jima**	**9.57**	**180**	Pn	**Pn**	**17 39 32.6**	**-2.5**
CBIJ				Sn	**Sn**	**17 41 09.8**	**-12**
JTSN	**Tsuno**	**9.89**	**246**	P	**Pn**	**17 39 39.8**	**+0.4**
JNU	**Nakatsue**	**9.96**	**252**	*e*Pn	**Pn**	**17 39 40.5**	**0.0**
comp=E,78nm,1.2s							
VLA	**Vladivostok**	**10.19**	**312**	⇓*e*P	**Pn**	**17 39 43.3**	**-0.2**
VLA				S	**Sn**	**17 41 38.3**	**+1.1**
VLA				pmax	pmax		
comp=Z,53nm,1.2s							
YSS	**Yuzh-Sakhalins**	**10.26**	**2**	*e*Pn	**Pn**	**17 39 42.1**	**-2.3**
comp=Z,57nm,0.8s							
YSS	**Yuzh-Sakhalins**	**10.26**	**2**	*e*P	**Pn**	**17 39 43.8**	**-0.6**
YSS				MLR	MLR		
comp=N,1μm,16.0s							
YSS				MLR	MLR		
comp=Z,2μm,16.0s							
YSS				MLR	MLR		
comp=E,2μm,19.0s							
JTZ	**Takazaki**	**10.37**	**246**	P	**Pn**	**17 39 47.3**	**+1.3**
USRK	**Ussuriysk Arra**	**10.79**	**317**	Pn	**Pn**	**17 39 52.9**	**+1.1**
comp=E,0.9nm,0.3s,baz=141,slow=13,SNR=9.9							
KSRS	**Korea Array**	**11.44**	**278**	Pn	**Pn**	**17 40 04.2**	**+3.5**
comp=E,0.7nm,0.3s,baz=91,slow=14,SNR=47							
KSRS	**Korea Array**	**11.44**	**278**	P	**Pn**	**17 40 04.2**	**+3.6**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.3s							
KSAR	**Wonju Array Be**	**11.47**	**278**	Pn	**Pn**	**17 40 04.2**	**+3.1**
KSAR	**Wonju Array Be**	**11.47**	**278**	P	**Pn**	**17 40 04.2**	**+3.1**
MDJ	**Mudanjiang**	**12.41**	**313**	P	**Pn**	**17 40 15.9**	**+2.0**
MDJ				S	**Sn**	**17 42 33.5**	**+1.9**
MDJ				PcP	PcP	17 45 53.8	-0.1
MDJ				ScP	ScP	17 49 25.9	0.0
MDJ				ScS	ScS	17 52 59.3	-2.5
MDJ				pmax	pmax		
comp=Z,11nm,1.3s							
MDJ				pmax	pmax		
comp=Z,340nm,7.8s							
MDJ				LR	LR		
comp=N,2μm,17.2s							
MDJ				LR	LR		
comp=E,2μm,19.0s							
MDJ				LR	LR		
comp=Z,4μm,19.0s							
MDJ	**Mudanjiang**	**12.41**	**313**	*e*Pn	**Pn**	**17 40 14.7**	**+0.8**
comp=Z,42nm,1.0s							
HABR	**Khabarovsk**	**12.89**	**338**	P	**Pn**	**17 40 16.2**	**-4.2**
HABR						17 42 36.7	
HABR				MLR	MLR		
comp=Z,4μm,14.0s							
HABR				MLR	MLR		
comp=N,3μm,14.0s							
HABR				MLR	MLR		
comp=E,3μm,12.0s							
CN2	**Changchun**	**14.62**	**304**	*e*P	**Pn**	**17 40 46.8**	**+2.8**
CN2				*e*sP	sP	17 40 59.8	+1.8
CN2				*e*S	**Sn**	**17 43 30.3**	**+4.8**
CN2				pmax	pmax		
comp=Z,10.0nm,1.1s							
CN2				pmax	pmax		
comp=Z,300nm,6.0s							
CN2				LR	LR		
comp=N,2μm,14.0s							
CN2				LR	LR		
comp=E,3μm,14.0s							
CN2				LR	LR		
comp=Z,4μm,17.0s							
KLR	**Kul'dur**	**14.66**	**332**	*e*P	**Pn**	**17 40 40.0**	**-4.5**
KLR				MLR	MLR		
comp=N,3μm,13.0s							
KLR				MLR	MLR		
comp=E,2μm,13.0s							
SNY	**Shenyang**	**15.31**	**295**	⇑P	**Pn**	**17 40 51.9**	**-1.3**
SNY				pmax	pmax		
comp=Z,43nm,1.0s							
SNY				LR	LR		
comp=N,2μm,13.2s							
SNY				LR	LR		
comp=E,5μm,15.6s							
SNY				LR	LR		
comp=Z,6μm,15.0s							
JOW	**Kunigami**	**15.38**	**234**	LR	LR	17 46 38.5	
comp=Z,1μm,21.7s,baz=309,slow=37							
DL2	**Dalian**	**16.41**	**284**	P	**Pn**	**17 41 09.8**	**+2.2**
DL2				S	**Sn**	**17 44 10.8**	**+1.6**
DL2				pmax	pmax		
comp=Z,30nm,0.9s							
DL2				pmax	pmax		
comp=Z,320nm,13.3s							
DL2				LR	LR		
comp=E,2μm,15.8s							
DL2				LR	LR		
comp=Z,2μm,16.8s							
SSE	**Sheshan**	**18.31**	**258**	P	**Pn**	**17 41 32.6**	**+1.3**
SSE				sP	sP	17 41 44.9	+5.9
SSE				S	**Sn**	**17 44 55.3**	**0.0**
SSE				pmax	pmax		
comp=Z,33nm,0.8s							
SSE				pmax	pmax		

	comp=N,2μm,14.7s,MS4.9					
TIA			LR	LR		
	comp=E,3μm,15.7s,MS4.9					
TIA			LR	LR		
	comp=Z,4μm,15.7s,MS4.8					
HIA	**Hailar**	**20.59 315**	*e*Pn	**P**	**17 41 54.4**	**-1.7**
	comp=Z,69nm,1.4s					
HIA	**Hailar**	**20.59 315**	*e*P	**P**	**17 41 54.4**	**-1.7**
HIA			pmax	pmax		
	comp=Z,69nm,1.4s					
BJI	**Beijing**	**20.66 287**	P	**P**	**17 41 54.9**	**-2.0**
BJI			S	**S**	**17 45 45.8**	**-1.1**
BJI			pmax	pmax		
	comp=Z,29nm,1.6s					
BJI			pmax	pmax		
	comp=Z,280nm,4.6s					
BJI			LR	LR		
	comp=N,2μm,14.8s,MS4.8					
BJI			LR	LR		
	comp=E,2μm,14.5s,MS4.8					
BJI			LR	LR		
	comp=Z,900nm,22.1s					
BJT	**Baijiatuau**	**20.66 287**	*e*Pn	**P**	**17 41 54.2**	**-2.7**
	comp=Z,59nm,0.9s					
BJT	**Baijiatuau**	**20.66 287**	*e*P	**P**	**17 41 54.2**	**-2.7**
BJT			pmax	pmax		
	comp=Z,59nm,0.9s					
YHNB	**Yeheng**	**21.50 242**	*e*P	**P**	**17 42 01.5**	**-4.6**
	comp=Z,19nm,0.8s,mb4.6					
NACB	**Ninganchiao**	**21.66 241**	P	**P**	**17 42 03.7**	**-4.1**
SSLB	**Suanglung**	**22.36 241**	*e*P	**P**	**17 42 08.8**	**-6.4**
	comp=Z,28nm,0.9s,mb4.7					
SSLB			*e*S	**S**	**17 46 09.6**	**-11**
TPUB	**Ta-pu**	**22.90 240**	*e*P	**P**	**17 42 16.9**	**-4.1**
	comp=Z,32nm,0.8s,mb4.8					
CLNS	**Chul'man**	**23.25 336**	*e*P	**P**	**17 42 22.8**	**-1.6**
CLNS			pmax	pmax		
	comp=E,4.0nm,1.3s					
CLNS			pmax	pmax		
	comp=Z,20nm,1.2s,mb4.4					
CLNS			pmax	pmax		
	comp=N,31nm,1.4s					
CLNS			MLR	MLR		
	comp=E,1μm,15.0s,MS4.8					
CLNS			MLR	MLR		
	comp=Z,2μm,15.0s,MS4.8					
CLNS			MLR	MLR		
	comp=N,2μm,15.0s,MS4.8					
WHN	**Wuhan**	**23.95 263**	⇑P	**P**	**17 42 29.5**	**-1.9**
WHN			pP		17 42 40.3	
WHN			S	**S**	**17 46 46.3**	**-0.7**
WHN			LR	LR		
	comp=N,4μm,18.3s,MS5.2					
WHN			LR	LR		
	comp=E,5μm,13.4s,MS5.2					
WHN			LR	LR		
	comp=Z,6μm,14.0s,MS5.2					
HHC	**Hu-ho-hao-te**	**24.18 289**	*e*P	**P**	**17 42 31.0**	**-2.4**
HHC			PP		17 43 04.0	
HHC			S	**S**	**17 46 43.5**	**-7.2**
HHC			SS		17 47 35.6	
HHC			pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5					
HHC			pmax	pmax		
	comp=Z,370nm,4.6s					
HHC			LR	LR		
	comp=N,750nm,9.9s					
HHC			LR	LR		
	comp=E,1μm,12.3s					
HHC			LR	LR		
	comp=Z,1μm,12.4s,MS4.6					
BTO	**Baotou**	**25.36 289**	*e*P	**P**	**17 42 41.8**	**-2.3**
CIT	**Chita**	**25.36 316**	*e*P	**P**	**17 42 43.8**	**-0.2**
CIT			*e*		17 42 54.3	
CIT			*e*		17 43 31.8	
CIT			pmax	pmax		
	comp=Z,425nm,1.5s,mb5.8					
YAK	**Yakutsk**	**26.54 347**	*e*P	**P**	**17 42 53.4**	**-1.2**
	comp=Z,86nm,0.8s,mb5.3					
YAK	**Yakutsk**	**26.54 347**	*e*P	**P**	**17 42 54.0**	**-0.6**
YAK			*e**PP	pP	17 43 01.4	+1.1
YAK			*e*		17 43 34.1	
YAK			*e*S	**S**	**17 47 30.0**	**+2.2**
YAK			pmax	pmax		
	comp=E,11nm,0.9s					
YAK			pmax	pmax		
	comp=Z,91nm,1.0s,mb5.3					
YAK			pmax	pmax		
	comp=N,35nm,1.1s					
YAK			pmax	pmax		
	comp=N,132nm,2.5s					
YAK			pmax	pmax		
	comp=Z,178nm,3.2s					
YAK			pmax	pmax		
	comp=E,54nm,2.0s					
YAK			smax			
	comp=N,216nm,3.9s					
YAK			smax			
	comp=E,394nm,4.2s					
YAK			MLR	MLR		
	comp=Z,2μm,14.0s,MS4.9					
YAK			MLR	MLR		
	comp=N,2μm,14.0s,MS4.8					
YAK			MLR	MLR		
	comp=E,674nm,13.0s,MS4.8					
FX1	**Attu Island--F**	**27.00 43**	LR	LR	17 50 33.1	
	comp=E,471nm,21.7s,MS4.0,baz=88,slow=30					
XAN	**Xi'an**	**27.20 274**	P	**P**	**17 42 59.9**	**-0.9**
XAN			pP	pP	17 43 08.5	+2.0
XAN			pmax	pmax		
	comp=Z,16nm,1.4s,mb4.4					
XAN			pmax	pmax		
	comp=Z,85nm,6.8s					
XAN			LR	LR		
	comp=N,1μm,15.4s,MS4.5					
XAN			LR	LR		
	comp=E,470nm,16.8s,MS4.5					
XAN			LR	LR		
	comp=Z,510nm,18.2s,MS4.1					
ENH	**Enshi**	**27.94 266**	⇑*i*P	**P**	**17 43 06.0**	**-1.5**
	comp=Z,176nm,1.0s,mb5.7					
ENH			*e*		17 43 16.4	
ULN	**Ulaanbaatar**	**28.07 305**	⇑*i*P	**P**	**17 43 08.5**	**0.0**
	comp=Z,47nm,1.0s,mb5.1					
ULN	**Ulaanbaatar**	**28.07 305**	⇑*i*P	**P**	**17 43 08.5**	**0.0**
ULN			pmax	pmax		
	comp=Z,47nm,1.0s,mb5.1					
ULN	**Ulaanbaatar**	**28.07 305**	P	**P**	**17 43 09.0**	**+0.5**
	comp=Z,45nm,1.1s,mb5.0					
BOD	**Bodaibo**	**28.16 328**	*e*P	**P**	**17 43 08.9**	**-0.2**
BOD			pmax	pmax		
	comp=Z,41nm,1.7s,mb4.8					
SONM	**Songino Array**	**28.50 304**	P	**P**	**17 43 12.8**	**+0.5**
	comp=Z,41nm,0.9s,mb5.2,baz=104,slow=8.0,SNR=172					
SONM	**Songino Array**	**28.50 304**	P	**P**	**17 43 12.8**	**+0.5**
SONM	**Songino Array**	**28.50 304**	P	**P**	**17 43 12.8**	**+0.5**
TGY	**Tagaytay City**	**29.45 226**	P	**P**	**17 43 21.8**	**+0.8**
	comp=Z,85nm,0.4s,mb5.8,baz=207,slow=7.2,SNR=3.1					
TGY	**Tagaytay City**	**29.45 226**	P	**P**	**17 43 21.8**	**+0.8**
TGY	**Tagaytay City**	**29.45 226**	P	**P**	**17 43 21.8**	**+0.8**
LZH	**Lanzhou**	**30.75 281**	⇑P	**P**	**17 43 32.3**	**-0.1**
LZH			pP	pP	17 43 42.5	+4.4
LZH			sP	sP	17 43 46.4	+6.0
LZH			PP	PP	17 44 33.3	-8.5
LZH			sS	sS	17 48 46.8	+2.8
LZH			SS	SS	17 50 13.5	-32
LZH			pmax	pmax		
	comp=Z,74nm,1.2s,mb5.4					
LZH			pmax	pmax		
	comp=Z,250nm,5.1s					
LZH			LR	LR		
	comp=N,1μm,12.8s,MS5.3					
LZH			LR	LR		
	comp=E,4μm,16.4s,MS5.3					
LZH			LR	LR		
	comp=Z,5μm,17.0s,MS5.2					
LZH	**Lanzhou**	**30.75 281**	⇑P	**P**	**17 43 32.3**	**-0.1**
	comp=Z,74nm,1.2s,mb5.4					
LZH			pP	pP	17 43 42.5	+4.4
LZH			sP	sP	17 43 46.4	+6.0
LZH			PP	PP	17 44 33.2	-8.6
LZH			S	S	17 47 32.1	-62
LZH			sS	sS	17 48 46.7	+2.7
LZH			SS	SS	17 50 13.5	-32
LZH	**Lanzhou**	**30.75 281**	⇑P	**P**	**17 43 32.3**	**-0.1**
LZH			*PP	pP	17 43 42.5	+4.4
LZH			*SP	sP	17 43 46.4	+6.0
LZH					17 44 33.2	
LZH			SS	SS	17 50 13.5	-32
LZH			pmax	pmax		
	comp=Z,74nm,1.2s,mb5.4					
ZAK	**Zakamensk**	**30.98 309**	*e*P	**P**	**17 43 34.3**	**+0.1**
ZAK			pmax	pmax		
	comp=Z,22nm,1.3s,mb4.8					
TLY	**Talaya**	**31.03 311**	*e*P	**P**	**17 43 34.5**	**-0.2**
	comp=Z,19nm,1.0s,mb4.9					
TLY	**Talaya**	**31.03 311**	*e*P	**P**	**17 43 33.5**	**-1.2**
TLY			*e*		17 44 42.2	
TLY			*e*S	**S**	**17 48 41.6**	**+3.0**
TLY			pmax	pmax		
	comp=Z,31nm,1.2s,mb5.0					
TLY			MLR	MLR		
	comp=Z,2μm,17.0s,MS4.8					
GYA	**Guiyang**	**31.80 262**	P	**P**	**17 43 41.3**	**-0.4**
GYA			pP	pP	17 43 51.0	+3.6
GYA			sP	sP	17 43 57.5	+7.8
GYA			PP	PP	17 44 46.4	-7.1
GYA			PcP	PcP	17 46 33.0	+0.4
GYA			S	**S**	**17 48 47.8**	**-3.2**
GYA			sS	sS	17 49 04.3	+3.8
GYA			ScP	ScP	17 50 12.9	-2.1
GYA			SS	SS	17 50 38.3	-29
GYA			pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0					
GYA			pmax	pmax		
	comp=Z,120nm,4.8s					
GYA			LR	LR		
	comp=N,640nm,15.8s,MS4.5					
GYA			LR	LR		
	comp=E,550nm,16.9s,MS4.5					
GYA			LR	LR		
	comp=Z,690nm,14.6s,MS4.5					
CD2	**Chengdu**	**32.31 271**	⇓*i*P	**P**	**17 43 45.8**	**-0.4**
CD2			pP	pP	17 43 55.0	+3.1
CD2			sP	sP	17 43 59.3	+5.1
CD2			PP	PP	17 44 53.0	-6.2
CD2			PcP	PcP	17 46 33.8	-0.1
CD2			S	**S**	**17 48 55.3**	**-3.8**
CD2			sS	sS	17 49 11.3	+2.8
CD2			SS	SS	17 50 50.4	-28
CD2			pmax	pmax		
	comp=Z,60nm,1.1s,mb5.3					
CD2			pmax	pmax		
	comp=Z,230nm,8.4s					
CD2			LR	LR		
	comp=N,2μm,13.2s,MS5.2					
CD2			LR	LR		
	comp=E,2μm,14.4s,MS5.2					
CD2			LR	LR		
	comp=Z,3μm,14.4s,MS5.1					
MOY	**Mondy**	**32.64 310**	*e*P	**P**	**17 43 48.7**	**-0.1**
GTA	**Gaotai**	**33.27 288**	*e*P	**P**	**17 43 54.3**	**-0.2**
GTA			pP	pP	17 44 03.6	+3.4
GTA			sP	sP	17 44 07.4	+4.9
GTA			S	**S**	**17 49 12.3**	**-1.5**
GTA			sS	sS	17 49 29.1	+5.9
GTA			pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2					
GTA			pmax	pmax		
	comp=Z,300nm,5.9s					
GTA			LR	LR		
	comp=N,2μm,15.0s,MS4.9					
GTA			LR	LR		
	comp=E,930nm,15.4s,MS4.9					
GTA			LR	LR		
	comp=Z,1μm,16.2s,MS4.6					
QIZ	**Qiongzhong**	**33.38 247**	*e*P	**P**	**17 43 56.1**	**+0.5**
	comp=Z,73nm,1.3s,mb5.5					
BILL	**Bilibino**	**34.17 16**	*e*P	**P**	**17 44 01.1**	**-0.9**
	comp=Z,11nm,1.5s,mb4.6					
BILL			*e*		17 44 11.8	
BILL	**Bilibino**	**34.17 16**	⇑*i*P	**P**	**17 44 01.2**	**-0.8**
BILL			*i*		17 44 11.8	
BILL			pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.5					
BILL			MLR	MLR		
	comp=Z,600nm,17.0s,MS4.4					
KMI	**Kunming**	**35.54 262**	P	**P**	**17 44 14.1**	**-0.2**
KMI			pP	pP	17 44 24.0	+3.9
KMI			sP	sP	17 44 27.8	+5.4
KMI			S	**S**	**17 49 46.6**	**-2.5**
KMI			sS	sS	17 50 04.0	+5.4
KMI			pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3					
KMI			pmax	pmax		
	comp=Z,250nm,4.0s					
KMI			LR	LR		
	comp=N,2μm,15.7s,MS5.1					
KMI			LR	LR		
	comp=E,2μm,15.7s,MS5.1					
KMI			LR	LR		
	comp=Z,1μm,17.6s,MS4.7					
KMI	**Kunming**	**35.54 262**	P	**P**	**17 44 14.1**	**-0.2**
	comp=Z,39nm,1.0s,mb5.3					
KMI			pP	pP	17 44 24.0	+3.9
KMI			sP	sP	17 44 27.7	+5.3
KMI			PP	PP	17 45 40.1	+5.0
KMI			PPP		17 45 55.6	
KMI			S	**S**	**17 49 46.6**	**-2.5**
KMI			sS	sS	17 50 04.0	+5.4
KMI			SSS		17 52 34.5	
KMI	**Kunming**	**35.54 262**	P	**P**	**17 44 14.1**	**-0.2**
KMI			*PP	pP	17 44 24.0	+3.9
KMI			*SP	sP	17 44 27.7	+5.3
KMI					17 45 40.1	
KMI			PPP		17 45 55.6	
KMI			S	**S**	**17 49 46.6**	**-2.5**
KMI			*SS	sS	17 50 04.0	+5.4
KMI			SSS		17 52 34.5	
KMI			pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3					
MYLDM	**Lahad Datu**	**38.16 220**	P	**P**	**17 44 38.9**	**+2.3**
	comp=Z,67nm,1.1s,mb5.3					
KMSI	**Cibinong**	**39.71 209**	P	**P**	**17 44 57.3**	**+7.7**
	comp=Z,161nm,1.0s,mb5.7					
GTOI	**Gorontalo**	**40.04 211**	P	**P**	**17 44 52.7**	**+0.3**
	comp=Z,1μmcomp=Z,88nm,1.4s,mb5.3					
CHRT	**Chiangrai**	**40.59 257**	⇑P	**P**	**17 44 56.0**	**-0.9**
MRSI	**Marisa**	**40.63 212**	P	**P**	**17 44 58.6**	**+1.3**
	comp=Z,715nmcomp=Z,77nm,1.2s,mb5.2					
WMQ	**Urumqi**	**41.56 297**	P	**P**	**17 45 04.6**	**0.0**
WMQ			pP	pP	17 45 14.4	+4.0
WMQ			sP	sP	17 45 18.4	+5.6
WMQ			PP	PP	17 46 44.3	+3.7
WMQ			S	**S**	**17 51 17.6**	**-1.9**
WMQ			sS	sS	17 51 33.9	+4.8
WMQ			pmax	pmax		
	comp=Z,44nm,1.0s,mb5.0					
WMQ			pmax	pmax		
	comp=Z,600nm,3.2s					
WMQ			LR	LR		
	comp=N,1μm,15.6s,MS5.0					
WMQ			LR	LR		
	comp=E,1μm,17.6s,MS5.0					
WMQ			LR	LR		
	comp=Z,1μm,19.6s,MS4.7					
CHG	**Chiang Mai**	**41.83 257**	⇑P	**P**	**17 45 06.8**	**-0.3**
	comp=Z,13nm,0.9s,mb4.6					
CHTO	**Chiang Mai**	**41.83 257**	*e*P	**P**	**17 45 06.2**	**-0.9**
	comp=Z,7.8nm,0.8s,mb4.4					
CHTO	**Chiang Mai**	**41.83 257**	*e*P	**P**	**17 45 06.2**	**-0.9**
CHTO			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4					
CHTO	**Chiang Mai**	**41.83 257**	P	**P**	**17 45 07.3**	**+0.2**
	comp=Z,16nm,0.9s,mb4.6					
CM31	**Chiang Mai Arr**	**42.03 256**	*e*P	**P**	**17 45 06.9**	**-1.8**
	comp=Z,3.4nm,0.6s,mb4.2					
CMAR	**Chiang Mai Arr**	**42.03 256**	P	**P**	**17 45 09.0**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.2,baz=46,slow=6.8,SNR=48					
CMAR	**Chiang Mai Arr**	**42.03 256**	P	**P**	**17 45 09.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.03 256**	P	**P**	**17 45 09.0**	**+0.3**
ZAA0	**Zalesovo Array**	**42.61 313**	⇑*i*P	**P**	**17 45 12.4**	**-0.7**
ZALV	**Zalesovo Beam**	**42.61 313**	P	**P**	**17 45 13.2**	**+0.1**
	comp=Z,15nm,0.8s,mb4.8,baz=91,slow=7.4,SNR=80					
ZALV			LR	LR	18 03 45.1	
	comp=Z,1μm,18.2s,MS4.8,baz=71,slow=37					
ZALV	**Zalesovo Beam**	**42.61 313**	P	**P**	**17 45 13.2**	**+0.1**
ZALV	**Zalesovo Beam**	**42.61 313**	P	**P**	**17 45 13.2**	**+0.2**
BDT	**Bhumibol Dam**	**42.68 255**	P	**P**	**17 45 14.0**	**0.0**
NST	**Nakhon Sawan**	**42.74 252**	P	**P**	**17 45 16.0**	**+1.5**
PCI	**Palu**	**42.79 214**	P	**P**	**17 45 22.1**	**+7.2**
	comp=Z,207nm,1.1s,mb5.8					
LSA	**Lhasa**	**42.88 276**	P	**P**	**17 45 16.0**	**+0.5**
LSA	**Lhasa**	**42.88 276**	⇑*i*P	**P**	**17 45 16.2**	**+0.7**
	comp=Z,38nm,1.1s,mb5.0					
LSA	**Lhasa**	**42.88 276**	⇑*i*P	**P**	**17 45 16.2**	**+0.7**
LSA			pmax	pmax		
	comp=Z,38nm,1.1s,mb5.0					
NVS	**Novosibirsk**	**43.53 314**	*i*P	**P**	**17 45 20.0**	**-0.5**
NVS			*e*S	**S**	**17 51 36.0**	**-12**
NVS			pmax	pmax		
	comp=Z,82nm,1.8s,mb5.2					
NVS			pmax	pmax		
	comp=E,32nm,1.3s					
NVS			smax			
	comp=E,38nm,2.6s					
MK31	**Makanchi Array**	**44.84 303**	⇑*i*P	**P**	**17 45 30.4**	**-0.6**
MK31	**Makanchi Array**	**44.84 303**	⇑*i*P	**P**	**17 45 30.5**	**-0.6**
MKAR	**Makanchi Array**	**44.84 303**	P	**P**	**17 45 30.9**	**-0.1**
	comp=E,8.7nm,0.7s,mb4.7,baz=85,slow=9.8,SNR=68					
MKAR	**Makanchi Array**	**44.84 303**	P	**P**	**17 45 30.9**	**-0.1**
MKAR	**Makanchi Array**	**44.84 303**	P	**P**	**17 45 31.0**	**-0.1**
KSM	**Kuching**	**45.79 227**	*e*P	**P**	**17 45 39.2**	**+0.2**
	comp=E,17nm,0.8s,mb5.0					
BNSI	**Bone**	**45.80 212**	P	**P**	**17 45 45.2**	**+6.2**
KAPI	**Kappang**	**46.50 212**	P	**P**	**17 45 45.3**	**+0.7**
	comp=E,5.3nm,0.6s,mb4.6,baz=357,slow=21,SNR=5.5					
KAPI	**Kappang**	**46.50 212**	P	**P**	**17 45 39.7**	**-4.9**
	comp=E,43nm,1.2s,mb5.2					
TAPN	**Taplejung**	**46.60 275**	*e*P	**P**	**17 45 45.7**	**+0.4**
	comp=E,127nm,1.2s,mb5.7					
TAPN	**Taplejung**	**46.60 275**	*e*P	**P**	**17 45 45.7**	**+0.4**
	comp=E,127nm,1.2s,mb5.7					
KURK	**Kurchatov**	**46.64 308**	P	**P**	**17 45 45.4**	**+0.2**
	comp=E,18nm,0.7s,mb5.1,baz=83,slow=7.9,SNR=110					
KURK	**Kurchatov**	**46.64 308**	⇑*i*P	**P**	**17 45 44.5**	**-0.7**
	comp=E,100nm,1.3s,mb5.6					
KURK	**Kurchatov**	**46.64 308**	⇑*i*P	**P**	**17 45 44.5**	**-0.7**
KURK			pmax	pmax		
	comp=Z,100nm,1.3s,mb5.6					
ODAN	**Odare**	**47.07 274**	*e*P	**P**	**17 45 49.1**	**+0.2**
	comp=Z,129nm,1.0s,mb5.8					
ODAN	**Odare**	**47.07 274**	*e*P	**P**	**17 45 49.1**	**+0.2**
	comp=Z,129nm,1.0s,mb5.8					
RAMN	**Ramite**	**47.66 275**	*e*P	**P**	**17 45 53.6**	**0.0**
	comp=Z,283nm,1.2s,mb6.2					
RAMN	**Ramite**	**47.66 275**	*e*P	**P**	**17 45 53.6**	**0.0**
	comp=Z,283nm,1.2s,mb6.2					
JIRN	**Jiri**	**47.68 276**	*e*P	**P**	**17 45 54.5**	**+0.8**
JIRN	**Jiri**	**47.68 276**	*e*P	**P**	**17 45 54.5**	**+0.8**
GUN	**Gumba**	**47.82 276**	*e*P	**P**	**17 45 55.1**	**+0.3**
GUN	**Gumba**	**47.82 276**	*e*P	**P**	**17 45 55.1**	**+0.3**
PKI	**Pulchoki**	**48.35 276**	*e*P	**P**	**17 45 58.7**	**-0.1**
	comp=Z,60nm,1.0s,mb5.6					
PKI	**Pulchoki**	**48.35 276**	*e*P	**P**	**17 45 58.7**	**-0.1**
	comp=Z,60nm,1.0s,mb5.6					
PKI	**Pulchoki**	**48.35 276**	*e*P	**P**	**17 45 58.7**	**-0.1**
PKI			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6					
KKN	**Kakani**	**48.35 277**	*e*P	**P**	**17 45 59.0**	**+0.1**
KKN	**Kakani**	**48.35 277**	*e*P	**P**	**17 45 59.0**	**+0.1**
KKN	**Kakani**	**48.35 277**	*e*P	**P**	**17 45 59.0**	**+0.1**
DMN	**Daman**	**48.57 276**	*e*P	**P**	**17 46 00.9**	**+0.3**
	comp=Z,46nm,1.0s,mb5.5					
DMN	**Daman**	**48.57 276**	*e*P	**P**	**17 46 00.9**	**+0.3**
	comp=Z,46nm,1.0s,mb5.5					
GKN	**Gorkha**	**48.78 277**	*e*P	**P**	**17 46 02.2**	**+0.1**
	comp=Z,258nm,1.1s,mb6.2					
GKN	**Gorkha**	**48.78 277**	*e*P	**P**	**17 46 02.2**	**+0.1**
	comp=Z,258nm,1.1s,mb6.2					
SML	**Sawmill**	**48.89 36**	*e*P	**P**	**17 46 01.2**	**-1.3**
SML	**Sawmill**	**48.89 36**	*e*P	**P**	**17 46 01.2**	**-1.3**
KULM	**Kulim**	**49.20 241**	P	**P**	**17 46 04.3**	**-1.2**
DANN	**Dangsing**	**49.33 278**	*e*P	**P**	**17 46 06.7**	**+0.3**
	comp=Z,197nm,0.9s,mb6.1					
DANN	**Dangsing**	**49.33 278**	*e*P	**P**	**17 46 06.7**	**+0.3**
	comp=Z,197nm,0.9s,mb6.1					
ILAR	**Eielson Array**	**49.44 32**	P	**P**	**17 46 06.8**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=263,slow=6.4,SNR=24					
ILAR	**Eielson Array**	**49.44 32**	P	**P**	**17 46 06.8**	**+0.1**
ILAR	**Eielson Array**	**49.44 32**	P	**P**	**17 46 06.8**	**+0.1**
IPM	**Ipoh**	**49.52 240**	*e*P	**P**	**17 46 05.4**	**-2.5**
	comp=Z,42nm,1.1s,mb5.4					
IPM			*e*		17 46 19.4	
IPM	**Ipoh**	**49.52 240**	P	Px	17 46 19.9	
KOLN	**Koldanda**	**49.70 277**	*e*P	**P**	**17 46 09.4**	**+0.2**
	comp=Z,66nm,1.0s,mb5.6					
KOLN	**Koldanda**	**49.70 277**	*e*P	**P**	**17 46 09.4**	**+0.2**
	comp=Z,66nm,1.0s,mb5.6					
TKM2	**Tokmak 2**	**50.35 299**	P	**P**	**17 46 14.9**	**+0.9**
	SNR=27					
TKM2			P		17 46 14.9	
	SNR=27					
TKM2	**Tokmak 2**	**50.35 299**	⇑*i*P	**P**	**17 46 14.1**	**+0.2**
	comp=Z,43nm,1.2s,mb5.4					
TKM2	**Tokmak 2**	**50.35 299**	⇑*i*P	**P**	**17 46 14.1**	**+0.2**
TKM2			pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3					
KZA	**Kyzart**	**50.84 298**	P	**P**	**17 46 19.5**	**+1.8**
	SNR=7.5					
KZA			P		17 46 19.5	
	SNR=7.5					
KBK	**Karagaybulak**	**50.88 299**	P	**P**	**17 46 18.1**	**+0.2**
	SNR=26					
KBK			P		17 46 18.1	
	SNR=26					
CHMS	**Chumysh**	**50.92 299**	P	**P**	**17 46 17.5**	**-0.7**
	SNR=6.2					
CHMS			P		17 46 17.5	
	SNR=6.2					
USP	**Ospenovka**	**51.02 300**	P	**P**	**17 46 19.5**	**+0.5**
	SNR=13					
USP			P		17 46 19.5	
	SNR=13					
FRU	**Bishkek**	**51.06 299**	*e*P	**P**	**17 46 19.0**	**-0.3**
FRU			pmax	pmax		
	comp=Z,40nm,2.0s,mb5.0					
KSH	**Kashi**	**51.12 295**	P	**P**	**17 46 24.0**	**+4.2**
KSH			pP	pP	17 46 34.0	+8.2
KSH			sP	sP	17 46 37.9	+10
KSH			PcP	PcP	17 47 38.5	+3.2
KSH			PP	PP	17 48 21.9	+5.5
KSH			ScP	ScP	17 51 31.0	+0.3
KSH			PcS	PcS	17 51 34.8	+1.9
KSH			S	**S**	**17 53 39.9**	**+3.1**
KSH			sS	sS	17 53 56.5	+10
KSH			ScS	ScS	17 56 08.6	-0.9
KSH			SS	SS	17 57 13.8	+2.0
KSH			pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8					
KSH			pmax	pmax		
	comp=Z,200nm,5.1s					
KSH			LR	LR		
	comp=N,230nm,5.3s					
KSH			LR	LR		
	comp=E,150nm,8.2s					
KSH			LR	LR		
	comp=Z,190nm,6.2s					
AAK	**Ala-Archa**	**51.21 299**	P	**P**	**17 46 19.1**	**-1.3**
	SNR=7.3					
AAK			P		17 46 19.1	
	SNR=7.3					
AAK	**Ala-Archa**	**51.21 299**	⇑*e*P	**P**	**17 46 20.1**	**-0.3**
	comp=Z,70nm,1.2s,mb5.5					
AAK	**Ala-Archa**	**51.21 299**	⇑*e*P	**P**	**17 46 20.1**	**-0.3**
AAK			pmax	pmax		
	comp=Z,70nm,1.2s,mb5.5					
AAK	**Ala-Archa**	**51.21 299**	P	**P**	**17 46 20.9**	**+0.5**
	comp=Z,42nm,1.2s,mb5.2					
BVA0	**Borovoye Array**	**51.27 313**	*i*P	**P**	**17 46 20.6**	**-0.1**
BVA0			pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0					
BVAR	**Borovoye Array**	**51.27 313**	P	**P**	**17 46 20.9**	**+0.2**
	comp=Z,7.2nm,0.9s,mb4.6,baz=79,slow=7.7,SNR=26					
BVAR	**Borovoye Array**	**51.27 313**	P	**P**	**17 46 20.9**	**+0.2**
BVAR	**Borovoye Array**	**51.27 313**	P	**P**	**17 46 20.9**	**+0.2**
BRVK	**Borovoye**	**51.33 313**	*e*P	**P**	**17 46 20.3**	**-0.9**
	comp=Z,12nm,1.0s,mb4.8					
BRVK	**Borovoye**	**51.33 313**	*c i*P	**P**	**17 46 21.0**	**-0.1**
BRVK			pmax	pmax		
	comp=Z,46nm,2.5s,mb5.0					
EKS2	**Erkin-Say**	**51.71 299**	P

comp=Z,7.1nm,0.9s,mb4.6
EKS2 Erkin-Say 51.71 299 *e*P **P 17 46 23.5 -0.6**
EKS2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AML Almayashu 51.93 298 P **P 17 46 27.1 +1.3**
SNR=29
AML P 17 46 27.1
SNR=29
KK31 Karatay Array 53.84 301 *i* P **P 17 46 39.8 -0.1**
KK31 pmax pmax
comp=Z,36nm,1.3s,mb5.1
KKAR Karatay Array 53.84 301 ⇑*i*P **P 17 46 39.1 -0.8**
comp=Z,30nm,1.1s,mb5.1
KKAR Karatay Array 53.84 301 ⇑ *i*P **P 17 46 39.1 -0.8**
KKAR pmax pmax
comp=Z,30nm,1.1s,mb5.1
INK Inuvik 54.40 27 P **P 17 46 44.5 +1.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=280,slow=4.5,SNR=10
INK Inuvik 54.40 27 P **P 17 46 44.5 +1.0**
INK Inuvik 54.40 27 P **P 17 46 44.6 +1.0**
SVE Sverdlovsk 55.82 319 ⇓*i*P **P 17 46 53.8 -0.2**
SVE *e* 17 49 03.8
SVE pmax pmax
comp=Z,39nm,1.3s,mb5.3
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.2
FITZ Fitzroy Crossi 56.70 199 P **P 17 47 01.3 +0.6**
comp=Z,5.3nm,0.9s,mb4.6,baz=269,slow=9.9,SNR=5.9
FITZ Fitzroy Crossi 56.70 199 P **P 17 47 01.3 +0.6**
WRAB Tennant Creek 56.81 189 *e*P **P 17 47 00.0 -1.4**
comp=Z,28nm,1.3s,mb5.1
WRAB Tennant Creek 56.81 189 *e*P **P 17 47 00.0 -1.4**
WRAB pmax pmax
comp=Z,28nm,1.3s,mb5.1
WB2 Warramunga Arr 56.82 189 P **P 17 46 58.8 -2.7**
WRA Warramunga Arr 56.82 189 P **P 17 47 01.5 0.0**
comp=Z,3.8nm,0.8s,mb4.5,baz=6.4,slow=7.4,SNR=23
WRA Warramunga Arr 56.82 189 P **P 17 47 01.5 0.0**
WRA Warramunga Arr 56.82 189 P **P 17 47 01.5 0.0**
ARU Arti 57.03 319⇑*e*P **P 17 47 02.3 -0.3**
comp=Z,44nm,1.2s,mb5.4
ARU Arti 57.03 319*c i*P **P 17 47 02.6 -0.1**
ARU PPP 17 50 24.1
ARU S **S 17 54 55.7 -0.4**
ARU SS SS 17 58 41.4 -2.8
ARU pmax pmax
comp=Z,50nm,1.2s,mb5.4
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.2
ARU Arti 57.03 319 P **P 17 47 02.6 -0.1**
comp=Z,142nm,0.8s,mb6.0,SNR=8.3
KBL Kabul 58.13 292⇑*i*P **P 17 47 10.2 -0.5**
comp=Z,33nm,1.1s,mb5.3
KBL Kabul 58.13 292⇑*i*P **P 17 47 10.2 -0.6**
KBL pmax pmax
comp=Z,33nm,1.1s,mb5.3
AB31 Akbulak array 58.64 311 *i* P **P 17 47 13.6 -0.5**
AB31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ABKAR Akbulak array 58.64 311⇑*i*P **P 17 47 13.4 -0.7**
comp=Z,11nm,0.8s,mb5.0
HYB Hyderabad 58.83 269 *i* P **P 17 47 15.0 -0.8**
AKTO Aktyubinsk 59.37 312 P **P 17 47 19.1 0.0**
comp=Z,12nm,0.9s,mb4.9,baz=73,slow=10,SNR=22
AKTO Aktyubinsk 59.37 312 P **P 17 47 19.1 0.0**
AKTO Aktyubinsk 59.37 312 P **P 17 47 19.1 0.0**
AS31 Alice Springs 60.55 189 *e*P **P 17 47 25.5 -1.9**
ASAR Alice Springs 60.55 189 P **P 17 47 26.4 -1.0**
comp=Z,3.1nm,1.0s,mb4.4,baz=357,slow=5.5,SNR=23
ASAR Alice Springs 60.55 189 P **P 17 47 26.4 -1.0**
ASAR Alice Springs 60.55 189 P **P 17 47 26.4 -0.9**
MBWA Marble Bar 61.33 204 P **P 17 47 32.3 -0.4**
POO Poona 62.02 273 *e*PKP **P 17 47 34.0 -3.6**
APA Apatity 63.26 336⇓*e*P **P 17 47 52.6 +7.5**
APA MLR MLR
comp=Z,1μm,22.0s,MS5.1
YKA Yellowknife Ar 63.78 30 P **P 17 47 48.7 0.0**
comp=Z,0.4nm,0.5s,baz=299,slow=5.7,SNR=8.2
YKA Yellowknife Ar 63.78 30 P **P 17 47 48.7 0.0**
YKA Yellowknife Ar 63.78 30 P **P 17 47 48.7 0.0**
ARCES ARCESS Array B 64.54 340 LR LR 18 21 23.8
comp=Z,665nm,18.1s,MS4.9,baz=145,slow=41
DAG Danmarks Havn 66.16 355 *e*P **P 17 48 05.1 +1.1**
DAG pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
DAG Danmarks Havn 66.16 355 *i* P **P 17 48 05.1 +1.1**
comp=Z,4.1nm,1.0s,mb4.4
JOF Joensuu 66.56 332 *e*P **P 17 48 06.4 -0.3**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
JOF Joensuu 66.56 332 *e*p **P 17 48 06.4 -0.3**
comp=Z,2.4nm,0.6s,mb4.4
MOS Moscow 67.90 324 *e*P **P 17 48 14.9 -0.4**
MOS *e* 17 50 43.8
MOS pmax pmax
comp=Z,45nm,1.2s,mb5.4
STKA Stephens Creek 68.22 181 P **P 17 48 17.6 +0.2**
comp=Z,0.7nm,0.6s,mb3.9,baz=8.7,slow=18,SNR=2.5
STKA Stephens Creek 68.22 181 P **P 17 48 17.6 +0.2**
STKA Stephens Creek 68.22 181 P **P 17 48 17.6 +0.2**
OBN Obninsk 68.75 324 *e*P **P 17 48 21.1 +0.5**
OBN Obninsk 68.75 324⇓*e*P **P 17 48 20.1 -0.5**
OBN *PP pP 17 48 30.0 +3.3
OBN *e*SP sP 17 48 34.8 +5.8
OBN 17 48 45.0
OBN 17 50 53.0
OBN pmax pmax
comp=Z,49nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,700nm,16.0s,MS5.0
KAF Kangasniemi 68.90 333 *e*P **P 17 48 21.0 -0.4**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KAF Kangasniemi 68.90 333 *e*p **P 17 48 21.0 -0.4**
comp=Z,3.2nm,0.6s,mb4.4
FINES FINESS Array B 69.41 333 P **P 17 48 24.3 -0.3**
comp=Z,7.2nm,0.8s,mb4.7,baz=46,slow=11,SNR=15
FINES FINESS Array B 69.41 333 P **P 17 48 24.3 -0.3**
FINES FINESS Array B 69.41 333 P **P 17 48 24.3 -0.3**
VSR Storozhevoye 69.60 319 *e*P **P 17 48 25.6 -0.4**
VSR *e*SP sP 17 48 36.2 +1.8
VSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,20nm,0.9s
SUMG Summit 71.02 0 *e*P **P 17 48 36.5 +2.1**
comp=E,5.1nm,0.9s,mb4.5
SUMG Summit 71.02 0 *e*P **P 17 48 36.5 +2.2**
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 71.02 0 *i* P **P 17 48 35.9 +1.6**
comp=Z,5.9nm,1.0s,mb4.5
ZEI Tsey 71.52 310 *e*P **P 17 48 37.7 -0.1**
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIV Kislovodsk 71.61 311 *e*P **P 17 48 38.6 +0.2**
comp=Z,32nm,0.9s,mb5.3
KIV Kislovodsk 71.61 311*oe*P **P 17 48 38.7 +0.3**
KIV *i* 17 48 49.6
KIV *e* 17 48 55.8
KIV pmax pmax
comp=Z,41nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,700nm,17.0s,MS5.0
KIV Kislovodsk 71.61 311 P **P 17 48 38.4 0.0**
comp=Z,201nm,1.2s,mb5.9,SNR=5.9
SWMT Swartz Lake 72.09 44 *e*P **P 17 48 41.4 +0.2**
comp=Z,4.4nm,1.0s,mb4.3
GNI Garni 72.42 307 *e*P **P 17 48 44.4 +1.1**
GNI pmax pmax
comp=Z,11nm,1.2s
CMB Columbia Colle 73.55 55 P **P 17 48 48.6 -1.4**
comp=Z,8.7nm,1.4s,mb4.5
CMB Columbia Colle 73.55 55 P **P 17 48 48.6 -1.4**
CMB pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
HRY Holter Researc 73.76 44 *e*P **P 17 48 50.8 -0.3**
comp=Z,5.4nm,1.0s,mb4.4
LRM Limekiln Ridge 73.94 45 *e*P **P 17 48 53.0 +0.8**
comp=Z,88nm,1.0s,mb5.7
ANN Anapa 74.22 314 *e*P **P 17 48 51.9 -1.9**
ANN *e*S S 17 58 23.9 -2.5
ANN pmax pmax
comp=Z,55nm,1.2s,mb5.4
ANN MLR MLR
comp=E,274nm,14.0s
ANN MLR MLR
comp=Z,416nm,14.0s,MS4.9
BOZ Bozeman (W) 74.51 44 *e*P **P 17 48 55.1 -0.4**
comp=Z,4.5nm,1.0s,mb4.3
BOZ Bozeman (W) 74.51 44 *e*P **P 17 48 55.1 -0.4**
BOZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
NB2 NORSAR Subarra 74.74 338 P **P 17 48 57.1 +0.5**
comp=Z,14nm,1.1s,mb4.8,baz=39,slow=5.9
NOA NORSAR Array B 74.74 338 P **P 17 48 57.3 +0.8**
comp=Z,8.7nm,1.0s,mb4.7,baz=39,slow=5.9,SNR=9.3
NOA NORSAR Array B 74.74 338 P **P 17 48 57.3 +0.8**
NOA NORSAR Array B 74.74 338 P **P 17 48 57.3 +0.7**
AKASG Malin Array Be 74.95 323 P **P 17 48 58.0 0.0**
comp=Z,7.6nm,0.6s,mb4.8,baz=46,slow=5.8,SNR=39
AKASG Malin Array Be 74.95 323 P **P 17 48 58.0 0.0**
AKASG Malin Array Be 74.95 323 P **P 17 48 58.0 0.0**
AKBB Malin Array Si 74.95 323 *e*P **P 17 48 57.4 -0.6**
AKBB Malin Array Si 74.95 323 *e*P **P 17 48 57.4 -0.6**
KIEV Kiev 74.97 323 *e*P **P 17 48 57.5 -0.6**
comp=Z,26nm,1.3s,mb5.0
KIEV Kiev 74.97 323*c i*P **P 17 48 57.3 -0.7**
SUW Suwalki 75.52 328 *e*P **P 17 49 01.6 +0.4**
comp=Z,33nm,1.1s,mb5.2
SUW Suwalki 75.52 328 *e*P **P 17 49 01.6 +0.5**
SUW pmax pmax
comp=Z,33nm,1.1s,mb5.2
SIM Simferopol' 76.01 316 *e*P **P 17 49 02.4 -1.8**
REDW Red Top Meadow 76.33 46 *e*P **P 17 49 15.3 +9.3**
comp=Z,4.1nm,0.9s,mb4.4
MIB Mutribah 76.41 297 *e*P **P 17 49 05.8 -1.0**
MIB AMb AMB 17 49 07.4
comp=Z,38nm,1.1s,mb5.2
BHD Baghdad 76.52 301 *e*x **P 17 49 05.0 -2.3**
BHD *i* x x 17 58 52.0
RDF Al-Radifah 76.76 296 *e*P **P 17 49 08.0 -0.7**
NAY Al-Naaiem 76.80 297 *e*P **P 17 49 07.9 -1.0**
NAY AMb AMB 17 49 09.6
comp=Z,27nm,1.3s,mb5.0
DUG Dugway 77.09 49 P **P 17 49 11.2 +0.8**
comp=Z,13nm,1.4s,mb4.7
DUG Dugway 77.09 49 P **P 17 49 11.2 +0.8**
DUG pmax pmax
comp=Z,13nm,1.4s,mb4.7
PDAR Pinedale Array 77.45 46 P **P 17 49 13.2 +0.9**
comp=Z,0.8nm,0.6s,mb3.8,baz=306,slow=1.1,SNR=8.0
PDAR Pinedale Array 77.45 46 P **P 17 49 13.2 +0.9**
LVV L'vov 78.03 324 *e*P **P 17 49 14.5 -0.9**
LVV MLR MLR
comp=Z,2μm,18.0s,MS5.6
LVV MLR MLR
comp=N,500nm,19.0s,MS5.4
LVV MLR MLR
comp=E,2μm,18.0s,MS5.4
MSU Marysvale 78.51 50 *e*P **P 17 49 19.7 +1.4**
comp=E,7.2nm,1.2s,mb4.5
MSU Marysvale 78.51 50 *e*P **P 17 49 19.7 +1.4**
MSU pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
KWP Kalwaria Pacla 78.77 325 *e*P **P 17 49 19.6 +0.1**
comp=Z,39nm,1.0s,mb5.3
KWP Kalwaria Pacla 78.77 325 *e*P **P 17 49 19.6 +0.1**
KWP pmax pmax
comp=Z,39nm,1.0s,mb5.3
BUR08 Bucovina Ar. S 78.96 322 *e*P **P 17 49 20.7 +0.2**
BR131 Keskin Array S 79.55 312 *e*P **P 17 49 24.1 +0.1**
comp=Z,1.6nm,0.3s,mb4.4
BRTR Keskin Array B 79.55 312 P **P 17 49 24.8 +0.8**
comp=Z,6.3nm,1.0s,mb4.5,baz=96,slow=3.7,SNR=22
BRTR Keskin Array B 79.55 312 P **P 17 49 24.8 +0.8**
BRTR Keskin Array B 79.55 312 P **P 17 49 24.8 +0.8**
STHS Stebnicka Huta 79.60 325 *e*P **P 17 49 25.5 +1.4**
STHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
STHS Stebnicka Huta 79.60 325 *e*P **P 17 49 25.5 +1.4**
UZH Uzhgorod 79.67 324 *e*P **P 17 49 21.5 -3.0**
UZH *e* pP 17 49 28.3 -2.3
UZH *e* 17 49 31.5
UZH *e*S S 17 59 18.1 -7.6
UZH MLR MLR
comp=N,1μm,15.0s,MS5.5
UZH MLR MLR
comp=E,1μm,15.0s,MS5.5
UZH MLR MLR
comp=Z,760nm,15.0s,MS5.2
OJC Ojcow 79.67 327 *e*P **P 17 49 24.0 -0.4**
OJC Ojcow 79.67 327 *e*P **P 17 49 24.0 -0.4**
CRVS Cervenica-Dubn 79.87 325 *e*P **P 17 49 26.1 +0.6**
CRVS pmax pmax
comp=Z,11nm,1.3s,mb4.6
CRVS Cervenica-Dubn 79.87 325 *e*P **P 17 49 26.1 +0.6**
NIE Niedzica 80.02 326 *e*P **P 17 49 28.2 +1.9**
NIE Niedzica 80.02 326 *e*P **P 17 49 28.2 +1.9**
KECS Kecovo 80.62 325 *e*P **P 17 49 30.6 +1.0**
KECS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KECS Kecovo 80.62 325 *e*P **P 17 49 30.6 +1.0**
OKC Ostrava-Krasne 80.68 327 *e*P **P 17 49 30.7 +0.8**
OKC *e*PP pP 17 49 41.0 +4.9
OKC MLR MLR
comp=Z,800nm,16.6s,MS5.2
OKC Ostrava-Krasne 80.68 327 *e*P **P 17 49 30.7 +0.8**
OKC *e*pP pP 17 49 41.0 +4.9
OKC AMS AMS 18 28 20.0
comp=Z,800nm,16.6s
KSP Ksiaz 80.72 329 *e*P **P 17 49 30.8 +0.7**
KSP *e*pP pP 17 49 41.8 +5.5
KSP Ksiaz 80.72 329 *e*P **P 17 49 30.8 +0.7**
KSP *e*PP pP 17 49 41.8 +5.5
WUAZ Wupatki 80.86 52 P **P 17 49 32.8 +1.7**
comp=Z,6.8nm,1.0s,mb4.5
PV01 Paradox Valley 80.95 49 *e*P **P 17 49 32.3 +0.7**
comp=Z,582nm,1.0s
MORC Moravsky Berou 80.99 327 *e*P **P 17 49 31.4 -0.1**
comp=Z,14nm,1.1s,mb4.8
MORC Moravsky Berou 80.99 327 *e*P **P 17 49 31.4 -0.1**
MORC pmax pmax
comp=Z,14nm,1.1s,mb4.8
DPC Dobruska-Polom 81.08 328 *e*P **P 17 49 32.5 +0.5**
DPC *e*PP pP 17 49 44.4 +6.2
DPC MLR MLR
comp=Z,700nm,11.4s,MS5.3
DPC Dobruska-Polom 81.08 328 *e*P **P 17 49 32.5 +0.5**
DPC *e*pP pP 17 49 44.4 +6.2
DPC AMS AMS 18 28 20.0
comp=Z,700nm,11.4s
UPC Upice 81.09 329 *e*P **P 17 49 33.0 +0.9**
UPC *e*PP pP 17 49 40.4 +2.1
UPC Upice 81.09 329 *e*P **P 17 49 33.0 +0.9**
UPC *e*pP pP 17 49 40.4 +2.1
PSZ Piszkesteto 81.30 325 *e*P **P 17 49 33.9 +0.7**
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 81.30 325 *e*P **P 17 49 33.9 +0.7**
PSZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 81.30 325⇓*e*PcP **P 17 49 34.5 +1.3**
VYHS Vyhne 81.36 326 *e*P **P 17 49 34.2 +0.7**
VYHS pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
VYHS Vyhne 81.36 326 *e*P **P 17 49 34.2 +0.7**
KOLL Kolacno 81.50 326 *e*P **P 17 49 35.8 +1.6**
KOLL Kolacno 81.50 326 *e*P **P 17 49 35.8 +1.6**
BRG Berggiesshubel 81.67 330 *i* P **P 17 49 36.0 +0.9**
comp=Z,12nm,1.2s,mb4.7
BRG *e* 17 49 46.0
comp=Z,87nm,2.6s
BRG Berggiesshubel 81.67 330 *i* P **P 17 49 36.0 +0.9**
BRG *e* 17 49 46.0
BRG pmax pmax
comp=Z,12nm,1.2s,mb4.7
BRG pmax pmax
comp=Z,87nm,2.6s,mb5.2
PVCC Panska Ves 81.68 329 *e*P **P 17 49 35.8 +0.6**
PVCC MLR MLR
comp=Z,1μm,19.7s,MS5.2
PVCC Panska Ves 81.68 329 *e*P **P 17 49 35.8 +0.6**
PVCC AMS AMS 18 28 40.0
comp=Z,1μm,19.7s
CLL Collm 81.70 331 ⇑*i*P **P 17 49 35.1 -0.2**
CLL pmax pmax
comp=Z,19nm,1.1s,mb4.9
CLL MLR MLR
comp=Z,800nm,18.1s,MS5.1
CLL Collm 81.70 331 ⇑*i*P **P 17 49 35.1 -0.2**
comp=Z,19nm,1.1s,mb4.9
CLL *e*PcP 17 49 45.0
CLL *i* sPcP 17 49 47.0
comp=Z,18nm,1.2s
CLL LmV 18 33 00.0
comp=Z,800nm,18.1s
VRAC Vranov 81.75 327 P **P 17 49 35.8 +0.2**
comp=Z,5.8nm,0.9s,mb4.5,baz=59,slow=3.5,SNR=7.3
VRAC Vranov 81.75 327 P **P 17 49 35.8 +0.2**
VRAC Vranov 81.75 327 P **P 17 49 35.8 +0.2**
PRU Pruhonice 82.10 329 *e*P **P 17 49 37.6 +0.2**
PRU *e**PP pP 17 49 48.6 +5.0
PRU MLR MLR
comp=Z,900nm,16.3s,MS5.2
PRU Pruhonice 82.10 329 *e*P **P 17 49 37.6 +0.2**
PRU *e*pP pP 17 49 48.6 +5.0
PRU AMS AMS 18 28 50.0
comp=Z,900nm,16.3s
ASF Jabal al Asfar 82.22 304 P **P 17 49 38.7 +0.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=289,slow=1.3,SNR=4.7
ASF Jabal al Asfar 82.22 304 P **P 17 49 38.7 +0.3**
ASF Jabal al Asfar 82.22 304 P **P 17 49 38.7 +0.3**
TREC Trest 82.23 328 *e*P **P 17 49 38.9 +0.8**
TREC Trest 82.23 328 *e*P **P 17 49 38.9 +0.8**
MMAI Mount Meron Ar 82.68 306 P **P 17 49 40.9 +0.1**
comp=Z,7.2nm,0.9s,mb4.7,baz=20,slow=12,SNR=8.4
MMAI Mount Meron Ar 82.68 306 P **P 17 49 40.9 +0.1**
NKC Novy Kostel 82.77 330 *e*P **P 17 49 41.4 +0.5**
NKC *e**PP pP 17 49 51.5 +4.4
NKC Novy Kostel 82.77 330 *e*P **P 17 49 41.4 +0.5**
NKC *e*pP pP 17 49 51.5 +4.4
SOP Sopron 82.99 326⇓*e*PcP PcP 17 49 43.6 -3.2
KHC Kasperske Hory 83.16 329 *e*P **P 17 49 43.6 +0.6**
comp=Z,12nm,1.1s,mb4.8
KHC Kasperske Hory 83.16 329 *e*P **P 17 49 43.2 +0.3**
KHC *e**PP pP 17 49 54.6 +5.4
KHC MLR MLR
comp=Z,900nm,19.5s,MS5.2
KHC Kasperske Hory 83.16 329 *e*P **P 17 49 43.2 +0.3**
KHC *e*pP pP 17 49 54.6 +5.4
KHC AMS AMS 18 29 40.0
comp=Z,900nm,19.5s
GERES GERESS Array B 83.33 329 P **P 17 49 44.1 +0.2**
comp=Z,3.0nm,0.8s,mb4.4,baz=58,slow=3.3,SNR=17
GERES GERESS Array B 83.33 329 P **P 17 49 44.1 +0.2**
GERES GERESS Array B 83.33 329 P **P 17 49 44.1 +0.3**
GRF Grafenberg Arr 83.68 330 *e*P **P 17 49 46.0 +0.4**
comp=Z,21nm,1.2s,mb5.1
GRF Grafenberg Arr 83.68 330 *e*P **P 17 49 46.0 +0.4**
GRF pmax pmax
comp=Z,21nm,1.2s,mb5.1
ANMO Albuquerque 84.31 50 *e*P **P 17 49 45.0 -4.1**
comp=Z,6.1nm,1.2s,mb4.6
ANMO Albuquerque 84.31 50 *e*P **P 17 49 45.0 -4.1**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
PERS Pernice 84.42 326 *i* P **P 17 49 50.4 +0.9**
EIL Elat 85.09 303 P **P 17 49 53.6 +0.4**
comp=Z,8.0nm,1.0s,mb4.8,baz=332,slow=2.0,SNR=8.8
EIL Elat 85.09 303 P **P 17 49 53.6 +0.4**
VISS Visnje 85.19 326 *i* P **P 17 49 53.9 +0.6**
STU Stuttgart 85.21 331 *e*P **P 17 49 53.4 0.0**
STU Stuttgart 85.21 331 *e*P **P 17 49 53.4 0.0**
JAVS Javornik 85.46 327 *i* P **P 17 49 54.6 -0.1**
GIVF Givet 85.74 334 *e*P **P 17 49 56.1 +0.1**
GIVF Givet 85.74 334 *e*P **P 17 49 56.1 +0.1**
GIVF Givet 85.74 334 *e*P **P 17 49 56.1 +0.1**
BFO Black Forest 85.91 331 *e*P **P 17 49 56.9 +0.1**
comp=Z,15nm,1.1s,mb5.1
BFO Black Forest 85.91 331 *e*P **P 17 49 56.9 +0.1**
BFO pmax pmax
comp=Z,15nm,1.1s,mb5.1
BAIF Baives 85.99 334 *e*P **P 17 49 57.5 +0.3**
comp=Z,12nm,0.9s,mb4.8
BAIF Baives 85.99 334 *e*P **P 17 49 57.5 +0.3**
comp=Z,12nm,0.9s,mb5.1
BAIF Baives 85.99 334 *e*P **P 17 49 57.5 +0.3**
BAIF pmax pmax
comp=Z,12nm,0.9s,mb5.1
CDF Champ du Feu 86.25 332 *e*P **P 17 49 58.6 +0.1**
comp=Z,47nm,1.3s,mb5.3
CDF Champ du Feu 86.25 332 *e*P **P 17 49 58.6 +0.1**
comp=Z,47nm,1.3s,mb5.5
CDF Champ du Feu 86.25 332 *e*P **P 17 49 58.6 +0.1**
CDF pmax pmax
comp=Z,47nm,1.3s,mb5.6
DAVOX Davos/Dischmat 86.55 329 P **P 17 49 59.9 -0.1**
comp=Z,1.7nm,0.7s,mb4.4,baz=330,slow=14,SNR=3.7
DAVOX Davos/Dischmat 86.55 329 P **P 17 49 59.9 -0.1**
DAVOX Davos/Dischmat 86.55 329 P **P 17 49 59.9 -0.1**
PAGF Fort de Pagny 86.71 333 *e*P **P 17 50 01.2 +0.4**
comp=Z,16nm,1.2s,mb4.8
PAGF Fort de Pagny 86.71 333 *e*P **P 17 50 01.2 +0.4**
comp=Z,16nm,1.2s,mb5.1
HINF Hinteralfeld 86.90 332 *e*P **P 17 50 01.8 +0.1**
HINF Hinteralfeld 86.90 332 *e*P **P 17 50 01.8 +0.1**
HINF Hinteralfeld 86.90 332 *e*P **P 17 50 01.8 +0.1**
HAU Haudompre 86.93 332 *e*P **P 17 50 01.7 -0.2**
comp=Z,4.7nm,0.6s,mb4.6
HAU *e*R
comp=Z,496nm,17.8s
HAU Haudompre 86.93 332 *e*P **P 17 50 01.7 -0.2**
comp=Z,4.7nm,0.6s,mb4.9
HAU Haudompre 86.93 332 *e*P **P 17 50 01.7 -0.2**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
MEZF Maizieres J'vi 87.00 333 *e*P **P 17 50 02.5 +0.3**
comp=Z,44nm,1.4s,mb5.2
MEZF Maizieres J'vi 87.00 333 *e*P **P 17 50 02.5 +0.3**
comp=Z,44nm,1.4s,mb5.5
SFTF Sexfontaines 87.25 333 *e*P **P 17 50 03.5 +0.1**
comp=Z,32nm,1.1s,mb5.1
SFTF Sexfontaines 87.25 333 *e*P **P 17 50 03.5 +0.1**
comp=Z,32nm,1.1s,mb5.5
CABF La Chapelle 88.19 331 *e*P **P 17 50 08.4 +0.4**
comp=Z,52nm,1.5s,mb5.2
CABF La Chapelle 88.19 331 *e*P **P 17 50 08.4 +0.4**
comp=Z,52nm,1.5s,mb5.5
CABF La Chapelle 88.19 331 *e*P **P 17 50 08.4 +0.4**
CABF pmax pmax
comp=Z,53nm,1.5s,mb5.5
LOR Lormes 88.47 333 *e*P **P 17 50 09.2 -0.1**
comp=Z,32nm,1.3s,mb5.1
LOR *e*R
comp=Z,386nm,18.2s
LOR Lormes 88.47 333 *e*P **P 17 50 09.2 -0.1**
comp=Z,32nm,1.3s,mb5.4
LOR Lormes 88.47 333 *e*P **P 17 50 09.2 -0.1**
LOR pmax pmax
comp=Z,32nm,1.3s,mb5.4
FLN La Foliniere 88.68 336 *e*P **P 17 50 10.4 +0.2**
comp=Z,20nm,1.0s,mb5.1
FLN *e*R
comp=Z,1μm,20.0s
FLN La Foliniere 88.68 336 *e*P **P 17 50 10.4 +0.2**
comp=Z,20nm,1.0s,mb5.4
FLN La Foliniere 88.68 336 *e*P **P 17 50 10.4 +0.2**
FLN pmax pmax
comp=Z,20nm,1.0s,mb5.4
LDF La Druitiere 88.71 336 *e*P **P 17 50 10.3 -0.1**
comp=Z,13nm,1.0s,mb4.9
LDF La Druitiere 88.71 336 *e*P **P 17 50 10.3 -0.1**
comp=Z,13nm,1.0s,mb5.2
LDF La Druitiere 88.71 336 *e*P **P 17 50 10.3 -0.1**
LDF pmax pmax
comp=Z,13nm,1.0s,mb5.2
SSF Saint Saulge 88.77 333 *e*P **P 17 50 10.9 +0.2**
comp=Z,22nm,1.3s,mb5.0
SSF Saint Saulge 88.77 333 *e*P **P 17 50 10.9 +0.2**
comp=Z,22nm,1.3s,mb5.3
SSF Saint Saulge 88.77 333 *e*P **P 17 50 10.9 +0.2**
SSF pmax pmax
comp=Z,22nm,1.3s,mb5.3
LPL La Plagne 88.84 330 *e*P **P 17 50 11.2 +0.1**
LPL La Plagne 88.84 330 *e*P **P 17 50 11.2 +0.1**
LPL La Plagne 88.84 330 *e*P **P 17 50 11.2 +0.1**
LPG La Plagne 88.85 330 *e*P **P 17 50 11.4 +0.3**
comp=Z,5.4nm,0.8s,mb4.6
LPG La Plagne 88.85 330 *e*P **P 17 50 11.4 +0.3**
comp=Z,5.4nm,0.8s,mb4.9
LPG La Plagne 88.85 330 *e*P **P 17 50 11.4 +0.3**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.9

SMF	**Signal de Mont**	**89.00**	**333**	*eP*	**P**	**17 50 12.0**	**+0.2**
	comp=Z,9.9nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**89.00**	**333**	*eP*	**P**	**17 50 12.0**	**+0.2**
	comp=Z,9.9nm,1.0s,mb5.1						
SMF	**Signal de Mont**	**89.00**	**333**	*eP*	**P**	**17 50 12.0**	**+0.2**
SMF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
AVF	**Avril sur Loir**	**89.06**	**333**	*eP*	**P**	**17 50 12.3**	**+0.2**
	comp=Z,13nm,0.9s,mb4.9						
AVF	**Avril sur Loir**	**89.06**	**333**	*eP*	**P**	**17 50 12.3**	**+0.2**
	comp=Z,13nm,0.9s,mb5.3						
AVF	**Avril sur Loir**	**89.06**	**333**	*eP*	**P**	**17 50 12.3**	**+0.2**
AVF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.3						
GRR	**Gorron**	**89.12**	**336**	*eP*	**P**	**17 50 12.6**	**+0.3**
	comp=Z,76nm,1.5s,mb5.5						
GRR	**Gorron**	**89.12**	**336**	*eP*	**P**	**17 50 12.6**	**+0.3**
	comp=Z,76nm,1.5s,mb5.8						
GRR	**Gorron**	**89.12**	**336**	*eP*	**P**	**17 50 12.6**	**+0.3**
GRR				pmax	pmax		
	comp=Z,76nm,1.5s,mb5.8						
BGF	**Bois d'Agland**	**89.44**	**333**	*eP*	**P**	**17 50 13.9**	**0.0**
BGF	**Bois d'Agland**	**89.44**	**333**	*eP*	**P**	**17 50 13.9**	**0.0**
BGF	**Bois d'Agland**	**89.44**	**333**	*eP*	**P**	**17 50 13.9**	**0.0**
MBDF	**Montbardon**	**89.48**	**330**	*eP*	**P**	**17 50 13.6**	**-0.5**
MBDF	**Montbardon**	**89.48**	**330**	*eP*	**P**	**17 50 13.6**	**-0.5**
MBDF	**Montbardon**	**89.48**	**330**	*eP*	**P**	**17 50 13.6**	**-0.5**
ORIF	**Oris-en-Rattie**	**89.68**	**331**	*eP*	**P**	**17 50 15.0**	**0.0**
ORIF				*eR*			
	comp=Z,618nm,21.2s						
ORIF	**Oris-en-Rattie**	**89.68**	**331**	*eP*	**P**	**17 50 15.0**	**0.0**
ORIF	**Oris-en-Rattie**	**89.68**	**331**	*eP*	**P**	**17 50 15.0**	**0.0**
SGMF	**Saint Gilles**	**89.78**	**337**	*eP*	**P**	**17 50 16.1**	**+0.7**
	comp=Z,20nm,0.9s,mb5.1						
SGMF	**Saint Gilles**	**89.78**	**337**	*eP*	**P**	**17 50 16.1**	**+0.7**
	comp=Z,20nm,0.9s,mb5.4						
SGMF	**Saint Gilles**	**89.78**	**337**	*eP*	**P**	**17 50 16.1**	**+0.7**
SGMF				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.5						
TXAR	**Lajitas Array**	**89.82**	**53**	P	**P**	**17 50 16.4**	**+0.4**
	comp=Z,0.6nm,0.7s,mb4.0,baz=298,slow=2.9,SNR=7.5						
TXAR	**Lajitas Array**	**89.82**	**53**	P	**P**	**17 50 16.4**	**+0.4**
TXAR	**Lajitas Array**	**89.82**	**53**	P	**P**	**17 50 16.4**	**+0.4**
TCF	**Toulx Ste Croi**	**89.90**	**334**	*eP*	**P**	**17 50 16.6**	**+0.6**
TCF	**Toulx Ste Croi**	**89.90**	**334**	*eP*	**P**	**17 50 16.6**	**+0.6**
TCF	**Toulx Ste Croi**	**89.90**	**334**	*eP*	**P**	**17 50 16.6**	**+0.6**
SBF	**Sospel**	**89.92**	**329**	*eP*	**P**	**17 50 15.3**	**-0.8**
SBF	**Sospel**	**89.92**	**329**	*eP*	**P**	**17 50 15.3**	**-0.8**
SBF	**Sospel**	**89.92**	**329**	*eP*	**P**	**17 50 15.3**	**-0.8**
QUIF	**Quistinic**	**90.27**	**338**	*eP*	**P**	**17 50 17.8**	**+0.1**
QUIF	**Quistinic**	**90.27**	**338**	*eP*	**P**	**17 50 17.8**	**+0.1**
QUIF	**Quistinic**	**90.27**	**338**	*eP*	**P**	**17 50 17.8**	**+0.1**
PGF	**Pioggiola**	**90.33**	**327**	*eP*	**P**	**17 50 18.4**	**+0.3**
	comp=Z,26nm,1.0s,mb5.2						
PGF	**Pioggiola**	**90.33**	**327**	*eP*	**P**	**17 50 18.4**	**+0.3**
	comp=Z,26nm,1.0s,mb5.5						
PGF	**Pioggiola**	**90.33**	**327**	*eP*	**P**	**17 50 18.4**	**+0.3**
PGF				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.5						
MFF	**Saint Martin d**	**90.45**	**335**	*eP*	**P**	**17 50 19.1**	**+0.5**
	comp=Z,82nm,1.6s,mb5.5						
MFF	**Saint Martin d**	**90.45**	**335**	*eP*	**P**	**17 50 19.1**	**+0.5**
	comp=Z,82nm,1.6s,mb5.8						
MFF	**Saint Martin d**	**90.45**	**335**	*eP*	**P**	**17 50 19.1**	**+0.5**
MFF				pmax	pmax		
	comp=Z,82nm,1.6s,mb5.8						
FRF	**La Foret Royal**	**90.49**	**329**	*eP*	**P**	**17 50 19.1**	**+0.3**
	comp=Z,46nm,1.3s,mb5.4						
FRF	**La Foret Royal**	**90.49**	**329**	*eP*	**P**	**17 50 19.1**	**+0.3**
	comp=Z,46nm,1.3s,mb5.7						
FRF	**La Foret Royal**	**90.49**	**329**	*eP*	**P**	**17 50 19.1**	**+0.3**
FRF				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.7						
LMR	**La Mourre**	**90.74**	**329**	*eP*	**P**	**17 50 19.6**	**-0.4**
LMR	**La Mourre**	**90.74**	**329**	*eP*	**P**	**17 50 19.6**	**-0.4**
LMR	**La Mourre**	**90.74**	**329**	*eP*	**P**	**17 50 19.6**	**-0.4**
RJF	**Les Rejaudoux**	**90.99**	**333**	*eP*	**P**	**17 50 21.6**	**+0.5**
	comp=Z,14nm,1.1s,mb4.9						
RJF				*eR*			
	comp=Z,436nm,22.2s						
RJF	**Les Rejaudoux**	**90.99**	**333**	*eP*	**P**	**17 50 21.6**	**+0.5**
	comp=Z,14nm,1.0s,mb5.2						
RJF	**Les Rejaudoux**	**90.99**	**333**	*eP*	**P**	**17 50 21.6**	**+0.5**
RJF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2						
CAF	**Calviac**	**91.12**	**333**	*eP*	**P**	**17 50 22.4**	**+0.7**
	comp=Z,24nm,1.2s,mb5.1						
CAF	**Calviac**	**91.12**	**333**	*eP*	**P**	**17 50 22.4**	**+0.7**
	comp=Z,24nm,1.2s,mb5.4						
CAF	**Calviac**	**91.12**	**333**	*eP*	**P**	**17 50 22.4**	**+0.7**
CAF				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.4						
LFF	**La Frestale**	**91.59**	**334**	*eP*	**P**	**17 50 24.5**	**+0.6**
	comp=Z,36nm,1.1s,mb5.3						
LFF	**La Frestale**	**91.59**	**334**	*eP*	**P**	**17 50 24.5**	**+0.6**
	comp=Z,36nm,1.1s,mb5.6						
LFF	**La Frestale**	**91.59**	**334**	*eP*	**P**	**17 50 24.5**	**+0.6**
LFF				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.6						
MTLF	**Montolieu**	**92.42**	**332**	*eP*	**P**	**17 50 28.3**	**+0.5**
	comp=Z,26nm,1.3s,mb5.1						
MTLF	**Montolieu**	**92.42**	**332**	*eP*	**P**	**17 50 28.3**	**+0.5**
	comp=Z,26nm,1.3s,mb5.4						
MTLF	**Montolieu**	**92.42**	**332**	*eP*	**P**	**17 50 28.3**	**+0.5**
MTLF				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.4						
CASY	**Casey**	**105.51**	**193**	*ePdif*	Pdif	17 51 28.4	+1.7
	comp=Z,198nm,1.1s						
TORD	**Torodi Ar. Bea**	**118.02**	**315**	PKP	PKPdf	17 56 03.7	-0.7
	comp=Z,1.1nm,1.1s,baz=20,slow=4.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**118.02**	**315**	PKP	PKPdf	17 56 03.7	-0.7
LPAZ	**La Paz**	**146.31**	**61**	*ePKPdf*	PKPdf	17 56 57.7	+0.7

BJI ***20*** *17:44:40.3, 3°.03S×139°.33E, h38km, mB5.5/31, mb5.4/62, Ms5.3/49, Ms7 5.1/49*
MOS ***20*** *17:44:43.4±1.0, 2°.62S×139°.07E, h33km, mb5.7/42, MS5.0/20, Error ellipse: s-maj=10.6km s-min=5.1km az=114.8*
ISCJB ***20*** *17:44:44.1±0.6, 2°.73S±0°.03×139°.12E±0°.03, h42km±5km, mb5.4/152, MS5.3/159, Error ellipse: s-maj=4.7km s-min=3.9km az=42.4*
NEIC ***20*** *17:44:45.8±0.8, 2°.77S×139°.00E, h45km±7km, mb5.5/72, MS5.4/125, MW5.5, Error ellipse: s-maj=5.1km s-min=3.6km az=63.0*
NEIC Felt [III] at Genyem.
DJA ***20*** *17:44:46, 2°.46S×139°.19E, h36km, Mw5.4/35*
GCMT ***20*** *17:44:47.8±0.1, 2°.65S×139°.01E, h31km, MW5.5, Moment Tensor Solution. s106, c185; s40, c43; Moment tensor: Scale 10^{17}Nm; M_{rr}2.34±.04; $M_{\theta\theta}$-2.20±.03; $M_{\phi\phi}$-0.14±.03; $M_{r\theta}$-0.55±.05; $M_{\theta\phi}$1.15±.02; $M_{\phi r}$-0.34±.06; Best double couple: $M_0$2.60000×10^{17} NP1:ϕ_s128.00000°, δ43.00000°, λ111.00000°. NP2:ϕ_s281.00000°, δ51.00000°, λ72.00000°. Principal axes: T 2.5000, Plg75.0000°, Azm130.0000°; N 0.2400, Plg14.0000°, Azm292.0000°; P -2.7400, Plg4.0000°, Azm23.0000°; Data Used: II IU CN IC G. Surface waves: sta=109, comp=203, per= 50.*
IDC ***20*** *17:44:47.3±2.3, 2°.70S×139°.09E, h54km±21km, mb4.7/27, mb1 4.8/32, mb1mx4.8/32, mbtmp4.8/32, ML4.7/5, MS5.2/18, Ms1 5.2/18, ms1mx5.0/28 Error ellipse: s-maj=12.9km s-min=8.2km az=83.0*
ISC 20 17:44:46.4±0.5, 2.71S±0°.03×139°.13E±0°.03, h46km±4km, h36km±1.8km:pP-P,n633,σ1§13/411, mb5.4/151, MS5.3/159, 25C-4D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.83**	**330**	P	**Pn**	**17 44 58.4**	**-3.3**
WAMI	**Wamena**	**1.24**	**200**	P	**Pn**	**17 45 11.4**	**+4.1**
JAY	**Jayapura**	**1.59**	**83**	P	**Pn**	**17 45 11.7**	**-0.3**
BAKI	**Biak**	**3.37**	**296**	P	**Pn**	**17 45 35.7**	**-0.9**
BAKI	**Biak**	**3.37**	**296**	P	**Pn**	**17 45 35.5**	**-1.1**
	5μm,0.8s						
FAKI	**Fak Fak**	**6.87**	**268**	P	**Pn**	**17 46 23.4**	**-1.2**
	1.7nm6μm373nm,0.9s						
TLE	**Tual**	**7.00**	**245**	P	**Pn**	**17 46 27.6**	**+1.1**
	4.7nm465nm,1.1s						
MSAI	**Masohi**	**10.20**	**266**	P	**Pn**	**17 47 09.9**	**-0.4**
	1μm119nm,0.7s						
PMG	**Port Moresby**	**10.39**	**130**	P	**Pn**	**17 47 14.3**	**+1.4**
	8.8nm,0.3s,baz=316,slow=10,SNR=21						
PMG	**Port Moresby**	**10.39**	**130**	*eP*n	**Pn**	**17 47 13.7**	**+0.8**
	505nm,0.9s						
PMG	**Port Moresby**	**10.39**	**130**	*c iP*	**Pn**	**17 47 14.3**	**+1.4**
PMG				pmax	pmax		
	comp=Z,308nm,1.7s						
PMG	**Port Moresby**	**10.39**	**130**	P	**Pn**	**17 47 14.7**	**+1.8**
	comp=Z,6μmcomp=Z,549nm,1.0s						
AAI	**Ambon**	**10.96**	**265**	P	**Pn**	**17 47 19.9**	**-0.8**
	comp=Z,3μmcomp=Z,408nm,0.9s						
LBMI	**Labuha**	**11.80**	**280**	P	**Pn**	**17 47 31.9**	**-0.3**
	comp=Z,4μmcomp=Z,328nm,1.2s						
COEN	**Coen**	**11.87**	**161**	*e*Pn	**Pn**	**17 47 32.3**	**-0.8**
	comp=Z,175nm,1.3s						
TNTI	**Ternate**	**12.25**	**286**	P	**Pn**	**17 47 40.3**	**+1.9**
	comp=Z,5μmcomp=Z,204nm,1.3s						
MNI	**Manado**	**14.87**	**286**	P	**Pn**	**17 48 18.1**	**+4.3**
KMSI	**Cibinong**	**15.49**	**282**	P	**Pn**	**17 48 27.5**	**+5.6**
LUWI	**Luwuk**	**16.43**	**275**	P	**Pn**	**17 48 31.9**	**-2.0**
	comp=Z,7μmcomp=Z,509nm,1.6s						
GTOI	**Gorontalo**	**16.45**	**281**	P	**Pn**	**17 48 34.6**	**+0.4**
	comp=Z,4μmcomp=Z,226nm,1.3s						
KDI	**Kendari**	**16.53**	**265**	P	**Pn**	**17 48 36.2**	**+1.1**
	comp=Z,2μmcomp=Z,50nm,1.6s						
DAV	**Davao City (W)**	**16.65**	**306**	P	**Pn**	**17 48 38.2**	**+1.6**
	comp=Z,16nm,0.3s,baz=59,slow=23,SNR=8.2						
DAV	**Davao City (W)**	**16.65**	**306**	*e*Pn	**Pn**	**17 48 34.8**	**-1.8**
DAV	**Davao City (W)**	**16.65**	**306⇓**	*eP*	**Pn**	**17 48 40.1**	**+3.5**
DAV	**Davao City (W)**	**16.65**	**306**	P	**Pn**	**17 48 40.6**	**+4.0**
	SNR=9.1						
BBSI	**Bau Bau**	**16.74**	**260**	P	**Pn**	**17 48 42.9**	**+5.1**
	comp=Z,6μmcomp=Z,386nm,1.3s						
GUMO	**Guam**	**17.16**	**19**	P	**Pn**	**17 48 45.0**	**+2.0**
	comp=Z,2.8nm,0.3s,baz=180,slow=9.3,SNR=4.8						
GUMO				LR	LR	17 54 47.8	
	comp=Z,5μm,19.0s,baz=210,slow=35						
GUMO	**Guam**	**17.16**	**19**	P	**Pn**	**17 48 45.0**	**+2.0**
GUMO	**Guam**	**17.16**	**19**	P	**Pn**	**17 48 45.0**	**+2.0**
MRSI	**Marisa**	**17.47**	**280**	P	**Pn**	**17 48 47.7**	**+0.8**
	comp=Z,173nm,1.0s						
BUKP	**Musuan**	**17.53**	**307**	*eP*	**Pn**	**17 48 49.3**	**+1.7**
WRAB	**Tennant Creek**	**17.74**	**195**	*e*Pn	**Pn**	**17 48 46.5**	**-3.7**
WRAB				*e*Sn	**Sn**	**17 51 56.9**	**-10**
WRAB	**Tennant Creek**	**17.74**	**195**	*eP*	**Pn**	**17 48 46.5**	**-3.7**
WRAB				*e*		17 51 56.9	
WRAB	**Tennant Creek**	**17.74**	**195**	Pn	**Pn**	**17 48 48.0**	**-2.2**
	comp=Z,3μm,1.4s,SNR=11						
WB2	**Warramunga Arr**	**17.75**	**195**	*e*Pn	**Pn**	**17 48 46.9**	**-3.3**
WB2				*e*Sn	**Sn**	**17 51 56.1**	**-11**
WRA	**Warramunga Arr**	**17.76**	**195**	P	**Pn**	**17 48 47.2**	**-3.1**
	comp=Z,4.2nm,0.3s,baz=12,slow=12,SNR=34						
WRA				S	**S**	**17 51 55.9**	**-17**
	comp=Z,1.4nm,0.3s,baz=16,slow=22,SNR=3.6						
WRA				LR	LR	17 56 13.8	
	comp=Z,22μm,18.6s,baz=15,slow=39						
WRA	**Warramunga Arr**	**17.76**	**195**	P	**Pn**	**17 48 47.2**	**-3.1**
WRA				S	**S**	**17 51 55.9**	**-17**
WRA	**Warramunga Arr**	**17.76**	**195**	P	**Pn**	**17 48 47.2**	**-3.1**
WRA				S	**S**	**17 51 55.9**	**-17**
MMRI	**Maumere**	**17.80**	**250**	P	**Pn**	**17 48 52.4**	**+1.5**
	comp=Z,3μmcomp=Z,160nm,1.2s						
CTBH	**Cotabato--PC H**	**17.83**	**304⇑**	*iP*	**Pn**	**17 48 51.3**	**+0.1**
CTA	**Charters Tower**	**18.62**	**159**	P	**Pn**	**17 49 01.6**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=334,slow=12,SNR=26						
CTA				LR	LR	17 56 40.3	
	comp=Z,22μm,20.0s,baz=342,slow=38						
CTA	**Charters Tower**	**18.62**	**159**	*eP*	**Pn**	**17 49 00.0**	**-0.9**
CTA	**Charters Tower**	**18.62**	**159**	P	**Pn**	**17 49 01.6**	**+0.7**
CTA	**Charters Tower**	**18.62**	**159**	P	**Pn**	**17 49 01.6**	**+0.7**
CTAO	**Charters Tower**	**18.62**	**159**	*e*Pn	**Pn**	**17 49 00.8**	**-0.1**
	comp=Z,195nm,1.1s						
CTAO	**Charters Tower**	**18.62**	**159**	*eP*	**Pn**	**17 49 00.8**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,195nm,1.1s						
CTAO	**Charters Tower**	**18.62**	**159**	P	**Pn**	**17 49 04.2**	**+3.3**
	comp=Z,3μmcomp=Z,243nm,1.4s						
PAGZ	**Pagadian**	**18.89**	**304**	*eP*	**Pn**	**17 49 05.3**	**+1.2**
BNSI	**Bone**	**19.06**	**264**	P	**Pn**	**17 49 07.3**	**+1.1**
	comp=Z,5μmcomp=Z,224nm,1.5s						
MSLP	**Maasin**	**19.09**	**312**	*eP*	**Pn**	**17 49 05.5**	**-1.1**
BKSI	**Bulukumba**	**19.13**	**262**	P	**Pn**	**17 49 07.8**	**+0.7**
	comp=Z,2μmcomp=Z,104nm,1.7s						
TTSI	**Tana Toraja**	**19.29**	**269**	P	**Pn**	**17 49 10.7**	**+1.8**
	comp=Z,4μmcomp=Z,267nm,1.4s						
PCI	**Palu**	**19.36**	**275**	P	pP	17 49 22.6	+3.4
KAPI	**Kappang**	**19.46**	**263**	P	**Pn**	**17 49 10.5**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=117,slow=5.8,SNR=8.5						
KAPI				S	**S**	**17 52 42.3**	**-5.0**
	baz=224,slow=13,SNR=1.9						
KAPI	**Kappang**	**19.46**	**263**	*e*Pn	**Pn**	**17 49 08.0**	**-3.1**
	comp=Z,174nm,1.4s						
KAPI				S	**S**	**17 52 42.3**	**-5.0**
KAPI	**Kappang**	**19.46**	**263**	P	**Pn**	**17 49 14.8**	**+3.7**
	comp=Z,2μmcomp=Z,64nm,1.1s						
OCLP	**Ormoc**	**19.89**	**314**	*eP*	**Pn**	**17 49 15.2**	**-0.8**
WSI	**Waingapu**	**19.95**	**249**	P	**Pn**	**17 49 17.5**	**+0.8**
	comp=Z,6μmcomp=Z,453nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.22**	**220**	P	**P**	**17 49 16.3**	**-1.4**
	comp=Z,56nm,0.7s,baz=39,slow=12,SNR=35						
FITZ				S	**S**	**17 52 57.1**	**-5.2**
	comp=Z,30nm,0.6s,baz=202,slow=17,SNR=3.5						
FITZ				LR	LR	17 57 51.1	
	comp=Z,14μm,19.2s,MS5.3,baz=41,slow=39						
FITZ	**Fitzroy Crossi**	**20.22**	**220**	*eP*	**P**	**17 49 15.9**	**-1.8**
FITZ				*eS*	**S**	**17 52 54.3**	**-8.0**
FITZ	**Fitzroy Crossi**	**20.22**	**220**	*e*Pn	**P**	**17 49 16.1**	**-1.6**
	comp=Z,0.5nm,0.4s						
FITZ				*e*Sn	**S**	**17 52 52.8**	**-9.5**
FITZ				S	**S**	**17 52 57.1**	**-5.2**
GUIM	**Jordan**	**21.13**	**309**	*eP*	**P**	**17 49 28.3**	**+0.8**
AS31	**Alice Springs**	**21.44**	**193**	*eP*	**P**	**17 49 29.6**	**-1.2**
AS31				*eS*	**S**	**17 53 28.0**	**+1.9**
ASAR	**Alice Springs**	**21.44**	**193**	P	**P**	**17 49 29.6**	**-1.1**
	comp=Z,38nm,0.7s,mb4.8,baz=24,slow=10,SNR=47						
ASAR				S	**S**	**17 53 27.4**	**+1.2**
	comp=Z,30nm,0.9s,baz=9.7,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**21.44**	**193**	P	**P**	**17 49 29.6**	**-1.1**
ASAR				S	**S**	**17 53 27.4**	**+1.2**
ASAR	**Alice Springs**	**21.44**	**193**	P	**P**	**17 49 29.7**	**-1.1**
ASAR				S	**S**	**17 53 27.4**	**+1.2**
RCP	**Roxas**	**21.59**	**311⇑**	*eP*	**P**	**17 49 32.7**	**+0.1**
HNR	**Honiara**	**21.74**	**109**	P	**P**	**17 49 33.3**	**-0.8**
	comp=Z,242nm,0.9s,mb5.6,baz=253,slow=3.6,SNR=16						
HNR	**Honiara**	**21.74**	**109⇑**	*eP*	**P**	**17 49 32.7**	**-1.4**
	comp=Z,462nm,0.9s,mb5.9						
HNR				*eS*	**S**	**17 53 43.6**	**+11**
HNR				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
HNR	**Honiara**	**21.74**	**109⇑**	*eP*	**P**	**17 49 32.7**	**-1.5**
HNR				pmax	pmax		
	comp=Z,462nm,0.9s,mb5.9						
HNR				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.5						
PVCP	**Virac**	**21.98**	**318**	*eP*	**P**	**17 49 31.5**	**-5.1**
SMKI	**Samarinda**	**22.02**	**275**	P	**P**	**17 49 40.4**	**+3.2**
	comp=Z,7μmcomp=Z,364nm,1.7s,mb5.5						
MYLDM	**Lahad Datu**	**22.05**	**291**	P	**P**	**17 49 39.3**	**+1.9**
TSM	**Tawau**	**22.35**	**288**	P	**P**	**17 49 42.0**	**+1.4**
OTRP	**Odiongan**	**22.65**	**312**	*eP*	**P**	**17 49 44.5**	**+0.8**
SDKM	**Sandakan**	**23.42**	**291**	P	**P**	**17 49 51.7**	**-0.1**
BOAC	**Boac**	**23.50**	**314**	*eP*	**P**	**17 49 52.8**	**+0.4**
MTNI	**Mataram**	**23.58**	**255**	P	**P**	**17 49 51.5**	**-1.7**
	comp=Z,6μmcomp=Z,451nm,1.3s,mb5.8						
BUSP	**Coron**	**23.82**	**308**	*eP*	**P**	**17 49 55.3**	**-0.1**
ENPP	**El Nido**	**23.98**	**306**	*eP*	**P**	**17 49 56.6**	**-0.3**
KDM	**Kudat**	**24.22**	**293**	P	**P**	**17 49 59.7**	**+0.6**
BBKI	**Banjar Baru**	**24.26**	**268**	P	**P**	**17 50 01.6**	**+2.1**
	comp=Z,520nm,1.3s,mb5.8						
KKM	**Kota Kinabalu**	**24.48**	**291**	P	**P**	**17 50 01.9**	**+0.4**
KKM	**Kota Kinabalu**	**24.48**	**291⇑**	*eP*	**P**	**17 50 00.0**	**-1.4**
	comp=Z,229nm,1.3s,mb5.5						
KKM				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
TGY	**Tagaytay City**	**24.58**	**313**	P	**P**	**17 50 03.1**	**+0.8**
	comp=Z,793nm,1.0s,mb6.2,baz=201,slow=2.9,SNR=31						
TGY	**Tagaytay City**	**24.58**	**313**	P	**P**	**17 50 03.1**	**+0.8**
TGY	**Tagaytay City**	**24.58**	**313**	P	**P**	**17 50 03.1**	**+0.8**
IGBI	**Denpasar**	**24.61**	**255**	P	**P**	**17 50 00.9**	**-1.7**
	comp=Z,133nm,1.3s,mb5.3						
NBBI	**Negara**	**25.02**	**256**	P	**P**	**17 50 06.8**	**+0.4**
	comp=Z,409nm,1.4s,comp=Z,5μm,mb5.8						
NBBI				P	pP	17 50 18.5	+0.1
	comp=Z,5μmcomp=Z,409nm,1.4s						
EIDS	**Eidsvold**	**25.30**	**154⇑**	*iP*	**P**	**17 50 08.9**	**+0.1**
	comp=Z,186nm,1.1s,mb5.5						
KMMI	**Kalianget**	**25.43**	**259**	P	**P**	**17 50 13.9**	**+3.8**
	comp=Z,9μmcomp=Z,462nm,1.4s,mb5.8						
JAGI	**Jajag, Banyuwa**	**25.50**	**256**	P	**P**	**17 50 09.9**	**-0.8**
	comp=Z,2μmcomp=Z,101nm,0.9s,mb5.4						
BLJI	**Banyuglugur**	**25.90**	**258**	P	**P**	**17 50 17.8**	**+3.4**
	comp=Z,2μmcomp=Z,103nm,1.5s,mb5.1						
GMJI	**Gumukmas**	**26.14**	**257**	P	**P**	**17 50 18.7**	**+2.1**
	comp=Z,2μmcomp=Z,78nm,1.6s,mb5.0						
MBWA	**Marble Bar**	**26.32**	**224**	*eP*	**P**	**17 50 14.3**	**-3.8**
	comp=Z,95nm,0.8s,mb5.4						
MBWA				LR	LR		
	comp=Z,8μm,20.0s,MS5.2						
BTM	**Bintulu**	**26.68**	**283**	P	**P**	**17 50 22.7**	**+1.3**
SBUM	**Sibu**	**27.38**	**281**	P	**P**	**17 50 28.4**	**+0.7**
SBUM	**Sibu**	**27.38**	**281**	P	**P**	**17 50 34.6**	**+6.9**
PBKI	**Pangkalan Bun**	**27.43**	**269**	P	**P**	**17 50 29.1**	**+1.0**
	comp=Z,2μmcomp=Z,202nm,1.1s,mb5.6						
SJI	**Sawahan**	**27.69**	**259**	P	**P**	**17 50 29.8**	**-0.7**
	comp=Z,56nm,1.0s,mb5.1						
PWJI	**Pagerwojo**	**27.70**	**258**	P	**P**	**17 50 28.5**	**-2.1**
	comp=Z,63nm,1.2s,mb5.1						
STKI	**Sintang**	**27.78**	**275**	P	**P**	**17 50 33.4**	**+2.1**
	comp=Z,41nm,1.3s,mb4.9						
STKA	**Stephens Creek**	**29.11**	**176**	P	**P**	**17 50 43.5**	**+0.6**
	comp=Z,20nm,0.8s,mb4.9,baz=349,slow=8.9,SNR=17						
STKA				LR	LR	18 03 34.7	
	comp=Z,18μm,18.1s,MS5.7,baz=350,slow=39						
STKA	**Stephens Creek**	**29.11**	**176**	*eP*	**P**	**17 50 42.6**	**-0.3**
STKA	**Stephens Creek**	**29.11**	**176**	*eP*	**P**	**17 50 41.7**	**-1.2**
	comp=Z,3.7nm,1.5s						
STKA	**Stephens Creek**	**29.11**	**176**	*eP*	**P**	**17 50 41.7**	**-1.2**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KSM	**Kuching**	**29.11**	**278**	P	**P**	**17 50 43.4**	**+0.3**
	comp=Z,30nm,1.0s,mb5.0						
KSM				LR	LR		
	comp=Z,723nm,21.0s,MS4.3						
BJII	**Banjamegara**	**29.65**	**260**	P	**P**	**17 50 50.6**	**+2.6**
	comp=Z,1μmcomp=Z,43nm,0.9s,mb5.2						
CBIJ	**Chichi jima**	**29.78**	**5**	LR	LR	18 01 06.1	
	comp=Z,3μm,19.4s,MS5.0,baz=308,slow=33						
FORT	**Forrest**	**29.82**	**199**	*eP*	**P**	**17 50 48.7**	**-0.5**
FORT	**Forrest**	**29.82**	**199**	*eP*	**P**	**17 50 45.7**	**-3.4**
	comp=Z,339nm,0.9s,mb6.1						
ARMA	**Armidale**	**30.00**	**158**	*eP*	**P**	**17 50 53.8**	**+3.0**
ARMA	**Armidale**	**30.00**	**158⇑**	*eP*	**P**	**17 50 51.2**	**+0.5**
	comp=Z,60nm,1.3s,mb5.2						
BBOO	**Buckleboo**	**30.08**	**185⇑**	*eP*	**P**	**17 50 50.2**	**-1.2**
	comp=Z,2μm,1.0s						
JOW	**Kunigami**	**31.18**	**341**	P	**P**	**17 51 01.9**	**+0.7**
	comp=Z,22nm,1.0s,mb4.9,baz=255,slow=6.5,SNR=4.8						
JOW	**Kunigami**	**31.18**	**341**	P	**P**	**17 51 01.9**	**+0.7**
TPUB	**Ta-pu**	**31.52**	**326**	*eP*	**P**	**17 51 01.4**	**-2.9**
	comp=Z,103nm,1.5s,mb5.4						
CISI	**Cisompet, Garu**	**31.54**	**260**	P	**P**	**17 51 02.7**	**-2.0**
	comp=Z,1μmcomp=Z,94nm,1.3s,mb5.5						
NACB	**Ninganchiao**	**31.70**	**328**	*eP*	**P**	**17 51 05.6**	**-0.2**
	comp=Z,332nm,1.7s,mb5.9

comp=Z,3μm,21.8s,MS5.1
TAU Tasmania Unive 40.69 171 *e*P **P 17 52 23.3 +0.9**
comp=Z,153nm,1.1s,mb5.5
TAU Tasmania Unive 40.69 171 *e*P **P 17 52 23.3 +0.9**
TAU pmax pmax
comp=Z,153nm,1.1s,mb5.5
MSVF Nonsavu 40.99 114 *e*P **P 17 52 27.4 +2.2**
comp=Z,183nm,1.8s,mb5.4
MSVF LR LR
comp=Z,2μm,21.0s,MS5.0
MSVF Nonsavu 40.99 114 *e*P **P 17 52 27.4 +2.2**
MSVF pmax pmax
comp=Z,183nm,1.8s,mb5.4
MSVF MLR MLR
comp=Z,2μm,21.0s,MS5.0
MSVF Nonsavu 40.99 114 P **P 17 52 27.0 +1.8**
comp=Z,181nm,1.5s,mb5.5,SNR=6.8
TSI Tuntungan 41.01 278 P **P 17 52 25.2 -0.3**
comp=Z,108nm,1.3s,mb5.3
KSAR Wonju Array Be 41.29 346 P **P 17 52 27.7 +0.3**
KSAR PcP PcP 17 54 27.0 +1.6
KSAR Wonju Array Be 41.29 346 P **P 17 52 27.7 +0.3**
KSAR 17 54 27.0
KSRS Korea Array 41.29 346 P **P 17 52 27.7 +0.3**
comp=Z,3.1nm,0.7s,baz=160,slow=8.3,SNR=9.4
KSRS PcP PcP 17 54 27.0 +1.6
comp=Z,8.4nm,1.1s,baz=186,slow=3.2,SNR=6.6
KSRS LR LR 18 08 15.7
comp=Z,2μm,19.1s,MS5.0,baz=161,slow=34
INCN Inchon 41.64 345 PFAKE 17 52 40.0 +10
INCN LR LR
comp=Z,2μm,19.0s,MS4.9
TPTI 42.34 278 P **P 17 52 33.1 -3.3**
NST Nakhon Sawan 42.67 297 P **P 17 52 38.0 -1.0**
GYA Guiyang 42.72 315⇑ *i*P **P 17 52 39.9 +0.7**
GYA pP pP 17 52 50.0 -1.7
GYA sP sP 17 52 56.3 -0.7
GYA PP PP 17 54 21.6 +2.6
GYA PcP PcP 17 54 30.8 +0.4
GYA ScP ScP 17 58 18.0 +0.2
GYA S **S 17 59 01.3 +1.5**
GYA sS sS 17 59 20.5 -0.1
GYA pmax pmax
comp=Z,60nm,0.8s,mb5.4
GYA pmax pmax
comp=Z,180nm,4.9s
GYA LR LR
comp=N,940nm,16.8s,MS4.8
GYA LR LR
comp=E,750nm,17.9s,MS4.8
GYA LR LR
comp=Z,890nm,16.6s,MS4.7
COCO West Island 42.92 255 PFAKE 17 52 50.0 +8.9
COCO LR LR
comp=Z,666nm,19.0s,MS4.5
ENH Enshi 43.32 321 *e*P **P 17 52 43.2 -0.8**
comp=Z,176nm,1.3s,mb5.6
ENH LR LR
comp=Z,1μm,21.0s,MS4.8
DL2 Dalian 44.44 340 P **P 17 52 53.0 +0.1**
DL2 pmax pmax
comp=Z,30nm,1.9s,mb4.7
BSI Banda Aceh 44.53 281 P **P 17 52 53.3 -0.8**
comp=Z,50nm,1.1s,mb5.2
ERM Erimo 44.66 4 PFAKE 17 53 10.0 +15
ERM LR LR
comp=Z,2μm,19.0s,MS4.9
CHRT Chiangrai 44.67 302⇑P **P 17 52 52.5 -2.5**
comp=Z,118nm,1.2s,mb5.6
CM31 Chiang Mai Arr 44.80 300 *e*P **P 17 52 55.7 -0.4**
comp=Z,23nm,1.0s,mb5.0
CM31 LR LR
comp=Z,981nm,19.0s,MS4.8
CMAR Chiang Mai Arr 44.80 300 P **P 17 52 55.2 -0.8**
comp=Z,26nm,1.3s,mb4.9,baz=121,slow=5.4,SNR=48
CMAR PcP PcP 17 54 39.5 +1.8
comp=Z,8.6nm,0.9s,baz=144,slow=2.6,SNR=6.2
CMAR LR LR 18 13 32.6
comp=Z,1μm,18.7s,MS4.8,baz=114,slow=38
CMAR Chiang Mai Arr 44.80 300 P **P 17 52 55.2 -0.8**
CMAR PcP PcP 17 54 39.5 +1.8
CMAR Chiang Mai Arr 44.80 300 P **P 17 52 55.3 -0.8**
CMAR 17 54 39.5
KMI Kunming 44.84 310 P **P 17 52 56.5 +0.2**
KMI pmax pmax
comp=Z,26nm,1.4s,mb4.9
KMI pmax pmax
comp=Z,400nm,7.6s
KMI LR LR
comp=N,700nm,16.0s,MS4.9
KMI LR LR
comp=E,970nm,18.4s,MS4.9
KMI LR LR
comp=Z,2μm,21.4s,MS4.9
KMI Kunming 44.84 310 P **P 17 52 56.5 +0.2**
comp=Z,26nm,1.4s,mb4.9
KMI LR LR
comp=Z,2μm,21.4s,MS4.9
KMI Kunming 44.84 310 P **P 17 52 56.5 +0.2**
KMI pmax pmax
comp=Z,26nm,1.4s,mb4.9
KMI MLR MLR
comp=Z,2μm,21.4s,MS4.9
CHG Chiang Mai 44.94 300⇑P **P 17 52 57.2 0.0**
comp=Z,22nm,1.1s,mb4.9
CHTO Chiang Mai 44.94 300 *e*P **P 17 52 55.8 -1.5**
comp=Z,10nm,0.8s,mb4.7
CHTO LR LR
comp=Z,878nm,20.0s,MS4.7
CHTO Chiang Mai 44.94 300 *e*P **P 17 52 55.8 -1.4**
CHTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
CHTO MLR MLR
comp=Z,878nm,20.0s,MS4.7
CHTO Chiang Mai 44.94 300 P **P 17 52 56.8 -0.4**
CHTO Chiang Mai 44.94 300 P **P 17 52 57.2 0.0**
SNR=8.5
OUZ Omahuta 45.48 139 *e*P **P 17 52 60.0 -1.2**
comp=Z,120nm,1.2s,mb5.6
VLA Vladivostok 46.08 353 *e*P **P 17 53 06.2 +0.4**
VLA pmax pmax
comp=Z,90nm,1.5s,mb5.5
XAN Xi'an 46.31 325 P **P 17 53 06.8 -1.0**
XAN pP pP 17 53 21.3 +0.9
XAN S **S 18 00 01.8 +10**
XAN pmax pmax
comp=Z,25nm,1.7s,mb4.9
XAN LR LR
comp=N,890nm,27.5s
XAN LR LR
comp=Z,410nm,26.7s,MS4.2
SNY Shenyang 46.52 344⇓P **P 17 53 10.1 +0.8**
SNY S **S 17 59 57.3 +2.7**
SNY pmax pmax
comp=Z,41nm,1.9s,mb5.0
SNY LR LR
comp=N,1μm,19.8s,MS5.0
SNY LR LR
comp=E,1μm,19.8s,MS5.0
SNY LR LR
comp=Z,2μm,18.6s,MS5.1
ASAJ Asahikawa 46.72 3 LR LR 18 09 51.3
comp=Z,2μm,21.3s,MS5.0,baz=18,slow=32
ASAJ Asahikawa 46.72 3 *e*P **P 17 53 12.7 +1.9**
comp=Z,21nm,1.1s,mb5.0
YUK Yuzh-Kuril'sk 46.92 7 *e*P **P 17 53 19.1 +6.7**
YUK *e*S **S 18 00 15.0 +15**
YUK pmax pmax
comp=N,1μm,1.8s
YUK pmax pmax
comp=E,1μm,1.8s
YUK pmax pmax
comp=Z,1μm,1.8s,mb6.6
YUK pmax pmax
comp=Z,2μm,1.8s
YUK MLR MLR
comp=N,362nm,21.0s,MS4.5
YUK MLR MLR
comp=E,385nm,21.0s,MS4.5
YUK MLR MLR
comp=Z,841nm,21.0s,MS4.7
USRK Ussuriysk Arra 47.13 353 P **P 17 53 14.5 +0.4**
comp=Z,12nm,1.0s,mb4.8,baz=178,slow=8.8,SNR=18
USRK LR LR 18 09 40.7
comp=Z,2μm,21.5s,MS5.1,baz=331,slow=32
BJT Baijiatuau 47.45 336 *e*P **P 17 53 17.0 +0.5**
comp=Z,182nm,1.3s,mb5.8
BJT LR LR
comp=Z,3μm,19.0s,MS5.3
BJT Baijiatuau 47.45 336 *e*P **P 17 53 17.0 +0.5**
BJT pmax pmax
comp=Z,181nm,1.3s
BJT MLR MLR
comp=Z,3μm,19.0s
CD2 Chengdu 47.46 318⇓ *i*P **P 17 53 17.1 +0.3**
CD2 pP pP 17 53 27.0 -2.5
CD2 sP sP 17 53 30.9 -3.9
CD2 PP PP 17 55 07.8 -0.8
CD2 S **S 18 00 08.3 0.0**
CD2 ScS ScS 18 03 05.4 -1.7
CD2 pmax pmax
comp=Z,100nm,1.6s,mb5.5
CD2 pmax pmax
comp=Z,500nm,9.6s
CD2 LR LR
comp=N,820nm,21.6s,MS4.9
CD2 LR LR
comp=E,1μm,19.2s,MS4.9
CD2 LR LR
comp=Z,1μm,16.8s,MS5.0
BJI Beijing 47.46 336 P **P 17 53 16.8 +0.1**
BJI S **S 18 00 12.3 +4.3**
BJI pmax pmax
comp=Z,110nm,1.6s,mb5.5
BJI pmax pmax
comp=Z,580nm,4.3s
BJI LR LR
comp=N,2μm,20.1s,MS5.2
BJI LR LR
comp=E,2μm,18.2s,MS5.2
BJI LR LR
comp=Z,2μm,18.9s,MS5.1
MDJ Mudanjiang 47.88 351 P **P 17 53 21.8 +2.0**
MDJ pP pP 17 53 30.8 -1.7
MDJ sP sP 17 53 34.6 -3.2
MDJ PP PP 17 55 11.5 -0.6
MDJ S **S 18 00 16.8 +3.0**
MDJ pmax pmax
comp=Z,16nm,1.7s,mb4.8
MDJ pmax pmax
comp=Z,380nm,11.5s
MDJ LR LR
comp=N,2μm,21.1s,MS5.0
MDJ LR LR
comp=E,580nm,19.5s,MS5.0
MDJ LR LR
comp=Z,2μm,20.1s,MS5.2
MDJ Mudanjiang 47.88 351 *e*P **P 17 53 19.3 -0.5**
comp=Z,31nm,1.0s,mb5.3
MDJ LR LR
comp=Z,2μm,20.0s,MS5.2
CN2 Changchun 47.90 347 *e*P **P 17 53 20.1 +0.1**
CN2 *e*sP sP 17 53 36.5 -1.5
CN2 *e*S **S 18 00 15.4 +1.2**
CN2 pmax pmax
comp=Z,40nm,1.2s,mb5.3
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,2μm,19.0s,MS5.1
CN2 LR LR
comp=E,900nm,19.0s,MS5.1
CN2 LR LR
comp=Z,2μm,21.0s,MS5.0
URZ Urewera 49.55 140 P **P 17 53 32.2 -0.6**
YSS Yuzh-Sakhalins 49.55 3 *e*P **P 17 53 31.8 -0.9**
comp=Z,22nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 49.55 3 *e*P **P 17 53 30.3 -2.3**
YSS *e* pP 17 53 41.3 -4.0
RPZ Rata Peaks 49.68 150 *e*P **P 17 53 34.8 +1.1**
comp=Z,204nm,1.0s,mb6.1
AFI Afiamalu 49.73 106 P **P 17 53 36.4 +1.8**
comp=Z,21nm,0.9s,mb5.2,baz=231,slow=14,SNR=6.6
AFI Afiamalu 49.73 106 P **P 17 53 36.4 +1.8**
AFI Afiamalu 49.73 106 P **P 17 53 36.4 +1.8**
HHC Hu-ho-hao-te 50.12 333 *e*P **P 17 53 37.8 +0.7**
HHC pP pP 17 53 46.3 -3.5
HHC sP sP 17 53 51.8 -3.3
HHC PP PP 17 55 33.6 +0.9
HHC S **S 18 00 45.4 0.0**
HHC sS sS 18 01 02.8 -3.8
HHC SS SS 18 04 15.9 -3.4
HHC pmax pmax
comp=Z,63nm,1.0s,mb5.6
HHC pmax pmax
comp=Z,1μm,7.4s
HHC LR LR
comp=N,1μm,16.1s,MS5.2
HHC LR LR
comp=E,1μm,13.9s,MS5.2
HHC LR LR
comp=Z,2μm,17.2s,MS5.1
LZH Lanzhou 50.73 323⇑P **P 17 53 42.1 +0.3**
LZH pP pP 17 53 53.3 -1.2
LZH sP sP 17 53 57.3 -2.5
LZH PP PP 17 55 39.8 +1.5
LZH S **S 18 00 54.0 -0.1**
LZH sS sS 18 01 13.5 -1.8
LZH SS SS 18 04 27.3 -1.9
LZH pmax pmax
comp=Z,140nm,1.3s,mb5.7
LZH pmax pmax
comp=Z,510nm,6.1s
LZH LR LR
comp=N,2μm,17.5s,MS5.3
LZH LR LR
comp=E,2μm,17.3s,MS5.3
LZH LR LR
comp=Z,3μm,18.0s,MS5.3
LZH Lanzhou 50.73 323⇑P **P 17 53 42.1 +0.3**
comp=Z,13nm,1.3s,mb4.7
LZH pP pP 17 53 53.2 -1.3
LZH sP sP 17 53 57.3 -2.5
LZH PP PP 17 55 39.8 +1.5
LZH S **S 18 00 54.0 -0.1**
LZH sS sS 18 01 13.5 -1.8
LZH SS SS 18 04 27.3 -1.9
LZH LR LR
comp=Z,3μm,18.0s,MS5.3
LZH Lanzhou 50.73 323⇑P **P 17 53 42.1 +0.3**
LZH *PP pP 17 53 53.2 -1.3
LZH *SP sP 17 53 57.3 -2.5
LZH 17 55 39.8
LZH S **S 18 00 54.0 -0.1**
LZH *SS sS 18 01 13.5 -1.8
LZH SS SS 18 04 27.3 -1.9
LZH pmax pmax
comp=Z,13nm,1.3s,mb4.7
LZH MLR MLR
comp=Z,3μm,18.0s,MS5.3
HABR Khabarovsk 51.09 357 *e*P **P 17 53 42.3 -2.0**
HABR *e**PP pP 17 53 51.9 -5.1
HABR *e**SP sP 17 53 56.0 -6.3
HABR *e* 17 55 39.0
HABR *e*PPP 17 56 38.3
HABR *e*S **S 18 00 58.6 -0.1**
HABR *e**SS sS 18 01 15.3 -4.6
HABR *e* 18 03 30.0
HABR *e*SS SS 18 04 35.2 +0.7
HABR *e*SSS 18 06 09.8
HABR pmax pmax
comp=E,120nm,2.8s
HABR pmax pmax
comp=N,41nm,2.0s
HABR pmax pmax
comp=Z,134nm,2.2s,mb5.5
HABR MLR MLR
comp=Z,641nm,17.0s,MS4.7
IMP Imphal 51.66 305 *e*PKP **P 17 53 50.0 +1.0**
IMP *e*S PcP 17 55 03.0 +0.8
MIDW Midway 51.88 51 PFAKE 17 54 00.0 +9.5
MIDW LR LR
comp=Z,5μm,20.0s,MS5.5
KLR Kul'dur 52.12 354 *e*P **P 17 53 48.2 -3.7**
KLR pmax pmax
comp=E,56nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
HIA Hailar 54.42 344 *e*P **P 17 54 09.5 +0.7**
comp=Z,146nm,1.6s,mb5.7
HIA LR LR
comp=Z,2μm,20.0s,MS5.1
HIA Hailar 54.42 344 *e*P **P 17 54 09.5 +0.7**
HIA pmax pmax
comp=Z,146nm,1.6s
HIA MLR MLR
comp=Z,2μm,20.0s
GTA Gaotai 55.31 323 *e*P **P 17 54 15.6 +0.1**
GTA pP pP 17 54 24.8 -3.6
GTA sP sP 17 54 28.8 -4.8
GTA PcP PcP 17 55 15.1 -0.6
GTA S **S 18 01 57.8 +1.4**
GTA sS sS 18 02 16.0 -1.8
GTA SS SS 18 05 44.0 +2.5
GTA pmax pmax
comp=Z,44nm,1.5s,mb5.3
GTA pmax pmax
comp=Z,490nm,5.7s
GTA LR LR
comp=N,420nm,19.9s,MS4.8
GTA LR LR
comp=E,680nm,18.3s,MS4.8
GTA LR LR
comp=Z,810nm,16.6s,MS4.9
LSA Lhasa 56.04 309 P **P 17 54 20.9 0.0**
LSA Lhasa 56.04 309 *e*P **P 17 54 21.2 +0.3**
comp=Z,50nm,1.3s,mb5.4
LSA LR LR
comp=Z,954nm,20.0s,MS4.9
LSA Lhasa 56.04 309 *e*P **P 17 54 21.2 +0.3**
LSA pmax pmax
comp=Z,50nm,1.3s,mb5.4
LSA MLR MLR
comp=Z,954nm,20.0s,MS4.9
ULN Ulaanbaatar 57.64 335 *e*P **P 17 54 31.9 +0.1**
comp=Z,172nm,1.8s,mb5.8
ULN Ulaanbaatar 57.64 335 *e*P **P 17 54 31.9 0.0**
ULN pmax pmax
comp=Z,172nm,1.8s,mb5.8
ULN Ulaanbaatar 57.64 335 P **P 17 54 32.8 +0.9**
SNR=37
PETK Petropavlovsk- 57.76 13 P **P 17 54 32.9 +0.3**
comp=Z,13nm,1.0s,mb4.9,baz=113,slow=6.9,SNR=10
PETK LR LR 18 15 36.9
comp=Z,2μm,21.3s,MS5.1,baz=204,slow=32
PETK Petropavlovsk- 57.76 13 P **P 17 54 32.9 +0.3**
PETK Petropavlovsk- 57.76 13 P **P 17 54 32.9 +0.3**
TAPN Taplejung 57.81 305 *e*P **P 17 54 33.2 -0.3**
comp=Z,162nm,1.4s,mb5.9
TAPN Taplejung 57.81 305 *e*P **P 17 54 33.2 -0.3**
comp=Z,162nm,1.4s,mb5.9
ODAN Odare 57.89 304 *e*P **P 17 54 33.5 -0.6**
comp=Z,107nm,1.1s,mb5.8
ODAN Odare 57.89 304 *e*P **P 17 54 33.5 -0.6**
comp=Z,107nm,1.1s,mb5.8
SONM Songino Array 57.90 335 P **P 17 54 34.3 +0.6**
comp=Z,9.6nm,1.0s,mb4.8,baz=148,slow=7.2,SNR=42
SONM LR LR 18 20 51.4
comp=Z,4μm,18.5s,MS5.5,baz=147,slow=37
SONM Songino Array 57.90 335 P **P 17 54 34.3 +0.6**
SONM Songino Array 57.90 335 P **P 17 54 34.3 +0.6**
RAMN Ramite 58.58 304 *e*P **P 17 54 38.5 -0.4**
RAMN Ramite 58.58 304 *e*P **P 17 54 38.5 -0.4**
CIT Chita 58.67 342 *e*P **P 17 54 40.0 +1.0**
CIT *e* pP 17 54 48.0 -4.0
CIT *e* 17 56 47.2
CIT pmax pmax
comp=Z,435nm,1.7s,mb6.2
JIRN Jiri 59.18 304 *e*P **P 17 54 42.4 -0.6**
JIRN Jiri 59.18 304 *e*P **P 17 54 42.4 -0.6**
GUN Gumba 59.53 305 *e*P **P 17 54 45.1 -0.3**
comp=Z,364nm,1.7s,mb6.1
GUN Gumba 59.53 305 *e*P **P 17 54 45.1 -0.3**
comp=Z,364nm,1.7s,mb6.1
PKI Pulchoki 59.79 304 *e*P **P 17 54 46.5 -0.8**
PKI Pulchoki 59.79 304 *e*P **P 17 54 46.5 -0.8**
PKI Pulchoki 59.79 304 *e*P **P 17 54 46.5 -0.8**
KKN Kakani 59.98 304 *e*P **P 17 54 47.7 -0.8**
comp=Z,56nm,0.8s,mb5.7
KKN Kakani 59.98 304 *e*P **P 17 54 47.7 -0.8**
comp=Z,56nm,0.8s,mb5.7
KKN Kakani 59.98 304 *e*P **P 17 54 47.7 -0.8**
KKN pmax pmax
comp=Z,57nm,0.8s,mb5.7
DMN Daman 60.06 304 *e*P **P 17 54 48.5 -0.6**
DMN Daman 60.06 304 *e*P **P 17 54 48.5 -0.6**
CLNS Chul'man 60.47 351 *e*P **P 17 54 51.8 +0.5**
CLNS pmax pmax
comp=Z,27nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,25nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.0s
GKN Gorkha 60.59 304 *e*P **P 17 54 52.0 -0.7**
comp=E,103nm,0.9s,mb6.0
GKN Gorkha 60.59 304 *e*P **P 17 54 52.0 -0.7**
comp=E,103nm,0.9s,mb6.0
ZAK Zakamensk 61.16 335 *e*P **P 17 54 55.5 -0.6**
ZAK pmax pmax
comp=Z,55nm,1.4s,mb5.5
KOLN Koldanda 61.36 304 *e*P **P 17 54 57.4 -0.6**
comp=Z,49nm,1.1s,mb5.6
KOLN Koldanda 61.36 304 *e*P **P 17 54 57.4 -0.6**
comp=Z,49nm,1.1s,mb5.5
DANN Dangsing 61.43 304 *e*P **P 17 54 57.6 -0.8**
comp=Z,54nm,0.8s,mb5.7
DANN Dangsing 61.43 304 *e*P **P 17 54 57.6 -0.8**
comp=Z,54nm,0.8s,mb5.7
TLY Talaya 61.98 336 *e*P **P 17 55 02.1 +0.4**
comp=Z,38nm,1.1s,mb5.4
TLY Talaya 61.98 336 *e*P **P 17 55 02.1 +0.5**
TLY pmax pmax
comp=Z,38nm,1.1s,mb5.4
TLY Talaya 61.98 336 P **P 17 55 03.4 +1.8**
SNR=9.0
TLY Talaya 61.98 336 P **P 17 55 02.3 +0.7**
comp=Z,134nm,1.1s,mb6.0,SNR=6.1
IRK Irkutsk 62.16 337 *e*P **P 17 55 02.7 -0.1**
IRK pmax pmax
comp=Z,145nm,2.2s,mb5.7
FX1 Attu Island--F 62.33 23 P **P 17 55 04.5 +0.6**
comp=Z,19nm,0.7s,mb5.3,baz=308,slow=10,SNR=4.1
FX1 LR LR 18 21 05.3
comp=Z,2μm,18.2s,MS5.2,baz=219,slow=35
FX1 Attu Island--F 62.33 23 P **P 17 55 04.5 +0.6**
FX1 Attu Island--F 62.33 23 P **P 17 55 04.5 +0.5**
HYB Hyderabad 62.96 291 *i* P **P 17 55 08.0 -0.8**
MOY Mondy 63.09 334 *e*P **P 17 55 10.0 +1.0**
MOY pmax pmax
comp=Z,181nm,2.8s,mb5.7
BOD Bodaibo 63.62 345 *e*P **P 17 55 11.8 -0.6**
BOD pmax pmax
comp=Z,71nm,1.6s,mb5.5
DRV Dumont d'Urvil 63.84 180 S **S 18 03 41.0 -4.4**
DRV SS SS 18 07 52.0 -2.2
DRV L 18 11 00.0
YAK Yakutsk 64.97 355 *e*P **P 17 55 21.1 0.0**
comp=Z,194nm,1.1s,mb6.0
YAK Yakutsk 64.97 355 *e*P **P 17 55 20.9 -0.2**
YAK *e**PP pP 17 55 30.8 -3.4
YAK *e*S **S 18 03 57.3 -2.1**
YAK *e* 18 05 04.1
YAK pmax pmax
comp=Z,118nm,1.2s,mb5.8
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=N,61nm,1.4s
YAK pmax pmax
comp=Z,244nm,4.0s
YAK pmax pmax
comp=N,289nm,4.8s
YAK pmax pmax
comp=E,55nm,2.8s
YAK smax
comp=E,239nm,4.4s
YAK smax
comp=N,404nm,4.6s
YAK MLR MLR
comp=Z,1μm,19.0s,MS5.1
YAK MLR MLR
comp=N,851nm,18.0s,MS5.0
YAK MLR MLR
comp=E,219nm,19.0s,MS5.0
WMQ Urumqi 65.27 321 P **P 17 55 23.8 +0.3**
WMQ pP pP 17 55 34.1 -2.5
WMQ sP sP 17 55 38.0 -3.8

WMQ PP PP 17 57 49.4 +1.8
WMQ S S 18 04 03.1 -0.7
WMQ sS sS 18 04 20.1 -5.6
WMQ pmax pmax
comp=Z,98nm,1.0s,mb5.8
WMQ pmax pmax
comp=Z,710nm,4.2s
WMQ LR LR
comp=N,640nm,18.4s,MS4.9
WMQ LR LR
comp=E,530nm,22.8s,MS4.9
WMQ LR LR
comp=Z,520nm,23.6s,MS4.7
DGAR Diego Garcia 66.53 263 *e*P **P 17 55 32.1 -0.1**
DGAR Diego Garcia 66.53 263 *e*P **P 17 55 32.1 -0.1**
CASY Casey 66.56 192 *e*P **P 17 55 32.1 +0.7**
CASY LR LR
comp=Z,2μm,20.0s,MS5.2
DDI Dehra Dun 66.78 305 *e*x x 17 55 32.0
MK31 Makanchi Array 70.04 322 *e*P **P 17 55 52.9 -0.6**
MK31 Makanchi Array 70.04 322 *e*P **P 17 55 53.4 -0.1**
MK31 pmax pmax
comp=Z,104nm,1.1s,mb5.7
MKAR Makanchi Array 70.04 322 P **P 17 55 53.4 -0.1**
comp=Z,21nm,0.6s,mb5.2,baz=107,slow=6.4,SNR=126
MKAR Makanchi Array 70.04 322 P **P 17 55 53.4 -0.1**
MKAR Makanchi Array 70.04 322 P **P 17 55 53.4 -0.1**
PPT2 Papeete2 71.36 108 *e*P **P 17 56 03.6 +1.5**
comp=Z,38nm,1.2s,mb5.2
PPT2 *e*S S 18 05 20.5 +3.2
comp=Z,604nm,23.2s
PPT2 *e*LQ 18 15 05.5
comp=Z,1μm,31.0s
PPT2 *e*LR LR 18 17 57.3
comp=Z,2μm,26.0s
KSH Kashi 71.39 313⇑ *i*P **P 17 56 03.0 +1.1**
KSH pP pP 17 56 12.3 -2.8
KSH sP sP 17 56 17.3 -3.0
KSH PcP PcP 17 56 23.1 +1.8
KSH PP PP 17 58 43.1 +2.3
KSH S S 18 05 15.8 -1.0
KSH SKS 18 05 58.8
KSH ScS ScS 18 06 01.3 -1.9
KSH pmax pmax
comp=Z,100nm,1.3s,mb5.6
KSH LR LR
comp=N,940nm,14.7s,MS5.4
KSH LR LR
comp=E,790nm,10.9s,MS5.4
KSH LR LR
comp=Z,1μm,13.1s,MS5.3
TIAR Tiarei 71.58 108 *e*P **P 17 56 05.2 +1.7**
comp=Z,30nm,0.8s,mb5.3
TBI Tubuai 71.87 114 *e*LR LR 18 18 04.6
comp=Z,2μm,29.8s
ZAA0 Zalesovo Array 72.14 330 *e*P **P 17 56 04.4 -1.7**
ZALV Zalesovo Beam 72.14 330 P **P 17 56 04.7 -1.4**
comp=Z,6.1nm,0.5s,mb4.8,baz=110,slow=5.3,SNR=34
ZALV LR LR 18 31 11.6
comp=Z,643nm,18.9s,MS4.9,baz=123,slow=39
ZALV Zalesovo Beam 72.14 330 P **P 17 56 04.7 -1.4**
ZALV Zalesovo Beam 72.14 330 P **P 17 56 04.7 -1.4**
KZA Kyzart 72.78 316 P **P 17 56 11.4 +1.3**
SNR=72
KZA P 17 56 11.4
SNR=72
TKM2 Tokmak 2 72.83 317 P **P 17 56 10.5 +0.1**
SNR=34
TKM2 P 17 56 10.5
SNR=34
TKM2 Tokmak 2 72.83 317 *e*P **P 17 56 10.1 -0.3**
comp=Z,68nm,1.3s,mb5.4
TKM2 Tokmak 2 72.83 317 *e*P **P 17 56 10.1 -0.3**
TKM2 pmax pmax
comp=Z,68nm,1.3s,mb5.4
PMOR Pomariorio Ree 72.86 105 *e*P **P 17 56 12.3 +1.1**
comp=Z,67nm,1.2s,mb5.5
BILL Bilibino 73.09 10 *e*P **P 17 56 11.3 -0.2**
comp=Z,32nm,1.3s,mb5.1
BILL LR LR
comp=Z,921nm,20.0s,MS5.1
BILL Bilibino 73.09 10*c i*P **P 17 56 11.5 +0.1**
BILL pmax pmax
comp=Z,49nm,1.6s,mb5.2
KBK Karagaybulak 73.19 316 P **P 17 56 14.4 +1.9**
SNR=15
KBK P 17 56 14.4
SNR=15
UCH Uchtor 73.34 316 P **P 17 56 16.1 +2.7**
SNR=11
UCH P 17 56 16.1
SNR=11
NVS Novosibirsk 73.40 330⇑ *i*P **P 17 56 12.3 -1.2**
NVS *e*S S 18 05 41.6 +2.4
NVS pmax pmax
comp=Z,169nm,1.8s,mb5.7
NVS pmax pmax
comp=N,49nm,1.5s
NVS pmax pmax
comp=E,60nm,1.5s
NVS smax
comp=E,48nm,2.6s
CHMS Chumysh 73.44 316 P **P 17 56 15.3 +1.3**
SNR=19
CHMS P 17 56 15.3
SNR=19
FRU Bishkek 73.47 316 *i*P **P 17 56 17.0 +2.8**
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
AAK Ala-Archa 73.49 316 P **P 17 56 16.2 +1.8**
SNR=14
AAK P 17 56 16.2
SNR=14
AAK Ala-Archa 73.49 316 *e*P **P 17 56 14.1 -0.3**
comp=Z,145nm,1.1s,mb5.8
AAK LR LR
comp=Z,781nm,20.0s,MS5.0
AAK Ala-Archa 73.49 316 *e*P **P 17 56 14.1 -0.3**
AAK pmax pmax
comp=Z,145nm,1.1s,mb5.8
AAK MLR MLR
comp=Z,781nm,20.0s,MS5.0
AAK Ala-Archa 73.49 316 P **P 17 56 14.7 +0.3**
comp=Z,124nm,1.4s,mb5.7,SNR=12
AAK Ala-Archa 73.49 316 P **P 17 56 15.0 +0.6**
SNR=18
USP Ospenovka 73.70 317 P **P 17 56 15.4 -0.2**
SNR=51
USP P 17 56 15.4
SNR=51
AML Almayashu 73.89 315 P **P 17 56 17.6 +0.9**
SNR=60
AML P 17 56 17.6
SNR=60
KURK Kurchatov 73.95 325 P **P 17 56 16.2 -0.6**
comp=Z,34nm,1.1s,mb5.2,baz=123,slow=5.0,SNR=75
KURK Kurchatov 73.95 325 *e*P **P 17 56 15.9 -1.0**
comp=Z,104nm,1.4s,mb5.6
KURK LR LR
comp=Z,716nm,20.0s,MS5.0
KURK Kurchatov 73.95 325*c i*P **P 17 56 16.3 -0.6**
KURK pmax pmax
comp=Z,82nm,1.2s,mb5.5
KURK Kurchatov 73.95 325 P **P 17 56 16.7 -0.2**
SNR=34
KURK Kurchatov 73.95 325 P **P 17 56 16.8 -0.1**
comp=Z,281nm,1.3s,mb6.0,SNR=14
EKS2 Erkin-Say 74.00 316 P **P 17 56 17.8 +0.5**
SNR=38
EKS2 P 17 56 17.8
SNR=38
EKS2 Erkin-Say 74.00 316 *e*P **P 17 56 17.1 -0.2**
comp=Z,90nm,1.4s,mb5.5
EKS2 LR LR
comp=Z,958nm,19.0s,MS5.1
EKS2 Erkin-Say 74.00 316 *e*P **P 17 56 17.1 -0.2**
EKS2 pmax pmax
comp=Z,90nm,1.4s,mb5.5
EKS2 MLR MLR
comp=Z,958nm,19.0s,MS5.1
KBL Kabul 75.26 307 *e*P **P 17 56 23.3 -1.5**
comp=Z,16nm,0.8s,mb5.0
KBL Kabul 75.26 307 *e*P **P 17 56 23.3 -1.5**
KBL pmax pmax
comp=Z,16nm,0.8s,mb5.0
GAMB Gambell 75.64 20 *e*P **P 17 56 27.5 +1.2**
comp=Z,32nm,1.1s,mb5.2

VNDA Vanda 75.75 175 *e*P **P 17 56 27.2 +0.4**
comp=Z,67nm,1.1s,mb5.5
VNDA Vanda 75.75 175 *e*P **P 17 56 27.2 +0.4**
VNDA pmax pmax
comp=Z,67nm,1.1s
KKAR Karatay Array 76.42 315 *e*P **P 17 56 30.3 -0.9**
comp=Z,108nm,1.5s,mb5.6
KKAR Karatay Array 76.42 315 *e*P **P 17 56 30.3 -0.9**
KKAR pmax pmax
comp=Z,108nm,1.5s,mb5.6
SBA Scott Base 76.51 174 *e*P **P 17 56 32.7 +1.6**
comp=Z,330nm,1.7s,mb6.0
SBA Scott Base 76.51 174 *e*P **P 17 56 32.7 +1.6**
SBA pmax pmax
comp=Z,330nm,1.7s,mb6.0
TNA Tin City 78.01 20 *e*P **P 17 56 39.7 0.0**
comp=Z,72nm,1.4s,mb5.4
BVA0 Borovoye Array 79.55 325 *i*P **P 17 56 48.1 -0.3**
BVA0 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BVAR Borovoye Array 79.55 325 P **P 17 56 47.9 -0.4**
comp=Z,23nm,0.8s,mb5.2,baz=115,slow=7.0,SNR=85
BVAR Borovoye Array 79.55 325 P **P 17 56 47.9 -0.4**
BVAR Borovoye Array 79.55 325 P **P 17 56 47.9 -0.5**
BRVK Borovoye 79.62 325 *e*P **P 17 56 48.1 -0.7**
comp=Z,103nm,1.3s,mb5.6
BRVK LR LR
comp=Z,1μm,21.0s,MS5.2
BRVK Borovoye 79.62 325*c i*P **P 17 56 48.4 -0.4**
BRVK pmax pmax
comp=Z,103nm,1.7s,mb5.5
BRVK Borovoye 79.62 325 P **P 17 56 48.1 -0.7**
comp=Z,258nm,1.2s,mb6.0,SNR=28
BRVK Borovoye 79.62 325 P **P 17 56 48.8 +0.1**
SNR=28
TAOE Nuku Hiva Isla 80.43 98 *e*SS SS 18 12 37.2 +27
comp=Z,480nm,25.9s
TAOE *e*LR LR 18 22 06.6
comp=Z,2μm,24.6s
KDAK Kodiak Island 80.89 30 P **P 17 56 56.1 +0.6**
comp=Z,40nm,1.0s,mb5.3,baz=358,slow=5.0,SNR=6.5
KDAK Kodiak Island 80.89 30 P **P 17 56 56.1 +0.6**
KDAK LR LR
comp=Z,4μm,21.0s,MS5.7
KDAK Kodiak Island 80.89 30 *i*P **P 17 56 56.2 +0.7**
MAW Mawson 82.28 202 P **P 17 57 03.0 +0.3**
comp=Z,24nm,0.9s,mb5.1,baz=79,slow=7.4,SNR=26
MAW LR LR 18 31 48.4
comp=Z,3μm,18.5s,MS5.7,baz=75,slow=34
MAW Mawson 82.28 202 *e*P **P 17 57 03.2 +0.5**
MAW Mawson 82.28 202 *e*P **P 17 57 03.0 +0.3**
comp=Z,21nm,1.4s,mb4.9
MAW Mawson 82.28 202 *e*P **P 17 57 03.0 +0.3**
MAW pmax pmax
comp=Z,21nm,1.4s
PPLA Purkeypile 82.84 25 *e*P **P 17 57 05.8 +0.1**
comp=Z,134nm,1.5s,mb5.8
SLKM Skilak Lake 82.94 28 *e*P **P 17 57 05.2 -1.0**
SLKM Skilak Lake 82.94 28 *e*P **P 17 57 05.2 -1.0**
RC01 Rabbit Creek A 83.34 28 *e*P **P 17 57 07.4 -0.9**
comp=Z,99nm,1.3s,mb5.7
MSEY Mahe Island 83.46 266 PFAKE 17 57 20.0 +10
MSEY LR LR
comp=Z,546nm,19.0s,MS5.0
PMR Palmer 83.78 27 *e*P **P 17 57 09.3 -1.2**
PMR Palmer 83.78 27 *e*P **P 17 57 09.3 -1.2**
TRF Thorofare Moun 83.84 25 *e*P **P 17 57 10.0 -0.8**
comp=Z,103nm,1.7s,mb5.7
SML Sawmill 84.20 27 *e*P **P 17 57 12.2 -0.5**
comp=Z,33nm,1.3s,mb5.3
SML Sawmill 84.20 27 *e*P **P 17 57 12.2 -0.5**
SML pmax pmax
comp=Z,33nm,1.3s,mb5.3
MCK McKinley 84.50 25 *e*P **P 17 57 13.3 -0.9**
comp=Z,76nm,1.2s,mb5.7
MCK McKinley 84.50 25 *e*P **P 17 57 13.3 -0.9**
MCK pmax pmax
comp=Z,76nm,1.2s,mb5.7
ABKT Ailbek 84.56 308 P **P 17 57 15.9 +0.8**
comp=Z,368nm,1.6s,mb6.3,SNR=16
AB31 Akbulak array 84.99 320 *i*P **P 17 57 15.2 -1.7**
AB31 pmax pmax
comp=Z,74nm,1.4s,mb5.6
ABKAR Akbulak array 84.99 320 *e*P **P 17 57 15.3 -1.6**
comp=Z,29nm,1.1s,mb5.3
COLD Coldfoot 85.10 22 *e*P **P 17 57 17.7 +0.6**
comp=Z,42nm,1.1s,mb5.5
RKT Rikitea 85.18 113 *e*LR LR 18 24 18.1
comp=Z,1μm,29.5s
DIV Divide 85.20 28 *e*P **P 17 57 17.8 +0.1**
comp=Z,91nm,1.2s,mb5.8
COLA College 85.29 24 *e*P **P 17 57 16.7 -1.4**
comp=Z,16nm,0.8s,mb5.2
COLA LR LR
comp=Z,1μm,20.0s,MS5.2
COLA College 85.29 24 *e*P **P 17 57 16.7 -1.4**
COLA pmax pmax
comp=Z,16nm,0.8s,mb5.2
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.2
ILAR Eielson Array 85.66 24 P **P 17 57 18.4 -1.5**
comp=Z,23nm,0.9s,mb5.4,baz=262,slow=4.1,SNR=143
ILAR LR LR 18 34 33.8
comp=Z,813nm,19.3s,MS5.1,baz=238,slow=35
ILAR Eielson Array 85.66 24 P **P 17 57 18.4 -1.5**
ILAR Eielson Array 85.66 24 P **P 17 57 18.5 -1.4**
BMRM Bremner River 85.72 28 *e*P **P 17 57 19.0 -1.3**
comp=Z,68nm,1.4s,mb5.7
PAX Paxson 85.80 26 *e*P **P 17 57 20.9 +0.3**
comp=Z,29nm,1.3s,mb5.3
PAX Paxson 85.80 26 *e*P **P 17 57 21.0 +0.4**
PAX pmax pmax
comp=Z,29nm,1.3s,mb5.3
SVE Sverdlovsk 85.96 327⇑ *e*P **P 17 57 21.3 -0.3**
SVE pmax pmax
comp=Z,35nm,2.0s,mb5.2
AKTO Aktyubinsk 86.41 321 P **P 17 57 23.4 -0.5**
comp=Z,9.1nm,1.1s,mb4.9,baz=69,slow=6.6,SNR=13
AKTO Aktyubinsk 86.41 321 P **P 17 57 23.4 -0.5**
AKTO Aktyubinsk 86.41 321 P **P 17 57 23.4 -0.5**
MENT Mentasta 86.57 27 *e*P **P 17 57 25.4 +1.0**
DOT Dot Lake 86.58 26 *e*P **P 17 57 24.4 -0.1**
comp=Z,13nm,1.2s,mb5.0
ARU Arti 87.02 327 *e*P **P 17 57 25.8 -1.0**
comp=Z,16nm,1.0s,mb5.2
ARU LR LR
comp=Z,854nm,22.0s,MS5.1
ARU Arti 87.02 327*d i*P **P 17 57 26.1 -0.7**
ARU 18 00 48.0
ARU S SKSac 18 07 49.2 -1.0
ARU SS SS 18 13 40.4 -5.4
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.3
QSPA South Pole Qui 87.24 180 P **P 17 57 27.9 +0.5**
comp=Z,54nm,1.1s,mb5.7,baz=342,slow=1.7,SNR=38
QSPA South Pole Qui 87.24 180 *e*P **P 17 57 26.2 -1.3**
comp=Z,82nm,0.9s,mb6.0
EGAK Eagle 88.05 25 *e*P **P 17 57 31.6 0.0**
comp=Z,61nm,1.1s,mb5.8
EGAK LR LR
comp=Z,951nm,21.0s,MS5.2
SYO Syowa Base 90.91 201⇑ *e*P **P 17 57 41.6 -3.3**
SYO Syowa Base 90.91 201⇑ *e*PcP PcP 17 57 44.2 -1.7
ABPO Ambohimpanom 90.92 251 PFAKE 17 58 00.0 +14
ABPO LR LR
comp=Z,547nm,19.0s,MS5.0
INK Inuvik 91.51 22 P **P 17 57 46.8 -0.9**
comp=Z,2.3nm,0.8s,mb4.6,baz=287,slow=7.8,SNR=8.4
INK Inuvik 91.51 22 P **P 17 57 46.8 -0.9**
INK Inuvik 91.51 22 P **P 17 57 46.8 -0.9**
DLBC Dease Lake 92.73 32 P **P 17 57 53.0 -0.5**
comp=Z,5.4nm,1.1s,mb4.9,baz=135,slow=5.7,SNR=3.3
DLBC Dease Lake 92.73 32 P **P 17 57 53.0 -0.5**
GNI Garni 95.09 310 PFAKE 17 58 20.0 +15
GNI LR LR
comp=Z,403nm,21.0s,MS4.9
ZEI Tsey 95.67 313 *e*P **P 17 58 05.6 -1.8**
ZEI pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
KIV Kislovodsk 96.51 314 PFAKE 17 58 20.0 +8.8
KIV LR LR
comp=Z,578nm,19.0s,MS5.1
KLMR Klimovskoe 97.04 331 *e*P **P 17 58 08.2 -5.0**
KLMR pmax pmax
comp=Z,24nm,1.8s,mb5.3
LVZ Lovozero 97.93 338 PFAKE 17 58 30.0 +13

LVZ LR LR
comp=Z,974nm,19.0s,MS5.3
VSR Storozhevoye 98.35 321 *e*P **P 17 58 17.9 -1.4**
VSR pmax pmax
comp=Z,20nm,1.3s,mb5.5
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.8s
APA Apatity 98.47 338⇑ *e*P **P 17 58 18.4 -1.0**
APA MLR MLR
comp=Z,1μm,19.0s,MS5.4
OBN Obninsk 99.39 325 PFAKE 17 58 30.0 +6.1
OBN LR LR
comp=Z,1μm,20.0s,MS5.4
OBN Obninsk 99.39 325⇑ *e*P **P 17 58 22.8 -1.1**
OBN *e* pP 17 58 34.1 -3.5
OBN *e* 18 02 28.3
OBN pmax pmax
comp=Z,19nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,800nm,19.0s,MS5.2
HAWA Hanford 99.78 44 PFAKE 17 58 40.0 +14
HAWA LR LR
comp=Z,1μm,19.0s,MS5.4
YKA Yellowknife Ar 99.88 27 P Pdif 17 58 25.0 -1.1
comp=Z,0.7nm,0.8s,baz=282,slow=4.8,SNR=8.3
YKA PKKPbc PKKPbc 18 14 44.9 -3.3
comp=Z,0.3nm,0.6s,baz=102,slow=2.8,SNR=6.0
YKA LR LR 18 40 34.6
comp=Z,149nm,21.0s,MS4.5,baz=0.0,slow=34
YKA Yellowknife Ar 99.88 27 P Pdif 17 58 25.0 -1.1
YKA PKKPbc PKKPbc 18 14 44.9 -3.3
YKA Yellowknife Ar 99.88 27 P Pdif 17 58 25.0 -1.0
KEV Kevo 100.07 341 PFAKE 17 58 40.0 +13
KEV LR LR
comp=Z,1μm,21.0s,MS5.3
ANN Anapa 100.20 315 *e*P Pdif 17 58 36.7 +9.2
ANN pmax pmax
comp=Z,51nm,1.2s
ARCES ARCESS Array B 100.64 341 P Pdif 17 58 27.1 -2.3
comp=Z,6.6nm,0.8s,baz=82,slow=8.9,SNR=11
ARCES ARCESS Array B 100.64 341 P Pdif 17 58 27.1 -2.3
ARCES ARCESS Array B 100.64 341 P Pdif 17 58 27.1 -2.3
NVAR Mina Array Bea 101.53 51 P Pdif 17 58 34.5 +1.1
comp=Z,0.9nm,1.0s,baz=269,slow=6.3,SNR=4.0
NVAR PKKP PKKPbc 18 15 04.5 +22
comp=Z,0.3nm,0.6s,baz=73,slow=5.1,SNR=4.5
NVAR Mina Array Bea 101.53 51 P Pdif 17 58 34.5 +1.1
NVAR PKKP PKKPbc 18 15 04.5 +22
RES Resolute Bay 101.61 13 P Pdif 17 58 32.5 -1.2
comp=Z,2.9nm,0.8s,baz=336,slow=3.6,SNR=7.7
RES Resolute Bay 101.61 13 P Pdif 17 58 32.5 -1.2
RES Resolute Bay 101.61 13 P Pdif 17 58 32.5 -1.2
KMBO Kilima Mbogo 101.81 268 PFAKE 17 58 50.0 +15
KMBO LR LR
comp=Z,381nm,19.0s,MS4.9
DAC Darwin (Calif) 102.30 54 PFAKE 17 58 50.0 +13
DAC LR LR
comp=Z,2μm,20.0s,MS5.5
FINES FINESS Array B 103.24 333 Pdiff Pdif 17 58 40.5 -0.5
comp=Z,1.7nm,0.8s,baz=64,slow=4.4,SNR=4.3
FINES FINESS Array B 103.24 333 Pdif Pdif 17 58 40.5 -0.5
FINES FINESS Array B 103.24 333 P Pdif 17 58 40.5 -0.5
PFO Pinyon Flat Ob 103.50 56 PFAKE 17 58 50.0 +7.9
PFO LR LR
comp=Z,2μm,21.0s,MS5.5
MSO Missoula 103.53 43 PFAKE 17 58 50.0 +7.8
MSO LR LR
comp=Z,944nm,21.0s,MS5.3
BR131 Keskin Array S 103.63 310 PFAKE 17 58 50.0 +7.3
BR131 LR LR
comp=Z,275nm,19.0s,MS4.8
BRTR Keskin Array B 103.63 310 Pdiff Pdif 17 58 40.1 -2.5
comp=Z,0.8nm,0.7s,baz=139,slow=8.1,SNR=4.7
BRTR PP PP 18 03 01.9 +2.1
comp=Z,0.8nm,0.8s,baz=73,slow=4.5,SNR=3.9
BRTR Keskin Array B 103.63 310 Pdif Pdif 17 58 40.1 -2.5
BRTR PP PP 18 03 01.9 +2.1
BRTR Keskin Array B 103.63 310 P Pdif 17 58 40.2 -2.5
BRTR 18 03 01.9
HLID Hailey 103.77 46 PFAKE 17 59 00.0 +17
HLID LR LR
comp=Z,1μm,19.0s,MS5.5
CSS Prodhromos 104.48 305 PFAKE 17 59 00.0 +13
CSS LR LR
comp=Z,444nm,19.0s,MS5.0
AKASG Malin Array Be 104.62 322 Pdiff Pdif 17 58 45.1 -2.0
comp=Z,0.6nm,0.6s,baz=62,slow=4.4,SNR=5.8
AKASG PP PP 18 03 06.9 +0.1
comp=Z,0.7nm,0.6s,baz=63,slow=6.6,SNR=4.9
AKASG Malin Array Be 104.62 322 Pdif Pdif 17 58 45.1 -2.0
AKASG PP PP 18 03 06.9 +0.2
AKASG Malin Array Be 104.62 322 P Pdif 17 58 45.1 -2.0
AKASG 18 03 06.9
KIEV Kiev 104.64 322 PFAKE 17 59 00.0 +13
KIEV LR LR
comp=Z,878nm,21.0s,MS5.3
BOZ Bozeman (W) 105.33 43 PFAKE 18 03 20.0 +16
BOZ LR LR
comp=Z,983nm,20.0s,MS5.3
DUG Dugway 105.51 49 PFAKE 18 03 20.0 +15
DUG LR LR
comp=Z,1μm,19.0s,MS5.4
EGMT Eagleton 106.05 41 PFAKE 18 03 20.0 +14
EGMT LR LR
comp=Z,2μm,20.0s,MS5.5
HWUT Hardware Ranch 106.19 47 PFAKE 18 03 20.0 +14
HWUT LR LR
comp=Z,2μm,20.0s,MS5.6
MVU Marysvale 106.25 51 PFAKE 18 03 20.0 +14
MVU LR LR
comp=Z,1μm,20.0s,MS5.4
AHID Auburn Hatcher 106.30 46 PFAKE 18 03 20.0 +14
AHID LR LR
comp=Z,1μm,21.0s,MS5.5
LKWY Lake 106.41 44 PFAKE 18 03 20.0 +14
LKWY LR LR
comp=Z,1μm,19.0s,MS5.4
RLMT Red Lodge 107.07 44 PFAKE 18 03 20.0 +12
RLMT LR LR
comp=Z,1μm,19.0s,MS5.5
BW06 Boulder Array 107.41 46 PFAKE 18 03 20.0 +12
BW06 LR LR
comp=Z,1μm,22.0s,MS5.5
MBAR Mbarara 108.34 268 PFAKE 18 03 20.0 +9.1
MBAR LR LR
comp=Z,420nm,20.0s,MS5.0
FFC Flin Flon 108.56 32 PFAKE 18 03 20.0 +10
FFC LR LR
comp=Z,2μm,20.0s,MS5.6
LAO LASA Array 108.71 41 PFAKE 18 03 20.0 +9.4
LAO LR LR
comp=Z,2μm,21.0s,MS5.6
KWP Kalwaria Pacla 108.94 322 PFAKE 18 03 20.0 +9.1
KWP LR LR
comp=Z,877nm,19.0s,MS5.3
MVCO Mesa Verde 109.38 52 PFAKE 18 03 20.0 +7.9
MVCO LR LR
comp=Z,769nm,20.0s,MS5.3
BOSA Boshof 109.45 239 PFAKE 18 03 20.0 +7.5
BOSA LR LR
comp=Z,671nm,22.0s,MS5.2
DGMT Dagmar 109.48 39 PFAKE 18 03 20.0 +8.0
DGMT LR LR
comp=Z,2μm,22.0s,MS5.5
LBTB Lobatse 110.00 242 PFAKE 18 03 20.0 +6.3
LBTB LR LR
comp=Z,798nm,19.0s,MS5.3
ISCO Idaho Springs 111.00 48 PFAKE 18 03 30.0 +15
ISCO LR LR
comp=Z,1μm,20.0s,MS5.5
PSZ Piszkesteto 111.28 321 PFAKE 18 03 30.0 +15
PSZ LR LR
comp=Z,997nm,21.0s,MS5.4
ANMO Albuquerque 111.46 53 PFAKE 18 03 30.0 +14
ANMO LR LR
comp=Z,1μm,20.0s,MS5.5
SDCO Great Sand Dun 111.59 50 PFAKE 18 03 30.0 +14
SDCO LR LR
comp=Z,1μm,19.0s,MS5.5
SUR Sutherland 112.08 234 PFAKE 18 03 30.0 +13
SUR LR LR
comp=Z,1μm,22.0s,MS5.4
MNTX Cornudas Mount 113.02 57 PFAKE 18 03 30.0 +11

MNTX LR LR
comp=Z,1μm,21.0s,MS5.4
CLL Collm 113.97 326 *e*PP PP 18 04 12.0 -2.3
CLL Lm 18 55 00.0
comp=Z,2μm,20.0s
AGMN Agassiz Nation 114.69 37 PFAKE 18 03 30.0 +8.1
AGMN LR LR
comp=Z,3μm,21.0s,MS5.8
AMTX Amarillo 115.29 53 PFAKE 18 03 40.0 +17
AMTX LR LR
comp=Z,2μm,20.0s,MS5.7
CBKS Cedar Bluff 115.65 48 PFAKE 18 03 40.0 +16
CBKS LR LR
comp=Z,1μm,21.0s,MS5.5
ECSD EROS Data Cent 116.10 42 PFAKE 18 03 40.0 +15
ECSD LR LR
comp=Z,2μm,21.0s,MS5.7
CUC Castrocucco 116.84 314 PFAKE 18 03 40.0 +14
CUC LR LR
comp=Z,409nm,22.0s,MS5.0
EYMN Ely 117.44 36 PFAKE 18 03 40.0 +13
EYMN LR LR
comp=Z,2μm,20.0s,MS5.7
AQU L'Aquila 117.64 317 PFAKE 18 03 40.0 +12
AQU LR LR
comp=Z,820nm,22.0s,MS5.3
KSU1 Kansas State U 117.84 47 PFAKE 18 03 40.0 +12
KSU1 LR LR
comp=Z,1μm,22.0s,MS5.5
DAVOX Davos/Dischmat 117.93 323 PKP PKPdf 18 03 27.2 -0.9
comp=Z,2.7nm,0.8s,baz=182,slow=22,SNR=5.8
DAVOX Davos/Dischmat 117.93 323 PKP PKPdf 18 03 27.2 -0.9
DAVOX Davos/Dischmat 117.93 323 PKIKP PKPdf 18 03 27.3 -0.9
JCT Junction City 117.95 57 PFAKE 18 03 40.0 +11
JCT LR LR
comp=Z,967nm,21.0s,MS5.4
BFO Black Forest 118.07 325 PFAKE 18 03 40.0 +12
BFO LR LR
comp=Z,2μm,20.0s,MS5.6
CDF Champ du Feu 118.62 326 *e*PKIKP PKPdf 18 03 29.2 -0.2
CDF Champ du Feu 118.62 326 *e*PKPdf PKPdf 18 03 29.2 -0.2
CDF Champ du Feu 118.62 326 *e*PKIKP PKPdf 18 03 29.2 -0.2
ECH Echery 118.79 325 PFAKE 18 03 40.0 +10
ECH LR LR
comp=Z,2μm,19.0s,MS5.7
GIVF Givet 119.03 328 *e*PKIKP PKPdf 18 03 29.7 -0.5
GIVF Givet 119.03 328 *e*PKPdf PKPdf 18 03 29.7 -0.5
GIVF Givet 119.03 328 *e*PKIKP PKPdf 18 03 29.7 -0.5
HINF Hinteralfeld 119.18 325 *e*PKIKP PKPdf 18 03 29.5 -1.0
comp=Z,12nm,0.9s
HINF Hinteralfeld 119.18 325 *e*PKPdf PKPdf 18 03 29.5 -1.0
HINF Hinteralfeld 119.18 325 *e*PKIKP PKPdf 18 03 29.5 -1.0
HAU Haudompre 119.36 326 *e*PKIKP PKPdf 18 03 30.1 -0.8
comp=Z,12nm,0.9s
HAU *e*R
comp=Z,1μm,19.5s
HAU Haudompre 119.36 326 *e*PKPdf PKPdf 18 03 30.1 -0.8
HAU Haudompre 119.36 326 *e*PKIKP PKPdf 18 03 30.1 -0.8
BAIF Baives 119.37 328 *e*PKIKP PKPdf 18 03 30.8 0.0
comp=Z,14nm,1.0s
BAIF Baives 119.37 328 *e*PKPdf PKPdf 18 03 30.8 0.0
BAIF Baives 119.37 328 *e*PKIKP PKPdf 18 03 30.8 0.0
MEZF Maizieres J'vi 119.81 327 *e*PKIKP PKPdf 18 03 31.2 -0.5
MEZF Maizieres J'vi 119.81 327 *e*PKPdf PKPdf 18 03 31.2 -0.5
SFTF Sexfontaines 119.99 326 *e*PKIKP PKPdf 18 03 31.6 -0.5
SFTF Sexfontaines 119.99 326 *e*PKPdf PKPdf 18 03 31.6 -0.5
CABF La Chapelle 120.26 324 *e*PKIKP PKPdf 18 03 32.3 -0.4
comp=Z,16nm,0.9s
CABF La Chapelle 120.26 324 *e*PKPdf PKPdf 18 03 32.3 -0.4
CABF La Chapelle 120.26 324 *e*PKIKP PKPdf 18 03 32.3 -0.4
KVTX Kingsville 120.29 60 PFAKE 18 03 40.0 +6.7
KVTX LR LR
comp=Z,913nm,19.0s,MS5.4
LPG La Plagne 120.46 323 *e*PKIKP PKPdf 18 03 32.7 -0.4
comp=Z,5.0nm,0.7s
LPG La Plagne 120.46 323 *e*PKPdf PKPdf 18 03 32.7 -0.4
LPG La Plagne 120.46 323 *e*PKIKP PKPdf 18 03 32.7 -0.4
LPL La Plagne 120.46 323 *e*PKIKP PKPdf 18 03 32.7 -0.4
LPL La Plagne 120.46 323 *e*PKPdf PKPdf 18 03 32.7 -0.4
LPL La Plagne 120.46 323 *e*PKIKP PKPdf 18 03 32.7 -0.4
PGF Pioggiola 120.49 319 *e*PKIKP PKPdf 18 03 32.6 -0.6
comp=Z,37nm,1.0s
PGF Pioggiola 120.49 319 *e*PKPdf PKPdf 18 03 32.6 -0.6
PGF Pioggiola 120.49 319 *e*PKIKP PKPdf 18 03 32.6 -0.6
JFWS Jewell Farm 120.64 40 PFAKE 18 03 40.0 +6.5
JFWS LR LR
comp=Z,1μm,20.0s,MS5.6
BNI Bardonecchia 120.73 323 PFAKE 18 03 40.0 +6.4
BNI LR LR
comp=Z,2μm,20.0s,MS5.7
MBDF Montbardon 120.84 322 *e*PKIKP PKPdf 18 03 34.0 +0.2
MBDF Montbardon 120.84 322 *e*PKPdf PKPdf 18 03 34.0 +0.2
MBDF Montbardon 120.84 322 *e*PKIKP PKPdf 18 03 34.0 +0.2
SBF Sospel 120.86 321 *e*PKIKP PKPdf 18 03 33.0 -0.9
SBF Sospel 120.86 321 *e*PKPdf PKPdf 18 03 33.0 -0.9
SBF Sospel 120.86 321 *e*PKIKP PKPdf 18 03 33.0 -0.9
LOR Lormes 121.17 326 *e*PKIKP PKPdf 18 03 33.6 -0.8
LOR *e*R
comp=Z,1μm,19.0s
LOR Lormes 121.17 326 *e*PKPdf PKPdf 18 03 33.6 -0.8
LOR Lormes 121.17 326 *e*PKIKP PKPdf 18 03 33.6 -0.8
ORIF Oris-en-Rattie 121.28 323 *e*PKIKP PKPdf 18 03 34.4 -0.3
ORIF *e*R
comp=Z,1μm,19.8s
ORIF Oris-en-Rattie 121.28 323 *e*PKPdf PKPdf 18 03 34.4 -0.3
ORIF Oris-en-Rattie 121.28 323 *e*PKIKP PKPdf 18 03 34.4 -0.3
SSF Saint Saulge 121.49 326 *e*PKIKP PKPdf 18 03 35.0 0.0
comp=Z,22nm,1.3s
SSF Saint Saulge 121.49 326 *e*PKPdf PKPdf 18 03 35.0 0.0
SSF Saint Saulge 121.49 326 *e*PKIKP PKPdf 18 03 35.0 0.0
FRF La Foret Royal 121.51 321 *e*PKIKP PKPdf 18 03 34.4 -0.8
FRF La Foret Royal 121.51 321 *e*PKPdf PKPdf 18 03 34.4 -0.8
FRF La Foret Royal 121.51 321 *e*PKIKP PKPdf 18 03 34.4 -0.8
SMF Signal de Mont 121.54 325 *e*PKIKP PKPdf 18 03 34.4 -0.7
comp=Z,21nm,1.2s
SMF Signal de Mont 121.54 325 *e*PKPdf PKPdf 18 03 34.4 -0.7
SMF Signal de Mont 121.54 325 *e*PKIKP PKPdf 18 03 34.4 -0.7
LMR La Mourre 121.71 321 *e*PKIKP PKPdf 18 03 34.9 -0.6
LMR La Mourre 121.71 321 *e*PKPdf PKPdf 18 03 34.9 -0.6
LMR La Mourre 121.71 321 *e*PKIKP PKPdf 18 03 34.9 -0.6
AVF Avril sur Loir 121.73 326 *e*PKIKP PKPdf 18 03 34.8 -0.7
AVF Avril sur Loir 121.73 326 *e*PKPdf PKPdf 18 03 34.8 -0.7
AVF Avril sur Loir 121.73 326 *e*PKIKP PKPdf 18 03 34.8 -0.7
MIAR Mount Ida 121.75 51 PFAKE 18 03 50.0 +14
MIAR LR LR
comp=Z,2μm,20.0s,MS5.8
NATX Nacogdoches 121.82 54 PFAKE 18 03 50.0 +14
NATX LR LR
comp=Z,1μm,20.0s,MS5.6
SSB Saint Sauveur 121.89 324 PFAKE 18 03 50.0 +14
SSB LR LR
comp=Z,699nm,22.0s,MS5.3
SMRF Simiane la Rot 121.96 322 *e*PKIKP PKPdf 18 03 35.8 -0.2
SMRF Simiane la Rot 121.96 322 *e*PKPdf PKPdf 18 03 35.8 -0.2
VIVF Saint-Julien-l 122.04 323 *e*PKIKP PKPdf 18 03 35.5 -0.6
VIVF Saint-Julien-l 122.04 323 *e*PKPdf PKPdf 18 03 35.5 -0.6
VIVF Saint-Julien-l 122.04 323 *e*PKIKP PKPdf 18 03 35.5 -0.6
BGF Bois d'Agland 122.15 326 *e*PKIKP PKPdf 18 03 35.7 -0.6
BGF Bois d'Agland 122.15 326 *e*PKPdf PKPdf 18 03 35.7 -0.6
BGF Bois d'Agland 122.15 326 *e*PKIKP PKPdf 18 03 35.7 -0.6
FLN La Foliniere 122.59 329 *e*PKIKP PKPdf 18 03 36.3 -0.8
FLN *e*R
comp=Z,1μm,20.2s
FLN La Foliniere 122.59 329 *e*PKPdf PKPdf 18 03 36.3 -0.8
FLN La Foliniere 122.59 329 *e*PKIKP PKPdf 18 03 36.3 -0.8
TCF Toulx Ste Croi 122.67 326 *e*PKIKP PKPdf 18 03 36.8 -0.5
comp=Z,32nm,1.2s
TCF Toulx Ste Croi 122.67 326 *e*PKPdf PKPdf 18 03 36.8 -0.5
TCF Toulx Ste Croi 122.67 326 *e*PKIKP PKPdf 18 03 36.8 -0.5
GRR Gorron 123.02 329 *e*PKIKP PKPdf 18 03 37.4 -0.5
comp=Z,14nm,0.9s
GRR Gorron 123.02 329 *e*PKPdf PKPdf 18 03 37.4 -0.5
GRR Gorron 123.02 329 *e*PKIKP PKPdf 18 03 37.4 -0.5
GLMI Grayling 123.13 36 PFAKE 18 03 50.0 +12
GLMI LR LR
comp=Z,2μm,21.0s,MS5.8
CAF Calviac 123.54 325 *e*PKIKP PKPdf 18 03 38.8 -0.2
CAF Calviac 123.54 325 *e*PKPdf PKPdf 18 03 38.8 -0.2
CAF Calviac 123.54 325 *e*PKIKP PKPdf 18 03 38.8 -0.2
RJF Les Rejaudoux 123.64 325 *e*PKIKP PKPdf 18 03 38.8 -0.4
RJF *e*R
comp=Z,1μm,19.2s
RJF Les Rejaudoux 123.64 325 *e*PKPdf PKPdf 18 03 38.8 -0.4
RJF Les Rejaudoux 123.64 325 *e*PKIKP PKPdf 18 03 38.8 -0.4
MFF Saint Martin d 123.78 327 *e*PKIKP PKPdf 18 03 38.8 -0.6
MFF Saint Martin d 123.78 327 *e*PKPdf PKPdf 18 03 38.8 -0.6
MFF Saint Martin d 123.78 327 *e*PKIKP PKPdf 18 03 38.8 -0.6
EFI East Falkland 123.88 167 PFAKE 18 03 50.0 +11
EFI LR LR
comp=Z,835nm,19.0s,MS5.4
SCHQ Schefferville 123.91 18 PKP PKPdf 18 03 38.7 -0.7
comp=Z,8.8nm,1.0s,baz=254,slow=10,SNR=4.7
SCHQ Schefferville 123.91 18 PKP PKPdf 18 03 38.7 -0.7
LFF La Frestale 124.30 325 *e*PKIKP PKPdf 18 03 40.3 -0.2
LFF La Frestale 124.30 325 *e*PKPdf PKPdf 18 03 40.3 -0.2
LFF La Frestale 124.30 325 *e*PKIKP PKPdf 18 03 40.3 -0.2
MTLF Montolieu 124.35 323 *e*PKIKP PKPdf 18 03 40.2 -0.4
MTLF Montolieu 124.35 323 *e*PKPdf PKPdf 18 03 40.2 -0.4
MTLF Montolieu 124.35 323 *e*PKIKP PKPdf 18 03 40.2 -0.4
OXF Oxford 124.94 49 PFAKE 18 03 50.0 +8.0
OXF LR LR
comp=Z,1μm,20.0s,MS5.6
AAM Ann Arbor 125.12 38 PFAKE 18 03 50.0 +7.9
AAM LR LR
comp=Z,2μm,22.0s,MS5.7
EPF Esparros 125.66 324 *e*PKIKP PKPdf 18 03 42.7 -0.4
EPF Esparros 125.66 324 *e*PKPdf PKPdf 18 03 42.7 -0.4
EPF Esparros 125.66 324 *e*PKIKP PKPdf 18 03 42.7 -0.4
PLAL Pickwick Lake 125.74 48 PFAKE 18 03 50.0 +6.5
PLAL LR LR
comp=Z,1μm,20.0s,MS5.6
ETSF Etsaut 126.27 324 *e*PKIKP PKPdf 18 03 44.0 -0.3
ETSF Etsaut 126.27 324 *e*PKPdf PKPdf 18 03 44.0 -0.3
ETSF Etsaut 126.27 324 *e*PKIKP PKPdf 18 03 44.0 -0.3
SJPF Ste Jean 126.53 324 *e*PKIKP PKPdf 18 03 44.9 +0.1
SJPF Ste Jean 126.53 324 *e*PKPdf PKPdf 18 03 44.9 +0.1
SJPF Ste Jean 126.53 324 *e*PKIKP PKPdf 18 03 44.9 +0.1
ACSO Alum Creek Sta 126.69 40 PFAKE 18 04 00.0 +15
ACSO LR LR
comp=Z,2μm,20.0s,MS5.7
LRAL Lakeview Retre 127.38 50 *e*PKPdf PKPdf 18 03 46.4 -0.4
LRAL LR LR
comp=Z,1μm,21.0s,MS5.6
ERPA Erie 127.44 36 PFAKE 18 04 00.0 +13
ERPA LR LR
comp=Z,2μm,21.0s,MS5.8
BRAL Brewton 128.16 52 PFAKE 18 04 00.0 +12
BRAL LR LR
comp=Z,1μm,21.0s,MS5.6
LONY Lake Ozonia 128.78 31 PFAKE 18 04 00.0 +11
LONY LR LR
comp=Z,2μm,21.0s,MS5.7
NCB Newcomb 129.41 31 PFAKE 18 04 00.0 +10
NCB LR LR
comp=Z,2μm,19.0s,MS5.7
BINY Binghamton 129.69 34 PFAKE 18 04 00.0 +9.2
BINY LR LR
comp=Z,1μm,22.0s,MS5.6
GOGA Godfrey 129.85 48 PFAKE 18 04 00.0 +8.6
GOGA LR LR
comp=Z,1μm,19.0s,MS5.5
BLA Blacksburg 130.03 42 PFAKE 18 04 00.0 +8.3
BLA LR LR
comp=Z,1μm,20.0s,MS5.6
ESDC Sonseca Array 130.26 323 PKP PKPdf 18 03 52.2 +0.2
comp=Z,0.8nm,0.8s,baz=4.3,slow=2.1,SNR=8.0
ESDC PP PP 18 06 12.0 +7.0
comp=Z,0.6nm,0.6s,baz=52,slow=6.4,SNR=5.3
ESDC Sonseca Array 130.26 323 PKP PKPdf 18 03 52.2 +0.1
ESDC PP PP 18 06 12.0 +7.0
ESLA Sonseca Array 130.26 323 PFAKE 18 04 00.0 +8.0
ESLA LR LR
comp=Z,4μm,19.0s,MS6.2
TAM Tamanrasset 130.83 298 *e*PKPdf PKPdf 18 03 54.9 +1.3
TAM LR LR
comp=Z,341nm,20.0s,MS5.0
TAM Tamanrasset 130.83 298 *e*PKIKP PKPdf 18 03 54.9 +1.3
TAM MLR MLR
comp=Z,341nm,20.0s,MS5.0
CBN Corbin 131.41 39 PFAKE 18 04 10.0 +16
CBN LR LR
comp=Z,2μm,21.0s,MS5.7
MTE Manteigas 131.89 326 PFAKE 18 04 10.0 +15
MTE LR LR
comp=Z,2μm,22.0s,MS5.7
NHSC New Hope 132.40 46 PFAKE 18 04 10.0 +14
NHSC LR LR
comp=Z,1μm,19.0s,MS5.6
CNNC Cliffs of the 132.83 42 PFAKE 18 04 10.0 +13
CNNC LR LR
comp=Z,931nm,20.0s,MS5.5
EVO Evora 133.41 324 *e*PKIKP PKPdf 18 03 59.0 +1.0
comp=Z,23nm,1.2s
EVO *e*R
comp=Z,976nm,18.5s
EVOP Sao Brissos 133.48 324 *e*PKPdf PKPdf 18 03 59.0 +0.9
EVOP Sao Brissos 133.48 324 *e*PKIKP PKPdf 18 03 59.0 +0.9
SFS San Fernando 133.63 321 PFAKE 18 04 10.0 +12
SFS LR LR
comp=Z,2μm,20.0s,MS5.8
RTC Rabat Centre 135.57 318 PFAKE 18 04 10.0 +7.8
RTC LR LR
comp=Z,565nm,22.0s,MS5.2
JTS JuntasAbangare 135.60 78 PFAKE 18 04 10.0 +7.2
JTS LR LR
comp=Z,790nm,21.0s,MS5.4
TORD Torodi Ar. Bea 136.66 286 PKhKP PKPpre 18 03 53.6
comp=Z,0.6nm,0.5s,baz=68,slow=4.6,SNR=4.8
TORD PKP PKPdf 18 04 05.0 +0.3
comp=Z,12nm,0.9s,baz=58,slow=1.5,SNR=29
TORD Torodi Ar. Bea 136.66 286 PKPpre PKPpre 18 03 53.6
TORD PKP PKPdf 18 04 05.0 +0.3
LCO Las Campanas 137.43 140 PFAKE 18 04 20.0 +14
LCO LR LR
comp=Z,671nm,20.0s,MS5.4
BCIP Isla Barro Col 140.74 79 PFAKE 18 04 20.0 +7.8
BCIP LR LR
comp=Z,829nm,21.0s,MS5.5
MTDJ Mount Denham 140.91 64 PFAKE 18 04 20.0 +7.6
MTDJ LR LR
comp=Z,495nm,20.0s,MS5.3
NNA Nana 141.38 113 PFAKE 18 04 20.0 +6.6
NNA LR LR
comp=Z,443nm,20.0s,MS5.2
GTBY Guantanamo Bay 142.45 60 PFAKE 18 04 30.0 +15
GTBY LR LR
comp=Z,674nm,20.0s,MS5.4
LVC Limon Verde 142.82 134 PFAKE 18 04 30.0 +14
LVC LR LR
comp=Z,613nm,20.0s,MS5.4
BBSR BB Station 142.97 35 PFAKE 18 04 30.0 +14
BBSR LR LR
comp=Z,2μm,21.0s,MS5.8
DBIC Dimbokro 143.90 278 PKP PKPdf 18 04 14.9 -2.9
comp=Z,14nm,0.6s,baz=68,slow=3.6,SNR=26
DBIC Dimbokro 143.90 278 *e*PKPdf PKPdf 18 04 14.1 -3.7
DBIC PKP PKPdf 18 04 14.9 -2.9
DBIC LR LR
comp=Z,424nm,20.0s,MS5.2
DBIC Dimbokro 143.90 278 *e*PKIKP PKPdf 18 04 14.1 -3.8
DBIC MLR MLR
comp=Z,424nm,20.0s
LIC Lamto 144.10 277 *e*PKIKP PKPdf 18 04 15.0 -3.2
comp=Z,99nm,1.1s
LIC *e*R
comp=Z,657nm,20.8s
LIC Lamto 144.10 277 *e*PKPdf PKPdf 18 04 15.0 -3.2
SDDR Presa de Saban 146.13 59 *e*PKPdf PKPbc 18 04 24.2 +1.7
ROSC El Rosal 146.55 85 PKPbc PKPbc 18 04 24.4 +0.4
comp=Z,6.9nm,0.4s,baz=81,slow=20,SNR=8.5
ROSC El Rosal 146.55 85 *e*PKPdf PKPdf 18 04 22.3 -0.1
ROSC PKPbc PKPbc 18 04 24.4 +0.4
CPUP Villa Florida 147.04 152 PKPbc PKPbc 18 04 24.0 -1.0
comp=Z,13nm,1.0s,baz=212,slow=2.6,SNR=19
CPUP Villa Florida 147.04 152 PKPbc PKPbc 18 04 24.0 -1.0
CPUP LR LR
comp=Z,154nm,20.0s,MS4.8
CPUP Villa Florida 147.04 152 PKP2 PKPbc 18 04 24.0 -1.0
CPUP MLR MLR
comp=Z,154nm,20.0s
LPAZ La Paz 147.11 126 PKPbc PKPbc 18 04 25.2 -0.2
comp=Z,13nm,1.0s,baz=240,slow=1.6,SNR=22
LPAZ La Paz 147.11 126 *e*PKPdf PKPdf 18 04 24.1 +0.8
LPAZ PKPbc PKPbc 18 04 25.2 -0.2
LPAZ LR LR
comp=Z,395nm,20.0s,MS5.2
LPAZ La Paz 147.11 126 *e*PKIKP PKPdf 18 04 24.1 +0.8
LPAZ 18 04 25.2
LPAZ MLR MLR
comp=Z,395nm,20.0s
SDV Santo Domingo 149.78 77 *e*PKPdf PKPdf 18 04 28.0 +0.3
OBIP Obispado Ponce 150.53 57 *e*PKPdf PKPdf 18 04 28.1 -0.6
OBIP *e*PKPbc PKPbc 18 04 34.0 -0.1
CELP Cerrillos 150.53 57 *e*PKPbc PKPbc 18 04 34.1 -0.1
SJG San Juan 150.88 57 *e*PKPdf PKPbc 18 04 34.6 -0.4
SJG San Juan 150.88 57 *e*PKIKP PKPbc 18 04 34.6 -0.4
STVI Saint Thomas 151.75 55 *e*PKPbc PKPbc 18 04 36.3 -0.7
SPB Sao Paulo 153.09 167 *e*PKPdf PKPdf 18 04 32.5 0.0
SPB *e*PKPbc PKPbc 18 04 41.1 +1.2
SPB *e*PKPab PKPab 18 04 51.3 +0.1
SPB LR LR
comp=Z,890nm,20.0s,MS5.6
ANWB Willy Bob 154.66 53 PFAKE 18 04 50.0 +15
ANWB LR LR
comp=Z,787nm,20.0s,MS5.5
SAML Samuel 154.93 118 *e*PKPdf PKPdf 18 04 34.4 -1.0
FDF Fort de France 156.70 58 PFAKE 18 04 50.0 +12
FDF LR LR
comp=Z,593nm,20.0s,MS5.4
GRGR Grenville 157.39 64 PFAKE 18 04 50.0 +11
GRGR LR LR
comp=Z,762nm,21.0s,MS5.5
SACV Santiago Islan 159.06 307 PFAKE 18 04 50.0 +9.5
SACV LR LR
comp=Z,739nm,22.0s,MS5.5

ISCJB ***20*** *18:04:48.8±1.6, 36°.65N±0°.04×142°.27E±0°.07, h20km±10km, mb3.7/7, Error ellipse: s-maj=10.1km s-min=6.2km az=14.5*
JMA ***20*** *18:04:48.9±0.3, 36°.68N×142°.24E, h20km, M3.6*
IDC ***20*** *18:04:55.0±1.4, 36°.78N×140°.97E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=37.7km s-min=29.8km az=65.0*
NEIC ***20*** *18:04:58.3±1.8, 37°.00N×141°.63E, h46km±15km, mb4.4/2, Error ellipse: s-maj=20.8km s-min=14.3km az=114.0*
ISC 20 18:04:47.9±1.3, 36°.65N±0°.04×142°.20E±0°.07, h0km±6km, n31, σ0s89/42, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.21**	**292**	P	**Pg**	**18 05 10.5**	**-0.6**
ONAJ				*e*S	**Sg**	**18 05 28.0**	**+1.2**
JFK	**Kawauchi**	**1.28**	**304**	P	**Pg**	**18 05 12.2**	**-0.2**
JFK				*e*S	**Sg**	**18 05 28.5**	**-0.5**
JHO	**Hitachi**	**1.31**	**269**	P	**Pg**	**18 05 12.6**	**-0.5**
JHO				*e*S	**Sg**	**18 05 30.4**	**+0.3**
CHOJ	**Chosi**	**1.44**	**229**	P	**Pn**	**18 05 15.6**	**+0.4**
CHOJ				*e*S	**Sg**	**18 05 32.9**	**-1.3**
JMM	**Marumori**	**1.65**	**318**	P	**Pn**	**18 05 17.1**	**-1.1**
JFT	**Otama**	**1.72**	**301**	P	**Pn**	**18 05 19.0**	**-0.1**
JFT				*e*S	**Sn**	**18 05 41.1**	**-0.7**
JIO	**Ouri**	**1.92**	**340**	P	**Pn**	**18 05 21.1**	**-0.8**
JIO				*e*S	**Sn**	**18 05 44.5**	**-2.2**
JOU	**Okura**	**2.10**	**325**	P	**Pn**	**18 05 24.9**	**+0.6**
JOU				*e*S	**Sn**	**18 05 50.7**	**-0.5**
JFY	**Yanaizu**	**2.14**	**291**	P	**Pn**	**18 05 25.6**	**+0.8**
JFY				*e*S	**Sn**	**18 05 52.9**	**+0.9**
JAG	**Ashikaga**	**2.23**	**265**	P	**Pn**	**18 05 26.1**	**+0.1**
BSO1	**Boso 1**	**2.23**	**207**	*e*S	**Sn**	**18 05 53.7**	**-0.6**
JYS	**Shirataka**	**2.31**	**313**	P	**Pn**	**18 05 28.8**	**+1.6**
JMK	**Ichinoseki**	**2.42**	**342**	P	**Pn**	**18 05 28.4**	**-0.4**
MJAR	**Matsushiro Arr**	**3.21**	**269**	Pn	**Pn**	**18 05 40.1**	**+0.5**
	4.6nm,0.3s,baz=351,slow=31,SNR=76						
MJAR				Sn	**Sn**	**18 06 25.1**	**+6.5**
	3.3nm,0.3s,baz=103,slow=25,SNR=6.3						
MJAR	**Matsushiro Arr**	**3.21**	**269**	Pn	**Pn**	**18 05 40.1**	**+0.5**
MJAR				Sn	**Sn**	**18 06 25.1**	**+6.5**
MAJO	**Matsushiro**	**3.22**	**269**	*e*Pn	**Pn**	**18 05 40.9**	**+1.3**
MAT	**Matsushiro**	**3.22**	**269**	P	**Pn**	**18 05 40.8**	**+1.2**
MAT				*e*S	**Sn**	**18 06 18.8**	**+0.2**
ASAJ	**Asahikawa**	**7.46**	**2**	Pn	**Pn**	**18 06 39.8**	**+1.8**
	0.3nm,0.3s,baz=11,slow=6.8,SNR=6.4						
ASAJ	**Asahikawa**	**7.46**	**2**	Pn	**Pn**	**18 06 39.8**	**+1.8**
ENH	**Enshi**	**27.93**	**266**	*e*P	**P**	**18 10 38.7**	**-1.2**
	3.6nm,0.7s,mb4.3						
SONM	**Songino Array**	**28.52**	**304**	P	**P**	**18 10 45.0**	**+0.1**
	1.1nm,0.7s,mb3.8,baz=105,slow=8.4,SNR=9.1						
SONM	**Songino Array**	**28.52**	**304**	P	**P**	**18 10 45.0**	**+0.1**
ZALV	**Zalesovo Beam**	**42.64**	**313**	P	**P**	**18 12 46.1**	**+0.4**
	0.2nm,0.2s,mb3.4,baz=116,slow=6.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**42.64**	**313**	P	**P**	**18 12 46.1**	**+0.4**
MKAR	**Makanchi Array**	**44.86**	**303**	P	**P**	**18 13 03.1**	**-0.7**
	0.4nm,0.8s,mb3.4,baz=91,slow=8.2,SNR=5.1						
MKAR	**Makanchi Array**	**44.86**	**303**	P	**P**	**18 13 03.1**	**-0.7**
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**18 13 49.6**	**+10**
	0.3nm,0.6s,mb3.5,baz=258,slow=5.5,SNR=5.7						
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**18 13 49.6**	**+10**
CTAO	**Charters Tower**	**56.56**	**175**	P	**P**	**18 14 38.3**	**+6.1**
	8.1nm,1.2s,mb4.6						
WRA	**Warramunga Arr**	**56.77**	**189**	P	**P**	**18 14 40.8**	**+7.1**
	0.5nm,1.0s,mb3.5,baz=1.9,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**56.77**	**189**	P	**P**	**18 14 40.8**	**+7.1**

IDC ***20*** *18:05:07.4±2.8, 43°.00N×105°.14W, h0km, mb2.5/1, mb1 3.5/3, mb1mx3.2/26, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=53.1km s-min=8.8km az=157.0*
ISCJB ***20*** *18:05:11.1±0.5, 43°.55N±0°.04×105°.23W±0°.05, h0km, Error ellipse: s-maj=6.6km s-min=5.2km az=156.5*
NEIC ***20*** *18:05:11.2±0.9, 43°.46N×105°.05W, h0km, ML3.1, Error ellipse: s-maj=12.2km s-min=8.3km az=118.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] WSW of Newcastle.
ISC 20 18:05:12.2±0.5, 43°.54N±0°.04×105°.17W±0°.05, h0km, n39, σ1s31/43, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**54**	*e*Pn	**Pn**	**18 05 32.0**	**-1.6**
RSSD				*e*Sn	**Sn**	**18 05 48.7**	**+0.2**
PHWY	**Pilot Hill**	**2.24**	**185**	*e*Pn	**Pn**	**18 05 49.3**	**-1.2**
RWWY	**Rawlins**	**2.38**	**220**	*e*Pn	**Pn**	**18 05 52.9**	**+0.5**
LAO	**LASA Array**	**3.24**	**347**	*e*Pn	**Pn**	**18 06 04.5**	**+0.3**
BW06	**Boulder Array**	**3.30**	**258**	*e*Pn	**Pn**	**18 06 03.4**	**-1.7**
PDAR	**Pinedale Array**	**3.30**	**258**	Pn	**Pn**	**18 06 04.2**	**-0.9**
	1.3nm,0.3s,baz=72,slow=17,SNR=29						
PDAR				Pg	**Pg**	**18 06 07.8**	**-7.6**
	2.6nm,0.3s,baz=76,slow=18,SNR=47						
PDAR				Lg		18 06 50.3	
	25nm,0.3s,baz=71,slow=33,SNR=37						
PDAR	**Pinedale Array**	**3.30**	**258**	Pn	**Pn**	**18 06 04.2**	**-0.9**
PDAR				Pg	**Pg**	**18 06 07.8**	**-7.6**
PDAR				Lg		18 06 50.3	
PD02	**Pinedale Array**	**3.30**	**258**	*e*Pn	**Pn**	**18 06 04.1**	**-1.0**
PD01	**Pinedale Array**	**3.31**	**258**	*e*Pn	**Pn**	**18 06 04.2**	**-1.1**
RLMT	**Red Lodge**	**3.34**	**300**	*e*Pn	**Pn**	**18 06 04.7**	**-0.8**
OGNE	**Ogallala**	**3.48**	**137**	*e*Pn	**Pn**	**18 06 09.0**	**+1.4**
ISCO	**Idaho Springs**	**3.75**	**185**	*e*Pn	**Pn**	**18 06 12.4**	**+1.2**
LKWY	**Lake**	**3.91**	**287**	Pn	**Pn**	**18 06 22.2**	**+8.8**
GCMT	**Greycliff**	**3.92**	**307**	*e*Pn	**Pn**	**18 06 13.2**	**-0.3**
LOHW	**Long Hollow**	**3.95**	**273**	*e*Pn	**Pn**	**18 06 15.3**	**+1.4**
FLWY	**Flagg Ranch**	**4.04**	**280**	*e*Pn	**Pn**	**18 06 16.1**	**+1.0**
MOOW	**Moose Ponds**	**4.05**	**275**	*e*Pn	**Pn**	**18 06 18.4**	**+3.1**
SNOW	**Snow King Moun**	**4.06**	**271**	*e*Pn	**Pn**	**18 06 11.6**	**-3.9**
REDW	**Red Top Meadow**	**4.14**	**270**	*e*Pn	**Pn**	**18 06 19.0**	**+2.4**
YFT	**Old Faithful**	**4.19**	**285**	Pn	**Pn**	**18 06 20.2**	**+3.0**
TPAW	**Teton Pass**	**4.20**	**271**	*e*Pn	**Pn**	**18 06 23.7**	**+6.2**
YMR	**Madison River**	**4.32**	**287**	Pn	**Pn**	**18 06 29.2**	**+10**
RRI2	**Red Ridge**	**4.48**	**270**	*e*Pn	**Pn**	**18 06 22.1**	**+0.8**
QLMT	**Earthquake Lak**	**4.68**	**288**	*e*Pn	**Pn**	**18 06 34.1**	**+10**
DGMT	**Dagmar**	**4.98**	**8**	*e*Pn	**Pn**	**18 06 28.9**	**+0.7**
	22nm,0.4s						
BOZ	**Bozeman (W)**	**5.07**	**297**	*e*Pn	**Pn**	**18 06 34.6**	**+5.2**
	2.6nm,0.4s						
HWUT	**Hardware Ranch**	**5.10**	**250**	Pn	**Pn**	**18 06 26.1**	**-3.7**
	5.7nm,0.4s						
EGMT	**Eagleton**	**5.51**	**326**	*e*Pn	**Pn**	**18 06 35.2**	**-0.2**
	8.1nm,0.5s						
JLU	**Jordanelle**	**5.51**	**240**	*e*Pg	**Pg**	**18 06 54.3**	**-3.5**
	4.0nm,0.4s						
DLMT	**Dillon

DUG	Dugway	6.61	242	*e*Pn	Pn	18 06 50.0	-0.5
	1.6nm,0.5s						
HLID	Hailey	6.71	273	*e*Pn	Pn	18 06 52.5	+0.6
	1.0nm,0.4s						
SWMT	Swartz Lake	7.36	306	*e*Pn	Pn	18 07 02.0	+1.2
ULM	Lac du Bonnet	9.25	40	Pn	Pn	18 07 24.9	-1.7
	1.1nm,0.3s,baz=227,slow=12,SNR=9.9						
ULM				Lg		18 10 03.6	
	0.6nm,0.3s,baz=166,slow=4.1,SNR=3.4						
ULM	Lac du Bonnet	9.25	40	*e*Pn	Pn	18 07 24.2	-2.5
ULM				Pn	Pn	18 07 24.9	-1.7
YKA	Yellowknife Ar	19.78	347	P	Pn	18 09 43.9	-1.1
	0.1nm,0.4s,baz=160,slow=11,SNR=3.0						

IDC ***20*** *18:22:37.8±1.4, 7°.24N×123°.12E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/21, mbtmp3.6/4, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/23, Error ellipse: s-maj=37.4km s-min=23.4km az=45.0*

MAN ***20*** *18:22:39, 8°.84N×126°.65E, h19km, mb4.6, ML3.5, MS3.5*

ISC 20 18:22:38.7±2.2, 9°.0N±0°.1×126°.9E±0°.2, h45km±23km, n10, σ1º09/13, mb3.5/3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.22	271	*e*P	Pn	18 22 57.3	-2.1
BUTP				*e*S	Sn	18 23 07.2	-7.6
BUKP	Musuan	2.08	239	*e*P	Pn	18 23 12.0	+0.9
MATI	Mati	2.08	197	*e*P	Pn	18 23 10.8	-0.4
CGP	Cagayan de Oro	2.20	257	⇑*i*P	Pn	18 23 12.3	-0.4
CGP				*i* S	Sn	18 23 38.9	+0.2
DAV	Davao City (W)	2.26	214	Pn	Pn	18 23 19.7	+6.0
	14nm,0.3s,baz=74,slow=11,SNR=4.7						
DAV				Sn	Sn	18 23 50.5	+10
	48nm,0.3s,baz=334,slow=18,SNR=8.5						
DAV				LR	LR	18 24 23.9	
	comp=Z,416nm,21.1s,baz=195,slow=43						
MSLP	Maasin	2.29	301	*e*P	Pn	18 23 15.2	+1.2
CTBH	Cotabato--PC H	3.11	237	⇑*e*P	Pn	18 23 25.8	+0.5
WRA	Warrumunga Arr	29.65	166	P	P	18 28 41.9	+1.8
	0.6nm,1.1s,mb3.2,baz=350,slow=10,SNR=2.7						
ASAR	Alice Springs	33.15	168	P	P	18 29 09.4	-1.5
	0.1nm,0.4s,mb3.1,baz=342,slow=6.9,SNR=6.8						
MKAR	Makanchi Array	53.42	323	P	P	18 31 53.7	-0.3
	1.5nm,0.7s,mb4.0,baz=122,slow=8.2,SNR=10						

ISCJB ***20*** *18:24:12.6±0.7, 36°.93N±0°.04×28°.27E±0°.04, h10km, Error ellipse: s-maj=5.9km s-min=4.1km az=167.5*

CSEM ***20*** *18:24:13.2±0.2, 36°.94N×28°.30E, h2km, ML1.9, Error ellipse: s-maj=4.9km s-min=3.8km az=157.0*

DDA ***20*** *18:24:13.5, 36°.97N×28°.18E, h7km±1km, Md3.0*

ISK ***20*** *18:24:13.8, 36°.99N×28°.20E, h6km, ML1.9*

ISC 20 18:24:13.1±0.7, 36°.93N±0°.04×28°.29E±0°.04, h10km, n12, σ0º86/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.20	360	*e*PG	Pg	18 24 17.3	0.0
YER				*e*SG	Sg	18 24 20.5	+0.3
YER	Yerkesik	0.20	360	*e*Pg	Pg	18 24 17.3	-0.1
YER				*e*Sg	Sg	18 24 20.5	+0.3
TURN	Turunc	0.26	103	*i* P	Pg	18 24 17.7	-0.7
TURN				*i* S	Sg	18 24 21.2	-0.7
TURN	Turunc	0.26	103	*i* P	Pg	18 24 17.7	-0.7
TURN				*i* S	Sg	18 24 21.2	-0.8
DAT	Datca	0.60	251	*e*PG	Pg	18 24 25.5	+0.8
DAT				*e*SG	Sg	18 24 33.2	+0.5
DAT	Datca	0.60	251	*e*Pg	Pg	18 24 25.5	+0.7
DAT				*e*Sg	Sg	18 24 33.2	+0.5
BODT	Bodrum	0.79	280	*e*PG	Pg	18 24 28.7	+0.4
BODT				*e*SG	Sg	18 24 38.1	-0.5
BODT	Bodrum	0.79	280	*e*Pg	Pg	18 24 28.7	+0.4
BODT				*e*Sg	Sg	18 24 38.1	-0.6
AYDN	Tasoluk	0.80	336	*i* P	Pg	18 24 27.9	-0.5
AYDN				*i* S	Sg	18 24 37.6	-1.2
AYDN	Tasoluk	0.80	336	*i* P	Pg	18 24 27.9	-0.6
AYDN				*i* S	Sg	18 24 37.6	-1.3
DNZL	Cakiroluk	0.97	39	*i* P	Pg	18 24 32.3	+0.5
DNZL				*i* S	Sg	18 24 47.3	+2.9
DNZL	Cakiroluk	0.97	39	*i* P	Pg	18 24 32.3	+0.5
DNZL				*i* S	Sg	18 24 47.3	+2.9

ISCJB ***20*** *18:43:47.6±0.4, 38°.85N±0°.02×26°.90E±0°.03, h8km±4km, Error ellipse: s-maj=3.7km s-min=2.9km az=1.1*

DDA ***20*** *18:43:47.6, 38°.84N×26°.92E, h9km±6km, Md3.0*

ISK ***20*** *18:43:47.4, 38°.86N×26°.88E, h11km, MD3.2*

ATH ***20*** *18:43:47.6, 38°.86N×26°.93E, h5km±2km, MD3.1/5*

CSEM ***20*** *18:43:48.0±0.1, 38°.84N×26°.88E, h10km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.6km az=95.0*

ISC 20 18:43:48.3±0.3, 38°.84N±0°.02×26°.89E±0°.03, h12km±3km, n79, σ0º83/109, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.47	165	*e*PG	Pg	18 43 57.5	0.0
BLCB				*e*SG	Sg	18 44 04.5	+0.8
BLCB	Balcova	0.47	165	*e*Pg	Pg	18 43 57.6	+0.1
BLCB				*e*Sg	Sg	18 44 04.6	+0.8
AYVA	Ayvalik	0.49	342	*i* P	Pg	18 43 57.6	-0.4
AYVA				*i* S	Sg	18 44 04.3	-0.2
AYVA	Ayvalik	0.49	342	*i* P	Pg	18 43 57.6	-0.4
AYVA				*i* S	Sg	18 44 04.3	-0.2
URLA	Izmir	0.53	206	*i* P	Pg	18 43 57.6	-1.1
URLA				*i* S	Sg	18 44 06.0	+0.3
URLA	Izmir	0.53	206	*i* P	Pg	18 43 57.6	-1.1
URLA				*i* S	Sg	18 44 06.0	+0.3
PRK	Paraskevi	0.63	310	*e*PB	Pg	18 44 00.5	-0.1
PRK				*e*SB	Sg	18 44 09.2	+0.3
PRK	Paraskevi	0.63	310	*e*Pb	Pg	18 44 00.5	-0.1
PRK				*e*Sb	Sg	18 44 09.2	+0.3
AKHS	Akhisar	0.72	87	*i* P	Pg	18 44 02.3	0.0
AKHS				*i* S	Sg	18 44 12.2	+0.4
AKHS	Akhisar	0.72	87	*i* P	Pg	18 44 02.3	0.0
AKHS				*i* S	Sg	18 44 12.2	+0.4
CHOS	Chios island	0.80	236	*e*PG	Pg	18 44 03.2	-0.5
CHOS				*e*SB	Sg	18 44 15.6	+1.5
CHOS	Chios island	0.80	236	*e*Pg	Pg	18 44 03.0	-0.7
CHOS				*e*Sb	Sg	18 44 15.6	+1.5
BALY	Balya	1.06	32	*i* P	Pg	18 44 08.3	-0.5
BALY				*i* S	Sg	18 44 23.4	+0.8
BALY	Balya	1.06	32	*i* P	Pg	18 44 08.3	-0.5
BALY				*i* S	Sg	18 44 23.5	+0.9
EZN	Ezine	1.08	336	*e*PG	Pg	18 44 08.0	-1.0
EZN				*e*SG	Sg	18 44 23.1	0.0
EZN	Ezine	1.08	336	*e*Pg	Pg	18 44 08.0	-1.1
EZN				*e*Sg	Sg	18 44 23.1	0.0
BALB	Balikesir	1.11	44	*e*PN	Pg	18 44 08.7	-1.0
BALB				*e*SN	Sg	18 44 25.0	+0.9
BALB	Balikesir	1.11	44	*e*Pn	Pg	18 44 08.7	-1.0
BALB				*e*Sn	Sg	18 44 25.0	+0.9
SMG	Samos	1.13	182	*e*PN	Pn	18 44 09.3	-0.7
SMG				*e*SB	Sb	18 44 26.1	+1.6
SMG	Samos	1.13	182	*e*Pn	Pn	18 44 09.3	-0.7
SMG				*e*Sb	Sb	18 44 26.1	+1.6
GONE	Gonen-Balikesi	1.35	27	*e*PN	Pn	18 44 12.4	-0.7
GONE				*e*SN	Sn	18 44 30.7	-0.3
GONE	Gonen-Balikesi	1.35	27	*e*Pn	Pn	18 44 12.4	-0.7
GONE				*e*Sn	Sn	18 44 30.7	-0.3
AYDN	Tasoluk	1.41	146	*i* P	Pn	18 44 13.2	-0.7
AYDN				*i* S	Sn	18 44 32.0	-0.4
AYDN	Tasoluk	1.41	146	*i* P	Pn	18 44 13.2	-0.7
AYDN				*i* S	Sn	18 44 32.0	-0.4
KULA	Kula-Manisa	1.42	103	*e*PN	Pn	18 44 13.4	-0.6
KULA	Kula-Manisa	1.42	103	*e*Pn	Pn	18 44 13.4	-0.6
DEMI	Demirci	1.44	81	*i* P	Pn	18 44 14.0	-0.2
DEMI				*i* S	Sn	18 44 30.9	-2.1
DEMI	Demirci	1.44	81	*i* P	Pn	18 44 14.0	-0.2
DEMI				*i* S	Sn	18 44 31.0	-2.0
LPK	Lapseki	1.53	356	*e*PN	Pn	18 44 13.9	-1.6
LPK	Lapseki	1.53	356	*e*Pn	Pn	18 44 13.9	-1.7
KRBG	Karabiga-Canak	1.58	11	*e*PN	Pn	18 44 15.6	-0.6
KRBG	Karabiga-Canak	1.58	11	*e*Pn	Pn	18 44 15.6	-0.6
GELI	Tayfur-Gelibol	1.59	348	*e*PN	Pn	18 44 16.2	-0.1
GELI	Tayfur-Gelibol	1.59	348	*e*Pn	Pn	18 44 16.2	-0.1
EDC	Edincik	1.68	26	*e*PN	Pn	18 44 16.9	-0.7
EDC	Edincik	1.68	26	*e*Pn	Pn	18 44 16.9	-0.7
LIA	Limnos Island	1.69	309	*e*PN	Pg	18 44 19.9	-0.9
LIA				*e*SN	Sg	18 44 43.2	+0.4
LIA	Limnos Island	1.69	309	*e*Pn	Pg	18 44 19.9	-0.9
LIA				*e*Sn	Sg	18 44 43.2	+0.4
BODT	Bodrum	1.81	169	*e*PN	Pn	18 44 19.4	+0.1
BODT	Bodrum	1.81	169	*e*Pn	Pn	18 44 19.4	+0.1
KCTX	Karacabey (Bur	1.82	38	*e*PN	Pn	18 44 18.9	-0.6
KCTX	Karacabey (Bur	1.82	38	*e*Pn	Pn	18 44 18.9	-0.6
ERIK	Erikli-Kesan	1.85	351	*e*PN	Pn	18 44 20.1	+0.2
ERIK	Erikli-Kesan	1.85	351	*e*Pn	Pn	18 44 20.1	+0.2
RKY	Sarkoy-Tekirda	1.86	7	*e*PN	Pn	18 44 19.6	-0.5
RKY	Sarkoy-Tekirda	1.86	7	*e*Pn	Pn	18 44 19.6	-0.4
MFT	Murefte	1.97	9	*e*PN	Pn	18 44 21.9	+0.4
MFT	Murefte	1.97	9	*e*Pn	Pn	18 44 21.9	+0.4
ENEZ	Enez	1.98	344	*e*PN	Pn	18 44 22.0	+0.4
ENEZ	Enez	1.98	344	*e*Pn	Pn	18 44 22.0	+0.4
APE	Apeiranthos	2.07	212	*e*PN	Pn	18 44 22.7	-0.2
APE	Apeiranthos	2.07	212	*e*PN	Pg	18 44 26.4	-1.6
APE	Apeiranthos	2.07	212	*e*Pn	Pn	18 44 22.7	-0.2
ALN	Alexandroupoli	2.15	343	*e*PN	Pn	18 44 26.9	+2.8
ALN				*e*SN	Sn	18 44 55.0	+4.2
ALN	Alexandroupoli	2.15	343	*e*Pn	Pn	18 44 26.9	+2.8
ALN				*e*Sn	Sn	18 44 55.0	+4.2
MDNY	Mudanya-Bursa	2.17	45	*e*PN	Pn	18 44 24.7	+0.4
MDNY	Mudanya-Bursa	2.17	45	*e*Pn	Pn	18 44 24.7	+0.4
ARMT	Armutlu	2.30	41	*e*PN	Pn	18 44 26.3	+0.2
ARMT	Armutlu	2.30	41	*e*Pn	Pn	18 44 26.3	+0.2
ALT	Altintas	2.52	84	*e*PN	Pn	18 44 29.4	+0.3
ALT	Altintas	2.52	84	*e*Pn	Pn	18 44 29.4	+0.3
YLV	Yalova	2.58	47	*e*PN	Pn	18 44 30.7	+0.9
YLV	Yalova	2.58	47	*e*Pn	Pn	18 44 30.7	+0.8
SLVT	Silivri	2.59	23	*e*PN	Pn	18 44 30.5	+0.4
SLVT	Silivri	2.59	23	*e*Pn	Pn	18 44 30.5	+0.4
CAVI	Cavuskoy	2.66	58	*e*PN	Pn	18 44 31.8	+0.8
CAVI	Cavuskoy	2.66	58	*e*Pn	Pn	18 44 31.8	+0.8
CTKS	Kestanelik-??a	2.70	27	*e*PN	Pn	18 44 32.0	+0.5
CTKS	Kestanelik-??a	2.70	27	*e*Pn	Pn	18 44 32.0	+0.5
ADVT	Abdulvahap	2.71	53	*e*PN	Pn	18 44 31.6	-0.2
ADVT	Abdulvahap	2.71	53	*e*Pn	Pn	18 44 31.6	-0.2
BGKT	Bogazkoy	2.75	31	*e*PN	Pn	18 44 33.3	+1.1
BGKT	Bogazkoy	2.75	31	*e*Pn	Pn	18 44 33.3	+1.1
EDRB	Edirne	3.01	358	*e*PN	Pn	18 44 36.9	+1.1
EDRB	Edirne	3.01	358	*e*Pn	Pn	18 44 36.9	+1.1
GULT	Gulveren	3.22	59	*e*PN	Pn	18 44 40.0	+1.3
GULT	Gulveren	3.22	59	*e*Pn	Pn	18 44 40.0	+1.3
NVR	Nevrokopi	3.42	318	*e*PB	Pn	18 44 45.2	+3.8
NVR	Nevrokopi	3.42	318	*e*Pb	Pn	18 44 45.2	+3.8

IDC ***20*** *18:44:39.7±5.2, 34°.82N×143°.37E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/24, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=160.6km s-min=33.2km az=58.0*

JMA ***20*** *18:44:55.7±0.4, 36°.52N×142°.53E, h43km, M2.3*

ISC 20 18:44:35.7±3.1, 36°.1N±0°.3×144°.4E±0°.4, h35km, n6, σ0º22/6, mb3.3/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	Marumori	3.43	303	P	Pn	18 45 26.6	-0.1
JMM				*e*S	Sx	18 45 50.0	
JFT	Otama	3.60	295	P	Pn	18 45 29.1	+0.1
JFT				S	Sx	18 45 52.1	
JAG	Ashikaga	4.04	277	P	Pn	18 45 34.8	-0.2
MJAR	Matsushiro Arr	5.05	277	Pn	Pn	18 45 49.1	+0.2
	0.3nm,0.3s,baz=99,slow=19,SNR=5.9						
SONM	Songino Array	30.35	305	P	P	18 50 53.3	+9.4
	0.5nm,1.0s,mb3.2,baz=92,slow=7.8,SNR=2.7						
ASAR	Alice Springs	60.22	191	P	P	18 54 40.2	0.0
	0.4nm,1.0s,mb3.4,baz=24,slow=8.0,SNR=4.0						

NEIC ***20*** *19:03:24.6, 16°.25N×96°.71W, h13km, MD3.9(MEX), After MEX.*

MEX 20 19:03:24.5±0.7, 16°.24N×96°.73W, h13km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.76	128	*i* P	Pg	19 03 36.9	-2.4
HUIG				*e*S	Sg	19 03 46.5	-2.8
HUIG	Huatulco	0.76	128	*i* P	Pg	19 03 36.9	-2.4
HUIG				*e*S	Sg	19 03 46.5	-2.8
VHO	Vista Hermosa	0.83	360	*i* P	Pg	19 03 38.1	-2.4
VHO				*e*S	Sg	19 03 48.2	-3.2
VHO	Vista Hermosa	0.83	360	*i* P	Pg	19 03 38.1	-2.4
VHO				*e*S	Sg	19 03 48.2	-3.2
CMIG	Matias Romero	1.96	64	*i* P	Pn	19 03 54.9	-2.6
CMIG				*e*S	Sn	19 04 17.9	-4.1
CMIG	Matias Romero	1.96	64	*i* P	Pn	19 03 54.9	-2.6
CMIG				*e*S	Sn	19 04 17.9	-4.1
PPM	Popocatepetl	3.34	328	*i* P	Pn	19 04 15.1	-1.4
PPM				*e*S	Sn	19 04 54.7	-1.4
PPM	Popocatepetl	3.34	328	*i* P	Pn	19 04 15.1	-1.4
PPM				*e*S	Sn	19 04 54.7	-1.4
CAIG	El Cayaco	3.48	284	*i* P	Pn	19 04 16.7	-1.8
CAIG				*e*S	Sn	19 04 59.9	+0.3
CAIG	El Cayaco	3.48	284	*i* P	Pn	19 04 16.7	-1.8
CAIG				*e*S	Sn	19 04 57.0	-2.6

NIED ***20*** *19:11:00, 36°.70N×142°.20E, h14km, Mw4.0 Best double couple: M0:1.27000×10^15 NP1:φ=20.00000°, δ=74.00000°, λ=84.00000°. NP2:φ=219.00000°, δ=17.00000°, λ=108.00000°.*

NEIC ***20*** *19:11:30.8±0.9, 36°.71N×142°.38E, h10km, mb4.2/6, Error ellipse: s-maj=16.6km s-min=11.9km az=115.0*

ISCJB ***20*** *19:11:32.2±1.2, 36°.73N±0°.06×142°.36E±0°.09, h33km±10km, mb3.8/11, Error ellipse: s-maj=12.0km s-min=8.9km az=25.7*

JMA ***20*** *19:11:33.4±0.2, 36°.73N×142°.22E, h63km, M3.7*

IDC ***20*** *19:11:34.5±1.1, 36°.24N×141°.19E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=31.1km s-min=21.7km az=76.0*

ISC 20 19:11:32.1±2.5, 36°.72N±0°.06×142°.26E±0°.06, h14km±16km, n34, σ1º02/40, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.23	288	P	Pn	19 11 54.1	-0.8
ONAJ				*e*S	Sb	19 12 08.9	-1.9
JFK	Kawauchi	1.28	301	P	Pn	19 11 55.3	-0.3
JFK				*e*S	Sb	19 12 12.2	-0.1
JHO	Hitachi	1.36	266	P	Pn	19 11 56.0	-0.7
JHO				S	Sn	19 12 13.6	-0.9
CHOJ	Chosi	1.52	228	P	Pn	19 11 58.9	0.0
CHOJ				*e*S	Sn	19 12 17.1	-1.3
JMM	Marumori	1.63	315	P	Pn	19 12 00.3	-0.1
JAG	Ashikaga	2.28	263	P	Pn	19 12 09.5	+0.2
JRY	Ryogami san	2.80	256	P	Pn	19 12 16.5	+0.1
MJAR	Matsushiro Arr	3.26	268	Pn	Pn	19 12 23.1	+0.3
	7.9nm,0.3s,baz=229,slow=27,SNR=143						
MJAR				Sn	Sn	19 13 03.8	+2.4
	4.4nm,0.3s,baz=46,slow=15,SNR=3.2						
MJAR	Matsushiro Arr	3.26	268	Pn	Pn	19 12 23.1	+0.3
MJAR				Sn	Sn	19 13 03.8	+2.4
MAJO	Matsushiro	3.26	268	*e*P	Pn	19 12 24.2	+1.4
MAT	Matsushiro	3.26	268	P	Pn	19 12 24.3	+1.5
MAT				S	Sn	19 13 02.3	+0.9
ASAJ	Asahikawa	7.39	2	Pn	Pn	19 13 20.0	+0.5
	0.4nm,0.3s,baz=141,slow=14,SNR=2.6						
ASAJ	Asahikawa	7.39	2	Pn	Pn	19 13 20.0	+0.5
MDJ	Mudanjiang	12.43	313	Pn	Pn	19 14 21.7	-6.8
HIA	Hailar	20.61	315	*e*P	P	19 16 10.0	-0.7
	6.0nm,0.8s						
YAK	Yakutsk	26.53	347	*e*P	P	19 17 08.6	-0.4
	4.7nm,0.8s,mb4.1						
ENH	Enshi	27.98	266	*e*P	P	19 17 21.6	-0.8
	5.9nm,0.7s,mb4.3						
ULN	Ulaanbaatar	28.09	304	*e*P	P	19 17 24.4	+1.2
	7.4nm,1.5s,mb4.1						
SONM	Songino Array	28.52	304	P	P	19 17 28.5	+1.5
	3.1nm,0.7s,mb4.1,baz=103,slow=9.2,SNR=27						
SONM	Songino Array	28.52	304	P	P	19 17 28.5	+1.5
BILL	Bilibino	34.14	16	P	P	19 18 13.5	-2.7
CMAR	Chiang Mai Arr	42.08	256	P	P	19 19 21.6	-2.0
	0.4nm,0.9s,mb3.0,baz=45,slow=9.1,SNR=3.6						
CMAR	Chiang Mai Arr	42.08	256	P	P	19 19 21.6	-2.0
ZALV	Zalesovo Beam	42.62	313	P	P	19 19 28.4	+0.7
	0.5nm,0.4s,mb3.6,baz=90,slow=7.4,SNR=6.8						
ZALV	Zalesovo Beam	42.62	313	P	P	19 19 28.4	+0.8
MKAR	Makanchi Array	44.86	303	P	P	19 19 46.3	+0.6
	1.2nm,0.8s,mb3.8,baz=83,slow=9.5,SNR=9.8						
MKAR	Makanchi Array	44.86	303	P	P	19 19 46.3	+0.6
KURK	Kurchatov	46.66	308	*e*P	P	19 19 59.9	0.0
	2.0nm,0.6s,mb4.2						
ILAR	Eielson Array	49.40	32	P	Px	19 20 32.7	
	0.7nm,0.8s,baz=268,slow=6.4,SNR=8.3						
WRA	Warramunga Arr	56.85	189	P	P	19 21 16.4	+0.2
	0.6nm,0.8s,mb3.7,baz=7.9,slow=7.3,SNR=4.1						
WRA	Warramunga Arr	56.85	189	P	P	19 21 16.4	+0.2
ABKAR	Akbulak array	58.66	311	*e*P	P	19 21 28.7	0.0
	0.9nm,0.7s,mb3.9						
ASAR	Alice Springs	60.58	189	P	P	19 21 42.4	+0.3
	0.2nm,0.7s,mb3.4,baz=17,slow=9.7,SNR=3.1						
ASAR	Alice Springs	60.58	189	P	P	19 21 42.4	+0.3

NIED ***20*** *19:13:00, 36°.70N×142°.20E, h20km, Mw5.4 Best double couple: M0:1.37000×10^17 NP1:φ=11.00000°, δ=75.00000°, λ=80.00000°. NP2:φ=224.00000°, δ=18.00000°, λ=122.00000°.*

IDC ***20*** *19:13:36.8±0.5, 36°.63N×142°.15E, h0km, mb4.5/23, mb1 4.6/29, mb1mx4.6/31, mbtmp4.5/29, ML4.2/5, MS4.9/27, Ms1 4.9/27, ms1mx4.8/34, Error ellipse: s-maj=14.7km s-min=12.4km az=124.0*

BJI ***20*** *19:13:37.1, 36°.78N×141°.85E, h9km, mB5.5/40, mb5.2/67, Ms5.4/72, Ms7 5.3/67*

JMA ***20*** *19:13:37.4±0.3, 36°.70N×142°.25E, h17km, M5.4*

JMA Felt II J1.

NEIC ***20*** *19:13:38.4±0.2, 36°.67N×142°.05E, h10km, mb5.3/92, MS5.2/1, MW5.4(NIED), Error ellipse: s-maj=4.6km s-min=3.1km az=143.0*

NEIC Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi; [1 JMA] in Gumma, Miyagi and Yamagata.

ISCJB ***20*** *19:13:38.7±0.7, 36°.65N±0°.02×142°.12E±0°.03, h22km±4km, mb5.1/181, MS5.2/63, Error ellipse: s-maj=3.8km s-min=3.5km az=146.8*

MOS ***20*** *19:13:42.3±0.9, 37°.03N×141°.99E, h33km, mb5.4/70, MS5.4/20, Error ellipse: s-maj=7.2km s-min=4.3km az=113.6*

GCMT ***20*** *19:13:43.9±0.2, 36°.72N×142°.23E, h21km, MW5.4, Moment Tensor Solution. s65,c115; s97,c190; Moment tensor: Scale 10^17Nm; Mrr=0.80±.03; Mθθ=-0.24±.02; Mφφ=-0.56±.02; Mrθ=0.35±.03; Mrφ=-0.44±.01; Mθφ=1.02±.04; Best double couple: M0:1.40000×10^17 NP1:φ=229.00000°, δ=20.00000°, λ=115.00000°. NP2:φ=22.00000°, δ=72.00000°, λ=81.00000°. Principal axes: T 1.3500, Plg62.0000°, Azm278.0000°; N 0.0200, Plg9.0000°, Azm25.0000°; P -1.3700, Plg26.0000°, Azm119.0000°; Data Used: II IU IC G CN.*

SZGRF ***20*** *19:13:49.2, 36°.69N×143°.13E, h33km, mb5.5, Off east coast of Honshu, Japan*

DJA ***20*** *19:13:56, 36°.58N×141°.40E, h127km, mb5.1/22*

ISC 20 19:13:38.8±0.8, 36°.71N±0°.02×142°.10E±0°.02, h11km±4km, h26km±2.6km: pP-P, n592, σ0º98/631, mb5.1/181, MS5.2/63, 52C-29D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.11	291	⇓P	Pb	19 13 59.5	-0.6
JFK	Kawauchi	1.18	304	P	Pb	19 14 00.5	-0.7
JHO	Hitachi	1.23	266	⇑P	Pn	19 14 01.5	-0.5
JHO				S	Sb	19 14 18.7	+0.6
JMM	Marumori	1.56	318	P	Pn	19 14 05.8	-0.6
JFT	Otama	1.62	300	P	Pn	19 14 07.5	+0.1
JFT				*e*S	Sn	19 14 30.2	+1.9
JSB	Shiboa	1.77	279	P	Pn	19 14 10.4	+1.1
JIO	Ouri	1.84	341	P	Pn	19 14 09.8	-0.6
JIO				*e*S	Sn	19 14 32.8	-0.9
JOU	Okura	2.01	326	P	Pn	19 14 10.4	+1.3
JOU				*e*S	Sn	19 14 39.6	+1.8
JFY	Yanaizu	2.04	291	⇑P	Pn	19 14 13.9	+0.8
JFY				*e*S	Sn	19 14 40.5	+2.0
JAG	Ashikaga	2.15	263	⇑P	Pn	19 14 14.9	+0.3
BSO1	Boso 1	2.25	204	P	Pn	19 14 16.2	+0.3
JKT	Katashina	2.29	272	⇑P	Pn	19 14 18.0	+1.5
JNS	Sasagawa	2.48	297	P	Pn	19 14 20.7	+1.6
JRY	Ryogami san	2.67	256	P	Pn	19 14 22.1	+0.3
JGK	Kuni	2.79	268	⇑P	Pn	19 14 24.8	+1.4
JIZZ	Izumozaki	2.83	288	P	Pn	19 14 26.9	+2.9
MJAR	Matsushiro Arr	3.13	268	Pn	Pn	19 14 28.9	+0.8
	141nm,0.3s,baz=228,slow=26,SNR=107						
MJAR				Sn	Sn	19 15 12.3	+6.8
	96nm,0.3s,baz=121,slow=11,SNR=6.9						
MJAR				LR	LR	19 15 58.8	
	comp=Z,33μm,18.7s,baz=95,slow=45						
MJAR	Matsushiro Arr	3.13	268	Pn	Pn	19 14 28.9	+0.8
MJAR				Sn	Sn	19 15 12.3	+6.8
MJAR	Matsushiro Arr	3.13	268	P	Pn	19 14 28.9	+0.8

comp=N,3μm,17.0s
YSS MLR MLR
comp=E,6μm,15.0s
USRK Ussuriysk Arra 10.73 317 Pn **Pn 19 16 14.1 +1.8**
comp=E,1.4nm,0.3s,baz=120,slow=12,SNR=14
USRK LR LR 19 20 15.1
comp=E,10μm,18.3s,baz=104,slow=37
KSRS Korea Array 11.35 278 Pn **Pn 19 16 25.4 +4.5**
comp=E,1.3nm,0.3s,baz=90,slow=13,SNR=49
KSRS LR LR 19 20 37.8
comp=E,14μm,18.9s,baz=92,slow=37
KSRS Korea Array 11.35 278 P **Pn 19 16 25.4 +4.5**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,14μm,18.9s
KSAR Wonju Array Be 11.38 278 Pn **Pn 19 16 25.4 +4.1**
KSAR Wonju Array Be 11.38 278 P **Pn 19 16 25.4 +4.1**
MDJ Mudanjiang 12.34 314 P **Pn 19 16 33.8 -0.6**
MDJ S **Sn 19 18 51.0 -0.9**
MDJ PcP PcP 19 22 12.8 -2.9
MDJ ScP ScP 19 25 46.8 -1.8
MDJ ScS ScS 19 29 22.6 -1.9
MDJ pmax pmax
comp=Z,10.0nm,1.5s
MDJ pmax pmax
comp=Z,730nm,11.2s
MDJ LR LR
comp=N,5μm,19.8s
MDJ LR LR
comp=E,5μm,18.6s
MDJ LR LR
comp=Z,10μm,18.1s
MDJ Mudanjiang 12.34 314 *e*P **Pn 19 16 35.4 +1.0**
comp=Z,55nm,1.1s
INCN Inchon 12.38 278 *e*Pn **Pn 19 16 38.4 +3.5**
HABR Khabarovsk 12.84 338 *e*P **Pn 19 16 38.6 -2.6**
HABR *e* 19 19 01.1
HABR pmax pmax
comp=N,21nm,1.5s
HABR pmax pmax
comp=Z,36nm,1.6s
HABR pmax pmax
comp=E,111nm,3.0s
HABR MLR MLR
comp=Z,10μm,15.0s
CN2 Changchun 14.54 304 *e*P **Pn 19 17 03.0 -1.4**
CN2 *e*pP pP 19 17 10.4 -3.6
CN2 *e*sP sP 19 17 15.3 -0.1
CN2 *e*S **Sn 19 19 46.3 +0.7**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,9μm,14.0s
CN2 LR LR
comp=E,6μm,14.0s
CN2 LR LR
comp=Z,9μm,16.0s
KLR Kul'dur 14.61 332 *e*P **Pn 19 17 03.9 -1.4**
KLR *e* 19 19 48.0
KLR MLR MLR
comp=N,9μm,13.0s
KLR MLR MLR
comp=E,5μm,13.0s
SNY Shenyang 15.22 295 ⇓P **Pn 19 17 13.8 +0.2**
SNY pmax pmax
comp=Z,29nm,1.3s
SNY LR LR
comp=N,5μm,14.4s
SNY LR LR
comp=E,14μm,15.0s
SNY LR LR
comp=Z,15μm,15.6s
JOW Kunigami 15.32 234 Pn **Pn 19 17 12.8 -2.3**
comp=Z,0.2nm,0.3s,baz=62,slow=29,SNR=3.8
JOW LR LR 19 23 00.2
comp=Z,4μm,21.7s,baz=60,slow=37
JOW Kunigami 15.32 234 Pn **Pn 19 17 12.8 -2.3**
JOW *e*Pn **Pn 19 17 12.9 -2.1**
DL2 Dalian 16.33 284 P **Pn 19 17 27.4 -0.6**
DL2 S **Sn 19 20 29.5 +0.4**
DL2 pmax pmax
comp=Z,30nm,1.6s
DL2 pmax pmax
comp=Z,660nm,8.0s
DL2 LR LR
comp=N,1μm,12.6s
DL2 LR LR
comp=E,5μm,17.0s
DL2 LR LR
comp=Z,6μm,17.8s
SSE Sheshan 18.23 258 P **Pn 19 17 54.1 +2.3**
SSE sP sP 19 18 03.1 +6.7
SSE S **Sn 19 21 16.6 +1.3**
SSE pmax pmax
comp=Z,42nm,0.8s
SSE pmax pmax
comp=Z,690nm,8.0s
SSE LR LR
comp=N,7μm,14.3s
SSE LR LR
comp=E,3μm,14.4s
SSE LR LR
comp=Z,12μm,14.2s
SSE Sheshan 18.23 258 P **Pn 19 17 54.1 +2.3**
comp=Z,42nm,0.8s
SSE sP sP 19 18 03.1 +6.7
SSE S **Sn 19 21 16.6 +1.3**
SSE sS sS 19 21 32.2 +6.9
PETK Petropavlovsk- 19.70 29 P **Pn 19 18 08.4 -1.0**
comp=Z,0.2nm,0.3s,baz=186,slow=6.9,SNR=6.2
PETK LR LR 19 25 39.3
comp=Z,1μm,19.9s,baz=213,slow=37
PETK Petropavlovsk- 19.70 29 P **Pn 19 18 08.4 -1.0**
PETK Petropavlovsk- 19.70 29 P **Pn 19 18 08.4 -1.0**
NJ2 Nanjing 19.73 263 *e*P **Pn 19 18 07.6 -2.3**
NJ2 pP pP 19 18 11.3 -0.1
NJ2 sP sP 19 18 14.6 +1.8
NJ2 PP 19 18 24.8
NJ2 S **Sn 19 21 39.0 -12**
NJ2 sS sS 19 21 48.0 -7.5
NJ2 pmax pmax
comp=Z,40nm,0.9s
NJ2 pmax pmax
comp=Z,1μm,3.7s
NJ2 LR LR
comp=N,4μm,14.3s
NJ2 LR LR
comp=E,10μm,14.8s
NJ2 LR LR
comp=Z,10μm,14.6s
PET Petropavlovsk 20.01 30 *e*P **P 19 18 12.1 +0.7**
PET *e*S **S 19 21 49.3 -6.8**
PET MLR MLR
comp=Z,2μm,20.0s,MS4.5
PET MLR MLR
comp=Z,3μm,19.0s
TIA Tai'an 20.08 276 ⇑P **P 19 18 09.9 -2.4**
TIA pmax pmax
comp=Z,60nm,1.5s
TIA LR LR
comp=N,9μm,12.7s,MS5.5
TIA LR LR
comp=E,10μm,15.2s,MS5.5
TIA LR LR
comp=Z,5μm,13.7s,MS5.0
HIA Hailar 20.52 315 *e*P **P 19 18 14.1 -2.9**
comp=Z,73nm,1.2s
HIA Hailar 20.52 315 *e*P **P 19 18 14.1 -2.9**
HIA pmax pmax
comp=Z,73nm,1.2s
BJI Beijing 20.57 287 P **P 19 18 15.5 -2.1**
BJI S **S 19 22 05.1 -2.4**
BJI pmax pmax
comp=Z,42nm,1.4s
BJI pmax pmax
comp=Z,540nm,5.1s
BJI LR LR
comp=N,5μm,14.6s,MS5.2
BJI LR LR
comp=E,5μm,15.3s,MS5.2
BJI LR LR
comp=Z,2μm,15.5s,MS4.6
BJT Baijiatuau 20.58 287 *e*P **P 19 18 15.3 -2.3**
comp=Z,90nm,1.1s
BJT Baijiatuau 20.58 287 *e*P **P 19 18 15.4 -2.2**
BJT pmax pmax
comp=Z,90nm,1.1s
YHNB Yeheng 21.43 242 *e*Pn **P 19 18 24.2 -2.8**
NACB Ninganchiao 21.59 240 *e*P **P 19 18 26.4 -2.3**
SSLB Suanglung 22.29 241 *e*P **P 19 18 33.5 -2.6**
comp=Z,42nm,1.1s,mb4.8
SSLB *e*S **S 19 22 31.4 -10**
TPUB Ta-pu 22.83 240 *e*P **P 19 18 37.7 -4.2**
comp=Z,72nm,1.0s,mb5.1
TWG Pinlang 22.84 239 *e*P **P 19 18 40.5 -1.5**
comp=Z,167nm,1.4s,mb5.3
GUMO Guam 23.16 173 LR LR 19 26 23.8
comp=Z,2μm,20.9s,MS4.4,baz=147,slow=33
CLNS Chul'man 23.20 336 *e*P **P 19 18 43.7 -1.8**
CLNS *e* 19 19 09.3
CLNS *e* 19 22 33.1
CLNS *e*S **S 19 22 52.2 -4.8**
CLNS *e*SS 19 23 24.6
CLNS pmax pmax
comp=Z,57nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,47nm,1.4s
CLNS pmax pmax
comp=E,17nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,1.6s
CLNS pmax pmax
comp=N,62nm,1.4s
CLNS pmax pmax
comp=Z,34nm,1.6s,mb4.5
CLNS smax
comp=E,880nm,13.9s
CLNS smax
comp=N,833nm,13.2s
CLNS MLR MLR
comp=E,4μm,18.0s,MS5.2
CLNS MLR MLR
comp=Z,6μm,14.0s,MS5.2
CLNS MLR MLR
comp=N,5μm,14.0s,MS5.2
QZH Quanzhou 23.28 246 P **P 19 18 42.4 -4.3**
QZH S **S 19 22 47.3 -11**
QZH LR LR
comp=N,8μm,18.4s
QZH LR LR
comp=E,6μm,13.3s
QZH LR LR
comp=Z,10μm,15.0s,MS5,4
WHN Wuhan 23.86 263 ⇓P **P 19 18 50.3 -2.0**
WHN pP 19 19 00.3
WHN S **S 19 23 04.3 -3.9**
WHN pmax pmax
comp=Z,320nm,1.6s,mb5.5
WHN LR LR
comp=N,7μm,15.4s,MS5.6
WHN LR LR
comp=E,12μm,13.4s,MS5.6
WHN LR LR
comp=Z,15μm,14.7s,MS5.6
HHC Hu-ho-hao-te 24.10 289 *e*P **P 19 18 50.8 -3.5**
HHC pP 19 18 54.9
HHC sP sP 19 18 58.3 -0.6
HHC PP 19 19 25.3
HHC S **S 19 23 03.4 -8.4**
HHC sS sS 19 23 11.1 -6.0
HHC SS 19 23 54.8
HHC pmax pmax
comp=Z,12nm,0.7s,mb4.4
HHC pmax pmax
comp=Z,740nm,4.8s
HHC LR LR
comp=N,3μm,14.1s,MS5.1
HHC LR LR
comp=E,3μm,11.2s,MS5.1
HHC LR LR
comp=Z,3μm,10.8s,MS5.0
BTO Baotou 25.27 289 *e*P **P 19 19 01.9 -3.2**
CIT Chita 25.29 316 *e*P **P 19 19 04.9 -0.2**
CIT *e* 19 19 15.6
CIT *e* 19 19 19.7
CIT *e* 19 19 49.9
CIT pmax pmax
comp=Z,767nm,1.9s,mb5.9
YAK Yakutsk 26.51 347 *e*P **P 19 19 15.4 -0.6**
comp=Z,124nm,0.9s,mb5.4
YAK *e* 19 19 26.0
YAK Yakutsk 26.51 347 *e*P **P 19 19 14.9 -1.1**
YAK *e**PP pP 19 19 25.5 +6.3
YAK *e*S **S 19 23 48.9 -0.9**
YAK *e*SS 19 24 08.9
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=Z,143nm,1.0s,mb5.5
YAK pmax pmax
comp=N,64nm,1.2s
YAK pmax pmax
comp=Z,391nm,3.2s
YAK pmax pmax
comp=N,475nm,3.3s
YAK pmax pmax
comp=E,362nm,3.2s
YAK smax
comp=N,601nm,4.0s
YAK smax
comp=E,723nm,3.7s
YAK MLR MLR
comp=Z,8μm,17.0s,MS5.3
YAK MLR MLR
comp=N,6μm,17.0s,MS5.2
YAK MLR MLR
comp=E,2μm,17.0s,MS5.2
FX1 Attu Island--F 27.05 43 LR LR 19 28 34.6
comp=E,997nm,19.0s,MS4.4,baz=256,slow=33
XAN Xi'an 27.11 274 P **P 19 19 20.8 -0.9**
XAN pP pP 19 19 30.3 +5.4
XAN S **S 19 24 02.3 +2.4**
XAN pmax pmax
comp=Z,29nm,1.7s,mb4.5
XAN pmax pmax
comp=Z,200nm,6.7s
XAN LR LR
comp=N,3μm,15.4s,MS5.0
XAN LR LR
comp=E,1μm,16.6s,MS5.0
XAN LR LR
comp=Z,1μm,17.4s,MS4.5
ENH Enshi 27.86 266 ⇑*i*P **P 19 19 27.4 -1.1**
comp=Z,370nm,1.2s,mb5.9
ULN Ulaanbaatar 27.99 305 ⇑*e*P **P 19 19 28.9 -0.6**
comp=Z,84nm,1.2s,mb5.2
ULN Ulaanbaatar 27.99 305 ⇑*e*P **P 19 19 28.9 -0.6**
ULN pmax pmax
comp=Z,84nm,1.2s,mb5.2
ULN Ulaanbaatar 27.99 305 P **P 19 19 30.4 +0.9**
comp=Z,1μmcomp=Z,68nm,1.5s,mb5.0
ULN Ulaanbaatar 27.99 305 P **P 19 19 31.0 +1.5**
SNR=22
BOD Bodaibo 28.10 328 *e*P **P 19 19 29.9 -0.4**
BOD pmax pmax
comp=Z,22nm,1.2s,mb4.7
GZH Guangzhou 28.26 249 P **P 19 19 29.8 -2.3**
GZH S **S 19 24 14.0 -4.1**
GZH LR LR
comp=N,4μm,15.6s,MS5.3
GZH LR LR
comp=E,3μm,14.2s,MS5.3
GZH LR LR
comp=Z,8μm,15.1s,MS5.4
SONM Songino Array 28.42 304 P **P 19 19 34.3 +0.9**
comp=Z,70nm,0.9s,mb5.3,baz=104,slow=8.9,SNR=235
SONM LR LR 19 31 05.5
comp=Z,3μm,19.4s,MS4.9,baz=118,slow=37
SONM Songino Array 28.42 304 P **P 19 19 34.3 +0.9**
SONM Songino Array 28.42 304 P **P 19 19 34.3 +1.0**
LZH Lanzhou 30.66 280 ⇑P **P 19 19 52.8 -0.5**
LZH pP pP 19 19 56.1 -0.5
LZH sP sP 19 19 57.5 -0.4
LZH PP PP 19 20 53.3 -9.2
LZH S **S 19 24 52.1 -3.6**
LZH sS sS 19 24 59.0 -2.1
LZH SS SS 19 26 32.5 -34
LZH pmax pmax
comp=Z,120nm,1.3s,mb5.6
LZH pmax pmax
comp=Z,500nm,6.0s
LZH LR LR
comp=N,4μm,13.0s,MS5.7
LZH LR LR
comp=E,12μm,16.3s,MS5.7
LZH LR LR
comp=Z,13μm,17.0s,MS5.7
LZH Lanzhou 30.66 280 ⇑P **P 19 19 52.8 -0.5**
comp=Z,118nm,1.3s,mb5.6
LZH pP pP 19 19 56.1 -0.5
LZH sP sP 19 19 57.5 -0.4
LZH PP PP 19 20 53.3 -9.2
LZH S **S 19 24 52.1 -3.6**
LZH sS sS 19 24 59.0 -2.1
LZH SS SS 19 26 32.5 -34
LZH LR LR
comp=Z,13μm,17.0s,MS5.7
LZH Lanzhou 30.66 280 ⇑P **P 19 19 52.8 -0.5**
LZH 19 20 53.3
LZH S **S 19 24 52.1 -3.6**
LZH SS SS 19 26 32.5 -34
LZH pmax pmax
comp=Z,118nm,1.3s,mb5.6
LZH MLR MLR
comp=Z,13μm,17.0s,MS5.7
IRK Irkutsk 30.72 312 *e*P **P 19 19 53.0 -0.7**
IRK pmax pmax
comp=Z,81nm,1.9s,mb5.2
ZAK Zakamensk 30.90 309 *e*P **P 19 19 55.4 +0.1**
ZAK pmax pmax
comp=Z,37nm,1.3s,mb5.0
TLY Talaya 30.96 311 ⇑*i*P **P 19 19 55.6 -0.1**
comp=Z,78nm,1.3s,mb5.4
TLY Talaya 30.96 311 *e*P **P 19 19 55.5 -0.2**
TLY *e* 19 21 04.1
TLY pmax pmax
comp=Z,56nm,1.4s,mb5.2
TLY MLR MLR
comp=Z,5μm,17.0s,MS5.2
TLY Talaya 30.96 311 P **P 19 19 56.6 +0.8**
SNR=11
TLY Talaya 30.96 311 P **P 19 19 56.5 +0.8**
comp=Z,199nm,1.0s,mb5.9,SNR=5.8
GYA Guiyang 31.71 261 P **P 19 20 01.8 -0.9**
GYA PP PP 19 21 05.9 -8.3
GYA PcP PcP 19 22 54.4 +0.2
GYA S **S 19 25 09.6 -2.7**
GYA ScP ScP 19 26 35.4 -2.1
GYA SS SS 19 26 58.9 -29
GYA pmax pmax
comp=Z,30nm,0.8s,mb5.2
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,680nm,15.9s,MS4.5
GYA LR LR
comp=E,560nm,16.4s,MS4.5
GYA LR LR
comp=Z,620nm,15.8s,MS4.4
CD2 Chengdu 32.23 271 P **P 19 20 06.5 -0.6**
CD2 pP pP 19 20 10.9 +0.5
CD2 sP sP 19 20 13.8 +2.1
CD2 PP PP 19 21 12.8 -7.1
CD2 PcP PcP 19 22 56.3 +0.7
CD2 S **S 19 25 16.5 -3.7**
CD2 sS sS 19 25 23.8 -1.8
CD2 SS SS 19 27 08.8 -30
CD2 ScS ScS 19 30 35.3 -2.9
CD2 pmax pmax
comp=Z,70nm,1.2s,mb5.4
CD2 pmax pmax
comp=Z,590nm,10.2s
CD2 LR LR
comp=N,4μm,13.2s,MS5.5
CD2 LR LR
comp=E,7μm,18.0s,MS5.5
CD2 LR LR
comp=Z,7μm,14.4s,MS5.5
MOY Mondy 32.57 310 *e*P **P 19 20 10.3 +0.4**
MOY pmax pmax
comp=Z,75nm,2.6s,mb5.2
GTA Gaotai 33.19 288 *e*P **P 19 20 16.0 +0.6**
GTA pP pP 19 20 20.0 +1.3
GTA sP sP 19 20 23.6 +3.6
GTA S **S 19 25 33.5 -1.5**
GTA sS sS 19 25 40.8 +0.5
GTA SS SS 19 27 32.0 -26
GTA pmax pmax
comp=Z,55nm,0.9s,mb5.5
GTA pmax pmax
comp=Z,730nm,5.2s
GTA LR LR
comp=N,4μm,14.5s,MS5.3
GTA LR LR
comp=E,3μm,16.4s,MS5.3
GTA LR LR
comp=Z,3μm,17.1s,MS5.0
QIZ Qiongzhong 33.30 247 P **P 19 20 15.3 -1.3**
QIZ S **S 19 25 36.1 -1.0**
QIZ pmax pmax
comp=Z,34nm,2.1s,mb4.9
QIZ LR LR
comp=N,3μm,16.1s,MS5.1
QIZ LR LR
comp=E,750nm,15.8s,MS5.1
QIZ LR LR
comp=Z,3μm,14.1s,MS5.1
BILL Bilibino 34.19 16 *e*P **P 19 20 22.8 -1.0**
comp=Z,54nm,1.6s,mb5.2
BILL Bilibino 34.19 16 ⇓*i*P **P 19 20 23.0 -0.8**
BILL *i* 19 20 33.9
BILL *i* 19 21 39.1
BILL *i* S **S 19 25 51.8 +2.0**
BILL pmax pmax
comp=Z,23nm,1.5s,mb4.9
BILL MLR MLR
comp=Z,2μm,19.0s,MS4.8
KMI Kunming 35.46 262 P **P 19 20 34.6 -0.7**
KMI pP pP 19 20 39.9 +1.3
KMI sP sP 19 20 42.1 +2.2
KMI PP PP 19 21 55.8 0.0
KMI S **S 19 26 08.1 -2.3**
KMI SS SS 19 28 26.5 -18
KMI pmax pmax
comp=Z,66nm,1.4s,mb5.4
KMI LR LR
comp=N,4μm,16.0s,MS5.3
KMI LR LR
comp=E,2μm,21.0s,MS5.3
KMI LR LR
comp=Z,4μm,18.5s,MS5.2
KMI Kunming 35.46 262 P **P 19 20 34.6 -0.7**
comp=Z,66nm,1.4s,mb5.4
KMI pP pP 19 20 39.9 +1.3
KMI sP sP 19 20 42.1 +2.2
KMI PP PP 19 21 55.8 0.0
KMI S **S 19 26 08.1 -2.3**
KMI SS SS 19 28 26.5 -18
KMI LR LR
comp=Z,4μm,18.5s,MS5.2
KMI Kunming 35.46 262 P **P 19 20 34.6 -0.7**
KMI *SP sP 19 20 42.1 +2.2
KMI 19 21 55.8
KMI S **S 19 26 08.1 -2.3**
KMI SS SS 19 28 26.5 -18
KMI pmax pmax
comp=Z,66nm,1.4s,mb5.4
KMI MLR MLR
comp=Z,4μm,18.5s,MS5.2
MYLDM Lahad Datu 38.11 220 P **P 19 20 59.1 +1.2**
comp=Z,1μmcomp=Z,95nm,1.4s,mb5.3
KKM Kota Kinabalu 38.62 224 P **P 19 21 03.4 +1.1**
SMPI Sarmi 38.63 185 P **P 19 21 08.2 +5.9**
comp=Z,2μmcomp=Z,54nm,1.6s,mb5.0
LBMI Labuha 39.55 203 P **P 19 21 19.5 +9.5**
GTOI Gorontalo 40.01 211 P **P 19 21 13.9 +0.1**
comp=Z,2μmcomp=Z,112nm,1.9s,mb5.3
CHRT Chiangrai 40.50 257 ⇑P **P 19 21 17.0 -0.9**
comp=Z,118nm,1.3s,mb5.4
MRSI Marisa 40.60 212 P **P 19 21 20.1 +1.4**
WMQ Urumqi 41.48 297 P **P 19 21 26.0 +0.3**
WMQ pP pP 19 21 30.5 +1.5
WMQ sP sP 19 21 33.0 +2.7
WMQ PP PP 19 23 05.1 +3.8

WMQ S **S** **19 27 40.3 -0.6**
WMQ sS sS 19 27 47.6 +1.3
WMQ pmax pmax
comp=Z,61nm,1.4s,mb5.0
WMQ pmax pmax
comp=Z,1μm,3.2s
WMQ LR LR
comp=N,3μm,17.4s,MS5.4
WMQ LR LR
comp=E,3μm,17.4s,MS5.4
WMQ LR LR
comp=Z,3μm,21.2s,MS5.1
LUWI Luwuk 41.63 210 P **P** **19 21 28.5 +1.3**
comp=Z,885nmcomp=Z,54nm,1.0s,mb5.2
CHG Chiang Mai 41.75 257 ⇑P **P** **19 21 28.1 -0.1**
comp=Z,31nm,1.3s,mb4.8
CHTO Chiang Mai 41.75 257⇑ *i*P **P** **19 21 27.7 -0.5**
comp=Z,56nm,1.4s,mb5.0
CHTO Chiang Mai 41.75 257⇑ *i*P **P** **19 21 27.7 -0.5**
CHTO pmax pmax
comp=Z,56nm,1.4s,mb5.0
CHTO Chiang Mai 41.75 257 P **P** **19 21 28.2 0.0**
comp=Z,732nmcomp=Z,33nm,1.8s,mb4.7
CHTO Chiang Mai 41.75 257 P **P** **19 21 28.5 +0.3**
SNR=13
CM31 Chiang Mai Arr 41.95 256⇑ *e*P **P** **19 21 28.9 -0.9**
comp=Z,5.3nm,0.6s,mb4.3
CMAR Chiang Mai Arr 41.95 256 P **P** **19 21 30.4 +0.6**
comp=Z,4.9nm,0.7s,mb4.2,baz=46,slow=6.9,SNR=35
CMAR LR LR 19 42 05.7
comp=Z,950nm,19.1s,MS4.7,baz=56,slow=41
CMAR Chiang Mai Arr 41.95 256 P **P** **19 21 30.4 +0.6**
CMAR Chiang Mai Arr 41.95 256 P **P** **19 21 30.5 +0.7**
AAI Ambon 42.23 201 P **P** **19 21 31.2 -0.9**
comp=Z,1μmcomp=Z,49nm,0.8s,mb5.2
ZAA0 Zalesovo Array 42.54 313⇑ *i*P **P** **19 21 33.3 -0.9**
ZAA0 *e*PcP PcP 19 23 23.8 -2.8
ZAA0 *e*ScP ScP 19 27 14.4 -2.9
ZALV Zalesovo Beam 42.54 313 P **P** **19 21 34.4 +0.2**
comp=Z,27nm,0.9s,mb5.0,baz=91,slow=7.4,SNR=89
ZALV LR LR 19 40 05.7
comp=Z,3μm,18.1s,MS5.3,baz=86,slow=37
ZALV Zalesovo Beam 42.54 313 P **P** **19 21 34.4 +0.2**
ZALV Zalesovo Beam 42.54 313 P **P** **19 21 34.4 +0.2**
BDT Bhumibol Dam 42.60 255 P **P** **19 21 35.5 +0.4**
NST Nakhon Sawan 42.66 252 P **P** **19 21 36.0 +0.3**
LSA Lhasa 42.79 276 P **P** **19 21 37.6 +1.0**
LSA S **S** **19 28 03.4 +2.8**
LSA LR LR
comp=E,2μm,15.8s
LSA LR LR
comp=Z,3μm,17.6s,MS5.2
LSA Lhasa 42.79 276 *e*P **P** **19 21 37.1 +0.6**
comp=Z,22nm,0.8s,mb4.9
LSA Lhasa 42.79 276 *e*P **P** **19 21 37.2 +0.6**
LSA pmax pmax
comp=Z,22nm,0.8s,mb4.9
NVS Novosibirsk 43.46 314⇑ *i*P **P** **19 21 41.1 -0.6**
NVS *e* 19 21 51.7
NVS *e*S **S** **19 28 08.3 -1.5**
NVS pmax pmax
comp=Z,109nm,1.6s,mb5.3
NVS pmax pmax
comp=E,67nm,1.5s
NVS smax
comp=E,46nm,2.0s
NVS smax
comp=N,27nm,2.6s
SHL Shillong 43.95 270 *e*PKP **P** **19 21 47.0 +1.0**
SHL *ex* x 19 28 29.0
KDI Kendari 44.35 208 P **P** **19 21 49.8 +0.5**
comp=N,934nmcomp=N,32nm,1.6s,mb4.8
MK31 Makanchi Array 44.76 302 *e*P **P** **19 21 51.8 -0.3**
MK31 Makanchi Array 44.76 302 *e*P **P** **19 21 51.8 -0.4**
MKAR Makanchi Array 44.76 302 P **P** **19 21 52.0 -0.2**
comp=N,17nm,0.8s,mb4.9,baz=83,slow=9.5,SNR=84
MKAR LR LR 19 40 54.1
comp=N,2μm,21.3s,MS4.9,baz=85,slow=36
MKAR Makanchi Array 44.76 302 P **P** **19 21 52.0 -0.2**
MKAR Makanchi Array 44.76 302 P **P** **19 21 52.0 -0.2**
SPSI Sidrap Palu 45.52 212 P **P** **19 21 59.2 +0.7**
comp=N,541nmcomp=N,22nm,1.3s,mb4.9
KSM Kuching 45.73 227 *e*P **P** **19 22 01.4 +1.1**
BNSI Bone 45.77 211 P **P** **19 22 00.6 +0.1**
comp=N,1μmcomp=N,56nm,1.3s,mb5.3
STKI Sintang 46.19 225 P **P** **19 22 04.9 +1.0**
comp=N,2μmcomp=N,46nm,1.7s,mb5.1
KAPI Kappang 46.47 211 *e*P **P** **19 22 05.3 -0.7**
comp=N,132nm,1.6s,mb5.6
KAPI *e* 19 22 14.4
KAPI Kappang 46.47 211 P **P** **19 22 05.9 -0.1**
comp=N,1μmcomp=N,77nm,1.6s,mb5.4
KAPI Kappang 46.47 211 P **P** **19 22 06.0 0.0**
SNR=12
TAPN Taplejung 46.51 275 *e*P **P** **19 22 06.6 +0.3**
TAPN Taplejung 46.51 275 *e*P **P** **19 22 06.6 +0.3**
KURK Kurchatov 46.56 308⇑ *i*P **P** **19 22 05.7 -0.8**
comp=N,66nm,0.9s,mb5.6
KURK Kurchatov 46.56 308⇑ *i*P **P** **19 22 05.7 -0.7**
KURK pmax pmax
comp=Z,65nm,0.9s,mb5.6
KURK Kurchatov 46.56 308 P **P** **19 22 06.4 0.0**
SNR=44
KURK Kurchatov 46.56 308 P **P** **19 22 06.4 0.0**
comp=Z,384nm,0.9s,mb6.3,SNR=51
KBKI Kotabaru 46.57 217 P **P** **19 22 07.7 +0.9**
comp=Z,651nmcomp=Z,21nm,1.8s,mb4.8
KDAK Kodiak Island 46.97 42 P **P** **19 22 09.6 0.0**
comp=Z,12nm,0.7s,mb4.9,baz=331,slow=13,SNR=3.2
KDAK Kodiak Island 46.97 42 P **P** **19 22 09.6 0.0**
KDAK Kodiak Island 46.97 42 P **P** **19 22 09.6 +0.1**
ODAN Odare 46.98 274 *e*P **P** **19 22 10.3 +0.3**
comp=Z,211nm,1.1s,mb6.0
ODAN Odare 46.98 274 *e*P **P** **19 22 10.3 +0.3**
comp=Z,211nm,1.1s,mb6.0
BBKI Banjar Baru 47.36 218 P **P** **19 22 11.8 -1.2**
comp=Z,1μmcomp=Z,52nm,1.6s,mb5.2
RAMN Ramite 47.58 275 *e*P **P** **19 22 14.9 +0.2**
RAMN Ramite 47.58 275 *e*P **P** **19 22 14.9 +0.2**
JIRN Jiri 47.60 276 *e*P **P** **19 22 15.2 +0.4**
JIRN Jiri 47.60 276 *e*P **P** **19 22 15.2 +0.4**
GUN Gumba 47.74 276 *e*P **P** **19 22 16.2 +0.3**
GUN Gumba 47.74 276 *e*P **P** **19 22 16.2 +0.3**
PKI Pulchoki 48.26 276 *e*P **P** **19 22 19.9 0.0**
comp=Z,108nm,1.2s,mb5.8
PKI Pulchoki 48.26 276 *e*P **P** **19 22 19.9 0.0**
comp=Z,108nm,1.2s,mb5.8
PKI Pulchoki 48.26 276 *e*P **P** **19 22 19.9 0.0**
PKI pmax pmax
comp=Z,108nm,1.2s,mb5.8
KKN Kakani 48.27 276 *e*P **P** **19 22 20.2 +0.2**
KKN Kakani 48.27 276 *e*P **P** **19 22 20.2 +0.2**
KKN Kakani 48.27 276 *e*P **P** **19 22 20.2 +0.2**
DMN Daman 48.48 276 *e*P **P** **19 22 21.7 0.0**
DMN Daman 48.48 276 *e*P **P** **19 22 21.7 0.0**
PMR Palmer 48.56 36 *e*P **P** **19 22 23.2 +1.5**
comp=Z,24nm,1.2s,mb5.1
PMR Palmer 48.56 36 *e*P **P** **19 22 23.2 +1.5**
PMR pmax pmax
comp=Z,24nm,1.2s,mb5.1
MCK McKinley 48.60 34 *e*P **P** **19 22 22.1 +0.1**
comp=Z,16nm,1.0s,mb5.0
MCK McKinley 48.60 34 *e*P **P** **19 22 22.1 +0.1**
MCK pmax pmax
comp=Z,16nm,1.0s,mb5.0
GKN Gorkha 48.69 277 *e*P **P** **19 22 23.3 +0.1**
comp=Z,218nm,0.9s,mb6.2
GKN Gorkha 48.69 277 *e*P **P** **19 22 23.3 +0.1**
comp=Z,218nm,0.9s,mb6.2
SML Sawmill 48.93 36 *e*P **P** **19 22 23.9 -0.6**
comp=Z,6.8nm,1.1s,mb4.6
SML Sawmill 48.93 36 *e*P **P** **19 22 24.0 -0.6**
SML pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
COLA College 49.06 32 *e*P **P** **19 22 25.7 +0.2**
comp=Z,7.8nm,0.8s,mb4.8
COLA College 49.06 32 *e*P **P** **19 22 25.7 +0.1**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KULM Kulim 49.13 241 *e*P **P** **19 22 24.7 -2.0**
comp=Z,70nm,1.6s,mb5.4
DANN Dangsing 49.24 278 *e*P **P** **19 22 28.2 +0.8**
DANN Dangsing 49.24 278 *e*P **P** **19 22 28.2 +0.8**
IPM Ipoh 49.45 240 P **P** **19 22 27.2 -1.9**
comp=Z,81nm,1.4s,mb5.6
IPM Ipoh 49.45 240 P **P** **19 22 38.7 +10**

ILAR Eielson Array 49.48 32 P **P** **19 22 28.5 -0.2**
comp=Z,4.8nm,0.8s,mb4.6,baz=261,slow=6.1,SNR=31
ILAR Eielson Array 49.48 32 P **P** **19 22 28.5 -0.2**
ILAR Eielson Array 49.48 32 P **P** **19 22 28.5 -0.2**
KOLN Koldanda 49.62 277 *e*P **P** **19 22 30.5 +0.2**
KOLN Koldanda 49.62 277 *e*P **P** **19 22 30.5 +0.2**
TKM2 Tokmak 2 50.27 299 P **P** **19 22 36.0 +0.9**
SNR=41
TKM2 P 19 22 36.0
SNR=41
TKM2 Tokmak 2 50.27 299 *e*P **P** **19 22 35.5 +0.4**
comp=Z,60nm,1.2s,mb5.5
TKM2 Tokmak 2 50.27 299 *e*P **P** **19 22 35.5 +0.4**
TKM2 pmax pmax
comp=Z,59nm,1.2s,mb5.5
COEN Coen 50.40 179 *e*P **P** **19 22 34.7 -1.6**
COEN Coen 50.40 179 *e*P **P** **19 22 36.2 0.0**
comp=Z,142nm,1.2s,mb5.9
COEN Coen 50.40 179 P **P** **19 22 38.7 +2.4**
comp=Z,430nmcomp=Z,18nm,1.3s,mb4.9
KZA Kyzart 50.76 298 P **P** **19 22 41.4 +2.5**
SNR=12
KZA P 19 22 41.4
SNR=12
KBK Karagaybulak 50.80 299 P **P** **19 22 40.0 +0.8**
SNR=25
KBK P 19 22 40.0
SNR=25
CHMS Chumysh 50.84 299 P **P** **19 22 40.3 +0.9**
SNR=6.9
CHMS P 19 22 40.3
SNR=6.9
USP Ospenovka 50.94 300 P **P** **19 22 40.3 +0.1**
SNR=14
USP P 19 22 40.3
SNR=14
MENT Mentasta 50.99 34 P **P** **19 22 41.3 +1.1**
KSH Kashi 51.04 295 P **P** **19 22 45.8 +4.8**
KSH pP pP 19 22 50.3 +6.0
KSH sP sP 19 22 52.8 +7.2
KSH PcP PcP 19 23 59.6 +2.7
KSH PP PP 19 24 43.9 +6.6
KSH ScP ScP 19 27 54.3 +1.1
KSH PcS PcS 19 27 56.1 +1.7
KSH S **S** **19 30 04.1 +5.9**
KSH sS sS 19 30 12.3 +8.6
KSH ScS ScS 19 32 32.4 +0.7
KSH SS SS 19 33 38.8 +5.8
KSH pmax pmax
comp=Z,96nm,1.7s,mb5.5
KSH pmax pmax
comp=Z,380nm,4.3s
KSH LR LR
comp=N,1μm,10.4s,MS5.2
KSH LR LR
comp=E,900nm,11.4s,MS5.2
KSH LR LR
comp=Z,2μm,11.3s,MS5.3
AAK Ala-Archa 51.13 299 P **P** **19 22 42.6 +1.1**
SNR=6.5
AAK P 19 22 42.6
SNR=6.5
AAK Ala-Archa 51.13 299 *e*P **P** **19 22 41.6 0.0**
comp=Z,62nm,1.1s,mb5.5
AAK Ala-Archa 51.13 299 *e*P **P** **19 22 41.6 0.0**
AAK pmax pmax
comp=Z,62nm,1.1s,mb5.5
AAK Ala-Archa 51.13 299 P **P** **19 22 42.2 +0.6**
comp=Z,70nm,1.0s,mb5.5,SNR=8.9
AAK Ala-Archa 51.13 299 P **P** **19 22 42.8 +1.2**
SNR=8.3
BRVK Borovoye 51.25 313 *e*P **P** **19 22 42.0 -0.4**
comp=Z,12nm,0.9s,mb4.8
BRVK Borovoye 51.25 313 *e*P **P** **19 22 42.0 -0.3**
BRVK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BRVK Borovoye 51.25 313 P **P** **19 22 42.6 +0.3**
comp=Z,120nm,0.9s,mb5.8,SNR=8.9
BRVK Borovoye 51.25 313 P **P** **19 22 42.6 +0.3**
SNR=14
EKS2 Erkin-Say 51.62 299 P **P** **19 22 46.3 +1.0**
SNR=12
EKS2 P 19 22 46.3
SNR=12
EKS2 Erkin-Say 51.62 299 *e*P **P** **19 22 43.3 -2.0**
comp=Z,24nm,1.4s,mb4.9
EKS2 Erkin-Say 51.62 299 *e*P **P** **19 22 43.3 -2.0**
EKS2 pmax pmax
comp=Z,24nm,1.4s,mb4.9
AML Almayashu 51.85 298 P **P** **19 22 48.2 +1.2**
SNR=41
AML P 19 22 48.2
SNR=41
PSI Prapat 52.10 240 P **P** **19 22 50.1 +0.9**
comp=Z,492nmcomp=Z,26nm,1.5s,mb4.9
BKNI Bangkinang 52.46 236 P **P** **19 22 52.7 +0.9**
comp=Z,2μmcomp=Z,131nm,1.5s,mb5.7
SJI Sawahan 52.57 219 P **P** **19 22 52.7 +0.1**
comp=Z,54nm,1.6s,mb5.2
PWJI Pagerwojo 52.80 219 P **P** **19 22 53.4 -0.9**
comp=Z,53nm,0.9s,mb5.5
DDI Dehra Dun 52.91 283 *e*PKP **P** **19 22 55.0 0.0**
PPI Padang Panjang 53.47 236 P **P** **19 23 01.4 +2.1**
comp=Z,425nmcomp=Z,18nm,1.4s,mb4.8
KKAR Karatay Array 53.76 301⇑ *i*P **P** **19 23 00.6 -0.5**
comp=Z,45nm,1.1s,mb5.3
KKAR Karatay Array 53.76 301⇑ *i*P **P** **19 23 00.6 -0.5**
KKAR pmax pmax
comp=Z,45nm,1.1s,mb5.3
LEM Lembang 54.02 224 P **P** **19 23 03.2 -0.1**
NDI New Delhi 54.27 281 *e*PKP **P** **19 23 03.6 -1.5**
NDI AMb AMB 19 23 14.2
comp=Z,77nm,2.0s,mb5.3
INK Inuvik 54.43 27 P **P** **19 23 05.8 +0.3**
comp=Z,1.9nm,0.6s,mb4.2,baz=305,slow=9.2,SNR=13
INK Inuvik 54.43 27 P **P** **19 23 05.8 +0.3**
INK Inuvik 54.43 27 P **P** **19 23 05.9 +0.3**
SVE Sverdlovsk 55.75 319⇑ *i*P **P** **19 23 15.8 +0.5**
SVE *e*S **S** **19 31 02.2 +0.5**
SVE *e*SS SS 19 34 43.2 -3.4
SVE *e* 19 36 40.0
SVE pmax pmax
comp=Z,70nm,1.3s,mb5.5
SVE MLR MLR
comp=Z,4μm,17.0s,MS5.6
BHPL Bhopal 56.65 276 *e*PKP **P** **19 23 22.0 -0.3**
BHPL AMb AMB 19 23 33.6
comp=Z,57nm,1.4s,mb5.4
FITZ Fitzroy Crossi 56.69 199 *e*P **P** **19 23 22.3 0.0**
WRAB Tennant Creek 56.81 189 *e*P **P** **19 23 22.3 -0.9**
comp=Z,38nm,1.3s,mb5.3
WRAB Tennant Creek 56.81 189 *e*P **P** **19 23 22.3 -0.9**
WRAB pmax pmax
comp=Z,38nm,1.3s,mb5.3
WB2 Warramunga Arr 56.82 189 *e*P **P** **19 23 22.1 -1.1**
WRA Warramunga Arr 56.82 189 P **P** **19 23 21.3 -1.9**
comp=Z,8.0nm,1.0s,mb4.7,baz=6.8,slow=7.3,SNR=26
WRA LR LR 19 46 35.7
comp=Z,464nm,21.9s,MS4.5,baz=20,slow=35
WRA Warramunga Arr 56.82 189 P **P** **19 23 21.3 -1.9**
WRA Warramunga Arr 56.82 189 P **P** **19 23 21.3 -1.9**
ARU Arti 56.97 319⇑ *i*P **P** **19 23 23.5 -0.4**
comp=Z,169nm,1.5s,mb5.8
ARU *e* 19 23 33.2
ARU Arti 56.97 319*c i*P **P** **19 23 23.7 -0.3**
ARU 19 24 16.2
ARU *e* 19 25 29.8
ARU PPP 19 26 46.0
ARU S **S** **19 31 18.9 +1.1**
ARU SS SS 19 35 06.5 +0.8
ARU pmax pmax
comp=Z,109nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,4μm,17.0s,MS5.5
ARU Arti 56.97 319 P **P** **19 23 23.1 -0.9**
comp=Z,260nm,1.3s,mb6.1,SNR=14
KBL Kabul 58.05 291⇑ *i*P **P** **19 23 31.0 -0.9**
comp=Z,51nm,1.1s,mb5.5
KBL Kabul 58.05 291⇑ *i*P **P** **19 23 31.0 -0.9**
KBL pmax pmax
comp=Z,51nm,1.1s,mb5.5
DLBC Dease Lake 58.54 38 P **P** **19 23 35.8 +0.8**
comp=Z,2.2nm,0.6s,mb4.4,baz=285,slow=20,SNR=3.9
DLBC Dease Lake 58.54 38 P **P** **19 23 35.8 +0.8**
ABKAR Akbulak array 58.57 310⇑ *i*P **P** **19 23 34.5 -0.8**
comp=Z,9.1nm,0.6s,mb5.0

ABKAR *e* 19 23 45.2
HYB Hyderabad 58.75 269 *i*P **P** **19 23 35.0 -2.0**
AS31 Alice Springs 60.54 189 *e*P **P** **19 23 48.0 -1.1**
ASAR Alice Springs 60.55 189 P **P** **19 23 48.5 -0.6**
comp=Z,2.6nm,0.8s,mb4.4,baz=357,slow=5.6,SNR=19
ASAR Alice Springs 60.55 189 P **P** **19 23 48.5 -0.6**
ASAR Alice Springs 60.55 189 P **P** **19 23 48.6 -0.5**
MBWA Marble Bar 61.31 204 *e*P **P** **19 23 58.1 +3.7**
MBWA Marble Bar 61.31 204 P **P** **19 23 57.6 +3.2**
comp=Z,47nm,1.4s,mb5.4
POO Poona 61.93 273 *e*PKP **P** **19 23 59.0 +0.2**
POO AMb AMB 19 24 10.7
comp=Z,67nm,0.8s,mb5.8
DZM Mont Dzumac 62.82 155 *e*S **S** **19 32 28.8 -5.0**
comp=Z,1μm,27.6s
DZM *e*LQ 19 39 45.2
comp=Z,1μm,27.2s
DZM *e*LR LR 19 42 47.3
comp=Z,2μm,21.5s
QLP Quilpie 62.98 178 *e*P **P** **19 24 04.8 -0.7**
RMQ Roma 63.17 173 *e*P **P** **19 24 06.9 +0.2**
comp=Z,61nm,1.8s,mb5.4
APA Apatity 63.21 336⇑ *i*P **P** **19 24 07.6 +1.0**
APA MLR MLR
comp=Z,3μm,18.0s,MS5.5
YKA Yellowknife Ar 63.81 30 P **P** **19 24 10.4 -0.3**
comp=Z,0.9nm,0.6s,mb4.0,baz=300,slow=6.0,SNR=10
YKA LR LR 19 56 49.7
comp=Z,46nm,18.3s,baz=330,slow=41
YKA Yellowknife Ar 63.81 30 P **P** **19 24 10.4 -0.3**
YKA Yellowknife Ar 63.81 30 P **P** **19 24 10.4 -0.3**
KLMR Klimovskoe 64.32 328 *e*P **P** **19 24 10.8 -3.3**
KLMR 19 26 31.6
KLMR pmax pmax
comp=Z,61nm,1.4s,mb5.4
KLMR pmax pmax
comp=Z,399nm,6.9s
KLMR MLR MLR
comp=Z,2μm,16.0s,MS5.5
ABKT Ailbek 64.47 299 P **P** **19 24 16.2 +0.8**
comp=Z,111nm,0.9s,mb5.9,SNR=7.5
ARCES ARCESS Array B 64.49 340 P **P** **19 24 15.6 +0.6**
comp=Z,2.1nm,0.8s,mb4.2,baz=56,slow=6.6,SNR=2.0
ARCES LR LR 19 59 14.5
comp=Z,1μm,18.3s,MS5.1,baz=257,slow=42
ARCES ARCESS Array B 64.49 340 P **P** **19 24 15.7 +0.6**
ARCES ARCESS Array B 64.49 340 P **P** **19 24 15.7 +0.7**
DAG Danmarks Havn 66.14 355 *e*P **P** **19 24 26.0 +0.3**
DAG pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
DAG Danmarks Havn 66.14 355 *i*P **P** **19 24 26.0 +0.3**
comp=Z,5.6nm,1.2s,mb4.5
MOS Moscow 67.84 324 *e*P **P** **19 24 35.4 -1.3**
MOS *e* 19 25 01.4
MOS pmax pmax
comp=Z,130nm,2.0s,mb5.6
MOS MLR MLR
comp=Z,2μm,17.0s,MS5.3
CMSA Cobar Meteorol 67.97 177 *e*P **P** **19 24 38.0 +0.3**
STKA Stephens Creek 68.23 180 P **P** **19 24 38.8 -0.5**
comp=Z,2.4nm,0.8s,mb4.3,baz=310,slow=9.1,SNR=4.9
STKA Stephens Creek 68.23 180 *e*P **P** **19 24 38.7 -0.6**
STKA Stephens Creek 68.23 180 *e*P **P** **19 24 38.9 -0.4**
comp=Z,0.8nm,0.9s
STKA Stephens Creek 68.23 180 P **P** **19 24 38.8 -0.5**
STKA pmax pmax
comp=Z,2.0nm,0.8s
FORT Forrest 68.41 193 *e*P **P** **19 24 40.2 -0.3**
OBN Obninsk 68.68 324 *e*P **P** **19 24 41.6 -0.4**
comp=Z,173nm,2.0s,mb5.6
OBN Obninsk 68.68 324α *i*P **P** **19 24 41.7 -0.3**
OBN *e* 19 24 52.2
OBN *e* 19 24 55.1
OBN 19 27 13.0
OBN *e*S S 19 33 44.4 -0.4
OBN *e* 19 34 43.0
OBN *e*SS SS 19 38 09.5 +1.1
OBN pmax pmax
comp=Z,24μm,1.2s
OBN MLR MLR
comp=Z,2μm,16.0s,MS5.5
MAK Makhachkala 69.09 308 *e*P **P** **19 24 42.7 -2.1**
MAK *e*S S 19 33 47.8 -2.2
MAK pmax pmax
comp=Z,392nm,1.4s,mb6.2
MAK MLR MLR
comp=Z,3μm,20.0s,MS5.5
FINES FINESS Array B 69.36 333 P **P** **19 24 46.2 +0.1**
comp=Z,14nm,0.8s,mb4.9,baz=53,slow=10,SNR=18
FINES LR LR 19 57 34.4
comp=Z,2μm,18.4s,MS5.5,baz=34,slow=38
FINES FINESS Array B 69.36 333 P **P** **19 24 46.2 +0.1**
FINES FINESS Array B 69.36 333 P **P** **19 24 46.2 +0.1**
VSR Storozhevoye 69.54 319 *e*P **P** **19 24 47.1 -0.3**
VSR *e**SP sP 19 24 57.7 +5.6
VSR pmax pmax
comp=Z,30nm,0.9s,mb5.2
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,40nm,1.1s
VSR pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
VSR pmax pmax
comp=N,10.0nm,1.6s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR MLR MLR
comp=Z,2μm,13.0s,MS5.6
VSR MLR MLR
comp=N,2μm,19.0s
VSR MLR MLR
comp=E,2μm,18.0s
YNG Young 70.89 174 *e*P **P** **19 24 56.0 +0.3**
SUMG Summit 71.01 0 *e*P **P** **19 24 56.1 0.0**
comp=E,19nm,1.0s,mb5.0
SUMG Summit 71.01 0 *e*P **P** **19 24 56.1 0.0**
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 71.01 0 *i*P **P** **19 24 57.8 +1.7**
comp=Z,8.6nm,0.9s,mb4.7
VSU Vasula 71.01 330 *e*P **P** **19 24 54.4 -1.9**
VSU pmax pmax
comp=Z,34nm,1.1s,mb5.2
ZEI Tsey 71.44 310 *e*P **P** **19 24 58.2 -1.0**
ZEI pmax pmax
comp=Z,21nm,1.5s,mb4.8
MTA Mtatsminda 71.47 308 P **P** **19 24 59.2 -0.2**
TBLG Delisi 71.48 308 *e*P **P** **19 24 59.2 -0.3**
TBLG Delisi 71.48 308 P **P** **19 24 59.3 -0.2**
KIV Kislovodsk 71.53 311 *e*P **P** **19 24 59.8 +0.1**
comp=Z,98nm,1.3s,mb5.6
KIV Kislovodsk 71.53 311α *i*P **P** **19 24 59.9 +0.2**
KIV *i* 19 25 10.6
KIV *e* 19 25 20.6
KIV S S 19 34 20.0 +1.5
KIV pmax pmax
comp=Z,99nm,1.4s,mb5.5
KIV MLR MLR
comp=Z,2μm,16.0s,MS5.5
KIV Kislovodsk 71.53 311 P **P** **19 25 01.1 +1.3**
SNR=14
KIV Kislovodsk 71.53 311 P **P** **19 25 00.9 +1.2**
comp=Z,311nm,0.9s,mb6.2,SNR=12
ONI Oni 71.81 310 P **P** **19 25 01.9 +0.5**
BANOM Banah 71.83 289 ⇓P **P** **19 25 02.2 +0.4**
SWMT Swartz Lake 72.14 44 P **P** **19 25 03.1 -0.2**
comp=Z,7.4nm,1.1s,mb4.5
WVOR Wild Horse Val 72.28 50 P **P** **19 25 07.7 +3.4**
comp=Z,53nm,2.0s,mb5.1
WVOR Wild Horse Val 72.28 50 P **P** **19 25 07.7 +3.4**
WVOR pmax pmax
comp=Z,53nm,2.0s,mb5.1
AKH Akhalkalaki 72.44 309 P **P** **19 25 02.0 -3.2**
MSO Missoula 72.57 44 *e*P **P** **19 25 07.1 +1.2**
comp=Z,4.7nm,1.1s,mb4.3
SLMT Seeley Lake 72.58 44 *e*P **P** **19 25 06.1 +0.1**
comp=Z,18nm,1.3s,mb4.8
SOC Sochi 73.52 312*c i*P **P** **19 25 10.5 -1.1**
SOC *e*S S 19 34 41.5 +0.2
SOC pmax pmax
comp=Z,31nm,0.8s,mb5.3
SOC MLR MLR
comp=Z,3μm,20.0s,MS5.5
CMB Columbia Colle 73.61 55 *e*P **P** **19 25 12.6 +0.4**

comp=Z,14nm,1.2s,mb4.8
CMB Columbia Colle 73.61 55 *e*P **P 19 25 12.6 +0.4**
CMB pmax pmax
comp=Z,14nm,1.2s,mb4.8
FFC Flin Flon 73.68 33 *e*P **P 19 25 12.1 -0.2**
comp=Z,27nm,1.4s,mb5.0
FFC Flin Flon 73.68 33 *e*P **P 19 25 12.1 -0.2**
FFC pmax pmax
comp=Z,27nm,1.4s,mb5.0
LRM Limekiln Ridge 73.99 45 *e*P **P 19 25 14.7 +0.3**
comp=Z,394nm,1.4s,mb6.2
ANN Anapa 74.15 314 *e*P **P 19 25 14.3 -1.0**
ANN *e*S S 19 34 51.8 +3.5
ANN pmax pmax
comp=Z,54nm,1.5s,mb5.3
DLMT Dillon 74.18 45 *e*P **P 19 25 15.1 -0.3**
comp=Z,37nm,1.5s,mb5.1
BOZ Bozeman (W) 74.56 44 *e*P **P 19 25 17.0 -0.6**
comp=Z,11nm,1.0s,mb4.8
BOZ Bozeman (W) 74.56 44 *e*P **P 19 25 17.0 -0.6**
BOZ pmax pmax
comp=Z,11nm,1.0s,mb4.7
NOA NORSAR Array B 74.70 338 P **P 19 25 18.4 +0.3**
comp=Z,10nm,1.0s,mb4.7,baz=39,slow=5.7,SNR=11
NOA LR LR 20 01 46.2
comp=Z,2μm,18.5s,MS5.4,baz=50,slow=39
NOA NORSAR Array B 74.70 338 P **P 19 25 18.4 +0.3**
NOA NORSAR Array B 74.70 338 P **P 19 25 18.4 +0.3**
NVAR Mina Array Bea 74.74 53 P **P 19 25 19.3 +0.5**
comp=Z,2.9nm,1.0s,mb4.2,baz=291,slow=6.2,SNR=9.4
NVAR LR LR 19 53 04.9
comp=Z,437nm,21.3s,MS4.7,baz=52,slow=32
NVAR Mina Array Bea 74.74 53 P **P 19 25 19.3 +0.5**
AKASG Malin Array Be 74.89 323 P **P 19 25 19.5 0.0**
comp=Z,15nm,0.8s,mb5.0,baz=46,slow=5.8,SNR=36
AKASG LR LR 20 01 34.6
comp=Z,2μm,18.2s,MS5.5,baz=45,slow=38
AKASG Malin Array Be 74.89 323 P **P 19 25 19.5 0.0**
AKASG Malin Array Be 74.89 323 P **P 19 25 19.5 +0.1**
AKBB Malin Array Si 74.89 323 *e*P **P 19 25 18.9 -0.6**
AKBB *e* 19 25 28.9
AKBB Malin Array Si 74.89 323 *e*P **P 19 25 18.9 -0.5**
AKBB *e* 19 25 28.9
KIEV Kiev 74.90 323 *e*P **P 19 25 19.1 -0.4**
comp=Z,19nm,0.9s,mb5.0
KIEV *e* 19 25 28.9
KIEV Kiev 74.90 323 *c i*P **P 19 25 18.9 -0.6**
QLMT Earthquake Lak 75.16 45 *e*P **P 19 25 22.2 +1.1**
comp=Z,2.7nm,1.3s,mb4.0
SUW Suwalki 75.46 328 *e*P **P 19 25 22.0 -0.6**
SUW Suwalki 75.46 328 *e*P **P 19 25 22.6 -0.1**
comp=Z,29nm,0.9s,mb5.2
SUW *e*P 19 25 22.7
SUW Suwalki 75.46 328 *e*P **P 19 25 22.6 0.0**
SUW pmax pmax
comp=Z,29nm,0.9s,mb5.2
FLWY Flagg Ranch 76.03 45 *e*P **P 19 25 27.4 +1.2**
comp=Z,46nm,1.5s,mb5.2
RRI2 Red Ridge 76.13 46 *e*P **P 19 25 27.7 +1.0**
comp=Z,17nm,1.2s,mb4.8
RLMT Red Lodge 76.20 44 *e*P **P 19 25 28.0 +0.9**
comp=Z,26nm,1.6s,mb4.9
TPAW Teton Pass 76.25 46 *e*P **P 19 25 31.6 +4.2**
comp=Z,5.3nm,0.7s,mb4.6
MIB Mutribah 76.33 297 *e*P **P 19 25 27.1 -0.9**
MIB AMb AMB 19 25 38.9
comp=Z,65nm,1.1s,mb5.5
BHD Baghdad 76.44 301 *i* x **P 19 25 26.5 -2.1**
BHD *i* x x 19 35 09.7
RDF Al-Radifah 76.67 296 *e*P **P 19 25 29.4 -0.6**
RDF AMb AMB 19 25 31.2
comp=Z,118nm,1.2s,mb5.7
NAY Al-Naaiem 76.71 297 *e*P **P 19 25 29.3 -0.9**
NAY AMb AMB 19 25 30.9
comp=Z,45nm,1.3s,mb5.2
FRB Frobisher Bay 76.96 13 P **P 19 25 30.6 -0.4**
comp=Z,2.9nm,0.6s,mb4.4,baz=4.1,slow=6.4,SNR=5.5
FRB Frobisher Bay 76.96 13 P **P 19 25 30.6 -0.4**
FRB Frobisher Bay 76.96 13 P **P 19 25 30.7 -0.3**
HWUT Hardware Ranch 77.04 48 *e*P **P 19 25 32.1 +0.2**
comp=Z,29nm,1.6s,mb5.0
DUG Dugway 77.15 49 *e*P **P 19 25 33.0 +0.5**
comp=Z,7.5nm,0.8s,mb4.7
DUG Dugway 77.15 49 *e*P **P 19 25 33.0 +0.5**
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PDAR Pinedale Array 77.50 46 P **P 19 25 34.7 +0.3**
comp=Z,1.3nm,0.6s,mb4.0,baz=264,slow=1.6,SNR=10
PDAR Pinedale Array 77.50 46 P **P 19 25 34.7 +0.3**
LVV L'vov 77.97 324 *e*P **P 19 25 36.1 -0.8**
LVV *e* 19 28 31.9
LVV MLR MLR
comp=N,1μm,17.0s,MS5.5
LVV MLR MLR
comp=Z,2μm,17.0s,MS5.6
LVV MLR MLR
comp=E,2μm,16.0s,MS5.5
BEL Belsk 78.02 327 *e*P **P 19 25 38.2 +1.0**
BEL Belsk 78.02 327 *e*P **P 19 25 38.2 +1.1**
BEL Belsk 78.02 327 *e*P **P 19 25 38.2 +1.1**
MSU Marysvale 78.57 50 *e*P **P 19 25 42.0 +1.6**
comp=E,96nm,2.4s,mb5.3
MSU Marysvale 78.57 50 *e*P **P 19 25 42.0 +1.6**
MSU pmax pmax
comp=Z,96nm,2.4s,mb5.3
BUR08 Bucovina Ar. S 78.89 322 *e*P **P 19 25 42.2 +0.1**
BURAR Bucovina Array 78.91 322 ⇓P **P 19 25 42.8 +0.7**
BURAR Bucovina Array 78.91 322 ⇓*i*P **P 19 25 42.8 +0.7**
TESR 78.94 321 ⇑*i*P **P 19 25 42.8 +0.5**
SRU San Rafael 79.21 49 *e*P **P 19 25 44.2 +0.2**
comp=Z,14nm,0.8s,mb4.9
SRU San Rafael 79.21 49 *e*P **P 19 25 44.2 +0.2**
SRU pmax pmax
comp=Z,14nm,0.8s,mb4.9
VRI Vrincioaia 79.33 320 ⇑P **P 19 25 45.7 +1.2**
VRI Vrincioaia 79.33 320 ⇑*i*P **P 19 25 45.7 +1.2**
TIRR Tirgusor 79.38 318 ⇓P **P 19 25 40.6 -4.2**
TIRR Tirgusor 79.38 318 ⇓*i*P **P 19 25 40.6 -4.2**
ULM Lac du Bonnet 79.47 34 P **P 19 25 46.4 +1.3**
comp=Z,0.7nm,0.3s,mb4.1,baz=330,slow=12,SNR=3.1
ULM LR LR 20 00 19.1
comp=Z,423nm,20.1s,MS4.8,baz=250,slow=35
ULM Lac du Bonnet 79.47 34 P **P 19 25 46.4 +1.3**
ULM Lac du Bonnet 79.47 34 P **P 19 25 46.4 +1.2**
BR131 Keskin Array S 79.48 312 *e*P **P 19 25 45.1 -0.3**
comp=Z,12nm,1.1s,mb4.7
BRTR Keskin Array B 79.48 312 P **P 19 25 46.0 +0.5**
comp=Z,9.7nm,1.0s,mb4.7,baz=101,slow=3.9,SNR=31
BRTR LR LR 20 07 11.5
comp=Z,803nm,19.3s,MS5.1,baz=199,slow=40
BRTR Keskin Array B 79.48 312 P **P 19 25 46.0 +0.5**
BRTR Keskin Array B 79.48 312 P **P 19 25 46.0 +0.6**
STHS Stebnicka Huta 79.54 325 *e*P **P 19 25 44.6 -1.0**
STHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
STHS Stebnicka Huta 79.54 325 *e*P **P 19 25 44.6 -1.0**
UZH Uzhgorod 79.61 324 *e*P **P 19 25 43.0 -3.0**
UZH *e* 19 25 59.3
UZH *e*S S 19 35 39.0 -8.8
UZH MLR MLR
comp=N,2μm,16.0s,MS5.8
UZH MLR MLR
comp=E,3μm,16.0s,MS5.8
UZH MLR MLR
comp=Z,2μm,16.0s,MS5.5
OJC Ojcow 79.61 326 *e*P **P 19 25 46.2 +0.3**
OJC Ojcow 79.61 326 *e*P **P 19 25 46.2 +0.3**
CRVS Cervenica-Dubn 79.81 325 *e*P **P 19 25 47.0 0.0**
CRVS pmax pmax
comp=Z,109nm,2.7s,mb5.3
CRVS Cervenica-Dubn 79.81 325 *e*P **P 19 25 47.0 0.0**
TRPA Tarpa 79.85 324 ⇓*i*P **P 19 25 48.6 +1.3**
NIE Niedzica 79.96 326 *e*P **P 19 25 48.3 +0.5**
NIE Niedzica 79.96 326 *e*P **P 19 25 48.3 +0.5**
MLR Muntele Rosu 79.99 320 ⇓P **P 19 25 48.5 +0.4**
MLR Muntele Rosu 79.99 320 ⇓*i*P **P 19 25 48.5 +0.4**
KECS Kecovo 80.56 325 *e*P **P 19 25 52.2 +1.1**
KECS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KECS Kecovo 80.56 325 *e*P **P 19 25 52.2 +1.1**
OKC Ostrava-Krasne 80.62 327 *e*P **P 19 25 51.7 +0.3**
OKC *e**PP pP 19 26 01.9 +7.0
OKC MLR MLR
comp=Z,2μm,16.0s,MS5.6
OKC Ostrava-Krasne 80.62 327 *e*P **P 19 25 51.7 +0.3**
OKC *e*PCP PcP 19 26 01.9 +3.7
OKC AMS AMS 20 04 40.0
comp=Z,2μm,16.0s
KSP Ksiaz 80.67 329 *e*P **P 19 25 51.9 +0.3**
KSP Ksiaz 80.67 329 *e*P **P 19 25 52.0 +0.4**
KSP *e*pP pP 19 26 01.5 +6.4
KSP LM 20 04 45.0
comp=Z,5.1nm,17.5s
KSP Ksiaz 80.67 329 ⇑*e*P **P 19 25 52.0 +0.4**
KSP *e**PP pP 19 26 01.5 +6.4
KSP MLR MLR
comp=Z,5μm,17.5s,MS5.9
DRGR 80.71 323 ⇓P **P 19 25 52.7 +0.8**
DRGR 80.71 323 ⇓*i*P **P 19 25 52.7 +0.8**
WUAZ Wupatki 80.92 52 *e*P **P 19 25 53.3 0.0**
comp=Z,15nm,1.3s,mb4.8
MORC Moravsky Berou 80.93 327 *e*P **P 19 25 53.2 +0.1**
MORC *e* 19 26 04.3
MORC Moravsky Berou 80.93 327 *e*P **P 19 25 53.2 +0.2**
MORC *e* 19 26 04.3
PV01 Paradox Valley 81.01 49 *e*P **P 19 25 54.8 +1.1**
comp=Z,645nm,0.8s
DPC Dobruska-Polom 81.03 328 *e*P **P 19 25 54.6 +1.1**
DPC *e**PP pP 19 26 03.5 +6.5
DPC MLR MLR
comp=Z,2μm,18.7s,MS5.5
DPC Dobruska-Polom 81.03 328 *e*P **P 19 25 54.6 +1.1**
DPC *e*PCP PcP 19 26 03.5 +3.5
DPC AMS AMS 20 04 40.0
comp=Z,2μm,18.7s
UPC Upice 81.04 329 *e*P **P 19 25 53.7 +0.1**
UPC *e**PP pP 19 26 01.9 +4.8
UPC Upice 81.04 329 *e*P **P 19 25 53.7 +0.1**
UPC *e*pP pP 19 26 01.9 +4.8
PSZ Piszkesteto 81.24 325 *e*P **P 19 25 54.5 -0.2**
comp=Z,28nm,1.1s,mb5.1
PSZ Piszkesteto 81.24 325 ⇑P **P 19 25 56.1 +1.4**
PSZ Piszkesteto 81.24 325 ⇓*e*P **P 19 25 55.8 +1.1**
PSZ Piszkesteto 81.24 325 ⇑*i*P **P 19 25 56.1 +1.4**
VYHS Vyhne 81.30 326 *e*P **P 19 25 55.3 +0.2**
VYHS pmax pmax
comp=Z,13nm,1.4s,mb4.7
VYHS Vyhne 81.30 326 *e*P **P 19 25 55.3 +0.2**
URZ Urewera 81.31 153 LR LR 19 57 12.5
comp=Z,523nm,21.5s,MS4.9,baz=161,slow=32
SZH Strazhica 81.51 318 P **P 19 25 55.9 -0.4**
BRG Berggiesshubel 81.61 330 *i* P **P 19 25 57.0 +0.3**
comp=Z,30nm,1.5s,mb5.0
BRG *e* 19 26 07.3
comp=Z,99nm,2.2s
BRG
comp=Z,3μm,15.3s
BRG
comp=N,2μm,13.5s
BRG
comp=E,1μm,13.5s
BRG Berggiesshubel 81.61 330 *i* P **P 19 25 57.0 +0.4**
BRG *e* 19 26 07.3
BRG pmax pmax
comp=Z,30nm,1.5s,mb5.0
BRG pmax pmax
comp=Z,99nm,2.3s,mb5.3
BRG MLR MLR
comp=Z,3μm,15.3s,MS5.8
BRG MLR MLR
comp=N,2μm,13.5s,MS5.7
BRG MLR MLR
comp=E,1μm,13.5s,MS5.7
PVCC Panska Ves 81.62 329 *e*P **P 19 25 57.6 +0.9**
PVCC MLR MLR
comp=Z,2μm,14.5s,MS5.6
PVCC Panska Ves 81.62 329 *e*P **P 19 25 57.6 +0.9**
PVCC AMS AMS 20 05 10.0
comp=Z,2μm,14.5s
MVCO Mesa Verde 81.65 50 *e*P **P 19 25 57.9 +0.8**
comp=Z,10nm,1.0s,mb4.7
CLL Collm 81.65 331 ⇑*i*P **P 19 25 56.1 -0.7**
CLL *e* 19 26 07.0
CLL pmax pmax
comp=Z,26nm,1.1s,mb5.1
CLL MLR MLR
comp=Z,2μm,16.3s,MS5.6
CLL Collm 81.65 331 ⇑*i*P **P 19 25 56.1 -0.7**
comp=Z,26nm,1.1s,mb5.1
CLL *es*PcP 19 26 07.0
comp=Z,49nm,1.7s
CLL *e* 19 26 19.0
CLL *e*S S 19 36 16.0 +7.0
CLL *e*SS SS 19 41 54.0 +29
CLL LV 20 09 00.0
comp=Z,1μm,19.0s
GZR Gura Zlata 81.66 322 ⇑P **P 19 25 57.9 +0.9**
GZR Gura Zlata 81.66 322 ⇑*i*P **P 19 25 57.9 +0.9**
ISCO Idaho Springs 81.68 46 P **P 19 25 58.6 +1.3**
comp=Z,20nm,1.6s,mb4.8
ISCO Idaho Springs 81.68 46 P **P 19 25 58.6 +1.4**
ISCO pmax pmax
comp=Z,20nm,1.6s,mb4.8
VRAC Vranov 81.69 327 ⇓P **P 19 25 51.7 -5.4**
VRAC Vranov 81.69 327 ⇓*i*P **P 19 25 51.7 -5.4**
BUD Budapest 81.96 325 ⇑*e*P **P 19 25 59.0 +0.5**
PRU Pruhonice 82.05 329 *e*P **P 19 25 59.5 +0.6**
PRU *e**PP pP 19 26 08.1 +5.7
PRU MLR MLR
comp=Z,2μm,17.7s,MS5.6
PRU Pruhonice 82.05 329 *e*P **P 19 25 59.5 +0.6**
PRU *e*PCP PcP 19 26 08.1 +3.7
PRU AMS AMS 20 05 20.0
comp=Z,2μm,17.7s
TREC Trest 82.18 328 *e*P **P 19 25 59.5 -0.1**
TREC *e**PP pP 19 26 09.8 +6.6
TREC MLR MLR
comp=Z,2μm,12.3s,MS5.8
TREC Trest 82.18 328 *e*P **P 19 25 59.5 -0.1**
TREC *ex* x 19 26 09.8
TREC AMS AMS 20 07 30.0
comp=Z,2μm,12.3s
MPEP Malo Peshtene 82.60 320 P **P 19 26 08.3 +6.3**
NKC Novy Kostel 82.71 330 *e*P **P 19 26 02.8 +0.4**
NKC MLR MLR
comp=Z,2μm,17.8s,MS5.6
NKC Novy Kostel 82.71 330 *e*P **P 19 26 02.8 +0.4**
NKC AMS AMS 20 06 10.0
comp=Z,2μm,17.8s
KDZ Kurdzhali 82.90 318 P **P 19 26 04.9 +1.3**
SOP Sopron 82.93 326 ⇑*e*P **P 19 26 04.0 +0.4**
CONA Conrad Observa 83.05 327 ⇓*i*pP **P 19 26 05.1 +0.8**
comp=Z,30nm,1.4s,mb5.1
PKSM Moragy 83.07 324 ⇓P **P 19 26 04.1 -0.3**
PKSM Moragy 83.07 324 ⇓*i*P **P 19 26 04.1 -0.3**
KHC Kasperske Hory 83.11 329 *e*P **P 19 26 04.2 -0.3**
comp=Z,20nm,1.1s,mb5.1
KHC Kasperske Hory 83.11 329 *e*P **P 19 26 04.4 -0.1**
KHC *e**PP pP 19 26 13.2 +5.2
KHC MLR MLR
comp=Z,2μm,19.6s,MS5.6
KHC Kasperske Hory 83.11 329 *e*P **P 19 26 04.4 -0.1**
KHC *e*PCP PcP 19 26 13.2 +4.1
KHC *ex* x 19 26 51.5
KHC AMS AMS 20 06 00.0
comp=Z,2μm,19.6s
GERES GERESS Array B 83.28 329 P **P 19 26 05.1 -0.3**
comp=Z,3.5nm,0.8s,mb4.5,baz=42,slow=4.2,SNR=22
GERES LR LR 20 07 23.4
comp=Z,1μm,18.3s,MS5.4,baz=22,slow=39
GERES GERESS Array B 83.28 329 P **P 19 26 05.1 -0.3**
GERES GERESS Array B 83.28 329 P **P 19 26 05.1 -0.3**
VTS Vitosha 83.42 319 ⇑P **P 19 26 07.7 +1.5**
VTS Vitosha 83.42 319 P **P 19 26 02.3 -3.9**
VTS Vitosha 83.42 319 ⇑*i*P **P 19 26 07.7 +1.5**
GRF Grafenberg Arr 83.62 330 *e*P **P 19 26 07.2 0.0**
comp=Z,37nm,1.2s,mb5.4
GRF Grafenberg Arr 83.62 330 *e*P **P 19 26 07.2 0.0**
GRF pmax pmax
comp=Z,37nm,1.2s,mb5.4
GRFO Grafenberg 83.63 330 *e*P **P 19 26 07.4 +0.2**
comp=Z,90nm,1.7s,mb5.6
GRFO Grafenberg 83.63 330 *e*P **P 19 26 07.4 +0.2**
GRFO pmax pmax
comp=Z,89nm,1.7s,mb5.6
ARSA Arzberg 83.72 327 ⇓*i*pP **P 19 26 08.2 +0.6**
comp=Z,13nm,1.3s,mb4.9
MOA Molln 83.81 328 ⇓*i*pP **P 19 26 08.5 +0.4**
comp=Z,14nm,1.2s,mb5.0
KKB Krupnik 84.00 319 P **P 19 26 09.4 +0.2**
PPT2 Papeete2 84.01 117 *e*LR LR 19 52 26.3
comp=Z,1μm,23.5s,baz=313
PERS Pernice 84.36 326 *i* P **P 19 26 11.4 +0.4**
ANMO Albuquerque 84.37 50 *e*P **P 19 26 10.6 -0.7**
comp=Z,11nm,1.1s,mb4.9
ANMO Albuquerque 84.37 50 *e*P **P 19 26 10.6 -0.7**
ANMO pmax pmax
comp=Z,11nm,1.1s
SOKA Soboth 84.37 326 ⇓*i*pP **P 19 26 11.3 +0.3**
comp=Z,29nm,1.4s,mb5.2
VAY Valandovo 84.66 319 *e*P **P 19 26 12.4 -0.2**
BEBN Eben Emael 84.81 334 P **P 19 26 13.3 +0.2**
MEM Membach 84.85 334 P **P 19 26 13.1 -0.2**
VISS Visnje 85.13 326 *i* P **P 19 26 14.7 -0.2**
STU Stuttgart 85.16 331 *e*P **P 19 26 14.8 -0.2**
comp=Z,10nm,0.6s,mb5.1
STU *e*P 19 26 15.4
STU Stuttgart 85.16 331 *e*P **P 19 26 14.8 -0.2**
STU pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
BOJS Bojanci 85.17 326 *i* P **P 19 26 15.3 +0.3**
BCLA Clavier 85.25 334 P **P 19 26 15.4 0.0**
comp=Z,31nm,3.1s
KRUS Krusevo 85.31 320 *e*P **P 19 26 15.8 0.0**
JAVS Javornik 85.40 327 *i* P **P 19 26 15.5 -0.8**
ABTA Abfaltersbach 85.41 328 ⇓*i*P **P 19 26 15.5 -0.7**
comp=Z,11nm,1.2s,mb4.8
SCHQ Schefferville 85.50 16 LR LR 20 04 51.5
comp=Z,613nm,19.7s,MS5.0,baz=344,slow=36
LANF Langenberg 85.53 332 *e*P **P 19 26 16.8 0.0**
MOTA Moosalm 85.53 329 ⇓*i*PcP **P 19 26 16.8 0.0**
comp=Z,14nm,1.2s,mb5.1
SNF Seneffe 85.54 335 P **P 19 26 16.9 +0.1**
comp=Z,18nm,2.3s,mb4.9
TAOE Nuku Hiva Isla 85.56 104 *e*S S 19 36 40.8 -8.7
comp=Z,323nm,26.4s
TAOE *e*LR LR 19 53 15.3
comp=Z,2μm,23.0s
RETA Reutte 85.56 329 ⇑*i*PcP **P 19 26 16.9 -0.1**
comp=Z,25nm,1.1s,mb5.3
WLF Walferdange 85.58 333 P **P 19 26 17.2 +0.2**
comp=Z,28nm,2.1s,mb5.1
GIVF Givet 85.69 334 *e*P **P 19 26 17.5 -0.1**
GIVF Givet 85.69 334 *e*P **P 19 26 17.5 -0.1**
GIVF Givet 85.69 334 *e*P **P 19 26 17.5 -0.1**
DOU Dourbes 85.77 334 P **P 19 26 17.7 -0.3**
BFO Black Forest 85.86 331 *e*P **P 19 26 18.1 -0.3**
comp=Z,27nm,1.1s,mb5.4
BFO Black Forest 85.86 331 *e*P **P 19 26 18.1 -0.3**
BFO pmax pmax
comp=Z,27nm,1.1s,mb5.4
BFO Black Forest 85.86 331 P **P 19 26 18.0 -0.4**
comp=Z,120nm,1.0s,mb6.1,SNR=6.8
BAIF Baives 85.94 334 *e*P **P 19 26 18.7 -0.1**
comp=Z,29nm,1.1s,mb5.1
BAIF Baives 85.94 334 *e*P **P 19 26 18.7 -0.1**
comp=Z,29nm,1.1s,mb5.4
BAIF Baives 85.94 334 *e*P **P 19 26 18.7 -0.1**
BAIF pmax pmax
comp=Z,29nm,1.1s,mb5.4
FETA Feichten 85.95 329 ⇓*i*PcP **P 19 26 18.9 0.0**
comp=Z,8.0nm,1.0s,mb4.9
CDF Champ du Feu 86.19 332 *e*P **P 19 26 20.2 +0.1**
comp=Z,44nm,1.1s,mb5.3
CDF Champ du Feu 86.19 332 *e*P **P 19 26 20.2 +0.1**
comp=Z,44nm,1.1s,mb5.6
CDF Champ du Feu 86.19 332 *e*P **P 19 26 20.2 +0.1**
CDF pmax pmax
comp=Z,44nm,1.1s,mb5.6
ECH Echery 86.40 332 *e*P **P 19 26 20.8 -0.3**
PAGF Fort de Pagny 86.66 333 *e*P **P 19 26 22.7 +0.3**
comp=Z,17nm,1.1s,mb4.9
PAGF Fort de Pagny 86.66 333 *e*P **P 19 26 22.7 +0.3**
comp=Z,17nm,1.1s,mb5.2
MOF Molkenrain 86.71 331 *e*P **P 19 26 22.2 -0.4**
THEF They Montfort 86.83 332 *e*P **P 19 26 22.9 -0.3**
HINF Hinteralfeld 86.84 332 *e*P **P 19 26 22.9 -0.4**
HINF Hinteralfeld 86.84 332 *e*P **P 19 26 22.9 -0.4**
HINF Hinteralfeld 86.84 332 *e*P **P 19 26 22.9 -0.4**
SCIA State Center 86.87 38 *e*P **P 19 26 23.8 +0.3**
comp=Z,43nm,0.8s,mb5.7
HAU Haudompre 86.88 332 *e*P **P 19 26 23.2 -0.3**
comp=Z,20nm,1.1s,mb5.0
HAU *e*R
comp=Z,1μm,18.5s
HAU Haudompre 86.88 332 *e*P **P 19 26 23.2 -0.3**
comp=Z,20nm,1.1s,mb5.3
HAU Haudompre 86.88 332 *e*P **P 19 26 23.2 -0.3**
HAU pmax pmax
comp=Z,20nm,1.1s,mb5.3
MEZF Maizieres J'vi 86.95 333 *e*P **P 19 26 24.0 +0.2**
comp=Z,33nm,1.1s,mb5.2
MEZF Maizieres J'vi 86.95 333 *e*P **P 19 26 24.0 +0.2**
comp=Z,33nm,1.1s,mb5.5
SFTF Sexfontaines 87.20 333 *e*P **P 19 26 25.1 +0.1**
comp=Z,63nm,1.2s,mb5.4
SFTF Sexfontaines 87.20 333 *e*P **P 19 26 25.1 +0.1**
comp=Z,63nm,1.3s,mb5.7
LOMF Lomont 87.24 331 *e*P **P 19 26 23.1 -2.1**
TBI Tubuai 87.89 121 *e*LR LR 19 54 20.8
comp=Z,1μm,23.5s,baz=318
CABF La Chapelle 88.14 331 *e*P **P 19 26 29.9 +0.4**
CABF La Chapelle 88.14 331 *e*P **P 19 26 29.9 +0.4**
CABF La Chapelle 88.14 331 *e*P **P 19 26 29.9 +0.4**
LOR Lormes 88.42 333 *e*P **P 19 26 30.8 -0.1**
comp=Z,74nm,1.5s,mb5.4
LOR *e*R
comp=Z,1μm,19.8s
LOR Lormes 88.42 333 *e*P **P 19 26 30.8 -0.1**
comp=Z,74nm,1.5s,mb5.7
LOR Lormes 88.42 333 *e*P **P 19 26 30.8 -0.1**
LOR pmax pmax
comp=Z,74nm,1.5s,mb5.7
FLN La Foliniere 88.63 336 *e*P **P 19 26 31.7 -0.1**
FLN *e*R
comp=Z,3μm,19.2s
FLN La Foliniere 88.63 336 *e*P **P 19 26 31.7 -0.1**
FLN La Foliniere 88.63 336 *e*P **P 19 26 31.7 -0.1**
SSF Saint Saulge 88.72 333 *e*P **P 19 26 32.4 +0.1**
comp=Z,10.0nm,1.1s,mb4.8
SSF Saint Saulge 88.72 333 *e*P **P 19 26 32.4 +0.1**
comp=Z,10.0nm,1.0s,mb5.1
SSF Saint Saulge 88.72 333 *e*P **P 19 26 32.4 +0.1**
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
LPL La Plagne 88.79 330 *e*P **P 19 26 32.7 0.0**
LPL La Plagne 88.79 330 *e*P **P 19 26 32.7 0.0**
LPL La Plagne 88.79 330 *e*P **P 19 26 32.7 0.0**
LPG La Plagne 88.80 330 *e*P **P 19 26 33.0 +0.3**
LPG La Plagne 88.80 330 *e*P **P 19 26 33.0 +0.3**
LPG La Plagne 88.80 330 *e*P **P 19 26 33.0 +0.3**
HYF Humbligny 88.86 334 *e*P **P 19 26 33.5 +0.5**
HYF Humbligny 88.86 334 *e*P **P 19 26 33.5 +0.5**
SMF Signal de Mont 88.95 333 *e*P **P 19 26 33.4 0.0**
comp=Z,120nm,1.9s,mb5.6
SMF Signal de Mont 88.95 333 *e*P **P 19 26 33.4 0.0**
comp=Z,120nm,1.9s,mb5.9
SMF Signal de Mont 88.95 333 *e*P **P 19 26 33.4 0.0**
SMF pmax pmax
comp=Z,120nm,1.9s,mb5.9
AVF Avril sur Loir 89.01 333 *e*P **P 19 26 33.7 0.0**
comp=Z,22nm,1.0s,mb5.1
AVF Avril sur Loir 89.01 333 *e*P **P 19 26 33.7 0.0**
comp=Z,22nm,1.0s,mb5.5
AVF Avril sur Loir 89.01 333 *e*P **P 19 26 33.7 0.0**
AVF pmax pmax
comp=Z,23nm,1.0s,mb5.5
GRR Gorron 89.08 336 *e*P **P 19 26 34.0 0.0**
comp=Z,17nm,0.9s,mb5.1
GRR Gorron 89.08 336 *e*P **P 19 26 34.0 0.0**
comp=Z,17nm,0.9s,mb5.4
GRR Gorron 89.08 336 *e*P **P 19 26 34.0 0.0**
GRR pmax pmax
comp=Z,17nm,0.9s,mb5.4
BGF Bois d'Agland 89.39 333 *e*P **P 19 26 35.5 0.0**
comp=Z,11nm,0.9s,mb4.9
BGF Bois d'Agland 89.39 333 *e*P **P 19 26 35.5 0.0**
comp=Z,11nm,0.9s,mb5.2
BGF Bois d'Agland 89.39 333 *e*P **P 19 26 35.5 0.0**
BGF pmax pmax
comp=Z,11nm,0.9s,mb5.2
SGMF Saint Gilles 89.73 337 *e*P **P 19 26 37.6 +0.6**
comp=Z,70nm,1.4s,mb5.5
SGMF Saint Gilles 89.73 337 *e*P **P 19 26 37.6 +0.6**
comp=Z,70nm,1.4s,mb5.8

SGMF Saint Gilles 89.73 337 *eP* **P 19 26 37.6 +0.6**
SGMF pmax pmax
comp=Z,70nm,1.4s,mb5.8
TCF Toulx Ste Croi 89.85 333 *eP* **P 19 26 37.9 +0.3**
TCF Toulx Ste Croi 89.85 333 *eP* **P 19 26 37.9 +0.3**
TCF Toulx Ste Croi 89.85 333 *eP* **P 19 26 37.9 +0.3**
ROSF Rostrenen 89.88 338 *eP* **P 19 26 38.0 +0.3**
ROSF Rostrenen 89.88 338 *eP* **P 19 26 38.0 +0.3**
ROSF Rostrenen 89.88 338 *eP* **P 19 26 38.0 +0.3**
TXAR Lajitas Array 89.88 53 P **P 19 26 38.0 -0.1**
comp=Z,1.3nm,0.8s,mb4.3,baz=304,slow=3.7,SNR=11
TXAR LR LR 20 02 54.9
comp=Z,414nm,18.8s,MS4.9,baz=5.0,slow=33
TXAR Lajitas Array 89.88 53 P **P 19 26 38.0 -0.1**
TXAR Lajitas Array 89.88 53 P **P 19 26 38.0 -0.1**
VIVF Saint-Julien-I 90.15 331 *eP* **P 19 26 38.9 -0.1**
comp=Z,13nm,0.9s,mb4.9
VIVF Saint-Julien-I 90.15 331 *eP* **P 19 26 38.9 -0.1**
comp=Z,13nm,0.9s,mb5.2
VIVF Saint-Julien-I 90.15 331 *eP* **P 19 26 38.9 -0.1**
VIVF pmax pmax
comp=Z,13nm,0.9s,mb5.3
QUIF Quistinic 90.22 337 *eP* **P 19 26 39.3 0.0**
comp=Z,18nm,1.0s,mb5.0
QUIF Quistinic 90.22 337 *eP* **P 19 26 39.3 0.0**
comp=Z,18nm,1.0s,mb5.3
QUIF Quistinic 90.22 337 *eP* **P 19 26 39.3 0.0**
QUIF pmax pmax
comp=Z,18nm,1.0s,mb5.4
MFF Saint Martin d 90.40 335 *eP* **P 19 26 40.5 +0.3**
comp=Z,55nm,1.3s,mb5.4
MFF Saint Martin d 90.40 335 *eP* **P 19 26 40.5 +0.3**
comp=Z,55nm,1.3s,mb5.7
MFF Saint Martin d 90.40 335 *eP* **P 19 26 40.5 +0.3**
MFF pmax pmax
comp=Z,55nm,1.3s,mb5.7
LMR La Mourre 90.68 329 *eP* **P 19 26 40.9 -0.7**
comp=Z,90nm,1.4s,mb5.6
LMR La Mourre 90.68 329 *eP* **P 19 26 40.9 -0.7**
comp=Z,90nm,1.4s,mb5.9
LMR La Mourre 90.68 329 *eP* **P 19 26 40.9 -0.7**
LMR pmax pmax
comp=Z,90nm,1.4s,mb5.9
RJF Les Rejaudoux 90.94 333 *eP* **P 19 26 43.1 +0.4**
comp=Z,14nm,1.0s,mb5.0
RJF *eR*
comp=Z,1μm,17.8s
RJF Les Rejaudoux 90.94 333 *eP* **P 19 26 43.1 +0.4**
comp=Z,14nm,1.0s,mb5.2
RJF Les Rejaudoux 90.94 333 *eP* **P 19 26 43.1 +0.4**
RJF pmax pmax
comp=Z,14nm,1.0s,mb5.2
CAF Calviac 91.07 333 *eP* **P 19 26 44.0 +0.7**
comp=Z,14nm,0.9s,mb5.0
CAF Calviac 91.07 333 *eP* **P 19 26 44.0 +0.7**
comp=Z,14nm,0.9s,mb5.3
CAF Calviac 91.07 333 *eP* **P 19 26 44.0 +0.7**
CAF pmax pmax
comp=Z,14nm,0.9s,mb5.3
LFF La Frestale 91.54 334 *eP* **P 19 26 46.1 +0.6**
comp=Z,16nm,0.9s,mb5.0
LFF La Frestale 91.54 334 *eP* **P 19 26 46.1 +0.6**
comp=Z,16nm,0.9s,mb5.3
LFF La Frestale 91.54 334 *eP* **P 19 26 46.1 +0.6**
LFF pmax pmax
comp=Z,16nm,0.9s,mb5.3
MIAR Mount Ida 92.19 43 *eP* **P 19 26 48.6 -0.1**
comp=Z,34nm,1.5s,mb5.5
MIAR Mount Ida 92.19 43 *eP* **P 19 26 48.7 0.0**
MIAR pmax pmax
comp=Z,34nm,1.5s,mb5.5
MTLF Montolieu 92.37 332 *eP* **P 19 26 49.7 +0.3**
MTLF Montolieu 92.37 332 *eP* **P 19 26 49.7 +0.3**
MTLF Montolieu 92.37 332 *eP* **P 19 26 49.7 +0.3**
KEST Kesra 95.61 323 LR LR 20 16 04.7
comp=Z,422nm,19.3s,MS4.9,baz=333,slow=39
ESDC Sonseca Array 97.82 334 P **P 19 27 13.7 -0.6**
comp=Z,0.5nm,0.6s,mb4.2,baz=34,slow=3.9,SNR=4.2
ESDC LR LR 20 16 03.3
comp=Z,1μm,19.5s,MS5.4,baz=25,slow=38
ESDC Sonseca Array 97.82 334 P **P 19 27 13.7 -0.6**
RKT Rikitea 98.12 113 eLR LR 19 59 02.3
comp=Z,1μm,24.5s,baz=310
SNAA Sanae 140.60 197 *e* PKPdf 19 33 12.9 +5.7
VNA2 Neumayer--Watz 142.16 196 *e* PKPdf 19 33 09.6 -0.4
VNA2 *e* 19 33 19.0
VNA3 Neumayer Olymp 142.39 195 *e* PKPdf 19 33 06.9 -3.5
VNA3 *e* 19 33 15.8
LPAZ La Paz 146.38 61 PKPbc PKPbc 19 33 20.5 +0.3
comp=Z,2.1nm,0.6s,baz=315,slow=2.7,SNR=8.8
LPAZ La Paz 146.38 61 *e*PKPdf PKPdf 19 33 20.3 +1.3
LPAZ PKPbc PKPbc 19 33 20.5 +0.3

ISCJB ***20*** *19:21:18.4±0.6, 71°.29N×0°.04×13°.6E±0°.1, h0km, Error ellipse: s-maj=6.2km s-min=5.4km az=44.5*
CSEM ***20*** *19:21:19.6±0.2, 71°.31N×12°.89E, h1km, ML3.3, Error ellipse: s-maj=5.6km s-min=3.2km az=82.0, Suspected Mining explosion.*
IDC ***20*** *19:21:21.0±1.2, 71°.27N×13°.32E, h0km, mb1 3.6/4, mb1mx3.2/28, mbtmp3.6/4, ML3.2/4, Error ellipse: s-maj=17.5km s-min=12.6km az=77.0*
NAO ***20*** *19:21:21.1±1.1, 71°.40N×13°.72E, ML2.5*
NEIC ***20*** *19:21:23.9, 71°.33N×13°.14E, h20km, MD2.9(BER), After BER.*
HEL ***20*** *19:21:23.3±0.5, 71°.20N×13°.41E, h10km, ML3.3, MD2.9(BER), ML2.5(BER)*
BER ***20*** *19:21:24.0±4.5, 71°.33N×13°.14E, h21km±29km, MD2.9, ML2.5, ML2.5(NAO)*
UPP ***20*** *19:21:37.6, 70°.34N×15°.24E, h0km, ML2.6, Suspected Mining explosion.*

ISC 20 19:21:21.4±0.6, 71°.26N±0°.04×13°.7E±0°.1, h0km, n108, σ1§42/149, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**2.42**	**130**	*eP*		**Pn**	**19 22 02.9**	**+0.8**
TRO				*eS*		**Sn**	**19 22 30.9**	**-1.4**
TRO				AML		AML	19 22 31.9	
comp=Z,26nm,0.3s								
TRO	**Tromso**	**2.42**	**130**	*eP*		**Pn**	**19 22 02.9**	**+0.8**
TRO				*eS*		**Sn**	**19 22 30.9**	**-1.4**
TRO	**Tromso**	**2.42**	**130**	*eP*		**Pn**	**19 22 02.9**	**+0.8**
TRO				*eS*		**Sn**	**19 22 30.9**	**-1.4**
TRO				AML		AML	19 22 31.9	
comp=Z,26nm,0.3s								
TRO	**Tromso**	**2.42**	**130**	P		**Pn**	**19 22 02.9**	**+0.8**
TRO				S		**Sn**	**19 22 30.9**	**-1.4**
comp=Z,26nm,0.3s								
LOF	**Lofoten**	**3.15**	**181**	*eP*		Px	19 22 01.2	
LOF				*eS*		Sx	19 22 36.2	
LOF				AML		AML	19 22 38.1	
comp=Z,43nm,0.3s								
LOF	**Lofoten**	**3.15**	**181**	*eP*		Px	19 22 01.2	
LOF				*eS*		Sx	19 22 36.2	
LOF				AML		AML	19 22 38.1	
comp=Z,43nm,0.3s								
LOF	**Lofoten**	**3.15**	**181**	P		Px	19 22 01.1	
LOF				S		Sx	19 22 36.1	
comp=Z,43nm,0.3s								
KIF	**Kilpisjarvi**	**3.33**	**129**	*eP*		**Pn**	**19 22 16.4**	**+1.7**
KIF				*eS*		**Sn**	**19 22 53.1**	**-1.8**
KIF	**Kilpisjarvi**	**3.33**	**129**	P		**Pn**	**19 22 16.3**	**+1.6**
STEI	**Steigen**	**3.40**	**170**	*eP*		**Pn**	**19 22 14.7**	**-0.8**
STEI				*eS*		**Sn**	**19 22 53.2**	**-3.2**
STEI				AML		AML	19 22 54.6	
comp=Z,18nm,0.2s								
STEI	**Steigen**	**3.40**	**170**	*eP*		**Pn**	**19 22 14.7**	**-0.8**
STEI				*eS*		**Sn**	**19 22 53.2**	**-3.2**
STEI				AML		AML	19 22 54.6	
comp=Z,18nm,0.2s								
STEI	**Steigen**	**3.40**	**170**	P		**Pn**	**19 22 14.7**	**-0.8**
STEI				S		**Sn**	**19 22 53.1**	**-3.3**
comp=Z,18nm,0.2s								
KTK1	**Kautokeino**	**3.98**	**120**	*eP*		**Pn**	**19 22 26.2**	**+2.8**
KTK1				*eS*		**Sn**	**19 23 10.9**	**+0.3**
KTK1	**Kautokeino**	**3.98**	**120**	*eP*		**Pn**	**19 22 26.2**	**+2.8**
KTK1				*eS*		**Sn**	**19 23 10.9**	**+0.3**
KTK1	**Kautokeino**	**3.98**	**120**	*eP*		**Pn**	**19 22 26.2**	**+2.8**
KTK1				*eS*		**Sn**	**19 23 10.9**	**+0.3**
KTK1	**Kautokeino**	**3.98**	**120**	P		**Pn**	**19 22 26.2**	**+2.7**
KTK1				S		**Sn**	**19 23 10.9**	**+0.2**
SALU	**Saltoluokta**	**4.26**	**154**	P		**Pn**	**19 22 28.6**	**+1.2**
LANU	**Lannavaara**	**4.34**	**134**	*eP*		**Pn**	**19 22 30.4**	**+1.9**
LANU				*eS*		**Sn**	**19 23 18.1**	**-1.7**
LANU	**Lannavaara**	**4.34**	**134**	P		**Pn**	**19 22 30.4**	**+1.9**
ARA0	**ARCESS Array S**	**4.35**	**108**	Pn		**Pn**	**19 22 30.0**	**+1.3**
baz=294,slow=12								
ARA0				Sn		**Sn**	**19 23 17.6**	**-2.4**
baz=300,slow=28								
ARA0	**ARCESS Array S**	**4.35**	**108**	Pn		**Pn**	**19 22 30.0**	**+1.3**
ARA0				Sn		**Sn**	**19 23 17.6**	**-2.4**
ARA0	**ARCESS Array S**	**4.35**	**108**	*eP*		**Pn**	**19 22 30.5**	**+1.8**
ARA0				*eS*		**Sn**	**19 23 17.0**	**-3.0**
ARA0	**ARCESS Array S**	**4.35**	**108**	Pn		**Pn**	**19 22 30.0**	**+1.3**
ARA0	**ARCESS Array S**	**4.35**	**108**	P		**Pn**	**19 22 30.4**	**+1.7**
ARA0				S		**Sn**	**19 23 16.9**	**-3.1**
ARA0				Sn		**Sn**	**19 23 17.6**	**-2.4**
ARCES	**ARCESS Array B**	**4.35**	**108**	Pn		**Pn**	**19 22 30.4**	**+1.8**
comp=Z,1.2nm,0.3s,baz=300,slow=12,SNR=94								
ARCES				Sn		**Sn**	**19 23 18.7**	**-1.3**
comp=Z,2.5nm,0.3s,baz=296,slow=21,SNR=11								
ARCES	**ARCESS Array B**	**4.35**	**108**	Pn		**Pn**	**19 22 30.4**	**+1.8**
ARCES				Sn		**Sn**	**19 23 18.7**	**-1.3**
ARCES	**ARCESS Array B**	**4.35**	**108**	Pn		**Pn**	**19 22 30.5**	**+1.8**
ARCES				Sn		**Sn**	**19 23 18.7**	**-1.3**
ARE0	**ARCESS Array S**	**4.35**	**108**	*eP*		**Pn**	**19 22 30.5**	**+1.9**
ARE0	**ARCESS Array S**	**4.35**	**108**	*eP*n		**Pn**	**19 22 30.3**	**+1.6**
ARE0				*eS*n		**Sn**	**19 23 17.6**	**-2.4**
ARE0	**ARCESS Array S**	**4.35**	**108**	*eP*		**Pn**	**19 22 30.5**	**+1.9**
ARE0	**ARCESS Array S**	**4.35**	**108**	P		**Pn**	**19 22 30.5**	**+1.8**
ARE0				*eS*n		**Sn**	**19 23 17.6**	**-2.4**
HEF	**Hetta**	**4.50**	**125**	*eP*		**Pn**	**19 22 32.6**	**+2.0**
HEF				MPN			19 22 33.6	
comp=Z,7.4nm,0.1s								
HEF				*eS*		**Sn**	**19 23 21.1**	**-2.4**
HEF	**Hetta**	**4.50**	**125**	P		**Pn**	**19 22 32.5**	**+1.9**
KEV	**Kevo**	**4.72**	**102**	*eP*n		**Pn**	**19 22 34.5**	**+0.8**
KEV				*eS*n		**Sn**	**19 23 28.0**	**-1.0**
KEV	**Kevo**	**4.72**	**102**	*ep*		**Pn**	**19 22 34.1**	**+0.4**
comp=Z,0.7nm,0.3s								
KEV	**Kevo**	**4.72**	**102**	*eP*		**Pn**	**19 22 35.5**	**+1.8**
KEV				*eS*		**Sn**	**19 23 25.8**	**-3.3**
KEV	**Kevo**	**4.72**	**102**	*eP*n		**Pn**	**19 22 34.5**	**+0.8**
KEV	**Kevo**	**4.72**	**102**	P		**Pn**	**19 22 35.4**	**+1.7**
KEV				S		**Sn**	**19 23 25.7**	**-3.4**
KEV				*eS*n		**Sn**	**19 23 28.0**	**-1.1**
MASU	**Masugnsbyn**	**4.83**	**138**	P		**Pn**	**19 22 37.0**	**+1.8**
DUNU	**Dundret**	**4.83**	**146**	P		**Pn**	**19 22 36.8**	**+1.5**
FLOS	**Flostrand**	**4.95**	**181**	*eP*		**Pn**	**19 22 36.1**	**-0.7**
FLOS				*eS*		**Sn**	**19 23 29.3**	**-5.4**
FLOS				AML		AML	19 23 33.0	
comp=Z,12nm,0.3s								
FLOS	**Flostrand**	**4.95**	**181**	*eP*		**Pn**	**19 22 36.1**	**-0.7**
FLOS				*eS*		**Sn**	**19 23 29.3**	**-5.4**
FLOS				AML		AML	19 23 33.0	
comp=Z,12nm,0.3s								
STOK	**Stokkvaagen**	**4.96**	**183**	*eP*		**Pn**	**19 22 35.8**	**-1.2**
STOK				*eS*		**Sn**	**19 23 28.6**	**-6.3**
STOK				AML		AML	19 23 32.0	
comp=Z,22nm,0.3s								
STOK	**Stokkvaagen**	**4.96**	**183**	*eP*		**Pn**	**19 22 35.8**	**-1.2**
STOK				*eS*		**Sn**	**19 23 28.6**	**-6.3**
STOK				AML		AML	19 23 32.0	
comp=Z,22nm,0.3s								
STOK	**Stokkvaagen**	**4.96**	**183**	P		**Pn**	**19 22 35.8**	**-1.2**
STOK				S		**Sn**	**19 23 28.6**	**-6.3**
comp=Z,22nm,0.3s								
MOR8	**Moi Rana**	**5.12**	**176**	*eP*		**Pn**	**19 22 37.9**	**-1.4**
MOR8				*eS*		**Sn**	**19 23 33.1**	**-5.8**
MOR8				AML		AML	19 23 36.5	
comp=Z,19nm,0.2s								
MOR8	**Moi Rana**	**5.12**	**176**	*eP*		**Pn**	**19 22 37.9**	**-1.4**
MOR8				*eS*		**Sn**	**19 23 33.1**	**-5.8**
MOR8	**Moi Rana**	**5.12**	**176**	*eP*		**Pn**	**19 22 37.9**	**-1.4**
MOR8	**Moi Rana**	**5.12**	**176**	*eS*		**Sn**	**19 23 33.1**	**-5.8**
MOR8				AML		AML	19 23 36.5	
comp=Z,19nm,0.2s								
MOR8	**Moi Rana**	**5.12**	**176**	P		**Pn**	**19 22 37.8**	**-1.4**
MOR8				S		**Sn**	**19 23 33.1**	**-5.9**
comp=Z,19nm,0.2s								
ERTU	**Ertsjaerv**	**5.64**	**143**	P		**Pn**	**19 22 47.6**	**+1.3**
HARU	**Harads**	**5.77**	**149**	P		**Pn**	**19 22 48.8**	**+0.7**
RNF	**Rovaniemi**	**6.45**	**130**	*eP*		**Pn**	**19 22 58.2**	**+0.8**
RNF				*eS*		**Sn**	**19 24 07.4**	**-4.1**
RNF	**Rovaniemi**	**6.45**	**130**	P		**Pn**	**19 22 58.1**	**+0.7**
SJUU	**Sjulsmark**	**6.48**	**149**	P		**Pn**	**19 22 58.5**	**+0.7**
VRF	**Varrio**	**6.61**	**114**	*eP*		**Pn**	**19 23 01.2**	**+1.6**
VRF				MPN			19 23 02.6	
comp=Z,2.1nm,0.2s								
VRF				*eS*		**Sn**	**19 24 10.5**	**-5.0**
VRF	**Varrio**	**6.61**	**114**	P		**Pn**	**19 23 01.2**	**+1.6**
VRF				S		**Sn**	**19 24 10.4**	**-5.1**
NSS	**Namsos**	**6.79**	**186**	*eP*		**Pn**	**19 23 00.6**	**-1.6**
NSS				*eS*		**Sn**	**19 24 13.7**	**-6.4**
NSS				AML		AML	19 24 20.1	
comp=Z,6.2nm,0.6s								
NSS	**Namsos**	**6.79**	**186**	*eP*		**Pn**	**19 23 00.6**	**-1.6**
NSS				*eS*		**Sn**	**19 24 13.7**	**-6.4**
NSS	**Namsos**	**6.79**	**186**	*eP*		**Pn**	**19 23 00.6**	**-1.6**
NSS				*eS*		**Sn**	**19 24 13.7**	**-6.4**
NSS				AML		AML	19 24 20.1	
comp=Z,6.2nm,0.6s								
NSS	**Namsos**	**6.79**	**186**	*eP*		**Pn**	**19 23 00.6**	**-1.5**
SNR=51								
SPA0	**Spitsbergen Ar**	**6.99**	**5**	Pn		**Pn**	**19 23 02.5**	**-2.3**
baz=190,slow=16								
SPA0				*eP*			19 23 02.9	
SPA0				Sn		**Sn**	**19 24 14.8**	**-10**
baz=158,slow=22								
SPA0	**Spitsbergen Ar**	**6.99**	**5**	*e*		**Pn**	**19 23 02.5**	**-2.3**
SPA0				*eP*			19 23 02.9	
SPA0				*e*			19 24 14.8	
SPA0	**Spitsbergen Ar**	**6.99**	**5**	Pn		**Pn**	**19 23 02.5**	**-2.3**
baz=190,slow=16,SNR=55								
SPA0	**Spitsbergen Ar**	**6.99**	**5**	P		**Pn**	**19 23 02.8**	**-2.0**
SPB4	**Spitsbergen Ar**	**6.99**	**5**	Pn		**Pn**	**19 23 01.9**	**-2.9**
SPB4				*eS*n		Sn	19 24 02.3	-23
SPB4	**Spitsbergen Ar**	**6.99**	**5**	Pn		**Pn**	**19 23 01.9**	**-2.9**
SPITS	**Spitsbergen Ar**	**6.99**	**5**	Pn		**Pn**	**19 23 03.1**	**-1.7**
baz=152,slow=22,SNR=15								
SPITS	**Spitsbergen Ar**	**6.99**	**5**	Pn		**Pn**	**19 23 03.1**	**-1.7**
SPITS	**Spitsbergen Ar**	**6.99**	**5**	Pn		**Pn**	**19 23 03.1**	**-1.7**
BURU	**Burvik**	**7.31**	**153**	P		**Pn**	**19 23 09.8**	**+0.6**
OUL	**Oulu**	**7.68**	**138**	*eP*		**Pn**	**19 23 14.9**	**+0.6**
OUL	**Oulu**	**7.68**	**138**	P		**Pn**	**19 23 14.9**	**+0.6**
KBS	**Kingsbay**	**7.72**	**358**	Pn		**Pn**	**19 23 13.7**	**-1.1**
KBS	**Kingsbay**	**7.72**	**358**	Pn		**Pn**	**19 23 13.7**	**-1.1**
KBS	**Kingsbay**	**7.72**	**358**	*eP*		**Pn**	**19 23 13.7**	**-1.1**
KBS	**Kingsbay**	**7.72**	**358**	P		**Pn**	**19 23 13.7**	**-1.1**
KU6	**Riekki**	**7.90**	**124**	*eP*		**Pn**	**19 23 18.6**	**+1.4**
KU6	**Riekki**	**7.90**	**124**	P		**Pn**	**19 23 18.6**	**+1.3**
VAF	**Ylistaro**	**8.96**	**153**	*eP*		**Pn**	**19 23 32.2**	**+0.4**
VAF				MPN			19 23 37.9	
comp=Z,1.2nm,0.2s								
VAF	**Ylistaro**	**8.96**	**153**	P		**Pn**	**19 23 32.2**	**+0.4**
SUF	**Sumiainen**	**9.85**	**144**	*eP*		**Pn**	**19 23 44.4**	**+0.5**
SUF				MPN			19 23 47.3	
comp=Z,0.9nm,0.2s								
SUF	**Sumiainen**	**9.85**	**144**	P		**Pn**	**19 23 44.4**	**+0.5**
KEF	**Keuruu**	**10.13**	**149**	*eP*		**Pn**	**19 23 47.8**	**0.0**
KEF				MPN			19 23 51.4	
comp=Z,1.5nm,0.2s								
KEF	**Keuruu**	**10.13**	**149**	P		**Pn**	**19 23 47.8**	**0.0**
NB2	**NORSAR Subarra**	**10.31**	**187**	Pn		**Pn**	**19 23 49.3**	**-1.0**
baz=358,slow=14								
NB2	**NORSAR Subarra**	**10.31**	**187**	Pn		**Pn**	**19 23 49.3**	**-1.0**
NB2	**NORSAR Subarra**	**10.31**	**187**	*eP*		**Pn**	**19 23 49.3**	**-1.0**
NB2	**NORSAR Subarra**	**10.31**	**187**	P		**Pn**	**19 23 49.3**	**-1.0**
NOA	**NORSAR Array B**	**10.31**	**187**	Pn		**Pn**	**19 23 49.1**	**-1.2**
comp=Z,0.2nm,0.3s,baz=321,slow=17,SNR=3.2								
NOA	**NORSAR Array B**	**10.31**	**187**	Pn		**Pn**	**19 23 49.1**	**-1.2**
NOA	**NORSAR Array B**	**10.31**	**187**	Pn		**Pn**	**19 23 49.1**	**-1.2**
KAF	**Kangasniemi**	**10.43**	**145**	*ep*		**Pn**	**19 23 49.6**	**-2.4**
comp=Z,3.0nm,0.8s								
KAF	**Kangasniemi**	**10.43**	**145**	*eP*		**Pn**	**19 23 51.8**	**-0.2**
KAF				MPN			19 23 53.8	
comp=Z,1.2nm,0.2s								
KAF	**Kangasniemi**	**10.43**	**145**	P		**Pn**	**19 23 51.8**	**-0.2**
JOF	**Joensuu**	**10.78**	**132**	*ep*		**Pn**	**19 23 56.1**	**-0.7**
comp=Z,2.8nm,0.4s								
JOF	**Joensuu**	**10.78**	**132**	*eP*		**Pn**	**19 23 56.7**	**-0.1**
JOF	**Joensuu**	**10.78**	**132**	P		**Pn**	**19 23 56.7**	**-0.1**
FIA0	**FINESS Array S**	**11.01**	**147**	Pn		**Pn**	**19 23 59.9**	**0.0**
baz=342,slow=14								
FIA0	**FINESS Array S**	**11.01**	**147**	Pn		**Pn**	**19 23 59.9**	**0.0**
FIA0	**FINESS Array S**	**11.01**	**147**	*eP*		**Pn**	**19 23 59.9**	**0.0**
FIA0	**FINESS Array S**	**11.01**	**147**	P		**Pn**	**19 23 59.9**	**0.0**
FINES	**FINESS Array B**	**11.01**	**147**	Pn		**Pn**	**19 24 00.9**	**+1.0**
comp=Z,0.4nm,0.3s,baz=344,slow=12,SNR=20								
FINES	**FINESS Array B**	**11.01**	**147**	Pn		**Pn**	**19 24 00.9**	**+1.0**
FINES	**FINESS Array B**	**11.01**	**147**	Pn		**Pn**	**19 24 00.9**	**+1.0**
HFS	**Hagfors**	**11.18**	**180**	Pn		**Pn**	**19 24 01.4**	**-0.7**
baz=11,slow=10								
HFS	**Hagfors**	**11.18**	**180**	Pn		**Pn**	**19 24 01.4**	**-0.7**
HFS	**Hagfors**	**11.18**	**180**	*eP*		**Pn**	**19 24 01.4**	**-0.7**
HFS	**Hagfors**	**11.18**	**180**	P		**Pn**	**19 24 01.4**	**-0.8**

CSEM ***20*** *19:25:01.7±0.4, 50°.19N×18°.61E, h1km, Error ellipse: s-maj=10.6km s-min=6.3km az=140.0*
PRU ***20*** *19:25:06.3, 50°.11N×18°.34E, h0km*

WAR 20 19:25:05.0, 50°.09N×18°.44E, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**268**	*eP*g		Pg	19 25 09.0	+0.9
RAC				*eS*g		Sg	19 25 12.2	+2.1
OKC	**Ostrava-Krasne**	**0.32**	**217**	*eP*G		Pg	19 25 11.5	+0.5
OKC				*eS*G		Sg	19 25 16.0	+0.9
11nm,0.4s								
OKC	**Ostrava-Krasne**	**0.32**	**217**	Pg		Pg	19 25 11.5	+0.5
OKC				Sg		Sg	19 25 16.0	+0.9
11nm,0.4s								
MORC	**Moravsky Berou**	**0.66**	**242**	‖*iP*		Sg	19 25 27.0	+0.8
MORC	**Moravsky Berou**	**0.66**	**242**	*eP*g		Pg	19 25 17.8	+0.2
MORC				*eS*g		Sg	19 25 26.9	+0.7
DPC	**Dobruska-Polom**	**1.39**	**282**	*eP*G		Pg	19 25 30.6	-1.0
DPC				*eS*G		Sg	19 25 48.8	-0.7
6.9nm,0.4s								
DPC	**Dobruska-Polom**	**1.39**	**282**	Pg		Pg	19 25 30.6	-1.0
DPC				Sg		Sg	19 25 48.8	-0.7
6.9nm,0.4s								
VRAC	**Vranov**	**1.43**	**238**	*eP*g		Pg	19 25 32.0	-0.4
VRAC				*eS*g		Sg	19 25 50.4	-0.6
UPC	**Upice**	**1.61**	**286**	*eS*G		Sg	19 25 56.8	0.0
UPC	**Upice**	**1.61**	**286**	Sg		Sg	19 25 56.8	0.0
PRU	**Pruhonice**	**2.52**	**269**	*eS*G		Sg	19 26 23.3	-2.5
PRU	**Pruhonice**	**2.52**	**269**	Sg		Sg	19 26 23.3	-2.5
KHC	**Kasperske Hory**	**3.31**	**255**	*eS*G		Sg	19 26 48.9	-2.2
KHC	**Kasperske Hory**	**3.31**	**255**	Sg		Sg	19 26 48.9	-2.2

NIED ***20*** *19:40:00, 36°.70N×142°.30E, h17km, Mw3.9 Best double couple: M0=7.79000×10^14 NP1:φs=19.00000°, δ64.00000°, λ79.00000°. NP2:φs=224.00000°, δ28.00000°, λ112.00000°.*
JMA ***20*** *19:40:27.5±0.3, 36°.66N×142°.25E, h34km, M3.8*
IDC ***20*** *19:40:33.4±0.9, 36°.98N×140°.94E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/22, mbtmp3.6/8, Error ellipse: s-maj=26.1km s-min=21.1km az=93.0*
NEIC ***20*** *19:40:39.6±1.8, 37°.21N×141°.19E, h54km±15km, mb4.2/6, Error ellipse: s-maj=20.7km s-min=13.4km az=129.0*

ISC 20 19:40:37.6±1.4, 37°.09N±0°.08×141°.5E±0°.2, h53km±8km, n39, σ1§28/48, mb3.7/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.59**	**272**	P		**Pn**	**19 40 49.1**	**-0.9**
ONAJ				S		**Sn**	**19 41 06.5**	**+7.5**
JFK	**Kawauchi**	**0.59**	**298**	P		**Pn**	**19 40 50.0**	**-0.1**
JFK				S		**Sn**	**19 41 06.4**	**+7.2**
JHO	**Hitachi**	**0.91**	**239**	P		**Pn**	**19 40 50.6**	**-3.5**
JMM	**Marumori**	**0.97**	**323**	P		**Pn**	**19 40 55.3**	**+0.3**
JMM				S		**Sn**	**19 41 15.1**	**+7.2**
JFT	**Otama**	**1.04**	**295**	P		**Pn**	**19 40 57.1**	**+1.2**
JIO	**Ouri**	**1.37**	**354**	P		**Pn**	**19 40 59.1**	**-1.3**
JIO				S		**Sn**	**19 41 22.8**	**+5.4**
JOU	**Okura**	**1.45**	**332**	P		**Pn**	**19 41 02.8**	**+1.4**
JFY	**Yanaizu**	**1.49**	**283**	P		**Pn**	**19 41 03.1**	**+1.1**
JYS	**Shiratake**	**1.62**	**315**	P		**Pn**	**19 41 05.3**	**+1.5**
JYS				S		**Sn**	**19 41 32.7**	**+9.2**
JAG	**Ashikaga**	**1.79**	**249**	P		**Pn**	**19 41 03.3**	**-2.8**
JAG				S		**Sn**	**19 41 30.7**	**+2.9**
MJAR	**Matsushiro Arr**	**2.72**	**259**	Pn		**Pn**	**19 41 18.4**	**-0.4**
7.7nm,0.3s,baz=99,slow=28,SNR=19								
MJAR				Sn		**Sn**	**19 41 57.5**	**+7.0**
3.6nm,0.3s,baz=126,slow=8.3,SNR=4.5								
MJAR	**Matsushiro Arr**	**2.72**	**259**	Pn		**Pn**	**19 41 18.4**	**-0.4**
MJAR				Sn		**Sn**	**19 41 57.5**	**+7.0**
MAJO	**Matsushiro**	**2.72**	**259**	*eP*n		**Pn**	**19 41 18.9**	**+0.1**
MAT	**Matsushiro**	**2.72**	**259**	P		**Pn**	**19 41 19.0**	**+0.2**
MAT				S		**Sn**	**19 41 56.7**	**+6.2**
ASAJ	**Asahikawa**	**7.07**	**6**	Pn		**Pn**	**19 42 16.9**	**-1.4**
0

0.9nm,0.6s,mb3.5,baz=99,slow=7.7,SNR=11
WRA Warramunga Arr 34.20 165 P **P 19 56 34.4 -1.5**
0.3nm,0.6s,mb3.4,baz=346,slow=9.4,SNR=2.9
ASAR Alice Springs 37.68 167 P **P 19 57 05.5 -0.2**
0.6nm,0.7s,mb3.4,baz=341,slow=6.2,SNR=11
SONM Songino Array 37.87 339 P **P 19 57 07.8 +0.8**
0.5nm,0.8s,mb3.3,baz=141,slow=9.6,SNR=4.1
STKA Stephens Creek 47.55 161 P **P 19 58 25.6 -0.1**
2.8nm,1.1s,mb4.2,baz=39,slow=4.2,SNR=3.4
MKAR Makanchi Array 49.07 322 P **P 19 58 37.5 +0.2**
0.4nm,0.7s,mb3.6,baz=110,slow=9.3,SNR=3.3

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*IDC **20** 19:49:53.1±2.9,32°.76S×72°.01W,h0km,mb4.0/1,*
mb1 3.7/3,mb1mx3.6/13,mbtmp3.6/3,ML3.8/2,MS3.2/1,
Ms1 3.3/1,ms1mx2.8/23,Error ellipse: s-maj=79.5km
s-min=70.7km az=126.0
*ISCJB **20** 19:49:58.2±1.2,32°.53S±0°.04×71°.96W±0°.08,h21km±7km,*
Error ellipse: s-maj=12.0km s-min=5.5km az=157.4
*GUC **20** 19:49:58.7±0.7,32°.54S×71°.92W,h13km±5km,MD4.2,*
ML4.1
ISC 20 19:49:58.3±1.2,32°.54S±0°.04×71°.92W±0°.07,h14km±6km,
n22,σ0°87/34,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.41**	**90**	*e*P	**Pg**	**19 50 07.5**	**+1.1**
CHNG	**Los Chungos**	**0.74**	**29**	⇓*i*P	**Pg**	**19 50 13.0**	**+0.3**
CHNG				*e*S	**Sg**	**19 50 22.9**	**+0.4**
ROCH	**El Roble**	**0.88**	**120**	⇓*i*P	**Pg**	**19 50 14.9**	**-0.4**
ROCH				*e*S	**Sg**	**19 50 26.1**	**-0.8**
PTCH	**Petorca**	**0.88**	**72**	⇓*i*P	**Pg**	**19 50 15.0**	**-0.3**
PTCH				*i* S	**Sg**	**19 50 27.1**	**+0.3**
JACH	**Jahuel**	**1.13**	**98**	⇑*i*P	**Pb**	**19 50 18.6**	**-0.9**
PEL	**Peldehue**	**1.20**	**121**	⇑*i*P	**Pn**	**19 50 20.2**	**-0.4**
PEL				*e*S	**Sb**	**19 50 36.1**	**0.0**
PEL				AML	AML	19 50 37.5	
comp=E,13μm,0.3s
RCDM	**Rinconada Maip**	**1.33**	**136**	*e*P	**Pn**	**19 50 22.0**	**-0.4**
RCDM				*e*S	**Sb**	**19 50 39.5**	**-0.5**
SAN	**Santiago**	**1.40**	**131**	*e*P	**Pn**	**19 50 23.1**	**-0.2**
SAN				*e*S	**Sn**	**19 50 41.1**	**-0.4**
CLCH	**Cerro Calan**	**1.44**	**127**	⇓*e*P	**Pn**	**19 50 23.9**	**-0.1**
CLCH				*e*S	**Sn**	**19 50 42.9**	**+0.2**
CLCH				AML	AML	19 50 44.9	
comp=N,4μm,0.6s
LNV	**Longovilo**	**1.48**	**163**	*e*P	**Pn**	**19 50 24.0**	**-0.5**
ANTU	**Antumapu**	**1.49**	**134**	*e*P	**Pn**	**19 50 24.8**	**+0.2**
ANTU				*e*S	**Sn**	**19 50 44.4**	**+0.5**
ANTU				AML	AML	19 50 49.4	
comp=E,4μm,0.4s
FSR	**Penalolen**	**1.50**	**129**	*e*P	**Pn**	**19 50 24.4**	**-0.3**
FSR				*e*S	**Sn**	**19 50 44.2**	**+0.1**
FCH	**Farellones**	**1.58**	**120**	*e*P	**Pn**	**19 50 22.9**	**-2.9**
FCH				*e*S	**Sn**	**19 50 44.6**	**-1.4**
FCH				AML	AML	19 50 46.3	
comp=E,3μm,0.2s
PCH	**Pirque**	**1.60**	**133**	⇑*i*P	**Pn**	**19 50 26.3**	**+0.2**
PCH				*i* S	**Sn**	**19 50 47.9**	**+1.3**
SJCH	**San Jose de Ma**	**1.71**	**130**	*e*P	**Pn**	**19 50 28.1**	**+0.4**
SJCH				*i* S	**Sn**	**19 50 51.1**	**+0.8**
CACH	**El Canelo**	**1.92**	**145**	⇑*e*P	**Pn**	**19 50 32.1**	**+1.5**
LMEL	**Las Melosas**	**1.94**	**133**	*e*P	**Pn**	**19 50 32.0**	**+1.1**
LMEL				*e*S	**Sn**	**19 50 56.6**	**+1.6**
LMEL				AML	AML	19 51 01.9	
comp=N,2μm,0.2s
OVCH	**Ovalle**	**2.02**	**18**	*e*P	**Pn**	**19 50 33.1**	**+1.2**
OVCH				AML	AML	19 51 06.1	
comp=N,2μm,0.4s
CPUP	**Villa Florida**	**14.13**	**68**	Pn	**Pn**	**19 53 17.0**	**-1.0**
comp=N,0.1nm,0.3s,baz=232,slow=17,SNR=2.0
LPAZ	**La Paz**	**16.54**	**13**	Pn	**Pn**	**19 53 50.0**	**0.0**
comp=N,0.1nm,0.3s,baz=192,slow=9.4,SNR=6.0
LPAZ				LR	LR	20 00 31.8	
comp=N,75nm,20.3s,baz=280,slow=38
TORD	**Torodi Ar. Bea**	**83.62**	**70**	P	**P**	**20 02 24.4**	**-2.2**
comp=N,1.0nm,0.7s,baz=236,slow=6.4,SNR=7.6
ZALV	**Zalesovo Beam**	**152.93**	**31**	PKPbc	PKPbc	20 09 52.4	-2.2
comp=N,0.6nm,0.7s,baz=306,slow=5.3,SNR=3.8

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*ISCJB **20** 19:52:25.5±0.6,50°.33N±0°.04×18°.82E±0°.03,h0km,Error*
ellipse: s-maj=6.1km s-min=2.8km az=12.9
*CSEM **20** 19:52:26.5±0.3,50°.33N×18°.82E,h2km,ML2.8/4,Error*
ellipse: s-maj=7.6km s-min=3.3km az=6.0
*IPEC **20** 19:52:26.2±0.2,50°.35N×18°.87E,h0km,ML1.7/3,Error*
ellipse: s-maj=2.5km s-min=1.1km az=170.0
*WAR **20** 19:52:26.2,50°.35N×18°.88E*
*PRU **20** 19:52:27.2,50°.33N×18°.78E,h0km*
ISC 20 19:52:26.5±0.6,50°.32N±0°.04×18°.81E±0°.03,h0km,n31,
σ1°13/48,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.64**	**221**	*e*PG	**Pg**	**19 52 39.1**	**+0.3**
OKC				*e*SG	**Sg**	**19 52 46.7**	**-0.4**
10.0nm,0.1s
OKC	**Ostrava-Krasne**	**0.64**	**221**	Pg	**Pg**	**19 52 39.1**	**+0.3**
OKC				Sg	**Sg**	**19 52 46.7**	**-0.4**
10.0nm,0.1s
OJC	**Ojcow**	**0.65**	**99**	*e*Pg	**Pg**	**19 52 38.4**	**-0.5**
OJC				*e*Sg	**Sg**	**19 52 47.4**	**+0.2**
OJC	**Ojcow**	**0.65**	**99**	*e*Pg	**Pg**	**19 52 37.9**	**-1.0**
baz=283
OJC				*e*Sg	**Sg**	**19 52 47.4**	**+0.2**
MORC	**Moravsky Berou**	**0.98**	**237**	*e*Pg	**Pg**	**19 52 45.5**	**+0.3**
baz=56
MORC				*e*Sg	**Sg**	**19 52 58.9**	**+1.0**
18nm,0.3s,baz=56
KRLC	**Kraliky**	**1.32**	**260**	*e*SG	**Sg**	**19 53 08.9**	**-0.1**
KRLC	**Kraliky**	**1.32**	**260**	Sg	**Sg**	**19 53 08.9**	**-0.1**
NIE	**Niedzica**	**1.33**	**132**	*e*Pg	**Pg**	**19 52 51.2**	**-0.8**
NIE				*e*Sg	**Sg**	**19 53 09.9**	**+0.7**
NIE	**Niedzica**	**1.33**	**132**	*e*Pg	**Pg**	**19 52 51.2**	**-0.8**
NIE				*e*Sg	**Sg**	**19 53 09.9**	**+0.7**
DPC	**Dobruska-Polom**	**1.59**	**272**	*e*PG	**Pn**	**19 52 55.5**	**-0.4**
DPC				*e*SG	**Sn**	**19 53 16.9**	**-0.2**
6.2nm,0.3s
DPC	**Dobruska-Polom**	**1.59**	**272**	Pg	**Pn**	**19 52 55.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.59**	**272**	*e*Pn	**Pn**	**19 52 56.3**	**+0.4**
baz=89
DPC				*e*Sg	**Sn**	**19 53 17.4**	**+0.3**
baz=89
KSP	**Ksiaz**	**1.69**	**289**	*e*Pg	**Pg**	**19 52 58.3**	**-0.5**
KSP				*e*Sg	**Sg**	**19 53 20.9**	**+0.3**
VRAC	**Vranov**	**1.75**	**236**	*e*Pn	**Pn**	**19 52 58.9**	**+0.8**
baz=54
VRAC				*e*Sg	**Sn**	**19 53 22.8**	**+1.7**
6.0nm,0.2s,baz=54
KOLL	**Kolacno**	**1.76**	**189**	*e*SN	**Sn**	**19 53 21.2**	**-0.1**
KOLL	**Kolacno**	**1.76**	**189**	*e*Sn	**Sn**	**19 53 21.2**	**-0.1**
UPC	**Upice**	**1.80**	**277**	*e*SG	**Sg**	**19 53 24.2**	**0.0**
UPC	**Upice**	**1.80**	**277**	Sg	**Sg**	**19 53 24.2**	**0.0**
STHS	**Stebnicka Huta**	**1.82**	**119**	*e*PN	**Pn**	**19 53 00.1**	**+1.1**
STHS	**Stebnicka Huta**	**1.82**	**119**	*e*Pn	**Pn**	**19 53 00.1**	**+1.1**
VYHS	**Vyhne**	**1.83**	**179**	*e*PN	**Pn**	**19 52 58.8**	**-0.3**
VYHS				*e*SN	**Sn**	**19 53 21.5**	**-1.4**
VYHS	**Vyhne**	**1.83**	**179**	*e*Pn	**Pn**	**19 52 58.9**	**-0.2**
VYHS				*e*Sn	**Sn**	**19 53 21.5**	**-1.4**
KRUC	**Moravsky**	**2.01**	**232**	*e*Sn	**Sn**	**19 53 29.5**	**+2.1**
3.4nm,0.2s,baz=50
KECS	**Kecovo**	**2.14**	**149**	*e*SN	**Sn**	**19 53 28.4**	**-2.3**
KECS	**Kecovo**	**2.14**	**149**	*e*Sn	**Sn**	**19 53 28.4**	**-2.3**
CRVS	**Cervenica-Dubn**	**2.24**	**128**	*e*PN	**Pg**	**19 53 07.8**	**-1.5**
CRVS				*e*SG	**Sg**	**19 53 40.0**	**+1.7**
CRVS	**Cervenica-Dubn**	**2.24**	**128**	*e*Pn	**Pg**	**19 53 07.8**	**-1.5**
CRVS				*e*Sg	**Sg**	**19 53 40.1**	**+1.8**
PRU	**Pruhonice**	**2.76**	**265**	*e*SG	**Sg**	**19 53 53.0**	**-2.2**
PRU	**Pruhonice**	**2.76**	**265**	Sg	**Sg**	**19 53 53.0**	**-2.2**
KHC	**Kasperske Hory**	**3.59**	**253**	*e*PN	**Pn**	**19 53 25.0**	**+1.6**
KHC				*ex*	x	19 53 37.0	
KHC				*ex*	x	19 54 00.0	
KHC				*e*SG	**Sg**	**19 54 19.5**	**-2.4**
4.9nm,0.6s
KHC	**Kasperske Hory**	**3.59**	**253**	Pn	**Pn**	**19 53 25.0**	**+1.6**
KHC				Sg	**Sg**	**19 54 19.5**	**-2.4**
4.9nm,0.6s

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*ISCJB **20** 19:56:42.2±0.9,21°.27S±0°.07×67°.7W±0°.1,h124km±13km,*
mb4.0/4,Error ellipse: s-maj=19.2km s-min=9.4km
az=26.8
*IDC **20** 19:56:43.8±2.3,21°.19S×67°.77W,h127km±23km,mb3.7/4,*
mb1 3.6/7,mb1mx3.4/18,mbtmp3.6/7,Error ellipse:
s-maj=26.8km s-min=18.0km az=113.0
*NEIC **20** 19:56:43.0±0.7,21°.18S×67°.89W,h124km±7km,Error*
ellipse: s-maj=20.3km s-min=8.4km az=115.0
ISC 20 19:56:43.4±0.9,21°.28S±0°.07×67°.7W±0°.1,h116km±12km,
n21,σ0°47/20,mb4.0/4,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.73**	**220**	*e*Pn	**Pn**	**19 57 13.2**	**-0.2**
LVC				*e*Sn	**Sn**	**19 57 31.1**	**-5.1**
LPAZ	**La Paz**	**4.98**	**355**	P	**Pn**	**19 57 55.7**	**-0.4**
1.7nm,0.3s,baz=184,slow=5.8,SNR=28
LPAZ				S	**Sn**	**19 58 52.9**	**+0.4**
0.2nm,0.3s,baz=5.6,slow=7.4,SNR=1.7
LPAZ	**La Paz**	**4.98**	**355**	*e*Pn	**Pn**	**19 57 55.4**	**-0.7**
LPAZ				S	**Sn**	**19 58 52.9**	**+0.4**
SIV	**San Ignacio**	**8.20**	**51**	P	**Pn**	**19 58 40.3**	**+0.6**
3.0nm,0.3s,baz=254,slow=14,SNR=61
SIV				S	**Sn**	**20 00 10.5**	**-0.1**
0.1nm,0.3s,baz=296,slow=22,SNR=3.3
SIV	**San Ignacio**	**8.20**	**51**	P	**Pn**	**19 58 40.3**	**+0.6**
SIV				S	**Sn**	**20 00 10.5**	**-0.1**
PLCA	**Paso Flores**	**19.55**	**186**	P	**P**	**20 01 01.9**	**0.0**
0.2nm,0.3s,baz=348,slow=10,SNR=3.9
PLCA	**Paso Flores**	**19.55**	**186**	P	**P**	**20 01 01.9**	**0.0**
SNAA	**Sanae**	**62.13**	**161**	P	**P**	**20 06 51.6**	**-0.1**
0.4nm,0.9s,mb3.4,baz=256,slow=12,SNR=3.8
SNAA	**Sanae**	**62.13**	**161**	P	**P**	**20 06 51.6**	**-0.1**
DBIC	**Dimbokro**	**67.60**	**73**	P	**P**	**20 07 27.5**	**-0.6**
3.3nm,0.8s,mb4.2,baz=207,slow=5.6,SNR=6.5
DBIC	**Dimbokro**	**67.60**	**73**	P	**P**	**20 07 27.5**	**-0.6**
QSPA	**South Pole Qui**	**68.92**	**180**	P	**P**	**20 07 36.1**	**+0.9**
0.9nm,0.5s,mb3.9,baz=328,slow=1.6,SNR=11
QSPA	**South Pole Qui**	**68.92**	**180**	P	**P**	**20 07 36.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**76.23**	**70**	P	**P**	**20 08 19.4**	**-0.3**
4.0nm,0.7s,mb4.3,baz=254,slow=5.5,SNR=27
TORD	**Torodi Ar. Bea**	**76.23**	**70**	P	**P**	**20 08 19.4**	**-0.3**
ASAR	**Alice Springs**	**130.62**	**206**	PKP	PKPdf	20 15 39.6	-1.7
0.1nm,0.5s,baz=123,slow=1.5,SNR=2.8
ASAR	**Alice Springs**	**130.62**	**206**	PKP	PKPdf	20 15 39.6	-1.7
WRA	**Warramunga Arr**	**133.70**	**209**	PKP	PKPdf	20 15 45.6	-1.6
0.2nm,0.4s,baz=161,slow=1.7,SNR=3.7
WRA	**Warramunga Arr**	**133.70**	**209**	PKP	PKPdf	20 15 45.6	-1.6
MKAR	**Makanchi Array**	**144.79**	**37**	PKP	PKPdf	20 16 04.4	-2.1
0.6nm,0.7s,baz=354,slow=3.0,SNR=5.3
MKAR	**Makanchi Array**	**144.79**	**37**	PKP	PKPdf	20 16 04.4	-2.1

IDC 20 19:59:07.2±8.0,30°.76S×177°.16W,h0km,mb3.5/2,
mb1 3.7/2,mb1mx3.6/16,mbtmp3.5/2,MS3.9/1,Ms1 3.8/1,
ms1mx3.0/20,Error ellipse: s-maj=345.8km
s-min=56.6km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.11**	**257**	LR	LR	20 18 16.6	
comp=Z,186nm,19.1s,baz=24,slow=33
ASAR	**Alice Springs**	**43.82**	**267**	P	P	20 07 15.1	0.0
0.2nm,0.8s,baz=109,slow=7.7,SNR=4.2
WRA	**Warramunga Arr**	**44.84**	**272**	P	P	20 07 23.2	-0.1
0.5nm,0.3s,baz=111,slow=8.1,SNR=13
FINES	**FINESS Array B**	**145.73**	**340**	PKPbc	PKPbc	20 18 46.5	-0.9
4.0nm,1.0s,baz=64,slow=3.2,SNR=2.4

JMA 20 20:12:02.9±0.2,43°.47N×147°.85E,h14km,M3.5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.54**	**267**	P	Pn	20 12 30.4	+0.5
NEM2				*e*S	Sn	20 12 49.9	+0.2
JRA	**Rausu**	**2.03**	**284**	P	Pn	20 12 37.3	+0.6
JNK	**Nakash**	**2.28**	**274**	P	Pn	20 12 40.8	+0.7
JNK				*e*S	Sn	20 13 08.8	+0.9
JAK	**Akkeshi**	**2.35**	**259**	P	Pn	20 12 42.1	+1.0
JAK				*e*S	Sn	20 13 11.0	+1.3
JAR	**Ashorobuto**	**2.98**	**268**	P	Pn	20 12 51.4	+1.7
JAR				*e*S	Sn	20 13 27.0	+1.8
JOB	**Onbets**	**2.99**	**260**	*e*S	Sn	20 13 27.1	+1.6
JCH	**Churui**	**3.40**	**257**	*e*S	Sn	20 13 36.3	+0.8
JKB	**Kayabe**	**5.27**	**255**	*e*S	Sn	20 14 20.6	-1.0

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*IDC **20** 20:18:04.2±0.7,9°.02N×126°.96E,h0km,mb3.9/12,*
mb1 4.0/13,mb1mx3.9/22,mbtmp3.9/13,ML3.8/1,MS3.0/2,
Ms1 3.0/2,ms1mx2.8/33,Error ellipse: s-maj=21.4km
s-min=12.0km az=90.0
*MAN **20** 20:18:08,8°.90N×126°.86E,h26km,mb4.9,ML3.9,MS3.9*
MAN INTENSITY I - SURIGAO CITY.
*ISCJB **20** 20:18:09.6±0.9,8°.96N±0°.04×126°.83E±0°.06,h58km±8km,*
mb4.0/20,Error ellipse: s-maj=10.3km s-min=6.4km
az=170.1
*NEIC **20** 20:18:12.5±1.6,8°.91N×126°.71E,h68km±15km,mb4.6/7,*
Error ellipse: s-maj=15.2km s-min=6.5km az=56.0
NEIC Felt [I PIVS] at Surigao.
ISC 20 20:18:11.2±0.9,8°.94N±0°.04×126°.80E±0°.07,h54km±8km,
n66,σ1°01/70,mb4.0/20,3C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.16**	**271**	*e*P	**Pn**	**20 18 28.7**	**-2.5**
BUTP				*e*S	**Sn**	**20 18 43.4**	**-2.6**
BUKP	**Musuan**	**2.01**	**239**	*e*P	**Pn**	**20 18 42.7**	**-0.1**
BUKP				*e*S	**Sn**	**20 19 06.8**	**0.0**
MATI	**Mati**	**2.05**	**195**	*e*P	**Pn**	**20 18 41.1**	**-2.2**
CGP	**Cagayan de Oro**	**2.13**	**257**	⇑*i*P	**Pn**	**20 18 43.4**	**-0.9**
CGP				*i* S	**Sn**	**20 19 09.8**	**+0.1**
DAV	**Davao City (W)**	**2.21**	**213**	Pn	**Pn**	**20 18 46.5**	**+1.0**
25nm,0.3s,baz=64,slow=7.6,SNR=18
DAV				Lg		20 19 20.3	
73nm,0.3s,baz=89,slow=18,SNR=5.9
DAV	**Davao City (W)**	**2.21**	**213**	*e*Pn	**Pn**	**20 18 46.1**	**+0.5**
DAV				*e*Sn	**Sn**	**20 19 14.6**	**+2.8**
DAV				Lg		20 19 20.3	
MSLP	**Maasin**	**2.25**	**302**	*e*P	**Pn**	**20 18 46.4**	**+0.5**
PLP	**Palo**	**2.84**	**321**	*e*S	**Sn**	**20 19 24.7**	**-2.4**
TBP	**Tagbilaran**	**2.99**	**285**	*e*P	**Pn**	**20 18 56.7**	**+0.6**
OCLP	**Ormoc**	**3.00**	**314**	*e*P	**Pn**	**20 18 57.2**	**+0.9**
CTBH	**Cotabato--PC H**	**3.05**	**236**	⇓*e*P	**Pn**	**20 18 55.8**	**-1.2**
SNPH	**Sibulan**	**3.54**	**277**	⇓*e*P	**Pn**	**20 19 04.9**	**+1.2**
SNPH				*e*S	**Sn**	**20 19 46.2**	**+2.0**
PAGZ	**Pagadian**	**3.55**	**252**	*e*P	**Pn**	**20 19 04.6**	**+0.9**
CNP	**Cataman**	**4.12**	**330**	*e*P	**Pn**	**20 19 11.4**	**-0.2**
GUIM	**Jordan**	**4.47**	**292**	*e*P	**Pn**	**20 19 17.3**	**+0.9**
RCP	**Roxas**	**4.76**	**303**	⇑*e*P	**Pn**	**20 19 21.2**	**+0.7**
PVCP	**Virac**	**5.30**	**331**	*e*P	**Pn**	**20 19 28.6**	**+0.7**
ENPP	**El Nido**	**7.60**	**288**	*e*P	**Pn**	**20 19 55.4**	**-4.0**
GUMO	**Guam**	**18.31**	**74**	LR	LR	20 27 58.3	
comp=Z,68nm,21.1s,baz=234,slow=33
FITZ	**Fitzroy Crossi**	**26.89**	**182**	P	**P**	**20 23 47.0**	**-0.3**
3.1nm,0.7s,mb3.9,baz=37,slow=6.8,SNR=7.6
FITZ	**Fitzroy Crossi**	**26.89**	**182**	P	**P**	**20 23 47.0**	**-0.3**
KSAR	**Wonju Array Be**	**28.39**	**2**	P	**P**	**20 24 00.2**	**-0.2**
KSRS	**Korea Array**	**28.40**	**2**	P	**P**	**20 24 00.2**	**-0.3**
1.0nm,0.7s,mb3.5,baz=182,slow=9.8,SNR=2.9
KSRS				LR	LR	20 36 14.8	
comp=Z,27nm,19.2s,baz=350,slow=38
CMAR	**Chiang Mai Arr**	**28.63**	**292**	P	**P**	**20 24 03.8**	**+1.0**
1.2nm,0.8s,mb3.6,baz=114,slow=7.1,SNR=6.9
CMAR	**Chiang Mai Arr**	**28.63**	**292**	P	**P**	**20 24 03.8**	**+1.0**
WRA	**Warramunga Arr**	**29.65**	**166**	P	**P**	**20 24 10.6**	**-1.2**
0.5nm,0.7s,mb3.4,baz=343,slow=8.9,SNR=5.0
WRA	**Warramunga Arr**	**29.65**	**166**	P	**P**	**20 24 10.6**	**-1.2**
ASAR	**Alice Springs**	**33.14**	**168**	P	**P**	**20 24 42.7**	**+0.2**
0.5nm,0.5s,mb3.7,baz=353,slow=7.0,SNR=11
ASAR	**Alice Springs**	**33.14**	**168**	P	**P**	**20 24 42.7**	**+0.2**
CTA	**Charters Tower**	**34.63**	**147**	P	**P**	**20 24 56.2**	**+0.8**
6.3nm,1.1s,mb4.5,baz=349,slow=11,SNR=3.6
CTA	**Charters Tower**	**34.63**	**147**	P	**P**	**20 24 56.2**	**+0.8**
USRK	**Ussuriysk Arra**	**35.41**	**6**	P	**P**	**20 25 03.7**	**+1.8**
2.2nm,0.8s,mb4.1,baz=194,slow=13,SNR=3.9
LSA	**Lhasa**	**39.22**	**307**	P	**P**	**20 25 33.9**	**-0.5**
TAPN	**Taplejung**	**41.17**	**302**	*e*P	**P**	**20 25 50.3**	**-0.3**
TAPN	**Taplejung**	**41.17**	**302**	*e*P	**P**	**20 25 50.3**	**-0.3**
ODAN	**Odare**	**41.29**	**301**	*e*P	**P**	**20 25 51.2**	**-0.4**
15nm,0.7s,mb4.7
ODAN	**Odare**	**41.29**	**301**	*e*P	**P**	**20 25 51.2**	**-0.4**
15nm,0.7s,mb4.7
RAMN	**Ramite**	**41.99**	**301**	*e*P	**P**	**20 25 56.8**	**-0.5**
7.4nm,0.7s,mb4.4
RAMN	**Ramite**	**41.99**	**301**	*e*P	**P**	**20 25 56.8**	**-0.5**
7.4nm,0.7s,mb4.4
SONM	**Songino Array**	**42.44**	**340**	P	**P**	**20 26 01.5**	**+1.0**
0.2nm,0.4s,mb3.1,baz=35,slow=5.3,SNR=4.6
SONM	**Songino Array**	**42.44**	**340**	P	**P**	**20 26 01.5**	**+1.0**
JIRN	**Jiri**	**42.55**	**301**	*e*P	**P**	**20 26 02.4**	**+0.5**
JIRN	**Jiri**	**42.55**	**301**	*e*P	**P**	**20 26 02.4**	**+0.5**
GUN	**Gumba**	**42.89**	**302**	*e*P	**P**	**20 26 04.6**	**0.0**
13nm,0.7s,mb4.8
GUN	**Gumba**	**42.89**	**302**	*e*P	**P**	**20 26 04.6**	**0.0**
13nm,0.7s,mb4.8
STKA	**Stephens Creek**	**42.98**	**161**	P	**P**	**20 26 04.8**	**-0.4**
1.1nm,0.5s,mb3.9,baz=337,slow=9.6,SNR=8.2
STKA	**Stephens Creek**	**42.98**	**161**	*e*P	**P**	**20 26 04.8**	**-0.4**
0.3nm,0.5s,mb3.3
DMN	**Daman**	**43.45**	**301**	*e*P	**P**	**20 26 09.1**	**-0.1**
DMN	**Daman**	**43.45**	**301**	*e*P	**P**	**20 26 09.1**	**-0.1**
GKN	**Gorkha**	**43.97**	**301**	*e*P	**P**	**20 26 13.5**	**+0.2**
4.0nm,0.6s,mb4.3
GKN	**Gorkha**	**43.97**	**301**	*e*P	**P**	**20 26 13.5**	**+0.2**
4.0nm,0.6s,mb4.3
KOLN	**Koldanda**	**44.78**	**301**	*e*P	**P**	**20 26 19.4**	**-0.4**
9.6nm,0.7s,mb4.8
KOLN	**Koldanda**	**44.78**	**301**	*e*P	**P**	**20 26 19.4**	**-0.4**
9.6nm,0.7s,mb4.7
DANN	**Dangsing**	**44.81**	**301**	*e*P	**P**	**20 26 19.8**	**-0.2**
DANN	**Dangsing**	**44.81**	**301**	*e*P	**P**	**20 26 19.8**	**-0.2**
MKAR	**Makanchi Array**	**53.39**	**323**	P	**P**	**20 27 25.1**	**-0.2**
1.6nm,0.7s,mb4.1,baz=118,slow=8.8,SNR=12
MKAR	**Makanchi Array**	**53.39**	**323**	P	**P**	**20 27 25.1**	**-0.2**
ZALV	**Zalesovo Beam**	**56.03**	**332**	P	**P**	**20 27 43.2**	**-1.1**
0.7nm,0.6s,mb3.9,baz=104,slow=6.3,SNR=5.0
ZALV	**Zalesovo Beam**	**56.03**	**332**	P	**P**	**20 27 43.2**	**-1.1**
EKS2	**Erkin-Say**	**57.13**	**315**	P	**P**	**20 27 52.1**	**-0.2**
1.2nm,0.6s,mb4.1
KURK	**Kurchatov**	**57.45**	**326**	*e*P	**P**	**20 27 53.2**	**-1.2**
2.3nm,0.8s,mb4.3
BRVK	**Borovoye**	**63.12**	**326**	*e*P	**P**	**20 28 32.4**	**-0.8**
ILAR	**Eielson Array**	**80.40**	**26**	P	**P**	**20 30 17.1**	**+0.4**
0.3nm,0.6s,mb3.4,baz=248,slow=5.8,SNR=6.3
ILAR	**Eielson Array**	**80.40**	**26**	P	**P**	**20 30 17.1**	**+0.4**
YKA	**Yellowknife Ar**	**94.75**	**24**	P	**P**	**20 31 28.1**	**+1.5**
0.6nm,0.7s,mb4.2,baz=299,slow=4.5,SNR=11
YKA	**Yellowknife Ar**	**94.75**	**24**	P	**P**	**20 31 28.1**	**+1.5**

MAN 20 20:30:31,8°.90N×126°.81E,h18km,mb4.6,ML3.5,MS3.5,
1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.18**	**273**	*e*P	Pn	20 30 51.3	-1.2
BUKP	**Musuan**	**2.00**	**240**	*e*P	Pn	20 31 05.6	+1.6
BUKP				*e*S	Sn	20 31 31.0	+2.4
MATI	**Mati**	**2.02**	**196**	*e*P	Pn	20 31 04.3	+0.2
CGP	**Cagayan de Oro**	**2.14**

mb4.2/36, Error ellipse: s-maj=6.1km s-min=4.0km az=159.3
*DJA **20** 20:44:41, 6.98S×127.00E, h407km, mb4.7/20*
*IDC **20** 20:44:41.5±1.4, 6.94S×126.97E, h404km±15km, mb3.9/14, mb1 4.0/18, mb1mx3.9/20, mbtmp3.9/18, Error ellipse: s-maj=16.2km s-min=8.3km az=74.0*
*NEIC **20** 20:44:41.8±0.7, 6.91S×126.98E, h411km±9km, mb4.4/23, Error ellipse: s-maj=8.7km s-min=4.9km az=58.0*
ISC 20 20:44:41.8±0.4, **6.96S**±0.03×**126.99E**±0.04, **h410**km±5km, **h417**km±1.3km: **pP-P, n122**, σ1**9**05/129, **mb4.2**/35, **4C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.46**	**20**	P	**Pn**	**20 45 49.8**	**+0.1**
MSAI	**Masohi**	**4.07**	**28**	P	**Pn**	**20 45 53.6**	**-1.7**
MMRI	**Maumere**	**4.99**	**250**	P	**Pn**	**20 46 03.9**	**-0.4**
0.7nm3μm215nm,0.9s							
TLE	**Tual**	**5.86**	**77**	P	**Pn**	**20 46 13.4**	**0.0**
6.1nm1μm,0.8s							
LBMI	**Labuha**	**6.30**	**5**	P	**Pn**	**20 46 17.9**	**-0.2**
0.8nm2μm210nm,0.8s							
FAKI	**Fak Fak**	**6.60**	**53**	P	**Pn**	**20 46 18.8**	**-2.6**
1.4nm4μm137nm,0.7s							
BKSI	**Bulukumba**	**7.02**	**283**	P	**Pn**	**20 46 25.8**	**-0.2**
26nm,0.9s							
WSI	**Waingapu**	**7.15**	**247**	P	**P**	**20 46 36.4**	**+8.9**
KAPI	**Kappang**	**7.45**	**285**	P	**P**	**20 46 28.6**	**-2.3**
0.6nm,0.3s,baz=88,slow=12,SNR=5.9							
KAPI	**Kappang**	**7.45**	**285**	P	**P**	**20 46 28.6**	**-2.3**
GTOI	**Gorontalo**	**8.52**	**332**	P	**P**	**20 46 45.2**	**+2.4**
0.2nm68nm,0.8s							
MRSI	**Marisa**	**8.94**	**326**	P	**P**	**20 46 47.7**	**+0.3**
318nm36nm,1.0s							
BAKI	**Biak**	**10.74**	**58**	P	**P**	**20 47 09.2**	**+1.8**
138nm,1.1s							
FITZ	**Fitzroy Crossi**	**11.16**	**187**	P	**P**	**20 47 12.7**	**+0.8**
2.5nm,0.3s,baz=21,slow=7.3,SNR=34							
FITZ	**Fitzroy Crossi**	**11.16**	**187**	*e*P	**P**	**20 47 12.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.16**	**187**	*e*P	**P**	**20 47 12.4**	**+0.5**
14nm,0.6s							
FITZ				P		20 47 12.7	
FITZ				*e*S	**S**	**20 49 13.9**	**-1.9**
BBKI	**Banjar Baru**	**12.58**	**285**	P	**P**	**20 47 30.7**	**+3.0**
2μm73nm,0.9s							
BLJI	**Banyuglugur**	**13.31**	**266**	P	**P**	**20 47 37.3**	**+1.7**
66nm,0.7s							
JAY	**Jayapura**	**14.36**	**73**	P	**P**	**20 47 47.8**	**+0.7**
41nm,0.6s							
WRAB	**Tennant Creek**	**14.75**	**152**	*e*P	**P**	**20 47 51.4**	**+0.2**
8.7nm,0.4s							
WRAB				*e*S	**S**	**20 50 25.9**	**-1.9**
WRAB	**Tennant Creek**	**14.75**	**152**	P	**P**	**20 47 51.8**	**+0.6**
41nm,0.8s							
WRA	**Warramunga Arr**	**14.75**	**152**	P	**P**	**20 47 51.5**	**+0.3**
4.8nm,0.3s,baz=326,slow=11,SNR=168							
WRA				S	**S**	**20 50 25.5**	**-2.5**
2.1nm,0.3s,baz=331,slow=20,SNR=8.0							
WRA	**Warramunga Arr**	**14.75**	**152**	P	**P**	**20 47 51.5**	**+0.3**
WRA				S	**S**	**20 50 25.5**	**-2.5**
MBWA	**Marble Bar**	**15.77**	**206**	*e*P	**P**	**20 48 02.6**	**+0.4**
MBWA	**Marble Bar**	**15.77**	**206**	⇑*e*P	**P**	**20 48 02.3**	**+0.1**
81nm,1.0s							
MBWA				*e*S	**S**	**20 50 45.9**	**-2.1**
MBWA	**Marble Bar**	**15.77**	**206**	P	**P**	**20 48 02.6**	**+0.4**
106nm,1.1s							
KKM	**Kota Kinabalu**	**16.80**	**320**	P	**P**	**20 48 15.3**	**+2.0**
COEN	**Coen**	**17.36**	**115**	*e*P	**P**	**20 48 19.4**	**+0.1**
COEN	**Coen**	**17.36**	**115**	*e*P	**P**	**20 48 19.4**	**+0.1**
30nm,0.4s							
COEN				*e*S	**S**	**20 51 17.4**	**-1.8**
AS31	**Alice Springs**	**17.89**	**159**	*e*P	**P**	**20 48 25.4**	**+0.6**
AS31				*e*S	**S**	**20 51 29.5**	**+0.4**
ASAR	**Alice Springs**	**17.89**	**159**	P	**P**	**20 48 25.5**	**+0.7**
12nm,0.3s,baz=336,slow=9.4,SNR=501							
ASAR				S	**S**	**20 51 28.4**	**-0.7**
0.9nm,0.3s,baz=331,slow=16,SNR=7.1							
ASAR	**Alice Springs**	**17.89**	**159**	P	**P**	**20 48 25.5**	**+0.7**
ASAR				S	**S**	**20 51 28.4**	**-0.7**
QIS	**Mount Isa**	**18.23**	**139**	*e*P	**P**	**20 48 28.5**	**+0.2**
CISI	**Cisompet, Garu**	**19.03**	**267**	P	**P**	**20 48 36.0**	**-0.8**
1μm166nm,1.0s							
LEM	**Lemband**	**19.23**	**269**	P	**P**	**20 48 39.2**	**+0.5**
96nm,0.9s							
CBJI	**Citeko**	**20.01**	**270**	P	**P**	**20 48 44.6**	**-1.2**
271nm,0.9s							
PMG	**Port Moresby**	**20.11**	**98**	P	**P**	**20 48 47.7**	**+0.9**
20nm,0.9s,baz=285,slow=2.8,SNR=6.0							
PMG	**Port Moresby**	**20.11**	**98**	*e*P	**P**	**20 48 46.6**	**-0.2**
27nm,1.3s							
PMG				P		20 48 47.7	
PMG	**Port Moresby**	**20.11**	**98**	P	**P**	**20 48 48.3**	**+1.5**
29nm,1.4s							
MEEK	**Meekatharra**	**21.14**	**201**	*e*P	**P**	**20 48 56.1**	**+0.2**
CTAO	**Charters Tower**	**22.80**	**127**	*e*P	**P**	**20 49 11.9**	**+0.8**
9.7nm,1.2s,mb4.1							
FORT	**Forrest**	**23.72**	**178**	*e*P	**P**	**20 49 19.7**	**+0.4**
MORW	**Morawa**	**24.30**	**204**	*e*P	**P**	**20 49 24.6**	**+0.1**
BBOO	**Buckleboo**	**27.07**	**163**	*e*P	**P**	**20 49 50.0**	**+0.9**
BBOO	**Buckleboo**	**27.07**	**163**	⇑*e*P	**P**	**20 49 49.4**	**+0.3**
300nm,0.7s							
NWAO	**Narrogin (SRO)**	**27.39**	**198**	P	**P**	**20 49 52.6**	**+0.8**
36nm,0.6s,mb5.0,baz=36,slow=7.7,SNR=28							
NWAO	**Narrogin (SRO)**	**27.39**	**198**	*e*P	**P**	**20 49 52.5**	**+0.6**
32nm,0.7s,mb4.9							
NWAO				P		20 49 52.6	
STKA	**Stephens Creek**	**28.30**	**153**	P	**P**	**20 50 01.1**	**+1.2**
18nm,0.5s,mb4.6,baz=327,slow=8.7,SNR=100							
STKA	**Stephens Creek**	**28.30**	**153**	*e*P	**P**	**20 50 01.0**	**+1.1**
STKA	**Stephens Creek**	**28.30**	**153**	*e*P	**P**	**20 50 01.0**	**+1.1**
3.4nm,0.6s,mb3.9							
MNSI	**Mandailing Nat**	**28.41**	**285**	P	**P**	**20 50 00.9**	**-0.3**
CMSA	**Cobar Meteorol**	**30.06**	**147**	*e*P	**P**	**20 50 16.8**	**+1.4**
ARPS	**Mount Arapiles**	**32.62**	**158**	*e*P	**P**	**20 50 39.2**	**+1.7**
72nm,0.5s,mb5.3							
YNG	**Young**	**33.63**	**147**	*e*P	**P**	**20 50 48.0**	**+1.9**
TOO	**Toolangi**	**34.81**	**154**	*e*P	**P**	**20 50 58.6**	**+2.6**
CMAR	**Chiang Mai Arr**	**37.46**	**313**	P	**P**	**20 51 18.9**	**+0.5**
1.5nm,0.8s,mb3.4,baz=145,slow=7.3,SNR=12							
CMAR				ScP	ScP	20 56 36.5	+1.8
1.8nm,0.8s,baz=150,slow=3.2,SNR=13							
CMAR	**Chiang Mai Arr**	**37.46**	**313**	P	**P**	**20 51 18.9**	**+0.5**
CMAR				ScP	ScP	20 56 36.5	+1.8
CHTO	**Chiang Mai**	**37.69**	**313**	*e*P	**P**	**20 51 19.8**	**-0.5**
2.6nm,0.9s,mb3.6							
GYA	**Guiyang**	**38.63**	**330**	*e*P	**P**	**20 51 27.1**	**-0.8**
GYA				pP	pP	20 52 47.0	+1.5
GYA				PcP	PcP	20 53 30.0	-0.5
GYA				sP	sP	20 53 35.4	+3.0
GYA				ScP	ScP	20 56 37.8	-1.2
GYA				S	**S**	**20 56 55.3**	**+1.7**
GYA				ScS	ScS	21 00 48.9	-2.1
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.2							
NJ2	**Nanjing**	**39.56**	**349**	*e*P	**P**	**20 51 36.0**	**+0.6**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s,mb4.4							
ENH	**Enshi**	**40.65**	**336**	*e*P	**P**	**20 51 43.4**	**-0.9**
comp=Z,2.5nm,0.6s,mb3.7							
CD2	**Chengdu**	**43.73**	**331**	*e*P	**P**	**20 52 08.5**	**-0.3**
CD2				pP	pP	20 53 29.3	+0.8
CD2				sP	sP	20 54 14.8	-0.1
CD2				pmax	pmax		
comp=Z,20nm,0.8s,mb4.5							
CD2				pmax	pmax		
comp=Z,40nm,5.8s							
KSAR	**Wonju Array Be**	**44.17**	**1**	P	**P**	**20 52 12.6**	**+0.4**
KSRS	**Korea Array**	**44.19**	**1**	P	**P**	**20 52 12.6**	**+0.3**
comp=Z,5.8nm,0.8s,mb4.0,baz=176,slow=9.0,SNR=12							
XAN	**Xi'an**	**44.22**	**338**	P	**P**	**20 52 11.1**	**-1.5**
XAN				pmax	pmax		
comp=Z,4.0nm,0.6s,mb3.9							
MJAR	**Matsushiro Arr**	**44.53**	**13**	P	**P**	**20 52 14.0**	**-1.0**
comp=Z,21nm,0.8s,mb4.5,baz=193,slow=9.7,SNR=57							
MJAR	**Matsushiro Arr**	**44.53**	**13**	P	**P**	**20 52 14.0**	**-1.0**
MAJO	**Matsushiro**	**44.53**	**13**	*e*P	**P**	**20 52 13.7**	**-1.2**
comp=Z,28nm,0.9s,mb4.6							
MAT	**Matsushiro**	**44.53**	**13**	P	**P**	**20 52 13.5**	**-1.5**
LZH	**Lanzhou**	**48.02**	**335**	⇓P	**P**	**20 52 42.1**	**+0.3**
LZH				pP	pP	20 54 05.0	+1.7
LZH				PP	PP	20 54 40.3	+1.6
LZH				sP	sP	20 54 50.2	+1.2
LZH				pmax	pmax		
comp=Z,18nm,1.1s,mb4.3							
LZH				pmax	pmax		
comp=Z,47nm,5.6s							
LZH	**Lanzhou**	**48.02**	**335**	⇓P	**P**	**20 52 42.1**	**+0.3**
comp=Z,18nm,1.1s,mb4.3							
LZH				pP	pP	20 54 05.0	+1.7
LZH				PP	PP	20 54 40.3	+1.6
LZH				sP	sP	20 54 50.2	+1.1
LSA	**Lhasa**	**50.14**	**318**	P	**P**	**20 52 56.9**	**-0.8**
LSA	**Lhasa**	**50.14**	**318**	*e*P	**P**	**20 52 57.9**	**+0.1**
comp=Z,2.9nm,0.6s,mb3.8							
CN2	**Changchun**	**50.54**	**359**	*e*P	**P**	**20 53 02.8**	**+2.4**
TAPN	**Taplejung**	**51.06**	**314**	*e*P	**P**	**20 53 04.6**	**+0.1**
TAPN	**Taplejung**	**51.06**	**314**	*e*P	**P**	**20 53 04.6**	**+0.1**
USRK	**Ussuriysk Arra**	**51.12**	**5**	P	**P**	**20 53 04.2**	**-0.4**
comp=Z,9.9nm,0.8s,mb4.1,baz=184,slow=7.3,SNR=24							
MDJ	**Mudanjiang**	**51.39**	**2**	*e*P	**P**	**20 53 06.9**	**+0.3**
comp=Z,7.3nm,0.8s,mb4.0							
RAMN	**Ramite**	**51.63**	**312**	*e*P	**P**	**20 53 09.1**	**+0.4**
comp=Z,14nm,0.6s,mb4.4							
RAMN	**Ramite**	**51.63**	**312**	*e*P	**P**	**20 53 09.1**	**+0.4**
comp=Z,14nm,0.6s,mb4.4							
GTA	**Gaotai**	**52.55**	**334**	*e*P	**P**	**20 53 15.5**	**+0.4**
GTA				pmax	pmax		
comp=Z,12nm,1.0s,mb4.1							
GUN	**Gumba**	**52.70**	**313**	*e*P	**P**	**20 53 16.5**	**0.0**
comp=Z,9.7nm,0.6s,mb4.2							
GUN	**Gumba**	**52.70**	**313**	*e*P	**P**	**20 53 16.5**	**0.0**
comp=Z,9.7nm,0.6s,mb4.2							
DMN	**Daman**	**53.10**	**312**	*e*P	**P**	**20 53 19.6**	**+0.2**
DMN	**Daman**	**53.10**	**312**	*e*P	**P**	**20 53 19.6**	**+0.2**
GKN	**Gorkha**	**53.66**	**312**	*e*P	**P**	**20 53 23.2**	**-0.2**
GKN	**Gorkha**	**53.66**	**312**	*e*P	**P**	**20 53 23.2**	**-0.2**
KOLN	**Koldanda**	**54.30**	**311**	*e*P	**P**	**20 53 28.0**	**0.0**
comp=Z,9.4nm,0.7s,mb4.2							
KOLN	**Koldanda**	**54.30**	**311**	*e*P	**P**	**20 53 28.0**	**0.0**
comp=Z,9.4nm,0.7s,mb4.1							
HIA	**Hailar**	**56.34**	**354**	P	**P**	**20 53 41.0**	**-0.9**
ULN	**Ulaanbaatar**	**57.35**	**344**	*e*P	**P**	**20 53 49.2**	**+0.3**
SONM	**Songino Array**	**57.51**	**344**	P	**P**	**20 53 50.7**	**+0.7**
comp=Z,5.0nm,0.8s,mb3.9,baz=168,slow=7.2,SNR=36							
SONM				PcP	PcP	20 54 38.2	+0.1
comp=Z,0.9nm,0.9s,baz=164,slow=3.8,SNR=4.4							
SONM				ScP	ScP	20 57 59.2	+1.2
comp=Z,0.5nm,0.8s,baz=157,slow=2.4,SNR=5.4							
SONM	**Songino Array**	**57.51**	**344**	P	**P**	**20 53 50.7**	**+0.7**
SONM				PcP	PcP	20 54 38.2	+0.1
SONM				ScP	ScP	20 57 59.2	+1.2
WMQ	**Urumqi**	**61.76**	**329**	*e*P	**P**	**20 54 19.3**	**+0.6**
WMQ				pP	pP	20 55 47.4	+2.0
WMQ				sP	sP	20 56 31.0	+1.2
WMQ				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.3							
WMQ				pmax	pmax		
comp=Z,190nm,5.0s							
PEA0B	**Petropavlovsk-**	**65.25**	**20**	*e*P	**P**	**20 54 42.0**	**+1.0**
PETK	**Petropavlovsk-**	**65.25**	**20**	P	**P**	**20 54 42.4**	**+1.3**
comp=Z,12nm,0.6s,mb4.7,baz=189,slow=5.4,SNR=23							
PETK	**Petropavlovsk-**	**65.25**	**20**	P	**P**	**20 54 42.4**	**+1.3**
MK31	**Makanchi Array**	**66.58**	**328**	*e*P	**P**	**20 54 49.4**	**-0.2**
MK31				*e*PcP	PcP	20 55 15.2	-0.1
MKAR	**Makanchi Array**	**66.58**	**328**	P	**P**	**20 54 49.7**	**+0.1**
comp=Z,3.5nm,0.8s,mb4.0,baz=123,slow=8.0,SNR=25							
MKAR				PcP	PcP	20 55 14.8	-0.6
comp=Z,1.8nm,0.8s,baz=140,slow=5.9,SNR=5.3							
MKAR	**Makanchi Array**	**66.58**	**328**	P	**P**	**20 54 49.7**	**+0.1**
MKAR				PcP	PcP	20 55 14.8	-0.6
AAK	**Ala-Archa**	**68.60**	**321**	*e*P	**P**	**20 55 02.3**	**+0.2**
YAK	**Yakutsk**	**68.81**	**1**	*e*P	**P**	**20 55 02.8**	**-0.2**
comp=Z,27nm,0.8s,mb4.9							
ZAA0	**Zalesovo Array**	**70.25**	**335**	*e*P	**P**	**20 55 10.7**	**-1.1**
ZALV	**Zalesovo Beam**	**70.25**	**335**	P	**P**	**20 55 11.2**	**-0.7**
comp=Z,7.9nm,0.7s,mb4.4,baz=130,slow=4.9,SNR=48							
ZALV	**Zalesovo Beam**	**70.25**	**335**	P	**P**	**20 55 11.2**	**-0.7**
KURK	**Kurchatov**	**70.95**	**330**	*e*P	**P**	**20 55 16.0**	**-0.1**
comp=Z,15nm,1.0s,mb4.5							
VNDA	**Vanda**	**72.87**	**173**	*e*P	**P**	**20 55 26.9**	**-0.1**
comp=Z,1.3nm,0.6s,mb3.6							
SBA	**Scott Base**	**73.79**	**172**	P	**P**	**20 55 33.8**	**+1.5**
MAW	**Mawson**	**73.91**	**201**	P	**P**	**20 55 33.3**	**+0.3**
comp=Z,0.9nm,0.3s,mb3.9,baz=70,slow=6.8,SNR=3.8							
MAW	**Mawson**	**73.91**	**201**	*e*P	**P**	**20 55 33.2**	**+0.1**
BRVK	**Borovoye**	**76.53**	**329**	*e*P	**P**	**20 55 46.9**	**-1.1**
comp=Z,5.0nm,1.0s,mb4.1							
BILL	**Bilibino**	**79.77**	**14**	P	**P**	**20 56 03.3**	**-2.0**
ABKAR	**Akbulak array**	**80.63**	**322**	*e*P	**P**	**20 56 09.9**	**-0.4**
SYO	**Syowa Base**	**82.62**	**201**	⇑*e*P	**P**	**20 56 19.8**	**-0.4**
SYO	**Syowa Base**	**82.62**	**201**	⇑*e*PcP	PcP	20 56 23.5	-0.5
QSPA	**South Pole Qui**	**83.02**	**180**	*e*P	**P**	**20 56 22.2**	**+0.2**
comp=Z,5.8nm,1.2s,mb4.2							
ARU	**Arti**	**84.10**	**329**	*e*P	**P**	**20 56 26.5**	**-1.2**
RC01	**Rabbit Creek A**	**92.79**	**29**	*e*P	**P**	**20 57 07.9**	**-0.8**
comp=Z,20nm,0.6s,mb5.2							
ILAR	**Eielson Array**	**94.58**	**25**	P	**P**	**20 57 15.2**	**-1.6**
comp=Z,0.4nm,0.8s,mb3.5,baz=310,slow=6.0,SNR=5.3							
ILAR	**Eielson Array**	**94.58**	**25**	P	**P**	**20 57 15.2**	**-1.6**
INK	**Inuvik**	**99.94**	**22**	P	Pdif	20 57 39.8	-1.4
comp=Z,0.4nm,0.5s,baz=265,slow=1.3,SNR=3.7							
INK	**Inuvik**	**99.94**	**22**	P	Pdif	20 57 39.8	-1.4

*ISCJB **20** 20:53:07.3±0.5, 50.52N±0.02×4.42E±0.03, h11km±2km, Error ellipse: s-maj=3.5km s-min=2.9km az=4.8*
*CSEM **20** 20:53:08.1±0.2, 50.61N×4.54E, h12km, ML2.8/24, Error ellipse: s-maj=3.0km s-min=2.4km az=179.0*
*UCC **20** 20:53:08.5±0.5, 50.63N×4.57E, h6km±1km, ML2.4*
*LDG **20** 20:53:08.6±0.1, 50.67N×4.60E, h2km, Md2.8/2, Ml2.8/31, Error ellipse: s-maj=0.9km s-min=0.6km az=169.0*
*NEIC **20** 20:53:08.6, 50.67N×4.60E, h2km, ML2.8(LDG), After LDG.*
ISC 20 20:53:08.1±0.4, **50.61N**±0.02×**4.53E**±0.03, **h15**km±2km, **n123**, σ0**9**92/264, **3C-1D, Belgium**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNF	**Seneffe**	**0.18**	**237**	P	**Pg**	**20 53 12.9**	**+0.4**
SNF				S	**Sg**	**20 53 15.7**	**+0.2**
UCC	**Uccle**	**0.22**	**331**	⇑P	**Pg**	**20 53 11.9**	**-1.1**
UCC				S	**Sg**	**20 53 14.4**	**-2.0**
comp=E,1μm,0.1s							
UCC	**Uccle**	**0.22**	**331**	P	**Pg**	**20 53 11.9**	**-1.1**
DOU	**Dourbes**	**0.52**	**175**	⇑P	**Pg**	**20 53 19.1**	**+0.8**
DOU				S	**Sg**	**20 53 26.5**	**+1.4**
DOU	**Dourbes**	**0.52**	**175**	P	**Pg**	**20 53 19.0**	**+0.7**
DOU				S	**Sg**	**20 53 26.5**	**+1.4**
BCLA	**Clavier**	**0.53**	**111**	P	**Pg**	**20 53 18.3**	**-0.2**
BCLA				S	**Sg**	**20 53 25.1**	**-0.5**
comp=E,212nm,0.2s							
BCLA	**Clavier**	**0.53**	**111**	P	**Pg**	**20 53 18.3**	**-0.3**
BCLA				S	**Sg**	**20 53 25.1**	**-0.5**
comp=E,212nm,0.2s							
GIVF	**Givet**	**0.54**	**159**	*e*Pg	**Pg**	**20 53 19.5**	**+0.7**
SNR=1.0							
GIVF				*e*Sg	**Sg**	**20 53 26.7**	**+0.7**
comp=E,237nm,0.3s							
GIVF	**Givet**	**0.54**	**159**	*e*Pg	**Pg**	**20 53 19.5**	**+0.7**
GIVF				*e*Sg	**Sg**	**20 53 26.7**	**+0.7**
GIVF	**Givet**	**0.54**	**159**	*e*Pg	**Pg**	**20 53 19.5**	**+0.7**
SNR=1.0							
GIVF				*e*Sg	**Sg**	**20 53 26.7**	**+0.7**
comp=E,118nm,0.3s							
BAIF	**Baives**	**0.59**	**201**	*e*Pg	**Pg**	**20 53 20.4**	**+0.8**
SNR=1.0							
BAIF				*e*Sg	**Sg**	**20 53 29.0**	**+1.6**
comp=E,22nm,0.2s							
BAIF	**Baives**	**0.59**	**201**	*e*Pg	**Pg**	**20 53 20.4**	**+0.8**
BAIF				*e*Sg	**Sg**	**20 53 29.0**	**+1.6**
BAIF	**Baives**	**0.59**	**201**	*e*Pg	**Pg**	**20 53 20.4**	**+0.8**
SNR=1.0							
BAIF				*e*Sg	**Sg**	**20 53 29.0**	**+1.6**
comp=E,11nm,0.2s							
BEBN	**Eben Emael**	**0.76**	**75**	⇑P	**Pg**	**20 53 21.9**	**-0.9**
BEBN				S	**Sg**	**20 53 31.0**	**-1.8**
comp=Z,43nm,0.3s							
BEBN	**Eben Emael**	**0.76**	**75**	P	**Pg**	**20 53 21.9**	**-0.9**
BEBN				S	**Sg**	**20 53 30.9**	**-1.8**
comp=Z,43nm,0.3s							
MEM	**Membach**	**0.94**	**89**	⇓P	**Pb**	**20 53 25.6**	**-0.6**
MEM	**Membach**	**0.94**	**89**	P	**Pb**	**20 53 25.6**	**-0.6**
WLF	**Walferdange**	**1.41**	**131**	*e*Pn	**Pn**	**20 53 34.5**	**+1.3**
WLF				*e*Sn	**Sn**	**20 53 51.9**	**+0.4**
WLF	**Walferdange**	**1.41**	**131**	*e*Pn	**Pn**	**20 53 34.5**	**+1.3**
WLF				S	**Sn**	**20 53 51.8**	**+0.3**
MEZF	**Maizieres J'vi**	**2.14**	**171**	*e*Pn	**Pn**	**20 53 44.2**	**+1.0**
SNR=1.0							
MEZF	**Maizieres J'vi**	**2.14**	**171**	*e*Pg	**Pg**	**20 53 49.3**	**+0.2**
MEZF				*e*Sn	**Sn**	**20 54 10.3**	**+0.8**
MEZF				*e*Sg	**Sg**	**20 54 17.5**	**+0.7**
comp=Z,26nm,0.2s							
MEZF	**Maizieres J'vi**	**2.14**	**171**	*e*Pn	**Pn**	**20 53 44.2**	**+1.0**
MEZF				*e*Pg	**Pg**	**20 53 49.3**	**+0.2**
MEZF				*e*Sn	**Sn**	**20 54 10.3**	**+0.8**
MEZF				*e*Sg	**Sg**	**20 54 17.5**	**+0.7**
MEZF	**Maizieres J'vi**	**2.14**	**171**	*e*Pn	**Pn**	**20 53 44.2**	**+1.0**
SNR=1.0							
MEZF	**Maizieres J'vi**	**2.14**	**171**	*e*Pg	**Pg**	**20 53 49.3**	**+0.2**
MEZF				*e*Sn	**Sn**	**20 54 10.3**	**+0.8**
MEZF				*e*Sg	**Sg**	**20 54 17.5**	**+0.7**
comp=Z,13nm,0.2s							
PAGF	**Fort de Pagny**	**2.20**	**159**	*e*Pn	**Pn**	**20 53 45.0**	**+0.9**
PAGF				*e*Sn	**Sn**	**20 54 11.6**	**+0.6**
comp=Z,3.0nm,0.2s							
PAGF	**Fort de Pagny**	**2.20**	**159**	*e*Pn	**Pn**	**20 53 45.0**	**+0.9**
PAGF				*e*Sn	**Sn**	**20 54 11.6**	**+0.6**
PAGF	**Fort de Pagny**	**2.20**	**159**	*e*Pn	**Pn**	**20 53 45.0**	**+0.9**
PAGF				*e*Sn	**Sn**	**20 54 11.6**	**+0.6**
comp=Z,1.5nm,0.2s							
SFTF	**Sexfontaines**	**2.43**	**172**	*e*Pn	**Pn**	**20 53 48.3**	**+1.0**
SFTF	**Sexfontaines**	**2.43**	**172**	*e*Pg	**Pg**	**20 53 54.6**	**-0.1**
SFTF				*e*Sn	**Sn**	**20 54 17.4**	**+0.7**
SFTF				*e*Sg	**Sg**	**20 54 25.8**	**-0.3**
comp=Z,26nm,0.3s							
SFTF	**Sexfontaines**	**2.43**	**172**	*e*Pn	**Pn**	**20 53 48.3**	**+1.0**
SFTF				*e*Pg	**Pg**	**20 53 54.6**	**-0.1**
SFTF				*e*Sn	**Sn**	**20 54 17.4**	**+0.7**
SFTF				*e*Sg	**Sg**	**20 54 25.8**	**-0.3**
SFTF	**Sexfontaines**	**2.43**	**172**	*e*Pn	**Pn**	**20 53 48.3**	**+1.0**
SFTF	**Sexfontaines**	**2.43**	**172**	*e*Pg	**Pg**	**20 53 54.6**	**-0.1**
SFTF				*e*Sn	**Sn**	**20 54 17.4**	**+0.7**
SFTF				*e*Sg	**Sg**	**20 54 25.8**	**-0.3**
comp=Z,13nm,0.3s							
CDF	**Champ du Feu**	**2.84**	**140**	*e*Pn	**Pn**	**20 53 53.2**	**+0.4**
SNR=1.0							
CDF				*e*Sn	**Sn**	**20 54 26.5**	**-0.2**
SNR=1.0							
CDF				*e*Sg	**Sg**	**20 54 38.4**	**-0.8**
comp=Z,9.0nm,0.4s							
CDF	**Champ du Feu**	**2.84**	**140**	*e*Pn	**Pn**	**20 53 53.2**	**+0.4**
CDF				*e*Sn	**Sn**	**20 54 26.5**	**-0.2**
CDF				*e*Sg	**Sg**	**20 54 38.4**	**-0.8**
CDF	**Champ du Feu**	**2.84**	**140**	*e*Pn	**Pn**	**20 53 53.2**	**+0.4**
SNR=1.0							
CDF				*e*Sn	**Sn**	**20 54 26.5**	**-0.2**
SNR=1.0							
CDF				*e*Sg	**Sg**	**20 54 38.4**	**-0.8**
comp=Z,4.5nm,0.4s							
HAU	**Haudompre**	**2.87**	**155**	*e*Pn	**Pn**	**20 53 54.0**	**+0.8**
SNR=1.0							
HAU	**Haudompre**	**2.87**	**155**	*e*Pg	**Pg**	**20 54 02.2**	**-0.8**
HAU				*e*Sn	**Sn**	**20 54 27.5**	**+0.1**
SNR=1.0							
HAU				*e*Sg	**Sg**	**20 54 39.2**	**-0.9**
comp=Z,19nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**2.87**	**155**	*e*Pn	**Pn**	**20 53 54.0**	**+0.8**
HAU				*e*Pg	**Pg**	**20 54 02.2**	**-0.8**
HAU				*e*Sn	**Sn**	**20 54 27.5**	**+0.1**
HAU				*e*Sg	**Sg**	**20 54 39.2**	**-0.9**
HAU	**Haudompre**	**2.87**	**155**	*e*Pn	**Pn**	**20 53 54.0**	**+0.8**
SNR=1.0							
HAU	**Haudompre**	**2.87**	**155**	*e*Pg	**Pg**	**20 54 02.2**	**-0.8**
HAU				*e*Sn	**Sn**	**20 54 27.5**	**+0.1**
SNR=1.0							
HAU				*e*Sg	**Sg**	**20 54 39.2**

AVF *e*Sg **Sg** **20 55 13.1 -0.2**
comp=Z,1.0nm,0.3s
SMF Signal de Mont 3.99 187 *e*Pn **Pn** **20 54 09.7 +1.0**
SNR=1.0
SMF Signal de Mont 3.99 187 *e*Pg **Pg** **20 54 23.6 -1.0**
SMF *e*Sn **Sn** **20 54 55.1 -0.1**
SNR=1.0
SMF *e*Sg **Sg** **20 55 15.6 -0.6**
comp=Z,3.0nm,0.2s,SNR=1.0
SMF Signal de Mont 3.99 187 *e*Pn **Pn** **20 54 09.7 +1.0**
SMF *e*Pg **Pg** **20 54 23.6 -1.0**
SMF *e*Sn **Sn** **20 54 55.1 -0.1**
SMF *e*Sg **Sg** **20 55 15.6 -0.6**
SMF Signal de Mont 3.99 187 *e*Pn **Pn** **20 54 09.7 +1.0**
SNR=1.0
SMF Signal de Mont 3.99 187 *e*Pg **Pg** **20 54 23.6 -1.0**
SMF *e*Sn **Sn** **20 54 55.1 -0.1**
SNR=1.0
SMF *e*Sg **Sg** **20 55 15.6 -0.6**
comp=Z,1.5nm,0.2s,SNR=1.0
CABF La Chapelle 4.13 165 *e*Pn **Pn** **20 54 11.6 +0.9**
SNR=1.0
CABF *e*Sn **Sn** **20 54 57.7 -1.0**
CABF *e*Sg **Sg** **20 55 19.8 -0.9**
comp=Z,11nm,0.7s,SNR=1.0
CABF La Chapelle 4.13 165 *e*Pn **Pn** **20 54 11.6 +0.9**
CABF *e*Sn **Sn** **20 54 57.7 -1.0**
CABF *e*Sg **Sg** **20 55 19.8 -0.9**
comp=Z,5.5nm,0.7s,SNR=1.0
GRR Gorron 4.15 240 *e*Pn **Pn** **20 54 11.9 +0.9**
SNR=1.0
GRR *e*Sn **Sn** **20 54 58.9 -0.3**
SNR=1.0
GRR *e*Sg **Sg** **20 55 21.0 -0.4**
comp=Z,4.4nm,0.2s
GRR Gorron 4.15 240 *e*Pn **Pn** **20 54 11.9 +0.9**
GRR *e*Sn **Sn** **20 54 58.9 -0.3**
GRR *e*Sg **Sg** **20 55 21.0 -0.4**
GRR Gorron 4.15 240 *e*Pn **Pn** **20 54 11.9 +0.9**
SNR=1.0
GRR *e*Sn **Sn** **20 54 58.9 -0.3**
SNR=1.0
GRR *e*Sg **Sg** **20 55 21.0 -0.4**
comp=Z,2.2nm,0.2s
BGF Bois d'Agland 4.20 196 *e*Pn **Pn** **20 54 12.7 +1.0**
SNR=1.0
BGF *e*Sn **Sn** **20 55 00.0 -0.5**
SNR=1.0
BGF *e*Sg **Sg** **20 55 22.9 -0.1**
comp=Z,13nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.20 196 *e*Pn **Pn** **20 54 12.7 +1.0**
BGF *e*Sn **Sn** **20 55 00.0 -0.5**
BGF *e*Sg **Sg** **20 55 22.9 -0.1**
BGF Bois d'Agland 4.20 196 *e*Pn **Pn** **20 54 12.7 +1.0**
SNR=1.0
BGF *e*Sn **Sn** **20 55 00.0 -0.5**
SNR=1.0
BGF *e*Sg **Sg** **20 55 22.9 -0.1**
comp=Z,6.3nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 4.59 201 *e*Pn **Pn** **20 54 18.0 +1.0**
SNR=1.0
TCF *e*Sn **Sn** **20 55 08.7 -1.3**
comp=Z,2.1nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 4.59 201 *e*Pn **Pn** **20 54 18.0 +1.0**
TCF *e*Sn **Sn** **20 55 08.7 -1.3**
TCF Toulx Ste Croi 4.59 201 *e*Pn **Pn** **20 54 18.0 +1.0**
SNR=1.0
TCF *e*Sn **Sn** **20 55 08.7 -1.3**
comp=Z,1.0nm,0.3s,SNR=1.0
MFF Saint Martin d 5.07 219 *e*Pn **Pn** **20 54 24.4 +0.9**
SNR=1.0
MFF *e*Sn **Sn** **20 55 20.9 -0.8**
comp=Z,2.2nm,0.3s,SNR=1.0
MFF Saint Martin d 5.07 219 *e*Pn **Pn** **20 54 24.4 +0.9**
MFF *e*Sn **Sn** **20 55 20.9 -0.8**
MFF Saint Martin d 5.07 219 *e*Pn **Pn** **20 54 24.4 +0.9**
SNR=1.0
MFF *e*Sn **Sn** **20 55 20.9 -0.8**
comp=Z,1.1nm,0.3s,SNR=1.0
SGMF Saint Gilles 5.19 246 *e*Pn **Pn** **20 54 25.0 -0.2**
SNR=1.0
SGMF *e*Sn **Sn** **20 55 23.7 -1.0**
comp=Z,0.9nm,0.3s,SNR=1.0
SGMF Saint Gilles 5.19 246 *e*Pn **Pn** **20 54 25.0 -0.2**
SGMF *e*Sn **Sn** **20 55 23.7 -1.0**
SGMF Saint Gilles 5.19 246 *e*Pn **Pn** **20 54 25.0 -0.2**
SNR=1.0
SGMF *e*Sn **Sn** **20 55 23.7 -1.0**
comp=Z,0.4nm,0.3s,SNR=1.0
LPL La Plagne 5.30 163 *e*Pn **Pn** **20 54 28.2 +1.4**
LPL *e*Sn **Sn** **20 55 26.2 -1.4**
comp=Z,1.8nm,0.3s
LPL La Plagne 5.30 163 *e*Pn **Pn** **20 54 28.2 +1.4**
LPL *e*Sn **Sn** **20 55 26.2 -1.4**
LPL La Plagne 5.30 163 *e*Pn **Pn** **20 54 28.2 +1.4**
LPL *e*Sn **Sn** **20 55 26.2 -1.4**
comp=Z,0.9nm,0.3s
LPG La Plagne 5.33 163 *e*Pn **Pn** **20 54 28.3 +1.2**
SNR=1.0
LPG *e*Sn **Sn** **20 55 26.7 -1.4**
comp=Z,1.7nm,0.3s
LPG La Plagne 5.33 163 *e*Pn **Pn** **20 54 28.3 +1.2**
LPG *e*Sn **Sn** **20 55 26.7 -1.4**
LPG La Plagne 5.33 163 *e*Pn **Pn** **20 54 28.3 +1.2**
SNR=1.0
LPG *e*Sn **Sn** **20 55 26.7 -1.4**
comp=Z,0.9nm,0.3s
ROSF Rostrenen 5.57 249 *e*Pn **Pn** **20 54 31.0 +0.6**
ROSF *e*Sn **Sn** **20 55 32.6 -1.5**
comp=Z,2.3nm,0.3s,SNR=1.0
ROSF Rostrenen 5.57 249 *e*Pn **Pn** **20 54 31.0 +0.6**
ROSF *e*Sn **Sn** **20 55 32.6 -1.5**
ROSF Rostrenen 5.57 249 *e*Pn **Pn** **20 54 31.0 +0.6**
RJF Les Rejaudoux 5.68 202 *e*Pn **Pn** **20 54 32.7 +0.8**
RJF *e*Sn **Sn** **20 55 35.5 -1.3**
comp=Z,1.7nm,0.3s,SNR=1.0
RJF Les Rejaudoux 5.68 202 *e*Pn **Pn** **20 54 32.7 +0.8**
RJF *e*Sn **Sn** **20 55 35.5 -1.3**
RJF Les Rejaudoux 5.68 202 *e*Pn **Pn** **20 54 32.7 +0.8**
RJF *e*Sn **Sn** **20 55 35.5 -1.3**
comp=Z,0.9nm,0.3s,SNR=1.0
QUIF Quistinic 5.71 245 *e*Pn **Pn** **20 54 32.5 +0.2**
SNR=1.0
QUIF *e*Sn **Sn** **20 55 36.0 -1.6**
comp=Z,1.0nm,0.2s
QUIF Quistinic 5.71 245 *e*Pn **Pn** **20 54 32.5 +0.2**
QUIF *e*Sn **Sn** **20 55 36.0 -1.6**
QUIF Quistinic 5.71 245 *e*Pn **Pn** **20 54 32.5 +0.2**
SNR=1.0
VIVF Saint-Julien-l 5.76 179 *e*Pn **Pn** **20 54 33.7 +0.7**
SNR=1.0
VIVF *e*Sn **Sn** **20 55 37.1 -1.6**
comp=Z,1.1nm,0.2s
VIVF Saint-Julien-l 5.76 179 *e*Pn **Pn** **20 54 33.7 +0.7**
VIVF *e*Sn **Sn** **20 55 37.1 -1.6**
VIVF Saint-Julien-l 5.76 179 *e*Pn **Pn** **20 54 33.7 +0.7**
SNR=1.0
VIVF *e*Sn **Sn** **20 55 37.1 -1.6**
comp=Z,0.6nm,0.2s
ORIF Oris-en-Rattie 5.77 170 *e*Pn **Pn** **20 54 33.9 +0.8**
SNR=1.0
ORIF *e*Sn **Sn** **20 55 37.2 -1.8**
comp=Z,0.8nm,0.2s
ORIF Oris-en-Rattie 5.77 170 *e*Pn **Pn** **20 54 33.9 +0.8**
ORIF *e*Sn **Sn** **20 55 37.2 -1.8**
ORIF Oris-en-Rattie 5.77 170 *e*Pn **Pn** **20 54 33.9 +0.8**
SNR=1.0
CAF Calviac 5.92 197 *e*Pn **Pn** **20 54 36.2 +0.9**
CAF *e*Sn **Sn** **20 55 41.3 -1.5**
comp=Z,0.9nm,0.2s,SNR=1.0
CAF Calviac 5.92 197 *e*Pn **Pn** **20 54 36.2 +0.9**
CAF *e*Sn **Sn** **20 55 41.3 -1.5**
CAF Calviac 5.92 197 *e*Pn **Pn** **20 54 36.2 +0.9**
MBDF Montbardon 6.08 165 *e*Pn **Pn** **20 54 38.1 +0.7**
SNR=1.0
MBDF *e*Sn **Sn** **20 55 44.6 -2.0**
comp=Z,3.0nm,0.5s
MBDF Montbardon 6.08 165 *e*Pn **Pn** **20 54 38.1 +0.7**
MBDF *e*Sn **Sn** **20 55 44.6 -2.0**
MBDF Montbardon 6.08 165 *e*Pn **Pn** **20 54 38.1 +0.7**
SNR=1.0
LFF La Frestale 6.22 206 *e*Pn **Pn** **20 54 40.2 +0.9**
SNR=1.0
LFF *e*Sn **Sn** **20 55 48.3 -1.8**
comp=Z,2.7nm,0.3s
LFF La Frestale 6.22 206 *e*Pn **Pn** **20 54 40.2 +0.9**
LFF *e*Sn **Sn** **20 55 48.3 -1.8**
LFF La Frestale 6.22 206 *e*Pn **Pn** **20 54 40.2 +0.9**
SNR=1.0

MOS ***20*** *21:00:39.5±1.0, 8°.84N×126°.56E, h37km, mb5.0/23, Error ellipse: s-maj=15.2km s-min=6.9km az=117.3*
MAN ***20*** *21:00:41, 8°.94N×126°.82E, h34km, mb5.4, ML4.4, MS4.7*
ISCJB ***20*** *21:00:42.3±0.7, 8°.94N±0°.03×126°.81E±0°.04, h66km±5km, mb4.7/66, Error ellipse: s-maj=7.4km s-min=4.3km az=162.9*
DJA ***20*** *21:00:44, 8°.93N×126°.79E, h10km, mb4.9/13*
NEIC ***20*** *21:00:45.4±1.0, 8°.84N×126°.61E, h76km±9km, mb5.0/27, Error ellipse: s-maj=9.9km s-min=5.7km az=74.0*
IDC ***20*** *21:00:47.7±1.8, 8°.75N×126°.46E, h96km±18km, mb4.1/26, mb1 4.2/29, mb1mx4.2/31, mbtmp4.2/29, MS4.1/10, Ms1 4.2/10, ms1mx3.9/37, Error ellipse: s-maj=18.4km s-min=9.0km az=78.0*
ISC 20 21:00:44.4±0.6, 8°.92N±0°.03×126°.76E±0°.05, h66km±5km, n226, σ1°19/226, mb4.7/66, 9C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.09**	**257**	⇑*iP*		**Pn**	**21 01 15.6**	**-1.7**
CGP				*i*S		**Sn**	**21 01 41.3**	**-1.0**
DAV	**Davao City (W)**	**2.18**	**213**	P		**Pn**	**21 01 18.7**	**+0.3**
DAV				LR		LR	21 01 48.2	
DAV				S		**Sn**	**21 01 50.5**	**+6.2**
DAV	**Davao City (W)**	**2.18**	**213**	*e*Pn		**Pn**	**21 01 18.4**	**0.0**
DAV				*e*S		**Sn**	**21 01 54.0**	**+10**
DAV	**Davao City (W)**	**2.18**	**213**	P		**Pn**	**21 01 19.2**	**+0.8**
DAV				S		**Sn**	**21 01 52.2**	**+7.8**
PLP	**Palo**	**2.84**	**322**	⇓*e*P		**Pn**	**21 01 26.0**	**-1.3**
PLP				*e*S		**Sn**	**21 02 02.9**	**+2.5**
TBP	**Tagbilaran**	**2.96**	**285**	*e*P		**Pn**	**21 01 28.8**	**-0.2**
CTBH	**Cotabato--PC H**	**3.01**	**236**	⇑*e*P		**Pn**	**21 01 28.2**	**-1.5**
GSPH	**General Santos**	**3.34**	**213**	⇑*iP*		**Pn**	**21 01 32.0**	**-2.2**
SNPH	**Sibulan**	**3.50**	**277**	⇓*iP*		**Pn**	**21 01 36.5**	**0.0**
SNPH				*e*S		**Sn**	**21 02 18.2**	**+1.4**
CNP	**Catarman**	**4.12**	**330**	*e*P		**Pn**	**21 01 43.5**	**-1.4**
IPIL	**Ipil**	**4.29**	**255**	⇓*e*P		**Pn**	**21 01 41.2**	**-6.0**
IPIL				*i*S		**Sn**	**21 02 39.2**	**+3.1**
RCP	**Roxas**	**4.74**	**304**	⇓*e*P		**Pn**	**21 01 53.4**	**0.0**
PVCP	**Virac**	**5.30**	**331**	*e*P		**Pn**	**21 02 01.1**	**0.0**
PVCP				*e*S		**Sn**	**21 02 58.5**	**-2.3**
MNI	**Manado**	**7.67**	**195**	P		**Pn**	**21 02 42.7**	**+9.2**
TGY	**Tagaytay City**	**7.69**	**313**	P		**Pn**	**21 02 35.3**	**+1.6**
	12nm,0.3s,baz=96,slow=5.5,SNR=4.0							
TGY	**Tagaytay City**	**7.69**	**313**	P		**Pn**	**21 02 35.3**	**+1.6**
TGY	**Tagaytay City**	**7.69**	**313**	P		**Pn**	**21 02 35.3**	**+1.6**
TNTI	**Ternate**	**8.12**	**176**	P		**Pn**	**21 02 39.6**	**0.0**
	2μm210nm,1.3s							
KMSI	**Cibinong**	**8.74**	**199**	P		**Pn**	**21 02 56.7**	**+8.6**
MYLDM	**Lahad Datu**	**9.00**	**246**	P		**Pn**	**21 02 55.8**	**+4.1**
	80nm,1.1s							
GTOI	**Gorontalo**	**9.04**	**205**	P		**Pn**	**21 02 51.0**	**-1.2**
LBMI	**Labuha**	**9.52**	**176**	P		**Pn**	**21 02 57.5**	**-1.3**
MRSI	**Marisa**	**9.66**	**210**	P		**Pn**	**21 03 00.9**	**+0.2**
	784nm79nm,1.3s							
TSM	**Tawau**	**9.95**	**243**	P		**Pn**	**21 03 07.3**	**+2.6**
SDKM	**Sandakan**	**10.03**	**252**	P		**Pn**	**21 03 08.2**	**+2.5**
KDM	**Kudat**	**10.03**	**259**	P		**Pn**	**21 03 08.1**	**+2.3**
LUWI	**Luwuk**	**10.66**	**202**	P		**Pn**	**21 03 20.4**	**+6.0**
	1μm120nm,1.0s							
KKM	**Kota Kinabalu**	**10.84**	**255**	*e*Pn		**Pn**	**21 03 20.0**	**+3.2**
KKM	**Kota Kinabalu**	**10.84**	**255**	P		**Pn**	**21 03 20.0**	**+3.2**
	590nm52nm,1.2s							
FAKI	**Fak Fak**	**12.97**	**155**	P		**Pn**	**21 03 44.2**	**-1.7**
KDI	**Kendari**	**13.44**	**198**	P		**Pn**	**21 03 54.4**	**+2.1**
	13nm,0.7s							
TTSI	**Tana Toraja**	**13.75**	**211**	P		**Pn**	**21 03 59.1**	**+2.7**
	801nm61nm,0.9s							
SPSI	**Sidrap Palu**	**14.57**	**209**	P		**Pn**	**21 04 13.0**	**+5.8**
	739nm24nm,1.4s							
BNSI	**Bone**	**14.80**	**207**	P		**Pn**	**21 04 13.8**	**+3.7**
	920nm64nm,1.1s							
YULB	**Yu-li**	**15.31**	**341**	Pn		**Pn**	**21 04 16.5**	**-0.1**
TPUB	**Ta-pu**	**15.46**	**338**	*e*Pn		**Pn**	**21 04 16.9**	**-1.6**
KAPI	**Kappang**	**15.51**	**207**	P		**Pn**	**21 04 17.2**	**-1.9**
	1.0nm,0.3s,baz=53,slow=22,SNR=3.9							
KAPI				LR		LR	21 10 59.4	
	comp=Z,531nm,19.0s,baz=32,slow=40							
KAPI	**Kappang**	**15.51**	**207**	P		**Pn**	**21 04 17.2**	**-1.9**
BKSI	**Bulukumba**	**15.62**	**205**	P		pP	21 04 34.1	-3.1
SSLB	**Suanglung**	**15.79**	**340**	*e*Pn		**Pn**	**21 04 20.0**	**-2.8**
SBUM	**Sibu**	**15.83**	**247**	P		**Pn**	**21 04 28.7**	**+5.4**
	658nm62nm,1.3s							
KBKI	**Kotabaru**	**16.09**	**221**	P		pP	21 04 37.5	-5.0
SMPI	**Sarmi**	**16.10**	**132**	P		**Pn**	**21 04 31.3**	**+4.6**
	49nm,1.4s							
YHNB	**Yeheng**	**16.48**	**342**	Pn		**Pn**	**21 04 27.0**	**-4.4**
BBKI	**Banjar Baru**	**17.10**	**225**	P		pP	21 04 53.5	-0.2
STKI	**Sintang**	**17.58**	**241**	P		pP	21 04 55.1	-4.0
JOW	**Kunigami**	**17.87**	**4**	P		**Pn**	**21 04 53.0**	**+4.4**
	0.8nm,0.3s,baz=225,slow=8.6,SNR=3.1							
JOW				LR		LR	21 11 21.6	
	comp=Z,389nm,18.8s,baz=224,slow=35							
JOW	**Kunigami**	**17.87**	**4**	P		**Pn**	**21 04 53.0**	**+4.4**
GUMO	**Guam**	**18.35**	**74**	LR		LR	21 10 29.4	
	comp=Z,493nm,21.4s,baz=254,slow=31							
MTNI	**Mataram**	**20.38**	**211**	P		**P**	**21 05 21.7**	**+5.8**
CBIJ	**Chichi jima**	**23.23**	**37**	LR		LR	21 12 33.6	
	comp=Z,434nm,20.8s,baz=101,slow=30							
MYKOM	**Kota Tinggi**	**23.87**	**254**	P		**P**	**21 05 51.5**	**-0.5**
IPM	**Ipoh**	**25.93**	**262**	*e*P		**P**	**21 06 11.1**	**+0.4**
	62nm,1.0s,mb5.0							
IPM				*e*		pP	21 06 21.9	-4.6
KULM	**Kulim**	**26.15**	**264**	*e*P		**P**	**21 06 15.5**	**+2.7**
	58nm,1.1s,mb4.9							
KULM				*e*			21 06 23.8	
FITZ	**Fitzroy Crossi**	**26.87**	**182**	P		**P**	**21 06 17.0**	**-2.1**
	4.0nm,0.5s,mb4.2,baz=21,slow=10,SNR=14							
FITZ	**Fitzroy Crossi**	**26.87**	**182**	*e*P		**P**	**21 06 18.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**26.87**	**182**	P		**P**	**21 06 17.0**	**-2.1**
COEN	**Coen**	**27.96**	**144**	*e*P		**P**	**21 06 29.8**	**+0.9**
KSAR	**Wonju Array Be**	**28.41**	**2**	P		**P**	**21 06 34.6**	**+2.0**
KSAR	**Wonju Array Be**	**28.41**	**2**	P		**P**	**21 06 34.6**	**+1.9**
KSRS	**Korea Array**	**28.43**	**2**	P		**P**	**21 06 34.6**	**+1.9**
	4.4nm,1.1s,mb3.9,baz=179,slow=9.9,SNR=5.0							
CM31	**Chiang Mai Arr**	**28.60**	**292**	*e*P		**P**	**21 06 34.9**	**+0.3**
	4.7nm,0.7s,mb4.2							
CMAR	**Chiang Mai Arr**	**28.60**	**292**	P		**P**	**21 06 34.9**	**+0.3**
	6.0nm,0.9s,mb4.2,baz=105,slow=7.0,SNR=28							
CMAR				LR		LR	21 19 44.0	
	comp=Z,483nm,18.3s,baz=284,slow=40							
CMAR	**Chiang Mai Arr**	**28.60**	**292**	P		**P**	**21 06 34.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**28.60**	**292**	P		**P**	**21 06 34.9**	**+0.3**
CHTO	**Chiang Mai**	**28.70**	**293**	*e*P		**P**	**21 06 34.5**	**-1.0**
	5.8nm,1.0s,mb4.2							
CHTO	**Chiang Mai**	**28.70**	**293**	*e*P		**P**	**21 06 34.5**	**-1.0**
CHTO				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.2							
MJAR	**Matsushiro Arr**	**29.40**	**19**	P		**P**	**21 06 43.5**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=148,slow=46,SNR=3.5							
MJAR	**Matsushiro Arr**	**29.40**	**19**	P		**P**	**21 06 43.5**	**+2.1**
MJAR	**Matsushiro Arr**	**29.40**	**19**	P		**P**	**21 06 43.5**	**+2.1**
WRA	**Warramunga Arr**	**29.64**	**165**	P		**P**	**21 06 42.3**	**-1.3**
	comp=Z,1.3nm,0.6s,mb3.7,baz=347,slow=9.3,SNR=9.8							
WRA	**Warramunga Arr**	**29.64**	**165**	P		**P**	**21 06 42.3**	**-1.3**
WRA	**Warramunga Arr**	**29.64**	**165**	P		**P**	**21 06 42.3**	**-1.4**
QIS	**Mount Isa**	**31.90**	**157**	*e*P		**P**	**21 07 03.2**	**-0.4**
MTSU	**Mount Surprise**	**31.99**	**147**	*e*P		**P**	**21 07 04.7**	**+0.3**
	comp=Z,19nm,0.8s,mb4.9							
ASAR	**Alice Springs**	**33.13**	**168**	P		**P**	**21 07 13.4**	**-1.0**
	comp=Z,1.2nm,0.5s,mb4.0,baz=355,slow=7.0,SNR=26							
ASAR	**Alice Springs**	**33.13**	**168**	P		**P**	**21 07 13.4**	**-1.0**
ASAR	**Alice Springs**	**33.13**	**168**	P		**P**	**21 07 13.4**	**-1.0**
CTA	**Charters Tower**	**34.63**	**146**	P		**P**	**21 07 28.4**	**+1.0**
	comp=Z,6.2nm,0.7s,mb4.5,baz=332,slow=12,SNR=9.7							
CTA				LR		LR	21 23 17.4	
	comp=Z,260nm,20.3s,baz=128,slow=39							
CTA	**Charters Tower**	**34.63**	**146**	*e*P		**P**	**21 07 28.4**	**+1.0**
CTA	**Charters Tower**	**34.63**	**146**	P		**P**	**21 07 28.4**	**+1.0**
CTA	**Charters Tower**	**34.63**	**146**	P		**P**	**21 07 28.4**	**+1.0**
USRK	**Ussuriysk Arra**	**35.44**	**7**	P		**P**	**21 07 35.8**	**+1.7**
	comp=Z,8.1nm,0.8s,mb4.6,baz=179,slow=6.2,SNR=20							
MEEK	**Meekatharra**	**36.22**	**192**	*e*P		**P**	**21 07 40.8**	**-0.2**
ASAJ	**Asahikawa**	**37.67**	**19**	P		**P**	**21 07 57.0**	**+3.8**
	comp=Z,8.4nm,0.9s,mb4.6,baz=232,slow=12,SNR=4.1							
ASAJ	**Asahikawa**	**37.67**	**19**	P		**P**	**21 07 57.0**	**+3.8**
HNR	**Honiara**	**37.74**	**118**	LR		LR	21 21 46.4	
	comp=Z,279nm,20.0s,baz=80,slow=33							
MORW	**Morawa**	**39.16**	**195**	*e*P		**P**	**21 08 06.0**	**+0.2**
LSA	**Lhasa**	**39.21**	**307**	*e*P		**P**	**21 08 06.9**	**+0.6**
	comp=Z,7.4nm,0.6s,mb4.7							
LSA	**Lhasa**	**39.21**	**307**	*e*P		**P**	**21 08 06.9**	**+0.6**
LSA				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.7							
HABR	**Khabarovsk**	**40.04**	**9**	*e*P		pP	21 08 25.2	-4.1
HABR				*e*S		**S**	**21 14 08.8**	**-5.0**
HABR				*e**SS		sS	21 14 25.9	-16
HABR				*e*SS		SS	21 17 03.1	-10
HABR				*e*			21 18 17.1	
HABR				pmax		pmax		
	comp=Z,62nm,2.0s,mb5.1							
HABR				pmax		pmax		
	comp=E,38nm,1.5s							
HABR				pmax		pmax		
	comp=N,13nm,1.0s							
HABR				MLR		MLR		
	comp=Z,258nm,17.0s							
KMBL	**Kambalda**	**40.33**	**186**	*e*P		**P**	**21 08 15.2**	**-0.3**
KLR	**Kul'dur**	**40.40**	**5**	*e*P		**P**	**21 08 14.8**	**-1.0**
TAPN	**Taplejung**	**41.16**	**302**	*e*P		**P**	**21 08 22.4**	**0.0**
TAPN	**Taplejung**	**41.16**	**302**	*e*P		**P**	**21 08 22.4**	**0.0**
ODAN	**Odare**	**41.27**	**301**	*e*P		**P**	**21 08 23.2**	**-0.2**
	comp=Z,76nm,0.7s,mb5.6							
ODAN	**Odare**	**41.27**	**301**	*e*P		**P**	**21 08 23.2**	**-0.2**
	comp=Z,76nm,0.7s,mb5.6							
RAMN	**Ramite**	**41.97**	**301**	*e*P		**P**	**21 08 29.1**	**0.0**
	comp=Z,42nm,0.8s,mb5.2							
RAMN	**Ramite**	**41.97**	**301**	*e*P		**P**	**21 08 29.1**	**0.0**
	comp=Z,42nm,0.8s,mb5.2							
ULN	**Ulaanbaatar**	**42.25**	**340**	*e*P		**P**	**21 08 29.9**	**-1.1**
	comp=Z,4.1nm,0.8s,mb4.2							
ULN	**Ulaanbaatar**	**42.25**	**340**	*e*P		**P**	**21 08 29.9**	**-1.1**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.2							
BBOO	**Buckleboo**	**42.43**	**168**	*e*P		**P**	**21 08 32.5**	**-0.2**
SONM	**Songino Array**	**42.44**	**340**	P		**P**	**21 08 32.7**	**+0.1**
	comp=Z,2.2nm,1.0s,mb3.8,baz=157,slow=9.4,SNR=9.9							
SONM	**Songino Array**	**42.44**	**340**	P		**P**	**21 08 32.7**	**+0.1**
SONM	**Songino Array**	**42.44**	**340**	P		**P**	**21 08 32.7**	**+0.1**
JIRN	**Jiri**	**42.53**	**301**	*e*P		**P**	**21 08 33.7**	**0.0**
	comp=Z,35nm,0.5s,mb5.3							
JIRN	**Jiri**	**42.53**	**301**	*e*P		**P**	**21 08 33.7**	**0.0**
	comp=Z,35nm,0.5s,mb5.3							
NWAO	**Narrogin (SRO)**	**42.59**	**192**	P		**P**	**21 08 34.4**	**+0.4**
	comp=Z,17nm,0.9s,mb4.8,baz=360,slow=6.5,SNR=5.6							
NWAO	**Narrogin (SRO)**	**42.59**	**192**	P		**P**	**21 08 34.4**	**+0.4**
NWAO	**Narrogin (SRO)**	**42.59**	**192**	P		**P**	**21 08 34.4**	**+0.4**
GUN	**Gumba**	**42.87**	**302**	*e*P		**P**	**21 08 36.3**	**-0.1**
	comp=Z,84nm,0.8s,mb5.5							
GUN	**Gumba**	**42.87**	**302**	*e*P		**P**	**21 08 36.3**	**-0.1**
	comp=Z,84nm,0.8s,mb5.5							
STKA	**Stephens Creek**	**42.98**	**161**	P		**P**	**21 08 37.1**	**0.0**
	comp=Z,7.4nm,0.7s,mb4.5,baz=342,slow=6.9,SNR=21							
STKA	**Stephens Creek**	**42.98**	**161**	*e*P		**P**	**21 08 36.8**	**-0.3**
STKA	**Stephens Creek**	**42.98**	**161**	*e*P		**P**	**21 08 36.5**	**-0.6**
	comp=Z,1.7nm,0.9s,mb3.8							
STKA	**Stephens Creek**	**42.98**	**161**	*e*P		**P**	**21 08 36.5**	**-0.6**
STKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
PKI	**Pulchoki**	**43.17**	**301**	*e*P		**P**	**21 08 38.0**	**-0.8**
	comp=Z,25nm,0.9s,mb5.0							
PKI	**Pulchoki**	**43.17**	**301**	*e*P		**P**	**21 08 38.0**	**-0.8**
	comp=Z,25nm,0.9s,mb5.0							
PKI	**Pulchoki**	**43.17**	**301**	*e*P		**P**	**21 08 38.0**	**-0.8**
PKI				pmax		pmax		
	comp=Z,25nm,0.9s,mb4.9							
KKN	**Kakani**	**43.34**	**301**	*e*P		**P**	**21 08 39.9**	**-0.3**
	comp=Z,38nm,0.9s,mb5.2							
KKN	**Kakani**	**43.34**	**301**	*e*P		**P**	**21 08 39.9**	**-0.3**
	comp=Z,38nm,0.9s,mb5.1							
KKN	**Kakani**	**43.34**	**301**	*e*P		**P**	**21 08 39.9**	**-0.3**
KKN				pmax		pmax		
	comp=Z,38nm,0.9s,mb5.1							
DMN	**Daman**	**43.44**	**301**	*e*P		**P**	**21 08 40.2**	**-0.8**
	comp=Z,33nm,0.8s,mb5.1							
DMN	**Daman**	**43.44**	**301**	*e*P		**P**	**21 08 40.2**	**-0.8**
	comp=Z,33nm,0.8s,mb5.1							
GKN	**Gorkha**	**43.95**	**301**	*e*P		**P**	**21 08 44.2**	**-0.9**
	comp=Z,27nm,0.9s,mb5.0							
GKN	**Gorkha**	**43.95**	**301**	*e*P		**P**	**21 08 44.2**	**-0.9**
	comp=Z,27nm,0.9s,mb5.0							
KOLN	**Koldanda**	**44.76**	**301**	*e*P		**P**	**21 08 51.0**	**-0.6**
	comp=Z,55nm,0.7s,mb5.4							
KOLN	**Koldanda**	**44.76**	**301**	*e*P		**P**	**21 08 51.0**	**-0.6**
	comp=Z,55nm,0.7s,mb5.4							
DANN	**Dangsing**	**44.79**	**301**	*e*P		**P**	**21 08 51.3**	**-0.5**
	comp=Z,66nm,0.7s,mb5.5							
DANN	**Dangsing**	**44.79**	**301**	*e*P		**P**	**21 08 51.3**	**-0.5**
	comp=Z,66nm,0.7s,mb5.5							
HYB	**Hyderabad**	**47.59**	**285**	*i*P		**P**	**21 09 13.0**	**-0.9**
ARPS	**Mount Arapiles**	**47.60**	**164**	*e*P		**P**	**21 09 14.0**	**+0.3**
	comp=Z,9.5nm,0.4s,mb5.0							
TOO	**Toolangi**	**49.46**	**160**	*e*P		**P**	**21 09 29.2**	**+1.3**
DZM	**Mont Dzumac**	**49.62**	**129**	LR		LR	21 27 12.6	
	comp=Z,238nm,21.9s,baz=210,slow=32							
BOD

comp=Z,5.7nm,0.9s,mb4.6
EKS2 Erkin-Say 57.12 315 *e*P **P 21 10 23.3 -0.9**
EKS2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
NVS Novosibirsk 57.31 332⇑ *i*P **P 21 10 24.4 -0.9**
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s,mb5.0
KURK Kurchatov 57.45 326 P **P 21 10 26.1 -0.2**
comp=Z,12nm,0.7s,mb5.0,baz=124,slow=6.8,SNR=106
KURK Kurchatov 57.45 326 *e*P **P 21 10 26.0 -0.3**
comp=Z,29nm,1.0s,mb5.3
KURK Kurchatov 57.45 326*c i*P **P 21 10 26.1 -0.2**
KURK pmax pmax
comp=Z,39nm,1.2s,mb5.3
KURK Kurchatov 57.45 326 P **P 21 10 26.4 +0.1**
comp=Z,164nm,1.1s,SNR=26
KBL Kabul 58.49 305 *e*P **P 21 10 33.5 -0.4**
comp=Z,7.0nm,0.8s,mb4.7
KBL Kabul 58.49 305 *e*P **P 21 10 33.5 -0.4**
KBL pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KKAR Karatay Array 59.54 315 *e*P **P 21 10 40.4 -0.7**
comp=Z,2.9nm,0.6s,mb4.5
KKAR Karatay Array 59.54 315 *e*P **P 21 10 40.4 -0.6**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BVAR Borovoye Array 63.05 326 P **P 21 11 04.5 0.0**
comp=Z,5.1nm,0.8s,mb4.5,baz=124,slow=8.3,SNR=36
BVAR Borovoye Array 63.05 326 P **P 21 11 04.5 0.0**
BVAR Borovoye Array 63.05 326 P **P 21 11 04.5 0.0**
BRVK Borovoye 63.12 326 *e*P **P 21 11 04.5 -0.5**
comp=Z,8.7nm,0.8s,mb4.7
BRVK Borovoye 63.12 326*c i*P **P 21 11 04.8 -0.2**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb4.8
BRVK Borovoye 63.12 326 P **P 21 11 04.8 -0.2**
comp=Z,72nm,0.8s,mb5.7,SNR=10
BILL Bilibino 64.57 15⇓ *e*P **P 21 11 16.0 +1.8**
BILL *i* 21 11 27.8
BILL pmax pmax
comp=Z,9.0nm,1.5s,mb4.4
ABKT Ailbek 67.74 307 P **P 21 11 36.4 +1.3**
comp=Z,76nm,0.8s,mb5.6,SNR=8.6
ABKAR Akbulak array 68.21 320 *e*P **P 21 11 37.4 -0.5**
comp=Z,1.0nm,0.4s,mb4.0
SVE Sverdlovsk 69.60 328⇑ *i*P **P 21 11 46.8 +0.5**
SVE pmax pmax
comp=Z,17nm,1.1s,mb4.8
ARU Arti 70.61 327 *e*P **P 21 11 51.9 -0.6**
comp=Z,6.3nm,0.3s,mb4.9
ARU Arti 70.61 327*c i*P **P 21 11 52.0 -0.5**
ARU PPP 21 16 09.7
ARU S S 21 21 00.4 -0.8
ARU SS SS 21 25 37.0 +3.3
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.7
ARU Arti 70.61 327 P **P 21 11 52.0 -0.5**
comp=Z,75nm,0.8s,mb5.6,SNR=5.5
MIB Mutribah 76.48 299 *e*P **P 21 12 26.6 -1.0**
MIB AMb AMB 21 12 28.7
comp=Z,27nm,0.8s,mb5.0
NAY Al-Naaiem 76.59 298 *e*P **P 21 12 27.0 -1.2**
NAY AMb AMB 21 12 28.8
comp=Z,13nm,0.9s,mb4.7
RST Umm Al-Ruwaisa 76.79 298 *e*P **P 21 12 27.0 -2.3**
RST AMb AMB 21 12 29.7
comp=Z,5.4nm,0.9s,mb4.3
MTA Mtatsminda 78.14 311 P **P 21 12 35.9 -0.8**
TBLG Delisi 78.18 311 *e*P **P 21 12 35.8 -1.0**
TBLG Delisi 78.18 311 P **P 21 12 35.9 -1.0**
ZEI Tsey 78.78 312 *e*P **P 21 12 39.7 -0.4**
ZEI pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
ONI Oni 79.11 312 P **P 21 12 39.3 -2.6**
KIV Kislovodsk 79.62 313 *e*P **P 21 12 45.5 +0.9**
comp=Z,11nm,1.0s,mb4.6
KIV Kislovodsk 79.62 313⇓ *e*P **P 21 12 46.1 +1.5**
KIV 21 12 57.0
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.6
ILAR Eielson Array 80.44 26 P **P 21 12 50.1 +1.5**
comp=Z,0.6nm,0.6s,mb3.6,baz=234,slow=5.6,SNR=6.8
ILAR Eielson Array 80.44 26 P **P 21 12 50.1 +1.5**
ILAR Eielson Array 80.44 26 P **P 21 12 50.2 +1.6**
KLMR Klimovskoe 80.93 330 *e*P **P 21 12 47.0 -4.3**
KLMR pmax pmax
comp=Z,40nm,1.6s,mb5.0
KLMR pmax pmax
comp=Z,31nm,1.5s,mb4.9
OBN Obninsk 82.87 325 P **P 21 13 02.0 +0.4**
JOF Joensuu 84.61 333 *e*P **P 21 13 11.3 +1.0**
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
JOF Joensuu 84.61 333 *e*p **P 21 13 11.3 +1.0**
comp=Z,4.8nm,0.7s,mb4.5
ARCES ARCESS Array B 85.62 340 P **P 21 13 15.5 +0.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=60,slow=4.8,SNR=5.3
ARCES ARCESS Array B 85.62 340 P **P 21 13 15.5 +0.2**
ARCES ARCESS Array B 85.62 340 P **P 21 13 15.5 +0.2**
BRTR Keskin Array B 86.76 310 P **P 21 13 20.0 -1.5**
comp=Z,1.0nm,0.9s,mb3.8,baz=90,slow=6.2,SNR=5.1
BRTR LR LR 21 58 35.6
comp=Z,688nm,18.9s,baz=96,slow=40
BRTR Keskin Array B 86.76 310 P **P 21 13 20.0 -1.5**
BRTR Keskin Array B 86.76 310 P **P 21 13 20.0 -1.5**
KAF Kangasniemi 87.04 332 *e*P **P 21 13 27.6 +5.2**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KAF Kangasniemi 87.04 332 *e*p **P 21 13 27.6 +5.2**
comp=Z,3.0nm,0.6s,mb4.4
FINES FINESS Array B 87.30 332 P **P 21 13 23.6 -0.1**
comp=Z,1.9nm,0.4s,mb4.4,baz=55,slow=3.7,SNR=18
FINES FINESS Array B 87.30 332 P **P 21 13 23.6 -0.1**
FINES FINESS Array B 87.30 332 P **P 21 13 23.6 -0.1**
AKASG Malin Array Be 87.91 321 P **P 21 13 26.6 -0.2**
comp=Z,0.8nm,0.5s,mb4.0,baz=65,slow=4.7,SNR=3.2
AKASG Malin Array Be 87.91 321 P **P 21 13 26.6 -0.2**
AKASG Malin Array Be 87.91 321 P **P 21 13 26.6 -0.2**
RES Resolute Bay 92.73 10 P **P 21 13 51.2 +2.3**
comp=Z,4.3nm,0.8s,mb4.8,baz=285,slow=6.3,SNR=8.3
RES Resolute Bay 92.73 10 P **P 21 13 51.2 +2.3**
RES Resolute Bay 92.73 10 P **P 21 13 51.2 +2.3**
HFS Hagfors 93.46 333 P **P 21 13 50.5 -2.0**
comp=Z,3.1nm,0.9s,mb4.6,baz=108,slow=9.3,SNR=2.2
HFS Hagfors 93.46 333 P **P 21 13 50.5 -2.0**
HFS Hagfors 93.46 333 P **P 21 13 50.5 -2.0**
YKA Yellowknife Ar 94.78 24 P **P 21 14 00.5 +2.1**
comp=Z,2.0nm,0.8s,mb4.6,baz=301,slow=4.6,SNR=33
YKA Yellowknife Ar 94.78 24 P **P 21 14 00.6 +2.1**
YKA Yellowknife Ar 94.78 24 P **P 21 14 00.6 +2.1**
GERES GERESS Array B 98.05 322 P **P 21 14 13.3 -0.3**
comp=Z,0.7nm,0.8s,mb4.2,baz=52,slow=11,SNR=5.5
GERES GERESS Array B 98.05 322 P **P 21 14 13.3 -0.3**
GERES GERESS Array B 98.05 322 P **P 21 14 13.3 -0.3**

ISCJB ***20*** *21:02:09.8±0.6,21°.19S±0°.05×66°.77W±0°.08, h219km±7km, mb3.8/9, Error ellipse: s-maj=12.3km s-min=8.0km az=177.5*
NEIC ***20*** *21:02:10.4±0.7,21°.14S×66°.76W, h211km±7km, mb3.9/3, Error ellipse: s-maj=11.9km s-min=8.6km az=85.0*
IDC ***20*** *21:02:11.3±1.3,21°.08S×66°.69W, h218km±12km, mb3.7/8, mb1 3.7/14, mb1mx3.6/22, mbtmp3.5/14, Error ellipse: s-maj=16.5km s-min=11.5km az=65.0*
ISC 20 21:02:10.8±0.6,**21°.16S**±0°.05×**66°.76W**±0°.08,**h211**km±7km, **n43,**σ**1**§**01/36, mb3.8/9, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.47**	**234**	*e*Pn	**Pn**	**21 02 55.0**	**+0.1**
LVC				*e*S	**S**	**21 03 28.9**	**-0.7**
LPAZ	**La Paz**	**5.01**	**345**	P	**Pn**	**21 03 27.5**	**+1.8**
	2.6nm,0.3s,baz=153,slow=9.2,SNR=44						
LPAZ				S	**S**	**21 04 25.8**	**+0.9**
	0.3nm,0.3s,baz=278,slow=22,SNR=13						
LPAZ	**La Paz**	**5.01**	**345**	*e*Pn	**Pn**	**21 03 26.9**	**+1.2**
LPAZ				*e*S	**S**	**21 04 25.8**	**+0.9**
SIV	**San Ignacio**	**7.45**	**47**	P	**Pn**	**21 03 56.1**	**-0.9**
	13nm,0.3s,baz=254,slow=12,SNR=166						
SIV	**San Ignacio**	**7.45**	**47**	P	**Pn**	**21 03 56.1**	**-0.9**
LCO	**Las Campanas**	**8.60**	**204**	*e*Pn	**Pn**	**21 04 08.6**	**-3.1**
LCO				*e*S	**S**	**21 05 41.2**	**-7.3**
CPUP	**Villa Florida**	**10.05**	**123**	P	**Pn**	**21 04 30.6**	**+0.1**
	0.6nm,0.3s,baz=292,slow=10.0,SNR=6.4						
CPUP	**Villa Florida**	**10.05**	**123**	*e*Pn	**Pn**	**21 04 30.1**	**-0.4**
	6.5nm,0.7s						
CFAA	**Coronel Fontan**	**10.49**	**187**	P	**Pn**	**21 04 35.8**	**-0.2**
	0.1nm,0.3s,baz=7.9,slow=11,SNR=15						
CFAA	**Coronel Fontan**	**10.49**	**187**	P	**Pn**	**21 04 35.8**	**-0.2**
NNA	**Nana**	**13.28**	**312**	P	**Pn**	**21 05 11.3**	**-0.2**
	0.7nm,0.3s,baz=168,slow=9.9,SNR=4.3						
NNA	**Nana**	**13.28**	**312**	P	**Pn**	**21 05 11.3**	**-0.2**
TRQA	**Tornquist**	**17.34**	**167**	*e*P	**P**	**21 06 00.4**	**+1.8**
	1.3nm,0.5s						
PLCA	**Paso Flores**	**19.78**	**189**	P	**P**	**21 06 27.1**	**+2.1**
	0.6nm,0.3s,baz=3.8,slow=9.6,SNR=5.7						
PLCA	**Paso Flores**	**19.78**	**189**	P	**P**	**21 06 27.1**	**+2.1**
RCBR	**Riachuelo**	**33.55**	**67**	P	**P**	**21 08 30.6**	**-0.4**
	11nm,0.8s,mb4.4,baz=80,slow=8.1,SNR=5.2						
RCBR	**Riachuelo**	**33.55**	**67**	P	**P**	**21 08 30.6**	**-0.4**
TEIG	**Tepich**	**46.20**	**331**	P	**P**	**21 10 14.0**	**-0.8**
	3.6nm,0.5s,mb4.0,baz=293,slow=1.2,SNR=4.1						
TEIG	**Tepich**	**46.20**	**331**	P	**P**	**21 10 14.0**	**-0.8**
CMIG	**Matias Romero**	**46.96**	**322**	P	**P**	**21 10 20.6**	**-0.2**
	1.3nm,0.3s,mb3.8,baz=48,slow=12,SNR=4.4						
CMIG	**Matias Romero**	**46.96**	**322**	P	**P**	**21 10 20.6**	**-0.2**
TXAR	**Lajitas Array**	**61.52**	**323**	P	**P**	**21 12 04.9**	**-0.6**
	0.4nm,0.6s,mb3.2,baz=153,slow=11,SNR=6.6						
TXAR	**Lajitas Array**	**61.52**	**323**	P	**P**	**21 12 04.9**	**-0.6**
QSPA	**South Pole Qui**	**69.03**	**180**	*e*P	**P**	**21 12 54.3**	**+1.3**
	1.1nm,0.4s,mb3.8						
TORD	**Torodi Ar. Bea**	**75.35**	**69**	P	**P**	**21 13 30.2**	**-1.3**
	5.0nm,0.6s,mb4.4,baz=254,slow=5.5,SNR=64						
TORD	**Torodi Ar. Bea**	**75.35**	**69**	P	**P**	**21 13 30.2**	**-1.3**
NVAR	**Mina Array Bea**	**76.48**	**321**	P	**P**	**21 13 37.4**	**0.0**
	0.5nm,0.5s,mb3.4,baz=165,slow=4.9,SNR=6.0						
NVAR	**Mina Array Bea**	**76.48**	**321**	P	**P**	**21 13 37.4**	**0.0**
ESDC	**Sonseca Array**	**84.19**	**44**	P	**P**	**21 14 18.8**	**+0.4**
	0.1nm,0.5s,mb2.9,baz=127,slow=36,SNR=4.1						
ESDC	**Sonseca Array**	**84.19**	**44**	P	**P**	**21 14 18.8**	**+0.4**
YKA	**Yellowknife Ar**	**91.54**	**340**	P	**P**	**21 14 52.6**	**-0.3**
	0.9nm,0.6s,mb3.9,baz=131,slow=4.7,SNR=23						
YKA	**Yellowknife Ar**	**91.54**	**340**	P	**P**	**21 14 52.6**	**-0.3**
ASAR	**Alice Springs**	**131.11**	**205**	PKP	PKPdf	21 20 57.4	-0.8
	0.2nm,0.5s,baz=128,slow=2.1,SNR=3.7						
ASAR	**Alice Springs**	**131.11**	**205**	PKP	PKPdf	21 20 57.4	-0.8
WRA	**Warramunga Arr**	**134.24**	**208**	PKP	PKPdf	21 21 03.5	-0.6
	0.6nm,1.0s,baz=153,slow=1.7,SNR=4.4						
WRA	**Warramunga Arr**	**134.24**	**208**	PKP	PKPdf	21 21 03.5	-0.6
ZALV	**Zalesovo Beam**	**140.77**	**26**	PKP	PKPdf	21 21 14.3	-0.7
	0.5nm,0.5s,baz=243,slow=0.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**140.77**	**26**	PKP	PKPdf	21 21 14.3	-0.7
MNGI	**Mangalore**	**142.45**	**96**	*e*PKP	PKPdf	21 21 20.4	+1.2
MKAR	**Makanchi Array**	**144.16**	**37**	PKP	PKPdf	21 21 19.4	-1.9
	0.7nm,0.9s,baz=336,slow=2.2,SNR=5.9						
MKAR	**Makanchi Array**	**144.16**	**37**	PKP	PKPdf	21 21 19.4	-1.9
SONM	**Songino Array**	**152.82**	**10**	PKP	PKPdf	21 21 35.6	+0.4
	0.7nm,1.1s,baz=48,slow=2.1,SNR=3.3						
SONM				PKPbc	PKPbc	21 21 42.5	-0.1
	0.4nm,0.5s,baz=294,slow=1.4,SNR=11						
SONM	**Songino Array**	**152.82**	**10**	PKP	PKPdf	21 21 35.6	+0.4
SONM				PKPbc	PKPbc	21 21 42.5	-0.1

SZGRF ***20*** *21:05:11.8, 32°.09S×14°.79W, h33km, mb6.2, MS5.3, Southern Mid-Atlantic Ridge*
ISCJB ***20*** *21:05:15.8±0.2,31°.18S±0°.03×13°.41W±0°.04, h10km, mb5.5/181, MS5.5/227, Error ellipse: s-maj=5.2km s-min=4.7km az=44.4*
IDC ***20*** *21:05:15.5±0.4,31°.14S×13°.35W, h0km, mb5.0/28, mb1 4.9/28, mb1mx4.9/31, mbtmp5.0/28, MS5.5/31, Ms1 5.5/31, ms1mx5.4/32, Error ellipse: s-maj=13.6km s-min=11.4km az=151.0*
MOS ***20*** *21:05:16.0±0.8,31°.12S×13°.45W, h10km, mb6.0/64, MS5.4/48, Error ellipse: s-maj=13.6km s-min=5.1km az=74.1*
NEIC ***20*** *21:05:16.2±0.1,31°.19S×13°.34W, h4km, mb5.8/91, MS5.6/168, MW5.8, MW5.6, Error ellipse: s-maj=5.3km s-min=4.1km az=127.0, Moment Tensor Solution. s61 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.31; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$2.64; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.34; $M_{\phi r}$1.40; Best double couple: $M_0$2.90000×10^{17} NP1:ϕ_s178.00000°, δ60.00000°, λ-85.00000°. NP2:ϕ_s348.00000°, δ31.00000°, λ-99.00000°. Principal axes: T 3.0400, Plg14.0000°, Azm264.0000°; N -0.3600, Plg4.0000°, Azm355.0000°; P -2.6900, Plg74.0000°, Azm101.0000°;*
BJI ***20*** *21:05:17.4,31°.20S×13°.40W, h10km, mB5.9/27, Ms6.0/26, Ms7 5.8/31*
DJA ***20*** *21:05:18,31°.12S×13°.84W, h10km, mb5.3/9*
GCMT ***20*** *21:05:22.4±0.1,31°.23S×13°.27W, h12km, MW5.8, Moment Tensor Solution. s104,c196; s82,c102; Moment tensor: Scale 10^{17}Nm; M_{rr}-5.73±.04; $M_{\theta\theta}$-0.23±.04; $M_{\phi\phi}$5.96±.04; $M_{r\theta}$-0.51±.13; $M_{\theta\phi}$-0.62±.04; $M_{\phi r}$0.78±.12; Best double couple: $M_0$6.00000×10^{17} NP1:ϕ_s359.00000°, δ41.00000°, λ-83.00000°. NP2: ϕ_s170.00000°, δ49.00000°, λ-96.00000°. Principal axes: T 6.0800, Plg4.0000°, Azm264.0000°; N -0.2600, Plg4.0000°, Azm174.0000°; P -5.8200, Plg84.0000°, Azm36.0000°; Data Used: II IU IC G CN. Surface waves: sta=121, comp=278, per= 50.*
ISC 20 21:05:17.5±0.2,**31°.18S**±0°.03×**13°.39W**±0°.04,**h10km,n796,** σ**0°76**/547,**mb5.5**/181,**MS5.5**/227,**30C-165D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**5.94**	**172**	*e*Pn	**Pn**	**21 06 42.4**	**-3.1**
	836nm,1.1s						
TRIS				*e*S	**Sn**	**21 07 43.9**	**-10**
SHEL	**Horse Pasture**	**16.69**	**26**	*e*Pn	**Pn**	**21 09 12.9**	**+1.3**
	2μm,1.8s						
SHEL				*e*S	Sn	21 11 32.3	-45
SHEL	**Horse Pasture**	**16.69**	**26**	*e*P	**Pn**	**21 09 12.9**	**+1.4**
SHEL				pmax	pmax		
	comp=Z,2μm,1.8s						
SHEL	**Horse Pasture**	**16.69**	**26**	Pn	**Pn**	**21 09 12.9**	**+1.4**
	comp=Z,3μm,1.6s,SNR=19						
KOMG	**Komaggas**	**26.60**	**95**	*e*P	**P**	**21 11 02.6**	**+6.5**
KOMG				AMB	AMB	21 11 04.6	
	comp=Z,76nm,1.3s,mb5.1						
CER	**Ceres**	**27.66**	**103**	*e*P	**P**	**21 11 05.6**	**0.0**
CER				AMB	AMB	21 11 15.0	
	comp=Z,31nm,1.9s,mb4.6						
ELIM	**Elim**	**27.96**	**106**	*e*P	**P**	**21 11 07.7**	**-0.6**
ELIM				AMB	AMB	21 11 15.2	
	comp=Z,9μm,9.9s						
CVNA	**Calvinia**	**28.26**	**99**	*e*P	**P**	**21 11 12.2**	**+1.3**
CVNA				AMB	AMB	21 11 22.2	
	comp=Z,93nm,2.7s,mb4.9						
SUR	**Sutherland**	**29.03**	**101**	*e*P	**P**	**21 11 19.8**	**+2.0**
SUR				AMB	AMB	21 11 25.7	
	comp=Z,57nm,3.6s						
SUR	**Sutherland**	**29.03**	**101**	P	**P**	**21 11 18.9**	**+1.1**
	comp=Z,24nm,1.1s,mb4.8,baz=237,slow=1.3,SNR=6.1						
SUR				LR	LR	21 20 15.3	
	comp=Z,20μm,20.7s,MS5.7,baz=258,slow=31						
SUR	**Sutherland**	**29.03**	**101**	*e*P	**P**	**21 11 18.5**	**+0.7**
	comp=Z,50nm,1.2s,mb5.1						
SPB	**Sao Paulo**	**31.07**	**276**	*e*P	**P**	**21 11 36.6**	**+0.8**
	comp=Z,32nm,0.9s,mb5.2						
SPB				LR	LR		
	comp=Z,21μm,20.0s,MS5.8						
PKA	**Prieska**	**31.12**	**97**	*e*P	**P**	**21 11 36.6**	**+0.3**
PKA				AMB	AMB	21 11 42.4	
	comp=Z,23nm,1.8s,mb4.7						
RCBR	**Riachuelo**	**32.89**	**315**	P	**P**	**21 11 52.7**	**+0.7**
	comp=Z,35nm,0.9s,mb5.3,baz=135,slow=10,SNR=9.1						
RCBR				LR	LR	21 21 53.0	
	comp=Z,8μm,21.6s,MS5.4,baz=132,slow=30						
RCBR	**Riachuelo**	**32.89**	**315**	*e*P	**P**	**21 11 52.9**	**+1.0**
SOE	**Somerset East**	**32.97**	**103**	*e*P	**P**	**21 11 52.1**	**-0.4**
SOE				AMB	AMB	21 11 59.0	
	comp=Z,152nm,1.7s,mb5.7						
HVD	**Gariep Dam**	**33.26**	**99**	*e*P	**P**	**21 11 55.0**	**-0.1**
HVD				AMB	AMB	21 11 59.4	
	comp=Z,64nm,3.3s						
BOSA	**Boshof**	**33.49**	**96**	*e*P	**P**	**21 11 55.6**	**-1.5**
BOSA				AMB	AMB	21 11 57.9	
	comp=Z,86nm,1.6s,mb5.4						
BOSA	**Boshof**	**33.49**	**96**	P	**P**	**21 11 56.2**	**-0.9**
	comp=Z,54nm,1.1s,mb5.4,baz=255,slow=7.7,SNR=26						
BOSA				LR	LR	21 22 52.5	
	comp=Z,14μm,20.6s,MS5.7,baz=263,slow=32						
BOSA	**Boshof**	**33.49**	**96**	*e*P	**P**	**21 11 56.1**	**-1.0**
	comp=Z,116nm,1.3s,mb5.7						
BOSA	**Boshof**	**33.49**	**96**	*e*P	**P**	**21 11 56.1**	**-1.0**
BOSA				pmax	pmax		
	comp=Z,116nm,1.3s,mb5.7						
LBTB	**Lobatse**	**34.81**	**90**	*e*P	**P**	**21 12 08.0**	**-0.6**
LBTB				AMB	AMB	21 12 09.7	
	comp=Z,124nm,1.6s,mb5.6						
LBTB	**Lobatse**	**34.81**	**90**	LR	LR	21 23 43.6	
	comp=Z,14μm,20.7s,MS5.7,baz=255,slow=32						
LBTB	**Lobatse**	**34.81**	**90**	*e*P	**P**	**21 12 07.9**	**-0.7**
	comp=Z,185nm,1.4s,mb5.8						
LBTB	**Lobatse**	**34.81**	**90**	*e*P	**P**	**21 12 07.9**	**-0.7**
LBTB				pmax	pmax		
	comp=Z,185nm,1.4s,mb5.8						
KSR	**Koster**	**35.66**	**92**	*e*P	**P**	**21 12 15.4**	**-0.5**
KSR				AMB	AMB	21 12 16.9	
	comp=Z,38nm,1.6s,mb5.1						
PRYS	**Parys**	**35.73**	**94**	*e*P	**P**	**21 12 15.7**	**-0.9**
PRYS				AMB	AMB	21 12 17.2	
	comp=Z,87nm,1.6s,mb5.4						
KLOF	**Kloof**	**36.12**	**93**	*e*P	**P**	**21 12 20.7**	**+0.9**
KLOF				AMB	AMB	21 12 21.5	
	comp=Z,86nm,1.4s,mb5.5						
ERPM	**east rand prop**	**36.66**	**93**⇑ *i*P		**P**	**21 12 24.6**	**+0.1**
ERPM				AMB	AMB	21 12 26.5	
	comp=Z,148nm,1.5s,mb5.6						
LPA	**La Plata**	**37.29**	**252***ce*P		**P**	**21 12 32.0**	**+2.3**
LPA				PP	PP	21 13 52.0	-2.7
LPA				PP	PP	21 14 09.0	+14
LPA				PS		21 18 25.0	
LPA				SSS		21 21 10.0	
LPA							
	comp=Z,9μm,21.0s						
LIC	**Lamto**	**38.05**	**14**⇓ *i*P		**P**	**21 12 35.9**	**-0.3**
	comp=Z,644nm,1.8s,mb5.8,baz=201						
LIC				*e*R			
	comp=Z,5μm,22.2s						
LIC	**Lamto**	**38.05**	**14**⇓ *i*P		**P**	**21 12 35.9**	**-0.3**
	comp=Z,644nm,1.8s,mb6.0						
EFI	**East Falkland**	**38.49**	**225**	PFAKE		21 12 50.0	+10
EFI				LR	LR		
	comp=Z,8μm,21.0s,MS5.5						
DBIC	**Dimbokro**	**38.52**	**14**	*e*P	**P**	**21 12 38.3**	**-1.9**
DBIC	**Dimbokro**	**38.52**	**14**	P	**P**	**21 12 38.4**	**-1.8**
	comp=Z,26nm,1.1s,mb4.8,baz=165,slow=9.9,SNR=32						
DBIC				LR	LR	21 24 17.8	
	comp=Z,3μm,21.6s,MS5.1,baz=172,slow=30						
DBIC	**Dimbokro**	**38.52**	**14**	*e*P	**P**	**21 12 38.6**	**-1.5**
DBIC	**Dimbokro**	**38.52**	**14**	*e*P	**P**	**21 12 38.6**	**-1.6**
CPUP	**Villa Florida**	**38.63**	**266**	P	**P**	**21 12 41.0**	**-0.1**
	comp=Z,8.7nm,1.0s,mb4.4,baz=86,slow=8.1,SNR=9.8						
CPUP				PcP	PcP	21 14 52.6	-0.8
	comp=Z,3.4nm,0.8s,baz=60,slow=3.8,SNR=3.2						
CPUP				LR	LR	21 26 15.0	
	comp=Z,16μm,19.8s,MS5.8,baz=114,slow=33						
CPUP	**Villa Florida**	**38.63**	**266**	*e*P	**P**	**21 12 41.5**	**+0.3**
CPUP				PcP	PcP	21 14 52.6	-0.8
CPUP	**Villa Florida**	**38.63**	**266**	P	**P**	**21 12 41.0**	**-0.2**
CPUP						21 14 52.6	
CPUP				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP				MLR	MLR		
	comp=Z,16μm,19.8s						
MSKU	**Masuku**	**38.91**	**46**	LR	LR	21 25 53.0	
	comp=Z,7μm,20.1s,MS5.5,baz=221,slow=32						
POGA	**Pongola**	**39.24**	**96**	*e*P	**P**	**21 12 45.2**	**-1.0**
POGA				AMB	AMB	21 12 46.5	
	comp=Z,108nm,3.9s						
MSNA	**Messina**	**39.55**	**88**	*e*P	**P**	**21 12 48.4**	**-0.4**
MSNA				AMB	AMB	21 12 49.8	
	comp=Z,79nm,1.8s,mb5.1						
VNA1	**Neumayer--Stat**	**39.62**	**177**	*e*	**P**	**21 12 49.1**	**+0.3**
VNA1	**Neumayer--Stat**	**39.62**	**177**	*e*	**P**	**21 12 49.1**	**+0.3**
VNA1	**Neumayer--Stat**	**39.62**	**177**	*e*	**P**	**21 12 49.1**	**+0.3**
VNA1	**Neumayer--Stat**	**39.62**	**177**	*e*	sP	21 13 00.8	+7.6
VNA1	**Neumayer--Stat**	**39.62**	**177**	*e*	sP	21 13 00.8	+7.6
VNA1	**Neumayer--Stat**	**39.62**	**177**	*e*	sP	21 13 00.8	+7.6
VNA2	**Neumayer--Watz**	**39.93**	**177**	*e*	**P**	**21 12 51.8**	**+0.4**
	baz=299,slow=8.5						
VNA2	**Neumayer--Watz**	**39.93**	**177**	*e*	**P**	**21 12 51.8**	**+0.4**
	baz=350,slow=10						
VNA2	**Neumayer--Watz**	**39.93**	**177**	*e*	**P**	**21 12 51.8**	**+0.4**
VNA2	**Neumayer--Watz**	**39.93**	**177**	*e*	pP	21 12 59.1	+4.6
	baz=299,slow=8.5						
VNA2	**Neumayer--Watz**	**39.93**	**177**	*e*	pP	21 12 59.1	+4.6
	baz=350,slow=10						
VNA2	**Neumayer--Watz**	**39.93**	**177**	*e*	pP	21 12 59.1	+4.6
VNA3	**Neumayer Olymp**	**40.16**	**178**	*e*	**P**	**21 12 53.4**	**0.0**
VNA3	**Neumayer Olymp**	**40.16**	**178**	*e*	**P**	**21 12 53.4**	**0.0**
VNA3	**Neumayer Olymp**	**40.16**	**178**	*e*	**P**	**21 12 53.4**	**0.0**
VNA3	**Neumayer Olymp**	**40.16**	**178**	*e*	pP	21 13 00.6	+4.1
VNA3	**Neumayer Olymp**	**40.16**	**178**	*e*	pP	21 13 00.6	+4.1
VNA3	**Neumayer Olymp**	**40.16**	**178**	*e*	pP	21 13 00.6	+4.1
TRQA	**Tornquist**	**40.20**	**247**	*e*P	**P**	**21 12 54.4**	**+0.3**
	comp=Z,149nm,1.8s,mb5.4						
TRQA				*e*PcP	PcP	21 14 57.8	-0.3
TRQA				LR	LR		
	comp=Z,12μm,22.0s,MS5.7						
SNAA	**Sanae**	**40.95**	**175**	*e*	**P**	**21 13 00.7**	**+0.9**
SNAA	**Sanae**	**40.95**	**175**	*e*	**P**	**21 13 00.7**	**+0.9**
SNAA	**Sanae**	**40.95**	**175**	*e*	**P**	**21 13 00.7**	**+0.9**
SNAA	**Sanae**	**40.95**	**175**	*e*	sP	21 13 10.0	+5.8
SNAA	**Sanae**	**40.95**	**175**	*e*	sP	21 13 10.0	+5.8
SNAA	**Sanae**	**40.95**	**175**	*e*P	**P**	**21 12 58.5**	**-1.3**
SNAA	**Sanae**	**40.95**	**175**	P	**P**	**21 12 59.6**	**-0.2**
	comp=Z,17nm,1.4s,mb4.5,baz=353,slow=7.7,SNR=

comp=Z,12nm,0.9s,mb4.8,baz=83,slow=7.7,SNR=7.7
PLCA PcP PcP 21 15 19.9 +0.5
comp=Z,3.9nm,0.9s,baz=153,slow=5.7,SNR=2.9
PLCA LR LR 21 31 21.8
comp=Z,6µm,19.6s,MS5.5,baz=89,slow=34
PLCA Paso Flores 46.52 242 P **P** **21 13 45.2 +0.2**
PLCA PcP PcP 21 15 19.9 +0.5
PLCA Paso Flores 46.52 242 P **P** **21 13 45.3 +0.2**
PLCA 21 15 19.9
PLCA pmax pmax
comp=Z,12nm,1.0s
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA MLR MLR
comp=Z,6µm,19.6s
SACV Santiago Islan 46.93 346 PFAKE 21 14 00.0 +12
SACV LR LR
comp=Z,2µm,22.0s,MS5.1
FCH Farellones 47.65 252 *eP* **P** **21 13 53.5 -0.6**
SYO Syowa Base 48.20 157⇑ *eP* **P** **21 13 54.4 -3.4**
SYO Syowa Base 48.20 157⇑ *iP* **P** **21 13 55.6 -2.2**
SYO Syowa Base 48.20 157⇓ *iP* **P** **21 13 58.0 +0.2**
LCO Las Campanas 49.15 257 *eP* **P** **21 14 06.4 +0.7**
comp=Z,42nm,1.3s,mb5.3
LCO LR LR
comp=Z,8µm,21.0s,MS5.7
LVC Limon Verde 49.81 266 *eP* **P** **21 14 10.3 -0.5**
comp=Z,15nm,0.8s,mb5.1
LVC LR LR
comp=Z,11µm,22.0s,MS5.8
SAML Samuel 51.22 285 *eP* **P** **21 14 22.0 +0.5**
comp=Z,358nm,2.1s,mb5.9
SAML LR LR
comp=Z,15µm,19.0s,MS6.0
MBAR Mbarara 51.65 63 *eP* **P** **21 14 26.6 +1.9**
MBAR Mbarara 51.65 63 PFAKE 21 14 40.0 +15
MBAR LR LR
comp=Z,834nm,21.0s,MS4.7
MBAR Mbarara 51.65 63 P **P** **21 14 26.4 +1.7**
comp=Z,68nm,1.8s,mb5.3,SNR=8.6
LPAZ La Paz 51.77 273 P **P** **21 14 25.1 -0.5**
comp=Z,8.6nm,0.9s,mb4.7,baz=101,slow=6.8,SNR=32
LPAZ LR LR 21 34 57.1
comp=Z,11µm,19.9s,MS5.9,baz=129,slow=34
LPAZ La Paz 51.77 273 *eP* **P** **21 14 25.0 -0.6**
comp=Z,89nm,1.7s,mb5.4
LPAZ La Paz 51.77 273 *eP* **P** **21 14 25.0 -0.6**
LPAZ pmax pmax
comp=Z,89nm,1.7s
ABPO Ambohimpanom 55.62 93 *eP* **P** **21 14 55.7 +1.9**
comp=Z,175nm,2.1s,mb5.7
ABPO LR LR
comp=Z,10µm,21.0s,MS5.9
ABPO Ambohimpanom 55.62 93 *eP* **P** **21 14 55.7 +1.9**
ABPO pmax pmax
comp=Z,175nm,2.1s,mb5.7
ABPO MLR MLR
comp=Z,10µm,21.0s,MS5.9
OPO Ambohidratompo 55.78 92 LR LR 21 36 50.5
comp=Z,11µm,18.3s,MS6.0,baz=241,slow=34
MAW Mawson 56.37 153 P **P** **21 14 58.2 -0.3**
comp=Z,11nm,1.0s,mb4.8,baz=280,slow=9.5,SNR=9.9
MAW LR LR 21 34 10.2
comp=Z,4µm,20.0s,MS5.5,baz=282,slow=31
MAW Mawson 56.37 153 *eP* **P** **21 14 58.0 -0.4**
comp=Z,38nm,1.8s,mb5.1
MAW Mawson 56.37 153 P **P** **21 14 58.2 -0.2**
MAW pmax pmax
comp=Z,11nm,1.0s
MAW MLR MLR
comp=Z,4µm,20.0s
KMBO Kilima Mbogo 56.40 68 *eP* **P** **21 15 02.1 +2.7**
KMBO Kilima Mbogo 56.40 68 *eP* **P** **21 15 02.2 +2.8**
comp=Z,128nm,2.0s,mb5.6
KMBO LR LR
comp=Z,8µm,19.0s,MS5.9
KMBO Kilima Mbogo 56.40 68 *eP* **P** **21 15 02.2 +2.8**
KMBO pmax pmax
comp=Z,128nm,2.0s
KMBO MLR MLR
comp=Z,8µm,19.0s
KMBO Kilima Mbogo 56.40 68 P **P** **21 15 02.8 +3.4**
SNR=9.5
TAM Tamanrasset 56.65 21 *eP* **P** **21 15 01.7 +0.8**
comp=Z,191nm,1.9s,mb5.8
TAM LR LR
comp=Z,4µm,19.0s,MS5.6
TAM Tamanrasset 56.65 21 *eP* **P** **21 15 01.7 +0.8**
TAM pmax pmax
comp=Z,191nm,1.9s,mb5.8
TAM MLR MLR
comp=Z,4µm,19.0s,MS5.6
QSPA South Pole Qui 59.05 180 *eP* **P** **21 15 17.3 +0.1**
comp=Z,100nm,1.1s,mb5.8
QSPA LR LR
comp=Z,863nm,22.0s,MS4.8
NNA Nana 61.24 273 P **P** **21 15 33.4 +0.3**
comp=Z,22nm,1.0s,mb5.3,baz=152,slow=3.9,SNR=12
NNA LR LR 21 41 43.3
comp=Z,6µm,18.1s,MS5.8,baz=144,slow=36
NNA Nana 61.24 273 *eP* **P** **21 15 33.6 +0.5**
NNA Nana 61.24 273 P **P** **21 15 33.4 +0.3**
NNA pmax pmax
comp=Z,22nm,1.0s
NNA MLR MLR
comp=Z,6µm,18.2s
RER Riviere de l'E 61.98 99 PFAKE 21 15 50.0 +12
RER LR LR
comp=Z,5µm,20.0s,MS5.6
BBGH Gun Hill 62.50 308 PFAKE 21 15 50.0 +8.5
BBGH LR LR
comp=Z,7µm,22.0s,MS5.8
PAF Port-aux-Franc 63.11 133 PFAKE 21 16 00.0 +15
PAF LR LR
comp=Z,3µm,20.0s,MS5.5
FDF Fort de France 64.71 308 P **P** **21 15 49.9 -6.2**
comp=Z,236nm,1.4s,mb6.0
FDF LR LR
comp=Z,1µm,20.0s,MS5.2
FDF Fort de France 64.71 308 P **P** **21 15 49.9 -6.2**
FDF pmax pmax
comp=Z,236nm,1.4s,mb6.0
FDF MLR MLR
comp=Z,1µm,20.0s,MS5.2
ATAH Atahualpa 64.98 277 P **P** **21 15 59.4 +1.4**
comp=Z,31nm,1.0s,mb5.3,baz=127,slow=4.1,SNR=50
ATAH Atahualpa 64.98 277 P **P** **21 15 59.4 +1.4**
RTC Rabat Centre 65.11 6 PFAKE 21 16 10.0 +12
RTC LR LR
comp=Z,2µm,21.0s,MS5.3
ANWB Willy Bob 67.22 309 *eP* **P** **21 16 12.6 +0.4**
ANWB LR LR
comp=Z,2µm,21.0s,MS5.2
SFS San Fernando 67.63 6 PFAKE 21 16 30.0 +16
SFS LR LR
comp=Z,3µm,19.0s,MS5.6
ETRT Tiaret 67.65 13 P **P** **21 16 16.1 +1.6**
SDV Santo Domingo 67.72 296 *eP* **P** **21 16 15.9 +0.5**
comp=Z,116nm,1.1s,mb5.8
SDV LR LR
comp=Z,6µm,20.0s,MS5.8
MIR Mirnyy 67.96 156 *eP* **P** **21 16 14.0 -2.2**
MIR *i* 21 16 21.0
MIR pmax pmax
comp=Z,245nm,1.8s,mb5.9
MIR pmax pmax
comp=Z,505nm,2.0s,mb6.2
MIR MLR MLR
comp=N,700nm,16.0s,MS5.2
MIR MLR MLR
comp=E,900nm,16.0s,MS5.2
MIR MLR MLR
comp=Z,2µm,16.0s,MS5.4
PFVI Vila Bisbo 68.09 4 *eP* **P** **21 16 16.9 -0.4**
comp=Z,319nm,2.0s,mb6.0
PFVI *e*LR LR 21 37 53.5
comp=Z,2µm,20.0s
EANR 'Ain N'Sour 68.15 13 P **P** **21 16 18.5 +0.8**
ROSC El Rosal 68.19 290 P **P** **21 16 18.4 -0.1**
comp=Z,8.7nm,0.8s,mb4.8,baz=99,slow=23,SNR=6.5
ROSC LR LR 21 45 12.8
comp=Z,9µm,18.4s,MS6.0,baz=170,slow=35
ROSC El Rosal 68.19 290 P **P** **21 16 18.4 -0.1**
PBDV Barranco-do-Ve 68.26 5 *eP* **P** **21 16 18.5 +0.2**
comp=Z,188nm,1.8s,mb5.8
PBDV *e*LR LR 21 38 37.9
comp=Z,2µm,20.0s

MORF Marmelete 68.28 4 *eP* **P** **21 16 18.8 +0.4**
comp=Z,128nm,1.9s,mb5.6
MORF *e*LR LR 21 39 05.3
comp=Z,3µm,22.0s
MORF Marmelete 68.28 4 *eP* **P** **21 16 18.6 +0.2**
ECHA Ech Chlef 68.40 13 P **P** **21 16 20.2 +1.0**
PVAQ Vaqueiros 68.44 5 *eP* **P** **21 16 19.6 +0.2**
comp=Z,187nm,1.9s,mb5.8
PVAQ *e*S S 21 25 29.1 +8.1
PVAQ *e*LQ 21 35 34.6
PVAQ *e*LR LR 21 38 35.3
comp=Z,2µm,20.0s
PTEO Sao Teotonio 68.51 4 *eP* **P** **21 16 20.4 +0.5**
comp=Z,117nm,2.2s,mb5.4
EBNR Beni Rached 68.56 13 P **P** **21 16 22.0 +1.7**
ATD Arta Tunnel 68.62 61 LR LR 21 43 18.5
comp=Z,4µm,21.5s,MS5.7,baz=47,slow=33
PCVE Castro Verde 68.64 5 *eP* **P** **21 16 20.9 +0.2**
comp=Z,115nm,1.9s,mb5.5
PCVE *e*LR LR 21 38 23.2
comp=Z,2µm,22.0s
OTAV Otavalo 68.94 284 *eP* **P** **21 16 24.1 +0.9**
comp=Z,75nm,1.4s,mb5.4
OTAV LR LR
comp=Z,11µm,19.0s,MS6.1
PBEJ Beja 69.05 5 *eP* **P** **21 16 23.4 +0.2**
comp=Z,104nm,1.8s,mb5.5
PNCL Nicolau / Gran 69.09 4 *eP* **P** **21 16 24.0 +0.5**
comp=Z,101nm,1.6s,mb5.5
PNCL *e*LR LR 21 38 56.7
comp=Z,2µm,20.0s
CKHR Kef el Ahmar 69.16 16 P **P** **21 16 24.8 +0.8**
PBAR Barrancos 69.25 5 *eP* **P** **21 16 24.8 +0.3**
comp=Z,169nm,1.8s,mb5.7
PBAR *e*LR LR 21 39 12.5
comp=Z,1µm,22.0s
SET Setif 69.31 16 P **P** **21 16 25.0 +0.1**
CART Cartagena 69.39 10 *eP* **P** **21 16 25.3 -0.1**
comp=Z,41nm,1.3s,mb5.2
CTEI Djebel Teioual 69.43 17 P **P** **21 16 25.4 -0.2**
EVOP Sao Brissos 69.53 4 *iP* **P** **21 16 26.4 +0.2**
comp=Z,411nm,1.8s,mb6.1
EVOP Sao Brissos 69.53 4 *iP* **P** **21 16 26.4 +0.2**
EVOP pmax pmax
comp=Z,411nm,1.8s,mb6.1
MSEY Mahe Island 69.54 83 PFAKE 21 16 40.0 +13
MSEY LR LR
comp=Z,6µm,19.0s,MS5.8
EVO Evora 69.54 5 *iP* **P** **21 16 26.4 +0.1**
comp=Z,411nm,1.8s,mb5.8
EVO *e*R
comp=Z,3µm,20.8s
EVO Evora 69.54 5 *eP* **P** **21 16 25.5 -0.8**
comp=Z,132nm,1.9s,mb5.5
CASM Ain Smara 69.63 17 P **P** **21 16 26.4 -0.5**
LIS Lisbon 69.65 4 *eP* **P** **21 16 27.0 0.0**
LIS AMb AMB 21 16 31.9
comp=Z,196nm,1.8s,mb5.7
LIS Lisbon 69.65 4 *eP* **P** **21 16 27.0 0.0**
comp=Z,196nm,1.8s,mb5.7
LIS Lisbon 69.65 4 *eP* **P** **21 16 27.0 0.0**
CKFL Kef-Lekhel 69.83 17 P **P** **21 16 29.6 +1.5**
STVI Saint Thomas 69.83 308 *eP* **P** **21 16 28.4 -0.1**
comp=Z,99nm,1.2s,mb5.6
PMAFR Mafra 69.89 3 *eP* **P** **21 16 29.5 +1.1**
comp=Z,157nm,1.6s,mb5.7
PMAFR *e*LR LR 21 39 56.3
comp=Z,943nm,22.0s
PESTR Estremoz 69.90 5 *eP* **P** **21 16 28.9 +0.4**
comp=Z,176nm,1.8s,mb5.7
PESTR *e*S S 21 25 42.5 +4.3
PESTR *e*LQ 21 36 16.7
PESTR *e*LR LR 21 39 50.9
comp=Z,2µm,22.0s
KEST Kesra 69.91 20 P **P** **21 16 29.3 +0.7**
comp=Z,14nm,1.0s,mb4.8,baz=194,slow=4.0,SNR=14
KEST LR LR 21 45 23.9
comp=Z,3µm,18.1s,MS5.5,baz=321,slow=34
KEST Kesra 69.91 20 *eP* **P** **21 16 29.2 +0.6**
PMTG Montargil 70.06 4 *eP* **P** **21 16 29.7 +0.2**
comp=Z,135nm,1.9s,mb5.5
PMTG *e*LR LR 21 39 29.1
comp=Z,2µm,20.0s
MTP Monte Pirata 70.06 307 *eP* **P** **21 16 29.6 -0.3**
comp=Z,24nm,0.6s,mb5.3
CAEH 'Ain El Ouahch 70.22 17 P **P** **21 16 33.6 +3.1**
PMRV Marv??o 70.47 5 *eP* **P** **21 16 32.2 +0.2**
comp=Z,186nm,1.8s,mb5.7
PMRV *e*LR LR 21 41 13.7
comp=Z,2µm,20.0s
SJG San Juan 70.48 307 P **P** **21 16 31.4 -1.1**
comp=Z,32nm,0.6s,mb5.4,baz=356,slow=23,SNR=12
SJG LR LR 21 46 03.2
comp=Z,2µm,20.8s,MS5.4,baz=90,slow=35
SJG San Juan 70.48 307 *eP* **P** **21 16 32.0 -0.5**
SJG San Juan 70.48 307 *eP* **P** **21 16 32.0 -0.5**
PTOM Tomar 70.59 4 *eP* **P** **21 16 33.3 +0.6**
comp=Z,160nm,1.7s,mb5.7
OBIP Obispado Ponce 70.75 306 *eP* **P** **21 16 33.7 -0.5**
comp=Z,85nm,1.1s,mb5.6
CELP Cerrillos 70.75 306 *eP* **P** **21 16 33.8 -0.4**
PAB San Pablo 70.87 7 *eP* **P** **21 16 34.3 -0.1**
comp=Z,20nm,1.4s,mb4.9
PAB LR LR
comp=Z,2µm,22.0s,MS5.2
PAB San Pablo 70.87 7 *eP* **P** **21 16 34.3 -0.1**
PAB pmax pmax
comp=Z,20nm,1.4s,mb4.8
PAB MLR MLR
comp=Z,2µm,22.0s,MS5.2
PCBR Castelo Branco 70.88 5 *eP* **P** **21 16 34.5 +0.1**
comp=Z,84nm,1.9s,mb5.3
ESDC Sonseca Array 71.04 8 P **P** **21 16 34.5 -0.9**
comp=Z,4.0nm,0.9s,mb4.4,baz=181,slow=6.9,SNR=30
ESDC LR LR 21 45 53.6
comp=Z,2µm,18.6s,MS5.3,baz=185,slow=34
ESDC Sonseca Array 71.04 8 P **P** **21 16 34.5 -0.9**
ESLA Sonseca Array 71.04 8 *eP* **P** **21 16 34.7 -0.7**
comp=Z,37nm,1.8s,mb5.0
ESLA LR LR
comp=Z,13µm,21.0s,MS6.2
SBA Scott Base 71.22 180 *eP* **P** **21 16 36.2 +0.1**
comp=Z,68nm,1.1s,mb5.5
SBA LR LR
comp=Z,2µm,20.0s,MS5.3
SBA Scott Base 71.22 180 *eP* **P** **21 16 36.3 +0.1**
SBA pmax pmax
comp=Z,68nm,1.1s,mb5.5
SBA MLR MLR
comp=Z,2µm,20.0s,MS5.3
MTE Manteigas 71.43 5 *eP* **P** **21 16 37.9 +0.1**
comp=Z,82nm,2.0s,mb5.3
MTE *e*LR LR 21 40 22.0
comp=Z,2µm,22.0s
MTE Manteigas 71.43 5 *eP* **P** **21 16 37.6 -0.1**
comp=Z,136nm,1.8s,mb5.6
MTE LR LR
comp=Z,2µm,22.0s,MS5.3
VNDA Vanda 71.51 179 *eP* **P** **21 16 37.7 -0.3**
comp=Z,138nm,1.8s,mb5.6
VNDA LR LR
comp=Z,2µm,21.0s,MS5.4
VNDA Vanda 71.51 179 *eP* **P** **21 16 37.7 -0.3**
VNDA pmax pmax
comp=Z,138nm,1.8s
VNDA MLR MLR
comp=Z,2µm,21.0s
WDD Wield Dalam 71.66 24 PFAKE 21 16 50.0 +11
WDD LR LR
comp=Z,2µm,20.0s,MS5.4
PVIS Viseu 71.72 4 *eP* **P** **21 16 39.6 +0.1**
comp=Z,83nm,2.0s,mb5.3
MVO Moncorvo 72.23 5 *eP* **P** **21 16 42.8 +0.3**
comp=Z,124nm,1.9s,mb5.5
MVO *e*LR LR 21 42 09.2
comp=Z,2µm,20.0s
POLO Lamas de Olo 72.38 4 *e*LQ 21 37 11.3
POLO *e*LR LR 21 41 45.8
comp=Z,644nm,22.0s
PBRG Braganca 72.89 5 *eP* **P** **21 16 46.9 +0.5**
comp=Z,127nm,1.9s,mb5.5
PBRG *e*LR LR 21 42 21.7
comp=Z,2µm,22.0s
PGAV Gavieira, Arco 72.94 4 *eP* **P** **21 16 46.4 -0.4**
comp=Z,153nm,1.8s,mb5.6
PGAV *e*LR LR 21 40 50.9
comp=Z,2µm,20.0s

VSL Villasalto 73.44 18 PFAKE 21 17 00.0 +10
VSL LR LR
comp=Z,2µm,22.0s,MS5.4
CASY Casey 73.88 160 PFAKE 21 17 00.0 +7.8
CASY LR LR
comp=Z,4µm,21.0s,MS5.7
ETSF Etsaut 74.66 10 ⇓ *iP* **P** **21 16 56.6 -0.2**
comp=Z,214nm,1.6s,mb5.5
ETSF Etsaut 74.66 10 ⇓ *iP* **P** **21 16 56.6 -0.2**
comp=Z,214nm,1.6s,mb5.8
ETSF Etsaut 74.66 10 ⇓ *iP* **P** **21 16 56.6 -0.2**
ETSF pmax pmax
comp=Z,214nm,1.6s,mb5.8
SDDR Presa de Saban 74.67 304 *eP* **P** **21 16 57.3 -0.2**
comp=Z,106nm,1.5s,mb5.5
SDDR LR LR
comp=Z,2µm,20.0s,MS5.5
RESF Ens 74.70 10 *eP* **P** **21 16 56.9 -0.2**
SJPF Ste Jean 74.77 9 ⇓ *iP* **P** **21 16 57.6 +0.1**
comp=Z,172nm,1.5s,mb5.5
SJPF Ste Jean 74.77 9 ⇓ *iP* **P** **21 16 57.6 +0.1**
comp=Z,172nm,1.5s,mb5.8
SJPF Ste Jean 74.77 9 ⇓ *iP* **P** **21 16 57.6 +0.1**
SJPF pmax pmax
comp=Z,172nm,1.5s,mb5.8
ATE Arette 74.82 10 *eP* **P** **21 16 57.8 0.0**
MELF Melles 74.83 11 *eP* **P** **21 16 57.9 +0.1**
REYF Montagne du Re 74.85 10 *eP* **P** **21 16 58.2 +0.3**
OSSF Osses 74.91 9 *eP* **P** **21 16 58.0 -0.3**
EPF Esparros 74.92 10 ⇓ *iP* **P** **21 16 58.1 -0.2**
comp=Z,128nm,1.5s,mb5.3
EPF Esparros 74.92 10 ⇓ *iP* **P** **21 16 58.1 -0.2**
comp=Z,128nm,1.5s,mb5.6
EPF Esparros 74.92 10 ⇓ *iP* **P** **21 16 58.1 -0.2**
EPF pmax pmax
comp=Z,128nm,1.5s,mb5.6
KARN Karanos 74.94 31 *eP* **P** **21 16 59.3 +0.6**
MLS Moulis 74.97 11 *eP* **P** **21 16 58.5 -0.1**
SIVA Sivas 75.02 32 *eP* **P** **21 16 59.7 +0.6**
VAM Vamos 75.07 31 *eP* **P** **21 17 00.1 +0.7**
BCIP Isla Barro Col 75.13 291 PFAKE 21 17 10.0 +10
BCIP LR LR
comp=Z,7µm,20.0s,MS6.0
IDI Anoyia 75.28 32 *eP* **P** **21 17 00.8 +0.1**
comp=Z,66nm,1.1s,mb5.5
PYL PYLOS 75.29 28 *eP* **P** **21 17 02.3 +1.7**
TIP Timpagrande 75.41 24 *eP* **P** **21 16 59.8 -1.5**
comp=Z,229nm,2.0s,mb5.8
TIP LR LR
comp=Z,2µm,21.0s,MS5.4
LAST Lasithi 75.44 32 *eP* **P** **21 17 02.4 +0.8**
MTLF Montolieu 75.53 12 ⇓ *iP* **P** **21 17 00.7 -1.2**
comp=Z,110nm,1.5s,mb5.3
MTLF Montolieu 75.53 12 ⇓ *iP* **P** **21 17 00.7 -1.2**
comp=Z,110nm,1.5s,mb5.6
MTLF Montolieu 75.53 12 ⇓ *iP* **P** **21 17 00.7 -1.2**
MTLF pmax pmax
comp=Z,110nm,1.5s,mb5.6
NPS Neapolis 75.59 32 *eP* **P** **21 17 02.8 +0.4**
ITM Ithomi 75.61 28 *eP* **P** **21 17 03.0 +0.5**
ZKR Zakros 75.74 33 *eP* **P** **21 16 55.9 -7.4**
CUC Castrocucco 75.83 23 *eP* **P** **21 17 01.9 -1.7**
comp=Z,5.5nm,0.8s,mb4.5
CUC LR LR
comp=Z,743nm,21.0s,MS5.0
VLX Vlachokerasia 75.96 29 *eP* **P** **21 17 05.9 +1.4**
RLS Riolos of Patr 76.18 28 *eP* **P** **21 17 07.2 +1.5**
PGF Pioggiola 76.20 17 ⇓ *iP* **P** **21 17 04.8 -0.9**
comp=Z,74nm,1.2s,mb5.2
PGF Pioggiola 76.20 17 ⇓ *iP* **P** **21 17 04.8 -0.9**
comp=Z,74nm,1.2s,mb5.5
PGF Pioggiola 76.20 17 ⇓ *iP* **P** **21 17 04.8 -0.9**
PGF pmax pmax
comp=Z,74nm,1.2s,mb5.5
LMR La Mourre 76.37 15 ⇓ *iP* **P** **21 17 06.0 -0.6**
LMR La Mourre 76.37 15 ⇓ *iP* **P** **21 17 06.0 -0.6**
LMR La Mourre 76.37 15 ⇓ *iP* **P** **21 17 06.0 -0.6**
GUR Goura 76.43 28 *eP* **P** **21 17 09.2 +2.1**
DID Didima 76.43 29 *eP* **P** **21 17 08.2 +1.1**
KARP Karpathos 76.54 33 *eP* **P** **21 17 05.7 -2.1**
LASF Ste Croix 76.54 13 ⇓ *iP* **P** **21 17 07.3 -0.3**
comp=Z,143nm,1.4s,mb5.4
LASF Ste Croix 76.54 13 ⇓ *iP* **P** **21 17 07.3 -0.3**
comp=Z,143nm,1.4s,mb5.7
FRF La Foret Royal 76.61 15 ⇓ *iP* **P** **21 17 07.4 -0.6**
comp=Z,168nm,1.6s,mb5.4
FRF La Foret Royal 76.61 15 ⇓ *iP* **P** **21 17 07.4 -0.6**
comp=Z,168nm,1.6s,mb5.7
FRF La Foret Royal 76.61 15 ⇓ *iP* **P** **21 17 07.4 -0.6**
FRF pmax pmax
comp=Z,168nm,1.6s,mb5.7
EFP Efpalio 76.67 28 *eP* **P** **21 17 09.5 +1.0**
LTK Loutraki 76.76 29 *eP* **P** **21 17 08.6 -0.4**
SMRF Simiane la Rot 76.78 14 ⇓ *iP* **P** **21 17 09.2 +0.2**
comp=Z,118nm,1.3s,mb5.3
SMRF Simiane la Rot 76.78 14 ⇓ *iP* **P** **21 17 09.2 +0.2**
comp=Z,118nm,1.3s,mb5.7
LFF La Frestale 76.85 10 ⇓ *iP* **P** **21 17 09.0 -0.3**
comp=Z,256nm,1.6s,mb5.6
LFF La Frestale 76.85 10 ⇓ *iP* **P** **21 17 09.0 -0.3**
comp=Z,256nm,1.6s,mb5.9
LFF La Frestale 76.85 10 ⇓ *iP* **P** **21 17 09.0 -0.3**
LFF pmax pmax
comp=Z,256nm,1.6s,mb5.9
CALN Calern 76.85 15 *eP* **P** **21 17 09.3 0.0**
ATH Athens Observa 77.03 29 *eP* **P** **21 17 11.2 +0.7**
CAF Calviac 77.04 11 ⇓ *iP* **P** **21 17 09.9 -0.5**
comp=Z,107nm,1.6s,mb5.2
CAF Calviac 77.04 11 ⇓ *iP* **P** **21 17 09.9 -0.5**
comp=Z,107nm,1.6s,mb5.5
CAF Calviac 77.04 11 ⇓ *iP* **P** **21 17 09.9 -0.5**
CAF pmax pmax
comp=Z,107nm,1.6s,mb5.5
MVIF Mont Vial 77.05 15 *eP* **P** **21 17 10.3 -0.1**
EVR Evrytania 77.06 27 *eP* **P** **21 17 02.3 -8.3**
SBF Sospel 77.08 15 ⇓ *iP* **P** **21 17 10.3 -0.3**
comp=Z,98nm,1.4s,mb5.2
SBF Sospel 77.08 15 ⇓ *iP* **P** **21 17 10.3 -0.3**
comp=Z,98nm,1.4s,mb5.5
SBF Sospel 77.08 15 ⇓ *iP* **P** **21 17 10.3 -0.3**
SBF pmax pmax
comp=Z,98nm,1.4s,mb5.5
TOUF Mont Tournerai 77.18 15 *eP* **P** **21 17 11.5 +0.3**
AUTN L'Aution 77.20 15 *eP* **P** **21 17 09.1 -2.2**
AQU L'Aquila 77.22 20 PFAKE 21 17 20.0 +8.5
AQU LR LR
comp=Z,5µm,20.0s,MS5.8
AQU L'Aquila 77.22 20 ⇓ **P** **21 17 11.5 0.0**
AQU L'Aquila 77.22 20 ⇓ *iP* **P** **21 17 11.5 0.0**
SAOF Saorge 77.22 15 *eP* **P** **21 17 10.1 -1.3**
LKR Lokris 77.31 28 *eP* **P** **21 17 11.6 -0.5**
RJF Les Rejaudoux 77.32 11 ⇓ *iP* **P** **21 17 11.6 -0.4**
comp=Z,113nm,1.4s,mb5.3
RJF *e*R
comp=Z,2µm,20.2s
RJF Les Rejaudoux 77.32 11 ⇓ *iP* **P** **21 17 11.6 -0.4**
comp=Z,113nm,1.4s,mb5.6
RJF Les Rejaudoux 77.32 11 ⇓ *iP* **P** **21 17 11.6 -0.4**
RJF pmax pmax
comp=Z,113nm,1.4s,mb5.6
JAN Janina 77.32 26 *eP* **P** **21 17 13.1 +1.0**
AGG Agios Georgios 77.35 28 *eP* **P** **21 17 12.5 +0.2**
VIVF Saint-Julien-l 77.45 13 ⇓ *iP* **P** **21 17 12.4 -0.3**
comp=Z,198nm,1.6s,mb5.5
VIVF Saint-Julien-l 77.45 13 ⇓ *iP* **P** **21 17 12.4 -0.3**
comp=Z,198nm,1.6s,mb5.8
VIVF Saint-Julien-l 77.45 13 ⇓ *iP* **P** **21 17 12.4 -0.3**
VIVF pmax pmax
comp=Z,198nm,1.6s,mb5.8
ARG Arkhangelos 77.53 33 *eP* **P** **21 17 14.3 +0.9**
LBL Lubilhac 77.55 12 *eP* **P** **21 17 13.2 0.0**
ORIF Oris-en-Rattie 77.75 14 ⇓ *iP* **P** **21 17 14.4 0.0**
comp=Z,166nm,1.5s,mb5.5
ORIF *e*R
comp=Z,2µm,20.0s
ORIF Oris-en-Rattie 77.75 14 ⇓ *iP* **P** **21 17 14.4 0.0**
comp=Z,166nm,1.5s,mb5.7
ORIF Oris-en-Rattie 77.75 14 ⇓ *iP* **P** **21 17 14.4 0.0**
ORIF pmax pmax
comp=Z,166nm,1.5s,mb5.7
MBDF Montbardon 77.75 15 ⇓ *iP* **P** **21 17 14.5 +0.1**
comp=Z,129nm,1.5s,mb5.3
MBDF Montbardon 77.75 15 ⇓ *iP* **P** **21 17 14.5 +0.1**
comp=Z,129nm,1.5s,mb5.6
MBDF Montbardon 77.75 15 ⇓ *iP* **P** **21 17 14.5 +0.1**

MBDF pmax pmax
comp=Z,129nm,1.5s,mb5.6
SSB Saint Sauveur 77.83 13 PFAKE 21 17 30.0 +15
SSB LR LR
comp=Z,1µm,19.0s,MS5.2
VERF Verneugheol 77.91 11 *e*P **P 21 17 14.9 -0.4**
NEO Neokhori 77.96 28 *e*P **P 21 17 15.9 +0.2**
PYM Petit Puy Mans 78.00 12 *e*P **P 21 17 15.8 0.0**
GTBY Guantanamo Bay 78.02 302 PFAKE 21 17 30.0 +14
GTBY LR LR
comp=Z,3µm,19.0s,MS5.7
BNI Bardonecchia 78.04 14 *e*P **P 21 17 13.1 -2.9**
comp=Z,31nm,1.3s,mb5.1
BNI LR LR
comp=Z,3µm,21.0s,MS5.6
BNI Bardonecchia 78.04 14 *e*P **P 21 17 13.1 -2.9**
BNI pmax pmax
comp=Z,31nm,1.3s,mb5.1
BNI MLR MLR
comp=Z,3µm,21.0s,MS5.6
KZN Kozani 78.24 27 *e*P **P 21 17 16.4 -0.8**
AGO Saint Agoulin 78.32 12 *e*P **P 21 17 16.5 -1.0**
PLDF La Plantade 78.33 12 *e*P **P 21 17 17.4 -0.1**
LIT Litokhoron 78.34 27 *e*P **P 21 17 07.3 -10**
MFF Saint Martin d 78.34 9⇓*i*P **P 21 17 17.3 -0.3**
comp=Z,301nm,1.9s,mb5.6
MFF Saint Martin d 78.34 9⇓*i*P **P 21 17 17.3 -0.3**
comp=Z,301nm,1.9s,mb5.9
MFF Saint Martin d 78.34 9⇓*i*P **P 21 17 17.3 -0.3**
MFF pmax pmax
comp=Z,301nm,1.9s,mb5.9
CHOS Chios island 78.38 31 *e*P **P 21 17 11.9 -6.1**
TCF Toulx Ste Croi 78.39 11⇓*i*P **P 21 17 17.8 -0.1**
comp=Z,367nm,1.9s,mb5.7
TCF Toulx Ste Croi 78.39 11⇓*i*P **P 21 17 17.8 -0.1**
comp=Z,367nm,1.9s,mb6.0
TCF Toulx Ste Croi 78.39 11⇓*i*P **P 21 17 17.8 -0.1**
TCF pmax pmax
comp=Z,367nm,1.9s,mb6.0
TIR Tirane 78.43 25 PFAKE 21 17 30.0 +12
TIR LR LR
comp=Z,1µm,20.0s,MS5.2
LPG La Plagne 78.48 14⇓*i*P **P 21 17 18.6 +0.2**
comp=Z,69nm,0.9s,mb5.3
LPG La Plagne 78.48 14⇓*i*P **P 21 17 18.6 +0.2**
comp=Z,69nm,0.9s,mb5.6
LPG La Plagne 78.48 14⇓*i*P **P 21 17 18.6 +0.2**
LPG pmax pmax
comp=Z,69nm,0.9s,mb5.6
LPL La Plagne 78.50 14⇓*i*P **P 21 17 18.6 +0.1**
comp=Z,153nm,1.3s,mb5.5
LPL La Plagne 78.50 14⇓*i*P **P 21 17 18.6 +0.1**
comp=Z,153nm,1.3s,mb5.8
LPL La Plagne 78.50 14⇓*i*P **P 21 17 18.6 +0.1**
LPL pmax pmax
comp=Z,153nm,1.3s,mb5.8
RSL Roselend 78.64 14 *e*P **P 21 17 18.5 -0.8**
MTDJ Mount Denham 78.75 299 PFAKE 21 17 30.0 +9.5
MTDJ LR LR
comp=Z,4µm,20.0s,MS5.7
BGF Bois d'Agland 78.76 11⇓*i*P **P 21 17 19.7 -0.2**
comp=Z,136nm,1.7s,mb5.3
BGF Bois d'Agland 78.76 11⇓*i*P **P 21 17 19.7 -0.2**
comp=Z,136nm,1.7s,mb5.6
BGF Bois d'Agland 78.76 11⇓*i*P **P 21 17 19.7 -0.2**
BGF pmax pmax
comp=Z,136nm,1.7s,mb5.6
OG35 Corcelles 78.76 13 *e*P **P 21 17 19.4 -0.6**
PLG Polygyros 78.95 28 *e*P **P 21 17 21.2 0.0**
KRUS Krusevo 78.96 26 *e*P **P 21 17 20.8 -0.3**
ASF Jabal al Asfar 78.97 42 LR LR 21 48 49.4
comp=Z,2µm,21.2s,MS5.4,baz=94,slow=33
SMF Signal de Mont 79.02 12⇓*i*P **P 21 17 21.0 -0.3**
comp=Z,220nm,1.6s,mb5.8
SMF Signal de Mont 79.02 12⇓*i*P **P 21 17 21.0 -0.3**
comp=Z,220nm,1.6s,mb5.8
SMF Signal de Mont 79.02 12⇓*i*P **P 21 17 21.0 -0.3**
SMF pmax pmax
comp=Z,220nm,1.6s,mb5.8
STON Ston 79.03 23 P **P 21 17 19.7 -1.8**
AVF Avril sur Loir 79.07 12⇓*i*P **P 21 17 21.5 -0.1**
comp=Z,189nm,1.4s,mb5.5
AVF Avril sur Loir 79.07 12⇓*i*P **P 21 17 21.5 -0.1**
comp=Z,189nm,1.4s,mb5.8
AVF Avril sur Loir 79.07 12⇓*i*P **P 21 17 21.5 -0.1**
AVF pmax pmax
comp=Z,189nm,1.4s,mb5.8
CSS Prodhromos 79.13 38 *e*P **P 21 17 23.1 +0.9**
comp=Z,58nm,1.3s,mb5.3
CSS LR LR
comp=Z,1µm,22.0s,MS5.3
PRK Paraskevi 79.18 30 *e*P **P 21 17 23.4 +1.0**
OG01 Vacheresse 79.26 14 *e*P **P 21 17 22.2 -0.5**
QUIF Quistinic 79.27 7⇓*i*P **P 21 17 22.5 -0.2**
comp=Z,122nm,1.3s,mb5.4
QUIF Quistinic 79.27 7⇓*i*P **P 21 17 22.5 -0.2**
comp=Z,122nm,1.3s,mb5.7
QUIF Quistinic 79.27 7⇓*i*P **P 21 17 22.5 -0.2**
QUIF pmax pmax
comp=Z,122nm,1.3s,mb5.7
SOH Sokhos 79.30 28 *e*P **P 21 17 25.1 +2.1**
SSF Saint Saulge 79.36 12⇓*i*P **P 21 17 22.8 -0.4**
comp=Z,217nm,1.7s,mb5.5
SSF Saint Saulge 79.36 12⇓*i*P **P 21 17 22.8 -0.4**
comp=Z,217nm,1.7s,mb5.8
SSF Saint Saulge 79.36 12⇓*i*P **P 21 17 22.8 -0.4**
SSF pmax pmax
comp=Z,217nm,1.7s,mb5.8
CABF La Chapelle 79.41 14⇓*i*P **P 21 17 22.9 -0.6**
comp=Z,70nm,1.1s,mb5.2
CABF La Chapelle 79.41 14⇓*i*P **P 21 17 22.9 -0.6**
comp=Z,70nm,1.1s,mb5.5
CABF La Chapelle 79.41 14⇓*i*P **P 21 17 22.9 -0.6**
CABF pmax pmax
comp=Z,70nm,1.1s,mb5.5
HYF Humbligny 79.42 11 *e*P **P 21 17 23.5 0.0**
HYF Humbligny 79.42 11 *e*P **P 21 17 23.5 0.0**
VAY Valandovo 79.42 27 *e*P **P 21 17 23.7 0.0**
LOR Lormes 79.62 12⇓*i*P **P 21 17 24.1 -0.5**
comp=Z,299nm,1.9s,mb5.6
LOR *e*R
comp=Z,3µm,20.2s
LOR Lormes 79.62 12⇓*i*P **P 21 17 24.1 -0.5**
comp=Z,299nm,1.9s,mb5.9
LOR Lormes 79.62 12⇓*i*P **P 21 17 24.1 -0.5**
LOR pmax pmax
comp=Z,299nm,1.9s,mb5.9
SGMF Saint Gilles 79.67 7⇓*i*P **P 21 17 24.3 -0.6**
comp=Z,82nm,1.2s,mb5.2
SGMF Saint Gilles 79.67 7⇓*i*P **P 21 17 24.3 -0.6**
comp=Z,82nm,1.2s,mb5.5
SGMF Saint Gilles 79.67 7⇓*i*P **P 21 17 24.3 -0.6**
SGMF pmax pmax
comp=Z,82nm,1.2s,mb5.5
ROSF Rostrenen 79.68 7⇓*i*P **P 21 17 24.7 -0.2**
comp=Z,172nm,1.3s,mb5.5
ROSF Rostrenen 79.68 7⇓*i*P **P 21 17 24.7 -0.2**
comp=Z,172nm,1.3s,mb5.8
ROSF Rostrenen 79.68 7⇓*i*P **P 21 17 24.7 -0.2**
ROSF pmax pmax
comp=Z,172nm,1.3s,mb5.8
BBSR BB Station 79.69 318 PFAKE 21 17 40.0 +15
BBSR LR LR
comp=Z,2µm,19.0s,MS5.5
JTS JuntasAbangare 79.90 289 P **P 21 17 26.8 -0.2**
comp=Z,15nm,0.8s,mb5.0,baz=104,slow=3.2,SNR=7.6
JTS JuntasAbangare 79.90 289 *e*P **P 21 17 27.0 0.0**
JTS LR LR
comp=Z,10µm,22.0s,MS6.1
JTS JuntasAbangare 79.90 289 *e*P **P 21 17 27.0 0.0**
JTS MLR MLR
comp=Z,10µm,22.0s
NVR Nevrokopi 79.95 28 *e*P **P 21 17 26.5 -0.1**
TUE Stuetta 79.98 16 *e*P **P 21 17 25.4 -1.2**
comp=Z,138nm,1.9s,mb5.6
TUE *e*PP PP 21 20 27.5 -1.4
TUE LR LR
comp=Z,2µm,19.0s,MS5.5
GRR Gorron 80.00 8⇓*i*P **P 21 17 26.1 -0.6**
comp=Z,82nm,1.4s,mb5.2
GRR Gorron 80.00 8⇓*i*P **P 21 17 26.1 -0.6**
comp=Z,82nm,1.4s,mb5.5
GRR Gorron 80.00 8⇓*i*P **P 21 17 26.1 -0.6**
GRR pmax pmax
comp=Z,82nm,1.4s,mb5.5
KKB Krupnik 80.09 27 P **P 21 17 27.3 0.0**

MMB Musomiste 80.10 27 P **P 21 17 27.0 -0.4**
LOMF Lomont 80.27 14 *e*P **P 21 17 27.9 -0.2**
LDF La Druitiere 80.30 9⇓*i*P **P 21 17 27.7 -0.6**
comp=Z,95nm,1.8s,mb5.1
LDF La Druitiere 80.30 9⇓*i*P **P 21 17 27.7 -0.6**
comp=Z,95nm,1.8s,mb5.4
LDF La Druitiere 80.30 9⇓*i*P **P 21 17 27.7 -0.6**
LDF pmax pmax
comp=Z,95nm,1.8s,mb5.4
SKDS Skadanscina 80.32 19 *e*P **P 21 17 28.2 -0.3**
DAVOX Davos/Dischmat 80.40 16 LR LR 21 50 11.3
comp=Z,2µm,21.8s,MS5.5,baz=194,slow=34
TRI Trieste 80.40 19 *e*P **P 21 17 28.9 0.0**
comp=Z,130nm,1.8s,mb5.6
TRI LR LR
comp=Z,2µm,21.0s,MS5.5
TRI Trieste 80.40 19 *e*P **P 21 17 28.9 0.0**
TRI pmax pmax
comp=Z,130nm,1.8s,mb5.6
TRI MLR MLR
comp=Z,2µm,21.0s,MS5.5
FLN La Foliniere 80.42 9⇓*i*P **P 21 17 28.5 -0.4**
comp=Z,246nm,1.8s,mb5.5
FLN *e*R
comp=Z,5µm,20.2s
FLN La Foliniere 80.42 9⇓*i*P **P 21 17 28.5 -0.4**
comp=Z,246nm,1.8s,mb5.8
FLN La Foliniere 80.42 9⇓*i*P **P 21 17 28.5 -0.4**
FLN pmax pmax
comp=Z,246nm,1.8s,mb5.8
RZN Rozhen 80.58 28 P **P 21 17 30.2 +0.3**
BOJS Bojanci 80.64 20 *i*P **P 21 17 30.3 +0.1**
JAVS Javornik 80.65 19 *i*P **P 21 17 30.0 -0.2**
HINF Hinteralfeld 80.72 14⇓*i*P **P 21 17 29.4 -1.1**
comp=Z,197nm,1.9s,mb5.4
HINF Hinteralfeld 80.72 14⇓*i*P **P 21 17 29.4 -1.1**
comp=Z,197nm,1.9s,mb5.7
HINF Hinteralfeld 80.72 14⇓*i*P **P 21 17 29.4 -1.1**
HINF pmax pmax
comp=Z,197nm,1.9s,mb5.7
VOY Vojsko 80.73 19 *e*P **P 21 17 31.2 +0.6**
SFTF Sexfontaines 80.74 12⇓*i*P **P 21 17 30.1 -0.5**
comp=Z,441nm,1.9s,mb5.8
SFTF Sexfontaines 80.74 12⇓*i*P **P 21 17 30.1 -0.5**
comp=Z,441nm,1.9s,mb6.1
VTS Vitosha 80.75 26⇑P **P 21 17 31.4 +0.5**
VTS Vitosha 80.75 26 P **P 21 17 31.3 +0.4**
VTS Vitosha 80.75 26⇑*i*P **P 21 17 31.4 +0.5**
VISS Visnje 80.79 20 *i*P **P 21 17 30.9 -0.1**
HAU Haudompre 80.80 13⇓*i*P **P 21 17 30.1 -0.8**
comp=Z,82nm,1.3s,mb5.2
HAU *e*R
comp=Z,1µm,22.2s
HAU Haudompre 80.80 13⇓*i*P **P 21 17 30.1 -0.8**
comp=Z,82nm,1.3s,mb5.5
HAU Haudompre 80.80 13⇓*i*P **P 21 17 30.1 -0.8**
HAU pmax pmax
comp=Z,83nm,1.3s,mb5.5
MOF Molkenrain 80.81 14 *e*P **P 21 17 30.5 -0.5**
FETA Feichten 80.83 16⇑*i*P **P 21 17 30.4 -0.7**
comp=Z,48nm,1.7s,mb5.2,SNR=8.4
KDZ Kurdzhali 80.83 28 P **P 21 17 31.0 -0.3**
DAVA Damuels 80.87 16⇓*i*P **P 21 17 30.7 -0.6**
comp=Z,78nm,1.6s,mb5.4,SNR=10
THEF They Montfort 80.94 13 *e*P **P 21 17 31.5 -0.2**
SISC Sisak 80.94 21 P **P 21 17 31.7 -0.1**
ABTA Abfaltersbach 81.02 18 *i*P **P 21 17 32.3 +0.1**
comp=Z,60nm,1.5s,mb5.3,SNR=22
GORS Gorjuse 81.02 19 *i*P **P 21 17 32.0 -0.2**
MEZF Maizieres J'vi 81.03 12⇓*i*P **P 21 17 32.0 -0.1**
comp=Z,407nm,1.8s,mb5.8
MEZF Maizieres J'vi 81.03 12⇓*i*P **P 21 17 32.0 -0.1**
comp=Z,407nm,1.8s,mb6.0
PDKS Podkem 81.07 20 *e*P **P 21 17 32.7 +0.2**
RPN Rapa Nui 81.11 244 PFAKE 21 17 40.0 +6.7
RPN LR LR
comp=Z,2µm,19.0s,MS5.5
ECH Echery 81.16 14 *e*P **P 21 17 32.6 -0.2**
comp=Z,40nm,1.4s,mb5.2
ECH LR LR
comp=Z,1µm,20.0s,MS5.3
ECH Echery 81.16 14 *e*P **P 21 17 32.7 -0.2**
ECH pmax pmax
comp=Z,40nm,1.4s,mb5.2
ECH MLR MLR
comp=Z,1µm,20.0s,MS5.3
ECH Echery 81.16 14 *e*P **P 21 17 30.7 -2.2**
PAGF Fort de Pagny 81.20 13⇓*i*P **P 21 17 32.9 -0.2**
comp=Z,96nm,1.7s,mb5.2
PAGF Fort de Pagny 81.20 13⇓*i*P **P 21 17 32.9 -0.2**
comp=Z,96nm,1.7s,mb5.5
MYKA Terra Mystica 81.21 18⇓*i*P **P 21 17 33.4 +0.2**
MOTA Moosalm 81.22 17⇓*i*P **P 21 17 32.5 -0.7**
comp=Z,38nm,1.6s,mb5.1
RETA Reute 81.27 16⇓*i*P **P 21 17 32.8 -0.7**
comp=Z,29nm,1.4s,mb5.0,SNR=9.4
WTTA Wattenberg 81.28 17⇓*i*P **P 21 17 33.2 -0.3**
comp=Z,72nm,1.8s,mb5.3,SNR=14
OBKA Obir 81.35 19⇓*i*P **P 21 17 34.4 +0.5**
comp=Z,19nm,1.2s,mb4.9
CDF Champ du Feu 81.37 14⇓*i*P **P 21 17 33.1 -0.9**
comp=Z,252nm,1.9s,mb5.5
CDF Champ du Feu 81.37 14⇓*i*P **P 21 17 33.1 -0.9**
comp=Z,252nm,1.9s,mb5.8
CDF Champ du Feu 81.37 14⇓*i*P **P 21 17 33.1 -0.9**
CDF pmax pmax
comp=Z,252nm,1.9s,mb5.8
BFO Black Forest 81.51 14 *e*P **P 21 17 33.5 -1.3**
comp=Z,155nm,1.8s,mb5.6
BFO LR LR
comp=Z,2µm,22.0s,MS5.3
BFO Black Forest 81.51 14 *e*P **P 21 17 33.5 -1.2**
BFO pmax pmax
comp=Z,155nm,1.8s,mb5.6
BFO MLR MLR
comp=Z,2µm,22.0s,MS5.3
BFO Black Forest 81.51 14 P **P 21 17 34.4 -0.3**
comp=Z,168nm,1.2s,mb5.8,SNR=11
MPEP Malo Peshtene 81.61 26 P **P 21 17 35.3 -0.1**
PERS Pernice 81.63 19 *i*P **P 21 17 35.4 0.0**
SOKA Soboth 81.64 19⇑*i*P **P 21 17 35.3 -0.1**
comp=Z,56nm,1.4s,mb5.3
LANF Langenberg 82.02 14 *e*P **P 21 17 36.7 -0.7**
PVL Pavlikeni 82.11 27 P **P 21 17 35.0 -3.0**
STU Stuttgart 82.12 15 *e*P **P 21 17 37.8 -0.1**
comp=Z,97nm,1.4s,mb5.5
STU Stuttgart 82.12 15 *e*P **P 21 17 37.8 -0.1**
STU pmax pmax
comp=Z,97nm,1.4s,mb5.5
ARSA Arzberg 82.30 19 *i*P **P 21 17 39.2 +0.3**
comp=Z,46nm,1.4s,mb5.2,SNR=21
PKSM Moragy 82.31 22⇑P **P 21 17 39.1 +0.1**
PKSM Moragy 82.31 22⇑*i*P **P 21 17 39.1 +0.1**
WLF Walferdange 82.35 13 P **P 21 17 38.9 -0.2**
comp=Z,72nm,2.0s,mb5.3
WLF Walferdange 82.35 13 *e*P **P 21 17 39.4 +0.3**
comp=Z,193nm,1.8s,mb5.7
WLF LR LR
comp=Z,2µm,19.0s,MS5.5
WLF Walferdange 82.35 13 *e*P **P 21 17 39.4 +0.3**
WLF pmax pmax
comp=Z,193nm,1.8s,mb5.7
WLF MLR MLR
comp=Z,2µm,19.0s,MS5.5
BAIF Baives 82.38 11⇓*i*P **P 21 17 38.9 -0.4**
comp=Z,140nm,1.4s,mb5.4
BAIF Baives 82.38 11⇓*i*P **P 21 17 38.9 -0.4**
comp=Z,140nm,1.4s,mb5.7
BAIF Baives 82.38 11⇓*i*P **P 21 17 38.9 -0.4**
BAIF pmax pmax
comp=Z,140nm,1.4s,mb5.7
SZH Strazhica 82.39 28 P **P 21 17 39.2 -0.3**
DOU Dourbes 82.48 12 P **P 21 17 39.6 -0.2**
comp=Z,32nm,2.5s,mb4.8
MOA Molln 82.50 18⇓*i*P **P 21 17 39.2 -0.7**
comp=Z,29nm,1.2s,mb5.2
GIVF Givet 82.53 12⇓*i*P **P 21 17 39.6 -0.4**
comp=Z,164nm,1.5s,mb5.5
GIVF Givet 82.53 12⇓*i*P **P 21 17 39.6 -0.4**
comp=Z,164nm,1.5s,mb5.8
GIVF Givet 82.53 12⇓*i*P **P 21 17 39.6 -0.4**
GIVF pmax pmax
comp=Z,164nm,1.5s,mb5.8
DGAR Diego Garcia 82.67 94 PFAKE 21 17 50.0 +8.2
DGAR LR LR
comp=Z,5µm,21.0s,MS5.9

BZS Buzias 82.78 24 P **P 21 17 40.9 -0.6**
BZS Buzias 82.78 24⇑*i*P **P 21 17 41.4 -0.1**
SNF Seneffe 82.83 11 P **P 21 17 41.8 +0.2**
comp=Z,64nm,2.1s,mb5.3
BCLA Clavier 82.92 12 P **P 21 17 42.7 +0.6**
comp=Z,66nm,2.1s,mb5.3
BR131 Keskin Array S 82.96 35 *e*P **P 21 17 42.9 +0.4**
comp=Z,29nm,1.1s,mb5.2
BR131 LR LR
comp=Z,556nm,19.0s,MS5.0
BRTR Keskin Array B 82.96 35 P **P 21 17 42.7 +0.2**
comp=Z,16nm,0.9s,mb5.0,baz=185,slow=6.2,SNR=50
BRTR Keskin Array B 82.96 35 P **P 21 17 42.7 +0.2**
BRTR Keskin Array B 82.96 35 P **P 21 17 42.7 +0.1**
BRTR pmax pmax
comp=Z,16nm,0.9s
SOP Sopron 83.00 20⇓*e*PcP PcP 21 17 43.1 -4.1
GZR Gura Zlata 83.00 25⇑P **P 21 17 42.9 +0.3**
GZR Gura Zlata 83.00 25⇑*i*P **P 21 17 42.8 +0.2**
CONA Conrad Observa 83.02 19 *i*P **P 21 17 42.9 +0.3**
comp=Z,58nm,1.5s,mb5.4,SNR=20
HUMR Humele 83.08 27⇑*i*P **P 21 17 43.6 +0.6**
UCC Uccle 83.12 11 P **P 21 17 43.0 -0.1**
MEM Membach 83.22 12 P **P 21 17 44.6 +1.0**
comp=Z,33nm,2.7s,mb4.9
GERES GERESS Array B 83.27 18 P **P 21 17 43.0 -0.9**
comp=Z,5.1nm,1.0s,mb4.5,baz=195,slow=4.1,SNR=24
GERES PP PP 21 20 56.0 +0.1
comp=Z,2.4nm,0.9s,baz=202,slow=6.6,SNR=8.2
GERES LR LR 21 53 32.8
comp=Z,2µm,18.2s,MS5.4,baz=204,slow=35
GERES GERESS Array B 83.27 18 P **P 21 17 43.0 -0.9**
GERES PP PP 21 20 56.0 +0.1
GERES GERESS Array B 83.27 18 P **P 21 17 43.0 -0.9**
GERES 21 20 56.1
GERES pmax pmax
comp=Z,5.0nm,1.0s
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES MLR MLR
comp=Z,2µm,18.2s
NAY Al-Naaiem 83.29 50 *e*P **P 21 17 45.4 +0.8**
NAY AMb AMB 21 17 48.8
comp=Z,83nm,1.6s,mb5.5
BEBN Eben Emael 83.34 12 P **P 21 17 44.2 0.0**
comp=Z,21nm,2.5s,mb4.7
GRFO Grafenberg 83.44 16 *e*P **P 21 17 44.9 +0.1**
comp=Z,235nm,1.8s,mb5.9
GRFO Grafenberg 83.44 16 *e*P **P 21 17 44.9 +0.1**
GRFO pmax pmax
comp=Z,235nm,1.8s,mb5.9
GRF Grafenberg Arr 83.44 16 *e*P **P 21 17 44.4 -0.4**
comp=Z,355nm,2.2s,mb6.0
GRF *e*L 21 52 04.7
comp=Z,1µm,20.6s
GRF Grafenberg Arr 83.44 16 *e*P **P 21 17 44.4 -0.4**
GRF pmax pmax
comp=Z,355nm,2.2s,mb6.0
GRF MLR MLR
comp=Z,1µm,20.6s,MS5.3
KHC Kasperske Hory 83.50 17 *e*P **P 21 17 44.3 -0.8**
comp=Z,102nm,1.9s,mb5.5
KHC *e*PP PP 21 20 55.0 -2.8
KHC Kasperske Hory 83.50 17⇓*i*P **P 21 17 44.0 -1.1**
KHC *e* 21 20 53.5
KHC *e* 21 28 05.6
KHC MLR MLR
comp=Z,2µm,20.2s,MS5.5
KHC Kasperske Hory 83.50 17⇓*i*P **P 21 17 44.0 -1.1**
KHC *e*x x 21 18 12.0
KHC *e*PP PP 21 20 53.5 -4.4
KHC *e*SKS 21 28 05.6
KHC AMS AMS 21 52 30.0
comp=Z,2µm,20.2s
BUD Budapest 83.56 21⇓*e*PcP PcP 21 17 45.6 -4.1
MIB Mutribah 83.72 50 *e*P **P 21 17 47.1 +0.4**
MIB AMb AMB 21 17 52.7
comp=Z,113nm,1.9s,mb5.7
UMR Umm Al-Rimmam 83.80 50 *e*P **P 21 17 47.6 +0.5**
VOIR 83.87 26⇑P **P 21 17 47.5 +0.4**
VOIR 83.87 26⇑*i*P **P 21 17 47.5 +0.4**
TGUH Tegucigalpa,Un 83.88 290 *e*P **P 21 17 47.7 -0.2**
TGUH LR LR
comp=Z,5µm,21.0s,MS5.8
TREC Trest 84.15 19 *e*P **P 21 17 48.3 -0.1**
TREC MLR MLR
comp=Z,2µm,19.3s,MS5.6
TREC Trest 84.15 19⇓*e*P **P 21 17 48.3 -0.1**
TREC AMS AMS 21 52 30.0
comp=Z,2µm,19.3s
BHD Baghdad 84.17 45 *i*x **P 21 17 48.0 -0.9**
BHD *i*x x 21 28 03.5
BHD *i*x x 21 28 16.5
DRGR 84.18 24⇓P **P 21 17 48.8 +0.2**
DRGR 84.18 24⇓*i*P **P 21 17 48.8 +0.2**
PSZ Piszkesteto 84.22 22 *e*P **P 21 17 48.6 -0.2**
comp=Z,68nm,1.1s,mb5.7
PSZ LR LR
comp=Z,2µm,19.0s,MS5.4
PSZ Piszkesteto 84.22 22 *e*P **P 21 17 48.6 -0.2**
PSZ pmax pmax
comp=Z,68nm,1.1s,mb5.7
PSZ MLR MLR
comp=Z,2µm,19.0s,MS5.4
PSZ Piszkesteto 84.22 22⇓*e*PcP **P 21 17 48.9 +0.1**
PSZ Piszkesteto 84.22 22⇓*i*P **P 21 17 49.1 +0.3**
NKC Novy Kostel 84.24 16⇓*i*P **P 21 17 48.7 -0.1**
NKC *e* 21 21 01.8
NKC MLR MLR
comp=Z,1µm,21.6s,MS5.3
NKC Novy Kostel 84.24 16⇓*i*P **P 21 17 48.7 -0.1**
NKC *e*x x 21 17 58.6
NKC *e*PP PP 21 21 01.8 -2.1
NKC AMS AMS 21 52 00.0
comp=Z,1µm,21.6s
MLR Muntele Rosu 84.26 27 LR LR 21 50 35.4
comp=Z,169nm,21.8s,MS4.4,baz=359,slow=32
MLR Muntele Rosu 84.26 27⇑P **P 21 17 49.3 +0.2**
MLR Muntele Rosu 84.26 27⇑*i*P **P 21 17 49.3 +0.2**
KOLL Kolacno 84.34 21 *e*P **P 21 17 49.6 +0.2**
KOLL Kolacno 84.34 21 *e*P **P 21 17 49.6 +0.2**
VYHS Vyhne 84.40 21 *e*P **P 21 17 49.4 -0.3**
VYHS pmax pmax
comp=Z,165nm,2.2s,mb5.8
VYHS Vyhne 84.40 21 *e*P **P 21 17 49.3 -0.4**
VRAC Vranov 84.47 19⇑P **P 21 17 49.6 -0.5**
VRAC Vranov 84.47 19⇑*i*P **P 21 17 49.6 -0.5**
PRU Pruhonice 84.53 18⇓*i*P **P 21 17 50.0 -0.4**
PRU *e* 21 17 56.5
PRU *e* 21 28 15.5
PRU MLR MLR
comp=Z,2µm,21.9s,MS5.6
PRU Pruhonice 84.53 18⇓*i*P **P 21 17 50.0 -0.4**
PRU *e*pP pP 21 17 56.5 +2.8
PRU *e*SKS 21 28 15.5
PRU AMS AMS 21 52 40.0
comp=Z,2µm,21.9s
PRA Prague 84.58 18⇓P **P 21 17 50.0 -0.6**
PRA AMS AMS 21 52 30.0
PLOR Plostina 84.83 27⇓P **P 21 17 51.9 -0.1**
PLOR Plostina 84.83 27⇓*i*P **P 21 17 51.9 -0.1**
VRI Vrincioaia 84.87 27⇑P **P 21 17 51.7 -0.5**
VRI Vrincioaia 84.87 27⇑*i*P **P 21 17 51.7 -0.5**
KECS Kecovo 84.91 22 *e*P **P 21 17 52.4 +0.1**
KECS pmax pmax
comp=Z,15nm,1.1s,mb5.0
KECS Kecovo 84.91 22 *e*P **P 21 17 52.4 +0.1**
LIKS Likavka 84.98 21 *e*P **P 21 17 53.9 +1.3**
LIKS Likavka 84.98 21 *e*P **P 21 17 53.9 +1.3**
PVCC Panska Ves 85.04 17⇓*i*P **P 21 17 52.6 -0.3**
PVCC MLR MLR
comp=Z,1µm,20.6s,MS5.3
PVCC Panska Ves 85.04 17⇓*i*P **P 21 17 52.6 -0.3**
PVCC AMS AMS 21 52 40.0
comp=Z,1µm,20.6s
MORC Moravsky Berou 85.16 20 *e*P **P 21 17 53.2 -0.3**
comp=Z,165nm,1.8s,mb5.9
MORC Moravsky Berou 85.16 20 *e*P **P 21 17 53.2 -0.3**
MORC pmax pmax
comp=Z,165nm,1.8s,mb5.9
MORC Moravsky Berou 85.16 20⇑*i*P **P 21 17 53.8 +0.3**
BRG Berggiesshubel 85.19 17⇓*i*P **P 21 17 53.5 -0.2**
comp=Z,161nm,2.1s,mb5.8
BRG PP PP 21 21 11.1 -0.6

comp=Z,83nm,2.1s
BRG SKS 21 28 27.0
BRG SS SS 21 33 58.0 -0.3
BRG
comp=Z,1μm,21.2s
BRG
comp=N,1μm,19.5s
BRG
comp=E,1μm,19.5s
BRG Berggiesshubel 85.19 17⇓*i*P P 21 17 53.5 -0.1
BRG 21 21 11.1
BRG 21 28 27.0
BRG SS SS 21 33 58.0 -0.3
BRG pmax pmax
comp=Z,161nm,2.2s,mb5.8
BRG pmax pmax
comp=Z,83nm,2.1s,mb5.5
BRG MLR MLR
comp=Z,1μm,21.2s,MS5.3
BRG MLR MLR
comp=N,1μm,19.5s,MS5.5
BRG MLR MLR
comp=E,1μm,19.5s,MS5.5
BMR Baia Mare 85.21 24 P P 21 17 54.1 +0.3
TRPA Tarpa 85.27 23⇑*i*P P 21 17 54.1 0.0
DPC Dobruska-Polom 85.34 19⇓*i*P P 21 17 54.4 0.0
DPC *e* 21 18 03.2
DPC *e* 21 21 12.2
DPC MLR MLR
comp=Z,2μm,21.0s,MS5.5
DPC Dobruska-Polom 85.34 19⇓*i*P P 21 17 54.4 0.0
DPC *ex* x 21 18 03.2
DPC *e*PP PP 21 21 12.2 -0.7
DPC AMS AMS 21 52 50.0
comp=Z,2μm,21.0s
CLL Collm 85.36 16⇓*i*P P 21 17 54.4 -0.1
CLL *e*S S 21 28 23.0 -2.0
CLL pmax pmax
comp=Z,214nm,2.1s,mb5.9
CLL MLR MLR
comp=Z,1μm,20.6s,MS5.3
CLL Collm 85.36 16⇓*i*P P 21 17 54.4 -0.1
comp=Z,214nm,2.1s,mb5.9
CLL *i* PP PP 21 21 11.4 -1.6
comp=Z,89nm,1.9s
CLL *e*S S 21 28 27.0 +2.0
CLL *e*PS 21 29 24.0
CLL *e*SS SS 21 34 01.0 +0.2
CLL LmV 21 53 00.0
comp=Z,1μm,20.6s
TESR 85.38 26⇓*i*P P 21 17 54.7 0.0
OKC Ostrava-Krasne 85.39 20⇓*i*P P 21 17 54.4 -0.3
OKC *e* 21 21 13.9
OKC MLR MLR
comp=Z,1μm,19.4s,MS5.3
OKC Ostrava-Krasne 85.39 20⇓*i*P P 21 17 54.4 -0.3
OKC *e*PP PP 21 21 13.9 +0.6
OKC AMS AMS 21 54 20.0
comp=Z,1μm,19.4s
UPC Upice 85.40 18⇓*i*P P 21 17 54.6 -0.1
UPC Upice 85.40 18⇓*i*P P 21 17 54.6 -0.1
CRVS Cervenica-Dubn 85.59 22 *e*P P 21 17 55.8 +0.1
CRVS pmax pmax
comp=Z,238nm,2.0s,mb6.1
CRVS Cervenica-Dubn 85.59 22 *e*P P 21 17 55.8 +0.1
UZH Uzhgorod 85.62 23 *e*P P 21 17 54.4 -1.5
UZH *e* pP 21 17 56.0 -3.2
UZH *e*S S 21 28 22.8 -4.9
UZH *e*PS 21 29 30.8
UZH MLR MLR
comp=N,640nm,16.0s,MS5.3
UZH MLR MLR
comp=E,700nm,16.0s,MS5.3
UZH MLR MLR
comp=Z,600nm,16.0s,MS5.1
NIE Niedzica 85.67 21 *e*P P 21 17 56.4 +0.3
NIE Niedzica 85.67 21 *e*P P 21 17 56.4 +0.3
BURAR Bucovina Array 85.77 25 ⇓P P 21 17 57.8 +1.2
BURAR Bucovina Array 85.77 25⇓*i*P P 21 17 57.8 +1.2
KSP Ksiaz 85.78 18 *e*P P 21 17 56.8 +0.2
KSP LMZ 21 54 03.9
comp=Z,3μm,20.0s
KSP Ksiaz 85.78 18 *e*P P 21 17 56.6 0.0
KSP *e*S S 21 28 26.0 -3.1
KSP LM 21 54 08.0
comp=Z,5.7nm,20.0s
KSP Ksiaz 85.78 18⇓*e*P P 21 17 56.6 0.0
KSP *e*S S 21 28 26.0 -3.1
KSP MLR MLR
comp=Z,6μm,20.0s,MS6.0
BUR08 Bucovina Ar. S 85.79 25 *e*P P 21 17 57.3 +0.6
KOLS Kolonicke sedl 85.88 23 *e*P P 21 17 59.8 +2.7
KOLS Kolonicke sedl 85.88 23 *e*P P 21 17 59.8 +2.7
LEOM Leova 85.97 27 P P 21 17 58.0 +0.4
ARQ Araqi 86.12 60 P P 21 18 00.2 +1.2
SNR=6.4
OJC Ojcow 86.22 21 *e*P P 21 17 58.7 -0.1
OJC Ojcow 86.22 21 *e*P P 21 17 58.7 -0.1
ASHO Ashiyiah 86.58 59 P P 21 18 02.3 +1.2
SNR=7.0
ESK Eskdalemuir 86.59 6 *e*P P 21 18 01.2 +0.7
comp=Z,208nm,1.9s,mb6.0
ESK LR LR
comp=Z,2μm,20.0s,MS5.5
ESK Eskdalemuir 86.59 6 *e*P P 21 18 01.2 +0.7
ESK pmax pmax
comp=Z,208nm,1.9s,mb6.0
ESK MLR MLR
comp=Z,2μm,20.0s,MS5.5
KIS Kishinev 86.62 27 *e*P P 21 18 00.0 -0.8
comp=Z,200nm,2.0s,mb6.0
KIS *e*S S 21 28 39.0 +1.5
KIS *e*L 21 54 00.0
KIS LRM 21 57 00.0
comp=Z,1μm,19.0s
KIS Kishinev 86.62 27 *e*P P 21 18 00.0 -0.8
KIS *e* 21 18 09.0
KIS *e*S S 21 28 39.0 +1.5
KIS pmax pmax
comp=Z,210nm,2.0s,mb6.0
KIS pmax pmax
comp=Z,1μm,19.0s
KWP Kalwaria Pacla 86.63 23 *e*P P 21 18 01.2 +0.4
KWP LMZ 21 56 22.9
comp=Z,2μm,20.4s
KWP Kalwaria Pacla 86.63 23 *e*P P 21 18 01.0 +0.2
comp=Z,252nm,1.8s,mb6.2
KWP LR LR
comp=Z,2μm,21.0s,MS5.5
KWP Kalwaria Pacla 86.63 23 ⇑P P 21 18 01.5 +0.7
KWP Kalwaria Pacla 86.63 23⇑*i*P P 21 18 01.5 +0.7
RUE Ruedersdorf 86.63 16 *e*P P 21 18 00.9 +0.1
comp=Z,113nm,1.4s,mb5.9
RUE *e*PP PP 21 21 22.2 -1.1
HATD Hatta, Dubai 86.72 59 P P 21 18 02.5 +0.6
SNR=12
HOQ Hoqain 86.85 60 P P 21 18 03.3 +0.7
SNR=5.6
LVV L'vov 87.23 23 *e*P P 21 18 02.7 -1.0
LVV MLR MLR
comp=Z,1μm,19.0s,MS5.2
LVV MLR MLR
comp=N,600nm,18.0s,MS5.2
LVV MLR MLR
comp=E,600nm,19.0s,MS5.2
DWPF Disney 87.61 305 *e*P P 21 18 07.1 +1.0
comp=E,160nm,1.9s,mb5.9
TEIG Tepich 88.12 295 P P 21 18 07.8 -0.9
comp=E,17nm,0.6s,mb5.4,baz=56,slow=2.7,SNR=12
TEIG Tepich 88.12 295 P P 21 18 07.8 -0.9
TEIG LR LR
comp=Z,5μm,21.0s,MS5.9
ANN Anapa 88.65 34 *e*P P 21 18 10.6 0.0
ANN *e*S SKSac 21 28 38.4 -1.2
ANN pmax pmax
comp=Z,68nm,1.7s,mb5.7
SOC Sochi 88.86 36 *e*P P 21 18 12.3 +0.7
SOC *e* 21 21 36.4
SOC *e*S SKSac 21 28 37.6 -3.4
SOC MLR MLR
comp=Z,530nm,17.0s,MS5.0
GNI Garni 89.09 41 P P 21 18 13.1 +0.3
comp=Z,2.0nm,0.3s,mb4.9,baz=179,slow=21,SNR=4.3
GNI Garni 89.09 41 P P 21 18 13.1 +0.3
GNI LR LR
comp=Z,2μm,19.0s,MS5.5
GNI Garni 89.09 41*d*i*P P 21 18 13.7 +0.9
GNI pmax pmax
comp=Z,22nm,1.3s
AKH Akhalkalaki 89.27 39 P P 21 18 14.6 +0.9
CNNC Cliffs of the 89.65 312 PFAKE 21 18 30.0 +14
CNNC LR LR
comp=Z,2μm,20.0s,MS5.5
KIEV Kiev 89.79 26 *e*P P 21 18 15.6 -0.3
comp=Z,97nm,2.0s,mb5.8
KIEV LR LR
comp=Z,944nm,19.0s,MS5.2
KIEV Kiev 89.79 26 *e*P P 21 18 15.6 -0.2
KIEV pmax pmax
comp=Z,97nm,2.0s,mb5.8
KIEV MLR MLR
comp=Z,944nm,19.0s,MS5.2
NHSC New Hope 89.80 310 PFAKE 21 18 30.0 +14
NHSC LR LR
comp=Z,2μm,20.0s,MS5.5
AKASG Malin Array Be 89.80 26 P P 21 18 14.2 -1.6
comp=Z,4.4nm,0.8s,mb4.8,baz=221,slow=5.0,SNR=16
AKASG Malin Array Be 89.80 26 P P 21 18 14.2 -1.6
AKASG Malin Array Be 89.80 26 P P 21 18 14.3 -1.6
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 89.80 26 *e*P P 21 18 15.8 -0.1
AKBB Malin Array Si 89.80 26 *e*P P 21 18 15.8 -0.1
ONI Oni 90.07 38 P P 21 18 15.5 -1.9
TBLG Delisi 90.17 39 *e*P P 21 18 17.9 +0.1
TBLG Delisi 90.17 39 P P 21 18 17.9 +0.1
MTA Mtatsminda 90.17 40 P P 21 18 18.2 +0.4
ZEI Tsey 90.43 38 *e*P P 21 18 19.6 +0.6
ZEI pmax pmax
comp=Z,24nm,1.7s,mb5.2
SUW Suwalki 90.56 21 *e*P P 21 18 19.5 +0.2
SUW LMZ 21 52 29.8
comp=Z,1μm,28.3s
SUW Suwalki 90.56 21 *e*P P 21 18 19.8 +0.4
comp=Z,240nm,1.6s,mb6.3
SUW Suwalki 90.56 21 *e*P P 21 18 19.8 +0.5
SUW pmax pmax
comp=Z,240nm,1.6s,mb6.3
KIV Kislovodsk 90.63 37 PFAKE 21 18 30.0 +10
KIV LR LR
comp=Z,911nm,20.0s,MS5.2
KIV Kislovodsk 90.63 37 P P 21 18 22.0 +2.1
KIV *e* 21 18 29.1
KIV *e* 21 21 58.6
KIV pmax pmax
comp=Z,13nm,1.5s,mb5.0
CBN Corbin 91.21 315 PFAKE 21 18 30.0 +7.2
CBN LR LR
comp=Z,2μm,20.0s,MS5.4
PKME Peaks-Kenny Pk 91.46 324 PFAKE 21 18 30.0 +6.3
PKME LR LR
comp=Z,1μm,21.0s,MS5.3
SDMD Soldier's Deli 91.66 316 *e*P P 21 18 26.1 +1.2
comp=Z,174nm,1.8s,mb6.1
CMIG Matias Romero 91.67 289 P P 21 18 25.9 +0.5
comp=Z,5.6nm,1.1s,mb4.8,baz=125,slow=3.6,SNR=9.6
CMIG Matias Romero 91.67 289 P P 21 18 25.9 +0.5
LBNH Lisbon 92.10 322 PFAKE 21 18 40.0 +13
LBNH LR LR
comp=Z,3μm,19.0s,MS5.8
GOGA Godfrey 92.18 308 PFAKE 21 18 40.0 +13
GOGA LR LR
comp=Z,2μm,20.0s,MS5.6
NACGM Naroch 92.43 22 *e* P 21 18 26.0 -2.0
MNK Minsk 92.44 23 *e*P P 21 18 27.0 -1.0
MNK pmax pmax
comp=Z,280nm,1.8s,mb6.3
MICGM Minsk 92.45 23 *e*P P 21 18 27.0 -1.1
KONO Kongsberg 92.47 11 PFAKE 21 18 40.0 +12
KONO LR LR
comp=Z,2μm,20.0s,MS5.5
BLA Blacksburg 92.48 313 PFAKE 21 18 40.0 +11
BLA LR LR
comp=Z,2μm,20.0s,MS5.5
MAK Makhachkala 92.51 40 *e*P P 21 18 30.1 +1.4
MAK *e* 21 22 19.9
MAK *e*PPP 21 24 09.5
MAK *e*S SKSac 21 29 01.2 -0.9
MAK *e*SS SS 21 35 45.4 +0.3
MAK *e*SSS 21 39 24.7
MAK pmax pmax
comp=Z,532nm,1.9s,mb6.7
MAK MLR MLR
comp=Z,2μm,18.0s,MS5.7
IIGN Ignalina 92.63 21 *e*P P 21 18 28.9 0.0
IIGN AMB AMB 21 18 31.1
comp=Z,14nm,1.3s,mb5.2
ISAL Salakas 92.78 21 *e*P P 21 18 29.6 0.0
ISAL AMB AMB 21 18 31.7
comp=Z,14nm,1.2s,mb5.3
BINY Binghamton 92.96 319 PFAKE 21 18 40.0 +9.2
BINY LR LR
comp=Z,2μm,20.0s,MS5.5
IZAR Zarasai 92.97 21 *e*P P 21 18 30.5 0.0
IZAR AMB AMB 21 18 32.5
comp=Z,13nm,0.9s,mb5.4
NCB Newcomb 93.14 321 PFAKE 21 18 40.0 +8.4
NCB LR LR
comp=Z,2μm,20.0s,MS5.6
BRAL Brewton 93.28 304 PFAKE 21 18 40.0 +7.5
BRAL LR LR
comp=Z,4μm,21.0s,MS5.8
HFS Hagfors 93.68 13 P P 21 18 33.2 -0.5
comp=Z,6.1nm,0.9s,mb5.0,baz=169,slow=3.0,SNR=4.6
HFS LR LR 21 55 05.8
comp=Z,277nm,20.9s,MS4.7,baz=212,slow=32
HFS Hagfors 93.68 13 P P 21 18 33.2 -0.4
HFS Hagfors 93.68 13 P P 21 18 33.2 -0.4
HFS pmax pmax
comp=Z,6.0nm,0.9s
HFS MLR MLR
comp=Z,277nm,20.9s
LONY Lake Ozonia 93.77 321 PFAKE 21 18 50.0 +16
LONY LR LR
comp=Z,2μm,20.0s,MS5.5
VSR Storozhevoye 94.18 30 *e*P P 21 18 36.3 +0.2
VSR pmax pmax
comp=Z,70nm,2.2s,mb5.7
VSR pmax pmax
comp=N,60nm,2.7s
VSR pmax pmax
comp=E,20nm,2.7s
LRAL Lakeview Retre 94.38 306 PFAKE 21 18 50.0 +12
LRAL LR LR
comp=Z,2μm,19.0s,MS5.6
ERPA Erie 95.22 317 PFAKE 21 18 50.0 +8.8
ERPA LR LR
comp=Z,2μm,20.0s,MS5.5
BORG Borgarnes 95.81 357 LR LR 21 53 00.1
comp=Z,1μm,19.5s,MS5.4,baz=68,slow=30
ACSO Alum Creek Sta 95.89 314 PFAKE 21 19 00.0 +16
ACSO LR LR
comp=Z,2μm,21.0s,MS5.5
OBN Obninsk 96.02 26 PFAKE 21 19 00.0 +16
OBN LR LR
comp=Z,984nm,19.0s,MS5.3
OBN Obninsk 96.02 26 P P 21 18 44.0 -0.5
OBN *e* 21 18 50.3
OBN *e* 21 22 40.0
OBN *e*PS PS 21 31 30.7 +7.3
OBN SS SS 21 36 44.0 +9.3
OBN MLR MLR
comp=Z,900nm,17.0s,MS5.3
PLAL Pickwick Lake 96.21 307 PFAKE 21 19 00.0 +14
PLAL LR LR
comp=Z,2μm,19.0s,MS5.6
VBMS Vicksburg 96.40 304 PFAKE 21 19 00.0 +13
VBMS LR LR
comp=Z,3μm,22.0s,MS5.8
OXF Oxford 96.87 306 PFAKE 21 19 00.0 +11
OXF LR LR
comp=Z,2μm,22.0s,MS5.5
SCHQ Schefferville 97.17 332 LR LR 21 55 07.2
comp=Z,1μm,21.6s,MS5.4,baz=338,slow=31
FINES FINESS Array B 97.70 18 LR LR 22 00 53.4
comp=Z,1μm,21.8s,MS5.4,baz=212,slow=34
NATX Nacogdoches 99.15 301 PFAKE 21 19 10.0 +11
NATX LR LR
comp=Z,2μm,20.0s,MS5.6
KVTX Kingsville 99.44 296 PFAKE 21 19 10.0 +9.4
KVTX LR LR
comp=Z,2μm,20.0s,MS5.7
GLMI Grayling 99.54 317 PFAKE 21 19 10.0 +9.4
GLMI LR LR
comp=Z,2μm,21.0s,MS5.5
MIAR Mount Ida 99.80 304 PFAKE 21 19 10.0 +8.0
MIAR LR LR
comp=Z,3μm,21.0s,MS5.7
COCO West Island 100.47 111 PFAKE 21 19 20.0 +15
COCO LR LR
comp=Z,2μm,19.0s,MS5.6
NWAO Narrogin (SRO) 100.99 139 PFAKE 21 19 20.0 +13
NWAO LR LR
comp=Z,2μm,21.0s,MS5.5
JFWS Jewell Farm 101.91 313 PFAKE 21 19 20.0 +8.6
JFWS LR LR
comp=Z,2μm,21.0s,MS5.7
RKT Rikitea 102.24 233 *e*SKSac SKSac 21 29 52.2 -1.2
comp=Z,250nm,31.8s
RKT *e*SP SP 21 32 26.6 -3.2
comp=Z,924nm,38.8s
RKT *e*LQ 21 48 04.9
comp=Z,972nm,34.0s
RKT *e*LR LR 21 52 48.1
comp=Z,3μm,35.2s
JCT Junction City 102.34 298 PFAKE 21 19 20.0 +6.7
JCT LR LR
comp=Z,1μm,20.0s,MS5.4
SCIA State Center 103.29 311 PFAKE 21 19 30.0 +13
SCIA LR LR
comp=Z,2μm,21.0s,MS5.6
WMOK Wichita Mounta 103.62 302 PFAKE 21 19 30.0 +11
WMOK LR LR
comp=Z,2μm,22.0s,MS5.7
NIL Nilore 104.02 59 PFAKE 21 19 30.0 +9.2
NIL LR LR
comp=Z,92nm,19.0s,MS4.3
TAU Tasmania Unive 104.17 166 PFAKE 21 19 30.0 +8.6
TAU LR LR
comp=Z,2μm,19.0s,MS5.6
KSU1 Kansas State U 104.17 307 PFAKE 21 19 30.0 +8.6
KSU1 LR LR
comp=Z,2μm,22.0s,MS5.6
APA Apatity 104.51 17⇑*e*P Pdif 21 19 23.0 0.0
APA MLR MLR
comp=Z,2μm,23.0s,MS5.6
TXAR Lajitas Array 104.76 295 PP PP 21 23 41.5 -2.9
comp=Z,0.9nm,0.9s,baz=138,slow=12,SNR=3.7
TXAR Lajitas Array 104.76 295 PP PP 21 23 41.5 -2.9
KEV Kevo 104.82 13 PFAKE 21 19 30.0 +5.7
KEV LR LR
comp=Z,1μm,20.0s,MS5.5
LVZ Lovozero 105.07 17 PFAKE 21 23 50.0 +11
LVZ LR LR
comp=Z,2μm,19.0s,MS5.6
EYMN Ely 105.22 317 PFAKE 21 23 50.0 +10
EYMN LR LR
comp=Z,2μm,19.0s,MS5.7
AMTX Amarillo 105.80 301 PFAKE 21 23 50.0 +8.6
AMTX LR LR
comp=Z,2μm,20.0s,MS5.6
CBKS Cedar Bluff 106.20 306 PFAKE 21 23 50.0 +8.0
CBKS LR LR
comp=Z,2μm,20.0s,MS5.7
ARU Arti 106.31 33 PFAKE 21 23 50.0 +8.3
ARU LR LR
comp=Z,1μm,20.0s,MS5.5
ECSD EROS Data Cent 106.36 311 PFAKE 21 23 50.0 +7.8
ECSD LR LR
comp=Z,2μm,20.0s,MS5.6
MNTX Cornudas Mount 107.14 297 PFAKE 21 24 00.0 +16
MNTX LR LR
comp=Z,1μm,20.0s,MS5.4
SNZO South Karori 107.48 186 PFAKE 21 24 00.0 +15
SNZO LR LR
comp=Z,1μm,19.0s,MS5.5
AGMN Agassiz Nation 107.97 316 PFAKE 21 24 00.0 +15
AGMN LR LR
comp=Z,1μm,21.0s,MS5.5
OGNE Ogallala 108.72 307 PFAKE 21 24 00.0 +13
OGNE LR LR
comp=Z,2μm,21.0s,MS5.6
ULM Lac du Bonnet 108.85 318 PFAKE 21 24 00.0 +13
ULM LR LR
comp=Z,2μm,20.0s,MS5.7
AAK Ala-Archa 108.93 51 PFAKE 21 24 00.0 +13
AAK LR LR
comp=Z,3μm,20.0s,MS5.8
ANMO Albuquerque 109.36 300 PFAKE 21 24 00.0 +12
ANMO LR LR
comp=Z,1μm,20.0s,MS5.4
TKM2 Tokmak 2 109.78 51 PFAKE 21 24 00.0 +11
TKM2 LR LR
comp=Z,3μm,19.0s,MS5.8
SDCO Great Sand Dun 109.82 303 PFAKE 21 24 00.0 +11
SDCO LR LR
comp=Z,2μm,21.0s,MS5.6
BRVK Borovoye 110.72 40 PFAKE 21 24 00.0 +10
BRVK LR LR
comp=Z,2μm,20.0s,MS5.8
ISCO Idaho Springs 110.74 305 PFAKE 21 24 00.0 +9.5
ISCO LR LR
comp=Z,2μm,20.0s,MS5.7
BVAR Borovoye Array 110.77 40 PP PP 21 24 26.5 -1.3
comp=Z,2.5nm,1.0s,baz=243,slow=6.5,SNR=6.6
BVAR PKKP PKKPbc 21 35 05.5 +16
comp=Z,1.3nm,1.1s,baz=64,slow=3.4,SNR=3.5
BVAR Borovoye Array 110.77 40 PP PP 21 24 26.5 -1.3
BVAR PKKP PKKPbc 21 35 05.5 +16
KBS Kingsbay 110.84 5 PFAKE 21 24 00.0 +10
KBS LR LR
comp=Z,996nm,20.0s,MS5.4
MBWA Marble Bar 111.22 133 PFAKE 21 24 00.0 +7.9
MBWA LR LR
comp=Z,2μm,22.0s,MS5.7
TBI Tubuai 111.36 223 *e*SP SP 21 34 03.8 +1.3
comp=Z,372nm,29.8s
TBI *e*SS SS 21 40 06.2 +1.3
comp=Z,1μm,28.0s
TBI *e*LQ 21 52 08.3
comp=Z,513nm,32.2s
TBI *e*LR LR 21 56 54.9
comp=Z,2μm,33.2s
TUC Tucson 111.56 295 PFAKE 21 24 00.0 +7.7
TUC LR LR
comp=Z,1μm,19.0s,MS5.5
MVCO Mesa Verde 111.79 301 PFAKE 21 24 00.0 +7.4
MVCO LR LR
comp=Z,2μm,22.0s,MS5.7
CAN Canberra 111.81 165 PFAKE 21 24 00.0 +7.1
CAN LR LR
comp=Z,1μm,20.0s,MS5.5
DGMT Dagmar 113.11 314 PFAKE 21 24 10.0 +15
DGMT LR LR
comp=Z,2μm,19.0s,MS5.6
KULM Kulim 113.26 98 PFAKE 21 24 10.0 +14
KULM LR LR
comp=Z,3μm,22.0s,MS5.8
WUAZ Wupatki 113.27 298 PFAKE 21 24 10.0 +15
WUAZ LR LR
comp=Z,1μm,21.0s,MS5.5
LAO LASA Array 113.76 311 PFAKE 21 24 10.0 +14
LAO LR LR
comp=Z,2μm,22.0s,MS5.6
FFC Flin Flon 114.04 321 PFAKE 21 24 10.0 +14
FFC LR LR
comp=Z,2μm,21.0s,MS5.7
BW06 Boulder Array 114.61 306 PFAKE 21 24 10.0 +12
BW06 LR LR
comp=Z,2μm,22.0s,MS5.6
KURK Kurchatov 114.64 44 PKP PKiKP 21 23 56.5 -1.0
comp=Z,0.2nm,0.3s,baz=260,slow=3.9,SNR=4.6
KURK PKKPbc PKKPbc 21 34 40.9 +4.4
comp=Z,2.6nm,1.1s,baz=75,slow=3.8,SNR=9.6
KURK Kurchatov 114.64 44 PKP PKiKP 21 23 56.5 -1.0
KURK PKKPbc PKKPbc 21 34 40.9 +4.4
KURK LR LR
comp=Z,3μm,19.0s,MS5.8
KURK Kurchatov 114.64 44 PKIKP PKiKP 21 23 56.6 -1.0
KURK pmax pmax
comp=Z,3.0nm,1.1s
MVU Marysvale 115.00 301 PFAKE 21 24 10.0 +11
MVU LR LR
comp=Z,2μm,21.0s,MS5.7
RLMT Red Lodge 115.21 309 PFAKE 21 24 10.0 +11
RLMT LR LR

comp=Z,2μm,21.0s,MS5.7
TAOE Nuku Hiva Isla 115.34 241 *e*LR LR 21 58 45.3
comp=Z,5μm,26.4s
HWUT Hardware Ranch 115.61 305 PFAKE 21 24 10.0 +10
HWUT LR LR
comp=Z,2μm,21.0s,MS5.6
MKAR Makanchi Array 115.64 49 PKP PKPdf 21 23 57.6 -2.1
comp=Z,0.3nm,0.5s,baz=238,slow=4.9,SNR=5.0
MKAR PP PP 21 24 57.8 -4.9
comp=Z,1.2nm,0.9s,baz=251,slow=3.3,SNR=4.0
MKAR PKKPbc PKKPbc 21 34 35.1 +2.2
comp=Z,0.5nm,0.7s,baz=55,slow=3.0,SNR=4.2
MKAR Makanchi Array 115.64 49 PKP PKPdf 21 23 57.6 -2.1
MKAR PP PP 21 24 57.8 -4.9
MKAR PKKPbc PKKPbc 21 34 35.1 +2.2
MKAR Makanchi Array 115.64 49 PKIKP PKPdf 21 23 57.6 -2.0
MKAR 21 24 57.8
MKAR 21 34 35.1
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
AHID Auburn Hatcher 115.67 306 PFAKE 21 24 10.0 +10
AHID LR LR
comp=Z,2μm,22.0s,MS5.7
LKWY Lake 115.79 308 PFAKE 21 24 10.0 +10
LKWY LR LR
comp=Z,3μm,20.0s,MS5.9
PPT2 Papeete2 115.79 227 *e*PP PP 21 24 50.0 -13
comp=Z,128nm,24.8s
PPT2 *e*SP SP 21 34 38.0 -5.5
comp=Z,564nm,27.0s
PPT2 *e*SS SS 21 41 05.6 +1.8
comp=Z,1μm,27.2s
PPT2 *e*LR LR 21 58 56.6
comp=Z,5μm,33.5s
DUG Dugway 116.02 303 *e*PKPdf PKPdf 21 24 00.6 0.0
DUG *e*PP PP 21 25 05.5 0.0
DUG LR LR
comp=Z,1μm,22.0s,MS5.5
DUG Dugway 116.02 303 *e*PKIKP PKPdf 21 24 00.6 0.0
DUG *e* 21 25 05.5
DUG MLR MLR
comp=Z,1μm,22.0s,MS5.5
LSA Lhasa 116.18 70 PFAKE 21 24 10.0 +8.8
LSA LR LR
comp=Z,4μm,22.0s,MS6.0
PFO Pinyon Flat Ob 116.46 295 PFAKE 21 24 10.0 +8.4
PFO LR LR
comp=Z,847nm,20.0s,MS5.4
EGMT Eagleton 116.46 312 PFAKE 21 24 10.0 +8.8
EGMT LR LR
comp=Z,2μm,22.0s,MS5.6
BOZ Bozeman (W) 116.96 309 PFAKE 21 24 10.0 +7.8
BOZ LR LR
comp=Z,2μm,22.0s,MS5.6
ASAR Alice Springs 117.10 146 PKP PKPdf 21 24 02.0 -1.3
comp=Z,2.1nm,0.7s,baz=189,slow=1.8,SNR=20
ASAR PKKPbc PKKPbc 21 34 27.4 -0.1
comp=Z,0.7nm,0.9s,baz=23,slow=8.1,SNR=4.7
ASAR Alice Springs 117.10 146 PKP PKPdf 21 24 02.0 -1.3
ASAR PKKPbc PKKPbc 21 34 27.4 -0.1
ASAR Alice Springs 117.10 146 PKIKP PKPdf 21 24 02.1 -1.2
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.9s
CM31 Chiang Mai Arr 118.12 85 PFAKE 21 24 20.0 +15
CM31 LR LR
comp=Z,2μm,20.0s,MS5.6
CMAR Chiang Mai Arr 118.12 85 PKP PKPdf 21 24 05.2 0.0
comp=Z,1.2nm,0.8s,baz=246,slow=3.5,SNR=10
CMAR Chiang Mai Arr 118.12 85 PKP PKPdf 21 24 05.2 0.0
CMAR Chiang Mai Arr 118.12 85 PKIKP PKPdf 21 24 05.3 0.0
CMAR pmax pmax
comp=Z,1.0nm,0.8s
RAO Raoul Island 118.12 195 PFAKE 21 24 20.0 +15
RAO LR LR
comp=Z,998nm,22.0s,MS5.4
DAC Darwin (Calif) 118.26 297 PFAKE 21 24 20.0 +15
DAC LR LR
comp=Z,1μm,19.0s,MS5.6
CHTO Chiang Mai 118.27 84 *e*PKPdf PKPdf 21 24 05.2 -0.3
CHTO LR LR
comp=Z,2μm,20.0s,MS5.6
CHTO Chiang Mai 118.27 84 *e*PKIKP PKPdf 21 24 05.2 -0.4
CHTO MLR MLR
comp=Z,2μm,20.0s,MS5.6
WMQ Urumqi 118.35 54 PKP PKPdf 21 24 05.0 +0.1
WMQ PP PP 21 25 26.5 +4.8
WMQ SKS SKSdf 21 31 12.3 -4.7
WMQ SS SS 21 41 36.9 -1.3
WMQ AMB AMB
comp=Z,480nm,5.0s
WMQ LR LR
comp=N,1μm,21.8s,MS5.8
WMQ LR LR
comp=E,2μm,25.0s,MS5.8
WMQ LR LR
comp=Z,3μm,23.4s,MS5.8
NVS Novosibirsk 118.52 41 *e*PKIKP PKPdf 21 23 58.6 -6.3
TPH Tonopah 118.56 299 PFAKE 21 24 20.0 +14
TPH LR LR
comp=Z,1μm,20.0s,MS5.5
QLP Quilpie 118.71 157 *e*P PKPdf 21 24 05.9 -0.5
MSO Missoula 118.84 310 PFAKE 21 24 20.0 +14
MSO LR LR
comp=Z,1μm,21.0s,MS5.6
ZALV Zalesovo Beam 119.20 42 PKP PKPdf 21 24 04.7 -1.5
comp=Z,0.3nm,0.5s,baz=180,slow=1.4,SNR=2.7
ZALV PP PP 21 25 27.2 -0.1
comp=Z,2.9nm,0.9s,baz=260,slow=5.9,SNR=5.3
ZALV PKKPbc PKKPbc 21 34 20.6 +0.3
comp=Z,0.7nm,0.6s,baz=64,slow=6.8,SNR=6.0
ZALV Zalesovo Beam 119.20 42 PKP PKPdf 21 24 04.7 -1.6
ZALV PP PP 21 25 27.2 -0.1
ZALV PKKPbc PKKPbc 21 34 20.6 +0.3
ZALV Zalesovo Beam 119.20 42 PKIKP PKPdf 21 24 04.7 -1.6
ZALV 21 25 27.2
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
KSM Kuching 119.25 108 PFAKE 21 24 20.0 +12
KSM LR LR
comp=Z,1μm,21.0s,MS5.5
NVAR Mina Array Bea 119.48 299 PKP PKPdf 21 24 08.3 +1.0
comp=Z,0.5nm,0.6s,baz=173,slow=3.8,SNR=6.5
NVAR PP PP 21 25 29.2 -0.5
comp=Z,0.8nm,0.9s,baz=103,slow=6.5,SNR=5.0
NVAR Mina Array Bea 119.48 299 PKP PKPdf 21 24 08.3 +1.0
NVAR PP PP 21 25 29.2 -0.5
WRA Warramunga Arr 120.47 144 PKP PKPdf 21 24 08.5 -1.4
comp=Z,2.3nm,0.8s,baz=231,slow=2.0,SNR=11
WRA Warramunga Arr 120.47 144 PKP PKPdf 21 24 08.5 -1.4
WRA Warramunga Arr 120.47 144 PKIKP PKPdf 21 24 08.5 -1.4
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRAB Tennant Creek 120.48 144 PFAKE 21 24 20.0 +10
WRAB LR LR
comp=Z,2μm,20.0s,MS5.7
WVOR Wild Horse Val 120.88 304 PFAKE 21 24 20.0 +10
WVOR LR LR
comp=Z,1μm,19.0s,MS5.6
YKA Yellowknife Ar 122.26 327 PKP PKPdf 21 24 11.1 -0.8
comp=Z,2.2nm,0.8s,baz=94,slow=1.8,SNR=29
YKA PKKPbc PKKPbc 21 34 10.9 +1.9
comp=Z,0.2nm,0.7s,baz=285,slow=4.3,SNR=5.2
YKA Yellowknife Ar 122.26 327 PKP PKPdf 21 24 11.1 -0.8
YKA PKKPbc PKKPbc 21 34 10.9 +1.9
YKA Yellowknife Ar 122.26 327 PKIKP PKPdf 21 24 11.1 -0.8
YKA pmax pmax
comp=Z,2.0nm,0.9s
HAWA Hanford 122.46 308 PFAKE 21 24 20.0 +7.2
HAWA LR LR
comp=Z,1μm,20.0s,MS5.5
KAPI Kappang 122.62 120 PFAKE 21 24 30.0 +16
KAPI LR LR
comp=Z,2μm,22.0s,MS5.7
KMI Kunming 124.04 79 PKP PKPdf 21 24 16.0 -0.5
KMI PP PP 21 26 01.0 +0.1
KMI SKKS SKKSac 21 32 53.6 -6.0
KMI SS SS 21 42 51.9 +0.1
KMI AMB AMB
comp=Z,300nm,9.5s
KMI LR LR
comp=N,990nm,17.7s,MS5.6
KMI LR LR
comp=E,840nm,19.8s,MS5.6
KMI LR LR
comp=Z,1μm,21.9s,MS5.5
KMI Kunming 124.04 79 PKP PKPdf 21 24 16.0 -0.5
KMI sPKP 21 24 30.1
KMI PP PP 21 26 01.0 +0.1
KMI SKKS SKKSac 21 32 53.6 -6.0
KMI PS PS 21 36 02.2 +3.1
KMI SS SS 21 42 51.9 +0.1
KMI SSS 21 47 24.3
KMI LR LR
comp=Z,1μm,21.9s,MS5.5
KMI Kunming 124.04 79 PKIKP PKPdf 21 24 16.0 -0.5
KMI 21 26 01.0
KMI PS PS 21 36 02.2 +3.1
KMI SS SS 21 42 51.9 +0.1
KMI SSS 21 47 24.3
KMI MLR MLR
comp=Z,1μm,21.9s,MS5.5
CTAO Charters Tower 125.40 156 PFAKE 21 24 30.0 +11
CTAO LR LR
comp=Z,1μm,21.0s,MS5.6
NLWA Neilton Lookou 125.57 309 PFAKE 21 24 30.0 +11
NLWA LR LR
comp=Z,2μm,21.0s,MS5.7
GTA Gaotai 125.97 62 *e*PKP PKPdf 21 24 20.0 +0.2
GTA PP PP 21 26 17.8 +4.2
GTA PKS 21 27 54.3
GTA SKS SKSdf 21 31 30.6 -1.0
GTA SS SS 21 43 16.5 +0.8
GTA AMB AMB
comp=Z,570nm,12.3s
GTA LR LR
comp=N,690nm,26.4s,MS5.7
GTA LR LR
comp=E,2μm,25.4s,MS5.7
GTA LR LR
comp=Z,2μm,24.5s,MS5.7
KKM Kota Kinabalu 126.68 107 PFAKE 21 24 30.0 +8.1
KKM LR LR
comp=Z,1μm,20.0s,MS5.7
CD2 Chengdu 126.83 73 *e*PKP PKPdf 21 24 21.6 -0.1
CD2 sPKP 21 24 29.0
CD2 PKS 21 27 56.8
CD2 SKS SKSdf 21 31 28.3 -5.3
CD2 SKKS SKKSac 21 33 11.8 -5.4
CD2 SS SS 21 43 26.8 0.0
CD2 AMB AMB
comp=Z,110nm,9.6s
CD2 LR LR
comp=N,2μm,23.0s,MS5.8
CD2 LR LR
comp=E,1μm,19.2s,MS5.8
CD2 LR LR
comp=Z,2μm,18.0s,MS5.7
DZM Mont Dzumac 127.05 180 *e*LR LR 22 04 12.9
comp=Z,2μm,23.7s
QIZ Qiongzhong 127.69 89 PFAKE 21 24 30.0 +6.4
QIZ LR LR
comp=Z,2μm,21.0s,MS5.8
GYA Guiyang 127.82 79 Pdif Pdif 21 21 05.8 -0.8
GYA PKP PKPdf 21 24 23.6 -0.1
GYA PP PP 21 26 30.0 +3.9
GYA PKS 21 27 57.6
GYA SKKS SKKSac 21 33 20.5 -3.0
GYA SS SS 21 43 39.6 +0.4
GYA AMB AMB
comp=Z,210nm,7.8s
GYA LR LR
comp=N,480nm,20.9s,MS5.2
GYA LR LR
comp=E,360nm,21.4s,MS5.2
GYA LR LR
comp=Z,520nm,20.8s,MS5.2
LZH Lanzhou 128.31 67 ⇑PKP PKPdf 21 24 25.0 +0.7
LZH sPKP 21 24 29.8
LZH PP PP 21 26 35.1 +6.0
LZH SKS SKSdf 21 31 33.5 -2.6
LZH SKKS SKKSac 21 33 24.8 -1.4
LZH SS SS 21 43 47.8 +2.9
LZH AMB AMB
comp=Z,420nm,8.0s
LZH LR LR
comp=N,2μm,19.2s,MS6.0
LZH LR LR
comp=E,2μm,18.5s,MS6.0
LZH LR LR
comp=Z,3μm,20.0s,MS5.9
LZH Lanzhou 128.31 67 ⇑PKP PKPdf 21 24 25.0 +0.7
LZH pPKP pPKPdf 21 24 28.3 +0.6
LZH sPKP 21 24 29.7
LZH PP PP 21 26 35.1 +6.0
LZH PKS 21 27 50.0
LZH SKS SKSdf 21 31 33.5 -2.6
LZH SKKS SKKSac 21 33 24.7 -1.5
LZH SS SS 21 43 47.8 +2.9
LZH LR LR
comp=Z,3μm,20.0s,MS5.9
LZH Lanzhou 128.31 67 ⇑PKIKP PKPdf 21 24 25.0 +0.7
LZH 21 24 28.3
LZH 21 24 29.7
LZH 21 26 35.1
LZH 21 31 33.5
LZH SS SS 21 43 47.8 +2.9
LZH MLR MLR
comp=Z,3μm,20.0s,MS5.9
COEN Coen 129.79 150 *e*P PKPdf 21 24 25.2 -2.6
COEN Coen 129.79 150 *e*PKPdf PKPdf 21 24 27.9 0.0
ZAK Zakamensk 129.95 48 *e*PKIKP PKPdf 21 24 25.4 -1.6
ZAK *e* 21 26 37.4
ZAK pmax pmax
comp=Z,6.0nm,1.8s
MSVF Nonsavu 130.14 194 PFAKE 21 24 40.0 +12
MSVF LR LR
comp=Z,835nm,20.0s,MS5.4
TLY Talaya 130.22 47 PFAKE 21 24 40.0 +13
TLY LR LR
comp=Z,2μm,21.0s,MS5.8
TLY Talaya 130.22 47 *e*PKHKP PKPpre 21 23 59.8
TLY *e* 21 26 41.4
TLY *e*PPS 21 38 20.4
TLY SS SS 21 44 06.7 -0.9
TLY *e* 21 48 57.8
TLY pmax pmax
comp=Z,9.0nm,1.1s
WRAK Wrangell Islan 131.22 320 PFAKE 21 24 40.0 +11
WRAK LR LR
comp=Z,1μm,20.0s,MS5.7
ENH Enshi 131.37 76 PFAKE 21 24 40.0 +10
ENH LR LR
comp=Z,2μm,22.0s,MS5.8
XAN Xi'an 131.88 70 PKP PKPdf 21 24 31.0 -0.2
XAN AMB AMB
comp=Z,130nm,11.3s
XAN LR LR
comp=N,790nm,22.5s
XAN LR LR
comp=Z,680nm,21.1s,MS5.3
SONM Songino Array 131.88 52 PKP PKPdf 21 24 31.0 +0.3
comp=Z,2.0nm,1.0s,baz=243,slow=1.3,SNR=14
SONM PP PP 21 26 54.2 +2.2
comp=Z,4.3nm,1.2s,baz=270,slow=5.6,SNR=8.0
SONM Songino Array 131.88 52 PKP PKPdf 21 24 31.0 +0.3
SONM PP PP 21 26 54.2 +2.2
SONM Songino Array 131.88 52 PKIKP PKPdf 21 24 31.0 +0.3
SONM 21 26 54.2
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,4.0nm,1.3s
ULN Ulaanbaatar 132.33 52 *e*PKPdf PKPdf 21 24 30.6 -1.0
ULN LR LR
comp=Z,1μm,19.0s,MS5.6
ULN Ulaanbaatar 132.33 52 *e*PKIKP PKPdf 21 24 30.6 -0.9
ULN MLR MLR
comp=Z,1μm,19.0s,MS5.6
EGAK Eagle 133.66 332 *e*PKPdf PKPdf 21 24 33.8 +0.2
EGAK LR LR
comp=Z,2μm,19.0s,MS5.8
PNL Peninsula 134.40 325 PKPdf PKPdf 21 24 37.7 +2.6
DAV Davao City (W) 134.81 113 PFAKE 21 24 50.0 +13
DAV LR LR
comp=Z,1μm,22.0s,MS5.5
XMAS Kiritimati 135.37 237 PFAKE 21 24 50.0 +12
XMAS LR LR
comp=Z,997nm,19.0s,MS5.6
PMG Port Moresby 135.54 152 PFAKE 21 24 50.0 +11
PMG LR LR
comp=Z,1μm,20.0s,MS5.7
BOD Bodaibo 135.54 37 *e*PKIKP PKPdf 21 24 31.9 -5.4
BOD pmax pmax
comp=Z,19nm,2.0s
COLD Coldfoot 135.88 337 *e*PKPdf PKPdf 21 24 38.1 +0.5
ILAR Eielson Array 135.92 333 PKP PKPdf 21 24 37.6 -0.2
comp=Z,6.8nm,0.8s,baz=14,slow=3.5,SNR=5.2
ILAR Eielson Array 135.92 333 PKP PKPdf 21 24 37.6 -0.2
ILAR Eielson Array 135.92 333 PKIKP PKPdf 21 24 37.6 -0.2
ILAR pmax pmax
comp=Z,7.0nm,0.8s
COLA College 136.24 334 *e*PKPdf PKPdf 21 24 38.2 -0.1
COLA LR LR
comp=Z,1μm,20.0s,MS5.6
COLA College 136.24 334 *e*PKIKP PKPdf 21 24 38.2 -0.2
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.6
MCK McKinley 137.19 333 *e*PKPdf PKPdf 21 24 40.5 +0.4
MCK McKinley 137.19 333 *e*PKIKP PKPdf 21 24 40.6 +0.4
QZH Quanzhou 137.44 86 *e*PKP PKPdf 21 24 37.8 -4.0
QZH PP PP 21 27 27.0 -0.8
QZH LR LR
comp=N,1μm,11.5s,MS6.0
QZH LR LR
comp=E,2μm,16.4s,MS6.0
QZH LR LR
comp=Z,3μm,28.0s
SML Sawmill 137.81 330 *e*PKPdf PKPdf 21 24 42.3 +0.9
SML Sawmill 137.81 330 *e*PKIKP PKPdf 21 24 42.3 +0.9
BJT Baijiatuau 138.52 63 PFAKE 21 24 50.0 +6.6
BJT LR LR
comp=Z,4μm,22.0s,MS6.1
BJI Beijing 138.53 63 PKP PKPdf 21 24 42.8 -0.6
BJI SS SS 21 45 49.8 +1.3
BJI LR LR
comp=N,1μm,20.5s,MS5.9
BJI LR LR
comp=E,2μm,22.0s,MS5.9
BJI LR LR
comp=Z,3μm,23.0s,MS6.0
PPLA Purkeypile 138.88 333 *e*PKPdf PKPdf 21 24 43.9 +0.6
HNR Honiara 139.12 170 PFAKE 21 25 00.0 +15
HNR LR LR
comp=Z,830nm,21.0s,MS5.5
YHNB Yeheng 139.73 88 PFAKE 21 25 00.0 +14
YHNB LR LR
comp=Z,1μm,19.0s,MS5.7
YAK Yakutsk 141.02 27 *e*PKIKP PKPdf 21 24 46.0 -1.2
YAK pmax pmax
comp=Z,12nm,1.5s
TNA Tin City 142.23 343 *e*PKPdf PKPdf 21 24 46.1 -3.2
BILL Bilibino 143.11 0 *e*PKPdf PKPdf 21 24 51.5 +0.8
BILL LR LR
comp=Z,1μm,20.0s,MS5.7
BILL Bilibino 143.11 0 ⇓*i*PKIKP PKPdf 21 24 51.6 +0.8
BILL pmax pmax
comp=Z,140nm,1.7s
BILL MLR MLR
comp=Z,700nm,19.0s,MS5.4
SNY Shenyang 144.15 61 ⇓PKP PKPdf 21 24 51.1 -2.3
GAMB Gambell 144.63 344 *e*PKPdf PKPdf 21 24 53.4 -0.2
CHGN Chignik 145.00 326 *e*PKPdf PKPdf 21 24 52.8 -1.6
CN2 Changchun 145.34 57 *e*PKPbc PKPbc 21 24 54.3 -1.0
CN2 PP PP 21 28 18.4 +2.9
CN2 SS SS 21 47 05.3 -2.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,21.0s,MS5.9
CN2 LR LR
comp=E,2μm,21.0s,MS5.9
CN2 LR LR
comp=Z,2μm,23.0s,MS5.7
JOW Kunigami 146.31 88 *e*PKPbc PKPbc 21 24 59.5 +0.8
SDPT Sand Point 146.50 326 *e*PKPdf PKPdf 21 24 57.4 +0.5
SDPT *e*PKPbc PKPbc 21 24 58.4 0.0
INCN Inchon 146.58 68 *e*PKPbc PKPbc 21 24 58.9 -0.4
INCN LR LR
comp=Z,1μm,20.0s,MS5.7
KSAR Wonju Array Be 147.58 68 PKPbc PKPbc 21 25 00.8 -1.3
KSAR Wonju Array Be 147.58 68 PKP2 PKPbc 21 25 00.8 -1.3
KSRS Korea Array 147.61 68 PKPbc PKPbc 21 25 00.8 -1.4
comp=Z,8.1nm,0.9s,baz=270,slow=1.3,SNR=20
KSRS Korea Array 147.61 68 PKP2 PKPbc 21 25 00.8 -1.4
KSRS pmax pmax
comp=Z,8.0nm,0.9s
MDJ Mudanjiang 148.15 55 PKPbc PKPdf 21 24 59.3 -0.8
MDJ pPKP pPKPdf 21 25 02.8 -0.7
MDJ sPKP 21 25 03.9
MDJ PP PP 21 28 31.8 -0.1
MDJ SS SS 21 47 40.3 +1.4
MDJ AMB AMB
comp=Z,520nm,9.4s
MDJ LR LR
comp=N,1μm,24.6s,MS5.8
MDJ LR LR
comp=E,1μm,26.4s,MS5.8
MDJ LR LR
comp=Z,2μm,29.9s,MS5.7
MDJ Mudanjiang 148.15 55 *e*PKPdf PKPdf 21 25 00.6 +0.5
MDJ *e*PKPbc PKPbc 21 25 02.8 -0.6
MDJ LR LR
comp=Z,2μm,21.0s,MS5.8
KLR Kul'dur 148.22 45 *e*PKIKP PKPdf 21 24 58.4 -1.7
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s
AKUT Akutan 149.71 327 *e*PKPdf PKPdf 21 25 02.9 +0.6
AKUT *e*PKPbc PKPbc 21 25 07.7 +0.7
TARA Tarawa 149.74 193 PFAKE 21 25 10.0 +6.3
TARA LR LR
comp=Z,351nm,21.0s,MS5.1
USRK Ussuriysk Arra 149.92 55 PKPbc PKPbc 21 25 07.2 -0.7
comp=Z,5.7nm,0.8s,baz=204,slow=1.1,SNR=13
UNV Unalaska Valle 150.22 327 *e*PKPbc PKPbc 21 25 08.2 -0.1
HABR Khabarovsk 150.53 45 *e*PKIKP PKPdf 21 25 02.4 -1.4
HABR *i* 21 25 09.1
HABR *e* 21 25 13.2
HABR *e* 21 28 45.2
HABR 21 32 07.4
HABR *e*PPP 21 32 08.1
HABR *e*SS SS 21 48 03.5 -1.5
HABR *e*SSS 21 53 47.1
HABR pmax pmax
comp=E,89nm,1.8s
HABR pmax pmax
comp=N,49nm,1.8s
HABR pmax pmax
comp=Z,333nm,1.8s
YSS Yuzh-Sakhalins 155.83 43 PFAKE 21 25 20.0 +8.5
YSS LR LR
comp=Z,473nm,20.0s,MS5.3
MAJO Matsushiro 155.87 70 PFAKE 21 25 20.0 +8.1
MAJO LR LR
comp=Z,1μm,21.0s,MS5.7
MJAR Matsushiro Arr 155.87 70 PKP PKPdf 21 25 11.3 -0.6
comp=Z,3.3nm,1.2s,baz=247,slow=3.6,SNR=5.3
MJAR Matsushiro Arr 155.87 70 PKP PKPdf 21 25 11.3 -0.6
MJAR Matsushiro Arr 155.87 70 PKIKP PKPdf 21 25 11.3 -0.6
MJAR pmax pmax
comp=Z,3.0nm,1.2s
PET Petropavlovsk 157.42 13 PFAKE 21 25 20.0 +6.6
PET LR LR
comp=Z,2μm,20.0s,MS6.0
PET Petropavlovsk 157.42 13 *e*PKIKP PKPdf 21 25 16.2 +2.8
PET *e* 21 29 30.5
PET *e*SS SS 21 49 19.2 +0.7
PET *e*SSS 21 55 21.3
PET MLR MLR
comp=Z,2μm,17.0s,MS6.0
ERM Erimo 158.36 54 PFAKE 21 25 30.0 +15
ERM LR LR
comp=Z,1μm,19.0s,MS5.8
YUK Yuzh-Kuril'sk 159.22 46 *i* PKIKP PKPdf 21 25 21.9 +6.1
YUK *i* 21 29 42.5
WAKE Wake Island 168.15 180 PFAKE 21 25 40.0 +15

WAKE LR LR
comp=Z,1μm,20.0s

*ISCJB **20** 21:11:54.4±0.6, 17°.11N±0°.09×94°.08W±0°.04, h168km±7km, mb3.6/2, Error ellipse: s-maj=15.6km s-min=6.1km az=10.1.*
*MEX **20** 21:11:56.7±1.0, 17°.10N×94°.07W, h165km±9km, MD4.3*
*IDC **20** 21:11:56.1±1.1, 17°.56N×94°.02W, h145km±12km, mb3.4/2, mb1 3.7/5, mb1mx3.3/22, mbtmp3.4/5, Error ellipse: s-maj=33.3km s-min=14.9km az=172.0*
*NEIC **20** 21:11:56.8, 16°.96N×94°.13W, h166km, MD4.3(MEX), After MEX.*

ISC 20 21:11:55.3±0.6, 17°.11N±0°.09×94°.07W±0°.04, h164km±7km, n29, σ1°.21/47, mb3.6/2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.78**	**269**	P	**Pn**	**21 12 19.9**	**+0.1**
	317nm,0.3s,baz=92,slow=4.9,SNR=2659						
CMIG				S	**Sn**	**21 12 38.6**	**+0.1**
	233nm,0.3s,baz=340,slow=23,SNR=79						
CMIG	**Matias Romero**	**0.78**	**269**	*i* P	**Pn**	**21 12 20.1**	**+0.3**
CMIG				S	**Sn**	**21 12 38.6**	**+0.1**
CMIG	**Matias Romero**	**0.78**	**269**	*i* P	**Pn**	**21 12 20.1**	**+0.3**
CMIG				*e*S	**Sn**	**21 12 38.4**	**-0.1**
TGIG		**0.96**	**110**	*i* P	**Pn**	**21 12 21.1**	**0.0**
TGIG				*e*S	**Sn**	**21 12 39.9**	**-1.0**
TGIG		**0.96**	**110**	*i* P	**Pn**	**21 12 21.1**	**0.0**
TGIG				*e*S	**Sn**	**21 12 39.9**	**-1.0**
PCIG		**1.62**	**150**	*i* P	**Pn**	**21 12 27.5**	**+0.4**
PCIG				*e*S	**Sn**	**21 12 51.6**	**-0.1**
PCIG		**1.62**	**150**	*i* P	**Pn**	**21 12 27.5**	**+0.4**
PCIG				*e*S	**Sn**	**21 12 51.6**	**-0.1**
CCIG	**Comitan**	**2.03**	**114**	*i* P	**Pn**	**21 12 31.9**	**+0.3**
CCIG				*e*S	**Sn**	**21 13 01.3**	**+1.8**
CCIG	**Comitan**	**2.03**	**114**	*i* P	**Pn**	**21 12 31.9**	**+0.3**
CCIG				*e*S	**Sn**	**21 13 01.3**	**+1.8**
HUIG	**Huatulco**	**2.37**	**236**	*i* P	**Pn**	**21 12 33.8**	**-1.7**
HUIG				*e*S	**Sn**	**21 13 02.9**	**-3.8**
HUIG	**Huatulco**	**2.37**	**236**	*i* P	**Pn**	**21 12 33.8**	**-1.7**
HUIG				*e*S	**Sn**	**21 13 05.8**	**-0.8**
VHO	**Vista Hermosa**	**2.55**	**270**	*i* P	**Pn**	**21 12 38.5**	**+0.8**
VHO	**Vista Hermosa**	**2.55**	**270**	*i* P	**Pn**	**21 12 38.5**	**+0.8**
VHO				*e*S	**Sn**	**21 13 09.3**	**-1.1**
PPM	**Popocatepetl**	**4.75**	**295**	*i* P	**Pn**	**21 13 08.2**	**+2.6**
PPM	**Popocatepetl**	**4.75**	**295**	*i* P	**Pn**	**21 13 08.2**	**+2.6**
PPM				*e*S	**Sn**	**21 14 01.3**	**+0.6**
CAIG	**El Cayaco**	**5.93**	**270**	*i* P	**Pn**	**21 13 20.6**	**-0.6**
CAIG	**El Cayaco**	**5.93**	**270**	*i* P	**Pn**	**21 13 20.6**	**-0.6**
CAIG				*e*S	**Sn**	**21 14 30.7**	**+2.2**
TEIG	**Tepich**	**6.31**	**60**	P	**Pn**	**21 13 22.3**	**-3.9**
	4.8nm,0.3s,baz=125,slow=2.4,SNR=26						
TEIG				S	**Sn**	**21 14 33.5**	**-4.0**
	2.4nm,0.3s,baz=75,slow=22,SNR=3.1						
TEIG	**Tepich**	**6.31**	**60**	*e*Pn	**Pn**	**21 13 22.9**	**-3.3**
TEIG				*e*S	**Sn**	**21 14 33.6**	**-3.9**
ZIIG	**Zihuatanejo**	**7.08**	**275**	*i* P	**Pn**	**21 13 37.0**	**+0.6**
ZIIG				*e*S	**Sn**	**21 14 54.6**	**-1.4**
ZIIG	**Zihuatanejo**	**7.08**	**275**	*i* P	**Pn**	**21 13 37.0**	**+0.6**
ZIIG				*e*S	**Sn**	**21 14 54.6**	**-1.4**
JTS	**JuntasAbangare**	**11.15**	**126**	P	**Pn**	**21 14 35.6**	**+5.4**
	1.5nm,0.3s,baz=303,slow=13,SNR=8.4						
JTS	**JuntasAbangare**	**11.15**	**126**	P	**Pn**	**21 14 35.6**	**+5.4**
TXAR	**Lajitas Array**	**15.02**	**326**	P	**Pn**	**21 15 18.6**	**-0.7**
	0.1nm,0.3s,baz=154,slow=9.0,SNR=3.6						
TXAR	**Lajitas Array**	**15.02**	**326**	P	**Pn**	**21 15 18.6**	**-0.6**
NVAR	**Mina Array Bea**	**30.02**	**320**	P	**P**	**21 17 50.2**	**+1.6**
	1.0nm,0.7s,mb3.6,baz=139,slow=8.5,SNR=6.6						
NVAR	**Mina Array Bea**	**30.02**	**320**	P	**P**	**21 17 50.2**	**+1.6**
YKA	**Yellowknife Ar**	**47.57**	**347**	P	**P**	**21 20 12.2**	**-1.8**
	0.7nm,0.5s,mb3.5,baz=152,slow=7.3,SNR=15						
YKA	**Yellowknife Ar**	**47.57**	**347**	P	**P**	**21 20 12.2**	**-1.8**

*IDC **20** 21:18:01.1±2.0, 20°.30S×177°.58W, h485km±22km, mb3.5/11, mb1 3.7/13, mb1mx3.5/20, mbtmp3.5/13, Error ellipse: s-maj=23.4km s-min=13.3km az=148.0*
*NEIC **20** 21:18:01.8±1.1, 20°.38S×177°.50W, h500km±11km, mb4.1/3, Error ellipse: s-maj=22.0km s-min=12.1km az=147.0*
*ISCJB **20** 21:18:02.4±1.4, 20°.4S±0°.1×177°.7W±0°.1, h509km±14km, mb4.0/14, Error ellipse: s-maj=25.0km s-min=15.0km az=140.3*

ISC 20 21:18:01.8±1.2, 20°.4S±0°.1×177°.5W±0°.1, h495km±12km, n56, σ0°.91/35, mb4.0/14, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.94**	**302**	*e*P	**P**	**21 19 29.9**	**+1.8**
AFI	**Afiamalu**	**8.49**	**41**	P	**P**	**21 20 01.3**	**-2.0**
	9.3nm,0.3s,baz=19,slow=5.6,SNR=9.9						
AFI	**Afiamalu**	**8.49**	**41**	P	**P**	**21 20 01.3**	**-2.0**
URZ	**Urewera**	**18.39**	**193**	P	**P**	**21 21 46.0**	**+0.2**
	1.2nm,0.3s,baz=161,slow=21,SNR=6.9						
URZ	**Urewera**	**18.39**	**193**	P	**P**	**21 21 46.0**	**+0.2**
CTA	**Charters Tower**	**33.93**	**264**	P	**P**	**21 24 03.3**	**0.0**
	8.1nm,0.4s,mb4.5,baz=91,slow=11,SNR=11						
CTA	**Charters Tower**	**33.93**	**264**	P	**P**	**21 24 03.3**	**0.0**
CMSA	**Cobar Meteorol**	**34.72**	**244**	*e*P	**P**	**21 24 09.9**	**+0.2**
PMG	**Port Moresby**	**35.74**	**283**	P	**P**	**21 24 18.1**	**-0.4**
	13nm,0.8s,mb4.4,baz=154,slow=3.4,SNR=4.9						
PMG	**Port Moresby**	**35.74**	**283**	P	**P**	**21 24 18.1**	**-0.4**
MTSU	**Mount Surprise**	**36.03**	**267**	*e*P	**P**	**21 24 20.4**	**-0.4**
	129nm,2.0s,mb5.0						
STKA	**Stephens Creek**	**38.22**	**244**	P	**P**	**21 24 39.3**	**+0.6**
	5.2nm,0.8s,mb4.0,baz=79,slow=9.1,SNR=12						
STKA	**Stephens Creek**	**38.22**	**244**	*e*P	**P**	**21 24 39.2**	**+0.5**
STKA	**Stephens Creek**	**38.22**	**244**	*e*P	**P**	**21 24 39.4**	**+0.7**
	9.1nm,2.0s,mb3.9						
BBOO	**Buckleboo**	**42.98**	**243**	*e*P	**P**	**21 25 16.6**	**-0.1**
AS31	**Alice Springs**	**44.96**	**257**	*e*P	**P**	**21 25 32.2**	**-0.1**
ASAR	**Alice Springs**	**44.96**	**257**	P	**P**	**21 25 32.0**	**-0.3**
	11nm,0.8s,mb4.4,baz=99,slow=7.5,SNR=104						
ASAR				PcP	PcP	21 27 03.5	+0.2
	1.3nm,0.6s,baz=105,slow=4.0,SNR=6.5						
ASAR	**Alice Springs**	**44.96**	**257**	P	**P**	**21 25 32.0**	**-0.3**
ASAR				PcP	PcP	21 27 03.5	+0.2
WRAB	**Tennant Creek**	**45.03**	**262**	*e*P	**P**	**21 25 31.8**	**-1.1**
	3.5nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**45.04**	**262**	P	**P**	**21 25 31.9**	**-1.1**
	3.4nm,0.5s,mb4.0,baz=98,slow=8.6,SNR=46						
WRA				PcP	PcP	21 27 03.8	+0.2
	0.5nm,0.6s,baz=95,slow=3.0,SNR=2.8						
WRA	**Warramunga Arr**	**45.04**	**262**	P	**P**	**21 25 31.9**	**-1.1**
WRA				PcP	PcP	21 27 03.8	+0.2
FITZ	**Fitzroy Crossi**	**53.47**	**262**	P	**P**	**21 26 35.0**	**-0.4**
	2.7nm,0.7s,mb3.7,baz=73,slow=23,SNR=9.0						
FITZ	**Fitzroy Crossi**	**53.47**	**262**	P	**P**	**21 26 35.0**	**-0.4**
MBWA	**Marble Bar**	**58.30**	**257**	*e*P	**P**	**21 27 08.5**	**-0.4**
PETK	**Petropavlovsk-**	**76.29**	**345**	P	**P**	**21 28 59.0**	**+0.2**
	1.1nm,0.4s,mb3.7,baz=161,slow=28,SNR=6.0						
PETK	**Petropavlovsk-**	**76.29**	**345**	P	**P**	**21 28 59.0**	**+0.2**
NVAR	**Mina Array Bea**	**80.66**	**43**	P	**P**	**21 29 23.3**	**+0.6**
	1.3nm,1.1s,mb3.4,baz=226,slow=9.4,SNR=3.8						
NVAR	**Mina Array Bea**	**80.66**	**43**	P	**P**	**21 29 23.3**	**+0.6**
TXAR	**Lajitas Array**	**86.64**	**57**	P	**P**	**21 29 54.4**	**+1.7**
	0.4nm,0.7s,mb3.2,baz=222,slow=7.9,SNR=3.3						
TXAR	**Lajitas Array**	**86.64**	**57**	P	**P**	**21 29 54.4**	**+1.7**
ILAR	**Eielson Array**	**88.12**	**13**	P	**P**	**21 29 57.5**	**-1.2**
	0.6nm,0.9s,mb3.3,baz=210,slow=6.2,SNR=5.9						
ILAR	**Eielson Array**	**88.12**	**13**	P	**P**	**21 29 57.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**90.49**	**289**	P	**P**	**21 30 12.2**	**+1.4**
	2.2nm,0.8s,mb4.0,baz=112,slow=2.9,SNR=14						
CMAR	**Chiang Mai Arr**	**90.49**	**289**	P	**P**	**21 30 12.2**	**+1.4**
CHTO	**Chiang Mai**	**90.62**	**290**	*e*P	**P**	**21 30 12.2**	**+0.8**
	3.4nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**111.44**	**313**	PKiKP	PKiKP	21 35 37.2	-2.0
	0.4nm,0.6s,baz=47,slow=2.3,SNR=4.0						
MKAR	**Makanchi Array**	**111.44**	**313**	PKiKP	PKiKP	21 35 37.2	-2.0
KURK	**Kurchatov**	**114.22**	**317**	PKiKP	PKiKP	21 35 42.8	-1.6
	0.2nm,0.7s,baz=93,slow=1.9,SNR=4.1						
KURK	**Kurchatov**	**114.22**	**317**	PKiKP	PKiKP	21 35 42.8	-1.6
BVAR	**Borovoye Array**	**119.28**	**320**	PKP	PKPdf	21 35 53.4	-0.7
	0.8nm,0.6s,baz=149,slow=1.7,SNR=7.9						
BVAR	**Borovoye Array**	**119.28**	**320**	PKP	PKPdf	21 35 53.4	-0.7
AKASG	**Malin Array Be**	**143.14**	**331**	PKhKP	PKPpre	21 36 35.4	
	1.9nm,0.4s,baz=44,slow=4.4,SNR=13						
AKASG	**Malin Array Be**	**143.14**	**331**	PKPpre	PKPpre	21 36 35.4	
BR131	**Keskin Array S**	**147.09**	**313**	*e*PKPbc	PKPbc	21 36 48.7	-0.2
BRTR	**Keskin Array B**	**147.09**	**313**	PKPbc	PKPbc	21 36 48.5	-0.4
	1.5nm,0.7s,baz=152,slow=5.5,SNR=12						
BRTR	**Keskin Array B**	**147.09**	**313**	PKPbc	PKPbc	21 36 48.5	-0.4
BUR08	**Bucovina Ar. S**	**147.17**	**331**	*e*PKPbc	PKPbc	21 36 50.3	+1.5
CLL	**Collm**	**148.06**	**347**	*i*PKPbc	PKPbc	21 36 51.3	+0.3
	comp=Z,5.0nm,0.9s						
MMAI	**Mount Meron Ar**	**148.14**	**300**	PKPbc	PKPbc	21 36 52.5	+0.6
	comp=Z,2.0nm,0.5s,baz=75,slow=7.0,SNR=9.5						
MMAI	**Mount Meron Ar**	**148.14**	**300**	PKPbc	PKPbc	21 36 52.5	+0.6
EIL	**Elat**	**149.24**	**294**	PKPbc	PKPbc	21 36 53.5	-1.2
	comp=Z,1.5nm,0.7s,baz=16,slow=3.1,SNR=4.7						
EIL	**Elat**	**149.24**	**294**	PKPbc	PKPbc	21 36 53.5	-1.2
GERES	**GERESS Array B**	**150.22**	**345**	PKPbc	PKPbc	21 36 55.2	-1.1
	comp=Z,1.3nm,0.8s,baz=28,slow=3.2,SNR=8.6						
GERES	**GERESS Array B**	**150.22**	**345**	PKPbc	PKPbc	21 36 55.2	-1.1
TORD	**Torodi Ar. Bea**	**172.75**	**174**	PKPab	PKPab	21 38 44.0	+0.5
	comp=Z,0.1nm,0.7s,baz=111,slow=3.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**172.75**	**174**	PKPab	PKPab	21 38 44.0	+0.5

*NEIC **20** 21:20:29.2, 12°.89N×70°.54W, h3km, MW4.1(CAR), After CAR.*

FUNV 20 21:20:29.3, 12°.89N×70°.54W, h3km, MW4.1, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOV	**Isla Los Monje**	**0.63**	**214**	*e*P	Pg	21 20 41.9	+0.4
IMOV				*e*S	Sg	21 20 50.0	+0.3
MONV	**Montecano**	**1.08**	**149**	*e*P	Pg	21 20 49.5	-0.6
MONV				*e*S	Sg	21 21 04.3	+0.2
MONV	**Montecano**	**1.08**	**149**	*e*P	Pg	21 20 49.5	-0.6
MONV				*e*S	Sg	21 21 04.3	+0.2
DABV	**Dabajuro**	**1.96**	**183**	*e*P	Pn	21 21 03.7	+0.3
DABV				*e*S	Sn	21 21 28.0	-0.5
DABV	**Dabajuro**	**1.96**	**183**	*e*P	Pn	21 21 03.7	+0.3
DABV				*e*S	Sn	21 21 28.0	-0.5
SIQV	**Siquisique**	**2.34**	**162**	*e*P	Pn	21 21 07.6	-1.1
SIQV				*e*S	Sn	21 21 36.7	-1.2
SIQV	**Siquisique**	**2.34**	**162**	*e*P	Pn	21 21 07.6	-1.1
SIQV				*e*S	Sn	21 21 36.7	-1.2
JACV	**Jacura**	**2.45**	**137**	*e*P	Pn	21 21 08.8	-1.3
JACV				*e*S	Sn	21 21 39.5	-1.1
JACV	**Jacura**	**2.45**	**137**	*e*P	Pn	21 21 08.8	-1.3
JACV				*e*S	Sn	21 21 39.5	-1.1
QARV	**Quebrada Arrib**	**2.66**	**180**	*e*P	Pn	21 21 12.5	-0.6
QARV				*e*S	Sn	21 21 44.2	-1.8
QARV	**Quebrada Arrib**	**2.66**	**180**	*e*P	Pn	21 21 12.5	-0.6
QARV				*e*S	Sn	21 21 44.2	-1.8
VIRV	**Villa del Rosa**	**2.99**	**218**	*e*P	Pn	21 21 16.7	-1.0
VIRV				*e*S	Sn	21 21 51.6	-2.5
VIRV	**Villa del Rosa**	**2.99**	**218**	*e*P	Pn	21 21 16.7	-1.0
VIRV				*e*S	Sn	21 21 51.6	-2.5
TEPV	**Terepaima**	**3.19**	**155**	*e*P	Pn	21 21 19.8	-0.7
TEPV				*e*S	Sn	21 21 56.8	-2.3
TEPV	**Terepaima**	**3.19**	**155**	*e*P	Pn	21 21 19.8	-0.7
TEPV				*e*S	Sn	21 21 56.8	-2.3
SANV	**Sanarito**	**3.51**	**164**	*e*P	Pn	21 21 24.1	-0.7
SANV				*e*S	Sn	21 22 03.7	-3.1
SANV	**Sanarito**	**3.51**	**164**	*e*P	Pn	21 21 24.1	-0.7
SANV				*e*S	Sn	21 22 03.7	-3.1
TURV	**Turiamo**	**3.59**	**132**	*e*P	Pn	21 21 24.1	-1.8
TURV	**Turiamo**	**3.59**	**132**	*e*P	Pn	21 21 24.1	-1.8
MAPV	**Macapo**	**3.66**	**146**	*e*P	Pn	21 21 26.6	-0.2
SDV	**Santo Domingo**	**3.98**	**181**	*e*Pn	Pn	21 21 32.5	+1.3
SDV				*e*S	Sn	21 22 19.2	+0.8
VIGV	**El Vigia**	**4.10**	**191**	*e*P	Pn	21 21 32.4	-0.6
VIGV	**El Vigia**	**4.10**	**191**	*e*P	Pn	21 21 32.4	-0.6
FUNV	**FUNVISIS**	**4.37**	**123**	*e*P	Pn	21 21 35.0	-1.7
FUNV				*e*S	Sn	21 22 23.8	-4.4
LLAV	**El Llanito**	**4.37**	**123**	*e*P	Pn	21 21 35.0	-1.7
LLAV				*e*S	Sn	21 22 23.8	-4.4
ORCV	**Isla La Orchil**	**4.38**	**104**	*e*P	Pn	21 21 34.9	-1.8
SOCV	**Socops**	**4.59**	**184**	*e*P	Pn	21 21 38.3	-1.3
SOCV				*e*S	Sn	21 22 28.6	-4.8
SOCV	**Socops**	**4.59**	**184**	*e*P	Pn	21 21 38.3	-1.3
SOCV				*e*S	Sn	21 22 28.6	-4.8
BAUV	**El Baul**	**4.62**	**148**	*e*P	Pn	21 21 38.0	-2.1
BAUV	**El Baul**	**4.62**	**148**	*e*P	Pn	21 21 38.0	-2.1
BIRV	**Birongo**	**4.82**	**119**	*e*P	Pn	21 21 40.8	-2.1
BIRV	**Birongo**	**4.82**	**119**	*e*P	Pn	21 21 40.8	-2.1
CAPV	**Capacho**	**5.29**	**199**	*e*P	Pn	21 21 47.2	-2.0
CAPV	**Capacho**	**5.29**	**199**	*e*P	Pn	21 21 47.2	-2.0
MERV	**Las Mercedes**	**5.51**	**131**	*e*P	Pn	21 21 51.1	-1.3
SDDR	**Presa de Saban**	**6.10**	**353**	*e*Pn	Pn	21 22 00.8	+0.3
SDDR				*e*S	Sn	21 23 09.2	-1.6
LRS	**Lares**	**6.45**	**33**	*e*Pn	Pn	21 22 00.6	-4.6
LRS				*e*S	Sn	21 23 04.9	-14
AGPR	**Aguadilla, PR**	**6.46**	**30**	*e*Pn	Pn	21 21 58.6	-6.7
AGPR				*e*S	Sn	21 23 09.2	-10
SJG	**San Juan**	**6.70**	**39**	*e*Pn	Pn	21 22 03.1	-5.6
	29nm,0.6s						
SJG				*e*S	Sn	21 23 16.8	-8.7
MTP	**Monte Pirata**	**7.07**	**42**	*e*Pn	Pn	21 22 07.4	-6.3
MTP				*e*S	Sn	21 23 23.6	-11
GTBY	**Guantanamo Bay**	**8.26**	**329**	*e*Pn	Pn	21 22 28.7	-1.3
ROSC	**El Rosal**	**8.81**	**205**	*e*Pn	Pn	21 22 39.2	+1.5
ROSC				*e*S	Sn	21 24 24.3	+6.7

*CSEM **20** 21:23:58.9±0.4, 36°.94N×28°.36E, h16km±3km, ML2.2, Error ellipse: s-maj=8.2km s-min=6.4km az=127.0*
*ISCJB **20** 21:23:59.5±1.2, 36°.97N±0°.05×28°.37E±0°.08, h16km±22km, Error ellipse: s-maj=11.8km s-min=7.1km az=141.4*
*ISK **20** 21:23:59.5, 37°.08N×28°.23E, h23km, ML2.2*
*DDA **20** 21:24:00.4, 36°.96N×28°.18E, h7km±3km, Md2.8*

ISC 20 21:23:59.3±1.0, 36°.96N±0°.05×28°.36E±0°.06, h18km±8km, n10, σ0°.48/18, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.18**	**341**	*e*PG	**Pg**	**21 24 04.0**	**+0.1**
YER				*e*SG	**Sg**	**21 24 07.1**	**+0.1**
YER	**Yerkesik**	**0.18**	**341**	*e*Pg	**Pg**	**21 24 04.0**	**+0.1**
YER				*e*Sg	**Sg**	**21 24 07.1**	**+0.1**
TURN	**Turunc**	**0.22**	**115**	*i* P	**Pg**	**21 24 04.4**	**0.0**
TURN				*i* S	**Sg**	**21 24 07.9**	**0.0**
TURN	**Turunc**	**0.22**	**115**	*i* P	**Pg**	**21 24 04.4**	**0.0**
TURN				*i* S	**Sg**	**21 24 07.9**	**0.0**
DAT	**Datca**	**0.67**	**250**	*e*PG	**Pg**	**21 24 12.3**	**-0.1**
DAT				*e*SG	**Sg**	**21 24 22.0**	**+0.7**
DAT	**Datca**	**0.67**	**250**	*e*Pg	**Pg**	**21 24 12.3**	**-0.1**
DAT				*e*Sg	**Sg**	**21 24 22.0**	**+0.7**
AYDN	**Tasoluk**	**0.79**	**331**	*i* P	**Pb**	**21 24 14.9**	**+0.4**
AYDN				*i* S	**Sb**	**21 24 25.0**	**0.0**
AYDN	**Tasoluk**	**0.79**	**331**	*i* P	**Pb**	**21 24 14.9**	**+0.3**
AYDN				*i* S	**Sb**	**21 24 25.0**	**0.0**
BODT	**Bodrum**	**0.84**	**277**	*e*PG	**Pg**	**21 24 14.4**	**-1.3**
BODT	**Bodrum**	**0.84**	**277**	*e*Pg	**Pg**	**21 24 14.5**	**-1.2**

*IDC **20** 21:29:44.8±1.1, 0°.45N×97°.94E, h0km, mb4.2/13, mb1 4.2/14, mb1mx4.1/24, mbtmp4.2/14, ML4.2/1, Error ellipse: s-maj=38.4km s-min=16.7km az=55.0*
*NEIC **20** 21:29:50.9±3.3, 0°.50N×98°.01E, h42km±26km, mb4.3/4, Error ellipse: s-maj=34.2km s-min=10.3km az=55.0*
*DJA **20** 21:29:51, 0°.81N×97°.98E, h10km, MLv4.6/4*
*ISCJB **20** 21:29:55.4±1.5, 0°.80N±0°.08×98°.2E±0°.1, h85km±12km, mb4.3/22, Error ellipse: s-maj=24.5km s-min=8.7km az=154.2*

ISC 20 21:29:56.9±1.4, 0°.81N±0°.08×98°.2E±0°.1, h79km±11km, n54, σ0°.98/52, mb4.3/22, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.10**	**19**	P	**Pn**	**21 30 28.0**	**-2.0**
TSI	**Tuntungan**	**2.69**	**7**	P	**Pn**	**21 30 38.1**	**0.0**
BKNI	**Bangkinang**	**2.85**	**100**	P	**Pn**	**21 30 40.2**	**+0.1**
KRJI	**Kerinci**	**4.33**	**132**	P	**Pn**	**21 31 01.9**	**+1.6**
IPM	**Ipoh**	**4.59**	**37**	*e*Pn	**Pn**	**21 31 04.1**	**+0.2**
	36nm,0.6s						
IPM	**Ipoh**	**4.59**	**37**	P	**Pn**	**21 31 04.4**	**+0.5**
KULM	**Kulim**	**5.06**	**28**	*e*Pn	**Pn**	**21 31 09.7**	**-0.6**
	30nm,0.6s						
BSI	**Banda Aceh**	**5.50**	**328**	P	**Pn**	**21 31 10.8**	**-5.5**
	906nm45nm,1.0s						
KSI	**Kapahiang**	**6.21**	**136**	P	**Pn**	**21 31 26.7**	**+0.7**
CM31	**Chiang Mai Arr**	**17.55**	**2**	*e*Pn	**Pn**	**21 33 56.2**	**-0.2**
	3.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.55**	**2**	Pn	**Pn**	**21 33 55.4**	**-1.1**
	0.3nm,0.3s,baz=193,slow=12,SNR=25						
CMAR	**Chiang Mai Arr**	**17.55**	**2**	Pn	**Pn**	**21 33 55.4**	**-1.1**
ODAN	**Odare**	**27.92**	**339**	*e*P	**P**	**21 35 40.0**	**+0.3**
	8.6nm,0.6s,mb4.5						
TAPN	**Taplejung**	**28.26**	**340**	*e*P	**P**	**21 35 43.0**	**+0.3**
	13nm,0.9s,mb4.5						
RAMN	**Ramite**	**28.29**	**338**	*e*P	**P**	**21 35 44.7**	**+1.7**
	8.7nm,0.6s,mb4.5						
JIRN	**Jiri**	**29.09**	**338**	*e*P	**P**	**21 35 51.1**	**+1.0**
PKI	**Pulchoki**	**29.31**	**336**	*e*P	**P**	**21 35 56.9**	**+4.8**
	9.0nm,0.5s,mb4.6						
GUN	**Gumba**	**29.43**	**337**	*e*P	**P**	**21 35 53.7**	**+0.6**
	28nm,0.8s,mb5.0						
DMN	**Daman**	**29.47**	**336**	*e*P	**P**	**21 35 58.3**	**+4.8**
KKN	**Kakani**	**29.56**	**336**	*e*P	**P**	**21 35 58.6**	**+4.3**
	17nm,0.8s,mb4.7						
GKN	**Gorkha**	**30.01**	**335**	*e*P	**P**	**21 36 03.4**	**+5.1**
DANN	**Dangsing**	**30.69**	**334**	*e*P	**P**	**21 36 11.3**	**+7.1**
WRA	**Warramunga Arr**	**40.95**	**122**	P	**P**	**21 37 28.7**	**-3.4**
	0.9nm,0.9s,mb3.6,baz=304,slow=8.9,SNR=6.0						
WRA	**Warramunga Arr**	**40.95**	**122**	P	**P**	**21 37 28.7**	**-3.4**
ASAR	**Alice Springs**	**42.34**	**127**	P	**P**	**21 37 42.0**	**-1.4**
	0.5nm,0.5s,mb3.5,baz=298,slow=7.7,SNR=7.0						
ASAR	**Alice Springs**	**42.34**	**127**	P	**P**	**21 37 42.0**	**-1.4**
KSAR	**Wonju Array Be**	**45.56**	**33**	P	**P**	**21 38 09.0**	**0.0**
KSRS	**Korea Array**	**45.59**	**33**	P	**P**	**21 38 09.0**	**-0.2**
	3.9nm,0.7s,mb4.2,baz=219,slow=8.4,SNR=12						
SONM	**Songino Array**	**47.37**	**7**	P	**P**	**21 38 24.4**	**+1.5**
	1.7nm,0.5s,mb4.1,baz=191,slow=8.5,SNR=28						
SONM	**Songino Array**	**47.37**	**7**	P	**P**	**21 38 24.4**	**+1.5**
ULN	**Ulaanbaatar**	**47.49**	**8**	*e*P	**P**	**21 38 25.5**	**+1.6**
	3.1nm,1.0s,mb4.0						
MK31	**Makanchi Array**	**47.87**	**345**	*e*P	**P**	**21 38 27.4**	**+0.6**
MKAR	**Makanchi Array**	**47.87**	**345**	P	**P**	**21 38 27.3**	**+0.5**
	3.5nm,0.6s,mb4.3,baz=159,slow=7.9,SNR=34						
MKAR	**Makanchi Array**	**47.87**	**345**	P	**P**	**21 38 27.3**	**+0.5**
STKA	**Stephens Creek**	**52.33**	**132**	P	**P**	**21 38 59.9**	**-0.9**
	1.9nm,0.8s,mb4.2,baz=344,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**52.33**	**132**	P	**P**	**21 38 59.9**	**-0.9**
KURK	**Kurchatov**	**52.44**	**344**	P	**P**	**21 39 01.2**	**0.0**
	3.3nm,0.6s,mb4.5,baz=165,slow=7.1,SNR=31						
KURK	**Kurchatov**	**52.44**	**344**	P	**P**	**21 39 01.2**	**0.0**
USRK	**Ussuriysk Arra**	**52.58**	**30**	P	**P**	**21 39 03.6**	**+1.1**
	1.9nm,0.7s,mb4.2,baz=242,slow=4.2,SNR=6.5						
ZAA0	**Zalesovo Array**	**54.11**	**350**	*e*P	**P**	**21 39 13.7**	**+0.2**
ZALV	**Zalesovo Beam**	**54.11**	**350**	P	**P**	**21 39 13.9**	**+0.5**
	8.6nm,0.5s,mb5.0,baz=175,slow=6.7,SNR=54						
ZALV	**Zalesovo Beam**	**54.11**	**350**	P	**P**	**21 39 13.9**	**+0.5**
BVAR	**Borovoye Array**	**56.96**	**340**	P	**P**	**21 39 33.5**	**-0.4**
	3.4nm,0.7s,mb4.5,baz=141,slow=9.2,SNR=32						
BVAR	**Borovoye Array**	**56.96**	**340**	P	**P**	**21 39 33.5**	**-0.4**
BRVK	**Borovoye

0.3nm,0.3s,baz=83,slow=22,SNR=3.7
DZM Mont Dzumac 15.82 244 P **P 21 41 34.3 -0.2**
URZ Urewera 22.92 189 P **P 21 42 41.1 -1.9**
11nm,0.6s,mb4.5,baz=79,slow=3.3,SNR=6.4
URZ Urewera 22.92 189 P **P 21 42 41.1 -1.9**
CTA Charters Tower 34.01 257 P **P 21 44 21.3 +0.9**
6.4nm,0.7s,mb4.1,baz=94,slow=9.2,SNR=10
CTA Charters Tower 34.01 257 P **P 21 44 21.3 +0.9**
CTAO Charters Tower 34.01 257 *eP* **P 21 44 22.1 +1.7**
3.8nm,0.5s,mb4.0
STKA Stephens Creek 39.88 239 P **P 21 45 08.8 0.0**
2.2nm,0.6s,mb3.7,baz=56,slow=7.9,SNR=5.6
STKA Stephens Creek 39.88 239 P **P 21 45 08.8 0.0**
WRA Warramunga Arr 45.21 257 P **P 21 45 49.8 -1.5**
0.6nm,0.3s,mb3.4,baz=96,slow=6.8,SNR=22
WRA Warramunga Arr 45.21 257 P **P 21 45 49.8 -1.5**
AS31 Alice Springs 45.57 252 *eP* **P 21 45 52.9 -1.1**
ASAR Alice Springs 45.57 252 P **P 21 45 53.0 -1.0**
12nm,0.4s,mb4.6,baz=86,slow=8.5,SNR=99
ASAR ScP ScP 21 50 36.4 +1.4
0.3nm,0.9s,baz=94,slow=4.5,SNR=4.7
ASAR Alice Springs 45.57 252 P **P 21 45 53.0 -1.0**
ASAR ScP ScP 21 50 36.4 +1.4
FITZ Fitzroy Crossi 53.56 259 P **P 21 46 54.7 +1.4**
3.7nm,0.7s,mb3.7,baz=143,slow=7.8,SNR=5.2
FITZ Fitzroy Crossi 53.56 259 P **P 21 46 54.7 +1.4**
NWAO Narrogin (SRO) 60.41 241 P **P 21 47 41.9 +1.4**
baz=90,slow=7.1
NWAO Narrogin (SRO) 60.41 241 P **P 21 47 41.9 +1.4**
MJAR Matsushiro Arr 66.16 323 P **P 21 48 16.1 -1.4**
0.6nm,0.6s,mb3.4,baz=131,slow=5.6,SNR=3.5
MJAR Matsushiro Arr 66.16 323 P **P 21 48 16.1 -1.4**
PETK Petropavlovsk- 71.50 345 P **P 21 48 49.3 -0.2**
3.0nm,0.7s,mb3.9,baz=120,slow=8.8,SNR=4.2
PETK Petropavlovsk- 71.50 345 P **P 21 48 49.3 -0.2**
QSPA South Pole Qui 74.43 180 *eP* **P 21 49 06.9 +0.8**
2.4nm,0.8s,mb3.9
NVAR Mina Array Bea 77.69 44 P **P 21 49 25.1 +0.1**
2.1nm,0.8s,mb3.9,baz=226,slow=8.1,SNR=12
NVAR Mina Array Bea 77.69 44 P **P 21 49 25.1 +0.1**
ILAR Eielson Array 83.64 13 P **P 21 49 55.1 -0.2**
1.8nm,0.6s,mb4.0,baz=231,slow=5.3,SNR=36
ILAR Eielson Array 83.64 13 P **P 21 49 55.1 -0.2**
TXAR Lajitas Array 84.67 58 P **P 21 50 03.3 +2.0**
0.8nm,0.6s,mb3.6,baz=214,slow=7.7,SNR=8.3
TXAR Lajitas Array 84.67 58 P **P 21 50 03.3 +2.0**
YKA Yellowknife Ar 92.20 25 P **P 21 50 36.2 +0.3**
0.3nm,0.6s,mb3.4,baz=243,slow=4.5,SNR=8.2
YKA Yellowknife Ar 92.20 25 P **P 21 50 36.2 +0.3**
ARCES ARCESS Array B 124.09 350 PKP PKPdf 21 56 20.7 -1.0
2.2nm,0.7s,baz=38,slow=1.9,SNR=8.9
ARCES ARCESS Array B 124.09 350 PKP PKPdf 21 56 20.7 -1.0
BRTR Keskin Array B 143.23 317 PKP PKPdf 21 56 56.6 -1.6
2.8nm,0.9s,baz=107,slow=1.7,SNR=15
BRTR Keskin Array B 143.23 317 PKP PKPdf 21 56 56.6 -1.6
KECS Kecovo 143.78 339 *e*PKP PKPdf 21 56 58.3 -0.6
VRAC Vranov 144.27 343⇑*i*P PKPdf 21 56 59.6 -0.1
VYHS Vyhne 144.32 340 *e*PKP PKPdf 21 56 59.8 0.0
DRGR 144.34 335⇑*i*P PKPdf 21 56 59.3 -0.6
GZR Gura Zlata 145.43 334⇑*i*P PKPdf 21 57 02.3 +0.5
GERES GERESS Array B 145.43 346 PKPbc PKPbc 21 57 02.8 +0.1
1.4nm,0.7s,baz=23,slow=3.8,SNR=16
GERES GERESS Array B 145.43 346 PKPbc PKPbc 21 57 02.8 +0.1
GIVF Givet 145.51 356 *e*PKP1 PKPbc 21 57 02.7 -0.2
GIVF Givet 145.51 356 *e*P PKPdf 21 57 02.7 +0.9
BAIF Baives 145.59 357 *e*PKP1 PKPbc 21 57 03.3 +0.2
BAIF Baives 145.59 357 *e*P PKPdf 21 57 03.3 +1.4
BZS Buziias 145.74 335⇑*i*P PKPdf 21 57 03.5 +1.1
FLN La Foliniere 146.89 3 *e*PKP1 PKPbc 21 57 06.6 -0.2
FLN La Foliniere 146.89 3 *e*P PKPbc 21 57 06.6 -0.2
CDF Champ du Feu 146.97 353 *e*PKP1 PKPbc 21 57 07.1 0.0
3.8nm,0.5s
CDF Champ du Feu 146.97 353 *e*P PKPbc 21 57 07.1 0.0
PAGF Fort de Pagny 146.99 355 *e*PKP1 PKPbc 21 57 07.4 +0.3
PAGF Fort de Pagny 146.99 355 *e*P PKPbc 21 57 07.4 +0.3
LDF La Druitiere 147.08 2 *e*PKP1 PKPbc 21 57 06.9 -0.4
LDF La Druitiere 147.08 2 *e*P PKPbc 21 57 06.9 -0.4
MEZF Maizieres J'vi 147.09 356 *e*PKP1 PKPbc 21 57 07.6 +0.2
MEZF Maizieres J'vi 147.09 356 *e*P PKPbc 21 57 07.6 +0.2
GRR Gorron 147.25 3 *e*PKP1 PKPbc 21 57 07.7 -0.1
11nm,0.7s
GRR Gorron 147.25 3 *e*P PKPbc 21 57 07.7 -0.1
SGMF Saint Gilles 147.26 5 *e*PKP1 PKPbc 21 57 07.6 -0.2
SGMF Saint Gilles 147.26 5 *e*P PKPbc 21 57 07.6 -0.2
SFTF Sexfontaines 147.39 356 *e*PKP1 PKPbc 21 57 08.4 +0.2
SFTF Sexfontaines 147.39 356 *e*P PKPbc 21 57 08.4 +0.2
LOR Lormes 148.39 357 *e*PKP1 PKPbc 21 57 10.2 -0.6
LOR Lormes 148.39 357 *e*P PKPbc 21 57 10.2 -0.6
SSF Saint Saulge 148.61 358 *e*PKP1 PKPbc 21 57 11.6 +0.3
8.0nm,0.8s
SSF Saint Saulge 148.61 358 *e*P PKPbc 21 57 11.6 +0.3
CABF La Chapelle 148.88 354 *e*PKP1 PKPbc 21 57 12.7 +0.7
6.2nm,0.7s
CABF La Chapelle 148.88 354 *e*P PKPbc 21 57 12.7 +0.7
TCF Toulx Ste Croi 149.42 359 *e*PKP1 PKPbc 21 57 13.3 0.0
TCF Toulx Ste Croi 149.42 359 *e*P PKPbc 21 57 13.3 0.0
LPL La Plagne 149.89 353 *e*PKP1 PKPbc 21 57 15.5 +1.0
LPL La Plagne 149.89 353 *e*P PKPbc 21 57 15.5 +1.0
LPG La Plagne 149.91 353 *e*PKP1 PKPbc 21 57 15.7 +1.2
8.1nm,0.8s
LPG La Plagne 149.91 353 *e*P PKPbc 21 57 15.7 +1.2
RJF Les Rejaudoux 150.40 0 *e*PKP1 PKPbc 21 57 15.7 0.0
RJF Les Rejaudoux 150.40 0 *e*P PKPbc 21 57 15.7 0.0
ORIF Oris-en-Rattie 150.58 354 *e*PKP1 PKPbc 21 57 16.5 +0.4
ORIF Oris-en-Rattie 150.58 354 *e*P PKPbc 21 57 16.5 +0.4
MBDF Montbardon 150.67 353 *e*PKP1 PKPbc 21 57 16.9 +0.6
12nm,0.7s
MBDF Montbardon 150.67 353 *e*P PKPbc 21 57 16.9 +0.6
VIVF Saint-Julien-l 150.74 356 *e*PKP1 PKPbc 21 57 16.9 +0.4
VIVF Saint-Julien-l 150.74 356 *e*P PKPbc 21 57 16.9 +0.4
LFF La Frestale 150.75 1 *e*PKP1 PKPbc 21 57 16.6 +0.1
LFF La Frestale 150.75 1 *e*P PKPbc 21 57 16.6 +0.1
CAF Calviac 150.78 360 *e*PKP1 PKPbc 21 57 17.0 +0.4
CAF Calviac 150.78 360 *e*P PKPbc 21 57 17.0 +0.4
SJPF Ste Jean 152.48 5 *e*PKP1 PKPbc 21 57 19.7 -0.8
SJPF Ste Jean 152.48 5 *e*P PKPbc 21 57 19.7 -0.8

*IDC **20** 22:12:41.8±1.3,36°.49N×142°.63E,h0km,mb3.4/5, mb1 3.5/7,mb1mx3.4/23,mbtmp3.4/7,ML3.3/1,Error ellipse: s-maj=32.6km s-min=24.0km az=84.0*
*ISCJB **20** 22:12:43.0±1.9,36°.58N±0°.04×142°.58E±0°.06, h21km±17km,mb3.4/5,Error ellipse: s-maj=8.4km s-min=7.4km az=1.2*
*JMA **20** 22:12:43.0±0.3,36°.56N×142°.42E,h4km,M3.4*
ISC 20 22:12:43.2±2.1,36°.59N±0°.04×142°.49E±0°.07,h8km±15km, n18,σ0°76/26,mb3.4/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.45**	**291**	P	**Pn**	**22 13 09.6**	**0.0**
ONAJ				S	**Sn**	**22 13 29.0**	**+0.2**
JFK	**Kawauchi**	**1.50**	**301**	P	**Pn**	**22 13 10.7**	**+0.3**
JFK				S	**Sn**	**22 13 28.9**	**-1.3**
JHO	**Hitachi**	**1.54**	**271**	P	**Pn**	**22 13 10.3**	**-0.7**
CHOJ	**Chosi**	**1.59**	**236**	P	**Pn**	**22 13 11.5**	**-0.1**
CHOJ				S	**Sn**	**22 13 32.6**	**+0.3**
JMM	**Marumori**	**1.85**	**314**	P	**Pn**	**22 13 14.6**	**-0.7**
JMM				S	**Sn**	**22 13 38.6**	**-0.3**
JFT	**Otama**	**1.95**	**299**	P	**Pn**	**22 13 17.1**	**+0.5**
JFT				S	**Sn**	**22 13 41.2**	**-0.1**
JIO	**Ouri**	**2.07**	**334**	P	**Pn**	**22 13 17.0**	**-1.2**
BSO1	**Boso 1**	**2.29**	**213**	P	**Pn**	**22 13 21.1**	**-0.2**
JAG	**Ashikaga**	**2.45**	**267**	P	**Pn**	**22 13 23.8**	**+0.4**
JAG				S	**Sn**	**22 13 53.0**	**-0.6**
JMK	**Ichinoseki**	**2.56**	**337**	P	**Pn**	**22 13 24.3**	**-0.6**
JMK				S	**Sn**	**22 13 57.3**	**+1.0**
MJAR	**Matsushiro Arr**	**3.44**	**270**	Pn	**Pn**	**22 13 37.8**	**+0.7**
	2.4nm,0.3s,baz=89,slow=8.5,SNR=32						
MAT	**Matsushiro**	**3.45**	**270**	P	**Pn**	**22 13 38.4**	**+1.3**
MAT				*e*S	**Sn**	**22 14 18.2**	**+0.1**
ASAJ	**Asahikawa**	**7.51**	**1**	Pn	**Pn**	**22 14 32.7**	**-0.3**
	0.5nm,0.3s,baz=195,slow=12,SNR=3.3						
SONM	**Songino Array**	**28.75**	**304**	P	**P**	**22 18 41.8**	**+0.8**
	0.6nm,0.7s,mb3.5,baz=105,slow=7.8,SNR=6.8						
MKAR	**Makanchi Array**	**45.08**	**303**	P	**P**	**22 21 01.8**	**+2.2**
	0.3nm,0.8s,mb3.1,baz=73,slow=12,SNR=2.3						
ILAR	**Eielson Array**	**49.41**	**32**	P	**P**	**22 21 33.4**	**+0.4**
	0.2nm,0.7s,mb3.2,baz=281,slow=6.3,SNR=3.5						
WRA	**Warramunga Arr**	**56.75**	**189**	P	**P**	**22 22 26.4**	**-1.2**
	0.3nm,0.5s,mb3.6,baz=8.3,slow=7.3,SNR=5.1						
ASAR	**Alice Springs**	**60.48**	**189**	P	**P**	**22 22 53.1**	**-0.4**
	0.3nm,0.9s,mb3.3,baz=6.8,slow=6.9,SNR=3.4						

*ISCJB **20** 22:13:47.1±0.3,30°.96S±0°.06×13°.45W±0°.08,h10km, mb4.9/39,MS4.9/15,Error ellipse: s-maj=10.6km s-min=8.1km az=11.5*
*IDC **20** 22:13:48.0±0.6,31°.05S×13°.52W,h0km,mb4.1/17, mb1 4.2/17,mb1mx4.2/23,mbtmp4.1/17,MS4.9/16, Ms1 4.9/16,ms1mx4.8/21,Error ellipse: s-maj=17.4km s-min=15.4km az=167.0*
*NEIC **20** 22:13:48.1±0.3,31°.12S×13°.42W,h10km,mb5.3/30,Error ellipse: s-maj=11.2km s-min=9.0km az=106.0*
*GCMT **20** 22:13:53.8,31°.25S×13°.26E,h12km*
*GCMT **20** 22:13:54.1±0.2,31°.23S×13°.29W,h12km,MW5.4, Moment Tensor Solution. s55,c75; s23,c23; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.49±.02; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$1.42±.02; $M_{r\theta}$-0.25±.08; $M_{\theta\phi}$-0.29±.02; $M_{\phi r}$0.03±.07; Best double couple: $M_0$1.50000×10^{17} NP1:ϕ_s357.00000°, δ44.00000°,λ-77.00000°. NP2:ϕ_s160.00000°,δ47.00000°, λ-102.00000°. Principal axes: T 1.4800, Plg2.0000°, Azm258.0000°; N 0.0500, Plg9.0000°, Azm168.0000°; P -1.5300, Plg81.0000°, Azm358.0000°; Data Used: II IU G IC CN. Surface waves: sta=113, comp=207, per= 50.*
ISC 20 22:13:48.9±0.3,30°.96S±0°.06×13°.44W±0°.08,h10km,n127, σ1§10/103,mb4.9/39,MS4.9/15,1D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**6.16**	**172**	*eP*	**Pn**	**22 15 15.4**	**-4.5**
	186nm,0.4s						
SUR	**Sutherland**	**29.12**	**102**	LR	LR	22 29 08.0	
	comp=Z,5μm,18.9s,MS5.1,baz=257,slow=32						
SPB	**Sao Paulo**	**31.00**	**275**	P	**P**	**22 20 11.2**	**+4.5**
	18nm,0.9s,mb4.9						
RCBR	**Riachuelo**	**32.71**	**315**	P	**P**	**22 20 20.7**	**-1.0**
	8.7nm,0.9s,mb4.7,baz=112,slow=11,SNR=2.6						
RCBR				LR	LR	22 30 23.9	
	comp=Z,1μm,21.8s,MS4.5,baz=128,slow=30						
RCBR	**Riachuelo**	**32.71**	**315**	P	**P**	**22 20 20.7**	**-1.0**
BOSA	**Boshof**	**33.55**	**96**	P	**P**	**22 20 29.9**	**+0.8**
	6.5nm,0.8s,mb4.6,baz=245,slow=7.6,SNR=7.9						
BOSA				LR	LR	22 31 54.5	
	comp=Z,3μm,18.5s,MS5.0,baz=345,slow=32						
BOSA	**Boshof**	**33.55**	**96**	*eP*	**P**	**22 20 29.6**	**+0.6**
	51nm,1.6s,mb5.2						
LBTB	**Lobatse**	**34.85**	**90**	P	**P**	**22 20 40.9**	**+0.5**
	5.6nm,0.8s,mb4.5,baz=275,slow=7.0,SNR=11						
LBTB	**Lobatse**	**34.85**	**90**	*eP*	**P**	**22 20 38.3**	**-2.1**
	105nm,1.9s,mb5.4						
LIC	**Lamto**	**37.84**	**14**	*eP*	**P**	**22 21 06.9**	**+1.0**
	89nm,1.5s,mb5.0,baz=201						
LIC				*e*R			
	795nm,17.2s						
LIC	**Lamto**	**37.84**	**14**	*eP*	**P**	**22 21 06.9**	**+1.0**
	89nm,1.5s,mb5.3						
DBIC	**Dimbokro**	**38.31**	**14**	P	**P**	**22 21 12.2**	**+2.4**
	2.9nm,0.8s,mb4.1,baz=180,slow=9.1,SNR=3.8						
DBIC				LR	LR	22 33 19.5	
	comp=Z,547nm,19.2s,MS4.4,baz=170,slow=30						
DBIC	**Dimbokro**	**38.31**	**14**	P	**P**	**22 21 08.8**	**-1.1**
	49nm,1.7s,mb5.0						
CPUP	**Villa Florida**	**38.61**	**266**	P	**P**	**22 21 13.1**	**+0.8**
	0.4nm,0.3s,baz=114,slow=9.1,SNR=2.8						
CPUP				LR	LR	22 34 26.7	
	comp=Z,3μm,21.3s,baz=115,slow=32						
CPUP	**Villa Florida**	**38.61**	**266**	P	**P**	**22 21 13.1**	**+0.8**
MSKU	**Masuku**	**38.79**	**47**	P	**P**	**22 21 16.0**	**+2.0**
	10nm,0.7s,mb4.7,baz=215,slow=9.3,SNR=3.7						
MSKU	**Masuku**	**38.79**	**47**	P	**P**	**22 21 16.0**	**+2.0**
VNA2	**Neumayer--Watz**	**40.15**	**177**	*e*	**P**	**22 21 25.3**	**+0.6**
	baz=345,slow=10						
VNA3	**Neumayer Olymp**	**40.39**	**178**	*e*	**P**	**22 21 28.1**	**+1.5**
SNAA	**Sanae**	**41.17**	**175**	*e*	**P**	**22 21 34.2**	**+1.1**
SNAA	**Sanae**	**41.17**	**175**	P	**P**	**22 21 32.6**	**-0.5**
	1.1nm,1.1s,baz=360,slow=8.6,SNR=8.0						
SNAA	**Sanae**	**41.17**	**175**	*eP*	**P**	**22 21 29.0**	**-4.0**
	57nm,1.8s,mb4.9						
MAIT	**Maitri**	**42.22**	**168**	*eP*	**P**	**22 21 41.6**	**-0.1**
BBTS	**Babate**	**45.45**	**356**	P	**P**	**22 22 10.2**	**+2.0**
	22nm,0.9s,mb5.0,baz=186,slow=5.0,SNR=2.5						
BBTS	**Babate**	**45.45**	**356**	P	**P**	**22 22 10.2**	**+2.0**
SIV	**San Ignacio**	**45.82**	**278**	P	**P**	**22 22 12.6**	**+1.4**
	3.3nm,0.8s,mb4.3,baz=127,slow=11,SNR=13						
SIV	**San Ignacio**	**45.82**	**278**	P	**P**	**22 22 12.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**46.20**	**21**	P	**P**	**22 22 14.7**	**+0.5**
	2.6nm,0.8s,mb4.2,baz=199,slow=8.6,SNR=13						
TORD				LR	LR	22 37 48.5	
	comp=Z,2μm,19.7s,MS5.0,baz=190,slow=31						
TORD	**Torodi Ar. Bea**	**46.20**	**21**	P	**P**	**22 22 14.7**	**+0.5**
CFAA	**Coronel Fontan**	**46.41**	**254**	P	**P**	**22 22 15.1**	**-0.7**
	0.4nm,0.8s,baz=94,slow=8.6,SNR=4.8						
CFAA	**Coronel Fontan**	**46.41**	**254**	P	**P**	**22 22 15.1**	**-0.7**
PLCA	**Paso Flores**	**46.59**	**241**	LR	LR	22 40 48.6	
	comp=Z,1μm,18.2s,MS4.9,baz=94,slow=35						
SYO	**Syowa Base**	**48.42**	**157**⇓*eP*		**P**	**22 22 30.2**	**-0.7**
SAML	**Samuel**	**51.13**	**284**	*eP*	**P**	**22 22 52.3**	**+0.1**
	47nm,1.9s,mb5.1						
LPAZ	**La Paz**	**51.72**	**273**	P	**P**	**22 22 57.2**	**+0.6**
	1.4nm,0.8s,mb4.0,baz=184,slow=2.6,SNR=6.3						
LPAZ				LR	LR	22 45 24.1	
	comp=Z,2μm,18.0s,MS5.3,baz=125,slow=37						
LPAZ	**La Paz**	**51.72**	**273**	*eP*	**P**	**22 22 55.4**	**-1.2**
	12nm,1.5s,mb4.6						
TAM	**Tamanrasset**	**56.46**	**21**	*eP*	**P**	**22 23 32.9**	**+1.9**
	26nm,1.8s,mb5.0						
MAW	**Mawson**	**56.58**	**154**	P	**P**	**22 23 32.6**	**+1.3**
	3.6nm,1.0s,mb4.4,baz=243,slow=9.0,SNR=4.0						
MAW				LR	LR	22 42 34.5	
	comp=Z,896nm,20.7s,MS4.8,baz=290,slow=30						
MAW	**Mawson**	**56.58**	**154**	P	**P**	**22 23 29.7**	**-1.6**
SDV	**Santo Domingo**	**67.58**	**296**	*eP*	**P**	**22 24 46.9**	**+0.9**
	22nm,1.1s,mb5.1						
ROSC	**El Rosal**	**68.08**	**290**	LR	LR	22 53 44.1	
	comp=Z,2μm,18.3s,MS5.3,baz=178,slow=35						
OTAV	**Otavalo**	**68.85**	**284**	*eP*	**P**	**22 24 53.9**	**-0.1**
EVOP	**Sao Brissos**	**69.31**	**4**	*eP*	**P**	**22 24 57.6**	**+1.4**
	106nm,1.7s,mb5.5						
EVO	**Evora**	**69.32**	**5**	*eP*	**P**	**22 24 57.6**	**+1.3**
	106nm,1.7s,mb5.2						
EVO				*e*R			
	738nm,21.8s						
KEST	**Kesra**	**69.71**	**20**	P	**P**	**22 25 01.7**	**+2.9**
	1.1nm,0.6s,mb3.9,baz=45,slow=4.3,SNR=3.1						
KEST				LR	LR	22 53 36.7	
	comp=Z,623nm,18.7s,MS4.9,baz=360,slow=34						
KEST	**Kesra**	**69.71**	**20**	P	**P**	**22 25 01.7**	**+2.9**
ESDC	**Sonseca Array**	**70.83**	**8**	P	**P**	**22 25 06.5**	**+1.0**
	0.3nm,0.6s,baz=191,slow=6.2,SNR=3.6						
ESDC				LR	LR	22 54 16.1	
	comp=Z,380nm,20.1s,MS4.7,baz=180,slow=34						
ESDC	**Sonseca Array**	**70.83**	**8**	P	**P**	**22 25 06.5**	**+1.0**
SBA	**Scott Base**	**71.44**	**180**	*eP*	**P**	**22 25 04.1**	**-4.8**
	20nm,1.3s,mb4.9						
VNDA	**Vanda**	**71.74**	**179**	*eP*	**P**	**22 25 09.7**	**-1.0**
	27nm,1.7s,mb4.9						
ETSF	**Etsaut**	**74.44**	**10**	*eP*	**P**	**22 25 26.9**	**-0.1**
	39nm,1.4s,mb4.8						
ETSF	**Etsaut**	**74.44**	**10**	*eP*	**P**	**22 25 26.9**	**-0.1**
	39nm,1.4s,mb5.1						
SJPF	**Ste Jean**	**74.56**	**9**	*eP*	**P**	**22 25 27.6**	**0.0**
	83nm,1.5s,mb5.1						
SJPF	**Ste Jean**	**74.56**	**9**	*eP*	**P**	**22 25 27.6**	**0.0**
	83nm,1.5s,mb5.4						
EPF	**Esparros**	**74.71**	**10**	*eP*	**P**	**22 25 28.2**	**-0.3**
EPF	**Esparros**	**74.71**	**10**	*eP*	**P**	**22 25 28.2**	**-0.3**
MTLF	**Montolieu**	**75.32**	**12**	*eP*	**P**	**22 25 30.7**	**-1.3**
MTLF	**Montolieu**	**75.32**	**12**	*eP*	**P**	**22 25 30.7**	**-1.3**
LASF	**Ste Croix**	**76.33**	**13**	*eP*	**P**	**22 25 36.4**	**-1.4**
	86nm,1.4s,mb5.2						
LASF	**Ste Croix**	**76.33**	**13**	*eP*	**P**	**22 25 36.4**	**-1.4**
	86nm,1.4s,mb5.5						
RJF	**Les Rejaudoux**	**77.11**	**11**	*eP*	**P**	**22 25 41.5**	**-0.7**
	109nm,1.8s,mb5.2						
RJF				*e*R			
	571nm,19.2s						
RJF	**Les Rejaudoux**	**77.11**	**11**	*eP*	**P**	**22 25 41.5**	**-0.7**
	109nm,1.8s,mb5.5						
VIVF	**Saint-Julien-l**	**77.24**	**13**	*eP*	**P**	**22 25 42.1**	**-0.8**
	90nm,1.6s,mb5.1						
VIVF	**Saint-Julien-l**	**77.24**	**13**	*eP*	**P**	**22 25 42.1**	**-0.8**
	90nm,1.6s,mb5.5						
MBDF	**Montbardon**	**77.55**	**15**	*eP*	**P**	**22 25 44.1**	**-0.5**
	20nm,1.1s,mb4.6						
MBDF	**Montbardon**	**77.55**	**15**	*eP*	**P**	**22 25 44.1**	**-0.5**
	20nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**78.18**	**11**	*eP*	**P**	**22 25 47.8**	**-0.3**
	99nm,1.8s,mb5.1						
TCF	**Toulx Ste Croi**	**78.18**	**11**	*eP*	**P**	**22 25 47.8**	**-0.3**
	99nm,1.8s,mb5.4						
LPG	**La Plagne**	**78.28**	**14**	*eP*	**P**	**22 25 48.4**	**-0.3**
	39nm,1.4s,mb4.8						
LPG	**La Plagne**	**78.28**	**14**	*eP*	**P**	**22 25 48.4**	**-0.3**
	39nm,1.4s,mb5.1						
LPL	**La Plagne**	**78.29**	**14**	*eP*	**P**	**22 25 48.4**	**-0.4**
LPL	**La Plagne**	**78.29**	**14**	*eP*	**P**	**22 25 48.4**	**-0.4**
SMF	**Signal de Mont**	**78.81**	**12**	*eP*	**P**	**22 25 50.9**	**-0.7**
	56nm,1.5s,mb5.0						
SMF	**Signal de Mont**	**78.81**	**12**	*eP*	**P**	**22 25 50.9**	**-0.7**
	56nm,1.5s,mb5.3						
AVF	**Avril sur Loir**	**78.86**	**12**	*eP*	**P**	**22 25 51.2**	**-0.7**
	106nm,1.9s,mb5.2						
AVF	**Avril sur Loir**	**78.86**	**12**	*eP*	**P**	**22 25 51.2**	**-0.7**
	106nm,1.9s,mb5.4						
SSF	**Saint Saulge**	**79.15**	**12**	*eP*	**P**	**22 25 52.8**	**-0.7**
	50nm,1.6s,mb4.9						
SSF	**Saint Saulge**	**79.15**	**12**	*eP*	**P**	**22 25 52.8**	**-0.7**
	50nm,1.6s,mb5.2						
CABF	**La Chapelle**	**79.20**	**14**	*eP*	**P**	**22 25 52.8**	**-0.9**
	65nm,1.5s,mb5.0						
CABF	**La Chapelle**	**79.20**	**14**	*eP*	**P**	**22 25 52.8**	**-0.9**
	65nm,1.5s,mb5.3						
HINF	**Hinteralfeld**	**80.51**	**14**	*eP*	**P**	**22 25 59.6**	**-1.2**
	61nm,1.9s,mb4.9						
HINF	**Hinteralfeld**	**80.51**	**14**	*eP*	**P**	**22 25 59.6**	**-1.2**
	61nm,1.9s,mb5.2						
HAU	**Haudompre**	**80.59**	**13**	*eP*	**P**	**22 25 59.9**	**-1.3**
HAU				*e*R			
	421nm,23.0s						
HAU	**Haudompre**	**80.59**	**13**	*eP*	**P**	**22 25 59.9**	**-1.3**
MEZF	**Maizieres J'vi**	**80.82**	**12**	*eP*	**P**	**22 26 01.6**	**-0.8**
MEZF	**Maizieres J'vi**	**80.82**	**12**	*eP*	**P**	**22 26 01.6**	**-0.8**
PAGF	**Fort de Pagny**	**81.00**	**13**	*eP*	**P**	**22 26 03.1**	**-0.3**
	20nm,1.5s,mb4.5						
PAGF	**Fort de Pagny**	**81.00**	**13**	*eP*	**P**	**22 26 03.1**	**-0.3**
	20nm,1.5s,mb4.8						
CDF	**Champ du Feu**	**81.16**	**14**	*eP*	**P**	**22 26 03.2**	**-1.1**
CDF	**Champ du Feu**	**81.16**	**14**	*eP*	**P**	**22 26 03.2**	**-1.1**
BAIF	**Baives**	**82.17**	**11**	*eP*	**P**	**22 26 08.8**	**-0.8**
	66nm,1.6s,mb5.0						
BAIF	**Baives**	**82.17**	**11**	*eP*	**P**	**22 26 08.8**	**-0.8**
	66nm,1.6s,mb5.3						
GIVF	**Givet**	**82.32**	**12**	*eP*	**P**	**22 26 09.6**	**-0.7**
GIVF	**Givet**	**82.32**	**12**	*eP*	**P**	**22 26 09.6**	**-0.7**
BR131	**Keskin Array S**	**82.80**	**35**	*eP*	**P**	**22 26 15.4**	**+2.3**
	5.0nm,1.0s,mb4.5						
BRTR	**Keskin Array B**	**82.80**	**35**	P	**P**	**22 26 14.7**	**+1.6**
	1.7nm,0.9s,mb4.1,baz=187,slow=2.9,SNR=9.3						
BRTR	**Keskin Array B**	**82.80**	**35**	P	**P**	**22 26 14.7**	**+1.6**
GERES	**GERESS Array B**	**83.07**	**18**	P	**P**	**22 26 14.9**	**+0.7**
	0.6nm,0.6s,mb3.8,baz=204,slow=2.2,SNR=6.6						
GERES				LR	LR	23 02 42.4	
	comp=Z,462nm,19.7s,MS4.9,baz=202,slow=35						
GERES	**GERESS Array B**	**83.07**	**18**	P	**P**	**22 26 14.9**	**+0.7**
KHC	**Kasperske Hory**	**83.30**	**17**	*eP*	**P**	**22 26 19.3**	**+3.9**
PSZ	**Piszkesteto**	**84.03**	**22**	*eP*	**P**	**22 26 19.7**	**+0.5**
	20nm,1.2s,mb5.1						
VYHS	**Vyhne**	**84.21**	**21**	*eP*	**P**	**22 26 23.4**	**+3.3**
PRU	**Pruhonice**	**84.34**	**18**	*eP*	**P**	**22 26 19.2**	**-1.5**
DPC	**Dobruska-Polom**	**85.14**	**19**	*eP*	**P**	**22 26 29.1**	**+4.3**
CLL	**Collm**	**85.16**	**16**	*eP*	**P**	**22 26 24.0**	**-0.9**
CLL				LmV		23 01 00.0	
	comp=Z,400nm,18.2s						
CRVS	**Cervenica-Dubn**	**85.40**	**22**	*eP*	**P**	**22 26 30.1**	**+4.0**
AKASG	**Malin Array Be**	**89.62**	**26**	LR	LR	23 06 13.4	
	comp=Z,232nm,19.9s,MS4.6,baz=190,slow=35						
NOA	**NORSAR Array B**	**93.85**	**12**	LR	LR	23 08 45.3	
	comp=Z,306nm,19.2s,MS4.8,baz=200,slow=35						
FINES	**FINESS Array B**	**97.50**	**18**	LR	LR	23 09 13.

STKA	**Stephens Creek**	**34.98 258**	P	**P**	**22 46 57.6**	**+0.9**
	10nm,1.1s,mb4.7,baz=91,slow=7.7,SNR=9.0					
STKA	**Stephens Creek**	**34.98 258**	*e*P	**P**	**22 46 57.8**	**+1.0**
STKA	**Stephens Creek**	**34.98 258**	*e*P	**P**	**22 46 57.5**	**+0.8**
	3.2nm,1.1s,mb4.2					
MTSU	**Mount Surprise**	**37.11 281**	*e*P	**P**	**22 47 16.9**	**+1.7**
	25nm,1.0s,mb5.0					
ASAR	**Alice Springs**	**43.75 267**	P	**P**	**22 48 09.1**	**-1.0**
	6.8nm,1.0s,mb4.3,baz=114,slow=8.1,SNR=28					
ASAR			PcP	PcP	22 49 56.3	-0.2
	2.2nm,0.9s,baz=108,slow=4.6,SNR=5.0					
ASAR	**Alice Springs**	**43.75 267**	P	**P**	**22 48 09.1**	**-1.0**
ASAR			PcP	PcP	22 49 56.3	-0.2
WB2	**Warramunga Arr**	**44.80 273**	*e*P	**P**	**22 48 17.7**	**-0.8**
WRAB	**Tennant Creek**	**44.81 273**	*e*P	**P**	**22 48 17.8**	**-0.7**
	13nm,0.9s,mb4.8					
WRAB	**Tennant Creek**	**44.81 273**	P	**P**	**22 48 18.8**	**+0.3**
	74nm,0.8s,mb5.6,SNR=5.9					
WRA	**Warramunga Arr**	**44.81 272**	P	**P**	**22 48 17.8**	**-0.8**
	9.3nm,0.8s,mb4.6,baz=111,slow=8.0,SNR=34					
WRA	**Warramunga Arr**	**44.81 272**	P	**P**	**22 48 17.8**	**-0.8**
QSPA	**South Pole Qui**	**58.94 180**	P	**P**	**22 50 03.6**	**+0.6**
	12nm,1.1s,mb4.9,baz=41,slow=3.9,SNR=20					
QSPA	**South Pole Qui**	**58.94 180**	*e*P	**P**	**22 50 03.8**	**+0.7**
	21nm,1.2s,mb5.0					
MAW	**Mawson**	**71.83 200**	P	**P**	**22 51 27.2**	**+0.6**
	6.8nm,1.1s,mb4.5,baz=101,slow=11,SNR=5.4					
MAW	**Mawson**	**71.83 200**	*e*P	**P**	**22 51 27.0**	**+0.5**
	2.0nm,1.1s,mb4.0					
SYO	**Syowa Base**	**76.52 193⇑**	*e*X	pP	22 52 02.6	-2.2
SNAA	**Sanae**	**77.37 178**	*e*	**P**	**22 51 59.4**	**+0.8**
SNAA			*e*	pP	22 52 11.6	+2.0
SNAA	**Sanae**	**77.37 178**	*e*P	**P**	**22 51 58.7**	**+0.1**
	11nm,1.0s,mb4.8					
VNA3	**Neumayer Olymp**	**77.49 176**	*e*	**P**	**22 51 59.0**	**-0.3**
VNA3			*e*	pP	22 52 10.8	+0.5
VNA2	**Neumayer--Watz**	**77.94 177**	*e*	**P**	**22 52 02.2**	**+0.4**
	baz=182,slow=4.8					
VNA2			*e*	pP	22 52 13.7	+1.0
VNA1	**Neumayer--Stat**	**78.16 176**	*e*	**P**	**22 52 03.6**	**+0.6**
VNA1			*e*	pP	22 52 15.6	+1.6
ISA	**Isabella**	**86.37 44**	*e*P	**P**	**22 52 47.0**	**+0.7**
	11nm,1.3s,mb4.9					
PETK	**Petropavlovsk-**	**86.72 345**	P	**P**	**22 52 40.8**	**-6.8**
	6.7nm,1.0s,mb4.8,baz=140,slow=9.7,SNR=4.1					
NJ2	**Nanjing**	**87.26 310**	*e*P	**P**	**22 52 54.8**	**+4.0**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.2					
CFAA	**Coronel Fontan**	**88.23 126**	P	**P**	**22 52 53.7**	**-2.0**
	comp=Z,0.1nm,0.5s,baz=213,slow=10,SNR=3.6					
CFAA	**Coronel Fontan**	**88.23 126**	P	**P**	**22 52 53.7**	**-2.0**
NVAR	**Mina Array Bea**	**88.34 42**	P	**P**	**22 52 54.8**	**-1.0**
	comp=Z,2.3nm,1.0s,mb4.4,baz=224,slow=8.4,SNR=11					
NVAR	**Mina Array Bea**	**88.34 42**	P	**P**	**22 52 54.8**	**-1.0**
WUAZ	**Wupatki**	**90.66 48**	*e*P	**P**	**22 53 07.0**	**+0.2**
	comp=Z,14nm,1.3s,mb5.2					
CN2	**Changchun**	**91.17 322**	*e*P	**P**	**22 53 09.3**	**+0.4**
CN2			*e*S	S	23 03 57.5	-6.8
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,300nm,21.0s					
CN2			LR	LR		
	comp=E,300nm,21.0s					
CN2			LR	LR		
	comp=Z,400nm,23.0s					
TXAR	**Lajitas Array**	**92.23 57**	P	**P**	**22 53 11.8**	**-2.3**
	comp=Z,1.0nm,1.0s,mb4.1,baz=224,slow=5.2,SNR=6.0					
TXAR	**Lajitas Array**	**92.23 57**	P	**P**	**22 53 11.8**	**-2.3**
GYA	**Guiyang**	**92.52 299**	P	**P**	**22 53 20.0**	**+4.4**
GYA			pP	pP	22 53 32.1	+5.4
GYA			sP	sP	22 53 38.4	+7.7
GYA			PP	PP	22 57 01.3	+3.7
GYA			SKS		23 03 47.5	
GYA			S	S	23 04 15.0	-2.4
GYA			SS	SS	23 10 23.3	-6.9
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,120nm,5.0s					
GYA			LR	LR		
	comp=N,480nm,19.9s					
GYA			LR	LR		
	comp=E,360nm,20.4s					
GYA			LR	LR		
	comp=Z,520nm,18.8s					
BJI	**Beijing**	**93.95 315**	P	**P**	**22 53 27.1**	**+5.3**
CMAR	**Chiang Mai Arr**	**94.30 289**	P	**P**	**22 53 25.0**	**+1.1**
	comp=Z,1.0nm,0.3s,mb4.7,baz=141,slow=3.7,SNR=10					
CMAR	**Chiang Mai Arr**	**94.30 289**	P	**P**	**22 53 25.0**	**+1.1**
ISCO	**Idaho Springs**	**96.88 47**	*e*P	**P**	**22 53 36.9**	**+1.7**
	comp=Z,6.3nm,0.7s,mb5.2					
CD2	**Chengdu**	**97.07 302**	*e*P	**P**	**22 53 41.8**	**+5.5**
CD2			pP	pP	22 53 52.3	+4.8
CD2			sP	sP	22 53 56.4	+4.9
CD2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CD2			pmax	pmax		
	comp=Z,40nm,6.8s					
HHC	**Hu-ho-hao-te**	**97.26 314**	*e*P	**P**	**22 53 43.0**	**+6.1**
HHC			pP	pP	22 53 53.4	+5.3
HHC			sP	sP	22 53 58.1	+6.0
HHC			PP	PP	22 57 35.4	+1.3
HHC			SKS		23 04 15.3	
HHC			S	S	23 04 56.8	-1.2
HHC			sS	sS	23 05 14.9	-1.7
HHC			pmax	pmax		
	comp=Z,13nm,0.7s					
HHC			pmax	pmax		
	comp=Z,170nm,6.2s					
HHC			LR	LR		
	comp=N,280nm,16.6s					
HHC			LR	LR		
	comp=E,460nm,16.6s					
HHC			LR	LR		
	comp=Z,560nm,19.9s					
LZH	**Lanzhou**	**99.73 306**	*e*P	Pdif	22 53 45.0	-3.1
LZH			pP		22 53 56.3	
LZH			sP		22 54 00.3	
LZH			*e*PP	PP	22 57 47.3	-5.8
LZH			SKS		23 04 19.5	
LZH			*e*S	S	23 05 08.1	-11
LZH			sS	sS	23 05 25.0	-13
LZH			pmax	pmax		
	comp=Z,17nm,1.5s					
LZH			pmax	pmax		
	comp=Z,93nm,8.9s					
LZH			LR	LR		
	comp=N,370nm,17.5s					
LZH			LR	LR		
	comp=E,310nm,18.0s					
LZH			LR	LR		
	comp=Z,470nm,19.8s					
LZH	**Lanzhou**	**99.73 306**	*e*P	Pdif	22 53 45.0	-3.1
	comp=Z,17nm,1.5s					
LZH			pP		22 53 56.2	
LZH			sP		22 54 00.3	
LZH			*e*PP	PP	22 57 47.2	-5.9
LZH			SKS		23 04 19.5	
LZH			*e*S	S	23 05 08.1	-11
LZH			sS	sS	23 05 25.0	-13
LZH			LR	LR		
	comp=Z,480nm,19.8s					
YKA	**Yellowknife Ar**	**105.84 25**	PP	PP	22 58 44.9	+6.6
	comp=Z,2.2nm,1.3s,baz=234,slow=6.4,SNR=4.4					
WMQ	**Urumqi**	**114.24 308**	*e*PKP	PKiKP	22 58 51.1	+7.7
MKAR	**Makanchi Array**	**118.79 310**	PKP	PKPdf	22 58 50.5	-1.5
	comp=Z,0.7nm,1.0s,baz=336,slow=2.7,SNR=4.2					
MKAR	**Makanchi Array**	**118.79 310**	PKP	PKPdf	22 58 50.5	-1.5
ZALV	**Zalesovo Beam**	**119.06 318**	PKP	PKPdf	22 58 50.1	-2.2
	comp=Z,0.2nm,0.4s,baz=208,slow=2.5,SNR=3.6					
ZALV	**Zalesovo Beam**	**119.06 318**	PKP	PKPdf	22 58 50.1	-2.2
JOF	**Joensuu**	**143.38 339**	*e*p	PKPdf	22 59 45.3	+7.6
	comp=Z,2.1nm,0.6s					
GNI	**Garni**	**145.03 297**	PKPdf	PKPdf	22 59 42.2	+0.9
KAF	**Kangasniemi**	**145.50 341**	*e*p	PKPdf	22 59 38.4	-3.0
	comp=Z,8.6nm,0.8s					
ONI	**Oni**	**145.84 301**	P	PKPdf	22 59 43.9	+1.3
FINES	**FINESS Array B**	**146.10 340**	PKPbc	PKPbc	22 59 42.2	-1.2
	comp=Z,8.6nm,0.8s,baz=52,slow=3.2,SNR=16					
FINES	**FINESS Array B**	**146.10 340**	PKPbc	PKPbc	22 59 42.2	-1.2
NB2	**NORSAR Subarra**	**149.61 352**	PKP	PKPbc	22 59 52.3	-0.6
	comp=Z,0.3nm,0.8s,baz=26,slow=3.1					
NOA	**NORSAR Array B**	**149.61 352**	PKPbc	PKPbc	22 59 51.5	-1.3
	comp=Z,6.8nm,1.0s,baz=14,slow=4.4,SNR=5.5					
NOA	**NORSAR Array B**	**149.61 352**	PKPbc	PKPbc	22 59 51.5	-1.3
AKASG	**Malin Array Be**	**152.32 322**	PKPbc	PKPbc	22 59 58.4	-1.2
	comp=Z,5.3nm,0.9s,baz=48,slow=2.5,SNR=11					
AKASG			PKPab	PKPab	23 00 09.5	-0.2
	comp=Z,1.3nm,0.7s,baz=46,slow=3.6,SNR=6.3					
AKASG	**Malin Array Be**	**152.32 322**	PKPbc	PKPbc	22 59 58.4	-1.2
AKASG			PKPab	PKPab	23 00 09.5	-0.2
BRTR	**Keskin Array B**	**153.56 297**	PKP	PKPdf	22 59 52.8	-2.2
	comp=Z,1.6nm,1.1s,baz=299,slow=2.5,SNR=4.5					
BRTR			PKPbc	PKPbc	23 00 00.8	-1.9
	comp=Z,1.9nm,1.0s,baz=325,slow=1.5,SNR=5.3					
BRTR			PKPab	PKPab	23 00 15.1	-0.2
	comp=Z,2.7nm,1.0s,baz=155,slow=3.8,SNR=7.8					
BRTR	**Keskin Array B**	**153.56 297**	PKP	PKPdf	22 59 52.8	-2.2
BRTR			PKPbc	PKPbc	23 00 00.8	-1.9
BRTR			PKPab	PKPab	23 00 15.1	-0.2
DBIC	**Dimbokro**	**154.60 162**	PKPbc	PKPbc	23 00 03.0	-2.7
	comp=Z,2.5nm,1.0s,baz=212,slow=9.5,SNR=2.6					
DBIC			PKPab	PKPab	23 00 17.5	-2.7
	comp=Z,6.7nm,1.2s,baz=231,slow=9.1,SNR=3.1					
DBIC	**Dimbokro**	**154.60 162**	PKPbc	PKPbc	23 00 03.0	-2.7
DBIC			PKPab	PKPab	23 00 17.5	-2.7
CRVS	**Cervenica-Dubn**	**157.34 327**	*e*PKP	PKPab	23 00 30.4	-0.7
KSP	**Ksiaz**	**157.93 337**	*e*PKP	PKPab	23 00 33.0	-0.5
KECS	**Kecovo**	**158.10 327**	*e*PKP	PKPab	23 00 34.4	0.0
CLL	**Collm**	**158.50 342⇓**	*i*PKPab	PKPab	23 00 35.3	-0.7
	comp=Z,6.0nm,0.9s					
BRG	**Berggiesshubel**	**158.64 340**	*e*PKP	PKPab	23 00 35.7	-0.9
	comp=Z,13nm,1.3s					
VYHS	**Vyhne**	**158.83 329**	*e*PKP	PKPab	23 00 37.9	+0.4
KHC	**Kasperske Hory**	**160.29 339**	*e*pPKP	pPKPdf	23 00 14.0	-0.7
GERES	**GERESS Array B**	**160.50 338**	PKPbc	PKPab	23 00 44.2	-0.5
	comp=Z,2.1nm,1.0s,baz=38,slow=5.0,SNR=8.3					
GERES	**GERESS Array B**	**160.50 338**	PKPbc	PKPab	23 00 44.2	-0.5
TORD	**Torodi Ar. Bea**	**162.04 177**	PKP	PKPdf	23 00 04.2	-1.9
	comp=Z,1.5nm,1.3s,baz=5.2,slow=1.6,SNR=3.8					
TORD			PKPab	PKPab	23 00 50.8	-1.4
	comp=Z,1.7nm,1.0s,baz=184,slow=2.9,SNR=7.6					
TORD	**Torodi Ar. Bea**	**162.04 177**	PKP	PKPdf	23 00 04.2	-1.9
TORD			PKPab	PKPab	23 00 50.8	-1.4

*ISCJB **20** 22:42:27.9±0.4, 39.°13N±0.°02×28.°22E±0.°03, h6km±5km, Error ellipse: s-maj=4.5km s-min=3.2km az=161.8*
*ISK **20** 22:42:27.2, 39.°10N×28.°16E, h8km, ML1.8*
*DDA **20** 22:42:27.7, 39.°13N×28.°24E, h7km±4km, Md3.0*
*CSEM **20** 22:42:28.1±0.2, 39.°13N×28.°22E, h10km, MD3.0, Error ellipse: s-maj=3.9km s-min=3.0km az=71.0*

ISC 20 22:42:28.3±0.4, 39.°13N±0.°02×28.°23E±0.°03, h9km±4km, n39, σ0=81/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.39**	**103**	*i* P	**Pg**	**22 42 36.4**	**+0.4**
DEMI				*i* S	**Sg**	**22 42 41.7**	**+0.5**
DEMI	**Demirci**	**0.39**	**103**	*i* P	**Pg**	**22 42 36.4**	**+0.4**
DEMI				*i* S	**Sg**	**22 42 41.7**	**+0.5**
AKHS	**Akhisar**	**0.41**	**232**	*i* P	**Pg**	**22 42 36.1**	**-0.2**
AKHS				*i* S	**Sg**	**22 42 42.0**	**+0.3**
AKHS	**Akhisar**	**0.41**	**232**	*i* P	**Pg**	**22 42 36.1**	**-0.2**
AKHS				*i* S	**Sg**	**22 42 42.0**	**+0.3**
DURS	**Dursunbey**	**0.51**	**22**	*i* P	**Pg**	**22 42 38.4**	**+0.2**
DURS				*i* S	**Sg**	**22 42 45.1**	**+0.3**
DURS	**Dursunbey**	**0.51**	**22**	*i* P	**Pg**	**22 42 38.4**	**+0.2**
DURS				*i* S	**Sg**	**22 42 45.1**	**+0.2**
BALB	**Balikesir**	**0.57**	**332**	*e*PG	**Pg**	**22 42 38.8**	**-0.6**
BALB				*e*SG	**Sg**	**22 42 47.8**	**+0.8**
BALB	**Balikesir**	**0.57**	**332**	*e*Pg	**Pg**	**22 42 38.8**	**-0.7**
BALB				*e*Sg	**Sg**	**22 42 47.8**	**+0.8**
MANT	**Manisa**	**0.69**	**158**	*i* P	**Pg**	**22 42 41.7**	**0.0**
MANT				*i* S	**Sg**	**22 42 50.2**	**-0.4**
MANT	**Manisa**	**0.69**	**158**	*i* P	**Pg**	**22 42 41.7**	**0.0**
MANT				*i* S	**Sg**	**22 42 50.2**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**151**	*e*PG	**Pg**	**22 42 41.8**	**-0.1**
KULA				*e*SG	**Sg**	**22 42 51.1**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**151**	*e*Pg	**Pg**	**22 42 41.8**	**-0.1**
KULA				*e*Sg	**Sg**	**22 42 51.1**	**0.0**
BALY	**Balya**	**0.77**	**323**	*i* P	**Pg**	**22 42 43.5**	**+0.4**
BALY				*i* S	**Sg**	**22 42 53.1**	**-0.1**
BALY	**Balya**	**0.77**	**323**	*i* P	**Pg**	**22 42 43.5**	**+0.4**
BALY				*i* S	**Sg**	**22 42 53.1**	**-0.1**
GDZ	**Gediz**	**0.98**	**92**	*i* P	**Pg**	**22 42 45.9**	**-1.3**
GDZ				*i* S	**Sg**	**22 42 59.6**	**-0.3**
GDZ	**Gediz**	**0.98**	**92**	*i* P	**Pg**	**22 42 45.9**	**-1.2**
GDZ				*i* S	**Sg**	**22 42 59.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.00**	**336**	*e*PG	**Pg**	**22 42 46.8**	**-0.9**
GONE				*e*SG	**Sg**	**22 43 01.7**	**+1.0**
GONE	**Gonen-Balikesi**	**1.00**	**336**	*e*Pg	**Pg**	**22 42 46.8**	**-0.9**
GONE				*e*Sg	**Sg**	**22 43 01.7**	**+1.0**
KCTX	**Karacabey (Bur**	**1.14**	**5**	*e*PN	**Pn**	**22 42 49.7**	**-0.7**
KCTX	**Karacabey (Bur**	**1.14**	**5**	*e*Pn	**Pn**	**22 42 49.7**	**-0.7**
BLCB	**Balcova**	**1.19**	**232**	*e*PN	**Pn**	**22 42 49.1**	**-2.0**
BLCB	**Balcova**	**1.19**	**232**	*e*Pn	**Pn**	**22 42 49.1**	**-2.0**
ULDT	**Uludag**	**1.23**	**35**	*i* P	**Pn**	**22 42 50.2**	**-1.5**
ULDT				*i* S	**Sb**	**22 43 06.9**	**-0.8**
ULDT	**Uludag**	**1.23**	**35**	*i* P	**Pn**	**22 42 50.2**	**-1.5**
ULDT				*i* S	**Sb**	**22 43 06.9**	**-0.8**
EDC	**Edincik**	**1.25**	**347**	*e*PN	**Pn**	**22 42 51.6**	**-0.4**
EDC	**Edincik**	**1.25**	**347**	*e*Pn	**Pn**	**22 42 51.6**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.34**	**22**	*e*PN	**Pn**	**22 42 53.4**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.34**	**22**	*e*Pn	**Pn**	**22 42 53.4**	**+0.2**
ALT	**Altintas**	**1.47**	**92**	*e*PN	**Pn**	**22 42 55.5**	**+0.5**
ALT	**Altintas**	**1.47**	**92**	*e*Pn	**Pn**	**22 42 55.5**	**+0.5**
AYDN	**Tasoluk**	**1.49**	**191**	*i* P	**Pn**	**22 42 56.2**	**+0.8**
AYDN				*i* S	**Sn**	**22 43 15.8**	**+0.9**
AYDN	**Tasoluk**	**1.49**	**191**	*i* P	**Pn**	**22 42 56.2**	**+0.9**
AYDN				*i* S	**Sn**	**22 43 15.8**	**+0.9**
ARMT	**Armutlu**	**1.51**	**19**	*e*PN	**Pn**	**22 42 56.3**	**+0.7**
ARMT	**Armutlu**	**1.51**	**19**	*e*Pn	**Pn**	**22 42 56.3**	**+0.7**
BORA	**Eskisehir**	**1.88**	**66**	*i* P	**Pn**	**22 43 03.7**	**+3.1**
BORA				*i* S	**Sn**	**22 43 29.6**	**+5.2**
ERIK	**Erikli-Kesan**	**2.02**	**320**	*e*PN	**Pn**	**22 43 02.1**	**-0.5**
ERIK	**Erikli-Kesan**	**2.02**	**320**	*e*Pn	**Pn**	**22 43 02.1**	**-0.5**
GULT	**Gulveren**	**2.19**	**53**	*e*PN	**Pn**	**22 43 06.1**	**+1.1**
GULT	**Gulveren**	**2.19**	**53**	*e*Pn	**Pn**	**22 43 06.1**	**+1.2**

*TRN **20** 22:46:44.2, 18.°75N×63.°93W, h88km, MD3.8(RSPR)*
*NEIC **20** 22:46:46.1, 18.°92N×64.°02W, h90km, MD3.8(RSPR), After RSPR.*

RSPR 20 22:46:46.1, 18.°92N×64.°02W, h90km±1km, 11C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.35**	**238**	*e*S	Sn	22 47 09.6	-0.4
ABV	**Anegada**	**0.35**	**238**	*e*S	Sn	22 47 09.6	-0.4
STVI	**Saint Thomas**	**1.05**	**238⇑**	*e*P	Pn	22 47 06.0	-0.3
STVI	**Saint Thomas**	**1.05**	**238⇑**	*e*P	Pn	22 47 06.0	-0.3
STVI				*e*S	Sn	22 47 21.6	+0.1
STVI	**Saint Thomas**	**1.05**	**238⇑**	*e*P	Pn	22 47 06.0	-0.3
STVI				*e*S	Sn	22 47 21.6	+0.1
MTP	**Monte Pirata**	**1.67**	**241⇑**	*e*P	Pn	22 47 13.9	-0.1
MTP	**Monte Pirata**	**1.67**	**241**	*e*Pn	Pn	22 47 13.9	0.0
MTP				*e*S	Sn	22 47 36.6	+1.5
MTP	**Monte Pirata**	**1.67**	**241⇑**	*e*P	Pn	22 47 13.9	-0.1
MTP				*e*S	Sn	22 47 34.3	-0.8
HUMP	**Col San Antoni**	**1.90**	**246⇑**	*e*P	Pn	22 47 16.0	-0.9
HUMP	**Col San Antoni**	**1.90**	**246⇑**	*e*P	Pn	22 47 16.0	-0.9
HUMP				*e*S	Sn	22 47 40.1	-0.4
HUMP	**Col San Antoni**	**1.90**	**246⇑**	*e*P	Pn	22 47 16.2	-0.8
HUMP				*e*S	Sn	22 47 40.1	-0.4
CRPR	**Cabo Rojo, PR**	**3.07**	**253⇑**	*e*P	Pn	22 47 32.2	-0.3
CRPR	**Cabo Rojo, PR**	**3.07**	**253⇑**	*e*P	Pn	22 47 32.2	-0.3
CRPR				*e*S	Sn	22 48 08.8	+0.5
CRPR	**Cabo Rojo, PR**	**3.07**	**253⇑**	*e*P	Pn	22 47 32.2	-0.3
CRPR				*e*S	Sn	22 48 08.8	+0.5
BCG	**Bois Riant Cap**	**3.63**	**140**	*e*P	Pn	22 47 25.8	-14
PHG	**Guadaloupe-2**	**3.67**	**141**	*e*P	Pn	22 47 24.5	-16
TBG	**Guadaloupe-3**	**3.80**	**143**	*e*P	Pn	22 47 22.2	-20
TBG				*e*S	Sn	22 47 23.4	-63

*IDC **20** 22:47:58.2±1.9, 32.°25S×178.°66W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.7/16, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=46.5km s-min=42.3km az=68.0*

ISC 20 22:48:07.4±2.3, 32.°9S±0.°1×178.°3W±0.°3, h101km±23km, n12, σ0=66/16, mb3.4/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.83**	**207**	*e*PN	**Pn**	**22 49 31.5**	**+0.2**
PUZ				*e*SN	**Sn**	**22 50 37.1**	**+0.4**
CNGZ	**Carnagh Statio**	**6.21**	**206**	*e*PN	**Pn**	**22 49 36.8**	**+0.3**
CNGZ				SN	**Sn**	**22 50 50.9**	**+5.0**
MWZ	**Matawai**	**6.35**	**211**	*e*PN	**Pn**	**22 49 38.4**	**0.0**
MWZ				*e*SN	**Sn**	**22 50 49.3**	**-0.1**
URZ	**Urewera**	**6.48**	**214**	Pn	**Pn**	**22 49 41.0**	**+0.9**
	1.2nm,0.3s,baz=353,slow=13,SNR=12						
URZ				Sn	**Sn**	**22 50 53.9**	**+1.4**
	2.8nm,0.3s,baz=341,slow=23,SNR=11						
URZ	**Urewera**	**6.48**	**214**	*e*PN	**Pn**	**22 49 40.6**	**+0.5**
URZ				SN	**Sn**	**22 50 52.9**	**+0.4**
OUZ	**Omahuta**	**7.07**	**249**	PN	**Pn**	**22 49 47.8**	**-0.4**
TIWZ	**Tintock**	**9.09**	**209**	SN	**Sn**	**22 51 55.0**	**-1.1**
MRZ	**Mangatainoka R**	**9.12**	**211**	*e*PN	**Pn**	**22 50 14.7**	**-1.4**
MRZ				SN	**Sn**	**22 51 51.6**	**-5.2**
ASAR	**Alice Springs**	**42.74**	**270**	P	**P**	**22 55 55.4**	**+0.5**
	0.4nm,0.6s,mb3.3,baz=109,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**43.96**	**275**	P	**P**	**22 56 04.5**	**-0.2**
	0.3nm,0.3s,mb4.3,baz=114,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**147.40**	**338**	PKPbc	PKPbc	23 07 40.7	+2.0
	1.0nm,0.5s,baz=48,slow=2.1,SNR=7.6						
TORD	**Torodi Ar. Bea**	**160.30**	**180**	PKPab	PKPab	23 08 42.7	+6.3
	0.4nm,0.9s,baz=180,slow=5.4,SNR=4.2						

*ISCJB **20** 22:52:24.2±1.3, 39.°26N±0.°04×28.°20E±0.°05, h27km±25km, Error ellipse: s-maj=8.8km s-min=5.1km az=40.7*
*CSEM **20** 22:52:24.0±0.1, 39.°27N×28.°22E, h17km±2km, MD2.8, Error ellipse: s-maj=4.2km s-min=2.2km az=48.0*
*DDA **20** 22:52:24.1, 39.°29N×28.°21E, h7km±3km, Md2.8*

ISC 20 22:52:24.2±0.6, 39.°27N±0.°04×28.°21E±0.°05, h19km±7km, n14, σ0=39/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.45**	**326**	*e*PG	**Pg**	**22 52 33.2**	**-0.3**
BALB				*e*SG	**Sg**	**22 52 40.3**	**+0.6**
BALB	**Balikesir**	**0.45**	**326**	*e*Pg	**Pg**	**22 52 33.2**	**-0.3**
BALB				*e*Sg	**Sg**	**22 52 40.3**	**+0.6**
DEMI	**Demirci**	**0.46**	**119**	*i* P	**Pg**	**22 52 33.4**	**-0.1**
DEMI				*i* S	**Sg**	**22 52 40.1**	**+0.3**
DEMI	**Demirci**	**0.46**	**119**	*i* P	**Pg**	**22 52 33.4**	**-0.1**
DEMI				*i* S	**Sg**	**22 52 40.1**	**+0.3**
AKHS	**Akhisar**	**0.49**	**218**	*i* P	**Pg**	**22 52 34.2**	**0.0**
AKHS				*i* S	**Sg**	**22 52 41.4**	**+0.4**
AKHS	**Akhisar**	**0.49**	**218**	*i* P	**Pg**	**22 52 34.2**	**0.0**
AKHS				*i* S	**Sg**	**22 52 41.3**	**+0.3**
BALY	**Balya**	**0.66**	**316**	*i* P	**Pb**	**22 52 37.1**	**+0.1**
BALY				*i* S	**Sb**	**22 52 45.9**	**+0.1**
BALY	**Balya**	**0.66**	**316**	*i* P	**Pb**	**22 52 37.1**	**0.0**
BALY				*i* S	**Sb**	**22 52 45.9**	**+0.1**
KULA	**Kula-Manisa**	**0.83**	**155**	*e*PG	**Pg**	**22 52 39.8**	**-0.7**
KULA	**Kula-Manisa**	**0.83**	**155**	*e*Pg	**Pg**	**22 52 39.8**	**-0.7**
GONE	**Gonen-Balikesi**	**0.88**	**333**	*e*PG	**Pg**	**22 52 40.6**	**-0.8**
GONE	**Gonen-Balikesi**	**0.88**	**333**	*e*Pg	**Pg**	**22 52 40.6**	**-0.7**
GDZ	**Gediz**	**1.01**	**100**	*i* P	**Pb**	**22 52 43.1**	**+0.1**
GDZ				*i* S	**Sb**	**22 52 56.2**	**+0.3**
GDZ	**Gediz**	**1.01**	**100**	*i* P	**Pb**	**22 52 43.1**	**+0.1**
GDZ				*i* S	**Sb**	**22 52 56.2**	**+0.3**

*ISCJB **20** 22:56:48.3±1.0, 32.°43S±0.°03×72.°32W±0.°05, h15km±6km, mb3.9/5, Error ellipse: s-maj=7.8km s-min=4.8km az=168.6*
*NEIC **20** 22:56:49.2±4.3, 32.°32S×72.°53W, h16km±26km, mb4.0/2, Error ellipse: s-maj=22.1km s-min=8.5km az=94.0*
*GUC **20** 22:56:50.6±0.7, 32.°45S×72.°18W, h25km±3km, ML4.1*
*IDC **20** 22:56:52.1±8.7, 32.°41S×72.°31W, h30km±55km, mb3.8/3, mb1 3.8/7, mb1mx3.7/14, mbtmp3.8/7, ML3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx3.0/20, Error ellipse: s-maj=63.5km s-min=25.2km az=101.0*

**ISC 20 22:56:49.6±0.9, 32.°42S±0.°03×72.°21W±0.°05, h12km±4km, n50, σ0

DBIC	**Dimbokro**	**74.81**	**72**	P	**P**	**23 08 29.9**	**-0.4**
	comp=N,1.9nm,0.7s,mb4.1,baz=236,slow=5.3,SNR=3.9						
DBIC	**Dimbokro**	**74.81**	**72**	P	**P**	**23 08 29.9**	**-0.4**
NVAR	**Mina Array Bea**	**82.51**	**325**	P	**P**	**23 09 14.8**	**+2.8**
	comp=N,0.2nm,0.5s,mb3.4,baz=124,slow=5.6,SNR=2.3						
NVAR	**Mina Array Bea**	**82.51**	**325**	P	**P**	**23 09 14.8**	**+2.8**
TORD	**Torodi Ar. Bea**	**83.81**	**70**	P	**P**	**23 09 18.6**	**-0.7**
	comp=N,1.0nm,0.7s,mb4.0,baz=234,slow=4.7,SNR=9.1						
TORD	**Torodi Ar. Bea**	**83.81**	**70**	P	**P**	**23 09 18.6**	**-0.7**
BVAR	**Borovoye Array**	**146.21**	**41**	PKPbc	PKPbc	23 16 29.4	0.0
	comp=N,0.7nm,0.5s,baz=290,slow=3.4,SNR=10						
BVAR	**Borovoye Array**	**146.21**	**41**	PKPbc	PKPbc	23 16 29.4	0.0
ZALV	**Zalesovo Beam**	**152.95**	**30**	PKPbc	PKPbc	23 16 45.7	-0.5
	comp=N,0.7nm,0.5s,baz=304,slow=2.6,SNR=8.4						
ZALV	**Zalesovo Beam**	**152.95**	**30**	PKPbc	PKPbc	23 16 45.7	-0.5
MKAR	**Makanchi Array**	**155.81**	**46**	PKPab	PKPab	23 17 09.9	0.0
	comp=N,0.6nm,0.8s,baz=309,slow=3.9,SNR=3.7						
MKAR	**Makanchi Array**	**155.81**	**46**	PKPab	PKPab	23 17 09.9	0.0

ISCJB ***20*** *23:22:46.3±0.7, 22°.72N±0°.02×95°.84E±0°.02, h10km±4km, mb4.5/69, MS4.7/38, Error ellipse: s-maj=4.3km s-min=3.2km az=13.7*

BJI ***20*** *23:22:47.1, 22°.70N×95°.85E, h16km, mB5.1/28, mb4.5/39, Ms5.2/45, Ms7 4.8/36*

IDC ***20*** *23:22:47.1±0.5, 22°.78N×95°.98E, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.2/29, mbtmp4.1/22, ML4.8/1, MS4.6/26, Ms1 4.6/26, ms1mx4.4/36, Error ellipse: s-maj=22.8km s-min=10.5km az=58.0*

NEIC ***20*** *23:22:48.4±0.2, 22°.75N×95°.90E, h10km, mb4.8/20, Error ellipse: s-maj=7.5km s-min=4.1km az=44.0*

MOS ***20*** *23:22:49.5±1.4, 22°.67N×95°.78E, h33km, mb4.9/23, MS4.7/7, Error ellipse: s-maj=9.2km s-min=5.5km az=115.5*

GCMT ***20*** *23:22:51.2±0.1, 22°.65N×96°.09E, h15km, MW5.3, Moment Tensor Solution. s62,c88; s99,c193; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.00000×10^{17} NP1:ϕ_s359.00000°, δ79.00000°, λ172.00000°. NP2: ϕ_s90.00000°, δ82.00000°, λ11.00000°. Principal axes: T 1.1000, Plg13.0000°, Azm315.0000°; N -0.1800, Plg76.0000°, Azm125.0000°; P -0.9200, Plg2.0000°, Azm224.0000°; Data Used: II IU IC G CN. Surface waves from 101 sta.*

DJA ***20*** *23:24:18, 16°.54N×96°.47E, h293km, mb4.5/9*

ISC 20 23:22:48.0±0.8, 22°.70N±0°.03×95°.86E±0°.02, h8km±5km, n231, σ1$32/266, mb4.5/70, MS4.7/38, 5C-4D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.72**	**320**	*e*PKP	**Pn**	**23 23 33.0**	**+1.0**
IMP				*ex*	x	23 30 18.0	
AGT	**Agartala**	**4.40**	**286**	*e*PKP	**Pn**	**23 23 55.0**	**0.0**
AGT				*ex*	**Sg**	**23 25 11.0**	**+1.8**
CHRT	**Chiangrai**	**4.62**	**127**	⇑PN	**Pn**	**23 23 54.0**	**-4.1**
CHRT				PG	Px	23 24 00.0	
CHRT				SG	**Pb**	**23 24 10.0**	**+0.7**
CHG	**Chiang Mai**	**4.83**	**143**	PG	**Pn**	**23 23 59.2**	**-1.8**
CHG				SG	**Pg**	**23 24 17.8**	**-2.7**
CHTO	**Chiang Mai**	**4.83**	**143**	*e*Pn	**Pn**	**23 23 59.7**	**-1.3**
CHTO				*e*Pg	**Pg**	**23 24 17.8**	**-2.7**
CHTO				*e*S	**Sg**	**23 25 16.8**	**-6.2**
CHTO	**Chiang Mai**	**4.83**	**143**	*e*P	**Pn**	**23 23 59.7**	**-1.3**
CHTO	**Chiang Mai**	**4.83**	**143**	P	**Sg**	**23 25 17.0**	**-6.0**
CM31	**Chiang Mai Arr**	**5.12**	**145**	*e*Pn	**Pn**	**23 24 04.1**	**-0.8**
	0.1nm,0.3s						
CM31				*e*Pg	**Pg**	**23 24 23.2**	**-2.8**
CM31				*e*Sg	**Sg**	**23 25 31.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**5.12**	**145**	Pn	**Pn**	**23 24 04.2**	**-0.7**
	8.4nm,0.3s,baz=322,slow=13,SNR=199						
CMAR				Pg	**Pg**	**23 24 21.5**	**-4.5**
	48nm,0.3s,baz=326,slow=17,SNR=69						
CMAR				Lg		23 25 32.2	
	161nm,0.3s,baz=323,slow=32,SNR=92						
CMAR				LR	LR	23 26 27.3	
	comp=Z,7μm,19.0s,baz=37,slow=43						
CMAR	**Chiang Mai Arr**	**5.12**	**145**	Pn	**Pn**	**23 24 04.2**	**-0.7**
CMAR				Pg	**Pg**	**23 24 21.5**	**-4.5**
CMAR				Lg		23 25 32.2	
CMAR	**Chiang Mai Arr**	**5.12**	**145**	P	**Pn**	**23 24 04.3**	**-0.6**
KMI	**Kunming**	**6.75**	**68**	Pn	**Pn**	**23 24 32.3**	**+5.0**
KMI				P*	**Pb**	**23 24 48.1**	**+2.6**
KMI				Pg	**Pg**	**23 25 02.6**	**+5.4**
KMI				Sn	**Sn**	**23 25 50.8**	**+6.4**
KMI				S*	**Sb**	**23 26 13.3**	**+7.0**
KMI				Sg	**Sg**	**23 26 31.9**	**+7.3**
KMI				smax			
	comp=N,850nm,1.4s						
KMI				smax			
	comp=E,560nm,1.9s						
KMI				LR	LR		
	comp=N,25μm,6.6s						
KMI				LR	LR		
	comp=E,14μm,6.4s						
KMI				LR	LR		
	comp=Z,16μm,8.9s						
KMI	**Kunming**	**6.75**	**68**	Pn	**Pn**	**23 24 32.2**	**+4.9**
KMI				Pb	**Pb**	**23 24 48.1**	**+2.6**
KMI				Pg	**Pg**	**23 25 02.6**	**+5.4**
KMI				Sn	**Sn**	**23 25 50.8**	**+6.4**
KMI				Sb	**Sb**	**23 26 13.3**	**+6.9**
KMI				Sg	**Sg**	**23 26 31.9**	**+7.3**
KMI	**Kunming**	**6.75**	**68**	P	**Pn**	**23 24 32.2**	**+4.9**
KMI						23 25 50.8	
CAL	**Calcutta**	**6.96**	**270**	*ex*	**Sn**	**23 25 52.3**	**+2.7**
CAL				*ex*	x	23 28 36.4	
NST	**Nakhon Sawan**	**8.07**	**149**	PN	**Pn**	**23 24 45.0**	**-0.6**
NST				PG	**Pg**	**23 25 17.0**	**-5.6**
NST				SG	Sx	23 26 02.0	
LSA	**Lhasa**	**8.15**	**330**	P	**Pn**	**23 24 47.1**	**+0.5**
LSA				S	**Sn**	**23 26 18.9**	**-0.1**
LSA				LR	LR		
	comp=E,12μm,18.0s						
LSA	**Lhasa**	**8.15**	**330**	*e*Pn	**Pn**	**23 24 47.8**	**+1.1**
	comp=E,16nm,0.6s						
LSA	**Lhasa**	**8.15**	**330**	*e*P	**Pn**	**23 24 47.8**	**+1.2**
LSA				pmax	pmax		
	comp=Z,16nm,0.6s						
TAPN	**Taplejung**	**8.72**	**304**	*e*Pn	**Pn**	**23 24 55.7**	**+1.3**
TAPN	**Taplejung**	**8.72**	**304**	*e*Pn	**Pn**	**23 24 55.7**	**+1.3**
ODAN	**Odare**	**8.74**	**300**	*e*Pn	**Pn**	**23 24 54.6**	**-0.1**
ODAN				*e*Sn	**Sn**	**23 26 30.7**	**-2.7**
	comp=Z,505nm,1.1s						
ODAN	**Odare**	**8.74**	**300**	*e*Pn	**Pn**	**23 24 54.6**	**-0.1**
ODAN				*e*Sn	**Sn**	**23 26 30.7**	**-2.7**
KKTK	**Khon Kaen**	**9.12**	**133**	PN	**Pn**	**23 25 00.0**	**+0.1**
KKTK				SG	Px	23 25 49.0	
KKTK				PG	Sx	23 27 22.0	
RAMN	**Ramite**	**9.41**	**299**	*e*Pn	**Pn**	**23 25 04.2**	**+0.3**
RAMN	**Ramite**	**9.41**	**299**	*e*Pn	**Pn**	**23 25 04.2**	**+0.3**
JIRN	**Jiri**	**10.05**	**301**	*e*Pn	**Pn**	**23 25 13.8**	**+1.1**
JIRN				*e*Sn	**Sn**	**23 27 03.0**	**-2.7**
	comp=Z,98nm,0.7s						
JIRN	**Jiri**	**10.05**	**301**	*e*Pn	**Pn**	**23 25 13.8**	**+1.1**
JIRN				*e*Sn	**Sn**	**23 27 03.0**	**-2.7**
GUN	**Gumba**	**10.41**	**302**	*e*Pn	**Pn**	**23 25 18.4**	**+0.8**
GUN	**Gumba**	**10.41**	**302**	*e*Pn	**Pn**	**23 25 18.4**	**+0.8**
GYA	**Guiyang**	**10.52**	**67**	P	**Pn**	**23 25 18.8**	**-0.4**
GYA				PP		23 25 26.9	
GYA				S	**Sn**	**23 27 17.5**	**+0.2**
GYA				SS		23 27 30.0	
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,4.0s						
PKI	**Pulchoki**	**10.63**	**299**	*e*Pn	**Pn**	**23 25 20.8**	**+0.1**
PKI	**Pulchoki**	**10.63**	**299**	*e*Pn	**Pn**	**23 25 20.8**	**+0.1**
PKI	**Pulchoki**	**10.63**	**299**	*e*P	**Pn**	**23 25 20.8**	**+0.1**
CD2	**Chengdu**	**10.80**	**39**	⇓*i*P	**Pn**	**23 25 25.4**	**+2.5**
CD2				pP		23 25 30.6	
CD2				PP		23 25 33.9	
CD2				S	**Sn**	**23 27 26.3**	**+2.3**
CD2				sS		23 27 35.0	
CD2				SS		23 27 41.0	
CD2				pmax	pmax		
	comp=Z,30nm,1.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=N,14μm,9.6s						
CD2				LR	LR		
	comp=E,16μm,18.4s						
CD2				LR	LR		
	comp=Z,14μm,16.8s						
KKN	**Kakani**	**10.83**	**300**	*e*Pn	**Pn**	**23 25 23.8**	**+0.4**
KKN	**Kakani**	**10.83**	**300**	*e*Pn	**Pn**	**23 25 23.8**	**+0.4**
KKN	**Kakani**	**10.83**	**300**	*e*P	**Pn**	**23 25 23.8**	**+0.4**
DMN	**Daman**	**10.89**	**299**	*e*Pn	**Pn**	**23 25 23.5**	**-0.7**
DMN				*e*Sn	**Sn**	**23 27 22.5**	**-3.9**
	comp=Z,104nm,1.0s						
DMN	**Daman**	**10.89**	**299**	*e*Pn	**Pn**	**23 25 23.5**	**-0.7**
DMN				*e*Sn	**Sn**	**23 27 22.5**	**-3.9**
UBT	**Ubonrachathani**	**11.40**	**129**	P	**Pn**	**23 25 30.7**	**-0.5**
GKN	**Gorkha**	**11.44**	**300**	*e*Pn	**Pn**	**23 25 30.0**	**-1.6**
GKN				*e*Sn	**Sn**	**23 27 35.3**	**-4.3**
	comp=Z,48nm,0.5s						
GKN	**Gorkha**	**11.44**	**300**	*e*Pn	**Pn**	**23 25 30.0**	**-1.6**
GKN				*e*Sn	**Sn**	**23 27 35.3**	**-4.3**
KOLN	**Koldanda**	**12.19**	**297**	*e*Pn	**Pn**	**23 25 39.2**	**-2.7**
KOLN				*e*Sn	**Sn**	**23 27 50.5**	**-7.5**
	comp=Z,35nm,0.5s						
KOLN	**Koldanda**	**12.19**	**297**	*e*Pn	**Pn**	**23 25 39.2**	**-2.7**
KOLN				*e*Sn	**Sn**	**23 27 50.5**	**-7.5**
DANN	**Dangsing**	**12.28**	**300**	*e*Pn	**Pn**	**23 25 43.0**	**-0.2**
DANN	**Dangsing**	**12.28**	**300**	*e*Pn	**Pn**	**23 25 43.0**	**-0.2**
ENH	**Enshi**	**14.34**	**55**	*e*Pn	**Pn**	**23 26 09.2**	**-2.1**
	comp=Z,28nm,1.0s						
LZH	**Lanzhou**	**15.04**	**26**	⇓P	**Pn**	**23 26 20.8**	**0.0**
LZH				pP	pP	23 26 23.1	-5.3
LZH				sP	sP	23 26 25.3	-4.2
LZH				PP		23 26 33.0	
LZH				S	**Sn**	**23 29 08.0**	**+0.4**
LZH				sS	sS	23 29 12.5	-16
LZH				SS		23 29 24.3	
LZH				pmax	pmax		
	comp=Z,160nm,1.2s						
LZH				pmax	pmax		
	comp=Z,360nm,4.0s						
LZH				LR	LR		
	comp=N,4μm,11.5s						
LZH				LR	LR		
	comp=E,4μm,12.0s						
LZH				LR	LR		
	comp=Z,4μm,13.5s						
LZH	**Lanzhou**	**15.04**	**26**	⇓P	**Pn**	**23 26 20.7**	**-0.1**
	comp=Z,157nm,1.2s						
LZH				pP	pP	23 26 23.1	-5.3
LZH				sP	sP	23 26 25.3	-4.2
LZH				PP		23 26 33.0	
LZH				S	**Sn**	**23 29 08.0**	**+0.4**
LZH				sS	sS	23 29 12.5	-16
LZH				SS		23 29 24.3	
LZH	**Lanzhou**	**15.04**	**26**	⇓P	**Pn**	**23 26 20.7**	**-0.1**
LZH				S	**Sn**	**23 29 08.0**	**+0.4**
LZH				pmax	pmax		
	comp=Z,157nm,1.2s						
NGP	**Nagpur**	**15.67**	**268**	*e*PKP	**Pn**	**23 26 30.8**	**+1.5**
NGP				*ex*	x	23 29 14.4	
XAN	**Xi'an**	**16.10**	**43**	P	**Pn**	**23 26 38.1**	**+3.4**
XAN				S	**Sn**	**23 29 41.9**	**+8.4**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
XAN				LR	LR		
	comp=N,6μm,12.0s						
XAN				LR	LR		
	comp=E,1μm,12.0s						
XAN				LR	LR		
	comp=Z,2μm,14.0s						
BHPL	**Bhopal**	**16.98**	**275**	*e*PKP	**Pn**	**23 26 45.6**	**-0.4**
BHPL				AMb	AMB	23 27 04.0	
	comp=Z,24nm,1.2s						
GTA	**Gaotai**	**17.00**	**11**	*e*P	**Pn**	**23 26 47.8**	**+1.7**
GTA				pP	pP	23 26 51.9	+1.7
GTA				sP	sP	23 26 55.3	+4.1
GTA				S	**Sn**	**23 29 53.3**	**-1.8**
GTA				sS	sS	23 30 00.3	-8.5
GTA				SS		23 30 13.3	
GTA				pmax	pmax		
	comp=Z,7.0nm,2.1s						
GTA				pmax	pmax		
	comp=Z,440nm,5.2s						
GTA				LR	LR		
	comp=N,5μm,10.9s						
GTA				LR	LR		
	comp=E,14μm,14.7s						
GTA				LR	LR		
	comp=Z,6μm,11.4s						
HYB	**Hyderabad**	**17.08**	**255**	*i* P	**Pn**	**23 26 50.0**	**+2.7**
HYB				*e*S	**Sn**	**23 30 08.0**	**+11**
BSI	**Banda Aceh**	**17.11**	**182**	P	**Pn**	**23 26 49.1**	**+1.5**
	comp=Z,2μmcomp=Z,145nm,1.4s						
ASOR	**Ausora**	**17.37**	**294**	*e*PKP	**Pn**	**23 26 52.0**	**+1.2**
LHMI	**Lhok Sumawe**	**17.40**	**176**	P	**Pn**	**23 26 50.0**	**-1.3**
	comp=Z,4μmcomp=Z,216nm,1.0s						
DDI	**Dehra Dun**	**17.64**	**299**	*ex*	**Pn**	**23 26 51.0**	**-3.1**
DDI				*ex*	x	23 29 54.0	
NDI	**New Delhi**	**17.82**	**293**	*e*PKP	**Pn**	**23 26 55.5**	**-0.9**
AYAN	**Aya Nagar**	**17.84**	**293**	*e*PKP	**Pn**	**23 26 56.7**	**+0.1**
KULM	**Kulim**	**17.92**	**164**	Pn	**Pn**	**23 26 58.4**	**+0.7**
	comp=Z,86nm,1.3s						
KULM	**Kulim**	**17.92**	**164**	P	**Pn**	**23 27 01.2**	**+3.5**
	comp=Z,2μmcomp=Z,64nm,1.5s						
WHN	**Wuhan**	**18.27**	**61**	P	**Pn**	**23 27 00.0**	**-2.0**
WHN				LR	LR		
	comp=N,17μm,9.9s						
WHN				LR	LR		
	comp=E,10μm,11.2s						
WHN				LR	LR		
	comp=Z,8μm,15.7s						
RTK	**Rohtak**	**18.59**	**294**	AMb	AMB	23 26 54.0	
	comp=Z,99nm,0.4s						
SMLA	**Simla**	**18.64**	**301**	*i* P	**Pn**	**23 27 05.2**	**-1.3**
IPM	**Ipoh**	**18.79**	**164**	*e*P	**Pn**	**23 27 08.6**	**+0.3**
	comp=Z,31nm,1.0s						
IPM	**Ipoh**	**18.79**	**164**	P	**Pn**	**23 27 08.8**	**+0.4**
	comp=Z,2μmcomp=Z,44nm,1.6s						
TSI	**Tuntungan**	**19.26**	**172**	P	**Pn**	**23 27 19.0**	**+4.9**
BHK	**Bhakra**	**19.35**	**301**	*e*PKP	**Pn**	**23 27 15.0**	**0.0**
AJM	**Ajmer**	**19.65**	**285**	*e*PKP	**Pn**	**23 27 16.0**	**-2.7**
PSI	**Prapat**	**20.00**	**171**	P	**P**	**23 27 25.4**	**+4.2**
	comp=Z,2μmcomp=Z,112nm,1.9s						
THN	**Thein Dam**	**20.29**	**303**	*e*PKP	**P**	**23 27 23.0**	**-1.2**
POO	**Poona**	**21.01**	**263**	AMb	AMB	23 27 50.4	
	comp=Z,46nm,1.1s,mb4.7						
KAD	**Karad**	**21.05**	**259**	*e*PKP	**P**	**23 27 34.0**	**+1.4**
BTO	**Baotou**	**21.49**	**31**	*e*P	**P**	**23 27 36.8**	**-0.3**
BTO				S	**S**	**23 31 26.1**	**-9.5**
BTO				pmax	pmax		
	comp=Z,17nm,2.1s,mb4.0						
BTO				LR	LR		
	comp=N,2μm,11.8s,MS4.8						
BTO				LR	LR		
	comp=E,2μm,12.7s,MS4.8						
GOA	**Goa**	**22.00**	**255**	*i* S	**S**	**23 31 47.1**	**+1.1**
MNSI	**Mandailing Nat**	**22.07**	**170**	P	**P**	**23 27 44.7**	**+1.2**
	comp=E,900nmcomp=E,33nm,1.4s,mb4.6						
WMQ	**Urumqi**	**22.12**	**344**	P	**P**	**23 27 44.0**	**+0.2**
WMQ				pP		23 27 48.3	
WMQ				sP	sP	23 27 51.0	+3.9
WMQ				PP		23 28 10.3	
WMQ				S	**S**	**23 31 42.3**	**-5.5**
WMQ				sS	sS	23 31 49.4	-2.0
WMQ				pmax	pmax		
	comp=Z,45nm,1.5s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,450nm,5.6s						
WMQ				LR	LR		
	comp=N,3μm,12.2s						
WMQ				LR	LR		
	comp=E,4μm,21.0s						
WMQ				LR	LR		
	comp=Z,1μm,25.4s						
MYKOM	**Kota Tinggi**	**22.19**	**158**	P	**P**	**23 27 49.4**	**+4.6**
	comp=Z,41nm,1.8s,mb4.6						
HHC	**Hu-ho-hao-te**	**22.43**	**33**	*e*P	**P**	**23 27 49.6**	**+2.5**
HHC				pP		23 27 53.8	
HHC				sP	sP	23 27 57.3	+6.9
HHC				PP		23 28 15.5	
HHC				S	**S**	**23 31 46.6**	**-7.2**
HHC				sS	sS	23 31 55.3	-2.1
HHC				SS		23 32 27.9	
HHC				PcS	PcS	23 35 23.4	+3.0
HHC				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.4						
HHC				pmax	pmax		
	comp=Z,410nm,4.5s						
HHC				LR	LR		
	comp=N,2μm,8.9s						
HHC				LR	LR		
	comp=E,2μm,7.0s						
HHC				LR	LR		
	comp=Z,2μm,14.5s,MS4.8						
BKNI	**Bangkinang**	**22.80**	**167**	P	**P**	**23 27 57.4**	**+6.1**
	comp=Z,1μmcomp=Z,67nm,1.7s,mb4.8						
TPUB	**Ta-pu**	**22.81**	**84**	*e*P	**P**	**23 27 48.3**	**-3.0**
	comp=Z,11nm,0.3s,mb4.8						
TIA	**Tai'an**	**22.83**	**49**	P	**P**	**23 27 52.5**	**+1.0**
TIA				S	**S**	**23 32 03.0**	**+1.7**
TIA				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
TIA				LR	LR		
	comp=N,4μm,11.8s,MS5.1						
TIA				LR	LR		
	comp=E,3μm,14.7s,MS5.1						
TIA				LR	LR		
	comp=Z,3μm,15.7s,MS4.8						
NACB	**Ninganchiao**	**23.65**	**81**	*e*P	**P**	**23 27 59.7**	**-0.5**
	comp=Z,10nm,0.5s,mb4.5						
RGRI	**Rengat**	**23.76**	**164**	P	**P**	**23 28 06.7**	**+5.6**
KSH	**Kashi**	**23.81**	**319**	P	**P**	**23 28 00.6**	**-0.8**
KSH				pP		23 28 04.8	
KSH				sP	sP	23 28 07.6	+2.9
KSH				PP		23 28 33.9	
KSH				PcP	PcP	23 31 45.6	+0.9
KSH				S	**S**	**23 32 11.8**	**-5.3**
KSH				sS	sS	23 32 19.3	-1.7
KSH				SS		23 33 02.0	
KSH				ScP	ScP	23 35 21.9	-1.6
KSH				PcS	PcS	23 35 23.8	-0.3
KSH				ScS	ScS	23 39 07.5	-2.7
KSH				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.7						
KSH				LR	LR		
	comp=N,480nm,7.2s						
KSH				LR	LR		
	comp=E,870nm,11.6s						
KSH				LR	LR		
	comp=Z,890nm,9.4s						
BJT	**Baijiatuau**	**24.38**	**40**	*e*P	**P**	**23 28 06.2**	**-0.4**
	comp=Z,91nm,1.5s,mb5.0						
BJT	**Baijiatuau**	**24.38**	**40**	*e*P	**P**	**23 28 06.2**	**-0.4**
BJT				pmax	pmax		
	comp=Z,91nm,1.5s						
BJI	**Beijing**	**24.40**	**40**	P	**P**	**23 28 08.1**	**+1.3**
BJI				S	**S**	**23 32 25.4**	**-1.3**
BJI				pmax	pmax		
	comp=Z,29nm,2.0s,mb4.4						
BJI				pmax	pmax		
	comp=Z,690nm,4.5s						
BJI				LR	LR		
	comp=N,2μm,10.4s,MS5.0						
BJI				LR	LR		
	comp=E,2μm,12.0s,MS5.0						
BJI				LR	LR		
	comp=Z,1μm,19.1s						
KKM	**Kota Kinabalu**	**25.69**	**127**	*e*P	**P**	**23 28 18.1**	**-0.7**
	comp=Z,150nm,1.8s,mb5.2						
KKM	**Kota Kinabalu**	**25.69**	**127**	P	**P**	**23 28 25.2**	**+6.5**
KBL	**Kabul**	**26.25**	**303**	*e*P	**P**	**23 28 24.3**	**+0.7**
	comp=Z,48nm,1.4s,mb4.8						
KBL	**Kabul**	**26.25**	**303**	*e*P	**P**	**23 28 24.3**	**+0.7**
KBL				pmax	pmax		
	comp=Z,48nm,1.4s,mb4.8						
TKM2	**Tokmak 2**	**26.27**	**325**	*e*P	**P**	**23 28 23.7**	**0.0**
	comp=Z,21nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**26.27**	**325**	*e*P	**P**	**23 28 23.7**	**0.0**
TKM2				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
MK31	**Makanchi Array**	**26.42**	**339**	*e*P	**P**	**23 28 24.7**	**-0.4**
MK31	**Makanchi Array**	**26.42**	**339**	*i* P	**P**	**23 28 23.0**	**-2.0**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.4						
MKAR	**Makanchi Array**	**26.42**	**339**	P	**P**	**23 28 23.9**	**-1.1**
	comp=Z,2.2nm,0.6s,mb3.9,baz=158,slow=7.6,SNR=46						
MKAR				LR	LR	23 40 42.9	
	comp=Z,869nm,18.9s,MS4.3,baz=151,slow=41						
MKAR	**Makanchi Array**	**26.42**	**339**	*e*P	**P**	**23 28 26.1**	**+1.1**
MKAR	**Makanchi Array**	**26.42**	**339**	*e*P	**P**	**23 28 26.1**	**+1.1**
SONM	**Songino Array**	**26.46**	**16**	P	**P**	**23 28 24.6**	**-0.8**
	comp=Z,1.9nm,0.8s,mb3.7,baz=199,slow=7.1,SNR=13						
SONM				LR	LR	23 39 50.6	
	comp=Z,2μm,18.5s,MS4.8,baz=198,slow=39						
SONM	**Songino Array**	**26.46**	**16**	P	**P**	**23 28 24.6**	**-0.8**
SONM	**Songino Array**	**26.46**	**16**	P	**P**	**23 28 24.6**	**-0.8**
ULN	**Ulaanbaatar**	**26.66**	**17**	*e*P	**P**	**23 28 28.3**	**+1.1**
	comp=Z,10nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**26.66**	**17**	*e*P	**P**	**23 28 28.3**	**+1.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**26.67**	**323**	*e*P	**P**	**23 28 27.5**	**+0.1**
	comp=Z,147nm,1.6s,mb5.3						
AAK	**Ala-Archa**	**26.67**	**323**	⇑*i*P	**P**	**23 28 26.1**	**-1.3**
AAK				pmax	pmax		
	comp=Z,83nm,2.5s,mb4.8						
FRU	**Bishkek**	**26.74**	**324**	*e*P	**P**	**23 28 28.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,40nm,1.9s,mb4.6						
EKS2	**Erkin-Say**	**27.09**	**322**	*e*P	**P**	**23 28 31.2**	**0.0**
	comp=Z,11nm,1.0s,mb4.3						
EKS2	**Erkin-Say**	**27.09**	**322**	*e*P	**P**	**23 28 31.2**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
ZAK	**Zakamensk**	**28.24**	**10**	*e*P	**P**	**23 28 45.7**	**+4.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
KK31	**Karatay Array**	**29.25**	**320**	*i* P	**P**	**23 28 49.3**	**-1.1**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
KKAR	**Karatay Array**	**29.25**	**320**	*e*P	**P**	**23 28 49.6**	**-0.8**
KKAR	**Karatay Array**	**29.25**	**320**	*e*P	**P**	**23 28 49.6**	**-0.8**
JOW	**Kunigami**	**29.68**	**75**	LR	LR	23 42 05.3	
	comp=Z,2μm,19.9s,MS4.7,baz=90,slow=39						
KURK	**Kurchatov**	**31.03**	**339**	P	**P**	**23 29 04.0**	**-2.1**
	comp=Z,3.6nm,0.3s,mb4.7,baz=156,slow=7.1,SNR=7.7						
KURK	**Kurchatov**	**31.03**	**339**	*e*P	**P**	**23 29 04.7**	**-1.4**
KURK	**Kurchatov**	**31.03**	**339**	*e*P	**P

MDJ LR LR
comp=E,890nm,16.3s,MS4.8
MDJ LR LR
comp=Z,1μm,14.4s,MS4.8
BVAR Borovoye Array 35.96 334 P **P** **23 29 47.6 -1.4**
comp=Z,1.4nm,0.6s,mb4.0,baz=127,slow=11,SNR=9.6
BVAR Borovoye Array 35.96 334 P **P** **23 29 47.6 -1.4**
BVAR Borovoye Array 35.96 334 P **P** **23 29 47.6 -1.4**
BRVK Borovoye 36.03 334 *eP* **P** **23 29 48.7 -0.9**
comp=Z,7.6nm,1.0s,mb4.6
BRVK Borovoye 36.03 334⇑ *iP* **P** **23 29 48.2 -1.4**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
USRK Ussuriysk Arra 36.59 45 LR LR 23 46 38.2
comp=Z,533nm,20.2s,MS4.3,baz=208,slow=39
BOD Bodaibo 37.46 16 *eP* **P** **23 30 03.0 +1.3**
BOD pmax pmax
comp=Z,13nm,1.9s,mb4.4
ABKAR Akbulak array 38.75 322 *eP* **P** **23 30 11.4 -1.3**
comp=Z,2.8nm,0.6s,mb4.2
MAJO Matsushiro 39.01 60 *eP* **P** **23 30 14.6 -0.4**
comp=Z,12nm,0.9s,mb4.6
MAJO Matsushiro 39.01 60 *eP* **P** **23 30 14.6 -0.4**
MAJO pmax pmax
comp=Z,12nm,0.9s,mb4.6
MAT Matsushiro 39.01 60 P **P** **23 30 12.3 -2.7**
MAT *eS* **S** **23 36 12.0 -2.3**
MJAR Matsushiro Arr 39.01 60 P **P** **23 30 13.7 -1.3**
comp=Z,9.8nm,1.0s,mb4.5,baz=267,slow=10,SNR=12
MJAR LR LR 23 47 47.1
comp=Z,1μm,18.4s,MS4.7,baz=260,slow=39
MJAR Matsushiro Arr 39.01 60 P **P** **23 30 13.7 -1.3**
MJAR Matsushiro Arr 39.01 60 P **P** **23 30 13.7 -1.3**
CLNS Chul'man 40.16 24 *eP* **P** **23 30 24.3 0.0**
CLNS pmax pmax
comp=E,9.0nm,1.2s
CLNS pmax pmax
comp=Z,18nm,1.5s,mb4.6
CLNS pmax pmax
comp=N,16nm,1.5s
CLNS MLR MLR
comp=Z,1μm,14.0s,MS4.9
CLNS MLR MLR
comp=N,692nm,15.0s,MS4.9
CLNS MLR MLR
comp=E,1μm,17.0s,MS4.9
HABR Khabarovsk 40.30 41 *eP* **P** **23 30 28.6 +3.0**
HABR 23 31 58.8
HABR *e*PPP 23 32 23.1
HABR *e* 23 32 26.8
HABR *e*S **S** **23 36 34.5 +1.2**
HABR *e* 23 40 30.4
HABR pmax pmax
comp=Z,110nm,2.4s,mb5.2
HABR pmax pmax
comp=N,94nm,3.2s
HABR pmax pmax
comp=E,112nm,2.4s
HABR MLR MLR
comp=Z,687nm,17.0s,MS4.6
AKTO Aktyubinsk 40.42 323 P **P** **23 30 25.9 -0.7**
comp=Z,0.8nm,0.4s,mb3.8,baz=125,slow=12,SNR=4.4
AKTO Aktyubinsk 40.42 323 P **P** **23 30 25.9 -0.7**
AKTO Aktyubinsk 40.42 323 P **P** **23 30 25.9 -0.7**
SVE Sverdlovsk 42.67 332⇑ *iP* **P** **23 30 44.1 -0.9**
SVE *e*PPP 23 32 52.8
SVE *e* 23 40 36.1
SVE pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SVE MLR MLR
comp=Z,1μm,21.0s,MS4.8
MIB Mutribah 43.83 290 *eP* **P** **23 30 54.5 -0.2**
MIB AMb AMB 23 31 05.0
comp=Z,37nm,0.7s,mb5.2
NAY Al-Naaiem 43.94 289 *eP* **P** **23 30 55.0 -0.6**
NAY AMb AMB 23 31 07.7
comp=Z,24nm,0.8s,mb5.0
RST Umm Al-Ruwaisa 44.14 289 *eP* **P** **23 30 55.3 -1.9**
RST AMb AMB 23 31 14.2
comp=Z,5.9nm,0.9s,mb4.3
YAK Yakutsk 45.57 22 *eP* **P** **23 31 09.4 +1.3**
YAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK MLR MLR
comp=Z,615nm,12.0s,MS4.8
YAK MLR MLR
comp=E,658nm,15.0s,MS4.9
YAK MLR MLR
comp=N,663nm,11.0s,MS4.9
YUK Yuzh-Kuril'sk 46.06 50 *eP* **P** **23 31 16.7 +4.4**
YUK *i* 23 32 49.0
YUK *i* PPP 23 33 52.3
YUK S **S** **23 37 51.5 -6.5**
YUK *i* SS SS 23 41 16.3 -6.6
YUK pmax pmax
comp=Z,62nm,2.3s,mb5.1
YUK MLR MLR
comp=Z,782nm,18.0s,MS4.7
BHD Baghdad 46.26 295 *ex* **P** **23 31 10.0 -4.1**
BHD *i* x x 23 37 53.1
ZEI Tsey 47.26 308 *eP* **P** **23 31 20.9 -0.8**
ZEI pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
GUMO Guam 47.27 92 LR LR 23 51 33.3
comp=Z,410nm,19.6s,MS4.4,baz=349,slow=37
ONI Oni 47.56 308 P **P** **23 31 25.9 +1.8**
KIV Kislovodsk 48.30 309 *eP* **P** **23 31 29.5 -0.3**
comp=Z,21nm,1.2s,mb5.0
KIV Kislovodsk 48.30 309 P **P** **23 31 29.0 -0.8**
KIV *e* 23 31 43.8
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,600nm,16.0s,MS4.7
MBWA Marble Bar 49.42 150 *eP* **P** **23 31 40.6 +2.1**
comp=Z,3.5nm,0.7s,mb4.5
FITZ Fitzroy Crossi 49.92 142 P **P** **23 31 43.4 +1.0**
comp=Z,17nm,1.2s,mb4.9,baz=315,slow=7.1,SNR=2.6
FITZ Fitzroy Crossi 49.92 142 P **P** **23 31 45.0 +2.6**
ANN Anapa 52.14 310 *eP* **P** **23 31 53.8 -5.1**
ANN pmax pmax
comp=Z,34nm,1.2s,mb5.2
ANN MLR MLR
comp=N,430nm,17.0s,MS4.6
ANN MLR MLR
comp=E,269nm,17.0s,MS4.6
ANN MLR MLR
comp=Z,590nm,17.0s,MS4.7
BRTR Keskin Array B 54.82 303 P **P** **23 32 20.9 +2.2**
comp=Z,0.3nm,0.5s,mb3.6,baz=128,slow=9.2,SNR=4.8
BRTR LR LR 23 58 24.7
comp=Z,356nm,21.5s,MS4.4,baz=335,slow=39
BRTR Keskin Array B 54.82 303 P **P** **23 32 20.9 +2.2**
BRTR Keskin Array B 54.82 303 P **P** **23 32 20.9 +2.3**
PETK Petropavlovsk- 55.33 40 LR LR 23 58 34.7
comp=Z,482nm,18.1s,MS4.6,baz=239,slow=39
WRA Warramunga Arr 56.63 135 P **P** **23 32 32.0 +0.2**
comp=Z,5.0nm,1.0s,mb4.5,baz=320,slow=7.3,SNR=16
WRA LR LR 00 00 34.7
comp=Z,584nm,21.2s,MS4.7,baz=305,slow=40
WRA Warramunga Arr 56.63 135 P **P** **23 32 32.0 +0.2**
WRA Warramunga Arr 56.63 135 P **P** **23 32 32.0 +0.2**
WRAB Tennant Creek 56.63 135 *eP* **P** **23 32 32.6 +0.8**
comp=Z,96nm,2.0s,mb5.5
WRAB Tennant Creek 56.63 135 *eP* **P** **23 32 32.6 +0.8**
WRAB pmax pmax
comp=Z,96nm,2.0s,mb5.5
WB2 Warramunga Arr 56.64 135 *eP* **P** **23 32 31.4 -0.5**
AKASG Malin Array Be 58.06 317 P **P** **23 32 43.5 +2.0**
comp=Z,0.5nm,0.4s,mb3.9,baz=86,slow=6.1,SNR=3.2
AKASG LR LR 00 02 37.5
comp=Z,625nm,21.3s,MS4.7,baz=45,slow=41
AKASG Malin Array Be 58.06 317 P **P** **23 32 43.5 +2.0**
AKASG Malin Array Be 58.06 317 P **P** **23 32 43.5 +2.0**
NWAO Narrogin (SRO) 58.96 159 P **P** **23 32 47.9 0.0**
comp=Z,9.4nm,0.8s,mb4.9,baz=320,slow=7.9,SNR=5.1
NWAO Narrogin (SRO) 58.96 159 P **P** **23 32 47.9 0.0**
NWAO Narrogin (SRO) 58.96 159 P **P** **23 32 47.9 0.0**
AS31 Alice Springs 59.09 139 *eP* **P** **23 32 49.0 0.0**
ASAR Alice Springs 59.09 139 P **P** **23 32 48.6 -0.4**
comp=Z,1.0nm,0.6s,mb4.0,baz=319,slow=6.6,SNR=12
ASAR Alice Springs 59.09 139 P **P** **23 32 48.6 -0.4**
ASAR Alice Springs 59.09 139 P **P** **23 32 48.7 -0.3**

FINES FINESS Array B 60.67 329 P **P** **23 33 00.8 +1.4**
comp=Z,3.2nm,1.0s,mb4.4,baz=108,slow=8.9,SNR=3.4
FINES LR LR 00 01 23.0
comp=Z,756nm,18.6s,MS4.9,baz=97,slow=38
FINES FINESS Array B 60.67 329 P **P** **23 33 00.8 +1.4**
FINES FINESS Array B 60.67 329 P **P** **23 33 00.8 +1.4**
BILL Bilibino 61.84 24⇓ *eP* **P** **23 33 08.0 +0.8**
BILL pmax pmax
comp=Z,14nm,1.3s,mb4.9
ARCES ARCESS Array B 62.07 338 P **P** **23 33 10.8 +2.1**
comp=Z,2.2nm,0.8s,mb4.3,baz=97,slow=7.4,SNR=3.6
ARCES LR LR 00 03 04.9
comp=Z,555nm,18.7s,MS4.8,baz=193,slow=39
ARCES ARCESS Array B 62.07 338 P **P** **23 33 10.8 +2.1**
ARCES ARCESS Array B 62.07 338 P **P** **23 33 10.8 +2.0**
UZH Uzhgorod 62.58 314 *eP* **P** **23 33 10.8 -1.8**
UZH *e* 23 33 25.4
ABPO Ambohimpanom 63.05 233 *eP* **P** **23 33 15.6 -0.4**
comp=Z,9.9nm,1.3s,mb4.8
ABPO Ambohimpanom 63.05 233 *eP* **P** **23 33 15.6 -0.4**
ABPO pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
FX1 Attu Island--F 64.65 41 LR LR 00 01 51.8
comp=Z,321nm,20.7s,MS4.5,baz=119,slow=36
NOA NORSAR Array B 67.84 328 P **P** **23 33 46.1 -0.4**
comp=Z,1.4nm,0.9s,mb4.0,baz=90,slow=5.9,SNR=2.9
NOA LR LR 00 05 33.1
comp=Z,522nm,18.3s,MS4.8,baz=90,slow=38
NOA NORSAR Array B 67.84 328 P **P** **23 33 46.1 -0.4**
NOA NORSAR Array B 67.84 328 P **P** **23 33 46.1 -0.4**
GERES GERESS Array B 68.20 315 P **P** **23 33 50.5 +1.5**
comp=Z,0.6nm,0.6s,mb3.8,baz=57,slow=4.9,SNR=7.7
GERES LR LR 00 07 14.6
comp=Z,470nm,19.4s,MS4.7,baz=350,slow=39
GERES GERESS Array B 68.20 315 P **P** **23 33 50.5 +1.5**
GERES GERESS Array B 68.20 315 P **P** **23 33 50.5 +1.5**
STKA Stephens Creek 69.71 139 P **P** **23 34 00.9 +2.4**
comp=Z,1.4nm,0.4s,mb4.3,baz=338,slow=11,SNR=3.4
STKA LR LR 00 09 55.5
comp=Z,519nm,19.4s,MS4.8,baz=132,slow=41
STKA Stephens Creek 69.71 139 P **P** **23 34 00.9 +2.4**
STKA Stephens Creek 69.71 139 P **P** **23 34 00.9 +2.4**
LPG La Plagne 73.57 313 *eP* **P** **23 34 23.1 +1.5**
comp=Z,27nm,1.3s,mb4.7
LPG La Plagne 73.57 313 *eP* **P** **23 34 23.1 +1.5**
comp=Z,27nm,1.3s,mb5.0
LPG La Plagne 73.57 313 *eP* **P** **23 34 23.1 +1.5**
LPG pmax pmax
comp=Z,27nm,1.3s,mb5.0
LPL La Plagne 73.58 313 *eP* **P** **23 34 23.1 +1.4**
LPL La Plagne 73.58 313 *eP* **P** **23 34 23.1 +1.4**
LPL La Plagne 73.58 313 *eP* **P** **23 34 23.1 +1.4**
SUMG Summit 80.12 347 *eP* **P** **23 34 58.3 +0.2**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 80.12 347 *iP* **P** **23 34 58.3 +0.2**
comp=Z,6.6nm,0.9s,mb4.6
ILAR Eielson Array 80.48 23 P **P** **23 35 01.2 +1.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=303,slow=4.7,SNR=14
ILAR LR LR 00 14 48.5
comp=Z,560nm,18.0s,MS5.0,baz=149,slow=39
ILAR Eielson Array 80.48 23 P **P** **23 35 01.2 +1.1**
ILAR Eielson Array 80.48 23 P **P** **23 35 01.3 +1.1**
DZM Mont Dzumac 81.87 118 *eLR* LR 00 00 55.6
comp=Z,477nm,32.0s
BOSA Boshof 85.02 236 P **P** **23 35 23.7 -0.6**
comp=Z,2.5nm,0.6s,mb4.5,baz=85,slow=4.4,SNR=8.7
BOSA LR LR 00 12 52.1
comp=Z,359nm,18.4s,MS4.8,baz=346,slow=35
BOSA Boshof 85.02 236 P **P** **23 35 23.7 -0.7**
BOSA Boshof 85.02 236 P **P** **23 35 23.7 -0.6**
TORD Torodi Ar. Bea 88.77 284 P **P** **23 35 44.5 +1.5**
comp=Z,0.5nm,0.7s,mb3.9,baz=59,slow=5.1,SNR=3.7
TORD LR LR 00 18 28.3
comp=Z,358nm,21.9s,MS4.8,baz=60,slow=38
TORD Torodi Ar. Bea 88.77 284 P **P** **23 35 44.5 +1.5**
YKA Yellowknife Ar 91.71 14 P **P** **23 35 56.3 +0.5**
comp=Z,0.2nm,0.7s,mb3.5,baz=329,slow=4.8,SNR=3.9
YKA LR LR 00 22 36.2
comp=Z,38nm,19.2s,MS3.9,baz=195,slow=39
YKA Yellowknife Ar 91.71 14 P **P** **23 35 56.3 +0.5**
YKA Yellowknife Ar 91.71 14 P **P** **23 35 56.3 +0.5**
MAW Mawson 93.30 192 LR LR 00 10 57.6
comp=Z,235nm,20.1s,MS4.6,baz=21,slow=31
DBIC Dimbokro 97.25 280 LR LR 00 23 13.9
comp=Z,224nm,19.5s,MS4.7,baz=49,slow=37
PPT2 Papeete2 118.78 98 *eLR* LR 00 17 40.0
comp=Z,206nm,23.0s
TBI Tubuai 120.37 105 *eLR* LR 00 18 07.5
comp=Z,224nm,28.0s
RKT Rikitea 133.38 101 *eLR* LR 00 24 41.9
comp=Z,235nm,36.8s
SDV Santo Domingo 145.93 336 *ePKPdf* PKPdf 23 42 28.0 -0.4

IDC 20 23:44:52.2±6.8, 18°.27S×173°.36W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/17, mbtmp3.9/3, Error ellipse: s-maj=310.2km s-min=33.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.29**	**259**	P	P	23 53 42.5	-0.7
	0.7nm,0.5s,baz=96,slow=8.2,SNR=19						
ASAR	**Alice Springs**	**49.32**	**254**	P	P	23 53 44.5	+1.0
	2.9nm,0.5s,baz=90,slow=7.7,SNR=51						
ILAR	**Eielson Array**	**85.23**	**11**	P	P	23 57 30.8	+0.6
	0.3nm,0.5s,baz=214,slow=5.4,SNR=14						
BRTR	**Keskin Array B**	**148.36**	**318**	PKPbc	PKPbc	00 04 39.0	-1.8
	0.7nm,0.8s,baz=68,slow=3.3,SNR=4.3						

*ISCJB **20** 23:56:23.6±0.7, 22°.88N±0°.06×143°.8E±0°.2, h33km, mb3.7/13, MS4.0/3, Error ellipse: s-maj=23.2km s-min=7.9km az=169.2*
*IDC **20** 23:56:25.6±4.6, 22°.84N×143°.78E, h38km±39km, mb3.4/9, mb1 3.6/12, mb1mx3.5/23, mbtmp3.5/12, ML3.7/3, MS4.0/3, Ms1 4.0/3, ms1mx3.1/27, Error ellipse: s-maj=36.0km s-min=17.9km az=88.0*
*NEIC **20** 23:56:26.6±2.2, 22°.88N×143°.68E, h44km±19km, mb4.0/2, Error ellipse: s-maj=25.3km s-min=12.9km az=85.0*
ISC 20 23:56:26.4±2.0, 22°.88N±0°.08×143°.7E±0°.2, h41km±17km, n33, σ0=91/33, mb3.7/13, MS4.0/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.41**	**342**	Pn	**Pn**	**23 57 30.3**	**-0.5**
	10nm,0.3s,baz=256,slow=20,SNR=7.6						
CBIJ				Sn	**Sn**	**23 58 20.7**	**-0.3**
	12nm,0.3s,baz=300,slow=23,SNR=5.6						
CBIJ	**Chichi jima**	**4.41**	**342**	Pn	**Pn**	**23 57 30.3**	**-0.5**
CBIJ				Sn	**Sn**	**23 58 20.7**	**-0.3**
MJAR	**Matsushiro Arr**	**14.42**	**342**	Pn	**Pn**	**23 59 48.5**	**+0.7**
	0.3nm,0.3s,baz=153,slow=11,SNR=3.9						
MJAR	**Matsushiro Arr**	**14.42**	**342**	Pn	**Pn**	**23 59 48.5**	**+0.7**
KSRS	**Korea Array**	**19.88**	**321**	Pn	**Pn**	**00 00 56.0**	**+0.1**
	0.1nm,0.3s,baz=139,slow=12,SNR=3.2						
KSAR	**Wonju Array Be**	**19.89**	**320**	Pn	**Pn**	**00 00 56.0**	**-0.1**
SONM	**Songino Array**	**38.74**	**319**	P	**P**	**00 03 47.3**	**+0.8**
	0.3nm,0.5s,mb3.3,baz=107,slow=6.8,SNR=3.6						
SONM	**Songino Array**	**38.74**	**319**	P	**P**	**00 03 47.3**	**+0.7**
CHTO	**Chiang Mai**	**41.90**	**273**	P	**P**	**00 04 12.4**	**-0.7**
	2.7nm,0.6s,mb4.0						
CHTO				*e*	pP	00 04 25.4	+0.9
WRAB	**Tennant Creek**	**43.52**	**193**	*eP*	**P**	**00 04 26.1**	**0.0**
	2.3nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**43.53**	**193**	P	**P**	**00 04 26.3**	**+0.1**
	0.3nm,0.3s,mb3.5,baz=13,slow=8.8,SNR=13						
WRA				LR	LR	00 20 04.2	
	comp=Z,138nm,19.5s,MS3.9,baz=270,slow=33						
WRA	**Warramunga Arr**	**43.53**	**193**	P	**P**	**00 04 26.3**	**+0.1**
ASAR	**Alice Springs**	**47.24**	**192**	P	**P**	**00 04 53.7**	**-1.8**
	0.1nm,0.3s,mb3.2,baz=14,slow=6.4,SNR=3.9						
ASAR	**Alice Springs**	**47.24**	**192**	P	**P**	**00 04 53.7**	**-1.8**
DZM	**Mont Dzumac**	**49.87**	**152**	LR	LR	00 23 43.2	
	comp=Z,192nm,18.1s,MS4.1,baz=189,slow=33						
ZALV	**Zalesovo Beam**	**53.59**	**321**	P	**P**	**00 05 43.4**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=105,slow=8.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.59**	**321**	P	**P**	**00 05 43.4**	**+0.2**
MKAR	**Makanchi Array**	**54.25**	**312**	P	**P**	**00 05 49.4**	**+1.2**
	0.4nm,0.7s,mb3.5,baz=83,slow=8.7,SNR=4.5						
MKAR	**Makanchi Array**	**54.25**	**312**	P	**P**	**00 05 49.4**	**+1.2**
STKA	**Stephens Creek**	**54.48**	**182**	P	**P**	**00 05 51.8**	**+1.9**
	1.2nm,0.7s,mb3.9,baz=344,slow=7.4,SNR=4.7						
STKA	**Stephens Creek**	**54.48**	**182**	P	**P**	**00 05 51.8**	**+1.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**60.78**	**27**	P	**P**	**00 06 35.1**	**+1.3**
	0.8nm,1.1s,mb3.8,baz=271,slow=5.6,SNR=5.3						
ILAR	**Eielson Array**	**60.78**	**27**	P	**P**	**00 06 35.1**	**+1.3**
NWAO	**Narrogin (SRO)**	**60.97**	**205**	LR	LR	00 31 38.8	
	comp=Z,96nm,21.3s,MS3.9,baz=342,slow=35						
YKA	**Yellowknife Ar**	**75.19**	**28**	P	**P**	**00 08 02.6**	**-1.8**
	0.1nm,0.5s,mb3.0,baz=295,slow=5.6,SNR=4.8						
YKA	**Yellowknife Ar**	**75.19**	**28**	P	**P**	**00 08 02.6**	**-1.7**
FINES	**FINESS Array B**	**82.32**	**335**	P	**P**	**00 08 42.5**	**-1.0**
	2.8nm,1.0s,mb4.2,baz=90,slow=5.7,SNR=5.0						
FINES	**FINESS Array B**	**82.32**	**335**	P	**P**	**00 08 42.5**	**-1.0**
MIB	**Mutribah**	**84.12**	**300**	*eP*	**P**	**00 08 54.1**	**+0.7**
MIB				AMb	AMB	00 08 54.9	
	comp=Z,12nm,0.8s						
NAY	**Al-Naaiem**	**84.41**	**299**	*eP*	**P**	**00 08 55.4**	**+0.4**
NAY				AMb	AMB	00 08 56.6	
	comp=Z,11nm,0.9s						
RST	**Umm Al-Ruwaisa**	**84.51**	**300**	*eP*	**P**	**00 08 54.8**	**-0.7**
RST				AMb	AMB	00 08 55.8	
	comp=Z,1.8nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**89.87**	**314**	P	**P**	**00 09 20.6**	**-0.6**
	comp=Z,0.9nm,1.0s,mb4.1,baz=126,slow=2.5,SNR=3.7						
BRTR	**Keskin Array B**	**89.87**	**314**	P	**P**	**00 09 20.6**	**-0.6**

*ISCJB **20** 23:57:20.9±0.5, 40°.84N±0°.04×141°.37E±0°.07, h94km±4km, mb3.2/4, Error ellipse: s-maj=9.2km s-min=5.6km az=13.9*
*JMA **20** 23:57:21.4±0.1, 40°.84N×141°.42E, h88km±1km, M3.0*
*IDC **20** 23:57:23.2±2.3, 40°.92N×141°.25E, h98km±18km, mb3.0/4, mb1 3.1/7, mb1mx3.0/24, mbtmp3.0/7, Error ellipse: s-maj=32.8km s-min=15.9km az=127.0*
ISC 20 23:57:21.9±0.6, 40.84N±0°.04×141°.38E±0°.07, h88km±4km, n16, σ0=60/26, mb3.2/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.24**	**259**	P	**Pn**	**23 57 34.3**	**-0.5**
JTM				S	**Sn**	**23 57 44.0**	**-0.4**
JANG	**Nango**	**0.47**	**168**	P	**Pn**	**23 57 35.6**	**-0.7**
JANG				S	**Sn**	**23 57 45.9**	**-1.0**
JOT	**Ohata**	**0.60**	**335**	P	**Pn**	**23 57 37.1**	**-0.2**
JOT				*eS*	**Sn**	**23 57 48.7**	**-0.1**
JAH	**Hinai**	**0.86**	**222**	P	**Pn**	**23 57 39.9**	**0.0**
JAH				*eS*	**Sn**	**23 57 53.7**	**+0.3**
JSR	**Shiriuchi**	**1.01**	**314**	P	**Pn**	**23 57 41.2**	**-0.3**
JSR				*eS*	**Sn**	**23 57 56.4**	**+0.2**
JIW	**Iwasaki**	**1.07**	**257**	P	**Pn**	**23 57 42.3**	**0.0**
JIW				*eS*	**Sn**	**23 57 58.6**	**+1.0**
JKB	**Kayabe**	**1.08**	**346**	P	**Pn**	**23 57 42.3**	**-0.1**
JKB				S	**Sn**	**23 57 57.8**	**-0.1**
JOM	**Ohasama**	**1.36**	**183**	P	**Pn**	**23 57 46.0**	**+0.2**
JOM				S	**Sn**	**23 58 04.2**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.77**	**35**	P	**Pn**	**23 57 51.2**	**+0.2**
JNBK				*eS*	**Sn**	**23 58 13.7**	**+0.5**
ASAJ	**Asahikawa**	**3.40**	**15**	P	**Pn**	**23 58 12.9**	**+0.2**
	1.6nm,0.3s,baz=212,slow=14,SNR=9.8						
ASAJ				S	**Sn**	**23 58 52.9**	**+0.9**
	0.8nm,0.3s,baz=305,slow=31,SNR=2.1						
MJAR	**Matsushiro Arr**	**4.95**	**211**	P	**Pn**	**23 58 35.8**	**+2.0**
	0.4nm,0.3s,baz=23,slow=12,SNR=5.3						
USRK	**Ussuriysk Arra**	**7.70**	**299**	P	**Pn**	**23 59 11.1**	**-0.2**
	0.5nm,0.3s,baz=104,slow=16,SNR=9.7						
SONM	**Songino Array**	**25.82**	**298**	P	**P**	**00 02 43.9**	**-0.7**
	0.1nm,0.4s,mb2.6,baz=81,slow=9.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**39.42**	**309**	P	**P**	**00 04 42.0**	**-0.8**
	0.5nm,0.5s,mb3.6,baz=97,slow=9.1,SNR=5.0						
MKAR	**Makanchi Array**	**42.18**	**299**	P	**P**	**00 05 05.0**	**-0.6**
	0.4nm,0.5s,mb3.4,baz=85,slow=12,SNR=10						
ILAR	**Eielson Array**	**46.34**	**34**	P	**P**	**00 05 38.7**	**+0.2**
	0.3nm,0.6s,mb3.2,baz=263,slow=5.9,SNR=5.3						

GUC 20 23:58:04.1±0.7, 32°.36S×72°.24W, h26km±4km, MD3.9, ML3.8, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.78**	**53**	*eP*	Pb	23 58 18.4	-0.7
CHNG				*eS*	Sb	23 58 29.7	+0.4
IHA	**Instituto Hidr**	**0.83**	**143⇓**	*eP*	Pb	23 58 19.4	-0.6
IHA				*i* S	Sb	23 58 31.3	+0.5
PTCH	**Petorca**	**1.11**	**86**	*eP*	Pn	23 58 23.3	-0.7
PTCH				*i* S	Sn	23 58 38.2	-0.2
PTCH				AML	AML	23 58 40.2	
	comp=N,3μm,0.6s						
ROCH	**El Roble**	**1.20**	**121⇓**	*eP*	Pn	23 58 25.0	-0.2
ROCH				*eS*	Sn	23 58 41.2	+0.6
ROCH				AML	AML	23 58 44.1	
	comp=N,2μm,0.6s						
JACH	**Jahuel**	**1.43**	**104**	*eP*	Pn	23 58 28.3	0.0
PEL	**Peldehue**	**1.52**	**121⇑**	*iP*	Pn	23 58 30.4	+0.7
PEL				*eS*	Sn	23 58 50.2	+1.6
PEL				AML	AML	23 58 54.8	
	comp=N,4μm,0.6s						
RCDM	**Rinconada Maip**	**1.65**	**134**	*eP*	Pn	23 58 31.4	0.0
TACH	**Talagante**	**1.69**	**140**	*eP*	Pn	23 58 32.6	+0.6
SAN	**Santiago**	**1.72**	**130**	*eP*	Pn	23 58 33.3	+1.0
SAN				*eS*	Sn	23 58 55.3	+1.9
LNV	**Longovilo**	**1.74**	**157**	*eP*	Pn	23 58 34.8	+2.2
CLCH	**Cerro Calan**	**1.77**	**126**	*eP*	Pn	23 58 34.1	+1.1
CLCH				*eS*	Sn	23 58 57.0	+2.4
CLCH				AML	AML	23 59 10.4	
	comp=E,3μm,0.6s						
ANTU	**Antumapu**	**1.81**	**132**	*eP*	Pn	23 58 34.8	+1.2
ANTU				*eS*	Sn	23 58 57.9	+2.2
FCH	**Farellones**	**1.90**	**121⇑**	*eP*	Pn	23 58 36.9	+2.0
FCH				*eS*	Sn	23 59 02.0	+4.1
PCH	**Pirque**	**1.92**	**132**	*eP*	Pn	23 58 36.8	+1.7
OVCH	**Ovalle**	**1.96**	**27**	AML	AML	23 59 19.4	
	comp=N,1μm,0.6s						
CHCH	**Chadas Angostu**	**2.06**	**140**	*eP*	Pn	23 58 38.4	+1.4
CACH	**El Canelo**	**2.23**	**142**	*eP*	Pn	23 58 42.3	+2.9
LMEL	**Las Melosas**	**2.26**	**132**	*eP*	Pn	23 58 41.7	+1.9
LMEL				*eS*	Sn	23 59 09.7	+2.9

*NIED **21** 00:24:00, 36°.60N×142°.60E, h5km, Mw4.2 Best double couple: M0=2.37000×10^15 NP1:φs=307.00000°, δ78.00000°, λ18.00000°. NP2:φs=213.00000°, δ72.00000°, λ167.00000°.*
*IDC **21** 00:24:17.0±0.7, 36°.54N×142°.53E, h0km, mb3.9/17, mb1 4.0/21, mb1mx4.0/29, mbtmp3.9/21, ML4.0/3, MS3.5/3, Ms1 3.5/3, ms1mx2.8/45, Error ellipse: s-maj=17.8km s-min=16.6km az=63.0*
*ISCJB **21** 00:24:17.8±1.4, 36°.60N±0°.04×142°.54E±0°.05, h15km±9km, mb4.1/32, Error ellipse: s-maj=6.8km s-min=5.8km az=36.0*
*JMA **21** 00:24:18.3±0.3, 36°.62N×142°.59E, h28km, M4.1*
*NEIC **21** 00:24:18.3±0.4, 36°.51N×142°.56E, h10km, mb4.6/4, MW4.2(NIED), Error ellipse: s-maj=8.4km s-min=8.0km az=116.0*
*MOS **21** 00:24:20.8±1.9, 36°.48N×142°.76E, h33km, mb4.5/16, Error ellipse: s-maj=11.0km s-min=7.2km az=118.4*
ISC 21 00:24:17.7±1.6, 36°.62N±0°.03×142°.47E±0°.04, h1km±10km, n114, σ0=95/120, mb4.1/32, 2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.42**	**290**	P	**Pn**	**00 24 43.7**	**-0.9**
JFK	**Kawauchi**	**1.48**	**301**	P	**Pn**	**00 24 44.8**	**-0.5**
JFK				*eS*	**Sb**	**00 25 04.4**	**-0.7**
JHO	**Hitachi**	**1.53**	**270**	P	**Pn**	**00 24 45.6**	**-0.4**
CHOJ	**Chosi**	**1.59**	**235**	P	**Pn**	**00 24 46.9**	**0.0**
CHOJ				*eS*	**Sn**	**00 25 08.7**	**+0.7**
JMM	**Marumori**	**1.82**	**313**	P	**Pn**	**00 24 49.3**	**-0.8**
JMM				S	**Sn**	**00 25 14.3**	**+0.5**
JFT	**Otama**	**1.92**	**298**	P	**Pn**	**00 24 52.1**	**+0.6**
JFT				*eS*	**Sn**	**00 25 16.3**	**0.0**
JIO	**Ouri**	**2.04**	**334**	P	**Pn**	**00 24 51.8**	**-1.2**
JIO				*eS*	**Sn**	**00 25 18.4**	**-0.6**
JOU	**Okura**	**2.26**	**321**	P	**

JOM Ohasama 3.00 342 P **Pn 00 25 06.4 +0.2**
JOD2 Odawara 2 3.06 245 P **Pn 00 25 07.5 +0.5**
MJAR Matsushiro Arr 3.43 270 Pn **Pn 00 25 12.3 +0.2**
6.8nm,0.3s,baz=314,slow=18,SNR=64
MJAR LR LR 00 26 49.4
comp=Z,673nm,18.3s,baz=140,slow=44
MJAR Matsushiro Arr 3.43 270 Pn **Pn 00 25 12.3 +0.2**
MJAR Matsushiro Arr 3.43 270 P **Pn 00 25 12.3 +0.2**
MJAR pmax pmax
comp=Z,7.0nm,0.3s
MAJO Matsushiro 3.43 270 *e*Pn **Pn 00 25 13.6 +1.4**
MAJO Matsushiro 3.43 270 *e*P **Pn 00 25 13.6 +1.4**
MAT Matsushiro 3.43 270 P **Pn 00 25 13.5 +1.3**
MAT S **Sn 00 25 52.5 -0.9**
ERM Erimo 5.42 5 *e*P **Pn 00 25 37.1 -2.3**
ASAJ Asahikawa 7.49 1 Pn **Pn 00 26 08.0 0.0**
comp=Z,1.6nm,0.3s,baz=221,slow=15,SNR=10
ASAJ Sn **Sn 00 27 28.4 -5.1**
comp=Z,0.9nm,0.3s,baz=234,slow=19,SNR=2.2
ASAJ LR LR 00 29 54.4
comp=Z,344nm,19.1s,baz=207,slow=45
ASAJ Asahikawa 7.49 1 Pn **Pn 00 26 08.0 0.0**
ASAJ Sn **Sn 00 27 28.4 -5.1**
ASAJ Asahikawa 7.49 1 P **Pn 00 26 08.0 +0.1**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,344nm,19.1s
YUK Yuzh-Kuril'sk 7.85 18*d i*P **Pn 00 26 20.2 +7.4**
YUK *i* S **Sn 00 27 52.6 +10**
YUK pmax pmax
comp=N,62nm,0.6s
YUK pmax pmax
comp=Z,86nm,0.5s
YUK pmax pmax
comp=E,33nm,0.6s
CBIJ Chichi jima 9.50 182 Pn **Pn 00 26 32.6 -2.9**
comp=E,4.7nm,0.3s,baz=285,slow=19,SNR=6.3
CBIJ Sn **Sn 00 28 12.2 -11**
comp=E,4.6nm,0.3s,baz=287,slow=20,SNR=2.9
CBIJ Chichi jima 9.50 182 Pn **Pn 00 26 32.6 -2.9**
CBIJ Sn **Sn 00 28 12.2 -11**
USRK Ussuriysk Arra 10.99 317 Pn **Pn 00 26 55.7 -0.2**
comp=E,0.1nm,0.3s,baz=121,slow=12,SNR=2.7
KSRS Korea Array 11.65 278 Pn Px 00 27 15.8
comp=E,0.1nm,0.3s,baz=92,slow=14,SNR=6.3
KSRS LR LR 00 31 29.8
comp=E,167nm,18.6s,baz=81,slow=37
KSRS Korea Array 11.65 278 P Px 00 27 15.8
KSRS MLR MLR
comp=Z,167nm,18.6s
KSAR Wonju Array Be 11.69 278 Pn Px 00 27 15.8
KSAR Wonju Array Be 11.69 278 P Px 00 27 15.8
HABR Khabarovsk 13.04 338 P **Pn 00 27 20.6 -3.3**
HABR pmax pmax
comp=N,29nm,2.0s
HABR pmax pmax
comp=Z,69nm,2.0s
HABR pmax pmax
comp=E,49nm,2.0s
HABR MLR MLR
comp=Z,105nm,15.0s
YAK Yakutsk 26.66 347 *e*P **P 00 30 02.8 +5.1**
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.6
ENH Enshi 28.14 267 P **P 00 30 11.3 0.0**
comp=Z,13nm,1.3s,mb4.4
ULN Ulaanbaatar 28.29 305 *e*P **P 00 30 13.1 +0.7**
comp=Z,11nm,1.1s,mb4.4
ULN Ulaanbaatar 28.29 305 *e*P **P 00 30 13.1 +0.7**
ULN pmax pmax
comp=Z,11nm,1.1s,mb4.4
BOD Bodaibo 28.33 327 *e*P **P 00 30 19.5 +6.8**
BOD pmax pmax
comp=Z,10.0nm,1.3s,mb4.3
SONM Songino Array 28.72 304 P **P 00 30 17.8 +1.6**
comp=Z,3.0nm,0.7s,mb4.1,baz=104,slow=8.5,SNR=28
SONM Songino Array 28.72 304 P **P 00 30 17.8 +1.6**
SONM Songino Array 28.72 304 P **P 00 30 17.8 +1.6**
SONM pmax pmax
comp=Z,3.0nm,0.7s
ZAK Zakamensk 31.19 309 *e*P **P 00 30 45.5 +7.4**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
TLY Talaya 31.24 311 *e*P **P 00 30 44.8 +6.3**
TLY pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
BILL Bilibino 34.19 16 *e*P **P 00 31 06.8 +2.7**
BILL *e**PP 00 31 17.0
BILL pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
ZAA0 Zalesovo Array 42.82 313 *e*P **P 00 32 19.8 +3.1**
ZALV Zalesovo Beam 42.82 313 P **P 00 32 17.1 +0.3**
comp=Z,0.8nm,0.4s,mb3.8,baz=97,slow=8.0,SNR=5.7
ZALV PcP PcP 00 34 07.6 -0.3
comp=Z,0.3nm,0.3s,baz=90,slow=4.3,SNR=2.7
ZALV Zalesovo Beam 42.82 313 P **P 00 32 17.1 +0.3**
ZALV PcP PcP 00 34 07.6 -0.3
ZALV Zalesovo Beam 42.82 313 P **P 00 32 17.1 +0.3**
ZALV 00 34 07.6
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
NVS Novosibirsk 43.73 314 *e*P **P 00 32 30.9 +6.7**
MK31 Makanchi Array 45.05 303 *e*P **P 00 32 34.9 0.0**
MK31 Makanchi Array 45.05 303 *i* P **P 00 32 34.4 -0.4**
MK31 pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MKAR Makanchi Array 45.05 303 P **P 00 32 35.0 +0.1**
comp=Z,1.3nm,0.7s,mb3.9,baz=86,slow=9.4,SNR=11
MKAR Makanchi Array 45.05 303 P **P 00 32 35.0 +0.1**
MKAR Makanchi Array 45.05 303 P **P 00 32 35.0 +0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 46.85 309 P **P 00 32 49.5 +0.5**
comp=Z,2.1nm,0.6s,mb4.2,baz=84,slow=7.8,SNR=18
KURK Kurchatov 46.85 309 *e*P **P 00 32 48.4 -0.6**
comp=Z,15nm,1.0s,mb4.9
KURK Kurchatov 46.85 309 *e*P **P 00 32 49.2 +0.2**
KURK pmax pmax
comp=Z,15nm,1.2s,mb4.8
ILAR Eielson Array 49.39 32 P **P 00 33 08.0 -0.4**
comp=Z,1.6nm,0.8s,mb4.1,baz=268,slow=6.5,SNR=22
ILAR Eielson Array 49.39 32 P **P 00 33 08.0 -0.4**
ILAR Eielson Array 49.39 32 P **P 00 33 08.0 -0.4**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 51.47 313 P **P 00 33 24.5 +0.2**
comp=Z,0.2nm,0.4s,mb3.4,baz=82,slow=10,SNR=3.0
BVAR PcP PcP 00 34 38.4 -0.2
comp=Z,0.4nm,0.5s,baz=64,slow=3.4,SNR=1.9
BVAR Borovoye Array 51.47 313 P **P 00 33 24.5 +0.1**
BVAR PcP PcP 00 34 38.4 -0.2
BVAR Borovoye Array 51.47 313 P **P 00 33 24.5 +0.2**
BVAR 00 34 38.4
KK31 Karatay Array 54.06 301 P **P 00 33 47.5 +3.9**
KK31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
INK Inuvik 54.37 27 P **P 00 33 45.6 +0.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=274,slow=4.8,SNR=4.0
INK Inuvik 54.37 27 P **P 00 33 45.6 +0.1**
INK Inuvik 54.37 27 P **P 00 33 45.6 +0.1**
INK pmax pmax
comp=Z,1.0nm,0.7s
SVE Sverdlovsk 56.02 319 *e*P **P 00 34 04.3 +6.8**
SVE pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
WRA Warramunga Arr 56.78 189 P **P 00 34 02.3 -0.9**
comp=Z,1.4nm,0.7s,mb4.1,baz=7.4,slow=7.5,SNR=5.7
WRA Warramunga Arr 56.78 189 P **P 00 34 02.4 -0.9**
WRA Warramunga Arr 56.78 189 P **P 00 34 02.3 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ARU Arti 57.23 319*d i*P **P 00 34 13.6 +7.4**
ARU *e* 00 36 23.3
ARU S **S 00 42 14.3 +12**
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.7
AB31 Akbulak array 58.85 311 *i* P **P 00 34 17.2 -0.5**
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ABKAR Akbulak array 58.85 311 *e*P **P 00 34 17.3 -0.3**
comp=Z,3.8nm,0.7s,mb4.5
AKTO Aktyubinsk 59.58 312 P **P 00 34 22.1 -0.6**
comp=Z,1.2nm,0.5s,mb4.2,baz=102,slow=6.9,SNR=5.1
AKTO Aktyubinsk 59.58 312 P **P 00 34 22.1 -0.6**
AKTO Aktyubinsk 59.58 312 P **P 00 34 21.7 -1.0**
AKTO pmax pmax
comp=Z,1.0nm,1.2s,mb3.7
ASAR Alice Springs 60.50 189 P **P 00 34 28.4 -0.8**
comp=Z,0.6nm,0.8s,mb3.8,baz=8.8,slow=8.4,SNR=3.3
ASAR Alice Springs 60.50 189 P **P 00 34 28.4 -0.8**
ASAR Alice Springs 60.50 189 P **P 00 34 28.4 -0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 63.74 30 P **P 00 34 49.9 -0.6**
comp=Z,0.5nm,0.9s,mb3.5,baz=299,slow=6.9,SNR=6.9
YKA Yellowknife Ar 63.74 30 P **P 00 34 50.0 -0.6**
YKA Yellowknife Ar 63.74 30 P **P 00 34 49.9 -0.7**
YKA pmax pmax
comp=Z,1.0nm,0.9s
OBN Obninsk 68.93 324 P **P 00 35 29.0 +5.1**
OBN *e*SS S 00 44 19.7 -9.3
OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
FINES FINESS Array B 69.57 333 P **P 00 35 28.2 +0.4**
comp=Z,3.2nm,1.1s,mb4.2,baz=54,slow=7.2,SNR=2.8
FINES FINESS Array B 69.57 333 P **P 00 35 28.2 +0.4**
FINES FINESS Array B 69.57 333 P **P 00 35 28.2 +0.4**
FINES pmax pmax
comp=Z,3.0nm,1.1s
KIV Kislovodsk 71.81 311 *e*P **P 00 35 44.1 +2.3**
KIV pmax pmax
comp=Z,17nm,1.1s,mb4.9
NVAR Mina Array Bea 74.56 54 P **P 00 35 58.8 +0.7**
comp=Z,0.3nm,0.5s,mb3.5,baz=292,slow=5.6,SNR=3.9
NVAR Mina Array Bea 74.56 54 P **P 00 35 58.8 +0.7**
AKASG Malin Array Be 75.14 323 P **P 00 36 01.5 +0.2**
comp=Z,0.4nm,0.4s,mb3.7,baz=45,slow=5.6,SNR=3.4
AKASG Malin Array Be 75.14 323 P **P 00 36 01.5 +0.2**
AKASG Malin Array Be 75.14 323 P **P 00 36 01.5 +0.3**
KIEV Kiev 75.15 323 *e*P **P 00 36 01.9 +0.6**
BRTR Keskin Array B 79.76 312 P **P 00 36 27.3 0.0**
comp=Z,0.5nm,0.8s,mb3.5,baz=38,slow=7.3,SNR=2.8
BRTR Keskin Array B 79.76 312 P **P 00 36 27.3 0.0**
BRTR Keskin Array B 79.76 312 P **P 00 36 27.3 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
CLL Collm 81.87 331 *i* P **P 00 36 45.4 +7.0**
CLL Collm 81.87 331 *i* PcP PcP 00 36 45.4 +1.3
comp=Z,8.0nm,1.2s
KHC Kasperske Hory 83.34 329 *e*P **P 00 36 53.1 +7.0**
KHC Kasperske Hory 83.34 329 *e*P **P 00 36 53.1 +7.0**
GERES GERESS Array B 83.51 329 P **P 00 36 47.2 +0.2**
comp=Z,0.6nm,0.8s,mb3.8,baz=27,slow=8.8,SNR=3.5
GERES GERESS Array B 83.51 329 P **P 00 36 47.2 +0.2**
GERES GERESS Array B 83.51 329 P **P 00 36 47.2 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 89.70 53 P **P 00 37 16.6 -1.0**
comp=Z,0.3nm,0.8s,mb3.7,baz=273,slow=3.9,SNR=4.3
TXAR Lajitas Array 89.70 53 P **P 00 37 16.6 -1.0**
TXAR Lajitas Array 89.70 53 P **P 00 37 16.6 -1.1**
SNAA Sanae 140.59 196 *e* PKPdf 00 43 48.0 +0.4
VNA2 Neumayer--Watz 142.15 196 *e* PKPdf 00 43 46.4 -4.0
baz=244,slow=4.4
VNA2 *e* 00 43 53.8
LPAZ La Paz 146.16 61 PKPbc PKPbc 00 44 00.5 +0.5
comp=Z,0.7nm,0.5s,baz=39,slow=4.1,SNR=4.6
LPAZ La Paz 146.16 61 PKPbc PKPbc 00 44 00.5 +0.5

*IDC **21** 00:25:48.7±0.5, 8°.86N×126°.55E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.2/26, mbtmp4.2/20, MS3.6/10, Ms1 3.6/10, ms1mx3.4/43, Error ellipse: s-maj=28.6km s-min=10.4km az=74.0*
*MAN **21** 00:25:53, 8°.90N×126°.80E, h24km, mb4.8, ML3.7, MS3.8*
*ISCJB **21** 00:25:55.1±0.9, 8°.89N±0°.04×126°.75E±0°.06, h66km±7km, mb4.3/29, Error ellipse: s-maj=10.8km s-min=6.3km az=161.2*
*NEIC **21** 00:25:59.9±1.3, 8°.81N×126°.52E, h92km±11km, mb4.5/3, Error ellipse: s-maj=13.4km s-min=5.7km az=60.0*
ISC 21 00:25:56.7±0.8, **8°.88N**±0°.04×**126°.72E**±0°.07, **h64**km±7km, **n85**, σ0**91**/83, **mb4.4**/29, **3C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.09**	**275**	*e*P	**Pn**	**00 26 12.9**	**-3.2**
BUKP	**Musuan**	**1.91**	**239**	*e*P	**Pn**	**00 26 27.2**	**0.0**
MATI	**Mati**	**1.97**	**193**	*e*P	**Pn**	**00 26 26.3**	**-1.6**
CGP	**Cagayan de Oro**	**2.04**	**258**	⇑*i*P	**Pn**	**00 26 28.0**	**-0.9**
CGP				*i* S	**Sn**	**00 26 54.3**	**+0.9**
DAV	**Davao City (W)**	**2.12**	**212**	Pn	**Pn**	**00 26 31.8**	**+1.9**
	79nm,0.3s,baz=85,slow=11,SNR=14						
DAV				LR	LR	00 26 59.5	
	comp=Z,914nm,19.4s,baz=228,slow=35						
DAV				Sn	**Sn**	**00 27 01.6**	**+6.4**
	148nm,0.3s,baz=311,slow=19,SNR=7.0						
DAV	**Davao City (W)**	**2.12**	**212**	*e*Pn	**Pn**	**00 26 32.1**	**+2.2**
DAV				Sn	**Sn**	**00 27 01.6**	**+6.4**
MSLP	**Maasin**	**2.22**	**304**	*e*P	**Pn**	**00 26 30.8**	**-0.4**
PLP	**Palo**	**2.85**	**323**	⇓*e*P	**Pn**	**00 26 38.0**	**-1.8**
PLP				*e*S	**Sn**	**00 27 14.3**	**+1.4**
TBP	**Tagbilaran**	**2.93**	**286**	⇓*e*P	**Pn**	**00 26 41.1**	**+0.1**
TBP				*e*S	**Sn**	**00 27 15.2**	**+0.2**
CTBH	**Cotabato--PC H**	**2.95**	**236**	⇑*e*P	**Pn**	**00 26 40.5**	**-0.7**
OCLP	**Ormoc**	**3.00**	**316**	*e*P	**Pn**	**00 26 41.3**	**-0.6**
PAGZ	**Pagadian**	**3.45**	**253**	*e*P	**Pn**	**00 26 48.9**	**+0.8**
SNPH	**Sibulan**	**3.47**	**278**	⇓*e*P	**Pn**	**00 26 49.2**	**+0.9**
SNPH				*e*S	**Sn**	**00 27 30.5**	**+2.3**
GUIM	**Jordan**	**4.42**	**293**	*e*P	**Pn**	**00 27 01.1**	**-0.3**
RCP	**Roxas**	**4.73**	**305**	⇑*e*P	**Pn**	**00 27 05.4**	**-0.2**
PVCP	**Virac**	**5.32**	**322**	*e*P	**Pn**	**00 27 13.2**	**-0.5**
KAPI	**Kappang**	**15.45**	**207**	LR	LR	00 36 17.0	
	comp=Z,98nm,18.1s,baz=39,slow=41						
GUMO	**Guam**	**18.41**	**74**	LR	LR	00 35 29.9	
	comp=Z,140nm,21.7s,baz=55,slow=31						
FITZ	**Fitzroy Crossi**	**26.83**	**182**	P	**P**	**00 31 31.9**	**+0.7**
	8.3nm,1.1s,mb4.2,baz=355,slow=11,SNR=6.4						
FITZ	**Fitzroy Crossi**	**26.83**	**182**	*e*P	**P**	**00 31 31.1**	**-0.2**
	18nm,1.3s,mb4.5						
KSAR	**Wonju Array Be**	**28.46**	**2**	P	**P**	**00 31 46.5**	**+0.8**
KSRS	**Korea Array**	**28.47**	**2**	P	**P**	**00 31 46.5**	**+0.7**
	1.2nm,0.8s,mb3.5,baz=184,slow=16,SNR=3.1						
CMAR	**Chiang Mai Arr**	**28.58**	**292**	P	**P**	**00 31 47.0**	**+0.1**
	1.0nm,0.3s,mb4.0,baz=109,slow=7.2,SNR=10						
CMAR	**Chiang Mai Arr**	**28.58**	**292**	P	**P**	**00 31 47.0**	**+0.1**
WRAB	**Tennant Creek**	**29.60**	**165**	*e*P	**P**	**00 31 55.8**	**-0.1**
	4.3nm,1.2s,mb4.0						
WRA	**Warramunga Arr**	**29.60**	**165**	P	**P**	**00 31 55.1**	**-0.9**
	0.4nm,0.5s,mb3.4,baz=345,slow=9.4,SNR=6.6						
WRA				S	**S**	**00 36 53.6**	**+6.8**
	0.4nm,0.5s,baz=329,slow=20,SNR=5.0						
WRA	**Warramunga Arr**	**29.60**	**165**	P	**P**	**00 31 55.1**	**-0.9**
WRA				S	**S**	**00 36 53.6**	**+6.8**
ASAR	**Alice Springs**	**33.10**	**168**	P	**P**	**00 32 26.3**	**-0.4**
	0.5nm,0.5s,mb3.7,baz=360,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**33.10**	**168**	P	**P**	**00 32 26.3**	**-0.4**
CTA	**Charters Tower**	**34.62**	**146**	P	**P**	**00 32 41.3**	**+1.4**
	2.6nm,0.6s,mb4.4,baz=340,slow=12,SNR=3.2						
CTA				LR	LR	00 47 13.5	
	comp=Z,81nm,18.5s,baz=54,slow=37						
CTA	**Charters Tower**	**34.62**	**146**	P	**P**	**00 32 41.3**	**+1.4**
USRK	**Ussuriysk Arra**	**35.49**	**7**	P	**P**	**00 32 48.2**	**+1.1**
	6.9nm,0.9s,mb4.6,baz=177,slow=6.8,SNR=5.9						
HNR	**Honiara**	**37.76**	**118**	LR	LR	00 45 14.5	
	comp=Z,106nm,21.8s,baz=324,slow=31						
TAPN	**Taplejung**	**41.14**	**302**	*e*P	**P**	**00 33 34.8**	**-0.1**
	8.1nm,0.4s,mb4.7						
TAPN	**Taplejung**	**41.14**	**302**	*e*P	**P**	**00 33 34.8**	**-0.1**
	8.1nm,0.4s,mb4.7						
ODAN	**Odare**	**41.26**	**301**	*e*P	**P**	**00 33 35.3**	**-0.5**
	11nm,0.4s,mb4.8						
ODAN	**Odare**	**41.26**	**301**	*e*P	**P**	**00 33 35.3**	**-0.5**
	11nm,0.4s,mb4.8						
RAMN	**Ramite**	**41.96**	**301**	*e*P	**P**	**00 33 41.1**	**-0.5**
	4.8nm,0.4s,mb4.5						
RAMN	**Ramite**	**41.96**	**301**	*e*P	**P**	**00 33 41.1**	**-0.5**
	4.8nm,0.4s,mb4.5						
SONM	**Songino Array**	**42.47**	**340**	P	**P**	**00 33 45.9**	**+0.6**
	0.4nm,0.4s,mb3.4,baz=154,slow=8.4,SNR=6.5						
SONM				LR	LR	00 53 35.4	
	comp=Z,78nm,19.8s,baz=134,slow=39						
JIRN	**Jiri**	**42.52**	**301**	*e*P	**P**	**00 33 45.8**	**-0.3**
	10.0nm,0.3s,mb5.0						
JIRN	**Jiri**	**42.52**	**301**	*e*P	**P**	**00 33 45.8**	**-0.3**
	10.0nm,0.3s,mb5.0						
NWAO	**Narrogin (SRO)**	**42.54**	**192**	P	**P**	**00 33 46.1**	**0.0**
	36nm,1.2s,mb5.0,baz=14,slow=4.2,SNR=2.9						
NWAO	**Narrogin (SRO)**	**42.54**	**192**	P	**P**	**00 33 46.1**	**0.0**
GUN	**Gumba**	**42.86**	**302**	*e*P	**P**	**00 33 48.7**	**-0.2**
	26nm,1.0s,mb4.9						
GUN	**Gumba**	**42.86**	**302**	*e*P	**P**	**00 33 48.7**	**-0.2**
	26nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**42.95**	**161**	P	**P**	**00 33 50.1**	**+0.7**
	1.6nm,0.4s,mb4.1,baz=336,slow=9.9,SNR=7.2						
STKA	**Stephens Creek**	**42.95**	**161**	P	**P**	**00 33 50.1**	**+0.7**
KOLN	**Koldanda**	**44.75**	**301**	*e*P	**P**	**00 34 03.6**	**-0.4**
	15nm,0.8s,mb4.9						
KOLN	**Koldanda**	**44.75**	**301**	*e*P	**P**	**00 34 03.6**	**-0.4**
	15nm,0.8s,mb4.9						
DANN	**Dangsing**	**44.78**	**301**	*e*P	**P**	**00 34 03.8**	**-0.5**
	13nm,0.6s,mb5.0						
DANN	**Dangsing**	**44.78**	**301**	*e*P	**P**	**00 34 03.8**	**-0.5**
	13nm,0.6s,mb4.9						
DZM	**Mont Dzumac**	**49.63**	**129**	LR	LR	00 52 00.6	
	comp=Z,87nm,20.3s,baz=14,slow=32						
MK31	**Makanchi Array**	**53.40**	**323**	*e*P	**P**	**00 35 09.4**	**-0.4**
MKAR	**Makanchi Array**	**53.40**	**323**	P	**P**	**00 35 09.4**	**-0.5**
	5.1nm,0.8s,mb4.5,baz=125,slow=7.8,SNR=19						
MKAR	**Makanchi Array**	**53.40**	**323**	P	**P**	**00 35 09.4**	**-0.5**
ZAA0	**Zalesovo Array**	**56.05**	**332**	*e*P	**P**	**00 35 27.9**	**-1.0**
ZALV	**Zalesovo Beam**	**56.05**	**332**	P	**P**	**00 35 27.8**	**-1.1**
	1.0nm,0.3s,mb4.3,baz=124,slow=7.0,SNR=9.5						
ZALV	**Zalesovo Beam**	**56.05**	**332**	P	**P**	**00 35 27.8**	**-1.1**
KURK	**Kurchatov**	**57.46**	**326**	P	**P**	**00 35 38.3**	**-0.6**
	2.7nm,0.3s,mb4.7,baz=122,slow=7.6,SNR=52						
KURK	**Kurchatov**	**57.46**	**326**	*e*P	**P**	**00 35 38.0**	**-1.0**
	17nm,1.0s,mb5.0						
BVAR	**Borovoye Array**	**63.06**	**326**	P	**P**	**00 36 17.0**	**-0.1**
	1.1nm,0.5s,mb4.2,baz=107,slow=7.2,SNR=9.3						
BVAR	**Borovoye Array**	**63.06**	**326**	P	**P**	**00 36 17.0**	**-0.1**
AFI	**Afiamalu**	**65.09**	**110**	LR	LR	00 59 35.7	
	comp=Z,93nm,19.3s,baz=53,slow=31						
RPZ	**Rata Peaks**	**65.99**	**146**	LR	LR	01 03 16.3	
	comp=Z,90nm,21.5s,baz=180,slow=34						
URZ	**Urewera**	**66.33**	**139**	LR	LR	01 03 52.6	
	comp=Z,92nm,19.3s,baz=268,slow=34						
RDF	**Al-Radifah**	**76.31**	**298**	*e*P	**P**	**00 37 37.7**	**-1.6**
RDF				AMb	AMB	00 37 42.8	
	comp=Z,12nm,1.8s,mb4.5						
NAY	**Al-Naaiem**	**76.57**	**298**	*e*P	**P**	**00 37 39.3**	**-1.3**
NAY				AMb	AMB	00 37 41.0	
	comp=Z,5.2nm,0.5s,mb4.7						
ILAR	**Eielson Array**	**80.50**	**26**	P	**P**	**00 38 02.5**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=260,slow=4.3,SNR=3.2						
ILAR	**Eielson Array**	**80.50**	**26**	P	**P**	**00 38 02.5**	**+0.9**
JOF	**Joensuu**	**84.62**	**333**	*e*p	**P**	**00 38 23.5**	**+0.5**
INK	**Inuvik**	**85.41**	**22**	P	**P**	**00 38 28.1**	**+1.2**
	comp=Z,3.1nm,1.1s,mb4.4,baz=288,slow=5.6,SNR=6.3						
INK	**Inuvik**	**85.41**	**22**	P	**P**	**00 38 28.1**	**+1.2**
ARCES	**ARCESS Array B**	**85.64**	**340**	P	**P**	**00 38 28.5**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.7,baz=72,slow=6.3,SNR=6.7						
ARCES	**ARCESS Array B**	**85.64**	**340**	P	**P**	**00 38 28.5**	**+0.5**
BRTR	**Keskin Array B**	**86.75**	**310**	P	**P**	**00 38 34.9**	**+0.7**
	comp=Z,0.1nm,0.3s,mb3.5,baz=39,slow=5.5,SNR=3.6						
BRTR	**Keskin Array B**	**86.75**	**310**	P	**P**	**00 38 34.9**	**+0.7**
KAF	**Kangasniemi**	**87.06**	**332**	*e*p	**P**	**00 38 34.8**	**-0.3**
FINES	**FINESS Array B**	**87.32**	**332**	P	**P**	**00 38 36.1**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.4,baz=68,slow=4.9,SNR=11						
FINES	**FINESS Array B**	**87.32**	**332**	P	**P**	**00 38 36.1**	**-0.3**
YKA	**Yellowknife Ar**	**94.84**	**24**	P	**P**	**00 39 13.2**	**+1.9**
	comp=Z,1.1nm,0.9s,mb4.3,baz=299,slow=4.7,SNR=9.9						
YKA	**Yellowknife Ar**	**94.84**	**24**	P	**P**	**00 39 13.2**	**+1.9**
TORD	**Torodi Ar. Bea**	**121.18**	**291**	PKP	PKPdf	00 44 43.3	-0.1
	comp=Z,0.3nm,0.3s,baz=64,slow=2.0,SNR=14						
TORD	**Torodi Ar. Bea**	**121.18**	**291**	PKP	PKPdf	00 44 43.3	-0.1
LVC	**Limon Verde**	**159.71**	**134**	PKPdf	PKPdf	00 45 41.1	-8.0

*IDC **21** 00:42:22.2±0.8, 34°.45N×26°.33E, h0km, mb3.9/14, mb1 3.9/20, mb1mx3.9/29, mbtmp3.8/20, ML3.9/6, Error ellipse: s-maj=18.9km s-min=15.2km az=168.0*
*MOS **21** 00:42:25.2±1.2, 34°.46N×26°.35E, h33km, mb4.3/19, Error ellipse: s-maj=10.1km s-min=5.8km az=119.4*
*ISCJB **21** 00:42:25.4±0.3, 34°.31N±0°.02×26°.55E±0°.02, h55km±3km, mb3.9/27, Error ellipse: s-maj=3.5km s-min=2.8km az=19.8*
*CSEM **21** 00:42:27.2±0.1, 34°.35N×26°.51E, h46km±2km, mb4.0/15, Error ellipse: s-maj=3.8km s-min=2.6km az=24.0*
*NEIC **21** 00:42:29.6, 34°.67N×26°.31E, h36km, mb4.2/13, ML3.5(ATH), After ATH.*
*ATH **21** 00:42:29.6, 34°.67N×26°.31E, h36km±1km, MD3.7/10, ML3.5*
*THE **21** 00:42:29.6, 34°.55N×26°.46E, h14km±1km, ML3.5/2, Error ellipse: s-maj=1.2km s-min=0.6km az=168.0*
*HLW **21** 00:42:30.0, 34°.24N×26°.49E, h33km±16km, Md2.8, Ml3.0*
*DDA **21** 00:42:41.1, 35°.23N×27°.40E, h17km, Md3.7*
ISC 21 00:42:27.0±0.3, **34°.34N**±0°.02×**26°.51E**±0°.02, **h48**km±4km, **n342**, σ1**11**/397, **mb3.9**/27, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.81**	**343**	*e*PB	**Pn**	**00 42 39.8**	**-2.4**
ZKR	**Zakros**	**0.81**	**343**	P	**Pn**	**00 42 41.1**	**-1.1**
ZKR				S	**Sn**	**00 42 50.6**	**-2.6**
ZKR	**Zakros**	**0.81**	**343**	P	**Pn**	**00 42 41.1**	**-1.1**
ZKR				S	**Sn**	**00 42 50.6**	**-2.6**
LAST	**Lasithi**	**1.18**	**315**	P	**Pn**	**00 42 47.8**	**+0.7**
LAST				S	**Sn**	**00 43 02.0**	**-0.1**
LAST	**Lasithi**	**1.18**	**315**	P	**Pn**	**00 42 47.8**	**+0.7**
LAST				S	**Sn**	**00 43 02.0**	**-0.1**
NPS	**Neapolis**	**1.18**	**322**	*e*PN	**Pn**	**00 42 45.6**	**-1.5**
NPS				*e*SN	**Sn**	**00 42 57.0**	**-5.1**
NPS	**Neapolis**	**1.18**	**322**	P	**Pn**	**00 42 47.1**	**0.0**
NPS				S	**Sn**	**00 43 01.8**	**-0.3**
NPS	**Neapolis**	**1.18**	**322**	*e*Pn	**Pn**	**00 42 45.6**	**-1.5**
NPS	**Neapolis**	**1.18**	**322**	P	**Pn**	**00 42 47.1**	**0.0**
NPS				S	**Sn**	**00 43 01.8**	**-0.3**
KARP	**Karpathos**	**1.32**	**24**	*e*PN	**Pn**	**00 42 50.7**	**+1.6**
KARP				*e*SN	**Sn**	**00 43 05.8**	**+0.3**
KARP	**Karpathos**	**1.32**	**24**	P	**Pn**	**00 42 50.1**	**+1.0**
KARP				S	**Sn**	**00 43 05.3**	**-0.2**
KARP	**Karpathos**	**1.32**	**24**	P	**Pn**	**00 42 50.1**	**+1.0**
KARP	**Karpathos**	**1.32**	**24**	*e*Pn	**Pn**	**00 42 50.7**	**+1.6**
KARP				S	**Sn**	**00 43 05.3**	**-0.2**
KARP				*e*Sn	**Sn**	**00 43 05.8**	**+0.3**
SIVA	**Sivas**	**1.56**	**296**	*e*PN	**Pn**	**00 42 53.1**	**+0.9**
SIVA	**Sivas**	**1.56**	**296**	P	**Pn**	**00 42 53.9**	**+1.7**
SIVA	**Sivas**	**1.56**	**296**	*e*Pn	**Pn**	**00 42 53.1**	**+0.9**
SIVA	**Sivas**	**1.56**	**296**	P	**Pn**	**00 42 53.9**	**+1.7**
IDI	**Anoy

APE S Sn 00 43 41.5 -1.3
SLUM 3.04 201 P Pn 00 43 13.5 +1.0
baz=202
SLUM S Sn 00 43 46.8 -0.9
baz=202
SLUM 3.04 201 P Pn 00 43 13.5 +0.9
SLUM S Sn 00 43 46.8 -0.9
TURN Turunc 3.05 33 *i* P Pn 00 43 10.2 -2.6
TURN *i* S Sn 00 43 42.3 -5.8
TURN Turunc 3.05 33 *i* P Pn 00 43 10.2 -2.6
YER Yerkesik 3.15 27 *e*PN Pn 00 43 14.2 +0.1
YER Yerkesik 3.15 27 *e*Pn Pn 00 43 14.2 +0.2
AKAS Kas 3.16 52 *i* P Pn 00 43 14.6 +0.3
AKAS *i* S Sn 00 43 50.8 0.0
AKAS Kas 3.16 52 *i* P Pn 00 43 14.6 +0.3
AKAS *i* S Sn 00 43 50.8 0.0
HMAT Matruh 3.27 171 S Sn 00 43 52.5 -0.8
baz=170
HMAT AMP 00 44 00.0
comp=E,70μm,1.0s,logA/T=4.8,baz=170
HMAT Matruh 3.27 171 S Sn 00 43 52.6 -0.8
SMG Samos 3.38 4 *e*PN Pn 00 43 17.6 +0.4
SMG Samos 3.38 4 *e*Pn Pn 00 43 17.6 +0.4
KYTH Kithira 3.44 305 *e*PN Pn 00 43 18.4 +0.4
KYTH Kithira 3.44 305 P Pn 00 43 19.1 +1.1
KYTH Kithira 3.44 305 *e*Pn Pn 00 43 18.4 +0.4
KYTH Kithira 3.44 305 P Pn 00 43 19.1 +1.1
AYDN Tasoluk 3.50 18 *i* P Pn 00 43 20.0 +1.1
AYDN Tasoluk 3.50 18 *i* P Pn 00 43 20.0 +1.1
ELL Elmali 3.67 48 *e*PN Pn 00 43 21.1 -0.2
ELL Elmali 3.67 48 *e*Pn Pn 00 43 21.1 -0.1
GLHS Glhisar (BURDU 3.72 40 *e*PN Pn 00 43 21.6 -0.3
GLHS Glhisar (BURDU 3.72 40 *e*Pn Pn 00 43 21.6 -0.3
VLI Veliai 3.76 310 *e*PN Pn 00 43 22.7 +0.3
VLI Veliai 3.76 310 *e*Pn Pn 00 43 22.7 +0.3
GOLH Golhisar 3.81 40 *i* P Pn 00 43 23.9 +0.7
GOLH *i* S Sn 00 44 05.3 -1.4
GOLH Golhisar 3.81 40 *i* P Pn 00 43 23.9 +0.7
GOLH *i* S Sn 00 44 05.3 -1.4
DNZL Cakiroluk 3.93 31 *i* P Pn 00 43 25.7 +1.0
DNZL *i* S Sn 00 44 13.2 +3.6
DNZL Cakiroluk 3.93 31 *i* P Pn 00 43 25.7 +0.9
DNZL *i* S Sn 00 44 13.2 +3.6
BLCB Balcova 4.07 6 *e*PN Pn 00 43 26.9 +0.3
BLCB Balcova 4.07 6 *e*Pn Pn 00 43 26.9 +0.3
KORT Korkueli 4.11 49 *i* P Pn 00 43 29.6 +2.4
KORT *i* S Sn 00 44 16.6 +2.7
KORT Korkueli 4.11 49 *i* P Pn 00 43 29.6 +2.4
KORT *i* S Sn 00 44 16.6 +2.7
VLY Voula,Athens 4.14 329 *e*PN Pn 00 43 27.8 +0.1
VLY Voula,Athens 4.14 329 *e*Pn Pn 00 43 27.8 +0.1
NAIG Nisos Aigina 4.20 325 *e*PN Pn 00 43 29.0 +0.5
NAIG Nisos Aigina 4.20 325 *e*Pn Pn 00 43 29.0 +0.5
ANTB Antalya 4.24 52 *e*PN Pn 00 43 28.8 -0.2
ANTB Antalya 4.24 52 *e*Pn Pn 00 43 28.8 -0.2
ATH Athens Observa 4.27 329 *e*PN Pn 00 43 29.7 +0.2
ATH Athens Observa 4.27 329 *e*Pn Pn 00 43 29.7 +0.2
KULA Kula-Manisa 4.52 22 *e*PN Pn 00 43 33.3 +0.4
KULA Kula-Manisa 4.52 22 *e*Pn Pn 00 43 33.3 +0.5
BCK Bucak 4.55 46 *e*PN Pn 00 43 33.8 +0.5
BCK Bucak 4.55 46 *e*Pn Pn 00 43 33.8 +0.5
VIL1 Vilia, Western 4.61 327 *e*PN Pn 00 43 34.6 +0.6
ITM Ithomi 4.68 309 *e*PN Pn 00 43 35.8 +0.7
ITM Ithomi 4.68 309 *e*Pn Pn 00 43 35.8 +0.7
SUTC Sutluce-Ispart 4.81 48 *e*PN Pn 00 43 37.3 +0.4
SUTC Sutluce-Ispart 4.81 48 *e*Pn Pn 00 43 37.3 +0.5
PRK Paraskevi 4.91 358 *e*PN Pn 00 43 38.9 +0.8
PRK Paraskevi 4.91 358 *e*Pn Pn 00 43 38.9 +0.8
GAZI Gazipasa 5.12 67 *i* P Pn 00 43 42.0 +0.9
GAZI *i* S Sn 00 44 34.8 -4.0
GAZI Gazipasa 5.12 67 *i* P Pn 00 43 42.0 +1.0
GAZI *i* S Sn 00 44 34.8 -4.0
LKR Lokris 5.15 328 *e*PN Pn 00 43 42.0 +0.5
LKR Lokris 5.15 328 *e*Pn Pn 00 43 42.0 +0.5
SWA2 5.16 190 P Pn 00 43 42.4 +0.7
baz=191
SWA2 S Sn 00 44 37.1 -2.7
baz=191
SWA2 5.16 190 P Pn 00 43 42.4 +0.8
SWA2 S Sn 00 44 37.1 -2.7
LEF Lefka 5.32 80 *e*PN Pn 00 43 42.6 -1.2
LEF Lefka 5.32 80 *e*Pn Pn 00 43 42.6 -1.2
SHUT Suhut-Afyon 5.32 37 *e*PN Pn 00 43 43.9 0.0
SHUT Suhut-Afyon 5.32 37 *e*Pn Pn 00 43 43.9 0.0
RLS Riolos of Patr 5.51 314 *e*PN Pn 00 43 47.7 +1.2
RLS Riolos of Patr 5.51 314 *e*Pn Pn 00 43 47.7 +1.2
ALT Altintas 5.53 31 *e*PN Pn 00 43 46.8 +0.1
ALT Altintas 5.53 31 *e*Pn Pn 00 43 46.8 +0.1
HDMB Hadim 5.53 60 *e*PN Pn 00 43 46.3 -0.4
HDMB Hadim 5.53 60 *e*Pn Pn 00 43 46.3 -0.4
CSS Prodhromos 5.66 82 *e*PN Pn 00 43 47.4 -1.1
CSS Prodhromos 5.66 82 *e*Pn Pn 00 43 48.1 -0.4
comp=E,18nm,0.6s
CSS *e*S Sn 00 44 53.5 +1.4
CSS Prodhromos 5.66 82 *e*Pn Pn 00 43 48.1 -0.4
comp=E,18nm,0.6s
CSS *e*S Sn 00 44 53.5 +1.3
LFK Lefkose 5.86 79 *e*PN Pn 00 43 50.5 -0.7
LFK Lefkose 5.86 79 *e*Pn Pn 00 43 50.5 -0.7
KONT Konya--Tatoy 5.95 51 *e*PN Pn 00 43 52.1 -0.4
KONT Konya--Tatoy 5.95 51 *e*Pn Pn 00 43 52.1 -0.4
LADK Ladik-KONYA 6.10 49 *e*PN Pn 00 43 54.3 -0.3
LADK Ladik-KONYA 6.10 49 *e*Pn Pn 00 43 54.3 -0.3
VLS Valsamata 6.13 310 *e*PN Pn 00 43 56.1 +1.2
VLS Valsamata 6.13 310 *e*Pn Pn 00 43 56.1 +1.2
AWBH 6.34 160 P Pn 00 43 58.2 +0.4
baz=160
AWBH 6.34 160 P Pn 00 43 58.2 +0.4
EREN Erenkoy 6.41 77 *e*PN Pn 00 43 57.2 -1.6
EREN Erenkoy 6.41 77 *e*Pn Pn 00 43 57.2 -1.6
SVRH Sivrihisar-ESK 6.49 37 *e*PN Pn 00 43 59.6 -0.4
SVRH Sivrihisar-ESK 6.49 37 *e*Pn Pn 00 43 59.6 -0.3
SULT Sultanhani-AKS 6.85 54 *e*PN Pn 00 44 03.5 -1.3
SULT Sultanhani-AKS 6.85 54 *e*Pn Pn 00 44 03.6 -1.2
MERS Mersin 7.00 67 *e*PN Pn 00 44 06.2 -0.7
MERS Mersin 7.00 67 *e*Pn Pn 00 44 06.2 -0.7
HFRF Wahat Farafira 7.33 167 S Sn 00 45 28.2 -5.1
baz=167
MMAI Mount Meron Ar 7.53 98 Pn Pn 00 44 13.5 -0.7
comp=E,1.6nm,0.3s,baz=291,slow=12,SNR=20
MMAI Sn Sn 00 45 36.9 -1.3
comp=E,6.3nm,0.3s,baz=259,slow=25,SNR=10.0
MMAI Mount Meron Ar 7.53 98 Pn Pn 00 44 13.5 -0.7
MMAI Sn Sn 00 45 36.9 -1.3
MMAI Mount Meron Ar 7.53 98 Pn Pn 00 44 13.5 -0.7
MMAI Sn Sn 00 45 36.9 -1.3
BR131 Keskin Array S 7.84 45 *e*Pn Pn 00 44 19.6 +1.2
BR131 *e*S Sn 00 45 43.8 -1.9
BR131 Keskin Array S 7.84 45 *e*Pn Pn 00 44 19.6 +1.2
BR131 *e*S Sn 00 45 43.8 -1.9
BRTR Keskin Array B 7.84 45 Pn Pn 00 44 19.6 +1.2
comp=E,0.2nm,0.3s,baz=221,slow=14,SNR=10
BRTR Sn Sn 00 45 44.2 -1.5
comp=E,0.2nm,0.3s,baz=213,slow=25,SNR=5.4
BRTR Keskin Array B 7.84 45 Pn Pn 00 44 19.6 +1.2
BRTR Sn Sn 00 45 44.2 -1.5
BRTR Keskin Array B 7.84 45 P Pn 00 44 19.6 +1.2
BRTR 00 45 44.2
BRTR Keskin Array B 7.84 45 P Pn 00 44 19.6 +1.2
BRTR S Sn 00 45 44.2 -1.5
KOZT Kozan 8.19 65 *e*PN Pn 00 44 21.9 -1.3
EIL Elat 8.54 121 Pn Pn 00 44 29.3 +1.2
comp=E,0.5nm,0.3s,baz=331,slow=9.8,SNR=11
EIL Sn Sn 00 45 59.1 -4.0
comp=E,3.9nm,0.3s,baz=314,slow=16,SNR=10
EIL Elat 8.54 121 Pn Pn 00 44 29.3 +1.2
EIL Sn Sn 00 45 59.1 -4.0
EIL Elat 8.54 121 Pn Pn 00 44 29.3 +1.2
TR2 8.56 132 P Pn 00 44 28.2 -0.1
baz=131
TR2 8.56 132 P Pn 00 44 28.2 -0.1
HKAT Jabal Katrina 8.63 130 P Pn 00 44 29.8 +0.5
baz=129
HKAT Jabal Katrina 8.63 130 P Pn 00 44 29.8 +0.6
HBST Basata 8.66 124 P Pn 00 44 29.8 +0.1
baz=123
HBST Basata 8.66 124 P Pn 00 44 29.8 +0.1
ASF Jabal al Asfar 8.96 101 Pn Pn 00 44 34.7 +0.9
comp=E,0.4nm,0.3s,baz=350,slow=23,SNR=6.8
ASF Sn Sn 00 46 11.5 -2.0
comp=E,0.4nm,0.3s,baz=279,slow=13,SNR=2.9
ASF Jabal al Asfar 8.96 101 Pn Pn 00 44 34.7 +0.9
ASF Sn Sn 00 46 11.5 -2.0
ASF Jabal al Asfar 8.96 101 P Pn 00 44 34.7 +0.9
ASF 00 46 11.5
TIP Timpagrande 9.19 305 *e*Pn Pn 00 44 35.8 -1.1
TIP Timpagrande 9.19 305 *e*Pn Pn 00 44 35.8 -1.1
AKRG Al Kharijah 9.46 157 P Pn 00 44 40.3 -0.3
baz=157
GTR Jabal at Tayr 9.47 157 P Pn 00 44 40.4 -0.4
baz=156
GTR Jabal at Tayr 9.47 157 P Pn 00 44 40.4 -0.4
CUC Castrocucco 10.23 307 *e*Pn Pn 00 44 50.9 -0.2
comp=E,6.4nm,0.4s
CUC *e*S Sn 00 46 41.8 -2.4
CUC Castrocucco 10.23 307 *e*Pn Pn 00 44 50.9 -0.2
comp=E,6.4nm,0.4s
BUR08 Bucovina Ar. S 13.33 356 Pn Pn 00 45 41.5 +8.1
KIV Kislovodsk 15.78 48 *e*Pn Pn 00 46 07.8 +2.0
KIV Kislovodsk 15.78 48 *e*P Pn 00 46 11.7 +5.8
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 15.78 48 *e*Pn Pn 00 46 07.8 +1.9
KIV Kislovodsk 15.78 48 *e*P Pn 00 46 11.7 +5.8
comp=Z,14nm,1.1s
AKASG Malin Array Be 16.48 6 Pn Pn 00 46 14.2 -0.4
comp=Z,2.9nm,0.3s,baz=191,slow=9.7,SNR=12
AKASG Malin Array Be 16.48 6 Pn Pn 00 46 14.2 -0.4
AKASG Malin Array Be 16.48 6 P Pn 00 46 14.2 -0.4
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 16.48 6 Pn Pn 00 46 14.2 -0.4
GERES GERESS Array B 17.34 331 P Pn 00 46 23.6 -1.7
comp=Z,0.8nm,0.3s,baz=142,slow=12,SNR=25
GERES GERESS Array B 17.34 331 P Pn 00 46 23.6 -1.7
GERES GERESS Array B 17.34 331 P Pn 00 46 23.6 -1.8
GERES pmax pmax
comp=Z,1.0nm,0.3s
KHC Kasperske Hory 17.61 331 *e*P Pn 00 46 28.5 -0.3
KHC *ex* x 00 47 00.0
MBDF Montbardon 18.38 310 *e*P Pn 00 46 38.6 +0.5
comp=Z,8.7nm,0.7s
MBDF Montbardon 18.38 310 *e*P Pn 00 46 38.6 +0.5
comp=Z,8.7nm,0.7s
MBDF Montbardon 18.38 310 *e*P Pn 00 46 38.6 +0.5
MBDF pmax pmax
comp=Z,9.0nm,0.7s
MBDF Montbardon 18.38 310 *e*P Pn 00 46 38.6 +0.5
comp=Z,4.3nm,0.7s
LPG La Plagne 18.76 312 *e*P Pn 00 46 43.5 +0.8
comp=Z,4.9nm,0.5s
LPG La Plagne 18.76 312 *e*P Pn 00 46 43.5 +0.8
comp=Z,4.9nm,0.5s
LPG La Plagne 18.76 312 *e*P Pn 00 46 43.5 +0.8
LPG pmax pmax
comp=Z,5.0nm,0.5s
LPG La Plagne 18.76 312 *e*P Pn 00 46 43.5 +0.8
comp=Z,2.5nm,0.5s
LPL La Plagne 18.78 312 *e*P Pn 00 46 43.7 +0.7
comp=Z,4.6nm,0.5s
LPL La Plagne 18.78 312 *e*P Pn 00 46 43.7 +0.7
comp=Z,4.6nm,0.5s
LPL La Plagne 18.78 312 *e*P Pn 00 46 43.7 +0.7
LPL pmax pmax
comp=Z,5.0nm,0.5s
LPL La Plagne 18.78 312 *e*P Pn 00 46 43.7 +0.7
comp=Z,2.3nm,0.5s
CLL Collm 19.59 334 *e*P Pn 00 46 51.0 -1.5
comp=Z,6.0nm,0.8s
CABF La Chapelle 19.72 315 *e*P Pn 00 46 50.6 -3.6
CABF La Chapelle 19.72 315 *e*P Pn 00 46 50.6 -3.6
CABF La Chapelle 19.72 315 *e*P Pn 00 46 50.6 -3.6
VIVF Saint-Julien-l 19.78 309 *e*P Pn 00 46 52.7 -2.2
VIVF Saint-Julien-l 19.78 309 *e*P Pn 00 46 52.7 -2.2
VIVF Saint-Julien-l 19.78 309 *e*P Pn 00 46 52.7 -2.2
VIVF Saint-Julien-l 19.78 309 *e*P Pn 00 46 52.7 -2.2
HINF Hinteralfeld 19.95 318 *e*P Pn 00 46 54.1 -2.7
comp=Z,4.6nm,0.5s
HINF Hinteralfeld 19.95 318 *e*P Pn 00 46 54.1 -2.7
comp=Z,4.6nm,0.5s
HINF Hinteralfeld 19.95 318 *e*P Pn 00 46 54.1 -2.7
HINF pmax pmax
comp=Z,5.0nm,0.5s
HINF Hinteralfeld 19.95 318 *e*P Pn 00 46 54.1 -2.7
comp=Z,2.3nm,0.5s
CDF Champ du Feu 20.07 320 *e*P P 00 46 56.2 0.0
comp=Z,14nm,0.7s
CDF Champ du Feu 20.07 320 *e*P P 00 46 56.2 0.0
comp=Z,14nm,0.7s
CDF Champ du Feu 20.07 320 *e*P P 00 46 56.2 0.0
CDF pmax pmax
comp=Z,14nm,0.7s
CDF Champ du Feu 20.07 320 *e*P P 00 46 56.2 0.0
comp=Z,6.9nm,0.7s
HAU Haudompre 20.33 318 *e*P P 00 46 58.9 -0.1
comp=Z,4.9nm,0.5s
HAU Haudompre 20.33 318 *e*P P 00 46 58.9 -0.1
comp=Z,4.9nm,0.5s
HAU Haudompre 20.33 318 *e*P P 00 46 58.9 -0.1
HAU pmax pmax
comp=Z,5.0nm,0.5s
HAU Haudompre 20.33 318 *e*P P 00 46 58.9 -0.1
comp=Z,2.5nm,0.5s
PAGF Fort de Pagny 20.99 319 *e*P P 00 47 06.1 0.0
PAGF Fort de Pagny 20.99 319 *e*P P 00 47 06.1 0.0
PAGF Fort de Pagny 20.99 319 *e*P P 00 47 06.1 0.0
SMF Signal de Mont 21.09 312 *e*P P 00 47 06.3 -0.9
SMF Signal de Mont 21.09 312 *e*P P 00 47 06.3 -0.9
SMF Signal de Mont 21.09 312 *e*P P 00 47 06.3 -0.9
SMF Signal de Mont 21.09 312 *e*P P 00 47 06.3 -0.9
SFTF Sexfontaines 21.17 317 *e*P P 00 47 09.3 +1.2
comp=Z,25nm,0.8s,mb4.3
SFTF Sexfontaines 21.17 317 *e*P P 00 47 09.3 +1.2
comp=Z,25nm,0.8s,mb4.6
SFTF Sexfontaines 21.17 317 *e*P P 00 47 09.3 +1.2
comp=Z,12nm,0.8s,mb4.3
MEZF Maizieres J'vi 21.33 318 *e*P P 00 47 08.5 -1.2
comp=Z,14nm,0.7s,mb4.1
MEZF Maizieres J'vi 21.33 318 *e*P P 00 47 08.5 -1.2
comp=Z,14nm,0.7s,mb4.4
MEZF Maizieres J'vi 21.33 318 *e*P P 00 47 08.5 -1.2
comp=Z,7.2nm,0.7s,mb4.1
LOR Lormes 21.37 314 *e*P P 00 47 08.2 -2.0
comp=Z,5.0nm,0.6s,mb3.8
LOR Lormes 21.37 314 *e*P P 00 47 08.2 -2.0
comp=Z,5.0nm,0.6s,mb4.0
LOR Lormes 21.37 314 *e*P P 00 47 08.2 -2.0
LOR pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
WLF Walferdange 21.43 322 P P 00 47 11.1 +0.3
WLF Walferdange 21.43 322 P P 00 47 11.0 +0.3
AVF Avril sur Loir 21.45 312 *e*P P 00 47 10.8 -0.3
AVF Avril sur Loir 21.45 312 *e*P P 00 47 10.8 -0.3
AVF Avril sur Loir 21.45 312 *e*P P 00 47 10.8 -0.3
AVF Avril sur Loir 21.45 312 *e*P P 00 47 10.8 -0.3
SSF Saint Saulge 21.49 313 *e*P P 00 47 09.8 -1.6
comp=Z,5.3nm,0.6s,mb3.8
SSF Saint Saulge 21.49 313 *e*P P 00 47 09.8 -1.6
comp=Z,5.3nm,0.6s,mb4.0
SSF Saint Saulge 21.49 313 *e*P P 00 47 09.8 -1.6
SSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
BGF Bois d'Agland 21.66 311 *e*P P 00 47 15.6 +2.3
BGF Bois d'Agland 21.66 311 *e*P P 00 47 15.6 +2.3
BGF Bois d'Agland 21.66 311 *e*P P 00 47 15.6 +2.3
BGF Bois d'Agland 21.66 311 *e*P P 00 47 15.6 +2.3
OBN Obninsk 21.93 16 *e*P P 00 47 15.0 -1.1
OBN pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
OBN Obninsk 21.93 16 *e*P P 00 47 15.0 -1.1
comp=Z,7.0nm,0.9s,mb4.1
TCF Toulx Ste Croi 21.95 310 *e*P P 00 47 15.9 -0.5
TCF Toulx Ste Croi 21.95 310 *e*P P 00 47 15.9 -0.5
TCF Toulx Ste Croi 21.95 310 *e*P P 00 47 15.9 -0.5
TCF Toulx Ste Croi 21.95 310 *e*P P 00 47 15.9 -0.5
MEM Membach 22.09 324 P P 00 47 18.2 +0.4
comp=Z,9.1nm,1.2s,mb4.1
MEM Membach 22.09 324 P P 00 47 18.2 +0.4
comp=Z,9.1nm,1.2s,mb4.1
BCLA Clavier 22.32 322 P P 00 47 21.1 +0.8
BCLA Clavier 22.32 322 P P 00 47 21.1 +0.8
LFF La Frestale 22.40 306 *e*P P 00 47 20.7 -0.5
LFF La Frestale 22.40 306 *e*P P 00 47 20.7 -0.5
LFF La Frestale 22.40 306 *e*P P 00 47 20.7 -0.5
LFF La Frestale 22.40 306 *e*P P 00 47 20.7 -0.5
DOU Dourbes 22.49 321 P P 00 47 22.0 -0.1
DOU Dourbes 22.49 321 P P 00 47 22.0 -0.1
BAIF Baives 22.67 321 *e*P P 00 47 22.0 -2.0
comp=Z,18nm,0.7s,mb4.3
BAIF Baives 22.67 321 *e*P P 00 47 22.0 -2.0
comp=Z,18nm,0.7s,mb4.6
BAIF Baives 22.67 321 *e*P P 00 47 22.0 -2.0
BAIF pmax pmax
comp=Z,18nm,0.7s,mb4.6
SNF Seneffe 22.89 322 P P 00 47 26.5 +0.1
SNF Seneffe 22.89 322 P P 00 47 26.4 0.0
MFF Saint Martin d 23.57 309 *e*P P 00 47 31.9 -1.2
MFF Saint Martin d 23.57 309 *e*P P 00 47 31.9 -1.2
MFF Saint Martin d 23.57 309 *e*P P 00 47 31.9 -1.2
MFF Saint Martin d 23.57 309 *e*P P 00 47 31.9 -1.2
LDF La Druitiere 24.36 314 *e*P P 00 47 39.8 -0.5
comp=Z,6.2nm,0.5s,mb4.0
LDF La Druitiere 24.36 314 *e*P P 00 47 39.8 -0.5
comp=Z,6.2nm,0.5s,mb4.3
LDF La Druitiere 24.36 314 *e*P P 00 47 39.8 -0.5
LDF pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
LDF La Druitiere 24.36 314 *e*P P 00 47 39.8 -0.5
comp=Z,3.1nm,0.5s,mb4.0
FLN La Foliniere 24.65 314 *e*P P 00 47 41.4 -1.5
comp=Z,10nm,0.6s,mb4.3
FLN La Foliniere 24.65 314 *e*P P 00 47 41.4 -1.5
comp=Z,10nm,0.6s,mb4.5
FLN La Foliniere 24.65 314 *e*P P 00 47 41.4 -1.5
FLN pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
GRR Gorron 24.72 313 *e*P P 00 47 42.8 -0.7
GRR Gorron 24.72 313 *e*P P 00 47 42.8 -0.7
GRR Gorron 24.72 313 *e*P P 00 47 42.8 -0.7
GRR Gorron 24.72 313 *e*P P 00 47 42.8 -0.7
ESDC Sonseca Array 24.84 291 P P 00 47 45.6 +0.9
comp=Z,0.4nm,0.5s,mb3.2,baz=82,slow=9.3,SNR=5.9
ESDC Sonseca Array 24.84 291 P P 00 47 45.6 +0.9
ESDC Sonseca Array 24.84 291 P P 00 47 45.6 +0.8
SGMF Saint Gilles 25.70 312 *e*P P 00 47 52.9 +0.4
SGMF Saint Gilles 25.70 312 *e*P P 00 47 52.9 +0.4
SGMF Saint Gilles 25.70 312 *e*P P 00 47 52.9 +0.4
SGMF Saint Gilles 25.70 312 *e*P P 00 47 52.9 +0.4
QUIF Quistinic 25.96 310 *e*P P 00 47 54.9 +0.1
QUIF Quistinic 25.96 310 *e*P P 00 47 54.9 +0.1
QUIF Quistinic 25.96 310 *e*P P 00 47 54.9 +0.1
QUIF Quistinic 25.96 310 *e*P P 00 47 54.9 +0.1
FINES FINESS Array B 27.13 360 P P 00 48 04.5 -0.7
comp=Z,1.5nm,0.4s,mb3.9,baz=158,slow=11,SNR=22
FINES PcP PcP 00 51 26.1 +1.5
comp=Z,3.7nm,0.9s,baz=188,slow=3.9,SNR=4.3
FINES FINESS Array B 27.13 360 P P 00 48 04.5 -0.7
FINES PcP PcP 00 51 26.1 +1.5
FINES FINESS Array B 27.13 360 P P 00 48 04.5 -0.7
FINES 00 51 26.1
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 27.13 360 P P 00 48 04.5 -0.7
comp=Z,2.0nm,0.4s,mb4.0
HFS Hagfors 27.14 346 P P 00 48 05.0 -0.3
comp=Z,1.7nm,0.6s,mb3.8,baz=156,slow=7.4,SNR=7.9
HFS Hagfors 27.14 346 P P 00 48 05.0 -0.3
HFS Hagfors 27.14 346 P P 00 48 05.0 -0.3
HFS pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 27.14 346 P P 00 48 05.0 -0.3
comp=Z,2.0nm,0.6s,mb3.8
KAF Kangasniemi 27.80 360 *e*P P 00 48 08.5 -2.7
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
KAF Kangasniemi 27.80 360 *e*p P 00 48 08.5 -2.7
comp=Z,1.4nm,0.4s,mb3.9
AKTO Aktyubinsk 28.02 45 P P 00 48 18.8 +5.5
comp=Z,0.6nm,0.5s,mb3.5,baz=260,slow=8.6,SNR=3.0
AKTO Aktyubinsk 28.02 45 P P 00 48 18.8 +5.5
AKTO Aktyubinsk 28.02 45 P P 00 48 18.8 +5.5
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
NOA NORSAR Array B 28.48 344 P P 00 48 17.3 0.0
comp=Z,0.9nm,0.8s,mb3.5,baz=146,slow=9.5,SNR=2.8
NOA NORSAR Array B 28.48 344 P P 00 48 17.3 0.0
NOA NORSAR Array B 28.48 344 P P 00 48 17.3 0.0
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 28.48 344 P P 00 48 17.3 0.0
comp=Z,1.0nm,0.8s,mb3.5
JOF Joensuu 28.77 5 *e*P P 00 48 19.2 -0.6
JOF pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
JOF Joensuu 28.77 5 *e*p P 00 48 19.2 -0.6
comp=Z,1.2nm,0.5s,mb3.9
JOF Joensuu 28.77 5 *e*P P 00 48 19.2 -0.6
comp=Z,1.0nm,0.5s,mb3.8
TORD Torodi Ar. Bea 30.84 233 P P 00 48 40.1 +1.5
comp=Z,0.5nm,0.5s,mb3.6,baz=34,slow=8.9,SNR=7.3
TORD Torodi Ar. Bea 30.84 233 P P 00 48 40.1 +1.5
TORD Torodi Ar. Bea 30.84 233 P P 00 48 40.1 +1.5
ARCES ARCESS Array B 35.26 359 P P 00 49 15.9 -0.6
comp=Z,2.8nm,0.9s,mb4.2,baz=168,slow=8.3,SNR=16
ARCES ARCESS Array B 35.26 359 P P 00 49 15.9 -0.6
ARCES ARCESS Array B 35.26 359 P P 00 49 15.9 -0.6
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 35.26 359 P P 00 49 15.9 -0.6
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 36.13 45 P P 00 49 26.6 +2.4
comp=Z,0.4nm,0.5s,mb3.6,baz=248,slow=7.8,SNR=4.3
BVAR Borovoye Array 36.13 45 P P 00 49 26.6 +2.4
BVAR Borovoye Array 36.13 45 P P 00 49 26.6 +2.4
BVAR Borovoye Array 36.13 45 P P 00 49 26.6 +2.4
DBIC Dimbokro 39.95 234 P P 00 49 57.6 +0.8
comp=Z,1.3nm,0.7s,mb3.8,baz=42,slow=5.0,SNR=3.6
DBIC Dimbokro 39.95 234 P P 00 49 57.6 +0.8
DBIC Dimbokro 39.95 234 P P 00 49 57.6 +0.8
DBIC pmax pmax
comp=Z,1.0nm,0.7s
DBIC Dimbokro 39.95 234 P P 00 49 57.6 +0.8
comp=Z,1.0nm,0.7s,mb3.6
MKAR Makanchi Array 43.31 56 P P 00 50 26.6 +2.6
comp=Z,1.7nm,0.7s,mb3.9,baz=271,slow=7.0,SNR=15
MKAR Makanchi Array 43.31 56 P P 00 50 26.6 +2.6
MKAR Makanchi Array 43.31 56 P P 00 50 26.6 +2.6
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 43.31 56 P P 00 50 26.6 +2.6
comp=Z,2.0nm,0.7s,mb4.0
ZALV Zalesovo Beam 44.78 46 P P 00 50 37.6 +2.0
comp=Z,3.4nm,0.5s,mb4.4,baz=267,slow=8.5,SNR=29
ZALV Zalesovo Beam 44.78 46 P P 00 50 37.6 +2.0
ZALV Zalesovo Beam 44.78 46 P P 00 50 37.6 +2.0
ZALV pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
ZALV Zalesovo Beam 44.78 46 P P 00 50 37.6 +2.0
comp=Z,3.0nm,0.5s,mb4.4
ZAK Zakamensk 56.46 48 *e*P P 00 52 07.0 +3.3
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
ZAK Zakamensk 56.46 48 *e*P P 00 52 07.0 +3.3
comp=Z,2.0nm,1.0s,mb4.1
SONM Songino Array 59.15 51 P P 00 52 25.7 +3.1
comp=Z,1.3nm,0.5s,mb4.2,baz=283,slow=7.8,SNR=16
SONM Songino Array 59.15 51 P P 00 52 25.7 +3.1
SONM Songino Array 59.15 51 P P 00 52 25.7 +3.1
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 59.15 51 P P 00 52 25.7 +3.1
comp=Z,1.0nm,0.5s,mb4.1
SCHQ Schefferville 64.53 320 P P 00 52 59.7 +1.0
comp=Z,2.1nm,0.6s,mb4.3,baz=66,slow=8.2,SNR=6.5
SCHQ Schefferville 64.53 320 P P 00 52 59.7 +1.0
SCHQ Schefferville 64.53 320 P P 00 52 59.7 +1.0
YKA Yellowknife Ar 78.57 343 P P 00 54 24.0 +1.0
comp=Z,0.2nm,0.6s,mb3.2,baz=34,slow=5.4,SNR=3.9
YKA Yellowknife Ar 78.57 343 P P 00 54 24.1 +1.1
YKA Yellowknife Ar 78.57 343 P P 00 54 24.1 +1.1
YKA Yellowknife Ar 78.57 343 P P 00 54 24.1 +1.1
ILAR Eielson Array 81.09 357 P P 00 54 38.2 +1.6
comp=Z,0.3nm,0.6s,mb3.4,baz=345,slow=3.8,SNR=5.6
ILAR Eielson Array 81.09 357 P P 00 54 38.2 +1.6
ILAR Eielson Array 81.09 357 P P 00 54 38.2 +1.6
ILAR Eielson Array 81.09 357 P P 00 54 38.2 +1.6

IDC 21 00:50:35.2±11.0, 18°13'S×177°79'W, h578^{km}±104^{km},
mb3.0/4, mb1 3.4/4, mb1mx3.0/16, mbtmp3.0/4, Error

ellipse: s-maj=174.1km s-min=32.4km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.17**	**260**	P	P	00 58 01.4	-0.2
	1.1nm,0.3s,baz=95,slow=7.1,SNR=55						
WRA				PcP	PcP	00 59 29.2	-0.3
	0.2nm,0.3s,baz=91,slow=3.8,SNR=5.9						
ASAR	**Alice Springs**	**45.30**	**254**	P	P	00 58 02.7	+0.1
	3.5nm,0.7s,baz=92,slow=7.9,SNR=35						
ASAR				PcP	PcP	00 59 29.6	-0.3
	0.5nm,0.4s,baz=105,slow=3.8,SNR=6.8						
ILAR	**Eielson Array**	**85.97**	**13**	P	P	01 02 14.3	-0.1
	0.2nm,0.4s,baz=219,slow=4.9,SNR=9.7						
YKA	**Yellowknife Ar**	**94.28**	**25**	P	P	01 02 52.8	-0.2
	0.1nm,0.6s,baz=238,slow=5.1,SNR=3.3						
ARCES	**ARCESS Array B**	**126.64**	**350**	PKP	PKPdf	01 08 32.4	-0.4
	3.5nm,1.0s,baz=29,slow=2.1,SNR=3.8						
BRTR	**Keskin Array B**	**145.36**	**315**	PKPbc	PKPbc	01 09 08.7	-0.8
	0.8nm,0.6s,baz=103,slow=3.7,SNR=7.0						
GERES	**GERESS Array B**	**147.97**	**346**	PKPbc	PKPbc	01 09 16.3	+0.2
	0.5nm,0.5s,baz=356,slow=3.0,SNR=4.9						

*NEIC **21** 01:53:10.8, 16°.48N×100°.19W, h12km, MD3.5(MEX), After MEX.*

MEX 21 01:53:10.7±0.6, 16°.50N×100°.18W, h10km±22km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.48**	**39**	*i* P	Pg	01 53 18.8	-1.2
ACX				*e*S	Sg	01 53 25.6	-0.8
ACX	**Acapulco**	**0.48**	**39**	*i* P	Pg	01 53 18.8	-1.2
ACX				*e*S	Sg	01 53 25.6	-0.8
CAIG	**El Cayaco**	**0.55**	**351**	*i* P	Pg	01 53 20.4	-1.1
CAIG				*e*S	Sg	01 53 28.4	-0.3
CAIG	**El Cayaco**	**0.55**	**351**	*i* P	Pg	01 53 20.4	-1.1
CAIG				*e*S	Sg	01 53 28.4	-0.3
MEIG	**Mezcala**	**1.52**	**20**	*i* P	Pn	01 53 36.4	-1.5
MEIG				*e*S	Sn	01 53 55.0	-2.7
MEIG	**Mezcala**	**1.52**	**20**	*i* P	Pn	01 53 34.4	-3.5
MEIG				*e*S	Sn	01 53 52.4	-5.3
ZIIG	**Zihuatanejo**	**1.65**	**312**	*i* P	Pn	01 53 37.9	-1.9
ZIIG				*e*S	Sn	01 53 55.7	-5.5
ZIIG	**Zihuatanejo**	**1.65**	**312**	*i* P	Pn	01 53 37.0	-2.8
ZIIG				*e*S	Sn	01 53 55.7	-5.5
PPM	**Popocatepetl**	**2.95**	**30**	*i* P	Pn	01 53 56.2	-1.5
PPM				*e*S	Sn	01 54 30.5	-2.6
PPM	**Popocatepetl**	**2.95**	**30**	*i* P	Pn	01 53 56.2	-1.5
PPM				*e*S	Sn	01 54 30.5	-2.6

*ISK **21** 01:53:51.9, 37°.83N×29°.49E, h5km, MD2.6*
*ISCJB **21** 01:53:52.5±0.6, 37°.85N±0°.03×29°.54E±0°.05, h1km±9km, Error ellipse: s-maj=6.3km s-min=4.8km az=170.6*
*DDA **21** 01:53:52.6, 37°.82N×29°.62E, h17km±1km, Md2.9*
*CSEM **21** 01:53:52.3±0.2, 37°.84N×29°.57E, h2km, MD2.9, Error ellipse: s-maj=4.6km s-min=3.0km az=80.0*

ISC 21 01:53:52.9±0.6, 37°.86N±0°.03×29°.57E±0°.05, h2km±9km, n18, σ0s73/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.45**	**248**	*i* P	**Pg**	**01 54 01.0**	**-0.5**
DNZL				*i* S	**Sg**	**01 54 07.7**	**+0.3**
DNZL	**Cakiroluk**	**0.45**	**248**	*i* P	**Pg**	**01 54 01.0**	**-0.5**
KHAL	**Karahalli**	**0.51**	**353**	*i* P	**Pg**	**01 54 02.2**	**-0.6**
KHAL				*i* S	**Sg**	**01 54 09.5**	**+0.1**
KHAL	**Karahalli**	**0.51**	**353**	*i* P	**Pg**	**01 54 02.2**	**-0.6**
KHAL				*i* S	**Sg**	**01 54 09.5**	**+0.1**
GOLH	**Golhisar**	**0.62**	**181**	*i* P	**Pg**	**01 54 03.7**	**-1.1**
GOLH				*i* S	**Sg**	**01 54 13.9**	**+1.1**
GOLH	**Golhisar**	**0.62**	**181**	*i* P	**Pg**	**01 54 03.7**	**-1.1**
GOLH				*i* S	**Sg**	**01 54 13.9**	**+1.0**
KULA	**Kula-Manisa**	**0.97**	**313**	*e*PG	**Pg**	**01 54 11.1**	**-0.4**
KULA				*e*SG	**Sg**	**01 54 25.0**	**+0.9**
KULA	**Kula-Manisa**	**0.97**	**313**	*e*Pg	**Pg**	**01 54 11.1**	**-0.4**
KULA				*e*Sg	**Sg**	**01 54 25.0**	**+0.9**
MANT	**Manisa**	**1.02**	**308**	*i* P	**Pg**	**01 54 12.2**	**-0.3**
MANT				*i* S	**Sg**	**01 54 25.9**	**+0.3**
MANT	**Manisa**	**1.02**	**308**	*i* P	**Pg**	**01 54 12.2**	**-0.2**
MANT				*i* S	**Sg**	**01 54 25.9**	**+0.3**
SHUT	**Suhut-Afyon**	**1.03**	**48**	*e*PN	**Pg**	**01 54 14.1**	**+1.4**
SHUT				*e*SN	**Sg**	**01 54 30.4**	**+4.3**
SHUT	**Suhut-Afyon**	**1.03**	**48**	*e*Pn	**Pg**	**01 54 14.1**	**+1.4**
SHUT				*e*Sn	**Sg**	**01 54 30.5**	**+4.3**
ELL	**Elmali**	**1.14**	**166**	*e*PN	**Pg**	**01 54 14.7**	**-0.1**
ELL	**Elmali**	**1.14**	**166**	*e*Pn	**Pg**	**01 54 14.7**	**-0.1**
GDZ	**Gediz**	**1.23**	**357**	*i* P	**Pg**	**01 54 15.2**	**-1.2**
GDZ				*i* S	**Sg**	**01 54 32.1**	**-0.3**
ALT	**Altintas**	**1.27**	**19**	*e*PN	**Pn**	**01 54 17.6**	**+0.1**
ALT	**Altintas**	**1.27**	**19**	*e*Pn	**Pn**	**01 54 17.7**	**+0.2**
DEMI	**Demirci**	**1.36**	**331**	*i* P	**Pn**	**01 54 18.0**	**-0.9**
DEMI				*i* S	**Sb**	**01 54 37.7**	**+0.8**

*IDC **21** 01:56:38.0±0.9, 11°.33S×116°.10E, h0km, mb4.1/7, mb1 4.1/9, mb1mx4.0/18, mbtmp4.1/9, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/33, Error ellipse: s-maj=36.1km s-min=18.2km az=66.0*
*ISCJB **21** 01:56:41.1±0.4, 11°.40S±0°.05×116°.19E±0°.06, h33km, mb4.3/14, Error ellipse: s-maj=9.6km s-min=4.9km az=146.0*
*NEIC **21** 01:56:44.7±2.2, 11°.35S×116°.26E, h45km±20km, mb4.3/8, Error ellipse: s-maj=20.3km s-min=8.1km az=65.0*
*DJA **21** 01:56:49, 11°.03S×115°.93E, h63km, MLv4.4/14*

ISC 21 01:56:43.4±0.4, 11°.37S±0°.05×116°.18E±0°.06, h35km, n52, σ1s22/63, mb4.3/14, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**2.71**	**360**	P	**Pn**	**01 57 24.7**	**+0.1**
MTNI				S	**Sn**	**01 57 55.5**	**-0.7**
IGBI	**Denpasar**	**2.73**	**338**	P	**Pn**	**01 57 24.8**	**+0.1**
IGBI				S	**Sn**	**01 57 54.4**	**-2.1**
NBBI	**Negara**	**3.35**	**333**	P	**Pn**	**01 57 35.0**	**+1.7**
JAGI	**Jajag, Banyuwa**	**3.50**	**325**	P	**Pn**	**01 57 33.9**	**-1.5**
JAGI				S	**Sn**	**01 58 12.8**	**-2.8**
BYJI	**Banyuwangi**	**3.61**	**330**	P	**Pn**	**01 57 38.0**	**+1.1**
BYJI				S	**Sn**	**01 58 20.2**	**+1.9**
ABJI	**Asem Bagus**	**4.03**	**332**	P	**Pn**	**01 57 43.2**	**+0.5**
GMJI	**Gumukmas**	**4.09**	**319**	P	**Pn**	**01 57 42.0**	**-1.4**
GMJI				S	**Sn**	**01 58 27.1**	**-2.9**
BLJI	**Banyuglugur**	**4.41**	**325**	P	**Pn**	**01 57 49.9**	**+2.0**
KMMI	**Kalianget**	**4.81**	**333**	P	**Pn**	**01 57 57.6**	**+4.2**
PWJI	**Pagerwojo**	**5.44**	**307**	P	**Pn**	**01 58 01.6**	**-0.5**
	0.3nm47nm,0.7s						
PWJI				S	**Sn**	**01 58 59.9**	**-3.6**
	0.3nm47nm,0.7s						
SJI	**Sawahan**	**5.65**	**309**	P	**Pn**	**01 58 06.0**	**+1.1**
	0.3nm38nm,0.7s						
BKSI	**Bulukumba**	**7.16**	**33**	P	**Pn**	**01 58 27.3**	**+1.6**
	0.2nm459nm42nm,1.0s						
KAPI	**Kappang**	**7.24**	**30**	Pn	**Pn**	**01 58 27.0**	**+0.3**
	1.3nm,0.3s,baz=223,slow=10,SNR=9.5						
KAPI				Sn	**Sn**	**01 59 43.6**	**-4.1**
	1.4nm,0.3s,baz=116,slow=23,SNR=9.5						
KAPI				LR	LR	02 01 51.2	
	comp=Z,154nm,18.8s,baz=225,slow=43						
KAPI	**Kappang**	**7.24**	**30**	Pn	**Pn**	**01 58 27.0**	**+0.3**
KAPI				Sn	**Sn**	**01 59 43.6**	**-4.1**
KAPI	**Kappang**	**7.24**	**30**	P	**Pn**	**01 58 27.6**	**+0.9**
	0.1nm26nm,0.8s						
BNSI	**Bone**	**7.94**	**30**	P	**Pn**	**01 58 39.9**	**+3.5**
BBKI	**Banjar Baru**	**7.96**	**350**	P	**Pn**	**01 58 40.4**	**+3.7**
	0.4nm7μm54nm,0.9s						
MBWA	**Marble Bar**	**10.32**	**161**	*e*Pn	**Pn**	**01 59 01.7**	**-7.3**
	16nm,0.7s						
MBWA				*e*Sn	**Sn**	**02 00 46.3**	**-17**
FITZ	**Fitzroy Crossi**	**11.34**	**127**	Pn	**Pn**	**01 59 17.1**	**-5.9**
	0.5nm,0.3s,baz=24,slow=3.1,SNR=30						
FITZ				Sn	**Sn**	**02 01 15.1**	**-13**
	1.0nm,0.3s,baz=15,slow=24,SNR=8.7						
FITZ	**Fitzroy Crossi**	**11.34**	**127**	Pn	**Pn**	**01 59 17.1**	**-5.9**
FITZ				Sn	**Sn**	**02 01 15.1**	**-13**
WRA	**Warramunga Arr**	**19.44**	**118**	P	**Pn**	**02 01 07.0**	**-1.4**
	0.2nm,0.3s,baz=295,slow=9.7,SNR=13						
WRA				S	**S**	**02 04 26.5**	**-19**
	0.2nm,0.3s,baz=284,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**19.44**	**118**	P	**Pn**	**02 01 07.0**	**-1.4**
WRA				S	**S**	**02 04 26.5**	**-19**
WB2	**Warramunga Arr**	**19.45**	**118**	*e*P	**Pn**	**02 01 07.7**	**-0.9**
AS31	**Alice Springs**	**20.84**	**128**	*e*P	**P**	**02 01 21.9**	**-0.3**
ASAR	**Alice Springs**	**20.84**	**128**	P	**P**	**02 01 22.1**	**-0.1**
	3.4nm,0.8s,baz=301,slow=10.0,SNR=17						
ASAR				S	**S**	**02 05 03.4**	**-9.5**
	2.6nm,0.7s,baz=296,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**20.84**	**128**	P	**P**	**02 01 22.1**	**-0.1**
ASAR				S	**S**	**02 05 03.4**	**-9.5**
NWAO	**Narrogin (SRO)**	**21.48**	**178**	P	**P**	**02 01 28.8**	**-0.2**
	9.5nm,0.8s,mb4.2,baz=353,slow=15,SNR=5.3						
NWAO	**Narrogin (SRO)**	**21.48**	**178**	P	**P**	**02 01 28.8**	**-0.2**
FORT	**Forrest**	**22.24**	**152**	*e*P	**P**	**02 01 38.2**	**+1.1**
	14nm,0.5s,mb4.6						
PMG	**Port Moresby**	**30.53**	**89**	*e*P	**P**	**02 02 53.8**	**+0.1**
	6.1nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**34.17**	**330**	P	**P**	**02 03 27.9**	**+2.4**
	0.6nm,0.3s,mb4.0,baz=163,slow=6.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	**34.17**	**330**	P	**P**	**02 03 27.9**	**+2.4**
USRK	**Ussuriysk Arra**	**57.14**	**14**	P	**P**	**02 06 25.5**	**-1.0**
	2.2nm,0.7s,mb4.3,baz=180,slow=5.5,SNR=4.7						
ULN	**Ulaanbaatar**	**59.52**	**353**	*e*P	**P**	**02 06 42.4**	**-0.6**
	1.9nm,0.9s,mb4.1						
SONM	**Songino Array**	**59.58**	**352**	P	**P**	**02 06 43.4**	**0.0**
	1.0nm,0.8s,mb3.9,baz=163,slow=7.2,SNR=8.3						
SONM	**Songino Array**	**59.58**	**352**	P	**P**	**02 06 43.4**	**0.0**
YSS	**Yuzh-Sakhalins**	**62.73**	**20**	*e*P	**P**	**02 07 04.9**	**+0.1**
	18nm,0.9s,mb5.2						
MK31	**Makanchi Array**	**65.35**	**335**	*e*P	**P**	**02 07 21.8**	**-0.3**
MKAR	**Makanchi Array**	**65.35**	**335**	P	**P**	**02 07 22.2**	**+0.2**
	1.9nm,0.6s,mb4.3,baz=150,slow=7.2,SNR=22						
MKAR	**Makanchi Array**	**65.35**	**335**	P	**P**	**02 07 22.2**	**+0.2**
TKM2	**Tokmak 2**	**65.53**	**328**	*e*P	**P**	**02 07 26.8**	**+3.5**
	3.6nm,1.2s,mb4.3						
EKS2	**Erkin-Say**	**66.30**	**327**	*e*P	**P**	**02 07 28.8**	**+0.6**
	1.5nm,0.6s,mb4.2						
KURK	**Kurchatov**	**69.94**	**336**	P	**P**	**02 07 50.0**	**-0.9**
	1.3nm,0.7s,mb4.0,baz=146,slow=6.1,SNR=3.3						
KURK	**Kurchatov**	**69.94**	**336**	*e*P	**P**	**02 07 51.7**	**+0.8**
	2.8nm,1.0s,mb4.2						
ZAA0	**Zalesovo Array**	**70.30**	**341**	*e*P	**P**	**02 07 52.3**	**-0.8**
ZALV	**Zalesovo Beam**	**70.30**	**341**	P	**P**	**02 07 52.3**	**-0.7**
	2.4nm,0.5s,mb4.4,baz=149,slow=5.6,SNR=20						
ZALV	**Zalesovo Beam**	**70.30**	**341**	P	**P**	**02 07 52.3**	**-0.7**
ABKAR	**Akbulak array**	**77.92**	**326**	*e*P	**P**	**02 08 37.6**	**0.0**
	0.7nm,0.6s,mb3.8						
TORD	**Torodi Ar. Bea**	**116.11**	**279**	PKP	PKPdf	02 15 23.7	-0.1
	0.4nm,0.8s,baz=102,slow=1.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**116.11**	**279**	PKP	PKPdf	02 15 23.7	-0.1
LPAZ	**La Paz**	**152.19**	**171**	PKPbc	PKPbc	02 16 38.1	+1.8
	1.1nm,0.8s,baz=146,slow=3.6,SNR=4.4						
LPAZ	**La Paz**	**152.19**	**171**	PKPbc	PKPbc	02 16 38.1	+1.8

GUC 21 02:00:14.7±0.9, 32°.55S×72°.34W, h19km±7km, ML3.7, 6C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.76**	**129**	⇓*i*P	Pb	02 00 29.3	0.0
IHA				*i* S	Sb	02 00 40.1	+0.8
CHNG	**Los Chungos**	**0.97**	**47**	⇑*i*P	Pb	02 00 32.3	-0.7
CHNG				*i* S	Sb	02 00 44.8	-0.7
ROCH	**El Roble**	**1.20**	**111**	⇑*i*P	Pn	02 00 35.5	-1.0
ROCH				⇑*i*P		02 00 35.9	
ROCH				*i* S	Sb	02 00 51.0	-0.9
ROCH				*i* S	Sb	02 00 51.6	-0.3
ROCH				AML	AML	02 00 56.5	
	comp=E,3μm,0.6s						
PTCH	**Petorca**	**1.23**	**77**	AML	AML	02 00 51.3	
	comp=N,3μm,0.3s						
JACH	**Jahuel**	**1.48**	**96**	⇓*i*P	Pn	02 00 39.8	-0.6
JACH				*i* S	Sn	02 00 58.2	-1.0
PEL	**Peldehue**	**1.51**	**114**	⇓*i*P	Pn	02 00 40.6	-0.2
PEL				*i* S	Sn	02 01 00.6	+0.6
PEL				AML	AML	02 01 05.7	
	comp=N,4μm,0.3s						
RCDM	**Rinconada Maip**	**1.59**	**126**	AML	AML	02 01 09.2	
	comp=E,846nm,0.4s						
LNV	**Longovilo**	**1.60**	**151**	*e*P	Pn	02 00 41.8	-0.3
TACH	**Talagante**	**1.61**	**133**	⇑*i*P	Pn	02 00 42.6	+0.4
TACH				*i* S	Sn	02 01 03.3	+0.9
CLCH	**Cerro Calan**	**1.74**	**120**	⇑*i*P	Pn	02 00 44.1	+0.3
CLCH				*i* S	Sn	02 01 06.6	+1.1
CLCH				AML	AML	02 01 23.9	
	comp=N,2μm,0.7s						
CLCH				AML	AML	02 01 24.5	
	comp=N,2μm,0.6s						
ANTU	**Antumapu**	**1.76**	**126**	AML	AML	02 01 18.8	
	comp=N,1μm,0.4s						
PCH	**Pirque**	**1.87**	**125**	⇓*i*P	Pn	02 00 46.5	+0.8
PCH				*i* S	Sn	02 01 11.1	+2.3
FCH	**Farellones**	**1.89**	**115**	⇑*i*P	Pn	02 00 46.4	+0.4
FCH				*e*S	Sn	02 01 11.2	+1.8
FCH				AML	AML	02 01 15.7	
	comp=N,822nm,0.2s						
CHCH	**Chadas Angostu**	**1.98**	**135**	*e*P	Pn	02 00 48.1	+0.9
CHCH				*e*S	Sn	02 01 12.9	+1.4
CACH	**El Canelo**	**2.14**	**138**	*e*P	Pn	02 00 52.0	+2.6
LMEL	**Las Melosas**	**2.21**	**126**	*e*P	Pn	02 00 52.1	+1.7
LMEL				*i* S	Sn	02 01 20.1	+2.9
LMEL				AML	AML	02 01 26.3	
	comp=N,725nm,0.5s						
TALC	**Talca**	**2.90**	**169**	*i* S	Sn	02 01 36.0	+1.7

GUC 21 02:24:06.0±0.8, 32°.46S×72°.24W, h23km±6km, MD3.7, ML3.1, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.76**	**138**	⇑*i*P	Pb	02 24 20.3	-0.2
IHA				*i* S	Sb	02 24 30.7	+0.3
CHNG	**Los Chungos**	**0.85**	**48**	*e*P	Pb	02 24 21.0	-1.1
CHNG				*i* S	Sb	02 24 33.3	+0.2
CHNG				AML	AML	02 24 37.5	
	comp=E,555nm,0.4s						
PTCH	**Petorca**	**1.13**	**80**	⇑*i*P	Pn	02 24 25.7	-0.7
PTCH				*i* S	Sb	02 24 40.6	-0.4
PTCH				AML	AML	02 24 45.8	
	comp=N,1μm,0.3s						
ROCH	**El Roble**	**1.16**	**117**	*e*P	Pn	02 24 26.5	-0.3
ROCH				*i* S	Sn	02 24 42.1	+0.3
ROCH				AML	AML	02 24 47.2	
	comp=N,982nm,0.5s						
JACH	**Jahuel**	**1.41**	**99**	⇓*i*P	Pn	02 24 29.8	-0.4
JACH				*i* S	Sn	02 24 47.9	-0.2
PEL	**Peldehue**	**1.48**	**118**	⇓*i*P	Pn	02 24 31.4	+0.3
PEL				*i* S	Sn	02 24 51.1	+1.3
PEL				AML	AML	02 24 56.0	
	comp=E,1μm,0.5s						
RCDM	**Rinconada Maip**	**1.58**	**131**	*e*P	Pn	02 24 32.4	-0.2
RCDM				*i* S	Sn	02 24 53.2	+0.8
RCDM				AML	AML	02 24 58.4	
	comp=E,241nm,0.1s						
TACH	**Talagante**	**1.62**	**138**	⇓*i*P	Pn	02 24 33.7	+0.6
TACH				*e*S	Sn	02 24 54.4	+1.1
SAN	**Santiago**	**1.66**	**127**	*i* S	Sn	02 24 55.7	+1.5
CLCH	**Cerro Calan**	**1.71**	**124**	*e*P	Pn	02 24 35.0	+0.6
CLCH				*i* S	Sn	02 24 57.6	+2.0
CLCH				AML	AML	02 25 03.2	
	comp=N,520nm,0.4s						
ANTU	**Antumapu**	**1.75**	**130**	AML	AML	02 25 09.6	
	comp=N,323nm,0.5s						
FCH	**Farellones**	**1.85**	**118**	AML	AML	02 25 03.6	
	comp=E,290nm,0.3s						
PCH	**Pirque**	**1.86**	**129**	*e*P	Pn	02 24 37.2	+0.8
CHCH	**Chadas Angostu**	**1.98**	**138**	*e*P	Pn	02 24 38.9	+0.8
CACH	**El Canelo**	**2.15**	**141**	⇓*i*P	Pn	02 24 43.1	+2.6
CACH				*i* S	Sn	02 25 10.0	+3.6
LMEL	**Las Melosas**	**2.20**	**130**	*e*P	Pn	02 24 43.0	+1.9
LMEL				*i* S	Sn	02 25 09.2	+1.6
LMEL				AML	AML	02 25 17.0	
	comp=N,204nm,0.4s						

IDC 21 02:28:16.5±11.0, 50°.79N×170°.99W, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/26, mbtmp3.2/4, ML3.6/1, Error ellipse: s-maj=229.4km s-min=52.6km az=77.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**18.83**	**33**	P	Pn	02 32 36.9	-1.0
	0.1nm,0.3s,baz=232,slow=9.7,SNR=10						
INK	**Inuvik**	**25.23**	**32**	P	P	02 33 42.5	-1.0
	0.8nm,0.6s,baz=177,slow=2.4,SNR=6.1						
YKA	**Yellowknife Ar**	**32.05**	**47**	P	P	02 34 46.2	+1.7
	0.2nm,0.4s,baz=271,slow=7.9,SNR=8.2						
TXAR	**Lajitas Array**	**53.82**	**87**	P	P	02 37 40.5	-0.4
	0.1nm,0.5s,baz=330,slow=6.4,SNR=3.0						

*JMA **21** 02:31:51.8±0.3, 23°.71N×122°.23E, h9km, M2.9*
*ISCJB **21** 02:31:52.1±0.3, 23°.98N±0°.02×121°.97E±0°.02, h36km±13km, Error ellipse: s-maj=4.4km s-min=3.3km az=140.1*
*TAP **21** 02:31:52.1, 24°.01N×121°.90E, h46km, ML3.4, B*

ISC 21 02:31:52.4±0.5, 23°.99N±0°.02×121°.96E±0°.02, h34km±3km, n32, σ0s69/55, 2C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.33**	**268**	P	**Pb**	**02 32 00.9**	**+0.3**
	baz=262						
HWA				*e*S	**Sb**	**02 32 06.6**	**+0.5**
	baz=262						
TWD	**Chiawan**	**0.34**	**285**	⇓*i*P	**Pb**	**02 32 00.6**	**-0.2**
	baz=284						
TWD				S	**Sb**	**02 32 06.9**	**+0.4**
	baz=284						
ENA	**Nanau**	**0.48**	**335**	⇓*i*P	**Pb**	**02 32 02.5**	**-0.3**
	baz=335						
ENA				S	**Sb**	**02 32 10.3**	**+0.4**
	baz=335						
ESL	**Shilin**	**0.51**	**250**	P	**Pb**	**02 32 02.8**	**-0.5**
	baz=242						
ESL				S	**Sb**	**02 32 10.6**	**-0.1**
	baz=242						
TWC	**Suao**	**0.62**	**351**	*i* P	**Pb**	**02 32 04.8**	**-0.3**
	baz=3.0						
TWC				S	**Sb**	**02 32 14.0**	**+0.3**
	baz=3.0						
WHF	**Hehuan Shan**	**0.65**	**284**	⇑*i*P	**Pn**	**02 32 04.7**	**-0.6**
	baz=275						
WHF				S	**Sb**	**02 32 13.8**	**-0.6**
	baz=275						
NNS	**Nan Shan**	**0.70**	**310**	P	**Pn**	**02 32 05.4**	**-0.5**
	baz=303						
NNS				S	**Sb**	**02 32 14.7**	**-1.0**
	baz=303						
ENTT	**Nioudou**	**0.74**	**331**	*e*P	**Pn**	**02 32 05.9**	**-0.6**
	baz=334						
ENTT				*e*S	**Sb**	**02 32 16.4**	**-0.4**
	baz=334						
EHY	**Hungye**	**0.76**	**231**	P	**Pn**	**02 32 05.7**	**-1.0**
	baz=236						
TWT	**Tachien**	**0.76**	**290**	*e*P	**Pn**	**02 32 06.7**	**-0.1**
	baz=283						
TWT				*e*S	**Sn**	**02 32 16.6**	**-0.5**
	baz=283						
TWE	**Neicheng**	**0.78**	**340**	P	**Pn**	**02 32 06.7**	**-0.2**
	baz=337						
TWE				S	**Sn**	**02 32 17.2**	**-0.2**
	baz=337						
NSK	**Sanguang**	**0.88**	**321**	*i* P	**Pn**	**02 32 07.9**	**-0.4**
	baz=315						
NSK				S	**Sn**	**02 32 18.6**	**-1.3**
	baz=315						
TWF1	**Yuli**	**0.88**	**224**	⇑P	**Pn**	**02 32 07.5**	**-0.9**
	baz=231						
TWF1				*e*S	**Sn**	**02 32 20.0**	**0.0**
	baz=231						
SMLT	**Sun Moon Lake**	**0.97**	**264**	*e*P	**Pn**	**02 32 09.5**	**-0.2**
	baz=262						
TYC	**Yuchr**	**1.01**	**265**	*e*P	**Pn**	**02 32 10.0**	**-0.2**
	baz=264						
TWB1	**Santiao Chiao**	**1.01**	**1**	*e*P	**Pn**	**02 32 13.1**	**+2.9**
	baz=18						
TWB1				*e*S	**Sn**	**02 32 23.1**	**-0.2**
	baz=18						
CHKT	**Chengkung**	**1.04**	**212**	*e*S	**Sn**	**02 32 22.0**	**-1.9**
	baz=198						
YUS	**Yu-Shan**	**1.05**	**242**	P	**Pn**	**02 32 11.1**	**+0.3**
	baz=239						
YUS				*e*S	**Sn**	**02 32 24.0**	**-0.2**
	baz=239						
YOJ	**Yonaguni jima**	**1.07**	**64**	P	**Pn**	**02 32 11.2**	**+0.2**
YOJ				S	**Sn**	**02 32 25.0**	**+0.3**
NSTT	**Nanjuang**	**1.08**	**306**	*e*P	**Pn**	**02 32 11.6**	**+0.4**
	baz=307						
NSTT				*e*S	**Sn**	**02 32 25.0**	**-0.1**
	baz=307						
NWF	**Wu-fen Shan**	**1.09**	**351**	*e*P	**Pn**	**02 32 11.9**	**+0.6**
	baz=354						
NWF				*e*S	**Sn**	**02 32 25.7**	**+0.5**
	baz=354						
ALS	**Alishan**	**1.16**	**246**	*e*P	**Pn**	**02 32 12.7**	**+0.5**
	baz=244						
NSY	**Sanyi**	**1.17**	**291**	*e*P	**Pn**	**02 32 13.1**	**+0.7**
	baz=292						
NSY				*e*S	**Sn**	**02 32 29.0**	**+1.7**
	baz=292						
ELDTW	**Lidau**	**1.18**	**228**	*e*P	**Pn**	**02 32 11.8**	**-0.7**
	baz=224						
CHN5	**Tsauling**	**1.24**	**252**	*e*P	**Pn**	**02 32 13.9**	**+0.6**
	baz=250						
STYT	**Tauyuan**	**1.38**	**234**	P	**Pn**	**02 32 15.5**	**+0.3**
	baz=226						
STYT				S	**

1.0nm,0.6s,mb4.0
DBIC Dimbokro 65.11 25 P **P 03 03 55.1 +0.2**
2.6nm,0.8s,mb4.1,baz=182,slow=7.9,SNR=6.6
DBIC Dimbokro 65.11 25 *e*P **P 03 03 54.6 -0.3**
2.6nm,0.7s,mb4.2
TORD Torodi Ar. Bea 73.02 30 P **P 03 04 43.9 +0.1**
3.4nm,0.5s,mb4.4,baz=200,slow=6.6,SNR=92
TORD Torodi Ar. Bea 73.02 30 P **P 03 04 43.9 +0.1**
ASAR Alice Springs 99.18 163 P **P 03 06 55.4 +0.1**
0.6nm,0.7s,mb4.2,baz=185,slow=4.2,SNR=7.0
ASAR Alice Springs 99.18 163 P **P 03 06 55.4 +0.1**
KKM Kota Kinabalu 122.53 136 *e*PKPdf PKPdf 03 12 07.7 -1.4
FINES FINESS Array B 124.33 28 PKP PKPdf 03 12 09.1 -1.8
2.0nm,0.9s,baz=196,slow=1.4,SNR=5.6
FINES FINESS Array B 124.33 28 PKP PKPdf 03 12 09.1 -1.8
YKA Yellowknife Ar 135.95 318 PKP PKPdf 03 12 31.1 -1.8
0.4nm,0.6s,baz=126,slow=2.5,SNR=12
YKA Yellowknife Ar 135.95 318 PKP PKPdf 03 12 31.1 -1.8
MKAR Makanchi Array 137.00 71 PKP PKPdf 03 12 35.7 +0.3
0.5nm,0.9s,baz=239,slow=2.5,SNR=3.2
MKAR Makanchi Array 137.00 71 PKP PKPdf 03 12 35.7 +0.3
ILAR Eielson Array 149.89 312 PKPbc PKPbc 03 13 00.8 -1.5
4.2nm,0.7s,baz=133,slow=2.6,SNR=69
ILAR Eielson Array 149.89 312 PKPbc PKPbc 03 13 00.8 -1.5
MCK McKinley 150.55 309 *e*PKPbc PKPbc 03 13 02.8 -1.0
SONM Songino Array 150.89 86 PKPbc PKPbc 03 13 04.0 -1.2
3.2nm,0.5s,baz=220,slow=3.7,SNR=37
SONM Songino Array 150.89 86 PKPbc PKPbc 03 13 04.0 -1.2

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*IDC **21** 03:02:58.6±1.0, 21°.19N×122°.54E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, Error ellipse: s-maj=61.2km s-min=18.5km az=65.0*
*NEIC **21** 03:03:15.7±0.9, 21°.06N×122°.23E, h149km±7km, Error ellipse: s-maj=34.5km s-min=10.0km az=65.0*
*ISCJB **21** 03:03:18.9±0.8, 21°.29N±0°.06×121°.99E±0°.09, h169km±4km, mb3.5/8, Error ellipse: s-maj=13.8km s-min=9.4km az=165.3*
*TAP **21** 03:03:19.2, 21°.26N×122°.06E, h161km±1km, ML4.4, D*
ISC 21 03:03:19.3±0.8, 21°.27N±0°.06×122°.04E±0°.09, h163km±5km, n52, σ1§02/72, mb3.5/8, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.89**	**329**	*i* P		**Pn**	**03 03 43.9**	**-0.5**
	baz=329							
TSEB	**Hengchuen, Pin**	**1.24**	**301**	P		**Pn**	**03 03 48.0**	**+0.7**
	baz=295							
TSEB				S		**Sn**	**03 04 09.6**	**+0.9**
	baz=295							
TWK1	**Hengchun**	**1.33**	**301**	⇑ *i*P		**Pn**	**03 03 48.3**	**+0.1**
	baz=298							
TWK1				S		**Sn**	**03 04 09.8**	**-0.6**
	baz=298							
HEN	**Hengchun**	**1.42**	**301**	*e*P		**Pn**	**03 03 49.1**	**+0.1**
	baz=301							
HEN				S		**Sn**	**03 04 11.1**	**-0.7**
	baz=301							
TAW	**Tawu**	**1.52**	**316**	*e*P		**Pn**	**03 03 49.6**	**-0.4**
	baz=315							
TAW				*e*S		**Sn**	**03 04 12.2**	**-1.4**
	baz=315							
EAST	**Anshuo**	**1.57**	**315**	⇑ *i*P		**Pn**	**03 03 50.2**	**-0.3**
	baz=311							
EAST				*e*S		**Sn**	**03 04 13.5**	**-1.1**
	baz=311							
ECL	**Taimali**	**1.67**	**323**	P		**Pn**	**03 03 50.6**	**-0.9**
	baz=318							
ECL				*e*S		**Sn**	**03 04 14.1**	**-2.2**
	baz=318							
TWG	**Pinlang**	**1.79**	**330**	P		**Pn**	**03 03 52.3**	**-0.5**
	baz=324							
TWG				S		**Sn**	**03 04 17.4**	**-1.4**
	baz=324							
TWG	**Pinlang**	**1.79**	**330**	*e*Pn		**Pn**	**03 03 51.6**	**-1.2**
TWG				*e*Sn		**Sn**	**03 04 15.4**	**-3.4**
TWP	**Hsiaoliuchiu**	**1.90**	**305**	P		**Pn**	**03 03 55.2**	**+1.2**
	baz=296							
TWP				S		**Sn**	**03 04 23.0**	**+2.3**
	baz=296							
SSD	**Sandimen**	**1.97**	**319**	P		**Pn**	**03 03 54.7**	**-0.1**
	baz=322							
KAU	**Kaohsiung**	**2.07**	**309**	*e*S		**Sn**	**03 04 25.7**	**+1.5**
	baz=301							
ELDTW	**Lidau**	**2.14**	**334**	*e*P		**Pn**	**03 03 57.0**	**+0.3**
	baz=333							
TWM1	**Shoushan**	**2.16**	**316**	P		**Pn**	**03 03 58.4**	**+1.5**
	baz=324							
TWM1				*e*S		**Sn**	**03 04 27.8**	**+1.7**
	baz=324							
TWF1	**Yuli**	**2.19**	**342**	*e*P		**Pn**	**03 03 57.6**	**+0.3**
	baz=345							
TWF1				*e*S		**Sn**	**03 04 26.3**	**-0.4**
	baz=345							
STYT	**Tauyuan**	**2.23**	**328**	P		**Pn**	**03 03 58.6**	**+0.8**
	baz=321							
STYT				*e*S		**Sn**	**03 04 27.0**	**-0.6**
	baz=321							
SGST	**Jiashian**	**2.26**	**323**	*e*P		**Pn**	**03 03 58.9**	**+0.8**
	baz=323							
SGST				S		**Sn**	**03 04 27.3**	**-0.9**
	baz=323							
CHN1	**Nanshi**	**2.37**	**324**	P		**Pn**	**03 03 59.6**	**+0.2**
	baz=324							
CHN1				*e*S		**Sn**	**03 04 29.6**	**-1.0**
	baz=324							
CHN3	**Shinhua**	**2.38**	**319**	*e*S		**Sn**	**03 04 31.2**	**+0.5**
	baz=325							
TPUB	**Ta-pu**	**2.41**	**327**	*e*P		**Pn**	**03 03 58.8**	**-1.1**
YUS	**Yu-Shan**	**2.43**	**336**	*e*P		**Pn**	**03 04 01.9**	**+1.8**
	baz=335							
YUS				*e*S		**Sn**	**03 04 33.0**	**+1.1**
	baz=335							
TAI1	**Yung-k'ang**	**2.44**	**317**	*e*S		**Sn**	**03 04 31.4**	**-0.6**
	baz=323							
ALS	**Alishan**	**2.51**	**333**	P		**Pn**	**03 04 01.8**	**+0.7**
	baz=333							
ALS				*e*S		**Sn**	**03 04 34.0**	**+0.5**
	baz=333							
SCLT	**Jiali**	**2.56**	**318**	*e*S		**Sn**	**03 04 34.3**	**-0.2**
	baz=323							
CHN5	**Tsauling**	**2.64**	**332**	*e*S		**Sn**	**03 04 36.6**	**+0.2**
	baz=331							
CHY	**Chiayi**	**2.68**	**326**	*e*S		**Sn**	**03 04 36.0**	**-1.2**
	baz=321							
SSLB	**Suanglung**	**2.70**	**338**	*e*P		**Pn**	**03 04 02.6**	**-0.9**
WGK	**Gukeng**	**2.77**	**331**	*e*S		**Sn**	**03 04 38.6**	**-0.6**
	baz=330							
SMLT	**Sun Moon Lake**	**2.81**	**338**	*e*P		**Pn**	**03 04 04.9**	**+0.1**
	baz=329							
SMLT				*e*S		**Sn**	**03 04 40.8**	**+0.8**
	baz=329							
TYC	**Yuchr**	**2.84**	**338**	*e*P		**Pn**	**03 04 09.2**	**+4.0**
	baz=329							
TYC				*e*S		**Sn**	**03 04 39.6**	**-1.2**
	baz=329							
WHF	**Hehuan Shan**	**2.95**	**346**	*e*P		**Pn**	**03 04 08.5**	**+2.0**
	baz=351							
TWT	**Tachien**	**3.08**	**345**	*e*S		**Sn**	**03 04 47.0**	**+0.9**
	baz=349							
PNG	**Penghu**	**3.25**	**315**	*e*P		**Pn**	**03 04 09.2**	**-0.9**
	baz=320							
PNG				*e*S		**Sn**	**03 04 47.3**	**-2.5**
	baz=320							
NSK	**Sanguang**	**3.45**	**350**	*e*P		**Pn**	**03 04 15.7**	**+2.9**
	baz=355							
KNM	**Kinmen**	**4.57**	**314**	*e*P		**Pn**	**03 04 27.7**	**+0.5**
	baz=312							
KNM				*e*S		**Sn**	**03 05 21.6**	**+1.2**
	baz=312							
SONM	**Songino Array**	**29.36**	**338**	P		**P**	**03 09 06.3**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=154,slow=11,SNR=4.7							
SONM	**Songino Array**	**29.36**	**338**	P		**P**	**03 09 06.3**	**-0.5**
MK31	**Makanchi Array**	**41.00**	**318**	*e*P		**P**	**03 10 46.5**	**+0.3**
MKAR	**Makanchi Array**	**41.00**	**318**	P		**P**	**03 10 46.5**	**+0.3**
	1.3nm,0.4s,mb3.9,baz=110,slow=8.7,SNR=31							
MKAR	**Makanchi Array**	**41.00**	**318**	P		**P**	**03 10 46.5**	**+0.3**
WRA	**Warramunga Arr**	**42.69**	**163**	P		**P**	**03 10 55.5**	**-4.6**
	0.4nm,0.5s,mb3.3,baz=342,slow=9.1,SNR=4.7							
WRA	**Warramunga Arr**	**42.69**	**163**	P		**P**	**03 10 55.5**	**-4.6**
ZALV	**Zalesovo Beam**	**43.12**	**328**	P		**P**	**03 11 02.9**	**-0.4**
	0.7nm,0.5s,mb3.6,baz=144,slow=7.5,SNR=5.9							
ZALV	**Zalesovo Beam**	**43.12**	**328**	P		**P**	**03 11 02.9**	**-0.4**
KURK	**Kurchatov**	**44.84**	**322**	P		**P**	**03 11 17.1**	**0.0**
	1.0nm,0.5s,mb3.8,baz=114,slow=7.7,SNR=11							
KURK	**Kurchatov**	**44.84**	**322**	P		**P**	**03 11 17.1**	**0.0**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.13**	**165**	P		**P**	**03 11 23.6**	**-3.8**
	0.1nm,0.3s,mb2.9,baz=339,slow=7.2,SNR=3.8							
ASAR	**Alice Springs**	**46.13**	**165**	P		**P**	**03 11 23.6**	**-3.8**
BVAR	**Borovoye Array**	**50.44**	**322**	P		**P**	**03 11 59.9**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=101,slow=7.6,SNR=4.2							
BVAR	**Borovoye Array**	**50.44**	**322**	P		**P**	**03 11 59.9**	**-0.2**
YKA	**Yellowknife Ar**	**85.34**	**23**	P		**P**	**03 15 36.6**	**-1.1**
	0.4nm,0.7s,mb3.3,baz=311,slow=4.7,SNR=9.7							
YKA	**Yellowknife Ar**	**85.34**	**23**	P		**P**	**03 15 36.6**	**-1.1**

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*IDC **21** 03:15:38.8±0.9, 38°.73N×70°.71E, h0km, mb3.7/9, mb1 3.9/14, mb1mx3.7/30, mbtmp3.7/14, ML3.6/5, Error ellipse: s-maj=16.3km s-min=14.5km az=65.0*
*NNC **21** 03:15:43.5±2.4, 39°.03N×70°.52E, h0km, mb4.0, mpv4.1, Error ellipse: s-maj=18.8km s-min=15.3km az=12.0*
*ISCJB **21** 03:15:47.2±0.9, 39°.07N±0°.06×70°.65E±0°.09, h73km±9km, mb3.5/9, Error ellipse: s-maj=11.2km s-min=9.5km az=6.3*
*NEIC **21** 03:15:47.5±1.0, 39°.02N×70°.70E, h61km±10km, mb3.7/1, Error ellipse: s-maj=12.4km s-min=10.0km az=117.0*
ISC 21 03:15:48.5±0.9, 39°.09N±0°.06×70°.59E±0°.09, h68km±9km, n54, σ1§30/62, mb3.5/9, 3C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.85**	**37**	P		**Pn**	**03 16 45.3**	**+0.1**
	SNR=90							
AML				P			03 16 45.3	
	SNR=90							
KK31	**Karatay Array**	**4.01**	**359**	⇓Pn		**Pn**	**03 16 48.0**	**+0.6**
	8.4nm,0.4s,baz=183,slow=13,SNR=228							
KK31				⇓Sn		**Sn**	**03 17 36.8**	**+3.7**
	14nm,0.5s,baz=186,slow=22,SNR=4.2							
KK31				⇑Lg			03 17 50.3	
	37nm,0.6s,baz=182,slow=27,SNR=4.7							
KKAR	**Karatay Array**	**4.01**	**359**	*e*Pn		**Pn**	**03 16 47.2**	**-0.2**
EKS2	**Erkin-Say**	**4.31**	**33**	P		**Pn**	**03 16 51.9**	**+0.4**
	SNR=30							
EKS2				P			03 16 51.9	
	SNR=30							
EKS2	**Erkin-Say**	**4.31**	**33**	*e*Pn		**Pn**	**03 16 51.5**	**0.0**
EKS2				*e*Sn		**Sn**	**03 17 47.4**	**+7.0**
UCH	**Uchtor**	**4.33**	**42**	P		**Pn**	**03 16 53.5**	**+1.7**
	SNR=8.7							
UCH				P			03 16 53.5	
	SNR=8.7							
AAK	**Ala-Archa**	**4.62**	**39**	P		**Pn**	**03 16 56.0**	**+0.3**
	SNR=36							
AAK				P			03 16 56.0	
	SNR=36							
AAK	**Ala-Archa**	**4.62**	**39**	*e*Pn		**Pn**	**03 16 55.6**	**0.0**
KZA	**Kyzart**	**4.64**	**48**	P		**Pn**	**03 16 57.3**	**+1.3**
	SNR=25							
KZA				P			03 16 57.3	
	SNR=25							
KBL	**Kabul**	**4.71**	**196**	*e*Pn		**Pn**	**03 16 56.2**	**-0.8**
KBK	**Karagaybulak**	**4.86**	**41**	P		**Pn**	**03 17 00.1**	**+1.1**
	SNR=36							
KBK				P			03 17 00.1	
	SNR=36							
CHMS	**Chumysh**	**5.01**	**38**	P		**Pn**	**03 17 01.5**	**+0.3**
	SNR=27							
CHMS				P			03 17 01.5	
	SNR=27							
USP	**Ospenovka**	**5.11**	**34**	P		**Pn**	**03 17 02.2**	**-0.2**
	SNR=61							
USP				P			03 17 02.2	
	SNR=61							
ULHL	**Ulahol**	**5.33**	**52**	P		**Pn**	**03 17 07.2**	**+1.8**
	SNR=6.2							
ULHL				P			03 17 07.2	
	SNR=6.2							
TKM2	**Tokmak 2**	**5.38**	**43**	P		**Pn**	**03 17 07.3**	**+1.1**
	SNR=42							
TKM2				P			03 17 07.3	
	SNR=42							
TKM2	**Tokmak 2**	**5.38**	**43**	⇓Pn		**Pn**	**03 17 06.6**	**+0.4**
	22nm,0.5s							
TKM2				⇓Sn		**Sn**	**03 18 11.8**	**+5.0**
	14nm,0.7s							
TKM2				⇓Lg			03 18 35.2	
	16nm,0.7s							
TKM2	**Tokmak 2**	**5.38**	**43**	*e*Pn		**Pn**	**03 17 06.0**	**-0.3**
	39nm,0.4s							
MK31	**Makanchi Array**	**11.52**	**44**	P		**Pn**	**03 18 27.9**	**-2.0**
	2.2nm,0.8s,baz=231,slow=12,SNR=12							
MK31	**Makanchi Array**	**11.52**	**44**	*e*Pn		**Pn**	**03 18 29.4**	**-0.6**
MKAR	**Makanchi Array**	**11.52**	**44**	Pn		**Pn**	**03 18 28.1**	**-1.8**
	0.2nm,0.3s,baz=235,slow=13,SNR=15							
MKAR	**Makanchi Array**	**11.52**	**44**	Pn		**Pn**	**03 18 28.1**	**-1.8**
AB31	**Akbulak array**	**12.70**	**327**	⇓P		**Pn**	**03 18 42.5**	**-3.5**
	1.4nm,0.4s,baz=165,slow=9.4,SNR=102							
ABKAR	**Akbulak array**	**12.70**	**327**	*e*Pn		**Pn**	**03 18 42.0**	**-4.0**
	2.8nm,0.4s							
ABKAR				*e*Sn		**Sn**	**03 21 01.1**	**-4.5**
KURK	**Kurchatov**	**12.93**	**23**	Pn		**Pn**	**03 18 43.5**	**-5.7**
	0.1nm,0.3s,baz=210,slow=12,SNR=6.8							
KURK				Lg			03 22 35.0	
	0.0nm,0.3s,baz=222,slow=30,SNR=3.9							
KURK	**Kurchatov**	**12.93**	**23**	Pn		**Pn**	**03 18 43.5**	**-5.7**
KURK				Lg			03 22 35.0	
BVA0	**Borovoye Array**	**13.94**	**360**	⇑P		**Pn**	**03 19 03.2**	**+0.6**
	0.3nm,0.6s,baz=157,slow=12,SNR=7.1							
BVAR	**Borovoye Array**	**13.94**	**360**	Pn		**Pn**	**03 18 59.5**	**-3.1**
	0.3nm,0.3s,baz=174,slow=12,SNR=7.8							
BVAR				Sn		**Sn**	**03 21 33.8**	**-1.8**
	0.2nm,0.3s,baz=155,slow=21,SNR=4.4							
BVAR				Lg			03 23 04.9	
	0.1nm,0.3s,baz=186,slow=28,SNR=4.0							
BVAR	**Borovoye Array**	**13.94**	**360**	Pn		**Pn**	**03 18 59.5**	**-3.1**
BVAR				Sn		**Sn**	**03 21 33.8**	**-1.8**
BVAR				Lg			03 23 04.9	
AKTO	**Aktyubinsk**	**14.41**	**326**	Pn		**Pn**	**03 19 06.9**	**-1.9**
	0.5nm,0.3s,baz=125,slow=16,SNR=9.4							
AKTO				Sn		**Sn**	**03 21 42.6**	**-4.4**
	0.1nm,0.3s,baz=343,slow=20,SNR=4.3							
AKTO	**Aktyubinsk**	**14.41**	**326**	⇑P		**Pn**	**03 19 10.1**	**+1.3**
	0.5nm,0.6s							
AKTO	**Aktyubinsk**	**14.41**	**326**	Pn		**Pn**	**03 19 06.9**	**-1.9**
AKTO				Sn		**Sn**	**03 21 42.6**	**-4.4**
ZAA0	**Zalesovo Array**	**17.74**	**28**	*e*P		**Pn**	**03 19 48.9**	**-1.8**
ZALV	**Zalesovo Beam**	**17.74**	**28**	P		**Pn**	**03 19 49.0**	**-1.8**
	0.5nm,0.3s,baz=226,slow=12,SNR=15							
ZALV	**Zalesovo Beam**	**17.74**	**28**	P		**Pn**	**03 19 49.0**	**-1.8**
ARU	**Arti**	**19.09**	**339**	*e*P		**Pn**	**03 20 08.0**	**+1.1**
	3.4nm,0.8s							
ONI	**Oni**	**20.79**	**288**	P		**P**	**03 20 26.9**	**+2.9**
SONM	**Songino Array**	**27.22**	**60**	P		**P**	**03 21 25.4**	**-0.4**
	0.2nm,0.6s,mb2.9,baz=249,slow=12,SNR=1.9							
SONM	**Songino Array**	**27.22**	**60**	P		**P**	**03 21 25.4**	**-0.4**
FINES	**FINESS Array B**	**35.17**	**324**	P		**P**	**03 22 36.6**	**+1.1**
	3.8nm,1.0s,mb4.2,baz=180,slow=5.0,SNR=4.5							
FINES	**FINESS Array B**	**35.17**	**324**	P		**P**	**03 22 36.6**	**+1.1**
ARCES	**ARCESS Array B**	**38.64**	**336**	P		**P**	**03 23 06.2**	**+1.4**
	2.7nm,0.9s,mb4.1,baz=112,slow=8.9,SNR=2.9							
ARCES	**ARCESS Array B**	**38.64**	**336**	P		**P**	**03 23 06.2**	**+1.4**
HFS	**Hagfors**	**40.85**	**320**	P		**P**	**03 23 24.1**	**+0.8**
	2.0nm,0.4s,mb4.3,baz=98,slow=11,SNR=20							
HFS	**Hagfors**	**40.85**	**320**	P		**P**	**03 23 24.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**65.48**	**267**	P		**P**	**03 26 25.0**	**+0.2**
	0.4nm,0.8s,mb3.3,baz=49,slow=4.9,SNR=5.1							
TORD	**Torodi Ar. Bea**	**65.48**	**267**	P		**P**	**03 26 25.0**	**+0.2**
ILAR	**Eielson Array**	**72.38**	**16**	P		**P**	**03 27 07.5**	**+0.7**
	0.3nm,0.8s,mb3.2,baz=359,slow=4.5,SNR=4.3							
ILAR	**Eielson Array**	**72.38**	**16**	P		**P**	**03 27 07.5**	**+0.7**
YKA	**Yellowknife Ar**	**78.68**	**2**	P		**P**	**03 27 44.0**	**+1.2**
	0.2nm,0.5s,mb3.2,baz=351,slow=5.5,SNR=10							
YKA	**Yellowknife Ar**	**78.68**	**2**	P		**P**	**03 27 44.0**	**+1.2**
WRA	**Warramunga Arr**	**83.63**	**122**	P		**P**	**03 28 08.8**	**-0.8**
	0.4nm,0.8s,mb3.3,baz=326,slow=5.0,SNR=5.0							
WRA	**Warramunga Arr**	**83.63**	**122**	P		**P**	**03 28 08.8**	**-0.8**
ASAR	**Alice Springs**	**86.00**	**125**	P		**P**	**03 28 19.4**	**-2.1**
	0.4nm,0.7s,mb3.5,baz=322,slow=5.1,SNR=3.9							
ASAR	**Alice Springs**	**86.00**	**125**	P		**P**	**03 28 19.4**	**-2.1**

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*BJI **21** 03:25:03.2, 46°.77N×90°.26E, h4km, ML2.8/5*
*NNC **21** 03:25:06.7±6.9, 46°.93N×89°.84E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=49.4km s-min=40.8km az=93.0*
ISC 21 03:25:03.4±3.1, 46°.74N±0°.06×90°.0E±0°.3, h10km, n4, σ1§04/8, 4C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.34**	**210**	*e*Pg		**Pg**	**03 26 05.5**	**-1.8**
WMQ				Sg		**Sg**	**03 26 51.5**	**+1.0**
WMQ				smax				
	comp=N,32nm,0.6s							
WMQ				smax				
	comp=E,40nm,0.5s							
MK31	**Makanchi Array**	**5.28**	**273**	⇓Pn		**Pn**	**03 26 28.1**	**+5.8**
	comp=E,0.9nm,0.5s,baz=91,slow=15							
MK31				⇑Sn		**Sn**	**03 27 28.5**	**+5.2**
	comp=E,0.3nm,0.3s,baz=89,slow=26,SNR=4.1							
MK31				⇓Lg			03 27 49.2	
	comp=E,2.9nm,0.5s,baz=83,slow=31,SNR=5.5							
KURK	**Kurchatov**	**8.49**	**302**	⇓Pn		**Pn**	**03 27 06.5**	**+0.1**
	comp=E,1.1nm,0.6s							
KURK				⇑Sn		**Sn**	**03 28 41.5**	**-0.7**
	comp=E,1.8nm,0.6s							
KURK				⇓Lg			03 29 34.3	
	comp=E,5.4nm,0.7s							
KURBB	**Kurchatov Arra**	**8.51**	**301**	⇑Pn		**Pn**	**03 27 08.0**	**+1.5**
	comp=E,0.1nm,0.3s							
KURBB				⇓Sn		**Sn**	**03 28 42.4**	**-0.2**
	comp=E,0.6nm,0.6s							
KURBB				⇑Lg			03 29 34.0	
	comp=E,1.3nm,0.6s							

GUC 21 03:27:27.1±0.7, 32°.47S×72°.18W, h23km±5km, MD4.0, ML3.9, 2C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.72**	**141**	*i* P		Pb	03 27 40.3	-0.6
IHA				*i* S		Sb	03 27 50.4	0.0
CHNG	**Los Chungos**	**0.82**	**45**	⇓ *i*P		Pb	03 27 41.8	-0.8
CHNG				*i* S		Sb	03 27 53.1	0.0
PTCH	**Petorca**	**1.07**	**80**	⇓ *i*P		Pn	03 27 46.1	-0.7
PTCH				*i* S		Sb	03 28 00.7	+0.1
PTCH				AML		AML	03 28 02.6	
	comp=N,6μm,0.4s							
ROCH	**El Roble**	**1.11**	**118**	⇑ *i*P		Pn	03 27 46.6	-0.6
LCCH	**Las Cruces**	**1.13**	**153**	⇓ *i*P		Pn	03 27 46.9	-0.6
JACH	**Jahuel**	**1.36**	**100**	⇓ *i*P		Pn	03 27 50.2	-0.4
JACH				*i* S		Sn	03 28 08.4	+0.5
PEL	**Peldehue**	**1.43**	**119**	⇓ *i*P		Pn	03 27 51.8	+0.2
PEL				*i* S		Sn	03 28 10.6	+0.9
PEL				AML		AML	03 28 13.6	
	comp=E,7μm,0.3s							
RCDM	**Rinconada Maip**	**1.54**	**132**	⇓ *i*P		Pn	03 27 53.1	-0.1
RCDM				*i* S		Sn	03 28 12.9	+0.5
RCDM				AML		AML	03 28 16.8	
	comp=N,1μm,0.5s							
TACH	**Talagante**	**1.58**	**139**	⇑ *i*P		Pn	03 27 54.2	+0.5
TACH				*i* S		Sn	03 28 14.2	+0.8
SAN	**Santiago**	**1.61**	**128**	*e*P		Pn	03 27 54.6	+0.5
SAN				*i* S		Sn	03 28 15.8	+1.6
CLCH	**Cerro Calan**	**1.66**	**124**	⇓ *i*P		Pn	03 27 55.6	+0.7
CLCH				*i* S		Sn	03 28 17.1	+1.7
CLCH				AML		AML	03 28 26.2	
	comp=N,4μm,0.6s							
CLCH				AML		AML	03 28 26.8	
	comp=N,5μm,0.5s							
ANTU	**Antumapu**	**1.70**	**131**	*e*P		Pn	03 27 56.2	+0.9
ANTU				*i* S		Sn	03 28 17.9	+1.5
ANTU				AML		AML	03 28 25.0	
	comp=E,2μm,0.5s							
FSR	**Penalolen**	**1.72**	**127**	*e*P		Pn	03 27 56.9	+1.3
FSR				*i* S		Sn	03 28 18.8	+2.0
FSR				AML		AML	03 28 27.3	
	comp=N,710nm,0.5s							
FCH	**Farellones**	**1.81**	**119**	*e*P		Pn	03 27 58.7	+1.9
FCH				*i* S		Sn	03 28 21.7	+2.7
FCH				AML		AML	03 28 25.3	
	comp=E,2μm,0.2s							
LMEL	**Las Melosas**	**2.15**	**130**	*i* P		Pn	03 28 03.1	+1.5
LMEL				*i* S		Sn	03 28 30.7	+3.1
LMEL				AML		AML	03 28 41.1	
	comp=N,1μm,0.4s							

IDC 21 03:34:47.6±2.9, 32°.02S×176°.53W, h0km, mb4.0/4, mb1 4.2/5, mb1mx4.0/17, mbtmp4.1/5, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=69.4km s-min=41.5km az=133.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.11**	**218**	Sn		Sn	03 38 28.3	+9.3
	1.9nm,0.3s,baz=190,slow=11,SNR=4.9							
DZM	**Mont Dzumac**	**18.10**	**299**	LR		LR	03 44 12.5	
	comp=Z,104nm,20.0s,baz=52,slow=31							
CTA	**Charters Tower**	**35.32**	**280**	P		P	03 41 46.1	+1.6
	2.2nm,0.4s,baz=97,slow=11,SNR=6.8							
STKA	**Stephens Creek**	**35.37**	**259**	P		P	03 41 43.0	-2.0
	1.5nm,0.8s,baz=135,slow=13,SNR=2.2							
ASAR	**Alice Springs**	**44.30**	**268**	P		P	03 43 00.1	+0.8
	1.3nm,0.7s,baz=111,slow=7.9,SNR=10.0							
WRA	**Warramunga Arr**	**45.43**	**273**	P		P	03 43 08.1	-0.2
	1.0nm,0.4s,baz=111,slow=8.0,SNR=27							
FINES	**FINESS Array B**	**147.10**	**340**	PKPbc		PKPbc	03 54 30.8	-0.9
	3.6nm,0.8s,baz=90,slow=6.3,SNR=

STKA	**Stephens Creek**	**54.53**	**182**	P	**P**	**03 46 25.4**	**-0.2**
	2.5nm,0.5s,mb4.5,baz=345,slow=9.4,SNR=14						
STKA	**Stephens Creek**	**54.53**	**182**	P	**P**	**03 46 25.4**	**-0.2**
KURK	**Kurchatov**	**56.54**	**317**	P	**P**	**03 46 40.6**	**+0.6**
	0.7nm,0.4s,mb4.1,baz=92,slow=7.9,SNR=12						
KURK	**Kurchatov**	**56.54**	**317**	*e*P	**P**	**03 46 40.0**	**0.0**
	0.7nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**60.96**	**27**	P	**P**	**03 47 10.7**	**+0.3**
	0.5nm,0.8s,mb3.6,baz=243,slow=6.2,SNR=5.5						
ILAR				pP	pP	03 47 39.9	+6.2
	0.8nm,0.8s,baz=262,slow=5.5,SNR=8.5						
ILAR	**Eielson Array**	**60.96**	**27**	P	**P**	**03 47 10.7**	**+0.3**
ILAR				pP	pP	03 47 39.9	+6.2
	0.4nm,0.4s,mb3.6						
BVAR	**Borovoye Array**	**61.70**	**319**	P	**P**	**03 47 14.9**	**-0.6**
	1.5nm,0.4s,mb4.3,baz=94,slow=7.5,SNR=16						
BVAR	**Borovoye Array**	**61.70**	**319**	P	**P**	**03 47 14.9**	**-0.6**
KBL	**Kabul**	**64.70**	**299**	*e*P	**P**	**03 47 35.6**	**-0.1**
	2.9nm,0.5s,mb4.4						
ABKAR	**Akbulak array**	**68.63**	**316**	*e*P	**P**	**03 47 59.7**	**-0.7**
	0.4nm,0.4s,mb3.6						
YKA	**Yellowknife Ar**	**75.38**	**28**	P	**P**	**03 48 41.4**	**+0.9**
	0.2nm,0.4s,mb3.2,baz=291,slow=5.8,SNR=7.6						
YKA				pP	pP	03 49 11.0	+6.4
	0.5nm,0.7s,baz=289,slow=5.6,SNR=8.2						
YKA	**Yellowknife Ar**	**75.38**	**28**	P	**P**	**03 48 41.4**	**+0.9**
YKA				pP	pP	03 49 11.1	+6.4
ARCES	**ARCESS Array B**	**77.73**	**341**	P	**P**	**03 48 54.3**	**+0.6**
	2.0nm,0.9s,mb3.9,baz=70,slow=7.8,SNR=3.7						
ARCES	**ARCESS Array B**	**77.73**	**341**	P	**P**	**03 48 54.3**	**+0.6**
JOF	**Joensuu**	**79.18**	**334**	*e*p	**P**	**03 49 00.8**	**-0.9**
KAF	**Kangasniemi**	**81.58**	**335**	*e*p	**P**	**03 49 16.3**	**+1.7**
FINES	**FINESS Array B**	**82.05**	**334**	P	**P**	**03 49 15.9**	**-1.1**
	1.5nm,0.4s,mb4.2,baz=84,slow=4.3,SNR=22						
FINES	**FINESS Array B**	**82.05**	**334**	P	**P**	**03 49 15.9**	**-1.1**
BRTR	**Keskin Array B**	**89.46**	**313**	P	**P**	**03 49 53.2**	**-0.9**
	0.4nm,0.8s,mb3.5,baz=53,slow=4.5,SNR=2.9						
BRTR	**Keskin Array B**	**89.46**	**313**	P	**P**	**03 49 53.2**	**-0.9**

*ISCJB **21** 03:46:40.9±1.8, 32°.34N×0°.06×90°.28E±0°.09, h10km±14km, mb3.4/8, MS2.9/2, Error ellipse: s-maj=12.4km s-min=9.4km az=8.5*
*IDC **21** 03:46:40.1±0.9, 32°.18N×89°.95E, h0km, mb3.4/10, mb1 3.7/10, mb1mx3.6/26, mbtmp3.5/10, MS3.1/2, Ms1 3.1/2, ms1mx2.6/26, Error ellipse: s-maj=34.1km s-min=18.8km az=59.0*
*NEIC **21** 03:46:42.3±0.5, 32°.36N×90°.33E, h10km, Error ellipse: s-maj=12.2km s-min=6.7km az=96.0*
ISC 21 03:46:43.4±1.9,**32°.36N**±0°.05×**90°.29E**±0°.09,**h14**km±14km, **n39**,σ1°**18**/40,**mb3.4**/8,**MS2.9**/2,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.75**	**164**	*e*Pg	**Pg**	**03 47 33.8**	**-2.3**
LSA				*e*S	**Sg**	**03 48 12.3**	**+0.6**
GUN	**Gumba**	**5.85**	**222**	*e*P	**Pn**	**03 48 10.9**	**+1.2**
	14nm,0.6s						
GUN	**Gumba**	**5.85**	**222**	*e*P	**Pn**	**03 48 10.9**	**+1.2**
	14nm,0.6s						
JIRN	**Jiri**	**5.88**	**218**	*e*P	**Pn**	**03 48 11.4**	**+1.3**
	11nm,0.4s						
JIRN	**Jiri**	**5.88**	**218**	*e*P	**Pn**	**03 48 11.4**	**+1.3**
	11nm,0.4s						
RAMN	**Ramite**	**6.27**	**212**	*e*P	**Pn**	**03 48 15.7**	**+0.2**
	22nm,0.6s						
RAMN	**Ramite**	**6.27**	**212**	*e*P	**Pn**	**03 48 15.7**	**+0.2**
	22nm,0.6s						
PKI	**Pulchoki**	**6.38**	**223**	*e*P	**Pn**	**03 48 18.1**	**+1.1**
	29nm,0.7s						
PKI	**Pulchoki**	**6.38**	**223**	*e*P	**Pn**	**03 48 18.1**	**+1.1**
	29nm,0.7s						
DANN	**Dangsing**	**6.92**	**236**	*e*P	**Pn**	**03 48 24.0**	**-0.3**
	7.8nm,0.5s						
DANN	**Dangsing**	**6.92**	**236**	*e*P	**Pn**	**03 48 24.0**	**-0.3**
	7.8nm,0.5s						
KOLN	**Koldanda**	**7.38**	**233**	*e*P	**Pn**	**03 48 30.5**	**-0.3**
	4.3nm,0.3s						
KOLN	**Koldanda**	**7.38**	**233**	*e*P	**Pn**	**03 48 30.5**	**-0.3**
	4.3nm,0.3s						
MK31	**Makanchi Array**	**15.67**	**339**	*e*Pn	**Pn**	**03 50 26.3**	**+2.6**
MKAR	**Makanchi Array**	**15.67**	**339**	Pn	**Pn**	**03 50 22.9**	**-0.7**
	0.0nm,0.3s,baz=173,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**15.67**	**339**	Pn	**Pn**	**03 50 22.9**	**-0.7**
TKM2	**Tokmak 2**	**15.68**	**316**	*e*Pn	**Pn**	**03 50 28.8**	**+4.9**
AAK	**Ala-Archa**	**16.17**	**314**	*e*Pn	**Pn**	**03 50 29.9**	**-0.3**
SONM	**Songino Array**	**19.70**	**34**	P	**Pn**	**03 51 15.5**	**+1.9**
	1.7nm,1.1s,baz=216,slow=13,SNR=7.6						
SONM	**Songino Array**	**19.70**	**34**	P	**Pn**	**03 51 15.5**	**+1.9**
KURK	**Kurchatov**	**20.27**	**338**	P	**P**	**03 51 18.0**	**-0.4**
	2.9nm,0.9s,baz=145,slow=13,SNR=16						
KURK				LR	LR	04 00 24.0	
	comp=Z,28nm,18.8s,MS2.6,baz=345,slow=41						
KURK	**Kurchatov**	**20.27**	**338**	P	**P**	**03 51 18.0**	**-0.4**
ZAA0	**Zalesovo Array**	**21.93**	**351**	*e*P	**P**	**03 51 38.2**	**+1.9**
ZALV	**Zalesovo Beam**	**21.93**	**351**	P	**P**	**03 51 35.5**	**-0.8**
	2.0nm,0.7s,mb3.7,baz=165,slow=12,SNR=8.5						
ZALV	**Zalesovo Beam**	**21.93**	**351**	P	**P**	**03 51 35.5**	**-0.8**
BVAR	**Borovoye Array**	**25.15**	**331**	P	**P**	**03 52 06.9**	**-1.1**
	0.5nm,0.5s,mb3.3,baz=132,slow=12,SNR=4.5						
BVAR				LR	LR	04 03 59.4	
	comp=Z,57nm,18.6s,MS3.1,baz=118,slow=41						
BVAR	**Borovoye Array**	**25.15**	**331**	P	**P**	**03 52 06.9**	**-1.1**
GERES	**GERESS Array B**	**58.03**	**311**	P	**P**	**03 56 34.3**	**-1.4**
	0.2nm,0.5s,mb3.4,baz=98,slow=7.0,SNR=3.1						
GERES	**GERESS Array B**	**58.03**	**311**	P	**P**	**03 56 34.3**	**-1.4**
WRA	**Warramunga Arr**	**66.94**	**135**	P	**P**	**03 57 34.8**	**-0.7**
	0.2nm,0.6s,mb3.4,baz=357,slow=4.3,SNR=4.4						
WRA	**Warramunga Arr**	**66.94**	**135**	P	**P**	**03 57 34.8**	**-0.8**
ASAR	**Alice Springs**	**69.56**	**138**	P	**P**	**03 57 52.0**	**0.0**
	0.3nm,0.8s,mb3.3,baz=332,slow=9.7,SNR=2.7						
ASAR	**Alice Springs**	**69.56**	**138**	P	**P**	**03 57 52.0**	**0.0**
ILAR	**Eielson Array**	**73.46**	**22**	P	**P**	**03 58 15.6**	**+0.6**
	0.6nm,1.0s,mb3.5,baz=280,slow=5.7,SNR=4.6						
ILAR	**Eielson Array**	**73.46**	**22**	P	**P**	**03 58 15.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**81.92**	**280**	P	**P**	**03 59 00.7**	**-2.3**
	0.6nm,0.8s,mb3.6,baz=44,slow=4.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**81.92**	**280**	P	**P**	**03 59 00.7**	**-2.3**
YKA	**Yellowknife Ar**	**83.38**	**11**	P	**P**	**03 59 09.6**	**-0.1**
	0.2nm,0.6s,mb3.3,baz=328,slow=5.4,SNR=4.0						
YKA	**Yellowknife Ar**	**83.38**	**11**	P	**P**	**03 59 09.6**	**-0.1**

*ATH **21** 04:04:57.3, 38°.29N×20°.57E, h35km±1km, ML3.2*
*CSEM **21** 04:04:57.2±0.2, 38°.31N×20°.38E, h33km±3km, ML3.2, Error ellipse: s-maj=5.2km s-min=2.8km az=43.0*
*THE **21** 04:04:58.4, 38°.28N×20°.48E, h33km±2km, ML3.0/7, Error ellipse: s-maj=2.5km s-min=0.9km az=232.0*
*SKO **21** 04:05:00.3, 38°.51N×20°.84E, h25km*
ISC 21 04:04:57.2±0.4,**38°.30N**±0°.03×**20°.37E**±0°.03,**h39**km±9km, **n84**,σ0°**99**/130,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**124**	*e*PB	**Pn**	**04 05 03.7**	**-0.8**
VLS				*e*SB	**Sn**	**04 05 09.1**	**-0.4**
VLS	**Valsamata**	**0.21**	**124**	P	**Pn**	**04 05 03.7**	**-0.8**
VLS				S	**Sn**	**04 05 09.2**	**-0.3**
VLS	**Valsamata**	**0.21**	**124**	P	**Pn**	**04 05 03.7**	**-0.8**
VLS				S	**Sn**	**04 05 09.2**	**-0.3**
LKD2	**Lefkada island**	**0.54**	**25**	P	**Pn**	**04 05 08.6**	**+0.1**
LKD2				S	**Sn**	**04 05 17.4**	**+1.0**
LKD2	**Lefkada island**	**0.54**	**25**	P	**Pn**	**04 05 08.6**	**+0.1**
LKD2				S	**Sn**	**04 05 17.4**	**+1.0**
RLS	**Riolos of Patr**	**0.90**	**105**	*e*PN	**Pn**	**04 05 12.7**	**-0.6**
RLS	**Riolos of Patr**	**0.90**	**105**	P	**Pn**	**04 05 13.0**	**-0.3**
RLS				S	**Sn**	**04 05 23.9**	**-1.2**
RLS	**Riolos of Patr**	**0.90**	**105**	P	**Pn**	**04 05 13.0**	**-0.3**
RLS				S	**Sn**	**04 05 23.9**	**-1.2**
EFP	**Efpalio**	**1.22**	**83**	P	**Pn**	**04 05 17.8**	**+0.1**
EFP				S	**Sn**	**04 05 32.3**	**-0.6**
EFP	**Efpalio**	**1.22**	**83**	P	**Pn**	**04 05 17.8**	**+0.1**
EFP				S	**Sn**	**04 05 32.3**	**-0.6**
IGT	**Igoumenitsa**	**1.24**	**359**	P	**Pn**	**04 05 19.2**	**+1.2**
IGT				S	**Sn**	**04 05 35.4**	**+2.0**
IGT	**Igoumenitsa**	**1.24**	**359**	P	**Pn**	**04 05 19.2**	**+1.2**
IGT				S	**Sn**	**04 05 35.4**	**+2.0**
LAKA	**Lakka**	**1.27**	**92**	P	**Pn**	**04 05 18.4**	**0.0**
LAKA	**Lakka**	**1.27**	**92**	P	**Pn**	**04 05 18.4**	**0.0**
EVR	**Evrytania**	**1.29**	**61**	*e*PN	**Pn**	**04 05 19.3**	**+0.6**
EVR				*e*SN	**Sn**	**04 05 34.6**	**-0.1**
EVR	**Evrytania**	**1.29**	**61**	*e*Pn	**Pn**	**04 05 19.3**	**+0.6**
EVR				*e*Sn	**Sn**	**04 05 34.6**	**-0.1**
KALE	**Kalithea**	**1.40**	**86**	P	**Pn**	**04 05 20.3**	**+0.1**
KALE				S	**Sn**	**04 05 37.8**	**+0.4**
KALE	**Kalithea**	**1.40**	**86**	P	**Pn**	**04 05 20.3**	**+0.1**
KALE				S	**Sn**	**04 05 37.8**	**+0.4**
JAN	**Janina**	**1.41**	**15**	*e*PN	**Pn**	**04 05 22.3**	**+1.9**
JAN				*e*SN	**Sn**	**04 05 40.0**	**+2.3**
JAN	**Janina**	**1.41**	**15**	P	**Pn**	**04 05 21.8**	**+1.4**
JAN	**Janina**	**1.41**	**15**	P	**Pn**	**04 05 21.8**	**+1.4**
JAN	**Janina**	**1.41**	**15**	*e*Pn	**Pn**	**04 05 22.3**	**+1.9**
JAN				*e*Sn	**Sn**	**04 05 40.0**	**+2.3**
ITM	**Ithomi**	**1.66**	**132**	*e*PN	**Pn**	**04 05 24.7**	**+0.9**
ITM				*e*SN	**Sn**	**04 05 44.3**	**+0.3**
ITM	**Ithomi**	**1.66**	**132**	P	**Pn**	**04 05 24.3**	**+0.5**
ITM				S	**Sn**	**04 05 43.6**	**-0.4**
ITM	**Ithomi**	**1.66**	**132**	P	**Pn**	**04 05 24.3**	**+0.5**
ITM	**Ithomi**	**1.66**	**132**	*e*Pn	**Pn**	**04 05 24.7**	**+0.9**
ITM				S	**Sn**	**04 05 43.6**	**-0.4**
ITM				*e*Sn	**Sn**	**04 05 44.3**	**+0.3**
AGG	**Agios Georgios**	**1.70**	**64**	*e*PN	**Pn**	**04 05 24.8**	**+0.5**
AGG				*e*SN	**Sn**	**04 05 44.5**	**-0.3**
AGG	**Agios Georgios**	**1.70**	**64**	P	**Pn**	**04 05 24.8**	**+0.5**
AGG				S	**Sn**	**04 05 44.6**	**-0.2**
AGG	**Agios Georgios**	**1.70**	**64**	P	**Pn**	**04 05 24.8**	**+0.5**
AGG				S	**Sn**	**04 05 44.6**	**-0.2**
THL	**Klokotos Trika**	**1.81**	**45**	*e*PN	**Pn**	**04 05 26.1**	**+0.3**
THL	**Klokotos Trika**	**1.81**	**45**	P	**Pn**	**04 05 26.3**	**+0.5**
THL	**Klokotos Trika**	**1.81**	**45**	*e*Pn	**Pn**	**04 05 26.1**	**+0.3**
LKR	**Lokris**	**2.10**	**79**	*e*PN	**Pn**	**04 05 29.3**	**-0.5**
LKR	**Lokris**	**2.10**	**79**	P	**Pn**	**04 05 29.2**	**-0.6**
LKR				S	**Sn**	**04 05 54.0**	**-0.6**
LKR	**Lokris**	**2.10**	**79**	P	**Pn**	**04 05 29.2**	**-0.6**
LKR				S	**Sn**	**04 05 54.0**	**-0.6**
KZN	**Kozani**	**2.29**	**28**	*e*PN	**Pn**	**04 05 33.2**	**+0.8**
KZN	**Kozani**	**2.29**	**28**	*e*Pn	**Pn**	**04 05 33.1**	**+0.7**
VIL1	**Vilia, Western**	**2.33**	**92**	*e*PN	**Pn**	**04 05 32.6**	**-0.5**
VLI	**Veliai**	**2.58**	**127**	*e*PN	**Pn**	**04 05 37.7**	**+1.3**
ATH	**Athens Observa**	**2.66**	**96**	*e*PN	**Pn**	**04 05 37.2**	**-0.3**
ATH				*e*SN	**Sn**	**04 06 07.0**	**-1.5**
ATH	**Athens Observa**	**2.66**	**96**	*e*Pn	**Pn**	**04 05 37.2**	**-0.3**
ATH				*e*Sn	**Sn**	**04 06 07.0**	**-1.5**
VLY	**Voula,Athens**	**2.74**	**98**	*e*PN	**Pn**	**04 05 38.2**	**-0.4**
VLY				*e*SN	**Sn**	**04 06 09.1**	**-1.4**
VLY	**Voula,Athens**	**2.74**	**98**	*e*Pn	**Pn**	**04 05 38.0**	**-0.6**
VLY				*e*Sn	**Sn**	**04 06 09.1**	**-1.4**
PTL	**Penteli**	**2.77**	**94**	*e*PN	**Pn**	**04 05 38.6**	**-0.4**
PTL				*e*SN	**Sn**	**04 06 09.3**	**-1.9**
PTL	**Penteli**	**2.77**	**94**	*e*Pn	**Pn**	**04 05 38.6**	**-0.4**
PTL				*e*Sn	**Sn**	**04 06 09.3**	**-1.9**
BIA	**Bitola**	**2.82**	**15**	*e*Pn	**Pn**	**04 05 40.8**	**+1.1**
BIA				*e*Sn	**Sn**	**04 06 10.5**	**-2.0**
BIA	**Bitola**	**2.82**	**15**	*e*Pn	**Pn**	**04 05 40.8**	**+1.1**
BIA				*e*Sn	**Sn**	**04 06 10.4**	**-2.0**
KYTH	**Kithira**	**2.93**	**133**	*e*PN	**Pn**	**04 05 42.5**	**+1.3**
KYTH	**Kithira**	**2.93**	**133**	*e*Pn	**Pn**	**04 05 42.5**	**+1.3**
KRUS	**Krusevo**	**3.14**	**12**	*e*PN	**Pn**	**04 05 43.9**	**-0.3**
KRUS	**Krusevo**	**3.14**	**12**	*e*Pn	**Pn**	**04 05 43.8**	**-0.4**
PLG	**Polygyros**	**3.16**	**48**	*e*PN	**Pn**	**04 05 44.5**	**+0.1**
PLG	**Polygyros**	**3.16**	**48**	*e*Pn	**Pn**	**04 05 44.5**	**+0.1**
TAR1	**Taranto**	**3.27**	**314**	*e*Pn	**Pn**	**04 05 45.9**	**+0.1**
TAR1				*e*Sn	**Sn**	**04 06 21.2**	**-2.2**
PE1	**Pezze di Greco**	**3.39**	**319**	*e*Pn	**Pn**	**04 05 47.6**	**+0.1**
PE1				*e*Sn	**Sn**	**04 06 26.3**	**-0.1**
SOH	**Sokhos**	**3.42**	**42**	*e*PN	**Pn**	**04 05 48.7**	**+0.7**
SOH				*e*SN	**Sn**	**04 06 27.3**	**+0.1**
SOH	**Sokhos**	**3.42**	**42**	*e*Pn	**Pn**	**04 05 48.4**	**+0.4**
SOH				*e*Sn	**Sn**	**04 06 27.3**	**+0.1**
VAY	**Valandovo**	**3.47**	**29**	*e*Pn	**Pn**	**04 05 47.9**	**-0.7**
VAY				*e*Sn	**Sn**	**04 06 23.7**	**-4.7**
VAY	**Valandovo**	**3.47**	**29**	*e*Pn	**Pn**	**04 05 47.9**	**-0.7**
VAY				*e*Sn	**Sn**	**04 06 23.6**	**-4.8**
BAI	**Bari**	**3.89**	**317**	*e*Pn	**Pn**	**04 05 55.0**	**+0.6**
BAI				*e*Sn	**Sn**	**04 06 37.4**	**-1.4**
KARN	**Karanos**	**4.05**	**134**	*e*PN	**Pn**	**04 05 58.0**	**+1.3**
KARN				*e*SN	**Sn**	**04 06 41.9**	**-1.0**
KARN	**Karanos**	**4.05**	**134**	*e*Pn	**Pn**	**04 05 58.0**	**+1.3**
LIA	**Limnos Island**	**4.07**	**65**	*e*PN	**Pn**	**04 05 57.5**	**+0.5**
LIA	**Limnos Island**	**4.07**	**65**	*e*Pn	**Pn**	**04 05 57.5**	**+0.5**
CDT	**Castel del Mon**	**4.21**	**313**	*e*Pn	**Pn**	**04 05 59.3**	**+0.5**
CDT				*e*Sn	**Sn**	**04 06 43.1**	**-3.6**
RDO	**Rodhopi**	**4.90**	**53**	*e*PN	**Pn**	**04 06 09.0**	**+0.7**
RDO	**Rodhopi**	**4.90**	**53**	*e*Pn	**Pn**	**04 06 07.8**	**-0.5**
STON	**Ston**	**5.00**	**337**	*i* Pn	**Pn**	**04 06 07.3**	**-2.4**
STON				Sn	**Sn**	**04 07 01.6**	**-4.7**
STON	**Ston**	**5.00**	**337**	*i* Pn	**Pn**	**04 06 07.2**	**-2.5**
SMG	**Samos**	**5.14**	**95**	*e*PN	**Pn**	**04 06 12.7**	**+1.0**
SMG	**Samos**	**5.14**	**95**	*e*Pn	**Pn**	**04 06 12.7**	**+1.0**
LAST	**Lasithi**	**5.16**	**126**	*e*PN	**Pn**	**04 06 12.8**	**+0.9**
LAST	**Lasithi**	**5.16**	**126**	*e*Pn	**Pn**	**04 06 12.8**	**+0.9**
ZKR	**Zakros**	**5.67**	**122**	*e*PN	**Pn**	**04 06 20.4**	**+1.5**
ZKR	**Zakros**	**5.67**	**122**	*e*Pn	**Pn**	**04 06 20.4**	**+1.5**
KARP	**Karpathos**	**6.09**	**115**	*e*PN	**Pn**	**04 06 26.3**	**+1.6**
KARP	**Karpathos**	**6.09**	**115**	*e*Pn	**Pn**	**04 06 25.3**	**+0.6**
NVLJ	**Novalja**	**7.50**	**328**	*e*Pn	**Pn**	**04 06 43.9**	**-0.1**
NVLJ				Sn	**Sn**	**04 08 02.9**	**-4.7**
NVLJ	**Novalja**	**7.50**	**328**	*e*Pn	**Pn**	**04 06 43.8**	**-0.2**
BOJS	**Bojanci**	**8.15**	**334**	*e*Pn	**Pn**	**04 06 52.3**	**-0.6**
BOJS				*e*Sn	**Sn**	**04 08 17.6**	**-6.1**
BOJS	**Bojanci**	**8.15**	**334**	*e*Pn	**Pn**	**04 06 52.3**	**-0.6**
GBRS	**Gornja Briga**	**8.33**	**332**	*e*Pn	**Pn**	**04 06 55.4**	**+0.1**
CRES	**Cresnjev**	**8.36**	**336**	*e*Pn	**Pn**	**04 06 54.5**	**-1.3**
CRES	**Cresnjev**	**8.36**	**336**	*e*Pn	**Pn**	**04 06 54.5**	**-1.3**

*IDC **21** 04:07:49.4±0.9, 16°.12S×178°.15E, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.3/17, mbtmp4.1/9, MS3.8/13, Ms1 3.8/13, ms1mx3.6/27, Error ellipse: s-maj=57.8km s-min=19.1km az=145.0*
*NEIC **21** 04:07:51.0±0.4, 16°.20S×178°.18E, h10km, mb4.5/7, Error ellipse: s-maj=19.1km s-min=10.8km az=127.0*
*ISCJB **21** 04:07:53.4±0.5, 16°.10S±0°.07×178°.1E±0°.1, h33km, mb4.3/15, MS3.9/10, Error ellipse: s-maj=15.5km s-min=8.8km az=16.5*
ISC 21 04:07:55.2±0.5,**16°.12S**±0°.07×**178°.1E**±0°.1,**h35**km,**n65**, σ0°**83**/29,**mb4.3**/15,**MS3.9**/10,**Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.61**	**181**	*e*Pn	**Pn**	**04 08 16.1**	**-5.0**
MSVF				*e*Sn	**Sn**	**04 08 39.5**	**-1.2**
AFI	**Afiamalu**	**10.04**	**79**	LR	LR	04 13 16.8	
	comp=Z,139nm,20.8s,baz=12,slow=33						
DZM	**Mont Dzumac**	**12.49**	**240**	*e*LR	LR	04 13 42.3	
	442nm,25.9s						
DZM	**Mont Dzumac**	**12.49**	**240**	LR	LR	04 14 30.4	
	comp=Z,239nm,19.8s,baz=21,slow=32						
HNR	**Honiara**	**18.88**	**288**	LR	LR	04 18 33.4	
	comp=Z,188nm,18.9s,baz=96,slow=34						
RPZ	**Rata Peaks**	**28.15**	**191**	LR	LR	04 22 49.2	
	comp=Z,134nm,18.4s,MS3.6,baz=203,slow=32						
PPT2	**Papeete2**	**30.97**	**97**	*e*LQ		04 21 01.5	
	298nm,24.8s						
PPT2				*e*LR	LR	04 22 09.7	
	274nm,29.2s						
TBI	**Tubuai**	**31.34**	**108**	*e*LQ		04 21 00.4	
	351nm,25.5s						
TBI				*e*LR	LR	04 22 25.3	
	272nm,29.0s,baz=284						
STKA	**Stephens Creek**	**36.63**	**238**	P	**P**	**04 14 59.6**	**+1.2**
	4.8nm,0.9s,mb4.3,baz=62,slow=7.0,SNR=4.5						
STKA				LR	LR	04 27 44.2	
	comp=Z,100nm,20.5s,MS3.6,baz=205,slow=33						
STKA	**Stephens Creek**	**36.63**	**238**	P	**P**	**04 14 59.6**	**+1.2**
WRA	**Warramunga Arr**	**41.68**	**258**	P	**P**	**04 15 40.0**	**-0.8**
	1.4nm,0.9s,mb3.6,baz=88,slow=8.5,SNR=5.2						
WRA	**Warramunga Arr**	**41.68**	**258**	P	**P**	**04 15 40.0**	**-0.8**
AS31	**Alice Springs**	**42.08**	**252**	*e*P	**P**	**04 15 43.6**	**-0.4**
ASAR	**Alice Springs**	**42.08**	**252**	P	**P**	**04 15 43.8**	**-0.2**
	3.1nm,0.8s,mb4.0,baz=84,slow=8.8,SNR=27						
ASAR	**Alice Springs**	**42.08**	**252**	P	**P**	**04 15 43.8**	**-0.2**
FORT	**Forrest**	**47.78**	**243**	*e*P	**P**	**04 16 29.2**	**0.0**
	16nm,0.7s,mb5.2						
VNDA	**Vanda**	**61.97**	**184**	*e*P	**P**	**04 18 11.9**	**+0.7**
	3.1nm,1.1s,mb4.3						
PETK	**Petropavlovsk-**	**71.15**	**347**	LR	LR	04 46 25.1	
	comp=Z,56nm,18.8s,MS3.9,baz=256,slow=32						
KSRS	**Korea Array**	**71.15**	**320**	LR	LR	04 44 47.3	
	comp=Z,71nm,19.1s,MS3.9,baz=110,slow=31						
QSPA	**South Pole Qui**	**73.93**	**180**	*e*P	**P**	**04 19 27.5**	**+1.3**
	7.7nm,1.1s,mb4.5						
CMB	**Columbia Colle**	**78.90**	**45**	*e*P	**P**	**04 19 54.4**	**-0.7**
	6.0nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**80.52**	**46**	P	**P**	**04 20 03.9**	**+0.1**
	3.3nm,1.0s,mb4.2,baz=228,slow=8.6,SNR=13						
NVAR	**Mina Array Bea**	**80.52**	**46**	P	**P**	**04 20 03.9**	**+0.1**
MAW	**Mawson**	**84.38**	**200**	P	**P**	**04 20 22.7**	**-0.9**
	3.3nm,0.8s,mb4.5,baz=84,slow=9.2,SNR=2.7						
MAW				LR	LR	04 53 48.2	
	comp=Z,64nm,20.2s,MS4.0,baz=172,slow=33						
MAW	**Mawson**	**84.38**	**200**	*e*P	**P**	**04 20 23.4**	**-0.1**
	0.8nm,0.7s,mb4.0						
COLA	**College**	**84.81**	**14**	*e*P	**P**	**04 20 24.7**	**-0.8**
	12nm,1.2s,mb4.9						
ILAR	**Eielson Array**	**84.94**	**14**	P	**P**	**04 20 25.2**	**-1.0**
	2.5nm,1.0s,mb4.3,baz=236,slow=6.2,SNR=15						
ILAR				LR	LR	05 00 19.2	
	comp=Z,67nm,18.2s,MS4.1,baz=121,slow=37						
ILAR	**Eielson Array**	**84.94**	**14**	P	**P**	**04 20 25.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**85.12**	**291**	LR	LR	04 58 17.5	
	comp=Z,27nm,18.8s,MS3.7,baz=234,slow=36						
MCMT	**McKenzie Canyo**	**87.10**	**42**	*e*P	**P**	**04 20 37.7**	**+0.3**
	2.2nm,1.1s,mb4.3						
ANMO	**Albuquerque**	**87.65**	**53**	P	**P**	**04 20 39.8**	**-0.4**
	1.6nm,0.9s,mb4.2,baz=254,slow=5.2,SNR=4.5						
ANMO	**Albuquerque**	**87.65**	**53**	P	**P**	**04 20 39.8**	**-0.4**
TXAR	**Lajitas Array**	**87.91**	**59**	P	**P**	**04 20 41.6**	**0.0**
	0.6nm,1.0s,mb3.8,baz=218,slow=7.6,SNR=4.8						
TXAR				LR	LR	04 53 38.2	
	comp=Z,43nm,18.4s,MS3.9,baz=180,slow=31						
TXAR	**Lajitas Array**	**87.91**	**59**	P	**P**	**04 20 41.6**	**0.0**
USHA	**Ushuaia**	**89.81**	**148**	LR	LR	04 52 40.4	
	comp=Z,120nm,19.6s,MS4.3,baz=299,slow=30						
SNAA	**Sanae**	**92.43**	**180**	*e*	**P**	**04 21 03.8**	**+1.8**
VNA2	**Neumayer--Watz**	**93.10**	**178**	*e*	**P**	**04 21 09.5**	**+4.4**
	baz=143,slow=4.0						
YKA	**Yellowknife Ar**	**94.14**	**25**	P	**P**	**04 21 10.5**	**+0.8**
	0.6nm,1.1s,mb4.0,baz=243,slow=4.1,SNR=2.8						
YKA	**Yellowknife Ar**	**94.14**	**25**	P	**P**	**04 21 10.6**	**+0.8**
PLCA	**Paso Flores**	**94.98**	**135**	LR	LR	04 54 38.1	
	comp=Z,98nm,18.1s,MS4.3,baz=198,slow=30						
GERES	**GERESS Array B**	**144.95**	**342**	PKP	PKPdf	04 27 28.6	0.0
	1.2nm,0.8s,baz=54,slow=5.0,SNR=4.2						
GERES	**GERESS Array B**	**144.95**	**342**	PKP	PKPdf

PCH	**Pirque**	**1.85**	**131**	‖ *i*P	**Pn**	**04 14 17.5**	**-0.1**
PCH				*i* S	**Sn**	**04 14 41.4**	**+0.5**
PCH	**Pirque**	**1.85**	**131**	‖ *i*P	**Pn**	**04 14 17.5**	**-0.1**
PCH				*i* S	**Sn**	**04 14 41.4**	**+0.5**
CACH	**El Canelo**	**2.16**	**142**	*e*P	**Pn**	**04 14 22.2**	**+0.4**
CACH	**El Canelo**	**2.16**	**142**	*e*P	**Pn**	**04 14 22.2**	**+0.4**
LMEL	**Las Melosas**	**2.19**	**131**	⇑ *i*P	**Pn**	**04 14 23.3**	**+0.9**
LMEL				*i* S	**Sn**	**04 14 50.1**	**+0.8**
LMEL	**Las Melosas**	**2.19**	**131**	⇑ *i*P	**Pn**	**04 14 23.3**	**+0.9**
LMEL				*i* S	**Sn**	**04 14 50.1**	**+0.8**
LMEL				AML	AML	04 14 58.9	
	comp=N,1μm,0.7s						
CFAA	**Coronel Fontan**	**3.46**	**77**	Pn	**Pn**	**04 14 41.6**	**+2.0**
	comp=N,0.7nm,0.3s,baz=253,slow=11,SNR=93						
CFAA				Pg	**Pg**	**04 14 44.6**	**-7.8**
	comp=N,1.1nm,0.3s,baz=247,slow=16,SNR=107						
CFAA				Lg		04 15 32.1	
	comp=N,1.8nm,0.3s,baz=89,slow=13,SNR=6.2						
CFAA	**Coronel Fontan**	**3.46**	**77**	Pn	**Pn**	**04 14 41.6**	**+2.0**
CFAA				Pg	**Pg**	**04 14 44.6**	**-7.8**
CFAA				Lg		04 15 32.1	
LCO	**Las Campanas**	**3.63**	**21**	*e*Pn	**Pn**	**04 14 40.8**	**-1.2**
LCO				*e*pPn		04 14 48.5	
LCO				*e*Sn	**Sn**	**04 15 23.9**	**-0.9**
LVC	**Limon Verde**	**10.19**	**17**	*e*Pn	**Pn**	**04 16 14.6**	**+2.4**
	comp=N,11nm,0.8s						
LVC				*e*		04 16 29.9	
CPUP	**Villa Florida**	**14.30**	**69**	Pn	**Pn**	**04 17 07.0**	**-1.4**
	comp=N,0.1nm,0.3s,baz=230,slow=17,SNR=2.2						
CPUP	**Villa Florida**	**14.30**	**69**	Pn	**Pn**	**04 17 07.0**	**-1.4**
LPAZ	**La Paz**	**16.48**	**14**	*e*Pn	**Pn**	**04 17 35.9**	**-1.2**
	comp=N,0.0nm,0.3s,baz=202,slow=11,SNR=3.2						
LPAZ	**La Paz**	**16.48**	**14**	*e*Pn	**Pn**	**04 17 37.4**	**+0.3**
	comp=N,3.3nm,0.9s						
SIV	**San Ignacio**	**19.22**	**34**	P	**Pn**	**04 18 09.5**	**-1.5**
	comp=N,0.1nm,0.3s,baz=229,slow=13,SNR=5.7						
SIV				LR	LR	04 25 35.1	
	comp=N,43nm,19.3s,slow=37						
SIV	**San Ignacio**	**19.22**	**34**	P	**Pn**	**04 18 09.5**	**-1.5**
SAML	**Samuel**	**24.80**	**22**	*e*P	**P**	**04 19 10.3**	**+2.3**
	comp=N,1.6nm,0.9s,mb3.5						
JTS	**JuntasAbangare**	**44.18**	**342**	*e*P	**P**	**04 21 53.8**	**-1.1**
	comp=N,5.9nm,0.8s,mb4.4						
SNAA	**Sanae**	**53.10**	**158**	*e*P	**P**	**04 23 04.2**	**+1.3**
	comp=N,2.9nm,1.0s,mb4.2						
VNDA	**Vanda**	**65.62**	**191**	*e*P	**P**	**04 24 32.7**	**+3.3**
	comp=N,2.4nm,1.2s,mb4.1						
TXAR	**Lajitas Array**	**68.29**	**331**	P	**P**	**04 24 47.0**	**+0.1**
	comp=N,0.6nm,0.8s,mb3.7,baz=155,slow=8.2,SNR=7.3						
TXAR	**Lajitas Array**	**68.29**	**331**	P	**P**	**04 24 47.0**	**+0.1**
NVAR	**Mina Array Bea**	**82.51**	**325**	P	**P**	**04 26 09.2**	**+0.8**
	comp=N,0.5nm,0.8s,mb3.6,baz=154,slow=5.1,SNR=3.6						
NVAR	**Mina Array Bea**	**82.51**	**325**	P	**P**	**04 26 09.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**83.80**	**70**	P	**P**	**04 26 15.0**	**-0.6**
	comp=N,0.5nm,1.0s,mb3.6,baz=253,slow=4.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**83.80**	**70**	P	**P**	**04 26 15.0**	**-0.6**
ZALV	**Zalesovo Beam**	**152.95**	**31**	PKPbc	PKPbc	04 33 42.0	-0.6
	comp=N,1.1nm,0.7s,baz=312,slow=2.5,SNR=7.7						
ZALV	**Zalesovo Beam**	**152.95**	**31**	PKPbc	PKPbc	04 33 42.0	-0.6

*JMA **21** 04:14:49.5±0.3, 36°.63N×142°.21E, h24km, M3.1*
*ISCJB **21** 04:14:50.6±1.2, 36°.65N±0°.05×142°.2E±0°.1, h33km, mb3.4/4, Error ellipse: s-maj=14.5km s-min=6.8km az=11.9*
*IDC **21** 04:15:15.5±3.3, 36°.33N×139°.57E, h141km±14km, mb3.0/4, mb1 3.2/4, mb1mx3.0/22, mbtmp3.0/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/10, Error ellipse: s-maj=81.0km s-min=20.4km az=62.0*
ISC 21 04:14:51.7±1.2, 36°.66N±0°.05×142°.2E±0°.1, h35km, n20, σ0°72/21, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.17**	**292**	P	**Pn**	**04 15 11.0**	**-0.5**
JFK	**Kawauchi**	**1.24**	**305**	P	**Pn**	**04 15 13.0**	**+0.5**
JHO	**Hitachi**	**1.27**	**268**	P	**Pn**	**04 15 12.5**	**-0.4**
CHOJ	**Chosi**	**1.42**	**228**	P	**Pn**	**04 15 15.1**	**+0.2**
JMM	**Marumori**	**1.62**	**318**	P	**Pn**	**04 15 17.4**	**-0.3**
JFT	**Otama**	**1.69**	**301**	P	**Pn**	**04 15 18.7**	**+0.1**
JIO	**Ouri**	**1.90**	**341**	P	**Pn**	**04 15 21.7**	**+0.1**
JOU	**Okura**	**2.07**	**326**	P	**Pn**	**04 15 23.3**	**-0.6**
JAG	**Ashikaga**	**2.19**	**265**	P	**Pn**	**04 15 25.8**	**+0.3**
BSO1	**Boso 1**	**2.22**	**206**	P	**Pn**	**04 15 23.7**	**-2.3**
BSO1				*e*S	**Sn**	**04 15 52.5**	**+0.4**
JYK	**Kaneyama**	**2.66**	**328**	P	**Pn**	**04 15 31.3**	**-0.7**
JRY	**Ryogami san**	**2.70**	**257**	P	**Pn**	**04 15 32.6**	**0.0**
JOM	**Ohasama**	**2.89**	**347**	P	**Pn**	**04 15 35.2**	**+0.1**
MJAR	**Matsushiro Arr**	**3.18**	**269**	P	**Pn**	**04 15 40.1**	**+1.0**
	2.3nm,0.3s,baz=97,slow=8.9,SNR=19						
MAT	**Matsushiro**	**3.18**	**269**	P	**Pn**	**04 15 40.0**	**+0.9**
MAT				*e*S	**Sn**	**04 16 15.0**	**-0.8**
ASAJ	**Asahikawa**	**7.46**	**2**	LR	LR	04 20 19.9	
	comp=Z,51nm,20.0s,baz=278,slow=38						
SONM	**Songino Array**	**28.48**	**304**	P	**P**	**04 20 44.5**	**+1.2**
	0.4nm,0.6s,mb3.2,baz=106,slow=9.6,SNR=4.1						
MKAR	**Makanchi Array**	**44.82**	**303**	P	**P**	**04 23 02.2**	**+0.2**
	0.4nm,0.7s,mb3.3,baz=97,slow=9.0,SNR=4.1						
WRA	**Warramunga Arr**	**56.78**	**189**	P	**P**	**04 24 40.0**	**+7.8**
	0.2nm,0.4s,mb3.5,baz=0.7,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**60.50**	**189**	P	**P**	**04 25 07.3**	**+9.2**
	0.2nm,0.4s,mb3.6,baz=19,slow=9.0,SNR=3.7						

*CSEM **21** 04:44:40.2, 34°.01N×26°.65E, h12km, MD3.5, After ATH*
ATH 21 04:44:40.2, 34°.01N×26°.65E, h12km±1km, MD3.5/11, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.16**	**342**	*e*PB	Pb	04 45 02.2	0.0
ZKR				*e*SB	Sb	04 45 18.0	+0.9
ZKR	**Zakros**	**1.16**	**342**	*e*Pb	Pb	04 45 02.2	0.0
ZKR				*e*Sb	Sb	04 45 18.0	+0.9
LAST	**Lasithi**	**1.50**	**320**	*e*PG	Pg	04 45 08.3	-0.7
LAST				*e*SB	Sb	04 45 29.0	+2.0
LAST	**Lasithi**	**1.50**	**320**	*e*Pg	Pg	04 45 08.3	-0.7
LAST				*e*Sb	Sb	04 45 29.0	+2.0
NPS	**Neapolis**	**1.51**	**326**	*e*PB	Pb	04 45 08.0	-0.2
NPS				*e*SB	Sb	04 45 28.6	+1.2
NPS	**Neapolis**	**1.51**	**326**	*e*Pb	Pb	04 45 08.0	-0.2
NPS				*e*Sb	Sb	04 45 28.6	+1.2
KARP	**Karpathos**	**1.59**	**15**	*e*PB	Pb	04 45 10.2	+0.7
KARP	**Karpathos**	**1.59**	**15**	*e*Pb	Pb	04 45 10.2	+0.7
SIVA	**Sivas**	**1.82**	**304**	*e*PN	Pn	04 45 13.7	+2.4
SIVA				*e*SN	Sn	04 45 38.0	+3.7
SIVA	**Sivas**	**1.82**	**304**	*e*Pn	Pn	04 45 13.7	+2.4
SIVA				*e*Sn	Sn	04 45 38.0	+3.7
GVD	**Gavdhos**	**2.27**	**292**	*e*PN	Pn	04 45 20.0	+2.4
GVD	**Gavdhos**	**2.27**	**292**	*e*Pn	Pn	04 45 20.0	+2.4
VAM	**Vamos**	**2.45**	**305**	*e*PN	Pn	04 45 22.3	+2.3
VAM				*e*SN	Sn	04 45 53.5	+3.6
VAM	**Vamos**	**2.45**	**305**	*e*Pn	Pn	04 45 22.3	+2.3
VAM				*e*Sn	Sn	04 45 53.5	+3.6
ARG	**Arkhangelos**	**2.51**	**28**	*e*PB	Pb	04 45 22.8	-2.4
ARG	**Arkhangelos**	**2.51**	**28**	*e*Pb	Pb	04 45 22.8	-2.4
KARN	**Karanos**	**2.65**	**302**	*e*PN	Pn	04 45 25.1	+2.4
KARN	**Karanos**	**2.65**	**302**	*e*Pn	Pn	04 45 25.1	+2.4
APE	**Apeiranthos**	**3.19**	**344**	*e*PN	Pn	04 45 33.1	+3.0
APE	**Apeiranthos**	**3.19**	**344**	*e*Pn	Pn	04 45 33.1	+3.0
KYTH	**Kithira**	**3.73**	**308**	*e*PN	Pn	04 45 39.9	+2.4
KYTH	**Kithira**	**3.73**	**308**	*e*Pn	Pn	04 45 38.8	+1.2

*IDC **21** 04:45:54.9±0.6, 0°.35S×132°.32E, h0km, mb4.4/11, mb1 4.5/14, mb1mx4.3/22, mbtmp4.4/14, ML4.0/3, MS3.7/12, Ms1 3.6/12, ms1mx3.3/38, Error ellipse: s-maj=30.1km s-min=10.7km az=76.0*
*ISCJB **21** 04:46:01.9±0.9, 0°.40S±0°.05×132°.40E±0°.04, h67km±8km, mb4.5/37, Error ellipse: s-maj=8.7km s-min=6.0km az=42.1*
*DJA **21** 04:46:02.3±0.5, 1°.5S±5°×13°.2E±°, h10km, M4.8, mb5.0/10, mB5.6/3, MLv4.7/7, Mw(mB)5.1/3*
*NEIC **21** 04:46:04.0±1.6, 0°.40S×132°.35E, h72km±16km, mb4.5/21, Error ellipse: s-maj=11.3km s-min=6.0km az=55.0*
*BJI **21** 04:46:04.7, 0°.40S×132°.40E, h78km, mB5.1/14, mb4.7/21, Ms4.9/6, Ms7 4.5/8*
ISC 21 04:46:03.7±0.8, 0°.43S±0°.05×132°.41E±0°.05, h67km±8km, h79km±3.1km: pP-P, n101, σ1°18/99, mb4.5/37, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.48**	**184**	P	**Pn**	**04 46 40.9**	**-0.9**
FAKI				S	**Sn**	**04 47 19.2**	**+8.1**
BAKI	**Biak**	**3.77**	**102**	P	**Pn**	**04 47 00.2**	**+0.8**
MSAI	**Masohi**	**4.53**	**230**	P	**Pn**	**04 47 09.8**	**0.0**
MSAI				S	**Sn**	**04 48 03.5**	**+2.2**
LBMI	**Labuha**	**4.92**	**268**	P	**Pn**	**04 47 18.9**	**+3.8**
AAI	**Ambon**	**5.32**	**232**	P	**Pn**	**04 47 19.2**	**-1.4**
	1.4nm4μm366nm,0.7s						
NLAI	**Namlea**	**6.00**	**242**	P	**Pn**	**04 47 29.8**	**-0.1**
	0.4nm5μm102nm,0.7s						
GTOI	**Gorontalo**	**9.46**	**276**	P	**Pn**	**04 48 17.0**	**-0.3**
	98nm,0.8s						
LUWI	**Luwuk**	**9.66**	**266**	P	**Pn**	**04 48 20.1**	**+0.1**
	75nm,0.8s						
KDI	**Kendari**	**10.40**	**250**	P	**Pn**	**04 48 29.3**	**-0.7**
	36nm,0.9s						
MRSI	**Marisa**	**10.51**	**275**	P	**Pn**	**04 48 38.6**	**+7.0**
SPSI	**Sidrap Palu**	**13.11**	**254**	P	**Pn**	**04 49 05.9**	**-1.2**
	33nm,0.9s						
BKSI	**Bulukumba**	**13.20**	**248**	P	**Pn**	**04 49 09.4**	**+1.1**
	32nm,0.8s						
KAPI	**Kappang**	**13.44**	**250**	Pn	**Pn**	**04 49 10.0**	**-1.5**
	0.8nm,0.3s,baz=111,slow=7.2,SNR=5.7						
KAPI	**Kappang**	**13.44**	**250**	Pn	**Pn**	**04 49 10.0**	**-1.5**
KAPI				*e*Pn	**Pn**	**04 49 11.0**	**-0.6**
KAPI	**Kappang**	**13.44**	**250**	P	**Pn**	**04 49 11.9**	**+0.4**
COEN	**Coen**	**17.15**	**142**	*e*P	**Pn**	**04 50 00.2**	**+1.1**
COEN	**Coen**	**17.15**	**142**	*e*P	**Pn**	**04 50 00.3**	**+1.3**
PMG	**Port Moresby**	**17.18**	**122**	P	**Pn**	**04 49 57.2**	**-2.2**
	0.3nm,0.3s,baz=258,slow=19,SNR=2.2						
PMG	**Port Moresby**	**17.18**	**122**	*e*P	**Pn**	**04 50 00.5**	**+1.1**
	10nm,0.8s						
KKM	**Kota Kinabalu**	**17.40**	**292**	*e*P	**Pn**	**04 50 02.9**	**+0.8**
	32nm,1.1s						
GUMO	**Guam**	**18.61**	**41**	LR	LR	04 56 46.2	
	comp=Z,111nm,20.2s,baz=92,slow=35						
FITZ	**Fitzroy Crossi**	**18.79**	**200**	P	**Pn**	**04 50 15.1**	**-3.8**
	0.3nm,0.3s,baz=46,slow=6.2,SNR=7.6						
FITZ				S	**S**	**04 53 33.5**	**-15**
	0.1nm,0.3s,baz=45,slow=20,SNR=1.9						
FITZ				LR	LR	04 58 15.1	
	comp=Z,49nm,20.1s,baz=29,slow=39						
FITZ	**Fitzroy Crossi**	**18.79**	**200**	*e*P	**Pn**	**04 50 14.6**	**-4.3**
FITZ	**Fitzroy Crossi**	**18.79**	**200**	P	**Pn**	**04 50 15.1**	**-3.8**
FITZ				S	**S**	**04 53 33.5**	**-15**
WRAB	**Tennant Creek**	**19.48**	**175**	*e*P	**Pn**	**04 50 25.6**	**-1.5**
	18nm,0.7s						
WRA	**Warramunga Arr**	**19.49**	**175**	P	**Pn**	**04 50 25.3**	**-1.9**
	1.7nm,0.3s,baz=354,slow=12,SNR=46						
WRA				S	**S**	**04 53 54.0**	**-8.1**
	0.2nm,0.3s,baz=355,slow=23,SNR=4.7						
WRA	**Warramunga Arr**	**19.49**	**175**	P	**Pn**	**04 50 25.3**	**-1.9**
WRA				S	**S**	**04 53 54.0**	**-8.1**
WB2	**Warramunga Arr**	**19.49**	**175**	*e*P	**Pn**	**04 50 25.6**	**-1.6**
MTSU	**Mount Surprise**	**21.13**	**147**	*e*P	**P**	**04 50 44.4**	**+1.2**
	16nm,0.8s,mb4.4						
AS31	**Alice Springs**	**23.15**	**177**	*e*P	**P**	**04 51 05.0**	**+0.5**
ASAR	**Alice Springs**	**23.15**	**177**	P	**P**	**04 51 05.2**	**+0.8**
	45nm,0.8s,mb4.8,baz=351,slow=9.2,SNR=104						
ASAR				S	**S**	**04 55 16.7**	**+5.9**
	0.9nm,0.8s,baz=335,slow=15,SNR=3.4						
ASAR	**Alice Springs**	**23.15**	**177**	P	**P**	**04 51 05.2**	**+0.8**
ASAR				S	**S**	**04 55 16.7**	**+5.9**
CTA	**Charters Tower**	**23.78**	**146**	P	**P**	**04 51 11.0**	**+0.7**
	17nm,1.1s,mb4.3,baz=331,slow=12,SNR=7.0						
CTA				LR	LR	05 01 54.9	
	comp=Z,311nm,18.3s,baz=48,slow=40						
CTA	**Charters Tower**	**23.78**	**146**	*e*P	**P**	**04 51 12.3**	**+2.0**
CTA	**Charters Tower**	**23.78**	**146**	P	**P**	**04 51 11.0**	**+0.7**
CTAO	**Charters Tower**	**23.78**	**146**	*e*P	**P**	**04 51 11.1**	**+0.8**
	17nm,1.0s,mb4.3						
MBWA	**Marble Bar**	**24.04**	**210**	*e*P	**P**	**04 51 13.7**	**+1.0**
MBWA	**Marble Bar**	**24.04**	**210**	*e*P	**P**	**04 51 13.1**	**+0.4**
	22nm,1.0s,mb4.5						
JOW	**Kunigami**	**27.39**	**352**	P	**P**	**04 51 42.0**	**-0.9**
	11nm,0.9s,mb4.4,baz=129,slow=6.5,SNR=3.2						
JOW				LR	LR	05 01 27.5	
	comp=Z,136nm,19.1s,baz=292,slow=34						
JOW	**Kunigami**	**27.39**	**352**	P	**P**	**04 51 42.0**	**-0.9**
QLP	**Quilpie**	**28.39**	**157**	*e*P	**P**	**04 51 51.6**	**-0.2**
FORT	**Forrest**	**30.47**	**187**	*e*P	**P**	**04 52 11.5**	**+1.3**
FORT	**Forrest**	**30.47**	**187**	*e*P	**P**	**04 52 11.9**	**+1.7**
	46nm,0.7s,mb5.2						
IPM	**Ipoh**	**31.73**	**279**	*e*P	**P**	**04 52 21.8**	**+0.2**
	23nm,1.2s,mb4.8						
KULM	**Kulim**	**32.23**	**281**	*e*P	**P**	**04 52 26.2**	**+0.3**
	7.7nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**32.47**	**165**	P	**P**	**04 52 28.6**	**+0.9**
	4.5nm,0.7s,mb4.3,baz=339,slow=8.8,SNR=12						
STKA				LR	LR	05 05 08.1	
	comp=Z,102nm,21.7s,baz=206,slow=35						
STKA	**Stephens Creek**	**32.47**	**165**	*e*P	**P**	**04 52 28.6**	**+0.8**
STKA	**Stephens Creek**	**32.47**	**165**	*e*P	**P**	**04 52 28.0**	**+0.3**
	13nm,2.1s,mb4.3						
CMSA	**Cobar Meteorol**	**33.40**	**159**	*e*P	**P**	**04 52 36.8**	**+0.9**
ARMA	**Armidale**	**34.98**	**150**	*e*P	**P**	**04 52 54.4**	**+4.8**
	15nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**35.35**	**202**	LR	LR	05 09 25.0	
	comp=Z,43nm,18.4s,baz=272,slow=40						
GYA	**Guiyang**	**36.47**	**319**	P	**P**	**04 53 03.8**	**+1.3**
GYA				pP	pP	04 53 22.6	+3.8
GYA				sP	sP	04 53 32.8	+6.2
GYA				PP	PP	04 54 31.0	+4.3
GYA				PcP	PcP	04 55 26.5	+1.2
GYA				S	**S**	**04 58 40.3**	**+0.5**
GYA				ScP	ScP	04 59 04.3	-2.0
GYA				ScS	ScS	05 03 10.4	-2.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
YNG	**Young**	**36.87**	**158**	*e*P	**P**	**04 53 07.3**	**+1.5**
MJAR	**Matsushiro Arr**	**37.17**	**8**	LR	LR	05 05 21.3	
	comp=Z,156nm,19.5s,baz=205,slow=31						
CMAR	**Chiang Mai Arr**	**37.87**	**301**	P	**P**	**04 53 13.6**	**-0.8**
	comp=Z,0.9nm,0.3s,mb4.0,baz=116,slow=8.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**37.87**	**301**	P	**P**	**04 53 13.6**	**-0.8**
KSRS	**Korea Array**	**37.92**	**354**	LR	LR	05 07 22.3	
	comp=Z,73nm,19.9s,baz=168,slow=34						
KMI	**Kunming**	**38.33**	**314**	P	**P**	**04 53 20.3**	**+2.1**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
CD2	**Chengdu**	**41.37**	**321**	‖ *i*P	**P**	**04 53 47.8**	**+4.4**
CD2				pP	pP	04 54 05.8	+5.8
CD2				sP	sP	04 54 15.1	+7.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				pmax	pmax		
	comp=Z,30nm,5.2s						
BJI	**Beijing**	**42.92**	**342**	P	**P**	**04 53 57.9**	**+2.1**
BJI				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.4						
USRK	**Ussuriysk Arra**	**44.43**	**360**	P	**P**	**04 54 06.8**	**-1.1**
	comp=Z,2.1nm,0.6s,mb4.0,baz=188,slow=9.8,SNR=4.3						
CN2	**Changchun**	**44.47**	**353**	*e*P	**P**	**04 54 11.3**	**+3.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
LZH	**Lanzhou**	**45.01**	**327**	*e*P	**P**	**04 54 12.4**	**-0.2**
LZH				pP	pP	04 54 30.8	+1.4
LZH				sP	sP	04 54 39.8	+2.7
LZH				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.7						
LZH				pmax	pmax		
	comp=Z,59nm,4.0s						
HHC	**Hu-ho-hao-te**	**45.24**	**338**	*e*P	**P**	**04 54 16.8**	**+2.4**
HHC				pP	pP	04 54 39.6	+8.4
HHC				PcP	PcP	04 55 53.8	+0.3
HHC				PP	PP	04 56 05.6	+4.2
HHC				ScP	ScP	04 59 37.3	-3.2
HHC				S	**S**	**05 00 51.4**	**+1.7**
HHC				ScS	ScS	05 04 00.3	-4.7
HHC				SS	SS	05 04 08.4	-5.7
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
HHC				LR	LR		
	comp=N,220nm,13.3s						
HHC				LR	LR		
	comp=E,210nm,14.1s						
HHC				LR	LR		
	comp=Z,170nm,13.2s						
GTA	**Gaotai**	**49.61**	**327**	*e*P	**P**	**04 54 51.4**	**+3.0**
GTA				pP	pP	04 55 09.8	+4.4
GTA				sP	sP	04 55 18.5	+5.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**52.91**	**339**	*e*P	**P**	**04 55 13.0**	**0.0**
	comp=Z,7.6nm,1.1s,mb4.6						
SONM	**Songino Array**	**53.13**	**338**	P	**P**	**04 55 14.5**	**0.0**
	comp=Z,1.3nm,0.8s,mb4.0,baz=152,slow=7.5,SNR=9.1						
SONM				LR	LR	05 17 16.2	
	comp=Z,85nm,19.2s,baz=23,slow=36						
SONM	**Songino Array**	**53.13**	**338**	P	**P**	**04 55 14.5**	**0.0**
RPZ	**Rata Peaks**	**55.15**	**147**	LR	LR	05 18 28.4	
	comp=Z,149nm,19.8s,baz=260,slow=35						
PETK	**Petropavlovsk-**	**57.37**	**18**	LR	LR	05 15 17.2	
	comp=Z,80nm,20.2s,baz=3.6,slow=31						
WMQ	**Urumqi**	**59.39**	**324**	*e*P	**P**	**04 56 00.3**	**+1.1**
YAK	**Yakutsk**	**62.33**	**359**	*e*P	**P**	**04 56 18.4**	**-0.4**
	comp=Z,15nm,0.4s,mb5.4						
FX1	**Attu Island--F**	**63.05**	**26**	LR	LR	05 23 30.2	
	comp=Z,99nm,18.6s,baz=207,slow=36						
MK31	**Makanchi Array**	**64.20**	**324**	*e*P	**P**	**04 56 31.1**	**-0.4**
MKAR	**Makanchi Array**	**64.20**	**324**	P	**P**	**04 56 31.4**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.3,baz=120,slow=8.0,SNR=31						
MKAR	**Makanchi Array**	**64.20**	**324**	P	**P**	**04 56 31.4**	**-0.1**
KSH	**Kashi**	**64.98**	**315**	P	**P**	**04 56 38.1**	**+1.4**
KSH				pP	pP	04 56 57.5	+3.1
KSH				sP	sP	04 57 06.9	+5.0
KSH				PP	PP	04 59 03.5	+3.1
KSH				ScP		05 01 05.0	
KSH				PcS		05 01 13.5	
KSH				S	**S**	**05 05 11.4**	**-2.3**
KSH				sS	sS	05 05 45.8	+2.1
KSH				ScS	ScS	05 06 21.3	-4.6
KSH				SS	SS	05 09 25.6	-1.2
KSH				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.7						
KSH				pmax	pmax		
	comp=Z,280nm,5.7s						
KSH				LR	LR		
	comp=N,170nm,6.3s						
KSH				LR	LR		
	comp=E,150nm,5.0s						
KSH				LR	LR		
	comp=Z,240nm,6.0s						
TKM2	**Tokmak 2**	**66.61**	**318**	*e*P	**P**	**04 56 46.0**	**-1.2**
	comp=Z,4.7nm,0.9s,mb4.3						
ZAA0	**Zalesovo Array**	**66.88**	**332**	*e*P	**P**	**04 56 47.3**	**-1.3**
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	**P**	**04 56 47.7**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.2,baz=123,slow=5.9,SNR=14						
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	**P**	**04 56 47.7**	**-0.9**
KURK	**Kurchatov**	**68.30**	**326**	*e*P	**P**	**04 56 57.4**	**-0.2**
	comp=Z,39nm,1.8s,mb4.9						
KBL	**Kabul**	**68.54**	**308**	*e*P	**P**	**04 56 59.2**	**-0.3**
	comp=Z,4.2nm,0.7s,mb4.4						
KKAR	**Karatay Array**	**70.13**	**317**	*e*P	**P**	**04 57 09.3**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.0						
BRVK	**Borovoye**	**73.96**	**326**	*e*P	**P**	**04 57 31.5**	**-0.3**
VNDA	**Vanda**	**78.66**	**174**	*e*P	**P**	**04 57 55.4**	**-2.7**
	comp=Z,2.4nm,0.7s,mb4.1						
ABKAR	**Akbulak array**	**78.94**	**320**	*e*P	**P**	**04 57 59.8**	**-0.3**
	comp=Z,4.2nm,0.8s,mb4.3						
AKTO	**Aktyubinsk**	**80.42**	**321**	P	**P**	**04 58 06.5**	**-1.6**
	comp=Z,1.8nm,0.8s,mb4.0,baz=88,slow=8.5						
AKTO	**Aktyubinsk**	**80.42**	**321**	P	**P**	**04 58 06.5**	**-1.6**
ARU	**Arti**	**81.47**	**327**	*e*P	**P**	**04 58 12.4**	**-1.1**
	comp=Z,5.6nm,1.0s,mb4.3						
MCK	**McKinley**	**85.36**	**26**	*e*P	**P**	**04 58 32.3**	**-1.0**
	comp=Z,8.2nm,1.1s,mb4.6						
COLA	**College**	**86.02**	**25**	*e*P	**P**	**04 58 35.5**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.3						
ILAR	**Eielson Array**	**86.41**	**25**	P	**P**	**04 58 37.1**	**-1.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=250,slow=4.7,SNR=31						
ILAR	**Eielson Array**	**86.41**	**25**	P	**P**	**04 58 37.1**	**-1.4**
YKA	**Yellowknife Ar**	**100.82**	**26**	P	Pdif	04 59 44.0	-

YSS				*i* S	**S**	**05 03 54.0**	**-0.8**
YSS				pmax	pmax		
	comp=Z,700nm,0.9s						
YSS				pmax	pmax		
	comp=N,270nm,0.6s						
YSS				smax			
	comp=N,2μm,0.9s						
YSS				smax			
	comp=E,520nm,0.6s						
YSS				smax			
	comp=E,2μm,4.0s						
YSS	**Yuzh-Sakhalins**	**1.09**	**8⇓**	*i*P	**Pn**	**05 03 21.0**	**+1.0**
YSS				AMB	AMB	05 03 21.6	
	comp=E,270nm,0.7s						
YSS				AMB	AMB	05 03 21.6	
	comp=E,700nm,0.7s						
YSS				*i* S	**S**	**05 03 54.0**	**-0.8**
YSS				A		05 03 55.8	
	comp=E,2μm,0.7s						
YSS				A		05 03 55.8	
	comp=E,520nm,0.7s						
YSS				A		05 03 56.0	
	comp=E,2μm,4.0s						
JRR	**Rishiri**	**1.13 230**		P	**Pn**	**05 03 21.3**	**+0.9**
JRR				*e*S	**S**	**05 03 56.4**	**+1.0**
JSS	**Shosan**	**1.55 199**		P	**Pn**	**05 03 23.3**	**+0.6**
JSS				*e*S	**S**	**05 03 59.9**	**+0.4**
JYG	**Yagishiri**	**1.65 209**		P	**Pn**	**05 03 23.8**	**+0.5**
JYG				*e*S	**S**	**05 04 00.6**	**0.0**
ASAJ	**Asahikawa**	**1.76 179**		P	**Pn**	**05 03 24.6**	**+0.6**
	comp=E,18nm,0.3s,baz=341,slow=6.8,SNR=116						
ASAJ				S	**S**	**05 04 02.6**	**+0.7**
	comp=E,10.0nm,0.3s,baz=220,slow=32,SNR=26						
ASAJ	**Asahikawa**	**1.76 179**		P	**Pn**	**05 03 24.6**	**+0.6**
ASAJ				S	**S**	**05 04 02.6**	**+0.7**
ASAJ	**Asahikawa**	**1.76 179**		PN	**Pn**	**05 03 24.6**	**+0.6**
ASAJ				S	**S**	**05 04 02.7**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,18nm,0.3s						
ASAJ				smax			
	comp=N,10.0nm,0.3s						
ASAJ	**Asahikawa**	**1.76 179**		P	**Pn**	**05 03 24.5**	**+0.5**
ASAJ				*e*S	**S**	**05 04 02.2**	**+0.3**
JMP	**Maruseppu**	**1.95 162**		P	**Pn**	**05 03 25.6**	**+0.2**
JMP				*e*S	**S**	**05 04 03.8**	**-0.6**
JKK2	**Kamakawa 2**	**2.00 176**		P	**Pn**	**05 03 26.3**	**+0.5**
JKK2				*e*S	**S**	**05 04 05.7**	**+0.6**
JTKR	**Abashiri--Toko**	**2.13 152**		P	**Pn**	**05 03 27.1**	**+0.3**
JTKR				*e*S	**S**	**05 04 06.6**	**-0.3**
JHR	**Hokuryu**	**2.21 196**		P	**Pn**	**05 03 27.7**	**+0.4**
JHR				*e*S	**S**	**05 04 08.4**	**+0.5**
JRA	**Rausu**	**2.67 136**		P	**Pn**	**05 03 31.7**	**+0.6**
JRA				*e*S	**S**	**05 04 15.4**	**+0.6**
JFR	**Furan**	**2.71 179**		P	**Pn**	**05 03 31.5**	**-0.1**
JFR				*e*S	**S**	**05 04 15.3**	**-0.3**
JAR	**Ashorobuto**	**2.72 161**		P	**Pn**	**05 03 31.9**	**+0.2**
JAR				*e*S	**S**	**05 04 14.5**	**-1.3**
JSK	**Shakotan**	**2.92 211**		P	**Pn**	**05 03 33.7**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**2.99 127**		*d i*PN	**Pn**	**05 03 34.3**	**+0.2**
YUK				*i* S	**S**	**05 04 19.9**	**-0.3**
YUK				pmax	pmax		
	comp=E,269nm,0.5s						
YUK				pmax	pmax		
	comp=Z,309nm,0.5s						
YUK				pmax	pmax		
	comp=N,426nm,0.5s						
YUK				smax			
	comp=N,792nm,0.6s						
YUK				smax			
	comp=E,293nm,0.6s						
JEW	**Eniwo**	**3.13 195**		P	**Pn**	**05 03 35.9**	**+0.4**
JEW				*e*S	**S**	**05 04 21.2**	**-1.5**
UGL	**Uglegorsk**	**3.22 354**	**⇑**	*i*PN	**Pn**	**05 03 37.8**	**+1.7**
UGL				*e*S	**S**	**05 04 25.0**	**+1.0**
UGL				pmax	pmax		
	comp=N,651nm,0.8s						
UGL				pmax	pmax		
	comp=E,1μm,0.8s						
UGL				pmax	pmax		
	comp=Z,2μm,0.8s						
UGL				smax			
	comp=N,516nm,1.0s						
UGL				smax			
	comp=E,561nm,1.0s						
UGL	**Uglegorsk**	**3.22 354**	**⇑**	*i*P	**Pn**	**05 03 37.0**	**+0.9**
UGL				AMB	AMB	05 03 38.5	
	comp=E,651nm,0.8s						
UGL				AMB	AMB	05 03 38.5	
	comp=E,1μm,0.8s						
UGL				AMB	AMB	05 03 38.5	
	comp=E,2μm,0.8s						
UGL				*e*S	**S**	**05 04 25.0**	**+1.0**
UGL				A		05 04 26.5	
	comp=E,516nm,1.0s						
UGL				A		05 04 26.5	
	comp=E,561nm,1.0s						
JAK	**Akkeshi**	**3.26 151**		P	**Pn**	**05 03 35.4**	**-1.3**
JAK				*e*S	**S**	**05 04 20.6**	**-4.4**
JCH	**Churui**	**3.31 169**		P	**Pn**	**05 03 35.4**	**-1.8**
JCH				*e*S	**S**	**05 04 20.1**	**-5.7**
NEM2	**Nemuro 2**	**3.39 136**		P	**Pn**	**05 03 35.8**	**-2.2**
NEM2				*e*S	**S**	**05 04 21.8**	**-5.5**
JNBK	**Urakawa-nobuka**	**3.59 177**		P	**Pn**	**05 03 38.8**	**-1.3**
JNBK				*e*S	**S**	**05 04 28.4**	**-2.6**
KUR	**Kuril'sk**	**3.80**	**98⇓**	*i*PN	**Pn**	**05 03 42.9**	**+0.9**
KUR				pmax	pmax		
	comp=Z,340nm,0.7s						
KUR				pmax	pmax		
	comp=N,50nm,0.3s						
KUR				pmax	pmax		
	comp=E,130nm,0.8s						
KUR	**Kuril'sk**	**3.80**	**98⇓**	*i*P	**Pn**	**05 03 42.9**	**+0.9**
KUR				AMB	AMB	05 03 43.5	
	comp=E,340nm,0.7s						
KUR				AMB	AMB	05 03 43.5	
	comp=E,130nm,0.8s						
KUR				AMB	AMB	05 03 43.5	
	comp=E,50nm,0.3s						
KUR				*e*S	**S**	**05 04 34.5**	**-0.1**
KUR				A		05 04 55.5	
	comp=E,70nm,0.5s						
KUR				A		05 04 55.5	
	comp=E,380nm,1.0s						
ERM	**Erimo**	**3.88 173**		*e*Pn	**Pn**	**05 03 42.0**	**-1.0**
ERM				S	**S**	**05 04 28.3**	**-8.1**
ERM	**Erimo**	**3.88 173**		*d i*PN	**Pn**	**05 03 41.3**	**-1.7**
JKB	**Kayabe**	**4.13 196**		P	**Pn**	**05 03 44.2**	**-1.4**
JKB				*e*S	**S**	**05 04 35.3**	**-5.8**
TEY	**Ternei**	**4.26 261**		*e*P	**Pn**	**05 03 50.0**	**+3.1**
TEY				AMB	AMB	05 03 50.8	
	comp=E,37nm,0.6s						
TEY				*e*S	**S**	**05 04 45.0**	**+1.4**
TEY				A		05 04 45.8	
	comp=E,55nm,1.1s						
TEY				A		05 04 45.8	
	comp=E,201nm,1.7s						
JOSM	**Okushiri--Mats**	**4.39 211**		P	**Pn**	**05 03 47.7**	**-0.7**
JOSM				*e*S	**S**	**05 04 43.9**	**-2.3**
TYV	**Tymovskoe**	**5.00**	**1**	*e*P	**Pn**	**05 03 55.8**	**+0.9**
TYV				AMB	AMB	05 03 57.8	
	comp=E,220nm,0.1s						
TYV				AMB	AMB	05 03 57.8	
	comp=E,244nm,0.1s						
TYV				*e*S	**S**	**05 04 57.0**	**-1.1**
TYV				A		05 04 58.0	
	comp=E,64nm,0.8s						
HABR	**Khabarovsk**	**5.73 300**		*e*PN	**Pn**	**05 04 02.8**	**-0.6**
HABR				S	**S**	**05 05 13.5**	**0.0**
HABR				pmax	pmax		
	comp=N,26nm,0.9s						
HABR				pmax	pmax		
	comp=E,42nm,1.0s						
HABR				pmax	pmax		
	comp=Z,158nm,1.9s						
HABR	**Khabarovsk**	**5.73 300**		*e*P	**Pn**	**05 04 02.8**	**-0.6**
GRNR	**Gornyy**	**6.38 322**		*e*P	**Pn**	**05 04 11.1**	**+0.3**
GRNR				AMB	AMB	05 04 12.0	
	comp=Z,110nm,0.6s						
GRNR				*e*S	**S**	**05 05 28.0**	**+0.8**
GRNR				A		05 05 29.1	
	comp=Z,17nm,0.6s						
GRNR				A		05 05 29.1	
	comp=Z,21nm,0.6s						
NKL	**Nikolayevsk**	**7.38 351**	**⇑**	*i*P	**Pn**	**05 04 18.8**	**-4.0**
NKL				AMB	AMB	05 04 19.8	
	comp=Z,160nm,1.0s						
USRK	**Ussuriysk Arra**	**7.65 261**		P	**Pn**	**05 04 26.8**	**+0.6**
	comp=Z,14nm,0.3s,baz=71,slow=12,SNR=196						
USRK				S	**S**	**05 05 55.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=74,slow=14,SNR=7.4						
OKH	**Okha**	**7.69**	**2⇑**	*i*P	**Pn**	**05 04 28.1**	**+1.7**
OKH				AMB	AMB	05 04 29.0	
	comp=Z,700nm,0.9s						
KLR	**Kul'dur**	**8.04 299**		*e*PN	**Pn**	**05 04 28.4**	**-2.3**
KLR				*e*		05 06 00.0	
KLR				pmax	pmax		
	comp=E,38nm,1.2s						
KLR				pmax	pmax		
	comp=Z,60nm,1.2s						
KLR	**Kul'dur**	**8.04 299**		*e*P	**Pn**	**05 04 28.4**	**-2.3**
KLR				AMB	AMB	05 04 32.7	
	comp=Z,38nm,1.2s						
KLR				AMB	AMB	05 04 32.7	
	comp=Z,60nm,1.2s						
KLR				*e*S	**S**	**05 06 00.0**	**-3.5**
MDJ	**Mudanjiang**	**9.22 267**		P	**Pn**	**05 04 45.3**	**+0.2**
MDJ				S	**S**	**05 06 30.5**	**+0.5**
MDJ				PcP	PcP	05 10 29.3	-1.8
MDJ				ScP	ScP	05 13 30.3	-1.2
MDJ				PcS	PcS	05 14 02.9	-1.4
MDJ				ScS	ScS	05 17 04.8	-0.9
MDJ				pmax	pmax		
	comp=Z,51nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.4s						
MDJ	**Mudanjiang**	**9.22 267**		*e*Pn	**Pn**	**05 04 45.8**	**+0.7**
	comp=Z,82nm,0.9s						
MDJ				*e*S	**S**	**05 06 32.3**	**+2.3**
EKMR	**Ekimchan**	**9.53 323**		*e*P	**Pn**	**05 04 44.9**	**-3.7**
EKMR				AMB	AMB	05 04 46.4	
	comp=Z,45nm,0.7s						
EKMR				*e*S	**S**	**05 06 33.0**	**-3.5**
EKMR				A		05 06 36.0	
	comp=Z,21nm,1.0s						
EKMR				A		05 06 36.0	
	comp=Z,17nm,1.0s						
MAJO	**Matsushiro**	**9.87 201**		*e*Pn	**Pn**	**05 04 51.9**	**-1.2**
MAJO	**Matsushiro**	**9.87 201**		*e*PN	**Pn**	**05 04 51.9**	**-1.2**
MAT	**Matsushiro**	**9.87 201**		P	**Pn**	**05 04 51.7**	**-1.4**
MAT				S	**S**	**05 06 47.4**	**+2.7**
MJAR	**Matsushiro Arr**	**9.87 201**		P	**Pn**	**05 04 52.2**	**-0.9**
	comp=Z,24nm,0.3s,baz=8.3,slow=13,SNR=300						
MJAR	**Matsushiro Arr**	**9.87 201**		P	**Pn**	**05 04 52.2**	**-0.9**
MJAR	**Matsushiro Arr**	**9.87 201**		PN	**Pn**	**05 04 52.2**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,24nm,0.3s						
PETK	**Petropavlovsk-**	**12.21**	**48**	P	**Pn**	**05 05 21.8**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=215,slow=8.9,SNR=12						
PETK	**Petropavlovsk-**	**12.21**	**48**	P	**Pn**	**05 05 21.8**	**+0.8**
PETK	**Petropavlovsk-**	**12.21**	**48**	PN	**Pn**	**05 05 21.8**	**+0.8**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CN2	**Changchun**	**12.31 266**	**⇓**	P	**Pn**	**05 05 21.5**	**-0.8**
CN2				*e*sP		05 06 33.3	
CN2				*e*S	**S**	**05 07 34.3**	**-4.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
BMKR	**Bomnak**	**12.43 320**		*e*P	**Pn**	**05 05 20.0**	**-3.5**
BMKR				AMB	AMB	05 05 22.0	
	comp=Z,15nm,0.5s						
ZEA	**Zeya**	**12.61 314**		*e*P	**Pn**	**05 05 23.8**	**-1.9**
ZEA				AMB	AMB	05 05 24.4	
	comp=Z,55nm,1.0s						
KROS	**Kirovskiy**	**13.13 316**		*e*P	**Pn**	**05 05 27.5**	**-4.4**
KROS				AMB	AMB	05 05 29.2	
	comp=Z,7.0nm,0.5s						
KROS				AMB	AMB	05 05 29.2	
	comp=Z,14nm,0.5s						
KSRS	**Korea Array**	**13.77 238**		P	**Pn**	**05 05 40.2**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=48,slow=11,SNR=24						
KSRS				ScP	ScP	05 13 38.8	+0.7
	comp=Z,0.2nm,0.3s,baz=14,slow=2.0,SNR=4.9						
KSRS	**Korea Array**	**13.77 238**		P	**Pn**	**05 05 40.2**	**+0.5**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	**Wonju Array Be**	**13.80 238**		P	**Pn**	**05 05 40.2**	**+0.1**
KSAR				ScP	ScP	05 13 38.8	+0.6
KSAR	**Wonju Array Be**	**13.80 238**		P	**Pn**	**05 05 40.2**	**+0.1**
INCN	**Inchon**	**14.53 240**		*e*P	**P**	**05 05 48.5**	**+1.4**
	comp=Z,21nm,0.6s						
CLNS	**Chul'man**	**15.50 321**		*e*P	**P**	**05 05 58.7**	**+1.2**
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
HIA	**Hailar**	**15.74 291**		*e*P	**P**	**05 05 59.6**	**-0.6**
	comp=E,35nm,0.6s						
HIA	**Hailar**	**15.74 291**		*e*P	**P**	**05 05 59.6**	**-0.6**
HIA				pmax	pmax		
	comp=Z,35nm,0.6s						
YAK	**Yakutsk**	**17.81 340**		*e*P	**P**	**05 06 19.8**	**-2.6**
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
SEY	**Seymchan**	**17.99**	**15⇑**	*i*P	**P**	**05 06 24.3**	**0.0**
BJI	**Beijing**	**20.11 263**		P	**P**	**05 06 45.8**	**-1.2**
BJI				sP	sP	05 08 16.8	-0.8
BJI				S	**S**	**05 10 13.3**	**+0.8**
BJI				pmax	pmax		
	comp=Z,95nm,0.7s						
BJI				pmax	pmax		
	comp=Z,200nm,4.9s						
BJT	**Baijiatuau**	**20.12 263**		*e*P	**P**	**05 06 46.0**	**-1.1**
	comp=Z,79nm,0.7s						
BJT	**Baijiatuau**	**20.12 263**		*e*P	**P**	**05 06 46.0**	**-1.1**
BJT				pmax	pmax		
	comp=Z,79nm,0.7s						
FX1	**Attu Island--F**	**21.02**	**59**	P	**P**	**05 06 56.5**	**+1.2**
	comp=Z,21nm,0.5s,mb4.6,baz=319,slow=2.3,SNR=13						
FX1	**Attu Island--F**	**21.02**	**59**	P	**P**	**05 06 56.5**	**+1.2**
FX1	**Attu Island--F**	**21.02**	**59**	P	**P**	**05 06 56.5**	**+1.2**
FX1				pmax	pmax		
	comp=Z,21nm,0.5s						
BOD	**Bodaibo**	**21.12 315**		*e*P	**P**	**05 06 53.7**	**-2.4**
BOD				pmax	pmax		
	comp=Z,11nm,1.3s,mb3.9						
JOW	**Kunigami**	**22.14 216**		P	**P**	**05 07 06.4**	**+0.6**
	comp=Z,6.7nm,0.4s,mb4.2,baz=34,slow=11,SNR=5.1						
JOW	**Kunigami**	**22.14 216**		P	**P**	**05 07 06.4**	**+0.6**
NJ2	**Nanjing**	**22.91 241**		*e*P	**P**	**05 07 13.3**	**+0.6**
NJ2				pP		05 07 17.6	
NJ2				sP	sP	05 08 47.4	-0.6
NJ2				S	**S**	**05 10 55.5**	**-2.3**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.5						
NJ2				pmax	pmax		
	comp=Z,210nm,8.8s						
NJ2				LR	LR		
	comp=N,530nm,17.0s						
NJ2				LR	LR		
	comp=E,400nm,15.1s						
NJ2				LR	LR		
	comp=Z,300nm,15.0s						
HHC	**Hu-ho-hao-te**	**22.99 269**		*e*P	**P**	**05 07 13.6**	**+0.2**
HHC				sP	sP	05 08 48.1	-0.8
HHC				S	**S**	**05 10 56.5**	**-2.5**
HHC				ScP	ScP	05 13 59.9	+1.7
HHC				pmax	pmax		
	comp=Z,58nm,1.1s,mb4.7						
BTO	**Baotou**	**24.16 269**		*e*P	**P**	**05 07 23.6**	**-0.4**
ULN	**Ulaanbaatar**	**24.22 288**		*e*P	**P**	**05 07 24.5**	**+0.1**
	comp=Z,31nm,0.5s,mb4.8						
ULN	**Ulaanbaatar**	**24.22 288**		*e*P	**P**	**05 07 24.5**	**+0.1**
ULN				pmax	pmax		
	comp=Z,31nm,0.5s,mb4.8						
SONM	**Songino Array**	**24.66 288**		P	**P**	**05 07 28.5**	**+0.1**
	comp=Z,32nm,0.7s,mb4.7,baz=81,slow=8.7,SNR=241						
SONM				PcP	PcP	05 10 55.9	+0.3
	comp=Z,1.0nm,0.6s,baz=107,slow=2.1,SNR=4.6						
SONM				ScP	ScP	05 14 02.8	+0.1
	comp=Z,1.0nm,0.7s,baz=131,slow=2.3,SNR=7.4						
SONM	**Songino Array**	**24.66 288**		P	**P**	**05 07 28.5**	**+0.1**
SONM				PcP	PcP	05 10 55.9	+0.3
SONM				ScP	ScP	05 14 02.8	+0.1
SONM	**Songino Array**	**24.66 288**		P	**P**	**05 07 28.5**	**+0.1**
SONM						05 10 55.9	
SONM				pmax	pmax		
	comp=Z,32nm,0.7s						
BILL	**Bilibino**	**25.38**	**21**	*e*P	**P**	**05 07 33.6**	**-1.0**
BILL				*e*		05 10 53.4	
BILL				*e*S	**S**	**05 11 34.6**	**-1.4**
ZAK	**Zakamensk**	**26.37 294**		*e*P	**P**	**05 07 43.1**	**-0.5**
ZAK				*e*		05 08 46.1	
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb3.8						
XAN	**Xi'an**	**28.14 257**		P	**P**	**05 07 59.5**	**0.0**
XAN				pP		05 08 58.8	
XAN				sP	sP	05 09 35.4	-3.4
XAN				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.1						
ENH	**Enshi**	**30.07 250**		*e*P	**P**	**05 08 16.2**	**-0.3**
	comp=Z,7.1nm,0.8s,mb4.0						
LZH	**Lanzhou**	**30.54 265**		*e*P	**P**	**05 08 21.8**	**+1.2**
LZH				pP	pP	05 09 21.1	-1.3
LZH				sP	sP	05 09 57.9	-2.3
LZH				PcP	PcP	05 11 14.3	+4.0
LZH				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.2						
LZH				pmax	pmax		
	comp=Z,53nm,4.7s						
GTA	**Gaotai**	**31.79 274**		P	**P**	**05 08 32.5**	**+1.2**
GTA				pP	pP	05 09 34.1	+0.7
GTA				sP	sP	05 10 11.4	+0.2
GTA				ScP	ScP	05 14 26.3	+1.2
GTA				pmax	pmax		
	comp=Z,160nm,5.2s						
CD2	**Chengdu**	**33.51 257**		*e*P	**P**	**05 08 46.8**	**+0.5**
CD2				pP	pP	05 09 52.3	+3.5
CD2				sP	sP	05 10 27.3	+0.9
CD2				pmax	pmax		
	comp=Z,80nm,0.7s,mb5.1						
CD2				pmax	pmax		
	comp=Z,160nm,5.8s						
GYA	**Guiyang**	**34.46 248**		P	**P**	**05 08 54.1**	**-0.3**
GYA				pP	pP	05 10 01.6	+4.4
GYA				sP	sP	05 10 37.8	+3.1
GYA				PcP	PcP	05 11 23.0	+1.7
GYA				S	**S**	**05 13 59.4**	**+1.3**
GYA				ScP	ScP	05 14 35.3	+0.6
GYA				PcS	PcS	05 15 08.6	+0.2
GYA				ScS	ScS	05 18 38.0	-0.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.4						
GYA				pmax	pmax		
	comp=Z,40nm,5.5s						
ZAA0	**Zalesovo Array**	**37.10 304**		*e*P	**P**	**05 09 14.7**	**-1.6**
ZALV	**Zalesovo Beam**	**37.10 304**		P	**P**	**05 09 15.0**	**-1.3**
	comp=Z,2.9nm,0.4s,mb3.9,baz=69,slow=11,SNR=22						
ZALV				PcP	PcP	05 11 28.8	0.0
	comp=Z,3.7nm,0.5s,baz=65,slow=2.6,SNR=13						
ZALV				ScP	ScP	05 14 42.6	-1.4
	comp=Z,0.5nm,0.5s,baz=32,slow=5.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**37.10 304**		P	**P**	**05 09 15.0**	**-1.3**
ZALV				PcP	PcP	05 11 28.8	0.0
ZALV				ScP	ScP	05 14 42.6	-1.4
ZALV	**Zalesovo Beam**	**37.10 304**		P	**P**	**05 09 15.0**	**-1.3**
ZALV						05 11 28.8	
ZALV						05 14 42.6	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb3.9						
NVS	**Novosibirsk**	**37.83 306**		*e*P	**P**	**05 09 21.2**	**-1.1**
NVS				*i* S	**S**	**05 14 44.8**	**-3.4**
NVS				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.0						
NVS				pmax	pmax		
	comp=E,14nm,1.4s						
NVS				smax			
	comp=N,24nm,2.0s						
NVS				smax			
	comp=E,18nm,1.7s						
KMI	**Kunming**	**37.94 251**		P	**P**	**05 09 24.3**	**+0.6**
KMI				pmax	pmax		
	comp=Z,37nm,0.7s,mb4.7						
WMQ	**Urumqi**	**38.30 287**		P	**P**	**05 09 27.3**	**+0.9**
WMQ				pP	pP	05 10 30.8	+0.5
WMQ				sP	sP	05 11 06.5	-1.1
WMQ				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.5						
WMQ				pmax	pmax		
	comp=Z,150nm,4.2s						
OHAK	**Old Harbor**	**40.01**	**50**	*e*P	**P**	**05 09 39.7**	**-0.6**
COLD	**Coldfoot**	**40.17**	**34**	*e*P	**P**	**05 09 40.8**	**-0.6**
	comp=Z,7.4nm,0.8s,mb4.0						
KDAK	**Kodiak Island**	**40.27**	**49**	P	**P**	**05 09 41.5**	**-0.9**
	comp=Z,19nm,1.0s,mb4.3,baz=306,slow=7.6,SNR=8.3						
KDAK	**Kodiak Island**	**40.27**	**49**	P	**P**	**05 09 41.5**	**-0.9**
KDAK	**Kodiak Island**	**40.27**	**49**	*i* P	**P**	**05 09 42.8**	**+0.5**
MK31	**Makanchi Array**	**40.71 294**		*e*P	**P**	**05 09 45.7**	**-0.4**
MK31				*e*PcP	PcP	05 11 40.5	+0.1
MK31	**Makanchi Array**	**40.71 294**		*e*P	**P**	**05 09 45.7**	**-0.4**
MK31				*e*		05 11 40.5	
MKAR	**Makanchi Array**	**40.71 294**		P	**P**	**05 09 45.6**	**-0.4**
	comp=Z,7.1nm,0.6s,mb4.1,baz=80,slow=8.6,SNR=68						
MKAR				PcP	PcP	05 11 40.4	0.0
	comp=Z,1.6nm,0.4s,baz=63,slow=2.2,SNR=7.1						
MKAR				ScP	ScP	05 14 58.2	+0.1
	comp=Z,0.7nm,0.7s,baz=51,slow=5.3,SNR=4.4						
MKAR	**Makanchi Array**	**40.71 294**		*e*P	**P**	**05 09 45.8**	**-0.3**
MKAR				PcP	PcP	05 11 40.4	0.0
MKAR				ScP	ScP	05 14 58.2	+0.1
MKAR	**Makanchi Array**	**40.71 294**		*e*P	**P**	**05 09 45.8**	**-0.3**
MKAR						05 11 40.4	
COLA	**College**	**41.33**	**37**	*e*P	**P**	**05 09 50.6**	**-0.3**
	comp=Z,13nm,0.6s,mb4.3						
COLA	**College**	**41.33**	**37**	*e*P	**P**	**05 09 50.6**	**-0.3**
COLA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.3						
KURK	**Kurchatov**	**41.62 301**		P	**P**	**05 09 53.2**	**-0.2**
	comp=Z,12nm,0.5s,mb4.3,baz=72,slow=8.6,SNR=117						
KURK				PcP	PcP	05 11 43.5	+0.2
	comp=Z,6.5nm,0.6s,baz=80,slow=3.2,SNR=22						
KURK	**Kurchatov**	**41.62 301**		P	**P**	**05 09 53.2**	**-0.2**
	comp=Z,2.0nm,0.7s,mb3.4						
KURK				PcP	PcP	05 11 43.5	+0.2
KURK	**Kurchatov**	**41.62 301**		*d i*P	**P**	**05 09 52.3**	**-1.1**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**41.76**	**37**	P	**P**	**05 09 53.2**	**-1.0**
	comp=Z,8.4nm,0.6s,mb4.0,baz=276,slow=8.5,SNR=82						
ILAR	**Eielson Array**	**41.76**	**37**	P	**P**	**05 09 53.2**	**-1.0**
ILAR	**Eielson Array**	**41.76**	**37**	P	**P**	**05 09 53.3**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	**42.95 266**		*e*P	**P**	**05 10 06.0**	**+1.7**
	comp=Z,17nm,0.6s,mb4.4						
LSA	**Lhasa**	**42.95 266**		*e*P	**P**	**05 10 06.0**	**+1.7**
LSA				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.3						
CHRT	**Chiangrai**	**43.57 248**	**⇓**	P	**P**	**05 10 08.5**	**-0.8**
	comp=Z,118nm,0.8s,mb5.1						
EGAK	**Eagle**	**44.17**	**37**	*e*P	**P**	**05 10 12.2**	**-1.2**
	comp=Z,20nm,0.7s,

BVAR PcP PcP 05 11 57.1 +0.2
BVAR ScP ScP 05 15 17.5 -0.4
BVAR Borovoye Array 45.61 306 P **P** **05 10 24.4 -0.5**
BVAR 05 11 57.1
BVAR pmax pmax
comp=Z,5.0nm,0.4s
BRVK Borovoye 45.66 307 *eP* **P** **05 10 24.8 -0.4**
comp=Z,11nm,1.0s,mb3.9
BRVK Borovoye 45.66 307⇑ *iP* **P** **05 10 24.7 -0.5**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.0
INK Inuvik 46.24 31 P **P** **05 10 28.8 -0.7**
comp=Z,9.4nm,0.5s,mb4.2,baz=306,slow=6.6,SNR=82
INK Inuvik 46.24 31 P **P** **05 10 28.8 -0.7**
INK Inuvik 46.24 31 P **P** **05 10 28.8 -0.7**
INK pmax pmax
comp=Z,9.0nm,0.5s
TKM2 Tokmak 2 46.65 292 P **P** **05 10 33.9 +0.9**
SNR=18
TKM2 P 05 10 33.9
SNR=18
TKM2 Tokmak 2 46.65 292 *eP* **P** **05 10 33.9 +0.9**
comp=Z,23nm,0.9s,mb4.4
TKM2 Tokmak 2 46.65 292 *i* P **P** **05 10 33.9 +0.8**
TAPN Taplejung 46.77 266 *eP* **P** **05 10 34.8 +0.6**
comp=Z,29nm,0.4s,mb4.8
TAPN Taplejung 46.77 266 *eP* **P** **05 10 34.8 +0.6**
comp=Z,29nm,0.4s,mb4.8
KBK Karagaybulak 47.20 292 P **P** **05 10 37.8 +0.6**
SNR=23
KBK P 05 10 37.8
SNR=23
USP Ospenovka 47.20 293 P **P** **05 10 37.5 +0.2**
SNR=12
USP P 05 10 37.5
SNR=12
KZA Kyzart 47.28 291 P **P** **05 10 39.3 +1.4**
SNR=14
KZA P 05 10 39.3
SNR=14
ODAN Odare 47.30 266 *eP* **P** **05 10 38.9 +0.7**
comp=Z,18nm,0.4s,mb4.6
ODAN Odare 47.30 266 *eP* **P** **05 10 38.9 +0.7**
comp=Z,18nm,0.4s,mb4.7
AAK Ala-Archa 47.50 292 *eP* **P** **05 10 39.5 0.0**
comp=Z,26nm,0.5s,mb4.7
AAK Ala-Archa 47.50 292 *eP* **P** **05 10 39.5 -0.1**
AAK pmax pmax
comp=Z,26nm,0.5s,mb4.7
JIRN Jiri 47.64 268 *eP* **P** **05 10 41.3 +0.5**
comp=Z,74nm,0.6s,mb5.1
JIRN Jiri 47.64 268 *eP* **P** **05 10 41.3 +0.5**
comp=Z,74nm,0.6s,mb5.1
GUN Gumba 47.70 268 *eP* **P** **05 10 41.9 +0.6**
comp=Z,55nm,0.5s,mb5.0
GUN Gumba 47.70 268 *eP* **P** **05 10 41.9 +0.6**
comp=Z,55nm,0.5s,mb5.0
RAMN Ramite 47.80 267 *eP* **P** **05 10 42.5 +0.5**
comp=Z,81nm,0.6s,mb5.1
RAMN Ramite 47.80 267 *eP* **P** **05 10 42.5 +0.5**
comp=Z,81nm,0.6s,mb5.1
EKS2 Erkin-Say 47.95 292 P **P** **05 10 43.2 +0.2**
SNR=10.0
EKS2 P 05 10 43.2
SNR=10.0
EKS2 Erkin-Say 47.95 292 *eP* **P** **05 10 43.2 +0.2**
comp=Z,18nm,0.8s,mb4.3
EKS2 *e*PcP PcP 05 12 06.2 +0.7
EKS2 Erkin-Say 47.95 292 *eP* **P** **05 10 43.2 +0.2**
EKS2 *e* 05 12 06.2
EKS2 pmax pmax
comp=Z,18nm,0.8s,mb4.3
KSH Kashi 48.06 287 P **P** **05 10 48.3 +4.4**
KSH pP pP 05 11 53.6 +2.7
KSH sP sP 05 12 28.8 +1.4
KSH PP PP 05 12 43.0 +3.7
KSH ScP ScP 05 15 32.5 +4.1
KSH PcS PcS 05 16 04.3 +2.1
KSH S **S** **05 17 20.6 +3.9**
KSH ScS ScS 05 20 03.8 +2.6
KSH SS SS 05 20 51.3 +1.3
KSH pmax pmax
comp=Z,16nm,0.8s,mb4.3
KSH pmax pmax
comp=Z,140nm,5.5s
KSH LR LR
comp=N,130nm,5.0s
KSH LR LR
comp=E,250nm,6.9s
KSH LR LR
comp=Z,210nm,6.2s
KKN Kakani 48.20 269 *eP* **P** **05 10 45.5 +0.4**
comp=Z,25nm,0.7s,mb4.6
KKN Kakani 48.20 269 *eP* **P** **05 10 45.5 +0.4**
comp=Z,25nm,0.7s,mb4.6
KKN Kakani 48.20 269 *eP* **P** **05 10 45.5 +0.4**
KKN pmax pmax
comp=Z,25nm,0.7s,mb4.5
PKI Pulchoki 48.24 268 *eP* **P** **05 10 45.9 +0.5**
comp=Z,23nm,0.7s,mb4.5
PKI Pulchoki 48.24 268 *eP* **P** **05 10 45.9 +0.5**
comp=Z,23nm,0.6s,mb4.6
PKI Pulchoki 48.24 268 *eP* **P** **05 10 45.9 +0.5**
PKI pmax pmax
comp=Z,23nm,0.6s,mb4.6
AML Almayashu 48.26 292 P **P** **05 10 46.5 +1.1**
SNR=7.7
AML P 05 10 46.5
SNR=7.7
DMN Daman 48.43 268 *eP* **P** **05 10 47.3 +0.5**
comp=Z,54nm,0.9s,mb4.8
DMN Daman 48.43 268 *eP* **P** **05 10 47.3 +0.5**
comp=Z,54nm,0.9s,mb4.8
GKN Gorkha 48.52 269 *eP* **P** **05 10 47.7 +0.2**
comp=Z,45nm,0.5s,mb4.9
GKN Gorkha 48.52 269 *eP* **P** **05 10 47.7 +0.2**
comp=Z,45nm,0.5s,mb5.0
DANN Dangsing 48.92 270 *eP* **P** **05 10 51.0 +0.5**
comp=Z,134nm,0.8s,mb5.2
DANN Dangsing 48.92 270 *eP* **P** **05 10 51.0 +0.5**
comp=Z,134nm,0.8s,mb5.2
SVE Sverdlovsk 49.33 314 *eP* **P** **05 10 52.5 -0.6**
SVE pmax pmax
comp=Z,14nm,0.7s,mb4.3
KOLN Koldanda 49.38 270 *eP* **P** **05 10 54.4 +0.4**
comp=Z,41nm,0.9s,mb4.7
KOLN Koldanda 49.38 270 *eP* **P** **05 10 54.4 +0.4**
comp=Z,41nm,0.9s,mb4.7
PYUN Piuthan 49.61 271 *eP* **P** **05 10 56.0 +0.3**
comp=Z,183nm,1.0s,mb5.2
PYUN Piuthan 49.61 271 *eP* **P** **05 10 56.0 +0.3**
comp=Z,183nm,1.0s,mb5.3
KK31 Karatay Array 49.84 294 *i* P **P** **05 10 57.0 -0.2**
KK31 pmax pmax
comp=Z,6.0nm,0.4s,mb4.2
KKAR Karatay Array 49.84 294 *eP* **P** **05 10 56.9 -0.3**
KKAR Karatay Array 49.84 294 *eP* **P** **05 10 56.9 -0.3**
ARU Arti 50.54 314 *eP* **P** **05 11 00.6 -1.6**
comp=Z,17nm,1.3s,mb4.1
ARU Arti 50.54 314 *d iP* **P** **05 11 00.3 -1.9**
ARU *PP pP 05 12 05.2 -4.7
ARU 05 12 13.6
ARU 05 12 57.3
ARU S **S** **05 17 48.7 -1.6**
ARU SS SS 05 21 27.5 -0.9
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.0
DLBC Dease Lake 51.32 42 P **P** **05 11 09.8 +1.9**
comp=Z,4.9nm,0.9s,mb3.8,baz=310,slow=9.6,SNR=5.5
DLBC Dease Lake 51.32 42 P **P** **05 11 09.8 +1.9**
AB31 Akbulak array 53.17 306 *i* P **P** **05 11 21.0 -0.5**
AB31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.1
ABKAR Akbulak array 53.17 306 *eP* **P** **05 11 21.1 -0.4**
NDI New Delhi 53.28 275 *e*PKP **P** **05 11 20.8 -1.9**
NDI AMb AMB 05 11 21.4
comp=Z,61nm,0.7s,mb5.0
AKTO Aktyubinsk 53.66 308 P **P** **05 11 24.0 -1.0**
comp=Z,2.5nm,0.5s,mb3.8,baz=64,slow=8.4,SNR=12
AKTO PcP PcP 05 12 26.4 -0.2
comp=Z,5.6nm,0.6s,baz=93,slow=5.8,SNR=11
AKTO Aktyubinsk 53.66 308 P **P** **05 11 24.0 -1.0**
AKTO PcP PcP 05 12 26.4 -0.2
AKTO Aktyubinsk 53.66 308 P **P** **05 11 23.4 -1.6**
RES Resolute Bay 53.86 16 P **P** **05 11 25.2 -0.9**
comp=Z,7.6nm,0.6s,mb4.2,baz=296,slow=7.1,SNR=38
RES Resolute Bay 53.86 16 P **P** **05 11 25.2 -0.9**
RES Resolute Bay 53.86 16 P **P** **05 11 25.3 -0.8**
RES pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
KULM Kulim 54.31 235 *eP* **P** **05 11 31.1 +0.9**
comp=Z,20nm,0.7s,mb4.5
KAPI Kappang 54.58 208 P **P** **05 11 31.2 -0.9**
comp=Z,4.4nm,0.6s,mb3.9,baz=334,slow=2.4,SNR=4.7
KAPI Kappang 54.58 208 P **P** **05 11 31.1 -0.9**
KBL Kabul 55.42 286 *eP* **P** **05 11 37.5 -0.4**
comp=Z,30nm,0.6s,mb4.8
KBL Kabul 55.42 286 *eP* **P** **05 11 37.5 -0.3**
KBL pmax pmax
comp=Z,30nm,0.6s,mb4.8
KEV Kevo 55.54 338 *eP* **P** **05 11 36.8 -1.3**
KEV Kevo 55.54 338 *ep* **P** **05 11 36.8 -1.3**
YKA Yellowknife Ar 55.84 33 P **P** **05 11 40.5 +0.1**
comp=Z,4.1nm,0.6s,mb4.0,baz=306,slow=6.7,SNR=29
YKA pP pP 05 12 49.7 0.0
comp=Z,0.7nm,0.8s,baz=311,slow=6.4,SNR=2.2
YKA ScP ScP 05 16 02.3 +0.6
comp=Z,0.3nm,0.6s,baz=307,slow=4.1,SNR=6.5
YKA Yellowknife Ar 55.84 33 P **P** **05 11 40.5 +0.1**
YKA pP pP 05 12 49.7 0.0
YKA ScP ScP 05 16 02.4 +0.6
YKA Yellowknife Ar 55.84 33 P **P** **05 11 40.5 +0.1**
YKA *PP pP 05 12 49.7 0.0
YKA pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 56.08 338 P **P** **05 11 41.5 -0.5**
comp=Z,1.7nm,0.5s,mb3.6,baz=52,slow=6.8,SNR=8.8
ARCES ARCESS Array B 56.08 338 P **P** **05 11 41.5 -0.5**
ARCES ARCESS Array B 56.08 338 P **P** **05 11 41.5 -0.5**
BHPL Bhopal 56.56 270 *e*PKP **P** **05 11 45.7 -0.3**
BHPL AMb AMB 05 11 46.4
comp=Z,31nm,0.7s,mb4.8
JOF Joensuu 58.65 330 *eP* **P** **05 11 58.0 -1.8**
JOF pmax pmax
comp=Z,3.0nm,0.3s,mb4.2
JOF Joensuu 58.65 330 *ep* **P** **05 11 58.0 -1.8**
comp=Z,3.1nm,0.3s,mb4.2
IMYA Miami 60.24 293 *eP* **P** **05 12 12.2 +1.1**
KAF Kangasniemi 60.91 331 *eP* **P** **05 12 12.7 -2.4**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.2
KAF Kangasniemi 60.91 331 *ep* **P** **05 12 12.7 -2.4**
comp=Z,5.3nm,0.5s,mb4.2
IKRD Kardeh 61.00 294 *eP* **P** **05 12 12.9 -3.2**
FINES FINESS Array B 61.46 331 P **P** **05 12 17.8 -1.0**
comp=Z,11nm,0.6s,mb4.5,baz=47,slow=7.4,SNR=70
FINES FINESS Array B 61.46 331 P **P** **05 12 17.8 -1.0**
FINES FINESS Array B 61.46 331 P **P** **05 12 17.8 -1.0**
FINES pmax pmax
comp=Z,11nm,0.6s
MDRS Chennai 61.49 259 *e*PKP **P** **05 12 20.2 +0.5**
OBN Obninsk 61.63 321 *eP* **P** **05 12 18.7 -1.3**
OBN *e* 05 12 55.0
OBN *e*PP pP 05 13 33.9 +3.0
OBN *e*SP sP 05 14 07.5 +1.1
OBN pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
BHJ Bhuj 61.97 275⇑ *ex* x 05 12 17.0
POO Poona 62.17 268 *e*PKP **P** **05 12 24.0 -0.1**
POO AMb AMB 05 12 24.4
comp=Z,21nm,0.8s,mb4.7
IMON Monand 62.45 290 *eP* **P** **05 12 25.9 +0.1**
ITEG Tejag 63.24 290 *eP* **P** **05 12 30.6 -0.4**
IKOO Kooshah 63.37 290 *eP* **P** **05 12 32.0 +0.2**
FITZ Fitzroy Crossi 65.49 198 P **P** **05 12 46.2 +0.8**
comp=Z,4.0nm,0.7s,mb4.2,baz=289,slow=21,SNR=5.3
FITZ Fitzroy Crossi 65.49 198 P **P** **05 12 46.2 +0.8**
KIV Kislovodsk 65.89 309 *eP* **P** **05 12 48.8 +1.0**
comp=Z,32nm,0.7s,mb5.2
KIV Kislovodsk 65.89 309 *eP* **P** **05 12 48.7 +0.9**
FFC Flin Flon 65.90 35 *eP* **P** **05 12 47.9 +0.3**
comp=Z,6.3nm,0.7s,mb4.5
FFC Flin Flon 65.90 35 *i* P **P** **05 12 48.6 +1.0**
WB2 Warramunga Arr 65.92 188 *eP* **P** **05 12 48.1 -0.1**
WRA Warramunga Arr 65.92 188 P **P** **05 12 48.1 0.0**
comp=Z,1.8nm,0.8s,mb3.8,baz=5.3,slow=6.7,SNR=13
WRA Warramunga Arr 65.92 188 P **P** **05 12 48.1 0.0**
WRA Warramunga Arr 65.92 188 P **P** **05 12 48.2 +0.1**
WRA pmax pmax
comp=Z,2.0nm,0.8s
MTA Mtatsminda 66.20 306 P **P** **05 12 50.8 +1.0**
ONI Oni 66.37 307 P **P** **05 12 50.0 -0.8**
ONI Oni 66.37 307 P **P** **05 12 52.1 +1.2**
NB2 NORSAR Subarra 66.39 336 P **P** **05 12 49.7 -1.0**
comp=Z,3.9nm,0.6s,mb4.3,baz=36,slow=6.5
NOA NORSAR Array B 66.39 336 P **P** **05 12 49.9 -0.8**
comp=Z,4.7nm,0.6s,mb4.4,baz=35,slow=6.3,SNR=26
NOA NORSAR Array B 66.39 336 P **P** **05 12 49.9 -0.7**
NOA NORSAR Array B 66.39 336 P **P** **05 12 49.9 -0.8**
NOA pmax pmax
comp=Z,5.0nm,0.6s
HFS Hagfors 66.42 335 P **P** **05 12 49.9 -1.0**
comp=Z,12nm,0.5s,mb4.9,baz=59,slow=7.1,SNR=68
HFS Hagfors 66.42 335 P **P** **05 12 49.9 -1.0**
HFS Hagfors 66.42 335 P **P** **05 12 49.9 -0.9**
HFS pmax pmax
comp=Z,12nm,0.5s
ISAD Sadrabad 67.16 293 *eP* **P** **05 12 51.8 -4.2**
IKLH Kolahrood 67.58 295 *eP* **P** **05 12 58.5 -0.1**
AKASG Malin Array Be 67.90 321 P **P** **05 12 58.8 -1.4**
comp=Z,1.3nm,0.4s,mb4.1,baz=41,slow=6.3,SNR=10
AKASG Malin Array Be 67.90 321 P **P** **05 12 58.8 -1.4**
AKASG Malin Array Be 67.90 321 P **P** **05 12 58.8 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 67.91 321 *eP* **P** **05 12 59.3 -1.0**
comp=Z,45nm,2.2s,mb4.8
KIEV Kiev 67.91 321 *eP* **P** **05 12 58.8 -1.5**
IPAR Pars 68.93 291 *eP* **P** **05 13 06.6 -0.3**
NVAR Mina Array Bea 69.17 56 P **P** **05 13 09.7 +1.4**
comp=Z,1.9nm,0.8s,mb3.9,baz=286,slow=5.5,SNR=14
NVAR Mina Array Bea 69.17 56 P **P** **05 13 09.7 +1.4**
ISRV Sarvestan 69.19 291 *eP* **P** **05 13 07.8 -0.7**
ASAR Alice Springs 69.65 188 P **P** **05 13 11.9 +0.8**
comp=Z,2.0nm,0.5s,mb4.1,baz=0.5,slow=5.2,SNR=26
ASAR Alice Springs 69.65 188 P **P** **05 13 11.9 +0.8**
ASAR Alice Springs 69.65 188 P **P** **05 13 12.0 +0.8**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
RRI2 Red Ridge 69.66 48 *eP* **P** **05 13 13.0 +1.8**
comp=Z,3.0nm,0.7s,mb4.1
KWP Kalwaria Pacla 71.49 323⇑ P **P** **05 13 22.5 +0.5**
KWP Kalwaria Pacla 71.49 323⇑ *iP* **P** **05 13 22.5 +0.5**
ULM Lac du Bonnet 71.72 35 P **P** **05 13 24.1 +0.7**
comp=Z,3.9nm,0.7s,mb4.2,baz=321,slow=6.3,SNR=7.7
ULM Lac du Bonnet 71.72 35 P **P** **05 13 24.1 +0.7**
ULM Lac du Bonnet 71.72 35 P **P** **05 13 24.1 +0.7**
ULM pmax pmax
comp=Z,4.0nm,0.7s
BUR08 Bucovina Ar. S 71.94 321 *eP* **P** **05 13 24.6 -0.1**
BURAR Bucovina Array 71.95 321 ⇓P **P** **05 13 24.9 +0.1**
BURAR Bucovina Array 71.95 321 ⇓*iP* **P** **05 13 24.9 +0.1**
TLCR 72.12 317 ⇓P **P** **05 13 26.0 +0.2**
TLCR 72.12 317 ⇓*iP* **P** **05 13 26.0 +0.2**
TESR 72.14 319⇑*iP* **P** **05 13 26.0 +0.1**
OJC Ojcow 72.21 325 *eP* **P** **05 13 26.3 +0.1**
comp=Z,112nm,2.9s,mb5.1
OJC Ojcow 72.21 325 *eP* **P** **05 13 26.3 +0.1**
OJC pmax pmax
comp=Z,113nm,2.9s,mb5.1
PETR 72.47 318⇑*iP* **P** **05 13 28.9 +1.1**
CRVS Cervenica-Dubn 72.57 324 *eP* **P** **05 13 28.2 -0.2**
CRVS Cervenica-Dubn 72.57 324 *eP* **P** **05 13 28.1 -0.3**
MIB Mutribah 72.62 295 *eP* **P** **05 13 28.3 -0.7**
MIB AMb AMB 05 13 29.0
comp=Z,49nm,0.5s,mb5.5
PLOR Plostina 72.64 319 ⇓P **P** **05 13 29.2 +0.4**
PLOR Plostina 72.64 319 ⇓*iP* **P** **05 13 29.2 +0.4**
TRPA Tarpa 72.72 323⇑*iP* **P** **05 13 29.8 +0.6**
RST Umm Al-Ruwaisa 73.04 295 *eP* **P** **05 13 30.3 -1.2**
RST AMb AMB 05 13 31.6
comp=Z,7.8nm,0.8s,mb4.5
NAY Al-Naaiem 73.06 295 *eP* **P** **05 13 30.7 -0.8**
NAY AMb AMB 05 13 31.5
comp=Z,16nm,0.6s,mb4.9
KSP Ksiaz 73.06 328 *eP* **P** **05 13 30.9 -0.3**
KSP Ksiaz 73.06 328⇓*eP* **P** **05 13 30.9 -0.3**
MLR Muntele Rosu 73.23 319 P **P** **05 13 33.4 +1.1**
comp=Z,0.4nm,0.4s,mb3.5,baz=300,slow=22,SNR=5.4
MLR Muntele Rosu 73.23 319 P **P** **05 13 33.4 +1.1**
MLR Muntele Rosu 73.23 319 ⇓P **P** **05 13 33.4 +1.1**
MLR Muntele Rosu 73.23 319 ⇓*iP* **P** **05 13 33.4 +1.1**
UPC Upice 73.44 328 *eP* **P** **05 13 34.1 +0.7**
UPC Upice 73.44 328 *eP* **P** **05 13 34.1 +0.7**
MORC Moravsky Berou 73.45 326 ⇓P **P** **05 13 34.0 +0.6**
MORC Moravsky Berou 73.45 326 ⇓*iP* **P** **05 13 34.0 +0.6**
DPC Dobruska-Polom 73.45 327 *eP* **P** **05 13 34.1 +0.6**
DPC Dobruska-Polom 73.45 327 *eP* **P** **05 13 34.1 +0.6**
SECR 73.52 319⇑*iP* **P** **05 13 35.2 +1.2**
DRGR 73.68 322 ⇓P **P** **05 13 36.2 +1.3**
DRGR 73.68 322 ⇓*iP* **P** **05 13 36.2 +1.3**
VOIR 73.68 319 ⇑P **P** **05 13 35.5 +0.6**
VOIR 73.68 319⇑*iP* **P** **05 13 35.5 +0.6**
BR131 Keskin Array S 73.69 311 *eP* **P** **05 13 35.3 +0.2**
comp=Z,6.6nm,0.7s,mb4.5
BRTR Keskin Array B 73.69 311 P **P** **05 13 35.4 +0.3**
comp=Z,6.6nm,0.7s,mb4.5,baz=68,slow=3.5,SNR=46
BRTR Keskin Array B 73.69 311 P **P** **05 13 35.4 +0.3**
BRTR Keskin Array B 73.69 311 P **P** **05 13 35.4 +0.4**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 73.88 330 ⇓*iP* **P** **05 13 35.5 -0.4**
CLL pmax pmax
comp=Z,6.0nm,0.4s,mb4.7
CLL Collm 73.88 330 ⇓*iP* **P** **05 13 35.5 -0.4**
comp=Z,6.0nm,0.4s,mb4.7
VYHS Vyhne 73.96 325 *eP* **P** **05 13 37.1 +0.7**
VYHS Vyhne 73.96 325 *eP* **P** **05 13 37.1 +0.7**
VRAC Vranov 74.19 327 P **P** **05 13 38.0 +0.3**
comp=Z,1.9nm,0.5s,mb4.1,baz=50,slow=7.4,SNR=3.7
VRAC Vranov 74.19 327 P **P** **05 13 38.0 +0.2**
VRAC Vranov 74.19 327 ⇓P **P** **05 13 38.5 +0.8**
VRAC Vranov 74.19 327 ⇓*iP* **P** **05 13 38.5 +0.8**
PRU Pruhonice 74.41 328 *eP* **P** **05 13 39.1 +0.1**
PRU Pruhonice 74.41 328 *eP* **P** **05 13 39.1 +0.1**
GZR Gura Zlata 74.74 321 ⇑P **P** **05 13 41.2 +0.3**
GZR Gura Zlata 74.74 321⇑*iP* **P** **05 13 41.2 +0.3**
BZS Buzias 75.07 321 ⇑P **P** **05 13 43.0 +0.2**
BZS Buzias 75.07 321⇑*iP* **P** **05 13 43.0 +0.2**
KHC Kasperske Hory 75.47 328 *eP* **P** **05 13 45.3 +0.3**
KHC Kasperske Hory 75.47 328 *eP* **P** **05 13 45.3 +0.3**
GERES GERESS Array B 75.66 328 P **P** **05 13 46.2 +0.1**
comp=Z,1.0nm,0.5s,mb3.8,baz=42,slow=5.2,SNR=13
GERES GERESS Array B 75.66 328 P **P** **05 13 46.2 +0.1**
GERES GERESS Array B 75.66 328 P **P** **05 13 46.2 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.5s
PKSM Moragy 75.87 324 ⇓P **P** **05 13 47.6 +0.3**
PKSM Moragy 75.87 324 ⇓*iP* **P** **05 13 47.6 +0.3**
SCHQ Schefferville 76.63 17 P **P** **05 13 52.4 +1.0**
comp=Z,2.4nm,0.7s,mb4.0,baz=356,slow=3.1,SNR=4.9
SCHQ Schefferville 76.63 17 P **P** **05 13 52.4 +1.0**
VTS Vitosha 76.72 319 ⇑P **P** **05 13 53.0 +0.8**
VTS Vitosha 76.72 319⇑*iP* **P** **05 13 53.0 +0.8**
GROS Grobnik 76.94 325 *i* P **P** **05 13 53.3 0.0**
STKA Stephens Creek 77.39 181 P **P** **05 13 57.1 +1.4**
comp=Z,0.5nm,0.5s,mb3.5,baz=352,slow=12,SNR=2.9
STKA Stephens Creek 77.39 181 P **P** **05 13 57.1 +1.4**
STKA Stephens Creek 77.39 181 P **P** **05 13 57.1 +1.4**
STKA pmax pmax
comp=Z,1.0nm,0.5s
WATA Walderalm 77.71 328 ⇓*iP* **P** **05 13 57.9 +0.4**
comp=Z,5.8nm,0.6s,mb4.5
WTTA Wattenberg 77.75 328 ⇓*iP* **P** **05 13 58.3 +0.6**
comp=Z,8.5nm,0.7s,mb4.6
CADS Cadrg 77.82 326 *i* P **P** **05 13 58.1 -0.1**
MOTA Moosalm 77.87 329 ⇓*iP* **P** **05 13 58.8 +0.4**
comp=Z,14nm,1.0s,mb4.7
FETA Feichten 78.28 329 ⇓*iP* **P** **05 14 01.4 +0.7**
comp=Z,7.3nm,0.9s,mb4.4
CDF Champ du Feu 78.30 331 *eP* **P** **05 14 00.5 -0.2**
comp=Z,11nm,1.0s,mb4.2
CDF Champ du Feu 78.30 331 *eP* **P** **05 14 00.5 -0.2**
comp=Z,11nm,1.0s,mb4.5
CDF Champ du Feu 78.30 331 *eP* **P** **05 14 00.5 -0.2**
CDF pmax pmax
comp=Z,11nm,1.0s,mb4.5
PAGF Fort de Pagny 78.68 332 *eP* **P** **05 14 02.8 0.0**
comp=Z,6.1nm,0.8s,mb4.1
PAGF Fort de Pagny 78.68 332 *eP* **P** **05 14 02.8 0.0**
comp=Z,6.1nm,0.8s,mb4.4
FUORN Ofenpass-Fuorn 78.79 329 *eP* **P** **05 14 04.5 +1.1**
DAVOX Davos/Dischmat 78.80 329 P **P** **05 14 04.2 +0.8**
comp=Z,3.8nm,0.6s,mb4.3,baz=29,slow=5.7,SNR=9.5
DAVOX Davos/Dischmat 78.80 329 P **P** **05 14 04.2 +0.8**
DAVOX Davos/Dischmat 78.80 329 P **P** **05 14 04.2 +0.8**
MEZF Maizieres J'vi 78.95 333 *eP* **P** **05 14 04.2 0.0**
MEZF Maizieres J'vi 78.95 333 *eP* **P** **05 14 04.2 0.0**
HINF Hinteralfeld 78.96 331 *eP* **P** **05 14 03.7 -0.6**
HINF Hinteralfeld 78.96 331 *eP* **P** **05 14 03.7 -0.6**
HINF Hinteralfeld 78.96 331 *eP* **P** **05 14 03.7 -0.6**
HAU Haudompre 78.96 332 *eP* **P** **05 14 03.8 -0.5**
comp=Z,12nm,1.0s,mb4.3
HAU Haudompre 78.96 332 *eP* **P** **05 14 03.8 -0.5**
comp=Z,12nm,1.0s,mb4.6
HAU Haudompre 78.96 332 *eP* **P** **05 14 03.8 -0.5**
HAU pmax pmax
comp=Z,13nm,1.0s,mb4.6
SFTF Sexfontaines 79.21 333 *eP* **P** **05 14 04.7 -0.9**
comp=Z,6.4nm,0.5s,mb4.3
SFTF Sexfontaines 79.21 333 *eP* **P** **05 14 04.7 -0.9**
comp=Z,6.4nm,0.5s,mb4.6
TUE Stuetta 79.25 329 *eP* **P** **05 14 06.5 +0.6**
CABF La Chapelle 80.26 331 *eP* **P** **05 14 11.0 -0.3**
comp=Z,6.0nm,0.8s,mb4.1
CABF La Chapelle 80.26 331 *eP* **P** **05 14 11.0 -0.3**
comp=Z,6.0nm,0.8s,mb4.4
CABF La Chapelle 80.26 331 *eP* **P** **05 14 11.0 -0.3**
CABF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
EIL Elat 80.30 303 P **P** **05 14 12.6 +0.9**
comp=Z,7.1nm,0.7s,mb4.5,baz=0.3,slow=7.1,SNR=6.2
EIL Elat 80.30 303 P **P** **05 14 12.6 +0.9**
FLN La Foliniere 80.38 336 *eP* **P** **05 14 11.3 -0.6**
comp=Z,6.3nm,0.5s,mb4.3
FLN La Foliniere 80.38 336 *eP* **P** **05 14 11.3 -0.6**
comp=Z,6.3nm,0.5s,mb4.6
FLN La Foliniere 80.38 336 *eP* **P** **05 14 11.3 -0.6**
FLN pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
LOR Lormes 80.42 333 *eP* **P** **05 14 11.5 -0.6**
comp=Z,14nm,0.7s,mb4.5
LOR Lormes 80.42 333 *eP* **P** **05 14 11.5 -0.6**
comp=Z,14nm,0.7s,mb4.8
LOR Lormes 80.42 333 *eP* **P** **05 14 11.5 -0.6**
LOR pmax pmax
comp=Z,14nm,0.7s,mb4.8
LDF La Druitiere 80.43 336 *eP* **P** **05 14 11.4 -0.7**
comp=Z,3.0nm,0.4s,mb4.0
LDF La Druitiere 80.43 336 *eP* **P** **05 14 11.4 -0.7**
comp=Z,3.0nm,0.4s,mb4.4
LDF La Druitiere 80.43 336 *eP* **P** **05 14 11.4 -0.7**
LDF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
SSF Saint Saulge 80.71 333 *eP* **P** **05 14 13.1 -0.5**
comp=Z,21nm,1.0s,mb4.5
SSF Saint Saulge 80.71 333 *eP* **P** **05 14 13.1 -0.5**
comp=Z,21nm,1.0s,mb4.8
SSF Saint Saulge 80.71 333 *eP* **P** **05 14 13.1 -0.5**
SSF pmax pmax
comp=Z,21nm,1.0s,mb4.8
GRR Gorron 80.83 336 *eP* **P** **05 14 13.9 -0.3**
comp=Z,6.3nm,0.5s,mb4.3
GRR Gorron 80.83 336 *eP* **P** **05 14 13.9 -0.3**
comp=Z,6.3nm,0.5s,mb4.6
GRR Gorron 80.83 336 *eP* **P** **05 14 13.9 -0.3**
GRR pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
SMF Signal de Mont 80.97 333 *eP* **P** **05 14 14.7 -0.3**
comp=Z,18nm,0.8s,mb4.5
SMF Signal de Mont 80.97 333 *eP* **P** **05 14 14.7 -0.3**
comp=Z,18nm,0.8s,mb4.9
SMF Signal de Mont 80.97 333 *eP* **P** **05 14 14.7 -0.3**
SMF pmax pmax
comp=Z,19nm,0.8s,mb4.9
LPL La Plagne 81.00 330 *eP* **P** **05 14 15.5 +0.3**
comp=Z,13nm,0.8s,mb4.4
LPL La Plagne 81.00 330 *eP* **P** **05 14 15.5 +0.3**
comp=Z,13nm,0.8s,mb4.7
LPL La Plagne 81.00 330 *eP* **P** **05 14 15.5 +0.3**
LPL pmax pmax
comp=Z,13nm,0.8s,mb4.7
AVF Avril sur Loir 81.00 333 *eP* **P** **05 14 14.9 -0.2**
comp=Z,14nm,0.8s,mb4.4
AVF Avril sur Loir 81.00 333 *eP* **P** **05 14 14.9 -0.2**

comp=Z,14nm,0.8s,mb4.7
AVF Avril sur Loir 81.00 333 *e*P **P 05 14 14.9 -0.2**
AVF pmax pmax
comp=Z,14nm,0.8s,mb4.7
LPG La Plagne 81.01 330 *e*P **P 05 14 15.7 +0.5**
comp=Z,12nm,0.6s,mb4.5
LPG La Plagne 81.01 330 *e*P **P 05 14 15.7 +0.5**
comp=Z,12nm,0.6s,mb4.8
LPG La Plagne 81.01 330 *e*P **P 05 14 15.7 +0.5**
LPG pmax pmax
comp=Z,13nm,0.6s,mb4.8
BGF Bois d'Agland 81.37 333 *e*P **P 05 14 16.7 -0.4**
comp=Z,6.3nm,0.7s,mb4.2
BGF Bois d'Agland 81.37 333 *e*P **P 05 14 16.7 -0.4**
comp=Z,6.3nm,0.7s,mb4.5
BGF Bois d'Agland 81.37 333 *e*P **P 05 14 16.7 -0.4**
BGF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
SGMF Saint Gilles 81.42 337 *e*P **P 05 14 17.0 -0.3**
SGMF Saint Gilles 81.42 337 *e*P **P 05 14 17.0 -0.3**
SGMF Saint Gilles 81.42 337 *e*P **P 05 14 17.0 -0.3**
ROSF Rostrenen 81.53 338 *e*P **P 05 14 18.1 +0.2**
ROSF Rostrenen 81.53 338 *e*P **P 05 14 18.1 +0.2**
ROSF Rostrenen 81.53 338 *e*P **P 05 14 18.1 +0.2**
IDI Anoyia 81.59 313 *e*P **P 05 14 17.4 -1.1**
MBDF Montbardon 81.67 330 *e*P **P 05 14 18.3 -0.4**
comp=Z,9.7nm,0.6s,mb4.5
MBDF Montbardon 81.67 330 *e*P **P 05 14 18.3 -0.4**
comp=Z,9.7nm,0.6s,mb4.8
MBDF Montbardon 81.67 330 *e*P **P 05 14 18.3 -0.4**
MBDF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
TCF Toulx Ste Croi 81.81 333 *e*P **P 05 14 19.3 -0.1**
comp=Z,10nm,0.8s,mb4.4
TCF Toulx Ste Croi 81.81 333 *e*P **P 05 14 19.3 -0.1**
comp=Z,10nm,0.8s,mb4.7
TCF Toulx Ste Croi 81.81 333 *e*P **P 05 14 19.3 -0.1**
TCF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 81.81 330 *e*P **P 05 14 19.5 +0.1**
comp=Z,10nm,0.7s,mb4.5
ORIF Oris-en-Rattie 81.81 330 *e*P **P 05 14 19.5 +0.1**
comp=Z,10nm,0.7s,mb4.8
ORIF Oris-en-Rattie 81.81 330 *e*P **P 05 14 19.5 +0.1**
ORIF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
QUIF Quistinic 81.89 337 *e*P **P 05 14 19.6 -0.2**
comp=Z,9.9nm,0.6s,mb4.5
QUIF Quistinic 81.89 337 *e*P **P 05 14 19.6 -0.2**
comp=Z,9.9nm,0.6s,mb4.8
QUIF Quistinic 81.89 337 *e*P **P 05 14 19.6 -0.2**
QUIF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
SBF Sospel 82.18 329 *e*P **P 05 14 21.5 +0.1**
comp=Z,32nm,0.8s,mb4.9
SBF Sospel 82.18 329 *e*P **P 05 14 21.5 +0.1**
comp=Z,32nm,0.8s,mb5.2
SBF Sospel 82.18 329 *e*P **P 05 14 21.5 +0.1**
SBF pmax pmax
comp=Z,32nm,0.8s,mb5.2
MFF Saint Martin d 82.24 335 *e*P **P 05 14 21.8 +0.2**
comp=Z,13nm,0.7s,mb4.6
MFF Saint Martin d 82.24 335 *e*P **P 05 14 21.8 +0.2**
comp=Z,13nm,0.7s,mb4.9
MFF Saint Martin d 82.24 335 *e*P **P 05 14 21.8 +0.2**
MFF pmax pmax
comp=Z,13nm,0.7s,mb4.9
VIVF Saint-Julien-l 82.28 331 *e*P **P 05 14 21.8 0.0**
comp=Z,13nm,0.8s,mb4.5
VIVF Saint-Julien-l 82.28 331 *e*P **P 05 14 21.8 0.0**
comp=Z,13nm,0.8s,mb4.8
VIVF Saint-Julien-l 82.28 331 *e*P **P 05 14 21.8 0.0**
VIVF pmax pmax
comp=Z,13nm,0.8s,mb4.8
PGF Pioggiola 82.74 327 *e*P **P 05 14 24.1 -0.1**
comp=Z,18nm,0.8s,mb4.7
PGF Pioggiola 82.74 327 *e*P **P 05 14 24.1 -0.1**
comp=Z,18nm,0.8s,mb5.0
PGF Pioggiola 82.74 327 *e*P **P 05 14 24.1 -0.1**
PGF pmax pmax
comp=Z,18nm,0.8s,mb5.0
RJF Les Rejaudoux 82.90 333 *e*P **P 05 14 25.1 +0.1**
comp=Z,9.8nm,0.8s,mb4.4
RJF Les Rejaudoux 82.90 333 *e*P **P 05 14 25.1 +0.1**
comp=Z,9.8nm,0.8s,mb4.7
RJF Les Rejaudoux 82.90 333 *e*P **P 05 14 25.1 +0.1**
RJF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
LMR La Mourre 82.98 329 *e*P **P 05 14 25.8 +0.4**
LMR La Mourre 82.98 329 *e*P **P 05 14 25.8 +0.4**
LMR La Mourre 82.98 329 *e*P **P 05 14 25.8 +0.4**
CAF Calviac 83.07 333 *e*P **P 05 14 26.4 +0.5**
comp=Z,19nm,0.9s,mb4.6
CAF Calviac 83.07 333 *e*P **P 05 14 26.4 +0.5**
comp=Z,19nm,0.9s,mb4.9
CAF Calviac 83.07 333 *e*P **P 05 14 26.4 +0.5**
CAF pmax pmax
comp=Z,19nm,0.9s,mb4.9
LASF Ste Croix 83.24 331 *e*P **P 05 14 27.0 +0.2**
LASF Ste Croix 83.24 331 *e*P **P 05 14 27.0 +0.2**
LFF La Frestale 83.47 334 *e*P **P 05 14 28.4 +0.5**
comp=Z,16nm,0.6s,mb4.7
LFF La Frestale 83.47 334 *e*P **P 05 14 28.4 +0.5**
comp=Z,16nm,0.6s,mb5.0
LFF La Frestale 83.47 334 *e*P **P 05 14 28.4 +0.5**
LFF pmax pmax
comp=Z,16nm,0.6s,mb5.0
TXAR Lajitas Array 84.11 53 P **P 05 14 32.6 +1.2**
comp=Z,0.4nm,0.4s,mb3.6,baz=289,slow=4.6,SNR=13
TXAR pP pP 05 15 49.0 +1.8
comp=Z,0.4nm,0.7s,baz=305,slow=3.4,SNR=3.9
TXAR Lajitas Array 84.11 53 P **P 05 14 32.6 +1.2**
TXAR pP pP 05 15 49.0 +1.8
TXAR Lajitas Array 84.11 53 P **P 05 14 32.7 +1.3**
TXAR *PP pP 05 15 49.0 +1.8
MTLF Montolieu 84.44 332 *e*P **P 05 14 33.2 +0.4**
MTLF Montolieu 84.44 332 *e*P **P 05 14 33.2 +0.4**
MTLF Montolieu 84.44 332 *e*P **P 05 14 33.2 +0.4**
EPF Esparros 85.32 333 *e*P **P 05 14 37.1 0.0**
comp=Z,13nm,0.9s,mb4.5
EPF Esparros 85.32 333 *e*P **P 05 14 37.1 0.0**
comp=Z,13nm,0.9s,mb4.8
EPF Esparros 85.32 333 *e*P **P 05 14 37.1 0.0**
EPF pmax pmax
comp=Z,13nm,0.9s,mb4.8
ETSF Etsaut 85.72 334 *e*P **P 05 14 40.0 +0.9**
comp=Z,19nm,0.7s,mb4.8
ETSF Etsaut 85.72 334 *e*P **P 05 14 40.0 +0.9**
comp=Z,19nm,0.7s,mb5.0
ETSF Etsaut 85.72 334 *e*P **P 05 14 40.0 +0.9**
ETSF pmax pmax
comp=Z,19nm,0.7s,mb5.0
SJPF Ste Jean 85.73 334 *e*P **P 05 14 39.8 +0.7**
SJPF Ste Jean 85.73 334 *e*P **P 05 14 39.8 +0.7**
SJPF Ste Jean 85.73 334 *e*P **P 05 14 39.8 +0.7**
KEST Kesra 88.46 324 P **P 05 14 52.2 0.0**
comp=Z,1.3nm,0.9s,mb3.8,baz=356,slow=6.0,SNR=3.6
KEST Kesra 88.46 324 P **P 05 14 52.2 0.0**
ESDC Sonseca Array 89.70 335 P **P 05 14 58.1 +0.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=16,slow=4.0,SNR=16
ESDC Sonseca Array 89.70 335 P **P 05 14 58.1 +0.1**
TORD Torodi Ar. Bea 111.47 319 PKiKP PKiKP 05 20 31.4 -1.1
comp=Z,0.5nm,0.7s,baz=28,slow=1.7,SNR=10
TORD Torodi Ar. Bea 111.47 319 PKiKP PKiKP 05 20 31.4 -1.1
DBIC Dimbokro 120.14 322 PKP PKPdf 05 20 48.2 -1.0
comp=Z,1.5nm,0.5s,baz=198,slow=8.5,SNR=9.7
DBIC Dimbokro 120.14 322 PKP PKPdf 05 20 48.2 -1.0
DBIC Dimbokro 120.14 322 PKIKP PKPdf 05 20 48.2 -1.0
DBIC pmax pmax
comp=Z,2.0nm,0.5s
QSPA South Pole Qui 135.61 180 PKP PKPdf 05 21 16.4 -0.1
baz=278,slow=1.0
QSPA South Pole Qui 135.61 180 PKP PKPdf 05 21 16.4 -0.1
SNAA Sanae 149.38 201 *e* PKPbc 05 21 45.3 -0.4
SNAA *e* 05 21 51.8
SNAA Sanae 149.38 201 *e*PKPbc PKPbc 05 21 45.3 -0.4
SNAA *e*PKPab PKPab 05 21 51.8 0.0
SNAA Sanae 149.38 201 *e*PKHKP PKPbc 05 21 45.3 -0.4
SNAA *e* 05 21 51.8
VNA2 Neumayer--Watz 150.98 200 *e* PKPbc 05 21 50.1 +0.6
VNA2 *e* 05 21 53.8
VNA3 Neumayer Olymp 151.27 198 *e* PKPbc 05 21 50.4 +0.2
VNA1 Neumayer--Stat 151.38 200 *e* PKPbc 05 21 51.8 +1.4

IDC 21 05:10:26.3±10.0, 6°66S×128°56E, h306km±114km, mb3.2/3, mb1 3.5/6, mb1mx3.2/17, mbtmp3.3/6, Error ellipse: s-maj=102.1km s-min=28.9km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.72**	**194**	P	Pn	05 13 05.0	-0.4
	0.8nm,0.3s,baz=40,slow=11,SNR=18						
WRA	**Warramunga Arr**	**14.35**	**158**	P	P	05 13 36.0	+0.1
	1.5nm,0.3s,baz=336,slow=12,SNR=48						
ASAR	**Alice Springs**	**17.67**	**164**	P	P	05 14 12.8	+0.7
	2.5nm,0.3s,baz=344,slow=11,SNR=167						
STKA	**Stephens Creek**	**27.89**	**156**	P	P	05 15 48.2	-0.5
	0.6nm,0.5s,baz=319,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**67.16**	**327**	P	P	05 20 47.8	+0.1
	0.4nm,0.4s,baz=115,slow=8.2,SNR=9.6						
KURK	**Kurchatov**	**71.49**	**329**	P	P	05 21 14.0	+0.1
	0.9nm,0.7s,baz=131,slow=5.1,SNR=8.3						

*ISCJB **21** 05:16:10.9±0.7, 3°38S±0°04×135°19E±0°04, h41km±8km, mb4.0/9, MS3.4/3, Error ellipse: s-maj=7.7km s-min=6.1km az=33.9*
*NEIC **21** 05:16:11.5±0.5, 3°37S×135°11E, mb4.3/3, Error ellipse: s-maj=14.8km s-min=8.2km az=73.0*
*IDC **21** 05:16:12.1±0.8, 3°23S×135°13E, h29km±5km, mb3.9/9, mb1 4.2/12, mb1mx4.0/18, mbtmp4.1/12, ML4.1/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/27, Error ellipse: s-maj=31.1km s-min=14.7km az=64.0*
*DJA **21** 05:16:13.4±3.2, 3°S±3°×13°5E±°, h23km±36km, M4.8/1, mb4.8/11, mB5.6/3, MLv4.7/6, Mw(mB)5.1/3*
ISC 21 05:16:12.9±0.6, 3°41S±0°05×135°19E±0°04, h43km±7km, h31km±1.4km:pP-P, n72, σ1§21/71, mb4.0/9, MS3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**2.39**	**23**	P	**Pn**	**05 16 47.5**	**-2.1**
BAKI				S	**Sn**	**05 17 13.8**	**-3.9**
FAKI	**Fak Fak**	**2.97**	**279**	P	**Pn**	**05 16 57.6**	**0.0**
FAKI				S	**Sn**	**05 17 31.3**	**-0.8**
SMPI	**Sarmi**	**3.79**	**68**	P	**Pn**	**05 17 08.7**	**-0.2**
JAY	**Jayapura**	**5.58**	**81**	P	**Pn**	**05 17 34.9**	**+1.4**
	0.7nm7μm122nm,0.6s						
MSAI	**Masohi**	**6.25**	**270**	P	**Pn**	**05 17 43.4**	**+0.8**
	0.1nm21nm,0.7s						
NLAI	**Namlea**	**8.07**	**271**	P	**Pn**	**05 18 07.9**	**+0.2**
	5μm52nm,0.7s						
LBMI	**Labuha**	**8.16**	**290**	P	**Pn**	**05 18 08.9**	**0.0**
	99nm,1.0s						
SGSI	**Sangihe**	**11.95**	**306**	P	**Pn**	**05 18 58.8**	**-2.0**
	177nm,0.7s						
LUWI	**Luwuk**	**12.63**	**280**	P	**Pn**	**05 19 10.2**	**+0.1**
	43nm,1.1s						
GTOI	**Gorontalo**	**12.82**	**288**	P	**Pn**	**05 19 13.2**	**+0.5**
	30nm,0.9s						
COEN	**Coen**	**13.11**	**144**	*e*Pn	**Pn**	**05 19 16.5**	**-0.2**
	102nm,0.6s						
COEN				*e*Sn	**Sn**	**05 21 34.8**	**-6.4**
COEN	**Coen**	**13.11**	**144**	P	**Pn**	**05 19 16.2**	**-0.5**
PMG	**Port Moresby**	**13.30**	**117**	Pn	**Pn**	**05 19 20.6**	**+1.3**
	1.5nm,0.3s,baz=12,slow=4.7,SNR=6.5						
PMG	**Port Moresby**	**13.30**	**117**	*e*Pn	**Pn**	**05 19 20.4**	**+1.2**
	42nm,0.6s						
PMG	**Port Moresby**	**13.30**	**117**	P	**Pn**	**05 19 24.2**	**+5.0**
	795nm42nm,0.7s						
APSI	**Ampana**	**13.75**	**280**	P	**Pn**	**05 19 29.1**	**+3.6**
MRSI	**Marisa**	**13.79**	**286**	P	**Pn**	**05 19 26.7**	**+0.7**
	21nm,1.0s						
DAV	**Davao City (W)**	**14.16**	**317**	LR	LR	05 23 48.7	
	comp=Z,33nm,20.0s,baz=204,slow=33						
SPSI	**Sidrap Palu**	**15.40**	**267**	P	**Pn**	**05 19 53.9**	**+6.6**
WRAB	**Tennant Creek**	**16.44**	**183**	*e*Pn	**Pn**	**05 19 59.0**	**-1.6**
	35nm,1.0s						
WRAB				*e*Sn	**Sn**	**05 22 49.5**	**-13**
WRAB	**Tennant Creek**	**16.44**	**183**	P	**Pn**	**05 19 59.1**	**-1.5**
WB2	**Warramunga Arr**	**16.45**	**183**	*e*Pn	**Pn**	**05 19 58.8**	**-1.9**
WB2				*e*Sn	**Sn**	**05 22 47.0**	**-15**
WRA	**Warramunga Arr**	**16.45**	**183**	Pn	**Pn**	**05 19 59.0**	**-1.8**
	0.9nm,0.3s,baz=1.9,slow=13,SNR=30						
WRA				Sn	**Sn**	**05 22 53.4**	**-9.0**
	1.8nm,0.3s,baz=5.7,slow=23,SNR=11						
WRA				LR	LR	05 25 55.8	
	comp=Z,66nm,21.4s,baz=15,slow=35						
WRA	**Warramunga Arr**	**16.45**	**183**	Pn	**Pn**	**05 19 59.0**	**-1.8**
WRA				Sn	**Sn**	**05 22 53.4**	**-9.0**
MTSU	**Mount Surprise**	**17.15**	**149**	*e*P	**Pn**	**05 20 09.1**	**-0.4**
	25nm,0.8s						
MTSU				*e*S	**S**	**05 23 08.7**	**-18**
FITZ	**Fitzroy Crossi**	**17.34**	**212**	P	**Pn**	**05 20 11.9**	**0.0**
	1.7nm,0.3s,baz=35,slow=9.7,SNR=27						
FITZ				S	**S**	**05 23 14.5**	**-17**
	1.5nm,0.3s,baz=186,slow=14,SNR=8.4						
FITZ	**Fitzroy Crossi**	**17.34**	**212**	*e*P	**Pn**	**05 20 12.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**17.34**	**212**	P	**Pn**	**05 20 11.9**	**0.0**
FITZ				S	**S**	**05 23 14.5**	**-17**
FITZ	**Fitzroy Crossi**	**17.34**	**212**	P	**Pn**	**05 20 12.2**	**+0.3**
MYLDM	**Lahad Datu**	**18.73**	**297**	P	**Pn**	**05 20 31.6**	**+2.7**
CTA	**Charters Tower**	**19.78**	**148**	P	**Pn**	**05 20 42.1**	**+0.7**
	0.3nm,0.3s,baz=318,slow=10,SNR=9.3						
CTA				LR	LR	05 29 24.5	
	comp=Z,176nm,18.1s,baz=47,slow=40						
CTA	**Charters Tower**	**19.78**	**148**	*e*P	**Pn**	**05 20 43.6**	**+2.2**
CTA	**Charters Tower**	**19.78**	**148**	P	**Pn**	**05 20 42.1**	**+0.7**
CTAO	**Charters Tower**	**19.78**	**148**	*e*P	**Pn**	**05 20 44.6**	**+3.2**
	6.5nm,0.7s						
AS31	**Alice Springs**	**20.17**	**183**	*e*P	**P**	**05 20 46.6**	**+2.7**
AS31				*e*S	**S**	**05 24 19.6**	**-8.4**
ASAR	**Alice Springs**	**20.17**	**183**	P	**P**	**05 20 46.9**	**+3.1**
	16nm,0.6s,baz=9.6,slow=11,SNR=204						
ASAR				S	**S**	**05 24 23.7**	**-4.4**
	5.0nm,0.8s,baz=5.8,slow=28,SNR=5.1						
ASAR	**Alice Springs**	**20.17**	**183**	P	**P**	**05 20 46.9**	**+3.1**
ASAR				S	**S**	**05 24 23.7**	**-4.4**
MBWA	**Marble Bar**	**23.18**	**219**	*e*P	**P**	**05 21 18.2**	**+2.2**
MBWA	**Marble Bar**	**23.18**	**219**	*e*P	**P**	**05 21 17.6**	**+1.6**
	12nm,0.9s,mb4.3						
SBUM	**Sibu**	**23.68**	**284**	P	pP	05 21 31.0	-1.2
QLP	**Quilpie**	**24.61**	**160**	*e*P	**P**	**05 21 30.9**	**+1.6**
HNR	**Honiara**	**25.31**	**105**	LR	LR	05 32 18.5	
	comp=Z,43nm,19.0s,MS3.0,baz=233,slow=38						
STKA	**Stephens Creek**	**28.95**	**169**	P	**P**	**05 22 08.9**	**+0.7**
	1.8nm,0.8s,mb3.8,baz=345,slow=14,SNR=3.5						
STKA				LR	LR	05 35 00.4	
	comp=Z,136nm,18.1s,MS3.6,baz=24,slow=39						
STKA	**Stephens Creek**	**28.95**	**169**	*e*P	**P**	**05 22 09.3**	**+1.1**
STKA	**Stephens Creek**	**28.95**	**169**	P	**P**	**05 22 08.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**33.83**	**208**	LR	LR	05 38 13.9	
	comp=Z,100nm,20.8s,MS3.5,baz=45,slow=39						
CMAR	**Chiang Mai Arr**	**41.79**	**303**	P	**P**	**05 23 57.9**	**-0.7**
	0.5nm,0.3s,mb3.6,baz=132,slow=6.8,SNR=4.6						
CMAR				pP	pP	05 24 06.9	-3.6
	1.5nm,0.7s,baz=128,slow=6.6,SNR=2.4						
CMAR	**Chiang Mai Arr**	**41.79**	**303**	P	**P**	**05 23 57.9**	**-0.7**
CMAR				pP	pP	05 24 06.9	-3.6
SONM	**Songino Array**	**56.92**	**337**	P	**P**	**05 25 54.1**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=158,slow=8.2,SNR=3.5						
SONM	**Songino Array**	**56.92**	**337**	P	**P**	**05 25 54.1**	**+0.5**
MK31	**Makanchi Array**	**68.23**	**324**	*e*P	**P**	**05 27 08.7**	**-0.4**
MKAR	**Makanchi Array**	**68.23**	**324**	P	**P**	**05 27 09.4**	**+0.3**
	3.7nm,0.6s,mb4.6,baz=119,slow=7.4,SNR=26						
MKAR	**Makanchi Array**	**68.23**	**324**	P	**P**	**05 27 09.4**	**+0.3**
ZAA0	**Zalesovo Array**	**70.81**	**331**	P	**P**	**05 27 24.9**	**0.0**
ZALV	**Zalesovo Beam**	**70.81**	**331**	P	**P**	**05 27 24.3**	**-0.6**
	1.5nm,0.7s,mb4.0,baz=103,slow=5.9,SNR=7.5						
ZALV				pP	pP	05 27 33.2	-4.4
	1.3nm,0.6s,baz=109,slow=6.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**70.81**	**331**	P	**P**	**05 27 24.3**	**-0.6**
ZALV				pP	pP	05 27 33.2	-4.4
KURK	**Kurchatov**	**72.30**	**326**	P	**P**	**05 27 33.8**	**-0.1**
	1.0nm,0.8s,mb3.8,baz=124,slow=5.6,SNR=7.6						
KURK				pP	pP	05 27 43.5	-3.2
	2.3nm,0.9s,baz=120,slow=5.2,SNR=9.1						
KURK	**Kurchatov**	**72.30**	**326**	P	**P**	**05 27 33.8**	**-0.1**
KURK				pP	pP	05 27 43.5	-3.2
BVAR	**Borovoye Array**	**77.90**	**326**	P	**P**	**05 28 06.2**	**0.0**
	1.0nm,0.7s,mb3.9,baz=108,slow=9.5,SNR=5.7						
BVAR	**Borovoye Array**	**77.90**	**326**	P	**P**	**05 28 06.2**	**0.0**
ILAR	**Eielson Array**	**87.93**	**25**	P	**P**	**05 28 56.5**	**-1.4**
	1.0nm,0.9s,mb4.0,baz=269,slow=4.3,SNR=10						
ILAR	**Eielson Array**	**87.93**	**25**	P	**P**	**05 28 56.5**	**-1.4**
TXAR	**Lajitas Array**	**118.66**	**58**	PKP	PKPdf	05 34 57.4	+0.5
	0.3nm,0.7s,baz=184,slow=3.8,SNR=4.2						
TXAR	**Lajitas Array**	**118.66**	**58**	PKP	PKPdf	05 34 57.4	+0.5
TORD	**Torodi Ar. Bea**	**133.05**	**285**	PKP	PKPdf	05 35 23.9	-0.9
	0.4nm,0.7s,baz=72,slow=1.6,SNR=3.0						
TORD				pPKP	pPKPdf	05 35 36.0	-2.3
	0.6nm,0.8s,baz=70,slow=2.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**133.05**	**285**	PKP	PKPdf	05 35 23.9	-0.9
TORD				pPKP	pPKPdf	05 35 36.0	-2.3
CPUP	**Villa Florida**	**148.05**	**158**	PKPbc	PKPbc	05 35 56.1	+1.6
	6.5nm,0.8s,baz=212,slow=2.1,SNR=19						
CPUP	**Villa Florida**	**148.05**	**158**	PKPbc	PKPbc	05 35 56.1	+1.6
LPAZ	**La Paz**	**149.76**	**131**	PKP	PKPdf	05 35 58.0	+3.5
	0.9nm,0.8s,baz=233,slow=5.1,SNR=3.6						
LPAZ				PKPbc	PKPbc	05 36 02.4	+3.2
	4.1nm,0.8s,baz=203,slow=4.1,SNR=18						
LPAZ	**La Paz**	**149.76**	**131**	PKP	PKPdf	05 35 58.0	+3.5
LPAZ				*e*PKPbc	PKPbc	05 36 02.3	+3.1
LPAZ				PKPbc	PKPbc	05 36 02.4	+3.2
ROSC	**El Rosal**	**150.53**	**86**	PKPbc	PKPbc	05 36 02.5	+1.4
	4.4nm,0.7s,baz=90,slow=2.0,SNR=6.7						
ROSC	**El Rosal**	**150.53**	**86**	PKPbc	PKPbc	05 36 02.5	+1.4

*ISCJB **21** 05:25:06.9±0.2, 35°90N±0°02×73°47E±0°03, h83km, mb4.4/50, Error ellipse: s-maj=3.8km s-min=2.4km az=154.3*
*MOS **21** 05:25:07.3±1.0, 35°99N×73°34E, h81km, mb4.5/26, Error ellipse: s-maj=8.9km s-min=4.9km az=103.9*
*BJI **21** 05:25:07.9, 36°04N×73°34E, h84km, mB5.0/12, mb4.6/25, Ms4.6/6, Ms7 4.2/7*
*NEIC **21** 05:25:08.2±0.3, 35°87N×73°51E, mb4.5/13, Error ellipse: s-maj=8.9km s-min=5.2km az=224.0*
*IDC **21** 05:25:09.4±0.5, 35°97N×73°23E, h86km±4km, mb4.0/22, mb1 4.2/26, mb1mx4.1/32, mbtmp4.1/26, MS3.4/9, Ms1 3.4/9, ms1mx3.0/41, Error ellipse: s-maj=14.1km s-min=9.5km az=33.0*
*NNC **21** 05:25:13.7±11.0, 36°36N×72°96E, h103km±135km, mb3.9, mpv4.8, Error ellipse: s-maj=92.8km s-min=70.3km az=178.0*
ISC 21 05:25:08.7±0.2, 35°90N±0°02×73°46E±0°03, h85km, h85km±2.5km:pP-P, n257, σ1§41/284, mb4.4/50, 12C-10D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**2.25**	**184**	P	**Pn**	**05 25 48.0**	**+4.0**
CHCP				S	**Sn**	**05 26 16.0**	**+5.0**
CEP	**Cherat**	**2.44**	**212**	⇑P	**Pn**	**05 25 48.8**	**+2.3**
CEP				S	**Sn**	**05 26 07.0**	**-8.5**
JMU	**Jammu**	**3.40**	**159**	*e*PKP	**Pn**	**05 26 00.5**	**+1.1**
KBL	**Kabul**	**3.86**	**251**	*e*Pn	**Pn**	**05 26 05.5**	**-0.3**
KBL	**Kabul**	**3.86**	**251**	*e*PN	**Pn**	**05 26 05.5**	**-0.3**
KSH	**Kashi**	**4.12**	**28**	P	**Pn**	**05 26 05.5**	**-3.7**
KSH				sP		05 26 25.0	
KSH				S	**Sn**	**05 26 46.0**	**-10**
KSH				smax			
	comp=N,1μm,0.2s						
KSH				smax			
	comp=E,990nm,0.2s						
BHK	**Bhakra**	**5.11**	**150**	*e*PKP	**Pn**	**05 26 25.4**	**+2.7**
BHK				*ex*	**Sn**	**05 27 21.0**	**+0.6**
SDNR	**Sundarnagar**	**5.28**	**145**	*e*PKP	**Pn**	**05 26 26.0**	**+1.0**
SDNR				*ex*	**Sn**	**05 27 24.0**	**-0.5**
SMLA	**Simla**	**5.68**	**146**	*i* P	**Pn**	**05 26 32.1**	**+1.6**
SMLA				*i* S	**Sn**	**05 27 32.8**	**-1.6**
SMLA				⇓AML	AML	05 27 35.5	
	comp=N,4μm,0.1s						
SMLA				⇓AML	AML	05 27 35.6	
	comp=E,4μm,0.2s						
AML	**Almayashu**	**6.22**	**2**	P	**Pn**	**05 26 38.5**	**+0.7**
	SNR=724						
AML				P		05 26 38.5	
	SNR=724						
KZA	**Kyzart**	**6.32**	**12**	P	**Pn**	**05 26 40.6**	**+1.4**
	SNR=134						
KZA				P		05 26 40.6	
	SNR=134						
UCH	**Uchtor**	**6.37**	**7**	P	**Pn**	**05 26 41.0**	**+1.2**
	SNR=54						
UCH				P		05 26 41.0	
	SNR=54						
ULHL	**Ulahol**	**6.69**	**18**	P	**Pn**	**05 26 46.4**	**+2.2**
	SNR=9.2						
ULHL				P		05 26 46.4	
	SNR=9.2						
EKS2	**Erkin-Say**	**6.75**	**2**	P	**Pn**	**05 26 45.8**	**+0.8**
	SNR=183						
EKS2				P		05 26 45.8	
	SNR=183						
EKS2	**Erkin-Say**	**6.75**	**2**	*e*Pn	**Pn**	**05 26 45.9**	**+0.8**
EKS2				*e*Sn	**Sn**	**05 27 58.1**	**-2.3**
EKS2	**Erkin-Say**	**6.75**	**2**	*e*PN	**Pn**	**05 26 45.9**	**+0.9**
AAK	**Ala-Archa**	**6.77**	**6**	P	**Pn**	**05 26 46.7**	**+1.4**
	SNR=95						
AAK				P		05 26 46.7	
	SNR=95						
AAK	**Ala-Archa**	**6.77**	**6**	*e*Pn	**Pn**	**05 26 46.4**	**+1.2**
	comp=E,407nm,0.8s						
AAK				*e*Sn	**Sn**	**05 27 56.6**	**-4.1**
AAK	**Ala-Archa**	**6.77**	**6**	*e*PN	**Pn**	**05 26 46.4**	**+1.1**
AAK				pmax	pmax		
	comp=Z,407nm,0.8s						
DDI	**Dehra Dun**	**6.77**	**144**	*e*PKP	**Pn**	**05 26 44.0**	**-1.4**
DDI				*e*S	**Sn**	**05 27 55.0**	**-6.0**
KBK	**Karagaybulak**	**6.84**	**9**	P	**Pn**	**05 26 47.9**	**+1.6**
	SNR=104						
KBK				P		05 26 47.9	
	SNR=104						
FRU	**Bishkek**	**6.98**	**7**	*e*PN	**Pn**	**05 26 50.0**	**+1.9**
FRU				*e*S	**Sn**	**05 28 06.0**	**+0.1**
FRU				pmax	pmax		
	comp=Z,60nm,1.2s						
FRU				smax			
	comp=N,320nm,1.6s						
CHMS	**Chumysh**	**7.16**	**8**	P	**Pn**	**05 26 51.6**	**+1.1**
	SNR=27						
CHMS				P		05 26 51.6	
	SNR=27						
TKM2	**Tokmak 2**	**7.20**	**13**	P	**Pn**	**05 26 52.6**	**+1.4**
	SNR=49						
TKM2				P		05 26 52.6	
	SNR=49						
TKM2	**Tokmak 2**	**7.20**	**13**	⇓P	**Pn**	**05 26 52.5**	**+1.4**
	comp=N,26nm,0.5s						
TKM2				⇑S	**Sn**	**05 28 06.7**	**-4.6**
	comp=N,99nm,0.6s						
TKM2	**Tokmak 2**	**7.20**	**13**	*e*Pn	**Pn**	**05 26 52.4**	**+1.2**
TKM2				*e

GKN	**Gorkha**	**12.33**	**127**	*e*P	**Pn**	**05 27 58.9**	**-2.2**
	comp=E,145nm,0.3s						
GKN	**Gorkha**	**12.33**	**127**	*e*P	**Pn**	**05 27 58.9**	**-2.2**
	comp=E,145nm,0.3s						
MK31	**Makanchi Array**	**12.73**	**29**	⇑P	**Pn**	**05 28 06.6**	**+0.3**
	comp=E,5.0nm,0.5s,baz=110,slow=8.6,SNR=31						
MK31	**Makanchi Array**	**12.73**	**29**	*e*Pn	**Pn**	**05 28 06.6**	**+0.3**
MK31	**Makanchi Array**	**12.73**	**29**	*e*P	**Pn**	**05 28 06.6**	**+0.3**
MKAR	**Makanchi Array**	**12.73**	**29**	P	**Pn**	**05 28 05.6**	**-0.7**
	comp=E,1.5nm,0.3s,baz=205,slow=12,SNR=30						
MKAR				LR	LR	05 34 08.2	
	comp=E,28nm,19.1s,baz=177,slow=42						
MKAR	**Makanchi Array**	**12.73**	**29**	P	**Pn**	**05 28 05.6**	**-0.7**
MKAR	**Makanchi Array**	**12.73**	**29**	P	**Pn**	**05 28 05.6**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ALBI	**Allahabad**	**12.77**	**144**	*ex*	**Pn**	**05 28 02.0**	**-4.9**
KKN	**Kakani**	**12.89**	**126**	*e*P	**Pn**	**05 28 05.8**	**-2.8**
	comp=Z,111nm,0.5s						
KKN	**Kakani**	**12.89**	**126**	*e*P	**Pn**	**05 28 05.8**	**-2.8**
	comp=Z,111nm,0.5s						
KKN	**Kakani**	**12.89**	**126**	*e*P	**Pn**	**05 28 05.8**	**-2.8**
KKN				pmax	pmax		
	comp=Z,111nm,0.5s						
DMN	**Daman**	**12.90**	**127**	*e*P	**Pn**	**05 28 06.4**	**-2.3**
	comp=Z,104nm,0.4s						
DMN	**Daman**	**12.90**	**127**	*e*P	**Pn**	**05 28 06.4**	**-2.3**
	comp=Z,104nm,0.4s						
BHPL	**Bhopal**	**13.08**	**164**	*e*PKP	**Pn**	**05 28 09.2**	**-1.8**
BHPL				*ex*	x	05 30 26.6	
BHPL				AML	AML	05 30 32.8	
	comp=E,68nm,0.4s						
BHPL				AML	AML	05 30 33.0	
	comp=N,50nm,0.2s						
PKI	**Pulchoki**	**13.12**	**126**	*e*P	**Pn**	**05 28 09.4**	**-2.2**
	comp=N,104nm,0.5s						
PKI	**Pulchoki**	**13.12**	**126**	*e*P	**Pn**	**05 28 09.4**	**-2.2**
	comp=N,104nm,0.5s						
PKI	**Pulchoki**	**13.12**	**126**	*e*P	**Pn**	**05 28 09.4**	**-2.2**
PKI				pmax	pmax		
	comp=Z,105nm,0.5s						
GUN	**Gumba**	**13.21**	**124**	*e*P	**Pn**	**05 28 09.9**	**-2.9**
	comp=Z,74nm,0.4s						
GUN	**Gumba**	**13.21**	**124**	*e*P	**Pn**	**05 28 09.9**	**-2.9**
	comp=Z,74nm,0.4s						
WMQ	**Urumqi**	**13.48**	**50**	P	**Pn**	**05 28 14.8**	**-1.4**
WMQ				pP		05 28 25.8	
WMQ				PP		05 28 27.6	
WMQ				sP		05 28 37.1	
WMQ				S	**Sn**	**05 30 43.3**	**-1.0**
WMQ				pmax	pmax		
	comp=Z,44nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,220nm,6.0s						
JIRN	**Jiri**	**13.58**	**124**	*e*P	**Pn**	**05 28 15.3**	**-2.4**
	comp=Z,167nm,0.4s						
JIRN	**Jiri**	**13.58**	**124**	*e*P	**Pn**	**05 28 15.3**	**-2.4**
	comp=Z,167nm,0.4s						
RAMN	**Ramite**	**14.32**	**125**	*e*P	**Pn**	**05 28 24.0**	**-3.3**
	comp=Z,114nm,0.6s						
RAMN	**Ramite**	**14.32**	**125**	*e*P	**Pn**	**05 28 24.0**	**-3.3**
	comp=Z,114nm,0.6s						
TAPN	**Taplejung**	**14.82**	**121**	*e*P	**Pn**	**05 28 30.3**	**-3.5**
	comp=Z,58nm,0.3s						
TAPN	**Taplejung**	**14.82**	**121**	*e*P	**Pn**	**05 28 30.3**	**-3.5**
	comp=Z,58nm,0.3s						
ODAN	**Odare**	**14.91**	**123**	*e*P	**Pn**	**05 28 31.5**	**-3.4**
	comp=Z,96nm,0.6s						
ODAN	**Odare**	**14.91**	**123**	*e*P	**Pn**	**05 28 31.5**	**-3.4**
	comp=Z,96nm,0.6s						
KURBB	**Kurchatov Arra**	**15.16**	**12**	⇓P	**Pn**	**05 28 34.7**	**-3.2**
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**15.27**	**13**	P	**Pn**	**05 28 34.9**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=203,slow=12,SNR=34						
KURK				LR	LR	05 34 54.6	
	comp=Z,84nm,21.9s,baz=305,slow=39						
KURK	**Kurchatov**	**15.27**	**13**	*e*Pn	**Pn**	**05 28 36.3**	**-3.0**
KURK	**Kurchatov**	**15.27**	**13**	*c i*P	**Pn**	**05 28 36.4**	**-2.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AKL	**Akola**	**15.46**	**167**	⇓*i*P	**Pn**	**05 28 40.9**	**-1.0**
AKL				*i* x	x	05 31 22.8	
NGP	**Nagpur**	**15.49**	**160**	*ex*	**Pn**	**05 28 39.5**	**-2.8**
NGP				*ex*	x	05 31 13.3	
LSA	**Lhasa**	**16.10**	**108**	*e*Pn	**Pn**	**05 28 49.4**	**-0.5**
	comp=Z,17nm,0.8s						
LSA	**Lhasa**	**16.10**	**108**	*e*P	**Pn**	**05 28 49.4**	**-0.5**
LSA				pmax	pmax		
	comp=Z,17nm,0.8s						
AB31	**Akbulak array**	**16.61**	**328**	⇑P	**Pn**	**05 28 52.7**	**-3.4**
	comp=Z,6.4nm,0.5s						
AB31	**Akbulak array**	**16.61**	**328**	P	**Pn**	**05 28 52.7**	**-3.4**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ABKAR	**Akbulak array**	**16.61**	**328**	*e*Pn	**Pn**	**05 28 51.5**	**-4.6**
	comp=Z,8.0nm,0.4s						
ABKAR				*e*Sn	Sn	05 31 36.0	-24
BVA0	**Borovoye Array**	**17.25**	**354**	⇑P	**Pn**	**05 29 02.6**	**-1.3**
	comp=Z,2.5nm,0.8s						
BVA0	**Borovoye Array**	**17.25**	**354**	P	**Pn**	**05 29 02.5**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**17.25**	**354**	P	**Pn**	**05 29 01.8**	**-2.1**
	comp=Z,3.1nm,0.3s,baz=153,slow=12,SNR=43						
BVAR				S	**S**	**05 32 04.2**	**-15**
	comp=Z,0.3nm,0.3s,baz=165,slow=24,SNR=5.6						
BVAR				LR	LR	05 36 05.5	
	comp=Z,122nm,20.4s,baz=349,slow=38						
BVAR	**Borovoye Array**	**17.25**	**354**	P	**Pn**	**05 29 01.8**	**-2.1**
BVAR				S	**S**	**05 32 04.2**	**-15**
BVAR	**Borovoye Array**	**17.25**	**354**	P	**Pn**	**05 29 01.8**	**-2.1**
BRVK	**Borovoye**	**17.30**	**354**	*e*Pn	**Pn**	**05 29 02.2**	**-2.3**
	comp=Z,27nm,0.8s						
BRVK	**Borovoye**	**17.30**	**354**	*e*P	**Pn**	**05 29 01.9**	**-2.6**
POO	**Poona**	**17.31**	**179**	*e*PKP	**Pn**	**05 29 05.0**	**+0.1**
POO				*i* x	x	05 32 05.0	
AKTO	**Aktyubinsk**	**18.32**	**327**	P	**Pn**	**05 29 14.6**	**-2.4**
	comp=Z,5.6nm,0.3s,baz=126,slow=12,SNR=53						
AKTO				S	**S**	**05 32 25.2**	**-16**
	comp=Z,0.5nm,0.3s,baz=41,slow=19,SNR=5.3						
AKTO				LR	LR	05 37 06.5	
	comp=Z,92nm,19.9s,baz=327,slow=40						
AKTO	**Aktyubinsk**	**18.32**	**327**	⇑P	**Pn**	**05 29 14.6**	**-2.3**
	comp=Z,3.2nm,0.5s						
AKTO	**Aktyubinsk**	**18.32**	**327**	P	**Pn**	**05 29 14.6**	**-2.4**
AKTO				S	**S**	**05 32 25.2**	**-16**
AKTO	**Aktyubinsk**	**18.32**	**327**	P	**Pn**	**05 29 14.6**	**-2.3**
AKTO				S	**S**	**05 32 25.3**	**-16**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,92nm,19.9s						
SHL	**Shillong**	**18.86**	**118**	*ex*	**Pn**	**05 29 21.0**	**-2.6**
SHL				*ex*	x	05 32 37.6	
HYB	**Hyderabad**	**18.96**	**165**	*i* P	**Pn**	**05 29 24.0**	**-0.8**
HYB				*e*S	**S**	**05 32 56.0**	**+1.9**
ZAA0	**Zalesovo Array**	**19.71**	**20**	*e*P	**Pn**	**05 29 30.8**	**-2.5**
ZAA0				*e*S	**S**	**05 33 03.8**	**-4.7**
ZALV	**Zalesovo Beam**	**19.71**	**20**	P	**Pn**	**05 29 31.0**	**-2.3**
	comp=Z,4.4nm,0.3s,baz=215,slow=11,SNR=93						
ZALV				S	**S**	**05 33 03.4**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=209,slow=18,SNR=4.4						
ZALV	**Zalesovo Beam**	**19.71**	**20**	P	**Pn**	**05 29 31.0**	**-2.3**
ZALV				S	**S**	**05 33 03.4**	**-5.1**
ZALV	**Zalesovo Beam**	**19.71**	**20**	P	**Pn**	**05 29 31.0**	**-2.3**
ZALV				S	**S**	**05 33 03.4**	**-5.1**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.3s						
NVS	**Novosibirsk**	**20.11**	**17**	⇑*i*P	**P**	**05 29 35.0**	**-0.3**
NVS				*e*		05 30 07.7	
NVS				*e*S	**S**	**05 33 14.6**	**-1.7**
NVS				pmax	pmax		
	comp=N,18nm,1.1s						
NVS				pmax	pmax		
	comp=Z,18nm,1.1s						
NVS				smax			
	comp=N,38nm,1.7s						
IMP	**Imphal**	**20.81**	**117**	*ex*	**P**	**05 29 48.0**	**+4.7**
IMP				*ex*	x	05 30 15.0	
GTA	**Gaotai**	**21.13**	**73**	*e*P	**P**	**05 29 49.8**	**+3.3**
GTA				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.4						
SVE	**Sverdlovsk**	**22.65**	**342**	⇓*e*P	**P**	**05 30 01.9**	**-0.5**
SVE				*e*		05 30 20.8	
SVE				*e*		05 35 09.1	
SVE				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.2						
MIB	**Mutribah**	**22.74**	**262**	*e*P	**P**	**05 30 02.4**	**-1.2**
MIB				AMb	AMB	05 30 11.2	
	comp=Z,119nm,0.8s,mb5.3						
ARU	**Arti**	**22.88**	**338**	*e*P	**P**	**05 30 04.0**	**-0.9**
	comp=Z,30nm,1.0s,mb4.6						
ARU				*e*pP		05 30 22.9	
ARU	**Arti**	**22.88**	**338**	*c i*P	**P**	**05 30 04.4**	**-0.5**
ARU				*e**PP		05 30 22.6	
ARU				*e*		05 30 36.5	
ARU				S	**S**	**05 34 08.8**	**+1.1**
ARU				SS		05 34 46.9	
ARU				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.2						
RDF	**Al-Radifah**	**22.91**	**260**	*e*P	**P**	**05 30 04.4**	**-1.1**
RDF				AMb	AMB	05 30 12.1	
	comp=Z,78nm,1.0s,mb5.0						
GNI	**Garni**	**22.97**	**289**	P	**P**	**05 30 05.7**	**-0.2**
	comp=Z,7.8nm,0.5s,mb4.3,baz=348,slow=1.5,SNR=7.5						
GNI	**Garni**	**22.97**	**289**	P	**P**	**05 30 05.7**	**-0.2**
GNI	**Garni**	**22.97**	**289**	*e*P	**P**	**05 30 06.2**	**+0.3**
GNI				pmax	pmax		
	comp=Z,21nm,1.0s						
NAY	**Al-Naaiem**	**23.03**	**261**	*e*P	**P**	**05 30 05.4**	**-1.2**
NAY				AMb	AMB	05 30 11.4	
	comp=Z,20nm,0.6s,mb4.7						
RST	**Umm Al-Ruwaisa**	**23.13**	**262**	*e*P	**P**	**05 30 05.8**	**-1.7**
RST				AMb	AMB	05 30 07.6	
	comp=Z,7.8nm,0.6s,mb4.2						
ONI	**Oni**	**24.10**	**295**	P	**P**	**05 30 17.9**	**+1.6**
KIV	**Kislovodsk**	**24.82**	**298**	*e*P	**P**	**05 30 23.2**	**+0.4**
	comp=Z,14nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**24.82**	**298**	*e*P	**P**	**05 30 21.6**	**-1.2**
KIV				*e*S	**S**	**05 34 39.3**	**0.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
KIV				MLR	MLR		
	comp=Z,46nm,15.0s						
CD2	**Chengdu**	**25.72**	**92**	*e*P	**P**	**05 30 30.3**	**-0.8**
CD2				pP	pP	05 30 47.5	-2.8
CD2				PP		05 31 13.6	
CD2				S	**S**	**05 34 51.9**	**-1.8**
CD2				SS		05 36 02.1	
CD2				pmax	pmax		
	comp=Z,20nm,0.5s,mb4.8						
CD2				pmax	pmax		
	comp=Z,60nm,4.2s						
SONM	**Songino Array**	**27.06**	**54**	P	**P**	**05 30 44.4**	**+1.4**
	comp=Z,0.8nm,0.5s,mb3.5,baz=266,slow=8.5,SNR=4.6						
SONM				LR	LR	05 42 54.2	
	comp=Z,64nm,20.3s,baz=180,slow=39						
SONM	**Songino Array**	**27.06**	**54**	P	**P**	**05 30 44.4**	**+1.4**
SONM	**Songino Array**	**27.06**	**54**	P	**P**	**05 30 44.4**	**+1.4**
KMI	**Kunming**	**27.32**	**105**	P	**P**	**05 30 47.6**	**+2.1**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
CHTO	**Chiang Mai**	**28.19**	**120**	*e*P	**P**	**05 30 53.9**	**+0.6**
	comp=Z,36nm,1.7s,mb4.6						
CHTO				*e*pP	pP	05 31 15.6	+2.8
CHTO	**Chiang Mai**	**28.19**	**120**	*e*P	**P**	**05 30 53.9**	**+0.6**
CHTO				*e**PP	pP	05 31 15.6	+2.8
CHTO				pmax	pmax		
	comp=Z,36nm,1.7s,mb4.6						
CMAR	**Chiang Mai Arr**	**28.43**	**121**	P	**P**	**05 30 57.8**	**+2.3**
	comp=Z,4.2nm,0.8s,mb4.0,baz=306,slow=8.9,SNR=20						
CMAR				PcP	PcP	05 34 08.2	+2.4
	comp=Z,3.0nm,0.7s,baz=301,slow=3.8,SNR=8.9						
CMAR	**Chiang Mai Arr**	**28.43**	**121**	P	**P**	**05 30 57.8**	**+2.3**
CMAR				PcP	PcP	05 34 08.2	+2.4
CMAR	**Chiang Mai Arr**	**28.43**	**121**	P	**P**	**05 30 57.8**	**+2.4**
CMAR						05 34 08.2	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GYA	**Guiyang**	**29.81**	**99**	*e*P	**P**	**05 31 09.9**	**+2.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
HHC	**Hu-ho-hao-te**	**30.11**	**69**	*e*P	**P**	**05 31 11.6**	**+1.5**
HHC				pP	pP	05 31 29.3	-0.4
HHC				sP	sP	05 31 38.5	-1.0
HHC				PP	PP	05 32 11.8	-7.7
HHC				PcP	PcP	05 34 11.8	+2.1
HHC				S	**S**	**05 36 03.5**	**+0.8**
HHC				SS	SS	05 37 44.8	-29
HHC				ScP	ScP	05 37 46.5	+2.2
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
HHC				pmax	pmax		
	comp=Z,150nm,5.1s						
HHC				LR	LR		
	comp=N,230nm,12.5s						
HHC				LR	LR		
	comp=E,280nm,11.8s						
HHC				LR	LR		
	comp=Z,130nm,11.4s						
MMAI	**Mount Meron Ar**	**31.38**	**276**	LR	LR	05 47 31.7	
	comp=Z,24nm,19.8s,baz=275,slow=43						
BRTR	**Keskin Array B**	**31.51**	**289**	P	**P**	**05 31 21.9**	**-0.5**
	comp=Z,1.4nm,0.7s,mb3.8,baz=101,slow=7.5,SNR=8.8						
BRTR	**Keskin Array B**	**31.51**	**289**	P	**P**	**05 31 21.9**	**-0.5**
BRTR	**Keskin Array B**	**31.51**	**289**	P	**P**	**05 31 22.0**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
OBN	**Obninsk**	**31.69**	**319**	*e*P	**P**	**05 31 23.6**	**-0.2**
OBN				*e**SP	sP	05 31 47.8	-5.5
OBN				*e*		05 32 27.9	
OBN				*e*		05 34 12.8	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
AKASG	**Malin Array Be**	**34.87**	**309**	P	**P**	**05 31 49.9**	**-1.7**
	comp=Z,2.0nm,0.4s,mb4.3,baz=105,slow=8.8,SNR=12						
AKASG				sP	sP	05 32 20.7	-0.4
	comp=Z,2.2nm,0.6s,baz=80,slow=7.3,SNR=2.8						
AKASG	**Malin Array Be**	**34.87**	**309**	P	**P**	**05 31 49.9**	**-1.7**
AKASG				sP	sP	05 32 20.7	-0.4
AKASG	**Malin Array Be**	**34.87**	**309**	P	**P**	**05 31 49.9**	**-1.6**
AKASG				*SP	sP	05 32 20.7	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIEV	**Kiev**	**34.88**	**309**	*e*P	**P**	**05 31 50.6**	**-1.0**
	comp=Z,5.8nm,0.6s,mb4.6						
KIEV	**Kiev**	**34.88**	**309**	*e*P	**P**	**05 31 50.6**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
BURAR	**Bucovina Array**	**37.28**	**304**	⇓*i*P	**P**	**05 32 12.4**	**+0.3**
BUR08	**Bucovina Ar. S**	**37.29**	**304**	*e*P	**P**	**05 32 12.5**	**+0.3**
JOF	**Joensuu**	**37.38**	**330**	*e*P	**P**	**05 32 12.6**	**-0.2**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
JOF	**Joensuu**	**37.38**	**330**	*e*p	**P**	**05 32 12.6**	**-0.2**
	comp=Z,4.1nm,0.4s,mb4.7						
KWP	**Kalwaria Pacla**	**38.96**	**307**	⇓*i*P	**P**	**05 32 27.3**	**+1.0**
DRGR		**39.00**	**302**	⇓*i*P	**P**	**05 32 26.2**	**-0.4**
GZR	**Gura Zlata**	**39.04**	**300**	⇓*i*P	**P**	**05 32 26.4**	**-0.6**
TRPA	**Tarpa**	**39.08**	**304**	⇑*i*P	**P**	**05 32 28.4**	**+1.2**
FINES	**FINESS Array B**	**39.09**	**326**	P	**P**	**05 32 26.8**	**-0.4**
	comp=Z,2.3nm,0.3s,mb4.4,baz=118,slow=9.8,SNR=41						
FINES	**FINESS Array B**	**39.09**	**326**	P	**P**	**05 32 26.8**	**-0.4**
FINES	**FINESS Array B**	**39.09**	**326**	P	**P**	**05 32 26.8**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KAF	**Kangasniemi**	**39.21**	**327**	*e*P	**P**	**05 32 27.3**	**-0.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
KAF	**Kangasniemi**	**39.21**	**327**	*e*p	**P**	**05 32 27.3**	**-0.8**
	comp=Z,0.8nm,0.3s,mb4.0						
CN2	**Changchun**	**40.12**	**62**	*e*P	**P**	**05 32 37.9**	**+1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**42.46**	**337**	P	**P**	**05 32 55.0**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=111,slow=7.8,SNR=15						
ARCES				pP	pP	05 33 15.7	+0.7
	comp=Z,5.0nm,0.6s,baz=112,slow=7.3,SNR=4.4						
ARCES				LR	LR	05 51 41.2	
	comp=Z,169nm,19.7s,baz=1.9,slow=38						
ARCES	**ARCESS Array B**	**42.46**	**337**	P	**P**	**05 32 55.0**	**+0.3**
ARCES				pP	pP	05 33 15.7	+0.7
ARCES	**ARCESS Array B**	**42.46**	**337**	P	**P**	**05 32 55.0**	**+0.3**
ARCES				*PP	pP	05 33 15.7	+0.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,169nm,19.7s						
DPC	**Dobruska-Polom**	**43.07**	**308**	*e*P	**P**	**05 33 00.4**	**+0.4**
DPC	**Dobruska-Polom**	**43.07**	**308**	*e*P	**P**	**05 33 00.4**	**+0.4**
PRU	**Pruhonice**	**44.24**	**308**	*e*P	**P**	**05 33 10.0**	**+0.7**
PRU	**Pruhonice**	**44.24**	**308**	*e*P	**P**	**05 33 10.0**	**+0.7**
GERES	**GERESS Array B**	**44.89**	**306**	P	**P**	**05 33 14.3**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.4,baz=64,slow=9.1,SNR=4.9						
GERES				PcP	PcP	05 34 54.7	+0.1
	comp=Z,0.5nm,0.6s,baz=104,slow=4.1,SNR=3.4						
GERES	**GERESS Array B**	**44.89**	**306**	P	**P**	**05 33 14.3**	**-0.3**
GERES				PcP	PcP	05 34 54.8	+0.1
GERES	**GERESS Array B**	**44.89**	**306**	P	**P**	**05 33 14.3**	**-0.3**
GERES						05 34 54.7	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KHC	**Kasperske Hory**	**44.94**	**306**	*e*P	**P**	**05 33 15.3**	**+0.4**
KHC				*e*		05 34 59.9	
KHC	**Kasperske Hory**	**44.94**	**306**	*e*P	**P**	**05 33 15.3**	**+0.4**
KHC				*e*PP	PP	05 34 59.9	-1.4
CLL	**Collm**	**45.11**	**310**	*i* sP	sP	05 33 47.1	+0.8
	comp=Z,9.0nm,1.4s						
NB2	**NORSAR Subarra**	**46.05**	**323**	P	**P**	**05 33 22.4**	**-1.1**
	comp=Z,2.4nm,0.4s,mb4.3,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**46.05**	**323**	P	**P**	**05 33 22.9**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.1,baz=96,slow=7.6,SNR=13						
NOA				pP	pP	05 33 44.1	+0.1
	comp=Z,2.0nm,0.6s,baz=94,slow=7.6,SNR=3.4						
NOA				LR	LR	05 55 17.9	
	comp=Z,60nm,18.2s,baz=180,slow=39						
NOA	**NORSAR Array B**	**46.05**	**323**	P	**P**	**05 33 22.9**	**-0.6**
NOA				pP	pP	05 33 44.1	+0.1
NOA	**NORSAR Array B**	**46.05**	**323**	P	**P**	**05 33 22.9**	**-0.6**
NOA				*PP	pP	05 33 44.1	+0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,60nm,18.2s						
HINF	**Hinteralfeld**	**49.57**	**306**	*e*P	**P**	**05 33 50.7**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.0						
HINF	**Hinteralfeld**	**49.57**	**306**	*e*P	**P**	**05 33 50.7**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.2						
HINF	**Hinteralfeld**	**49.57**	**306**	*e*P	**P**	**05 33 50.7**	**-0.2**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
HAU	**Haudompre**	**49.86**	**306**	*e*P	**P**	**05 33 52.3**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.2						
HAU	**Haudompre**	**49.86**	**306**	*e*P	**P**	**05 33 52.3**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.5						
HAU	**Haudompre**	**49.86**	**306**	*e*P	**P**	**05 33 52.3**	**-0.8**
HAU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**50.15**	**303**	*e*P	**P**	**05 33 56.1**	**+0.8**
LPG				*e*pP	pP	05 34 16.0	-0.1
LPG	**La Plagne**	**50.15**	**303**	*e*P	**P**	**05 33 56.1**	**+0.8**
LPG				*e*pP	pP	05 34 16.0	-0.1
LPG	**La Plagne**	**50.15**	**303**	*e*P	**P**	**05 33 56.1**	**+0.8**
LPG				*e**PP	pP	05 34 16.0	-0.1
PAGF	**Fort de Pagny**	**50.16**	**307**	*e*P	**P**	**05 33 55.6**	**+0.3**
PAGF	**Fort de Pagny**	**50.16**	**307**	*e*P	**P**	**05 33 55.6**	**+0.3**
LPL	**La Plagne**	**50.16**	**303**	*e*P	**P**	**05 33 56.4**	**+1.0**
LPL	**La Plagne**	**50.16**	**303**	*e*P	**P**	**05 33 56.4**	**+1.0**
LPL	**La Plagne**	**50.16**	**303**	*e*P	**P**	**05 33 56.4**	**+1.0**
CABF	**La Chapelle**	**50.34**	**304**	*e*P	**P**	**05 33 57.9**	**+1.2**
CABF	**La Chapelle**	**50.34**	**304**	*e*P	**P**	**05 33 57.9**	**+1.2**
CABF	**La Chapelle**	**50.34**	**304**	*e*P	**P**	**05 33 57.9**	**+1.2**
MJAR	**Matsushiro Arr**	**51.31**	**69**	P	**P**	**05 34 06.1**	**+1.9**
	comp=Z,2.1nm,0.6s,mb4.3,baz=286,slow=9.7,SNR=7.9						
MJAR	**Matsushiro Arr**	**51.31**	**69**	P	**P**	**05 34 06.1**	**+1.9**
MJAR	**Matsushiro Arr**	**51.31**	**69**	P	**P**	**05 34 06.1**	**+1.9**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SMF	**Signal de Mont**	**51.83**	**305**	*e*P	**P**	**05 34 07.5**	**-0.4**
SMF				*e*pP	pP	05 34 27.9	-0.9
SMF	**Signal de Mont**	**51.83**	**305**	*e*P	**P**	**05 34 07.5**	**-0.4**
SMF				*e*pP	pP	05 34 27.9	-0.9
SMF	**Signal de Mont**	**51.83**	**305**	*e*P	**P**	**05 34 07.5**	**-0.4**
SMF				*e**PP	pP	05 34 27.9	-0.9
AVF	**Avril sur Loir**	**52.12**	**305**	*e*P	**P**	**05 34 09.6**	**-0.5**
AVF				*e*pP	pP	05 34 29.9	-1.0
AVF	**Avril sur Loir**	**52.12**	**305**	*e*P	**P**	**05 34 09.6**	**-0.5**
AVF				*e*pP	pP	05 34 29.9	-1.0
AVF	**Avril sur Loir**	**52.12**	**305**	*e*P	**P**	**05 34 09.6**	**-0.5**
AVF				*e**PP	pP	05 34 29.9	-1.0
LDF	**La Druitiere**	**53.92**	**308**	*e*P	**P**	**05 34 23.7**	**+0.5**
LDF	**La Druitiere**	**53.92**	**308**	*e*P	**P**	**05 34 23.7**	**+0.5**
LDF	**La Druitiere**	**53.92**	**308**	*e*P	**P**	**05 34 23.7**	**+0.5**
GRR	**Gorron**	**54.45**	**308**	*e*P	**P**	**05 34 27.6**	**+0.5**
	comp=Z,16nm,0.9s,

comp=Z,9.0nm,0.7s
WRAB Tennant Creek 79.99 123 *e*P **P 05 37 10.7 +1.9**
comp=Z,7.8nm,0.7s,mb4.7
WRAB Tennant Creek 79.99 123 *e*P **P 05 37 10.7 +1.9**
WRAB pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
WB2 Warramunga Arr 80.00 123 *e*P **P 05 37 10.5 +1.7**
KMBL Kambalda 80.88 140 *e*P **P 05 37 15.0 +1.7**
YKA Yellowknife Ar 81.73 4 P **P 05 37 18.0 +0.5**
comp=Z,2.5nm,0.6s,mb4.2,baz=348,slow=5.2,SNR=38
YKA Yellowknife Ar 81.73 4 P **P 05 37 18.0 +0.5**
YKA Yellowknife Ar 81.73 4 P **P 05 37 18.0 +0.5**
YKA pmax pmax
comp=Z,3.0nm,0.6s
AS31 Alice Springs 82.29 126 *e*P **P 05 37 22.5 +1.6**
ASAR Alice Springs 82.29 126 P **P 05 37 22.8 +1.8**
comp=Z,6.1nm,0.6s,mb4.6,baz=308,slow=5.0,SNR=117
ASAR Alice Springs 82.29 126 P **P 05 37 22.8 +1.8**
ASAR Alice Springs 82.29 126 P **P 05 37 22.8 +1.9**
ASAR pmax pmax
comp=Z,6.0nm,0.6s
COEN Coen 82.34 113 *e*P **P 05 37 22.7 +1.4**
FORT Forrest 83.83 135 *e*P **P 05 37 29.8 +1.1**
SUR Sutherland 83.94 223 LR LR 06 13 42.0
comp=Z,72nm,18.8s,baz=334,slow=35
MTSU Mount Surprise 85.84 116 *e*P **P 05 37 41.2 +2.1**
comp=Z,18nm,0.9s,mb5.0
CTA Charters Tower 88.49 116 P **P 05 37 53.5 +1.7**
comp=Z,12nm,0.8s,mb5.0,baz=272,slow=5.2,SNR=11
CTA Charters Tower 88.49 116 *e*P **P 05 37 53.3 +1.5**
CTA Charters Tower 88.49 116 P **P 05 37 53.5 +1.7**
CTA Charters Tower 88.49 116 P **P 05 37 53.5 +1.7**
CTA pmax pmax
comp=Z,12nm,0.9s
STKA Stephens Creek 92.84 128 P **P 05 38 12.7 +0.9**
comp=Z,1.5nm,0.6s,mb4.5,baz=328,slow=14,SNR=3.2
STKA Stephens Creek 92.84 128 P **P 05 38 12.7 +0.9**
STKA Stephens Creek 92.84 128 P **P 05 38 12.7 +0.9**
STKA pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 115.05 357 PKP PKiKP 05 43 41.1 +1.0
comp=Z,0.1nm,0.6s,baz=355,slow=2.1,SNR=3.2
TXAR Lajitas Array 115.05 357 PKP PKiKP 05 43 41.1 +1.0
TXAR Lajitas Array 115.05 357 PKIKP PKiKP 05 43 41.1 +1.0

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*ISCJB **21** 05:35:31.7±0.3, 40°.32N±0°.02×27°.57E±0°.03, h4km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=40.2*
*ISK **21** 05:35:31.4, 40°.31N×27°.57E, h4km, MD3.0*
*DDA **21** 05:35:31.2, 40°.30N×27°.56E, h18km±1km, Md3.0*
*CSEM **21** 05:35:32.0±0.1, 40°.33N×27°.57E, h5km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.1km az=44.0*
ISC 21 05:35:32.1±0.3, 40°.32N±0°.02×27°.56E±0°.03, h7km±3km, n69, σ0°75/94, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.21**	**290**	*e*PG	**Pg**	**05 35 36.5**	**+0.2**
KRBG				*e*SG	**Sg**	**05 35 40.1**	**+0.9**
KRBG	**Karabiga-Canak**	**0.21**	**290**	*e*Pg	**Pg**	**05 35 36.5**	**+0.1**
KRBG				*e*Sg	**Sg**	**05 35 40.1**	**+0.9**
EDC	**Edincik**	**0.23**	**84**	*e*PG	**Pg**	**05 35 36.6**	**-0.2**
EDC				*e*SG	**Sg**	**05 35 40.3**	**+0.4**
EDC	**Edincik**	**0.23**	**84**	*e*Pg	**Pg**	**05 35 36.6**	**-0.2**
EDC				*e*Sg	**Sg**	**05 35 40.3**	**+0.4**
GONE	**Gonen-Balikesi**	**0.29**	**160**	*e*PG	**Pg**	**05 35 37.9**	**0.0**
GONE				*e*SG	**Sg**	**05 35 41.8**	**+0.1**
GONE	**Gonen-Balikesi**	**0.29**	**160**	*e*Pg	**Pg**	**05 35 37.9**	**0.0**
GONE				*e*Sg	**Sg**	**05 35 41.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.47**	**322**	*e*PG	**Pg**	**05 35 41.7**	**+0.5**
RKY				*e*SG	**Sg**	**05 35 48.6**	**+1.4**
RKY	**Sarkoy-Tekirda**	**0.47**	**322**	*e*Pg	**Pg**	**05 35 41.7**	**+0.5**
RKY				*e*Sg	**Sg**	**05 35 48.6**	**+1.3**
SART	**Tekirdag**	**0.47**	**322**	*i* P	**Pg**	**05 35 40.8**	**-0.4**
SART				*i* S	**Sg**	**05 35 46.9**	**-0.4**
SART	**Tekirdag**	**0.47**	**322**	*i* P	**Pg**	**05 35 40.8**	**-0.4**
SART				*i* S	**Sg**	**05 35 46.9**	**-0.4**
MFT	**Murefte**	**0.51**	**336**	*e*PG	**Pg**	**05 35 42.2**	**+0.2**
MFT	**Murefte**	**0.51**	**336**	*e*Pg	**Pg**	**05 35 42.2**	**+0.2**
BALY	**Balya**	**0.58**	**175**	*i* P	**Pg**	**05 35 43.0**	**-0.3**
BALY				*i* S	**Sg**	**05 35 51.1**	**+0.1**
BALY	**Balya**	**0.58**	**175**	*i* P	**Pg**	**05 35 43.0**	**-0.4**
BALY				*i* S	**Sg**	**05 35 51.1**	**+0.1**
LPK	**Lapseki**	**0.61**	**275**	*e*PG	**Pg**	**05 35 43.2**	**-0.7**
LPK	**Lapseki**	**0.61**	**275**	*e*Pg	**Pg**	**05 35 43.2**	**-0.7**
KCTX	**Karacabey (Bur**	**0.61**	**95**	*e*PG	**Pg**	**05 35 43.1**	**-0.8**
KCTX	**Karacabey (Bur**	**0.61**	**95**	*e*Pg	**Pg**	**05 35 43.1**	**-0.8**
BALB	**Balikesir**	**0.72**	**160**	*e*PG	**Pg**	**05 35 46.0**	**-0.1**
BALB	**Balikesir**	**0.72**	**160**	*e*Pg	**Pg**	**05 35 46.0**	**-0.1**
CRLT	**Corlu**	**0.82**	**9**	*e*PG	**Pg**	**05 35 47.7**	**-0.1**
CRLT	**Corlu**	**0.82**	**9**	*e*Pg	**Pg**	**05 35 47.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.83**	**276**	*e*PG	**Pg**	**05 35 47.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.83**	**276**	*e*Pg	**Pg**	**05 35 47.9**	**-0.2**
ERIK	**Erikli-Kesan**	**0.87**	**294**	*e*PG	**Pg**	**05 35 48.6**	**-0.2**
ERIK	**Erikli-Kesan**	**0.87**	**294**	*e*Pg	**Pg**	**05 35 48.6**	**-0.2**
DURS	**Dursunbey**	**1.01**	**135**	*i* P	**Pg**	**05 35 50.3**	**-1.1**
DURS				*i* S	**Sg**	**05 36 04.5**	**-0.1**
DURS	**Dursunbey**	**1.01**	**135**	*i* P	**Pg**	**05 35 50.3**	**-1.2**
DURS				*i* S	**Sg**	**05 36 04.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.01**	**87**	*e*PG	**Pg**	**05 35 51.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.01**	**87**	*e*Pg	**Pg**	**05 35 51.4**	**-0.2**
ARMT	**Armutlu**	**1.02**	**76**	*e*PG	**Pg**	**05 35 51.7**	**-0.1**
ARMT	**Armutlu**	**1.02**	**76**	*e*Pg	**Pg**	**05 35 51.7**	**-0.1**
SLVT	**Silivri**	**1.03**	**28**	*e*PG	**Pg**	**05 35 52.0**	**0.0**
SLVT	**Silivri**	**1.03**	**28**	*e*Pg	**Pg**	**05 35 52.0**	**0.0**
EZN	**Ezine**	**1.07**	**243**	*e*PG	**Pg**	**05 35 52.6**	**0.0**
EZN	**Ezine**	**1.07**	**243**	*e*Pg	**Pg**	**05 35 52.6**	**0.0**
ENEZ	**Enez**	**1.15**	**292**	*e*PN	**Pn**	**05 35 53.7**	**-0.9**
ENEZ	**Enez**	**1.15**	**292**	*e*Pn	**Pn**	**05 35 53.7**	**-0.9**
CTKS	**Kestanelik-??a**	**1.16**	**38**	*e*PN	**Pn**	**05 35 53.7**	**-1.1**
CTKS	**Kestanelik-??a**	**1.16**	**38**	*e*Pn	**Pn**	**05 35 53.7**	**-1.1**
AYVA	**Ayvalik**	**1.21**	**214**	*i* P	**Pb**	**05 35 55.4**	**0.0**
AYVA				*i* S	**Sg**	**05 36 11.5**	**+0.3**
AYVA	**Ayvalik**	**1.21**	**214**	*i* P	**Pb**	**05 35 55.4**	**0.0**
AYVA				*i* S	**Sg**	**05 36 11.5**	**+0.3**
BOZC	**Bozcaada**	**1.25**	**248**	*i* P	**Pn**	**05 35 54.9**	**-1.1**
BOZC				*i* S	**Sb**	**05 36 12.1**	**-0.3**
GEMT	**Gemlik**	**1.25**	**84**	*e*PN	**Pn**	**05 35 55.1**	**-0.9**
GEMT	**Gemlik**	**1.25**	**84**	*e*Pn	**Pn**	**05 35 55.1**	**-0.9**
BGKT	**Bogazkoy**	**1.26**	**47**	*e*PN	**Pn**	**05 35 55.4**	**-0.7**
BGKT	**Bogazkoy**	**1.26**	**47**	*e*Pn	**Pn**	**05 35 55.4**	**-0.7**
CTYL	**Yal??k??y-??at**	**1.28**	**25**	*e*PN	**Pn**	**05 35 56.0**	**-0.4**
CTYL	**Yal??k??y-??at**	**1.28**	**25**	*e*Pn	**Pn**	**05 35 56.0**	**-0.4**
YLV	**Yalova**	**1.41**	**79**	*e*PN	**Pn**	**05 35 58.2**	**0.0**
YLV	**Yalova**	**1.41**	**79**	*e*Pn	**Pn**	**05 35 58.2**	**+0.1**
AKHS	**Akhisar**	**1.46**	**172**	*i* P	**Pn**	**05 35 59.3**	**+0.4**
AKHS				*i* S	**Sn**	**05 36 16.5**	**-1.6**
AKHS	**Akhisar**	**1.46**	**172**	*i* P	**Pn**	**05 35 59.3**	**+0.5**
AKHS				*i* S	**Sn**	**05 36 16.5**	**-1.6**
DEMI	**Demirci**	**1.56**	**145**	*i* P	**Pn**	**05 35 60.0**	**-0.3**
DEMI				*i* S	**Sn**	**05 36 20.4**	**-0.3**
DEMI	**Demirci**	**1.56**	**145**	*i* P	**Pn**	**05 36 00.0**	**-0.3**
DEMI				*i* S	**Sn**	**05 36 20.4**	**-0.3**
EDRB	**Edirne**	**1.64**	**338**	*e*PN	**Pn**	**05 36 02.1**	**+0.7**
EDRB	**Edirne**	**1.64**	**338**	*e*Pn	**Pn**	**05 36 02.2**	**+0.8**
ADVT	**Abdulvahap**	**1.67**	**86**	*e*PN	**Pn**	**05 36 02.9**	**+1.2**
ADVT	**Abdulvahap**	**1.67**	**86**	*e*Pn	**Pn**	**05 36 02.9**	**+1.1**
GDZ	**Gediz**	**1.93**	**129**	*i* P	**Pn**	**05 36 05.7**	**+0.4**
GDZ				*i* S	**Sn**	**05 36 32.1**	**+2.3**
GDZ	**Gediz**	**1.93**	**129**	*i* P	**Pn**	**05 36 05.7**	**+0.4**
GDZ				*i* S	**Sn**	**05 36 32.1**	**+2.3**
BLCB	**Balcova**	**1.98**	**192**	*e*PN	**Pn**	**05 36 06.4**	**+0.4**
BLCB	**Balcova**	**1.98**	**192**	*e*Pn	**Pn**	**05 36 06.4**	**+0.4**
MANT	**Manisa**	**1.99**	**157**	*i* P	**Pn**	**05 36 08.6**	**+2.4**
MANT				*i* S	**Sn**	**05 36 31.1**	**-0.1**
MANT	**Manisa**	**1.99**	**157**	*i* P	**Pn**	**05 36 08.6**	**+2.5**
MANT				*i* S	**Sn**	**05 36 31.1**	**-0.1**
KULA	**Kula-Manisa**	**2.00**	**154**	*e*PN	**Pn**	**05 36 07.5**	**+1.2**
KULA	**Kula-Manisa**	**2.00**	**154**	*e*Pn	**Pn**	**05 36 07.5**	**+1.2**
ALT	**Altintas**	**2.34**	**122**	*e*PN	**Pn**	**05 36 11.7**	**+0.7**
ALT	**Altintas**	**2.34**	**122**	*e*Pn	**Pn**	**05 36 11.7**	**+0.7**

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*ISCJB **21** 05:38:46.2±1.1, 40°.8N±0°.1×71°.06E±0°.06, h10km, mb3.7/3, Error ellipse: s-maj=16.1km s-min=6.5km az=173.3*
*IDC **21** 05:38:46.4±1.5, 40°.76N×71°.38E, h0km, mb3.7/3, mb1 3.8/8, mb1mx3.5/29, mbtmp3.7/8, ML3.5/5, Error ellipse: s-maj=22.5km s-min=16.3km az=144.0*
*NEIC **21** 05:38:47.7±1.5, 40°.71N×71°.24E, h10km, Error ellipse: s-maj=23.3km s-min=11.1km az=177.0*

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*NNC **21** 05:38:49.3±4.2, 40°.86N×71°.65E, h0km, mb3.7, mpv4.1, Error ellipse: s-maj=38.4km s-min=21.3km az=14.0*
ISC 21 05:38:47.5±0.9, 40°.72N±0°.06×71°.18E±0°.06, h10km, n34, σ1°19/45, mb3.7/3, 3C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.36**	**53**	P	**Pn**	**05 39 26.7**	**+0.5**
AML	SNR=102			P		05 39 26.7	
KK31	**Karatay Array**	**2.43**	**348**	⇑Pn	**Pb**	**05 39 30.0**	**-1.2**
KK31	111nm,0.5s,baz=162,slow=15,SNR=1073			⇑Sn	**Sb**	**05 40 01.8**	**+0.6**
KKAR	**Karatay Array**	**2.43**	**348**	*e*Pn	**Pn**	**05 39 29.7**	**+2.5**
KKAR	170nm,0.4s,baz=153,slow=27,SNR=13			*e*Sn	**Sb**	**05 40 01.7**	**+0.5**
EKS2	**Erkin-Say**	**2.74**	**44**	P	**Pn**	**05 39 35.0**	**+3.5**
EKS2	SNR=13			P		05 39 35.0	
EKS2	**Erkin-Say**	**2.74**	**44**	*e*Pn	**Pn**	**05 39 31.9**	**+0.4**
EKS2				*e*Sn	**Sn**	**05 40 06.5**	**+1.8**
UCH	**Uchtor**	**2.92**	**58**	P	**Pb**	**05 39 38.5**	**-1.1**
UCH	SNR=9.4			P		05 39 38.5	
AAK	**Ala-Archa**	**3.13**	**51**	*e*Pn	**Pn**	**05 39 37.2**	**+0.4**
AAK				*e*Sn	**Sn**	**05 40 14.6**	**+0.3**
KZA	**Kyzart**	**3.35**	**65**	P	**Pb**	**05 39 46.8**	**-0.1**
KZA	SNR=6.9			P		05 39 46.8	
KBK	**Karagaybulak**	**3.42**	**54**	P	**Pn**	**05 39 42.1**	**+1.4**
KBK	SNR=10			P		05 39 42.1	
USP	**Ospenovka**	**3.55**	**43**	P	**Pb**	**05 39 49.8**	**-0.4**
USP	SNR=8.4			P		05 39 49.8	
TKM2	**Tokmak 2**	**3.96**	**55**	⇓Pn	**Pn**	**05 39 48.8**	**+0.6**
TKM2	14nm,0.6s			⇓Lg		05 40 44.6	
TKM2	**Tokmak 2**	**3.96**	**55**	*e*Pn	**Pn**	**05 39 48.7**	**+0.4**
MK31	**Makanchi Array**	**10.06**	**49**	P	**Pn**	**05 41 11.2**	**-0.8**
MKAR	**Makanchi Array**	**10.06**	**49**	Pn	**Pn**	**05 41 11.4**	**-0.5**
MKAR	1.3nm,0.7s,baz=238,slow=14,SNR=6.9			Pn		05 43 55.8	
MKAR	**Makanchi Array**	**10.06**	**49**	Pn	**Pn**	**05 41 11.4**	**-0.5**
MKAR	0.2nm,0.3s,baz=240,slow=14,SNR=8.8			Lg		05 43 55.8	
MKAR	**Makanchi Array**	**10.06**	**49**	Pn	**Pn**	**05 41 11.4**	**-0.5**
MKAR	0.2nm,0.3s,baz=235,slow=23,SNR=3.1			Lg		05 43 55.8	
KURBB	**Kurchatov Arra**	**11.15**	**25**	⇓P	**Pn**	**05 41 22.6**	**-4.2**
KURK	0.4nm,0.6s						
KURK	**Kurchatov**	**11.26**	**25**	Pn	**Pn**	**05 41 24.6**	**-3.7**
KURK	0.1nm,0.3s,baz=214,slow=12,SNR=16			Lg		05 44 29.6	
KURK	**Kurchatov**	**11.26**	**25**	Pn	**Pn**	**05 41 24.6**	**-3.7**
KURK	0.1nm,0.3s,baz=212,slow=32,SNR=4.5			Lg		05 44 29.6	
AB31	**Akbulak array**	**11.65**	**321**	P	**Pn**	**05 41 33.1**	**-0.5**
ABKAR	0.8nm,0.3s,baz=127,slow=14,SNR=49						
ABKAR	**Akbulak array**	**11.65**	**321**	*e*Pn	**Pn**	**05 41 33.1**	**-0.6**
ABKAR	1.9nm,0.3s			*e*Sn	**Sn**	**05 43 35.2**	**-8.6**
BVA0	**Borovoye Array**	**12.32**	**358**	⇓P	**Pn**	**05 41 40.2**	**-2.5**
BVAR	0.2nm,0.6s,baz=174,slow=13,SNR=3.8						
BVAR	**Borovoye Array**	**12.32**	**358**	Pn	**Pn**	**05 41 41.3**	**-1.4**
BVAR	0.4nm,0.3s,baz=175,slow=15,SNR=10			Sn	**Sn**	**05 43 51.8**	**-8.2**
BVAR	0.3nm,0.3s,baz=162,slow=24,SNR=4.4			Lg		05 45 16.5	
BVAR	**Borovoye Array**	**12.32**	**358**	Pn	**Pn**	**05 41 41.3**	**-1.4**
BVAR				Sn	**Sn**	**05 43 51.8**	**-8.2**
BVAR	0.3nm,0.3s,baz=164,slow=27,SNR=6.9			Lg		05 45 16.6	
AKTO	**Aktyubinsk**	**13.37**	**321**	Pn	**Pn**	**05 41 59.2**	**+2.1**
AKTO	0.4nm,0.3s,baz=136,slow=16,SNR=5.0			Sn	**Sn**	**05 44 18.9**	**-6.8**
AKTO	**Aktyubinsk**	**13.37**	**321**	⇑P	**Pn**	**05 41 59.1**	**+1.9**
AKTO	0.2nm,0.3s,baz=7.6,slow=15,SNR=3.1			Sn	**Sn**	**05 44 18.9**	**-6.8**
ZALV	**Zalesovo Beam**	**16.10**	**30**	Pn	**Pn**	**05 42 31.3**	**-2.4**
ZALV	0.5nm,0.3s,baz=230,slow=13,SNR=5.3			Sn	**Sn**	**05 45 38.9**	**+6.9**
ZALV	**Zalesovo Beam**	**16.10**	**30**	Pn	**Pn**	**05 42 31.3**	**-2.4**
ZALV	0.1nm,0.3s,baz=231,slow=17,SNR=2.7			Sn	**Sn**	**05 45 38.9**	**+6.9**
FINES	**FINESS Array B**	**34.14**	**323**	P	**P**	**05 45 32.8**	**+0.6**
FINES	3.6nm,0.9s,mb4.3,baz=114,slow=6.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**66.03**	**267**	P	**P**	**05 49 35.5**	**+1.0**
TORD	0.3nm,0.6s,mb3.5,baz=45,slow=5.3,SNR=2.9						
YKA	**Yellowknife Ar**	**77.03**	**3**	P	**P**	**05 50 40.0**	**-0.1**
YKA	0.3nm,0.7s,mb3.4,baz=353,slow=5.9,SNR=7.6						
YKA	**Yellowknife Ar**	**77.03**	**3**	P	**P**	**05 50 40.0**	**-0.1**

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*IDC **21** 05:39:52.2±1.7, 6°.84S×129°.56E, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, ML4.2/3, MS3.7/1, Ms1 3.7/1, ms1mx2.3/28, Error ellipse: s-maj=99.3km s-min=23.6km az=79.0*
*NEIC **21** 05:40:03.1±4.9, 7°.26S×129°.35E, h100km±56km, Error ellipse: s-maj=33.6km s-min=20.5km az=177.0*
*ISCJB **21** 05:40:08.7±2.6, 7°.6S±0°.1×129°.3E±0°.1, h183km±30km, mb3.5/4, Error ellipse: s-maj=19.0km s-min=17.0km az=13.9*
ISC 21 05:40:11.0±1.7, 7°.72S±0°.08×129°.3E±0°.1, h193km±18km, n20, σ0°95/26, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.91**	**199**	Pn	**Pn**	**05 42 43.4**	**+1.2**
FITZ	1.7nm,0.3s,baz=32,slow=13,SNR=55			Sn	**Sn**	**05 44 42.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**10.91**	**199**	Pn	**Pn**	**05 42 43.4**	**+1.2**
FITZ	3.0nm,0.3s,baz=140,slow=23,SNR=7.6			Sn	**Sn**	**05 44 42.5**	**-1.3**
WRAB	**Tennant Creek**	**13.09**	**159**	*e*Pn	**Pn**	**05 43 09.9**	**0.0**
WRA	**Warramunga Arr**	**13.10**	**159**	Pn	**Pn**	**05 43 09.6**	**-0.4**
WRA	1.1nm,0.3s,baz=324,slow=14,SNR=22			Sn	**Sn**	**05 45 30.8**	**-5.2**
WRA	**Warramunga Arr**	**13.10**	**159**	Pn	**Pn**	**05 43 09.6**	**-0.4**
WRA	2.9nm,0.3s,baz=331,slow=22,SNR=12			Sn	**Sn**	**05 45 30.8**	**-5.2**
WB2	**Warramunga Arr**	**13.10**	**159**	*e*Pn	**Pn**	**05 43 09.7**	**-0.3**
COEN	**Coen**	**14.97**	**116**	*e*Pn	**Pn**	**05 43 32.8**	**-0.6**
COEN				*e*Sn	**Sn**	**05 46 03.7**	**-17**
AS31	**Alice Springs**	**16.46**	**165**	*e*Pn	**Pn**	**05 43 54.7**	**+3.5**
ASAR	**Alice Springs**	**16.46**	**165**	P	**Pn**	**05 43 54.0**	**+2.8**
ASAR	0.5nm,0.3s,baz=337,slow=9.9,SNR=20			S	**S**	**05 46 52.7**	**-0.2**
ASAR	**Alice Springs**	**16.46**	**165**	P	**Pn**	**05 43 54.0**	**+2.8**
ASAR	0.5nm,0.3s,baz=323,slow=18,SNR=4.7			S	**S**	**05 46 52.7**	**-0.2**
PMG	**Port Moresby**	**17.75**	**97**	LR	LR	05 49 15.8	
SONM	comp=Z,301nm,21.7s,baz=77,slow=32						
SONM	**Songino Array**	**58.91**	**342**	P	**P**	**05 49 48.7**	**-1.0**
MK31	0.2nm,0.6s,mb2.9,baz=151,slow=9.2,SNR=2.2						
MKAR	**Makanchi Array**	**68.45**	**327**	*e*P	**P**	**05 50 52.5**	**+0.4**
MKAR	**Makanchi Array**	**68.45**	**327**	P	**P**	**05 50 52.2**	**+0.1**
MKAR	0.9nm,0.3s,mb3.8,baz=115,slow=8.3,SNR=21						
ZALV	**Zalesovo Beam**	**71.92**	**334**	P	**P**	**05 51 13.3**	**+0.3**
ZALV	0.6nm,0.5s,mb3.5,baz=142,slow=7.5,SNR=3.5						
KURK	**Kurchatov**	**72.77**	**329**	P	**P**	**05 51 17.8**	**-0.4**
KURK	0.2nm,0.3s,mb3.2,baz=126,slow=5.2,SNR=5.5						
KURK	**Kurchatov**	**72.77**	**329**	P	**P**	**05 51 17.8**	**-0.4**

GUC 21 05:41:57.8±0.8, 32°.47S×72°.09W, h3km±5km, MD3.9, ML3.4, 3C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.67**	**146**	⇓*i* P	Pg	05 42 11.2	+0.4
IHA				*i* S	Sg	05 42 21.9	+2.5
CHNG	**Los Chungos**	**0.77**	**41**	*e*P	Pg	05 42 12.6	+0.2
CHNG				*i* S	Sg	05 42 24.6	+2.2
PTCH	**Petorca**	**1.00**	**79**	*e*P	Pg	05 42 16.9	-0.1
PTCH				*i* S	Sg	05 42 31.1	+1.2
PTCH				AML	AML	05 42 35.2	
ROCH	comp=N,3μm,0.3s **El Roble**	**1.04**	**119**	⇓*i* P	Pg	05 42 17.6	-0.2
ROCH				⇓*i* P		05 42 17.7	
ROCH				*i* S	Sg	05 42 32.8	+1.6
ROCH				*i* S	Sg	05 42 33.1	+1.9
JACH	**Jahuel**	**1.28**	**100**	⇑*i* P	Pg	05 42 21.2	-1.1
JACH				*i* S	Sg	05 42 38.1	-0.8
PEL	**Peldehue**	**1.36**	**120**	⇓*i* P	Pn	05 42 22.8	-0.9
PEL				*i* S	Sg	05 42 41.3	-0.2
PEL				AML	AML	05 42 46.3	
RCDM	comp=N,2μm,0.5s **Rinconada Maip**	**1.48**	**134**	*e*P	Pn	05 42 24.8	-0.6
RCDM				*i* S	Sn	05 42 45.1	-0.2
RCDM				AML	AML	05 42 49.8	
SAN	comp=N,453nm,0.4s **Santiago**	**1.55**	**130**	⇑*i* P	Pn	05 42 25.9	-0.4
LNV	**Longovilo**	**1.59**	**159**	*e*P	Pn	05 42 24.8	-2.0
CLCH	**Cerro Calan**	**1.60**	**126**	⇓*i* P	Pn	05 42 26.5	-0.4
CLCH				*i* S	Sn	05 42 49.0	+0.9
ANTU	**Antumapu**	**1.64**	**132**	⇓*i* P	Pn	05 42 27.3	-0.2
ANTU				AML	AML	05 42 53.9	
FCH	comp=N,792nm,0.5s **Farellones**	**1.74**	**120**	*e*P	Pn	05 42 28.7	-0.2
FCH				*i* S	Sn	05 42 52.7	+1.1
FCH				AML	AML	05 42 55.0	
PCH	comp=E,617nm,0.6s **Pirque**	**1.75**	**131**	⇑*i* P	Pn	05 42 29.3	+0.3
PCH				*i* S	Sn	05 42 54.4	+2.5
LMEL	**Las Melosas**	**2.10**	**132**	*e*P	Pn	05 42 35.1	+1.3
LMEL				*i* S	Sn	05 43 02.3	+1.9

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*IDC **21** 06:03:14.6±0.6, 6°.76S×71°.67E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/24, mbtmp4.2/17, MS3.6/5, Ms1 3.6/5, ms1mx3.3/23, Error ellipse: s-maj=19.3km s-min=16.3km az=2.0*
*NEIC **21** 06:03:16.3±0.2, 6°.76S×71°.67E, h10km, mb4.6/1, Error ellipse: s-maj=9.0km s-min=6.6km az=221.0*
ISC 21 06:03:16.1±2.5, 6°.8S±0°.1×71°.67E±0°.10, h10km±17km, n60, σ0°46/39, mb4.2/18, MS3.6/5, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**1.00**	**130**	*e*Pg	**Pg**	**06 03 35.6**	**+0.1**
DGAR				*e*Sg	**Sg**	**06 03 48.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**36.77**	**47**	P	**P**	**06 10 24.8**	**+0.5**
CMAR	1.0nm,0.3s,mb4.1,baz=244,slow=9.7,SNR=7.8			PcP	PcP	06 12 46.0	-0.6
CMAR	1.5nm,0.4s,baz=232,slow=4.6,SNR=5.7			LR	LR	06 24 55.0	
CMAR	comp=Z,45nm,18.6s,MS3.3,baz=225,slow=35 **Chiang Mai Arr**	**36.77**	**47**	P	**P**	**06 10 24.8**	**+0.5**
CMAR				PcP	PcP	06 12 46.0	-0.6
LBTB	**Lobatse**	**47.60**	**242**	P	**P**	**06 11 52.5**	**-0.1**
LBTB	1.9nm,0.8s,mb4.2,baz=78,slow=9.3,SNR=2.2 **Lobatse**	**47.60**	**242**	P	**P**	**06 11 52.5**	**-0.1**
BOSA	**Boshof**	**48.87**	**238**	P	**P**	**06 12 02.5**	**+0.2**
BOSA	1.0nm,0.6s,mb4.0,baz=197,slow=21,SNR=3.7			LR	LR	06 31 24.0	
BOSA	comp=Z,59nm,20.3s,MS3.6,baz=166,slow=35 **Boshof**	**48.87**	**238**	P	**P**	**06 12 02.5**	**+0.2**
MK31	**Makanchi Array**	**54.15**	**9**	*e*P	**P**	**06 12 41.5**	**0.0**
MKAR	**Makanchi Array**	**54.15**	**9**	P	**P**	**06 12 41.2**	**-0.3**
MKAR	1.8nm,0.7s,mb4.1,baz=196,slow=7.7,SNR=32 **Makanchi Array**	**54.15**	**9**	P	**P**	**06 12 41.2**	**-0.3**
ABKAR	**Akbulak array**	**56.72**	**351**	*e*P	**P**	**06 12 60.0**	**0.0**
BRTR	5.5nm,0.8s,mb4.6 **Keskin Array B**	**58.08**	**326**	P	**P**	**06 13 10.1**	**+0.3**
BRTR	0.8nm,0.8s,mb3.8,baz=114,slow=5.5,SNR=4.0 **Keskin Array B**	**58.08**	**326**	P	**P**	**06 13 10.1**	**+0.3**
MAW	**Mawson**	**61.04**	**184**	LR	LR	06 33 31.7	
ZAA0	comp=Z,63nm,18.3s,MS3.8,baz=264,slow=30 **Zalesovo Array**	**61.49**	**9**	*e*P	**P**	**06 13 32.4**	**-0.6**
ZALV	**Zalesovo Beam**	**61.49**	**9**	P	**P**	**06 13 32.0**	**-0.9**
ZALV	2.5nm,0.9s,mb4.4,baz=222,slow=6.0,SNR=9.7 **Zalesovo Beam**	**61.49**	**9**	P	**P**	**06 13 32.0**	**-0.9**
ASAR	**Alice Springs**	**61.90**	**113**	P	**P**	**06 13 36.6**	**+0.3**
ASAR	2.6nm,0.7s,mb4.5,baz=280,slow=6.5,SNR=25 **Alice Springs**	**61.90**	**113**	P	**P**	**06 13 36.6**	**+0.3**
WRA	**Warramunga Arr**	**62.05**	**109**	P	**P**	**06 13 37.8**	**+0.4**
WRA

MAN 21 06:22:59.8±97N×125°.95E, h24km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BUTP	**Butuan**	**0.33**	**269**	*eP*		Pb	06 23 08.4	+2.0
BUTP				*eS*		Sb	06 23 16.4	+5.1
CGP	**Cagayan de Oro**	**1.34**	**248**	⇓*eP*		Pn	06 23 23.8	+1.5
CGP				*eS*		Sn	06 23 23.8	-16
BUKP	**Musuan**	**1.40**	**219**	*eP*		Pn	06 23 22.9	-0.1
MSLP	**Maasin**	**1.58**	**317**	*eP*		Pn	06 23 25.7	+0.2

IDC 21 06:30:15.4±3.5, 0°.85S×135°.13E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=167.4km s-min=27.6km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**18.99**	**182**	P		Pn	06 34 38.6	-0.7
0.1nm,0.3s,baz=1.2,slow=11,SNR=3.5								
ASAR	**Alice Springs**	**22.71**	**183**	P		P	06 35 19.1	+0.1
0.4nm,0.5s,baz=7.5,slow=11,SNR=4.4								
MKAR	**Makanchi Array**	**66.16**	**323**	P		P	06 41 04.9	+0.1
0.5nm,0.7s,baz=126,slow=7.6,SNR=5.4								

*NEIC **21** 06:48:14.9±0.4, 22°.88S×67°.97W, h106km±3km, mb4.9/70, Error ellipse: s-maj=6.0km s-min=4.8km az=64.0*
NEIC Felt at Antofagasta.
*ISCJB **21** 06:48:14.0±0.4, 22°.89S±0°.03×68°.00W±0°.04, h109km±3km, mb4.9/92, Error ellipse: s-maj=6.4km s-min=5.1km az=166.4*
*GUC **21** 06:48:16.5±0.8, 22°.82S×68°.27W, h116km±4km, ML5.3*
*BJI **21** 06:48:17.9, 22°.80S×67°.90W, h103km, mB5.4/10*
*IDC **21** 06:48:17.7±0.5, 22°.83S×68°.04W, h127km±4km, mb4.7/16, mb1 4.7/18, mb1mx4.7/19, mbtmp4.7/18, MS3.8/12, Ms1 3.8/12, ms1mx3.7/20, Error ellipse: s-maj=13.8km s-min=11.4km az=71.0*
*LDG **21** 06:48:18.2±0.3, 21°.94S×68°.27W, h124km, Mb5.2/22, Ms4.1/8, Error ellipse: s-maj=30.6km s-min=16.0km az=149.0*
*GCMT **21** 06:48:21.8±0.2, 22°.94S×68°.34W, h142km±1km, MW5.2, Moment Tensor Solution. s45,c58; s99,c193; Moment tensor: Scale 10^{16}Nm; M_{rr}=2.31±.20; $M_{\theta\theta}$=0.43±.23; $M_{\phi\phi}$=2.74±.28; $M_{r\theta}$=3.52±.13; $M_{r\phi}$=-0.46±.20; $M_{\theta\phi}$=-6.71±.16; Best double couple: M_0=8.00000×10^{16} NP1:ϕ_s193.00000°, δ11.00000°, λ-51.00000°. NP2:ϕ_s333.00000°, δ81.00000°, λ-97.00000°. Principal axes: T 8.0900, Plg36.0000°, Azm70.0000°; N -0.1600, Plg7.0000°, Azm334.0000°; P -7.9300, Plg53.0000°, Azm235.0000°; Data Used: II IU G IC. Surface waves: sta= 79, comp=121, per= 50.*

ISC 21 06:48:15.1±0.4, 22°.87S±0°.03×67°.99W±0°.04, h103km±3km, h129km±1.5km; pP-P, n272, σ0.98/218, mb4.9/92, 16C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SPCH	**San Pedro de A**	**0.20**	**260**	⇑*iP*		**Pn**	**06 48 33.0**	**+3.4**
SPCH				*i* S		**Sn**	**06 48 45.9**	**+5.3**
SPCH	**San Pedro de A**	**0.20**	**260**	⇑*iP*		**Pn**	**06 48 33.0**	**+3.4**
SPCH				*i* S		**Sn**	**06 48 45.9**	**+5.3**
SPCH				AML		AML	06 48 46.9	
comp=E,141μm,0.4s								
LVC	**Limon Verde**	**0.89**	**287**	*e*Pn		**Pn**	**06 48 35.9**	**+1.3**
LVC				*e*Sn		**Sn**	**06 48 50.5**	**+6.1**
LVC	**Limon Verde**	**0.89**	**287**	⇑*iP*		**Pn**	**06 48 36.1**	**+1.4**
LVC				*i* S		**Sn**	**06 48 50.5**	**+6.1**
LVC				AML		AML	06 48 52.3	
comp=E,120μm,0.6s								
PB04	**Plate Boundary**	**1.52**	**293**	⇑*iP*		**Pn**	**06 48 48.2**	**+6.5**
PB04				*i* S		**Sn**	**06 49 12.9**	**+13**
PB04				AML		AML	06 49 19.9	
comp=E,31μm,0.5s								
PB09	**Plate Boundary**	**1.58**	**312**	⇑*iP*		**Pn**	**06 48 43.9**	**+1.3**
PB09				*i* S		**Sn**	**06 49 04.3**	**+3.1**
PB09				AML		AML	06 49 07.5	
comp=N,119μm,0.4s								
MACH	**Maria Elena**	**1.77**	**292**	⇑*iP*		**Pn**	**06 48 45.0**	**+0.1**
MACH				*i* S		**Sn**	**06 49 06.6**	**+0.8**
MACH	**Maria Elena**	**1.77**	**292**	⇑*iP*		**Pn**	**06 48 45.0**	**+0.1**
MACH				*i* S		**Sn**	**06 49 06.6**	**+0.8**
PB07	**Plate Boundary**	**2.10**	**303**	⇑*iP*		**Pn**	**06 48 49.0**	**0.0**
PB07				*i* S		**Sn**	**06 49 13.3**	**-0.4**
PB07				AML		AML	06 49 15.8	
comp=E,50μm,0.2s								
CEN1	**Los Morros**	**2.10**	**255**	⇓*iP*		**Pn**	**06 48 51.7**	**+2.6**
CEN1				*i* S		**Sn**	**06 49 17.4**	**+3.6**
CEN1				AML		AML	06 49 24.8	
comp=E,13μm,0.9s								
MECH	**Mejillones**	**2.28**	**264**	⇑*iP*		**Pn**	**06 48 50.6**	**-0.8**
MECH				*i* S		**Sn**	**06 49 18.0**	**-0.2**
MECH	**Mejillones**	**2.28**	**264**	⇑*iP*		**Pn**	**06 48 50.6**	**-0.8**
MECH				*i* S		**Sn**	**06 49 18.0**	**-0.2**
MECH				AML		AML	06 49 28.4	
comp=N,25μm,0.5s								
PB01	**Plate Boundary**	**2.29**	**322**	⇓*iP*		**Pn**	**06 48 52.2**	**+0.6**
PB01				*i* S		**Sn**	**06 49 19.0**	**+0.5**
PB01				AML		AML	06 49 21.6	
comp=E,24μm,0.3s								
ANCH	**Antofagasta**	**2.37**	**250**	⇑*iP*		**Pn**	**06 48 51.8**	**-0.8**
ANCH				*i* S		**Sn**	**06 49 18.6**	**-1.7**
ANCH	**Antofagasta**	**2.37**	**250**	⇑*iP*		**Pn**	**06 48 51.8**	**-0.8**
ANCH				*i* S		**Sn**	**06 49 18.6**	**-1.7**
LPAZ	**La Paz**	**6.55**	**359**	P		**Pn**	**06 49 50.6**	**+1.7**
comp=E,18nm,0.3s,baz=163,slow=8.3,SNR=318								
LPAZ				S		**Sn**	**06 50 52.7**	**-9.5**
comp=E,5.3nm,0.3s,baz=80,slow=12,SNR=3.3								
LPAZ				LR		LR	06 52 06.8	
comp=E,715nm,20.4s,baz=192,slow=35								
LPAZ	**La Paz**	**6.55**	**359**	P		**Pn**	**06 49 50.6**	**+1.7**
LPAZ				S		**Sn**	**06 50 52.7**	**-9.5**
LCO	**Las Campanas**	**6.58**	**201**	*e*Pn		**Pn**	**06 49 46.0**	**-3.2**
LCO				*e*Sn		**Sn**	**06 51 01.0**	**-1.8**
CFAA	**Coronel Fontan**	**8.70**	**181**	P		**Pn**	**06 50 16.1**	**-1.9**
comp=E,3.6nm,0.3s,baz=352,slow=13,SNR=159								
CFAA				S		**Sn**	**06 51 49.0**	**-5.3**
comp=E,0.8nm,0.3s,baz=344,slow=15,SNR=3.8								
CFAA	**Coronel Fontan**	**8.70**	**181**	P		**Pn**	**06 50 16.1**	**-1.9**
CFAA				S		**Sn**	**06 51 49.0**	**-5.3**
SIV	**San Ignacio**	**9.45**	**45**	P		**Pn**	**06 50 28.1**	**-0.3**
comp=E,193nm,0.3s,baz=251,slow=14,SNR=1030								
SIV				S		**Sn**	**06 52 08.9**	**-3.9**
comp=E,7.6nm,0.3s,baz=312,slow=18,SNR=5.4								
SIV	**San Ignacio**	**9.45**	**45**	P		**Pn**	**06 50 28.1**	**-0.3**
SIV				S		**Sn**	**06 52 08.9**	**-3.9**
CPUP	**Villa Florida**	**10.29**	**112**	P		**Pn**	**06 50 40.6**	**+1.0**
comp=E,1.2nm,0.3s,baz=273,slow=12,SNR=31								
CPUP				LR		LR	06 55 05.2	
comp=E,706nm,21.1s,baz=290,slow=39								
CPUP	**Villa Florida**	**10.29**	**112**	*e*Pn		**Pn**	**06 50 40.5**	**+0.9**
comp=E,1.5nm,0.9s								
NNA	**Nana**	**13.73**	**321**	P		**Pn**	**06 51 26.2**	**+0.9**
comp=E,0.7nm,0.3s,baz=163,slow=12,SNR=11								
NNA				LR		LR	06 57 28.8	
comp=E,186nm,18.1s,baz=41,slow=40								
NNA	**Nana**	**13.73**	**321**	*e*Pn		**Pn**	**06 51 26.3**	**+0.9**
comp=E,15nm,0.8s								
NNA				*e*Sn		**Sn**	**06 53 47.9**	**-8.7**
SAML	**Samuel**	**14.59**	**19**	*e*Pn		**Pn**	**06 51 34.2**	**-2.3**
TRQA	**Tornquist**	**15.99**	**163**	*e*Pn		**Pn**	**06 51 53.1**	**-0.8**
comp=E,123nm,1.1s								
PLCA	**Paso Flores**	**17.94**	**186**	P		**Pn**	**06 52 17.1**	**-0.6**
comp=E,2.4nm,0.3s,baz=8.9,slow=13,SNR=36								
PLCA	**Paso Flores**	**17.94**	**186**	*e*P		**Pn**	**06 52 16.6**	**-1.1**
comp=E,73nm,1.2s								
ATAH	**Atahualpa**	**18.58**	**326**	P		**P**	**06 52 27.5**	**+3.3**
comp=E,0.5nm,0.3s,baz=133,slow=22,SNR=4.6								
ATAH	**Atahualpa**	**18.58**	**326**	P		**P**	**06 52 27.5**	**+3.3**
SPB	**Sao Paulo**	**18.90**	**96**	*e*P		**P**	**06 52 27.6**	**0.0**
comp=E,262nm,1.3s								
OTAV	**Otavalo**	**25.13**	**335**	*e*P		**P**	**06 53 30.3**	**-0.2**
comp=E,16nm,1.0s,mb4.4								
ROSC	**El Rosal**	**28.25**	**347**	LR		LR	07 06 39.6	
comp=E,190nm,18.7s,baz=191,slow=39								
ROSC	**El Rosal**	**28.25**	**347**	*e*P		**P**	**06 53 58.5**	**-0.1**
SDV	**Santo Domingo**	**31.67**	**355**	*e*P		**P**	**06 54 27.0**	**-1.8**
comp=E,16nm,1.2s,mb4.6								
USHA	**Ushuaia**	**31.91**	**180**	P		**P**	**06 54 30.2**	**-0.3**
comp=E,4.4nm,0.4s,mb4.5,baz=3.1,slow=7.0,SNR=18								
USHA	**Ushuaia**	**31.91**	**180**	P		**P**	**06 54 30.2**	**-0.3**
RCBR	**Riachuelo**	**35.27**	**66**	P		**P**	**06 55 00.5**	**+0.4**
comp=E,38nm,1.0s,mb5.2,baz=238,slow=7.2,SNR=18								
RCBR	**Riachuelo**	**35.27**	**66**	*e*P		**P**	**06 55 00.0**	**-0.1**
comp=E,66nm,1.1s,mb5.4								
FDF	**Fort de France**	**37.97**	**11**	*e*P		**P**	**06 55 21.2**	**-1.7**
comp=E,316nm,1.2s,mb6.0								
ICM	**Isla Caja Muer**	**40.54**	**2**	*e*P		**P**	**06 55 42.7**	**-1.5**
CRPR	**Cabo Rojo, PR**	**40.64**	**1**	*e*P		**P**	**06 55 43.0**	**-2.0**
comp=E,18nm,0.8s,mb4.9								
CRPR				*e*pP		pP	06 56 11.4	+2.5
CRPR				*e*sP		sP	06 56 24.2	+3.6
OBIP	**Obispado Ponce**	**40.69**	**2**	*e*P		**P**	**06 55 42.8**	**-2.7**
comp=E,61nm,0.9s,mb5.4								
CELP	**Cerrillos**	**40.72**	**2**	*e*P		**P**	**06 55 43.4**	**-2.3**
SJG	**San Juan**	**40.77**	**3**	P		**P**	**06 55 43.5**	**-2.6**
comp=E,44nm,0.5s,mb5.5,baz=180,slow=20,SNR=22								
SJG	**San Juan**	**40.77**	**3**	P		**P**	**06 55 43.5**	**-2.6**
comp=E,4.5nm,1.1s,mb4.2								
SJG				*e*PP		PP	06 57 22.8	+0.5
MPR	**Mayaguez**	**40.84**	**1**	*e*P		**P**	**06 55 44.1**	**-2.6**
comp=E,59nm,1.0s,mb5.4								
LRS	**Lares**	**40.93**	**2**	*e*P		**P**	**06 55 44.9**	**-2.5**
AOPR	**Arecibo Observ**	**40.98**	**2**	*e*P		**P**	**06 55 45.3**	**-2.6**
comp=E,62nm,1.3s,mb5.3								
VNA3	**Neumayer Olymp**	**58.51**	**161**	*e*		**P**	**06 58 00.7**	**+0.7**
VNA3				*e*			06 58 36.3	
VNA1	**Neumayer--Stat**	**58.71**	**160**	*e*		**P**	**06 58 03.0**	**+1.6**
VNA2	**Neumayer--Watz**	**59.08**	**160**	*e*		**P**	**06 58 05.1**	**+1.1**
VNA2				*e*			06 58 38.2	
TKL	**Tuckaleechee C**	**60.10**	**345**	LR		LR	07 29 01.3	
comp=E,121nm,18.4s,baz=131,slow=41								
SNAA	**Sanae**	**60.71**	**161**	*e*		**P**	**06 58 15.6**	**+0.5**
SNAA				*e*			06 58 51.5	
SNAA	**Sanae**	**60.71**	**161**	P		**P**	**06 58 15.7**	**+0.6**
comp=E,7.2nm,0.7s,mb4.8,baz=281,slow=7.2,SNR=76								
SNAA	**Sanae**	**60.71**	**161**	*e*P		**P**	**06 58 15.5**	**+0.4**
comp=E,38nm,1.0s,mb5.4								
RKT	**Rikitea**	**61.13**	**255**	*e*S		**S**	**07 06 29.7**	**-0.6**
comp=E,206nm,25.8s								
RKT				*e*LR		LR	07 16 19.9	
comp=E,393nm,37.2s								
JCT	**Junction City**	**61.22**	**329**	*e*P		**P**	**06 58 17.9**	**-1.2**
comp=E,4.6nm,0.8s,mb4.6								
TXAR	**Lajitas Array**	**62.24**	**325**	P		**P**	**06 58 25.4**	**-0.6**
comp=E,0.8nm,0.7s,mb3.9,baz=152,slow=8.5,SNR=12								
TXAR				pP		pP	06 58 56.3	+4.8
comp=E,1.1nm,0.9s,baz=155,slow=8.0,SNR=4.2								
TXAR	**Lajitas Array**	**62.24**	**325**	P		**P**	**06 58 25.4**	**-0.6**
TXAR				pP		pP	06 58 56.3	+4.8
BBTS	**Babate**	**62.67**	**58**	P		**P**	**06 58 29.8**	**+0.7**
comp=E,77nm,1.1s,mb5.5,baz=246,slow=1.3,SNR=10								
BBTS	**Babate**	**62.67**	**58**	P		**P**	**06 58 29.8**	**+0.7**
FVM	**French Village**	**64.10**	**340**	*e*P		**P**	**06 58 37.0**	**-1.2**
comp=E,17nm,0.9s,mb4.9								
GDL2	**Guadalupe Moun**	**64.88**	**326**	*e*P		**P**	**06 58 43.5**	**+0.2**
comp=E,23nm,1.2s,mb4.9								
QSPA	**South Pole Qui**	**67.33**	**180**	*e*P		**P**	**06 58 59.5**	**+1.2**
comp=E,30nm,0.5s,mb5.4								
BNM	**Barren Site**	**67.58**	**326**	*e*P		**P**	**06 59 01.1**	**+0.6**
comp=E,3.7nm,0.9s,mb4.2								
MSNY	**Massena**	**67.83**	**355**	*e*P		**P**	**06 59 02.2**	**+0.3**
comp=E,390nm,1.1s								
LIC	**Lamto**	**67.96**	**73**	⇑*iP*		**P**	**06 59 03.2**	**-0.2**
comp=E,64nm,0.7s,mb5.3,baz=250								
LIC				*e*R				
comp=E,132nm,19.2s								
LIC	**Lamto**	**67.96**	**73**	⇑*iP*		**P**	**06 59 03.2**	**-0.2**
comp=E,64nm,0.7s,mb5.6								
SADO	**Sadowa**	**68.08**	**351**	LR		LR	07 32 31.6	
comp=E,76nm,20.5s,baz=228,slow=39								
ANMO	**Albuquerque**	**68.12**	**327**	*e*P		**P**	**06 59 04.0**	**+0.2**
comp=E,4.8nm,0.9s,mb4.3								
CBKS	**Cedar Bluff**	**68.20**	**334**	*e*P		**P**	**06 59 03.9**	**-0.3**
comp=E,15nm,1.0s,mb4.8								
DBIC	**Dimbokro**	**68.32**	**72**	P		**P**	**06 59 05.6**	**0.0**
comp=E,72nm,0.7s,mb5.6,baz=218,slow=6.6,SNR=174								
DBIC				LR		LR	07 29 08.2	
comp=E,118nm,18.4s,baz=200,slow=36								
DBIC	**Dimbokro**	**68.32**	**72**	*e*P		**P**	**06 59 05.5**	**-0.1**
comp=E,150nm,1.0s,mb5.8								
TUC	**Tucson**	**68.44**	**322**	*e*P		**P**	**06 59 06.5**	**+0.5**
comp=E,12nm,1.4s,mb4.5								
TAOE	**Nuku Hiva Isla**	**70.23**	**269**	*e*LR		LR	07 20 30.4	
comp=E,145nm,37.7s								
MVCO	**Mesa Verde**	**70.91**	**327**	*e*P		**P**	**06 59 21.4**	**+0.4**
comp=E,7.8nm,0.9s,mb4.5								
WUAZ	**Wupatki**	**71.14**	**324**	*e*P		**P**	**06 59 23.5**	**+1.0**
comp=E,11nm,0.9s,mb4.7								
WUAZ				*e*pP		pP	06 59 56.6	+8.0
PV01	**Paradox Valley**	**71.66**	**327**	P		**P**	**06 59 25.6**	**+0.1**
comp=E,650nm,1.2s								
SMCO	**Snowmass**	**71.70**	**329**	*e*P		**P**	**06 59 26.3**	**+0.6**
comp=E,6.3nm,0.9s,mb4.5								
SRU	**San Rafael**	**73.39**	**327**	*e*P		**P**	**06 59 36.0**	**+0.3**
comp=E,7.5nm,0.7s,mb4.6								
CCUT	**Cedar City**	**73.72**	**324**	*e*P		**P**	**06 59 39.1**	**+1.4**
comp=E,11nm,0.9s,mb4.6								
MSU	**Marysvale**	**73.79**	**325**	*e*P		**P**	**06 59 39.1**	**+1.0**
comp=E,9.9nm,0.9s,mb4.5								
ARUT	**Antelope Range**	**73.93**	**324**	*e*P		**P**	**06 59 40.6**	**+1.6**
comp=E,10nm,0.9s,mb4.5								
MEH	**Mehetia**	**74.38**	**257**	*e*Pg		**P**	**06 59 39.9**	**-2.2**
comp=E,72nm,0.1s								
RSSD	**Black Hills**	**74.40**	**334**	*e*P		**P**	**06 59 42.0**	**+0.5**
comp=E,2.8nm,0.6s,mb4.2								
SBA	**Scott Base**	**74.64**	**190**	*e*P		**P**	**06 59 43.1**	**+0.6**
comp=E,14nm,1.2s,mb4.5								
SYO	**Syowa Base**	**74.92**	**159**	⇑*e*P		**P**	**06 59 42.6**	**-1.7**
SYO	**Syowa Base**	**74.92**	**159**	⇑*e*PcP		PcP	06 59 55.6	-2.1
JLU	**Jordanelle**	**74.98**	**327**	*e*P		**P**	**06 59 46.1**	**+1.2**
comp=E,3.1nm,0.6s,mb4.2								
ISA	**Isabella**	**75.31**	**319**	*e*P		**P**	**06 59 47.6**	**+0.6**
comp=E,6.7nm,0.8s,mb4.4								
DUG	**Dugway**	**75.37**	**326**	*e*P		**P**	**06 59 47.3**	**+0.1**
comp=E,5.7nm,1.0s,mb4.3								
HWUT	**Hardware Ranch**	**75.80**	**328**	*e*P		**P**	**06 59 49.8**	**+0.2**
comp=E,9.4nm,0.7s,mb4.6								
PPT2	**Papeete2**	**75.83**	**257**	*e*S		S	07 09 24.3	-0.5
comp=E,122nm,28.8s								
PPT2				*e*LR		LR	07 23 10.1	
comp=E,548nm,39.2s								
AHID	**Auburn Hatcher**	**76.45**	**329**	*e*P		**P**	**06 59 53.5**	**+0.3**
comp=E,12nm,0.8s,mb4.7								
REDW	**Red Top Meadow**	**76.78**	**329**	*e*P		**P**	**06 59 55.4**	**+0.2**
comp=E,5.1nm,0.8s,mb4.3								
SNOW	**Snow King Moun**	**76.82**	**329**	*e*P		**P**	**06 59 55.8**	**+0.5**
comp=E,6.5nm,0.6s,mb4.5								
LOHW	**Long Hollow**	**76.86**	**330**	*e*P		**P**	**06 59 56.1**	**+0.5**
comp=E,4.3nm,0.6s,mb4.4								
ULM	**Lac du Bonnet**	**76.88**	**342**	P		**P**	**06 59 54.7**	**-0.8**
comp=E,9.5nm,0.5s,mb4.8,baz=154,slow=6.4,SNR=30								
ULM				LR		LR	07 39 33.2	
comp=E,82nm,18.4s,baz=353,slow=40								
ULM	**Lac du Bonnet**	**76.88**	**342**	*e*P		**P**	**06 59 54.7**	**-0.8**
comp=E,8.4nm,0.6s,mb4.7								
TPAW	**Teton Pass**	**76.93**	**329**	*e*P		**P**	**06 59 56.4**	**+0.4**
comp=E,4.9nm,0.6s,mb4.4								
RRI2	**Red Ridge**	**77.00**	**329**	*e*P		**P**	**06 59 57.0**	**+0.7**
comp=E,11nm,1.0s,mb4.5								
TORD	**Torodi Ar. Bea**	**77.02**	**70**	P		**P**	**06 59 56.9**	**-0.2**
comp=E,24nm,0.3s,mb5.3,baz=253,slow=5.7,SNR=260								
TORD				pP		pP	07 00 29.2	+5.7
comp=E,40nm,1.1s,baz=246,slow=4.9,SNR=4.2								
TORD				S		S	07 09 34.9	-2.7
comp=E,1.0nm,1.0s,baz=242,slow=12,SNR=4.3								
TORD	**Torodi Ar. Bea**	**77.02**	**70**	P		**P**	**06 59 56.9**	**-0.2**
TORD				pP		pP	07 00 29.2	+5.7
TORD				S		S	07 09 34.9	-2.7
NVAR	**Mina Array Bea**	**77.10**	**322**	P		**P**	**06 59 57.6**	**+0.6**
comp=E,2.5nm,0.8s,mb4.0,baz=161,slow=6.5,SNR=20								
NVAR				pP		pP	07 00 28.8	+5.2
comp=E,1.8nm,0.8s,baz=142,slow=5.9,SNR=4.9								
NVAR	**Mina Array Bea**	**77.10**	**322**	P		**P**	**06 59 57.6**	**+0.6**
NVAR				pP		pP	07 00 28.8	+5.2
DCID1	**Drake Creek**	**77.12**	**329**	*e*P		**P**	**06 59 57.6**	**+0.6**
comp=E,7.7nm,0.7s,mb4.5								
FLWY	**Flagg Ranch**	**77.27**	**330**	*e*P		**P**	**06 59 58.7**	**+0.9**
comp=E,7.3nm,0.6s,mb4.6								
SCHQ	**Schefferville**	**77.39**	**1**	P		**P**	**06 59 57.9**	**-0.4**
comp=E,4.2nm,0.5s,mb4.5,baz=162,slow=8.1,SNR=9.1								
SCHQ	**Schefferville**	**77.39**	**1**	P		**P**	**06 59 57.9**	**-0.4**
RLMT	**Red Lodge**	**77.42**	**331**	*e*P		**P**	**06 59 59.2**	**+0.6**
comp=E,4.9nm,0.6s,mb4.4								
QLMT	**Earthquake Lak**	**78.17**	**330**	*e*P		**P**	**07 00 03.7**	**+0.8**
comp=E,0.3nm,0.5s								
HLID	**Hailey**	**78.66**	**328**	*e*P		**P**	**07 00 05.6**	**+0.1**
comp=E,13nm,1.0s,mb4.7								
MCMT	**McKenzie Canyo**	**78.83**	**329**	*e*P		**P**	**07 00 07.5**	**+1.1**
comp=E,2.5nm,0.7s,mb4.2								
MOD	**Modoc**	**80.58**	**323**	*e*P		**P**	**07 00 16.6**	**+0.6**
comp=E,5.1nm,0.8s,mb4.4								
MSKU	**Masuku**	**81.61**	**88**	P		**P**	**07 00 22.9**	**+0.7**
comp=E,28nm,0.6s,mb5.3,baz=266,slow=6.3,SNR=14								
MSKU	**Masuku**	**81.61**	**88**	P		**P**	**07 00 22.9**	**+0.7**
PTEO	**Sao Teotonio**	**81.94**	**44**	*e*P		**P**	**07 00 24.8**	**+1.5**
comp=E,76nm,1.4s,mb5.3								
BOSA	**Boshof**	**82.05**	**118**	P		**P**	**07 00 24.7**	**+0.4**
comp=E,9.0nm,0.6s,mb4.8,baz=248,slow=6.1,SNR=22								
BOSA	**Boshof**	**82.05**	**118**	P		**P**	**07 00 24.7**	**+0.4**
PBDV	**Barranco-do-Ve**	**82.27**	**44**	*e*P		**P**	**07 00 26.0**	**+1.0**
PNCL	**Nicolau / Gran**	**82.40**	**43**	*e*P		**P**	**07 00 26.4**	**+0.7**
PCVE	**Castro Verde**	**82.43**	**44**	*e*P		**P**	**07 00 26.3**	**+0.5**
PVAQ	**Vaqueiros**	**82.50**	**44**	*e*P		**P**	**07 00 26.9**	**+0.7**
MAW	**Mawson**	**82.77**	**163**	P		**P**	**07 00 27.9**	**+0.7**
comp=E,8.9nm,0.5s,mb4.9,baz=214,slow=7.1,SNR=37								
MAW				LR		LR	07 36 07.7	
comp=E,78nm,18.1s,baz=331,slow=35								
MAW	**Mawson**	**82.77**	**163**	P		**P**	**07 00 27.9**	**+0.7**
PBEJ	**Beja**	**82.77**	**44**	*e*P		**P**	**07 00 28.3**	**+0.7**
EVOP	**Sao Brissos**	**82.91**	**43**	*e*P		**P**	**07 00 28.3**	**0.0**
comp=E,16nm,0.7s,mb5.0								
EVO	**Evora**	**82.98**	**43**	*e*P		**P**	**07 00 28.3**	**-0.4**
comp=E,16nm,0.7s,mb4.7								
EVO				*e*R				
comp=E,104nm,20.5s								
PMTG	**Montargil**	**83.17**	**43**	*e*P		**P**	**07 00 30.1**	**+0.5**
comp=E,36nm,1.7s,mb4.9								
PTOM	**Tomar**	**83.38**	**42**	*e*P		**P**	**07 00 31.1**	**+0.4**
comp=E,70nm,1.4s,mb5.3								
PBAR	**Barrancos**	**83.39**	**44**	*e*P		**P**	**07 00 31.2**	**+0.4**
PESTR	**Estremoz**	**83.44**	**43**	*e*P		**P**	**07 00 31.8**	**+0.7**
comp=E,30nm,1.9s,mb4.8								
LBTB	**Lobatse**	**83.67**	**114**	*e*P		**P**	**07 00 33.1**	**+0.5**
comp=E,21nm,0.9s,mb5.0								
PMRV	**Marv??o**	**83.90**	**43**	*e*P		**P**	**07 00 33.5**	**+0.1**
comp=E,26nm,1.7s,mb4.8								
PCBR	**Castelo Branco**	**84.09**	**42**	*e*P		**P**	**07 00 34.4**	**+0.1**
comp=E,28nm,1.6s,mb4.8								
MTE	**Manteigas**	**84.38**	**42**	*e*P		**P**	**07 00 36.0**	**+0.2**
comp=E,46nm,1.2s,mb5.2								
TAM	**Tamanrasset**	**84.68**	**63**	*e*P		**P**	**07 00 38.5**	**+0.8**
comp=E,44nm,1.4s,mb5.2								
POLO	**Lamas de Olo**	**84.80**	**41**	*e*P		**P**	**07 00 38.1**	**+0.2**
PCAB	**Cabril**	**84.86**	**41**	*e*P		**P**	**07 00 38.3**	**+0.1**
comp=E,36nm,1.5s,mb5.1								
MVO	**Moncorvo**	**85.14**	**41**	*e*P		**P**	**07 00 39.8**	**+0.2**
comp=E,59nm,1.5s,mb5.3								
PBRG	**Braganca**	**85.69**	**41**	*e*P		**P**	**07 00 42.6**	**+0.3**
comp=E,24nm,1.9s,mb4.8								
PAB	**San Pablo**	**85.89**	**44**	*e*P		**P**	**07 00 43.7**	**+0.3**
comp=E,39nm,1.0s,mb5.3								
ESDC	**Sonse

DAVOX	Davos/Dischmat	98.48	43	P	P	07 01 41.6	0.0
	comp=E,13nm,1.3s,mb5.3,baz=254,slow=6.8,SNR=6.6						
DAVOX	Davos/Dischmat	98.48	43	P	P	07 01 41.6	0.0
GERES	GERESS Array B	101.66	42	P	Pdif	07 01 55.6	-0.3
	comp=E,0.3nm,0.8s,baz=201,slow=7.1,SNR=4.5						
GERES	GERESS Array B	101.66	42	P	Pdif	07 01 55.6	-0.3
NOA	NORSAR Array B	104.69	30	PP	PP	07 06 30.1	+0.2
	comp=E,1.0nm,0.8s,baz=243,slow=7.0,SNR=3.5						
NOA	NORSAR Array B	104.69	30	PP	PP	07 06 30.1	+0.2
HFS	Hagfors	105.53	31	PP	PP	07 06 35.4	-0.7
	comp=E,16nm,1.2s,baz=200,slow=17,SNR=3.9						
HFS	Hagfors	105.53	31	PP	PP	07 06 35.4	-0.7
DZM	Mont Dzumac	110.69	234	eLR	LR	07 39 16.9	
	comp=E,111nm,36.1s						
AKASG	Malin Array Be	111.83	43	PP	PP	07 07 18.0	-4.1
	comp=E,0.3nm,0.3s,baz=251,slow=8.2,SNR=5.2						
AKASG	Malin Array Be	111.83	43	PP	PP	07 07 18.0	-4.1
BRTR	Keskin Array B	112.91	55	PP	PP	07 07 22.6	-7.7
	comp=E,2.1nm,1.1s,baz=256,slow=5.0,SNR=4.9						
BRTR	Keskin Array B	112.91	55	PP	PP	07 07 22.6	-7.7
ASAR	Alice Springs	129.08	206	PKP	PKPdf	07 07 11.1	-0.5
	comp=E,5.8nm,0.9s,baz=150,slow=2.4,SNR=36						
ASAR				pPKP	pPKPdf	07 07 46.0	+6.1
	comp=E,2.1nm,0.9s,baz=144,slow=2.1,SNR=4.6						
ASAR	Alice Springs	129.08	206	PKP	PKPdf	07 07 11.1	-0.5
ASAR				pPKP	pPKPdf	07 07 46.0	+6.1
AKTO	Aktyubinsk	130.08	43	PKP	PKPdf	07 07 12.6	+0.1
	comp=E,1.5nm,0.6s,baz=57,slow=2.0,SNR=5.8						
AKTO				SKPbc		07 10 25.3	
	comp=E,12nm,1.2s,baz=292,slow=4.1,SNR=12						
AKTO	Aktyubinsk	130.08	43	PKP	PKPdf	07 07 12.6	+0.1
AKTO				SKPbc		07 10 25.3	
ABKAR	Akbulak array	131.56	44	ePKPdf	PKPdf	07 07 15.4	+0.1
WB2	Warramunga Arr	132.19	209	ePKPdf	PKPdf	07 07 17.6	0.0
WRA	Warramunga Arr	132.19	209	PKhKP	PKPpre	07 07 04.2	
	comp=E,0.3nm,0.3s,baz=154,slow=1.0,SNR=5.3						
WRA				PKP	PKPdf	07 07 17.3	-0.3
	comp=E,2.7nm,0.5s,baz=156,slow=1.7,SNR=21						
WRA				pPKP	pPKPdf	07 07 52.3	+6.4
	comp=E,0.8nm,0.5s,baz=156,slow=1.7,SNR=2.3						
WRA				SKPbc	SKPbc	07 10 33.5	-1.2
	comp=E,1.9nm,0.7s,baz=151,slow=3.6,SNR=8.3						
WRA	Warramunga Arr	132.19	209	PKPpre	PKPpre	07 07 04.2	
WRA				PKP	PKPdf	07 07 17.3	-0.3
WRA				pPKP	pPKPdf	07 07 52.3	+6.4
WRA				SKPbc	SKPbc	07 10 33.5	-1.2
PETK	Petropavlovsk-	134.17	323	pPKP	pPKPdf	07 07 53.4	+4.9
	comp=E,16nm,1.1s,baz=133,slow=10,SNR=4.0						
BVAR	Borovoye Array	136.42	36	SKPbc	SKPbc	07 10 45.7	-1.6
	comp=E,0.7nm,0.7s,baz=242,slow=3.2,SNR=5.7						
BVAR	Borovoye Array	136.42	36	SKPbc	SKPbc	07 10 45.7	-1.6
KURK	Kurchatov	141.99	35	SKPbc	SKPbc	07 11 00.3	-2.4
	comp=E,1.0nm,1.0s,baz=289,slow=2.9,SNR=5.1						
KURK	Kurchatov	141.99	35	ePKPdf	PKPdf	07 07 33.2	-1.4
KURK				SKPbc	SKPbc	07 11 00.3	-2.4
ZAA0	Zalesovo Array	142.81	27	ePKPdf	PKPdf	07 07 33.5	-2.4
ZALV	Zalesovo Beam	142.81	27	PKP	PKPdf	07 07 32.9	-3.1
	comp=E,2.5nm,0.4s,baz=313,slow=3.9,SNR=23						
ZALV	Zalesovo Beam	142.81	27	PKP	PKPdf	07 07 32.9	-3.1
AAK	Ala-Archa	143.19	49	ePKPdf	PKPdf	07 07 34.6	-2.4
TKM2	Tokmak 2	143.84	48	ePKPdf	PKPdf	07 07 36.6	-1.6
KSH	Kashi	145.27	53	PKPbc	PKPbc	07 07 40.8	+0.1
KSH				pPKP	pPKPdf	07 08 07.3	-1.8
KSH				PKS		07 11 14.5	
KSH				SKS	SKSdf	07 14 38.9	-1.6
KSH				SKKS	SKKSac	07 17 40.6	-3.0
KSH				SS	SS	07 29 40.8	-3.5
KSH				AMB	AMB		
	comp=Z,150nm,4.2s						
KSH				LR	LR		
	comp=N,160nm,6.1s						
KSH				LR	LR		
	comp=E,190nm,5.1s						
KSH				LR	LR		
	comp=Z,210nm,6.2s						
MK31	Makanchi Array	146.21	38	ePKPbc	PKPbc	07 07 43.3	0.0
MKAR	Makanchi Array	146.21	38	PKPbc	PKPbc	07 07 42.5	-0.8
	comp=Z,18nm,0.9s,baz=328,slow=3.1,SNR=89						
MKAR				pPKPbc	pPKPbc	07 08 17.4	+6.0
	comp=Z,3.4nm,0.8s,baz=7.6,slow=3.7,SNR=2.3						
MKAR	Makanchi Array	146.21	38	PKPbc	PKPbc	07 07 42.5	-0.8
MKAR				pPKPbc	pPKPbc	07 08 17.4	+6.0
HYB	Hyderabad	148.16	94	i PKP	PKPdf	07 07 50.0	+3.8
HYB				esPKP		07 08 30.0	
WMQ	Urumqi	151.05	38	PKPbc	PKPbc	07 07 55.8	-0.1
WMQ				PP	PP	07 11 43.3	+9.0
WMQ				SKS	SKSdf	07 14 51.9	+3.7
WMQ				SS	SS	07 30 55.3	+7.2
WMQ				AMB	AMB		
	comp=Z,200nm,5.6s						
WMQ				LR	LR		
	comp=N,71nm,16.4s						
WMQ				LR	LR		
	comp=E,130nm,28.4s						
WMQ				LR	LR		
	comp=Z,72nm,26.6s						
KAPI	Kappang	151.27	196	ePKPbc	PKPbc	07 07 56.6	-0.8
KAPI				ePKPab	PKPab	07 08 03.9	-1.5
MJAR	Matsushiro Arr	153.59	307	PKPbc	PKPbc	07 08 00.5	-1.4
	comp=Z,2.3nm,0.7s,baz=215,slow=2.1,SNR=5.3						
MJAR				pPKPbc	pPKPbc	07 08 35.1	+5.0
	comp=Z,3.7nm,1.1s,baz=104,slow=1.3,SNR=2.8						
MJAR	Matsushiro Arr	153.59	307	PKPbc	PKPbc	07 08 00.5	-1.4
MJAR				pPKPbc	pPKPbc	07 08 35.1	+5.0
KOLN	Koldanda	153.89	73	ePKP	PKPab	07 08 15.6	-0.7
	comp=Z,12nm,0.5s						
KOLN	Koldanda	153.89	73	ePKP	PKPab	07 08 15.6	-0.7
DANN	Dangsing	153.98	72	ePKP	PKPab	07 08 15.8	-0.9
	comp=Z,54nm,0.7s						
DANN	Dangsing	153.98	72	ePKP	PKPab	07 08 15.8	-0.9
SONM	Songino Array	154.69	9	PKP	PKPdf	07 07 54.9	-0.4
	comp=Z,1.3nm,0.7s,baz=25,slow=1.3,SNR=9.6						
SONM				PKPbc	PKPbc	07 08 04.4	+0.6
	comp=Z,1.7nm,0.5s,baz=293,slow=1.2,SNR=14						
SONM				PKPab	PKPab	07 08 19.1	+0.1
	comp=Z,1.7nm,0.7s,baz=324,slow=2.6,SNR=5.3						
SONM	Songino Array	154.69	9	PKP	PKPdf	07 07 54.9	-0.4
SONM				PKPbc	PKPbc	07 08 04.4	+0.6
SONM				PKPab	PKPab	07 08 19.1	+0.1
ULN	Ulaanbaatar	154.75	8	ePKPab	PKPab	07 08 18.8	-0.4
GKN	Gorkha	154.78	73	eP	PKPab	07 08 19.1	-1.0
	comp=Z,22nm,0.4s						
GKN	Gorkha	154.78	73	eP	PKPab	07 08 19.1	-1.0
DMN	Daman	155.23	73	eP	PKPab	07 08 21.5	-0.6
	comp=Z,47nm,0.9s						
DMN	Daman	155.23	73	eP	PKPab	07 08 21.5	-0.6
KKN	Kakani	155.37	73	eP	PKPab	07 08 22.3	-0.4
	comp=Z,18nm,0.6s						
KKN	Kakani	155.37	73	eP	PKPab	07 08 22.3	-0.4
PKI	Pulchoki	155.50	73	eP	PKPab	07 08 23.0	-0.2
PKI	Pulchoki	155.50	73	eP	PKPab	07 08 23.0	-0.2
GUN	Gumba	155.88	73	eP	PKPab	07 08 24.4	-0.5
	comp=Z,16nm,0.4s						
GUN	Gumba	155.88	73	eP	PKPab	07 08 24.4	-0.5
JIRN	Jiri	156.18	73	eP	PKPab	07 08 26.3	+0.1
	comp=Z,17nm,0.5s						
JIRN	Jiri	156.18	73	eP	PKPab	07 08 26.3	+0.1
CN2	Changchun	156.36	335	ePKP	PKPdf	07 07 54.0	-3.6
RAMN	Ramite	156.61	75	eP	PKPab	07 08 28.2	+0.2
	comp=Z,17nm,0.6s						
RAMN	Ramite	156.61	75	eP	PKPab	07 08 28.2	+0.2
ODAN	Odare	157.32	75	eP	PKPab	07 08 31.2	+0.1
	comp=Z,40nm,1.2s						
TAPN	Taplejung	157.56	74	eP	PKPab	07 08 32.1	0.0
	comp=Z,18nm,0.7s						
KSRS	Korea Array	160.03	320	PKP	PKPdf	07 08 01.7	-0.6
	comp=Z,2.1nm,0.9s,baz=347,slow=2.6,SNR=4.0						
KSAR	Wonju Array Be	160.07	320	PKP	PKPdf	07 08 01.6	-0.6
GTA	Gaotai	160.52	29	ePKPbc	PKPab	07 08 44.9	+0.5
HHC	Hu-ho-hao-te	162.07	1	ePKP	PKPdf	07 08 03.1	-1.2
HHC				pPKP	pPKPdf	07 08 29.9	-2.9
HHC				sPKP		07 08 40.8	
HHC				PKS		07 11 35.4	
HHC				PP	PP	07 12 36.8	+2.5
HHC				SKS	SKSdf	07 14 56.8	-3.0
HHC				SKKS	SKKSac	07 19 14.0	+0.3
HHC				SS	SS	07 32 46.9	+2.1
HHC				AMB	AMB		
	comp=Z,330nm,8.4s						
HHC				LR	LR		
	comp=N,120nm,22.6s						
HHC				LR	LR		
	comp=E,130nm,22.1s						
HHC				LR	LR		
	comp=Z,92nm,20.5s						

LZH	Lanzhou	165.04	26	ePKP	PKPdf	07 08 04.6	-2.6
CMAR	Chiang Mai Arr	167.00	107	PKPab	PKPab	07 09 13.9	+0.2
	comp=Z,1.8nm,0.7s,baz=251,slow=5.2,SNR=8.6						
CMAR	Chiang Mai Arr	167.00	107	PKPab	PKPab	07 09 13.9	+0.2
KMI	Kunming	171.23	73	PKP	PKPdf	07 08 12.3	+0.5
KMI				sPKP		07 08 49.6	
GYA	Guiyang	173.97	53	ePKP	PKPdf	07 08 11.0	-1.9
GYA				pPKP	pPKPdf	07 08 40.5	-1.0
GYA				sPKP		07 08 51.4	
GYA				PKPab	PKPab	07 09 44.0	-0.3
GYA				PP	PP	07 13 37.8	+1.5
GYA				AMB	AMB		
	comp=Z,90nm,7.9s						

*ISK **21** 06:52:42.9, 40°28N×27°03E, h5km, MD2.7*
*ISCJB **21** 06:52:43.1±0.5, 40°26N±0°03×27°03E±0°04, h2km±7km, Error ellipse: s-maj=5.7km s-min=4.5km az=25.9*
*DDA **21** 06:52:43.4, 40°26N×27°10E, h7km±7km, Md3.0*
*CSEM **21** 06:52:43.5±0.1, 40°27N×27°04E, h5km, MD2.7, Error ellipse: s-maj=1.8km s-min=1.5km az=36.0*
ISC 21 06:52:43.6±0.5, 40°27N±0°03×27°03E±0°04, h7km±7km, n30, σ0§34/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPK	Lapseki	0.23	296	ePG	Pg	06 52 47.7	-0.4
LPK				eSG	Sg	06 52 51.4	+0.1
LPK	Lapseki	0.23	296	ePg	Pg	06 52 47.7	-0.4
LPK				eSg	Sg	06 52 51.4	+0.2
KRBG	Karabiga-Canak	0.24	59	ePG	Pg	06 52 48.0	-0.2
KRBG				eSG	Sg	06 52 51.6	+0.2
KRBG	Karabiga-Canak	0.24	59	ePg	Pg	06 52 48.0	-0.2
KRBG				eSg	Sg	06 52 51.6	+0.2
RKY	Sarkoy-Tekirda	0.43	15	ePG	Pg	06 52 51.8	-0.1
RKY	Sarkoy-Tekirda	0.43	15	ePg	Pg	06 52 51.8	-0.1
GELI	Tayfur-Gelibol	0.45	287	ePG	Pg	06 52 52.6	+0.4
GELI	Tayfur-Gelibol	0.45	287	ePg	Pg	06 52 52.6	+0.4
MFT	Murefte	0.55	20	ePG	Pg	06 52 54.1	0.0
MFT	Murefte	0.55	20	ePg	Pg	06 52 54.1	0.0
GONE	Gonen-Balikesi	0.55	114	ePG	Pg	06 52 54.2	+0.1
GONE	Gonen-Balikesi	0.55	114	ePg	Pg	06 52 54.2	+0.1
ERIK	Erikli-Kesan	0.56	315	ePG	Pg	06 52 54.3	0.0
ERIK	Erikli-Kesan	0.56	315	ePg	Pg	06 52 54.3	-0.1
BALY	Balya	0.70	139	i P	Pg	06 52 56.9	-0.1
BALY				i S	Sg	06 53 06.6	+0.6
BALY	Balya	0.70	139	i P	Pg	06 52 56.8	-0.1
BALY				i S	Sg	06 53 06.6	+0.6
EZN	Ezine	0.70	231	ePG	Pg	06 52 56.9	-0.1
EZN	Ezine	0.70	231	ePg	Pg	06 52 56.9	-0.1
BALB	Balikesir	0.91	134	ePG	Pg	06 53 00.5	-0.5
BALB	Balikesir	0.91	134	ePg	Pg	06 53 00.5	-0.5
AYVA	Ayvalik	1.00	195	i P	Pg	06 53 02.7	0.0
AYVA				i S	Sg	06 53 15.8	+0.2
AYVA	Ayvalik	1.00	195	i P	Pg	06 53 02.7	0.0
AYVA				i S	Sg	06 53 15.8	+0.1
KCTX	Karacabey (Bur	1.01	90	ePG	Pg	06 53 02.8	-0.2
KCTX	Karacabey (Bur	1.01	90	ePg	Pg	06 53 02.8	-0.2
DURS	Dursunbey	1.30	121	i P	Pn	06 53 07.2	-0.8
DURS				i S	Sb	06 53 25.3	+0.2
DURS	Dursunbey	1.30	121	i P	Pn	06 53 07.2	-0.9
DURS				i S	Sb	06 53 25.3	+0.2
CTKS	Kestanelik-??a	1.48	49	ePN	Pn	06 53 11.0	+0.5
CTKS	Kestanelik-??a	1.48	49	ePn	Pn	06 53 11.0	+0.4
EDRB	Edirne	1.59	352	ePN	Pn	06 53 12.4	+0.3
EDRB	Edirne	1.59	352	ePn	Pn	06 53 12.4	+0.3

*IDC **21** 07:11:38.8±1.6, 9°73S×150°80E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.7/14, mbtmp3.7/7, ML3.3/1, MS3.3/5, Ms1 3.2/5, ms1mx2.8/22, Error ellipse: s-maj=61.5km s-min=23.7km az=112.0*
*ISCJB **21** 07:11:43.3±6.4, 10°1S±0°2×150°9E±0°4, h52km±45km, mb3.5/6, MS3.2/3, Error ellipse: s-maj=74.6km s-min=19.4km az=16.7*
*NEIC **21** 07:11:43.2±0.9, 9°94S×150°96E, h35km, mb3.6/1, Error ellipse: s-maj=22.2km s-min=12.3km az=124.0*
ISC 21 07:11:46.9±4.9, 10°0S±0°1×150°7E±0°4, h62km±36km, n25, σ0§92/22, mb3.5/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.54	278	Pn	Pn	07 12 40.7	+1.3
	1.1nm,0.3s,baz=101,slow=16,SNR=3.6						
PMG	Port Moresby	3.54	278	Pn	Pn	07 12 40.7	+1.3
PMG				eS	Sn	07 13 41.9	+22
COEN	Coen	8.38	241	ePn	Pn	07 13 43.9	-1.8
COEN				eSn	Sn	07 15 14.8	-4.1
CTA	Charters Tower	10.96	203	LR	LR	07 18 11.6	
	comp=Z,91nm,20.3s,baz=48,slow=35						
WRAB	Tennant Creek	18.65	236	eP	Pn	07 16 00.7	-0.1
	4.4nm,1.1s						
WB2	Warramunga Arr	18.65	236	eP	Pn	07 16 00.8	0.0
WRA	Warramunga Arr	18.66	236	P	Pn	07 16 00.6	-0.3
	0.1nm,0.3s,baz=58,slow=12,SNR=7.1						
WRA				LR	LR	07 23 06.6	
	comp=Z,89nm,18.6s,baz=55,slow=36						
WRA	Warramunga Arr	18.66	236	P	Pn	07 16 00.6	-0.3
ASAR	Alice Springs	21.06	228	P	P	07 16 26.9	+0.9
	0.9nm,0.7s,mb3.2,baz=58,slow=11,SNR=9.2						
ASAR	Alice Springs	21.06	228	P	P	07 16 26.9	+0.9
STKA	Stephens Creek	23.40	200	P	P	07 16 52.0	+1.6
	1.6nm,0.7s,mb3.5,baz=12,slow=12,SNR=3.9						
STKA				LR	LR	07 26 13.8	
	comp=Z,55nm,19.4s,baz=26,slow=37						
STKA	Stephens Creek	23.40	200	P	P	07 16 52.0	+1.6
FITZ	Fitzroy Crossi	25.61	249	LR	LR	07 27 41.4	
	comp=Z,55nm,18.7s,baz=269,slow=37						
FORT	Forrest	29.56	222	eP	P	07 17 45.0	-0.8
	20nm,0.9s						
NWAO	Narrogin (SRO)	38.38	228	LR	LR	07 34 40.2	
	comp=Z,68nm,19.9s,baz=109,slow=36						
SONM	Songino Array	69.63	330	P	P	07 22 49.5	-0.1
	0.3nm,0.7s,mb3.4,baz=103,slow=4.6,SNR=3.0						
SONM	Songino Array	69.63	330	P	P	07 22 49.5	-0.1
MKAR	Makanchi Array	82.86	320	P	P	07 24 05.2	+0.5
	0.3nm,0.8s,mb3.4,baz=116,slow=5.5,SNR=4.8						
MKAR	Makanchi Array	82.86	320	P	P	07 24 05.2	+0.5
ZALV	Zalesovo Beam	84.29	327	P	P	07 24 11.2	-0.7
	0.3nm,0.5s,mb3.7,baz=107,slow=9.5,SNR=4.3						
ZALV	Zalesovo Beam	84.29	327	P	P	07 24 11.2	-0.7
ILAR	Eielson Array	87.68	22	P	P	07 24 27.9	-0.5
	0.4nm,0.7s,mb3.7,baz=250,slow=4.9,SNR=7.4						
ILAR	Eielson Array	87.68	22	P	P	07 24 27.9	-0.5
TORD	Torodi Ar. Bea	149.49	279	PKPbc	PKPbc	07 31 30.3	+0.1
	0.9nm,0.8s,baz=60,slow=2.2,SNR=5.5						
TORD	Torodi Ar. Bea	149.49	279	PKPbc	PKPbc	07 31 30.3	+0.1

GUC 21 07:22:20.9±0.9, 32°47S×72°13W, h5km±27km, ML3.5, 4C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.69	144	⇓iP	Pg	07 22 34.5	+0.2
IHA				i S	Sg	07 22 44.7	+1.5
PTCH	Petorca	1.03	79	⇑iP	Pg	07 22 40.3	-0.4
PTCH				i S	Sg	07 22 55.1	+1.0
PTCH				AML	AML	07 22 56.9	
	comp=N,4μm,0.3s						
ROCH	El Roble	1.07	119	⇓iP	Pg	07 22 40.8	-0.6
ROCH				i S	Sg	07 22 55.7	+0.4
ROCH				AML	AML	07 22 56.7	
	comp=E,2μm,0.3s						
JACH	Jahuel	1.31	100	⇑iP	Pn	07 22 44.6	-1.3
JACH				i S	Sg	07 23 02.6	-0.5
PEL	Peldehue	1.39	119	⇓iP	Pn	07 22 46.2	-0.7
PEL				i S	Sb	07 23 04.8	-0.5
PEL				AML	AML	07 23 18.2	
	comp=N,3μm,0.6s						
TACH	Talagante	1.55	140	eP	Pn	07 22 48.2	-1.0
TACH				i S	Sn	07 23 07.5	-2.0
SAN	Santiago	1.58	129	eP	Pn	07 22 49.4	-0.1
SAN				eS	Sn	07 23 10.3	0.0
CLCH	Cerro Calan	1.63	125	eP	Pn	07 22 49.8	-0.4
CLCH				i S	Sn	07 23 12.2	+0.7
CLCH				AML	AML	07 23 20.7	
	comp=N,1μm,0.6s						
ANTU	Antumapu	1.67	132	⇓iP	Pn	07 22 50.9	+0.1
ANTU				i S	Sn	07 23 12.5	0.0
ANTU				AML	AML	07 23 29.3	
	comp=N,731nm,0.5s						

FSR	Penalolen	1.68	127	⇑iP	Pn	07 22 51.3	+0.3
FSR				i S	Sn	07 23 14.4	+1.5
FSR				AML	AML	07 23 21.6	
	comp=N,268nm,0.7s						
FCH	Farellones	1.77	120	⇑iP	Pn	07 22 56.2	+4.1
FCH				i S	Sn	07 23 19.9	+5.0
FCH				AML	AML	07 23 22.7	
	comp=E,570nm,0.4s						
PCH	Pirque	1.78	131	⇓iP	Pn	07 22 52.1	-0.1
CHCH	Chadas Angostu	1.92	140	⇓iP	Pn	07 22 54.0	-0.1
CHCH				i S	Sn	07 23 20.3	+1.6
LMEL	Las Melosas	2.12	131	AML	AML	07 23 31.9	
	comp=N,645nm,0.2s						

*IDC **21** 07:35:50.3±1.0, 36°65N×142°54E, h0km, mb3.4/7, mb1 3.5/9, mb1mx3.5/23, mbtmp3.4/9, ML3.2/2, Error ellipse: s-maj=25.6km s-min=20.1km az=93.0*
*ISCJB **21** 07:35:51.6±1.8, 36°59N±0°04×142°57E±0°06, h24km±15km, mb3.4/7, Error ellipse: s-maj=8.2km s-min=6.9km az=35.3*
*NEIC **21** 07:35:51.3, 36°60N×142°59E, h24km, MG3.3(JMA), After JMA.*
*JMA **21** 07:35:51.2±0.3, 36°60N×142°59E, h24km, M3.3*
ISC 21 07:35:51.8±1.9, 36°62N±0°05×142°50E±0°06, h9km±14km, n33, σ0§71/40, mb3.4/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	1.45	290	P	Pn	07 36 17.0	-1.1
JHO	Hitachi	1.56	270	P	Pn	07 36 18.5	-1.1
JHO				eS	Sn	07 36 38.6	-1.2
JMM	Marumori	1.85	313	P	Pn	07 36 22.8	-0.8
JMM				eS	Sn	07 36 47.9	+0.8
JFT	Otama	1.95	298	P	Pn	07 36 24.7	-0.3
JIO	Ouri	2.05	334	P	Pn	07 36 26.0	-0.4
JIO				eS	Sn	07 36 51.6	-0.5
BSO1	Boso 1	2.32	213	P	Pn	07 36 29.9	-0.1
JAG	Ashikaga	2.46	266	P	Pn	07 36 31.9	-0.2
JAG				eS	Sn	07 37 01.6	-0.7
JMK	Ichinoseki	2.54	337	P	Pn	07 36 33.3	+0.1
JMK				eS	Sn	07 37 04.8	+0.6
JYK	Kaneyama	2.86	324	P	Pn	07 36 37.9	+0.4
JRY	Ryogami san	2.97	259	P	Pn	07 36 38.7	-0.3
JOM	Ohasama	3.01	342	P	Pn	07 36 40.2	+0.6
JYN	Shimob	3.40	252	P	Pn	07 36 45.9	+1.0
MJAR	Matsushiro Arr	3.46	270	Pn	Pn	07 36 46.5	+0.8
	3.7nm,0.3s,baz=94,slow=12,SNR=40						
MJAR	Matsushiro Arr	3.46	270	Pn	Pn	07 36 46.5	+0.8
MAJO	Matsushiro	3.46	270	ePn	Pn	07 36 46.0	+0.3
MAJO				eSn	Sn	07 37 28.1	+1.3
MAT	Matsushiro	3.46	270	P	Pn	07 36 46.8	+1.1
MAT				S	Sn	07 37 26.9	+0.1
MAT	Matsushiro	3.46	270	P	Pn	07 36 47.0	+1.3
ASAJ	Asahikawa	7.49	1	Pn	Pn	07 37 41.3	+0.2
	0.3nm,0.3s,baz=198,slow=13,SNR=2.9						
ASAJ	Asahikawa	7.49	1	Pn	Pn	07 37 41.3	+0.2
SONM	Songino Array	28.74	304	P	P	07 41 50.3	+0.9
	0.7nm,0.7s,mb3.5,baz=106,slow=9.1,SNR=6.1						
SONM	Songino Array	28.74	304	P	P	07 41 50.3	+0.9
ZALV	Zalesovo Beam	42.84	313	P	P	07 43 48.6	-1.2
	0.3nm,0.4s,mb3.4,baz=73,slow=5.0,SNR=2.2						
ZALV	Zalesovo Beam	42.84	313	P	P	07 43 48.6	-1.2
MKAR	Makanchi Array	45.08	303	P	P	07 44 07.7	-0.3
	0.2nm,0.6s,mb3.1,baz=92,slow=10,SNR=2.8						
MKAR	Makanchi Array	45.08	303	P	P	07 44 07.7	-0.3
ILAR	Eielson Array	49.38	32	P	P	07 44 41.0	-0.2
	0.4nm,0.8s,mb3.5,baz=271,slow=5.4,SNR=4.1						
ILAR	Eielson Array	49.38	32	P	P	07 44 41.0	-0.2
WRA	Warramunga Arr	56.78	189	P	P	07 45 36.0	-0.1
	1.1nm,1.1s,mb3.8,baz=7.6,slow=7.1,SNR=3.8						
WRA	Warramunga Arr	56.78	189	P	P	07 45 36.0	-0.1
ASAR	Alice Springs	60.50	189	P	P	07 46 02.8	+0.8
	0.2nm,0.8s,mb3.3,baz=7.8,slow=7.5,SNR=2.6						
ASAR	Alice Springs	60.50	189	P	P	07 46 02.8	+0.8
YKA	Yellowknife Ar	63.73	30	P	P	07 46 23.0	-0.3
	0.1nm,0.7s,mb3.0,baz=304,slow=7.0,SNR=3.3						
YKA	Yellowknife Ar	63.73	30	P	P	07 46 23.0	-0.3

*ISCJB **21** 07:39:22.6±0.4, 41°43N±0°02×9°72E±0°04, h10km, Error ellipse: s-maj=4.6km s-min=3.0km az=175.8*
*CSEM **21** 07:39:23.5±0.3, 41°40N×9°85E, h2km, MD2.6/4, Error ellipse: s-maj=8.0km s-min=5.7km az=110.0*
*ROM **21** 07:39:25.4±0.3, 41°34N×9°69E, h36km, Md2.6/4, Ml2.2

SMRF	**Simiane la Rot**	**3.99 311**	*e*Pn	**Pn**	**07 40 26.4**	**+1.5**
SMRF			*e*Sn	**Sn**	**07 41 09.3**	**-2.4**
SMRF	**Simiane la Rot**	**3.99 311**	*e*Pn	**Pn**	**07 40 26.4**	**+1.5**
SMRF			*e*Sn	**Sn**	**07 41 09.3**	**-2.4**
	0.6nm,0.3s					
ORIF	**Oris-en-Rattie**	**4.49 322**	*e*Pn	**Pn**	**07 40 33.6**	**+1.8**
ORIF			*e*Sn	**Sn**	**07 41 21.8**	**-2.2**
	0.7nm,0.3s					
ORIF	**Oris-en-Rattie**	**4.49 322**	*e*Pn	**Pn**	**07 40 33.6**	**+1.8**
ORIF			*e*Sn	**Sn**	**07 41 21.8**	**-2.2**
ORIF	**Oris-en-Rattie**	**4.49 322**	*e*Pn	**Pn**	**07 40 33.6**	**+1.8**
ORIF			*e*Sn	**Sn**	**07 41 21.8**	**-2.2**
	0.3nm,0.3s					
LPG	**La Plagne**	**4.61 333**	*e*Pn	**Pn**	**07 40 36.1**	**+2.6**
LPG			*e*Sn	**Sn**	**07 41 26.1**	**-1.0**
	1.2nm,0.5s					
LPG	**La Plagne**	**4.61 333**	*e*Pn	**Pn**	**07 40 36.1**	**+2.6**
LPG			*e*Sn	**Sn**	**07 41 26.1**	**-1.0**
LPG	**La Plagne**	**4.61 333**	*e*Pn	**Pn**	**07 40 36.1**	**+2.6**
LPG			*e*Sn	**Sn**	**07 41 26.1**	**-1.0**
	0.6nm,0.5s					
LPL	**La Plagne**	**4.64 333**	*e*Pn	**Pn**	**07 40 36.8**	**+3.0**
LPL			*e*Sn	**Sn**	**07 41 26.6**	**-1.1**
	0.7nm,0.3s					
LPL	**La Plagne**	**4.64 333**	*e*Pn	**Pn**	**07 40 36.8**	**+3.0**
LPL			*e*Sn	**Sn**	**07 41 26.6**	**-1.1**
LPL	**La Plagne**	**4.64 333**	*e*Pn	**Pn**	**07 40 36.8**	**+3.0**
LPL			*e*Sn	**Sn**	**07 41 26.6**	**-1.1**
	0.3nm,0.3s					
VIVF	**Saint-Julien-l**	**5.05 314**	*e*Sn	**Sn**	**07 41 34.8**	**-3.0**
	1.1nm,0.4s					
VIVF	**Saint-Julien-l**	**5.05 314**	*e*Sn	**Sn**	**07 41 34.8**	**-3.0**
VIVF	**Saint-Julien-l**	**5.05 314**	*e*Sn	**Sn**	**07 41 34.8**	**-3.0**
	0.6nm,0.4s					
LASF	**Ste Croix**	**5.08 303**	*e*Pn	**Pn**	**07 40 40.5**	**+0.6**
LASF			*e*Sn	**Sn**	**07 41 34.6**	**-3.9**
	1.6nm,0.3s					
LASF	**Ste Croix**	**5.08 303**	*e*Pn	**Pn**	**07 40 40.5**	**+0.6**
LASF			*e*Sn	**Sn**	**07 41 34.6**	**-3.9**
LASF	**Ste Croix**	**5.08 303**	*e*Pn	**Pn**	**07 40 40.5**	**+0.6**
LASF			*e*Sn	**Sn**	**07 41 34.6**	**-3.9**
	0.8nm,0.3s					

*ISCJB **21** 07:45:24.4±0.4,30.°19N±0.°05×138.°78E±0.°07, h430km±5km, mb3.9/23, Error ellipse: s-maj=10.2km s-min=7.4km az=171.7*
*JMA **21** 07:45:24.5±0.3,30.°30N×139.°25E, h457km±4km, M4.1*
*IDC **21** 07:45:25.5±1.1,30.°24N×138.°76E, h424km±13km, mb3.2/13, mb1 3.4/19, mb1mx3.3/27, mbtmp3.2/19, Error ellipse: s-maj=14.1km s-min=11.3km az=94.0*
*NEIC **21** 07:45:25.7±0.5,30.°22N×138.°76E, h428km±6km, mb4.2/9, Error ellipse: s-maj=8.4km s-min=7.6km az=133.0*

ISC 21 07:45:25.9±0.6,30.°27N±0.°06×138.°79E±0.°08,h427km±5km, n70,σ0.°86/82,mb3.9/23,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.96**	**17**	P	**P**	**07 46 31.9**	**+1.1**
JHJ2				*e*S	**S**	**07 47 24.2**	**+0.6**
CBIJ	**Chichi jima**	**4.34**	**136**	P	**P**	**07 46 41.4**	**-1.5**
	26nm,0.3s,baz=108,slow=18,SNR=17						
CBIJ				S	**S**	**07 47 40.6**	**-4.8**
	40nm,0.3s,baz=271,slow=23,SNR=6.1						
CBIJ	**Chichi jima**	**4.34**	**136**	P	**P**	**07 46 41.4**	**-1.5**
CBIJ				S	**S**	**07 47 40.6**	**-4.8**
CBIJ	**Chichi jima**	**4.34**	**136**	P	**P**	**07 46 41.4**	**-1.5**
CBIJ				*e*S	**S**	**07 47 41.2**	**-4.2**
JIE	**Ise**	**4.47**	**337**	P	**P**	**07 46 46.3**	**+2.4**
BSO1	**Boso 1**	**4.75**	**22**	P	**P**	**07 46 46.6**	**+0.1**
BSO1				*e*S	**S**	**07 47 51.7**	**-0.6**
BSO3	**Boso 3**	**4.75**	**17**	P	**P**	**07 46 46.6**	**+0.1**
BSO3				*e*S	**S**	**07 47 52.2**	**-0.1**
JNY	**Yasuok**	**5.14**	**351**	P	**P**	**07 46 52.4**	**+2.0**
JHU	**Hanno**	**5.58**	**4**	P	**P**	**07 46 54.6**	**-0.3**
JHU				*e*S	**S**	**07 48 04.7**	**-2.9**
JYT	**Yasato**	**6.06**	**11**	P	**P**	**07 46 59.0**	**-0.9**
JYT				*e*S	**S**	**07 48 11.0**	**-5.7**
JAG	**Ashikaga**	**6.16**	**5**	P	**P**	**07 47 00.0**	**-1.0**
JAG				*e*S	**S**	**07 48 12.2**	**-6.5**
MJAR	**Matsushiro Arr**	**6.28**	**356**	P	**P**	**07 47 01.7**	**-0.5**
	1.7nm,0.3s,baz=166,slow=11,SNR=18						
MJAR				S	**S**	**07 48 20.2**	**-0.7**
	0.7nm,0.3s,baz=32,slow=24,SNR=5.1						
MJAR	**Matsushiro Arr**	**6.28**	**356**	P	**P**	**07 47 01.7**	**-0.5**
MJAR				S	**S**	**07 48 20.2**	**-0.7**
MAJO	**Matsushiro**	**6.28**	**356**	*e*P	**P**	**07 47 02.6**	**+0.4**
	9.2nm,0.3s						
MAT	**Matsushiro**	**6.28**	**356**	P	**P**	**07 47 02.3**	**+0.1**
MAT				S	**S**	**07 48 19.8**	**-1.1**
JHO	**Hitachi**	**6.50**	**13**	P	**P**	**07 47 04.0**	**-0.5**
JHO				*e*S	**S**	**07 48 17.8**	**-7.4**
JOW	**Kunigami**	**9.86**	**252**	P	**P**	**07 47 42.9**	**+1.3**
	1.1nm,0.3s,baz=121,slow=14,SNR=3.7						
JOW	**Kunigami**	**9.86**	**252**	P	**P**	**07 47 42.9**	**+1.3**
KSRS	**Korea Array**	**11.53**	**311**	P	**P**	**07 48 00.8**	**+1.1**
	1.3nm,0.3s,baz=125,slow=10,SNR=27						
KSAR	**Wonju Array Be**	**11.54**	**311**	P	**P**	**07 48 00.8**	**+0.9**
ASAJ	**Asahikawa**	**14.15**	**11**	P	**P**	**07 48 29.7**	**+1.6**
	1.1nm,0.3s,baz=109,slow=25,SNR=9.6						
ASAJ	**Asahikawa**	**14.15**	**11**	P	**P**	**07 48 29.7**	**+1.6**
USRK	**Ussuriysk Arra**	**14.91**	**341**	P	**P**	**07 48 37.3**	**+0.9**
	0.6nm,0.3s,baz=146,slow=8.6,SNR=9.6						
SONM	**Songino Array**	**30.37**	**314**	P	**P**	**07 51 00.9**	**+0.1**
	0.8nm,0.4s,mb3.4,baz=123,slow=8.6,SNR=12						
SONM	**Songino Array**	**30.37**	**314**	P	**P**	**07 51 00.9**	**+0.1**
CHTO	**Chiang Mai**	**37.82**	**262**	*e*P	**P**	**07 52 03.8**	**-0.4**
	6.0nm,1.1s,mb3.8						
CMAR	**Chiang Mai Arr**	**37.98**	**261**	P	**P**	**07 52 05.0**	**-0.5**
	2.4nm,0.7s,mb3.6,baz=62,slow=5.8,SNR=11						
CMAR	**Chiang Mai Arr**	**37.98**	**261**	P	**P**	**07 52 05.0**	**-0.5**
BILL	**Bilibino**	**41.11**	**15**	*e*P	**P**	**07 52 30.7**	**+0.4**
	1.8nm,0.6s,mb3.6						
TAPN	**Taplejung**	**44.55**	**279**	*e*P	**P**	**07 52 57.8**	**-0.3**
	7.9nm,0.4s,mb4.4						
TAPN	**Taplejung**	**44.55**	**279**	*e*P	**P**	**07 52 57.8**	**-0.3**
	7.9nm,0.4s,mb4.4						
ZALV	**Zalesovo Beam**	**45.15**	**318**	P	**P**	**07 53 00.9**	**-1.3**
	0.5nm,0.3s,mb3.2,baz=116,slow=6.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**45.15**	**318**	P	**P**	**07 53 00.9**	**-1.3**
RAMN	**Ramite**	**45.62**	**279**	*e*P	**P**	**07 53 05.9**	**-0.4**
	19nm,0.6s,mb4.6						
RAMN	**Ramite**	**45.62**	**279**	*e*P	**P**	**07 53 05.9**	**-0.4**
	19nm,0.6s,mb4.6						
JIRN	**Jiri**	**45.76**	**280**	*e*P	**P**	**07 53 07.6**	**+0.2**
	48nm,0.3s						
JIRN	**Jiri**	**45.76**	**280**	*e*P	**P**	**07 53 07.6**	**+0.2**
	48nm,0.3s						
GUN	**Gumba**	**45.96**	**281**	*e*P	**P**	**07 53 08.9**	**0.0**
	26nm,0.4s,mb4.9						
GUN	**Gumba**	**45.96**	**281**	*e*P	**P**	**07 53 08.9**	**0.0**
	26nm,0.4s,mb4.9						
MK31	**Makanchi Array**	**46.18**	**307**	*e*P	**P**	**07 53 10.0**	**-0.3**
MKAR	**Makanchi Array**	**46.18**	**307**	P	**P**	**07 53 09.8**	**-0.4**
	0.7nm,0.6s,mb3.2,baz=86,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**46.18**	**307**	P	**P**	**07 53 09.8**	**-0.4**
DMN	**Daman**	**46.70**	**281**	*e*P	**P**	**07 53 14.2**	**-0.4**
	8.9nm,0.4s,mb4.5						
GKN	**Gorkha**	**46.98**	**281**	*e*P	**P**	**07 53 16.7**	**-0.1**
	14nm,0.3s,mb4.8						
DANN	**Dangsing**	**47.63**	**282**	*e*P	**P**	**07 53 21.7**	**+0.1**
	15nm,0.3s,mb4.8						
KOLN	**Koldanda**	**47.93**	**281**	*e*P	**P**	**07 53 23.5**	**-0.4**
	18nm,0.6s,mb4.6						
KOLN	**Koldanda**	**47.93**	**281**	*e*P	**P**	**07 53 23.5**	**-0.4**
	18nm,0.6s,mb4.6						
PYUN	**Piuthan**	**48.35**	**282**	*e*P	**P**	**07 53 27.1**	**0.0**
	58nm,0.4s						
WRA	**Warramunga Arr**	**50.10**	**185**	P	**P**	**07 53 39.6**	**-0.5**
	0.2nm,0.4s,baz=10,slow=8.3,SNR=8.5						
WRA	**Warramunga Arr**	**50.10**	**185**	P	**P**	**07 53 39.6**	**-0.5**
ASAR	**Alice Springs**	**53.83**	**186**	P	**P**	**07 54 06.5**	**-0.6**
	0.2nm,0.4s,baz=354,slow=5.5,SNR=4.9						
ASAR	**Alice Springs**	**53.83**	**186**	P	**P**	**07 54 06.5**	**-0.6**
KKAR	**Karatay Array**	**54.84**	**304**	*e*P	**P**	**07 54 13.6**	**-0.5**
	3.9nm,0.8s,mb3.7						
ILAR	**Eielson Array**	**56.40**	**30**	P	**P**	**07 54 24.0**	**-0.7**
	1.2nm,0.7s,mb3.4,baz=258,slow=4.7,SNR=29						
ILAR	**Eielson Array**	**56.40**	**30**	P	**P**	**07 54 24.0**	**-0.7**
ABKAR	**Akbulak array**	**60.76**	**313**	*e*P	**P**	**07 54 53.8**	**-0.7**
	0.8nm,0.6s,mb3.3						
ARCES	**ARCESS Array B**	**69.56**	**340**	P	**P**	**07 55 50.0**	**+0.1**
	6.1nm,1.0s,mb4.1,baz=73,slow=8.2,SNR=18						
ARCES	**ARCESS Array B**	**69.56**	**340**	P	**P**	**07 55 50.0**	**+0.1**
YKA	**Yellowknife Ar**	**70.77**	**28**	P	**P**	**07 55 57.6**	**+0.4**
	1.1nm,0.7s,mb3.5,baz=296,slow=6.1,SNR=20						
YKA	**Yellowknife Ar**	**70.77**	**28**	P	**P**	**07 55 57.6**	**+0.4**
FINES	**FINESS Array B**	**73.78**	**333**	P	**P**	**07 56 14.5**	**-0.3**
	3.2nm,0.9s,mb4.0,baz=74,slow=3.2,SNR=16						
FINES	**FINESS Array B**	**73.78**	**333**	P	**P**	**07 56 14.5**	**-0.3**
NOA	**NORSAR Array B**	**79.55**	**337**	P	**P**	**07 56 46.3**	**-0.4**
	1.1nm,0.8s,mb3.5,baz=177,slow=4.8,SNR=3.3						
NOA	**NORSAR Array B**	**79.55**	**337**	P	**P**	**07 56 46.3**	**-0.4**
HRY	**Holter Researc**	**80.42**	**41**	*e*P	**P**	**07 56 52.8**	**+1.2**
	3.4nm,0.4s,mb4.3						
NVAR	**Mina Array Bea**	**80.87**	**51**	P	**P**	**07 56 55.5**	**+1.4**
	0.6nm,0.5s,mb3.6,baz=295,slow=5.5,SNR=8.5						
NVAR	**Mina Array Bea**	**80.87**	**51**	P	**P**	**07 56 55.5**	**+1.4**
TXAR	**Lajitas Array**	**96.02**	**51**	P	**P**	**07 58 08.0**	**+1.7**
	0.2nm,0.5s,mb3.5,baz=287,slow=4.2,SNR=4.8						
TXAR	**Lajitas Array**	**96.02**	**51**	P	**P**	**07 58 08.0**	**+1.7**
TRIS	**Tristan da Cun**	**155.08**	**247**	*e*PKPdf	PKPdf	08 04 28.0	-0.9

*IDC **21** 08:04:37.7±22.0,25.°62N×122.°89E, h195km±218km, mb3.0/6, mb1 3.2/6, mb1mx3.0/21, mbtmp3.0/6, Error ellipse: s-maj=91.1km s-min=14.8km az=66.0*
*ISCJB **21** 08:04:41.3±0.4,25.°51N±0.°06×122.°81E±0.°03, h239km±4km, mb3.1/6, Error ellipse: s-maj=10.1km s-min=3.9km az=165.8*
*NEIC **21** 08:04:41.2±1.7,25.°56N×122.°78E, h232km±15km, MG3.7(JMA), Error ellipse: s-maj=46.8km s-min=14.4km az=67.0*
*TAP **21** 08:04:41.8,25.°49N×122.°93E, h235km±1km, ML4.2, C*
*JMA **21** 08:04:43.8±0.4,25.°62N×122.°79E, h213km, M3.7*

ISC 21 08:04:42.1±0.4,25.°51N±0.°06×122.°80E±0.°03,h233km±4km, n57,σ0.°89/90,mb3.1/6,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.89**	**236**	P	**Pn**	**08 05 15.8**	**+1.0**
	baz=243						
TWB1				*e*S	**S**	**08 05 40.8**	**+0.5**
	baz=243						
NWF	**Wu-fen Shan**	**1.02**	**245**	P	**Pn**	**08 05 16.7**	**+1.2**
	baz=248						
NWF				*e*S	**S**	**08 05 42.8**	**+1.1**
	baz=248						
YOJ	**Yonaguni jima**	**1.06**	**170**	P	**Pn**	**08 05 16.1**	**+0.3**
YOJ				S	**S**	**08 05 42.4**	**+0.2**
TWA	**Mucha**	**1.22**	**245**	*e*P	**Pn**	**08 05 17.4**	**+0.5**
	baz=247						
TWC	**Suao**	**1.25**	**224**	*e*P	**Pn**	**08 05 17.3**	**+0.3**
	baz=227						
TWC				*e*S	**S**	**08 05 42.9**	**-1.4**
	baz=227						
TWE	**Neicheng**	**1.30**	**233**	P	**Pn**	**08 05 18.1**	**+0.7**
	baz=226						
ENTT	**Nioudou**	**1.42**	**233**	*i* P	**Pn**	**08 05 18.9**	**+0.6**
	baz=230						
ENTT				*e*S	**S**	**08 05 46.9**	**+0.4**
	baz=230						
IRIF	**Iriomote-Funau**	**1.44**	**144**	P	**Pn**	**08 05 18.8**	**+0.4**
IRIF				S	**S**	**08 05 45.8**	**-1.1**
ENA	**Nanau**	**1.45**	**222**	P	**Pn**	**08 05 19.0**	**+0.6**
	baz=219						
ENA				*e*S	**S**	**08 05 46.3**	**-0.6**
	baz=219						
YHNB	**Yeheng**	**1.54**	**237**	*e*Pg	**Pn**	**08 05 19.2**	**0.0**
YHNB				*e*Sg	**S**	**08 05 46.8**	**-1.5**
NSK	**Sanguang**	**1.55**	**238**	P	**Pn**	**08 05 19.7**	**+0.4**
	baz=240						
NSK				*e*S	**S**	**08 05 47.6**	**-0.8**
	baz=240						
JIJ	**Ishigaki jima**	**1.67**	**133**	P	**Pn**	**08 05 20.6**	**+0.3**
JIJ				S	**S**	**08 05 48.7**	**-1.5**
JKRS	**Kuro-shima**	**1.68**	**139**	P	**Pn**	**08 05 21.3**	**+1.0**
JKRS				S	**S**	**08 05 49.7**	**-0.6**
NNS	**Nan Shan**	**1.68**	**231**	P	**Pn**	**08 05 21.1**	**+0.7**
	baz=240						
NNS				*e*S	**S**	**08 05 49.8**	**-0.5**
	baz=240						
HATJ	**Hateruma jima**	**1.71**	**148**	P	**Pn**	**08 05 21.7**	**+1.1**
HATJ				S	**S**	**08 05 49.8**	**-1.1**
NACB	**Ninganchiao**	**1.73**	**220**	*e*Pg	**Pn**	**08 05 19.3**	**-1.5**
NACB				*e*Sg	**S**	**08 05 45.5**	**-5.5**
TWD	**Chiawan**	**1.80**	**218**	P	**Pn**	**08 05 21.6**	**+0.2**
	baz=216						
TWD				S	**S**	**08 05 50.9**	**-1.4**
	baz=216						
NSTT	**Nanjuang**	**1.85**	**242**	P	**Pn**	**08 05 22.3**	**+0.4**
	baz=243						
NSTT				S	**S**	**08 05 52.0**	**-1.1**
	baz=243						
HWA	**Hwalien**	**1.88**	**216**	*e*P	**Pn**	**08 05 22.0**	**-0.1**
	baz=212						
JTJ	**Tarama**	**1.93**	**116**	P	**Pn**	**08 05 24.2**	**+1.6**
JTJ				S	**S**	**08 05 54.4**	**+0.1**
TWT	**Tachien**	**1.94**	**230**	P	**Pn**	**08 05 24.0**	**+1.4**
	baz=237						
TWT				*e*S	**S**	**08 05 54.5**	**+0.1**
	baz=237						
WHF	**Hehuan Shan**	**1.95**	**226**	⇑*i* P	**Pn**	**08 05 23.9**	**+1.2**
	baz=231						
WHF				S	**S**	**08 05 54.7**	**0.0**
	baz=231						
ESL	**Shilin**	**2.10**	**217**	P	**Pn**	**08 05 23.8**	**-0.4**
	baz=218						
ESL				*e*S	**S**	**08 05 53.3**	**-3.9**
	baz=218						
NSY	**Sanyi**	**2.15**	**240**	*e*P	**Pn**	**08 05 25.1**	**+0.5**
	baz=235						
NSY				*e*S	**S**	**08 05 57.7**	**-0.4**
	baz=235						
TWQ1	**Liyutan**	**2.18**	**238**	*e*S	**S**	**08 05 57.5**	**-1.1**
	baz=234						
JMJ	**Miyako jima 2**	**2.36**	**107**	P	**Pn**	**08 05 28.5**	**+1.7**
JMJ				S	**S**	**08 06 01.7**	**-0.1**
SMLT	**Sun Moon Lake**	**2.37**	**227**	*e*P	**Pn**	**08 05 27.7**	**+0.8**
	baz=221						
SMLT				*e*S	**S**	**08 06 02.2**	**+0.1**
	baz=221						
TYC	**Yuchr**	**2.39**	**228**	*e*P	**Pn**	**08 05 27.5**	**+0.5**
	baz=222						
TYC				*e*S	**S**	**08 06 01.7**	**-0.6**
	baz=222						
SSLB	**Suanglung**	**2.40**	**225**	*e*Pg	**Pn**	**08 05 27.5**	**+0.2**
SSLB				*e*Sg	**S**	**08 06 01.1**	**-1.6**
EHY	**Hungye**	**2.41**	**214**	*e*P	**Pn**	**08 05 27.0**	**-0.3**
	baz=221						
JOGS	**Gusukube**	**2.48**	**107**	*e*S	**S**	**08 06 04.4**	**+0.5**
YULB	**Yu-li**	**2.52**	**213**	*e*Pg	**Pn**	**08 05 26.6**	**-1.8**
TWF1	**Yuli**	**2.55**	**213**	*e*P	**Pn**	**08 05 28.3**	**-0.5**
	baz=214						
TWF1				*e*S	**S**	**08 06 04.1**	**-1.4**
	baz=214						
YUS	**Yu-Shan**	**2.63**	**220**	P	**Pn**	**08 05 31.3**	**+1.7**
	baz=217						
YUS				*e*S	**S**	**08 06 07.7**	**+0.9**
	baz=217						
ALS	**Alishan**	**2.70**	**223**	*e*P	**Pn**	**08 05 31.3**	**+0.9**
	baz=224						
ALS				*e*S	**S**	**08 06 09.9**	**+1.6**
	baz=224						
CHN5	**Tsauling**	**2.72**	**226**	P	**Pn**	**08 05 31.2**	**+0.7**
	baz=232						
CHN5				*e*S	**S**	**08 06 08.4**	**-0.2**
	baz=232						
ELDTW	**Lidau**	**2.83**	**216**	*e*P	**Pn**	**08 05 32.1**	**+0.4**
	baz=213						
STYT	**Tauyuan**	**2.99**	**219**	*e*P	**Pn**	**08 05 34.8**	**+1.3**
	baz=226						
CHN1	**Nanshi**	**3.11**	**222**	*e*P	**Pn**	**08 05 35.6**	**+0.7**
	baz=223						
CHN1				*e*S	**S**	**08 06 16.1**	**-0.3**
	baz=223						
JKE	**Kume jima 2**	**3.68**	**76**	P	**Pn**	**08 05 41.9**	**+0.6**
JAGN	**Aguni-jima**	**4.13**	**74**	P	**Pn**	**08 05 46.8**	**0.0**
JAGN				S	**S**	**08 06 37.1**	**-0.9**
JIH	**Iheya**	**4.88**	**71**	P	**Pn**	**08 05 55.6**	**-0.3**
JOW	**Kunigami**	**5.09**	**74**	P	**Pn**	**08 05 57.9**	**-0.6**
JOW				S	**S**	**08 06 53.7**	**-5.5**
JTK	**Tokunoshima**	**5.95**	**66**	P	**Pn**	**08 06 07.6**	**-1.6**
JMZ	**Minamidaito 2**	**7.60**	**86**	P	**Pn**	**08 06 30.3**	**0.0**
JMZ				*e*S	**S**	**08 07 51.7**	**-5.3**
MKAR	**Makanchi Array**	**38.44**	**314**	P	**P**	**08 11 40.6**	**-0.7**
	0.8nm,0.3s,mb3.7,baz=100,slow=9.5,SNR=14						
MKAR	**Makanchi Array**	**38.44**	**314**	P	**P**	**08 11 40.6**	**-0.7**
ZALV	**Zalesovo Beam**	**39.96**	**325**	P	**P**	**08 11 52.0**	**-1.7**
	0.4nm,0.4s,mb3.2,baz=126,slow=9.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**39.96**	**325**	P	**P**	**08 11 52.0**	**-1.7**
WRA	**Warramunga Arr**	**46.55**	**165**	P	**P**	**08 12 46.2**	**-0.4**
	0.2nm,0.3s,mb2.9,baz=348,slow=8.6,SNR=3.6						
WRA	**Warramunga Arr**	**46.55**	**165**	P	**P**	**08 12 46.2**	**-0.4**
ASAR	**Alice Springs**	**50.05**	**167**	P	**P**	**08 13 13.5**	**+0.2**
	0.2nm,0.7s,mb2.6,baz=348,slow=8.5,SNR=3.1						
ASAR	**Alice Springs**	**50.05**	**167**	P	**P**	**08 13 13.5**	**+0.2**
FINES	**FINESS Array B**	**71.05**	**330**	P	**P**	**08 15 33.4**	**-1.0**
	3.0nm,1.0s,mb3.9,baz=65,slow=6.6,SNR=4.6						
FINES	**FINESS Array B**	**71.05**	**330**	P	**P**	**08 15 33.4**	**-1.0**
YKA	**Yellowknife Ar**	**81.18**	**23**	P	**P**	**08 16 30.7**	**-0.7**
	0.1nm,0.5s,mb2.7,baz=314,slow=4.9,SNR=7.3						
YKA	**Yellowknife Ar**	**81.18**	**23**	P	**P**	**08 16 30.8**	**-0.7**

*ISCJB **21** 08:20:03.4±0.7,36.°79N±0.°06×140.°72E±0.°06, h90km±4km, mb3.3/3, Error ellipse: s-maj=10.6km s-min=6.2km az=143.6*
*IDC **21** 08:20:03.7±3.2,36.°76N×140.°87E, h75km±31km, mb3.2/3, mb1 3.5/5, mb1mx3.1/24, mbtmp3.3/5, Error ellipse: s-maj=31.9km s-min=18.7km az=129.0*
*JMA **21** 08:20:05.0±0.1,36.°78N×140.°63E, h81km±1km, M3.4*
JMA Felt I J1.
*NEIC **21** 08:20:05.0,36.°78N×140.°63E, h81km, MG3.4(JMA), After JMA.*

ISC 21 08:20:04.6±0.7,36.°79N±0.°05×140.°70E±0.°06,h83km±4km, n22,σ0.°81/36,mb3.3/3,3C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**210**	⇓P	**Pn**	**08 20 16.8**	**0.0**
JHO				S	**Sn**	**08 20 25.3**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.32**	**15**	⇓P	**Pn**	**08 20 17.6**	**+0.3**
ONAJ				S	**Sn**	**08 20 27.2**	**+0.4**
JFK	**Kawauchi**	**0.59**	**14**	⇓P	**Pn**	**08 20 19.8**	**+0.4**
JFK				S	**Sn**	**08 20 30.8**	**+0.4**
JFT	**Otama**	**0.78**	**338**	⇑P	**Pn**	**08 20 21.6**	**+0.3**
JFT				S	**Sn**	**08 20 34.0**	**+0.2**
JAG	**Ashikaga**	**1.07**	**250**	⇓P	**Pn**	**08 20 24.4**	**-0.2**
JAG				S	**Sn**	**08 20 38.4**	**-1.2**
JKT	**Katashina**	**1.16**	**269**	P	**Pn**	**08 20 26.2**	**+0.4**
JKT				*e*S	**Sn**	**08 20 42.3**	**+0.6**
JHK	**Hiroka**	**1.42**	**289**	⇑P	**Pn**	**08 20 29.1**	**+0.1**
JHK				S	**Sn**	**08 20 47.2**	**-0.2**
JNS	**Sasagawa**	**1.50**	**313**	⇑P	**Pn**	**08 20 29.9**	**-0.1**
JNS				*e*S	**Sn**	**08 20 48.6**	**-0.7**
JRY	**Ryogami san**	**1.64**	**242**	⇓P	**Pn**	**08 20 31.9**	**+0.1**
JRY				S	**Sn**	**08 20 52.1**	**-0.4**
MJAR	**Matsushiro Arr**	**2.02**	**264**	P	**Pn**	**08 20 37.0**	**+0.3**
	4.7nm,0.3s,baz=88,slow=14,SNR=66						
MJAR				S	**Sn**	**08 21 03.5**	**+2.2**
	5.6nm,0.3s,baz=73,slow=20,SNR=7.3						
MJAR	**Matsushiro Arr**	**2.02**	**264**	P	**Pn**	**08 20 37.0**	**+0.3**
MJAR				S	**Sn**	**08 21 03.5**	**+2.2**
MAJO	**Matsushiro**	**2.02**	**264**	*e*Pn	**Pn**	**08 20 37.3**	**+0.6**
MAJO				*e*Sn	**Sn**	**08 20 56.7**	**-4.6**
MAT	**Matsushiro**	**2.02**	**264**	P	**Pn**	**08 20 37.4**	**+0.6**
MAT				S	**Sn**	**08 20 58.6**	**-2.7**
ERM	**Erimo**	**5.55**	**19**	Pn	**Pn**	**08 21 24.1**	**-0.4**
ERM				*e*Sn	**Sn**	**08 22 22.7**	**-4.2**
ASAJ	**Asahikawa**	**7.46**	**11**	P	**Pn**	**08 21 48.4**	**-2.1**
	0.4nm,0.3s,baz=210,slow=32,SNR=5.7						
ASAJ	**Asahikawa**	**7.46**	**11**	P	**Pn**	**08 21 48.4**	**-2.1**
SONM	**Songino Array**	**27.45**	**305**	P	**P**	**08 25 42.9**	**+0.5**
	0.2nm,0.6s,mb2.8,baz=104,slow=8.1,SNR=4.7						
SONM	**Songino Array**	**27.45**	**305**	P	**P**	**08 25 42.9**	**+0.5**
ILAR	**Eielson Array**	**50.00**	**32**	P	**P**	**08 28 50.7**	**+0.8**
	0.4nm,0.7s,mb3.5,baz=268,slow=5.6,SNR=7.0						
ILAR	**Eielson Array**	**50.00**	**32**	P	**P**	**08 28 50.7**	**+0.8**
WRA	**Warramunga Arr**	**56.75**	**187**	P	**P**	**08 29 39.2**	**-0.5**
	0.5nm,0.6s,mb3.7,baz=4.5,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**56.75**	**187**	P	**P**	**08 29 39.2**	**-0.5**

DJA 21 08:24:44,2.°55S×139.°18E,h10km,MLv3.5/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.73**	**

MKAR	Makanchi Array	61.33	316	P	P	08 42 16.7	+1.1
ZALV	Zalesovo Beam	61.43	324	P	P	08 42 16.0	-0.2
	0.5nm,0.5s,mb3.6,baz=90,slow=6.2,SNR=3.2						
ZALV	Zalesovo Beam	61.43	324	P	P	08 42 15.9	-0.2
KURK	Kurchatov	64.41	320	eP	P	08 42 36.2	+0.3
	1.7nm,0.5s,mb4.1						
ILAR	Eielson Array	68.28	25	P	P	08 42 58.8	-1.5
	0.5nm,0.5s,mb3.5,baz=252,slow=5.6,SNR=26						
ILAR				pP	pP	08 43 33.2	-2.5
	0.3nm,0.5s,baz=250,slow=5.8,SNR=1.7						
ILAR	Eielson Array	68.28	25	P	P	08 42 58.8	-1.5
ILAR				pP	pP	08 43 33.2	-2.5
ABKAR	Akbulak array	76.37	318	eP	P	08 43 48.5	-0.1
	0.6nm,0.6s,mb3.4						
YKA	Yellowknife Ar	82.57	27	P	P	08 44 21.6	-0.3
	0.3nm,0.4s,mb3.4,baz=285,slow=5.1,SNR=11						
YKA				pP	pP	08 44 57.3	-1.3
	0.2nm,0.6s,baz=285,slow=5.1,SNR=2.5						
YKA	Yellowknife Ar	82.57	27	P	P	08 44 21.6	-0.3
YKA				pP	pP	08 44 57.3	-1.2
NVAR	Mina Array Bea	86.69	51	P	P	08 44 45.2	+2.2
	1.2nm,0.6s,mb3.9,baz=263,slow=6.6,SNR=13						
NVAR				pP	pP	08 45 19.1	-1.0
	0.7nm,0.7s,baz=264,slow=6.3,SNR=3.5						
NVAR	Mina Array Bea	86.69	51	P	P	08 44 45.2	+2.2
NVAR				pP	pP	08 45 19.1	-1.0
ARCES	ARCESS Array B	86.83	342	P	P	08 44 42.5	-0.6
	5.8nm,1.1s,mb4.3,baz=36,slow=11,SNR=3.9						
ARCES	ARCESS Array B	86.83	342	P	P	08 44 42.5	-0.6
FINES	FINESS Array B	90.93	335	P	P	08 45 01.8	-0.7
	0.9nm,0.5s,mb4.0,baz=62,slow=4.5,SNR=7.3						
FINES	FINESS Array B	90.93	335	P	P	08 45 01.8	-0.7
TORD	Torodi Ar. Bea	134.75	305	PKP	PKPdf	08 51 18.4	+0.5
	0.4nm,0.5s,baz=41,slow=3.6,SNR=4.3						
TORD	Torodi Ar. Bea	134.75	305	PKP	PKPdf	08 51 18.4	+0.5
DBIC	Dimbokro	143.73	302	PKP	PKPdf	08 51 32.3	-1.9
	2.0nm,0.5s,baz=7.5,slow=7.2,SNR=8.9						
DBIC	Dimbokro	143.73	302	PKP	PKPdf	08 51 32.3	-1.9
CFAA	Coronel Fontan	144.88	126	PKP	PKPdf	08 51 36.2	+0.5
	0.7nm,0.6s,baz=252,slow=2.9,SNR=17						
CFAA	Coronel Fontan	144.88	126	PKP	PKPdf	08 51 36.2	+0.5
LPAZ	La Paz	148.00	99	PKPbc	PKPbc	08 51 47.1	+2.4
	3.5nm,0.7s,baz=292,slow=3.6,SNR=17						
LPAZ	La Paz	148.00	99	PKPbc	PKPbc	08 51 47.1	+2.4

ISCJB ***21*** *08:36:06.1±0.4, 19°.81S±0°.04×69°.15W±0°.07, h109km±5km, mb4.3/14, Error ellipse: s-maj=11.8km s-min=5.8km az=165.7*
GUC ***21*** *08:36:07.3±0.8, 19°.91S×69°.48W, h117km±8km, ML4.6*
NEIC ***21*** *08:36:07.8±0.2, 19°.86S×69°.09W, mb4.7/9, Error ellipse: s-maj=8.5km s-min=4.9km az=87.0*
IDC ***21*** *08:36:08.1±0.7, 19°.86S×69°.09W, h109km±5km, mb3.9/9, mb1 3.9/14, mb1mx3.9/17, mbtmp3.8/14, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=19.0km s-min=14.6km az=54.0*

ISC 21 08:36:07.2±0.4, 19°.81S±0°.04×69°.13W±0°.07, h101km±5km, h111km±1.5km: pP-P, n68, σ0°.76/60, mb4.3/14, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	Humberston	0.86	237	⇓iP		Pn	08 36 26.0 -0.1
HMBC				i S		Sn	08 36 39.7 -0.7
HMBC				AML	AML	08 36 41.3	
	comp=E,19μm,0.5s						
PB01	Plate Boundary	1.27	195	⇑iP		Pn	08 36 31.1 +0.3
PB01				i S		Sn	08 36 48.6 +0.1
PB01				AML	AML	08 36 50.1	
	comp=N,36μm,0.3s						
ARCH	Arica	1.71	320	⇑iP		Pn	08 36 36.5 +0.3
ARCH				i S		Sn	08 36 57.7 -0.4
ARCH				AML	AML	08 36 59.5	
	comp=E,8μm,0.2s						
PB09	Plate Boundary	1.98	183	⇑iP		Pn	08 36 40.4 +0.8
PB09				i S		Sn	08 37 05.1 +0.9
PB09				AML	AML	08 37 12.8	
	comp=E,12μm,0.5s						
PB07	Plate Boundary	2.04	200	⇑iP		Pn	08 36 39.8 -0.5
PB07				i S		Sn	08 37 04.0 -1.5
PB07				AML	AML	08 37 08.4	
	comp=N,4μm,0.5s						
MACH	Maria Elena	2.45	194	⇑iP		Pn	08 36 45.8 +0.2
MACH	Maria Elena	2.45	194	⇑iP		Pn	08 36 45.8 +0.2
LVC	Limon Verde	2.80	176	ePn		Pn	08 36 51.4 +1.2
LVC				eSn		Sn	08 37 17.6 -5.8
LVC	Limon Verde	2.80	176	⇑iP		Pn	08 36 51.5 +1.3
LVC				i S		Sn	08 37 24.6 +1.3
LVC				AML	AML	08 37 33.0	
	comp=N,996nm,0.5s						
MECH	Mejillones	3.50	200	eP		Pn	08 36 58.8 -0.9
MECH	Mejillones	3.50	200	eP		Pn	08 36 58.8 -0.9
LPAZ	La Paz	3.63	15	P		Pn	08 37 05.4 +4.1
	comp=N,17nm,0.3s,baz=205,slow=6.3,SNR=673						
LPAZ	La Paz	3.63	15	P		Pn	08 37 05.4 +4.1
SIV	San Ignacio	8.55	65	P		Pn	08 38 08.6 +0.4
	comp=N,1.3nm,0.3s,baz=265,slow=12,SNR=46						
SIV	San Ignacio	8.55	65	P		Pn	08 38 08.6 +0.4
LCO	Las Campanas	9.28	189	ePn		Pn	08 38 11.6 -6.3
	comp=N,16nm,0.6s						
LCO				eSn		Sn	08 39 52.2 -8.2
NNA	Nana	10.75	315	P		Pn	08 38 38.6 +0.6
	comp=N,1.4nm,0.3s,baz=194,slow=8.1,SNR=4.6						
NNA	Nana	10.75	315	P		Pn	08 38 38.6 +0.6
CFAA	Coronel Fontan	11.78	176	P		Pn	08 38 51.6 -0.2
	comp=N,0.2nm,0.3s,baz=344,slow=9.9,SNR=4.3						
CFAA	Coronel Fontan	11.78	176	P		Pn	08 38 51.6 -0.2
SAML	Samuel	12.23	29	ePn		Pn	08 38 57.5 -0.5
	comp=N,2.3nm,0.6s						
SAML				eSn		Sn	08 41 04.6 -7.9
CPUP	Villa Florida	12.65	123	P		Pn	08 39 02.3 -1.0
	comp=N,0.8nm,0.3s,baz=286,slow=12,SNR=14						
CPUP	Villa Florida	12.65	123	P		Pn	08 39 02.3 -1.0
TRQA	Tornquist	19.22	163	eP		P	08 40 23.3 +0.1
	comp=N,8.9nm,0.6s						
PLCA	Paso Flores	20.89	183	P		P	08 40 41.0 -0.3
	comp=N,5.9nm,0.8s,baz=12,slow=12,SNR=8.6						
PLCA	Paso Flores	20.89	183	P		P	08 40 41.0 -0.3
OTAV	Otavalo	21.92	334	eP		P	08 40 55.2 +2.8
	comp=N,4.4nm,0.8s,mb3.8						
ROSC	El Rosal	25.04	348	LR		LR	08 52 38.2
	comp=N,30nm,19.4s,baz=192,slow=40						
MTP	Monte Pirata	37.83	6	eP		P	08 43 12.3 -1.8
	comp=N,6.1nm,0.6s,mb4.6						
NHSC	New Hope	53.66	348	eP		P	08 45 19.1 +0.7
	comp=N,67nm,1.0s						
COW	Cow Castle Cre	54.03	348	eP		P	08 45 21.5 +0.4
TXAR	Lajitas Array	59.13	325	P		P	08 45 57.3 0.0
	comp=N,0.4nm,0.5s,mb3.7,baz=154,slow=7.5,SNR=8.2						
TXAR	Lajitas Array	59.13	325	P		P	08 45 57.3 0.0
FVM	French Village	60.87	341	eP		P	08 46 08.8 -0.3
	comp=N,5.3nm,0.3s,mb5.0						
JFWS	Jewell Farm	65.37	343	eP		P	08 46 38.4 -0.3
	comp=N,5.7nm,0.5s,mb4.7						
DBIC	Dimbokro	68.46	74	P		P	08 46 58.4 -0.5
	comp=N,3.4nm,0.6s,mb4.4,baz=202,slow=8.3,SNR=9.5						
DBIC				pP	pP	08 47 26.3	+2.0
	comp=N,0.9nm,0.3s,baz=216,slow=6.7,SNR=1.8						
DBIC	Dimbokro	68.46	74	P		P	08 46 58.4 -0.5
DBIC				pP	pP	08 47 26.3	+2.0
QSPA	South Pole Qui	70.38	180	pP	pP	08 47 37.6	+2.5
	comp=N,2.1nm,0.3s,baz=254,slow=2.7,SNR=2.4						
QSPA	South Pole Qui	70.38	180	pP	pP	08 47 37.6	+2.5
AGMN	Agassiz Nation	71.89	342	eP		P	08 47 18.9 -0.2
	comp=N,6.5nm,0.7s,mb4.6						
ULM	Lac du Bonnet	73.65	342	P		P	08 47 29.1 -0.3
	comp=N,4.4nm,0.6s,mb4.4,baz=154,slow=6.7,SNR=14						
ULM	Lac du Bonnet	73.65	342	P		P	08 47 29.1 -0.3
NVAR	Mina Array Bea	74.04	322	P		P	08 47 33.1 +1.1
	comp=N,1.3nm,0.8s,mb3.7,baz=163,slow=7.1,SNR=10.0						
NVAR	Mina Array Bea	74.04	322	P		P	08 47 33.1 +1.1
SCHQ	Schefferville	74.36	1	P		P	08 47 33.2 -0.3
	comp=N,2.2nm,0.6s,mb4.1,baz=228,slow=4.5,SNR=4.1						
SCHQ	Schefferville	74.36	1	P		P	08 47 33.2 -0.3
TORD	Torodi Ar. Bea	76.98	71	P		P	08 47 48.6 -0.7
	comp=N,4.7nm,0.5s,mb4.5,baz=252,slow=5.5,SNR=60						
TORD				pP	pP	08 48 17.3	+2.1
	comp=N,1.7nm,0.5s,baz=253,slow=5.4,SNR=4.6						
TORD	Torodi Ar. Bea	76.98	71	P		P	08 47 48.6 -0.7
TORD				pP	pP	08 48 17.3	+2.1
BOSA	Boshof	84.42	118	P		P	08 48 29.3 +0.4
	comp=N,2.1nm,0.8s,mb4.0,baz=270,slow=8.1,SNR=3.0						
BOSA				pP	pP	08 48 57.7	+2.6
	comp=N,3.7nm,0.8s,baz=242,slow=8.7,SNR=4.7						
BOSA	Boshof	84.42	118	P		P	08 48 29.3 +0.4
BOSA				pP	pP	08 48 57.7	+2.6
ESDC	Sonseca Array	84.78	45	P		P	08 48 30.5 +0.2
	comp=N,0.2nm,0.5s,mb3.3,baz=229,slow=4.3,SNR=3.7						
ESDC	Sonseca Array	84.78	45	P		P	08 48 30.5 +0.2
YKA	Yellowknife Ar	89.53	341	P		P	08 48 52.8 +0.2
	comp=N,6.0nm,0.6s,mb4.9,baz=130,slow=4.7,SNR=176						
YKA				pP	pP	08 49 21.1	+2.0
	comp=N,0.9nm,0.5s,baz=133,slow=4.8,SNR=4.3						
YKA	Yellowknife Ar	89.53	341	P		P	08 48 52.9 +0.2
YKA				pP	pP	08 49 21.1	+1.9
ASAR	Alice Springs	131.30	209	PKP	PKPdf	08 55 08.1	-0.2
	comp=N,0.5nm,0.5s,baz=130,slow=1.7,SNR=16						
ASAR				pPKP	pPKPdf	08 55 36.2	+0.3
	comp=N,0.3nm,0.6s,baz=136,slow=1.8,SNR=2.2						
ASAR	Alice Springs	131.30	209	PKP	PKPdf	08 55 08.1	-0.2
ASAR				pPKP	pPKPdf	08 55 36.2	+0.3
WRA	Warramunga Arr	134.29	212	PKP	PKPdf	08 55 13.5	-0.5
	comp=N,0.7nm,0.5s,baz=141,slow=1.6,SNR=13						
WRA	Warramunga Arr	134.29	212	PKP	PKPdf	08 55 13.5	-0.5
ZALV	Zalesovo Beam	140.51	24	PKP	PKPdf	08 55 23.7	-0.6
	comp=N,1.7nm,0.8s,baz=252,slow=0.5,SNR=4.3						
ZALV	Zalesovo Beam	140.51	24	PKP	PKPdf	08 55 23.7	-0.6
MK31	Makanchi Array	144.37	34	ePKPdf	PKPdf	08 55 30.4	-1.1
MKAR	Makanchi Array	144.37	34	PKP	PKPdf	08 55 30.5	-1.0
	comp=N,1.2nm,0.6s,baz=313,slow=3.4,SNR=16						
MKAR	Makanchi Array	144.37	34	PKP	PKPdf	08 55 30.5	-1.0
USRK	Ussuriysk Arra	149.97	329	PKPbc	PKPbc	08 55 46.2	+0.4
	comp=N,4.3nm,0.8s,baz=17,slow=2.0,SNR=7.0						
MJAR	Matsushiro Arr	150.84	311	PKPbc	PKPbc	08 55 48.2	0.0
	comp=N,2.0nm,0.9s,baz=91,slow=1.9,SNR=7.6						
MJAR	Matsushiro Arr	150.84	311	PKPbc	PKPbc	08 55 48.2	0.0
SONM	Songino Array	151.81	6	PKP	PKPdf	08 55 44.0	+0.4
	comp=N,4.1nm,0.7s,baz=204,slow=3.3,SNR=3.7						
SONM				PKPbc	PKPbc	08 55 50.8	+0.7
	comp=N,4.7nm,0.7s,baz=306,slow=1.4,SNR=36						
SONM	Songino Array	151.81	6	PKP	PKPdf	08 55 44.0	+0.4
SONM				PKPbc	PKPbc	08 55 50.8	+0.7

CSEM ***21*** *08:44:56.4±0.4, 43°.94N×17°.25E, h2km, ML2.5, Error ellipse: s-maj=11.8km s-min=5.2km az=30.0*
BEO ***21*** *08:44:56.1±0.7, 43°.95N×17°.15E, h6km±3km, ML2.5/4*
ISCJB ***21*** *08:44:57.0±0.6, 43°.96N±0°.04×17°.33E±0°.04, h10km, Error ellipse: s-maj=6.4km s-min=3.3km az=31.8*

ISC 21 08:44:57.5±0.6, 43°.96N±0°.04×17°.25E±0°.05, h10km, n22, σ1§13/38, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.80	356	ePg	Pg	08 45 11.6	-1.2
BLY				eSg	Sg	08 45 22.6	-0.6
BLY	Banja Luka	0.80	356	ePg	Pg	08 45 11.6	-1.2
BLY				eSg	Sg	08 45 22.6	-0.6
STON	Ston	1.13	163	i Pg	Pg	08 45 12.6	-6.6
STON				Sg	Sg	08 45 29.4	-4.5
BBLS	Lazići	1.56	93	ePn	Pn	08 45 24.8	-0.4
BBLS				eSn	Sn	08 45 46.0	+0.6
BBLS				eSg	Sg	08 45 49.3	+1.7
NVLJ	Novalja	1.82	290	ePn	Pn	08 45 28.3	-0.5
NVLJ				Sn	Sn	08 45 55.1	+3.3
NVLJ	Novalja	1.82	290	ePn	Pn	08 45 28.3	-0.5
DIVS	Divibare	1.98	85	ePn	Pn	08 45 31.7	+0.7
DIVS				eSg	Sg	08 46 00.2	-0.9
DIVS	Divibare	1.98	85	ePn	Pn	08 45 31.7	+0.7
DIVS				eSg	Sg	08 46 00.2	-0.9
BOJS	Bojanci	2.11	318	ePn	Pn	08 45 31.8	-0.9
BOJS	Bojanci	2.11	318	ePn	Pn	08 45 31.8	-1.0
PDG	Podgorica	2.11	135	ePn	Pn	08 45 32.4	-0.4
PDG				eSn	Sn	08 46 00.6	+1.5
PDG				eSg	Sg	08 46 05.3	-0.1
PDG	Podgorica	2.11	135	ePn	Pn	08 45 32.4	-0.4
PDG				eSn	Sn	08 46 00.6	+1.5
PDG				eSg	Sg	08 46 05.3	-0.1
IVAS	Ivanjica	2.13	99	ePg	Pg	08 45 35.6	-2.8
IVAS	Ivanjica	2.13	99	ePg	Pg	08 45 35.6	-2.8
GBRS	Gornja Briga	2.35	313	ePn	Pn	08 45 36.8	+0.7
PKSM	Moragy	2.46	23	eSn	Sn	08 46 09.2	+1.4
GRUS	Gruza	2.50	90	ePn	Pn	08 45 37.6	-0.6
GRUS				eSg	Sg	08 46 17.7	-0.1
GRUS	Gruza	2.50	90	ePn	Pn	08 45 37.6	-0.6
GRUS				eSg	Sg	08 46 17.7	-0.1
VISS	Visnje	2.52	318	ePn	Pn	08 45 40.6	+2.1
VISS	Visnje	2.52	318	ePn	Pn	08 45 40.6	+2.1
BARS	Barje	3.51	107	ePn	Pn	08 45 51.1	-1.0
BARS				eSg	Sg	08 46 50.5	+0.2
BARS	Barje	3.51	107	ePn	Pn	08 45 51.1	-1.0
BARS				eSg	Sg	08 46 50.5	+0.2

MAN 21 09:10:03.8±0.2, 8°.92N×126°.53E, h1km, mb4.5, ML3.3, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.90	273	eP	Pg	09 10 20.7	+0.4
BUKP	Musuan	1.78	235	eP	Pn	09 10 35.7	+0.7
BUKP				eS	Sn	09 10 52.4	-5.8
CGP	Cagayan de Oro	1.87	256	⇑eP	Pn	09 10 36.0	-0.2
CGP				i S	Sn	09 11 01.4	+0.9
MSLP	Maasin	2.05	306	eP	Pn	09 10 38.8	+0.2
TBP	Tagbilaran	2.75	287	eP	Pn	09 10 49.5	+1.3
TBP				eS	Sn	09 11 23.9	+1.8

BGS ***21*** *09:16:37.3±2.2, 34°.53N×142°.38E, h20km, mb5.6, MS6.1*
JMA ***21*** *09:16:40.6±0.2, 36°.60N×142°.47E, h0km, M6.2*
JMA Felt III J1.
ISCJB ***21*** *09:16:41.7±0.6, 36°.58N±0°.02×142°.37E±0°.02, h0km±3km, mb5.6/385, MS5.8/235, Error ellipse: s-maj=2.8km s-min=2.3km az=155.6*
IDC ***21*** *09:16:42.3±0.4, 36°.53N×142°.49E, h0km, mb5.1/29, mb1 5.2/36, mb1mx5.2/36, mbtmp5.1/36, ML4.6/6, MS5.6/35, Ms1 5.6/35, ms1mx5.5/43, Error ellipse: s-maj=12.3km s-min=9.5km az=92.0*
BJI ***21*** *09:16:43.2, 36°.66N×142°.22E, h10km, mB5.9/55, mb5.4/68, Ms6.2/82, Ms7 6.0/74*
NEIC ***21*** *09:16:44.7±0.1, 36°.54N×142°.32E, h13km, mb5.6/225, ME5.8, MS5.7/151, MW5.9, MW5.8, MW5.9(NIED), Error ellipse: s-maj=4.2km s-min=2.8km az=148.0 Broadband fault plane solution: P waves. NP1:ϕs340.00000°, δ60.00000°, λ-90.00000°. NP2:ϕs160.00000°, δ30.00000°, λ-90.00000°. Principal axes: T Plg15.0000°, Azm70.0000°; N Plg0.0000°, Azm0.0000°; P Plg75.0000°, Azm250.0000°; Moment Tensor Solution. s132 Moment tensor: Scale 10^17 Nm; Mrr-1.69; Mθθ-3.45; Mϕϕ5.14; Mrθ1.74; Mrϕ1.37; Mθϕ-4.56; Best double couple: M0:6.80000×10^17 NP1:ϕs232.00000°, δ39.00000°, λ-14.00000°. NP2:ϕs334.00000°, δ81.00000°, λ-128.00000°. Principal axes: T 7.4400, Plg26.0000°, Azm92.0000°; N -1.5400, Plg37.0000°, Azm340.0000°; P -5.9000, Plg41.0000°, Azm208.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Koriyama, Tokyo and Tsukuba. Recorded [3 JMA] in Fukushima; [2 JMA] in Chiba, Ibaraki, Iwate, Miyagi, Saitama, Tochigi and Yamagata; [1 JMA] in Akita, Aomori, Gumma, Niigata and Tokyo.
MOS ***21*** *09:16:46.0±0.9, 36°.65N×142°.39E, h33km, mb5.8/129, MS5.8/73 Error ellipse: s-maj=7.6km s-min=5.5km az=99.8*
SZGRF ***21*** *09:16:46.0, 37°.03N×142°.46E, h33km, mb5.7, MS6.1, Off east coast of Honshu, Japan*
DJA ***21*** *09:16:48, 36°.72N×142°.74E, h37km, Mw6.0/33*
GCMT ***21*** *09:16:49.0±0.1, 36°.63N×142°.41E, h12km, MW5.9, Moment Tensor Solution. s90, c183; s76, c98; Moment tensor: Scale 10^17Nm; Mrr-6.05±.04; Mθθ-0.83±.05; Mϕϕ6.88±.04; Mrθ2.05±.13; Mrϕ2.08±.04; Mθϕ-3.43±.12; Best double couple: M0:7.90000×10^17 NP1:ϕs217.00000°, δ38.00000°, λ-53.00000°. NP2:ϕs352.00000°, δ61.00000°, λ-116.00000°. Principal axes: T 8.0100, Plg12.0000°, Azm100.0000°; N -0.2000, Plg22.0000°, Azm6.0000°; P -7.8100, Plg65.0000°, Azm217.0000°; Data Used: II IU IC G. Surface waves: sta=107, comp=259, per= 50.*
NIED ***21*** *09:17:00, 36°.60N×142°.50E, h5km, Mw5.9 Best double couple: M0:7.68000×10^17 NP1:ϕs349.00000°, δ61.00000°, λ-114.00000°. NP2:ϕs212.00000°, δ37.00000°, λ-54.00000°.*

ISC 21 09:16:43.9±0.7, 36°.61N±0°.02×142°.34E±0°.02, h4km±4km, h6km±1.4km: pP-P, n1166, σ1§10/1102, mb5.5/385, MS5.8/235, 81C-46D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.33	292	P		Pn	09 17 07.3 -2.0
ONAJ				eS		Sg	09 17 27.2 +0.4
JFK	Kawauchi	1.40	303	P		Pn	09 17 08.2 -2.0
JFK				eS		Sb	09 17 28.5 -0.3
JHO	Hitachi	1.43	271	P		Pn	09 17 08.4 -2.2
JHO				eS		Sb	09 17 29.2 -0.4
CHOJ	Chosi	1.50	234	⇓P		Pn	09 17 10.3 -1.3
JMM	Marumori	1.76	316	P		Pn	09 17 13.3 -2.0
JMM				eS		Sn	09 17 38.5 +0.3
JFT	Otama	1.84	300	⇑P		Pn	09 17 15.7 -0.7
JFT				eS		Sn	09 17 40.6 +0.5
JIO	Ouri	2.01	337	P		Pn	09 17 17.5 -1.1
JIO				eS		Sn	09 17 44.7 +0.5
JOU	Okura	2.21	323	P		Pn	09 17 21.7 +0.4
BSO1	Boso 1	2.24	210	P		Pn	09 17 20.4 -1.4
JFY	Yanaizu	2.26	292	⇑P		Pn	09 17 21.8 -0.2
JAG	Ashikaga	2.33	266	⇑P		Pn	09 17 22.4 -0.7
JAG				eS		Sn	09 17 53.2 +1.0
JYS	Shirataka	2.43	312	⇑P		Pn	09 17 24.1 -0.3
JKT	Katashina	2.49	275	P		Pn	09 17 25.2 -0.1
JMK	Ichinoseki	2.51	340	⇑P		Pn	09 17 24.8 -0.7
OFUJ	Ofunato	2.53	348	P		Pn	09 17 24.4 -1.4
JNS	Sasagawa	2.70	298	P		Pn	09 17 28.2 +0.1
JYK	Kaneyama	2.79	326	P		Pn	09 17 29.0 -0.4
JRY	Ryogami san	2.84	259	P		Pn	09 17 29.0 -1.0
JRY				eS		Sn	09 18 05.6 +0.9
JOD2	Odawara 2	2.96	244	P		Pn	09 17 31.2 -0.5
JGK	Kuni	2.98	270	P		Pn	09 17 33.1 +1.1
JOM	Ohasama	2.98	344	P		Pn	09 17 31.2 -0.8
MIYJ	Miyakonagasawa	3.00	352	P		Pn	09 17 31.1 -1.1
JAW	Awa shima	3.08	308	P		Pn	09 17 35.4 +2.1
JRG	Rokugo	3.10	335	⇑P		Pn	09 17 33.5 -0.1
JYN	Shimob	3.27	251	P		Pn	09 17 36.2 +0.2
MJAR	Matsushiro Arr	3.33	270	Pn		Pn	09 17 37.4 +0.6
	92nm,0.3s,baz=99,slow=6.6,SNR=357						
MJAR				Sn		Sn	09 18 22.4 +5.7
	46nm,0.3s,baz=84,slow=12,SNR=7.2						
MJAR				LR		LR	09 19 15.6
	comp=Z,210μm,18.2s,baz=100,slow=45						
MJAR	Matsushiro Arr	3.33	270	Pn		Pn	09 17 37.4 +0.6
MJAR				Sn		Sn	09 18 22.4 +5.7
MJAR	Matsushiro Arr	3.33	270	P		Pn	09 17 37.4 +0.7
MJAR							09 18 22.4
MJAR				pmax	pmax		
	comp=Z,92nm,0.3s						
MJAR				smax			
	comp=N,46nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,210μm,18.2s						
MAJO	Matsushiro	3.33	270	ePn		Pn	09 17 37.8 +1.1
MAJO				eSn		Sn	09 18 15.4 -1.3
MAJO	Matsushiro	3.33	270	eP		Pn	09 17 37.8 +1.0
MAJO				e			09 18 15.4
MAT	Matsushiro	3.33	270	P		Pn	09 17 36.8 0.0
MAT				S		Sn	09 18 16.1 -0.7
MAT	Matsushiro	3.33	270	P		Pn	09 17 37.6 +0.8
JNG	Nsakai	3.42	268	P		Pn	09 17 39.0 +0.9
ERM	Erimo	5.44	6	ePn		Pn	09 18 04.7 -1.0
ERM				eSn		Sn	09 19 10.2 +1.5
ERM	Erimo	5.44	6	⇑eP		Pn	09 18 04.8 -1.0
ERM				pmax	pmax		
	comp=Z,786nm,1.2s						
ASAJ	Asahikawa	7.50	1	Pn		Pn	09 18 32.8 -1.4
	comp=Z,32nm,0.3s,baz=219,slow=12,SNR=149						
ASAJ				Sn		Sn	09 19 58.9 -0.7
	comp=Z,9.4nm,0.3s,baz=278,slow=8.0,SNR=4.2						
ASAJ				LR		LR	09 22 33.5
	comp=Z,83μm,18.2s,baz=198,slow=46						
ASAJ	Asahikawa	7.50	1	ePn		Pn	09 18 33.4 -0.7
ASAJ				eSn		Sn	09 20 02.8 +3.2
ASAJ	Asahikawa	7.50	1	P		Pn	09 18 32.8 -1.3
ASAJ							09 19 58.9
ASAJ				pmax	pmax		
	comp=Z,32nm,0.3s						
ASAJ				smax			
	comp=N,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,83μm,18.2s						
YUK	Yuzh-Kuril'sk	7.89	19	i P		Pn	09 18 36.5 -2.9
YUK				i S		Sn	09 20 01.4 -7.7
YUK				pmax	pmax		
	comp=E,323nm,0.6s						
YUK				pmax	pmax		
	comp=N,470nm,0.7s						
YUK				pmax	pmax		
	comp=Z,1μm,0.7s						
YUK				smax			
	comp=N,16μm,2.0s						
YUK				smax			
	comp=E,14μm,2.0s						
YUK				MLR	MLR		
	comp=N,35μm,13.0s						
YUK				MLR	MLR		
	comp=E,23μm,13.0s						
YUK				MLR	MLR		

KSRS	**Korea Array**	**11.56 279**	P	**Pn**	**09 19 31.4 +1.7**
KSRS			pmax	pmax	
	comp=Z,1.0nm,0.3s				
KSRS			MLR	MLR	
	comp=Z,32μm,20.7s				
KSAR	**Wonju Array Be**	**11.59 278**	Pn	**Pn**	**09 19 31.4 +1.3**
KSAR	**Wonju Array Be**	**11.59 278**	P	**Pn**	**09 19 31.4 +1.3**
UGL	**Uglegorsk**	**12.47 359**	*e*P	**Pn**	**09 19 44.5 +2.4**
UGL			*e*		09 22 06.0
UGL			pmax	pmax	
	comp=Z,46nm,0.7s				
UGL			MLR	MLR	
	comp=N,35μm,18.0s				
UGL			MLR	MLR	
	comp=E,118μm,18.0s				
MDJ	**Mudanjiang**	**12.55 314**	P	**Pn**	**09 19 42.9 -0.4**
MDJ			S	**Sn**	**09 22 03.3 -0.2**
MDJ			PcP	PcP	09 25 22.0 -0.3
MDJ			ScP	ScP	09 28 53.0 -3.0
MDJ			PcS	PcS	09 28 55.5 -0.8
MDJ			ScS	ScS	09 32 31.4 -0.7
MDJ			pmax	pmax	
	comp=Z,4μm,11.3s				
MDJ			LR	LR	
	comp=N,61μm,19.5s				
MDJ			LR	LR	
	comp=E,25μm,14.6s				
MDJ			LR	LR	
	comp=Z,44μm,18.3s				
MDJ	**Mudanjiang**	**12.55 314**	*e*Pn	**Pn**	**09 19 45.0 +1.8**
	comp=Z,199nm,1.1s				
INCN	**Inchon**	**12.59 279**	*e*Pn	**Pn**	**09 19 46.6 +2.9**
HABR	**Khabarovsk**	**13.01 338**	*de*P	**Pn**	**09 19 52.5 +3.0**
HABR			*e*		09 22 15.7
HABR			pmax	pmax	
	comp=Z,78nm,1.8s				
HABR			pmax	pmax	
	comp=N,73nm,1.8s				
HABR			pmax	pmax	
	comp=E,68nm,1.8s				
HABR			MLR	MLR	
	comp=E,44μm,12.0s				
HABR			MLR	MLR	
	comp=N,18μm,13.0s				
HABR			MLR	MLR	
	comp=Z,44μm,16.0s				
CN2	**Changchun**	**14.76 304**	*e*P	**Pn**	**09 20 11.9 -1.5**
CN2			*e*pP	pP	09 20 19.5 -1.2
CN2			*e*sP	sP	09 20 24.1 +2.9
CN2			*e*S	**Sn**	**09 22 54.6 -2.8**
CN2			pmax	pmax	
	comp=Z,60nm,0.9s				
CN2			LR	LR	
	comp=N,34μm,12.0s				
CN2			LR	LR	
	comp=E,65μm,12.0s				
CN2			LR	LR	
	comp=Z,26μm,15.0s				
KLR	**Kul'dur**	**14.79 332**	*e*P	**Pn**	**09 20 06.0 -7.8**
KLR			*e*		09 22 52.0
KLR			pmax	pmax	
	comp=N,2μm,12.0s				
KLR			pmax	pmax	
	comp=Z,3μm,12.0s				
JOW	**Kunigami**	**15.42 235**	Pn	**Pn**	**09 20 21.5 -0.8**
	comp=Z,1.0nm,0.3s,baz=71,slow=11,SNR=9.5				
JOW	**Kunigami**	**15.42 235**	*e*P	**Pn**	**09 20 19.9 -2.3**
	comp=Z,294nm,1.7s				
SNY	**Shenyang**	**15.44 295**	⇑P	**Pn**	**09 20 25.3 +2.8**
SNY			S	**Sn**	**09 23 15.0 +1.0**
SNY			pmax	pmax	
	comp=Z,43nm,1.3s				
SNY			pmax	pmax	
	comp=Z,4μm,12.0s				
SNY			LR	LR	
	comp=N,84μm,13.2s				
SNY			LR	LR	
	comp=Z,62μm,12.6s				
DL2	**Dalian**	**16.54 284**	P	**Pn**	**09 20 40.3 +3.6**
DL2			pmax	pmax	
	comp=Z,60nm,1.5s				
DL2			LR	LR	
	comp=N,15μm,11.7s				
DL2			LR	LR	
	comp=E,17μm,11.7s				
DL2			LR	LR	
	comp=Z,20μm,11.2s				
OKH	**Okha**	**16.95 1**	*e*P	**Pn**	**09 20 44.0 +2.2**
OKH			*e*S	**Sn**	**09 23 54.0 +3.6**
OKH			pmax	pmax	
	comp=Z,5μm,4.0s				
OKH			smax		
	comp=E,46μm,8.0s				
OKH			smax		
	comp=N,48μm,11.0s				
OKH			smax		
	comp=Z,55μm,15.0s				
SKR	**Severo-Kuril's**	**17.20 31**	*e*P	**Pn**	**09 20 44.0 -1.0**
SKR			pmax	pmax	
	comp=Z,400nm,1.5s				
SKR			pmax	pmax	
	comp=N,220nm,1.0s				
SKR			pmax	pmax	
	comp=E,220nm,1.0s				
SKR			pmax	pmax	
	comp=Z,6μm,18.0s				
SKR			pmax	pmax	
	comp=N,6μm,14.0s				
SKR			pmax	pmax	
	comp=E,6μm,14.0s				
SKR			MLR	MLR	
	comp=N,14μm,16.0s				
SKR			MLR	MLR	
	comp=E,34μm,16.0s				
SKR			MLR	MLR	
	comp=Z,42μm,16.0s				
SSE	**Sheshan**	**18.40 259**	⇓P	**Pn**	**09 20 57.6 -2.3**
SSE			S	**Sn**	**09 24 22.8 -3.0**
SSE			sS	sS	09 24 33.5 +1.1
SSE			pmax	pmax	
	comp=Z,33nm,0.7s				
SSE			pmax	pmax	
	comp=Z,210nm,3.9s				
SSE			LR	LR	
	comp=N,48μm,15.4s				
SSE			LR	LR	
	comp=E,15μm,15.3s				
SSE			LR	LR	
	comp=Z,32μm,12.4s				
PEA0B	**Petropavlovsk-**	**19.70 28**	*e*P	**Pn**	**09 21 15.4 0.0**
PETK	**Petropavlovsk-**	**19.70 28**	P	**Pn**	**09 21 14.2 -1.2**
	comp=Z,0.7nm,0.3s,baz=199,slow=10.0,SNR=19				
PETK			LR	LR	09 28 30.0
	comp=Z,11μm,18.5s,baz=214,slow=36				
PETK	**Petropavlovsk-**	**19.70 28**	P	**Pn**	**09 21 14.2 -1.2**
PETK	**Petropavlovsk-**	**19.70 28**	P	**Pn**	**09 21 14.3 -1.1**
PETK			pmax	pmax	
	comp=Z,1.0nm,0.3s				
PETK			MLR	MLR	
	comp=Z,11μm,18.5s				
NJ2	**Nanjing**	**19.91 264**	*e*P	**Pn**	**09 21 14.8 -3.3**
NJ2			pP	pP	09 21 19.5 +1.9
NJ2			sP	sP	09 21 22.3 +4.2
NJ2			PP		09 21 31.8
NJ2			S	**Sn**	**09 24 53.0 -9.3**
NJ2			sS	sS	09 25 05.5 +2.7
NJ2			pmax	pmax	
	comp=Z,30nm,0.7s				
NJ2			pmax	pmax	
	comp=Z,2μm,11.4s				
NJ2			LR	LR	
	comp=N,27μm,17.6s				
NJ2			LR	LR	
	comp=E,30μm,13.8s				
NJ2			LR	LR	
	comp=Z,32μm,14.0s				
PET	**Petropavlovsk**	**20.00 30**	*e*P	**P**	**09 21 16.5 -0.9**
	comp=Z,164nm,1.1s				
PET			LR	LR	
	comp=Z,16μm,19.0s,MS5.4				
PET	**Petropavlovsk**	**20.00 30**	*ce*P	**P**	**09 21 16.7 -0.7**
PET			*e*S	**S**	**09 24 53.7 -9.0**
PET			pmax	pmax	
	comp=Z,8μm,6.3s				
PET			pmax	pmax	
	comp=Z,6μm,10.8s				
PET			pmax	pmax	
	comp=Z,158nm,1.3s				
PET			MLR	MLR	
	comp=Z,15μm,16.0s,MS5.4				
PET			MLR	MLR	
	comp=Z,16μm,15.0s				
TIA	**Tai'an**	**20.29 276**	⇑P	**P**	**09 21 19.3 -1.3**
TIA			S	**S**	**09 25 24.9 +16**
TIA			pmax	pmax	
	comp=Z,40nm,1.1s				
TIA			pmax	pmax	
	comp=Z,4μm,14.7s				
TIA			LR	LR	
	comp=N,38μm,13.7s				
TIA			LR	LR	
	comp=E,18μm,20.6s				
TIA			LR	LR	
	comp=Z,24μm,17.6s,MS5.6				
TIA	**Tai'an**	**20.29 276**	P	**P**	**09 21 19.6 -1.0**
TIA			pmax	pmax	
	comp=Z,50nm,1.0s				
TIA			LR	LR	
	comp=N,38μm,13.7s				
TIA			LR	LR	
	comp=E,18μm,20.6s				
TIA			LR	LR	
	comp=Z,24μm,17.6s,MS5.6				
HIA	**Hailar**	**20.73 315**	*e*P	**P**	**09 21 23.4 -1.9**
	comp=Z,122nm,1.1s				
HIA			LR	LR	
	comp=Z,29μm,21.0s,MS5.6				
HIA	**Hailar**	**20.73 315**	*e*P	**P**	**09 21 23.4 -1.9**
HIA			pmax	pmax	
	comp=Z,122nm,1.1s				
HIA			MLR	MLR	
	comp=Z,29μm,21.0s				
BJI	**Beijing**	**20.79 287**	P	**P**	**09 21 23.8 -2.2**
BJI			S	**S**	**09 25 15.3 -3.2**
BJI			pmax	pmax	
	comp=Z,69nm,1.6s				
BJI			LR	LR	
	comp=N,7μm,13.7s,MS6.0				
BJI			LR	LR	
	comp=E,37μm,12.0s,MS6.0				
BJI			LR	LR	
	comp=Z,11μm,23.1s				
BJT	**Baijiatuau**	**20.79 287**	*e*P	**P**	**09 21 25.0 -1.1**
	comp=Z,160nm,1.0s				
BJT			LR	LR	
	comp=Z,16μm,19.0s,MS5.4				
BJT	**Baijiatuau**	**20.79 287**	*e*P	**P**	**09 21 25.0 -1.1**
BJT			pmax	pmax	
	comp=Z,160nm,1.0s				
BJT			MLR	MLR	
	comp=Z,16μm,19.0s				
YHNB	**Yeheng**	**21.56 242**	*e*P	**P**	**09 21 31.8 -2.6**
	comp=Z,96nm,1.0s,mb5.2				
NACB	**Ninganchiao**	**21.71 241**	*e*P	**P**	**09 21 33.5 -2.5**
	comp=Z,163nm,1.4s,mb5.3				
SSLB	**Suanglung**	**22.41 241**	*e*P	**P**	**09 21 40.8 -2.7**
	comp=Z,96nm,0.9s,mb5.2				
YULB	**Yu-li**	**22.42 240**	*e*P	**P**	**09 21 42.5 -1.2**
	comp=Z,64nm,1.0s,mb5.0				
TPUB	**Ta-pu**	**22.95 241**	*e*P	**P**	**09 21 45.8 -3.5**
	comp=Z,134nm,0.8s,mb5.4				
TWG	**Pinlang**	**22.95 239**	*e*P	**P**	**09 21 49.5 +0.2**
	comp=Z,589nm,1.9s,mb5.7				
GUMO	**Guam**	**23.03 174**	P	**P**	**09 21 49.2 -1.0**
	comp=Z,163nm,1.0s,mb5.4,baz=15,slow=20,SNR=3.2				
GUMO			LR	LR	09 28 35.1
	comp=Z,16μm,19.6s,MS5.5,baz=173,slow=31				
GUMO	**Guam**	**23.03 174**	*e*P	**P**	**09 21 50.2 +0.1**
	comp=Z,1μm,1.4s,mb6.2				
GUMO	**Guam**	**23.03 174**	P	**P**	**09 21 49.2 -0.9**
GUMO			pmax	pmax	
	comp=Z,163nm,1.0s,mb5.4				
GUMO	**Guam**	**23.03 174**	P	**P**	**09 21 59.6 +9.5**
CLNS	**Chul'man**	**23.38 335**	*e*P	**P**	**09 21 52.1 -1.4**
CLNS			*e**PP		09 21 58.7
CLNS			*e*PPP		09 22 27.9
CLNS			*e*		09 25 38.7
CLNS			*e*S	**S**	**09 26 03.5 -3.1**
CLNS			*e*SS		09 26 46.2
CLNS			*e*		09 32 59.2
CLNS			pmax	pmax	
	comp=N,90nm,0.9s				
CLNS			pmax	pmax	
	comp=Z,127nm,1.0s,mb5.3				
CLNS			pmax	pmax	
	comp=E,57nm,0.9s				
CLNS			smax		
	comp=N,8μm,13.0s				
CLNS			smax		
	comp=E,6μm,14.7s				
CLNS			MLR	MLR	
	comp=E,22μm,11.0s,MS5.9				
CLNS			MLR	MLR	
	comp=Z,24μm,16.0s,MS5.7				
CLNS			MLR	MLR	
	comp=N,19μm,15.0s,MS5.9				
QZH	**Quanzhou**	**23.42 247**	⇑P	**P**	**09 21 50.0 -4.2**
QZH			S	**S**	**09 25 55.3 -13**
QZH			pmax	pmax	
	comp=Z,270nm,1.0s,mb5.6				
QZH			pmax	pmax	
	comp=Z,2μm,4.7s				
QZH			LR	LR	
	comp=N,22μm,11.4s,MS6.0				
QZH			LR	LR	
	comp=E,26μm,12.8s,MS6.0				
QZH			LR	LR	
	comp=Z,46μm,13.6s,MS6.1				
TIY	**Taiyuan**	**23.82 282**	*e*P	**P**	**09 21 57.9 -0.1**
TIY			S	**S**	**09 26 06.3 -7.9**
TIY			sS	sS	09 26 20.8 +4.7
TIY			pmax	pmax	
	comp=Z,3μm,5.6s				
TIY			LR	LR	
	comp=N,19μm,12.9s,MS6.0				
TIY			LR	LR	
	comp=E,28μm,13.5s,MS6.0				
TIY			LR	LR	
	comp=Z,34μm,13.5s,MS6.0				
WHN	**Wuhan**	**24.05 264**	P	**P**	**09 21 59.4 -0.7**
WHN			pP		09 22 03.4
WHN			S	**S**	**09 26 16.1 -1.9**
WHN			LR	LR	
	comp=N,59μm,13.4s,MS6.3				
WHN			LR	LR	
	comp=E,56μm,14.9s,MS6.3				
WHN			LR	LR	
	comp=Z,68μm,16.0s,MS6.2				
HHC	**Hu-ho-hao-te**	**24.32 289**	*e*P	**P**	**09 22 00.9 -1.6**
HHC			pP		09 22 05.3
HHC			sP	sP	09 22 08.1 +4.0
HHC			PP		09 22 35.8
HHC			PcP	PcP	09 25 42.9 +0.7
HHC			S	**S**	**09 26 16.1 -6.1**
HHC			sS	sS	09 26 22.1 -2.0
HHC			SS		09 27 08.8
HHC			ScP	ScP	09 29 19.3 -2.3
HHC			pmax	pmax	
	comp=Z,2μm,5.2s				
HHC			LR	LR	
	comp=N,14μm,11.6s,MS6.0				
HHC			LR	LR	
	comp=E,27μm,12.0s,MS6.0				
HHC			LR	LR	
	comp=Z,32μm,12.2s,MS6.0				
BTO	**Baotou**	**25.49 289**	*e*P	**P**	**09 22 10.8 -2.4**
BTO			S	**S**	**09 26 39.1 -1.9**
BTO			LR	LR	
	comp=N,7μm,13.1s,MS5.6				
BTO			LR	LR	
	comp=E,10μm,11.8s,MS5.6				
CIT	**Chita**	**25.50 316**	*e*P	**P**	**09 22 13.8 +0.6**
CIT			*e*		09 22 25.9
CIT			*e*		09 22 51.8
CIT			*e*		09 26 43.5
CIT			*e*		09 33 08.1
CIT			pmax	pmax	
	comp=Z,1μm,1.6s,mb6.2				
PIP	**Pasuquin**	**26.41 232**	⇑*e*P	**P**	**09 22 23.2 +1.5**
YAK	**Yakutsk**	**26.65 347**	*e*P	**P**	**09 22 22.6 -0.9**
	comp=Z,401nm,0.7s,mb6.1				
YAK	**Yakutsk**	**26.65 347**	*e*P	**P**	**09 22 22.9 -0.6**
YAK			*e**PP	pP	09 22 35.7 +11
YAK			*e*		09 23 05.0
YAK			*e*		09 25 48.1
YAK			*e*S	**S**	**09 26 54.6 -4.3**
YAK			*e*SS		09 28 01.0
YAK			pmax	pmax	
	comp=Z,331nm,0.9s,mb5.9				
YAK			pmax	pmax	
	comp=N,166nm,1.2s				
YAK			pmax	pmax	
	comp=E,61nm,1.3s				
YAK			pmax	pmax	
	comp=Z,489nm,1.8s,mb5.7				
YAK			pmax	pmax	
	comp=N,943nm,2.0s				
YAK			pmax	pmax	
	comp=E,103nm,1.5s				
YAK			smax		
	comp=E,3μm,4.3s				
YAK			smax		
	comp=N,966nm,3.2s				
CAUP	**Cauayan**	**26.71 228**	*e*P	**P**	**09 22 28.7 +4.3**
FX1	**Attu Island--F**	**27.00 43**	LR	LR	09 31 43.7
	comp=N,6μm,18.6s,MS5.2,baz=255,slow=33				
SEY	**Seymchan**	**27.07 10**	⇑*e*P	**P**	**09 22 28.1 +0.8**
XAN	**Xi'an**	**27.31 275**	P	**P**	**09 22 29.6 -0.1**
XAN			sP	sP	09 22 36.3 +4.9
XAN			PP		09 23 15.0
XAN			PcP	PcP	09 25 49.6 +0.4
XAN			S	**S**	**09 27 05.4 -4.5**
XAN			SS		09 28 20.0
XAN			ScP	ScP	09 29 30.8 +0.4
XAN			pmax	pmax	
	comp=Z,26nm,1.5s,mb4.5				
XAN			pmax	pmax	
	comp=Z,880nm,7.5s				
XAN			LR	LR	
	comp=N,13μm,18.1s,MS5.5				
XAN			LR	LR	
	comp=E,5μm,18.9s,MS5.5				
XAN			LR	LR	
	comp=Z,6μm,13.6s				
ENH	**Enshi**	**28.05 267**	*e*P	**P**	**09 22 35.5 -0.8**
	comp=Z,647nm,1.1s,mb6.2				
ENH			LR	LR	
	comp=Z,26μm,19.0s,MS5.8				
PVCP	**Virac**	**28.11 220**	*e*P	**P**	**09 22 36.3 -0.7**
ULN	**Ulaanbaatar**	**28.21 305**	*e*P	**P**	**09 22 37.7 +0.1**
	comp=Z,235nm,1.3s,mb5.7				
ULN	**Ulaanbaatar**	**28.21 305**	*e*P	**P**	**09 22 37.7 +0.1**
ULN			pmax	pmax	
	comp=Z,235nm,1.3s,mb5.7				
ULN	**Ulaanbaatar**	**28.21 305**	P	**P**	**09 22 38.9 +1.3**
	comp=Z,3μmcomp=Z,147nm,1.2s,mb5.5				
ULN	**Ulaanbaatar**	**28.21 305**	P	**P**	**09 22 38.7 +1.1**
	SNR=40				
HKC	**Hong Kong Obse**	**28.24 247**	⇑*i*P	**P**	**09 22 44.0 +5.9**
BOD	**Bodaibo**	**28.29 328**	*e*P	**P**	**09 22 37.9 -0.3**
BOD			pmax	pmax	
	comp=Z,141nm,1.1s,mb5.5				
BOLP	**Bolinao**	**28.31 231**	*e*P	**P**	**09 22 37.4 -1.3**
GZH	**Guangzhou**	**28.41 250**	P	**P**	**09 22 35.1 -4.5**
GZH			S	**S**	**09 27 17.5 -10**
GZH			LR	LR	
	comp=N,26μm,16.5s,MS6.0				
GZH			LR	LR	
	comp=E,26μm,18.6s,MS6.0				
GZH			LR	LR	
	comp=Z,35μm,17.1s,MS6.0				
SONM	**Songino Array**	**28.64 304**	P	**P**	**09 22 42.3 +0.8**
	comp=Z,53nm,0.7s,mb5.4,baz=104,slow=8.8,SNR=181				
SONM			LR	LR	09 35 01.8
	comp=Z,14μm,18.2s,MS5.6,baz=98,slow=38				
SONM	**Songino Array**	**28.64 304**	P	**P**	**09 22 42.3 +0.8**
SONM	**Songino Array**	**28.64 304**	P	**P**	**09 22 42.3 +0.8**
SONM			pmax	pmax	
	comp=Z,53nm,0.7s				
SONM			MLR	MLR	
	comp=Z,14μm,18.2s				
TGY	**Tagaytay City**	**29.47 226**	P	**P**	**09 22 49.1 0.0**
	comp=Z,150nm,0.3s,mb6.1,baz=145,slow=11,SNR=3.8				
TGY	**Tagaytay City**	**29.47 226**	P	**P**	**09 22 49.1 0.0**
TGY	**Tagaytay City**	**29.47 226**	P	**P**	**09 22 49.1 +0.1**
BOAC	**Boac**	**29.47 224**	*e*P	**P**	**09 22 50.0 +0.9**
MSLP	**Maasin**	**30.74 215**	*e*P	**P**	**09 22 59.9 -0.4**
LZH	**Lanzhou**	**30.88 281**	*e*P	**P**	**09 23 01.8 +0.4**
LZH			pP	pP	09 23 05.3 +2.8
LZH			sP	sP	09 23 08.4 +5.4
LZH			PP	PP	09 24 03.3 -7.6
LZH			PcP	PcP	09 26 00.5 +2.4
LZH			*e*S	**S**	**09 28 01.5 -4.4**
LZH			sS	sS	09 28 10.0 +2.2
LZH			SS	SS	09 29 44.3 -33
LZH			pmax	pmax	
	comp=Z,150nm,1.0s,mb5.8				
LZH			pmax	pmax	
	comp=Z,2μm,5.7s				
LZH			LR	LR	
	comp=N,11μm,11.4s,MS6.2				
LZH			LR	LR	
	comp=E,29μm,14.1s,MS6.2				
LZH			LR	LR	
	comp=Z,34μm,15.7s,MS6.1				
IRK	**Irkutsk**	**30.94 312**	⇑*i*P	**P**	**09 23 02.6 +0.9**
IRK			*e*S	**S**	**09 28 12.4 +5.9**
IRK			pmax	pmax	
	comp=Z,186nm,2.2s,mb5.5				
ZAK	**Zakamensk**	**31.12 309**	⇓*i*P	**P**	**09 23 03.6 +0.3**
ZAK			pmax	pmax	
	comp=Z,65nm,1.3s,mb5.3				
TLY	**Talaya**	**31.17 311**	*e*P	**P**	**09 23 05.0 +1.1**
	comp=Z,119nm,1.3s,mb5.6				
TLY			LR	LR	
	comp=Z,19μm,20.0s,MS5.8				
TLY	**Talaya**	**31.17 311**	*e*P	**P**	**09 23 03.5 -0.3**
TLY			*e*S	**S**	**09 28 06.5 -3.7**
TLY			*e*SS	SS	09 29 48.5 -35
TLY			*e*SSS		09 30 09.4
TLY			pmax	pmax	
	comp=Z,76nm,1.1s,mb5.4				
TLY			MLR	MLR	
	comp=Z,12μm,15.0s,MS5.7				
TLY	**Talaya**	**31.17 311**	P	**P**	**09 23 04.6 +0.7**
	SNR=19				
TLY	**Talaya**	**31.17 311**	P	**P**	**09 23 04.0 +0.2**
	comp=Z,362nm,1.6s,mb6.0,SNR=12				
BUSP	**Coron**	**31.58 225**	*e*P	**P**	**09 23 07.2 -0.5**
GYA	**Guiyang**	**31.89 262**	P	**P**	**09 23 09.3 -1.1**
GYA			PP	PP	09 24 12.8 -9.5
GYA			PcP	PcP	09 26 03.1 +2.1
GYA			S	**S**	**09 28 16.5 -5.4**
GYA			ScP	ScP	09 29 45.0 -0.2
GYA			pmax	pmax	
	comp=Z,200nm,1.2s,mb5.8				
GYA			pmax	pmax	
	comp=Z,500nm,5.4s				
GYA			LR	LR	
	comp=N,29μm,17.4s,MS6.1				
GYA			LR	LR	
	comp=E,21μm,18.3s,MS6.1				
GYA			LR	LR	
	comp=Z,26μm,23.6s				
CD2	**Chengdu**	**32.42 271**	⇑*i*P	**P**	**09 23 14.8 -0.2**
CD2			pP	pP	09 23 19.3 +3.1
CD2			sP	sP	09 23 21.8 +5.1
CD2			PP	PP	09 24 26.9 -1.3
CD2			PcP	PcP	09 26 03.6 +1.2
CD2			S	**S**	**09 28 26.3 -3.9**
CD2			sS	sS	09 28 33.5 +1.4
CD2			PcS	PcS	09 29 47.1 -0.4
CD2			SS	SS	09 30 20.0 -29
CD2			ScS	ScS	09 33 42.8 -3.4
CD2			pmax	pmax	
	comp=Z,180nm,1.2s,mb5.8				
CD2			pmax	pmax	
	comp=Z,510nm,9.6s				
CD2			LR	LR	
	comp=N,34μm,14.4s,MS6.3				
CD2			LR	LR	
	comp=E,26μm,13.2s,MS6.3				
CD2			LR	LR	
	comp=Z,25μm,10.8s,MS6.2				
ENPP	**El Nido**	**32.66 225**	*e*P	**P**	**09 23 15.9 -1.4**
MOY	**Mondy**	**32.78 311**	*e*P	**P**	**09 23 18.2 +0.2**
MOY			pmax	pmax	

comp=Z,133nm,3.1s
DAV Davao City (W) 33.14 212 P **P 09 23 20.8 -0.6**
comp=Z,136nm,0.4s,mb6.2,baz=216,slow=20,SNR=4.9
DAV LR LR 09 35 57.8
comp=Z,7μm,18.1s,MS5.4,baz=232,slow=35
DAV Davao City (W) 33.14 212 P **P 09 23 20.8 -0.6**
DAV Davao City (W) 33.14 212⇓ *eP* **P 09 23 24.0 +2.6**
DAV Davao City (W) 33.14 212 P **P 09 23 25.8 +4.4**
SNR=7.1
GTA Gaotai 33.40 288 *eP* **P 09 23 23.8 +0.3**
GTA pP pP 09 23 32.9 +8.2
GTA sP sP 09 23 36.8 +12
GTA S **S 09 28 43.1 -2.1**
GTA pmax pmax
comp=Z,60nm,1.4s,mb5.3
GTA pmax pmax
comp=Z,2μm,5.5s
GTA LR LR
comp=N,22μm,16.9s,MS6.0
GTA LR LR
comp=E,11μm,18.5s,MS6.0
GTA LR LR
comp=Z,13μm,23.7s
QIZ Qiongzhong 33.44 247 P **P 09 23 26.6 +2.6**
QIZ S **S 09 28 45.1 -1.0**
QIZ pmax pmax
comp=Z,85nm,1.3s,mb5.5
QIZ pmax pmax
comp=Z,1μm,7.0s
QIZ LR LR
comp=N,16μm,18.2s,MS5.8
QIZ LR LR
comp=E,8μm,18.1s,MS5.8
QIZ LR LR
comp=Z,13μm,14.7s,MS5.8
QIZ Qiongzhong 33.44 247 *eP* **P 09 23 25.8 +1.8**
comp=Z,163nm,1.3s,mb5.8
QIZ LR LR
comp=Z,9μm,20.0s,MS5.5
CTBH Cotabato--PC H 33.59 214⇑ *eP* **P 09 23 25.0 -0.3**
BILL Bilibino 34.23 16 *eP* **P 09 23 29.6 -0.8**
comp=Z,58nm,0.9s,mb5.5
BILL LR LR
comp=Z,13μm,19.0s,MS5.7
BILL Bilibino 34.23 16⇑ *eP* **P 09 23 29.9 -0.5**
BILL *e* 09 24 43.1
BILL *e* 09 26 08.1
BILL *eS* **S 09 28 59.0 +1.6**
BILL pmax pmax
comp=Z,64nm,1.0s,mb5.5
BILL MLR MLR
comp=Z,10μm,15.0s,MS5.7
MIDW Midway 34.82 92 PFAKE 09 23 50.0 +14
MIDW LR LR
comp=Z,13μm,21.0s,MS5.6
KMI Kunming 35.64 263 P **P 09 23 43.0 0.0**
KMI pP pP 09 23 45.8 +1.6
KMI sP sP 09 23 46.8 +2.1
KMI PP PP 09 25 01.0 -2.8
KMI S **S 09 29 15.8 -4.2**
KMI SS SS 09 31 31.9 -23
KMI pmax pmax
comp=Z,87nm,1.2s,mb5.6
KMI pmax pmax
comp=Z,2μm,6.0s
KMI LR LR
comp=N,26μm,17.5s,MS6.1
KMI LR LR
comp=E,17μm,17.5s,MS6.1
KMI LR LR
comp=Z,22μm,14.8s,MS6.0
KDM Kudat 37.62 224 P **P 09 23 59.8 -0.2**
BAKI Biak 38.05 190 P **P 09 24 05.1 +1.5**
comp=Z,3μmcomp=Z,154nm,1.1s,mb5.7
BAKI Biak 38.05 190 P **P 09 24 03.8 +0.2**
comp=Z,3μmcomp=Z,154nm,1.1s,mb5.7
MYLDM Lahad Datu 38.16 221 P **P 09 24 05.4 +0.8**
MYLDM Lahad Datu 38.16 221 P **P 09 24 06.2 +1.7**
MYLDM Lahad Datu 38.16 221 P **P 09 24 06.6 +2.1**
comp=Z,6μmcomp=Z,266nm,1.3s,mb5.8
MYLDM Lahad Datu 38.16 221 P **P 09 24 06.2 +1.7**
comp=Z,6μmcomp=Z,266nm,1.3s,mb5.8
TNTI Ternate 38.26 205 P **P 09 24 05.8 +0.5**
comp=Z,6μmcomp=Z,285nm,1.9s,mb5.7
TNTI Ternate 38.26 205 P **P 09 24 12.6 +7.3**
SDKM Sandakan 38.47 223 P **P 09 24 07.2 0.0**
SMPI Sarmi 38.55 186 P **P 09 24 07.9 +0.2**
comp=Z,3μmcomp=Z,228nm,1.4s,mb5.7
SMPI Sarmi 38.55 186 P **P 09 24 08.5 +0.8**
comp=Z,3μmcomp=Z,228nm,1.4s,mb5.7
MNI Manado 38.55 209 P **P 09 24 09.9 +2.1**
comp=Z,6μmcomp=Z,234nm,1.2s,mb5.8
KKM Kota Kinabalu 38.69 224 P **P 09 24 08.9 -0.1**
KKM Kota Kinabalu 38.69 224 *eP* **P 09 24 10.2 +1.2**
comp=Z,319nm,1.4s,mb5.9
KKM LR LR
comp=Z,4μm,20.0s,MS5.2
KKM Kota Kinabalu 38.69 224 P **P 09 24 11.7 +2.7**
KKM Kota Kinabalu 38.69 224 P **P 09 24 09.8 +0.8**
comp=Z,5μmcomp=Z,155nm,1.4s,mb5.5
KKM Kota Kinabalu 38.69 224 P **P 09 24 11.7 +2.7**
comp=Z,5μmcomp=Z,260nm,1.3s,mb5.8
GAMB Gambell 38.70 31 *eP* **P 09 24 10.9 +2.4**
comp=Z,36nm,1.5s,mb4.9
JAY Jayapura 38.95 183 P **P 09 24 11.9 +0.8**
comp=Z,3μmcomp=Z,65nm,1.2s,mb5.2
JAY Jayapura 38.95 183 P **P 09 24 12.6 +1.5**
comp=Z,3μmcomp=Z,90nm,0.9s,mb5.5
TSM Tawau 39.24 221 P **P 09 24 14.5 +0.9**
UBT Ubonrachathani 39.39 247 P **P 09 24 17.0 +2.1**
LBMI Labuha 39.54 204 P **P 09 24 19.3 +3.2**
comp=Z,5μmcomp=Z,213nm,1.6s,mb5.6
KMSI Cibinong 39.68 210 P **P 09 24 20.5 +3.2**
comp=Z,9μmcomp=Z,736nm,1.4s,mb6.2
GTOI Gorontalo 40.02 211 P **P 09 24 19.5 -0.6**
GTOI Gorontalo 40.02 211 P **P 09 24 19.4 -0.7**
comp=Z,9μmcomp=Z,297nm,1.4s,mb5.8
GTOI Gorontalo 40.02 211 P **P 09 24 19.0 -1.1**
comp=Z,9μmcomp=Z,297nm,1.4s,mb5.8
FAKI Fak Fak 40.43 196 P **P 09 24 23.5 0.0**
comp=Z,3μmcomp=Z,92nm,1.2s,mb5.4
FAKI Fak Fak 40.43 196 P **P 09 24 24.3 +0.8**
comp=Z,3μmcomp=Z,92nm,1.2s,mb5.4
MRSI Marisa 40.62 212 P **P 09 24 25.1 +0.1**
comp=Z,1.4nmcomp=Z,7μmcomp=Z,356nm,1.3s,mb5.8
MRSI Marisa 40.62 212 P **P 09 24 24.5 -0.5**
comp=Z,7μmcomp=Z,356nm,1.3s,mb5.8
TNA Tin City 40.86 29 *eP* **P 09 24 26.5 0.0**
comp=Z,61nm,1.2s,mb5.1
LUWI Luwuk 41.64 210 P **P 09 24 36.3 +2.9**
comp=Z,0.6nmcomp=Z,3μmcomp=Z,117nm,1.1s,mb5.4
LUWI Luwuk 41.64 210 P **P 09 24 30.8 -2.6**
comp=Z,3μmcomp=Z,190nm,1.4s,mb5.5
MSAI Masohi 41.67 200 P **P 09 24 35.1 +1.4**
comp=Z,2μmcomp=Z,73nm,1.1s,mb5.2
WMQ Urumqi 41.70 297 P **P 09 24 34.6 +0.9**
WMQ pP pP 09 24 39.1 +4.2
WMQ sP sP 09 24 41.6 +6.3
WMQ PP PP 09 26 14.3 +4.5
WMQ S **S 09 30 50.3 -0.7**
WMQ ScS ScS 09 34 36.0 -1.8
WMQ pmax pmax
comp=Z,180nm,1.2s,mb5.6
WMQ pmax pmax
comp=Z,3μm,6.0s
WMQ LR LR
comp=N,42μm,17.2s,MS6.4
WMQ LR LR
comp=E,12μm,17.6s,MS6.4
WMQ LR LR
comp=Z,13μm,21.6s,MS5.8
CHG Chiang Mai 41.91 257 ⇑P **P 09 24 36.0 +0.3**
comp=Z,70nm,0.9s,mb5.3
CHTO Chiang Mai 41.91 257 *eP* **P 09 24 36.1 +0.3**
comp=Z,646nm,2.6s,mb5.8
CHTO LR LR
comp=Z,10μm,20.0s,MS5.7
CHTO Chiang Mai 41.91 257 *eP* **P 09 24 36.1 +0.4**
CHTO pmax pmax
comp=Z,646nm,2.6s,mb5.8
CHTO MLR MLR
comp=Z,10μm,20.0s,MS5.7
CHTO Chiang Mai 41.91 257 P **P 09 24 36.1 +0.4**
comp=Z,3μmcomp=Z,88nm,1.7s,mb5.1
CHTO Chiang Mai 41.91 257 P **P 09 24 36.3 +0.6**
SNR=24

NLAI Namlea 42.11 203 P **P 09 24 38.8 +1.5**
comp=Z,146nm,1.4s,mb5.4
NLAI Namlea 42.11 203 P **P 09 24 40.5 +3.2**
comp=Z,164nm,1.0s,mb5.6
CM31 Chiang Mai Arr 42.12 257 *eP* **P 09 24 38.4 +1.0**
comp=Z,11nm,0.5s,mb4.7
CM31 LR LR
comp=Z,7μm,20.0s,MS5.6
CMAR Chiang Mai Arr 42.12 257 P **P 09 24 37.4 0.0**
comp=Z,12nm,0.8s,mb4.6,baz=48,slow=7.0,SNR=32
CMAR LR LR 09 44 40.3
comp=Z,11μm,18.3s,MS5.8,baz=60,slow=40
CMAR Chiang Mai Arr 42.12 257 P **P 09 24 37.4 0.0**
CMAR Chiang Mai Arr 42.12 257 P **P 09 24 37.4 0.0**
CMAR pmax pmax
comp=Z,13nm,0.8s
CMAR MLR MLR
comp=Z,11μm,18.3s
AAI Ambon 42.20 201 P **P 09 24 38.4 +0.3**
comp=Z,6μmcomp=Z,306nm,1.3s,mb5.8
AAI Ambon 42.20 201 P **P 09 24 39.3 +1.2**
comp=Z,6μmcomp=Z,306nm,1.3s,mb5.8
SDPT Sand Point 42.57 45 *eP* **P 09 24 39.8 -0.9**
ZAA0 Zalesovo Array 42.75 313 *eP* **P 09 24 42.1 0.0**
ZALV Zalesovo Beam 42.75 313 P **P 09 24 42.2 +0.1**
comp=Z,59nm,0.9s,mb5.3,baz=95,slow=6.9,SNR=117
ZALV PcP PcP 09 26 33.9 +0.4
comp=Z,23nm,0.8s,baz=89,slow=4.0,SNR=3.3
ZALV LR LR 09 42 41.5
comp=Z,7μm,18.4s,MS5.6,baz=88,slow=36
ZALV Zalesovo Beam 42.75 313 P **P 09 24 42.2 +0.1**
ZALV PcP PcP 09 26 33.9 +0.4
ZALV Zalesovo Beam 42.75 313 P **P 09 24 42.2 +0.1**
ZALV 09 26 33.9
ZALV pmax pmax
comp=Z,59nm,0.9s,mb5.3
ZALV pmax pmax
comp=Z,23nm,0.8s,mb5.0
ZALV MLR MLR
comp=Z,7μm,18.4s,MS5.6
BDT Bhumibol Dam 42.76 255 P **P 09 24 42.5 -0.1**
comp=Z,33nm,1.0s,mb5.0
BTM Bintulu 42.79 226 P **P 09 24 43.5 +0.6**
NST Nakhon Sawan 42.82 252 P **P 09 24 39.0 -4.1**
comp=Z,83nm,1.2s,mb5.3
IMP Imphal 42.86 268 *ex* **P 09 24 46.0 +2.6**
IMP *ex* x 09 31 22.0
LSA Lhasa 42.99 276 P **P 09 24 46.5 +2.1**
LSA S **S 09 31 11.4 +0.9**
LSA pmax pmax
comp=Z,40nm,1.1s,mb5.1
LSA pmax pmax
comp=Z,2μm,8.0s
LSA LR LR
comp=N,4μm,16.0s,MS5.7
LSA LR LR
comp=E,7μm,13.0s,MS5.7
LSA LR LR
comp=Z,11μm,11.0s,MS6.0
LSA Lhasa 42.99 276 *eP* **P 09 24 46.1 +1.7**
comp=Z,122nm,1.0s,mb5.6
LSA LR LR
comp=Z,7μm,20.0s,MS5.6
LSA Lhasa 42.99 276 *eP* **P 09 24 46.1 +1.7**
LSA pmax pmax
comp=Z,122nm,1.0s,mb5.6
LSA MLR MLR
comp=Z,7μm,20.0s,MS5.6
SMKI Samarinda 43.62 218 P **P 09 24 53.3 +3.7**
comp=Z,6μmcomp=Z,195nm,1.4s,mb5.6
NVS Novosibirsk 43.67 314 *eP* **P 09 24 49.7 +0.1**
NVS *i S* **S 09 31 20.4 +0.6**
NVS pmax pmax
comp=Z,380nm,2.1s,mb5.8
NVS pmax pmax
comp=E,216nm,1.9s
NVS smax
comp=N,2μm,4.5s
SBUM Sibu 43.90 226 P **P 09 24 52.9 +1.1**
SBUM Sibu 43.90 226 P **P 09 24 52.5 +0.7**
comp=N,0.4nmcomp=N,3μmcomp=N,60nm,1.2s,mb5.2
SBUM Sibu 43.90 226 P **P 09 24 52.0 +0.2**
comp=N,3μmcomp=N,82nm,1.3s,mb5.3
SBUM Sibu 43.90 226 P **P 09 24 52.5 +0.7**
comp=N,3μmcomp=N,60nm,1.2s,mb5.2
SHL Shillong 44.15 270 *eP*KP **P 09 24 54.0 +0.2**
SHL *eS* **S 09 31 27.0 -0.5**
KDI Kendari 44.36 209 P **P 09 24 56.0 +0.5**
KDI Kendari 44.36 209 P **P 09 24 55.7 +0.2**
comp=N,3μmcomp=N,82nm,1.2s,mb5.3
TTSI Tana Toraja 44.69 213 P **P 09 25 00.1 +2.0**
TTSI Tana Toraja 44.69 213 P **P 09 24 59.5 +1.4**
comp=N,3μmcomp=N,73nm,1.4s,mb5.3
MK31 Makanchi Array 44.98 303 *eP* **P 09 24 59.7 -0.5**
MK31 Makanchi Array 44.98 303 *i* P **P 09 24 59.9 -0.2**
MK31 pmax pmax
comp=Z,181nm,1.3s,mb5.7
MKAR Makanchi Array 44.98 303 P **P 09 24 60.0 -0.2**
comp=Z,24nm,0.7s,mb5.2,baz=86,slow=9.1,SNR=124
MKAR LR LR 09 44 25.9
comp=Z,4μm,18.5s,MS5.3,baz=80,slow=37
MKAR Makanchi Array 44.98 303 P **P 09 24 60.0 -0.2**
MKAR Makanchi Array 44.98 303 P **P 09 25 00.0 -0.1**
MKAR pmax pmax
comp=Z,24nm,0.7s
MKAR MLR MLR
comp=Z,4μm,18.5s
NNT Nongplab 45.03 249 P **P 09 25 03.0 +2.1**
SVW2 Sparrevohn 45.41 37 *eP* **P 09 25 04.3 +0.9**
comp=Z,28nm,1.4s,mb4.9
SVW2 LR LR
comp=Z,2μm,18.0s,MS5.2
MJSI Majene 45.51 214 P **P 09 25 06.2 +1.5**
MJSI Majene 45.51 214 P **P 09 25 05.3 +0.6**
comp=Z,4μmcomp=Z,195nm,1.4s,mb5.9
SPSI Sidrap Palu 45.53 212 P **P 09 25 05.3 +0.5**
comp=Z,3μmcomp=Z,287nm,0.9s,mb6.2
SPSI Sidrap Palu 45.53 212 P **P 09 25 05.2 +0.4**
comp=Z,3μmcomp=Z,103nm,1.1s,mb5.7
SPSI Sidrap Palu 45.53 212 P **P 09 25 05.1 +0.3**
comp=Z,3μmcomp=Z,103nm,1.1s,mb5.7
BBSI Bau Bau 45.78 208 P **P 09 25 12.8 +6.0**
BBSI Bau Bau 45.78 208 P **P 09 25 11.3 +4.5**
comp=Z,4μmcomp=Z,211nm,1.3s,mb5.9
BNSI Bone 45.78 212 P **P 09 25 07.6 +0.8**
comp=Z,7μmcomp=Z,240nm,1.1s,mb6.0
BNSI Bone 45.78 212 P **P 09 25 07.6 +0.8**
comp=Z,7μmcomp=Z,240nm,1.1s,mb6.0
BNSI Bone 45.78 212 P **P 09 25 06.7 -0.1**
comp=Z,7μmcomp=Z,240nm,1.1s,mb6.0
KSM Kuching 45.80 228 P **P 09 25 08.3 +1.2**
KSM Kuching 45.80 228 *eP* **P 09 25 06.5 -0.5**
comp=Z,82nm,1.1s,mb5.6
KSM LR LR
comp=Z,2μm,20.0s,MS5.0
KSM Kuching 45.80 228 P **P 09 25 09.6 +2.6**
comp=Z,4μmcomp=Z,94nm,1.3s,mb5.6
KSM Kuching 45.80 228 P **P 09 25 07.3 +0.3**
comp=Z,4μmcomp=Z,94nm,1.3s,mb5.6
KSM Kuching 45.80 228 P **P 09 25 09.6 +2.6**
comp=Z,4μmcomp=Z,94nm,1.3s,mb5.6
PMG Port Moresby 45.99 173 P **P 09 25 06.7 -1.7**
comp=Z,59nm,1.1s,mb5.4,baz=350,slow=8.0,SNR=13
PMG Port Moresby 45.99 173 *eP* **P 09 25 07.6 -0.8**
PMG LR LR
comp=Z,3μm,22.0s,MS5.2
PMG Port Moresby 45.99 173 *d i*P **P 09 25 07.0 -1.4**
PMG pmax pmax
comp=Z,70nm,1.2s
PMG Port Moresby 45.99 173 P **P 09 25 08.1 -0.3**
comp=Z,2μmcomp=Z,69nm,1.3s,mb5.4
PMG Port Moresby 45.99 173 P **P 09 25 08.2 -0.2**
comp=Z,2μmcomp=Z,62nm,1.0s,mb5.5
STKI Sintang 46.26 225 P **P 09 25 12.2 +1.6**
comp=Z,161nm,1.0s,mb5.9
STKI Sintang 46.26 225 P **P 09 25 12.1 +1.5**
comp=Z,161nm,1.0s,mb5.9
KAPI Kappang 46.48 212 *eP* **P 09 25 10.5 -1.8**
KAPI LR LR
comp=Z,3μm,20.0s,MS5.3
KAPI Kappang 46.48 212 P **P 09 25 11.4 -0.9**
comp=Z,5μmcomp=Z,329nm,0.8s,mb6.3
KAPI Kappang 46.48 212 P **P 09 25 11.3 -1.0**
comp=Z,5μmcomp=Z,289nm,1.3s,mb6.0
KAPI Kappang 46.48 212 P **P 09 25 11.4 -0.9**
comp=Z,5μmcomp=Z,329nm,0.8s,mb6.3
KAPI Kappang 46.48 212 P **P 09 25 11.7 -0.6**
SNR=43
OHAK Old Harbor 46.57 42 *eP* **P 09 25 14.6 +2.1**
BKSI Bulukumba 46.60 211 P **P 09 25 14.6 +1.3**
comp=Z,3μmcomp=Z,99nm,1.2s,mb5.6
BKSI Bulukumba 46.60 211 P **P 09 25 12.4 -0.9**
comp=Z,3μmcomp=Z,99nm,1.2s,mb5.6
KBKI Kotabaru 46.60 217 P **P 09 25 18.5 +5.2**
KBKI Kotabaru 46.60 217 P **P 09 25 14.3 +1.0**
comp=Z,3μmcomp=Z,113nm,1.0s,mb5.7
TAPN Taplejung 46.72 275 *eP* **P 09 25 14.6 +0.5**
comp=Z,56nm,0.4s,mb5.8
RSO Redoubt South 46.78 38 *eP* **P 09 25 14.8 +0.6**
KURK Kurchatov 46.78 309 P **P 09 25 13.8 -0.5**
comp=Z,62nm,0.7s,mb5.7,baz=84,slow=7.8,SNR=230
KURK S **S 09 32 11.6 +6.7**
comp=Z,2.0nm,0.3s,baz=80,slow=16,SNR=4.3
KURK Kurchatov 46.78 309 *eP* **P 09 25 13.5 -0.9**
KURK LR LR
comp=Z,9μm,20.0s,MS5.7
KURK Kurchatov 46.78 309 P **P 09 25 13.9 -0.4**
KURK pmax pmax
comp=Z,188nm,1.0s,mb6.0
KURK Kurchatov 46.78 309 P **P 09 25 14.4 +0.1**
SNR=72
KURK Kurchatov 46.78 309 P **P 09 25 13.4 -0.9**
comp=Z,902nm,1.0s,mb6.7,SNR=84
KDAK Kodiak Island 46.92 42 P **P 09 25 13.3 -2.0**
comp=Z,52nm,0.7s,mb5.5,baz=235,slow=2.7,SNR=16
KDAK Kodiak Island 46.92 42 *eP* **P 09 25 15.5 +0.2**
KDAK LR LR
comp=Z,8μm,20.0s,MS5.7
KDAK Kodiak Island 46.92 42 *i* P **P 09 25 15.4 +0.1**
KDAK Kodiak Island 46.92 42 P **P 09 25 15.0 -0.3**
comp=Z,609nm,0.7s,mb6.6,SNR=7.6
PPLA Purkeypile 47.09 35 *eP* **P 09 25 17.4 +0.8**
comp=Z,147nm,1.4s,mb5.7
ODAN Odare 47.19 274 *eP* **P 09 25 17.7 -0.1**
comp=Z,312nm,1.2s,mb6.1
ODAN Odare 47.19 274 *eP* **P 09 25 17.7 -0.1**
comp=Z,312nm,1.2s,mb6.1
BBKI Banjar Baru 47.40 219 P **P 09 25 20.3 +0.8**
BBKI Banjar Baru 47.40 219 P **P 09 25 20.2 +0.7**
comp=Z,7μmcomp=Z,375nm,1.3s,mb6.2
RAMN Ramite 47.78 275 *eP* **P 09 25 22.1 -0.3**
comp=Z,194nm,0.8s,mb6.2
RAMN Ramite 47.78 275 *eP* **P 09 25 22.1 -0.3**
comp=Z,194nm,0.8s,mb6.2
JIRN Jiri 47.80 276 *eP* **P 09 25 22.9 +0.3**
comp=Z,128nm,0.7s,mb6.0
JIRN Jiri 47.80 276 *eP* **P 09 25 22.9 +0.3**
comp=Z,128nm,0.7s,mb6.1
GUN Gumba 47.94 277 *eP* **P 09 25 24.3 +0.6**
comp=Z,254nm,1.0s,mb6.2
GUN Gumba 47.94 277 *eP* **P 09 25 24.3 +0.6**
comp=Z,254nm,1.0s,mb6.2
SNG Songkhla 47.96 243 P **P 09 25 27.0 +3.1**
comp=Z,160nm,0.8s,mb6.1
TRF Thorofare Moun 47.97 34 *eP* **P 09 25 24.2 +0.8**
SLKM Skilak Lake 48.03 38 *eP* **P 09 25 23.2 -0.7**
SLKM Skilak Lake 48.03 38 *eP* **P 09 25 23.2 -0.7**
COLD Coldfoot 48.17 29 *eP* **P 09 25 24.6 -0.2**
comp=Z,15nm,1.0s,mb5.0
RC01 Rabbit Creek A 48.25 37 *eP* **P 09 25 24.8 -0.8**
comp=Z,109nm,1.1s,mb5.8
PBKI Pangkalan Bun 48.43 223 P **P 09 25 30.4 +2.9**
PBKI Pangkalan Bun 48.43 223 P **P 09 25 28.7 +1.2**
comp=Z,4μmcomp=Z,279nm,1.5s,mb6.1
SEW Seward 48.43 38 *eP* **P 09 25 27.0 0.0**
CAL Calcutta 48.44 269 *e*PKP **P 09 25 27.1 -0.5**
PKI Pulchoki 48.46 276 *eP* **P 09 25 28.1 +0.4**
comp=Z,92nm,0.8s,mb5.8
PKI Pulchoki 48.46 276 *eP* **P 09 25 28.1 +0.4**
comp=Z,92nm,0.8s,mb5.9
PKI Pulchoki 48.46 276 *eP* **P 09 25 28.1 +0.4**
PKI pmax pmax
comp=Z,92nm,0.8s,mb5.9
KKN Kakani 48.47 277 *eP* **P 09 25 28.0 +0.2**
comp=Z,123nm,0.8s,mb6.0
KKN Kakani 48.47 277 *eP* **P 09 25 28.0 +0.2**
comp=Z,123nm,0.8s,mb6.0
KKN Kakani 48.47 277 *eP* **P 09 25 28.0 +0.2**
KKN pmax pmax
comp=Z,123nm,0.8s,mb6.0
PMR Palmer 48.53 36 *eP* **P 09 25 27.1 -0.6**
comp=Z,127nm,1.2s,mb5.8
PMR Palmer 48.53 36 *eP* **P 09 25 27.1 -0.6**
PMR pmax pmax
comp=Z,127nm,1.2s,mb5.8
MCK McKinley 48.58 34 *eP* **P 09 25 27.8 -0.3**
MCK McKinley 48.58 34 *eP* **P 09 25 27.8 -0.3**
DMN Daman 48.69 277 *eP* **P 09 25 29.5 0.0**
comp=Z,416nm,1.7s,mb6.2
DMN Daman 48.69 277 *eP* **P 09 25 29.5 0.0**
comp=Z,416nm,1.7s,mb6.2
HNR Honiara 48.69 157 LR LR 09 43 33.0
comp=Z,7μm,18.2s,MS5.7,baz=130,slow=33
MMRI Maumere 48.80 207 P **P 09 25 30.4 +0.1**
GKN Gorkha 48.90 277 *eP* **P 09 25 31.3 +0.3**
comp=Z,275nm,0.9s,mb6.3
GKN Gorkha 48.90 277 *eP* **P 09 25 31.3 +0.3**
comp=Z,275nm,0.9s,mb6.3
SML Sawmill 48.90 36 *eP* **P 09 25 31.2 +0.7**
SML Sawmill 48.90 36 *eP* **P 09 25 31.2 +0.6**
COLA College 49.05 32 *eP* **P 09 25 32.0 +0.3**
comp=Z,52nm,1.0s,mb5.5
COLA LR LR
comp=Z,4μm,20.0s,MS5.4
COLA College 49.05 32 *eP* **P 09 25 32.0 +0.4**
COLA pmax pmax
comp=Z,52nm,1.0s,mb5.5
COLA MLR MLR
comp=Z,4μm,20.0s,MS5.4
KULM Kulim 49.25 241 P **P 09 25 35.3 +1.5**
KULM Kulim 49.25 241 *eP* **P 09 25 36.7 +2.9**
comp=Z,60nm,1.3s,mb5.5
KULM LR LR
comp=Z,8μm,19.0s,MS5.7
KULM Kulim 49.25 241 P **P 09 25 35.3 +1.4**
comp=Z,2μmcomp=Z,56nm,1.9s,mb5.3
KULM Kulim 49.25 241 P **P 09 25 38.3 +4.4**
comp=Z,2μmcomp=Z,79nm,0.8s,mb5.8
AAA Alma-Ata 49.44 299 *eP* **P 09 25 36.3 +1.3**
AAA *eS* **S 09 32 42.3 -0.4**
AAA pmax pmax
comp=Z,2μm,6.4s
AAA smax
comp=N,5μm,19.5s
AAA MLR MLR
comp=Z,19μm,18.0s,MS6.1
DANN Dangsing 49.45 278 *eP* **P 09 25 35.4 +0.2**
comp=Z,429nm,0.8s,mb6.5
DANN Dangsing 49.45 278 *eP* **P 09 25 35.4 +0.2**
comp=Z,429nm,0.8s,mb6.5
ILAR Eielson Array 49.46 32 P **P 09 25 33.8 -1.1**
comp=Z,33nm,0.9s,mb5.4,baz=265,slow=5.4,SNR=118
ILAR LR LR 09 46 20.2
comp=Z,4μm,18.1s,MS5.5,baz=271,slow=36
ILAR Eielson Array 49.46 32 P **P 09 25 33.8 -1.1**
ILAR Eielson Array 49.46 32 P **P 09 25 33.8 -1.0**
ILAR pmax pmax
comp=Z,33nm,0.9s
ILAR MLR MLR
comp=Z,4μm,18.1s
IPM Ipoh 49.56 240 P **P 09 25 36.8 +0.6**
IPM Ipoh 49.56 240 *eP* **P 09 25 36.1 -0.2**
comp=Z,65nm,0.9s,mb5.7
IPM Ipoh 49.56 240 P **P 09 25 36.7 +0.4**
comp=Z,2μmcomp=Z,81nm,1.1s,mb5.7
IPM Ipoh 49.56 240 P **P 09 25 36.7 +0.4**
comp=Z,2μmcomp=Z,107nm,0.8s,mb5.9
MYKOM Kota Tinggi 49.61 235 P **P 09 25 37.9 +1.3**
MYKOM Kota Tinggi 49.61 235 P **P 09 25 37.6 +1.0**
comp=Z,2μmcomp=Z,48nm,2.0s,mb5.2
MYKOM Kota Tinggi 49.61 235 P **P 09 25 41.8 +5.2**
comp=Z,2μmcomp=Z,53nm,1.9s,mb5.3
KGM Kluang 49.80 235 P **P 09 25 39.8 +1.8**
KOLN Koldanda 49.82 278 *eP* **P 09 25 38.2 +0.1**
comp=Z,157nm,1.2s,mb5.9
KOLN Koldanda 49.82 278 *eP* **P 09 25 38.2 +0.1**
comp=Z,157nm,1.2s,mb5.9
PAX Paxson 50.16 35 *eP* **P 09 25 39.5 -0.7**
comp=Z,32nm,1.2s,mb5.2
PAX Paxson 50.16 35 *eP* **P 09 25 39.5 -0.7**
PAX pmax pmax
comp=Z,32nm,1.2s,mb5.2
PYUN Piuthan 50.17 278 *eP* **P 09 25 40.8 +0.1**
comp=Z,636nm,1.0s,mb6.6

PYUN Piuthan 50.17 278 *e*P **P 09 25 40.8 +0.1**
comp=Z,636nm,1.0s,mb6.6
DIV Divide 50.17 37 *e*P **P 09 25 41.3 +1.0**
comp=Z,181nm,1.2s,mb6.0
COEN Coen 50.29 179 *e*P **P 09 25 40.6 -1.1**
comp=Z,443nm,1.2s,mb6.4
COEN Coen 50.29 179 P **P 09 25 41.8 +0.2**
comp=Z,2μmcomp=Z,56nm,1.5s,mb5.4
TKM2 Tokmak 2 50.49 299 P **P 09 25 44.0 +1.0**
SNR=46
TKM2 P pP 09 25 44.0 -0.2
SNR=46
TKM2 Tokmak 2 50.49 299 *e*P **P 09 25 43.6 +0.6**
comp=Z,166nm,1.1s,mb6.0
TKM2 LR LR
comp=Z,18μm,19.0s,MS6.1
TKM2 Tokmak 2 50.49 299 *i*P **P 09 25 43.9 +0.9**
DOT Dot Lake 50.75 34 *e*P **P 09 25 44.4 -0.2**
comp=Z,9.0nm,0.9s,mb4.7
BMRM Bremner River 50.75 37 *e*P **P 09 25 45.1 +0.4**
comp=Z,96nm,1.2s,mb5.6
TPI Tanjungpandan 50.76 227 P **P 09 25 47.2 +1.9**
KMMI Kalianget 50.92 217 P **P 09 25 48.0 +1.5**
comp=Z,4μmcomp=Z,201nm,1.3s,mb5.9
KMMI Kalianget 50.92 217 P **P 09 25 46.8 +0.3**
comp=Z,4μmcomp=Z,201nm,1.3s,mb5.9
MENT Mentasta 50.97 34 *e*P **P 09 25 49.4 +3.2**
KZA Kyzart 50.98 298 P **P 09 25 48.8 +2.1**
SNR=28
KZA P pP 09 25 48.8 +0.9
SNR=28
KBK Karagaybulak 51.02 299 P **P 09 25 49.2 +2.2**
SNR=35
KBK P pP 09 25 49.2 +1.0
SNR=35
CHMS Chumysh 51.06 299 P **P 09 25 48.4 +1.1**
SNR=14
CHMS P pP 09 25 48.4 -0.1
SNR=14
USP Ospenovka 51.16 300 P **P 09 25 48.2 +0.2**
SNR=25
USP P pP 09 25 48.2 -1.1
SNR=25
FRU Bishkek 51.20 299 *e*P **P 09 25 48.0 -0.4**
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
FRU MLR MLR
comp=E,15μm,12.0s
KSH Kashi 51.26 295 P **P 09 25 53.6 +4.8**
KSH pP pP 09 25 56.9 +6.9
KSH sP sP 09 25 59.3 +8.8
KSH PcP PcP 09 27 06.6 +2.6
KSH PP PP 09 27 50.8 +5.3
KSH ScP ScP 09 31 00.6 -0.6
KSH PcS PcS 09 31 02.5 +0.9
KSH S **S 09 33 11.3 +3.1**
KSH sS sS 09 33 18.3 +8.1
KSH ScS ScS 09 35 38.8 -1.4
KSH pmax pmax
comp=Z,150nm,1.5s,mb5.7
KSH pmax pmax
comp=Z,1μm,5.9s
KSH LR LR
comp=N,9μm,14.5s,MS6.2
KSH LR LR
comp=E,12μm,13.3s,MS6.2
KSH LR LR
comp=Z,12μm,14.5s,MS6.1
MTNI Mataram 51.28 214 P **P 09 25 48.8 -0.3**
comp=Z,10μmcomp=Z,181nm,1.0s,mb5.9
AAK Ala-Archa 51.35 299 P **P 09 25 49.8 +0.3**
SNR=20
AAK P pP 09 25 49.8 -0.9
SNR=20
AAK Ala-Archa 51.35 299 *e*P **P 09 25 49.9 +0.4**
comp=Z,161nm,0.9s,mb6.0
AAK LR LR
comp=Z,17μm,20.0s,MS6.1
AAK Ala-Archa 51.35 299 *i*P **P 09 25 49.7 +0.2**
AAK Ala-Archa 51.35 299 P **P 09 25 50.1 +0.6**
comp=Z,5μmcomp=Z,222nm,1.1s,mb6.0
AAK Ala-Archa 51.35 299 P **P 09 25 50.5 +1.0**
comp=Z,204nm,1.0s,mb6.0,SNR=15
BVA0 Borovoye Array 51.41 313 *i*P **P 09 25 49.5 -0.2**
BVA0 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BVAR Borovoye Array 51.41 313 P **P 09 25 49.4 -0.4**
comp=Z,17nm,0.9s,mb5.0,baz=80,slow=8.1,SNR=1.4
BVAR S **S 09 33 15.6 +5.7**
comp=Z,2.7nm,0.9s,baz=90,slow=13,SNR=4.1
BVAR Borovoye Array 51.41 313 P **P 09 25 49.4 -0.4**
BVAR S **S 09 33 15.6 +5.7**
BVAR Borovoye Array 51.41 313 P **P 09 25 49.4 -0.3**
BVAR S **S 09 33 15.6 +5.8**
BVAR pmax pmax
comp=Z,17nm,0.9s
BVAR smax
comp=N,3.0nm,0.9s
BRVK Borovoye 51.47 313 *e*P **P 09 25 50.0 -0.1**
comp=N,56nm,1.0s,mb5.5
BRVK LR LR
comp=Z,15μm,20.0s,MS6.0
BRVK Borovoye 51.47 313*d*i P **P 09 25 50.1 -0.1**
BRVK pmax pmax
comp=Z,142nm,2.5s,mb5.5
BRVK MLR MLR
comp=Z,12μm,17.0s,MS6.0
BRVK Borovoye 51.47 313 P **P 09 25 50.8 +0.6**
comp=Z,284nm,1.0s,mb6.2,SNR=14
BRVK Borovoye 51.47 313 P **P 09 25 50.7 +0.5**
SNR=26
BYJI Banyuwangi 51.75 216 P **P 09 25 57.8 +5.1**
BYJI Banyuwangi 51.75 216 P **P 09 25 57.8 +5.1**
comp=Z,550nm,1.2s,mb6.3
EKS2 Erkin-Say 51.85 299 P **P 09 25 53.5 +0.3**
SNR=19
EKS2 P pP 09 25 53.5 -0.9
SNR=19
EKS2 Erkin-Say 51.85 299 *e*P **P 09 25 53.4 +0.2**
comp=Z,29nm,1.0s,mb5.2
EKS2 LR LR
comp=Z,14μm,20.0s,MS6.0
EKS2 Erkin-Say 51.85 299 *e*P **P 09 25 53.4 +0.2**
EKS2 pmax pmax
comp=Z,29nm,1.0s,mb5.2
EKS2 MLR MLR
comp=Z,14μm,20.0s,MS6.0
IGBI Denpasar 51.91 215 P **P 09 25 56.9 +3.1**
IGBI Denpasar 51.91 215 P **P 09 25 56.9 +3.1**
comp=Z,588nm,0.8s,mb6.6
EGAK Eagle 51.91 32 *e*P **P 09 25 52.9 -0.4**
comp=Z,23nm,1.0s,mb5.1
EGAK LR LR
comp=Z,2μm,19.0s,MS5.2
AML Almayashu 52.07 299 P **P 09 25 56.1 +1.3**
SNR=40
AML P pP 09 25 56.1 +0.1
SNR=40
JAGI Jajag, Banyuwa 52.07 216 P **P 09 25 56.1 +1.0**
JAGI Jajag, Banyuwa 52.07 216 P **P 09 25 56.1 +1.0**
comp=Z,3μmcomp=Z,87nm,1.0s,mb5.6
JAGI Jajag, Banyuwa 52.07 216 P **P 09 25 54.7 -0.4**
comp=Z,3μmcomp=Z,92nm,1.2s,mb5.6
PSI Prapat 52.22 240 P **P 09 25 56.9 +0.6**
comp=Z,2μmcomp=Z,48nm,1.2s,mb5.3
PSI Prapat 52.22 240 P **P 09 25 57.5 +1.2**
comp=Z,2μmcomp=Z,48nm,1.2s,mb5.3
GMJI Gumukmas 52.24 217 P **P 09 25 57.0 +0.7**
GMJI Gumukmas 52.24 217 P **P 09 25 57.0 +0.7**
comp=Z,2μmcomp=Z,65nm,1.0s,mb5.5
GMJI Gumukmas 52.24 217 P **P 09 25 55.3 -1.0**
comp=Z,2μmcomp=Z,65nm,1.0s,mb5.5
SJI Sawahan 52.61 219 P **P 09 25 58.6 -0.5**
SJI Sawahan 52.61 219 P **P 09 25 58.6 -0.5**
comp=Z,5μmcomp=Z,274nm,1.4s,mb6.0
KRKI Karangkates 52.63 218 P **P 09 25 59.2 0.0**
KRKI Karangkates 52.63 218 P **P 09 25 59.2 0.0**
comp=Z,373nm,0.8s,mb6.3
SMRI Semarang 52.72 221 P **P 09 26 05.0 +5.1**
comp=Z,8μmcomp=Z,349nm,1.4s,mb6.1
PWJI Pagerwojo 52.84 219 P **P 09 25 59.5 -1.3**
PWJI Pagerwojo 52.84 219 P **P 09 25 59.5 -1.3**
comp=Z,3μmcomp=Z,209nm,0.8s,mb6.1
PWJI Pagerwojo 52.84 219 P **P 09 25 59.3 -1.5**
comp=Z,3μmcomp=Z,209nm,0.8s,mb6.1
PCJI Pacitan 53.31 220 P **P 09 26 08.3 +4.1**
PCJI Pacitan 53.31 220 P **P 09 26 08.3 +4.1**
comp=Z,3μmcomp=Z,90nm,1.0s,mb5.7
PCJI Pacitan 53.31 220 P **P 09 26 04.4 +0.2**
comp=Z,3μmcomp=Z,90nm,1.0s,mb5.7
BJII Banjamegara 53.35 222 P **P 09 26 06.0 +1.4**
UGM Wanagama 53.41 221 P **P 09 26 06.0 +1.0**
UGM Wanagama 53.41 221 P **P 09 26 06.0 +1.0**
comp=Z,7μmcomp=Z,352nm,1.4s,mb6.1
UGM Wanagama 53.41 221 P **P 09 26 04.5 -0.5**
comp=Z,7μmcomp=Z,414nm,1.2s,mb6.2
SMLA Simla 53.48 284 *i*P **P 09 26 03.9 -1.5**
comp=Z,36nm,0.1s,mb6.2
SMLA *i*x x 09 33 28.1
BHK Bhakra 53.94 285 *e*PKP **P 09 26 09.0 +0.2**
KK31 Karatay Array 53.98 301 *i*P **P 09 26 09.6 +0.6**
KK31 pmax pmax
comp=Z,144nm,1.4s,mb5.7
KKAR Karatay Array 53.98 301 *e*P **P 09 26 09.8 +0.8**
comp=Z,40nm,0.9s,mb5.3
KKAR Karatay Array 53.98 301 *e*P **P 09 26 09.8 +0.8**
KKAR pmax pmax
comp=Z,39nm,0.9s,mb5.3
LEM Lembang 54.08 224 P **P 09 26 10.5 +0.6**
DBJI Dramaga 54.35 225 P **P 09 26 15.4 +3.5**
INK Inuvik 54.43 27 P **P 09 26 11.6 -0.2**
comp=Z,22nm,0.8s,mb5.1,baz=285,slow=7.7,SNR=41
INK Inuvik 54.43 27 P **P 09 26 11.6 -0.2**
INK Inuvik 54.43 27 P **P 09 26 11.6 -0.2**
INK pmax pmax
comp=Z,22nm,0.9s
NDI New Delhi 54.49 282 *e*PKP **P 09 26 11.8 -1.1**
NDI AMb AMB 09 26 29.0
comp=Z,167nm,1.3s,mb5.8
CISI Cisompet, Garu 54.57 224 P **P 09 26 15.2 +1.7**
CISI Cisompet, Garu 54.57 224 P **P 09 26 14.0 +0.5**
RTK Rohtak 54.97 282 *e*PKP **P 09 26 13.7 -2.6**
SVE Sverdlovsk 55.96 319 *e*P **P 09 26 22.8 -0.2**
SVE *e*S **S 09 34 13.2 +1.8**
SVE *e* 09 36 12.9
SVE pmax pmax
comp=Z,129nm,1.1s,mb5.9
SVE pmax pmax
comp=Z,935nm,13.2s
SVE smax
comp=N,2μm,11.1s
SVE MLR MLR
comp=Z,22μm,16.0s,MS6.3
SVE MLR MLR
comp=E,22μm,16.0s
CTA Charters Tower 56.51 176 P **P 09 26 25.4 -1.9**
comp=E,4.1nm,0.5s,mb4.7,baz=4.7,slow=10,SNR=4.2
CTA LR LR 09 45 25.7
comp=E,3μm,20.8s,MS5.3,baz=358,slow=30
CTA Charters Tower 56.51 176 *e*P **P 09 26 25.5 -1.7**
CTA Charters Tower 56.51 176 P **P 09 26 25.4 -1.9**
CTA Charters Tower 56.51 176 P **P 09 26 25.4 -1.8**
CTA pmax pmax
comp=Z,4.0nm,0.5s
CTAO Charters Tower 56.51 176 PFAKE 09 26 40.0 +13
CTAO LR LR
comp=Z,2μm,19.0s,MS5.3
NGP Nagpur 56.59 273 *e*PKP **P 09 26 27.3 -0.8**
baz=23,slow=28
NGP *ex* x 09 34 17.0
FITZ Fitzroy Crossi 56.65 199 *e*P **P 09 26 27.5 -0.8**
FITZ Fitzroy Crossi 56.65 199 *e*P **P 09 26 27.7 -0.6**
comp=Z,117nm,1.3s,mb5.8
FUNA Funafuti 56.67 135 PFAKE 09 26 40.0 +11
FUNA LR LR
comp=Z,7μm,19.0s,MS5.8
WRAB Tennant Creek 56.73 189 *e*P **P 09 26 26.5 -2.4**
comp=Z,68nm,0.8s,mb5.7
WRAB LR LR
comp=Z,4μm,22.0s,MS5.4
WRAB Tennant Creek 56.73 189 *e*P **P 09 26 26.5 -2.4**
WRAB pmax pmax
comp=Z,68nm,0.8s,mb5.7
WRAB MLR MLR
comp=Z,4μm,22.0s,MS5.4
WRAB Tennant Creek 56.73 189 P **P 09 26 27.2 -1.7**
comp=Z,2μmcomp=Z,177nm,1.3s,mb5.9
WRAB Tennant Creek 56.73 189 P **P 09 26 27.2 -1.7**
comp=Z,510nm,0.6s,mb6.7,SNR=11
WB2 Warramunga Arr 56.74 189 *e*P **P 09 26 26.5 -2.4**
WRA Warramunga Arr 56.75 189 P **P 09 26 26.7 -2.3**
comp=Z,27nm,0.8s,mb5.3,baz=7.0,slow=7.1,SNR=91
WRA LR LR 09 47 23.2
comp=Z,3μm,20.9s,MS5.4,baz=15,slow=32
WRA PKP2bc 09 56 32.5
comp=Z,1.8nm,0.9s,baz=199,slow=1.7,SNR=5.5
WRA Warramunga Arr 56.75 189 P **P 09 26 26.7 -2.3**
WRA ⇑*e* 09 56 32.5
WRA Warramunga Arr 56.75 189 P **P 09 26 26.7 -2.2**
WRA pmax pmax
comp=Z,27nm,0.8s
BHPL Bhopal 56.86 276 *e*PKP **P 09 26 28.4 -1.5**
BHPL AMb AMB 09 26 36.3
comp=Z,109nm,1.3s,mb5.7
SOKR Solikamsk 57.12 323*c i*P **P 09 26 32.5 +1.2**
SOKR S **S 09 34 29.4 +2.7**
SOKR pmax pmax
comp=Z,60nm,1.3s,mb5.5
ARU Arti 57.17 319 *e*P **P 09 26 31.1 -0.6**
comp=Z,128nm,1.1s,mb5.9
ARU LR LR
comp=Z,12μm,21.0s,MS6.0
ARU Arti 57.17 319*d i*P **P 09 26 31.6 -0.1**
ARU *e* 09 27 24.7
ARU *e*PPP 09 29 59.5
ARU S **S 09 34 29.3 +1.8**
ARU 09 36 17.8
ARU SS SS 09 38 15.6 -0.2
ARU pmax pmax
comp=Z,168nm,1.7s,mb5.8
ARU MLR MLR
comp=Z,13μm,16.0s,MS6.1
ARU Arti 57.17 319 P **P 09 26 31.1 -0.6**
comp=Z,627nm,0.9s,mb6.6,SNR=13
AJM Ajmer 57.52 281 *e*PKP **P 09 26 34.0 -0.6**
XMIS Christmas Isla 58.17 224 P **P 09 26 41.5 +2.3**
KBL Kabul 58.27 292 *e*P **P 09 26 38.8 -0.9**
comp=Z,139nm,1.1s,mb5.9
KBL *e* 09 26 44.3
KBL Kabul 58.27 292 *e*P **P 09 26 38.8 -0.9**
KBL *e* 09 26 44.3
KBL pmax pmax
comp=Z,139nm,1.1s,mb5.9
AKL Akola 58.46 273⇓ *i*P **P 09 26 41.4 +0.2**
AKL *i*S **S 09 34 44.6 -0.7**
AB31 Akbulak array 58.78 311 *i*P **P 09 26 42.3 -0.8**
AB31 pmax pmax
comp=Z,50nm,0.7s,mb5.7
ABKAR Akbulak array 58.78 311 *e*P **P 09 26 42.5 -0.6**
comp=Z,70nm,0.8s,mb5.7
HYB Hyderabad 58.94 269 *i*P **P 09 26 43.0 -1.6**
HYB *e*S **S 09 34 50.0 -1.6**
HYB LR LR 09 53 52.0
comp=Z,8.8nm,22.0s
AKTO Aktyubinsk 59.52 312 P **P 09 26 47.3 -0.8**
AKTO pmax pmax
comp=Z,12nm,1.0s,mb4.9
LATR Latur 60.01 271 *e*PKP **P 09 26 52.0 0.0**
AS31 Alice Springs 60.47 189 *e*P **P 09 26 53.2 -1.6**
ASAR Alice Springs 60.47 189 P **P 09 26 52.9 -2.0**
comp=Z,16nm,1.0s,mb5.0,baz=2.5,slow=6.4,SNR=71
ASAR PKP2bc 09 56 23.9
comp=Z,2.4nm,0.9s,baz=171,slow=2.4,SNR=11
ASAR Alice Springs 60.47 189 P **P 09 26 52.9 -2.0**
ASAR ⇑*e* 09 56 23.9
ASAR Alice Springs 60.47 189 P **P 09 26 52.9 -2.0**
ASAR pmax pmax
comp=Z,16nm,1.0s
ALE Alert 60.49 4 P **P 09 26 55.9 +1.5**
comp=Z,171nm,1.1s,mb6.0,SNR=7.1
KBS Kingsbay 61.20 350 PFAKE 09 27 10.0 +11
KBS LR LR
comp=Z,5μm,19.0s,MS5.7
KBS Kingsbay 61.20 350⇑ *e*P **P 09 27 00.1 +0.8**
KBS pmax pmax
comp=Z,115nm,2.5s,mb5.6
MBWA Marble Bar 61.29 204 *e*P **P 09 26 58.0 -2.5**
comp=Z,69nm,1.0s,mb5.7
MBWA LR LR
comp=Z,2μm,20.0s,MS5.2
MBWA Marble Bar 61.29 204 P **P 09 27 00.7 +0.2**
comp=Z,2μmcomp=Z,86nm,1.2s,mb5.8
POO Poona 62.13 273 *e*PKP **P 09 27 04.1 -2.3**
POO AMb AMB 09 27 12.3
comp=Z,183nm,0.8s,mb6.2
KAD Karad 62.51 272 *e*PKP **P 09 27 08.8 -0.2**
DZM Mont Dzumac 62.64 155 *e*P **P 09 27 09.9 +0.3**
comp=Z,134nm,1.2s,mb6.0
DZM *e*S **S 09 35 37.4 -1.1**
comp=Z,6μm,27.9s
DZM *e*LQ 09 43 04.6
comp=Z,13μm,27.4s
DZM *e*LR LR 09 45 46.6
comp=Z,9μm,23.4s
DZM Mont Dzumac 62.64 155 P **P 09 27 07.7 -1.9**
comp=Z,34nm,0.9s,mb5.5,baz=73,slow=17,SNR=3.9
DZM LR LR 09 51 14.5
comp=Z,7μm,18.7s,MS5.9,baz=344,slow=33
DZM Mont Dzumac 62.64 155 P **P 09 27 07.7 -1.9**
LVZ Lovozero 62.81 336 PFAKE 09 27 20.0 +10
LVZ LR LR
comp=Z,5μm,21.0s,MS5.7
LVZ Lovozero 62.81 336 *i*P **P 09 27 11.4 +1.2**
LVZ pmax pmax
comp=Z,27nm,1.2s,mb5.2
LVZ MLR MLR
comp=Z,12μm,20.0s,MS6.1
LVZ Lovozero 62.81 336 P **P 09 27 11.0 +0.8**
comp=Z,231nm,0.9s,mb6.3,SNR=5.3
APA Apatity 63.38 336⇑ *i*P **P 09 27 14.0 0.0**
APA *i* 09 27 49.0
APA *i*S **S 09 35 48.0 +1.2**
APA *i* 09 36 56.0
APA pmax pmax
comp=Z,52nm,1.0s,mb5.6
APA MLR MLR
comp=Z,7μm,14.0s,MS6.0
MSVF Nonsavu 63.70 142 *e*P **P 09 27 16.0 -0.7**
comp=Z,78nm,1.6s,mb5.5
MSVF LR LR
comp=Z,6μm,22.0s,MS5.8
MSVF Nonsavu 63.70 142 *e*P **P 09 27 16.0 -0.7**
MSVF pmax pmax
comp=Z,78nm,1.6s,mb5.5
MSVF MLR MLR
comp=Z,6μm,22.0s,MS5.8
GOA Goa 63.79 270⇑ *i*P **P 09 27 16.7 -0.7**
GOA *e*S **S 09 35 52.8 -0.5**
YKA Yellowknife Ar 63.80 30 P **P 09 27 15.0 -1.9**
comp=Z,8.2nm,0.9s,mb4.8,baz=302,slow=6.1,SNR=18
YKA LR LR 09 53 37.7
comp=Z,369nm,20.1s,MS4.6,baz=115,slow=35
YKA PKPPKP 09 56 06.0
comp=Z,0.4nm,0.8s,baz=126,slow=2.6,SNR=5.2
YKA Yellowknife Ar 63.80 30 P **P 09 27 15.0 -1.9**
YKA P'P' 09 56 06.0
YKA Yellowknife Ar 63.80 30 P **P 09 27 15.0 -1.9**
YKA pmax pmax
comp=Z,8.0nm,0.9s
KEV Kevo 64.11 340 PFAKE 09 27 30.0 +11
KEV LR LR
comp=Z,9μm,19.0s,MS6.0
KEV Kevo 64.11 340 *e*P **P 09 27 18.8 +0.1**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KEV Kevo 64.11 340 *e*p **P 09 27 18.8 +0.1**
comp=Z,10nm,0.7s,mb5.0
KLMR Klimovskoe 64.52 328*d i*P **P 09 27 22.2 +0.7**
KLMR *e* 09 29 44.3
KLMR *e*S **S 09 36 00.0 -1.1**
KLMR SS SS 09 40 11.3 +0.8
KLMR pmax pmax
comp=Z,268nm,6.3s
KLMR pmax pmax
comp=Z,152nm,1.7s,mb5.8
KLMR MLR MLR
comp=Z,10μm,14.0s,MS6.2
ARCES ARCESS Array B 64.66 340 P **P 09 27 21.2 -1.1**
comp=Z,7.4nm,0.8s,mb4.8,baz=43,slow=9.1,SNR=11
ARCES LR LR 09 59 41.7
comp=Z,7μm,18.9s,MS5.9,baz=218,slow=40
ARCES ARCESS Array B 64.66 340 P **P 09 27 21.2 -1.1**
ARCES ARCESS Array B 64.66 340 P **P 09 27 21.3 -1.1**
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES MLR MLR
comp=Z,7μm,18.9s
ABKT Ailbek 64.69 300 P **P 09 27 23.4 +0.3**
comp=Z,332nm,1.0s,mb6.3,SNR=12
COCO West Island 64.73 230 PFAKE 09 27 30.0 +6.4
COCO LR LR
comp=Z,2μm,21.0s,MS5.2
TRD Trivandrum 65.24 262⇑ *ex* x 09 27 36.7
TRD *ex* x 09 36 16.7
DAG Danmarks Havn 66.26 355 *i*P **P 09 27 32.8 +0.1**
DAG pmax pmax
comp=Z,11nm,0.9s,mb4.9
DAG MLR MLR
comp=Z,2μm,17.0s,MS5.5
DAG Danmarks Havn 66.26 355 *i*P **P 09 27 32.8 +0.1**
comp=Z,13nm,0.9s,mb5.0
DAG
comp=Z,2μm,17.0s
AFI Afiamalu 66.29 130 LR LR 09 49 59.3
comp=Z,4μm,20.1s,MS5.6,baz=328,slow=30
NLWA Neilton Lookou 66.45 48 *e*P **P 09 27 35.0 +0.7**
comp=Z,384nm,1.9s,mb6.1
NLWA LR LR
comp=Z,3μm,19.0s,MS5.5
JOF Joensuu 66.69 332 *e*P **P 09 27 33.6 -2.0**
JOF pmax pmax
comp=Z,32nm,0.8s,mb5.4
JOF Joensuu 66.69 332 *e*p **P 09 27 33.6 -2.0**
comp=Z,32nm,0.8s,mb5.4
JCW Jim Creek 67.20 46 *e*P **P 09 27 39.3 +0.2**
comp=Z,69nm,1.1s,mb5.6
ARMA Armidale 67.24 171 *e*P **P 09 27 39.2 -0.1**
ARMA Armidale 67.24 171 *e*P **P 09 27 38.5 -0.8**
comp=Z,25nm,1.2s,mb5.1
MOS Moscow 68.04 324 *e*P **P 09 27 41.6 -2.6**
MOS *e* 09 28 06.4
MOS *e* 09 30 10.1
MOS *e*PPP 09 31 56.7
MOS *e*S S 09 36 45.1 +1.1
MOS *e* 09 37 24.1
MOS pmax pmax
comp=Z,206nm,1.2s,mb6.0
MOS MLR MLR
comp=Z,10μm,12.0s,MS6.3
MOS MLR MLR
comp=N,10μm,12.0s,MS6.3
MOS MLR MLR
comp=E,8μm,13.0s,MS6.3
STKA Stephens Creek 68.13 181 P **P 09 27 43.3 -1.6**
comp=E,8.6nm,0.8s,mb4.8,baz=349,slow=7.4,SNR=13
STKA LR LR 09 55 09.9
comp=E,3μm,18.5s,MS5.5,baz=359,slow=34
STKA Stephens Creek 68.13 181 *e*P **P 09 27 43.3 -1.6**
STKA Stephens Creek 68.13 181 *e*P **P 09 27 43.2 -1.7**
comp=E,6.3nm,1.0s,mb4.6
STKA Stephens Creek 68.13 181 *e*P **P 09 27 43.2 -1.7**
FORT Forrest 68.36 193 *e*P **P 09 27 45.3 -1.1**
FORT Forrest 68.36 193 *e*P **P 09 27 45.1 -1.3**
comp=E,99nm,0.6s,mb6.0
ETW Entiat 68.43 46 *e*P **P 09 27 46.5 -0.3**
comp=E,78nm,1.2s,mb5.6
OBN Obninsk 68.88 324 *e*P **P 09 27 49.3 -0.3**
comp=E,155nm,1.1s,mb5.8
OBN LR LR
comp=Z,7μm,19.0s,MS5.9
OBN Obninsk 68.88 324*d i*P **P 09 27 49.7 +0.2**
OBN *e* 09 28 10.4
OBN *e* 09 30 24.6
OBN *e*S S 09 36 54.0 -0.1
OBN *e*SS SS 09 41 21.2 +2.8
OBN pmax pmax
comp=Z,247nm,1.7s,mb5.9
OBN Obninsk 68.88 324 P **P 09 27 50.8 +1.3**
comp=Z,638nm,1.3s,mb6.4,SNR=6.2
PUL Pulkovo 68.94 330 *i*P **P 09 27 51.2 +1.4**
PUL pmax pmax
comp=Z,137nm,1.1s,mb5.8
PUL MLR MLR
comp=Z,6μm,17.0s,MS5.9
KAF Kangasniemi 69.03 333 *e*P **P 09 27 48.9 -1.4**
KAF pmax pmax
comp=Z,31nm,0.7s,mb5.3
KAF Kangasniemi 69.03 333 *e*p **P 09 27 48.9 -1.4**

comp=Z,31nm,0.7s,mb5.3
HMDM Hanimaadhoo 69.28 263 P **P 09 27 49.3 -3.3**
comp=Z,166nm,1.8s,mb5.7
BBOO Buckleboo 69.30 186 *e*P **P 09 27 51.1 -1.1**
comp=Z,626nm,1.0s,mb6.5
MAK Makhachkala 69.31 309 *e*P **P 09 27 51.0 -1.4**
MAK *e* 09 28 11.4
MAK *e* 09 30 22.4
MAK *e*PPP 09 32 02.4
MAK *e*S S 09 36 55.6 -3.9
MAK *i* 09 37 45.3
MAK *e*SSS 09 41 18.6
MAK pmax pmax
comp=Z,110nm,0.8s,mb5.8
VOR Voronezh 69.44 320 P **P 09 27 52.0 -1.1**
VOR pmax pmax
comp=Z,350nm,1.0s,mb6.2
OD2 Odessa Site #2 69.48 46 *e*P **P 09 27 53.4 +0.1**
comp=Z,60nm,1.2s,mb5.4
RSW Rattlesnake Hi 69.49 47 *e*P **P 09 27 54.5 +1.0**
comp=Z,100nm,1.5s,mb5.5
HAWA Hanford 69.53 47 *e*P **P 09 27 53.2 -0.5**
comp=Z,41nm,1.4s,mb5.2
HAWA LR LR
comp=Z,2μm,19.0s,MS5.4
FINES FINESS Array B 69.54 333 P **P 09 27 53.1 -0.4**
comp=Z,54nm,0.8s,mb5.5,baz=57,slow=7.0,SNR=59
FINES LR LR 10 01 07.7
comp=Z,5μm,19.5s,MS5.8,baz=46,slow=38
FINES FINESS Array B 69.54 333 P **P 09 27 53.1 -0.3**
FINES FINESS Array B 69.54 333 P **P 09 27 53.1 -0.4**
FINES pmax pmax
comp=Z,54nm,0.8s
FINES MLR MLR
comp=Z,5μm,19.5s
VSR Storozhevoye 69.74 319 *e*P **P 09 27 55.7 +0.8**
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=Z,80nm,0.8s,mb5.7
VSR pmax pmax
comp=E,50nm,0.9s
VSR MLR MLR
comp=Z,21μm,16.0s,MS6.5
VSR MLR MLR
comp=N,9μm,15.0s,MS6.3
VSR MLR MLR
comp=E,12μm,17.0s,MS6.3
LNOR Lincton Mounta 70.54 47 *e*P **P 09 28 00.3 +0.4**
comp=E,37nm,1.3s,mb5.2
LNOR Lincton Mounta 70.54 47 *e*P **P 09 28 00.3 +0.4**
LNOR pmax pmax
comp=Z,37nm,1.3s,mb5.2
SUMG Summit 71.11 0 *e*P **P 09 28 04.3 +1.4**
comp=Z,88nm,1.0s,mb5.7
SUMG Summit 71.11 0 *e*P **P 09 28 04.3 +1.4**
SUMG pmax pmax
comp=Z,88nm,1.0s
SUMG Summit 71.11 0 *i*P **P 09 28 04.7 +1.8**
comp=Z,62nm,1.0s,mb5.5
VSU Vasula 71.20 330 *de*P **P 09 28 04.4 +0.7**
VSU pmax pmax
comp=Z,71nm,0.7s,mb5.7
VSU MLR MLR
comp=Z,12μm,19.0s,MS6.2
MOD Modoc 71.45 51 *e*P **P 09 28 05.4 -0.1**
comp=Z,15nm,1.0s,mb4.9
BSMT Bassoo Peak 71.45 44 *e*P **P 09 28 07.8 +2.3**
comp=Z,17nm,1.2s,mb4.8
BLMT Blacktail Moun 71.60 44 *e*P **P 09 28 07.2 +0.9**
comp=Z,32nm,1.1s,mb5.2
KLBR Kellerberrin 71.64 202 *e*P **P 09 28 05.9 -0.7**
comp=Z,102nm,1.6s,mb5.5
MTA Mtatsminda 71.69 309 P **P 09 28 06.8 -0.1**
MTA S S 09 37 26.4 -0.9
TBLG Delisi 71.70 309 *e*P **P 09 28 06.5 -0.5**
TBLG Delisi 71.70 309 P **P 09 28 06.5 -0.5**
KIV Kislovodsk 71.75 311 *e*P **P 09 28 08.6 +1.3**
comp=Z,181nm,1.0s,mb6.0
KIV LR LR
comp=Z,9μm,19.0s,MS6.0
KIV Kislovodsk 71.75 311 *d i*P **P 09 28 07.2 -0.1**
KIV *e*S S 09 37 29.0 +1.0
KIV *e*SS SS 09 42 05.6 +2.7
KIV pmax pmax
comp=Z,301nm,5.8s
KIV pmax pmax
comp=Z,189nm,0.9s,mb6.0
KIV Kislovodsk 71.75 311 P **P 09 28 09.1 +1.9**
SNR=41
KIV Kislovodsk 71.75 311 P **P 09 28 08.1 +0.8**
comp=Z,1μm,1.0s,mb6.7,SNR=22
JTMT Jette 71.79 44 *e*P **P 09 28 07.4 -0.1**
comp=Z,16nm,0.9s,mb5.0
CAN Canberra 71.83 174 PFAKE 09 28 20.0 +12
CAN LR LR
comp=Z,3μm,22.0s,MS5.5
CNB Canberra Magne 71.85 174 *e*P PcP 09 28 27.3 +0.8
YBMT Yellow Bay 71.88 44 *e*P **P 09 28 07.6 -0.4**
comp=Z,22nm,1.1s,mb5.0
GOR Gori 71.95 309 P **P 09 28 09.2 +0.6**
ONI Oni 72.03 310 P **P 09 28 09.0 0.0**
ONI S S 09 37 27.4 -3.9
SWMT Swartz Lake 72.08 44 *e*P **P 09 28 09.3 +0.1**
comp=Z,40nm,1.2s,mb5.2
WVOR Wild Horse Val 72.20 50 *e*P **P 09 28 10.1 +0.1**
comp=Z,38nm,1.4s,mb5.1
WVOR Wild Horse Val 72.20 50 *e*P **P 09 28 10.1 +0.1**
WVOR pmax pmax
comp=Z,38nm,1.4s,mb5.1
SMDO Samad 72.25 286 P **P 09 28 12.4 +1.8**
SNR=6.1
MSO Missoula 72.51 44 *e*P **P 09 28 11.0 -0.7**
comp=Z,28nm,1.2s,mb5.1
MSO LR LR
comp=Z,1μm,20.0s,MS5.2
SLMT Seeley Lake 72.52 44 *e*P **P 09 28 11.5 -0.3**
comp=Z,88nm,1.3s,mb5.5
HOQ Hoqain 72.53 287 P **P 09 28 13.7 +1.4**
SNR=10
GNI Garni 72.56 307 *e*P **P 09 28 13.8 +1.6**
comp=Z,244nm,1.6s,mb5.9
GNI LR LR
comp=Z,7μm,20.0s,MS5.9
GNI Garni 72.56 307 *i*P **P 09 28 14.8 +2.6**
GNI pmax pmax
comp=Z,119nm,1.5s
JMDO Jabal Madar 72.58 285 P **P 09 28 13.7 +1.1**
SNR=6.3
SCO Scoresbysund 72.61 355 *i*P **P 09 28 12.5 +0.5**
SCO pmax pmax
comp=Z,17nm,1.1s,mb4.9
SCO Scoresbysund 72.61 355 *i*P **P 09 28 12.5 +0.5**
comp=Z,17nm,1.1s,mb4.9
HATD Hatta, Dubai 72.77 288 P **P 09 28 14.8 +1.1**
SNR=8.6
CHMT Chamberlain Mo 72.84 44 *e*P **P 09 28 13.3 -0.4**
comp=Z,24nm,1.5s,mb4.9
ASHO Ashiyiah 72.90 288 P **P 09 28 15.7 +1.2**
SNR=6.5
NWAO Narrogin (SRO) 73.05 202 LR LR 10 00 32.6
comp=Z,2μm,20.1s,MS5.4,baz=176,slow=36
NWAO Narrogin (SRO) 73.05 202 *e*P **P 09 28 13.9 -1.0**
comp=Z,41nm,1.1s,mb5.3
NWAO Narrogin (SRO) 73.05 202 *e*P **P 09 28 14.0 -0.9**
NWAO pmax pmax
comp=Z,41nm,1.1s
BSY Bisya 73.08 286 P **P 09 28 17.1 +1.5**
SNR=8.9
IZAR Zarasai 73.17 328 *e*P **P 09 28 15.9 +0.4**
IZAR AMB AMB 09 28 22.0
comp=Z,40nm,1.0s,mb5.3
WCN Washoe City 73.22 53 *e*P **P 09 28 16.4 +0.2**
comp=Z,27nm,1.3s,mb5.0
WCN Washoe City 73.22 53 *e*P **P 09 28 16.4 +0.3**
WCN pmax pmax
comp=Z,27nm,1.3s,mb5.0
MICGM Minsk 73.27 326 ⇑*i*P **P 09 28 17.0 +0.9**
ARQ Araqi 73.28 287 P **P 09 28 18.3 +1.5**
SNR=15
MNK Minsk 73.29 326 ⇑*i*P **P 09 28 17.0 +0.7**
MNK *e* 09 28 32.0
MNK *e*S S 09 37 46.0 +0.8
MNK *e* 09 38 14.0
MNK *e*SS SS 09 42 26.0 +0.1
MNK pmax pmax
comp=Z,220nm,1.0s,mb6.0
MNK pmax pmax
comp=N,180nm,1.0s
MNK pmax pmax
comp=E,270nm,1.0s
ISAL Salakas 73.34 328 *e*P **P 09 28 16.8 +0.3**
ISAL AMB AMB 09 28 25.1
comp=Z,76nm,1.1s,mb5.5
MFID Camas Ranch 73.36 48 *e*P **P 09 28 16.8 -0.1**
comp=Z,193nm,1.2s,mb5.9
IIGN Ignalina 73.44 328 *e*P **P 09 28 17.4 +0.3**
IIGN AMB AMB 09 28 24.6
comp=Z,62nm,1.1s,mb5.4
NACGM Naroch 73.50 327 *e*P **P 09 28 16.0 -1.5**
CMB Columbia Colle 73.51 55 *e*P **P 09 28 17.4 -0.5**
comp=Z,50nm,1.4s,mb5.2
CMB Columbia Colle 73.51 55 *e*P **P 09 28 17.4 -0.5**
CMB pmax pmax
comp=Z,50nm,1.4s,mb5.2
FFC Flin Flon 73.66 33 *e*P **P 09 28 17.6 -0.9**
comp=Z,60nm,1.0s,mb5.5
FFC LR LR
comp=Z,2μm,20.0s,MS5.4
FFC Flin Flon 73.66 33 *i*P **P 09 28 18.1 -0.3**
FFC Flin Flon 73.66 33 P **P 09 28 18.8 +0.4**
comp=Z,309nm,1.1s,mb6.2,SNR=18
SOC Sochi 73.74 312 *d i*P **P 09 28 17.3 -1.8**
SOC *e* 09 28 33.0
SOC *e* 09 31 07.1
SOC *e*PPP 09 32 42.9
SOC *e*S S 09 37 49.2 -1.5
SOC *e* 09 38 26.1
SOC *e*SS SS 09 42 31.6 -1.7
SOC pmax pmax
comp=Z,67nm,0.9s,mb5.6
SOC pmax pmax
comp=Z,333nm,2.7s,mb5.8
SOC MLR MLR
comp=Z,9μm,17.0s,MS6.1
SOC Sochi 73.74 312 *d i*P **P 09 28 19.8 +0.7**
HRY Holter Researc 73.75 44 *e*P **P 09 28 19.3 +0.1**
comp=Z,19nm,0.9s,mb5.0
TOO Toolangi 73.86 177 *e*P **P 09 28 21.0 +1.4**
LRM Limekiln Ridge 73.93 45 *e*P **P 09 28 20.1 -0.1**
comp=Z,592nm,1.0s,mb6.5
EGMT Eagleton 74.10 42 *e*P **P 09 28 20.8 -0.4**
comp=Z,79nm,1.2s,mb5.5
EGMT LR LR
comp=Z,2μm,21.0s,MS5.4
HLID Hailey 74.12 47 *e*P **P 09 28 21.3 0.0**
comp=Z,38nm,1.5s,mb5.1
HLID LR LR
comp=Z,2μm,20.0s,MS5.4
DLMT Dillon 74.12 45 *e*P **P 09 28 21.6 +0.2**
comp=Z,67nm,1.0s,mb5.5
BMN Battle Mountai 74.20 51 PFAKE 09 28 30.0 +8.1
BMN LR LR
comp=Z,2μm,19.0s,MS5.4
MCMT McKenzie Canyo 74.29 46 *e*P **P 09 28 22.1 -0.2**
comp=Z,6.5nm,1.1s,mb4.5
ANN Anapa 74.36 314 *e*P **P 09 28 21.1 -1.6**
ANN *e* 09 31 11.0
ANN *e*S S 09 37 56.4 -1.3
ANN pmax pmax
comp=Z,165nm,1.4s,mb5.8
ANN MLR MLR
comp=Z,8μm,21.0s,MS6.0
BOZ Bozeman (W) 74.50 44 *e*P **P 09 28 23.1 -0.4**
comp=Z,36nm,1.3s,mb5.1
BOZ LR LR
comp=Z,3μm,19.0s,MS5.5
BOZ Bozeman (W) 74.50 44 *e*P **P 09 28 23.1 -0.4**
BOZ pmax pmax
comp=Z,36nm,1.3s,mb5.1
BOZ MLR MLR
comp=Z,3μm,19.0s,MS5.5
NVAR Mina Array Bea 74.65 53 P **P 09 28 23.8 -0.7**
comp=Z,9.5nm,0.9s,mb4.7,baz=284,slow=5.7,SNR=38
NVAR LR LR 09 54 28.0
comp=Z,2μm,21.2s,MS5.3,baz=64,slow=30
NVAR Mina Array Bea 74.65 53 P **P 09 28 23.8 -0.7**
NB2 NORSAR Subarra 74.87 338 P **P 09 28 25.3 -0.1**
comp=Z,56nm,1.0s,mb5.5,baz=39,slow=5.9
NOA NORSAR Array B 74.87 338 P **P 09 28 24.4 -0.9**
comp=Z,28nm,0.8s,mb5.2,baz=39,slow=5.8,SNR=55
NOA PP PP 09 31 06.5 -5.6
comp=Z,3.6nm,0.8s,baz=35,slow=7.7,SNR=3.4
NOA LR LR 10 06 35.1
comp=Z,6μm,18.4s,MS5.9,baz=30,slow=40
NOA NORSAR Array B 74.87 338 P **P 09 28 24.4 -0.9**
NOA PP PP 09 31 06.5 -5.6
NOA NORSAR Array B 74.87 338 P **P 09 28 24.5 -0.9**
NOA pmax pmax
comp=Z,28nm,0.8s
NOA MLR MLR
comp=Z,6μm,18.4s
AKASG Malin Array Be 75.09 323 P **P 09 28 25.9 -0.9**
comp=Z,35nm,0.6s,mb5.4,baz=46,slow=5.9,SNR=98
AKASG LR LR 10 03 53.0
comp=Z,7μm,18.4s,MS6.0,baz=45,slow=38
AKASG Malin Array Be 75.09 323 P **P 09 28 25.9 -0.9**
AKASG Malin Array Be 75.09 323 P **P 09 28 26.0 -0.8**
AKASG pmax pmax
comp=Z,35nm,0.6s
AKASG MLR MLR
comp=Z,7μm,18.4s
AKBB Malin Array Si 75.09 323 *e*P **P 09 28 26.0 -0.8**
AKBB Malin Array Si 75.09 323 *e*P **P 09 28 26.0 -0.8**
QLMT Earthquake Lak 75.10 45 *e*P **P 09 28 27.2 +0.2**
comp=Z,5.0nm,1.2s,mb4.3
KIEV Kiev 75.10 323 *e*P **P 09 28 25.8 -1.1**
comp=Z,83nm,1.0s,mb5.6
KIEV LR LR
comp=Z,7μm,20.0s,MS6.0
KIEV Kiev 75.10 323 ||*e*P **P 09 28 25.9 -1.0**
NAO01 NORSAR Array S 75.12 338 *e*P **P 09 28 27.1 +0.3**
comp=Z,21nm,0.8s,mb5.1
NAO01 LR LR
comp=Z,8μm,19.0s,MS6.0
KOPT Kop Dagi 75.32 309 ⇑*i*P **P 09 28 30.6 +2.2**
YMR Madison River 75.46 45 *e*P **P 09 28 29.7 +0.6**
comp=Z,93nm,1.3s,mb5.6
GCMT Greycliff 75.51 43 *e*P **P 09 28 29.4 +0.1**
comp=Z,37nm,1.1s,mb5.2
TPH Tonopah 75.55 53 PFAKE 09 28 40.0 +10
TPH LR LR
comp=Z,2μm,19.0s,MS5.5
SUW Suwalki 75.65 328 *e*P **P 09 28 30.3 +0.3**
SUW *e*S S 09 38 12.5 +0.8
SUW LMZ 10 03 44.1
comp=Z,7μm,19.2s
SUW Suwalki 75.65 328 *e*P **P 09 28 30.3 +0.3**
comp=Z,185nm,1.0s,mb6.0
SUW Suwalki 75.65 328 *e*P **P 09 28 30.3 +0.3**
SUW *e*S S 09 38 12.5 +0.8
SUW MLR MLR
comp=Z,7μm,19.2s,MS6.0
YFT Old Faithful 75.67 45 *e*P **P 09 28 32.2 +1.9**
comp=Z,52nm,1.2s,mb5.3
LKWY Lake 75.84 45 *e*P **P 09 28 32.5 +1.2**
comp=Z,43nm,1.1s,mb5.3
LKWY LR LR
comp=Z,4μm,19.0s,MS5.8
LKWY Lake 75.84 45 *e*P **P 09 28 32.5 +1.2**
LKWY pmax pmax
comp=Z,43nm,1.1s,mb5.3
LKWY MLR MLR
comp=Z,4μm,19.0s,MS5.8
FLWY Flagg Ranch 75.97 45 *e*P **P 09 28 33.1 +1.1**
comp=Z,124nm,1.4s,mb5.7
DCID1 Drake Creek 75.99 46 *e*P **P 09 28 33.4 +1.3**
comp=Z,87nm,1.1s,mb5.6
KELT Kelkit 76.02 310 ⇑*i*P **P 09 28 32.3 0.0**
RRI2 Red Ridge 76.06 46 *e*P **P 09 28 32.4 -0.2**
comp=Z,98nm,1.5s,mb5.5
ISA Isabella 76.11 56 *e*P **P 09 28 32.0 -0.9**
comp=Z,28nm,1.4s,mb5.0
ISA Isabella 76.11 56 *e*P **P 09 28 32.0 -1.0**
ISA pmax pmax
comp=Z,28nm,1.4s,mb5.0
RLMT Red Lodge 76.14 44 *e*P **P 09 28 33.3 +0.3**
comp=Z,63nm,1.4s,mb5.3
RLMT LR LR
comp=Z,2μm,19.0s,MS5.5
HVU Hansel Valley 76.14 48 *e*P **P 09 28 32.6 -0.4**
comp=Z,17nm,0.9s,mb5.0
HVU Hansel Valley 76.14 48 *e*P **P 09 28 32.6 -0.4**
HVU pmax pmax
comp=Z,17nm,0.9s,mb5.0
MOOW Moose Ponds 76.15 46 *e*P **P 09 28 33.7 +0.7**
comp=Z,57nm,1.4s,mb5.3
GRSN GIRESUNGRSN 76.16 311 ⇑*i*P **P 09 28 31.2 -2.0**
TPAW Teton Pass 76.19 46 *e*P **P 09 28 33.9 +0.7**
comp=Z,55nm,1.3s,mb5.3
SFJD Kangerlussuaq 76.25 5 *e*P **P 09 28 33.5 +0.3**
comp=Z,80nm,1.4s,mb5.5
SFJD Kangerlussuaq 76.25 5 *i*P **P 09 28 33.0 -0.2**
SFJD pmax pmax
comp=Z,18nm,1.1s,mb4.9
SFJD Kangerlussuaq 76.25 5 *i*P **P 09 28 33.0 -0.2**
comp=Z,18nm,1.1s,mb4.9
LOHW Long Hollow 76.31 46 *e*P **P 09 28 34.3 +0.3**
comp=Z,29nm,1.3s,mb5.0
SNOW Snow King Moun 76.31 46 *e*P **P 09 28 34.5 +0.5**
comp=Z,34nm,1.1s,mb5.2
REDW Red Top Meadow 76.32 46 *e*P **P 09 28 33.9 -0.1**
comp=Z,42nm,1.3s,mb5.2
DAC Darwin (Calif) 76.34 55 PFAKE 09 28 50.0 +16
DAC LR LR
comp=Z,3μm,20.0s,MS5.6
KONO Kongsberg 76.46 337 PFAKE 09 28 50.0 +15
KONO LR LR
comp=Z,11μm,19.0s,MS6.2
AHID Auburn Hatcher 76.54 47 *e*P **P 09 28 37.1 +1.8**
comp=Z,35nm,1.3s,mb5.1
AHID LR LR
comp=Z,2μm,22.0s,MS5.4
OSI Osito Adit 76.55 57 *e*P **P 09 28 35.2 -0.2**
comp=Z,19nm,0.9s,mb5.0
MIB Mutribah 76.55 297 *e*P **P 09 28 34.6 -1.0**
MIB AMb AMB 09 28 40.4
comp=Z,128nm,1.1s,mb5.8
BHD Baghdad 76.66 301 *i*x **P 09 28 33.3 -2.8**
BHD *i*x x 09 38 19.3
DGMT Dagmar 76.71 39 *e*P **P 09 28 35.6 -0.5**
comp=Z,85nm,1.1s,mb5.6
DGMT LR LR
comp=Z,2μm,20.0s,MS5.5
QRN Al-Qurain 76.73 296 *e*P **P 09 28 36.0 -0.7**
LAO LASA Array 76.81 41 *e*P **P 09 28 36.5 -0.2**
comp=Z,94nm,1.1s,mb5.6
LAO LR LR
comp=Z,3μm,19.0s,MS5.6
RDF Al-Radifah 76.89 296 *e*P **P 09 28 37.0 -0.5**
RDF AMb AMB 09 28 42.9
comp=Z,329nm,1.0s,mb6.2
NAY Al-Naaiem 76.93 297 *e*P **P 09 28 36.8 -1.0**
NAY AMb AMB 09 28 42.6
comp=Z,125nm,1.0s,mb5.8
HWUT Hardware Ranch 76.97 48 *e*P **P 09 28 38.0 +0.2**
comp=Z,71nm,1.4s,mb5.4
HWUT LR LR
comp=Z,2μm,19.0s,MS5.4
DUG Dugway 77.07 49 *e*P **P 09 28 38.4 +0.1**
comp=Z,55nm,1.3s,mb5.3
DUG LR LR
comp=Z,2μm,19.0s,MS5.4
DUG Dugway 77.07 49 *e*P **P 09 28 38.4 +0.1**
DUG pmax pmax
comp=Z,55nm,1.3s,mb5.3
DUG MLR MLR
comp=Z,2μm,19.0s,MS5.4
MWC Mount Wilson 77.22 57 *e*P **P 09 28 39.8 +0.6**
comp=Z,59nm,1.4s,mb5.3
MWC Mount Wilson 77.22 57 *e*P **P 09 28 39.8 +0.5**
MWC pmax pmax
comp=Z,59nm,1.4s,mb5.3
ERBA Erbaa 77.23 311 ⇑*i*P **P 09 28 41.0 +1.8**
GSC Goldstone 77.43 55 *e*P **P 09 28 39.6 -0.9**
comp=Z,26nm,1.3s,mb5.0
GSC Goldstone 77.43 55 *e*P **P 09 28 39.6 -0.8**
GSC pmax pmax
comp=Z,26nm,1.3s,mb5.0
BW06 Boulder Array 77.43 46 *e*P **P 09 28 39.8 -0.5**
comp=Z,17nm,1.0s,mb4.9
BW06 LR LR
comp=Z,2μm,19.0s,MS5.4
SCER sogukcermik 77.50 310 ⇑*i*P **P 09 28 42.9 +2.2**
JLU Jordanelle 77.65 48 *e*P **P 09 28 42.1 +0.6**
comp=Z,24nm,1.1s,mb5.0
KIS Kishinev 77.70 320 *e*P **P 09 28 39.0 -2.7**
comp=Z,900nm,9.0s
KIS Kishinev 77.70 320 *e*PP PP 09 31 50.0 +14
KIS Kishinev 77.70 320 *e*PPP 09 33 52.0
KIS *e*S S 09 38 29.0 -5.4
comp=Z,2μm,10.0s
KIS Kishinev 77.70 320 *e*P **P 09 28 39.0 -2.7**
KIS *e* 09 28 45.0
KIS *i* 09 28 54.0
KIS *e*S S 09 38 29.0 -5.4
KIS *e*PS 09 39 06.0
KIS *e*SS SS 09 43 30.0 -3.1
KIS smax
comp=N,2μm,10.0s
KIS smax
comp=E,2μm,10.0s
KIS MLR MLR
comp=Z,14μm,16.0s,MS6.4
KIS MLR MLR
comp=N,8μm,14.0s,MS6.4
KIS MLR MLR
comp=E,8μm,14.0s,MS6.4
KIS MLR MLR
comp=Z,14μm,16.0s
DAU Daniels Canyon 77.88 49 *e*P **P 09 28 43.6 +0.8**
comp=Z,49nm,1.2s,mb5.3
DAU Daniels Canyon 77.88 49 *e*P **P 09 28 43.7 +0.8**
DAU pmax pmax
comp=Z,49nm,1.2s,mb5.3
MPU Maple Canyon 77.90 49 *e*P **P 09 28 43.3 +0.4**
comp=Z,51nm,1.3s,mb5.3
AKCD Akcadag 77.95 309 ⇑*i*P **P 09 28 44.4 +1.1**
ARUT Antelope Range 78.13 52 *e*P **P 09 28 44.3 0.0**
comp=Z,29nm,1.1s,mb5.1
ARUT Antelope Range 78.13 52 *e*P **P 09 28 44.3 0.0**
ARUT pmax pmax
comp=Z,29nm,1.1s,mb5.1
LVV L'vov 78.16 324 *e*P **P 09 28 45.4 +1.2**
LVV *e* 09 31 44.4
LVV *e*PPP 09 33 34.4
LVV *e*S S 09 38 40.8 +1.6
LVV *e*PS 09 39 17.4
LVV *e*SS SS 09 43 41.4 +1.6
LVV MLR MLR
comp=N,5μm,14.0s,MS6.1
LVV MLR MLR
comp=E,5μm,14.0s,MS6.1
LVV MLR MLR
comp=Z,8μm,14.0s,MS6.2
BSD Bornholm Skovb 78.17 332 *e*P **P 09 28 40.0 -4.2**
BSD *i*S S 09 38 44.4 +5.2
BSD pmax pmax
comp=Z,53nm,0.9s,mb5.5
BSD MLR MLR
comp=Z,5μm,13.0s,MS6.0
BSD Bornholm Skovb 78.17 332 *i*P **P 09 28 40.0 -4.2**
comp=Z,53nm,0.9s,mb5.5
BSD Bornholm Skovb 78.17 332 *i*S S 09 38 44.4 +5.2
BSD
comp=Z,5μm,13.0s
BEL Belsk 78.21 327 *e*P **P 09 28 44.8 +0.4**
BEL *e*S S 09 38 34.6 -5.1
BEL LMZ 10 05 45.9
comp=Z,11μm,17.2s
BEL Belsk 78.21 327 *e*P **P 09 28 44.8 +0.3**
BEL *e*S S 09 38 34.6 -5.1
BEL MLR MLR
comp=Z,11μm,17.2s,MS6.2
IAS Iasi 78.22 321 ⇑P **P 09 28 45.5 +0.9**
IAS Iasi 78.22 321 ⇑*i*P **P 09 28 45.5 +0.9**
CCUT Cedar City 78.32 52 *e*P **P 09 28 45.5 +0.1**
comp=Z,23nm,1.1s,mb5.0
LEOM Leova 78.34 320 P **P 09 28 46.6 +1.3**
CTKT Corum 78.44 312 ⇑*i*P **P 09 28 45.6 -0.3**
MVU Marysvale 78.47 51 PFAKE 09 29 00.0 +14
MVU LR LR
comp=Z,2μm,20.0s,MS5.4
MSU Marysvale 78.48 50 *e*P **P 09 28 46.9 +0.7**
comp=Z,38nm,1.3s,mb5.2
MSU Marysvale 78.48 50 *e*P **P 09 28 46.9 +0.7**
MSU pmax pmax
comp=Z,38nm,1.3s,mb5.2

DGAR Diego Garcia 78.56 252 *eP* **P 09 28 47.1 +0.1**
comp=Z,224nm,1.3s,mb5.9
DGAR LR LR
comp=Z,2μm,19.0s,MS5.5
DGAR Diego Garcia 78.56 252 *eP* **P 09 28 47.1 +0.1**
DGAR pmax pmax
comp=Z,223nm,1.3s,mb5.9
DGAR MLR MLR
comp=Z,2μm,19.0s,MS5.5
COP Copenhagen 78.64 334 *i* P **P 09 28 47.3 +0.5**
COP *i* S S 09 38 50.9 +6.7
COP pmax pmax
comp=Z,61nm,0.9s,mb5.5
COP MLR MLR
comp=Z,4μm,17.0s,MS5.8
COP Copenhagen 78.64 334 *i* P **P 09 28 47.3 +0.5**
comp=Z,61nm,0.9s,mb5.5
COP Copenhagen 78.64 334 *i* S S 09 38 50.9 +6.7
COP
comp=Z,4μm,17.0s
GKP Gorka Klasztor 78.65 330 *eP* **P 09 28 47.8 +0.9**
GKP LMZ 10 09 09.2
comp=Z,11μm,17.5s
GKP Gorka Klasztor 78.65 330 *eP* **P 09 28 47.7 +0.8**
PFO Pinyon Flat Ob 78.66 57 *eP* **P 09 28 46.4 -0.9**
comp=Z,21nm,1.2s,mb5.0
PFO LR LR
comp=Z,4μm,20.0s,MS5.8
PFO Pinyon Flat Ob 78.66 57 *eP* **P 09 28 46.4 -0.9**
PFO pmax pmax
comp=Z,21nm,1.2s,mb4.9
PFO MLR MLR
comp=Z,4μm,20.0s,MS5.8
LDFC Landfair 78.68 55 *eP* **P 09 28 46.6 -0.8**
comp=Z,14nm,0.4s,mb5.2
GZT Gaziantep 78.75 308⇑*iP* **P 09 28 48.0 +0.3**
PRAR RASCA 78.78 322⇑*iP* **P 09 28 48.7 +1.0**
TLCR 78.90 319 ⇑P **P 09 28 48.7 +0.3**
TLCR 78.90 319⇑*iP* **P 09 28 48.7 +0.3**
KWP Kalwaria Pacla 78.91 325 *eP* **P 09 28 50.1 +1.7**
KWP *eS* S 09 38 50.9 +3.6
KWP Kalwaria Pacla 78.91 325 *eP* **P 09 28 49.7 +1.3**
comp=Z,261nm,1.1s,mb6.1
KWP LR LR
comp=Z,7μm,20.0s,MS6.0
KWP Kalwaria Pacla 78.91 325 *eP* **P 09 28 50.1 +1.7**
KWP *eS* S 09 38 50.9 +3.6
KWP Kalwaria Pacla 78.91 325⇑*iP* **P 09 28 49.2 +0.8**
GHRR 79.05 320⇑*iP* **P 09 28 49.8 +0.6**
BAR Barrett 79.06 57 *eP* **P 09 28 49.2 -0.4**
comp=Z,36nm,1.4s,mb5.1
BUR08 Bucovina Ar. S 79.10 322 *eP* **P 09 28 49.4 -0.1**
BURAR Bucovina Array 79.11 322⇓P **P 09 28 50.1 +0.6**
BURAR Bucovina Array 79.11 322⇓*iP* **P 09 28 50.1 +0.6**
SRU San Rafael 79.13 49 *eP* **P 09 28 49.9 +0.1**
comp=Z,30nm,0.8s,mb5.3
SRU San Rafael 79.13 49 *eP* **P 09 28 49.9 +0.1**
SRU pmax pmax
comp=Z,30nm,0.8s,mb5.3
TESR 79.14 321⇑*iP* **P 09 28 49.7 0.0**
MUD Monsted U'grnd 79.16 336 *i* P **P 09 28 50.3 +0.7**
MUD pmax pmax
comp=Z,23nm,1.0s,mb5.1
MUD MLR MLR
comp=Z,7μm,15.0s,MS6.1
MUD Monsted U'grnd 79.16 336 *i* P **P 09 28 50.3 +0.7**
comp=Z,23nm,1.0s,mb5.1
MUD
comp=Z,7μm,15.0s
TAU Tasmania Unive 79.27 176 PFAKE 09 29 00.0 +10
TAU LR LR
comp=Z,2μm,20.0s,MS5.5
CDAG Cicekdag 79.32 312⇑*iP* **P 09 28 51.3 +0.5**
PETR 79.37 320⇓*iP* **P 09 28 52.4 +1.4**
ULM Lac du Bonnet 79.45 34 P **P 09 28 50.5 -0.9**
comp=Z,10.0nm,1.0s,mb4.7,baz=331,slow=5.5,SNR=9.4
ULM LR LR 10 08 49.3
comp=Z,2μm,18.1s,MS5.5,baz=324,slow=39
ULM Lac du Bonnet 79.45 34 *eP* **P 09 28 49.6 -1.7**
comp=Z,28nm,1.1s,mb5.1
ULM Lac du Bonnet 79.45 34 *eP* **P 09 28 49.6 -1.7**
ULM pmax pmax
comp=Z,28nm,1.1s
RWWY Rawlins 79.47 46 *eP* **P 09 28 52.0 +0.4**
comp=Z,48nm,1.2s,mb5.3
VRI Vrincioaia 79.53 320 ⇓P **P 09 28 52.4 +0.5**
VRI Vrincioaia 79.53 320⇓*iP* **P 09 28 52.4 +0.5**
PLOR Plostina 79.58 320 ⇑P **P 09 28 53.5 +1.4**
PLOR Plostina 79.58 320⇑*iP* **P 09 28 53.5 +1.4**
TIRR Tirgusor 79.59 318 ⇑P **P 09 28 53.1 +0.9**
TIRR Tirgusor 79.59 318⇑*iP* **P 09 28 53.1 +0.9**
KOLS Kolonicke sedl 79.61 325 *eP* **P 09 28 55.7 +3.5**
KOLS *eS* S 09 38 55.7 +1.0
KOLS Kolonicke sedl 79.61 325 *e* **P 09 28 55.7 +3.5**
KOLS *eS* S 09 38 55.7 +1.0
RSSD Black Hills 79.65 42 *eP* **P 09 28 52.1 -0.5**
comp=Z,36nm,1.4s,mb5.1
RSSD Black Hills 79.65 42 *eP* **P 09 28 52.1 -0.4**
RSSD pmax pmax
comp=Z,36nm,1.4s,mb5.1
BR131 Keskin Array S 79.69 312 *eP* **P 09 28 53.6 +0.7**
comp=Z,26nm,0.8s,mb5.2
BR131 LR LR
comp=Z,3μm,19.0s,MS5.7
BRTR Keskin Array B 79.69 312 P **P 09 28 53.0 +0.2**
comp=Z,26nm,0.8s,mb5.2,baz=98,slow=3.7,SNR=43
BRTR LR LR 10 13 20.6
comp=Z,3μm,18.6s,MS5.7,baz=161,slow=43
BRTR Keskin Array B 79.69 312 P **P 09 28 53.0 +0.2**
BRTR Keskin Array B 79.69 312 P **P 09 28 53.0 +0.2**
BRTR pmax pmax
comp=Z,26nm,0.8s
GRER 79.73 320⇓*iP* **P 09 28 53.5 +0.5**
STHS Stebnicka Huta 79.74 325 *eP* **P 09 28 54.3 +1.4**
STHS pmax pmax
comp=Z,50nm,1.2s,mb5.3
STHS Stebnicka Huta 79.74 325 *eP* **P 09 28 54.3 +1.4**
OJC Ojcow 79.81 327 *eP* **P 09 28 53.4 +0.1**
OJC *eS* S 09 38 54.0 -2.8
OJC *eSS* SS 09 44 02.5 -2.0
OJC L 10 07 03.4
comp=Z,7.9nm,18.8s
OJC Ojcow 79.81 327 *eP* **P 09 28 53.4 +0.1**
OJC *eS* S 09 38 54.0 -2.8
OJC *eSS* SS 09 44 02.5 -2.0
OJC MLR MLR
comp=Z,8μm,18.8s,MS6.1
UZH Uzhgorod 79.81 324 *eP* **P 09 28 51.4 -1.9**
UZH *i* 09 29 00.0
UZH *e* 09 31 51.4
UZH *eS* S 09 38 49.4 -7.4
UZH *e* 09 38 59.8
UZH *e* 09 39 09.0
UZH *eSS* SS 09 44 00.0 -4.6
UZH *e* 09 47 27.0
UZH MLR MLR
comp=N,7μm,14.0s,MS6.5
UZH MLR MLR
comp=E,13μm,14.0s,MS6.5
UZH MLR MLR
comp=Z,10μm,14.0s,MS6.3
BMR Baia Mare 79.91 323 ⇑P **P 09 28 55.1 +1.2**
BMR Baia Mare 79.91 323⇑*iP* **P 09 28 55.0 +1.1**
CRVS Cervenica-Dubn 80.00 325 *eP* **P 09 28 55.5 +1.2**
CRVS pmax pmax
comp=Z,65nm,1.4s,mb5.4
CRVS Cervenica-Dubn 80.00 325 *eP* **P 09 28 55.5 +1.2**
CRVS Cervenica-Dubn 80.00 325 *eS* S 09 39 01.5 +2.6
CRVS *eSS* SS 09 44 00.8 -6.7
TRPA Tarpa 80.05 324⇓*iP* **P 09 28 55.1 +0.5**
GLA Glamis 80.08 56 *eP* **P 09 28 55.8 +0.7**
comp=Z,63nm,1.4s,mb5.3
GLA Glamis 80.08 56 *eP* **P 09 28 55.8 +0.7**
GLA pmax pmax
comp=Z,63nm,1.4s,mb5.3
NIE Niedzica 80.16 326 *eP* **P 09 28 57.0 +1.8**
NIE *epP* pP 09 28 59.0 +2.6
NIE Niedzica 80.16 326 *eP* **P 09 28 57.0 +1.8**
MLR Muntele Rosu 80.19 320 P **P 09 28 56.7 +1.3**
MLR Muntele Rosu 80.19 320⇑*iP* **P 09 28 56.8 +1.4**
SECR 80.44 320⇑*iP* **P 09 28 57.3 +0.5**
PV10 Paradox Valley 80.50 49 *eP* **P 09 28 57.8 +0.5**
comp=Z,1μm,0.9s,mb6.9
GULE Gulek 80.54 310⇑*iP* **P 09 28 58.3 +0.9**

PV04 Paradox Valley 80.57 49 *eP* **P 09 28 57.8 +0.3**
RAC Raciborz 80.61 327 *eP* **P 09 28 57.8 +0.2**
RAC *eS* S 09 39 08.1 +2.9
RAC MLR MLR
comp=N,8μm,14.0s,MS6.4
RAC MLR MLR
comp=Z,5μm,16.0s,MS6.0
RAC MLR MLR
comp=E,10μm,16.0s,MS6.4
RUE Ruedersdorf 80.62 331 *eP* **P 09 28 58.7 +1.1**
comp=E,80nm,1.1s,mb5.6
VOIR 80.69 321 ⇑P **P 09 28 59.4 +1.3**
VOIR 80.69 321⇑*iP* **P 09 28 59.3 +1.2**
PHWY Pilot Hill 80.72 45 *eP* **P 09 28 59.3 +0.9**
comp=E,18nm,0.9s,mb5.0
KECS Kecovo 80.76 325 *eP* **P 09 28 59.4 +1.0**
KECS pmax pmax
comp=Z,16nm,1.2s,mb4.8
KECS Kecovo 80.76 325 *eP* **P 09 28 59.4 +1.0**
OKC Ostrava-Krasne 80.81 327 *eP* **P 09 28 58.8 +0.1**
OKC *eS* S 09 39 09.5 +2.1
OKC MLR MLR
comp=Z,7μm,15.7s,MS6.1
OKC Ostrava-Krasne 80.81 327 *eP* **P 09 28 58.8 +0.1**
OKC *eS* S 09 39 09.5 +2.1
OKC AMS AMS 10 09 50.0
comp=Z,7μm,15.7s
WUAZ Wupatki 80.83 52 *eP* **P 09 28 59.3 +0.2**
comp=Z,40nm,1.1s,mb5.3
KSP Ksiaz 80.86 329 *eP* **P 09 28 59.1 +0.2**
KSP *ePcP* PcP 09 29 03.6 -1.8
KSP *eS* S 09 39 11.7 +4.0
KSP LMZ 10 07 16.4
comp=Z,7μm,19.4s
KSP Ksiaz 80.86 329 *eP* **P 09 28 58.8 -0.1**
KSP *i* pP pP 09 29 00.3 +0.2
KSP *eS* S 09 39 00.5 -7.3
KSP *eSS* SS 09 44 10.0 -10
KSP LM 10 07 23.0
comp=Z,14nm,19.4s
KSP Ksiaz 80.86 329 *eP* **P 09 28 58.8 -0.1**
KSP *eS* S 09 39 00.5 -7.3
KSP MLR MLR
comp=Z,14μm,19.4s,MS6.3
AGMN Agassiz Nation 80.86 35 *eP* **P 09 28 58.2 -0.8**
comp=Z,49nm,1.3s,mb5.3
AGMN LR LR
comp=Z,3μm,19.0s,MS5.7
DRGR 80.91 323 ⇑P **P 09 28 59.4 +0.1**
DRGR 80.91 323⇑*iP* **P 09 28 59.3 0.0**
PV01 Paradox Valley 80.93 49 *eP* **P 09 28 59.7 +0.2**
comp=Z,6μm,1.3s
LIKS Likavka 80.97 326 *eP* **P 09 29 01.2 +1.7**
LIKS pmax pmax
comp=Z,51nm,1.1s,mb5.4
LIKS Likavka 80.97 326 *eP* **P 09 29 01.2 +1.7**
PRD Provadia 80.98 318 *i* P **P 09 28 59.0 -0.7**
MORC Moravsky Berou 81.12 327 *eP* **P 09 29 01.0 +0.7**
comp=Z,66nm,1.2s,mb5.4
MORC Moravsky Berou 81.12 327 ⇓P **P 09 29 00.6 +0.3**
MORC Moravsky Berou 81.12 327⇓*iP* **P 09 29 00.6 +0.3**
DPC Dobruska-Polom 81.22 328 *eP* **P 09 29 00.8 0.0**
DPC *eS* S 09 39 13.8 +2.3
DPC MLR MLR
comp=Z,10μm,14.2s,MS6.3
DPC Dobruska-Polom 81.22 328 *eP* **P 09 29 00.8 0.0**
DPC *epP* pP 09 29 02.3 +0.2
DPC *eS* S 09 39 13.8 +2.3
DPC AMS AMS 10 09 50.0
comp=Z,10μm,14.2s
SMCO Snowmass 81.22 47 *eP* **P 09 29 01.5 +0.4**
comp=Z,36nm,1.2s,mb5.2
KRLC Kraliky 81.23 328 *eP* **P 09 29 02.3 +1.4**
UPC Upice 81.23 329 *eP* **P 09 29 01.9 +1.0**
UPC Upice 81.23 329 *eP* **P 09 29 01.9 +1.0**
UPC *epP* pP 09 29 04.2 +2.1
LOT Lotru 81.33 321⇑*iP* **P 09 29 02.2 +0.7**
HUMR Humele 81.35 320⇓*iP* **P 09 29 01.8 +0.1**
KDHN Kadinhani 81.37 312⇑*iP* **P 09 29 02.9 +1.0**
PSZ Piszkesteto 81.44 325 *eP* **P 09 29 03.0 +1.0**
comp=Z,100nm,1.2s,mb5.6
PSZ LR LR
comp=Z,9μm,20.0s,MS6.1
PSZ Piszkesteto 81.44 325 ⇑P **P 09 29 02.4 +0.4**
PSZ Piszkesteto 81.44 325⇓*eP* **P 09 29 02.0 0.0**
PSZ Piszkesteto 81.44 325⇑*iP* **P 09 29 02.4 +0.4**
DEV Deva 81.46 322 ⇓P **P 09 29 02.9 +0.7**
DEV Deva 81.46 322⇓*iP* **P 09 29 02.9 +0.7**
VYHS Vyhne 81.50 326 *eP* **P 09 29 02.7 +0.3**
VYHS pmax pmax
comp=Z,27nm,1.1s,mb5.1
VYHS Vyhne 81.50 326 *eP* **P 09 29 02.7 +0.3**
VYHS *ePP* PP 09 32 06.1 -1.7
VYHS *eS* S 09 39 15.7 +1.2
VYHS *eSS* SS 09 44 17.7 -12
MVCO Mesa Verde 81.57 50 *eP* **P 09 29 02.9 0.0**
comp=Z,39nm,1.1s,mb5.2
MVCO LR LR
comp=Z,2μm,19.0s,MS5.5
ISCO Idaho Springs 81.61 46 *eP* **P 09 29 03.9 +0.7**
comp=Z,34nm,1.4s,mb5.1
ISCO LR LR
comp=Z,2μm,19.0s,MS5.4
ISCO Idaho Springs 81.61 46 *eP* **P 09 29 03.9 +0.8**
ISCO pmax pmax
comp=Z,34nm,1.4s,mb5.1
ISCO MLR MLR
comp=Z,2μm,19.0s,MS5.4
KOLL Kolacno 81.63 326 *eP* **P 09 29 04.5 +1.4**
KOLL Kolacno 81.63 326 *eP* **P 09 29 04.5 +1.4**
BRG Berggiesshubel 81.80 330 *i* P **P 09 29 04.5 +0.6**
comp=Z,25nm,0.9s,mb5.2
BRG *e* 09 29 08.2
comp=Z,54nm,1.0s
BRG *e* 09 29 23.4
comp=Z,41nm,1.3s
BRG S S 09 39 21.0 +3.5
BRG
comp=Z,14μm,13.4s
BRG
comp=N,13μm,14.7s
BRG
comp=E,8μm,14.7s
BRG Berggiesshubel 81.80 330 *i* P **P 09 29 04.5 +0.6**
BRG *e* 09 29 23.4
BRG S S 09 39 21.0 +3.5
BRG pmax pmax
comp=Z,25nm,0.9s,mb5.1
BRG MLR MLR
comp=Z,14μm,13.4s,MS6.5
BRG MLR MLR
comp=N,13μm,14.7s,MS6.5
BRG MLR MLR
comp=E,8μm,14.7s,MS6.5
PVCC Panska Ves 81.81 329 *eP* **P 09 29 04.3 +0.3**
PVCC MLR MLR
comp=Z,9μm,16.6s,MS6.2
PVCC Panska Ves 81.81 329 *eP* **P 09 29 04.3 +0.3**
PVCC AMS AMS 10 08 00.0
comp=Z,9μm,16.6s
CLL Collm 81.84 331⇓*eP* **P 09 29 03.0 -1.1**
CLL *eS* S 09 39 19.0 +1.1
CLL pmax pmax
comp=Z,86nm,1.1s,mb5.6
CLL MLR MLR
comp=Z,10μm,16.5s,MS6.2
CLL Collm 81.84 331⇓*eP* **P 09 29 03.0 -1.1**
comp=Z,86nm,1.1s,mb5.6
CLL *ePlp* pP 09 29 05.0 -0.3
CLL *i* pP pP 09 29 06.8 +1.5
CLL *ePmax* pP 09 29 06.0 +0.7
CLL *i* sP sP 09 29 08.2 +2.4
CLL *i* 09 29 33.8
CLL *ePP* PP 09 32 14.0 +3.5
comp=Z,500nm,11.2s
CLL *eS* S 09 39 19.0 +1.1
comp=N,1μm,18.2s
CLL *eS* S 09 39 19.0 +1.1
comp=E,2μm,18.1s
CLL *eSS* SS 09 44 36.0 +1.4
CLL Lmax 10 09 00.0
GZR Gura Zlata 81.86 322 P **P 09 29 05.8 +1.4**
GZR Gura Zlata 81.86 322⇓*iP* **P 09 29 04.3 -0.1**
VRAC Vranov 81.88 328 ⇓P **P 09 29 04.5 +0.1**

VRAC Vranov 81.88 328⇓*iP* **P 09 29 04.5 +0.1**
SMOL Smolenice 82.11 327 *eP* **P 09 29 07.4 +1.8**
SMOL Smolenice 82.11 327 *eP* **P 09 29 07.4 +1.8**
BUD Budapest 82.16 325⇑*ePcP* **P 09 29 07.1 +1.3**
PRA Prague 82.22 329 P **P 09 29 07.0 +0.9**
PRA AMS AMS 10 11 00.0
PRU Pruhonice 82.24 329 *eP* **P 09 29 06.0 -0.2**
PRU *eS* S 09 39 25.8 +3.7
PRU MLR MLR
comp=Z,11μm,15.4s,MS6.3
PRU Pruhonice 82.24 329 *eP* **P 09 29 06.0 -0.2**
PRU *epP* pP 09 29 07.3 -0.2
PRU *eS* S 09 39 25.8 +3.7
PRU AMS AMS 10 11 30.0
comp=Z,11μm,15.4s
BZS Buzias 82.28 322 ⇑P **P 09 29 06.3 -0.2**
BZS Buzias 82.28 322⇑*iP* **P 09 29 06.3 -0.2**
ASF Jabal al Asfar 82.36 304 LR LR 10 09 50.1
comp=Z,3μm,18.4s,MS5.7,baz=277,slow=39
TREC Trest 82.37 328 *eP* **P 09 29 07.8 +0.9**
TREC MLR MLR
comp=Z,9μm,15.9s,MS6.2
TREC Trest 82.37 328 *eP* **P 09 29 07.8 +0.9**
TREC *eS* S 09 39 28.4 +4.9
TREC AMS AMS 10 10 50.0
comp=Z,9μm,15.9s
KAC Achnashellach 82.37 343 *eP* **P 09 29 07.0 +0.3**
GDZ Gediz 82.56 314⇑*iP* **P 09 29 08.1 0.0**
KPL Plockton 82.60 343 *eP* **P 09 29 09.0 +1.1**
KPL AMB AMB 09 29 10.5
comp=Z,198nm,3.9s
MMAI Mount Meron Ar 82.82 306 LR LR 10 09 53.7
comp=Z,4μm,18.5s,MS5.8,baz=35,slow=38
OGNE Ogallala 82.88 43 PFAKE 09 29 20.0 +10
OGNE LR LR
comp=Z,3μm,19.0s,MS5.6
NKC Novy Kostel 82.90 330 *eP* **P 09 29 09.6 0.0**
NKC *eS* S 09 39 31.7 +2.9
NKC MLR MLR
comp=Z,8μm,12.3s,MS6.3
NKC Novy Kostel 82.90 330 *eP* **P 09 29 09.6 0.0**
NKC *eS* S 09 39 31.7 +2.9
NKC AMS AMS 10 13 00.0
comp=Z,8μm,12.3s
CSS Prodhromos 82.91 309 *eP* **P 09 29 10.8 +0.7**
comp=Z,69nm,1.0s,mb5.6
CSS LR LR
comp=Z,3μm,20.0s,MS5.6
SDCO Great Sand Dun 83.03 48 *eP* **P 09 29 11.0 +0.4**
comp=Z,30nm,1.3s,mb5.2
SDCO LR LR
comp=Z,2μm,19.0s,MS5.4
EYMN Ely 83.09 33 PFAKE 09 29 20.0 +9.3
EYMN LR LR
comp=Z,3μm,19.0s,MS5.7
KDZ Kurdzhali 83.11 318 *i* P **P 09 29 11.7 +0.8**
SOP Sopron 83.12 326⇓*ePcP* **P 09 29 11.8 +0.9**
PLD Plovdiv 83.18 318 P **P 09 29 10.7 -0.6**
TUC Tucson 83.22 55 *eP* **P 09 29 11.5 -0.2**
comp=Z,21nm,1.4s,mb5.0
TUC Tucson 83.22 55 *eP* **P 09 29 11.5 -0.2**
TUC pmax pmax
comp=Z,21nm,1.4s,mb5.0
CONA Conrad Observa 83.25 327⇑*iP* **P 09 29 12.1 +0.6**
comp=Z,74nm,1.3s,mb5.5
PKSM Moragy 83.27 324 ⇓P **P 09 29 11.2 -0.5**
PKSM Moragy 83.27 324⇓*iP* **P 09 29 11.2 -0.5**
KHC Kasperske Hory 83.30 329 *eP* **P 09 29 11.9 +0.2**
comp=Z,42nm,0.9s,mb5.5
KHC Kasperske Hory 83.30 329 *eP* **P 09 29 11.4 -0.3**
KHC *eS* S 09 39 34.3 +1.4
KHC MLR MLR
comp=Z,11μm,13.9s,MS6.4
KHC Kasperske Hory 83.30 329 *eP* **P 09 29 11.4 -0.3**
KHC *epP* pP 09 29 16.0 +3.0
KHC *eS* S 09 39 34.3 +1.4
KHC AMS AMS 10 12 10.0
comp=Z,11μm,13.9s
PMOR Pomariorio Ree 83.32 114 *eP* **P 09 29 09.7 -2.6**
comp=Z,102nm,1.5s,mb5.6
KORT Korkueli 83.42 312⇑*iP* **P 09 29 11.9 -0.7**
RZN Rozhen 83.46 318 P **P 09 29 13.0 +0.3**
GERES GERESS Array B 83.47 329 P **P 09 29 12.3 -0.3**
comp=Z,16nm,0.7s,mb5.1,baz=36,slow=5.1,SNR=75
GERES PP PP 09 32 25.3 +1.4
comp=Z,4.1nm,0.9s,baz=51,slow=7.0,SNR=3.6
GERES PKKPbc PKKPbc 09 47 30.2 -0.5
comp=Z,0.5nm,0.7s,baz=238,slow=2.5,SNR=4.4
GERES LR LR 10 11 49.6
comp=Z,8μm,18.4s,MS6.1,baz=17,slow=40
GERES GERESS Array B 83.47 329 P **P 09 29 12.3 -0.3**
GERES PP PP 09 32 25.3 +1.4
GERES PKKPbc PKKPbc 09 47 30.2 -0.5
GERES GERESS Array B 83.47 329 P **P 09 29 12.4 -0.2**
GERES 09 32 25.3
GERES pmax pmax
comp=Z,16nm,0.7s
GERES pmax pmax
comp=Z,4.0nm,0.9s
VTS Vitosha 83.62 320 ⇓P **P 09 29 13.8 +0.2**
VTS Vitosha 83.62 320 *i* P **P 09 29 07.8 -5.8**
VTS Vitosha 83.62 320⇓*iP* **P 09 29 13.8 +0.2**
GOLH Golhisar 83.74 312⇑*iP* **P 09 29 14.1 -0.2**
DNZL Cakiroluk 83.74 313⇑*iP* **P 09 29 13.9 -0.3**
PPT2 Papeete2 83.79 117 *eP* **P 09 29 12.2 -2.4**
comp=Z,55nm,1.3s,mb5.5
PPT2 Papeete2 83.79 117 *ePP* PP 09 32 20.6 -7.4
comp=Z,220nm,25.8s
PPT2 *eS* S 09 39 31.6 -7.0
comp=Z,6μm,32.5s
PPT2 *eSS* SS 09 45 03.1 -3.2
comp=Z,1μm,23.8s
PPT2 *eLQ* 09 51 20.5
comp=Z,3μm,27.5s
PPT2 *eLR* LR 09 55 04.7
comp=Z,15μm,28.8s,baz=312
ECSD EROS Data Cent 83.79 39 *eP* **P 09 29 13.5 -0.9**
comp=Z,43nm,1.1s,mb5.5
ECSD LR LR
comp=Z,3μm,21.0s,MS5.6
ESK Eskdalemuir 83.81 341 PFAKE 09 29 30.0 +16
ESK LR LR
comp=Z,4μm,20.0s,MS5.8
GRF Grafenberg Arr 83.81 331 *eP* **P 09 29 13.8 -0.6**
comp=Z,55nm,1.0s,mb5.6
GRF *eL* 10 13 40.8
comp=Z,8μm,18.9s
GRF Grafenberg Arr 83.81 331 *eP* **P 09 29 13.8 -0.6**
GRF pmax pmax
comp=Z,55nm,1.0s,mb5.6
GRFO Grafenberg 83.81 331 *eP* **P 09 29 15.4 +1.1**
comp=Z,144nm,1.3s,mb5.9
GRFO Grafenberg 83.81 331 *eP* **P 09 29 15.4 +1.0**
GRFO pmax pmax
comp=Z,144nm,1.3s,mb5.9
MOA Molln 84.00 328⇑*iPcP* **P 09 29 15.9 +0.5**
comp=Z,45nm,1.4s,mb5.4
KKB Krupnik 84.20 319 *i* P **P 09 29 13.5 -3.0**
LAZ Ladron 84.22 51 *eP* **P 09 29 17.3 +0.5**
comp=Z,17nm,1.4s,mb5.0
ANMO Albuquerque 84.29 50 *eP* **P 09 29 17.5 +0.4**
comp=Z,29nm,1.1s,mb5.3
ANMO LR LR
comp=Z,2μm,19.0s,MS5.5
ANMO Albuquerque 84.29 50 *eP* **P 09 29 17.5 +0.4**
ANMO pmax pmax
comp=Z,29nm,1.1s
ANMO MLR MLR
comp=Z,2μm,19.0s
AKAS Kas 84.38 311⇑*iP* **P 09 29 17.0 -0.5**
AYDN Tasoluk 84.45 313⇑*iP* **P 09 29 18.5 +0.7**
PERS Pernice 84.56 327 *i* P **P 09 29 18.7 +0.4**
SOKA Soboth 84.56 327⇑*iP* **P 09 29 18.0 -0.3**
comp=Z,83nm,1.3s,mb5.7
LPM Los Pinos Moun 84.60 51 *eP* **P 09 29 18.3 -0.4**
comp=Z,10nm,1.0s,mb4.9
GAL1 Galloway 84.60 342 *eP* **P 09 29 18.9 +0.6**
GAL1 AMB AMB 09 29 24.6
comp=Z,141nm,3.1s
BNM Barren Site 84.71 51 *eP* **P 09 29 19.2 -0.1**
comp=Z,21nm,1.2s,mb5.1
VAY Valandovo 84.86 319 *eP* **P 09 29 19.1 -0.8**
OBKA Obir 84.91 327⇑*iPcP* **P 09 29 20.6 +0.6**
comp=Z,15nm,1.0s,mb5.1
SKO Skopje 84.99 320 *eP* **P 09 29 19.7 -0.8**

BEBN Eben Emael 84.99 334 P **P 09 29 20.9 +0.6**
comp=Z,20nm,1.1s,mb5.2
KBA Koelnbreinsper 84.99 328⇓*i*PcP **P 09 29 22.1 +1.7**
comp=Z,52nm,1.0s,mb5.6
MEM Membach 85.03 334 P **P 09 29 21.1 +0.5**
comp=Z,26nm,1.1s,mb5.3
KBI1 Birley Grange 85.18 339 *e*P **P 09 29 22.1 +0.8**
MYKA Terra Mystica 85.21 327⇓*i*P **P 09 29 20.2 -1.3**
comp=Z,21nm,0.9s,mb5.3
LJU Ljubljana 85.28 326 *i* P **P 09 29 21.8 -0.1**
LJU *e*S S 09 39 55.5 +2.6
TAOE Nuku Hiva Isla 85.34 105 *e*PP PP 09 32 33.2 -7.5
comp=Z,217nm,24.4s
TAOE *e*S S 09 39 50.0 -4.4
comp=Z,4μm,26.4s
TAOE *e*SS SS 09 45 25.7 -3.6
comp=Z,813nm,23.3s
TAOE *e*LR LR 09 56 24.9
comp=Z,15μm,23.6s,baz=308
STU Stuttgart 85.35 331 *e*P **P 09 29 22.1 0.0**
comp=Z,66nm,0.8s,mb5.8
STU Stuttgart 85.35 331 *e*P **P 09 29 22.1 0.0**
STU pmax pmax
comp=Z,66nm,0.8s,mb5.8
BOJS Bojanci 85.36 326 *i* P **P 09 29 22.6 +0.2**
BOJS *e*S S 09 39 56.7 +3.0
BCLA Clavier 85.43 334 P **P 09 29 22.7 +0.1**
comp=Z,32nm,1.5s,mb5.2
UCC Uccle 85.44 335 P **P 09 29 24.9 +2.4**
GMM Mts of Mourne 85.48 342 *e*P **P 09 29 23.0 +0.3**
KRUS Krusevo 85.52 320 *e*P **P 09 29 22.4 -0.8**
WATA Walderalm 85.54 329⇓*i*PcP **P 09 29 23.8 +0.6**
comp=Z,21nm,1.0s,mb5.3
SCHQ Schefferville 85.54 16 P **P 09 29 22.3 -0.7**
comp=Z,18nm,0.9s,mb5.3,baz=348,slow=6.4,SNR=12
SCHQ LR LR 10 14 58.6
comp=Z,3μm,18.5s,MS5.8,baz=343,slow=41
SCHQ Schefferville 85.54 16 *e*P **P 09 29 23.3 +0.3**
comp=Z,68nm,1.3s,mb5.7
ABTA Abfaltersbach 85.61 328⇓*i*PcP **P 09 29 23.1 -0.4**
comp=Z,26nm,1.1s,mb5.4
CBKS Cedar Bluff 85.63 44 *e*P **P 09 29 22.6 -1.1**
comp=Z,56nm,1.1s,mb5.7
CBKS LR LR
comp=Z,2μm,19.0s,MS5.5
CBKS Cedar Bluff 85.63 44 *e*P **P 09 29 22.7 -1.1**
CBKS pmax pmax
comp=Z,56nm,1.1s,mb5.7
CBKS MLR MLR
comp=Z,2μm,19.0s,MS5.5
LANF Langenberg 85.71 332 *e*P **P 09 29 24.9 +0.9**
SNF Seneffe 85.71 335 P **P 09 29 23.7 -0.2**
comp=Z,41nm,1.5s,mb5.4
MOTA Moosalm 85.72 329⇑*i*PcP **P 09 29 24.5 +0.4**
comp=Z,30nm,0.9s,mb5.5
BIA Bitola 85.73 319 *e*P **P 09 29 23.7 -0.6**
KNDS Knezji Dol 85.74 326 *e*P **P 09 29 24.0 -0.1**
RETA Reutte 85.75 329⇑*i*PcP **P 09 29 24.0 -0.2**
comp=Z,79nm,1.2s,mb5.8
WLF Walferdange 85.76 333 P **P 09 29 25.4 +1.2**
comp=Z,58nm,2.0s,mb5.5
WLF Walferdange 85.76 333 *e*P **P 09 29 24.9 +0.7**
comp=Z,78nm,1.4s,mb5.8
WLF LR LR
comp=Z,6μm,20.0s,MS6.0
WLF Walferdange 85.76 333 *e*P **P 09 29 24.9 +0.7**
WLF pmax pmax
comp=Z,78nm,1.4s,mb5.8
WLF MLR MLR
comp=Z,6μm,20.0s,MS6.0
GIVF Givet 85.87 334 *e*P **P 09 29 22.7 -2.0**
comp=Z,100nm,1.1s,mb5.7
GIVF Givet 85.87 334 *e*P **P 09 29 22.7 -2.0**
comp=Z,100nm,1.1s,mb6.0
GIVF Givet 85.87 334 *e*P **P 09 29 22.7 -2.0**
GIVF pmax pmax
comp=Z,100nm,1.1s,mb6.0
TRI Trieste 85.87 327 *e*P **P 09 29 24.4 -0.4**
comp=Z,34nm,1.3s,mb5.4
TRI LR LR
comp=Z,7μm,20.0s,MS6.0
TRI Trieste 85.87 327 *e*P **P 09 29 24.4 -0.4**
TRI pmax pmax
comp=Z,34nm,1.3s,mb5.4
TRI MLR MLR
comp=Z,7μm,20.0s,MS6.0
DOU Dourbes 85.95 334 P **P 09 29 25.7 +0.6**
FOEL Foel Wylfa 85.97 340 *e*P **P 09 29 25.4 +0.2**
FOEL AMB AMB 09 29 30.1
comp=Z,158nm,2.2s,mb5.8
BFO Black Forest 86.04 331 *e*P **P 09 29 24.5 -1.1**
comp=Z,53nm,0.9s,mb5.8
BFO LR LR
comp=Z,4μm,19.0s,MS5.9
BFO Black Forest 86.04 331 *e*P **P 09 29 24.5 -1.1**
BFO pmax pmax
comp=Z,53nm,0.9s,mb5.8
BFO MLR MLR
comp=Z,4μm,19.0s,MS5.9
BFO Black Forest 86.04 331 P **P 09 29 25.3 -0.3**
comp=Z,332nm,0.9s,mb6.6,SNR=15
BAIF Baives 86.12 334 *e*P **P 09 29 24.0 -2.0**
comp=Z,56nm,0.9s,mb5.5
BAIF Baives 86.12 334 *e*P **P 09 29 24.0 -2.0**
comp=Z,56nm,0.9s,mb5.8
BAIF Baives 86.12 334 *e*P **P 09 29 24.0 -2.0**
BAIF pmax pmax
comp=Z,56nm,0.9s,mb5.8
FETA Feichten 86.14 329⇑*i*PcP **P 09 29 27.0 +0.9**
comp=Z,26nm,1.0s,mb5.4
DAVA Damuels 86.27 330⇑*i*PcP **P 09 29 27.7 +0.9**
comp=Z,72nm,1.1s,mb5.8
SKP1 Kophill 86.31 338 *e*P **P 09 29 27.1 +0.3**
CDF Champ du Feu 86.38 332 *e*P **P 09 29 25.5 -1.8**
comp=Z,124nm,1.1s,mb5.8
CDF Champ du Feu 86.38 332 *e*P **P 09 29 25.5 -1.8**
comp=Z,124nm,1.1s,mb6.0
CDF Champ du Feu 86.38 332 *e*P **P 09 29 25.5 -1.8**
CDF pmax pmax
comp=Z,124nm,1.1s,mb6.0
ECH Echery 86.58 332 *e*P **P 09 29 27.5 -0.8**
comp=Z,34nm,1.0s,mb5.5
ECH LR LR
comp=Z,6μm,20.0s,MS6.0
ECH Echery 86.58 332 *e*P **P 09 29 27.5 -0.8**
ECH pmax pmax
comp=Z,34nm,1.0s,mb5.5
ECH MLR MLR
comp=Z,6μm,20.0s,MS6.0
ECH Echery 86.58 332 *e*P **P 09 29 28.8 +0.5**
MCH1 Michaelchurch 86.71 339 *e*P **P 09 29 29.1 +0.2**
MCH1 AMB AMB 09 29 34.4
comp=Z,105nm,3.0s
MCH1 AMS AMS 10 14 28.9
comp=Z,5μm,16.5s,MS6.0
SWN1 Swindon 86.79 338 *e*P **P 09 29 28.4 -0.9**
SWN1 AMB AMB 09 29 37.1
comp=Z,181nm,1.5s,mb6.1
SWN1 AMS AMS 10 07 54.4
comp=Z,5μm,18.7s,MS5.9
WOL Wolverton 86.80 338 *e*P **P 09 29 28.4 -0.9**
WOL AMB AMB 09 29 37.3
comp=Z,157nm,2.4s,mb5.8
WOL AMS AMS 10 09 34.0
comp=Z,5μm,20.1s,MS5.9
SCIA State Center 86.83 38 *e*P **P 09 29 30.7 +1.1**
comp=Z,97nm,1.1s,mb6.0
PAGF Fort de Pagny 86.84 333 *e*P **P 09 29 28.0 -1.5**
comp=Z,42nm,1.1s,mb5.3
PAGF Fort de Pagny 86.84 333 *e*P **P 09 29 28.0 -1.5**
comp=Z,42nm,1.1s,mb5.6
MOF Molkenrain 86.89 332 *e*P **P 09 29 30.2 +0.4**
HGH Gray Hill 86.97 339 *e*P **P 09 29 30.3 +0.2**
THEF They Montfort 87.02 332 *e*P **P 09 29 30.8 +0.4**
HINF Hinteralfeld 87.03 332 *e*P **P 09 29 28.1 -2.4**
comp=Z,42nm,1.1s,mb5.3
HINF Hinteralfeld 87.03 332 *e*P **P 09 29 28.1 -2.4**
comp=Z,42nm,1.1s,mb5.6
HINF Hinteralfeld 87.03 332 *e*P **P 09 29 28.1 -2.4**
HINF pmax pmax
comp=Z,42nm,1.1s,mb5.6
HAU Haudompre 87.06 332 *e*P **P 09 29 28.5 -2.1**
comp=Z,49nm,1.1s,mb5.3
HAU *e*R
comp=Z,8μm,18.2s
HAU Haudompre 87.06 332 *e*P **P 09 29 28.5 -2.1**
comp=Z,49nm,1.1s,mb5.7
HAU Haudompre 87.06 332 *e*P **P 09 29 28.5 -2.1**
HAU pmax pmax
comp=Z,49nm,1.1s,mb5.7
MNTX Cornudas Mount 87.11 52 PFAKE 09 29 40.0 +8.8
MNTX LR LR
comp=Z,1μm,20.0s,MS5.3
MEZF Maizieres J'vi 87.13 333 *e*P **P 09 29 29.3 -1.6**
comp=Z,165nm,1.4s,mb5.8
MEZF Maizieres J'vi 87.13 333 *e*P **P 09 29 29.3 -1.6**
comp=Z,165nm,1.4s,mb6.1
KSU1 Kansas State U 87.14 42 *e*P **P 09 29 30.1 -1.1**
comp=Z,43nm,0.9s,mb5.7
KSU1 LR LR
comp=Z,3μm,19.0s,MS5.7
TUE Stuetta 87.14 330 *e*P **P 09 29 31.0 0.0**
comp=Z,64nm,1.4s,mb5.7
TUE LR LR
comp=Z,9μm,21.0s,MS6.1
AMTX Amarillo 87.23 48 *e*P **P 09 29 31.5 -0.2**
comp=Z,50nm,1.1s,mb5.7
AMTX LR LR
comp=Z,2μm,20.0s,MS5.5
SFTF Sexfontaines 87.38 333 *e*P **P 09 29 30.4 -1.8**
comp=Z,178nm,1.2s,mb5.9
SFTF Sexfontaines 87.38 333 *e*P **P 09 29 30.4 -1.8**
comp=Z,178nm,1.2s,mb6.2
GDL2 Guadalupe Moun 87.42 51 *e*P **P 09 29 32.1 -0.5**
comp=Z,25nm,1.0s,mb5.4
JFWS Jewell Farm 87.50 36 PFAKE 09 29 40.0 +7.1
JFWS LR LR
comp=Z,3μm,20.0s,MS5.6
TBI Tubuai 87.67 121 *e*S S 09 40 11.0 -5.5
comp=Z,2μm,28.0s
TBI *e*SS SS 09 45 53.7 -10
comp=Z,729nm,26.0s
TBI *e*LQ 09 53 09.7
comp=Z,4μm,31.0s
TBI *e*LR LR 09 57 14.8
comp=Z,12μm,25.8s,baz=312
HTL Hartland 88.02 340 AMS AMS 10 16 33.6
comp=Z,6μm,16.7s,MS6.1
CABF La Chapelle 88.32 332 *e*P **P 09 29 35.3 -1.4**
comp=Z,49nm,1.4s,mb5.3
CABF La Chapelle 88.32 332 *e*P **P 09 29 35.3 -1.4**
comp=Z,49nm,1.4s,mb5.5
CABF La Chapelle 88.32 332 *e*P **P 09 29 35.3 -1.4**
CABF pmax pmax
comp=Z,49nm,1.4s,mb5.5
DYA Yadsworthy 88.37 339 AMS AMS 10 15 58.1
comp=Z,6μm,14.2s,MS6.2
GLMI Grayling 88.50 31 *e*P **P 09 29 38.3 +0.7**
comp=Z,210nm,1.0s,mb6.3
GLMI LR LR
comp=Z,2μm,20.0s,MS5.6
LOR Lormes 88.60 333 *e*P **P 09 29 36.2 -1.8**
comp=Z,90nm,1.2s,mb5.7
LOR *e*R
comp=Z,6μm,17.0s
LOR Lormes 88.60 333 *e*P **P 09 29 36.2 -1.8**
comp=Z,90nm,1.2s,mb6.0
LOR Lormes 88.60 333 *e*P **P 09 29 36.2 -1.8**
LOR pmax pmax
comp=Z,90nm,1.2s,mb6.0
AQU L'Aquila 88.65 325 *e*P **P 09 29 39.2 +0.9**
comp=Z,68nm,1.0s,mb5.9
AQU LR LR
comp=Z,10μm,19.0s,MS6.2
AQU L'Aquila 88.65 325 *e*P **P 09 29 39.2 +0.9**
AQU pmax pmax
comp=Z,68nm,1.0s,mb5.9
AQU MLR MLR
comp=Z,10μm,19.0s,MS6.2
AQU L'Aquila 88.65 325⇑*i*P **P 09 29 39.5 +1.2**
FLN La Foliniere 88.80 336 *e*P **P 09 29 37.0 -1.9**
FLN *e*R
comp=Z,8μm,17.8s
FLN La Foliniere 88.80 336 *e*P **P 09 29 37.0 -1.9**
FLN La Foliniere 88.80 336 *e*P **P 09 29 37.0 -1.9**
LDF La Druitiere 88.83 336 *e*P **P 09 29 37.0 -2.1**
comp=Z,15nm,0.7s,mb5.1
LDF La Druitiere 88.83 336 *e*P **P 09 29 37.0 -2.1**
comp=Z,15nm,0.7s,mb5.4
LDF La Druitiere 88.83 336 *e*P **P 09 29 37.0 -2.1**
LDF pmax pmax
comp=Z,15nm,0.7s,mb5.4
SSF Saint Saulge 88.91 333 *e*P **P 09 29 37.6 -1.8**
comp=Z,42nm,1.0s,mb5.4
SSF Saint Saulge 88.91 333 *e*P **P 09 29 37.6 -1.8**
comp=Z,42nm,1.0s,mb5.7
SSF Saint Saulge 88.91 333 *e*P **P 09 29 37.6 -1.8**
SSF pmax pmax
comp=Z,42nm,1.0s,mb5.7
JSA Saint Aubin 88.96 338 AMS AMS 10 14 08.1
comp=Z,6μm,14.8s,MS6.2
LPL La Plagne 88.98 331 *e*P **P 09 29 38.0 -1.8**
comp=Z,40nm,1.1s,mb5.3
LPL La Plagne 88.98 331 *e*P **P 09 29 38.0 -1.8**
comp=Z,40nm,1.1s,mb5.7
LPL La Plagne 88.98 331 *e*P **P 09 29 38.0 -1.8**
LPL pmax pmax
comp=Z,40nm,1.1s,mb5.7
LPG La Plagne 88.98 331 *e*P **P 09 29 38.2 -1.6**
comp=Z,30nm,0.8s,mb5.4
LPG La Plagne 88.98 331 *e*P **P 09 29 38.2 -1.6**
comp=Z,30nm,0.8s,mb5.7
LPG La Plagne 88.98 331 *e*P **P 09 29 38.2 -1.6**
LPG pmax pmax
comp=Z,30nm,0.8s,mb5.7
HYF Humbligny 89.04 334 *e*P **P 09 29 38.5 -1.6**
HYF Humbligny 89.04 334 *e*P **P 09 29 38.5 -1.6**
WMOK Wichita Mounta 89.04 46 *e*P **P 09 29 40.2 -0.2**
comp=Z,26nm,1.2s,mb5.4
WMOK Wichita Mounta 89.04 46 *e*P **P 09 29 40.2 -0.1**
WMOK pmax pmax
comp=Z,26nm,1.2s,mb5.4
SMF Signal de Mont 89.14 333 *e*P **P 09 29 38.7 -1.8**
comp=Z,142nm,1.6s,mb5.8
SMF Signal de Mont 89.14 333 *e*P **P 09 29 38.7 -1.8**
comp=Z,142nm,1.6s,mb6.0
SMF Signal de Mont 89.14 333 *e*P **P 09 29 38.7 -1.8**
SMF pmax pmax
comp=Z,142nm,1.6s,mb6.0
AVF Avril sur Loir 89.19 333 *e*P **P 09 29 39.0 -1.8**
comp=Z,86nm,1.1s,mb5.7
AVF Avril sur Loir 89.19 333 *e*P **P 09 29 39.0 -1.8**
comp=Z,86nm,1.1s,mb6.0
AVF Avril sur Loir 89.19 333 *e*P **P 09 29 39.0 -1.8**
AVF pmax pmax
comp=Z,86nm,1.1s,mb6.0
GRR Gorron 89.25 336 *e*P **P 09 29 39.3 -1.7**
comp=Z,198nm,1.5s,mb5.9
GRR Gorron 89.25 336 *e*P **P 09 29 39.3 -1.7**
comp=Z,198nm,1.5s,mb6.2
GRR Gorron 89.25 336 *e*P **P 09 29 39.3 -1.7**
GRR pmax pmax
comp=Z,198nm,1.5s,mb6.2
CUC Castrocucco 89.31 322 PFAKE 09 29 50.0 +8.5
CUC LR LR
comp=Z,5μm,20.0s,MS6.0
BNI Bardonecchia 89.38 330 PFAKE 09 29 50.0 +8.3
BNI LR LR
comp=Z,5μm,21.0s,MS5.9
TIP Timpagrande 89.45 321 *e*P **P 09 29 42.4 +0.2**
comp=Z,57nm,1.4s,mb5.7
TIP LR LR
comp=Z,6μm,21.0s,MS6.0
BGF Bois d'Agland 89.57 333 *e*P **P 09 29 41.1 -1.5**
BGF Bois d'Agland 89.57 333 *e*P **P 09 29 41.1 -1.5**
BGF Bois d'Agland 89.57 333 *e*P **P 09 29 41.1 -1.5**
MBDF Montbardon 89.61 330 *e*P **P 09 29 40.3 -2.5**
comp=Z,19nm,0.7s,mb5.2
MBDF Montbardon 89.61 330 *e*P **P 09 29 40.3 -2.5**
comp=Z,19nm,0.7s,mb5.5
MBDF Montbardon 89.61 330 *e*P **P 09 29 40.3 -2.5**
MBDF pmax pmax
comp=Z,19nm,0.7s,mb5.5
PLDF La Plantade 89.79 333 *e*P **P 09 29 44.2 +0.6**
TXAR Lajitas Array 89.79 53 P **P 09 29 42.6 -1.3**
comp=Z,6.5nm,0.8s,mb5.0,baz=296,slow=2.8,SNR=78
TXAR PKKPbc PKKPbc 09 47 17.1 +1.8
comp=Z,0.4nm,0.8s,baz=147,slow=5.4,SNR=4.5
TXAR LR LR 10 04 21.3
comp=Z,2μm,19.5s,MS5.6,baz=345,slow=32
TXAR Lajitas Array 89.79 53 P **P 09 29 42.6 -1.3**
TXAR PKKPbc PKKPbc 09 47 17.1 +1.8
TXAR Lajitas Array 89.79 53 P **P 09 29 42.6 -1.3**
TXAR pmax pmax
comp=Z,7.0nm,0.8s
ORIF Oris-en-Rattie 89.81 331 *e*P **P 09 29 42.5 -1.2**
comp=Z,76nm,1.5s,mb5.5
ORIF *e*R
comp=Z,8μm,17.2s
ORIF Oris-en-Rattie 89.81 331 *e*P **P 09 29 42.5 -1.2**
comp=Z,76nm,1.5s,mb5.8
ORIF Oris-en-Rattie 89.81 331 *e*P **P 09 29 42.5 -1.2**
ORIF pmax pmax
comp=Z,76nm,1.5s,mb5.8
SGMF Saint Gilles 89.91 337 *e*P **P 09 29 42.5 -1.6**
comp=Z,80nm,1.1s,mb5.7
SGMF Saint Gilles 89.91 337 *e*P **P 09 29 42.5 -1.6**
comp=Z,80nm,1.0s,mb6.0
SGMF Saint Gilles 89.91 337 *e*P **P 09 29 42.5 -1.6**
SGMF pmax pmax
comp=Z,80nm,1.0s,mb6.0
SSB Saint Sauveur 90.03 332 *e*P **P 09 29 44.4 -0.3**
comp=Z,11nm,0.9s,mb5.2
SSB LR LR
comp=Z,5μm,20.0s,MS5.9
SSB Saint Sauveur 90.03 332 *e*P **P 09 29 44.4 -0.3**
SSB pmax pmax
comp=Z,11nm,0.9s,mb5.2
SSB MLR MLR
comp=Z,5μm,20.0s,MS5.9
TCF Toulx Ste Croi 90.03 334 *e*P **P 09 29 43.0 -1.7**
comp=Z,30nm,1.0s,mb5.3
TCF Toulx Ste Croi 90.03 334 *e*P **P 09 29 43.0 -1.7**
comp=Z,30nm,1.0s,mb5.6
TCF Toulx Ste Croi 90.03 334 *e*P **P 09 29 43.0 -1.7**
TCF pmax pmax
comp=Z,30nm,1.0s,mb5.6
ROSF Rostrenen 90.05 338 *e*P **P 09 29 43.2 -1.6**
comp=Z,58nm,1.1s,mb5.5
ROSF Rostrenen 90.05 338 *e*P **P 09 29 43.2 -1.6**
comp=Z,58nm,1.0s,mb5.9
ROSF Rostrenen 90.05 338 *e*P **P 09 29 43.2 -1.6**
ROSF pmax pmax
comp=Z,59nm,1.0s,mb5.9
SBF Sospel 90.05 329 *e*P **P 09 29 42.1 -2.8**
comp=Z,79nm,1.0s,mb5.7
SBF Sospel 90.05 329 *e*P **P 09 29 42.1 -2.8**
comp=Z,79nm,1.0s,mb6.0
SBF Sospel 90.05 329 *e*P **P 09 29 42.1 -2.8**
SBF pmax pmax
comp=Z,79nm,1.0s,mb6.0
PYM Petit Puy Mans 90.20 333 *e*P **P 09 29 45.4 -0.1**
MSEY Mahe Island 90.24 264 PFAKE 09 30 00.0 +14
MSEY LR LR
comp=Z,3μm,19.0s,MS5.7
VIVF Saint-Julien-l 90.33 331 *e*P **P 09 29 44.3 -1.9**
comp=Z,45nm,1.0s,mb5.5
VIVF Saint-Julien-l 90.33 331 *e*P **P 09 29 44.3 -1.9**
comp=Z,45nm,1.0s,mb5.8
VIVF Saint-Julien-l 90.33 331 *e*P **P 09 29 44.3 -1.9**
VIVF pmax pmax
comp=Z,45nm,1.0s,mb5.8
QUIF Quistinic 90.39 338 *e*P **P 09 29 43.6 -2.8**
comp=Z,61nm,1.2s,mb5.5
QUIF Quistinic 90.39 338 *e*P **P 09 29 43.6 -2.8**
comp=Z,61nm,1.2s,mb5.8
QUIF Quistinic 90.39 338 *e*P **P 09 29 43.6 -2.8**
QUIF pmax pmax
comp=Z,61nm,1.2s,mb5.8
PGF Pioggiola 90.47 327 *e*P **P 09 29 44.5 -2.3**
comp=Z,116nm,1.2s,mb5.8
PGF Pioggiola 90.47 327 *e*P **P 09 29 44.5 -2.3**
comp=Z,116nm,1.2s,mb6.1
PGF Pioggiola 90.47 327 *e*P **P 09 29 44.5 -2.3**
PGF pmax pmax
comp=Z,116nm,1.2s,mb6.1
LBL Lubilhac 90.55 332 *e*P **P 09 29 47.8 +0.6**
MFF Saint Martin d 90.58 335 *e*P **P 09 29 45.8 -1.5**
comp=Z,93nm,1.1s,mb5.7
MFF Saint Martin d 90.58 335 *e*P **P 09 29 45.8 -1.5**
comp=Z,93nm,1.1s,mb6.0
MFF Saint Martin d 90.58 335 *e*P **P 09 29 45.8 -1.5**
MFF pmax pmax
comp=Z,93nm,1.1s,mb6.0
FRF La Foret Royal 90.63 329 *e*P **P 09 29 44.9 -2.7**
comp=Z,70nm,1.1s,mb5.6
FRF La Foret Royal 90.63 329 *e*P **P 09 29 44.9 -2.7**
comp=Z,70nm,1.1s,mb5.9
FRF La Foret Royal 90.63 329 *e*P **P 09 29 44.9 -2.7**
FRF pmax pmax
comp=Z,70nm,1.1s,mb5.9
ATD Arta Tunnel 90.70 285 LR LR 10 17 38.0
comp=Z,2μm,18.3s,MS5.6,baz=242,slow=40
LMR La Mourre 90.87 329 *e*P **P 09 29 46.2 -2.5**
comp=Z,150nm,1.3s,mb5.9
LMR La Mourre 90.87 329 *e*P **P 09 29 46.2 -2.5**
comp=Z,150nm,1.3s,mb6.2
LMR La Mourre 90.87 329 *e*P **P 09 29 46.2 -2.5**
LMR pmax pmax
comp=Z,150nm,1.3s,mb6.2
AAM Ann Arbor 90.95 32 PFAKE 09 30 00.0 +11
AAM LR LR
comp=Z,3μm,20.0s,MS5.7
RJF Les Rejaudoux 91.12 334 *e*P **P 09 29 48.4 -1.4**
comp=Z,76nm,1.1s,mb5.6
RJF *e*R
comp=Z,7μm,17.8s
RJF Les Rejaudoux 91.12 334 *e*P **P 09 29 48.4 -1.4**
comp=Z,76nm,1.1s,mb5.9
RJF Les Rejaudoux 91.12 334 *e*P **P 09 29 48.4 -1.4**
RJF pmax pmax
comp=Z,76nm,1.1s,mb5.9
FVM French Village 91.19 39 *e*P **P 09 29 50.5 +0.2**
comp=Z,50nm,1.3s,mb5.7
FVM French Village 91.19 39 *e*P **P 09 29 50.6 +0.3**
FVM pmax pmax
comp=Z,50nm,1.3s,mb5.7
CAF Calviac 91.25 333 *e*P **P 09 29 49.2 -1.2**
comp=Z,72nm,1.1s,mb5.6
CAF Calviac 91.25 333 *e*P **P 09 29 49.2 -1.2**
comp=Z,72nm,1.1s,mb5.9
CAF Calviac 91.25 333 *e*P **P 09 29 49.2 -1.2**
CAF pmax pmax
comp=Z,72nm,1.1s,mb5.9
LASF Ste Croix 91.30 331 *e*P **P 09 29 49.1 -1.6**
comp=Z,138nm,1.5s,mb5.8
LASF Ste Croix 91.30 331 *e*P **P 09 29 49.1 -1.6**
comp=Z,138nm,1.5s,mb6.1
JCT Junction City 91.43 50 *e*P **P 09 29 51.8 +0.3**
comp=Z,9.5nm,0.8s,mb5.2
JCT LR LR
comp=Z,2μm,21.0s,MS5.5
JCT Junction City 91.43 50 *e*P **P 09 29 51.8 +0.2**
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
JCT MLR MLR
comp=Z,2μm,21.0s,MS5.5
LFF La Frestale 91.72 334 *e*P **P 09 29 51.3 -1.3**
comp=Z,68nm,1.0s,mb5.6
LFF La Frestale 91.72 334 *e*P **P 09 29 51.3 -1.3**
comp=Z,68nm,1.0s,mb5.9
LFF La Frestale 91.72 334 *e*P **P 09 29 51.3 -1.3**
LFF pmax pmax
comp=Z,68nm,1.0s,mb5.9
OLIL Olney 91.77 37 *e*P **P 09 29 53.1 +0.1**
comp=Z,67nm,1.2s,mb5.8
SIUC Southern Illin 92.01 38 *e*P **P 09 29 54.5 +0.4**
comp=Z,29nm,0.9s,mb5.6
MIAR Mount Ida 92.13 43 *e*P **P 09 29 54.0 -0.7**
comp=Z,60nm,1.1s,mb5.8
MIAR LR LR
comp=Z,2μm,19.0s,MS5.6
MIAR Mount Ida 92.13 43 *e*P **P 09 29 54.0 -0.7**
MIAR pmax pmax
comp=Z,60nm,1.1s,mb5.8
MIAR MLR MLR
comp=Z,2μm,19.0s,MS5.6
LONY Lake Ozonia 92.51 25 PFAKE 09 30 10.0 +14
LONY LR LR
comp=Z,2μm,19.0s,MS5.6
MTLF Montolieu 92.55 332 *e*P **P 09 29 55.0 -1.5**
comp=Z,58nm,1.1s,mb5.6
MTLF Montolieu 92.55 332 *e*P **P 09 29 55.0 -1.5**
comp=Z,58nm,1.1s,mb5.9
MTLF Montolieu 92.55 332 *e*P **P 09 29 55.0 -1.5**
MTLF pmax pmax
comp=Z,59nm,1.1s,mb5.9
UALR University of 92.63 42 *e*P **P 09 29 57.0 -0.1**
comp=Z,17nm,1.0s,mb5.4
ERPA Erie 92.63 30 PFAKE 09 30 10.0 +13
ERPA LR LR

comp=Z,2μm,19.0s,MS5.6
PQI Presque Isle 92.73 20 *e*P **P 09 29 56.8 -0.4**
comp=Z,87nm,1.1s,mb6.1
VSL Villasalto 92.77 325 PFAKE 09 30 10.0 +12
VSL LR LR
comp=Z,3μm,21.0s,MS5.8
ACSO Alum Creek Sta 92.93 33 *e*P **P 09 29 58.8 +0.5**
comp=Z,23nm,0.9s,mb5.6
ACSO LR LR
comp=Z,3μm,21.0s,MS5.7
WDD Wield Dalam 93.12 320 PFAKE 09 30 10.0 +11
WDD LR LR
comp=Z,5μm,20.0s,MS6.0
NCB Newcomb 93.20 26 PFAKE 09 30 10.0 +11
NCB LR LR
comp=Z,3μm,20.0s,MS5.7
MLS Moulis 93.30 333 *e*P **P 09 30 00.5 +0.6**
EPF Esparros 93.52 333 *e*P **P 09 29 58.7 -2.2**
comp=Z,46nm,1.5s,mb5.4
EPF Esparros 93.52 333 *e*P **P 09 29 58.7 -2.2**
comp=Z,46nm,1.5s,mb5.7
EPF Esparros 93.52 333 *e*P **P 09 29 58.7 -2.2**
EPF pmax pmax
comp=Z,46nm,1.5s,mb5.7
NATX Nacogdoches 93.57 46 PFAKE 09 30 10.0 +8.6
NATX LR LR
comp=Z,3μm,20.0s,MS5.7
PKME Peaks-Kenny Pk 93.64 22 *e*P **P 09 30 02.7 +1.3**
comp=Z,13nm,1.0s,mb5.3
PKME LR LR
comp=Z,2μm,21.0s,MS5.6
RESF Ens 93.71 333 *e*P **P 09 30 03.5 +1.7**
LBNH Lisbon 93.74 24 PFAKE 09 30 10.0 +8.1
LBNH LR LR
comp=Z,4μm,20.0s,MS5.8
ETSF Etsaut 93.95 334 *e*P **P 09 30 01.8 -1.2**
comp=Z,32nm,1.1s,mb5.4
ETSF Etsaut 93.95 334 *e*P **P 09 30 01.8 -1.2**
comp=Z,32nm,1.1s,mb5.7
ETSF Etsaut 93.95 334 *e*P **P 09 30 01.8 -1.2**
ETSF pmax pmax
comp=Z,32nm,1.1s,mb5.7
SJPF Ste Jean 94.00 334 *e*P **P 09 30 00.0 -3.2**
comp=Z,76nm,1.6s,mb5.6
SJPF Ste Jean 94.00 334 *e*P **P 09 30 00.0 -3.2**
comp=Z,76nm,1.6s,mb5.9
BINY Binghamton 94.11 28 PFAKE 09 30 10.0 +6.3
BINY LR LR
comp=Z,3μm,19.0s,MS5.7
OXF Oxford 94.39 41 *e*P **P 09 30 04.7 -0.4**
comp=Z,41nm,1.1s,mb5.8
OXF LR LR
comp=Z,1μm,21.0s,MS5.4
OXF Oxford 94.39 41 *e*P **P 09 30 04.7 -0.4**
OXF pmax pmax
comp=Z,41nm,1.1s,mb5.8
OXF MLR MLR
comp=Z,1μm,21.0s,MS5.4
KVTX Kingsville 94.68 51 PFAKE 09 30 20.0 +13
KVTX LR LR
comp=Z,2μm,19.0s,MS5.6
PLAL Pickwick Lake 94.71 39 PFAKE 09 30 20.0 +13
PLAL LR LR
comp=Z,3μm,20.0s,MS5.8
VBMS Vicksburg 95.56 43 PFAKE 09 30 20.0 +9.5
VBMS LR LR
comp=Z,3μm,20.0s,MS5.8
KEST Kesra 95.81 323 P **P 09 30 12.6 +1.0**
comp=Z,3.6nm,1.0s,mb4.8,baz=331,slow=10,SNR=2.5
KEST LR LR 10 19 00.3
comp=Z,2μm,18.2s,MS5.7,baz=143,slow=39
KEST Kesra 95.81 323 P **P 09 30 12.6 +1.0**
BLA Blacksburg 96.55 33 *e*P **P 09 30 15.8 +0.9**
comp=Z,24nm,1.1s,mb5.5
BLA LR LR
comp=Z,2μm,19.0s,MS5.6
BLA Blacksburg 96.55 33 *e*P **P 09 30 15.8 +0.8**
BLA pmax pmax
comp=Z,24nm,1.1s,mb5.5
BLA MLR MLR
comp=Z,2μm,19.0s,MS5.6
LRAL Lakeview Retre 96.79 40 PFAKE 09 30 30.0 +14
LRAL LR LR
comp=Z,2μm,21.0s,MS5.6
CBN Corbin 97.01 30 PFAKE 09 30 30.0 +13
CBN LR LR
comp=Z,2μm,20.0s,MS5.6
RKT Rikitea 97.90 113 *e*SKSac SKSac 09 40 51.5 -8.2
comp=Z,1000nm,27.0s
RKT Rikitea 97.90 113 *e*PS PS 09 43 11.6 -0.4
comp=Z,1μm,32.0s
RKT *e*SS SS 09 48 27.8 -2.4
comp=Z,1μm,27.8s
RKT *e*LR LR 10 02 12.4
comp=Z,11μm,24.8s,baz=308
ESDC Sonseca Array 98.00 334 P **P 09 30 21.6 +0.2**
comp=Z,2.4nm,0.8s,mb4.8,baz=26,slow=4.3,SNR=9.6
ESDC PP PP 09 34 16.9 -2.2
comp=Z,3.3nm,0.9s,baz=29,slow=7.3,SNR=5.3
ESDC LR LR 10 18 07.3
comp=Z,5μm,20.1s,MS6.0,baz=45,slow=38
ESDC Sonseca Array 98.00 334 P **P 09 30 21.6 +0.2**
ESDC PP PP 09 34 16.9 -2.2
ESLA Sonseca Array 98.00 334 PFAKE 09 30 30.0 +8.6
ESLA LR LR
comp=Z,34μm,20.0s,MS6.8
PAB San Pablo 98.25 335 PFAKE 09 30 30.0 +7.5
PAB LR LR
comp=Z,7μm,20.0s,MS6.1
GOGA Godfrey 98.27 37 PFAKE 09 30 30.0 +7.2
GOGA LR LR
comp=Z,2μm,19.0s,MS5.7
BRAL Brewton 98.35 41 PFAKE 09 30 30.0 +6.8
BRAL LR LR
comp=Z,2μm,21.0s,MS5.6
MTE Manteigas 98.53 337 PFAKE 09 30 30.0 +6.2
MTE LR LR
comp=Z,5μm,20.0s,MS6.0
CNNC Cliffs of the 99.31 32 PFAKE 09 30 40.0 +13
CNNC LR LR
comp=Z,3μm,21.0s,MS5.8
RER Riviere de l'E 99.70 251 PFAKE 09 30 40.0 +11
RER LR LR
comp=Z,1μm,19.0s,MS5.4
NHSC New Hope 100.08 35 PFAKE 09 30 40.0 +9.3
NHSC LR LR
comp=Z,3μm,20.0s,MS5.8
SFS San Fernando 101.66 335 PFAKE 09 30 50.0 +12
SFS LR LR
comp=Z,20μm,19.0s,MS6.7
KMBO Kilima Mbogo 102.77 278 PFAKE 09 30 50.0 +7.4
KMBO LR LR
comp=Z,1μm,19.0s,MS5.5
DRV Dumont d'Urvil 102.96 181 PP PP 09 34 49.0 -8.5
DRV SP SP 09 44 07.0 +3.0
DRV SS SS 09 49 37.0 -2.2
DRV L 10 00 00.0
DRV R 10 07 00.0
RTC Rabat Centre 104.12 334 PFAKE 09 31 00.0 +11
RTC LR LR
comp=Z,3μm,20.0s,MS5.9
CASY Casey 105.44 193 PFAKE 09 35 20.0 +13
CASY LR LR
comp=Z,1μm,22.0s,MS5.4
BBSR BB Station 106.87 24 PFAKE 09 35 20.0 +9.0
BBSR LR LR
comp=Z,2μm,21.0s,MS5.7
MBAR Mbarara 107.61 283 PFAKE 09 35 20.0 +7.2
MBAR LR LR
comp=Z,432nm,21.0s,MS5.0
TAM Tamanrasset 108.23 318 PFAKE 09 35 20.0 +6.2
TAM LR LR
comp=Z,3μm,19.0s,MS5.8
GTBY Guantanamo Bay 113.57 39 PFAKE 09 35 30.0 +6.1
GTBY LR LR
comp=Z,2μm,19.0s,MS5.7
MTDJ Mount Denham 113.73 42 PFAKE 09 35 40.0 +16
MTDJ LR LR
comp=Z,2μm,20.0s,MS5.8
JTS JuntasAbangare 115.58 53 PFAKE 09 35 40.0 +12
JTS LR LR
comp=Z,1μm,20.0s,MS5.6
TORD Torodi Ar. Bea 118.16 316 PKP PKPdf 09 35 31.5 -1.4
comp=Z,2.7nm,0.8s,baz=4.7,slow=1.9,SNR=10
TORD PP PP 09 36 40.1 -6.9
comp=Z,5.6nm,0.9s,baz=27,slow=8.0,SNR=7.5
TORD PKKPbc PKKPbc 09 45 56.6 +6.1
comp=Z,0.7nm,1.0s,baz=251,slow=4.5,SNR=3.7
TORD Torodi Ar. Bea 118.16 316 PKP PKPdf 09 35 31.5 -1.4
TORD PP PP 09 36 40.1 -6.9
TORD PKKPbc PKKPbc 09 45 56.6 +6.1
MAW Mawson 119.47 206 PKP PKPdf 09 35 32.4 -1.3
comp=Z,6.2nm,1.0s,baz=109,slow=7.0,SNR=4.7
MAW Mawson 119.47 206 PKP PKPdf 09 35 32.4 -1.3
MAW Mawson 119.47 206 PKIKP PKPdf 09 35 32.4 -1.3
MAW pmax pmax
comp=Z,6.0nm,1.0s
RPN Rapa Nui 119.65 103 PFAKE 09 35 50.0 +15
RPN LR LR
comp=Z,5μm,21.0s,MS6.1
BCIP Isla Barro Col 119.66 50 PFAKE 09 35 50.0 +14
BCIP LR LR
comp=Z,1μm,19.0s,MS5.5
ANWB Willy Bob 121.41 27 PFAKE 09 35 50.0 +11
ANWB LR LR
comp=Z,2μm,21.0s,MS5.7
FDF Fort de France 124.33 28 PFAKE 09 36 00.0 +15
FDF LR LR
comp=Z,1μm,20.0s,MS5.6
SDV Santo Domingo 125.17 41 *e*PKPdf PKPdf 09 35 45.4 -1.0
LBTB Lobatse 125.33 263 *e*PKPdf PKPdf 09 35 45.9 -0.3
LBTB LR LR
comp=Z,2μm,20.0s,MS5.7
LBTB Lobatse 125.33 263 *e*PKIKP PKPdf 09 35 45.9 -0.3
LBTB MLR MLR
comp=Z,2μm,20.0s,MS5.7
QSPA South Pole Qui 126.35 180 *e*PKPdf PKPdf 09 35 46.0 -0.6
BBGH Gun Hill 126.38 27 PFAKE 09 36 00.0 +11
BBGH LR LR
comp=Z,2μm,20.0s,MS5.8
ROSC El Rosal 126.38 48 PKP PKPdf 09 35 48.6 -0.1
comp=Z,16nm,0.8s,baz=87,slow=15,SNR=12
ROSC El Rosal 126.38 48 PKP PKPdf 09 35 48.6 -0.1
ROSC *e*PKPdf PKPdf 09 35 49.3 +0.6
GRGR Grenville 126.51 30 PFAKE 09 36 00.0 +11
GRGR LR LR
comp=Z,1μm,19.0s,MS5.6
SACV Santiago Islan 127.02 343 PFAKE 09 36 00.0 +10
SACV LR LR
comp=Z,2μm,20.0s,MS5.8
DBIC Dimbokro 127.11 318 PKP PKPdf 09 35 49.1 -0.9
comp=Z,9.7nm,1.1s,baz=164,slow=0.6,SNR=5.4
DBIC PP PP 09 37 42.6 -5.1
comp=Z,4.5nm,0.8s,baz=7.6,slow=9.3,SNR=4.6
DBIC Dimbokro 127.11 318 PKP PKPdf 09 35 49.1 -0.9
DBIC *e*PKPdf PKPdf 09 35 49.7 -0.4
DBIC PP PP 09 37 42.6 -5.1
DBIC LR LR
comp=Z,3μm,19.0s,MS5.9
DBIC Dimbokro 127.11 318 PKIKP PKPdf 09 35 49.2 -0.9
DBIC 09 37 42.6
DBIC pmax pmax
comp=Z,10.0nm,1.1s
DBIC pmax pmax
comp=Z,5.0nm,0.8s
BOSA Boshof 127.23 259 PKP PKPdf 09 35 50.0 +0.2
comp=Z,2.2nm,0.8s,baz=308,slow=4.1,SNR=3.5
BOSA Boshof 127.23 259 PKP PKPdf 09 35 50.0 +0.2
BOSA LR LR
comp=Z,1μm,19.0s,MS5.7
BOSA Boshof 127.23 259 PKIKP PKPdf 09 35 50.0 +0.2
BOSA pmax pmax
comp=Z,2.0nm,0.8s
OTAV Otavalo 127.36 55 *e*PKPdf PKPdf 09 35 51.3 +0.7
OTAV LR LR
comp=Z,1μm,22.0s,MS5.5
LIC Lamto 127.58 317 *e*PKIKP PKPdf 09 35 50.5 -0.5
comp=Z,26nm,1.0s
LIC *e*R
comp=Z,4μm,18.2s
LIC Lamto 127.58 317 *e*PKPdf PKPdf 09 35 50.5 -0.5
SYO Syowa Base 128.16 207‖ *e*P PKPdf 09 35 50.2 -0.1
SYO Syowa Base 128.16 207‖ *e*P PKPdf 09 36 04.6 +14
SUR Sutherland 132.26 257 PFAKE 09 36 10.0 +11
SUR LR LR
comp=Z,2μm,20.0s,MS5.8
NNA Nana 137.12 65 PFAKE 09 36 20.0 +11
NNA LR LR
comp=Z,2μm,22.0s,MS5.8
SNAA Sanae 140.55 197 *e* PKPpre 09 36 04.6
SNAA Sanae 140.55 197 *e*PKPpre PKPpre 09 36 04.8
SNAA Sanae 140.55 197 *e*PKHKP PKPpre 09 36 04.8
VNA2 Neumayer--Watz 142.11 196 *e* PKPdf 09 36 11.1 -5.1
baz=112,slow=2.3
VNA2 *e* 09 36 19.3
VNA3 Neumayer Olymp 142.34 194 *e* PKPdf 09 36 13.0 -3.6
VNA3 *e* 09 36 20.0
VNA1 Neumayer--Stat 142.51 196 *e* PKPdf 09 36 14.5 -2.4
VNA1 *e* 09 36 18.3
SAML Samuel 144.01 46 *e*PKPdf PKPdf 09 36 18.7 -2.6
SHEL Horse Pasture 145.01 298 *e*PKPdf PKPdf 09 36 23.3 +0.4
SHEL LR LR
comp=Z,2μm,20.0s,MS5.8
SHEL Horse Pasture 145.01 298 *e*PKIKP PKPdf 09 36 23.3 +0.3
SHEL MLR MLR
comp=Z,2μm,20.0s,MS5.8
LPAZ La Paz 146.26 61 PKPbc PKPbc 09 36 25.5 -0.7
comp=Z,36nm,0.8s,baz=351,slow=4.9,SNR=90
LPAZ La Paz 146.26 61 *e*PKPdf PKPdf 09 36 25.0 0.0
LPAZ PKPbc PKPbc 09 36 25.5 -0.7
LPAZ LR LR
comp=Z,2μm,21.0s,MS5.9
PMSA Palmer Station 147.71 159 PFAKE 09 36 40.0 +14
PMSA LR LR
comp=Z,2μm,21.0s,MS5.9
RCBR Riachuelo 149.33 357 *e*PKPbc PKPbc 09 36 34.8 +0.2
LVC Limon Verde 149.61 71 *e*PKPbc PKPbc 09 36 35.6 +0.5
LVC LR LR
comp=Z,2μm,20.0s,MS5.9
LCO Las Campanas 151.32 84 *e*PKPdf PKPdf 09 36 35.3 +2.3
LCO LR LR
comp=Z,2μm,19.0s,MS5.9
PLCA Paso Flores 154.08 109 PKPbc PKPbc 09 36 43.9 -0.8
comp=Z,5.6nm,1.1s,baz=17,slow=6.8,SNR=3.6
PLCA Paso Flores 154.08 109 PKPbc PKPbc 09 36 43.9 -0.8
PLCA LR LR
comp=Z,2μm,19.0s,MS5.8
EFI East Falkland 159.10 143 PFAKE 09 36 50.0 +7.3
EFI LR LR
comp=Z,3μm,22.0s,MS6.1
CPUP Villa Florida 160.38 64 PKP PKPdf 09 36 45.1 +0.1
comp=Z,0.5nm,0.4s,baz=191,slow=5.1,SNR=3.2
CPUP PKPab PKPab 09 37 24.3 -1.5
comp=Z,1.9nm,0.7s,baz=291,slow=6.3,SNR=4.1
CPUP Villa Florida 160.38 64 PKP PKPdf 09 36 45.1 +0.1
CPUP PKPab PKPab 09 37 24.3 -1.5
CPUP LR LR
comp=Z,293nm,20.0s
CPUP Villa Florida 160.38 64 PKIKP PKPdf 09 36 45.2 +0.2
CPUP 09 37 24.3
CPUP pmax pmax
comp=Z,1.0nm,0.4s
CPUP pmax pmax
comp=Z,2.0nm,0.7s
SPB Sao Paulo 164.53 36 PFAKE 09 37 00.0 +11
SPB LR LR
comp=Z,1μm,20.0s

IDC 21 09:26:13.7±1.7, 8°67S×158°86E, h167km±27km, mb3.4/6, mb1 3.6/6, mb1mx3.4/15, mbtmp3.4/6, Error ellipse: s-maj=52.9km s-min=18.8km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.31**	**125**	P	Pn	09 26 43.0	+0.3
	90nm,0.3s,baz=211,slow=3.4,SNR=132						
HNR				S	Sn	09 27 05.1	0.0
	189nm,0.3s,baz=108,slow=23,SNR=31						
WRA	**Warramunga Arr**	**26.23**	**242**	P	P	09 31 33.2	-0.2
	0.6nm,0.3s,baz=68,slow=9.3,SNR=5.2						
STKA	**Stephens Creek**	**28.12**	**212**	P	P	09 31 50.4	+0.4
	1.1nm,0.4s,baz=44,slow=16,SNR=4.0						
ASAR	**Alice Springs**	**28.16**	**235**	P	P	09 31 50.5	0.0
	0.8nm,0.9s,baz=62,slow=9.7,SNR=3.9						
SONM	**Songino Array**	**72.83**	**326**	P	P	09 37 24.9	+0.9
	1.5nm,0.7s,baz=140,slow=5.8,SNR=8.7						
ILAR	**Eielson Array**	**83.55**	**20**	P	P	09 38 22.8	+0.2
	0.5nm,0.6s,baz=252,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**87.19**	**318**	P	P	09 38 39.9	-1.2
	0.3nm,0.7s,baz=85,slow=6.2,SNR=3.1						

*ISCJB **21** 09:27:60.0±3.1, 40°57N±0°06×24°03E±0°06, h29km±32km, Error ellipse: s-maj=10.3km s-min=6.7km az=163.7*
*ATH **21** 09:27:59.7, 40°63N×24°02E, h37km±6km, MD3.4/6*
*CSEM **21** 09:28:00.8±0.4, 40°68N×23°92E, h38km±2km, MD3.4, Error ellipse: s-maj=11.9km s-min=9.2km az=173.0*
*SKO **21** 09:28:01.4, 40°64N×23°95E, h0km*
ISC 21 09:28:00.5±1.3, 40°61N±0°07×24°02E±0°06, h28km±14km, n15, σ0°82/23, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.50**	**242**	*e*PN	**Pn**	**09 28 10.3**	**-1.4**
PLG				*e*SN	**Sb**	**09 28 18.0**	**+0.3**
PLG	**Polygyros**	**0.50**	**242**	*e*Pn	**Pn**	**09 28 10.3**	**-1.4**
PLG				*e*Sn	**Sb**	**09 28 17.9**	**+0.2**
SOH	**Sokhos**	**0.55**	**293**	*e*PN	**Pn**	**09 28 11.8**	**-0.7**
SOH	**Sokhos**	**0.55**	**293**	*e*Pn	**Pn**	**09 28 12.0**	**-0.5**
NVR	**Nevrokopi**	**0.75**	**351**	*e*PN	**Pn**	**09 28 14.5**	**-0.7**
NVR				*e*SN	**Sn**	**09 28 24.7**	**-1.0**
NVR	**Nevrokopi**	**0.75**	**351**	*e*Pn	**Pn**	**09 28 14.5**	**-0.7**
NVR				*e*Sn	**Sn**	**09 28 24.6**	**-1.1**
RDO	**Rodhopi**	**1.27**	**65**	*e*PN	**Pn**	**09 28 23.0**	**+0.6**
RDO				*e*SN	**Sn**	**09 28 38.9**	**+0.4**
RDO	**Rodhopi**	**1.27**	**65**	*e*Pn	**Pn**	**09 28 23.2**	**+0.8**
RDO				*e*Sb	**Sn**	**09 28 38.9**	**+0.4**
VAY	**Valandovo**	**1.31**	**303**	*e*Pg	**Pn**	**09 28 23.3**	**+0.4**
VAY				*e*Sg	**Sn**	**09 28 41.2**	**+1.8**
VAY	**Valandovo**	**1.31**	**303**	*e*Pg	**Pn**	**09 28 23.3**	**+0.4**
VAY				*e*Sg	**Sn**	**09 28 41.1**	**+1.7**
ALN	**Alexandroupoli**	**1.57**	**79**	*e*PB	**Pn**	**09 28 26.9**	**+0.4**
ALN	**Alexandroupoli**	**1.57**	**79**	*e*Pn	**Pn**	**09 28 26.9**	**+0.4**
AGG	**Agios Georgios**	**2.05**	**220**	*e*PN	**Pn**	**09 28 33.6**	**+0.5**
AGG	**Agios Georgios**	**2.05**	**220**	*e*Pn	**Pn**	**09 28 33.6**	**+0.5**
KHAL	**Karahalli**	**4.79**	**116**⇑	*i*P	**Pn**	**09 29 10.3**	**-0.5**

*IDC **21** 09:37:47.0±1.0, 1°75S×125°93E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=172.1km s-min=17.8km az=67.0*
*ISCJB **21** 09:37:51.5±0.6, 1°98S±0°04×125°51E±0°04, h51km±10km, mb3.9/5, Error ellipse: s-maj=7.6km s-min=5.9km az=18.2*
*DJA **21** 09:37:51, 2°03S×125°64E, h116km, MLv4.4/8*
ISC 21 09:37:52.7±0.6, 1°99S±0°04×125°54E±0°04, h42km±10km, n15, σ0°94/22, mb3.9/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.99**	**128**	P	**Pn**	**09 38 23.9**	**-0.1**
NLAI				S	**Sn**	**09 38 48.3**	**+0.6**
LBMI	**Labuha**	**2.38**	**56**	P	**Pn**	**09 38 29.0**	**-0.3**
LBMI				S	**Sn**	**09 38 57.3**	**0.0**
LUWI	**Luwuk**	**2.92**	**289**	P	**Pn**	**09 38 37.6**	**+0.9**
LUWI				S	**Sn**	**09 39 16.2**	**+5.6**
KMSI	**Cibinong**	**2.99**	**329**	P	**Pn**	**09 38 39.4**	**+1.7**
KMSI				S	**Sn**	**09 39 12.2**	**-0.1**
TNTI	**Ternate**	**3.30**	**34**	P	**Pn**	**09 38 40.4**	**-1.6**
TNTI				S	**Sn**	**09 39 20.0**	**0.0**
GTOI	**Gorontalo**	**3.63**	**316**	P	**Pn**	**09 38 49.3**	**+2.8**
GTOI				S	**Sn**	**09 39 34.2**	**+6.0**
MRSI	**Marisa**	**4.35**	**304**	P	**Pn**	**09 38 56.1**	**-0.3**
MRSI				S	**Sn**	**09 39 44.5**	**-1.4**
SPSI	**Sidrap Palu**	**6.08**	**251**	P	**Pn**	**09 39 20.0**	**-0.2**
SPSI				S	**Sn**	**09 40 28.1**	**-0.5**
WRA	**Warramunga Arr**	**19.80**	**155**	P	**Pn**	**09 42 19.8**	**-1.8**
	0.3nm,0.3s,baz=333,slow=12,SNR=16						
ASAR	**Alice Springs**	**23.02**	**160**	P	**P**	**09 42 54.8**	**+0.5**
	0.8nm,0.5s,mb3.4,baz=325,slow=6.7,SNR=16						
STKA	**Stephens Creek**	**33.36**	**155**	P	**P**	**09 44 27.6**	**+0.6**
	1.1nm,0.5s,mb4.1,baz=318,slow=12,SNR=4.4						
SONM	**Songino Array**	**52.37**	**344**	P	**P**	**09 47 00.2**	**-0.3**
	0.8nm,0.6s,mb3.9,baz=162,slow=6.5,SNR=7.1						
MKAR	**Makanchi Array**	**61.64**	**328**	P	**P**	**09 48 06.8**	**+0.6**
	1.0nm,0.6s,mb4.1,baz=125,slow=7.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**65.17**	**335**	P	**P**	**09 48 29.3**	**-0.1**
	1.2nm,0.6s,mb4.1,baz=113,slow=4.6,SNR=8.1						
TORD	**Torodi Ar. Bea**	**123.37**	**284**	PKP	PKPdf	09 56 47.7	+1.4
	0.6nm,0.7s,baz=70,slow=2.5,SNR=4.8						

IDC 21 09:45:46.7±8.1, 2°41N×126°59E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=170.1km s-min=126.6km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.48**	**161**	P	P	09 50 57.0	-1.4
	0.8nm,0.4s,baz=341,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**26.88**	**165**	P	P	09 51 29.2	-0.2
	0.3nm,0.7s,baz=345,slow=7.3,SNR=6.5						
STKA	**Stephens Creek**	**36.95**	**159**	P	P	09 52 59.2	+1.5
	0.8nm,0.4s,baz=332,slow=8.6,SNR=3.7						

*ISCJB **21** 09:52:50.9±0.5, 36°21N±0°02×45°53E±0°07, h10km, Error ellipse: s-maj=7.8km s-min=3.1km az=174.1*
*CSEM **21** 09:52:50.3±0.3, 36°24N×45°42E, h2km, ML3.8, Error ellipse: s-maj=10.0km s-min=4.0km az=86.0*
*THR **21** 09:52:50.9±0.7, 36°13N×45°43E, h14km±10km, ML3.5*
*TEH **21** 09:52:52.6, 36°26N×45°47E, h17km*
ISC 21 09:52:51.8±0.5, 36°25N±0°02×45°50E±0°06, h10km, n44, σ1°04/56, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAZR	**Azarshahr**	**1.48**	**15**	*e*Pn	**Pn**	**09 53 16.5**	**-2.0**
IAZR				*e*Sg	**Sg**	**09 53 39.1**	**-0.3**
IAZR				*e*		09 53 45.7	
	comp=Z,36μm,0.2s						
IAZR	**Azarshahr**	**1.48**	**15**	*e*Pn	**Pn**	**09 53 16.5**	**-2.0**
IAZR				*e*Sg	**Sg**	**09 53 39.1**	**-0.3**
IDHR	**Dehrash**	**1.71**	**155**	*e*Pn	**Pn**	**09 53 21.9**	**+0.3**
IDHR				*e*		09 53 23.8	
	comp=Z,17μm,0.2s						
IDHR				*e*Sg	**Sg**	**09 53 46.3**	**-0.4**
IDHR	**Dehrash**	**1.71**	**155**	*e*Pn	**Pn**	**09 53 21.9**	**+0.3**
IDHR				*e*Sg	**Sg**	**09 53 46.3**	**-0.4**
IBST	**Bostanabad**	**1.83**	**37**	*e*Pn	**Pn**	**09 53 22.4**	**-0.9**
IBST				*e*		09 53 54.4	
	comp=Z,7μm,0.3s						
IBST	**Bostanabad**	**1.83**	**37**	*e*Pn	**Pn**	**09 53 22.4**	**-0.9**
SNGE	**Sanandaj**	**1.90**	**127**	*e*Pg	**Pn**	**09 53 25.0**	**+0.8**
SNGE				AML	AML	09 54 04.2	
	comp=E,315nm,0.8s						
SNGE	**Sanandaj**	**1.90**	**127**	*e*Pn	**Pn**	**09 53 25.1**	**+0.9**
IFTB	**Fath-abad**	**1.91**	**22**	*e*Pn	**Pn**	**09 53 24.8**	**+0.4**
IFTB	**Fath-abad**	**1.91**	**22**	*e*Pn	**Pn**	**09 53 24.8**	**+0.4**
ISHB	**Shabestar**	**2.04**	**3**	*e*Pn	**Pn**	**09 53 25.6**	**-0.5**
ISHB				*e*		09 54 00.6	
	comp=Z,6μm,0.2s						
ISHB	**Shabestar**	**2.04**	**3**	*e*Pn	**Pn**	**09 53 25.6**	**-0.5**
IVIS	**Veis**	**2.04**	**147**	*e*Pn	**Pn**	**09 53 26.7**	**+0.5**
IVIS				*e*Sg	**Sg**	**09 53 57.1**	**-0.3**
IVIS				*e*		09 54 09.1	
	comp=Z,5μm,0.4s						
IVIS	**Veis**	**2.04**	**147**	*e*Pn	**Pn**	**09 53 26.7**	**+0.5**
IVIS				*e*Sg	**Sg**	**09 53 57.1**	**-0.3**
ITBZ	**Tabriz**	**2.05**	**14**	*e*Pn	**Pn**	**09 53 26.3**	**0.0**
ITBZ				*e*		09 53 58.8	
	comp=Z,3μm,0.2s						
ITBZ	**Tabriz**	**2.05**	**14**	*e*Pn	**Pn**	**09 53 26.3**	**0.0**
IGHG	**Ghaleghazi**	**2.10**	**155**	*e*Pn	**Pn**	**09 53 27.8**	**+0.7**
IGHG				*e*Sg	**Sg**	**09 53 59.3**	**-0.1**
IGHG				*e*		09 54 04.1	
	comp=Z,8μm,0.3s						
IGHG	**Ghaleghazi**	**2.10**	**155**	*e*Pn	**Pn**	**09 53 27.8**	**+0.7**
IGHG				*e*Sg	**Sg**	**09 53 59.3**	**-0.1**
ISRB	**Sarab**	**2.34**	**47**	*e*Pn	**Pn**	**09 53 31.3**	**+0.9**
ISRB				*e*Sg	**Sg**	**09 54 05.9**	**-1.2**
ISRB				*e*		09 54 11.5	
	comp=Z,4μm,0.4s						
ISRB	**Sarab**	**2.34**	**47**	*e*Pn	**Pn**	**09 53 31.3**	**+0.9**
IHRS	**Heris**	**2.41**	**30**	*e*Pn	**Pn**	**09 53 31.6**	**+0.4**
IHRS				*e*		09 53 36.3	
	comp=Z,4μm,0.3s						
IHRS				*e*Sg	**Sg**	**09 54 07.5**	**-1.6**
IHRS	**Heris**	**2.41**	**30**	*e*Pn	**Pn**	**09 53 31.6**	**+0.4**
IHRS				*e*Sg	**Sg**	**09 54 07.5**	**-1.6**

IMRD	**Marand**	**2.47**	**4**	*e*Pn	**Pn**	**09 53 32.4**	**+0.3**
IMRD				*e*		09 54 14.3	
comp=Z,4μm,0.2s							
IMRD	**Marand**	**2.47**	**4**	*e*Pn	**Pn**	**09 53 32.4**	**+0.3**
ZNJK	**Zanjan**	**2.60**	**80**	*e*Pn	**Pn**	**09 53 35.7**	**+1.7**
ZNJK	**Zanjan**	**2.60**	**80**	*e*Pn	**Pn**	**09 53 35.4**	**+1.5**
IKOM	**Komasi**	**2.64**	**141**	*e*Sg	**Sg**	**09 54 16.4**	**-0.4**
IKOM	**Komasi**	**2.64**	**141**	*e*Sg	**Sg**	**09 54 16.4**	**-0.4**
BHD	**Baghdad**	**3.11**	**198**	*ex*	**Pn**	**09 53 40.0**	**-0.9**
BHD				*ex*	x	09 54 18.0	
BHD	**Baghdad**	**3.11**	**198**	*e*Pn	**Pn**	**09 53 40.0**	**-0.9**
BHD				*e*Sn	**Sn**	**09 54 18.0**	**-0.1**
MAKU	**Maku**	**3.17**	**349**	*e*Pn	**Pn**	**09 53 43.8**	**+2.1**
MAKU	**Maku**	**3.17**	**349**	*e*Pn	**Pn**	**09 53 43.8**	**+2.1**
GRMI	**Germi**	**3.19**	**36**	*e*Pn	**Pn**	**09 53 44.9**	**+2.9**
GRMI	**Germi**	**3.19**	**36**	*e*Pn	**Pn**	**09 53 45.4**	**+3.4**
CHTH	**Charan**	**4.57**	**93**	*e*Pn	**Pn**	**09 54 02.9**	**+1.9**
CHTH	**Charan**	**4.57**	**93**	*e*Pn	**Pn**	**09 54 02.9**	**+1.9**
SHGR	**Shooshtar-Gavs**	**4.95**	**145**	*e*Pn	**Pn**	**09 54 06.5**	**+0.2**
SHGR				AML	AML	09 55 15.3	
comp=E,37nm,0.6s							
MIB	**Mutribah**	**6.61**	**166**	*e*P	**Pn**	**09 54 27.3**	**-1.7**
MIB	**Mutribah**	**6.61**	**166**	*e*P	**Pn**	**09 54 27.3**	**-1.7**
NASN	**Na'in**	**6.95**	**118**	*e*Pn	**Pn**	**09 54 34.8**	**+1.2**
NAY	**Al-Naaiem**	**7.13**	**168**	*e*P	**Pn**	**09 54 35.2**	**-1.0**
NAY				AML	AML	09 56 01.3	
comp=Z,3.8nm,0.5s							
NAY	**Al-Naaiem**	**7.13**	**168**	*e*P	**Pn**	**09 54 35.2**	**-1.0**
RDF	**Al-Radifah**	**7.50**	**166**	*e*P	**Pn**	**09 54 40.3**	**-1.0**
RDF				AML	AML	09 55 59.8	
comp=Z,5.5nm,0.6s							
RDF	**Al-Radifah**	**7.50**	**166**	*e*P	**Pn**	**09 54 40.3**	**-1.0**

*IDC **21** 09:54:58.3±0.9, 36.°50N×142.°44E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.9/24, mbtmp3.8/11, ML3.5/2, Error ellipse: s-maj=22.9km s-min=19.8km az=80.0*
*ISCJB **21** 09:54:60.0±1.6, 36.°58N±0.°03×142.°46E±0.°05, h22km±13km, mb3.9/10, Error ellipse: s-maj=7.2km s-min=5.4km az=20.6*
*JMA **21** 09:54:59.4±0.2, 36.°61N×142.°42E, h15km, M3.8*
*NEIC **21** 09:55:00.5±4.6, 36.°52N×142.°44E, h14km±28km, mb4.6/2, Error ellipse: s-maj=15.0km s-min=8.2km az=135.0*
ISC 21 09:55:00.4±1.7, 36.°59N±0.°03×142.°40E±0.°05, h11km±11km, n44, σ0°81/52, mb3.9/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.38**	**292**	P	**Pn**	**09 55 24.2**	**-1.3**
JFK	**Kawauchi**	**1.44**	**303**	P	**Pn**	**09 55 25.1**	**-1.3**
JHO	**Hitachi**	**1.47**	**271**	P	**Pn**	**09 55 25.6**	**-1.2**
JHO				*e*S	**Sn**	**09 55 44.6**	**-1.4**
CHOJ	**Chosi**	**1.53**	**235**	P	**Pn**	**09 55 27.4**	**-0.2**
JMM	**Marumori**	**1.80**	**315**	P	**Pn**	**09 55 30.5**	**-0.8**
JMM				*e*S	**Sn**	**09 55 54.3**	**+0.1**
JFT	**Otama**	**1.89**	**300**	P	**Pn**	**09 55 32.2**	**-0.3**
JFT				*e*S	**Sn**	**09 55 57.5**	**+1.2**
JIO	**Ouri**	**2.04**	**336**	P	**Pn**	**09 55 34.0**	**-0.5**
JIO				*e*S	**Sn**	**09 55 58.0**	**-1.9**
BSO1	**Boso 1**	**2.25**	**211**	P	**Pn**	**09 55 37.1**	**-0.4**
BSO1				*e*S	**Sn**	**09 56 06.0**	**+0.7**
JAG	**Ashikaga**	**2.38**	**267**	P	**Pn**	**09 55 38.9**	**-0.3**
JAG				*e*S	**Sn**	**09 56 08.4**	**+0.1**
JMK	**Ichinoseki**	**2.53**	**339**	P	**Pn**	**09 55 41.7**	**+0.3**
JMK				*e*S	**Sn**	**09 56 12.0**	**-0.1**
JNS	**Sasagawa**	**2.75**	**297**	P	**Pn**	**09 55 45.5**	**+1.2**
JYK	**Kaneyama**	**2.83**	**326**	P	**Pn**	**09 55 45.4**	**0.0**
JRY	**Ryogami san**	**2.88**	**260**	P	**Pn**	**09 55 45.5**	**-0.7**
JRY				*e*S	**Sn**	**09 56 21.1**	**+0.3**
JOM	**Ohasama**	**3.00**	**343**	*e*S	**Sn**	**09 56 24.4**	**+0.6**
JYN	**Shimob**	**3.31**	**252**	P	**Pn**	**09 55 52.9**	**+0.9**
MJAR	**Matsushiro Arr**	**3.37**	**270**	Pn	**Pn**	**09 55 53.5**	**+0.6**
9.9nm,0.3s,baz=39,slow=10,SNR=56							
MJAR	**Matsushiro Arr**	**3.37**	**270**	Pn	**Pn**	**09 55 53.5**	**+0.6**
MAJO	**Matsushiro**	**3.37**	**270**	*e*Pn	**Pn**	**09 55 53.9**	**+0.9**
MAT	**Matsushiro**	**3.37**	**270**	P	**Pn**	**09 55 53.9**	**+1.0**
MAT				S	**Sn**	**09 56 33.1**	**+0.2**
MAT	**Matsushiro**	**3.37**	**270**	P	**Pn**	**09 55 53.8**	**+0.9**
JSD	**Sado**	**3.60**	**295**	P	**Pn**	**09 55 57.4**	**+1.4**
ERM	**Erimo**	**5.45**	**6**	*e*Pn	**Pn**	**09 56 22.3**	**+0.9**
ASAJ	**Asahikawa**	**7.52**	**1**	Pn	**Pn**	**09 56 49.6**	**-0.2**
0.6nm,0.3s,baz=211,slow=19,SNR=6.0							
ASAJ	**Asahikawa**	**7.52**	**1**	*e*Pn	**Pn**	**09 56 49.6**	**-0.2**
ENH	**Enshi**	**28.09**	**267**	*e*P	**P**	**10 00 51.5**	**-0.6**
7.8nm,0.8s,mb4.4							
SONM	**Songino Array**	**28.68**	**304**	P	**P**	**10 00 58.1**	**+1.0**
3.1nm,0.9s,mb4.0,baz=103,slow=8.9,SNR=17							
SONM	**Songino Array**	**28.68**	**304**	P	**P**	**10 00 58.1**	**+1.0**
ZALV	**Zalesovo Beam**	**42.79**	**313**	P	**P**	**10 02 57.7**	**0.0**
1.6nm,0.5s,mb4.0,baz=77,slow=15,SNR=12							
ZALV	**Zalesovo Beam**	**42.79**	**313**	P	**P**	**10 02 57.7**	**0.0**
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**10 03 16.1**	**+0.3**
2.1nm,0.9s,mb3.9,baz=82,slow=9.1,SNR=7.8							
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**10 03 16.1**	**+0.3**
KURK	**Kurchatov**	**46.82**	**309**	*e*P	**P**	**10 03 30.1**	**+0.2**
2.7nm,0.8s,mb4.3,baz=83,slow=7.9,SNR=12							
KURK	**Kurchatov**	**46.82**	**309**	*e*P	**P**	**10 03 29.9**	**0.0**
5.3nm,1.0s,mb4.4							
ILAR	**Eielson Array**	**49.45**	**32**	P	**P**	**10 03 50.9**	**+0.9**
0.8nm,0.9s,mb3.7,baz=267,slow=6.0,SNR=6.3							
ILAR	**Eielson Array**	**49.45**	**32**	P	**P**	**10 03 50.9**	**+0.9**
WRA	**Warramunga Arr**	**56.74**	**189**	P	**P**	**10 04 42.3**	**-1.8**
0.5nm,0.6s,mb3.8,baz=7.8,slow=7.1,SNR=8.1							
WRA	**Warramunga Arr**	**56.74**	**189**	P	**P**	**10 04 42.3**	**-1.8**
ASAR	**Alice Springs**	**60.47**	**189**	P	**P**	**10 05 09.9**	**-0.1**
0.5nm,0.7s,mb3.6,baz=2.1,slow=6.5,SNR=6.9							
ASAR	**Alice Springs**	**60.47**	**189**	P	**P**	**10 05 09.9**	**-0.1**
YKA	**Yellowknife Ar**	**63.79**	**30**	P	**P**	**10 05 31.9**	**-0.1**
0.2nm,0.7s,mb3.2,baz=300,slow=6.6,SNR=3.8							
YKA	**Yellowknife Ar**	**63.79**	**30**	P	**P**	**10 05 31.9**	**-0.1**
TXAR	**Lajitas Array**	**89.76**	**53**	P	**P**	**10 07 59.1**	**+0.2**
0.3nm,0.7s,mb3.7,baz=301,slow=2.5,SNR=3.7							
TXAR	**Lajitas Array**	**89.76**	**53**	P	**P**	**10 07 59.1**	**+0.2**
LPAZ	**La Paz**	**146.22**	**61**	*e*PKPbc	PKPbc	10 14 41.8	+0.6

IDC 21 10:04:18.3±2.5, 3.°85S×145.°76E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, ML3.5/2, Error ellipse: s-maj=63.8km s-min=27.7km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.69**	**166**	Pn	Pn	10 05 44.4	+0.3
2.6nm,0.3s,baz=339,slow=9.3,SNR=12							
WRA	**Warramunga Arr**	**19.49**	**214**	P	Pn	10 08 48.1	-0.1
0.3nm,0.3s,baz=37,slow=11,SNR=35							
ASAR	**Alice Springs**	**22.79**	**209**	P	P	10 09 22.6	0.0
3.5nm,0.8s,baz=44,slow=7.6,SNR=35							
FITZ	**Fitzroy Crossi**	**24.26**	**233**	P	P	10 09 36.5	-0.8
8.6nm,0.9s,baz=47,slow=15,SNR=5.9							
SONM	**Songino Array**	**61.93**	**331**	P	P	10 14 40.1	+0.3
0.3nm,0.6s,baz=125,slow=5.4,SNR=3.8							

IDC 21 10:20:46.5±8.9, 19.°27N×145.°41E, h262km±89km, mb3.2/12, mb1 3.4/12, mb1mx3.3/23, mbtmp3.2/12, Error ellipse: s-maj=26.9km s-min=13.9km az=84.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.70**	**323**	P	P	10 25 34.5	-0.3
0.9nm,0.7s,baz=145,slow=8.9,SNR=4.4							
WRA	**Warramunga Arr**	**40.45**	**196**	P	P	10 27 59.9	0.0
0.7nm,0.6s,baz=16,slow=8.3,SNR=16							
FITZ	**Fitzroy Crossi**	**41.90**	**209**	P	P	10 28 12.0	+0.2
1.0nm,0.4s,baz=7.1,slow=8.1,SNR=6.4							
SONM	**Songino Array**	**42.53**	**321**	P	P	10 28 17.0	+0.5
0.6nm,0.7s,baz=133,slow=7.7,SNR=4.8							
ASAR	**Alice Springs**	**44.12**	**195**	P	P	10 28 28.9	-0.5
0.3nm,0.4s,baz=13,slow=6.6,SNR=9.4							
MKAR	**Makanchi Array**	**57.87**	**314**	P	P	10 30 11.6	+0.4
0.3nm,0.5s,baz=87,slow=7.6,SNR=3.8							
ILAR	**Eielson Array**	**63.26**	**26**	P	P	10 30 46.3	-0.7
0.4nm,0.4s,baz=256,slow=5.9,SNR=18							
BVAR	**Borovoye Array**	**65.86**	**320**	P	P	10 31 04.3	+0.2
0.4nm,0.4s,baz=71,slow=6.4,SNR=4.5							
YKA	**Yellowknife Ar**	**77.62**	**28**	P	P	10 32 13.9	+0.3
0.3nm,0.5s,baz=289,slow=5.6,SNR=14							
ARCES	**ARCESS Array B**	**81.87**	**342**	P	P	10 32 36.6	+0.4
3.6nm,1.0s,baz=87,slow=6.2,SNR=5.5							
NVAR	**Mina Array Bea**	**83.01**	**52**	P	P	10 32 44.6	+1.8
0.3nm,0.5s,baz=289,slow=5.6,SNR=3.6							
FINES	**FINESS Array B**	**86.26**	**335**	P	P	10 32 57.4	-1.1
0.8nm,0.3s,baz=65,slow=4.1,SNR=14							

*JMA **21** 10:23:37.5±0.3, 36.°61N×142.°44E, h0km, M4.6*
*IDC **21** 10:23:39.1±0.6, 36.°49N×142.°38E, h0km, mb4.1/19, mb1 4.3/23, mb1mx4.2/28, mbtmp4.2/23, ML4.5/3, Error ellipse: s-maj=15.8km s-min=15.2km az=122.0*
*NEIC **21** 10:23:41.5±0.4, 36.°70N×142.°38E, h10km, mb4.8/16, Error ellipse: s-maj=9.8km s-min=7.0km az=150.0*
*ISCJB **21** 10:23:43.1±0.3, 36.°68N±0.°03×142.°32E±0.°04, h33km, mb4.4/43, Error ellipse: s-maj=5.6km s-min=4.2km az=42.5*
*MOS **21** 10:23:44.6±1.0, 36.°94N×142.°25E, h33km, mb4.6/23, Error ellipse: s-maj=9.4km s-min=7.1km az=110.2*
ISC 21 10:23:45.1±0.3, 36.°67N±0.°03×142.°30E±0.°04, h35km, n146, σ1°38/154, mb4.4/43, 9C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.28**	**290**	⇑P	**Pn**	**10 24 03.8**	**-2.7**
JFK	**Kawauchi**	**1.34**	**302**	P	**Pn**	**10 24 04.7**	**-2.6**
JHO	**Hitachi**	**1.40**	**268**	P	**Pn**	**10 24 05.4**	**-2.7**
CHOJ	**Chosi**	**1.52**	**231**	P	**Pn**	**10 24 07.4**	**-2.3**
JMM	**Marumori**	**1.70**	**315**	P	**Pn**	**10 24 10.1**	**-2.1**
JMM				*e*S	**Sn**	**10 24 34.4**	**+1.7**
JFT	**Otama**	**1.79**	**299**	P	**Pn**	**10 24 11.9**	**-1.6**
JFT				*e*S	**Sn**	**10 24 37.4**	**+2.5**
JIO	**Ouri**	**1.94**	**337**	P	**Pn**	**10 24 14.0**	**-1.5**
JFY	**Yanaizu**	**2.21**	**290**	⇑P	**Pn**	**10 24 18.3**	**-0.9**
BSO1	**Boso 1**	**2.28**	**209**	P	**Pn**	**10 24 17.1**	**-3.2**
BSO1				*e*S	**Sn**	**10 24 45.7**	**-1.4**
JAG	**Ashikaga**	**2.31**	**265**	⇑P	**Pn**	**10 24 18.7**	**-1.9**
JMK	**Ichinoseki**	**2.44**	**340**	P	**Pn**	**10 24 21.2**	**-1.2**
JNS	**Sasagawa**	**2.65**	**297**	P	**Pn**	**10 24 24.4**	**-0.9**
JYK	**Kaneyama**	**2.72**	**326**	P	**Pn**	**10 24 25.4**	**-0.9**
JRY	**Ryogami san**	**2.82**	**258**	⇑P	**Pn**	**10 24 25.7**	**-2.0**
JOD2	**Odawara 2**	**2.96**	**243**	P	**Pn**	**10 24 27.9**	**-1.7**
MJAR	**Matsushiro Arr**	**3.30**	**269**	Pn	**Pn**	**10 24 33.4**	**-0.8**
69nm,0.3s,baz=89,slow=15,SNR=304							
MJAR	**Matsushiro Arr**	**3.30**	**269**	Pn	**Pn**	**10 24 33.4**	**-0.8**
MJAR	**Matsushiro Arr**	**3.30**	**269**	P	**Pn**	**10 24 33.4**	**-0.8**
MJAR				pmax	pmax		
comp=Z,69nm,0.3s							
MAJO	**Matsushiro**	**3.30**	**269**	*e*Pn	**Pn**	**10 24 33.8**	**-0.4**
MAJO	**Matsushiro**	**3.30**	**269**	*e*P	**Pn**	**10 24 33.8**	**-0.5**
MAT	**Matsushiro**	**3.30**	**269**	P	**Pn**	**10 24 33.4**	**-0.8**
MAT				S	**Sn**	**10 25 12.7**	**+0.5**
ERM	**Erimo**	**5.38**	**7**	*e*Pn	**Pn**	**10 24 59.5**	**-3.3**
ERM				*e*Sn	**Sn**	**10 26 03.0**	**-0.5**
ERM	**Erimo**	**5.38**	**7**	⇓*e*P	**Pn**	**10 25 00.0**	**-2.8**
ASAJ	**Asahikawa**	**7.44**	**2**	Pn	**Pn**	**10 25 29.3**	**-1.9**
comp=Z,4.0nm,0.3s,baz=200,slow=8.8,SNR=26							
ASAJ				Sn	**Sn**	**10 26 53.0**	**-1.2**
comp=Z,1.3nm,0.3s,baz=246,slow=32,SNR=1.8							
ASAJ	**Asahikawa**	**7.44**	**2**	*e*Pn	**Pn**	**10 25 29.2**	**-1.9**
comp=Z,22nm,1.2s							
ASAJ				Sn	**Sn**	**10 26 53.0**	**-1.2**
ASAJ	**Asahikawa**	**7.44**	**2**	P	**Pn**	**10 25 29.3**	**-1.9**
ASAJ						10 26 53.0	
ASAJ				pmax	pmax		
comp=Z,4.0nm,0.3s							
ASAJ				smax			
comp=N,1.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**7.84**	**19**	*c i*P	**Pn**	**10 25 33.5**	**-3.1**
YUK				*i* S	**Sn**	**10 26 58.3**	**-5.8**
YUK				pmax	pmax		
comp=E,61nm,0.6s							
YUK				pmax	pmax		
comp=N,19nm,0.6s							
YUK				pmax	pmax		
comp=Z,94nm,0.6s							
YUK				MLR	MLR		
comp=Z,4μm,11.0s							
CBIJ	**Chichi jima**	**9.54**	**181**	Pn	**Pn**	**10 25 53.9**	**-6.1**
comp=Z,13nm,0.3s,baz=294,slow=22,SNR=11							
CBIJ				Sn	**Sn**	**10 27 33.8**	**-12**
comp=Z,17nm,0.3s,baz=274,slow=20,SNR=5.7							
CBIJ	**Chichi jima**	**9.54**	**181**	Pn	**Pn**	**10 25 53.9**	**-6.1**
CBIJ				Sn	**Sn**	**10 27 33.8**	**-12**
YSS	**Yuzh-Sakhalins**	**10.28**	**2**	*e*Pn	**Pn**	**10 26 08.5**	**-1.5**
comp=Z,102nm,1.5s							
YSS	**Yuzh-Sakhalins**	**10.28**	**2**	*e*P	**Pn**	**10 26 08.5**	**-1.6**
YSS				pmax	pmax		
comp=Z,101nm,1.5s							
USRK	**Ussuriysk Arra**	**10.87**	**317**	Pn	**Pn**	**10 26 20.2**	**+2.2**
comp=Z,0.3nm,0.3s,baz=116,slow=14,SNR=5.4							
KSRS	**Korea Array**	**11.52**	**278**	Pn	**Pn**	**10 26 29.3**	**+2.3**
comp=Z,0.2nm,0.3s,baz=95,slow=13,SNR=5.3							
KSRS	**Korea Array**	**11.52**	**278**	P	**Pn**	**10 26 29.3**	**+2.3**
KSAR	**Wonju Array Be**	**11.55**	**278**	Pn	**Pn**	**10 26 29.3**	**+1.9**
KSAR	**Wonju Array Be**	**11.55**	**278**	P	**Pn**	**10 26 29.3**	**+1.9**
YAK	**Yakutsk**	**26.59**	**347**	*e*P	**P**	**10 29 18.6**	**-1.0**
comp=Z,25nm,0.8s,mb4.8							
YAK	**Yakutsk**	**26.59**	**347**	*e*P	**P**	**10 29 18.9**	**-0.7**
YAK				pmax	pmax		
comp=Z,19nm,1.1s,mb4.5							
SEY	**Seymchan**	**27.02**	**10**	⇑*e*P	**P**	**10 29 24.7**	**+1.2**
ENH	**Enshi**	**28.02**	**266**	*e*P	**P**	**10 29 31.4**	**-1.5**
comp=Z,26nm,0.8s,mb4.9							
ULN	**Ulaanbaatar**	**28.15**	**305**	*e*P	**P**	**10 29 34.3**	**+0.5**
comp=Z,6.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**28.15**	**305**	*e*P	**P**	**10 29 34.3**	**+0.5**
ULN				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.2							
SONM	**Songino Array**	**28.58**	**304**	P	**P**	**10 29 38.0**	**+0.3**
comp=Z,9.2nm,1.0s,mb4.5,baz=106,slow=8.2,SNR=39							
SONM	**Songino Array**	**28.58**	**304**	P	**P**	**10 29 38.0**	**+0.3**
SONM	**Songino Array**	**28.58**	**304**	P	**P**	**10 29 38.0**	**+0.3**
SONM				pmax	pmax		
comp=Z,9.0nm,1.0s							
ZAK	**Zakamensk**	**31.06**	**309**	*e*P	**P**	**10 29 59.9**	**+0.4**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.2s,mb4.0							
BILL	**Bilibino**	**34.18**	**16**	⇑*e*P	**P**	**10 30 25.9**	**-0.7**
BILL				pmax	pmax		
comp=Z,10.0nm,1.7s,mb4.5							
BILL				MLR	MLR		
comp=Z,600nm,13.0s							
CMAR	**Chiang Mai Arr**	**42.10**	**256**	P	**P**	**10 31 33.6**	**-0.3**
comp=Z,1.1nm,0.6s,mb3.7,baz=50,slow=7.4,SNR=9.3							
CMAR	**Chiang Mai Arr**	**42.10**	**256**	P	**P**	**10 31 33.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.10**	**256**	P	**P**	**10 31 33.6**	**-0.3**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**42.69**	**313**	P	**P**	**10 31 38.5**	**+0.2**
comp=Z,1.9nm,0.5s,mb4.1,baz=87,slow=6.2,SNR=14							
ZALV	**Zalesovo Beam**	**42.69**	**313**	P	**P**	**10 31 38.5**	**+0.2**
ZALV	**Zalesovo Beam**	**42.69**	**313**	P	**P**	**10 31 38.5**	**+0.2**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.1							
NVS	**Novosibirsk**	**43.61**	**314**	*e*P	**P**	**10 31 45.3**	**-0.4**
MK31	**Makanchi Array**	**44.92**	**303**	*e*P	**P**	**10 31 55.7**	**-0.6**
MK31	**Makanchi Array**	**44.92**	**303**	*e*P	**P**	**10 31 55.7**	**-0.6**
MKAR	**Makanchi Array**	**44.92**	**303**	P	**P**	**10 31 56.1**	**-0.2**
comp=Z,3.0nm,0.7s,mb4.2,baz=87,slow=9.5,SNR=13							
MKAR	**Makanchi Array**	**44.92**	**303**	*e*P	**P**	**10 31 56.3**	**0.0**
MKAR	**Makanchi Array**	**44.92**	**303**	*e*P	**P**	**10 31 56.3**	**0.0**
KURK	**Kurchatov**	**46.72**	**308**	P	**P**	**10 32 10.5**	**+0.1**
comp=Z,4.9nm,0.7s,mb4.6,baz=82,slow=8.0,SNR=24							
KURK	**Kurchatov**	**46.72**	**308**	*e*P	**P**	**10 32 09.7**	**-0.8**
comp=Z,6.5nm,0.7s,mb4.7							
KURK	**Kurchatov**	**46.72**	**308**	⇑*e*P	**P**	**10 32 09.8**	**-0.6**
KURK				pmax	pmax		
comp=Z,12nm,1.2s,mb4.7							
ODAN	**Odare**	**47.15**	**274**	*e*P	**P**	**10 32 15.9**	**+1.8**
comp=Z,7.0nm,0.4s,mb5.0							
RAMN	**Ramite**	**47.74**	**275**	*e*P	**P**	**10 32 19.9**	**+1.1**
RAMN	**Ramite**	**47.74**	**275**	*e*P	**P**	**10 32 19.9**	**+1.1**
JIRN	**Jiri**	**47.76**	**276**	*e*P	**P**	**10 32 21.1**	**+2.2**
comp=Z,13nm,0.5s,mb5.2							
JIRN	**Jiri**	**47.76**	**276**	*e*P	**P**	**10 32 21.1**	**+2.2**
comp=Z,13nm,0.5s,mb5.2							
GUN	**Gumba**	**47.90**	**276**	*e*P	**P**	**10 32 22.0**	**+2.0**
comp=Z,8.2nm,0.3s,mb5.2							
PKI	**Pulchoki**	**48.43**	**276**	*e*P	**P**	**10 32 25.8**	**+1.8**
PKI	**Pulchoki**	**48.43**	**276**	*e*P	**P**	**10 32 25.8**	**+1.8**
PKI	**Pulchoki**	**48.43**	**276**	*e*P	**P**	**10 32 25.8**	**+1.8**
KKN	**Kakani**	**48.44**	**277**	*e*P	**P**	**10 32 25.9**	**+1.8**
comp=Z,6.4nm,0.5s,mb5.0							
KKN	**Kakani**	**48.44**	**277**	*e*P	**P**	**10 32 25.9**	**+1.8**
comp=Z,6.4nm,0.4s,mb5.0							
KKN	**Kakani**	**48.44**	**277**	*e*P	**P**	**10 32 25.9**	**+1.8**
KKN				pmax	pmax		
comp=Z,6.0nm,0.4s,mb5.0							
DMN	**Daman**	**48.65**	**276**	*e*P	**P**	**10 32 27.4**	**+1.6**
comp=Z,4.6nm,0.4s,mb4.9							
GKN	**Gorkha**	**48.86**	**277**	*e*P	**P**	**10 32 28.6**	**+1.3**
comp=Z,11nm,0.4s,mb5.2							
DANN	**Dangsing**	**49.41**	**278**	*e*P	**P**	**10 32 32.9**	**+1.4**
comp=Z,14nm,0.5s,mb5.3							
DANN	**Dangsing**	**49.41**	**278**	*e*P	**P**	**10 32 32.9**	**+1.4**
comp=Z,14nm,0.5s,mb5.3							
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**10 32 30.7**	**-0.4**
comp=Z,2.9nm,0.8s,mb4.4,baz=266,slow=6.6,SNR=36							
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**10 32 30.7**	**-0.4**
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**10 32 30.7**	**-0.4**
ILAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
KOLN	**Koldanda**	**49.78**	**277**	*e*P	**P**	**10 32 35.3**	**+0.9**
comp=Z,6.2nm,0.4s,mb5.0							
PYUN	**Piuthan**	**50.13**	**278**	*e*P	**P**	**10 32 38.0**	**+1.0**
PYUN	**Piuthan**	**50.13**	**278**	*e*P	**P**	**10 32 38.0**	**+1.0**
TKM2	**Tokmak 2**	**50.43**	**299**	*e*P	**P**	**10 32 40.2**	**+1.1**
comp=Z,27nm,1.8s,mb5.0							
TKM2	**Tokmak 2**	**50.43**	**299**	*e*P	**P**	**10 32 40.2**	**+1.1**
TKM2				pmax	pmax		
comp=Z,27nm,1.8s,mb5.0							
AAK	**Ala-Archa**	**51.29**	**299**	*e*P	**P**	**10 32 44.6**	**-1.0**
comp=Z,5.7nm,0.6s,mb4.7							
AAK	**Ala-Archa**	**51.29**	**299**	*e*P	**P**	**10 32 44.6**	**-1.0**
AAK				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.7							
BVAR	**Borovoye Array**	**51.35**	**313**	P	**P**	**10 32 45.6**	**-0.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=90,slow=4.4,SNR=6.6							
BVAR	**Borovoye Array**	**51.35**	**313**	P	**P**	**10 32 45.6**	**-0.2**
BVAR	**Borovoye Array**	**51.35**	**313**	P	**P**	**10 32 45.6**	**-0.2**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**51.40**	**313**	*e*P	**P**	**10 32 45.6**	**-0.6**
comp=Z,1.7nm,0.7s,mb4.1							
BRVK	**Borovoye**	**51.40**	**313**	⇓*e*P	**P**	**10 32 47.4**	**+1.2**
BRVK				pmax	pmax		
comp=Z,3.0nm,1.2s,mb4.1							
KKAR	**Karatay Array**	**53.93**	**301**	*e*P	**P**	**10 33 06.3**	**+1.2**
comp=Z,8.6nm,1.2s,mb4.6							
KKAR	**Karatay Array**	**53.93**	**301**	*e*P	**P**	**10 33 06.3**	**+1.2**
KKAR				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.6							
INK	**Inuvik**	**54.39**	**27**	P	**P**	**10 33 08.4**	**+0.4**
comp=Z,2.1nm,0.7s,mb4.2,baz=298,slow=4.6,SNR=5.2							
INK	**Inuvik**	**54.39**	**27**	P	**P**	**10 33 08.4**	**+0.4**
INK	**Inuvik**	**54.39**	**27**	P	**P**	**10 33 08.5**	**+0.5**
INK				pmax	pmax		
comp=Z,2.0nm,0.7s							
WRAB	**Tennant Creek**	**56.79**	**189**	*e*P	**P**	**10 33 28.6**	**+2.8**
comp=Z,5.2nm,0.4s

JMK				eS	Sn	10 26 39.9	+0.4
JRY	Ryogami san	2.91	259	P	Pn	10 26 15.5	+0.9
JOM	Ohasama	3.00	343	eS	Sn	10 26 53.0	+1.9
MAT	Matsushiro	3.40	270	P	Pn	10 26 23.5	+2.2
MAT				eS	Sn	10 27 00.2	-0.9

*IDC **21** 10:36:12.1±0.9, 36°.56N×142°.47E, h0km, mb3.5/10, mb1 3.8/12, mb1mx3.7/23, mbtmp3.6/12, ML3.5/1, MS4.2/1, Ms1 4.2/1, ms1mx2.8/37, Error ellipse: s-maj=23.2km s-min=19.6km az=102.0*
*JMA **21** 10:36:12.9±0.3, 36°.60N×142°.40E, h16km±4km, M3.6*
*ISCJB **21** 10:36:13.4±1.6, 36°.58N±0°.04×142°.40E±0°.06, h20km±11km, mb3.6/13, Error ellipse: s-maj=7.7km s-min=6.1km az=22.4*
*NEIC **21** 10:36:13.6±0.6, 36°.61N×142°.41E, h10km, mb4.2/3, Error ellipse: s-maj=12.3km s-min=9.4km az=144.0*

ISC 21 10:36:13.4±1.9, 36°.60N±0°.04×142°.33E±0°.05, h7km±12km, n44, σ0°69/52, mb3.6/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.33	293	P	Pn	10 36 37.5	-0.8
ONAJ				eS	Sb	10 36 55.7	-0.1
JFK	Kawauchi	1.40	304	P	Pn	10 36 38.7	-0.5
JFK				eS	Sb	10 36 57.2	-0.6
JHO	Hitachi	1.42	271	P	Pn	10 36 38.8	-0.7
JHO				eS	Sb	10 36 57.8	-0.6
CHOJ	Chosi	1.49	234	P	Pn	10 36 40.5	0.0
JMM	Marumori	1.76	316	P	Pn	10 36 43.8	-0.5
JFT	Otama	1.84	301	P	Pn	10 36 45.4	0.0
JFT				eS	Sn	10 37 10.0	+1.1
JIO	Ouri	2.01	338	P	Pn	10 36 47.1	-0.6
JOU	Okura	2.21	324	P	Pn	10 36 50.9	+0.5
BSO1	Boso 1	2.23	210	eS	Sn	10 37 18.1	-0.4
JFY	Yanaizu	2.25	292	P	Pn	10 36 51.9	+0.9
JAG	Ashikaga	2.32	267	P	Pn	10 36 52.1	+0.1
JAG				eS	Sn	10 37 21.1	+0.3
JMK	Ichinoseki	2.51	340	P	Pn	10 36 54.4	-0.2
JMK				eS	Sn	10 37 25.1	-0.3
JYK	Kaneyama	2.79	327	P	Pn	10 36 59.4	+0.9
JRY	Ryogami san	2.83	259	P	Pn	10 36 58.9	-0.1
JOM	Ohasama	2.98	344	P	Pn	10 37 01.5	+0.4
JOM				eS	Sn	10 37 37.1	-0.1
MJAR	Matsushiro Arr	3.32	270	Pn	Pn	10 37 06.8	+1.1
	5.1nm,0.3s,baz=102,slow=7.3,SNR=21						
MJAR	Matsushiro Arr	3.32	270	Pn	Pn	10 37 06.8	+1.1
MAJO	Matsushiro	3.32	270	ePn	Pn	10 37 06.2	+0.5
MAT	Matsushiro	3.32	270	P	Pn	10 37 06.4	+0.7
MAT				S	Sn	10 37 44.1	-1.3
ASAJ	Asahikawa	7.51	1	Pn	Pn	10 38 02.0	-1.3
	0.4nm,0.3s,baz=253,slow=15,SNR=6.2						
ASAJ	Asahikawa	7.51	1	Pn	Pn	10 38 02.0	-1.3
ENH	Enshi	28.03	267	eP	P	10 42 04.9	-0.3
	4.8nm,0.7s,mb4.2						
SONM	Songino Array	28.64	304	P	P	10 42 11.0	+0.6
	2.6nm,0.8s,mb4.0,baz=106,slow=9.1,SNR=17						
SONM				LR	LR	10 53 54.4	
	comp=Z,403nm,18.9s,baz=307,slow=37						
SONM	Songino Array	28.64	304	P	P	10 42 10.9	+0.6
CMAR	Chiang Mai Arr	42.10	257	P	P	10 44 08.2	+2.0
	0.2nm,0.3s,mb3.2,baz=33,slow=5.4,SNR=3.4						
CMAR	Chiang Mai Arr	42.10	257	P	P	10 44 08.2	+2.0
ZALV	Zalesovo Beam	42.75	313	P	P	10 44 11.6	+0.5
	1.1nm,0.9s,mb3.6,baz=77,slow=9.3,SNR=4.7						
ZALV	Zalesovo Beam	42.75	313	P	P	10 44 11.6	+0.5
MKAR	Makanchi Array	44.97	303	P	P	10 44 28.8	-0.3
	0.9nm,0.8s,mb3.6,baz=98,slow=8.7,SNR=5.2						
MKAR	Makanchi Array	44.97	303	P	P	10 44 28.8	-0.3
KURK	Kurchatov	46.78	309	eP	P	10 44 43.2	-0.1
	2.3nm,0.8s,mb4.2						
ILAR	Eielson Array	49.47	32	P	P	10 45 03.7	-0.2
	0.5nm,0.8s,mb3.6,baz=261,slow=6.2,SNR=5.4						
ILAR	Eielson Array	49.47	32	P	P	10 45 03.7	-0.2
WRA	Warramunga Arr	56.74	189	P	P	10 45 56.9	-1.0
	0.5nm,0.8s,mb3.6,baz=8.5,slow=7.4,SNR=3.3						
WRA	Warramunga Arr	56.74	189	P	P	10 45 56.9	-1.0
ABKAR	Abkulak array	58.78	311	eP	P	10 46 11.8	-0.2
	0.2nm,0.3s,mb3.6						
ASAR	Alice Springs	60.46	189	P	P	10 46 23.3	-0.4
	0.5nm,0.9s,mb3.5,baz=5.7,slow=6.6,SNR=3.5						
ASAR	Alice Springs	60.46	189	P	P	10 46 23.3	-0.4
YKA	Yellowknife Ar	63.82	30	P	P	10 46 45.4	-0.5
	0.1nm,0.7s,mb3.0,baz=304,slow=6.6,SNR=3.4						
YKA	Yellowknife Ar	63.82	30	P	P	10 46 45.4	-0.5
GERES	GERESS Array B	83.47	329	P	P	10 48 42.9	+1.4
	0.4nm,0.8s,mb3.5,baz=54,slow=5.0,SNR=2.3						
GERES	GERESS Array B	83.47	329	P	P	10 48 42.9	+1.4
TXAR	Lajitas Array	89.80	53	P	P	10 49 13.1	+0.2
	0.2nm,0.8s,mb3.5,baz=310,slow=4.2,SNR=2.7						
TXAR	Lajitas Array	89.80	53	P	P	10 49 13.1	+0.2

*ISCJB **21** 10:55:47.5±0.4, 42°.08N±0°.04×141°.59E±0°.06, h93km±4km, mb3.3/7, Error ellipse: s-maj=7.9km s-min=5.3km az=29.3*
*JMA **21** 10:55:48.2±0.2, 42°.06N×141°.59E, h85km±2km, M3.2*
*NEIC **21** 10:55:48.3, 42°.06N×141°.59E, h85km, MG3.2(JMA), After JMA.*
*IDC **21** 10:55:49.6±2.0, 42°.22N×141°.67E, h97km±14km, mb3.1/7, mb1 3.2/10, mb1mx3.1/26, mbtmp3.1/10, Error ellipse: s-maj=28.3km s-min=15.1km az=136.0*

ISC 21 10:55:48.3±0.4, 42°.07N±0°.04×141°.62E±0°.06, h87km±4km, n33, σ0°89/42, mb3.3/7, 5C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	Kayabe	0.47	248	⇑P	Pn	10 56 02.0	-0.4
JKB				eS	Sn	10 56 12.7	-0.3
JNB	Noboribetsu	0.59	313	⇓P	Pn	10 56 02.9	-0.5
JNB				eS	Sn	10 56 14.3	-0.4
JEW	Eniwo	0.78	351	⇓P	Pn	10 56 05.4	0.0
JEW				eS	Sn	10 56 18.5	+0.4
JOT	Ohata	0.81	212	⇑P	Pn	10 56 05.4	-0.2
JOT				eS	Sn	10 56 18.6	+0.1
JNBK	Urakawa-nobuka	0.87	75	P	Pn	10 56 05.9	-0.4
JBT2	Biratori 2	0.90	38	P	Pn	10 56 06.5	-0.1
JYM2	Yakumo 2	0.93	274	⇓P	Pn	10 56 06.8	-0.1
JSR	Shiriuchi	1.04	239	⇑P	Pn	10 56 08.2	0.0
ERM	Erimo	1.15	92	ePn	Pn	10 56 09.8	+0.3
ERM				eSn	Sn	10 56 28.0	+2.5
JOSM	Okushiri--Mats	1.59	271	P	Pn	10 56 15.4	+0.4
JHR	Hokuryu	1.68	3	⇑P	Pn	10 56 16.8	+0.7
JANG	Nango	1.69	183	P	Pn	10 56 15.8	-0.5
JANG				eS	Sn	10 56 36.0	-1.6
JKK2	Kamakawa 2	1.99	24	⇑P	Pn	10 56 20.5	+0.3
JKK2				eS	Sn	10 56 44.5	0.0
ASAJ	Asahikawa	2.17	19	P	Pn	10 56 22.9	+0.4
	8.0nm,0.3s,baz=229,slow=12,SNR=81						
ASAJ				S	Sn	10 56 47.3	-1.5
	8.0nm,0.3s,baz=85,slow=34,SNR=3.9						
ASAJ	Asahikawa	2.17	19	ePn	Pn	10 56 22.7	+0.1
ASAJ				S	Sn	10 56 47.3	-1.5
MAJO	Matsushiro	6.12	207	ePn	Pn	10 57 19.6	+3.5
MJAR	Matsushiro Arr	6.12	207	P	Pn	10 57 19.1	+3.1
	0.8nm,0.3s,baz=8.8,slow=14,SNR=12						
MJAR	Matsushiro Arr	6.12	207	P	Pn	10 57 19.1	+3.1
USRK	Ussuriysk Arra	7.35	290	P	Pn	10 57 34.4	+1.6
	0.2nm,0.3s,baz=90,slow=16,SNR=5.2						
SONM	Songino Array	25.43	295	P	P	11 01 08.6	+1.0
	0.3nm,0.5s,mb2.9,baz=78,slow=7.7,SNR=3.2						
SONM	Songino Array	25.43	295	P	P	11 01 08.7	+1.0
ZALV	Zalesovo Beam	38.79	308	P	P	11 03 03.1	-1.0
	0.5nm,0.4s,mb3.7,baz=90,slow=7.4,SNR=4.7						
ZALV	Zalesovo Beam	38.79	308	P	P	11 03 03.1	-1.0
MKAR	Makanchi Array	41.76	297	P	P	11 03 28.8	+0.1
	0.3nm,0.6s,mb3.2,baz=82,slow=11,SNR=6.9						
MKAR	Makanchi Array	41.76	297	P	P	11 03 28.8	+0.1
KURK	Kurchatov	43.10	304	P	P	11 03 40.2	+0.8
	1.0nm,0.8s,mb3.6,baz=77,slow=8.7,SNR=4.6						
KURK	Kurchatov	43.10	304	P	P	11 03 40.2	+0.8
ILAR	Eielson Array	45.22	35	P	P	11 03 55.4	-0.8
	0.5nm,0.9s,mb3.2,baz=272,slow=7.0,SNR=5.0						
ILAR	Eielson Array	45.22	35	P	P	11 03 55.5	-0.8
BVAR	Borovoye Array	47.41	309	P	P	11 04 12.7	-0.8
	0.2nm,0.3s,mb3.3,baz=75,slow=7.3,SNR=4.1						
BVAR	Borovoye Array	47.41	309	P	P	11 04 12.7	-0.8
YKA	Yellowknife Ar	59.41	32	P	P	11 05 40.4	-0.8
	0.1nm,0.5s,mb3.1,baz=306,slow=6.5,SNR=6.1						
YKA	Yellowknife Ar	59.41	32	P	P	11 05 40.4	-0.8

*JMA **21** 11:01:59.9±0.3, 36°.63N×142°.45E, h15km±5km, M3.3*
*IDC **21** 11:01:59.6±1.3, 36°.54N×142°.57E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/23, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=34.5km s-min=24.8km az=97.0*
*ISCJB **21** 11:02:00.7±1.7, 36°.62N±0°.03×142°.49E±0°.06, h23km±15km, mb3.5/4, Error ellipse: s-maj=7.8km s-min=5.7km az=4.9*

ISC 21 11:02:00.6±1.8, 36°.64N±0°.03×142°.40E±0°.06, h7km±12km, n21, σ0°90/33, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.36	290	P	Pn	11 02 25.4	-0.7
ONAJ				S	Sb	11 02 43.7	-0.4
JFK	Kawauchi	1.42	301	S	Sb	11 02 44.0	-1.7
JHO	Hitachi	1.47	269	P	Pn	11 02 27.0	-0.6
JHO				S	Sn	11 02 47.1	0.0
JMM	Marumori	1.77	314	P	Pn	11 02 30.9	-0.8
JMM				S	Sn	11 02 54.6	+0.2
JFT	Otama	1.87	299	P	Pn	11 02 33.4	+0.4
JFT				S	Sn	11 02 56.5	-0.3
JIO	Ouri	1.99	336	P	Pn	11 02 34.1	-0.6
JIO				S	Sn	11 02 59.0	-0.9
JOU	Okura	2.20	322	P	Pn	11 02 38.3	+0.7
JOU				S	Sn	11 03 06.7	+1.6
JFY	Yanaizu	2.29	290	P	Pn	11 02 40.8	+2.0
JFY				S	Sn	11 03 08.8	+1.6
BSO1	Boso 1	2.30	211	P	Pn	11 02 38.3	-0.6
BSO1				eS	Sn	11 03 07.4	-0.1
JAG	Ashikaga	2.38	266	P	Pn	11 02 40.0	-0.1
JMK	Ichinoseki	2.49	338	P	Pn	11 02 41.5	0.0
JMK				S	Sn	11 03 11.5	-0.6
JYK	Kaneyama	2.79	325	P	Pn	11 02 46.0	+0.4
JRY	Ryogami san	2.89	259	P	Pn	11 02 46.9	-0.2
JRY				S	Sn	11 03 20.5	-1.6
JOM	Ohasama	2.96	343	P	Pn	11 02 47.8	-0.2
JOM				S	Sn	11 03 23.2	-0.5
MJAR	Matsushiro Arr	3.37	270	Pn	Pn	11 02 54.6	+0.9
	2.4nm,0.3s,baz=96,slow=12,SNR=24						
MAT	Matsushiro	3.38	270	P	Pn	11 02 55.0	+1.3
MAT				eS	Sn	11 03 34.4	+0.4
ASAJ	Asahikawa	7.47	1	Pn	Pn	11 03 49.3	-0.6
	0.6nm,0.3s,baz=224,slow=10.0,SNR=9.4						
SONM	Songino Array	28.66	304	P	P	11 08 00.4	+2.6
	0.4nm,0.6s,mb3.3,baz=101,slow=9.2,SNR=3.5						
ILAR	Eielson Array	49.40	32	P	P	11 10 51.1	+0.5
	0.3nm,0.7s,mb3.4,baz=262,slow=5.8,SNR=4.5						
WRA	Warramunga Arr	56.79	189	P	P	11 11 44.5	-0.9
	1.0nm,1.1s,mb3.8,baz=11,slow=7.7,SNR=3.6						
ASAR	Alice Springs	60.52	189	P	P	11 12 11.2	-0.2
	0.4nm,1.0s,mb3.5,baz=7.5,slow=7.9,SNR=3.6						

*IDC **21** 11:16:45.6±7.4, 37°.22N×71°.84E, h124km±61km, mb3.0/4, mb1 3.1/9, mb1mx3.0/29, mbtmp3.1/9, Error ellipse: s-maj=56.1km s-min=26.8km az=168.0*
*ISCJB **21** 11:16:49.7±2.6, 37°.7N±0°.1×71°.7E±0°.1, h157km±20km, mb3.1/4, Error ellipse: s-maj=24.3km s-min=13.6km az=16.6*
*NNC **21** 11:16:50.1±5.6, 37°.69N×71°.75E, h144km±84km, mb2.9, mpv3.8, Error ellipse: s-maj=52.7km s-min=30.2km az=11.0*

ISC 21 11:16:47.7±3.2, 37°.5N±0°.2×71°.7E±0°.1, h127km±24km, n13, σ0°96/16, mb3.2/4, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.67	351	⇑P	Pn	11 18 09.8	+0.1
	12nm,0.4s,baz=177,slow=12,SNR=254						
KK31				⇑S	Sn	11 19 12.8	-0.7
	2.1nm,0.3s,baz=181,slow=21,SNR=6.5						
TKM2	Tokmak 2	6.17	27	⇑P	Pn	11 18 17.0	+0.7
	2.6nm,0.6s						
TKM2				⇑S	Sn	11 19 24.8	-0.8
	2.7nm,0.6s						
MKAR	Makanchi Array	12.14	37	P	Pn	11 19 35.5	-0.7
	0.3nm,0.3s,baz=223,slow=14,SNR=2.4						
KURK	Kurchatov	14.10	18	P	Pn	11 20 03.0	+1.4
	0.1nm,0.3s,baz=206,slow=10,SNR=5.5						
AB31	Akbulak array	14.52	328	P	Pn	11 20 05.3	-1.6
	0.4nm,0.4s,baz=141,slow=13,SNR=22						
BVAR	Borovoye Array	15.55	357	P	Pn	11 20 21.0	+1.3
	0.1nm,0.3s,baz=172,slow=9.8,SNR=3.2						
AKTO	Aktyubinsk	16.23	327	P	Pn	11 20 30.1	+2.0
	0.4nm,0.3s,baz=133,slow=11,SNR=14						
AKTO				S	S	11 23 18.6	-10
	0.1nm,0.3s,baz=314,slow=12,SNR=1.8						
AKTO	Aktyubinsk	16.23	327	⇓P	Pn	11 20 29.2	+1.1
	0.4nm,0.7s						
ZALV	Zalesovo Beam	18.76	25	P	P	11 20 56.6	0.0
	0.4nm,0.3s,baz=210,slow=11,SNR=8.2						
SONM	Songino Array	27.29	57	P	P	11 22 20.0	-0.1
	0.3nm,0.8s,mb2.9,baz=245,slow=13,SNR=2.3						
FINES	FINESS Array B	36.98	325	P	P	11 23 45.2	+0.8
	2.0nm,0.9s,mb4.0,baz=111,slow=11,SNR=4.7						
TORD	Torodi Ar. Bea	66.32	269	P	P	11 27 21.6	-1.2
	0.1nm,0.5s,mb2.9,baz=46,slow=6.2,SNR=2.4						
YKA	Yellowknife Ar	80.22	3	P	P	11 28 43.0	-0.6
	0.2nm,0.6s,mb3.2,baz=352,slow=5.6,SNR=4.7						

IDC 21 11:59:02.1±0.9, 82°.88N×117°.02E, h0km, mb3.5/10, mb1 3.7/10, mb1mx3.5/28, mbtmp3.5/10, Error ellipse: s-maj=36.6km s-min=16.4km az=149.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	Spitsbergen Ar	14.96	308	Pn	Pn	12 02 30.3	-4.1
	baz=67,slow=11,SNR=6.8						
ARCES	ARCESS Array B	21.93	290	P	P	12 03 56.6	+0.1
	1.5nm,0.5s,baz=15,slow=10.0,SNR=5.8						
ILAR	Eielson Array	27.03	70	P	P	12 04 47.3	+2.0
	0.4nm,0.9s,baz=345,slow=9.7,SNR=4.3						
YKA	Yellowknife Ar	32.57	43	P	P	12 05 33.2	-1.1
	0.3nm,0.6s,baz=347,slow=8.9,SNR=9.6						
BVAR	Borovoye Array	32.60	235	P	P	12 05 35.2	+0.5
	0.5nm,0.7s,baz=18,slow=5.0,SNR=3.1						
KURK	Kurchatov	34.10	225	P	P	12 05 48.3	+0.5
	0.3nm,0.4s,baz=20,slow=7.8,SNR=2.9						
AKTO	Aktyubinsk	36.50	247	P	P	12 06 08.7	+0.3
	0.9nm,0.5s,baz=19,slow=11,SNR=3.9						
MKAR	Makanchi Array	37.69	220	P	P	12 06 17.9	-0.7
	0.3nm,0.6s,baz=29,slow=8.9,SNR=5.2						
GERES	GERESS Array B	43.46	291	P	P	12 07 07.4	+1.2
	0.4nm,0.7s,baz=19,slow=8.5,SNR=4.1						
BRTR	Keskin Array B	50.01	269	P	P	12 07 57.2	-0.5
	0.5nm,0.5s,baz=5.2,slow=7.7,SNR=2.8						
TXAR	Lajitas Array	66.36	38	P	P	12 09 51.9	-0.3
	0.5nm,0.7s,baz=10,slow=5.3,SNR=7.3						

*ISCJB **21** 12:00:32.8±1.3, 48°.6N±0°.1×154°.2E±0°.2, h88km±10km, mb3.5/9, Error ellipse: s-maj=30.5km s-min=8.4km az=138.8*
*MOS **21** 12:00:33.9±1.1, 48°.64N×154°.10E, h93km, mb4.2/2, Error ellipse: s-maj=21.8km s-min=11.9km az=54.0*
*IDC **21** 12:00:35.3±3.0, 48°.54N×154°.21E, h93km±25km, mb3.3/9, mb1 3.4/11, mb1mx3.3/26, mbtmp3.3/11, Error ellipse: s-maj=39.2km s-min=16.5km az=152.0*
*NEIC **21** 12:00:35.6±1.3, 48°.59N×154°.17E, h96km±10km, mb3.8/1, Error ellipse: s-maj=25.5km s-min=9.1km az=146.0*

ISC 21 12:00:34.1±1.2, 48°.5N±0°.1×154°.3E±0°.2, h84km±9km, n41, σ0°83/39, mb3.5/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.46	29	ePN	Pn	12 01 11.2	-1.0
SKR				eS	Sn	12 01 40.9	-0.5
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,200nm,0.3s						
SKR				smax			
	comp=N,160nm,0.4s						
SKR				smax			
	comp=Z,80nm,0.4s						
PETK	Petropavlovsk-	5.07	24	P	Pn	12 01 48.4	+1.0
	comp=Z,1.4nm,0.3s,baz=174,slow=11,SNR=22						
PETK	Petropavlovsk-	5.07	24	P	Pn	12 01 48.4	+1.0
PETK	Petropavlovsk-	5.07	24	PN	Pn	12 01 48.4	+0.9
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	Yuzh-Sakhalins	7.92	263	ePn	Pn	12 02 26.5	+0.2
YSS	Yuzh-Sakhalins	7.92	263	ePN	Pn	12 02 26.5	+0.2
ASAJ	Asahikawa	9.20	246	P	Pn	12 02 46.5	+2.8
	comp=Z,0.6nm,0.3s,baz=110,slow=28,SNR=5.7						
ASAJ	Asahikawa	9.20	246	P	Pn	12 02 46.5	+2.8
ASAJ	Asahikawa	9.20	246	PN	Pn	12 02 46.6	+2.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	Erimo	10.18	234	i PN	Pn	12 02 57.1	-0.1
KSRS	Korea Array	22.11	250	P	P	12 05 21.2	-1.1
	comp=Z,2.3nm,0.7s,mb3.6,baz=48,slow=12,SNR=3.7						
KSRS	Korea Array	22.11	250	P	P	12 05 21.2	-1.2
KSAR	Wonju Array Be	22.14	250	P	P	12 05 21.2	-1.5
KSAR	Wonju Array Be	22.14	250	P	P	12 05 21.3	-1.4
ILAR	Eielson Array	34.67	40	P	P	12 07 15.6	+0.4
	comp=Z,0.3nm,0.6s,mb3.3,baz=265,slow=8.1,SNR=3.6						
ILAR	Eielson Array	34.67	40	P	P	12 07 15.6	+0.4
ILAR	Eielson Array	34.67	40	P	P	12 07 15.6	+0.5
MKAR	Makanchi Array	46.82	296	P	P	12 08 54.9	-0.3
	comp=Z,0.2nm,0.7s,mb3.0,baz=65,slow=7.8,SNR=3.0						
MKAR	Makanchi Array	46.82	296	P	P	12 08 54.9	-0.3
MKAR	Makanchi Array	46.82	296	P	P	12 08 54.9	-0.3
KURK	Kurchatov	47.03	303	P	P	12 08 57.2	+0.5
	comp=Z,0.4nm,0.3s,mb3.6,baz=69,slow=8.6,SNR=4.0						
KURK	Kurchatov	47.03	303	eP	P	12 08 56.5	-0.3
	comp=Z,0.6nm,0.4s,mb3.7						
KURK	Kurchatov	47.03	303	P	P	12 08 57.2	+0.5
YKA	Yellowknife Ar	49.03	38	P	P	12 09 12.2	+0.2
	comp=Z,0.3nm,0.7s,mb3.3,baz=298,slow=7.5,SNR=5.1						
YKA	Yellowknife Ar	49.03	38	P	P	12 09 12.2	+0.2
YKA	Yellowknife Ar	49.03	38	P	P	12 09 12.2	+0.2
BVAR	Borovoye Array	50.33	309	P	P	12 09 22.4	+0.5
	comp=Z,0.4nm,0.4s,mb3.7,baz=84,slow=8.8,SNR=4.7						
BVAR	Borovoye Array	50.33	309	P	P	12 09 22.4	+0.5
BVAR	Borovoye Array	50.33	309	P	P	12 09 22.4	+0.4
CMAR	Chiang Mai Arr	53.55	256	P	P	12 09 46.0	-0.2
	comp=Z,0.5nm,0.7s,mb3.6,baz=36,slow=8.1,SNR=4.1						
CMAR	Chiang Mai Arr	53.55	256	P	P	12 09 46.0	-0.2
CMAR	Chiang Mai Arr	53.55	256	P	P	12 09 46.1	-0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	62.75	335	P	P	12 10 50.3	+0.4
	comp=Z,4.7nm,1.1s,mb4.3,baz=27,slow=9.7,SNR=2.9						
FINES	FINESS Array B	62.75	335	P	P	12 10 50.3	+0.4
FINES	FINESS Array B	62.75	335	P	P	12 10 50.3	+0.4
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TXAR	Lajitas Array	75.95	62	P	P	12 12 12.0	+0.2
	comp=Z,0.1nm,0.5s,mb2.8,baz=300,slow=4.1,SNR=3.2						
TXAR	Lajitas Array	75.95	62	P	P	12 12 12.0	+0.2
TXAR	Lajitas Array	75.95	62	P	P	12 12 12.0	+0.2
LPAZ	La Paz	132.82	62	PKP	PKPdf	12 19 41.2	+1.7
	comp=Z,0.6nm,0.4s,baz=281,slow=5.2,SNR=6.1						
LPAZ	La Paz	132.82	62	ePKPdf	PKPdf	12 19 41.0	+1.6
LPAZ	La Paz	132.82	62	PKIKP	PKPdf	12 19 41.2	+1.7
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*IDC **21** 12:05:03.7±0.5, 26°.70N×14°.35W, h0km, mb4.1/23, mb1 4.2/25, mb1mx4.2/29, mbtmp4.1/25, ML4.4/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/36, Error ellipse: s-maj=15.9km s-min=13.6km az=111.0*
*NEIC **21** 12:05:05.0±0.3, 26°.69N×14°.32W, h10km, mb4.2/6, MN4.4(MDD), Error ellipse: s-maj=6.6km s-min=6.3km az=223.0*
*ISCJB **21** 12:05:05.4±0.5, 27°.15N±0°.04×14°.34W±0°.04, h10km, mb4.0/25, MS3.6/6, Error ellipse: s-maj=6.4km s-min=4.6km az=10.9*
*CSEM **21** 12:05:08.6±0.3, 27°.27N×14°.35W, h10km, mb4.2/6, Error ellipse: s-maj=9.7km s-min=6.2km az=158.0*
*INMG **21** 12:05:12.0±2.5, 26°.76N×14°.41W, h10km, ML3.6, Error ellipse: s-maj=18.3km s-min=9.8km az=148.0*

ISC 21 12:05:06.0±0.4, 26°.97N±0°.04×14°.38W±0°.04, h10km, n126, σ1°40/155, mb4.0/25, MS3.6/6, Western Sahara

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFTV	Fuerteventura	1.46	10	P	Pn	12 05 33.8	+1.3
CFTV	Fuerteventura	1.46	10	P	Pn	12 05 33.8	+1.3
EFAM	Famara	2.27	19	P	Pn	12 05 44.4	+0.7
EFAM				S	Sn	12 06 12.6	+0.8
EFAM	Famara	2.27	19	P	Pn	12 05 44.4	+0.7
CCAN	Las Canadas	2.34	303	P	Pn	12 05 46.2	+1.7
CCAN				S	Sn	12 06 11.5	-1.8
CCAN	Las Canadas	2.34	303	P	Pn	12 05 46.2	+1.7
CCAN				S	Sn	12 06 11.5	-1.8
EBAJ	Bajamar	2.34	312	P	Pn	12 05 46.7	+2.1
EBAJ				S	Sn	12 06 12.4	-1.0
EBAJ	Bajamar	2.34	312	P

PBAR				*e*S	**Sn**	**12 10 21.5**	**-8.2**
PMTG	**Montargil**	**13.12**	**22**	*e*P	**Pn**	**12 08 12.2**	**-0.2**
PMTG				*e*S	**Sn**	**12 10 26.7**	**-12**
PMTG	**Montargil**	**13.12**	**22**	*e*P	**Pn**	**12 08 12.2**	**-0.2**
PESTR	**Estremoz**	**13.15**	**24**	*e*S	**Sn**	**12 10 32.1**	**-7.1**
PESTR	**Estremoz**	**13.15**	**24**	*e*S	**Sn**	**12 10 32.1**	**-7.1**
PMRV	**Marv??o**	**13.72**	**23**	*e*P	**Pn**	**12 08 19.0**	**-1.6**
PMRV				*e*S	**Sn**	**12 10 45.4**	**-7.7**
PMRV	**Marv??o**	**13.72**	**23**	*e*P	**Pn**	**12 08 19.0**	**-1.6**
PMRV				*e*S	**Sn**	**12 10 45.4**	**-7.7**
ESDC	**Sonseca Array**	**15.35**	**32**	Pn	**Pn**	**12 08 44.9**	**+2.2**
	0.3nm,0.3s,baz=229,slow=13,SNR=5.1						
ESDC				Sn	**Sn**	**12 11 22.6**	**-10**
	0.7nm,0.3s,baz=218,slow=24,SNR=5.7						
ESDC				LR	LR	12 13 38.4	
	comp=Z,82nm,21.3s,baz=190,slow=33						
ESDC	**Sonseca Array**	**15.35**	**32**	Pn	**Pn**	**12 08 44.9**	**+2.2**
ESDC				Sn	**Sn**	**12 11 22.6**	**-10**
CART	**Cartagena**	**15.47**	**44**	*e*P	**Pn**	**12 08 49.7**	**+5.4**
	27nm,1.1s						
CART	**Cartagena**	**15.47**	**44**	*e*P	**Pn**	**12 08 49.7**	**+5.4**
	27nm,1.1s						
TAM	**Tamanrasset**	**18.52**	**99**	*e*P	**Pn**	**12 09 19.5**	**-3.3**
	12nm,0.8s						
TORD	**Torodi Ar. Bea**	**20.39**	**129**	P	**P**	**12 09 39.7**	**-3.4**
	1.8nm,0.3s,baz=316,slow=12,SNR=34						
TORD				S	**S**	**12 13 14.7**	**-17**
	5.6nm,0.9s,baz=317,slow=19,SNR=5.2						
TORD				LR	LR	12 18 08.3	
	comp=Z,149nm,18.7s,MS3.4,baz=110,slow=39						
TORD	**Torodi Ar. Bea**	**20.39**	**129**	P	**P**	**12 09 39.7**	**-3.4**
TORD				S	**S**	**12 13 14.7**	**-17**
KEST	**Kesra**	**22.02**	**61**	P	**P**	**12 10 02.7**	**+2.1**
	2.1nm,0.8s,mb3.6,baz=216,slow=0.3,SNR=2.9						
KEST	**Kesra**	**22.02**	**61**	*e*P	**P**	**12 10 02.5**	**+1.9**
KEST	**Kesra**	**22.02**	**61**	*e*P	**P**	**12 10 02.5**	**+1.9**
DBIC	**Dimbokro**	**22.13**	**154**	P	**P**	**12 09 58.3**	**-3.6**
	4.4nm,0.7s,mb4.0,baz=318,slow=12,SNR=9.6						
DBIC				S	**S**	**12 13 49.8**	**-16**
	4.0nm,0.6s,baz=60,slow=20,SNR=5.2						
DBIC				LR	LR	12 19 16.7	
	comp=Z,110nm,18.1s,MS3.3,baz=323,slow=39						
DBIC	**Dimbokro**	**22.13**	**154**	*e*P	**P**	**12 09 56.6**	**-5.2**
	11nm,0.9s,mb4.3						
DBIC				S	**S**	**12 13 49.8**	**-16**
DAVOX	**Davos/Dischmat**	**27.51**	**38**	LR	LR	12 20 39.0	
	comp=Z,117nm,22.0s,MS3.4,baz=260,slow=34						
GERES	**GERESS Array B**	**30.81**	**37**	P	**P**	**12 11 23.2**	**+1.3**
	2.5nm,0.8s,mb4.1,baz=230,slow=8.3,SNR=20						
GERES	**GERESS Array B**	**30.81**	**37**	P	**P**	**12 11 23.2**	**+1.3**
GERES	**GERESS Array B**	**30.81**	**37**	P	**P**	**12 11 23.2**	**+1.3**
MORC	**Moravsky Berou**	**33.43**	**38**	*e*P	**P**	**12 11 45.9**	**+1.1**
	2.8nm,0.7s,mb4.3						
MORC	**Moravsky Berou**	**33.43**	**38**	*e*P	**P**	**12 11 45.9**	**+1.1**
	2.8nm,0.7s,mb4.3						
HFS	**Hagfors**	**38.31**	**22**	P	**P**	**12 12 29.0**	**+2.4**
	2.4nm,0.8s,mb4.0,baz=224,slow=16,SNR=2.4						
HFS	**Hagfors**	**38.31**	**22**	P	**P**	**12 12 29.0**	**+2.4**
MSKU	**Masuku**	**39.21**	**132**	P	**P**	**12 12 33.4**	**-1.2**
	15nm,0.7s,mb4.9,baz=300,slow=8.1,SNR=3.8						
MSKU	**Masuku**	**39.21**	**132**	P	**P**	**12 12 33.4**	**-1.2**
AKASG	**Malin Array Be**	**40.61**	**42**	P	**P**	**12 12 46.0**	**+0.2**
	0.7nm,0.4s,mb3.6,baz=246,slow=9.0,SNR=3.6						
AKASG	**Malin Array Be**	**40.61**	**42**	P	**P**	**12 12 46.0**	**+0.2**
AKASG	**Malin Array Be**	**40.61**	**42**	P	**P**	**12 12 46.0**	**+0.1**
BRTR	**Keskin Array B**	**41.62**	**60**	P	**P**	**12 12 55.7**	**+1.4**
	1.5nm,0.7s,mb3.7,baz=224,slow=6.9,SNR=7.6						
BRTR	**Keskin Array B**	**41.62**	**60**	P	**P**	**12 12 55.7**	**+1.4**
BRTR	**Keskin Array B**	**41.62**	**60**	P	**P**	**12 12 55.7**	**+1.4**
SCHQ	**Schefferville**	**46.95**	**321**	P	**P**	**12 13 37.6**	**+0.8**
	4.1nm,0.7s,mb4.5,baz=94,slow=9.5,SNR=5.4						
SCHQ	**Schefferville**	**46.95**	**321**	P	**P**	**12 13 37.6**	**+0.8**
SCHQ	**Schefferville**	**46.95**	**321**	P	**P**	**12 13 37.7**	**+0.9**
ARCES	**ARCESS Array B**	**48.46**	**18**	P	**P**	**12 13 48.7**	**+0.4**
	2.6nm,0.9s,mb4.2,baz=232,slow=6.0,SNR=3.7						
ARCES	**ARCESS Array B**	**48.46**	**18**	P	**P**	**12 13 48.7**	**+0.4**
ARCES	**ARCESS Array B**	**48.46**	**18**	P	**P**	**12 13 48.7**	**+0.4**
ABKAR	**Akbulak array**	**60.08**	**47**	*e*P	**P**	**12 15 13.0**	**-0.3**
	0.9nm,0.7s,mb3.9						
ABKAR	**Akbulak array**	**60.08**	**47**	*e*P	**P**	**12 15 13.0**	**-0.2**
	0.9nm,0.7s,mb3.9						
ROSC	**El Rosal**	**61.10**	**260**	LR	LR	12 35 56.8	
	comp=Z,42nm,20.6s,MS3.6,baz=169,slow=30						
BVAR	**Borovoye Array**	**65.88**	**41**	P	**P**	**12 15 52.4**	**+0.6**
	1.1nm,0.7s,mb4.0,baz=284,slow=6.0,SNR=7.1						
BVAR	**Borovoye Array**	**65.88**	**41**	P	**P**	**12 15 52.4**	**+0.6**
BVAR	**Borovoye Array**	**65.88**	**41**	P	**P**	**12 15 52.4**	**+0.7**
BOSA	**Boshof**	**67.08**	**142**	P	**P**	**12 15 57.1**	**-2.6**
	2.1nm,0.8s,mb4.2,baz=15,slow=4.8,SNR=6.2						
BOSA	**Boshof**	**67.08**	**142**	P	**P**	**12 15 57.1**	**-2.6**
CPUP	**Villa Florida**	**67.22**	**222**	P	**P**	**12 15 59.3**	**-1.3**
	0.5nm,0.4s,mb3.9,baz=74,slow=4.8,SNR=4.4						
CPUP				LR	LR	12 46 24.4	
	comp=Z,64nm,18.0s,MS3.9,baz=156,slow=37						
CPUP	**Villa Florida**	**67.22**	**222**	P	**P**	**12 15 59.3**	**-1.3**
LPAZ	**La Paz**	**67.60**	**237**	P	**P**	**12 16 02.4**	**-0.9**
	1.6nm,0.8s,mb4.1,baz=25,slow=6.2,SNR=6.5						
LPAZ	**La Paz**	**67.60**	**237**	*e*P	**P**	**12 16 01.7**	**-1.5**
	1.5nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	**70.98**	**331**	P	**P**	**12 16 23.5**	**0.0**
	0.9nm,0.7s,mb3.8,baz=68,slow=6.6,SNR=17						
YKA	**Yellowknife Ar**	**70.98**	**331**	P	**P**	**12 16 23.5**	**0.0**
YKA	**Yellowknife Ar**	**70.98**	**331**	P	**P**	**12 16 23.5**	**0.0**
KURK	**Kurchatov**	**71.42**	**42**	P	**P**	**12 16 26.6**	**+0.2**
	4.9nm,0.9s,mb4.4,baz=289,slow=6.8,SNR=24						
KURK	**Kurchatov**	**71.42**	**42**	P	**P**	**12 16 26.6**	**+0.2**
KURK	**Kurchatov**	**71.42**	**42**	P	**P**	**12 16 26.6**	**+0.2**
KSH	**Kashi**	**73.64**	**54**	P	**P**	**12 16 40.0**	**+0.2**
KSH				pP	pP	12 16 50.9	+7.8
KSH				sP	sP	12 16 55.4	+11
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
ZALV	**Zalesovo Beam**	**73.77**	**37**	P	**P**	**12 16 40.5**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=272,slow=8.5,SNR=7.8						
ZALV	**Zalesovo Beam**	**73.77**	**37**	P	**P**	**12 16 40.5**	**+0.2**
ZALV	**Zalesovo Beam**	**73.77**	**37**	P	**P**	**12 16 40.5**	**+0.2**
MKAR	**Makanchi Array**	**75.13**	**45**	P	**P**	**12 16 48.3**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=316,slow=3.3,SNR=5.1						
MKAR	**Makanchi Array**	**75.13**	**45**	P	**P**	**12 16 48.3**	**-0.1**
MKAR	**Makanchi Array**	**75.13**	**45**	P	**P**	**12 16 48.3**	**-0.1**
TXAR	**Lajitas Array**	**76.73**	**296**	P	**P**	**12 16 59.1**	**+1.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=85,slow=5.9,SNR=12						
TXAR	**Lajitas Array**	**76.73**	**296**	P	**P**	**12 16 59.1**	**+1.3**
TXAR	**Lajitas Array**	**76.73**	**296**	P	**P**	**12 16 59.2**	**+1.3**
POO	**Poona**	**80.29**	**74**	*ex*	x	12 16 27.0	
ILAR	**Eielson Array**	**81.42**	**341**	P	**P**	**12 17 23.2**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=21,slow=4.7,SNR=30						
ILAR	**Eielson Array**	**81.42**	**341**	P	**P**	**12 17 23.2**	**+0.4**
ILAR	**Eielson Array**	**81.42**	**341**	P	**P**	**12 17 23.2**	**+0.3**
NVAR	**Mina Array Bea**	**83.66**	**310**	P	**P**	**12 17 37.0**	**+1.9**
	comp=Z,0.4nm,0.8s,mb3.6,baz=50,slow=8.4,SNR=3.2						
NVAR	**Mina Array Bea**	**83.66**	**310**	P	**P**	**12 17 37.0**	**+1.9**
NVAR	**Mina Array Bea**	**83.66**	**310**	P	**P**	**12 17 37.0**	**+2.0**
PLCA	**Paso Flores**	**85.16**	**219**	P	**P**	**12 17 41.2**	**-1.2**
	comp=Z,1.4nm,0.5s,mb4.3,baz=34,slow=4.1,SNR=5.1						
PLCA	**Paso Flores**	**85.16**	**219**	P	**P**	**12 17 41.2**	**-1.2**
SONM	**Songino Array**	**88.53**	**35**	P	**P**	**12 17 59.8**	**+0.9**
	comp=Z,0.2nm,0.7s,mb3.6,baz=316,slow=6.0,SNR=2.8						
SONM	**Songino Array**	**88.53**	**35**	P	**P**	**12 17 59.8**	**+0.9**
SONM	**Songino Array**	**88.53**	**35**	P	**P**	**12 17 59.8**	**+0.9**
USHA	**Ushuaia**	**93.72**	**208**	LR	LR	12 57 26.6	
	comp=Z,92nm,18.3s,MS4.3,baz=51,slow=34						
WRA	**Warramunga Arr**	**150.51**	**83**	PKPbc	PKPbc	12 24 57.0	-1.7
	comp=Z,3.7nm,0.6s,baz=302,slow=1.8,SNR=43						
WRA	**Warramunga Arr**	**150.51**	**83**	PKPbc	PKPbc	12 24 57.0	-1.7
WRAB	**Tennant Creek**	**150.52**	**83**	*e*PKPbc	PKPbc	12 24 55.7	-2.9
ASAR	**Alice Springs**	**151.18**	**91**	PKPbc	PKPbc	12 24 58.5	-1.6
	comp=Z,2.9nm,0.7s,baz=288,slow=1.8,SNR=44						
ASAR	**Alice Springs**	**151.18**	**91**	PKPbc	PKPbc	12 24 58.5	-1.6

*TIF **21** 12:15:08.1,43.°40N×44.°74E,h12km±4km*
*ISCJB **21** 12:15:11.0±0.4,43.°32N±0.°02×44.°66E±0.°02,h4km±3km,*
Error ellipse: s-maj=3.3km s-min=2.6km az=12.1
*CSEM **21** 12:15:10.9±0.1,43.°30N×44.°68E,h5km,mb4.1,Error*
ellipse: s-maj=3.2km s-min=2.3km az=10.0
*MOS **21** 12:15:10.4±0.7,43.°31N×44.°61E,h13km,mb4.1/1,Error*
ellipse: s-maj=8.0km s-min=6.7km az=132.0
ISC 21 12:15:11.3±0.3,43.°32N±0.°02×44.°67E±0.°02,h8km±3km,
n51,σ0°89/97,7C-8D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	**Batakoyurt**	**0.11**	**301**	↓*i*PG	**Pg**	**12 15 13.4**	**-0.5**
BTKR	**Batakoyurt**	**0.11**	**301**	*i* Pg	**Pg**	**12 15 13.4**	**-0.5**
VLKR	**Vladikavkaz**	**0.27**	**179**	↑*i*PG	**Pg**	**12 15 16.1**	**-0.5**
VLKR				*i* S	**Sg**	**12 15 20.1**	**-0.1**
VLKR	**Vladikavkaz**	**0.27**	**179**	*i* Pg	**Pg**	**12 15 16.1**	**-0.5**
VLKR				*i* Sg	**Sg**	**12 15 20.1**	**-0.1**
KMSR	**Komsomolskaya**	**0.28**	**281**	↑*i*PG	**Pg**	**12 15 17.0**	**+0.1**
KMSR				*i* S	**Sg**	**12 15 21.1**	**+0.4**
KMSR	**Komsomolskaya**	**0.28**	**281**	*i* Pg	**Pg**	**12 15 17.0**	**+0.1**
KMSR				*i* Sg	**Sg**	**12 15 21.1**	**+0.4**
ARNR	**Ardon**	**0.32**	**247**	↓*i*PG	**Pg**	**12 15 17.3**	**-0.2**
ARNR				*i* S	**Sg**	**12 15 21.8**	**+0.1**
ARNR	**Ardon**	**0.32**	**247**	*i* Pg	**Pg**	**12 15 17.3**	**-0.2**
ARNR				*i* Sg	**Sg**	**12 15 21.8**	**+0.1**
TRKR	**Terskaya**	**0.41**	**6**	↑*i*PG	**Pg**	**12 15 19.7**	**+0.4**
TRKR				*i* S	**Sg**	**12 15 25.5**	**+0.8**
TRKR	**Terskaya**	**0.41**	**6**	*i* Pg	**Pg**	**12 15 19.7**	**+0.4**
TRKR				*i* Sg	**Sg**	**12 15 25.5**	**+0.8**
KORR	**Kora**	**0.50**	**243**	↓*i*PG	**Pg**	**12 15 20.7**	**-0.3**
KORR				*i* S	**Sg**	**12 15 27.7**	**+0.2**
KORR	**Kora**	**0.50**	**243**	*i* Pg	**Pg**	**12 15 20.7**	**-0.3**
KORR				*i* Sg	**Sg**	**12 15 27.7**	**+0.2**
PRTR	**Priterechnaya**	**0.52**	**327**	↓*i*PG	**Pg**	**12 15 21.6**	**+0.2**
PRTR				*i* S	**Sg**	**12 15 29.0**	**+0.8**
PRTR	**Priterechnaya**	**0.52**	**327**	*i* Pg	**Pg**	**12 15 21.6**	**+0.2**
PRTR				*i* Sg	**Sg**	**12 15 29.0**	**+0.8**
LACR	**Lac**	**0.56**	**210**	↓*i*PG	**Pg**	**12 15 21.6**	**-0.6**
LACR				*i* S	**Sg**	**12 15 29.5**	**0.0**
LACR	**Lac**	**0.56**	**210**	*i* Pg	**Pg**	**12 15 21.6**	**-0.6**
LACR				*i* Sg	**Sg**	**12 15 29.5**	**0.0**
GRO	**Groznyy**	**0.79**	**89**	↑*i*PG	**Pg**	**12 15 26.8**	**+0.4**
GRO				*i* S	**Sg**	**12 15 38.5**	**+1.9**
GRO	**Groznyy**	**0.79**	**89**	*i* Pg	**Pg**	**12 15 26.8**	**+0.4**
GRO				*i* Sg	**Sg**	**12 15 38.5**	**+1.9**
ZEI	**Tsey**	**0.79**	**226**	↓*i*PG	**Pg**	**12 15 25.7**	**-0.8**
ZEI				*i* S	**Sg**	**12 15 36.5**	**-0.2**
ZEI	**Tsey**	**0.79**	**226**	*i* Pg	**Pg**	**12 15 25.7**	**-0.8**
ZEI				*i* Sg	**Sg**	**12 15 36.5**	**-0.2**
DIGR	**Digorskoe uzhe**	**0.90**	**243**	↑*i*PG	**Pg**	**12 15 28.1**	**-0.5**
DIGR				*i* S	**Sg**	**12 15 40.7**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.90**	**243**	*i* Pg	**Pg**	**12 15 28.1**	**-0.5**
DIGR				*i* Sg	**Sg**	**12 15 40.7**	**+0.3**
KUBR	**Kubataba**	**1.04**	**298**	↓*i*PG	**Pg**	**12 15 30.4**	**-0.9**
KUBR				*i* S	**Sg**	**12 15 47.0**	**+2.2**
KUBR	**Kubataba**	**1.04**	**298**	*i* Pg	**Pg**	**12 15 30.4**	**-0.9**
KUBR				*i* Sg	**Sg**	**12 15 47.0**	**+2.2**
ONI	**Oni**	**1.15**	**231**	P	**Pg**	**12 15 32.2**	**-1.3**
ONI				S	**Sg**	**12 15 49.5**	**+1.1**
ONI	**Oni**	**1.15**	**231**	P	**Pg**	**12 15 32.2**	**-1.2**
ONI				S	**Sg**	**12 15 49.5**	**+1.1**
BTLR	**Botlikh**	**1.31**	**119**	*e*PG	**Pn**	**12 15 34.2**	**-1.7**
BTLR				*e*S	**Sg**	**12 15 53.7**	**+0.3**
BTLR				pmax	pmax		
	comp=Z,171nm,0.3s						
BTLR	**Botlikh**	**1.31**	**119**	*e*Pg	**Pn**	**12 15 34.2**	**-1.7**
	comp=Z,171nm,0.3s						
BTLR				*e*Sg	**Sg**	**12 15 53.7**	**+0.3**
GOR	**Gori**	**1.39**	**198**	P	**Pn**	**12 15 36.4**	**-0.7**
GOR				S	**Sb**	**12 15 57.3**	**+1.8**
GOR	**Gori**	**1.39**	**198**	P	**Pn**	**12 15 36.4**	**-0.6**
GOR				S	**Sb**	**12 15 57.3**	**+1.8**
DLMR	**Dylym**	**1.45**	**99**	*e*PG	**Pn**	**12 15 37.4**	**-0.4**
DLMR				*e*S	**Sg**	**12 15 58.8**	**+0.8**
DLMR				pmax	pmax		
	comp=Z,197nm,0.3s						
DLMR	**Dylym**	**1.45**	**99**	*e*Pg	**Pn**	**12 15 37.4**	**-0.4**
	comp=Z,197nm,0.3s						
DLMR				*e*Sg	**Sg**	**12 15 58.8**	**+0.8**
BEYR	**Belyy Ugol+**	**1.52**	**298**	↑*i*PG	**Pn**	**12 15 37.4**	**-1.4**
BEYR				*i* S	**Sn**	**12 15 58.4**	**-0.3**
BEYR	**Belyy Ugol+**	**1.52**	**298**	*i* Sg	**Sn**	**12 15 58.4**	**-0.3**
SHAR	**Shatzhatmas**	**1.52**	**287**	↓*i*PG	**Pn**	**12 15 37.3**	**-1.5**
SHAR				*i* S	**Sn**	**12 15 59.0**	**+0.3**
SHAR	**Shatzhatmas**	**1.52**	**287**	*i* Sg	**Sn**	**12 15 59.0**	**+0.3**
KIV	**Kislovodsk**	**1.58**	**295**	↑*i*PG	**Pn**	**12 15 38.3**	**-1.3**
KIV				*i* S	**Sn**	**12 16 00.4**	**+0.2**
KIV	**Kislovodsk**	**1.58**	**295**	*i* Sg	**Sn**	**12 16 00.4**	**+0.2**
TBLG	**Delisi**	**1.58**	**178**	PG	**Pn**	**12 15 39.1**	**-0.6**
TBLG				S	**Sn**	**12 16 01.9**	**+1.6**
TBLG	**Delisi**	**1.58**	**178**	P	**Pn**	**12 15 39.1**	**-0.5**
TBLG				S	**Sn**	**12 16 01.9**	**+1.6**
TBLG	**Delisi**	**1.58**	**178**	P	**Pn**	**12 15 39.1**	**-0.6**
TBLG				S	**Sn**	**12 16 01.9**	**+1.6**
DBC	**Dubki**	**1.60**	**100**	*i* PN	**Pn**	**12 15 39.6**	**-0.4**
DBC				*i* S	**Sg**	**12 16 02.2**	**-0.7**
DBC	**Dubki**	**1.60**	**100**	*i* Pn	**Pn**	**12 15 39.6**	**-0.4**
DBC				*i* Sg	**Sg**	**12 16 02.2**	**-0.7**
MTA	**Mtatsminda**	**1.62**	**177**	P	**Pn**	**12 15 39.7**	**-0.5**
MTA				S	**Sn**	**12 16 03.4**	**+2.1**
MTA	**Mtatsminda**	**1.62**	**177**	P	**Pn**	**12 15 39.7**	**-0.5**
MTA				S	**Sn**	**12 16 03.4**	**+2.1**
XNZR	**Khunzakh**	**1.68**	**117**	PN	**Pn**	**12 15 41.3**	**+0.3**
XNZR				*e*S	**Sg**	**12 16 04.5**	**-0.8**
XNZR	**Khunzakh**	**1.68**	**117**	Pn	**Pn**	**12 15 41.3**	**+0.3**
XNZR				*e*Sg	**Sg**	**12 16 04.5**	**-0.8**
KRNR	**Karanay**	**1.71**	**106**	*e*PN	**Pn**	**12 15 42.2**	**+0.8**
KRNR				*i* S	**Sg**	**12 16 05.8**	**-0.4**
KRNR				pmax	pmax		
	comp=Z,50nm,0.3s						
KRNR	**Karanay**	**1.71**	**106**	*e*Pn	**Pn**	**12 15 42.2**	**+0.8**
	comp=Z,50nm,0.3s						
KRNR				*i* Sg	**Sg**	**12 16 05.8**	**-0.4**
DOMR	**Dombai**	**2.23**	**270**	*i* PN	**Pn**	**12 15 47.5**	**-1.0**
DOMR				*e*S	**Sn**	**12 16 17.3**	**+1.1**
DOMR	**Dombai**	**2.23**	**270**	*i* Pn	**Pn**	**12 15 47.5**	**-1.0**
DOMR				*e*Sn	**Sn**	**12 16 17.3**	**+1.1**

*NIED **21** 12:19:00,36.°60N×142.°40E,h11km,Mw4.6 Best double couple: M0=1.00000×10^16 NP1:φs=340.00000°,δ87.00000°, λ60.00000°. NP2:φs=245.00000°,δ30.00000°,λ174.00000°.*
*JMA **21** 12:19:18.7±0.3,36.°61N×142.°40E,h8km±4km,M4.7*
*IDC **21** 12:19:19.4±0.5,36.°51N×142.°36E,h0km,mb4.4/23, mb1 4.5/26,mb1mx4.4/31,mbtmp4.4/26,ML4.5/2,MS3.9/11, Ms1 3.9/11,ms1mx3.6/41,Error ellipse: s-maj=15.0km s-min=12.3km az=108.0*
*ISCJB **21** 12:19:20.4±0.9,36.°61N±0.°03×142.°31E±0.°03,h14km±5km, mb4.7/84,MS4.1/24,Error ellipse: s-maj=5.0km s-min=3.8km az=150.7*
*BJI **21** 12:19:21.3,36.°83N×141.°98E,h10km,mB4.9/32,mb4.8/46, Ms4.5/38,Ms7 4.2/35*
*NEIC **21** 12:19:21.3±0.3,36.°60N×142.°34E,h10km,mb4.9/34, MW4.6(NIED),Error ellipse: s-maj=6.6km s-min=4.5km az=152.0*
NEIC Felt at Motegi.
*MOS **21** 12:19:25.3±0.9,36.°98N×142.°14E,h33km,mb4.8/48,Error ellipse: s-maj=8.3km s-min=5.4km az=116.5*
ISC 21 12:19:21.8±1.1,36.°64N±0.°03×142.°24E±0.°03,h11km±6km,
h18km±1.6km:pP-P,n254,σ1°01/278,mb4.7/84,MS4.1/24,
7C-7D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.25**	**292**	P	**Pn**	**12 19 43.6**	**-1.6**
JFK	**Kawauchi**	**1.31**	**304**	P	**Pn**	**12 19 45.1**	**-1.0**
JFK				*e*S	**Sb**	**12 20 03.4**	**+0.1**
JHO	**Hitachi**	**1.35**	**269**	↑P	**Pn**	**12 19 45.1**	**-1.5**
JHO				*e*S	**Sb**	**12 20 05.4**	**+1.1**
CHOJ	**Chosi**	**1.46**	**230**	P	**Pn**	**12 19 47.3**	**-0.8**
CHOJ				*e*S	**Sn**	**12 20 07.2**	**-0.1**
JMM	**Marumori**	**1.68**	**317**	P	**Pn**	**12 19 50.5**	**-0.7**
JMM				*e*S	**Sn**	**12 20 13.9**	**+1.2**
JFT	**Otama**	**1.76**	**300**	P	**Pn**	**12 19 51.8**	**-0.4**
JFT				*e*S	**Sn**	**12 20 15.9**	**+1.3**
BSO1	**Boso 1**	**2.24**	**208**	P	**Pn**	**12 19 56.8**	**-2.0**
BSO1				*e*S	**Sn**	**12 20 24.8**	**-1.6**
JAG	**Ashikaga**	**2.26**	**265**	↑P	**Pn**	**12 19 58.7**	**-0.4**
JAG				*e*S	**Sn**	**12 20 27.7**	**+0.7**
JMK	**Ichinoseki**	**2.44**	**341**	P	**Pn**	**12 20 01.3**	**-0.3**
JMK				*e*S	**Sn**	**12 20 32.3**	**+0.8**
MJAR	**Matsushiro Arr**	**3.25**	**269**	Pn	**Pn**	**12 20 13.0**	**+0.3**
	50nm,0.3s,baz=320,slow=24,SNR=406						
MJAR	**Matsushiro Arr**	**3.25**	**269**	Pn	**Pn**	**12 20 13.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.25**	**269**	P	**Pn**	**12 20 13.0**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,50nm,0.3s						
MAJO	**Matsushiro**	**3.25**	**269**	*e*Pn	**Pn**	**12 20 13.7**	**+0.9**
MAJO				*e*Sn	**Sn**	**12 20 50.0**	**-1.4**
MAJO	**Matsushiro**	**3.25**	**269**	*e*P	**Pn**	**12 20 13.7**	**+1.0**
MAJO				*e*		12 20 50.0	
MAT	**Matsushiro**	**3.25**	**269**	P	**Pn**	**12 20 13.5**	**+0.8**
MAT				S	**Sn**	**12 20 50.7**	**-0.7**
ERM	**Erimo**	**5.41**	**7**	*e*Pn	**Pn**	**12 20 41.1**	**-1.3**
ERM				*e*Sn	**Sn**	**12 21 43.0**	**-1.7**
ERM	**Erimo**	**5.41**	**7**	*i* P	**Pn**	**12 20 40.4**	**-2.0**
ASAJ	**Asahikawa**	**7.47**	**2**	Pn	**Pn**	**12 21 09.6**	**-1.1**
	comp=Z,6.8nm,0.3s,baz=227,slow=8.7,SNR=49						
ASAJ				Sn	**Sn**	**12 22 32.9**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=36,slow=30,SNR=4.3						
ASAJ				LR	LR	12 25 06.9	
	comp=Z,1μm,19.3s,baz=192,slow=46						
ASAJ	**Asahikawa**	**7.47**	**2**	*e*Pn	**Pn**	**12 21 09.8**	**-0.9**
ASAJ				*e*Sn	**Sn**	**12 22 34.4**	**-0.9**
ASAJ	**Asahikawa**	**7.47**	**2**	P	**Pn**	**12 21 09.6**	**-1.1**
ASAJ						12 22 32.9	
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,19.3s						
YUK	**Yuzh-Kuril'sk**	**7.88**	**19**	*i* P	**Pn**	**12 21 15.2**	**-1.1**
YUK				*i* S	**Sn**	**12 22 39.9**	**-5.6**
YUK				pmax	pmax		
	comp=E,23nm,0.5s						
YUK				pmax	pmax		
	comp=Z,93nm,0.5s						
YUK				pmax	pmax		
	comp=N,41nm,0.5s						
CBIJ	**Chichi jima**	**9.52**	**180**	Pn	**Pn**	**12 21 33.4**	**-5.5**
	comp=N,11nm,0.3s,baz=70,slow=23,SNR=13						
CBIJ				Sn	**Sn**	**12 23 15.6**	**-10**
	comp=N,24nm,0.3s,baz=286,slow=22,SNR=7.0						
CBIJ	**Chichi jima**	**9.52**	**180**	Pn	**Pn**	**12 21 33.4**	**-5.5**
CBIJ				Sn	**Sn**	**12 23 15.6**	**-10**
JNU	**Nakatsue**	**9.97**	**253**	*e*Pn	**Pn**	**12 21 46.4**	**+1.4**
YSS	**Yuzh-Sakhalins**	**10.31**	**2**	*e*Pn	**Pn**	**12 21 48.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**10.31**	**2**	↓*i*P	**Pn**	**12 21 49.0**	**-0.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,900nm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,700nm,15.0s						
USRK	**Ussuriysk Arra**	**10.85**	**317**	Pn	**Pn**	**12 22 00.0**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=127,slow=15,SNR=5.5						
USRK

HHC	**Hu-ho-hao-te**	**24.23 289**	*e*P	**P**	**12 24 38.0**	**-0.6**
HHC			pP		12 24 42.0	
HHC			sP	sP	12 24 45.1	+2.0
HHC			PP		12 25 12.3	
HHC			PcP	PcP	12 28 21.8	+3.1
HHC			S	**S**	**12 28 51.9**	**-5.0**
HHC			sS	sS	12 28 58.6	-3.6
HHC			ScP	ScP	12 31 57.8	+0.6
HHC			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2					
HHC			pmax	pmax		
	comp=Z,190nm,5.2s					
HHC			LR	LR		
	comp=N,570nm,12.0s,MS4.4					
HHC			LR	LR		
	comp=E,440nm,12.0s,MS4.4					
HHC			LR	LR		
	comp=Z,480nm,11.9s,MS4.2					
YAK	**Yakutsk**	**26.60 347**	*e*P	**P**	**12 24 59.8**	**0.0**
	comp=Z,59nm,0.8s,mb5.2					
YAK	**Yakutsk**	**26.60 347**	*c i*P	**P**	**12 24 59.5**	**-0.3**
YAK			pmax	pmax		
	comp=Z,50nm,0.9s,mb5.0					
YAK			pmax	pmax		
	comp=N,21nm,1.1s					
SEY	**Seymchan**	**27.05 10**	*i* P	**P**	**12 25 05.7**	**+1.8**
XAN	**Xi'an**	**27.23 274**	P	**P**	**12 25 05.0**	**-0.8**
XAN			pP	pP	12 25 12.6	+3.6
XAN			pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0					
XAN			pmax	pmax		
	comp=Z,48nm,10.0s					
ENH	**Enshi**	**27.97 266**	*e*P	**P**	**12 25 11.4**	**-1.1**
	comp=Z,79nm,0.8s,mb5.4					
ULN	**Ulaanbaatar**	**28.12 305**	*e*P	**P**	**12 25 14.5**	**+0.8**
	comp=Z,19nm,0.9s,mb4.7					
ULN	**Ulaanbaatar**	**28.12 305**	*e*P	**P**	**12 25 14.5**	**+0.8**
ULN			pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7					
BOD	**Bodaibo**	**28.21 328**	*e*P	**P**	**12 25 14.2**	**-0.2**
BOD			pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6					
SONM	**Songino Array**	**28.55 304**	P	**P**	**12 25 18.3**	**+0.8**
	comp=Z,26nm,0.8s,mb5.0,baz=101,slow=8.3,SNR=146					
SONM			LR	LR	12 37 20.1	
	comp=Z,162nm,19.7s,MS3.6,baz=61,slow=38					
SONM	**Songino Array**	**28.55 304**	P	**P**	**12 25 18.3**	**+0.8**
SONM	**Songino Array**	**28.55 304**	P	**P**	**12 25 18.3**	**+0.8**
SONM			pmax	pmax		
	comp=Z,26nm,0.8s					
SONM			MLR	MLR		
	comp=Z,162nm,19.7s					
LZH	**Lanzhou**	**30.79 281**	*e*P	**P**	**12 25 38.3**	**+0.8**
LZH			pP	pP	12 25 42.8	+2.1
LZH			sP	sP	12 25 45.8	+3.8
LZH			pmax	pmax		
	comp=Z,62nm,1.1s,mb5.3					
LZH			pmax	pmax		
	comp=Z,120nm,5.8s					
LZH			LR	LR		
	comp=N,520nm,14.0s,MS4.4					
LZH			LR	LR		
	comp=E,260nm,12.7s,MS4.4					
LZH			LR	LR		
	comp=Z,600nm,14.4s,MS4.4					
ZAK	**Zakamensk**	**31.03 309**	*e*P	**P**	**12 25 40.2**	**+0.8**
ZAK			pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5					
TLY	**Talaya**	**31.09 311**	*e*P	**P**	**12 25 38.9**	**-1.0**
TLY			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7					
TLY			MLR	MLR		
	comp=Z,198nm,16.0s,MS3.9					
GYA	**Guiyang**	**31.82 262⇓**	*i*P	**P**	**12 25 45.9**	**-0.7**
GYA			PP	PP	12 26 52.4	-6.0
GYA			S	**S**	**12 30 54.1**	**-2.8**
GYA			ScP	ScP	12 32 20.0	-0.9
GYA			SS	SS	12 32 47.6	-26
GYA			pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0					
GYA			pmax	pmax		
	comp=Z,120nm,4.4s					
GYA			LR	LR		
	comp=N,520nm,25.2s,MS4.4					
GYA			LR	LR		
	comp=E,830nm,21.5s,MS4.4					
GYA			LR	LR		
	comp=Z,990nm,21.2s,MS4.5					
CD2	**Chengdu**	**32.34 271**	*e*P	**P**	**12 25 52.9**	**+1.7**
CD2			pP	pP	12 25 57.4	+3.0
CD2			sP	sP	12 26 00.5	+4.8
CD2			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7					
CD2			pmax	pmax		
	comp=Z,30nm,5.2s					
GTA	**Gaotai**	**33.32 288**	*e*P	**P**	**12 25 59.5**	**-0.1**
GTA			pP	pP	12 26 03.5	+0.7
GTA			sP	sP	12 26 07.0	+2.9
GTA			S	**S**	**12 31 17.8**	**-2.2**
GTA			sS	sS	12 31 24.3	-1.0
GTA			SS	SS	12 33 18.5	-25
GTA			pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0					
GTA			pmax	pmax		
	comp=Z,280nm,5.9s					
GTA			LR	LR		
	comp=N,270nm,17.1s,MS4.2					
GTA			LR	LR		
	comp=E,300nm,17.1s,MS4.2					
GTA			LR	LR		
	comp=Z,250nm,15.9s,MS4.0					
QIZ	**Qiongzhong**	**33.38 247**	P	**P**	**12 26 02.4**	**+2.0**
QIZ			S	**S**	**12 31 21.8**	**+0.4**
QIZ			pmax	pmax		
	comp=Z,96nm,5.8s					
QIZ			LR	LR		
	comp=N,440nm,17.5s,MS4.2					
QIZ			LR	LR		
	comp=E,180nm,18.3s,MS4.2					
BILL	**Bilibino**	**34.22 16⇓**	*e*P	**P**	**12 26 07.1**	**0.0**
BILL			pmax	pmax		
	comp=Z,13nm,1.7s,mb4.6					
BILL			MLR	MLR		
	comp=Z,200nm,20.0s,MS3.9					
KMI	**Kunming**	**35.57 262**	P	**P**	**12 26 19.0**	**-0.2**
KMI			pP	pP	12 26 22.5	0.0
KMI			S	**S**	**12 31 51.6**	**-3.4**
KMI			pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0					
KMI			pmax	pmax		
	comp=Z,130nm,6.2s					
KMI			LR	LR		
	comp=N,220nm,14.5s,MS4.3					
KMI			LR	LR		
	comp=E,340nm,13.9s,MS4.3					
KMI			LR	LR		
	comp=Z,290nm,13.3s,MS4.2					
WMQ	**Urumqi**	**41.61 297**	P	**P**	**12 27 11.6**	**+1.8**
WMQ			pP	pP	12 27 16.1	+3.0
WMQ			sP	sP	12 27 18.6	+4.2
WMQ			PP	PP	12 28 50.8	+5.0
WMQ			S	**S**	**12 33 25.8**	**-0.1**
WMQ			ScS	ScS	12 37 13.0	-0.2
WMQ			pmax	pmax		
	comp=Z,21nm,0.8s,mb4.8					
WMQ			pmax	pmax		
	comp=Z,280nm,7.2s					
WMQ			LR	LR		
	comp=N,400nm,20.6s,MS4.3					
WMQ			LR	LR		
	comp=E,150nm,21.6s,MS4.3					
WMQ			LR	LR		
	comp=Z,180nm,20.0s,MS3.9					
CHTO	**Chiang Mai**	**41.85 257**	*e*P	**P**	**12 27 12.4**	**+0.4**
	comp=Z,7.8nm,1.0s,mb4.3					
CHTO	**Chiang Mai**	**41.85 257**	*e*P	**P**	**12 27 12.4**	**+0.4**
CHTO			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3					
CMAR	**Chiang Mai Arr**	**42.05 256**	P	**P**	**12 27 13.8**	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.1,baz=45,slow=7.0,SNR=21					
CMAR			LR	LR	12 45 44.4	
	comp=Z,123nm,19.9s,MS3.8,baz=75,slow=38					
CMAR	**Chiang Mai Arr**	**42.05 256**	P	**P**	**12 27 13.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**42.05 256**	P	**P**	**12 27 13.8**	**+0.2**
CMAR			pmax	pmax		
	comp=Z,4.0nm,0.7s					
CMAR			MLR	MLR		
	comp=Z,123nm,19.9s					
ZALV	**Zalesovo Beam**	**42.67 313**	P	**P**	**12 27 18.9**	**+0.7**
	comp=Z,5.6nm,0.7s,mb4.4,baz=89,slow=6.5,SNR=35					
ZALV			PcP	PcP	12 29 09.8	-0.2
	comp=Z,1.8nm,0.8s,baz=94,slow=4.3,SNR=3.3					
ZALV	**Zalesovo Beam**	**42.67 313**	P	**P**	**12 27 18.9**	**+0.7**
ZALV			PcP	PcP	12 29 09.8	-0.2
ZALV	**Zalesovo Beam**	**42.67 313**	P	**P**	**12 27 19.0**	**+0.7**
ZALV					12 29 09.8	
ZALV			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4					
LSA	**Lhasa**	**42.91 276**	*e*P	**P**	**12 27 22.6**	**+2.0**
	comp=Z,7.0nm,0.8s,mb4.4					
LSA	**Lhasa**	**42.91 276**	*e*P	**P**	**12 27 22.6**	**+2.0**
LSA			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4					
NVS	**Novosibirsk**	**43.59 314⇓**	*i*P	**P**	**12 27 25.8**	**+0.1**
NVS			*e*S	**S**	**12 33 54.8**	**+0.1**
NVS			*i* PS		12 34 11.6	
NVS			pmax	pmax		
	comp=Z,20nm,1.6s,mb4.6					
NVS			pmax	pmax		
	comp=N,8.0nm,1.9s					
NVS			pmax	pmax		
	comp=E,12nm,1.3s					
NVS			smax			
	comp=N,18nm,2.8s					
NVS			smax			
	comp=E,22nm,3.0s					
MK31	**Makanchi Array**	**44.89 303**	*e*P	**P**	**12 27 35.9**	**-0.3**
MK31	**Makanchi Array**	**44.89 303**	*i* P	**P**	**12 27 36.2**	**0.0**
MK31			pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7					
MKAR	**Makanchi Array**	**44.89 303**	P	**P**	**12 27 36.4**	**+0.1**
	comp=Z,7.3nm,0.8s,mb4.6,baz=88,slow=9.0,SNR=55					
MKAR			LR	LR	12 46 02.2	
	comp=Z,127nm,18.7s,MS3.9,baz=354,slow=36					
MKAR	**Makanchi Array**	**44.89 303**	P	**P**	**12 27 36.4**	**+0.1**
MKAR	**Makanchi Array**	**44.89 303**	P	**P**	**12 27 36.4**	**+0.2**
MKAR			pmax	pmax		
	comp=Z,7.0nm,0.8s					
MKAR			MLR	MLR		
	comp=Z,127nm,18.7s					
KAPI	**Kappang**	**46.47 212**	P	**P**	**12 27 47.9**	**-1.1**
	comp=Z,10.0nm,0.9s,mb4.7,baz=346,slow=8.1,SNR=3.9					
KAPI	**Kappang**	**46.47 212**	P	**P**	**12 27 47.9**	**-1.1**
TAPN	**Taplejung**	**46.63 275**	*e*P	**P**	**12 27 50.2**	**-0.1**
	comp=Z,8.0nm,0.5s,mb4.9					
TAPN	**Taplejung**	**46.63 275**	*e*P	**P**	**12 27 50.2**	**-0.1**
	comp=Z,8.0nm,0.5s,mb4.9					
KURK	**Kurchatov**	**46.70 308**	*e*P	**P**	**12 27 50.0**	**-0.4**
	comp=Z,26nm,0.9s,mb5.2					
KURK	**Kurchatov**	**46.70 308**	*c i*P	**P**	**12 27 50.2**	**-0.2**
KURK			pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2					
KURK			MLR	MLR		
	comp=Z,171nm,16.0s,MS4.1					
KDAK	**Kodiak Island**	**46.95 42**	P	**P**	**12 27 52.4**	**+0.1**
	comp=Z,14nm,0.8s,mb4.9,baz=340,slow=3.3,SNR=2.5					
KDAK	**Kodiak Island**	**46.95 42**	P	**P**	**12 27 52.4**	**+0.1**
KDAK	**Kodiak Island**	**46.95 42**	P	**P**	**12 27 52.4**	**+0.1**
KDAK			pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9					
ODAN	**Odare**	**47.10 274**	*e*P	**P**	**12 27 54.4**	**+0.4**
	comp=Z,16nm,0.9s,mb5.0					
ODAN	**Odare**	**47.10 274**	*e*P	**P**	**12 27 54.4**	**+0.4**
	comp=Z,16nm,0.9s,mb5.0					
RAMN	**Ramite**	**47.70 275**	*e*P	**P**	**12 27 59.0**	**+0.4**
	comp=Z,32nm,0.8s,mb5.4					
RAMN	**Ramite**	**47.70 275**	*e*P	**P**	**12 27 59.0**	**+0.4**
	comp=Z,32nm,0.8s,mb5.4					
JIRN	**Jiri**	**47.72 276**	*e*P	**P**	**12 27 59.6**	**+0.9**
	comp=Z,29nm,0.8s,mb5.4					
JIRN	**Jiri**	**47.72 276**	*e*P	**P**	**12 27 59.6**	**+0.9**
	comp=Z,29nm,0.8s,mb5.4					
GUN	**Gumba**	**47.86 276**	*e*P	**P**	**12 28 00.7**	**+0.9**
	comp=Z,28nm,0.9s,mb5.3					
GUN	**Gumba**	**47.86 276**	*e*P	**P**	**12 28 00.7**	**+0.9**
	comp=Z,28nm,0.9s,mb5.3					
PKI	**Pulchoki**	**48.38 276**	*e*P	**P**	**12 28 04.8**	**+0.9**
PKI	**Pulchoki**	**48.38 276**	*e*P	**P**	**12 28 04.8**	**+0.9**
PKI	**Pulchoki**	**48.38 276**	*e*P	**P**	**12 28 04.8**	**+0.9**
KKN	**Kakani**	**48.39 277**	*e*P	**P**	**12 28 04.3**	**+0.4**
	comp=Z,19nm,0.8s,mb5.2					
KKN	**Kakani**	**48.39 277**	*e*P	**P**	**12 28 04.3**	**+0.4**
	comp=Z,19nm,0.8s,mb5.2					
KKN	**Kakani**	**48.39 277**	*e*P	**P**	**12 28 04.3**	**+0.4**
KKN			pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2					
DMN	**Daman**	**48.61 276**	*e*P	**P**	**12 28 06.7**	**+1.1**
	comp=Z,4.9nm,0.4s,mb4.9					
HNR	**Honiara**	**48.76 156**	P	**P**	**12 28 04.8**	**-1.9**
	comp=Z,56nm,0.9s,mb5.6,baz=348,slow=9.3,SNR=2.2					
HNR	**Honiara**	**48.76 156**	P	**P**	**12 28 04.8**	**-1.9**
HNR	**Honiara**	**48.76 156**	P	**P**	**12 28 04.8**	**-2.0**
HNR			pmax	pmax		
	comp=Z,56nm,0.9s,mb5.6					
GKN	**Gorkha**	**48.81 277**	*e*P	**P**	**12 28 07.5**	**+0.3**
	comp=Z,44nm,0.9s,mb5.5					
GKN	**Gorkha**	**48.81 277**	*e*P	**P**	**12 28 07.5**	**+0.3**
	comp=Z,44nm,0.9s,mb5.5					
COLA	**College**	**49.05 32**	*e*P	**P**	**12 28 09.2**	**+0.7**
	comp=Z,6.0nm,1.0s,mb4.6					
COLA	**College**	**49.05 32**	*e*P	**P**	**12 28 09.3**	**+0.8**
COLA			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6					
DANN	**Dangsing**	**49.36 278**	*e*P	**P**	**12 28 12.1**	**+0.7**
	comp=Z,52nm,0.7s,mb5.7					
DANN	**Dangsing**	**49.36 278**	*e*P	**P**	**12 28 12.1**	**+0.7**
	comp=Z,52nm,0.7s,mb5.7					
ILAR	**Eielson Array**	**49.47 32**	P	**P**	**12 28 10.8**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.4,baz=268,slow=6.6,SNR=41					
ILAR			LR	LR	12 47 29.3	
	comp=Z,122nm,18.8s,MS3.9,baz=325,slow=34					
ILAR	**Eielson Array**	**49.47 32**	P	**P**	**12 28 10.8**	**-0.9**
ILAR	**Eielson Array**	**49.47 32**	P	**P**	**12 28 10.8**	**-0.9**
ILAR			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KOLN	**Koldanda**	**49.74 277**	*e*P	**P**	**12 28 15.1**	**+0.8**
	comp=Z,8.4nm,0.5s,mb5.0					
KOLN	**Koldanda**	**49.74 277**	*e*P	**P**	**12 28 15.1**	**+0.8**
	comp=Z,8.4nm,0.5s,mb5.0					
TKM2	**Tokmak 2**	**50.40 299**	P	**P**	**12 28 20.4**	**+1.3**
	SNR=14					
TKM2			P		12 28 20.4	
	SNR=14					
TKM2	**Tokmak 2**	**50.40 299**	*e*P	**P**	**12 28 20.3**	**+1.2**
	comp=Z,15nm,1.0s,mb5.0					
TKM2	**Tokmak 2**	**50.40 299**	*i* P	**P**	**12 28 20.3**	**+1.2**
KZA	**Kyzart**	**50.89 298**	P	**P**	**12 28 25.0**	**+2.2**
	SNR=8.0					
KZA			P		12 28 25.0	
	SNR=8.0					
KBK	**Karagaybulak**	**50.94 299**	P	**P**	**12 28 24.4**	**+1.2**
	SNR=14					
KBK			P		12 28 24.4	
	SNR=14					
KSH	**Kashi**	**51.17 295**	P	**P**	**12 28 29.8**	**+4.8**
KSH			pP	pP	12 28 34.5	+6.2
KSH			sP	sP	12 28 36.3	+6.7
KSH			ScP	ScP	12 33 39.6	+2.8
KSH			PcS	PcS	12 33 40.8	+2.8
KSH			S	**S**	**12 35 47.3**	**+4.2**
KSH			sS	sS	12 35 55.8	+7.2
KSH			pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5					
KSH			pmax	pmax		
	comp=Z,220nm,6.3s					
KSH			LR	LR		
	comp=N,170nm,5.9s					
KSH			LR	LR		
	comp=E,190nm,5.3s					
KSH			LR	LR		
	comp=Z,210nm,5.7s					
AAK	**Ala-Archa**	**51.26 299**	P	**P**	**12 28 26.4**	**+0.8**
	SNR=6.8					
AAK			P		12 28 26.4	
	SNR=6.8					
AAK	**Ala-Archa**	**51.26 299**	*e*P	**P**	**12 28 26.4**	**+0.8**
	comp=Z,27nm,0.9s,mb5.2					
AAK	**Ala-Archa**	**51.26 299⇓**	*e*P	**P**	**12 28 26.2**	**+0.6**
AAK			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8					
AAK			MLR	MLR		
	comp=Z,968nm,19.0s,MS4.8					
BVA0	**Borovoye Array**	**51.33 313**	*i* P	**P**	**12 28 25.9**	**0.0**
BVA0			pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8					
BRVK	**Borovoye**	**51.38 313**	*e*P	**P**	**12 28 26.8**	**+0.4**
	comp=Z,8.6nm,1.1s,mb4.6					
BRVK	**Borovoye**	**51.38 313⇓**	*e*P	**P**	**12 28 26.6**	**+0.3**
BRVK			pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6					
BRVK			MLR	MLR		
	comp=Z,232nm,18.0s,MS4.2					
EKS2	**Erkin-Say**	**51.76 299**	*e*P	**P**	**12 28 30.0**	**+0.7**
	comp=Z,5.2nm,0.9s,mb4.5					
EKS2	**Erkin-Say**	**51.76 299**	*e*P	**P**	**12 28 30.0**	**+0.7**
EKS2			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
AML	**Almayashu**	**51.98 298**	P	**P**	**12 28 32.5**	**+1.5**
	SNR=21					
AML			P		12 28 32.5	
	SNR=21					
KK31	**Karatay Array**	**53.90 301**	*i* P	**P**	**12 28 45.1**	**0.0**
KK31			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2					
KKAR	**Karatay Array**	**53.90 301**	*e*P	**P**	**12 28 45.5**	**+0.4**
KKAR	**Karatay Array**	**53.90 301**	*e*P	**P**	**12 28 45.5**	**+0.4**
INK	**Inuvik**	**54.43 27**	P	**P**	**12 28 48.1**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=293,slow=7.1,SNR=5.0					
INK	**Inuvik**	**54.43 27**	P	**P**	**12 28 48.1**	**-0.5**
INK	**Inuvik**	**54.43 27**	P	**P**	**12 28 48.2**	**-0.4**
INK			pmax	pmax		
	comp=Z,2.0nm,0.8s					
SVE	**Sverdlovsk**	**55.88 319**	*e*P	**P**	**12 28 59.9**	**+0.7**
SVE			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9					
FITZ	**Fitzroy Crossi**	**56.66 199**	P	**P**	**12 29 04.2**	**-1.0**
	comp=Z,5.4nm,1.1s,mb4.5,baz=343,slow=11,SNR=4.7					
FITZ	**Fitzroy Crossi**	**56.66 199**	P	**P**	**12 29 04.2**	**-1.0**
WRA	**Warramunga Arr**	**56.77 189**	P	**P**	**12 29 03.6**	**-2.3**
	comp=Z,3.7nm,0.8s,mb4.5,baz=7.1,slow=7.5,SNR=15					
WRA	**Warramunga Arr**	**56.77 189**	P	**P**	**12 29 03.6**	**-2.3**
WRA	**Warramunga Arr**	**56.77 189**	P	**P**	**12 29 03.7**	**-2.2**
WRA			pmax	pmax		
	comp=Z,4.0nm,0.8s					
ARU	**Arti**	**57.09 319**	*e*P	**P**	**12 29 07.9**	**0.0**
	comp=Z,11nm,1.0s,mb4.8					
ARU	**Arti**	**57.09 319**	*d i*P	**P**	**12 29 07.6**	**-0.3**
ARU			*e*		12 31 11.8	
ARU			S	**S**	**12 37 01.8**	**-0.7**
ARU			SS	SS	12 40 43.6	-7.1
ARU			pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9					
KBL	**Kabul**	**58.18 292**	*e*P	**P**	**12 29 16.4**	**+0.5**
	comp=Z,11nm,0.9s,mb4.9					
KBL	**Kabul**	**58.18 292**	*e*P	**P**	**12 29 16.4**	**+0.5**
KBL			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9					
DLBC	**Dease Lake**	**58.52 38**	P	**P**	**12 29 19.1**	**+1.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=252,slow=13,SNR=2.7					
DLBC	**Dease Lake**	**58.52 38**	P	**P**	**12 29 19.1**	**+1.3**
AB31	**Akbulak array**	**58.70 311**	*i* P	**P**	**12 29 18.9**	**-0.4**
AB31			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7					
ABKAR	**Akbulak array**	**58.70 311**	*e*P	**P**	**12 29 18.3**	**-0.9**
	comp=Z,8.7nm,0.8s,mb4.8					
HYB	**Hyderabad**	**58.86 269**	*i* P	**P**	**12 29 21.0**	**+0.2**
AKTO	**Aktyubinsk**	**59.43 312**	P	**P**	**12 29 24.0**	**-0.3**
AS31	**Alice Springs**	**60.50 189**	*e*P	**P**	**12 29 38.1**	**+6.3**
ASAR	**Alice Springs**	**60.50 189**	P	**P**	**12 29 29.9**	**-2.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=2.2,slow=6.5,SNR=17					
ASAR	**Alice Springs**	**60.50 189**	P	**P**	**12 29 29.9**	**-2.0**
ASAR	**Alice Springs**	**60.50 189**	P	**P**	**12 29 29.9**	**-1.9**
POO	**Poona**	**62.05 273**	*ex*	x	12 29 40.0	
RES	**Resolute Bay**	**62.81 15**	P	**P**	**12 29 46.8**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.1,baz=324,slow=9.0,SNR=3.8					
RES	**Resolute Bay**	**62.81 15**	P	**P**	**12 29 46.8**	**-0.1**
RES	**Resolute Bay**	**62.81 15**	P	**P**	**12 29 46.8**	**-0.1**
RES			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1					
YKA	**Yellowknife Ar**	**63.81 30**	P	**P**	**12 29 53.0**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.9,baz=302,slow=6.7,SNR=16					
YKA			LR	LR	12 59 43.3	
	comp=Z,4.6nm,18.7s,MS2.7,baz=330,slow=38					
YKA	**Yellowknife Ar**	**63.81 30**	P	**P**	**12 29 53.0**	**-0.6**
YKA	**Yellowknife Ar**	**63.81 30**	P	**P**	**12 29 53.0**	**-0.7**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
ARCES	**ARCESS Array B**	**64.59 340**	LR	LR	13 03 57.0	
	comp=Z,199nm,19.5s,MS4.3,baz=177,slow=41					
JOF	**Joensuu**	**66.62 332**	*e*P	**P**	**12 30 10.2**	**-1.7**
JOF			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5					
JOF	**Joensuu**	**66.62 332**	*ep*	**P**	**12 30 10.2**	**-1.7**
	comp=Z,3.7nm,0.8s,mb4.5					
OBN	**Obninsk**	**68.81 324⇑**	*e*P	**P**	**12 30 26.8**	**+1.0**
OBN			*e*SS	SS	12 43 47.5	-5.8
OBN			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8					
OBN			MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2					
KAF	**Kangasniemi**	**68.96 333**	*e*P	**P**	**12 30 25.9**	**-0.7**
KAF			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3					
KAF	**Kangasniemi**	**68.96 333**	*ep*	**P**	**12 30 25.9**	**-0.7**
	comp=Z,2.2nm,0.5s,mb4.3					
FINES	**FINESS Array B**	**69.47 333**	P	**P**	**12 30 29.9**	**0.0**
	comp=Z,5.6nm,0.8s,mb4.6,baz=60,slow=11,SNR=7.9					
FINES	**FINESS Array B**	**69.47 333**	P	**P**	**12 30 29.9**	**0.0**
FINES	**FINESS Array B**	**69.47 333**	P	**P**	**12 30 29.9**	**+0.1**
FINES			pmax	pmax		
	comp=Z,6.0nm,0.8s					
VSR	**Storozhevoye**	**69.66 319**	*e*P	**P**	**12 30 31.2**	**0.0**
VSR			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8					
VSR			pmax	pmax		
	comp=N,10.0nm,0.8s					
VSR			pmax	pmax		
	comp=E,10.0nm,1.0s					
KIV	**Kislovodsk**	**71.67 311**	*e*P	**P**	**12 30 45.3**	**+1.8**
	comp=E,26nm,1.1s,mb5.1					
KIV	**Kislovodsk**	**71.67 311**	*e*P	**P**	**12 30 45.1**	**+1.6**
KIV			pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1					
FFC	**Flin Flon**	**73.67 33**	*i* P	**P**	**12 30 55.8**	**+0.5**
ANN	**Anapa**	**74.28 314**	*e*P	**P**	**12 30 52.2**	**-6.8**
NVAR	**Mina Array Bea**	**74.69 53**	P	**P**	**12 31 01.9**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=283,slow=5.7,SNR=8.5					
NVAR	**Mina Array Bea**	**74.69 53**	P	**P**	**12 31 01.9**	**+0.4**
HFS	**Hagfors**	**74.72 336**	P	**P**	**12 31 01.7**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.3,baz=20,slow=4.6,SNR=3.0					
HFS	**Hagfors**	**74.72 336**	P	**P**	**12 31 01.7**	**+0.5**
HFS	**Hagfors**	**74.72 336**	P	**P**	**12 31 01.7**	**+0.4**
HFS			pmax	pmax		
	comp=Z,4.0nm,0.8s					
NB2	**NORSAR Subarra**	**74.80 338**	P	**P**	**12 31 01.7**	**0.0**
	comp=Z,4.7nm,0.8s,mb4.5,baz=38,slow=6.2					
NOA	**NORSAR Array B**	**74.80 338**	P	**P**	**12 31 01.7**	**0.0**
	comp=Z,3.7nm,0.9s,mb4.3,baz=38,slow=5.8,SNR=6.3					
NOA			LR	LR	13 06 52.9	
	comp=Z,133nm,18.3s,MS4.3,baz=70,slow=38					

BRTR pmax pmax
comp=Z,3.0nm,1.0s
CRVS Cervenica-Dubn 79.93 325 *eP* **P 12 31 31.1 +0.4**
CRVS Cervenica-Dubn 79.93 325 *eP* **P 12 31 31.1 +0.4**
PV10 Paradox Valley 80.53 49 *eP* **P 12 31 35.4 +1.3**
comp=Z,194nm,0.9s
KSP Ksiaz 80.78 329 *eP* **P 12 31 36.3 +1.1**
KSP Ksiaz 80.78 329 *eP* **P 12 31 36.3 +1.1**
PV01 Paradox Valley 80.97 49 *eP* **P 12 31 37.0 +0.5**
comp=Z,1µm,1.6s
DPC Dobruska-Polom 81.14 328 *eP* **P 12 31 37.9 +0.7**
DPC Dobruska-Polom 81.14 328 *eP* **P 12 31 37.9 +0.7**
VYHS Vyhne 81.42 326 *eP* **P 12 31 40.0 +1.3**
VYHS pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
VYHS Vyhne 81.42 326 *eP* **P 12 31 40.0 +1.3**
BRG Berggiesshubel 81.73 330 *e*(P) **P 12 31 41.4 +1.2**
comp=Z,11nm,1.3s,mb4.6
BRG Berggiesshubel 81.73 330 *eP* **P 12 31 41.4 +1.2**
BRG pmax pmax
comp=Z,11nm,1.3s,mb4.6
CLL Collm 81.77 331⇑ *iP* **P 12 31 39.8 -0.6**
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CLL Collm 81.77 331⇑ *iP* **P 12 31 39.8 -0.6**
comp=Z,7.0nm,1.0s,mb4.5
PRU Pruhonice 82.16 329 *eP* **P 12 31 43.2 +0.6**
PRU Pruhonice 82.16 329 *eP* **P 12 31 43.2 +0.6**
KHC Kasperske Hory 83.22 329 *eP* **P 12 31 48.5 +0.4**
comp=Z,5.2nm,0.9s,mb4.6
KHC Kasperske Hory 83.22 329 *eP* **P 12 31 48.5 +0.4**
KHC *e* 12 31 55.2
KHC Kasperske Hory 83.22 329 *eP* **P 12 31 48.5 +0.4**
KHC *e*pP pP 12 31 55.2 +3.6
GERES GERESS Array B 83.39 329 P **P 12 31 48.9 -0.1**
comp=Z,1.4nm,0.7s,mb4.1,baz=35,slow=4.9,SNR=13
GERES LR LR 13 15 53.2
comp=Z,124nm,18.5s,MS4.3,baz=113,slow=41
GERES GERESS Array B 83.39 329 P **P 12 31 48.9 -0.1**
GERES GERESS Array B 83.39 329 P **P 12 31 48.9 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 84.32 50 *eP* **P 12 31 54.9 +0.9**
comp=Z,4.2nm,1.3s,mb4.4
ANMO Albuquerque 84.32 50 *eP* **P 12 31 54.9 +0.9**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
SCHQ Schefferville 85.53 16 P **P 12 31 59.0 -0.6**
comp=Z,2.2nm,0.7s,mb4.5,baz=338,slow=11,SNR=2.4
SCHQ Schefferville 85.53 16 P **P 12 31 59.0 -0.6**
BFO Black Forest 85.97 331 *eP* **P 12 32 01.0 -1.0**
comp=Z,4.3nm,1.1s,mb4.6
BFO Black Forest 85.97 331 *eP* **P 12 32 01.0 -1.0**
BFO pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
CDF Champ du Feu 86.31 332 *eP* **P 12 32 03.6 -0.1**
comp=Z,13nm,1.0s,mb4.8
CDF Champ du Feu 86.31 332 *eP* **P 12 32 03.6 -0.1**
comp=Z,13nm,1.0s,mb5.1
CDF Champ du Feu 86.31 332 *eP* **P 12 32 03.6 -0.1**
CDF pmax pmax
comp=Z,13nm,1.0s,mb5.1
HINF Hinteralfeld 86.96 332 *eP* **P 12 32 06.6 -0.3**
HINF Hinteralfeld 86.96 332 *eP* **P 12 32 06.6 -0.3**
HINF Hinteralfeld 86.96 332 *eP* **P 12 32 06.6 -0.3**
HAU Haudompre 86.99 332 *eP* **P 12 32 06.4 -0.6**
HAU Haudompre 86.99 332 *eP* **P 12 32 06.4 -0.6**
HAU Haudompre 86.99 332 *eP* **P 12 32 06.4 -0.6**
SFTF Sexfontaines 87.31 333 *eP* **P 12 32 08.5 -0.1**
SFTF Sexfontaines 87.31 333 *eP* **P 12 32 08.5 -0.1**
SSF Saint Saulge 88.83 333 *eP* **P 12 32 15.8 0.0**
SSF Saint Saulge 88.83 333 *eP* **P 12 32 15.8 0.0**
SSF Saint Saulge 88.83 333 *eP* **P 12 32 15.8 0.0**
AVF Avril sur Loir 89.12 333 *eP* **P 12 32 17.2 0.0**
comp=Z,6.4nm,0.8s,mb4.7
AVF Avril sur Loir 89.12 333 *eP* **P 12 32 17.2 0.0**
comp=Z,6.4nm,0.8s,mb5.0
AVF Avril sur Loir 89.12 333 *eP* **P 12 32 17.2 0.0**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
TXAR Lajitas Array 89.83 53 P **P 12 32 20.6 -0.3**
comp=Z,1.5nm,0.8s,mb4.4,baz=296,slow=3.6,SNR=18
TXAR Lajitas Array 89.83 53 P **P 12 32 20.6 -0.3**
TXAR Lajitas Array 89.83 53 P **P 12 32 20.6 -0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 146.31 61 PKPbc PKPbc 12 39 02.4 -0.6
comp=Z,3.8nm,0.7s,baz=13,slow=7.2,SNR=12
LPAZ La Paz 146.31 61 *e*PKPdf PKPdf 12 39 02.1 +0.3
LPAZ PKPbc PKPbc 12 39 02.4 -0.6
LPAZ La Paz 146.31 61 PKIKP PKPdf 12 39 02.4 +0.5
LPAZ pmax pmax
comp=Z,4.0nm,0.7s

RSPR ***21*** *12:26:41.1,18°.89N×64°.38W,h39km±8km, MD3.5/5*
NEIC ***21*** *12:26:41.1,18°.89N×64°.38W,h39km, MD3.5(RSPR), After RSPR.*
TRN 21 12:26:40.2,18°.70N×64°.42W,h50km,MD3.5(RSPR), **12C-3D,Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.34**	**214**⇑	*eP*	Pn	12 26 51.1	+1.4
TBVI				*eS*	Sn	12 26 58.9	+2.4
TBVI	**Tortola**	**0.34**	**214**⇑	*eP*	Pn	12 26 51.1	+1.4
TBVI				*eS*	Sn	12 26 58.9	+2.4
TBVI	**Tortola**	**0.34**	**214**⇑	*eP*	Pn	12 26 51.1	+1.4
TBVI				*eS*	Sn	12 26 58.9	+2.4
STVI	**Saint Thomas**	**0.62**	**236**⇑	*eP*	Pn	12 26 54.0	+1.1
STVI	**Saint Thomas**	**0.62**	**236**⇑	*eP*	Pn	12 26 54.0	+1.1
STVI				*eS*	Sn	12 27 04.5	+2.4
STVI	**Saint Thomas**	**0.62**	**236**⇑	*eP*	Pn	12 26 54.1	+1.2
STVI				*eS*	Sn	12 27 04.5	+2.4
MTP	**Monte Pirata**	**1.23**	**241**⇑	*eP*	Pn	12 27 02.5	+1.4
MTP	**Monte Pirata**	**1.23**	**241**⇑	*eP*	Pn	12 27 02.5	+1.4
MTP				*eS*	Sn	12 27 19.4	+2.8
MTP	**Monte Pirata**	**1.23**	**241**⇑	*eP*	Pn	12 27 02.5	+1.4
MTP				*eS*	Sn	12 27 19.4	+2.8
CBYP	**Canovanas**	**1.43**	**253**⇑	*eP*	Pn	12 27 05.1	+1.3
CBYP	**Canovanas**	**1.43**	**253**⇑	*eP*	Pn	12 27 05.1	+1.3
CBYP	**Canovanas**	**1.43**	**253**⇑	*eP*	Pn	12 27 05.9	+2.1
HUMP	**Col San Antoni**	**1.47**	**248**⇓	*eP*	Pn	12 27 05.4	+1.1
HUMP	**Col San Antoni**	**1.47**	**248**⇓	*eP*	Pn	12 27 05.4	+1.1
HUMP				*eS*	Sn	12 27 24.4	+2.0
HUMP	**Col San Antoni**	**1.47**	**248**⇓	*eP*	Pn	12 27 05.4	+1.1
HUMP				*eS*	Sn	12 27 24.4	+2.0

IDC ***21*** *12:35:53.7±1.5,33°.88N×25°.86E,h0km, mb3.8/3, mb1 3.6/5,mb1mx3.3/24,mbtmp3.5/5,ML3.3/2,Error ellipse: s-maj=25.7km s-min=15.5km az=16.0*
ATH ***21*** *12:36:08.8,35°.68N×26°.57E,h32km±1km, MD3.4/14*
THE ***21*** *12:36:10.3,35°.63N×26°.57E,h15km±2km, ML3.3/3,Error ellipse: s-maj=2.6km s-min=0.7km az=146.0*
ISCJB ***21*** *12:36:10.3±0.5,35°.62N±0°.03×26°.59E±0°.03,h32km±5km, mb3.7/3,Error ellipse: s-maj=6.0km s-min=3.0km az=153.5*
CSEM ***21*** *12:36:11.0±0.2,35°.61N×26°.57E,h37km±1km, ML3.3/3, Error ellipse: s-maj=6.4km s-min=3.1km az=150.0*
DDA ***21*** *12:36:17.8,35°.99N×27°.30E,h27km±2km, Md3.4*
ISC 21 12:36:10.5±0.5,35°.61N±0°.04×26°.57E±0°.03,h27km±5km, n66,σ0s87/101,mb3.7/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.48**	**97**	*eP*B	**Pb**	**12 36 19.7**	**-0.8**
KARP				*eS*B	**Sb**	**12 36 27.6**	**+0.3**
KARP	**Karpathos**	**0.48**	**97**	P	**Pb**	**12 36 19.7**	**-0.8**
KARP				S	**Sb**	**12 36 27.7**	**+0.4**
KARP	**Karpathos**	**0.48**	**97**	P	**Pb**	**12 36 19.7**	**-0.8**
KARP				*eSn*	**Sb**	**12 36 27.6**	**+0.3**
ZKR	**Zakros**	**0.57**	**210**	*eP*N	**Pn**	**12 36 21.6**	**-1.3**
ZKR				*eS*N	**Sn**	**12 36 31.6**	**+0.1**
ZKR	**Zakros**	**0.57**	**210**	P	**Pb**	**12 36 21.4**	**-0.6**
ZKR				S	**Sb**	**12 36 30.4**	**+0.6**
ZKR	**Zakros**	**0.57**	**210**	*eP*n	**Pn**	**12 36 21.6**	**-1.3**
ZKR				*eSn*	**Sn**	**12 36 30.6**	**-0.9**
NPS	**Neapolis**	**0.86**	**246**	*eP*N	**Pn**	**12 36 26.1**	**-0.7**
NPS				*eS*N	**Sb**	**12 36 38.1**	**+0.2**
NPS	**Neapolis**	**0.86**	**246**	P	**Pb**	**12 36 26.6**	**-0.2**
NPS				S	**Sb**	**12 36 38.1**	**+0.2**
NPS	**Neapolis**	**0.86**	**246**	P	**Pb**	**12 36 26.6**	**-0.2**
NPS				S	**Sb**	**12 36 38.1**	**+0.2**
LAST	**Lasithi**	**1.00**	**244**	*eP*N	**Pn**	**12 36 28.9**	**+0.1**
LAST				*eS*N	**Sn**	**12 36 42.7**	**+0.7**
LAST	**Lasithi**	**1.00**	**244**	P	**Pn**	**12 36 28.7**	**-0.1**
LAST				S	**Sb**	**12 36 42.0**	**+0.1**
LAST	**Lasithi**	**1.00**	**244**	P	**Pn**	**12 36 28.7**	**-0.1**
LAST				S	**Sb**	**12 36 42.0**	**+0.1**
LAST				*eS*n	**Sn**	**12 36 42.3**	**+0.3**
XRY	**Khrisi**	**1.03**	**225**	*eP*N	**Pn**	**12 36 29.7**	**+0.5**
XRY	**Khrisi**	**1.03**	**225**	*eP*n	**Pn**	**12 36 30.1**	**+0.9**
NIS1	**Nisyros Isl.**	**1.10**	**26**	P	**Pn**	**12 36 29.6**	**-0.6**
NIS1				S	**Sn**	**12 36 44.5**	**-0.1**
NIS1	**Nisyros Isl.**	**1.10**	**26**	P	**Pn**	**12 36 29.6**	**-0.6**
NIS1				S	**Sn**	**12 36 44.5**	**-0.1**
THR1	**Thera Island**	**1.18**	**310**	P	**Pn**	**12 36 30.8**	**-0.4**
THR1	**Thera Island**	**1.18**	**310**	P	**Pn**	**12 36 30.8**	**-0.4**
THR6	**Thira Island,**	**1.21**	**308**	P	**Pn**	**12 36 31.3**	**-0.3**
THR6	**Thira Island,**	**1.21**	**308**	P	**Pn**	**12 36 31.3**	**-0.3**
THR2	**Thira island,**	**1.24**	**312**	P	**Pn**	**12 36 31.9**	**-0.2**
THR2	**Thira island,**	**1.24**	**312**	P	**Pn**	**12 36 31.9**	**-0.2**
ARG	**Arkhangelos**	**1.40**	**64**	*eP*N	**Pn**	**12 36 33.5**	**-0.8**
ARG				*eS*N	**Sn**	**12 36 51.8**	**0.0**
ARG	**Arkhangelos**	**1.40**	**64**	P	**Pn**	**12 36 33.5**	**-0.8**
ARG				S	**Sn**	**12 36 51.8**	**0.0**
ARG	**Arkhangelos**	**1.40**	**64**	P	**Pn**	**12 36 33.5**	**-0.8**
ARG				S	**Sn**	**12 36 51.8**	**0.0**
IDI	**Anoyia**	**1.41**	**257**	*eP*B	**Pn**	**12 36 34.1**	**-0.3**
IDI	**Anoyia**	**1.41**	**257**	P	**Pn**	**12 36 34.1**	**-0.3**
IDI				S	**Sn**	**12 36 52.5**	**+0.4**
IDI	**Anoyia**	**1.41**	**257**	P	**Pn**	**12 36 34.1**	**-0.3**
IDI				S	**Sn**	**12 36 52.5**	**+0.4**
SIVA	**Sivas**	**1.56**	**248**	*eP*N	**Pn**	**12 36 37.0**	**+0.5**
SIVA	**Sivas**	**1.56**	**248**	P	**Pn**	**12 36 36.1**	**-0.4**
SIVA				S	**Sn**	**12 36 57.0**	**+1.2**
SIVA	**Sivas**	**1.56**	**248**	P	**Pn**	**12 36 36.1**	**-0.4**
SIVA	**Sivas**	**1.56**	**248**	*eP*n	**Pn**	**12 36 37.6**	**+1.1**
SIVA				S	**Sn**	**12 36 57.0**	**+1.2**
APE	**Apeiranthos**	**1.68**	**330**	*eP*N	**Pn**	**12 36 37.7**	**-0.4**
APE				*eS*N	**Sn**	**12 36 57.7**	**-1.1**
APE	**Apeiranthos**	**1.68**	**330**	P	**Pn**	**12 36 37.7**	**-0.4**
APE				S	**Sn**	**12 36 57.1**	**-1.7**
APE	**Apeiranthos**	**1.68**	**330**	P	**Pn**	**12 36 37.7**	**-0.4**
APE				*eS*n	**Sn**	**12 36 57.3**	**-1.5**
VAM	**Vamos**	**1.95**	**265**	*eP*N	**Pn**	**12 36 41.6**	**-0.2**
VAM	**Vamos**	**1.95**	**265**	P	**Pn**	**12 36 41.7**	**-0.1**
VAM	**Vamos**	**1.95**	**265**	*eP*n	**Pn**	**12 36 41.6**	**-0.2**
TURN	**Turunc**	**2.07**	**52**	*i* P	**Pn**	**12 36 38.9**	**-4.6**
TURN				*i* S	**Sn**	**12 37 01.2**	**-7.2**
TURN	**Turunc**	**2.07**	**52**	*i* P	**Pn**	**12 36 38.9**	**-4.6**
SMG	**Samos**	**2.10**	**6**	*eP*N	**Pn**	**12 36 43.0**	**-1.0**
SMG	**Samos**	**2.10**	**6**	*eP*n	**Pn**	**12 36 43.0**	**-1.0**
KARN	**Karanos**	**2.17**	**265**	*eP*N	**Pn**	**12 36 44.7**	**-0.2**
KARN	**Karanos**	**2.17**	**265**	P	**Pn**	**12 36 44.6**	**-0.3**
KARN	**Karanos**	**2.17**	**265**	*eP*n	**Pn**	**12 36 44.7**	**-0.2**
AYDN	**Tasoluk**	**2.30**	**27**	*i* P	**Pn**	**12 36 47.5**	**+0.9**
AYDN				*i* S	**Sn**	**12 37 15.1**	**+1.0**
AYDN	**Tasoluk**	**2.30**	**27**	*i* P	**Pn**	**12 36 47.5**	**+0.8**
AYDN				*i* S	**Sn**	**12 37 15.1**	**+1.0**
AKAS	**Kas**	**2.54**	**75**	*i* P	**Pn**	**12 36 50.8**	**+0.9**
AKAS				*i* S	**Sn**	**12 37 18.1**	**-1.9**
AKAS	**Kas**	**2.54**	**75**	*i* P	**Pn**	**12 36 50.8**	**+0.8**
AKAS				*i* S	**Sn**	**12 37 18.1**	**-1.9**
DNZL	**Cakiroluk**	**2.87**	**43**	*i* P	**Pn**	**12 36 56.1**	**+1.5**
DNZL	**Cakiroluk**	**2.87**	**43**	*i* P	**Pn**	**12 36 56.1**	**+1.5**
GOLH	**Golhisar**	**2.91**	**55**	*i* P	**Pn**	**12 36 55.4**	**+0.4**
GOLH				*i* S	**Sn**	**12 37 31.2**	**+2.1**
GOLH	**Golhisar**	**2.91**	**55**	*i* P	**Pn**	**12 36 55.4**	**+0.4**
GOLH				*i* S	**Sn**	**12 37 31.2**	**+2.2**
KYTH	**Kithira**	**2.94**	**284**	*eP*N	**Pn**	**12 36 55.7**	**+0.2**
KYTH	**Kithira**	**2.94**	**284**	P	**Pn**	**12 36 55.5**	**0.0**
KYTH	**Kithira**	**2.94**	**284**	P	**Pn**	**12 36 55.5**	**0.0**
VLI	**Veliai**	**3.14**	**292**	*eP*N	**Pn**	**12 36 58.5**	**+0.3**
VLI	**Veliai**	**3.14**	**292**	*eP*n	**Pn**	**12 36 58.7**	**+0.5**
KHAL	**Karahalli**	**3.61**	**39**	*i* P	**Pn**	**12 37 06.2**	**+1.5**
KHAL				*i* S	**Sn**	**12 37 45.4**	**-1.0**
KHAL	**Karahalli**	**3.61**	**39**	*i* P	**Pn**	**12 37 06.2**	**+1.5**
KHAL				*i* S	**Sn**	**12 37 45.4**	**-1.0**
GAZI	**Gazipasa**	**4.70**	**81**	*i* P	**Pn**	**12 37 25.6**	**+5.9**
GAZI				*i* S	**Sn**	**12 38 14.2**	**+0.8**
BRTR	**Keskin Array B**	**6.95**	**52**	Pn	**Pn**	**12 37 58.9**	**+8.4**
	0.1nm,0.3s,baz=219,slow=11,SNR=2.9						
GERES	**GERESS Array B**	**16.27**	**328**	P	**Pn**	**12 39 59.2**	**+2.2**
	0.1nm,0.3s,baz=138,slow=12,SNR=4.2						
KURK	**Kurchatov**	**40.00**	**51**	P	**P**	**12 43 42.0**	**-0.8**
	0.8nm,0.4s,mb3.8,baz=276,slow=8.7,SNR=12						
MKAR	**Makanchi Array**	**42.56**	**57**	P	**P**	**12 44 03.4**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=269,slow=8.9,SNR=11						
ZALV	**Zalesovo Beam**	**43.86**	**47**	P	**P**	**12 44 13.3**	**-0.9**
	0.6nm,0.4s,mb3.7,baz=268,slow=8.4,SNR=4.9						

ISCJB ***21*** *12:37:50.0±1.4,20°.6S±0°.2×178°.2W±0°.2,h519km±27km, mb3.7/8,Error ellipse: s-maj=37.5km s-min=15.7km az=36.4*
IDC ***21*** *12:37:50.6±1.9,20°.62S×177°.98W,h524km±22km, mb3.2/7, mb1 3.5/9,mb1mx3.2/19,mbtmp3.3/9,Error ellipse: s-maj=32.0km s-min=15.3km az=140.0*
NEIC ***21*** *12:37:50.8±1.2,20°.69S×177°.92W,h532km±15km, mb4.2/3, Error ellipse: s-maj=26.8km s-min=13.9km az=139.0*
ISC 21 12:37:50.4±1.3,20°.6S±0°.2×178°.0W±0°.2,h517km±25km, n30,σ0s54/21,mb3.7/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.96**	**43**	P	**P**	**12 39 57.6**	**+0.5**
	2.3nm,0.3s,baz=57,slow=22,SNR=5.7						
AFI				S	**S**	**12 41 40.8**	**-0.3**
	1.8nm,0.3s,baz=232,slow=24,SNR=5.2						
AFI	**Afiamalu**	**8.96**	**43**	P	**P**	**12 39 57.6**	**+0.5**
AFI				S	**S**	**12 41 40.8**	**-0.3**
URZ	**Urewera**	**18.08**	**192**	P	**P**	**12 41 30.7**	**+0.3**
	1.1nm,0.3s,baz=153,slow=16,SNR=7.6						
URZ	**Urewera**	**18.08**	**192**	*eP*	**P**	**12 41 29.9**	**-0.5**
	13nm,0.6s						
CTA	**Charters Tower**	**33.45**	**265**	P	**P**	**12 43 46.8**	**+0.4**
	2.5nm,0.4s,mb4.1,baz=78,slow=9.3,SNR=3.7						
CTA	**Charters Tower**	**33.45**	**265**	P	**P**	**12 43 46.8**	**+0.4**
ASAR	**Alice Springs**	**44.46**	**257**	P	**P**	**12 45 15.3**	**-0.2**
	2.5nm,0.7s,mb3.9,baz=95,slow=7.3,SNR=33						
ASAR				PcP	PcP	12 46 47.4	-0.5
	0.7nm,0.6s,baz=103,slow=3.8,SNR=5.8						
ASAR	**Alice Springs**	**44.46**	**257**	P	**P**	**12 45 15.3**	**-0.2**
ASAR				PcP	PcP	12 46 47.4	-0.5
WRAB	**Tennant Creek**	**44.55**	**262**	*eP*	**P**	**12 45 15.8**	**-0.4**
	6.8nm,1.1s,mb4.1						
WRA	**Warramunga Arr**	**44.55**	**262**	P	**P**	**12 45 15.6**	**-0.6**
	0.8nm,0.3s,mb3.7,baz=97,slow=7.9,SNR=47						
WRA				PcP	PcP	12 46 47.7	-0.6
	0.4nm,0.9s,baz=97,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**44.55**	**262**	P	**P**	**12 45 15.6**	**-0.6**
WRA				PcP	PcP	12 46 47.7	-0.6
FITZ	**Fitzroy Crossi**	**52.98**	**262**	P	**P**	**12 46 18.6**	**-0.3**
	7.0nm,1.1s,mb3.9,baz=35,slow=13,SNR=5.6						
FITZ	**Fitzroy Crossi**	**52.98**	**262**	*eP*	**P**	**12 46 19.1**	**+0.3**
	10nm,1.0s,mb4.1						
MJAR	**Matsushiro Arr**	**70.29**	**324**	P	**P**	**12 48 11.1**	**-0.4**
	0.5nm,0.5s,mb3.3,baz=161,slow=6.7,SNR=5.7						
MJAR	**Matsushiro Arr**	**70.29**	**324**	P	**P**	**12 48 11.1**	**-0.4**
ILAR	**Eielson Array**	**88.44**	**13**	P	**P**	**12 49 46.4**	**-0.3**
	0.2nm,0.4s,mb3.2,baz=215,slow=5.3,SNR=10						
ILAR	**Eielson Array**	**88.44**	**13**	P	**P**	**12 49 46.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**90.13**	**290**	P	**P**	**12 49 57.0**	**+1.3**
	0.8nm,0.8s,mb3.6,baz=123,slow=2.6,SNR=6.8						
CMAR	**Chiang Mai Arr**	**90.13**	**290**	P	**P**	**12 49 57.0**	**+1.3**
MKAR	**Makanchi Array**	**111.26**	**313**	PKiKP	PKiKP	12 55 24.7	-0.5
	0.1nm,0.4s,baz=142,slow=0.9,SNR=3.6						
MKAR	**Makanchi Array**	**111.26**	**313**	PKiKP	PKiKP	12 55 24.7	-0.5
ARCES	**ARCESS Array B**	**129.03**	**350**	PKP	PKPdf	12 55 58.1	-0.5
	2.2nm,0.8s,baz=20,slow=2.9,SNR=4.5						
ARCES	**ARCESS Array B**	**129.03**	**350**	PKP	PKPdf	12 55 58.1	-0.5
AKASG	**Malin Array Be**	**143.10**	**331**	PKP	PKPdf	12 56 21.6	-3.5
	2.0nm,0.5s,baz=43,slow=4.3,SNR=12						
AKASG	**Malin Array Be**	**143.10**	**331**	PKP	PKPdf	12 56 21.6	-3.5
BRTR	**Keskin Array B**	**146.90**	**312**	PKPbc	PKPbc	12 56 34.0	-0.7
	0.7nm,0.7s,baz=142,slow=5.0,SNR=2.8						
BRTR	**Keskin Array B**	**146.90**	**312**	PKPbc	PKPbc	12 56 34.0	-0.7
CLL	**Collm**	**148.17**	**347**	*i* PKPbc	PKPbc	12 56 37.3	-0.4
	comp=Z,4.0nm,0.6s						
GERES	**GERESS Array B**	**150.31**	**344**	PKPbc	PKPbc	12 56 42.4	-0.5
	comp=Z,0.4nm,0.5s,baz=42,slow=4.2,SNR=5.4						
GERES	**GERESS Array B**	**150.31**	**344**	PKPbc	PKPbc	12 56 42.4	-0.5

ISCJB ***21*** *12:51:34.4±1.6,12°.50N±0°.09×144°.7E±0°.1,h47km±13km, mb4.0/14,MS2.8/2,Error ellipse: s-maj=21.7km s-min=13.9km az=13.3*
IDC ***21*** *12:51:35.9±1.9,12°.53N×144°.83E,h50km±15km,mb3.5/11, mb1 3.8/11,mb1mx3.7/22,mbtmp3.5/11,MS2.9/2, Ms1 2.9/2,ms1mx2.4/35,Error ellipse: s-maj=29.2km s-min=15.1km az=103.0*
NEIC ***21*** *12:51:35.1±1.9,12°.55N×144°.73E,h40km±17km,mb4.4/3, Error ellipse: s-maj=19.0km s-min=12.4km az=104.0*
ISC 21 12:51:35.5±1.8,12°.52N±0°.08×144°.7E±0°.1,h42km±15km, n33,σ1s04/30,mb4.0/14,MS2.8/2,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.07**	**8**	P	**Pn**	**12 51 53.5**	**-0.5**
	156nm,0.3s,baz=166,slow=11,SNR=64						
GUMO				S	**Sn**	**12 52 08.4**	**+0.7**
	322nm,0.3s,baz=169,slow=24,SNR=18						
GUMO	**Guam**	**1.07**	**8**	*e*Pn	**Pn**	**12 51 53.2**	**-0.8**
GUMO				S	**Sn**	**12 52 08.4**	**+0.7**
MJAR	**Matsushiro Arr**	**24.62**	**347**	P	**P**	**12 56 49.9**	**-2.0**
	1.6nm,0.7s,mb3.7,baz=164,slow=12,SNR=4.3						
MJAR				LR	LR	13 05 40.3	
	comp=Z,20nm,18.7s,MS2.6,baz=290,slow=34						
MJAR	**Matsushiro Arr**	**24.62**	**347**	P	**P**	**12 56 49.9**	**-2.0**
YULB	**Yu-li**	**24.72**	**299**	*eP*	**P**	**12 56 53.5**	**+0.5**
	8.3nm,0.7s,mb4.4						
SSLB	**Suanglung**	**25.16**	**300**	*eP*	**P**	**12 56 56.6**	**-0.4**
	12nm,0.8s,mb4.5						
KSRS	**Korea Array**	**29.02**	**332**	LR	LR	13 09 48.3	
	comp=Z,26nm,18.0s,MS2.9,baz=130,slow=38						
WRAB	**Tennant Creek**	**33.83**	**198**	*eP*	**P**	**12 58 13.7**	**-0.2**
	5.2nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**33.84**	**198**	P	**P**	**12 58 13.5**	**-0.5**
	1.0nm,0.6s,mb4.0,baz=22,slow=9.7,SNR=14						
WRA	**Warramunga Arr**	**33.84**	**198**	P	**P**	**12 58 13.5**	**-0.5**
ASAR	**Alice Springs**	**37.49**	**196**	P	**P**	**12 58 45.8**	**+0.5**
	0.2nm,0.5s,mb3.2,baz=13,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**37.49**	**196**	P	**P**	**12 58 45.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**44.41**	**284**	P	**P**	**12 59 43.9**	**+1.4**
	0.8nm,0.5s,mb3.7,baz=84,slow=6.0,SNR=7.4						
CMAR	**Chiang Mai Arr**	**44.41**	**284**	P	**P**	**12 59 43.9**	**+1.4**
SONM	**Songino Array**	**47.51**	**325**	P	**P**	**13 00 06.4**	**0.0**
	0.3nm,0.5s,mb3.5,baz=134,slow=6.2,SNR=2.8						
SONM				PcP	PcP	13 01 36.4	+0.4
	0.6nm,0.9s,baz=141,slow=4.8,SNR=3.9						
SONM	**Songino Array**	**47.51**	**325**	P	**P**	**13 00 06.5**	**0.0**
SONM				PcP	PcP	13 01 36.5	+0.4
MKAR	**Makanchi Array**	**62.15**	**316**	P	**P**	**13 01 52.4**	**0.0**
	0.2nm,0.4s,mb3.6,baz=96,slow=8.2,SNR=8.1						
MKAR	**Makanchi Array**	**62.15**	**316**	P	**P**	**13 01 52.4**	**0.0**
ZALV	**Zalesovo Beam**	**62.40**	**325**	PcP	PcP	13 02 32.5	-0.6
	0.7nm,0.5s,baz=138,slow=5.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**62.40**	**325**	PcP	PcP	13 02 32.5	-0.6
SVW2	**Sparrevohn**	**64.68**	**28**	*eP*	**P**	**13 02 10.8**	**+2.0**
ILAR	**Eielson Array**	**69.59**	**25**	P	**P**	**13 02 37.8**	**-2.1**
	0.9nm,0.3s,mb4.1,baz=252,slow=5.6,SNR=48						
ILAR	**Eielson Array**	**69.59**	**25**	P	**P**	**13 02 37.8**	**-2.1**
YKA	**Yellowknife Ar**	**83.87**	**27**	P	**P**	**13 04 00.2**	**-0.3**
	0.3nm,0.4s,mb3.8,baz=285,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**83.87**	**27**	P	**P**	**13 04 00.2**	**-0.3**
RES	**Resolute Bay**	**85.62**	**13**	P	**P**	**13 04 10.1**	**+1.0**
	1.0nm,0.8s,mb4.1,baz=304,slow=7.0,SNR=4.4						
RES	**Resolute Bay**	**85.62**	**13**	P	**P**	**13 04 10.1**	**+1.0**
NVAR	**Mina Array Bea**	**87.70**	**51**	P	**P**	**13 04 20.9**	**+0.8**
	0.3nm,0.5s,mb3.7,baz=298,slow=6.1,SNR=3.6						
NVAR	**Mina Array Bea**	**87.70**	**51**	P	**P**	**13 04 20.9**	**+0.8**
FINES	**FINESS Array B**	**92.06**	**335**	P	**P**	**13 04 38.7**	**-1.2**
	2.3nm,0.8s,mb4.5,baz=90,slow=1.8,SNR=1.5						
FINES	**FINESS Array B**	**92.06**

MVM Montagne Vaucl 3.79 10 *e*P **Pn 12 56 35.5 +0.3**
MVM *e*S **Sn 12 57 17.5 -1.0**
FDF Fort de France 3.93 6 *e*Pn **Pn 12 56 37.1 0.0**
FDF *e*Sn **Sn 12 57 21.0 -1.0**
FDF Fort de France 3.93 6 *e*P **Pn 12 56 37.2 +0.1**
FDF *e*S **Sn 12 57 21.5 -0.5**
CUPV Cœpira 4.21 260‖ *e*P **Pn 12 56 42.0 +1.0**
CUPV *e*S **Sn 12 57 29.8 +0.9**
DSHT Scott's Head 4.39 2‖ *e*P **Pn 12 56 44.2 +0.8**
DSHT *e*S **Sn 12 57 33.0 -0.3**
DFBT Forest Bistro 4.42 3‖ *e*P **Pn 12 56 44.2 +0.4**
DFBT *e*S **Sn 12 57 33.3 -0.6**
DSTT Stowe 4.43 3‖ *e*P **Pn 12 56 44.4 +0.5**
DPMT Pointe Michel 4.44 2‖ *e*P **Pn 12 56 44.6 +0.5**
DPMT *e*S **Sn 12 57 34.1 -0.4**
DBCT Belle View Cho 4.45 3‖ *e*P **Pn 12 56 44.9 +0.7**
MDN Morne-Daniel 4.49 2‖ *e*P **Pn 12 56 45.5 +0.7**
MDN *e*S **Sn 12 57 34.3 -1.5**
DLPL La Plaine 4.51 4 *e*P **Pn 12 56 45.7 +0.6**
DLPL *e*S **Sn 12 57 35.6 -0.7**
BIRV Birongo 4.63 266‖ *e*P **Pn 12 56 48.1 +1.4**
ORCV Isla La Orchil 4.64 283‖ *i*P **Pn 12 56 47.4 +0.5**
DWS Wesley 4.75 3 *e*S **Sn 12 57 40.7 -1.3**
DVCT Vielle Casse P 4.79 2 *e*P **Pn 12 56 51.3 +2.5**
MERV Las Mercedes 4.90 252 *e*P **Pn 12 56 50.5 +0.1**
MERV *e*S **Sn 12 57 45.4 -0.5**
LUEV Luepa 4.93 179‖ *e*P **Pn 12 56 47.7 -3.1**
TBG Guadaloupe-3 5.02 359‖ *i*P **Pn 12 56 52.8 +0.7**
MGG Marie-Galante 5.09 3 *e*P **Pn 12 56 55.0 +1.9**
FUNV FUNVISIS 5.16 267 *e*P **Pn 12 56 55.7 +1.8**
PHG Guadaloupe-2 5.18 359 *e*P **Pn 12 56 55.4 +1.1**
SCG Saint Claude 5.20 359‖ *i*P **Pn 12 56 55.6 +1.1**
DOG Dongo Capester 5.20 360 *e*P **Pn 12 56 55.7 +1.2**
BCG Bois Riant Cap 5.25 359 *e*P **Pn 12 56 55.9 +0.7**
LZG Guadaloupe-1 5.31 358 *e*P **Pn 12 56 56.9 +0.8**
DEG La Desirade 5.50 5 *e*P **Pn 12 56 58.8 +0.1**
DEG *e*S **Sn 12 57 57.5 -3.1**
SEG Port Louis 5.57 1 *e*P **Pn 12 57 01.4 +1.8**
TURV Turiamo 6.17 267 *e*P **Pn 12 57 08.1 +0.2**
BPA Boggy Peak 6.21 357 *e*P **Pn 12 57 10.3 +1.9**
SKI Saint Kitts 6.59 350 *e*P **Pn 12 57 15.3 +1.7**
BAUV El Baul 6.64 254 *e*P **Pn 12 57 13.7 -0.5**
ANWB Willy Bob 6.83 358 *e*Pn **Pn 12 57 18.4 +1.6**
684nm,0.8s
ANWB *e*Sn **Sn 12 58 30.5 -2.8**
MAPV Macapo 6.84 263‖ *e*P **Pn 12 57 16.7 -0.4**
JACV Jacura 7.13 273 *e*P **Pn 12 57 22.0 +1.0**
TEPV Terepaima 7.54 264 *e*P **Pn 12 57 26.2 -0.4**
CDVI St. Croix 7.57 336 *e*Pn **Pn 12 57 27.1 +0.1**
SANV Sanarito 7.95 261‖ *e*P **Pn 12 57 32.1 -0.1**
STVI Saint Thomas 8.19 337 *e*Pn **Pn 12 57 36.7 +1.3**
MTP Monte Pirata 8.21 332 *e*Pn **Pn 12 57 35.6 -0.2**
126nm,0.6s
MTP *e*Sn **Sn 12 59 02.0 -5.2**
MONV Montecano 8.32 279 *e*P **Pn 12 57 37.7 +0.5**
HUMP Col San Antoni 8.39 331 *e*Pn **Pn 12 57 38.4 +0.2**
SJG San Juan 8.51 329 P **Pn 12 57 39.2 -0.7**
15nm,0.3s,baz=359,slow=23,SNR=24
SJG S **Sn 12 59 09.3 -5.2**
14nm,0.3s,baz=89,slow=22,SNR=4.1
SJG LR LR 13 01 03.1
comp=Z,525nm,21.6s,baz=90,slow=39
SJG San Juan 8.51 329 *e*Pn **Pn 12 57 40.0 +0.1**
SJG S **Sn 12 59 09.3 -5.2**
ICM Isla Caja Muer 8.53 326 *e*Pn **Pn 12 57 40.6 +0.5**
ELOV Elorza 8.68 245 *e*P **Pn 12 57 41.5 -0.7**
OBIP Obispado Ponce 8.69 326 *e*Pn **Pn 12 57 43.0 +0.6**
CELP Cerrillos 8.71 327 *e*Pn **Pn 12 57 43.4 +0.9**
CRPR Cabo Rojo, PR 8.95 324 *e*Pn **Pn 12 57 48.9 +3.1**
AOPR Arecibo Observ 9.02 327 *e*Pn **Pn 12 57 47.4 +0.5**
LRS Lares 9.03 326 *e*Pn **Pn 12 57 47.8 +0.8**
LSP Las Mesas 9.07 325 *e*Pn **Pn 12 57 49.5 +2.0**
MPR Mayaguez 9.13 324 *e*Pn **Pn 12 57 50.4 +2.1**
SDV Santo Domingo 9.13 259 *e*Pn **Pn 12 57 46.8 -1.6**
SDV *e*Sn **Sn 12 59 25.1 -4.6**
AGP Aguadilla 9.29 325 *e*Pn **Pn 12 57 54.3 +3.8**
AGPR Aguadilla, PR 9.32 326 *e*Pn **Pn 12 57 53.5 +2.6**
77nm,0.4s
SOCV Socops 9.49 256 *e*P **Pn 12 57 52.2 -1.1**
SDDR Presa de Saban 12.42 312 *e*Pn **Pn 12 58 35.8 +2.5**
SDDR *e*Sn **Sn 13 00 47.3 -2.9**
ROSC El Rosal 13.95 246 P **Pn 12 58 53.8 -0.4**
4.4nm,0.3s,baz=91,slow=16,SNR=12
ROSC S **Sn 13 01 28.6 +1.1**
1.5nm,0.3s,baz=246,slow=23,SNR=1.8
ROSC El Rosal 13.95 246 *e*Pn **Pn 12 58 54.5 +0.4**
GTBY Guantanamo Bay 15.89 306 *e*P **Pn 12 59 21.2 +1.9**
238nm,1.7s
SAML Samuel 19.68 185 *e*P **Pn 13 00 03.7 -2.1**
260nm,2.2s
OTAV Otavalo 19.79 239 *e*P **Pn 13 00 07.9 +0.8**
76nm,1.0s
JTS JuntasAbangare 22.99 271 P **P 13 00 44.0 +4.6**
2.6nm,0.6s,mb3.8,baz=278,slow=21,SNR=1.7
JTS JuntasAbangare 22.99 271 P **P 13 00 44.0 +4.6**
ATAH Atahualpa 24.45 224 P **P 13 00 56.3 +3.3**
20nm,0.9s,mb4.5,baz=60,slow=6.0,SNR=15
ATAH LR LR 13 11 59.2
comp=Z,322nm,21.1s,MS3.8,baz=291,slow=40
ATAH Atahualpa 24.45 224 P **P 13 00 56.3 +3.3**
DWPF Disney 25.37 316 *e*P **P 13 00 59.8 -1.4**
SIV San Ignacio 26.62 179 P **P 13 01 13.5 +0.9**
3.4nm,0.6s,mb4.0,baz=19,slow=10,SNR=15
SIV LR LR 13 12 51.1
comp=Z,229nm,21.0s,MS3.7,slow=39
SIV San Ignacio 26.62 179 P **P 13 01 13.5 +0.9**
NNA Nana 27.25 214 P **P 13 01 19.4 +1.1**
11nm,0.8s,mb4.5,baz=24,slow=9.6,SNR=9.4
NNA LR LR 13 13 27.6
comp=Z,211nm,18.7s,MS3.7,baz=207,slow=39
NNA Nana 27.25 214 *e*P **P 13 01 20.0 +1.7**
27nm,0.8s,mb4.8
TEIG Tepich 27.35 293 P **P 13 01 17.8 -1.3**
4.4nm,0.5s,mb4.2,baz=175,slow=4.8,SNR=6.4
TEIG LR LR 13 11 55.1
comp=Z,88nm,19.0s,MS3.4,baz=178,slow=36
TEIG Tepich 27.35 293 P **P 13 01 17.9 -1.3**
LPAZ La Paz 27.69 194 P **P 13 01 24.1 +2.0**
2.7nm,0.7s,mb4.0,baz=8.2,slow=9.0,SNR=16
LPAZ LR LR 13 12 53.9
comp=Z,138nm,20.8s,MS3.5,baz=296,slow=37
LPAZ La Paz 27.69 194 *e*P **P 13 01 24.4 +2.2**
12nm,0.9s,mb4.5
LRAL Lakeview Retre 32.18 317 *e*P **P 13 02 01.3 -0.4**
8.2nm,0.9s,mb4.6
LVC Limon Verde 33.98 192 *e*P **P 13 02 17.7 +0.2**
10nm,1.2s,mb4.6
PLAL Pickwick Lake 34.08 319 *e*P **P 13 02 17.6 -0.8**
7.0nm,0.4s,mb4.9
WVT Waverly 34.65 321 *e*P **P 13 02 21.9 -1.4**
12nm,0.9s,mb4.8
OXF Oxford 34.67 317 *e*P **P 13 02 22.2 -1.2**
9.3nm,0.4s,mb5.1
WCI Wyandotte Cave 35.15 325 *e*P **P 13 02 27.6 0.0**
8.5nm,0.9s,mb4.7
UTMT University of 35.43 320 *e*P **P 13 02 29.2 -0.8**
84nm,1.0s,mb5.6
BLO Bloomington 35.94 326 *e*P **P 13 02 33.9 -0.5**
26nm,0.9s,mb5.2
BLO *e* 13 02 54.0
SIUC Southern Illin 36.52 322 *e*P **P 13 02 39.1 -0.2**
40nm,0.9s,mb5.2
OLIL Olney 36.53 324 *e*P **P 13 02 38.8 -0.5**
32nm,0.8s,mb5.2
SADO Sadowa 37.07 339 P **P 13 02 42.7 -1.1**
3.8nm,0.4s,mb4.6,baz=131,slow=16,SNR=9.8
SADO Sadowa 37.07 339 P **P 13 02 42.7 -1.1**
CPUP Villa Florida 37.14 174 P **P 13 02 44.4 -0.2**
2.7nm,0.6s,mb4.3,baz=342,slow=8.8,SNR=14
CPUP LR LR 13 18 19.8
comp=Z,169nm,20.6s,MS3.8,baz=340,slow=36
CPUP Villa Florida 37.14 174 *e*P **P 13 02 44.1 -0.5**
29nm,0.6s,mb5.3
CPUP *e* pP 13 03 01.6 +2.6
JCT Junction City 40.51 305 *e*P **P 13 03 11.0 -1.9**
15nm,0.8s,mb4.7
LCO Las Campanas 40.55 192 *e*P **P 13 03 13.4 +0.3**
15nm,0.9s,mb4.6
WMOK Wichita Mounta 41.41 311 *e*P **P 13 03 17.2 -3.0**
1.7nm,0.4s,mb4.0
KSU1 Kansas State U 42.02 318 *e*P **P 13 03 21.7 -3.5**
9.4nm,0.8s,mb4.5
CFAA Coronel Fontan 42.64 188 P **P 13 03 30.2 0.0**
1.0nm,0.8s,mb3.6,baz=3.6,slow=7.5,SNR=13
CFAA Coronel Fontan 42.64 188 P **P 13 03 30.2 0.0**
TXAR Lajitas Array 43.34 301 P **P 13 03 34.8 -1.2**
2.4nm,0.6s,mb4.1,baz=120,slow=10,SNR=55
TXAR PcP PcP 13 05 24.4 +0.4
0.8nm,0.6s,baz=124,slow=5.9,SNR=4.0
TXAR LR LR 13 25 33.0
comp=Z,64nm,18.2s,MS3.6,baz=5.0,slow=42
TXAR Lajitas Array 43.34 301 P **P 13 03 34.8 -1.2**
TXAR PcP PcP 13 05 24.4 +0.4
SCHQ Schefferville 44.12 356 P **P 13 03 42.6 +0.8**
44nm,0.9s,mb5.2,baz=178,slow=6.5,SNR=41
SCHQ Schefferville 44.12 356 *e*P **P 13 03 42.4 +0.6**
32nm,0.6s,mb5.2
ECSD EROS Data Cent 44.65 324 *e*P **P 13 03 44.3 -1.9**
16nm,0.9s,mb4.8
GDL2 Guadalupe Moun 44.77 305 *e*P **P 13 03 46.0 -1.4**
MNTX Cornudas Mount 45.44 304 *e*P **P 13 03 50.9 -1.8**
3.7nm,0.7s,mb4.3
AGMN Agassiz Nation 47.11 329 *e*P **P 13 04 03.1 -2.4**
20nm,1.3s,mb4.9
BNM Barren Site 47.19 307 *e*P **P 13 04 06.0 -0.4**
15nm,1.0s,mb4.9
LPM Los Pinos Moun 47.24 307 *e*P **P 13 04 06.2 -0.6**
ANMO Albuquerque 47.31 308 *e*P **P 13 04 06.2 -1.2**
8.0nm,1.1s,mb4.6
LENM Lemitar 47.46 307 *e*P **P 13 04 08.0 -0.5**
SDCO Great Sand Dun 47.59 312 *e*P **P 13 04 07.2 -2.3**
4.4nm,0.9s,mb4.5
SDCO *e* pP 13 04 23.5 -1.0
LAZ Ladron 47.67 307 *e*P **P 13 04 09.8 -0.4**
9.5nm,1.0s,mb4.8
ULM Lac du Bonnet 48.41 331 P **P 13 04 12.8 -2.8**
9.6nm,0.4s,mb5.2,baz=135,slow=7.4,SNR=24
ULM LR LR 13 24 08.0
comp=Z,179nm,19.0s,MS4.1,baz=226,slow=35
ULM Lac du Bonnet 48.41 331 *e*P **P 13 04 12.8 -2.8**
33nm,1.4s,mb5.2
SMCO Snowmass 49.21 313 *e*P **P 13 04 20.7 -1.2**
75nm,2.6s,mb5.3
SMCO *e* pP 13 04 35.8 -1.1
PV01 Paradox Valley 49.99 311 *e*P **P 13 04 26.8 -1.1**
513nm,0.8s
PV01 *e* pP 13 04 43.0 +0.1
TUC Tucson 50.02 303 *e*P **P 13 04 26.3 -1.9**
5.9nm,1.0s,mb4.6
TUC *e* pP 13 04 43.3 +0.1
PV10 Paradox Valley 50.42 311 *e*P **P 13 04 29.4 -1.8**
90nm,0.8s,mb5.8
WUAZ Wupatki 51.32 307 *e*P **P 13 04 37.7 -0.2**
11nm,0.9s,mb4.8
DGMT Dagmar 51.68 325 *e*P **P 13 04 40.7 +0.3**
21nm,0.9s,mb5.1
DGMT *e* pP 13 04 56.4 +0.9
SRU San Rafael 51.76 312 *e*P **P 13 04 40.1 -1.1**
5.7nm,0.8s,mb4.5
PLCA Paso Flores 51.94 189 P **P 13 04 44.1 +1.8**
5.6nm,1.0s,mb4.4,baz=309,slow=6.6,SNR=4.4
PLCA LR LR 13 28 15.3
comp=Z,95nm,19.5s,MS3.8,baz=27,slow=38
PLCA Paso Flores 51.94 189 P **P 13 04 44.1 +1.8**
LAO LASA Array 51.96 322 *e*P **P 13 04 40.4 -2.1**
12nm,1.0s,mb4.8
BW06 Boulder Array 52.40 316 *e*P **P 13 04 43.4 -2.4**
6.1nm,0.9s,mb4.5
JLU Jordanelle 52.93 313 *e*P **P 13 04 49.0 -0.8**
7.3nm,1.2s,mb4.5
RLMT Red Lodge 53.15 319 *e*P **P 13 04 50.1 -1.3**
160nm,2.7s,mb5.5
HWUT Hardware Ranch 53.36 314 *e*P **P 13 04 51.0 -2.0**
75nm,2.4s,mb5.2
LOHW Long Hollow 53.43 317 *e*P **P 13 04 51.8 -1.6**
6.7nm,1.1s,mb4.5
REDW Red Top Meadow 53.50 317 *e*P **P 13 04 51.6 -2.3**
5.4nm,0.9s,mb4.5
ARUT Antelope Range 53.54 309 *e*P **P 13 04 53.4 -1.0**
10nm,1.0s,mb4.7
TPAW Teton Pass 53.61 317 *e*P **P 13 04 53.9 -0.9**
6.8nm,1.1s,mb4.5
GCMT Gregcliff 53.69 320 *e*P **P 13 04 53.9 -1.4**
7.6nm,1.0s,mb4.6
GCMT *e* pP 13 05 12.4 +1.9
DUG Dugway 53.78 312 *e*P **P 13 04 54.9 -1.2**
16nm,1.4s,mb4.8
DUG *e* pP 13 05 07.2 -4.1
DCID1 Drake Creek 53.81 317 *e*P **P 13 04 55.2 -1.0**
4.3nm,0.3s,mb4.9
FFC Flin Flon 54.15 332 *e*P **P 13 04 56.5 -2.0**
13nm,1.3s,mb4.7
QLMT Earthquake Lak 54.44 318 *e*P **P 13 05 00.8 0.0**
1.6nm,1.0s,mb3.9
PNCL Nicolau / Gran 54.52 51 *e*P **P 13 05 02.7 +1.2**
EGMT Eagleton 54.71 322 *e*P **P 13 05 01.4 -1.3**
19nm,1.0s,mb5.1
BOZ Bozeman (W) 54.89 319 *e*P **P 13 05 02.5 -1.5**
5.1nm,1.2s,mb4.4
PMTG Montargil 55.01 50 *e*P **P 13 05 06.1 +1.1**
25nm,1.2s,mb5.1
PESTR Estremoz 55.43 50 *e*P **P 13 05 09.6 +1.5**
35nm,1.8s,mb5.1
HRY Holter Researc 55.44 320 *e*P **P 13 05 06.6 -1.4**
PBAR Barrancos 55.67 51 *e*P **P 13 05 10.9 +1.1**
PCBR Castelo Branco 55.77 49 *e*P **P 13 05 12.1 +1.6**
PGAV Gavieira, Arco 55.81 46 *e*P **P 13 05 11.6 +0.9**
POLO Lamas de Olo 55.98 47 *e*P **P 13 05 12.8 +0.9**
HLID Hailey 56.00 316 *e*P **P 13 05 10.6 -1.4**
5.7nm,0.9s,mb4.6
LIC Lamto 56.04 90 *e*P **P 13 05 11.9 -1.0**
19nm,0.5s,mb5.1
LIC Lamto 56.04 90 *e*P **P 13 05 11.9 -1.0**
19nm,0.5s,mb5.4
DBIC Dimbokro 56.15 89 P **P 13 05 12.8 -0.8**
14nm,0.6s,mb5.1,baz=269,slow=7.6,SNR=27
DBIC Dimbokro 56.15 89 *e*P **P 13 05 12.7 -0.8**
11nm,0.8s,mb5.0
CHMT Chamberlain Mo 56.41 320 *e*P **P 13 05 13.3 -1.6**
MVO Moncorvo 56.47 48 *e*P **P 13 05 17.1 +1.7**
37nm,2.0s,mb5.1
SLMT Seeley Lake 56.69 320 *e*P **P 13 05 14.6 -2.3**
13nm,1.1s,mb4.9
SLMT *e* 13 05 35.4
NVAR Mina Array Bea 57.41 309 P **P 13 05 21.1 -1.1**
1.0nm,0.6s,mb4.0,baz=96,slow=6.4,SNR=10
NVAR LR LR 13 31 20.5
comp=Z,126nm,20.5s,MS4.0,baz=57,slow=38
NVAR Mina Array Bea 57.41 309 P **P 13 05 21.1 -1.1**
PAB San Pablo 58.04 50 *e*P **P 13 05 27.5 +1.0**
10nm,0.9s,mb4.8
ESDC Sonseca Array 58.36 50 P **P 13 05 29.9 +1.2**
7.0nm,0.8s,mb4.8,baz=262,slow=7.3,SNR=58
ESDC Sonseca Array 58.36 50 P **P 13 05 29.9 +1.2**
ESLA Sonseca Array 58.36 50 *e*P **P 13 05 29.7 +1.0**
3.9nm,1.0s,mb4.4
LNOR Lincton Mounta 59.34 317 *e*P **P 13 05 33.4 -2.1**
5.4nm,0.8s,mb4.6
QUIF Quistinic 61.05 41 *e*P **P 13 05 47.2 +0.1**
22nm,0.8s,mb5.0
QUIF Quistinic 61.05 41 *e*P **P 13 05 47.2 +0.1**
22nm,0.8s,mb5.3
ROSF Rostrenen 61.11 40 *e*P **P 13 05 47.6 +0.1**
15nm,0.6s,mb5.0
ROSF Rostrenen 61.11 40 *e*P **P 13 05 47.6 +0.1**
15nm,0.6s,mb5.3
SJPF Ste Jean 61.13 47 *e*P **P 13 05 48.5 +0.7**
26nm,0.8s,mb5.1
SJPF Ste Jean 61.13 47 *e*P **P 13 05 48.5 +0.7**
26nm,0.8s,mb5.4
ETSF Etsaut 61.56 47 *e*P **P 13 05 51.3 +0.6**
25nm,1.1s,mb5.0
ETSF Etsaut 61.56 47 *e*P **P 13 05 51.3 +0.6**
25nm,1.1s,mb5.2
TORD Torodi Ar. Bea 61.80 81 P **P 13 05 51.8 -0.9**
5.3nm,0.5s,mb5.0,baz=290,slow=6.5,SNR=72
TORD Torodi Ar. Bea 61.80 81 P **P 13 05 51.8 -0.9**
EPF Esparros 62.24 47 *e*P **P 13 05 56.0 +0.8**
30nm,0.7s,mb5.2
EPF Esparros 62.24 47 *e*P **P 13 05 56.0 +0.8**
30nm,0.7s,mb5.5
MFF Saint Martin d 62.69 43 *e*P **P 13 05 58.2 +0.1**
MFF *e*pP pP 13 06 13.3 -0.3
MFF Saint Martin d 62.69 43 *e*P **P 13 05 58.2 +0.1**
MFF *e*pP pP 13 06 13.3 -0.3
LFF La Frestale 62.91 45 *e*P **P 13 05 59.7 0.0**
37nm,0.9s,mb5.2
LFF *e*pP pP 13 06 14.8 -0.4
LFF La Frestale 62.91 45 *e*P **P 13 05 59.7 0.0**
37nm,0.9s,mb5.5
LFF *e*pP pP 13 06 14.8 -0.4
FLN La Foliniere 63.01 41 *e*P **P 13 06 00.3 +0.1**
40nm,0.9s,mb5.3
FLN *e*R
159nm,17.0s
FLN La Foliniere 63.01 41 *e*P **P 13 06 00.3 +0.1**
40nm,0.9s,mb5.5
LDF La Druitiere 63.19 41 *e*P **P 13 06 02.1 +0.6**
9.8nm,0.7s,mb4.7
LDF La Druitiere 63.19 41 *e*P **P 13 06 02.1 +0.6**
9.8nm,0.7s,mb5.0
SUMG Summit 63.27 8 *e*P **P 13 06 03.0 +1.4**
40nm,0.9s,mb5.5
SUMG Summit 63.27 8 *i*P **P 13 06 03.1 +1.5**
22nm,0.9s,mb5.3
RJF Les Rejaudoux 63.53 45 *e*P **P 13 06 03.5 -0.2**
RJF *e*R
100nm,21.8s
RJF Les Rejaudoux 63.53 45 *e*P **P 13 06 03.5 -0.2**
MTLF Montolieu 63.65 47 *e*P **P 13 06 04.4 -0.2**
26nm,0.9s,mb5.0
MTLF Montolieu 63.65 47 *e*P **P 13 06 04.4 -0.2**
26nm,0.9s,mb5.2
CAF Calviac 63.83 45 *e*P **P 13 06 05.6 -0.2**
31nm,0.9s,mb5.0
CAF Calviac 63.83 45 *e*P **P 13 06 05.6 -0.2**
31nm,0.9s,mb5.3
YKA Yellowknife Ar 63.95 336 P **P 13 06 03.6 -2.5**
5.9nm,0.9s,mb4.6,baz=111,slow=6.7,SNR=8.1
YKA LR LR 13 31 09.9
comp=Z,18nm,19.7s,MS3.3,baz=315,slow=33
YKA Yellowknife Ar 63.95 336 P **P 13 06 03.6 -2.5**
TCF Toulx Ste Croi 64.20 44 *e*P **P 13 06 07.9 -0.3**
25nm,1.0s,mb4.9
TCF *e*pP pP 13 06 22.9 -0.8
TCF Toulx Ste Croi 64.20 44 *e*P **P 13 06 07.9 -0.3**
25nm,1.0s,mb5.2
TCF *e*pP pP 13 06 22.9 -0.8
BGF Bois d'Agland 64.69 44 *e*P **P 13 06 11.1 -0.2**
28nm,1.0s,mb5.0
BGF Bois d'Agland 64.69 44 *e*P **P 13 06 11.1 -0.2**
28nm,1.0s,mb5.2
HYF Humbligny 64.69 43 *e*P **P 13 06 11.3 -0.1**
HYF Humbligny 64.69 43 *e*P **P 13 06 11.3 -0.1**
TAM Tamanrasset 64.87 70 *e*P **P 13 06 14.3 +1.3**
8.3nm,0.8s,mb4.8
TAM *e* pP 13 06 27.8 -0.8
AVF Avril sur Loir 65.08 43 *e*P **P 13 06 13.3 -0.6**
17nm,0.9s,mb4.8
AVF Avril sur Loir 65.08 43 *e*P **P 13 06 13.3 -0.6**
17nm,0.9s,mb5.1
SSF Saint Saulge 65.23 43 *e*P **P 13 06 14.2 -0.7**
SSF *e*pP pP 13 06 29.3 -1.2
SSF Saint Saulge 65.23 43 *e*P **P 13 06 14.2 -0.7**
SSF *e*pP pP 13 06 29.3 -1.2
SMF Signal de Mont 65.38 44 *e*P **P 13 06 15.4 -0.4**
35nm,1.1s,mb5.0
SMF *e*pP pP 13 06 30.6 -0.8
SMF Signal de Mont 65.38 44 *e*P **P 13 06 15.4 -0.4**
35nm,1.1s,mb5.3
SMF *e*pP pP 13 06 30.6 -0.8
LOR Lormes 65.51 43 *e*P **P 13 06 15.9 -0.7**
LOR *e*R
182nm,20.8s
LOR Lormes 65.51 43 *e*P **P 13 06 15.9 -0.7**
VIVF Saint-Julien-l 65.64 46 *e*P **P 13 06 18.1 +0.5**
VIVF Saint-Julien-l 65.64 46 *e*P **P 13 06 18.1 +0.5**
BAIF Baives 66.29 40 *e*P **P 13 06 20.8 -0.8**
20nm,1.2s,mb4.7
BAIF Baives 66.29 40 *e*P **P 13 06 20.8 -0.8**
20nm,1.2s,mb5.0
SFTF Sexfontaines 66.46 42 *e*P **P 13 06 22.1 -0.7**
SFTF *e*pP pP 13 06 37.1 -1.3
SFTF Sexfontaines 66.46 42 *e*P **P 13 06 22.1 -0.7**
SFTF *e*pP pP 13 06 37.1 -1.3
ORIF Oris-en-Rattie 66.50 46 *e*P **P 13 06 23.0 -0.1**
ORIF *e*R
98nm,19.4s
ORIF Oris-en-Rattie 66.50 46 *e*P **P 13 06 23.0 -0.1**
MEZF Maizieres J'vi 66.53 42 *e*P **P 13 06 22.7 -0.4**
36nm,0.9s,mb5.1
MEZF *e*pP pP 13 06 37.7 -1.1
MEZF Maizieres J'vi 66.53 42 *e*P **P 13 06 22.7 -0.4**
36nm,0.9s,mb5.4
MEZF *e*pP pP 13 06 37.7 -1.1
RES Resolute Bay 66.57 351 P **P 13 06 21.6 -1.3**
5.8nm,0.9s,mb4.6,baz=172,slow=9.5,SNR=13
RES LR LR 13 33 42.5
comp=Z,118nm,20.9s,MS4.1,baz=318,slow=34
RES Resolute Bay 66.57 351 P **P 13 06 21.6 -1.3**
GIVF Givet 66.68 40 *e*P **P 13 06 23.6 -0.5**
GIVF *e*pP pP 13 06 38.4 -1.4
GIVF Givet 66.68 40 *e*P **P 13 06 23.6 -0.5**
GIVF *e*pP pP 13 06 38.4 -1.4
CABF La Chapelle 66.90 44 *e*P **P 13 06 25.4 -0.2**
CABF *e*pP pP 13 06 40.5 -0.7
CABF La Chapelle 66.90 44 *e*P **P 13 06 25.4 -0.2**
CABF *e*pP pP 13 06 40.5 -0.7
PAGF Fort de Pagny 66.98 42 *e*P **P 13 06 25.5 -0.5**
3.2nm,0.6s,mb4.2
PAGF Fort de Pagny 66.98 42 *e*P **P 13 06 25.5 -0.5**
3.2nm,0.6s,mb4.5
MBDF Montbardon 67.11 46 *e*P **P 13 06 27.3 +0.4**
20nm,1.1s,mb4.8
MBDF Montbardon 67.11 46 *e*P **P 13 06 27.3 +0.4**
20nm,1.1s,mb5.1
LPL La Plagne 67.18 45 *e*P **P 13 06 28.1 +0.7**
19nm,0.9s,mb4.8
LPL *e*pP pP 13 06 43.2 +0.1
LPL La Plagne 67.18 45 *e*P **P 13 06 28.1 +0.7**
19nm,0.9s,mb5.1
LPL *e*pP pP 13 06 43.2 +0.1
LPG La Plagne 67.19 45 *e*P **P 13 06 28.3 +0.8**
17nm,1.0s,mb4.8
LPG La Plagne 67.19 45 *e*P **P 13 06 28.3 +0.8**
17nm,1.0s,mb5.0
HAU Haudompre 67.30 42 *e*P **P 13 06 27.3 -0.7**
HAU *e*R
123nm,18.6s
HAU Haudompre 67.30 42 *e*P **P 13 06 27.3 -0.7**
HINF Hinteralfeld 67.60 43 *e*P **P 13 06 29.0 -1.0**
5.5nm,0.6s,mb4.5
HINF Hinteralfeld 67.60 43 *e*P **P 13 06 29.0 -1.0**
5.5nm,0.6s,mb4.8
ECH Echery 67.86 42 *e*P **P 13 06 31.4 -0.2**
16nm,1.1s,mb5.0
CDF Champ du Feu 67.97 42 *e*P **P 13 06 31.6 -0.7**
CDF *e*pP pP 13 06 46.8 -1.2
CDF Champ du Feu 67.97 42 *e*P **P 13 06 31.6 -0.7**
CDF *e*pP pP 13 06 46.8 -1.2
KEST Kesra 68.31 56 P **P 13 06 36.0 +1.4**
3.7nm,0.8s,mb4.5,baz=238,slow=3.5,SNR=6.7
KEST Kesra 68.31 56 P **P 13 06 36.0 +1.4**
STU Stuttgart 69.28 42 *e*P **P 13 06 40.3 -0.2**
DLBC Dease Lake 69.63 329 P **P 13 06 41.5 -0.9**
2.0nm,0.8s,mb4.1,baz=115,slow=14,SNR=2.2
DLBC Dease Lake 69.63 329 P **P 13 06 41.5 -0.9**
DAG Danmarks Havn 69.70 10 *i*P **P 13 06 42.9 +0.3**
6.7nm,0.9s,mb4.6
NKC Novy Kostel 71.55 41 *e*P **P 13 06 54.8 +0.5**
CLL Collm 72.00 40 *e*P **P 13 06 57.0 0.0**
comp=Z,6.0nm,1.1s,mb4.4
CLL *i*pP pP 13 07 11.6 -1.2
CLL *es*P sP 13 07 19.0 -0.1
KHC Kasperske Hory 72.19 42 *e*P **P 13 06 59.4 +1.2**
KHC *e*PCP PcP 13 07 13.5 -2.6
GERES GERESS Array B 72.26 42 P **P 13 06 58.8 +0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=259,slow=4.9,SNR=25
GERES GERESS Array B 72.26 42 P **P 13 06 58.8 +0.2**
NB2 NORSAR Subarra 72.29 29 P **P 13 06 59.4 +0.9**
comp=Z,11nm,1.1s,mb4.7,baz=261,slow=6.2
NOA NORSAR Array B 72.29 29 P **P 13 06 59.8 +1.3**
comp=Z,14nm,0.7s,mb4.0,baz=261,slow=5.9,SNR=4.6
NOA NORSAR Array B 72.29 29 P **P 13 06 59.8 +1.3**
BRG Berggiesshubel 72.56 40 *e*P **P 13 07 00.9 +0.6**
comp=Z,5.5nm,1.0s,mb4.4
BRG *e* pP 13 07 13.9 -2.2
comp=Z,9.0nm,1.2s
PRU Pruhonice 72.88 41 *e*P **P 13 07 02.6 +0.4**
PRU *e*PCP PcP 13 07 17.8 -1.2
HFS Hagfors 73.37 30 LR LR 13 33 19.7
comp=Z,149nm,20.4s,MS4.3,baz=80,slow=31
INK Inuvik 73.38 338 P **P 13 07 02.8 -2.0**
comp=Z,5.1nm,0.9s,mb4.5,baz=104,slow=7.9,SNR=10
INK Inuvik 73.38 338 P **P 13 07 02.8 -2.0**
UPC Upice 73.85 40 *e*P **P 13 07 08.3 +0.4**

UPC				*e*PCP	PcP	13 07 21.4	-1.8
DPC	**Dobruska-Polom**	**74.04**	**41**	*e*P	**P**	**13 07 09.9**	**+0.9**
DPC				*e*PCP	PcP	13 07 23.9	-0.1
OKC	**Ostrava-Krasne**	**75.20**	**41**	*e*P	**P**	**13 07 08.7**	**-7.1**
VYHS	**Vyhne**	**75.64**	**43**	*e*P	**P**	**13 07 19.1**	**+0.8**
VYHS				*e*pP	pP	13 07 34.8	+0.5
EGAK	**Eagle**	**75.86**	**334**	*e*P	**P**	**13 07 17.7**	**-1.5**
	comp=Z,16nm,1.1s,mb4.9						
KECS	**Kecovo**	**76.74**	**43**	*e*P	**P**	**13 07 27.3**	**+2.7**
KECS				*e*PCP	PcP	13 07 34.2	-1.5
KECS				*e*pP	pP	13 07 41.4	+0.9
CRVS	**Cervenica-Dubn**	**77.38**	**42**	*e*P	**P**	**13 07 29.8**	**+1.7**
CRVS				*e*pP	pP	13 07 45.5	+1.4
ILAR	**Eielson Array**	**78.31**	**334**	P	**P**	**13 07 30.9**	**-2.1**
	comp=Z,16nm,0.6s,mb4.1,baz=88,slow=4.4,SNR=23						
ILAR	**Eielson Array**	**78.31**	**334**	P	**P**	**13 07 30.9**	**-2.1**
ARCES	**ARCESS Array B**	**78.94**	**21**	P	**P**	**13 07 36.9**	**+0.6**
	comp=Z,2.9nm,0.7s,mb4.3,baz=272,slow=6.3,SNR=9.6						
ARCES	**ARCESS Array B**	**78.94**	**21**	P	**P**	**13 07 36.9**	**+0.6**
KEV	**Kevo**	**79.45**	**21**	*e*p	**P**	**13 07 34.4**	**-4.8**
FINES	**FINESS Array B**	**79.48**	**29**	P	**P**	**13 07 39.9**	**+0.4**
	comp=Z,3.5nm,0.7s,mb4.4,baz=254,slow=4.1,SNR=13						
FINES	**FINESS Array B**	**79.48**	**29**	P	**P**	**13 07 39.9**	**+0.4**
KAF	**Kangasniemi**	**79.55**	**29**	*e*p	**P**	**13 07 39.4**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.4						
BUR08	**Bucovina Ar. S**	**79.95**	**43**	*e*P	**P**	**13 07 43.7**	**+1.5**
BUR08				*e*	pP	13 07 57.6	-0.7
MLR	**Muntele Rosu**	**80.66**	**45**	⇑*i*P	**P**	**13 07 47.7**	**+1.5**
AKASG	**Malin Array Be**	**82.24**	**40**	P	**P**	**13 07 54.5**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=285,slow=3.7,SNR=5.3						
AKASG	**Malin Array Be**	**82.24**	**40**	P	**P**	**13 07 54.5**	**+0.1**
TSUM	**Tsumeb**	**83.46**	**111**	*e*P	**P**	**13 08 02.4**	**+1.1**
	comp=Z,12nm,1.0s,mb4.9						
TSUM				*e*	pP	13 08 18.3	+0.9
BR131	**Keskin Array S**	**87.15**	**50**	*e*P	**P**	**13 08 19.5**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**87.15**	**50**	P	**P**	**13 08 20.1**	**+0.7**
	comp=Z,2.4nm,0.7s,mb4.5,baz=268,slow=4.6,SNR=12						
BRTR	**Keskin Array B**	**87.15**	**50**	P	**P**	**13 08 20.1**	**+0.7**
VNA2	**Neumayer--Watz**	**89.24**	**165**	*e*	**P**	**13 08 29.6**	**+1.1**
SUR	**Sutherland**	**89.37**	**123**	P	**P**	**13 08 31.6**	**+1.6**
	comp=Z,5.1nm,0.9s,mb4.8,baz=284,slow=12,SNR=2.5						
SUR	**Sutherland**	**89.37**	**123**	P	**P**	**13 08 31.6**	**+1.6**
SNAA	**Sanae**	**90.88**	**164**	*e*	**P**	**13 08 37.3**	**+1.2**
SNAA				*e*	pP	13 08 53.8	+1.4
SNAA	**Sanae**	**90.88**	**164**	P	**P**	**13 08 37.3**	**+1.1**
	comp=Z,1.0nm,1.1s,mb4.1,baz=318,slow=7.0,SNR=3.8						
SNAA	**Sanae**	**90.88**	**164**	*e*P	**P**	**13 08 36.9**	**+0.8**
	comp=Z,5.0nm,0.8s,mb4.9						
BOSA	**Boshof**	**92.34**	**119**	P	**P**	**13 08 44.5**	**+0.6**
	comp=Z,5.4nm,0.9s,mb4.9,baz=261,slow=2.4,SNR=9.2						
BOSA	**Boshof**	**92.34**	**119**	P	**P**	**13 08 44.5**	**+0.6**
ZALV	**Zalesovo Beam**	**109.48**	**20**	PKiKP	PKiKP	13 14 03.4	+0.1
	comp=Z,0.2nm,0.3s,baz=280,slow=4.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**109.48**	**20**	PKiKP	PKiKP	13 14 03.4	+0.1
WMQ	**Urumqi**	**118.87**	**25**	*e*PKP	PKPdf	13 14 20.1	-1.4
SONM	**Songino Array**	**120.65**	**9**	PKP	PKPdf	13 14 25.4	+0.6
	comp=Z,0.4nm,0.4s,baz=296,slow=1.5,SNR=7.2						
SONM				PKKPbc	PKKPbc	13 24 27.3	-4.2
	comp=Z,0.2nm,0.4s,baz=207,slow=6.5,SNR=5.2						
SONM	**Songino Array**	**120.65**	**9**	PKP	PKPdf	13 14 25.4	+0.6
SONM				PKKPbc	PKKPbc	13 24 27.3	-4.2
CN2	**Changchun**	**125.29**	**354**	*e*PKP	PKPdf	13 14 29.0	-4.9
CN2				PP	PP	13 16 22.9	-0.1
HHC	**Hu-ho-hao-te**	**128.22**	**7**	*e*PKP	PKPdf	13 14 35.6	-4.0
HHC				sPKP		13 15 13.1	
HHC				PP	PP	13 16 43.8	+1.4
HHC				PKS		13 18 11.3	
HHC				SKS	SKSdf	13 21 36.5	-10
HHC				SKKS	SKKSac	13 23 25.4	-11
HHC				AMB	AMB		
	comp=Z,72nm,7.6s						
HHC				LR	LR		
	comp=N,200nm,20.8s,MS4.9						
HHC				LR	LR		
	comp=E,150nm,20.6s,MS4.9						
HHC				LR	LR		
	comp=Z,97nm,20.3s,MS4.5						
KSRS	**Korea Array**	**131.18**	**350**	SKPbc	SKPbc	13 18 04.3	-1.1
	comp=Z,2.1nm,0.7s,baz=351,slow=4.6,SNR=5.3						
KSAR	**Wonju Array Be**	**131.20**	**350**	SKPbc	SKPbc	13 18 04.3	-1.1
LZH	**Lanzhou**	**131.38**	**16**	*e*PKP	PKPdf	13 14 40.5	-5.2
LZH				sPKP		13 15 13.5	
CD2	**Chengdu**	**136.20**	**18**	*e*PKP	PKPdf	13 14 50.5	-4.4
KMI	**Kunming**	**141.16**	**23**	PKP	PKPdf	13 15 04.4	+0.3
GYA	**Guiyang**	**141.24**	**17**	*e*PKP	PKPdf	13 15 01.0	-3.3
GYA				sPKP		13 15 33.0	
GYA				PP	PP	13 18 07.6	+2.6
GYA				PKS		13 18 35.4	
GYA				SKKS	SKKSac	13 24 48.3	-7.0
GYA				SS	SS	13 36 25.9	-3.0
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=N,150nm,22.0s,MS4.8						
GYA				LR	LR		
	comp=E,130nm,24.5s,MS4.8						
GYA				LR	LR		
	comp=Z,140nm,22.2s,MS4.7						
TOO	**Toolangi**	**143.93**	**218**	*e*PKP	PKPdf	13 15 07.6	-1.0
CHG	**Chiang Mai**	**144.85**	**33**	⇓P	PKPdf	13 15 10.0	-0.8
CHTO	**Chiang Mai**	**144.85**	**33**	*e*PKPdf	PKPdf	13 15 10.3	-0.5
CMAR	**Chiang Mai Arr**	**145.15**	**34**	PKPbc	PKPbc	13 15 11.9	+1.0
	comp=Z,7.1nm,0.7s,baz=311,slow=4.9,SNR=63						
CMAR	**Chiang Mai Arr**	**145.15**	**34**	PKPbc	PKPbc	13 15 11.9	+1.0
BDT	**Bhumibol Dam**	**146.16**	**35**	P	PKPdf	13 15 14.5	+1.4
RMQ	**Roma**	**147.42**	**237**	*e*PKP	PKPbc	13 15 19.0	+1.5
	comp=Z,32nm,1.1s						
CMSA	**Cobar Meteorol**	**147.42**	**227**	*e*PKP	PKPbc	13 15 18.2	+0.9
CMSA	**Cobar Meteorol**	**147.42**	**227**	*e*PKP	pPKPdf	13 15 31.6	-0.1
STKA	**Stephens Creek**	**150.04**	**222**	PKPbc	PKPbc	13 15 25.4	+1.4
	comp=Z,2.3nm,0.6s,baz=232,slow=2.0,SNR=6.3						
STKA	**Stephens Creek**	**150.04**	**222**	*e*PKP	PKPbc	13 15 24.7	+0.7
STKA	**Stephens Creek**	**150.04**	**222**	*e*PKP	pPKPdf	13 15 38.2	+2.2
STKA	**Stephens Creek**	**150.04**	**222**	*e*PKPdf	PKPdf	13 15 20.2	+1.1
STKA				PKPbc	PKPbc	13 15 25.4	+1.4
CTA	**Charters Tower**	**151.67**	**248**	PKPbc	PKPbc	13 15 28.4	+0.2
	comp=Z,2.5nm,0.5s,baz=72,slow=5.3,SNR=1.8						
CTA	**Charters Tower**	**151.67**	**248**	*e*PKP	PKPbc	13 15 30.7	+2.5
CTA	**Charters Tower**	**151.67**	**248**	PKPbc	PKPbc	13 15 28.4	+0.2
ASAR	**Alice Springs**	**160.48**	**227**	PKP	PKPdf	13 15 33.8	+0.5
	comp=Z,0.4nm,0.7s,baz=118,slow=1.6,SNR=6.5						
ASAR	**Alice Springs**	**160.48**	**227**	PKP	PKPdf	13 15 33.9	+0.5
WRA	**Warramunga Arr**	**162.18**	**237**	PKP	PKPdf	13 15 36.8	+1.5
	comp=Z,0.7nm,0.8s,baz=143,slow=0.3,SNR=5.5						
WRA	**Warramunga Arr**	**162.18**	**237**	PKP	PKPdf	13 15 36.8	+1.5

*ISCJB **21** 13:01:37.2±0.3, 60°.90N±0°.02×151°.21W±0°.06, h90km±4km, mb3.7/2, Error ellipse: s-maj=5.0km s-min=3.4km az=35.0*
*IDC **21** 13:01:37.9±1.4, 60°.92N×151°.47W, h75km±27km, mb3.3/2, mb1 3.2/6, mb1mx3.0/27, mbtmp3.1/6, Error ellipse: s-maj=41.3km s-min=9.7km az=111.0*
*NEIC **21** 13:01:39.3, 60°.92N×151°.26W, h74km, MG2.9(AEIC), After AEIC.*

ISC 21 13:01:38.4±0.3, **60°.90N**±0°.02×**151°.22W**±0°.06, **h81**km±4km, **n68**, σ0°**60**/82, **mb3.7**/2, **Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPU	**Mount Spurr**	**0.49**	**306**	P	**Pn**	**13 01 51.8**	**-0.4**
BKG	**Blockade Glaci**	**0.54**	**289**	P	**Pn**	**13 01 52.0**	**-0.5**
FIB	**Fire Island**	**0.58**	**62**	P	**Pn**	**13 01 53.8**	**+0.9**
FIB				S	**Sn**	**13 02 04.8**	**+1.1**
SUA	**Susitna One**	**0.61**	**22**	P	**Pn**	**13 01 53.1**	**-0.2**
SUA				S	**Sn**	**13 02 04.3**	**0.0**
CKL	**Chakachamna La**	**0.62**	**299**	P	**Pn**	**13 01 52.8**	**-0.5**
SLKM	**Skilak Lake**	**0.63**	**128**	*e*P	**Pn**	**13 01 53.5**	**+0.1**
SLKM				*e*S	**Sn**	**13 02 05.4**	**+0.8**
STLK	**Strandline Lak**	**0.67**	**334**	P	**Pn**	**13 01 53.4**	**-0.4**
RC01	**Rabbit Creek A**	**0.75**	**74**	*e*P	**Pn**	**13 01 54.8**	**+0.2**
RC01				*e*S	**Sn**	**13 02 06.0**	**-0.7**
DFR	**Drift River**	**0.78**	**248**	P	**Pn**	**13 01 54.5**	**-0.4**
RDN	**Redoubt North**	**0.85**	**244**	P	**Pn**	**13 01 55.5**	**-0.3**
RSO	**Redoubt South**	**0.87**	**241**	P	**Pn**	**13 01 56.0**	**+0.1**
RED	**Redoubt Volcan**	**0.90**	**238**	P	**Pn**	**13 01 56.2**	**-0.1**
RED				S	**Sn**	**13 02 09.8**	**+0.2**
SKT	**Skwentna**	**1.10**	**352**	P	**Pn**	**13 01 58.2**	**-0.4**
SKT				S	**Sn**	**13 02 13.8**	**0.0**
BRLK	**Bradley Lake**	**1.15**	**171**	P	**Pn**	**13 01 59.5**	**+0.3**
BRLK				S	**Sn**	**13 02 16.0**	**+1.0**
SEW	**Seward**	**1.19**	**131**	*e*P	**Pn**	**13 01 59.3**	**-0.4**
SEW				*e*S	**Sn**	**13 02 15.1**	**-0.7**
ILIM	**Iliamna**	**1.19**	**227**	P	**Pn**	**13 01 59.8**	**+0.1**
PMR	**Palmer**	**1.23**	**55**	P	**Pn**	**13 01 59.9**	**-0.4**
PMR				S	**Sn**	**13 02 16.2**	**-0.5**
INE	**Iliamna NE**	**1.24**	**228**	P	**Pn**	**13 02 00.5**	**+0.1**
IVE	**Iliamna Volcan**	**1.25**	**226**	P	**Pn**	**13 02 00.6**	**0.0**
HOM	**Homer**	**1.26**	**190**	P	**Pn**	**13 02 01.4**	**+0.7**
GHO	**Glory Hole Cre**	**1.42**	**51**	P	**Pn**	**13 02 02.5**	**-0.1**
KNK	**Knik Glacier**	**1.44**	**68**	P	**Pn**	**13 02 02.9**	**0.0**
TRAP	**Trapper Creek**	**1.52**	**18**	P	**Pn**	**13 02 03.7**	**-0.2**
OPT	**Oil Point**	**1.60**	**220**	P	**Pn**	**13 02 05.4**	**+0.5**
SML	**Sawmill**	**1.67**	**55**	P	**Pn**	**13 02 05.7**	**-0.2**
AUW	**Augustine West**	**1.90**	**217**	P	**Pn**	**13 02 09.3**	**+0.3**
PPLA	**Purkeypile**	**2.06**	**348**	P	**Pn**	**13 02 10.7**	**-0.3**
SCM	**Sheep Creek Mo**	**2.10**	**62**	P	**Pn**	**13 02 11.4**	**-0.1**
JPK	**Jack Peak**	**2.26**	**84**	P	**Pn**	**13 02 13.2**	**-0.5**
FID	**Port Fidalgo**	**2.33**	**92**	P	**Pn**	**13 02 13.1**	**-1.6**
VLZ	**Valdez**	**2.39**	**82**	P	**Pn**	**13 02 14.7**	**-0.8**
TRF	**Thorofare Moun**	**2.60**	**9**	P	**Pn**	**13 02 18.3**	**+0.1**
KLU	**Klutina**	**2.64**	**75**	P	**Pn**	**13 02 18.3**	**-0.5**
DIV	**Divide**	**2.67**	**83**	P	**Pn**	**13 02 18.5**	**-0.6**
RND	**Reindeer**	**2.75**	**23**	P	**Pn**	**13 02 20.6**	**+0.2**
DHY	**Denali Highway**	**2.84**	**38**	P	**Pn**	**13 02 21.9**	**+0.3**
TT01	**Tatalina**	**3.04**	**314**	P	**Pn**	**13 02 23.4**	**-0.7**
CHUM	**Lake Minchumin**	**3.04**	**351**	P	**Pn**	**13 02 23.8**	**-0.4**
MCK	**McKinley**	**3.04**	**20**	P	**Pn**	**13 02 24.6**	**+0.4**
KDAK	**Kodiak Island**	**3.20**	**193**	P	**Pn**	**13 02 25.1**	**-1.3**
	2.9nm,0.3s,baz=47,slow=12,SNR=74						
KDAK				S	**Sn**	**13 03 03.0**	**-0.4**
	2.5nm,0.3s,baz=33,slow=15,SNR=7.1						
KDAK	**Kodiak Island**	**3.20**	**193**	P	**Pn**	**13 02 25.6**	**-0.8**
KCE	**Katmai Mt Cerb**	**3.34**	**219**	P	**Pn**	**13 02 29.1**	**+0.9**
MGLS	**Mageik Landsli**	**3.42**	**218**	P	**Pn**	**13 02 29.9**	**+0.6**
PAX	**Paxson**	**3.42**	**50**	P	**Pn**	**13 02 30.2**	**+0.8**
CAHL	**Cahill**	**3.53**	**218**	P	**Pn**	**13 02 31.5**	**+0.7**
DDM	**Donnelly Dome**	**3.83**	**38**	P	**Pn**	**13 02 37.1**	**+2.2**
OHAK	**Old Harbor**	**3.84**	**197**	*e*P	**Pn**	**13 02 33.4**	**-1.6**
HDA	**Harding Lake**	**4.04**	**27**	P	**Pn**	**13 02 38.3**	**+0.6**
CCB	**Clear Creek Bu**	**4.08**	**21**	P	**Pn**	**13 02 38.1**	**-0.2**
MENT	**Mentasta**	**4.10**	**57**	*e*P	**Pn**	**13 02 39.4**	**+0.9**
MLY	**Manley**	**4.16**	**3**	P	**Pn**	**13 02 39.6**	**+0.3**
COLA	**College**	**4.28**	**20**	P	**Pn**	**13 02 40.9**	**-0.1**
MDM	**Murphy Dome**	**4.30**	**17**	P	**Pn**	**13 02 41.4**	**+0.1**
BALM	**Baldy**	**4.33**	**84**	P	**Pn**	**13 02 41.0**	**-0.7**
DOT	**Dot Lake**	**4.34**	**47**	*e*P	**Pn**	**13 02 42.8**	**+1.0**
ILAR	**Eielson Array**	**4.37**	**25**	P	**Pn**	**13 02 42.6**	**+0.4**
	1.1nm,0.3s,baz=213,slow=14,SNR=80						
ILAR				S	**Sn**	**13 03 31.4**	**-0.3**
	0.8nm,0.3s,baz=221,slow=20,SNR=5.8						
ILAR	**Eielson Array**	**4.37**	**25**	P	**Pn**	**13 02 42.6**	**+0.4**
ILAR				S	**Sn**	**13 03 31.4**	**-0.3**
BCA3	**Beaver Creek A**	**4.95**	**60**	P	**Pn**	**13 02 50.4**	**+0.2**
IM3	**Indian Mountai**	**5.23**	**349**	P	**Pn**	**13 02 53.6**	**-0.3**
DAWY	**Dawson**	**6.34**	**55**	P	**Pn**	**13 03 09.4**	**+0.4**
INK	**Inuvik**	**10.59**	**38**	P	**Pn**	**13 04 06.6**	**-0.3**
	0.1nm,0.3s,baz=238,slow=16,SNR=3.8						
INK				S	**Sn**	**13 05 58.8**	**-4.7**
	0.2nm,0.3s,baz=145,slow=10,SNR=4.1						
INK	**Inuvik**	**10.59**	**38**	P	**Pn**	**13 04 06.6**	**-0.3**
INK				S	**Sn**	**13 05 58.8**	**-4.7**
YKA	**Yellowknife Ar**	**17.29**	**69**	P	**Pn**	**13 05 34.2**	**0.0**
	0.1nm,0.3s,baz=278,slow=9.8,SNR=6.4						
YKA	**Yellowknife Ar**	**17.29**	**69**	P	**Pn**	**13 05 34.2**	**0.0**
SONM	**Songino Array**	**54.97**	**307**	P	**P**	**13 11 01.1**	**+0.5**
	0.8nm,0.7s,mb3.9,baz=33,slow=7.0,SNR=6.4						
SONM	**Songino Array**	**54.97**	**307**	P	**P**	**13 11 01.1**	**+0.5**
KURK	**Kurchatov**	**61.77**	**327**	P	**P**	**13 11 47.9**	**-0.1**
	0.2nm,0.4s,mb3.5,baz=32,slow=6.7,SNR=2.3						
KURK	**Kurchatov**	**61.77**	**327**	P	**P**	**13 11 47.9**	**-0.1**

*ISCJB **21** 13:06:21.5±0.9, 42°.50N±0°.04×23°.00E±0°.06, h15km±9km, Error ellipse: s-maj=7.1km s-min=6.5km az=165.8*
*CSEM **21** 13:06:21.4±0.5, 42°.52N×23°.07E, h20km, ML1.5, Error ellipse: s-maj=10.6km s-min=7.9km az=77.0*
*BEO **21** 13:06:21.3±1.1, 42°.38N×23°.05E, h0km, ML1.5/3*
*SKO **21** 13:06:22.0, 42°.61N×22°.93E, h0km, M2.8, ML2.0*

ISC 21 13:06:22.7±0.8, **42°.51N**±0°.04×**23°.02E**±0°.05, **h8**km±11km, **n10**, σ1°**08**/18, **2D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.17**	**59**	*e*Pg	**Pg**	**13 06 25.4**	**-0.7**
VTS				*e*Sg	**Sg**	**13 06 28.5**	**+0.1**
VTS	**Vitosha**	**0.17**	**59**	*e*Pg	**Pg**	**13 06 25.4**	**-0.7**
VTS				*e*Sg	**Sg**	**13 06 28.5**	**+0.1**
ZAPS	**Zavoj**	**0.82**	**340**	*e*Pg	**Pg**	**13 06 38.9**	**+0.5**
ZAPS				*e*Sg	**Sg**	**13 06 51.6**	**+2.6**
BARS	**Barje**	**0.94**	**290**	*e*Pg	**Pg**	**13 06 39.8**	**-0.9**
BARS				*e*Sg	**Sg**	**13 06 52.9**	**0.0**
VAY	**Valandovo**	**1.23**	**196**	*e*Pg	**Pg**	**13 06 46.0**	**-0.3**
VAY				*e*Sg	**Sg**	**13 07 03.8**	**+1.5**
VAY				*e*Lg		13 07 04.4	
	comp=E,15nm,0.6s						
VAY				*e*Lg		13 07 05.4	
	comp=N,48μm,46.9s						
VAY	**Valandovo**	**1.23**	**196**	*e*Pg	**Pg**	**13 06 45.9**	**-0.4**
VAY				*e*Sg	**Sg**	**13 07 03.7**	**+1.4**
VAY				*e*Lg		13 07 04.3	
	comp=N,15nm,0.6s						
SELS	**Selova**	**1.57**	**298**	*e*Pg	**Pg**	**13 06 50.5**	**-2.2**
SELS				*e*Sg	**Sg**	**13 07 13.2**	**+0.2**
SELS	**Selova**	**1.57**	**298**	*e*Pg	**Pg**	**13 06 50.5**	**-2.2**
SELS				*e*Sg	**Sg**	**13 07 13.2**	**+0.2**
DRGR		**4.29**	**357**	⇓*i*P	**Pn**	**13 07 34.0**	**+5.7**
BURAR	**Bucovina Array**	**5.34**	**16**	⇓*i*P	**Pn**	**13 07 42.7**	**0.0**

*ISCJB **21** 13:12:27.0±1.3, 44°.7N±0°.1×148°.4E±0°.2, h93km±17km, mb3.2/5, Error ellipse: s-maj=26.1km s-min=14.5km az=42.1*
*JMA **21** 13:12:27.9±0.7, 44°.28N×148°.19E, h0km, M4.3*
*NEIC **21** 13:12:29.4±1.1, 44°.80N×148°.35E, h97km±11km, Error ellipse: s-maj=20.9km s-min=10.3km az=145.0*
*IDC **21** 13:12:30.1±3.6, 44°.89N×148°.30E, h101km±29km, mb3.0/5, mb1 3.4/7, mb1mx3. 1/24, mbtmp3. 1/7, Error ellipse: s-maj=63.3km s-min=24.3km az=160.0*

ISC 21 13:12:28.4±1.2, **44°.7N**±0°.1×**148°.4E**±0°.2, **h90**km±14km, **n25**, σ0°**78**/26, **mb3.2**/5, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.33**	**236**	P	**Pn**	**13 13 03.2**	**-1.8**
NEM2				*e*S	**Sn**	**13 13 29.0**	**-3.9**
JRA	**Rausu**	**2.48**	**254**	P	**Pn**	**13 13 06.9**	**0.0**
JNK	**Nakash**	**2.88**	**249**	P	**Pn**	**13 13 12.4**	**+0.2**
JAK	**Akkeshi**	**3.17**	**239**	P	**Pn**	**13 13 15.3**	**-0.9**
JTKR	**Abashiri--Toko**	**3.31**	**259**	P	**Pn**	**13 13 18.2**	**+0.2**
JAR	**Ashorobuto**	**3.62**	**249**	P	**Pn**	**13 13 23.4**	**+1.1**
ASAJ	**Asahikawa**	**4.21**	**264**	P	**Pn**	**13 13 31.2**	**+1.0**
	1.4nm,0.3s,baz=71,slow=21,SNR=15						
ASAJ	**Asahikawa**	**4.21**	**264**	*e*Pn	**Pn**	**13 13 31.1**	**+1.0**
JCH	**Churui**	**4.21**	**242**	P	**Pn**	**13 13 30.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.56**	**302**	P	**Pn**	**13 13 34.6**	**-0.3**
ERM	**Erimo**	**4.67**	**237**	*e*P	**Pn**	**13 13 37.5**	**+1.0**
JNBK	**Urakawa-nobuka**	**4.77**	**242**	P	**Pn**	**13 13 37.3**	**-0.5**
JKB	**Kayabe**	**6.07**	**245**	P	**Pn**	**13 13 55.2**	**-0.3**
PETK	**Petropavlovsk-**	**10.41**	**33**	P	**Pn**	**13 14 54.7**	**+0.2**
	0.6nm,0.3s,baz=189,slow=13,SNR=9.4						
PETK	**Petropavlovsk-**	**10.41**	**33**	P	**Pn**	**13 14 54.7**	**+0.2**
ILAR	**Eielson Array**	**40.20**	**37**	P	**P**	**13 19 54.5**	**-1.0**
	0.1nm,0.5s,mb3.0,baz=263,slow=7.5,SNR=4.5						
ILAR	**Eielson Array**	**40.20**	**37**	P	**P**	**13 19 54.5**	**-1.0**
KURK	**Kurchatov**	**45.76**	**304**	P	**P**	**13 20 40.0**	**-0.5**
	0.2nm,0.4s,mb3.2,baz=71,slow=7.9,SNR=4.2						
KURK	**Kurchatov**	**45.76**	**304**	P	**P**	**13 20 40.0**	**-0.5**
YKA	**Yellowknife Ar**	**54.52**	**34**	P	**P**	**13 21 46.1**	**-0.3**
	0.1nm,0.6s,mb3.1,baz=301,slow=7.0,SNR=3.8						
YKA	**Yellowknife Ar**	**54.52**	**34**	P	**P**	**13 21 46.1**	**-0.3**
NVAR	**Mina Array Bea**	**66.32**	**59**	P	**P**	**13 23 07.9**	**+0.7**
	0.5nm,0.7s,mb3.5,baz=290,slow=5.7,SNR=3.8						
NVAR	**Mina Array Bea**	**66.32**	**59**	P	**P**	**13 23 07.9**	**+0.7**
TXAR	**Lajitas Array**	**81.38**	**57**	P	**P**	**13 24 35.9**	**+0.6**
	0.3nm,0.5s,mb3.4,baz=300,slow=5.2,SNR=6.3						
TXAR	**Lajitas Array**	**81.38**	**57**	P	**P**	**13 24 35.9**	**+0.6**

*IDC **21** 13:13:38.9±0.7, 11°.38S×162°.24E, h0km, mb4.6/13, mb1 4.6/17, mb1mx4.6/20, mbtmp4.6/17, ML4.3/3, MS4.2/3, Ms1 4.2/3, ms1mx3.4/29, Error ellipse: s-maj=19.3km s-min=17.1km az=133.0*
*ISCJB **21** 13:13:42.5±1.3, 11°.32S±0°.05×162°.25E±0°.06, h38km±12km, mb4.6/32, MS4.3/7, Error ellipse: s-maj=9.7km s-min=7.5km az=150.8*
*NEIC **21** 13:13:44.2±1.4, 11°.24S×162°.23E, h40km±13km, mb4.7/13, Error ellipse: s-maj=11.2km s-min=10.1km az=193.0*
*BJI **21** 13:13:45.2, 11°.20S×162°.20E, h53km, mB5.0/15, mb4.6/17, Ms5.0/8, Ms7 4.7/11*

ISC 21 13:13:44.3±1.1, **11°.28S**±0°.05×**162°.24E**±0°.06, **h37**km±10km, **h52**km±2.7km; **pP-P, n94**, σ1°**28**/82, **mb4.6**/32, **MS4.3**/7, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.90**	**309**	Pn	**Pn**	**13 14 27.1**	**-0.9**
	52nm,0.3s,baz=158,slow=5.6,SNR=21						
HNR				Sn	**Sn**	**13 15 08.5**	**+6.8**
	144nm,0.3s,baz=338,slow=13,SNR=2.9						
HNR	**Honiara**	**2.90**	**309**	*e*P	**Pn**	**13 14 28.0**	**0.0**
HNR				Sn	**Sn**	**13 15 08.6**	**+6.8**
DZM	**Mont Dzumac**	**11.46**	**160**	*e*LR	LR	13 19 01.1	
	484nm,21.3s						
DZM	**Mont Dzumac**	**11.46**	**160**	Pn	**Pn**	**13 16 24.6**	**-0.9**
	0.6nm,0.3s,baz=103,slow=22,SNR=3.5						
DZM				Sn	**Sn**	**13 18 33.1**	**+0.7**
	0.5nm,0.3s,baz=277,slow=21,SNR=1.7						
DZM	**Mont Dzumac**	**11.46**	**160**	Pn	**Pn**	**13 16 24.6**	**-0.9**
DZM				Sn	**Sn**	**13 18 33.1**	**+0.7**
PMG	**Port Moresby**	**14.95**	**276**	Pn	**Pn**	**13 17 13.6**	**+0.5**
	0.1nm,0.3s,baz=72,slow=3.9,SNR=3.1						
PMG	**Port Moresby**	**14.95**	**276**	P	**Pn**	**13 17 12.3**	**-0.8**
	38nm,1.0s						
MSVF	**Nonsavu**	**16.60**	**115**	*e*P	**Pn**	**13 17 34.6**	**+0.2**
	15nm,1.1s						
EIDS	**Eidsvold**	**17.55**	**215**	*e*P	**Pn**	**13 17 47.1**	**+0.9**
CTA	**Charters Tower**	**17.69**	**238**	P	**Pn**	**13 17 47.5**	**-0.4**
	1.2nm,0.3s,baz=66,slow=11,SNR=17						
CTA	**Charters Tower**	**17.69**	**238**	*e*P	**Pn**	**13 17 49.8**	**+1.8**
CTA	**Charters Tower**	**17.69**	**238**	P	**Pn**	**13 17 47.5**	**-0.4**
CTAO	**Charters Tower**	**17.69**	**238**	*e*P	**Pn**	**13 17 49.9**	**+1.9**
	59nm,1.1s						
MTSU	**Mount Surprise**	**18.61**	**246**	*e*P	**Pn**	**13 18 00.9**	**+1.6**
	164nm,1.1s						
COEN	**Coen**	**18.79**	**260**	*e*P	**Pn**	**13 18 03.1**	**+1.7**
COEN	**Coen**	**18.79**	**260**	*e*P	**Pn**	**13 18 02.6**	**+1.2**
	298n

HHC				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.7					
HHC				pmax	pmax	
	comp=Z,98nm,6.9s					
HHC				LR	LR	
	comp=N,110nm,13.4s,MS4.5					
HHC				LR	LR	
	comp=E,170nm,13.3s,MS4.5					
HHC				LR	LR	
	comp=Z,130nm,16.5s,MS4.3					
CD2	**Chengdu**	**70.03**	**309**	*e*P	**P**	**13 24 53.4 +0.8**
CD2				pP	pP	13 25 07.9 +3.9
CD2				sP	sP	13 25 14.4 +6.2
CD2				pmax	pmax	
	comp=Z,10.0nm,0.6s,mb4.9					
CD2				pmax	pmax	
	comp=Z,30nm,5.2s					
LZH	**Lanzhou**	**72.39**	**314**	*e*P	**P**	**13 25 14.5 +7.7**
LZH				pP	pP	13 25 27.0 +8.8
LZH				sP	sP	13 25 31.9 +9.5
LZH				pmax	pmax	
	comp=Z,22nm,1.1s,mb5.0					
ULN	**Ulaanbaatar**	**76.50**	**325**	*e*P	**P**	**13 25 28.6 -1.8**
	comp=Z,11nm,1.0s,mb4.7					
GTA	**Gaotai**	**76.76**	**315**	*e*P	**P**	**13 25 33.8 +1.7**
GTA				pP	pP	13 25 48.5 +5.0
GTA				sP	sP	13 25 56.3 +8.5
GTA				pmax	pmax	
	comp=Z,5.0nm,1.3s,mb4.3					
SONM	**Songino Array**	**76.85**	**325**	P	**P**	**13 25 32.2 -0.1**
	comp=Z,6.5nm,0.8s,mb4.6,baz=134,slow=4.5,SNR=27					
SONM	**Songino Array**	**76.85**	**325**	P	**P**	**13 25 32.2 -0.1**
YAK	**Yakutsk**	**77.38**	**345**	*e*P	**P**	**13 25 34.3 -0.7**
	comp=Z,18nm,0.8s,mb5.1					
QSPA	**South Pole Qui**	**78.73**	**180**	P	**P**	**13 25 43.6 +1.2**
	comp=Z,9.0nm,0.9s,mb4.7					
MAW	**Mawson**	**83.21**	**202**	P	**P**	**13 26 08.9 +2.4**
	comp=Z,6.3nm,1.0s,mb4.6,baz=117,slow=8.3,SNR=6.4					
MAW	**Mawson**	**83.21**	**202**	P	**P**	**13 26 08.9 +2.4**
COLA	**College**	**84.61**	**19**	*e*P	**P**	**13 26 11.4 -2.0**
	comp=Z,7.6nm,0.9s,mb4.8					
DIB	**Dawson Inlet,**	**84.75**	**33**	T		14 59 25.2
ILAR	**Eielson Array**	**84.85**	**20**	P	**P**	**13 26 13.1 -1.6**
	comp=Z,1.1nm,0.7s,mb4.1,baz=245,slow=3.6,SNR=10					
ILAR	**Eielson Array**	**84.85**	**20**	P	**P**	**13 26 13.1 -1.6**
WMQ	**Urumqi**	**86.83**	**316**	*e*P	**P**	**13 26 24.3 -0.7**
WMQ				LR	LR	
	comp=N,620nm,27.2s,MS5.3					
WMQ				LR	LR	
	comp=E,2μm,28.4s,MS5.3					
WMQ				LR	LR	
	comp=Z,680nm,29.6s,MS4.9					
NVAR	**Mina Array Bea**	**88.82**	**51**	P	**P**	**13 26 34.5 -0.2**
	comp=Z,0.8nm,0.8s,mb4.1,baz=232,slow=8.4,SNR=6.5					
NVAR				LR	LR	13 56 53.4
	comp=Z,110nm,20.5s,MS4.3,baz=141,slow=29					
NVAR	**Mina Array Bea**	**88.82**	**51**	P	**P**	**13 26 34.5 -0.2**
MK31	**Makanchi Array**	**91.34**	**317**	*e*P	**P**	**13 26 45.6 -0.6**
MKAR	**Makanchi Array**	**91.34**	**317**	P	**P**	**13 26 44.0 -2.2**
	comp=Z,0.7nm,0.6s,mb4.2,baz=97,slow=5.5,SNR=9.9					
MKAR	**Makanchi Array**	**91.34**	**317**	P	**P**	**13 26 44.0 -2.2**
ZALV	**Zalesovo Beam**	**91.74**	**325**	P	**P**	**13 26 46.8 -1.1**
	comp=Z,0.3nm,0.3s,mb4.1,baz=133,slow=5.3,SNR=2.9					
ZALV	**Zalesovo Beam**	**91.74**	**325**	P	**P**	**13 26 46.8 -1.1**
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**13 27 08.9 -1.9**
	comp=Z,1.0nm,0.9s,mb4.3,baz=256,slow=4.5,SNR=14					
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**13 27 08.9 -1.9**
AKASG	**Malin Array Be**	**125.13**	**325**	PKP	PKPdf	13 32 39.8 -1.0
	comp=Z,0.2nm,0.3s,baz=61,slow=3.5,SNR=4.3					
AKASG	**Malin Array Be**	**125.13**	**325**	PKP	PKPdf	13 32 39.8 -1.0
CPUP	**Villa Florida**	**126.37**	**135**	PKP	PKPdf	13 32 44.0 0.0
	comp=Z,0.2nm,0.3s,baz=198,slow=3.2,SNR=3.3					
CPUP	**Villa Florida**	**126.37**	**135**	PKP	PKPdf	13 32 44.0 0.0
GERES	**GERESS Array B**	**134.31**	**331**	PKP	PKPdf	13 32 57.3 -1.0
	comp=Z,0.3nm,0.7s,baz=53,slow=3.9,SNR=3.3					
GERES	**GERESS Array B**	**134.31**	**331**	PKP	PKPdf	13 32 57.3 -1.0
KEST	**Kesra**	**145.42**	**319**	PKPbc	PKPbc	13 33 20.6 +1.8
	comp=Z,5.5nm,0.9s,baz=299,slow=5.6,SNR=7.2					
KEST	**Kesra**	**145.42**	**319**	PKPbc	PKPbc	13 33 20.6 +1.8
ESDC	**Sonseca Array**	**149.18**	**339**	PKPbc	PKPbc	13 33 30.6 +1.4
	comp=Z,0.2nm,0.5s,baz=15,slow=2.6,SNR=1.2					
ESDC	**Sonseca Array**	**149.18**	**339**	PKPbc	PKPbc	13 33 30.6 +1.4
TORD	**Torodi Ar. Bea**	**160.89**	**278**	PKP	PKPdf	13 33 40.1 -1.4
	comp=Z,1.0nm,1.1s,baz=336,slow=3.2,SNR=3.4					
TORD				PKPab	PKPab	13 34 23.7 -0.5
	comp=Z,1.2nm,1.1s,baz=58,slow=4.4,SNR=4.2					
TORD	**Torodi Ar. Bea**	**160.89**	**278**	PKP	PKPdf	13 33 40.1 -1.4
TORD				PKPab	PKPab	13 34 23.7 -0.5

DJA 21 13:15:36.2°00S×125°57E, h12km, MLv3.7/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.96**	**129**	P	Pn	13 16 10.0	+0.9
LBMI	**Labuha**	**2.36**	**55**	P	Pn	13 16 15.0	+0.5
LBMI				S	Sn	13 16 43.6	+0.2
LUWI	**Luwuk**	**2.96**	**289**	P	Pn	13 16 20.3	-2.5
GTOI	**Gorontalo**	**3.66**	**316**	P	Pn	13 16 34.8	+2.3
GTOI				S	Sn	13 17 18.6	+3.0
MRSI	**Marisa**	**4.38**	**304**	P	Pn	13 16 41.2	-1.2

*ISCJB **21** 13:17:28.0±0.4, 43°.79N±0°.03×17°.09E±0°.05, h10km, Error ellipse: s-maj=6.4km s-min=2.5km az=43.1*
*CSEM **21** 13:17:28.9±0.2, 43°.99N×17°.35E, h2km, ML2.9/7, Error ellipse: s-maj=7.9km s-min=3.3km az=37.0*
*PDG **21** 13:17:29.3±0.2, 43°.70N×17°.12E, h2km±1km, ML2.9/7, Error ellipse: s-maj=2.1km s-min=2.3km az=0.0*
*BEO **21** 13:17:30.0±1.2, 43°.92N×17°.28E, h22km±1km, ML2.7/3*
*VIE **21** 13:17:31.4±0.6, 44°.13N×17°.38E, h10km, mb2.6/5, ML2.5/5, Error ellipse: s-maj=7.8km s-min=4.3km az=65.0 89 km WNW of Sarajevo*

ISC 21 13:17:28.2±0.8, 43°.88N±0°.06×17°.23E±0°.05, h1km±8km, n42, σ1°.38/72, 14C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**1.06**	**161**	*i* Pg	**Pg**	**13 17 45.7**	**-2.8**
STON				Sg	**Sg**	13 18 02.1	-0.1
BRY	**Bratogost**	**1.36**	**135**	⇑*i*Pg	**Pg**	13 17 53.1	-1.2
BRY				*e*Sg	**Sg**	13 18 14.1	+2.2
UPM	**Unac-Piva**	**1.39**	**118**	⇓*i*Pg	**Pn**	13 17 53.6	-1.1
UPM				*e*Sg	**Sg**	13 18 17.0	+4.2
UPM	**Unac-Piva**	**1.39**	**118**	⇓*i*Pg	**Pn**	13 17 53.6	-1.1
BBLS	**Lazići**	**1.57**	**90**	*e*Pg	**Pn**	13 17 56.7	-0.4
BBLS				*e*Sg	**Sn**	13 18 19.3	+1.2
BBLS	**Lazići**	**1.57**	**90**	*e*Pg	**Pn**	13 17 56.7	-0.4
BBLS				*e*Sg	**Sn**	13 18 19.3	+1.2
HCY	**Herceg Novi**	**1.70**	**147**	⇑*i*Pn	**Pn**	13 17 59.1	+0.2
HCY				*e*Sn	**Sg**	13 18 24.1	+1.3
HCY	**Herceg Novi**	**1.70**	**147**	⇑*i*Pn	**Pn**	13 17 59.1	+0.2
HCY				*e*Sn	**Sg**	13 18 24.1	+1.3
NVLJ	**Novalja**	**1.83**	**293**	*i* Pn	**Pn**	13 18 01.7	+1.0
NVLJ				Sn	**Sg**	13 18 27.9	+0.9
NVLJ	**Novalja**	**1.83**	**293**	*i* Pn	**Pn**	13 18 01.7	+1.0
NVLJ				Sn	**Sg**	13 18 27.8	+0.8
BUM	**Brajici-Budva**	**1.99**	**142**	⇓*i*Pn	**Pb**	13 18 03.8	-1.3
BUM				*e*Sn	**Sg**	13 18 31.0	-1.1
BUM	**Brajici-Budva**	**1.99**	**142**	⇓*i*Pn	**Pb**	13 18 03.8	-1.3
BUM				*e*Sn	**Sg**	13 18 31.0	-1.1
DIVS	**Divibare**	**2.00**	**83**	*e*Pg	**Pn**	13 18 05.0	+1.9
DIVS				*e*Sg	**Sn**	13 18 32.6	+3.8
DIVS	**Divibare**	**2.00**	**83**	*e*Pg	**Pn**	13 18 05.0	+1.9
DIVS				*e*Sg	**Sn**	13 18 32.6	+3.8
PDG	**Podgorica**	**2.07**	**134**	⇑*i*Pn	**Pb**	13 18 05.4	-1.1
PDG				*e*Sn	**Sg**	13 18 33.6	-1.0
TTG	**Podgorica**	**2.07**	**134**	⇑*i*Pn	**Pb**	13 18 05.4	-1.1
TTG				*e*Sn	**Sg**	13 18 33.6	-1.1
RHK3	**Tenkes**	**2.14**	**19**	⇑*e*Pn	**Pn**	13 18 03.7	-1.2
BOJS	**Bojanci**	**2.15**	**320**	*e*Pn	**Pn**	13 18 05.0	-0.2
BOJS	**Bojanci**	**2.15**	**320**	Pn	**Pn**	13 18 04.9	-0.3
BEY	**Berane**	**2.19**	**116**	⇑*i*Pn	**Pn**	13 18 08.0	+2.4
IVA	**Berane**	**2.19**	**116**	⇑*i*Pn	**Pn**	13 18 08.0	+2.4
IVA				*e*Sn	**Sg**	13 18 37.3	-1.2
CRES	**Cresnjev**	**2.32**	**328**	*e*Pn	**Pn**	13 18 07.3	-0.1
CRES				*e*Sn	**Sn**	13 18 38.1	+1.5
CRES	**Cresnjev**	**2.32**	**328**	*e*Pn	**Pn**	13 18 07.3	-0.2
CRES				*e*Sn	**Sn**	13 18 38.1	+1.5
PVY	**Plav**	**2.37**	**122**	⇑*i*Pn	**Pn**	13 18 10.1	+2.0
PVY				*e*Sn	**Sg**	13 18 42.7	-1.6
PVY	**Plav**	**2.37**	**122**	⇑*i*Pn	**Pn**	13 18 10.1	+2.0
GBRS	**Gornja Briga**	**2.39**	**315**	*e*Pn	**Pn**	**13 18 10.2**	**+1.8**
GRUS	**Gruza**	**2.52**	**89**	*e*Pg	**Pb**	**13 18 16.0**	**+1.9**
GRUS				*e*Sg	**Sb**	13 18 48.8	+3.2
GRUS	**Gruza**	**2.52**	**89**	*e*Pg	**Pb**	**13 18 16.0**	**+1.9**
GRUS				*e*Sg	**Sb**	13 18 48.8	+3.2
SELS	**Selova**	**2.90**	**102**	*e*Pn	**Pn**	13 18 14.8	-0.6
SELS				*e*Sn	**Sn**	13 18 48.4	-2.5
SELS	**Selova**	**2.90**	**102**	*e*Pn	**Pn**	13 18 14.8	-0.6
SOKA	**Soboth**	**3.20**	**332**	⇑*i*Pn	**Pn**	13 18 19.4	-0.2
SOKA				⇓*i*Sn	**Sn**	13 18 56.1	-2.2
SOKA	**Soboth**	**3.20**	**332**	Pn	**Pn**	13 18 19.4	-0.2
SOKA				Sn	**Sn**	13 18 56.1	-2.2
OBKA	**Obir**	**3.24**	**325**	⇑*i*Pn	**Pn**	13 18 20.4	+0.3
OBKA				⇓*i*Sn	**Sn**	13 18 58.3	-1.1
OBKA	**Obir**	**3.24**	**325**	Pn	**Pn**	13 18 20.4	+0.3
OBKA				Sn	**Sn**	13 18 58.3	-1.1
BARS	**Barje**	**3.51**	**106**	*e*Pn	**Pn**	13 18 23.6	-0.2
BARS	**Barje**	**3.51**	**106**	*e*Pn	**Pn**	13 18 23.6	-0.2
ARSA	**Arzberg**	**3.58**	**341**	⇓*i*Pn	**Pn**	13 18 24.6	-0.2
ARSA				⇓*i*Sn	**Sn**	13 19 05.3	-2.3
ARSA	**Arzberg**	**3.58**	**341**	Pn	**Pn**	13 18 24.6	-0.2
ARSA				Sn	**Sn**	13 19 05.3	-2.3
MOA	**Molln**	**4.48**	**333**	⇑*i*Pn	**Pn**	13 18 37.7	+0.5
MOA				⇓*i*Sn	**Sn**	13 19 28.5	-1.4
MOA	**Molln**	**4.48**	**333**	Pn	**Pn**	13 18 37.7	+0.6
MOA				Sn	**Sn**	13 19 28.5	-1.3
WTTA	**Wattenberg**	**5.19**	**313**	⇑*i*Pn	**Pn**	13 18 48.4	+1.5
WTTA	**Wattenberg**	**5.19**	**313**	Pn	**Pn**	13 18 48.4	+1.6

*NOU **21** 13:20:37.1±1.2, 17°.40S×167°.35E, h30km, MD3.0, ML3.2*
*IDC **21** 13:20:40.2±14.0, 17°.92S×167°.15E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/16, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=242.9km s-min=38.5km az=69.0*

ISC 21 13:20:41.3±2.3, 17°.81S±0°.08×167°.6E±0°.3, h35km, n8, σ0°.66/12, mb4.1/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.38**	**189**	*e*P	**Pn**	**13 21 45.2**	**-0.1**
BAYA				*e*S	**Sn**	13 22 35.6	+0.6
DZM	**Mont Dzumac**	**4.38**	**194**	Pn	**Pn**	**13 21 45.2**	**-0.2**
	11nm,0.3s,baz=19,slow=18,SNR=307						
DZM				Sn	**Sn**	13 22 34.5	-0.6
	20nm,0.3s,baz=142,slow=20,SNR=16						
NOUC	**Port Laguerre**	**4.44**	**196**	*e*P	**Pn**	**13 21 45.7**	**-0.5**
NOUC				*e*S	**Sn**	13 22 35.8	-0.9
NOUC				AMP		13 22 40.8	
	comp=Z,90nm,0.0s						
LASL	**Noumea**	**4.51**	**193**	*e*P	**Pn**	**13 21 47.7**	**+0.5**
NORM	**Noumea**	**4.52**	**193**	*e*P	**Pn**	**13 21 46.7**	**-0.6**
NORM				*e*S	**Sn**	13 22 39.9	+1.2
STKA	**Stephens Creek**	**27.35**	**234**	P	**P**	**13 26 24.4**	**+1.1**
	comp=Z,1.2nm,0.4s,mb3.8,baz=94,slow=6.5,SNR=5.7						
WRA	**Warramunga Arr**	**31.52**	**261**	P	**P**	**13 26 60.0**	**-0.4**
	comp=Z,1.3nm,0.4s,mb4.1,baz=80,slow=6.0,SNR=27						
ASAR	**Alice Springs**	**32.00**	**254**	P	**P**	**13 27 04.4**	**-0.1**
	comp=Z,3.3nm,0.5s,mb4.4,baz=80,slow=8.8,SNR=109						

*BJI **21** 13:21:41.4, 16°.54S×179°.11E, h10km, mB5.3/17, mb4.8/19, Ms5.3/9, Ms7 5.0/10*
*IDC **21** 13:21:45.9±0.6, 16°.08S×178°.18E, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.5/19, mbtmp4.4/14, ML1.8/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/30, Error ellipse: s-maj=27.3km s-min=16.2km az=143.0*
*NEIC **21** 13:21:47.0±0.2, 16°.26S×178°.18E, h10km, mb5.1/39, Error ellipse: s-maj=9.2km s-min=5.4km az=135.0*
*ISCJB **21** 13:21:49.2±0.3, 16°.31S±0°.07×178°.17E±0°.07, h33km, mb4.9/56, MS4.4/7, Error ellipse: s-maj=11.8km s-min=7.6km az=41.7*

ISC 21 13:21:51.0±0.3, 16°.34S±0°.07×178°.22E±0°.07, h35km, n140, σ0°.85/86, mb4.9/56, MS4.4/7, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.40**	**186**	*e*Pn	**Pn**	**13 22 12.0**	**-2.0**
MSVF	**Nonsavu**	**1.40**	**186**	Pn	**Pn**	**13 22 12.1**	**-1.9**
	5μm,0.5s						
AFI	**Afiamalu**	**9.96**	**77**	Pn	**Pn**	**13 24 10.0**	**-1.6**
	0.5nm,0.3s,baz=281,slow=18,SNR=3.2						
AFI	**Afiamalu**	**9.96**	**77**	Pn	**Pn**	**13 24 10.0**	**-1.6**
DZM	**Mont Dzumac**	**12.49**	**241**	LR	LR	13 28 20.7	
	comp=Z,63nm,21.4s,baz=72,slow=31						
HNR	**Honiara**	**19.07**	**289**	LR	LR	13 32 44.9	
	comp=Z,601nm,18.2s,baz=275,slow=35						
URZ	**Urewera**	**21.86**	**182**	P	**P**	**13 26 44.9**	**+4.3**
	20nm,1.0s,mb4.5,baz=164,slow=5.1,SNR=3.6						
URZ	**Urewera**	**21.86**	**182**	P	**P**	**13 26 44.9**	**+4.3**
CTA	**Charters Tower**	**30.56**	**258**	LR	LR	13 37 58.9	
	comp=Z,255nm,18.5s,MS3.9,baz=57,slow=32						
STKA	**Stephens Creek**	**36.63**	**238**	P	**P**	**13 28 56.4**	**+2.3**
	8.2nm,0.9s,mb4.5,baz=65,slow=9.4,SNR=7.7						
STKA				LR	LR	13 42 58.5	
	comp=Z,215nm,18.9s,MS4.0,baz=302,slow=35						
STKA	**Stephens Creek**	**36.63**	**238**	*e*P	**P**	**13 28 56.4**	**+2.2**
	3.0nm,1.0s,mb4.1						
MCQ	**Macquarie Isla**	**40.91**	**197**	P	**P**	**13 29 29.6**	**0.0**
WRAB	**Tennant Creek**	**41.76**	**258**	*e*P	**P**	**13 29 41.0**	**+3.9**
WRA	**Warramunga Arr**	**41.77**	**258**	P	**P**	**13 29 36.5**	**-0.7**
	4.7nm,0.9s,mb4.1,baz=90,slow=8.5,SNR=5.7						
WRA				LR	LR	13 43 29.0	
	comp=Z,228nm,20.5s,MS4.0,baz=95,slow=31						
WRA	**Warramunga Arr**	**41.77**	**258**	P	**P**	**13 29 36.5**	**-0.7**
AS31	**Alice Springs**	**42.14**	**253**	*e*P	**P**	**13 29 39.4**	**-0.9**
ASAR	**Alice Springs**	**42.14**	**253**	P	**P**	**13 29 40.0**	**-0.2**
	8.3nm,1.1s,mb4.3,baz=82,slow=8.9,SNR=26						
ASAR	**Alice Springs**	**42.14**	**253**	P	**P**	**13 29 40.0**	**-0.2**
GUMO	**Guam**	**44.39**	**310**	LR	LR	13 45 09.8	
	comp=Z,142nm,18.4s,MS3.9,baz=67,slow=32						
VNDA	**Vanda**	**61.76**	**184**	*e*P	**P**	**13 32 09.8**	**+4.3**
	18nm,1.7s,mb4.9						
SBA	**Scott Base**	**61.80**	**183**	*e*P	**P**	**13 32 06.7**	**+0.9**
	26nm,1.3s,mb5.2						
MJAR	**Matsushiro Arr**	**64.75**	**325**	P	**P**	**13 32 24.8**	**-1.1**
	5.6nm,1.1s,mb4.5,baz=159,slow=6.3,SNR=4.8						
MJAR	**Matsushiro Arr**	**64.75**	**325**	P	**P**	**13 32 24.8**	**-1.1**
QSPA	**South Pole Qui**	**73.71**	**180**	*e*P	**P**	**13 33 21.4**	**+0.6**
	24nm,1.2s,mb5.0						
MDJ	**Mudanjiang**	**75.07**	**326**	P	**P**	**13 33 29.8**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,7.0nm,2.3s,mb4.2						
MDJ				pmax	pmax		
	comp=Z,160nm,5.0s						
CN2	**Changchun**	**76.83**	**324**	*e*P	**P**	**13 33 39.0**	**-0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s,MS5.0						
CN2				LR	LR		
	comp=E,300nm,12.0s,MS5.0						
CN2				LR	LR		
	comp=Z,400nm,13.0s,MS4.9						
SAO	**San Andreas Ge**	**77.58**	**46**	*e*P	**P**	**13 33 44.0**	**+0.4**
	comp=Z,16nm,1.0s,mb4.9						
WDC	**Whiskeytown Da**	**78.88**	**42**	*e*P	**P**	**13 33 50.9**	**+0.2**
	comp=Z,52nm,1.8s,mb5.2						
CMB	**Columbia Colle**	**78.96**	**45**	*e*P	**P**	**13 33 51.4**	**+0.2**
	comp=Z,15nm,1.3s,mb4.8						
ISA	**Isabella**	**79.11**	**48**	*e*P	**P**	**13 33 52.3**	**+0.3**
	comp=Z,16nm,1.3s,mb4.8						
MTUM	**Tungsten Hills**	**79.87**	**46**	*e*P	**P**	**13 33 56.5**	**+0.4**
RSO	**Redoubt South**	**80.03**	**14**	*e*P	**P**	**13 33 55.8**	**-0.6**
WCN	**Washoe City**	**80.03**	**44**	*e*P	**P**	**13 33 57.1**	**+0.1**
	comp=Z,118nm,3.0s						
GSC	**Goldstone**	**80.13**	**49**	*e*P	**P**	**13 33 57.6**	**0.0**
NVAR	**Mina Array Bea**	**80.58**	**45**	P	**P**	**13 34 00.1**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.8,baz=229,slow=8.7,SNR=26						
NVAR	**Mina Array Bea**	**80.58**	**45**	P	**P**	**13 34 00.1**	**+0.2**
MOD	**Modoc**	**81.01**	**42**	*e*P	**P**	**13 34 02.4**	**+0.2**
	comp=Z,38nm,1.7s,mb5.0						
GYA	**Guiyang**	**81.46**	**301**	*e*P	**P**	**13 34 05.0**	**+0.1**
GYA				PP	PP	13 37 14.3	+2.7
GYA				S	S	13 44 15.6	+1.4
GYA				SKS		13 44 21.8	
GYA				SS	SS	13 49 35.0	+3.4
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,550nm,19.0s,MS5.0						
GYA				LR	LR		
	comp=E,430nm,20.5s,MS5.0						
GYA				LR	LR		
	comp=Z,540nm,18.2s,MS4.9						
TRF	**Thorofare Moun**	**83.21**	**14**	*e*P	**P**	**13 34 12.6**	**-0.6**
	comp=Z,181nm,2.6s,mb5.6						
TUC	**Tucson**	**83.34**	**54**	*e*P	**P**	**13 34 15.6**	**+1.0**
	comp=Z,16nm,1.4s,mb4.9						
CCUT	**Cedar City**	**83.63**	**48**	*e*P	**P**	**13 34 16.0**	**+0.1**
	comp=Z,10nm,1.2s,mb4.8						
ARUT	**Antelope Range**	**83.67**	**48**	*e*P	**P**	**13 34 16.8**	**+0.6**
	comp=Z,10nm,1.2s,mb4.8						
ELK	**Elko**	**83.76**	**45**	*e*P	**P**	**13 34 17.2**	**+0.6**
	comp=Z,13nm,1.4s,mb4.9						
MCK	**McKinley**	**83.77**	**14**	*e*P	**P**	**13 34 15.3**	**-0.7**
	comp=Z,18nm,1.2s,mb5.1						
HAWA	**Hanford**	**83.82**	**38**	*e*P	**P**	**13 34 16.7**	**0.0**
	comp=Z,97nm,2.2s,mb5.5						
HHC	**Hu-ho-hao-te**	**83.88**	**316**	*e*P	**P**	**13 34 16.9**	**-0.3**
HHC				PP	PP	13 37 32.9	+1.7
HHC				S	S	13 44 39.0	+0.7
HHC				SS	SS	13 50 10.4	+3.3
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
HHC				pmax	pmax		
	comp=Z,110nm,6.2s						
HHC				LR	LR		
	comp=N,400nm,13.5s,MS5.1						
HHC				LR	LR		
	comp=E,280nm,12.8s,MS5.1						
HHC				LR	LR		
	comp=Z,500nm,12.8s,MS5.1						
WUAZ	**Wupatki**	**84.21**	**51**	*e*P	**P**	**13 34 19.5**	**+0.6**
	comp=Z,10nm,1.0s,mb4.9						
MAW	**Mawson**	**84.22**	**200**	P	**P**	**13 34 18.4**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.4,baz=100,slow=12,SNR=3.4						
MAW	**Mawson**	**84.22**	**200**	P	**P**	**13 34 18.4**	**-0.1**
	comp=Z,19nm,2.4s,mb4.8						
KMI	**Kunming**	**84.25**	**298**	P	**P**	**13 34 20.5**	**+1.1**
KMI				pP	pP	13 34 26.6	-3.9
KMI				sP	sP	13 34 29.9	-4.6
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
MSU	**Marysvale**	**84.89**	**48**	*e*P	**P**	**13 34 23.0**	**+0.7**
COLA	**College**	**84.99**	**14**	*e*P	**P**	**13 34 20.0**	**-2.2**
	comp=Z,18nm,1.1s,mb5.1						
ILAR	**Eielson Array**	**85.13**	**14**	P	**P**	**13 34 21.3**	**-1.6**
	comp=Z,10nm,0.9s,mb4.9,baz=234,slow=6.0,SNR=72						
ILAR	**Eielson Array**	**85.13**	**14**	P	**P**	**13 34 21.3**	**-1.6**
DUG	**Dugway**	**85.17**	**46**	*e*P	**P**	**13 34 23.6**	**0.0**
	comp=Z,8.5nm,1.3s,mb4.7						
CMAR	**Chiang Mai Arr**	**85.31**	**291**	P	**P**	**13 34 25.9**	**+1.0**
	comp=Z,1.9nm,0.9s,mb4.2,baz=109,slow=3.5,SNR=13						
CMAR	**Chiang Mai Arr**	**85.31**	**291**	P	**P**	**13 34 25.9**	**+1.0**
CD2	**Chengdu**	**85.51**	**304**	*e*P	**P**	**13 34 25.3**	**-0.3**
CD2				sP	sP	13 34 33.0	-7.7
CD2				PP	PP	13 37 44.9	+0.2
CD2				SKS		13 44 46.4	
CD2				S	S	13 44 54.3	-0.7
CD2				SS	SS	13 50 32.3	+0.8
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.9						
CD2				pmax	pmax		
	comp=Z,40nm,5.8s						
HVU	**Hansel Valley**	**85.89**	**44**	*e*P	**P**	**13 34 27.4**	**+0.1**
	comp=Z,26nm,1.5s,mb5.2						
TMUT	**Trail Mountain**	**85.90**	**47**	*e*P	**P**	**13 34 28.0**	**+0.6**
	comp=Z,71nm,2.2s,mb5.5						
JLU	**Jordanelle**	**86.28**	**46**	*e*P	**P**	**13 34 29.5**	**+0.3**
	comp=Z,8.2nm,1.2s,mb4.8						
SRU	**San Rafael**	**86.31**	**48**	*e*P	**P**	**13 34 29.3**	**-0.1**
	comp=Z,22nm,1.7s,mb5.1						
COLD	**Coldfoot**	**86.51**	**12**	*e*P	**P**	**13 34 27.6**	**-2.1**
	comp=Z,30nm,2.1s,mb5.2						
EGAK	**Eagle**	**86

HINF	Hinteralfeld	147.81	349	*e*PKP1	PKPbc	13 41 31.1	-1.1
	comp=Z,14nm,1.2s						
HINF	Hinteralfeld	147.81	349	*e*P	PKPbc	13 41 31.1	-1.1
LOR	Lormes	148.80	353	*e*PKP1	PKPbc	13 41 34.2	-0.6
	comp=Z,13nm,1.2s						
LOR	Lormes	148.80	353	*e*P	PKPbc	13 41 34.2	-0.6
SSF	Saint Saulge	149.05	353	*e*PKP1	PKPbc	13 41 34.9	-0.5
	comp=Z,40nm,1.4s						
SSF	Saint Saulge	149.05	353	*e*P	PKPbc	13 41 34.9	-0.5
CABF	La Chapelle	149.11	349	*e*PKP1	PKPbc	13 41 35.3	-0.3
	comp=Z,96nm,1.8s						
CABF	La Chapelle	149.11	349	*e*P	PKPbc	13 41 35.3	-0.3
BGF	Bois d'Agland	149.62	354	*e*PKP1	PKPbc	13 41 36.1	-0.7
BGF	Bois d'Agland	149.62	354	*e*P	PKPbc	13 41 36.1	-0.7
TCF	Toulx Ste Croi	149.95	354	*e*PKP1	PKPbc	13 41 37.1	-0.6
	comp=Z,46nm,1.4s						
TCF	Toulx Ste Croi	149.95	354	*e*P	PKPbc	13 41 37.1	-0.6
CAF	Calviac	151.31	354	*e*PKP1	PKPbc	13 41 40.4	-0.5
	comp=Z,36nm,1.4s						
CAF	Calviac	151.31	354	*e*P	PKPbc	13 41 40.4	-0.5
LFF	La Frestale	151.41	356	*e*PKP1	PKPbc	13 41 40.4	-0.7
	comp=Z,124nm,1.8s						
LFF	La Frestale	151.41	356	*e*P	PKPbc	13 41 40.4	-0.7
ESDC	Sonseca Array	156.67	4	PKPab	PKPab	13 42 11.4	-0.4
	comp=Z,1.1nm,0.8s,baz=355,slow=4.7,SNR=6.0						
ESDC	Sonseca Array	156.67	4	PKPab	PKPab	13 42 11.4	-0.4
TORD	Torodi Ar. Bea	175.38	227	PKP	PKPdf	13 41 57.3	-0.9
	comp=Z,1.9nm,1.1s,baz=348,slow=2.9,SNR=4.2						
TORD				PKPab	PKPab	13 43 34.9	+0.1
	comp=Z,1.3nm,1.0s,baz=152,slow=5.8,SNR=4.0						
TORD	Torodi Ar. Bea	175.38	227	PKP	PKPdf	13 41 57.3	-0.9
TORD				PKPab	PKPab	13 43 34.9	+0.1

ATH ***21*** *13:46:09.7, 36.°60N×25.°64E, h10km±1km, MD3.0/6*
CSEM ***21*** *13:46:10.8±0.3, 36.°65N×25.°62E, h20km, ML2.1/1, Error ellipse: s-maj=9.9km s-min=5.0km az=99.0*
ISCJB ***21*** *13:46:11.7±0.5, 36.°65N±0.°03×25.°53E±0.°10, h22km±7km, Error ellipse: s-maj=13.4km s-min=4.7km az=14.2*
THE ***21*** *13:46:11.7, 36.°70N×25.°63E, h7km±16km, ML2.1/1, Error ellipse: s-maj=16.2km s-min=0.5km az=275.0*
ISC 21 13:46:11.6±0.5, 36.°66N±0.°03×25.°58E±0.°08, h19km±5km, n25, σ0.°86/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	Thira island,	0.24	208	P	Pg	13 46 17.9	+0.7
THR2	Thira island,	0.24	208	P	Pg	13 46 17.9	+0.7
THR1	Thera Island	0.30	198	P	Pg	13 46 18.4	+0.2
THR1	Thera Island	0.30	198	P	Pg	13 46 18.4	+0.2
THR5	Thira Island,	0.31	217	P	Pg	13 46 18.6	+0.4
THR5	Thira Island,	0.31	217	P	Pg	13 46 18.6	+0.4
THR6	Thira Island,	0.34	206	P	Pg	13 46 19.4	+0.6
THR6	Thira Island,	0.34	206	P	Pg	13 46 19.4	+0.6
APE	Apeiranthos	0.41	355	*e*PB	Pg	13 46 19.2	-0.9
APE				*e*SB	Sg	13 46 25.6	-0.1
APE	Apeiranthos	0.41	355	P	Pg	13 46 19.3	-0.8
APE				S	Sg	13 46 25.2	-0.5
APE	Apeiranthos	0.41	355	P	Pg	13 46 19.3	-0.8
APE				S	Sg	13 46 25.2	-0.5
NPS	Neapolis	1.40	179	*e*PG	Pn	13 46 34.7	-1.4
NPS				*e*SB	Sn	13 46 52.2	-1.8
NPS	Neapolis	1.40	179	*e*Pb	Pn	13 46 34.7	-1.4
NPS				*e*Sb	Sn	13 46 52.0	-2.0
SMG	Samos	1.45	44	*e*PB	Pn	13 46 37.1	+0.3
SMG				*e*SB	Sg	13 46 57.4	-1.1
SMG	Samos	1.45	44	*e*Pg	Pn	13 46 37.1	+0.3
SMG				*e*Sb	Sg	13 46 58.4	-0.1
IDI	Anoyia	1.48	202	*e*PG	Pn	13 46 36.7	-0.5
IDI				*e*SB	Sn	13 46 56.9	+0.9
IDI	Anoyia	1.48	202	*e*Pb	Pn	13 46 36.7	-0.5
IDI				*e*Sb	Sn	13 46 56.9	+0.9
LAST	Lasithi	1.50	183	*e*PB	Pn	13 46 36.8	-0.7
LAST				*e*SB	Sn	13 46 56.5	0.0
LAST	Lasithi	1.50	183	*e*Pb	Pn	13 46 36.8	-0.7
LAST				*e*Sb	Sn	13 46 56.5	0.0
ZKR	Zakros	1.63	161	*e*PG	Pn	13 46 38.6	-0.7
ZKR				*e*SB	Sn	13 47 00.4	+0.7
ZKR	Zakros	1.63	161	*e*Pn	Pn	13 46 38.6	-0.7
ZKR				*e*Sb	Sn	13 47 00.4	+0.7
KARP	Karpathos	1.70	130	*e*PG	Pn	13 46 39.8	-0.4
KARP				*e*SB	Sn	13 47 02.5	+1.1
KARP	Karpathos	1.70	130	*e*Pn	Pn	13 46 39.8	-0.4
KARP				*e*Sb	Sn	13 47 02.9	+1.5
CHOS	Chios island	1.76	12	*e*PN	Pn	13 46 42.9	+1.8
CHOS	Chios island	1.76	12	*e*Pb	Pb	13 46 43.9	+0.6

SZGRF ***21*** *13:47:14.8, 1.°31S×97.°22E, h33km, mb5.7, MS4.8, Southwest of Sumatera, Indonesia*
MOS ***21*** *13:47:48.7±0.8, 4.°92N×95.°12E, h36km, mb5.8/123, MS4.8/46, Error ellipse: s-maj=7.4km s-min=3.8km az=118.8*
BJI ***21*** *13:47:48.5, 4.°60N×94.°86E, h63km, mB5.5/35, mb5.6/62, Ms5.1/54, MS7 5.0/51*
ISCJB ***21*** *13:47:50.5±0.1, 4.°83N±0.°02×95.°07E±0.°02, h54km, mb5.5/291, MS5.0/178, Error ellipse: s-maj=3.4km s-min=2.0km az=35.9*
NEIC ***21*** *13:47:52.4±0.7, 4.°83N×95.°04E, h56km±6km, mb5.6/137, MS5.1/118, MW5.3, Error ellipse: s-maj=5.0km s-min=2.9km az=221.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^17^Nm; Mrr0.00; Mrθ0.00; Mrφ0.00; Mθθ0.00; Mθφ0.00; Mφφ0.00; Best double couple: M0=1.10000×10^17^ NP1:φs16.00000°, δ34.00000°, λ149.00000°. NP2:φs132.00000°, δ73.00000°, λ60.00000°. Principal axes: T 1.1300, Plg52.0000°, Azm6.0000°; N -0.0500, Plg28.0000°, Azm141.0000°; P -1.0800, Plg22.0000°, Azm244.0000°;*
NEIC Felt [III] at Banda Aceh.
IDC ***21*** *13:47:52.1±1.5, 4.°86N×95.°10E, h52km±12km, mb5.2/36, mb1 5.2/37, mb1mx5.2/38, mbtmp5.1/37, ML5.0/1, MS4.6/35, Ms1 4.6/35, ms1mx4.5/45 Error ellipse: s-maj=11.6km s-min=8.0km az=47.0*
DJA ***21*** *13:47:53.8±0.4, 5.°N±3.°×9.°5E±.°, h47km±3km, M5.3/2, mB5.7/45, mb5.6/62, MLv5.6/11, Mw(mB)5.2/45*
GCMT ***21*** *13:47:53.7±0.1, 4.°55N×94.°95E, h51km, MW5.4, Moment Tensor Solution. s88,c158; s12,c12; Moment tensor: Scale 10^17^Nm; Mrr1.18±.03; Mθθ-0.71±.02; Mφφ-0.47±.02; Mrθ0.73±.02; Mθφ0.69±.02; Mφr-0.59±.02; Best double couple: M0=1.60000×10^17^ NP1:φs311.00000°, δ26.00000°, λ92.00000°. NP2:φs129.00000°, δ64.00000°, λ89.00000°. Principal axes: T 1.5000, Plg71.0000°, Azm37.0000°; N 0.1100, Plg1.0000°, Azm130.0000°; P -1.6000, Plg19.0000°, Azm220.0000°; Data Used: II IU IC G. Surface waves: sta= 83, comp=170, per= 50.*
TEH ***21*** *13:47:54.0, 4.°85N×95.°09E, h68km*
ISC 21 13:47:52.5±0.1, 4.°84N±0.°02×95.°07E±0.°02, h56km, h56km±1.2km; pP-P, n1030, σ0.°88/876, mb5.5/289, MS5.0/178, 158C-39D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	0.70	19	P	Pn	13 48 06.9	+0.4
BSI				S	Sn	13 48 17.6	+0.9
LHMI	Lhok Sumawe	1.92	78	P	Pn	13 48 24.1	+1.4
TPTI		2.63	126	P	Pn	13 48 30.8	-1.7
TPTI				S	Sn	13 49 02.6	-0.6
TSI	Tuntungan	3.73	111	P	Pn	13 48 47.5	-0.1
PSI	Prapat	4.35	118	P	Pn	13 48 57.1	+1.0
KULM	Kulim	5.58	85	P	Pn	13 49 13.9	+0.9
KULM	Kulim	5.58	85	*e*P	Pn	13 49 13.5	+0.6
	593nm,0.6s						
KULM				*e*S	Sn	13 50 15.6	-0.2
KULM	Kulim	5.58	85	P	Pn	13 49 13.3	+0.3
	3.5nm881nm,0.7s						
IPM	Ipoh	5.95	93	P	Pn	13 49 18.5	+0.4
IPM	Ipoh	5.95	93	*e*P	Pn	13 49 17.9	-0.2
	675nm,0.7s						
IPM	Ipoh	5.95	93	P	Pn	13 49 17.6	-0.4
	3.6nm929nm,0.7s						
MNSI	Mandailing Nat	6.04	132	P	Pn	13 49 18.3	-0.9
	3.9nm656nm,0.4s						
MNSI				S	Sn	13 50 27.7	+0.7
	3.9nm656nm,0.4s						
BKNI	Bangkinang	7.46	127	P	Pn	13 49 38.1	-0.6
	2.8nm5μm598nm,0.7s						
PPI	Padang Panjang	7.48	134	P	Pn	13 49 38.4	-0.7
	0.9nm3μm253nm,0.8s						
KGM	Kluang	8.70	108	P	Pn	13 49 55.8	0.0
NNT	Nongplab	8.98	31	P	Pn	13 50 03.0	+3.5
MYKOM	Kota Tinggi	9.28	109	P	Pn	13 50 03.9	+0.3
MYKOM	Kota Tinggi	9.28	109	P	Pn	13 50 03.3	-0.3
	1μm118nm,0.7s						
KRJI	Kerinci	9.39	137	P	Pn	13 50 06.1	+0.9
	828nm,0.8s						
KSI	Kapahiang	11.30	138	P	Pn	13 50 31.1	-0.2
	4μm468nm,0.8s						
NST	Nakhon Sawan	11.87	24	P	Pn	13 50 41.0	+2.0
	278nm,0.5s						
BDT	Bhumibol Dam	12.92	17	P	Pn	13 50 57.5	+4.1
	24nm,0.6s						
LWLI	Liwa	13.28	137	P	Pn	13 50 56.0	-2.4
	5μm370nm,0.8s						
CM31	Chiang Mai Arr	14.06	15	*e*Pn	Pn	13 51 10.7	+1.8
	118nm,0.4s						
CMAR	Chiang Mai Arr	14.06	15	P	Pn	13 51 09.7	+0.9
	2.4nm,0.3s,baz=203,slow=11,SNR=75						
CMAR				PcP	PcP	13 56 26.7	+1.0
	0.6nm,0.3s,baz=241,slow=2.0,SNR=5.6						
CMAR				LR	LR	13 56 36.2	
	comp=Z,4μm,20.9s,baz=209,slow=37						
CMAR				ScP	ScP	13 59 56.4	+1.6
	0.3nm,0.3s,baz=217,slow=3.1,SNR=17						
CMAR				PKiKP	PKiKP	14 04 21.4	-0.7
	0.1nm,0.3s,baz=252,slow=2.3,SNR=6.2						
CMAR	Chiang Mai Arr	14.06	15	P	Pn	13 51 09.7	+0.9
CMAR				PcP	PcP	13 56 26.7	+1.0
CMAR				ScP	ScP	13 59 56.4	+1.6
CMAR				PKiKP	PKiKP	14 04 21.4	-0.7
CMAR	Chiang Mai Arr	14.06	15	P	Pn	13 51 09.7	+0.9
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
UBT	Ubonrachathani	14.24	43	P	Pn	13 51 18.5	+7.3
	comp=Z,278nm,0.5s						
CHG	Chiang Mai	14.40	15	⇓P	Pn	13 51 15.1	+1.8
	comp=Z,160nm,0.6s						
CHTO	Chiang Mai	14.40	15	*e*P	Pn	13 51 14.5	+1.2
	comp=Z,116nm,0.6s						
CHTO	Chiang Mai	14.40	15	*e*P	Pn	13 51 14.5	+1.2
CHTO				pmax	pmax		
	comp=Z,116nm,0.6s						
CHTO	Chiang Mai	14.40	15	P	Pn	13 51 15.0	+1.7
	comp=Z,2μmcomp=Z,215nm,0.6s						
CHTO	Chiang Mai	14.40	15	P	Pn	13 51 15.7	+2.4
	SNR=20						
RBSI	Rajabasa	15.04	135	P	Pn	13 51 30.2	+8.5
CGJI	Cibinong	15.55	137	P	Pn	13 51 22.8	-5.5
	comp=Z,1μmcomp=Z,107nm,0.7s						
KSM	Kuching	15.58	102	*e*Pn	Pn	13 51 28.8	+0.1
	comp=Z,161nm,0.6s						
KSM	Kuching	15.58	102	P	Pn	13 51 33.1	+4.4
	comp=Z,2μmcomp=Z,274nm,0.7s						
CHRT	Chiangrai	15.63	17	⇑P	Pn	13 51 29.5	+0.2
	comp=Z,355nm,0.6s						
DBJI	Dramaga	16.25	134	P	Pn	13 51 35.5	-1.7
	comp=Z,2μmcomp=Z,128nm,0.8s						
STKI	Sintang	17.06	106	P	Pn	13 51 47.6	+0.2
	comp=Z,7μmcomp=Z,188nm,0.7s						
SBUM	Sibu	17.28	97	P	Pn	13 51 52.1	+2.0
	comp=Z,744nmcomp=Z,61nm,0.8s						
CISI	Cisompet, Garu	17.70	134	P	Pn	13 51 52.0	-3.2
	comp=Z,1μmcomp=Z,104nm,0.6s						
BWNR	Bhubaneshwar	17.81	330	*ex*	Pn	13 51 52.0	-4.5
BWNR				*ex*	x	13 54 58.0	
PBKI	Pangkalan Bun	18.20	114	P	Pn	13 52 00.4	-0.9
	comp=Z,199nm,0.9s						
TRD	Trivandrum	18.35	282	⇑*ex*	x	13 52 33.7	
TRD				*ex*	x	13 55 31.7	
XMIS	Christmas Isla	18.51	145	P	Pn	13 52 04.9	-0.1
	comp=Z,127nm,1.7s						
CAL	Calcutta	18.77	340	*e*PKP	Pn	13 52 06.9	-1.2
CAL				AMb	AMB	13 52 07.5	
	comp=Z,1μm,0.3s						
CAL				*ex*	x	13 55 04.2	
BJII	Banjamegara	18.96	129	P	Pn	13 52 08.2	-2.3
	comp=Z,49nm,0.8s						
IMP	Imphal	19.86	357	*e*PKP	Pn	13 52 19.0	-2.1
QIZ	Qiongzhong	20.17	44	P	P	13 52 24.8	+2.3
QIZ				sP	sP	13 52 41.6	-0.4
QIZ				S	S	13 56 09.3	+3.3
QIZ				LR	LR		
	comp=N,2μm,19.4s,MS4.6						
QIZ				LR	LR		
	comp=E,2μm,17.4s,MS4.6						
QIZ				LR	LR		
	comp=Z,4μm,19.6s,MS4.7						
QIZ	Qiongzhong	20.17	44	*e*P	P	13 52 23.3	+0.8
	comp=Z,39nm,0.6s						
QIZ				LR	LR		
	comp=Z,4μm,20.0s,MS4.8						
HYB	Hyderabad	20.44	309	*i* P	P	13 52 25.0	-0.3
	comp=Z,120nm,1.0s						
HYB				*e*S	S	13 56 14.0	+2.7
SJI	Sawahan	20.82	127	P	P	13 52 31.1	+1.6
	comp=Z,1μmcomp=Z,78nm,0.7s						
SHL	Shillong	20.84	352	*e*PKP	P	13 52 29.1	-0.5
SHL				AMb	AMB	13 52 43.7	
	comp=Z,160nm,0.3s						
SHL				*ex*	x	13 56 14.0	
PWJI	Pagerwojo	21.02	127	P	P	13 52 33.7	+2.0
	comp=Z,55nm,0.9s,mb4.9						
KKM	Kota Kinabalu	21.09	86	*e*P	P	13 52 33.3	+0.9
	comp=Z,76nm,0.6s,mb5.2						
KKM				LR	LR		
	comp=Z,3μm,19.0s,MS4.6						
KKM	Kota Kinabalu	21.09	86	P	P	13 52 34.0	+1.6
	comp=Z,1μmcomp=Z,118nm,0.6s,mb5.4						
BBKI	Banjar Baru	21.41	112	P	P	13 52 37.3	+1.5
	comp=Z,8μmcomp=Z,478nm,0.8s,mb5.9						
KMI	Kunming	21.48	19	P	P	13 52 38.3	+1.9
KMI				pP		13 52 48.9	
KMI				S	S	13 56 30.5	-1.0
KMI				sS	sS	13 56 48.4	-3.8
KMI				SS		13 57 08.3	
KMI				pmax	pmax		
	comp=Z,71nm,0.5s,mb5.2						
KMI				pmax	pmax		
	comp=Z,550nm,6.0s						
KMI				LR	LR		
	comp=N,4μm,15.4s,MS5.0						
KMI				LR	LR		
	comp=E,1μm,14.9s,MS5.0						
KMI				LR	LR		
	comp=Z,4μm,15.6s,MS5.0						
MNGI	Mangalore	21.55	293	*ex*	P	13 52 31.2	-6.1
MNGI				*ex*	x	13 52 32.6	
	comp=Z,8.4nm,0.2s						
MNGI				*ex*	x	13 57 09.9	
KMMI	Kalianget	22.25	122	P	P	13 52 45.9	+1.0
	comp=Z,3μmcomp=Z,264nm,0.7s,mb5.8						
BLJI	Banyuglugur	22.31	124	P	P	13 52 47.1	+1.6
	comp=Z,2μmcomp=Z,164nm,0.8s,mb5.5						
NGP	Nagpur	22.47	318	*e*PKP	P	13 52 46.8	-0.3
NGP				*e*S	S	13 56 50.8	+0.5
GMJI	Gumukmas	22.48	125	P	P	13 52 48.9	+1.6
	comp=Z,1μmcomp=Z,39nm,0.7s,mb4.9						
LATR	Latur	22.56	308	*e*PKP	P	13 52 49.4	+1.3
LATR				*ex*	x	13 56 59.0	
SMKI	Samarinda	22.73	103	P	P	13 52 54.9	+4.9
ODAN	Odare	23.10	342	*e*P	P	13 52 50.4	-3.2
	comp=Z,197nm,0.6s,mb5.8						
ODAN	Odare	23.10	342	*e*P	P	13 52 50.4	-3.2
	comp=Z,197nm,0.6s,mb5.7						
JAGI	Jajag, Banyuwa	23.17	125	P	P	13 52 53.5	-1.1
	comp=Z,1μmcomp=Z,92nm,0.8s,mb5.3						
MYLDM	Lahad Datu	23.35	88	P	P	13 52 56.7	+0.5
	comp=Z,1μmcomp=Z,127nm,0.9s,mb5.3						
GOA	Goa	23.41	298	⇓*e*PKP	P	13 52 56.8	+0.1
GOA				*ex*	x	13 57 08.9	
RAMN	Ramite	23.43	341	*e*P	P	13 52 55.0	-1.8
	comp=Z,212nm,0.5s,mb5.8						
RAMN	Ramite	23.43	341	*e*P	P	13 52 55.0	-1.8
	comp=Z,212nm,0.5s,mb5.8						
TAPN	Taplejung	23.46	343	*e*P	P	13 52 53.9	-3.2
	comp=Z,118nm,0.5s,mb5.6						
TAPN	Taplejung	23.46	343	*e*P	P	13 52 53.9	-3.2
	comp=Z,118nm,0.5s,mb5.6						
NBBI	Negara	23.50	124	P	P	13 53 02.9	+5.3
AKL	Akola	23.59	314	*i* P	P	13 53 00.1	+1.8
AKL				*i* S	S	13 57 11.7	+3.1
KAD	Karad	23.91	303	*e*PKP	P	13 53 03.2	+1.9
KAD				*e*S	S	13 57 16.0	+2.1
ALBI	Allahabad	24.00	329	*ex*	P	13 53 00.0	-2.1
GYA	Guiyang	24.19	26	P	P	13 53 03.9	+0.1
GYA				pP		13 53 18.3	
GYA				sP	sP	13 53 25.6	+1.1
GYA				PP		13 53 40.8	
GYA				PcP	PcP	13 56 44.6	+1.2
GYA				S	S	13 57 17.5	-0.8
GYA				sS	sS	13 57 39.5	-2.5
GYA				SS		13 58 11.4	
GYA				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.1						
GYA				pmax	pmax		
	comp=Z,480nm,6.9s						
GYA				LR	LR		
	comp=N,2μm,20.7s						
GYA				LR	LR		
	comp=E,1μm,13.3s						
GYA				LR	LR		
	comp=Z,4μm,21.0s,MS4.8						
JIRN	Jiri	24.22	341	*e*P	P	13 53 02.4	-1.6
	comp=Z,260nm,0.6s,mb5.8						
JIRN	Jiri	24.22	341	*e*P	P	13 53 02.4	-1.6
	comp=Z,260nm,0.6s,mb5.8						
PKI	Pulchoki	24.41	339	*e*P	P	13 53 04.6	-1.1
	comp=Z,62nm,0.6s,mb5.2						
PKI	Pulchoki	24.41	339	*e*P	P	13 53 04.6	-1.1
	comp=Z,62nm,0.6s,mb5.2						
PKI	Pulchoki	24.41	339	*e*P	P	13 53 04.6	-1.1
PKI				pmax	pmax		
	comp=Z,62nm,0.6s,mb5.2						
DMN	Daman	24.55	338	*e*P	P	13 53 06.6	-0.5
	comp=Z,103nm,0.5s,mb5.6						
DMN	Daman	24.55	338	*e*P	P	13 53 06.6	-0.5
	comp=Z,103nm,0.5s,mb5.6						
GUN	Gumba	24.56	340	*e*P	P	13 53 05.7	-1.4
	comp=Z,322nm,0.6s,mb6.1						
GUN	Gumba	24.56	340	*e*P	P	13 53 05.7	-1.4
	comp=Z,322nm,0.6s,mb6.0						
KKN	Kakani	24.66	339	*e*P	P	13 53 07.2	-0.8
	comp=Z,92nm,0.4s,mb5.6						
KKN	Kakani	24.66	339	*e*P	P	13 53 07.2	-0.8
	comp=Z,92nm,0.4s,mb5.7						
KKN	Kakani	24.66	339	*e*P	P	13 53 07.2	-0.8
KKN				pmax	pmax		
	comp=Z,92nm,0.4s,mb5.7						
POO	Poona	24.79	305	*e*PKP	P	13 53 10.4	+1.0
POO				AMb	AMB	13 53 17.5	
	comp=Z,69nm,0.5s,mb5.4						
MTNI	Mataram	24.94	122	P	P	13 53 10.2	-0.5
	comp=Z,169nm,0.7s,mb5.7						
BHPL	Bhopal	25.00	319	*e*PKP	P	13 53 12.4	+1.3
BHPL				AMb	AMB	13 53 14.2	
	comp=Z,59nm,0.6s,mb5.3						
LSA	Lhasa	25.01	352	*e*P	P	13 53 11.0	-0.2
	comp=Z,100nm,0.5s,mb5.6						
LSA				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
LSA	Lhasa	25.01	352	*e*P	P	13 53 11.0	-0.1
LSA				pmax	pmax		
	comp=Z,100nm,0.5s,mb5.6						
LSA				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.5						
GKN	Gorkha	25.09	338	*e*P	P	13 53 11.4	-0.5
	comp=Z,163nm,0.5s,mb5.8						
GKN	Gorkha	25.09	338	*e*P	P	13 53 11.4	-0.5
	comp=Z,163nm,0.5s,mb5.8						
KOLN	Koldanda	25.29	336	*e*P	P	13 53 14.3	+0.6
	comp=Z,526nm,0.6s,mb6.3						
KOLN	Koldanda	25.29	336	*e*P	P	13 53 14.3	+0.6
	comp=Z,526nm,0.6s,mb6.2						
MJSI	Majene	25.30	109	P	P	13 53 14.7	+0.6
	comp=Z,3μmcomp=Z,398nm,0.8s,mb6.0						
DGAR	Diego Garcia	25.64	242	PFAKE		13 53 30.0	+13
DGAR				LR	LR		
	comp=Z,3μm,21.0s,MS4.8						
DANN	Dangsing	25.73	337	*e*P	P	13 53 17.9	+0.1
	comp=Z,553nm,0.5s,mb6.3						
DANN	Dangsing	25.73	337	*e*P	P	13 53 17.9	+0.1
	comp=Z,553nm,0.5s,mb6.3						
PYUN	Piuthan	25.83	335	*e*P	P	13 53 19.1	+0.5
	comp=Z,563nm,0.6s,mb6.2						
PYUN	Piuthan	25.83	335	*e*P	P	13 53 19.1	+0.5
	comp=Z,563nm,0.6s,mb6.3						
TTSI	Tana Toraja	25.94	107	P	P	13 53 21.7	+1.9
	comp=Z,2μmcomp=Z,102nm,0.9s,mb5.3						
SPSI	Sidrap Palu	26.18	109	P	P	13 53 21.7	-0.3
	comp=Z,834nmcomp=Z,66nm,0.7s,mb5.3						
KAPI	Kappang	26.53	111	P	P	13 53 24.0	-1.1
	comp=Z,33nm,0.4s,mb5.2,baz=304,slow=6.7,SNR=30						
KAPI				PcP	PcP	13 56 49.3	+0.4
	comp=Z,5.4nm,0.3s,baz=114,slow=9.2,SNR=3.3						
KAPI				LR	LR	14 04 40.0	
	comp=Z,2μm,20.8s,MS4.7,baz=75,slow=38						
KAPI	Kappang	26.53	111	*e*P	P	13 53 23.5	-1.7
	comp=Z,88nm,0.8s,mb5.3						
KAPI				PcP	PcP	13 56 49.3	+0.4
KAPI	Kappang	26.53	111	P	P	13 53 23.9	-1.2
	comp=Z,968nmcomp=Z,65nm,0.6s,mb5.4						
KAPI	Kappang	26.53	111	P	P	13 53 24.4	-0.7
	SNR=11						
BNSI	Bone	26.64	110	P	P	13 53 27.4	+1.2
	comp=Z,1μmcomp=Z,118nm,0.8s,mb5.5						
BKSI	Bulukumba	26.98	112	P	P	13 53 29.6	+0.4
	comp=Z,2μmcomp=Z,269nm,0.6s,mb5.9						
TGY	Tagaytay City	27.10	68	P	P	13 53 31.4	+1.2
	comp=Z,188nm,0.5s,mb5.9,baz=177,slow=7.7,SNR=8.5						
TGY				LR	LR	14 03 46.1	
	comp=Z,6.8nm,20.3s,baz=100,slow=35						
TGY	Tagaytay City	27.10	68	P	P	13 53 31.4	+1.1
TGY	Tagaytay City	27.10	68	P	P	13 53 31.4	+1.1
MRSI	Marisa	27.19	98	P	P	13 53 31.2	+0.1
	comp=Z,925nmcomp=Z,101nm,0.6s,mb5.5						
CD2	Chengdu	27.20	17	⇑*i* P	P	13 53 30.5	-0.4
CD2				pP	pP	13 53 47.9	+2.9
CD2				sP	sP	13 53 57.1	+5.4
CD2				PP		13 54 20.3	
CD2				PcP	PcP

comp=Z,47nm,0.6s,mb5.5
YULB Yu-li 31.32 51 *e*P **P 13 54 09.5 +1.9**
comp=Z,39nm,0.6s,mb5.4
WHN Wuhan 31.37 33 P **P 13 54 09.5 +1.5**
WHN pP pP 13 54 21.8 -0.4
WHN S **S 13 59 16.1 +4.6**
WHN pmax pmax
comp=Z,74nm,1.1s,mb5.4
WHN LR LR
comp=N,5μm,16.0s,MS5.4
WHN LR LR
comp=E,4μm,13.4s,MS5.4
WHN LR LR
comp=Z,7μm,14.7s,MS5.5
SDNR Sundarnagar 31.50 329 *e*PKP **P 13 54 10.0 +0.9**
XAN Xi'an 31.78 22 P **P 13 54 11.0 -0.6**
XAN pP pP 13 54 26.4 +0.7
XAN PP PP 13 55 16.1 -8.2
XAN PcP PcP 13 57 01.8 0.0
XAN S **S 13 59 15.0 -2.8**
XAN ScS ScS 14 04 35.6 -3.2
XAN pmax pmax
comp=Z,140nm,0.6s,mb6.0
XAN pmax pmax
comp=Z,78nm,6.8s
XAN LR LR
comp=N,2μm,15.6s,MS4.9
XAN LR LR
comp=E,820nm,15.8s,MS4.9
XAN LR LR
comp=Z,1μm,15.4s,MS4.7
NACB Ninganchiao 31.96 50 *e*P **P 13 54 15.6 +2.3**
comp=Z,40nm,0.8s,mb5.3
YHNB Yeheng 32.07 49 *e*P **P 13 54 16.2 +2.1**
comp=Z,88nm,1.2s,mb5.5
YHNB LR LR
comp=Z,2μm,22.0s,MS4.8
LZH Lanzhou 32.13 13 *e*P **P 13 54 13.9 -0.7**
LZH pP pP 13 54 30.5 +1.7
LZH sP sP 13 54 35.4 0.0
LZH PcP PcP 13 57 04.0 +1.3
LZH *e*S **S 13 59 18.4 -4.8**
LZH pmax pmax
comp=Z,77nm,1.0s,mb5.5
LZH LR LR
comp=N,1μm,13.3s
LZH LR LR
comp=E,380nm,6.1s
LZH LR LR
comp=Z,2μm,16.1s,MS5.0
TNTI Ternate 32.51 96 P **P 13 54 19.7 +1.5**
comp=Z,84nm,0.9s,mb5.7
LBMI Labuha 32.85 99 P **P 13 54 21.8 +0.6**
comp=Z,1μmcomp=Z,68nm,1.0s,mb5.5
THN Thein Dam 32.88 329 *e*PKP **P 13 54 20.0 -1.2**
THN *ex* x 13 54 34.3
NLAI Namlea 32.99 103 P **P 13 54 23.9 +1.4**
comp=Z,5μmcomp=Z,215nm,0.7s,mb6.2
AAI Ambon 34.16 104 P **P 13 54 32.2 -0.4**
comp=Z,2μmcomp=Z,194nm,0.7s,mb6.2
GTA Gaotai 34.69 6 P **P 13 54 36.3 -0.5**
GTA pP pP 13 54 51.0 -0.1
GTA sP sP 13 54 58.6 +0.9
GTA PcP PcP 13 57 11.1 +1.3
GTA S **S 14 00 01.0 -1.7**
GTA sS sS 14 00 25.8 -1.1
GTA SS SS 14 02 15.9 -19
GTA ScS ScS 14 04 52.5 -1.2
GTA pmax pmax
comp=Z,53nm,0.6s,mb5.7
GTA pmax pmax
comp=Z,400nm,4.7s
GTA LR LR
comp=N,920nm,19.5s,MS4.6
GTA LR LR
comp=E,650nm,18.0s,MS4.6
GTA LR LR
comp=Z,1μm,19.5s,MS4.6
MSAI Masohi 34.79 103 P **P 13 54 37.7 -0.4**
comp=Z,38nm,0.7s,mb5.4
NJ2 Nanjing 35.06 37 *e*P **P 13 54 41.0 +0.8**
NJ2 pP pP 13 54 55.3 +0.9
NJ2 sP sP 13 55 03.8 +2.7
NJ2 PP PP 13 55 58.5 -2.1
NJ2 S **S 14 00 08.5 -0.2**
NJ2 pmax pmax
comp=Z,50nm,0.7s,mb5.5
NJ2 pmax pmax
comp=Z,620nm,4.9s
NJ2 LR LR
comp=N,180nm,21.0s,MS4.1
NJ2 LR LR
comp=E,280nm,19.0s,MS4.1
NJ2 LR LR
comp=Z,650nm,14.3s,MS4.5
MBWA Marble Bar 35.39 138 *e*P **P 13 54 41.6 -1.5**
MBWA *ep*P pP 13 54 56.1 -1.3
MBWA Marble Bar 35.39 138 *e*P **P 13 54 41.4 -1.7**
comp=Z,24nm,0.7s,mb5.2
MBWA LR LR
comp=Z,1μm,22.0s,MS4.5
SSE Sheshan 35.85 40 *e*P **P 13 54 46.6 -0.3**
SSE sP sP 13 55 11.8 +3.9
SSE PP PP 13 56 09.5 +0.2
SSE S **S 14 00 20.9 +0.1**
SSE sS sS 14 00 49.1 +4.0
SSE pmax pmax
comp=Z,26nm,0.7s,mb5.3
SSE pmax pmax
comp=Z,190nm,4.7s
SSE LR LR
comp=N,520nm,16.3s,MS4.8
SSE LR LR
comp=E,1μm,16.3s,MS4.8
SSE LR LR
comp=Z,2μm,19.8s,MS4.8
FITZ Fitzroy Crossi 37.80 128 *e*P **P 13 55 02.2 -1.4**
FITZ *ep*P pP 13 55 19.3 +1.3
FITZ Fitzroy Crossi 37.80 128 *e*P **P 13 55 02.1 -1.5**
comp=Z,43nm,0.7s,mb5.3
FAKI Fak Fak 37.94 101 P **P 13 55 04.1 -0.8**
comp=Z,1μmcomp=Z,165nm,0.7s,mb5.9
BTO Baotou 38.07 19 *e*P **P 13 55 04.6 -1.0**
KBL Kabul 38.14 324 *e*P **P 13 55 05.3 -1.0**
comp=Z,14nm,0.6s,mb4.9
KBL Kabul 38.14 324 *e*P **P 13 55 05.3 -1.0**
KBL pmax pmax
comp=Z,15nm,0.6s,mb4.9
JOW Kunigami 38.50 52 P **P 13 55 10.4 +0.9**
comp=Z,86nm,0.6s,mb5.6,baz=240,slow=8.5,SNR=37
JOW PcP PcP 13 57 22.5 +0.9
JOW LR LR 14 11 08.2
comp=Z,1μm,21.4s,MS4.8,baz=297,slow=36
JOW Kunigami 38.50 52 *e*P **P 13 55 10.3 +0.8**
comp=Z,32nm,0.6s,mb5.2
JOW PcP PcP 13 57 22.5 +0.9
KSH Kashi 38.60 336 P **P 13 55 08.8 -1.3**
KSH pP pP 13 55 20.6 -4.0
KSH sP sP 13 55 26.5 -4.7
KSH PP PP 13 56 40.6 +1.2
KSH PcP PcP 13 57 22.3 +0.7
KSH S **S 14 00 58.4 -4.0**
KSH PcS PcS 14 01 10.8 -0.1
KSH pmax pmax
comp=Z,150nm,0.6s,mb5.9
KSH LR LR
comp=N,190nm,6.5s
KSH LR LR
comp=E,220nm,5.7s
KSH LR LR
comp=Z,600nm,16.7s,MS4.5
HHC Hu-ho-hao-te 38.80 20 *e*P **P 13 55 12.8 +1.1**
HHC pmax pmax
comp=Z,76nm,1.1s,mb5.3
HHC pmax pmax
comp=Z,310nm,6.8s
TLE Tual 39.03 105 P **P 13 55 13.3 -0.8**
comp=Z,966nm,0.8s,mb6.6
WMQ Urumqi 39.37 352 P **P 13 55 16.5 +0.1**
WMQ PP PP 13 56 51.3 +3.6
WMQ S **S 14 01 17.4 +3.6**
WMQ pmax pmax
comp=Z,78nm,0.6s,mb5.6
WMQ pmax pmax
comp=Z,460nm,4.6s
WMQ LR LR
comp=N,620nm,28.6s,MS4.7
WMQ LR LR
comp=E,2μm,29.2s,MS4.7
WMQ LR LR
comp=Z,680nm,28.6s,MS4.3
BJT Baijiatuau 39.86 26 *e*P **P 13 55 21.7 +1.1**
comp=Z,332nm,0.6s,mb6.2
BJT LR LR
comp=Z,1μm,22.0s,MS4.7
BJT Baijiatuau 39.86 26 *e*P **P 13 55 21.7 +1.1**
BJT pmax pmax
comp=Z,332nm,0.6s
BJT MLR MLR
comp=Z,1μm,22.0s
BJI Beijing 39.88 26 P **P 13 55 22.0 +1.2**
BJI S **S 14 01 16.8 -4.9**
BJI pmax pmax
comp=Z,430nm,0.7s,mb6.3
BJI pmax pmax
comp=Z,660nm,4.4s
BJI LR LR
comp=N,2μm,19.9s,MS4.9
BJI LR LR
comp=E,460nm,19.9s,MS4.9
BJI LR LR
comp=Z,2μm,25.2s
MSEY Mahe Island 40.65 257 PFAKE 13 55 40.0 +12
MSEY LR LR
comp=Z,3μm,19.0s,MS5.1
ULHL Ulahol 40.85 339 P **P 13 55 29.9 +1.1**
SNR=46
ULHL P 13 55 29.9
SNR=46
KZA Kyzart 41.08 337 P **P 13 55 32.1 +1.5**
SNR=54
KZA P 13 55 32.1
SNR=54
BAKI Biak 41.44 97 P **P 13 55 33.2 -0.8**
comp=Z,147nm,0.9s,mb5.6
UCH Uchtor 41.49 337 P **P 13 55 35.7 +1.7**
SNR=22
UCH P 13 55 35.7
SNR=22
TKM2 Tokmak 2 41.67 338 P **P 13 55 36.5 +1.0**
SNR=106
TKM2 P 13 55 36.5
SNR=106
TKM2 Tokmak 2 41.67 338 *e*P **P 13 55 36.4 +1.0**
comp=Z,101nm,0.6s,mb5.6
TKM2 LR LR
comp=Z,606nm,21.0s,MS4.5
TKM2 Tokmak 2 41.67 338 P **P 13 55 36.4 +0.9**
TKM2 pmax pmax
comp=Z,83nm,0.6s,mb5.5
KBK Karagaybulak 41.69 338 P **P 13 55 36.9 +1.3**
SNR=361
KBK P 13 55 36.9
SNR=361
AML Almayashu 41.73 336 P **P 13 55 37.6 +1.6**
SNR=507
AML P 13 55 37.6
SNR=507
AAK Ala-Archa 41.84 337 P **P 13 55 38.3 +1.4**
SNR=96
AAK P 13 55 38.3
SNR=96
AAK Ala-Archa 41.84 337 *e*P **P 13 55 38.0 +1.2**
comp=Z,339nm,0.6s,mb6.2
AAK LR LR
comp=Z,1μm,19.0s,MS4.7
AAK Ala-Archa 41.84 337 *c i*P **P 13 55 38.1 +1.2**
AAK pmax pmax
comp=Z,829nm,2.5s,mb5.9
AAK MLR MLR
comp=Z,2μm,16.0s,MS5.1
AAK Ala-Archa 41.84 337 P **P 13 55 38.0 +1.1**
comp=Z,853nm,0.7s,mb6.5,SNR=86
AAK Ala-Archa 41.84 337 P **P 13 55 38.5 +1.6**
SNR=53
FRU Bishkek 41.97 337 *i* P **P 13 55 39.0 +1.1**
FRU *i* pP 13 55 52.0 -0.5
FRU *e* 14 01 56.0
FRU pmax pmax
comp=Z,480nm,2.0s,mb5.8
CHMS Chumysh 42.05 338 P **P 13 55 39.5 +0.9**
SNR=33
CHMS P 13 55 39.5
SNR=33
EKS2 Erkin-Say 42.15 336 P **P 13 55 40.9 +1.5**
SNR=44
EKS2 P 13 55 40.9
SNR=44
EKS2 Erkin-Say 42.15 336 *e*P **P 13 55 40.5 +1.2**
comp=Z,91nm,0.5s,mb5.7
EKS2 LR LR
comp=Z,673nm,21.0s,MS4.5
EKS2 Erkin-Say 42.15 336 *e*P **P 13 55 40.5 +1.1**
EKS2 pmax pmax
comp=Z,91nm,0.5s,mb5.7
EKS2 MLR MLR
comp=Z,673nm,21.0s,MS4.5
KLBR Kellerberrin 42.19 151 *e*P **P 13 55 39.6 -0.3**
comp=Z,8.8nm,0.7s,mb4.5
KLBR *ep*P pP 13 55 54.3 -0.1
USP Ospenovka 42.38 338 P **P 13 55 42.0 +0.7**
SNR=253
USP P 13 55 42.0
SNR=253
NWAO Narrogin (SRO) 43.04 152 *e*P **P 13 55 46.5 -0.3**
comp=Z,32nm,0.9s,mb5.0
NWAO LR LR
comp=Z,731nm,19.0s,MS4.6
NWAO Narrogin (SRO) 43.04 152 *e*P **P 13 55 46.5 -0.3**
NWAO pmax pmax
comp=Z,32nm,0.9s
NWAO MLR MLR
comp=Z,731nm,19.0s
MK31 Makanchi Array 43.23 347 *e*P **P 13 55 47.9 -0.3**
MK31 Makanchi Array 43.23 347 *i* P **P 13 55 47.9 -0.2**
MK31 pmax pmax
comp=Z,73nm,0.4s,mb5.8
MKAR Makanchi Array 43.23 347 P **P 13 55 47.9 -0.2**
comp=Z,97nm,0.4s,mb5.9,baz=165,slow=8.0,SNR=850
MKAR PcP PcP 13 57 37.6 +1.1
comp=Z,7.1nm,0.6s,baz=184,slow=3.4,SNR=2.8
MKAR PKiKP PKiKP 14 04 38.4 -1.1
comp=Z,0.3nm,0.5s,baz=206,slow=2.3,SNR=3.7
MKAR LR LR 14 17 09.5
comp=Z,348nm,19.6s,MS4.3,baz=160,slow=41
MKAR Makanchi Array 43.23 347 P **P 13 55 47.9 -0.2**
MKAR PcP PcP 13 57 37.6 +1.1
MKAR PKiKP PKiKP 14 04 38.4 -1.1
MKAR Makanchi Array 43.23 347 P **P 13 55 47.9 -0.2**
MKAR 13 57 37.6
MKAR pmax pmax
comp=Z,97nm,0.4s
MKAR MLR MLR
comp=Z,348nm,19.6s
INCN Inchon 43.44 37 *e*P **P 13 55 48.5 -1.4**
comp=Z,51nm,0.6s,mb5.4
INCN LR LR
comp=Z,2μm,20.0s,MS5.0
JNU Nakatsue 43.64 45 *e*P **P 13 55 51.8 +0.2**
comp=Z,19nm,0.6s,mb5.0
KK31 Karatay Array 43.88 334 *e*P **P 13 55 53.8 +0.5**
KK31 pmax pmax
comp=Z,90nm,0.8s,mb5.5
KKAR Karatay Array 43.88 334 *e*P **P 13 55 53.3 -0.1**
comp=Z,46nm,0.6s,mb5.4
KKAR Karatay Array 43.88 334 *e*P **P 13 55 53.3 0.0**
KKAR pmax pmax
comp=Z,46nm,0.6s,mb5.4
SONM Songino Array 43.93 11 P **P 13 55 53.1 -0.6**
comp=Z,22nm,0.6s,mb5.1,baz=190,slow=9.0,SNR=174
SONM PcP PcP 13 57 39.3 +0.5
comp=Z,22nm,0.6s,baz=192,slow=3.3,SNR=21
SONM ScP ScP 14 01 27.7 +1.7
comp=Z,1.5nm,0.8s,baz=166,slow=6.7,SNR=4.2
SONM LR LR 14 16 45.8
comp=Z,1μm,18.2s,MS4.8,baz=196,slow=40
SONM Songino Array 43.93 11 P **P 13 55 53.1 -0.6**
SONM PcP PcP 13 57 39.3 +0.5
SONM ScP ScP 14 01 27.7 +1.7
SONM Songino Array 43.93 11 P **P 13 55 53.1 -0.6**
SONM 13 57 39.3
SONM pmax pmax
comp=Z,22nm,0.6s
SONM MLR MLR
comp=Z,1μm,18.2s
ULN Ulaanbaatar 44.09 12 *e*P **P 13 55 53.7 -1.3**
comp=Z,17nm,0.6s,mb5.0
ULN Ulaanbaatar 44.09 12 *e*P **P 13 55 53.7 -1.3**
ULN pmax pmax
comp=Z,17nm,0.6s,mb5.0
ULN Ulaanbaatar 44.09 12 P **P 13 55 54.1 -0.9**
comp=Z,28nm,0.7s,mb5.1
ULN Ulaanbaatar 44.09 12 P **P 13 55 54.5 -0.5**
SNR=6.6
SMPI Sarmi 44.13 98 P **P 13 55 55.5 -0.4**
comp=Z,1μmcomp=Z,104nm,0.7s,mb5.7
KMBL Kambalda 44.16 146 *e*P **P 13 55 55.7 -0.1**
KSAR Wonju Array Be 44.17 38 P **P 13 55 55.5 -0.3**
KSAR PcP PcP 13 57 39.8 -0.1
KSAR Wonju Array Be 44.17 38 P **P 13 55 55.5 -0.3**
KSAR 13 57 39.8
KSRS Korea Array 44.20 38 P **P 13 55 55.5 -0.6**
comp=Z,44nm,0.6s,mb5.3,baz=220,slow=8.5,SNR=121
KSRS PcP PcP 13 57 39.8 -0.2
comp=Z,5.2nm,0.6s,baz=220,slow=3.8,SNR=5.2
KSRS LR LR 14 18 08.7
comp=Z,628nm,18.1s,MS4.6,baz=211,slow=41
KSRS Korea Array 44.20 38 P **P 13 55 55.5 -0.6**
KSRS 13 57 39.8
KSRS pmax pmax
comp=Z,44nm,0.6s,mb5.4
KSRS MLR MLR
comp=Z,628nm,18.1s,MS4.6
SNY Shenyang 44.76 30 ⇑P **P 13 56 00.5 +0.1**
SNY S **S 14 02 35.1 +1.7**
SNY pmax pmax
comp=Z,96nm,0.6s,mb5.8
SNY pmax pmax
comp=Z,450nm,5.5s
SNY LR LR
comp=N,2μm,17.6s,MS5.1
SNY LR LR
comp=E,1μm,20.1s,MS5.1
SNY LR LR
comp=Z,2μm,18.1s,MS5.0
IMYA Miami 44.87 319 *e*P **P 13 56 01.5 +0.1**
IBAF Bafgh 45.59 311 *e*P **P 13 56 07.4 +0.2**
IPAY Payeh 45.66 318 *e*P **P 13 56 07.6 0.0**
WRA Warramunga Arr 45.79 124 P **P 13 56 08.6 -0.3**
comp=Z,103nm,0.5s,mb6.0,baz=301,slow=9.2,SNR=496
WRA ScP ScP 14 01 34.7 +0.4
comp=Z,2.3nm,0.8s,baz=315,slow=3.6,SNR=4.9
WRA LR LR 14 16 09.5
comp=Z,784nm,21.7s,MS4.6,baz=295,slow=37
WRA Warramunga Arr 45.79 124 P **P 13 56 08.6 -0.3**
WRA ScP ScP 14 01 34.7 +0.4
WRA Warramunga Arr 45.79 124 P **P 13 56 08.6 -0.3**
WRA pmax pmax
comp=Z,103nm,0.5s
WRA MLR MLR
comp=Z,784nm,21.7s
WRAB Tennant Creek 45.79 124 *e*P **P 13 56 08.8 -0.1**
comp=Z,126nm,0.6s,mb6.0
WRAB LR LR
comp=Z,954nm,22.0s,MS4.7
WRAB Tennant Creek 45.79 124 *e*P **P 13 56 08.8 -0.1**
WRAB pmax pmax
comp=Z,126nm,0.6s,mb6.0
WRAB MLR MLR
comp=Z,954nm,22.0s,MS4.7
WRAB Tennant Creek 45.79 124 P **P 13 56 08.6 -0.3**
comp=Z,4μmcomp=Z,394nm,0.9s,mb6.3
WRAB Tennant Creek 45.79 124 P **P 13 56 08.7 -0.2**
comp=Z,1μm,0.6s
WB2 Warramunga Arr 45.80 124 *e*P **P 13 56 08.7 -0.2**
ZAK Zakamensk 45.91 7⇑*i*P **P 13 56 08.7 -0.7**
ZAK *e* 13 57 47.6
ZAK *e* 13 58 01.0
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
IKRD Kardeh 46.16 318 *e*P **P 13 56 07.5 -4.1**
JAY Jayapura 46.18 98 P **P 13 56 13.3 +1.2**
comp=Z,4μmcomp=Z,33nm,0.7s,mb5.4
RER Riviere de l'E 46.41 235 PFAKE 13 56 30.0 +16
RER LR LR
comp=Z,2μm,21.0s,MS5.0
ICHK Chekchek 46.76 311 *e*P **P 13 56 16.7 +0.3**
MOY Mondy 46.94 5 *e*P **P 13 56 16.9 -0.5**
ABKT Ailbek 47.08 320 P **P 13 56 19.7 +0.9**
comp=Z,676nm,0.5s,mb6.8,SNR=48
CN2 Changchun 47.14 30 *e*P **P 13 56 18.8 -0.4**
CN2 *ep*P pP 13 56 31.4 -2.5
CN2 *es*P sP 13 56 36.6 -3.9
CN2 PcP PcP 13 57 49.6 -0.5
CN2 *e*S **S 14 03 08.0 +0.4**
CN2 pmax pmax
comp=Z,40nm,0.6s,mb5.5
CN2 LR LR
comp=N,1μm,16.0s,MS5.1
CN2 LR LR
comp=E,1μm,16.0s,MS5.1
CN2 LR LR
comp=Z,2μm,18.0s,MS5.0
TLY Talaya 47.23 7 PFAKE 13 56 30.0 +10
TLY LR LR
comp=Z,1μm,22.0s,MS4.8
TLY Talaya 47.23 7 *e*P **P 13 56 19.8 +0.1**
TLY *e*SSS 14 07 35.5
TLY pmax pmax
comp=Z,20nm,0.7s,mb5.2
TLY MLR MLR
comp=Z,808nm,18.0s,MS4.7
TLY Talaya 47.23 7 P **P 13 56 20.8 +1.1**
comp=Z,209nm,0.8s,mb6.1,SNR=6.0
AS31 Alice Springs 47.29 129 *e*P **P 13 56 20.1 -0.6**
ASAR Alice Springs 47.29 129 P **P 13 56 20.2 -0.4**
comp=Z,29nm,0.5s,mb5.5,baz=300,slow=7.8,SNR=474
ASAR PcP PcP 13 57 51.5 +0.4
comp=Z,12nm,0.7s,baz=309,slow=3.4,SNR=4.5
ASAR ScP ScP 14 01 40.9 +0.4
comp=Z,2.1nm,0.8s,baz=302,slow=4.2,SNR=4.6
ASAR S **S 14 03 10.0 -0.3**
comp=Z,2.3nm,0.9s,baz=300,slow=14,SNR=6.6
ASAR PKiKP PKiKP 14 04 43.2 -0.9
comp=Z,0.6nm,0.6s,baz=338,slow=0.8,SNR=4.6
ASAR Alice Springs 47.29 129 P **P 13 56 20.2 -0.4**
ASAR PcP PcP 13 57 51.5 +0.4
ASAR ScP ScP 14 01 40.9 +0.4
ASAR S **S 14 03 10.0 -0.3**
ASAR PKiKP PKiKP 14 04 43.2 -0.9
ASAR Alice Springs 47.29 129 P **P 13 56 20.3 -0.3**
ASAR 13 57 51.5
ASAR S **S 14 03 10.0 -0.3**
ASAR pmax pmax
comp=Z,29nm,0.5s
ASAR smax
comp=N,2.0nm,0.9s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
FORT Forrest 47.41 140 *e*P **P 13 56 21.7 +0.2**
FORT *ep*P pP 13 56 38.3 +2.0
FORT Forrest 47.41 140 *e*P **P 13 56 21.6 +0.1**
comp=Z,97nm,0.6s,mb5.9
KURK Kurchatov 47.76 346 P **P 13 56 23.4 -0.4**
comp=Z,145nm,0.5s,mb6.2,baz=167,slow=7.0,SNR=1303
KURK PcP PcP 13 57 52.5 +0.3
comp=Z,22nm,0.6s,baz=156,slow=2.6,SNR=6.2
KURK S **S 14 03 16.3 +0.1**
comp=Z,1.3nm,0.8s,baz=172,slow=14,SNR=6.0
KURK LR LR 14 20 34.6
comp=Z,398nm,20.1s,MS4.4,baz=155,slow=41
KURK Kurchatov 47.76 346 *e*P **P 13 56 24.1 +0.2**
comp=Z,118nm,0.6s,mb6.1
KURK PcP PcP 13 57 52.5 +0.3
KURK S **S 14 03 16.3 +0.1**
KURK Kurchatov 47.76 346 P **P 13 56 23.9 +0.1**
KURK pmax pmax
comp=Z,86nm,0.5s,mb6.0
KURK Kurchatov 47.76 346 P **P 13 56 24.4 +0.5**
SNR=35
KURK Kurchatov 47.76 346 P **P 13 56 24.5 +0.7**
comp=Z,1μm,0.5s
IRK Irkutsk 47.87 8 *e*P **P 13 56 24.6 0.0**
IRK pmax pmax
comp=Z,52nm,1.9s,mb5.2
IGAR Gharneh 48.63 310 *e*P **P 13 56 31.1 +0.2**
HIA Hailar 48.97 21 *e*P **P 13 56 32.9 -0.3**
comp=Z,65nm,0.6s,mb5.8

HIA LR LR
comp=Z,4μm,21.0s,MS5.3
HIA Hailar 48.97 21 *e*P **P 13 56 32.9 -0.3**
HIA pmax pmax
comp=Z,65nm,0.6s
HIA MLR MLR
comp=Z,4μm,21.0s
IKIA Kiasar 49.16 315 *e*P **P 13 56 34.6 -0.3**
IKIA *e*P 13 56 35.1
IGLO Ghaloghah 49.20 315 *e*P **P 13 56 36.0 +0.8**
IKLH Kolahrood 49.37 311 *e*P **P 13 56 36.4 -0.1**
IFIR Firoozkooh 49.55 314 *e*P **P 13 56 38.5 +0.6**
IPIR Pirpir 49.63 310 *e*P **P 13 56 39.2 +0.7**
ZAA0 Zalesovo Array 49.67 352 *e*P **P 13 56 38.1 -0.4**
ZALV Zalesovo Beam 49.67 352 P **P 13 56 38.1 -0.3**
comp=Z,124nm,0.5s,mb6.2,baz=184,slow=7.5,SNR=683
ZALV PcP PcP 13 57 58.1 -0.9
comp=Z,16nm,0.5s,baz=161,slow=3.4,SNR=3.1
ZALV S **S 14 03 42.7 -0.2**
comp=Z,1.5nm,0.6s,baz=160,slow=16,SNR=4.4
ZALV LR LR 14 21 03.3
comp=Z,471nm,21.9s,MS4.5,baz=59,slow=40
ZALV Zalesovo Beam 49.67 352 P **P 13 56 38.1 -0.3**
ZALV PcP PcP 13 57 58.1 -0.9
ZALV S **S 14 03 42.7 -0.2**
ZALV Zalesovo Beam 49.67 352 P **P 13 56 38.1 -0.3**
ZALV 13 57 58.1
ZALV S **S 14 03 42.7 -0.2**
ZALV pmax pmax
comp=Z,124nm,0.5s,mb6.2
ZALV smax
comp=N,2.0nm,0.6s
ZALV MLR MLR
comp=Z,471nm,22.0s,MS4.5
IALA Alasht 49.72 314 *e*P **P 13 56 38.9 -0.2**
GUMO Guam 49.84 76 LR LR 14 15 28.3
comp=Z,595nm,21.8s,MS4.5,baz=255,slow=33
MDJ Mudanjiang 49.84 32 P **P 13 56 40.8 +0.9**
MDJ pP pP 13 56 54.4 -0.4
MDJ sP sP 13 57 00.4 -0.9
MDJ PcP PcP 13 58 00.0 +0.2
MDJ ScP ScP 14 01 51.5 +0.6
MDJ PcS PcS 14 01 55.9 -0.7
MDJ S **S 14 03 50.3 +4.7**
MDJ pmax pmax
comp=Z,62nm,0.9s,mb5.6
MDJ pmax pmax
comp=Z,280nm,6.0s
MDJ LR LR
comp=N,850nm,22.3s,MS4.8
MDJ LR LR
comp=E,770nm,20.4s,MS4.8
MDJ LR LR
comp=Z,2μm,20.8s,MS5.0
MDJ Mudanjiang 49.84 32 *e*P **P 13 56 40.5 +0.6**
comp=Z,40nm,0.6s,mb5.6
MDJ LR LR
comp=Z,2μm,22.0s,MS5.0
CBIJ Chichi jima 50.03 58 P **P 13 56 40.6 -1.0**
comp=Z,162nm,0.5s,mb6.3,baz=179,slow=3.8,SNR=17
CBIJ Chichi jima 50.03 58 P **P 13 56 40.6 -1.0**
IDMV Damavand 50.04 313 *e*P **P 13 56 41.8 +0.2**
IPRN Peran 50.13 314 *e*P **P 13 56 42.3 0.0**
VLA Vladivostok 50.13 35 *e*P **P 13 56 40.1 -2.0**
VLA pmax pmax
comp=Z,115nm,0.7s,mb6.0
MAJO Matsushiro 50.57 45 *e*P **P 13 56 45.8 +0.2**
comp=Z,28nm,0.6s,mb5.4
MAJO LR LR
comp=Z,1μm,20.0s,MS5.0
MAJO Matsushiro 50.57 45 *e*P **P 13 56 45.8 +0.3**
MAJO pmax pmax
comp=Z,28nm,0.6s,mb5.4
MAJO MLR MLR
comp=Z,1μm,20.0s,MS5.0
MAT Matsushiro 50.57 45 P **P 13 56 45.3 -0.2**
MAT S **S 14 03 56.0 0.0**
MJAR Matsushiro Arr 50.57 45 P **P 13 56 46.0 +0.4**
comp=Z,18nm,0.5s,mb5.2,baz=274,slow=19,SNR=89
MJAR PcP PcP 13 58 03.2 +0.5
comp=Z,16nm,0.6s,baz=232,slow=3.4,SNR=7.0
MJAR LR LR 14 19 33.7
comp=Z,1μm,21.2s,MS4.9,baz=250,slow=38
MJAR Matsushiro Arr 50.57 45 P **P 13 56 46.0 +0.4**
MJAR PcP PcP 13 58 03.2 +0.5
MJAR Matsushiro Arr 50.57 45 P **P 13 56 46.0 +0.4**
MJAR 13 58 03.2
MJAR pmax pmax
comp=Z,18nm,0.5s
MJAR MLR MLR
comp=Z,1μm,21.2s
NVS Novosibirsk 50.77 351⇑ *i*P **P 13 56 45.8 -0.9**
NVS *e* pP 13 56 59.4 -2.2
NVS *e* 13 58 00.5
NVS *e* 13 58 46.3
NVS *i*S **S 14 03 57.5 -0.6**
NVS *e*SS SS 14 07 26.7 -6.6
NVS pmax pmax
comp=N,20nm,0.4s
NVS pmax pmax
comp=E,17nm,0.4s
NVS pmax pmax
comp=Z,26nm,0.4s,mb5.5
NVS pmax pmax
comp=Z,30nm,1.9s,mb4.9
NVS pmax pmax
comp=N,15nm,2.0s
NVS pmax pmax
comp=E,19nm,2.0s
NVS smax
comp=N,47nm,2.0s
NVS smax
comp=E,25nm,1.8s
USRK Ussuriysk Arra 50.87 34 P **P 13 56 47.4 -0.3**
comp=E,41nm,0.6s,mb5.5,baz=246,slow=6.5,SNR=108
USRK PcP PcP 13 58 03.1 -0.5
comp=E,5.8nm,0.6s,baz=208,slow=3.7,SNR=1.8
USRK LR LR 14 20 49.4
comp=E,1μm,18.1s,MS5.0,baz=30,slow=39
RDF Al-Radifah 50.93 304 *e*P **P 13 56 48.5 +0.1**
RDF AMb AMB 13 56 51.9
comp=Z,65nm,0.7s,mb5.7
COEN Coen 51.25 112 *e*P **P 13 56 49.5 -1.5**
COEN Coen 51.25 112 *e*P **P 13 56 49.6 -1.4**
comp=Z,121nm,0.5s,mb6.1
NAY Al-Naaiem 51.29 304 *e*P **P 13 56 50.9 -0.2**
NAY AMb AMB 13 56 52.9
comp=Z,63nm,0.5s,mb5.8
MIB Mutribah 51.39 305 *e*P **P 13 56 52.5 +0.6**
MIB AMb AMB 13 57 00.2
comp=Z,103nm,0.8s,mb5.8
RST Umm Al-Ruwaisa 51.57 304 *e*P **P 13 56 53.1 -0.1**
RST AMb AMB 13 56 56.0
comp=Z,17nm,0.5s,mb5.2
ATD Arta Tunnel 52.05 281 LR LR 14 15 30.8
comp=Z,200nm,19.6s,MS4.2,baz=77,slow=32
BVA0 Borovoye Array 52.14 341 *i* P **P 13 56 56.8 -0.2**
BVA0 pmax pmax
comp=Z,21nm,0.7s,mb5.2
BVAR Borovoye Array 52.14 341 P **P 13 56 56.9 -0.1**
comp=Z,177nm,0.6s,mb6.2,baz=144,slow=9.4,SNR=712
BVAR LR LR 14 22 12.9
comp=Z,523nm,20.6s,MS4.6,baz=142,slow=40
BVAR Borovoye Array 52.14 341 P **P 13 56 56.9 -0.1**
BVAR Borovoye Array 52.14 341 P **P 13 56 56.9 -0.1**
BVAR pmax pmax
comp=Z,177nm,0.6s
BVAR MLR MLR
comp=Z,523nm,20.6s
BRVK Borovoye 52.20 341 *e*P **P 13 56 57.2 -0.3**
comp=Z,196nm,0.6s,mb6.2
BRVK LR LR
comp=Z,740nm,21.0s,MS4.7
BRVK Borovoye 52.20 341*c i*P **P 13 56 57.2 -0.3**
BRVK pmax pmax
comp=Z,164nm,0.6s,mb6.1
BRVK Borovoye 52.20 341 P **P 13 56 57.5 0.0**
comp=Z,2μm,0.6s
BRVK Borovoye 52.20 341 P **P 13 56 57.7 +0.2**
SNR=29
AB31 Akbulak array 53.33 332 *i* P **P 13 57 05.9 +0.1**
AB31 pmax pmax
comp=Z,33nm,0.5s,mb5.5
ABKAR Akbulak array 53.33 332 *e*P **P 13 57 05.8 0.0**
comp=Z,53nm,0.6s,mb5.7
MTSU Mount Surprise 53.66 117 *e*P **P 13 57 08.6 -0.2**
comp=Z,44nm,0.8s,mb5.4
PMG Port Moresby 53.81 105 *e*P **P 13 57 09.1 -0.9**
comp=Z,60nm,0.6s,mb5.7
PMG LR LR
comp=Z,438nm,21.0s,MS4.5
PMG Port Moresby 53.81 105*c i*P **P 13 57 08.8 -1.2**
PMG pmax pmax
comp=Z,63nm,0.7s
PMG Port Moresby 53.81 105 P **P 13 57 09.3 -0.7**
comp=Z,791nmcomp=Z,87nm,0.7s,mb5.8
IDHR Dehrash 53.87 310 *e*P **P 13 57 07.8 -2.3**
BBOO Buckleboo 53.97 137 *e*P **P 13 57 10.1 -0.7**
comp=Z,364nm,0.8s,mb6.4
KLR Kul'dur 54.05 29*de*P **P 13 57 07.7 -3.4**
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
KLR MLR MLR
comp=N,800nm,13.0s
KLR MLR MLR
comp=Z,4μm,13.0s,MS5.6
BOD Bodaibo 54.89 12 *e*P **P 13 57 15.8 -1.3**
BOD pmax pmax
comp=Z,18nm,0.7s,mb5.2
AKTO Aktyubinsk 55.04 332 P **P 13 57 17.9 -0.4**
comp=Z,38nm,0.6s,mb5.6,baz=121,slow=8.5,SNR=117
AKTO Aktyubinsk 55.04 332 P **P 13 57 17.9 -0.4**
AKTO Aktyubinsk 55.04 332 P **P 13 57 17.9 -0.4**
AKTO pmax pmax
comp=Z,38nm,0.6s,mb5.6
HABR Khabarovsk 55.21 31 *e*P **P 13 57 17.2 -2.3**
HABR *e**PP pP 13 57 32.9 -1.8
HABR *e* 13 59 20.8
HABR *e*PPP 14 00 33.6
HABR *e*S **S 14 04 57.9 -0.9**
HABR *e*SS SS 14 08 43.4 -0.3
HABR pmax pmax
comp=N,70nm,2.7s
HABR pmax pmax
comp=Z,268nm,2.3s,mb5.9
HABR pmax pmax
comp=Z,183nm,2.4s,mb5.7
HABR pmax pmax
comp=E,197nm,3.4s
HABR MLR MLR
comp=Z,1μm,19.0s,MS5.1
CTA Charters Tower 56.05 118 *e*P **P 13 57 25.9 -0.2**
CTAO Charters Tower 56.05 118 *e*P **P 13 57 26.0 -0.1**
comp=Z,16nm,0.6s,mb5.2
CTAO LR LR
comp=Z,1μm,21.0s,MS4.9
CTAO Charters Tower 56.05 118 *e*P **P 13 57 26.0 -0.1**
CTAO pmax pmax
comp=Z,16nm,0.6s,mb5.2
CTAO MLR MLR
comp=Z,1μm,21.0s,MS4.9
CTAO Charters Tower 56.05 118 P **P 13 57 28.4 +2.3**
comp=Z,28nm,0.7s,mb5.4
ERM Erimo 56.51 42 P **P 13 57 30.0 +1.0**
comp=Z,311nm,0.6s,mb6.5,SNR=7.6
ERM Erimo 56.51 42 PFAKE 13 57 40.0 +11
ERM LR LR
comp=Z,1μm,21.0s,MS5.0
ERM Erimo 56.51 42‖ *e*P **P 13 57 29.9 +0.9**
QLP Quilpie 56.90 126 *e*P **P 13 57 32.1 +0.1**
CLNS Chul'man 56.97 19 *e*P **P 13 57 31.7 -0.3**
CLNS *e**PP pP 13 57 41.3 -5.8
CLNS *e* 13 58 23.4
CLNS *e* 13 59 39.6
CLNS *e*PPP 14 00 56.9
CLNS *e*S **S 14 05 28.4 +6.5**
CLNS *e* 14 07 11.5
CLNS pmax pmax
comp=Z,14nm,0.6s,mb5.2
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.6s
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax
comp=E,243nm,14.7s
CLNS smax
comp=N,204nm,13.8s
CLNS MLR MLR
comp=Z,2μm,16.0s,MS5.2
CLNS MLR MLR
comp=N,767nm,17.0s,MS5.1
CLNS MLR MLR
comp=E,1μm,16.0s,MS5.1
ASAJ Asahikawa 57.13 39 P **P 13 57 33.8 +0.4**
comp=E,66nm,0.6s,mb5.8,baz=260,slow=8.0,SNR=68
ASAJ Asahikawa 57.13 39 *e*P **P 13 57 33.6 +0.3**
comp=E,26nm,0.6s,mb5.4
ASAJ Asahikawa 57.13 39 P **P 13 57 33.8 +0.4**
ASAJ pmax pmax
comp=Z,66nm,0.6s
GNI Garni 57.22 315 P **P 13 57 35.9 +1.8**
comp=Z,13nm,0.5s,mb5.2,baz=245,slow=1.6,SNR=2.5
GNI Garni 57.22 315 P **P 13 57 35.9 +1.8**
GNI LR LR
comp=Z,291nm,22.0s,MS4.3
GNI Garni 57.22 315 P **P 13 57 35.9 +1.8**
GNI pmax pmax
comp=Z,13nm,0.5s
STKA Stephens Creek 57.37 133 P **P 13 57 34.8 -0.5**
comp=Z,12nm,0.7s,mb5.0,baz=306,slow=7.8,SNR=28
STKA PcP PcP 13 58 29.6 +0.9
comp=Z,6.0nm,0.7s,baz=3.6,slow=9.2,SNR=2.9
STKA LR LR 14 25 14.8
comp=Z,558nm,20.3s,MS4.7,baz=146,slow=39
STKA Stephens Creek 57.37 133 *e*P **P 13 57 34.7 -0.5**
STKA Stephens Creek 57.37 133 *e*P **P 13 57 34.3 -0.9**
comp=Z,2.5nm,0.6s,mb4.4
STKA PcP PcP 13 58 29.6 +0.9
STKA Stephens Creek 57.37 133 P **P 13 57 34.8 -0.4**
STKA 13 58 29.6
STKA pmax pmax
comp=Z,12nm,0.7s
STKA MLR MLR
comp=Z,558nm,20.3s
MTA Mtatsminda 57.83 317 P **P 13 57 38.1 -0.2**
TBLG Delisi 57.88 317 *e*P **P 13 57 38.7 0.0**
TBLG Delisi 57.88 317 P **P 13 57 38.7 0.0**
KMBO Kilima Mbogo 58.06 266 *e*P **P 13 57 43.0 +2.6**
KMBO Kilima Mbogo 58.06 266 *e*P **P 13 57 40.9 +0.5**
comp=Z,22nm,1.4s,mb5.0
KMBO LR LR
comp=Z,998nm,21.0s,MS4.9
KMBO Kilima Mbogo 58.06 266 *e*P **P 13 57 40.9 +0.5**
KMBO pmax pmax
comp=Z,22nm,1.4s
KMBO MLR MLR
comp=Z,998nm,21.0s
PAF Port-aux-Franc 58.13 199 PFAKE 13 57 50.0 +10
PAF LR LR
comp=Z,2μm,20.0s,MS5.3
GOR Gori 58.41 317 P **P 13 57 42.4 0.0**
SVE Sverdlovsk 58.55 339*d i*P **P 13 57 43.0 0.0**
SVE *e*PPP 14 01 16.3
SVE *e*S **S 14 05 45.9 +3.4**
SVE *e* 14 07 21.0
SVE pmax pmax
comp=Z,192nm,0.6s,mb6.3
SVE MLR MLR
comp=Z,587nm,17.0s,MS4.8
YSS Yuzh-Sakhalins 58.63 36 *e*P **P 13 57 43.3 -0.5**
comp=Z,107nm,0.6s,mb6.0
YSS Yuzh-Sakhalins 58.63 36⇑ *i*P **P 13 57 44.0 +0.2**
YSS *e* pP 13 57 55.0 -4.1
YSS pmax pmax
comp=N,50nm,0.8s
YSS pmax pmax
comp=E,60nm,0.8s
YSS pmax pmax
comp=Z,120nm,0.8s,mb6.0
YSS MLR MLR
comp=Z,900nm,18.0s,MS4.9
ARU Arti 59.03 337 *e*P **P 13 57 44.6 -1.7**
comp=Z,58nm,0.7s,mb5.7
ARU LR LR
comp=Z,589nm,20.0s,MS4.7
ARU Arti 59.03 337*c i*P **P 13 57 46.2 -0.2**
ARU *e* 13 58 33.7
ARU *e* 13 59 54.7
ARU PPP 14 01 22.4
ARU S **S 14 05 51.9 +3.1**
ARU SS SS 14 09 44.9 +1.4
ARU pmax pmax
comp=Z,135nm,1.7s,mb5.7
ARU Arti 59.03 337 P **P 13 57 46.3 -0.1**
comp=Z,480nm,0.5s,mb6.8,SNR=25
ONI Oni 59.11 318 P **P 13 57 47.6 +0.4**
YUK Yuzh-Kuril'sk 59.18 41 *e*P **P 13 57 44.2 -3.5**
YUK *i* *SP sP 13 58 04.3 -5.1
YUK *i* 13 58 39.3
YUK *i* PPP 14 01 22.6
YUK *e*S **S 14 05 55.3 +4.0**
YUK *i* SS SS 14 09 52.5 +6.1
YUK *i* SSS 14 12 05.4
YUK pmax pmax
comp=Z,259nm,1.2s,mb6.1
YUK pmax pmax
comp=N,285nm,1.2s
YUK pmax pmax
comp=E,166nm,1.2s
YUK pmax pmax
comp=Z,610nm,1.9s,mb6.3
YUK MLR MLR
comp=Z,745nm,20.0s,MS4.8
KIV Kislovodsk 60.18 319 *e*P **P 13 57 54.3 -0.3**
comp=Z,36nm,0.6s,mb5.6
KIV LR LR
comp=Z,334nm,20.0s,MS4.5
KIV Kislovodsk 60.18 319 *e*P **P 13 57 54.2 -0.4**
KIV *e*S **S 14 06 03.1 -1.0**
KIV pmax pmax
comp=Z,32nm,0.7s,mb5.5
KIV pmax pmax
comp=Z,102nm,3.7s
KIV Kislovodsk 60.18 319 P **P 13 57 54.9 +0.3**
SNR=5.6
KIV Kislovodsk 60.18 319 P **P 13 57 54.5 -0.1**
comp=Z,372nm,0.6s,mb6.6,SNR=8.4
CMSA Cobar Meteorol 60.25 131 *e*P **P 13 57 55.3 0.0**
ASF Jabal al Asfar 60.65 304 P **P 13 57 59.4 +1.4**
comp=Z,2.7nm,0.6s,mb4.5,baz=314,slow=2.5,SNR=4.0
ASF LR LR 14 25 08.7
comp=Z,302nm,19.9s,MS4.4,baz=162,slow=37
ASF Jabal al Asfar 60.65 304 P **P 13 57 59.4 +1.4**
ASF Jabal al Asfar 60.65 304 P **P 13 57 59.4 +1.4**
MALT Malatya 61.13 311 PFAKE 13 58 10.0 +8.8
MALT LR LR
comp=Z,1μm,21.0s,MS5.0
EIL Elat 61.75 301 P **P 13 58 06.7 +1.2**
comp=Z,9.8nm,0.6s,mb5.1,baz=106,slow=2.6,SNR=7.5
EIL Elat 61.75 301 P **P 13 58 06.7 +1.2**
SOKR Solikamsk 61.95 339*c i*P **P 13 58 06.1 -0.1**
SOKR pmax pmax
comp=Z,60nm,0.7s,mb5.8
SOKR MLR MLR
comp=Z,520nm,18.0s,MS4.7
SOC Sochi 62.01 317 *e*P **P 13 58 04.8 -2.2**
SOC *e*S **S 14 06 22.6 -4.8**
SOC *e**SS sS 14 06 52.8 -0.5
SOC *e* 14 07 49.5
SOC *e*SS SS 14 10 32.3 +1.5
SOC pmax pmax
comp=Z,43nm,0.6s,mb5.8
MMAI Mount Meron Ar 62.08 305 P **P 13 58 08.9 +1.3**
comp=Z,4.6nm,0.5s,mb4.9,baz=91,slow=7.7,SNR=9.4
MMAI LR LR 14 25 57.2
comp=Z,395nm,21.7s,MS4.5,baz=110,slow=37
MMAI Mount Meron Ar 62.08 305 P **P 13 58 08.9 +1.3**
YAK Yakutsk 62.58 18 *e*P **P 13 58 08.9 -1.5**
comp=Z,116nm,0.6s,mb6.2
YAK Yakutsk 62.58 18*c i*P **P 13 58 09.2 -1.2**
YAK *e* 13 58 46.0
YAK *e* 14 00 28.4
YAK *e*PPP 14 01 57.0
YAK *e*S **S 14 06 30.4 -3.5**
YAK *e**SS sS 14 07 10.0 +10
YAK pmax pmax
comp=Z,39nm,0.8s,mb5.6
YAK pmax pmax
comp=E,6.0nm,0.7s
YAK pmax pmax
comp=Z,76nm,3.2s
YAK pmax pmax
comp=N,79nm,4.5s
YAK pmax pmax
comp=E,94nm,3.6s
YAK smax
comp=N,57nm,1.7s
YAK smax
comp=E,139nm,3.0s
TOO Toolangi 63.02 137 *e*P **P 13 58 14.7 +0.9**
TOO *e*pP pP 13 58 30.2 +1.0
YNG Young 63.53 132 *e*P **P 13 58 17.3 +0.1**
ANN Anapa 63.99 318 *e*P **P 13 58 18.8 -1.3**
ANN *e**PP pP 13 58 38.4 +2.9
ANN *e*S **S 14 06 52.5 +0.5**
ANN pmax pmax
comp=Z,103nm,1.6s,mb5.6
CSS Prodhromos 64.19 307 *e*P **P 13 58 20.3 -1.3**
comp=Z,35nm,0.8s,mb5.4
CSS LR LR
comp=Z,496nm,21.0s,MS4.7
ARMA Armidale 64.40 127 *e*P **P 13 58 23.2 +0.2**
ARMA Armidale 64.40 127 *e*P **P 13 58 23.6 +0.6**
comp=Z,27nm,1.0s,mb5.2
CAN Canberra 64.43 133 *e*P **P 13 58 23.5 +0.3**
comp=Z,35nm,1.0s,mb5.3
CAN LR LR
comp=Z,929nm,21.0s,MS5.0
CAN Canberra 64.43 133 *e*P **P 13 58 23.5 +0.4**
CAN pmax pmax
comp=Z,35nm,1.0s,mb5.3
CAN MLR MLR
comp=Z,929nm,21.0s,MS5.0
CNB Canberra Magne 64.70 133 *e*P **P 13 58 23.9 -1.0**
CNB *e*pP pP 13 58 40.3 0.0
BR131 Keskin Array S 65.11 312 *e*P **P 13 58 26.8 -0.7**
comp=Z,19nm,0.6s,mb5.3
BRTR Keskin Array B 65.11 312 P **P 13 58 26.9 -0.6**
comp=Z,23nm,0.6s,mb5.4,baz=130,slow=7.5,SNR=152
BRTR LR LR 14 28 45.2
comp=Z,197nm,21.1s,MS4.3,baz=0.7,slow=38
BRTR Keskin Array B 65.11 312 P **P 13 58 26.9 -0.6**
BRTR Keskin Array B 65.11 312 P **P 13 58 27.0 -0.5**
BRTR pmax pmax
comp=Z,23nm,0.6s
BRTR MLR MLR
comp=Z,197nm,21.1s
VSR Storozhevoye 65.39 325 *e*P **P 13 58 27.6 -1.5**
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,20nm,0.6s
VSR pmax pmax
comp=Z,70nm,0.6s,mb5.9
HNR Honiara 66.19 102 *e*P **P 13 58 34.2 -0.7**
comp=Z,102nm,0.8s,mb5.9
HNR LR LR
comp=Z,239nm,22.0s,MS4.4
HNR Honiara 66.19 102 *e*P **P 13 58 34.2 -0.7**
HNR pmax pmax
comp=Z,103nm,0.8s,mb5.9
HNR MLR MLR
comp=Z,239nm,22.0s,MS4.4
MOPA Mopani 68.13 242 *e*P **P 13 58 46.7 -0.3**
MOPA AMB AMB 13 59 20.1
comp=Z,16nm,3.4s
MOS Moscow 68.14 329 *e*P **P 13 58 44.0 -2.5**
MOS *e* pP 13 58 55.4 -6.6
MOS *e* 13 59 11.4
MOS *e*S S 14 07 36.7 -5.4
SKR Severo-Kuril's 68.20 37 *e*P **P 13 58 46.5 -0.4**
SKR pmax pmax
comp=Z,110nm,0.6s,mb6.1
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
OBN Obninsk 68.43 328 *e*P **P 13 58 47.0 -1.3**
comp=E,70nm,0.6s,mb5.9

OBN LR LR
comp=Z,331nm,19.0s,MS4.6
OBN Obninsk 68.43 328*c iP* **P 13 58 47.4 -0.9**
OBN *e**PP pP 13 59 03.2 -0.6
OBN *e* 14 01 19.0
OBN *e* 14 07 40.9
OBN *e*SS SS 14 12 13.0 +2.9
OBN pmax pmax
comp=Z,63nm,0.6s,mb5.8
OBN Obninsk 68.43 328 P **P 13 58 47.7 -0.6**
comp=Z,774nm,0.5s,mb7.0,SNR=6.0
POGA Pongola 69.04 238 *eP* **P 13 58 52.3 -0.3**
POGA AMB AMB 13 58 53.1
comp=Z,29nm,2.5s,mb4.8
MSNA Messina 69.05 244 *eP* **P 13 58 54.9 +2.1**
MSNA AMB AMB 13 59 13.3
comp=Z,24nm,1.8s,mb4.8
KARP Karpathos 69.26 306 *e*PN **P 13 58 54.3 +0.4**
KARP Karpathos 69.26 306 *e*Pn **P 13 58 54.3 +0.4**
KLMR Klimovskoe 69.58 334*c iP* **P 13 58 54.6 -0.7**
KLMR *e**PP pP 13 59 08.5 -2.4
KLMR *e* 14 01 32.1
KLMR pmax pmax
comp=Z,35nm,0.6s,mb5.5
KLMR pmax pmax
comp=Z,137nm,6.6s
TLCR 69.94 316 ⇓P **P 13 58 57.8 -0.1**
TLCR 69.94 316⇓*iP* **P 13 58 57.8 -0.1**
PEA0B Petropavlovsk- 69.94 35 *eP* **P 13 58 57.4 -0.3**
PETK Petropavlovsk- 69.94 35 P **P 13 58 57.8 +0.1**
comp=Z,6.8nm,0.6s,mb4.8,baz=221,slow=4.7,SNR=11
PETK LR LR 14 29 29.7
comp=Z,679nm,21.1s,MS4.9,baz=224,slow=36
PETK Petropavlovsk- 69.94 35 P **P 13 58 57.8 +0.1**
PETK Petropavlovsk- 69.94 35 P **P 13 58 57.8 +0.1**
PETK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
PETK MLR MLR
comp=Z,679nm,21.1s,MS4.9
TIRR Tirgusor 70.05 316 *eP* **P 13 58 57.9 -0.6**
comp=Z,47nm,0.7s,mb5.5
TIRR Tirgusor 70.05 316 ⇓P **P 13 58 58.5 -0.1**
TIRR Tirgusor 70.05 316⇓*iP* **P 13 58 58.5 -0.1**
KIS Kishinev 70.38 318 *e*UNK **P 13 58 59.0 -1.5**
KIS Kishinev 70.38 318 *eP* **P 13 58 59.0 -1.5**
KIS *e* 13 59 06.0
KIS *e* 13 59 20.0
CFR Carcaliu 70.40 316 ⇑P **P 13 59 00.7 0.0**
CFR Carcaliu 70.40 316⇑*iP* **P 13 59 00.7 0.0**
PET Petropavlovsk 70.46 35 *eP* **P 13 59 00.5 -0.4**
PET pmax pmax
comp=Z,111nm,0.7s,mb5.9
PET MLR MLR
comp=Z,800nm,21.0s,MS5.0
LAST Lasithi 70.56 305 *e*PN **P 13 59 02.3 +0.4**
LAST Lasithi 70.56 305 *e*Pn **P 13 59 02.3 +0.4**
LEOM Leova 70.63 318 ⇑P **P 13 59 01.8 -0.3**
LEOM Leova 70.63 318⇑*iP* **P 13 59 01.8 -0.3**
APE Apeiranthos 70.80 307 ⇓P **P 13 59 02.2 -1.1**
APE Apeiranthos 70.80 307⇓*iP* **P 13 59 02.2 -1.1**
AMRR Amara 70.83 316 ⇑P **P 13 59 03.1 -0.2**
AMRR Amara 70.83 316⇑*iP* **P 13 59 03.1 -0.2**
PPE Popeni 70.85 317 ⇑P **P 13 59 06.0 +2.6**
PPE Popeni 70.85 317⇑*iP* **P 13 59 06.0 +2.6**
IDI Anoyia 71.06 306 *e*PN **P 13 59 04.6 -0.3**
IDI Anoyia 71.06 306 *eP* **P 13 59 05.1 +0.2**
comp=Z,43nm,0.6s,mb5.6
IDI *e*pP pP 13 59 20.1 -0.5
IDI Anoyia 71.06 306 *e*Pn **P 13 59 05.1 +0.2**
AKASG Malin Array Be 71.10 322 P **P 13 59 03.5 -1.3**
comp=Z,51nm,0.6s,mb5.6,baz=93,slow=5.3,SNR=140
AKASG Malin Array Be 71.10 322 P **P 13 59 03.5 -1.3**
AKASG Malin Array Be 71.10 322 P **P 13 59 03.6 -1.2**
AKASG pmax pmax
comp=Z,51nm,0.6s
AKBB Malin Array Si 71.10 322 *eP* **P 13 59 03.5 -1.3**
AKBB Malin Array Si 71.10 322 *eP* **P 13 59 03.5 -1.3**
GHRR 71.10 317⇓*iP* **P 13 59 05.6 +0.7**
KIEV Kiev 71.11 322 *eP* **P 13 59 03.5 -1.3**
comp=Z,32nm,0.6s,mb5.4
KIEV LR LR
comp=Z,429nm,21.0s,MS4.7
KIEV Kiev 71.11 322*c iP* **P 13 59 03.4 -1.5**
PGOR Pogoanele 71.14 316⇑*iP* **P 13 59 05.2 0.0**
PETR 71.15 317⇑*iP* **P 13 59 06.6 +1.4**
SEY Seymchan 71.30 24⇑*eP* **P 13 59 05.6 -0.2**
SLR Silverton 71.45 241 *eP* **P 13 59 08.2 +0.8**
SLR AMB AMB 13 59 09.4
comp=Z,38nm,1.9s,mb5.0
VRI Vrincioaia 71.52 317 ⇓P **P 13 59 08.4 +0.9**
VRI Vrincioaia 71.52 317⇓*iP* **P 13 59 08.4 +0.9**
SZH Strazhica 71.55 314 *i* P **P 13 59 04.8 -2.9**
SZH Strazhica 71.55 314 *i* P **P 13 59 04.8 -2.9**
PLOR Plostina 71.57 317 P **P 13 59 08.7 +0.9**
PLOR Plostina 71.57 317⇓*iP* **P 13 59 08.6 +0.8**
SULR 71.60 315⇑*iP* **P 13 59 07.0 -1.0**
ERPM east rand prop 71.64 240 *eP* **P 13 59 09.2 +0.7**
ERPM AMB AMB 13 59 12.1
comp=Z,25nm,5.3s
TESR 71.72 317⇑*iP* **P 13 59 08.7 +0.1**
SECR 71.80 316⇑*iP* **P 13 59 10.2 +1.0**
CASY Casey 71.82 173 PFAKE 13 59 20.0 +11
CASY LR LR
comp=Z,1μm,21.0s,MS5.1
KARN Karanos 71.86 306 *e*PN **P 13 59 09.9 +0.2**
KARN Karanos 71.86 306 *e*Pn **P 13 59 09.9 +0.2**
PVL Pavlikeni 71.97 314 *i* P **P 13 59 09.6 -0.6**
PVL Pavlikeni 71.97 314 *i* P **P 13 59 09.6 -0.6**
MLR Muntele Rosu 71.98 316 P **P 13 59 10.6 +0.4**
comp=Z,12nm,0.6s,mb5.0,baz=152,slow=1.4,SNR=75
MLR LR LR 14 32 30.6
comp=Z,54nm,19.0s,MS3.8,baz=327,slow=37
MLR Muntele Rosu 71.98 316 P **P 13 59 10.6 +0.4**
MLR Muntele Rosu 71.98 316 ⇑P **P 13 59 10.7 +0.5**
MLR Muntele Rosu 71.98 316⇑*iP* **P 13 59 10.7 +0.5**
PRAR RASCA 72.18 318⇓*iP* **P 13 59 11.4 0.0**
DOPR Dopca 72.46 317⇑*iP* **P 13 59 13.3 +0.2**
HUMR Humele 72.47 315⇓*iP* **P 13 59 13.2 0.0**
PRYS Parys 72.55 240 *eP* **P 13 59 14.8 +0.7**
PRYS AMB AMB 13 59 34.2
comp=Z,43nm,1.3s,mb5.2
VOIR 72.59 316 ⇓P **P 13 59 13.5 -0.4**
VOIR 72.59 316⇓*iP* **P 13 59 13.5 -0.4**
BURAR Bucovina Array 72.91 318 ⇑P **P 13 59 16.4 +0.7**
BURAR Bucovina Array 72.91 318⇑*iP* **P 13 59 16.4 +0.7**
BUR08 Bucovina Ar. S 72.92 318 *eP* **P 13 59 16.4 +0.5**
MDB Medias 73.18 317 ⇓P **P 13 59 18.1 +0.7**
MDB Medias 73.18 317⇓*iP* **P 13 59 18.1 +0.7**
PUL Pulkovo 73.30 331⇑*eP* **P 13 59 19.2 +1.4**
PUL pmax pmax
comp=Z,155nm,0.6s,mb6.1
KKB Krupnik 73.39 312 *i* P **P 13 59 17.9 -0.8**
KKB Krupnik 73.39 312 *i* P **P 13 59 17.9 -0.8**
VTS Vitosha 73.41 313 ⇑P **P 13 59 18.6 -0.2**
VTS Vitosha 73.41 313 *i* P **P 13 59 17.1 -1.7**
VTS Vitosha 73.41 313 *i* P **P 13 59 17.1 -1.7**
VTS Vitosha 73.41 313⇑*iP* **P 13 59 18.5 -0.3**
LOT Lotru 73.48 316⇓*iP* **P 13 59 18.8 -0.3**
LBTB Lobatse 73.63 242 *eP* **P 13 59 21.3 +0.9**
LBTB AMB AMB 13 59 40.9
comp=Z,30nm,1.7s,mb4.9
LBTB Lobatse 73.63 242 *eP* **P 13 59 21.5 +1.1**
comp=Z,22nm,0.9s,mb5.1
LBTB LR LR
comp=Z,2μm,22.0s,MS5.3
LBTB Lobatse 73.63 242 *eP* **P 13 59 21.5 +1.1**
LBTB pmax pmax
comp=Z,22nm,0.9s,mb5.1
LBTB MLR MLR
comp=Z,2μm,22.0s,MS5.3
ITM Ithomi 73.67 307 *e*PN **P 13 59 19.5 -0.9**
ITM Ithomi 73.67 307 *e*Pn **P 13 59 19.5 -0.9**
VAY Valandovo 73.69 312 *i* P **P 13 59 19.4 -1.0**
JOF Joensuu 73.97 335 *eP* **P 13 59 20.3 -1.3**
JOF pmax pmax
comp=Z,57nm,0.7s,mb5.6
JOF Joensuu 73.97 335 *ep* **P 13 59 20.3 -1.3**
comp=Z,57nm,0.7s,mb5.6
BMR Baia Mare 74.06 318 ⇓P **P 13 59 23.3 +0.8**
BMR Baia Mare 74.06 318⇓*iP* **P 13 59 23.3 +0.8**
IIGN Ignalina 74.09 326 *eP* **P 13 59 22.3 -0.2**
IIGN AMB AMB 13 59 23.7
comp=Z,22nm,0.6s,mb5.3

LVV L'vov 74.12 320 *eP* **P 13 59 22.0 -0.8**
DEV Deva 74.15 316 ⇑P **P 13 59 24.2 +1.2**
DEV Deva 74.15 316⇑*iP* **P 13 59 24.2 +1.2**
GZR Gura Zlata 74.16 316⇓*iP* **P 13 59 23.1 0.0**
IZAR Zarasai 74.18 327 *eP* **P 13 59 22.8 -0.2**
IZAR AMB AMB 13 59 24.1
comp=Z,22nm,0.6s,mb5.3
ISAL Salakas 74.20 327 *eP* **P 13 59 22.9 -0.2**
ISAL AMB AMB 13 59 23.6
comp=Z,13nm,0.7s,mb4.9
DRGR 74.43 317 P **P 13 59 25.3 +0.6**
DRGR 74.43 317⇑*iP* **P 13 59 25.1 +0.4**
BIA Bitola 74.58 311 *eP* **P 13 59 24.7 -1.0**
SKO Skopje 74.62 312 *eP* **P 13 59 25.6 -0.3**
VSU Vasula 74.66 330*c iP* **P 13 59 25.1 -0.6**
VSU pmax pmax
comp=Z,33nm,0.6s,mb5.4
KRUS Krusevo 74.68 311 *i* P **P 13 59 24.6 -1.7**
DZM Mont Dzumac 74.70 114 *e*LR LR 14 22 36.4
comp=Z,835nm,28.6s
TRPA Tarpa 74.78 319⇑*iP* **P 13 59 27.1 +0.5**
BOSA Boshof 74.78 239 *eP* **P 13 59 27.3 +0.2**
BOSA AMB AMB 13 59 49.0
comp=Z,51nm,4.0s
BOSA Boshof 74.78 239 P **P 13 59 27.5 +0.5**
comp=Z,8.3nm,0.9s,mb4.7,baz=88,slow=5.6,SNR=16
BOSA LR LR 14 27 23.6
comp=Z,713nm,20.9s,MS4.9,baz=65,slow=32
BOSA Boshof 74.78 239 *eP* **P 13 59 27.7 +0.6**
comp=Z,31nm,1.1s,mb5.2
BOSA Boshof 74.78 239 *eP* **P 13 59 27.7 +0.6**
BOSA pmax pmax
comp=Z,31nm,1.1s,mb5.2
KWP Kalwaria Pacla 74.93 320 *eP* **P 13 59 27.8 +0.3**
KWP Kalwaria Pacla 74.93 320 *eP* **P 13 59 27.5 0.0**
comp=Z,49nm,0.5s,mb5.7
KWP Kalwaria Pacla 74.93 320 ⇑P **P 13 59 27.9 +0.4**
KWP Kalwaria Pacla 74.93 320⇑*iP* **P 13 59 27.9 +0.4**
BZS Buzias 75.00 316 ⇓P **P 13 59 28.1 +0.1**
BZS Buzias 75.00 316⇓*iP* **P 13 59 28.1 +0.1**
APA Apatity 75.00 340⇑*iP* **P 13 59 27.6 +0.1**
APA pmax pmax
comp=Z,384nm,0.6s,mb6.5
APA MLR MLR
comp=Z,900nm,19.0s,MS5.1
UZH Uzhgorod 75.02 319⇓*iP* **P 13 59 27.4 -0.6**
UZH *i* 13 59 35.8
UZH *e* pP 13 59 41.7 -2.1
UZH *i* pP 13 59 43.0 -0.8
UZH *e*S S 14 09 01.8 +0.1
UZH *e* 14 09 21.8
KOLS Kolonicke sedl 75.09 319 *eP* **P 13 59 30.0 +1.6**
KOLS Kolonicke sedl 75.09 319 *eP* **P 13 59 30.0 +1.6**
SUW Suwalki 75.50 325 *eP* **P 13 59 29.9 -0.7**
SUW Suwalki 75.50 325 *eP* **P 13 59 29.8 -0.9**
comp=Z,106nm,0.6s,mb6.0
SUW Suwalki 75.50 325 *eP* **P 13 59 29.9 -0.7**
CRVS Cervenica-Dubn 75.61 319 *eP* **P 13 59 32.0 +0.6**
CRVS pmax pmax
comp=Z,34nm,0.7s,mb5.4
CRVS Cervenica-Dubn 75.61 319 *eP* **P 13 59 32.0 +0.6**
MAW Mawson 75.77 192 P **P 13 59 33.4 +1.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=20,slow=9.4,SNR=3.2
MAW LR LR 14 25 53.2
comp=Z,611nm,21.8s,MS4.9,baz=18,slow=30
MAW Mawson 75.77 192 P **P 13 59 33.4 +1.5**
comp=Z,3.9nm,0.8s,mb4.4
MAW Mawson 75.77 192 P **P 13 59 33.4 +1.5**
FINES FINESS Array B 75.81 332 P **P 13 59 31.8 -0.5**
comp=Z,59nm,0.6s,mb5.7,baz=102,slow=5.6,SNR=282
FINES LR LR 14 37 58.9
comp=Z,370nm,20.5s,MS4.7,baz=323,slow=40
FINES FINESS Array B 75.81 332 P **P 13 59 31.8 -0.5**
FINES FINESS Array B 75.81 332 P **P 13 59 31.8 -0.5**
FINES pmax pmax
comp=Z,59nm,0.6s
FINES MLR MLR
comp=Z,370nm,20.5s
STHS Stebnicka Huta 75.83 320 *eP* **P 13 59 33.7 +1.0**
STHS pmax pmax
comp=Z,71nm,0.6s,mb5.8
STHS Stebnicka Huta 75.83 320 *eP* **P 13 59 33.7 +1.0**
KAF Kangasniemi 75.90 333 *eP* **P 13 59 31.9 -0.9**
KAF pmax pmax
comp=Z,46nm,0.5s,mb5.7
KAF Kangasniemi 75.90 333 *ep* **P 13 59 31.9 -0.9**
comp=Z,46nm,0.5s,mb5.7
KECS Kecovo 76.18 319 *eP* **P 13 59 35.0 +0.3**
KECS pmax pmax
comp=Z,39nm,0.6s,mb5.5
KECS Kecovo 76.18 319 *eP* **P 13 59 35.0 +0.3**
NIE Niedzica 76.44 320 *eP* **P 13 59 36.8 +0.7**
NIE Niedzica 76.44 320 *eP* **P 13 59 36.8 +0.7**
PSZ Piszkesteto 76.50 318 *eP* **P 13 59 36.6 +0.1**
comp=Z,48nm,0.8s,mb5.5
PSZ LR LR
comp=Z,147nm,19.0s,MS4.3
PSZ Piszkesteto 76.50 318 ⇑P **P 13 59 36.9 +0.4**
PSZ Piszkesteto 76.50 318⇑*eP* **P 13 59 36.9 +0.4**
PSZ Piszkesteto 76.50 318⇑*iP* **P 13 59 36.9 +0.4**
BEL Belsk 76.51 322 *eP* **P 13 59 36.8 +0.3**
BEL Belsk 76.51 322 *eP* **P 13 59 36.8 +0.3**
OJC Ojcow 76.88 320 *eP* **P 13 59 38.8 +0.2**
OJC Ojcow 76.88 320 *eP* **P 13 59 38.8 +0.2**
BUD Budapest 77.02 318⇑*eP* **P 13 59 39.4 -0.1**
PKSM Moragy 77.13 316 ⇑P **P 13 59 40.0 -0.1**
PKSM Moragy 77.13 316⇑*iP* **P 13 59 40.0 -0.1**
PKA Prieska 77.15 238 *eP* **P 13 59 42.5 +1.9**
PKA AMB AMB 14 00 22.0
comp=Z,11nm,4.9s
VYHS Vyhne 77.27 319 *eP* **P 13 59 41.1 +0.3**
VYHS pmax pmax
comp=Z,36nm,1.5s,mb5.1
VYHS Vyhne 77.27 319 *eP* **P 13 59 41.1 +0.3**
KOLL Kolacno 77.57 319 *eP* **P 13 59 42.7 +0.2**
KOLL Kolacno 77.57 319 *eP* **P 13 59 42.7 +0.2**
OKC Ostrava-Krasne 77.89 320⇑*iP* **P 13 59 44.7 +0.5**
OKC *e* pP 13 59 58.8 -1.3
OKC Ostrava-Krasne 77.89 320⇑*iP* **P 13 59 44.7 +0.5**
OKC *e*pP pP 13 59 58.8 -1.3
KEV Kevo 77.99 341 *eP* **P 13 59 44.0 -0.4**
comp=Z,77nm,0.6s,mb5.8
KEV LR LR
comp=Z,653nm,20.0s,MS5.0
KEV Kevo 77.99 341 *eP* **P 13 59 44.0 -0.4**
KEV pmax pmax
comp=Z,77nm,0.6s,mb5.8
KEV MLR MLR
comp=Z,653nm,20.0s,MS5.0
KEV Kevo 77.99 341 *ep* **P 13 59 43.3 -1.1**
comp=Z,79nm,0.6s,mb5.8
MORC Moravsky Berou 78.27 320 *eP* **P 13 59 46.7 +0.4**
comp=Z,30nm,0.7s,mb5.3
MORC Moravsky Berou 78.27 320 ⇑P **P 13 59 47.0 +0.6**
MORC Moravsky Berou 78.27 320⇑*iP* **P 13 59 47.0 +0.6**
ARCES ARCESS Array B 78.42 340 P **P 13 59 46.5 -0.3**
comp=Z,64nm,0.5s,mb5.8,baz=94,slow=5.9,SNR=434
ARCES LR LR 14 37 44.6
comp=Z,571nm,19.8s,MS4.9,baz=113,slow=38
ARCES ARCESS Array B 78.42 340 P **P 13 59 46.5 -0.2**
ARCES ARCESS Array B 78.42 340 P **P 13 59 46.5 -0.3**
ARCES pmax pmax
comp=Z,64nm,0.5s
ARCES MLR MLR
comp=Z,571nm,19.8s
ARE0 ARCESS Array S 78.42 340 *eP* **P 13 59 46.6 -0.1**
ARE0 ARCESS Array S 78.42 340 *eP* **P 13 59 46.7 -0.1**
BILL Bilibino 78.56 21⇓*eP* **P 13 59 46.5 -1.1**
BILL *e* 13 59 55.9
BILL *e* pP 14 00 02.1 -1.4
BILL *e*SS SS 14 14 46.2 +2.3
BILL pmax pmax
comp=Z,21nm,0.6s,mb5.2
BILL MLR MLR
comp=Z,2μm,16.0s,MS5.5
CUC Castrocucco 78.67 310 *eP* **P 13 59 48.3 -0.5**
comp=Z,11nm,0.6s,mb5.0
CUC LR LR
comp=Z,208nm,21.0s,MS4.4
SOP Sopron 78.70 318⇑*eP* **P 13 59 48.9 +0.1**
KOGS Kog 78.81 316 *i* P **P 13 59 49.6 +0.2**
VRAC Vranov 78.83 319 LR LR 14 38 36.9
comp=Z,163nm,20.8s,MS4.3,baz=338,slow=39
VRAC Vranov 78.83 319 ⇓P **P 13 59 50.1 +0.6**

VRAC Vranov 78.83 319⇓*iP* **P 13 59 50.1 +0.6**
GKP Gorka Klasztor 78.86 323 *eP* **P 13 59 49.2 -0.4**
GKP Gorka Klasztor 78.86 323 *eP* **P 13 59 49.2 -0.4**
KTK1 Kautokeino 79.04 340 *eP* **P 13 59 50.0 -0.3**
DPC Dobruska-Polom 79.11 320⇑*iP* **P 13 59 51.8 +0.8**
DPC *e* pP 14 00 07.7 +0.9
DPC Dobruska-Polom 79.11 320⇑*iP* **P 13 59 51.8 +0.8**
DPC *e*pP pP 14 00 07.7 +0.9
KSP Ksiaz 79.18 321 *eP* **P 13 59 51.9 +0.6**
KSP Ksiaz 79.18 321 *eP* **P 13 59 51.7 +0.4**
KSP *e*pP pP 14 00 07.0 -0.2
KSP Ksiaz 79.18 321⇑*eP* **P 13 59 51.7 +0.4**
KSP *e**PP pP 14 00 07.0 -0.2
CONA Conrad Observa 79.19 318 *i* P **P 13 59 51.5 0.0**
comp=Z,14nm,0.7s,mb5.0,SNR=18
UPC Upice 79.32 320⇑*iP* **P 13 59 52.7 +0.6**
UPC *e* pP 14 00 08.9 +0.9
UPC Upice 79.32 320⇑*iP* **P 13 59 52.7 +0.6**
UPC *e*pP pP 14 00 08.9 +0.9
ARSA Arzberg 79.37 317 *i* P **P 13 59 52.8 +0.4**
comp=Z,38nm,1.2s,mb5.2,SNR=21
SUR Sutherland 79.39 236 *eP* **P 13 59 55.5 +2.7**
SUR AMB AMB 14 00 17.8
comp=Z,35nm,4.1s
SUR Sutherland 79.39 236 *eP* **P 13 59 55.4 +2.6**
comp=Z,62nm,1.4s,mb5.3
SUR LR LR
comp=Z,743nm,21.0s,MS5.0
BOJS Bojanci 79.43 315 *i* P **P 13 59 53.0 +0.2**
WDD Wield Dalam 79.52 305 PFAKE 14 00 00.0 +6.5
WDD LR LR
comp=Z,270nm,19.0s,MS4.6
TREC Trest 79.55 319⇑*iP* **P 13 59 53.8 +0.4**
TREC Trest 79.55 319⇑*iP* **P 13 59 53.8 +0.4**
PERS Pernice 79.60 316 *i* P **P 13 59 54.1 +0.4**
SOKA Soboth 79.66 316⇑*iP* **P 13 59 54.5 +0.4**
comp=Z,51nm,1.2s,mb5.3
LJU Ljubljana 79.97 316 *i* P **P 13 59 56.2 +0.5**
OBKA Obir 79.98 316 *i* P **P 13 59 56.3 +0.5**
comp=Z,26nm,0.6s,mb5.3,SNR=22
PRU Pruhonice 80.22 320⇑*iP* **P 13 59 57.2 +0.2**
PRU *e* pP 14 00 13.6 +0.7
PRU Pruhonice 80.22 320⇑*iP* **P 13 59 57.2 +0.2**
PRU *e*pP pP 14 00 13.6 +0.7
PVCC Panska Ves 80.24 320⇑*iP* **P 13 59 57.6 +0.5**
PVCC Panska Ves 80.24 320⇑*iP* **P 13 59 57.6 +0.5**
MOA Molln 80.26 318 *i* P **P 13 59 57.1 -0.1**
comp=Z,18nm,0.7s,mb5.1,SNR=26
PRA Prague 80.30 320 ⇑P **P 13 59 58.0 +0.6**
VOY Vojsko 80.41 316 *eP* **P 13 59 58.1 0.0**
VOY *e* pP 14 00 12.8 -1.2
VOY *e* pP 14 00 16.4 +2.4
VOY *e* 14 00 23.2
BSD Bornholm Skovb 80.42 325 *i* P **P 13 59 57.0 -0.9**
BSD pmax pmax
comp=Z,54nm,0.7s,mb5.6
BSD Bornholm Skovb 80.42 325 *i* P **P 13 59 57.0 -0.9**
comp=Z,54nm,0.7s,mb5.6
TRI Trieste 80.48 315 *eP* **P 13 59 57.5 -1.0**
comp=Z,26nm,0.6s,mb5.3
TRI LR LR
comp=Z,234nm,19.0s,MS4.5
TRI Trieste 80.48 315 *eP* **P 13 59 57.5 -1.0**
TRI pmax pmax
comp=Z,26nm,0.6s,mb5.3
TRI MLR MLR
comp=Z,234nm,19.0s,MS4.5
CADS Cadrg 80.53 316 *i* P **P 13 59 58.5 -0.2**
AQU L'Aquila 80.60 312 *eP* **P 13 59 59.1 -0.2**
comp=Z,44nm,0.8s,mb5.4
AQU LR LR
comp=Z,345nm,21.0s,MS4.7
AQU L'Aquila 80.60 312 ⇓P **P 13 59 59.6 +0.4**
AQU L'Aquila 80.60 312⇓*iP* **P 13 59 59.6 +0.4**
MYKA Terra Mystica 80.61 316⇓*iP* **P 13 59 59.3 +0.1**
comp=Z,37nm,0.6s,mb5.5
BRG Berggiesshubel 80.67 321⇑*iP* **P 13 59 59.6 +0.3**
comp=Z,26nm,0.7s,mb5.2
BRG pP pP 14 00 15.6 +0.3
comp=Z,65nm,1.8s
BRG Berggiesshubel 80.67 321⇑*iP* **P 13 59 59.6 +0.2**
BRG *PP pP 14 00 15.6 +0.3
BRG pmax pmax
comp=Z,26nm,0.7s,mb5.3
TRO Tromso 80.68 340 *eP* **P 13 59 58.8 -0.3**
GERES GERESS Array B 80.69 319 P **P 13 59 59.9 +0.4**
comp=Z,38nm,0.6s,mb5.5,baz=104,slow=5.3,SNR=308
GERES GERESS Array B 80.69 319 P **P 13 59 59.9 +0.4**
HOPEN Hopen 80.72 347 *eP* **P 13 59 58.8 -0.4**
HOPEN *e*pP pP 14 00 13.9 -1.2
KHC Kasperske Hory 80.79 319 *eP* **P 14 00 00.1 0.0**
comp=Z,18nm,0.8s,mb5.1
KHC Kasperske Hory 80.79 319⇑*iP* **P 14 00 00.2 +0.1**
KHC *e* pP 14 00 16.8 +0.8
KHC Kasperske Hory 80.79 319⇑*iP* **P 14 00 00.2 +0.1**
KHC *e*pP pP 14 00 16.8 +0.8
KHC *e*sP sP 14 00 25.0 +2.8
KHC *ex* x 14 00 50.0
KBA Koelnbreinsper 80.84 317⇑*iP* **P 13 59 59.0 -1.4**
comp=Z,26nm,0.5s,mb5.4
RUE Ruedersdorf 80.88 322 *eP* **P 14 00 00.5 +0.1**
comp=Z,114nm,0.6s,mb6.0
CLL Collm 81.28 321 *eP* **P 14 00 02.0 -0.6**
CLL *e*S S 14 10 09.0 +0.1
CLL pmax pmax
comp=Z,16nm,0.8s,mb5.0
CLL Collm 81.28 321 *eP* **P 14 00 02.0 -0.6**
comp=Z,16nm,0.8s,mb5.0
CLL *e*pP pP 14 00 19.0 +0.4
CLL *e*sPcP 14 00 32.0
CLL *e*S S 14 10 09.0 +0.1
CLL *e*SS SS 14 15 30.0 +4.6
CLL LmV 14 44 00.0
comp=Z,200nm,19.9s
ABTA Abfaltersbach 81.40 316 *i* P **P 14 00 02.9 -0.5**
comp=Z,19nm,0.6s,mb5.2,SNR=13
HFS Hagfors 81.53 330 LR LR 14 41 43.5
comp=Z,347nm,18.2s,MS4.8,baz=89,slow=40
NKC Novy Kostel 81.58 320⇑*iP* **P 14 00 04.6 +0.4**
NKC Novy Kostel 81.58 320⇑*iP* **P 14 00 04.6 +0.4**
STEI Steigen 81.72 338 *eP* **P 14 00 04.3 -0.3**
STEI AMB AMB 14 00 05.9
comp=Z,102nm,0.6s,mb5.9
STEI *e*pP pP 14 00 19.2 -1.4
MOR8 Moi Rana 81.81 336 *eP* **P 14 00 04.2 -0.9**
MOR8 AMB AMB 14 00 05.6
comp=Z,97nm,0.6s,mb5.9
MOR8 *e*pP pP 14 00 19.0 -2.1
COP Copenhagen 81.87 325 *i* P **P 14 00 05.8 +0.1**
COP pmax pmax
comp=Z,24nm,0.6s,mb5.3
COP Copenhagen 81.87 325 *i* P **P 14 00 05.8 +0.1**
comp=Z,24nm,0.6s,mb5.3
WTTA Wattenberg 82.01 317 *i* P **P 14 00 06.2 -0.4**
comp=Z,50nm,0.5s,mb5.7,SNR=90
WATA Walderalm 82.05 317⇑*iP* **P 14 00 06.2 -0.6**
comp=Z,42nm,0.5s,mb5.6,SNR=48
FLOS Flostrand 82.26 336 *eP* **P 14 00 07.1 -0.3**
GRF Grafenberg Arr 82.35 319 *eP* **P 14 00 08.7 +0.4**
comp=Z,28nm,0.7s,mb5.3
GRF *e*L 14 43 32.4
comp=Z,314nm,18.6s
GRF Grafenberg Arr 82.35 319 *eP* **P 14 00 08.7 +0.4**
GRF pmax pmax
comp=Z,28nm,0.7s,mb5.3
GRFO Grafenberg 82.35 319 *eP* **P 14 00 08.4 +0.1**
comp=Z,26nm,0.7s,mb5.3
GRFO Grafenberg 82.35 319 *eP* **P 14 00 08.4 +0.1**
GRFO pmax pmax
comp=Z,26nm,0.7s,mb5.3
MOTA Moosalm 82.38 317 *i* P **P 14 00 08.0 -0.5**
comp=Z,42nm,0.5s,mb5.6,SNR=60
STOK Stokkvaagen 82.40 336 *eP* **P 14 00 08.8 +0.6**
RETA Reutte 82.61 317 *i* P **P 14 00 09.5 -0.2**
comp=Z,90nm,0.5s,mb6.0,SNR=172
FETA Feichten 82.63 317 *i* P **P 14 00 09.7 -0.1**
comp=Z,23nm,0.5s,mb5.4,SNR=58
NC602 NORSAR Array S 82.64 331 *eP* **P 14 00 09.1 -0.5**
NSS Namsos 82.69 334 *eP* **P 14 00 08.1 -1.6**
SYO Syowa Base 82.80 197⇓*eP* **P 14 00 11.2 +1.1**
SYO Syowa Base 82.80 197⇓*e*PcP PcP 14 00 15.8 +0.9
NB2 NORSAR Subarra 82.81 331 P **P 14 00 09.8 -0.7**
comp=Z,9.7nm,0.6s,mb5.0,baz=97,slow=5.1
NOA NORSAR Array B 82.81 331 P **P 14 00 09.6 -0.9**

comp=Z,6.0nm,0.5s,mb4.8,baz=98,slow=5.2,SNR=31
NOA LR LR 14 42 41.4
comp=Z,210nm,18.5s,MS4.5,baz=90,slow=40
NOA NORSAR Array B 82.81 331 P **P** **14 00 09.6 -0.9**
NOA NORSAR Array B 82.81 331 P **P** **14 00 09.6 -0.9**
NOA pmax pmax
comp=Z,6.0nm,0.5s
NAO01 NORSAR Array S 82.96 331 *e*P **P** **14 00 10.5 -0.8**
comp=Z,20nm,0.9s,mb5.2
SPA0 Spitsbergen Ar 82.98 348 *e*P **P** **14 00 10.6 -0.4**
SPA0 *es*P sP 14 00 32.3 -0.9
SPB4 Spitsbergen Ar 82.98 348 *e*P **P** **14 00 10.4 -0.7**
DAVOX Davos/Dischmat 83.21 316 LR LR 14 37 52.2
comp=Z,127nm,20.6s,MS4.3,baz=246,slow=36
DAVA Damuels 83.21 317⇑*i*P **P** **14 00 12.9 +0.1**
comp=Z,27nm,0.6s,mb5.5,SNR=15
RPZ Rata Peaks 83.27 135 P **P** **14 00 12.8 -0.3**
comp=Z,14nm,0.6s,mb5.1,baz=93,slow=1.7,SNR=13
RPZ Rata Peaks 83.27 135 *e*P **P** **14 00 12.6 -0.5**
TBLU Trondheim 83.37 333 *e*P **P** **14 00 12.0 -1.3**
KONO Kongsberg 83.56 329 *e*P **P** **14 00 14.4 +0.1**
KONO *ep*P pP 14 00 29.4 -1.0
TUE Stuetta 83.57 316 *e*P **P** **14 00 14.6 -0.1**
comp=Z,24nm,0.6s,mb5.5
STU Stuttgart 83.67 318 *e*P **P** **14 00 15.0 -0.1**
comp=Z,26nm,0.6s,mb5.5
STU Stuttgart 83.67 318 *e*P **P** **14 00 15.0 -0.1**
STU pmax pmax
comp=Z,26nm,0.6s,mb5.5
MUD Monsted U'grnd 83.73 326 *i*P **P** **14 00 15.7 +0.4**
MUD pmax pmax
comp=Z,26nm,0.6s,mb5.5
MUD Monsted U'grnd 83.73 326 *i*P **P** **14 00 15.7 +0.4**
comp=Z,26nm,0.6s,mb5.5
KEST Kesra 83.73 305 P **P** **14 00 16.8 +1.1**
comp=Z,10nm,0.6s,mb5.1,baz=33,slow=1.9,SNR=34
KEST LR LR 14 37 26.4
comp=Z,126nm,21.7s,MS4.3,baz=21,slow=36
KEST Kesra 83.73 305 *e*P **P** **14 00 16.7 +0.9**
PGF Pioggiola 83.86 312 *e*P **P** **14 00 16.3 0.0**
comp=Z,41nm,0.8s,mb5.3
PGF Pioggiola 83.86 312 *e*P **P** **14 00 16.3 0.0**
comp=Z,41nm,0.8s,mb5.6
PGF Pioggiola 83.86 312 *e*P **P** **14 00 16.3 0.0**
PGF pmax pmax
comp=Z,41nm,0.8s,mb5.6
KBS Kingsbay 83.96 349 *e*P **P** **14 00 15.5 -0.6**
KBS Kingsbay 83.96 349 PFAKE 14 00 30.0 +14
KBS LR LR
comp=Z,702nm,20.0s,MS5.0
BFO Black Forest 84.25 318 *e*P **P** **14 00 17.6 -0.5**
comp=Z,26nm,0.6s,mb5.5
BFO Black Forest 84.25 318 *e*P **P** **14 00 17.6 -0.5**
BFO pmax pmax
comp=Z,26nm,0.6s,mb5.5
BFO Black Forest 84.25 318 P **P** **14 00 17.8 -0.3**
comp=Z,270nm,0.6s,mb6.5,SNR=24
LANF Langenberg 84.58 319 *e*P **P** **14 00 19.9 +0.1**
MOL Molde 84.59 332 *e*P **P** **14 00 19.2 -0.3**
MOL *ep*P pP 14 00 33.8 -1.7
SNART Snartemo 84.79 328 *e*P **P** **14 00 22.3 +1.7**
MSVF Nonsavu 84.80 108 PFAKE 14 00 30.0 +8.5
MSVF LR LR
comp=Z,1μm,19.0s,MS5.4
CDF Champ du Feu 84.95 318⇑*i*P **P** **14 00 21.1 -0.5**
comp=Z,24nm,0.6s,mb5.2
CDF Champ du Feu 84.95 318⇑*i*P **P** **14 00 21.1 -0.5**
comp=Z,24nm,0.6s,mb5.5
CDF Champ du Feu 84.95 318⇑*i*P **P** **14 00 21.1 -0.5**
CDF pmax pmax
comp=Z,24nm,0.6s,mb5.5
SBF Sospel 84.97 313⇑*i*P **P** **14 00 21.8 -0.1**
comp=Z,139nm,0.7s,mb5.9
SBF Sospel 84.97 313⇑*i*P **P** **14 00 21.8 -0.1**
comp=Z,139nm,0.7s,mb6.2
SBF Sospel 84.97 313⇑*i*P **P** **14 00 21.8 -0.1**
SBF pmax pmax
comp=Z,139nm,0.7s,mb6.2
ECH Echery 85.03 318 *e*P **P** **14 00 21.4 -0.7**
comp=Z,10nm,0.6s,mb5.1
ECH Echery 85.03 318 *e*P **P** **14 00 21.4 -0.7**
ECH pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
ECH Echery 85.03 318 *e*P **P** **14 00 21.8 -0.3**
MOF Molkenrain 85.06 317 *e*P **P** **14 00 22.6 +0.4**
ODD1 Odda 85.07 330 *e*P **P** **14 00 22.8 +0.9**
TOUF Mont Tournerai 85.10 314 *e*P **P** **14 00 22.7 +0.2**
HINF Hinteralfeld 85.25 317⇑*i*P **P** **14 00 22.2 -1.0**
comp=Z,18nm,0.5s,mb5.1
HINF Hinteralfeld 85.25 317⇑*i*P **P** **14 00 22.2 -1.0**
comp=Z,18nm,0.5s,mb5.5
HINF Hinteralfeld 85.25 317⇑*i*P **P** **14 00 22.2 -1.0**
HINF pmax pmax
comp=Z,18nm,0.5s,mb5.5
LOMF Lomont 85.28 317 *e*P **P** **14 00 22.6 -0.7**
CALN Calern 85.37 313 *e*P **P** **14 00 23.5 -0.4**
LPG La Plagne 85.40 315⇑*i*P **P** **14 00 24.3 +0.3**
comp=Z,66nm,0.7s,mb5.6
LPG La Plagne 85.40 315⇑*i*P **P** **14 00 24.3 +0.3**
comp=Z,66nm,0.7s,mb5.9
LPG La Plagne 85.40 315⇑*i*P **P** **14 00 24.3 +0.3**
LPG pmax pmax
comp=Z,66nm,0.7s,mb5.9
SNZO South Karori 85.42 132 PFAKE 14 00 40.0 +16
SNZO LR LR
comp=Z,806nm,21.0s,MS5.1
LPL La Plagne 85.42 315⇑*i*P **P** **14 00 24.3 +0.3**
comp=Z,92nm,0.7s,mb5.7
LPL La Plagne 85.42 315⇑*i*P **P** **14 00 24.3 +0.3**
comp=Z,92nm,0.7s,mb6.0
LPL La Plagne 85.42 315⇑*i*P **P** **14 00 24.3 +0.3**
LPL pmax pmax
comp=Z,92nm,0.7s,mb6.0
MBDF Montbardon 85.42 314 *e*P **P** **14 00 23.4 -0.7**
comp=Z,36nm,0.6s,mb5.3
MBDF Montbardon 85.42 314 *e*P **P** **14 00 23.4 -0.7**
comp=Z,36nm,0.6s,mb5.7
MBDF Montbardon 85.42 314 *e*P **P** **14 00 23.4 -0.7**
MBDF pmax pmax
comp=Z,36nm,0.6s,mb5.7
OG01 Vacheresse 85.42 316 *e*P **P** **14 00 24.2 +0.2**
BNI Bardonecchia 85.47 315 *e*P **P** **14 00 23.8 -0.5**
comp=Z,22nm,0.8s,mb5.3
BNI Bardonecchia 85.47 315 *e*P **P** **14 00 23.8 -0.5**
BNI pmax pmax
comp=Z,22nm,0.8s,mb5.3
RSL Roselend 85.48 315 *e*P **P** **14 00 24.2 -0.2**
FRF La Foret Royal 85.56 313⇑*i*P **P** **14 00 24.8 0.0**
comp=Z,59nm,0.7s,mb5.7
FRF La Foret Royal 85.56 313⇑*i*P **P** **14 00 24.8 0.0**
comp=Z,59nm,0.7s,mb5.9
FRF La Foret Royal 85.56 313⇑*i*P **P** **14 00 24.8 0.0**
FRF pmax pmax
comp=Z,59nm,0.7s,mb5.9
HAU Haudompre 85.58 318⇑*i*P **P** **14 00 24.3 -0.5**
comp=Z,71nm,0.6s,mb5.8
HAU *e*R
comp=Z,260nm,18.2s
HAU Haudompre 85.58 318⇑*i*P **P** **14 00 24.3 -0.5**
comp=Z,71nm,0.6s,mb6.1
HAU Haudompre 85.58 318⇑*i*P **P** **14 00 24.3 -0.5**
HAU pmax pmax
comp=Z,71nm,0.6s,mb6.1
WLF Walferdange 85.64 319 P **P** **14 00 25.8 +0.8**
comp=Z,17nm,1.4s,mb5.1
LMR La Mourre 85.67 313⇑*i*P **P** **14 00 25.2 -0.1**
comp=Z,25nm,0.7s,mb5.2
LMR La Mourre 85.67 313⇑*i*P **P** **14 00 25.2 -0.1**
comp=Z,25nm,0.7s,mb5.5
LMR La Mourre 85.67 313⇑*i*P **P** **14 00 25.2 -0.1**
LMR pmax pmax
comp=Z,25nm,0.7s,mb5.5
RUND Rundenannen 85.68 330 *e*P **P** **14 00 24.8 -0.2**
BER Bergen 85.70 330 *e*P **P** **14 00 25.2 +0.1**
MEM Membach 85.70 320 P **P** **14 00 25.3 0.0**
comp=Z,9.4nm,0.7s,mb5.1
ASK Askoy 85.77 330 *e*P **P** **14 00 25.0 -0.4**
ASK *ep*P pP 14 00 39.9 -1.5
FOO Floro 85.79 331 *e*P **P** **14 00 25.7 +0.2**
THEF They Montfort 85.82 318 *e*P **P** **14 00 25.6 -0.4**
CABF La Chapelle 85.82 316⇑*i*P **P** **14 00 26.1 +0.1**
comp=Z,46nm,0.6s,mb5.6
CABF La Chapelle 85.82 316⇑*i*P **P** **14 00 26.1 +0.1**
comp=Z,46nm,0.6s,mb5.9
CABF La Chapelle 85.82 316⇑*i*P **P** **14 00 26.1 +0.1**
CABF pmax pmax
comp=Z,46nm,0.6s,mb5.9
BEBN Eben Emael 85.90 320 P **P** **14 00 26.4 +0.1**
PAGF Fort de Pagny 85.97 318 *e*P **P** **14 00 26.4 -0.3**
comp=Z,4.1nm,0.6s,mb4.6
PAGF Fort de Pagny 85.97 318 *e*P **P** **14 00 26.4 -0.3**
comp=Z,4.1nm,0.6s,mb4.8
ORIF Oris-en-Rattie 86.04 315⇑*i*P **P** **14 00 26.8 -0.4**
comp=Z,36nm,0.6s,mb5.5
ORIF *e*R
comp=Z,263nm,18.2s
ORIF Oris-en-Rattie 86.04 315⇑*i*P **P** **14 00 26.8 -0.4**
comp=Z,36nm,0.6s,mb5.8
ORIF Oris-en-Rattie 86.04 315⇑*i*P **P** **14 00 26.8 -0.4**
ORIF pmax pmax
comp=Z,36nm,0.6s,mb5.8
BCLA Clavier 86.16 320 P **P** **14 00 27.2 -0.4**
OG35 Corcelles 86.20 316 *e*P **P** **14 00 27.9 0.0**
SMRF Simiane la Rot 86.31 314⇑*i*P **P** **14 00 29.0 +0.5**
comp=Z,27nm,0.7s,mb5.3
SMRF Simiane la Rot 86.31 314⇑*i*P **P** **14 00 29.0 +0.5**
comp=Z,27nm,0.7s,mb5.6
BKZ Black Stump Fm 86.40 130 P* **P** **14 00 28.2 -0.8**
MEZF Maizieres J'vi 86.42 318⇑*i*P **P** **14 00 28.7 -0.2**
comp=Z,32nm,0.8s,mb5.3
MEZF Maizieres J'vi 86.42 318⇑*i*P **P** **14 00 28.7 -0.2**
comp=Z,32nm,0.8s,mb5.6
SFTF Sexfontaines 86.45 318⇑*i*P **P** **14 00 28.8 -0.3**
comp=Z,68nm,0.6s,mb5.8
SFTF Sexfontaines 86.45 318⇑*i*P **P** **14 00 28.8 -0.3**
comp=Z,68nm,0.6s,mb6.0
GIVF Givet 86.48 320 *e*P **P** **14 00 29.1 -0.1**
GIVF Givet 86.48 320 *e*P **P** **14 00 29.1 -0.1**
GIVF Givet 86.48 320 *e*P **P** **14 00 29.1 -0.1**
DOU Dourbes 86.63 320 P **P** **14 00 29.9 0.0**
URZ Urewera 86.74 129 LR LR 14 44 52.7
comp=Z,736nm,18.6s,MS5.1,baz=289,slow=39
SNF Seneffe 86.80 320 P **P** **14 00 30.0 -0.7**
BAIF Baives 86.88 320⇑*i*P **P** **14 00 31.3 +0.2**
comp=Z,46nm,0.6s,mb5.6
BAIF Baives 86.88 320⇑*i*P **P** **14 00 31.3 +0.2**
comp=Z,46nm,0.6s,mb5.9
BAIF Baives 86.88 320⇑*i*P **P** **14 00 31.3 +0.2**
BAIF pmax pmax
comp=Z,46nm,0.6s,mb5.9
VIVF Saint-Julien-l 86.91 315 *e*P **P** **14 00 30.7 -0.7**
comp=Z,37nm,0.7s,mb5.4
VIVF Saint-Julien-l 86.91 315 *e*P **P** **14 00 30.7 -0.7**
comp=Z,37nm,0.7s,mb5.7
VIVF Saint-Julien-l 86.91 315 *e*P **P** **14 00 30.7 -0.7**
VIVF pmax pmax
comp=Z,37nm,0.7s,mb5.7
SSB Saint Sauveur 86.97 315 *e*P **P** **14 00 31.6 -0.1**
comp=Z,20nm,0.8s,mb5.4
SSB Saint Sauveur 86.97 315 *e*P **P** **14 00 31.6 -0.1**
SSB pmax pmax
comp=Z,20nm,0.8s,mb5.4
MWZ Matawai 87.07 129 PN **P** **14 00 30.9 -1.4**
LOR Lormes 87.31 317⇑*i*P **P** **14 00 33.0 -0.3**
comp=Z,53nm,0.6s,mb5.7
LOR *e*R
comp=Z,288nm,22.8s
LOR Lormes 87.31 317⇑*i*P **P** **14 00 33.0 -0.3**
comp=Z,53nm,0.6s,mb6.0
LOR Lormes 87.31 317⇑*i*P **P** **14 00 33.0 -0.3**
LOR pmax pmax
comp=Z,53nm,0.6s,mb6.0
SMF Signal de Mont 87.36 316⇑*i*P **P** **14 00 33.2 -0.4**
comp=Z,67nm,0.6s,mb5.7
SMF Signal de Mont 87.36 316⇑*i*P **P** **14 00 33.2 -0.4**
comp=Z,67nm,0.6s,mb6.0
SMF Signal de Mont 87.36 316⇑*i*P **P** **14 00 33.2 -0.4**
SMF pmax pmax
comp=Z,67nm,0.6s,mb6.0
LASF Ste Croix 87.54 314⇑*i*P **P** **14 00 34.6 +0.1**
comp=Z,39nm,0.9s,mb5.3
LASF Ste Croix 87.54 314⇑*i*P **P** **14 00 34.6 +0.1**
comp=Z,39nm,0.9s,mb5.6
SSF Saint Saulge 87.56 317⇑*i*P **P** **14 00 34.2 -0.3**
comp=Z,32nm,0.6s,mb5.4
SSF Saint Saulge 87.56 317⇑*i*P **P** **14 00 34.2 -0.3**
comp=Z,32nm,0.6s,mb5.7
SSF Saint Saulge 87.56 317⇑*i*P **P** **14 00 34.2 -0.3**
SSF pmax pmax
comp=Z,33nm,0.6s,mb5.7
PLDF La Plantade 87.56 316 *e*P **P** **14 00 34.7 +0.1**
AVF Avril sur Loir 87.69 317⇑*i*P **P** **14 00 34.8 -0.3**
comp=Z,24nm,0.7s,mb5.2
AVF Avril sur Loir 87.69 317⇑*i*P **P** **14 00 34.8 -0.3**
comp=Z,24nm,0.7s,mb5.5
AVF Avril sur Loir 87.69 317⇑*i*P **P** **14 00 34.8 -0.3**
AVF pmax pmax
comp=Z,24nm,0.7s,mb5.5
TAM Tamanrasset 87.73 293 P **P** **14 00 36.5 +0.6**
comp=Z,6.3nm,1.0s,mb4.8
TAM LR LR
comp=Z,380nm,20.0s,MS4.8
TAM Tamanrasset 87.73 293 P **P** **14 00 36.5 +0.7**
TAM pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
TAM MLR MLR
comp=Z,380nm,20.0s,MS4.8
LBL Lubilhac 87.89 315 *e*P **P** **14 00 36.8 +0.7**
AGO Saint Agoulin 87.90 316 *e*P **P** **14 00 36.3 +0.2**
PYM Petit Puy Mans 88.01 316 *e*P **P** **14 00 36.4 -0.3**
BGF Bois d'Agland 88.05 316⇑*i*P **P** **14 00 37.0 +0.1**
comp=Z,33nm,0.7s,mb5.4
BGF Bois d'Agland 88.05 316⇑*i*P **P** **14 00 37.0 +0.1**
comp=Z,33nm,0.7s,mb5.7
BGF Bois d'Agland 88.05 316⇑*i*P **P** **14 00 37.0 +0.1**
BGF pmax pmax
comp=Z,33nm,0.7s,mb5.7
HYF Humbligny 88.13 317 *e*P **P** **14 00 37.6 +0.4**
HYF Humbligny 88.13 317 *e*P **P** **14 00 37.6 +0.4**
TCF Toulx Ste Croi 88.52 316⇑*i*P **P** **14 00 39.2 +0.1**
comp=Z,17nm,0.7s,mb5.2
TCF Toulx Ste Croi 88.52 316⇑*i*P **P** **14 00 39.2 +0.1**
comp=Z,17nm,0.7s,mb5.5
TCF Toulx Ste Croi 88.52 316⇑*i*P **P** **14 00 39.2 +0.1**
TCF pmax pmax
comp=Z,17nm,0.7s,mb5.5
TNA Tin City 88.54 24 *e*P **P** **14 00 38.1 -0.6**
comp=Z,28nm,0.6s,mb5.8
CAF Calviac 88.75 315 *e*P **P** **14 00 40.5 +0.3**
comp=Z,16nm,0.9s,mb5.0
CAF Calviac 88.75 315 *e*P **P** **14 00 40.5 +0.3**
comp=Z,16nm,0.9s,mb5.3
CAF Calviac 88.75 315 *e*P **P** **14 00 40.5 +0.3**
CAF pmax pmax
comp=Z,16nm,0.9s,mb5.3
MTLF Montolieu 88.79 313 *e*P **P** **14 00 40.0 -0.4**
comp=Z,34nm,1.0s,mb5.3
MTLF Montolieu 88.79 313 *e*P **P** **14 00 40.0 -0.4**
comp=Z,34nm,1.0s,mb5.6
MTLF Montolieu 88.79 313 *e*P **P** **14 00 40.0 -0.4**
MTLF pmax pmax
comp=Z,35nm,1.0s,mb5.6
RJF Les Rejaudoux 89.09 315⇑*i*P **P** **14 00 42.3 +0.5**
comp=Z,21nm,0.6s,mb5.4
RJF *e*R
comp=Z,287nm,21.2s
RJF Les Rejaudoux 89.09 315⇑*i*P **P** **14 00 42.3 +0.5**
comp=Z,21nm,0.6s,mb5.6
RJF Les Rejaudoux 89.09 315⇑*i*P **P** **14 00 42.3 +0.5**
RJF pmax pmax
comp=Z,21nm,0.6s,mb5.6
LFF La Frestale 89.68 315⇑*i*P **P** **14 00 45.1 +0.5**
comp=Z,26nm,0.7s,mb5.4
LFF La Frestale 89.68 315⇑*i*P **P** **14 00 45.1 +0.5**
comp=Z,26nm,0.7s,mb5.7
LFF La Frestale 89.68 315⇑*i*P **P** **14 00 45.1 +0.5**
LFF pmax pmax
comp=Z,26nm,0.7s,mb5.7
VNDA Vanda 89.79 168 *e*P **P** **14 00 44.4 0.0**
comp=Z,18nm,1.5s,mb5.2
VNDA Vanda 89.79 168 *e*P **P** **14 00 44.4 +0.1**
VNDA pmax pmax
comp=Z,18nm,1.5s
NIKO Nikolski 89.84 37 *e*P **P** **14 00 45.5 +0.4**
LDF La Druitiere 89.84 319⇑*i*P **P** **14 00 45.3 +0.1**
comp=Z,44nm,0.7s,mb5.6
LDF La Druitiere 89.84 319⇑*i*P **P** **14 00 45.3 +0.1**
comp=Z,44nm,0.7s,mb5.9
LDF La Druitiere 89.84 319⇑*i*P **P** **14 00 45.3 +0.1**
LDF pmax pmax
comp=Z,44nm,0.7s,mb5.9
FLN La Foliniere 90.06 319⇑*i*P **P** **14 00 46.3 +0.1**
comp=Z,62nm,0.5s,mb5.9
FLN *e*R
comp=Z,290nm,17.2s
FLN La Foliniere 90.06 319⇑*i*P **P** **14 00 46.3 +0.1**
comp=Z,62nm,0.5s,mb6.2
FLN La Foliniere 90.06 319⇑*i*P **P** **14 00 46.3 +0.1**
FLN pmax pmax
comp=Z,62nm,0.5s,mb6.2
MFF Saint Martin d 90.10 317⇑*i*P **P** **14 00 46.6 +0.1**
comp=Z,28nm,0.7s,mb5.4
MFF Saint Martin d 90.10 317⇑*i*P **P** **14 00 46.6 +0.1**
comp=Z,28nm,0.7s,mb5.7
MFF Saint Martin d 90.10 317⇑*i*P **P** **14 00 46.6 +0.1**
MFF pmax pmax
comp=Z,28nm,0.7s,mb5.7
EPF Esparros 90.19 313 *e*P **P** **14 00 47.2 +0.2**
comp=Z,8.8nm,0.6s,mb4.9
EPF Esparros 90.19 313 *e*P **P** **14 00 47.2 +0.2**
comp=Z,8.8nm,0.6s,mb5.3
EPF Esparros 90.19 313 *e*P **P** **14 00 47.2 +0.2**
EPF pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
GRR Gorron 90.35 318 *e*P **P** **14 00 48.0 +0.4**
comp=Z,19nm,0.6s,mb5.3
GRR Gorron 90.35 318 *e*P **P** **14 00 48.0 +0.4**
comp=Z,19nm,0.6s,mb5.6
GRR Gorron 90.35 318 *e*P **P** **14 00 48.0 +0.4**
GRR pmax pmax
comp=Z,19nm,0.6s,mb5.6
DAG Danmarks Havn 90.62 348⇑*i*P **P** **14 00 47.2 -1.1**
DAG pmax pmax
comp=Z,14nm,0.6s,mb5.5
DAG Danmarks Havn 90.62 348⇑*i*P **P** **14 00 47.2 -1.1**
comp=Z,21nm,0.6s,mb5.6
ETSF Etsaut 90.86 313 *e*P **P** **14 00 50.3 +0.2**
comp=Z,22nm,0.6s,mb5.3
ETSF Etsaut 90.86 313 *e*P **P** **14 00 50.3 +0.2**
comp=Z,22nm,0.6s,mb5.7
ETSF Etsaut 90.86 313 *e*P **P** **14 00 50.3 +0.2**
ETSF pmax pmax
comp=Z,22nm,0.6s,mb5.7
SBA Scott Base 90.89 168 *e*P **P** **14 00 49.3 -0.2**
comp=Z,55nm,1.8s,mb5.6
SBA LR LR
comp=Z,195nm,20.0s,MS4.5
SBA Scott Base 90.89 168 *e*P **P** **14 00 49.3 -0.2**
SBA pmax pmax
comp=Z,55nm,1.8s,mb5.6
SBA MLR MLR
comp=Z,195nm,20.0s,MS4.5
UNV Unalaska Valle 91.10 36 *e*P **P** **14 00 50.8 -0.2**
SJPF Ste Jean 91.31 313 *e*P **P** **14 00 53.0 +0.8**
comp=Z,25nm,0.8s,mb5.3
SJPF Ste Jean 91.31 313 *e*P **P** **14 00 53.0 +0.8**
comp=Z,25nm,0.8s,mb5.6
SJPF Ste Jean 91.31 313 *e*P **P** **14 00 53.0 +0.8**
SJPF pmax pmax
comp=Z,25nm,0.8s,mb5.6
SGMF Saint Gilles 91.49 318⇑*i*P **P** **14 00 53.0 +0.1**
comp=Z,22nm,0.6s,mb5.3
SGMF Saint Gilles 91.49 318⇑*i*P **P** **14 00 53.0 +0.1**
comp=Z,22nm,0.6s,mb5.7
SGMF Saint Gilles 91.49 318⇑*i*P **P** **14 00 53.0 +0.1**
SGMF pmax pmax
comp=Z,22nm,0.6s,mb5.7
QUIF Quistinic 91.95 318 *e*P **P** **14 00 54.9 -0.1**
comp=Z,35nm,0.6s,mb5.6
QUIF Quistinic 91.95 318 *e*P **P** **14 00 54.9 -0.1**
comp=Z,35nm,0.6s,mb5.9
QUIF Quistinic 91.95 318 *e*P **P** **14 00 54.9 -0.1**
QUIF pmax pmax
comp=Z,35nm,0.6s,mb5.9
ROSF Rostrenen 91.95 319 *e*P **P** **14 00 54.6 -0.4**
comp=Z,22nm,0.6s,mb5.3
ROSF Rostrenen 91.95 319 *e*P **P** **14 00 54.6 -0.4**
comp=Z,22nm,0.6s,mb5.7
ROSF Rostrenen 91.95 319 *e*P **P** **14 00 54.6 -0.4**
ROSF pmax pmax
comp=Z,22nm,0.6s,mb5.7
ALE Alert 92.17 357 P **P** **14 00 55.0 -0.4**
comp=Z,273nm,0.4s,mb6.9,SNR=21
TORD Torodi Ar. Bea 92.19 283 P **P** **14 00 56.9 +0.1**
comp=Z,2.5nm,0.7s,mb4.6,baz=87,slow=4.9,SNR=18
TORD PKKPbc PKKPbc 14 18 14.3 +2.2
comp=Z,0.5nm,0.6s,baz=304,slow=3.1,SNR=7.2
TORD LR LR 14 42 04.4
comp=Z,316nm,18.2s,MS4.8,baz=90,slow=35
TORD Torodi Ar. Bea 92.19 283 P **P** **14 00 56.9 +0.1**
TORD PKKPbc PKKPbc 14 18 14.3 +2.2
MAIT Maitri 92.33 199 *e*P **P** **14 00 58.7 +2.5**
MAIT *e* pP 14 01 13.7 +1.3
JOHN Johnston Islan 93.78 73 PFAKE 14 01 20.0 +16
JOHN LR LR
comp=Z,10μm,22.0s,MS6.2
ESDC Sonseca Array 93.87 310 P **P** **14 01 04.4 +0.3**
comp=Z,4.0nm,0.6s,mb5.0,baz=62,slow=4.1,SNR=50
ESDC PKKPbc PKKPbc 14 18 08.4 0.0
comp=Z,0.3nm,0.6s,baz=286,slow=2.5,SNR=5.3
ESDC LR LR 14 47 46.9
comp=Z,149nm,18.6s,MS4.5,baz=320,slow=38
ESDC Sonseca Array 93.87 310 P **P** **14 01 04.4 +0.4**
ESDC PKKPbc PKKPbc 14 18 08.4 0.0
ESLA Sonseca Array 93.87 310 *e*P **P** **14 01 03.5 -0.5**
comp=Z,0.8nm,0.7s,mb4.3
SCO Scoresbysund 94.20 343 *i*P **P** **14 01 05.7 +0.8**
SCO pmax pmax
comp=Z,8.0nm,0.7s,mb5.3
SCO Scoresbysund 94.20 343 *i*P **P** **14 01 05.7 +0.8**
comp=Z,8.0nm,0.7s,mb5.3
AFI Afiamalu 94.20 104 P **P** **14 01 06.7 +0.6**
comp=Z,11nm,0.7s,mb5.4,baz=346,slow=8.8,SNR=3.0
AFI Afiamalu 94.20 104 P **P** **14 01 06.7 +0.6**
AFI Afiamalu 94.20 104 P **P** **14 01 06.7 +0.6**
AFI pmax pmax
comp=Z,11nm,0.7s,mb5.4
SDPT Sand Point 94.21 34 *e*P **P** **14 01 04.1 -1.2**
comp=Z,55nm,0.6s,mb6.2
QSPA South Pole Qui 94.76 180 PKKPbc PKKPbc 14 18 04.3 -3.4
comp=Z,2.9nm,0.6s,baz=186,slow=1.3,SNR=11
QSPA LR LR 14 40 59.6
comp=Z,582nm,18.9s,MS5.1,baz=141,slow=34
QSPA South Pole Qui 94.76 180 PKKPbc PKKPbc 14 18 04.3 -3.4
COLD Coldfoot 94.89 21 *e*P **P** **14 01 08.7 +0.5**
comp=Z,3.4nm,0.5s,mb5.0
CHGN Chignik 95.07 32 *e*P **P** **14 01 07.6 -1.6**
PPLA Purkeypile 95.86 25 *e*P **P** **14 01 13.0 +0.4**
comp=Z,7.9nm,0.5s,mb5.4
SFS San Fernando 96.17 307 PFAKE 14 01 30.0 +15
SFS LR LR
comp=Z,769nm,22.0s,MS5.1
TRF Thorofare Moun 96.43 24 *e*P **P** **14 01 14.7 -0.5**
comp=Z,4.9nm,0.7s,mb5.0
COLA College 96.78 23 PFAKE 14 01 30.0 +13
COLA LR LR
comp=Z,440nm,21.0s,MS4.9
MCK McKinley 96.86 24 *e*P **P** **14 01 16.7 -0.4**
comp=Z,6.9nm,0.7s,mb5.2
MCK McKinley 96.86 24 *e*P **P** **14 01 16.7 -0.5**
MCK pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
SNAA Sanae 97.05 198 PKKPbc PKKPbc 14 17 57.3 -3.8
comp=Z,1.1nm,0.7s,baz=252,slow=5.4,SNR=16
SNAA Sanae 97.05 198 PKKPbc PKKPbc 14 17 57.3 -3.8
RTC Rabat Centre 97.15 305 PFAKE 14 01 30.0 +11
RTC LR LR
comp=Z,397nm,20.0s,MS4.9
ILAR Eielson Array 97.19 22 P **P** **14 01 17.0 -1.7**
comp=Z,2.9nm,0.6s,mb4.9,baz=275,slow=3.8,SNR=21
ILAR LR LR 14 52 26.8
comp=Z,434nm,18.9s,MS5.0,baz=72,slow=40
ILAR Eielson Array 97.19 22 P **P** **14 01 17.0 -1.7**
ILAR Eielson Array 97.19 22 P **P** **14 01 17.0 -1.6**
ILAR pmax pmax
comp=Z,3.0nm,0.6s
SUMG Summit 97.29 347 *e*P **P** **14 01 17.8 -1.2**
comp=Z,11nm,0.6s,mb5.5
SUMG Summit 97.29 347 *i*P **P** **14 01 19.6 +0.6**
SUMG pmax pmax
comp=Z,10.0nm,0.6s
SUMG Summit 97.29 347 *i*P **P** **14 01 19.6 +0.6**
comp=Z,9.9nm,0.6s,mb5.4
PMR Palmer 97.70 26 *e*P **P** **14 01 21.5 +0.5**
comp=Z,5.3nm,0.6s,mb5.2
PMR Palmer 97.70 26 *e*P **P** **14 01 21.5 +0.5**
PMR pmax pmax
comp=Z,5.0nm,0.6s,mb5.2
SML Sawmill 97.95 25 *e*P **P** **14 01 22.0 -0.1**
comp=Z,4.6nm,0.7s,mb5.1

SML	**Sawmill**	**97.95**	**25**	*e*P	**P**	**14 01 22.0**	**-0.1**	
SML				pmax	pmax			
comp=Z,5.0nm,0.7s,mb5.2								
DBIC	**Dimbokro**	**99.26**	**278**	LR	LR	14 46 18.8		
comp=Z,362nm,19.2s,MS4.9,baz=65,slow=35								
EGAK	**Eagle**	**99.31**	**21**	PFAKE		14 01 40.0	+12	
EGAK				LR	LR			
comp=Z,941nm,20.0s,MS5.3								
MENT	**Mentasta**	**99.31**	**23**	*e*P	**P**	**14 01 28.4**	**+0.2**	
INK	**Inuvik**	**99.63**	**16**	P	Pdif	14 01 29.4	-0.4	
comp=Z,6.4nm,0.5s,baz=335,slow=4.4								
INK	**Inuvik**	**99.63**	**16**	P	Pdif	14 01 29.4	-0.4	
INK	**Inuvik**	**99.63**	**16**	P	Pdif	14 01 29.4	-0.4	
INK				pmax	pmax			
comp=Z,6.0nm,0.5s								
BMRM	**Bremner River**	**99.93**	**25**	*e*Pdif	Pdif	14 01 30.8	-0.3	
comp=Z,12nm,0.6s								
SHEL	**Horse Pasture**	**101.69**	**255**	PFAKE		14 01 50.0	+11	
SHEL				LR	LR			
comp=Z,565nm,21.0s,MS5.1								
YKA	**Yellowknife Ar**	**109.14**	**14**	Pdiff	Pdif	14 02 13.1	+1.1	
comp=Z,0.8nm,0.6s,baz=332,slow=4.7,SNR=26								
YKA				PKiKP	PKiKP	14 06 15.0	-0.7	
comp=Z,0.8nm,0.6s,baz=345,slow=2.1,SNR=14								
YKA				PKKPbc	PKKPbc	14 17 21.2	-3.8	
comp=Z,0.5nm,0.7s,baz=146,slow=3.3,SNR=11								
YKA	**Yellowknife Ar**	**109.14**	**14**	Pdif	Pdif	14 02 13.1	+1.1	
YKA				PKiKP	PKiKP	14 06 15.1	-0.7	
YKA				PKKPbc	PKKPbc	14 17 21.2	-3.8	
YKA	**Yellowknife Ar**	**109.14**	**14**	P	Pdif	14 02 13.1	+1.1	
YKA						14 17 21.2		
YKA				pmax	pmax			
comp=Z,1.0nm,0.6s								
PPT2	**Papeete2**	**115.61**	**107**	*e*PS	PS	14 17 15.9	+2.0	
comp=Z,569nm,29.0s								
PPT2				*e*LR	LR	14 41 24.0		
comp=Z,417nm,30.8s								
JCW	**Jim Creek**	**118.06**	**27**	*e*PKPdf	PKPdf	14 06 33.4	+0.2	
PMSA	**Palmer Station**	**118.33**	**190**	PFAKE		14 06 40.0	+6.8	
PMSA				LR	LR			
comp=Z,806nm,21.0s,MS5.3								
SCHQ	**Schefferville**	**118.67**	**348**	PKP	PKPdf	14 06 33.9	-0.3	
comp=Z,4.5nm,0.5s,baz=32,slow=3.0,SNR=14								
SCHQ				PKKPbc	PKKPbc	14 16 50.2	-2.2	
comp=Z,3.2nm,0.8s,baz=237,slow=8.5,SNR=3.6								
SCHQ	**Schefferville**	**118.67**	**348**	PKP	PKPdf	14 06 33.9	-0.3	
SCHQ				PKKPbc	PKKPbc	14 16 50.2	-2.2	
SCHQ				LR	LR			
comp=Z,1μm,22.0s,MS5.5								
FFC	**Flin Flon**	**118.98**	**11**	*e*PKPdf	PKPdf	14 06 33.8	-1.0	
FFC				LR	LR			
comp=Z,548nm,20.0s,MS5.2								
FFC	**Flin Flon**	**118.98**	**11**	*e*PKIKP	PKPdf	14 06 33.8	-0.9	
FFC				MLR	MLR			
comp=Z,548nm,20.0s,MS5.2								
ETW	**Entiat**	**119.21**	**27**	*e*PKPdf	PKPdf	14 06 34.9	-0.5	
RSW	**Rattlesnake Hi**	**120.46**	**27**	*e*PKPdf	PKPdf	14 06 38.3	+0.4	
BSMT	**Bassoo Peak**	**121.35**	**23**	*e*PKPdf	PKPdf	14 06 38.8	-0.7	
LNOR	**Lincton Mounta**	**121.45**	**27**	*e*PKPdf	PKPdf	14 06 39.5	-0.2	
LNOR	**Lincton Mounta**	**121.45**	**27**	*e*PKIKP	PKPdf	14 06 39.5	-0.3	
SWMT	**Swartz Lake**	**121.94**	**23**	*e*PKPdf	PKPdf	14 06 40.3	-0.3	
SLMT	**Seeley Lake**	**122.35**	**23**	*e*PKPdf	PKPdf	14 06 41.0	-0.4	
MSO	**Missoula**	**122.52**	**23**	*e*PKPdf	PKPdf	14 06 41.1	-0.7	
MSO				LR	LR			
comp=Z,575nm,22.0s,MS5.2								
CHMT	**Chamberlain Mo**	**122.71**	**23**	*e*PKPdf	PKPdf	14 06 41.5	-0.6	
EGMT	**Eagleton**	**123.03**	**20**	*e*PKPdf	PKPdf	14 06 42.8	0.0	
EGMT				LR	LR			
comp=Z,942nm,19.0s,MS5.5								
HRY	**Holter Researc**	**123.42**	**22**	*e*PKPdf	PKPdf	14 06 43.6	+0.1	
MOD	**Modoc**	**123.43**	**31**	*e*PKPdf	PKPdf	14 06 44.1	+0.4	
WVOR	**Wild Horse Val**	**123.88**	**30**	*e*PKPdf	PKPdf	14 06 45.2	+0.7	
WVOR	**Wild Horse Val**	**123.88**	**30**	*e*PKIKP	PKPdf	14 06 45.2	+0.7	
LRM	**Limekiln Ridge**	**123.93**	**23**	*e*PKPdf	PKPdf	14 06 44.1	-0.4	
HOPS	**Hopland**	**123.94**	**35**	*e*PKPdf	PKPdf	14 06 45.5	+0.7	
DLMT	**Dillon**	**124.25**	**23**	*e*PKPdf	PKPdf	14 06 45.4	+0.2	
DGMT	**Dagmar**	**124.30**	**15**	*e*PKPdf	PKPdf	14 06 45.4	+0.2	
DGMT				LR	LR			
comp=Z,733nm,21.0s,MS5.3								
ULM	**Lac du Bonnet**	**124.33**	**8**	PKP	PKPdf	14 06 44.6	-0.6	
comp=Z,20nm,0.7s,baz=359,slow=2.8,SNR=34								
ULM	**Lac du Bonnet**	**124.33**	**8**	*e*PKPdf	PKPdf	14 06 43.9	-1.2	
ULM				PKP	PKPdf	14 06 44.6	-0.6	
ULM	**Lac du Bonnet**	**124.33**	**8**	PKIKP	PKPdf	14 06 44.6	-0.6	
ULM				pmax	pmax			
comp=Z,20nm,0.7s								
BOZ	**Bozeman (W)**	**124.39**	**22**	*e*PKPdf	PKPdf	14 06 45.7	+0.3	
BOZ				LR	LR			
comp=Z,669nm,20.0s,MS5.3								
BOZ	**Bozeman (W)**	**124.39**	**22**	*e*PKIKP	PKPdf	14 06 45.7	+0.3	
BOZ				MLR	MLR			
comp=Z,669nm,20.0s,MS5.3								
MCMT	**McKenzie Canyo**	**124.60**	**24**	*e*PKPdf	PKPdf	14 06 46.6	+0.8	
GCMT	**Greycliff**	**124.99**	**21**	*e*PKPdf	PKPdf	14 06 47.1	+0.6	
QLMT	**Earthquake Lak**	**125.15**	**23**	*e*PKPdf	PKPdf	14 06 47.9	+1.0	
LAO	**LASA Array**	**125.34**	**18**	*e*PKPdf	PKPdf	14 06 47.9	+0.7	
LAO				LR	LR			
comp=Z,860nm,20.0s,MS5.4								
YMR	**Madison River**	**125.47**	**23**	*e*PKPdf	PKPdf	14 06 49.0	+1.5	
YFT	**Old Faithful**	**125.70**	**23**	*e*PKPdf	PKPdf	14 06 50.5	+2.6	
RLMT	**Red Lodge**	**125.71**	**21**	*e*PKPdf	PKPdf	14 06 48.6	+0.6	
RLMT				LR	LR			
comp=Z,687nm,19.0s,MS5.3								
LKWY	**Lake**	**125.77**	**22**	PFAKE		14 07 00.0	+12	
LKWY				LR	LR			
comp=Z,1μm,22.0s,MS5.5								
FLWY	**Flagg Ranch**	**126.07**	**23**	*e*PKPdf	PKPdf	14 06 49.7	+1.0	
AGMN	**Agassiz Nation**	**126.23**	**9**	PFAKE		14 07 00.0	+11	
AGMN				LR	LR			
comp=Z,592nm,20.0s,MS5.3								
DCID1	**Drake Creek**	**126.29**	**23**	*e*PKPdf	PKPdf	14 06 50.1	+1.0	
RRI2	**Red Ridge**	**126.44**	**24**	*e*PKPdf	PKPdf	14 06 50.4	+1.0	
TPAW	**Teton Pass**	**126.47**	**23**	*e*PKPdf	PKPdf	14 06 50.5	+1.0	
LOHW	**Long Hollow**	**126.50**	**23**	*e*PKPdf	PKPdf	14 06 50.0	+0.4	
SNOW	**Snow King Moun**	**126.57**	**23**	*e*PKPdf	PKPdf	14 06 50.1	+0.5	
REDW	**Red Top Meadow**	**126.61**	**23**	*e*PKPdf	PKPdf	14 06 50.6	+0.9	
NVAR	**Mina Array Bea**	**127.00**	**33**	PKP	PKPdf	14 06 52.0	+1.3	
comp=Z,11nm,0.6s,baz=310,slow=2.0,SNR=90								
NVAR	**Mina Array Bea**	**127.00**	**33**	PKP	PKPdf	14 06 52.0	+1.3	
AHID	**Auburn Hatcher**	**127.01**	**24**	PFAKE		14 07 00.0	+9.5	
AHID				LR	LR			
comp=Z,724nm,20.0s,MS5.3								
BW06	**Boulder Array**	**127.62**	**23**	PFAKE		14 07 00.0	+8.3	
BW06				LR	LR			
comp=Z,692nm,21.0s,MS5.3								
HWUT	**Hardware Ranch**	**127.78**	**25**	*e*PKPdf	PKPdf	14 06 52.7	+0.7	
HWUT				LR	LR			
comp=Z,763nm,19.0s,MS5.4								
TPH	**Tonopah**	**127.84**	**32**	PFAKE		14 07 00.0	+7.7	
TPH				LR	LR			
comp=Z,674nm,22.0s,MS5.3								
PKME	**Peaks-Kenny Pk**	**128.20**	**346**	PFAKE		14 07 00.0	+7.3	
PKME				LR	LR			
comp=Z,622nm,20.0s,MS5.3								
RSSD	**Black Hills**	**128.32**	**17**	*e*PKPdf	PKPdf	14 06 52.1	-0.9	
RSSD	**Black Hills**	**128.32**	**17**	*e*PKIKP	PKPdf	14 06 52.1	-0.9	
DUG	**Dugway**	**128.38**	**27**	*e*PKPdf	PKPdf	14 06 54.0	+0.8	
DUG				LR	LR			
comp=Z,485nm,19.0s,MS5.2								
DUG	**Dugway**	**128.38**	**27**	*e*PKIKP	PKPdf	14 06 54.0	+0.8	
DUG				MLR	MLR			
comp=Z,485nm,19.0s,MS5.2								
DAC	**Darwin (Calif)**	**128.95**	**34**	PFAKE		14 07 10.0	+16	
DAC				LR	LR			
comp=Z,985nm,19.0s,MS5.5								
RWWY	**Rawlins**	**129.43**	**22**	*e*PKPdf	PKPdf	14 06 55.5	+0.3	
LBNH	**Lisbon**	**129.77**	**348**	PFAKE		14 07 10.0	+14	
LBNH				LR	LR			
comp=Z,407nm,19.0s,MS5.1								
TMUT	**Trail Mountain**	**129.83**	**27**	*e*PKPdf	PKPdf	14 06 57.3	+1.3	
ARUT	**Antelope Range**	**129.99**	**30**	PKPdf	PKPdf	14 06 58.4	+2.0	
ARUT	**Antelope Range**	**129.99**	**30**	PKIKP	PKPdf	14 06 58.4	+2.0	
MVU	**Marysvale**	**130.02**	**28**	PFAKE		14 07 10.0	+14	
MVU				LR	LR			
comp=Z,648nm,20.0s,MS5.3								
MSU	**Marysvale**	**130.03**	**28**	*e*PKPdf	PKPdf	14 06 58.0	+1.5	
MSU	**Marysvale**	**130.03**	**28**	*e*PKIKP	PKPdf	14 06 58.0	+1.6	
MDV	**Middlebury**	**130.25**	**349**	*e*PKPdf	PKPdf	14 06 57.2	+0.5	
SRU	**San Rafael**	**130.29**	**26**	*e*PKPdf	PKPdf	14 06 57.2	+0.3	
SRU	**San Rafael**	**130.29**	**26**	*e*PKIKP	PKPdf	14 06 57.2	+0.3	
ECSD	**EROS Data Cent**	**130.52**	**11**	*e*PKPdf	PKPdf	14 06 56.6	-0.6	
ECSD				LR	LR			
comp=Z,575nm,19.0s,MS5.3								
GLMI	**Grayling**	**130.56**	**360**	PFAKE		14 07 10.0	+13	
GLMI				LR	LR			
comp=Z,486nm,21.0s,MS5.2								
RCBR	**Riachuelo**	**131.18**	**267**	PFAKE		14 07 10.0	+11	
RCBR				LR	LR			
comp=Z,573nm,20.0s,MS5.3								
PFO	**Pinyon Flat Ob**	**131.51**	**36**	PFAKE		14 07 10.0	+11	
PFO				LR	LR			
comp=Z,537nm,20.0s,MS5.2								
PV04	**Paradox Valley**	**131.59**	**25**	*e*PKPdf	PKPdf	14 07 00.8	+1.5	
ISCO	**Idaho Springs**	**131.67**	**21**	*e*PKPdf	PKPdf	14 06 59.7	+0.2	
ISCO				LR	LR			
comp=Z,654nm,19.0s,MS5.4								
ISCO	**Idaho Springs**	**131.67**	**21**	*e*PKIKP	PKPdf	14 06 59.7	+0.2	
ISCO				MLR	MLR			
comp=Z,654nm,19.0s,MS5.4								
SMCO	**Snowmass**	**131.70**	**23**	*e*PKPdf	PKPdf	14 07 00.8	+1.3	
OGNE	**Ogallala**	**131.82**	**17**	PFAKE		14 07 10.0	+10	
OGNE				LR	LR			
comp=Z,562nm,19.0s,MS5.3								
PV01	**Paradox Valley**	**131.94**	**25**	*e*PKPdf	PKPdf	14 07 00.3	+0.2	
BAR	**Barrett**	**132.05**	**37**	*e*PKPdf	PKPdf	14 07 01.4	+1.0	
JFWS	**Jewell Farm**	**132.23**	**5**	PFAKE		14 07 10.0	+10	
JFWS				LR	LR			
comp=Z,445nm,20.0s,MS5.2								
MVCO	**Mesa Verde**	**132.75**	**26**	*e*PKPdf	PKPdf	14 07 01.4	-0.2	
MVCO				LR	LR			
comp=Z,663nm,20.0s,MS5.3								
WUAZ	**Wupatki**	**132.80**	**30**	*e*PKPdf	PKPdf	14 07 02.2	+0.5	
SCIA	**State Center**	**132.87**	**8**	PFAKE		14 07 10.0	+8.3	
SCIA				LR	LR			
comp=Z,918nm,19.0s,MS5.5								
ERPA	**Erie**	**133.06**	**355**	PFAKE		14 07 10.0	+8.0	
ERPA				LR	LR			
comp=Z,579nm,21.0s,MS5.3								
SDCO	**Great Sand Dun**	**133.52**	**23**	PFAKE		14 07 10.0	+7.0	
SDCO				LR	LR			
comp=Z,957nm,20.0s,MS5.5								
CBKS	**Cedar Bluff**	**134.46**	**16**	PFAKE		14 07 20.0	+15	
CBKS				LR	LR			
comp=Z,775nm,19.0s,MS5.4								
KSU1	**Kansas State U**	**134.97**	**13**	*e*PKPdf	PKPdf	14 07 06.8	+1.0	
KSU1				LR	LR			
comp=Z,567nm,21.0s,MS5.3								
ACSO	**Alum Creek Sta**	**135.12**	**358**	PFAKE		14 07 20.0	+14	
ACSO				LR	LR			
comp=Z,678nm,20.0s,MS5.4								
ANMO	**Albuquerque**	**135.54**	**25**	*e*PKPpre	PKPpre	14 06 53.7		
ANMO				*e*PKPdf	PKPdf	14 07 08.0	+1.1	
ANMO				LR	LR			
comp=Z,559nm,22.0s,MS5.2								
ANMO	**Albuquerque**	**135.54**	**25**	*e*PKHKP	PKPpre	14 06 53.7		
ANMO				*e*		14 07 08.0		
ANMO				MLR	MLR			
comp=Z,559nm,22.0s								
TUC	**Tucson**	**135.63**	**32**	*e*PKPdf	PKPdf	14 07 07.6	+0.5	
TUC	**Tucson**	**135.63**	**32**	*e*PKIKP	PKPdf	14 07 07.6	+0.4	
LENM	**Lemitar**	**135.98**	**27**	*e*PKPdf	PKPdf	14 07 08.7	+1.0	
BNM	**Barren Site**	**136.15**	**26**	PKPdf	PKPdf	14 07 09.0	+0.9	
CBN	**Corbin**	**136.61**	**351**	PFAKE		14 07 20.0	+11	
CBN				LR	LR			
comp=Z,460nm,19.0s,MS5.2								
AMTX	**Amarillo**	**137.46**	**21**	PFAKE		14 07 20.0	+10	
AMTX				LR	LR			
comp=Z,928nm,20.0s,MS5.5								
BLA	**Blacksburg**	**137.96**	**355**	PFAKE		14 07 20.0	+8.7	
BLA				LR	LR			
comp=Z,551nm,20.0s,MS5.3								
WMOK	**Wichita Mounta**	**138.53**	**17**	*e*PKPpre	PKPpre	14 07 00.8		
WMOK	**Wichita Mounta**	**138.53**	**17**	*e*PKHKP	PKPpre	14 07 00.8		
MNTX	**Cornudas Mount**	**138.77**	**27**	*e*PKPdf	PKPdf	14 07 13.2	+0.2	
MNTX				LR	LR			
comp=Z,494nm,21.0s,MS5.2								
GDL2	**Guadalupe Moun**	**138.79**	**25**	*e*PKPpre	PKPpre	14 07 04.7		
TZTN	**Tazewell**	**138.82**	**358**	*e*PKPpre	PKPpre	14 07 02.4		
CLNB	**Carlsbad**	**138.94**	**25**	*e*PKPdf	PKPdf	14 07 15.1	+1.8	
WVT	**Waverly**	**139.16**	**4**	*e*PKPpre	PKPpre	14 07 02.7		
WVT	**Waverly**	**139.16**	**4**	*e*PKHKP	PKPpre	14 07 02.7		
SPB	**Sao Paulo**	**139.34**	**239**	PFAKE		14 07 30.0	+16	
SPB				LR	LR			
comp=Z,345nm,19.0s,MS5.1								
CNNC	**Cliffs of the**	**139.59**	**351**	PFAKE		14 07 30.0	+16	
CNNC				LR	LR			
comp=Z,735nm,19.0s,MS5.5								
TKL	**Tuckaleechee C**	**139.71**	**359**	*e*PKPdf	PKPdf	14 07 14.8	+0.2	
TKL	**Tuckaleechee C**	**139.71**	**359**	*e*PKIKP	PKPdf	14 07 14.8	+0.2	
MIAR	**Mount Ida**	**139.99**	**11**	*e*PKPpre	PKPpre	14 07 05.7		
MIAR				LR	LR			
comp=Z,473nm,22.0s,MS5.2								
MIAR	**Mount Ida**	**139.99**	**11**	*e*PKHKP	PKPpre	14 07 05.7		
MIAR				MLR	MLR			
comp=Z,473nm,22.0s,MS5.2								
PLAL	**Pickwick Lake**	**140.29**	**4**	PFAKE		14 07 30.0	+14	
PLAL				LR	LR			
comp=Z,618nm,22.0s,MS5.3								
OXF	**Oxford**	**140.64**	**6**	PFAKE		14 07 30.0	+14	
OXF				LR	LR			
comp=Z,681nm,20.0s,MS5.4								
TXAR	**Lajitas Array**	**141.56**	**27**	PKhKP	PKPpre	14 07 13.0		
comp=Z,4.4nm,0.6s,baz=95,slow=0.0,SNR=33								
TXAR				SKP		14 10 51.6		
comp=Z,1.4nm,0.5s,baz=315,slow=0.3,SNR=7.8								
TXAR	**Lajitas Array**	**141.56**	**27**	PKPpre	PKPpre	14 07 13.0		
TXAR				SKP		14 10 51.6		
GOGA	**Godfrey**	**141.94**	**358**	PFAKE		14 07 30.0	+11	
GOGA				LR	LR			
comp=Z,524nm,21.0s,MS5.3								
PLCA	**Paso Flores**	**141.99**	**198**	PKhKP	PKPpre	14 07 14.6		
comp=Z,4.3nm,0.7s,baz=246,slow=6.1,SNR=11								
PLCA	**Paso Flores**	**141.99**	**198**	PKPpre	PKPpre	14 07 14.6		
PLCA				LR	LR			
comp=Z,938nm,20.0s,MS5.5								
NHSC	**New Hope**	**142.00**	**354**	PFAKE		14 07 30.0	+11	
NHSC				LR	LR			
comp=Z,641nm,21.0s,MS5.4								
JCT	**Junction City**	**142.11**	**21**	*e*PKPpre	PKPpre	14 07 13.2		
JCT				LR	LR			
comp=Z,577nm,19.0s,MS5.4								
JCT	**Junction City**	**142.11**	**21**	*e*PKHKP	PKPpre	14 07 13.2		
JCT				MLR	MLR			
comp=Z,577nm,19.0s,MS5.4								
LRAL	**Lakeview Retre**	**142.29**	**3**	*e*PKPpre	PKPpre	14 07 12.4		
LRAL				LR	LR			
comp=Z,668nm,19.0s,MS5.4								
NATX	**Nacogdoches**	**142.45**	**14**	*e*PKPpre	PKPpre	14 07 15.2		
NATX				LR	LR			
comp=Z,668nm,20.0s,MS5.4								
VBMS	**Vicksburg**	**142.77**	**8**	PFAKE		14 07 30.0	+10	
VBMS				LR	LR			
comp=Z,425nm,19.0s,MS5.2								
BRAL	**Brewton**	**144.30**	**3**	PFAKE		14 07 30.0	+7.1	
BRAL				LR	LR			
comp=Z,557nm,20.0s,MS5.3								
CPUP	**Villa Florida**	**146.04**	**228**	PKPbc	PKPbc	14 07 26.5	-0.4	
comp=Z,11nm,0.8s,baz=94,slow=4.1,SNR=32								
CPUP	**Villa Florida**	**146.04**	**228**	PKPbc	PKPbc	14 07 26.5	-0.4	
CPUP				LR	LR			
comp=Z,111nm,19.0s,MS4.7								
DWPF	**Disney**	**147.07**	**354**	*e*PKPbc	PKPbc	14 07 29.7	-0.1	
LZG	**Guadaloupe-1**	**149.03**	**313**	*e*P	PKPbc	14 07 35.3	0.0	
TBG	**Guadaloupe-3**	**149.12**	**312**	*e*P	PKPbc	14 07 35.5	-0.1	
FDF	**Fort de France**	**149.44**	**310**	PFAKE		14 07 40.0	+8.1	
FDF				LR	LR			
comp=Z,262nm,20.0s,MS5.0								
MTP	**Monte Pirata**	**150.25**	**320**	*e*PKPbc	PKPbc	14 07 38.0	-0.3	
CBYP	**Canovanas**	**150.32**	**321**	*e*PKPbc	PKPbc	14 07 38.4	0.0	
SJG	**San Juan**	**150.62**	**321**	*e*PKPbc	PKPbc	14 07 38.6	-0.6	
SJG				LR	LR			
comp=Z,311nm,21.0s,MS5.1								
LRS	**Lares**	**150.91**	**323**	*e*PKPbc	PKPbc	14 07 39.1	-0.7	
CELP	**Cerrillos**	**150.91**	**322**	*e*PKPbc	PKPbc	14 07 39.6	-0.2	
OBIP	**Obispado Ponce**	**150.95**	**322**	*e*PKPbc	PKPbc	14 07 39.5	-0.4	
ICM	**Isla Caja Muer**	**151.01**	**322**	*e*PKPbc	PKPbc	14 07 39.6	-0.5	
CRPR	**Cabo Rojo, PR**	**151.29**	**323**	*e*PKPbc	PKPbc	14 07 40.7	0.0	
GRGR	**Grenville**	**151.37**	**306**	PFAKE		14 07 50.0	+15	
GRGR				LR	LR			
comp=Z,315nm,20.0s,MS5.1								
LCO	**Las Campanas**	**152.43**	**208**	*e*PKPbc	PKPbc	14 07 43.0	0.0	
LCO				LR	LR			
comp=Z,726nm,22.0s,MS5.4								
SDDR	**Presa de Saban**	**152.78**	**331**	*e*PKPbc	PKPbc	14 07 45.3	+1.2	
SDDR				LR	LR			
comp=Z,390nm,19.0s,MS5.2								
GTBY	**Guantanamo Bay**	**153.57**	**339**	PFAKE		14 07 50.0	+12	
GTBY				LR	LR			
comp=Z,294nm,21.0s,MS5.1								
MTDJ	**Mount Denham**	**155.95**	**343**	*e*PKPab	PKPab	14 08 08.9	+0.6	
MTDJ				LR	LR			
comp=Z,406nm,19.0s,MS5.3								
LVC	**Limon Verde**	**156.50**	**220**	PFAKE		14 07 50.0	+8.0	
LVC				LR	LR			
comp=Z,327nm,19.0s,MS5.2								
SAML	**Samuel**	**158.03**	**258**	PFAKE		14 07 50.0	+5.9	
SAML				LR	LR			
comp=Z,407nm,21.0s,MS5.2								
LPAZ	**La Paz**	**159.96**	**234**	PKP	PKPdf	14 07 47.4	+1.1	
comp=Z,3.2nm,0.7s,baz=96,slow=1.3,SNR=15								
LPAZ	**La Paz**	**159.96**	**234**	*e*PKPbc	PKPdf	14 07 47.0	+0.7	
LPAZ				PKP	PKPdf	14 07 47.4	+1.1	
LPAZ				LR	LR			
comp=Z,432nm,20.0s,MS5.3								
LPAZ	**La Paz**	**159.96**	**234**	PKIKP	PKPdf	14 07 47.4	+1.1	
LPAZ				pmax	pmax			
comp=Z,3.0nm,0.7s								
SDV	**Santo Domingo**	**160.28**	**314**	PFAKE		14 08 00.0	+13	
SDV				LR	LR			
comp=Z,195nm,22.0s								
JTS	**JuntasAbangare**	**164.97**	**0**	PFAKE		14 08 00.0	+8.6	
JTS				LR	LR			
comp=Z,453nm,20.0s								
BCIP	**Isla Barro Col**	**165.19**	**340**	PFAKE		14 08 00.0	+8.4	
BCIP				LR	LR			
comp=Z,403nm,19.0s								
ROSC	**El Rosal**	**165.69**	**312**	PKP	PKPdf	14 07 53.0	+1.0	
comp=Z,9.6nm,0.6s,baz=239,slow=21,SNR=4.3								
ROSC	**El Rosal**	**165.69**	**312**	PKP	PKPdf	14 07 53.0	+1.0	
NNA	**Nana**	**169.30**	**228**	PFAKE		14 08 10.0	+15	
NNA				LR	LR			
comp=Z,340nm,20.0s								
OTAV	**Otavalo**	**171.79**	**308**	*e*PKPdf	PKPdf	14 07 56.3	+0.3	
OTAV				LR	LR			
comp=Z,425nm,20.0s								

ISK ***21*** *13:48:00.6, 37°.35N×28°.31E, h5km, ML2.3*
ISCJB ***21*** *13:48:02.8±0.8, 37°.27N±0°.05×28°.26E±0°.06, h7km±14km, Error ellipse: s-maj=9.5km s-min=5.9km az=139.9*
DDA ***21*** *13:48:02.7, 37°.23N×28°.18E, h7km±2km, Md2.7*
CSEM ***21*** *13:48:03.1±0.2, 37°.24N×28°.22E, h1km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.4km az=50.0*

ISC 21 13:48:03.0±1.0, 37°.25N±0°.04×28°.25E±0°.06, h12km±12km, n12, σ0°81/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**166**	*e*PG		**Pg**	**13 48 05.5**	**-0.6**
YER				*e*SG		**Sg**	**13 48 08.6**	**+0.2**
YER	**Yerkesik**	**0.12**	**166**	*e*Pg		**Pg**	**13 48 05.5**	**-0.7**
YER				*e*Sg		**Sg**	**13 48 08.6**	**+0.2**
TURN	**Turunc**	**0.47**	**143**	*i* P		**Pg**	**13 48 11.7**	**-0.7**
TURN				*i* S		**Sg**	**13 48 18.7**	**+0.1**
TURN	**Turunc**	**0.47**	**143**	*i* P		**Pg**	**13 48 11.7**	**-0.6**
TURN				*i* S		**Sg**	**13 48 18.7**	**+0.1**
AYDN	**Tasoluk**	**0.50**	**325**	*i* P		**Pg**	**13 48 12.8**	**-0.1**
AYDN				*i* S		**Sg**	**13 48 19.6**	**0.0**
AYDN	**Tasoluk**	**0.50**	**325**	*i* P		**Pg**	**13 48 12.8**	**-0.1**
AYDN				*i* S		**Sg**	**13 48 19.6**	**0.0**
DAT	**Datca**	**0.75**	**226**	*e*PG		**Pg**	**13 48 17.4**	**-0.1**
DAT				*e*SG		**Sg**	**13 48 29.7**	**+2.4**
DAT	**Datca**	**0.75**	**226**	*e*Pg		**Pg**	**13 48 17

1.1nm,1.0s,mb3.6,baz=281,slow=9.8,SNR=3.7
SNAA Sanae 45.04 154 P **P 14 22 03.3 -0.2**
QSPA South Pole Qui 45.61 180 P **P 14 22 08.7 +0.8**
0.7nm,0.3s,mb4.1,baz=116,slow=4.1,SNR=3.7
QSPA South Pole Qui 45.61 180 P **P 14 22 08.7 +0.8**
ROSC El Rosal 49.74 10 LR LR 14 41 09.9
comp=Z,133nm,20.1s,MS3.9,baz=200,slow=33
SDV Santo Domingo 54.25 14 P **P 14 23 13.8 -0.5**
TXAR Lajitas Array 76.22 341 P **P 14 25 36.1 -0.4**
1.4nm,1.1s,mb3.8,baz=174,slow=5.0,SNR=4.9
TXAR Lajitas Array 76.22 341 P **P 14 25 36.1 -0.4**
ANMO Albuquerque 82.27 340 P **P 14 26 09.8 +0.4**
1.5nm,0.9s,mb3.9,baz=171,slow=8.7,SNR=5.7
ANMO Albuquerque 82.27 340 P **P 14 26 09.8 +0.4**
DBIC Dimbokro 85.58 76 P **P 14 26 26.2 -0.7**
2.9nm,0.9s,mb4.5,baz=212,slow=7.6,SNR=3.6
DBIC Dimbokro 85.58 76 P **P 14 26 26.2 -0.7**
AKTO Aktyubinsk 152.64 63 PKPbc PKPbc 14 33 42.0 -2.2
0.3nm,0.5s,baz=255,slow=5.7,SNR=3.8
AKTO Aktyubinsk 152.64 63 PKPbc PKPbc 14 33 42.0 -2.2
CMAR Chiang Mai Arr 153.89 182 PKPbc PKPbc 14 33 46.3 -1.6
0.3nm,0.8s,baz=198,slow=3.6,SNR=5.1
CMAR Chiang Mai Arr 153.89 182 PKPbc PKPbc 14 33 46.3 -1.6

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*NEIC **21** 14:15:45.9, 17°.98N×101°.70W, h11km, MD3.9(MEX), After MEX.*
MEX 21 14:15:46.4±0.8, 18°.01N×101°.69W, h16km±9km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.45**	**152**	*i* P	Pg	14 15 54.2	-1.4
ZIIG				*e*S	Sg	14 16 00.5	-1.2
ZIIG	**Zihuatanejo**	**0.45**	**152**	*i* P	Pg	14 15 54.2	-1.4
ZIIG				*i* S	Sg	14 16 00.5	-1.2
MMIG	**Aquila**	**1.60**	**280**	*i* P	Pn	14 16 11.0	-3.0
MMIG				*e*S	Sn	14 16 29.1	-5.2
CAIG	**El Cayaco**	**1.66**	**125**	*i* P	Pn	14 16 10.5	-4.4
CAIG				*e*S	Sn	14 16 29.9	-6.0
CAIG	**El Cayaco**	**1.66**	**125**	*i* P	Pn	14 16 10.5	-4.4
CAIG				*e*S	Sn	14 16 29.9	-6.0
MOIG	**Morelia**	**1.73**	**16**	*i* P	Pn	14 16 12.1	-3.7
MOIG				*e*S	Sn	14 16 32.9	-4.7
MOIG	**Morelia**	**1.73**	**16**	*i* P	Pn	14 16 12.1	-3.7
MOIG				*e*S	Sn	14 16 32.9	-4.7
MEIG	**Mezcala**	**1.97**	**92**	*i* P	Pn	14 16 16.5	-2.7
MEIG				*e*S	Sn	14 16 41.4	-2.2
MEIG	**Mezcala**	**1.97**	**92**	*i* P	Pn	14 16 16.5	-2.7
MEIG				*i* S	Sn	14 16 40.2	-3.5
ACX	**Acapulco**	**2.08**	**123**	*i* P	Pn	14 16 17.1	-3.6
ACX				*e*S	Sn	14 16 41.4	-5.0
ACX	**Acapulco**	**2.08**	**123**	*i* P	Pn	14 16 17.1	-3.6
ACX				*e*S	Sn	14 16 41.4	-5.0
PLIG	**Platanillo**	**2.12**	**79**	*i* P	Pn	14 16 19.2	-2.0
PLIG				*e*S	Sn	14 16 42.3	-4.8
PLIG	**Platanillo**	**2.12**	**79**	*i* P	Pn	14 16 18.7	-2.4
PLIG				*e*S	Sn	14 16 42.3	-4.8
SFJM	**Santa Fe**	**2.77**	**333**	*i* P	Pn	14 16 27.2	-3.0
SFJM				*e*S	Sn	14 17 01.1	-2.3
SFJM	**Santa Fe**	**2.77**	**333**	*i* P	Pn	14 16 27.2	-3.0
SFJM				*e*S	Sn	14 17 01.1	-2.3
PPM	**Popocatepetl**	**3.09**	**70**	*i* P	Pn	14 16 32.7	-1.9
PPM				*e*S	Sn	14 17 10.0	-1.3
PPM	**Popocatepetl**	**3.09**	**70**	*i* P	Pn	14 16 32.7	-1.9
PPM				*e*S	Sn	14 17 09.1	-2.2

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*NNC **21** 14:16:48.1±3.3, 39°.53N×73°.97E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=28.3km s-min=14.0km az=163.0*
*IDC **21** 14:16:49.3±0.8, 39°.44N×73°.85E, h0km, mb3.8/12, mb1 3.9/17, mb1mx3.8/30, mbtmp3.7/17, ML3.3/5, Error ellipse: s-maj=17.6km s-min=14.0km az=43.0*
*ISCJB **21** 14:16:49.6±2.3, 39°.48N±0°.05×73°.85E±0°.08, h12km±14km, mb3.7/13, Error ellipse: s-maj=10.7km s-min=8.7km az=158.8*
*MOS **21** 14:16:53.4±2.6, 39°.66N×73°.88E, h33km, mb4.3/5, Error ellipse: s-maj=18.4km s-min=9.4km az=84.9*
*BJI **21** 14:16:55.1, 40°.07N×74°.51E, h10km, ML3.5/6*
*NEIC **21** 14:16:57.4±1.4, 39°.63N×74°.00E, h57km±14km, mb4.3/1, Error ellipse: s-maj=14.0km s-min=11.7km az=124.0*
ISC 21 14:16:49.5±2.5, 39°.51N±0°.05×73°.75E±0°.07, h1km±15km, n75, σ1°.26/81, mb3.8/13, 6C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.72**	**89**	⇑*i*Pg	**Pn**	**14 17 14.8**	**-5.8**
KSH				Sg	**Sn**	**14 17 31.8**	**-11**
KSH				smax			
	comp=N,690nm,0.7s						
KSH				smax			
	comp=E,1μm,0.8s						
AML	**Almayashu**	**2.62**	**359**	P	**Pn**	**14 17 33.7**	**+0.7**
AML	SNR=96			P		14 17 33.7	
	SNR=96						
UCH	**Uchtor**	**2.78**	**12**	P	**Pn**	**14 17 35.8**	**+0.6**
UCH	SNR=27			P		14 17 35.8	
	SNR=27						
KZA	**Kyzart**	**2.81**	**23**	P	**Pn**	**14 17 35.1**	**-0.5**
KZA	SNR=167			P		14 17 35.1	
	SNR=167						
EKS2	**Erkin-Say**	**3.15**	**0**	P	**Pn**	**14 17 42.1**	**+1.8**
EKS2	SNR=27			P		14 17 42.1	
	SNR=27						
AAK	**Ala-Archa**	**3.17**	**10**	P	**Pn**	**14 17 41.4**	**+0.8**
AAK	SNR=88			P		14 17 41.4	
	SNR=88						
KBK	**Karagaybulak**	**3.27**	**16**	P	**Pn**	**14 17 42.5**	**+0.5**
KBK	SNR=67			P		14 17 42.5	
	SNR=67						
ULHL	**Ulahol**	**3.32**	**34**	P	**Pn**	**14 17 43.2**	**+0.6**
ULHL	SNR=18			P		14 17 43.2	
	SNR=18						
FRU	**Bishkek**	**3.39**	**11**	*e*PN	**Pn**	**14 17 48.0**	**+4.5**
FRU				*i*		14 18 28.0	
FRU				pmax	pmax		
	comp=Z,200nm,1.4s						
FRU				smax			
	comp=N,610nm,1.8s						
CHMS	**Chumysh**	**3.57**	**12**	P	**Pn**	**14 17 46.4**	**+0.4**
CHMS	SNR=33			P		14 17 46.4	
	SNR=33						
TKM2	**Tokmak 2**	**3.68**	**22**	P	**Pn**	**14 17 48.0**	**+0.4**
TKM2	SNR=16			P		14 17 48.0	
	SNR=16						
TKM2	**Tokmak 2**	**3.68**	**22**	⇓Pn	**Pn**	**14 17 46.2**	**-1.4**
TKM2	comp=N,17nm,0.4s			⇓Sn	**Sn**	**14 18 30.6**	**-1.0**
	comp=N,83nm,0.8s						
USP	**Ospenovka**	**3.80**	**8**	P	**Pn**	**14 17 49.4**	**+0.2**
USP	SNR=10			P		14 17 49.4	
	SNR=10						
KK31	**Karatay Array**	**4.34**	**327**	Pn	**Pn**	**14 17 57.8**	**+1.1**
KK31	comp=N,13nm,0.5s,baz=142,slow=16,SNR=57			⇑Sn	**Sn**	**14 18 50.1**	**+2.1**
	comp=N,39nm,0.6s,baz=140,slow=24,SNR=7.0						
KNDC	**Almaty**	**4.43**	**32**	⇑Pg	**Pg**	**14 18 05.7**	**-8.6**
KNDC	comp=N,53nm,0.6s			⇑Lg		14 19 02.7	
	comp=N,245nm,0.6s						
KBL	**Kabul**	**6.22**	**219**	P	**Pn**	**14 18 30.6**	**+8.0**
KBL	**Kabul**	**6.22**	**219**	PN	**Pn**	**14 18 30.6**	**+8.1**
MKAR	**Makanchi Array**	**9.59**	**38**	Pn	**Pn**	**14 19 10.4**	**+1.8**
MKAR	comp=N,0.1nm,0.3s,baz=227,slow=16,SNR=6.0			Lg		14 21 46.8	
	comp=N,0.1nm,0.3s,baz=229,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**9.59**	**38**	Pn	**Pn**	**14 19 10.4**	**+1.8**
MKAR				Lg		14 21 46.8	
MKAR	**Makanchi Array**	**9.59**	**38**	P	**Pn**	**14 19 10.4**	**+1.8**
KURK	**Kurchatov**	**11.72**	**15**	Pn	**Pn**	**14 19 35.2**	**-2.6**
KURK	comp=N,0.1nm,0.3s,baz=206,slow=12,SNR=3.5			Lg		14 22 51.2	
	comp=N,0.1nm,0.3s,baz=202,slow=29,SNR=9.4						
KURK	**Kurchatov**	**11.72**	**15**	Pn	**Pn**	**14 19 35.1**	**-2.6**
KURK				Lg		14 22 51.2	
KURK	**Kurchatov**	**11.72**	**15**	P	**Pn**	**14 19 35.2**	**-2.6**
VOSK	**Vostochnaya**	**13.36**	**353**	⇑P	**Pn**	**14 19 55.3**	**-4.8**
	comp=N,3.7nm,1.1s						
BVA0	**Borovoye Array**	**13.72**	**351**	⇑P	**Pn**	**14 20 04.2**	**-0.9**
	comp=N,0.6nm,0.8s,baz=162,slow=14,SNR=6.6						
BVAR	**Borovoye Array**	**13.72**	**351**	Pn	**Pn**	**14 20 01.9**	**-3.2**
	comp=N,0.3nm,0.3s,baz=151,slow=13,SNR=6.3						
BVAR				Lg		14 24 00.2	
	comp=N,0.2nm,0.3s,baz=162,slow=29,SNR=6.3						
BVAR	**Borovoye Array**	**13.72**	**351**	Pn	**Pn**	**14 20 01.9**	**-3.2**
BVAR				Lg		14 24 00.2	
BVAR	**Borovoye Array**	**13.72**	**351**	P	**Pn**	**14 20 01.9**	**-3.2**
AB31	**Akbulak array**	**13.86**	**319**	P	**Pn**	**14 20 05.0**	**-2.0**
	comp=N,1.3nm,0.5s,baz=131,slow=10,SNR=39						
AB31				S	**Sn**	**14 22 39.1**	**-2.2**
	comp=N,0.8nm,0.3s,baz=123,slow=25,SNR=5.6						
ABKAR	**Akbulak array**	**13.86**	**319**	*e*P	**Pn**	**14 20 05.5**	**-1.5**
	comp=N,3.6nm,0.7s						
AKTO	**Aktyubinsk**	**15.57**	**320**	Pn	**Pn**	**14 20 28.9**	**-1.2**
	comp=N,0.2nm,0.3s,baz=130,slow=16,SNR=9.4						
AKTO				Sn	**Sn**	**14 23 17.7**	**-5.3**
	comp=N,0.2nm,0.3s,baz=349,slow=22,SNR=3.7						
AKTO	**Aktyubinsk**	**15.57**	**320**	⇓P	**Pn**	**14 20 27.5**	**-2.6**
	comp=N,0.7nm,0.8s						
AKTO	**Aktyubinsk**	**15.57**	**320**	Pn	**Pn**	**14 20 28.9**	**-1.2**
AKTO				Sn	**Sn**	**14 23 17.7**	**-5.3**
AKTO	**Aktyubinsk**	**15.57**	**320**	P	**Pn**	**14 20 28.9**	**-1.2**
AKTO						14 23 17.7	
ZAA0	**Zalesovo Array**	**16.29**	**24**	*e*P	**Pn**	**14 20 38.3**	**-1.1**
ZALV	**Zalesovo Beam**	**16.29**	**24**	Pn	**Pn**	**14 20 38.3**	**-1.0**
	comp=N,0.2nm,0.3s,baz=217,slow=12,SNR=6.3						
ZALV				Lg		14 25 18.8	
	comp=N,0.0nm,0.3s,baz=231,slow=19,SNR=3.0						
ZALV	**Zalesovo Beam**	**16.29**	**24**	Pn	**Pn**	**14 20 38.3**	**-1.1**
ZALV				Lg		14 25 18.8	
ZALV	**Zalesovo Beam**	**16.29**	**24**	P	**Pn**	**14 20 38.3**	**-1.0**
SONM	**Songino Array**	**24.89**	**60**	P	**P**	**14 22 15.0**	**+1.4**
	comp=N,1.1nm,1.1s,mb3.5,baz=255,slow=8.0,SNR=4.4						
SONM	**Songino Array**	**24.89**	**60**	P	**P**	**14 22 15.0**	**+1.4**
SONM	**Songino Array**	**24.89**	**60**	P	**P**	**14 22 15.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**30.24**	**127**	P	**P**	**14 23 00.8**	**-1.1**
	comp=N,0.4nm,0.4s,mb3.6,baz=309,slow=10.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**30.24**	**127**	P	**P**	**14 23 00.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**30.24**	**127**	P	**P**	**14 23 00.9**	**-1.0**
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**14 23 54.8**	**+0.5**
	comp=N,2.1nm,0.6s,mb4.1,baz=104,slow=6.6,SNR=8.8						
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**14 23 54.8**	**+0.5**
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**14 23 54.8**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**39.26**	**336**	P	**P**	**14 24 19.0**	**-0.2**
	comp=Z,2.5nm,0.7s,mb3.9,baz=104,slow=9.1,SNR=6.9						
ARCES	**ARCESS Array B**	**39.26**	**336**	P	**P**	**14 24 19.0**	**-0.2**
ARCES	**ARCESS Array B**	**39.26**	**336**	P	**P**	**14 24 19.0**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**14 24 53.1**	**+2.5**
	comp=Z,0.3nm,0.5s,mb3.3,baz=67,slow=12,SNR=3.6						
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**14 24 53.1**	**+2.5**
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**14 24 53.1**	**+2.4**
NOA	**NORSAR Array B**	**43.35**	**321**	P	**P**	**14 24 54.5**	**+1.5**
	comp=Z,1.2nm,0.7s,mb3.7,baz=90,slow=8.0,SNR=3.8						
NOA	**NORSAR Array B**	**43.35**	**321**	P	**P**	**14 24 54.5**	**+1.5**
NOA	**NORSAR Array B**	**43.35**	**321**	P	**P**	**14 24 54.5**	**+1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAVOX	**Davos/Dischmat**	**46.02**	**301**	P	**P**	**14 25 15.6**	**+1.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=161,slow=19,SNR=3.1						
DAVOX	**Davos/Dischmat**	**46.02**	**301**	P	**P**	**14 25 15.6**	**+1.1**
DAVOX	**Davos/Dischmat**	**46.02**	**301**	P	**P**	**14 25 15.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**67.95**	**269**	P	**P**	**14 27 50.6**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.9,baz=54,slow=5.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**67.95**	**269**	P	**P**	**14 27 50.6**	**+0.2**
ILAR	**Eielson Array**	**71.28**	**17**	P	**P**	**14 28 11.6**	**+1.5**
	comp=Z,0.4nm,0.9s,mb3.6,baz=335,slow=4.0,SNR=4.7						
ILAR	**Eielson Array**	**71.28**	**17**	P	**P**	**14 28 11.6**	**+1.5**
ILAR	**Eielson Array**	**71.28**	**17**	P	**P**	**14 28 11.6**	**+1.4**
YKA	**Yellowknife Ar**	**78.13**	**4**	P	**P**	**14 28 49.1**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.6,baz=352,slow=5.7,SNR=8.9						
YKA	**Yellowknife Ar**	**78.13**	**4**	P	**P**	**14 28 49.1**	**-0.7**
YKA	**Yellowknife Ar**	**78.13**	**4**	P	**P**	**14 28 49.1**	**-0.8**
WRA	**Warramunga Arr**	**81.80**	**124**	P	**P**	**14 29 09.0**	**-1.3**
	comp=Z,0.6nm,0.7s,mb3.8,baz=328,slow=5.0,SNR=5.7						
WRA	**Warramunga Arr**	**81.80**	**124**	P	**P**	**14 29 09.0**	**-1.3**
WRA	**Warramunga Arr**	**81.80**	**124**	P	**P**	**14 29 09.0**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**81.80**	**124**	*e*P	**P**	**14 29 10.4**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**81.80**	**124**	*e*P	**P**	**14 29 10.4**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**84.25**	**127**	P	**P**	**14 29 22.0**	**-1.0**
	comp=Z,0.4nm,0.7s,mb3.8,baz=309,slow=5.0,SNR=6.2						
ASAR	**Alice Springs**	**84.25**	**127**	P	**P**	**14 29 22.0**	**-0.9**
ASAR	**Alice Springs**	**84.25**	**127**	P	**P**	**14 29 22.0**	**-0.9**

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*IDC **21** 14:18:44.5±2.1, 17°.05S×178°.45W, h430km±39km, mb3.4/3, mb1 3.5/4, mb1mx3.1/17, mbtmp3.4/4, Error ellipse: s-maj=112.7km s-min=19.9km az=148.0*
NEIC 21 14:18:46.6±1.3, 17°.61S×177°.95W, h493km±11km, mb3.4/2, Error ellipse: s-maj=86.4km s-min=15.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.82**	**268**	*e*P	P	14 20 03.7	+0.7
AFI	**Afiamalu**	**6.99**	**59**	P	P	14 20 32.2	-0.3
	2.9nm,0.3s,baz=274,slow=20,SNR=6.4						
AFI				S	S	14 21 55.7	-3.5
	0.6nm,0.3s,baz=65,slow=24,SNR=2.0						
AFI	**Afiamalu**	**6.99**	**59**	P	P	14 20 32.2	-0.3
AFI				S	S	14 21 55.7	-3.5
STKA	**Stephens Creek**	**39.16**	**241**	P	P	14 25 32.0	+0.8
	1.2nm,0.5s,baz=84,slow=11,SNR=11						
STKA	**Stephens Creek**	**39.16**	**241**	*e*P	P	14 25 31.8	+0.6
	0.2nm,0.5s						
WB2	**Warramunga Arr**	**45.11**	**259**	*e*P	P	14 26 17.6	-0.8
WRAB	**Tennant Creek**	**45.11**	**259**	*e*P	P	14 26 17.8	-0.6
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**45.12**	**259**	P	P	14 26 17.9	-0.5
	0.5nm,0.3s,baz=95,slow=7.9,SNR=31						
WRA	**Warramunga Arr**	**45.12**	**259**	P	P	14 26 17.9	-0.5
AS31	**Alice Springs**	**45.29**	**254**	*e*P	P	14 26 20.0	+0.3
ASAR	**Alice Springs**	**45.30**	**254**	P	P	14 26 20.1	+0.3
	8.2nm,0.5s,baz=90,slow=8.0,SNR=333						
ASAR	**Alice Springs**	**45.30**	**254**	P	P	14 26 20.1	+0.3
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	PKPdf	14 37 32.1	+4.9
	0.5nm,0.5s,baz=326,slow=1.0,SNR=2.6						
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	PKPdf	14 37 32.1	+4.9
GERES	**GERESS Array B**	**147.44**	**346**	PKPbc	PKPbc	14 37 35.8	+1.3
	0.3nm,0.5s,baz=23,slow=4.4,SNR=5.4						
GERES	**GERESS Array B**	**147.44**	**346**	PKPbc	PKPbc	14 37 35.8	+1.3

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*ISCJB **21** 14:22:42.0±0.5, 14°.53N±0°.04×93°.29W±0°.03, h10km, mb3.9/8, MS3.3/2, Error ellipse: s-maj=6.4km s-min=3.1km az=21.0*
*IDC **21** 14:22:45.2±4.4, 14°.53N×92°.78W, h37km±30km, mb3.6/4, mb1 4.0/8, mb1mx3.7/22, mbtmp3.7/8, ML3.5/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/30, Error ellipse: s-maj=60.1km s-min=25.1km az=31.0*
*MEX **21** 14:22:46.8±0.9, 14°.51N×93°.26W, h20km±41km, MD4.3*
*NEIC **21** 14:22:47.0, 14°.51N×93°.26W, h23km, mb4.4/5, MD4.3(MEX), After MEX.*
ISC 21 14:22:44.0±0.5, 14°.60N±0°.04×93°.22W±0°.03, h10km, n53, σ1°.19/75, mb3.9/8, MS3.3/2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**72**	*i* P	**Pg**	**14 23 02.8**	**+0.1**
THIG				*e*S	**Sg**	**14 23 15.2**	**-0.1**
THIG		**0.97**	**72**	*i* P	**Pg**	**14 23 02.8**	**+0.1**
THIG				*i* S	**Sg**	**14 23 15.2**	**-0.1**
PCIG		**1.10**	**360**	*i* P	**Pb**	**14 23 05.1**	**0.0**
PCIG				*e*S	**Sg**	**14 23 18.5**	**-0.9**
PCIG		**1.10**	**360**	*i* P	**Pb**	**14 23 05.1**	**0.0**
PCIG				*i* S	**Sg**	**14 23 18.5**	**-0.9**
JAT	**Jato**	**1.56**	**100**	*e*P	**Pn**	**14 23 12.4**	**+0.7**
JAT				*e*S	**Sn**	**14 23 26.6**	**-5.4**
CCIG	**Comitan**	**1.97**	**32**	*i* P	**Pn**	**14 23 18.8**	**+1.4**
CCIG				*e*S	**Sn**	**14 23 42.6**	**+0.5**
CCIG	**Comitan**	**1.97**	**32**	*i* P	**Pn**	**14 23 18.8**	**+1.4**
CCIG				*e*S	**Sn**	**14 23 42.6**	**+0.5**
TGIG		**2.17**	**2**	*i* P	**Pn**	**14 23 21.4**	**+1.2**
TGIG				*e*S	**Sn**	**14 23 47.5**	**+0.4**
TGIG		**2.17**	**2**	*i* P	**Pn**	**14 23 21.4**	**+1.2**
TGIG				*e*S	**Sn**	**14 23 47.5**	**+0.4**
FG6		**2.26**	**91**	*e*P	**Pn**	**14 23 22.8**	**+1.3**
FG6				*e*S	**Sn**	**14 23 48.3**	**-1.1**
FUG	**Fuego 3**	**2.30**	**94**	*e*P	**Pn**	**14 23 22.3**	**+0.2**
FUG				*e*S	**Sn**	**14 23 47.8**	**-2.6**
PCG	**Pacaya**	**2.53**	**94**	*e*P	**Pn**	**14 23 26.4**	**+1.2**
PCG				*e*S	**Sn**	**14 23 54.4**	**-1.7**
NBG	**Las Nubes**	**2.78**	**90**	*e*P	**Pn**	**14 23 30.4**	**+1.9**
NBG				*e*S	**Sn**	**14 24 02.0**	**-0.2**
CMIG	**Matias Romero**	**2.95**	**327**	Pn	**Pn**	**14 23 31.8**	**+0.9**
	9.4nm,0.3s,baz=143,slow=12,SNR=72						
CMIG				Sn	**Sn**	**14 24 06.7**	**+0.3**
	32nm,0.3s,baz=88,slow=23,SNR=9.4						
CMIG	**Matias Romero**	**2.95**	**327**	*i* P	**Pn**	**14 23 31.7**	**+0.7**
CMIG				*e*S	**Sn**	**14 24 05.1**	**-1.3**
CMIG				Sn	**Sn**	**14 24 06.7**	**+0.3**
CMIG	**Matias Romero**	**2.95**	**327**	*i* P	**Pn**	**14 23 31.7**	**+0.7**
CMIG				*e*S	**Sn**	**14 24 05.1**	**-1.3**
HUIG	**Huatulco**	**3.02**	**293**	*i* P	**Pn**	**14 23 31.3**	**-0.7**
HUIG				*e*S	**Sn**	**14 24 05.0**	**-3.3**
HUIG	**Huatulco**	**3.02**	**293**	*i* P	**Pn**	**14 23 31.3**	**-0.7**
HUIG				*e*S	**Sn**	**14 24 05.0**	**-3.3**
RBDL	**Robledal**	**3.45**	**98**	*e*P	**Pn**	**14 23 38.2**	**+0.3**
RBDL				*e*S	**Sn**	**14 24 15.0**	**-3.9**
SBLS	**San Blas**	**3.56**	**102**	*e*P	**Pn**	**14 23 39.8**	**+0.4**
SNJE	**San Jose**	**3.58**	**101**	*e*P	**Pn**	**14 23 39.7**	**+0.2**
LFRS	**El Faro**	**4.14**	**103**	*e*P	**Pn**	**14 23 47.8**	**+0.4**
VHO	**Vista Hermosa**	**4.18**	**306**	*i* P	**Pn**	**14 23 47.8**	**-0.2**
VHO				*e*S	**Sn**	**14 24 35.3**	**-1.5**
VHO	**Vista Hermosa**	**4.18**	**306**	*i* P	**Pn**	**14 23 47.8**	**-0.2**
VHO				*e*S	**Sn**	**14 24 35.3**	**-1.5**
CAIG	**El Cayaco**	**7.21**	**291**	*i* P	**Pn**	**14 24 29.9**	**+0.4**
CAIG				*e*S	**Sn**	**14 25 50.6**	**-0.9**
CAIG	**El Cayaco**	**7.21**	**291**	*i* P	**Pn**	**14 24 29.9**	**+0.4**
CAIG				*e*S	**Sn**	**14 25 50.6**	**-0.9**
TEIG	**Tepich**	**7.31**	**39**	Pn	**Pn**	**14 24 29.0**	**-1.9**
	11nm,0.3s,baz=240,slow=2.0,SNR=50						
TEIG				Sn	**Sn**	**14 25 37.4**	**-17**
	baz=195,slow=23,SNR=2.0						
TEIG	**Tepich**	**7.31**	**39**	Pn	**Pn**	**14 24 29.0**	**-1.9**
TEIG				Sn	**Sn**	**14 25 37.4**	**-17**
JTS	**JuntasAbangare**	**9.13**	**117**	Pn	**Pn**	**14 24 49.1**	**-6.9**
	0.3nm,0.3s,baz=252,slow=18,SNR=1.8						
JTS				Lg		14 27 18.3	
	0.2nm,0.3s,baz=113,slow=14,SNR=3.6						
JTS	**JuntasAbangare**	**9.13**	**117**	Pn	**Pn**	**14 24 49.1**	**-6.9**
JTS				Lg		14 27 18.3	
TXAR	**Lajitas Array**	**17.56**	**328**	P	**Pn**	**14 26 51.5**	**+2.6**
	0.1nm,0.3s,baz=150,slow=13,SNR=8.1						
TXAR	**Lajitas Array**	**17.56**	**328**	P	**Pn**	**14 26 51.5**	**+2.6**
CLNB	**Carlsbad**	**20.09**	**333**	P	**P**	**14 27 18.5**	**+0.7**
	1.5nm,0.7s						
GDL2	**Guadalupe Moun**	**20.26**	**332**	*e*P	**P**	**14 27 21.8**	**+2.1**
	42nm,0.9s						
ROSC	**El Rosal**	**20.96**	**116**	P	**P**	**14 27 27.3**	**-0.1**
	4.3nm,0.4s,baz=102,slow=22,SNR=6.6						
ROSC	**El Rosal**	**20.96**	**116**	P	**P**	**14 27 27.3**	**-0.1**
AMTX	**Amarillo**	**21.59**	**341**	*e*P	**P**	**14 27 32.9**	**-1.1**
	8.8nm,0.6s,mb4.4						
TKL	**Tuckaleechee C**	**22.61**	**20**	LR	LR	14 36 17.7	
	comp=Z,130nm,20.9s,MS3.3,baz=296,slow=36						
SDV	**Santo Domingo**	**22.82**	**102**	*e*P	**P**	**14 27 45.6**	**-1.7**
	4.6nm,0.7s,mb4.0						
ANMO	**Albuquerque**	**23.51**	**332**	P	**P**	**14 27 57.2**	**+2.7**
	1.4nm,0.8s,mb3.4,baz=153,slow=12,SNR=7.3						
ANMO	**Albuquerque**	**23.51**	**332**	P	**P**	**14 27 57.2**	**+2.7**
SJG	**San Juan**	**26.19**	**79**	LR	LR	14 37 30.1	
	comp=Z,85nm,19.3s,MS3.3,baz=0.0,slow=34						
SNOW	**Snow King Moun**	**32.45**	**336**	*e*P	**P**	**14 29 14.4**	**0.0**
	6.2nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**32.47**	**322**	P	**P**	**14 29 15.5**	**+0.9**
	0.9nm,0.7s,mb3.7,baz=135,slow=9.5,SNR=5.4						
NVAR	**Mina Array Bea**	**32.47**	**322**	P	**P**	**14 29 15.5**	**+0.9**
YKA	**Yellowknife Ar**	**50.18**	**347**	P	**P**	**14 31 37.3**

2.4nm,0.8s,mb3.9,baz=54,slow=12,SNR=5.3
STKA LR LR 14 43 13.0
comp=Z,2μm,21.0s,MS4.7,baz=39,slow=35
STKA Stephens Creek 28.12 220 *eP* **P 14 32 39.9 +0.5**
WRAB Tennant Creek 28.34 249 *eP* **P 14 32 40.4 -1.1**
4.3nm,1.0s,mb4.0
WB2 Warramunga Arr 28.34 249 *eP* **P 14 32 43.1 +1.6**
WRA Warramunga Arr 28.35 249 P **P 14 32 40.9 -0.8**
1.2nm,0.8s,mb3.5,baz=80,slow=9.5,SNR=6.3
WRA PcP PcP 14 35 54.6 +0.7
1.1nm,1.0s,baz=82,slow=3.6,SNR=4.8
WRA LR LR 14 43 13.2
comp=Z,1μm,19.0s,MS4.5,baz=75,slow=35
WRA Warramunga Arr 28.35 249 P **P 14 32 40.9 -0.8**
WRA PcP PcP 14 35 54.6 +0.7
AS31 Alice Springs 29.79 242 *eP* **P 14 32 55.2 +0.8**
ASAR Alice Springs 29.80 242 P **P 14 32 53.1 -1.3**
3.3nm,0.8s,mb4.1,baz=65,slow=8.6,SNR=25
ASAR Alice Springs 29.80 242 P **P 14 32 53.1 -1.3**
GUMO Guam 30.18 324 LR LR 14 44 44.9
comp=Z,1μm,18.1s,MS4.5,baz=152,slow=36
BBOO Buckleboo 32.35 224 *eP* **P 14 33 15.5 -1.3**
RPZ Rata Peaks 33.22 169 LR LR 14 44 34.3
comp=Z,963nm,19.1s,MS4.5,baz=87,slow=32
RAR Rarotonga 37.56 110 LR LR 14 47 13.1
comp=Z,295nm,19.4s,MS4.1,baz=265,slow=32
PPT2 Papeete2 46.84 104 *eLQ* 14 46 51.3
974nm,26.0s
PPT2 *eLR* LR 14 49 06.6
670nm,24.2s
TBI Tubuai 47.31 111 *eLQ* 14 46 52.4
869nm,30.0s
MJAR Matsushiro Arr 52.70 335 LR LR 14 56 10.4
comp=Z,357nm,20.3s,MS4.4,baz=200,slow=34
KSRS Korea Array 58.24 328 LR LR 15 00 33.1
comp=Z,250nm,18.5s,MS4.4,baz=129,slow=35
USRK Ussuriysk Arra 61.70 336 LR LR 15 01 20.7
comp=Z,208nm,18.6s,MS4.3,baz=244,slow=34
PETK Petropavlovsk- 64.21 357 LR LR 15 03 25.4
comp=Z,297nm,18.9s,MS4.5,baz=311,slow=34
CMAR Chiang Mai Arr 69.20 295 P **P 14 37 54.4 +0.1**
0.6nm,0.6s,mb3.7,baz=112,slow=4.9,SNR=5.5
CMAR Chiang Mai Arr 69.20 295 P **P 14 37 54.4 +0.1**
ULN Ulaanbaatar 76.56 325 *eP* **P 14 38 38.0 +0.7**
9.5nm,1.1s,mb4.6
SONM Songino Array 76.91 325 P **P 14 38 39.6 +0.3**
1.4nm,0.6s,mb4.0,baz=145,slow=5.6,SNR=12
SONM LR LR 15 15 17.1
comp=Z,338nm,18.2s,MS4.7,baz=77,slow=38
SONM Songino Array 76.91 325 P **P 14 38 39.6 +0.3**
MAW Mawson 83.31 202 LR LR 15 10 14.1
comp=Z,224nm,20.2s,MS4.5,baz=118,slow=31
DIB Dawson Inlet, 84.63 33 T 16 12 33.4
ILAR Eielson Array 84.76 19 P **P 14 39 20.7 -0.2**
0.4nm,0.4s,mb3.9,baz=241,slow=5.2,SNR=13
ILAR LR LR 15 12 24.6
comp=Z,306nm,19.7s,MS4.7,baz=282,slow=32
ILAR Eielson Array 84.76 19 P **P 14 39 20.6 -0.2**
NVAR Mina Array Bea 88.66 51 P **P 14 39 41.6 +1.1**
0.1nm,0.3s,mb3.6,baz=227,slow=6.2,SNR=4.3
NVAR Mina Array Bea 88.66 51 P **P 14 39 41.6 +1.1**
MK31 Makanchi Array 91.43 317 *eP* **P 14 39 53.3 0.0**
MKAR Makanchi Array 91.43 317 P **P 14 39 52.5 -0.8**
0.2nm,0.4s,mb3.8,baz=88,slow=7.5,SNR=6.9
MKAR LR LR 15 21 53.9
comp=Z,152nm,18.9s,MS4.5,baz=347,slow=36
MKAR Makanchi Array 91.43 317 P **P 14 39 52.5 -0.8**
ZALV Zalesovo Beam 91.80 325 LR LR 15 18 39.0
comp=Z,109nm,19.6s,MS4.3,baz=79,slow=34
YKA Yellowknife Ar 96.66 28 P **P 14 40 16.4 -0.4**
0.2nm,0.6s,mb3.7,baz=260,slow=4.6,SNR=6.9
YKA LR LR 15 23 05.8
comp=Z,24nm,19.2s,MS3.7,baz=235,slow=35
YKA Yellowknife Ar 96.66 28 P **P 14 40 16.4 -0.4**
ARCES ARCESS Array B 115.67 345 PKP PKPdf 14 45 29.3 +0.6
1.9nm,0.8s,baz=64,slow=2.1,SNR=7.2
ARCES ARCESS Array B 115.67 345 PKP PKPdf 14 45 29.3 +0.6
KEST Kesra 145.50 319 PKPbc PKPbc 14 46 27.8 +2.1
1.7nm,0.7s,baz=59,slow=5.9,SNR=2.8
KEST Kesra 145.50 319 PKPbc PKPbc 14 46 27.8 +2.1
ESDC Sonseca Array 149.20 339 PKPbc PKPbc 14 46 36.1 +0.3
0.3nm,0.6s,baz=41,slow=2.5,SNR=3.5
ESDC Sonseca Array 149.20 339 PKPbc PKPbc 14 46 36.1 +0.3

IDC 21 14:28:51.4±1.8,31°.45S×176°.68W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.9/17,mbtmp3.9/4,ML3.5/1,Error ellipse: s-maj=35.4km s-min=10.8km az=109.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.49**	**215**	Pn	Pn	14 30 56.5	+0.8
0.6nm,0.3s,baz=92,slow=9.2,SNR=1.9							
URZ				Sn	Sn	14 32 33.1	+0.8
0.6nm,0.3s,baz=175,slow=17,SNR=2.3							
CTA	**Charters Tower**	**35.09**	**280**	P	P	14 35 48.3	+1.8
5.2nm,1.1s,baz=111,slow=14,SNR=4.4							
ASAR	**Alice Springs**	**44.19**	**267**	P	P	14 37 02.2	-0.1
0.5nm,0.7s,baz=107,slow=7.4,SNR=5.3							
WRA	**Warramunga Arr**	**45.27**	**272**	P	P	14 37 10.5	-0.5
0.5nm,0.4s,baz=112,slow=8.0,SNR=10.0							
FINES	**FINESS Array B**	**146.52**	**340**	PKPbc	PKPbc	14 48 32.9	-1.0
4.8nm,1.0s,baz=32,slow=5.6,SNR=4.0							

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*ISCJB **21** 14:36:30.7±0.8,22°.48S±0°.04×179°.53W±0°.07, h566km±10km, mb4.2/36, Error ellipse: s-maj=9.3km s-min=6.3km az=8.3*
*IDC **21** 14:36:31.0±1.3,22°.35S×179°.50W, h558km±13km, mb3.7/17, mb1 3.9/19, mb1mx3.8/22, mbtmp3.8/19, Error ellipse: s-maj=14.2km s-min=11.1km az=128.0*
*BJI **21** 14:36:31.8,22°.30S×179°.70W, h591km, mB5.1/11, mb4.4/14*
*NEIC **21** 14:36:33.9±0.7,22°.34S×179°.65W, h592km±8km, mb4.5/19, Error ellipse: s-maj=9.6km s-min=7.1km az=128.0*
ISC 21 14:36:32.8±0.8,22°.55S±0°.04×179°.52W±0°.07, h580km±10km,h588km±5.0km:pP-P,n152,σ1°11/101, mb4.3/35,14C-7D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.30**	**334**	*eP*	**P**	14 38 06.9	**-0.2**
33nm,0.4s							
AFI	**Afiamalu**	**11.31**	**42**	P	**P**	**14 39 00.0**	**-4.5**
8.6nm,0.3s,baz=69,slow=13,SNR=19							
AFI				S	**S**	**14 40 59.7**	**-9.4**
2.4nm,0.3s,baz=236,slow=24,SNR=3.4							
AFI	**Afiamalu**	**11.31**	**42**	P	**P**	**14 39 00.0**	**-4.5**
AFI				S	**S**	**14 40 59.7**	**-9.4**
DZM	**Mont Dzumac**	**13.00**	**269**	P	**P**	**14 39 25.0**	**+3.3**
1.4nm,0.3s,baz=107,slow=21,SNR=18							
DZM	**Mont Dzumac**	**13.00**	**269**	P	**P**	**14 39 21.6**	**0.0**
OUZ	**Omahuta**	**13.99**	**204**	*eP*	**P**	**14 39 33.7**	**+2.2**
33nm,1.1s							
OTAZ	**Otara**	**15.14**	**197**	PN	**P**	**14 39 44.9**	**+2.0**
PUZ	**Puketiti**	**15.60**	**187**	PN	**P**	**14 39 45.8**	**-1.2**
PUZ				*e*SN	**S**	**14 42 24.1**	**-1.5**
URZ	**Urewera**	**15.93**	**190**	P	**P**	**14 39 49.0**	**-1.2**
12nm,0.3s,baz=340,slow=2.4,SNR=58							
URZ				S	**S**	**14 42 28.6**	**-2.5**
1.5nm,0.3s,baz=192,slow=21,SNR=14							
URZ	**Urewera**	**15.93**	**190**	*eP*	**P**	**14 39 48.1**	**-2.0**
58nm,0.6s							
URZ				S	**S**	**14 42 28.6**	**-2.5**
MWZ	**Matawai**	**15.94**	**188**	PN	**P**	**14 39 48.6**	**-1.6**
MWZ				*e*SN	**S**	**14 42 27.8**	**-3.5**
BKZ	**Black Stump Fm**	**16.92**	**191**	PN	**P**	**14 39 57.2**	**-2.0**
BFZ	**Birch Farm**	**18.43**	**190**	PN	**P**	**14 40 12.6**	**-0.4**
MRZ	**Mangatainoka R**	**18.53**	**192**	PN	**P**	**14 40 12.5**	**-1.4**
MRZ				*e*SN	**S**	**14 43 14.8**	**+1.4**
TIWZ	**Tintock**	**18.59**	**191**	PN	**P**	**14 40 14.4**	**0.0**
QRZ	**Quartz Range**	**19.43**	**198**	PN	**P**	**14 40 22.8**	**+0.8**
NNZ	**Nelson**	**19.55**	**196**	PN	**P**	**14 40 23.0**	**-0.2**
THZ	**Tophouse**	**20.19**	**197**	PN	**P**	**14 40 28.6**	**-0.4**
THZ				*e*SN	**S**	**14 43 49.0**	**+9.2**
LTZ	**Lake Taylor**	**21.31**	**197**	PN	**P**	**14 40 37.7**	**-1.3**
RPZ	**Rata Peaks**	**22.51**	**198**	P	**P**	**14 40 50.1**	**+0.4**
11nm,0.4s,mb4.8,baz=308,slow=2.2,SNR=10							
RPZ	**Rata Peaks**	**22.51**	**198**	*eP*	**P**	**14 40 50.2**	**+0.6**
15nm,0.6s,mb4.8							
FOZ	**Fox Glacier**	**22.79**	**201**	PN	**P**	**14 40 51.0**	**-1.2**
JCZ	**Jackson Bay**	**23.55**	**201**	PN	**P**	**14 40 59.2**	**+0.3**
ODZ	**Otahua Downs**	**23.85**	**197**	*eP*	**P**	**14 41 01.5**	**-0.1**
ARMA	**Armidale**	**26.93**	**247**	*eP*	**P**	**14 41 30.6**	**+1.6**
EIDS	**Eidsvold**	**26.98**	**258**	*eP*	**P**	**14 41 29.6**	**0.0**
CNB	**Canberra Magne**	**29.93**	**238**	‖*iP*	**P**	**14 41 56.5**	**+1.6**
CAN	**Canberra**	**30.21**	**238**	*eP*	**P**	**14 41 58.6**	**+1.3**
52nm,1.0s,mb5.1							
YNG	**Young**	**30.42**	**240**	*eP*	**P**	**14 42 00.3**	**+1.1**
CTA	**Charters Tower**	**31.93**	**268**	P	**P**	**14 42 12.4**	**+0.1**
9.7nm,0.4s,mb4.8,baz=100,slow=12,SNR=31							
CTA	**Charters Tower**	**31.93**	**268**	*eP*	**P**	**14 42 12.3**	**0.0**
CTA	**Charters Tower**	**31.93**	**268**	P	**P**	**14 42 12.4**	**+0.1**
CTAO	**Charters Tower**	**31.93**	**268**	*eP*	**P**	**14 42 12.3**	**+0.1**
9.2nm,0.4s,mb4.8							
CMSA	**Cobar Meteorol**	**32.14**	**246**	*eP*	**P**	**14 42 14.5**	**+0.6**
QLP	**Quilpie**	**33.14**	**256**	⇑*iP*	**P**	**14 42 22.5**	**+0.2**
TOO	**Toolangi**	**33.56**	**235**	*eP*	**P**	**14 42 26.8**	**+1.1**
PMG	**Port Moresby**	**34.49**	**287**	P	**P**	**14 42 33.5**	**-0.4**
6.8nm,0.8s,mb4.3,baz=70,slow=4.1,SNR=5.3							
PMG	**Port Moresby**	**34.49**	**287**	P	**P**	**14 42 33.5**	**-0.4**
STKA	**Stephens Creek**	**35.65**	**246**	P	**P**	**14 42 44.0**	**+0.8**
24nm,0.5s,mb5.0,baz=92,slow=9.8,SNR=148							
STKA				ScP	ScP	14 47 49.2	+2.4
1.1nm,0.4s,baz=70,slow=6.2,SNR=3.7							
STKA	**Stephens Creek**	**35.65**	**246**	‖*iP*	**P**	**14 42 44.0**	**+0.8**
STKA	**Stephens Creek**	**35.65**	**246**	*eP*	**P**	**14 42 43.9**	**+0.7**
4.9nm,0.6s,mb4.2							
STKA				ScP	ScP	14 47 49.2	+2.5
AS31	**Alice Springs**	**42.70**	**259**	*eP*	**P**	**14 43 39.6**	**-0.4**
ASAR	**Alice Springs**	**42.70**	**259**	P	**P**	**14 43 39.7**	**-0.3**
17nm,0.7s,mb4.7,baz=78,slow=6.5,SNR=270							
ASAR				ScP	ScP	14 48 16.8	+2.4
0.6nm,0.7s,baz=109,slow=4.3,SNR=3.9							
ASAR				S	**S**	**14 49 20.6**	**-1.8**
2.5nm,0.9s,baz=96,slow=16,SNR=12							
ASAR	**Alice Springs**	**42.70**	**259**	P	**P**	**14 43 39.7**	**-0.3**
ASAR				ScP	ScP	14 48 16.8	+2.4
ASAR				S	**S**	**14 49 20.6**	**-1.8**
WB2	**Warramunga Arr**	**42.94**	**265**	*eP*	**P**	**14 43 41.0**	**-0.9**
WRAB	**Tennant Creek**	**42.95**	**265**	*eP*	**P**	**14 43 40.5**	**-1.4**
11nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**42.95**	**265**	P	**P**	**14 43 41.0**	**-0.9**
6.2nm,0.3s,mb4.6,baz=97,slow=8.4,SNR=409							
WRA				ScP	ScP	14 48 17.6	+2.1
2.8nm,0.9s,baz=91,slow=4.4,SNR=9.0							
WRA				S	**S**	**14 49 22.1**	**-3.9**
0.6nm,0.7s,baz=98,slow=13,SNR=3.8							
WRA	**Warramunga Arr**	**42.95**	**265**	P	**P**	**14 43 41.0**	**-0.9**
WRA				ScP	ScP	14 48 17.6	+2.1
WRA				S	**S**	**14 49 22.1**	**-3.9**
FORT	**Forrest**	**47.20**	**248**	*eP*	**P**	**14 44 13.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**51.38**	**264**	*eP*	**P**	**14 44 44.9**	**-0.2**
SBA	**Scott Base**	**55.75**	**183**	*eP*	**P**	**14 45 18.4**	**+3.5**
11nm,1.1s,mb4.0							
VNDA	**Vanda**	**55.76**	**185**	*eP*	**P**	**14 45 17.5**	**+2.5**
2.9nm,0.7s,mb3.6							
KLBR	**Kellerberrin**	**55.92**	**246**	*eP*	**P**	**14 45 16.6**	**-0.4**
12nm,0.9s,mb4.1							
QSPA	**South Pole Qui**	**67.53**	**180**	P	**P**	**14 46 33.6**	**+2.1**
4.8nm,0.4s,mb4.2,baz=322,slow=0.3,SNR=19							
QSPA	**South Pole Qui**	**67.53**	**180**	*eP*	**P**	**14 46 33.4**	**+1.9**
7.1nm,0.9s,mb4.1							
MJAR	**Matsushiro Arr**	**71.04**	**325**	P	**P**	**14 46 52.0**	**-1.1**
4.7nm,0.9s,mb4.0,baz=157,slow=5.7,SNR=9.2							
MJAR	**Matsushiro Arr**	**71.04**	**325**	P	**P**	**14 46 52.0**	**-1.1**
KSRS	**Korea Array**	**77.50**	**320**	P	**P**	**14 47 29.2**	**-0.1**
0.9nm,0.6s,mb3.4,baz=134,slow=5.9,SNR=3.8							
KSAR	**Wonju Array Be**	**77.51**	**320**	P	**P**	**14 47 29.2**	**-0.2**
PETK	**Petropavlovsk-**	**77.89**	**346**	P	**P**	**14 47 30.4**	**-0.7**
7.9nm,0.6s,mb4.3,baz=132,slow=6.8,SNR=12							
PETK	**Petropavlovsk-**	**77.89**	**346**	P	**P**	**14 47 30.4**	**-0.7**
MAW	**Mawson**	**79.17**	**200**	P	**P**	**14 47 39.1**	**+1.3**
2.3nm,0.6s,mb3.7,baz=137,slow=4.1,SNR=5.2							
MAW	**Mawson**	**79.17**	**200**	P	**P**	**14 47 39.1**	**+1.3**
MDJ	**Mudanjiang**	**81.39**	**326**	P	**P**	**14 47 50.0**	**+0.4**
MDJ				pmax	pmax		
comp=Z,9.0nm,1.4s,mb4.0							
MDJ				pmax	pmax		
comp=Z,150nm,5.2s							
ISA	**Isabella**	**81.77**	**46**	*eP*	**P**	**14 47 52.2**	**+0.4**
comp=Z,3.2nm,0.8s,mb3.9							
CMB	**Columbia Colle**	**81.92**	**43**	*eP*	**P**	**14 47 52.4**	**-0.1**
comp=Z,5.4nm,0.9s,mb4.1							
CN2	**Changchun**	**83.06**	**323**	*eP*	**P**	**14 47 57.9**	**-0.2**
CN2				*eS*	S	14 57 27.8	-2.3
CN2				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.3							
CN2				pmax	pmax		
comp=Z,200nm,4.0s							
WCN	**Washoe City**	**83.07**	**42**	*eP*	**P**	**14 47 58.2**	**0.0**
comp=Z,5.5nm,1.1s,mb4.0							
NVAR	**Mina Array Bea**	**83.48**	**44**	P	**P**	**14 48 00.8**	**+0.5**
comp=Z,3.2nm,0.8s,mb3.9,baz=225,slow=8.3,SNR=20							
NVAR	**Mina Array Bea**	**83.48**	**44**	P	**P**	**14 48 00.8**	**+0.5**
VNA3	**Neumayer Olymp**	**86.20**	**177**	*e*	**P**	**14 48 13.4**	**+0.4**
VNA3				*e*	pP	14 50 18.5	+0.8
BJI	**Beijing**	**86.36**	**316**	P	**P**	**14 48 14.5**	**+0.3**
BJI				pP	pP	14 50 19.6	+0.5
BJI				sP	sP	14 51 20.3	+2.9
BJI				PP	PP	14 51 47.3	+0.5
BJI				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.1							
GYA	**Guiyang**	**86.44**	**300**	*eP*	**P**	**14 48 14.8**	**-0.1**
GYA				pP	pP	14 50 21.6	+1.7
GYA				sP	sP	14 51 21.4	+3.3
GYA				PP	PP	14 51 49.0	+1.3
GYA				SKS		14 57 44.5	
GYA				S	S	14 58 01.0	-2.4
GYA				sS	sS	15 01 45.3	-0.7
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.4							
VNA2	**Neumayer--Watz**	**86.62**	**177**	*e*	**P**	**14 48 15.6**	**+0.6**
VNA2				*e*	pP	14 50 22.8	+2.9
ETW	**Entiat**	**87.72**	**36**	*eP*	**P**	**14 48 20.6**	**+0.2**
comp=Z,26nm,1.7s,mb4.7							
TRF	**Thorofare Moun**	**88.74**	**13**	*eP*	**P**	**14 48 23.3**	**-1.4**
comp=Z,16nm,0.8s,mb4.9							
SRU	**San Rafael**	**88.95**	**47**	*eP*	**P**	**14 48 26.7**	**+0.3**
comp=Z,7.1nm,0.9s,mb4.5							
KMI	**Kunming**	**89.02**	**298**	P	**P**	**14 48 30.4**	**+3.4**
KMI				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.3							
TXAR	**Lajitas Array**	**89.34**	**58**	P	**P**	**14 48 29.6**	**+1.2**
comp=Z,3.1nm,0.9s,mb4.1,baz=216,slow=6.0,SNR=15							
TXAR	**Lajitas Array**	**89.34**	**58**	P	**P**	**14 48 29.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**89.47**	**290**	P	**P**	**14 48 30.7**	**+1.5**
comp=Z,1.5nm,0.8s,mb3.9,baz=131,slow=3.5,SNR=12							
CMAR	**Chiang Mai Arr**	**89.47**	**290**	P	**P**	**14 48 30.7**	**+1.5**
HHC	**Hu-ho-hao-te**	**89.77**	**315**	*eP*	**P**	**14 48 28.1**	**-2.0**
HHC				pP	pP	14 50 39.3	+3.2
HHC				sP	sP	14 51 37.4	+3.4
HHC				PP	PP	14 52 14.6	+1.0
HHC				SKS		14 58 01.4	
HHC				S	S	14 58 27.8	-5.6
HHC				sS	sS	15 02 19.6	+1.2
HHC				SS	SS	15 04 49.3	+0.1
HHC				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.6							
HHC				pmax	pmax		
comp=Z,150nm,5.9s							
ANMO	**Albuquerque**	**89.78**	**52**	P	**P**	**14 48 30.9**	**+0.6**
comp=Z,2.6nm,0.8s,mb4.1,baz=205,slow=6.2,SNR=8.9							
ANMO	**Albuquerque**	**89.78**	**52**	P	**P**	**14 48 30.9**	**+0.6**
GDL2	**Guadalupe Moun**	**90.08**	**55**	*eP*	**P**	**14 48 32.7**	**+1.0**
comp=Z,9.7nm,1.2s,mb4.5							
ILAR	**Eielson Array**	**90.62**	**13**	P	**P**	**14 48 31.6**	**-1.8**
comp=Z,0.9nm,0.7s,mb3.8,baz=235,slow=3.9,SNR=16							
ILAR	**Eielson Array**	**90.62**	**13**	P	**P**	**14 48 31.6**	**-1.8**
BW06	**Boulder Array**	**91.41**	**44**	*eP*	**P**	**14 48 37.0**	**-0.7**
comp=Z,4.6nm,1.4s,mb4.2							
YKA	**Yellowknife Ar**	**98.95**	**25**	P	Pdif	14 49 10.1	-1.6
comp=Z,0.1nm,0.5s,baz=241,slow=4.6,SNR=5.8							
YKA	**Yellowknife Ar**	**98.95**	**25**	P	Pdif	14 49 10.1	-1.6
ZALV	**Zalesovo Beam**	**111.18**	**321**	PKiKP	PKiKP	14 53 59.0	-1.9
comp=Z,0.7nm,0.3s,baz=81,slow=1.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**111.18**	**321**	PKiKP	PKiKP	14 53 59.0	-1.9
MKAR	**Makanchi Array**	**111.56**	**313**	PKiKP	PKiKP	14 54 00.3	-1.5
comp=Z,0.5nm,0.5s,baz=124,slow=1.0,SNR=14							
MKAR	**Makanchi Array**	**111.56**	**313**	PKiKP	PKiKP	14 54 00.3	-1.5
AKTO	**Aktyubinsk**	**127.62**	**317**	PKP	PKPdf	14 54 31.4	-1.0
comp=Z,1.2nm,0.6s,baz=50,slow=5.0,SNR=5.9							
AKTO	**Aktyubinsk**	**127.62**	**317**	PKP	PKPdf	14 54 31.4	-1.0
ARCES	**ARCESS Array B**	**130.65**	**349**	PKP	PKPdf	14 54 37.4	-0.3
comp=Z,1.0nm,0.6s,baz=56,slow=0.8,SNR=15							
ARCES	**ARCESS Array B**	**130.65**	**349**	PKP	PKPdf	14 54 37.4	-0.3
FINES	**FINESS Array B**	**137.30**	**342**	PKhKP	PKPpre	14 54 38.1	
comp=Z,1.4nm,0.8s,baz=90,slow=1.9,SNR=7.7							
FINES				PKP	PKPdf	14 54 49.3	-1.0
comp=Z,2.8nm,0.6s,baz=74,slow=3.7,SNR=6.9							
FINES				SKPbc	SKPbc	14 57 29.1	-0.6
comp=Z,1.9nm,0.9s,baz=124,slow=0.5,SNR=1.1							
FINES	**FINESS Array B**	**137.30**	**342**	PKPpre	PKPpre	14 54 38.1	
FINES				PKP	PKPdf	14 54 49.3	-1.0
FINES				SKPbc	SKPbc	14 57 29.1	-0.6
NOA	**NORSAR Array B**	**140.81**	**352**	PKhKP	PKPpre	14 54 49.9	
comp=Z,0.7nm,0.7s,baz=3.6,slow=2.8,SNR=4.6							
NOA	**NORSAR Array B**	**140.81**	**352**	PKPpre	PKPpre	14 54 49.9	
AKASG	**Malin Array Be**	**144.06**	**329**	PKP	PKPdf	14 55 00.8	-2.0
comp=Z,6.0nm,0.4s,baz=45,slow=4.3,SNR=36							
AKASG	**Malin Array Be**	**144.06**	**329**	PKP	PKPdf	14 55 00.8	-2.0
AKBB	**Malin Array Si**	**144.06**	**329**	*e*PKP	PKPdf	14 55 00.7	-2.0
KIEV	**Kiev**	**144.07**	**329**	*e*PKP	PKPdf	14 55 00.8	-2.0
SUW	**Suwalki**	**144.20**	**337**	*e*PKP	PKPdf	14 55 01.6	-1.3
BR131	**Keskin Array S**	**147.09**	**309**	*e*PKPbc	PKPbc	14 55 10.7	-0.7
BRTR	**Keskin Array B**	**147.09**	**309**	PKPbc	PKPbc	14 55 11.1	-0.3
comp=Z,2.3nm,0.7s,baz=144,slow=4.7,SNR=12							
BRTR				PKPab	PKPab	14 55 15.1	+0.1
comp=Z,0.8nm,0.8s,baz=81,slow=4.0,SNR=3.8							
BRTR	**Keskin Array B**	**147.09**	**309**	PKPbc	PKPbc	14 55 11.1	-0.3
BRTR				PKPab	PKPab	14 55 15.1	+0.1
BUR08	**Bucovina Ar. S**	**148.07**	**328**	*e*PKPbc	PKPbc	14 55 13.0	-0.6
TESR		**148.07**	**325**	⇑*iP*	PKPbc	14 55 12.6	-1.1
BURAR	**Bucovina Array**	**148.08**	**328**	‖*iP*	PKPbc	14 55 13.9	+0.2
VRI	**Vrincioaia**	**148.44**	**324**	‖*iP*	PKPbc	14 55 12.4	-2.2
STHS	**Stebnicka Huta**	**148.56**	**334**	*e*PKP	PKPbc	14 55 14.7	-0.1
CRVS	**Cervenica-Dubn**	**148.87**	**333**	*e*PKP	PKPbc	14 55 15.5	-0.1
TRPA	**Tarpa**	**148.98**	**331**	‖*iP*	PKPbc	14 55 15.1	-0.8
MLR	**Muntele Rosu**	**149.10**	**324**	‖*iP*	PKPbc	14 55 15.3	-1.0
KSP	**Ksiaz**	**149.18**	**340**	*i* PKPbcc	PKPbc	14 55 16.1	-0.2
KSP				*e*PKPab	PKPab	14 55 23.0	-0.1
OKC	**Ostrava-Krasne**	**149.41**	**337**	⇑*iP*	PKPbc	14 55 16.0	-0.9
UPC	**Upice**	**149.56**	**340**	⇑*iPKP*	PKPbc	14 55 17.0	-0.2
DPC	**Dobruska-Polom**	**149.59**	**340**	⇑*iPKP*	PKPbc	14 55 17.2	-0.1
KECS	**Kecovo**	**149.60**	**333**	*e*PKP	PKPbc	14 55 17.8	+0.4
KECS				*e*		14 55 24.9	
MORC	**Moravsky Berou**	**149.68**	**338**	*e*PKPbc	PKPbc	14 55 17.1	-0.4
MORC	**Moravsky Berou**	**149.68**	**338**	‖*iP*	PKPbc	14 55 17.2	-0.3
CLL	**Collm**	**149.68**	**344**	⇑*iPKPbc*	PKPbc	14 55 17.0	-0.5
comp=Z,20nm,0.9s							
CLL				*i* PKPab	PKPab	14 55 24.4	-0.8
BRG	**Berggiesshubel**	**149.83**	**343**	⇑*iPKP*	PKPbc	14 55 17.4	-0.4
comp=Z,15nm,0.9s							
BRG				*i*		14 55 24.9	
comp=Z,5.9nm,0.7s							
PVCC	**Panska Ves**	**149.97**	**342**	⇑*iPKP*	PKPbc	14 55 18.0	-0.2
VYHS	**Vyhne**	**150.26**	**335**	*e*PKP	PKPbc	14 55 18.5	-0.4
VYHS				*e*		14 55 27.4	
VRAC	**Vranov**	**150.40**	**338**	⇑*iP*	PKPbc	14 55 16.7	-2.5
PRU	**Pruhonice**	**150.46**	**341**	⇑*iPKP*	PKPbc	14 55 18.8	-0.5
PRU				*e*PKPAB	PKPab	14 55 27.4	-1.1
TREC	**Trest**	**150.78**	**340**	⇑*iPKP*	PKPbc	14 55 19.6	-0.5
NKC	**Novy Kostel**	**150.81**	**344**	⇑*iPKP*	PKPbc	14 55 19.6	-0.5
GZR	**Gura Zlata**	**150.83**	**327**	⇑*iP*	PKPbc	14 55 19.1	-1.2
KHC	**Kasperske Hory**	**151.51**	**342**	⇑*iPKP*	PKPbc	14 55 21.4	-0.3
KHC				*e*PKPAB	PKPab	14 55 32.6	-0.4
GERES	**GERESS Array B**	**151.73**	**341**	PKPbc	PKPbc	14 55 21.5	-0.7
comp=Z,1.5nm,0.6s,baz=21,slow=2.4,SNR=14							
GERES				PKPab	PKPab	14 55 33.4	-0.5
comp=Z,0.7nm,0.5s,baz=20,slow=4.4,SNR=6.0							
GERES	**GERESS Array B**	**151.73**	**341**	PKPbc	PKPbc	14 55 21.5	-0.7
GERES				PKPab	PKPab	14 55 33.4	-0.5
CDF	**Champ du Feu**	**153.62**	**350**	*e*PKP2	PKPab	14 55 40.

CMAR			LR	LR	14 54 35.2	
	comp=Z,380nm,19.7s,baz=332,slow=41					
CMAR	**Chiang Mai Arr**	**5.03 147**	Pn	**Pn**	**14 52 21.9**	**+1.5**
CMAR			Pg	**Pg**	**14 52 40.1**	**-1.3**
CMAR			Lg		14 53 46.1	
BDT	**Bhumibol Dam**	**6.12 153**	PN	**Pn**	**14 52 36.0**	**+0.6**
BDT			PG	**Pg**	**14 52 59.5**	**-2.6**
BDT			SG	**Sg**	**14 54 23.0**	**+1.6**
NST	**Nakhon Sawan**	**8.00 151**	P	**Pn**	**14 53 02.0**	**+0.7**
	154nm,1.0s					
LSA	**Lhasa**	**8.22 328**	*e*Pn	**Pn**	**14 53 05.2**	**+0.9**
	5.4nm,0.6s					
TKM2	**Tokmak 2**	**26.36 325**	*e*P	**P**	**14 56 39.5**	**-1.7**
	10.0nm,1.1s,mb4.3					
MK31	**Makanchi Array**	**26.46 338**	*e*P	**P**	**14 56 43.4**	**+1.4**
MKAR	**Makanchi Array**	**26.46 338**	P	**P**	**14 56 40.9**	**-1.1**
	1.4nm,0.7s,mb3.6,baz=147,slow=11,SNR=15					
MKAR	**Makanchi Array**	**26.46 338**	P	**P**	**14 56 40.9**	**-1.1**
AAK	**Ala-Archa**	**26.77 323**	*e*P	**P**	**14 56 44.7**	**-0.1**
	44nm,1.4s,mb4.8					
ABKAR	**Akbulak array**	**38.85 322**	*e*P	**P**	**14 58 28.9**	**-1.2**
WRA	**Warramunga Arr**	**56.52 136**	P	**P**	**15 00 48.5**	**+0.9**
	1.0nm,0.8s,mb3.9,baz=323,slow=7.4,SNR=4.0					
WRA	**Warramunga Arr**	**56.52 136**	P	**P**	**15 00 48.5**	**+0.9**
ASAR	**Alice Springs**	**58.99 139**	P	**P**	**15 01 05.9**	**+1.0**
	0.6nm,0.7s,mb3.7,baz=321,slow=6.9,SNR=5.3					
ASAR	**Alice Springs**	**58.99 139**	P	**P**	**15 01 05.9**	**+1.0**
ILAR	**Eielson Array**	**80.36 23**	P	**P**	**15 03 17.1**	**+0.9**
	0.2nm,0.6s,mb2.2,baz=298,slow=4.9,SNR=5.1					
ILAR	**Eielson Array**	**80.36 23**	P	**P**	**15 03 17.1**	**+0.9**

BJI 21 14:53:48.2, 43°.22N×109°.35E, h30km, mb4.1/1, ML4.0/9, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**2.66**	**169**	*e*Pn	Pn	14 54 30.0	+1.0
BTO				Pg	Pn	14 54 33.1	+4.1
BTO				Sg	Sn	14 55 02.8	+2.6
BTO				smax			
	comp=N,300nm,0.2s						
BTO				smax			
	comp=E,300nm,0.3s						
HHC	**Hu-ho-hao-te**	**2.89**	**144**	*e*Pn	Pn	14 54 32.6	+0.5
HHC				Pg	Pn	14 54 36.4	+4.3
HHC				Sg	Sn	14 55 09.1	+3.3
HHC				smax			
	comp=N,1μm,0.4s						
HHC				smax			
	comp=E,1μm,0.4s						
HHC	**Hu-ho-hao-te**	**2.89**	**144**	*e*Pn	Pn	14 54 32.8	+0.7
HHC				Pg	Pn	14 54 36.4	+4.3
HHC				Sg	Sn	14 55 09.5	+3.7
HHC				smax			
	comp=N,940nm,0.5s						
HHC				smax			
	comp=E,990nm,0.4s						
BJI	**Beijing**	**6.02**	**120**	Pg	Pn	14 55 33.4	+18
BJI				Sg	Sn	14 56 48.4	+25
BJI				smax			
	comp=N,150nm,0.6s						
BJI				smax			
	comp=E,140nm,0.7s						
GTA	**Gaotai**	**8.12**	**245**	*e*P	Pn	14 55 48.3	+4.3
GTA				pP		14 55 52.5	
GTA				sP		14 55 56.0	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						

GUC 21 15:01:52.9±0.6, 32°.47S×71°.84W, h10km±6km, MD3.5, ML2.5, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.65**	**26**	↑*i*P	Pg	15 02 05.5	+0.1
CHNG				*i* S	Sg	15 02 14.8	+1.0
PTCH	**Petorca**	**0.79**	**76**	↑*i*P	Pg	15 02 08.2	0.0
PTCH				*i* S	Sg	15 02 19.8	+1.3
PTCH				AML	AML	15 02 21.6	
	comp=N,349nm,0.2s						
ROCH	**El Roble**	**0.86**	**126**	⇓*i*P	Pg	15 02 08.9	-0.6
ROCH				⇓*i*P		15 02 09.1	
ROCH				*i* S	Sg	15 02 20.8	+0.1
ROCH				AML	AML	15 02 23.2	
	comp=E,243nm,0.3s						
JACH	**Jahuel**	**1.07**	**102**	↑*i*P	Pg	15 02 12.4	-1.2
JACH				*i* S	Sg	15 02 27.1	-0.4
PEL	**Peldehue**	**1.18**	**125**	↑*i*P	Pb	15 02 14.3	-1.2
PEL				*i* S	Sb	15 02 30.3	-0.6
PEL				AML	AML	15 02 32.1	
	comp=N,498nm,0.4s						
RCDM	**Rinconada Maip**	**1.34**	**140**	⇓*i*P	Pn	15 02 16.7	-1.0
RCDM				*i* S	Sb	15 02 34.7	-0.7
RCDM				AML	AML	15 02 36.2	
	comp=E,119nm,0.1s						
CLCH	**Cerro Calan**	**1.44**	**131**	⇓*i*P	Pn	15 02 18.1	-0.9
CLCH				*i* S	Sn	15 02 37.8	-0.1
CLCH				AML	AML	15 02 43.3	
	comp=E,141nm,0.7s						
FCH	**Farellones**	**1.56**	**124**	*i* P	Pn	15 02 17.7	-3.0
FCH				*i* S	Sn	15 02 38.9	-2.2
FCH				AML	AML	15 02 41.9	
	comp=N,94nm,0.2s						
PCH	**Pirque**	**1.60**	**136**	⇓*i*P	Pn	15 02 21.1	-0.2
PCH				*i* S	Sn	15 02 42.0	-0.1
LMEL	**Las Melosas**	**1.94**	**136**	*e*P	Pn	15 02 26.5	+0.5
LMEL				*i* S	Sn	15 02 52.0	+1.5
LMEL				AML	AML	15 02 57.9	
	comp=N,84nm,0.2s						

*ISCJB **21** 15:17:35.5±0.6, 24°.98N±0°.08×123°.11E±0°.04, h130km±6km, mb3.0/3, Error ellipse: s-maj=14.2km s-min=5.9km az=168.5*
*IDC **21** 15:17:36.2±8.9, 25°.11N×123°.13E, h128km±102km, mb2.9/3, mb1 3.1/4, mb1mx2.8/23, mbtmp3.0/4, ML2.9/1, Error ellipse: s-maj=82.4km s-min=21.9km az=56.0*
*NEIC **21** 15:17:36.1±0.8, 25°.03N×123°.12E, h126km±10km, Error ellipse: s-maj=18.5km s-min=12.4km az=149.0*
*JMA **21** 15:17:37.0±0.2, 24°.98N×123°.11E, h118km±3km, M2.9*
ISC 21 15:17:36.4±0.6, 25°.00N±0°.08×123°.10E±0°.04, h123km±6km, n23, σ0°83/32, mb3.2/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**189**	P	**Pn**	**15 17 54.8**	**-0.2**
YOJ				S	**Sn**	**15 18 08.5**	**-0.5**
IRIF	**Iriomote-Funau**	**0.88**	**139**	P	**Pn**	**15 17 57.3**	**-0.3**
IRIF				S	**Sn**	**15 18 13.1**	**-0.4**
JKRS	**Kuro-shima**	**1.12**	**132**	P	**Pn**	**15 18 00.2**	**+0.3**
JKRS				S	**Sn**	**15 18 17.3**	**-0.5**
HATJ	**Hateruma jima**	**1.14**	**145**	P	**Pn**	**15 18 00.2**	**+0.1**
HATJ				S	**Sn**	**15 18 17.6**	**-0.4**
JJI	**Ishigaki jima**	**1.14**	**123**	P	**Pn**	**15 18 00.0**	**-0.1**
JJI				S	**Sn**	**15 18 17.1**	**-1.0**
TATO	**Taipei**	**1.46**	**269**	*e*Pn	**Pn**	**15 18 04.3**	**+0.7**
JTJ	**Tarama**	**1.50**	**103**	P	**Pn**	**15 18 04.4**	**+0.4**
JTJ				S	**Sn**	**15 18 25.2**	**+0.2**
NACB	**Ninganchiao**	**1.60**	**239**	*e*P	**Pn**	**15 18 04.9**	**-0.3**
YHNB	**Yeheng**	**1.60**	**259**	*e*P	**Pn**	**15 18 05.8**	**+0.6**
JMJ	**Miyako jima 2**	**2.00**	**95**	*e*S	**Sn**	**15 18 36.9**	**+1.2**
JOGS	**Gusukube**	**2.11**	**96**	P	**Pn**	**15 18 12.0**	**+0.6**
JOGS				S	**Sn**	**15 18 40.3**	**+2.2**
YULB	**Yu-li**	**2.29**	**226**	*e*Pn	**Pn**	**15 18 11.6**	**-2.1**
SSLB	**Suanglung**	**2.30**	**239**	P	**Pn**	**15 18 15.1**	**+1.3**
TPUB	**Ta-pu**	**2.82**	**234**	*e*P	**Pn**	**15 18 21.1**	**+0.7**
TWG	**Pinlang**	**2.85**	**221**	*e*P	**Pn**	**15 18 21.5**	**+0.5**
JOW	**Kunigami**	**5.00**	**67**	P	**Pn**	**15 18 48.9**	**-0.6**
	1.0nm,0.3s,baz=130,slow=16,SNR=12						
JOW				S	**Sn**	**15 19 45.1**	**-1.2**
	0.1nm,0.3s,baz=326,slow=27,SNR=2.4						
JOW	**Kunigami**	**5.00**	**67**	P	**Pn**	**15 18 48.9**	**-0.6**
JOW				S	**Sn**	**15 19 45.1**	**-1.2**
MKAR	**Makanchi Array**	**38.99**	**314**	P	**P**	**15 24 49.5**	**-1.1**
	0.1nm,0.4s,mb3.0,baz=98,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**38.99**	**314**	P	**P**	**15 24 49.5**	**-1.1**
WRA	**Warramunga Arr**	**45.99**	**165**	P	**P**	**15 25 47.1**	**-0.4**
	0.9nm,0.8s,mb3.5,baz=347,slow=8.6,SNR=6.7						
WRA	**Warramunga Arr**	**45.99**	**165**	P	**P**	**15 25 47.1**	**-0.3**
ASAR	**Alice Springs**	**49.50**	**167**	P	**P**	**15 26 14.9**	**+0.5**
	0.2nm,0.6s,mb3.2,baz=354,slow=7.2,SNR=8.5						
ASAR	**Alice Springs**	**49.50**	**167**	P	**P**	**15 26 14.9**	**+0.5**

*ISCJB **21** 15:43:43.2±0.3, 62°.79N±0°.02×149°.45W±0°.06, h90km±4km, mb3.2/3, Error ellipse: s-maj=4.2km s-min=3.3km az=14.6*
*IDC **21** 15:43:43.2±0.8, 62°.80N×149°.84W, h78km±8km, mb2.9/3, mb1 3.1/7, mb1mx3.0/27, mbtmp3.0/7, Error ellipse: s-maj=14.0km s-min=9.6km az=118.0*
*NEIC **21** 15:43:44.3, 62°.78N×149°.49W, h76km, MG3.3(AEIC), After AEIC.*
ISC 21 15:43:44.4±0.3, 62°.79N±0°.02×149°.46W±0°.06, h82km±5km, n76, σ0°73/88, mb3.2/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.21**	**337**	P	**Pn**	**15 43 55.8**	**-0.5**
CUT	**Chulitna**	**0.54**	**225**	P	**Pn**	**15 43 57.8**	**-0.8**
TRAP	**Trapper Creek**	**0.58**	**219**	P	**Pn**	**15 43 58.2**	**-0.8**
RND	**Reindeer**	**0.68**	**24**	P	**Pn**	**15 43 59.7**	**-0.2**
RND				S	**Sn**	**15 44 11.1**	**-0.4**
TRF	**Thorofare Moun**	**0.76**	**331**	P	**Pn**	**15 44 00.7**	**0.0**
TRF				S	**Sn**	**15 44 12.9**	**-0.1**
MCK	**McKinley**	**0.98**	**14**	P	**Pn**	**15 44 03.4**	**+0.2**
MCK				S	**Sn**	**15 44 17.4**	**+0.1**
DHY	**Denali Highway**	**1.00**	**72**	P	**Pn**	**15 44 03.3**	**-0.1**
DHY				S	**Sn**	**15 44 18.6**	**+1.0**
GHO	**Glory Hole Cre**	**1.05**	**166**	P	**Pn**	**15 44 03.9**	**-0.2**
SML	**Sawmill**	**1.12**	**151**	*e*P	**Pn**	**15 44 04.6**	**-0.2**
SML				*e*S	**Sn**	**15 44 19.9**	**-0.3**
PMR	**Palmer**	**1.21**	**173**	P	**Pn**	**15 44 05.8**	**-0.2**
PMR				S	**Sn**	**15 44 22.9**	**+0.6**
PPLA	**Purkeypile**	**1.26**	**276**	*e*P	**Pn**	**15 44 06.4**	**-0.2**
PPLA				*e*S	**Sn**	**15 44 22.6**	**-0.6**
SKT	**Skwentna**	**1.26**	**231**	P	**Pn**	**15 44 06.1**	**-0.6**
SCM	**Sheep Creek Mo**	**1.38**	**133**	P	**Pn**	**15 44 08.3**	**+0.1**
SUA	**Susitna One**	**1.46**	**205**	P	**Pn**	**15 44 09.2**	**+0.1**
FIB	**Fire Island**	**1.66**	**192**	P	**Pn**	**15 44 12.2**	**+0.4**
CHUM	**Lake Minchumin**	**1.69**	**312**	P	**Pn**	**15 44 12.2**	**0.0**
STLK	**Strandline Lak**	**1.71**	**222**	P	**Pn**	**15 44 12.1**	**-0.3**
RC01	**Rabbit Creek A**	**1.71**	**185**	*e*P	**Pn**	**15 44 12.0**	**-0.4**
NEA	**Nenana**	**1.80**	**5**	P	**Pn**	**15 44 13.4**	**-0.2**
PAX	**Paxson**	**1.84**	**83**	P	**Pn**	**15 44 14.8**	**+0.8**
DDM	**Donnelly Dome**	**1.91**	**57**	P	**Pn**	**15 44 16.3**	**+1.3**
HDA	**Harding Lake**	**1.97**	**33**	P	**Pn**	**15 44 16.1**	**+0.2**
CCB	**Clear Creek Bu**	**2.00**	**21**	P	**Pn**	**15 44 16.2**	**-0.1**
SPNW	**Spurr Northwes**	**2.07**	**227**	P	**Pn**	**15 44 17.5**	**+0.3**
CKL	**Chakachamna La**	**2.10**	**222**	P	**Pn**	**15 44 18.1**	**+0.6**
KLU	**Klutina**	**2.11**	**126**	P	**Pn**	**15 44 17.3**	**-0.4**
BKG	**Blockade Glaci**	**2.18**	**219**	P	**Pn**	**15 44 19.4**	**+0.8**
COLA	**College**	**2.21**	**18**	P	**Pn**	**15 44 19.1**	**0.0**
VLZ	**Valdez**	**2.23**	**137**	P	**Pn**	**15 44 18.3**	**-0.9**
MDM	**Murphy Dome**	**2.25**	**13**	P	**Pn**	**15 44 19.7**	**+0.2**
IL1	**Eielson Array**	**2.29**	**29**	P	**Pn**	**15 44 20.1**	**0.0**
ILAR	**Eielson Array**	**2.29**	**29**	P	**Pn**	**15 44 20.0**	**-0.1**
	9.0nm,0.3s,baz=212,slow=14,SNR=553						
ILAR				S	**Sn**	**15 44 45.9**	**-1.7**
	22nm,0.3s,baz=326,slow=12,SNR=4.8						
ILAR	**Eielson Array**	**2.29**	**29**	P	**Pn**	**15 44 20.0**	**-0.1**
ILAR				S	**Sn**	**15 44 45.9**	**-1.7**
SLKM	**Skilak Lake**	**2.32**	**189**	P	**Pn**	**15 44 21.7**	**+1.2**
MLY	**Manley**	**2.32**	**346**	P	**Pn**	**15 44 20.6**	**+0.1**
GLM	**Gilmore Dome**	**2.39**	**22**	P	**Pn**	**15 44 21.6**	**+0.2**
DIV	**Divide**	**2.41**	**132**	*e*P	**Pn**	**15 44 20.6**	**-1.1**
FID	**Port Fidalgo**	**2.49**	**144**	P	**Pn**	**15 44 22.1**	**-0.7**
DOT	**Dot Lake**	**2.59**	**68**	*e*P	**Pn**	**15 44 24.9**	**+0.8**
MENT	**Mentasta**	**2.64**	**84**	*e*P	**Pn**	**15 44 23.6**	**-1.1**
SEW	**Seward**	**2.69**	**180**	P	**Pn**	**15 44 25.9**	**+0.4**
RSO	**Redoubt South**	**2.81**	**215**	P	**Pn**	**15 44 28.3**	**+1.2**
EYAK	**Cordova Ski Ar**	**2.86**	**140**	P	**Pn**	**15 44 27.5**	**-0.2**
BMRM	**Bremner River**	**2.94**	**126**	*e*P	**Pn**	**15 44 27.4**	**-1.3**
TT01	**Tatalina**	**3.01**	**275**	P	**Pn**	**15 44 28.7**	**-1.1**
BRLK	**Bradley Lake**	**3.11**	**193**	P	**Pn**	**15 44 31.5**	**+0.4**
GOAT	**Goat Mountain**	**3.16**	**132**	P	**Pn**	**15 44 31.9**	**+0.1**
PRP	**Porcupine Dome**	**3.24**	**30**	P	**Pn**	**15 44 33.4**	**+0.6**
INE	**Iliamna NE**	**3.24**	**214**	P	**Pn**	**15 44 34.2**	**+1.3**
ILW	**Iliamna West**	**3.26**	**214**	P	**Pn**	**15 44 35.8**	**+2.7**
SVW2	**Sparrevohn**	**3.35**	**242**	*e*P	**Pn**	**15 44 34.2**	**-0.2**
BCA3	**Beaver Creek A**	**3.52**	**82**	P	**Pn**	**15 44 36.9**	**+0.2**
BERG	**Berg Lake**	**3.65**	**129**	P	**Pn**	**15 44 38.3**	**-0.2**
IM3	**Indian Mountai**	**3.71**	**332**	P	**Pn**	**15 44 39.2**	**+0.1**
KHIT	**Khitrov Hills**	**3.79**	**126**	P	**Pn**	**15 44 40.4**	**+0.1**
BALM	**Baldy**	**3.80**	**114**	P	**Pn**	**15 44 39.9**	**-0.6**
GCSA	**Galena City Sc**	**3.83**	**304**	P	**Pn**	**15 44 41.8**	**+0.9**
ISLE	**Juniper Island**	**4.04**	**120**	P	**Pn**	**15 44 44.1**	**+0.4**
BARK	**Barkley Ridge**	**4.10**	**123**	P	**Pn**	**15 44 45.1**	**+0.6**
EGAK	**Eagle**	**4.19**	**58**	P	**Pn**	**15 44 46.5**	**+0.8**
BAGL	**Bagley Icefiel**	**4.20**	**120**	P	**Pn**	**15 44 45.7**	**-0.2**
COLD	**Coldfoot**	**4.47**	**356**	P	**Pn**	**15 44 50.2**	**+0.7**
DAWY	**Dawson**	**4.70**	**70**	P	**Pn**	**15 44 53.1**	**+0.5**
BM3	**Burnt Mountain**	**5.08**	**22**	P	**Pn**	**15 44 58.4**	**+0.6**
KDAK	**Kodiak Island**	**5.26**	**199**	P	**Pn**	**15 44 59.0**	**-1.3**
	baz=139,slow=11,SNR=1.2						
KDAK				S	**Sn**	**15 45 55.9**	**-3.6**
	1.4nm,0.3s,baz=285,slow=23,SNR=2.0						
KDAK	**Kodiak Island**	**5.26**	**199**	P	**Pn**	**15 44 59.0**	**-1.3**
KDAK				S	**Sn**	**15 45 55.9**	**-3.6**
INK	**Inuvik**	**8.60**	**43**	P	**Pn**	**15 45 47.4**	**+1.6**
	baz=246,slow=16						
INK				S	**Sn**	**15 47 19.6**	**-1.3**
	0.5nm,0.3s,baz=118,slow=30,SNR=5.6						
INK	**Inuvik**	**8.60**	**43**	P	**Pn**	**15 45 45.9**	**+0.1**
YKA	**Yellowknife Ar**	**15.91**	**75**	P	**Pn**	**15 47 23.1**	**+0.1**
	0.0nm,0.3s,baz=282,slow=12,SNR=5.0						
YKA	**Yellowknife Ar**	**15.91**	**75**	P	**Pn**	**15 47 23.1**	**+0.1**
RES	**Resolute Bay**	**22.03**	**35**	P	**P**	**15 48 32.2**	**+0.7**
	0.4nm,0.6s,mb2.9,baz=233,slow=15,SNR=1.9						
RES	**Resolute Bay**	**22.03**	**35**	P	**P**	**15 48 32.2**	**+0.7**
KURK	**Kurchatov**	**60.64**	**327**	P	**P**	**15 53 45.3**	**-0.9**
	0.1nm,0.3s,mb3.4,baz=31,slow=7.8,SNR=2.2						
KURK	**Kurchatov**	**60.64**	**327**	P	**P**	**15 53 45.3**	**-0.9**
MKAR	**Makanchi Array**	**63.27**	**323**	P	**P**	**15 54 02.3**	**-1.5**
	0.2nm,0.5s,mb3.3,baz=46,slow=6.9,SNR=3.3						
MKAR	**Makanchi Array**	**63.27**	**323**	P	**P**	**15 54 02.3**	**-1.5**

*IDC **21** 15:49:13.1±0.8, 5°.47S×81°.43W, h28km±4km, mb3.8/12, mb1 4.0/14, mb1mx3.9/21, mbtmp3.8/14, ML3.9/1, MS3.9/2, Ms1 4.0/2, ms1mx3.1/34, Error ellipse: s-maj=34.2km s-min=16.2km az=50.0*
*BJI **21** 15:49:14.2, 5°.50S×81°.10W, h31km, mB5.1/3, Ms5.0/2, Ms7 4.7/2*
*ISCJB **21** 15:49:16.7±2.1, 5°.39S±0°.07×81°.3W±0°.1, h72km±19km, mb3.9/15, Error ellipse: s-maj=22.5km s-min=9.9km az=161.2*
*NEIC **21** 15:49:18.2±1.6, 5°.47S×81°.24W, h75km±13km, mb4.4/5, Error ellipse: s-maj=23.2km s-min=8.0km az=54.0*
NEIC Felt at Paita, Piura and Querecotillo.
ISC 21 15:49:17.7±1.9, 5°.44S±0°.07×81°.3W±0°.1, h68km±17km, n64, σ0°78/40, mb3.9/15, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.33**	**121**	Pn	**Pn**	**15 50 08.5**	**+1.1**
	5.6nm,0.3s,baz=304,slow=15,SNR=23						
ATAH				Lg		15 51 01.6	
	26nm,0.3s,baz=23,slow=14,SNR=8.5						
ATAH	**Atahualpa**	**3.33**	**121**	Pn	**Pn**	**15 50 08.5**	**+1.1**
ATAH				Lg		15 51 01.6	
OTAV	**Otavalo**	**6.31**	**27**	*e*P	**Pn**	**15 50 43.3**	**-4.9**
	29nm,0.3s						
OTAV				*e*S	**Sn**	**15 51 58.2**	**-0.7**
NNA	**Nana**	**7.84**	**146**	Pn	**Pn**	**15 51 06.0**	**-3.2**
	1.8nm,0.3s,baz=296,slow=8.5,SNR=6.4						
NNA				Lg		15 53 11.2	
	1.4nm,0.3s,baz=27,slow=22,SNR=4.0						
NNA	**Nana**	**7.84**	**146**	P	**Pn**	**15 51 01.7**	**-7.4**
	33nm,1.1s						
NNA				Lg		15 53 11.2	
JTS	**JuntasAbangare**	**16.05**	**347**	Pn	**Pn**	**15 53 00.5**	**+1.2**
	baz=172,slow=4.6,SNR=7.7						
JTS	**JuntasAbangare**	**16.05**	**347**	*e*P	**Pn**	**15 52 59.6**	**+0.3**
LPAZ	**La Paz**	**16.81**	**131**	Pn	**Pn**	**15 53 09.5**	**+0.7**
	0.1nm,0.3s,baz=318,slow=13,SNR=4.4						
LPAZ				LR	LR	16 00 02.1	
	comp=Z,316nm,18.0s,baz=129,slow=38						
LPAZ	**La Paz**	**16.81**	**131**	*e*P	**Pn**	**15 53 07.3**	**-1.4**
	9.8nm,1.3s						
SAML	**Samuel**	**18.29**	**102**	*e*P	**Pn**	**15 53 23.0**	**-4.0**
	22nm,1.5s						
SIV	**San Ignacio**	**22.43**	**119**	P	**Pn**	**15 54 12.0**	**+0.9**
	1.8nm,0.8s,mb3.5,baz=315,slow=8.8,SNR=8.2						
SIV	**San Ignacio**	**22.43**	**119**	P	**Pn**	**15 54 12.0**	**+0.9**
TXAR	**Lajitas Array**	**40.72**	**329**	P	**P**	**15 56 52.3**	**+0.2**
	0.2nm,0.5s,mb3.2,baz=142,slow=7.4,SNR=3.1						
TXAR				PcP	PcP	15 58 53.0	+0.6
	0.5nm,0.6s,baz=161,slow=5.7,SNR=3.4						
TXAR	**Lajitas Array**	**40.72**	**329**	P	**P**	**15 56 52.3**	**+0.2**
TXAR				PcP	PcP	15 58 53.0	+0.6
KSU1	**Kansas State U**	**46.53**	**344**	*e*P	**P**	**15 57 38.4**	**-0.2**
	13nm,0.8s,mb4.7						
ANMO	**Albuquerque**	**46.66**	**331**	P	**P**	**15 57 40.4**	**+0.8**
	2.9nm,0.8s,mb4.0,baz=157,slow=11,SNR=12						
ANMO	**Albuquerque**	**46.66**	**331**	P	**P**	**15 57 40.4**	**+0.8**
HWUT	**Hardware Ranch**	**54.38**	**332**	*e*P	**P**	**15 58 38.0**	**+0.3**
	8.3nm,0.9s,mb4.8						
NVAR	**Mina Array Bea**	**55.53**	**325**	P	**P**	**15 58 45.8**	**-0.3**
	2.6nm,0.7s,mb4.4,baz=128,slow=7.0,SNR=23						
NVAR				PcP	PcP	15 59 45.8	+0.5
	1.0nm,0.7s,baz=124,slow=4.1,SNR=4.0						
NVAR	**Mina Array Bea**	**55.53**	**325**	P	**P**	**15 58 45.8**	**-0.3**
NVAR				PcP	PcP	15 59 45.8	+0.5
ULM	**Lac du Bonnet**	**56.89**	**349**	P	**P**	**15 58 54.9**	**-0.6**
	5.1nm,0.8s,mb4.6,baz=163,slow=8.3,SNR=8.0						
ULM	**Lac du Bonnet**	**56.89**	**349**	P	**P**	**15 58 54.9**	**-0.6**
YKA	**Yellowknife Ar**	**72.38**	**344**	P	**P**	**16 00 35.4**	**-0.8**
	0.6nm,0.4s,mb3.8,baz=145,slow=6.3,SNR=27						
YKA				pP	pP	16 00 44.3	-10
	1.2nm,0.9s,baz=138,slow=5.9,SNR=9.0						
YKA	**Yellowknife Ar**	**72.38**	**344**	P	**P**	**16 00 35.4**	**-0.8**
YKA				pP	pP	16 00 44.4	-10
DLBC	**Dease Lake**	**74.62**	**336**	P	**P**	**16 00 50.3**	**+0.9**
	4.6nm,1.0s,mb4.2,baz=266,slow=9.1,SNR=3.7						
DLBC	**Dease Lake**	**74.62**	**336**	P	**P**	**16 00 50.3**	**+0.9**
VNA2	**Neumayer--Watz**	**79.64**	**161**	*e*	**P**	**16 01 16.9**	**-0.5**
VNA2				*e*		16 01 24.0	
VNA2				*e*		16 01 27.0	
RES	**Resolute Bay**	**80.43**	**356**	P	**P**	**16 01 20.9**	**-0.6**
	0.5nm,0.6s,mb3.5,baz=167,slow=10,SNR=3.4						
RES				LR	LR	16 38 29.2	
	comp=Z,86nm,18.5s,baz=22,slow=37						
RES	**Resolute Bay**	**80.43**	**356**	P	**P**	**16 01 20.9**	**-0.6**
SNAA	**Sanae**	**81.23**	**162**	*e*	**P**	**16 01 25.6**	**-0.3**
SNAA				*e*		16 01 35.2	
SNAA	**Sanae**	**81.23**	**162**	*e*P	**P**	**16 01 25.0**	**-0.9**
	5.0nm,1.0s,mb4.3						
INK	**Inuvik**	**82.00**	**343**	P	**P**	**16 01 30.0**	**0.0**
	1.5nm,0.9s,mb3.8,baz=108,slow=7.6,SNR=4.1						
INK	**Inuvik**	**82.00**	**343**	P	**P**	**16 01 30.0**	**0.0**
ESDC	**Sonseca Array**	**83.75**	**49**	P	**P**	**16 01 40.8**	**+1.1**
	0.2nm,0.4s,mb3.3,baz=269,slow=5.2,SNR=6.4						
ESDC				pP	pP	16 01 50.5	-7.8
	0.3nm,0.3s,baz=268,slow=4.9,SNR=5.7						
ESDC	**Sonseca Array**	**83.75**	**49**	P	**P**	**16 01 40.8**	**+1.1**
ESDC				pP	pP	16 01 50.5	-7.8
TORD	**Torodi Ar. Bea**	**84.42**	**76**	P	**P**	**16 01 44.0**	**+0.4**
	0.6nm,0.7s,mb3.5,baz=266,slow=5.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**84.42**	**76**	P	**P**	**16 01 44.0**	**+0.4**
ILAR	**Eielson Array**	**84.77**	**337**	P	**P**	**16 01 43.8**	**-0.5**
	0.4nm,0.8s,mb3.4,baz=146,slow=3.4,SNR=5.1						
ILAR	**Eielson Array**	**84.77**	**337**	P	**P**	**16 01 43.8**	**-0.5**
STKA	**Stephens Creek**	**124.83**	**225**	PKP	PKPdf	16 08 10.3	-0.3
	1.9nm,0.8s,baz=76,slow=4.2,SNR=5.2						
STKA	**Stephens Creek**	**124.83**	**225**	PKP	PKPdf	16 08 10.3	-0.3
ABKAR	**Akbulak array**	**125.43**	**30**	*e*PKPdf	PKPdf	16 08 11.8	+0.6
ZAA0	**Zalesovo Array**	**130.34**	**11**	*e*PKPdf	PKPdf	16 08 20.1	-0.2
ZALV	**Zalesovo Beam**	**130.34**	**11**	PKP	PKPdf	16 08 20.1	-0.2
	1.7nm,0.5s,baz=300,slow=2.9,SNR=12						
ZALV				pPKP	pPKPdf	16 08 30.2	-10
	1.7nm,0.6s,baz=291,slow=1.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**130.34

BFZ Birch Farm 20.92 193 PN **P** **15 55 10.1 -0.8**
SNZO South Karori 21.87 195 *eP* **P** **15 55 18.6 -0.8**
39nm,0.9s,mb5.0
NNZ Nelson 22.14 198 PN **P** **15 55 21.1 -0.7**
NNZ *eSN* **S** **15 58 43.1 -4.3**
THZ Tophouse 22.78 198 PN **P** **15 55 27.4 -0.1**
THZ *eSN* **S** **15 58 54.3 -3.2**
KHZ Kahutara 23.21 196 PN **P** **15 55 30.6 -0.7**
LTZ Lake Taylor 23.90 198 PN **P** **15 55 36.2 -1.3**
RPZ Rata Peaks 25.11 199 P **P** **15 55 48.2 0.0**
6.4nm,0.4s,mb4.6,baz=8.2,slow=18,SNR=8.6
RPZ Rata Peaks 25.11 199 *eP* **P** **15 55 48.3 +0.1**
PPT2 Papeete2 26.83 89 eLR LR 16 02 40.5
148nm,27.2s
EIDS Eidsvold 29.06 254 *eP* **P** **15 56 23.4 +0.3**
14nm,1.1s,mb4.5
ARMA Armidale 29.30 244 *eP* **P** **15 56 26.3 +1.2**
CNB Canberra Magne 32.47 236 *eP* **P** **15 56 53.7 +1.6**
CTA Charters Tower 33.68 264 P **P** **15 57 03.1 +0.5**
28nm,0.4s,mb5.2,baz=91,slow=10,SNR=20
CTA Charters Tower 33.68 264 *eP* **P** **15 57 03.3 +0.7**
CTA Charters Tower 33.68 264 P **P** **15 57 03.1 +0.5**
CTAO Charters Tower 33.68 264 *eP* **P** **15 57 03.1 +0.5**
75nm,0.9s,mb5.2
CTAO Charters Tower 33.68 264 P **P** **15 57 03.3 +0.7**
868nm65nm,1.1s,mb5.1
PMG Port Moresby 35.47 283 P **P** **15 57 17.9 +0.3**
61nm,0.9s,mb5.1,baz=84,slow=4.6,SNR=21
PMG Port Moresby 35.47 283 *eP* **P** **15 57 17.3 -0.3**
89nm,1.0s,mb5.2
PMG Port Moresby 35.47 283 P **P** **15 57 17.7 +0.1**
769nm85nm,1.1s,mb5.2
TOO Toolangi 36.14 234 *eP* **P** **15 57 23.8 +1.0**
COEN Coen 37.74 273 P **P** **15 57 36.7 +0.4**
57nm,1.1s,mb5.0
STKA Stephens Creek 38.02 244 P **P** **15 57 39.5 +1.2**
11nm,0.6s,mb4.6,baz=86,slow=9.2,SNR=40
STKA Stephens Creek 38.02 244 *eP* **P** **15 57 39.5 +1.2**
STKA Stephens Creek 38.02 244 *eP* **P** **15 57 39.1 +0.8**
1.8nm,0.7s,mb3.7
JAY Jayapura 44.15 288 P **P** **15 58 27.4 +0.2**
2µm82nm,1.2s,mb5.1
AS31 Alice Springs 44.73 257 *eP* **P** **15 58 31.5 +0.1**
ASAR Alice Springs 44.73 257 P **P** **15 58 31.8 +0.3**
59nm,0.8s,mb5.2,baz=88,slow=6.9,SNR=468
ASAR PcP PcP 16 00 01.9 0.0
6.7nm,0.8s,baz=104,slow=4.1,SNR=9.2
ASAR ScP ScP 16 03 03.9 +2.1
3.2nm,0.9s,baz=112,slow=3.6,SNR=8.1
ASAR S **S** **16 04 27.4 -1.0**
8.7nm,0.7s,baz=95,slow=16,SNR=28
ASAR Alice Springs 44.73 257 P **P** **15 58 31.8 +0.3**
ASAR PcP PcP 16 00 01.9 0.0
ASAR ScP ScP 16 03 03.9 +2.1
ASAR S **S** **16 04 27.4 -1.0**
WB2 Warramunga Arr 44.78 262 *eP* **P** **15 58 31.6 -0.4**
WRAB Tennant Creek 44.79 262 *eP* **P** **15 58 31.4 -0.5**
95nm,1.1s,mb5.2
WRAB Tennant Creek 44.79 262 P **P** **15 58 31.6 -0.4**
130nm,1.4s,mb5.3
WRA Warramunga Arr 44.80 262 P **P** **15 58 31.6 -0.4**
34nm,0.2s,mb5.5,baz=97,slow=7.0,SNR=1258
WRA PcP PcP 16 00 01.9 -0.2
5.2nm,0.8s,baz=93,slow=3.6,SNR=5.9
WRA S **S** **16 04 28.7 -0.8**
2.1nm,0.7s,baz=98,slow=14,SNR=7.4
WRA Warramunga Arr 44.80 262 P **P** **15 58 31.6 -0.4**
WRA PcP PcP 16 00 01.9 -0.2
WRA S **S** **16 04 28.7 -0.8**
SMPI Sarmi 46.16 288 P **P** **15 58 42.4 -0.2**
58nm,1.0s,mb5.0
FORT Forrest 49.52 246 *eP* **P** **15 59 07.5 +0.1**
FORT Forrest 49.52 246 P **P** **15 59 05.6 -1.8**
81nm,0.8s,mb5.2
FAKI Fak Fak 51.63 283 P **P** **15 59 22.6 -0.4**
57nm33nm,1.2s,mb4.5
FITZ Fitzroy Crossi 53.22 262 P **P** **15 59 34.5 +0.2**
10nm,0.6s,mb4.4
FITZ Fitzroy Crossi 53.22 262 *eP* **P** **15 59 34.5 +0.2**
FITZ Fitzroy Crossi 53.22 262 P **P** **15 59 34.5 +0.2**
FITZ Fitzroy Crossi 53.22 262 P **P** **15 59 34.6 +0.3**
19nm,0.9s,mb4.4
AAI Ambon 55.06 280 P **P** **15 59 46.9 -0.4**
52nm,1.2s,mb4.7
LBMI Labuha 56.88 283 P **P** **15 59 59.6 -0.3**
59nm,1.0s,mb4.8
TNTI Ternate 57.58 285 P **P** **16 00 04.3 -0.4**
144nm,1.0s,mb5.2
MBWA Marble Bar 58.06 257 *eP* **P** **16 00 07.4 -0.4**
58nm,1.2s,mb4.7
SBA Scott Base 58.06 184 *eP* **P** **16 00 09.8 +2.9**
24nm,1.4s,mb4.2
VNDA Vanda 58.10 185 *eP* **P** **16 00 08.4 +1.3**
3.1nm,1.0s
KLBR Kellerberrin 58.29 245 *eP* **P** **16 00 09.2 0.0**
47nm,1.0s,mb4.7
MMRI Maumere 58.92 272 P **P** **16 00 13.3 -0.4**
1µm86nm,0.9s,mb5.0
KDI Kendari 60.13 277 P **P** **16 00 21.4 -0.4**
23nm,1.1s,mb4.4
CBIJ Chichi jima 61.02 319 P **P** **16 00 26.9 -0.5**
59nm,0.8s,mb5.0
CBIJ Chichi jima 61.02 319 P **P** **16 00 26.9 -0.5**
GTOI Gorontalo 61.50 282 P **P** **16 00 31.3 +0.5**
76nm,0.9s,mb5.1
BNSI Bone 62.32 276 P **P** **16 00 36.4 +0.3**
42nm,1.2s,mb4.8
MRSI Marisa 62.42 282 P **P** **16 00 37.0 +0.2**
19nm,1.1s,mb4.4
KAPI Kappang 62.44 275 P **P** **16 00 35.6 -1.3**
9.9nm,0.8s,mb4.3,baz=130,slow=5.3,SNR=5.4
KAPI Kappang 62.44 275 *eP* **P** **16 00 35.6 -1.3**
30nm,1.4s,mb4.5
KAPI Kappang 62.44 275 P **P** **16 00 35.6 -1.3**
24nm,1.5s,mb4.4
MTNI Mataram 64.61 270 P **P** **16 00 50.7 -0.1**
3µm53nm,0.8s,mb5.0
JAGI Jajag, Banyuwa 66.56 269 P **P** **16 01 02.4 -0.5**
65nm,1.0s,mb5.1
MYLDM Lahad Datu 67.45 285 P **P** **16 01 11.4 +3.0**
36nm,1.0s,mb4.8
PWJI Pagerwojo 68.90 269 P **P** **16 01 16.5 -0.7**
50nm,1.0s,mb5.0
SJI Sawahan 69.03 269 P **P** **16 01 17.0 -1.0**
4µm44nm,1.1s,mb4.9
PCJI Pacitan 69.44 269 P **P** **16 01 20.4 0.0**
163nm,0.8s,mb5.6
QSPA South Pole Qui 69.75 180 *eP* **P** **16 01 22.9 +1.8**
19nm,1.0s,mb4.6
MJAR Matsushiro Arr 70.17 324 P **P** **16 01 23.5 -0.7**
13nm,0.8s,mb4.5,baz=158,slow=6.1,SNR=29
MJAR Matsushiro Arr 70.17 324 P **P** **16 01 23.5 -0.7**
MAT Matsushiro 70.17 324 P **P** **16 01 23.4 -0.9**
PBKI Pangkalan Bun 70.80 274 P **P** **16 01 29.5 +1.0**
2µm148nm,1.1s,mb5.4
STKI Sintang 71.96 277 P **P** **16 01 36.5 +1.2**
38nm,1.1s,mb4.7
LEM Lembang 73.21 269 P **P** **16 01 42.8 +0.3**
1µm124nm,1.4s,mb5.2
KSM Kuching 73.56 278 P **P** **16 01 45.8 +1.3**
594nm53nm,1.0s,mb4.9
ASAJ Asahikawa 73.65 331 P **P** **16 01 45.6 +1.4**
24nm,0.8s,mb4.7,baz=185,slow=6.0,SNR=9.1
ASAJ Asahikawa 73.65 331 P **P** **16 01 45.6 +1.4**
CBJI Citeko 74.07 269 P **P** **16 01 46.2 -1.2**
148nm,1.0s,mb5.4
DBJI Dramaga 74.12 269 P **P** **16 01 47.1 -0.6**
89nm,1.0s,mb5.1
CGJI Cibinong 75.09 268 P **P** **16 01 52.2 -0.9**
752nm78nm,0.9s,mb5.2
PETK Petropavlovsk- 76.14 345 P **P** **16 01 57.4 -0.6**
12nm,0.8s,mb4.4,baz=123,slow=9.0,SNR=9.8
PETK Petropavlovsk- 76.14 345 P **P** **16 01 57.4 -0.6**
KSRS Korea Array 76.87 318 P **P** **16 02 01.3 -1.0**
2.1nm,0.7s,mb3.7,baz=137,slow=5.6,SNR=4.8
KSAR Wonju Array Be 76.88 318 P **P** **16 02 01.3 -1.1**
LWLI Liwa 77.15 269 P **P** **16 02 03.9 -0.6**
74nm,1.1s,mb5.0
USRK Ussuriysk Arra 78.91 326 P **P** **16 02 13.8 +0.7**
16nm,0.9s,mb4.4,baz=147,slow=3.9,SNR=16
KSI Kapahiang 78.98 270 P **P** **16 02 13.5 -0.8**
93nm,0.8s,mb5.1
CMB Columbia Colle 79.22 43 *eP* **P** **16 02 15.2 +0.2**
8.4nm,1.2s,mb4.0
MDJ Mudanjiang 80.47 325 P **P** **16 02 21.9 +0.5**
MDJ PP PP 16 05 37.0 +1.9
MDJ S S 16 11 44.8 +2.3
MDJ pmax pmax
comp=Z,21nm,0.9s,mb4.5
MDJ pmax pmax
comp=Z,130nm,4.8s
MDJ Mudanjiang 80.47 325 *eP* **P** **16 02 21.9 +0.6**
comp=Z,20nm,1.0s,mb4.4
NVAR Mina Array Bea 80.78 43 P **P** **16 02 24.0 +0.9**
comp=Z,4.6nm,0.9s,mb3.9,baz=226,slow=9.0,SNR=25
NVAR Mina Array Bea 80.78 43 P **P** **16 02 24.0 +0.9**
LDFC Landfair 81.06 48 P **P** **16 02 25.4 +0.8**
comp=Z,14nm,0.4s,mb4.7
CN2 Changchun 82.26 322 *eP* **P** **16 02 30.9 +0.3**
CN2 *eS* S 16 12 02.3 +1.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
CN2 pmax pmax
comp=Z,200nm,4.0s
WHN Wuhan 82.47 306 P **P** **16 02 32.8 +0.8**
IPM Ipoh 83.28 277 *eP* **P** **16 02 36.8 +0.4**
comp=Z,30nm,1.1s,mb4.7
IPM Ipoh 83.28 277 P **P** **16 02 36.8 +0.4**
comp=Z,38nm,0.9s,mb4.9
PSI Prapat 84.65 275 P **P** **16 02 42.4 -0.8**
comp=Z,20nm,1.2s,mb4.5
BJI Beijing 85.88 315 P **P** **16 02 48.5 0.0**
BJI SS SS 16 18 34.5 +3.9
BJI pmax pmax
comp=Z,14nm,1.4s,mb4.4
TNA Tin City 85.94 4 *eP* **P** **16 02 47.3 -0.9**
comp=Z,6.4nm,1.0s,mb4.2
ENH Enshi 86.08 304 *eP* **P** **16 02 49.8 +0.2**
comp=Z,48nm,1.4s,mb4.9
TRF Thorofare Moun 86.24 12 *eP* **P** **16 02 48.3 -1.2**
comp=Z,14nm,0.8s,mb4.7
GYA Guiyang 86.71 300 *eP* **P** **16 02 53.1 +0.4**
GYA pP pP 16 04 55.8 +2.9
GYA PP PP 16 06 27.4 +1.8
GYA SKS 16 12 25.0
GYA S S 16 12 42.8 -1.6
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
GYA pmax pmax
comp=Z,80nm,5.4s
MCK McKinley 86.76 12 *eP* **P** **16 02 50.8 -1.2**
comp=Z,17nm,1.0s,mb4.6
TXAR Lajitas Array 86.81 57 P **P** **16 02 54.0 +0.9**
comp=Z,3.1nm,0.8s,mb4.0,baz=223,slow=6.2,SNR=18
TXAR Lajitas Array 86.81 57 P **P** **16 02 54.0 +0.9**
ANMO Albuquerque 87.16 51 P **P** **16 02 55.0 +0.4**
comp=Z,2.6nm,0.9s,mb3.9,baz=214,slow=3.8,SNR=8.3
ANMO Albuquerque 87.16 51 P **P** **16 02 55.0 +0.4**
GDL2 Guadalupe Moun 87.50 54 *eP* **P** **16 02 56.9 +0.6**
comp=Z,68nm,1.7s,mb5.1
MCMT McKenzie Canyo 87.71 40 *eP* **P** **16 02 57.5 +0.6**
comp=Z,2.7nm,0.9s,mb4.0
COLA College 88.00 12 *eP* **P** **16 02 56.2 -1.6**
comp=Z,12nm,0.8s,mb4.7
ILAR Eielson Array 88.10 13 P **P** **16 02 56.9 -1.4**
comp=Z,3.3nm,0.8s,mb4.1,baz=215,slow=5.2,SNR=53
ILAR Eielson Array 88.10 13 P **P** **16 02 56.9 -1.4**
XAN Xi'an 88.16 307 P **P** **16 02 59.9 +0.6**
XAN pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
XAN pmax pmax
comp=Z,23nm,4.7s
SNAA Sanae 88.19 178 *e* **P** **16 03 00.1 +1.3**
VNA3 Neumayer Olymp 88.31 176 *e* **P** **16 03 00.3 +0.9**
VNA3 *e* 16 03 08.2
QLMT Earthquake Lak 88.57 41 *eP* **P** **16 03 02.2 +1.2**
comp=Z,0.5nm,0.7s
VNA2 Neumayer--Watz 88.75 177 *e* **P** **16 03 02.5 +1.0**
VNA2 *e* 16 03 12.9
EGAK Eagle 89.39 15 *eP* **P** **16 03 03.6 -0.7**
comp=Z,9.8nm,0.9s,mb4.6
KMI Kunming 89.42 297 P **P** **16 03 05.4 0.0**
KMI pmax pmax
comp=Z,17nm,1.0s,mb4.8
COLD Coldfoot 89.67 10 *eP* **P** **16 03 05.4 -0.1**
comp=Z,2.4nm,0.5s,mb4.3
CM31 Chiang Mai Arr 90.22 290 *eP* **P** **16 03 10.3 +1.1**
comp=Z,9.9nm,1.0s,mb4.6
CMAR Chiang Mai Arr 90.22 290 P **P** **16 03 10.4 +1.2**
comp=Z,10.0nm,0.9s,mb4.6,baz=120,slow=2.9,SNR=60
CMAR Chiang Mai Arr 90.22 290 P **P** **16 03 10.4 +1.2**
CHTO Chiang Mai 90.34 290 *eP* **P** **16 03 10.5 +0.7**
comp=Z,10.0nm,0.8s,mb4.7
CHTO Chiang Mai 90.34 290 P **P** **16 03 10.3 +0.5**
CD2 Chengdu 90.84 303 *eP* **P** **16 03 13.8 +2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
INK Inuvik 94.06 15 P **P** **16 03 24.8 -0.9**
comp=Z,2.8nm,0.9s,mb4.4,baz=214,slow=5.4,SNR=8.6
INK Inuvik 94.06 15 P **P** **16 03 24.8 -0.9**
SONM Songino Array 95.73 319 P **P** **16 03 33.0 -0.8**
comp=Z,0.2nm,0.3s,mb3.8,baz=143,slow=5.2,SNR=3.5
SONM Songino Array 95.73 319 P **P** **16 03 33.0 -0.8**
YKA Yellowknife Ar 96.28 25 P **P** **16 03 34.9 -0.9**
comp=Z,0.5nm,0.9s,mb3.8,baz=243,slow=4.6,SNR=5.9
YKA Yellowknife Ar 96.28 25 P **P** **16 03 34.9 -0.9**
ZALV Zalesovo Beam 110.46 321 PKiKP PKiKP 16 08 34.9 -1.4
comp=Z,0.3nm,0.4s,baz=28,slow=6.7,SNR=4.1
ZALV Zalesovo Beam 110.46 321 PKiKP PKiKP 16 08 34.9 -1.4
MKAR Makanchi Array 111.20 313 PKiKP PKiKP 16 08 36.5 -1.4
comp=Z,1.8nm,0.6s,baz=91,slow=0.6,SNR=15
MKAR Makanchi Array 111.20 313 PKiKP PKiKP 16 08 36.5 -1.4
KKAR Karatay Array 119.27 309 *ePKPdf* PKPdf 16 08 52.4 -1.2
KBL Kabul 119.95 299 *ePKPdf* PKPdf 16 08 54.9 -0.3
ARU Arti 125.15 326 *ePKPdf* PKPdf 16 09 03.5 -0.9
ABKAR Akbulak array 126.07 317 *ePKPdf* PKPdf 16 09 05.1 -1.3
BOSA Boshof 126.49 205 SKPbc 16 11 23.6
comp=Z,1.6nm,0.4s,baz=309,slow=4.9,SNR=5.6
BOSA Boshof 126.49 205 SKPbc 16 11 23.6
ARCES ARCESS Array B 128.78 350 PKP PKPdf 16 09 10.8 -0.2
comp=Z,6.5nm,1.0s,baz=67,slow=0.3,SNR=7.2
ARCES ARCESS Array B 128.78 350 PKP PKPdf 16 09 10.8 -0.2
FINES FINESS Array B 135.65 344 PKPpre PKPpre 16 09 11.5
comp=Z,1.9nm,0.9s,baz=64,slow=2.4,SNR=4.4
FINES PKP PKPdf 16 09 23.1 -1.0
comp=Z,3.2nm,0.9s,baz=93,slow=4.2,SNR=6.2
FINES SKPbc SKPbc 16 12 04.0 +0.1
comp=Z,2.0nm,0.7s,baz=129,slow=3.8,SNR=3.1
FINES FINESS Array B 135.65 344 PKPpre PKPpre 16 09 11.5
FINES PKP PKPdf 16 09 23.1 -1.0
FINES SKPbc SKPbc 16 12 04.0 +0.1
NOA NORSAR Array B 138.82 353 PKPpre PKPpre 16 09 20.4
comp=Z,1.4nm,0.7s,baz=5.7,slow=2.3,SNR=3.3
NOA NORSAR Array B 138.82 353 PKPpre PKPpre 16 09 20.4
HFS Hagfors 139.39 351 PKHKP PKPpre 16 09 22.1
comp=Z,2.9nm,0.5s,baz=46,slow=4.3,SNR=14
HFS Hagfors 139.39 351 PKPpre PKPpre 16 09 22.1
SUW Suwalki 142.73 340 *ePKP* PKPdf 16 09 33.8 -3.4
AKASG Malin Array Be 142.94 331 PKHKP PKPpre 16 09 33.9
comp=Z,11nm,0.5s,baz=43,slow=4.3,SNR=82
AKASG SKPbc SKPbc 16 12 23.8 -0.2
comp=Z,2.2nm,0.7s,baz=44,slow=3.3,SNR=5.3
AKASG Malin Array Be 142.94 331 PKPpre PKPpre 16 09 33.9
AKASG SKPbc SKPbc 16 12 23.8 -0.2
AKBB Malin Array Si 142.94 331 *ePKPpre* PKPpre 16 09 33.8
KIEV Kiev 142.95 331 *ePKPpre* PKPpre 16 09 33.9
BEL Belsk 145.35 340 *ePKP* PKPdf 16 09 42.8 +1.0
KIS Kishinev 145.68 327 *i UNK* PKPdf 16 09 43.0 +0.5
LEOM Leova 146.32 327 ⇑*iP* PKPbc 16 09 46.1 +0.2
KWP Kalwaria Pacla 146.49 336 *ePKP* PKPbc 16 09 47.6 +1.3
KWP Kalwaria Pacla 146.49 336 ⇑*iP* PKPbc 16 09 46.3 +0.1
PRAR RASCA 146.70 330 ⇓*iP* PKPbc 16 09 47.7 +0.8
BR131 Keskin Array S 146.84 313 *ePKPdf* PKPdf 16 09 44.5 -0.2
BR131 *ePKPbc* PKPbc 16 09 46.9 -0.7
BRTR Keskin Array B 146.84 313 PKP PKPdf 16 09 44.4 -0.3
comp=Z,9.0nm,0.7s,baz=127,slow=3.3,SNR=42
BRTR PKPbc PKPbc 16 09 47.1 -0.4
comp=Z,9.0nm,0.7s,baz=135,slow=4.7,SNR=41
BRTR Keskin Array B 146.84 313 PKP PKPdf 16 09 44.4 -0.3
BRTR PKPbc PKPbc 16 09 47.1 -0.4
TLCR 146.86 325 ⇓*iP* PKPbc 16 09 47.0 -0.4
BUR08 Bucovina Ar. S 146.98 331 *ePKPbc* PKPbc 16 09 47.6 -0.1
BURAR Bucovina Array 146.99 331 ⇑*iP* PKPbc 16 09 48.0 +0.3
GHRR 147.03 327 ⇓*iP* PKPbc 16 09 48.3 +0.5
TESR 147.10 328 ⇓*iP* PKPbc 16 09 47.5 -0.5
STHS Stebnicka Huta 147.22 337 *ePKP* PKPbc 16 09 48.5 +0.3
STHS *e* 16 09 52.3
CFR Carcaliu 147.24 325 ⇑*iP* PKPbc 16 09 48.6 +0.2
VRI Vrincioaia 147.51 327 ⇑*iP* PKPbc 16 09 48.7 -0.4
TIRR Tirgusor 147.55 324 ⇓*iP* PKPbc 16 09 48.9 -0.3
PLOR Plostina 147.56 327 ⇓*iP* PKPbc 16 09 48.6 -0.6
CRVS Cervenica-Dubn 147.56 336 *ePKP* PKPbc 16 09 48.9 -0.2
CRVS *e* 16 09 53.2
KSP Ksiaz 147.57 343 *ePKP* PKPbc 16 09 49.1 0.0
KSP Ksiaz 147.57 343 *i PKPbcd* PKPbc 16 09 49.1 0.0
KSP *ePKPab* PKPab 16 09 53.1 0.0
BMR Baia Mare 147.71 333 ⇓*iP* PKPbc 16 09 49.6 +0.1
TRPA Tarpa 147.75 334 ⇑*iP* PKPbc 16 09 49.4 -0.2
OKC Ostrava-Krasne 147.92 340 ⇑*iPKP* PKPbc 16 09 49.6 -0.4
OKC *ePKPAB* PKPab 16 09 54.3 -0.3
UPC Upice 147.95 343 ⇑*ePKP* PKPbc 16 09 50.0 0.0
UPC *ePKPAB* PKPab 16 09 54.5 -0.2
DPC Dobruska-Polom 148.01 343 ⇑*iPKP* PKPbc 16 09 50.2 0.0
DPC *ePKPAB* PKPab 16 09 55.0 +0.1
DOPR Dopca 148.11 329 ⇑*iP* PKPbc 16 09 50.8 +0.2
BRG Berggiesshubel 148.13 346 *ePKP* PKPdf 16 09 47.0 +0.6
comp=Z,9.1nm,1.3s
BRG *i* 16 09 50.2
comp=Z,22nm,0.9s
BRG *i* 16 09 54.7
comp=Z,16nm,1.1s
MORC Moravsky Berou 148.16 341 *ePKPbc* PKPbc 16 09 49.9 -0.7
MORC Moravsky Berou 148.16 341 ⇓*iP* PKPbc 16 09 50.1 -0.5
MLR Muntele Rosu 148.17 327 ⇑*iP* PKPbc 16 09 49.8 -0.9
KECS Kecovo 148.27 337 *ePKP* PKPbc 16 09 50.9 0.0
KECS *e* 16 09 56.0
PVCC Panska Ves 148.30 345 ⇑*iPKP* PKPbc 16 09 50.9 0.0
PVCC *ePKPAB* PKPab 16 09 53.9 -2.2
SECR 148.42 327 ⇓*iP* PKPbc 16 09 50.9 -0.5
VOIR 148.65 328 ⇓*iP* PKPbc 16 09 51.1 -0.8
DRGR 148.73 332 ⇓*iP* PKPbc 16 09 51.7 -0.4
PRU Pruhonice 148.81 345 ⇑*iPKP* PKPbc 16 09 51.8 -0.4
PRU *ePKPAB* PKPab 16 09 57.8 -0.4
VYHS Vyhne 148.86 338 *ePKP* PKPbc 16 09 52.0 -0.3
VYHS *e* 16 09 58.7
VRAC Vranov 148.87 342 ⇓*iP* PKPbc 16 09 52.3 0.0
KOLL Kolacno 148.93 339 *ePKP* PKPbc 16 09 52.8 +0.3
PSZ Piszkesteto 148.96 337 ⇑*iP* PKPbc 16 09 52.3 -0.3
NKC Novy Kostel 149.06 347 ⇑*iPKP* PKPbc 16 09 52.5 -0.3
NKC *ePKPAB* PKPab 16 09 58.0 -1.3
TREC Trest 149.19 343 ⇑*ePKP* PKPbc 16 09 52.8 -0.3
LOT Lotru 149.26 330 ⇑*iP* PKPdf 16 09 47.3 -1.1
MEM Membach 149.62 355 PKPbc PKPbc 16 09 53.7 -0.4
GRA3 Grafenberg Arr 149.73 348 *ePKPbc* PKPbc 16 09 53.6 -0.8
GRA3 *ePKPab* PKPab 16 10 01.6 -0.5
GZR Gura Zlata 149.77 331 ⇓*iP* PKPbc 16 09 54.0 -0.6
GRF Grafenberg Arr 149.82 348 *ePKPbc* PKPbc 16 09 54.8 +0.2
GRF *ePKPab* PKPab 16 10 01.5 -0.9
GRA2 Grafenberg Arr 149.83 348 *ePKPbc* PKPbc 16 09 54.5 -0.1
GRA2 *ePKPab* PKPab 16 10 02.0 -0.5
SNF Seneffe 149.83 357 PKPbc PKPbc 16 09 54.2 -0.4
KHC Kasperske Hory 149.84 345 PKPdf PKPdf 16 09 49.4 +0.2
KHC *ePKPbc* PKPbc 16 09 54.2 -0.4
KHC *ePKPab* PKPab 16 10 02.4 -0.1
KHC Kasperske Hory 149.84 345 *ePKPDF* PKPdf 16 09 49.0 -0.2
KHC ⇑*iPKP* PKPbc 16 09 54.5 -0.2
KHC *ePKPAB* PKPab 16 10 02.3 -0.2
BCLA Clavier 149.86 356 PKPbc PKPbc 16 09 54.2 -0.5
GRA4 Grafenberg Arr 149.90 348 *ePKPdf* PKPdf 16 09 48.7 -0.6
GRA4 *ePKPbc* PKPbc 16 09 54.3 -0.5
GRA4 *ePKPab* PKPab 16 10 02.1 -0.7
GRB4 Grafenberg Arr 149.97 348 *ePKPbc* PKPbc 16 09 54.3 -0.7
GRB4 *ePKPab* PKPab 16 10 02.5 -0.6
GRB1 Grafenberg Arr 150.02 348 *ePKPbc* PKPbc 16 09 54.5 -0.6
GRB1 *ePKPab* PKPab 16 10 02.8 -0.5
GRB3 Grafenberg Arr 150.04 347 *ePKPbc* PKPbc 16 09 54.6 -0.5
GRB3 *ePKPab* PKPab 16 10 02.9 -0.4
GERES GERESS Array B 150.07 345 PKP PKPdf 16 09 47.1 -2.5
comp=Z,1.1nm,0.9s,baz=90,slow=1.3,SNR=7.0
GERES PKPbc PKPbc 16 09 54.9 -0.4
comp=Z,9.5nm,0.8s,baz=42,slow=2.2,SNR=58
GERES PKPab PKPab 16 10 03.0 -0.6
comp=Z,2.1nm,0.8s,baz=12,slow=3.0,SNR=5.3
GERES GERESS Array B 150.07 345 PKP PKPdf 16 09 47.1 -2.5
GERES PKPbc PKPbc 16 09 54.9 -0.4
GERES PKPab PKPab 16 10 03.0 -0.6
BZS Buzias 150.12 332 ⇑*iP* PKPbc 16 09 55.0 -0.5
GRB2 Grafenberg Arr 150.13 347 *ePKPbc* PKPbc 16 09 54.7 -0.7
GRB2 *ePKPab* PKPab 16 10 03.4 -0.4
GIVF Givet 150.21 357 *ePKP1* PKPbc 16 09 54.7 -0.8
comp=Z,65nm,1.0s
GIVF Givet 150.21 357 *eP* PKPbc 16 09 54.7 -0.8
DOU Dourbes 150.23 357 PKPbc PKPbc 16 09 55.2 -0.4
BAIF Baives 150.28 357 *ePKP1* PKPbc 16 09 55.0 -0.7
comp=Z,43nm,1.0s
BAIF Baives 150.28 357 *eP* PKPbc 16 09 55.0 -0.7
GRB5 Grafenberg Arr 150.28 347 *ePKPbc* PKPbc 16 09 55.1 -0.6
CONA Conrad Observa 150.32 341 ⇑*iPKPbc* PKPbc 16 09 55.4 -0.4
comp=Z,12nm,0.7s
GRC4 Grafenberg Arr 150.34 348 *ePKPbc* PKPbc 16 09 55.6 -0.2
GRC1 Grafenberg Arr 150.43 347 *ePKPbc* PKPbc 16 09 55.3 -0.7
GRC1 *ePKPab* PKPab 16 10 04.4 -0.6
WLF Walferdange 150.55 355 PKPbc PKPbc 16 09 56.9 +0.6
WLF Walferdange 150.55 355 *ePKPbc* PKPbc 16 09 56.5 +0.2
GRC2 Grafenberg Arr 150.58 348 *ePKPbc* PKPbc 16 09 55.9 -0.5
GRC2 *ePKPab* PKPab 16 10 04.5 -1.1
PKSM Moragy 150.86 336 ⇑*iP* PKPbc 16 09 56.2 -0.9
FLN La Foliniere 151.54 4 *ePKP1* PKPbc 16 09 57.3 -1.3
comp=Z,33nm,0.8s
FLN La Foliniere 151.54 4 *eP* PKPbc 16 09 57.3 -1.3
VTS Vitosha 151.61 326 ⇑*iP* PKPbc 16 09 58.5 -0.4
CDF Champ du Feu 151.68 353 *ePKP1* PKPbc 16 09 57.9 -1.0
CDF Champ du Feu 151.68 353 *eP* PKPbc 16 09 57.9 -1.0
PAGF Fort de Pagny 151.69 355 *ePKP1* PKPbc 16 09 58.3 -0.6
comp=Z,8.8nm,1.0s
PAGF Fort de Pagny 151.69 355 *eP* PKPbc 16 09 58.3 -0.6
ROSF Rostrenen 151.71 8 *ePKP1* PKPbc 16 09 57.5 -1.5
ROSF Rostrenen 151.71 8 *eP* PKPbc 16 09 57.5 -1.5
LDF La Druitiere 151.73 3 *ePKP1* PKPbc 16 09 57.6 -1.4
comp=Z,7.1nm,0.5s
LDF La Druitiere 151.73 3 *eP* PKPbc 16 09 57.6 -1.4
MEZF Maizieres J'vi 151.79 356 *ePKP1* PKPbc 16 09 58.4 -0.8
MEZF Maizieres J'vi 151.79 356 *eP* PKPbc 16 09 58.4 -0.8
SGMF Saint Gilles 151.87 7 *ePKP1* PKPbc 16 09 57.8 -1.5
comp=Z,14nm,0.8s
SGMF Saint Gilles 151.87 7 *eP* PKPbc 16 09 57.8 -1.5
GRR Gorron 151.89 4 *ePKP1* PKPbc 16 09 58.2 -1.2
comp=Z,14nm,0.5s
GRR Gorron 151.89 4 *eP* PKPbc 16 09 58.2 -1.2
SFTF Sexfontaines 152.09 356 *ePKP1* PKPbc 16 09 59.0 -0.8
comp=Z,36nm,1.0s
SFTF Sexfontaines 152.09 356 *eP* PKPbc 16 09 59.0 -0.8
QUIF Quistinic 152.13 8 *ePKP1* PKPbc 16 09 58.4 -1.5
QUIF Quistinic 152.13 8 *eP* PKPbc 16 09 58.4 -1.5
HAU Haudompre 152.18 354 *ePKP1* PKPbc 16 09 58.9 -1.1
comp=Z,7.4nm,0.6s
HAU Haudompre 152.18 354 *eP* PKPbc 16 09 58.9 -1.1
PDKS Podkum 152.25 341 *i PKPbc* PKPbc 16 09 59.4 -0.9
HINF Hinteralfeld 152.31 353 *ePKP1* PKPbc 16 09 59.0 -1.3
HINF Hinteralfeld 152.31 353 *eP* PKPbc 16 09 59.0 -1.3
BOJS Bojanci 152.67 340 *i PKPbc* PKPbc 16 10 00.8 -0.4
LOR Lormes 153.09 357 *ePKP1* PKPbc 16 10 01.0 -1.0
comp=Z,8.1nm,0.8s
LOR Lormes 153.09 357 *eP* PKPbc 16 10 01.0 -1.0
SSF Saint Saulge 153.31 358 *ePKP1* PKPbc 16 10 01.5 -1.0
comp=Z,17nm,1.1s
SSF Saint Saulge 153.31 358 *eP* PKPbc 16 10 01.5 -1.0
AVF Avril sur Loir 153.58 358 *ePKP1* PKPbc 16 10 01.8 -1.3
AVF Avril sur Loir 153.58 358 *eP* PKPbc 16 10 01.8 -1.3
CABF La Chapelle 153.58 354 *ePKP1* PKPbc 16 10 02.6 -0.5
comp=Z,26nm,1.2s
CABF La Chapelle 153.58 354 *eP* PKPbc 16 10 02.6 -0.5
MFF Saint Martin d 153.72 4 *ePKP1* PKPbc 16 10 02.2 -1.2
MFF Saint Martin d 153.72 4 *eP* PKPbc 16 10 02.2 -1.2
BGF Bois d'Agland 153.82 359 *ePKP1* PKPbc 16 10 02.5 -1.1
BGF Bois d'Agland 153.82 359 *eP* PKPbc 16 10 02.5 -1.1
TCF Toulx Ste Croi 154.10 360 *ePKP1* PKPbc 16 10 03.0 -1.2
TCF Toulx Ste Croi 154.10 360 *eP* PKPbc 16 10 03.0 -1.2
ESDC Sonseca Array 160.00 14 PKP PKPdf 16 10 02.7 -0.5
comp=Z,0.1nm,0.4s,baz=327,slow=2.5,SNR=4.0
ESDC PKPab PKPab 16 10 45.6 -0.8
comp=Z,0.5nm,0.6s,baz=352,slow=4.8,SNR=4.9
ESDC Sonseca Array 160.00 14 PKP PKPdf 16 10 02.7 -0.5
ESDC PKPab PKPab 16 10 45.6 -0.8
LIC Lamto 164.34 152 *ePKIKP* PKPdf 16 10 07.6 -0.6
LIC Lamto 164.34 152 *ePKPdf* PKPdf 16 10 07.6 -0.6
DBIC Dimbokro 164.81 152

*TRN **21** 16:06:04.0, 18°.77N×65°.39W, h61km, MD3.1(RSPR)*
RSPR 21 16:06:05.1, 18°.81N×65°.38W, h67km±5km, 4C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.70**	**220⇑**	*e*P	Pn	16 06 19.1	-0.6
CBYP	**Canovanas**	**0.70**	**220⇑**	*e*P	Pn	16 06 19.1	-0.6
CBYP				*e*S	Sn	16 06 30.2	-0.3
MTP	**Monte Pirata**	**0.73**	**193⇑**	*e*P	Pn	16 06 19.3	-0.8
MTP	**Monte Pirata**	**0.73**	**193⇑**	*e*P	Pn	16 06 19.3	-0.8
MTP				*e*S	Sn	16 06 30.7	-0.4
HUMP	**Col San Antoni**	**0.80**	**214⇓**	*e*P	Pn	16 06 20.3	-0.6
HUMP	**Col San Antoni**	**0.80**	**214⇓**	*e*P	Pn	16 06 20.3	-0.6
HUMP				*e*S	Sn	16 06 32.2	-0.4

GUC 21 16:27:57.0±0.5, 32°.03S×71°.61W, h28km±2km, MD3.6, ML3.2, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.17**	**33⇑**	*i*P	Pb	16 28 02.6	-0.1
CHNG				*i* S	Sb	16 28 06.9	+0.3
PTCH	**Petorca**	**0.62**	**112⇓**	*i*P	Pb	16 28 08.9	-0.5
PTCH				*i* S	Sb	16 28 18.1	+0.2
PTCH				AML	AML	16 28 18.3	
	comp=N,2μm,0.2s						
IHA	**Instituto Hidr**	**0.99**	**181**	*i* S	Sn	16 28 28.3	+0.2
ROCH	**El Roble**	**1.07**	**152⇓**	*i*P	Pn	16 28 15.9	-0.2
ROCH				*i* S	Sn	16 28 31.3	+1.3
ROCH				AML	AML	16 28 34.4	
	comp=N,517nm,0.3s						
JACH	**Jahuel**	**1.08**	**127⇓**	*i*P	Pn	16 28 16.2	0.0
JACH				*i* S	Sn	16 28 30.7	+0.4
PEL	**Peldehue**	**1.36**	**145⇑**	*i*P	Pn	16 28 20.5	+0.5
PEL				*i* S	Sn	16 28 38.7	+1.6
PEL				AML	AML	16 28 41.2	
	comp=N,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.61**	**155**	*e*P	Pn	16 28 24.4	+1.0
RCDM				*i* S	Sn	16 28 45.5	+2.2
RCDM				AML	AML	16 28 54.3	
	comp=E,383nm,0.1s						
CLCH	**Cerro Calan**	**1.64**	**147**	*i* P	Pn	16 28 24.9	+1.0
CLCH				*i* S	Sn	16 28 46.2	+2.3
CLCH				AML	AML	16 28 49.3	
	comp=N,552nm,0.3s						
CLCH				AML	AML	16 28 49.8	
	comp=N,657nm,0.5s						
FCH	**Farellones**	**1.71**	**140⇓**	*i*P	Pn	16 28 26.8	+1.9
FCH				*i* S	Sn	16 28 49.2	+3.4
FCH				AML	AML	16 28 49.8	
	comp=N,282nm,0.3s						
TACH	**Talagante**	**1.72**	**161**	*e*P	Pn	16 28 26.1	+1.2
TACH				*i* S	Sn	16 28 48.4	+2.4
ANTU	**Antumapu**	**1.74**	**152**	AML	AML	16 28 53.0	
	comp=E,232nm,0.2s						
CHCH	**Chadas Angostu**	**2.06**	**157**	*e*P	Pn	16 28 30.9	+1.2
CHCH				*i* S	Sn	16 28 57.2	+2.7
LMEL	**Las Melosas**	**2.17**	**147⇓**	*i*P	Pn	16 28 33.0	+1.9
LMEL				*i* S	Sn	16 29 01.2	+4.2
LMEL				AML	AML	16 29 07.0	
	comp=N,287nm,0.2s						
CACH	**El Canelo**	**2.25**	**158⇓**	*i*P	Pn	16 28 34.5	+2.2

*SGS **21** 16:28:23.6, 28°.92N×53°.19E, h7km*
*IDC **21** 16:28:32.3±0.7, 28°.08N×52°.41E, h0km, mb4.1/26, mb1 4.2/30, mb1mx4.1/36, mbtmp4.1/30, ML3.9/4, MS3.6/24, Ms1 3.6/24, ms1mx3.5/49, Error ellipse: s-maj=17.2km s-min=12.9km az=171.0*
*ISCJB **21** 16:28:32.9±0.2, 28°.18N±0°.02×52°.39E±0°.02, h10km, mb4.3/73, MS3.7/25, Error ellipse: s-maj=3.2km s-min=2.5km az=20.3*
*THR **21** 16:28:32.4±0.6, 28°.14N×52°.31E, h14km±13km, ML4.2*
*CSEM **21** 16:28:34.5±0.1, 28°.21N×52°.39E, h10km, mb4.4/56, Ms3.5, Error ellipse: s-maj=4.6km s-min=3.6km az=27.0*
*BJI **21** 16:28:34.1, 28°.00N×52°.08E, h32km, mB4.9/13, mb4.5/17, Ms4.6/7, Ms7 4.2/6*
*MOS **21** 16:28:35.8±1.4, 28°.14N×52°.39E, h33km, mb4.5/35, Error ellipse: s-maj=7.3km s-min=4.8km az=116.0*
*OMAN **21** 16:28:37.9±99.0, 28°.26N×52°.49E, h35km, Error ellipse: s-maj=394.0km s-min=30.5km az=314.0*
*NEIC **21** 16:28:37.7±2.0, 28°.24N×52°.38E, h33km±14km, mb4.5/24, ML4.2(THR), Error ellipse: s-maj=8.7km s-min=4.8km az=180.0*
*TEH **21** 16:28:38.6, 28°.26N×52°.30E, h34km*
ISC 21 16:28:34.7±0.2, 28°.18N±0°.02×52°.38E±0°.02, h10km, (h23km±3.8km:pP-P), n456, σ19 20/463, mb4.3/73, MS3.7/25, 15C-17D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.36**	**28**	*e*Pn	**Pn**	**16 28 59.9**	**+0.1**
ISRV				*e*Sg	**Sg**	**16 29 21.4**	**+2.8**
ISRV				*e*		16 29 25.0	
	comp=Z,44μm,0.3s						
ISRV	**Sarvestan**	**1.36**	**28**	*e*Pn	**Pn**	**16 28 59.9**	**+0.1**
SHI	**Shiraz**	**1.46**	**5**	*e*Pn	**Pn**	**16 29 01.8**	**+0.6**
SHI				*e*		16 29 34.1	
	comp=E,18μm,0.3s						
SHI	**Shiraz**	**1.46**	**5**	*e*Pn	**Pn**	**16 29 01.8**	**+0.6**
IPAR	**Pars**	**1.76**	**19**	*e*Sg	**Sg**	**16 29 32.8**	**+1.5**
IPAR				*e*Pn	**Pn**	**16 29 06.1**	**+0.9**
IPAR				*e*		16 29 44.7	
	comp=Z,18μm,0.4s						
BNDS	**Bandar-Abbas**	**3.45**	**102**	*e*P	**Pn**	**16 29 28.0**	**-0.5**
BNDS				*e*S	**Sn**	**16 30 08.0**	**-1.5**
BNDS	**Bandar-Abbas**	**3.45**	**102**	*e*Pn	**Pn**	**16 29 28.5**	**0.0**
BNDS				AML	AML	16 30 47.5	
	comp=N,382nm,0.8s						
BNDS	**Bandar-Abbas**	**3.45**	**102**	*e*P	**Pn**	**16 29 28.0**	**-0.5**
BNDS				*e*S	**Sn**	**16 30 08.0**	**-1.5**
BOQSS		**3.53**	**230**	P	**Pn**	**16 29 31.2**	**+1.6**
SLWS		**3.71**	**205**	P	**Pn**	**16 29 33.4**	**+1.3**
SLWS		**3.71**	**205**	P	**Pn**	**16 29 33.3**	**+1.2**
IMEH	**Mehriz**	**3.74**	**31**	*e*Pn	**Pn**	**16 29 33.2**	**+0.7**
IMEH				*e*		16 29 38.9	
	comp=Z,3μm,0.1s						
IMEH	**Mehriz**	**3.74**	**31**	*e*Pn	**Pn**	**16 29 33.2**	**+0.7**
IBND	**Bandar-abas**	**3.76**	**100**	*e*Sg	**Sg**	**16 30 38.6**	**+3.1**
ISAD	**Sadrabad**	**3.89**	**17**	*e*Pn	**Pn**	**16 29 35.2**	**+0.6**
ISAD				*e*		16 30 50.9	
	comp=Z,3μm,0.4s						
ISAD	**Sadrabad**	**3.89**	**17**	*e*Pn	**Pn**	**16 29 35.2**	**+0.6**
BANOM	**Banah**	**4.16**	**122**	P	**Pn**	**16 29 38.5**	**+0.3**
	SNR=22						
BANOM	**Banah**	**4.16**	**122**	P	**Pn**	**16 29 38.5**	**+0.2**
	SNR=22						
IGAR	**Gharneh**	**4.22**	**356**	*e*Pn	**Pn**	**16 29 39.1**	**0.0**
IGAR				*e*		16 30 36.2	
	comp=Z,1μm,0.2s						
KBD	**Kabd**	**4.23**	**285**	*e*P	**Pn**	**16 29 40.2**	**+0.9**
KBD				AML	AML	16 30 39.3	
	comp=Z,128nm,0.7s						
KBD	**Kabd**	**4.23**	**285**	*e*P	**Pn**	**16 29 40.2**	**+0.9**
KRBR	**Kerman**	**4.24**	**64**	*e*P	**Pn**	**16 29 40.0**	**+0.7**
KRBR				*e*S	**Sn**	**16 30 28.0**	**-0.9**
KRBR	**Kerman**	**4.24**	**64**	*e*Pn	**Pn**	**16 29 40.4**	**+1.0**
KRBR				Sn	**Sn**	**16 30 29.2**	**+0.4**
KRBR				AML	AML	16 31 08.4	
	comp=N,281nm,0.6s						
KRBR				AML	AML	16 31 18.4	
	comp=E,194nm,0.6s						
KRBR	**Kerman**	**4.24**	**64**	*e*P	**Pn**	**16 29 40.0**	**+0.7**
KRBR				*e*S	**Sn**	**16 30 28.0**	**-0.9**
RDF	**Al-Radifah**	**4.31**	**281**	*e*P	**Pn**	**16 29 41.4**	**+1.1**
RDF				AML	AML	16 30 38.8	
	comp=Z,192nm,0.6s						
RDF	**Al-Radifah**	**4.31**	**281**	*e*P	**Pn**	**16 29 41.4**	**+1.1**
NAZ	**Nazwa, Dubai**	**4.33**	**136**	P	**Pn**	**16 29 41.7**	**+1.1**
	SNR=28						
NAZ				P		16 29 41.8	
	SNR=22						
NAZ	**Nazwa, Dubai**	**4.33**	**136**	P	**Pn**	**16 29 41.7**	**+1.1**
	SNR=28						
BTHS		**4.34**	**199**	P	**Pn**	**16 29 41.4**	**+0.6**
BTHS		**4.34**	**199**	P	**Pn**	**16 29 41.4**	**+0.6**
IBAF	**Bafgh**	**4.38**	**38**	*e*Pn	**Pn**	**16 29 42.0**	**+0.6**
IBAF				*e*		16 29 57.7	
	comp=Z,1μm,0.3s						
IBAF	**Bafgh**	**4.38**	**38**	*e*Pn	**Pn**	**16 29 42.0**	**+0.6**
ICHK	**Chekchek**	**4.42**	**23**	*e*Pn	**Pn**	**16 29 42.2**	**+0.4**
ICHK				*e*		16 29 46.0	
	comp=Z,3μm,0.2s						
ICHK	**Chekchek**	**4.42**	**23**	*e*Pn	**Pn**	**16 29 42.2**	**+0.4**
ASUD	**Al Ashush, Dub**	**4.42**	**143**	P	**Pn**	**16 29 43.1**	**+1.2**
	SNR=109						
ASUD				P		16 29 43.3	
	SNR=5.9						
ASUD	**Al Ashush, Dub**	**4.42**	**143**	P	**Pn**	**16 29 43.1**	**+1.2**
	SNR=109						
NASN	**Na'in**	**4.62**	**5**	*e*Pn	**Pn**	**16 29 44.0**	**-0.6**
NASN				*e*Sg	**Sg**	**16 30 57.0**	**-6.1**
NASN	**Na'in**	**4.62**	**5**	*e*Pn	**Pn**	**16 29 44.7**	**+0.1**
NASN				Sn	**Sn**	**16 30 37.8**	**-0.5**
NASN	**Na'in**	**4.62**	**5**	*e*Pn	**Pn**	**16 29 44.0**	**-0.6**
NASN				*e*Sg	**Sg**	**16 30 57.0**	**-6.1**
NAY	**Al-Naaiem**	**4.63**	**285**	*e*P	**Pn**	**16 29 45.5**	**+0.8**
NAY				AML	AML	16 30 58.1	
	comp=Z,76nm,0.6s						
NAY	**Al-Naaiem**	**4.63**	**285**	*e*P	**Pn**	**16 29 45.5**	**+0.7**
IPIR	**Pirpir**	**4.67**	**344**	*e*Pn	**Pn**	**16 29 45.0**	**-0.3**
IPIR				*e*		16 31 43.0	
	comp=Z,2μm,0.5s						
IPIR	**Pirpir**	**4.67**	**344**	*e*Pn	**Pn**	**16 29 45.0**	**-0.3**
MIB	**Mutribah**	**4.70**	**291**	*e*P	**Pn**	**16 29 46.6**	**+1.0**
MIB				AML	AML	16 30 47.8	
	comp=Z,286nm,0.7s						
MIB	**Mutribah**	**4.70**	**291**	*e*P	**Pn**	**16 29 46.7**	**+1.0**
IZEF	**Zefreh**	**4.70**	**360**	*e*Pn	**Pn**	**16 29 45.6**	**-0.1**
IZEF				*e*		16 30 41.4	
	comp=Z,662nm,0.1s						
IZEF	**Zefreh**	**4.70**	**360**	*e*Pn	**Pn**	**16 29 45.6**	**-0.1**
HATD	**Hatta, Dubai**	**4.74**	**134**	P	**Pn**	**16 29 46.4**	**+0.2**
	SNR=45						
HATD				P		16 29 46.9	
	SNR=25						
HATD	**Hatta, Dubai**	**4.74**	**134**	P	**Pn**	**16 29 46.4**	**+0.1**
	SNR=45						
ASHO	**Ashiyiah**	**4.80**	**136**	P	**Pn**	**16 29 47.3**	**+0.2**
	SNR=67						
ASHO				P		16 29 47.3	
	SNR=60						
ASHO	**Ashiyiah**	**4.80**	**136**	P	**Pn**	**16 29 47.3**	**+0.3**
	SNR=60						
RST	**Umm Al-Ruwaisa**	**4.90**	**287**	*e*P	**Pn**	**16 29 49.7**	**+1.3**
RST	**Umm Al-Ruwaisa**	**4.90**	**287**	*e*P	**Pn**	**16 29 49.7**	**+1.3**
SHGR	**Shooshtar-Gavs**	**4.99**	**323**	*e*P	**Pn**	**16 29 49.0**	**-0.7**
SHGR	**Shooshtar-Gavs**	**4.99**	**323**	*e*Pn	**Pn**	**16 29 49.3**	**-0.3**
SHGR				AML	AML	16 31 18.2	
	comp=N,164nm,0.7s						
SHGR				AML	AML	16 31 47.5	
	comp=E,200nm,0.8s						
SHGR	**Shooshtar-Gavs**	**4.99**	**323**	*e*P	**Pn**	**16 29 49.0**	**-0.7**
IKLH	**Kolahrood**	**5.17**	**353**	*e*Pn	**Pn**	**16 29 51.6**	**-0.5**
IKLH				*e*		16 31 40.3	
	comp=Z,3μm,0.7s						
IKLH	**Kolahrood**	**5.17**	**353**	*e*Pn	**Pn**	**16 29 51.6**	**-0.5**
ARQ	**Araqi**	**6.10**	**141**	P	**Pn**	**16 30 04.9**	**-0.1**
	SNR=22						
ARQ				P		16 30 05.0	
	SNR=28						
ARQ	**Araqi**	**6.10**	**141**	P	**Pn**	**16 30 05.0**	**0.0**
	SNR=28						
GHVR	**GHOM**	**6.35**	**352**	*e*P	**Pn**	**16 30 08.0**	**-0.3**
GHVR	**GHOM**	**6.35**	**352**	*e*Pn	**Pn**	**16 30 08.3**	**-0.1**
GHVR	**GHOM**	**6.35**	**352**	*e*P	**Pn**	**16 30 08.0**	**-0.3**
HOQ	**Hoqain**	**6.38**	**135**	P	**Pn**	**16 30 08.3**	**-0.5**
	SNR=9.0						
HOQ				P		16 30 09.3	
	SNR=22						
HOQ	**Hoqain**	**6.38**	**135**	P	**Pn**	**16 30 09.3**	**+0.5**
	SNR=22						
ASAO	**Ashtian**	**6.66**	**343**	*e*Pn	**Pn**	**16 30 12.0**	**-0.6**
ASAO	**Ashtian**	**6.66**	**343**	*e*Pn	**Pn**	**16 30 12.7**	**+0.1**
ASAO	**Ashtian**	**6.66**	**343**	*e*Pn	**Pn**	**16 30 12.0**	**-0.6**
TABS	**Tabas**	**6.80**	**36**	*e*Pn	**Pn**	**16 30 14.9**	**+0.3**
BSY	**Bisya**	**6.95**	**140**	P	**Pn**	**16 30 16.6**	**-0.1**
	SNR=89						
BSY				P		16 30 16.8	
	SNR=28						
BSYO	**Bisya**	**6.98**	**140**	P	**Pn**	**16 30 16.8**	**-0.3**
	SNR=28						
IKOO	**Kooshah**	**7.12**	**52**	*e*Pn	**Pn**	**16 30 19.9**	**+0.9**
IKOO				*e*		16 32 54.4	
	comp=E,524nm,0.6s						
IKOO	**Kooshah**	**7.12**	**52**	*e*Pn	**Pn**	**16 30 19.9**	**+0.9**
ASYS		**7.14**	**266**	P	**Pn**	**16 30 18.3**	**-1.0**
SMDO	**Samad**	**7.22**	**134**	P	**Pn**	**16 30 19.8**	**-0.6**
	SNR=74						
SMDO	**Samad**	**7.22**	**134**	P	**Pn**	**16 30 19.8**	**-0.6**
	SNR=74						
IR3	**Iran Long-Peri**	**7.37**	**351**	*e*Pn	**Pn**	**16 30 21.8**	**-0.5**
IR3	**Iran Long-Peri**	**7.37**	**351**	*e*Pn	**Pn**	**16 30 21.8**	**-0.5**
IDMV	**Damavand**	**7.38**	**358**	*e*Pn	**Pn**	**16 30 21.8**	**-0.7**
IDMV				*e*		16 33 00.8	
	comp=Z,657nm,0.8s						
IDMV	**Damavand**	**7.38**	**358**	*e*Pn	**Pn**	**16 30 21.8**	**-0.7**
IFIR	**Firoozkooh**	**7.45**	**2**	*e*Pn	**Pn**	**16 30 23.0**	**-0.4**
IFIR	**Firoozkooh**	**7.45**	**2**	*e*Pn	**Pn**	**16 30 23.0**	**-0.4**
JMDO	**Jabal Madar**	**7.77**	**137**	P	**Pn**	**16 30 26.6**	**-1.2**
	SNR=11						
JMDO	**Jabal Madar**	**7.77**	**137**	P	**Pn**	**16 30 26.6**	**-1.2**
	SNR=11						
IVIS	**Veis**	**7.89**	**325**	*e*Pn	**Pn**	**16 30 28.1**	**-1.5**
IVIS	**Veis**	**7.89**	**325**	*e*Pn	**Pn**	**16 30 28.1**	**-1.5**
IDAH	**Dahanechah**	**7.90**	**53**	*e*Pn	**Pn**	**16 30 29.9**	**+0.2**
IDAH				*e*		16 33 55.8	
	comp=Z,374nm,0.6s						
IDAH	**Dahanechah**	**7.90**	**53**	*e*Pn	**Pn**	**16 30 29.9**	**+0.2**
IMON	**Monand**	**8.02**	**50**	*e*Pn	**Pn**	**16 30 31.9**	**+0.6**
IMON				*e*		16 33 17.9	
	comp=E,528nm,0.4s						
IMON	**Monand**	**8.02**	**50**	*e*Pn	**Pn**	**16 30 31.9**	**+0.6**
WBK	**Wadi Bani Khal**	**8.14**	**131**	P	**Pn**	**16 30 32.0**	**-1.0**
	SNR=20						
WBK	**Wadi Bani Khal**	**8.14**	**131**	P	**Pn**	**16 30 32.0**	**-1.0**
	SNR=20						
IDHR	**Dehrash**	**8.27**	**323**	*e*Pn	**Pn**	**16 30 33.5**	**-1.2**
IDHR				*e*		16 32 12.0	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**8.27**	**323**	*e*Pn	**Pn**	**16 30 33.5**	**-1.2**
BHD	**Baghdad**	**8.55**	**308**	*ex*	x	16 30 36.0	
BHD				*ex*	x	16 32 11.7	
BHD				*ex*	x	16 33 07.2	
BHD	**Baghdad**	**8.55**	**308**	*e*Pn	**Pn**	**16 30 36.0**	**-2.5**
GNI	**Garni**	**13.50**	**334**	LR	LR	16 36 36.0	
	comp=Z,74nm,18.4s,baz=267,slow=36						
ASF	**Jabal al Asfar**	**13.97**	**290**	Pn	**Pn**	**16 31 54.4**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=314,slow=3.7,SNR=4.8						
ASF				LR	LR	16 38 15.8	
	comp=Z,109nm,18.2s,baz=155,slow=42						
ASF	**Jabal al Asfar**	**13.97**	**290**	Pn	**Pn**	**16 31 54.4**	**+1.7**
ASF	**Jabal al Asfar**	**13.97**	**290**	P	**Pn**	**16 31 54.4**	**+1.7**
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EIL	**Elat**	**15.33**	**280**	Pn	**Pn**	**16 32 10.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=335,slow=14,SNR=2.5						
EIL				LR	LR	16 38 43.7	
	comp=Z,162nm,18.8s,baz=62,slow=40						
EIL	**Elat**	**15.33**	**280**	Pn	**Pn**	**16 32 10.5**	**-0.7**
EIL	**Elat**	**15.33**	**280**	Pn	**Pn**	**16 32 10.5**	**-0.7**
MMAI	**Mount Meron Ar**	**15.39**	**292**	Pn	**Pn**	**16 32 13.3**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=113,slow=15,SNR=3.7						
MMAI				LR	LR	16 39 14.1	
	comp=Z,164nm,18.9s,baz=130,slow=42						
MMAI	**Mount Meron Ar**	**15.39**	**292**	Pn	**Pn**	**16 32 13.3**	**+1.4**
MMAI	**Mount Meron Ar**	**15.39**	**292**	Pn	**Pn**	**16 32 13.3**	**+1.4**
KBL	**Kabul**	**15.58**	**62**	*e*P	**Pn**	**16 32 15.1**	**+0.7**
	comp=Z,7.7nm,0.9s						
KBL	**Kabul**	**15.58**	**62**	*e*P	**Pn**	**16 32 15.1**	**+0.7**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	**Kislovodsk**	**17.56**	**336**	P	**Pn**	**16 32 36.8**	**-2.8**
KIV	**Kislovodsk**	**17.56**	**336**	*e*P	**Pn**	**16 32 39.6**	**+0.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KIV	**Kislovodsk**	**17.56**	**336**	*e*P	**Pn**	**16 32 39.6**	**+0.1**
	comp=Z,7.0nm,0.6s						
CSS	**Prodhromos**	**17.57**	**297**	*e*P	**Pn**	**16 32 41.9**	**+2.1**
CSS	**Prodhromos**	**17.57**	**297**	*e*P	**Pn**	**16 32 41.8**	**+2.1**
ATD	**Arta Tunnel**	**18.82**	**210**	LR	LR	16 40 42.0	
	comp=Z,142nm,18.9s,baz=358,slow=39						
BRTR	**Keskin Array B**	**19.30**	**311**	P	**Pn**	**16 33 00.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=133,slow=11,SNR=21						
BRTR				LR	LR	16 42 09.5	
	comp=Z,240nm,19.0s,baz=120,slow=42						
BRTR	**Keskin Array B**	**19.30**	**311**	P	**Pn**	**16 33 00.7**	**-0.2**
BRTR	**Keskin Array B**	**19.30**	**311**	P	**Pn**	**16 33 00.7**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR	**Keskin Array B**	**19.30**	**311**	P	**Pn**	**16 33 00.6**	**-0.2**
BR131	**Keskin Array S**	**19.30**	**311**	*e*P	**Pn**	**16 33 00.1**	**-0.7**
	comp=Z,3.3nm,0.6s						
BR131	**Keskin Array S**	**19.30**	**311**	*e*P	**Pn**	**16 33 00.1**	**-0.7**
	comp=Z,3.3nm,0.6s						
KK31	**Karatay Array**	**20.89**	**40**	*e*P	**P**	**16 33 15.5**	**-1.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KK31	**Karatay Array**	**20.89**	**40**	*e*P	**P**	**16 33 15.5**	**-1.5**
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**20.89**	**40**	*e*P	**P**	**16 33 16.0**	**-1.0**
	comp=Z,3.1nm,0.5s						
KKAR	**Karatay Array**	**20.89**	**40**	*e*P	**P**	**16 33 16.0**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKAR	**Karatay Array**	**20.89**	**40**	*e*P	**P**	**16 33 16.0**	**-1.0**
	comp=Z,3.1nm,0.5s						
AB31	**Akbulak array**	**21.84**	**13**	*e*P	**P**	**16 33 26.6**	**-0.5**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
AB31	**Akbulak array**	**21.84**	**13**	*e*P	**P**	**16 33 26.6**	**-0.5**
	comp=Z,4.0nm,0.5s,mb4.1						
ABKAR	**Akbulak array**	**21.84**	**13**	*e*P	**P**	**16 33 26.4**	**-0.7**
	comp=Z,5.5nm,0.6s,mb4.2						
ABKAR	**Akbulak array**	**21.84**	**13**	*e*P	**P**	**16 33 26.5**	**-0.6**
	comp=Z,5.5nm,0.6s,mb4.2						
POO	**Poona**	**21.90**	**111**	*e*PKP	**P**	**16 33 23.5**	**-4.6**
SIM	**Simferopol'**	**22.17**	**324**	*e*P	**P**	**16 33 25.0**	**-5.8**
SIM				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.8						
KSH	**Kashi**	**22.56**	**54**	P	**P**	**16 33 30.8**	**-4.2**
KSH				pP		16 33 37.4	
KSH				sP	sP	16 33 40.8	+1.7
KSH				PP		16 33 56.6	
KSH				S	**S**	**16 37 27.0**	**-16**
KSH				PcP	PcP	16 37 29.0	+0.6
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
KSH				pmax	pmax		
	comp=Z,130nm,6.3s						
KSH				LR	LR		
	comp=N,200nm,7.0s						
KSH				LR	LR		
	comp=E,280nm,5.4s						
KSH				LR	LR		
	comp=Z,220nm,6.3s						
EKS2	**Erkin-Say**	**22.56**	**45**	*e*P	**P**	**16 33 36.9**	**+1.9**
	comp=Z,6.2nm,0.8s,mb4.1						
EKS2	**Erkin-Say**	**22.56**	**45**	*e*P	**P**	**16 33 36.9**	**+1.9**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
EKS2	**Erkin-Say**	**22.56**	**45**	*e*P	**P**	**16 33 36.9**	**+1.9**
	comp=Z,6.2nm,0.8s,mb4.1						
AKTK	**Aktyubinsk**	**22.64**	**9**	P	**P**	**16 33 36.8**	**+1.1**
	comp=Z,4.0nm,0.7s,mb4.0						
AKTO	**Aktyubinsk**	**22.64**	**9**	P	**P**	**16 33 36.8**	**+1.2**
	comp=Z,3.7nm,0.7s,mb4.0,baz=187,slow=12,SNR=11						
AKTO				LR	LR	16 43 44.7	
	comp=Z,89nm,19.0s,MS3.2,baz=182,slow=40						
AKTO	**Aktyubinsk**	**22.64**	**9**	P	**P**	**16 33 36.8**	**+1.2**
AKTO	**Aktyubinsk**	**22.64**	**9**	P	**P**	**16 33 36.8**	**+1.1**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
AKTO	**Aktyubinsk**	**22.64**	**9**	P	**P**	**16 33 36.8**	**+1.1**
AAK	**Ala-Archa**	**22.99**	**45**	*e*P	**P**	**16 33 39.1**	**-0.5**
	comp=Z,31nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**22.99**	**45**	*i* P	**P**	**16 33 40.5**	**+0.9**
AAK				pmax	pmax		
	comp=Z,20nm,2.2s,mb4.2						
AAK				MLR	MLR		
	comp=Z,682nm,18.0s,MS4.1						
AAK	**Ala-Archa**	**22.99**	**45**	*e*P	**P**	**16 33 39.1**	**-0.5**
	comp=Z,31nm,1.0s,mb4.7						
TKM2	**Tokmak 2**	**23.84**	**46**	*e*P	**P**	**16 33 47.7**	**-0.4**
	comp=Z,3.2nm,0.9s,mb3.8						
TKM2	**Tokmak 2**	**23.84**	**46**	*e*P	**P**	**16 33 47.7**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
TKM2	**Tokmak 2**	**23.84**	**46**	*e*P	**P**	**16 33 47.7**	**-0.3**
	comp=Z,3.2nm,0.9s,mb3.8						
IDI	**Anoyia**	**24.38**	**294**	*e*P	**P**	**16 33 54.6**	**+1.5**
	comp=Z,30nm,0.8s,mb4.8						
IDI	**Anoyia**	**24.38**	**294**	*e*P	**P**	**16 33 54.6**	**+1.5**
	comp=Z,30nm,0.8s,mb4.8						
VSR	**Storozhevoye**	**25.07**	**340**	*e*P	**P**	**16 34 00.6**	**+1.4**
VSR				*e*S	**S**	**16 38 26.5**	**+3.0**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.6						
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s	

AKBB Malin Array Si 28.51 328 *eP* **P 16 34 29.0 -1.2**
AKBB Malin Array Si 28.51 328 *eP* **P 16 34 29.0 -1.2**
KIEV Kiev 28.51 328 *i P* **P 16 34 29.7 -0.5**
KIEV Kiev 28.51 328 *i P* **P 16 34 29.7 -0.5**
BURAR Bucovina Array 28.68 320 ⇓P **P 16 34 32.7 +1.0**
BURAR Bucovina Array 28.68 320 ⇓*i*P **P 16 34 32.7 +1.0**
BURAR Bucovina Array 28.68 320 ⇓*i*P **P 16 34 32.7 +1.0**
BUR08 Bucovina Ar. S 28.70 320 *eP* **P 16 34 31.9 +0.1**
BUR08 Bucovina Ar. S 28.70 320 *eP* **P 16 34 32.0 +0.1**
GZR Gura Zlata 29.05 314 ⇑P **P 16 34 35.5 +0.5**
GZR Gura Zlata 29.05 314 ⇑*i*P **P 16 34 35.5 +0.5**
GZR Gura Zlata 29.05 314 P **P 16 34 35.5 +0.5**
OBN Obninsk 29.25 341 *eP* **P 16 34 38.8 +2.2**
OBN *e* 16 35 31.6
OBN pmax pmax
comp=Z,9.0nm,1.7s,mb4.2
OBN MLR MLR
comp=Z,200nm,17.0s,MS3.8
DRGR 29.73 317 ⇑P **P 16 34 42.3 +1.3**
DRGR 29.73 317 ⇑*i*P **P 16 34 42.3 +1.3**
DRGR 29.73 317 P **P 16 34 42.3 +1.3**
MK31 Makanchi Array 29.88 43 P **P 16 34 41.8 -0.5**
MK31 Makanchi Array 29.88 43 *i P* **P 16 34 41.8 -0.6**
MK31 Makanchi Array 29.88 43 *i P* **P 16 34 41.8 -0.6**
MKAR Makanchi Array 29.88 43 P **P 16 34 42.2 -0.1**
comp=Z,0.6nm,0.5s,mb3.6,baz=227,slow=9.2,SNR=11
MKAR PcP PcP 16 37 43.8 -1.4
comp=Z,0.3nm,0.6s,baz=250,slow=3.3,SNR=4.0
MKAR LR LR 16 47 30.2
comp=Z,79nm,20.1s,MS3.3,baz=175,slow=38
MKAR Makanchi Array 29.88 43 P **P 16 34 42.2 -0.1**
MKAR PcP PcP 16 37 43.8 -1.4
MKAR Makanchi Array 29.88 43 P **P 16 34 42.2 -0.2**
MKAR 16 37 43.8
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR MLR MLR
comp=Z,79nm,20.1s
MKAR Makanchi Array 29.88 43 P **P 16 34 42.2 -0.2**
comp=Z,1.0nm,0.5s,mb3.8
MKAR Makanchi Array 29.88 43 PcP PcP 16 37 43.8 -1.4
comp=Z,79nm,20.1s
KURK Kurchatov 30.00 34 P **P 16 34 42.4 -1.1**
comp=Z,1.0nm,0.7s,mb3.7,baz=234,slow=8.7,SNR=7.3
KURK PP PP 16 35 34.0 -17
comp=Z,0.9nm,0.4s,baz=237,slow=8.4,SNR=6.2
KURK LR LR 16 48 22.9
comp=Z,240nm,18.1s,MS3.9,baz=250,slow=40
KURK Kurchatov 30.00 34 P **P 16 34 42.4 -1.1**
KURK PP PP 16 35 34.0 -17
KURK Kurchatov 30.00 34 P **P 16 34 42.4 -1.0**
KURK pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
KURK MLR MLR
comp=Z,240nm,18.1s,MS3.9
KURK Kurchatov 30.00 34 P **P 16 34 42.4 -1.0**
comp=Z,240nm,18.1s
CRVS Cervenica-Dubn 31.49 320 *eP* **P 16 34 58.8 +2.3**
CRVS pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
CRVS Cervenica-Dubn 31.49 320 *eP* **P 16 34 58.8 +2.3**
CRVS Cervenica-Dubn 31.49 320 *eP* **P 16 34 58.8 +2.3**
comp=Z,6.0nm,1.3s,mb4.3
KECS Kecovo 31.85 318 *eP* **P 16 35 02.1 +2.4**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KECS Kecovo 31.85 318 *eP* **P 16 35 02.0 +2.3**
PKSM Moragy 32.02 313 ⇓P **P 16 35 02.1 +0.8**
PKSM Moragy 32.02 313 ⇓*i*P **P 16 35 02.0 +0.7**
PKSM Moragy 32.02 313 P **P 16 35 02.1 +0.8**
WMQ Urumqi 32.27 52 *eP* **P 16 35 05.3 +1.8**
WMQ LR LR
comp=N,130nm,20.8s,MS3.6
WMQ LR LR
comp=E,71nm,22.0s,MS3.6
WMQ LR LR
comp=Z,130nm,18.0s,MS3.7
VYHS Vyhne 32.84 317 *eP* **P 16 35 10.0 +1.6**
VYHS pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
VYHS Vyhne 32.84 317 *eP* **P 16 35 10.0 +1.6**
VYHS Vyhne 32.84 317 *eP* **P 16 35 10.0 +1.6**
comp=Z,3.0nm,1.3s,mb4.1
IIGN Ignalina 33.05 333 *eP* **P 16 35 09.8 -0.4**
IIGN AMB AMB 16 35 16.3
comp=Z,10nm,1.3s,mb4.6
IIGN Ignalina 33.05 333 *eP* **P 16 35 09.8 -0.3**
comp=Z,10nm,1.3s,mb4.6,SNR=27
ISAL Salakas 33.24 333 *eP* **P 16 35 11.5 -0.4**
ISAL AMB AMB 16 35 22.9
comp=Z,12nm,1.9s,mb4.5
ISAL Salakas 33.24 333 *eP* **P 16 35 11.5 -0.3**
comp=Z,12nm,1.9s,mb4.5,SNR=27
IZAR Zarasai 33.32 333 *eP* **P 16 35 12.2 -0.4**
IZAR AMB AMB 16 35 18.6
comp=Z,4.9nm,1.0s,mb4.4
IZAR Zarasai 33.32 333 *eP* **P 16 35 12.2 -0.3**
comp=Z,4.9nm,1.0s,mb4.4,SNR=27
KLMR Klimovskoe 33.80 349 *eP* **P 16 35 15.5 -1.1**
KLMR pmax pmax
comp=Z,22nm,1.3s,mb4.9
KLMR Klimovskoe 33.80 349 *eP* **P 16 35 15.5 -1.1**
comp=Z,22nm,1.3s,mb4.9
MORC Moravsky Berou 34.16 319 ⇓P **P 16 35 18.6 -1.3**
MORC Moravsky Berou 34.16 319 ⇓*i*P **P 16 35 18.6 -1.3**
MORC Moravsky Berou 34.16 319 ⇓*i*P **P 16 35 18.6 -1.3**
VRAC Vranov 34.52 318 LR LR 16 53 01.9
comp=Z,172nm,18.2s,MS3.8,baz=271,slow=42
ZAA0 Zalesovo Array 34.99 34 *eP* **P 16 35 25.4 -1.5**
ZALV Zalesovo Beam 34.99 34 P **P 16 35 26.2 -0.8**
comp=Z,2.7nm,0.6s,mb4.4,baz=239,slow=9.8,SNR=8.7
ZALV PcP PcP 16 37 58.9 -0.2
comp=Z,0.6nm,0.3s,baz=250,slow=4.2,SNR=2.9
ZALV LR LR 16 51 51.1
comp=Z,122nm,18.4s,MS3.7,baz=61,slow=40
ZALV Zalesovo Beam 34.99 34 P **P 16 35 26.2 -0.8**
ZALV PcP PcP 16 37 58.9 -0.2
ZALV Zalesovo Beam 34.99 34 P **P 16 35 26.2 -0.8**
ZALV 16 37 58.9
ZALV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZALV MLR MLR
comp=Z,122nm,18.4s,MS3.7
ZALV Zalesovo Beam 34.99 34 PcP PcP 16 37 58.9 -0.2
comp=Z,122nm,18.4s
GERES GERESS Array B 36.10 316 P **P 16 35 37.5 +0.8**
comp=Z,0.6nm,0.5s,mb3.8,baz=105,slow=7.6,SNR=6.7
GERES LR LR 16 52 32.6
comp=Z,111nm,18.9s,MS3.6,baz=299,slow=40
GERES GERESS Array B 36.10 316 P **P 16 35 37.5 +0.8**
GERES GERESS Array B 36.10 316 P **P 16 35 37.5 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,111nm,18.9s
GERES GERESS Array B 36.10 316 P **P 16 35 37.5 +0.9**
comp=Z,111nm,18.9s
KHC Kasperske Hory 36.28 316 *eP* **P 16 35 39.0 +0.8**
KEST Kesra 37.05 293 P **P 16 35 46.2 +1.4**
comp=Z,3.0nm,0.9s,mb4.1,baz=172,slow=1.7,SNR=4.4
KEST Kesra 37.05 293 P **P 16 35 46.2 +1.4**
KEST Kesra 37.05 293 P **P 16 35 46.2 +1.3**
MOTA Moosalm 37.29 312 ⇑*i*P **P 16 35 47.7 +0.9**
comp=Z,9.7nm,1.0s,mb4.6
MOTA Moosalm 37.29 312 P **P 16 35 47.7 +1.0**
comp=Z,9.7nm,1.0s,mb4.6
JOF Joensuu 37.37 344 *eP* **P 16 35 46.1 -1.1**
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
JOF Joensuu 37.37 344 *ep* **P 16 35 46.1 -1.1**
comp=Z,7.0nm,0.7s,mb4.6
JOF Joensuu 37.37 344 *eP* **P 16 35 46.1 -1.1**
comp=Z,7.0nm,0.7s,mb4.6
CLL Collm 37.43 319 *eP* **P 16 35 47.0 -1.0**
CLL MLR MLR
comp=Z,400nm,13.8s,MS4.4
CLL Collm 37.43 319 *eP* **P 16 35 47.0 -1.0**
CLL *eP*max pP 16 35 49.0 -2.0
comp=Z,11nm,1.4s
CLL Collm 37.43 319 *eP* **P 16 35 47.0 -1.0**
comp=Z,400nm,13.8s
FETA Feichten 37.45 312 ⇑*i*P **P 16 35 49.3 +1.2**
comp=Z,12nm,1.1s,mb4.6

FETA Feichten 37.45 312 P **P 16 35 49.3 +1.2**
comp=Z,12nm,1.1s,mb4.6
FINES FINESS Array B 37.60 340 P **P 16 35 48.3 -1.0**
comp=Z,3.2nm,0.5s,mb4.3,baz=144,slow=8.9,SNR=15
FINES LR LR 16 52 58.2
comp=Z,121nm,18.8s,MS3.7,baz=89,slow=39
FINES FINESS Array B 37.60 340 P **P 16 35 48.3 -0.9**
FINES FINESS Array B 37.60 340 P **P 16 35 48.3 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES MLR MLR
comp=Z,121nm,18.8s
FINES FINESS Array B 37.60 340 P **P 16 35 48.3 -0.9**
comp=Z,121nm,18.8s
KAF Kangasniemi 38.05 340 *eP* **P 16 35 52.3 -0.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
KAF Kangasniemi 38.05 340 *ep* **P 16 35 52.3 -0.7**
comp=Z,1.7nm,0.5s,mb4.0
KAF Kangasniemi 38.05 340 *eP* **P 16 35 52.3 -0.7**
comp=Z,2.0nm,0.5s,mb4.1
DAVA Damuels 38.07 312 ⇑*i*P **P 16 35 53.6 +0.1**
comp=Z,24nm,1.0s,mb4.9
DAVA Damuels 38.07 312 P **P 16 35 53.6 +0.2**
comp=Z,24nm,1.0s,mb4.9
MBDF Montbardon 39.67 307 *eP* **P 16 36 05.1 -1.8**
comp=Z,11nm,0.8s,mb4.3
MBDF Montbardon 39.67 307 *eP* **P 16 36 05.1 -1.8**
comp=Z,11nm,0.8s,mb4.6
MBDF Montbardon 39.67 307 *eP* **P 16 36 05.1 -1.8**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb4.6
MBDF Montbardon 39.67 307 *eP* **P 16 36 05.1 -1.8**
comp=Z,5.3nm,0.8s,mb4.3
LPG La Plagne 39.81 308 *eP* **P 16 36 07.5 -0.5**
comp=Z,6.3nm,0.8s,mb4.1
LPG La Plagne 39.81 308 *eP* **P 16 36 07.5 -0.5**
comp=Z,6.3nm,0.8s,mb4.4
LPG La Plagne 39.81 308 *eP* **P 16 36 07.5 -0.5**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
LPG La Plagne 39.81 308 *eP* **P 16 36 07.5 -0.5**
comp=Z,3.2nm,0.8s,mb4.1
LPL La Plagne 39.83 308 *eP* **P 16 36 07.7 -0.4**
comp=Z,7.7nm,0.7s,mb4.2
LPL La Plagne 39.83 308 *eP* **P 16 36 07.7 -0.4**
comp=Z,7.7nm,0.7s,mb4.5
LPL La Plagne 39.83 308 *eP* **P 16 36 07.7 -0.4**
LPL pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
LPL La Plagne 39.83 308 *eP* **P 16 36 07.7 -0.4**
comp=Z,3.8nm,0.7s,mb4.2
CDF Champ du Feu 40.05 313 *eP* **P 16 36 08.2 -1.7**
CDF Champ du Feu 40.05 313 *eP* **P 16 36 08.2 -1.7**
CDF Champ du Feu 40.05 313 *eP* **P 16 36 08.2 -1.7**
CDF Champ du Feu 40.05 313 *eP* **P 16 36 08.2 -1.7**
HINF Hinteralfeld 40.19 312 *eP* **P 16 36 09.9 -1.2**
HINF Hinteralfeld 40.19 312 *eP* **P 16 36 09.9 -1.2**
HINF Hinteralfeld 40.19 312 *eP* **P 16 36 09.9 -1.2**
HINF Hinteralfeld 40.19 312 *eP* **P 16 36 09.9 -1.2**
CABF La Chapelle 40.46 310 *eP* **P 16 36 11.7 -1.7**
CABF La Chapelle 40.46 310 *eP* **P 16 36 11.7 -1.7**
CABF La Chapelle 40.46 310 *eP* **P 16 36 11.7 -1.7**
CABF La Chapelle 40.46 310 *eP* **P 16 36 11.7 -1.7**
HAU Haudompre 40.56 312 *eP* **P 16 36 13.2 -1.0**
comp=Z,4.3nm,0.6s,mb4.0
HAU *eR*
comp=Z,153nm,18.6s
HAU Haudompre 40.56 312 *eP* **P 16 36 13.2 -1.0**
comp=Z,4.3nm,0.6s,mb4.3
HAU Haudompre 40.56 312 *eP* **P 16 36 13.2 -1.0**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
HAU Haudompre 40.56 312 *eP* **P 16 36 13.2 -1.0**
comp=Z,2.2nm,0.6s,mb4.0
GTA Gaotai 40.57 61 *eP* **P 16 36 14.8 +0.4**
GTA pmax pmax
comp=Z,3.0nm,1.0s,mb3.9
PAGF Fort de Pagny 41.09 313 *eP* **P 16 36 17.1 -1.4**
PAGF Fort de Pagny 41.09 313 *eP* **P 16 36 17.1 -1.4**
PAGF Fort de Pagny 41.09 313 *eP* **P 16 36 17.1 -1.4**
HFS Hagfors 41.27 332 P **P 16 36 19.2 -0.7**
comp=Z,3.4nm,0.3s,mb4.5,baz=134,slow=8.5,SNR=27
HFS LR LR 16 55 31.5
comp=Z,161nm,18.3s,MS3.9,baz=278,slow=39
HFS Hagfors 41.27 332 P **P 16 36 19.2 -0.7**
HFS Hagfors 41.27 332 P **P 16 36 19.2 -0.6**
HFS pmax pmax
comp=Z,3.0nm,0.3s
HFS MLR MLR
comp=Z,161nm,18.3s
HFS Hagfors 41.27 332 P **P 16 36 19.2 -0.6**
comp=Z,161nm,18.3s
SFTF Sexfontaines 41.46 312 *eP* **P 16 36 19.9 -1.7**
SFTF Sexfontaines 41.46 312 *eP* **P 16 36 19.9 -1.7**
SFTF Sexfontaines 41.46 312 *eP* **P 16 36 19.9 -1.7**
MEZF Maizieres J'vi 41.51 312 *eP* **P 16 36 20.8 -1.2**
comp=Z,8.4nm,0.6s,mb4.2
MEZF Maizieres J'vi 41.51 312 *eP* **P 16 36 20.8 -1.2**
comp=Z,8.4nm,0.6s,mb4.5
MEZF Maizieres J'vi 41.51 312 *eP* **P 16 36 20.8 -1.2**
comp=Z,4.2nm,0.6s,mb4.2
SMF Signal de Mont 41.99 309 *eP* **P 16 36 24.7 -1.3**
comp=Z,21nm,1.0s,mb4.4
SMF Signal de Mont 41.99 309 *eP* **P 16 36 24.7 -1.3**
comp=Z,21nm,1.0s,mb4.7
SMF Signal de Mont 41.99 309 *eP* **P 16 36 24.7 -1.3**
SMF pmax pmax
comp=Z,21nm,1.0s,mb4.7
SMF Signal de Mont 41.99 309 *eP* **P 16 36 24.7 -1.3**
comp=Z,10nm,1.0s,mb4.4
LOR Lormes 42.08 310 *eP* **P 16 36 24.5 -2.2**
LOR Lormes 42.08 310 *eP* **P 16 36 24.5 -2.2**
LOR Lormes 42.08 310 *eP* **P 16 36 24.5 -2.2**
LOR Lormes 42.08 310 *eP* **P 16 36 24.5 -2.2**
SSF Saint Saulge 42.28 310 *eP* **P 16 36 26.4 -1.9**
SSF Saint Saulge 42.28 310 *eP* **P 16 36 26.4 -1.9**
SSF Saint Saulge 42.28 310 *eP* **P 16 36 26.4 -1.9**
SSF Saint Saulge 42.28 310 *eP* **P 16 36 26.4 -1.9**
BAIF Baives 42.38 315 *eP* **P 16 36 30.2 +1.1**
comp=Z,18nm,1.0s,mb4.3
BAIF Baives 42.38 315 *eP* **P 16 36 30.2 +1.1**
comp=Z,18nm,1.0s,mb4.7
BAIF Baives 42.38 315 *eP* **P 16 36 30.2 +1.1**
BAIF pmax pmax
comp=Z,18nm,1.0s,mb4.7
BAIF Baives 42.38 315 *eP* **P 16 36 30.2 +1.1**
comp=Z,8.9nm,1.0s,mb4.3
TAM Tamanrasset 42.43 274 *eP* **P 16 36 31.2 +1.3**
comp=Z,5.1nm,1.0s,mb4.1
TAM Tamanrasset 42.43 274 *eP* **P 16 36 31.2 +1.3**
TAM pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
TAM Tamanrasset 42.43 274 *eP* **P 16 36 31.2 +1.3**
comp=Z,5.1nm,1.0s,mb4.1
NB2 NORSAR Subarra 42.79 332 P **P 16 36 30.8 -1.4**
comp=Z,1.8nm,0.5s,mb4.1,baz=122,slow=8.6
NB2 NORSAR Subarra 42.79 332 P **P 16 36 30.8 -1.4**
comp=Z,1.8nm,0.5s,mb4.1,SNR=7.0
NOA NORSAR Array B 42.79 332 P **P 16 36 31.2 -1.1**
comp=Z,1.5nm,0.5s,mb4.0,baz=121,slow=8.2,SNR=8.7
NOA LR LR 16 56 40.7
comp=Z,73nm,18.6s,MS3.6,baz=250,slow=39
NOA NORSAR Array B 42.79 332 P **P 16 36 31.2 -1.1**
NOA NORSAR Array B 42.79 332 P **P 16 36 31.2 -1.0**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA MLR MLR
comp=Z,73nm,18.6s
NOA NORSAR Array B 42.79 332 P **P 16 36 31.2 -1.0**
comp=Z,73nm,18.6s
NAO01 NORSAR Array S 42.83 331 P **P 16 36 31.8 -0.8**
comp=Z,0.7nm,0.3s,mb3.9
NAO01 NORSAR Array S 42.83 331 P **P 16 36 31.8 -0.7**
comp=Z,0.7nm,0.3s,mb3.9
MOY Mondy 43.03 43 *eP* **P 16 36 33.5 -0.8**
MOY Mondy 43.03 43 *eP* **P 16 36 33.5 -0.8**
RJF Les Rejaudoux 43.44 307 *eP* **P 16 36 36.6 -1.2**
RJF *eR*
comp=Z,158nm,19.0s
RJF Les Rejaudoux 43.44 307 *eP* **P 16 36 36.6 -1.2**
RJF Les Rejaudoux 43.44 307 *eP* **P 16 36 36.6 -1.2**
RJF Les Rejaudoux 43.44 307 *eP* **P 16 36 36.6 -1.2**
CHTO Chiang Mai 43.49 92 *eP* **P 16 36 38.6 +0.1**
comp=Z,2.7nm,0.9s,mb4.0
CHTO Chiang Mai 43.49 92 *eP* **P 16 36 38.6 +0.1**

CHTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
CHTO Chiang Mai 43.49 92 *eP* **P 16 36 38.6 +0.1**
comp=Z,2.7nm,0.9s,mb4.0
CMAR Chiang Mai Arr 43.62 92 P **P 16 36 38.8 -0.8**
comp=Z,0.5nm,0.5s,mb3.5,baz=289,slow=11,SNR=5.3
CMAR Chiang Mai Arr 43.62 92 P **P 16 36 38.8 -0.8**
CMAR Chiang Mai Arr 43.62 92 P **P 16 36 38.8 -0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 43.62 92 P **P 16 36 38.8 -0.7**
comp=Z,1.0nm,0.5s,mb3.8
LFF La Frestale 43.96 307 *eP* **P 16 36 40.0 -1.9**
LFF La Frestale 43.96 307 *eP* **P 16 36 40.0 -1.9**
LFF La Frestale 43.96 307 *eP* **P 16 36 40.0 -1.9**
LFF La Frestale 43.96 307 *eP* **P 16 36 40.0 -1.9**
KEV Kevo 44.11 348 *eP* **P 16 36 41.3 -1.5**
KEV pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
KEV Kevo 44.11 348 *ep* **P 16 36 41.3 -1.5**
comp=Z,3.6nm,0.7s,mb4.2
KEV Kevo 44.11 348 *eP* **P 16 36 41.3 -1.5**
comp=Z,4.0nm,0.7s,mb4.3
ZAK Zakamensk 44.17 45 *eP* **P 16 36 45.8 +2.3**
ARCES ARCESS Array B 44.22 347 P **P 16 36 43.0 -0.6**
comp=Z,1.7nm,0.6s,mb3.9,baz=146,slow=7.2,SNR=18
ARCES LR LR 16 59 29.4
comp=Z,85nm,18.3s,MS3.7,baz=169,slow=42
ARCES ARCESS Array B 44.22 347 P **P 16 36 43.0 -0.6**
ARCES ARCESS Array B 44.22 347 P **P 16 36 43.0 -0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,85nm,18.3s
ARCES ARCESS Array B 44.22 347 P **P 16 36 43.0 -0.6**
comp=Z,85nm,18.3s
CD2 Chengdu 44.47 73 *eP* **P 16 36 46.3 +0.1**
CD2 pP pP 16 36 53.8 +4.5
CD2 sP sP 16 36 57.3 +6.7
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CD2 pmax pmax
comp=Z,30nm,5.2s
ETSF Etsaut 44.80 304 *eP* **P 16 36 47.3 -1.4**
ETSF Etsaut 44.80 304 *eP* **P 16 36 47.3 -1.4**
ETSF Etsaut 44.80 304 *eP* **P 16 36 47.3 -1.4**
ETSF Etsaut 44.80 304 *eP* **P 16 36 47.3 -1.4**
KMI Kunming 44.86 82 P **P 16 36 53.8 +4.4**
KMI pP pP 16 37 00.6 +8.0
KMI sP sP 16 37 03.6 +10
KMI S **S** **16 43 27.8 +0.6**
KMI sS sS 16 43 39.6 +7.2
KMI pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
KMI pmax pmax
comp=Z,88nm,4.5s
KMI LR LR
comp=Z,37nm,22.5s,MS3.3
LDF La Druitiere 44.92 312 *eP* **P 16 36 48.3 -1.3**
comp=Z,6.5nm,0.6s,mb4.3
LDF La Druitiere 44.92 312 *eP* **P 16 36 48.3 -1.3**
comp=Z,6.5nm,0.6s,mb4.6
LDF La Druitiere 44.92 312 *eP* **P 16 36 48.3 -1.3**
LDF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
LDF La Druitiere 44.92 312 *eP* **P 16 36 48.3 -1.3**
comp=Z,3.2nm,0.6s,mb4.3
FLN La Foliniere 45.18 312 *eP* **P 16 36 49.5 -2.1**
comp=Z,16nm,0.9s,mb4.5
FLN La Foliniere 45.18 312 *eP* **P 16 36 49.5 -2.1**
comp=Z,16nm,0.9s,mb4.8
FLN La Foliniere 45.18 312 *eP* **P 16 36 49.5 -2.1**
FLN pmax pmax
comp=Z,16nm,0.9s,mb4.8
FLN La Foliniere 45.18 312 *eP* **P 16 36 49.5 -2.1**
comp=Z,7.8nm,0.9s,mb4.5
SJPF Ste Jean 45.29 304 *eP* **P 16 36 51.3 -1.3**
SJPF Ste Jean 45.29 304 *eP* **P 16 36 51.3 -1.3**
SJPF Ste Jean 45.29 304 *eP* **P 16 36 51.3 -1.3**
SJPF Ste Jean 45.29 304 *eP* **P 16 36 51.3 -1.3**
GRR Gorron 45.38 311 *eP* **P 16 36 51.7 -1.5**
GRR Gorron 45.38 311 *eP* **P 16 36 51.7 -1.5**
GRR Gorron 45.38 311 *eP* **P 16 36 51.7 -1.5**
GRR Gorron 45.38 311 *eP* **P 16 36 51.7 -1.5**
SONM Songino Array 45.85 49 P **P 16 36 56.6 -0.3**
comp=Z,0.2nm,0.5s,mb3.3,baz=251,slow=9.0,SNR=4.3
SONM LR LR 16 56 56.9
comp=Z,104nm,18.1s,MS3.8,baz=196,slow=37
SONM Songino Array 45.85 49 P **P 16 36 56.6 -0.3**
SONM Songino Array 45.85 49 P **P 16 36 56.6 -0.3**
SONM MLR MLR
comp=Z,105nm,18.1s
SONM Songino Array 45.85 49 P **P 16 36 56.6 -0.3**
comp=Z,105nm,18.1s
ESDC Sonseca Array 47.44 299 P **P 16 37 09.9 +0.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=74,slow=7.4,SNR=5.0
ESDC Sonseca Array 47.44 299 P **P 16 37 09.9 +0.3**
ESDC Sonseca Array 47.44 299 P **P 16 37 09.9 +0.4**
GYA Guiyang 47.92 79 *eP* **P 16 37 13.6 +0.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
TORD Torodi Ar. Bea 49.38 263 P **P 16 37 24.5 -0.3**
comp=Z,6.3nm,0.5s,mb4.9,baz=59,slow=8.9,SNR=51
TORD LR LR 16 57 14.8
comp=Z,61nm,18.4s,MS3.6,baz=80,slow=35
TORD Torodi Ar. Bea 49.38 263 P **P 16 37 24.5 -0.3**
TORD Torodi Ar. Bea 49.38 263 P **P 16 37 24.5 -0.3**
HHC Hu-ho-hao-te 49.53 59 *eP* **P 16 37 26.6 +1.0**
HHC pP pP 16 37 34.1 +5.3
HHC sP sP 16 37 37.8 +7.8
HHC PcP PcP 16 38 48.8 +1.4
HHC PP PP 16 39 20.8 +1.1
HHC ScP ScP 16 42 40.8 -2.2
HHC S **S** **16 44 31.4 -2.0**
HHC SS SS 16 47 58.9 -6.2
HHC pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
HHC pmax pmax
comp=Z,94nm,5.9s
HHC LR LR
comp=N,160nm,10.3s,MS4.5
HHC LR LR
comp=E,190nm,10.1s,MS4.5
HHC LR LR
comp=Z,150nm,12.6s,MS4.2
MVO Moncorvo 49.66 302 *eP* **P 16 37 28.8 +2.1**
MVO Moncorvo 49.66 302 *eP* **P 16 37 28.8 +2.1**
PBAR Barrancos 49.97 298 *eP* **P 16 37 29.1 +0.1**
PBAR Barrancos 49.97 298 *eP* **P 16 37 29.1 +0.1**
PCBR Castelo Branco 50.12 300 *eP* **P 16 37 32.2 +2.0**
comp=Z,18nm,1.8s,mb4.8
PCBR Castelo Branco 50.12 300 *eP* **P 16 37 32.2 +2.0**
comp=Z,18nm,1.8s,mb4.8
PESTR Estremoz 50.32 299 *eP* **P 16 37 32.8 +1.1**
PESTR Estremoz 50.32 299 *eP* **P 16 37 32.8 +1.1**
PVIS Viseu 50.36 301 *eP* **P 16 37 30.0 -1.9**
PVIS Viseu 50.36 301 *eP* **P 16 37 30.0 -1.9**
PTOM Tomar 50.86 300 *eP* **P 16 37 38.2 +2.4**
BOD Bodaibo 51.59 37 *eP* **P 16 37 38.5 -2.4**
BOD Bodaibo 51.59 37 *eP* **P 16 37 38.5 -2.4**
SPITS Spitsbergen Ar 52.63 351 P **P 16 37 48.0 -0.5**
comp=Z,1.9nm,0.7s,mb4.2,baz=189,slow=11,SNR=4.1
SPITS Spitsbergen Ar 52.63 351 P **P 16 37 48.0 -0.5**
SPITS Spitsbergen Ar 52.63 351 P **P 16 37 48.0 -0.4**
SPITS pmax pmax
comp=Z,2.0nm,0.7s
SPITS Spitsbergen Ar 52.63 351 P **P 16 37 48.0 -0.4**
comp=Z,2.0nm,0.7s,mb4.2
DBIC Dimbokro 58.08 260 P **P 16 38 26.2 -2.4**
comp=Z,6.8nm,0.6s,mb4.9,baz=47,slow=8.7,SNR=14
DBIC LR LR 17 06 53.6
comp=Z,50nm,18.7s,MS3.7,baz=37,slow=40
DBIC Dimbokro 58.08 260 *eP* **P 16 38 28.2 -0.4**
comp=Z,7.1nm,0.6s,mb4.9
DBIC Dimbokro 58.08 260 *eP* **P 16 38 28.2 -0.4**
DBIC pmax pmax
comp=Z,7.0nm,0.6s
DBIC Dimbokro 58.08 260 *eP* **P 16 38 28.2 -0.4**
comp=Z,7.1nm,0.6s,mb4.9
LIC Lamto 58.44 259 *eP* **P 16 38 30.7 -0.4**
comp=Z,25nm,0.7s,mb5.0
LIC Lamto 58.44 259 *eP* **P 16 38 30.7 -0.4**
comp=Z,25nm,0.7s,mb5.4
LIC Lamto 58.44 259 *eP* **P 16 38 30.7 -0.4**
comp=Z,13nm,0.7s,mb5.0

LBTB	**Lobatse**	**58.84**	**209**	*e*P		**P**		**16 38 34.1 +0.6**
	comp=Z,17nm,1.4s,mb4.9							
LBTB	**Lobatse**	**58.84**	**209**	*e*P		**P**		**16 38 34.1 +0.6**
LBTB				pmax		pmax		
	comp=Z,17nm,1.4s,mb4.9							
LBTB	**Lobatse**	**58.84**	**209**	*e*P		**P**		**16 38 34.1 +0.6**
	comp=Z,17nm,1.4s,mb4.9							
CN2	**Changchun**	**59.33**	**54**	*e*P		**P**		**16 38 38.4 +1.5**
CN2				*e*S		**S**		**16 46 41.3 -4.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb5.0							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
BOSA	**Boshof**	**62.16**	**207**	P		**P**		**16 38 54.6 -1.6**
	comp=Z,2.0nm,0.6s,mb4.4,baz=42,slow=5.3,SNR=5.9							
BOSA				LR		LR		17 05 20.4
	comp=Z,72nm,21.2s,MS3.8,baz=174,slow=36							
BOSA	**Boshof**	**62.16**	**207**	P		**P**		**16 38 54.6 -1.6**
BOSA	**Boshof**	**62.16**	**207**	P		**P**		**16 38 54.6 -1.6**
BOSA				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.4							
BOSA				MLR		MLR		
	comp=Z,72nm,21.3s,MS3.8							
BOSA	**Boshof**	**62.16**	**207**	P		**P**		**16 38 54.6 -1.6**
	comp=Z,72nm,21.3s							
KSAR	**Wonju Array Be**	**62.60**	**60**	P		**P**		**16 38 57.4 -1.8**
KSAR	**Wonju Array Be**	**62.60**	**60**	P		**P**		**16 38 57.4 -1.8**
KSAR	**Wonju Array Be**	**62.60**	**60**	P		**P**		**16 38 57.4 -1.8**
KSRS	**Korea Array**	**62.62**	**60**	P		**P**		**16 38 57.4 -2.0**
	comp=Z,1.1nm,0.6s,mb4.2,baz=279,slow=6.7,SNR=4.3							
KSRS				LR		LR		17 10 36.6
	comp=Z,31nm,21.9s,MS3.4,baz=60,slow=40							
KSRS	**Korea Array**	**62.62**	**60**	P		**P**		**16 38 57.4 -2.0**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.1							
KSRS				MLR		MLR		
	comp=Z,31nm,21.9s,MS3.4							
KSRS	**Korea Array**	**62.62**	**60**	P		**P**		**16 38 57.4 -2.0**
	comp=Z,31nm,21.9s							
BBTS	**Babate**	**64.81**	**274**	LR		LR		17 10 56.4
	comp=Z,71nm,18.3s,MS3.9,baz=245,slow=39							
SCHQ	**Schefferville**	**82.31**	**329**	P		**P**		**16 40 54.7 -1.7**
	comp=Z,1.3nm,0.3s,mb4.3,baz=84,slow=5.6,SNR=8.6							
SCHQ	**Schefferville**	**82.31**	**329**	P		**P**		**16 40 54.7 -1.7**
SCHQ	**Schefferville**	**82.31**	**329**	P		**P**		**16 40 54.7 -1.7**
INK	**Inuvik**	**83.71**	**2**	P		**P**		**16 41 04.3 +0.9**
	comp=Z,0.7nm,0.7s,mb3.9,baz=21,slow=15,SNR=5.4							
INK	**Inuvik**	**83.71**	**2**	P		**P**		**16 41 04.3 +0.9**
INK	**Inuvik**	**83.71**	**2**	P		**P**		**16 41 04.3 +0.9**
INK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**83.71**	**2**	P		**P**		**16 41 04.3 +0.9**
	comp=Z,1.0nm,0.7s,mb4.0							
ILAR	**Eielson Array**	**86.14**	**8**	P		**P**		**16 41 16.0 +0.3**
	comp=Z,0.7nm,0.7s,mb4.0,baz=312,slow=3.0,SNR=9.6							
ILAR	**Eielson Array**	**86.14**	**8**	P		**P**		**16 41 16.0 +0.3**
ILAR	**Eielson Array**	**86.14**	**8**	P		**P**		**16 41 16.0 +0.3**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**86.14**	**8**	P		**P**		**16 41 16.0 +0.3**
	comp=Z,1.0nm,0.7s,mb4.2							
YKA	**Yellowknife Ar**	**89.04**	**354**	P		**P**		**16 41 29.6 0.0**
	comp=Z,1.3nm,0.7s,mb4.4,baz=7.4,slow=5.1,SNR=12							
YKA	**Yellowknife Ar**	**89.04**	**354**	P		**P**		**16 41 29.6 0.0**
YKA	**Yellowknife Ar**	**89.04**	**354**	P		**P**		**16 41 29.6 -0.1**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**89.04**	**354**	P		**P**		**16 41 29.7 0.0**
YKA	**Yellowknife Ar**	**89.04**	**354**	P		**P**		**16 41 29.6 -0.1**
	comp=Z,1.0nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**92.47**	**111**	P		**P**		**16 41 46.5 +0.2**
	comp=Z,0.5nm,0.6s,mb4.1,baz=317,slow=3.9,SNR=6.0							
WRA	**Warramunga Arr**	**92.47**	**111**	P		**P**		**16 41 46.5 +0.2**
WRA	**Warramunga Arr**	**92.47**	**111**	P		**P**		**16 41 46.6 +0.3**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**92.47**	**111**	P		**P**		**16 41 46.5 +0.2**

*JMA **21** 16:41:54.7±0.4, 36°.58N×142°.45E, h5km±5km, M3.4*
*IDC **21** 16:41:54.4±1.7, 36°.55N×142°.56E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/25, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=48.4km s-min=21.4km az=69.0*
*ISCJB **21** 16:41:55.7±1.9, 36°.54N±0°.05×142°.55E±0°.07, h23km±16km, mb3.5/5, Error ellipse: s-maj=9.4km s-min=8.9km az=13.7*
*NEIC **21** 16:41:55.2±1.0, 36°.45N×142°.61E, h10km, mb4.1/1, Error ellipse: s-maj=21.2km s-min=14.3km az=71.0*

ISC 21 16:41:56.0±2.1, 36°.59N±0°.05×142°.45E±0°.08, h6km±16km, n31, σ0°79/36, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.42**	**292**	P	**Pn**	**16 42 20.8**	**-1.5**
JFK	**Kawauchi**	**1.48**	**302**	P	**Pn**	**16 42 22.1**	**-1.0**
JFK				*e*S	**Sn**	**16 42 41.6**	**-1.2**
JHO	**Hitachi**	**1.51**	**271**	P	**Pn**	**16 42 22.5**	**-1.1**
JMM	**Marumori**	**1.84**	**314**	P	**Pn**	**16 42 27.2**	**-0.8**
JMM				*e*S	**Sn**	**16 42 51.4**	**-0.1**
JFT	**Otama**	**1.93**	**299**	P	**Pn**	**16 42 29.1**	**-0.2**
JFT				*e*S	**Sn**	**16 42 54.0**	**+0.2**
JIO	**Ouri**	**2.06**	**335**	P	**Pn**	**16 42 30.8**	**-0.3**
JOU	**Okura**	**2.27**	**322**	P	**Pn**	**16 42 34.6**	**+0.6**
JAG	**Ashikaga**	**2.42**	**267**	P	**Pn**	**16 42 36.0**	**-0.1**
JMK	**Ichinoseki**	**2.55**	**338**	P	**Pn**	**16 42 38.2**	**+0.3**
JYK	**Kaneyama**	**2.85**	**325**	P	**Pn**	**16 42 42.9**	**+0.9**
JRY	**Ryogami san**	**2.92**	**260**	P	**Pn**	**16 42 42.6**	**-0.4**
JOM	**Ohasama**	**3.02**	**343**	P	**Pn**	**16 42 45.7**	**+1.4**
JYN	**Shimob**	**3.35**	**252**	P	**Pn**	**16 42 49.6**	**+0.8**
JYN				*e*S	**Sn**	**16 43 29.8**	**+0.9**
MJAR	**Matsushiro Arr**	**3.42**	**270**	Pn	**Pn**	**16 42 49.3**	**-0.5**
	4.3nm,0.3s,baz=85,slow=8.0,SNR=65						
MJAR	**Matsushiro Arr**	**3.42**	**270**	Pn	**Pn**	**16 42 49.3**	**-0.4**
MAJO	**Matsushiro**	**3.42**	**270**	*e*P	**Pn**	**16 42 50.6**	**+0.8**
MAT	**Matsushiro**	**3.42**	**270**	P	**Pn**	**16 42 50.9**	**+1.1**
MAT				*e*S	**Sn**	**16 43 30.8**	**+0.3**
MAT	**Matsushiro**	**3.42**	**270**	P	**Pn**	**16 42 50.7**	**+0.9**
ASAJ	**Asahikawa**	**7.52**	**1**	Pn	**Pn**	**16 43 45.5**	**-0.6**
	0.5nm,0.3s,baz=229,slow=11,SNR=8.7						
ASAJ	**Asahikawa**	**7.52**	**1**	*e*P	**Pn**	**16 43 46.2**	**+0.2**
GUMO	**Guam**	**23.01**	**174**	*e*P	**P**	**16 46 56.3**	**-5.3**
SONM	**Songino Array**	**28.72**	**304**	P	**P**	**16 47 54.5**	**+0.6**
	1.2nm,0.8s,mb3.7,baz=98,slow=8.7,SNR=8.0						
SONM	**Songino Array**	**28.72**	**304**	P	**P**	**16 47 54.5**	**+0.6**
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**16 50 12.7**	**+0.2**
	0.4nm,0.8s,mb3.3,baz=89,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**16 50 12.7**	**+0.2**
KURK	**Kurchatov**	**46.86**	**309**	P	**P**	**16 50 27.3**	**+0.7**
	0.7nm,0.7s,mb3.7,baz=84,slow=8.1,SNR=7.1						
KURK	**Kurchatov**	**46.86**	**309**	*e*P	**P**	**16 50 27.3**	**+0.7**
	1.7nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**56.75**	**189**	P	**P**	**16 51 40.7**	**+0.1**
	0.5nm,0.9s,mb3.5,baz=7.2,slow=7.1,SNR=3.2						
WRA	**Warramunga Arr**	**56.75**	**189**	P	**P**	**16 51 40.7**	**+0.1**
ASAR	**Alice Springs**	**60.47**	**189**	P	**P**	**16 52 05.0**	**-1.6**
	0.2nm,0.8s,mb3.2,baz=4.0,slow=6.4,SNR=3.4						
ASAR	**Alice Springs**	**60.47**	**189**	P	**P**	**16 52 05.0**	**-1.6**

MEX 21 17:11:58.0±0.7, 17°.61N×99°.27W, h44km±31km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.46**	**313**	*i* P	Pn	17 12 07.4	-1.0
MEIG				*i* S	Sn	17 12 13.8	-2.0
PLIG	**Platanillo**	**0.81**	**344**	*i* P	Pn	17 12 12.0	-1.0
PLIG				*i* S	Sn	17 12 21.4	-2.5
ACX	**Acapulco**	**0.93**	**218**	*e*P	Pn	17 12 13.5	-1.1
ACX				*i* S	Sn	17 12 25.0	-1.8
CAIG	**El Cayaco**	**1.11**	**240**	*i* P	Pn	17 12 14.8	-2.2
CAIG				*i* S	Sn	17 12 29.8	-1.3
YAIG	**Yautepec**	**1.26**	**9**	*e*P	Pn	17 12 17.1	-2.0
YAIG				*i* S	Sn	17 12 32.6	-2.3

PRE 21 17:15:01.5±1.1, 28°.09S×26°.76E, h2km, ML3.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**1.09**	**2**	*e*P	Pg	17 15 22.8	+0.3
MOAB				*e*S	Sg	17 15 37.2	+0.5
MOAB				AML	AML	17 15 41.5	
	comp=Z,756nm,0.2s						
TLEK	**Tau Lekoa**	**1.12**	**356**	*e*P	Pg	17 15 23.6	+0.6
TLEK				*e*S	Sg	17 15 38.9	+1.3
BFSD	**Buffelsfontein**	**1.22**	**1**	*e*P	Pg	17 15 25.6	+0.7
BFSD				*e*S	Sg	17 15 40.9	+0.3
BFSD				AML	AML	17 15 44.2	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**1.27**	**25**	*e*P	Pg	17 15 26.3	+0.4
PRYS				*e*S	Sg	17 15 43.2	+0.8
PRYS				AML	AML	17 15 46.5	
	comp=Z,708nm,0.3s						
BOSA	**Boshof**	**1.43**	**248**	*e*P	Pn	17 15 29.0	+0.5
BOSA				*e*S	Sg	17 15 48.1	+0.7
BOSA				AML	AML	17 15 53.7	
	comp=Z,295nm,0.4s						
KLOF	**Kloof**	**1.89**	**24**	*e*P	Pn	17 15 35.5	+0.7
KLOF				*e*S	Sn	17 16 00.1	+1.0
KLOF				AML	AML	17 16 03.5	
	comp=Z,2μm,0.2s						
ERPM	**east rand prop**	**2.18**	**38**	*e*P	Pn	17 15 39.7	+0.9
ERPM				*e*S	Sn	17 16 08.9	+2.6
ERPM				AML	AML	17 16 20.6	
	comp=Z,565nm,0.6s						
KSR	**Koster**	**2.23**	**3**	*e*P	Pn	17 15 40.1	+0.7
KSR				*e*S	Sn	17 16 08.0	+0.4
KSR				AML	AML	17 16 12.0	
	comp=Z,755nm,0.2s						
SLR	**Silverton**	**2.71**	**30**	*e*P	Pn	17 15 47.0	+1.0
SLR				*e*S	Sn	17 16 20.1	+0.8
SLR				AML	AML	17 16 33.4	
	comp=Z,584nm,0.5s						
HVD	**Gariep Dam**	**2.74**	**203**	*e*P	Pn	17 15 47.9	+1.4
HVD				*e*S	Sn	17 16 20.6	+0.4
HVD				AML	AML	17 16 38.9	
	comp=Z,142nm,0.7s						
LBTB	**Lobatse**	**3.23**	**341**	*e*P	Pn	17 15 54.0	+0.8
LBTB				*e*S	Sn	17 16 32.6	+0.3
LBTB				AML	AML	17 16 48.0	
	comp=Z,498nm,0.6s						
KSD	**Kokstad**	**3.37**	**137**	*e*P	Pn	17 15 55.6	+0.4
KSD				*e*S	Sn	17 16 35.2	-0.5
KSD				AML	AML	17 16 52.8	
	comp=Z,109nm,0.3s						
PKA	**Prieska**	**3.85**	**245**	*e*P	Pn	17 16 02.8	+1.0
PKA				*e*S	Sn	17 16 46.6	-0.9
PKA				AML	AML	17 17 28.4	
	comp=Z,41nm,0.8s						
POGA	**Pongola**	**4.36**	**82**	*e*P	Pn	17 16 10.1	+1.4
POGA				*e*S	Sn	17 17 00.8	+0.7
POGA				AML	AML	17 17 30.9	
	comp=Z,56nm,0.5s						
GRM	**Grahamstown**	**5.21**	**182**	*e*P	Pn	17 16 21.2	+0.7
GRM				*e*S	Sn	17 17 19.5	-1.8
GRM				AML	AML	17 17 52.2	
	comp=Z,45nm,0.5s						
MSNA	**Messina**	**6.43**	**28**	*e*P	Pn	17 16 37.0	-0.2
MSNA				*e*S	Sn	17 17 46.4	-4.9
MSNA				AML	AML	17 18 09.8	
	comp=Z,21nm,0.3s						
SUR	**Sutherland**	**6.69**	**229**	*e*P	Pn	17 16 42.1	+1.3
SUR				*e*S	Sn	17 17 54.8	-2.9
SUR				AML	AML	17 18 27.1	
	comp=Z,14nm,0.4s						
CVNA	**Calvinia**	**6.96**	**239**	*e*P	Pn	17 16 45.6	+1.1
CVNA				*e*S	Sn	17 18 01.3	-3.0
CVNA				AML	AML	17 18 45.7	
	comp=Z,84nm,0.7s						
CER	**Ceres**	**8.30**	**229**	*e*S	Sn	17 18 32.8	-4.5
CER				AML	AML	17 19 28.6	
	comp=Z,20nm,0.4s						
KOMG	**Komaggas**	**8.31**	**256**	*e*P	Pn	17 17 04.9	+1.9
KOMG				*e*S	Sn	17 18 33.7	-3.7
KOMG				AML	AML	17 19 24.2	
	comp=Z,33nm,0.4s						
ELIM	**Elim**	**8.84**	**221**	*e*P	Pn	17 17 11.9	+1.7
ELIM				*e*S	Sn	17 18 45.4	-5.0
ELIM				AML	AML	17 19 41.5	
	comp=Z,17nm,0.6s						

*ISCJB **21** 17:16:30.5±1.8, 12°.31N±0°.08×144°.2E±0°.2, h40km±18km, mb3.9/14, Error ellipse: s-maj=25.8km s-min=12.3km az=8.9*
*NEIC **21** 17:16:31.9±1.4, 12°.34N×144°.25E, h39km±13km, mb4.2/4, Error ellipse: s-maj=17.4km s-min=8.7km az=96.0*
*IDC **21** 17:16:32.8±2.1, 12°.32N×144°.27E, h45km±20km, mb3.6/11, mb1 3.8/11, mb1mx3.7/22, mbtmp3.6/11, Error ellipse: s-maj=25.8km s-min=14.8km az=110.0*

ISC 21 17:16:32.1±1.8, 12°.33N±0°.08×144°.2E±0°.2, h39km±18km, n36, σ0°59/32, mb3.9/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.40**	**26**	P	**Pn**	**17 16 54.5**	**-0.7**
	60nm,0.3s,baz=194,slow=7.9,SNR=41						
GUMO				S	**Sn**	**17 17 13.0**	**+0.6**
	123nm,0.3s,baz=182,slow=23,SNR=23						
GUMO	**Guam**	**1.40**	**26**	*e*P	**Pn**	**17 16 54.7**	**-0.5**
GUMO				S	**Sn**	**17 17 13.1**	**+0.6**
MAJO	**Matsushiro**	**24.71**	**348**	P	**P**	**17 21 49.1**	**-0.5**
	2.9nm,0.4s,mb4.2						
WRAB	**Tennant Creek**	**33.50**	**197**	*e*P	**P**	**17 23 07.5**	**-0.4**
WB2	**Warramunga Arr**	**33.51**	**197**	*e*P	**P**	**17 23 08.4**	**+0.4**
WRA	**Warramunga Arr**	**33.51**	**197**	P	**P**	**17 23 08.3**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=21,slow=9.8,SNR=10.0						
WRA	**Warramunga Arr**	**33.51**	**197**	P	**P**	**17 23 08.3**	**+0.2**
ASAR	**Alice Springs**	**37.17**	**196**	P	**P**	**17 23 39.5**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=20,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**37.17**	**196**	P	**P**	**17 23 39.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**43.99**	**284**	P	**P**	**17 24 36.8**	**+0.7**
	0.5nm,0.5s,mb3.5,baz=79,slow=6.3,SNR=7.0						
CMAR				PcP	PcP	17 26 23.1	+1.7
	0.4nm,0.5s,baz=87,slow=1.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**43.99**	**284**	P	**P**	**17 24 36.8**	**+0.7**
CMAR				PcP	PcP	17 26 23.1	+1.7
SONM	**Songino Array**	**47.41**	**326**	P	**P**	**17 25 03.3**	**+0.7**
	0.5nm,0.7s,mb3.5,baz=150,slow=8.9,SNR=3.8						
SONM	**Songino Array**	**47.41**	**326**	P	**P**	**17 25 03.3**	**+0.7**
MK31	**Makanchi Array**	**61.97**	**317**	*e*P	**P**	**17 26 48.3**	**+0.1**
MKAR	**Makanchi Array**	**61.97**	**317**	P	**P**	**17 26 48.2**	**+0.1**
	0.8nm,0.5s,mb4.1,baz=92,slow=8.1,SNR=14						
MKAR	**Makanchi Array**	**61.97**	**317**	P	**P**	**17 26 48.2**	**+0.1**
ZALV	**Zalesovo Beam**	**62.28**	**325**	PcP	PcP	17 27 29.1	-0.6
	0.5nm,0.6s,baz=128,slow=4.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**62.28**	**325**	PcP	PcP	17 27 29.1	-0.6
KURK	**Kurchatov**	**65.14**	**320**	P	**P**	**17 27 09.1**	**0.0**
	1.4nm,0.7s,mb4.1,baz=106,slow=6.4,SNR=5.0						
KURK	**Kurchatov**	**65.14**	**320**	*e*P	**P**	**17 27 07.9**	**-1.1**
	1.3nm,0.5s,mb4.2						
ILAR	**Eielson Array**	**69.97**	**25**	P	**P**	**17 27 38.0**	**-1.2**
	0.5nm,0.5s,mb3.8,baz=254,slow=5.6,SNR=16						
ILAR	**Eielson Array**	**69.97**	**25**	P	**P**	**17 27 38.0**	**-1.2**
BVAR	**Borovoye Array**	**70.53**	**322**	P	**P**	**17 27 43.1**	**+0.2**
	1.2nm,0.3s,mb4.2,baz=106,slow=8.0,SNR=28						
BVAR	**Borovoye Array**	**70.53**	**322**	P	**P**	**17 27 43.1**	**+0.2**
BRVK	**Borovoye**	**70.59**	**322**	*e*P	**P**	**17 27 43.6**	**+0.3**
	0.8nm,0.4s,mb4.0						
ABKAR	**Akbulak array**	**77.06**	**318**	*e*P	**P**	**17 28 20.4**	**-0.8**
	1.5nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**84.26**	**27**	P	**P**	**17 28 59.8**	**+0.3**
	0.3nm,0.4s,mb3.8,baz=286,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**84.26**	**27**	P	**P**	**17 28 59.8**	**+0.3**
NVAR	**Mina Array Bea**	**88.19**	**51**	P	**P**	**17 29 20.5**	**+1.1**
	0.6nm,0.8s,mb3.9,baz=263,slow=6.6,SNR=4.4						
NVAR	**Mina Array Bea**	**88.19**	**51**	P	**P**	**17 29 20.5**	**+1.1**
FINES	**FINESS Array B**	**92.03**	**335**	P	**P**	**17 29 36.4**	**-0.4**
	1.1nm,0.7s,mb4.3,baz=64,slow=7.9,SNR=3.9						
FINES	**FINESS Array B**	**92.03**	**335**	P	**P**	**17 29 36.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**135.04**	**303**	PKP	PKPdf	17 35 50.2	+2.0
	0.3nm,0.6s,baz=21,slow=1.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**135.04**	**303**	PKP	PKPdf	17 35 50.2	+2.0
DBIC	**Dimbokro**	**143.93**	**300**	PKP	PKPdf	17 36 02.8	-1.6
	1.6nm,0.8s,baz=26,slow=4.4,SNR=4.3						
DBIC	**Dimbokro**	**143.93**	**300**	PKP	PKPdf	17 36 02.8	-1.6

IDC 21 17:25:41.1±2.8, 6°.28S×154°.85E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.4/3, ML2.6/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/9, Error ellipse: s-maj=123.2km s-min=45.3km az=136.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.23**	**247**	Pn	Pn	17 27 44.1	+2.3
	0.4nm,0.3s,baz=41,slow=11,SNR=3.8						
PMG				Sn	Sn	17 29 13.4	-2.2
	0.6nm,0.3s,baz=177,slow=18,SNR=3.2						
PMG				LR	LR	17 30 53.0	
	comp=Z,1μm,18.0s,baz=116,slow=38						
WRA	**Warramunga Arr**	**24.11**	**234**	P	P	17 30 58.8	+0.1
	0.4nm,0.7s,baz=58,slow=9.8,SNR=5.9						
ASAR	**Alice Springs**	**26.54**	**227**	P	P	17 31 20.1	-0.7
	0.2nm,0.7s,baz=57,slow=9.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**152.69**	**286**	PKPbc	PKPbc	17 45 40.9	0.0
	0.3nm,0.7s,baz=43,slow=5.8,SNR=3.2						

*ISCJB **21** 17:26:45.3±0.7, 31°.04N±0°.05×141°.0E±0°.1, h87km±8km, mb3.5/9, Error ellipse: s-maj=20.6km s-min=6.3km az=165.3*
*IDC **21** 17:26:47.2±2.0, 30°.96N×140°.93E, h86km±20km, mb3.2/8, mb1 3.4/10, mb1mx3.3/24, mbtmp3.3/10, MS3.2/3, Ms1 3.2/3, ms1mx2.6/17, Error ellipse: s-maj=33.7km s-min=12.9km az=73.0*
*NEIC **21** 17:26:47.2±1.0, 31°.07N×141°.07E, h90km±11km, mb4.0/1, Error ellipse: s-maj=21.8km s-min=9.0km az=82.0*
*JMA **21** 17:26:48.2±0.2, 31°.59N×141°.26E, h0km, M4.2*

ISC 21 17:26:46.8±0.6, 31°.05N±0°.05×141°.0E±0°.1, h82km±8km, n34, σ1°14/37, mb3.5/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.29**	**334**	P	**Pn**	**17 27 23.2**	**+0.6**
JHJ2				S	**Sn**	**17 27 48.6**	**-1.3**
BSO1	**Boso 1**	**3.59**	**360**	P	**Pn**	**17 27 39.6**	**-0.5**
BSO3	**Boso 3**	**3.76**	**354**	P	**Pn**	**17 27 42.5**	**+0.1**
CBIJ	**Chichi jima**	**4.08**	**165**	P	**Pn**	**17 27 47.6**	**+0.9**
	15nm,0.3s,baz=275,slow=19,SNR=12						
CBIJ				S	**Sn**	**17 28 32.0**	**-1.3**
	16nm,0.3s,baz=289,slow=22,SNR=8.7						
CBIJ	**Chichi jima**	**4.08**	**165**	P	**Pn**	**17 27 47.6**	**+0.9**
CBIJ				S	**Sn**	**17 28 32.0**	**-1.3**
JHU	**Hanno**	**5.00**	**344**	P	**Pn**	**17 28 00.9**	**+1.6**
JHU				S	**Sn**	**17 28 53.0**	**-2.7**
JRY	**Ryogami san**	**5.25**	**341**	P	**Pn**	**17 28 04.2**	**+1.4**
JRY				S	**Sn**	**17 29 00.9**	**-1.0**
MJAR	**Matsushiro Arr**	**5.95**	**338**	P	**Pn**	**17 28 13.1**	**+0.8**
	1.9nm,0.3s,baz=163,slow=12,SNR=27						
MJAR	**Matsushiro Arr**	**5.95**	**338**	P	**Pn**	**17 28 13.1**	**+0.8**
MAJO	**Matsushiro**	**5.95**	**338**	*e*P	**Pn**	**17 28 13.8**	**+1.6**
	7.7nm,0.6s						
ERM	**Erimo**	**11.07**	**8**	P	**Pn**	**17 29 23.0**	**+0.9**
JOW	**Kunigami**	**11.92**	**253**	LR	LR	17 33 56.6	
	comp=Z,140nm,19.3s,baz=34,slow=36						
ASAJ	**Asahikawa**	**13.10**	**5**	P	**Pn**	**17 29 46.9**	**-2.6**
	0.6nm,0.3s,baz=193,slow=6.7,SNR=7.5						
ASAJ				LR	LR	17 35 32.0	
	comp=Z,34nm,18.4s,baz=352,slow=40						
ASAJ	**Asahikawa**	**13.10**	**5**	*e*P	**Pn**	**17 29 46.8**	**-2.6**
YSS	**Yuzh-Sakhalins**	**15.94**	**4**	*e*P	**Pn**	**17 30 25.1**	**-0.8**
HIA	**Hailar**	**24.25**	**325**	*e*P	**P**	**17 31 56.0**	**+0.1**
	3.7nm,0.6s,mb3.9						
SONM	**Songino Array**	**31.22**	**312**	P	**P**	**17 32 59.7**	**+1.4**
	0.6nm,0.8s,mb3.4,baz=127,slow=9.4,SNR=4.4						
SONM	**Songino Array**	**31.22**	**312**	P	**P**	**17 32 59.7**	**+1.4**
FX1	**Attu Island--F**	**31.94**	**38**	LR	LR	17 46 51.1	
	comp=Z,78nm,18.4s,baz=183,slow=38						
CMAR	**Chiang Mai Arr**	**39.98**	**262**	P	**P**	**17 34 11.7**	**-1.8**
	0.2nm,0.5s,mb3.2,baz=71,slow=6.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**39.98**	**262**	P	**P**	**17 34 11.7**	**-1.8**
MKAR	**Makanchi Array**	**47.22**	**307**	P	**P**	**17 35 10.9**	**-0.5**
	0.2nm,0.5s,mb3.1,baz=86,slow=8.9,SNR=4.4						
MKAR	**Makanchi Array**	**47.22**	**307**	P	**P**	**17 35 10.9**	**-0.5**
KURK	**Kurchatov**	**49.53**	**312**	P	**P**	**17 35 29.4**	**+0.4**
	0.3nm,0.2s,mb3.8,baz=98,slow=6.6,SNR=5.2						
KURK	**Kurchatov**	**49.53**	**312**	P	**P**	**17 35 29.4**	**+0.4**
WB2	**Warramunga Arr**	**51.10**	**188**	*e*P	**P**	**17 35 41.8**	**+0.7**
WRA	**Warramunga Arr**	**51.10**	**188**	P	**P**	**17 35 41.0**	**-0.1**
	0.3nm,0.4s,mb3.7,baz=6.4

Ms1 3.4/8, ms1mx3.2/41, Error ellipse: s-maj=27.0km s-min=18.7km az=158.0

ISC 21 17:35:36.4±0.7, 36°67′N±0′.05×121°36′W±0′.07, h11km±5km, n39, σ1°17/37, mb3.7/3, MS3.4/6, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.12**	**321**	*e*Pg	**Pg**	**17 35 39.8**	**+0.5**
SAO				*e*Sg	**Sg**	**17 35 41.5**	**+0.1**
SAC	**San Andreas**	**1.24**	**317**	*e*Pg	**Pg**	**17 35 58.6**	**-1.6**
CMB	**Columbia Colle**	**1.56**	**29**	*e*Pn	**Pn**	**17 36 03.9**	**-0.2**
CMB				*e*Sn	**Sn**	**17 36 23.5**	**-0.8**
MCCM	**Marconi Confer**	**1.91**	**321**	*e*Pn	**Pn**	**17 36 07.2**	**-1.5**
MCCM				*e*Pg	**Pg**	**17 36 14.0**	**+1.1**
MCCM				*e*Sg	**Sg**	**17 36 37.8**	**+0.2**
ISA	**Isabella**	**2.54**	**113**	*e*Pn	**Pn**	**17 36 18.0**	**+0.5**
ISA				*e*S	**Sn**	**17 36 48.9**	**+0.5**
HOPS	**Hopland**	**2.69**	**330**	*e*Pn	**Pn**	**17 36 18.7**	**-0.8**
WCN	**Washoe City**	**2.91**	**25**	*e*Pn	**Pn**	**17 36 24.4**	**+1.8**
OSI	**Osito Adit**	**2.97**	**133**	*e*Pn	**Pn**	**17 36 23.8**	**+0.4**
NVAR	**Mina Array Bea**	**2.99**	**53**	Pn	**Pn**	**17 36 25.0**	**+1.2**
	4.9nm,0.3s,baz=237,slow=14,SNR=64						
NVAR				Lg		17 37 09.1	
	12nm,0.3s,baz=232,slow=30,SNR=3.7						
NVAR	**Mina Array Bea**	**2.99**	**53**	Pn	**Pn**	**17 36 25.0**	**+1.2**
NVAR				Lg		17 37 09.1	
KCPM	**Cahto Peak**	**3.48**	**330**	*e*Pn	**Pn**	**17 36 31.3**	**+0.8**
PASC	**Pasadena Art C**	**3.60**	**133**	*e*Pn	**Pn**	**17 36 30.7**	**-1.4**
MWC	**Mount Wilson**	**3.64**	**131**	*e*Pn	**Pn**	**17 36 32.4**	**-0.2**
GSC	**Goldstone**	**3.94**	**109**	*e*Pn	**Pn**	**17 36 36.8**	**+0.1**
WDC	**Whiskeytown Da**	**4.01**	**347**	*e*Pn	**Pn**	**17 36 37.6**	**-0.1**
KHMM	**Horse Mountain**	**4.59**	**337**	*e*Pn	**Pn**	**17 36 44.8**	**-0.8**
PFO	**Pinyon Flat Ob**	**5.05**	**126**	*e*Pn	**Pn**	**17 36 52.7**	**+0.7**
	20nm,1.0s						
KRMB	**Red Mountain**	**5.23**	**339**	Pn	**Pn**	**17 36 56.4**	**+1.9**
MOD	**Modoc**	**5.29**	**9**	Pg	**Pg**	**17 37 11.8**	**-5.7**
	22nm,0.6s						
LDFC	**Landfair**	**5.32**	**106**	*e*Pn	**Pn**	**17 36 55.0**	**-0.7**
	54nm,0.5s						
ARUT	**Antelope Range**	**6.41**	**78**	*e*Pg	**Pg**	**17 37 36.4**	**-2.7**
	17nm,0.8s						
ANMO	**Albuquerque**	**12.22**	**94**	LR	LR	17 43 33.6	
	comp=Z,167nm,18.3s,baz=271,slow=40						
TXAR	**Lajitas Array**	**16.53**	**111**	Pn	**Pn**	**17 39 29.9**	**+1.7**
	0.1nm,0.3s,baz=288,slow=12,SNR=3.4						
TXAR				LR	LR	17 46 34.0	
	comp=Z,103nm,18.9s,baz=355,slow=40						
TXAR	**Lajitas Array**	**16.53**	**111**	Pn	**Pn**	**17 39 29.9**	**+1.7**
DLBC	**Dease Lake**	**22.51**	**348**	LR	LR	17 50 09.4	
	comp=Z,143nm,18.8s,MS3.4,baz=103,slow=38						
ULM	**Lac du Bonnet**	**22.80**	**45**	LR	LR	17 49 45.4	
	comp=Z,111nm,18.2s,MS3.3,baz=358,slow=37						
YKA	**Yellowknife Ar**	**26.18**	**7**	LR	LR	17 52 23.3	
	comp=Z,16nm,19.9s,MS2.6,baz=320,slow=38						
TKL	**Tuckaleechee C**	**30.23**	**81**	LR	LR	17 54 24.3	
	comp=Z,104nm,20.4s,MS3.5,baz=287,slow=38						
ILAR	**Eielson Array**	**31.98**	**340**	P	**P**	**17 42 05.8**	**+3.6**
	0.6nm,1.0s,mb3.4,baz=155,slow=8.7,SNR=4.6						
ILAR	**Eielson Array**	**31.98**	**340**	P	**P**	**17 42 05.8**	**+3.6**
RES	**Resolute Bay**	**40.13**	**11**	P	**P**	**17 43 16.5**	**+4.8**
	1.1nm,0.8s,mb3.6,baz=222,slow=11,SNR=4.9						
RES	**Resolute Bay**	**40.13**	**11**	P	**P**	**17 43 16.5**	**+4.8**
AFI	**Afiamalu**	**69.18**	**233**	LR	LR	18 15 03.2	
	comp=Z,21nm,18.0s,MS3.4,baz=117,slow=34						
ARCES	**ARCESS Array B**	**71.34**	**12**	P		18 18 11.6	
	comp=Z,100nm,18.3s,MS4.1,baz=355,slow=36						
CN2	**Changchun**	**79.58**	**317**	*e*P	**P**	**17 47 41.3**	**-2.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	**85.69**	**330**	P	**P**	**17 48 21.3**	**+6.2**
	comp=Z,0.8nm,0.9s,mb3.9,baz=29,slow=5.0,SNR=4.5						
SONM	**Songino Array**	**85.69**	**330**	P	**P**	**17 48 21.3**	**+6.2**
HHC	**Hu-ho-hao-te**	**88.87**	**323**	*e*P	**P**	**17 48 27.8**	**-2.9**
HHC				pP	pP	17 48 32.5	-1.8
HHC				sP	sP	17 48 34.8	-0.8
HHC				PP	PP	17 51 58.8	-0.3
HHC				S	S	17 59 11.9	-6.3
HHC				SS	SS	18 05 06.8	-2.3
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,6.8s						
HHC				LR	LR		
	comp=N,93nm,16.9s						
HHC				LR	LR		
	comp=E,71nm,17.7s						
HHC				LR	LR		
	comp=Z,51nm,18.6s						
WMQ	**Urumqi**	**95.65**	**339**	*e*P	**P**	**17 49 02.4**	**+0.5**

IDC 21 17:55:00.7±65.0, 20°59S×176°60W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=1194.0km s-min=168.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.93**	**244**	P	P	18 02 27.8	-0.7
	1.3nm,0.9s,baz=69,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**45.77**	**257**	P	P	18 03 24.2	-0.1
	0.6nm,0.7s,baz=84,slow=6.7,SNR=9.5						
WRA	**Warramunga Arr**	**45.88**	**262**	P	P	18 03 25.7	+0.5
	0.2nm,0.3s,baz=97,slow=8.3,SNR=14						

IDC 21 18:00:59.1±3.9, 16°98N×84°30W, h0km, mb3.1/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.1/3, ML5.2/1, MS2.8/4, Ms1 2.8/4, ms1mx2.6/14, Error ellipse: s-maj=104.8km s-min=58.9km az=28.0

NEIC 21 18:01:00.3±0.8, 17°05N×84°21W, h10km, mb4.2/2, Error ellipse: s-maj=18.2km s-min=11.9km az=46.0

ISCJB 21 18:01:01.5±0.8, 17°08N±0°.07×84°22W±0°.09, h33km, mb3.3/3, Error ellipse: s-maj=13.3km s-min=8.8km az=27.7

SSNC 21 18:01:16.3±0.3, 18°01N×84°03W, h10km, MD3.5, ML5.0

ISC 21 18:01:03.6±0.8, 17°08N±0°.07×84°21W±0°.09, h35km, n18, σ1°15/14, mb3.3/3, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**4.21**	**225**	*e*Pn	**Pn**	**18 02 04.7**	**-0.6**
TGUH				*e*Sn	**Sn**	**18 02 53.9**	**+0.6**
TEIG	**Tepich**	**4.97**	**310**	Pn	**Pn**	**18 02 13.6**	**-2.1**
	89nm,0.3s,baz=128,slow=1.7,SNR=303						
TEIG	**Tepich**	**4.97**	**310**	Pn	**Pn**	**18 02 13.6**	**-2.1**
SOR	**Soroa**	**5.80**	**11**	*e*P	**Pn**	**18 02 27.4**	**+0.3**
	baz=192						
SOR				*e*S	**Sn**	**18 03 20.0**	**-12**
	comp=N,558nm,0.3s						
SOR				*e*			
	comp=E,553nm,0.3s						
CMIG	**Matias Romero**	**10.21**	**272**	LR	LR	18 07 21.9	
	comp=E,36nm,18.2s,baz=322,slow=38						
SDV	**Santo Domingo**	**15.53**	**120**	*e*Pn	**Pn**	**18 04 39.2**	**-0.8**
	comp=E,5.8nm,0.5s						
SDV				*e*pP	pP	18 04 46.5	-6.7
ROSC	**El Rosal**	**15.53**	**140**	LR	LR	18 10 35.5	
	comp=E,25nm,19.6s,baz=225,slow=37						
SJG	**San Juan**	**17.25**	**84**	LR	LR	18 10 54.6	
	comp=E,56nm,21.8s,baz=270,slow=34						
JCT	**Junction City**	**19.50**	**316**	*e*P	**Pn**	**18 05 27.9**	**-1.3**
	comp=E,12nm,0.6s						
TXAR	**Lajitas Array**	**21.61**	**308**	P	**P**	**18 05 51.9**	**+1.2**
	comp=E,0.6nm,0.7s,mb3.1,baz=129,slow=14,SNR=3.1						
TXAR	**Lajitas Array**	**21.61**	**308**	P	**P**	**18 05 51.9**	**+1.2**
ATAH	**Atahualpa**	**24.73**	**166**	LR	LR	18 14 08.4	
	comp=E,42nm,22.0s,baz=195,slow=32						
YKA	**Yellowknife Ar**	**50.09**	**342**	P	**P**	**18 09 55.8**	**+1.0**
	comp=E,0.1nm,0.6s,mb3.0,baz=133,slow=8.4,SNR=3.6						
YKA	**Yellowknife Ar**	**50.09**	**342**	P	**P**	**18 09 55.9**	**+1.0**
ILAR	**Eielson Array**	**63.14**	**335**	P	**P**	**18 11 29.1**	**+1.5**
	comp=E,0.5nm,0.8s,mb3.7,baz=123,slow=5.5,SNR=5.7						
ILAR	**Eielson Array**	**63.14**	**335**	P	**P**	**18 11 29.1**	**+1.5**
ASAR	**Alice Springs**	**143.75**	**253**	PKP	PKPdf	18 20 35.6	-0.1
	comp=E,0.3nm,0.7s,baz=105,slow=3.4,SNR=6.4						
ASAR	**Alice Springs**	**143.75**	**253**	PKP	PKPdf	18 20 35.6	-0.1

GUC 21 18:12:29.7±0.8, 32°56S×72°01W, h32km±6km, MD3.6, ML2.9, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.80**	**33**	*e*P	Pn	18 12 44.1	-0.6
CHNG				*e*S	Sn	18 12 55.4	-0.1
ROCH	**El Roble**	**0.93**	**117**	‖*e*P	Pn	18 12 46.6	0.0
ROCH				*i* S	Sn	18 12 59.0	+0.2
ROCH				AML	AML	18 13 01.9	
	comp=N,740nm,0.5s						
JACH	**Jahuel**	**1.20**	**96**	*i* P	Pn	18 12 51.0	+0.7
JACH				*i* S	Sn	18 13 07.2	+1.8
PEL	**Peldehue**	**1.25**	**118**	‖*i*P	Pn	18 12 52.1	+1.1
PEL				*i* S	Sn	18 13 08.4	+1.6
PEL				AML	AML	18 13 12.9	
	comp=E,675nm,0.4s						
TACH	**Talagante**	**1.41**	**141**	*e*P	Pn	18 12 53.9	+0.7
CLCH	**Cerro Calan**	**1.49**	**125**	*e*P	Pn	18 12 55.5	+1.3
CLCH				*i* S	Sn	18 13 14.8	+2.1
CLCH				AML	AML	18 13 27.1	
	comp=N,246nm,0.6s						
FCH	**Farellones**	**1.63**	**118**	‖*i*P	Pn	18 12 57.5	+1.2
FCH				*i* S	Sn	18 13 18.6	+2.5
FCH				AML	AML	18 13 20.5	
	comp=E,178nm,0.2s						
PCH	**Pirque**	**1.64**	**131**	*e*P	Pn	18 12 58.0	+1.7
PCH				*i* S	Sn	18 13 19.4	+3.1
CHCH	**Chadas Angostu**	**1.78**	**141**	*e*P	Pn	18 12 59.7	+1.4
CACH	**El Canelo**	**1.95**	**143**	*e*P	Pn	18 13 02.7	+2.2
CACH				*i* S	Sn	18 13 28.1	+4.2

KRSC 21 18:20:14.8±2.1, 50°17N×155°66E, h490km±30km, ML4.1

MOS 21 18:20:16.8±0.5, 51°50N×153°46E, h445km, mb4.1/1, Error ellipse: s-maj=38.5km s-min=21.0km az=53.9

ISCJB 21 18:20:17.1±0.6, 51°7N±0°.1×152°9E±0°.2, h401km±8km, mb3.3/9, Error ellipse: s-maj=22.8km s-min=11.0km az=141.5

IDC 21 18:20:18.9±1.5, 51°76N×152°84E, h405km±17km, mb3.0/9, mb1 3.2/11, mb1mx2.9/26, mbtmp3.0/11, Error ellipse: s-maj=17.1km s-min=13.6km az=151.0

NEIC 21 18:20:18.5±0.7, 51°75N×152°81E, h401km±9km, Error ellipse: s-maj=15.7km s-min=10.4km az=143.0

ISC 21 18:20:18.0±0.6, 51°7N±0°.1×152°9E±0°.2, h394km±8km, n39, σ0°73/45, mb3.3/9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.28**	**63**	P	**Pn**	**18 21 24.1**	**+1.3**
	0.6nm,0.3s,baz=224,slow=7.0,SNR=9.6						
PETK	**Petropavlovsk-**	**3.28**	**63**	P	**Pn**	**18 21 24.1**	**+1.3**
PETK	**Petropavlovsk-**	**3.28**	**63**	PN	**Pn**	**18 21 24.1**	**+1.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RUS	**Russkaya**	**3.57**	**76**	*e*P	**Pn**	**18 21 26.2**	**+0.7**
RUS				*e*S	**S**	**18 22 18.9**	**-1.3**
RUS	**Russkaya**	**3.57**	**76**	PN	**Pn**	**18 21 26.2**	**+0.7**
RUS				S	**S**	**18 22 18.9**	**-1.3**
PET	**Petropavlovsk**	**3.79**	**68**	*e*S	**S**	**18 22 24.0**	**+0.1**
AVH	**Avacha**	**3.92**	**65**	*e*P	**Pn**	**18 21 33.6**	**+4.9**
SPN	**Mys Shipunski**	**4.60**	**70**	*e*P	**Pn**	**18 21 35.5**	**+0.1**
SPN				*e*S	**S**	**18 22 34.3**	**-4.1**
SPN	**Mys Shipunski**	**4.60**	**70**	PN	**Pn**	**18 21 35.5**	**+0.1**
SPN				S	**S**	**18 22 34.3**	**-4.1**
MKZ	**Mys Kozlova**	**6.05**	**59**	*e*P	**Pn**	**18 21 50.4**	**-0.3**
MKZ				*e*S	**S**	**18 23 00.9**	**-5.4**
MKZ	**Mys Kozlova**	**6.05**	**59**	PN	**Pn**	**18 21 50.4**	**-0.3**
MKZ				S	**S**	**18 23 00.9**	**-5.4**
ASAJ	**Asahikawa**	**10.25**	**226**	P	**Pn**	**18 22 40.4**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=43,slow=6.9,SNR=7.9						
ASAJ	**Asahikawa**	**10.25**	**226**	*e*P	**Pn**	**18 22 38.8**	**0.0**
ASAJ	**Asahikawa**	**10.25**	**226**	PN	**Pn**	**18 22 40.4**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**11.75**	**218**	*i* PN	**Pn**	**18 22 55.1**	**-1.2**
ZALV	**Zalesovo Beam**	**39.72**	**301**	P	**P**	**18 27 13.4**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.1,baz=61,slow=8.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**39.72**	**301**	P	**P**	**18 27 13.4**	**-0.4**
ZALV	**Zalesovo Beam**	**39.72**	**301**	P	**P**	**18 27 13.4**	**-0.3**
MKAR	**Makanchi Array**	**44.67**	**293**	P	**P**	**18 27 53.4**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.2,baz=60,slow=6.7,SNR=21						
MKAR	**Makanchi Array**	**44.67**	**293**	P	**P**	**18 27 53.4**	**+0.3**
MKAR	**Makanchi Array**	**44.67**	**293**	P	**P**	**18 27 53.4**	**+0.2**
YKA	**Yellowknife Ar**	**47.10**	**39**	P	**P**	**18 28 11.7**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.2,baz=302,slow=6.9,SNR=14						
YKA				PcP	PcP	18 29 35.4	-0.7
	comp=Z,0.1nm,0.6s,baz=313,slow=4.2,SNR=5.3						
YKA	**Yellowknife Ar**	**47.10**	**39**	P	**P**	**18 28 11.7**	**0.0**
YKA				PcP	PcP	18 29 35.4	-0.7
YKA	**Yellowknife Ar**	**47.10**	**39**	P	**P**	**18 28 11.7**	**0.0**
YKA						18 29 35.4	
FINES	**FINESS Array B**	**59.48**	**333**	P	**P**	**18 29 39.7**	**-0.9**
	comp=Z,4.7nm,1.0s,mb3.8,baz=56,slow=4.8,SNR=6.0						
FINES	**FINESS Array B**	**59.48**	**333**	P	**P**	**18 29 39.7**	**-0.9**
FINES	**FINESS Array B**	**59.48**	**333**	P	**P**	**18 29 39.7**	**-0.8**
NVAR	**Mina Array Bea**	**60.37**	**65**	P	**P**	**18 29 47.1**	**+0.2**
	comp=Z,0.1nm,0.3s,mb2.8,baz=309,slow=9.1,SNR=2.2						
NVAR	**Mina Array Bea**	**60.37**	**65**	P	**P**	**18 29 47.1**	**+0.2**
PDAR	**Pinedale Array**	**62.02**	**56**	P	**P**	**18 29 58.2**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.2,baz=354,slow=1.5,SNR=4.4						
PDAR	**Pinedale Array**	**62.02**	**56**	P	**P**	**18 29 58.2**	**+0.5**
WRA	**Warramunga Arr**	**73.18**	**198**	P	**P**	**18 31 06.2**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.2,baz=16,slow=5.8,SNR=3.8						
WRA	**Warramunga Arr**	**73.18**	**198**	P	**P**	**18 31 06.2**	**-0.6**
WRA	**Warramunga Arr**	**73.18**	**198**	P	**P**	**18 31 06.2**	**-0.6**
ASAR	**Alice Springs**	**76.89**	**198**	P	**P**	**18 31 28.1**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.4,baz=11,slow=5.1,SNR=13						
ASAR	**Alice Springs**	**76.89**	**198**	P	**P**	**18 31 28.1**	**+0.5**
ASAR	**Alice Springs**	**76.89**	**198**	*e*P	**P**	**18 31 28.1**	**+0.4**
MMAI	**Mount Meron Ar**	**79.41**	**311**	P	**P**	**18 31 41.5**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.5,baz=30,slow=6.8,SNR=3.1						
MMAI	**Mount Meron Ar**	**79.41**	**311**	P	**P**	**18 31 41.5**	**+0.1**

IDC 21 18:39:36.7±7.8, 31°87S×179°76E, h457km±98km, mb2.5/2, mb1 3.0/3, mb1mx2.9/16, mbtmp2.8/3, Error ellipse: s-maj=108.5km s-min=41.3km az=7.0

ISC 21 18:39:38.2±1.6, 32°0S±0°.2×179°5E±0°.5, h454km±45km, n23, σ0°82/29, mb2.9/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.17**	**189**	*e*PN	**P**	**18 41 13.1**	**-1.1**
PUZ				*e*SN	**S**	**18 42 28.4**	**-4.5**
MWZ	**Matawai**	**6.55**	**193**	PN	**P**	**18 41 18.1**	**-0.1**
MWZ				*e*SN	**S**	**18 42 37.9**	**-2.1**
URZ	**Urewera**	**6.57**	**196**	P	**P**	**18 41 19.3**	**+1.0**
	9.8nm,0.3s,baz=343,slow=2.1,SNR=42						
URZ				S	**S**	**18 42 41.7**	**+1.2**
	4.4nm,0.3s,baz=82,slow=20,SNR=16						
URZ	**Urewera**	**6.57**	**196**	PN	**P**	**18 41 18.5**	**+0.1**
URZ				SN	**S**	**18 42 40.3**	**-0.1**
KNZ	**Kokohu**	**7.19**	**191**	PN	**P**	**18 41 26.1**	**+1.2**
KNZ				*e*SN	**S**	**18 42 53.7**	**+1.4**
NMHZ	**Naumai**	**7.44**	**196**	PN	**P**	**18 41 28.5**	**+1.0**
BKZ	**Black Stump Fm**	**7.58**	**198**	PN	**P**	**18 41 29.1**	**+0.1**
BKZ				*e*SN	**S**	**18 43 00.8**	**+0.8**
MCHZ	**McNeill Hill**	**7.79**	**196**	PN	**P**	**18 41 32.3**	**+1.0**
BHHZ	**Black Hill Sta**	**8.00**	**199**	PN	**P**	**18 41 32.8**	**-0.7**
TSZ	**Takapari Road**	**8.56**	**198**	PN	**P**	**18 41 39.1**	**-0.4**
TSZ				*e*SN	**S**	**18 43 18.6**	**-0.6**
PRHZ	**Porangahau**	**8.60**	**195**	PN	**P**	**18 41 40.1**	**+0.2**
BFZ	**Birch Farm**	**9.08**	**196**	PN	**P**	**18 41 45.1**	**0.0**
TIWZ	**Tintock**	**9.26**	**197**	PN	**P**	**18 41 46.9**	**-0.2**
OGWZ	**Otaki Gorge**	**9.49**	**200**	PN	**P**	**18 41 48.3**	**-1.3**
KIW	**Kapiti Island**	**9.61**	**201**	PN	**P**	**18 41 49.7**	**-1.2**
CAW	**Cannon Point**	**9.79**	**200**	PN	**P**	**18 41 52.9**	**+0.1**
TCW	**Tory Channel**	**10.13**	**203**	PN	**P**	**18 41 56.3**	**-0.1**
PLWZ	**Palliser**	**10.16**	**198**	PN	**P**	**18 41 57.1**	**+0.2**
TUWZ	**Tuamarina**	**10.43**	**204**	PN	**P**	**18 41 59.9**	**+0.1**
THZ	**Tophouse**	**11.10**	**206**	PN	**P**	**18 42 07.1**	**0.0**
ASAR	**Alice Springs**	**40.89**	**270**	P	**P**	**18 46 40.2**	**+0.7**
	0.1nm,0.3s,mb2.7,baz=110,slow=7.4,SNR=6.5						
WRA	**Warramunga Arr**	**42.03**	**275**	P	**P**	**18 46 48.3**	**-0.3**
	0.8nm,1.0s,mb3.1,baz=111,slow=8.1,SNR=8.0						
FINES	**FINESS Array B**	**145.81**	**337**	PKPbc	PKPbc	18 58 22.2	-2.7
	3.4nm,1.0s,baz=23,slow=3.7,SNR=8.2						

IDC 21 18:43:52.4±1.0, 14°96S×167°01E, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, ML4.2/2, MS3.5/3, Ms1 3.5/3, ms1mx3.1/20, Error ellipse: s-maj=29.2km s-min=20.1km az=105.0

ISCJB 21 18:43:53.9±4.4, 15°01S±0°.06×166°8E±0°.1, h16km±30km, mb4.0/11, Error ellipse: s-maj=23.3km s-min=10.0km az=169.8

NEIC 21 18:43:54.5±5.0, 15°02S×166°87E, h6km±29km, Error ellipse: s-maj=16.0km s-min=10.9km az=75.0

LDG 21 18:43:55.3±0.1, 14°79S×167°84E, h10km, Mb4.7/1, Error ellipse: s-maj=21.9km s-min=4.2km az=96.0

ISC 21 18:43:58.2±1.8, 14°97S±0°.07×166°9E±0°.1, h36km±15km, n78, σ0°94/35, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.08**	**183**	*e*Pn	**Pn**	**18 45 40.6**	**+1.2**
	6.5nm,0.2s						
DZM				*e*Sn	**Sn**	**18 46 58.2**	**-0.4**
	13nm,0.3s						
DZM				*e*LR	LR	18 47 18.9	
	555nm,23.9s						
DZM	**Mont Dzumac**	**7.08**	**183**	*e*P	**Pn**	**18 45 40.2**	**+0.9**
DZM				*e*S	**Sn**	**18 46 59.2**	**+0.6**
DZM	**Mont Dzumac**	**7.08**	**183**	Pn	**Pn**	**18 45 38.5**	**-0.9**
	2.0nm,0.3s,baz=286,slow=15,SNR=29						
DZM				LR	LR	18 47 57.0	
	comp=Z,428nm,20.5s,baz=294,slow=34						
DZM	**Mont Dzumac**	**7.08**	**183**	Pn	**Pn**	**18 45 38.5**	**-0.9**
HNR	**Honiara**	**8.72**	**308**	Pn	**Pn**	**18 46 02.2**	**+0.3**
	6.5nm,0.3s,baz=166,slow=1.9,SNR=5.5						
HNR				LR	LR	18 48 59.7	
	comp=Z,265nm,19.2s,baz=185,slow=35						
HNR	**Honiara**	**8.72**	**308**	Pn	**Pn**	**18 46 02.2**	**+0.3**
CTA	**Charters Tower**	**20.30**	**253**	LR	LR	18 55 18.3	
	comp=Z,136nm,19.6s,baz=49,slow=34						
CTAO	**Charters Tower**	**20.30**	**253**	*e*P	**P**	**18 48 30.6**	**-0.6**
STKA	**Stephens Creek**	**28.55**	**229**	P	**P**	**18 49 51.8**	**+1.0**
	2.0nm,0.8s,mb3.9,baz=50,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**28.55**	**229**	P	**P**	**18 49 51.8**	**+1.0**
WRA	**Warramunga Arr**	**31.39**	**256**	P	**P**	**18 50 15.1**	**-1.0**
	0.5nm,0.8s,mb3.4,baz=80,slow=6.9,SNR=3.6						
WRA	**Warramunga Arr**	**31.39**	**256**	P	**P**	**18 50 15.1**	**-1.0**
AS31	**Alice Springs**	**32.23**	**249**	*e*P	**P**	**18 50 23.0**	**-0.4**
ASAR	**Alice Springs**	**32.23**	**249**	P	**P**	**18 50 22.9**	**-0.5**
	3.6nm,1.0s,mb4.2,baz=68,slow=9.7,SNR=9.0						
ASAR	**Alice Springs**	**32.23**	**249**	P	**P**	**18 50 22.9**	**-0.5**
WAKE	**Wake Island**	**34.03**	**360**	*e*P	**P**	**18 50 44.8**	**+5.7**
PPT2	**Papeete2**	**41.82**	**100**	*e*LR	LR	19 03 59.5	
	58nm,24.0s						
USRK	**Ussuriysk Arra**	**66.92**	**333**	P	**P**	**18 54 45.1**	**-1.7**
	5.7nm,1.1s,mb4.5,baz=148,slow=11,SNR=2.6						
CMAR	**Chiang Mai Arr**	**74.69**	**294**	P	**P**	**18 55 37.1**	**+2.4**
	1.2nm,0.9s,mb3.8,baz=128,slow=4.9,SNR=11						
CMAR	**Chiang Mai Arr**	**74.69**	**294**	P	**P**	**18 55 37.1**	**+2.4**
QSPA	**South Pole Qui**	**75.06**	**180**	P	**P**	**18 55 35.7**	**-0.1**
	3.5nm,0.7s,mb4.4,baz=300,slow=3.2,SNR=7.3						
QSPA	**South Pole Qui**	**75.06**	**180**	P	**P**	**18 55 35.7**	**-0.1**
SONM	**Songino Array**	**82.46**	**324**	P	**P**	**18 56 17.8**	**+0.9**
	0.5nm,0.7s,mb3.5,baz=93,slow=6.2,SNR=3.3						
SONM	**Songino Array**	**82.46**	**324**	P	**P**	**18 56 17.8**	**+0.9**
ILAR	**Eielson Array**	**86.87**	**18**	P	**P**	**18 56 38.1**	**-0.6**
	0.8nm,0.6s,mb4.1,baz=243,slow=4.8,SNR=17						
ILAR	**Eielson Array**	**86.87**	**18**	P	**P**	**18 56 38.1**	**-0.6**
SNAA	**Sanae**	**93.29**	**183**	*e*	**P**	**18 57 08.3**	**-0.6**
VNA3	**Neumayer Olymp**	**93.97**	**181**	*e*	**P**	**18 57 07.7**	**-4.3**
VNA3				*e*		18 57 12.7	
VNA2	**Neumayer--Watz**	**94.23**	**182**	*e*	**P**	**18 57 13.8**	**+0.6**
VNA2				*e*		18 57 16.4	
MKAR	**Makanchi Array**	**97.11**	**316**	P	**P**	**18 57 28.2**	**+1.5**
	0.6nm,0.7s,mb4.1,baz=94,slow=6.3,SNR=3.5						
MKAR	**Makanchi Array**	**97.11**	**316**	P	**P**	**18 57 28.1**	**+1.5**
ZALV	**Zalesovo Beam**	**97.35**	**324**	P	**P**	**18 57 27.1**	**-0.5**
	0.2nm,0.3s,mb4.0,baz=134,slow=4.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**97.35**	**324**	P	**P**	**18 57 27.1**	**-0.5**
YKA	**Yellowknife Ar**	**97.93**	**27**	P	**P**	**18 57 29.9**	**-0.1**
	0.3nm,0.7s,mb3.9,baz=259,slow=4.5,SNR=7.9						
YKA	**Yellowknife Ar**	**97.93**	**27**	P	**P**	**18 57 29.9**	**-0.1**
FLN	**La Foliniere**	**144.73**	**345**	*e*PKP1	PKPdf	19 03 32.5	+1.3
FLN	**La Foliniere**	**144.73**	**345**	*e*P	PKPdf	19 03 32.5	+1.3
LDF	**La Druitiere**	**144.80**	**345**	*e*PKP1	PKPdf	19 03 32.5	+1.2
	7.9nm,0.7s						
LDF	**La Druitiere**	**144.80**	**345**

*ISK **21** 18:49:50.4, 37.°05N×28.°21E, h18km, ML2.0*
*DDA **21** 18:49:50.2, 36.°94N×28.°12E, h7km±2km, Md2.8*
ISC 21 18:49:49.9±1.0, 36.°95N±0.°05×28.°33E±0.°05, h12km±9km, n12, σ0.°63/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**348**	*e*PG	**Pg**	**18 49 54.3**	**+0.2**
YER				*e*SG	**Sg**	**18 49 57.4**	**+0.5**
YER	**Yerkesik**	**0.19**	**348**	*e*Pg	**Pg**	**18 49 54.3**	**+0.2**
YER				*e*Sg	**Sg**	**18 49 57.4**	**+0.5**
TURN	**Turunc**	**0.23**	**109**	*i* P	**Pg**	**18 49 54.0**	**-0.7**
TURN				*i* S	**Sg**	**18 49 58.1**	**+0.1**
TURN	**Turunc**	**0.23**	**109**	*i* P	**Pg**	**18 49 54.0**	**-0.7**
TURN				*i* S	**Sg**	**18 49 58.1**	**+0.1**
DAT	**Datca**	**0.65**	**250**	*e*PG	**Pg**	**18 50 02.7**	**+0.3**
DAT				*e*SG	**Sg**	**18 50 11.6**	**+0.7**
DAT	**Datca**	**0.65**	**250**	*e*Pg	**Pg**	**18 50 02.7**	**+0.3**
DAT				*e*Sg	**Sg**	**18 50 11.6**	**+0.7**
AYDN	**Tasoluk**	**0.80**	**333**	*i* P	**Pg**	**18 50 04.4**	**-0.9**
AYDN				*i* S	**Sg**	**18 50 15.7**	**-0.1**
AYDN	**Tasoluk**	**0.80**	**333**	*i* P	**Pg**	**18 50 04.4**	**-0.9**
AYDN				*i* S	**Sg**	**18 50 15.7**	**-0.1**
BODT	**Bodrum**	**0.83**	**278**	*e*PG	**Pg**	**18 50 04.9**	**-0.9**
BODT	**Bodrum**	**0.83**	**278**	*e*Pg	**Pg**	**18 50 04.9**	**-1.0**
DNZL	**Cakiroluk**	**0.93**	**37**	*i* P	**Pb**	**18 50 08.9**	**+0.9**
DNZL				*i* S	**Sb**	**18 50 25.1**	**+4.7**
DNZL	**Cakiroluk**	**0.93**	**37**	*i* P	**Pb**	**18 50 08.9**	**+0.8**

*ISCJB **21** 19:07:55.4±0.8, 20.°9N±0.°1×38.°42E±0.°05, h10km, mb3.8/10, Error ellipse: s-maj=15.9km s-min=6.5km az=9.6*
*CSEM **21** 19:07:55.3±0.5, 20.°84N×38.°46E, h2km, ML3.7, Error ellipse: s-maj=20.1km s-min=8.8km az=9.0*
*IDC **21** 19:07:56.0±1.4, 20.°85N×38.°26E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/26, mbtmp3.8/12, ML3.0/2, MS3.2/6, Ms1 3.2/6, ms1mx3.0/32, Error ellipse: s-maj=34.7km s-min=20.0km az=176.0*
*NEIC **21** 19:07:57.0±1.0, 20.°82N×38.°17E, h10km, Error ellipse: s-maj=21.2km s-min=14.4km az=176.0*
*SGS **21** 19:08:04.2, 20.°44N×38.°86E, h35km*
ISC 21 19:07:57.0±0.8, 20.°9N±0.°1×38.°50E±0.°05, h10km, n52, σ1.°39/49, mb3.8/10, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHBS		**1.11**	**83**	P	**Pb**	**19 08 15.9**	**-2.4**
SHBS		**1.11**	**83**	P	**Pb**	**19 08 15.9**	**-2.5**
SHBS				S	**Sb**	**19 08 32.5**	**-0.4**
SHMS		**1.25**	**62**	P	**Pn**	**19 08 18.9**	**-1.6**
SHMS		**1.25**	**62**	P	**Pn**	**19 08 18.9**	**-1.7**
LBNS	**Jabal Laban**	**1.32**	**82**	P	**Pn**	**19 08 23.1**	**+1.6**
LBNS	**Jabal Laban**	**1.32**	**82**	P	**Pn**	**19 08 23.1**	**+1.6**
LTHS	**Al Lith**	**1.89**	**108**	P	**Pn**	**19 08 27.4**	**-1.8**
LTHS	**Al Lith**	**1.89**	**108**	P	**Pn**	**19 08 27.4**	**-1.8**
FRJS	**Jabal Farasan**	**1.90**	**25**	P	**Pn**	**19 08 29.0**	**-0.4**
FRJS	**Jabal Farasan**	**1.90**	**25**	P	**Pn**	**19 08 29.0**	**-0.4**
FRAS	**Faraa**	**1.90**	**84**	P	**Pn**	**19 08 30.2**	**+0.8**
FRAS	**Faraa**	**1.90**	**84**	P	**Pn**	**19 08 30.2**	**+0.8**
EIL	**Elat**	**9.33**	**341**	Pn	**Pn**	**19 10 10.3**	**-1.3**
	0.2nm,0.3s,baz=147,slow=4.9,SNR=4.5						
EIL				LR	LR	19 13 05.0	
	comp=Z,166nm,18.8s,baz=82,slow=33						
EIL	**Elat**	**9.33**	**341**	Pn	**Pn**	**19 10 10.3**	**-1.3**
EIL	**Elat**	**9.33**	**341**	Pn	**Pn**	**19 10 10.3**	**-1.3**
ATD	**Arta Tunnel**	**10.18**	**155**	LR	LR	19 13 43.5	
	comp=Z,116nm,18.4s,baz=273,slow=34						
ASF	**Jabal al Asfar**	**11.35**	**353**	LR	LR	19 14 35.6	
	comp=Z,99nm,20.6s,baz=245,slow=35						
MMAI	**Mount Meron Ar**	**12.41**	**348**	LR	LR	19 15 17.3	
	comp=Z,100nm,18.7s,baz=155,slow=36						
BRTR	**Keskin Array B**	**19.25**	**349**	P	**Pn**	**19 12 21.4**	**-1.0**
	0.1nm,0.3s,baz=165,slow=15,SNR=5.2						
BRTR	**Keskin Array B**	**19.25**	**349**	P	**Pn**	**19 12 21.4**	**-1.0**
BRTR	**Keskin Array B**	**19.25**	**349**	P	**Pn**	**19 12 21.5**	**-1.0**
GNI	**Garni**	**19.95**	**14**	LR	LR	19 20 49.0	
	comp=Z,77nm,18.1s,baz=226,slow=39						
TAM	**Tamanrasset**	**30.64**	**280**	*e*P	**P**	**19 14 07.1**	**-4.6**
CRVS	**Cervenica-Dubn**	**31.12**	**338**	*e*P	**P**	**19 14 19.1**	**+3.5**
VYHS	**Vyhne**	**31.77**	**335**	*e*P	**P**	**19 14 22.1**	**+0.9**
GERES	**GERESS Array B**	**34.24**	**331**	P	**P**	**19 14 43.2**	**+0.3**
	2.3nm,1.0s,mb4.1,baz=132,slow=9.2,SNR=12						
GERES	**GERESS Array B**	**34.24**	**331**	P	**P**	**19 14 43.2**	**+0.3**
GERES	**GERESS Array B**	**34.24**	**331**	P	**P**	**19 14 43.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**35.96**	**264**	P	**P**	**19 14 57.2**	**-0.9**
	5.2nm,1.3s,mb4.3,baz=74,slow=8.3,SNR=9.7						
TORD				LR	LR	19 31 24.5	
	comp=Z,56nm,18.0s,baz=285,slow=39						
TORD	**Torodi Ar. Bea**	**35.96**	**264**	P	**P**	**19 14 57.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**35.96**	**264**	P	**P**	**19 14 57.2**	**-0.9**
ESDC	**Sonseca Array**	**40.74**	**307**	P	**P**	**19 15 36.8**	**-1.4**
	1.2nm,1.0s,mb3.5,baz=90,slow=7.5,SNR=5.8						
ESDC	**Sonseca Array**	**40.74**	**307**	P	**P**	**19 15 36.8**	**-1.4**
ESDC	**Sonseca Array**	**40.74**	**307**	P	**P**	**19 15 36.8**	**-1.3**
KURK	**Kurchatov**	**43.28**	**37**	P	**P**	**19 16 01.4**	**+2.7**
	4.1nm,1.3s,mb4.0,baz=236,slow=9.1,SNR=6.6						
KURK	**Kurchatov**	**43.28**	**37**	P	**P**	**19 16 01.4**	**+2.7**
MKAR	**Makanchi Array**	**43.85**	**43**	P	**P**	**19 16 06.5**	**+3.1**
	1.2nm,1.0s,mb3.6,baz=245,slow=4.9,SNR=5.3						
MKAR	**Makanchi Array**	**43.85**	**43**	P	**P**	**19 16 06.5**	**+3.1**
NOA	**NORSAR Array B**	**44.45**	**341**	P	**P**	**19 16 07.8**	**-0.1**
	4.6nm,0.9s,mb4.2,baz=140,slow=8.5,SNR=4.6						
NOA	**NORSAR Array B**	**44.45**	**341**	P	**P**	**19 16 07.8**	**-0.1**
NOA	**NORSAR Array B**	**44.45**	**341**	P	**P**	**19 16 07.8**	**-0.1**
ZALV	**Zalesovo Beam**	**48.13**	**35**	P	**P**	**19 16 38.8**	**+1.8**
	0.2nm,0.3s,mb3.6,baz=245,slow=9.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**48.13**	**35**	P	**P**	**19 16 38.8**	**+1.8**
ZALV	**Zalesovo Beam**	**48.13**	**35**	P	**P**	**19 16 38.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**56.68**	**81**	P	**P**	**19 17 43.0**	**+2.0**
	0.3nm,0.8s,mb3.4,baz=282,slow=8.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**56.68**	**81**	P	**P**	**19 17 43.0**	**+2.0**
SONM	**Songino Array**	**60.08**	**46**	P	**P**	**19 18 04.5**	**+0.2**
	1.4nm,1.0s,mb4.0,baz=254,slow=9.1,SNR=7.8						
SONM	**Songino Array**	**60.08**	**46**	P	**P**	**19 18 04.5**	**+0.2**
SONM	**Songino Array**	**60.08**	**46**	P	**P**	**19 18 04.5**	**+0.2**
YKA	**Yellowknife Ar**	**94.22**	**348**	P	**P**	**19 21 16.1**	**+0.1**
	0.3nm,0.9s,mb3.7,baz=27,slow=4.9,SNR=4.5						
YKA	**Yellowknife Ar**	**94.22**	**348**	P	**P**	**19 21 16.1**	**+0.1**
YKA	**Yellowknife Ar**	**94.22**	**348**	P	**P**	**19 21 16.1**	**+0.1**

*IDC **21** 19:27:51.6±0.8, 1.°38N×122.°46E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, ML4.2/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/32, Error ellipse: s-maj=60.2km s-min=16.4km az=70.0*
*DJA **21** 19:27:55, 1.°42N×122.°19E, h9km, MLv4.5/14*
*ISCJB **21** 19:27:56.5±0.7, 1.°37N±0.°05×122.°16E±0.°04, h53km±8km, mb3.7/6, MS3.6/3, Error ellipse: s-maj=8.5km s-min=7.2km az=172.3*
*NEIC **21** 19:27:58.0±4.8, 1.°27N×122.°29E, h46km±46km, Error ellipse: s-maj=62.1km s-min=11.1km az=62.0*
ISC 21 19:27:58.2±0.6, 1.°35N±0.°05×122.°19E±0.°04, h48km±8km, n39, σ1.°33/38, mb3.7/6, MS3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.90**	**196**	P	**Pn**	**19 28 12.1**	**-2.4**
MRSI				S	**Sn**	**19 28 24.9**	**-1.6**
GTOI	**Gorontalo**	**1.09**	**130**	P	**Pn**	**19 28 14.8**	**-2.3**
GTOI				S	**Sn**	**19 28 31.0**	**0.0**
KMSI	**Cibinong**	**1.95**	**113**	P	**Pn**	**19 28 30.7**	**+1.8**
KMSI				S	**Sn**	**19 28 56.2**	**+4.0**
APSI	**Ampana**	**2.31**	**193**	P	**Pn**	**19 28 34.5**	**+0.7**
LUWI	**Luwuk**	**2.44**	**166**	P	**Pn**	**19 28 37.3**	**+1.6**
MNI	**Manado**	**2.66**	**88**	P	**Pn**	**19 28 38.0**	**-0.6**
MNI				S	**Sn**	**19 29 08.9**	**-0.7**
PCI	**Palu**	**3.24**	**226**	P	**Pn**	**19 28 46.3**	**-0.3**
TTSI	**Tana Toraja**	**4.96**	**208**	P	**Pn**	**19 29 11.2**	**+1.0**
KDI	**Kendari**	**5.29**	**175**	P	**Pn**	**19 29 16.2**	**+1.5**
	0.2nm606nm55nm,1.2s						
MYLDM	**Lahad Datu**	**5.29**	**316**	P	**Pn**	**19 29 14.2**	**-0.6**
	0.2nm48nm,0.9s						
LBMI	**Labuha**	**5.67**	**110**	P	**Pn**	**19 29 21.0**	**+1.0**
	0.4nm1μm57nm,0.9s						
BNSI	**Bone**	**6.07**	**200**	P	**Pn**	**19 29 27.1**	**+1.6**
	0.2nm620nm57nm,0.7s						
KAPI	**Kappang**	**6.77**	**201**	Pn	**Pn**	**19 29 34.2**	**-0.8**
	3.3nm,0.3s,baz=6.9,slow=12,SNR=9.7						
KAPI	**Kappang**	**6.77**	**201**	Pn	**Pn**	**19 29 34.2**	**-0.8**
KAPI				*e*Pn	**Pn**	**19 29 34.4**	**-0.7**
KAPI	**Kappang**	**6.77**	**201**	P	**Pn**	**19 29 34.2**	**-0.9**
	0.1nm16nm,0.7s						
BBSI	**Bau Bau**	**6.80**	**177**	P	**Pn**	**19 29 37.1**	**+1.6**
	0.3nm104nm,1.0s						
BKSI	**Bulukumba**	**6.94**	**197**	P	**Pn**	**19 29 38.7**	**+1.3**
	0.1nm272nm23nm,1.2s						
KKM	**Kota Kinabalu**	**7.57**	**308**	P	**Pn**	**19 29 44.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**19.62**	**170**	P	**Pn**	**19 32 22.0**	**-2.5**
	0.6nm,0.3s,baz=5.6,slow=8.7,SNR=15						
FITZ	**Fitzroy Crossi**	**19.62**	**170**	P	**Pn**	**19 32 22.0**	**-2.5**
WRA	**Warramunga Arr**	**24.28**	**151**	P	**P**	**19 33 09.5**	**-1.7**
	0.8nm,0.3s,mb3.6,baz=336,slow=9.5,SNR=28						
WRA				PcP	PcP	19 36 49.4	-1.0
	0.3nm,0.5s,baz=331,slow=2.2,SNR=5.4						
WRA	**Warramunga Arr**	**24.28**	**151**	P	**P**	**19 33 09.5**	**-1.7**
WRA				PcP	PcP	19 36 49.4	-1.0
WB2	**Warramunga Arr**	**24.29**	**151**	*e*P	**P**	**19 33 09.8**	**-1.5**
WB2				*e*		19 33 21.0	
PMG	**Port Moresby**	**27.07**	**114**	LR	LR	19 44 07.2	
	comp=Z,605nm,21.3s,MS4.1,baz=309,slow=36						
ASAR	**Alice Springs**	**27.35**	**156**	P	**P**	**19 33 39.1**	**+0.3**
	0.4nm,0.3s,mb3.4,baz=330,slow=9.2,SNR=13						
ASAR				PcP	PcP	19 36 56.3	-1.1
	0.2nm,0.6s,baz=344,slow=2.1,SNR=4.8						
ASAR	**Alice Springs**	**27.35**	**156**	P	**P**	**19 33 39.1**	**+0.3**
ASAR				PcP	PcP	19 36 56.3	-1.1
KSRS	**Korea Array**	**36.32**	**8**	LR	LR	19 53 18.3	
	comp=Z,32nm,18.2s,MS3.1,baz=260,slow=42						
STKA	**Stephens Creek**	**37.82**	**153**	P	**P**	**19 35 09.3**	**-0.9**
	3.4nm,0.8s,mb4.1,baz=284,slow=8.6,SNR=3.9						
STKA	**Stephens Creek**	**37.82**	**153**	P	**P**	**19 35 09.3**	**-0.9**
MJAR	**Matsushiro Arr**	**38.03**	**21**	LR	LR	19 48 17.9	
	comp=Z,64nm,19.3s,MS3.4,baz=305,slow=32						
SONM	**Songino Array**	**48.29**	**346**	P	**P**	**19 36 36.1**	**+1.6**
	0.3nm,0.5s,mb3.6,baz=151,slow=8.6,SNR=5.3						
SONM	**Songino Array**	**48.29**	**346**	P	**P**	**19 36 36.1**	**+1.6**
MKAR	**Makanchi Array**	**57.05**	**328**	P	**P**	**19 37 40.4**	**+1.1**
	0.3nm,0.6s,mb3.5,baz=153,slow=9.7,SNR=5.4						
MKAR	**Makanchi Array**	**57.05**	**328**	P	**P**	**19 37 40.4**	**+1.1**
ZALV	**Zalesovo Beam**	**60.76**	**336**	P	**P**	**19 38 05.1**	**+0.2**
	0.5nm,0.6s,mb3.9,baz=134,slow=6.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**60.76**	**336**	P	**P**	**19 38 05.1**	**+0.2**
SAO	**San Andreas Ge**	**110.04**	**50**	*e*Pdif	Pdif	19 42 21.8	-1.0
CFAA	**Coronel Fontan**	**148.33**	**163**	PKPbc	PKPbc	19 47 39.7	-0.2
	0.2nm,0.5s,baz=192,slow=2.7,SNR=4.4						
CFAA	**Coronel Fontan**	**148.33**	**163**	PKPbc	PKPbc	19 47 39.7	-0.2

*ISCJB **21** 19:53:49.1±0.9, 51.°43N±0.°04×16.°09E±0.°05, h0km, Error ellipse: s-maj=6.5km s-min=3.4km az=27.5*
*CSEM **21** 19:53:49.4±0.6, 51.°51N×16.°09E, h2km, ML3.1/6, Error ellipse: s-maj=9.2km s-min=5.1km az=16.0*
*WAR **21** 19:53:50.7, 51.°51N×16.°11E, ML2.3, Mining Induced*
*PRU **21** 19:53:50.0, 51.°50N×16.°13E, h0km*
*VIE **21** 19:53:52.0±0.5, 51.°32N×16.°11E, h0km, mb1.7/1, ML2.3/4, Error ellipse: s-maj=3.5km s-min=3.0km az=70.0 67 km WNW of Wroclaw Suspected Mining induced.*
ISC 21 19:53:48.9±1.0, 51.°53N±0.°04×16.°14E±0.°05, h0km, n25, σ0.°69/46, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**172**	*e*Pg	**Pg**	**19 54 03.1**	**+1.0**
KSP				*e*Sg	**Sg**	**19 54 12.2**	**+1.1**
KSP	**Ksiaz**	**0.69**	**172**	*e*Pg	**Pg**	**19 54 03.1**	**+1.0**
KSP				*e*Sg	**Sg**	**19 54 12.2**	**+1.1**
UPC	**Upice**	**1.02**	**185**	*e*PG	**Pg**	**19 54 08.9**	**+0.4**
UPC	**Upice**	**1.02**	**185**	Pg	**Pg**	**19 54 08.9**	**+0.4**
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*PG	**Pg**	**19 54 11.9**	**+0.3**
DPC				*e*SG	**Sg**	**19 54 27.3**	**+0.4**
	16nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**174**	Pg	**Pg**	**19 54 11.9**	**+0.3**
DPC				Sg	**Sg**	**19 54 27.3**	**+0.4**
	16nm,0.4s						
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG	**Pg**	**19 54 15.9**	**0.0**
PVCC				*e*SG	**Sg**	**19 54 33.7**	**-0.5**
	54nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**225**	Pg	**Pg**	**19 54 15.9**	**0.0**
PVCC				Sg	**Sg**	**19 54 33.7**	**-0.5**
	54nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**246**	PN	**Pn**	**19 54 17.1**	**-0.4**
BRG				PG	**Pg**	**19 54 18.3**	**+0.1**
BRG				SG	**Sg**	**19 54 38.8**	**+0.7**
	20nm,0.4s						
PRU	**Pruhonice**	**1.84**	**214**	*e*PG	**Pg**	**19 54 23.8**	**-0.5**
PRU				*e*SG	**Sg**	**19 54 48.0**	**-0.2**
	12nm,0.3s						
PRU	**Pruhonice**	**1.84**	**214**	Pg	**Pg**	**19 54 23.8**	**-0.5**
PRU				Sg	**Sg**	**19 54 48.0**	**-0.2**
	12nm,0.3s						
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**19 54 23.4**	**0.0**
MORC				*e*Sg	**Sg**	**19 54 51.4**	**-0.6**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**19 54 23.0**	**-0.6**
CLL				*e*Pg	**Pg**	**19 54 27.0**	**+0.2**
CLL				*e*		19 54 30.0	
CLL				*e*Sg	**Sg**	**19 54 53.0**	**+0.6**
	comp=Z,10.0nm,0.8s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*SG	**Sg**	**19 54 55.7**	**-1.2**
OKC	**Ostrava-Krasne**	**2.12**	**142**	Sg	**Sg**	**19 54 55.7**	**-1.2**
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	**Pn**	**19 54 28.1**	**+0.9**
VRAC				*e*Sg	**Sg**	**19 55 01.0**	**+0.2**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PG	**Pg**	**19 54 39.6**	**-0.6**
NKC				*e*SG	**Sg**	**19 55 15.7**	**+0.9**
	comp=Z,10nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**243**	Pg	**Pg**	**19 54 39.6**	**-0.6**
NKC				Sg	**Sg**	**19 55 15.7**	**+0.9**
	comp=Z,10nm,0.3s						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**19 54 36.0**	**-0.4**
KHC				*e*PG	**Pg**	**19 54 42.6**	**-2.0**
KHC				*e*SN	**Sn**	**19 55 12.0**	**0.0**
KHC				*e*SG	**Sg**	**19 55 21.1**	**-1.2**
VYHS	**Vyhne**	**3.50**	**149**	*e*SG	**Sg**	**19 55 41.7**	**+0.5**
VYHS	**Vyhne**	**3.50**	**149**	*e*Sg	**Sg**	**19 55 41.7**	**+0.5**
CONA	**Conrad Observa**	**3.61**	**183**	⇑*i*Sg	**Sg**	**19 55 44.4**	**-0.3**
	comp=Z,5.0nm,0.5s						
CONA	**Conrad Observa**	**3.61**	**183**	Sg	**Sg**	**19 55 44.4**	**-0.3**
	comp=Z,5.0nm,0.5s						
MOA	**Molln**	**3.88**	**199**	⇓*i*Pn	**Pn**	**19 54 50.5**	**+0.8**
MOA				⇑*i*Sg	**Sg**	**19 55 53.3**	**-0.1**
	comp=Z,4.5nm,0.5s						
MOA	**Molln**	**3.88**	**199**	Pn	**Pn**	**19 54 50.5**	**+0.8**
MOA				Sg	**Sg**	**19 55 53.3**	**-0.1**
	comp=Z,4.5nm,0.5s						

BUC 21 19:55:36.5±0.4, 45.°34N×26.°48E, h37km±6km, MD2.3/4, 8C-8D, Error ellipse: s-maj=5.5km s-min=3.6km az=48.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.41**	**292**	⇑*i*P	Pn	19 55 46.0	+0.1
MLR	**Muntele Rosu**	**0.41**	**292**	S	Sn	19 55 53.5	+1.0
MLR	**Muntele Rosu**	**0.41**	**292**	⇑*i*P	Pn	19 55 46.0	+0.1
MLR				*i* S	Sn	19 55 53.5	+1.0
SECR		**0.42**	**225**	⇑*i*P	Pn	19 55 46.5	+0.4
SECR		**0.42**	**225**	S	Sn	19 55 54.9	+2.2
SECR		**0.42**	**225**	⇑*i*P	Pn	19 55 46.5	+0.4
SECR				*i* S	Sn	19 55 54.9	+2.2
PLOR	**Plostina**	**0.53**	**13**	⇓*i*P	Pn	19 55 47.9	+0.4
PLOR	**Plostina**	**0.53**	**13**	S	Sn	19 55 56.2	+0.9
PLOR	**Plostina**	**0.53**	**13**	⇓*i*P	Pn	19 55 47.9	+0.4
PLOR				*i* S	Sn	19 55 56.2	+0.9
PGOR	**Pogoanele**	**0.56**	**140**	⇓*i*P	Pn	19 55 48.3	+0.4
PGOR	**Pogoanele**	**0.56**	**140**	⇓*i*P	Pn	19 55 48.3	+0.4
VRI	**Vrincioaia**	**0.56**	**18**	⇓*i*P	Pn	19 55 48.5	+0.6
VRI	**Vrincioaia**	**0.56**	**18**	S	Sn	19 55 57.3	+1.3
VRI	**Vrincioaia**	**0.56**	**18**	⇓*i*P	Pn	19 55 48.5	+0.6
VRI				*i* S	Sn	19 55 57.3	+1.3
DOPR	**Dopca**	**0.99**	**310**	⇓*i*P	Pn	19 55 54.4	+0.5
DOPR	**Dopca**	**0.99**	**310**	S	Sn	19 56 08.2	+1.5
DOPR	**Dopca**	**0.99**	**310**	⇓*i*P	Pn	19 55 54.4	+0.5
DOPR				*i* S	Sn	19 56 08.2	+1.5
VOIR		**1.02**	**276**	⇑*i*P	Pn	19 55 55.1	+0.9
VOIR		**1.02**	**276**	S	Sn	19 56 09.0	+1.8
VOIR		**1.02**	**276**	⇑*i*P	Pn	19 55 55.1	+0.9
VOIR				*i* S	Sn	19 56 09.0	+1.8
TESR		**1.18**	**6**	⇑*i*P	Pn	19 55 57.2	+0.7
TESR		**1.18**	**6**	S	Sn	19 56 12.7	+1.4
TESR		**1.18**	**6**	⇑*i*P	Pn	19 55 57.2	+0.7
TESR				*i* S	Sn	19 56 12.7	+1.4

*PGC **21** 20:05:38.9±3.1, 62.°89N×143.°79W, h5km, ML3.0/2, 237km northeast of Valdez, Ak Central Alaska*
NEIC 21 20:05:39.4, 62.°85N×143.°61W, h2km, ML2.5(AEIC), 5D, After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.10**	**331**	P	Pg	20 05 42.0	+0.5
DOT	**Dot Lake**	**0.83**	**346**	P	Pg	20 05 55.2	-0.1
DOT				S	Sg	20 06 06.1	+0.1
PAX	**Paxson**	**0.86**	**279**	P	Pg	20 05 55.0	-0.9
PAX				S	Sg	20 06 06.7	-0.3
BCA3	**Beaver Creek A**	**0.86**	**75**	P	Pg	20 05 55.4	-0.6
WASW	**Wrangell South**	**0.96**	**196**	P	Pg	20 05 56.9	-0.8
DDM	**Donnelly Dome**	**1.39**	**314**	P	Pn	20 06 05.1	-0.7
DHY	**Denali Highway**	**1.73**	**279**	P	Pn	20 06 10.4	-0.2
DHY				S	Sn	20 06 33.5	+0.3
KLU	**Klutina**	**1.74**	**220**	P	Pn	20 06 10.1	-0.5
BALM	**Baldy**	**1.91**	**161**	P	Pn	20 06 13.5	+0.5
BMRM	**Bremner River**	**1.94**	**194**	*e*Pn	Pn	20 06 13.2	-0.2
BMRM				*e*Sn	Sn	20 06 39.9	+1.5
DIV	**Divide**	**2.00**	**212**	P	Pn	20 06 14.9	+0.6
DIV				S	Sn	20 06 40.4	+0.5
SCM	**Sheep Creek Mo**	**2.01**	**241**	P	Pn	20 06 14.5	+0.1
VLZ	**Valdez**	**2.15**	**218**	P	Pn	20 06 16.4	+0.1
EGAK	**Eagle**	**2.22**	**28**	P	Pn	20 06 16.9	-0.3
DAWY	**Dawson**	**2.25**	**55**	P	Pn	20 06 17.6	-0.1
DAWY	**Dawson**	**2.25**	**55**	⇓Pn	Pn	20 06 16.8	-0.9
DAWY				⇓Pg	Pg	20 06 20.4	-2.2
DAWY				⇑Sg	Sg	20 06 49.5	-2.3
SML	**Sawmill**	**2.44**	**247**	*e*Pn	Pn	20 06 21.8	+1.6
SML				*e*Sn	Sn	20 06 54.2	+3.6
RND	**Reindeer**	**2.45**	**286**	P	Pn	20 06 21.7	+1.4
BAGL	**Bagley Icefiel**	**2.48**	**162**	P	Pn	20 06 21.4	+0.7
MCK	**McKinley**	**2.56**	**293**	P	Pn	20 06 23.4	+1.5
CCB	**Clear Creek Bu**	**2.59**	**316**	P	Pn	20 06 22.2	-0.1
PMR	**Palmer**	**2.88**	**246**	*e*Pn	Pn	20 06 27.4	+1.2
TRF	**Thorofare Moun**	**3.09**	**284**	P	Pn	20 06 30.8	+1.6
RC01	**Rabbit Creek A**	**3.39**	**241**	*e*Pn	Pn	20 06 35.8	+2.5
HYT	**Haines Junctio**	**3.54**	**122**	⇓Pn	Pn	20 06 34.7	-0.6
HYT				⇓Pg	Pg	20 06 43.7	-3.4
HYT				⇑Sg	Sg	20 07 31.7	-1.2
PPLA	**Purkeypile**	**3.93**	**275**	*e*Pn	Pn	20 06 43.8	+3.2
WHY	**Whitehorse**	**4.69**	**114**	⇑Pn	Pn	20 06 51.3	+0.1
WHY				⇓Sg	Sg	20 08 07.8	-2.2
INK	**Inuvik**	**6.89**	**33**	⇑Pn	Pn	20 07 19.6	-1.7
INK				⇑Sn	Sn	20 08 34.0	-6.1

NEIC 21 20:09:33.2, 36.°68N×121.°30W, h6km, MW3.6(BRK), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.14**	**307**	*e*Pg	Pg	20 09 36.2	0.0
SAO				*e*Sg	Sg	20 09 38.3	+0.1
SAC	**San Andreas**	**1.27**	**316**	*e*P	Pn	20 09 56.0	-1.4
SAC				*e*Sn	Sn	20 10 14.1	-0.6
CMB	**Columbia Colle**	**1.54**	**28**	*e*Pn	Pn	20 10 00.7	-0.4
CMB				*e

BOJS
comp=Z,2µm,0.7s
BOJS Bojanci 2.13 320 Pn **Pn 20 20 54.3 +0.7**
IVAS Ivanjica 2.15 97 ⇑*i*Pn **Pn 20 20 53.9 0.0**
IVAS *e*Sg **Sn 20 21 26.9 +7.0**
IVAS Ivanjica 2.15 97 *i*Pn **Pn 20 20 53.9 0.0**
IVAS *e*Sg **Sn 20 21 26.9 +7.0**
BEY Berane 2.20 117 ⇑*i*Pn **Pn 20 20 55.2 +0.6**
IVA Berane 2.21 117 ⇑*i*Pn **Pn 20 20 55.2 +0.5**
IVA *e*Sn **Sn 20 21 26.2 +5.0**
FGSL Fruska Gora 2.25 55 *e*Pn **Pn 20 20 53.7 -1.5**
FRGS Fruska Gora 2.25 55 *e*Pn **Pn 20 20 53.7 -1.5**
FRGS *e*Sn **Sn 20 21 21.6 -0.6**
TRUS Trudelj 2.33 81 ⇓*i*Pn **Pn 20 20 54.3 -2.0**
TRUS Trudelj 2.33 81 ⇓*i*Pn **Pn 20 20 54.3 -2.0**
GBRS Gornja Briga 2.37 315 *e*Pn **Pn 20 20 59.6 +2.7**
MS1 Monte Sant'Ang 2.38 204 *e*Pn **Pn 20 20 59.0 +2.0**
PVY Plav 2.39 122 ⇑*i*Pn **Pn 20 20 58.3 +1.1**
PVY *e*Sn **Sn 20 21 30.7 +5.0**
PVY Plav 2.39 122 ⇑*i*Pn **Pn 20 20 58.3 +1.1**
PVY *e*Sn **Sn 20 21 30.7 +5.0**
ULC Ulcinj 2.44 142 ⇑*i*Pn **Pn 20 20 59.4 +1.6**
ULC *e*Sn **Sn 20 21 32.4 +5.5**
ULC Ulcinj 2.44 142 ⇑*i*Pn **Pn 20 20 59.4 +1.6**
ULC *e*Sn **Sn 20 21 32.4 +5.5**
BEO Beograd 2.51 67 *e*Pn **Pn 20 20 59.6 +0.8**
BEO *e*Sg **Sn 20 21 36.7 +8.0**
BEO Beograd 2.51 67 *e*Pn **Pn 20 20 59.6 +0.8**
BEO *e*Sg **Sn 20 21 36.7 +8.0**
PKSM Moragy 2.53 23 ⇓*i*Pn **Pn 20 20 58.5 -0.6**
PKSM Moragy 2.53 23 ⇓P **Pn 20 20 58.5 -0.6**
PKSM S **Sn 20 21 28.4 -0.8**
PKSM Moragy 2.53 23 ⇓*i*P **Pn 20 20 58.5 -0.6**
PKSM Moragy 2.53 23 S **Sn 20 21 28.4 -0.8**
PKSM Moragy 2.53 23 ⇓*i*P **Pn 20 20 58.5 -0.6**
PKSM S **Sn 20 21 28.4 -0.8**
PKSM *e*Sn **Sn 20 21 30.5 +1.3**
GRUS Gruza 2.53 89 ⇓*i*Pn **Pn 20 20 58.8 -0.3**
GRUS Gruza 2.53 89 ⇓*i*Pn **Pn 20 20 58.8 -0.3**
VISS Visnje 2.55 319 *e*Pn **Pn 20 20 00.2 +0.8**
VISS *e*Sn **Sn 20 21 35.8 +6.2**
VISS
comp=Z,1µm,0.8s
VISS Visnje 2.55 319 *e*Pn **Pn 20 20 00.2 +0.8**
BEHE Becsehely 2.60 353 ⇓*e*Pn **Pn 20 20 00.6 +0.6**
BEHE *e*Sn **Sn 20 21 31.9 +1.1**
BAI Bari 2.79 185 *e*Pn **Pn 20 21 02.2 -0.5**
PKS9 Tamasi 2.80 15 ⇑*e*Pn **Pn 20 21 02.6 -0.2**
PKS9 *e*Sn **Sn 20 21 37.7 +1.9**
LJU Ljubljana 2.87 319 *i* Pn **Pn 20 21 04.2 +0.4**
LJU *i* 20 21 05.9
LJU *i* 20 21 09.2
LJU *i* 20 21 10.5
LJU *i* Sn **Sn 20 21 40.3 +2.6**
LJU *i* 20 21 45.2
LJU *e* 20 21 49.5
LJU
comp=Z,2µm,1.2s
LJU Ljubljana 2.87 319 *i* Pn **Pn 20 21 04.2 +0.4**
LJU *i* Sn **Sn 20 21 40.3 +2.7**
comp=Z,2µm,1.2s
CDT Castel del Mon 2.89 194 *e*Pn **Pn 20 21 06.2 +2.1**
SVIS Svilajnac 2.91 81 ⇑*i*Pn **Pn 20 21 03.4 -0.9**
SVIS *e*Sn **Sn 20 21 37.0 -1.5**
SELS Selova 2.92 102 ⇓*i*Pn **Pn 20 21 04.3 -0.1**
SELS *e*Sg **Sn 20 21 50.8 +12**
TRI Trieste 3.05 308 *e*Pn **Pn 20 21 07.8 +1.5**
TRI Trieste 3.05 308 *e*P **Pn 20 21 07.8 +1.5**
TRI Trieste 3.05 308 *e*P **Pn 20 21 07.8 +1.5**
PE1 Pezze di Greco 3.09 177 *e*Pn **Pn 20 21 07.6 +0.8**
VOY Vojsko 3.18 313 *e*Pn **Pn 20 21 09.4 +1.3**
VOY *e* 20 21 10.4
VOY *e* 20 21 11.0
VOY *e*Sn **Sn 20 21 50.8 +5.6**
VOY Vojsko 3.18 313 *e*Pn **Pn 20 21 09.4 +1.3**
SOKA Soboth 3.18 332 ⇑*i*Pn **Pn 20 21 08.6 +0.5**
SOKA ⇓*i*Sn **Sn 20 21 45.9 +0.7**
SOKA Soboth 3.18 332 Pn **Pn 20 21 08.6 +0.5**
SOKA Sn **Sn 20 21 45.9 +0.7**
AQU L'Aquila 3.19 242 *e*Pn **Pn 20 21 09.3 +1.2**
AQU L'Aquila 3.19 242 *e*P **Pn 20 21 09.3 +1.2**
AQU L'Aquila 3.19 242 ⇑*i*P **Pn 20 21 09.8 +1.7**
AQU L'Aquila 3.19 242 *e*P **Pn 20 21 09.3 +1.2**
AQU S **Sn 20 21 50.2 +4.9**
TIR Tirane 3.21 142 *e*Pn **Pn 20 21 11.9 +3.5**
TIR *e*Sg **Sn 20 22 05.4 +19**
OBKA Obir 3.22 325 ⇓*i*Pn **Pn 20 21 09.6 +1.0**
SNR=22
OBKA ⇑*i*Sn **Sn 20 21 46.8 +0.6**
OBKA Obir 3.22 325 Pn **Pn 20 21 09.6 +1.0**
SNR=22
OBKA Sn **Sn 20 21 46.8 +0.5**
PHP Peshkopia 3.24 132 P **Pn 20 21 11.2 +2.3**
PHP Peshkopia 3.24 132 P **Pn 20 21 11.2 +2.3**
TAR1 Taranto 3.36 179 *e*Pn **Pn 20 21 09.5 -1.1**
BOLS Boljevac 3.43 89 ⇑*i*Pn **Pn 20 21 09.6 -1.9**
BOLS *e*Sn **Sn 20 21 49.9 -1.4**
BOLS Boljevac 3.43 89 ⇑*i*Pn **Pn 20 21 09.6 -1.9**
BOLS *e*Sn **Sn 20 21 49.9 -1.4**
BARS Barje 3.52 106 ⇑*i*Pn **Pn 20 21 12.6 -0.2**
BARS Barje 3.52 106 ⇑*i*Pn **Pn 20 21 12.6 -0.2**
PKSN Nyarlorinc 3.54 31 ⇑*e*Pn **Pn 20 21 12.6 -0.4**
PKSN *e*Sn **Sn 20 21 54.2 +0.2**
ARSA Arzberg 3.56 341 *i* Pn **Pn 20 21 13.8 +0.5**
SNR=898
ARSA ⇓*i*Sn **Sn 20 21 55.0 +0.4**
ARSA Arzberg 3.56 341 Pn **Pn 20 21 13.8 +0.5**
SNR=898
ARSA Sn **Sn 20 21 55.0 +0.4**
BZS Buzias 3.58 60 ⇓*i*Pn **Pn 20 21 12.1 -1.4**
BZS Buzias 3.58 60 ⇑P **Pn 20 21 12.6 -0.9**
BZS Buzias 3.58 60 ⇑*i*P **Pn 20 21 12.6 -0.9**
BZS Buzias 3.58 60 P **Pn 20 21 12.6 -0.9**
BZS S **Sn 20 21 53.8 -1.2**
PKSG 3.60 13 ⇑*e*Pn **Pn 20 21 13.9 +0.2**
PKSG *e*Sn **Sn 20 21 56.7 +1.3**
SKO Skopje 3.65 120 *e*Pn **Pn 20 21 15.6 +1.1**
SKO Skopje 3.65 120 *e*Pn **Pn 20 21 15.6 +1.1**
MYKA Terra Mystica 3.72 319 ⇓*i*Pn **Pn 20 21 16.4 +1.0**
MYKA Terra Mystica 3.72 319 Pn **Pn 20 21 16.4 +0.9**
BUD Budapest 3.81 19 ⇓*e*Pn **Pn 20 21 16.4 -0.3**
BUD *e*Sn **Sn 20 22 03.8 +3.1**
BUD Budapest 3.81 19 ⇑*e*Pn **Pn 20 21 16.4 -0.3**
BUD *e*Sn **Sn 20 22 03.8 +3.1**
SOP Sopron 3.82 353 ⇓*e*Pn **Pn 20 21 17.0 +0.2**
SOP *e*Sn **Sn 20 21 59.9 -1.0**
SOP Sopron 3.82 353 ⇓*e*Pn **Pn 20 21 17.0 +0.2**
SOP *e*Sn **Sn 20 21 59.9 -1.0**
DJES Djerdap 3.89 77 *e*Pn **Pn 20 21 16.6 -1.2**
DJES *e*Sn **Sn 20 21 59.7 -3.0**
DJES Djerdap 3.89 77 *e*Pn **Pn 20 21 16.6 -1.2**
DJES *e*Sn **Sn 20 21 59.7 -3.0**
KRUS Krusevo 3.90 129 *e*Pn **Pn 20 21 19.5 +1.5**
KRUS Krusevo 3.90 129 *e*Pn **Pn 20 21 19.4 +1.4**
ZAPS Zavoj 3.99 97 ⇑*i*Pn **Pn 20 21 19.9 +0.8**
ZAPS *e*Sn **Sn 20 22 05.5 +0.4**
RMGR Halanga-Turnu 4.01 77 S **Sn 20 22 05.4 -0.3**
RMGR Halanga-Turnu 4.01 77 S **Sn 20 22 05.4 -0.3**
CUC Castrocucco 4.03 195 *e*Pn **Pn 20 21 21.0 +1.2**
CUC *e*Sn **Sn 20 22 07.3 +1.1**
CUC Castrocucco 4.03 195 *e*Pn **Pn 20 21 21.0 +1.2**
CUC *e*Sn **Sn 20 22 07.3 +1.1**
CONA Conrad Observa 4.15 347 ⇓*i*Pn **Pn 20 21 21.6 +0.3**
SNR=50
CONA ⇓*i*Sn **Sn 20 22 09.5 +0.5**
CONA Conrad Observa 4.15 347 Pn **Pn 20 21 21.6 +0.3**
SNR=50
CONA Sn **Sn 20 22 09.5 +0.5**
BIA Bitola 4.18 132 *e*Pn **Pn 20 21 23.1 +1.3**
BIA Bitola 4.18 132 *e*Pn **Pn 20 21 23.1 +1.3**
GZR Gura Zlata 4.25 67 ⇑P **Pn 20 21 22.0 -0.7**
GZR Gura Zlata 4.25 67 ⇑*i*P **Pn 20 21 22.0 -0.7**
GZR Gura Zlata 4.25 67 P **Pn 20 21 22.0 -0.7**
GZR S **Sn 20 22 10.2 -1.2**
ABTA Abfaltersbach 4.38 312 ⇓*i*Pn **Pn 20 21 25.6 +1.1**
SNR=74
ABTA Abfaltersbach 4.38 312 Pn **Pn 20 21 25.6 +1.2**
SNR=74
FNA Florina 4.38 134 P **Pn 20 21 26.4 +1.9**
FNA Florina 4.38 134 P **Pn 20 21 26.4 +1.9**

PSZ Piszkesteto 4.44 24 *e*Pn **Pn 20 21 24.6 -0.7**
PSZ Piszkesteto 4.44 24 *e*P **Pn 20 21 24.6 -0.7**
PSZ Piszkesteto 4.44 24 ⇑*e*Pn **Pn 20 21 25.0 -0.3**
PSZ *e*Sn **Sn 20 22 13.3 -2.9**
PSZ Piszkesteto 4.44 24 ⇓*i*P **Pn 20 21 24.8 -0.5**
PSZ Piszkesteto 4.44 24 *e*P **Pn 20 21 24.6 -0.7**
PSZ *e*Sn **Sn 20 22 13.3 -2.9**
MOA Molln 4.46 334 *i* Pn **Pn 20 21 27.1 +1.5**
SNR=275
MOA ⇑*i*Sn **Sn 20 22 18.0 +1.2**
MOA Molln 4.46 334 Pn **Pn 20 21 27.1 +1.5**
SNR=275
MOA Sn **Sn 20 22 18.0 +1.3**
VTS Vitosha 4.57 104 ⇑*i*Pn **Pn 20 21 27.3 +0.2**
VTS *e*Sn **Sn 20 22 19.4 0.0**
VTS Vitosha 4.57 104 P **Pn 20 21 27.5 +0.4**
VTS Vitosha 4.57 104 ⇑P **Pn 20 21 27.5 +0.4**
VTS Vitosha 4.57 104 ⇑*i*P **Pn 20 21 27.5 +0.4**
VTS Vitosha 4.57 104 ⇑*i*Pn **Pn 20 21 27.3 +0.2**
VTS *e*Sn **Sn 20 22 19.4 0.0**
KEK Kerkira 4.60 154 *e*P **Pn 20 21 27.7 +0.1**
SMOL Smolenice 4.63 2 *e*P **Pn 20 21 27.4 -0.5**
SMOL *e* 20 22 19.0
SMOL Smolenice 4.63 2 *e*PN **Pn 20 21 27.4 -0.5**
SMOL *e*SN **Sn 20 22 19.0 -1.8**
SMOL Smolenice 4.63 2 *e*P **Pn 20 21 27.4 -0.5**
SMOL *e*S **Sn 20 22 19.0 -1.8**
VYHS Vyhne 4.74 13 *e*P **Pn 20 21 29.7 +0.3**
VYHS *e* 20 22 20.0
VYHS Vyhne 4.74 13 *e*PN **Pn 20 21 29.7 +0.3**
VYHS *e*SN **Sn 20 22 20.0 -3.6**
VYHS Vyhne 4.74 13 *e*P **Pn 20 21 29.7 +0.3**
VYHS *e*S **Sn 20 22 20.0 -3.6**
KOLL Kolacno 4.76 10 *e*P **Pn 20 21 29.9 +0.2**
KOLL *e* 20 22 22.4
KOLL Kolacno 4.76 10 *e*PN **Pn 20 21 29.9 +0.2**
KOLL *e*SN **Sn 20 22 22.4 -1.7**
KOLL Kolacno 4.76 10 *e*P **Pn 20 21 29.9 +0.2**
KOLL *e*S **Sn 20 22 22.4 -1.7**
DRGR 4.84 51 ⇑P **Pn 20 21 30.7 -0.1**
DRGR S **Sn 20 22 25.0 -1.1**
DRGR 4.84 51 ⇑*i*P **Pn 20 21 30.7 -0.1**
DRGR 4.84 51 S **Sn 20 22 25.0 -1.1**
DRGR 4.84 51 P **Pn 20 21 30.7 -0.1**
DRGR S **Sn 20 22 25.0 -1.1**
MAIM Mastiano 4.86 273 P **Pn 20 21 31.6 +0.5**
LOT Lotru 4.93 69 ⇑*i*P **Pn 20 21 32.2 +0.2**
LOT Lotru 4.93 69 ⇑*i*P **Pn 20 21 32.2 +0.2**
LOT S **Sn 20 22 27.5 -0.8**
KZN Kozani 4.93 135 *e*P **Pn 20 21 33.0 +0.9**
KZN Kozani 4.93 135 P **Pn 20 21 33.3 +1.2**
KZN Kozani 4.93 135 P **Pn 20 21 33.3 +1.2**
JAN Janina 5.03 146 *e*P **Pn 20 21 35.7 +2.2**
KECS Kecovo 5.12 25 *e*P **Pn 20 21 35.2 +0.5**
KECS *e* 20 22 31.5
KECS Kecovo 5.12 25 *e*PN **Pn 20 21 35.2 +0.5**
KECS *e*SN **Sn 20 22 31.4 -1.7**
KECS Kecovo 5.12 25 *e*P **Pn 20 21 35.2 +0.5**
KECS *e*S **Sn 20 22 31.5 -1.6**
WTTA Wattenberg 5.17 313 ⇑*i*Pn **Pn 20 21 37.0 +1.7**
SNR=44
WTTA Wattenberg 5.17 313 Pn **Pn 20 21 37.0 +1.7**
SNR=44
WATA Walderalm 5.24 313 ⇑*i*Pn **Pn 20 21 37.9 +1.6**
SNR=44
WATA Walderalm 5.24 313 Pn **Pn 20 21 37.9 +1.5**
SNR=44
LIKS Likavka 5.32 14 *e*SN **Sn 20 22 39.2 +1.2**
LIKS Likavka 5.32 14 *e*Sn **Sn 20 22 39.2 +1.2**
VRAC Vranov 5.43 356 Pn **Pn 20 21 39.7 +0.7**
comp=Z,2.0nm,0.3s,baz=184,slow=14,SNR=16
VRAC Sn **Sn 20 22 37.8 -3.0**
comp=Z,3.5nm,0.3s,baz=228,slow=12,SNR=4.7
VRAC LR LR 20 23 47.5
comp=Z,214nm,19.0s,baz=343,slow=39
VRAC Vranov 5.43 356 Pn **Pn 20 21 39.7 +0.7**
VRAC Sn **Sn 20 22 37.8 -3.0**
VRAC Vranov 5.43 356 ⇑P **Pn 20 21 39.7 +0.7**
VRAC S **Sn 20 22 42.0 +1.3**
VRAC Vranov 5.43 356 ⇑*i*P **Pn 20 21 39.7 +0.7**
VRAC Vranov 5.43 356 S **Sn 20 22 42.0 +1.3**
VRAC Vranov 5.43 356 *e*Pn **Pn 20 21 39.0 0.0**
VRAC Vranov 5.43 356 P **Pn 20 21 39.7 +0.7**
VRAC Sn **Sn 20 22 37.8 -2.9**
VRAC S **Sn 20 22 42.0 +1.3**
LIT Litokhoron 5.46 132 *e*P **Pn 20 21 40.2 +0.8**
SRS Serrai 5.47 118 P **Pn 20 21 41.5 +2.0**
SRS Serrai 5.47 118 P **Pn 20 21 41.5 +2.0**
SOH Sokhos 5.49 122 *e*P **Pn 20 21 41.7 +2.0**
MOTA Moosalm 5.50 311 *i* Pn **Pn 20 21 42.3 +2.4**
SNR=136
MOTA ⇑*i*Sn **Sn 20 22 45.6 +3.2**
MOTA Moosalm 5.50 311 Pn **Pn 20 21 42.3 +2.4**
SNR=136
MOTA Sn **Sn 20 22 45.6 +3.2**
GERES GERESS Array B 5.52 335 Pn **Pn 20 21 41.0 +0.9**
comp=Z,4.4nm,0.3s,baz=155,slow=14,SNR=144
GERES Sn **Sn 20 22 42.0 -0.8**
comp=Z,14nm,0.3s,baz=143,slow=23,SNR=11
GERES LR LR 20 23 42.2
comp=Z,136nm,19.9s,baz=304,slow=38
GERES GERESS Array B 5.52 335 Pn **Pn 20 21 41.0 +0.9**
GERES Sn **Sn 20 22 42.0 -0.8**
GERES GERESS Array B 5.52 335 P **Pn 20 21 41.0 +0.9**
GERES 20 22 42.0
GERES pmax pmax
comp=Z,4.0nm,0.3s
GERES smax
comp=N,14nm,0.3s
GERES GERESS Array B 5.52 335 P **Pn 20 21 41.0 +0.9**
comp=N,4.0nm,0.3s
GERES S **Sn 20 22 42.0 -0.8**
comp=N,14nm,0.3s
NVR Nevrokopi 5.52 115 *e*P **Pn 20 21 40.1 -0.1**
FETA Feichten 5.53 307 ⇑*i*Pn **Pn 20 21 42.3 +2.0**
SNR=136
FETA ⇑*i*Sn **Sn 20 22 46.9 +3.8**
FETA Feichten 5.53 307 Pn **Pn 20 21 42.3 +2.0**
SNR=136
TREC Trest 5.53 348 *e*P **Pn 20 21 41.4 +1.1**
TREC Trest 5.53 348 *e*PN **Pn 20 21 41.4 +1.1**
TREC Trest 5.53 348 Pn **Pn 20 21 41.4 +1.1**
SC2M Scurtabo 5.55 278 P **Pn 20 21 41.3 +0.7**
HUMR Humele 5.62 81 ⇓*i*P **Pn 20 21 41.2 -0.3**
HUMR Humele 5.62 81 ⇓*i*P **Pn 20 21 41.2 -0.3**
HUMR S **Sn 20 22 43.7 -1.6**
THL Klokotos Trika 5.62 139 *e*P **Pn 20 21 42.2 +0.6**
THL Klokotos Trika 5.62 139 P **Pn 20 21 42.2 +0.6**
THL Klokotos Trika 5.62 139 P **Pn 20 21 42.2 +0.6**
TRPA Tarpa 5.63 39 ⇓*i*P **Pn 20 21 41.6 -0.1**
TRPA Tarpa 5.63 39 ⇓*i*P **Pn 20 21 41.6 -0.1**
RETA Reutte 5.77 311 ⇑*i*Pn **Pn 20 21 45.4 +1.7**
SNR=11
RETA Reutte 5.77 311 Pn **Pn 20 21 45.4 +1.8**
SNR=11
VOIR 5.80 72 ⇓P **Pn 20 21 44.0 0.0**
VOIR 5.80 72 ⇓*i*P **Pn 20 21 44.0 0.0**
VOIR 5.80 72 P **Pn 20 21 44.0 0.0**
CRVS Cervenica-Dubn 5.81 29 *e*P **Pn 20 21 45.0 +0.9**
CRVS *e* 20 22 49.9
CRVS Cervenica-Dubn 5.81 29 *e*PN **Pn 20 21 45.0 +0.9**
CRVS *e*SN **Sn 20 22 49.9 0.0**
CRVS Cervenica-Dubn 5.81 29 *e*P **Pn 20 21 45.0 +0.9**
CRVS *e*S **Sn 20 22 49.9 0.0**
KHC Kasperske Hory 5.81 336 *e*Pn **Pn 20 21 45.4 +1.2**
comp=N,56nm,0.8s
KHC *e*Sn **Sn 20 22 50.3 +0.3**
KHC Kasperske Hory 5.81 336 *e*P **Pn 20 21 45.3 +1.2**
KHC *e* 20 22 48.5
KHC Kasperske Hory 5.81 336 *e*PN **Pn 20 21 45.3 +1.2**
KHC *ex* x 20 21 55.0
KHC *e*SN **Sn 20 22 48.5 -1.4**
KHC *ex* x 20 23 00.0
KHC *ex* x 20 23 16.0
KHC Kasperske Hory 5.81 336 Pn **Pn 20 21 45.3 +1.2**
KHC *e*Sn **Sn 20 22 50.3 +0.4**
PLG Polygyros 5.82 125 *e*P **Pn 20 21 45.9 +1.6**
MORC Moravsky Berou 5.89 2 *e*Pn **Pn 20 21 44.7 -0.5**
comp=N,25nm,0.6s
MORC *e*Sn **Sn 20 22 52.5 +0.5**
MORC Moravsky Berou 5.89 2 *e*P **Pn 20 21 44.7 -0.6**
MORC *e* 20 22 52.5

MORC pmax pmax
comp=Z,25nm,0.6s
MORC Moravsky Berou 5.89 2 *e*P **Pn 20 21 44.7 -0.6**
comp=Z,25nm,0.6s
MORC *e*Sn **Sn 20 22 50.8 -1.2**
MORC *e*S **Sn 20 22 52.5 +0.5**
UZH Uzhgorod 5.90 35 *e*P **Pn 20 21 48.0 +2.6**
UZH *e*S **Sn 20 22 56.4 +4.1**
UZH smax
comp=N,60nm,0.9s
UZH smax
comp=E,70nm,0.9s
DAVOX Davos/Dischmat 5.92 302 Pn **Pn 20 21 47.9 +2.3**
comp=E,30nm,0.3s,baz=127,slow=12,SNR=179
DAVOX Sn **Sn 20 22 56.1 +3.4**
comp=E,6.2nm,0.3s,baz=319,slow=20,SNR=7.5
DAVOX Davos/Dischmat 5.92 302 Pn **Pn 20 21 47.9 +2.3**
DAVOX Davos/Dischmat 5.92 302 P **Pn 20 21 47.9 +2.2**
DAVOX Davos/Dischmat 5.92 302 P **Pn 20 21 47.9 +2.2**
NIE Niedzica 5.93 20 *e*Pn **Pn 20 21 47.6 +1.9**
NIE *e*Sn **Sn 20 22 52.2 -0.6**
NIE Niedzica 5.93 20 *e*P **Pn 20 21 47.6 +1.9**
NIE *e* 20 22 52.2
NIE Niedzica 5.93 20 *e*P **Pn 20 21 47.6 +1.9**
NIE *e*S **Sn 20 22 52.2 -0.6**
OKC Ostrava-Krasne 5.98 6 *e*P **Pn 20 21 45.8 -0.7**
OKC *e* 20 22 53.5
OKC Ostrava-Krasne 5.98 6 *e*PN **Pn 20 21 45.8 -0.7**
OKC *e*SN **Sn 20 22 53.5 -0.7**
OKC Ostrava-Krasne 5.98 6 Pn **Pn 20 21 45.8 -0.7**
OKC Sn **Sn 20 22 53.5 -0.7**
TUE Stuetta 6.13 298 *e*Pn **Pn 20 21 50.6 +2.1**
comp=E,118nm,0.7s
TUE Stuetta 6.13 298 *e*Pn **Pn 20 21 50.6 +2.1**
comp=E,118nm,0.7s
PGF Pioggiola 6.15 260 *e*Pn **Pn 20 21 47.1 -1.7**
SNR=1.0
PGF *e*Sn **Sn 20 22 55.2 -3.2**
comp=E,14nm,0.7s
PGF Pioggiola 6.15 260 *e*Pn **Pn 20 21 47.1 -1.7**
PGF *e*Sn **Sn 20 22 55.2 -3.2**
PGF Pioggiola 6.15 260 *e*P **Pn 20 21 47.1 -1.7**
PGF *e* 20 22 55.2
DAVA Damuels 6.16 306 ⇑*i*Pn **Pn 20 21 50.9 +1.9**
SNR=30
DAVA ⇑*i*Sn **Sn 20 23 01.9 +3.2**
DAVA Damuels 6.16 306 Pn **Pn 20 21 50.9 +1.9**
SNR=30
DAVA Sn **Sn 20 23 01.9 +3.2**
STHS Stebnicka Huta 6.18 25 *e*P **Pn 20 21 51.2 +1.9**
STHS Stebnicka Huta 6.18 25 *e*PN **Pn 20 21 51.2 +1.9**
STHS Stebnicka Huta 6.18 25 *e*P **Pn 20 21 51.2 +1.9**
AGG Agios Georgios 6.20 140 *e*P **Pn 20 21 49.5 0.0**
VLS Valsamata 6.25 155 *e*P **Pn 20 21 50.0 -0.3**
PCP Piancastagn 6.26 279 P **Pn 20 21 49.5 -0.9**
PRU Pruhonice 6.37 344 *e*P **Pn 20 21 53.2 +1.4**
PRU Pruhonice 6.37 344 *e*PN **Pn 20 21 53.2 +1.4**
PRU Pruhonice 6.37 344 Pn **Pn 20 21 53.2 +1.4**
MLR Muntele Rosu 6.43 73 Pn **Pn 20 21 51.5 -1.1**
comp=E,0.1nm,0.3s,baz=196,slow=11,SNR=4.0
MLR Muntele Rosu 6.43 73 Pn **Pn 20 21 51.5 -1.1**
MLR Muntele Rosu 6.43 73 P **Pn 20 21 51.5 -1.1**
MLR Muntele Rosu 6.43 73 ⇓*i*P **Pn 20 21 51.8 -0.8**
MLR Muntele Rosu 6.43 73 P **Pn 20 21 51.5 -1.1**
DPC Dobruska-Polom 6.49 355 *e*P **Pn 20 21 54.8 +1.3**
DPC *e* 20 23 05.4
DPC Dobruska-Polom 6.49 355 *e*PN **Pn 20 21 54.8 +1.3**
DPC *e*SN **Sn 20 23 05.4 -1.3**
DPC Dobruska-Polom 6.49 355 Pn **Pn 20 21 54.8 +1.3**
DPC Sn **Sn 20 23 05.4 -1.3**
EFP Efpalio 6.51 145 *e*P **Pn 20 21 53.3 -0.4**
SULR 6.54 80 ⇓*i*P **Pn 20 21 54.1 -0.1**
SULR 6.54 80 ⇓*i*P **Pn 20 21 54.1 -0.1**
RLS Riolos of Patr 6.66 150 *e*P **Pn 20 21 53.0 -2.8**
UPC Upice 6.67 353 *e*P **Pn 20 21 56.5 +0.6**
UPC Upice 6.67 353 *e*PN **Pn 20 21 56.5 +0.6**
UPC Upice 6.67 353 Pn **Pn 20 21 56.5 +0.6**
BURAR Bucovina Array 6.72 54 ⇓P **Pn 20 21 56.6 -0.1**
BURAR Bucovina Array 6.72 54 ⇓*i*P **Pn 20 21 56.5 -0.2**
BURAR Bucovina Array 6.72 54 ⇓*i*P **Pn 20 21 56.5 -0.2**
BUR08 Bucovina Ar. S 6.73 53 *e*Pn **Pn 20 21 58.7 +2.0**
BUR08 Bucovina Ar. S 6.73 53 *e*Pn **Pn 20 21 58.7 +2.0**
RDO Rodhopi 6.74 111 *e*P **Pn 20 21 57.2 +0.3**
LKR Lokris 6.81 138 *e*P **Pn 20 21 58.0 +0.1**
KWP Kalwaria Pacla 6.87 31 *e*Pn **Pn 20 22 00.2 +1.6**
comp=E,13nm,0.8s
KWP Kalwaria Pacla 6.87 31 *e*P **Pn 20 22 00.2 +1.5**
KWP pmax pmax
comp=Z,13nm,0.8s
KWP Kalwaria Pacla 6.87 31 *e*P **Pn 20 22 00.2 +1.5**
comp=Z,13nm,0.8s
SAOF Saorge 6.97 274 P **Pn 20 22 00.0 -0.1**
SAOF S **Sn 20 23 18.4 -0.2**
SAOF Saorge 6.97 274 P **Pn 20 22 00.0 -0.1**
SAOF S **Sn 20 23 18.4 -0.2**
KSP Ksiaz 6.98 355 *e*Pn **Pn 20 22 02.8 +2.5**
KSP *e*Sn **Sn 20 23 33.4 +15**
KSP Ksiaz 6.98 355 *e*Pn **Pn 20 22 02.5 +2.3**
KSP *e*Pg Pn 20 22 22.3 +22
KSP *e*Sn **Sn 20 23 16.4 -2.4**
KSP Ksiaz 6.98 355 *e*P **Pn 20 22 02.5 +2.3**
KSP *e* 20 23 16.4
KSP Ksiaz 6.98 355 *e*P **Pn 20 22 02.5 +2.3**
KSP *e*S **Sn 20 23 16.4 -2.4**
AUTN L'Aution 7.07 274 P **Pn 20 22 02.7 +1.3**
AUTN S **Sn 20 23 20.9 0.0**
AUTN L'Aution 7.07 274 P **Pn 20 22 02.7 +1.3**
AUTN S **Sn 20 23 20.9 0.0**
SBF Sospel 7.07 273 *e*Pn **Pn 20 21 59.9 -1.5**
SNR=1.0
SBF *e*Sn **Sn 20 23 17.1 -3.8**
comp=Z,94nm,0.6s
SBF Sospel 7.07 273 *e*Pn **Pn 20 21 59.9 -1.5**
SBF *e*Sn **Sn 20 23 17.1 -3.8**
SBF Sospel 7.07 273 *e*P **Pn 20 21 59.9 -1.5**
SBF *e* 20 23 17.1
SBF Sospel 7.07 273 *e*Pn **Pn 20 21 59.9 -1.5**
SNR=1.0
GUR Goura 7.10 145 *e*P **Pn 20 22 01.1 -0.8**
GRFO Grafenberg 7.11 327 *e*Pn **Pn 20 21 55.4 -6.6**
GRFO Grafenberg 7.11 327 *e*P **Pn 20 21 55.4 -6.6**
NKC Novy Kostel 7.13 335 *e*P **Pn 20 22 03.2 +1.0**
NKC Novy Kostel 7.13 335 *e*PN **Pn 20 22 03.2 +1.0**
NKC Novy Kostel 7.13 335 Pn **Pn 20 22 03.2 +1.0**
ALN Alexandroupoli 7.19 112 *e*P **Pn 20 22 03.8 +0.7**
TOUF Mont Tournerai 7.19 274 P **Pn 20 22 03.9 +0.8**
TOUF Mont Tournerai 7.19 274 P **Pn 20 22 03.9 +0.8**
SPAK Spaichingen-Ko 7.22 309 P **Pn 20 22 03.2 -0.3**
MVIF Mont Vial 7.27 274 P **Pn 20 22 04.8 +0.6**
MVIF Mont Vial 7.27 274 P **Pn 20 22 04.8 +0.6**
LTK Loutraki 7.30 141 *e*P **Pn 20 22 05.1 +0.4**
BRG Berggiesshubel 7.33 344 PN **Pn 20 22 06.6 +1.6**
comp=Z,9.4nm,1.0s
BRG *e* 20 23 17.4
BRG *e* 20 23 48.9
comp=Z,52nm,1.1s
BRG Berggiesshubel 7.33 344 P **Pn 20 22 06.6 +1.6**
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 7.33 344 P **Pn 20 22 06.6 +1.6**
comp=Z,9.0nm,1.0s
VIL1 Vilia, Western 7.35 139 *e*P **Pn 20 22 01.6 -3.8**
STU Stuttgart 7.39 314 *e*Pn **Pn 20 22 06.0 +0.2**
comp=Z,55nm,0.8s
STU Stuttgart 7.39 314 *e*P **Pn 20 22 06.0 +0.2**
STU pmax pmax
comp=Z,55nm,0.8s
STU Stuttgart 7.39 314 *e*P **Pn 20 22 06.0 +0.2**
comp=Z,55nm,0.8s
CALN Calern 7.47 272 P **Pn 20 22 07.6 +0.7**
CALN Calern 7.47 272 P **Pn 20 22 07.6 +0.7**
MBDF Montbardon 7.54 280 *e*Pn **Pn 20 22 06.5 -1.4**
SNR=1.0
MBDF *e*Sn **Sn 20 23 28.3 -4.2**
comp=Z,103nm,0.7s
MBDF Montbardon 7.54 280 *e*Pn **Pn 20 22 06.5 -1.4**
MBDF *e*Sn **Sn 20 23 28.3 -4.2**
MBDF Montbardon 7.54 280 *e*P **Pn 20 22 06.5 -1.4**
MBDF *e* 20 23 28.3
MBDF Montbardon 7.54 280 *e*Pn **Pn 20 22 06.5 -1.4**
SNR=1.0
FELD Feldberg im Sc 7.56 305 P **Pn 20 22 08.5 +0.4**

FELD S Sn 20 23 31.9 -1.1
BFO Black Forest 7.60 309 *e*Pn Pn 20 22 08.5 -0.2
comp=Z,22nm,0.5s
BFO Black Forest 7.60 309 *e*P Pn 20 22 08.5 -0.2
BFO pmax pmax
comp=Z,22nm,0.5s
BFO Black Forest 7.60 309 *e*P Pn 20 22 08.5 -0.2
comp=Z,22nm,0.5s
ITM Ithomi 7.60 150 *e*P Pn 20 22 08.3 -0.5
BNI Bardonecchia 7.62 282 *e*Pn Pn 20 22 08.2 -0.9
comp=Z,21nm,0.6s
BNI *e*Sn Sn 20 23 37.4 +2.7
BNI Bardonecchia 7.62 282 *e*P Pn 20 22 08.2 -0.9
BNI *e* 20 23 37.4
BNI pmax pmax
comp=Z,21nm,0.6s
BNI Bardonecchia 7.62 282 *e*P Pn 20 22 08.2 -0.9
comp=Z,21nm,0.6s
BNI *e*S Sn 20 23 37.4 +2.7
LPG La Plagne 7.63 286 *e*Pn Pn 20 22 08.4 -0.7
SNR=1.0
LPG *e*Sn Sn 20 23 30.2 -4.5
comp=Z,223nm,0.8s
LPG La Plagne 7.63 286 *e*Pn Pn 20 22 08.4 -0.7
LPG *e*Sn Sn 20 23 30.2 -4.5
LPG La Plagne 7.63 286 *e*P Pn 20 22 08.4 -0.7
LPG *e* 20 23 30.2
LPG La Plagne 7.63 286 *e*Pn Pn 20 22 08.4 -0.7
SNR=1.0
LPL La Plagne 7.64 286 *e*Pn Pn 20 22 08.7 -0.6
LPL *e*Sn Sn 20 23 30.4 -4.7
comp=Z,179nm,0.7s
LPL La Plagne 7.64 286 *e*Pn Pn 20 22 08.7 -0.6
LPL *e*Sn Sn 20 23 30.4 -4.7
LPL La Plagne 7.64 286 *e*P Pn 20 22 08.7 -0.6
LPL *e* 20 23 30.4
LPL La Plagne 7.64 286 *e*Pn Pn 20 22 08.7 -0.6
FRF La Foret Royal 7.66 271 *e*Pn Pn 20 22 08.2 -1.4
SNR=1.0
FRF *e*Sn Sn 20 23 31.1 -4.5
comp=Z,38nm,0.9s,SNR=1.0
FRF La Foret Royal 7.66 271 *e*Pn Pn 20 22 08.2 -1.4
FRF *e*Sn Sn 20 23 31.1 -4.5
FRF La Foret Royal 7.66 271 *e*P Pn 20 22 08.2 -1.4
FRF *e* 20 23 31.1
FRF La Foret Royal 7.66 271 *e*Pn Pn 20 22 08.2 -1.4
SNR=1.0
BBS Basel-Blauen 7.68 301 P Pn 20 22 09.4 -0.4
PTL Penteli 7.71 137 *e*P Pn 20 22 10.9 +0.7
RSL Roselend 7.74 287 P Pn 20 22 12.3 +1.6
RSL S Sn 20 23 38.6 +1.0
RSL Roselend 7.74 287 P Pn 20 22 12.3 +1.6
RSL S Sn 20 23 38.6 +1.0
LMR La Mourre 7.79 270 *e*Pn Pn 20 22 10.2 -1.1
SNR=1.0
LMR *e*Sn Sn 20 23 34.1 -4.6
comp=Z,13nm,0.5s
LMR La Mourre 7.79 270 *e*Pn Pn 20 22 10.2 -1.1
LMR *e*Sn Sn 20 23 34.1 -4.6
LMR La Mourre 7.79 270 *e*P Pn 20 22 10.2 -1.1
LMR *e* 20 23 34.1
LMR La Mourre 7.79 270 *e*Pn Pn 20 22 10.2 -1.1
SNR=1.0
PYL PYLOS 7.79 152 *e*P Pn 20 22 10.3 -1.1
VLY Voula,Athens 7.83 138 *e*P Pn 20 22 11.4 -0.4
CLL Collm 7.95 341 *e*P Pn 20 22 07.0 -6.4
CLL Collm 7.95 341 *e*Pn Pn 20 22 15.0 +1.6
CLL *e*Pg Pn 20 22 47.0 +34
CLL *e*Sn Sn 20 23 34.0 -8.5
CLL *e*Sb Sn 20 24 11.0 +29
CLL *e*Sg Sn 20 24 29.0 +47
CLL *e*Sgmax 20 24 38.0
comp=Z,119nm,1.2s
LOMF Lomont 8.06 299 P Pn 20 22 16.2 +1.2
LOMF Lomont 8.06 299 P Pn 20 22 16.2 +1.2
MOF Molkenrain 8.07 303 P Pn 20 22 15.5 +0.3
MOF Molkenrain 8.07 303 P Pn 20 22 15.5 +0.3
ORIF Oris-en-Rattie 8.18 281 *e*Pn Pn 20 22 16.2 -0.5
SNR=1.0
ORIF *e*Sn Sn 20 23 43.6 -4.7
comp=Z,99nm,0.7s
ORIF Oris-en-Rattie 8.18 281 *e*Pn Pn 20 22 16.2 -0.5
ORIF *e*Sn Sn 20 23 43.6 -4.7
ORIF Oris-en-Rattie 8.18 281 *e*P Pn 20 22 16.2 -0.5
ORIF *e* 20 23 43.6
ORIF Oris-en-Rattie 8.18 281 *e*Pn Pn 20 22 16.2 -0.5
SNR=1.0
ECH Echery 8.22 305 *e*Pn Pn 20 22 17.3 +0.1
comp=Z,14nm,0.3s
ECH Echery 8.22 305 *e*P Pn 20 22 17.3 +0.1
ECH pmax pmax
comp=Z,14nm,0.3s
ECH Echery 8.22 305 *e*Pn Pn 20 22 17.3 +0.1
comp=Z,14nm,0.3s
ECH Echery 8.22 305 P Pn 20 22 17.6 +0.4
ECH Echery 8.22 305 P Pn 20 22 17.6 +0.4
HINF Hinteralfeld 8.23 302 *e*Pn Pn 20 22 17.5 +0.2
SNR=1.0
HINF *e*Sn Sn 20 23 43.7 -5.7
comp=Z,65nm,0.8s,SNR=1.0
HINF Hinteralfeld 8.23 302 *e*Pn Pn 20 22 17.5 +0.2
HINF *e*Sn Sn 20 23 43.7 -5.7
HINF Hinteralfeld 8.23 302 *e*P Pn 20 22 17.5 +0.2
HINF *e* 20 23 43.7
HINF Hinteralfeld 8.23 302 *e*Pn Pn 20 22 17.5 +0.2
SNR=1.0
CDF Champ du Feu 8.24 307 *e*Pn Pn 20 22 15.4 -2.1
SNR=1.0
CDF *e*Sn Sn 20 23 44.1 -5.8
comp=Z,12nm,0.7s
CDF Champ du Feu 8.24 307 *e*Pn Pn 20 22 15.4 -2.1
CDF *e*Sn Sn 20 23 44.1 -5.8
CDF Champ du Feu 8.24 307 *e*P Pn 20 22 15.4 -2.1
CDF *e* 20 23 44.1
CABF La Chapelle 8.31 293 *e*Pn Pn 20 22 18.5 +0.1
SNR=1.0
CABF *e*Sn Sn 20 23 46.4 -5.0
comp=Z,82nm,0.9s
CABF La Chapelle 8.31 293 *e*Pn Pn 20 22 18.5 +0.1
CABF *e*Sn Sn 20 23 46.4 -5.0
CABF La Chapelle 8.31 293 *e*P Pn 20 22 18.5 +0.1
CABF *e* 20 23 46.4
CABF La Chapelle 8.31 293 *e*Pn Pn 20 22 18.5 +0.1
SNR=1.0
VLI Veliai 8.39 147 *e*P Pn 20 22 17.7 -1.9
SMRF Simiane la Rot 8.40 275 *e*Pn Pn 20 22 18.2 -1.5
SNR=1.0
SMRF *e*Sn Sn 20 23 48.8 -5.0
comp=Z,11nm,0.6s
SMRF Simiane la Rot 8.40 275 *e*Pn Pn 20 22 18.2 -1.5
SMRF *e*Sn Sn 20 23 48.8 -5.0
SMRF Simiane la Rot 8.40 275 *e*Pn Pn 20 22 18.2 -1.5
SNR=1.0
OG35 Corcelles 8.53 289 P Pn 20 22 21.2 -0.3
OG26 St.-Nazaire-De 8.58 279 P Pn 20 22 21.6 -0.6
OG26 St.-Nazaire-De 8.58 279 P Pn 20 22 21.6 -0.6
HAU Haudompre 8.61 302 *e*Pn Pn 20 22 20.3 -2.3
SNR=1.0
HAU *e*Sn Sn 20 23 53.3 -5.6
comp=Z,74nm,0.7s
HAU Haudompre 8.61 302 *e*Pn Pn 20 22 20.3 -2.3
HAU *e*Sn Sn 20 23 53.3 -5.6
HAU Haudompre 8.61 302 *e*P Pn 20 22 20.3 -2.3
HAU *e* 20 23 53.3
THEF They Montfort 8.93 303 P Pn 20 22 27.9 +1.0
THEF They Montfort 8.93 303 P Pn 20 22 27.9 +1.0
VIVF Saint-Julien-I 9.04 280 *e*Pn Pn 20 22 26.7 -1.7
SNR=1.0
VIVF *e*Sn Sn 20 24 03.7 -5.6
comp=Z,41nm,0.8s,SNR=1.0
VIVF Saint-Julien-I 9.04 280 *e*Pn Pn 20 22 26.7 -1.7
VIVF *e*Sn Sn 20 24 03.7 -5.6
VIVF Saint-Julien-I 9.04 280 *e*P Pn 20 22 26.7 -1.7
VIVF *e* 20 24 03.7
VIVF Saint-Julien-I 9.04 280 *e*Pn Pn 20 22 26.7 -1.7
SNR=1.0
RUP Ruppelstein 9.07 313 P Pn 20 22 30.1 +1.3
SSB Saint Sauveur 9.15 283 *e*Pn Pn 20 22 28.9 -1.1
comp=Z,8.5nm,0.6s
SSB Saint Sauveur 9.15 283 *e*P Pn 20 22 28.9 -1.1
SSB pmax pmax
comp=Z,9.0nm,0.6s
SSB Saint Sauveur 9.15 283 *e*P Pn 20 22 28.9 -1.1
comp=Z,9.0nm,0.6s

PAGF Fort de Pagny 9.22 304 *e*Pn Pn 20 22 28.6 -2.4
PAGF *e*Sn Sn 20 24 07.4 -6.5
comp=Z,5.7nm,0.7s
PAGF Fort de Pagny 9.22 304 *e*Pn Pn 20 22 28.6 -2.4
PAGF *e*Sn Sn 20 24 07.4 -6.5
SFTF Sexfontaines 9.50 301 *e*Pn Pn 20 22 32.5 -2.2
SFTF *e*Sn Sn 20 24 14.5 -6.2
comp=Z,17nm,0.7s
SFTF Sexfontaines 9.50 301 *e*Pn Pn 20 22 32.5 -2.2
SFTF *e*Sn Sn 20 24 14.5 -6.2
WLF Walferdange 9.53 311 P Pn 20 22 37.3 +2.2
WLF Walferdange 9.53 311 *e*Pn Pn 20 22 35.5 +0.4
comp=Z,6.9nm,0.6s
WLF Walferdange 9.53 311 *e*P Pn 20 22 35.6 +0.5
WLF pmax pmax
comp=Z,7.0nm,0.6s
WLF Walferdange 9.53 311 *e*Pn Pn 20 22 35.5 +0.4
comp=Z,6.9nm,0.6s
MEZF Maizieres J'vi 9.61 303 *e*Pn Pn 20 22 34.0 -2.2
SNR=1.0
MEZF *e*Sn Sn 20 24 16.9 -6.4
comp=Z,20nm,0.8s
MEZF Maizieres J'vi 9.61 303 *e*Pn Pn 20 22 34.0 -2.2
MEZF *e*Sn Sn 20 24 16.9 -6.4
LASF Ste Croix 9.63 276 *e*Pn Pn 20 22 34.9 -1.7
LASF *e*Sn Sn 20 24 18.4 -5.6
comp=Z,15nm,0.7s
LASF Ste Croix 9.63 276 *e*Pn Pn 20 22 34.9 -1.7
LASF *e*Sn Sn 20 24 18.4 -5.6
LASF Ste Croix 9.63 276 *e*Pn Pn 20 22 34.9 -1.7
SMF Signal de Mont 9.82 291 *e*Pn Pn 20 22 38.4 -0.8
SNR=1.0
SMF *e*Sn Sn 20 24 22.3 -6.3
comp=Z,76nm,0.8s,SNR=1.0
SMF Signal de Mont 9.82 291 *e*Pn Pn 20 22 38.4 -0.8
SMF *e*Sn Sn 20 24 22.3 -6.3
SMF Signal de Mont 9.82 291 *e*P Pn 20 22 38.4 -0.8
SMF *e* 20 24 22.3
SMF Signal de Mont 9.82 291 *e*Pn Pn 20 22 38.4 -0.8
SNR=1.0
PLDF La Plantade 9.86 287 P Pn 20 22 38.2 -1.5
PLDF La Plantade 9.86 287 P Pn 20 22 38.2 -1.5
KARN Karanos 9.93 146 *e*P Pn 20 22 38.4 -2.2
LOR Lormes 9.95 294 *e*Pn Pn 20 22 39.6 -1.3
baz=109,SNR=1.0
LOR *e*Sn Sn 20 24 25.6 -6.2
comp=Z,23nm,0.5s,SNR=1.0
LOR Lormes 9.95 294 *e*Pn Pn 20 22 39.6 -1.3
LOR *e*Sn Sn 20 24 25.6 -6.2
LOR Lormes 9.95 294 *e*P Pn 20 22 39.6 -1.3
LOR *e* 20 24 25.6
LOR Lormes 9.95 294 *e*Pn Pn 20 22 39.6 -1.3
baz=109,SNR=1.0
LBL Lubilhac 10.06 283 P Pn 20 22 41.3 -1.1
LBL Lubilhac 10.06 283 P Pn 20 22 41.3 -1.1
SSF Saint Saulge 10.14 293 *e*Pn Pn 20 22 41.5 -2.0
SNR=1.0
SSF *e*Sn Sn 20 24 29.8 -6.5
comp=Z,25nm,0.7s
SSF Saint Saulge 10.14 293 *e*Pn Pn 20 22 41.5 -2.0
SSF *e*Sn Sn 20 24 29.8 -6.5
SSF Saint Saulge 10.14 293 *e*P Pn 20 22 41.5 -2.0
SSF *e* 20 24 29.8
SSF Saint Saulge 10.14 293 *e*Pn Pn 20 22 41.5 -2.0
SNR=1.0
KEST Kesra 10.14 219 Pn Pn 20 22 46.6 +3.0
comp=Z,0.0nm,0.3s,baz=306,slow=8.7,SNR=1.8
KEST Kesra 10.14 219 *e*Pn Pn 20 22 38.2 -5.4
MEM Membach 10.15 315 P Pn 20 22 46.2 +2.5
MEM Membach 10.15 315 P Pn 20 22 46.1 +2.5
AVF Avril sur Loir 10.18 291 *e*Pn Pn 20 22 43.2 -0.9
SNR=1.0
AVF *e*Sn Sn 20 24 31.1 -6.3
comp=Z,22nm,0.7s
AVF Avril sur Loir 10.18 291 *e*Pn Pn 20 22 43.2 -0.9
AVF *e*Sn Sn 20 24 31.1 -6.3
AVF Avril sur Loir 10.18 291 *e*P Pn 20 22 43.2 -0.9
AVF *e* 20 24 31.1
AVF Avril sur Loir 10.18 291 *e*Pn Pn 20 22 43.2 -0.9
SNR=1.0
BCLA Clavier 10.40 313 P Pn 20 22 49.7 +2.6
BCLA Clavier 10.40 313 P Pn 20 22 49.7 +2.6
BGF Bois d'Agland 10.48 290 *e*Pn Pn 20 22 47.7 -0.5
SNR=1.0
BGF *e*Sn Sn 20 24 37.8 -7.0
comp=Z,54nm,0.6s
BGF Bois d'Agland 10.48 290 *e*Pn Pn 20 22 47.7 -0.5
BGF *e*Sn Sn 20 24 37.8 -7.0
BGF Bois d'Agland 10.48 290 *e*P Pn 20 22 47.7 -0.5
BGF *e* 20 24 37.8
BGF Bois d'Agland 10.48 290 *e*Pn Pn 20 22 47.7 -0.5
SNR=1.0
GIVF Givet 10.49 311 *e*Pn Pn 20 22 45.6 -2.7
GIVF *e*Sn Sn 20 24 37.6 -7.4
comp=Z,7.2nm,0.5s
GIVF Givet 10.49 311 *e*Pn Pn 20 22 45.6 -2.7
GIVF *e*Sn Sn 20 24 37.6 -7.4
GIVF Givet 10.49 311 *e*P Pn 20 22 45.6 -2.7
GIVF *e* 20 24 37.6
KIEV Kiev 10.61 46 *i*P Pn 20 22 51.2 +1.3
KIEV Kiev 10.61 46 *i*P Pn 20 22 51.2 +1.3
DOU Dourbes 10.61 310 P Pn 20 22 52.3 +2.3
DOU Dourbes 10.61 310 P Pn 20 22 52.2 +2.2
AKASG Malin Array Be 10.62 46 Pn Pn 20 22 49.6 -0.4
comp=Z,0.6nm,0.3s,baz=228,slow=14,SNR=5.2
AKASG Malin Array Be 10.62 46 Pn Pn 20 22 49.6 -0.4
AKASG Malin Array Be 10.62 46 P Pn 20 22 49.6 -0.5
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 10.62 46 P Pn 20 22 49.6 -0.5
comp=Z,1.0nm,0.3s
HYF Humbligny 10.76 293 *e*Pn Pn 20 22 50.2 -1.8
HYF *e*Sn Sn 20 24 44.8 -6.8
HYF Humbligny 10.76 293 *e*Pn Pn 20 22 50.2 -1.8
HYF *e*Sn Sn 20 24 44.8 -6.8
HYF Humbligny 10.76 293 *e*Pn Pn 20 22 50.2 -1.8
LAST Lasithi 10.80 141 *e*P Pn 20 22 48.1 -4.5
BAIF Baives 10.81 309 *e*Pn Pn 20 22 50.0 -2.7
SNR=1.0
BAIF *e*Sn Sn 20 24 45.3 -7.5
comp=Z,32nm,1.3s
BAIF Baives 10.81 309 *e*Pn Pn 20 22 50.0 -2.7
BAIF *e*Sn Sn 20 24 45.3 -7.5
BAIF Baives 10.81 309 *e*P Pn 20 22 50.0 -2.7
BAIF *e* 20 24 45.3
CAF Calviac 10.89 281 *e*Pn Pn 20 22 51.6 -2.2
SNR=1.0
CAF *e*Sn Sn 20 24 48.2 -6.6
comp=Z,25nm,1.1s
CAF Calviac 10.89 281 *e*Pn Pn 20 22 51.6 -2.2
CAF *e*Sn Sn 20 24 48.2 -6.6
CAF Calviac 10.89 281 *e*P Pn 20 22 51.6 -2.2
CAF *e* 20 24 48.2
MTLF Montolieu 10.89 272 *e*Pn Pn 20 22 51.5 -2.3
SNR=1.0
MTLF *e*Sn Sn 20 24 48.4 -6.4
comp=Z,4.4nm,0.6s
MTLF Montolieu 10.89 272 *e*Pn Pn 20 22 51.5 -2.3
MTLF *e*Sn Sn 20 24 48.4 -6.4
MTLF Montolieu 10.89 272 *e*P Pn 20 22 51.5 -2.3
MTLF *e* 20 24 48.4
SNF Seneffe 11.00 312 P Pn 20 22 56.4 +1.2
SNF Seneffe 11.00 312 P Pn 20 22 56.4 +1.1
RJF Les Rejaudoux 11.28 283 *e*Pn Pn 20 22 57.1 -2.1
SNR=1.0
RJF *e*Sn Sn 20 24 57.6 -6.8
comp=Z,22nm,1.1s
RJF Les Rejaudoux 11.28 283 *e*Pn Pn 20 22 57.1 -2.1
RJF *e*Sn Sn 20 24 57.6 -6.8
RJF Les Rejaudoux 11.28 283 *e*P Pn 20 22 57.1 -2.1
RJF *e* 20 24 57.6
LFF La Frestale 11.83 281 *e*Pn Pn 20 23 04.4 -2.2
LFF *e*Sn Sn 20 25 10.5 -7.3
comp=Z,1.7nm,0.3s
LFF La Frestale 11.83 281 *e*Pn Pn 20 23 04.4 -2.2
LFF *e*Sn Sn 20 25 10.5 -7.3
LFF La Frestale 11.83 281 *e*P Pn 20 23 04.4 -2.2
LFF *e* 20 25 10.5
EPF Esparros 12.29 272 *e*Pn Pn 20 23 10.7 -2.3
EPF *e*Sn Sn 20 25 22.1 -7.1
comp=Z,2.8nm,0.7s
EPF Esparros 12.29 272 *e*Pn Pn 20 23 10.7 -2.3
EPF *e*Sn Sn 20 25 22.1 -7.1

EPF Esparros 12.29 272 *e*P Pn 20 23 10.7 -2.3
EPF *e* 20 25 22.1
MFF Saint Martin d 12.53 289 *e*Pn Pn 20 23 14.5 -1.7
MFF *e*Sn Sn 20 25 26.8 -8.1
comp=Z,13nm,0.9s
MFF Saint Martin d 12.53 289 *e*Pn Pn 20 23 14.5 -1.7
MFF *e*Sn Sn 20 25 26.8 -8.1
MFF Saint Martin d 12.53 289 *e*P Pn 20 23 14.5 -1.7
MFF *e* 20 25 26.8
MFF Saint Martin d 12.53 289 *e*Pn Pn 20 23 14.5 -1.7
LDF La Druitiere 12.88 297 *e*Pn Pn 20 23 18.3 -2.7
LDF *e*Sn Sn 20 25 35.1 -8.4
comp=Z,0.4nm,0.3s
LDF La Druitiere 12.88 297 *e*Pn Pn 20 23 18.3 -2.7
LDF *e*Sn Sn 20 25 35.1 -8.4
LDF La Druitiere 12.88 297 *e*P Pn 20 23 18.3 -2.7
LDF *e* 20 25 35.1
BRTR Keskin Array B 12.94 103 Pn Pn 20 23 21.9 +0.1
comp=Z,0.0nm,0.3s,baz=305,slow=13,SNR=3.3
BRTR Keskin Array B 12.94 103 Pn Pn 20 23 21.9 +0.1
BRTR Keskin Array B 12.94 103 P Pn 20 23 21.9 +0.1
BRTR Keskin Array B 12.94 103 P Pn 20 23 21.9 +0.1
ETSF Etsaut 12.97 272 *e*Pn Pn 20 23 20.1 -2.1
ETSF *e*Sn Sn 20 25 38.0 -7.6
comp=Z,0.7nm,0.4s
ETSF Etsaut 12.97 272 *e*Pn Pn 20 23 20.1 -2.1
ETSF *e*Sn Sn 20 25 38.0 -7.6
ETSF Etsaut 12.97 272 *e*P Pn 20 23 20.1 -2.1
ETSF *e* 20 25 38.0
FLN La Foliniere 13.16 298 *e*Pn Pn 20 23 22.0 -2.7
FLN *e*Sn Sn 20 25 41.7 -8.5
comp=Z,4.6nm,0.6s
FLN La Foliniere 13.16 298 *e*Pn Pn 20 23 22.0 -2.7
FLN *e*Sn Sn 20 25 41.7 -8.5
FLN La Foliniere 13.16 298 *e*P Pn 20 23 22.0 -2.7
FLN *e* 20 25 41.7
GRR Gorron 13.31 296 *e*Pn Pn 20 23 24.4 -2.4
SNR=1.0
GRR *e*Sn Sn 20 25 44.9 -9.0
comp=Z,3.9nm,0.6s
GRR Gorron 13.31 296 *e*Pn Pn 20 23 24.4 -2.4
GRR *e*Sn Sn 20 25 44.9 -9.0
GRR Gorron 13.31 296 *e*P Pn 20 23 24.4 -2.4
GRR *e* 20 25 44.9
SJPF Ste Jean 13.41 273 *e*Pn Pn 20 23 26.1 -2.1
SJPF *e*Sn Sn 20 25 48.3 -8.2
comp=Z,0.7nm,0.3s
SJPF Ste Jean 13.41 273 *e*Pn Pn 20 23 26.1 -2.1
SJPF *e*Sn Sn 20 25 48.3 -8.2
SJPF Ste Jean 13.41 273 *e*P Pn 20 23 26.1 -2.1
SJPF *e* 20 25 48.3
SGMF Saint Gilles 14.39 295 *e*Pn Pn 20 23 38.9 -2.7
SGMF *e*Sn Sn 20 26 11.5 -8.8
comp=Z,5.3nm,0.7s
SGMF Saint Gilles 14.39 295 *e*Pn Pn 20 23 38.9 -2.7
SGMF *e*Sn Sn 20 26 11.5 -8.8
SGMF Saint Gilles 14.39 295 *e*P Pn 20 23 38.9 -2.7
SGMF *e* 20 26 11.5
QUIF Quistinic 14.74 293 *e*Pn Pn 20 23 43.8 -2.5
QUIF *e*Sn Sn 20 26 19.4 -9.4
comp=Z,7.3nm,0.9s
QUIF Quistinic 14.74 293 *e*Pn Pn 20 23 43.8 -2.5
QUIF *e*Sn Sn 20 26 19.4 -9.4
QUIF Quistinic 14.74 293 *e*P Pn 20 23 43.8 -2.5
QUIF *e* 20 26 19.4
ROSF Rostrenen 14.88 295 *e*Pn Pn 20 23 46.2 -2.0
ROSF *e*Sn Sn 20 26 23.0 -9.1
comp=Z,1.2nm,0.3s
ROSF Rostrenen 14.88 295 *e*Pn Pn 20 23 46.2 -2.0
ROSF *e*Sn Sn 20 26 23.0 -9.1
ROSF Rostrenen 14.88 295 *e*P Pn 20 23 46.2 -2.0
ROSF *e* 20 26 23.0
VSU Vasula 15.74 19 *i*P Pn 20 24 03.6 +4.2
VSU Vasula 15.74 19 *i*P Pn 20 24 03.6 +4.2
ESDC Sonseca Array 16.34 262 Pn Pn 20 24 10.3 +3.1
comp=Z,0.2nm,0.3s,baz=65,slow=11,SNR=19
ESDC LR LR 20 29 50.2
comp=Z,53nm,20.8s,baz=10.0,slow=35
ESDC Sonseca Array 16.34 262 Pn Pn 20 24 10.3 +3.1
ESDC Sonseca Array 16.34 262 Pn Pn 20 24 10.3 +3.1
OBN Obninsk 16.79 41 *e*P Pn 20 24 14.4 +1.5
OBN pmax pmax
comp=Z,7.0nm,1.1s
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 16.79 41 *e*P Pn 20 24 14.4 +1.5
comp=Z,200nm,16.0s
NOA NORSAR Array B 17.55 350 P Pn 20 24 22.4 +0.2
comp=Z,0.1nm,0.3s,baz=178,slow=12,SNR=2.8
NOA NORSAR Array B 17.55 350 P Pn 20 24 22.4 +0.2
NOA NORSAR Array B 17.55 350 P Pn 20 24 22.4 +0.2
NOA NORSAR Array B 17.55 350 P Pn 20 24 22.4 +0.2
MMAI Mount Meron Ar 17.87 121 P Pn 20 24 25.9 -0.6
comp=Z,0.7nm,0.3s,baz=322,slow=11,SNR=7.3
MMAI Mount Meron Ar 17.87 121 P Pn 20 24 25.9 -0.6
MMAI Mount Meron Ar 17.87 121 P Pn 20 24 25.9 -0.6
FINES FINESS Array B 18.35 14 P Pn 20 24 30.5 -1.6
comp=Z,0.2nm,0.3s,baz=194,slow=10.0,SNR=7.4
FINES FINESS Array B 18.35 14 P Pn 20 24 30.5 -1.6
FINES FINESS Array B 18.35 14 P Pn 20 24 30.5 -1.6
FINES FINESS Array B 18.35 14 P Pn 20 24 30.5 -1.6
EIL Elat 20.02 129 P P 20 24 50.9 +0.3
comp=Z,0.4nm,0.3s,baz=329,slow=12,SNR=8.5
EIL Elat 20.02 129 P P 20 24 50.9 +0.3
EIL Elat 20.02 129 P P 20 24 50.9 +0.3
KLMR Klimovskoe 21.59 30 *e*P P 20 25 05.3 -1.9
KLMR pmax pmax
comp=Z,26nm,1.4s,mb4.5
KLMR Klimovskoe 21.59 30 *e*P P 20 25 05.3 -1.9
comp=Z,26nm,1.4s,mb4.5
ARCES ARCESS Array B 26.06 7 P P 20 25 51.2 +0.5
comp=Z,3.9nm,0.9s,mb3.9,baz=186,slow=4.5,SNR=5.5
ARCES ARCESS Array B 26.06 7 P P 20 25 51.2 +0.5
ARCES ARCESS Array B 26.06 7 P P 20 25 51.2 +0.5
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 26.06 7 P P 20 25 51.2 +0.5
comp=Z,4.0nm,0.9s,mb4.0
AKTO Aktyubinsk 28.22 62 LR LR 20 39 22.7
comp=Z,108nm,18.3s,MS3.5,baz=206,slow=41
ARU Arti 28.84 50 *e*P P 20 26 15.2 -0.5
comp=Z,5.0nm,1.0s,mb4.2
ARU Arti 28.84 50 *d i*P P 20 26 15.0 -0.7
ARU *e* 20 27 04.6
ARU 20 29 19.0
ARU S S 20 31 06.1 +1.9
ARU SS SS 20 32 25.8 -41
ARU pmax pmax
comp=Z,13nm,1.7s,mb4.4
ARU Arti 28.84 50 *e*P P 20 26 15.2 -0.5
comp=Z,5.0nm,1.0s,mb4.2
ARU S S 20 31 06.1 +1.9
TORD Torodi Ar. Bea 33.41 208 P P 20 26 57.1 +0.8
comp=Z,0.5nm,0.6s,mb3.7,baz=15,slow=8.8,SNR=8.1
TORD Torodi Ar. Bea 33.41 208 P P 20 26 57.1 +0.8
TORD Torodi Ar. Bea 33.41 208 P P 20 26 57.1 +0.8
BRVK Borovoye 35.61 56 *i*P P 20 27 16.1 +1.1
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK MLR MLR
comp=Z,108nm,15.0s,MS3.7
BRVK Borovoye 35.61 56 *i*P P 20 27 16.1 +1.1
comp=Z,108nm,15.0s
KURK Kurchatov 41.13 58 *i*P P 20 28 00.8 -0.6
KURK pmax pmax
comp=Z,5.0nm,1.7s,mb3.9
KURK Kurchatov 41.13 58 *i*P P 20 28 00.8 -0.6
comp=Z,5.0nm,1.7s,mb3.9
DBIC Dimbokro 41.82 214 P P 20 28 09.4 +2.0
comp=Z,0.9nm,0.6s,mb3.6,baz=6.1,slow=8.6,SNR=4.0
DBIC Dimbokro 41.82 214 P P 20 28 09.4 +2.0
DBIC Dimbokro 41.82 214 P P 20 28 09.5 +2.1
DBIC pmax pmax
comp=Z,1.0nm,0.6s
DBIC Dimbokro 41.82 214 P P 20 28 09.4 +2.0
ZALV Zalesovo Beam 43.94 52 P P 20 28 23.6 -0.6
comp=Z,1.5nm,0.7s,mb3.9,baz=278,slow=9.3,SNR=9.3
ZALV Zalesovo Beam 43.94 52 P P 20 28 23.6 -0.6
ZALV Zalesovo Beam 43.94 52 P P 20 28 23.6 -0.6
ZALV pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
ZALV Zalesovo Beam 43.94 52 P P 20 28 23.6 -0.6
comp=Z,2.0nm,0.7s,mb4.0
MKAR Makanchi Array 44.66 62 P P 20 28 28.4 -1.7

comp=Z,0.5nm,0.7s,mb3.5,baz=286,slow=7.6,SNR=5.4
MKAR Makanchi Array 44.66 62 P **P 20 28 28.4 -1.7**
MKAR Makanchi Array 44.66 62 P **P 20 28 28.4 -1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 44.66 62 P **P 20 28 28.4 -1.7**
comp=Z,1.0nm,0.7s,mb3.8
SCHQ Schefferville 52.63 314 P **P 20 29 30.6 -0.6**
comp=Z,3.6nm,0.8s,mb4.3,baz=53,slow=10,SNR=5.7
SCHQ Schefferville 52.63 314 P **P 20 29 30.6 -0.6**
SCHQ Schefferville 52.63 314 P **P 20 29 30.6 -0.7**
SONM Songino Array 58.84 52 P **P 20 30 16.0 +0.1**
comp=Z,1.3nm,0.7s,mb4.1,baz=287,slow=8.2,SNR=12
SONM Songino Array 58.84 52 P **P 20 30 16.0 +0.1**
SONM Songino Array 58.84 52 P **P 20 30 16.0 +0.1**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 58.84 52 P **P 20 30 16.0 +0.1**
comp=Z,1.0nm,0.7s,mb4.0
YKA Yellowknife Ar 67.17 338 P **P 20 31 10.8 -0.2**
comp=Z,0.7nm,0.8s,mb3.7,baz=39,slow=5.5,SNR=12
YKA Yellowknife Ar 67.17 338 P **P 20 31 10.8 -0.2**
YKA Yellowknife Ar 67.17 338 P **P 20 31 10.8 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 67.17 338 P **P 20 31 10.8 -0.2**
comp=Z,1.0nm,0.8s,mb3.9
ILAR Eielson Array 70.96 353 P **P 20 31 34.9 +0.4**
comp=Z,0.2nm,0.7s,mb3.1,baz=8.7,slow=5.8,SNR=3.0
ILAR Eielson Array 70.96 353 P **P 20 31 34.9 +0.4**
ILAR Eielson Array 70.96 353 P **P 20 31 34.9 +0.4**
ILAR Eielson Array 70.96 353 P **P 20 31 34.9 +0.4**
CHTO Chiang Mai 71.34 82 *eP* **P 20 31 36.9 -0.6**
comp=Z,1.2nm,0.5s,mb4.1
CHTO Chiang Mai 71.34 82 *eP* **P 20 31 36.9 -0.6**
CHTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
CHTO Chiang Mai 71.34 82 *eP* **P 20 31 36.9 -0.6**
comp=Z,1.2nm,0.5s,mb4.1
CMAR Chiang Mai Arr 71.57 82 P **P 20 31 37.7 -1.2**
comp=Z,1.3nm,0.7s,mb4.0,baz=304,slow=7.2,SNR=15
CMAR Chiang Mai Arr 71.57 82 P **P 20 31 37.7 -1.2**
CMAR Chiang Mai Arr 71.57 82 P **P 20 31 37.7 -1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 71.57 82 P **P 20 31 37.7 -1.2**
comp=Z,1.0nm,0.7s,mb3.9
BOSA Boshof 72.53 173 P **P 20 31 43.8 -0.4**
comp=Z,3.0nm,1.1s,mb4.1,baz=296,slow=5.0,SNR=3.7
BOSA Boshof 72.53 173 P **P 20 31 43.8 -0.4**
BOSA Boshof 72.53 173 P **P 20 31 43.8 -0.4**
BOSA pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BOSA Boshof 72.53 173 P **P 20 31 43.8 -0.4**
comp=Z,3.0nm,1.1s,mb4.1
TKL Tuckaleechee C 73.22 303 LR LR 21 02 10.6
comp=Z,82nm,18.6s,MS4.0,baz=285,slow=34
PPLA Purkeypile 73.22 355 *eP* **P 20 31 49.3 +1.3**
PPLA Purkeypile 73.22 355 *eP* **P 20 31 49.3 +1.3**

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*IDC **21** 20:22:05.2±2.3, 12°.01N×87°.35W, h0km, mb3.5/3, mb1 4.0/5, mb1mx3.6/22, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=167.8km s-min=20.7km az=40.0*
*ISCJB **21** 20:22:06.3±0.7, 11°.26N±0°.04×87°.91W±0°.05, h44km±12km, mb3.5/4, Error ellipse: s-maj=9.1km s-min=4.1km az=138.9*
*NEIC **21** 20:22:06.8±4.5, 11°.55N×87°.66W, h25km±35km, mb4.1/1, Error ellipse: s-maj=33.2km s-min=11.8km az=222.0*
*CASC **21** 20:22:07.2±3.1, 11°.29N×87°.88W, h36km±999km, MD4.2, ML3.7*

ISC 21 20:22:07.8±0.7, 11°.29N±0°.04×87°.89W±0°.04, h35km±13km, n42, σ0.98/55, mb3.5/4, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.49**	**41**	*i* P	**Pn**	**20 22 31.2**	**-0.8**
COPN	**Copaltepe**	**1.55**	**55**	*i* P	**Pn**	**20 22 32.1**	**-0.7**
CRIN	**San Cristobal**	**1.62**	**30**	*i* P	**Pn**	**20 22 33.3**	**-0.6**
CRIN				*e*S	**Sn**	**20 22 56.0**	**+2.3**
CRIN				AML	AML	20 22 57.0	
comp=N,1μm,0.3s							
MIRN	**Miramar**	**1.62**	**45**	*e*P	**Pn**	**20 22 33.0**	**-0.9**
TEL3	**Telica 3**	**1.64**	**39**	*i* P	**Pn**	**20 22 33.2**	**-0.8**
CNGN	**Cerro Negro**	**1.68**	**44**	↑*e*P	**Pn**	**20 22 33.7**	**-0.9**
CNGN				*e*S	**Sn**	**20 22 56.1**	**+1.3**
CSAN		**1.69**	**58**	*e*P	**Pn**	**20 22 36.0**	**+1.2**
TICN	**Ticuantepe**	**1.79**	**65**	*e*P	**Pn**	**20 22 36.0**	**-0.2**
MGAN	**Managua**	**1.82**	**62**	*e*P	**Pn**	**20 22 35.7**	**-0.9**
MGAN				*e*S	**Sn**	**20 22 59.7**	**+1.2**
MGAN				AML	AML	20 23 04.2	
comp=N,578nm,0.4s							
CNCH	**Conchagua**	**1.97**	**2**	*i* P	**Pn**	**20 22 38.2**	**-0.5**
CNCH				*e*S	**Sn**	**20 23 02.9**	**+0.7**
HUEN		**1.98**	**58**	*i* P	**Pn**	**20 22 37.9**	**-0.9**
GBS2	**Las Lilas**	**2.44**	**100**	*i* P	**Pn**	**20 22 45.5**	**+0.4**
GBS3	**Finca Las Im¨¡**	**2.45**	**102**	*i* P	**Pn**	**20 22 45.3**	**+0.1**
GBS3				*i* S	**Sn**	**20 23 12.9**	**-1.0**
CAHU	**Cacacuatique**	**2.48**	**353**	*i* P	**Pn**	**20 22 45.6**	**-0.1**
CAHU				*e*S	**Sn**	**20 23 14.8**	**0.0**
LFRS	**El Faro**	**2.58**	**334**	*e*P	**Pn**	**20 22 46.4**	**-0.7**
LIM1	**Limonal**	**2.66**	**103**	*i* P	**Pn**	**20 22 48.8**	**+0.7**
CUI	**Cuipilapa**	**2.75**	**103**	*i* P	**Pn**	**20 22 50.2**	**+0.7**
CUI				*i* S	**Sn**	**20 23 20.9**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.81**	**12**	*e*Pn	**Pn**	**20 22 45.9**	**-4.4**
TGUH				*e*Sn	**Sn**	**20 23 21.7**	**-1.3**
AMAS	**Alto Masis**	**2.93**	**103**	*i* P	**Pn**	**20 22 52.3**	**+0.5**
AMAS				*i* S	**Sn**	**20 23 25.6**	**-0.1**
SBLS	**San Blas**	**3.04**	**326**	*e*P	**Pn**	**20 22 53.6**	**+0.2**
JTS	**JuntasAbangare**	**3.06**	**109**	Pn	**Pn**	**20 22 54.0**	**+0.4**
comp=N,8.3nm,0.3s,baz=297,slow=23,SNR=70							
JTS				Sn	**Sn**	**20 23 28.9**	**-0.1**
comp=N,20nm,0.3s,baz=18,slow=20,SNR=4.5							
JTS	**JuntasAbangare**	**3.06**	**109**	*e*Pn	**Pn**	**20 22 52.7**	**-0.9**
JTS				*e*Sn	**Sn**	**20 23 27.3**	**-1.6**
SNJE	**San Jose**	**3.06**	**327**	*e*P	**Pn**	**20 22 53.8**	**+0.2**
JCR	**Jicaral**	**3.09**	**117**	*e*P	**Pn**	**20 22 53.4**	**-0.7**
JCR				*e*S	**Sn**	**20 23 26.7**	**-3.0**
CGA2	**Cerro Gallo 2**	**3.60**	**110**	*e*P	**Pn**	**20 23 01.9**	**+0.8**
CGA2				*e*S	**Sn**	**20 23 41.6**	**-0.8**
LAJ	**Bijagual**	**3.97**	**111**	*e*P	**Pn**	**20 23 01.7**	**-4.5**
LAJ				*e*S	**Sn**	**20 23 39.5**	**-12**
SJS	**Escuela Geolog**	**4.01**	**109**	*e*P	**Pn**	**20 23 08.6**	**+1.9**
QCR	**Quepos**	**4.11**	**116**	*e*P	**Pn**	**20 23 08.7**	**+0.6**
URSC	**Urasca**	**4.30**	**109**	*e*P	**Pn**	**20 23 12.4**	**+1.7**
BUS	**Buena Vista**	**4.42**	**113**	*e*P	**Pn**	**20 23 13.7**	**+1.3**
ACR	**Cerro Adams**	**5.34**	**119**	*e*P	**Pn**	**20 23 25.7**	**+0.6**
ACR				*e*S	**Sn**	**20 24 20.6**	**-4.8**
CMIG	**Matias Romero**	**8.90**	**311**	Pn	**Pn**	**20 24 13.5**	**-0.3**
comp=N,0.4nm,0.3s,baz=148,slow=13,SNR=4.2							
CMIG	**Matias Romero**	**8.90**	**311**	Pn	**Pn**	**20 24 13.6**	**-0.3**
TXAR	**Lajitas Array**	**23.21**	**323**	P	**P**	**20 27 11.2**	**-0.6**
comp=N,0.5nm,0.7s,mb3.1,baz=122,slow=12,SNR=3.4							
TXAR	**Lajitas Array**	**23.21**	**323**	P	**P**	**20 27 11.2**	**-0.6**
SAML	**Samuel**	**31.75**	**128**	*e*P	**P**	**20 28 27.9**	**-0.9**
comp=N,1.1nm,0.4s,mb4.0							
PDAR	**Pinedale Array**	**36.59**	**333**	P	**P**	**20 29 10.1**	**-0.3**
comp=N,0.2nm,0.5s,mb3.2,baz=123,slow=9.8,SNR=3.5							
PDAR	**Pinedale Array**	**36.59**	**333**	P	**P**	**20 29 10.1**	**-0.3**
NVAR	**Mina Array Bea**	**38.30**	**320**	P	**P**	**20 29 27.5**	**+2.6**
comp=N,1.7nm,0.7s,mb3.9,baz=133,slow=8.8,SNR=15							
NVAR	**Mina Array Bea**	**38.30**	**320**	P	**P**	**20 29 27.5**	**+2.5**
CMAR	**Chiang Mai Arr**	**149.68**	**347**	PKPbc	PKPbc	20 41 54.4	-0.3
comp=N,1.4nm,0.8s,baz=344,slow=3.1,SNR=11							
CMAR	**Chiang Mai Arr**	**149.68**	**347**	PKPbc	PKPbc	20 41 54.4	-0.3

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*THR **21** 20:39:29.4±1.2, 27°.87N×52°.20E, h15km, ML3.9*
*NEIC **21** 20:39:31.1, 27°.97N×52°.32E, h23km, mb4.0/7, ML3.9(THR), After THR.*
*TEH **21** 20:39:31.9, 28°.19N×52°.33E, h10km*
*IDC **21** 20:39:33.1±1.6, 28°.18N×52°.40E, h0km, mb3.8/14, mb1 3.9/17, mb1mx3.8/31, mbtmp3.8/17, ML3.9/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/46, Error ellipse: s-maj=35.0km s-min=17.2km az=158.0*
*CSEM **21** 20:39:35.9±0.2, 28°.21N×52°.42E, h20km, mb4.2/5, Error ellipse: s-maj=6.4km s-min=5.3km az=18.0*
*OMAN **21** 20:40:18.8±10.0, 26°.04N×55°.17E, h8km, Error ellipse: s-maj=7.5km s-min=1.8km az=311.0*

ISC 21 20:39:35.9±1.2, 28°.20N±0°.04×52°.40E±0°.04, h18km±8km, n130, σ0.98/130, mb3.9/19, 1C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.33**	**28**	*e*Pg	**Pg**	**20 39 59.4**	**-2.3**
ISRV				*e*Sg	**Sg**	**20 40 19.1**	**0.0**
ISRV				*e*		20 40 27.8	
comp=Z,29μm,0.3s							
ISRV	**Sarvestan**	**1.33**	**28**	*e*Pg	**Pg**	**20 39 59.4**	**-2.3**
ISRV				*e*Sg	**Sg**	**20 40 19.1**	**0.0**
IPAR	**Pars**	**1.73**	**19**	*e*Sg	**Sg**	**20 40 31.9**	**+0.1**
IPAR				*e*Pn	**Pn**	**20 40 05.4**	**+0.3**
IPAR				*e*		20 40 34.4	
comp=Z,21μm,0.4s							
BNDS	**Bandar-Abbas**	**3.44**	**103**	*e*Pn	**Pn**	**20 40 25.9**	**-2.7**
BNDS				AML	AML	20 41 42.9	
comp=N,202nm,0.6s							
BNDS	**Bandar-Abbas**	**3.44**	**103**	*e*Pn	**Pn**	**20 40 25.9**	**-2.7**
IMEH	**Mehriz**	**3.72**	**31**	*e*Pn	**Pn**	**20 40 33.8**	**+1.4**
IMEH				*e*		20 40 40.0	
comp=Z,2μm,0.1s							
IMEH	**Mehriz**	**3.72**	**31**	*e*Pn	**Pn**	**20 40 33.8**	**+1.4**
IBND	**Bandar-abas**	**3.75**	**101**	*e*Pn	**Pn**	**20 40 33.2**	**+0.4**
IBND				*e*		20 42 18.3	
comp=Z,5μm,0.4s							
ISAD	**Sadrabad**	**3.86**	**17**	*e*Pn	**Pn**	**20 40 35.1**	**+0.7**
ISAD				*e*		20 41 50.9	
comp=Z,2μm,0.3s							
ISAD	**Sadrabad**	**3.86**	**17**	*e*Pn	**Pn**	**20 40 35.1**	**+0.7**
BANOM	**Banah**	**4.16**	**122**	⇓P	**Pn**	**20 40 38.4**	**-0.1**
BANOM	**Banah**	**4.16**	**122**	P	**Pn**	**20 40 38.4**	**-0.1**
IGAR	**Gharneh**	**4.20**	**356**	*e*Pn	**Pn**	**20 40 39.2**	**+0.2**
IGAR				*e*		20 41 33.7	
comp=Z,831nm,0.2s							
KRBR	**Kerman**	**4.21**	**64**	*e*Pn	**Pn**	**20 40 40.6**	**+1.4**
KRBR				AML	AML	20 41 35.4	
comp=E,110nm,0.3s							
KRBR				AML	AML	20 41 37.3	
comp=N,108nm,0.4s							
UMR	**Umm Al-Rimmam**	**4.32**	**289**	*e*P	**Pn**	**20 40 41.8**	**+1.2**
UMR	**Umm Al-Rimmam**	**4.32**	**289**	*e*P	**Pn**	**20 40 41.8**	**+1.1**
RDF	**Al-Radifah**	**4.32**	**281**	*e*P	**Pn**	**20 40 42.0**	**+1.2**
RDF				AML	AML	20 41 32.5	
comp=Z,46nm,0.5s							
RDF	**Al-Radifah**	**4.32**	**281**	*e*P	**Pn**	**20 40 42.0**	**+1.3**
NAZ	**Nazwa, Dubai**	**4.34**	**137**	⇓P	**Pn**	**20 40 40.7**	**-0.2**
NAZ	**Nazwa, Dubai**	**4.34**	**137**	P	**Pn**	**20 40 40.7**	**-0.2**
IBAF	**Bafgh**	**4.36**	**38**	*e*Pn	**Pn**	**20 40 41.9**	**+0.7**
IBAF				*e*		20 40 58.4	
comp=Z,994nm,0.2s							
IBAF	**Bafgh**	**4.36**	**38**	*e*Pn	**Pn**	**20 40 41.9**	**+0.7**
ICHK	**Chekchek**	**4.39**	**23**	*e*Pn	**Pn**	**20 40 42.4**	**+0.8**
ICHK				*e*		20 40 46.1	
comp=Z,2μm,0.2s							
ICHK	**Chekchek**	**4.39**	**23**	*e*Pn	**Pn**	**20 40 42.4**	**+0.8**
ASUD	**Al Ashush, Dub**	**4.43**	**143**	P	**Pn**	**20 40 42.8**	**+0.6**
SNR=19							
ASUD	**Al Ashush, Dub**	**4.43**	**143**	P	**Pn**	**20 40 42.8**	**+0.6**
SNR=19							
NASN	**Na'in**	**4.60**	**4**	*e*Pn	**Pn**	**20 40 45.3**	**+0.9**
NAY	**Al-Naaiem**	**4.64**	**284**	*e*P	**Pn**	**20 40 46.3**	**+1.2**
NAY				AML	AML	20 41 42.0	
comp=Z,38nm,0.6s							
NAY	**Al-Naaiem**	**4.64**	**284**	*e*P	**Pn**	**20 40 46.3**	**+1.2**
IPIR	**Pirpir**	**4.65**	**344**	*e*Pn	**Pn**	**20 40 45.3**	**+0.1**
IPIR				*e*		20 41 43.9	
comp=Z,805nm,0.3s							
IPIR	**Pirpir**	**4.65**	**344**	*e*Pn	**Pn**	**20 40 45.3**	**+0.1**
IZEF	**Zefreh**	**4.68**	**359**	*e*Pn	**Pn**	**20 40 46.0**	**+0.4**
IZEF				*e*		20 40 47.9	
comp=Z,427nm,0.1s							
IZEF	**Zefreh**	**4.68**	**359**	*e*Pn	**Pn**	**20 40 46.0**	**+0.4**
MIB	**Mutribah**	**4.71**	**291**	*e*P	**Pn**	**20 40 47.1**	**+1.1**
MIB				AML	AML	20 41 43.9	
comp=Z,72nm,0.8s							
MIB	**Mutribah**	**4.71**	**291**	*e*P	**Pn**	**20 40 47.2**	**+1.2**
HATD	**Hatta, Dubai**	**4.75**	**134**	P	**Pn**	**20 40 47.1**	**+0.6**
SNR=7.1							
HATD	**Hatta, Dubai**	**4.75**	**134**	P	**Pn**	**20 40 47.1**	**+0.5**
SNR=7.1							
ASHO	**Ashiyiah**	**4.80**	**136**	⇓P	**Pn**	**20 40 46.9**	**-0.4**
ASHO	**Ashiyiah**	**4.80**	**136**	P	**Pn**	**20 40 46.9**	**-0.4**
SHGR	**Shooshtar-Gavs**	**4.98**	**322**	*e*Pn	**Pn**	**20 40 48.5**	**-1.4**
SHGR				AML	AML	20 41 51.1	
comp=N,105nm,0.4s							
SHGR				AML	AML	20 41 56.9	
comp=E,76nm,0.4s							
SHGR	**Shooshtar-Gavs**	**4.98**	**322**	*e*Pn	**Pn**	**20 40 48.8**	**-1.0**
IKLH	**Kolahrood**	**5.15**	**352**	*e*Pn	**Pn**	**20 40 52.1**	**0.0**
IKLH				*e*		20 41 57.4	
comp=Z,605nm,0.2s							
IKLH	**Kolahrood**	**5.15**	**352**	*e*Pn	**Pn**	**20 40 52.1**	**0.0**
ASAO	**Ashtian**	**6.64**	**343**	*e*Pn	**Pn**	**20 41 12.6**	**0.0**
TABS	**Tabas**	**6.78**	**36**	*e*Pn	**Pn**	**20 41 14.8**	**+0.3**
TABS	**Tabas**	**6.78**	**36**	*e*Pn	**Pn**	**20 41 14.8**	**+0.3**
BSY	**Bisya**	**6.96**	**140**	P	**Pn**	**20 41 18.0**	**+1.1**
SNR=16							
IKOO	**Kooshah**	**7.09**	**52**	*e*Pn	**Pn**	**20 41 19.1**	**+0.3**
IKOO	**Kooshah**	**7.09**	**52**	*e*Pn	**Pn**	**20 41 19.1**	**+0.3**
SMDO	**Samad**	**7.23**	**134**	⇑P	**Pn**	**20 41 20.2**	**-0.5**
SNGE	**Sanandaj**	**8.10**	**329**	*e*Pn	**Pn**	**20 41 32.3**	**-0.4**
SNGE	**Sanandaj**	**8.10**	**329**	*e*Pn	**Pn**	**20 41 32.3**	**-0.4**
BHD	**Baghdad**	**8.55**	**308**	*ex*	x	20 41 32.3	
BHD				*ex*	x	20 43 07.0	
ASF	**Jabal al Asfar**	**13.97**	**290**	Pn	**Pn**	**20 42 52.2**	**-0.8**
comp=Z,0.3nm,0.3s,baz=216,slow=17,SNR=2.7							
ASF	**Jabal al Asfar**	**13.97**	**290**	Pn	**Pn**	**20 42 52.2**	**-0.8**
EIL	**Elat**	**15.35**	**280**	LR	LR	20 50 14.0	
comp=Z,41nm,19.5s,baz=276,slow=42							
MMAI	**Mount Meron Ar**	**15.39**	**292**	Pn	**Pn**	**20 43 12.6**	**+0.5**
comp=Z,0.5nm,0.3s,baz=118,slow=14,SNR=3.7							
MMAI	**Mount Meron Ar**	**15.39**	**292**	Pn	**Pn**	**20 43 12.6**	**+0.5**
MMAI	**Mount Meron Ar**	**15.39**	**292**	Pn	**Pn**	**20 43 12.6**	**+0.4**
KBL	**Kabul**	**15.55**	**62**	*e*Pn	**Pn**	**20 43 12.8**	**-1.5**
comp=Z,5.6nm,1.1s							
KBL	**Kabul**	**15.55**	**62**	*e*Pn	**Pn**	**20 43 12.8**	**-1.4**
comp=Z,5.6nm,1.1s							
ATD	**Arta Tunnel**	**18.84**	**210**	LR	LR	20 51 50.8	
comp=Z,34nm,18.8s,baz=171,slow=39							
BR131	**Keskin Array S**	**19.30**	**311**	*e*P	**Pn**	**20 43 59.6**	**-1.3**
comp=Z,4.8nm,0.6s							
BR131	**Keskin Array S**	**19.30**	**311**	*e*P	**Pn**	**20 43 59.6**	**-1.3**
comp=Z,4.8nm,0.6s							
BRTR	**Keskin Array B**	**19.30**	**311**	P	**Pn**	**20 44 00.8**	**-0.1**
comp=Z,0.8nm,0.3s,baz=134,slow=11,SNR=37							
BRTR	**Keskin Array B**	**19.30**	**311**	P	**Pn**	**20 44 00.8**	**-0.1**
BRTR	**Keskin Array B**	**19.30**	**311**	P	**Pn**	**20 44 00.9**	**0.0**
KKAR	**Karatay Array**	**20.86**	**40**	*e*P	**P**	**20 44 16.2**	**-0.5**
comp=Z,1.4nm,0.5s							
KKAR	**Karatay Array**	**20.86**	**40**	*e*P	**P**	**20 44 16.2**	**-0.5**
comp=Z,1.4nm,0.5s							
ABKAR	**Abkulak array**	**21.81**	**13**	*e*P	**P**	**20 44 26.3**	**-0.6**
comp=Z,2.1nm,0.5s,mb3.8							
ABKAR	**Abkulak array**	**21.81**	**13**	*e*P	**P**	**20 44 26.3**	**-0.6**
comp=Z,2.1nm,0.5s,mb3.8							
AKTO	**Aktyubinsk**	**22.61**	**9**	P	**P**	**20 44 36.7**	**+1.3**
comp=Z,1.0nm,0.4s,mb3.6,baz=183,slow=12,SNR=5.7							
AKTO	**Aktyubinsk**	**22.61**	**9**	P	**P**	**20 44 36.7**	**+1.3**
AKTO	**Aktyubinsk**	**22.61**	**9**	P	**P**	**20 44 36.7**	**+1.3**
AAK	**Ala-Archa**	**22.97**	**45**	*e*P	**P**	**20 44 39.2**	**-0.1**
comp=Z,10nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**22.97**	**45**	*e*P	**P**	**20 44 39.2**	**-0.1**
comp=Z,10nm,0.8s,mb4.3							
BVAR	**Borovoye Array**	**28.15**	**23**	P	**P**	**20 45 27.0**	**+0.1**
comp=Z,1.2nm,0.6s,mb3.7,baz=252,slow=40,SNR=4.8							
BVAR	**Borovoye Array**	**28.15**	**23**	P	**P**	**20 45 27.0**	**+0.1**
BVAR	**Borovoye Array**	**28.15**	**23**	P	**P**	**20 45 27.0**	**+0.1**
AKASG	**Malin Array Be**	**28.50**	**328**	P	**P**	**20 45 29.3**	**-0.7**
comp=Z,0.9nm,0.6s,mb3.7,baz=137,slow=8.1,SNR=5.0							
AKASG	**Malin Array Be**	**28.50**	**328**	P	**P**	**20 45 29.3**	**-0.7**
AKASG	**Malin Array Be**	**28.50**	**328**	P	**P**	**20 45 29.3**	**-0.7**
MKAR	**Makanchi Array**	**29.85**	**43**	P	**P**	**20 45 41.9**	**-0.2**
comp=Z,0.2nm,0.4s,mb3.2,baz=236,slow=4.7,SNR=5.7							
MKAR	**Makanchi Array**	**29.85**	**43**	P	**P**	**20 45 41.9**	**-0.2**
MKAR	**Makanchi Array**	**29.85**	**43**	P	**P**	**20 45 41.9**	**-0.2**
KURK	**Kurchatov**	**29.98**	**34**	P	**P**	**20 45 42.3**	**-0.8**
comp=Z,0.5nm,0.8s,mb3.3,baz=237,slow=8.5,SNR=6.1							
KURK				LR	LR	20 59 23.7	
comp=Z,53nm,19.4s,baz=260,slow=40							
KURK	**Kurchatov**	**29.98**	**34**	P	**P**	**20 45 42.3**	**-0.8**
KURK	**Kurchatov**	**29.98**	**34**	P	**P**	**20 45 42.3**	**-0.8**
ZAA0	**Zalesovo Array**	**34.96**	**34**	*e*P	**P**	**20 46 26.0**	**-0.7**
ZAA0	**Zalesovo Array**	**34.96**	**34**	*e*P	**P**	**20 46 26.0**	**-0.7**
ZALV	**Zalesovo Beam**	**34.96**	**34**	P	**P**	**20 46 25.8**	**-0.9**
comp=Z,1.3nm,0.4s,mb4.2,baz=234,slow=9.8,SNR=11							
ZALV	**Zalesovo Beam**	**34.96**	**34**	P	**P**	**20 46 25.8**	**-0.9**
ZALV	**Zalesovo Beam**	**34.96**	**34**	P	**P**	**20 46 25.8**	**-0.9**
GERES	**GERESS Array B**	**36.10**	**315**	P	**P**	**20 46 36.4**	**-0.2**
comp=Z,0.2nm,0.5s,mb3.3,baz=106,slow=9.3,SNR=4.0							
GERES	**GERESS Array B**	**36.10**	**315**	P	**P**	**20 46 36.4**	**-0.2**
GERES	**GERESS Array B**	**36.10**	**315**	P	**P**	**20 46 36.4**	**-0.2**
KHC	**Kasperske Hory**	**36.27**	**316**	*e*P	**P**	**20 46 30.5**	**-7.6**
KHC				*ex*	x	20 46 51.5	
KHC				*ex*	x	20 47 01.5	
KHC				*e*PP	PP	20 48 10.0	+9.4
JOF	**Joensuu**	**37.35**	**344**	*ep*	**P**	**20 46 46.5**	**-0.6**
comp=Z,2.1nm,0.6s,mb4.1							
JOF	**Joensuu**	**37.35**	**344**	*e*P	**P**	**20 46 46.5**	**-0.6**
comp=Z,2.1nm,0.6s,mb4.1							
FINES	**FINESS Array B**	**37.59**	**340**	P	**P**	**20 46 48.4**	**-0.7**
comp=Z,2.2nm,0.6s,mb4.0,baz=134,slow=9.9,SNR=17							
FINES	**FINESS Array B**	**37.59**	**340**	P	**P**	**20 46 48.4**	**-0.7**
FINES	**FINESS Array B**	**37.59**	**340**	P	**P**	**20 46 48.3**	**-0.7**
KAF	**Kangasniemi**	**38.04**	**340**	*ep*	**P**	**20 46 54.5**	**+1.7**
KAF	**Kangasniemi**	**38.04**	**340**	*e*P	**P**	**20 46 54.5**	**+1.7**
MBDF	**Montbardon**	**39.67**	**307**	*e*P	**P**	**20 47 04.5**	**-2.3**
comp=Z,5.2nm,0.7s,mb4.1							
MBDF	**Montbardon**	**39.67**	**307**	*e*P	**P**	**20 47 04.5**	**-2.3**
comp=Z,5.2nm,0.7s,mb4.4							
MBDF	**Montbardon**	**39.67**	**307**	*e*P	**P**	**20 47 04.5**	**-2.3**
comp=Z,5.2nm,0.7s,mb4.4							
SMF	**Signal de Mont**	**41.99**	**309**	*e*P	**P**	**20 47 24.1**	**-1.8**
SMF	**Signal de Mont**	**41.99**	**309**	*e*P	**P**	**20 47 24.1**	**-1.8**
SMF	**Signal de Mont**	**41.99**	**309**	*e*P	**P**	**20 47 24.1**	**-1.8**
NOA	**NORSAR Array B**	**42.78**	**332**	P	**P**	**20 47 32.4**	**+0.3**
comp=Z,1.7nm,1.0s,mb3.7,baz=117,slow=8.5,SNR=2.9							
NOA	**NORSAR Array B**	**42.78**	**332**	P	**P**	**20 47 32.4**	**+0.3**
NOA	**NORSAR Array B**	**42.78**	**332**	P	**P**	**20 47 32.4**	**+0.3**
ARCES	**ARCESS Array B**	**44.20**	**347**	P	**P**	**20 47 44.6**	**+1.2**
comp=Z,3.7nm,1.0s,mb4.1,baz=150,slow=6.2,SNR=8.9							
ARCES	**ARCESS Array B**	**44.20**	**347**	P	**P**	**20 47 44.6**	**+1.2**
ARCES	**ARCESS Array B**	**44.20**	**347**	P	**P**	**20 47 44.6**	**+1.2**
LDF	**La Druitiere**	**44.92**	**312**	*e*P	**P**	**20 47 47.8**	**-1.7**
comp=Z,4.1nm,0.6s,mb4.1							
LDF	**La Druitiere**	**44.92**	**312**	*e*P	**P**	**20 47 47.8**	**-1.7**
comp=Z,4.1nm,0.6s,mb4.4							
LDF	**La Druitiere**	**44.92**	**312**	*e*P	**P**	**20 47 47.8**	**-1.7**
comp=Z,4.1nm,0.6s,mb4.4							
SJPF	**Ste Jean**	**45.29**	**304**	*e*P	**P**	**20 47 50.1**	**-2.4**
SJPF	**Ste Jean**	**45.29**	**304**	*e*P	**P**	**20 47 50.1**	**-2.4**
SJPF	**Ste Jean**	**45.29**	**304**	*e*P	**P**	**20 47 50.1**	**-2.4**
SONM	**Songino Array**	**45.82**	**49**	P	**P**	**20 47 57.4**	**+0.8**
comp=Z,0.2nm,0.4s,mb3.4,baz=267,slow=8.9,SNR=3.2							
SONM	**Songino Array**	**45.82**	**49**	P	**P**	**20 47 57.4**	**+0.8**
SONM	**Songino Array**	**45.82**	**49**	P	**P**	**20 47 57.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**49.40**	**263**	P	**P**	**20 48 23.7**	**-1.2**
comp=Z,0.8nm,0.5s,mb4.0,baz=60,slow=8.7,SNR=14							
TORD	**Torodi Ar. Bea**	**49.40**	**263**	P	**P**	**20 48 23.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**49.40**	**263**	P	**P**	**20 48 23.7**	**-1.2**
DBIC	**Dimbokro**	**58.09**	**260**	P

FITZ			LR	LR	21 05 51.2		
	comp=Z,24nm,18.9s,baz=358,slow=42						
WRA	**Warramunga Arr**	**18.10 130**	P	P	21 02 04.5	-1.2	
	0.3nm,0.3s,baz=310,slow=12,SNR=28						
ASAR	**Alice Springs**	**20.25 140**	P	P	21 02 29.8	+0.9	
	0.8nm,0.4s,baz=317,slow=8.6,SNR=34						
STKA	**Stephens Creek**	**30.85 142**	P	P	21 04 06.0	-0.5	
	1.5nm,0.5s,baz=322,slow=10,SNR=6.1						
SONM	**Songino Array**	**57.34 349**	P	P	21 07 37.9	+1.4	
	0.3nm,0.5s,baz=165,slow=8.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**68.87 339**	P	P	21 08 50.5	-1.7	
	0.3nm,0.3s,baz=134,slow=4.2,SNR=3.5						

*IDC **21** 20:58:16.2±1.2,2.°07N×127.°73E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/18, mbtmp4.2/6, Error ellipse: s-maj=120.3km s-min=16.6km az=68.0*
*ISCJB **21** 20:58:29.7±1.6, 1.°9N±0.°1×127.°4E±0.°1, h133km±14km, mb4.1/6, Error ellipse: s-maj=31.6km s-min=13.5km az=44.8*
*DJA **21** 20:58:33, 1.°81N×127.°26E, h83km, MLv3.8/4*
ISC 21 20:58:31.0±1.6, **1.°8N**±0.°1×**127.°4E**±0.°1, **h127**km±14km, **n13, σ0§47/12, mb4.2/6, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.04 181**		P	**Pn**	**20 58 53.8**	**-0.2**
LBMI	**Labuha**	**2.44 177**		P	**Pn**	**20 59 11.1**	**+0.7**
MNI	**Manado**	**2.58 262**		P	**Pn**	**20 59 11.2**	**-0.9**
KMSI	**Cibinong**	**3.63 250**		P	**Pn**	**20 59 25.6**	**-0.2**
GTOI	**Gorontalo**	**4.54 255**		P	**Pn**	**20 59 38.7**	**+0.8**
MSAI	**Masohi**	**5.36 163**		P	Px	20 59 51.3	
MRSI	**Marisa**	**5.61 256**		P	**Pn**	**20 59 52.3**	**0.0**
WRA	**Warramunga Arr**	**22.68 163**		P	**P**	**21 03 21.5**	**-0.5**
	10nm,0.5s,mb4.5,baz=344,slow=11,SNR=67						
ASAR	**Alice Springs**	**26.11 166**		P	**P**	**21 03 53.0**	**-0.2**
	3.5nm,0.5s,mb4.1,baz=347,slow=7.3,SNR=50						
STKA	**Stephens Creek**	**36.12 159**		P	**P**	**21 05 21.0**	**+0.1**
	4.0nm,0.7s,mb4.5,baz=334,slow=8.3,SNR=9.0						
SONM	**Songino Array**	**49.30 341**		P	**P**	**21 07 06.9**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=154,slow=6.9,SNR=3.7						
MKAR	**Makanchi Array**	**59.49 326**		P	**P**	**21 08 21.3**	**+0.6**
	1.8nm,0.6s,mb4.3,baz=118,slow=8.3,SNR=23						
KURK	**Kurchatov**	**63.70 328**		P	**P**	**21 08 48.8**	**-0.1**
	1.8nm,0.6s,mb4.1,baz=126,slow=6.7,SNR=23						

*CRAAG **21** 21:06:49.5, 35.°69N×3.°72E, MI3.5*
*ISCJB **21** 21:06:53.8±0.7, 35.°88N±0.°05×3.°57E±0.°05, h10km, Error ellipse: s-maj=7.4km s-min=5.6km az=175.0*
*CSEM **21** 21:06:53.4±0.4, 35.°70N×3.°70E, h10km, ML3.5, Error ellipse: s-maj=11.3km s-min=6.5km az=170.0*
*MDD **21** 21:06:54.0±0.8, 35.°77N×3.°71E, h0km, mb4.1/11, Error ellipse: s-maj=11.2km s-min=7.2km az=4.0, PRXIMO*
ISC 21 21:06:55.1±0.7, **35.°87N**±0.°05×**3.°63E**±0.°05, **h10**km, **n62, σ1§46/83, 2C-1D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**1.05 333**		P	**Pg**	**21 07 15.7**	**+0.5**
ABA	**Alger-Bouzarea**	**1.05 333**		P	**Pg**	**21 07 15.7**	**+0.5**
ABA	**Alger-Bouzarea**	**1.05 333**		P	**Pg**	**21 07 15.7**	**+0.5**
SET	**Setif**	**1.47 77**		P	**Pn**	**21 07 20.0**	**-1.6**
SET	**Setif**	**1.47 77**		P	**Pn**	**21 07 20.0**	**-1.6**
SET	**Setif**	**1.47 77**		P	**Pn**	**21 07 20.0**	**-1.6**
CKHR	**Kef el Ahmar**	**1.53 84**		P	**Pn**	**21 07 19.7**	**-2.8**
CKHR	**Kef el Ahmar**	**1.53 84**		P	**Pn**	**21 07 19.7**	**-2.8**
CKHR	**Kef el Ahmar**	**1.53 84**		P	**Pn**	**21 07 19.7**	**-2.8**
EBNR	**Beni Rached**	**1.75 284**		P	**Pn**	**21 07 31.5**	**+6.0**
ECHA	**Ech Chlef**	**1.86 279**		P	**Pn**	**21 07 30.0**	**+3.0**
ECHF	**Ech Chlef**	**1.88 279**		P	**Pn**	**21 07 30.0**	**+2.7**
ETRT	**Tiaret**	**1.96 256**		P	**Pn**	**21 07 29.0**	**+0.6**
ETRT	**Tiaret**	**1.96 256**		P	**Pn**	**21 07 29.0**	**+0.6**
ETRT	**Tiaret**	**1.96 256**		P	**Pn**	**21 07 29.0**	**+0.6**
EANR	**'Ain N'Sour**	**2.06 273**		P	**Pn**	**21 07 28.6**	**-1.1**
EANR	**'Ain N'Sour**	**2.06 273**		P	**Pn**	**21 07 28.6**	**-1.1**
EANR	**'Ain N'Sour**	**2.06 273**		P	**Pn**	**21 07 28.6**	**-1.1**
EIBI	**Ibiza**	**3.64 331**	⇓	P	**Pn**	**21 07 51.8**	**+0.4**
	5.3nm,0.2s,SNR=18						
EIBI				S	**Sn**	**21 08 33.5**	**-0.9**
	4.7nm,0.2s,SNR=91						
EIBI	**Ibiza**	**3.64 331**		P	**Pn**	**21 07 51.8**	**+0.4**
	5.3nm,0.2s,SNR=18						
EIBI				S	**Sn**	**21 08 33.5**	**-0.9**
	4.7nm,0.2s,SNR=91						
ETOS	**Mallorca**	**3.94 351**		P	**Pn**	**21 07 55.5**	**-0.1**
	1.7nm,0.2s,SNR=5.7						
ETOS				S	**Sn**	**21 08 40.2**	**-1.7**
	0.9nm,0.2s,SNR=4.6						
ETOS	**Mallorca**	**3.94 351**		P	**Pn**	**21 07 55.5**	**-0.1**
	1.7nm,0.2s,SNR=5.7						
ETOS				S	**Sn**	**21 08 40.2**	**-1.7**
	0.9nm,0.2s,SNR=4.6						
EBEN	**Beniarda**	**4.18 314**		P	**Pn**	**21 07 59.9**	**+1.1**
	0.9nm,0.2s,SNR=7.0						
EBEN				S	**Sn**	**21 08 46.6**	**-1.1**
	0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.18 314**		P	**Pn**	**21 07 59.9**	**+1.1**
	0.9nm,0.2s,SNR=7.0						
EBEN				S	**Sn**	**21 08 46.6**	**-1.1**
	0.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.38 298**	⇑	P	**Pn**	**21 08 01.4**	**-0.1**
	1.9nm,0.2s,SNR=18						
EMUR				S	**Sn**	**21 08 52.2**	**-0.4**
	1.2nm,0.3s,SNR=5.9						
EMUR	**La Murta**	**4.38 298**		P	**Pn**	**21 08 01.4**	**-0.2**
	1.9nm,0.2s,SNR=18						
EMUR				S	**Sn**	**21 08 52.2**	**-0.4**
	1.2nm,0.3s,SNR=5.9						
ENIJ	**Nijar**	**4.83 285**		P	**Pn**	**21 08 06.5**	**-1.4**
	2.5nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**21 09 01.5**	**-2.4**
	1.6nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**4.83 285**		P	**Pn**	**21 08 06.5**	**-1.4**
	2.5nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**21 09 01.5**	**-2.4**
	1.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.97 305**		P	**Pn**	**21 08 10.8**	**+1.1**
	2.0nm,0.2s,SNR=14						
ETOB				S	**Sn**	**21 09 08.3**	**+1.0**
	1.4nm,0.3s,SNR=12						
ETOB	**Tobarra**	**4.97 305**		P	**Pn**	**21 08 10.9**	**+1.1**
	2.0nm,0.2s,SNR=14						
ETOB				S	**Sn**	**21 09 08.3**	**+1.0**
	1.4nm,0.3s,SNR=12						
EBER	**Berja**	**5.36 283**		P	**Pn**	**21 08 14.0**	**-1.1**
	2.1nm,0.2s,SNR=5.1						
EBER				S	**Sn**	**21 09 14.1**	**-2.8**
	2.5nm,0.5s,SNR=5.2						
EBER	**Berja**	**5.36 283**		P	**Pn**	**21 08 14.0**	**-1.1**
	2.1nm,0.2s,SNR=5.1						
EBER				S	**Sn**	**21 09 14.1**	**-2.8**
	2.5nm,0.5s,SNR=5.2						
EMOS	**Mosqueruela**	**5.53 325**	⇑	P	**Pn**	**21 08 18.2**	**+0.7**
	2.3nm,0.3s,SNR=18						
EMOS				S	**Sn**	**21 09 19.7**	**-1.3**
	0.8nm,0.2s,SNR=7.4						
EMOS	**Mosqueruela**	**5.53 325**		P	**Pn**	**21 08 18.2**	**+0.8**
	2.3nm,0.3s,SNR=18						
EMOS				S	**Sn**	**21 09 19.7**	**-1.3**
	0.8nm,0.2s,SNR=7.4						
EVIA	**Vianos**	**5.62 301**		P	**Pn**	**21 08 19.6**	**+0.9**
	1.6nm,0.2s,SNR=4.0						
EVIA	**Vianos**	**5.62 301**		P	**Pn**	**21 08 19.6**	**+0.9**
	1.6nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**5.70 334**		P	**Pn**	**21 08 21.0**	**+1.2**
	0.3nm,0.2s,SNR=4.0						
ERTA				S	**Sn**	**21 09 22.0**	**-3.2**
	0.8nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.70 334**		P	**Pn**	**21 08 21.0**	**+1.3**
	0.3nm,0.2s,SNR=4.0						
EQES	**Quesada**	**5.71 292**		P	**Pn**	**21 08 21.3**	**+1.4**
	1.4nm,0.2s,SNR=9.5						
EQES				S	**Sn**	**21 09 27.7**	**+2.2**
	1.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.71 292**		P	**Pn**	**21 08 21.3**	**+1.4**
	1.4nm,0.2s,SNR=9.5						
EPOB	**Poblet**	**5.83 341**		P	**Pn**	**21 08 23.5**	**+2.0**
	0.6nm,0.3s,SNR=4.0						
EPOB				S	**Sn**	**21 09 25.1**	**-3.2**
	0.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.83 341**		P	**Pn**	**21 08 23.5**	**+2.0**
	0.6nm,0.3s,SNR=4.0						
EQUE	**Quentar**	**5.85 285**		P	**Pn**	**21 08 22.1**	**+0.3**
	1.1nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**21 09 27.7**	**-1.2**
	0.8nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**5.85 285**		P	**Pn**	**21 08 22.1**	**+0.3**
	1.1nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**21 09 27.7**	**-1.2**
	0.8nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**5.89 281**		P	**Pn**	**21 08 20.9**	**-1.5**
	2.0nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**5.89 281**		P	**Pn**	**21 08 20.9**	**-1.5**
	2.0nm,0.2s,SNR=7.9						
ERON	**Agron**	**6.10 283**		P	**Pn**	**21 08 25.2**	**-0.2**
	0.6nm,0.2s,SNR=7.9						
ERON	**Agron**	**6.10 283**		P	**Pn**	**21 08 25.2**	**-0.1**
	0.6nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**6.25 345**		P	**Pn**	**21 08 29.1**	**+1.7**
	3.4nm,0.3s,SNR=8.3						
EMIR	**Miracle**	**6.25 345**		P	**Pn**	**21 08 29.1**	**+1.7**
	3.4nm,0.3s,SNR=8.3						
EJON	**La Jonquera**	**6.59 355**		P	**Pn**	**21 08 32.8**	**+0.8**
	1.1nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**6.59 355**		P	**Pn**	**21 08 32.8**	**+0.8**
	1.1nm,0.1s,SNR=7.9						
ETOR	**Torete**	**6.66 320**		P	**Pn**	**21 08 34.8**	**+1.8**
	1.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.66 320**		P	**Pn**	**21 08 34.8**	**+1.8**
	1.0nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**6.83 278**		P	**Pn**	**21 08 32.8**	**-2.5**
	0.5nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**6.83 278**		P	**Pn**	**21 08 32.8**	**-2.5**
	0.5nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**6.96 292**		P	**Pn**	**21 08 37.1**	**+0.1**
	0.2nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**6.96 292**		P	**Pn**	**21 08 37.1**	**+0.1**
	0.2nm,0.2s,SNR=4.0						
ESPR	**Espera**	**7.72 280**		P	**Pn**	**21 08 54.3**	**+6.8**
	0.2nm,0.0s,SNR=7.9						
IEPA	**Eparoz**	**7.87 333**		P	**Pn**	**21 08 51.7**	**+2.2**
	0.2nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**7.87 333**		P	**Pn**	**21 08 51.7**	**+2.1**
	0.2nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**7.92 333**		P	**Pn**	**21 08 54.1**	**+3.9**
	0.2nm,0.2s,SNR=7.9						

*ISCJB **21** 21:14:29.6±0.6, 21.°26S±0.°06×67.°13W±0.°09, h180km±8km, mb3.9/5, Error ellipse: s-maj=15.4km s-min=7.4km az=23.7*
*IDC **21** 21:14:30.8±2.0, 21.°18S×67.°18W, h171km±16km, mb3.9/5, mb1 3.8/8, mb1mx3.6/17, mbtmp3.7/8, Error ellipse: s-maj=21.7km s-min=18.2km az=69.0*
*NEIC **21** 21:14:30.3±0.8, 21.°24S×67.°16W, h169km±8km, mb4.3/2, Error ellipse: s-maj=20.5km s-min=9.8km az=109.0*
ISC 21 21:14:30.5±0.6, **21.°25S**±0.°06×**67.°11W**±0.°09, **h173**km±8km, **n30, σ1§23/26, mb3.9/5, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.15 231**		*e*Pn	**Pn**	**21 15 09.7**	**+1.0**
LVC				*e*Sn	**Sn**	**21 15 38.7**	**+0.4**
LPAZ	**La Paz**	**5.03 349**		P	**Pn**	**21 15 46.0**	**+1.3**
	5.0nm,0.3s,baz=150,slow=7.0,SNR=110						
LPAZ				S	**Sn**	**21 16 42.6**	**-0.3**
	baz=53,slow=20,SNR=2.1						
LPAZ	**La Paz**	**5.03 349**		P	**Pn**	**21 15 46.0**	**+1.3**
LPAZ				S	**Sn**	**21 16 42.6**	**-0.3**
SIV	**San Ignacio**	**7.76 49**		P	**Pn**	**21 16 21.0**	**+0.4**
	8.9nm,0.3s,baz=256,slow=13,SNR=85						
SIV				S	**Sn**	**21 17 47.0**	**-0.6**
	0.6nm,0.3s,baz=336,slow=20,SNR=4.3						
SIV	**San Ignacio**	**7.76 49**		P	**Pn**	**21 16 21.0**	**+0.4**
SIV				S	**Sn**	**21 17 47.0**	**-0.6**
LCO	**Las Campanas**	**8.38 202**		*e*Pn	**Pn**	**21 16 26.2**	**-2.5**
	16nm,0.4s						
LCO				*e*Sn	**Sn**	**21 17 56.1**	**-6.3**
CFAA	**Coronel Fontan**	**10.36 185**		P	**Pn**	**21 16 55.0**	**+0.3**
	0.2nm,0.3s,baz=5.2,slow=15,SNR=8.1						
CFAA	**Coronel Fontan**	**10.36 185**		P	**Pn**	**21 16 55.0**	**+0.3**
SAML	**Samuel**	**12.80 18**		*e*Pn	**Pn**	**21 17 24.4**	**-2.1**
	2.5nm,0.9s						
PLCA	**Paso Flores**	**19.64 188**		*e*S	**P**	**21 18 43.5**	**-2.2**
DBIC	**Dimbokro**	**67.06 73**		P	**P**	**21 25 06.7**	**+1.1**
	1.7nm,0.8s,mb4.0,baz=234,slow=8.7,SNR=3.1						
DBIC	**Dimbokro**	**67.06 73**		P	**P**	**21 25 06.7**	**+1.1**
ULM	**Lac du Bonnet**	**75.60 341**		P	**P**	**21 25 55.0**	**-0.9**
	0.4nm,0.3s,mb3.5,baz=128,slow=4.9,SNR=5.4						
ULM	**Lac du Bonnet**	**75.60 341**		P	**P**	**21 25 55.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**75.70 70**		P	**P**	**21 25 58.0**	**+0.7**
	2.7nm,0.4s,mb4.2,baz=256,slow=5.6,SNR=68						
TORD	**Torodi Ar. Bea**	**75.70 70**		P	**P**	**21 25 58.0**	**+0.7**
BOSA	**Boshof**	**82.08 118**		P	**P**	**21 26 33.9**	**+1.9**
	1.2nm,0.7s,mb3.6,baz=247,slow=6.3,SNR=3.7						
BOSA	**Boshof**	**82.08 118**		P	**P**	**21 26 33.9**	**+1.9**
YKA	**Yellowknife Ar**	**91.52 340**		P	**P**	**21 27 16.9**	**+0.1**
	0.9nm,0.5s,mb4.0,baz=132,slow=4.7,SNR=37						
YKA	**Yellowknife Ar**	**91.52 340**		P	**P**	**21 27 16.9**	**+0.1**
ASAR	**Alice Springs**	**130.89 206**		PKP	PKPdf	21 33 22.5	+0.6
	0.3nm,0.6s,baz=111,slow=1.9,SNR=4.5						
ASAR	**Alice Springs**	**130.89 206**		PKP	PKPdf	21 33 22.5	+0.6
WRA	**Warramunga Arr**	**134.00 209**		PKP	PKPdf	21 33 28.7	+0.8
	0.6nm,0.9s,baz=160,slow=1.6,SNR=3.8						
WRA	**Warramunga Arr**	**134.00 209**		PKP	PKPdf	21 33 28.7	+0.8
ZALV	**Zalesovo Beam**	**141.00 26**		PKP	PKPdf	21 33 40.6	+0.9
	0.8nm,0.5s,baz=309,slow=3.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**141.00 26**		PKP	PKPdf	21 33 40.6	+0.9
MKAR	**Makanchi Array**	**144.44 37**		PKP	PKPdf	21 33 46.4	+0.4
	2.1nm,0.4s,baz=306,slow=2.9,SNR=27						
MKAR	**Makanchi Array**	**144.44 37**		PKP	PKPdf	21 33 46.4	+0.4
SONM	**Songino Array**	**152.97 10**		PKPbc	PKPbc	21 34 07.9	+0.8
	0.3nm,0.5s,baz=333,slow=2.5,SNR=4.4						
SONM	**Songino Array**	**152.97 10**		PKPbc	PKPbc	21 34 07.9	+0.8

*IDC **21** 21:21:54.8±0.6, 9.°07N×126.°76E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.2/22, mbtmp4.3/14, ML4.2/1, MS3.7/8, Ms1 3.7/8, ms1mx3.2/39, Error ellipse: s-maj=28.6km s-min=15.2km az=80.0*
*MAN **21** 21:21:57, 8.°88N×126.°98E, h103km, mb5.0, ML4.0, MS4.1*
*NEIC **21** 21:21:58.1±4.0, 9.°08N×126.°80E, h26km±28km, mb4.8/20, Error ellipse: s-maj=13.6km s-min=6.9km az=67.0*
*ISCJB **21** 21:22:00.2±0.9, 8.°98N±0.°04×126.°81E±0.°06, h65km±7km, mb4.4/34, Error ellipse: s-maj=10.7km s-min=5.7km az=171.7*
*DJA **21** 21:22:30, 7.°08N×125.°69E, h30km, mb4.8/3*
ISC 21 21:22:01.8±0.9, **8.°97N**±0.°04×**126.°77E**±0.°07, **h60**km±7km, **n98, σ1§00/98, mb4.5/34, MS3.8/6, 2C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**2.01 237**		*e*P	**Pn**	**21 22 32.6**	**-0.8**
BUKP				*e*S	**Sn**	**21 22 58.7**	**+1.3**
CGP	**Cagayan de Oro**	**2.12 256**	⇑	*i*P	**Pn**	**21 22 33.6**	**-1.2**
CGP				*i* S	**Sn**	**21 23 00.4**	**+0.4**
MSLP	**Maasin**	**2.21 302**		*e*P	**Pn**	**21 22 36.5**	**+0.4**
DAV	**Davao City (W)**	**2.23 212**		Pn	**Pn**	**21 22 35.9**	**-0.5**
	67nm,0.3s,baz=77,slow=1.8,SNR=18						
DAV				Sn	**Sn**	**21 23 07.8**	**+5.0**
	95nm,0.3s,baz=4.0,slow=19,SNR=10						
DAV				LR	LR	21 23 43.2	
	comp=Z,3μm,18.5s,baz=51,slow=47						
DAV	**Davao City (W)**	**2.23 212**		Pn	**Pn**	**21 22 35.9**	**-0.5**
DAV				Sn	**Sn**	**21 23 07.8**	**+5.0**
DAV	**Davao City (W)**	**2.23 212**		P	**Pn**	**21 22 36.5**	**+0.1**
KCP	**Kidapawan**	**2.56 221**	⇓	*e*P	**Pn**	**21 22 39.4**	**-1.5**
KCP				*i* S	**Sn**	**21 23 11.7**	**+0.7**
PLP	**Palo**	**2.80 321**	⇓	*e*P	**Pn**	**21 22 43.6**	**-0.6**
PLP				*e*S	**Sn**	**21 23 23.6**	**+6.8**
TBP	**Tagbilaran**	**2.96 284**		*e*P	**Pn**	**21 22 46.7**	**+0.3**
TBP				*e*S	**Sn**	**21 23 23.8**	**+3.1**
OCLP	**Ormoc**	**2.97 314**		*e*P	**Pn**	**21 22 46.9**	**+0.4**
CTBH	**Cotabato--PC H**	**3.04 235**	⇓	*e*P	**Pn**	**21 22 46.0**	**-1.6**
GSPH	**General Santos**	**3.39 212**		*e*P	**Pn**	**21 22 51.6**	**-0.7**
GSPH				*e*S	**Sn**	**21 23 32.5**	**+1.3**
PAGZ	**Pagadian**	**3.53 252**		*e*P	**Pn**	**21 22 54.1**	**-0.2**
RCP	**Roxas**	**4.72 303**	⇑	*i*P	**Pn**	**21 23 11.3**	**+0.8**
PVCP	**Virac**	**5.26 331**		*e*P	**Pn**	**21 23 19.9**	**+2.0**
ENPP	**El Nido**	**7.57 288**		*e*P	**Pn**	**21 23 49.4**	**-0.1**
TNTI	**Ternate**	**8.17 176**		P	**Pn**	**21 24 01.8**	**+4.1**
	114nm,0.9s						
GTOI	**Gorontalo**	**9.09 205**		P	**Pn**	**21 24 08.9**	**-1.4**
	77nm,0.8s						
LBMI	**Labuha**	**9.57 176**		P	**Pn**	**21 24 24.8**	**+7.8**
MRSI	**Marisa**	**9.71 210**		P	**Pn**	**21 24 19.1**	**+0.2**
YULB	**Yu-li**	**15.27 341**		Pn	**Pn**	**21 25 30.8**	**-3.0**
KAPI	**Kappang**	**15.56 207**		LR	LR	21 32 03.9	
	comp=Z,133nm,19.0s,baz=118,slow=39						
IPM	**Ipoh**	**25.95 262**		*e*P	**P**	**21 27 31.3**	**+2.4**
	38nm,1.1s,mb4.8						
KULM	**Kulim**	**26.17 264**		*e*P	**P**	**21 27 34.0**	**+3.1**
	32nm,1.2s,mb4.7						
FITZ	**Fitzroy Crossi**	**26.92 182**		P	**P**	**21 27 38.6**	**+1.0**
	4.7nm,0.6s,mb4.2,baz=4.8,slow=12,SNR=5.3						
FITZ	**Fitzroy Crossi**	**26.92 182**		*e*P	**P**	**21 27 37.9**	**+0.4**
	3.6nm,0.4s,mb4.2						
CM31	**Chiang Mai Arr**	**28.59 292**		*e*P	**P**	**21 27 52.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**28.59 292**		P	**P**	**21 27 52.6**	**+0.1**
	3.1nm,1.0s,mb4.0,baz=105,slow=7.0,SNR=21						
CMAR				PcP	PcP	21 31 04.2	+1.5
	0.3nm,0.5s,baz=121,slow=1.4,SNR=5.0						
CMAR	**Chiang Mai Arr**	**28.59 292**		P	**P**	**21 27 52.6**	**+0.1**
CMAR				PcP	PcP	21 31 04.2	+1.5
CHTO	**Chiang Mai**	**28.69 293**		*e*P	**P**	**21 27 53.0**	**-0.4**
	4.0nm,1.1s,mb4.1						
WRAB	**Tennant Creek**	**29.68 165**		*e*P	**P**	**21 28 01.9**	**-0.1**
WRA	**Warramunga Arr**	**29.68 166**		P	**P**	**21 28 02.9**	**+0.8**
	0.6nm,0.5s,mb3.6,baz=344,slow=8.9,SNR=5.4						
WRA				PcP	PcP	21 31 09.3	+4.0
	0.6nm,0.8s,baz=353,slow=3.5,SNR=3.1						
WRA	**Warramunga Arr**	**29.68 166**		P	**P**	**21 28 02.9**	**+0.8**
WRA				PcP	PcP	21 31 09.3	+4.0
MBWA	**Marble Bar**	**30.73 193**		P	**P**	**21 28 12.6**	**+1.2**
ASAR	**Alice Springs**	**33.18 168**		P	**P**	**21 28 31.2**	**-1.6**
	0.2nm,0.3s,mb3.5,baz=350,slow=7.5,SNR=6.9						
ASAR				PcP	PcP	21 31 20.4	+5.7
	0.5nm,0.8s,baz=355,slow=2.8,SNR=2.8						
ASAR	**Alice Springs**	**33.18 168**		P	**P**	**21 28 31.2**	**-1.6**
ASAR				PcP	PcP	21 31 20.4	+5.7
CTA	**Charters Tower**	**34.66 147**		LR	LR	21 41 46.3	
	comp=Z,64nm,19.3s,MS3.4,baz=50,slow=34						
USRK	**Ussuriysk Arra**	**35.39 6**		P	**P**	**21 28 53.6**	**+1.9**
	6.5nm,1.0s,mb4.5,baz=187,slow=9.2,SNR=7.3						
HNR	**Honiara**	**37.76 118**		LR	LR	21 41 27.9	
	comp=Z,95nm,19.8s,MS3.6,baz=283,slow=31						
LSA	**Lhasa**	**39.19 307**		*e*P	**P**	**21 29 24.5**	**+0.3**
	4.3nm,0.9s,mb4.2						
TAPN	**Taplejung**	**41.14 302**		*e*P	**P**	**21 29 40.1**	**-0.3**
	36nm,1.1s,mb4.9						
TAPN	**Taplejung**	**41.14 302**		*e*P	**P**	**21 29 40.1**	**-0.3**
	36nm,1.1s,mb4.9						
ODAN	**Odare**	**41.25 301**		*e*P	**P**	**21 29 40.9**	**-0.4**
	45nm,0.8s,mb5.2						
ODAN	**Odare**	**41.25 301**		*e*P	**P**	**21 29 40.9**	**-0.4**
	45nm,0.8s,mb5.2						
RAMN	**Ramite**	**41.95 301**		*e*P	**P**	**21 29 46.8**	**-0.2**
	21nm,0.9s,mb4.7						
RAMN	**Ramite**	**41.95 301**		*e*P	**P**	**21 29 46.8**	**-0.2**
	21nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**42.20 340**		*e*P	**P**	**21 29 47.1**	**-1.6**
	1.4nm,0.6s,mb3.8						
SONM	**Songino Array**	**42.40 340**		P	**P**	**21 29 50.6**	**+0.3**
	1.2nm,1.0s,mb3.5,baz=169,slow=9.8,SNR=6.3						
SONM	**Songino Array**	**42.40 340**		P	**P**	**21 29 50.6**	**+0.3**
JIRN	**Jiri**	**42.52 301**		*e*P	**P**	**21 29 51.2**	**-0.4**
	18nm,0.8s,mb4.9						
JIRN	**Jiri**	**42.52 301**		*e*P	**P**	**21 29 51.2**	**-0.4**
	18nm,0.8s,mb4.9						
GUN	**Gumba**	**42.86 302**		*e*P	**P**	**21 29 54.0**	**-0.4**
	28nm,0.8s,mb5.0						
GUN	**Gumba**	**42.86 302**		*e*P	**P**	**21 29 54.0**	**-0.4**
	28nm,0.8s,mb5.0						
STKA	**Steph

UPM				eSg	Sn	21 55 07.0	-1.6
BRY	**Bratogost**	**1.41**	**140**	⇓iPg	Pn	21 54 46.7	-3.1
BRY				eSg	Sn	21 55 06.5	-2.2
BRY	**Bratogost**	**1.41**	**140**	⇓iPg	Pn	21 54 46.7	-3.1
BRY				eSg	Sn	21 55 06.5	-2.2
BBLS	**Lazići**	**1.52**	**94**	eSg	Sg	21 55 12.1	-0.4
BBLS	**Lazići**	**1.52**	**94**	eSg	Sg	21 55 12.1	-0.4
NKY	**Niksic**	**1.70**	**133**	⇑iPg	Pn	21 54 52.8	-1.0
NKY				eSg	Sn	21 55 16.8	+0.9
NKY	**Niksic**	**1.70**	**133**	⇑iPg	Pn	21 54 52.8	-1.0
NKY				eSg	Sn	21 55 16.8	+0.9
HCY	**Herceg Novi**	**1.76**	**150**	⇑iPn	Pn	21 54 53.4	-1.3
HCY				eSn	Sn	21 55 17.4	-0.1
HCY	**Herceg Novi**	**1.76**	**150**	⇑iPn	Pn	21 54 53.4	-1.3
HCY				eSn	Sn	21 55 17.4	-0.1
NVLJ	**Novalja**	**1.84**	**289**	iPn	Pn	21 54 55.9	+0.1
NVLJ				Sg	Sg	21 55 22.4	-0.4
NVLJ	**Novalja**	**1.84**	**289**	iPn	Pn	21 54 55.9	+0.1
NVLJ				Sg	Sg	21 55 22.3	-0.4
DIVS	**Divibare**	**1.94**	**86**	ePn	Pn	21 54 58.2	+1.0
DIVS				eSg	Sg	21 55 25.2	-0.8
DIVS	**Divibare**	**1.94**	**86**	ePn	Pn	21 54 58.2	+1.0
DIVS				eSg	Sg	21 55 25.2	-0.8
BUM	**Brajici-Budva**	**2.04**	**145**	⇓iPn	Pn	21 54 58.1	-0.5
BUM				eSn	Sn	21 55 25.4	+1.0
BUM	**Brajici-Budva**	**2.04**	**145**	⇓iPn	Pn	21 54 58.1	-0.5
BUM				eSn	Sn	21 55 25.4	+1.0
IVAS	**Ivanjica**	**2.10**	**100**	eSg	Sg	21 55 30.9	-0.2
PDG	**Podgorica**	**2.11**	**137**	ePn	Pn	21 54 59.2	-0.3
PDG				eSg	Sn	21 55 28.6	+2.6
PDG	**Podgorica**	**2.11**	**137**	ePn	Pn	21 54 59.2	-0.3
PDG				eSn	Sn	21 55 27.1	+1.1
PDG				eSg	Sn	21 55 28.6	+2.6
TTG	**Podgorica**	**2.11**	**137**	⇓iPn	Pn	21 54 59.6	+0.1
TTG				eSn	Sn	21 55 27.1	+1.0
BOJS	**Bojanci**	**2.11**	**317**	ePn	Pn	21 54 59.5	0.0
BOJS				eSn	Sg	21 55 29.9	-1.5
BOJS	**Bojanci**	**2.11**	**317**	Pn	Pn	21 54 59.5	0.0
BOJS				eSn	Sg	21 55 29.9	-1.5
BEY	**Berane**	**2.19**	**120**	⇑iPn	Pn	21 55 00.9	+0.3
BEY				eSn	Sn	21 55 29.7	+1.7
IVA	**Berane**	**2.19**	**119**	⇑iPn	Pn	21 55 00.9	+0.3
IVA				eSn	Sn	21 55 29.7	+1.6
GBRS	**Gornja Briga**	**2.36**	**312**	ePn	Pn	21 55 04.4	+1.5
PVY	**Plav**	**2.38**	**125**	⇑iPn	Pn	21 55 04.0	+0.7
PVY				eSn	Sn	21 55 34.9	+2.1
PVY	**Plav**	**2.38**	**125**	⇑iPn	Pn	21 55 04.0	+0.7
PVY				eSn	Sn	21 55 34.9	+2.1
GRUS	**Gruza**	**2.47**	**91**	ePn	Pn	21 55 03.7	-0.7
GRUS				eSg	Sg	21 55 45.6	+2.8
GRUS	**Gruza**	**2.47**	**91**	ePn	Pn	21 55 03.7	-0.7
ULC	**Ulcinj**	**2.47**	**144**	⇑iPn	Pn	21 55 03.9	-0.5
ULC				eSn	Sn	21 55 35.2	+0.3
ULC	**Ulcinj**	**2.47**	**144**	⇑iPn	Pn	21 55 03.9	-0.5
ULC				eSn	Sn	21 55 35.2	+0.3
VISS	**Visnje**	**2.53**	**317**	ePn	Pn	21 55 06.0	+0.7
VISS	**Visnje**	**2.53**	**317**	ePn	Pn	21 55 06.0	+0.8
SOKA	**Soboth**	**3.14**	**330**	⇓iPn	Pn	21 55 14.2	+0.6
SOKA				⇓iSn	Sn	21 55 50.8	-0.6
SOKA	**Soboth**	**3.14**	**330**	Pn	Pn	21 55 14.2	+0.6
SOKA				Sn	Sn	21 55 50.8	-0.6
VOY	**Vojsko**	**3.17**	**312**	ePn	Pn	21 55 15.7	+1.6
VOY				eSn	Sg	21 55 56.8	-8.6
VOY				e		21 55 58.3	
VOY	**Vojsko**	**3.17**	**312**	ePn	Pn	21 55 15.7	+1.6
VOY				eSn	Sg	21 55 56.8	-8.6
OBKA	**Obir**	**3.19**	**323**	⇓iPn	Pn	21 55 15.6	+1.3
OBKA				⇓iSn	Sn	21 55 52.3	-0.4
OBKA	**Obir**	**3.19**	**323**	Pn	Pn	21 55 15.6	+1.2
OBKA				Sn	Sn	21 55 52.3	-0.4
BZS	**Buzias**	**3.48**	**60**	ePn	Pn	21 55 17.6	-0.7
BZS	**Buzias**	**3.48**	**60**	ePn	Pn	21 55 17.6	-0.7
ARSA	**Arzberg**	**3.50**	**340**	⇑iPn	Pn	21 55 18.7	0.0
ARSA				⇑iSn	Sn	21 55 58.2	-2.2
ARSA	**Arzberg**	**3.50**	**340**	Pn	Pn	21 55 18.7	+0.1
ARSA				Sn	Sn	21 55 58.2	-2.2
ZAPS	**Zavoj**	**3.94**	**98**	ePn	Pn	21 55 25.0	+0.4
ZAPS				eSn	Sn	21 56 10.4	-0.7
CONA	**Conrad Observa**	**4.07**	**346**	⇓iPn	Pn	21 55 27.1	+0.5
CONA				⇓iSn	Sn	21 56 13.6	-0.9
CONA	**Conrad Observa**	**4.07**	**346**	Pn	Pn	21 55 27.1	+0.6
CONA				Sn	Sn	21 56 13.6	-0.9
MOA	**Molln**	**4.41**	**332**	⇑iPn	Pn	21 55 31.7	+0.6
MOA				⇑iSn	Sn	21 56 22.5	-0.3
MOA	**Molln**	**4.41**	**332**	Pn	Pn	21 55 31.7	+0.6
MOA				Sn	Sn	21 56 22.5	-0.3
WTTA	**Wattenberg**	**5.16**	**312**	⇑iPn	Pn	21 55 42.4	+1.1
WTTA				⇑iSn	Sn	21 56 41.2	0.0
WTTA	**Wattenberg**	**5.16**	**312**	Pn	Pn	21 55 42.4	+1.1
WTTA				Sn	Sn	21 56 41.2	0.0

ISCJB ***21*** *22:12:21.6±0.5, 43°.99N±0°.02×17°.23E±0°.02, h5km±3km, Error ellipse: s-maj=3.1km s-min=2.0km az=44.0*
CSEM ***21*** *22:12:22.6±0.1, 43°.93N×17°.29E, h2km, ML3.0, Error ellipse: s-maj=3.9km s-min=2.3km az=41.0*
PDG ***21*** *22:12:22.2±0.4, 43°.88N×17°.26E, h0km±11km, ML3.3/10, Error ellipse: s-maj=1.7km s-min=2.3km az=0.0*
NEIC ***21*** *22:12:22.2, 43°.98N×17°.38E, h0km, ML2.5(PDG), After PDG.*
PRU ***21*** *22:12:23.0, 43°.95N×17°.20E, h0km*
LDG ***21*** *22:12:23.5±0.1, 44°.01N×17°.38E, h10km, Ml3.2/21, Error ellipse: s-maj=2.8km s-min=1.6km az=31.0*
BEO ***21*** *22:12:23.1±0.5, 43°.95N×17°.28E, h8km±3km, ML3.0/5*
VIE ***21*** *22:12:25.8±0.3, 44°.14N×17°.32E, h10km, mb3.0/12, ML2.9/14, Error ellipse: s-maj=2.5km s-min=1.9km az=17.0 94 km WNW of Sarajevo*

ISC 21 22:12:23.1±0.5, 43°.95N±0°.02×17°.27E±0°.02, h7km±3km, n195, σ1$30/323, 27C-22D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.81**	**355**	⇓iPg	Pg	22 12 38.9	+0.3
BLY				eSg	Sg	22 12 50.2	+1.1
BLY	**Banja Luka**	**0.81**	**355**	⇓iPg	Pg	22 12 38.9	+0.3
STON	**Ston**	**1.12**	**164**	ePg	Pg	22 12 39.5	-5.0
STON				Sg	Sg	22 12 55.7	-3.3
BRY	**Bratogost**	**1.39**	**138**	⇑iPg	Pg	22 12 46.9	-2.9
BRY				eSg	Sg	22 13 08.4	+0.6
BRY	**Bratogost**	**1.39**	**138**	P	Pn	22 12 47.0	-1.9
BRY				S	Sb	22 13 10.0	+2.7
BRY	**Bratogost**	**1.39**	**138**	P	Pn	22 12 47.0	-1.9
BRY				eSg	Sg	22 13 08.4	+0.6
BRY				S	Sb	22 13 10.0	+2.7
UPM	**Unac-Piva**	**1.40**	**121**	⇓iPg	Pn	22 12 47.6	-1.4
UPM				eSg	Sg	22 13 09.0	+1.0
UPM	**Unac-Piva**	**1.40**	**121**	P	Pn	22 12 48.0	-1.0
UPM	**Unac-Piva**	**1.40**	**121**	⇓iPg	Pn	22 12 47.6	-1.4
UPM	**Unac-Piva**	**1.40**	**121**	P	Pn	22 12 48.0	-1.0
UPM				eSg	Sg	22 13 09.0	+1.0
BBLS	**Lazići**	**1.54**	**92**	ePn	Pn	22 12 50.7	-0.2
BBLS				eSg	Sg	22 13 12.8	+0.1
BBLS	**Lazići**	**1.54**	**92**	ePn	Pn	22 12 50.7	-0.2
BBLS				eSg	Sg	22 13 12.8	+0.1
PLE	**Pljevlja**	**1.65**	**111**	⇓iPn	Pn	22 12 52.3	-0.2
PLE				eSn	Sn	22 13 17.8	+3.9
PLE	**Pljevlja**	**1.65**	**111**	P	Pn	22 12 52.0	-0.5
PLE				S	Sn	22 13 16.0	+2.1
PLE	**Pljevlja**	**1.65**	**111**	P	Pn	22 12 52.0	-0.5
PLE	**Pljevlja**	**1.65**	**111**	⇓iPn	Pn	22 12 52.3	-0.2
PLE				S	Sn	22 13 16.0	+2.1
PLE				eSn	Sn	22 13 17.8	+3.9
SISC	**Sisak**	**1.66**	**337**	ePn	Pn	22 12 52.3	-0.2
SISC				Sn	Sn	22 13 17.5	+3.5
SISC	**Sisak**	**1.66**	**337**	ePn	Pn	22 12 52.3	-0.2
SISC				Sn	Sn	22 13 17.5	+3.5
NKY	**Niksic**	**1.69**	**131**	⇑iPn	Pn	22 12 53.3	+0.4
NKY				eSn	Sn	22 13 18.3	+3.5
NKY	**Niksic**	**1.69**	**131**	⇑iPn	Pn	22 12 53.3	+0.4
NKY				eSn	Sn	22 13 18.3	+3.5
HCY	**Herceg Novi**	**1.74**	**149**	⇑iPn	Pn	22 12 53.2	-0.5
HCY				eSn	Sn	22 13 18.8	+2.7
HCY	**Herceg Novi**	**1.74**	**149**	P	Pn	22 12 54.0	+0.3
HCY				S	Sn	22 13 18.0	+1.9
HCY	**Herceg Novi**	**1.74**	**149**	⇑iPn	Pn	22 12 53.2	-0.5
HCY	**Herceg Novi**	**1.74**	**149**	P	Pn	22 12 54.0	+0.3
HCY				S	Sn	22 13 18.0	+1.9
HCY				eSn	Sn	22 13 18.8	+2.7
NVLJ	**Novalja**	**1.83**	**291**	iPn	Pn	22 12 56.0	+1.0
NVLJ				Sg	Sg	22 13 22.4	+0.4
NVLJ	**Novalja**	**1.83**	**291**	iPn	Pn	22 12 55.9	+1.0
NVLJ				Sg	Sg	22 13 22.3	+0.3
DIVS	**Divibare**	**1.97**	**85**	ePn	Pn	22 12 55.7	-1.1
DIVS				eSg	Sg	22 13 25.9	-0.4
DIVS	**Divibare**	**1.97**	**85**	ePn	Pn	22 12 55.7	-1.1
DIVS				eSg	Sg	22 13 25.9	-0.4
BUM	**Brajici-Budva**	**2.03**	**144**	⇓iPn	Pn	22 12 57.8	+0.2
BUM				eSn	Sn	22 13 25.9	+2.8
BUM	**Brajici-Budva**	**2.03**	**144**	P	Pn	22 12 58.0	+0.4
BUM				S	Sn	22 13 27.0	+3.9
BUM	**Brajici-Budva**	**2.03**	**144**	P	Pn	22 12 58.0	+0.4
BUM				eSn	Sn	22 13 25.9	+2.8
BUM				S	Sn	22 13 27.0	+3.9
RHK3	**Tenkes**	**2.06**	**19**	⇑ePn	Pn	22 12 57.9	-0.2
PDG	**Podgorica**	**2.10**	**136**	⇓iPn	Pn	22 12 59.2	+0.7
PDG				eSg	Sg	22 13 28.4	-2.0
PDG	**Podgorica**	**2.10**	**136**	⇓iPn	Pn	22 12 59.2	+0.7
PDG				eSg	Sg	22 13 28.4	-2.0
TTG	**Podgorica**	**2.10**	**136**	ePn	Pn	22 12 59.3	+0.7
TTG				eSn	Sn	22 13 28.2	+3.3
BOJS	**Bojanci**	**2.12**	**318**	ePn	Pn	22 12 59.3	+0.4
BOJS				eSn	Sn	22 13 27.6	+2.2
BOJS	**Bojanci**	**2.12**	**318**	P	Pn	22 13 00.0	+1.1
BOJS	**Bojanci**	**2.12**	**318**	Pn	Pn	22 12 59.3	+0.4
BOJS	**Bojanci**	**2.12**	**318**	P	Pn	22 13 00.0	+1.1
BOJS				eSn	Sn	22 13 27.6	+2.1
FGSL	**Fruska Gora**	**2.18**	**55**	eSn	Sn	22 13 27.0	+0.1
FRGS	**Fruska Gora**	**2.18**	**55**	eSn	Sn	22 13 27.0	+0.1
BEY	**Berane**	**2.19**	**118**	⇑iPn	Pn	22 13 00.6	+0.8
BEY				eSn	Sn	22 13 31.2	+4.1
IVA	**Berane**	**2.19**	**118**	⇑iPn	Pn	22 13 00.6	+0.7
IVA				eSn	Sn	22 13 31.2	+4.0
TRUS	**Trudelj**	**2.27**	**82**	ePn	Pn	22 12 59.9	-1.1
CRES	**Cresnjev**	**2.28**	**326**	P	Pn	22 13 02.0	+0.9
CRES	**Cresnjev**	**2.28**	**326**	P	Pn	22 13 02.0	+0.9
GBRS	**Gornja Briga**	**2.37**	**313**	ePn	Pn	22 13 03.7	+1.4
GBRS				eSn	Sn	22 13 33.9	+2.4
PVY	**Plav**	**2.38**	**124**	⇑iPn	Pn	22 13 04.1	+1.6
PVY				eSn	Sn	22 13 36.2	+4.4
PVY	**Plav**	**2.38**	**124**	⇑iPn	Pn	22 13 04.1	+1.6
PVY				eSn	Sn	22 13 36.2	+4.4
ULC	**Ulcinj**	**2.45**	**143**	⇓iPn	Pn	22 13 03.7	+0.3
ULC				eSn	Sn	22 13 36.7	+3.1
ULC	**Ulcinj**	**2.45**	**143**	⇓iPn	Pn	22 13 03.7	+0.3
ULC				eSn	Sn	22 13 36.7	+3.1
PKSM	**Moragy**	**2.46**	**23**	⇑iPn	Pn	22 13 03.1	-0.5
PKSM	**Moragy**	**2.46**	**23**	P	Pn	22 13 03.0	-0.6
PKSM	**Moragy**	**2.46**	**23**	⇑iPn	Pn	22 13 03.1	-0.5
GRUS	**Gruza**	**2.49**	**90**	ePn	Pn	22 13 04.2	+0.3
GRUS				eSn	Sn	22 13 32.9	-1.6
GRUS	**Gruza**	**2.49**	**90**	ePn	Pn	22 13 04.2	+0.3
GRUS				eSn	Sn	22 13 32.9	-1.6
VISS	**Visnje**	**2.54**	**318**	ePn	Pn	22 13 05.9	+1.2
VISS	**Visnje**	**2.54**	**318**	ePn	Pn	22 13 05.9	+1.3
BEHE	**Becsehely**	**2.55**	**352**	⇑ePn	Pn	22 13 05.6	+0.8
BEHE				eSn	Sn	22 13 36.7	+0.7
KOGS	**Kog**	**2.61**	**344**	P	Pn	22 13 06.3	+0.7
KOGS	**Kog**	**2.61**	**344**	P	Pn	22 13 06.3	+0.7
CEY	**Cerknica**	**2.71**	**313**	P	Pn	22 13 08.5	+1.6
CEY	**Cerknica**	**2.71**	**313**	P	Pn	22 13 08.5	+1.6
PKS9	**Tamasi**	**2.74**	**15**	⇓ePn	Pn	22 13 07.6	+0.3
GROS	**Grobnik**	**2.81**	**334**	P	Pn	22 13 09.8	+1.4
GROS	**Grobnik**	**2.81**	**334**	P	Pn	22 13 09.8	+1.4
TRI	**Trieste**	**3.06**	**306**	ePn	Pn	22 13 12.1	+0.4
TRI				eSn	Sn	22 13 49.3	+0.8
TRI	**Trieste**	**3.06**	**306**	ePn	Pn	22 13 12.1	+0.3
TRI				eSn	Sn	22 13 49.3	+0.8
PERS	**Pernice**	**3.09**	**331**	P	Pn	22 13 13.1	+0.9
PERS	**Pernice**	**3.09**	**331**	P	Pn	22 13 13.1	+0.9
SOKA	**Soboth**	**3.16**	**331**	⇑iPn	Pn	22 13 13.6	+0.4
SOKA				⇓iSn	Sn	22 13 50.8	-0.2
SOKA	**Soboth**	**3.16**	**331**	Pn	Pn	22 13 13.6	+0.5
SOKA				Sn	Sn	22 13 50.8	-0.2
VOY	**Vojsko**	**3.18**	**312**	ePn	Pn	22 13 15.2	+1.8
VOY				e		22 13 16.3	
VOY				e		22 13 21.3	
VOY				e(Sn)	Sn	22 13 49.8	-1.7
VOY				e		22 13 57.0	
VOY				e		22 13 59.5	
VOY	**Vojsko**	**3.18**	**312**	ePn	Pn	22 13 15.2	+1.8
VOJS	**Vojsko**	**3.18**	**312**	P	Pn	22 13 15.5	+2.0
VOJS	**Vojsko**	**3.18**	**312**	P	Pn	22 13 15.5	+2.0
OBKA	**Obir**	**3.21**	**324**	⇓iPn	Pn	22 13 14.5	+0.7
	SNR=7.0						
OBKA				⇑iSn	Sn	22 13 52.4	+0.2
OBKA	**Obir**	**3.21**	**324**	Pn	Pn	22 13 14.5	+0.7
	SNR=7.0						
OBKA				Sn	Sn	22 13 52.4	+0.2
TIR	**Tirane**	**3.22**	**143**	ePg	Pg	22 13 21.3	-3.6
TIR	**Tirane**	**3.22**	**143**	ePn	Pn	22 13 13.8	-0.2
TIR				ePg	Pg	22 13 22.4	-2.5
TIR				eSn	Sn	22 13 51.1	-1.5
TIR	**Tirane**	**3.22**	**143**	ePn	Pn	22 13 13.8	-0.2
AQU	**L'Aquila**	**3.25**	**242**	ePn	Pn	22 13 16.3	+1.9
AQU				eSn	Sn	22 13 54.5	+1.3
AQU	**L'Aquila**	**3.25**	**242**	ePn	Pn	22 13 16.3	+1.9
AQU				eSn	Sn	22 13 54.5	+1.2
GORS	**Gorjuse**	**3.32**	**317**	P	Pn	22 13 17.3	+2.0
GORS	**Gorjuse**	**3.32**	**317**	P	Pn	22 13 17.3	+2.0
BARS	**Barje**	**3.50**	**107**	⇓iPn	Pn	22 13 17.3	-0.5
BARS	**Barje**	**3.50**	**107**	⇓iPn	Pn	22 13 17.3	-0.5
BZS	**Buzias**	**3.52**	**60**	ePg	Pg	22 13 24.8	-5.6
ROBS	**Robic**	**3.52**	**312**	P	Pn	22 13 20.0	+1.9
ROBS	**Robic**	**3.52**	**312**	P	Pn	22 13 20.0	+1.9
ARSA	**Arzberg**	**3.53**	**340**	⇑iPn	Pn	22 13 18.8	+0.5
	SNR=15						
ARSA				⇓iSn	Sn	22 13 58.2	-1.9
ARSA	**Arzberg**	**3.53**	**340**	Pn	Pn	22 13 18.8	+0.6
	SNR=15						
ARSA				Sn	Sn	22 13 58.2	-1.9
PKSG		**3.54**	**12**	⇑ePn	Pn	22 13 18.8	+0.5
PKSG				eSn	Sn	22 14 01.5	+1.2
BUD	**Budapest**	**3.75**	**18**	⇑ePg	Pg	22 13 34.9	+0.1
BUD				eSg	Sg	22 14 25.1	+1.8
SOP	**Sopron**	**3.77**	**353**	⇑eP	Pn	22 13 22.0	+0.4
SOP				eSn	Sn	22 14 04.9	-1.3
SOP	**Sopron**	**3.77**	**353**	⇑ePn	Pn	22 13 22.0	+0.4
SOP				eSn	Sn	22 14 04.9	-1.3
KRUS	**Krusevo**	**3.90**	**130**	ePn	Pn	22 13 24.1	+0.7
KRUS	**Krusevo**	**3.90**	**130**	ePn	Pn	22 13 24.0	+0.6
ZAPS	**Zavoj**	**3.95**	**98**	ePn	Pn	22 13 24.6	+0.6
ZAPS				eSn	Sn	22 14 10.0	-0.6
CONA	**Conrad Observa**	**4.10**	**347**	iPn	Pn	22 13 26.9	+0.8
	SNR=29						
CONA				⇑iSn	Sn	22 14 13.5	-0.9
CONA	**Conrad Observa**	**4.10**	**347**	Pn	Pn	22 13 26.9	+0.8
	SNR=29						
CONA				Sn	Sn	22 14 13.5	-0.8
ABTA	**Abfaltersbach**	**4.37**	**312**	⇓iPn	Pn	22 13 31.1	+1.3
	SNR=11						
ABTA				⇓iSn	Sn	22 14 22.4	+1.4
ABTA	**Abfaltersbach**	**4.37**	**312**	Pn	Pn	22 13 31.1	+1.3
	SNR=11						
ABTA				Sn	Sn	22 14 22.4	+1.4
PSZ	**Piszkesteto**	**4.37**	**24**	ePn	Pn	22 13 29.7	-0.2
PSZ				eSn	Sn	22 14 20.4	-0.6
PSZ	**Piszkesteto**	**4.37**	**24**	⇑ePn	Pn	22 13 29.6	-0.2
PSZ				eSB	Sg	22 14 41.0	-2.5
PSZ	**Piszkesteto**	**4.37**	**24**	ePn	Pn	22 13 29.7	-0.1
PSZ				eSn	Sn	22 14 20.4	-0.6
MOA	**Molln**	**4.43**	**333**	⇑iPn	Pn	22 13 31.2	+0.6
	SNR=16						
MOA				⇑iSn	Sn	22 14 22.3	-0.2
MOA	**Molln**	**4.43**	**333**	P	Pn	22 13 33.0	+2.3
MOA	**Molln**	**4.43**	**333**	Pn	Pn	22 13 31.2	+0.5
	SNR=16						
MOA	**Molln**	**4.43**	**333**	P	Pn	22 13 33.0	+2.3
MOA				Sn	Sn	22 14 22.3	-0.2
VTS	**Vitosha**	**4.54**	**105**	ePn	Pn	22 13 32.2	+0.1
VTS	**Vitosha**	**4.54**	**105**	ePn	Pn	22 13 32.2	+0.1
SMOL	**Smolenice**	**4.57**	**1**	ePN	Pn	22 13 32.6	0.0
SMOL				eSN	Sn	22 14 23.3	-2.6
SMOL	**Smolenice**	**4.57**	**1**	ePN	Pn	22 13 32.6	0.0
SMOL				eSN	Sn	22 14 23.3	-2.6
VYHS	**Vyhne**	**4.68**	**13**	ePN	Pn	22 13 34.4	+0.4
VYHS				eSN	Sn	22 14 27.7	-0.8
VYHS	**Vyhne**	**4.68**	**13**	ePn	Pn	22 13 34.4	+0.4
VYHS				eSn	Sn	22 14 27.7	-0.8
KOLL	**Kolacno**	**4.70**	**9**	ePN	Pn	22 13 34.9	+0.6
KOLL				eSN	Sn	22 14 27.5	-1.5
KOLL	**Kolacno**	**4.70**	**9**	ePn	Pn	22 13 34.9	+0.6
KOLL				eSn	Sn	22 14 27.5	-1.5
KECS	**Kecovo**	**5.06**	**25**	ePN	Pn	22 13 39.5	+0.3
KECS				eSN	Sn	22 14 37.2	-0.6
KECS	**Kecovo**	**5.06**	**25**	ePn	Pn	22 13 39.5	+0.3
KECS				eSn	Sn	22 14 37.2	-0.6
WTTA	**Wattenberg**	**5.16**	**312**	⇑iPn	Pn	22 13 41.7	+1.1
	SNR=11						
WTTA				⇓iSn	Sn	22 14 41.2	+0.8
WTTA	**Wattenberg**	**5.16**	**312**	P	Pn	22 13 42.6	+1.9
WTTA	**Wattenberg**	**5.16**	**312**	Pn	Pn	22 13 41.7	+1.0
	SNR=11						
WTTA	**Wattenberg**	**5.16**	**312**	P	Pn	22 13 42.6	+1.9
WTTA				Sn	Sn	22 14 41.2	+0.8
WATA	**Walderalm**	**5.24**	**312**	⇓iPn	Pn	22 13 42.8	+1.1
	SNR=11						
WATA	**Walderalm**	**5.24**	**312**	P	Pn	22 13 44.2	+2.5
WATA	**Walderalm**	**5.24**	**312**	Pn	Pn	22 13 42.8	+1.1
	SNR=11						
WATA	**Walderalm**	**5.24**	**312**	P	Pn	22 13 44.2	+2.5
VRAC	**Vranov**	**5.39**	**355**	eSn	Sn	22 14 43.5	-2.4
MOTA	**Moosalm**	**5.50**	**310**	⇑iPn	Pn	22 13 46.3	+1.0
	SNR=14						
MOTA	**Moosalm**	**5.50**	**310**	P	Pn	22 13 47.5	+2.2
MOTA	**Moosalm**	**5.50**	**310**	Pn	Pn	22 13 46.3	+1.0
	SNR=14						
MOTA	**Moosalm**	**5.50**	**310**	P	Pn	22 13 47.5	+2.2
FETA	**Feichten**	**5.54**	**306**	⇓iPn	Pn	22 13 47.0	+1.2
FETA				⇑iSn	Sn	22 14 51.1	+1.5
FETA	**Feichten**	**5.54**	**306**	Pn	Pn	22 13 47.0	+1.2
FETA				Sn	Sn	22 14 51.1	+1.5
CRVS	**Cervenica-Dubn**	**5.74**	**29**	ePN	Pn	22 13 49.1	+0.5
CRVS				e		22 45 51.7	
CRVS				ePP		22 47 14.6	
CRVS	**Cervenica-Dubn**	**5.74**	**29**	ePn	Pn	22 13 49.1	+0.5
KHC	**Kasperske Hory**	**5.78**	**335**	ePn	Pn	22 13 50.6	+1.5
	1.8nm,0.5s						
KHC				eSn	Sn	22 14 54.0	-1.6
KHC	**Kasperske Hory**	**5.78**	**335**	ePN	Pn	22 13 50.4	+1.3
KHC				ex	x	22 14 00.0	
KHC				eSN	Sn	22 14 52.7	-2.9
KHC	**Kasperske Hory**	**5.78**	**335**	Pn	Pn	22 13 50.4	+1.3
MORC	**Moravsky Berou**	**5.84**	**2**	eSn	Sn	22 14 56.7	-0.3
OKC	**Ostrava-Krasne**	**5.92**	**5**	eSN	Sn	22 14 59.0	-0.2
OKC	**Ostrava-Krasne**	**5.92**	**5**	Sn	Sn	22 14 59.0	-0.2
TUE	**Stuetta**	**6.14**	**297**	ePn	Pn	22 13 59.0	+4.8
	6.6nm,0.6s						
TUE				eSn	Sn	22 15 06.4	+1.8
PGF	**Pioggiola**	**6.20**	**260**	ePn	Pn	22 13 54.3	-0.7
PGF				eSn	Sn	22 15 02.0	-4.1
	0.5nm,0.3s						
PGF	**Pioggiola**	**6.20**	**260**	ePn	Pn	22 13 54.3	-0.7
PGF				eSn	Sn	22 15 02.0	-4.1
PGF	**Pioggiola**	**6.20**	**260**	ePn	Pn	22 13 54.3	-0.7
DPC	**Dobruska-Polom**	**6.44**	**355**	ePN	Pn	22 14 00.8	+2.6
DPC				eSN	Sn	22 15 11.2	-0.7
DPC	**Dobruska-Polom**	**6.44**	**355**	Pn	Pn	22 14 00.8	+2.6
DPC				Sn	Sn	22 15 11.2	-0.7
SBF	**Sospel**	**7.11**	**273**	ePn	Pn	22 14 06.1	-1.3
SBF				eSn	Sn	22 15 23.4	-4.9
	4.7n

IDC 21 22:13:24.8±7.1, 31°.36S×177°.42W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/16, mbtmp3.6/2, Error ellipse: s-maj=312.9km s-min=55.7km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.56**	**268**	P	P	22 21 30.0	-0.6
	0.5nm,0.6s,baz=105,slow=6.8,SNR=3.7						
WRA	**Warramunga Arr**	**44.64**	**273**	P	P	22 21 39.8	+0.5
	0.4nm,0.3s,baz=114,slow=7.9,SNR=19						
FINES	**FINESS Array B**	**146.22**	**340**	PKPbc	PKPbc	22 33 05.5	-0.9
	2.3nm,0.9s,baz=64,slow=4.4,SNR=7.7						

IDC 21 22:14:22.0±5.1, 29°.32S×177°.32W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/15, mbtmp3.7/2, Error ellipse: s-maj=231.3km s-min=81.9km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.77**	**266**	P	P	22 22 29.1	-0.5
	0.7nm,0.7s,baz=107,slow=7.7,SNR=4.5						
WRA	**Warramunga Arr**	**44.67**	**271**	P	P	22 22 37.2	+0.4
	0.5nm,0.4s,baz=111,slow=8.0,SNR=5.9						
FINES	**FINESS Array B**	**144.33**	**341**	PKP	PKPdf	22 33 58.7	-0.7
	2.9nm,0.9s,baz=14,slow=0.6,SNR=3.4						

*ISCJB **21** 22:30:09.4±1.0, 36°.48N±0°.05×142°.40E±0°.08, h33km, mb3.9/4, Error ellipse: s-maj=9.5km s-min=6.4km az=20.9*
*JMA **21** 22:30:09.3±0.3, 36°.48N×142°.40E, h64km, M3.3*
*IDC **21** 22:30:12.5±2.0, 36°.99N×141°.82E, h0km, mb3.9/5, mb1 3.8/7, mb1mx3.6/25, mbtmp3.8/7, ML3.4/2, Error ellipse: s-maj=42.3km s-min=25.0km az=86.0*
*NEIC **21** 22:30:17.3±1.3, 37°.07N×141°.81E, h35km, mb4.0/1, Error ellipse: s-maj=24.1km s-min=14.5km az=122.0*

ISC 21 22:30:10.9±1.0, 36°.49N±0°.05×142°.37E±0°.08, h35km, n26, σ0s81/33, mb3.9/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.40**	**296**	P	**Pn**	**22 30 33.3**	**-0.7**
JHO	**Hitachi**	**1.45**	**275**	P	**Pn**	**22 30 33.8**	**-0.9**
JHO				*eS*	**Sn**	**22 30 52.2**	**-0.3**
JFK	**Kawauchi**	**1.48**	**307**	P	**Pn**	**22 30 35.7**	**+0.6**
JFK				*eS*	**Sn**	**22 30 53.4**	**+0.1**
JMM	**Marumori**	**1.86**	**318**	P	**Pn**	**22 30 39.5**	**-0.8**
JMM				*eS*	**Sn**	**22 31 04.0**	**+1.3**
JFT	**Otama**	**1.93**	**303**	P	**Pn**	**22 30 41.6**	**+0.4**
JIO	**Ouri**	**2.12**	**338**	P	**Pn**	**22 30 43.0**	**-0.9**
JIO				*eS*	**Sn**	**22 31 08.6**	**-0.5**
BSO1	**Boso 1**	**2.15**	**212**	P	**Pn**	**22 30 43.6**	**-0.7**
JAG	**Ashikaga**	**2.35**	**269**	P	**Pn**	**22 30 47.3**	**+0.3**
JAG				*eS*	**Sn**	**22 31 14.9**	**+0.3**
JMK	**Ichinoseki**	**2.62**	**340**	P	**Pn**	**22 30 50.9**	**+0.1**
JMK				*eS*	**Sn**	**22 31 21.1**	**-0.3**
JRY	**Ryogami san**	**2.84**	**262**	P	**Pn**	**22 30 53.4**	**-0.4**
MJAR	**Matsushiro Arr**	**3.35**	**272**	Pn	**Pn**	**22 31 01.4**	**+0.7**
	3.0nm,0.3s,baz=87,slow=8.6,SNR=25						
MJAR	**Matsushiro Arr**	**3.35**	**272**	Pn	**Pn**	**22 31 01.4**	**+0.7**
MAJO	**Matsushiro**	**3.35**	**272**	*e*Pn	**Pn**	**22 31 00.6**	**-0.2**
MAT	**Matsushiro**	**3.35**	**272**	P	**Pn**	**22 31 00.9**	**+0.1**
MAT				S	**Sn**	**22 31 38.3**	**-1.1**
ASAJ	**Asahikawa**	**7.62**	**1**	Pn	**Pn**	**22 31 58.7**	**-0.7**
	0.9nm,0.3s,baz=222,slow=9.8,SNR=6.5						
ASAJ				Sn	**Sn**	**22 33 24.2**	**-0.2**
	0.6nm,0.3s,baz=177,slow=18,SNR=4.0						
ASAJ	**Asahikawa**	**7.62**	**1**	*e*Pn	**Pn**	**22 31 57.4**	**-2.0**
ASAJ				*e*Sn	**Sn**	**22 33 19.1**	**-5.4**
SONM	**Songino Array**	**28.73**	**305**	P	**P**	**22 36 07.1**	**+2.4**
	2.0nm,0.8s,mb3.9,baz=104,slow=8.9,SNR=15						
SONM	**Songino Array**	**28.73**	**305**	P	**P**	**22 36 07.1**	**+2.4**
ZALV	**Zalesovo Beam**	**42.85**	**313**	P	**P**	**22 38 05.6**	**+0.2**
	0.8nm,0.5s,mb3.7,baz=111,slow=7.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**42.85**	**313**	P	**P**	**22 38 05.6**	**+0.2**
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**22 38 24.6**	**+1.4**
	1.1nm,0.7s,mb3.8,baz=88,slow=9.6,SNR=8.5						
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**22 38 24.6**	**+1.4**
KURK	**Kurchatov**	**46.87**	**309**	P	**P**	**22 38 38.2**	**+0.8**
	1.2nm,0.3s,mb4.3,baz=84,slow=7.7,SNR=5.7						
KURK	**Kurchatov**	**46.87**	**309**	*e*P	**P**	**22 38 38.1**	**+0.6**
	1.4nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**56.63**	**189**	P	pP	22 40 00.6	-0.5
	0.3nm,0.4s,baz=2.1,slow=7.7,SNR=5.0						
WRA	**Warramunga Arr**	**56.63**	**189**	P	pP	22 40 00.6	-0.5

*NEIC **21** 22:38:29.9±0.7, 35°.96N×71°.41E, h74km±7km, mb5.0/30, Error ellipse: s-maj=7.0km s-min=3.9km az=223.0*
NEIC Felt at Chitral, Dir, Gilgit, Swat and Topi.
*MOS **21** 22:38:30.9±0.8, 36°.11N×71°.33E, h94km, mb4.8/46, Error ellipse: s-maj=6.9km s-min=4.7km az=100.1*
*ISCJB **21** 22:38:32.2±0.1, 36°.10N±0°.02×71°.49E±0°.02, h110km, mb4.7/81, Error ellipse: s-maj=2.5km s-min=2.4km az=170.6*
*TEH **21** 22:38:34.0, 36°.17N×71°.41E, h103km*
*DJA **21** 22:38:34, 36°.11N×71°.36E, h97km, mb5.1/12*
*IDC **21** 22:38:34.8±0.4, 36°.11N×71°.33E, h116km±2km, mb4.2/29, mb1 4.3/33, mb1mx4.3/34, mbtmp4.2/33, MS3.7/16, Ms1 3.7/16, ms1mx3.5/36, Error ellipse: s-maj=10.9km s-min=7.6km az=11.0*
*GCMT **21** 22:38:35.2±0.3, 36°.02N×71°.41E, h101km±2km, MW5.0, Moment Tensor Solution. s42,c49; s72,c114; Moment tensor: Scale 10^16^Nm; M_{rr}2.54±.09; $M_{\theta\theta}$-0.38±.12; $M_{\phi\phi}$-2.16±.11; $M_{r\theta}$-1.04±.08; $M_{\theta\phi}$-2.11±.11; $M_{\phi r}$0.56±.09; Best double couple: $M_0$3.40000×10^16^ NP1:$\phi_0$8.00000°, δ51.00000°, λ52.00000°. NP2:$\phi_0$239.00000°, δ53.00000°, λ127.00000°. Principal axes: T 3.1800, Plg61.0000°, Azm212.0000°; N 0.3800, Plg29.0000°, Azm34.0000°; P -3.5600, Plg1.0000°, Azm304.0000°; Data Used: II IU IC G.*
*NNC **21** 22:38:38.9±5.0, 36°.56N×71°.13E, h116km±55km, mb4.6, mpv5.4 Error ellipse: s-maj=47.1km s-min=26.5km az=34.0*
*SZGRF **21** 22:39:05.0, 37°.13N×70°.86E, h61km, mb4.9, Afghanistan-Tajikistan border region*

ISC 21 22:38:34.2±0.1, 36°.11N±0°.02×71°.47E±0°.02, h112km, h112km±1.5km:pP-P, n455, σ1s23/494, mb4.7/81, 17C-20D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.31**	**171**	⇓P	**Pn**	**22 39 12.0**	**+0.8**
CEP				S	**Sn**	**22 39 41.0**	**+1.5**
KBL	**Kabul**	**2.53**	**232**	*e*Pn	**Pn**	**22 39 13.1**	**-0.9**
KBL				*e*Sn	**Sn**	**22 39 42.7**	**-1.9**
KBL	**Kabul**	**2.53**	**232**	*e*PN	**Pn**	**22 39 13.1**	**-0.9**
KBL				*e*		22 39 42.7	
CHCP	**Chirah Chowk**	**2.85**	**148**	⇓P	**Pn**	**22 39 19.6**	**+1.3**
JMU	**Jammu**	**4.41**	**139**	*ex*	**Pn**	**22 39 39.0**	**-0.1**
JMU				*ex*	**Sn**	**22 40 25.0**	**-4.5**
KSH	**Kashi**	**4.92**	**45**	Pn	**Pn**	**22 39 41.1**	**-4.8**
KSH				sP		22 40 08.5	
KSH				Sn	**Sn**	**22 40 29.3**	**-12**
KSH				smax			
	comp=N,3μm,0.8s						
KSH				smax			
	comp=E,3μm,0.6s						
KSH	**Kashi**	**4.92**	**45**	Pn	**Pn**	**22 39 41.1**	**-4.8**
KSH				sP		22 40 08.5	
KSH				Sn	**Sn**	**22 40 29.3**	**-12**
KSH				smax			
	comp=N,3μm,0.8s						
KSH				smax			
	comp=E,3μm,0.6s						
THN	**Thein Dam**	**5.08**	**135**	*e*PKP	**Pn**	**22 39 46.6**	**-1.4**
THN				*eS*	**Sn**	**22 40 43.7**	**-1.8**
BHK	**Bhakra**	**6.23**	**137**	*ex*	**Pn**	**22 40 02.6**	**-1.1**
BHK				*ex*	**Sn**	**22 41 05.2**	**-8.3**
AML	**Almayashu**	**6.25**	**15**	P	**Pn**	**22 40 03.7**	**-0.2**
	SNR=158						
AML				P		22 40 03.7	
	SNR=158						
SDNR	**Sundarnagar**	**6.49**	**134**	*e*PKP	**Pn**	**22 40 03.0**	**-4.1**
SDNR				*eS*	**Sn**	**22 41 14.4**	**-5.2**
UCH	**Uchtor**	**6.55**	**20**	P	**Pn**	**22 40 08.5**	**+0.7**
	SNR=14						
UCH				P		22 40 08.5	
	SNR=14						
KZA	**Kyzart**	**6.64**	**25**	P	**Pn**	**22 40 08.9**	**-0.2**
	SNR=19						
KZA				P		22 40 08.9	
	SNR=19						
EKS2	**Erkin-Say**	**6.78**	**15**	P	**Pn**	**22 40 10.9**	**-0.1**
	SNR=60						
EKS2				P		22 40 10.9	
	SNR=60						
EKS2	**Erkin-Say**	**6.78**	**15**	*e*Pn	**Pn**	**22 40 10.7**	**-0.3**
EKS2				*e*Sn	**Sn**	**22 41 24.5**	**-2.2**
EKS2	**Erkin-Say**	**6.78**	**15**	*e*PN	**Pn**	**22 40 10.7**	**-0.3**
SMLA	**Simla**	**6.87**	**135**	*i* P	**Pn**	**22 40 08.1**	**-4.2**
SMLA				*i* x	**Sn**	**22 41 26.0**	**-3.0**
SMLA				AML	AML	22 41 30.3	
	comp=E,4μm,0.2s						
SMLA				⇓AML	AML	22 41 30.6	
	comp=N,3μm,0.2s						
AAK	**Ala-Archa**	**6.92**	**19**	P	**Pn**	**22 40 12.5**	**-0.4**
	SNR=80						
AAK				P		22 40 12.5	
	SNR=80						
AAK	**Ala-Archa**	**6.92**	**19**	*e*Pn	**Pn**	**22 40 12.8**	**-0.1**
AAK				*e*Sn	**Sn**	**22 41 28.8**	**-1.2**
AAK	**Ala-Archa**	**6.92**	**19**	*e*PN	**Pn**	**22 40 12.9**	**0.0**
AAK	**Ala-Archa**	**6.92**	**19**	P	**Pn**	**22 40 13.1**	**+0.2**
	comp=N,3.1nmcomp=N,10μmcomp=N,887nm,0.8s						
AAK	**Ala-Archa**	**6.92**	**19**	Pn	**Pn**	**22 40 13.0**	**+0.1**
	comp=N,1μm,0.5s,SNR=80						
AAK	**Ala-Archa**	**6.92**	**19**	P	**Pn**	**22 40 13.4**	**+0.5**
	SNR=65						
KK31	**Karatay Array**	**7.02**	**354**	⇑P	**Pn**	**22 40 13.2**	**-1.1**
	comp=N,342nm,0.3s,baz=178,slow=12,SNR=7900						
KK31				S	**Sn**	**22 41 26.7**	**-5.9**
	comp=N,110nm,0.4s,baz=174,slow=22,SNR=9.2						
KKAR	**Karatay Array**	**7.02**	**354**	*e*Pn	**Pn**	**22 40 12.8**	**-1.5**
KKAR				*e*Sn	**Sn**	**22 41 27.3**	**-5.2**
KKAR	**Karatay Array**	**7.02**	**354**	*e*PN	**Pn**	**22 40 12.8**	**-1.5**
KBK	**Karagaybulak**	**7.07**	**21**	P	**Pn**	**22 40 15.5**	**+0.6**
	SNR=34						
KBK				P		22 40 15.5	
	SNR=34						
FRU	**Bishkek**	**7.14**	**19**	*e*PN	**Pn**	**22 40 16.0**	**+0.1**
FRU				pmax	pmax		
	comp=Z,360nm,1.4s						
ULHL	**Ulahol**	**7.16**	**30**	P	**Pn**	**22 40 16.1**	**-0.1**
	SNR=47						
ULHL				P		22 40 16.1	
	SNR=47						
CHMS	**Chumysh**	**7.33**	**19**	P	**Pn**	**22 40 17.9**	**-0.5**
	SNR=57						
CHMS				P		22 40 17.9	
	SNR=57						
TKM2	**Tokmak 2**	**7.51**	**24**	P	**Pn**	**22 40 21.1**	**+0.2**
	SNR=22						
TKM2				P		22 40 21.1	
	SNR=22						
TKM2	**Tokmak 2**	**7.51**	**24**	⇓P	**Pn**	**22 40 21.3**	**+0.5**
	comp=Z,75nm,0.5s						
TKM2	**Tokmak 2**	**7.51**	**24**	*e*Pn	**Pn**	**22 40 21.6**	**+0.8**
TKM2				*e*Sn	**Sn**	**22 41 44.9**	**+0.6**
TKM2	**Tokmak 2**	**7.51**	**24**	*i* PN	**Pn**	**22 40 21.1**	**+0.2**
USP	**Ospenovka**	**7.52**	**17**	P	**Pn**	**22 40 20.1**	**-0.9**
	SNR=48						
USP				P		22 40 20.1	
	SNR=48						
DDI	**Dehra Dun**	**7.98**	**134**	⇑*i*P	**Pn**	**22 40 23.5**	**-3.9**
DDI				*ex*	x	22 42 15.5	
KNDC	**Almaty**	**8.26**	**29**	⇓P	**Pn**	**22 40 32.0**	**+0.9**
	comp=Z,63nm,0.5s						
NDI	**New Delhi**	**8.85**	**145**	*e*PKP	**Pn**	**22 40 34.5**	**-4.8**
NDI				*eS*	**Sn**	**22 42 10.4**	**-6.8**
NDI				AML	AML	22 42 12.8	
	comp=N,355nm,0.3s						
NDI				AML	AML	22 42 12.9	
	comp=E,378nm,0.4s						
AYAN	**Aya Nagar**	**8.98**	**146**	*e*PKP	**Pn**	**22 40 37.0**	**-3.9**
AYAN				*eS*	**Sn**	**22 42 13.9**	**-6.4**
AYAN				AML	AML	22 42 16.1	
	comp=Z,267nm,0.4s						
IMYA	**Miami**	**9.19**	**275**	*e*P	**Pn**	**22 40 40.5**	**-3.3**
ISRO	**Mashad**	**9.70**	**275**	*e*P	**Pn**	**22 40 46.8**	**-3.9**
PTH	**Pithoragarh**	**9.84**	**129**	*ex*	**Pn**	**22 40 50.3**	**-2.3**
PTH				*ex*	**Sn**	**22 42 33.9**	**-7.2**
AJM	**Ajmer**	**9.97**	**163**	*e*PKP	**Pn**	**22 40 51.0**	**-3.5**
IPAY	**Payeh**	**10.08**	**276**	*e*P	**Pn**	**22 40 52.5**	**-3.3**
IMON	**Monand**	**10.15**	**257**	*e*P	**Pn**	**22 40 56.9**	**+0.1**
IDAH	**Dahanechah**	**10.16**	**254**	*e*P	**Pn**	**22 40 56.2**	**-0.7**
IEMG	**Emamgholi**	**10.37**	**281**	*e*P	**Pn**	**22 40 55.0**	**-4.7**
ABKT	**Ailbek**	**10.83**	**284**	Pn	**Pn**	**22 41 00.2**	**-5.7**
	comp=Z,460nm,0.5s,SNR=31						
ISFR	**Sfrayin**	**10.88**	**279**	*e*P	**Pn**	**22 41 02.2**	**-4.3**
IKOO	**Kooshah**	**10.95**	**254**	*e*P	**Pn**	**22 41 06.2**	**-1.3**
ITEG	**Tejag**	**10.98**	**257**	*e*P	**Pn**	**22 41 07.4**	**-0.5**
ISHV	**Shirvan**	**11.13**	**281**	*e*P	**Pn**	**22 41 05.2**	**-4.7**
PYUN	**Piuthan**	**12.61**	**126**	*e*P	**Pn**	**22 41 25.7**	**-3.7**
	comp=Z,486nm,0.5s						
PYUN	**Piuthan**	**12.61**	**126**	*e*P	**Pn**	**22 41 25.7**	**-3.7**
	comp=Z,486nm,0.5s						
DANN	**Dangsing**	**12.95**	**123**	*e*P	**Pn**	**22 41 29.8**	**-4.2**
	comp=Z,514nm,0.5s						
DANN	**Dangsing**	**12.95**	**123**	*e*P	**Pn**	**22 41 29.8**	**-4.2**
	comp=Z,514nm,0.5s						
KOLN	**Koldanda**	**13.22**	**126**	*e*P	**Pn**	**22 41 34.0**	**-3.6**
	comp=Z,498nm,0.6s						
KOLN	**Koldanda**	**13.22**	**126**	*e*P	**Pn**	**22 41 34.0**	**-3.6**
	comp=Z,498nm,0.6s						
MK31	**Makanchi Array**	**13.39**	**34**	⇓P	**Pn**	**22 41 45.0**	**+5.4**
	comp=Z,29nm,0.8s,baz=215,slow=13,SNR=24						
MK31	**Makanchi Array**	**13.39**	**34**	*e*Pn	**Pn**	**22 41 39.5**	**-0.1**
MK31				*e*Sn	**Sn**	**22 44 06.5**	**-0.5**
MK31	**Makanchi Array**	**13.39**	**34**	*e*P	**Pn**	**22 41 39.5**	**-0.1**
MK31				*e*		22 44 06.5	
MKAR	**Makanchi Array**	**13.39**	**34**	P	**Pn**	**22 41 40.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=226,slow=16,SNR=16						
MKAR				LR	LR	22 46 51.9	
	comp=Z,131nm,19.9s,baz=190,slow=37						
MKAR	**Makanchi Array**	**13.39**	**34**	P	**Pn**	**22 41 40.3**	**+0.7**
MKAR	**Makanchi Array**	**13.39**	**34**	P	**Pn**	**22 41 40.3**	**+0.7**
GKN	**Gorkha**	**13.77**	**122**	*e*P	**Pn**	**22 41 40.5**	**-4.1**
	comp=Z,813nm,0.5s						
GKN	**Gorkha**	**13.77**	**122**	*e*P	**Pn**	**22 41 40.5**	**-4.1**
	comp=Z,813nm,0.5s						
BHPL	**Bhopal**	**13.82**	**156**	*e*PKP	**Pn**	**22 41 41.8**	**-3.5**
BHPL				*ex*	x	22 44 07.1	
BHPL				AML	AML	22 44 09.7	
	comp=N,136nm,0.6s						
BHPL				AML	AML	22 44 10.0	
	comp=E,123nm,0.3s						
ALBI	**Allahabad**	**13.95**	**138**	*ex*	**Pn**	**22 41 40.0**	**-7.0**
IBAF	**Bafgh**	**13.96**	**256**	*e*P	**Pn**	**22 41 47.4**	**+0.3**
IANJ	**Anjillo**	**14.27**	**273**	*e*P	**Pn**	**22 41 51.6**	**+0.6**
DMN	**Daman**	**14.34**	**122**	*e*P	**Pn**	**22 41 47.9**	**-4.1**
	comp=E,502nm,0.6s						
DMN	**Daman**	**14.34**	**122**	*e*P	**Pn**	**22 41 47.9**	**-4.1**
	comp=E,502nm,0.6s						
KKN	**Kakani**	**14.35**	**121**	*e*P	**Pn**	**22 41 47.5**	**-4.5**
	comp=E,252nm,0.4s						
KKN	**Kakani**	**14.35**	**121**	*e*P	**Pn**	**22 41 47.5**	**-4.5**
	comp=E,252nm,0.4s						
KKN	**Kakani**	**14.35**	**121**	*e*P	**Pn**	**22 41 47.5**	**-4.5**
KKN				pmax	pmax		
	comp=Z,252nm,0.4s						
PKI	**Pulchoki**	**14.57**	**122**	*e*P	**Pn**	**22 41 50.7**	**-4.2**
	comp=Z,723nm,0.8s						
PKI	**Pulchoki**	**14.57**	**122**	*e*P	**Pn**	**22 41 50.7**	**-4.2**
	comp=Z,723nm,0.8s						
PKI	**Pulchoki**	**14.57**	**122**	*e*P	**Pn**	**22 41 50.7**	**-4.2**
PKI				pmax	pmax		
	comp=Z,723nm,0.8s						
WMQ	**Urumqi**	**14.62**	**53**	P	**Pn**	**22 41 53.1**	**-2.2**
WMQ				pP		22 42 06.6	
WMQ				PP		22 42 10.8	
WMQ				sP	sP	22 42 21.0	-12
WMQ				sS		22 44 53.0	
WMQ				pmax	pmax		
	comp=Z,26nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,260nm,6.6s						
WMQ				LR	LR		
	comp=N,390nm,22.0s						
WMQ				LR	LR		
	comp=E,310nm,28.6s						
WMQ				LR	LR		
	comp=Z,190nm,28.6s						
WMQ	**Urumqi**	**14.62**	**53**	P	**Pn**	**22 41 53.1**	**-2.2**
WMQ				pP		22 42 06.6	
WMQ				PP		22 42 10.8	
WMQ				sP	sP	22 42 21.0	-12
WMQ				sS		22 44 53.0	
WMQ				pmax	pmax		
	comp=Z,26nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,260nm,6.6s						
WMQ				LR	LR		
	comp=N,390nm,22.0s						
WMQ				LR	LR		
	comp=E,310nm,28.6s						
WMQ				LR	LR		
	comp=Z,190nm,28.6s						
WMQ	**Urumqi**	**14.62**	**53**	P	**Pn**	**22 41 53.1**	**-2.2**
WMQ				pP		22 42 06.6	
WMQ				PP		22 42 10.8	
WMQ				sP	sP	22 42 21.0	-12
WMQ				sS		22 44 53.0	
WMQ				pmax	pmax		
	comp=Z,26nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,260nm,6.6s						
WMQ				LR	LR		
	comp=N,390nm,22.0s						
WMQ				LR	LR		
	comp=E,310nm,28.6s						
ICHK	**Chekchek**	**14.64**	**260**	*e*P	**Pn**	**22 41 59.0**	**+3.2**
GUN	**Gumba**	**14.69**	**120**	*e*P	**Pn**	**22 41 52.0**	**-4.4**
	comp=Z,483nm,0.7s						
GUN	**Gumba**	**14.69**	**120**	*e*P	**Pn**	**22 41 52.0**	**-4.4**
	comp=Z,483nm,0.6s						
ISHM	**Shahmirzad**	**14.73**	**274**	*e*P	**Pn**	**22 41 55.6**	**-1.3**
ILAS	**Lasjerd**	**15.06**	**273**	*e*P	**Pn**	**22 42 03.9**	**+3.0**
JIRN	**Jiri**	**15.06**	**120**	*e*P	**Pn**	**22 41 57.3**	**-3.8**
	comp=Z,890nm,0.5s						
JIRN	**Jiri**	**15.06**	**120**	*e*P	**Pn**	**22 41 57.3**	**-3.8**
	comp=Z,890nm,0.5s						
IFIR	**Firoozkooh**	**15.19**	**274**	*e*P	**Pn**	**22 42 02.7**	**+0.1**
KURK	**Kurchatov**	**15.48**	**17**	P	**Pn**	**22 42 05.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=205,slow=11,SNR=21						
KURK				LR	LR	22 48 46.1	
	comp=Z,98nm,18.8s,baz=275,slow=40						
KURK	**Kurchatov**	**15.48**	**17**	⇓P	**Pn**	**22 42 06.3**	**+0.2**
	comp=Z,97nm,1.1s						
KURK	**Kurchatov**	**15.48**	**17**	*e*Pn	**Pn**	**22 42 05.7**	**-0.4**
KURK				S	**S**	**22 44 49.3**	**-16**
KURK	**Kurchatov**	**15.48**	**17**	⇑*e*P	**Pn**	**22 42 06.3**	**+0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	**15.48**	**17**	P	**Pn**	**22 42 07.0**	**+0.8**
	SNR=7.9						
KURK	**Kurchatov**	**15.48**	**17**	Pn	**Pn**	**22 42 03.6**	**-2.5**
	comp=Z,112nm,1.0s,SNR=6.8						
AB31	**Akbulak array**	**15.61**	**331**	⇓P	**Pn**	**22 42 04.7**	**-3.0**
	comp=Z,14nm,0.3s,baz=137,slow=13,SNR=2034						
ABKAR	**Akbulak array**	**15.61**	**331**	*e*Pn	**Pn**	**22 42 03.9**	**-3.9**
RAMN	**Ramite**	**15.79**	**121**	*e*P	**Pn**	**22 42 05.6**	**-4.5**
	comp=Z,516nm,1.0s						
RAMN	**Ramite**	**15.79**	**121**	*e*P	**Pn**	**22 42 05.6**	**-4.5**
	comp=Z,516nm,1.0s						
AKL	**Akola**	**16.10**	**161**	*e*PKP	**Pn**	**22 42 10.2**	**-3.9**
AKL				*i* x	x	22 45 01.2	
IZEF	**Zefreh**	**16.11**	**264**	*e*P	**Pn**	**22 42 13.5**	**-0.5**
NGP	**Nagpur**	**16.31**	**154**	*ex*	**Pn**	**22 42 12.3**	**-4.3**
NGP				*ex*	x	22 45 03.3	
TAPN	**Taplejung**	**16.33**	**118**	*e*P	**Pn**	**22 42 13.0**	**-3.8**
	comp=Z,521nm,0.6s						
TAPN				*eS*	**S**	**22 45 05.6**	**-17**
TAPN	**Taplejung**	**16.33**	**118**	*e*P	**Pn**	**22 42 13.0**	**-3.8**
	comp=Z,521nm,0.6s						
TAPN				*eS*	**S**	**22 45 05.6**	**-17**
ODAN	**Odare**	**16.39**	**120**	*e*P	**Pn**	**22 42 14.1**	**-3.5**
	comp=Z,642nm,0.6s						
ODAN	**Odare**	**16.39**	**120**	*e*P	**Pn**	**22 42 14.1**	**-3.5**
	comp=Z,642nm,0.6s						
BANOM	**Banah**	**16.48**	**236**	P	**Pn**	**22 42 18.8**	**+0.1**
	SNR=25						
IKLH	**Kolahrood**	**16.59**	**266**	*e*P	**Pn**	**22 42 20.6**	**+0.5**
BVA0	**Borovoye Array**	**16.93**	**358**	P	**Pn**	**22 42 21.6**	**-2.4**
	comp=Z,8.0nm,1.0s,baz=160,slow=13,SNR=118						
BVAR	**Borovoye Array**	**16.93**	**358**	P	**Pn**	**22 42 22.9**	**-1.1**
	comp=Z,3.1nm,0.3s,baz=150,slow=10,SNR=72						
BVAR				pP	pP	22 42 47.1	+2.7
	comp=Z,4.1nm,0.3s,baz=167,slow=12,SNR=9.7						
BVAR				LR	LR	22 50 03.8	
	comp=Z,62nm,20.1s,baz=279,slow=41						
BVAR	**Borovoye Array**	**16.93**	**358**	P	**Pn**	**22 42 22.9**	**-1.1**
BVAR				pP	pP	22 42 47.1	+2.7
BVAR	**Borovoye Array**	**16.93**	**358**	P	**Pn**	**22 42 22.9**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BRVK	**Borovoye**	**16.97**	**358**	*e*Pn	**Pn**	**22 42 21.9**	**-2.5**
	comp=Z,67nm,1.0s						
BRVK				*e*Sn	**Sn**	**22 45 23.0**	**-10**
BRVK	**Borovoye**	**16.97**	**358**	*c i*P	**Pn**	**22 42 22.4**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,58nm,1.2s						
BRVK	**Borovoye**	**16.97**	**358**	Pn	**Pn**	**22 42 22.7**	**-1.7**
	comp=Z,254nm,1.0s,SNR=25						
BRVK	**Borovoye**	**16.97**	**358**	P	**Pn**	**22 42 22.8**	**-1.6**
	SNR=14						
WBK	**Wadi Bani Khal**	**17.29**	**222**	P	**Pn**	**22 42 32.2**	**+3.6**
	SNR=7.6						
AKTO	**Aktyubinsk**	**17.31**	**330**	P	**Pn**	**22 42 26.8**	**-1.8**
	comp=Z,5.4nm,0.3s,baz=139,slow=13,SNR=78						
AK

NVS pmax pmax
comp=E,8.0nm,1.0s
NVS smax
comp=N,38nm,1.7s
NVS smax
comp=E,40nm,1.9s
AGT Agartala 20.97 120 *e*PKP **P 22 43 07.0 -1.4**
AGT *ex* x 22 43 21.0
UMR Umm Al-Rimmam 20.98 259 *e*P **P 22 43 07.3 -1.1**
UMR AMb AMB 22 43 12.5
comp=Z,114nm,0.8s
KBD Kabd 21.16 258 *e*P **P 22 43 09.2 -1.1**
RDF Al-Radifah 21.38 257 *e*P **P 22 43 11.8 -0.8**
RDF AMb AMB 22 43 13.7
comp=Z,208nm,1.3s,mb5.3
GNI Garni 21.38 289 P **P 22 43 13.3 +0.8**
comp=Z,24nm,0.8s,mb4.6,baz=125,slow=4.8,SNR=12
GNI Garni 21.38 289 *e*P **P 22 43 13.9 +1.4**
GNI Garni 21.38 289 *e*P **P 22 43 14.4 +1.8**
GNI pmax pmax
comp=Z,186nm,1.7s
MTA Mtatsminda 21.46 293 P **P 22 43 16.7 +3.3**
NAY Al-Naaiem 21.48 258 *e*P **P 22 43 12.8 -1.0**
NAY AMb AMB 22 43 16.8
comp=Z,78nm,0.8s,mb5.1
TBLG Delisi 21.50 293 P **P 22 43 17.0 +3.1**
TBLG Delisi 21.50 293 P **P 22 43 17.0 +3.1**
RST Umm Al-Ruwaisa 21.57 259 *e*P **P 22 43 13.5 -1.3**
RST AMb AMB 22 43 15.1
comp=Z,43nm,0.9s,mb4.8
SVE Sverdlovsk 21.97 344⇑ *e*P **P 22 43 18.9 +0.2**
SVE *e*S **S 22 47 14.9 +1.0**
SVE pmax pmax
comp=Z,52nm,1.2s,mb4.7
GOR Gori 22.00 294 P **P 22 43 23.5 +4.4**
ARU Arti 22.13 341 *e*P **P 22 43 19.6 -0.7**
comp=Z,122nm,1.1s,mb5.2
ARU Arti 22.13 341 *d i*P **P 22 43 20.5 +0.2**
ARU *e* 22 43 52.2
ARU S **S 22 47 18.6 +2.2**
ARU SS 22 47 50.1
ARU pmax pmax
comp=Z,91nm,1.7s,mb4.8
ARU Arti 22.13 341 P **P 22 43 20.5 +0.2**
comp=Z,223nm,1.0s,mb5.5,SNR=9.8
IMP Imphal 22.36 114 *ex* **P 22 43 25.0 +1.9**
IMP *ex* x 22 48 27.0
BHD Baghdad 22.43 271 *ex* **P 22 43 22.0 -1.8**
BHD *i* x x 22 47 19.0
ONI Oni 22.55 295 P **P 22 43 29.0 +4.1**
GTA Gaotai 22.61 73 *e*P **P 22 43 27.4 +1.8**
GTA pP 22 43 47.4
GTA sP sP 22 44 00.3 -0.6
GTA S **S 22 47 27.3 +2.7**
GTA sS sS 22 48 04.3 +1.3
GTA SS 22 48 17.5
GTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.1
GTA pmax pmax
comp=Z,140nm,5.0s
GTA LR LR
comp=N,230nm,9.7s
GTA LR LR
comp=E,190nm,10.0s
GTA LR LR
comp=Z,220nm,11.9s
GTA Gaotai 22.61 73 *e*P **P 22 43 27.4 +1.8**
GTA pP 22 43 47.4
GTA sP sP 22 44 00.3 -0.6
GTA S **S 22 47 27.3 +2.7**
GTA sS sS 22 48 04.3 +1.3
GTA SS 22 48 17.5
GTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.1
GTA pmax pmax
comp=Z,140nm,5.0s
GTA LR LR
comp=N,230nm,9.7s
GTA LR LR
comp=E,190nm,10.0s
GTA LR LR
comp=Z,220nm,11.9s
KIV Kislovodsk 23.31 298 *e*P **P 22 43 33.0 +1.1**
comp=Z,106nm,1.1s,mb5.1
KIV Kislovodsk 23.31 298 *e*P **P 22 43 33.3 +1.3**
KIV *e**SP sP 22 44 09.5 +1.2
KIV pmax pmax
comp=Z,45nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,221nm,15.0s
ABTO Aybut 24.67 226 P **P 22 43 45.5 +0.9**
SNR=6.2
LZH Lanzhou 26.09 80 *e*P **P 22 44 00.8 +3.4**
LZH pP pP 22 44 23.1 +1.4
LZH sP sP 22 44 37.8 +3.1
LZH PP 22 44 50.0
LZH PcP PcP 22 47 23.8 +1.8
LZH *e*S **S 22 48 22.3 +1.9**
LZH sS sS 22 48 57.5 -5.7
LZH SS 22 49 41.0
LZH pmax pmax
comp=Z,20nm,1.1s,mb4.5
LZH pmax pmax
comp=Z,100nm,4.0s
LZH LR LR
comp=N,240nm,11.3s
LZH LR LR
comp=E,220nm,10.5s
LZH LR LR
comp=Z,240nm,13.6s
LZH Lanzhou 26.09 80 *e*P **P 22 44 00.8 +3.4**
LZH pP pP 22 44 23.1 +1.4
LZH sP sP 22 44 37.8 +3.1
LZH PP 22 44 50.0
LZH PcP PcP 22 47 23.8 +1.8
LZH *e*S **S 22 48 22.3 +1.9**
LZH sS sS 22 48 57.5 -5.7
LZH SS 22 49 41.0
LZH pmax pmax
comp=Z,20nm,1.1s,mb4.5
LZH pmax pmax
comp=Z,100nm,4.0s
LZH LR LR
comp=N,240nm,11.3s
LZH LR LR
comp=E,220nm,10.5s
LZH LR LR
comp=Z,240nm,13.6s
MOY Mondy 26.11 44 *e*P **P 22 44 00.0 +2.7**
ZAK Zakamensk 26.96 48 *e*P **P 22 44 06.7 +1.7**
ZAK *e* pP 22 44 31.1 +1.7
ZAK *e* 22 44 51.7
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
ANN Anapa 27.16 299 *e*P **P 22 44 07.2 +0.4**
ANN *e**PP pP 22 44 36.1 +4.9
ANN *e*S **S 22 48 40.1 +3.1**
CD2 Chengdu 27.34 92 P **P 22 44 09.8 +1.2**
CD2 pP pP 22 44 32.3 -0.7
CD2 sP sP 22 44 44.0 -2.0
CD2 PP PP 22 45 01.1 -11
CD2 S **S 22 48 39.8 -0.3**
CD2 sS sS 22 49 19.3 -3.6
CD2 SS SS 22 50 02.6 -37
CD2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
CD2 pmax pmax
comp=Z,30nm,5.6s
CD2 Chengdu 27.34 92 P **P 22 44 09.8 +1.2**
CD2 pP pP 22 44 32.3 -0.7
CD2 sP sP 22 44 44.0 -2.0
CD2 PP PP 22 45 01.1 -11
CD2 S **S 22 48 39.8 -0.3**
CD2 sS sS 22 49 19.3 -3.6
CD2 SS SS 22 50 02.6 -37
CD2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
CD2 pmax pmax
comp=Z,30nm,5.6s
VSR Storozhevoye 27.55 313 *e*P **P 22 44 08.9 -1.3**
VSR *e**PP pP 22 44 31.8 -2.9
VSR *e**SS SS 22 50 25.5 -18
VSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.2

TLY Talaya 27.64 46 P **P 22 44 11.2 +0.2**
TLY Talaya 27.64 46 P **P 22 44 11.2 +0.2**
SONM Songino Array 28.25 55 P **P 22 44 18.8 +2.3**
comp=Z,6.4nm,0.8s,mb4.2,baz=257,slow=9.3,SNR=57
SONM pP pP 22 44 42.7 +1.7
comp=Z,7.1nm,0.9s,baz=253,slow=10,SNR=8.4
SONM LR LR 22 55 51.0
comp=Z,126nm,20.0s,baz=188,slow=37
SONM Songino Array 28.25 55 P **P 22 44 18.8 +2.3**
SONM pP pP 22 44 42.7 +1.7
SONM Songino Array 28.25 55 P **P 22 44 18.8 +2.4**
SONM *PP pP 22 44 42.7 +1.7
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM MLR MLR
comp=Z,126nm,20.0s
ULN Ulaanbaatar 28.69 55 *e*P **P 22 44 22.1 +1.7**
comp=Z,43nm,1.6s,mb4.8
ULN Ulaanbaatar 28.69 55 *e*P **P 22 44 22.1 +1.8**
ULN pmax pmax
comp=Z,43nm,1.6s,mb4.8
ULN Ulaanbaatar 28.69 55 P **P 22 44 22.1 +1.8**
comp=Z,15nm,1.7s,mb4.3
ASF Jabal al Asfar 28.80 272 LR LR 22 57 53.5
comp=Z,96nm,19.2s,baz=118,slow=40
KMI Kunming 28.93 103 P **P 22 44 24.3 +1.5**
KMI pP pP 22 44 46.3 -1.1
KMI S **S 22 49 10.0 +4.7**
KMI pmax pmax
comp=Z,12nm,0.8s,mb4.6
KMI LR LR
comp=Z,100nm,36.9s
KMI Kunming 28.93 103 P **P 22 44 24.3 +1.5**
KMI pP pP 22 44 46.3 -1.1
KMI S **S 22 49 10.0 +4.7**
KMI pmax pmax
comp=Z,12nm,0.8s,mb4.6
KMI LR LR
comp=Z,100nm,36.9s
CHTO Chiang Mai 29.70 118 *e*P **P 22 44 30.9 +1.3**
comp=Z,23nm,1.1s,mb4.7
CHTO Chiang Mai 29.70 118 *e*P **P 22 44 30.9 +1.3**
CHTO pmax pmax
comp=Z,23nm,1.1s,mb4.7
CHTO Chiang Mai 29.70 118 P **P 22 44 31.9 +2.3**
comp=Z,16nm,1.1s,mb4.6
MMAI Mount Meron Ar 29.76 275 P **P 22 44 30.9 +0.9**
comp=Z,1.6nm,0.6s,mb3.8,baz=66,slow=8.3,SNR=8.1
MMAI LR LR 22 58 21.2
comp=Z,76nm,19.0s,baz=85,slow=40
MMAI Mount Meron Ar 29.76 275 P **P 22 44 30.9 +0.9**
BR131 Keskin Array S 29.92 288 *e*P **P 22 44 31.5 +0.1**
comp=Z,2.9nm,0.9s,mb3.9
BR131 *e* pP 22 44 57.4 +1.4
BRTR Keskin Array B 29.92 288 P **P 22 44 31.9 +0.5**
comp=Z,1.8nm,0.8s,mb3.8,baz=92,slow=7.0,SNR=10
BRTR pP pP 22 44 57.9 +1.9
comp=Z,3.5nm,0.8s,baz=95,slow=7.6,SNR=5.4
BRTR sP sP 22 45 08.6 -0.4
comp=Z,3.8nm,0.6s,baz=96,slow=8.8,SNR=5.4
BRTR Keskin Array B 29.92 288 P **P 22 44 31.9 +0.5**
BRTR pP pP 22 44 57.9 +1.9
BRTR sP sP 22 45 08.6 -0.4
BRTR Keskin Array B 29.92 288 P **P 22 44 31.9 +0.5**
BRTR *PP pP 22 44 57.9 +1.9
BRTR *SP sP 22 45 08.6 -0.4
BRTR pmax pmax
comp=Z,2.0nm,0.8s
CM31 Chiang Mai Arr 29.93 119 *e*P **P 22 44 32.5 +0.8**
CMAR Chiang Mai Arr 29.93 119 P **P 22 44 33.4 +1.7**
comp=Z,8.9nm,0.8s,mb4.5,baz=298,slow=8.2,SNR=54
CMAR ScP ScP 22 51 02.8 -0.7
comp=Z,0.9nm,0.3s,baz=296,slow=4.9,SNR=5.3
CMAR Chiang Mai Arr 29.93 119 P **P 22 44 33.4 +1.7**
CMAR ScP ScP 22 51 02.8 -0.7
CMAR Chiang Mai Arr 29.93 119 P **P 22 44 33.4 +1.7**
CMAR 22 51 02.8
CMAR pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 30.48 320 *e*P **P 22 44 36.5 +0.4**
comp=Z,8.4nm,0.6s,mb4.5
OBN Obninsk 30.48 320⇑ *e*P **P 22 44 35.9 -0.2**
OBN *e**PP pP 22 45 00.9 +0.1
OBN *e* 22 45 09.4
OBN *e* 22 45 37.2
OBN pmax pmax
comp=Z,45nm,1.7s,mb4.8
GYA Guiyang 31.43 98 P **P 22 44 46.5 +1.7**
GYA pP pP 22 45 08.4 -1.1
GYA sP sP 22 45 17.8 -4.6
GYA PP PP 22 45 53.0 -4.8
GYA PcP PcP 22 47 39.1 +3.5
GYA S **S 22 49 45.1 +0.7**
GYA sS sS 22 50 22.8 -4.6
GYA ScP ScP 22 51 11.3 +2.9
GYA PcS PcS 22 51 21.6 +1.4
GYA ScS ScS 22 55 07.0 +0.6
GYA pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
GYA pmax pmax
comp=Z,100nm,5.0s
GYA Guiyang 31.43 98 P **P 22 44 46.5 +1.7**
GYA pP pP 22 45 08.4 -1.1
GYA sP sP 22 45 17.8 -4.6
GYA PP PP 22 45 53.0 -4.8
GYA PcP PcP 22 47 39.1 +3.5
GYA S **S 22 49 45.1 +0.7**
GYA sS sS 22 50 22.8 -4.6
GYA ScP ScP 22 51 11.3 +2.9
GYA PcS PcS 22 51 21.6 +1.4
GYA ScS ScS 22 55 07.0 +0.6
GYA pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
GYA pmax pmax
comp=Z,100nm,5.0s
HHC Hu-ho-hao-te 31.54 69 *e*P **P 22 44 46.3 +0.7**
HHC pP pP 22 45 10.5 +0.1
HHC sP sP 22 45 24.0 +0.7
HHC PP PP 22 45 56.0 -2.9
HHC PcP PcP 22 47 35.3 -0.3
HHC S **S 22 49 47.3 +1.4**
HHC sS sS 22 50 30.9 +2.0
HHC ScP ScP 22 51 07.3 -1.2
HHC SS SS 22 51 45.9 -19
HHC pmax pmax
comp=Z,11nm,1.0s,mb4.5
HHC pmax pmax
comp=Z,110nm,5.1s
HHC Hu-ho-hao-te 31.54 69 *e*P **P 22 44 46.3 +0.7**
HHC pP pP 22 45 10.5 +0.1
HHC sP sP 22 45 24.0 +0.7
HHC PP PP 22 45 56.0 -2.9
HHC PcP PcP 22 47 35.3 -0.3
HHC S **S 22 49 47.3 +1.4**
HHC sS sS 22 50 30.9 +2.0
HHC ScP ScP 22 51 07.3 -1.2
HHC SS SS 22 51 45.9 -19
HHC pmax pmax
comp=Z,11nm,1.0s,mb4.5
HHC pmax pmax
comp=Z,110nm,5.1s
KLMR Klimovskoe 32.01 331 *e*P **P 22 44 47.1 -2.4**
KLMR pmax pmax
comp=Z,33nm,1.4s,mb4.9
ENH Enshi 32.20 89 *e*P **P 22 44 51.1 -0.3**
comp=Z,14nm,0.6s,mb4.9
AKASG Malin Array Be 33.49 309 P **P 22 45 02.0 -0.5**
comp=Z,1.0nm,0.3s,mb4.1,baz=82,slow=7.9,SNR=8.7
AKASG pP pP 22 45 27.4 0.0
comp=Z,6.7nm,0.7s,baz=89,slow=7.0,SNR=5.9
AKASG Malin Array Be 33.49 309 P **P 22 45 02.0 -0.5**
AKASG pP pP 22 45 27.4 0.0
AKASG Malin Array Be 33.49 309 P **P 22 45 02.0 -0.5**
AKASG *PP pP 22 45 27.4 +0.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 33.50 309 *e*P **P 22 45 02.5 -0.1**
comp=Z,18nm,1.3s,mb4.8
KIEV Kiev 33.50 309 *e*P **P 22 45 02.5 -0.1**
KIEV pmax pmax
comp=Z,18nm,1.3s,mb4.7
VRI Vrincioaia 34.75 300⇑ **P 22 45 21.7 +8.2**
VRI Vrincioaia 34.75 300⇑ *i*P **P 22 45 21.7 +8.2**
PLOR Plostina 34.81 300⇑ *i*P **P 22 45 18.3 +4.3**

PLOR Plostina 34.81 300⇑ *i*P **P 22 45 18.3 +4.3**
BJI Beijing 35.13 70 P **P 22 45 17.1 +0.3**
BJI pP pP 22 45 39.9 -1.9
BJI sP sP 22 45 51.6 -3.1
BJI PP PP 22 46 38.6 +0.1
BJI S **S 22 50 40.6 -0.7**
BJI sS sS 22 51 20.8 -3.9
BJI SS SS 22 53 19.9 +1.6
BJI pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
BJI Beijing 35.13 70 P **P 22 45 17.1 +0.3**
BJI pP pP 22 45 39.9 -1.9
BJI sP sP 22 45 51.6 -3.1
BJI PP PP 22 46 38.6 +0.1
BJI S **S 22 50 40.6 -0.7**
BJI sS sS 22 51 20.8 -3.9
BJI SS SS 22 53 19.9 +1.6
BJI pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
MLR Muntele Rosu 35.31 300⇓ P **P 22 45 24.1 +5.9**
MLR Muntele Rosu 35.31 300⇓ *i*P **P 22 45 24.1 +5.9**
BOD Bodaibo 35.41 39 *e*P **P 22 45 19.4 +0.4**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
BURAR Bucovina Array 35.82 303⇓ P **P 22 45 22.9 +0.3**
BURAR Bucovina Array 35.82 303⇓ *i*P **P 22 45 22.9 +0.3**
BUR08 Bucovina Ar. S 35.83 303 *e*P **P 22 45 22.6 -0.1**
WHN Wuhan 36.03 86 P **P 22 45 27.4 +2.7**
WHN Wuhan 36.03 86 P **P 22 45 27.4 +2.7**
JOF Joensuu 36.40 330 *e*P **P 22 45 27.0 -0.3**
JOF pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
JOF Joensuu 36.40 330 *ep* **P 22 45 27.0 -0.3**
comp=Z,10nm,0.4s,mb5.1
UBT Ubonrachathani 36.41 116⇑ P **P 22 45 29.5 +1.5**
VSU Vasula 36.73 322 *i* P **P 22 45 30.0 -0.2**
VSU pmax pmax
comp=Z,27nm,1.1s,mb5.1
DRGR 37.53 302⇑ P **P 22 45 43.3 +6.2**
DRGR 37.53 302⇑ *i*P **P 22 45 43.3 +6.2**
KWP Kalwaria Pacla 37.55 307 P **P 22 45 38.1 +0.8**
comp=Z,58nm,1.5s,mb5.2
KWP Kalwaria Pacla 37.55 307 P **P 22 45 38.1 +0.9**
KWP pmax pmax
comp=Z,58nm,1.5s,mb5.2
TRPA Tarpa 37.63 304⇑ *i*P **P 22 45 39.3 +1.4**
UZH Uzhgorod 37.80 305 *e*P **P 22 45 45.0 +5.7**
UZH *e* pP 22 46 06.2 +1.7
UZH *i* 22 46 16.8
UZH *e* 22 47 06.1
UZH *i* 22 47 50.8
UZH *e*S **S 22 51 31.0 +9.3**
UZH *e*SS SS 22 54 03.7 -8.2
KOLS Kolonicke sedl 37.81 305 *e*PP PP 22 47 15.1 +7.2
FINES FINESS Array B 38.02 326 P **P 22 45 41.2 +0.2**
comp=Z,8.7nm,0.7s,mb4.7,baz=125,slow=8.3,SNR=30
FINES pP pP 22 46 07.7 +1.4
comp=Z,11nm,0.8s,baz=120,slow=11,SNR=4.2
FINES LR LR 23 05 02.2
comp=Z,308nm,19.9s,baz=138,slow=42
FINES FINESS Array B 38.02 326 P **P 22 45 41.2 +0.2**
FINES pP pP 22 46 07.7 +1.4
FINES FINESS Array B 38.02 326 P **P 22 45 41.2 +0.2**
FINES *PP pP 22 46 07.7 +1.4
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES MLR MLR
comp=Z,308nm,20.0s
KAF Kangasniemi 38.16 327 *e*P **P 22 45 41.9 -0.3**
KAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KAF Kangasniemi 38.16 327 *ep* **P 22 45 41.9 -0.3**
comp=Z,3.8nm,0.9s,mb4.2
BZS Buzias 38.34 300⇓ P **P 22 45 48.3 +4.4**
BZS Buzias 38.34 300⇓ *i*P **P 22 45 48.3 +4.4**
STHS Stebnicka Huta 38.50 306 *e*P **P 22 45 54.3 +9.1**
STHS Stebnicka Huta 38.50 306 *e* **P 22 45 54.3 +9.1**
KECS Kecovo 39.00 305 *e*PP PP 22 47 22.7 +1.9
NIE Niedzica 39.10 306 *e*P **P 22 45 59.6 +9.3**
NIE Niedzica 39.10 306 *e*P **P 22 45 59.6 +9.3**
PSZ Piszkesteto 39.41 304 *e*P **P 22 45 53.0 +0.2**
comp=Z,14nm,1.0s,mb4.8
PSZ Piszkesteto 39.41 304⇓ P **P 22 45 50.9 -1.9**
PSZ Piszkesteto 39.41 304⇓ *i*P **P 22 45 50.9 -1.9**
OJC Ojcow 39.44 308 *e*P **P 22 46 02.2 +9.1**
OJC Ojcow 39.44 308 *e*P **P 22 46 02.2 +9.1**
VYHS Vyhne 40.09 305 *e*P **P 22 46 03.2 +4.7**
VYHS *e* 22 47 38.0
VYHS Vyhne 40.09 305 *e*P **P 22 46 03.2 +4.7**
VYHS *e*PP PP 22 47 38.0 +5.3
OKC Ostrava-Krasne 40.51 307 *es*P sP 22 46 32.9 -7.2
MORC Moravsky Berou 40.90 307 P **P 22 46 06.0 +0.9**
comp=Z,24nm,1.4s,mb4.8
MORC Moravsky Berou 40.90 307⇑ P **P 22 46 03.4 -1.7**
MORC Moravsky Berou 40.90 307⇑ *i*P **P 22 46 03.4 -1.7**
KEV Kevo 41.30 338 *e*P **P 22 46 08.0 -0.1**
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
KEV Kevo 41.30 338 *ep* **P 22 46 08.0 -0.1**
comp=Z,4.4nm,0.4s,mb4.6
CN2 Changchun 41.45 62 *e*P **P 22 46 07.9 -1.8**
CN2 *es*P sP 22 46 44.8 -3.2
CN2 *e*S **S 22 52 14.9 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 Changchun 41.45 62 *e*P **P 22 46 07.9 -1.8**
CN2 *es*P sP 22 46 44.8 -3.2
CN2 *e*S **S 22 52 14.9 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CN2 pmax pmax
comp=Z,200nm,3.0s
IPM Ipoh 41.60 132 *e*P **P 22 46 11.9 +0.7**
comp=Z,19nm,0.8s,mb4.9
ARCES ARCESS Array B 41.65 338 P **P 22 46 11.7 +0.8**
comp=Z,4.6nm,0.4s,mb4.6,baz=113,slow=7.4,SNR=82
ARCES pP pP 22 46 37.0 +0.5
comp=Z,17nm,1.0s,baz=104,slow=7.5,SNR=4.1
ARCES LR LR 23 03 57.0
comp=Z,258nm,19.2s,baz=315,slow=37
ARCES ARCESS Array B 41.65 338 P **P 22 46 11.7 +0.8**
ARCES pP pP 22 46 37.0 +0.5
ARCES ARCESS Array B 41.65 338 P **P 22 46 11.7 +0.7**
ARCES *PP pP 22 46 37.1 +0.6
ARCES pmax pmax
comp=Z,5.0nm,0.4s
ARCES MLR MLR
comp=Z,258nm,19.2s
ARE0 ARCESS Array S 41.65 338 *e*P **P 22 46 11.8 +0.9**
ARE0 ARCESS Array S 41.65 338 *e*P **P 22 46 09.9 -1.0**
DPC Dobruska-Polom 41.67 308 *e*P **P 22 46 15.6 +4.2**
DPC *e**PP pP 22 46 37.6 +0.6
DPC *e* 22 47 55.5
DPC Dobruska-Polom 41.67 308 *e*P **P 22 46 15.6 +4.2**
DPC *es*P sP 22 46 37.6 -12
DPC *e*PP PP 22 47 55.5 +5.8
PSI Prapat 41.73 136 P **P 22 46 13.1 +0.8**
comp=Z,354nmcomp=Z,20nm,0.9s,mb4.8
UPC Upice 41.87 308 *e**PP pP 22 46 38.9 +0.3
UPC *e* 22 47 56.7
UPC Upice 41.87 308 *es*P pP 22 46 38.9 +0.3
UPC *e*PP PP 22 47 56.7 +4.9
PRU Pruhonice 42.83 307 *e*P **P 22 46 25.2 +4.4**
PRU *e**PP pP 22 46 47.8 +1.3
PRU Pruhonice 42.83 307 *e*P **P 22 46 25.2 +4.4**
PRU *es*P sP 22 46 47.8 -11
BRG Berggiesshubel 43.17 309 *i* P **P 22 46 31.6 +8.1**
comp=Z,10nm,1.2s,mb4.4
BRG *e* 22 46 49.8
comp=Z,11nm,1.1s
BRG *e* 22 48 13.8
comp=Z,49nm,1.9s
BRG Berggiesshubel 43.17 309 *i* P **P 22 46 31.6 +8.1**
BRG *e* 22 46 49.8
BRG *e* 22 48 13.8
BRG pmax pmax
comp=Z,11nm,1.2s,mb4.5
GERES GERESS Array B 43.47 306 P **P 22 46 25.8 -0.1**
comp=Z,0.2nm,0.3s,baz=69,slow=7.4,SNR=4.1
GERES pP pP 22 46 52.1 +0.4
comp=Z,1.3nm,0.8s,baz=80,slow=8.3,SNR=4.6

GERES GERESS Array B 43.47 306 P P 22 46 25.8 -0.1
GERES pP pP 22 46 52.1 +0.4
GERES GERESS Array B 43.47 306 P P 22 46 25.8 -0.1
GERES *PP pP 22 46 52.1 +0.4
KHC Kasperske Hory 43.52 306 eP P 22 46 34.4 +8.0
KHC e*PP pP 22 47 04.5 +12
KHC e 22 48 10.1
KHC Kasperske Hory 43.52 306 eP P 22 46 34.4 +8.0
KHC ex x 22 47 04.5
KHC ePP PP 22 48 10.1 +0.6
CLL Collm 43.73 309 eP P 22 46 26.0 -2.0
CLL Collm 43.73 309 eP P 22 46 26.0 -2.0
CLL esP sP 22 46 55.0 -11
CLL e 22 47 18.0
CLL ePP PP 22 48 14.0 +2.2
CLL epPP 22 48 28.0
CLL e(sPP) 22 48 38.0
MNSI Mandailing Nat 43.76 137 P P 22 46 31.3 +2.7
comp=Z,660nmcomp=Z,44nm,0.9s,mb5.2
TRO Tromso 43.78 336 eP P 22 46 29.1 +0.9
YAK Yakutsk 44.06 35 eP P 22 46 30.5 0.0
comp=Z,25nm,0.7s,mb5.0
YAK Yakutsk 44.06 35 eP P 22 46 30.3 -0.2
YAK e*PP pP 22 46 54.0 -2.3
YAK e 22 48 12.2
YAK e 22 48 15.2
YAK ePPP 22 48 54.0
YAK eS S 22 52 54.2 0.0
YAK e*SS sS 22 53 35.1 -3.6
YAK eSS SS 22 56 16.6 +1.6
YAK eSSS 22 57 01.7
YAK pmax pmax
comp=Z,22nm,0.8s,mb4.9
YAK pmax pmax
comp=Z,42nm,2.1s,mb4.8
YAK pmax pmax
comp=N,99nm,3.2s
YAK pmax pmax
comp=E,64nm,2.8s
YAK smax
comp=N,92nm,3.5s
YAK smax
comp=E,102nm,3.2s
YHNB Yeheng 44.10 91 eP P 22 46 32.2 +0.9
MOR8 Moi Rana 44.34 331 eP P 22 46 32.6 -0.1
MOR8 AMB AMB 22 46 45.8
comp=Z,114nm,3.8s
STEI Steigen 44.49 333 eP P 22 46 34.4 +0.5
KSAR Wonju Array Be 44.62 71 P P 22 46 37.6 +2.3
KSAR pP pP 22 47 04.1 +2.9
KSAR Wonju Array Be 44.62 71 P P 22 46 37.6 +2.3
KSAR *PP pP 22 47 04.1 +2.9
KSRS Korea Array 44.65 71 P P 22 46 37.6 +2.1
comp=Z,1.7nm,0.5s,mb4.0,baz=284,slow=6.4,SNR=5.5
KSRS pP pP 22 47 04.1 +2.7
comp=Z,5.2nm,0.9s,baz=281,slow=7.1,SNR=4.1
KSRS Korea Array 44.65 71 P P 22 46 37.6 +2.1
KSRS *PP pP 22 47 04.1 +2.7
KSRS pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
NB2 NORSAR Subarra 44.92 323 P P 22 46 36.7 -0.6
comp=Z,8.2nm,1.0s,mb4.4,baz=96,slow=7.9
NOA NORSAR Array B 44.92 323 P P 22 46 36.9 -0.5
comp=Z,5.8nm,0.8s,mb4.4,baz=101,slow=7.8,SNR=14
NOA pP pP 22 47 04.3 +1.1
comp=Z,6.2nm,0.7s,baz=96,slow=7.9,SNR=3.6
NOA LR LR 23 09 39.4
comp=Z,181nm,18.4s,baz=290,slow=42
NOA NORSAR Array B 44.92 323 P P 22 46 36.9 -0.4
NOA pP pP 22 47 04.3 +1.1
NOA NORSAR Array B 44.92 323 P P 22 46 36.9 -0.4
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,181nm,18.5s
STOK Stokkvaagen 44.94 331 eP P 22 46 37.9 +0.5
NAO01 NORSAR Array S 45.06 323 eP P 22 46 37.9 -0.5
KLR Kul'dur 45.07 54 eP P 22 46 36.1 -2.6
KLR e pP 22 47 01.8 -2.8
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,52nm,1.4s,mb5.1
USRK Ussuriysk Arra 46.04 60 P P 22 46 47.4 +1.0
comp=Z,3.4nm,0.9s,mb4.1,baz=282,slow=9.0,SNR=6.3
USRK pP pP 22 47 14.6 +2.3
comp=Z,3.0nm,0.8s,baz=296,slow=7.1,SNR=4.3
USRK LR LR 23 08 59.5
comp=Z,51nm,18.3s,baz=196,slow=40
HABR Khabarovsk 47.33 54 eP P 22 46 56.1 -0.3
HABR e*PP pP 22 47 21.9 -0.6
HABR ePPP 22 49 36.6
HABR eS S 22 53 41.4 0.0
HABR 22 56 38.9
HABR eSS SS 22 57 12.2 +2.2
HABR eSSS 22 58 27.5
HABR MLR MLR
comp=Z,216nm,21.0s
SPA0 Spitsbergen Ar 47.96 347 eP P 22 47 02.4 +1.6
HINF Hinteralfeld 48.13 305 eP P 22 47 02.5 -0.1
HINF Hinteralfeld 48.13 305 eP P 22 47 02.5 -0.1
HINF Hinteralfeld 48.13 305 eP P 22 47 02.5 -0.1
WLF Walferdange 48.27 308 eP P 22 47 03.5 0.0
WLF Walferdange 48.27 308 eP P 22 47 03.5 -0.1
HAU Haudompre 48.43 305 eP P 22 47 04.9 0.0
HAU eR
comp=Z,204nm,17.5s
HAU Haudompre 48.43 305 eP P 22 47 04.9 0.0
HAU Haudompre 48.43 305 eP P 22 47 04.9 0.0
LPG La Plagne 48.68 302 eP P 22 47 07.0 +0.2
LPG La Plagne 48.68 302 eP P 22 47 07.0 +0.2
LPG La Plagne 48.68 302 eP P 22 47 07.0 +0.2
LPL La Plagne 48.69 302 eP P 22 47 06.7 -0.2
comp=Z,5.9nm,0.6s,mb4.4
LPL epP pP 22 47 32.4 -0.7
LPL La Plagne 48.69 302 eP P 22 47 06.7 -0.2
comp=Z,5.9nm,0.6s,mb4.7
LPL epP pP 22 47 32.4 -0.7
LPL La Plagne 48.69 302 eP P 22 47 06.7 -0.2
LPL e*PP pP 22 47 32.4 -0.7
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MBDF Montbardon 48.84 301 eP P 22 47 07.2 -0.9
comp=Z,9.2nm,0.8s,mb4.5
MBDF Montbardon 48.84 301 eP P 22 47 07.2 -0.9
comp=Z,9.2nm,0.8s,mb4.8
MBDF Montbardon 48.84 301 eP P 22 47 07.2 -0.9
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KMBO Kilima Mbogo 48.85 228 eP P 22 47 09.3 +0.8
comp=Z,20nm,1.4s,mb4.9
KMBO Kilima Mbogo 48.85 228 eP P 22 47 09.3 +0.8
KMBO pmax pmax
comp=Z,20nm,1.4s
CABF La Chapelle 48.89 304 eP P 22 47 08.0 -0.4
CABF epP pP 22 47 33.6 -1.0
CABF La Chapelle 48.89 304 eP P 22 47 08.0 -0.4
CABF epP pP 22 47 33.6 -1.0
CABF La Chapelle 48.89 304 eP P 22 47 08.0 -0.4
CABF e*PP pP 22 47 33.6 -1.0
KSI Kapahiang 49.10 137 P P 22 47 11.8 +1.4
comp=Z,88nm,0.7s,mb5.8
MEZF Maizieres J'vi 49.19 306 eP P 22 47 10.3 -0.3
MEZF Maizieres J'vi 49.19 306 eP P 22 47 10.3 -0.3
SFTF Sexfontaines 49.26 306 eP P 22 47 11.1 -0.1
SFTF Sexfontaines 49.26 306 eP P 22 47 11.1 -0.1
KEST Kesra 49.52 289 P P 22 47 13.0 -0.4
comp=Z,2.9nm,0.9s,mb4.2,baz=331,slow=3.3,SNR=9.6
KEST Kesra 49.52 289 P P 22 47 13.0 -0.4
VIVF Saint-Julien-l 50.26 302 eP P 22 47 18.7 -0.1
VIVF epP pP 22 47 43.9 -1.3
VIVF Saint-Julien-l 50.26 302 eP P 22 47 18.7 -0.1
VIVF epP pP 22 47 43.9 -1.3
VIVF Saint-Julien-l 50.26 302 eP P 22 47 18.7 -0.1
VIVF e*PP pP 22 47 43.9 -1.3
SMF Signal de Mont 50.39 304 eP P 22 47 19.8 0.0
SMF epP pP 22 47 44.7 -1.5
SMF Signal de Mont 50.39 304 eP P 22 47 19.8 0.0
SMF epP pP 22 47 44.7 -1.5
SMF Signal de Mont 50.39 304 eP P 22 47 19.8 0.0
SMF e*PP pP 22 47 44.7 -1.5
AVF Avril sur Loir 50.68 304 eP P 22 47 21.5 -0.5
AVF epP pP 22 47 46.7 -1.7

AVF Avril sur Loir 50.68 304 eP P 22 47 21.5 -0.5
AVF epP pP 22 47 46.7 -1.7
AVF Avril sur Loir 50.68 304 eP P 22 47 21.5 -0.5
AVF e*PP pP 22 47 46.7 -1.7
BGF Bois d'Agland 51.08 304 eP P 22 47 24.5 -0.4
BGF Bois d'Agland 51.08 304 eP P 22 47 24.5 -0.4
BGF Bois d'Agland 51.08 304 eP P 22 47 24.5 -0.4
RJF Les Rejaudoux 52.30 303 eP P 22 47 32.9 -1.1
RJF Les Rejaudoux 52.30 303 eP P 22 47 32.9 -1.1
RJF Les Rejaudoux 52.30 303 eP P 22 47 32.9 -1.1
LDF La Druitiere 52.52 307 eP P 22 47 35.0 -0.6
comp=Z,2.9nm,0.5s,mb4.3
LDF La Druitiere 52.52 307 eP P 22 47 35.0 -0.6
comp=Z,2.9nm,0.5s,mb4.6
LDF La Druitiere 52.52 307 eP P 22 47 35.0 -0.6
LDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
FLN La Foliniere 52.71 308 eP P 22 47 36.3 -0.7
FLN epP pP 22 48 02.1 -1.5
FLN eR
comp=Z,305nm,17.2s
FLN La Foliniere 52.71 308 eP P 22 47 36.3 -0.7
FLN epP pP 22 48 02.1 -1.5
FLN La Foliniere 52.71 308 eP P 22 47 36.3 -0.7
FLN e*PP pP 22 48 02.1 -1.5
YSS Yuzh-Sakhalins 52.74 55 eP P 22 47 38.5 +1.3
MAT Matsushiro 52.74 68 P P 22 47 38.6 +1.2
MJAR Matsushiro Arr 52.74 68 P P 22 47 39.1 +1.7
comp=Z,4.5nm,0.7s,mb4.6,baz=284,slow=10,SNR=8.9
MJAR pP pP 22 48 06.3 +2.2
comp=Z,11nm,1.0s,baz=280,slow=11,SNR=7.9
MJAR sP sP 22 48 20.2 +3.7
comp=Z,10nm,0.9s,baz=285,slow=10,SNR=5.2
MJAR LR LR 23 10 17.9
comp=Z,48nm,18.1s,baz=0.0,slow=36
MJAR Matsushiro Arr 52.74 68 P P 22 47 39.1 +1.7
MJAR pP pP 22 48 06.3 +2.2
MJAR sP sP 22 48 20.2 +3.7
MJAR Matsushiro Arr 52.74 68 P P 22 47 39.1 +1.7
MJAR *PP pP 22 48 06.3 +2.3
MJAR pmax pmax
comp=Z,5.0nm,0.7s
MJAR MLR MLR
comp=Z,48nm,18.1s
LFF La Frestale 52.93 303 eP P 22 47 39.3 +0.6
comp=Z,15nm,0.8s,mb4.8
LFF La Frestale 52.93 303 eP P 22 47 39.3 +0.6
comp=Z,15nm,0.8s,mb5.1
LFF La Frestale 52.93 303 eP P 22 47 39.3 +0.6
LFF pmax pmax
comp=Z,15nm,0.8s,mb5.1
GRR Gorron 53.04 307 eP P 22 47 38.3 -1.2
GRR epP pP 22 48 04.6 -1.5
GRR Gorron 53.04 307 eP P 22 47 38.3 -1.2
GRR epP pP 22 48 04.6 -1.5
GRR Gorron 53.04 307 eP P 22 47 38.3 -1.2
GRR e*PP pP 22 48 04.6 -1.5
EPF Esparros 53.78 301 eP P 22 47 45.2 +0.3
EPF Esparros 53.78 301 eP P 22 47 45.2 +0.3
EPF Esparros 53.78 301 eP P 22 47 45.2 +0.3
SGMF Saint Gilles 54.17 308 eP P 22 47 47.5 -0.2
SGMF Saint Gilles 54.17 308 eP P 22 47 47.5 -0.2
SGMF Saint Gilles 54.17 308 eP P 22 47 47.5 -0.2
ETSF Etsaut 54.44 301 eP P 22 47 48.6 -1.2
comp=Z,6.5nm,0.5s,mb4.7
ETSF Etsaut 54.44 301 eP P 22 47 48.6 -1.2
comp=Z,6.5nm,0.5s,mb4.9
ETSF Etsaut 54.44 301 eP P 22 47 48.6 -1.2
ETSF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
SEY Seymchan 54.53 34 i P P 22 47 51.2 +1.2
DAG Danmarks Havn 55.21 344 i P P 22 47 54.7 -0.1
DAG pmax pmax
comp=Z,18nm,0.9s,mb5.1
DAG Danmarks Havn 55.21 344 i P P 22 47 54.7 -0.1
comp=Z,22nm,0.9s,mb5.2
TAM Tamanrasset 57.96 276 eP P 22 48 13.9 -1.1
comp=Z,13nm,1.5s,mb4.7
TAM Tamanrasset 57.96 276 eP P 22 48 13.9 -1.1
TAM pmax pmax
comp=Z,13nm,1.5s,mb4.7
ESDC Sonseca Array 57.98 298 P P 22 48 14.2 -0.8
comp=Z,0.3nm,0.3s,mb3.8,baz=60,slow=6.8,SNR=10.0
ESDC pP pP 22 48 43.3 +1.4
comp=Z,2.7nm,0.8s,baz=56,slow=7.2,SNR=4.0
ESDC Sonseca Array 57.98 298 P P 22 48 14.2 -0.8
ESDC pP pP 22 48 43.3 +1.4
MRSI Marisa 58.65 115 P P 22 48 22.8 +2.9
comp=Z,30nm,0.9s,mb5.3
BILL Bilibino 58.79 26⇓eP P 22 48 21.4 +1.3
BILL pmax pmax
comp=Z,18nm,1.7s,mb4.8
PETK Petropavlovsk- 59.98 44 P P 22 48 28.3 -0.3
comp=Z,4.3nm,0.8s,mb4.6,baz=261,slow=7.2,SNR=2.5
PETK LR LR 23 13 55.6
comp=Z,60nm,20.1s,baz=115,slow=35
PETK Petropavlovsk- 59.98 44 P P 22 48 28.3 -0.3
PETK Petropavlovsk- 59.98 44 P P 22 48 28.3 -0.2
PETK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
PETK MLR MLR
comp=Z,60nm,20.2s
SUMG Summit 61.55 341 eP P 22 48 39.4 +0.5
comp=Z,25nm,0.9s,mb5.2
SUMG Summit 61.55 341 eP P 22 48 39.4 +0.5
SUMG pmax pmax
comp=Z,25nm,0.9s
SUMG Summit 61.55 341 i P P 22 48 40.4 +1.5
comp=Z,22nm,1.1s,mb5.1
TORD Torodi Ar. Bea 66.09 269 P P 22 49 07.3 -2.2
comp=Z,4.2nm,0.3s,mb4.7,baz=50,slow=6.1,SNR=216
TORD pP pP 22 49 36.5 -0.7
comp=Z,7.9nm,0.9s,baz=50,slow=5.5,SNR=4.8
TORD Torodi Ar. Bea 66.09 269 P P 22 49 07.3 -2.2
TORD pP pP 22 49 36.5 -0.7
FX1 Attu Island--F 68.45 40 P P 22 49 24.4 +0.6
comp=Z,16nm,0.9s,mb4.9,baz=333,slow=4.5,SNR=6.5
FX1 Attu Island--F 68.45 40 P P 22 49 24.4 +0.6
FX1 Attu Island--F 68.45 40 P P 22 49 24.4 +0.6
FX1 pmax pmax
comp=Z,16nm,0.9s
TLE Tual 70.72 112 P P 22 49 42.0 +3.7
INK Inuvik 74.23 9 P P 22 49 58.9 +0.6
comp=Z,7.1nm,0.7s,mb4.5,baz=360,slow=6.9,SNR=60
INK pP pP 22 50 26.9 +0.5
comp=Z,3.7nm,0.7s,baz=13,slow=6.3,SNR=3.2
INK Inuvik 74.23 9 P P 22 49 58.9 +0.6
INK pP pP 22 50 26.9 +0.5
INK Inuvik 74.23 9 P P 22 49 58.9 +0.6
INK *PP pP 22 50 26.9 +0.4
INK pmax pmax
comp=Z,7.0nm,0.7s
FITZ Fitzroy Crossi 74.35 127 P P 22 50 01.4 +1.7
comp=Z,7.7nm,0.9s,mb4.4,baz=320,slow=9.6,SNR=5.1
FITZ Fitzroy Crossi 74.35 127 P P 22 50 01.4 +1.7
LBTB Lobatse 74.65 222 eP P 22 50 02.0 +0.8
comp=Z,89nm,1.3s,mb5.3
LBTB e pP 22 50 29.1 -0.4
LBTB Lobatse 74.65 222 eP P 22 50 02.0 +0.8
LBTB e pP 22 50 29.1 -0.4
LBTB pmax pmax
comp=Z,89nm,1.3s,mb5.3
COLA College 74.75 16 eP P 22 50 01.0 -0.3
comp=Z,8.2nm,0.9s,mb4.5
COLA College 74.75 16 eP P 22 50 01.0 -0.3
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TSUM Tsumeb 74.98 232 eP P 22 50 04.0 +0.8
comp=Z,36nm,1.1s,mb5.0
ILAR Eielson Array 75.05 16 P P 22 50 02.5 -0.6
comp=Z,2.1nm,0.7s,mb4.0,baz=315,slow=4.5,SNR=26
ILAR pP pP 22 50 31.8 +0.5
comp=Z,2.6nm,1.0s,baz=322,slow=5.7,SNR=5.8
ILAR LR LR 23 25 11.8
comp=Z,59nm,18.7s,baz=318,slow=37
ILAR Eielson Array 75.05 16 P P 22 50 02.5 -0.6
ILAR pP pP 22 50 31.8 +0.5
ILAR Eielson Array 75.05 16 P P 22 50 02.5 -0.6
ILAR *PP pP 22 50 31.8 +0.5
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR MLR MLR
comp=Z,59nm,18.7s
DBIC Dimbokro 75.06 267 P P 22 50 02.5 -1.5
comp=Z,2.5nm,0.9s,mb4.0,baz=28,slow=12,SNR=9.5

DBIC LR LR 23 24 48.1
comp=Z,54nm,20.1s,baz=113,slow=37
DBIC Dimbokro 75.06 267 eP P 22 50 03.1 -0.9
DBIC Dimbokro 75.06 267 P P 22 50 02.5 -1.5
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC MLR MLR
comp=Z,54nm,20.1s
LIC Lamto 75.46 267 eP P 22 50 04.6 -1.7
LIC Lamto 75.46 267 eP P 22 50 04.6 -1.7
BOSA Boshof 77.70 221 P P 22 50 19.2 +0.8
comp=Z,37nm,0.9s,mb5.1,baz=42,slow=6.2,SNR=40
BOSA pP pP 22 50 47.7 +0.8
comp=Z,8.2nm,0.8s,baz=29,slow=2.9,SNR=3.1
BOSA Boshof 77.70 221 eP P 22 50 19.4 +1.0
BOSA pP pP 22 50 47.7 +0.8
BOSA Boshof 77.70 221 P P 22 50 19.3 +0.9
BOSA *PP pP 22 50 47.7 +0.8
BOSA pmax pmax
comp=Z,37nm,1.0s,mb5.1
BOSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
WRA Warramunga Arr 81.46 122 P P 22 50 39.5 +0.5
comp=Z,4.0nm,0.3s,mb4.7,baz=324,slow=4.9,SNR=73
WRA pP pP 22 51 07.9 +0.2
comp=Z,4.5nm,0.7s,baz=324,slow=5.2,SNR=5.4
WRA Warramunga Arr 81.46 122 P P 22 50 39.5 +0.5
WRA pP pP 22 51 07.9 +0.2
WRA Warramunga Arr 81.46 122 P P 22 50 39.5 +0.5
WRA *PP pP 22 51 07.9 +0.2
WRA pmax pmax
comp=Z,4.0nm,0.3s
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRAB Tennant Creek 81.46 122 eP P 22 50 39.6 +0.6
comp=Z,6.2nm,0.3s,mb4.9
WRAB Tennant Creek 81.46 122 eP P 22 50 39.6 +0.6
WRAB pmax pmax
comp=Z,6.0nm,0.3s,mb4.9
WRAB Tennant Creek 81.46 122 P P 22 50 40.0 +1.0
comp=Z,80nm,0.4s,mb5.9,SNR=6.9
WB2 Warramunga Arr 81.47 122 eP P 22 50 39.7 +0.7
YKA Yellowknife Ar 81.62 3 P P 22 50 39.3 +0.1
comp=Z,4.6nm,0.4s,mb4.7,baz=348,slow=5.3,SNR=142
YKA pP pP 22 51 08.4 +0.5
comp=Z,3.2nm,0.7s,baz=350,slow=5.3,SNR=4.2
YKA Yellowknife Ar 81.62 3 P P 22 50 39.4 +0.1
YKA pP pP 22 51 08.4 +0.5
YKA Yellowknife Ar 81.62 3 P P 22 50 39.3 +0.1
YKA *PP pP 22 51 08.4 +0.5
YKA pmax pmax
comp=Z,5.0nm,0.4s
YKA pmax pmax
comp=Z,3.0nm,0.7s
SUR Sutherland 83.01 221 eP P 22 50 48.1 +1.2
AS31 Alice Springs 83.72 125 eP P 22 50 50.5 -0.1
ASAR Alice Springs 83.72 125 P P 22 50 51.4 +0.7
comp=Z,5.8nm,0.8s,mb4.5,baz=319,slow=5.5,SNR=38
ASAR pP pP 22 51 21.1 +1.6
comp=Z,6.3nm,0.8s,baz=320,slow=5.7,SNR=7.9
ASAR Alice Springs 83.72 125 P P 22 50 51.4 +0.7
ASAR pP pP 22 51 21.1 +1.6
ASAR Alice Springs 83.72 125 P P 22 50 51.4 +0.8
ASAR *PP pP 22 51 21.1 +1.7
ASAR pmax pmax
comp=Z,6.0nm,0.8s
ASAR pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 89.36 356 eP P 22 51 17.6 -0.1
comp=Z,25nm,1.3s,mb5.1
FFC Flin Flon 89.36 356 eP P 22 51 17.6 -0.1
FFC pmax pmax
comp=Z,25nm,1.3s,mb5.1
FFC Flin Flon 89.36 356 P P 22 51 18.4 +0.7
comp=Z,81nm,1.1s,mb5.7,SNR=5.5
CTA Charters Tower 90.03 115 P P 22 51 21.6 +0.2
comp=Z,9.3nm,0.9s,mb4.9,baz=14,slow=7.8,SNR=4.4
CTA pP pP 22 51 51.7 +1.3
comp=Z,11nm,1.0s,baz=250,slow=5.2,SNR=3.4
CTA Charters Tower 90.03 115 P P 22 51 21.6 +0.2
CTA pP pP 22 51 51.7 +1.3
CTA Charters Tower 90.03 115 P P 22 51 21.6 +0.3
CTA *PP pP 22 51 51.7 +1.2
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTA pmax pmax
comp=Z,11nm,1.0s
CTAO Charters Tower 90.03 115 eP P 22 51 21.5 +0.1
CTAO Charters Tower 90.03 115 eP P 22 51 21.5 +0.2
ULM Lac du Bonnet 93.29 352 P P 22 51 35.8 -0.2
comp=Z,5.7nm,1.0s,mb4.8,baz=17,slow=7.6,SNR=5.3
ULM sP sP 22 52 18.9 +1.8
comp=Z,3.2nm,0.8s,baz=1.4,slow=6.9,SNR=3.0
ULM LR LR 23 39 00.4
comp=Z,94nm,18.2s,baz=351,slow=39
ULM Lac du Bonnet 93.29 352 P P 22 51 35.8 -0.2
ULM sP sP 22 52 18.9 +1.8
ULM Lac du Bonnet 93.29 352 P P 22 51 35.8 -0.2
ULM pmax pmax
comp=Z,6.0nm,1.0s
ULM pmax pmax
comp=Z,3.0nm,0.8s
ULM MLR MLR
comp=Z,94nm,18.3s
STKA Stephens Creek 94.25 127 P P 22 51 39.9 -0.7
comp=Z,1.2nm,0.4s,mb4.6,baz=321,slow=6.5,SNR=4.0
STKA Stephens Creek 94.25 127 eP P 22 51 41.9 +1.3
STKA Stephens Creek 94.25 127 P P 22 51 39.9 -0.7
STKA pmax pmax
comp=Z,1.0nm,0.4s
CPUP Villa Florida 135.58 268 PKP PKPdf 22 57 40.7 -0.6
comp=Z,0.3nm,0.3s,baz=14,slow=4.2,SNR=2.7
CPUP Villa Florida 135.58 268 PKP PKPdf 22 57 40.7 -0.6
CPUP Villa Florida 135.58 268 PKIKP PKPdf 22 57 40.7 -0.6
LPAZ La Paz 139.10 288 PKP PKPdf 22 57 48.0 -0.1
comp=Z,1.0nm,1.0s,baz=63,slow=4.5,SNR=2.8
LPAZ La Paz 139.10 288 PKP PKPdf 22 57 48.0 -0.1
LPAZ La Paz 139.10 288 PKIKP PKPdf 22 57 48.0 -0.1
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
PLCA Paso Flores 150.05 249 PKPbc PKPbc 22 58 11.6 +0.2
comp=Z,6.7nm,1.1s,baz=117,slow=4.5,SNR=4.4
PLCA Paso Flores 150.05 249 PKPbc PKPbc 22 58 11.6 +0.2

IDC 21 22:57:51.5±1.1, 20°.55N×146°.71E, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.6/23, mbtmp3.6/8, MS3.5/1, Ms1 3.5/1, ms1mx2.7/24, Error ellipse: s-maj=30.9km s-min=27.3km az=98.0, Mariana Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 42.02 198 P P 23 05 44.8 0.0
0.3nm,0.3s,baz=18,slow=8.2,SNR=7.8
SONM Songino Array 42.33 320 P P 23 05 46.2 -0.8
0.2nm,0.6s,baz=116,slow=9.9,SNR=2.7
SONM LR LR 23 22 51.8
comp=Z,55nm,18.8s,baz=358,slow=35
ZALV Zalesovo Beam 57.15 322 P P 23 07 40.6 +0.8
0.3nm,0.4s,baz=86,slow=7.4,SNR=2.2
MKAR Makanchi Array 57.89 313 P P 23 07 45.6 +0.4
0.7nm,1.0s,baz=75,slow=9.5,SNR=2.7
ILAR Eielson Array 61.57 27 P P 23 08 11.9 +1.7
0.1nm,0.6s,baz=265,slow=4.5,SNR=4.7
YKA Yellowknife Ar 75.92 28 P P 23 09 38.1 -1.6
0.3nm,0.8s,baz=276,slow=5.5,SNR=5.6
NVAR Mina Array Bea 81.26 52 P P 23 10 10.3 +0.6
0.2nm,0.5s,baz=298,slow=5.8,SNR=3.0
FINES FINESS Array B 85.61 336 P P 23 10 31.1 -0.5
4.2nm,1.1s,baz=60,slow=3.4,SNR=3.0

MAN 21 22:58:43, 10°.13N×122°.23E, h27km, mb4.2, ML3.0, MS2.8, 1C-1D, Panay

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUIM Jordan 0.61 35 eP Pb 22 58 56.3 +1.2
GUIM eS Sb 22 59 06.2 +2.9
SNPH Sibulan 1.26 128⇑iP Pn 22 59 04.4 -0.4
SNPH eS Sn 22 59 21.9 +1.0
CUYO Cuyo Island 1.39 301 eP Pn 22 59 07.4 +0.8
RCP Roxas 1.51 20⇓eP Pn 22 59 13.0 +4.7
RCP i S Sn 22 59 33.5 +6.4
PAGZ Pagadian 2.54 153 eP Pn 22 59 23.7 +1.3
MSLP Maasin 2.59 90 eP Pn 22 59 24.6 +1.5

ENPP El Nido 2.96 291 *eP* Pn 22 59 29.1 +0.9

DDA ***21*** *23:23:29.5, 36.67N×29.18E, h3km, Md2.9*
ISK ***21*** *23:23:31.7, 36.73N×29.12E, h5km, MD2.6*
ISCJB ***21*** *23:23:32.7±0.8, 36.75N±0.04×29.14E±0.05, h11km±6km, Error ellipse: s-maj=6.9km s-min=6.0km az=11.9*
CSEM ***21*** *23:23:32.8±0.5, 36.80N×29.18E, h15km, MD2.9, Error ellipse: s-maj=12.0km s-min=8.1km az=173.0*
ISC 21 23:23:33.1±0.7**, 36.76N**±0.04×**29.14E**±0.05**, h14**km±8km**, n19**,σ1§**20/29, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.45**	**285**	*iP*	**Pg**	**23 23 43.9**	**+1.9**
TURN				*iS*	**Sg**	**23 23 54.8**	**+6.9**
TURN	**Turunc**	**0.45**	**285**	*iP*	**Pg**	**23 23 43.9**	**+2.0**
GLHS	**Glhisar (BURDU**	**0.49**	**36**	*ePG*	**Pg**	**23 23 41.7**	**-1.0**
GLHS				*eSG*	**Sg**	**23 23 50.2**	**+0.9**
GLHS	**Glhisar (BURDU**	**0.49**	**36**	*ePg*	**Pg**	**23 23 41.7**	**-1.1**
GLHS				*eSg*	**Sg**	**23 23 50.3**	**+1.0**
GOLH	**Golhisar**	**0.58**	**35**	*iP*	**Pg**	**23 23 41.7**	**-2.9**
GOLH				*iS*	**Sg**	**23 23 52.6**	**+0.3**
GOLH	**Golhisar**	**0.58**	**35**	*iP*	**Pg**	**23 23 41.7**	**-2.8**
GOLH				*iS*	**Sg**	**23 23 52.6**	**+0.3**
ELL	**Elmali**	**0.62**	**91**	*ePG*	**Pg**	**23 23 43.8**	**-1.4**
ELL				*eSG*	**Sg**	**23 23 54.6**	**+1.3**
ELL	**Elmali**	**0.62**	**91**	*ePg*	**Pg**	**23 23 43.8**	**-1.4**
ELL				*eSg*	**Sg**	**23 23 54.7**	**+1.3**
AKAS	**Kas**	**0.65**	**144**	*iP*	**Pg**	**23 23 40.2**	**-5.5**
AKAS				*iS*	**Sg**	**23 23 54.5**	**+0.2**
YER	**Yerkesik**	**0.78**	**299**	*ePG*	**Pg**	**23 23 47.5**	**-0.7**
YER	**Yerkesik**	**0.78**	**299**	*ePg*	**Pg**	**23 23 47.5**	**-0.8**
DNZL	**Cakiroluk**	**0.93**	**355**	*iP*	**Pb**	**23 23 49.0**	**-2.0**
DNZL				*iS*	**Sb**	**23 24 04.3**	**+1.2**
DNZL	**Cakiroluk**	**0.93**	**355**	*iP*	**Pb**	**23 23 49.0**	**-2.0**
DNZL				*iS*	**Sb**	**23 24 04.3**	**+1.2**
DAT	**Datca**	**1.25**	**269**	*ePN*	**Pn**	**23 23 55.7**	**-0.5**
DAT	**Datca**	**1.25**	**269**	*ePn*	**Pn**	**23 23 55.7**	**-0.4**
BCK	**Bucak**	**1.35**	**58**	*ePN*	**Pn**	**23 23 57.9**	**+0.4**
BCK	**Bucak**	**1.35**	**58**	*ePn*	**Pn**	**23 23 57.9**	**+0.4**
BODT	**Bodrum**	**1.50**	**282**	*ePN*	**Pn**	**23 24 00.1**	**+0.6**
BODT	**Bodrum**	**1.50**	**282**	*ePn*	**Pn**	**23 24 00.1**	**+0.6**

ISCJB ***21*** *23:32:36.7±0.5, 10.93N±0.03×62.27W±0.03, h95km±6km, Error ellipse: s-maj=5.5km s-min=3.5km az=43.2*
FUNV ***21*** *23:32:38.1, 10.96N×62.18W, h82km, MW3.2*
TRN ***21*** *23:32:39.0, 10.96N×62.24W, h78km, MD3.6*
ISC 21 23:32:37.8±0.5**, 10.93N**±0.03×**62.26W**±0.03**, h87**km±7km**, n27**,σ0§**74**/45**, 3C-3D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.29**	**172**	⇑*eP*	**Pn**	**23 32 51.2**	**+0.3**
GUIV				*eS*	**Sn**	**23 33 00.6**	**+0.1**
TRN	**Trinidad (W)**	**0.89**	**108**	⇑*iP*	**Pn**	**23 32 56.9**	**+0.9**
TRN				*eS*	**Sn**	**23 33 09.0**	**-0.7**
ITEV	**Isla Los Testi**	**0.95**	**296**	*eP*	**Pn**	**23 32 56.3**	**-0.4**
CRUV	**Carupano**	**0.99**	**255**	⇓*iP*	**Pn**	**23 32 57.1**	**0.0**
CRUV				*eS*	**Sn**	**23 33 11.2**	**-0.5**
GUNV	**Guanoco**	**1.02**	**221**	*eP*	**Pn**	**23 32 58.1**	**+0.6**
GUNV				*eS*	**Sn**	**23 33 13.2**	**+0.9**
TBH	**Brigand Hill**	**1.26**	**111**	⇑*eP*	**Pn**	**23 33 01.5**	**+1.1**
TBH				*eS*	**Sn**	**23 33 17.4**	**0.0**
GRW	**Mount Saint Ca**	**1.35**	**26**	*eP*	**Pn**	**23 33 01.7**	**+0.1**
GRW				*eS*	**Sn**	**23 33 18.6**	**-1.0**
GRHS	**Sauteurs**	**1.42**	**25**	*eP*	**Pn**	**23 33 03.2**	**+0.8**
GRHS				*eS*	**Sn**	**23 33 20.2**	**-0.8**
TPR	**Prospect**	**1.48**	**80**	*eP*	**Pn**	**23 33 04.1**	**+0.9**
TPR				*eS*	**Sn**	**23 33 22.8**	**+0.5**
GRIC	**Isle de Caille**	**1.50**	**26**	*eP*	**Pn**	**23 33 04.8**	**+1.3**
GRIC				*eS*	**Sn**	**23 33 22.1**	**-0.7**
GRSS	**Sisters**	**1.50**	**25**	⇓*iP*	**Pn**	**23 33 04.7**	**+1.3**
GRSS				*eS*	**Sn**	**23 33 22.6**	**-0.2**
TOSP	**Speyside**	**1.73**	**78**	*eP*	**Pn**	**23 33 06.5**	**+0.1**
TOSP				*eS*	**Sn**	**23 33 27.1**	**-1.0**
ORIV	**Oritupano**	**2.17**	**211**	⇓*iP*	**Pn**	**23 33 12.9**	**+0.8**
ORIV				*eS*	**Sn**	**23 33 38.6**	**+0.2**
IBAV	**Isla La Blanqu**	**2.44**	**292**	*eP*	**Pn**	**23 33 15.2**	**-0.5**
PCRV	**Puerto La Cruz**	**2.45**	**252**	*eP*	**Pn**	**23 33 16.6**	**+0.7**
PCRV				*eS*	**Sn**	**23 33 45.2**	**0.0**
SVB	**Belmont**	**2.53**	**23**	*eP*	**Pn**	**23 33 16.8**	**-0.1**
SVB				*eS*	**Sn**	**23 33 46.3**	**-0.6**
RIOV	**Rio Grande**	**2.88**	**171**	*eP*	**Pn**	**23 33 22.2**	**+0.5**
RIOV				*eS*	**Sn**	**23 33 53.9**	**-1.6**
MCLT	**Moule a Chique**	**3.05**	**25**	*eP*	**Pn**	**23 33 24.1**	**+0.2**
MCLT				*eS*	**Sn**	**23 33 59.1**	**-0.3**
GURV	**El Guri**	**3.26**	**195**	*eP*	**Pn**	**23 33 26.9**	**+0.1**
GURV				*eS*	**Sn**	**23 34 02.8**	**-1.7**
CUPV	**Cœpira**	**3.58**	**256**	*eP*	**Pn**	**23 33 31.9**	**+0.9**
CUPV				*eS*	**Sn**	**23 34 11.5**	**-0.8**
BIRV	**Birongo**	**3.96**	**264**	*eP*	**Pn**	**23 33 37.3**	**+1.0**
MERV	**Las Mercedes**	**4.31**	**248**	*eP*	**Pn**	**23 33 40.8**	**-0.2**
LUEV	**Luepa**	**5.12**	**171**	*eP*	**Pn**	**23 33 51.1**	**-1.0**
TURV	**Turiamo**	**5.50**	**266**	*eP*	**Pn**	**23 33 57.1**	**-0.1**
BAUV	**El Baul**	**6.03**	**251**	*eP*	**Pn**	**23 34 03.8**	**-0.6**
MAPV	**Macapo**	**6.19**	**260**	*eP*	**Pn**	**23 34 06.7**	**+0.1**
MONV	**Montecano**	**7.62**	**278**	*eP*	**Pn**	**23 34 25.3**	**-0.9**

IDC ***21*** *23:39:11.9±0.7, 30.93S×176.69W, h0km, mb4.6/9, mb1 4.7/10, mb1mx4.5/19, mbtmp4.6/10, ML2.6/1, MS3.8/5, Ms1 3.8/5, ms1mx3.4/22, Error ellipse: s-maj=25.6km s-min=22.6km az=144.0*
NEIC ***21*** *23:39:12.9±0.4, 30.98S×176.62W, h10km, mb4.5/3, Error ellipse: s-maj=10.8km s-min=9.4km az=81.0*
ISCJB ***21*** *23:39:13.7±0.8, 31.48S±0.06×176.5W±0.1, h33km, mb4.6/12, MS3.9/5, Error ellipse: s-maj=17.6km s-min=6.4km az=16.4*
ISC 21 23:39:15.9±0.8**, 31.44S**±0.06×**176.5W**±0.1**, h35**km**, n72**, σ1§**38**/51**, mb4.6**/12**, MS3.9**/5**, 4C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.50**	**331**	*ePn*	**Pn**	**23 39 47.5**	**-6.5**
RAO				*eSn*	**Sn**	**23 40 11.4**	**-12**
PUZ	**Puketiti**	**7.89**	**212**	PN	**Pn**	**23 41 08.9**	**+0.9**
PUZ				SN	**Sn**	**23 42 40.0**	**+4.0**
MWZ	**Matawai**	**8.44**	**214**	PN	**Pn**	**23 41 15.8**	**+0.2**
MWZ				*eSN*	**Sn**	**23 42 52.0**	**+2.5**
URZ	**Urewera**	**8.58**	**216**	Pn	**Pn**	**23 41 15.0**	**-2.6**
	1.2nm,0.3s,baz=306,slow=4.7,SNR=17						
URZ				Sn	**Sn**	**23 42 56.6**	**+3.5**
	9.4nm,0.3s,baz=252,slow=20,SNR=9.1						
URZ	**Urewera**	**8.58**	**216**	Pn	**Pn**	**23 41 15.0**	**-2.6**
URZ				Sn	**Sn**	**23 42 56.6**	**+3.5**
BFZ	**Birch Farm**	**10.91**	**210**	*ePN*	**Pn**	**23 41 48.5**	**-1.1**
MRZ	**Mangatainoka R**	**11.20**	**213**	PN	**Pn**	**23 41 53.1**	**-0.3**
MRZ				*eSN*	**Sn**	**23 43 54.3**	**-2.9**
THZ	**Tophouse**	**13.34**	**217**	PN	**Pn**	**23 42 21.0**	**-1.7**
THZ				*eSN*	**Sn**	**23 44 43.7**	**-5.9**
KHZ	**Kahutara**	**13.52**	**213**	PN	**Pn**	**23 42 24.3**	**-0.8**
LTZ	**Lake Taylor**	**14.41**	**215**	PN	**Pn**	**23 42 35.6**	**-1.7**
LTZ				*eSN*	**Sn**	**23 45 06.8**	**-8.9**
MSVF	**Nonsavu**	**14.51**	**339**	*ePn*	**Pn**	**23 42 32.2**	**-6.6**
	20nm,1.1s						
RPZ	**Rata Peaks**	**15.70**	**215**	*ePn*	**Pn**	**23 42 53.3**	**-1.0**
	31nm,0.9s						
DZM	**Mont Dzumac**	**17.83**	**297**	*eP*	**Pn**	**23 43 21.6**	**+0.3**
	90nm,1.4s						
DZM				*eLR*	LR	23 47 27.9	
	558nm,27.6s						
DZM	**Mont Dzumac**	**17.83**	**297**	Pn	**Pn**	**23 43 21.6**	**+0.3**
	1.3nm,0.3s,baz=110,slow=16,SNR=11						
DZM	**Mont Dzumac**	**17.83**	**297**	*ePn*	**Pn**	**23 43 18.8**	**-2.5**
	52nm,1.2s						
AFI	**Afiamalu**	**17.99**	**15**	Pn	**Pn**	**23 43 17.2**	**-6.0**
	1.2nm,0.3s,baz=220,slow=7.9,SNR=2.9						
AFI	**Afiamalu**	**17.99**	**15**	Pn	**Pn**	**23 43 17.2**	**-6.0**
TBI	**Tubuai**	**25.29**	**78**	*eLR*	LR	23 50 47.5	
	456nm,32.2s						
TBI				*eT*		00 10 20.7	
	50nm,0.4s						
ARMA	**Armidale**	**27.30**	**264**	⇑*iP*	**P**	**23 45 00.5**	**+3.3**
PAE	**Paea**	**27.99**	**67**	*eT*		00 13 33.0	
	5.6nm,0.3s						
PPT2	**Papeete2**	**28.03**	**67**	*eLR*	LR	23 51 52.7	
	205nm,27.2s						
PPT2				*eT*		00 13 37.2	
	14nm,0.4s						
MEH	**Mehetia**	**29.07**	**69**	*eT*		00 14 55.8	
	24nm,0.3s						
PMOR	**Pomariorio Ree**	**30.85**	**65**	*eT*		00 17 05.1	
	2.4nm,0.4s						
CMSA	**Cobar Meteorol**	**32.12**	**260**	⇑*iP*	**P**	**23 45 41.9**	**+1.9**
CTA	**Charters Tower**	**35.23**	**280**	⇑*iP*	**P**	**23 46 08.2**	**+1.1**
STKA	**Stephens Creek**	**35.50**	**258**	P	**P**	**23 46 10.6**	**+1.3**
	9.4nm,0.9s,mb4.7,baz=91,slow=7.3,SNR=9.9						
STKA				LR	LR	23 58 43.4	
	comp=Z,108nm,18.1s,MS3.6,baz=26,slow=33						
STKA	**Stephens Creek**	**35.50**	**258**	*eP*	**P**	**23 46 11.0**	**+1.7**
STKA	**Stephens Creek**	**35.50**	**258**	*eP*	**P**	**23 46 11.1**	**+1.9**
RKT	**Rikitea**	**37.66**	**88**	*eLR*	LR	23 56 38.0	
	795nm,36.0s						
MTSU	**Mount Surprise**	**37.74**	**281**	⇑*iP*	**P**	**23 46 29.4**	**+0.8**
	18nm,0.5s,mb5.0						
PMG	**Port Moresby**	**40.20**	**295**	P	**P**	**23 46 47.6**	**-1.5**
	7.8nm,0.9s,mb4.5,baz=158,slow=12,SNR=3.6						
PMG	**Port Moresby**	**40.20**	**295**	P	**P**	**23 46 47.6**	**-1.5**
AS31	**Alice Springs**	**44.33**	**267**	*eP*	**P**	**23 47 22.5**	**-0.2**
ASAR	**Alice Springs**	**44.33**	**267**	P	**P**	**23 47 22.2**	**-0.5**
	9.3nm,0.6s,mb4.7,baz=106,slow=7.6,SNR=99						
ASAR				PcP	PcP	23 49 07.9	+1.4
	1.7nm,0.8s,baz=130,slow=4.7,SNR=4.4						
ASAR	**Alice Springs**	**44.33**	**267**	P	**P**	**23 47 22.2**	**-0.5**
ASAR				PcP	PcP	23 49 07.9	+1.4
WB2	**Warramunga Arr**	**45.40**	**272**	*eP*	**P**	**23 47 30.5**	**-0.8**
WRAB	**Tennant Creek**	**45.41**	**272**	*eP*	**P**	**23 47 30.6**	**-0.7**
	12nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**45.41**	**272**	P	**P**	**23 47 30.5**	**-0.9**
	8.5nm,0.4s,mb4.9,baz=111,slow=7.9,SNR=165						
WRA				LR	LR	00 05 04.0	
	comp=Z,81nm,19.7s,MS3.7,baz=90,slow=34						
WRA	**Warramunga Arr**	**45.41**	**272**	P	**P**	**23 47 30.5**	**-0.9**
QSPA	**South Pole Qui**	**58.67**	**180**	P	**P**	**23 49 14.9**	**+5.8**
	6.2nm,0.8s,mb4.7,baz=13,slow=2.7,SNR=12						
QSPA	**South Pole Qui**	**58.67**	**180**	*eP*	**P**	**23 49 13.7**	**+4.6**
	7.1nm,1.0s,mb4.7						
SNAA	**Sanae**	**77.08**	**178**	*eP*	**P**	**23 51 08.2**	**+3.3**
	4.5nm,1.0s,mb4.3						
VNA1	**Neumayer--Stat**	**77.85**	**176**	*e*	pP	23 51 23.3	+3.0
PLCA	**Paso Flores**	**80.86**	**132**	LR	LR	00 20 11.4	
	comp=Z,94nm,19.3s,MS4.2,baz=198,slow=30						
NVAR	**Mina Array Bea**	**88.15**	**42**	P	**P**	**23 52 03.6**	**+0.7**
	1.4nm,0.9s,mb4.2,baz=217,slow=8.2,SNR=7.0						
NVAR	**Mina Array Bea**	**88.15**	**42**	P	**P**	**23 52 03.6**	**+0.7**
USRK	**Ussuriysk Arra**	**88.73**	**326**	P	**P**	**23 52 06.6**	**+1.1**
	4.3nm,0.7s,mb4.9,baz=150,slow=4.3,SNR=8.1						
CMIG	**Matias Romero**	**91.87**	**71**	LR	LR	00 25 36.4	
	comp=Z,43nm,18.8s,MS3.9,baz=336,slow=30						
CMAR	**Chiang Mai Arr**	**94.94**	**288**	P	**P**	**23 52 35.9**	**+1.0**
	2.1nm,1.0s,mb4.5,baz=152,slow=3.6,SNR=8.4						
CMAR	**Chiang Mai Arr**	**94.94**	**288**	P	**P**	**23 52 35.9**	**+1.0**
CPUP	**Villa Florida**	**98.34**	**128**	LR	LR	00 30 12.8	
	comp=Z,43nm,18.7s,MS4.0,baz=161,slow=31						
ILAR	**Eielson Array**	**98.66**	**12**	P	**P**	**23 52 49.5**	**-1.2**
	0.3nm,0.9s,mb3.8,baz=224,slow=5.0,SNR=3.9						
ILAR	**Eielson Array**	**98.66**	**12**	P	**P**	**23 52 49.5**	**-1.2**
MKAR	**Makanchi Array**	**119.42**	**309**	PKP	PKPdf	23 58 00.9	-0.3
	0.6nm,0.9s,baz=132,slow=2.3,SNR=3.3						
MKAR	**Makanchi Array**	**119.42**	**309**	PKP	PKPdf	23 58 00.9	-0.3
ZALV	**Zalesovo Beam**	**119.66**	**318**	PKP	PKPdf	23 58 00.5	-1.0
	0.4nm,0.5s,baz=114,slow=3.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**119.66**	**318**	PKP	PKPdf	23 58 00.5	-1.0
ARCES	**ARCESS Array B**	**139.87**	**348**	PKP	PKPdf	23 58 40.9	+1.6
	1.3nm,0.6s,baz=11,slow=1.2,SNR=6.4						
ARCES	**ARCESS Array B**	**139.87**	**348**	PKP	PKPdf	23 58 40.9	+1.6
JOF	**Joensuu**	**143.85**	**339**	*ep*	PKPdf	23 58 43.1	-3.5
KAF	**Kangasniemi**	**145.95**	**341**	*ep*	PKPdf	23 58 49.2	-1.0
FINES	**FINESS Array B**	**146.56**	**340**	PKPbc	PKPbc	23 58 52.4	-0.4
	11nm,0.6s,baz=50,slow=3.3,SNR=78						
FINES	**FINESS Array B**	**146.56**	**340**	PKPbc	PKPbc	23 58 52.4	-0.4
NB2	**NORSAR Subarra**	**149.96**	**352**	PKP	PKPbc	23 59 01.7	-0.1
	comp=Z,0.3nm,0.6s,baz=25,slow=2.9						
NOA	**NORSAR Array B**	**149.96**	**352**	PKPbc	PKPbc	23 59 01.9	+0.2
	comp=Z,2.7nm,0.8s,baz=13,slow=4.3,SNR=4.4						
NOA	**NORSAR Array B**	**149.96**	**352**	PKPbc	PKPbc	23 59 01.9	+0.2
AKASG	**Malin Array Be**	**152.90**	**323**	PKPbc	PKPbc	23 59 08.9	0.0
	comp=Z,2.3nm,0.5s,baz=46,slow=2.7,SNR=13						
AKASG				PKPab	PKPab	23 59 18.4	-1.7
	comp=Z,0.6nm,0.4s,baz=49,slow=3.5,SNR=4.3						
AKASG	**Malin Array Be**	**152.90**	**323**	PKPbc	PKPbc	23 59 08.9	0.0
AKASG				PKPab	PKPab	23 59 18.4	-1.7
BRTR	**Keskin Array B**	**154.21**	**297**	PKPbc	PKPbc	23 59 14.6	+2.5
	comp=Z,0.6nm,0.7s,baz=122,slow=5.4,SNR=4.2						
BRTR				PKPab	PKPab	23 59 25.9	-0.2
	comp=Z,0.9nm,0.6s,baz=116,slow=4.0,SNR=6.0						
BRTR	**Keskin Array B**	**154.21**	**297**	PKPbc	PKPbc	23 59 14.6	+2.5
BRTR				PKPab	PKPab	23 59 25.9	-0.2
TORD	**Torodi Ar. Bea**	**161.72**	**174**	PKPab	PKPab	00 00 01.9	+3.0
	comp=Z,2.0nm,0.9s,baz=181,slow=3.7,SNR=11						
TORD	**Torodi Ar. Bea**	**161.72**	**174**	PKPab	PKPab	00 00 01.9	+3.0

ISCJB ***21*** *23:40:12.9±0.7, 43.98N±0.03×17.30E±0.04, h4km±4km, Error ellipse: s-maj=6.4km s-min=2.5km az=44.7*
BEO ***21*** *23:40:12.3±0.8, 43.91N×17.16E, h1km±4km, ML2.8/5*
CSEM ***21*** *23:40:13.6±0.2, 43.96N×17.30E, h2km, ML2.8, Error ellipse: s-maj=7.3km s-min=2.7km az=43.0*
PDG ***21*** *23:40:14.8±0.2, 43.72N×17.26E, h1km, MD3.0/1, ML2.9/9, Error ellipse: s-maj=1.3km s-min=1.7km az=0.0*
VIE ***21*** *23:40:15.6±0.3, 44.09N×17.34E, h10km, mb2.6/6, ML2.3/7, Error ellipse: s-maj=3.5km s-min=2.5km az=76.0 91 km WNW of Sarajevo*
PRU ***21*** *23:40:18.7, 44.28N×17.60E, h0km*
ISC 21 23:40:13.8±0.7**, 43.95N**±0.03×**17.28E**±0.04**, h4**km±4km**, n62**,σ1§**13**/109**, 15C-15D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.80**	**355**	⇑*iPg*	**Pg**	**23 40 29.1**	**-0.1**
BLY				*eSg*	**Sg**	**23 40 40.6**	**+0.9**
BLY	**Banja Luka**	**0.80**	**355**	⇑*iPg*	**Pg**	**23 40 29.1**	**-0.1**
BLY				*eSg*	**Sg**	**23 40 40.6**	**+0.9**
STON	**Ston**	**1.12**	**164**	*ePg*	**Pg**	**23 40 30.3**	**-5.0**
STON				Sg	**Sg**	**23 40 46.7**	**-3.1**
STON	**Ston**	**1.12**	**164**	*ePg*	**Pg**	**23 40 30.2**	**-5.0**
STON				Sg	**Sg**	**23 40 46.6**	**-3.1**
BRY	**Bratogost**	**1.39**	**138**	⇑*iPg*	**Pn**	**23 40 37.2**	**-2.8**
BRY				*eSg*	**Sn**	**23 40 57.5**	**-1.3**
BRY	**Bratogost**	**1.39**	**138**	⇑*iPg*	**Pn**	**23 40 37.2**	**-2.8**
BRY				*eSg*	**Sn**	**23 40 57.5**	**-1.3**
UPM	**Unac-Piva**	**1.40**	**122**	⇓*iPg*	**Pn**	**23 40 38.5**	**-1.6**
UPM				*eSg*	**Sg**	**23 40 59.0**	**+0.3**
UPM	**Unac-Piva**	**1.40**	**122**	⇓*iPg*	**Pn**	**23 40 38.5**	**-1.6**
UPM				*eSg*	**Sg**	**23 40 59.0**	**+0.3**
BBLS	**Lazići**	**1.54**	**92**	*eSg*	**Sg**	**23 41 03.9**	**+0.6**
BBLS	**Lazići**	**1.54**	**92**	*eSg*	**Sg**	**23 41 03.9**	**+0.6**
SISC	**Sisak**	**1.66**	**337**	*ePn*	**Pn**	**23 40 44.8**	**+1.2**
SISC				Sn	**Sn**	**23 41 06.7**	**+1.4**
SISC	**Sisak**	**1.66**	**337**	*ePn*	**Pn**	**23 40 44.7**	**+1.1**
SISC				Sn	**Sn**	**23 41 06.6**	**+1.3**
NKY	**Niksic**	**1.69**	**132**	⇓*iPg*	**Pn**	**23 40 43.7**	**-0.4**
NKY				*eSg*	**Sg**	**23 41 07.9**	**-0.1**
NKY	**Niksic**	**1.69**	**132**	⇓*iPg*	**Pn**	**23 40 43.7**	**-0.4**
NKY				*eSg*	**Sg**	**23 41 07.9**	**-0.1**
HCY	**Herceg Novi**	**1.74**	**149**	⇑*iPg*	**Pn**	**23 40 43.6**	**-1.2**
HCY				*eSg*	**Sn**	**23 41 07.8**	**+0.3**
HCY	**Herceg Novi**	**1.74**	**149**	⇑*iPg*	**Pn**	**23 40 43.6**	**-1.2**
HCY				*eSg*	**Sn**	**23 41 07.8**	**+0.3**
NVLJ	**Novalja**	**1.84**	**290**	*iPn*	**Pn**	**23 40 46.3**	**+0.2**
NVLJ				Sg	**Sg**	**23 41 12.7**	**-0.1**
NVLJ	**Novalja**	**1.84**	**290**	*iPn*	**Pn**	**23 40 46.2**	**+0.1**
NVLJ				Sg	**Sg**	**23 41 12.6**	**-0.2**
DIVS	**Divibare**	**1.96**	**85**	*ePn*	**Pn**	**23 40 47.1**	**-0.7**
DIVS				*eSg*	**Sg**	**23 41 16.7**	**-0.2**
DIVS	**Divibare**	**1.96**	**85**	*ePn*	**Pn**	**23 40 47.1**	**-0.7**
DIVS				*eSg*	**Sg**	**23 41 16.7**	**-0.2**
BUM	**Brajici-Budva**	**2.03**	**144**	⇓*iPn*	**Pn**	**23 40 48.6**	**-0.1**
BUM				*eSn*	**Sn**	**23 41 16.2**	**+1.7**
BUM	**Brajici-Budva**	**2.03**	**144**	⇓*iPn*	**Pn**	**23 40 48.6**	**-0.1**
BUM				*eSn*	**Sn**	**23 41 16.2**	**+1.7**
PDG	**Podgorica**	**2.10**	**136**	⇓*iPn*	**Pn**	**23 40 49.9**	**+0.2**
PDG				*eSg*	**Sn**	**23 41 19.1**	**+3.0**
PDG	**Podgorica**	**2.10**	**136**	*ePn*	**Pn**	**23 40 49.9**	**+0.2**
PDG				*eSn*	**Sn**	**23 41 17.9**	**+1.8**
PDG				*eSg*	**Sn**	**23 41 19.1**	**+3.0**
TTG	**Podgorica**	**2.10**	**136**	*ePn*	**Pn**	**23 40 49.9**	**+0.2**
TTG				*eSn*	**Sn**	**23 41 17.9**	**+1.7**
IVAS	**Ivanjica**	**2.12**	**99**	*ePn*	**Pn**	**23 40 50.7**	**+0.8**
IVAS				*eSg*	**Sg**	**23 41 23.4**	**+1.6**
IVAS	**Ivanjica**	**2.12**	**99**	*ePn*	**Pn**	**23 40 50.7**	**+0.8**
IVAS				*eSg*	**Sg**	**23 41 23.4**	**+1.6**
BOJS	**Bojanci**	**2.12**	**318**	*ePn*	**Pn**	**23 40 49.6**	**-0.4**
BOJS	**Bojanci**	**2.12**	**318**	Pn	**Pn**	**23 40 49.6**	**-0.4**
BEY	**Berane**	**2.19**	**119**	⇓*iPn*	**Pn**	**23 40 52.2**	**+1.3**
BEY				*eSn*	**Sg**	**23 41 22.1**	**-2.0**
IVA	**Berane**	**2.19**	**118**	⇓*iPn*	**Pn**	**23 40 52.2**	**+1.2**
IVA				*eSn*	**Sg**	**23 41 22.1**	**-2.1**
TRUS	**Trudelj**	**2.27**	**82**	*ePn*	**Pn**	**23 40 50.5**	**-1.6**
TRUS	**Trudelj**	**2.27**	**82**	*ePn*	**Pn**	**23 40 50.5**	**-1.6**
GBRS	**Gornja Briga**	**2.37**	**313**	*ePn*	**Pn**	**23 40 54.3**	**+0.9**
PVY	**Plav**	**2.38**	**124**	⇑*iPn*	**Pn**	**23 40 55.2**	**+1.6**
PVY				*eSn*	**Sg**	**23 41 26.3**	**-3.9**
PVY	**Plav**	**2.38**	**124**	⇑*iPn*	**Pn**	**23 40 55.2**	**+1.6**
PVY				*eSn*	**Sg**	**23 41 26.3**	**-3.9**
ULC	**Ulcinj**	**2.45**	**143**	⇑*iPn*	**Pn**	**23 40 54.7**	**+0.1**
ULC				*eSn*	**Sn**	**23 41 25.7**	**+0.7**
ULC	**Ulcinj**	**2.45**	**143**	⇑*iPn*	**Pn**	**23 40 54.7**	**+0.1**
ULC				*eSn*	**Sn**	**23 41 25.7**	**+0.7**
PKSM	**Moragy**	**2.46**	**23**	*ePn*	**Pn**	**23 40 53.5**	**-1.2**
PKSM	**Moragy**	**2.46**	**23**	*ePn*	**Pn**	**23 40 53.5**	**-1.2**
VISS	**Visnje**	**2.54**	**318**	*ePn*	**Pn**	**23 40 55.8**	**0.0**
VISS	**Visnje**	**2.54**	**318**	*ePn*	**Pn**	**23 40 55.8**	**0.0**
SOKA	**Soboth**	**3.16**	**331**	⇓*iPn*	**Pn**	**23 41 04.0**	**-0.2**
SOKA				⇓*iSn*	**Sn**	**23 41 41.8**	**-0.5**
SOKA	**Soboth**	**3.16**	**331**	Pn	**Pn**	**23 41 04.0**	**-0.2**
SOKA				Sn	**Sn**	**23 41 41.8**	**-0.5**
VOY	**Vojsko**	**3.18**	**312**	*ePn*	**Pn**	**23 41 06.1**	**+1.5**
VOY				*e*	**Pb**	**23 41 12.4**	**+1.6**
VOY				*e*(Sn)	**Sn**	**23 41 47.7**	**+4.8**
VOY				*e*		23 41 56.3	
VOY	**Vojsko**	**3.18**	**312**	*ePn*	**Pn**	**23 41 06.1**	**+1.5**
BARS	**Barje**	**3.50**	**107**	*ePn*	**Pn**	**23 41 07.4**	**-1.5**
BARS				*eSn*	**Sn**	**23 41 51.9**	**+1.2**
BARS	**Barje**	**3.50**	**107**	*ePn*	**Pn**	**23 41 07.4**	**-1.5**
BARS				*eSn*	**Sn**	**23 41 51.9**	**+1.2**
ARSA	**Arzberg**	**3.52**	**340**	⇑*iPn*	**Pn**	**23 41 09.0**	**-0.3**
ARSA				⇑*iSn*	**Sn**	**23 41 49.9**	**-1.5**
ARSA	**Arzberg**	**3.52**	**340**	Pn	**Pn**	**23 41 09.0**	**-0.3**
ARSA				Sn	**Sn

YKA				pP	pP	00 19 37.4	+2.2
ASAR	**Alice Springs**	**132.00**	**209**	PKP	PKPdf	00 25 27.9	-0.2
	0.5nm,0.5s,baz=140,slow=2.0,SNR=5.5						
ASAR	**Alice Springs**	**132.00**	**209**	PKP	PKPdf	00 25 27.9	-0.2
WRA	**Warramunga Arr**	**134.95**	**212**	PKP	PKPdf	00 25 34.1	+0.4
	0.6nm,0.5s,baz=142,slow=1.7,SNR=13						
WRA				pPKP	pPKPdf	00 26 05.8	+2.4
	0.6nm,0.7s,baz=142,slow=1.6,SNR=2.5						
WRA				SKPbc	SKPbc	00 28 51.4	-3.1
	0.8nm,0.8s,baz=147,slow=2.6,SNR=4.9						
WRA	**Warramunga Arr**	**134.95**	**212**	PKP	PKPdf	00 25 34.1	+0.4
WRA				pPKP	pPKPdf	00 26 05.8	+2.4
WRA				SKPbc	SKPbc	00 28 51.4	-3.1
ZALV	**Zalesovo Beam**	**139.76**	**23**	PKhKP	PKPpre	00 25 37.0	
	0.4nm,0.4s,baz=323,slow=3.3,SNR=3.4						
ZALV				PKP	PKPdf	00 25 41.0	-0.5
	0.9nm,0.6s,baz=301,slow=3.2,SNR=5.2						
ZALV				pPKP	pPKPdf	00 26 14.3	+3.1
	1.6nm,0.6s,baz=293,slow=2.1,SNR=5.7						
ZALV				SKPbc	SKPbc	00 29 07.4	+0.1
	0.4nm,0.5s,baz=357,slow=2.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**139.76**	**23**	PKPpre	PKPpre	00 25 37.0	
ZALV				PKP	PKPdf	00 25 41.0	-0.5
ZALV				pPKP	pPKPdf	00 26 14.3	+3.1
ZALV				SKPbc	SKPbc	00 29 07.5	+0.1
MKAR	**Makanchi Array**	**143.74**	**33**	PKP	PKPdf	00 25 46.4	-2.4
	0.5nm,0.6s,baz=338,slow=2.5,SNR=8.0						
MKAR				pPKP	pPKPdf	00 26 21.0	+2.5
	0.6nm,0.6s,baz=326,slow=3.2,SNR=2.7						
MKAR	**Makanchi Array**	**143.74**	**33**	PKP	PKPdf	00 25 46.4	-2.4
MKAR				pPKP	pPKPdf	00 26 21.0	+2.5
USRK	**Ussuriysk Arra**	**149.05**	**329**	PKPbc	PKPbc	00 26 03.0	+0.9
	2.8nm,0.8s,baz=60,slow=11,SNR=5.3						
USRK				pPKPbc	pPKPbc	00 26 34.4	+2.8
	2.2nm,0.7s,baz=138,slow=43,SNR=4.1						
MJAR	**Matsushiro Arr**	**150.06**	**312**	PKPbc	PKPbc	00 26 05.4	+0.6
	2.0nm,0.5s,baz=135,slow=1.6,SNR=4.1						
MJAR	**Matsushiro Arr**	**150.06**	**312**	PKPbc	PKPbc	00 26 05.4	+0.6
SONM	**Songino Array**	**150.91**	**6**	PKPbc	PKPbc	00 26 06.9	+0.5
	1.1nm,0.6s,baz=8.1,slow=2.0,SNR=9.6						
SONM				pPKPbc	pPKPbc	00 26 39.6	+3.6
	1.1nm,0.5s,baz=323,slow=1.4,SNR=3.8						
SONM	**Songino Array**	**150.91**	**6**	PKPbc	PKPbc	00 26 06.9	+0.5
SONM				pPKPbc	pPKPbc	00 26 39.6	+3.6
CMAR	**Chiang Mai Arr**	**168.92**	**90**	PKPab	PKPab	00 27 33.2	0.0
	0.4nm,0.3s,baz=289,slow=5.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**168.92**	**90**	PKPab	PKPab	00 27 33.2	0.0

*DDA **22** 00:32:37.9,39°.10N×27°.94E,h7km±4km,Md2.9*
*ISCJB **22** 00:32:38.5±0.5,39°.08N±0°.02×27°.94E±0°.03,h2km±7km,*
Error ellipse: s-maj=4.4km s-min=3.7km az=177.1
*ISK **22** 00:32:38.0,39°.08N×27°.93E,h4km,MD2.4*
*CSEM **22** 00:32:38.5±0.2,39°.08N×27°.95E,h2km,MD2.4,Error*
ellipse: s-maj=3.8km s-min=3.5km az=81.0

ISC 22 00:32:39.0±0.4,39°.08N±0°.02×27°.94E±0°.03,h5km±7km,
n34,σ0§96/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.22**	**206**	*i* P	**Pg**	**00 32 42.7**	**-0.6**
AKHS				*i* S	**Sg**	**00 32 46.4**	**+0.2**
AKHS	**Akhisar**	**0.22**	**206**	*i* P	**Pg**	**00 32 42.7**	**-0.6**
AKHS				*i* S	**Sg**	**00 32 46.4**	**+0.2**
AKS	**Akhisar**	**0.22**	**206**	PG	**Pg**	**00 32 43.1**	**-0.3**
AKS				SG	**Sg**	**00 32 47.1**	**+0.9**
AKS	**Akhisar**	**0.22**	**206**	*i* Pg	**Pg**	**00 32 43.1**	**-0.2**
AKS				*i* Sg	**Sg**	**00 32 47.1**	**+0.9**
BALB	**Balikesir**	**0.56**	**356**	*e*PG	**Pg**	**00 32 49.1**	**-0.8**
BALB				*e*SG	**Sg**	**00 32 57.4**	**+0.2**
BALB	**Balikesir**	**0.56**	**356**	*e*Pg	**Pg**	**00 32 49.1**	**-0.8**
BALB				*e*Sg	**Sg**	**00 32 57.4**	**+0.2**
DEMI	**Demirci**	**0.61**	**93**	*i* P	**Pg**	**00 32 50.1**	**-0.6**
DEMI				*i* S	**Sg**	**00 33 00.2**	**+1.5**
DEMI	**Demirci**	**0.61**	**93**	*i* P	**Pg**	**00 32 50.1**	**-0.6**
DEMI				*i* S	**Sg**	**00 33 00.2**	**+1.6**
DURS	**Dursunbey**	**0.67**	**38**	*i* P	**Pg**	**00 32 50.9**	**-1.0**
DURS				*i* S	**Sg**	**00 33 01.3**	**+0.7**
DURS	**Dursunbey**	**0.67**	**38**	*i* P	**Pg**	**00 32 50.9**	**-1.0**
DURS				*i* S	**Sg**	**00 33 01.3**	**+0.7**
BALY	**Balya**	**0.71**	**340**	*i* P	**Pg**	**00 32 50.9**	**-1.7**
BALY				*i* S	**Sg**	**00 33 03.2**	**+1.4**
BALY	**Balya**	**0.71**	**340**	*i* P	**Pg**	**00 32 50.9**	**-1.7**
BALY				*i* S	**Sg**	**00 33 03.2**	**+1.4**
MANT	**Manisa**	**0.76**	**140**	*i* P	**Pg**	**00 32 52.4**	**-1.3**
MANT				*i* S	**Sg**	**00 33 05.0**	**+1.5**
MANT	**Manisa**	**0.76**	**140**	*i* P	**Pg**	**00 32 52.4**	**-1.2**
MANT				*i* S	**Sg**	**00 33 05.0**	**+1.5**
KULA	**Kula-Manisa**	**0.80**	**135**	*e*PG	**Pg**	**00 32 53.9**	**-0.5**
KULA	**Kula-Manisa**	**0.80**	**135**	*e*Pg	**Pg**	**00 32 53.9**	**-0.4**
BLCB	**Balcova**	**0.98**	**226**	*e*PG	**Pg**	**00 32 57.3**	**-0.6**
BLCB	**Balcova**	**0.98**	**226**	*e*Pg	**Pg**	**00 32 57.3**	**-0.6**
GONE	**Gonen-Balikesi**	**0.99**	**349**	*e*PG	**Pg**	**00 32 58.2**	**+0.2**
GONE	**Gonen-Balikesi**	**0.99**	**349**	*e*Pg	**Pg**	**00 32 58.2**	**+0.2**
AYVA	**Ayvalik**	**0.99**	**284**	*i* P	**Pg**	**00 32 57.6**	**-0.5**
AYVA				*i* S	**Sg**	**00 33 12.8**	**+1.8**
AYVA	**Ayvalik**	**0.99**	**284**	*i* P	**Pg**	**00 32 57.6**	**-0.5**
AYVA				*i* S	**Sg**	**00 33 12.8**	**+1.8**
GDZ	**Gediz**	**1.20**	**89**	*i* P	**Pg**	**00 33 00.2**	**-1.9**
GDZ				*i* S	**Sg**	**00 33 18.4**	**+0.7**
GDZ	**Gediz**	**1.20**	**89**	*i* P	**Pg**	**00 33 00.2**	**-1.9**
GDZ				*i* S	**Sg**	**00 33 18.4**	**+0.7**
KCTX	**Karacabey (Bur**	**1.23**	**15**	*e*PN	**Pn**	**00 33 02.1**	**-0.8**
KCTX	**Karacabey (Bur**	**1.23**	**15**	*e*Pn	**Pn**	**00 33 02.1**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.48**	**29**	*e*PN	**Pn**	**00 33 06.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.48**	**29**	*e*Pn	**Pn**	**00 33 06.4**	**0.0**
ARMT	**Armutlu**	**1.65**	**25**	*e*PN	**Pn**	**00 33 09.0**	**+0.4**
ARMT	**Armutlu**	**1.65**	**25**	*e*Pn	**Pn**	**00 33 09.0**	**+0.4**
ALT	**Altintas**	**1.69**	**90**	*e*PN	**Pn**	**00 33 09.3**	**+0.1**
ALT	**Altintas**	**1.69**	**90**	*e*Pn	**Pn**	**00 33 09.3**	**+0.1**
GULT	**Gulveren**	**2.41**	**55**	*e*PN	**Pn**	**00 33 19.9**	**+0.9**
GULT	**Gulveren**	**2.41**	**55**	*e*Pn	**Pn**	**00 33 19.9**	**+0.9**

NEIC 22 00:34:55.5,35°.83S×179°.97W,h103km,MG4.2(WEL),
After WEL.,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.21**	**218**	Pn	Pn	00 35 28.9	-2.0
MXZ				Sn	Sn	00 35 57.2	-0.8
MXZ	**Matakaoa Point**	**2.21**	**218**	PN	Pn	00 35 28.9	-2.0
MXZ				SN	Sn	00 35 57.2	-0.8
PUZ	**Puketiti**	**2.65**	**212**	Pn	Pn	00 35 36.5	-0.1
PUZ	**Puketiti**	**2.65**	**212**	PN	Pn	00 35 36.5	-0.1
PUZ				*e*SN	Sn	00 36 08.5	+0.3
CNGZ	**Carnagh Statio**	**3.02**	**208**	Pn	Pn	00 35 42.4	+0.9
CNGZ	**Carnagh Statio**	**3.02**	**208**	*e*PN	Pn	00 35 42.0	+0.5
MWZ	**Matawai**	**3.20**	**218**	Pn	Pn	00 35 44.0	+0.1
MWZ	**Matawai**	**3.20**	**218**	PN	Pn	00 35 44.0	+0.1
URZ	**Urewera**	**3.37**	**223**	Pn	Pn	00 35 45.8	-0.4
URZ	**Urewera**	**3.37**	**223**	PN	Pn	00 35 45.8	-0.4
URZ				*e*SN	Sn	00 36 22.5	-2.8
PRGZ	**Paritu Road**	**3.53**	**208**	Pn	Pn	00 35 48.1	-0.2
PRGZ	**Paritu Road**	**3.53**	**208**	PN	Pn	00 35 48.1	-0.2
KNZ	**Kokohu**	**3.69**	**210**	Pn	Pn	00 35 49.9	-0.6
KNZ	**Kokohu**	**3.69**	**210**	PN	Pn	00 35 49.9	-0.7
TARZ	**Mount Tarawera**	**3.70**	**229**	PN	Pn	00 35 52.1	+1.5
TOZ	**Tahuroa Road**	**4.10**	**241**	Pn	Pn	00 35 55.6	-0.3
TOZ	**Tahuroa Road**	**4.10**	**241**	PN	Pn	00 35 55.6	-0.3
TOZ				*e*SN	Sn	00 36 38.0	-4.9
MKAZ	**Moumakai**	**4.12**	**251**	Pn	Pn	00 35 56.5	+0.3
MKAZ	**Moumakai**	**4.12**	**251**	PN	Pn	00 35 56.5	+0.3
NMHZ	**Naumai**	**4.15**	**217**	Pn	Pn	00 35 57.4	+0.8
NMHZ	**Naumai**	**4.15**	**217**	PN	Pn	00 35 57.4	+0.8
BKZ	**Black Stump Fm**	**4.36**	**219**	Pn	Pn	00 35 59.2	-0.2
BKZ	**Black Stump Fm**	**4.36**	**219**	PN	Pn	00 35 59.2	-0.2
KAHZ	**Kahuranaki**	**4.68**	**211**	Pn	Pn	00 36 03.0	-0.8
KAHZ	**Kahuranaki**	**4.68**	**211**	PN	Pn	00 36 03.0	-0.8
PXZ	**Pawanui**	**4.88**	**210**	*e*PN	Pn	00 36 05.2	-1.4
PXZ				*e*SN	Sn	00 36 55.3	-6.6
OUZ	**Omahuta**	**5.28**	**275**	Pn	Pn	00 36 11.6	-0.3
OUZ	**Omahuta**	**5.28**	**275**	PN	Pn	00 36 12.1	+0.2
BFZ	**Birch Farm**	**5.68**	**210**	Pn	Pn	00 36 15.7	-1.7
BFZ	**Birch Farm**	**5.68**	**210**	*e*PN	Pn	00 36 15.7	-1.7
BFZ				SN	Sn	00 37 15.7	-5.6
MRZ	**Mangatainoka R**	**5.96**	**215**	*e*PN	Pn	00 36 19.3	-1.8
MRZ				SN	Sn	00 37 20.6	-7.4

*BEO **22** 00:41:14.5±1.0,43°.86N×16°.96E,h13km±7km,ML2.5/3*

*ISCJB **22** 00:41:15.7±0.5,43°.84N±0°.04×17°.21E±0°.04,h10km,Error*
ellipse: s-maj=6.1km s-min=3.1km az=36.7
*CSEM **22** 00:41:16.4±0.3,43°.89N×17°.23E,h2km,ML2.5,Error*
ellipse: s-maj=9.3km s-min=4.9km az=43.0

ISC 22 00:41:16.7±0.5,43°.86N±0°.04×17°.24E±0°.05,h10km,n17,
σ1§32/33,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.89**	**358**	*e*Pg	**Pg**	**00 41 31.6**	**-2.3**
BLY				*e*Sg	**Sg**	**00 41 44.8**	**-0.7**
BLY	**Banja Luka**	**0.89**	**358**	*e*Pg	**Pg**	**00 41 31.6**	**-2.3**
BLY				*e*Sg	**Sg**	**00 41 44.8**	**-0.7**
STON	**Ston**	**1.04**	**161**	*e*Pg	**Pg**	**00 41 33.0**	**-3.7**
STON				Sg	**Sg**	**00 41 48.9**	**-1.4**
STON	**Ston**	**1.04**	**161**	*e*Pg	**Pg**	**00 41 33.0**	**-3.8**
STON				Sg	**Sg**	**00 41 48.9**	**-1.4**
NVLJ	**Novalja**	**1.84**	**293**	*i* Pn	**Pn**	**00 41 49.0**	**+0.7**
NVLJ				Sg	**Sg**	**00 42 15.5**	**-0.4**
NVLJ	**Novalja**	**1.84**	**293**	*i* Pn	**Pn**	**00 41 49.0**	**+0.6**
NVLJ				Sg	**Sg**	**00 42 15.4**	**-0.5**
DIVS	**Divibare**	**2.00**	**82**	*e*Pn	**Pn**	**00 41 51.9**	**+1.3**
DIVS				*e*Sg	**Sg**	**00 42 22.1**	**+1.0**
DIVS	**Divibare**	**2.00**	**82**	*e*Pn	**Pn**	**00 41 51.9**	**+1.3**
DIVS				*e*Sg	**Sg**	**00 42 22.1**	**+1.0**
PDG	**Podgorica**	**2.06**	**133**	*e*Pn	**Pn**	**00 41 52.7**	**+1.4**
PDG				*e*Sg	**Sg**	**00 42 22.8**	**+0.1**
PDG	**Podgorica**	**2.06**	**133**	*e*Pn	**Pn**	**00 41 52.7**	**+1.4**
PDG				*e*Sg	**Sg**	**00 42 22.8**	**+0.1**
BOJS	**Bojanci**	**2.17**	**320**	*i* Pn	**Pn**	**00 41 53.2**	**+0.3**
BOJS				*i* Sn	**Sn**	**00 42 20.6**	**+0.8**
BOJS	**Bojanci**	**2.17**	**320**	Pn	**Pn**	**00 41 53.2**	**+0.3**
BOJS				*i* Sn	**Sn**	**00 42 20.6**	**+0.8**
GBRS	**Gornja Briga**	**2.41**	**315**	*i* Pn	**Pn**	**00 41 57.2**	**+1.1**
GBRS				*i* Sn	**Sn**	**00 42 28.1**	**+2.5**
GRUS	**Gruza**	**2.52**	**88**	*e*Pn	**Pn**	**00 41 55.4**	**-2.2**
GRUS				*e*Sg	**Sg**	**00 42 42.0**	**+4.4**
PERS	**Pernice**	**3.15**	**332**	*i* Pn	**Pn**	**00 42 06.1**	**-0.3**
PERS				*i* Sn	**Sn**	**00 42 42.3**	**-1.8**
PERS	**Pernice**	**3.15**	**332**	*i* Pn	**Pn**	**00 42 06.1**	**-0.3**
PERS				*i* Sn	**Sn**	**00 42 42.3**	**-1.8**
BARS	**Barje**	**3.50**	**106**	*e*Sg	**Sg**	**00 43 14.6**	**+5.5**

*ISCJB **22** 00:46:09.5±0.9,71°.3N±0°.2×12°.1W±0°.1,h10km,Error*
ellipse: s-maj=30.5km s-min=4.9km az=8.7
*BER **22** 00:46:12.8±0.5,71°.58N×11°.67W,h0km±999km,MD2.5,*
ML2.6

ISC 22 00:46:10.5±0.8,71°.3N±0°.2×12°.0W±0°.1,h10km,n5,σ1§11/8,
Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.10**	**106**	*e*S	**Sg**	**00 46 46.7**	**+0.7**
JNW	**Jan Mayen West**	**1.17**	**100**	*e*P	**Pb**	**00 46 32.8**	**0.0**
JNW				*e*S	**Sb**	**00 46 47.5**	**-0.4**
JNW				AML	AML	00 46 49.3	
	comp=Z,98nm,0.3s						
JNE	**Jan Mayen East**	**1.22**	**101**	*e*S	**Sb**	**00 46 48.6**	**-0.9**
SCO	**Scoresbysund**	**3.38**	**261**	*i* P	**Pn**	**00 47 04.4**	**+1.2**
SCO				*i* S	**Sn**	**00 47 42.3**	**-1.0**
SUMG	**Summit**	**8.31**	**292**	*i* P	**Pn**	**00 48 13.3**	**+2.5**
SUMG				*i* S	**Sn**	**00 49 43.3**	**-1.2**

*ISCJB **22** 00:55:53.6±2.3,5°.22S±0°.06×151°.76E±0°.09,h50km±20km,*
mb4.4/27,MS3.5/11,Error ellipse: s-maj=15.3km
s-min=10.2km az=0.3
*NEIC **22** 00:55:55.8±1.2,5°.25S×151°.79E,h57km±10km,mb4.5/12,*
Error ellipse: s-maj=9.5km s-min=5.9km az=87.0
*IDC **22** 00:55:55.0±2.1,5°.24S×151°.79E,h48km±18km,mb4.1/15,*
mb1 4.4/16,mb1mx4.3/19,mbtmp4.2/16,ML3.8/1,MS3.5/13,
Ms1 3.5/13,ms1mx3.3/26,Error ellipse: s-maj=21.1km
s-min=14.3km az=116.0

ISC 22 00:55:55.6±1.7,5°.24S±0°.06×151°.81E±0°.09,h54km±15km,
n86,σ0§81/58,mb4.4/26,MS3.5/11,2C-1D,New Britain
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.20**	**228**	P	**Pn**	**00 57 25.0**	**+0.4**
	13nm,0.3s,baz=36,slow=9.3,SNR=26						
PMG				S	**Sn**	**00 58 34.6**	**+0.5**
	14nm,0.3s,baz=103,slow=18,SNR=6.2						
PMG	**Port Moresby**	**6.20**	**228**	P	**Pn**	**00 57 25.0**	**+0.4**
PMG				S	**Sn**	**00 58 34.6**	**+0.5**
COEN	**Coen**	**12.14**	**224**	*e*Pn	**Pn**	**00 58 46.2**	**+0.3**
CTA	**Charters Tower**	**15.72**	**200**	LR	LR	01 04 43.3	
	comp=Z,172nm,20.5s,baz=49,slow=34						
CTAO	**Charters Tower**	**15.72**	**200**	*e*Pn	**Pn**	**00 59 33.5**	**-0.2**
GUMO	**Guam**	**19.93**	**340**	LR	LR	01 07 28.6	
	comp=Z,73nm,20.5s,baz=93,slow=35						
GUMO	**Guam**	**19.93**	**340**	*e*Pn	**Pn**	**01 00 23.6**	**-1.6**
DZM	**Mont Dzumac**	**21.93**	**141**	P	**P**	**01 00 44.3**	**-0.3**
	3.1nm,0.6s,mb3.9,baz=338,slow=19,SNR=5.4						
DZM				LR	LR	01 08 23.8	
	comp=Z,215nm,18.1s,MS3.6,baz=204,slow=34						
DZM	**Mont Dzumac**	**21.93**	**141**	P	**P**	**01 00 44.3**	**-0.3**
WRAB	**Tennant Creek**	**22.40**	**228**	*e*P	**P**	**01 00 50.4**	**+0.6**
	28nm,0.7s,mb4.8						
WB2	**Warramunga Arr**	**22.41**	**228**	*e*P	**P**	**01 00 48.7**	**-1.1**
WRA	**Warramunga Arr**	**22.42**	**228**	P	**P**	**01 00 48.7**	**-1.2**
	9.3nm,0.6s,mb4.4,baz=52,slow=10.0,SNR=45						
WRA				PcP	PcP	01 04 43.3	+0.1
	0.8nm,0.5s,baz=45,slow=2.1,SNR=5.1						
WRA				ScP	ScP	01 08 17.2	+0.7
	3.0nm,1.0s,baz=52,slow=2.6,SNR=8.2						
WRA				LR	LR	01 09 12.7	
	comp=Z,66nm,21.2s,MS3.0,baz=50,slow=36						
WRA	**Warramunga Arr**	**22.42**	**228**	P	**P**	**01 00 48.7**	**-1.1**
WRA				PcP	PcP	01 04 43.3	+0.1
WRA				ScP	ScP	01 08 17.2	+0.7
AS31	**Alice Springs**	**25.16**	**222**	*e*P	**P**	**01 01 15.6**	**-0.4**
ASAR	**Alice Springs**	**25.16**	**222**	P	**P**	**01 01 15.9**	**-0.1**
	7.9nm,0.7s,mb4.3,baz=54,slow=9.0,SNR=33						
ASAR				ScP	ScP	01 08 25.2	+1.3
	1.2nm,0.8s,baz=31,slow=3.0,SNR=7.5						
ASAR	**Alice Springs**	**25.16**	**222**	P	**P**	**01 01 15.9**	**-0.1**
ASAR				ScP	ScP	01 08 25.2	+1.3
STKA	**Stephens Creek**	**28.18**	**199**	P	**P**	**01 01 44.6**	**+1.5**
	3.3nm,0.8s,mb4.0,baz=22,slow=12,SNR=5.5						
STKA				LR	LR	01 12 48.6	
	comp=Z,125nm,18.5s,MS3.5,baz=30,slow=36						
STKA	**Stephens Creek**	**28.18**	**199**	*e*P	**P**	**01 01 43.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.58**	**241**	P	**P**	**01 01 45.6**	**-1.3**
	5.6nm,0.5s,mb4.6,baz=54,slow=5.9,SNR=23						
FITZ				LR	LR	01 14 53.3	
	comp=Z,68nm,19.0s,MS3.3,baz=88,slow=40						
FITZ	**Fitzroy Crossi**	**28.58**	**241**	*e*P	**P**	**01 01 45.8**	**-1.0**
TAU	**Tasmania Unive**	**37.73**	**185**	*e*P	**P**	**01 03 06.0**	**-0.1**
URZ	**Urewera**	**40.12**	**149**	LR	LR	01 16 47.9	
	comp=Z,91nm,19.1s,MS3.6,baz=279,slow=31						
MJAR	**Matsushiro Arr**	**43.47**	**344**	LR	LR	01 18 55.9	
	comp=Z,80nm,21.2s,MS3.6,baz=300,slow=32						
KSRS	**Korea Array**	**47.95**	**334**	LR	LR	01 20 59.2	
	comp=Z,35nm,20.6s,MS3.3,baz=143,slow=31						
ASAJ	**Asahikawa**	**49.82**	**351**	LR	LR	01 26 47.6	
	comp=Z,49nm,19.1s,MS3.5,baz=177,slow=37						
ASAJ	**Asahikawa**	**49.82**	**351**	*e*P	**P**	**01 04 43.4**	**+0.3**
YSS	**Yuzh-Sakhalins**	**52.58**	**352**	*e*P	**P**	**01 05 03.7**	**0.0**
MDJ	**Mudanjiang**	**53.49**	**340**	*e*P	**P**	**01 05 10.1**	**-0.4**
ENH	**Enshi**	**53.73**	**314**	*e*P	**P**	**01 05 13.1**	**+0.5**
CM31	**Chiang Mai Arr**	**57.17**	**296**	P	**P**	**01 05 38.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**57.17**	**296**	P	**P**	**01 05 38.6**	**+1.1**
	1.6nm,0.5s,mb4.3,baz=114,slow=5.4,SNR=13						
CMAR				LR	LR	01 28 06.5	
	comp=Z,19nm,19.2s,MS3.2,baz=315,slow=34						
CMAR	**Chiang Mai Arr**	**57.17**	**296**	P	**P**	**01 05 38.6**	**+1.1**
CHTO	**Chiang Mai**	**57.29**	**296**	*e*P	**P**	**01 05 38.6**	**+0.3**
	11nm,1.4s,mb4.7						
PETK	**Petropavlovsk-**	**58.34**	**4**	P	**P**	**01 05 46.5**	**+1.5**
	6.5nm,1.0s,mb4.6,baz=168,slow=8.8,SNR=4.2						
PETK				LR	LR	01 30 06.6	
	comp=Z,52nm,18.3s,MS3.7,baz=268,slow=35						
PETK	**Petropavlovsk-**	**58.34**	**4**	P	**P**	**01 05 46.5**	**+1.5**
HIA	**Hailar**	**61.03**	**337**	*e*P	**P**	**01 06 03.3**	**-0.3**
ULN	**Ulaanbaatar**	**65.85**	**329**	*e*P	**P**	**01 06 35.5**	**+0.1**
	2.8nm,0.8s,mb4.3						
SONM	**Songino Array**	**66.17**	**328**	P	**P**	**01 06 38.5**	**+1.0**
	2.7nm,0.6s,mb4.4,baz=140,slow=4.6,SNR=22						
SONM	**Songino Array**	**66.17**	**328**	P	**P**	**01 06 38.5**	**+1.0**
LSA	**Lhasa**	**67.67**	**305**	*e*P	**P**	**01 06 48.6**	**+1.1**
	4.6nm,0.5s,mb4.8						
VNDA	**Vanda**	**72.43**	**178**	*e*P	**P**	**01 07 16.0**	**+0.2**
	1.5nm,0.6s,mb4.1						
MK31	**Makanchi Array**	**80.01**	**319**	*e*P	**P**	**01 07 59.1**	**-0.2**
MKAR	**Makanchi Array**	**80.01**	**319**	P	**P**	**01 07 59.0**	**-0.2**
	1.8nm,0.8s,mb4.0,baz=107,slow=7.3,SNR=9.5						
MKAR	**Makanchi Array**	**80.01**	**319**	P	**P**	**01 07 59.0**	**-0.2**
ZAA0	**Zalesovo Array**	**80.97**	**327**	*e*P	**P**	**01 08 02.9**	**-1.4**
ZALV	**Zalesovo Beam**	**80.97**	**327**	P	**P**	**01 08 03.0**	**-1.2**
	1.1nm,0.3s,mb4.2,baz=113,slow=6.1,SNR=8.5						
ZALV	**Zalesovo Beam**	**80.97**	**327**	P	**P**	**01 08 03.0**	**-1.2**
MCK	**McKinley**	**81.64**	**23**	*e*P	**P**	**01 08 08.0**	**+0.4**
	6.9nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**01 08 13.1**	**-1.3**
	1.8nm,0.6s,mb4.3,baz=249,slow=5.0,SNR=36						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**01 08 13.1**	**-1.3**
KURK	**Kurchatov**	**83.50**	**322**	*e*P	**P**	**01 08 17.3**	**-0.3**
	2.2nm,0.6s,mb4.5						
TKM2	**Tokmak 2**	**83.52**	**314**	*e*P	**P**	**01 08 17.9**	**0.0**
	2.7nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**84.25**	**314**	*e*P	**P**	**01 08 22.0**	**+0.4**
	14nm,0.9s,mb5.1						
QSPA	**South Pole Qui**	**84.72**	**180**	*e*P	**P**	**01 08 23.4**	**+0.1**
	1.9nm,0.6s,mb4.4						
EKS2	**Erkin-Say**	**84.77**	**314**	*e*P	**P**	**01 08 24.9**	**+0.6**
	4.5nm,0.9s,mb4.6						
MAW	**Mawson**	**84.79**	**203**	P	**P**	**01 08 23.2**	**-0.7**
	1.9nm,0.7s,mb4.4,baz=106,slow=7.4,SNR=5.6						
MAW				LR	LR	01 44 10.7	
	comp=Z,54nm,18.5s,MS4.0,baz=302,slow=34						
MAW	**Mawson**	**84.79**	**203**	P	**P**	**01 08 23.2**	**-0.7**
BRVK	**Borovoye**	**89.07**	**323**	*e*P	**P**	**01 08 43.6**	**-1.3**
	2.5nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**93.13**	**52**	P	**P**	**01 09 05.8**	**+1.6**
	2.4nm,0.8s,mb4.7,baz=256,slow=7.1,SNR=14						
NVAR	**Mina Array Bea**	**93.13**	**52**	P	**P**	**01 09 05.8**	**+1.7**
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**01 09 18.2**	**+0.3**
	0.2nm,0.5s,mb3.8,baz=270,slow=4.8,SNR=9.2						
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**01 09 18.2**	**+0.3**
PDAR	**Pinedale Array**	**99.87**	**48**	P	Pdif	01 09 34.8	+0.5
	1.1nm,0.8s,baz=207,slow=1.6,SNR=7.9						
PDAR	**Pinedale Array**	**99.87**	**48**	P	Pdif	01 09 34.8	+0.5
ARCES	**ARCESS Array B**	**106.99**	**343**	PKiKP	PKiKP	01 14 14.4	-0.5
	3.0nm,1.0s,baz=72,slow=2.9,SNR=5.3						
ARCES	**ARCESS Array B**	**106.99**	**343**	PKiKP	PKiKP	01 14 14.4	-0.5
FINES	**FINESS Array B**	**111.04**	**335**	PKiK

IDC 22 01:33:36.9±4.2, 2°31'N×97°30'E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=166.4km s-min=27.7km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.54**	**123**	P	P	01 41 34.6	-0.1
	0.6nm,1.0s,baz=302,slow=8.9,SNR=3.0						
SONM	**Songino Array**	**46.03**	**9**	P	P	01 42 02.5	+0.3
	0.5nm,0.7s,baz=193,slow=9.0,SNR=4.8						
MKAR	**Makanchi Array**	**46.20**	**346**	P	P	01 42 03.4	-0.2
	0.9nm,0.8s,baz=162,slow=9.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**52.49**	**351**	P	P	01 42 51.5	-0.1
	0.3nm,0.3s,baz=166,slow=7.3,SNR=3.3						

IDC 22 01:41:04.2±1.0, 20°10'N×122°42'E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.7/7, ML4.5/1, 1C, Error ellipse: s-maj=44.4km s-min=19.3km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.45**	**224**	⇑*i*P	Pn	01 41 47.9	+2.5
PIP				*e*S	Sn	01 42 16.1	0.0
JOW	**Kunigami**	**8.59**	**38**	Pn	Pn	01 43 10.6	+0.8
	14nm,0.3s,baz=209,slow=13,SNR=8.4						
SONM	**Songino Array**	**30.57**	**339**	P	P	01 47 20.4	+1.0
	0.2nm,0.6s,baz=150,slow=8.9,SNR=2.6						
WRA	**Warramunga Arr**	**41.47**	**163**	P	P	01 48 52.9	-0.1
	1.0nm,0.7s,baz=346,slow=8.9,SNR=7.2						
MKAR	**Makanchi Array**	**42.10**	**319**	P	P	01 48 58.1	+0.1
	0.8nm,0.6s,baz=110,slow=8.3,SNR=13						
ZALV	**Zalesovo Beam**	**44.30**	**329**	P	P	01 49 14.8	-0.8
	0.6nm,0.5s,baz=114,slow=7.3,SNR=4.3						
ASAR	**Alice Springs**	**44.92**	**165**	P	P	01 49 21.2	+0.3
	0.4nm,0.4s,baz=349,slow=7.3,SNR=5.8						
YKA	**Yellowknife Ar**	**86.27**	**23**	P	P	01 53 46.9	-0.7
	0.1nm,0.7s,baz=308,slow=4.6,SNR=5.2						

IDC 22 01:53:19.4±1.8, 30°39'S×178°45'W, h0km, mb4.1/3, mb1 4.3/3, mb1mx4.0/16, mbtmp4.1/3, Error ellipse: s-maj=56.0km s-min=32.3km az=40.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.72**	**267**	P	P	02 01 18.6	+0.1
	1.1nm,0.6s,baz=106,slow=7.2,SNR=19						
WRA	**Warramunga Arr**	**43.70**	**272**	P	P	02 01 26.9	+0.5
	1.5nm,0.4s,baz=112,slow=8.0,SNR=40						
QSPA	**South Pole Qui**	**59.72**	**180**	P	P	02 03 26.4	+1.1
	2.4nm,0.6s,baz=345,slow=4.8,SNR=6.9						
SNAA	**Sanae**	**78.18**	**179**	*e*	P	02 05 12.7	-7.5
VNA3	**Neumayer Olymp**	**78.34**	**176**	*e*	P	02 05 22.6	+1.5
VNA2	**Neumayer--Watz**	**78.77**	**177**	*e*	P	02 05 25.1	+1.6
	baz=195,slow=5.3						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPdf	02 12 54.0	-3.8
	2.9nm,0.7s,baz=47,slow=4.9,SNR=11						
TORD	**Torodi Ar. Bea**	**162.84**	**180**	PKPab	PKPab	02 14 13.2	+0.3
	0.2nm,0.5s,baz=175,slow=4.8,SNR=4.0						

*IDC **22** 01:57:01.9±1.3, 35°75'N×70°92'E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/25, mbtmp3.4/4, MS4.0/1, Ms1 4.0/1, ms1mx2.7/25, Error ellipse: s-maj=41.4km s-min=34.7km az=150.0*
*ISCJB **22** 01:57:15.2±0.9, 36°21'N±0°05×70°7'E±0°1, h114km±10km, mb3.2/3, Error ellipse: s-maj=18.5km s-min=7.6km az=12.2*
*NEIC **22** 01:57:15.3±1.1, 36°04'N×70°87'E, h106km±11km, mb4.1/3, Error ellipse: s-maj=21.5km s-min=10.6km az=114.0*
*NNC **22** 01:57:20.5±3.9, 36°90'N×70°58'E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=47.1km s-min=29.3km az=96.0*

ISC 22 01:57:15.8±1.1, 36°13'N±0°06×70°9'E±0°2, h104km±10km, n28, σ1°08/24, mb3.2/3, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.18**	**224**	*e*Pn	**Pn**	**01 57 50.0**	**-0.8**
KBL				*e*Sn	**Sn**	**01 58 17.8**	**+0.2**
KK31	**Karatay Array**	**6.97**	**358**	⇑Pn	**Pn**	**01 58 56.0**	**+0.9**
	0.6nm,0.3s,baz=175,slow=12,SNR=34						
KK31				⇑Sn	**Sn**	**02 00 11.3**	**-1.5**
	1.6nm,0.4s,baz=179,slow=23,SNR=6.0						
KKAR	**Karatay Array**	**6.97**	**358**	*e*Pn	**Pn**	**01 58 55.8**	**+0.7**
	1.9nm,0.3s						
KKAR				*e*Sn	**Sn**	**02 00 11.2**	**-1.6**
AAK	**Ala-Archa**	**7.07**	**22**	*e*Pn	**Pn**	**01 58 57.7**	**+1.1**
	12nm,0.3s						
DANN	**Dangsing**	**13.38**	**122**	*e*P	**Pn**	**02 00 14.0**	**-7.4**
	3.9nm,0.3s						
DANN	**Dangsing**	**13.38**	**122**	*e*P	**Pn**	**02 00 14.0**	**-7.4**
GKN	**Gorkha**	**14.20**	**121**	*e*P	**Pn**	**02 00 21.3**	**-11**
	7.0nm,0.3s						
GKN	**Gorkha**	**14.20**	**121**	*e*P	**Pn**	**02 00 21.3**	**-11**
DMN	**Daman**	**14.77**	**121**	*e*P	Px	02 00 27.2	
KKN	**Kakani**	**14.78**	**120**	*e*P	Px	02 00 25.1	
	4.1nm,0.3s						
PKI	**Pulchoki**	**15.00**	**121**	*e*P	Px	02 00 27.7	
	4.4nm,0.3s						
GUN	**Gumba**	**15.13**	**119**	*e*P	Px	02 00 25.6	
	5.8nm,0.4s						
AB31	**Akbulak array**	**15.36**	**332**	⇓Pn	**Pn**	**02 00 46.7**	**+0.1**
	0.5nm,0.4s,baz=156,slow=12,SNR=37						
AB31				⇓Sn	**Sn**	**02 03 29.2**	**-6.9**
	0.5nm,0.5s,baz=152,slow=24,SNR=6.7						
ABKAR	**Akbulak array**	**15.36**	**332**	*e*Pn	**Pn**	**02 00 46.5**	**-0.1**
	1.1nm,0.4s						
ABKAR				*e*Sn	**Sn**	**02 03 26.2**	**-10**
JIRN	**Jiri**	**15.50**	**119**	*e*P	Px	02 00 30.0	
	11nm,0.4s						
RAMN	**Ramite**	**16.22**	**120**	*e*P	Px	02 00 38.8	
	7.4nm,0.6s						
TAPN	**Taplejung**	**16.77**	**117**	*e*P	Px	02 00 39.1	
	4.5nm,0.5s						
ODAN	**Odare**	**16.83**	**119**	*e*P	Px	02 00 43.3	
	11nm,0.6s						
AKTO	**Aktyubinsk**	**17.05**	**331**	⇑Pn	**Pn**	**02 01 09.9**	**+2.4**
	0.7nm,1.2s						
ZALV	**Zalesovo Beam**	**20.29**	**24**	P	**P**	**02 01 43.2**	**+0.2**
	0.4nm,0.3s,baz=208,slow=9.5,SNR=2.7						
ZALV	**Zalesovo Beam**	**20.29**	**24**	P	**P**	**02 01 43.2**	**+0.2**
DAV	**Davao City (W)**	**57.59**	**106**	LR	LR	02 34 28.0	
	comp=Z,108nm,18.3s,baz=320,slow=39						
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P	**P**	**02 07 48.2**	**-0.7**
	0.1nm,0.5s,mb2.9,baz=48,slow=6.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P	**P**	**02 07 48.2**	**-0.7**
YKA	**Yellowknife Ar**	**81.62**	**3**	P	**P**	**02 09 22.8**	**+1.0**
	0.1nm,0.3s,mb3.1,baz=350,slow=5.4,SNR=4.9						
YKA	**Yellowknife Ar**	**81.62**	**3**	P	**P**	**02 09 22.8**	**+1.0**
WRA	**Warramunga Arr**	**81.88**	**122**	P	**P**	**02 09 22.2**	**-1.6**
	0.5nm,0.8s,mb3.4,baz=324,slow=4.8,SNR=6.4						
WRA	**Warramunga Arr**	**81.88**	**122**	P	**P**	**02 09 22.2**	**-1.6**

IDC 22 02:07:49.5±2.8, 31°66S×179°31W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.9/16, mbtmp3.9/3, ML3.1/1, Error ellipse: s-maj=63.1km s-min=44.4km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.22**	**203**	Pn	Pn	02 09 35.7	-0.6
	0.3nm,0.3s,baz=18,slow=3.2,SNR=2.7						
URZ				Sn	Sn	02 11 07.8	+8.9
	0.5nm,0.3s,baz=183,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**41.94**	**269**	P	P	02 15 42.6	+0.4
	1.4nm,0.8s,baz=103,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**43.05**	**274**	P	P	02 15 50.8	-0.5
	1.6nm,0.7s,baz=111,slow=8.1,SNR=10						
VNA3	**Neumayer Olymp**	**77.13**	**177**	*e*	P	02 19 48.9	+4.5
VNA2	**Neumayer--Watz**	**77.55**	**177**	*e*	P	02 19 52.0	+5.2
	baz=212,slow=5.7						
FINES	**FINESS Array B**	**145.92**	**338**	PKPbc	PKPbc	02 27 29.5	-0.7
	3.4nm,0.7s,baz=46,slow=2.9,SNR=12						

*DDA **22** 02:10:24.9, 39°59N×27°08E, h7km±2km, Md2.8*
*ISCJB **22** 02:10:26.1±0.5, 39°44N±0°04×27°21E±0°04, h10km, Error ellipse: s-maj=6.4km s-min=4.3km az=155.8*
*ISK **22** 02:10:26.3, 39°41N×27°35E, h12km, MD2.3*
*CSEM **22** 02:10:26.3±0.4, 39°45N×27°21E, h5km, MD2.8, Error ellipse: s-maj=8.8km s-min=7.8km az=159.0*

ISC 22 02:10:26.4±0.6, 39°45N±0°04×27°20E±0°04, h7km±8km, n24, σ1°26/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.42**	**250**	*i*P	**Pg**	**02 10 33.0**	**-1.5**
AYVA				*i*S	**Sg**	**02 10 39.5**	**-0.6**
AYVA	**Ayvalik**	**0.42**	**250**	*i*P	**Pg**	**02 10 33.0**	**-1.6**
AYVA				*i*S	**Sg**	**02 10 39.5**	**-0.6**
BALY	**Balya**	**0.43**	**48**	*i*P	**Pg**	**02 10 33.9**	**-0.9**
BALY				*i*S	**Sg**	**02 10 40.7**	**+0.1**
BALY	**Balya**	**0.43**	**48**	*i*P	**Pg**	**02 10 33.9**	**-0.9**
BALY				*i*S	**Sg**	**02 10 40.7**	**+0.2**
BALB	**Balikesir**	**0.56**	**70**	*e*PG	**Pg**	**02 10 35.9**	**-1.3**
BALB				*e*SG	**Sg**	**02 10 43.4**	**-1.1**
BALB	**Balikesir**	**0.56**	**70**	*e*Pg	**Pg**	**02 10 35.9**	**-1.3**
BALB				*e*Sg	**Sg**	**02 10 43.4**	**-1.1**
GONE	**Gonen-Balikesi**	**0.70**	**32**	*e*PG	**Pg**	**02 10 40.1**	**+0.1**
GONE	**Gonen-Balikesi**	**0.70**	**32**	*e*Pg	**Pg**	**02 10 40.1**	**+0.1**
AKHS	**Akhisar**	**0.74**	**140**	*i*P	**Pg**	**02 10 42.7**	**+2.0**
AKHS				*i*S	**Sg**	**02 10 55.6**	**+5.2**
AKHS	**Akhisar**	**0.74**	**140**	*i*P	**Pg**	**02 10 42.7**	**+2.0**
BLCB	**Balcova**	**1.07**	**187**	*e*PG	**Pg**	**02 10 47.0**	**+0.1**
BLCB	**Balcova**	**1.07**	**187**	*e*Pg	**Pg**	**02 10 47.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.10**	**330**	*e*PN	**Pg**	**02 10 49.4**	**+1.9**
GELI	**Tayfur-Gelibol**	**1.10**	**330**	*e*Pn	**Pg**	**02 10 49.4**	**+1.9**
KCTX	**Karacabey (Bur**	**1.21**	**47**	*e*PN	**Pn**	**02 10 48.4**	**-1.3**
KCTX	**Karacabey (Bur**	**1.21**	**47**	*e*Pn	**Pn**	**02 10 48.4**	**-1.3**
DEMI	**Demirci**	**1.25**	**109**	*i*P	**Pg**	**02 10 50.6**	**+0.3**
DEMI				*i*S	**Sg**	**02 11 08.5**	**+2.1**
DEMI	**Demirci**	**1.25**	**109**	*i*P	**Pg**	**02 10 50.6**	**+0.3**
DEMI				*i*S	**Sg**	**02 11 08.5**	**+2.1**
ERIK	**Erikli-Kesan**	**1.33**	**337**	*e*PN	**Pn**	**02 10 52.3**	**+0.9**
ERIK	**Erikli-Kesan**	**1.33**	**337**	*e*Pn	**Pn**	**02 10 52.3**	**+0.9**
KULA	**Kula-Manisa**	**1.47**	**129**	*e*PN	**Pn**	**02 10 51.5**	**-1.9**
KULA	**Kula-Manisa**	**1.47**	**129**	*e*Pn	**Pn**	**02 10 51.6**	**-1.8**
ENEZ	**Enez**	**1.52**	**328**	*e*PN	**Pn**	**02 10 55.5**	**+1.5**
ENEZ	**Enez**	**1.52**	**328**	*e*Pn	**Pn**	**02 10 55.5**	**+1.5**

*TRN **22** 02:15:23.8, 18°76N×64°46W, h47km, MD3.3(RSPR)*
*NEIC **22** 02:15:25.0, 18°81N×64°40W, h52km, MD3.3(RSPR), After RSPR.*

RSPR 22 02:15:25.0, 18°81N×64°40W, h52km±1km, MD3.3/8, 16C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.11**	**142**	⇑*e*P	Pn	02 15 32.8	-0.4
ABV				*e*S	Sn	02 15 38.8	-0.1
ABV	**Anegada**	**0.11**	**142**	⇑*e*P	Pn	02 15 32.8	-0.4
ABV				*e*S	Sn	02 15 38.8	-0.1
TBVI	**Tortola**	**0.45**	**207**	⇓*e*P	Pn	02 15 34.6	-1.2
TBVI				*e*S	Sn	02 15 42.6	-1.0
TBVI	**Tortola**	**0.45**	**207**	⇓*e*P	Pn	02 15 34.6	-1.2
TBVI				*e*S	Sn	02 15 42.6	-1.0
TBVI	**Tortola**	**0.45**	**207**	⇓*e*P	Pn	02 15 34.6	-1.2
TBVI				*e*S	Sn	02 15 42.6	-1.0
STVI	**Saint Thomas**	**0.70**	**229**	⇑*e*P	Pn	02 15 37.8	-1.1
STVI	**Saint Thomas**	**0.70**	**229**	*e*Pg	Pn	02 15 37.6	-1.2
STVI				*e*S	Sn	02 15 48.1	-0.8
STVI	**Saint Thomas**	**0.70**	**229**	⇑*e*P	Pn	02 15 37.8	-1.1
STVI				*e*S	Sn	02 15 48.2	-0.6
CDVI	**St. Croix**	**1.11**	**198**	⇓*e*P	Pn	02 15 43.4	-0.9
CDVI	**St. Croix**	**1.11**	**198**	*e*Pg	Pn	02 15 43.6	-0.7
CDVI				*e*S	Sn	02 15 58.9	+0.3
CDVI	**St. Croix**	**1.11**	**198**	⇓*e*P	Pn	02 15 43.4	-0.9
CDVI				*e*S	Sn	02 15 58.1	-0.5
MTP	**Monte Pirata**	**1.30**	**237**	⇑*e*P	Pn	02 15 45.9	-1.0
MTP	**Monte Pirata**	**1.30**	**237**	*e*Pn	Pn	02 15 46.0	-0.9
MTP				*e*S	Sn	02 16 02.1	-1.2
MTP	**Monte Pirata**	**1.30**	**237**	⇑*e*P	Pn	02 15 45.9	-1.0
MTP				*e*S	Sn	02 16 02.7	-0.6
CBYP	**Canovanas**	**1.48**	**249**	⇑*e*P	Pn	02 15 48.8	-0.6
CBYP	**Canovanas**	**1.48**	**249**	*e*Pn	Pn	02 15 48.6	-0.7
CBYP				*e*S	Sn	02 16 06.4	-1.2
HUMP	**Col San Antoni**	**1.53**	**244**	⇑*e*P	Pn	02 15 48.9	-1.0
HUMP	**Col San Antoni**	**1.53**	**244**	⇑*e*P	Pn	02 15 48.9	-1.0
HUMP				*e*S	Sn	02 16 07.7	-1.0
HUMP	**Col San Antoni**	**1.53**	**244**	⇑*e*P	Pn	02 15 48.9	-1.0
HUMP				*e*S	Sn	02 16 07.7	-1.0
CPD	**Cerro la Pandu**	**1.63**	**242**	⇑*e*P	Pn	02 15 50.6	-0.7
CPD	**Cerro la Pandu**	**1.63**	**242**	⇑*e*P	Pn	02 15 50.6	-0.7
CPD				*e*S	Sn	02 16 10.8	-0.4
CPD	**Cerro la Pandu**	**1.63**	**242**	⇑*e*P	Pn	02 15 50.6	-0.7
CPD				*e*S	Sn	02 16 10.8	-0.4
SJG	**San Juan**	**1.80**	**247**	*e*Pn	Pn	02 15 52.6	-1.1
SJG				*e*S	Sn	02 16 14.8	-0.5
CRPR	**Cabo Rojo, PR**	**2.69**	**253**	⇑*e*P	Pn	02 16 05.9	0.0
CRPR	**Cabo Rojo, PR**	**2.69**	**253**	⇑*e*P	Pn	02 16 05.9	0.0
CRPR	**Cabo Rojo, PR**	**2.69**	**253**	⇑*e*P	Pn	02 16 05.9	0.0

*IDC **22** 02:22:52.9±0.6, 2°82S×139°43E, h0km, mb4.4/18, mb1 4.5/20, mb1mx4.5/22, mbtmp4.5/20, ML4.6/2, MS3.9/16, Ms1 3.9/16, ms1mx3.7/27, Error ellipse: s-maj=24.6km s-min=12.5km az=94.0*
*ISCJB **22** 02:22:58.0±0.6, 2°87S±0°03×139°46E±0°03, h50km±5km, mb4.8/48, MS4.0/19, Error ellipse: s-maj=6.1km s-min=5.0km az=135.1*
*BJI **22** 02:22:58.6, 2°80S×139°20E, h35km, mB5.1/24, mb4.8/36, Ms4.8/15, Ms7 4.4/16*
*NEIC **22** 02:22:59.1±1.5, 2°85S×139°26E, h41km±15km, mb5.0/22, Error ellipse: s-maj=10.2km s-min=7.8km az=79.0*
*DJA **22** 02:23:00.1±0.3, 3°S±3°×14°0E±°, h60km±4km, M4.9/8, mb4.9/18, mB5.2/5, MLv5.0/6, Mw(mB)4.6/5*

ISC 22 02:22:59.5±0.5, 2°84S±0°03×139°48E±0°03, h47km±5km, h35km±1.7km: pP-P, n134, σ1°09/141, mb4.8/48, MS4.0/19, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.15**	**318**	P	**Pn**	**02 23 18.2**	**-1.0**
SMPI				S	**Sn**	**02 23 35.7**	**+1.9**
JAY	**Jayapura**	**1.27**	**75**	P	**Pn**	**02 23 19.4**	**-1.4**
JAY				S	**Sn**	**02 23 35.7**	**-1.0**
WAMI	**Wamena**	**1.29**	**217**	P	**Pn**	**02 23 25.8**	**+4.7**
WAMI				S	**Sn**	**02 23 48.1**	**+11**
BAKI	**Biak**	**3.75**	**296**	P	**Pn**	**02 23 54.7**	**-0.2**
BAKI				S	**Sn**	**02 24 37.4**	**-0.5**
FAKI	**Fak Fak**	**7.22**	**269**	P	**Pn**	**02 24 42.9**	**+0.3**
	0.5nm1μm84nm,0.8s						
TLE	**Tual**	**7.28**	**247**	P	**Pn**	**02 24 45.5**	**+2.2**
	0.5nm2μm110nm,0.8s						
PMG	**Port Moresby**	**10.04**	**131**	Pn	**Pn**	**02 25 24.2**	**+3.0**
	1.9nm,0.3s,baz=312,slow=6.7,SNR=8.7						
PMG	**Port Moresby**	**10.04**	**131**	*e*Pn	**Pn**	**02 25 24.0**	**+2.8**
PMG	**Port Moresby**	**10.04**	**131**	P	**Pn**	**02 25 24.2**	**+3.0**
	618nm63nm,1.1s						
COEN	**Coen**	**11.63**	**162**	*e*Pn	**Pn**	**02 25 42.9**	**-0.1**
COEN	**Coen**	**11.63**	**162**	P	**Pn**	**02 25 42.6**	**-0.4**
	53nm,0.7s						
LBMI	**Labuha**	**12.17**	**280**	P	**Pn**	**02 25 50.7**	**+0.3**
	51nm,1.2s						
NLAI	**Namlea**	**12.37**	**268**	P	**Pn**	**02 25 54.2**	**+1.1**
	34nm,1.1s						
TNTI	**Ternate**	**12.63**	**286**	P	**Pn**	**02 25 56.8**	**+0.1**
	42nm,0.9s						
LUWI	**Luwuk**	**16.80**	**276**	P	**Pn**	**02 26 52.2**	**+0.6**
	54nm,1.0s						
GTOI	**Gorontalo**	**16.82**	**282**	P	**Pn**	**02 26 53.0**	**+1.0**
	44nm,1.0s						
GUMO	**Guam**	**17.18**	**18**	LR	LR	02 32 18.7	
	comp=Z,288nm,19.8s,baz=117,slow=33						
WRAB	**Tennant Creek**	**17.71**	**196**	*e*Pn	**Pn**	**02 27 00.4**	**-2.4**
	67nm,0.6s						
WRAB				*e*S	**S**	**02 30 09.2**	**-15**
WRAB	**Tennant Creek**	**17.71**	**196**	P	**Pn**	**02 27 00.8**	**-2.0**
	158nm,0.7s						
WRAB	**Tennant Creek**	**17.71**	**196**	Pn	**Pn**	**02 27 00.4**	**-2.4**
	374nm,0.6s,SNR=11						
WB2	**Warramunga Arr**	**17.72**	**196**	*e*Pn	**Pn**	**02 27 00.4**	**-2.6**
WB2				*e*S	**S**	**02 30 08.4**	**-16**
WRA	**Warramunga Arr**	**17.72**	**196**	P	**Pn**	**02 27 00.4**	**-2.6**
	2.9nm,0.3s,baz=17,slow=13,SNR=68						
WRA				S	**S**	**02 30 08.3**	**-17**
	0.6nm,0.3s,baz=325,slow=32,SNR=4.1						
WRA				LR	LR	02 34 19.7	
	comp=Z,796nm,20.4s,baz=20,slow=39						
WRA	**Warramunga Arr**	**17.72**	**196**	P	**Pn**	**02 27 00.4**	**-2.6**
WRA				S	**S**	**02 30 08.3**	**-17**
MRSI	**Marisa**	**17.84**	**280**	P	**Pn**	**02 27 02.9**	**-1.7**
	36nm,0.7s						
CTA	**Charters Tower**	**18.37**	**159**	P	**Pn**	**02 27 10.3**	**-0.6**
	0.6nm,0.3s,baz=336,slow=12,SNR=9.0						
CTA				LR	LR	02 34 38.7	
	comp=Z,684nm,19.1s,baz=26,slow=38						
CTA	**Charters Tower**	**18.37**	**159**	P	**Pn**	**02 27 10.3**	**-0.6**
CTAO	**Charters Tower**	**18.37**	**159**	*e*P	**Pn**	**02 27 13.8**	**+2.9**
	5.2nm,0.6s						
TTSI	**Tana Toraja**	**19.64**	**269**	P	**Pn**	**02 27 26.7**	**+0.5**
	47nm,1.0s						
SPSI	**Sidrap Palu**	**19.71**	**266**	P	**Pn**	**02 27 26.8**	**-0.3**
	29nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.35**	**221**	P	**P**	**02 27 31.3**	**-0.9**
	16nm,0.7s,baz=47,slow=12,SNR=26						
FITZ				S	**S**	**02 31 10.6**	**-7.2**
	19nm,0.8s,baz=162,slow=11,SNR=4.1						
FITZ				LR	LR	02 36 12.6	
	comp=Z,376nm,19.7s,MS3.8,baz=37,slow=39						
FITZ	**Fitzroy Crossi**	**20.35**	**221**	*e*P	**P**	**02 27 31.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**20.35**	**221**	*e*P	**P**	**02 27 31.1**	**-1.0**
	37nm,0.8s						
FITZ				*e*S	**S**	**02 31 11.4**	**-6.4**
FITZ	**Fitzroy Crossi**	**20.35**	**221**	P	**P**	**02 27 32.7**	**+0.5**
	68nm,1.1s						
AS31	**Alice Springs**	**21.39**	**194**	*e*P	**P**	**02 27 42.9**	**-0.5**
AS31				*e*S	**S**	**02 31 41.3**	**+3.1**
ASAR	**Alice Springs**	**21.39**	**194**	P	**P**	**02 27 42.8**	**-0.6**
	8.7nm,0.4s,mb4.4,baz=24,slow=10.0,SNR=80						
ASAR				S	**S**	**02 31 36.6**	**-1.6**
	2.3nm,0.7s,baz=6.3,slow=26,SNR=4.0						
ASAR	**Alice Springs**	**21.39**	**194**	P	**P**	**02 27 42.8**	**-0.6**
ASAR				S	**S**	**02 31 36.6**	**-1.6**
KBKI	**Kotabaru**	**23.29**	**268**	P	**P**	**02 28 02.2**	**-1.4**
	2μm34nm,0.8s,mb4.8						
BBKI	**Banjar Baru**	**24.61**	**268**	P	**P**	**02 28 15.6**	**-0.1**
	73nm,1.1s,mb5.1						
EIDS	**Eidsvold**	**25.02**	**155**	*e*P	**P**	**02 28 21.3**	**+2.0**
EIDS	**Eidsvold**	**25.02**	**155**	*e*P	**P**	**02 28 21.4**	**+2.1**
	86nm,0.8s,mb5.3						
RMQ	**Roma**	**25.14**	**160**	*e*P	**P**	**02 28 22.8**	**+2.5**
	55nm,0.9s,mb5.1						
MBWA	**Marble Bar**	**26.48**	**225**	*e*P	**P**	**02 28 31.9**	**-0.6**
	22nm,0.8s,mb4.8						
MBWA	**Marble Bar**	**26.48**	**225**	P	**P**	**02 28 32.6**	**0.0**
STKA	**Stephens Creek**	**28.95**	**176**	P	**P**	**02 28 54.3**	**-0.2**
	4.9nm,0.6s,mb4.4,baz=340,slow=9.6,SNR=15						
STKA				LR	LR	02 41 37.6	
	comp=Z,578nm,20.1s,MS4.2,baz=19,slow=39						
STKA	**Stephens Creek**	**28.95**	**176**	*e*P	**P**	**02 28 54.7**	**+0.2**
STKA	**Stephens Creek**	**28.95**	**176**	*e*P	**P**	**02 28 55.1**	**+0.6**
	25nm,2.3s,mb4.5						
ARMA	**Armidale**	**29.74**	**159**	*e*P	**P**	**02 29 02.2**	**+0.7**
ARMA	**Armidale**	**29.74**	**159**	*e*P	**P**	**02 29 02.6**	**+1.1**
	13nm,0.9s,mb4.7						
FORT	**Forrest**	**29.81**	**200**	*e*P	**P**	**02 29 03.1**	**+0.9**
CBIJ	**Chichi jima**	**29.88**	**5**	LR	LR	02 38 21.4	
	comp=Z,227nm,19.6s,MS3.8,baz=179,slow=31						
DZM	**Mont Dzumac**	**32.42**	**128**	*e*LR	LR	02 38 16.6	
	224nm,27.3s						
CNB	**Canberra Magne**	**33.59**	**165**	*e*P	**P**	**02 29 37.6**	**+2.3**
TOO	**Toolangi**	**35.00**	**172**	*e*P	**P**	**02 29 49.5**	**+2.0**
NWAO	**Narrogin (SRO)**	**36.47**	**212**	P	**P**	**02 30 00.9**	**+0.7**
	5.0nm,0.6s,mb4.6,baz=43,slow=13,SNR=4.5						
NWAO				LR	LR	02 46 11.1	
	comp=Z,578nm,18.2s,MS4.4,baz=344,slow=38						
NWAO	**Narrogin (SRO)**	**36.47**	**212**	P	**P**	**02 30 00.9**	**+0.7**
MJAR	**Matsushiro Arr**	**39.20**	**358**	LR	LR	02 44 35.0	
	comp=Z,105nm,21.8s,MS3.6,baz=195,slow=33						
NJ2	**Nanjing**	**39.85**	**332**	*e*P	**P**	**02 30 34.0**	**+5.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
KSAR	**Wonju Array Be**	**41.50**	**346**	P	**P**	**02 30 43.4**	**+1.2**
KSRS	**Korea Array**	**41.51**	**346**	P	**P**	**02 30 43.4**	**+1.1**
	comp=Z,1.7nm,0.6s,mb3.8,baz=156,slow=9.3,SNR=4.8						
KSRS				LR	LR	02 45 34.0	
	comp=Z,98nm,20.9s,MS3.7,ba

LZH				sP	sP	02 32 14.0	-1.6
LZH				PP	PP	02 33 53.9	-0.4
LZH				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
LZH				pmax	pmax		
	comp=Z,57nm,6.7s						
LZH				LR	LR		
	comp=N,280nm,14.0s,MS4.6						
LZH				LR	LR		
	comp=E,230nm,12.7s,MS4.6						
LZH				LR	LR		
	comp=Z,300nm,16.5s,MS4.4						
GTA	**Gaotai**	**55.63**	**323**	P	**P**	**02 32 31.3**	**+0.4**
GTA				pP	pP	02 32 41.3	-2.7
GTA				sP	sP	02 32 46.5	-2.8
GTA				S	**S**	**02 40 14.8**	**+1.2**
GTA				sS	sS	02 40 33.3	-2.2
GTA				SS	SS	02 43 59.9	+0.3
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
GTA				pmax	pmax		
	comp=Z,140nm,7.6s						
PETK	**Petropavlovsk-**	**57.81**	**13**	P	**P**	**02 32 47.3**	**+1.2**
	comp=Z,4.9nm,0.6s,mb4.7,baz=151,slow=4.8,SNR=5.9						
PETK				LR	LR	02 53 09.8	
	comp=Z,108nm,20.0s,MS4.0,baz=237,slow=31						
PETK	**Petropavlovsk-**	**57.81**	**13**	P	**P**	**02 32 47.3**	**+1.3**
ULN	**Ulaanbaatar**	**57.91**	**335**	P	**P**	**02 32 45.9**	**-0.9**
	comp=Z,3.5nm,0.6s,mb4.6						
SONM	**Songino Array**	**58.17**	**334**	P	**P**	**02 32 49.0**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.2,baz=156,slow=8.1,SNR=13						
SONM				LR	LR	02 56 38.0	
	comp=Z,172nm,18.3s,MS4.2,baz=72,slow=35						
SONM	**Songino Array**	**58.17**	**334**	P	**P**	**02 32 49.0**	**+0.4**
TAPN	**Taplejung**	**58.18**	**305**	*eP*	**P**	**02 32 48.9**	**-0.2**
	comp=Z,12nm,0.5s,mb5.2						
TAPN	**Taplejung**	**58.18**	**305**	*eP*	**P**	**02 32 48.9**	**-0.2**
	comp=Z,12nm,0.5s,mb5.2						
ODAN	**Odare**	**58.26**	**304**	*eP*	**P**	**02 32 49.1**	**-0.6**
	comp=Z,16nm,0.6s,mb5.2						
ODAN	**Odare**	**58.26**	**304**	*eP*	**P**	**02 32 49.1**	**-0.6**
	comp=Z,16nm,0.6s,mb5.2						
RAMN	**Ramite**	**58.95**	**304**	*eP*	**P**	**02 32 54.2**	**-0.3**
	comp=Z,13nm,0.2s,mb5.5						
RAMN	**Ramite**	**58.95**	**304**	*eP*	**P**	**02 32 54.2**	**-0.3**
	comp=Z,13nm,0.2s,mb5.6						
JIRN	**Jiri**	**59.55**	**304**	*eP*	**P**	**02 32 58.6**	**0.0**
	comp=Z,11nm,0.7s,mb5.0						
JIRN	**Jiri**	**59.55**	**304**	*eP*	**P**	**02 32 58.6**	**0.0**
	comp=Z,11nm,0.6s,mb5.1						
GUN	**Gumba**	**59.90**	**305**	*eP*	**P**	**02 33 00.9**	**-0.1**
	comp=Z,20nm,0.7s,mb5.2						
GUN	**Gumba**	**59.90**	**305**	*eP*	**P**	**02 33 00.9**	**-0.1**
	comp=Z,20nm,0.7s,mb5.2						
PKI	**Pulchoki**	**60.16**	**304**	*eP*	**P**	**02 33 02.1**	**-0.7**
PKI	**Pulchoki**	**60.16**	**304**	*eP*	**P**	**02 33 02.1**	**-0.7**
KKN	**Kakani**	**60.35**	**304**	*eP*	**P**	**02 33 03.7**	**-0.4**
KKN	**Kakani**	**60.35**	**304**	*eP*	**P**	**02 33 03.7**	**-0.4**
DMN	**Daman**	**60.43**	**304**	*eP*	**P**	**02 33 04.4**	**-0.2**
	comp=Z,19nm,0.7s,mb5.3						
DMN	**Daman**	**60.43**	**304**	*eP*	**P**	**02 33 04.4**	**-0.2**
	comp=Z,19nm,0.6s,mb5.3						
GKN	**Gorkha**	**60.95**	**304**	*eP*	**P**	**02 33 07.9**	**-0.3**
	comp=Z,26nm,0.8s,mb5.4						
GKN	**Gorkha**	**60.95**	**304**	*eP*	**P**	**02 33 07.9**	**-0.3**
	comp=Z,26nm,0.8s,mb5.4						
KOLN	**Koldanda**	**61.73**	**304**	*eP*	**P**	**02 33 13.7**	**+0.2**
	comp=Z,9.4nm,0.6s,mb5.1						
KOLN	**Koldanda**	**61.73**	**304**	*eP*	**P**	**02 33 13.7**	**+0.2**
	comp=Z,9.4nm,0.6s,mb5.1						
DANN	**Dangsing**	**61.80**	**304**	*eP*	**P**	**02 33 13.6**	**-0.4**
	comp=Z,14nm,0.7s,mb5.2						
DANN	**Dangsing**	**61.80**	**304**	*eP*	**P**	**02 33 13.6**	**-0.4**
	comp=Z,14nm,0.7s,mb5.2						
FX1	**Attu Island--F**	**62.32**	**22**	P	**P**	**02 33 18.9**	**+2.0**
	comp=Z,9.5nm,0.7s,mb5.1,baz=247,slow=7.7,SNR=3.2						
FX1	**Attu Island--F**	**62.32**	**22**	P	**P**	**02 33 18.9**	**+2.0**
YAK	**Yakutsk**	**65.13**	**355**	*eP*	**P**	**02 33 35.4**	**+0.1**
	comp=Z,16nm,0.4s,mb5.4						
WMQ	**Urumqi**	**65.59**	**321**	P	**P**	**02 33 39.0**	**+0.4**
WMQ				pP	pP	02 33 49.3	-2.7
WMQ				sP	sP	02 33 53.3	-4.0
WMQ				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
WMQ				pmax	pmax		
	comp=Z,580nm,7.2s						
MK31	**Makanchi Array**	**70.36**	**322**	*eP*	**P**	**02 34 08.6**	**+0.1**
MKAR	**Makanchi Array**	**70.36**	**322**	P	**P**	**02 34 08.4**	**-0.1**
	comp=Z,5.0nm,0.7s,mb4.5,baz=96,slow=8.8,SNR=24						
MKAR	**Makanchi Array**	**70.36**	**322**	P	**P**	**02 34 08.4**	**-0.1**
PPT2	**Papeete2**	**70.98**	**108**	*e*LR	LR	02 56 12.1	
	comp=Z,108nm,25.0s						
KSH	**Kashi**	**71.74**	**313**	P	**P**	**02 34 18.4**	**+1.4**
KSH				pP	pP	02 34 28.5	-2.0
KSH				sP	sP	02 34 32.8	-3.0
KSH				PP	PP	02 36 59.9	+3.1
KSH				S	S	02 43 35.1	+1.3
KSH				sS	sS	02 43 51.4	-5.0
KSH				SKS		02 44 14.4	
KSH				ScS	ScS	02 44 17.5	-1.4
KSH				SS	SS	02 48 11.3	+0.7
KSH				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
KSH				pmax	pmax		
	comp=Z,380nm,6.2s						
KSH				LR	LR		
	comp=N,260nm,6.8s						
KSH				LR	LR		
	comp=E,270nm,7.2s						
KSH				LR	LR		
	comp=Z,430nm,6.7s						
ZAA0	**Zalesovo Array**	**72.44**	**330**	*eP*	**P**	**02 34 19.8**	**-1.1**
ZALV	**Zalesovo Beam**	**72.44**	**330**	P	**P**	**02 34 19.7**	**-1.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=114,slow=6.2,SNR=9.8						
ZALV				LR	LR	03 05 21.2	
	comp=Z,76nm,18.9s,MS4.0,baz=245,slow=35						
ZALV	**Zalesovo Beam**	**72.44**	**330**	P	**P**	**02 34 19.7**	**-1.2**
KURK	**Kurchatov**	**74.27**	**325**	P	**P**	**02 34 31.1**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.2,baz=113,slow=5.8,SNR=11						
KURK	**Kurchatov**	**74.27**	**325**	*eP*	**P**	**02 34 31.1**	**-0.7**
	comp=Z,4.9nm,1.0s,mb4.4						
EKS2	**Erkin-Say**	**74.34**	**316**	*eP*	**P**	**02 34 32.0**	**-0.4**
VNDA	**Vanda**	**75.58**	**175**	*eP*	**P**	**02 34 39.7**	**+0.8**
	comp=Z,9.7nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**79.86**	**325**	P	**P**	**02 35 02.3**	**-0.8**
	comp=Z,3.3nm,0.6s,mb4.5,baz=111,slow=7.4,SNR=22						
BVAR	**Borovoye Array**	**79.86**	**325**	P	**P**	**02 35 02.3**	**-0.8**
BRVK	**Borovoye**	**79.93**	**325**	*eP*	**P**	**02 35 02.7**	**-0.8**
	comp=Z,7.3nm,1.0s,mb4.6						
BRVK	**Borovoye**	**79.93**	**325**	P	**P**	**02 35 03.1**	**-0.4**
	comp=Z,34nm,0.7s,mb5.4,SNR=5.6						
KDAK	**Kodiak Island**	**80.83**	**30**	P	**P**	**02 35 06.7**	**-1.5**
	comp=Z,6.8nm,0.9s,mb4.6,baz=282,slow=9.3,SNR=3.4						
KDAK	**Kodiak Island**	**80.83**	**30**	P	**P**	**02 35 06.7**	**-1.5**
MAW	**Mawson**	**82.29**	**202**	P	**P**	**02 35 15.8**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.4,baz=51,slow=6.5,SNR=3.9						
MAW				LR	LR	03 09 47.2	
	comp=Z,98nm,18.5s,MS4.2,baz=248,slow=34						
MAW	**Mawson**	**82.29**	**202**	P	**P**	**02 35 15.8**	**0.0**
ABKAR	**Akbulak array**	**85.32**	**320**	*eP*	**P**	**02 35 30.1**	**-1.5**
	comp=Z,0.6nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**85.64**	**24**	P	**P**	**02 35 31.6**	**-1.2**
	comp=Z,2.0nm,0.7s,mb4.5,baz=261,slow=4.1,SNR=22						
ILAR				LR	LR	03 14 07.7	
	comp=Z,47nm,18.1s,MS3.9,baz=28,slow=36						
ILAR	**Eielson Array**	**85.64**	**24**	P	**P**	**02 35 31.6**	**-1.2**
INK	**Inuvik**	**91.51**	**22**	P	**P**	**02 36 01.1**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.8,baz=315,slow=2.7,SNR=3.1						
INK	**Inuvik**	**91.51**	**22**	P	**P**	**02 36 01.1**	**+0.5**
YKA	**Yellowknife Ar**	**99.83**	**27**	LR	LR	03 18 57.4	
	comp=Z,15nm,19.0s,MS3.5,baz=350,slow=34						
TORD	**Torodi Ar. Bea**	**137.03**	**286**	PKhKP	PKPpre	02 42 13.5	
	comp=Z,0.3nm,0.7s,baz=51,slow=2.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**137.03**	**286**	PKPpre	PKPpre	02 42 13.5	
DBIC	**Dimbokro**	**144.27**	**277**	PKP	PKPdf	02 42 29.1	-2.4
	comp=Z,6.2nm,0.7s,baz=78,slow=3.9,SNR=14						
DBIC	**Dimbokro**	**144.27**	**277**	PKP	PKPdf	02 42 29.1	-2.4
LPAZ	**La Paz**	**146.74**	**126**	PKPbc	PKPbc	02 42 38.2	+0.8
	comp=Z,1.0nm,0.6s,baz=206,slow=3.9,SNR=4.6						
LPAZ	**La Paz**	**146.74**	**126**	*e*PKPbc	PKPbc	02 42 39.6	+2.2

*NEIC **22** 02:25:41.9, 16°.80N×94°.39W, h128km, MD3.7(MEX), After MEX.*
MEX 22 02:25:42.0±0.9, 16°.79N×94°.39W, h126km±11km, MD3.7,

Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.56**	**302**	*i* P	Pn	02 26 00.1	-0.9
CMIG				*i* S	Sn	02 26 13.6	-1.8
CMIG	**Matias Romero**	**0.56**	**302**	*i* P	Pn	02 26 00.1	-0.9
CMIG				*i* S	Sn	02 26 13.6	-1.8
TGIG		**1.21**	**90**	*i* P	Pn	02 26 05.7	-1.0
TGIG				*i* S	Sn	02 26 23.0	-2.4
TGIG		**1.21**	**90**	*i* P	Pn	02 26 05.7	-1.0
TGIG				*i* S	Sn	02 26 23.0	-2.4
PCIG		**1.56**	**134**	*i* P	Pn	02 26 09.9	-0.6
PCIG				*i* S	Sn	02 26 30.9	-1.4
PCIG		**1.56**	**134**	*i* P	Pn	02 26 09.9	-0.6
PCIG				*i* S	Sn	02 26 30.9	-1.4
HUIG	**Huatulco**	**1.94**	**239**	*i* P	Pn	02 26 12.9	-2.2
HUIG				*i* S	Sn	02 26 38.8	-1.5
HUIG	**Huatulco**	**1.94**	**239**	*i* P	Pn	02 26 12.9	-2.2
HUIG				*i* S	Sn	02 26 38.8	-1.5
CCIG	**Comitan**	**2.22**	**103**	*i* P	Pn	02 26 17.2	-1.2
CCIG				*i* S	Sn	02 26 45.1	-1.3
CCIG	**Comitan**	**2.22**	**103**	*i* P	Pn	02 26 17.2	-1.2
CCIG				*i* S	Sn	02 26 45.1	-1.3
VHO	**Vista Hermosa**	**2.26**	**277**	*i* P	Pn	02 26 17.8	-1.2
VHO				*i* S	Sn	02 26 45.5	-1.9
VHO	**Vista Hermosa**	**2.26**	**277**	*i* P	Pn	02 26 17.8	-1.2
VHO				*i* S	Sn	02 26 45.5	-1.9
TEIG	**Tepich**	**6.73**	**59**	*e*Pn	Pn	02 27 15.8	-2.5
TEIG				*e*S	Sn	02 28 32.9	-0.7

*CSEM **22** 02:28:22.7, 37°.54N×24°.78W, h0km, ML2.0, After PDA*
PDA 22 02:28:22.7±0.8, 37°.54N×24°.78W, h0km, MD3.7, ML2.0, Error ellipse: s-maj=9.5km s-min=2.1km az=75.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.39**	**308**	*e*P	Pg	02 28 29.8	-0.4
BART				*e*S	Sg	02 28 35.3	0.0
BART	**Pico Bartolome**	**0.39**	**308**	*e*P	Pg	02 28 29.8	-0.4
BART				*e*S	Sg	02 28 35.3	0.0
PSMN	**Pico do Norte,**	**0.58**	**203**	*e*P	Pg	02 28 33.1	-0.7
PSMN				*e*S	Sg	02 28 40.7	-0.5
PSMN				A		02 28 41.1	
	7.9nm,0.2s						
PSMN	**Pico do Norte,**	**0.58**	**203**	*e*P	Pg	02 28 33.1	-0.7
PSMN				*e*S	Sg	02 28 40.7	-0.5
PSMA	**Santa Maria**	**0.61**	**207**	*e*S	Sg	02 28 41.2	-1.0
PSMA				A		02 28 42.0	
	16nm,0.1s						
PDA	**Ponta Delgada**	**0.73**	**287**	*e*P	Pg	02 28 35.4	-1.3
PDA				*e*S	Sg	02 28 45.1	-1.1
PDA				A		02 28 46.9	
	38nm,0.1s						
PDA	**Ponta Delgada**	**0.73**	**287**	*e*P	Pg	02 28 35.4	-1.3
PDA				*e*S	Sg	02 28 45.1	-1.1
PSET	**Sete Cidades**	**0.80**	**291**	*e*P	Pg	02 28 36.5	-1.5
PSET				*e*S	Sg	02 28 46.3	-2.1
PSET				A		02 28 50.8	
	39nm,0.2s						
PSET	**Sete Cidades**	**0.80**	**291**	*e*P	Pg	02 28 36.5	-1.5
PSET				*e*S	Sg	02 28 46.3	-2.1

IDC 22 02:28:58.6±10.0, 7°.41S×126°.30E, h206km±118km, mb3.4/4, mb1 3.7/7, mb1mx3.4/18, mbtmp3.5/7, Error ellipse: s-maj=90.8km s-min=42.4km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.64**	**183**	P	Pn	02 31 27.1	+1.0
	0.8nm,0.3s,baz=10,slow=14,SNR=4.1						
FITZ				S	Sn	02 33 22.7	-2.3
	0.6nm,0.3s,baz=119,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**14.70**	**149**	P	Pn	02 32 17.1	+0.2
	1.2nm,0.3s,baz=328,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**17.73**	**157**	P	P	02 32 51.5	+0.3
	2.3nm,0.3s,baz=335,slow=12,SNR=13						
MKAR	**Makanchi Array**	**66.61**	**329**	P	P	02 39 27.5	+0.7
	0.9nm,0.5s,baz=121,slow=8.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**70.38**	**335**	P	P	02 39 49.8	-0.2
	0.6nm,0.5s,baz=151,slow=3.4,SNR=3.6						
KURK	**Kurchatov**	**71.00**	**330**	P	P	02 39 52.6	-1.2
	0.5nm,0.4s,baz=137,slow=5.3,SNR=4.4						
BVAR	**Borovoye Array**	**76.49**	**329**	P	P	02 40 26.0	+0.4
	0.3nm,0.4s,baz=132,slow=4.3,SNR=5.1						

*ISCJB **22** 03:22:45.7±0.5, 28°.2S±0°.1×63°.0E±0°.1, h10km, mb4.0/16, MS3.8/4, Error ellipse: s-maj=17.4km s-min=15.3km az=158.7*
*IDC **22** 03:22:45.8±0.6, 28°.15S×62°.96E, h0km, mb4.0/16, mb1 4.1/16, mb1mx4.1/25, mbtmp4.0/16, MS3.8/4, Ms1 3.8/4, ms1mx3.3/32, Error ellipse: s-maj=21.3km s-min=18.1km az=55.0*
*NEIC **22** 03:22:47.4±0.3, 28°.14S×62°.94E, h10km, mb4.4/2, Error ellipse: s-maj=12.0km s-min=10.6km az=69.0*
ISC 22 03:22:47.6±0.5, 28°.1S±0°.1×63°.0E±0°.1, h10km, n35, σ0s54/32, mb4.0/16, MS3.8/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**33.08**	**260**	P	**P**	**03 29 22.3**	**-1.3**
	2.9nm,0.8s,mb4.3,baz=120,slow=5.3,SNR=6.6						
BOSA	**Boshof**	**33.08**	**260**	*e*P	**P**	**03 29 22.6**	**-1.1**
	3.0nm,0.7s,mb4.3						
MAW	**Mawson**	**39.49**	**180**	P	**P**	**03 30 18.6**	**+0.7**
	3.2nm,0.9s,mb4.1,baz=350,slow=6.1,SNR=3.5						
MAW				LR	LR	03 42 11.4	
	comp=Z,50nm,21.1s,MS3.3,baz=218,slow=30						
MAW	**Mawson**	**39.49**	**180**	P	**P**	**03 30 18.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**57.95**	**41**	P	**P**	**03 32 40.5**	**+0.2**
	2.2nm,0.4s,mb4.6,baz=226,slow=7.8,SNR=7.1						
CMAR				LR	LR	03 55 36.5	
	comp=Z,52nm,18.9s,MS3.7,baz=225,slow=34						
CMAR	**Chiang Mai Arr**	**57.95**	**41**	P	**P**	**03 32 40.5**	**+0.2**
QSPA	**South Pole Qui**	**62.01**	**180**	P	**P**	**03 33 07.5**	**+0.1**
	1.5nm,0.6s,mb4.3,baz=237,slow=6.9,SNR=5.3						
QSPA	**South Pole Qui**	**62.01**	**180**	*e*P	**P**	**03 33 07.4**	**-0.1**
	2.1nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**63.16**	**104**	P	**P**	**03 33 15.7**	**-0.4**
	1.7nm,0.7s,mb4.3,baz=246,slow=6.1,SNR=12						
ASAR	**Alice Springs**	**63.16**	**104**	P	**P**	**03 33 15.7**	**-0.4**
WRA	**Warramunga Arr**	**64.90**	**100**	P	**P**	**03 33 27.1**	**-0.4**
	1.1nm,0.6s,mb4.1,baz=250,slow=5.7,SNR=12						
WRA	**Warramunga Arr**	**64.90**	**100**	P	**P**	**03 33 27.1**	**-0.4**
STKA	**Stephens Creek**	**66.76**	**115**	P	**P**	**03 33 39.4**	**0.0**
	1.8nm,0.8s,mb4.2,baz=275,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**66.76**	**115**	P	**P**	**03 33 39.4**	**0.0**
TORD	**Torodi Ar. Bea**	**72.08**	**296**	P	**P**	**03 34 12.5**	**+0.1**
	0.6nm,0.9s,mb3.5,baz=121,slow=5.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**72.08**	**296**	P	**P**	**03 34 12.5**	**+0.1**
BRTR	**Keskin Array B**	**72.83**	**337**	P	**P**	**03 34 17.1**	**+0.8**
	0.7nm,0.8s,mb3.6,baz=141,slow=4.3,SNR=4.0						
BRTR	**Keskin Array B**	**72.83**	**337**	P	**P**	**03 34 17.1**	**+0.8**
MKAR	**Makanchi Array**	**76.61**	**14**	P	**P**	**03 34 37.8**	**-0.2**
	1.2nm,0.8s,mb3.9,baz=184,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**76.61**	**14**	P	**P**	**03 34 37.8**	**-0.2**
KURK	**Kurchatov**	**79.72**	**10**	P	**P**	**03 34 54.7**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=208,slow=6.5,SNR=4.5						
KURK	**Kurchatov**	**79.72**	**10**	P	**P**	**03 34 54.7**	**-0.5**
BVAR	**Borovoye Array**	**81.08**	**5**	P	**P**	**03 35 02.4**	**-0.1**
	0.7nm,0.8s,mb3.7,baz=183,slow=2.7,SNR=3.8						
BVAR				LR	LR	04 11 01.9	
	comp=Z,59nm,19.6s,MS4.0,baz=163,slow=36						
BVAR	**Borovoye Array**	**81.08**	**5**	P	**P**	**03 35 02.4**	**-0.1**
ZALV	**Zalesovo Beam**	**83.91**	**13**	P	**P**	**03 35 17.0**	**-0.2**
	1.1nm,0.7s,mb4.1,baz=204,slow=3.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**83.91**	**13**	P	**P**	**03 35 17.0**	**-0.3**
AKASG	**Malin Array Be**	**83.97**	**339**	P	**P**	**03 35 17.4**	**-0.2**
	0.7nm,0.5s,mb4.1,baz=139,slow=4.4,SNR=3.3						
AKASG	**Malin Array Be**	**83.97**	**339**	P	**P**	**03 35 17.4**	**-0.2**
SONM	**Songino Array**	**85.11**	**28**	P	**P**	**03 35 23.6**	**+0.2**
	0.6nm,0.7s,mb3.8,baz=200,slow=5.9,SNR=4.4						
SONM	**Songino Array**	**85.11**	**28**	P	**P**	**03 35 23.6**	**+0.2**
URZ	**Urewera**	**89.72**	**134**	LR	LR	04 07 52.7	
	comp=Z,119nm,19.2s,MS4.3,baz=30,slow=30						
ESDC	**Sonseca Array**	**91.78**	**315**	P	**P**	**03 35 56.7**	**+1.2**
	0.5nm,0.7s,mb3.9,baz=108,slow=8.2,SNR=3.7						
ESDC	**Sonseca Array**	**91.78**	**315**	P	**P**	**03 35 56.7**	**+1.2**
YKA	**Yellowknife Ar**	**145.61**	**358**	PKPbc	PKPbc	03 42 24.9	-0.7
	0.7nm,0.7s,baz=350,slow=3.5,SNR=22						
YKA	**Yellowknife Ar**	**145.61**	**358**	PKPbc	PKPbc	03 42 24.9	-0.7

*ISCJB **22** 03:24:08.0±1.9, 42°.14N±0°.09×81°.36E±0°.08, h5km±13km, mb3.2/2, Error ellipse: s-maj=16.0km s-min=8.4km az=159.2*
*IDC **22** 03:24:09.6±1.7, 42°.31N×81°.19E, h0km, mb3.2/2, mb1 3.4/6, mb1mx3.2/29, mbtmp3.3/6, ML3.4/4, Error ellipse: s-maj=36.3km s-min=20.4km az=107.0*
*NEIC **22** 03:24:09.6±1.5, 42°.13N×81°.60E, h10km, mb3.2/1, Error ellipse: s-maj=24.6km s-min=13.2km az=151.0*
*NNC **22** 03:24:10.9±4.6, 42°.42N×81°.71E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=46.0km s-min=13.6km az=141.0*
ISC 22 03:24:09.9±2.0, 42°.13N±0°.09×81°.35E±0°.08, h9km±13km, n22, σ1s27/29, mb3.2/2, 4C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.32**	**282**	⇓Pn	**Pn**	**03 25 19.2**	**+3.4**
	4.0nm,0.5s						
TKM2				⇑Pg	**Pg**	**03 25 32.5**	**-0.2**
	10nm,0.7s						
TKM2				⇓Sn	**Sb**	**03 26 17.0**	**-1.3**
	21nm,0.4s						
TKM2	**Tokmak 2**	**4.32**	**282**	*e*Pn	**Pn**	**03 25 19.3**	**+3.6**
TKM2				*e*Sn	**Sn**	**03 26 15.9**	**+10**
MK31	**Makanchi Array**	**4.71**	**8**	Pn	**Pn**	**03 25 21.8**	**+0.7**
	1.1nm,0.2s,baz=192,slow=13,SNR=277						
MK31				⇓Pg	**Pb**	**03 25 33.2**	**+0.6**
	2.1nm,0.3s,baz=189,slow=16,SNR=5.0						
MK31				⇓Sn	**Sn**	**03 26 16.1**	**+0.3**
	6.1nm,0.4s,baz=184,slow=20,SNR=5.6						
MK31				⇓Lg		03 26 30.8	
	12nm,0.4s,baz=185,slow=27,SNR=6.1						
MK31	**Makanchi Array**	**4.71**	**8**	*e*Pn	**Pn**	**03 25 21.9**	**+0.8**
MKAR	**Makanchi Array**	**4.71**	**8**	Pn	**Pn**	**03 25 21.9**	**+0.9**
	4.4nm,0.3s,baz=184,slow=12,SNR=94						
MKAR				Sn	**Sn**	**03 26 06.6**	**-9.1**
	2.6nm,0.3s,baz=188,slow=15,SNR=4.6						
MKAR				Lg		03 26 34.1	
	8.1nm,0.3s,baz=181,slow=26,SNR=9.0						
MKAR	**Makanchi Array**	**4.71**	**8**	Pn	**Pn**	**03 25 21.9**	**+0.9**
MKAR				Sn	**Sn**	**03 26 06.6**	**-9.1**
MKAR				Lg		03 26 34.1	
AAK	**Ala-Archa**	**5.10**	**278**	*e*Pn	**Pn**	**03 25 28.3**	**+1.8**
EKS2	**Erkin-Say**	**5.63**	**278**	Pn	**Pn**	**03 25 32.2**	**-1.6**
EKS2				*e*Pg	**Pb**	**03 25 48.5**	**+0.3**
KK31	**Karatay Array**	**8.05**	**281**	⇑Pg	**Pb**	**03 26 36.9**	**+7.4**
	3.2nm,1.0s,baz=80,slow=16,SNR=6.7						
KK31				⇑Lg		03 28 16.9	
	2.7nm,0.6s,baz=89,slow=27,SNR=4.3						
KURK	**Kurchatov**	**8.79**	**349**	Pn	**Pn**	**03 26 15.2**	**-1.8**
	0.1nm,0.3s,baz=151,slow=12,SNR=3.5						
KURK				Lg		03 28 36.6	
	0.2nm,0.3s,baz=168,slow=32,SNR=7.1						
KURK	**Kurchatov**	**8.79**	**349**	⇑Pn	**Pn**	**03 26 20.3**	**+3.3**
	1.2nm,0.5s						
KURK	**Kurchatov**	**8.79**	**349**	Pn	**Pn**	**03 26 15.2**	**-1.8**
KURK				Lg		03 28 36.6	
ZALV	**Zalesovo Beam**	**12.05**	**10**	Pn	**Pn**	**03 26 59.6**	**-2.0**
	0.1nm,0.3s,baz=201,slow=15,SNR=3.7						
ZALV				Lg		03 30 22.8	
	baz=190,slow=25,SNR=2.4						
ZALV	**Zalesovo Beam**	**12.05**	**10**	Pn	**Pn**	**03 26 59.6**	**-2.0**
ZALV				Lg		03 30 22.8	
BVAR	**Borovoye Array**	**13.15**	**330**	Lg		03 30 53.4	
	0.2nm,0.3s,baz=129,slow=22,SNR=3.7						
SONM	**Songino Array**	**18.57**	**64**	P	**Pn**	**03 28 28.4**	**+1.2**
	0.2nm,0.3s,baz=270,slow=12,SNR=4.1						
SONM	**Songino Array**	**18.57**	**64**	P	**Pn**	**03 28 28.4**	**+1.2**
ULN	**Ulaanbaatar**	**19.02**	**64**	*e*P	**Pn**	**03 28 29.6**	**-3.0**
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.67**	**273**	P	**P**	**03 35 44.4**	**+0.3**
	0.2nm,0.6s,mb3.2,baz=45,slow=4.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**73.67**	**273**	P	**P**	**03

LPG	La Plagne	0.93 355	*e*Pg		Pg	03 32 54.7 +0.6
	SNR=1.0					
LPG			*e*Sg		Sg	03 33 06.2 -0.1
	9.6nm,0.2s,SNR=1.0					
LPG	La Plagne	0.93 355	*e*Pg		Pg	03 32 54.7 +0.6
	SNR=1.0					
LPG			*e*Sg		Sg	03 33 06.2 -0.1
	4.8nm,0.2s,SNR=1.0					
NEGI	Seborga	0.94 140	P		Pb	03 32 53.5 -0.5
LPL	La Plagne	0.95 354	*e*Pg		Pg	03 32 54.8 +0.3
	SNR=1.0					
LPL			*e*Sg		Sg	03 33 06.9 0.0
	17nm,0.4s,SNR=1.0					
LPL	La Plagne	0.95 354	*e*Pg		Pg	03 32 54.8 +0.3
	SNR=1.0					
LPL			*e*Sg		Sg	03 33 06.9 0.0
	8.6nm,0.4s,SNR=1.0					
RORO	Rocca Rossa	0.97 118	P		Pb	03 32 53.9 -0.7
FRF	La Foret Royal	1.02 189	*e*Pg		Pg	03 32 55.3 -0.5
	SNR=1.0					
FRF			*e*Sg		Sg	03 33 09.5 +0.4
	32nm,0.2s,SNR=1.0					
FRF	La Foret Royal	1.02 189	*e*Pg		Pg	03 32 55.3 -0.5
	SNR=1.0					
FRF			*e*Sg		Sg	03 33 09.5 +0.4
	16nm,0.2s,SNR=1.0					
FIN	Finale Ligure	1.03 110	P		Pb	03 32 56.1 +0.6
ROTM	Rocchetta Tana	1.09 75	P		Pb	03 32 57.5 +0.8
SMRF	Simiane la Rot	1.10 238	*e*Pg		Pg	03 32 57.9 +0.6
	SNR=1.0					
SMRF			*e*Sg		Sg	03 33 13.1 +1.4
	13nm,0.2s,SNR=1.0					
SMRF	Simiane la Rot	1.10 238	*e*Pg		Pg	03 32 57.9 +0.6
	SNR=1.0					
SMRF			*e*Sg		Sg	03 33 13.1 +1.4
	6.3nm,0.2s,SNR=1.0					
TRAV	Traversella	1.13 33	P		Pb	03 32 57.5 +0.2
PCP	Piancastagn	1.20 91	P		Pn	03 32 58.2 -0.1
LMR	La Mourre	1.26 192	*e*Pg		Pg	03 32 59.7 -0.7
	SNR=1.0					
LMR			*e*Sg		Sg	03 33 16.2 -0.6
	15nm,0.2s,SNR=1.0					
LMR	La Mourre	1.26 192	*e*Pg		Pg	03 32 59.7 -0.7
	SNR=1.0					
LMR			*e*Sg		Sg	03 33 16.2 -0.6
	7.7nm,0.2s,SNR=1.0					
VIVF	Saint-Julien-l	1.59 281	*e*Pn		Pn	03 33 05.4 +1.7
	SNR=1.0					
VIVF	Saint-Julien-l	1.59 281	*e*Pg		Pg	03 33 07.4 +0.8
VIVF			*e*Sg		Sg	03 33 28.4 +1.1
	7.2nm,0.3s					
VIVF	Saint-Julien-l	1.59 281	*e*Pn		Pn	03 33 05.4 +1.7
	SNR=1.0					
VIVF	Saint-Julien-l	1.59 281	*e*Pg		Pg	03 33 07.4 +0.8
VIVF			*e*Sg		Sg	03 33 28.4 +1.1
	3.6nm,0.3s					
CABF	La Chapelle	2.11 345	*e*Pn		Pn	03 33 11.8 +0.9
	SNR=1.0					
CABF			*e*Sn		Sn	03 33 36.6 -0.3
	1.6nm,0.3s					
CABF	La Chapelle	2.11 345	*e*Pn		Pn	03 33 11.8 +0.9
	SNR=1.0					
CABF			*e*Sn		Sn	03 33 36.6 -0.3
	0.8nm,0.3s					
LASF	Ste Croix	2.22 258	*e*Pn		Pn	03 33 13.1 +0.8
	SNR=1.0					
LASF			*e*Sn		Sn	03 33 40.2 +0.8
	0.7nm,0.3s,SNR=1.0					
LASF	Ste Croix	2.22 258	*e*Pn		Pn	03 33 13.1 +0.8
	SNR=1.0					
LASF			*e*Sn		Sn	03 33 40.2 +0.8
	0.3nm,0.3s,SNR=1.0					
PGF	Pioggiola	2.55 142	*e*Pn		Pn	03 33 17.4 +0.6
	SNR=1.0					
PGF			*e*Sn		Sn	03 33 46.0 -1.5
	6.0nm,0.3s,SNR=1.0					
PGF	Pioggiola	2.55 142	*e*Pn		Pn	03 33 17.4 +0.6
	SNR=1.0					
PGF			*e*Sn		Sn	03 33 46.0 -1.5
	3.0nm,0.3s,SNR=1.0					
SMF	Signal de Mont	2.97 315	*e*Pn		Pn	03 33 23.5 +0.9
	SNR=1.0					
SMF	Signal de Mont	2.97 315	*e*Pg		Pg	03 33 32.3 -0.7
SMF			*e*Sg		Sg	03 34 10.5 -0.9
	2.0nm,0.3s					
SMF	Signal de Mont	2.97 315	*e*Pn		Pn	03 33 23.5 +0.9
	SNR=1.0					
SMF	Signal de Mont	2.97 315	*e*Pg		Pg	03 33 32.3 -0.7
SMF			*e*Sg		Sg	03 34 10.5 -0.9
	1.0nm,0.3s					
HINF	Hinteralfeld	3.25 360	*e*Pn		Pn	03 33 26.6 +0.1
HINF			*e*Sn		Sn	03 34 03.2 -1.6
	0.8nm,0.3s					
HINF	Hinteralfeld	3.25 360	*e*Pn		Pn	03 33 26.6 +0.1
HINF			*e*Sn		Sn	03 34 03.2 -1.6
	0.4nm,0.3s					
AVF	Avril sur Loir	3.32 313	*e*Pn		Pn	03 33 28.1 +0.7
	SNR=1.0					
AVF	Avril sur Loir	3.32 313	*e*Pg		Pg	03 33 38.6 -1.0
AVF			*e*Sg		Sg	03 34 21.5 -1.1
	1.3nm,0.4s					
AVF	Avril sur Loir	3.32 313	*e*Pn		Pn	03 33 28.1 +0.7
	SNR=1.0					
AVF	Avril sur Loir	3.32 313	*e*Pg		Pg	03 33 38.6 -1.0
AVF			*e*Sg		Sg	03 34 21.5 -1.1
	0.6nm,0.4s					
LOR	Lormes	3.42 323	*e*Pn		Pn	03 33 29.2 +0.4
	SNR=1.0					
LOR			*e*Sg		Sg	03 34 24.2 -1.6
	2.0nm,0.4s					
LOR	Lormes	3.42 323	*e*Pn		Pn	03 33 29.2 +0.4
	SNR=1.0					
LOR			*e*Sg		Sg	03 34 24.2 -1.6
	1.0nm,0.4s					
SSF	Saint Saulge	3.43 318	*e*Pn		Pn	03 33 29.4 +0.5
SSF			*e*Sg		Sg	03 34 24.9 -1.1
	3.7nm,0.5s,SNR=1.0					
SSF	Saint Saulge	3.43 318	*e*Pn		Pn	03 33 29.4 +0.5
SSF			*e*Sg		Sg	03 34 24.9 -1.1
	1.9nm,0.5s,SNR=1.0					
CAF	Calviac	3.44 278	*e*Pn		Pn	03 33 30.1 +1.0
CAF			*e*Sg		Sg	03 34 26.4 -0.1
	0.7nm,0.3s					
CAF	Calviac	3.44 278	*e*Pn		Pn	03 33 30.1 +1.0
CAF			*e*Sg		Sg	03 34 26.4 -0.1
	0.3nm,0.3s					
BGF	Bois d'Agland	3.45 307	*e*Pn		Pn	03 33 30.5 +1.2
	SNR=1.0					
BGF	Bois d'Agland	3.45 307	*e*Pg		Pg	03 33 41.3 -0.9
BGF			*e*Sg		Sg	03 34 26.0 -1.0
	3.6nm,0.4s					
BGF	Bois d'Agland	3.45 307	*e*Pn		Pn	03 33 30.5 +1.2
	SNR=1.0					
BGF	Bois d'Agland	3.45 307	*e*Pg		Pg	03 33 41.3 -0.9
BGF			*e*Sg		Sg	03 34 26.0 -1.0
	1.8nm,0.4s					
HAU	Haudompre	3.46 354	*e*Pn		Pn	03 33 29.1 -0.2
HAU			*e*Sn		Sn	03 34 08.3 -1.7
HAU	Haudompre	3.46 354	*e*Pn		Pn	03 33 29.1 -0.2
HAU			*e*Sn		Sn	03 34 08.3 -1.7
MTLF	Montolieu	3.58 252	*e*Pn		Pn	03 33 31.9 +0.9
MTLF			*e*Sn		Sn	03 34 12.6 -0.4
	1.1nm,0.2s					
MTLF	Montolieu	3.58 252	*e*Pn		Pn	03 33 31.9 +0.9
MTLF			*e*Sn		Sn	03 34 12.6 -0.4
	0.6nm,0.2s					
SFTF	Sexfontaines	3.85 341	*e*Pn		Pn	03 33 34.8 +0.1
SFTF			*e*Sn		Sn	03 34 18.0 -1.7
	1.8nm,0.3s					
SFTF	Sexfontaines	3.85 341	*e*Pn		Pn	03 33 34.8 +0.1
SFTF			*e*Sn		Sn	03 34 18.0 -1.7
	0.9nm,0.3s					

IDC 22 03:45:01.9±5.0, 5°.88S×146°.17E, h101km±50km, mb3.3/4, mb1 3.5/6, mb1mx3.3/16, mbtmp3.3/6, MS3.5/2, Ms1 3.5/2, ms1mx2.9/17, Error ellipse: s-maj=48.3km s-min=30.0km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.64	164	P	Pn	03 45 58.1	+1.8
	50nm,0.3s,baz=334,slow=6.8,SNR=117						
PMG				S	Sn	03 46 38.1	-0.3
	31nm,0.3s,baz=169,slow=19,SNR=4.0						
CTA	Charters Tower	14.12	180	P	Pn	03 48 20.2	+2.7
	0.6nm,0.3s,baz=347,slow=14,SNR=3.0						
WRA	Warramunga Arr	18.10	218	P	P	03 49 04.7	-1.2
	0.1nm,0.3s,baz=39,slow=11,SNR=6.9						
ASAR	Alice Springs	21.26	212	P	P	03 49 39.8	-0.4
	0.3nm,0.5s,baz=53,slow=8.0,SNR=4.1						
STKA	Stephens Creek	26.21	189	P	P	03 50 28.8	+1.5
	2.7nm,0.9s,baz=22,slow=18,SNR=3.6						
CBIJ	Chichi jima	33.01	353	LR	LR	04 02 16.7	
	comp=Z,46nm,19.5s,baz=114,slow=31						
ASAJ	Asahikawa	49.87	357	LR	LR	04 11 23.9	
	comp=Z,90nm,21.8s,baz=203,slow=32						
MKAR	Makanchi Array	76.88	321	P	P	03 56 43.4	+0.4
	0.2nm,0.5s,baz=94,slow=8.4,SNR=4.1						
ILAR	Eielson Array	85.70	23	P	P	03 57 28.7	-0.5
	0.5nm,0.7s,baz=247,slow=5.1,SNR=6.7						
TORD	Torodi Ar. Bea	144.26	284	PKP	PKPdf	04 04 26.6	-0.6
	0.3nm,0.3s,baz=82,slow=3.1,SNR=14						

ISCJB 22 04:01:52.7±3.4, 30°.65S±0°.05×176°.8W±0°.1, h5km±21km, mb4.4/10, Error ellipse: s-maj=15.2km s-min=8.6km az=172.9
IDC 22 04:01:52.8±0.7, 30°.44S×176°.60W, h0km, mb4.4/8, mb1 4.6/9, mb1mx4.3/19, mbtmp4.4/9, ML3.8/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/23, Error ellipse: s-maj=28.3km s-min=21.8km az=138.0
NEIC 22 04:01:54.1±0.4, 30°.50S×176°.61W, h10km, mb4.3/3, Error ellipse: s-maj=10.3km s-min=9.4km az=72.0
ISC 22 04:01:54.1±4.3, 30°.55S±0°.05×176°.7W±0°.1, h5km±26km, n55, σ0s96/34, mb4.4/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.65	321	*e*Pn	Pn	04 02 23.1	-0.6
RAO				*e*S	Sn	04 02 45.7	+0.4
URZ	Urewera	9.22	212	Pn	Pn	04 04 07.3	-0.4
	1.0nm,0.3s,baz=227,slow=0.6,SNR=6.7						
URZ				Sn	Sn	04 05 50.5	-1.2
	2.9nm,0.3s,baz=284,slow=23,SNR=9.1						
URZ	Urewera	9.22	212	Pn	Pn	04 04 07.3	-0.4
URZ				Sn	Sn	04 05 50.5	-1.2
RPZ	Rata Peaks	16.33	213	Pn	Pn	04 05 40.4	-3.7
	1.1nm,0.3s,baz=115,slow=6.6,SNR=6.4						
RPZ	Rata Peaks	16.33	213	Pn	Pn	04 05 40.4	-3.7
DZM	Mont Dzumac	17.27	295	*e*P	Pn	04 06 00.7	+4.7
	58nm,1.5s						
DZM				*e*LR	LR	04 10 06.1	
	323nm,26.8s						
DZM	Mont Dzumac	17.27	295	P	Pn	04 05 59.5	+3.5
	0.7nm,0.3s,baz=151,slow=15,SNR=7.3						
DZM				LR	LR	04 11 25.3	
	comp=Z,122nm,18.4s,baz=26,slow=33						
DZM	Mont Dzumac	17.27	295	*e*Pn	Pn	04 05 57.4	+1.4
	12nm,0.7s						
PPT2	Papeete2	27.87	69	*e*LR	LR	04 14 27.6	
	154nm,26.2s						
STKA	Stephens Creek	35.51	257	P	P	04 08 53.5	+1.6
	4.8nm,0.6s,mb4.6,baz=84,slow=9.6,SNR=12						
STKA	Stephens Creek	35.51	257	P	P	04 08 53.5	+1.6
ASAR	Alice Springs	44.19	267	P	P	04 10 04.3	+0.2
	2.3nm,0.8s,mb4.0,baz=101,slow=6.8,SNR=17						
ASAR				PcP	PcP	04 11 49.0	0.0
	1.1nm,0.8s,baz=133,slow=3.4,SNR=5.3						
ASAR	Alice Springs	44.19	267	P	P	04 10 04.3	+0.2
ASAR				PcP	PcP	04 11 49.0	0.0
WB2	Warramunga Arr	45.18	272	*e*P	P	04 10 11.8	-0.3
WRAB	Tennant Creek	45.19	272	*e*P	P	04 10 11.8	-0.3
	12nm,0.6s,mb4.9						
WRA	Warramunga Arr	45.19	272	P	P	04 10 11.8	-0.4
	11nm,0.6s,mb4.8,baz=111,slow=7.7,SNR=67						
WRA	Warramunga Arr	45.19	272	P	P	04 10 11.8	-0.4
FITZ	Fitzroy Crossi	53.45	269	P	P	04 11 15.8	+0.4
	7.5nm,0.8s,mb4.7,baz=119,slow=11,SNR=4.0						
FITZ	Fitzroy Crossi	53.45	269	P	P	04 11 15.8	+0.4
QSPA	South Pole Qui	59.56	180	P	P	04 11 58.8	+0.8
	1.6nm,0.3s,mb4.5,baz=90,slow=2.3,SNR=8.8						
QSPA				LR	LR	04 35 28.6	
	comp=Z,59nm,18.2s,baz=263,slow=34						
QSPA	South Pole Qui	59.56	180	P	P	04 11 58.8	+0.8
SNAA	Sanae	77.97	178	*e*	P	04 13 53.5	+0.7
SNAA	Sanae	77.97	178	*e*P	P	04 13 52.8	-0.1
	2.1nm,0.9s,mb4.1						
VNA3	Neumayer Olymp	78.08	176	*e*	P	04 13 54.0	+0.6
VNA2	Neumayer--Watz	78.53	176	*e*	P	04 13 56.9	+1.0
	baz=180,slow=4.8						
VNA1	Neumayer--Stat	78.75	176	*e*	P	04 13 58.6	+1.4
PETK	Petropavlovsk-	86.23	345	P	P	04 14 35.7	-0.5
	4.8nm,1.0s,mb4.7,baz=125,slow=7.6,SNR=2.6						
PETK	Petropavlovsk-	86.23	345	P	P	04 14 35.7	-0.5
NVAR	Mina Array Bea	87.61	42	P	P	04 14 41.8	-1.5
	0.7nm,0.8s,mb3.9,baz=232,slow=8.9,SNR=3.9						
NVAR	Mina Array Bea	87.61	42	P	P	04 14 41.8	-1.5
ILAR	Eielson Array	97.83	12	P	P	04 15 28.2	-1.6
	0.4nm,0.7s,mb4.0,baz=226,slow=4.9,SNR=5.3						
ILAR	Eielson Array	97.83	12	P	P	04 15 28.2	-1.6
MKAR	Makanchi Array	118.70	310	PKP	PKPdf	04 20 41.6	-1.3
	0.3nm,0.5s,baz=101,slow=1.5,SNR=3.8						
MKAR	Makanchi Array	118.70	310	PKP	PKPdf	04 20 41.6	-1.3
KURK	Kurchatov	121.94	314	PKP	PKPdf	04 20 47.8	-1.2
	1.2nm,0.7s,baz=108,slow=2.0,SNR=13						
KURK	Kurchatov	121.94	314	PKP	PKPdf	04 20 47.8	-1.2
BVAR	Borovoye Array	127.27	316	PKP	PKPdf	04 20 58.6	-0.6
	1.0nm,0.7s,baz=169,slow=1.5,SNR=5.3						
BVAR	Borovoye Array	127.27	316	PKP	PKPdf	04 20 58.6	-0.6
AKTO	Aktyubinsk	135.01	312	PKP	PKPdf	04 21 14.2	+0.2
	0.9nm,0.6s,baz=90,slow=3.0,SNR=3.8						
AKTO	Aktyubinsk	135.01	312	PKP	PKPdf	04 21 14.2	+0.2
JOF	Joensuu	142.95	339	*ep*	PKPdf	04 21 22.8	-5.3
KAF	Kangasniemi	145.05	341	*ep*	PKPbc	04 21 29.6	-1.5
FINES	FINESS Array B	145.65	341	PKPbc	PKPbc	04 21 32.0	-1.1
	7.8nm,0.7s,baz=47,slow=3.7,SNR=24						
FINES	FINESS Array B	145.65	341	PKPbc	PKPbc	04 21 32.0	-1.1
NB2	NORSAR Subarra	149.05	352	PKP	PKPbc	04 21 41.3	-1.3
	comp=Z,5.3nm,1.0s,baz=15,slow=4.1						
NOA	NORSAR Array B	149.05	352	PKPbc	PKPbc	04 21 42.0	-0.5
	comp=Z,3.4nm,0.9s,baz=13,slow=4.3,SNR=4.5						
NOA	NORSAR Array B	149.05	352	PKPbc	PKPbc	04 21 42.0	-0.5
ASF	Jabal al Asfar	151.30	282	PKPbc	PKPbc	04 21 50.0	+1.0
	comp=Z,3.1nm,0.8s,baz=336,slow=4.9,SNR=4.9						
ASF	Jabal al Asfar	151.30	282	PKPbc	PKPbc	04 21 50.0	+1.1
AKASG	Malin Array Be	152.07	324	PKPbc	PKPbc	04 21 49.1	-1.0
	comp=Z,3.6nm,0.6s,baz=46,slow=2.9,SNR=12						
AKASG	Malin Array Be	152.07	324	PKPbc	PKPbc	04 21 49.1	-1.0
BRTR	Keskin Array B	153.63	299	PKPbc	PKPbc	04 21 53.4	-0.5
	comp=Z,0.4nm,0.6s,baz=146,slow=5.4,SNR=4.1						
BRTR	Keskin Array B	153.63	299	PKPbc	PKPbc	04 21 53.4	-0.5
TORD	Torodi Ar. Bea	162.62	175	PKPab	PKPab	04 22 45.8	0.0
	comp=Z,1.2nm,0.9s,baz=192,slow=3.2,SNR=6.3						
TORD	Torodi Ar. Bea	162.62	175	PKPab	PKPab	04 22 45.8	0.0

IDC 22 04:19:59.3±1.0, 48°.41S×87°.15W, h0km, mb3.9/4, mb1 4.2/4, mb1mx4.0/14, mbtmp3.9/4, MS3.3/5, Ms1 3.3/5, ms1mx3.2/17, Error ellipse: s-maj=42.9km s-min=26.7km az=94.0, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	Ushuaia	13.26	126	LR	LR	04 27 23.3	
	comp=Z,252nm,19.0s,baz=340,slow=34						
PLCA	Paso Flores	14.09	63	LR	LR	04 27 46.5	
	comp=Z,192nm,18.5s,baz=80,slow=33						
PMSA	Palmer Station	20.54	151	LR	LR	04 29 27.8	
	comp=Z,58nm,19.6s,baz=304,slow=28						
CFAA	Coronel Fontan	22.07	47	P	P	04 24 55.6	-0.1
	0.2nm,0.6s,baz=226,slow=10,SNR=2.5						
CFAA				LR	LR	04 31 44.0	
	comp=Z,18nm,20.4s,baz=239,slow=32						
CPUP	Villa Florida	32.03	57	LR	LR	04 39 09.4	
	comp=Z,88nm,18.2s,baz=26,slow=36						
LPAZ	La Paz	35.63	32	P	P	04 26 59.7	+0.9
	1.2nm,0.8s,baz=223,slow=8.3,SNR=4.1						
SNAA	Sanae	43.26	153	P	P	04 28 02.0	+0.2
	1.3nm,1.0s,baz=261,slow=6.0,SNR=6.8						
TXAR	Lajitas Array	78.80	345	P	P	04 32 04.3	+0.7
	1.2nm,0.9s,baz=156,slow=6.9,SNR=6.9						
PDAR	Pinedale Array	92.92	344	P	P	04 33 13.8	+0.3
	0.2nm,0.3s,baz=156,slow=4.4,SNR=4.6						
ILAR	Eielson Array	122.00	334	PKP	PKPdf	04 38 53.1	-1.1
	0.6nm,0.8s,baz=190,slow=2.2,SNR=7.5						
CMAR	Chiang Mai Arr	149.71	192	PKPbc	PKPbc	04 39 50.8	-0.3
	0.8nm,0.3s,baz=210,slow=3.1,SNR=9.7						

ISK 22 04:37:08.9, 38°.47N×26°.63E, h5km, MD2.6

CSEM 22 04:37:08.2±0.1, 38°.19N×26°.54E, h0km, MD2.6, Error ellipse: s-maj=2.3km s-min=1.4km az=97.0
DDA 22 04:37:09.2, 38°.24N×26°.64E, h7km±4km, Md2.8
ISC 22 04:37:08.3±2.9, 38°.20N±0°.06×26°.5E±0°.2, h1km±10km, n8, σ0s10/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.44	65	*e*PG	Pg	04 37 16.7	-0.1
BLCB				*e*SG	Sg	04 37 22.4	-0.1
BLCB	Balcova	0.44	65	*e*Pg	Pg	04 37 16.7	-0.1
BLCB				*e*Sg	Sg	04 37 22.4	-0.1
IZM	Izmir	0.61	70	*e*PG	Pg	04 37 19.9	0.0
IZM				*e*SG	Sg	04 37 28.0	+0.2
IZM	Izmir	0.61	70	*e*Pg	Pg	04 37 19.9	-0.1
IZM				*e*Sg	Sg	04 37 28.0	+0.2
AYDN	Tasoluk	1.19	116	*i* P	Pg	04 37 31.1	0.0
AYDN				*i* S	Sg	04 37 46.5	0.0
AYDN	Tasoluk	1.19	116	*i* P	Pg	04 37 31.1	0.0
AYDN				*i* S	Sg	04 37 46.5	0.0
KULA	Kula-Manisa	1.70	79	*e*PN	Pn	04 37 39.3	+0.2
KULA				*e*SN	Sn	04 38 01.4	-0.1
KULA	Kula-Manisa	1.70	79	*e*Pn	Pn	04 37 39.3	+0.1
KULA				*e*Sn	Sn	04 38 01.5	-0.1

THE 22 05:04:30.8, 36°.03N×21°.60E, h1km±2km, ML3.5/1, Error ellipse: s-maj=2.9km s-min=1.2km az=202.0
CSEM 22 05:04:30.3±0.6, 36°.04N×21°.49E, h2km, MD3.6, Error ellipse: s-maj=11.2km s-min=7.8km az=23.0
ATH 22 05:04:30.0, 36°.07N×21°.42E, h10km±1km, MD3.6/10
ISC 22 05:04:30.1±1.5, 36°.02N±0°.06×21°.48E±0°.08, h1km±7km, n51, σ0s84/68, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.90	14	*e*PB	Pg	05 04 46.8	-0.4
PYL				*e*SB	Sg	05 04 58.2	-0.7
PYL	PYLOS	0.90	14	P	Pg	05 04 47.0	-0.2
PYL				S	Sg	05 04 59.9	+1.0
PYL	PYLOS	0.90	14	*e*Pb	Pg	05 04 47.1	-0.1
PYL				*e*Sb	Sg	05 04 58.2	-0.7
PYL				S	Sg	05 04 59.9	+1.0
ITM	Ithomi	1.21	17	*e*PB	Pb	05 04 52.6	-1.2
ITM				*e*SB	Sb	05 05 08.6	-1.3
ITM	Ithomi	1.21	17	P	Pg	05 04 52.7	-0.5
ITM				S	Sg	05 05 10.4	+1.5
ITM	Ithomi	1.21	17	*e*Pb	Pb	05 04 52.8	-1.0
ITM				*e*Sb	Sb	05 05 08.6	-1.3
ITM				S	Sg	05 05 10.4	+1.5
KYTH	Kithira	1.29	78	*e*PB	Pb	05 04 55.0	-0.1
KYTH	Kithira	1.29	78	*e*Pb	Pb	05 04 55.0	-0.1
VLI	Veliai	1.37	59	*e*PG	Pg	05 04 55.7	-0.6
VLI				*e*SB	Sg	05 05 15.3	+1.3
VLI	Veliai	1.37	59	P	Pg	05 04 55.1	-1.2
VLI				S	Sg	05 05 13.8	-0.2
VLI	Veliai	1.37	59	P	Pg	05 04 55.1	-1.2
VLI	Veliai	1.37	59	*e*Pg	Pg	05 04 55.5	-0.8
VLI				S	Sg	05 05 13.8	-0.2
VLX	Vlachokerasia	1.53	28	*e*PG	Pn	05 04 58.1	-0.4
VLX				*e*SB	Sb	05 05 18.9	-0.2
VLX	Vlachokerasia	1.53	28	P	Pn	05 04 58.1	-0.4
VLX				S	Sn	05 05 18.5	-0.5
VLX	Vlachokerasia	1.53	28	P	Pn	05 04 58.1	-0.4
VLX				S	Sn	05 05 18.5	-0.5
VLX				*e*Sb	Sb	05 05 18.9	-0.2
GUR	Goura	2.03	20	*e*PN	Pn	05 05 05.7	+0.3
GUR	Goura	2.03	20	P	Pn	05 05 04.4	-1.0
GUR	Goura	2.03	20	P	Pn	05 05 04.4	-1.0
GUR	Goura	2.03	20	*e*Pn	Pn	05 05 05.7	+0.3
RLS	Riolos of Patr	2.03	360	*e*PN	Pn	05 05 05.7	+0.3
RLS				*e*SN	Sn	05 05 31.8	+0.4
RLS	Riolos of Patr	2.03	360	*e*Pn	Pn	05 05 05.7	+0.3
RLS				*e*Sn	Sn	05 05 31.8	+0.4
DID	Didima	2.05	43	*e*PN	Pn	05 05 06.5	+0.9
DID	Didima	2.05	43	P	Pn	05 05 04.4	-1.2
DID	Didima	2.05	43	P	Pn	05 05 04.4	-1.2
DID	Didima	2.05	43	*e*Pn	Pn	05 05 06.5	+0.9
LAKA	Lakka	2.25	10	P	Pn	05 05 08.6	+0.2
LAKA	Lakka	2.25	10	P	Pn	05 05 08.6	+0.2
VLS	Valsamata	2.26	342	P	Pn	05 05 09.1	+0.5
VLS	Valsamata	2.26	342	P	Pn	05 05 09.1	+0.5
LTK	Loutraki	2.32	30	*e*PN	Pn	05 05 10.5	+1.0
LTK	Loutraki	2.32	30	P	Pn	05 05 08.8	-0.7
LTK	Loutraki	2.32	30	P	Pn	05 05 08.8	-0.7
LTK	Loutraki	2.32	30	*e*Pn	Pn	05 05 10.5	+1.0
EFP	Efpalio	2.42	8	*e*PN	Pn	05 05 11.7	+0.9
EFP	Efpalio	2.42	8	P	Pn	05 05 11.4	+0.6
EFP	Efpalio	2.42	8	P	Pn	05 05 11.4	+0.6
EFP	Efpalio	2.42	8	*e*Pn	Pn	05 05 11.7	+0.9
VIL1	Vilia, Western	2.60	34	*e*PN	Pn	05 05 14.0	+0.8
VLY	Voula,Athens	2.60	45	*e*PN	Pn	05 05 14.8	+1.5
VLY	Voula,Athens	2.60	45	*e*Pn	Pn	05 05 14.8	+1.5
LKD2	Lefkada island	2.84	347	P	Pn	05 05 17.1	+0.6
LKD2	Lefkada island	2.84	347	P	Pn	05 05 17

AFI Afiamalu 12.32 41 P **P 05 39 24.7 -3.1**
2.1nm,0.3s,baz=151,slow=18,SNR=4.0
AFI S **S 05 41 28.5 -13**
2.7nm,0.3s,baz=37,slow=20,SNR=5.0
AFI Afiamalu 12.32 41 P **P 05 39 24.7 -3.1**
AFI S **S 05 41 28.5 -13**
DZM Mont Dzumac 12.61 274 *eP* **P 05 39 32.9 +2.2**
79nm,1.0s
DZM Mont Dzumac 12.61 274 P **P 05 39 32.8 +2.1**
1.2nm,0.3s,baz=86,slow=17,SNR=12
DZM Mont Dzumac 12.61 274 *eP* **P 05 39 32.9 +2.2**
37nm,0.9s
URZ Urewera 14.90 189 P **P 05 39 52.7 -1.7**
2.4nm,0.3s,baz=335,slow=5.6,SNR=9.2
URZ S **S 05 42 26.5 -3.2**
1.1nm,0.3s,baz=238,slow=22,SNR=8.3
URZ Urewera 14.90 189 *eP* **P 05 39 53.8 -0.6**
URZ S **S 05 42 26.5 -3.2**
FUNA Funafuti 14.94 357 *eP* **P 05 39 53.6 -1.5**
SNZO South Karori 18.29 193 *eP* **P 05 40 27.1 -0.1**
155nm,1.5s
KHZ Kahutara 19.60 194 *eP* **P 05 40 39.0 -0.3**
105nm,1.8s
RPZ Rata Peaks 21.45 198 P **P 05 40 55.9 -0.1**
4.2nm,0.6s,mb4.3,baz=63,slow=4.5,SNR=2.1
RPZ Rata Peaks 21.45 198 P **P 05 40 55.9 -0.1**
HNR Honiara 23.76 303 P **P 05 41 16.3 -0.7**
92nm,0.7s,mb5.5,baz=196,slow=7.4,SNR=3.1
HNR Honiara 23.76 303 *eP* **P 05 41 17.2 +0.2**
250nm,0.8s
WHZ Wether Hill Ro 24.37 201 *eP* **P 05 41 23.8 +1.8**
ARMA Armidale 26.17 249 *eP* **P 05 41 40.6 +2.4**
TBI Tubuai 27.98 96 *eP* **P 05 41 54.1 -0.1**
164nm,1.0s,mb5.6
PAE Paea 29.02 84 *eP* **P 05 42 03.0 -0.3**
6.7nm,0.8s,mb4.3
PPT2 Papeete2 29.04 84 *eP* **P 05 42 02.8 -0.7**
48nm,1.2s,mb5.0
TIAR Tiarei 29.26 84 *eP* **P 05 42 03.8 -1.6**
66nm,0.8s,mb5.3
PMOR Pomariorio Ree 31.40 80 *eP* **P 05 42 22.8 -1.0**
90nm,1.2s,mb5.2
CTA Charters Tower 31.49 270 P **P 05 42 26.0 +1.4**
211nm,0.5s,baz=96,slow=10,SNR=306
CTA ScP ScP 05 47 57.2 +2.2
4.7nm,0.7s,baz=135,slow=10.0,SNR=3.3
CTA Charters Tower 31.49 270 ||*iP* **P 05 42 26.0 +1.4**
CTA Charters Tower 31.49 270 P **P 05 42 26.0 +1.4**
CTA ScP ScP 05 47 57.2 +2.2
CTAO Charters Tower 31.49 270 *eP* **P 05 42 25.9 +1.2**
194nm,0.6s,mb5.8
PMG Port Moresby 34.39 289 P **P 05 42 49.8 +0.6**
171nm,0.7s,mb5.7,baz=106,slow=5.0,SNR=45
PMG Port Moresby 34.39 289 *eP* **P 05 42 49.9 +0.7**
174nm,0.8s,mb5.6
PMG Port Moresby 34.39 289 P **P 05 42 48.7 -0.5**
2μm232nm,0.8s,mb5.8
STKA Stephens Creek 34.88 248 P **P 05 42 54.5 +1.4**
31nm,0.6s,mb5.0,baz=94,slow=9.6,SNR=102
STKA Stephens Creek 34.88 248 *eP* **P 05 42 54.3 +1.2**
STKA Stephens Creek 34.88 248 *eP* **P 05 42 54.3 +1.2**
6.6nm,0.6s,mb4.3
COEN Coen 36.07 279 *eP* **P 05 43 03.8 +0.6**
COEN Coen 36.07 279 *eP* **P 05 43 04.2 +0.9**
208nm,0.9s,mb5.7
COEN Coen 36.07 279 P **P 05 43 02.4 -0.8**
40nm,1.1s,mb4.9
BBOO Buckleboo 39.61 246 *eP* **P 05 43 32.0 +0.2**
BBOO Buckleboo 39.61 246 *eP* **P 05 43 32.2 +0.3**
475nm,0.8s
AS31 Alice Springs 42.11 260 *eP* **P 05 43 52.5 +0.6**
ASAR Alice Springs 42.11 260 P **P 05 43 52.5 +0.6**
56nm,0.6s,mb5.3,baz=101,slow=7.0,SNR=433
ASAR pP pP 05 45 28.2 +1.5
2.9nm,0.7s,baz=95,slow=8.1,SNR=2.5
ASAR ScP ScP 05 48 36.8 +1.9
9.0nm,0.9s,baz=111,slow=4.0,SNR=22
ASAR S **S 05 49 32.0 -1.5**
2.4nm,0.8s,baz=100,slow=14,SNR=8.2
ASAR Alice Springs 42.11 260 P **P 05 43 52.5 +0.6**
ASAR pP pP 05 45 28.2 +1.5
ASAR ScP ScP 05 48 36.8 +1.9
ASAR S **S 05 49 32.0 -1.5**
WB2 Warramunga Arr 42.44 266 *eP* **P 05 43 54.6 +0.1**
WRAB Tennant Creek 42.44 266 *eP* **P 05 43 54.5 -0.1**
90nm,0.9s,mb5.3
WRAB Tennant Creek 42.44 266 P **P 05 43 53.0 -1.5**
194nm,0.9s,mb5.6
WRA Warramunga Arr 42.45 266 P **P 05 43 54.7 +0.1**
31nm,0.3s,mb5.4,baz=89,slow=5.8,SNR=859
WRA ScP ScP 05 48 38.1 +1.8
7.7nm,0.9s,baz=100,slow=4.1,SNR=11
WRA S **S 05 49 35.6 -2.8**
3.1nm,0.8s,baz=101,slow=14,SNR=4.5
WRA Warramunga Arr 42.45 266 P **P 05 43 54.7 +0.1**
WRA ScP ScP 05 48 38.1 +1.8
WRA S **S 05 49 35.6 -2.8**
JAY Jayapura 43.38 293 P **P 05 44 01.5 -0.5**
9μm100nm,0.5s,mb5.6
SMPI Sarmi 45.35 292 P **P 05 44 16.6 -0.6**
59nm,1.1s,mb5.0
FORT Forrest 46.46 249 *eP* **P 05 44 25.3 -0.1**
FORT Forrest 46.46 249 *eP* **P 05 44 25.4 0.0**
138nm,0.7s,mb5.6
BAKI Biak 47.99 291 P **P 05 44 37.1 0.0**
188nm,0.8s,mb5.7
TLE Tual 48.82 284 P **P 05 44 43.0 -0.3**
165nm,0.8s,mb5.6
TLE Tual 48.82 284 P **P 05 44 43.4 +0.1**
165nm,0.8s,mb5.6
GUMO Guam 50.42 313 P **P 05 44 53.4 -1.7**
45nm,0.4s,mb5.3,baz=114,slow=10.0,SNR=4.7
GUMO Guam 50.42 313 P **P 05 44 53.4 -1.7**
FAKI Fak Fak 50.49 287 P **P 05 44 54.8 -0.9**
65nm,1.0s,mb5.0
FAKI Fak Fak 50.49 287 P **P 05 44 55.3 -0.4**
65nm,1.0s,mb5.0
FITZ Fitzroy Crossi 50.88 265 P **P 05 44 58.9 +0.5**
26nm,0.5s,mb4.8,baz=116,slow=5.7,SNR=83
FITZ Fitzroy Crossi 50.88 265 *eP* **P 05 44 57.9 -0.5**
FITZ Fitzroy Crossi 50.88 265 *eP* **P 05 44 58.8 +0.4**
39nm,0.6s,mb4.9
FITZ Fitzroy Crossi 50.88 265 P **P 05 44 58.5 +0.1**
57nm,0.8s,mb5.0
MSAI Masohi 53.23 284 P **P 05 45 14.8 -0.6**
3μm26nm,0.6s,mb4.7
AAI Ambon 53.74 283 P **P 05 45 18.5 -0.5**
3μm81nm,0.8s,mb5.1
SBA Scott Base 54.75 183 *eP* **P 05 45 28.5 +3.4**
30nm,1.1s,mb4.4
VNDA Vanda 54.75 185 *eP* **P 05 45 27.1 +2.0**
6.2nm,0.9s,mb3.8
NLAI Namlea 54.91 283 P **P 05 45 26.5 -0.8**
74nm,0.6s,mb5.1
KLBR Kellerberrin 55.15 247 ||*iP* **P 05 45 28.7 0.0**
47nm,0.8s,mb4.8
MBWA Marble Bar 55.45 260 *eP* **P 05 45 30.7 -0.3**
MBWA Marble Bar 55.45 260 *eP* **P 05 45 30.8 -0.2**
61nm,1.0s,mb4.8
MBWA Marble Bar 55.45 260 P **P 05 45 29.9 -1.1**
80nm,1.1s,mb4.9
LBMI Labuha 55.74 286 P **P 05 45 32.2 -0.9**
2μm113nm,0.7s,mb5.2
LBMI Labuha 55.74 286 P **P 05 45 35.8 +2.7**
2μm113nm,0.7s,mb5.2
TNTI Ternate 56.53 288 P **P 05 45 38.6 +0.1**
137nm,1.0s,mb5.1
MMRI Maumere 57.10 275 P **P 05 45 41.5 -0.9**
92nm,0.8s,mb5.1
WSI Waingapu 58.50 273 P **P 05 45 50.8 -1.1**
576nm,0.8s,mb5.8
KDI Kendari 58.63 280 P **P 05 45 51.6 -1.2**
666nm32nm,1.0s,mb4.5
LUWI Luwuk 59.76 283 P **P 05 45 59.4 -1.0**
108nm,0.9s,mb5.2
LUWI Luwuk 59.76 283 P **P 05 46 00.6 +0.2**
108nm,0.9s,mb5.2
GTOI Gorontalo 60.30 285 P **P 05 46 04.3 +0.3**
1μm147nm,0.8s,mb5.4
GTOI Gorontalo 60.30 285 P **P 05 46 04.7 +0.7**
1μm147nm,0.8s,mb5.4
BKSI Bulukumba 60.33 278 P **P 05 46 03.1 -1.1**
544nm67nm,0.7s,mb5.1
BKSI Bulukumba 60.33 278 P **P 05 46 03.7 -0.5**
545nm67nm,0.7s,mb5.1
BNSI Bone 60.72 278 P **P 05 46 06.4 -0.4**
662nm62nm,0.8s,mb5.0
BNSI Bone 60.72 278 P **P 05 46 07.3 +0.5**
664nm62nm,0.8s,mb5.0
MRSI Marisa 61.18 284 P **P 05 46 08.5 -1.3**
1μm40nm,0.7s,mb4.9
MRSI Marisa 61.18 284 P **P 05 46 09.0 -0.8**
1μm41nm,0.7s,mb4.9
TTSI Tana Toraja 61.55 280 P **P 05 46 11.7 -0.5**
1μm22nm,1.1s,mb4.5
TTSI Tana Toraja 61.55 280 P **P 05 46 12.5 +0.3**
CBIJ Chichi jima 62.20 322 P **P 05 46 14.8 -1.3**
69nm,0.5s,mb5.4,baz=274,slow=22,SNR=12
CBIJ Chichi jima 62.20 322 P **P 05 46 14.8 -1.3**
MTNI Mataram 62.66 272 P **P 05 46 19.5 +0.1**
MTNI Mataram 62.66 272 P **P 05 46 18.2 -1.2**
82nm,0.8s,mb5.2
QSPA South Pole Qui 66.56 180 P **P 05 46 44.4 +1.5**
30nm,0.6s,mb5.0,baz=25,slow=1.5,SNR=95
QSPA South Pole Qui 66.56 180 P **P 05 46 44.4 +1.5**
PWJI Pagerwojo 66.90 271 P **P 05 46 45.9 -0.3**
PWJI Pagerwojo 66.90 271 P **P 05 46 44.6 -1.6**
59nm,0.7s,mb5.2
SJI Sawahan 67.04 271 P **P 05 46 50.2 +3.1**
SJI Sawahan 67.04 271 P **P 05 46 47.0 -0.1**
8μm52nm,0.6s,mb5.2
PCJI Pacitan 67.41 271 P **P 05 46 49.5 +0.2**
PCJI Pacitan 67.41 271 P **P 05 46 49.0 -0.3**
272nm,0.8s,mb5.8
STKI Sintang 70.41 279 P **P 05 47 06.8 -0.6**
46nm,0.9s,mb5.0
JOW Kunigami 70.75 312 P **P 05 47 09.1 -0.1**
44nm,0.6s,mb5.1,baz=231,slow=4.4,SNR=3.9
JOW Kunigami 70.75 312 P **P 05 47 09.1 -0.1**
MJAR Matsushiro Arr 71.60 326 P **P 05 47 13.4 -0.4**
8.9nm,0.7s,mb4.3,baz=166,slow=6.0,SNR=13
MJAR Matsushiro Arr 71.60 326 P **P 05 47 13.4 -0.4**
MAT Matsushiro 71.60 326 P **P 05 47 13.5 -0.4**
KSM Kuching 72.06 280 *eP* **P 05 47 17.5 +0.4**
38nm,0.7s,mb4.9
CGJI Cibinong 73.04 270 P **P 05 47 21.3 -1.4**
CGJI Cibinong 73.04 270 P **P 05 47 20.2 -2.5**
NACB Ninganchiao 73.90 306 *eP* **P 05 47 26.9 -0.5**
127nm,1.4s,mb5.2
ASAJ Asahikawa 75.54 333 P **P 05 47 36.9 +0.8**
14nm,0.8s,mb4.5,baz=217,slow=6.2
ASAJ Asahikawa 75.54 333 P **P 05 47 36.9 +0.8**
KSRS Korea Array 77.97 320 P **P 05 47 50.2 +0.7**
4.2nm,0.7s,mb3.9,baz=136,slow=5.7,SNR=9.2
KSAR Wonju Array Be 77.98 320 P **P 05 47 50.2 +0.6**
PETK Petropavlovsk- 78.74 346 P **P 05 47 53.1 -0.2**
9.7nm,0.7s,mb4.3,baz=141,slow=8.2,SNR=7.5
PETK Petropavlovsk- 78.74 346 P **P 05 47 53.1 -0.2**
USRK Ussuriysk Arra 80.45 327 P **P 05 48 03.4 +0.9**
4.7nm,0.6s,mb4.0,baz=137,slow=4.8,SNR=11
IPM Ipoh 81.72 279 *eP* **P 05 48 10.2 +0.3**
MDJ Mudanjiang 81.96 326 P **P 05 48 10.8 +0.5**
MDJ sP sP 05 50 56.8 -1.0
MDJ PP PP 05 51 26.8 -1.1
MDJ S S 05 57 33.5 -7.2
MDJ pmax pmax
comp=Z,15nm,1.4s,mb4.2
MDJ pmax pmax
comp=Z,71nm,5.2s
PASC Pasadena Art C 82.08 48 *eP* **P 05 48 11.2 0.0**
comp=Z,43nm,0.9s,mb4.9
MWC Mount Wilson 82.20 48 *eP* **P 05 48 11.7 -0.1**
comp=Z,19nm,1.2s,mb4.4
BAR Barrett 82.28 49 *eP* **P 05 48 12.2 -0.1**
comp=Z,15nm,1.5s,mb4.2
ISA Isabella 82.75 46 *eP* **P 05 48 14.8 +0.2**
comp=Z,18nm,0.8s,mb4.7
WHN Wuhan 82.78 308 P **P 05 48 15.6 +0.7**
CMB Columbia Colle 82.92 43 *eP* **P 05 48 15.3 -0.1**
comp=Z,16nm,0.8s,mb4.6
PFO Pinyon Flat Ob 82.94 49 *eP* **P 05 48 14.7 -0.9**
comp=Z,13nm,1.5s,mb4.2
WDC Whiskeytown Da 83.16 40 *eP* **P 05 48 16.7 +0.2**
comp=Z,128nm,2.7s,mb5.0
SYO Syowa Base 83.38 193 ||*eP* **P 05 48 15.0 -2.2**
CN2 Changchun 83.60 324 *eP* **P 05 48 19.1 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
GSC Goldstone 83.66 47 *eP* **P 05 48 19.0 -0.1**
comp=Z,18nm,1.0s,mb4.5
MTUM Tungsten Hills 83.68 45 *eP* **P 05 48 19.7 +0.6**
GLA Glamis 83.77 50 *eP* **P 05 48 20.3 +0.5**
comp=Z,25nm,0.8s,mb4.8
NVAR Mina Array Bea 84.47 44 P **P 05 48 23.0 0.0**
comp=Z,4.4nm,0.7s,mb4.1,baz=221,slow=8.0,SNR=24
NVAR pP pP 05 50 18.2 +0.6
comp=Z,0.4nm,0.7s,baz=235,slow=3.2,SNR=1.9
NVAR Mina Array Bea 84.47 44 P **P 05 48 23.0 0.0**
NVAR pP pP 05 50 18.2 +0.6
LDFC Landfair 84.69 48 *eP* **P 05 48 24.8 +0.6**
comp=Z,35nm,0.8s,mb4.9
SNAA Sanae 85.04 179 *e* **P 05 48 24.6 -0.7**
SNAA Sanae 85.04 179 *eP* **P 05 48 24.3 -1.0**
comp=Z,4.3nm,0.4s,mb4.3
VNA3 Neumayer Olymp 85.25 177 *e* **P 05 48 25.9 -0.4**
VNA3 *e* 05 48 28.0
MOD Modoc 85.31 40 *eP* **P 05 48 27.3 +0.3**
VNA2 Neumayer--Watz 85.67 178 *e* **P 05 48 28.2 -0.2**
VNA2 *e* 05 48 29.8
VNA1 Neumayer--Stat 85.90 177 *e* **P 05 48 31.6 +2.1**
TUC Tucson 86.28 52 *eP* **P 05 48 32.8 +0.9**
GYA Guiyang 86.57 301 *eP* **P 05 48 34.0 +0.6**
GYA pP pP 05 50 31.3 +2.5
GYA sP sP 05 51 23.4 +1.3
GYA PP PP 05 52 08.8 +3.6
GYA SKS 05 58 10.6
GYA S S 05 58 26.5 +0.2
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
CCUT Cedar City 87.21 47 *eP* **P 05 48 37.1 +0.9**
ARUT Antelope Range 87.29 47 *eP* **P 05 48 37.1 +0.6**
comp=Z,4.5nm,0.9s,mb4.1
WUAZ Wupatki 87.50 49 *eP* **P 05 48 38.2 +0.6**
comp=Z,7.7nm,1.0s,mb4.4
ELK Elko 87.73 43 *eP* **P 05 48 38.5 0.0**
RSW Rattlesnake Hi 88.43 37 *eP* **P 05 48 41.9 +0.3**
comp=Z,5.0nm,0.4s,mb4.6
HAWA Hanford 88.46 37 *eP* **P 05 48 42.2 +0.4**
comp=Z,17nm,1.0s,mb4.7
PLCA Paso Flores 88.51 134 P **P 05 48 41.9 -0.5**
comp=Z,6.0nm,0.8s,mb4.5,baz=229,slow=6.9,SNR=5.5
PLCA Paso Flores 88.51 134 P **P 05 48 41.9 -0.5**
MSU Marysvale 88.52 47 *eP* **P 05 48 43.4 +1.1**
XAN Xi'an 88.52 308 P **P 05 48 43.3 +0.9**
XAN pP pP 05 50 40.8 +2.5
XAN sP sP 05 51 35.5 +4.0
XAN pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
XAN pmax pmax
comp=Z,71nm,6.4s
RPW Rockport 88.66 35 *eP* **P 05 48 42.5 -0.1**
ETW Entiat 88.76 36 *eP* **P 05 48 43.4 +0.3**
MFID Camas Ranch 88.87 41 *eP* **P 05 48 43.6 -0.2**
comp=Z,20nm,1.1s,mb4.9
DUG Dugway 88.99 45 *eP* **P 05 48 45.0 +0.6**
KMI Kunming 89.10 298 P **P 05 48 43.9 -1.4**
KMI pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CMAR Chiang Mai Arr 89.41 290 P **P 05 48 48.2 +1.4**
comp=Z,5.7nm,0.9s,mb4.4,baz=135,slow=3.3,SNR=33
CMAR pP pP 05 50 45.6 +2.6
comp=Z,0.3nm,0.3s,baz=122,slow=3.4,SNR=1.4
CMAR PP PP 05 52 30.7 +2.9
comp=Z,1.4nm,0.8s,baz=127,slow=7.6,SNR=6.2
CMAR Chiang Mai Arr 89.41 290 P **P 05 48 48.2 +1.4**
CMAR pP pP 05 50 45.6 +2.6
CMAR PP PP 05 52 30.7 +2.9
OD2 Odessa Site #2 89.51 37 *eP* **P 05 48 46.7 +0.1**
CHTO Chiang Mai 89.56 291 *eP* **P 05 48 48.8 +1.3**
TMUT Trail Mountain 89.57 46 *eP* **P 05 48 48.0 +0.9**
comp=Z,20nm,0.6s,mb5.1
MPU Maple Canyon 89.66 46 *eP* **P 05 48 48.5 +1.0**
HLID Hailey 89.80 41 *eP* **P 05 48 48.2 +0.1**
comp=Z,7.6nm,1.0s,mb4.5
HVU Hansel Valley 89.86 44 *eP* **P 05 48 48.1 -0.3**
comp=Z,10nm,0.6s,mb4.8
SRU San Rafael 89.93 47 *eP* **P 05 48 48.8 0.0**
comp=Z,12nm,0.5s,mb5.0
LENM Lemitar 89.97 52 *eP* **P 05 48 49.3 +0.2**
MNTX Cornudas Mount 89.99 55 *eP* **P 05 48 49.3 +0.1**
comp=Z,3.7nm,0.8s,mb4.3
JLU Jordanelle 90.09 45 *eP* **P 05 48 49.5 0.0**
comp=Z,4.6nm,0.6s,mb4.5
HHC Hu-ho-hao-te 90.17 315 *eP* **P 05 48 50.8 +1.0**
HHC pP pP 05 50 50.4 +4.3
HHC sP sP 05 51 43.5 +4.4
HHC PP PP 05 52 36.8 +3.5
HHC SKS 05 58 30.0
HHC S S 05 58 57.9 -0.8
HHC sS sS 06 02 30.3 +3.9
HHC SS SS 06 05 20.0 +5.6
HHC pmax pmax
comp=Z,22nm,1.2s,mb4.9
HHC pmax pmax
comp=Z,130nm,4.8s
BNM Barren Site 90.21 53 *eP* **P 05 48 50.3 0.0**
comp=Z,2.7nm,0.7s,mb4.2
TXAR Lajitas Array 90.22 58 P **P 05 48 50.7 +0.3**
comp=Z,8.4nm,0.7s,mb4.7,baz=214,slow=6.5,SNR=94
TXAR Lajitas Array 90.22 58 P **P 05 48 50.7 +0.4**
HWUT Hardware Ranch 90.53 44 *eP* **P 05 48 51.1 -0.4**
comp=Z,6.5nm,0.6s,mb4.7
ANMO Albuquerque 90.71 52 P **P 05 48 52.5 0.0**
comp=Z,5.1nm,0.8s,mb4.5,baz=216,slow=5.1,SNR=16
ANMO Albuquerque 90.71 52 P **P 05 48 52.5 0.0**
CD2 Chengdu 90.89 303 *eP* **P 05 48 56.3 +2.9**
CD2 pP pP 05 50 50.1 +0.3
CD2 sP sP 05 51 40.5 -2.3
CD2 PP PP 05 52 43.8 +4.7
CD2 SKS 05 58 38.9
CD2 S S 05 59 08.0 +2.4
CD2 sS sS 06 02 29.9 -3.8
CD2 SS SS 06 05 30.8 +5.7
CD2 pmax pmax
comp=Z,20nm,1.6s,mb4.8
CD2 pmax pmax
comp=Z,30nm,5.8s
ILAR Eielson Array 91.66 14 P **P 05 48 54.0 -2.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=212,slow=6.1,SNR=7.1
ILAR Eielson Array 91.66 14 P **P 05 48 54.0 -2.2**
REDW Red Top Meadow 91.89 43 *eP* **P 05 48 58.0 +0.3**
LOHW Long Hollow 92.18 43 *eP* **P 05 48 59.0 -0.1**
comp=Z,1.8nm,0.5s,mb4.4
SMCO Snowmass 92.36 48 *eP* **P 05 48 59.9 -0.2**
comp=Z,3.8nm,0.8s,mb4.5
PDAR Pinedale Array 92.41 44 P **P 05 48 59.6 -0.5**
comp=Z,3.8nm,0.6s,mb4.6,baz=213,slow=3.8,SNR=28
PDAR PP PP 05 52 46.5 -4.2
comp=Z,0.8nm,0.9s,baz=233,slow=7.2,SNR=5.8
PDAR Pinedale Array 92.41 44 P **P 05 48 59.6 -0.5**
PDAR PP PP 05 52 46.5 -4.2
BOZ Bozeman (W) 92.60 41 *eP* **P 05 49 00.8 -0.1**
comp=Z,1.6nm,0.8s,mb4.1
SONM Songino Array 96.83 319 P **P 05 49 19.5 -0.5**
comp=Z,0.4nm,0.5s,mb3.9,baz=108,slow=4.7,SNR=2.9
SONM PP PP 05 53 27.8 +3.4
comp=Z,2.0nm,1.1s,baz=112,slow=6.2,SNR=5.9
SONM PKKPbc PKKPbc 06 05 59.4 -1.3
comp=Z,1.0nm,0.6s,baz=285,slow=2.8,SNR=6.5
SONM Songino Array 96.83 319 P **P 05 49 19.5 -0.5**
SONM PP PP 05 53 27.8 +3.4
SONM PKKPbc PKKPbc 06 05 59.4 -1.3
INK Inuvik 97.66 16 P **P 05 49 20.9 -2.4**
comp=Z,0.4nm,0.6s,mb4.0,baz=0.0,slow=4.0,SNR=3.5
INK Inuvik 97.66 16 P **P 05 49 20.9 -2.4**
YKA Yellowknife Ar 100.02 25 P Pdif 05 49 33.0 -1.4
comp=Z,0.1nm,0.6s,baz=242,slow=4.7,SNR=5.4
YKA Yellowknife Ar 100.02 25 P Pdif 05 49 33.0 -1.4
ZALV Zalesovo Beam 111.67 321 SKP 05 57 03.2
comp=Z,0.8nm,0.5s,baz=215,slow=1.4,SNR=4.6
MKAR Makanchi Array 111.91 313 SKP 05 57 04.7
comp=Z,1.0nm,0.7s,baz=64,slow=2.8,SNR=4.8
MKAR PKKPab PKKPab 06 05 24.8 +0.3
comp=Z,1.0nm,0.5s,baz=258,slow=2.2,SNR=7.4
KURK Kurchatov 114.94 317 PP PP 05 55 30.5 -5.2
comp=Z,0.5nm,0.3s,baz=92,slow=6.8,SNR=4.5
KURK SKP 05 57 10.8
comp=Z,0.3nm,0.3s,baz=96,slow=1.9,SNR=4.5
KURK Kurchatov 114.94 317 PP PP 05 55 30.5 -5.2
KURK SKP 05 57 10.8
BVAR Borovoye Array 120.17 319 PKP PKPdf 05 54 35.7 -0.9
comp=Z,0.4nm,0.3s,baz=129,slow=1.0,SNR=5.1
BVAR PP PP 05 56 08.5 -2.8
comp=Z,0.7nm,0.7s,baz=104,slow=6.1,SNR=2.6
BVAR SKP 05 57 21.4
comp=Z,1.6nm,0.8s,baz=96,slow=3.0,SNR=5.1
BVAR Borovoye Array 120.17 319 PKP PKPdf 05 54 35.7 -0.9
BVAR PP PP 05 56 08.5 -2.8
BVAR SKP 05 57 21.4
ARCES ARCESS Array B 131.52 348 PKP PKPdf 05 54 56.6 -1.2
comp=Z,1.0nm,0.5s,baz=73,slow=1.6,SNR=12
ARCES SKPbc SKPbc 05 57 33.0 -1.0
comp=Z,6.8nm,0.9s,baz=46,slow=6.9,SNR=6.6
ARCES ARCESS Array B 131.52 348 PKP PKPdf 05 54 56.6 -1.2
ARCES SKPbc SKPbc 05 57 33.0 -1.0
FINES FINESS Array B 138.10 342 PKhKP PKPpre 05 55 00.1
comp=Z,6.9nm,1.0s,baz=54,slow=3.3,SNR=7.2
FINES SKPbc SKPbc 05 57 53.7 -1.2
comp=Z,5.3nm,0.6s,baz=34,slow=3.0,SNR=13
NOA NORSAR Array B 141.71 351 SKP 05 58 01.8
comp=Z,2.5nm,0.7s,baz=14,slow=4.2,SNR=4.9
AKASG Malin Array Be 144.66 328 PKP PKPdf 05 55 21.1 -1.2
comp=Z,5.4nm,0.4s,baz=45,slow=4.3,SNR=27
AKASG SKPbc SKPbc 05 58 10.8 -1.0
comp=Z,7.2nm,0.8s,baz=48,slow=2.3,SNR=16
AKASG Malin Array Be 144.66 328 PKP PKPdf 05 55 21.1 -1.2
AKASG SKPbc SKPbc 05 58 10.8 -1.0
KIEV Kiev 144.68 328 *e*PKPdf PKPdf 05 55 21.3 -0.9
BR131 Keskin Array S 147.36 308 *e*PKPbc PKPbc 05 55 30.0 -0.4
BR131 *e*PKPab PKPab 05 55 34.0 -0.1
BRTR Keskin Array B 147.36 308 PKP PKPdf 05 55 29.3 +2.1
comp=Z,6.1nm,0.6s,baz=146,slow=4.2,SNR=18
BRTR PKPbc PKPbc 05 55 34.0 +3.6
comp=Z,2.2nm,0.9s,baz=57,slow=2.9,SNR=4.1
BRTR pPKPbc pPKPbc 05 57 33.0 +0.4
comp=Z,1.2nm,0.9s,baz=46,slow=4.2,SNR=3.2
BRTR Keskin Array B 147.36 308 PKP PKPdf 05 55 29.3 +2.1
BRTR PKPbc PKPbc 05 55 34.0 +3.6
BRTR pPKPbc pPKPbc 05 57 33.0 +0.4
BUR08 Bucovina Ar. S 148.66 326 *e*PKPdf PKPdf 05 55 28.8 -0.2
BUR08 *e*PKPbc PKPbc 05 55 34.5 +1.0
BUR08 *e*PKPab PKPab 05 55 39.0 -0.1
CRVS Cervenica-Dubn 149.54 332 *e*PKP PKPab 05 55 42.7 -0.1
KSP Ksiaz 149.94 339 *e*PKPbc PKPbc 05 55 36.4 0.0
OKC Ostrava-Krasne 150.14 336⇑*e*PKP PKPbc 05 55 38.6 +1.7
KECS Kecovo 150.28 332 *e*PKP PKPab 05 55 45.6 -0.3
DPC Dobruska-Polom 150.36 339⇑*e*PKP PKPbc 05 55 37.5 +0.1
DPC *e*PKPAB PKPab 05 55 46.5 +0.4
CLL Collm 150.50 343⇑*i*PKPbc PKPbc 05 55 37.1 -0.6
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 150.64 342 *i* PKP PKPbc 05 55 37.9 -0.1
comp=Z,3.7nm,0.6s
BRG *i* 05 55 46.8
comp=Z,7.0nm,0.8s
BRG *e*pPKP pPKPdf 05 57 47.6 +11
comp=Z,11nm,1.3s
VYHS Vyhne 150.96 334 *e*PKP PKPab 05 55 48.8 +0.1
KHC Kasperske Hory 152.29 341 *e*PKPAB PKPab 05 55 54.5 +0.2
KHC *e*pPKP pPKPdf 05 57 46.5 +7.6
GERES GERESS Array B 152.51 340 PKPab PKPab 05 55 55.3 0.0
comp=Z,0.5nm,0.5s,baz=24,slow=5.4,SNR=3.1
GERES GERESS Array B 152.51 340 PKPab PKPab 05 55 55.3 0.0
CONA Conrad Observa 152.57 337⇑*i*PKPab PKPab 05 55 56.1 +0.5
comp=Z,4.8nm,0.7s
PERS Pernice 153.93 336 *i* PKPdf PKPab 05 56 00.8 -0.6
PDKS Podkum 154.46 335 *i* PKPdf PKPab 05 56 03.0 -0.7
WTTA Wattenberg 154.55 341 ||*i*PKPab PKPab 05 56 04.1 +0.1
comp=Z,3.5nm,0.5s
MOTA Moosalm 154.63 342⇑*i*PKPab PKPab 05 56 03.5 -0.8
comp=Z,1.8nm,0.4s
VISS Visnje 154.73 335 *i* PKPdf PKPab 05 56 04.0 -0.8
BOJS Bojanci 154.82 334 *i* PKPdf PKPab 05 56 04.6 -0.6
DBIC Dimbokro 162.60 164 PKP PKPdf 05 55 47.5 -0.8
comp=Z,2.6nm,0.7s,baz=37,slow=5.2,SNR=3.9
DBIC PKPab PKPab 05 56 39.8 0.0
comp=Z,10.0nm,1.1s,baz=218,slow=1.8,SNR=5.1
DBIC Dimbokro 162.60 164 PKP PKPdf 05 55 47.5 -0.8
DBIC PKPab PKPab 05 56 39.8 0.0
TORD Torodi Ar. Bea 169.56 189 PKP PKPdf 05 55 52.1 -1.4
comp=Z,2.8nm,1.1s,baz=12,slow=0.4,SNR=9.2
TORD PKPab PKPab 05 57 10.3 -0.1
comp=Z,3.8nm,0.9s,baz=178,slow=4.6,SNR=18
TORD PP PP 06 00 58.4 -1.4
comp=Z,1.3nm,1.0s,baz=189,slow=3.5,SNR=3.5
TORD Torodi Ar. Bea 169.56 189 PKP PKPdf 05 55 52.1 -1.4
TORD PKPab PKPab 05 57 10.3 -0.1
TORD PP PP 06 00 58.4 -1.4

ISCJB 22 05:50:15.8±0.6, 43°.85N±0°.04×17°.24E±0°.04, h10km, Error ellipse: s-maj=5.7km s-min=3.7km az=37.2
BEO 22 05:50:16.0±0.8, 43°.85N×17°.10E, h0km, ML2.5/3
CSEM 22 05:50:16.4±0.5, 43°.87N×17°.34E, h2km, ML2.5, Error ellipse: s-maj=12.5km s-min=7.2km az=36.0
ISC 22 05:50:16.8±0.7, 43°.85N±0°.04×17°.21E±0°.05, h11km±12km, n13, σ1°.16/25, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.90**	**359**	*e*Pg	**Pg**	**05 50 33.6**	**-0.6**
BLY				*e*Sg	**Sg**	**05 50 45.1**	**-0.8**
BLY	**Banja Luka**	**0.90**	**359**	*e*Pg	**Pg**	**05 50 33.6**	**-0.6**
BLY				*e*Sg	**Sg**	**05 50 45.1**	**-0.8**
STON	**Ston**	**1.04**	**160**	⇑*i*Pg	**Pg**	**05 50 34.5**	**-2.3**
STON				Sg	**Sg**	**05 50 51.0**	**+0.7**
NVLJ	**Novalja**	**1.83**	**294**	*i* Pn	**Pb**	**05 50 50.4**	**+0.2**
NVLJ				Sg	**Sg**	**05 51 17.1**	**+1.5**
NVLJ	**Novalja**	**1.83**	**294**	*i* Pn	**Pb**	**05 50 50.4**	**+0.2**
NVLJ				Sg	**Sg**	**05 51 17.1**	**+1.5**
DIVS	**Divibare**	**2.02**	**82**	*e*Pg	**Pb**	**05 50 54.1**	**+0.6**
DIVS				*e*Sg	**Sg**	**05 51 23.4**	**+1.6**
DIVS	**Divibare**	**2.02**	**82**	*e*Pg	**Pb**	**05 50 54.1**	**+0.6**
DIVS				*e*Sg	**Sg**	**05 51 23.4**	**+1.6**
PDG	**Podgorica**	**2.06**	**133**	*e*Pg	**Pb**	**05 50 53.9**	**-0.3**
PDG				*e*Sg	**Sg**	**05 51 23.4**	**+0.4**
PDG	**Podgorica**	**2.06**	**133**	*e*Pg	**Pb**	**05 50 53.9**	**-0.3**
IVAS	**Ivanjica**	**2.15**	**96**	*e*Pg	**Pg**	**05 50 56.8**	**-1.2**
IVAS				*e*Sg	**Sg**	**05 51 24.7**	**-1.1**
IVAS	**Ivanjica**	**2.15**	**96**	*e*Pg	**Pg**	**05 50 56.8**	**-1.2**
IVAS				*e*Sg	**Sg**	**05 51 24.7**	**-1.1**
GRUS	**Gruza**	**2.53**	**88**	*e*Pg	**Pb**	**05 51 01.5**	**-0.7**
GRUS				*e*Sg	**Sg**	**05 51 40.4**	**+2.2**
GRUS	**Gruza**	**2.53**	**88**	*e*Pg	**Pb**	**05 51 01.5**	**-0.7**
GRUS				*e*Sg	**Sg**	**05 51 40.4**	**+2.2**

BJI 22 06:05:59.9, 30°.60S×175°.60W, h10km, mB5.7/2, mb5.3/6
IDC 22 06:06:06.0±0.5, 30°.27S×176°.64W, h0km, mb4.8/14, mb1 5.0/14, mb1mx4.8/18, mbtmp4.8/14, MS3.8/11, Ms1 3.8/11, ms1mx3.6/22, Error ellipse: s-maj=22.8km s-min=18.5km az=129.0
NEIC 22 06:06:07.1±0.3, 30°.48S×176°.65W, h10km, mb5.0/10, Error ellipse: s-maj=11.3km s-min=8.5km az=118.0
ISCJB 22 06:06:09.1±0.4, 30°.73S±0°.04×176°.69W±0°.08, h33km, mb4.9/26, MS3.9/9, Error ellipse: s-maj=10.3km s-min=5.4km az=19.7
ISC 22 06:06:10.9±0.4, 30°.69S±0°.04×176°.63W±0°.08, h35km, (h36km±.2km:pP-P), n138, σ1°.21/86, mb4.9/26, MS3.9/9, 2C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.81**	**322**	*e*Pn	**Pn**	**06 06 36.2**	**-3.5**
RAO				*e*Sn	**Sn**	**06 06 53.7**	**-7.7**
PUZ	**Puketiti**	**8.49**	**208**	PN	**Pn**	**06 08 10.4**	**-1.0**
PUZ				*e*SN	**Sn**	**06 09 47.4**	**+1.5**
URZ	**Urewera**	**9.15**	**213**	Pn	**Pn**	**06 08 19.1**	**-1.3**
3.1nm,0.3s,baz=36,slow=8.5,SNR=16							
URZ				Sn	**Sn**	**06 10 03.5**	**+1.4**
7.4nm,0.3s,baz=157,slow=14,SNR=7.7							
URZ				LR	LR	06 11 30.0	
comp=Z,266nm,21.5s,baz=29,slow=34							
URZ	**Urewera**	**9.15**	**213**	Pn	**Pn**	**06 08 19.1**	**-1.3**
URZ				*e*Pn	**Pn**	**06 08 23.0**	**+2.6**
URZ				Sn	**Sn**	**06 10 03.5**	**+1.4**
URZ				*e*Sn	**Sn**	**06 10 03.9**	**+1.8**
BFZ	**Birch Farm**	**11.53**	**208**	*e*SN	**Sn**	**06 10 55.6**	**-4.8**
MRZ	**Mangatainoka R**	**11.79**	**210**	PN	**Pn**	**06 08 52.4**	**-4.2**
MRZ				SN	**Sn**	**06 11 02.2**	**-4.7**
CTZ	**Chatham Island**	**13.03**	**180**	PN	**Pn**	**06 09 12.6**	**-0.8**
CTZ				*e*SN	**Sn**	**06 11 24.8**	**-12**
MSVF	**Nonsavu**	**13.77**	**338**	*e*Pn	**Pn**	**06 09 18.6**	**-5.2**
8.5nm,0.7s							
THZ	**Tophouse**	**13.90**	**214**	PN	**Pn**	**06 09 24.2**	**-1.2**
THZ				*e*SN	**Sn**	**06 11 49.9**	**-8.4**
KHZ	**Kahutara**	**14.11**	**211**	*e*Pn	**Pn**	**06 09 27.0**	**-1.2**
37nm,0.8s							
KHZ				*e*Sn	**Sn**	**06 12 00.0**	**-3.5**
RPZ	**Rata Peaks**	**16.27**	**214**	Pn	**Pn**	**06 09 52.8**	**-3.9**
3.9nm,0.3s,baz=311,slow=1.2,SNR=15							
RPZ				Sn	**Sn**	**06 12 45.9**	**-10**
0.7nm,0.3s,baz=317,slow=18,SNR=3.6							
RPZ	**Rata Peaks**	**16.27**	**214**	*e*Pn	**Pn**	**06 09 53.9**	**-2.7**
20nm,0.5s							
RPZ				Sn	**Sn**	**06 12 45.9**	**-10**
RPZ				*e*Sn	**Sn**	**06 12 54.6**	**-1.3**
AFI	**Afiamalu**	**17.29**	**16**	Pn	**Pn**	**06 09 58.9**	**-11**
2.5nm,0.3s,baz=264,slow=10,SNR=4.5							
AFI				Sn	Sn	06 12 54.3	-27
2.3nm,0.3s,baz=39,slow=19,SNR=3.6							
AFI	**Afiamalu**	**17.29**	**16**	Pn	**Pn**	**06 09 58.9**	**-11**
AFI				Sn	Sn	06 12 54.3	-27
DZM	**Mont Dzumac**	**17.41**	**295**	*e*P	**Pn**	**06 10 12.8**	**+1.7**
139nm,1.1s							
DZM				*e*LR	LR	06 14 08.9	
1μm,26.9s							
DZM	**Mont Dzumac**	**17.41**	**295**	*e*P	**Pn**	**06 10 13.2**	**+2.1**
DZM	**Mont Dzumac**	**17.41**	**295**	P	**Pn**	**06 10 12.1**	**+1.0**
2.3nm,0.3s,baz=100,slow=16,SNR=25							
DZM				LR	LR	06 15 30.7	
comp=Z,475nm,19.6s,baz=208,slow=33							
DZM	**Mont Dzumac**	**17.41**	**295**	*e*P	**Pn**	**06 10 13.5**	**+2.4**
41nm,0.8s							
NOUC	**Port Laguerre**	**17.50**	**295**	*e*P	**Pn**	**06 10 12.5**	**+0.2**
TBI	**Tubuai**	**25.24**	**80**	*e*LQ		06 16 15.1	
480nm,29.0s							
TBI				*e*LR	LR	06 17 33.9	
783nm,29.2s,baz=253							
ARMA	**Armidale**	**27.29**	**262**	*e*P	**P**	**06 11 56.0**	**+3.8**
PPT2	**Papeete2**	**27.83**	**68**	*e*LR	LR	06 18 38.9	
586nm,27.5s,baz=237							
HNR	**Honiara**	**30.39**	**309**	LR	LR	06 22 24.5	
comp=Z,122nm,18.6s,MS3.6,baz=308,slow=32							
CTA	**Charters Tower**	**35.01**	**279**	*e*P	**P**	**06 13 00.5**	**+0.2**
CTAO	**Charters Tower**	**35.01**	**279**	*e*P	**P**	**06 13 01.2**	**+0.9**
19nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**35.57**	**257**	P	**P**	**06 13 06.4**	**+1.5**
20nm,0.8s,mb5.1,baz=95,slow=9.4,SNR=34							
STKA				LR	LR	06 25 43.3	
comp=Z,146nm,19.7s,MS3.7,baz=29,slow=33							
STKA	**Stephens Creek**	**35.57**	**257**	*e*P	**P**	**06 13 06.2**	**+1.3**
STKA	**Stephens Creek**	**35.57**	**257**	*e*P	**P**	**06 13 06.7**	**+1.7**
3.2nm,0.7s,mb4.4							
RKT	**Rikitea**	**37.74**	**89**	*e*LR	LR	06 23 11.1	
681nm,33.0s							
BBOO	**Buckleboo**	**40.03**	**254**	*e*P	**P**	**06 13 43.0**	**+0.4**
BBOO	**Buckleboo**	**40.03**	**254**	*e*P	**P**	**06 13 43.2**	**+0.6**
597nm,0.8s							
TAOE	**Nuku Hiva Isla**	**40.34**	**65**	*e*LR	LR	06 24 24.3	
329nm,27.3s							
AS31	**Alice Springs**	**44.27**	**267**	*e*P	**P**	**06 14 17.7**	**+0.4**
ASAR	**Alice Springs**	**44.27**	**267**	P	**P**	**06 14 16.7**	**-0.6**
9.3nm,0.8s,mb4.6,baz=103,slow=7.4,SNR=56							
ASAR				PcP	PcP	06 16 02.2	+0.8
4.5nm,0.8s,baz=118,slow=4.6,SNR=9.1							
ASAR	**Alice Springs**	**44.27**	**267**	P	**P**	**06 14 16.7**	**-0.6**
ASAR				PcP	PcP	06 16 02.2	+0.8
WB2	**Warramunga Arr**	**45.28**	**272**	*e*P	**P**	**06 14 24.8**	**-0.6**
WRAB	**Tennant Creek**	**45.28**	**272**	*e*P	**P**	**06 14 24.8**	**-0.6**
42nm,0.8s,mb5.3							
WRA	**Warramunga Arr**	**45.29**	**272**	P	**P**	**06 14 24.4**	**-1.0**
50nm,0.8s,mb5.4,baz=112,slow=7.7,SNR=158							
WRA				PcP	PcP	06 16 05.7	+0.7
3.8nm,0.8s,baz=112,slow=3.3,SNR=4.4							
WRA				LR	LR	06 33 55.7	
comp=Z,254nm,19.2s,MS4.2,baz=110,slow=37							
WRA	**Warramunga Arr**	**45.29**	**272**	P	**P**	**06 14 24.4**	**-1.0**
WRA				PcP	PcP	06 16 05.7	+0.7
FORT	**Forrest**	**47.12**	**255**	*e*P	**P**	**06 14 39.3**	**-0.4**
FORT	**Forrest**	**47.12**	**255**	*e*P	**P**	**06 14 39.3**	**-0.4**
41nm,0.7s,mb5.5							
KMBL	**Kambalda**	**52.06**	**252**	*e*P	**P**	**06 15 17.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.54**	**269**	*e*P	**P**	**06 15 28.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**53.54**	**269**	*e*P	**P**	**06 15 29.0**	**+0.5**
29nm,0.9s,mb5.2							
KLBR	**Kellerberrin**	**55.37**	**251**	*e*P	**P**	**06 15 41.6**	**0.0**
59nm,1.5s,mb5.4							
QSPA	**South Pole Qui**	**59.43**	**180**	P	**P**	**06 16 13.7**	**+4.2**
12nm,0.8s,mb5.0,baz=33,slow=2.3,SNR=30							
QSPA	**South Pole Qui**	**59.43**	**180**	P	**P**	**06 16 13.7**	**+4.2**
MAW	**Mawson**	**72.45**	**200**	P	**P**	**06 17 36.7**	**+3.3**
7.6nm,1.1s,mb4.6,baz=142,slow=17,SNR=4.3							
MAW	**Mawson**	**72.45**	**200**	P	**P**	**06 17 36.7**	**+3.3**
SNAA	**Sanae**	**77.83**	**178**	*e*	**P**	**06 18 06.5**	**+2.2**
SNAA				*e*	pP	06 18 16.9	+1.6
SNAA	**Sanae**	**77.83**	**178**	*e*P	**P**	**06 18 06.3**	**+2.0**
11nm,1.0s,mb4.7							
VNA3	**Neumayer Olymp**	**77.94**	**176**	*e*	**P**	**06 18 06.8**	**+1.9**
VNA3				*e*	pP	06 18 17.4	+1.6
VNA2	**Neumayer--Watz**	**78.39**	**176**	*e*	**P**	**06 18 09.7**	**+2.3**
baz=179,slow=4.4							
VNA2				*e*	pP	06 18 20.3	+2.0
VNA1	**Neumayer--Stat**	**78.61**	**176**	*e*	**P**	**06 18 11.2**	**+2.6**
VNA1				*e*	pP	06 18 21.9	+2.3
MJAR	**Matsushiro Arr**	**79.15**	**324**	P	**P**	**06 18 10.8**	**-1.1**
6.0nm,0.7s,mb4.6,baz=163,slow=5.8,SNR=11							
MJAR	**Matsushiro Arr**	**79.15**	**324**	P	**P**	**06 18 10.8**	**-1.1**
PLCA	**Paso Flores**	**81.45**	**132**	LR	LR	06 47 08.9	
comp=Z,91nm,18.3s,MS4.2,baz=298,slow=30							
ASAJ	**Asahikawa**	**83.24**	**332**	P	**P**	**06 18 34.5**	**+1.0**
13nm,0.8s,mb5.0,baz=178,slow=7.9,SNR=5.5							
ASAJ	**Asahikawa**	**83.24**	**332**	P	**P**	**06 18 34.5**	**+1.0**
KSRS	**Korea Array**	**85.33**	**319**	LR	LR	06 51 37.8	
comp=Z,30nm,18.9s,MS3.7,baz=115,slow=32							
PETK	**Petropavlovsk-**	**86.39**	**345**	P	**P**	**06 18 48.5**	**-0.5**
10.0nm,1.0s,mb5.0,baz=118,slow=7.4,SNR=4.9							
PETK				LR	LR	06 55 55.1	
comp=Z,34nm,19.4s,MS3.8,baz=176,slow=35							
PETK	**Petropavlovsk-**	**86.39**	**345**	P	**P**	**06 18 48.5**	**-0.5**
NJ2	**Nanjing**	**87.33**	**310**	*e*P	**P**	**06 18 54.6**	**+0.4**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.9s,mb5.0							
LDFC	**Landfair**	**87.34**	**46**	*e*P	**P**	**06 18 54.5**	**+0.3**
comp=Z,11nm,1.1s,mb5.0							
NVAR	**Mina Array Bea**	**87.65**	**42**	P	**P**	**06 18 55.1**	**-0.5**
comp=Z,2.4nm,0.9s,mb4.4,baz=220,slow=8.0,SNR=9.3							
NVAR	**Mina Array Bea**	**87.65**	**42**	P	**P**	**06 18 55.1**	**-0.5**
USRK	**Ussuriysk Arra**	**88.05**	**326**	P	**P**	**06 18 57.5**	**+0.2**
comp=Z,8.5nm,0.8s,mb5.0,baz=141,slow=3.9,SNR=17							
WHN	**Wuhan**	**89.47**	**306**	*e*P	**P**	**06 19 08.1**	**+3.7**
KDAK	**Kodiak Island**	**90.42**	**13**	P	**P**	**06 19 06.9**	**-1.2**
comp=Z,17nm,1.1s,mb5.3,baz=306,slow=8.0,SNR=3.0							
KDAK	**Kodiak Island**	**90.42**	**13**	P	**P**	**06 19 06.9**	**-1.2**
CN2	**Changchun**	**91.09**	**322**	*e*P	**P**	**06 19 11.8**	**+0.2**
CN2				pmax	pmax		
comp=Z,30nm,1.1s,mb5.5							
TXAR	**Lajitas Array**	**91.55**	**57**	P	**P**	**06 19 13.7**	**-0.4**
comp=Z,1.6nm,1.1s,mb4.3,baz=229,slow=4.8,SNR=7.0							
TXAR				LR	LR	06 55 21.5	
comp=Z,55nm,18.1s,MS4.0,baz=305,slow=32							
TXAR	**Lajitas Array**	**91.55**	**57**	P	**P**	**06 19 13.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**94.61**	**289**	P	**P**	**06 19 29.2**	**+0.8**
comp=Z,1.3nm,0.4s,mb4.7,baz=144,slow=3.2,SNR=5.0							
CMAR	**Chiang Mai Arr**	**94.61**	**289**	P	**P**	**06 19 29.2**	**+0.8**
PDAR	**Pinedale Array**	**95.53**	**43**	P	**P**	**06 19 30.8**	**-1.4**
comp=Z,0.9nm,0.9s,mb4.2,baz=221,slow=1.6,SNR=4.6							
PDAR	**Pinedale Array**	**95.53**	**43**	P	**P**	**06 19 30.8**	**-1.4**
TRF	**Thorofare Moun**	**96.12**	**12**	*e*P	**P**	**06 19 34.5**	**+0.3**
comp=Z,5.6nm,0.8s,mb5.0							
LPAZ	**La Paz**	**96.95**	**113**	LR	LR	06 54 09.1	
comp=Z,34nm,18.9s,MS3.9,baz=337,slow=30							
ILAR	**Eielson Array**	**97.94**	**12**	P	**P**	**06 19 41.1**	**-1.3**
comp=Z,1.4nm,0.8s,mb4.5,baz=221,slow=5.1,SNR=18							
ILAR	**Eielson Array**	**97.94**	**12**	P	**P**	**06 19 41.1**	**-1.3**
CPUP	**Villa Florida**	**98.88**	**128**	LR	LR	06 54 59.1	
comp=Z,66nm,20.9s,MS4.1,baz=349,slow=30							
LZH	**Lanzhou**	**99.84**	**306**	*e*P	Pdif	06 19 50.4	-1.3
LZH				pP		06 19 53.5	
LZH				sP		06 19 55.1	
LZH				pmax	pmax		
comp=Z,17nm,1.0s,mb5.4							
YKA	**Yellowknife Ar**	**105.19**	**25**	PKiKP	PKiKP	06 24 27.7	-1.1
comp=Z,0.2nm,0.7s,baz=253,slow=1.4,SNR=5.9							
YKA				PKKPbc	PKKPbc	06 35 56.3	-0.8
comp=Z,0.2nm,0.7s,baz=43,slow=3.3,SNR=6.7							
YKA	**Yellowknife Ar**	**105.19**	**25**	PKiKP	PKiKP	06 24 27.8	-1.1
YKA				PKKPbc	PKKPbc	06 35 56.4	-0.8
MKAR	**Makanchi Array**	**118.86**	**310**	PKP	PKPdf	06 24 54.5	-0.8
comp=Z,0.8nm,0.6s,baz=210,slow=1.3,SNR=8.1							
MKAR	**Makanchi Array**	**118.86**	**310**	PKP	PKPdf	06 24 54.5	-0.8
ZALV	**Zalesovo Beam**	**119.03**	**318**	PKP	PKPdf	06 24 54.2	-1.2
comp=Z,1.1nm,0.6s,baz=142,slow=1.7,SNR=7.2							
ZALV	**Zalesovo Beam**	**119.03**	**318**	PKP	PKPdf	06 24 54.2	-1.2
KURK	**Kurchatov**	**122.10**	**313**	PKP	PKPdf	06 25 00.6	-0.8
comp=Z,3.2nm,0.7s,baz=106,slow=2.2,SNR=19							
KURK	**Kurchatov**	**122.10**	**313**	PKP	PKPdf	06 25 00.6	-0.8
KURK				*e*PKPdf	PKPdf	06 25 00.7	-0.7
KKAR	**Karatay Array**	**126.22**	**303**	*e*PKPdf	PKPdf	06 25 09.7	+0.2
BVAR	**Borovoye Array**	**127.44**	**316**	PKP	PKPdf	06 25 11.5	0.0
comp=Z,3.1nm,0.7s,baz=100,slow=1.8,SNR=17							
BVAR	**Borovoye Array**	**127.44**	**316**	PKP	PKPdf	06 25 11.5	0.0
AKTO	**Aktyubinsk**	**135.17**	**312**	PKP	PKPdf	06 25 25.9	-0.3
comp=Z,2.2nm,0.7s,baz=75,slow=1.1,SNR=11							
AKTO	**Aktyubinsk**	**135.17**	**312**	PKP	PKPdf	06 25 25.9	-0.3
ARCES	**ARCESS Array B**	**139.11**	**348**	PKhKP	PKPpre	06 25 29.6	
comp=Z,2.4nm,0.6s,baz=62,slow=2.1,SNR=3.8							
ARCES	**ARCESS Array B**	**139.11**	**348**	PKPpre	PKPpre	06 25 29.6	
JOF	**Joensuu**	**143.11**	**339**	*ep*	PKPdf	06 25 35.8	-4.5
KAF	**Kangasniemi**	**145.21**	**341**	*ep*	PKPbc	06 25 41.9	-1.8
GNI	**Garni**	**145.25**	**297**	PKPbc	PKPbc	06 25 44.6	+0.1
comp=Z,7.4nm,0.5s,baz=315,slow=4.3,SNR=3.1							
GNI	**Garni**	**145.25**	**297**	PKPbc	PKPbc	06 25 44.6	+0.1
FINES	**FINESS Array B**	**145.81**	**341**	PKPbc	PKPbc	06 25 44.5	-1.1
comp=Z,19nm,0.7s,baz=66,slow=3.0,SNR=42							
FINES	**FINESS Array B**	**145.81**	**341**	PKPbc	PKPbc	06 25 44.5	-1.1
OBN	**Obninsk**	**146.08**	**326**	*e*PKPbc	PKPbc	06 25 46.3	-0.3
NB2	**NORSAR Subarra**	**149.20**	**353**	PKP	PKPbc	06 25 54.2	-0.8
comp=Z,4.5nm,0.7s,baz=9.1,slow=2.6							
NOA	**NORSAR Array B**	**149.20**	**353**	PKPbc	PKPbc	06 25 54.1	-0.8
comp=Z,8.6nm,0.8s,baz=14,slow=4.3,SNR=13							
NOA	**NORSAR Array B**	**149.20**	**353**	PKPbc	PKPbc	06 25 54.1	-0.8
AKASG	**Malin Array Be**	**152.24**	**323**	PKP	PKPdf	06 25 57.4	+1.7
comp=Z,11nm,0.6s,baz=47,slow=2.8,SNR=4.9							
AKASG				PKPbc	PKPbc	06 26 02.0	-0.5
comp=Z,11nm,0.6s,baz=46,slow=2.9,SNR=35							
AKASG	**Malin Array Be**	**152.24**	**323**	PKP	PKPdf	06 25 57.4	+1.7
AKASG				PKPbc	PKPbc	06 26 02.0	-0.5
AKBB	**Malin Array Si**	**152.24**	**323**	*e*PKPdf	PKPdf	06 25 55.0	-0.7
AKBB				*e*PKPbc	PKPbc	06 26 02.1	-0.4
AKBB				*e*PKPab	PKPab	06 26 11.5	-0.9
KIEV	**Kiev**	**152.25**	**323**	*e*PKPbc	PKPbc	06 26 02.0	-0.5
BRTR	**Keskin Array B**	**153.77**	**298**	PKPbc	PKPbc	06 26 06.3	+0.1
comp=Z,1.6nm,0.6s,baz=151,slow=3.0,SNR=6.3							
BRTR				PKPab	PKPab	06 26 18.1	-1.1
comp=Z,1.7nm,0.8s,baz=144,slow=5.9,SNR=4.1							
BRTR	**Keskin Array B**	**153.77**	**298**	PKPbc	PKPbc	06 26 06.3	+0.1
BRTR				PKPab	PKPab	06 26 18.1	-1.1
CRVS	**Cervenica-Dubn**	**157.21**	**328**	*e*PKP	PKPab	06 26 33.1	-0.5
KECS	**Kecovo**	**157.95**	**329**	*e*PKP	PKPab	06 26 35.9	-0.9
CLL	**Collm**	**158.19**	**344**	*e*PKPab	PKPab	06 26 37.0	-0.7
VYHS	**Vyhne**	**158.66**	**331**	*e*PKP	PKPab	06 26 39.2	-0.7
KHC	**Kasperske Hory**	**160.02**	**340**	*e*PKPAB	PKPab	06 26 45.0	-0.7
GERES	**GERESS Array B**	**160.24**	**339**	PKPab	PKPab	06 26 45.9	-0.8
comp=Z,0.9nm,0.6s,baz=358,slow=9.3,SNR=3.7							
GERES	**GERESS Array B**	**160.24**	**339**	PKPab	PKPab	06 26 45.9	-0.8
SOKA	**Soboth**	**161.65**	**334**	⇑*i*PKPab	PKPab	06 26 53.1	+0.1
comp=Z,8.3nm,1.4s							
FLN	**La Foliniere**	**161.71**	**8**	*e*PKP2	PKPab	06 26 51.3	-1.8
comp=Z,54nm,1.2s							
LDF	**La Druitiere**	**161.92**	**7**	*e*PKP2	PKPab	06 26 52.1	-1.9
comp=Z,15nm,0.8s							
GRR	**Gorron**	**162.03**	**9**	*e*PKP2	PKPab	06 26 53.0	-1.5
comp=Z,46nm,1.2s							
WTTA	**Wattenberg**	**162.26**	**341**	⇑*i*PKPab	PKPab	06 26 55.4	-0.2
comp=Z,4.4nm,0.6s							
ABTA	**Abfaltersbach**	**162.47**	**339**	⇓*i*PKPab	PKPab	06 26 54.2	-2.3
comp=Z,6.3nm,1.1s							
TORD	**Torodi Ar. Bea**	**162.48**	**175**	PKP	PKPdf	06 26 09.2	-0.4
comp=Z,0.8nm,0.8s,baz=293,slow=1.1,SNR=4.1							
TORD				PKPab	PKPab	06 26 58.8	+1.5
comp=Z,4.1nm,0.8s,baz=184,slow=3.4,SNR=15							
TORD	**Torodi Ar. Bea**	**162.48**	**175**	PKP	PKPdf	06 26 09.2	-0.4
TORD				PKPab	PKPab	06 26 58.8	+1.5
DAVA	**Damuels**	**162.68**	**345**	⇓*i*PKPab	PKPab	06 26 56.7	-0.7
comp=Z,4.3nm,0.7s							
SSF	**Saint Saulge**	**163.65**	**360**	*e*PKP2	PKPab	06 27 00.0	-1.6
comp=Z,4.3nm,0.8s							
MFF	**Saint Martin d**	**163.88**	**9**	*e*PKP2	PKPab	06 27 01.1	-1.5
comp=Z,17nm,1.0s							
SMF	**Signal de Mont**	**164.06**	**359**	*e*PKP2	PKPab	06 27 01.7	-1.7
LPL	**La Plagne**	**164.96**	**351**	*e*PKP2	PKPab	06 27 06.7	-0.8
LPG	**La Plagne**	**164.98**	**351**	*e*PKP2	PKPab	06 27 07.0	-0.5
comp=Z,3.3nm,0.8s							
RJF	**Les Rejaudoux**	**165.33**	**5**	*e*PKP2	PKPab	06 27 07.2	-1.9
comp=Z,9.9nm,0.9s							
LFF	**La Frestale**	**165.62**	**8**	*e*PKP2	PKPab	06 27 08.8	-1.6
comp=Z,20nm,0.9s							
PGF	**Pioggiola**	**167.33**	**341**	*e*PKP2	PKPab	06 27 16.4	-1.6
comp=Z,10nm,0.8s							

IDC 22 06:13:18.5±2.6, 21°.80S×69°.16W, h0km, mb3.8/2, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, ML4.4/2, Error ellipse: s-maj=56.9km s-min=52.5km az=18.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.56**	**10**	Pn	Pn	06 14 43.0	+0.5
3.7nm,0.3s,baz=193,slow=8.5,SNR=74							
SIV	**San Ignacio**	**9.59**	**54**	Pn	Pn	06 15 38.0	+0.2
3.7nm,0.3s,baz=254,slow=13,SNR=103							
TORD	**Torodi Ar. Bea**	**77.67**	**70**	P	P	06 25 17.5	+0.1
0.3nm,0.4s,baz=252,slow=5.5,SNR=8.3							
YKA	**Yellowknife Ar**	**91.39**	**341**	P	P	06 26 25.8	0.0
0.3nm,0.7s,baz=129,slow=4.3,SNR=5.1							

IDC 22 06:18:28.3±0.9, 52°.06N×169°.59W, h0km, mb4.2/18, mb1 4.3/21, mb1mx4.2/31, mbtmp4.2/21, ML4.0/3, Error ellipse: s-maj=26.3km s-min=12.2km az=175.0
NEIC 22 06:18:32.1, 52°.04N×169°.51W, h3km, ML3.3(AEIC), After AEIC.
ISCJB 22 06:18:33.2±1.0, 52°.08N±0°.10×169°.58W±0°.08, h48km±6km, mb4.2/20, Error ellipse: s-maj=17.0km s-min=5.8km az=160.0
ISC 22 06:18:34.2±0.9, 52°.07N±0°.09×169°.57W±0°.08, h40km±6km, n68, σ0°.91/69, mb4.2/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.01**	**25**	P	**Pn**	**06 18 50.1**	**-1.8**
NIKO				S	**Sn**	**06 19 05.4**	**+0.6**
OKSP	**Okmok Steeple**	**1.42**	**33**	P	**Pn**	**06 18 56.7**	**-0.8**
OKWE	**Okmok W'ng Wal**	**1.62**	**29**	P	**Pn**	**06 19 00.5**	**+0.1**
OKRE	**Okmok R'deer P**	**1.69**	**30**	P	**Pn**	**06 19 01.4**	**+0.2**
MSOM	**Makushin Julie**	**2.37**	**41**	P	**Pn**	**06 19 10.2**	**-0.3**
MREP	**Makushin Rep't**	**2.45**	**43**	P	**Pn**	**06 19 11.2**	**-0.4**
MCIR	**Makushin Cirqu**	**2.49**	**40**	P	**Pn**	**06 19 12.1**	**0.0**
UNV	**Unalaska Valle**	**2.58**	**45**	P	**Pn**	**06 19 12.3**	**-1.0**
UNV				S	**Sn**	**06 19 44.3**	**+0.9**
KOFP	**Flat Point**	**2.80**	**276**	P	**Pn**	**06 19 16.7**	**+0.3**
KOKL	**Mount Kliu

NLC				*i* S	Sn	06 47 56.2	+0.7
SDLR	**Sedlovina**	**2.47**	**247**	*e*P	Pn	06 47 32.2	+1.8
AVH	**Avacha**	**2.56**	**247**	*e*P	Pn	06 47 33.2	+1.6
AVH				*i* S	Sn	06 48 04.2	+1.9
KOK	**Koryaka**	**2.60**	**249**	*e*P	Pn	06 47 33.7	+1.5
PET	**Petropavlovsk**	**2.71**	**243**	*e*P	Pn	06 47 35.9	+2.1
PET				*i* S	Sn	06 48 08.1	+1.9
RUS	**Russkaya**	**3.12**	**235**	*e*P	Pn	06 47 40.4	+1.1
RUS				*i* S	Sn	06 48 16.8	+0.6

IDC 22 07:06:17.8±17.0, 23°18S×179°90W, h454km±213km, mb3.4/5, mb1 3.7/6, mb1mx3.4/17, mbtmp3.4/6, Error ellipse: s-maj=147.2km s-min=25.3km az=1.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.25**	**189**	P	P	07 09 31.2	-0.1
	0.7nm,0.3s,baz=346,slow=16,SNR=3.8						
STKA	**Stephens Creek**	**35.08**	**247**	P	P	07 12 31.4	0.0
	1.8nm,0.4s,baz=99,slow=8.8,SNR=8.6						
ASAR	**Alice Springs**	**42.24**	**260**	P	P	07 13 30.0	+0.1
	2.7nm,0.5s,baz=100,slow=7.0,SNR=47						
WRA	**Warramunga Arr**	**42.55**	**265**	P	P	07 13 32.0	-0.4
	3.7nm,0.4s,baz=102,slow=8.3,SNR=27						
TXAR	**Lajitas Array**	**89.98**	**58**	P	P	07 18 28.1	+0.2
	0.4nm,0.7s,baz=217,slow=6.3,SNR=4.9						
PDAR	**Pinedale Array**	**92.11**	**44**	P	P	07 18 37.6	+0.2
	0.5nm,0.9s,baz=227,slow=3.6,SNR=3.1						

*ISCJB **22** 07:49:35.7±0.9, 76°80N±0°04×14°9E±0°3, h10km, Error ellipse: s-maj=11.8km s-min=5.0km az=166.7*
*NAO **22** 07:49:37.0±1.4, 76°76N×14°86E, ML3.0*
*CSEM **22** 07:49:37.6±0.2, 76°86N×15°30E, h2km, ML3.0, Error ellipse: s-maj=11.9km s-min=3.7km az=66.0*
*BER **22** 07:49:38.7±2.9, 76°77N×15°16E, h1km±40km, MD2.4, ML3.0, ML3.0(NAO)*

ISC 22 07:49:37.5±2.2, 76°81N±0°10×15°2E±0°5, h6km±19km, n15, σ0°94/20, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.22**	**24**	*e*Pg	**Pg**	**07 49 42.2**	**+0.5**
HSP				*e*Sg	**Sg**	**07 49 44.4**	**-0.2**
SPA0	**Spitsbergen Ar**	**1.40**	**10**	Pg	**Pg**	**07 50 03.5**	**-0.7**
	baz=189,slow=18						
SPA0				Lg		07 50 23.0	
	baz=198,slow=37						
SPA0	**Spitsbergen Ar**	**1.40**	**10**	Pg	**Pg**	**07 50 03.5**	**-0.7**
	baz=189,slow=18,SNR=90						
SPA0				Lg		07 50 23.0	
	baz=198,slow=35						
KBS	**Kingsbay**	**2.23**	**344**	Pn	**Pn**	**07 50 15.0**	**+0.1**
KBS				Pg	**Pg**	**07 50 19.2**	**-0.9**
KBS				Lg		07 50 48.9	
KBS	**Kingsbay**	**2.23**	**344**	*e*P	**Pn**	**07 50 15.3**	**+0.4**
KBS				*e*Sg	**Sg**	**07 50 49.4**	**+0.4**
KBS				AML	AML	07 50 54.8	
	comp=Z,134nm,0.4s						
KBS	**Kingsbay**	**2.23**	**344**	Pn	**Pn**	**07 50 15.0**	**+0.1**
KBS	**Kingsbay**	**2.23**	**344**	*e*P	**Pn**	**07 50 15.3**	**+0.4**
	SNR=50						
KBS	**Kingsbay**	**2.23**	**344**	Pg	**Pg**	**07 50 19.2**	**-1.0**
KBS				Lg		07 50 48.9	
KBS				*e*Sg	**Sg**	**07 50 49.4**	**+0.4**
	comp=Z,134nm,0.4s,SNR=90						
HOPEN	**Hopen**	**2.30**	**93**	*e*P	**Pn**	**07 50 16.0**	**+0.1**
HOPEN				AML	AML	07 50 51.9	
	comp=Z,554nm,0.4s						
HOPEN	**Hopen**	**2.30**	**93**	*e*P	**Pn**	**07 50 16.0**	**+0.2**
	comp=Z,554nm,0.4s,SNR=50						
BJO	**Bjornoya**	**2.53**	**155**	*e*S	**Sn**	**07 50 48.3**	**-1.6**
BJO				AML	AML	07 51 03.7	
	comp=Z,72nm,0.3s						
KEV	**Kevo**	**7.84**	**148**	*e*p	**Pn**	**07 51 34.2**	**+2.3**
KEV	**Kevo**	**7.84**	**148**	*e*P	**Pn**	**07 51 34.2**	**+2.3**
ARA0	**ARCESS Array S**	**7.89**	**153**	Pn	**Pn**	**07 51 32.8**	**+0.3**
	baz=336,slow=12						
ARA0				Sn	**Sn**	**07 52 54.9**	**-6.9**
	baz=352,slow=22						
ARA0	**ARCESS Array S**	**7.89**	**153**	Pn	**Pn**	**07 51 32.8**	**+0.4**
	baz=336,slow=12,SNR=7.4						

*JMA **22** 07:51:17.9±0.2, 36°59N×142°61E, h69km, M3.4*
*ISCJB **22** 07:51:18.0±1.2, 36°58N±0°06×142°65E±0°09, h33km, Error ellipse: s-maj=10.0km s-min=8.4km az=6.7*
*IDC **22** 07:51:24.1±1.7, 37°10N×141°84E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=43.5km s-min=25.8km az=73.0*

ISC 22 07:51:19.6±1.2, 36°57N±0°06×142°58E±0°09, h35km, n14, σ0°67/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.53**	**291**	P	**Pn**	**07 51 43.9**	**-0.5**
ONAJ				S	**Sn**	**07 52 03.0**	**0.0**
JFK	**Kawauchi**	**1.58**	**301**	P	**Pn**	**07 51 44.6**	**-0.6**
JFK				S	**Sn**	**07 52 04.3**	**-0.1**
JHO	**Hitachi**	**1.62**	**272**	P	**Pn**	**07 51 45.2**	**-0.5**
JMM	**Marumori**	**1.93**	**313**	P	**Pn**	**07 51 49.3**	**-0.6**
JMM				S	**Sn**	**07 52 13.6**	**+0.7**
JFT	**Otama**	**2.03**	**299**	P	**Pn**	**07 51 51.0**	**-0.3**
JFT				S	**Sn**	**07 52 15.1**	**-0.4**
JIO	**Ouri**	**2.13**	**333**	P	**Pn**	**07 51 51.7**	**-0.9**
JIO				S	**Sn**	**07 52 18.1**	**+0.3**
BSO1	**Boso 1**	**2.31**	**215**	P	**Pn**	**07 51 54.9**	**-0.3**
JAG	**Ashikaga**	**2.53**	**268**	P	**Pn**	**07 51 58.2**	**+0.1**
JAG				S	**Sn**	**07 52 27.6**	**0.0**
MJAR	**Matsushiro Arr**	**3.52**	**271**	Pn	**Pn**	**07 52 12.4**	**+0.6**
	3.7nm,0.3s,baz=84,slow=8.7,SNR=22						
MAT	**Matsushiro**	**3.52**	**271**	P	**Pn**	**07 52 12.9**	**+1.1**
MAT				S	**Sn**	**07 52 56.9**	**+4.7**
ASAJ	**Asahikawa**	**7.54**	**0**	Pn	**Pn**	**07 53 07.2**	**+0.3**
	0.7nm,0.3s,baz=192,slow=12,SNR=4.1						
SONM	**Songino Array**	**28.82**	**304**	P	**P**	**07 57 17.4**	**+3.1**
	0.7nm,0.8s,baz=99,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**56.74**	**189**	P	pP	08 01 11.7	+1.2
	1.0nm,0.3s,baz=2.0,slow=7.8,SNR=49						
ASAR	**Alice Springs**	**60.46**	**189**	P	pP	08 01 39.5	+3.1
	0.6nm,0.5s,baz=9.0,slow=7.8,SNR=15						

IDC 22 07:56:59.0±1.1, 14°07N×145°10E, h108km±10km, mb3.1/3, mb1 3.4/3, mb1mx3.1/22, mbtmp3.1/3, Error ellipse: s-maj=247.3km s-min=22.8km az=110.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.53**	**205**	P	Pn	07 57 17.7	+1.9
	325nm,0.3s,baz=134,slow=1.5,SNR=111						
GUMO				S	Sn	07 57 29.9	+1.5
	576nm,0.3s,baz=21,slow=21,SNR=52						
WRA	**Warramunga Arr**	**35.41**	**198**	P	P	08 03 45.5	+0.8
	0.5nm,0.6s,baz=18,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**39.07**	**196**	P	P	08 04 16.5	+1.0
	0.2nm,0.4s,baz=19,slow=10.0,SNR=4.0						
ILAR	**Eielson Array**	**68.04**	**25**	P	P	08 07 47.4	+0.9
	0.1nm,0.4s,baz=253,slow=5.7,SNR=7.2						

*DDA **22** 08:06:27.9, 40°13N×36°01E, h7km±4km, Md3.1*
*ISCJB **22** 08:06:28.5±0.5, 40°14N±0°03×36°01E±0°03, h2km±5km, Error ellipse: s-maj=4.8km s-min=3.2km az=162.2*
*CSEM **22** 08:06:28.5±0.2, 40°14N×35°99E, h2km, MD3.1, Error ellipse: s-maj=4.0km s-min=2.9km az=159.0*
*ISK **22** 08:06:28.3, 40°10N×36°03E, h8km, MD3.0*

ISC 22 08:06:29.0±0.5, 40°13N±0°03×36°01E±0°03, h4km±5km, n36, σ0°88/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKA	**Tokat**	**0.41**	**62**	*i* P	**Pg**	**08 06 36.2**	**-0.6**
TOKA				*i* S	**Sg**	**08 06 41.9**	**-0.2**
TOKA	**Tokat**	**0.41**	**62**	*i* P	**Pg**	**08 06 36.2**	**-0.7**
TOKA				*i* S	**Sg**	**08 06 41.9**	**-0.2**
TOKT	**Tokat**	**0.45**	**65**	*e*PG	**Pg**	**08 06 37.2**	**-0.5**
TOKT				*e*SG	**Sg**	**08 06 44.5**	**+0.9**
TOKT	**Tokat**	**0.45**	**65**	*e*Pg	**Pg**	**08 06 37.2**	**-0.5**
TOKT				*e*Sg	**Sg**	**08 06 44.5**	**+0.9**
YOZ	**Yozgat**	**0.72**	**227**	*e*PG	**Pg**	**08 06 42.7**	**-0.2**
YOZ				*e*SG	**Sg**	**08 06 53.1**	**+0.9**
YOZ	**Yozgat**	**0.72**	**227**	*e*Pg	**Pg**	**08 06 42.7**	**-0.2**
YOZ				*e*Sg	**Sg**	**08 06 53.2**	**+0.9**
ERBA	**Erbaa**	**0.79**	**46**	*i* P	**Pg**	**08 06 43.9**	**-0.3**
ERBA				*i* S	**Sg**	**08 06 54.5**	**0.0**
ERBA	**Erbaa**	**0.79**	**46**	*i* P	**Pg**	**08 06 43.9**	**-0.3**
ERBA				*i* S	**Sg**	**08 06 54.5**	**0.0**
SCER	**sogukcermik**	**0.90**	**107**	*i* P	**Pg**	**08 06 45.9**	**-0.4**
SCER				*i* S	**Sg**	**08 06 58.5**	**+0.5**
SCER	**sogukcermik**	**0.90**	**107**	*i* P	**Pg**	**08 06 45.9**	**-0.4**
SCER				*i* S	**Sg**	**08 06 58.5**	**+0.5**
KVT	**Kavak**	**0.95**	**2**	*e*PG	**Pg**	**08 06 46.7**	**-0.5**
KVT	**Kavak**	**0.95**	**2**	*e*Pg	**Pg**	**08 06 46.7**	**-0.5**
HAVZ	**Havza**	**0.97**	**347**	*e*P	**Pg**	**08 06 47.4**	**-0.2**
HAVZ				*i* S	**Sg**	**08 07 01.7**	**+1.5**
HAVZ	**Havza**	**0.97**	**347**	*e*P	**Pg**	**08 06 47.4**	**-0.2**
HAVZ				*i* S	**Sg**	**08 07 01.7**	**+1.6**
CTKT	**Corum**	**1.05**	**298**	*i* P	**Pg**	**08 06 47.6**	**-1.6**
CTKT				*i* S	**Sg**	**08 07 01.8**	**-1.1**
CTKT	**Corum**	**1.05**	**298**	*i* P	**Pg**	**08 06 47.7**	**-1.5**
CTKT				*i* S	**Sg**	**08 07 01.8**	**-1.1**
CORM	**Corum**	**1.06**	**273**	*e*PN	**Pg**	**08 06 49.3**	**0.0**
CORM				*e*SN	**Sg**	**08 07 04.9**	**+1.9**
CORM	**Corum**	**1.06**	**273**	*e*Pn	**Pg**	**08 06 49.3**	**0.0**
CORM				*e*Sn	**Sg**	**08 07 04.9**	**+1.9**
BNN	**Bunyan**	**1.28**	**186**	*e*PN	**Pn**	**08 06 52.5**	**-1.2**
BNN				*e*SN	**Sn**	**08 07 10.5**	**-0.9**
BNN	**Bunyan**	**1.28**	**186**	*e*Pn	**Pn**	**08 06 52.5**	**-1.3**
BNN				*e*Sn	**Sn**	**08 07 10.5**	**-0.9**
CDAG	**Cicekdag**	**1.36**	**249**	*i* P	**Pn**	**08 06 53.4**	**-1.4**
CDAG				*i* S	**Sg**	**08 07 13.1**	**+0.4**
CDAG	**Cicekdag**	**1.36**	**249**	*i* P	**Pn**	**08 06 53.4**	**-1.4**
CDAG				*i* S	**Sg**	**08 07 13.1**	**+0.4**
SARI	**SarD1z-Kayseri**	**1.55**	**160**	*e*PN	**Pn**	**08 06 59.4**	**+2.0**
SARI	**SarD1z-Kayseri**	**1.55**	**160**	*e*Pn	**Pn**	**08 06 59.4**	**+2.1**
AVNT	**Avonos**	**1.62**	**214**	*i* P	**Pn**	**08 06 58.5**	**+0.1**
AVNT				*i* S	**Sn**	**08 07 20.0**	**+0.3**
AVNT	**Avonos**	**1.62**	**214**	*i* P	**Pn**	**08 06 58.5**	**+0.1**
AVNT				*i* S	**Sn**	**08 07 20.0**	**+0.3**
SUSE	**Susehri**	**1.68**	**87**	*i* P	**Pn**	**08 06 58.4**	**-0.8**
SUSE				*i* S	**Sn**	**08 07 22.5**	**+1.3**
SUSE	**Susehri**	**1.68**	**87**	*i* P	**Pn**	**08 06 58.4**	**-0.8**
SUSE				*i* S	**Sn**	**08 07 22.5**	**+1.3**
TOS	**Tosya**	**1.76**	**301**	*e*PN	**Pn**	**08 07 01.1**	**+0.8**
TOS	**Tosya**	**1.76**	**301**	*e*Pn	**Pn**	**08 07 01.1**	**+0.8**
KAMT	**Kaman**	**1.93**	**247**	*e*PN	**Pn**	**08 07 02.5**	**-0.1**
KAMT	**Kaman**	**1.93**	**247**	*e*Pn	**Pn**	**08 07 02.5**	**-0.1**
KEMA	**Kemaliye**	**2.10**	**113**	*e*P	**Pn**	**08 07 04.9**	**-0.1**
KEMA				*e*S	**Sn**	**08 07 36.5**	**+5.0**
KEMA	**Kemaliye**	**2.10**	**113**	*e*P	**Pn**	**08 07 04.9**	**-0.1**
GUMT	**Gumushane**	**2.67**	**82**	*e*PN	**Pn**	**08 07 12.7**	**-0.1**
GUMT	**Gumushane**	**2.67**	**82**	*e*Pn	**Pn**	**08 07 12.7**	**-0.2**

IDC 22 08:08:25.2±2.4, 2°47N×126°19E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=224.9km s-min=26.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.67**	**161**	P	P	08 13 38.3	-0.4
	0.9nm,0.5s,baz=339,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**27.04**	**164**	P	P	08 14 09.8	+0.5
	0.2nm,0.3s,baz=345,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**58.28**	**326**	P	P	08 18 21.6	0.0
	0.2nm,0.5s,baz=130,slow=6.1,SNR=5.0						

*ISCJB **22** 08:26:58.3±0.6, 44°02N±0°02×17°31E±0°03, h2km±4km, Error ellipse: s-maj=4.8km s-min=2.3km az=136.4*
*PDG **22** 08:26:58.4±0.4, 43°85N×17°22E, h0km±1km, ML3.1/9, Error ellipse: s-maj=1.4km s-min=1.9km az=0.0*
*CSEM **22** 08:26:59.1±0.1, 43°98N×17°31E, h2km, ML2.9, Error ellipse: s-maj=5.0km s-min=2.3km az=46.0*
*BEO **22** 08:26:59.8±0.7, 43°98N×17°26E, h13km±4km, ML2.9/7*
*PRU **22** 08:27:00.6, 43°96N×16°97E, h0km*
*VIE **22** 08:27:02.6±0.4, 44°21N×17°36E, h10km, mb2.7/6, ML2.7/7, Error ellipse: s-maj=4.4km s-min=3.2km az=44.0 94 km WNW of Sarajevo*

ISC 22 08:26:59.6±0.6, 43°98N±0°02×17°29E±0°03, h4km±4km, n83, σ1°23/149, 25C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.77**	**354**	*e*Pg	**Pg**	**08 27 14.6**	**+0.3**
BLY				*i* Sg	**Sg**	**08 27 26.2**	**+1.9**
BLY	**Banja Luka**	**0.77**	**354**	*e*Pg	**Pg**	**08 27 14.6**	**+0.3**
BLY				*i* Sg	**Sg**	**08 27 26.2**	**+1.9**
STON	**Ston**	**1.15**	**165**	*e*Pg	**Pg**	**08 27 15.8**	**-5.8**
STON				Sg	**Sg**	**08 27 32.4**	**-4.1**
UPM	**Unac-Piva**	**1.41**	**123**	⇑*i*Pg	**Pn**	**08 27 23.3**	**-2.6**
UPM				*e*Sg	**Sg**	**08 27 45.2**	**+0.4**
UPM	**Unac-Piva**	**1.41**	**123**	⇑*i*Pg	**Pn**	**08 27 23.3**	**-2.6**
UPM				*e*Sg	**Sg**	**08 27 45.2**	**+0.4**
BRY	**Bratogost**	**1.41**	**140**	⇑*i*Pg	**Pn**	**08 27 22.9**	**-3.1**
BRY				*e*Sg	**Sg**	**08 27 44.6**	**-0.3**
BRY	**Bratogost**	**1.41**	**140**	⇑*i*Pg	**Pn**	**08 27 22.9**	**-3.1**
BRY				*e*Sg	**Sg**	**08 27 44.6**	**-0.3**
BBLS	**Lazići**	**1.53**	**94**	*e*Pg	**Pn**	**08 27 27.1**	**-0.5**
BBLS				*i* Sg	**Sg**	**08 27 48.9**	**+0.1**
BBLS	**Lazići**	**1.53**	**94**	*e*Pg	**Pn**	**08 27 27.1**	**-0.5**
BBLS				*i* Sg	**Sg**	**08 27 48.9**	**+0.1**
PLE	**Pljevlja**	**1.66**	**112**	⇓*i*Pn	**Pn**	**08 27 28.6**	**-0.8**
PLE				*e*Sn	**Sg**	**08 27 54.3**	**+1.5**
PLE	**Pljevlja**	**1.66**	**112**	⇓*i*Pn	**Pn**	**08 27 28.6**	**-0.8**
PLE				*e*Sn	**Sg**	**08 27 54.3**	**+1.5**
NKY	**Niksic**	**1.71**	**133**	⇑*i*Pn	**Pn**	**08 27 29.2**	**-0.8**
NKY				*e*Sn	**Sn**	**08 27 53.8**	**+1.6**
NKY	**Niksic**	**1.71**	**133**	⇑*i*Pn	**Pn**	**08 27 29.2**	**-0.8**
NKY				*e*Sn	**Sn**	**08 27 53.8**	**+1.6**
HCY	**Herceg Novi**	**1.77**	**150**	*e*Pn	**Pn**	**08 27 28.9**	**-2.0**
HCY				*e*Sn	**Sn**	**08 27 54.7**	**+0.9**
HCY	**Herceg Novi**	**1.77**	**150**	*e*Pn	**Pn**	**08 27 28.9**	**-2.0**
HCY				*e*Sn	**Sn**	**08 27 54.7**	**+0.9**
NVLJ	**Novalja**	**1.83**	**289**	*i* Pn	**Pn**	**08 27 31.7**	**-0.1**
NVLJ				Sg	**Sg**	**08 27 58.2**	**-0.3**
NVLJ	**Novalja**	**1.83**	**289**	*i* Pn	**Pn**	**08 27 31.6**	**-0.2**
NVLJ				Sg	**Sg**	**08 27 58.1**	**-0.3**
DIVS	**Divibare**	**1.95**	**86**	*e*Pg	**Pg**	**08 27 35.6**	**-1.3**
DIVS				*e*Sg	**Sg**	**08 28 03.3**	**+1.1**
DIVS	**Divibare**	**1.95**	**86**	*e*Pg	**Pg**	**08 27 35.6**	**-1.3**
DIVS				*e*Sg	**Sg**	**08 28 03.3**	**+1.1**
BUM	**Brajici-Budva**	**2.05**	**145**	⇑*i*Pn	**Pn**	**08 27 34.0**	**-0.8**
BUM				*e*Sn	**Sn**	**08 28 02.4**	**+1.6**
BUM	**Brajici-Budva**	**2.05**	**145**	⇑*i*Pn	**Pn**	**08 27 34.0**	**-0.8**
BUM				*e*Sn	**Sn**	**08 28 02.4**	**+1.6**
BOJS	**Bojanci**	**2.10**	**317**	*i* Pn	**Pn**	**08 27 35.0**	**-0.5**
BOJS				*i* Sn	**Sn**	**08 28 02.2**	**+0.1**
BOJS	**Bojanci**	**2.10**	**317**	*i* Pn	**Pn**	**08 27 35.0**	**-0.5**
BOJS				*i* Sn	**Sn**	**08 28 02.2**	**+0.1**
PDG	**Podgorica**	**2.12**	**137**	*e*Pn	**Pn**	**08 27 35.7**	**0.0**
PDG				*e*Sn	**Sn**	**08 28 01.2**	**-1.2**
PDG	**Podgorica**	**2.12**	**137**	*e*Pn	**Pn**	**08 27 35.7**	**0.0**
PDG				*e*Sn	**Sn**	**08 28 04.2**	**+1.8**
TTG	**Podgorica**	**2.12**	**136**	⇑*i*Pn	**Pn**	**08 27 35.5**	**-0.2**
TTG				*e*Sn	**Sn**	**08 28 04.2**	**+1.8**
BEY	**Berane**	**2.20**	**119**	⇓*i*Pn	**Pn**	**08 27 36.9**	**+0.1**
BEY				*e*Sn	**Sn**	**08 28 07.5**	**+3.1**
IVA	**Berane**	**2.20**	**119**	⇓*i*Pn	**Pn**	**08 27 36.9**	**+0.1**
IVA				*e*Sn	**Sn**	**08 28 07.5**	**+3.0**
TRUS	**Trudelj**	**2.26**	**83**	*e*Pn	**Pn**	**08 27 37.3**	**-0.3**
TRUS	**Trudelj**	**2.26**	**83**	*e*Pn	**Pn**	**08 27 37.3**	**-0.3**
PVY	**Plav**	**2.39**	**125**	⇑*i*Pn	**Pn**	**08 27 39.8**	**+0.3**
PVY				*e*Sn	**Sn**	**08 28 12.0**	**+2.8**
PVY	**Plav**	**2.39**	**125**	⇑*i*Pn	**Pn**	**08 27 39.8**	**+0.3**
PVY				*e*Sn	**Sn**	**08 28 12.0**	**+2.8**
PKSM	**Moragy**	**2.42**	**23**	*e*Pn	**Pn**	**08 27 39.3**	**-0.6**
PKSM	**Moragy**	**2.42**	**23**	⇓*i*P	**Pn**	**08 27 39.4**	**-0.5**
PKSM	**Moragy**	**2.42**	**23**	⇓*i*P	**Pn**	**08 27 39.4**	**-0.5**
PKSM				*e*Sn	**Sn**	**08 28 11.3**	**+1.3**
GRUS	**Gruza**	**2.48**	**91**	*e*Pn	**Pn**	**08 27 40.6**	**0.0**
GRUS				*i* Sn	**Sn**	**08 28 10.3**	**-1.0**
GRUS	**Gruza**	**2.48**	**91**	*e*Pn	**Pn**	**08 27 40.6**	**0.0**
GRUS				*i* Sn	**Sn**	**08 28 10.3**	**-1.0**
ULC	**Ulcinj**	**2.48**	**144**	⇓*i*Pn	**Pn**	**08 27 40.1**	**-0.5**
ULC				*e*Sn	**Sn**	**08 28 12.7**	**+1.4**
ULC	**Ulcinj**	**2.48**	**144**	⇓*i*Pn	**Pn**	**08 27 40.1**	**-0.5**
ULC				*e*Sn	**Sn**	**08 28 12.7**	**+1.4**
BEHE	**Becsehely**	**2.51**	**352**	*e*Pn	**Pn**	**08 27 41.6**	**+0.5**
BEHE				*e*Sn	**Sn**	**08 28 13.2**	**+1.0**
VISS	**Visnje**	**2.52**	**317**	*i* Pn	**Pn**	**08 27 41.4**	**+0.1**
VISS				*i* Sn	**Sn**	**08 28 15.8**	**+3.5**
VISS	**Visnje**	**2.52**	**317**	*i* Pn	**Pn**	**08 27 41.3**	**+0.1**
VISS				*i* Sn	**Sn**	**08 28 15.8**	**+3.5**
KOGS	**Kog**	**2.57**	**344**	*i* Pn	**Pn**	**08 27 41.9**	**0.0**
KOGS				*i* Sn	**Sn**	**08 28 14.0**	**+0.4**
KOGS	**Kog**	**2.57**	**344**	*i* Pn	**Pn**	**08 27 41.9**	**0.0**
KOGS				*i* Sn	**Sn**	**08 28 14.0**	**+0.4**
SELS	**Selova**	**2.88**	**104**	*e*Pn	**Pn**	**08 27 44.8**	**-1.4**
PERS	**Pernice**	**3.06**	**331**	*i* Pn	**Pn**	**08 27 48.8**	**+0.1**
PERS				*i* Sn	**Sn**	**08 28 26.2**	**-1.5**
PERS	**Pernice**	**3.06**	**331**	*i* Pn	**Pn**	**08 27 48.8**	**+0.1**
PERS				*i* Sn	**Sn**	**08 28 24.2**	**-1.6**
SOKA	**Soboth**	**3.13**	**330**	⇑*i*Pn	**Pn**	**08 27 49.8**	**+0.2**
SOKA				⇑*i*Sn	**Sn**	**08 28 26.4**	**-1.0**
SOKA	**Soboth**	**3.13**	**330**	Pn	**Pn**	**08 27 49.8**	**+0.2**
SOKA				Sn	**Sn**	**08 28 26.4**	**-1.0**
VOY	**Vojsko**	**3.16**	**312**	*e*Pn	**Pn**	**08 27 51.3**	**+1.2**
VOY				*e*		08 27 59.0	
VOY				*e*Sn	**Sn**	**08 28 31.5**	**+3.3**
VOY				*e*		08 28 37.5	
VOY	**Vojsko**	**3.16**	**312**	*e*Pn	**Pn**	**08 27 51.3**	**+1.2**
VOY				*e*Sn	**Sn**	**08 28 31.5**	**+3.3**
OBKA	**Obir**	**3.18**	**323**	⇓*i*Pn	**Pn**	**08 27 51.2**	**+0.8**
OBKA				⇓*i*Sn	**Sn**	**08 28 28.2**	**-0.5**
OBKA	**Obir**	**3.18**	**323**	Pn	**Pn**	**08 27 51.2**	**+0.9**
OBKA				Sn	**Sn**	**08 28 28.2**	**-0.5**
BZS	**Buzias**	**3.48**	**61**	⇑*i*P	**Pn**	**08 27 58.7**	**+4.2**
BZS	**Buzias**	**3.48**	**61**	⇑*i*P	**Pn**	**08 27 58.7**	**+4.2**
BZS				S	**Sn**	**08 28 33.0**	**-3.2**
ARSA	**Arzberg**	**3.50**	**340**	*e*Pn	**Pn**	**08 27 54.3**	**-0.3**
ARSA	**Arzberg**	**3.50**	**340**	⇑*i*Pn	**Pn**	**08 27 54.0**	**-0.6**
ARSA				⇓*i*Sn	**Sn**	**08 28 34.2**	**-2.1**
ARSA	**Arzberg**	**3.50**	**340**	*e*Pn	**Pn**	**08 27 54.3**	**-0.3**
ARSA				Sn	**Sn**	**08 28 34.2**	**-2.2**
PKSG		**3.50**	**12**	⇓*e*Pn	**Pn**	**08 27 54.8**	**+0.2**
PKSG				*e*Sn	**Sn**	**08 28 39.4**	**+3.0**
BARS	**Barje**	**3.50**	**108**	*e*Pn	**Pn**	**08 27 52.9**	**-1.8**
BARS				*i* Sn	**Sn**	**08 28 35.2**	**-1.3**
BARS	**Barje**	**3.50**	**108**	*e*Pn	**Pn**	**08 27 52.9**	**-1.8**
BARS				*i* Sn	**Sn**	**08 28 35.2**	**-1.3**
BUD	**Budapest**	**3.71**	**19**	*e*Sn	**Sn**	**08 28 43.6**	**+2.0**
BUD	**Budapest**	**3.71**	**19**	*e*Sn	**Sn**	**08 28 43.6**	**+2.0**
SOP	**Sopron**	**3.74**	**352**	⇑*e*Pn	**Pn**	**08 27 53.2**	**-4.7**
SOP				*e*Sn	**Sn**	**08 28 32.5**	**-10**
SOP	**Sopron**	**3.74**	**352**	⇑*e*Pn	**Pn**	**08 27 53.2**	**-4.7**
ZAPS	**Zavoj**	**3.94**	**99**	*e*Pn	**Pn**	**08 28 01.1**	**+0.3**
GZR	**Gura Zlata**	**4.16**	**68**	⇑*i*P	**Pn**	**08 28 08.6**	**+4.9**
GZR	**Gura Zlata**	**4.16**	**68**	⇑*i*P	**Pn**	**08 28 08.6**	**+4.9**
GZR				S	**Sn**	**08 28 49.8**	**-2.9**
MOA	**Molln**	**4.41**	**332**	⇑*i*Pn	**Pn**	**08 28 07.2**	**+0.1**
MOA				⇓*i*Sn	**Sn**	**08 28 57.9**	**-0.9**
MOA	**Molln**	**4.41**	**332**	Pn	**Pn**	**08 28 07.2**	**+0.1**
MOA				Sn	**Sn**	**08 28 57.9**	**-0.9**
VTS	**Vitosha**	**4.54**	**106**	⇑*i*P	**Pg**	**08 28 23.2**	**-3.3**
VYHS	**Vyhne**	**4.64**	**13**	*e*PN	**Pn**	**08 28 11.3**	**+1.0**
VYHS				*e*SN	**Sn**	**08 29 03.3**	**-1.2**
VYHS	**Vyhne**	**4.64

*NEIC **22** 08:43:05.0±0.4, 55.°92S×27.°55W, h35km, mb4.6/3, Error ellipse: s-maj=22.9km s-min=10.7km az=59.0*

ISC 22 08:43:06.3±5.1, 56.°0S±0.°2×27.°6W±0.°3, h43km±49km, n34, σ0s97/18, mb4.2/9, MS3.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	18.90	156	P	Pn	08 47 23.4	-0.4
	1.2nm,0.3s,baz=305,slow=10,SNR=227						
SNAA	Sanae	18.90	156	P	Pn	08 47 23.4	-0.4
USHA	Ushuaia	22.96	256	LR	LR	08 54 23.8	
	comp=Z,147nm,18.3s,MS3.5,baz=222,slow=30						
QSPA	South Pole Qui	34.26	180	P	P	08 49 48.8	+1.2
	14nm,0.6s,mb5.1,baz=168,slow=1.9,SNR=40						
QSPA	South Pole Qui	34.26	180	eP	P	08 49 48.4	+0.8
	13nm,0.6s,mb5.0						
CPUP	Villa Florida	36.58	312	P	P	08 50 07.8	-0.1
	0.7nm,0.4s,mb3.8,baz=123,slow=3.7,SNR=5.4						
CPUP	Villa Florida	36.58	312	P	P	08 50 07.8	-0.1
CFAA	Coronel Fontan	37.31	294	P	P	08 50 12.4	-1.6
	0.2nm,0.5s,mb3.2,baz=132,slow=8.3,SNR=4.5						
CFAA	Coronel Fontan	37.31	294	P	P	08 50 12.4	-1.6
MAW	Mawson	40.35	144	P	P	08 50 39.1	0.0
	7.4nm,0.7s,mb4.5,baz=229,slow=7.2,SNR=12						
MAW				LR	LR	09 06 06.1	
	comp=Z,34nm,18.5s,MS3.2,baz=295,slow=34						
MAW	Mawson	40.35	144	P	P	08 50 39.1	0.0
VNDA	Vanda	46.62	183	eP	P	08 51 30.1	+0.5
	6.9nm,0.8s,mb4.6						
LPAZ	La Paz	50.14	306	P	P	08 51 59.0	+1.8
	2.4nm,0.4s,mb4.6,baz=149,slow=5.7,SNR=26						
LPAZ	La Paz	50.14	306	P	P	08 51 59.0	+1.8
SAML	Samuel	54.58	315	eP	P	08 52 30.1	-0.1
	0.8nm,0.6s,mb3.9						
ROSC	El Rosal	71.67	310	LR	LR	09 25 03.9	
	comp=Z,47nm,18.8s,MS3.8,baz=28,slow=35						
TORD	Torodi Ar. Bea	73.12	30	P	P	08 54 32.4	+0.3
	1.2nm,0.5s,mb4.0,baz=200,slow=4.8,SNR=17						
TORD	Torodi Ar. Bea	73.12	30	P	P	08 54 32.4	+0.4
ASAR	Alice Springs	99.12	163	P	P	08 56 41.3	-1.6
	1.2nm,0.9s,mb4.4,baz=189,slow=4.7,SNR=7.7						
ASAR	Alice Springs	99.12	163	P	P	08 56 41.3	-1.6
WRA	Warramunga Arr	102.84	163	P	Pdif	08 56 58.5	-1.0
	0.4nm,0.6s,baz=198,slow=4.2,SNR=3.8						
WRA	Warramunga Arr	102.84	163	P	Pdif	08 56 58.5	-1.0
FINES	FINESS Array B	124.44	28	PKP	PKPdf	09 01 57.6	-1.5
	7.4nm,1.1s,baz=204,slow=4.2,SNR=5.3						
FINES	FINESS Array B	124.44	28	PKP	PKPdf	09 01 57.6	-1.5
ARCES	ARCESS Array B	130.98	22	PKP	PKPdf	09 02 10.7	-0.6
	1.3nm,0.9s,baz=235,slow=4.3,SNR=5.4						
ARCES	ARCESS Array B	130.98	22	PKP	PKPdf	09 02 10.7	-0.6
YKA	Yellowknife Ar	135.96	318	PKP	PKPdf	09 02 19.5	-1.3
	0.4nm,0.6s,baz=125,slow=2.3,SNR=13						
YKA	Yellowknife Ar	135.96	318	PKP	PKPdf	09 02 19.6	-1.3
MKAR	Makanchi Array	137.10	72	PKP	PKPdf	09 02 23.9	+0.4
	0.4nm,0.9s,baz=206,slow=2.8,SNR=5.1						
MKAR	Makanchi Array	137.10	72	PKP	PKPdf	09 02 23.9	+0.4
ILAR	Eielson Array	149.89	312	PKPbc	PKPbc	09 02 49.2	-0.9
	3.5nm,1.0s,baz=137,slow=3.0,SNR=30						
ILAR	Eielson Array	149.89	312	PKPbc	PKPbc	09 02 49.2	-0.9
SONM	Songino Array	150.97	87	PKPbc	PKPbc	09 02 52.2	-1.0
	8.2nm,0.5s,baz=222,slow=3.7,SNR=67						
SONM	Songino Array	150.97	87	PKPbc	PKPbc	09 02 52.2	-1.0

*ISCJB **22** 08:45:58.4±1.9, 5.°4S±0.°1×147.°2E±0.°2, h188km±18km, mb3.7/6, Error ellipse: s-maj=36.5km s-min=15.4km az=28.7*

*IDC **22** 08:45:59.5±1.6, 5.°48S×147.°14E, h182km±16km, mb3.5/6, mb1 3.7/8, mb1mx3.5/18, mbtmp3.5/8, MS2.1/1, Ms1 2.1/1, ms1mx2.0/16, Error ellipse: s-maj=31.2km s-min=11.2km az=112.0*

*NEIC **22** 08:46:00.5±1.5, 5.°49S×147.°27E, h196km±14km, mb4.2/1, Error ellipse: s-maj=22.6km s-min=12.9km az=119.0*

ISC 22 08:46:01.4±1.7, 5.°6S±0.°1×147.°2E±0.°2, h200km±17km, n22, σ0s75/25, mb3.7/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.80	181	P	Pn	08 47 00.8	+0.1
	26nm,0.3s,baz=25,slow=5.1,SNR=70						
PMG				S	Sn	08 47 46.5	-0.8
	9.4nm,0.3s,baz=17,slow=9.4,SNR=2.5						
PMG	Port Moresby	3.80	181	P	Pn	08 47 00.8	+0.1
PMG				S	Sn	08 47 46.5	-0.8
WRAB	Tennant Creek	18.98	220	eP	P	08 50 08.6	+0.6
	4.4nm,0.5s						
WB2	Warramunga Arr	18.99	220	eP	P	08 50 08.5	+0.5
WRA	Warramunga Arr	19.00	220	P	P	08 50 08.8	+0.7
	1.6nm,0.3s,baz=49,slow=13,SNR=28						
WRA				S	S	08 53 31.6	-1.6
	0.1nm,0.3s,baz=38,slow=19,SNR=4.5						
WRA	Warramunga Arr	19.00	220	P	P	08 50 08.8	+0.7
WRA				S	S	08 53 31.6	-1.6
AS31	Alice Springs	22.09	214	eP	P	08 50 41.4	+0.9
ASAR	Alice Springs	22.09	214	P	P	08 50 41.4	+0.9
	3.0nm,0.5s,mb4.1,baz=46,slow=8.1,SNR=56						
ASAR				S	S	08 54 34.5	+5.1
	3.1nm,0.8s,baz=34,slow=23,SNR=15						
ASAR	Alice Springs	22.09	214	P	P	08 50 41.4	+0.9
ASAR				S	S	08 54 34.5	+5.1
FITZ	Fitzroy Crossi	24.48	238	P	P	08 51 01.7	-0.7
	2.1nm,0.4s,mb4.1,baz=56,slow=12,SNR=9.9						
FITZ	Fitzroy Crossi	24.48	238	P	P	08 51 01.7	-0.7
STKA	Stephens Creek	26.68	191	P	P	08 51 22.1	+0.1
	2.5nm,1.0s,mb3.8,baz=11,slow=15,SNR=2.9						
STKA	Stephens Creek	26.68	191	P	P	08 51 22.1	+0.1
TGY	Tagaytay City	32.61	307	LR	LR	09 05 37.5	
	comp=Z,3.0nm,18.2s,baz=181,slow=36						
SONM	Songino Array	64.16	331	P	P	08 56 14.0	-0.5
	0.2nm,0.4s,mb3.1,baz=122,slow=5.2,SNR=2.5						
SONM	Songino Array	64.16	331	P	P	08 56 13.9	-0.5
QSPA	South Pole Qui	84.38	180	P	P	08 58 11.0	+0.4
	2.8nm,0.8s,mb4.0,baz=289,slow=4.7,SNR=5.1						
QSPA	South Pole Qui	84.38	180	P	P	08 58 11.0	+0.4
ILAR	Eielson Array	85.01	23	P	P	08 58 13.0	-0.9
	0.3nm,0.6s,mb3.2,baz=254,slow=4.7,SNR=8.9						
ILAR	Eielson Array	85.01	23	P	P	08 58 13.0	-0.9
TORD	Torodi Ar. Bea	145.21	285	PKPbc	PKPbc	09 05 16.1	-0.1
	0.2nm,0.4s,baz=61,slow=4.3,SNR=3.2						
TORD	Torodi Ar. Bea	145.21	285	PKPbc	PKPbc	09 05 16.1	-0.1

IDC 22 09:14:14.7±3.3, 5.°76S×150.°60E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/15, mbtmp3.4/2, Error ellipse: s-maj=130.3km s-min=44.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.18	227	P	P	09 19 01.9	0.0
	0.5nm,0.5s,baz=52,slow=11,SNR=5.5						
ASAR	Alice Springs	23.98	220	P	P	09 19 31.1	0.0
	0.7nm,0.4s,baz=58,slow=9.0,SNR=32						
TORD	Torodi Ar. Bea	148.48	286	PKPbc	PKPbc	09 34 04.0	-0.5
	0.4nm,0.8s,baz=69,slow=3.1,SNR=2.5						

*NAO **22** 09:22:47.8±1.0, 76.°96N×18.°56E, ML2.3*

*CSEM **22** 09:22:48.1±0.2, 77.°00N×18.°20E, h12km, ML2.9, Error ellipse: s-maj=9.0km s-min=2.9km az=46.0*

*BER **22** 09:22:51.7±3.5, 77.°02N×18.°47E, h22km±25km, MD2.4, ML2.9, ML2.3(NAO)*

ISC 22 09:22:48.7±0.9, 77.°06N±0.°06×18.°4E±0.°2, h15km±10km, n11, σ0s46/19, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	0.65	267	eP	Pg	09 23 01.9	+0.4
HSP				eS	Sg	09 23 10.1	0.0
SPA0	Spitsbergen Ar	1.21	339	Pg	Pg	09 23 12.2	+0.1
	baz=149,slow=18						
SPA0				Lg		09 23 29.5	
	baz=159,slow=37						
SPA0	Spitsbergen Ar	1.21	339	Pg	Pg	09 23 12.1	0.0
	SNR=96						
SPA0				Lg		09 23 29.5	
	SNR=53						
HOPEN	Hopen	1.61	107	eP	Pn	09 23 17.0	+0.5
HOPEN				ePg	Pg	09 23 19.8	+0.2
HOPEN				eS	Sn	09 23 36.6	-0.3
HOPEN				AML	AML	09 23 42.5	
	comp=Z,247nm,0.3s						
HOPEN	Hopen	1.61	107	eP	Pn	09 23 17.0	+0.5
	SNR=55						
KBS	Kingsbay	2.32	327	Pn	Pn	09 23 26.9	+0.7
KBS				Pg	Pg	09 23 32.3	-0.8
KBS				Lg		09 24 02.7	
KBS	Kingsbay	2.32	327	eP	Pn	09 23 27.0	+0.8
KBS				ePg	Pg	09 23 32.6	-0.5
KBS				eSg	Sg	09 24 02.9	-0.3
KBS				AML	AML	09 24 11.7	
	comp=Z,125nm,0.4s						
KBS	Kingsbay	2.32	327	Pn	Pn	09 23 26.9	+0.7
KBS	Kingsbay	2.32	327	ePg	Pg	09 23 32.6	-0.5
	SNR=93						
KBS				Lg		09 24 02.7	
KBS				eSg	Sg	09 24 02.8	-0.3
	comp=Z,125nm,0.4s,SNR=93						
ARA0	ARCESS Array S	7.82	161	Pn	Pn	09 24 41.0	-0.8
	baz=356,slow=12						
ARA0				Sn	Sn	09 26 04.2	-5.6
	baz=2.0,slow=22						
ARA0	ARCESS Array S	7.82	161	Pn	Pn	09 24 41.0	-0.7
	SNR=55						

DJA 22 09:35:41, 1.°52S×120.°54E, h98km, MLv3.9/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.26	61	P	Pn	09 36 05.7	+1.4
APSI				S	Sn	09 36 23.5	+1.6
TTSI	Tana Toraja	1.68	205	P	Pn	09 36 10.0	+0.6
TTSI				S	Sn	09 36 31.1	+0.2
LUWI	Luwuk	2.28	78	P	Pn	09 36 15.5	-1.7
LUWI				S	Sn	09 36 46.2	+1.3
SPSI	Sidrap Palu	2.55	198	P	Pn	09 36 21.6	+0.9
SPSI				S	Sn	09 36 52.8	+1.6
MJSI	Majene	2.55	218	P	Pn	09 36 19.6	-1.1
BNSI	Bone	2.89	189	P	Pn	09 36 26.5	+1.2
KDI	Kendari	3.19	139	P	Pn	09 36 29.3	0.0

IDC 22 10:01:58.1±1.5, 34.°50S×55.°42E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/38, Error ellipse: s-maj=75.1km s-min=29.6km az=22.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	27.47	282	LR	LR	10 17 57.3	
	comp=Z,39nm,19.1s,baz=141,slow=35						
CMAR	Chiang Mai Arr	66.98	45	P	P	10 12 53.0	+0.2
	0.5nm,0.4s,baz=233,slow=6.1,SNR=5.4						
ASAR	Alice Springs	67.90	104	P	P	10 12 58.8	0.0
	0.3nm,0.5s,baz=235,slow=6.4,SNR=6.4						
TORD	Torodi Ar. Bea	69.59	303	P	P	10 13 09.5	+0.2
	1.1nm,0.9s,baz=123,slow=5.7,SNR=6.4						
WRA	Warramunga Arr	70.10	101	P	P	10 13 12.8	+0.3
	1.2nm,0.9s,baz=237,slow=5.3,SNR=6.8						
YKA	Yellowknife Ar	151.28	350	PKPbc	PKPbc	10 21 52.2	-0.5
	0.6nm,1.0s,baz=31,slow=2.5,SNR=3.7						

*ISCJB **22** 10:04:52.5±0.6, 63.°27N±0.°02×151.°41W±0.°05, h11km±5km, mb3.7/5, Error ellipse: s-maj=4.2km s-min=3.3km az=31.9*

*NEIC **22** 10:04:53.4, 63.°24N×151.°37W, h11km, ML4.0(PMR), ML3.6(AEIC), After AEIC.*

*IDC **22** 10:04:57.9±2.3, 63.°45N×151.°46W, h34km±20km, mb3.4/5, mb1 3.6/9, mb1mx3.5/26, mbtmp3.4/9, ML3.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/34, Error ellipse: s-maj=20.4km s-min=12.9km az=108.0*

ISC 22 10:04:53.3±0.5, 63.°26N±0.°02×151.°38W±0.°05, h7km±4km, n77, σ0s94/87, mb3.7/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	Purkeypile	0.51	226	P	Pg	10 05 02.8	-0.4
PPLA				S	Sg	10 05 08.6	-1.3
TRF	Thorofare Moun	0.53	68	P	Pg	10 05 03.9	+0.3
TRF				S	Sg	10 05 11.4	+0.9
CHUM	Lake Minchumin	0.76	327	P	Pg	10 05 08.6	+0.8
CHUM				S	Sg	10 05 19.2	+1.6
HUR	Hurricane	0.84	109	P	Pg	10 05 08.9	-0.6
CUT	Chulitna	0.99	149	P	Pg	10 05 11.8	-0.6
TRAP	Trapper Creek	1.06	150	P	Pg	10 05 12.8	-0.8
RND	Reindeer	1.15	81	P	Pg	10 05 14.4	-0.9
RND				S	Sg	10 05 30.3	0.0
MCK	McKinley	1.20	65	P	Pb	10 05 15.6	-0.7
SKT	Skwentna	1.28	183	P	Pn	10 05 16.1	-1.4
SKT				S	Sb	10 05 32.1	-2.2
NEA	Nenana	1.67	36	P	Pn	10 05 21.6	-1.3
STLK	Strandline Lak	1.78	187	P	Pn	10 05 23.8	-0.5
MLY	Manley	1.81	9	P	Pn	10 05 24.4	-0.3
SUA	Susitna One	1.82	170	P	Pn	10 05 24.2	-0.8
SUA				S	Sn	10 05 48.5	+0.3
DHY	Denali Highway	1.83	94	P	Pn	10 05 24.8	-0.3
WRH	Wood River Hil	1.90	49	P	Pn	10 05 24.8	-1.3
PMR	Palmer	1.97	147	P	Pn	10 05 26.5	-0.5
SPNW	Spurr Northwes	2.00	197	P	Pn	10 05 27.8	+0.4
SML	Sawmill	2.03	134	P	Pn	10 05 26.9	-0.9
CCB	Clear Creek Bu	2.11	47	P	Pn	10 05 27.6	-1.3
TT01	Tatalina	2.14	263	P	Pn	10 05 27.9	-1.4
MDM	Murphy Dome	2.20	38	P	Pn	10 05 29.1	-1.1
BKG	Blockade Glaci	2.23	191	P	Pn	10 05 30.7	+0.1
COLA	College	2.25	42	P	Pn	10 05 29.6	-1.2
RC01	Rabbit Creek A	2.31	160	P	Pn	10 05 31.5	-0.1
SCM	Sheep Creek Mo	2.36	125	P	Pn	10 05 31.3	-1.0
IL1	Eielson Array	2.50	50	P	Pn	10 05 33.0	-1.2
ILAR	Eielson Array	2.50	50	Pn	Pn	10 05 33.0	-1.2
	2.7nm,0.3s,baz=238,slow=13,SNR=138						
ILAR				Pg	Pg	10 05 42.0	+0.9
	13nm,0.3s,baz=215,slow=14,SNR=52						
ILAR				Lg		10 06 12.6	
	40nm,0.3s,baz=230,slow=31,SNR=14						
ILAR	Eielson Array	2.50	50	Pn	Pn	10 05 33.0	-1.2
ILAR				Pg	Pg	10 05 42.0	+0.9
ILAR				Lg		10 06 12.6	
DDM	Donnelly Dome	2.53	75	P	Pn	10 05 34.7	0.0
PAX	Paxson	2.70	93	P	Pn	10 05 37.5	+0.4
SLKM	Skilak Lake	2.81	168	P	Pn	10 05 38.4	-0.1
GCSA	Galena City Sc	2.85	304	P	Pn	10 05 40.4	+1.4
RSO	Redoubt South	2.88	194	P	Pn	10 05 40.4	+1.0
SVW2	Sparrevohn	2.93	224	eP	Pn	10 05 42.2	+2.1
KLU	Klutina	3.10	122	P	Pn	10 05 43.0	+0.5
JPK	Jack Peak	3.15	132	P	Pn	10 05 43.8	+0.6
VLZ	Valdez	3.19	130	P	Pn	10 05 44.0	+0.3
SEW	Seward	3.29	163	P	Pn	10 05 46.0	+0.9
DOT	Dot Lake	3.31	80	P	Pn	10 05 45.3	-0.2
DIV	Divide	3.39	127	P	Pn	10 05 46.8	+0.3
PRP	Porcupine Dome	3.41	46	P	Pn	10 05 46.3	-0.5
FID	Port Fidalgo	3.42	135	P	Pn	10 05 47.5	+0.7
MENT	Mentasta	3.50	92	eP	Pn	10 05 49.9	+1.9
OPT	Oil Point	3.72	195	P	Pn	10 05 52.8	+1.7
EYAK	Cordova Ski Ar	3.81	133	P	Pn	10 05 53.0	+0.8
BMRM	Bremner River	3.93	123	P	Pn	10 05 54.1	+0.2
COLD	Coldfoot	4.02	7	P	Pn	10 05 55.6	+0.5
GOAT	Goat Mountain	4.13	127	P	Pn	10 05 57.2	+0.5
BCA3	Beaver Creek A	4.36	88	P	Pn	10 05 60.0	+0.2
BERG	Berg Lake	4.64	125	P	Pn	10 06 04.4	+0.8
EGAK	Eagle	4.75	67	ePn	Pn	10 06 05.5	+0.4
KHIT	Khitrov Hills	4.78	123	P	Pn	10 06 06.9	+1.4
BALM	Baldy	4.79	114	P	Pn	10 06 06.2	+0.5
KAHC	Katmai Hardscr	4.95	203	P	Pn	10 06 08.2	+0.3
ISLE	Juniper Island	5.03	118	P	Pn	10 06 09.2	+0.1
BM3	Burnt Mountain	5.05	31	P	Pn	10 06 08.2	-1.0
BARK	Barkley Ridge	5.09	120	P	Pn	10 06 11.5	+1.7
BAGL	Bagley Icefiel	5.20	118	P	Pn	10 06 11.7	+0.3
DAWY	Dawson	5.40	76	P	Pn	10 06 13.6	-0.5
KDAK	Kodiak Island	5.52	187	Pn	Pn	10 06 16.4	+0.6
	0.7nm,0.3s,baz=153,slow=1.7,SNR=12						
KDAK				Sn	Sn	10 07 18.5	-0.9
	0.7nm,0.3s,baz=60,slow=23,SNR=3.0						
KDAK	Kodiak Island	5.52	187	Pn	Pn	10 06 16.4	+0.6
KDAK				Sn	Sn	10 07 18.5	-0.9
TNA	Tin City	7.52	295	P	Pn	10 06 43.7	+0.5
INK	Inuvik	8.90	48	Pn	Pn	10 07 01.0	-1.0
	0.5nm,0.3s,baz=245,slow=17,SNR=41						
INK				LR	LR	10 11 05.5	
	comp=Z,81nm,18.4s,baz=308,slow=42						
INK	Inuvik	8.90	48	P	Pn	10 07 01.2	-0.8
SIT	Sitka	10.11	121	eP	Pn	10 07 19.7	+1.1
	20nm,1.1s						
YKA	Yellowknife Ar	16.64	76	Pn	Pn	10 08 47.6	+1.0
	0.1nm,0.3s,baz=292,slow=10,SNR=12						
YKA	Yellowknife Ar	16.64	76	Pn	Pn	10 08 47.6	+1.0
PDAR	Pinedale Array	31.61	110	P	P	10 11 19.4	+3.0
	0.5nm,0.8s,mb3.4,baz=329,slow=5.5,SNR=4.0						
PDAR	Pinedale Array	31.61	110	P	P	10 11 19.4	+3.0
TXAR	Lajitas Array	45.54	115	P	P	10 13 13.4	+0.2
	0.6nm,0.7s,mb3.6,baz=342,slow=7.9,SNR=3.5						
TXAR	Lajitas Array	45.54	115	P	P	10 13 13.4	+0.2
SONM	Songino Array	53.53	305	P	P	10 14 15.0	+1.1
	0.9nm,0.8s,mb3.7,baz=24,slow=5.7,SNR=5.9						
SONM	Songino Array	53.53	305	P	P	10 14 15.0	+1.1
ZALV	Zalesovo Beam	55.21	323	P	P	10 14 25.1	-1.1
	0.6nm,0.4s,mb4.0,baz=15,slow=6.6,SNR=5.3						
ZALV	Zalesovo Beam	55.21	323	P	P	10 14 25.1	-1.1
MKAR	Makanchi Array	62.37	321	P	P	10 15 14.5	-1.5
	0.4nm,0.5s,mb3.8,baz=33,slow=5.0,SNR=4.2						
MKAR	Makanchi Array	62.37	321	P	P	10 15 14.5	-1.5

*NEIC **22** 10:24:18.6, 16.°47N×100.°77W, h5km, MD4.2(MEX), After MEX.*

MEX 22 10:24:19.1±0.4, 16.°52N×100.°76W, h4km±7km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.93	68	iP	Pg	10 24 34.3	-2.6
ACX				iS	Sg	10 24 47.0	-2.0
ACX	Acapulco	0.93	68	iP	Pg	10 24 34.3	-2.6
ACX				iS	Sg	10 24 46.0	-3.0
ZIIG	Zihuatanejo	1.28	328	iP	Pg	10 24 40.1	-3.5
ZIIG				eS	Sg	10 24 56.2	-4.1
ZIIG	Zihuatanejo	1.28	328	iP	Pg	10 24 40.1	-3.5
ZIIG				eS	Sg	10 24 56.2	-4.1
MEIG	Mezcala	1.77	38	iP	Pn	10 24 46.8	-3.8
MEIG				eS	Sn	10 25 09.9	-3.7
MEIG	Mezcala	1.77	38	iP	Pn	10 24 46.8	-3.8
MEIG				iS	Sn	10 25 08.5	-5.0
PLIG	Platanillo	2.22	32	iP	Pn	10 24 53.3	-3.3
PLIG				eS	Sn	10 25 20.7	-3.8
PLIG	Platanillo	2.22	32	iP	Pn	10 24 53.3	-3.3
PLIG				eS	Sn	10 25 20.7	-3.8
MMIG	Aquila	3.04	306	iP	Pn	10 25 04.9	-3.0
MMIG				iS	Sn	10 25 41.0	-3.8
MOIG	Morelia	3.17	353	iP	Pn	10 25 07.5	-2.3
MOIG				iS	Sn	10 25 45.4	-2.7
MOIG	Morelia	3.17	353	iP	Pn	10 25 07.5	-2.3
MOIG				iS	Sn	10 25 44.1	-3.9
PPM	Popocatepetl	3.25	38	iP	Pn	10 25 08.2	-2.6
PPM				iS	Sn	10 25 47.8	-2.1
PPM	Popocatepetl	3.25	38	iP	Pn	10 25 08.2	-2.6
PPM				iS	Sn	10 25 47.5	-2.4
TPIG	Tehuac#an	3.75	59	iP	Pn	10 25 14.5	-3.3
TPIG				eS	Sn	10 26 00.0	-2.4
TPIG	Tehuac#an	3.75	59	iP	Pn	10 25 14.5	-3.3
TPIG				eS	Sn	10 25 59.4	-3.0
VHO	Vista Hermosa	3.89	81	iP	Pn	10 25 16.9	-2.8
VHO				eS	Sn	10 26 02.3	-3.5
VHO	Vista Hermosa	3.89	81	iP	Pn	10 25 16.9	-2.8
VHO				eS	Sn	10 26 02.3	-3.5

*IDC **22** 10:25:47.5±0.6, 32.°53S×71.°97W, h0km, mb4.4/11, mb1 4.4/15, mb1mx4.4/18, mbtmp4.3/15, ML4.1/4, MS3.7/6, Ms1 3.7/6, ms1mx3.4/25, Error ellipse: s-maj=24.5km s-min=16.0km az=77.0*

*ISCJB **22** 10:25:48.8±1.1, 32.°55S±0.°03×72.°10W±0.°06, h18km±7km, mb4.3/13, MS3.7/4, Error ellipse: s-maj=8.8km s-min=4.4km az=159.6*

*GUC **22** 10:25:50.5±1.1, 32.°54S×71.°98W, h12km±11km, MD4.4, ML4.3*

*NEIC **22** 10:25:50.5, 32.°54S×71.°98W, h12km, mb4.3/3, ML4.3(GUC), After GUC.*

NEIC Felt [II] at Santiago and Valparaiso.

ISC 22 10:25:49.6±0.9, 32.°54S±0.°03×72.°01W±0.°05, h11km±5km, n86, σ0s84/81, mb4.3/13, MS3.7/4, 10C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.57	147	⇓iP	Pg	10 26 01.3	+0.5
IHA	Instituto Hidr	0.57	147	⇓iP	Pg	10 26 01.3	+0.5
CHNG	Los Chungos	0.79	33	⇓iP	Pg	10 26 04.5	-0.3
CHNG				iS	Sg	10 26 15.5	+0.4
ROCH	El Roble	0.94	117	⇓iP	Pg	10 26 07.6	-0.2
ROCH				iS	Sg	10 26 20.0	0.0
ROCH				AML	AML	10 26 23.5	
	comp=E,21μm,0.5s						
PTCH	Petorca	0.95	73	eP	Pg	10 26 07.2	-0.8
PTCH				iS	Sg	10 26 20.6	+0.2
PTCH	Petorca	0.95	73	eP	Pg	10 26 07.2	-0.8
PTCH				iS	Sg	10 26 20.6	+0.2
PTCH				AML	AML	10 26 23.2	
	comp=N,21μm,0.3s						
JACH	Jahuel	1.20	97	⇑iP	Pn	10 26 11.5	-0.8
JACH	Jahuel	1.20	97	⇑iP	Pn	10 26 11.5	-0.8
PEL	Peldehue	1.26	119	⇑iP	Pn	10 26 13.0	-0.1
PEL				eS	Sb	10 26 28.9	-0.7
PEL				AML	AML	10 26 34.3	
	comp=E,17μm,1.0s						
TACH	Talagante	1.42	141	⇑eP	Pn	10 26 15.1	-0.3
TACH	Talagante	1.42	141	⇑eP

SAML	Samuel	24.86	21	*eP*	P	10 31 11.3	-0.9
	comp=N,8.6nm,1.1s,mb4.2						
ATAH	Atahualpa	25.97	345	LR	LR	10 39 57.4	
	comp=N,91nm,20.8s,MS3.3,baz=11,slow=33						
VNA3	Neumayer Olymp	50.70	158	*e*	P	10 34 49.2	+0.5
VNA2	Neumayer--Watz	51.34	158	*e*	P	10 34 54.0	+0.5
	baz=295,slow=9.1						
SNAA	Sanae	52.92	158	*e*	P	10 35 05.6	+0.3
SNAA	Sanae	52.92	158	LR	LR	10 56 06.9	
	comp=N,38nm,18.3s,MS3.5,baz=30,slow=34						
SNAA	Sanae	52.92	158	*eP*	P	10 35 05.2	-0.1
	comp=N,13nm,1.2s,mb4.8						
QSPA	South Pole Qui	57.69	180	P	P	10 35 40.1	+0.5
	comp=N,9.2nm,0.7s,mb4.9,baz=153,slow=2.5,SNR=19						
QSPA	South Pole Qui	57.69	180	*eP*	P	10 35 40.2	+0.7
SYO	Syowa Base	67.21	159	⇑*eP*	P	10 36 41.8	-1.5
TXAR	Lajitas Array	68.48	330	P	P	10 36 51.8	0.0
	comp=N,0.7nm,0.7s,mb3.8,baz=153,slow=8.6,SNR=7.3						
TXAR	Lajitas Array	68.48	330	P	P	10 36 51.8	0.0
ANMO	Albuquerque	74.53	331	P	P	10 37 28.6	+0.5
	comp=N,1.6nm,0.8s,mb4.0,baz=134,slow=3.8,SNR=6.3						
ANMO	Albuquerque	74.53	331	P	P	10 37 28.6	+0.5
MAW	Mawson	74.57	164	P	P	10 37 27.9	-0.1
	comp=N,4.5nm,0.8s,mb4.5,baz=260,slow=6.1,SNR=4.7						
MAW	Mawson	74.57	164	P	P	10 37 27.9	-0.1
DBIC	Dimbokro	74.69	72	P	P	10 37 29.1	-0.6
	comp=N,8.2nm,0.7s,mb4.8,baz=208,slow=6.9,SNR=14						
DBIC	Dimbokro	74.69	72	P	P	10 37 29.1	-0.6
RAR	Rarotonga	77.10	253	LR	LR	11 02 54.3	
	comp=N,154nm,21.3s,MS4.3,baz=96,slow=29						
PV01	Paradox Valley	78.13	331	P	P	10 37 48.5	0.0
BOSA	Boshof	80.72	118	P	P	10 38 02.8	-0.4
	comp=N,5.3nm,0.8s,mb4.5,baz=249,slow=7.2,SNR=6.9						
BOSA	Boshof	80.72	118	P	P	10 38 02.8	-0.4
PDAR	Pinedale Array	82.48	333	P	P	10 38 12.0	+0.2
	comp=N,0.4nm,0.8s,mb3.4,baz=161,slow=8.6,SNR=3.2						
PDAR	Pinedale Array	82.48	333	P	P	10 38 12.0	+0.2
NVAR	Mina Array Bea	82.71	325	P	P	10 38 12.6	-0.6
	comp=N,1.6nm,0.8s,mb4.1,baz=160,slow=4.7,SNR=6.0						
NVAR	Mina Array Bea	82.71	325	P	P	10 38 12.6	-0.6
TORD	Torodi Ar. Bea	83.69	70	P	P	10 38 18.3	-0.5
	comp=N,6.3nm,0.8s,mb4.8,baz=257,slow=4.5,SNR=40						
TORD	Torodi Ar. Bea	83.69	70	P	P	10 38 18.3	-0.5
ULM	Lac du Bonnet	85.10	345	P	P	10 38 24.1	-0.9
	comp=N,2.8nm,0.8s,mb4.4,baz=175,slow=4.0,SNR=5.2						
ULM	Lac du Bonnet	85.10	345	P	P	10 38 24.1	-0.9
MCMT	McKenzie Canyo	85.50	332	*eP*	P	10 38 27.3	+0.1
	comp=N,0.7nm,0.9s,mb3.8						
YKA	Yellowknife Ar	100.69	341	P	Pdif	10 39 35.6	-2.2
	comp=N,0.1nm,0.6s,baz=141,slow=4.6,SNR=5.9						
YKA	Yellowknife Ar	100.69	341	P	Pdif	10 39 35.6	-2.2
WRA	Warramunga Arr	122.04	210	PKP	PKPdf	10 44 43.5	-1.3
	comp=N,1.0nm,0.7s,baz=160,slow=1.7,SNR=10						
WRA	Warramunga Arr	122.04	210	PKP	PKPdf	10 44 43.5	-1.3
BVAR	Borovoye Array	146.19	41	PKPbc	PKPbc	10 45 29.7	+0.3
	comp=N,4.0nm,0.6s,baz=298,slow=3.1,SNR=21						
BVAR	Borovoye Array	146.19	41	PKPbc	PKPbc	10 45 29.7	+0.3
KURK	Kurchatov	151.78	41	PKPbc	PKPbc	10 45 43.4	-0.4
	comp=N,4.4nm,0.7s,baz=298,slow=3.0,SNR=21						
KURK				PKPab	PKPab	10 45 52.3	-0.5
	comp=N,1.8nm,0.5s,baz=296,slow=3.2,SNR=6.5						
KURK	Kurchatov	151.78	41	PKPbc	PKPbc	10 45 43.4	-0.4
KURK				PKPab	PKPab	10 45 52.3	-0.5
ZALV	Zalesovo Beam	152.97	31	PKPbc	PKPbc	10 45 46.0	-0.4
	comp=N,4.6nm,0.7s,baz=295,slow=3.2,SNR=19						
ZALV				PKPab	PKPab	10 45 55.4	-2.4
	comp=N,4.0nm,0.6s,baz=301,slow=3.0,SNR=10						
ZALV	Zalesovo Beam	152.97	31	PKPbc	PKPbc	10 45 46.0	-0.4
ZALV				PKPab	PKPab	10 45 55.4	-2.4
MKAR	Makanchi Array	155.77	47	PKPbc	PKPdf	10 45 51.4	+8.2
	comp=N,0.9nm,0.8s,baz=43,slow=2.5,SNR=4.0						
MKAR				PKPab	PKPab	10 46 09.4	-0.5
	comp=N,3.0nm,0.7s,baz=293,slow=4.5,SNR=13						
MKAR	Makanchi Array	155.77	47	PKPbc	PKPdf	10 45 51.4	+8.2
MKAR				PKPab	PKPab	10 46 09.4	-0.5
SONM	Songino Array	164.68	4	PKPab	PKPab	10 46 48.9	+0.5
	comp=N,0.6nm,0.6s,baz=354,slow=3.0,SNR=4.7						
SONM	Songino Array	164.68	4	PKPab	PKPab	10 46 48.9	+0.5

*NEIC **22** 10:26:25.8±1.1, 7°.97S×120°.03E, h206km±9km, Error ellipse: s-maj=34.1km s-min=7.4km az=59.0*
*IDC **22** 10:26:27.3±1.6, 7°.78S×120°.39E, h218km±13km, mb3.4/5, mb1 3.4/8, mb1mx3.2/21, mbtmp3.4/8, Error ellipse: s-maj=57.6km s-min=8.7km az=56.0*

ISC 22 10:26:26.5±1.2, 7°.9S±0°.1×120°.2E±0°.2, h210km±11km, n21, σ0°65/27, mb3.8/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	2.92	352	P	Pn	10 27 15.3	-0.5
	8.5nm,0.3s,baz=183,slow=8.2,SNR=32						
KAPI				S	Sn	10 27 54.7	+0.2
	baz=144,slow=18,SNR=2.8						
KAPI	Kappang	2.92	352	P	Pn	10 27 15.3	-0.5
KAPI				S	Sn	10 27 54.7	+0.2
FITZ	Fitzroy Crossi	11.43	153	P	Pn	10 29 03.5	-0.4
	0.2nm,0.3s,baz=331,slow=12,SNR=4.4						
FITZ				S	S	10 31 02.7	-9.0
	0.8nm,0.3s,baz=198,slow=17,SNR=7.5						
FITZ	Fitzroy Crossi	11.43	153	P	Pn	10 29 03.5	-0.4
FITZ				S	S	10 31 02.7	-9.0
WRA	Warramunga Arr	18.20	132	P	P	10 30 24.4	+0.5
	0.4nm,0.3s,baz=313,slow=10.0,SNR=43						
WRA				S	S	10 33 39.9	-1.4
	0.1nm,0.3s,baz=226,slow=38,SNR=3.6						
WRA	Warramunga Arr	18.20	132	P	P	10 30 24.4	+0.5
WRA				S	S	10 33 39.9	-1.4
WRAB	Tennant Creek	18.20	132	*eP*	P	10 30 23.7	-0.3
WB2	Warramunga Arr	18.21	132	*eP*	P	10 30 24.2	+0.2
ASAR	Alice Springs	20.46	141	P	P	10 30 48.1	0.0
	0.6nm,0.3s,baz=314,slow=9.1,SNR=18						
ASAR				S	S	10 34 25.5	+0.1
	0.7nm,0.7s,baz=324,slow=23,SNR=4.7						
ASAR	Alice Springs	20.46	141	P	P	10 30 48.1	0.0
ASAR				S	S	10 34 25.5	+0.1
COEN	Coen	23.37	107	*eP*	P	10 31 17.5	+1.0
STKA	Stephens Creek	31.08	143	P	P	10 32 26.4	+1.3
	2.0nm,0.8s,mb3.8,baz=336,slow=11,SNR=3.1						
STKA	Stephens Creek	31.08	143	P	P	10 32 26.4	+1.3
MKAR	Makanchi Array	64.04	332	P	P	10 36 37.8	+0.1
	1.5nm,0.5s,mb3.9,baz=143,slow=7.6,SNR=7.6						
MKAR	Makanchi Array	64.04	332	P	P	10 36 37.8	+0.1
ZALV	Zalesovo Beam	68.46	338	P	P	10 37 05.0	-0.7
	1.5nm,0.5s,mb3.9,baz=136,slow=5.7,SNR=7.8						
ZALV	Zalesovo Beam	68.46	338	P	P	10 37 05.0	-0.7
KURK	Kurchatov	68.56	333	P	P	10 37 06.2	-0.1
	0.4nm,0.3s,mb3.5,baz=62,slow=6.7,SNR=4.7						
KURK	Kurchatov	68.56	333	P	P	10 37 06.2	-0.1
YKA	Yellowknife Ar	112.75	24	PKiKP	PKiKP	10 44 37.0	-0.7
	0.2nm,0.5s,baz=314,slow=2.0,SNR=6.8						
YKA	Yellowknife Ar	112.75	24	PKiKP	PKiKP	10 44 37.0	-0.7

IDC 22 10:35:47.6±0.8, 34°.42S×55°.49E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/21, mbtmp4.1/5, MS3.3/2, Ms1 3.3/2, ms1mx2.9/33, Error ellipse: s-maj=33.3km s-min=24.6km az=37.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	17.43	333	LR	LR	10 44 57.3	
	comp=Z,107nm,18.5s,baz=183,slow=32						
LBTB	Lobatse	27.52	282	LR	LR	10 51 00.6	
	comp=Z,52nm,20.7s,baz=86,slow=33						
QSPA	South Pole Qui	55.76	180	P	P	10 45 26.3	+0.7
	1.2nm,0.3s,baz=266,slow=2.6,SNR=7.5						
CMAR	Chiang Mai Arr	66.89	45	P	P	10 46 42.5	+0.7
	1.8nm,0.7s,baz=232,slow=7.0,SNR=9.0						
ASAR	Alice Springs	67.87	104	P	P	10 46 47.9	-0.2
	1.1nm,0.7s,baz=232,slow=6.1,SNR=16						
TORD	Torodi Ar. Bea	69.60	303	P	P	10 46 59.1	+0.2
	1.5nm,0.8s,baz=131,slow=5.6,SNR=11						
WRA	Warramunga Arr	70.05	101	P	P	10 47 01.8	+0.1
	2.1nm,0.7s,baz=236,slow=5.4,SNR=15						
INK	Inuvik	145.68	6	PKPbc	PKPbc	10 55 27.0	-0.3
	1.5nm,0.8s,baz=4.0,slow=3.4,SNR=7.7						
ILAR	Eielson Array	146.72	17	PKPbc	PKPbc	10 55 29.2	-1.3
	0.5nm,0.9s,baz=318,slow=4.3,SNR=5.3						
YKA	Yellowknife Ar	151.22	350	PKPbc	PKPbc	10 55 41.3	-0.8
	0.2nm,0.6s,baz=16,slow=2.2,SNR=37						
YKA				PKPab	PKPab	10 55 49.0	-0.9
	0.4nm,0.8s,baz=13,slow=4.1,SNR=7.6						

IDC 22 10:42:09.5±3.0, 16°.62S×175°.59W, h214km±72km, mb2.8/3, mb1 3.1/4, mb1mx2.9/18, mbtmp2.8/4, Error ellipse: s-maj=382.2km s-min=26.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.55	54	P	Pn	10 43 20.7	+2.0
	1.2nm,0.3s,baz=120,slow=22,SNR=6.1						
AFI				S	S	10 44 13.0	-0.4
	8.3nm,0.3s,baz=60,slow=19,SNR=12						
WRA	Warramunga Arr	47.53	258	P	P	10 50 23.9	+0.2
	0.2nm,0.6s,baz=78,slow=7.9,SNR=3.5						
ASAR	Alice Springs	47.74	253	P	P	10 50 24.8	-0.5
	0.5nm,0.6s,baz=87,slow=8.5,SNR=11						
ILAR	Eielson Array	84.05	12	P	P	10 54 15.8	+0.3
	0.4nm,1.0s,baz=215,slow=5.3,SNR=5.3						

*ISCJB **22** 10:47:07.2±1.3, 12°.02S±0°.05×166°.27E±0°.06, h43km±12km, mb4.9/25, MS3.7/11, Error ellipse: s-maj=9.9km s-min=8.5km az=158.0*
*IDC **22** 10:47:09.0±3.3, 12°.00S×166°.39E, h50km±27km, mb4.3/12, mb1 4.4/14, mb1mx4.2/21, mbtmp4.3/14, ML4.7/2, MS3.7/13, Ms1 3.7/13, ms1mx3.5/30, Error ellipse: s-maj=22.8km s-min=15.2km az=71.0*
*NEIC **22** 10:47:10.4±0.8, 12°.00S×166°.33E, h62km±8km, mb4.9/8, Error ellipse: s-maj=8.3km s-min=6.6km az=132.0*

ISC 22 10:47:10.0±1.0, 12°.00S±0°.05×166°.29E±0°.06, h54km±9km, n83, σ0°75/76, mb4.9/25, MS3.7/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.74	292	P	Pn	10 48 47.2	+0.9
	38nm,0.3s,baz=167,slow=5.4,SNR=23						
HNR				S	Sn	10 50 01.9	+0.2
	33nm,0.3s,baz=210,slow=23,SNR=6.1						
HNR				LR	LR	10 50 15.9	
	comp=Z,102nm,20.6s,baz=135,slow=27						
HNR	Honiara	6.74	292	P	Pn	10 48 47.2	+0.9
HNR				*e*Sn	Sn	10 50 00.1	-1.7
HNR				S	Sn	10 50 01.9	+0.2
DZM	Mont Dzumac	10.02	179	*e*Pn	Pn	10 49 31.5	+0.3
	11nm,0.3s						
DZM				*e*Sn	Sn	10 51 15.8	-6.4
	8.9nm,0.3s						
DZM				*e*LR	LR	10 51 51.0	
	988nm,24.9s						
DZM	Mont Dzumac	10.02	179	*eP*	Pn	10 49 31.4	+0.2
DZM	Mont Dzumac	10.02	179	P	Pn	10 49 31.1	-0.1
	2.6nm,0.3s,baz=25,slow=21,SNR=26						
DZM				S	Sn	10 51 21.9	-0.2
	baz=55,slow=22,SNR=1.8						
DZM				LR	LR	10 51 58.2	
	comp=Z,123nm,19.1s,baz=27,slow=29						
DZM	Mont Dzumac	10.02	179	P	Pn	10 49 31.1	-0.1
DZM				S	Sn	10 51 21.9	-0.2
MSVF	Nonsavu	12.71	118	*e*Pn	Pn	10 50 09.7	+1.6
	17nm,1.3s						
TARA	Tarawa	14.81	27	*e*Pn	Pn	10 50 35.0	-1.4
	15nm,0.7s						
EIDS	Eidsvold	19.58	225	*eP*	Pn	10 51 34.1	-1.2
	18nm,1.0s						
CTA	Charters Tower	20.85	245	LR	LR	10 58 46.5	
	comp=Z,302nm,20.1s,MS3.7,baz=51,slow=33						
CTAO	Charters Tower	20.85	245	P	P	10 51 47.5	0.0
AFI	Afiamalu	21.46	97	LR	LR	10 58 44.7	
	comp=Z,113nm,20.5s,MS3.2,baz=251,slow=33						
ARMA	Armidale	22.82	214	*eP*	P	10 52 08.7	+0.4
ARMA	Armidale	22.82	214	*eP*	P	10 52 08.0	-0.3
	22nm,1.0s,mb4.5						
URZ	Urewera	27.88	162	LR	LR	11 02 17.0	
	comp=Z,193nm,20.0s,MS3.7,baz=177,slow=33						
STKA	Stephens Creek	30.14	225	P	P	10 53 15.6	+0.8
	7.0nm,0.7s,mb4.5,baz=42,slow=9.6,SNR=18						
STKA				LR	LR	11 04 20.0	
	comp=Z,273nm,20.6s,MS3.9,baz=28,slow=34						
STKA	Stephens Creek	30.14	225	*eP*	P	10 53 15.3	+0.5
STKA	Stephens Creek	30.14	225	P	P	10 53 15.6	+0.8
WRAB	Tennant Creek	31.66	251	*eP*	P	10 53 28.1	-0.4
WB2	Warramunga Arr	31.66	251	*eP*	P	10 53 27.8	-0.6
WRA	Warramunga Arr	31.67	251	P	P	10 53 28.1	-0.5
	4.9nm,0.7s,mb4.5,baz=84,slow=9.1,SNR=41						
WRA				PcP	PcP	10 56 18.0	-1.5
	2.4nm,0.8s,baz=78,slow=2.8,SNR=8.8						
WRA				LR	LR	11 05 17.3	
	comp=Z,99nm,18.6s,MS3.5,baz=75,slow=34						
WRA	Warramunga Arr	31.67	251	P	P	10 53 28.1	-0.5
WRA				PcP	PcP	10 56 18.0	-1.5
RPZ	Rata Peaks	31.87	173	P	P	10 53 29.4	-0.5
	8.4nm,0.8s,mb4.6,baz=276,slow=6.5,SNR=3.1						
RPZ	Rata Peaks	31.87	173	P	P	10 53 29.4	-0.5
AS31	Alice Springs	32.86	245	*eP*	P	10 53 38.1	-0.8
ASAR	Alice Springs	32.86	245	P	P	10 53 38.3	-0.6
	6.3nm,0.6s,mb4.7,baz=69,slow=9.6,SNR=76						
ASAR				PcP	PcP	10 56 22.1	-0.7
	2.1nm,0.8s,baz=60,slow=2.4,SNR=9.5						
ASAR	Alice Springs	32.86	245	P	P	10 53 38.3	-0.6
ASAR				PcP	PcP	10 56 22.1	-0.7
GUMO	Guam	33.13	319	LR	LR	11 05 06.6	
	comp=Z,136nm,21.2s,MS3.6,baz=117,slow=32						
FORT	Forrest	39.95	236	*eP*	P	10 54 39.5	+0.3
PPT2	Papeete2	42.96	103	*e*LR	LR	11 07 08.5	
	288nm,26.5s						
TBI	Tubuai	43.48	111	*e*LR	LR	11 07 27.0	
	266nm,28.8s						
KLBR	Kellerberrin	48.66	238	*eP*	P	10 55 48.5	-0.4
	12nm,0.7s,mb5.0						
NWAO	Narrogin (SRO)	49.38	237	P	P	10 55 54.4	0.0
	16nm,0.8s,mb5.1,baz=75,slow=6.0,SNR=12						
NWAO	Narrogin (SRO)	49.38	237	P	P	10 55 54.4	0.0
MJAR	Matsushiro Arr	55.06	332	LR	LR	11 17 40.3	
	comp=Z,45nm,19.4s,MS3.6,baz=245,slow=33						
KSRS	Korea Array	60.96	326	P	P	10 57 17.9	+0.3
	1.0nm,0.7s,mb4.0,baz=131,slow=6.9,SNR=5.6						
KSAR	Wonju Array Be	60.97	326	P	P	10 57 17.9	+0.2
PETK	Petropavlovsk-	65.26	354	LR	LR	11 28 18.4	
	comp=Z,33nm,18.4s,MS3.6,baz=120,slow=38						
ENH	Enshi	68.91	309	*eP*	P	10 58 09.4	-0.1
	36nm,0.9s,mb5.3						
CHRT	Chiangrai	72.71	295	P	P	10 58 33.0	+0.3
	105nm,0.8s,mb5.8						
CMAR	Chiang Mai Arr	72.98	294	P	P	10 58 36.1	+1.7
	5.5nm,0.8s,mb4.6,baz=120,slow=4.5,SNR=29						
CMAR	Chiang Mai Arr	72.98	294	P	P	10 58 36.1	+1.7
ULN	Ulaanbaatar	79.38	324	*eP*	P	10 59 10.5	+0.3
	3.3nm,0.9s,mb4.3						
SONM	Songino Array	79.75	324	P	P	10 59 12.5	+0.4
	1.4nm,0.7s,mb4.0,baz=143,slow=4.5,SNR=9.9						
SONM	Songino Array	79.75	324	P	P	10 59 12.5	+0.4
LSA	Lhasa	83.31	302	*eP*	P	10 59 33.1	+1.7
	5.4nm,0.6s,mb4.8						
MENT	Mentasta	84.03	21	P	P	10 59 32.8	-1.5
ILAR	Eielson Array	84.24	18	P	P	10 59 33.9	-1.5
	1.1nm,0.5s,mb4.3,baz=249,slow=4.6,SNR=22						
ILAR				LR	LR	11 35 22.4	
	comp=Z,61nm,19.0s,MS4.0,baz=267,slow=34						
ILAR	Eielson Array	84.24	18	P	P	10 59 33.9	-1.5
WCN	Washoe City	85.44	48	P	P	10 59 42.1	+0.1
TAPN	Taplejung	85.53	299	*eP*	P	10 59 43.4	+0.7
	32nm,1.1s,mb5.5						
TAPN	Taplejung	85.53	299	*eP*	P	10 59 43.4	+0.7
	32nm,1.1s,mb5.5						
ODAN	Odare	85.67	298	*eP*	P	10 59 44.1	+0.7
	45nm,0.9s,mb5.7						
ODAN	Odare	85.67	298	*eP*	P	10 59 44.1	+0.7
	45nm,0.9s,mb5.7						
RAMN	Ramite	86.38	298	*eP*	P	10 59 47.3	+0.4
	23nm,1.1s,mb5.3						
RAMN	Ramite	86.38	298	*eP*	P	10 59 47.3	+0.4
	23nm,1.1s,mb5.3						
JIRN	Jiri	86.92	299	*eP*	P	10 59 50.1	+0.6
JIRN	Jiri	86.92	299	*eP*	P	10 59 50.1	+0.6
GUN	Gumba	87.25	299	*eP*	P	10 59 51.7	+0.6
	22nm,0.8s,mb5.4						
GUN	Gumba	87.25	299	*eP*	P	10 59 51.7	+0.6
	22nm,0.8s,mb5.4						
PKI	Pulchoki	87.56	299	*eP*	P	10 59 52.9	+0.3
PKI	Pulchoki	87.56	299	*eP*	P	10 59 52.9	+0.3
KKN	Kakani	87.73	299	*eP*	P	10 59 53.7	+0.3
KKN	Kakani	87.73	299	*eP*	P	10 59 53.7	+0.3
DMN	Daman	87.83	299	*eP*	P	10 59 54.4	+0.5
	46nm,0.9s,mb5.7						
DMN	Daman	87.83	299	*eP*	P	10 59 54.4	+0.5
	46nm,0.9s,mb5.7						
GKN	Gorkha	88.33	299	*eP*	P	10 59 56.0	-0.3
	30nm,0.8s,mb5.6						
GKN	Gorkha	88.33	299	*eP*	P	10 59 56.0	-0.3
	30nm,0.8s,mb5.6						
KOLN	Koldanda	89.17	298	*eP*	P	10 59 59.6	-0.6
KOLN	Koldanda	89.17	298	*eP*	P	10 59 59.6	-0.6
DANN	Dangsing	89.17	299	*eP*	P	10 59 59.8	-0.4
	22nm,0.8s,mb5.5						
DANN	Dangsing	89.17	299	*eP*	P	10 59 59.8	-0.4
	22nm,0.8s,mb5.5						
MKAR	Makanchi Array	94.58	317	P	P	11 00 24.6	-0.3
	4.7nm,0.8s,mb5.0,baz=97,slow=5.9,SNR=19						
MKAR	Makanchi Array	94.58	317	P	P	11 00 24.6	-0.3
ZALV	Zalesovo Beam	94.64	324	P	P	11 00 24.1	-0.8
	0.4nm,0.3s,mb4.3,baz=123,slow=5.3,SNR=2.9						
ZALV				LR	LR	11 39 49.1	
	comp=Z,90nm,18.9s,MS4.3,baz=58,slow=33						
ZALV	Zalesovo Beam	94.64	324	P	P	11 00 24.1	-0.8
YKA	Yellowknife Ar	95.57	27	P	P	11 00 28.4	-0.5
	0.3nm,0.6s,mb3.9,baz=258,slow=4.5,SNR=9.4						
YKA	Yellowknife Ar	95.57	27	P	P	11 00 28.4	-0.5
TXAR	Lajitas Array	95.81	61	LR	LR	11 37 06.9	
	comp=Z,68nm,18.3s,MS4.2,baz=0.0,slow=31						
ARCES	ARCESS Array B	117.39	345	PKP	PKPdf	11 05 47.6	-1.4
	5.9nm,1.1s,baz=75,slow=1.6,SNR=12						
ARCES	ARCESS Array B	117.39	345	PKP	PKPdf	11 05 47.6	-1.3
TORD	Torodi Ar. Bea	164.92	276	PKP	PKPdf	11 07 06.8	-2.1
	1.2nm,0.9s,baz=15,slow=1.5,SNR=5.9						
TORD				PKPab	PKPab	11 08 05.4	-0.1
	1.7nm,0.9s,baz=89,slow=4.4,SNR=7.6						
TORD	Torodi Ar. Bea	164.92	276	PKP	PKPdf	11 07 06.8	-2.1
TORD				PKPab	PKPab	11 08 05.4	-0.1

DJA 22 10:48:53, 1°.14N×121°.51E, h8km, MLv3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.79	147	P	Pg	10 49 06.8	-1.4
MRSI				S	Sg	10 49 20.3	+1.9
GTOI	Gorontalo	1.58	108	P	Pn	10 49 22.3	+0.9
GTOI				S	Sn	10 49 41.3	-0.7
LUWI	Luwuk	2.51	150	P	Pn	10 49 36.7	+2.6
TTSI	Tana Toraja	4.49	202	P	Pn	10 50 00.9	-0.5
SPSI	Sidrap Palu	5.36	199	P	Pn	10 50 14.0	+0.6

NNC 22 10:49:10.2±22.0, 36°.78N×72°.30E, h0km, mb3.6, mpv3.3, 4C, Error ellipse: s-maj=196.0km s-min=188.6km az=91.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.46	348	Pn	Pn	10 50 50.0	+3.4
	1.4nm,0.3s,baz=149,slow=11,SNR=50						
KK31				⇑Sn	Sn	10 52 08.4	+7.4
	0.4nm,0.3s,baz=180,slow=24,SNR=5.3						
TKM2	Tokmak 2	6.64	21	⇑Pn	Pn	10 50 47.9	-1.1
	0.7nm,0.5s						
TKM2				⇑Sn	Sn	10 52 02.5	-2.7
	3.6nm,0.8s						
AB31	Akbulak array	15.37	328	⇑Pn	Pn	10 52 48.7	+0.4
	1.2nm,1.0s,baz=238,slow=9.6,SNR=4.9						

*IDC **22** 10:53:32.7±2.6, 9°.60S×119°.34E, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, ML3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/28, Error ellipse: s-maj=167.2km s-min=24.6km az=53.0*
*DJA **22** 10:53:35, 10°.28S×119°.36E, h70km, MLv4.4/5*
*ISCJB **22** 10:53:38.4±0.8, 9°.77S±0°.09×119°.34E±0°.05, h64km±9km, mb4.0/3, Error ellipse: s-maj=15.1km s-min=7.5km az=21.2*

ISC 22 10:53:39.4±0.8, 9°.88S±0°.09×119°.37E±0°.05, h61km±10km, n13, σ0°94/17, mb4.0/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.94	77	P	Pn	10 53 55.5	-1.1
WSI				S	Sn	10 54 09.2	-0.2
MMRI	Maumere	3.09	67	P	Pn	10 54 26.2	+0.5
MMRI				S	Sn	10 55 07.7	+6.2
IGBI	Denpasar	4.30	284	P	Pn	10 54 43.5	+1.2
IGBI				S	Sn	10 55 30.3	-0.9
KAPI	Kappang	4.85	4

MATE	Matera	1.69	347	Pg	Pn	10 58 33.0	+0.7
	145nm,0.6s						
BULG	Bulgheria - Ca	1.78	308	Pg	Pn	10 58 32.7	-0.8
	146nm,0.9s						
BULG	Bulgheria - Ca	1.78	308	Pg	Pn	10 58 32.7	-0.8
	146nm,0.9s						
KEK	Kerkira	2.13	70	*e*P	Pn	10 58 37.9	-0.5
VLS	Valsamata	2.78	106	*e*P	Pn	10 58 46.6	-0.6
THL	Klokotos Trika	3.78	80	*e*P	Pn	10 59 01.3	+0.4
AGG	Agios Georgios	3.99	88	*e*P	Pn	10 59 05.2	+1.3
VLI	Veliai	5.08	115	*e*P	Pn	10 59 19.0	+0.2

ISCJB ***22*** *11:07:43.8±0.9, 19°.0S±0°.1×177°.5W±0°.1, h543km±11km, mb3.7/12, Error ellipse: s-maj=25.9km s-min=10.6km az=148.9*
IDC ***22*** *11:07:44.3±1.7, 18°.78S×177°.66W, h530km±17km, mb3.3/11, mb1 3.5/13, mb1mx3.4/21, mbtmp3.3/13, Error ellipse: s-maj=48.8km s-min=11.3km az=149.0*
NEIC ***22*** *11:07:45.4±0.9, 18°.95S×177°.56W, h551km±8km, mb4.5/1, Error ellipse: s-maj=26.5km s-min=9.7km az=149.0*
ISC 22 11:07:44.6±0.9, 19°.0S±0°.1×177°.5W±0°.1, h541km±10km, n46, σ1°.02/34, mb3.7/12, 3C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.41	285	*e*P	P	11 09 11.6	+2.5
AFI	Afiamalu	7.44	48	P	P	11 09 36.4	-0.3
	3.5nm,0.3s,baz=63,slow=7.3,SNR=8.1						
AFI				S	S	11 11 05.6	-2.8
	9.9nm,0.3s,baz=18,slow=22,SNR=9.9						
AFI	Afiamalu	7.44	48	P	P	11 09 36.4	-0.3
AFI				S	S	11 11 05.6	-2.8
DZM	Mont Dzumac	15.36	256	P	P	11 10 58.1	+0.2
	0.4nm,0.3s,baz=132,slow=7.7,SNR=4.0						
DZM	Mont Dzumac	15.36	256	P	P	11 10 58.1	+0.2
STKA	Stephens Creek	38.90	243	P	P	11 14 24.2	+0.2
	2.1nm,0.9s,mb3.7,baz=97,slow=14,SNR=3.7						
STKA	Stephens Creek	38.90	243	P	P	11 14 24.2	+0.2
WRAB	Tennant Creek	45.30	260	*e*P	P	11 15 13.4	-1.0
WRA	Warramunga Arr	45.31	260	P	P	11 15 13.6	-1.0
	1.4nm,0.6s,mb3.7,baz=97,slow=8.6,SNR=14						
WRA				PcP	PcP	11 16 42.2	-0.6
	0.4nm,0.6s,baz=98,slow=3.5,SNR=4.0						
WRA	Warramunga Arr	45.31	260	P	P	11 15 13.6	-1.0
WRA				PcP	PcP	11 16 42.2	-0.6
AS31	Alice Springs	45.35	255	*e*P	P	11 15 14.4	-0.5
ASAR	Alice Springs	45.35	255	P	P	11 15 14.1	-0.7
	2.7nm,0.7s,mb3.9,baz=89,slow=8.8,SNR=43						
ASAR				PcP	PcP	11 16 42.3	-0.7
	0.7nm,0.6s,baz=99,slow=4.2,SNR=6.6						
ASAR	Alice Springs	45.35	255	P	P	11 15 14.1	-0.7
ASAR				PcP	PcP	11 16 42.3	-0.7
FITZ	Fitzroy Crossi	53.72	261	P	P	11 16 16.6	+0.1
	6.5nm,1.1s,mb3.9,baz=153,slow=6.8,SNR=2.6						
FITZ	Fitzroy Crossi	53.72	261	P	P	11 16 16.6	+0.1
QSPA	South Pole Qui	71.09	180	*e*P	P	11 18 08.3	+0.5
	34nm,2.0s,mb4.5						
PETK	Petropavlovsk-	74.92	345	P	P	11 18 30.1	+0.1
	1.6nm,0.6s,mb3.6,baz=117,slow=8.3,SNR=6.8						
PETK	Petropavlovsk-	74.92	345	P	P	11 18 30.1	+0.1
NVAR	Mina Array Bea	79.59	43	P	P	11 18 57.4	+1.7
	0.7nm,0.6s,mb3.2,baz=221,slow=9.6,SNR=5.9						
NVAR	Mina Array Bea	79.59	43	P	P	11 18 57.4	+1.7
TXAR	Lajitas Array	85.83	57	P	P	11 19 29.5	+2.2
	1.1nm,0.8s,mb3.6,baz=219,slow=6.9,SNR=11						
TXAR	Lajitas Array	85.83	57	P	P	11 19 29.5	+2.2
ILAR	Eielson Array	86.72	13	P	P	11 19 30.2	-0.5
	0.8nm,0.6s,mb3.5,baz=227,slow=4.9,SNR=18						
ILAR	Eielson Array	86.72	13	P	P	11 19 30.2	-0.5
PDAR	Pinedale Array	87.52	43	P	P	11 19 35.8	+0.8
	0.9nm,0.9s,mb3.5,baz=214,slow=1.7,SNR=5.0						
PDAR	Pinedale Array	87.52	43	P	P	11 19 35.8	+0.8
VNA3	Neumayer Olymp	89.63	176	*e*	P	11 19 43.8	-0.5
VNA2	Neumayer--Watz	90.08	177	*e*	P	11 19 46.0	-0.4
INK	Inuvik	92.68	15	P	P	11 19 57.9	-0.4
	1.1nm,0.8s,mb3.9,baz=248,slow=4.4,SNR=4.3						
INK	Inuvik	92.68	15	P	P	11 19 57.9	-0.4
YKA	Yellowknife Ar	94.93	25	P	P	11 20 08.2	-0.4
	0.4nm,0.8s,mb3.6,baz=242,slow=5.0,SNR=6.2						
YKA	Yellowknife Ar	94.93	25	P	P	11 20 08.2	-0.4
MKAR	Makanchi Array	110.49	314	PKiKP	PKiKP	11 25 14.3	-1.2
	0.2nm,0.5s,baz=73,slow=1.2,SNR=6.1						
MKAR	Makanchi Array	110.49	314	PKiKP	PKiKP	11 25 14.3	-1.2
ARCES	ARCESS Array B	127.51	350	PKP	PKPdf	11 25 47.2	-0.3
	5.5nm,1.0s,baz=65,slow=4.6,SNR=8.9						
ARCES	ARCESS Array B	127.51	350	PKP	PKPdf	11 25 47.2	-0.3
BRTR	Keskin Array B	146.14	314	PKPbc	PKPbc	11 26 24.1	-0.5
	0.4nm,0.3s,baz=347,slow=10,SNR=4.1						
BRTR	Keskin Array B	146.14	314	PKPbc	PKPbc	11 26 24.1	-0.5
KHC	Kasperske Hory	148.62	346	*e*P	PKPdf	11 26 28.0	+1.8
GERES	GERESS Array B	148.85	346	PKPbc	PKPbc	11 26 31.3	+0.1
	0.7nm,0.5s,baz=58,slow=2.4,SNR=3.3						
GERES	GERESS Array B	148.85	346	PKPbc	PKPbc	11 26 31.3	+0.1
WATA	Walderalm	150.75	347	⇑*i*PKPbc	PKPbc	11 26 35.1	-0.7
	3.1nm,0.5s						
WTTA	Wattenberg	150.81	347	⇓*i*PKiKP	PKiKP	11 26 36.0	-0.3
	6.4nm,0.5s						
MOTA	Moosalm	150.84	348	⇑*i*PKPbc	PKPbc	11 26 35.7	-0.3
	1.4nm,0.5s						
MYKA	Terra Mystica	150.93	344	⇑*i*PKPbc	PKPbc	11 26 34.8	-1.4
	3.3nm,0.6s						
ABTA	Abfaltersbach	151.10	346	⇓*i*PKPbc	PKPbc	11 26 36.0	-0.6
	5.9nm,0.6s						

NEIC ***22*** *11:09:30.2, 15°.43N×93°.25W, h96km, MD3.8(MEX), After MEX.*
MEX 22 11:09:30.0±0.7, 15°.42N×93°.23W, h98km±6km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.29	2	*i* P	Pn	11 09 42.9	-1.5
PCIG				*e*S	Sn	11 09 53.5	-1.5
PCIG		0.29	2	*i* P	Pn	11 09 42.9	-1.5
PCIG				*e*S	Sn	11 09 53.5	-1.5
THIG		1.06	118	*i* P	Pn	11 09 49.9	-1.0
THIG				*e*S	Sn	11 10 04.7	-2.0
THIG		1.06	118	*i* P	Pn	11 09 49.9	-1.0
THIG				*e*S	Sn	11 10 04.7	-2.0
CCIG	Comitan	1.36	51	*i* P	Pn	11 09 55.0	+0.6
CCIG				*e*S	Sn	11 10 11.1	-1.8
CCIG	Comitan	1.36	51	*i* P	Pn	11 09 55.0	+0.6
CCIG				*i* S	Sn	11 10 11.8	-1.1
TGIG		1.36	4	*i* P	Pn	11 09 53.2	-1.2
TGIG				*e*S	Sn	11 10 10.8	-2.1
TGIG		1.36	4	*i* P	Pn	11 09 53.2	-1.2
TGIG				*e*S	Sn	11 10 10.8	-2.1
CMIG	Matias Romero	2.30	317	*i* P	Pn	11 10 05.3	-1.1
CMIG				*e*S	Sn	11 10 31.7	-2.6
CMIG	Matias Romero	2.30	317	*i* P	Pn	11 10 05.3	-1.1
CMIG				*i* S	Sn	11 10 33.2	-1.1

JMA 22 11:16:15.3±0.1, 43°.20N×146°.09E, h45km±1km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.30	303	P	Pn	11 16 24.0	0.0
NEM2				*e*S	Sn	11 16 30.0	-0.1
JRA	Rausu	1.02	317	P	Pn	11 16 33.5	+0.4
JRA				*e*S	Sn	11 16 46.4	+0.1
JAK	Akkeshi	1.04	259	P	Pn	11 16 33.6	+0.2
JNK	Nakash	1.07	292	P	Pn	11 16 34.0	+0.2
JOB	Onbets	1.68	261	P	Pn	11 16 42.7	+0.5
JAR	Ashorobuto	1.70	274	P	Pn	11 16 43.1	+0.7
JTKR	Abashiri--Toko	1.76	297	P	Pn	11 16 44.7	+1.4
JTKR				*e*S	Sn	11 17 06.2	+1.7

IDC 22 11:34:18.1±25.0, 22°.45S×171°.32W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/20, mbtmp4.2/4, Error ellipse: s-maj=479.5km s-min=163.5km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	39.52	265	P	P	11 41 51.0	+0.2
	3.0nm,0.4s,baz=100,slow=10,SNR=7.3						
STKA	Stephens Creek	42.65	247	P	P	11 42 14.7	-1.8
	0.9nm,0.5s,baz=88,slow=10,SNR=3.3						
ASAR	Alice Springs	50.15	257	P	P	11 43 15.7	+0.1
	0.5nm,0.3s,baz=93,slow=7.0,SNR=50						
WRA	Warramunga Arr	50.50	262	P	P	11 43 19.1	+0.8
	1.6nm,0.3s,baz=99,slow=6.9,SNR=102						

NEIC ***22*** *11:42:58.5, 39°.78S×173°.93E, h243km, MG3.9(WEL), After WEL.*
WEL 22 11:42:59.2±0.3, 39°.80S×173°.97E, h238km±3km, ML3.9/13, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRZ	Ngariki Road	0.46	357	PN	Pn	11 43 30.6	-0.1
DFE	Dawson Falls	0.48	13	PN	Pn	11 43 31.0	+0.2
NWEZ	Newall Road	0.53	351	PN	Pn	11 43 31.0	+0.1
NEZ	North Egmont	0.53	11	PN	Pn	11 43 31.2	+0.3
NEZ	North Egmont	0.53	11	Pn	Pn	11 43 31.5	+0.6
RAEZ	Rainy Point	0.61	33	PN	Pn	11 43 31.2	+0.1
RAEZ	Rainy Point	0.61	33	Pn	Pn	11 43 31.2	+0.1
MHEZ	Mangahewa	0.77	21	PN	Pn	11 43 31.8	0.0
MHEZ	Mangahewa	0.77	21	Pn	Pn	11 43 31.8	0.0
WAZ	Wanganui	0.79	87	PN	Pn	11 43 32.6	+0.7
WAZ	Wanganui	0.79	87	Pn	Pn	11 43 32.6	+0.7
VRZ	Vera Road	0.91	43	PN	Pn	11 43 31.8	-0.7
VRZ				SN	S	11 43 57.3	-1.2
VRZ	Vera Road	0.91	43	Pn	Pn	11 43 31.8	-0.7
VRZ				Sn	S	11 43 57.3	-1.2
DUWZ	D'Urville Isla	1.00	182	PN	Pn	11 43 33.1	+0.1
DUWZ				SN	S	11 43 58.3	-1.2
DUWZ	D'Urville Isla	1.00	182	Pn	Pn	11 43 33.1	+0.2
DUWZ				Sn	S	11 43 58.3	-1.2
PKVZ	Pokaka	1.18	65	PN	Pn	11 43 33.8	-0.2
PKVZ				SN	S	11 44 00.1	-1.3
PKVZ	Pokaka	1.18	65	Pn	Pn	11 43 33.8	-0.2
MTVZ	Mangateitei	1.23	71	PN	Pn	11 43 34.3	-0.1
MTVZ				SN	S	11 44 01.4	-0.6
MTVZ	Mangateitei	1.23	71	Pn	Pn	11 43 34.3	-0.1
KIW	Kapiti Island	1.28	146	PN	Pn	11 43 34.7	0.0
KIW				SN	S	11 44 01.2	-1.4
KIW	Kapiti Island	1.28	146	Pn	Pn	11 43 34.7	0.0
TRVZ	Turoa	1.32	68	PN	Pn	11 43 35.0	0.0
TRVZ	Turoa	1.32	68	Pn	Pn	11 43 35.0	0.0
FWVZ	Far West T-bar	1.34	67	PN	Pn	11 43 35.1	-0.1
FWVZ	Far West T-bar	1.34	67	Pn	Pn	11 43 35.1	0.0
WNVZ	Wahianoa	1.34	70	PN	Pn	11 43 35.3	+0.1
WNVZ				SN	S	11 44 02.5	-0.9
WNVZ	Wahianoa	1.34	70	Pn	Pn	11 43 35.3	+0.1
WPVZ	Whakapapa	1.36	65	PN	Pn	11 43 35.1	-0.2
WPVZ	Whakapapa	1.36	65	Pn	Pn	11 43 35.1	-0.2
OGWZ	Otaki Gorge	1.37	138	PN	Pn	11 43 35.7	+0.3
OGWZ	Otaki Gorge	1.37	138	Pn	Pn	11 43 35.7	+0.3
TUVZ	Tukino	1.41	68	PN	Pn	11 43 35.8	+0.1
TUVZ	Tukino	1.41	68	Pn	Pn	11 43 35.8	+0.1
NGZ	Ngauruhoe	1.41	64	PN	Pn	11 43 35.5	-0.2
NGZ	Ngauruhoe	1.41	64	Pn	Pn	11 43 35.5	-0.2
WTVZ	West Tongariro	1.43	62	PN	Pn	11 43 35.6	-0.3
WTVZ	West Tongariro	1.43	62	Pn	Pn	11 43 35.6	-0.3
MOVZ	Moawhango	1.43	75	PN	Pn	11 43 35.4	-0.5
MOVZ	Moawhango	1.43	75	Pn	Pn	11 43 35.4	-0.5
TCW	Tory Channel	1.43	171	PN	Pn	11 43 36.1	+0.3
TCW	Tory Channel	1.43	171	Pn	Pn	11 43 36.1	+0.3
HIZ	Hauiti	1.46	29	PN	Pn	11 43 35.1	-1.0
HIZ	Hauiti	1.46	29	Pn	Pn	11 43 35.1	-1.0
OTVZ	Oturere	1.46	65	PN	Pn	11 43 36.0	-0.1
OTVZ	Oturere	1.46	65	Pn	Pn	11 43 36.0	-0.1
KRVZ	Karewarewa	1.47	62	PN	Pn	11 43 36.0	-0.2
KRVZ	Karewarewa	1.47	62	Pn	Pn	11 43 36.0	-0.2
NNZ	Nelson	1.49	197	PN	Pn	11 43 36.0	-0.2
NNZ	Nelson	1.49	197	Pn	Pn	11 43 36.0	-0.2
POWZ	Post Office Ro	1.50	114	PN	Pn	11 43 36.6	+0.2
POWZ	Post Office Ro	1.50	114	Pn	Pn	11 43 36.6	+0.2
MRZ	Mangatainoka R	1.50	126	PN	Pn	11 43 36.4	0.0
MRZ	Mangatainoka R	1.50	126	Pn	Pn	11 43 36.4	0.0
QRZ	Quartz Range	1.51	226	PN	Pn	11 43 35.7	-0.7
QRZ	Quartz Range	1.51	226	Pn	Pn	11 43 35.7	-0.7
CAW	Cannon Point	1.56	148	PN	Pn	11 43 36.9	+0.2
CAW	Cannon Point	1.56	148	Pn	Pn	11 43 36.9	+0.2
KATZ	Kakaramea	1.57	59	PN	Pn	11 43 36.8	-0.2
KATZ	Kakaramea	1.57	59	Pn	Pn	11 43 36.8	-0.2
WEL	Wellington	1.61	158	PN	Pn	11 43 37.1	0.0
WEL	Wellington	1.61	158	Pn	Pn	11 43 37.1	0.0
SNZO	South Karori	1.61	160	PN	Pn	11 43 36.9	-0.3
SNZO	South Karori	1.61	160	Pn	Pn	11 43 36.9	-0.3
HOWZ	Holdsworth Sta	1.61	133	PN	Pn	11 43 37.2	0.0
HOWZ	Holdsworth Sta	1.61	133	Pn	Pn	11 43 37.2	0.0
TUWZ	Tuamarina	1.63	181	PN	Pn	11 43 37.3	-0.1
TUWZ	Tuamarina	1.63	181	Pn	Pn	11 43 37.3	-0.1
BHHZ	Black Hill Sta	1.65	80	PN	Pn	11 43 37.0	-0.6
BHHZ	Black Hill Sta	1.65	80	Pn	Pn	11 43 37.0	-0.6
PNHZ	Pukenui	1.72	95	PN	Pn	11 43 38.3	+0.1
PNHZ	Pukenui	1.72	95	Pn	Pn	11 43 38.3	+0.1
DVHZ	Dannevirke	1.76	107	PN	Pn	11 43 38.6	+0.1
DVHZ	Dannevirke	1.76	107	Pn	Pn	11 43 38.6	+0.1
TIWZ	Tintock	1.76	124	PN	Pn	11 43 38.6	+0.2
TIWZ	Tintock	1.76	124	Pn	Pn	11 43 38.6	+0.2
MTW	Mount Morrison	1.79	140	PN	Pn	11 43 38.7	-0.1
MTW	Mount Morrison	1.79	140	Pn	Pn	11 43 38.7	-0.1
MSWZ	Moikau Station	1.89	149	PN	Pn	11 43 39.6	0.0
MSWZ	Moikau Station	1.89	149	Pn	Pn	11 43 39.6	0.0
BSWZ	Blackbirch Sta	1.92	182	PN	Pn	11 43 40.0	+0.1
BSWZ	Blackbirch Sta	1.92	182	Pn	Pn	11 43 40.0	+0.1
WPHZ	Waipukurau	1.92	99	PN	Pn	11 43 40.2	+0.3
WPHZ	Waipukurau	1.92	99	Pn	Pn	11 43 40.2	+0.3
PAWZ	Paruwai Farm	1.93	145	PN	Pn	11 43 40.0	0.0
PAWZ	Paruwai Farm	1.93	145	Pn	Pn	11 43 40.0	0.0
BFZ	Birch Farm	1.95	118	PN	Pn	11 43 40.2	0.0
BFZ	Birch Farm	1.95	118	Pn	Pn	11 43 40.2	0.0
TMWZ	Te Maipa	1.97	132	PN	Pn	11 43 40.4	+0.1
TMWZ	Te Maipa	1.97	132	Pn	Pn	11 43 40.4	+0.1
PLWZ	Palliser	2.02	152	PN	Pn	11 43 40.4	-0.4
PLWZ	Palliser	2.02	152	Pn	Pn	11 43 40.4	-0.4
BKZ	Black Stump Fm	2.05	73	PN	Pn	11 43 40.6	-0.6
BKZ	Black Stump Fm	2.05	73	Pn	Pn	11 43 40.6	-0.6
TRWZ	Traveller	2.07	141	PN	Pn	11 43 41.4	+0.2
TRWZ	Traveller	2.07	141	Pn	Pn	11 43 41.4	+0.2
PRHZ	Porangahau	2.10	104	PN	Pn	11 43 41.8	+0.3
PRHZ	Porangahau	2.10	104	Pn	Pn	11 43 41.9	+0.3
THZ	Tophouse	2.12	202	PN	Pn	11 43 41.2	-0.5
THZ	Tophouse	2.12	202	Pn	Pn	11 43 41.2	-0.5
MCHZ	McNeill Hill	2.14	81	PN	Pn	11 43 42.6	+0.6
MCHZ	McNeill Hill	2.14	81	Pn	Pn	11 43 42.6	+0.6
PXZ	Pawanui	2.24	97	PN	Pn	11 43 43.0	+0.1
PXZ	Pawanui	2.24	97	Pn	Pn	11 43 43.0	+0.1
KAHZ	Kahuranaki	2.24	91	PN	Pn	11 43 43.4	+0.5
KAHZ	Kahuranaki	2.24	91	Pn	Pn	11 43 43.5	+0.5
NMHZ	Naumai	2.31	73	PN	Pn	11 43 43.9	+0.3
NMHZ	Naumai	2.31	73	Pn	Pn	11 43 44.0	+0.3
CKHZ	Cape Kidnapper	2.40	88	PN	Pn	11 43 45.1	+0.5
CKHZ	Cape Kidnapper	2.40	88	Pn	Pn	11 43 45.1	+0.5
DSZ	Dennistoun Nort	2.55	219	PN	Pn	11 43 44.8	-1.2
DSZ	Dennistoun Nort	2.55	219	Pn	Pn	11 43 44.8	-1.2
RAHZ	Arahi	2.57	71	PN	Pn	11 43 46.0	-0.4
RAHZ	Arahi	2.57	71	Pn	Pn	11 43 46.0	-0.4
KHZ	Kahutara	2.64	187	PN	Pn	11 43 45.9	-1.1
KHZ	Kahutara	2.64	187	Pn	Pn	11 43 45.9	-1.1
URZ	Urewera	2.89	59	PN	Pn	11 43 47.2	-2.6
URZ	Urewera	2.89	59	Pn	Pn	11 43 47.2	-2.6
KNZ	Kokohu	2.97	76	PN	Pn	11 43 50.0	-0.6
KNZ	Kokohu	2.97	76	Pn	Pn	11 43 50.0	-0.6
MHGZ	Mahia Peninsul	3.12	79	PN	Pn	11 43 52.2	0.0
MHGZ	Mahia Peninsul	3.12	79	Pn	Pn	11 43 52.2	0.0
MWZ	Matawai	3.13	63	PN	Pn	11 43 50.9	-1.6
MWZ	Matawai	3.13	63	Pn	Pn	11 43 50.9	-1.6
PRGZ	Paritu Road	3.16	75	PN	Pn	11 43 52.3	-0.4
PRGZ	Paritu Road	3.16	75	Pn	Pn	11 43 52.3	-0.4
LTZ	Lake Taylor	3.25	203	PN	Pn	11 43 52.0	-1.6
LTZ	Lake Taylor	3.25	203	Pn	Pn	11 43 52.0	-1.6
CRLZ	Canterbury Las	3.91	195	PN	Pn	11 43 59.0	-2.3
CRLZ	Canterbury Las	3.91	195	Pn	Pn	11 43 59.0	-2.3
MQZ	McQueen's Vall	4.03	194	PN	Pn	11 44 00.1	-2.6
MQZ	McQueen's Vall	4.03	194	Pn	Pn	11 44 00.1	-2.6
WVZ	Waitaha Valley	4.08	216	PN	Pn	11 44 01.1	-2.2
WVZ	Waitaha Valley	4.08	216	Pn	Pn	11 44 01.1	-2.2
RPZ	Rata Peaks	4.48	208	PN	Pn	11 44 05.9	-2.2
RPZ	Rata Peaks	4.48	208	Pn	Pn	11 44 05.9	-2.2
FOZ	Fox Glacier	4.94	219	PN	Pn	11 44 09.7	-4.1
FOZ	Fox Glacier	4.94	219	Pn	Pn	11 44 09.7	-4.1
LBZ	Lake Benmore	5.38	210	PN	Pn	11 44 16.4	-2.8
LBZ	Lake Benmore	5.38	210	Pn	Pn	11 44 16.4	-2.8
JCZ	Jackson Bay	5.78	221	PN	Pn	11 44 20.6	-3.5
JCZ	Jackson Bay	5.78	221	Pn	Pn	11 44 20.6	-3.5
ODZ	Otahua Downs	5.79	204	PN	Pn	11 44 22.7	-1.7
ODZ	Otahua Downs	5.79	204	Pn	Pn	11 44 22.7	-1.7

CASC 22 12:05:36.5±3.0, 11°.47N×87°.77W, h36km±43km, MD3.9, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.80	358	*e*P	Pn	12 06 06.6	+1.5
CNCH				*e*S	Sn	12 06 27.4	+0.8
NY14	Universidad de	2.34	110	*i* P	Pn	12 06 12.3	-0.2
NY14				*i* S	Sn	12 06 41.6	+1.5
GBS3	Finca Las Im¯¡	2.37	106	*i* P	Pn	12 06 14.2	+1.3
GPS2	Hotel Rinc¯‡n	2.48	106	*i* S	Sn	12 06 43.6	+0.1
CUI	Cuipilapa	2.68	107	*i* P	Pn	12 06 18.3	+1.1
JCR	Jicaral	3.07	121	*e*P	Pn	12 06 22.0	-0.5
JCR				*e*S	Sn	12 06 57.3	-0.8
CGA2	Cerro Gallo 2	3.56	114	*e*P	Pn	12 06 30.4	+1.2
QCR	Quepos	4.09	119	*e*P	Pn	12 06 37.3	+0.7
URSC	Urasca	4.25	112	*e*P	Pn	12 06 40.7	+1.9
BUS	Buena Vista	4.38	115	⇓*e*P	Pn	12 06 41.9	+1.3
BUS				*e*S	Sn	12 07 29.9	-0.5

IDC 22 12:12:58.9±2.1, 7°.16N×125°.50E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=233.1km s-min=21.1km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.30	162	P	P	12 18 54.7	+0.3
	0.3nm,0.5s,baz=340,slow=9.6,SNR=3.4						
ASAR	Alice Springs	31.72	165	P	P	12 19 24.4	-0.2
	0.2nm,0.4s,baz=340,slow=7.5,SNR=7.2						
MKAR	Makanchi Array	54.06	324	P	P	12 22 26.1	+0.9
	0.5nm,0.3s,baz=118,slow=7.7,SNR=14						
ZALV	Zalesovo Beam	56.99	333	P	P	12 22 45.2	-1.0
	0.4nm,0.4s,baz=114,slow=4.8,SNR=2.7						

NEIC 22 12:14:53.7, 63°.56N×147°.75W, h7km, ML3.5(PMR), ML3.1(AEIC), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHY	Denali Highway	0.51	161	P	Pg	12 15 03.2	-0.3
DHY				S	Sg	12 15 10.3	+0.1
RND	Reindeer	0.52	254	P	Pg	12 15 03.6	-0.1
RND				S	Sg	12 15 11.1	+0.6
MCK	McKinley	0.56	289	P	Pg	12 15 04.4	0.0
MCK				S	Sg	12 15 12.3	+0.6
DDM	Donnelly Dome	0.87	74	P	Pg	12 15 10.0	-0.4
HDA	Harding Lake	0.92	22	P	Pg	12 15 11.6	+0.3
WRH	Wood River Hil	0.93	351	P	Pg	12 15 11.7	+0.1
CCB	Clear Creek Bu	1.09	359	P	Pg	12 15 14.4	-0.3
TRF	Thorofare Moun	1.15	266	P	Pg	12 15 14.4	-1.2
TRF				S	Sg	12 15 30.1	-0.4
NEA	Nenana	1.18	331	P	Pg	12 15 15.5	-0.8
PAX	Paxson	1.19	119	P	Pg	12 15 14.6	-1.8
IL1	Eielson Array	1.28	17	P	Pn	12 15 16.9	-1.0
COLA	College	1.32	358	P	Pn	12 15 17.8	-0.7
COLA				S	Sb	12 15 35.5	-0.4
MDM	Murphy Dome	1.42	352	P	Pn	12 15 19.2	-0.7
GLM	Gilmore Dome	1.45	6	P	Pn	12 15 19.7	-0.4
DOT	Dot Lake	1.65	85	P	Pn	12 15 22.8	-0.1
TRAP	Trapper Creek

COEN	Coen	9.17 204	*e*P		Pn	12 45 32.1	+0.5
COEN			*e*S		Sn	12 47 09.2	-4.1
COEN	Coen	9.17 204	*e*Pn		Pn	12 45 32.4	+0.8
451nm,0.9s							
COEN			*e*Sn		Sn	12 47 10.8	-2.5
COEN	Coen	9.17 204	P		Pn	12 45 32.0	+0.4
78nm,0.9s							
MTSU	Mount Surprise	12.79 192	*e*P		Pn	12 46 20.6	+1.4
33nm,0.6s							
HNR	Honiara	13.42 108	P		Pn	12 46 27.4	0.0
4.6nm,0.3s,baz=233,slow=5.1,SNR=11							
HNR	Honiara	13.42 108	P		Pn	12 46 27.4	0.0
16nm,0.9s							
CTA	Charters Tower	14.48 183	P		Pn	12 46 46.4	+5.6
3.1nm,0.3s,baz=0.7,slow=14,SNR=22							
CTA			LR		LR	12 50 58.7	
comp=Z,100nm,20.6s,baz=37,slow=31							
CTA	Charters Tower	14.48 183	*e*P		Pn	12 46 46.0	+5.3
CTA	Charters Tower	14.48 183	P		Pn	12 46 46.4	+5.6
CTAO	Charters Tower	14.48 183	*e*P		Pn	12 46 44.5	+3.8
18nm,0.8s							
CTAO	Charters Tower	14.48 183	P		Pn	12 46 45.9	+5.2
WRAB	Tennant Creek	18.86 220	*e*P		P	12 47 32.0	+0.4
56nm,0.9s							
WB2	Warramunga Arr	18.87 220	*e*P		P	12 47 32.4	+0.7
WRA	Warramunga Arr	18.87 220	P		P	12 47 32.5	+0.7
3.4nm,0.3s,baz=38,slow=12,SNR=140							
WRA			S		S	12 50 58.0	-0.8
0.3nm,0.3s,baz=46,slow=20,SNR=8.6							
WRA			PcP		PcP	12 51 52.5	+0.2
0.4nm,0.3s,baz=19,slow=1.8,SNR=6.7							
WRA			LR		LR	12 55 24.0	
comp=Z,128nm,19.4s,baz=20,slow=38							
WRA	Warramunga Arr	18.87 220	P		P	12 47 32.5	+0.7
WRA			S		S	12 50 58.0	-0.8
WRA			PcP		PcP	12 51 52.5	+0.2
GUMO	Guam	19.12 354	P		P	12 47 34.5	0.0
4.9nm,0.3s,baz=108,slow=6.4,SNR=3.8							
GUMO	Guam	19.12 354	P		P	12 47 34.5	0.0
QLP	Quilpie	21.09 187	*e*P		P	12 47 58.4	+2.8
ASAR	Alice Springs	21.99 214	P		P	12 48 05.7	+0.5
9.5nm,0.6s,mb4.4,baz=45,slow=7.9,SNR=182							
ASAR			S		S	12 51 56.7	-1.2
10nm,1.0s,baz=35,slow=20,SNR=8.4							
ASAR	Alice Springs	21.99 214	P		P	12 48 05.7	+0.6
ASAR			S		S	12 51 56.7	-1.2
FITZ	Fitzroy Crossi	24.30 237	P		P	12 48 27.3	+0.5
20nm,0.6s,mb4.8,baz=53,slow=9.5,SNR=58							
FITZ			LR		LR	12 58 17.5	
comp=Z,74nm,18.4s,baz=329,slow=37							
FITZ	Fitzroy Crossi	24.30 237	*e*P		P	12 48 27.2	+0.4
FITZ	Fitzroy Crossi	24.30 237	*e*P		P	12 48 27.0	+0.2
26nm,0.7s,mb4.9							
DZM	Mont Dzumac	24.99 133	P		P	12 48 33.3	+0.3
15nm,0.9s,mb4.5,baz=44,slow=13,SNR=7.6							
DZM	Mont Dzumac	24.99 133	P		P	12 48 33.3	+0.3
ARMA	Armidale	25.13 171	*e*P		P	12 48 39.1	+4.9
STKA	Stephens Creek	26.68 190	P		P	12 48 47.3	-0.8
2.5nm,0.6s,mb4.0,baz=343,slow=9.3,SNR=7.5							
STKA			LR		LR	12 59 52.5	
comp=Z,104nm,18.7s,baz=24,slow=37							
STKA	Stephens Creek	26.68 190	*e*P		P	12 48 48.2	+0.1
STKA	Stephens Creek	26.68 190	P		P	12 48 47.3	-0.8
MBWA	Marble Bar	30.64 237	*e*P		P	12 49 23.9	+0.5
FORT	Forrest	30.77 213	*e*P		P	12 49 24.9	+0.5
FORT	Forrest	30.77 213	*e*P		P	12 49 23.8	-0.6
32nm,0.8s,mb5.1							
MSVF	Nonsavu	32.69 114	P		P	12 49 42.7	+1.4
MEEK	Meekatharra	34.24 229	*e*P		P	12 49 55.1	+0.4
KMBL	Kambalda	34.84 219	*e*P		P	12 50 00.0	+0.2
KLBR	Kellerberrin	37.70 223	*e*P		P	12 50 23.9	-0.2
13nm,0.3s,mb5.0							
URZ	Urewera	42.53 144	LR		LR	13 06 23.4	
comp=Z,101nm,18.0s,baz=318,slow=32							
MJAR	Matsushiro Arr	42.66 350	P		P	12 51 04.4	-0.5
6.4nm,0.9s,mb4.3,baz=178,slow=9.0,SNR=8.9							
MJAR	Matsushiro Arr	42.66 350	P		P	12 51 04.4	-0.5
MAT	Matsushiro	42.66 350	P		P	12 51 04.3	-0.5
RPZ	Rata Peaks	43.53 155	LR		LR	13 06 20.9	
comp=Z,110nm,20.7s,baz=189,slow=32							
NJ2	Nanjing	45.99 326	*e*P		P	12 51 31.4	0.0
NJ2			pmax		pmax		
comp=Z,30nm,0.9s,mb4.9							
KSRS	Korea Array	46.32 339	P		P	12 51 33.9	0.0
comp=Z,7.2nm,0.6s,mb4.5,baz=157,slow=8.6,SNR=17							
KSAR	Wonju Array Be	46.32 339	P		P	12 51 33.9	0.0
WHN	Wuhan	47.57 321	⇓P		P	12 51 44.5	+0.8
USRK	Ussuriysk Arra	51.32 346	P		P	12 52 12.0	+0.1
comp=Z,2.9nm,0.6s,mb4.1,baz=168,slow=7.4,SNR=12							
CMAR	Chiang Mai Arr	53.02 298	P		P	12 52 24.7	-0.2
comp=Z,1.0nm,0.7s,mb3.7,baz=118,slow=6.4,SNR=6.8							
CMAR	Chiang Mai Arr	53.02 298	P		P	12 52 24.7	-0.2
BJI	Beijing	53.49 331	P		P	12 52 28.0	0.0
BJI			pmax		pmax		
comp=Z,8.0nm,0.7s,mb4.6							
PETK	Petropavlovsk-	59.13 8	P		P	12 53 08.7	+1.0
comp=Z,15nm,0.8s,mb4.9,baz=162,slow=7.3,SNR=20							
PETK	Petropavlovsk-	59.13 8	P		P	12 53 08.7	+1.0
HIA	Hailar	59.52 340	*e*P		P	12 53 10.5	+0.1
comp=Z,13nm,1.0s,mb4.7							
GTA	Gaotai	62.38 320	*e*P		P	12 53 31.5	+1.5
GTA			pP		pP	12 54 04.8	+0.3
GTA			sP		sP	12 54 20.8	+0.6
GTA			pmax		pmax		
comp=Z,6.0nm,0.5s,mb4.7							
ULN	Ulaanbaatar	63.70 331	*e*P		P	12 53 38.7	+0.2
comp=Z,7.4nm,0.7s,mb4.6							
SONM	Songino Array	64.00 331	P		P	12 53 41.1	+0.6
comp=Z,5.3nm,0.7s,mb4.5,baz=149,slow=7.3,SNR=26							
SONM			PKP2bc			13 22 36.3	
comp=Z,0.8nm,0.9s,baz=269,slow=2.3,SNR=5.0							
SONM	Songino Array	64.00 331	P		P	12 53 41.1	+0.6
SONM			⇑*e*			13 22 36.3	
VNDA	Vanda	72.37 177	*e*P		P	12 54 32.3	+0.1
comp=Z,6.6nm,0.9s,mb4.4							
MK31	Makanchi Array	77.13 320	*e*P		P	12 54 59.3	-0.8
MKAR	Makanchi Array	77.13 320	P		P	12 54 59.3	-0.8
comp=Z,1.1nm,0.5s,mb3.8,baz=100,slow=8.6,SNR=14							
MKAR	Makanchi Array	77.13 320	P		P	12 54 59.3	-0.8
ZAA0	Zalesovo Array	78.62 328	*e*P		P	12 55 06.3	-1.8
ZALV	Zalesovo Beam	78.62 328	P		P	12 55 06.4	-1.7
comp=Z,5.3nm,0.5s,mb4.4,baz=110,slow=5.9,SNR=30							
ZALV	Zalesovo Beam	78.62 328	P		P	12 55 06.4	-1.7
SLKM	Skilak Lake	81.85 26	*e*P		P	12 55 24.7	-0.5
MAW	Mawson	82.66 203	P		P	12 55 29.5	+0.1
comp=Z,6.6nm,0.6s,mb4.5,baz=59,slow=3.2,SNR=6.5							
MAW	Mawson	82.66 203	P		P	12 55 29.5	+0.1
QSPA	South Pole Qui	84.42 180	P		P	12 55 38.5	+0.3
comp=Z,2.8nm,0.6s,mb4.2,baz=340,slow=1.6,SNR=21							
QSPA	South Pole Qui	84.42 180	*e*P		P	12 55 38.2	-0.1
comp=Z,12nm,1.1s,mb4.5							
ILAR	Eielson Array	85.07 23	P		P	12 55 39.6	-2.0
comp=Z,5.3nm,0.8s,mb4.3,baz=252,slow=4.9,SNR=47							
ILAR	Eielson Array	85.07 23	P		P	12 55 39.6	-2.0
BVAR	Borovoye Array	86.39 324	P		P	12 55 46.6	-1.8
comp=Z,1.4nm,0.5s,mb4.0,baz=110,slow=6.1,SNR=12							
BVAR	Borovoye Array	86.39 324	P		P	12 55 46.6	-1.8
INK	Inuvik	91.24 21	PKKP		PKKPbc	13 13 31.0	-5.0
baz=53,slow=2.9							
NVAR	Mina Array Bea	97.10 52	P		P	12 56 39.9	+1.4
comp=Z,2.2nm,0.8s,mb4.5,baz=253,slow=6.9,SNR=11							
NVAR	Mina Array Bea	97.10 52	P		P	12 56 39.9	+1.4
YKA	Yellowknife Ar	98.77 28	P		P	12 56 45.6	+0.1
comp=Z,1.1nm,0.8s,mb4.3,baz=275,slow=4.9,SNR=15							
YKA			PKKPbc		PKKPbc	13 13 11.5	-4.1
comp=Z,0.4nm,0.8s,baz=92,slow=3.3,SNR=5.9							
YKA	Yellowknife Ar	98.77 28	P		P	12 56 45.5	+0.1
YKA			PKKPbc		PKKPbc	13 13 11.6	-4.1
BHD	Baghdad	103.55 303	*ex*		x	12 57 01.3	
PDAR	Pinedale Array	103.62 47	Pdiff		Pdif	12 57 07.9	+0.7
comp=Z,1.1nm,0.8s,baz=257,slow=2.1,SNR=9.1							
PDAR	Pinedale Array	103.62 47	Pdif		Pdif	12 57 07.9	+0.7
TXAR	Lajitas Array	109.56 61	PKiKP		PKiKP	13 01 36.4	-0.2
comp=Z,2.1nm,1.2s,baz=17,slow=1.3,SNR=4.3							
TXAR	Lajitas Array	109.56 61	PKiKP		PKiKP	13 01 36.4	-0.2
ULM	Lac du Bonnet	111.41 38	PKiKP		PKiKP	13 01 38.0	-1.5
comp=Z,2.0nm,0.6s,baz=289,slow=2.0,SNR=4.8							
ULM	Lac du Bonnet	111.41 38	PKiKP		PKiKP	13 01 38.0	-1.5
GERES	GERESS Array B	121.52 326	PKP		PKPdf	13 01 57.6	-1.4
comp=Z,0.3nm,0.4s,baz=17,slow=1.0,SNR=2.3							
GERES	GERESS Array B	121.52 326	PKP		PKPdf	13 01 57.6	-1.4
PLCA	Paso Flores	122.51 147	PKP		PKPdf	13 02 01.3	+0.2
comp=Z,1.3nm,0.5s,baz=220,slow=11,SNR=4.0							
PLCA	Paso Flores	122.51 147	PKP		PKPdf	13 02 01.3	+0.2
SCHQ	Schefferville	123.83 23	PKP		PKPdf	13 02 02.1	-1.1
comp=Z,5.8nm,0.9s,baz=228,slow=2.2,SNR=6.3							
SCHQ	Schefferville	123.83 23	PKP		PKPdf	13 02 02.1	-1.1
LPAZ	La Paz	139.05 123	PKhKP		PKPpre	13 02 26.7	
comp=Z,0.7nm,0.6s,baz=304,slow=3.6,SNR=2.9							
LPAZ			PKP		PKPdf	13 02 34.6	+1.6
comp=Z,2.2nm,0.6s,baz=336,slow=0.7,SNR=6.6							
LPAZ	La Paz	139.05 123	PKPpre		PKPpre	13 02 26.7	
LPAZ			PKP		PKPdf	13 02 34.6	+1.6
CPUP	Villa Florida	140.51 144	PKP		PKPdf	13 02 36.3	+0.8
comp=Z,1.8nm,0.7s,baz=218,slow=1.4,SNR=5.4							
CPUP	Villa Florida	140.51 144	PKP		PKPdf	13 02 36.3	+0.8
SIV	San Ignacio	144.94 128	PKP		PKPdf	13 02 42.3	-1.3
comp=Z,27nm,0.8s,baz=236,slow=4.7,SNR=61							
SIV	San Ignacio	144.94 128	PKP		PKPdf	13 02 42.3	-1.3
TORD	Torodi Ar. Bea	144.96 285	PKP		PKPdf	13 02 41.5	-2.0
comp=Z,2.4nm,0.7s,baz=70,slow=3.9,SNR=14							
TORD	Torodi Ar. Bea	144.96 285	PKP		PKPdf	13 02 41.5	-2.0
SJG	San Juan	145.32 66	PKPbc		PKPbc	13 02 42.8	-1.5
comp=Z,20nm,0.6s,baz=90,slow=24,SNR=5.4							
SJG	San Juan	145.32 66	PKPbc		PKPbc	13 02 42.8	-1.4
DBIC	Dimbokro	151.98 274	PKPbc		PKPbc	13 02 59.9	-1.8
comp=Z,1.2nm,0.5s,baz=191,slow=2.6,SNR=3.1							
DBIC	Dimbokro	151.98 274	PKPbc		PKPbc	13 02 59.9	-1.8

ISCJB ***22*** *12:53:50.0±0.6,21°.44S±0°.06×68°.10W±0°.08,h113km±6km, mb4.0/10, Error ellipse: s-maj=13.2km s-min=8.8km az=18.3*
NEIC ***22*** *12:53:51.0±0.8,21°.54S×68°.16W,h112km±8km, Error ellipse: s-maj=14.9km s-min=11.0km az=99.0*
IDC ***22*** *12:53:53.2±2.7,21°.33S×68°.04W,h124km±22km, mb3.8/10, mb1 4.0/13, mb1mx3.9/17, mbtmp3.8/13, Error ellipse: s-maj=25.2km s-min=14.4km az=51.0*

ISC 22 12:53:51.2±0.6, 21°.45S±0°.05×68°.09W±0°.08, h108km±6km, n41, σ0°.92/34, mb4.0/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.38	213	*e*Pn		Pn	12 54 16.6	+0.1
LVC				*e*Sn		Sn	12 54 35.0	-0.7
LPAZ	La Paz	5.14	360	P		Pn	12 55 09.1	+3.2
4.2nm,0.3s,baz=178,slow=6.6,SNR=81								
LPAZ				S		Sn	12 56 04.5	+0.5
baz=217,slow=22,SNR=1.1								
LPAZ	La Paz	5.14	360	P		Pn	12 55 09.1	+3.2
LPAZ				S		Sn	12 56 04.5	+0.5
LCO	Las Campanas	7.89	197	*e*Pn		Pn	12 55 39.3	-3.8
SIV	San Ignacio	8.59	52	P		Pn	12 55 53.4	+0.7
13nm,0.3s,baz=253,slow=12,SNR=160								
SIV				S		Sn	12 57 26.1	-1.7
0.3nm,0.3s,baz=306,slow=22,SNR=7.0								
SIV	San Ignacio	8.59	52	P		Pn	12 55 53.4	+0.7
SIV				S		Sn	12 57 26.1	-1.7
CPUP	Villa Florida	10.98	118	P		Pn	12 56 26.4	+1.4
0.9nm,0.3s,baz=282,slow=11,SNR=7.5								
CPUP	Villa Florida	10.98	118	*e*Pn		Pn	12 56 25.3	+0.3
STVI	Saint Thomas	39.68	5	P		P	13 01 12.1	-0.6
TXAR	Lajitas Array	61.03	325	P		P	13 03 52.9	-0.5
0.6nm,0.8s,mb3.7,baz=151,slow=8.2,SNR=6.0								
TXAR	Lajitas Array	61.03	325	P		P	13 03 52.9	-0.5
SNAA	Sanae	62.08	161	P		P	13 04 00.7	+0.8
0.6nm,0.7s,mb3.7,baz=284,slow=8.3,SNR=7.4								
SNAA	Sanae	62.08	161	P		P	13 04 00.7	+0.8
DBIC	Dimbokro	67.99	73	P		P	13 04 38.1	-1.0
3.7nm,0.6s,mb4.4,baz=208,slow=6.1,SNR=4.8								
DBIC	Dimbokro	67.99	73	P		P	13 04 38.1	-1.0
PDAR	Pinedale Array	74.45	330	P		P	13 05 17.6	+0.2
0.3nm,0.5s,mb3.3,baz=132,slow=6.7,SNR=3.4								
PDAR	Pinedale Array	74.45	330	P		P	13 05 17.6	+0.2
ULM	Lac du Bonnet	75.50	342	P		P	13 05 22.4	-0.9
1.9nm,0.5s,mb4.1,baz=151,slow=8.1,SNR=6.7								
ULM	Lac du Bonnet	75.50	342	P		P	13 05 22.4	-0.9
NVAR	Mina Array Bea	75.93	322	P		P	13 05 26.8	+0.8
0.7nm,0.7s,mb3.5,baz=171,slow=5.5,SNR=5.4								
NVAR	Mina Array Bea	75.93	322	P		P	13 05 26.8	+0.8
SCHQ	Schefferville	75.98	1	P		P	13 05 25.6	-0.3
3.8nm,0.7s,mb4.2,baz=264,slow=9.7,SNR=5.5								
SCHQ	Schefferville	75.98	1	P		P	13 05 25.6	-0.3
TORD	Torodi Ar. Bea	76.62	70	P		P	13 05 30.8	+0.4
3.9nm,0.5s,mb4.4,baz=254,slow=5.4,SNR=36								
TORD	Torodi Ar. Bea	76.62	70	P		P	13 05 30.8	+0.4
BOSA	Boshof	82.80	118	P		P	13 06 04.7	+1.0
0.8nm,0.3s,mb4.1,baz=133,slow=17,SNR=1.5								
BOSA	Boshof	82.80	118	P		P	13 06 04.7	+1.0
YKA	Yellowknife Ar	91.40	340	P		P	13 06 43.9	-0.5
3.0nm,0.5s,mb4.7,baz=134,slow=4.5,SNR=104								
YKA	Yellowknife Ar	91.40	340	P		P	13 06 43.9	-0.5
STKA	Stephens Creek	119.83	209	PKP		PKPdf	13 12 30.5	+1.3
0.8nm,0.8s,baz=283,slow=0.8,SNR=2.8								
STKA	Stephens Creek	119.83	209	PKP		PKPdf	13 12 30.5	+1.3
ASAR	Alice Springs	130.30	207	PKP		PKPdf	13 12 48.7	-0.7
0.4nm,0.8s,baz=130,slow=1.7,SNR=6.7								
ASAR	Alice Springs	130.30	207	PKP		PKPdf	13 12 48.7	-0.7
WRA	Warramunga Arr	133.38	210	PKP		PKPdf	13 12 55.2	-0.2
0.5nm,0.6s,baz=151,slow=1.8,SNR=6.2								
WRA	Warramunga Arr	133.38	210	PKP		PKPdf	13 12 55.2	-0.2
ZALV	Zalesovo Beam	141.58	26	PKhKP		PKPpre	13 13 06.2	
0.8nm,0.5s,baz=335,slow=2.4,SNR=3.7								
ZALV	Zalesovo Beam	141.58	26	PKPpre		PKPpre	13 13 06.2	
MKAR	Makanchi Array	145.15	36	PKPbc		PKPbc	13 13 16.3	+0.7
2.2nm,0.5s,baz=343,slow=2.7,SNR=18								
MKAR	Makanchi Array	145.15	36	PKPbc		PKPbc	13 13 16.3	+0.7
SONM	Songino Array	153.31	8	PKPbc		PKPbc	13 13 36.8	+0.4
0.3nm,0.4s,baz=13,slow=2.4,SNR=3.7								
SONM				PKPab		PKPab	13 13 45.0	-3.6
0.2nm,0.3s,baz=348,slow=3.5,SNR=4.7								
SONM	Songino Array	153.31	8	PKPbc		PKPbc	13 13 36.8	+0.4
SONM				PKPab		PKPab	13 13 45.0	-3.6

IDC 22 12:56:00.7±3.1, 32°.25S×177°.95W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, ML3.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/30, Error ellipse: s-maj=71.5km s-min=36.9km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.23	213	Pn		Pn	12 57 46.8	-0.8
0.3nm,0.3s,baz=335,slow=15,SNR=2.0								
URZ				Sn		Sn	12 59 10.8	+0.3
0.9nm,0.3s,baz=173,slow=20,SNR=8.7								
HNR	Honiara	30.57	313	LR		LR	13 11 56.5	
comp=Z,82nm,18.3s,baz=351,slow=31								
ASAR	Alice Springs	43.09	269	P		P	13 04 03.3	+0.6
0.4nm,0.5s,baz=109,slow=7.6,SNR=15								
WRA	Warramunga Arr	44.24	274	P		P	13 04 11.5	-0.5
0.6nm,0.4s,baz=113,slow=7.9,SNR=13								
FINES	FINESS Array B	146.89	339	PKPbc		PKPbc	13 15 43.3	-0.9
4.7nm,0.9s,baz=58,slow=5.4,SNR=6.3								

JMA 22 13:02:33.0±0.1, 37°.17N×140°.75E, h96km±1km, M3.7, 2C-10D Broadband fault plane solution: P waves. NP1:φ₀202.00000°, δ86.00000°, λ-114.00000°. NP2: φ₀104.00000°, δ24.00000°, λ-9.00000°. Principal axes: T Plg37.0000°, Azm313.0000°; N Plg24.0000°, Azm204.0000°; P Plg44.0000°, Azm89.0000°; Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.08	150	⇑P		Pn	13 02 46.5	+0.1
ONAJ				S		Sn	13 02 56.6	+0.3
JFK	Kawauchi	0.22	27	⇓P		Pn	13 02 46.7	-0.1
JFK				S		Sn	13 02 56.8	-0.2
JFT	Otama	0.48	317	⇓P		Pn	13 02 48.3	+0.1
JFT				S		Sn	13 03 00.1	+0.6
JMM	Marumori	0.70	3	⇓P		Pn	13 02 49.9	-0.1
JMM				S		Sn	13 03 02.2	-0.5
JFY	Yanaizu	0.87	286	⇓P		Pn	13 02 51.9	+0.3
JYS	Shirataka	1.18	333	⇓P		Pn	13 02 55.6	+0.4
JYS				S		Sn	13 03 13.0	+1.1
JOU	Okura	1.20	357	⇓P		Pn	13 02 55.6	+0.3
JOU				S		Sn	13 03 12.8	+0.6
JKT	Katashina	1.27	252	P		Pn	13 02 57.1	+0.9
JKT				S		Sn	13 03 17.4	+3.7
JAG	Ashikaga	1.28	235	⇓P		Pn	13 02 56.6	+0.3
JAG				S		Sn	13 03 14.1	+0.2
JNS	Sasagawa	1.31	300	⇓P		Pn	13 02 56.7	0.0
JIO	Ouri	1.37	20	⇓P		Pn	13 02 56.8	-0.6
JIO				S		Sn	13 03 14.1	-1.7
JAW	Awa shima	1.75	318	⇓P		Pn	13 03 02.5	+0.3
JAW				S		Sn	13 03 25.1	+0.8
JYK	Kaneyama	1.77	350	⇑P		Pn	13 03 02.8	+0.4
JYK				S		Sn	13 03 25.6	+0.8
MAT	Matsushiro	2.13	254	P		Pn	13 03 08.0	+0.9
MAT				S		Sn	13 03 34.3	+1.1

ISCJB ***22*** *13:15:37.9±2.9,6°.1S±0°.1×154°.6E±0°.3,h426km±28km, mb3.5/10 Error ellipse: s-maj=43.2km s-min=16.4km az=21.4*
IDC ***22*** *13:15:37.8±3.7,6°.14S×154°.73E,h409km±35km, mb3.2/10, mb1 3.3/11, mb1mx3.2/18, mbtmp3.2/11, Error ellipse: s-maj=40.0km s-min=15.1km az=110.0*
NEIC ***22*** *13:15:39.2±2.1,6°.14S×154°.69E,h428km±20km, mb4.3/1, Error ellipse: s-maj=30.1km s-min=11.8km az=111.0*

ISC 22 13:15:38.8±3.3, 6°.2S±0°.2×154°.8E±0°.3, h426km±30km, n29, σ0°.69/25, mb3.4/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.19	246	P		P	13 17 36.2	+0.1
1.9nm,0.3s,baz=26,slow=5.0,SNR=9.5								
PMG	Port Moresby	8.19	246	*e*P		P	13 17 35.4	-0.7
15nm,0.8s								
COEN	Coen	13.78	235	*e*P		P	13 18 38.6	+1.2
WRAB	Tennant Creek	24.09	233	*e*P		P	13 20 18.4	-0.4
WB2	Warramunga Arr	24.10	233	*e*P		P	13 20 19.0	+0.2
WRA	Warramunga Arr	24.11	233	P		P	13 20 18.8	-0.1
0.2nm,0.3s,mb3.0,baz=59,slow=9.2,SNR=8.8								
WRA			PcP		PcP	13 23 48.0	+1.4
0.4nm,0.7s,baz=60,slow=2.9,SNR=4.6								
WRA	Warramunga Arr	24.11	233	P		P	13 20 18.8	-0.1
WRA			PcP		PcP	13 23 48.0	+1.4
AS31	Alice Springs	26.55	227	*e*P		P	13 20 40.3	-0.3
ASAR	Alice Springs	26.55	227	P		P	13 20 40.1	-0.5
0.3nm,0.3s,mb3.1,baz=57,slow=9.4,SNR=15								
ASAR			PcP		PcP	13 23 53.5	+1.4
0.4nm,0.6s,baz=62,slow=2.7,SNR=6.1								
ASAR	Alice Springs	26.55	227	P		P	13 20 40.1	-0.5
ASAR			PcP		PcP	13 23 53.5	+1.4
MJAR	Matsushiro Arr	45.23	341	P		P	13 23 14.9	-1.3
0.6nm,0.3s,mb3.4,baz=166,slow=6.0,SNR=4.5								
MJAR	Matsushiro Arr	45.23	341	P		P	13 23 14.9	-1.3
MAJO	Matsushiro	45.23	341	*e*P		P	13 23 15.2	-1.0
ASAJ	Asahikawa	51.24	349	P		P	13 24 02.2	+0.9
3.9nm,0.6s,mb3.8,baz=238,slow=13,SNR=3.5								
ASAJ	Asahikawa	51.24	349	P		P	13 24 02.2	+0.9
PETK	Petropavlovsk-	59.10	2	P		P	13 24 57.1	+0.7
3.0nm,0.8s,mb3.6,baz=166,slow=10,SNR=5.4								
PETK	Petropavlovsk-	59.10	2	P		P	13 24 57.1	+0.7
CMAR	Chiang Mai Arr	60.22	295	P		P	13 25 04.8	+0.1
0.6nm,0.6s,mb3.2,baz=121,slow=5.8,SNR=5.4								
CMAR	Chiang Mai Arr	60.22	295	P		P	13 25 04.8	+0.1
SONM	Songino Array	68.52	327	P		P	13 25 57.5	+0.4
0.4nm,0.4s,mb3.4,baz=150,slow=6.3,SNR=4.4								
SONM	Songino Array	68.52	327	P		P	13 25 57.5	+0.4
MKAR	Makanchi Array	82.64	319	P		P	13 27 16.9	+0.8
0.8nm,0.7s,mb3.6,baz=96,slow=6.3,SNR=4.3								
MKAR	Makanchi Array	82.64	319	P		P	13 27 16.9	+0.8
ILAR	Eielson Array	82.70	22	P		P	13 27 15.7	-0.4
0.5nm,0.6s,mb3.4,baz=256,slow=5.2,SNR=12								
ILAR	Eielson Array	82.70	22	P		P	13 27 15.7	-0.4
PDAR	Pinedale Array	98.32	48	P		Pdif	13 28 30.8	+1.3
0.6nm,0.8s,baz=62,slow=3.5,

comp=N,390nm,0.5s
SKR pmax pmax
comp=E,400nm,0.5s
SKR pmax pmax
comp=Z,2μm,0.5s
SKR MLR MLR
comp=Z,5μm,14.0s
SKR MLR MLR
comp=E,5μm,12.0s
SKR Severo-Kuril's 4.85 28 *e*P **Pn 13 26 58.5 +7.2**
SKR A 13 28 27.5
comp=E,5μm,2.0s
SKR A 13 28 27.5
comp=E,4μm,2.0s
SKR A 13 28 27.5
comp=E,890nm,0.6s
SKR A 13 28 27.5
comp=E,460nm,0.6s
SKR A 13 28 27.5
comp=E,240nm,0.6s
SKR AMS AMS 13 29 18.0
comp=E,5μm,12.0s
SKR AMS AMS 13 29 18.0
comp=E,5μm,14.0s
SKR AMS AMS 13 29 18.0
comp=E,5μm,12.0s
SKR AMS AMS 13 29 18.0
comp=E,5μm,14.0s
YUK Yuzh-Kuril'sk 5.32 246 *i* PN **Pn 13 26 58.7 +1.0**
YUK *i* S **Sn 13 28 00.5 +2.9**
YUK pmax pmax
comp=N,272nm,0.2s
YUK pmax pmax
comp=E,242nm,0.2s
YUK pmax pmax
comp=Z,1μm,0.2s
YUK smax
comp=N,2μm,0.6s
YUK smax
comp=E,3μm,0.6s
YUK Yuzh-Kuril'sk 5.32 246⇓ *i*P **Pn 13 26 58.8 +1.1**
YUK AMB AMB 13 26 59.9
comp=E,272nm,0.2s
YUK AMB AMB 13 26 59.9
comp=E,242nm,0.2s
YUK AMB AMB 13 26 59.9
comp=E,1μm,0.2s
YUK *i* S **Sn 13 28 00.6 +3.0**
YUK A 13 28 21.0
comp=E,4μm,0.5s
YUK A 13 28 21.0
comp=E,5μm,0.5s
NEM2 Nemuro 2 5.75 240 P **Pn 13 27 02.3 -1.2**
NEM2 *e*S **Sn 13 28 03.9 -4.2**
JRA Rausu 5.83 247 P **Pn 13 27 06.5 +1.8**
JNK Nakash 6.26 246 P **Pn 13 27 11.5 +0.9**
JNK *e*S **Sn 13 28 19.2 -1.5**
JAK Akkeshi 6.58 241 P **Pn 13 27 13.8 -1.2**
JAK *e*S **Sn 13 28 23.5 -5.3**
JTKR Abashiri--Toko 6.60 251 P **Pn 13 27 17.3 +2.0**
YSS Yuzh-Sakhalins 6.78 278 *e*Pn **Pn 13 27 19.2 +1.5**
YSS *e*Sn **Sn 13 28 35.0 +1.6**
YSS Yuzh-Sakhalins 6.78 278⇓ *e*PN **Pn 13 27 20.0 +2.3**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=E,1μm,12.0s
YSS Yuzh-Sakhalins 6.78 278⇓ *e*P **Pn 13 27 20.0 +2.3**
YSS AMB AMB 13 27 21.5
comp=E,50nm,1.0s
YSS *e*sP 13 27 37.0
YSS *e*S **Sn 13 28 35.0 +1.5**
YSS A 13 28 37.0
comp=E,120nm,0.8s
YSS A 13 28 37.0
comp=E,180nm,0.8s
YSS *e*LQ 13 28 58.0
YSS *e*LR LR 13 29 18.0
YSS AMS AMS 13 30 28.0
comp=E,1μm,14.0s
YSS AMS AMS 13 30 28.0
comp=E,1μm,12.0s
JMP Maruseppu 6.95 253 P **Pn 13 27 22.6 +2.6**
JAR Ashorobuto 7.00 247 P **Pn 13 27 21.9 +1.1**
JSE Soyaes 7.15 262 P **Pn 13 27 27.3 +4.5**
JOB Onbets 7.17 244 P **Pn 13 27 23.2 +0.2**
JOB *e*S **Sn 13 28 41.1 -1.9**
JKK2 Kamakawa 2 7.41 253 P **Pn 13 27 28.9 +2.6**
JKK2 *e*S **Sn 13 28 53.5 +4.5**
ASAJ Asahikawa 7.42 255 Pn **Pn 13 27 29.6 +3.1**
comp=E,8.7nm,0.3s,baz=89,slow=15,SNR=67
ASAJ Sn **Sn 13 28 53.6 +4.5**
comp=E,4.4nm,0.3s,baz=137,slow=4.3,SNR=1.2
ASAJ LR LR 13 30 15.9
comp=E,2μm,19.6s,baz=40,slow=37
ASAJ Asahikawa 7.42 255 *e*Pn **Pn 13 27 29.2 +2.8**
ASAJ Sn **Sn 13 28 53.6 +4.5**
ASAJ *e*Sn **Sn 13 28 56.1 +6.9**
ASAJ Asahikawa 7.42 255 PN **Pn 13 27 29.6 +3.2**
ASAJ pmax pmax
comp=Z,9.0nm,0.3s
ASAJ MLR MLR
comp=Z,2μm,19.6s
ASAJ Asahikawa 7.42 255 P **Pn 13 27 29.1 +2.7**
PEA0B Petropavlovsk- 7.45 25 *e*Pn **Pn 13 27 27.0 +0.1**
PETK Petropavlovsk- 7.45 25 Pn **Pn 13 27 26.7 -0.2**
comp=Z,18nm,0.3s,baz=186,slow=14,SNR=145
PETK LR LR 13 30 17.7
comp=Z,3μm,21.2s,baz=326,slow=38
PETK Petropavlovsk- 7.45 25 Pn **Pn 13 27 26.7 -0.2**
PETK Petropavlovsk- 7.45 25 PN **Pn 13 27 26.7 -0.2**
PETK pmax pmax
comp=Z,18nm,0.3s
PETK MLR MLR
comp=Z,3μm,21.2s
JWK2 Keihoku 7.54 265 P **Pn 13 27 33.4 +5.3**
UGL Uglegorsk 7.56 294 *e*PN **Pn 13 27 32.8 +4.4**
UGL *e*S **Sn 13 28 57.8 +5.1**
UGL pmax pmax
comp=Z,156nm,0.8s
UGL smax
comp=N,500nm,1.0s
UGL smax
comp=E,2μm,1.0s
UGL smax
comp=N,370nm,0.7s
UGL smax
comp=E,700nm,0.7s
UGL MLR MLR
comp=N,2μm,12.0s
UGL MLR MLR
comp=E,4μm,14.0s
UGL Uglegorsk 7.56 294 *e*P **Pn 13 27 32.8 +4.4**
UGL AMB AMB 13 27 39.5
comp=E,120nm,0.8s
UGL AMB AMB 13 27 39.5
comp=E,156nm,0.8s
UGL AMB AMB 13 27 39.5
comp=E,80nm,0.6s
UGL *e*S **Sn 13 28 57.8 +5.1**
UGL A 13 28 59.0
comp=E,500nm,1.0s
UGL A 13 28 59.0
comp=E,2μm,1.0s
UGL A 13 28 59.5
comp=E,370nm,0.7s
UGL A 13 28 59.5
comp=E,700nm,0.7s
UGL A 13 28 59.5
comp=E,130nm,0.6s
UGL *e*L 13 29 18.0
UGL AMS AMS 13 30 58.0
comp=E,2μm,13.0s
UGL AMS AMS 13 30 58.0
comp=E,4μm,13.0s
JCH Churui 7.61 243 P **Pn 13 27 28.5 -0.6**
JCH *e*S **Sn 13 28 52.2 -1.9**
PET Petropavlovsk 7.67 29 *e*Pn **Pn 13 27 27.3 -2.6**
PET *e*Sn **Sn 13 28 58.6 +3.1**
PET Petropavlovsk 7.67 29 *e*PN **Pn 13 27 27.3 -2.6**
PET pmax pmax
comp=Z,105nm,0.7s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,3μm,12.0s
JFR Furan 7.82 249 P **Pn 13 27 33.6 +1.6**
JAB Ashibetsu 7.91 252 P **Pn 13 27 36.3 +3.1**
TYV Tymovskoe 7.92 308 *e*P **Pn 13 27 31.8 -1.5**
TYV AMB AMB 13 27 41.0
comp=Z,13nm,0.8s
TYV AMB AMB 13 27 41.0
comp=Z,33nm,0.8s
TYV AMB AMB 13 27 41.0
comp=Z,46nm,0.8s
TYV AMB AMB 13 27 49.0
comp=Z,1μm,6.0s
TYV *e*rx rx 13 29 14.0
TYV AMS AMS 13 31 13.0
comp=Z,4μm,14.0s
TYV AMS AMS 13 31 13.0
comp=Z,4μm,14.0s
JEM Erimo 8.08 240 P **Pn 13 27 35.7 +0.2**
JEM *e*S **Sn 13 29 02.4 -3.1**
ERM Erimo 8.08 240 Pn **Pn 13 27 36.3 +0.7**
comp=Z,1μm,0.8s,SNR=38
ERM Erimo 8.08 240 *e*Pn **Pn 13 27 36.3 +0.7**
ERM *e*Sn **Sn 13 29 04.2 -1.4**
ERM Erimo 8.08 240 *c i*PN **Pn 13 27 36.5 +0.9**
JHR Hokuryu 8.14 255 P **Pn 13 27 39.8 +3.5**
JBT2 Biratori 2 8.15 247 P **Pn 13 27 36.7 +0.1**
JNBK Urakawa-nobuka 8.18 243 P **Pn 13 27 35.5 -1.3**
JNBK *e*S **Sn 13 29 05.8 -2.0**
JEW Eniwo 8.71 250 P **Pn 13 27 45.8 +1.6**
JEW *e*S **Sn 13 29 25.0 +4.0**
JNB Noboribetsu 9.16 248 P **Pn 13 27 49.8 -0.5**
JNB *e*S **Sn 13 29 29.2 -2.7**
OKH Okha 9.44 322 *e*P **Pn 13 27 58.9 +4.8**
OKH *e*L 13 30 26.4
OKH AMS AMS 13 32 57.0
comp=Z,3μm,12.0s
OKH AMS AMS 13 32 57.0
comp=Z,4μm,15.0s
OKH AMS AMS 13 32 57.0
comp=Z,3μm,15.0s
JKB Kayabe 9.46 245 P **Pn 13 27 53.4 -1.0**
JKB *e*S **Sn 13 29 33.5 -5.9**
JSH Shimam 9.72 252 P **Pn 13 27 58.9 +0.9**
JYM2 Yakumo 2 9.76 248 P **Pn 13 27 57.5 -1.1**
JSR Shiriuchi 10.04 245 P **Pn 13 28 00.8 -1.6**
JSR *e*S **Sn 13 29 46.8 -6.8**
JANG Nango 10.07 237 P **Pn 13 27 58.8 -4.0**
JANG *e*S **Sn 13 29 44.3 -10**
JTM Tenmabayashi 10.07 240 P **Pn 13 28 00.9 -1.9**
JTM *e*S **Sn 13 29 46.6 -7.8**
JTH Tanohata 10.16 234 P **Pn 13 27 59.8 -4.3**
JTH *e*S **Sn 13 29 45.6 -11**
JOSM Okushiri--Mats 10.36 250 P **Pn 13 28 06.5 -0.2**
OFUJ Ofunato 10.87 231 P **Pn 13 28 09.7 -4.1**
JRG Rokugo 11.23 235 P **Pn 13 28 15.2 -3.4**
JOG2 Oga 2 11.38 240 P **Pn 13 28 19.2 -1.5**
JIO Ouri 11.50 230 P **Pn 13 28 18.1 -4.3**
JIO *e*S **Sn 13 30 14.4 -15**
HABR Khabarovsk 12.04 286 *ce*PN **Pn 13 28 27.8 -1.9**
HABR pmax pmax
comp=Z,23nm,1.6s
HABR pmax pmax
comp=E,28nm,1.6s
HABR pmax pmax
comp=N,14nm,1.6s
HABR MLR MLR
comp=Z,1μm,18.0s
JYA Atsumi 12.30 235 P **Pn 13 28 30.3 -3.0**
JFK Kawauchi 12.56 228 *e*S **Sn 13 30 44.2 -11**
JFY Yanaizu 13.15 231 P **Pn 13 28 41.8 -3.1**
JFY *e*S **Sn 13 31 03.0 -6.7**
JHK Hiroka 13.64 233 P **Pn 13 28 48.1 -3.5**
JAG Ashikaga 14.02 229 P **Pn 13 28 53.2 -3.5**
KLR Kul'dur 14.26 289 *e*P **Pn 13 29 02.0 +2.1**
KLR *e*S **Sn 13 31 42.0 +5.4**
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s
KLR MLR MLR
comp=Z,4μm,13.0s
MJAR Matsushiro Arr 14.60 232 Pn **Pn 13 29 01.4 -3.1**
comp=Z,0.8nm,0.3s,baz=27,slow=13,SNR=19
MJAR Matsushiro Arr 14.60 232 Pn **Pn 13 29 01.4 -3.1**
MJAR Matsushiro Arr 14.60 232 P **Pn 13 29 01.4 -3.1**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 14.60 232 *e*Pn **Pn 13 29 01.6 -3.0**
MAJO Matsushiro 14.60 232 *e*P **Pn 13 29 01.6 -2.9**
MAT Matsushiro 14.60 232 P **Pn 13 29 01.0 -3.5**
MAT *e*S **Sn 13 31 49.6 +4.7**
USRK Ussuriysk Arra 14.65 269 Pn **Pn 13 29 05.3 +0.2**
comp=Z,1.0nm,0.3s,baz=67,slow=11,SNR=15
USRK LR LR 13 34 43.4
comp=Z,633nm,18.0s,baz=338,slow=37
FX1 Attu Island--F 14.78 57 Pn **Pn 13 29 03.8 -3.0**
comp=Z,14nm,0.3s,baz=170,slow=3.1,SNR=29
FX1 Sn **Sn 13 31 38.1 -11**
comp=Z,5.7nm,0.3s,baz=35,slow=22,SNR=2.6
FX1 LR LR 13 33 40.1
comp=Z,984nm,21.9s,baz=259,slow=33
FX1 Attu Island--F 14.78 57 *e*Pn **Pn 13 29 04.6 -2.2**
FX1 Sn **Sn 13 31 38.1 -11**
FX1 Attu Island--F 14.78 57 *e*P **Pn 13 29 04.6 -2.2**
FX1 13 31 38.1
VLA Vladivostok 15.05 265 *e*P **Pn 13 29 09.9 -0.6**
VLA pmax pmax
comp=Z,10.0nm,0.8s
MDJ Mudanjiang 16.20 272 P **Pn 13 29 26.0 +0.7**
MDJ pP pP 13 29 38.3 +0.2
MDJ S **S 13 32 23.9 -11**
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,170nm,5.0s
MDJ LR LR
comp=N,610nm,21.2s
MDJ LR LR
comp=E,610nm,24.6s
MDJ LR LR
comp=Z,920nm,25.7s
MDJ Mudanjiang 16.20 272 *e*P **Pn 13 29 26.0 +0.7**
comp=Z,15nm,0.8s
SEY Seymchan 16.53 360 *e*P **Pn 13 29 29.9 +0.6**
ZEA Zeya 17.75 304 *e*P **Pn 13 29 44.0 -0.5**
ZEA AMB AMB 13 29 45.5
comp=Z,28nm,1.2s
ZEA sP sP 13 30 03.0 +2.3
ZEA A 13 33 25.0
comp=Z,1μm,14.0s
ZEA A 13 33 25.0
comp=Z,700nm,14.0s
CN2 Changchun 19.29 272 *e*P **Pn 13 30 04.0 +0.8**
CN2 *e*pP pP 13 30 13.8 +1.5
CN2 *e*S **S 13 33 32.8 -5.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,1μm,15.0s
CN2 LR LR
comp=E,900nm,15.0s
CN2 LR LR
comp=Z,900nm,17.0s
CLNS Chul'man 19.95 312 *e*P **Pn 13 30 10.4 -0.5**
CLNS *e*S **S 13 33 49.2 -1.6**
CLNS pmax pmax
comp=Z,18nm,0.8s
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS smax
comp=E,517nm,13.6s
CLNS smax
comp=N,412nm,13.1s
CLNS MLR MLR
comp=N,777nm,13.0s
CLNS MLR MLR
comp=E,1μm,14.0s
CLNS MLR MLR
comp=Z,1μm,16.0s
KSRS Korea Array 20.35 253 P **P 13 30 14.6 +1.1**
comp=Z,23nm,1.0s,baz=59,slow=11,SNR=24
KSRS Korea Array 20.35 253 P **P 13 30 14.6 +1.1**
KSRS pmax pmax
comp=Z,23nm,1.0s
KSAR Wonju Array Be 20.38 253 P **P 13 30 14.6 +0.8**
KSAR Wonju Array Be 20.38 253 P **P 13 30 14.6 +0.8**
YAK Yakutsk 20.39 328 *e*P **P 13 30 14.0 +0.3**
comp=Z,91nm,0.9s
YAK Yakutsk 20.39 328 *e*P **P 13 30 13.7 0.0**
YAK *e* 13 30 28.1
YAK *e*S **S 13 34 00.3 +0.8**
YAK *e*SSS 13 34 33.8
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=Z,29nm,0.8s
YAK smax
comp=E,163nm,1.7s
YAK smax
comp=N,255nm,1.9s
YAK MLR MLR
comp=N,646nm,22.0s
YAK MLR MLR
comp=E,405nm,16.0s
YAK MLR MLR
comp=Z,894nm,22.0s,MS4.1
CBIJ Chichi jima 20.99 207 P **P 13 30 20.1 -0.3**
comp=Z,100nm,1.0s,baz=33,slow=22,SNR=4.3
CBIJ LR LR 13 37 32.5
comp=Z,490nm,20.5s,MS3.9,baz=354,slow=34
CBIJ Chichi jima 20.99 207 P **P 13 30 20.1 -0.3**
INCN Inchon 21.19 254 *e*P **P 13 30 24.3 +1.7**
comp=Z,38nm,0.8s,mb4.8
SNY Shenyang 21.26 268 ⇓P **P 13 30 25.8 +2.6**
SNY pmax pmax
comp=Z,20nm,1.4s,mb4.2
SNY LR LR
comp=N,840nm,20.0s,MS4.2
SNY LR LR
comp=E,620nm,20.4s,MS4.2
SNY LR LR
comp=Z,1μm,15.7s,MS4.4
BILL Bilibino 22.78 13 *e*P **P 13 30 37.8 -1.4**
comp=Z,28nm,0.9s,mb4.7
BILL Bilibino 22.78 13⇑ *e*P **P 13 30 38.8 -0.4**
BILL *e* 13 31 02.1
BILL *i* S **S 13 34 45.6 +0.6**
BILL pmax pmax
comp=Z,28nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,2μm,19.0s,MS4.6
BOD Bodaibo 25.91 310 *e*P **P 13 31 06.8 -1.7**
BOD *e* 13 31 24.1
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
GAMB Gambell 26.29 36 *e*P **P 13 31 11.2 -0.7**
comp=Z,26nm,0.8s,mb4.8
BJI Beijing 27.11 270 P **P 13 31 19.9 +0.4**
BJI S **S 13 35 59.9 +5.3**
BJI pmax pmax
comp=Z,9.0nm,0.5s,mb4.6
BJI pmax pmax
comp=Z,200nm,6.0s
BJI LR LR
comp=N,340nm,19.8s,MS4.4
BJI LR LR
comp=E,870nm,18.6s,MS4.4
BJI LR LR
comp=Z,620nm,19.1s,MS4.2
TNA Tin City 28.50 34 *e*P **P 13 31 31.3 -0.3**
comp=Z,20nm,1.0s,mb4.7
SSE Sheshan 28.64 249 *e*P **P 13 31 31.4 -1.9**
SSE pP pP 13 31 44.3 -0.5
SSE sP sP 13 31 50.8 +0.9
SSE S **S 13 36 17.3 -1.6**
SSE sS sS 13 36 40.0 +1.8
SSE pmax pmax
comp=Z,26nm,0.7s,mb5.1
SSE pmax pmax
comp=Z,120nm,3.8s
SSE LR LR
comp=N,920nm,25.6s,MS4.3
SSE LR LR
comp=E,380nm,25.6s,MS4.3
SSE LR LR
comp=Z,940nm,20.6s,MS4.4
NJ2 Nanjing 29.55 253 *e*P **P 13 31 43.0 +1.7**
NJ2 pP pP 13 31 54.1 +1.2
NJ2 sP sP 13 31 59.1 +1.1
NJ2 S **S 13 36 36.5 +3.3**
NJ2 sS sS 13 36 55.5 +3.0
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
NJ2 pmax pmax
comp=Z,510nm,5.0s
NJ2 LR LR
comp=N,820nm,18.2s
NJ2 LR LR
comp=E,780nm,23.5s
NJ2 LR LR
comp=Z,1μm,17.3s,MS4.5
HHC Hu-ho-hao-te 29.95 274 *e*P **P 13 31 51.8 +7.0**
HHC pP pP 13 32 03.8 +7.5
HHC sP sP 13 32 09.3 +7.9
HHC PP PP 13 32 50.4 -2.3
HHC PcP PcP 13 34 52.9 +6.5
HHC S **S 13 36 47.5 +8.2**
HHC sS sS 13 37 04.8 +6.2
HHC pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
HHC pmax pmax
comp=Z,79nm,5.7s
HHC LR LR
comp=N,860nm,16.5s,MS4.6
HHC LR LR
comp=E,620nm,15.5s,MS4.6
HHC LR LR
comp=Z,850nm,14.1s,MS4.5
ULN Ulaanbaatar 30.66 290 *e*P **P 13 31 53.7 +2.8**
comp=Z,5.3nm,1.1s,mb4.3
ULN Ulaanbaatar 30.66 290 *e*P **P 13 31 53.7 +2.8**
ULN pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
SONM Songino Array 31.09 290 P **P 13 31 55.9 +1.1**
comp=Z,0.9nm,0.8s,mb3.7,baz=57,slow=9.0,SNR=5.3
SONM LR LR 13 45 30.8
comp=Z,486nm,18.1s,MS4.2,baz=54,slow=38
SONM Songino Array 31.09 290 P **P 13 31 55.9 +1.1**
SONM Songino Array 31.09 290 P **P 13 31 55.9 +1.1**
SONM MLR MLR
comp=Z,486nm,18.1s
TLY Talaya 32.00 298 *e*P pP 13 32 14.0 -0.3
TLY *e*SS SS 13 39 06.5 -23
TLY pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
TLY MLR MLR
comp=Z,726nm,18.0s,MS4.4
ZAK Zakamensk 32.48 295 *e*P **P 13 32 08.2 +1.3**
GUMO Guam 33.38 194 LR LR 13 46 28.9
comp=Z,335nm,18.2s,MS4.1,baz=317,slow=37
WHN Wuhan 33.50 255 P **P 13 32 15.4 -0.6**
OHAK Old Harbor 34.26 52 *e*P **P 13 32 20.8 -1.6**
comp=Z,60nm,1.0s,mb5.5
RSO Redoubt South 34.35 46 *e*P **P 13 32 23.6 +0.5**
KDAK Kodiak Island 34.59 50 LR LR 13 46 33.0
comp=Z,873nm,21.6s,MS4.5,baz=266,slow=36
KDAK Kodiak Island 34.59 50 *e*P **P 13 32 24.0 -1.1**
comp=Z,80nm,0.9s,mb5.7
KDAK Kodiak Island 34.59 50 *ce*P **P 13 32 23.7 -1.5**
KDAK Kodiak Island 34.59 50 P **P 13 32 23.3 -1.9**
comp=Z,502nm,0.8s,SNR=10.0
PPLA Purkeypile 34.64 41 *e*P **P 13 32 26.5 +0.9**
comp=Z,113nm,1.4s,mb5.6
XAN Xi'an 35.12 265 P **P 13 32 32.3 +2.2**
XAN pP pP 13 32 43.5 +1.8
XAN sP sP 13 32 49.8 +3.0
XAN PP PP 13 33 51.6 +1.4
XAN PcP PcP 13 35 03.1 +2.3
XAN S **S 13 38 01.4 +1.6**
XAN SS SS 13 40 16.4 -17
XAN pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
XAN pmax pmax
comp=Z,48nm,5.8s
XAN LR LR

comp=N,350nm,15.4s,MS4.2
XAN LR LR
comp=E,85nm,16.7s,MS4.2
XAN LR LR
comp=Z,180nm,17.7s,MS3.9
TRF Thorofare Moun 35.52 41 *eP* **P 13 32 33.1 0.0**
comp=Z,35nm,0.9s,mb5.3
SLKM Skilak Lake 35.60 46 *eP* **P 13 32 33.6 -0.3**
SLKM Skilak Lake 35.60 46 *eP* **P 13 32 33.6 -0.3**
COLD Coldfoot 35.80 34 *eP* **P 13 32 35.4 -0.1**
comp=Z,39nm,1.0s,mb5.3
RC01 Rabbit Creek A 35.81 45 *eP* **P 13 32 35.3 -0.4**
comp=Z,30nm,0.8s,mb5.3
SEW Seward 36.02 46 *eP* **P 13 32 37.7 +0.3**
comp=Z,95nm,1.6s,mb5.5
PMR Palmer 36.08 44 *eP* **P 13 32 37.0 -0.9**
PMR Palmer 36.08 44 *eP* **P 13 32 37.1 -0.9**
MCK McKinley 36.13 40 *eP* **P 13 32 37.5 -0.8**
comp=Z,61nm,1.1s,mb5.4
MCK McKinley 36.13 40 *eP* **P 13 32 37.5 -0.8**
SML Sawmill 36.45 43 *eP* **P 13 32 41.0 -0.1**
comp=Z,38nm,0.8s,mb5.4
SML Sawmill 36.45 43 *eP* **P 13 32 41.0 -0.1**
SML pmax pmax
comp=Z,38nm,0.8s,mb5.4
COLA College 36.61 38 *eP* **P 13 32 42.3 -0.2**
comp=Z,70nm,0.8s,mb5.5
COLA College 36.61 38 *eP* **P 13 32 42.3 -0.1**
ILAR Eielson Array 37.02 38 P **P 13 32 45.0 -0.9**
comp=Z,33nm,1.1s,mb5.1,baz=257,slow=7.3,SNR=242
ILAR LR LR 13 48 03.8
comp=Z,534nm,20.9s,MS4.3,baz=283,slow=36
ILAR Eielson Array 37.02 38 P **P 13 32 45.0 -0.9**
ILAR Eielson Array 37.02 38 P **P 13 32 45.0 -0.9**
ILAR pmax pmax
comp=Z,33nm,1.1s
ILAR MLR MLR
comp=Z,534nm,20.9s
LZH Lanzhou 37.53 272 *eP* **P 13 32 54.5 +3.9**
LZH pP pP 13 33 06.8 +4.5
LZH sP sP 13 33 12.5 +5.1
LZH pmax pmax
comp=Z,26nm,1.3s,mb4.8
LZH pmax pmax
comp=Z,100nm,4.6s
LZH LR LR
comp=N,550nm,14.3s,MS4.7
LZH LR LR
comp=E,580nm,13.0s,MS4.7
LZH LR LR
comp=Z,710nm,14.5s,MS4.6
PAX Paxson 37.71 41 *eP* **P 13 32 51.5 -0.3**
comp=Z,25nm,1.2s,mb4.8
PAX Paxson 37.71 41 *eP* **P 13 32 51.5 -0.3**
PAX pmax pmax
comp=Z,25nm,1.2s,mb4.8
DIV Divide 37.73 44 *eP* **P 13 32 51.4 -0.6**
comp=Z,47nm,0.8s,mb5.3
HVS Khovu-Aksy 38.17 299 *eP* **P 13 32 55.4 -0.4**
DOT Dot Lake 38.30 40 *eP* **P 13 32 55.4 -1.4**
comp=Z,10nm,0.8s,mb4.6
BMRM Bremner River 38.31 44 *eP* **P 13 32 56.8 -0.1**
comp=Z,60nm,0.9s,mb5.3
MENT Mentasta 38.51 41 *eP* **P 13 32 58.5 -0.1**
GTA Gaotai 38.66 279 *eP* **P 13 33 03.6 +3.6**
GTA pP pP 13 33 17.3 +5.5
GTA sP sP 13 33 22.5 +5.7
GTA PP PP 13 34 37.9 +9.0
GTA S **S 13 38 59.8 +6.3**
GTA sS sS 13 39 20.6 +7.5
GTA pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
GTA pmax pmax
comp=Z,210nm,8.1s
GTA LR LR
comp=N,470nm,17.1s,MS4.6
GTA LR LR
comp=E,540nm,16.2s,MS4.6
GTA LR LR
comp=Z,600nm,18.1s,MS4.5
EGAK Eagle 39.47 38 *eP* **P 13 33 05.4 -1.1**
comp=Z,84nm,0.9s,mb5.5
CD2 Chengdu 40.49 265⇓ *iP* **P 13 33 17.8 +2.4**
CD2 pP pP 13 33 32.1 +4.9
CD2 sP sP 13 33 36.8 +4.6
CD2 PP PP 13 34 55.3 +6.3
CD2 S **S 13 39 22.8 +1.7**
CD2 sS sS 13 39 45.3 +4.5
CD2 SS SS 13 42 17.6 -3.9
CD2 pmax pmax
comp=Z,30nm,1.1s,mb4.9
CD2 pmax pmax
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,600nm,19.2s,MS4.6
CD2 LR LR
comp=E,550nm,20.4s,MS4.6
CD2 LR LR
comp=Z,500nm,19.2s,MS4.4
GYA Guiyang 41.29 257⇑ *iP* **P 13 33 23.4 +1.4**
GYA pP pP 13 33 36.9 +3.1
GYA sP sP 13 33 41.3 +2.4
GYA PP PP 13 35 03.6 +5.8
GYA PcP PcP 13 35 22.0 +2.0
GYA ScP ScP 13 39 07.3 +1.0
GYA PcS PcS 13 39 12.0 +0.7
GYA sS sS 13 39 56.8 +4.0
GYA SS SS 13 42 31.3 -6.3
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.8
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,710nm,17.9s,MS4.7
GYA LR LR
comp=E,680nm,18.0s,MS4.7
GYA LR LR
comp=Z,850nm,17.8s,MS4.7
ZAA0 Zalesovo Array 42.50 306 *eP* **P 13 33 29.3 -2.2**
ZALV Zalesovo Beam 42.50 306 P **P 13 33 29.5 -2.0**
comp=Z,1.3nm,0.5s,mb3.8,baz=66,slow=6.9,SNR=8.9
ZALV PcP PcP 13 35 23.6 +0.1
comp=Z,6.5nm,0.8s,baz=72,slow=2.8,SNR=13
ZALV LR LR 13 52 12.0
comp=Z,463nm,21.6s,MS4.3,baz=67,slow=38
ZALV Zalesovo Beam 42.50 306 P **P 13 33 29.5 -2.0**
ZALV PcP PcP 13 35 23.6 +0.1
ZALV Zalesovo Beam 42.50 306 P **P 13 33 29.5 -2.0**
ZALV 13 35 23.6
ZALV pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
ZALV MLR MLR
comp=Z,463nm,21.6s,MS4.3
QIZ Qiongzhong 44.39 247 P **P 13 33 48.3 +1.1**
QIZ S **S 13 40 21.3 +2.6**
QIZ pmax pmax
comp=Z,320nm,4.5s
QIZ LR LR
comp=Z,620nm,17.3s,MS4.6
WMQ Urumqi 44.70 291 *eP* **P 13 33 51.4 +2.0**
WMQ LR LR
comp=N,410nm,28.6s,MS4.3
WMQ LR LR
comp=E,260nm,25.4s,MS4.3
WMQ LR LR
comp=Z,210nm,23.2s,MS4.0
KMI Kunming 44.82 259 P **P 13 33 51.9 +1.3**
KMI pP pP 13 34 05.8 +3.3
KMI sP sP 13 34 11.3 +3.8
KMI PP PP 13 35 39.1 +3.4
KMI S **S 13 40 26.3 +1.3**
KMI sS sS 13 40 48.3 +3.5
KMI SS SS 13 43 38.6 -8.2
KMI pmax pmax
comp=Z,12nm,1.7s,mb4.5
KMI pmax pmax
comp=Z,200nm,4.4s
KMI LR LR
comp=N,470nm,20.1s
KMI LR LR
comp=E,420nm,25.4s
KMI LR LR
comp=Z,520nm,20.1s,MS4.5
DLBC Dease Lake 46.08 45 LR LR 13 53 52.1
comp=Z,293nm,19.1s,MS4.2,baz=163,slow=37

MK31 Makanchi Array 46.76 297 *eP* **P 13 34 04.3 -1.3**
MK31 Makanchi Array 46.76 297 *eP* **P 13 34 04.3 -1.3**
MKAR Makanchi Array 46.76 297 P **P 13 34 04.7 -0.9**
comp=Z,2.5nm,0.6s,mb4.4,baz=66,slow=7.4,SNR=23
MKAR PcP PcP 13 35 38.4 +0.1
comp=Z,3.6nm,0.8s,baz=62,slow=1.7,SNR=5.2
MKAR ScP ScP 13 39 28.9 +0.6
comp=Z,0.8nm,0.9s,baz=72,slow=4.7,SNR=3.1
MKAR LR LR 13 54 41.6
comp=Z,543nm,21.3s,MS4.5,baz=256,slow=37
MKAR Makanchi Array 46.76 297 P **P 13 34 04.7 -0.9**
MKAR PcP PcP 13 35 38.4 +0.1
MKAR ScP ScP 13 39 28.9 +0.6
MKAR Makanchi Array 46.76 297 *iP* **P 13 34 04.6 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 47.23 304 *eP* **P 13 34 07.5 -1.7**
comp=Z,7.5nm,0.8s,mb4.7
KURK Kurchatov 47.23 304 *deP* **P 13 34 07.9 -1.3**
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KURK Kurchatov 47.23 304 P **P 13 34 07.0 -2.2**
comp=Z,51nm,0.6s,mb5.6,SNR=6.3
BBB Bella Bella 49.60 53 LR LR 13 52 46.0
comp=Z,141nm,19.0s,MS4.0,baz=216,slow=33
LSA Lhasa 49.92 273 P **P 13 34 31.8 +1.6**
LSA Lhasa 49.92 273 *eP* **P 13 34 31.6 +1.4**
comp=Z,10.0nm,0.7s,mb5.0
LSA Lhasa 49.92 273 *eP* **P 13 34 31.6 +1.4**
LSA pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ALE Alert 50.09 6 P **P 13 34 30.6 -0.2**
comp=Z,185nm,1.0s,mb6.1,SNR=12
BRVK Borovoye 50.81 309 *eP* **P 13 34 35.4 -1.2**
comp=Z,9.8nm,0.8s,mb4.8
BRVK *e*PcP PcP 13 35 52.9 +0.1
BRVK Borovoye 50.81 309 *eP* **P 13 34 35.4 -1.2**
BRVK *e* 13 35 52.9
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRVK Borovoye 50.81 309 P **P 13 34 35.8 -0.8**
comp=Z,84nm,0.6s,mb5.8,SNR=8.3
RES Resolute Bay 51.25 18 P **P 13 34 39.3 -0.3**
comp=Z,6.8nm,0.8s,mb4.6,baz=335,slow=9.4,SNR=26
RES Resolute Bay 51.25 18 P **P 13 34 39.3 -0.3**
RES Resolute Bay 51.25 18 P **P 13 34 39.3 -0.3**
RES pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
YKA Yellowknife Ar 51.40 36 P **P 13 34 40.3 -0.5**
comp=Z,9.7nm,0.6s,mb4.9,baz=297,slow=7.0,SNR=148
YKA LR LR 13 59 30.1
comp=Z,32nm,18.4s,MS3.4,baz=115,slow=40
YKA Yellowknife Ar 51.40 36 P **P 13 34 40.3 -0.5**
YKA Yellowknife Ar 51.40 36 P **P 13 34 40.3 -0.5**
YKA pmax pmax
comp=Z,10.0nm,0.6s
YKA MLR MLR
comp=Z,32nm,18.4s
CHTO Chiang Mai 51.69 256 *eP* **P 13 34 44.8 +1.2**
comp=Z,22nm,1.1s,mb5.0
CHTO Chiang Mai 51.69 256 *eP* **P 13 34 44.8 +1.2**
CHTO pmax pmax
comp=Z,22nm,1.1s,mb5.0
CM31 Chiang Mai Arr 51.94 256 P **P 13 34 45.5 +0.1**
comp=Z,6.9nm,0.7s,mb4.7
CMAR Chiang Mai Arr 51.94 256 P **P 13 34 47.0 +1.6**
comp=Z,3.1nm,0.8s,mb4.3,baz=37,slow=7.5,SNR=19
CMAR LR LR 13 59 39.9
comp=Z,471nm,19.6s,MS4.5,baz=56,slow=39
CMAR Chiang Mai Arr 51.94 256 P **P 13 34 47.0 +1.6**
CMAR Chiang Mai Arr 51.94 256 P **P 13 34 47.0 +1.6**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR MLR MLR
comp=Z,471nm,19.6s
SHL Shillong 51.99 268 *eP*KP **P 13 34 49.8 +4.0**
SHL *eS* **S 13 42 11.0 +4.9**
KBS Kingsbay 52.75 351 *ceP* **P 13 34 49.8 -0.9**
KBS pmax pmax
comp=Z,86nm,2.5s,mb5.2
AAK Ala-Archa 53.64 296 *eP* **P 13 34 57.1 -0.7**
comp=Z,22nm,0.8s,mb5.1
AAK Ala-Archa 53.64 296 *deP* **P 13 34 57.8 0.0**
AAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
TAPN Taplejung 53.75 273 *eP* **P 13 35 00.7 +2.0**
TAPN Taplejung 53.75 273 *eP* **P 13 35 00.7 +2.0**
SVE Sverdlovsk 53.81 317 *eP* **P 13 34 56.6 -2.2**
SVE pmax pmax
comp=Z,11nm,1.0s,mb4.7
EKS2 Erkin-Say 54.07 297 *eP* **P 13 35 00.1 -0.8**
comp=Z,4.5nm,0.8s,mb4.5
EKS2 Erkin-Say 54.07 297 *eP* **P 13 35 00.1 -0.8**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ODAN Odare 54.28 273 *eP* **P 13 35 03.6 +1.0**
comp=Z,30nm,0.6s,mb5.4
ODAN Odare 54.28 273 *eP* **P 13 35 03.6 +1.0**
comp=Z,30nm,0.6s,mb5.4
KSH Kashi 54.43 292 P **P 13 35 10.9 +7.3**
KSH pP pP 13 35 22.8 +7.1
KSH sP sP 13 35 27.8 +7.1
KSH PcP PcP 13 36 11.9 +5.1
KSH PP PP 13 37 14.4 +8.7
KSH ScP ScP 13 40 05.0 +3.6
KSH PcS PcS 13 40 10.5 +4.2
KSH S **S 13 42 45.4 +6.5**
KSH sS sS 13 43 08.0 +8.8
KSH ScS ScS 13 44 51.8 +2.8
KSH SS SS 13 46 29.9 +8.7
KSH pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KSH pmax pmax
comp=Z,250nm,6.3s
KSH LR LR
comp=N,330nm,8.4s
KSH LR LR
comp=E,260nm,7.0s
KSH LR LR
comp=Z,310nm,9.0s
A05A Maple Falls 54.51 54⇑P **P 13 35 03.0 -0.9**
baz=54
JIRN Jiri 54.60 274 *eP* **P 13 35 06.6 +1.6**
JIRN Jiri 54.60 274 *eP* **P 13 35 06.6 +1.6**
GUN Gumba 54.66 275 *eP* **P 13 35 06.9 +1.5**
comp=Z,12nm,0.4s,mb5.2
GUN Gumba 54.66 275 *eP* **P 13 35 06.9 +1.5**
comp=Z,12nm,0.4s,mb5.3
RAMN Ramite 54.77 273 *eP* **P 13 35 07.0 +0.8**
comp=Z,28nm,0.4s,mb5.6
RAMN Ramite 54.77 273 *eP* **P 13 35 07.0 +0.8**
comp=Z,28nm,0.4s,mb5.7
ARU Arti 54.99 317 *eP* **P 13 35 05.4 -2.0**
comp=Z,8.7nm,0.7s,mb4.9
ARU Arti 54.99 317 *c iP* **P 13 35 05.6 -1.8**
ARU *e* 13 37 06.9
ARU S **S 13 42 44.0 -2.0**
ARU SS SS 13 46 26.1 -3.2
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.8
KKN Kakani 55.15 275 *eP* **P 13 35 10.1 +1.2**
comp=Z,26nm,0.6s,mb5.4
KKN Kakani 55.15 275 *eP* **P 13 35 10.1 +1.2**
comp=Z,26nm,0.6s,mb5.4
KKN Kakani 55.15 275 *eP* **P 13 35 10.1 +1.2**
PKI Pulchoki 55.20 275 *eP* **P 13 35 10.2 +0.9**
PKI Pulchoki 55.20 275 *eP* **P 13 35 10.2 +0.9**
PKI Pulchoki 55.20 275 *eP* **P 13 35 10.2 +0.9**
DMN Daman 55.38 275 *eP* **P 13 35 11.6 +1.0**
comp=Z,111nm,1.1s,mb5.8
DMN Daman 55.38 275 *eP* **P 13 35 11.6 +1.0**
comp=Z,111nm,1.1s,mb5.8
GKN Gorkha 55.46 276 *eP* **P 13 35 11.8 +0.7**
comp=Z,57nm,0.9s,mb5.6
GKN Gorkha 55.46 276 *eP* **P 13 35 11.8 +0.7**
comp=Z,57nm,0.9s,mb5.6
DANN Dangsing 55.84 277 *eP* **P 13 35 15.6 +1.7**
comp=Z,48nm,0.6s,mb5.7
DANN Dangsing 55.84 277 *eP* **P 13 35 15.6 +1.7**
comp=Z,48nm,0.6s,mb5.7
HNR Honiara 56.00 171 LR LR 13 56 42.1
comp=Z,338nm,20.5s,MS4.4,baz=326,slow=33
ETW Entiat 56.25 54 *eP* **P 13 35 16.5 -0.1**
comp=Z,24nm,0.8s,mb5.3
KOLN Koldanda 56.32 276 *eP* **P 13 35 18.5 +1.2**
comp=Z,58nm,1.0s,mb5.6

KOLN Koldanda 56.32 276 *eP* **P 13 35 18.5 +1.2**
comp=Z,58nm,1.0s,mb5.6
DAG Danmarks Havn 56.94 358 *i P* **P 13 35 20.0 -1.0**
comp=Z,19nm,0.9s,mb5.1
RSW Rattlesnake Hi 57.35 55 *eP* **P 13 35 24.8 +0.4**
comp=Z,16nm,0.9s,mb5.0
G06A Carlson Farm, 57.42 57⇑P **P 13 35 24.9 +0.1**
baz=57
APA Apatity 57.48 337⇓ *eP* **P 13 35 27.0 +2.1**
APA MLR MLR
comp=Z,1μm,20.0s,MS5.0
KEV Kevo 57.52 340 *eP* **P 13 35 22.9 -2.2**
KEV Kevo 57.52 340 *ep* **P 13 35 22.9 -2.2**
ARCES ARCESS Array B 58.03 341 P **P 13 35 28.2 -0.5**
comp=Z,3.4nm,0.7s,mb4.5,baz=45,slow=7.0,SNR=18
ARCES LR LR 14 06 06.1
comp=Z,378nm,21.2s,MS4.5,baz=6.8,slow=42
ARCES ARCESS Array B 58.03 341 P **P 13 35 28.2 -0.5**
ARCES ARCESS Array B 58.03 341 P **P 13 35 28.2 -0.5**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
A12A Yaak River Ran 58.07 51⇑P **P 13 35 29.6 +0.3**
baz=58,SNR=6.2
E09A Wood Farm, Sta 58.10 54⇓P **P 13 35 29.5 -0.1**
baz=58,SNR=10
ABKAR Akbulak array 58.34 310 *eP* **P 13 35 30.0 -1.3**
comp=Z,4.1nm,0.7s,mb4.6
AKTO Aktyubinsk 58.66 312 P **P 13 35 34.0 +0.6**
comp=Z,1.3nm,0.6s,mb4.2,baz=67,slow=8.2,SNR=3.5
AKTO Aktyubinsk 58.66 312 P **P 13 35 34.0 +0.6**
AKTO Aktyubinsk 58.66 312 P **P 13 35 34.0 +0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
K05A Summer Lake 58.72 59⇓P **P 13 35 34.8 +0.8**
baz=58
A13A Flathead Natio 58.73 50⇓P **P 13 35 34.0 0.0**
baz=58
I07A Izee 58.74 57⇑P **P 13 35 33.9 -0.2**
baz=58
C12B Naegeli Ranch, 58.88 52⇑P **P 13 35 34.8 -0.2**
baz=58,SNR=5.5
BSMT Bassoo Peak 59.17 52 *eP* **P 13 35 37.4 +0.3**
comp=Z,8.8nm,1.0s,mb4.7
A14A Double T Ranch 59.23 50⇓P **P 13 35 37.2 -0.2**
baz=59,SNR=6.9
BLMT Blacktail Moun 59.30 51 *eP* **P 13 35 37.8 -0.2**
comp=Z,17nm,0.9s,mb5.1
C13A Hot Springs 59.39 52⇓P **P 13 35 38.6 0.0**
baz=59,SNR=6.1
JTMT Jette 59.51 51 *eP* **P 13 35 40.2 +0.9**
MOD Modoc 59.56 60 *eP* **P 13 35 40.3 +0.5**
comp=Z,14nm,0.9s,mb5.0
A15A Johnson Ranch, 59.59 50⇑P **P 13 35 39.3 -0.6**
baz=59,SNR=6.5
E12A Beaver Dam Sad 59.60 53⇓P **P 13 35 39.9 -0.1**
baz=59
B14A Marquette Ranc 59.68 50⇓P **P 13 35 40.7 +0.1**
baz=59,SNR=8.9
J08A Circle Bar Ran 59.77 58⇑P **P 13 35 41.9 +0.6**
baz=60,SNR=7.2
D13A Huson 59.80 52⇓P **P 13 35 41.3 -0.1**
baz=60,SNR=5.6
SWMT Swartz Lake 59.80 52 *eP* **P 13 35 41.1 -0.3**
comp=Z,18nm,1.4s,mb4.9
B15A Bradely Ranch, 60.09 50⇓P **P 13 35 43.1 -0.2**
baz=60,SNR=7.8
A16A West Butte Ran 60.21 49⇑P **P 13 35 43.4 -0.7**
baz=60
WVOR Wild Horse Val 60.23 58 *eP* **P 13 35 44.5 0.0**
comp=Z,15nm,0.9s,mb5.0
WVOR Wild Horse Val 60.23 58 *eP* **P 13 35 44.5 +0.1**
WVOR pmax pmax
comp=Z,15nm,0.9s,mb5.0
SLMT Seeley Lake 60.24 52 *eP* **P 13 35 44.1 -0.3**
comp=Z,33nm,1.3s,mb5.2
MSO Missoula 60.24 52⇑P **P 13 35 44.5 +0.1**
baz=60,SNR=8.7
MSO Missoula 60.24 52 *eP* **P 13 35 44.2 -0.2**
comp=Z,8.9nm,0.9s,mb4.8
E13A Victor 60.34 53⇓P **P 13 35 44.8 -0.3**
baz=60,SNR=7.0
C15A Salmond Ranch, 60.39 51⇑P **P 13 35 45.9 +0.5**
baz=60,SNR=32
B16A M & M Farms, S 60.48 50⇓P **P 13 35 45.9 -0.1**
baz=60,SNR=5.4
CHMT Chamberlain Mo 60.57 52 *eP* **P 13 35 46.2 -0.4**
comp=Z,3.6nm,0.7s,mb4.6
F13A Darby 60.66 53⇓P **P 13 35 47.1 -0.2**
baz=60,SNR=8.1
A17A Triple J Farms 60.68 49⇑P **P 13 35 47.1 -0.2**
baz=60,SNR=10
E14A Clinton 60.74 52⇓P **P 13 35 47.7 -0.1**
baz=60,SNR=15
C16A Fuhringer Ranc 60.83 50⇓P **P 13 35 48.8 +0.4**
baz=60,SNR=18
D15A Lincoln 60.89 51⇓P **P 13 35 48.7 -0.1**
baz=60
B17A L&G Farms, Che 61.03 49⇑P **P 13 35 49.6 -0.1**
baz=61,SNR=8.3
SUMG Summit 61.04 4 *eP* **P 13 35 49.0 -0.4**
comp=Z,48nm,1.0s,mb5.6
SUMG Summit 61.04 4 *eP* **P 13 35 49.1 -0.3**
SUMG pmax pmax
comp=Z,48nm,1.0s
SUMG Summit 61.04 4 *i P* **P 13 35 49.5 +0.1**
comp=Z,29nm,0.9s,mb5.4
SUMG *i* pP 13 36 01.8 0.0
H12A Diamond D Ranc 61.13 55⇑P **P 13 35 50.3 -0.2**
baz=61
A18A Metzger Ranch, 61.14 48⇓P **P 13 35 49.9 -0.5**
baz=61,SNR=8.6
G13A Cobalt 61.14 54⇓P **P 13 35 50.5 0.0**
baz=61,SNR=16
F14A Wisdom 61.18 53⇓P **P 13 35 50.7 -0.1**
baz=61,SNR=7.2
E15A Deer Lodge 61.20 52⇓P **P 13 35 50.9 -0.1**
baz=61,SNR=13
FFC Flin Flon 61.22 40 *eP* **P 13 35 50.6 -0.2**
comp=Z,38nm,1.1s,mb5.4
FFC Flin Flon 61.22 40 *ceP* **P 13 35 51.1 +0.2**
FFC Flin Flon 61.22 40 P **P 13 35 51.4 +0.5**
comp=Z,197nm,1.0s,mb6.2,SNR=12
MFID Camas Ranch 61.27 56⇑P **P 13 35 51.6 +0.1**
baz=61,SNR=9.3
D16A Dana Ranch, Ca 61.41 51⇓P **P 13 35 52.5 +0.2**
baz=61,SNR=13
I12A Atlanta 61.44 55⇓P **P 13 35 53.0 +0.5**
baz=61,SNR=10.0
JOF Joensuu 61.45 334 *eP* **P 13 35 51.3 -1.0**
JOF Joensuu 61.45 334 *ep* **P 13 35 51.3 -1.0**
H13A Challis 61.46 54⇓P **P 13 35 52.5 -0.2**
baz=61,SNR=12
C17A Wharram Farm, 61.46 50⇓P **P 13 35 52.5 -0.1**
baz=61,SNR=21
HRY Holter Researc 61.46 51 *eP* **P 13 35 52.7 0.0**
comp=Z,9.6nm,0.7s,mb5.0
WCN Washoe City 61.48 62⇑P **P 13 35 53.6 +0.7**
baz=61
G14A Jackson 61.48 53⇓P **P 13 35 52.7 -0.2**
baz=61
B18A Beardsley Farm 61.50 49⇓P **P 13 35 53.0 +0.1**
baz=61,SNR=11
F15A Butte 61.64 52⇓P **P 13 35 54.2 +0.3**
baz=61,SNR=20
E16A East Helena 61.66 51⇓P **P 13 35 53.8 -0.2**
baz=61
LRM Limekiln Ridge 61.68 52 *eP* **P 13 35 54.3 +0.1**
comp=Z,141nm,0.9s,mb6.1
EGMT Eagleton 61.74 49⇓P **P 13 35 54.2 -0.4**
baz=61,SNR=7.3
EGMT Eagleton 61.74 49 *eP* **P 13 35 54.3 -0.3**
comp=Z,9.7nm,0.8s,mb5.0
D17A Six Diamond Ra 61.80 50⇓P **P 13 35 55.1 +0.2**
baz=62,SNR=9.5
KBL Kabul 61.84 292 *eP* **P 13 35 55.3 -0.2**
comp=Z,14nm,0.9s,mb5.1
KBL Kabul 61.84 292 *eP* **P 13 35 55.3 -0.1**
KBL pmax pmax
comp=Z,14nm,0.9s,mb5.1
CMB Columbia Colle 61.87 63 *eP* **P 13 35 55.3 -0.3**
comp=Z,20nm,1.3s,mb5.1
CMB *e*PcP PcP 13 36 36.0 -0.2
CMB Columbia Colle 61.87 63 *eP* **P 13 35 55.3 -0.3**
CMB *e* 13 36 36.0
CMB pmax pmax
comp=Z,20nm,1.3s,mb5.1
B19A Brinkman Farms 61.89 48⇓P **P 13 35 55.6 0.0**

baz=62,SNR=12
H14A **Leadore** 61.92 54 ⇓P P 13 35 55.7 -0.2
baz=62
I13A **Wildhorse Cree** 61.94 55 ⇑P P 13 35 56.3 +0.4
baz=62,SNR=16
HLID **Hailey** 61.99 55 ⇓P P 13 35 56.4 +0.1
baz=62
G15A **Dillon** 62.07 53 ⇓P P 13 35 56.9 +0.1
baz=62,SNR=10
MCMT **McKenzie Canyo** 62.08 53 eP P 13 35 56.8 -0.1
comp=Z,2.5nm,0.9s,mb4.3
E17A **Martinsdale** 62.14 51 ⇓P P 13 35 57.6 +0.3
baz=62,SNR=12
A20A **Cobblestone Ra** 62.15 47 ⇑P P 13 35 57.5 +0.2
baz=62,SNR=10
F16A **Kennard Place,** 62.15 52 ⇓P P 13 35 57.5 +0.2
baz=62,SNR=10
J13A **Cove Ranch, Pi** 62.23 55 ⇑P P 13 35 58.3 +0.4
baz=62,SNR=8.0
BOZ **Bozeman (W)** 62.24 52 ⇓P P 13 35 58.2 +0.3
baz=62,SNR=7.2
BOZ **Bozeman (W)** 62.24 52 eP P 13 35 58.1 +0.2
comp=Z,45nm,1.6s,mb5.3
BOZ **Bozeman (W)** 62.24 52 eP P 13 35 58.1 +0.2
BOZ pmax pmax
comp=Z,45nm,1.6s,mb5.3
D18A **Linhart Farms,** 62.24 50 ⇑P P 13 35 58.2 +0.3
baz=62
C19A **Slack Wire Ran** 62.30 49 ⇓P P 13 35 58.5 +0.3
baz=62,SNR=9.9
I14A **Mackay** 62.30 54 ⇓P P 13 35 58.9 +0.5
baz=62,SNR=14
H15A **Lima** 62.33 53 ⇑P P 13 35 58.1 -0.4
baz=62
G16A **Moss Hill, Enn** 62.40 53 ⇓P P 13 35 59.1 +0.1
baz=62,SNR=23
A21A **Bergtoll Ranch** 62.58 47 ⇑P P 13 36 00.4 +0.2
baz=62,SNR=13
E18A **Harlowton** 62.58 50 ⇓P P 13 36 00.9 +0.7
baz=62,SNR=5.3
F17A **Fitzpatrick Pl** 62.60 51 ⇓P P 13 36 01.1 +0.8
baz=62
J14A **Carey** 62.65 55 ⇑P P 13 36 01.8 +1.1
baz=62
D19A **Cripps Ranch,** 62.75 49 ⇑P P 13 36 01.7 +0.4
baz=62
I15A **Monteview** 62.80 54 ⇑P P 13 36 01.9 +0.2
baz=62
C20A **Veseth Ranch,** 62.85 48 ⇑P P 13 36 02.4 +0.4
baz=62,SNR=17
QLMT **Earthquake Lak** 62.86 53 eP P 13 36 02.8 +0.7
comp=Z,1.5nm,0.8s,mb4.2
NVAR **Mina Array Bea** 62.91 62 P P 13 36 02.8 +0.3
comp=Z,9.6nm,0.8s,mb5.0,baz=290,slow=7.0,SNR=39
NVAR LR LR 14 00 54.3
comp=Z,146nm,20.4s,MS4.1,baz=98,slow=34
NVAR **Mina Array Bea** 62.91 62 P P 13 36 02.8 +0.3
G17A **Pierce Place,** 62.93 52 ⇓P P 13 36 03.2 +0.7
baz=63,SNR=9.5
H16A **Russell Place,** 63.04 53 ⇓P P 13 36 03.6 +0.3
baz=63,SNR=12
A22A **Carney Farms,** 63.09 46 ⇑P P 13 36 03.5 0.0
baz=63,SNR=15
F18A **Big Timber** 63.11 51 ⇓P P 13 36 04.3 +0.5
baz=63,SNR=9.5
D20A **Manuel Ranch,** 63.18 49 ⇑P P 13 36 04.7 +0.5
baz=63,SNR=11
GCMT **Greycliff** 63.21 51 eP P 13 36 05.0 +0.6
comp=Z,5.9nm,0.9s,mb4.7
J15A **Blackfoot** 63.21 54 ⇓P P 13 36 05.3 +0.9
baz=63,SNR=9.1
C21A **Desert Coulee** 63.25 48 ⇑P P 13 36 05.1 +0.5
baz=63,SNR=11
E19A **Rath Farm, Rou** 63.25 50 ⇓P P 13 36 04.9 +0.3
baz=63
SCO **Scoresbysund** 63.33 358 i P P 13 36 04.8 0.0
comp=Z,18nm,1.0s,mb5.2
K14A **Jones Ranch, D** 63.34 56 ⇑P P 13 36 05.4 +0.1
baz=63,SNR=6.8
I16A **Newdale** 63.44 54 ⇓P P 13 36 06.5 +0.6
baz=63,SNR=6.2
B22A **Reddig Ranch S** 63.50 47 ⇑P P 13 36 06.4 +0.1
baz=63
F19A **Roth Farm, Mol** 63.55 51 ⇑P P 13 36 07.0 +0.3
baz=63,SNR=8.0
E20A **Meyer Farm, Mu** 63.57 50 ⇑P P 13 36 06.8 0.0
baz=63
G18A **Lazy EL Ranch,** 63.57 51 ⇑P P 13 36 06.8 +0.1
baz=63
KAF **Kangasniemi** 63.57 335 eP P 13 36 04.0 -2.5
KAF **Kangasniemi** 63.57 335 ep P 13 36 04.0 -2.5
H17A **Grant Village** 63.61 53 ⇓P P 13 36 08.6 +1.6
baz=63,SNR=7.0
K15A **Arbon** 63.61 55 ⇓P P 13 36 08.2 +1.1
baz=63,SNR=8.4
L14A **Malta** 63.62 56 ⇑P P 13 36 07.9 +0.8
baz=63,SNR=9.5
RCTC **Rector, Farmer** 63.67 64 ⇑P P 13 36 07.6 +0.1
baz=63
J16A **Bone** 63.75 54 ⇓P P 13 36 08.9 +0.9
baz=63,SNR=13
DCID1 **Drake Creek** 63.79 54 eP P 13 36 09.2 +1.0
comp=Z,11nm,0.9s,mb4.9
D21A **La Casta Ranch** 63.79 49 ⇑P P 13 36 08.2 0.0
baz=63,SNR=9.9
RLMT **Red Lodge** 63.85 51 ⇓P P 13 36 09.0 +0.3
baz=64,SNR=6.8
RLMT **Red Lodge** 63.85 51 eP P 13 36 09.1 +0.5
comp=Z,10.0nm,1.1s,mb4.8
RRI2 **Red Ridge** 63.87 54 eP P 13 36 09.5 +0.7
comp=Z,20nm,0.8s,mb5.2
B23A **Brockton** 63.90 46 ⇑P P 13 36 09.2 +0.4
baz=64,SNR=6.4
I17A **Pilgrim Ck.** 63.91 53 ⇓P P 13 36 10.4 +1.3
baz=64,SNR=7.8
H18A **Shoshone NF, C** 63.93 52 ⇓P P 13 36 09.6 +0.4
baz=64
TPAW **Teton Pass** 63.98 54 eP P 13 36 10.2 +0.7
comp=Z,17nm,0.9s,mb5.1
F20A **Billings** 64.01 50 ⇑P P 13 36 10.2 +0.5
baz=64
K16A **Soda Springs** 64.05 54 ⇑P P 13 36 11.0 +1.0
baz=64
VES **Vestal, Richgr** 64.06 65 ⇓P P 13 36 09.4 -0.8
baz=64
A24A **Westby** 64.08 46 ⇑P P 13 36 10.1 0.0
baz=64
E21A **Keefer Ranch,** 64.09 49 ⇑P P 13 36 10.5 +0.3
baz=64
LOHW **Long Hollow** 64.10 53 eP P 13 36 10.6 +0.3
comp=Z,29nm,1.5s,mb5.1
REDW **Red Top Meadow** 64.12 54 eP P 13 36 10.9 +0.5
comp=Z,42nm,1.5s,mb5.2
L15A **Malad City** 64.13 56 ⇑P P 13 36 10.4 -0.1
baz=64
D22A **Cohagen** 64.16 48 ⇓P P 13 36 10.6 0.0
baz=64
FINES **FINESS Array B** 64.17 335 P P 13 36 09.3 -1.1
comp=Z,8.8nm,0.5s,mb5.1,baz=31,slow=7.8,SNR=68
FINES LR LR 14 07 00.4
comp=Z,576nm,20.0s,MS4.8,baz=350,slow=39
FINES **FINESS Array B** 64.17 335 P P 13 36 09.3 -1.1
FINES **FINESS Array B** 64.17 335 P P 13 36 09.3 -1.1
FINES pmax pmax
comp=Z,9.0nm,0.5s
FINES MLR MLR
comp=Z,576nm,20.0s
J17A **Brown Place, J** 64.20 54 ⇓P P 13 36 11.9 +1.0
baz=64,SNR=8.0
C23A **Lambert** 64.24 47 ⇓P P 13 36 11.2 +0.1
baz=64
DGMT **Dagmar** 64.29 46 ⇓P P 13 36 11.6 +0.1
baz=64
DGMT **Dagmar** 64.29 46 eP P 13 36 11.2 -0.3
comp=Z,51nm,1.5s,mb5.3
H19A **Powell** 64.30 52 ⇓P P 13 36 11.9 +0.3
baz=64
CWC **Cottonwood Cre** 64.31 63 ⇑P P 13 36 11.8 +0.1
baz=64,SNR=5.3
G20A **Bridger** 64.36 51 ⇓P P 13 36 11.6 -0.3
baz=64,SNR=5.9
GRAC **Grapevine Rang** 64.38 63 ⇓P P 13 36 12.8 +0.6
baz=64,SNR=11
LAO **LASA Array** 64.44 48 ⇓P P 13 36 13.0 +0.5
baz=64,SNR=8.0
M15A **Larsen Ranch,** 64.44 56 ⇓P P 13 36 13.1 +0.5
baz=64,SNR=17
I18A **Diamond G Ranc** 64.47 53 ⇓P P 13 36 13.6 +0.8
baz=64,SNR=5.9
ISA **Isabella** 64.56 64 ⇓P P 13 36 12.5 -0.9
baz=64
R11A **Troy Canyon, C** 64.60 60 ⇑P P 13 36 13.8 +0.1
baz=64,SNR=14
D23A **Lindsay** 64.64 48 ⇓P P 13 36 13.4 -0.4
baz=64
L16A **Fish Haven** 64.67 55 ⇑P P 13 36 13.7 -0.4
baz=64
ARVC **Arvin** 64.68 65 ⇓P P 13 36 14.1 -0.1
baz=64
I19A **Meeteetse** 64.71 52 ⇑P P 13 36 14.7 +0.5
baz=64,SNR=5.5
E22A **Miles City** 64.75 49 ⇑P P 13 36 14.4 -0.1
baz=64
G21A **Lodge Grass** 64.89 50 ⇑P P 13 36 14.9 -0.6
baz=64
MPMC **Manual Prospec** 64.91 63 ⇑P P 13 36 15.9 +0.2
baz=65,SNR=10.0
L17A **Cokeville** 64.93 55 ⇓P P 13 36 16.0 +0.3
baz=65,SNR=6.1
H20A **Greybull** 64.95 51 ⇓P P 13 36 15.3 -0.5
baz=65
M16A **Huntsville** 65.01 56 ⇓P P 13 36 16.2 -0.1
baz=65
F22A **Rosebud** 65.02 49 ⇑P P 13 36 16.3 0.0
baz=65,SNR=11
FURC **Furnace Creek,** 65.04 63 ⇓P P 13 36 17.1 +0.5
baz=65,SNR=9.6
E23A **Ismay** 65.04 48 ⇓P P 13 36 16.9 +0.5
baz=65,SNR=10
K18A **Toltan Ranch,** 65.04 54 ⇑P P 13 36 17.5 +1.0
baz=65,SNR=7.7
DUG **Dugway** 65.05 57 ⇓P P 13 36 16.9 +0.3
baz=65,SNR=12
DUG **Dugway** 65.05 57 eP P 13 36 16.0 -0.6
comp=Z,13nm,1.0s,mb4.9
DUG **Dugway** 65.05 57 eP P 13 36 16.0 -0.6
DUG pmax pmax
comp=Z,13nm,1.0s,mb4.9
D24A **Glendive** 65.13 47 ⇓P P 13 36 17.3 +0.4
baz=65
J19A **Crowheart** 65.18 53 ⇓P P 13 36 17.9 +0.6
baz=65,SNR=8.2
O15A **The Old Anders** 65.20 57 ⇑P P 13 36 17.9 +0.4
baz=65
PD01 **Pinedale Array** 65.21 53 eP P 13 36 17.4 -0.1
PD02 **Pinedale Array** 65.22 53 eP P 13 36 17.4 -0.2
BW06 **Boulder Array** 65.23 53 ⇑P P 13 36 17.8 +0.1
baz=65,SNR=13
PDAR **Pinedale Array** 65.23 53 P P 13 36 17.8 +0.1
comp=Z,7.8nm,0.8s,mb4.8,baz=290,slow=1.6,SNR=55
PDAR **Pinedale Array** 65.23 53 P P 13 36 17.8 +0.1
I20A **Worland** 65.24 52 ⇑P P 13 36 18.3 +0.6
baz=65,SNR=7.0
EDW2 **Edwards Air Fo** 65.37 65 ⇓P P 13 36 18.5 -0.2
baz=65,SNR=7.1
H21A **Big Horn, Sher** 65.37 51 ⇑P P 13 36 18.9 +0.3
baz=65,SNR=9.2
G22A **Birney** 65.38 50 ⇑P P 13 36 18.6 +0.1
baz=65
M17A **Scullys Gap (B** 65.45 55 ⇑P P 13 36 19.3 +0.1
baz=65
FRB **Frobisher Bay** 65.47 19 LR LR 14 08 36.9
comp=Z,438nm,18.5s,MS4.7,baz=93,slow=39
F23A **Volborg** 65.51 49 ⇑P P 13 36 19.2 -0.2
baz=65,SNR=14
L18A **Fontenelle, Gr** 65.51 54 ⇑P P 13 36 19.7 +0.1
baz=65,SNR=6.3
SFJD **Kangerlussuaq** 65.52 10 i P P 13 36 17.6 -1.6
comp=Z,11nm,0.9s,mb4.9
SFJD i pP 13 36 31.0 -0.6
K19A **Absolon Red Bu** 65.58 53 ⇑P P 13 36 19.8 -0.1
baz=65
J20A **Shoshoni** 65.65 52 ⇓P P 13 36 20.5 +0.1
baz=65,SNR=7.6
R13A **O'Grain Ranch,** 65.68 60 ⇑P P 13 36 21.0 +0.4
baz=65
N17A **Moffit Pass** 65.71 56 ⇓P P 13 36 21.1 +0.3
baz=65,SNR=6.2
L19A **Farson** 65.78 54 ⇓P P 13 36 21.5 +0.2
baz=65
I21A **Big Trails, Te** 65.78 51 ⇓P P 13 36 21.2 0.0
baz=65,SNR=13
O16A **Springville** 65.81 57 ⇑P P 13 36 21.7 +0.3
baz=66
M18A **Lyman** 65.82 55 ⇓P P 13 36 21.7 +0.1
baz=66
GSC **Goldstone** 65.83 64 ⇑P P 13 36 21.5 -0.2
baz=66
GSC **Goldstone** 65.83 64 eP P 13 36 21.4 -0.2
comp=Z,5.8nm,0.8s,mb4.7
GSC **Goldstone** 65.83 64 eP P 13 36 21.4 -0.3
GSC pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
F24A **Ekalaka** 65.92 48 ⇓P P 13 36 21.7 -0.3
baz=66,SNR=5.4
K20A **Yellowstone Ra** 65.97 53 ⇑P P 13 36 22.2 -0.3
baz=66
BFSC **Mount Baldy Ra** 65.99 65 ⇑P P 13 36 22.5 -0.3
baz=66
J21A **Lysite** 66.01 52 ⇓P P 13 36 22.5 -0.2
baz=66,SNR=6.2
I22A **9 Mile Ranch,** 66.16 51 ⇑P P 13 36 24.1 +0.4
baz=66,SNR=6.8
ARUT **Antelope Range** 66.25 60 eP P 13 36 24.9 +0.5
comp=Z,5.5nm,0.8s,mb4.6
ARUT pP pP 13 36 37.5 +0.7
ARUT **Antelope Range** 66.25 60 eP P 13 36 24.9 +0.5
ARUT *PP pP 13 36 37.5 +0.7
ARUT pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
O17A **Robinson Place** 66.25 56 ⇑P P 13 36 24.1 -0.2
baz=66
G24A **Alzada** 66.29 49 ⇑P P 13 36 24.0 -0.5
baz=66
N18A **Larsen Ranch,** 66.34 55 ⇓P P 13 36 24.5 -0.3
baz=66
L20A **Wamsutter** 66.41 53 ⇑P P 13 36 25.3 0.0
baz=66
HEC **Hector,Ludlow** 66.43 64 ⇑P P 13 36 25.5 0.0
baz=66,SNR=13
J22A **Midwest** 66.49 51 ⇓P P 13 36 25.7 0.0
baz=66
K21A **Alcova** 66.59 52 ⇓P P 13 36 26.1 -0.3
baz=66,SNR=5.9
H24A **Dirks Ranch, A** 66.61 49 ⇑P P 13 36 25.9 -0.6
baz=66,SNR=6.2
R15A **Junction** 66.67 59 ⇓P P 13 36 27.0 0.0
baz=66
N19A **John Jarvie Ra** 66.68 55 ⇓P P 13 36 26.8 -0.2
baz=66
MURC **Murrieta** 66.69 65 ⇑P P 13 36 27.0 -0.2
baz=66
P17A **Butcher Ranch,** 66.73 57 ⇓P P 13 36 27.6 +0.2
baz=66,SNR=5.9
M20A **Sweetwater, Wa** 66.84 54 ⇓P P 13 36 28.0 0.0
baz=66,SNR=5.2
Q16A **Castle Valley** 66.85 58 ⇓P P 13 36 28.3 +0.2
baz=66
P18A **Preston Nutter** 66.91 56 ⇓P P 13 36 28.8 +0.3
baz=67
K22A **Casper** 66.97 52 ⇓P P 13 36 29.0 +0.1
baz=67
ULM **Lac du Bonnet** 67.00 40 P P 13 36 28.2 -0.7
comp=Z,5.3nm,0.8s,mb4.6,baz=325,slow=6.3,SNR=8.9
ULM LR LR 14 08 20.8
comp=Z,226nm,19.2s,MS4.4,baz=342,slow=38
ULM **Lac du Bonnet** 67.00 40 P P 13 36 28.2 -0.7
ULM **Lac du Bonnet** 67.00 40 P P 13 36 28.2 -0.7
ULM pmax pmax
comp=Z,5.0nm,0.8s
ULM MLR MLR
comp=Z,226nm,19.2s
LDFC **Landfair** 67.02 63 eP P 13 36 29.1 -0.2
comp=Z,45nm,1.2s,mb5.4
SRU **San Rafael** 67.10 57 ⇑P P 13 36 29.8 +0.1
baz=67
SRU **San Rafael** 67.10 57 eP P 13 36 29.8 +0.1
comp=Z,15nm,0.8s,mb5.1
SRU **San Rafael** 67.10 57 eP P 13 36 29.8 +0.1
SRU pmax pmax
comp=Z,15nm,0.8s,mb5.1
O19A **Miners Draw (B** 67.11 55 ⇑P P 13 36 29.5 -0.2
baz=67
PFO **Pinyon Flat Ob** 67.16 65 ⇓P P 13 36 29.5 -0.6
baz=67
M21A **Separation Pea** 67.22 53 ⇓P P 13 36 29.9 -0.5
baz=67
109C **Camp Elliot, M** 67.22 66 ⇑P P 13 36 30.4 -0.2
baz=67
N20A **Spence Gulch,** 67.24 54 ⇓P P 13 36 30.9 +0.4
baz=67
RSSD **Black Hills** 67.31 49 eP P 13 36 30.8 -0.2
comp=Z,20nm,1.2s,mb5.0
RSSD **Black Hills** 67.31 49 eP P 13 36 30.8 -0.1
RSSD pmax pmax
comp=Z,20nm,1.2s,mb5.0
Q18A **Rafter H Ranch** 67.33 57 ⇑P P 13 36 30.9 -0.3
baz=67
S16A **Weppner Ranch,** 67.39 59 ⇓P P 13 36 32.3 +0.7
baz=67,SNR=13
L22A **Ellis Ranch, M** 67.44 52 ⇓P P 13 36 32.3 +0.5
baz=67
R17A **Hanksville Air** 67.45 58 ⇓P P 13 36 32.0 +0.1
baz=67,SNR=8.4
J24A **Dixon Ranch, L** 67.52 50 ⇓P P 13 36 32.1 -0.2
baz=67
IRM **Iron Mountain** 67.61 64 ⇑P P 13 36 33.1 +0.1
baz=67,SNR=9.9
P19A **Cripple Cowboy** 67.64 56 ⇑P P 13 36 33.0 -0.1
baz=67
O20A **White River Ci** 67.72 55 ⇓P P 13 36 33.5 -0.1
baz=67
W13A **Hualapai Mount** 67.76 62 ⇓P P 13 36 34.0 +0.1
baz=68
M22A **Cedar Creek Ra** 67.78 53 ⇑P P 13 36 34.1 +0.1
baz=67,SNR=6.6
L23A **Garrett** 67.79 52 ⇓P P 13 36 33.6 -0.4
baz=67
MOL **Molde** 67.81 343 eP P 13 36 33.8 0.0
MOL AMB AMB 13 36 50.0
comp=Z,391nm,4.3s
U15A **North Rim** 67.84 60 ⇑P P 13 36 34.9 +0.4
baz=68
S17A **Black Ridge (B** 67.92 58 ⇑P P 13 36 34.8 -0.1
baz=68,SNR=15
Q19A **Hogan Spring (** 67.93 56 ⇑P P 13 36 34.8 -0.2
baz=68,SNR=14
R18A **Canyonlands Na** 67.95 57 ⇑P P 13 36 34.8 -0.3
baz=68
SWSC **Sam W. Stewart** 68.01 65 ⇓P P 13 36 35.0 -0.6
baz=68
P20A **De Beque** 68.06 55 ⇓P P 13 36 35.5 -0.3
baz=68
AFI **Afiamalu** 68.09 142 LR LR 13 59 31.8
comp=Z,145nm,21.6s,MS4.2,baz=4.0,slow=30
WRA **Warramunga Arr** 68.10 199 P P 13 36 35.4 -0.6
comp=Z,4.5nm,0.8s,mb4.6,baz=16,slow=6.8,SNR=22
WRA LR LR 14 08 21.2
comp=Z,120nm,18.9s,MS4.1,baz=5.0,slow=38
WRA **Warramunga Arr** 68.10 199 P P 13 36 35.4 -0.6
WRA **Warramunga Arr** 68.10 199 P P 13 36 35.4 -0.6
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA MLR MLR
comp=Z,120nm,19.0s
O21A **Pagoda** 68.10 54 ⇓P P 13 36 35.8 -0.2
baz=68
PDMCI **Parker Dam,Lak** 68.14 63 ⇑P P 13 36 36.0 -0.3
baz=68,SNR=6.5
Y12C **Blythe** 68.27 64 ⇑P P 13 36 37.0 -0.1
baz=68,SNR=7.0
N22A **Wattenberg Ran** 68.27 53 ⇑P P 13 36 37.2 +0.1
baz=68
T17A **Navajo Res., N** 68.35 59 ⇓P P 13 36 37.2 -0.4
baz=68
S18A **Hurst Farm, Bl** 68.36 58 ⇓P P 13 36 37.3 -0.4
baz=68,SNR=7.5
R19A **Curley Farm, L** 68.38 57 ⇑P P 13 36 37.5 -0.3
baz=68,SNR=5.1
NB2 **NORSAR Subarra** 68.41 341 P P 13 36 37.0 -0.6
comp=Z,12nm,0.6s,mb5.1,baz=26,slow=6.5
NOA **NORSAR Array B** 68.41 341 P P 13 36 37.2 -0.3
comp=Z,34nm,0.9s,mb5.4,baz=27,slow=6.3,SNR=40
NOA LR LR 14 10 12.4
comp=Z,471nm,18.0s,MS4.8,baz=280,slow=39
NOA **NORSAR Array B** 68.41 341 P P 13 36 37.2 -0.3
NOA **NORSAR Array B** 68.41 341 P P 13 36 37.3 -0.3
NOA pmax pmax
comp=Z,34nm,0.9s
NOA MLR MLR
comp=Z,471nm,18.0s
AGMN **Agassiz Nation** 68.41 42 eP P 13 36 35.7 -2.1
comp=Z,19nm,1.3s,mb5.0
N23A **Red Feather La** 68.49 53 ⇓P P 13 36 38.2 -0.2
baz=68
Q20A **Ridgley Place,** 68.49 56 ⇑P P 13 36 38.3 -0.2
baz=68
GLA **Glamis** 68.54 64 ⇓P P 13 36 38.5 -0.4
baz=68
P21A **Newcastle** 68.58 55 ⇑P P 13 36 39.2 +0.2
baz=68,SNR=6.1
NC602 **NORSAR Array S** 68.60 341 eP P 13 36 37.7 -1.1
HFS **Hagfors** 68.62 339 P P 13 36 38.2 -0.7
comp=Z,27nm,0.7s,mb5.3,baz=49,slow=6.7,SNR=44
HFS LR LR 14 07 29.8
comp=Z,542nm,21.3s,MS4.8,baz=350,slow=37
HFS **Hagfors** 68.62 339 P P 13 36 38.2 -0.7
HFS **Hagfors** 68.62 339 P P 13 36 38.2 -0.7
HFS pmax pmax
comp=Z,27nm,0.7s
HFS MLR MLR
comp=Z,542nm,21.3s
O22A **Kremmling** 68.65 54 ⇓P P 13 36 39.0 -0.5
baz=68
U17A **Shonto** 68.70 59 ⇑P P 13 36 40.1 +0.3
baz=68
M24A **Cheyenne** 68.71 52 ⇑P P 13 36 39.5 -0.3
baz=68
U16A **Tuba City** 68.73 60 ⇑P P 13 36 40.3 +0.3
baz=68,SNR=12
T18A **Mexican Hat** 68.80 58 ⇑P P 13 36 39.8 -0.6
baz=68,SNR=5.6
S19A **Harvey Farm, M** 68.82 57 ⇑P P 13 36 40.3 -0.3
baz=68,SNR=12
PV01 **Paradox Valley** 68.88 57 P P 13 36 41.1 +0.2
comp=Z,338nm,0.9s,mb6.3
P22A **Eagle** 68.92 54 ⇓P P 13 36 40.9 -0.2
baz=69
R20A **Redvale** 68.96 56 ⇑P P 13 36 41.5 +0.1
baz=69,SNR=5.0
O23A **Lake Granby, G** 68.97 54 ⇓P P 13 36 42.0 +0.5
baz=69,SNR=5.8
Q21A **Lamborn Mesa,** 68.98 56 ⇓P P 13 36 41.7 +0.2
baz=69,SNR=6.9
WUAZ **Wupatki** 69.00 60 ⇑P P 13 36 41.8 0.0
baz=69
BORG **Borgarnes** 69.06 357 LR LR 14 06 37.8
comp=Z,99nm,20.5s,MS4.0,baz=9.4,slow=36
Y14A **Wickenburg** 69.08 63 ⇑P P 13 36 42.3 +0.1
baz=69,SNR=6.9
SMCO **Snowmass** 69.09 55 eP P 13 36 41.8 -0.4
comp=Z,8.0nm,0.9s,mb4.7
POO **Poona** 69.12 275 ePKP P 13 36 40.0 -2.7
M25A **Palm-Egli Farm** 69.15 52 ⇑P P 13 36 42.6 +0.1
baz=69
Z13A **Yuma Proving G** 69.17 64 ⇓P P 13 36 42.8 0.0
baz=69,SNR=10
S20A **Disappointment** 69.21 57 ⇓P P 13 36 42.8 -0.2
baz=69
V17A **Tonalea, Kykot** 69.28 60 ⇓P P 13 36 43.6 +0.2
baz=69
U18A **Rough Rock, Ch** 69.29 59 ⇑P P 13 36 43.6 +0.1
baz=69
R21A **Cimarron** 69.31 56 ⇓P P 13 36 44.2 +0.6
baz=69,SNR=8.4
DZM **Mont Dzumac** 69.33 166 eLR LR 13 57 48.1
comp=Z,373nm,22.4s
Q22A **Crested Butte,** 69.34 55 ⇓P P 13 36 44.1 +0.3
baz=69,SNR=5.3
113A **Mohawk Valley,** 69.39 64 ⇑P P 13 36 43.8 -0.4
baz=69,SNR=5.8
ISCO **Idaho Springs** 69.42 54 ⇑P P 13 36 44.7 +0.4
baz=69,SNR=7.8
Z14A **Wintersburg** 69.50 63 ⇓P P 13 36 44.7 -0.1
baz=69
T19A **Beclabito** 69.51 58 ⇑P P 13 36 44.7 -0.1
baz=69
MVCO **Mesa Verde** 69.56 57 ⇑P P 13 36 45.2 +0.1
baz=69
MVCO **Mesa Verde** 69.56 57 eP P 13 36 45.0 -0.1
comp=Z,11nm,1.1s,mb4.7
S21A **Coal Bank Pass** 69.66 57 ⇑P P 13 36 46.3 +0.6
baz=69,SNR=7.2
W17A **Winslow** 69.70 60 ⇓P P 13 36 46.2 +0.2

baz=69
X16A Lo Mia Camp, P 69.71 61 ⇑P P 13 36 46.5 +0.4
baz=69,SNR=9.2
V18A Ganado 69.73 59 ⇓P P 13 36 46.4 +0.2
baz=69
U19A Dine' College, 69.77 58 ⇓P P 13 36 46.6 +0.1
baz=70,SNR=5.5
Q23A Hartsel 69.92 54 ⇓P P 13 36 47.9 +0.5
baz=70
114A Black Gap (USA 69.95 63 ⇑P P 13 36 47.9 +0.3
baz=70,SNR=12
KONO Kongsberg 70.01 341 *eP* **P 13 36 47.4 -0.1**
U20A Newcomb 70.11 58 ⇓P P 13 36 48.4 -0.1
baz=70
S22A 4UR Ranch, Cre 70.15 56 ⇓P P 13 36 49.4 +0.6
baz=70,SNR=7.8
ASK Askoy 70.18 344 *eP* **P 13 36 47.9 -0.7**
RUND Rundenannen 70.21 343 *eP* **P 13 36 47.4 -1.3**
RUND AMB AMB 13 36 49.5
comp=Z,187nm,1.5s,mb5.8
BER Bergen 70.25 343 *eP* **P 13 36 48.1 -0.8**
V19A Window Rock 70.26 59 ⇓P P 13 36 49.7 +0.3
baz=70
Q24A Divide 70.26 54 ⇑P P 13 36 49.8 +0.4
baz=70
T21A Navajo Lake 70.27 57 ⇑P P 13 36 49.7 +0.2
baz=70
R23A Moffat 70.42 55 ⇓P P 13 36 50.6 +0.2
baz=70
ODD1 Odda 70.42 343 *eP* **P 13 36 49.5 -0.5**
P25A Willow Gulch B 70.42 53 ⇑P P 13 36 50.6 +0.2
baz=70
X18A Snowflake 70.53 60 ⇓P P 13 36 51.2 +0.1
baz=70
214A Organ Pipe Nat 70.54 64 ⇓P P 13 36 50.6 -0.6
baz=70
V20A Brimhall 70.54 58 ⇓P P 13 36 51.2 0.0
baz=70
Y17A Roosevelt 70.56 61 ⇓P P 13 36 51.5 +0.2
baz=70,SNR=10
OGNE Ogallala 70.58 51 ⇑P P 13 36 51.2 -0.1
baz=70
U21A Nageezi 70.58 57 ⇓P P 13 36 51.0 -0.4
baz=70
T22A Edith 70.61 57 ⇑P P 13 36 51.8 +0.2
baz=70
S23A Nye Farm, Mont 70.65 55 ⇓P P 13 36 52.2 +0.3
baz=70
KIV Kislovodsk 70.75 314 *eP* **P 13 36 54.2 +1.9**
comp=Z,22nm,0.8s,mb5.1
KIV Kislovodsk 70.75 314 *eP* **P 13 36 53.5 +1.2**
KIV pmax pmax
comp=Z,23nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,302nm,18.0s,MS4.6
R24A Sanders Place, 70.79 55 ⇑P P 13 36 52.6 -0.1
baz=70
Q25A Bedland, Calha 70.80 54 ⇓P P 13 36 52.4 -0.3
baz=70,SNR=5.0
O27A Beecher Island 70.87 52 ⇓P P 13 36 52.9 -0.2
baz=70
SDCO Great Sand Dun 70.91 55 ⇓P P 13 36 53.7 +0.3
baz=71,SNR=5.1
W20A Ramah 70.98 59 ⇓P P 13 36 53.6 -0.3
baz=71
Y18A Canyon Day Jun 71.00 61 ⇓P P 13 36 54.3 +0.3
baz=71
X19A St. Johns 71.00 60 ⇑P P 13 36 54.4 +0.4
baz=71,SNR=9.4
ZEI Tsey 71.00 312 *eP* **P 13 36 53.4 -0.4**
ZEI pmax pmax
comp=Z,12nm,1.0s,mb4.8
Z17A San Carlos Hig 71.06 62 ⇑P P 13 36 54.3 0.0
baz=71
U22A Llaves 71.08 57 ⇑P P 13 36 54.3 -0.1
baz=71
T23A Casias Ranch, 71.10 56 ⇓P P 13 36 54.3 -0.3
baz=71
Q26A Hugo 71.19 53 ⇓P P 13 36 54.5 -0.6
baz=71
R25A Fountain Ranch 71.31 54 ⇓P P 13 36 55.5 -0.3
baz=71
Y19A Nutrioso 71.34 60 ⇓P P 13 36 56.5 +0.4
baz=71
V22A San Miguel Ran 71.37 57 ⇓P P 13 36 56.1 -0.1
baz=71
X20A Quemado 71.39 59 ⇓P P 13 36 57.0 +0.7
baz=71,SNR=5.6
U23A El Rito 71.50 57 ⇓P P 13 36 57.6 +0.6
baz=71,SNR=9.3
TUC Tucson 71.55 62 *eP* **P 13 36 57.1 -0.3**
comp=Z,7.1nm,1.1s,mb4.5
TUC Tucson 71.55 62 *eP* **P 13 36 57.1 -0.2**
TUC pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
S25A Robets Cordova 71.57 55 ⇑P P 13 36 57.1 -0.3
baz=71
AKASG Malin Array Be 71.60 326 P **P 13 36 56.3 -1.0**
comp=Z,5.6nm,0.4s,mb4.9,baz=35,slow=6.1,SNR=15
AKASG LR LR 14 10 53.7
comp=Z,563nm,18.2s,MS4.9,baz=305,slow=38
AKASG Malin Array Be 71.60 326 P **P 13 36 56.3 -1.0**
AKASG Malin Array Be 71.60 326 *i P* **P 13 36 56.5 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKBB Malin Array Si 71.60 326 *eP* **P 13 36 56.0 -1.3**
AKBB Malin Array Si 71.60 326 *eP* **P 13 36 56.0 -1.3**
KIEV Kiev 71.61 326 *eP* **P 13 36 56.0 -1.4**
comp=Z,5.4nm,0.6s,mb4.7
KIEV Kiev 71.61 326 *d i P* **P 13 36 56.9 -0.5**
R26A Arlington 71.67 54 ⇑P P 13 36 57.6 -0.4
baz=71
SNART Snartemo 71.73 342 *eP* **P 13 36 58.5 +0.5**
Z19A T-Link Ranch, 71.79 61 ⇑P P 13 36 58.6 -0.2
baz=72
ASAR Alice Springs 71.80 198 P **P 13 36 58.9 +0.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=12,slow=5.4,SNR=37
ASAR Alice Springs 71.80 198 P **P 13 36 58.9 +0.3**
ASAR Alice Springs 71.80 198 P **P 13 36 58.9 +0.2**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
118A Homack Ranch, 71.82 62 ⇑P P 13 36 59.2 +0.2
baz=72
X21A Alamocita Cree 71.88 59 ⇑P P 13 36 59.3 0.0
baz=72
Y20A Horse Springs, 71.90 60 ⇑P P 13 37 00.1 +0.7
baz=72,SNR=5.3
V23A Ortiz Mt. (NFS 71.91 57 ⇓P P 13 36 59.7 +0.3
baz=72
T25A Trinidad 71.95 55 ⇓P P 13 36 59.8 +0.1
baz=72
U24A Moreno Valley 71.97 56 ⇓P P 13 36 59.7 -0.1
baz=72
R27A Eads 72.05 53 ⇓P P 13 36 59.4 -0.8
baz=72
SPMN St. Paul 72.10 42 ⇑P P 13 36 59.5 -0.9
baz=72
218A Dragoon 72.23 62 ⇑P P 13 37 01.6 +0.1
baz=72
Y21A Point of Rocks 72.25 59 ⇓P P 13 37 01.7 +0.2
baz=72
X22A Bernardo 72.30 58 ⇓P P 13 37 02.1 +0.3
baz=72
Z20A Nine Sixteen R 72.32 61 ⇓P P 13 37 01.8 -0.2
baz=72
W23A Werner Place, 72.34 57 ⇓P P 13 37 01.5 -0.6
baz=72
GNI Garni 72.45 310 P **P 13 37 04.6 +2.0**
comp=Z,6.0nm,0.6s,mb4.7,baz=267,slow=5.2,SNR=3.8
GNI Garni 72.45 310 P **P 13 37 04.7 +2.0**
GNI Garni 72.45 310 *eP* **P 13 37 02.9 +0.3**
GNI pmax pmax
comp=Z,27nm,1.7s
V24A Rampart Ranch, 72.45 57 ⇑P P 13 37 02.6 -0.1
baz=72
U25A Circle Dot Ran 72.47 56 ⇓P P 13 37 02.7 -0.1
baz=72
318A Bisbee 72.64 63 ⇑P P 13 37 04.1 +0.3
baz=72,SNR=8.0
ANN Anapa 72.66 318 *eP* **P 13 36 54.9 -8.9**
ANN *e* 13 37 13.3
120A U Bar Ranch, L 72.69 61 ⇑P P 13 37 04.5 +0.4
baz=72,SNR=7.1
219A White Tail Can 72.69 62 ⇑P P 13 37 04.4 +0.2
baz=72,SNR=11
Y22A Socorro 72.72 59 ⇑P P 13 37 04.8 +0.4
baz=72

X23A Hourglass Bar 72.73 58 ⇓P P 13 37 04.5 +0.2
baz=72
W24A Lazy 6 Ranch, 72.74 57 ⇓P P 13 37 04.3 -0.1
baz=72
Z21A St. Cloud Mine 72.74 60 ⇓P P 13 37 04.4 0.0
baz=72
V25A Rancho No Teng 72.75 56 ⇓P P 13 37 04.6 +0.1
baz=72
Z22A Elephant Butte 73.20 59 ⇑P P 13 37 07.4 +0.2
baz=73,SNR=5.1
220A Playas Peak, P 73.21 61 ⇑P P 13 37 07.5 +0.2
baz=73,SNR=7.0
121A Cookes Peak, D 73.21 60 ⇑P P 13 37 07.6 +0.3
baz=73,SNR=6.4
V26A Tequesquite Ra 73.26 56 ⇓P P 13 37 07.3 -0.1
baz=73
Y23A Lovelace Mesa, 73.26 58 ⇑P P 13 37 07.6 +0.1
baz=73
W25A X Bar L Ranch, 73.28 56 ⇑P P 13 37 07.6 0.0
baz=73
122A Conniff Cattle 73.57 60 ⇑P P 13 37 09.7 +0.3
baz=73
221A Mesquite Ranch 73.58 61 ⇓P P 13 37 09.8 +0.4
baz=73
Y24A Capitan 73.63 58 ⇓P P 13 37 09.5 -0.2
baz=73,SNR=5.0
X25A Clemmons Ranch 73.66 57 ⇑P P 13 37 09.9 0.0
baz=73
SCHQ Schefferville 73.74 22 P **P 13 37 09.5 -0.4**
comp=Z,12nm,0.8s,mb4.9,baz=357,slow=5.9,SNR=12
SCHQ LR LR 14 09 54.7
comp=Z,294nm,20.6s,MS4.5,baz=289,slow=36
SCHQ Schefferville 73.74 22 P **P 13 37 09.5 -0.4**
Y25A Mesa, Roswell 74.07 58 ⇑P P 13 37 12.0 -0.2
baz=74
Z24A Sheeppen Canyo 74.09 58 ⇓P P 13 37 12.2 -0.2
baz=74
X26A CR and CF Fran 74.13 57 ⇑P P 13 37 11.9 -0.7
baz=74
W27A Bowe Ranch, En 74.19 56 ⇓P P 13 37 12.6 -0.4
baz=74
SCIA State Center 74.40 45 *eP* **P 13 37 12.8 -1.2**
comp=Z,72nm,1.4s,mb5.4
Z25A Roswell 74.51 58 ⇑P P 13 37 14.8 -0.1
baz=74
KIS Kishinev 74.72 324 *e* UNK 13 37 15.0
KIS Kishinev 74.72 324 *eP* **P 13 37 15.0 -0.8**
224A Cornudas Mount 74.89 59 ⇑P P 13 37 16.9 -0.1
baz=75
Z26A Caprock 74.95 58 ⇓P P 13 37 16.9 -0.4
baz=75,SNR=9.4
Y27A Causey 74.98 57 ⇑P P 13 37 17.1 -0.5
baz=75,SNR=5.3
125A Gardner Draw, 74.99 58 ⇓P P 13 37 17.3 -0.3
baz=75
AMTX Amarillo 75.11 55 ⇑P P 13 37 18.0 -0.2
baz=75,SNR=5.3
AMTX Amarillo 75.11 55 *eP* **P 13 37 17.8 -0.5**
comp=Z,18nm,1.2s,mb4.9
MSTX Muleshoe 75.14 56 ⇑P P 13 37 18.4 -0.1
baz=75
MNTX Cornudas Mount 75.24 60 ⇑P P 13 37 18.7 -0.4
baz=75,SNR=5.2
225A Deer Hill, Car 75.28 59 ⇑P P 13 37 18.9 -0.4
baz=75
Z27A Tatum 75.36 57 ⇑P P 13 37 19.4 -0.3
baz=75,SNR=11
324A Moseley Ranch, 75.36 60 ⇑P P 13 37 19.8 0.0
baz=75
126A Clayton Basin, 75.37 58 ⇑P P 13 37 19.5 -0.3
baz=75
OJC Ojcow 75.42 331 *eP* **P 13 37 19.8 0.0**
OJC Ojcow 75.42 331 *eP* **P 13 37 19.8 0.0**
GDL2 Guadalupe Moun 75.49 59 *eP* **P 13 37 19.4 -1.1**
comp=Z,59nm,1.8s,mb5.2
STHS Stebnicka Huta 75.60 330 *eP* **P 13 37 22.0 +1.2**
STHS pmax pmax
comp=Z,18nm,0.9s,mb5.0
STHS Stebnicka Huta 75.60 330 *eP* **P 13 37 22.0 +1.2**
BUR08 Bucovina Ar. S 75.63 326 *eP* **P 13 37 21.4 +0.3**
BURAR Bucovina Array 75.65 326 ⇑P P 13 37 21.3 +0.2
BURAR Bucovina Array 75.65 326 ⇑i P P 13 37 21.3 +0.2
325A Bean Ranch, Si 75.72 60 ⇑P P 13 37 21.8 0.0
baz=75
226A Malaga, Loving 75.74 58 ⇑P P 13 37 21.7 -0.3
baz=75,SNR=6.0
UZH Uzhgorod 75.89 329 *eP* **P 13 37 20.0 -2.5**
UZH *e* pP 13 37 30.0 -5.2
UZH *e* pP 13 37 34.4 -0.8
NIE Niedzica 75.92 330 *eP* **P 13 37 23.2 +0.5**
CRVS Cervenica-Dubn 75.96 329 *eP* **P 13 37 23.1 +0.2**
CRVS pmax pmax
comp=Z,13nm,0.9s,mb4.9
CRVS Cervenica-Dubn 75.96 329 *eP* **P 13 37 23.1 +0.2**
TESR 75.99 325 ⇓i P P 13 37 23.2 +0.1
KSP Ksiaz 76.02 333 *eP* **P 13 37 22.6 -0.6**
KSP *e* pP pP 13 37 35.3 -0.6
KSP Ksiaz 76.02 333 ⇑ *eP* **P 13 37 22.6 -0.6**
KSP *e* *PP pP 13 37 35.3 -0.6
425A Indio Mountain 76.13 60 ⇑P P 13 37 24.2 0.0
baz=76,SNR=9.7
TLCR 76.18 323 ⇑P P 13 37 24.5 +0.3
TLCR 76.18 323 ⇑i P P 13 37 24.5 +0.3
TRPA Tarpa 76.22 328 ⇑i P P 13 37 24.7 +0.3
OKC Ostrava-Krasne 76.29 332 *eP* **P 13 37 24.3 -0.5**
OKC Ostrava-Krasne 76.29 332 *eP* **P 13 37 24.3 -0.5**
UPC Upice 76.40 333 *eP* **P 13 37 25.0 -0.3**
UPC Upice 76.40 333 *eP* **P 13 37 25.0 -0.3**
PETR 76.40 324 ⇓i P P 13 37 25.0 -0.4
DPC Dobruska-Polom 76.44 333 *eP* **P 13 37 25.7 +0.1**
DPC Dobruska-Polom 76.44 333 *eP* **P 13 37 25.7 +0.1**
VRI Vrincioaia 76.49 324 ⇑P P 13 37 26.3 +0.4
VRI Vrincioaia 76.49 324 ⇑i P P 13 37 26.3 +0.4
MORC Moravsky Berou 76.54 332 *eP* **P 13 37 26.2 0.0**
comp=Z,37nm,0.9s,mb5.3
MORC Moravsky Berou 76.54 332 ⇓P P 13 37 26.6 +0.4
MORC Moravsky Berou 76.54 332 ⇓i P P 13 37 26.6 +0.4
CLL Collm 76.60 335 *i P* **P 13 37 26.3 -0.2**
CLL MLR MLR
comp=Z,500nm,20.1s,MS4.8
CLL Collm 76.60 335 *i P* **P 13 37 26.3 -0.2**
comp=Z,57nm,0.9s,mb5.5
CLL *e* pP pP 13 37 38.0 -1.2
CLL LmV 14 10 00.0
comp=Z,500nm,20.1s
KECS Kecovo 76.66 330 *eP* **P 13 37 27.1 +0.2**
KECS pmax pmax
comp=Z,12nm,1.0s,mb4.8
KECS Kecovo 76.66 330 *eP* **P 13 37 27.1 +0.2**
BRG Berggiesshubel 76.71 335 *i P* **P 13 37 26.4 -0.7**
comp=Z,19nm,1.1s,mb4.9
BRG Berggiesshubel 76.71 335 *i P* **P 13 37 26.4 -0.7**
BRG pmax pmax
comp=Z,19nm,1.1s,mb4.9
426A McDonald Obser 76.79 59 ⇑P P 13 37 27.5 -0.4
baz=76
PVCC Panska Ves 76.82 334 *eP* **P 13 37 27.9 +0.2**
PVCC Panska Ves 76.82 334 *eP* **P 13 37 27.9 +0.2**
DOPR Dopca 76.94 325 ⇑i P P 13 37 29.2 +0.7
TIRR Tirgusor 76.94 323 ⇓P P 13 37 29.0 +0.5
TIRR Tirgusor 76.94 323 ⇓i P P 13 37 29.0 +0.5
328A Wristen Ranch, 76.99 58 ⇑P P 13 37 28.8 -0.3
baz=77
427A Hayter Ranch, 77.03 59 ⇑P P 13 37 29.0 -0.3
baz=77
MLR Muntele Rosu 77.11 325 ⇑P P 13 37 29.9 +0.5
MLR Muntele Rosu 77.11 325 ⇑i P P 13 37 29.9 +0.5
526A Mary Lane Ranc 77.19 60 ⇓P P 13 37 30.1 -0.1
baz=77,SNR=7.3
VYHS Vyhne 77.22 330 *eP* **P 13 37 30.5 +0.5**
VYHS pmax pmax
comp=Z,18nm,1.1s,mb4.9
VYHS Vyhne 77.22 330 *eP* **P 13 37 30.5 +0.5**
VRAC Vranov 77.26 332 LR LR 14 15 22.8
comp=Z,508nm,19.2s,MS4.9,baz=2.2,slow=39
VRAC Vranov 77.26 332 ⇑P P 13 37 30.5 +0.3
VRAC Vranov 77.26 332 ⇑i P P 13 37 30.5 +0.3
KOLL Kolacno 77.29 331 *eP* **P 13 37 31.2 +0.8**
KOLL Kolacno 77.29 331 *eP* **P 13 37 31.2 +0.8**
PRU Pruhonice 77.31 334 *eP* **P 13 37 30.8 +0.3**
PRU Pruhonice 77.31 334 *eP* **P 13 37 30.8 +0.3**
PRU AMS AMS 14 15 30.0
PSZ Piszkesteto 77.35 330 *eP* **P 13 37 30.7 0.0**
comp=Z,29nm,0.9s,mb5.2
PSZ Piszkesteto 77.35 330 ⇓P P 13 37 31.5 +0.8

PSZ Piszkesteto 77.35 330 ⇓ *eP* **P 13 37 31.5 +0.8**
PSZ Piszkesteto 77.35 330 ⇓i P P 13 37 31.5 +0.8
527A Woodward Ranch 77.41 60 ⇓P P 13 37 31.1 -0.4
baz=77
VOIR 77.51 325 ⇑P P 13 37 32.4 +0.7
VOIR 77.51 325 ⇑i P P 13 37 32.4 +0.7
626A Big Bend Ranch 77.53 60 ⇓P P 13 37 32.0 -0.1
baz=77
428A Kincaid Ranch, 77.54 59 ⇓P P 13 37 31.8 -0.4
baz=77
TUL1 Tulsa 77.59 51 ⇑P P 13 37 31.9 -0.4
baz=77
TREC Trest 77.62 333 *eP* **P 13 37 32.6 +0.3**
TREC Trest 77.62 333 *eP* **P 13 37 32.6 +0.3**
BHD Baghdad 77.68 305 *ex* x 13 38 42.0
NKC Novy Kostel 77.72 335 *eP* **P 13 37 32.9 +0.1**
NKC *e* 13 37 36.7
NKC Novy Kostel 77.72 335 *eP* **P 13 37 32.9 +0.1**
NKC *e*PCP PcP 13 37 36.7 -6.0
528A Cox Ranch, San 77.89 59 ⇓P P 13 37 34.0 -0.1
baz=78
TXAR Lajitas Array 77.97 60 P **P 13 37 34.3 -0.3**
comp=Z,6.8nm,0.6s,mb4.8,baz=300,slow=4.3,SNR=78
TXAR Lajitas Array 77.97 60 P **P 13 37 34.3 -0.2**
TXAR Lajitas Array 77.97 60 P **P 13 37 34.3 -0.2**
TXAR pmax pmax
comp=Z,7.0nm,0.6s
BUD Budapest 78.02 330 ⇓ *eP* **P 13 37 35.5 +1.0**
627A Terlingua Ranc 78.05 60 ⇑P P 13 37 34.9 -0.1
baz=78
628A Black Gap, Mar 78.32 60 ⇓P P 13 37 36.1 -0.3
baz=78
KHC Kasperske Hory 78.36 334 *eP* **P 13 37 36.2 -0.1**
comp=Z,38nm,1.0s,mb5.3
KHC Kasperske Hory 78.36 334 *eP* **P 13 37 36.5 +0.2**
KHC *e* 13 37 40.3
KHC Kasperske Hory 78.36 334 *eP* **P 13 37 36.5 +0.2**
KHC *e*PCP PcP 13 37 40.3 -5.2
BR131 Keskin Array S 78.36 316 *eP* **P 13 37 36.9 +0.4**
comp=Z,14nm,0.9s,mb4.9
BRTR Keskin Array B 78.36 316 P **P 13 37 37.2 +0.6**
comp=Z,13nm,0.8s,mb4.9,baz=73,slow=4.6,SNR=32
BRTR LR LR 14 18 06.2
comp=Z,222nm,18.3s,MS4.5,baz=168,slow=40
BRTR Keskin Array B 78.36 316 P **P 13 37 37.2 +0.6**
BRTR Keskin Array B 78.36 316 P **P 13 37 37.2 +0.6**
BRTR pmax pmax
comp=Z,13nm,0.8s
SFIN Scholer Farm 78.50 42 ⇑P P 13 37 36.7 -0.6
baz=78
GRF Grafenberg Arr 78.55 336 *eP* **P 13 37 37.6 +0.2**
comp=Z,38nm,0.9s,mb5.3
GRF *e*L 14 09 30.9
comp=Z,355nm,21.9s
GRF Grafenberg Arr 78.55 336 *eP* **P 13 37 37.6 +0.2**
GRF pmax pmax
comp=Z,38nm,0.9s,mb5.3
GRFO Grafenberg 78.56 336 *eP* **P 13 37 37.6 +0.2**
comp=Z,48nm,0.9s,mb5.4
GRFO Grafenberg 78.56 336 *eP* **P 13 37 37.6 +0.2**
GRFO pmax pmax
comp=Z,48nm,0.9s,mb5.4
GERES GERESS Array B 78.58 334 P **P 13 37 37.4 -0.1**
comp=Z,7.7nm,0.6s,mb4.8,baz=37,slow=5.9,SNR=30
GERES LR LR 14 14 25.6
comp=Z,476nm,19.7s,MS4.8,baz=63,slow=37
GERES GERESS Array B 78.58 334 P **P 13 37 37.4 -0.1**
GERES GERESS Array B 78.58 334 P **P 13 37 37.4 -0.1**
GERES pmax pmax
comp=Z,8.0nm,0.6s
GERES MLR MLR
comp=Z,476nm,19.7s
STKA Stephens Creek 78.58 190 LR LR 14 08 05.2
comp=Z,246nm,21.8s,MS4.5,baz=147,slow=32
BZS Buzias 78.68 327 ⇑P P 13 37 37.9 -0.3
BZS Buzias 78.68 327 ⇑i P P 13 37 37.9 -0.3
SOP Sopron 78.69 331 *eP* **P 13 37 38.6 +0.4**
CONA Conrad Observa 78.70 332 ⇑i P P 13 37 38.9 +0.6
comp=Z,45nm,1.2s,mb5.3,SNR=21
CSNA Conrad Observa 78.70 332 ⇑i P P 13 37 38.9 +0.7
comp=Z,44nm,1.2s,mb5.2
MEM Membach 79.11 339 P **P 13 37 40.5 0.0**
comp=Z,22nm,1.2s,mb5.0
MEM AP pP 13 37 53.4 +0.2
PKSM Moragy 79.25 329 ⇓P P 13 37 40.9 -0.4
PKSM Moragy 79.25 329 ⇓i P P 13 37 40.9 -0.4
MOA Molln 79.28 333 ⇑i P P 13 37 41.6 +0.2
comp=Z,16nm,0.8s,mb5.0,SNR=10
ARSA Arzberg 79.41 332 ⇑i P P 13 37 42.6 +0.5
comp=Z,22nm,1.3s,mb4.9,SNR=7.4
JCT Junction City 79.41 57 ⇑P P 13 37 41.9 -0.5
baz=79
JCT Junction City 79.41 57 P **P 13 37 41.5 -0.9**
comp=Z,28nm,1.4s,mb5.0
JCT Junction City 79.41 57 P **P 13 37 41.6 -0.8**
JCT pmax pmax
comp=Z,27nm,1.4s,mb5.0
BCLA Clavier 79.46 339 P **P 13 37 42.4 +0.1**
BCLA AP pP 13 37 55.0 -0.1
GIVF Givet 79.87 340 *eP* **P 13 37 44.3 -0.3**
GIVF Givet 79.87 340 *eP* **P 13 37 44.3 -0.3**
GIVF Givet 79.87 340 *eP* **P 13 37 44.3 -0.3**
DOU Dourbes 79.93 340 P **P 13 37 45.0 +0.1**
comp=Z,20nm,3.6s
BAIF Baives 80.06 340 *eP* **P 13 37 45.4 -0.2**
comp=Z,11nm,0.7s,mb4.6
BAIF Baives 80.06 340 *eP* **P 13 37 45.4 -0.2**
comp=Z,11nm,0.7s,mb4.9
BAIF Baives 80.06 340 *eP* **P 13 37 45.4 -0.2**
BAIF pmax pmax
comp=Z,11nm,0.7s,mb4.9
SOKA Soboth 80.07 332 ⇑i P P 13 37 45.7 0.0
comp=Z,40nm,1.1s,mb5.3
PERS Pernice 80.08 332 *i P* **P 13 37 46.3 +0.5**
PARMO Parma 80.14 46 *eP* **P 13 37 46.1 -0.2**
LANF Langenberg 80.14 337 *eP* **P 13 37 46.0 -0.1**
KBA Koelnbreinsper 80.25 333 ⇑i P P 13 37 47.1 +0.4
comp=Z,46nm,1.0s,mb5.4
OBKA Obir 80.38 332 ⇑i P P 13 37 47.3 -0.1
comp=Z,13nm,1.1s,mb4.7
MYKA Terra Mystica 80.56 333 ⇑i P P 13 37 47.9 -0.5
comp=Z,15nm,1.3s,mb4.8
WATA Walderalm 80.57 334 ⇑i P P 13 37 48.8 +0.4
comp=Z,12nm,0.4s,mb5.1,SNR=12
BFO Black Forest 80.60 337 *eP* **P 13 37 48.3 -0.2**
comp=Z,19nm,1.0s,mb5.0
BFO Black Forest 80.60 337 *eP* **P 13 37 48.3 -0.2**
BFO pmax pmax
comp=Z,19nm,1.0s,mb5.0
BFO Black Forest 80.60 337 P **P 13 37 48.6 +0.1**
comp=Z,113nm,1.1s,mb5.7,SNR=7.3
WTTA Wattenberg 80.61 334 ⇑i P P 13 37 49.5 +0.8
comp=Z,44nm,1.0s,mb5.4,SNR=18
VTS Vitosha 80.61 325 ⇑P P 13 37 48.7 0.0
VTS Vitosha 80.61 325 ⇑i P P 13 37 48.7 0.0
RETA Reutte 80.67 335 ⇑i P P 13 37 49.1 +0.1
comp=Z,22nm,1.2s,mb5.0,SNR=12
MOTA Moosalm 80.70 335 ⇑i P P 13 37 49.4 +0.3
comp=Z,19nm,0.7s,mb5.2,SNR=19
CDF Champ du Feu 80.81 337 *eP* **P 13 37 49.5 -0.1**
comp=Z,35nm,0.9s,mb5.0
CDF Champ du Feu 80.81 337 *eP* **P 13 37 49.5 -0.1**
comp=Z,35nm,0.9s,mb5.3
CDF Champ du Feu 80.81 337 *eP* **P 13 37 49.5 -0.1**
CDF pmax pmax
comp=Z,35nm,0.9s,mb5.3
ABTA Abfaltersbach 80.81 333 ⇑ *i P* **P 13 37 49.4 -0.3**
comp=Z,12nm,1.2s,mb4.7
VISS Visnje 80.90 332 *i P* **P 13 37 49.5 -0.7**
VOJS Vojsko 81.01 332 *i P* **P 13 37 49.0 -1.7**
ECH Echery 81.02 337 *eP* **P 13 37 50.2 -0.6**
comp=Z,29nm,1.4s,mb5.0
ECH Echery 81.02 337 *eP* **P 13 37 50.2 -0.6**
ECH pmax pmax
comp=Z,29nm,1.4s,mb5.0
ECH Echery 81.02 337 *eP* **P 13 37 50.6 -0.2**
BOJS Bojanci 81.03 331 *i P* **P 13 37 50.3 -0.6**
PAGF Fort de Pagny 81.08 338 *eP* **P 13 37 51.4 +0.3**
comp=Z,13nm,0.8s,mb4.6
PAGF Fort de Pagny 81.08 338 *eP* **P 13 37 51.4 +0.3**
comp=Z,13nm,0.8s,mb4.9
FETA Feichten 81.10 335 ⇑ *eP* **P 13 37 51.4 +0.2**
comp=Z,19nm,1.1s,mb4.9,SNR=10
DAVA Damuels 81.11 335 ⇑ *eP* **P 13 37 51.6 +0.3**
comp=Z,22nm,1.0s,mb5.0
PMOR Pomariorio Ree 81.19 123 *eT* 15 07 11.2

comp=Z,21nm,0.2s
MEZF Maizieres J'vi 81.30 339 *e*P **P 13 37 52.4 +0.1**
MEZF Maizieres J'vi 81.30 339 *e*P **P 13 37 52.4 +0.1**
THEF They Montfort 81.31 338 *e*P **P 13 37 52.2 -0.1**
MOF Molkenrain 81.36 337 *e*P **P 13 37 52.2 -0.4**
HAU Haudompre 81.42 338 *e*P **P 13 37 52.6 -0.3**
HAU *e*R
comp=Z,556nm,23.0s
HAU Haudompre 81.42 338 *e*P **P 13 37 52.6 -0.3**
HAU Haudompre 81.42 338 *e*P **P 13 37 52.6 -0.3**
HINF Hinteralfeld 81.47 337 *e*P **P 13 37 52.7 -0.5**
comp=Z,13nm,0.9s,mb4.6
HINF Hinteralfeld 81.47 337 *e*P **P 13 37 52.7 -0.5**
comp=Z,13nm,0.9s,mb4.8
HINF Hinteralfeld 81.47 337 *e*P **P 13 37 52.7 -0.5**
HINF pmax pmax
comp=Z,13nm,0.9s,mb4.9
SFTF Sexfontaines 81.58 339 *e*P **P 13 37 53.7 0.0**
comp=Z,40nm,0.7s,mb5.1,baz=12
SFTF *ep*P pP 13 38 03.7 -2.8
SFTF Sexfontaines 81.58 339 *e*P **P 13 37 53.7 0.0**
comp=Z,40nm,0.7s,mb5.5
SFTF *ep*P pP 13 38 03.7 -2.8
LOMF Lomont 81.90 337 *e*P **P 13 37 55.6 +0.1**
VAY Valandovo 81.94 324 *e*P **P 13 37 55.4 -0.4**
TUE Stuetta 82.00 335 *e*P **P 13 37 55.8 -0.2**
comp=Z,12nm,0.8s,mb4.9
PPT2 Papeete2 82.29 125 *e*LR LR 14 03 33.6
comp=Z,191nm,24.5s
PPT2 *e*T 15 08 32.9
comp=Z,2.2nm,0.3s
FLN La Foliniere 82.32 342 *e*P **P 13 37 57.3 -0.3**
comp=Z,24nm,0.9s,mb4.8
FLN *e*R
comp=Z,536nm,21.5s
FLN La Foliniere 82.32 342 *e*P **P 13 37 57.3 -0.3**
comp=Z,24nm,0.9s,mb5.1
FLN La Foliniere 82.32 342 *e*P **P 13 37 57.3 -0.3**
FLN pmax pmax
comp=Z,24nm,0.9s,mb5.1
LDF La Druitiere 82.41 342 *e*P **P 13 37 57.6 -0.5**
LDF La Druitiere 82.41 342 *e*P **P 13 37 57.6 -0.5**
LDF La Druitiere 82.41 342 *e*P **P 13 37 57.6 -0.5**
KRUS Krusevo 82.43 325 *e*P **P 13 37 57.7 -0.7**
ASF Jabal al Asfar 82.61 310 LR LR 14 21 09.8
comp=Z,151nm,18.0s,MS4.4,baz=48,slow=40
LOR Lormes 82.74 339 *e*P **P 13 37 59.7 -0.1**
comp=Z,28nm,0.8s,mb5.0,baz=14
LOR *e*R
comp=Z,811nm,21.8s
LOR Lormes 82.74 339 *e*P **P 13 37 59.7 -0.1**
comp=Z,28nm,0.8s,mb5.3
LOR Lormes 82.74 339 *e*P **P 13 37 59.7 -0.1**
LOR pmax pmax
comp=Z,28nm,0.8s,mb5.3
GRR Gorron 82.76 343 *e*P **P 13 37 59.8 -0.1**
comp=Z,48nm,0.9s,mb5.2
GRR *ep*P pP 13 38 09.9 -2.8
GRR Gorron 82.76 343 *e*P **P 13 37 59.8 -0.1**
comp=Z,48nm,0.9s,mb5.5
GRR *ep*P pP 13 38 09.9 -2.8
GRR Gorron 82.76 343 *e*P **P 13 37 59.8 -0.1**
GRR *e**PP pP 13 38 09.9 -2.8
GRR pmax pmax
comp=Z,48nm,0.9s,mb5.5
CABF La Chapelle 82.78 337 *e*P **P 13 38 00.2 +0.1**
comp=Z,12nm,0.8s,mb4.7
CABF *ep*P pP 13 38 10.1 -2.8
CABF La Chapelle 82.78 337 *e*P **P 13 38 00.2 +0.1**
comp=Z,12nm,0.8s,mb5.0
CABF *ep*P pP 13 38 10.1 -2.8
CABF La Chapelle 82.78 337 *e*P **P 13 38 00.2 +0.1**
CABF *e**PP pP 13 38 10.1 -2.8
CABF pmax pmax
comp=Z,12nm,0.8s,mb5.0
SSF Saint Saulge 83.02 339 *e*P **P 13 38 01.2 -0.1**
comp=Z,12nm,0.7s,mb4.8
SSF *ep*P pP 13 38 11.1 -3.0
SSF Saint Saulge 83.02 339 *e*P **P 13 38 01.2 -0.1**
comp=Z,12nm,0.7s,mb5.0
SSF *ep*P pP 13 38 11.1 -3.0
SSF Saint Saulge 83.02 339 *e*P **P 13 38 01.2 -0.1**
SSF *e**PP pP 13 38 11.1 -3.0
SSF pmax pmax
comp=Z,12nm,0.7s,mb5.0
SGMF Saint Gilles 83.23 344 *e*P **P 13 38 02.2 -0.2**
comp=Z,30nm,0.7s,mb5.2
SGMF Saint Gilles 83.23 344 *e*P **P 13 38 02.2 -0.2**
comp=Z,30nm,0.7s,mb5.4
SGMF Saint Gilles 83.23 344 *e*P **P 13 38 02.2 -0.2**
SGMF pmax pmax
comp=Z,30nm,0.7s,mb5.4
ROSF Rostrenen 83.29 344 *e*P **P 13 38 02.6 -0.1**
comp=Z,48nm,0.8s,mb5.3
ROSF Rostrenen 83.29 344 *e*P **P 13 38 02.6 -0.1**
comp=Z,48nm,0.8s,mb5.6
ROSF Rostrenen 83.29 344 *e*P **P 13 38 02.6 -0.1**
ROSF pmax pmax
comp=Z,48nm,0.8s,mb5.6
AVF Avril sur Loir 83.31 339 *e*P **P 13 38 02.8 0.0**
comp=Z,34nm,0.8s,mb5.1
AVF Avril sur Loir 83.31 339 *e*P **P 13 38 02.8 0.0**
comp=Z,34nm,0.8s,mb5.4
AVF Avril sur Loir 83.31 339 *e*P **P 13 38 02.8 0.0**
AVF pmax pmax
comp=Z,34nm,0.8s,mb5.4
SMF Signal de Mont 83.33 339 *e*P **P 13 38 02.9 0.0**
comp=Z,49nm,0.8s,mb5.3
SMF *ep*P pP 13 38 13.0 -2.7
SMF Signal de Mont 83.33 339 *e*P **P 13 38 02.9 0.0**
comp=Z,49nm,0.8s,mb5.6
SMF *ep*P pP 13 38 13.0 -2.7
SMF Signal de Mont 83.33 339 *e*P **P 13 38 02.9 0.0**
SMF *e**PP pP 13 38 13.0 -2.7
SMF pmax pmax
comp=Z,49nm,0.8s,mb5.6
MEH Mehetia 83.38 124 *e*T 15 09 55.3
comp=Z,17nm,0.3s
LPL La Plagne 83.61 337 *e*P **P 13 38 05.1 +0.7**
comp=Z,8.8nm,0.5s,mb4.9
LPL La Plagne 83.61 337 *e*P **P 13 38 05.1 +0.7**
comp=Z,8.8nm,0.5s,mb5.2
LPL La Plagne 83.61 337 *e*P **P 13 38 05.1 +0.7**
LPL pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
LPG La Plagne 83.63 337 *e*P **P 13 38 05.3 +0.8**
comp=Z,11nm,0.5s,mb4.9
LPG La Plagne 83.63 337 *e*P **P 13 38 05.3 +0.8**
comp=Z,11nm,0.5s,mb5.2
LPG La Plagne 83.63 337 *e*P **P 13 38 05.3 +0.8**
LPG pmax pmax
comp=Z,11nm,0.5s,mb5.2
BGF Bois d'Agland 83.65 340 *e*P **P 13 38 04.6 0.0**
comp=Z,18nm,0.6s,mb5.0
BGF Bois d'Agland 83.65 340 *e*P **P 13 38 04.6 0.0**
comp=Z,18nm,0.6s,mb5.4
BGF Bois d'Agland 83.65 340 *e*P **P 13 38 04.6 0.0**
BGF pmax pmax
comp=Z,18nm,0.6s,mb5.4
QUIF Quistinic 83.67 344 *e*P **P 13 38 04.4 -0.2**
QUIF Quistinic 83.67 344 *e*P **P 13 38 04.4 -0.2**
QUIF Quistinic 83.67 344 *e*P **P 13 38 04.4 -0.2**
BNI Bardonecchia 84.06 336 *e*P **P 13 38 07.2 +0.6**
comp=Z,7.9nm,0.9s,mb4.8
BNI Bardonecchia 84.06 336 *e*P **P 13 38 07.2 +0.5**
BNI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.06 340 *e*P **P 13 38 06.7 +0.1**
comp=Z,13nm,0.7s,mb4.8
TCF *ep*P pP 13 38 17.0 -2.5
TCF Toulx Ste Croi 84.06 340 *e*P **P 13 38 06.7 +0.1**
comp=Z,13nm,0.7s,mb5.2
TCF *ep*P pP 13 38 17.0 -2.5
TCF Toulx Ste Croi 84.06 340 *e*P **P 13 38 06.7 +0.1**
TCF *e**PP pP 13 38 17.0 -2.5
TCF pmax pmax
comp=Z,13nm,0.7s,mb5.2
MFF Saint Martin d 84.30 341 *e*P **P 13 38 07.5 -0.4**
comp=Z,12nm,0.7s,mb4.8
MFF Saint Martin d 84.30 341 *e*P **P 13 38 07.5 -0.4**
comp=Z,12nm,0.7s,mb5.1
MFF Saint Martin d 84.30 341 *e*P **P 13 38 07.5 -0.4**
MFF pmax pmax
comp=Z,12nm,0.7s,mb5.1
MBDF Montbardon 84.33 336 *e*P **P 13 38 08.1 0.0**
comp=Z,7.1nm,0.5s,mb4.8
MBDF Montbardon 84.33 336 *e*P **P 13 38 08.1 0.0**
comp=Z,7.1nm,0.5s,mb5.0
MBDF Montbardon 84.33 336 *e*P **P 13 38 08.1 0.0**
MBDF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
ORIF Oris-en-Rattie 84.40 337 *e*P **P 13 38 09.0 +0.6**
comp=Z,22nm,0.7s,mb5.1
ORIF *e*R
comp=Z,405nm,19.2s
ORIF Oris-en-Rattie 84.40 337 *e*P **P 13 38 09.0 +0.6**
comp=Z,22nm,0.7s,mb5.4
ORIF Oris-en-Rattie 84.40 337 *e*P **P 13 38 09.0 +0.6**
ORIF pmax pmax
comp=Z,22nm,0.7s,mb5.4
SSB Saint Sauveur 84.42 338 *e*P **P 13 38 08.5 0.0**
comp=Z,14nm,0.9s,mb5.1
SSB *ep*P pP 13 38 21.6 +0.2
SSB Saint Sauveur 84.42 338 *e*P **P 13 38 08.5 0.0**
SSB *e**PP pP 13 38 21.6 +0.3
SSB pmax pmax
comp=Z,14nm,0.9s,mb5.1
VIVF Saint-Julien-l 84.78 338 *e*P **P 13 38 10.9 +0.6**
comp=Z,25nm,0.8s,mb5.1
VIVF Saint-Julien-l 84.78 338 *e*P **P 13 38 10.9 +0.6**
comp=Z,25nm,0.8s,mb5.4
VIVF Saint-Julien-l 84.78 338 *e*P **P 13 38 10.9 +0.6**
VIVF pmax pmax
comp=Z,25nm,0.8s,mb5.4
SAOF Saorge 84.79 335 *e*P **P 13 38 10.1 -0.3**
AUTN L'Aution 84.82 336 *e*P **P 13 38 10.9 +0.4**
TOUF Mont Tournerai 84.85 336 *e*P **P 13 38 10.8 +0.1**
SBF Sospel 84.94 335 *e*P **P 13 38 10.8 -0.3**
comp=Z,21nm,0.7s,mb5.1
SBF Sospel 84.94 335 *e*P **P 13 38 10.8 -0.3**
comp=Z,21nm,0.7s,mb5.4
SBF Sospel 84.94 335 *e*P **P 13 38 10.8 -0.3**
SBF pmax pmax
comp=Z,21nm,0.7s,mb5.4
MVIF Mont Vial 84.99 336 *e*P **P 13 38 11.5 +0.1**
REVF Revere 85.07 335 *e*P **P 13 38 11.8 0.0**
RJF Les Rejaudoux 85.15 340 *e*P **P 13 38 11.7 -0.5**
comp=Z,12nm,0.7s,mb4.8
RJF *e*R
comp=Z,472nm,17.8s
RJF Les Rejaudoux 85.15 340 *e*P **P 13 38 11.7 -0.5**
comp=Z,12nm,0.7s,mb5.1
RJF Les Rejaudoux 85.15 340 *e*P **P 13 38 11.7 -0.5**
RJF pmax pmax
comp=Z,12nm,0.7s,mb5.1
SMRF Simiane la Rot 85.35 337 *e*P **P 13 38 14.1 +0.9**
comp=Z,28nm,1.0s,mb5.0
SMRF Simiane la Rot 85.35 337 *e*P **P 13 38 14.1 +0.9**
comp=Z,28nm,1.0s,mb5.3
CAF Calviac 85.37 339 *e*P **P 13 38 13.3 0.0**
comp=Z,14nm,0.7s,mb4.9
CAF Calviac 85.37 339 *e*P **P 13 38 13.3 0.0**
comp=Z,14nm,0.7s,mb5.2
CAF Calviac 85.37 339 *e*P **P 13 38 13.3 0.0**
CAF pmax pmax
comp=Z,14nm,0.7s,mb5.2
FRF La Foret Royal 85.44 336 *e*P **P 13 38 13.6 -0.1**
comp=Z,12nm,0.8s,mb4.8
FRF La Foret Royal 85.44 336 *e*P **P 13 38 13.6 -0.1**
comp=Z,12nm,0.8s,mb5.1
FRF La Foret Royal 85.44 336 *e*P **P 13 38 13.6 -0.1**
FRF pmax pmax
comp=Z,12nm,0.8s,mb5.1
LFF La Frestale 85.67 340 *e*P **P 13 38 14.2 -0.6**
LFF La Frestale 85.67 340 *e*P **P 13 38 14.2 -0.6**
LFF La Frestale 85.67 340 *e*P **P 13 38 14.2 -0.6**
PGF Pioggiola 85.68 334 *e*P **P 13 38 14.5 -0.4**
comp=Z,29nm,1.1s,mb5.1
PGF *ep*P pP 13 38 25.1 -2.6
PGF Pioggiola 85.68 334 *e*P **P 13 38 14.5 -0.4**
comp=Z,29nm,1.1s,mb5.4
PGF *ep*P pP 13 38 25.1 -2.6
PGF Pioggiola 85.68 334 *e*P **P 13 38 14.5 -0.4**
PGF *e**PP pP 13 38 25.1 -2.6
PGF pmax pmax
comp=Z,29nm,1.1s,mb5.4
LMR La Mourre 85.69 336 *e*P **P 13 38 15.0 +0.1**
comp=Z,38nm,0.9s,mb5.3
LMR La Mourre 85.69 336 *e*P **P 13 38 15.0 +0.1**
comp=Z,38nm,0.9s,mb5.6
LMR La Mourre 85.69 336 *e*P **P 13 38 15.0 +0.1**
LASF Ste Croix 85.72 338 *e*P **P 13 38 15.7 +0.7**
comp=Z,11nm,0.8s,mb4.8
LASF Ste Croix 85.72 338 *e*P **P 13 38 15.7 +0.7**
comp=Z,11nm,0.8s,mb5.1
TBI Tubuai 86.99 129 *e*LR LR 14 05 46.7
comp=Z,148nm,29.2s
TBI *e*T 15 14 26.2
comp=Z,10nm,0.2s
EPF Esparros 87.57 340 *e*P **P 13 38 23.7 -0.4**
comp=Z,7.8nm,0.7s,mb4.7
EPF Esparros 87.57 340 *e*P **P 13 38 23.7 -0.4**
comp=Z,7.8nm,0.7s,mb5.0
EPF Esparros 87.57 340 *e*P **P 13 38 23.7 -0.4**
EPF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
ETSF Etsaut 87.91 341 *e*P **P 13 38 25.2 -0.5**
ETSF Etsaut 87.91 341 *e*P **P 13 38 25.2 -0.5**
ETSF Etsaut 87.91 341 *e*P **P 13 38 25.2 -0.5**
ESDC Sonseca Array 91.74 342 *e*P **P 13 38 42.9 -0.8**
comp=Z,2.1nm,0.7s,mb4.6,baz=6.9,slow=3.7,SNR=13
ESDC Sonseca Array 91.74 342 P **P 13 38 42.9 -0.8**
KEST Kesra 91.77 331 P **P 13 38 44.2 +0.3**
comp=Z,1.2nm,0.6s,mb4.4,baz=170,slow=2.4,SNR=3.9
KEST LR LR 14 25 32.6
comp=Z,72nm,19.5s,MS4.1,baz=241,slow=39
KEST Kesra 91.77 331 P **P 13 38 44.2 +0.3**
PAB San Pablo 91.94 342 *e*P **P 13 38 43.2 -1.5**
comp=Z,2.8nm,0.7s,mb4.7
PAB San Pablo 91.94 342 *e*P **P 13 38 43.2 -1.4**
PAB pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
TORD Torodi Ar. Bea 115.17 328 PKP PKiKP 13 44 16.7 -1.0
comp=Z,0.2nm,0.4s,baz=30,slow=4.4,SNR=3.2
TORD Torodi Ar. Bea 115.17 328 PKP PKiKP 13 44 16.7 -1.0
DBIC Dimbokro 123.44 333 PKP PKPdf 13 44 33.0 -0.6
comp=Z,2.6nm,0.8s,baz=3.6,slow=6.0,SNR=3.9
DBIC Dimbokro 123.44 333 PKP PKPdf 13 44 33.0 -0.6
DBIC Dimbokro 123.44 333 PKIKP PKPdf 13 44 33.0 -0.6
DBIC pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 134.81 62 PKP PKPdf 13 44 55.5 +0.4
comp=Z,1.9nm,0.8s,baz=0.0,slow=1.0,SNR=2.9
LPAZ La Paz 134.81 62 PKP PKPdf 13 44 55.5 +0.4
LPAZ La Paz 134.81 62 PKIKP PKPdf 13 44 55.5 +0.5
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
CFAA Coronel Fontan 145.41 79 PKPbc PKPbc 13 45 13.3 -0.5
comp=Z,2.2nm,0.7s,baz=292,slow=4.8,SNR=11
CFAA Coronel Fontan 145.41 79 PKPbc PKPbc 13 45 13.3 -0.5
PLCA Paso Flores 148.54 95 PKPbc PKPbc 13 45 20.9 -1.5
comp=Z,6.7nm,0.8s,baz=280,slow=3.2,SNR=14
PLCA Paso Flores 148.54 95 PKPbc PKPbc 13 45 20.9 -1.5
CPUP Villa Florida 148.94 60 PKPbc PKPbc 13 45 23.6 -0.3
comp=Z,13nm,0.6s,baz=297,slow=2.4,SNR=43
CPUP Villa Florida 148.94 60 PKPbc PKPbc 13 45 23.6 -0.3
SNAA Sanae 152.15 196 *e* PKPbc 13 45 29.6 -0.5
SNAA Sanae 152.15 196 PKPbc PKPbc 13 45 29.6 -0.5
baz=209,slow=7.0
SNAA PKPab PKPab 13 45 39.1 -0.9
baz=187,slow=5.1
SNAA Sanae 152.15 196 PKPbc PKPbc 13 45 29.6 -0.5
SNAA PKPab PKPab 13 45 39.1 -0.9
SNAA Sanae 152.15 196 PKIKP PKPbc 13 45 29.6 -0.5
SNAA 13 45 39.1
VNA2 Neumayer--Watz 153.61 195 *e* PKPdf 13 45 28.4 +2.9
VNA2 *e* 13 45 45.7
VNA2 *e* 13 45 50.2
VNA3 Neumayer Olymp 153.71 193 *e* PKPbc 13 45 32.0 -1.5
VNA3 *e* 13 45 38.1

IDC ***22*** *13:32:50.5±3.2,31°.41S×176°.94W,h0km,mb3.9/3, mb1 4.1/5,mb1mx3.9/18,mbtmp4.0/5,ML3.8/2,Error ellipse: s-maj=71.8km s-min=34.8km az=114.0*
NEIC 22 13:32:50.9±2.0,31°.49S×176°.79W,h10km,mb3.9/1,Error ellipse: s-maj=42.1km s-min=15.5km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.40 215**		Pn	Pn	13 34 52.0	-0.7
	0.4nm,0.3s,baz=142,slow=12,SNR=2.3						
URZ				Sn	Sn	13 36 29.6	+1.9
	0.5nm,0.3s,baz=127,slow=15,SNR=1.2						
URZ	**Urewera**	**8.40 215**		*e*P	Pn	13 34 51.7	-1.0
URZ				Sn	Sn	13 36 29.6	+1.9
KHZ	**Kahutara**	**13.36 213**		*e*P	Pn	13 36 01.4	+1.0
RPZ	**Rata Peaks**	**15.52 215**		Pn	Pn	13 36 29.5	-0.3
	1.0nm,0.3s,baz=78,slow=14,SNR=7.5						
RPZ	**Rata Peaks**	**15.52 215**		Pn	Pn	13 36 29.5	-0.3
STKA	**Stephens Creek**	**35.26 258**		P	P	13 39 47.6	+1.8
	2.1nm,0.9s,baz=95,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**35.26 258**		P	P	13 39 47.6	+1.8
ASAR	**Alice Springs**	**44.09 268**		P	P	13 40 59.3	-0.1
	0.7nm,0.6s,baz=103,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**44.09 268**		P	P	13 40 59.3	-0.1
WB2	**Warramunga Arr**	**45.17 273**		*e*P	P	13 41 07.7	-0.4
WRAB	**Tennant Creek**	**45.18 273**		P	P	13 41 07.7	-0.4
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**45.18 273**		P	P	13 41 07.8	-0.4
	1.8nm,0.7s,baz=112,slow=7.9,SNR=22						
WRA	**Warramunga Arr**	**45.18 273**		P	P	13 41 07.8	-0.4
FINES	**FINESS Array B**	**146.53 340**		PKPbc	PKPbc	13 52 31.8	+0.1
	5.6nm,0.9s,baz=49,slow=4.2,SNR=4.3						
FINES	**FINESS Array B**	**146.53 340**		PKPbc	PKPbc	13 52 31.8	+0.1

IDC 22 13:38:41.5±2.0,31°.78S×178°.24W,h0km,mb3.8/2, mb1 4.1/2,mb1mx3.8/16,mbtmp3.8/2,MS3.2/2,Ms1 3.2/2, ms1mx2.7/32,Error ellipse: s-maj=72.7km s-min=46.2km az=9.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.50 209**		Sn	Sn	13 41 50.2	-7.8
	1.4nm,0.3s,baz=164,slow=20,SNR=6.8						
DZM	**Mont Dzumac**	**16.72 302**		LR	LR	13 46 47.3	
	comp=Z,38nm,19.1s,baz=139,slow=29						
ASAR	**Alice Springs**	**42.85 269**		P	P	13 46 41.6	+0.1
	0.6nm,0.5s,baz=108,slow=7.3,SNR=20						
WRA	**Warramunga Arr**	**43.97 274**		P	P	13 46 50.4	-0.2
	1.0nm,0.4s,baz=114,slow=7.9,SNR=16						
ATAH	**Atahualpa**	**94.58 101**		LR	LR	14 23 23.0	
	comp=Z,21nm,20.9s,baz=90,slow=28						
FINES	**FINESS Array B**	**146.37 339**		PKPbc	PKPbc	13 58 22.9	-0.6
	3.1nm,0.8s,baz=48,slow=2.8,SNR=7.5						
TORD	**Torodi Ar. Bea**	**161.45 180**		PKPab	PKPab	13 59 28.2	-0.7
	0.3nm,0.7s,baz=204,slow=1.6,SNR=3.1						

JMA ***22*** *13:38:45.2±0.7,46°.51N×152°.73E,h30km,M4.3*
MOS ***22*** *13:38:45.4±2.6,46°.36N×152°.79E,h39km,mb4.2/3,Error ellipse: s-maj=26.2km s-min=9.9km az=56.9*
ISCJB ***22*** *13:38:46.3±1.1,46°.7N±0°.2×152°.2E±0°.2,h42km±11km, mb3.7/7,Error ellipse: s-maj=33.7km s-min=5.7km az=141.0*
NEIC ***22*** *13:38:47.8±0.8,46°.46N×152°.79E,Error ellipse: s-maj=28.1km s-min=7.6km az=140.0*
IDC ***22*** *13:38:48.7±1.5,46°.67N×152°.54E,h43km±7km,mb3.6/7, mb1 3.9/9,mb1mx3.5/26,mbtmp3.7/9,ML3.6/2,Error ellipse: s-maj=48.4km s-min=17.5km az=149.0*
ISC 22 13:38:48.4±1.0,46°.6N±0°.2×152°.4E±0°.2,h46km±10km, h44km±1.2km:pP-P,n54,σ1.9s25/62,mb3.7/7,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.79**	**29**	*e*PN	**Pn**	**13 40 05.0**	**+7.0**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.28**	**244**	*c i*PN	**Pn**	**13 40 05.8**	**+1.2**
YUK				*i* S	**Sn**	**13 41 15.1**	**+11**
YUK				pmax	pmax		
	comp=N,17nm,0.2s						
YUK				pmax	pmax		
	comp=E,13nm,0.2s						
YUK				pmax	pmax		
	comp=Z,120nm,0.2s						
YUK				smax			
	comp=N,990nm,0.6s						
YUK				smax			
	comp=E,126nm,0.6s						
NEM2	**Nemuro 2**	**5.72**	**238**	P	**Pn**	**13 40 09.3**	**-1.4**
NEM2				*e*S	**Sn**	**13 41 11.5**	**-3.5**
JRA	**Rausu**	**5.79**	**246**	P	**Pn**	**13 40 13.5**	**+1.9**
JNK	**Nakash**	**6.22**	**244**	P	**Pn**	**13 40 18.5**	**+1.0**
JTKR	**Abashiri--Toko**	**6.55**	**250**	P	**Pn**	**13 40 24.6**	**+2.6**
JAK	**Akkeshi**	**6.56**	**240**	P	**Pn**	**13 40 20.9**	**-1.3**
JAK				*e*S	**Sn**	**13 41 33.0**	**-2.6**
JAR	**Ashorobuto**	**6.96**	**245**	P	**Pn**	**13 40 28.8**	**+1.1**
JAR				*e*S	**Sn**	**13 41 45.9**	**+0.4**
JOB	**Onbets**	**7.13**	**242**	P	**Pn**	**13 40 30.1**	**+0.1**
JOB				*e*S	**Sn**	**13 41 48.7**	**-0.9**
JKK2	**Kamakawa 2**	**7.35**	**252**	P	**Pn**	**13 40 35.7**	**+2.7**
ASAJ	**Asahikawa**	**7.35**	**254**	P	**Pn**	**13 40 36.6**	**+3.6**
	comp=E,0.9nm,0.3s,baz=106,slow=18,SNR=8.7						
ASAJ	**Asahikawa**	**7.35**	**254**	*e*P	**Pn**	**13 40 36.4**	**+3.3**
ASAJ	**Asahikawa**	**7.35**	**254**	PN	**Pn**	**13 40 36.7**	**+3.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PEA0B	**Petropavlovsk-**	**7.38**	**26**	P	**Pn**	**13 40 33.5**	**+0.1**
PETK	**Petropavlovsk-**	**7.38**	**26**	P	**Pn**	**13 40 32.7**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=181,slow=14,SNR=16						
PETK	**Petropavlovsk-**	**7.38**	**26**	P	**Pn**	**13 40 32.7**	**-0.7**
PETK	**Petropavlovsk-**	**7.38**	**26**	PN	**Pn**	**13 40 32.7**	**-0.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.58**	**242**	*e*S	**Sn**	**13 41 57.3**	**-3.4**
PET	**Petropavlovsk**	**7.62**	**30**	*e*P	**Pn**	**13 40 36.1**	**-0.6**
PET	**Petropavlovsk**	**7.62**	**30**	*e*PN	**Pn**	**13 40 36.1**	**-0.5**
ERM	**Erimo**	**8.05**	**239**	*e*P	**Pn**	**13 40 43.1**	**+0.4**
ERM	**Erimo**	**8.05**	**239**	*e*PN	**Pn**	**13 40 43.1**	**+0.4**
JBT2	**Biratori 2**	**8.11**	**246**	*e*S	**Sn**	**13 42 13.7**	**0.0**
JNBK	**Urakawa-nobuka**	**8.14**	**242**	P	**Pn**	**13 40 42.4**	**-1.5**
JNBK				*e*S	**Sn**	**13 42 10.3**	**-4.2**
JNB	**Noboribetsu**	**9.11**	**247**	P	**Pn**	**13 40 57.1**	**0.0**
JNB				*e*S	**Sn**	**13 42 37.7**	**-0.5**
JKB	**Kayabe**	**9.42**	**244**	P	**Pn**	**13 41 00.1**	**-1.3**
JKB				*e*S	**Sn**	**13 42 40.6**	**-5.3**
JYM2	**Yakumo 2**	**9.71**	**247**	P	**Pn**	**13 41 05.2**	**-0.2**
JANG	**Nango**	**10.05**	**236**	*e*S	**Sn**	**13 42 52.0**	**-9.4**
MAJO	**Matsushiro**	**14.59**	**232**	*e*P	**Pn**	**13 42 14.0**	**+2.1**
MAJO	**Matsushiro**	**14.59**	**232**	*e*P	**Pn**	**13 42 14.0**	**+2.1**
FX1	**Attu Island--F**	**14.80**	**57**	P	**Pn**	**13 42 10.5**	**-4.0**
	comp=Z,1.5nm,0.3s,baz=223,slow=18,SNR=6.2						
FX1	**Attu Island--F**	**14.80**	**57**	P	**Pn**	**13 42 10.5**	**-4.0**
FX1	**Attu Island--F**	**14.80**	**57**	P	**Pn**	**13 42 10.5**	**-4.0**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ILAR	**Eielson Array**	**36.99**	**38**	P	**P**	**13 45 53.7**	**+0.8**
	comp=Z,0.3nm,0.4s,mb3.4,baz=275,slow=9.9,SNR=4.6						
ILAR	**Eielson Array**	**36.99**	**38**	P	**P**	**13 45 53.7**	**+0.8**
ILAR	**Eielson Array**	**36.99**	**38**	P	**P**	**13 45 53.7**	**+0.8**
INK	**Inuvik**	**42.06**	**32**	P	**P**	**13 46 35.3**	**+0.2**
	comp=Z,1.5nm,0.5s,mb3.9,baz=304,slow=4.6,SNR=16						
INK				pP	pP	13 46 47.3	-0.2
	comp=Z,1.4nm,0.6s,baz=271,slow=7.4,SNR=3.7						
INK	**Inuvik**	**42.06**	**32**	P	**P**	**13 46 35.3**	**+0.2**
INK				pP	pP	13 46 47.3	-0.2
INK	**Inuvik**	**42.06**	**32**	P	**P**	**13 46 35.3**	**+0.2**
INK				*PP	pP	13 46 47.3	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**51.35**	**36**	P	**P**	**13 47 47.1**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=298,slow=7.0,SNR=10						
YKA				pP	pP	13 47 58.8	-1.6
	comp=Z,0.7nm,0.8s,baz=297,slow=7.1,SNR=7.8						
YKA	**Yellowknife Ar**	**51.35**	**36**	P	**P**	**13 47 47.1**	**-0.6**
YKA				pP	pP	13 47 58.9	-1.6
YKA	**Yellowknife Ar**	**51.35**	**36**	P	**P**	**13 47 47.2**	**-0.5**
YKA				*PP	pP	13 47 58.9	-1.6
CMAR	**Chiang Mai Arr**	**51.87**	**256**	P	**P**	**13 47 53.9**	**+1.8**
	comp=Z,0.2nm,0.4s,mb3.4,baz=8.4,slow=13,SNR=2.9						
CMAR				pP	pP	13 48 05.5	+0.6
	comp=Z,0.3nm,0.6s,baz=22,slow=2.9,SNR=1.9						
CMAR	**Chiang Mai Arr**	**51.87**	**256**	P	**P**	**13 47 53.9**	**+1.8**
CMAR				pP	pP	13 48 05.5	+0.6
CMAR	**Chiang Mai Arr**	**51.87**	**256**	P	**P**	**13 47 53.9**	**+1.8**
CMAR				*PP	pP	13 48 05.5	+0.6
FINES	**FINESS Array B**	**64.01**	**334**	P	**P**	**13 49 16.2**	**-0.4**
	comp=Z,3.2nm,1.0s,mb4.3,baz=38,slow=9.6,SNR=6.2						

FINES FINESS Array B 64.01 334 P **P** **13 49 16.2 -0.4**
FINES FINESS Array B 64.01 334 P **P** **13 49 16.2 -0.4**
FINES pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 68.25 341 P **P** **13 49 43.3 -0.5**
comp=Z,0.7nm,0.7s,mb3.8,baz=41,slow=8.1,SNR=3.2
NOA pP pP 13 49 56.0 -0.9
comp=Z,1.2nm,0.8s,baz=53,slow=7.3,SNR=1.8
NOA NORSAR Array B 68.25 341 P **P** **13 49 43.3 -0.5**
NOA pP pP 13 49 56.0 -0.9
NOA NORSAR Array B 68.25 341 P **P** **13 49 43.3 -0.5**
NOA *PP pP 13 49 56.0 -1.0
NOA pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 78.00 60 P **P** **13 50 40.9 -1.0**
comp=Z,0.3nm,0.5s,mb3.4,baz=318,slow=3.3,SNR=5.1
TXAR Lajitas Array 78.00 60 P **P** **13 50 40.9 -1.0**
TXAR Lajitas Array 78.00 60 P **P** **13 50 40.9 -1.0**

*IDC **22** 13:40:55.8±3.0,22°.36S×67°.93W,h104km±28km,mb3.9/5, mb1 3.9/7,mb1mx3.7/16,mbtmp3.8/7,Error ellipse: s-maj=30.7km s-min=21.1km az=100.0*
*ISCJB **22** 13:40:57.4±0.6,22°.38S±0°.05×67°.90W±0°.07,h140km±7km, mb3.9/5,Error ellipse: s-maj=11.1km s-min=7.2km az=13.7*
*NEIC **22** 13:40:57.9±0.6,22°.47S×67°.82W,h127km±8km,mb4.5/1, Error ellipse: s-maj=12.7km s-min=10.3km az=115.0*
NEIC Felt at Calama, Chile.
*GUC **22** 13:40:58.7±0.7,22°.40S×68°.22W,h159km±9km,ML4.2*
ISC 22 13:40:58.3±0.6,22°.39S±0°.05×67°.87W±0°.07,h132km±7km, n37,σ1§12/54,mb3.9/5,4C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.98**	**257**	*e*P	**Pn**	**13 41 22.0**	**+0.8**
LVC				*e*S	**Sn**	**13 41 39.2**	**+0.5**
PB09	**Plate Boundary**	**1.40**	**295**	⇑*i*P	**Pn**	**13 41 26.9**	**+1.4**
PB09				*e*S	**Sn**	**13 41 47.3**	**+1.1**
PB09				AML	AML	13 41 48.8	
	comp=N,4μm,0.7s						
PB04	**Plate Boundary**	**1.50**	**275**	⇑*i*P	**Pn**	**13 41 33.3**	**+6.8**
PB04				*i*S	**Sn**	**13 41 59.5**	**+11**
PB04				AML	AML	13 42 01.1	
	comp=N,1μm,0.1s						
PB06	**Plate Boundary**	**1.60**	**258**	⇑*e*P	**Pn**	**13 41 27.6**	**-0.1**
PB06				*i*S	**Sn**	**13 41 50.0**	**0.0**
PB06				AML	AML	13 41 52.0	
	comp=E,1μm,0.3s						
MACH	**Maria Elena**	**1.75**	**276**	*e*P	**Pn**	**13 41 29.5**	**0.0**
MACH				*i*S	**Sn**	**13 41 52.8**	**-0.5**
MACH	**Maria Elena**	**1.75**	**276**	*e*P	**Pn**	**13 41 29.5**	**0.0**
MACH				*i*S	**Sn**	**13 41 52.8**	**-0.5**
PB07	**Plate Boundary**	**1.98**	**289**	⇑*i*P	**Pn**	**13 41 32.4**	**+0.3**
PB07				*i*S	**Sn**	**13 41 57.1**	**-0.9**
CEN1	**Los Morros**	**2.36**	**245**	⇓*e*P	**Pn**	**13 41 38.5**	**+1.7**
CEN1				*i*S	**Sn**	**13 42 08.2**	**+1.8**
CEN1				AML	AML	13 42 10.1	
	comp=N,1μm,0.6s						
MECH	**Mejillones**	**2.48**	**253**	*e*P	**Pn**	**13 41 37.9**	**-0.4**
MECH				*i*S	**Sn**	**13 42 07.3**	**-1.7**
MECH	**Mejillones**	**2.48**	**253**	*e*P	**Pn**	**13 41 37.9**	**-0.4**
MECH				*i*S	**Sn**	**13 42 07.3**	**-1.7**
MECH				AML	AML	13 42 15.7	
	comp=N,1μm,0.5s						
ANCH	**Antofagasta**	**2.67**	**241**	*e*P	**Pn**	**13 41 39.9**	**-0.8**
ANCH				*e*S	**Sn**	**13 42 09.6**	**-3.7**
ANCH	**Antofagasta**	**2.67**	**241**	*e*P	**Pn**	**13 41 39.9**	**-0.8**
ANCH				*e*S	**Sn**	**13 42 09.6**	**-3.7**
ANCH				AML	AML	13 42 11.7	
	comp=E,2μm,0.1s						
PSGC	**Pisagua**	**3.49**	**323**	*e*P	**Pn**	**13 41 50.2**	**-1.1**
PSGC				*i*S	**Sn**	**13 42 30.2**	**-2.2**
LPAZ	**La Paz**	**6.08**	**358**	P	**Pn**	**13 42 28.6**	**+2.7**
	comp=E,4.0nm,0.3s,baz=166,slow=5.3,SNR=52						
LPAZ				S	**Sn**	**13 43 33.5**	**-0.8**
	baz=185,slow=22,SNR=0.8						
LPAZ	**La Paz**	**6.08**	**358**	*e*P	**Pn**	**13 42 28.3**	**+2.3**
	comp=E,14nm,0.5s						
LPAZ				S	**Sn**	**13 43 33.5**	**-0.8**
LCO	**Las Campanas**	**7.07**	**201**	*e*P	**Pn**	**13 42 34.7**	**-4.5**
SIV	**San Ignacio**	**9.04**	**46**	P	**Pn**	**13 43 04.2**	**-1.6**
	comp=E,7.0nm,0.3s,baz=250,slow=12,SNR=63						
SIV				S	**Sn**	**13 44 34.7**	**-11**
	comp=E,1.2nm,0.3s,baz=239,slow=11,SNR=5.9						
SIV	**San Ignacio**	**9.04**	**46**	P	**Pn**	**13 43 04.2**	**-1.6**
SIV				S	**Sn**	**13 44 34.7**	**-11**
CFAA	**Coronel Fontan**	**9.18**	**182**	P	**Pn**	**13 43 03.9**	**-3.7**
	comp=E,0.1nm,0.3s,baz=1.8,slow=14,SNR=16						
CFAA				S	**Sn**	**13 44 39.7**	**-9.4**
	comp=E,0.2nm,0.3s,baz=250,slow=21,SNR=7.7						
CFAA	**Coronel Fontan**	**9.18**	**182**	P	**Pn**	**13 43 03.9**	**-3.7**
CFAA				S	**Sn**	**13 44 39.8**	**-9.4**
CPUP	**Villa Florida**	**10.38**	**114**	P	**Pn**	**13 43 24.1**	**+0.4**
	comp=E,0.2nm,0.3s,baz=268,slow=19,SNR=3.4						
CPUP	**Villa Florida**	**10.38**	**114**	P	**Pn**	**13 43 24.1**	**+0.4**
SAML	**Samuel**	**14.11**	**19**	*e*P	**Pn**	**13 44 12.5**	**+0.2**
USHA	**Ushuaia**	**32.40**	**181**	P	**Pn**	**13 47 16.5**	**+1.3**
	comp=E,9.0nm,1.0s,mb4.5,baz=311,slow=9.3,SNR=2.6						
USHA	**Ushuaia**	**32.40**	**181**	P	**P**	**13 47 16.5**	**+1.3**
VNA3	**Neumayer Olymp**	**58.93**	**161**	*e*	**P**	**13 50 42.1**	**-0.9**
VNA3				*e*		13 50 48.5	
VNA3				*e*		13 50 55.8	
VNA2	**Neumayer--Watz**	**59.49**	**161**	*e*	**P**	**13 50 46.0**	**-1.0**
	baz=195,slow=4.1						
PDAR	**Pinedale Array**	**75.36**	**330**	P	**P**	**13 52 28.4**	**+1.4**
	comp=E,0.6nm,1.0s,mb3.2,baz=152,slow=6.1,SNR=3.1						
PDAR	**Pinedale Array**	**75.36**	**330**	P	**P**	**13 52 28.4**	**+1.4**
ULM	**Lac du Bonnet**	**76.45**	**342**	P	**P**	**13 52 33.2**	**+0.1**
	comp=E,3.7nm,0.6s,mb4.2,baz=174,slow=4.8,SNR=5.5						
ULM	**Lac du Bonnet**	**76.45**	**342**	P	**P**	**13 52 33.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.76**	**70**	P	**P**	**13 52 35.9**	**+0.4**
	comp=E,0.9nm,0.4s,mb3.7,baz=252,slow=5.9,SNR=18						
TORD	**Torodi Ar. Bea**	**76.76**	**70**	P	**P**	**13 52 35.9**	**+0.4**
YKA	**Yellowknife Ar**	**92.35**	**340**	P	**P**	**13 53 53.6**	**+0.5**
	comp=E,0.6nm,0.6s,mb3.8,baz=137,slow=4.4,SNR=16						
YKA	**Yellowknife Ar**	**92.35**	**340**	P	**P**	**13 53 53.6**	**+0.5**
MKAR	**Makanchi Array**	**145.77**	**37**	PKPbc	PKPbc	14 00 22.3	+0.5
	comp=E,0.7nm,0.9s,baz=21,slow=3.9,SNR=2.9						
MKAR	**Makanchi Array**	**145.77**	**37**	PKPbc	PKPbc	14 00 22.3	+0.5

*LDG **22** 13:52:37.9±0.4, 16°.93S×68°.96W,h110km,Mb4.7/10, Ms3.7/2,Error ellipse: s-maj=27.4km s-min=8.6km az=11.0*
*ISCJB **22** 13:52:38.7±0.9,17°.62S±0°.04×69°.09W±0°.04,h136km±8km, mb4.6/52,Error ellipse: s-maj=8.1km s-min=5.4km az=40.2*
*BJI **22** 13:52:39.6,17°.56S×69°.38W,h143km,mB5.3/8*
*IDC **22** 13:52:39.0±1.0,17°.65S×69°.15W,h127km±8km,mb4.4/20, mb1 4.4/24,mb1mx4.4/27,mbtmp4.3/24,MS3.2/3, Ms1 3.2/3,ms1mx3.1/28,Error ellipse: s-maj=12.9km s-min=9.7km az=65.0*
*NEIC **22** 13:52:40.6±0.6,17°.64S×69°.06W,h143km±5km,mb4.9/37, Error ellipse: s-maj=6.8km s-min=4.9km az=64.0*
*GCMT **22** 13:52:47.3±0.3,17°.89S×69°.30W,h152km±4km,MW5.0, Moment Tensor Solution. s20,c20; s71,c93; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.86±.15; $M_{\theta\theta}$-1.40±.17; $M_{\phi\phi}$4.27±.18; $M_{r\theta}$1.99±.11; $M_{\theta\phi}$0.29±.22; $M_{\phi r}$-0.05±.17; Best double couple: $M_0$4.30000×10^{16} NP1:ϕ_s333.00000°, δ54.00000°,λ-135.00000°. NP2:ϕ_s213.00000°, δ55.00000°,λ-46.00000°. Principal axes: T 4.2900, Plg0.0000°, Azm273.0000°; N -0.0200, Plg35.0000°, Azm3.0000°; P -4.2600, Plg55.0000°, Azm182.0000°; Data Used: II IC IU G CN.*
ISC 22 13:52:41.4±0.8,17°.66S±0°.04×68°.99W±0°.04,h145km±7km, n489,σ0§61/450,mb4.6/52,160C-151D,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.60**	**31**	P	**Pn**	**13 53 14.1**	**+2.5**
	288nm,0.3s,baz=222,slow=6.5,SNR=1786						
LPAZ				S	**Sn**	**13 53 39.4**	**+4.6**
	93nm,0.3s,baz=121,slow=21,SNR=14						
LPAZ				LR	LR	13 53 55.9	
	comp=Z,2μm,18.2s,baz=175,slow=46						
LPAZ	**La Paz**	**1.60**	**31**	*e*Pn	**Pn**	**13 53 14.1**	**+2.5**
LPAZ				S	**Sn**	**13 53 39.4**	**+4.6**
LPAZ				*e*S	**Sn**	**13 53 39.7**	**+4.9**
LVC	**Limon Verde**	**4.93**	**179**	*e*P	**Pn**	**13 53 52.3**	**-1.4**
LVC				*e*S	Px	13 54 32.2	
SIV	**San Ignacio**	**7.76**	**79**	P	**Pn**	**13 54 31.6**	**-0.1**
	56nm,0.3s,baz=282,slow=8.8,SNR=345						
SIV				S	**Sn**	**13 56 00.2**	**+2.0**
	baz=228,slow=22,SNR=3.2						
SIV				LR	LR	13 58 00.4	
	comp=Z,545nm,20.1s,slow=41						
SIV	**San Ignacio**	**7.76**	**79**	P	**Pn**	**13 54 31.6**	**-0.1**
SIV				S	**Sn**	**13 56 00.2**	**+2.0**
NNA	**Nana**	**9.46**	**306**	P	**Pn**	**13 54 48.5**	**-5.8**
	17nm,0.3s,baz=133,slow=11,SNR=22						
NNA				S	**Sn**	**13 56 27.4**	**-12**
	2.8nm,0.3s,baz=205,slow=22,SNR=2.5						
NNA	**Nana**	**9.46**	**306**	*e*P	**Pn**	**13 54 48.4**	**-5.9**
	44nm,0.4s						
NNA				S	**Sn**	**13 56 27.4**	**-12**
SAML	**Samuel**	**10.34**	**34**	*e*P	**Pn**	**13 55 04.4**	**-1.6**
	23nm,0.8s						
CPUP	**Villa Florida**	**13.83**	**131**	P	**Pn**	**13 55 52.6**	**+1.3**
	0.3nm,0.3s,baz=289,slow=12,SNR=6.9						
CPUP	**Villa Florida**	**13.83**	**131**	P	**Pn**	**13 55 52.6**	**+1.3**
CFAA	**Coronel Fontan**	**13.90**	**177**	P	**Pn**	**13 55 51.2**	**-0.9**
	0.1nm,0.3s,baz=354,slow=13,SNR=17						
CFAA				LR	LR	14 01 20.8	
	comp=Z,23nm,19.5s,baz=346,slow=38						
CFAA	**Coronel Fontan**	**13.90**	**177**	P	**Pn**	**13 55 51.2**	**-0.9**
ATAH	**Atahualpa**	**13.91**	**318**	P	**Pn**	**13 55 50.1**	**-2.3**
	0.4nm,0.3s,baz=238,slow=15,SNR=2.9						
ATAH	**Atahualpa**	**13.91**	**318**	P	**Pn**	**13 55 50.1**	**-2.3**
OTAV	**Otavalo**	**20.08**	**331**	*e*P	**P**	**13 57 03.5**	**-0.1**
	9.6nm,0.9s						
SPB	**Sao Paulo**	**21.01**	**110**	P	**P**	**13 57 12.7**	**-0.9**
	7.6nm,0.5s,mb4.3						
ROSC	**El Rosal**	**22.99**	**346**	LR	LR	14 08 30.5	
	comp=Z,102nm,20.1s,baz=199,slow=42						
PLCA	**Paso Flores**	**23.03**	**183**	P	**P**	**13 57 33.2**	**-0.5**
	14nm,0.7s,mb4.5,baz=1.5,slow=12,SNR=47						
PLCA	**Paso Flores**	**23.03**	**183**	P	**P**	**13 57 33.2**	**-0.5**
RCBR	**Riachuelo**	**34.40**	**74**	P	**P**	**13 59 16.1**	**+1.2**
	8.5nm,0.5s,mb4.7,baz=237,slow=7.0,SNR=14						
RCBR	**Riachuelo**	**34.40**	**74**	P	**P**	**13 59 16.1**	**+1.2**
USHA	**Ushuaia**	**37.10**	**179**	P	**P**	**13 59 38.4**	**+0.9**
	4.5nm,0.5s,mb4.3,baz=333,slow=17,SNR=5.1						
USHA	**Ushuaia**	**37.10**	**179**	P	**P**	**13 59 38.4**	**+0.9**
TEIG	**Tepich**	**42.14**	**332**	P	**P**	**14 00 18.7**	**-0.8**
	7.2nm,0.9s,mb4.3,baz=188,slow=7.1,SNR=3.0						
TEIG	**Tepich**	**42.14**	**332**	*e*P	**P**	**14 00 18.6**	**-0.9**
PMSA	**Palmer Station**	**47.19**	**177**	P	**P**	**14 00 57.1**	**-1.9**
	22nm,0.5s,mb5.0,baz=7.5,slow=8.8,SNR=8.6						
PMSA	**Palmer Station**	**47.19**	**177**	P	**P**	**14 00 57.1**	**-1.9**
JCT	**Junction City**	**56.30**	**328**	⇓P	**P**	**14 02 06.3**	**-0.7**
	baz=56						
JCT	**Junction City**	**56.30**	**328**	*e*P	**P**	**14 02 05.8**	**-1.2**
	10nm,0.9s,mb4.7						
628A	**Black Gap, Mar**	**57.16**	**325**	⇑P	**P**	**14 02 12.8**	**-0.2**
	baz=57,SNR=7.7						
627A	**Terlingua Ranc**	**57.41**	**324**	⇑P	**P**	**14 02 14.2**	**-0.6**
	baz=58						
TXAR	**Lajitas Array**	**57.47**	**324**	P	**P**	**14 02 14.3**	**-1.0**
	0.7nm,0.5s,mb3.8,baz=150,slow=8.0,SNR=10						
TXAR	**Lajitas Array**	**57.47**	**324**	P	**P**	**14 02 14.3**	**-1.0**
626A	**Big Bend Ranch**	**57.90**	**324**	⇑P	**P**	**14 02 17.8**	**-0.5**
	baz=58,SNR=8.9						
428A	**Kincaid Ranch,**	**58.01**	**326**	⇓P	**P**	**14 02 18.8**	**-0.2**
	baz=58						
527A	**Woodward Ranch**	**58.06**	**325**	⇑P	**P**	**14 02 19.1**	**-0.2**
	baz=58						
526A	**Mary Lane Ranc**	**58.26**	**324**	⇑P	**P**	**14 02 20.3**	**-0.5**
	baz=58,SNR=6.5						
SIUC	**Southern Illin**	**58.28**	**341**	*e*P	**P**	**14 02 19.7**	**-1.0**
	10nm,0.6s,mb4.8						
427A	**Hayter Ranch,**	**58.49**	**325**	⇑P	**P**	**14 02 22.0**	**-0.3**
	baz=59						
328A	**Wristen Ranch,**	**58.58**	**326**	⇑P	**P**	**14 02 22.1**	**-0.9**
	baz=59,SNR=5.5						
426A	**McDonald Obser**	**58.69**	**325**	⇓P	**P**	**14 02 23.3**	**-0.5**
	baz=59,SNR=5.1						
TUL1	**Tulsa**	**59.02**	**335**	⇓P	**P**	**14 02 25.5**	**-0.4**
	baz=59						
326A	**Caldwell Ranch**	**59.16**	**325**	⇓P	**P**	**14 02 26.7**	**-0.3**
	baz=59						
425A	**Indio Mountain**	**59.31**	**324**	⇓P	**P**	**14 02 27.4**	**-0.6**
	baz=60,SNR=7.4						
227A	**Bennet, Jal**	**59.33**	**326**	⇑P	**P**	**14 02 27.7**	**-0.4**
	baz=60						
325A	**Bean Ranch, Si**	**59.75**	**324**	⇓P	**P**	**14 02 30.0**	**-1.0**
	baz=60,SNR=12						
226A	**Malaga, Loving**	**59.80**	**326**	⇓P	**P**	**14 02 30.7**	**-0.7**
	baz=60,SNR=7.3						
CLNB	**Carlsbad**	**59.84**	**326**	*e*P	**P**	**14 02 31.1**	**-0.5**
	1.1nm,0.5s,mb3.9						
127A	**Arkansas Junct**	**59.88**	**327**	⇑P	**P**	**14 02 31.3**	**-0.6**
	baz=60						
324A	**Moseley Ranch,**	**60.09**	**324**	⇑P	**P**	**14 02 31.9**	**-1.5**
	baz=60,SNR=9.6						
126A	**Clayton Basin,**	**60.21**	**326**	⇓P	**P**	**14 02 33.1**	**-1.0**
	baz=60						
MNTX	**Cornudas Mount**	**60.23**	**324**	⇑P	**P**	**14 02 32.7**	**-1.6**
	baz=60,SNR=7.1						
225A	**Deer Hill, Car**	**60.23**	**325**	⇓P	**P**	**14 02 33.2**	**-1.1**
	baz=60,SNR=5.2						
Z27A	**Tatum**	**60.31**	**327**	⇓P	**P**	**14 02 33.6**	**-1.2**
	baz=60,SNR=6.9						
125A	**Gardner Draw,**	**60.56**	**326**	⇑P	**P**	**14 02 35.6**	**-0.9**
	baz=61						
224A	**Cornudas Mount**	**60.59**	**325**	⇓P	**P**	**14 02 35.6**	**-1.1**
	baz=61,SNR=9.2						
MSTX	**Muleshoe**	**60.60**	**328**	⇓P	**P**	**14 02 35.8**	**-0.9**
	baz=61						
Z26A	**Caprock**	**60.67**	**327**	⇓P	**P**	**14 02 36.5**	**-0.7**
	baz=61						
Y27A	**Causey**	**60.73**	**328**	⇑P	**P**	**14 02 37.0**	**-0.7**
	baz=61						
AMTX	**Amarillo**	**60.79**	**329**	⇑P	**P**	**14 02 37.3**	**-0.7**
	baz=61						
Z25A	**Roswell**	**61.07**	**326**	⇓P	**P**	**14 02 38.9**	**-1.0**
	baz=61						
Y26A	**Elida**	**61.10**	**327**	⇓P	**P**	**14 02 39.3**	**-0.8**
	baz=61						
Z24A	**Sheeppen Canyo**	**61.46**	**326**	⇓P	**P**	**14 02 41.5**	**-1.0**
	baz=62,SNR=5.4						
Y25A	**Mesa, Roswell**	**61.55**	**327**	⇓P	**P**	**14 02 42.1**	**-1.1**
	baz=62						
X26A	**CR and CF Fran**	**61.59**	**328**	⇓P	**P**	**14 02 42.5**	**-0.9**
	baz=62						
W27A	**Bowe Ranch, En**	**61.61**	**329**	⇑P	**P**	**14 02 42.8**	**-0.8**
	baz=62						
KSU1	**Kansas State U**	**62.10**	**336**	*e*P	**P**	**14 02 45.2**	**-1.5**
	24nm,0.8s,mb5.1						
220A	**Playas Peak, P**	**62.17**	**322**	⇑P	**P**	**14 02 46.8**	**-0.5**
	baz=62,SNR=6.7						
121A	**Cookes Peak, D**	**62.20**	**323**	⇑P	**P**	**14 02 47.7**	**+0.1**
	baz=62						
Z22A	**Elephant Butte**	**62.27**	**324**	⇑P	**P**	**14 02 48.1**	**+0.1**
	baz=62						
Y23A	**Lovelace Mesa,**	**62.29**	**326**	⇑P	**P**	**14 02 47.7**	**-0.4**
	baz=62						
W25A	**X Bar L Ranch,**	**62.44**	**328**	⇓P	**P**	**14 02 48.4**	**-0.7**
	baz=63						
V26A	**Tequesquite Ra**	**62.55**	**328**	⇑P	**P**	**14 02 49.4**	**-0.4**
	baz=63						
219A	**White Tail Can**	**62.67**	**322**	⇑P	**P**	**14 02 50.3**	**-0.3**
	baz=63						
120A	**U Bar Ranch, L**	**62.70**	**323**	⇑P	**P**	**14 02 50.8**	**0.0**
	baz=63						
318A	**Bisbee**	**62.70**	**321**	⇑P	**P**	**14 02 50.7**	**-0.2**
	baz=63,SNR=8.8						
Z21A	**St. Cloud Mine**	**62.71**	**324**	⇓P	**P**	**14 02 51.3**	**+0.4**
	baz=63						
Y22A	**Socorro**	**62.79**	**325**	⇑P	**P**	**14 02 51.4**	**0.0**
	baz=63						
W24A	**Lazy 6 Ranch,**	**62.92**	**327**	⇑P	**P**	**14 02 52.3**	**+0.1**
	baz=63						
V25A	**Rancho No Teng**	**63.00**	**328**	⇑P	**P**	**14 02 52.5**	**-0.3**
	baz=63,SNR=5.8						
U26A	**Atchley Ranch,**	**63.00**	**329**	⇓P	**P**	**14 02 52.5**	**-0.2**
	baz=63						
Z20A	**Nine Sixteen R**	**63.09**	**323**	⇑P	**P**	**14 02 53.7**	**+0.3**
	baz=63						
218A	**Dragoon**	**63.12**	**321**	⇑P	**P**	**14 02 53.5**	**-0.1**
	baz=63						
CBKS	**Cedar Bluff**	**63.13**	**333**	⇓P	**P**	**14 02 53.5**	**0.0**
	baz=63						
Y21A	**Point of Rocks**	**63.23**	**324**	⇓P	**P**	**14 02 54.5**	**+0.2**
	baz=63,SNR=6.0						
X22A	**Bernardo**	**63.24**	**325**	⇓P	**P**	**14 02 54.3**	**0.0**
	baz=63						
U25A	**Circle Dot Ran**	**63.34**	**328**	⇑P	**P**	**14 02 55.0**	**0.0**
	baz=64						
118A	**Homack Ranch,**	**63.55**	**322**	⇑P	**P**	**14 02 56.5**	**+0.1**
	baz=64						
Y20A	**Horse Springs,**	**63.55**	**324**	⇓P	**P**	**14 02 56.8**	**+0.4**
	baz=64						
X21A	**Alamocita Cree**	**63.62**	**325**	⇑P	**P**	**14 02 56.8**	**0.0**
	baz=64						
VNA3	**Neumayer Olymp**	**63.72**	**162**	*e*	**P**	**14 02 57.9**	**+0.9**
V23A	**Ortiz Mt. (NFS**	**63.74**	**327**	⇓P	**P**	**14 02 57.7**	**+0.1**
	baz=64						
VNA1	**Neumayer--Stat**	**63.92**	**161**	*e*	**P**	**14 02 59.4**	**+1.1**
T25A	**Trinidad**	**63.92**	**329**	⇑P	**P**	**14 02 59.2**	**+0.4**
	baz=64						
W21A	**San Fidel**	**64.04**	**325**	⇑P	**P**	**14 03 00.1**	**+0.5**
	baz=64						
R27A	**Eads**	**64.06**	**331**	⇓P	**P**	**14 02 59.8**	**+0.1**
	baz=64						
Y19A	**Nutrioso**	**64.08**	**323**	⇓P	**P**	**14 02 59.3**	**-0.6**
	baz=64,SNR=6.1						
X20A	**Quemado**	**64.08**	**324**	⇓P	**P**	**14 02 60.0**	**+0.1**
	baz=64						
U23A	**El Rito**	**64.19**	**327**	⇑P	**P**	**14 03 00.8**	**+0.2**
	baz=64						
V22A	**San Miguel Ran**	**64.25**	**326**	⇓P	**P**	**14 03 01.5**	**+0.5**
	baz=64						
VNA2	**Neumayer--Watz**	**64.29**	**161**	*e*	**P**	**14 03 01.6**	**+0.9**
VNA2				*e*	pP	14 03 31.7	-3.8
S25A	**Robets Cordova**	**64.34**	**329**	⇑P	**P**	**14 03 01.4**	**-0.1**
	baz=65						
R26A	**Arlington**	**64.38**	**330**	⇑P	**P**	**14 03 01.8**	**+0.1**
	baz=65						
Y18A	**Canyon Day Jun**	**64.40**	**323**	⇓P	**P**	**14 03 02.0**	**0.0**
	baz=65						
X19A	**St. Johns**	**64.44**	**324**	⇓P	**P**	**14 03 02.3**	**0.0**
	baz=65						
V21A	**Milan**	**64.55**	**326**	⇑P	**P**	**14 03 03.3**	**+0.4**
	baz=65						
KSCO	**Kaye Shedlock'**	**64.57**	**331**	⇑P	**P**	**14 03 03.4**	**+0.4**
	baz=65						
U22A	**Llaves**	**64.57**	**327**	⇑P	**P**	**14 03 03.5**	**+0.4**
	baz=65						
T23A	**Casias Ranch,**	**64.65**	**328**	⇓P	**P**	**14 03 03.5**	**0.0**
	baz=65						
BGNE	**Belgrade**	**64.68**	**336**	⇓P	**P**	**14 03 03.0**	**-0.7**
	baz=65,SNR=10						
S24A	**Houchin Ranch,**	**64.71**	**329**	⇑P	**P**	**14 03 04.2**	**+0.3**
	baz=65						
214A	**Organ Pipe Nat**	**64.79**	**319**	⇑P	**P**	**14 03 04.3**	**-0.3**
	baz=65,SNR=6.5						
Y17A	**Roosevelt**	**64.81**	**322**	⇓P	**P**	**14 03 04.3**	**-0.4**
	baz=65,SNR=7.2						
X18A	**Snowflake**	**64.89**	**323**	⇓P	**P**	**14 03 05.3**	**+0.1**
	baz=65						
Q26A	**Hugo**	**64.91**	**331**	⇓P	**P**	**14 03 05.7**	**+0.5**
	baz=65						
SDCO	**Great Sand Dun**	**64.93**	**329**	⇓P	**P**	**14 03 05.8**	**+0.4**
	baz=65,SNR=11						
SDCO	**Great Sand Dun**	**64.93**	**329**	*e*P	**P**	**14 03 05.4**	**+0.1**
	11nm,1.1s,mb4.6						
U21A	**Nageezi**	**65.03**	**326**	⇑P	**P**	**14 03 06.2**	**+0.2**
	baz=65						
T22A	**Edith**	**65.08**	**327**	⇑P	**P**	**14 03 06.3**	**0.0**
	baz=65						
R24A	**Sanders Place,**	**65.12**	**329**	⇑P	**P**	**14 03 06.8**	**+0.3**
	baz=65						
W18A	**Petrified Fore**	**65.20**	**324**	⇑P	**P**	**14 03 07.4**	**+0.3**
	baz=65						
V19A	**Window Rock**	**65.25**	**325**	⇓P	**P**	**14 03 07.8**	**+0.3**
	baz=65						
P26A	**Davis Ranch, A**	**65.34**	**331**	⇓P	**P**	**14 03 07.8**	**-0.1**
	baz=66						
114A	**Black Gap (USA**	**65.38**	**320**	⇑P	**P**	**14 03 08.3**	**0.0**
	baz=66						
T21A	**Navajo Lake**	**65.39**	**327**	⇓P	**P**	**14 03 08.4**	**+0.1**
	baz=66						
R23A	**Moffat**	**65.44**	**329**	⇓P	**P**	**14 03 08.6**	**0.0**
	baz=66						
U20A	**Newcomb**	**65.45**	**326**	⇑P	**P**	**14 03 08.4**	**-0.4**
	baz=66,SNR=5.9						
O27A	**Beecher Island**	**65.46**	**332**	⇓P	**P**	**14 03 09.1**	**+0.4**
	baz=66						
S22A	**4UR Ranch, Cre**	**65.60**	**328**	⇑P	**P**	**14 03 09.8**	**+0.1**
	baz=66						
X16A	**Lo Mia Camp, P**	**65.67**	**322**	⇑P	**P**	**14 03 10.3**	**+0.1**
	baz=66,SNR=5.7						
P25A	**Willow Gulch B**	**65.68**	**331**	⇑P	**P**	**14 03 10.5**	**+0.4**
	baz=66						
Q24A	**Divide**	**65.71**	**330**	⇓P	**P**	**14 03 10.8**	**+0.5**
	baz=66						
U19A	**Dine' College,**	**65.76**	**325**	⇓P	**P**	**14 03 10.4**	**-0.4**
	baz=66						
Z14A	**Wintersburg**	**65.83**	**320**

O22A **Kremmling** 67.32 330 ⇓P P 14 03 20.8 +0.2
baz=68,SNR=8.6
LIC **Lamto** 67.44 75 eP P 14 03 22.5 +0.6
LIC eR
224nm,22.2s
LIC **Lamto** 67.44 75 eP P 14 03 22.5 +0.6
M24A **Cheyenne** 67.54 332 ⇓P P 14 03 22.8 +0.9
baz=68
U15A **North Rim** 67.58 323 ⇓P P 14 03 22.8 +0.5
baz=68,SNR=5.8
W13A **Hualapai Mount** 67.59 321 ⇓P P 14 03 23.0 +0.7
baz=68
N23A **Red Feather La** 67.61 330 ⇓P P 14 03 22.9 +0.6
baz=68
S17A **Black Ridge (B** 67.61 325 ⇓P P 14 03 22.6 +0.1
baz=68
R18A **Canyonlands Na** 67.67 326 ⇑P P 14 03 22.7 -0.1
baz=68
IRM **Iron Mountain** 67.72 320 ⇑P P 14 03 23.3 +0.1
baz=68
Q19A **Hogan Spring (** 67.77 327 ⇑P P 14 03 23.4 +0.1
baz=68,SNR=6.8
DBIC **Dimbokro** 67.77 75 P P 14 03 24.2 +0.3
11nm,0.6s,mb4.8,baz=216,slow=5.6,SNR=20
DBIC **Dimbokro** 67.77 75 eP P 14 03 24.4 +0.4
12nm,0.7s,mb4.7
N22A **Wattenberg Ran** 67.78 330 ⇓P P 14 03 23.9 +0.5
baz=68
O21A **Pagoda** 67.81 329 ⇓P P 14 03 24.2 +0.6
baz=68
M23A **Laramie** 67.95 331 ⇓P P 14 03 24.5 0.0
baz=68,SNR=8.7
S16A **Weppner Ranch,** 68.11 325 ⇑P P 14 03 25.9 +0.4
baz=68
P19A **Cripple Cowboy** 68.13 328 ⇓P P 14 03 25.7 +0.1
baz=68
O20A **White River Ci** 68.13 328 ⇓P P 14 03 25.9 +0.3
baz=68
R17A **Hanksville Air** 68.13 326 ⇓P P 14 03 25.8 +0.2
baz=68,SNR=7.1
PFO **Pinyon Flat Ob** 68.17 319 ⇓P P 14 03 26.4 +0.3
baz=68
N21A **Black Mountain** 68.25 329 ⇑P P 14 03 26.3 -0.1
baz=68
Q18A **Rafter H Ranch** 68.33 327 ⇓P P 14 03 27.1 +0.2
baz=68
L23A **Garrett** 68.45 331 ⇑P P 14 03 28.4 +0.8
baz=69
SRU **San Rafael** 68.54 326 ⇑P P 14 03 28.4 +0.2
baz=69
MURC **Murrieta** 68.64 318 ⇓P P 14 03 28.7 -0.2
baz=69
N20A **Spence Gulch,** 68.67 329 ⇑P P 14 03 29.3 +0.3
baz=69
O19A **Miners Draw (B** 68.70 328 ⇑P P 14 03 29.3 +0.1
baz=69,SNR=6.4
L22A **Ellis Ranch, M** 68.72 331 ⇑P P 14 03 30.4 +1.1
baz=69
P18A **Preston Nutter** 68.77 327 ⇑P P 14 03 30.2 +0.6
baz=69
M21A **Separation Pea** 68.83 330 ⇓P P 14 03 30.5 +0.6
baz=69
R15A **Junction** 68.84 325 ⇓P P 14 03 30.5 +0.5
baz=69
HEC **Hector,Ludlow** 68.89 320 ⇑P P 14 03 30.9 +0.4
baz=69,SNR=6.5
P17A **Butcher Ranch,** 68.92 326 ⇑P P 14 03 31.1 +0.6
baz=69
K23A **Bowen Ranch, D** 68.92 332 ⇑P P 14 03 30.8 +0.3
baz=69
J24A **Dixon Ranch, L** 68.96 333 ⇓P P 14 03 31.5 +0.8
baz=69
L21A **Rawlins** 69.11 330 ⇓P P 14 03 32.1 +0.5
baz=69
M20A **Sweetwater, Wa** 69.14 329 ⇓P P 14 03 32.3 +0.4
baz=69
N19A **John Jarvie Ra** 69.17 328 ⇑P P 14 03 32.3 +0.3
baz=69,SNR=6.0
K22A **Casper** 69.25 331 ⇑P P 14 03 32.8 +0.3
baz=70
O17A **Robinson Place** 69.45 327 ⇑P P 14 03 34.2 +0.5
baz=70,SNR=6.6
N18A **Larsen Ranch,** 69.48 328 ⇑P P 14 03 34.4 +0.4
baz=70
GSC **Goldstone** 69.50 320 ⇓P P 14 03 34.3 +0.1
baz=70
GSC **Goldstone** 69.50 320 eP P 14 03 33.9 -0.3
12nm,1.3s,mb4.5
K21A **Alcova** 69.57 331 ⇑P P 14 03 35.0 +0.5
baz=70,SNR=6.5
L20A **Wamsutter** 69.61 330 ⇑P P 14 03 35.2 +0.5
baz=70,SNR=8.2
I23A **Meade Ranch, G** 69.81 333 ⇑P P 14 03 36.5 +0.6
baz=70
J22A **Midwest** 69.83 332 ⇓P P 14 03 36.3 +0.3
baz=70
AGMN **Agassiz Nation** 69.91 341 eP P 14 03 35.1 -1.3
23nm,0.9s,mb4.9
M18A **Lyman** 70.02 328 ⇑P P 14 03 37.2 0.0
baz=70,SNR=5.2
N17A **Moffit Pass** 70.05 327 ⇑P P 14 03 37.5 +0.1
baz=70,SNR=6.7
H24A **Dirks Ranch, A** 70.05 334 ⇓P P 14 03 37.2 -0.1
baz=70,SNR=6.8
K20A **Yellowstone Ra** 70.10 330 ⇑P P 14 03 37.8 +0.1
baz=70
L19A **Farson** 70.17 329 ⇑P P 14 03 38.6 +0.4
baz=70,SNR=8.1
I22A **9 Mile Ranch,** 70.21 332 ⇑P P 14 03 38.4 +0.1
baz=70,SNR=6.1
J21A **Lysite** 70.22 331 ⇑P P 14 03 38.8 +0.4
baz=70
FURC **Furnace Creek,** 70.30 321 ⇓P P 14 03 39.2 +0.2
baz=70
M17A **Scullys Gap (B** 70.35 328 ⇑P P 14 03 39.4 +0.1
baz=71
L18A **Fontenelle, Gr** 70.37 329 ⇑P P 14 03 39.5 +0.2
baz=71,SNR=8.5
MPMC **Manual Prospec** 70.41 320 ⇑P P 14 03 39.5 -0.3
baz=71
K19A **Absolon Red Bu** 70.47 330 ⇓P P 14 03 39.7 -0.3
baz=71
I21A **Big Trails, Te** 70.51 332 ⇑P P 14 03 40.0 -0.2
baz=71,SNR=12
J20A **Shoshoni** 70.52 331 ⇑P P 14 03 40.6 +0.4
baz=71
DUG **Dugway** 70.54 326 ⇑P P 14 03 40.9 +0.4
baz=71,SNR=6.2
ARVC **Arvin** 70.65 318 ⇑P P 14 03 41.5 +0.3
baz=71
ISA **Isabella** 70.77 319 ⇓P P 14 03 42.1 +0.2
baz=71
PDAR **Pinedale Array** 70.77 330 P P 14 03 41.2 -0.6
1.9nm,0.9s,mb3.8,baz=119,slow=8.0,SNR=13
PDAR **Pinedale Array** 70.77 330 P P 14 03 41.2 -0.6
BW06 **Boulder Array** 70.77 330 ⇓P P 14 03 42.0 +0.2
baz=71
G23A **Biddle** 70.77 334 ⇑P P 14 03 41.7 0.0
baz=71,SNR=8.5
PD02 **Pinedale Array** 70.78 330 eP P 14 03 41.3 -0.6
PD01 **Pinedale Array** 70.79 330 eP P 14 03 40.3 -1.6
R11A **Troy Canyon, C** 70.80 323 ⇑P P 14 03 42.5 +0.4
baz=71,SNR=6.5
F24A **Ekalaka** 70.90 335 ⇑P P 14 03 42.2 -0.2
baz=71,SNR=6.0
J19A **Crowheart** 70.91 330 ⇑P P 14 03 42.2 -0.4
baz=71,SNR=9.1
K18A **Toltan Ranch,** 70.91 329 ⇑P P 14 03 42.7 +0.1
baz=71,SNR=5.5
GRAC **Grapevine Rang** 70.95 321 ⇓P P 14 03 42.7 -0.4
baz=71
I20A **Worland** 71.00 331 ⇑P P 14 03 43.0 -0.1
baz=71
H21A **Big Horn, Sher** 71.03 332 ⇑P P 14 03 43.1 -0.2
baz=71
F23A **Volborg** 71.19 334 ⇓P P 14 03 44.3 0.0
baz=71,SNR=13
M15A **Larsen Ranch,** 71.26 327 ⇓P P 14 03 44.8 +0.1
baz=72
VES **Vestal, Richgr** 71.26 319 ⇑P P 14 03 44.9 -0.1
baz=71
H20A **Greybull** 71.35 332 ⇓P P 14 03 45.4 +0.2
baz=72
E24A **Baker** 71.42 335 ⇓P P 14 03 46.2 +0.5
baz=72
I19A **Meeteetse** 71.46 331 ⇓P P 14 03 45.7 -0.3
baz=72,SNR=6.2
SMMC **Simmler** 71.51 318 ⇑P P 14 03 45.9 -0.5
baz=72
G21A **Lodge Grass** 71.57 333 ⇓P P 14 03 46.4 -0.2
baz=72,SNR=5.9
I18A **Diamond G Ranc** 71.60 330 ⇓P P 14 03 46.8 +0.1
baz=72,SNR=7.9
F22A **Rosebud** 71.60 333 ⇓P P 14 03 46.2 -0.5
baz=72,SNR=5.1
L15A **Malad City** 71.62 327 ⇑P P 14 03 46.7 -0.1
baz=72,SNR=8.3
ULM **Lac du Bonnet** 71.65 342 P P 14 03 45.5 -1.5
10nm,0.4s,mb4.9,baz=154,slow=6.0,SNR=33
ULM **Lac du Bonnet** 71.65 342 eP P 14 03 45.4 -1.5
24nm,0.8s,mb5.0
J17A **Brown Place, J** 71.78 329 ⇑P P 14 03 48.1 +0.3
baz=72
E23A **Ismay** 71.78 334 ⇓P P 14 03 47.3 -0.5
baz=72,SNR=5.9
K16A **Soda Springs** 71.82 328 ⇑P P 14 03 48.7 +0.6
baz=72
D24A **Glendive** 71.88 335 ⇑P P 14 03 48.8 +0.4
baz=72
H19A **Powell** 71.94 331 ⇓P P 14 03 49.3 +0.5
baz=72
TPAW **Teton Pass** 71.99 329 eP P 14 03 48.9 -0.1
5.5nm,1.1s,mb4.2
RRI2 **Red Ridge** 72.06 329 eP P 14 03 49.0 -0.6
22nm,1.4s,mb4.7
L14A **Malta** 72.08 327 ⇓P P 14 03 49.9 +0.2
baz=72
I17A **Pilgrim Ck.** 72.12 330 ⇓P P 14 03 50.3 +0.4
baz=72,SNR=6.6
J16A **Bone** 72.15 329 ⇓P P 14 03 50.6 +0.5
baz=72
K15A **Arbon** 72.18 328 ⇓P P 14 03 50.4 +0.1
baz=72
SCHQ **Schefferville** 72.22 1 P P 14 03 47.5 -2.7
5.6nm,1.1s,mb4.2,baz=219,slow=6.5,SNR=6.4
SCHQ **Schefferville** 72.22 1 P P 14 03 47.5 -2.7
C24A **Savage** 72.26 336 ⇓P P 14 03 50.6 +0.1
baz=72
H18A **Shoshone NF, C** 72.26 331 ⇓P P 14 03 51.0 +0.4
baz=72
D23A **Lindsay** 72.28 335 ⇑P P 14 03 50.9 +0.2
baz=72,SNR=6.2
FLWY **Flagg Ranch** 72.31 330 eP P 14 03 50.9 -0.1
52nm,1.5s,mb5.0
LAO **LASA Array** 72.31 334 ⇓P P 14 03 51.0 +0.1
baz=72
K14A **Jones Ranch, D** 72.41 327 ⇑P P 14 03 51.7 +0.1
baz=73
RLMT **Red Lodge** 72.42 331 ⇓P P 14 03 51.5 -0.1
baz=73,SNR=5.3
F20A **Billings** 72.44 332 ⇑P P 14 03 51.9 +0.2
baz=73
NVAR **Mina Array Bea** 72.45 321 P P 14 03 52.6 +0.6
3.4nm,0.9s,mb4.1,baz=146,slow=6.6,SNR=14
NVAR **Mina Array Bea** 72.45 321 P P 14 03 52.6 +0.7
H17A **Grant Village** 72.48 330 ⇑P P 14 03 53.2 +1.2
baz=73
QSPA **South Pole Qui** 72.51 180 P P 14 03 51.8 +0.1
10.0nm,0.6s,mb4.7,baz=218,slow=0.7,SNR=28
QSPA **South Pole Qui** 72.51 180 eP P 14 03 52.1 +0.4
25nm,1.1s,mb4.9
I16A **Newdale** 72.53 329 ⇓P P 14 03 52.5 +0.2
baz=73
E21A **Keefer Ranch,** 72.55 333 ⇑P P 14 03 52.4 +0.1
baz=73,SNR=6.6
J15A **Blackfoot** 72.65 328 ⇓P P 14 03 53.2 +0.1
baz=73
D22A **Cohagen** 72.66 334 ⇑P P 14 03 53.5 +0.5
baz=73,SNR=9.8
G18A **Lazy EL Ranch,** 72.70 331 ⇑P P 14 03 53.3 0.0
baz=73,SNR=9.9
C23A **Lambert** 72.78 335 ⇓P P 14 03 54.1 +0.4
baz=73
F19A **Roth Farm, Mol** 72.83 332 ⇓P P 14 03 54.1 0.0
baz=73,SNR=6.4
D21A **La Casta Ranch** 72.93 334 ⇑P P 14 03 54.8 +0.2
baz=73,SNR=13
DGMT **Dagmar** 72.94 336 ⇑P P 14 03 55.2 +0.6
baz=73
E20A **Meyer Farm, Mu** 72.97 333 ⇑P P 14 03 54.9 +0.1
baz=73,SNR=9.2
C22A **Vida** 73.01 335 ⇑P P 14 03 54.8 -0.2
baz=73,SNR=5.9
H16A **Russell Place,** 73.03 330 ⇑P P 14 03 55.8 +0.6
baz=73,SNR=7.3
GCMT **Greycliff** 73.11 332 eP P 14 03 55.8 +0.1
4.6nm,0.8s,mb4.3
I15A **Monteview** 73.11 329 ⇓P P 14 03 56.4 +0.6
baz=73,SNR=6.5
J14A **Carey** 73.15 328 ⇓P P 14 03 56.5 +0.6
baz=73
F18A **Big Timber** 73.22 332 ⇓P P 14 03 56.3 0.0
baz=73,SNR=9.5
E19A **Rath Farm, Rou** 73.23 332 ⇑P P 14 03 56.6 +0.3
baz=74,SNR=11
A24A **Westby** 73.24 337 ⇓P P 14 03 57.4 +1.1
baz=74
B23A **Brockton** 73.24 336 ⇓P P 14 03 56.4 +0.1
baz=74,SNR=7.8
D20A **Manuel Ranch,** 73.44 333 ⇑P P 14 03 57.2 -0.3
baz=74,SNR=8.1
B22A **Reddig Ranch S** 73.50 335 ⇑P P 14 03 58.7 +0.8
baz=74
J13A **Cove Ranch, Pi** 73.53 327 ⇑P P 14 03 58.7 +0.5
baz=74
I14A **Mackay** 73.55 328 ⇓P P 14 03 58.8 +0.5
baz=74,SNR=6.3
C21A **Desert Coulee** 73.57 334 ⇓P P 14 03 58.3 0.0
baz=74,SNR=8.0
F17A **Fitzpatrick Pl** 73.65 331 ⇑P P 14 03 59.1 +0.2
baz=74,SNR=5.8
G16A **Moss Hill, Enn** 73.69 330 ⇓P P 14 03 59.1 +0.1
baz=74
HLID **Hailey** 73.78 327 ⇑P P 14 03 59.8 +0.2
baz=74
E18A **Harlowton** 73.81 332 ⇑P P 14 03 59.8 0.0
baz=74,SNR=6.1
D19A **Cripps Ranch,** 73.81 333 ⇓P P 14 03 59.7 -0.1
baz=74,SNR=7.2
C20A **Veseth Ranch,** 73.86 334 ⇑P P 14 03 59.1 -0.9
baz=74,SNR=5.6
I13A **Wildhorse Cree** 73.87 328 ⇓P P 14 04 00.6 +0.5
baz=74,SNR=7.7
BOZ **Bozeman (W)** 73.91 330 ⇑P P 14 04 00.6 +0.2
baz=74,SNR=6.4
G15A **Dillon** 73.97 330 ⇓P P 14 04 01.0 +0.3
baz=74
H14A **Leadore** 74.00 329 ⇑P P 14 04 01.3 +0.4
baz=74,SNR=5.0
F16A **Kennard Place,** 74.01 330 ⇑P P 14 04 01.5 +0.6
baz=74
B21A **Ellsworth Farm** 74.02 335 ⇓P P 14 04 01.8 +0.9
baz=74
A22A **Carney Farms,** 74.03 336 ⇓P P 14 04 01.1 +0.2
baz=74,SNR=9.2
E17A **Martinsdale** 74.16 331 ⇑P P 14 04 01.9 +0.1
baz=74,SNR=6.6
D18A **Linhart Farms,** 74.24 332 ⇑P P 14 04 02.8 +0.5
baz=74
I12A **Atlanta** 74.31 327 ⇑P P 14 04 03.1 +0.5
baz=74,SNR=5.4
C19A **Slack Wire Ran** 74.33 333 ⇑P P 14 04 02.9 +0.2
baz=75,SNR=6.3
H13A **Challis** 74.40 328 ⇓P P 14 04 03.3 +0.1
baz=75
MFID **Camas Ranch** 74.41 327 ⇓P P 14 04 03.6 +0.3
baz=75,SNR=14
MFID **Camas Ranch** 74.41 327 eP P 14 04 03.9 +0.6
22nm,1.3s,mb4.7
A21A **Bergtoll Ranch** 74.43 335 ⇑P P 14 04 03.3 0.0
baz=75
LRM **Limekiln Ridge** 74.43 330 eP P 14 04 03.5 +0.2
19nm,0.9s,mb4.8
F15A **Butte** 74.46 330 ⇓P P 14 04 04.2 +0.7
baz=75
G14A **Jackson** 74.50 329 ⇑P P 14 04 04.5 +0.8
baz=75
E16A **East Helena** 74.59 331 ⇑P P 14 04 05.0 +0.7
baz=75
D17A **Six Diamond Ra** 74.60 332 ⇓P P 14 04 04.8 +0.5
baz=75,SNR=7.8
H12A **Diamond D Ranc** 74.70 328 ⇑P P 14 04 05.8 +0.9
baz=75
A20A **Cobblestone Ra** 74.75 335 ⇓P P 14 04 05.0 -0.1
baz=75,SNR=7.0
G13A **Cobalt** 74.77 329 ⇓P P 14 04 05.8 +0.5
baz=75,SNR=11
B19A **Brinkman Farms** 74.84 334 ⇓P P 14 04 06.1 +0.5
baz=75
EGMT **Eagleton** 74.85 333 ⇓P P 14 04 05.3 -0.4
baz=75,SNR=5.2
EGMT **Eagleton** 74.85 333 eP P 14 04 04.9 -0.8
15nm,1.1s,mb4.5
F14A **Wisdom** 74.86 330 ⇓P P 14 04 06.6 +0.8
baz=75,SNR=5.3
D16A **Dana Ranch, Ca** 74.90 331 ⇑P P 14 04 06.5 +0.5
baz=75,SNR=12
E15A **Deer Lodge** 74.96 330 ⇓P P 14 04 06.1 -0.3
baz=75,SNR=5.4
C17A **Wharram Farm,** 75.00 332 ⇓P P 14 04 06.9 +0.3
baz=75
B18A **Beardsley Farm** 75.15 333 ⇓P P 14 04 07.6 +0.2
baz=75,SNR=7.9
F13A **Darby** 75.31 329 ⇑P P 14 04 08.8 +0.4
baz=76,SNR=11
D15A **Lincoln** 75.36 331 ⇑P P 14 04 08.9 +0.2
baz=76,SNR=9.4
E14A **Clinton** 75.36 330 ⇑P P 14 04 09.2 +0.6
baz=76,SNR=7.7
B17A **L&G Farms, Che** 75.51 333 ⇓P P 14 04 09.5 0.0
baz=76
C16A **Fuhringer Ranc** 75.56 332 ⇑P P 14 04 09.8 0.0
baz=76
A18A **Metzger Ranch,** 75.58 334 ⇑P P 14 04 09.6 -0.3
baz=76,SNR=7.6
CHMT **Chamberlain Mo** 75.61 330 eP P 14 04 10.4 +0.4
5.4nm,1.6s,mb3.9
E13A **Victor** 75.71 330 ⇓P P 14 04 11.3 +0.7
baz=76,SNR=7.2
J08A **Circle Bar Ran** 75.79 325 ⇑P P 14 04 11.5 +0.4
baz=76
MSO **Missoula** 75.87 330 ⇑P P 14 04 11.8 +0.2
baz=76,SNR=5.2
C15A **Salmond Ranch,** 75.94 331 ⇓P P 14 04 12.3 +0.4
baz=76,SNR=11
A17A **Triple J Farms** 75.96 333 ⇓P P 14 04 12.1 +0.1
baz=76,SNR=7.4
TORD **Torodi Ar. Bea** 76.17 71 P P 14 04 13.9 -0.1
35nm,0.9s,mb5.0,baz=260,slow=5.3,SNR=183
TORD **Torodi Ar. Bea** 76.17 71 P P 14 04 13.9 -0.1
D13A **Huson** 76.31 330 ⇑P P 14 04 14.5 +0.4
baz=76
B15A **Bradely Ranch,** 76.31 332 ⇑P P 14 04 13.5 -0.5
baz=76,SNR=6.2
A16A **West Butte Ran** 76.35 333 ⇓P P 14 04 14.8 +0.5
baz=77
E12A **Beaver Dam Sad** 76.37 329 ⇑P P 14 04 14.3 -0.1
baz=77
B14A **Marquette Ranc** 76.67 331 ⇑P P 14 04 16.3 +0.2
baz=77
K05A **Summer Lake** 76.72 323 ⇑P P 14 04 17.1 +0.6
baz=77
C13A **Hot Springs** 76.78 330 ⇓P P 14 04 17.2 +0.6
baz=77
I07A **Izee** 76.83 325 ⇑P P 14 04 17.5 +0.5
baz=77
A14A **Double T Ranch** 77.18 332 ⇓P P 14 04 19.0 +0.1
baz=77
C12B **Naegeli Ranch,** 77.23 330 ⇓P P 14 04 19.4 +0.2
baz=77
A13A **Flathead Natio** 77.61 331 ⇓P P 14 04 21.8 +0.6
baz=78
E09A **Wood Farm, Sta** 77.73 328 ⇓P P 14 04 22.4 +0.4
baz=78
A12A **Yaak River Ran** 78.18 331 ⇓P P 14 04 24.6 +0.2
baz=78,SNR=5.0
RSW **Rattlesnake Hi** 78.39 327 eP P 14 04 26.3 +0.7
7.0nm,0.8s,mb4.3
OD2 **Odessa Site #2** 78.60 328 eP P 14 04 27.2 +0.4
17nm,1.1s,mb4.6
ETW **Entiat** 79.57 328 eP P 14 04 32.4 +0.4
33nm,1.1s,mb4.9
SYO **Syowa Base** 80.11 160 ⇓eP P 14 04 33.8 -0.9
SYO **Syowa Base** 80.11 160 ⇓ePcP PcP 14 04 41.0 -0.6
RPW **Rockport** 80.72 328 eP P 14 04 37.7 -0.5
FRB **Frobisher Bay** 81.14 0 P P 14 04 38.7 -1.4
2.5nm,0.8s,mb3.9,baz=182,slow=5.1,SNR=3.8
FRB **Frobisher Bay** 81.14 0 P P 14 04 38.7 -1.4
A05A **Maple Falls** 81.36 328 ⇑P P 14 04 41.8 +0.2
baz=82
ESDC **Sonseca Array** 83.17 45 P P 14 04 52.3 +1.0
0.3nm,0.3s,mb3.5,baz=243,slow=5.6,SNR=10
ESDC **Sonseca Array** 83.17 45 P P 14 04 52.2 +1.0
TAM **Tamanrasset** 83.18 64 eP P 14 04 53.1 +1.5
10.0nm,1.1s,mb4.5
BOSA **Boshof** 85.32 118 P P 14 05 02.1 -0.3
3.2nm,0.7s,mb4.2,baz=198,slow=4.6,SNR=7.0
BOSA **Boshof** 85.32 118 P P 14 05 02.1 -0.3
SJPF **Ste Jean** 86.63 43 eP P 14 05 08.6 +0.2
18nm,1.1s,mb4.5
SJPF **Ste Jean** 86.63 43 eP P 14 05 08.6 +0.2
18nm,1.1s,mb4.8
ETSF **Etsaut** 86.96 43 eP P 14 05 09.2 -0.8
8.8nm,1.0s,mb4.3
ETSF **Etsaut** 86.96 43 eP P 14 05 09.2 -0.8
8.8nm,1.0s,mb4.5
YKA **Yellowknife Ar** 87.56 341 P P 14 05 11.3 -1.1
6.6nm,0.4s,mb4.8,baz=133,slow=4.8,SNR=159
YKA **Yellowknife Ar** 87.56 341 P P 14 05 11.3 -1.1
EPF **Esparros** 87.61 43 eP P 14 05 12.3 -0.8
EPF **Esparros** 87.61 43 eP P 14 05 12.3 -0.8
QUIF **Quistinic** 87.73 38 eP P 14 05 12.2 -1.4
QUIF **Quistinic** 87.73 38 eP P 14 05 12.2 -1.4
ROSF **Rostrenen** 87.88 37 eP P 14 05 14.1 -0.2
ROSF **Rostrenen** 87.88 37 eP P 14 05 14.1 -0.2
MAW **Mawson** 88.01 163 P P 14 05 15.0 +0.3
12nm,0.7s,mb4.8,baz=222,slow=7.7,SNR=7.9
MAW **Mawson** 88.01 163 P P 14 05 15.0 +0.3
SGMF **Saint Gilles** 88.26 38 eP P 14 05 16.1 0.0
SGMF **Saint Gilles** 88.26 38 eP P 14 05 16.1 0.0
LFF **La Frestale** 88.72 42 eP P 14 05 17.6 -0.7
36nm,1.0s,mb4.9
LFF **La Frestale** 88.72 42 eP P 14 05 17.6 -0.7
36nm,1.0s,mb5.2
MFF **Saint Martin d** 88.92 40 eP P 14 05 18.1 -1.1
31nm,1.3s,mb4.8
MFF **Saint Martin d** 88.92 40 eP P 14 05 18.1 -1.1
31nm,1.3s,mb5.1
MTLF **Montolieu** 88.98 44 eP P 14 05 18.7 -0.9
MTLF **Montolieu** 88.98 44 eP P 14 05 18.7 -0.9
GRR **Gorron** 89.32 38 eP P 14 05 19.7 -1.3
34nm,1.2s,mb4.8
GRR **Gorron** 89.32 38 eP P 14 05 19.7 -1.3
34nm,1.2s,mb5.2
RJF **Les Rejaudoux** 89.38 42 eP P 14 05 20.5 -0.9
RJF **Les Rejaudoux** 89.38 42 eP P 14 05 20.5 -0.9
FLN **La Foliniere** 89.71 38 eP P 14 05 21.8 -1.1
FLN **La Foliniere** 89.71 38 eP P 14 05 21.8 -1.1
LDF **La Druitiere** 89.85 38 eP P 14 05 23.1 -0.4
16nm,1.1s,mb4.6
LDF **La Druitiere** 89.85 38 eP P 14 05 23.1 -0.4
16nm,1.1s,mb4.9
LASF **Ste Croix** 90.36 44 eP P 14 05 24.7 -1.3
LASF **Ste Croix** 90.36 44 eP P 14 05 24.7 -1.3
DLBC **Dease Lake** 90.78 333 P P 14 05 27.9 +0.3
5.3nm,0.9s,mb4.6,baz=107,slow=3.8,SNR=6.3
DLBC **Dease Lake** 90.78 333 P P 14 05 27.9 +0.3
AVF **Avril sur Loir** 91.17 41 eP P 14 05 28.4 -1.3
AVF **Avril sur Loir** 91.17 41 eP P 14 05 28.4 -1.3
VIVF **Saint-Julien-l** 91.22 43 eP P 14 05 29.8 -0.2
7.4nm,0.7s,mb4.5
VIVF **Saint-Julien-l** 91.22 43 eP P 14 05 29.8 -0.2
7.4nm,0.7s,mb4.8
SMF **Signal de Mont** 91.41 41 eP P 14 05 29.9 -0.9
23nm,1.1s,mb4.8
SMF **Signal de Mont** 91.41 41 eP P 14 05 29.9 -0.9
23nm,1.1s,mb5.1
LMR **La Mourre** 91.83 45 eP P 14 05 32.2 -0.7
LMR **La Mourre** 91.83 45 eP P 14 05 32.2 -0.7
ORIF **Oris-en-Rattie** 92.03 43 eP P 14 05 33.0 -0.7
15nm,1.1s,mb4.7
ORIF **Oris-en-Rattie** 92.03 43 eP P 14 05 33.0 -0.7
15nm,1.1s,mb4.9
SUMG **Summit** 92.30 9 i P P 14 05 35.3 +0.9
7.3nm,0.9s,mb4.7
MBDF **Montbardon** 92.54 44 eP P 14 05 36.0 -0.1
MBDF **Montbardon** 92.54 44 eP P 14 05 36.0 -0.1
SBF **Sospel** 92.66 45 eP P 14 05 36.1 -0.6
SBF **Sospel** 92.66 45 eP P 14 05 36.1 -0.6
CDF **Champ du Feu** 94.25 40 eP P 14 05 42.7 -1.2
CDF **Champ du Feu** 94.25 40 eP P 14 05 42.7 -1.2
INK **Inuvik** 97.32 340 P P 14 05 55.6 -1.7

1.2nm,0.8s,mb4.3,baz=84,slow=5.4,SNR=4.6
INK Inuvik 97.32 340 P **P 14 05 55.6 -1.7**
ILAR Eielson Array 100.76 335 P Pdif 14 06 09.1 -4.2
0.3nm,0.8s,baz=184,slow=20,SNR=4.7
ILAR Eielson Array 100.76 335 P Pdif 14 06 09.1 -4.2
STKA Stephens Creek 122.67 211 PKP PKPdf 14 11 19.3 -1.1
1.4nm,0.5s,baz=2.0,slow=23,SNR=7.4
STKA Stephens Creek 122.67 211 PKP PKPdf 14 11 19.3 -1.1
AKTO Aktyubinsk 126.79 40 PKP PKPdf 14 11 27.6 0.0
2.7nm,0.8s,baz=32,slow=0.3,SNR=8.4
AKTO Aktyubinsk 126.79 40 PKP PKPdf 14 11 27.6 0.0
ABKAR Akbulak array 128.34 41 *e*PKPdf PKPdf 14 11 30.8 +0.2
BVAR Borovoye Array 132.65 32 PKP PKPdf 14 11 39.1 +0.5
1.1nm,0.8s,baz=274,slow=2.2,SNR=7.8
BVAR SKPbc SKPbc 14 14 53.5 +1.1
0.6nm,0.5s,baz=258,slow=2.9,SNR=5.2
BVAR SKP 14 15 02.9
1.7nm,0.7s,baz=275,slow=1.7,SNR=9.7
BVAR Borovoye Array 132.65 32 PKP PKPdf 14 11 39.1 +0.5
BVAR SKPbc SKPbc 14 14 53.5 +1.1
BVAR SKP 14 15 02.9
AS31 Alice Springs 133.23 209 *e*PKPdf PKPdf 14 11 39.9 -0.8
ASAR Alice Springs 133.23 209 PKhKP PKPpre 14 11 23.5
0.3nm,0.7s,baz=126,slow=3.0,SNR=6.7
ASAR PKP PKPdf 14 11 40.0 -0.7
1.4nm,0.5s,baz=126,slow=1.8,SNR=7.6
ASAR SKPbc SKPbc 14 14 55.4 -0.1
1.1nm,1.0s,baz=151,slow=4.1,SNR=5.9
ASAR Alice Springs 133.23 209 PKPpre PKPpre 14 11 23.5
ASAR PKP PKPdf 14 11 40.0 -0.7
ASAR SKPbc SKPbc 14 14 55.4 -0.1
WRA Warramunga Arr 136.17 213 PKhKP PKPpre 14 11 31.4
0.5nm,0.6s,baz=140,slow=3.0,SNR=14
WRA PKP PKPdf 14 11 46.0 -0.3
3.1nm,0.7s,baz=143,slow=1.8,SNR=18
WRA SKPbc SKPbc 14 15 05.1 +0.2
2.4nm,0.8s,baz=148,slow=2.5,SNR=8.5
WRA Warramunga Arr 136.17 213 PKPpre PKPpre 14 11 31.4
WRA PKP PKPdf 14 11 46.0 -0.3
WRA SKPbc SKPbc 14 15 05.1 +0.2
KURK Kurchatov 138.13 31 PKP PKPdf 14 11 49.2 +0.4
3.0nm,0.9s,baz=309,slow=2.6,SNR=18
KURK SKPbc SKPbc 14 15 10.2 +0.6
2.4nm,0.7s,baz=304,slow=3.3,SNR=15
KURK Kurchatov 138.13 31 PKP PKPdf 14 11 49.2 +0.4
KURK SKPbc SKPbc 14 15 10.2 +0.6
ZAA0 Zalesovo Array 138.50 23 *e*PKPdf PKPdf 14 11 49.1 -0.3
ZALV Zalesovo Beam 138.50 23 PKP PKPdf 14 11 49.6 +0.1
11nm,0.8s,baz=298,slow=3.2,SNR=41
ZALV SKPbc SKPbc 14 15 11.2 +0.6
12nm,0.7s,baz=315,slow=3.7,SNR=36
ZALV Zalesovo Beam 138.50 23 PKP PKPdf 14 11 49.6 +0.1
ZALV SKPbc SKPbc 14 15 11.2 +0.6
MKAR Makanchi Array 142.53 33 PKP PKPdf 14 11 58.1 +1.1
1.8nm,0.8s,baz=268,slow=2.4,SNR=7.8
MKAR SKPbc SKPbc 14 15 21.4 -0.1
1.8nm,0.7s,baz=326,slow=2.3,SNR=8.2
MKAR Makanchi Array 142.53 33 PKP PKPdf 14 11 58.1 +1.1
MKAR SKPbc SKPbc 14 15 21.4 -0.1
KSH Kashi 142.66 47 *e*PKP PKPdf 14 11 54.5 -3.0
KSH pPKP pPKPdf 14 12 36.1 0.0
KSH PP PP 14 15 09.0 +2.0
KSH PKS 14 15 29.3
KSH SKS SKSdf 14 18 46.9 -6.9
KSH SS SS 14 33 28.9 -3.2
KSH AMB AMB
comp=Z,230nm,5.3s
KSH LR LR
comp=N,370nm,7.6s
KSH LR LR
comp=E,350nm,6.7s
KSH LR LR
comp=Z,300nm,7.7s
TLY Talaya 145.56 8 *e*PKP PKPdf 14 12 02.8 +0.6
WMQ Urumqi 147.34 32 PKPbc PKPbc 14 12 06.4 -1.6
HIA Hailar 147.69 349 *e*PKPdf PKPdf 14 12 05.9 +0.1
HIA *e*PKPbc PKPbc 14 12 08.4 -0.3
USRK Ussuriysk Arra 148.19 331 PKPbc PKPbc 14 12 10.4 +0.2
comp=Z,18nm,0.9s,baz=17,slow=3.3,SNR=23
MDJ Mudanjiang 148.93 334 PKPbc PKPdf 14 12 05.0 -2.9
HYB Hyderabad 149.07 85 *i* PKP PKPdf 14 12 09.0 0.0
HYB *e* 14 12 12.0
MJAR Matsushiro Arr 149.51 313 PKPbc PKPbc 14 12 13.6 -0.2
comp=Z,4.4nm,0.6s,baz=84,slow=1.5,SNR=13
MJAR Matsushiro Arr 149.51 313 PKPbc PKPbc 14 12 13.6 -0.2
MAT Matsushiro 149.51 313 PKP PKPbc 14 12 13.2 -0.6
SONM Songino Array 149.67 6 PKP PKPdf 14 12 09.8 +0.7
comp=Z,9.6nm,0.8s,baz=12,slow=1.7,SNR=26
SONM PKPbc PKPbc 14 12 14.3 +0.5
comp=Z,9.6nm,0.8s,baz=309,slow=1.6,SNR=33
SONM Songino Array 149.67 6 PKP PKPdf 14 12 09.8 +0.7
SONM PKPbc PKPbc 14 12 14.3 +0.5
ULN Ulaanbaatar 149.70 5 *e*PKPdf PKPdf 14 12 08.7 -0.4
ULN *e*PKPbc PKPbc 14 12 14.3 +0.5
ULN *e*PKPab PKPab 14 12 20.1 +0.6
CN2 Changchun 151.23 338 *e*PKPbc PKPdf 14 12 08.9 -2.7
KSRS Korea Array 155.31 326 PKPbc PKPdf 14 12 26.8 +9.2
comp=Z,3.5nm,1.0s,baz=72,slow=4.4,SNR=5.2
KSAR Wonju Array Be 155.33 326 PKPbc PKPdf 14 12 26.8 +9.1
GTA Gaotai 156.24 22 PKP PKPdf 14 12 19.8 +1.0
HHC Hu-ho-hao-te 156.89 359 *e*PKP PKPdf 14 12 15.3 -4.3
HHC PKS 14 15 47.6
HHC PP PP 14 16 28.8 -1.0
HHC SKS SKSdf 14 19 09.8 -2.4
HHC SKKS SKKSac 14 23 05.0 +0.9
HHC SS SS 14 36 09.9 +1.8
HHC AMB AMB
comp=Z,120nm,6.2s
HHC LR LR
comp=N,160nm,19.5s
HHC LR LR
comp=E,150nm,20.4s
HHC LR LR
comp=Z,130nm,21.1s
CD2 Chengdu 165.25 25 *e*PKP PKPdf 14 12 24.5 -4.3
CMAR Chiang Mai Arr 168.50 84 PKP PKPdf 14 12 31.5 -0.1
comp=Z,0.4nm,0.4s,baz=284,slow=1.9,SNR=6.9
CMAR PKPab PKPab 14 13 42.1 +0.3
comp=Z,1.4nm,0.8s,baz=271,slow=5.9,SNR=8.9
CMAR Chiang Mai Arr 168.50 84 PKP PKPdf 14 12 31.5 -0.1
CMAR PKPab PKPab 14 13 42.1 +0.3
KMI Kunming 169.31 45 PKP PKPdf 14 12 33.3 +1.4
GYA Guiyang 170.37 24 *e*PKP PKPdf 14 12 31.0 -1.5
GYA pPKP pPKPdf 14 13 10.8 -0.7
GYA sPKP 14 13 24.5
GYA PKPab PKPab 14 13 50.6 +1.0
GYA PKS 14 16 02.0
GYA PP PP 14 17 41.4 +2.4
GYA AMB AMB
comp=Z,90nm,8.0s

NEIC ***22*** *13:56:13.3, 18°.34N×66°.62W, h137km, MD3.2(RSPR), After RSPR.*
RSPR 22 13:56:13.3, 18°.34N×66°.62W, h137km±1km, MD3.1/16, 25C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.13**	**272**	*e*P	Pn	13 56 31.6	-0.2
AOPR	**Arecibo Observ**	**0.13**	**272**	⇑*e*P	Pn	13 56 31.6	-0.2
AOPR				*e*S	Sn	13 56 46.1	+0.4
LRS	**Lares**	**0.22**	**257**	⇑*e*P	Pn	13 56 31.8	-0.2
LRS				*e*S	Sn	13 56 45.9	-0.2
LRS	**Lares**	**0.22**	**257**	*e*P	Pn	13 56 31.6	-0.3
LRS				*e*S	Sn	13 56 45.9	-0.2
CELP	**Cerrillos**	**0.27**	**172**	⇓*e*P	Pn	13 56 32.0	-0.2
CELP				*e*S	Sn	13 56 46.2	-0.2
CELP	**Cerrillos**	**0.27**	**172**	*e*P	Pn	13 56 31.7	-0.4
OBIP	**Obispado Ponce**	**0.30**	**177**	⇑*e*P	Pn	13 56 31.8	-0.5
OBIP	**Obispado Ponce**	**0.30**	**177**	⇑*e*P	Pn	13 56 31.8	-0.5
OBIP				*e*S	Sn	13 56 46.0	-0.6
GBPR	**Guanica, Bosqu**	**0.44**	**214**	⇑*e*P	Pn	13 56 32.1	-0.8
GBPR				*e*S	Sn	13 56 47.8	+0.2
GBPR	**Guanica, Bosqu**	**0.44**	**214**	⇑*e*P	Pn	13 56 32.1	-0.8
GBPR				*e*S	Sn	13 56 47.8	+0.2
ICM	**Isla Caja Muer**	**0.46**	**168**	⇑*e*P	Pn	13 56 32.4	-0.5
ICM	**Isla Caja Muer**	**0.46**	**168**	⇑*e*P	Pn	13 56 32.4	-0.5
ICM				*e*S	Sn	13 56 47.2	-0.6
LSP	**Las Mesas**	**0.47**	**250**	⇑*e*P	Pn	13 56 33.0	0.0
LSP				*e*S	Sn	13 56 48.6	+0.8
LSP	**Las Mesas**	**0.47**	**250**	*e*P	Pn	13 56 32.9	-0.1
LSP				S	Sn	13 56 47.6	-0.2
AGPR	**Aguadilla, PR**	**0.48**	**285**	⇑*e*P	Pn	13 56 32.5	-0.5
AGPR	**Aguadilla, PR**	**0.48**	**285**	*e*S	Sn	13 56 47.3	-0.6
AGPR	**Aguadilla, PR**	**0.48**	**285**	*e*P	Pn	13 56 32.5	-0.5
SJG	**San Juan**	**0.50**	**117**	⇑*e*P	Pn	13 56 33.2	+0.1
SJG				*e*S	Sn	13 56 48.0	-0.2
SJG	**San Juan**	**0.50**	**117**	⇑*e*P	Pn	13 56 33.2	+0.1
SJG				*e*S	Sn	13 56 48.0	-0.2
MPR	**Mayaguez**	**0.51**	**255**	*e*S	Sn	13 56 47.8	-0.4
CRPR	**Cabo Rojo, PR**	**0.57**	**234**	⇑*e*P	Pn	13 56 32.9	-0.7
CRPR	**Cabo Rojo, PR**	**0.57**	**234**	⇑*e*P	Pn	13 56 32.9	-0.7
CRPR				*e*S	Sn	13 56 49.5	+0.6
CBYP	**Canovanas**	**0.73**	**95**	⇑*e*P	Pn	13 56 34.6	+0.1
CBYP	**Canovanas**	**0.73**	**95**	⇑*e*P	Pn	13 56 34.6	+0.1
CBYP				*e*S	Sn	13 56 50.9	+0.2
CBYP	**Canovanas**	**0.73**	**95**	*e*S	Sn	13 56 50.9	+0.2
CPD	**Cerro la Pandu**	**0.73**	**114**	⇑*e*P	Pn	13 56 34.6	0.0
CPD	**Cerro la Pandu**	**0.73**	**114**	⇑*e*P	Pn	13 56 34.6	0.0
CPD				*e*S	Sn	13 56 51.3	+0.5
HUMP	**Col San Antoni**	**0.76**	**105**	⇑*e*P	Pn	13 56 35.0	+0.2
HUMP	**Col San Antoni**	**0.76**	**105**	⇑*e*P	Pn	13 56 35.0	+0.2
HUMP				*e*S	Sn	13 56 51.2	+0.1
MTP	**Monte Pirata**	**1.04**	**103**	⇓*e*P	Pn	13 56 37.5	+0.3
MTP	**Monte Pirata**	**1.04**	**103**	⇓*e*P	Pn	13 56 37.5	+0.3
MTP				*e*S	Sn	13 56 55.9	+0.5
STVI	**Saint Thomas**	**1.58**	**89**	⇑*e*P	Pn	13 56 42.9	+0.2
STVI	**Saint Thomas**	**1.58**	**89**	⇑*e*P	Pn	13 56 42.9	+0.2
STVI				*e*S	Sn	13 57 05.9	+0.6
TBVI	**Tortola**	**1.90**	**87**	*e*S	Sn	13 57 12.0	+0.1
ABV	**Anegada**	**2.21**	**80**	*e*S	Sn	13 57 19.2	+0.8
DR12	**Loma Pena Alta**	**2.66**	**280**	⇑*e*P	Pn	13 56 55.6	-0.2
DR12				*e*S	Sn	13 57 29.2	+0.8
DR12	**Loma Pena Alta**	**2.66**	**280**	⇑*e*P	Pn	13 56 55.6	-0.2
DR12				*e*S	Sn	13 57 29.2	+0.8

DDA ***22*** *13:56:20.7, 37°.22N×37°.30E, h7km±3km, Md2.8*
ISCJB ***22*** *13:56:21.5±0.6, 37°.21N±0°.03×37°.26E±0°.04, h10km, Error ellipse: s-maj=5.2km s-min=4.0km az=152.3*
CSEM ***22*** *13:56:21.6±0.2, 37°.22N×37°.24E, h10km, MD2.8, Error ellipse: s-maj=5.0km s-min=4.1km az=145.0*
ISK ***22*** *13:56:21.9, 37°.32N×37°.27E, h5km, MD2.7*
ISC 22 13:56:21.4±0.7, 37°.22N±0°.04×37°.28E±0°.04, h3km±6km, n17, σ0°60/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.26**	**58**	*i* P	**Pg**	**13 56 25.2**	**-1.2**
GZT				*i* S	**Sg**	**13 56 30.1**	**+0.2**
KMRS	**Kahramanmaras**	**0.42**	**313**	*e*PG	**Pg**	**13 56 29.3**	**-0.2**
KMRS				*e*SG	**Sg**	**13 56 34.8**	**-0.1**
KMRS	**Kahramanmaras**	**0.42**	**313**	*e*Pg	**Pg**	**13 56 29.3**	**-0.2**
KMRS				*e*Sg	**Sg**	**13 56 34.8**	**-0.1**
KUZU	**Kuzuini**	**0.47**	**201**	*i* P	**Pg**	**13 56 29.9**	**-0.6**
KUZU				*i* S	**Sg**	**13 56 37.4**	**+0.8**
KUZU	**Kuzuini**	**0.47**	**201**	*i* P	**Pg**	**13 56 29.9**	**-0.6**
KUZU				*i* S	**Sg**	**13 56 37.4**	**+0.8**
ANDN	**Andirin**	**0.83**	**296**	*i* P	**Pg**	**13 56 36.6**	**-0.7**
ANDN				*i* S	**Sg**	**13 56 49.0**	**+0.9**
ANDN	**Andirin**	**0.83**	**296**	*i* P	**Pg**	**13 56 36.7**	**-0.6**
ANDN				*i* S	**Sg**	**13 56 49.0**	**+0.9**
AKCD	**Akcadag**	**1.19**	**25**	*i* P	**Pg**	**13 56 43.9**	**-0.3**
AKCD				*i* S	**Sg**	**13 57 00.8**	**+1.2**
AKCD	**Akcadag**	**1.19**	**25**	*i* P	**Pg**	**13 56 43.9**	**-0.3**
AKCD				*i* S	**Sg**	**13 57 00.8**	**+1.2**
KOZT	**Kozan**	**1.19**	**283**	*e*PN	**Pn**	**13 56 44.7**	**-0.3**
KOZT	**Kozan**	**1.19**	**283**	*e*Pn	**Pn**	**13 56 44.7**	**-0.3**
URFA	**Urfa**	**1.25**	**79**	*e*PN	**Pn**	**13 56 46.3**	**+0.6**
URFA				*e*SN	**Sn**	**13 57 03.5**	**+0.5**
URFA	**Urfa**	**1.25**	**79**	*e*Pn	**Pn**	**13 56 46.3**	**+0.6**
URFA				*e*Sn	**Sn**	**13 57 03.5**	**+0.5**
MALT	**Malatya**	**1.42**	**39**	*e*PN	**Pn**	**13 56 48.2**	**0.0**
MALT				*e*SN	**Sn**	**13 57 07.1**	**-0.3**
MALT	**Malatya**	**1.42**	**39**	*e*Pn	**Pn**	**13 56 48.2**	**+0.1**
MALT				*e*Sn	**Sn**	**13 57 07.1**	**-0.3**
MYA	**Malataya**	**1.43**	**39**	*e*PN	**Pn**	**13 56 47.7**	**-0.6**
MYA				*e*SN	**Sn**	**13 57 07.5**	**-0.1**
MYA	**Malataya**	**1.43**	**39**	*e*Pn	**Pn**	**13 56 47.7**	**-0.6**
MYA				*e*Sn	**Sn**	**13 57 07.5**	**-0.1**

IDC ***22*** *13:56:44.8±1.4, 31°.75N×70°.09E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/33, mbtmp3.9/13, ML3.5/2, Error ellipse: s-maj=43.6km s-min=20.9km az=65.0*
ISCJB ***22*** *13:56:45.7±1.8, 31°.85N±0°.06×70°.23E±0°.08, h18km±12km, mb3.8/13, Error ellipse: s-maj=14.2km s-min=5.5km az=140.3*
NEIC ***22*** *13:56:50.2±0.8, 31°.82N×70°.35E, h35km, mb4.0/3, Error ellipse: s-maj=14.8km s-min=5.1km az=48.0*
NNC ***22*** *13:56:51.6±2.6, 32°.45N×70°.16E, h0km, mb3.7, Error ellipse: s-maj=61.0km s-min=22.3km az=100.0*
ISC 22 13:56:46.1±1.8, 31°.80N±0°.05×70°.12E±0°.06, h9km±11km, n72, σ1°18/77, mb3.8/13, 3C-8D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**1.69**	**54**	⇓P	**Pb**	**13 57 18.7**	**+1.3**
SARP	**Sargodha**	**2.17**	**86**	P	**Pb**	**13 57 26.7**	**+1.1**
CEP	**Cherat**	**2.52**	**36**	P	**Pb**	**13 57 30.4**	**-1.0**
KBL	**Kabul**	**2.88**	**342**	*e*P	**Pn**	**13 57 35.1**	**+3.0**
CHCP	**Chirah Chowk**	**3.23**	**54**	P	**Pn**	**13 57 40.2**	**+3.2**
SDNR	**Sundarnagar**	**5.85**	**91**	*e*PKP	**Pn**	**13 58 13.0**	**+0.1**
SDNR				*ex*	**Sn**	**13 59 21.6**	**+1.5**
SMLA	**Simla**	**6.05**	**95**	*i* P	**Pn**	**13 58 17.8**	**+2.0**
SMLA				*i* x	**Sn**	**13 59 27.5**	**+2.2**
SMLA				⇓AML	AML	13 59 30.0	
comp=N,2μm,0.2s							
SMLA				⇓AML	AML	13 59 30.7	
comp=E,2μm,0.2s							
KHET	**Khetri**	**6.17**	**126**	*ex*	**Pn**	**13 58 08.8**	**-8.6**
KHET				*e*S	**Sn**	**13 59 22.4**	**-5.7**
KHET				AML	AML	14 00 20.7	
comp=E,15nm,0.1s							
KHET				AML	AML	14 00 22.9	
comp=N,23nm,0.1s							
AJM	**Ajmer**	**6.61**	**142**	*e*PB	Px	13 58 54.0	
NDI	**New Delhi**	**6.88**	**115**	*ex*	**Pn**	**13 58 34.0**	**+6.9**
NDI				*e*S	**Sn**	**13 59 40.0**	**-5.5**
AYAN	**Aya Nagar**	**6.91**	**117**	*ex*	**Sn**	**13 59 45.9**	**-0.3**
AGRA	**Agra**	**8.19**	**122**	*e*S	**Sn**	**14 00 10.7**	**-7.3**
AGRA				AML	AML	14 01 28.8	
comp=N,56nm,0.5s							
AGRA				AML	AML	14 01 31.4	
comp=E,48nm,0.2s							
EKS2	**Erkin-Say**	**11.22**	**14**	Pn	**Pn**	**13 59 28.1**	**+1.5**
KK31	**Karatay Array**	**11.29**	**1**	⇑Pn	**Pn**	**13 59 27.4**	**0.0**
comp=E,4.8nm,0.8s,baz=156,slow=9.8,SNR=12							
KK31				⇓Sn	**Sn**	**14 01 31.2**	**-2.5**
comp=E,1.5nm,0.5s,baz=187,slow=21,SNR=5.9							
KKAR	**Karatay Array**	**11.29**	**1**	*e*P	**Pn**	**13 59 27.3**	**-0.2**
comp=E,4.7nm,0.7s							
AAK	**Ala-Archa**	**11.36**	**17**	*e*P	**Pn**	**13 59 29.2**	**+0.7**
comp=E,13nm,0.4s							
TKM2	**Tokmak 2**	**11.92**	**20**	⇓Pn	**Pn**	**13 59 35.3**	**-0.9**
comp=E,3.7nm,1.4s							
TKM2				⇑Sn	**Sn**	**14 01 47.8**	**-1.4**
comp=E,3.9nm,1.1s							
TKM2	**Tokmak 2**	**11.92**	**20**	P	**Pn**	**13 59 37.5**	**+1.3**
DANN	**Dangsing**	**12.30**	**103**	*e*P	**Pn**	**13 59 42.0**	**+0.6**
DANN	**Dangsing**	**12.30**	**103**	*e*P	**Pn**	**13 59 42.0**	**+0.6**
KOLN	**Koldanda**	**12.38**	**105**	*e*P	**Pn**	**13 59 41.8**	**-0.7**
KOLN	**Koldanda**	**12.38**	**105**	*e*P	**Pn**	**13 59 41.8**	**-0.7**
GKN	**Gorkha**	**13.15**	**103**	*e*P	**Pn**	**13 59 52.5**	**-0.5**
GKN	**Gorkha**	**13.15**	**103**	*e*P	**Pn**	**13 59 52.5**	**-0.5**
DMN	**Daman**	**13.67**	**104**	*e*P	**Pn**	**13 59 59.2**	**-1.0**
DMN	**Daman**	**13.67**	**104**	*e*P	**Pn**	**13 59 59.2**	**-1.0**
KKN	**Kakani**	**13.75**	**103**	*e*P	**Pn**	**14 00 00.1**	**-1.2**
comp=E,9.9nm,0.4s							
KKN	**Kakani**	**13.75**	**103**	*e*P	**Pn**	**14 00 00.1**	**-1.2**
comp=E,9.9nm,0.4s							
GUN	**Gumba**	**14.21**	**102**	*e*P	**Pn**	**14 00 07.4**	**-0.1**
comp=E,18nm,0.4s							
GUN	**Gumba**	**14.21**	**102**	*e*P	**Pn**	**14 00 07.4**	**-0.1**
comp=E,18nm,0.4s							
JIRN	**Jiri**	**14.55**	**102**	*e*P	**Pn**	**14 00 10.8**	**-1.4**
comp=E,8.3nm,0.3s							
JIRN	**Jiri**	**14.55**	**102**	*e*P	**Pn**	**14 00 10.8**	**-1.4**
comp=E,8.3nm,0.3s							
RAMN	**Ramite**	**15.15**	**104**	*e*P	**Pn**	**14 00 17.6**	**-2.7**
comp=E,8.7nm,0.4s							
RAMN	**Ramite**	**15.15**	**104**	*e*P	**Pn**	**14 00 17.6**	**-2.7**
comp=E,8.7nm,0.4s							
ODAN	**Odare**	**15.84**	**104**	*e*P	**Pn**	**14 00 27.0**	**-2.3**
ODAN	**Odare**	**15.84**	**104**	*e*P	**Pn**	**14 00 27.0**	**-2.3**
TAPN	**Taplejung**	**15.93**	**102**	*e*P	**Pn**	**14 00 29.2**	**-1.3**
comp=E,5.0nm,0.4s							
TAPN	**Taplejung**	**15.93**	**102**	*e*P	**Pn**	**14 00 29.2**	**-1.3**
comp=E,5.0nm,0.4s							
MK31	**Makanchi Array**	**17.65**	**29**	*e*P	**Pn**	**14 00 51.4**	**-0.7**
MKAR	**Makanchi Array**	**17.65**	**29**	P	**Pn**	**14 00 53.2**	**+1.1**
comp=E,0.1nm,0.3s,baz=204,slow=11,SNR=4.9							
MKAR	**Makanchi Array**	**17.65**	**29**	P	**Pn**	**14 00 53.2**	**+1.1**
AB31	**Akbulak array**	**19.04**	**339**	P	**Pn**	**14 01 08.7**	**-0.4**
comp=E,1.1nm,0.5s,baz=151,slow=11,SNR=30							
ABKAR	**Akbulak array**	**19.04**	**339**	*e*P	**Pn**	**14 01 08.5**	**-0.7**
comp=E,1.3nm,0.4s							
KURK	**Kurchatov**	**19.92**	**16**	P	**Pn**	**14 01 17.7**	**-1.9**
comp=E,0.1nm,0.3s,baz=207,slow=8.8,SNR=5.9							
KURK	**Kurchatov**	**19.92**	**16**	P	**Pn**	**14 01 17.7**	**-1.9**
AKTO	**Aktyubinsk**	**20.68**	**338**	P	**P**	**14 01 26.7**	**+0.5**
comp=E,4.9nm,0.8s,baz=157,slow=10,SNR=14							
AKTO	**Aktyubinsk**	**20.68**	**338**	⇓P	**P**	**14 01 28.3**	**+2.1**
comp=E,0.7nm,0.8s							
AKTO	**Aktyubinsk**	**20.68**	**338**	P	**P**	**14 01 26.7**	**+0.5**
ZRNK	**Zerenda**	**21.15**	**358**	⇑P	**P**	**14 01 31.0**	**-0.3**
comp=E,5.4nm,1.1s,mb3.8							
BVA0	**Borovoye Array**	**21.21**	**0**	⇓P	**P**	**14 01 31.9**	**0.0**
comp=E,0.6nm,0.8s,mb3.0,baz=170,slow=10,SNR=20							
BVAR	**Borovoye Array**	**21.21**	**0**	P	**P**	**14 01 32.0**	**+0.1**
comp=E,3.8nm,0.7s,mb3.8,baz=171,slow=10,SNR=27							
BVAR	**Borovoye Array**	**21.21**	**0**	P	**P**	**14 01 32.0**	**+0.1**
BRVK	**Borovoye**	**21.24**	**0**	⇓P	**P**	**14 01 31.0**	**-1.3**
comp=E,10.0nm,0.7s,mb4.2							
BRVK	**Borovoye**	**21.24**	**0**	*e*P	**P**	**14 01 32.2**	**-0.1**
comp=E,6.2nm,0.8s,mb4.0							
ZALV	**Zalesovo Beam**	**24.52**	**21**	P	**P**	**14 02 05.5**	**-0.1**
comp=E,0.9nm,0.4s,mb3.6,baz=215,slow=10,SNR=7.8							
ZALV	**Zalesovo Beam**	**24.52**	**21**	P	**P**	**14 02 05.5**	**-0.1**
SONM	**Songino Array**	**31.79**	**49**	P	**P**	**14 03 11.8**	**+1.2**
comp=E,0.4nm,0.9s,mb3.3,baz=251,slow=9.0,SNR=2.9							
SONM	**Songino Array**	**31.79**	**49**	P	**P**	**14 03 11.8**	**+1.2**
ARCES	**ARCESS Array B**	**45.25**	**340**	P	**P**	**14 05 03.5**	**+0.2**
comp=E,1.4nm,0.6s,mb4.0,baz=118,slow=7.3,SNR=8.2							
ARCES	**ARCESS Array B**	**45.25**	**340**	P	**P**	**14 05 03.5**	**+0.2**
SPITS	**Spitsbergen Ar**	**51.91**	**348**	P	**P**	**14 05 55.6**	**+1.1**
comp=E,7.9nm,1.0s,mb4.6,baz=118,slow=10,SNR=5.3							
SPITS	**Spitsbergen Ar**	**51.91**	**348**	P	**P**	**14 05 55.6**	**+1.1**
INK	**Inuvik**	**78.65**	**9**	P	**P**	**14 08 48.3**	**+0.3**
comp=E,0.4nm,0.8s,mb3.4,baz=357,slow=5.6,SNR=3.2							
INK	**Inuvik**	**78.65**	**9**	P	**P**	**14 08 48.3**	**+0.3**
WRA	**Warramunga Arr**	**80.17**	**121**	P	**P**	**14 08 57.3**	**+0.3**
comp=E,1.0nm,0.8s,mb3.8,baz=322,slow=5.3,SNR=7.0							
WRA	**Warramunga Arr**	**80.17**	**121**	P	**P**	**14 08 57.3**	**+0.3**
ASAR	**Alice Springs**	**82.21**	**124**	P	**P**	**14 09 07.9**	**+0.1**
comp=E,0.6nm,0.8s,mb3.6,baz=308,slow=5.2,SNR=8.7							
ASAR	**Alice Springs**	**82.21**	**124**	P	**P**	**14 09 07.9**	**+0.1**
YKA	**Yellowknife Ar**	**85.96**	**2**	P	**P**	**14 09 26.0**	**-0.3**
comp=E,0.4nm,0.5s,mb3.9,baz=350,slow=5.1,SNR=7.5							
YKA	**Yellowknife Ar**	**85.96**	**2**	P	**P**	**14 09 26.0**	**-0.3**
DLBC	**Dease Lake**	**88.54**	**10**	P	**P**	**14 09 40.7**	**+1.8**
comp=E,0.7nm,0.3s,mb4.4,baz=290,slow=2.9,SNR=2.8							
DLBC	**Dease Lake**	**88.54**	**10**	P	**P**	**14 09 40.7**	**+1.8**

IDC 22 14:07:24.2±1.3, 1°.31N×126°.93E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=102.7km s-min=17.9km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.33**	**184**	P	Pn	14 11 50.8	-1.3
0.2nm,0.3s,baz=330,slow=1.6,SNR=5.4							
FITZ	**Fitzroy Crossi**	**19.33**	**184**	*e*PKPpre	Pn	14 11 50.7	-1.4
WRA	**Warramunga Arr**	**22.33**	**161**	P	P	14 12 23.2	-0.5
1.8nm,0.6s,baz=340,slow=11,SNR=14							
ASAR	**Alice Springs**	**25.73**	**165**	P	P	14 12 57.0	+0.5
0.9nm,0.4s,baz=348,slow=12,SNR=16							
STKA	**Stephens Creek**	**35.81**	**158**	P	P	14 14 25.5	+0.1
1.1nm,0.7s,baz=326,slow=11,SNR=2.4							
MKAR	**Makanchi Array**	**59.65**	**326**	P	P	14 17 30.4	+0.2
0.6nm,0.4s,baz=134,slow=8.7,SNR=4.4							
KURK	**Kurchatov**	**63.88**	**328**	P	P	14 17 58.5	-0.1
1.4nm,0.6s,baz=129,slow=6.1,SNR=17							

ISCJB ***22*** *14:18:29.9±0.5, 39°.95N±0°.03×39°.98E±0°.03, h5km±5km, Error ellipse: s-maj=5.0km s-min=3.9km az=7.8*
ISK ***22*** *14:18:29.9, 39°.98N×40°.01E, h8km, MD2.8*
DDA ***22*** *14:18:29.7, 39°.98N×40°.01E, h7km±4km, Md2.9*
CSEM ***22*** *14:18:30.1±0.2, 39°.95N×39°.98E, h10km, MD2.9,

JOD2	Odawara 2	2.50 286	P	Pn	14 28 51.2	-1.5
JIZS	Izushimoda	2.59 273	P	Pn	14 28 52.5	-1.5
JAG	Ashikaga	2.77 312	P	Pn	14 28 57.1	+0.5
JRY	Ryogami san	2.92 300	P	Pn	14 28 58.6	+0.1
JYN	Shimob	2.99 288	P	Pn	14 28 58.8	-0.7
JYN			S	Sn	14 29 34.5	-1.2
MJAR	Matsushiro Arr	3.66 303	Pn	Pn	14 29 10.0	+1.2
	1.9nm,0.3s,baz=274,slow=20,SNR=26					
MJAR			Sn	Sn	14 29 52.5	+0.2
	1.4nm,0.3s,baz=284,slow=31,SNR=4.4					
MJAR	Matsushiro Arr	3.66 303	Pn	Pn	14 29 10.0	+1.2
MJAR			Sn	Sn	14 29 52.5	+0.2
MAJO	Matsushiro	3.66 303	eP	Pn	14 29 09.7	+1.0
MAT	Matsushiro	3.66 303	P	Pn	14 29 10.0	+1.2
MAT			S	Sn	14 29 53.6	+1.3
ASAJ	Asahikawa	9.52 3	Pn	Pn	14 30 28.7	-0.4
	0.5nm,0.3s,baz=82,slow=14,SNR=10.0					
ASAJ			Sn	Sn	14 32 14.7	-1.6
	0.2nm,0.3s,baz=66,slow=10.0,SNR=1.5					
ASAJ	Asahikawa	9.52 3	Pn	Pn	14 30 28.7	-0.4
ASAJ			Sn	Sn	14 32 14.7	-1.6
SONM	Songino Array	29.60 307	P	P	14 34 18.8	+1.4
	0.4nm,0.7s,mb3.3,baz=100,slow=9.3,SNR=2.6					
SONM	Songino Array	29.60 307	P	P	14 34 18.8	+1.4
ZALV	Zalesovo Beam	43.94 314	P	P	14 36 19.6	+0.5
	0.2nm,0.3s,mb3.3,baz=64,slow=6.6,SNR=2.4					
ZALV	Zalesovo Beam	43.94 314	P	P	14 36 19.6	+0.5
WRA	Warramunga Arr	54.73 189	P	P	14 37 42.0	+0.2
	0.4nm,0.8s,mb3.5,baz=2.0,slow=7.7,SNR=6.8					
WRA	Warramunga Arr	54.73 189	P	P	14 37 42.0	+0.2
ASAR	Alice Springs	58.45 189	P	P	14 38 09.9	+1.6
	0.2nm,0.9s,mb3.2,baz=7.6,slow=7.2,SNR=2.8					
ASAR	Alice Springs	58.45 189	P	P	14 38 09.9	+1.6

IDC 22 15:07:08.7±3.1,31°.59S×177°.73W,h0km,mb4.1/2, mb1 4.3/3,mb1mx3.9/17,mbtmp4.0/3,ML3.1/1,Error ellipse: s-maj=70.6km s-min=36.5km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.89	211	Pn	Pn	15 09 04.5	-0.2
	0.3nm,0.3s,baz=270,slow=1.0,SNR=6.1						
URZ				Sn	Sn	15 10 33.9	-0.8
	0.7nm,0.3s,baz=186,slow=12,SNR=6.2						
ASAR	Alice Springs	43.29	268	P	P	15 15 12.7	+0.3
	1.5nm,0.7s,baz=106,slow=7.5,SNR=31						
WRA	Warramunga Arr	44.38	273	P	P	15 15 21.0	-0.2
	1.0nm,0.4s,baz=113,slow=8.0,SNR=18						
FINES	FINESS Array B	146.34	340	PKPbc	PKPbc	15 26 49.6	-1.0
	3.7nm,0.9s,baz=45,slow=2.2,SNR=6.3						

*OMAN **22** 15:07:06.0±99.0, 33°.15N×57°.72E, h40km, Error ellipse: s-maj=64.0km s-min=9.5km az=6.0*
*BJI **22** 15:08:05.5, 28°.16N×56°.43E, h40km, mB5.1/24, mb4.7/30, Ms4.7/14, Ms7 4.3/14*
*IDC **22** 15:08:06.9±0.7, 28°.14N×57°.25E, h0km, mb4.3/23, mb1 4.4/27, mb1mx4.3/35, mbtmp4.3/27, ML4.2/3, MS3.7/14, Ms1 3.7/14, ms1mx3.5/40, Error ellipse: s-maj=19.0km s-min=12.4km az=8.0*
*ISCJB **22** 15:08:07.3±0.2, 28°.15N±0°.02×57°.17E±0°.02, h10km, mb4.6/100, MS3.9/17, Error ellipse: s-maj=3.3km s-min=2.9km az=20.0*
*SGS **22** 15:08:10.3, 28°.18N×57°.26E, h10km*
*MOS **22** 15:08:10.2±0.8, 28°.17N×57°.16E, h33km, mb4.9/50, Error ellipse: s-maj=7.0km s-min=4.5km az=121.7*
*THR **22** 15:08:12.1±0.4, 28°.32N×57°.14E, h14km±4km, ML4.4*
*NEIC **22** 15:08:13.2, 28°.21N×57°.14E, h40km, mb4.8/54, ML4.5(THR), After THR.*
*TEH **22** 15:08:14.0, 28°.18N×57°.15E, h13km*
*CSEM **22** 15:08:14.1±0.1, 28°.10N×57°.17E, h57km±1km, mb4.6/65, Ms3.8, Error ellipse: s-maj=3.1km s-min=2.8km az=139.0*

ISC 22 15:08:09.2±0.2, 28°.18N±0°.02×57°.21E±0°.02, h10km, (h38km±2.6km:pP-P),n539,σ1§16/547,mb4.5/100, MS3.9/17,24C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.94	219	ePg	Pg	15 08 30.3	+3.0
IBND				e		15 08 53.8	
	comp=Z,38μm,0.2s						
BNDS	Bandar-Abbas	1.21	230	ePg	Pg	15 08 35.0	+2.7
BNDS	Bandar-Abbas	1.21	230	ePg	Pg	15 08 35.4	+3.0
BNDS				AML	AML	15 08 55.9	
	comp=N,7μm,0.2s						
BNDS	Bandar-Abbas	1.21	230	ePg	Pg	15 08 35.4	+3.1
KRBR	Kerman	1.84	348	ePn	Pn	15 08 43.0	+2.2
KRBR				eSg	Sg	15 09 09.0	+0.7
KRBR	Kerman	1.84	348	ePg	Pg	15 08 43.2	-1.2
KRBR				AML	AML	15 09 17.1	
	comp=E,5μm,0.6s						
KRBR				AML	AML	15 09 18.5	
	comp=N,4μm,0.6s						
KRBR	Kerman	1.84	348	ePn	Pn	15 08 43.2	+2.4
KRBR				eSg	Sg	15 09 09.6	+1.3
BANOM	Banah	2.39	200	P	Pn	15 08 50.1	+1.7
BANOM	SNR=159						
BANOM				P		15 08 50.3	
	SNR=401						
BANOM				P		15 08 53.4	
	SNR=53						
BANOM	Banah	2.39	200	P	Pn	15 08 50.3	+1.9
	SNR=401						
NAZ	Nazwa, Dubai	3.47	204	P	Pb	15 09 10.8	+0.1
	SNR=14						
HATD	Hatta, Dubai	3.48	196	P	Pn	15 09 04.4	+1.1
	SNR=26						
HATD				P		15 09 09.9	
	SNR=24						
HATD	Hatta, Dubai	3.48	196	P	Pn	15 09 04.4	+1.1
	SNR=26						
ASHO	Ashiyiah	3.63	197	P	Pn	15 09 07.7	+2.2
	SNR=68						
ASHO				P		15 09 08.2	
	SNR=36						
ASHO				P		15 09 10.8	
	SNR=35						
ASHO	Ashiyiah	3.63	197	P	Pn	15 09 08.1	+2.6
	SNR=36						
IBAF	Bafgh	3.69	338	ePn	Pn	15 09 10.0	+3.8
IBAF				e		15 10 21.5	
	comp=Z,10μm,0.4s						
IBAF	Bafgh	3.69	338	ePn	Pn	15 09 10.0	+3.8
ISRV	Sarvestan	3.79	289	ePn	Pn	15 09 11.7	+4.1
ISRV				e		15 10 42.2	
	comp=Z,10μm,0.5s						
ISRV	Sarvestan	3.79	289	ePn	Pn	15 09 11.7	+4.1
IMEH	Mehriz	3.92	325	ePn	Pn	15 09 13.3	+3.9
IMEH				eSg	Sg	15 10 15.2	+0.2
IMEH				e		15 10 34.7	
	comp=Z,6μm,0.3s						
IMEH	Mehriz	3.92	325	ePn	Pn	15 09 13.3	+3.9
IMEH				eSg	Sg	15 10 15.2	+0.2
ASUD	Al Ashush, Dub	3.92	206	P	Pn	15 09 12.3	+2.9
	SNR=26						
ASUD	Al Ashush, Dub	3.92	206	P	Pn	15 09 12.3	+2.9
	SNR=26						
IPAR	Pars	4.00	295	ePn	Pn	15 09 14.8	+4.2
IPAR				e		15 10 41.7	
	comp=Z,8μm,0.4s						
IPAR	Pars	4.00	295	ePn	Pn	15 09 14.8	+4.2
IKOO	Kooshah	4.50	20	ePn	Pn	15 09 21.3	+3.9
IKOO				e		15 10 42.4	
	comp=Z,5μm,0.3s						
IKOO	Kooshah	4.50	20	ePn	Pn	15 09 21.3	+3.9
HOQ	Hoqain	4.58	179	P	Pn	15 09 18.6	+0.1
	SNR=25						
HOQ				P		15 09 18.7	
	SNR=69						
HOQ				P		15 09 18.8	
	SNR=84						
HOQ	Hoqain	4.58	179	P	Pn	15 09 18.7	+0.2
	SNR=69						
ICHK	Chekchek	4.72	330	ePn	Pn	15 09 24.3	+3.9
ICHK				e		15 10 53.9	
	comp=Z,4μm,0.4s						
ICHK	Chekchek	4.72	330	ePn	Pn	15 09 24.3	+3.9
ISAD	Sadrabad	4.82	321	ePn	Pn	15 09 25.7	+4.0
ISAD				e		15 11 01.7	
	comp=Z,3μm,0.3s						
ISAD	Sadrabad	4.82	321	ePn	Pn	15 09 25.7	+4.0
ARQ	Araqi	4.86	188	P	Pn	15 09 25.3	+2.9
ARQ	SNR=189						
ARQ				P		15 09 25.6	
	SNR=21						
ARQ	Araqi	4.86	188	P	Pn	15 09 25.3	+2.9
	SNR=189						
ITEG	Tejag	4.88	15	ePn	Pn	15 09 27.1	+4.5
ITEG				e		15 09 37.1	
	comp=Z,3μm,0.2s						
ITEG	Tejag	4.88	15	ePn	Pn	15 09 27.1	+4.5
IDAH	Dahanechah	5.09	26	ePn	Pn	15 09 30.1	+4.6
IDAH				e		15 09 54.6	
	comp=Z,2μm,0.3s						
IDAH	Dahanechah	5.09	26	ePn	Pn	15 09 30.1	+4.6
SMDO	Samad	5.16	171	P	Pn	15 09 26.9	+0.5
	SNR=47						
SMDO				P		15 09 27.1	
	SNR=32						
SMDO				P		15 09 27.3	
	SNR=28						
SMDO	Samad	5.16	171	P	Pn	15 09 27.1	+0.7
	SNR=32						
BSY	Bisya	5.41	180	P	Pn	15 09 32.7	+2.7
	SNR=37						
BSY				P		15 09 33.0	
	SNR=16						
IMON	Monand	5.42	22	ePn	Pn	15 09 33.8	+3.7
IMON				e		15 09 47.4	
	comp=Z,2μm,0.1s						
IMON	Monand	5.42	22	ePn	Pn	15 09 33.8	+3.7
BSYO	Bisya	5.43	180	P	Pn	15 09 33.0	+2.9
	SNR=16						
WBK	Wadi Bani Khal	5.77	164	P	Pn	15 09 34.8	0.0
	SNR=41						
WBK				P		15 09 35.6	
	SNR=13						
JMDO	Jabal Madar	5.84	172	P	Pn	15 09 37.7	+1.9
	SNR=12						
JMDO				P		15 09 37.8	
	SNR=21						
NASN	Na'in	5.97	322	ePn	Pn	15 09 40.0	+2.4
NASN	Na'in	5.97	322	ePn	Pn	15 09 40.7	+3.1
NASN	Na'in	5.97	322	ePn	Pn	15 09 40.7	+3.1
SHRT	Shahrakht	6.06	25	ePn	Pn	15 09 42.2	+3.4
SHRT	Shahrakht	6.06	25	ePn	Pn	15 09 42.2	+3.4
IGAR	Gharneh	6.14	315	ePn	Pn	15 09 43.1	+3.2
IGAR				e		15 09 45.3	
	comp=Z,1μm,0.1s						
IZEF	Zefreh	6.31	319	ePn	Pn	15 09 45.0	+2.7
IZEF				e		15 09 46.0	
	comp=Z,1μm,0.2s						
IZEF	Zefreh	6.31	319	ePn	Pn	15 09 45.0	+2.7
SLWS		6.78	242	P	Pn	15 09 50.5	+1.8
SLWS		6.78	242	P	Pn	15 09 50.5	+1.8
BTHS		7.05	236	P	Pn	15 09 53.0	+0.6
BTHS		7.05	236	P	Pn	15 09 53.0	+0.6
IKLH	Kolahrood	7.05	318	ePn	Pn	15 09 54.3	+1.9
IKLH				e		15 11 23.7	
	comp=Z,498nm,0.2s						
IKLH	Kolahrood	7.05	318	ePn	Pn	15 09 54.3	+1.9
IPIR	Pirpir	7.07	311	ePn	Pn	15 09 56.0	+3.4
IPIR				e		15 11 21.2	
	comp=Z,2μm,0.2s						
IPIR	Pirpir	7.07	311	ePn	Pn	15 09 56.0	+3.4
ISFB	Sefidab	7.48	327	ePn	Pn	15 10 01.6	+3.3
ISFB				e		15 12 23.5	
	comp=Z,630nm,0.6s						
ISFB	Sefidab	7.48	327	ePn	Pn	15 10 01.6	+3.3
IANJ	Anjilo	7.79	340	ePn	Pn	15 10 05.5	+3.0
IANJ	Anjilo	7.79	340	ePn	Pn	15 10 05.5	+3.0
KFJS		8.18	272	P	Pn	15 10 08.3	+0.3
QRN	Al-Qurain	8.20	276	eP	Pn	15 10 09.1	+0.9
QRN				AML	AML	15 11 38.5	
	comp=Z,184nm,0.3s						
ISHM	Shahmirzad	8.30	337	ePn	Pn	15 10 12.8	+3.3
ISHM	Shahmirzad	8.30	337	ePn	Pn	15 10 12.8	+3.3
ISRO	Mashad	8.33	13	ePn	Pn	15 10 13.8	+3.9
ISRO	Mashad	8.33	13	ePn	Pn	15 10 13.8	+3.9
IFIR	Firoozkooh	8.35	334	ePn	Pn	15 10 12.9	+2.7
IFIR	Firoozkooh	8.35	334	ePn	Pn	15 10 12.9	+2.7
IPAY	Payeh	8.38	10	ePn	Pn	15 10 14.3	+3.6
IPAY				e		15 11 31.9	
	comp=Z,248nm,0.1s						
IPAY	Payeh	8.38	10	ePn	Pn	15 10 14.3	+3.6
UMR	Umm Al-Rimmam	8.44	282	eP	Pn	15 10 12.7	+1.2
UMR				AML	AML	15 11 44.3	
	comp=Z,77nm,0.3s						
UMR	Umm Al-Rimmam	8.44	282	eP	Pn	15 10 12.7	+1.2
IMYA	Miami	8.50	16	ePn	Pn	15 10 16.0	+3.8
IMYA	Miami	8.50	16	ePn	Pn	15 10 16.0	+3.8
IAKL	Akhelmad	8.50	8	ePn	Pn	15 10 16.0	+3.7
RDF	Al-Radifah	8.53	277	eP	Pn	15 10 13.6	+0.9
RDF	Al-Radifah	8.53	277	eP	Pn	15 10 13.6	+0.8
IKIA	Kiasar	8.54	340	ePn	Pn	15 10 16.3	+3.4
IKIA				e		15 13 14.3	
	comp=Z,693nm,0.7s						
IKIA	Kiasar	8.54	340	ePn	Pn	15 10 16.3	+3.4
IDMV	Damavand	8.59	330	ePn	Pn	15 10 16.8	+3.3
IDMV				e		15 13 20.2	
	comp=Z,399nm,0.5s						
IDMV	Damavand	8.59	330	ePn	Pn	15 10 16.8	+3.3
IKRD	Kardeh	8.64	7	ePn	Pn	15 10 20.0	+5.8
IKRD				e		15 10 31.8	
	comp=Z,187nm,0.4s						
IKRD	Kardeh	8.64	7	ePn	Pn	15 10 20.0	+5.8
IALA	Alasht	8.72	336	ePn	Pn	15 10 18.4	+3.1
IALA	Alasht	8.72	336	ePn	Pn	15 10 18.4	+3.1
IGLO	Ghaloghah	8.78	342	ePn	Pn	15 10 19.2	+3.1
MIB	Mutribah	8.80	283	eP	Pn	15 10 17.2	+0.8
MIB				AML	AML	15 11 52.0	
	comp=Z,74nm,0.5s						
MIB	Mutribah	8.80	283	eP	Pn	15 10 17.2	+0.8
NAY	Al-Naaiem	8.82	279	eP	Pn	15 10 17.9	+1.2
NAY				AML	AML	15 11 53.3	
	comp=Z,23nm,0.6s						
NAY	Al-Naaiem	8.82	279	eP	Pn	15 10 17.9	+1.2
ASAO	Ashtian	8.83	318	ePn	Pn	15 10 19.0	+2.1
ASAO	Ashtian	8.83	318	ePn	Pn	15 10 19.8	+2.9
ASAO	Ashtian	8.83	318	ePn	Pn	15 10 19.8	+2.9
ISFR	Sfrayin	8.87	4	ePn	Pn	15 10 21.1	+3.7
ISFR	Sfrayin	8.87	4	ePn	Pn	15 10 21.1	+3.7
ISHV	Shirvan	9.34	2	ePn	Pn	15 10 27.3	+3.5
ISHV	Shirvan	9.34	2	ePn	Pn	15 10 27.3	+3.5
RBK	Rabkut	10.98	195	P	Pn	15 10 45.8	-0.6
	SNR=9.8						
IDHR	Dehrash	11.30	308	ePn	Pn	15 10 50.7	+0.1
IDHR				e		15 12 57.4	
	comp=Z,971nm,0.2s						
IDHR	Dehrash	11.30	308	ePn	Pn	15 10 50.7	+0.1
ABTO	Aybut	11.36	199	P	Pn	15 10 51.7	+0.1
	SNR=5.2						
ASYS		11.41	270	P	Pn	15 10 50.7	-1.5
ASYS		11.41	270	P	Pn	15 10 50.7	-1.6
BHD	Baghdad	12.15	298	ex	x	15 11 30.6	
BHD				ex	x	15 14 02.3	
GNI	Garni	15.76	322	Pn	Pn	15 11 53.5	+2.4
	comp=Z,0.7nm,0.3s,baz=217,slow=18,SNR=2.6						
GNI				LR	LR	15 18 38.0	
	comp=Z,163nm,21.4s,baz=89,slow=40						
GNI	Garni	15.76	322	P	Pn	15 11 53.4	+2.3
GNI	Garni	15.76	322	ceP	Pn	15 11 50.2	-1.0
GNI				pmax	pmax		
	comp=Z,25nm,1.0s						
GNI	Garni	15.76	322	P	Pn	15 11 53.4	+2.2
ASF	Jabal al Asfar	18.01	288	P	Pn	15 12 19.4	-0.2
	comp=Z,0.6nm,0.3s,baz=306,slow=3.7,SNR=4.3						
ASF				S	Sn	15 15 26.9	-14
	comp=Z,0.6nm,0.3s,baz=294,slow=9.7,SNR=2.7						
ASF				LR	LR	15 21 06.4	
	comp=Z,272nm,18.0s,baz=125,slow=43						
ASF	Jabal al Asfar	18.01	288	P	Pn	15 12 19.4	-0.2
ASF				S	Sn	15 15 26.9	-14
ASF	Jabal al Asfar	18.01	288	P	Pn	15 12 19.4	-0.2
ASF				S	Sn	15 15 26.9	-14
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF				smax			
	comp=N,1.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,272nm,18.0s						
ZEI	Tsey	18.12	327	eP	Pn	15 12 23.7	+2.9
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEI	Tsey	18.12	327	eP	Pn	15 12 23.7	+2.9
	comp=Z,10.0nm,0.6s						
KK31	Karatay Array	18.36	32	P	Pn	15 12 25.4	+1.6
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KK31	Karatay Array	18.36	32	P	Pn	15 12 25.4	+1.6
	comp=Z,2.0nm,0.4s						
KKAR	Karatay Array	18.36	32	eP	Pn	15 12 25.0	+1.2
	comp=Z,4.7nm,0.6s						
KKAR	Karatay Array	18.36	32	eP	Pn	15 12 25.0	+1.2
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KKAR	Karatay Array	18.36	32	eP	Pn	15 12 25.0	+1.2
	comp=Z,4.7nm,0.6s						
KSH	Kashi	19.21	49	P	Pn	15 12 30.1	-4.1
KSH				pP	pP	15 12 39.3	+3.2
KSH				sP	sP	15 12 45.1	+7.7
KSH				PP		15 12 47.1	
KSH				S	Sn	15 15 53.5	-16
KSH				pmax	pmax		
	comp=Z,13nm,1.0s						
KSH				pmax	pmax		
	comp=Z,140nm,6.2s						
KSH				LR	LR		
	comp=N,430nm,6.9s						
KSH				LR	LR		
	comp=E,280nm,8.6s						
KSH				LR	LR		
	comp=Z,290nm,7.6s						
AML	Almayashu	19.32	40	P	Pn	15 12 35.8	+0.3
	SNR=14						
AML				P		15 12 35.8	
	SNR=14						
MMAI	Mount Meron Ar	19.37	290	P	Pn	15 12 33.8	-2.4
	comp=Z,1.0nm,0.3s,baz=102,slow=12,SNR=4.3						
MMAI				S	Sn	15 16 05.4	-8.1
	comp=Z,0.5nm,0.3s,baz=304,slow=48,SNR=1.7						
MMAI				LR	LR	15 21 52.8	
	comp=Z,241nm,20.5s,baz=125,slow=42						
MMAI	Mount Meron Ar	19.37	290	P	Pn	15 12 33.8	-2.4
MMAI				S	Sn	15 16 05.4	-8.1
MMAI	Mount Meron Ar	19.37	290	P	Pn	15 12 33.8	-2.4
EIL	Elat	19.54	280	P	Pn	15 12 38.2	0.0
	comp=Z,0.7nm,0.3s,baz=60,slow=5.9,SNR=5.2						
EIL				S	Sn	15 16 13.3	-4.3
	comp=Z,0.4nm,0.3s,baz=174,slow=21,SNR=1.8						
EIL	Elat	19.54	280	P	Pn	15 12 38.2	0.0
EIL				S	Sn	15 16 13.3	-4.3
EIL	Elat	19.54	280	P	Pn	15 12 38.2	0.0
KIV	Kislovodsk	19.59	327	eP	Pn	15 12 39.6	+1.0
	comp=Z,23nm,0.8s						
KIV	Kislovodsk	19.59	327	eP	Pn	15 12 36.0	-2.7
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
KIV	Kislovodsk	19.59	327	eP	Pn	15 12 39.6	+0.9
	comp=Z,23nm,0.8s						
EKS2	Erkin-Say	19.72	39	P	Pn	15 12 40.4	+0.1
	SNR=16						
EKS2				P		15 12 40.4	
	SNR=16						
EKS2	Erkin-Say	19.72	39	eP	Pn	15 12 40.0	-0.3
	comp=Z,27nm,1.0s						
EKS2	Erkin-Say	19.72	39	eP	Pn	15 12 40.0	-0.2
EKS2				pmax	pmax		
	comp=Z,27nm,1.0s						
EKS2	Erkin-Say	19.72	39	eP	Pn	15 12 40.0	-0.2
	comp=Z,27nm,1.0s						
AAK	Ala-Archa	20.10	40	P	P	15 12 44.6	+1.7
	SNR=15						
AAK				P		15 12 44.6	
	SNR=15						
AAK	Ala-Archa	20.10	40	eP	P	15 12 44.1	+1.2
	comp=Z,54nm,0.9s						
AAK	Ala-Archa	20.10	40	iP	P	15 12 44.6	+1.7
AAK	Ala-Archa	20.10	40	eP	P	15 12 44.1	+1.2
	comp=Z,54nm,0.9s						
KBK	Karagaybulak	20.37	40	P	P	15 12 48.0	+2.1
	SNR=8.3						
KBK				P		15 12 48.0	
	SNR=8.3						
USP	Ospenovka	20.52	38	P	P	15 12 48.0	+0.6
	SNR=8.8						
USP				P		15 12 48.0	
	SNR=8.8						
TKM2	Tokmak 2	20.91	40	P	P	15 12 53.1	+1.4
	SNR=8.6						
TKM2				P		15 12 53.1	
	SNR=8.6						
TKM2	Tokmak 2	20.91	40	eP	P	15 12 52.0	+0.3
	comp=Z,13nm,1.1s						
TKM2	Tokmak 2	20.91	40	iP	P	15 12 53.1	+1.4
TKM2	Tokmak 2	20.91	40	iP	P	15 12 53.1	+1.4
AB31	Akbulak array	21.15	5	iP	P	15 12 55.1	+0.9
AB31				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.4						
AB31	Akbulak array	21.15	5	iP	P	15 12 55.1	+0.9
	comp=Z,10.0nm,0.5s,mb4.4						
ABKAR	Akbulak array	21.15	5	eP	P	15 12 55.1	+0.9
	comp=Z,23nm,0.7s,mb4.6						
ABKAR	Akbulak array	21.15	5	eP	P	15 12 55.1	+0.9
	comp=Z,23nm,0.7s,mb4.6						
ATD	Arta Tunnel	21.34	222	LR	LR	15 22 38.7	
	comp=Z,131nm,19.1s,MS3.3,baz=82,slow=41						
CSS	Prodhromos	21.41	294	eP	P	15 12 55.6	-1.6
CSS	Prodhromos	21.41	294	eP	P	15 12 55.6	-1.6
AKTK	Aktyubinsk	22.23	1	P	P	15 13 06.9	+1.1
	comp=Z,256nm,19.5s						
AKTO	Aktyubinsk	22.23	1	P	P	15 13 06.9	+1.1
	comp=Z,31nm,0.7s,mb4.8,baz=178,slow=12,SNR=55						
AKTO				LR	LR	15 23 24.3	
	comp=Z,256nm,19.4s,MS3.7,baz=292,slow=41						
AKTO	Aktyubinsk	22.23	1	P	P	15 13 06.9	+1.1
AKTO	Aktyubinsk	22.23	1	P	P	15 13 06.9	+1.1
AKTO				pmax	pmax		
	comp=Z,31nm,0.7s,mb4.8						
AKTO				MLR	MLR		
	comp=Z,256nm,19.5s,MS3.6						
AKTO	Aktyubinsk	22.23	1	P	P	15 13 06.9	+1.1
BR131	Keskin Array S	22.62	307	eP	P	15 13 11.9	+1.8
	comp=Z,13nm,0.8s,mb4.4						
BR131	Keskin Array S	22.62	307	eP	P	15 13 11.9	+1.8
	comp=Z,13nm,0.8s,mb4.4						
BRTR	Keskin Array B	22.62	307	P	P	15 13 11.8	+1.7
	comp=Z,7.8nm,0.7s,mb4.2,baz=114,slow=11,SNR=39						
BRTR	Keskin Array B	22.62	307	P	P	15 13 11.8	+1.7
BRTR	Keskin Array B	22.62	307	P	P	15 13 11.8	+1.7
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRTR	Keskin Array B	22.62	307	P	P	15 13 11.8	+1.7
	comp=Z,8.0nm,0.7s,mb4.3						
KOLN	Koldanda	23.30	85	eP	P	15 13 17.1	-0.2
	comp=Z,6.4nm,0.5s,mb4.3						
KOLN	Koldanda	23.30	85	eP	P	15 13 17.1	-0.2
	comp=Z,6.4nm,0.5s,mb4.3						
KOLN	Koldanda	23.30	85	eP	P	15 13 17.1	-0.2
	comp=Z,6.4nm,0.5s,mb4.3						
DANN	Dangsing	23.37	83	eP	P	15 13 18.7	+0.6
	comp=Z,39nm,0.5s,mb5.1						

comp=Z,20nm,0.6s,mb4.8
PKI Pulchoki 24.91 85 *e*P **P 15 13 32.5 +0.1**
comp=Z,20nm,0.6s,mb4.8
GUN Gumba 25.28 84 *e*P **P 15 13 35.9 +0.1**
comp=Z,25nm,0.6s,mb4.9
GUN Gumba 25.28 84 *e*P **P 15 13 35.9 +0.1**
comp=Z,25nm,0.6s,mb4.9
GUN Gumba 25.28 84 *e*P **P 15 13 35.9 +0.1**
comp=Z,25nm,0.6s,mb4.9
JIRN Jiri 25.59 84 *e*P **P 15 13 38.5 -0.1**
comp=Z,35nm,0.6s,mb5.0
JIRN Jiri 25.59 84 *e*P **P 15 13 38.5 -0.1**
comp=Z,35nm,0.6s,mb5.1
JIRN Jiri 25.59 84 *e*P **P 15 13 38.5 -0.1**
comp=Z,35nm,0.6s,mb5.1
RAMN Ramite 26.05 86 *e*P **P 15 13 42.2 -0.6**
comp=Z,14nm,0.7s,mb4.6
RAMN Ramite 26.05 86 *e*P **P 15 13 42.2 -0.6**
comp=Z,14nm,0.7s,mb4.6
RAMN Ramite 26.05 86 *e*P **P 15 13 42.2 -0.6**
comp=Z,14nm,0.7s,mb4.6
BVA0 Borovoye Array 26.67 18 *i*P **P 15 13 48.3 +0.2**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
BVA0 Borovoye Array 26.67 18 *i*P **P 15 13 48.3 +0.2**
comp=Z,3.0nm,1.0s,mb3.8
BVAR Borovoye Array 26.67 18 P **P 15 13 48.3 +0.3**
comp=Z,8.5nm,0.7s,mb4.4,baz=198,slow=9.0,SNR=69
BVAR PcP PcP 15 17 11.2 -0.4
comp=Z,0.4nm,0.6s,baz=270,slow=1.4,SNR=3.5
BVAR LR LR 15 25 58.6
comp=Z,284nm,19.1s,MS3.8,baz=260,slow=40
BVAR Borovoye Array 26.67 18 P **P 15 13 48.3 +0.3**
BVAR PcP PcP 15 17 11.2 -0.4
BVAR Borovoye Array 26.67 18 P **P 15 13 48.3 +0.2**
BVAR 15 17 11.2
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR MLR MLR
comp=Z,284nm,19.1s
BVAR Borovoye Array 26.67 18 P **P 15 13 48.3 +0.2**
comp=Z,9.0nm,0.7s,mb4.4
BRVK Borovoye 26.67 18 P **P 15 13 48.2 +0.1**
comp=Z,26nm,1.5s,mb4.5
BRVK Borovoye 26.67 18 P **P 15 13 48.2 +0.1**
BRVK pmax pmax
comp=Z,26nm,1.5s,mb4.5
BRVK Borovoye 26.67 18 P **P 15 13 48.2 +0.1**
comp=Z,26nm,1.5s,mb4.5
VSR Storozhevoye 26.73 334 *e*P **P 15 13 47.7 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
VSR pmax pmax
comp=N,20nm,1.5s
VSR pmax pmax
comp=E,4.0nm,0.8s
VSR Storozhevoye 26.73 334 *e*P **P 15 13 47.7 -0.9**
comp=E,20nm,1.5s,mb4.4
TAPN Taplejung 26.97 85 *e*P **P 15 13 50.8 -0.2**
comp=E,12nm,0.9s,mb4.4
TAPN Taplejung 26.97 85 *e*P **P 15 13 50.8 -0.2**
comp=E,12nm,0.9s,mb4.4
TAPN Taplejung 26.97 85 *e*P **P 15 13 50.8 -0.2**
comp=E,12nm,0.9s,mb4.4
MK31 Makanchi Array 27.04 40 *e*P **P 15 13 51.1 -0.4**
MK31 Makanchi Array 27.04 40 *i*P **P 15 13 51.2 -0.3**
MK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
MK31 Makanchi Array 27.04 40 *i*P **P 15 13 51.2 -0.3**
comp=Z,3.0nm,0.5s,mb4.1
MKAR Makanchi Array 27.04 40 P **P 15 13 51.5 +0.1**
comp=Z,4.6nm,0.7s,mb4.1,baz=227,slow=8.2,SNR=27
MKAR PcP PcP 15 17 11.9 -0.7
comp=Z,0.4nm,0.6s,baz=167,slow=2.2,SNR=3.1
MKAR Makanchi Array 27.04 40 P **P 15 13 51.5 +0.1**
MKAR PcP PcP 15 17 11.9 -0.7
MKAR Makanchi Array 27.04 40 P **P 15 13 51.5 0.0**
MKAR 15 17 11.9
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 27.04 40 P **P 15 13 51.5 0.0**
comp=Z,5.0nm,0.7s,mb4.2
KURK Kurchatov 27.73 30 P **P 15 13 57.1 -0.6**
comp=Z,6.0nm,0.7s,mb4.3,baz=229,slow=8.5,SNR=71
KURK LR LR 15 26 31.8
comp=Z,160nm,18.9s,MS3.6,baz=335,slow=40
KURK Kurchatov 27.73 30 *e*P **P 15 13 58.0 +0.3**
comp=Z,6.3nm,0.9s,mb4.2
KURK Kurchatov 27.73 30 *ce*P **P 15 13 57.8 +0.1**
KURK pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
KURK Kurchatov 27.73 30 *e*P **P 15 13 57.8 +0.1**
comp=Z,4.0nm,0.7s,mb4.2
WMQ Urumqi 28.98 49 P **P 15 14 09.0 +0.2**
WMQ pP pP 15 14 20.8 +8.9
WMQ sP sP 15 14 26.3 +13
WMQ pmax pmax
comp=Z,14nm,0.6s,mb4.9
WMQ pmax pmax
comp=Z,440nm,6.8s
TESR 30.15 316⇑*i*P **P 15 14 19.0 -0.2**
MLR Muntele Rosu 30.15 313⇑P **P 15 14 22.9 +3.7**
MLR Muntele Rosu 30.15 313⇑*i*P **P 15 14 22.9 +3.7**
OBN Obninsk 30.78 337⇑*e*P **P 15 14 24.7 +0.1**
OBN *e* 15 15 26.9
OBN *e*SS SS 15 21 14.6 -24
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
OBN MLR MLR
comp=Z,200nm,18.0s,MS3.8
OBN Obninsk 30.78 337 *e*P **P 15 14 24.7 +0.1**
comp=Z,6.0nm,0.8s,mb4.5
AKASG Malin Array Be 30.88 324 P **P 15 14 24.6 -0.9**
comp=Z,5.3nm,0.7s,mb4.5,baz=132,slow=8.5,SNR=19
AKASG Malin Array Be 30.88 324 P **P 15 14 24.6 -0.9**
AKASG Malin Array Be 30.88 324 P **P 15 14 24.6 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 30.88 324 P **P 15 14 24.6 -0.9**
comp=Z,5.0nm,0.7s,mb4.5
AKBB Malin Array Si 30.88 324 *e*P **P 15 14 24.6 -1.0**
AKBB Malin Array Si 30.88 324 *e*P **P 15 14 24.6 -0.9**
AKBB Malin Array Si 30.88 324 *e*P **P 15 14 24.6 -0.9**
KIEV Kiev 30.88 324 *e*P **P 15 14 24.4 -1.2**
comp=Z,8.1nm,0.6s,mb4.7
KIEV Kiev 30.88 324 *c i*P **P 15 14 24.5 -1.1**
KIEV Kiev 30.88 324 *i*P **P 15 14 24.5 -1.1**
VTS Vitosha 31.00 307⇓P **P 15 14 27.8 +1.1**
VTS Vitosha 31.00 307⇓*i*P **P 15 14 27.8 +1.1**
VTS Vitosha 31.00 307 P **P 15 14 27.8 +1.1**
BURAR Bucovina Array 31.52 317⇑P **P 15 14 31.5 +0.3**
BURAR Bucovina Array 31.52 317⇑*i*P **P 15 14 31.5 +0.3**
BUR08 Bucovina Ar. S 31.54 317 *e*P **P 15 14 31.5 +0.1**
BUR08 Bucovina Ar. S 31.54 317 *e*P **P 15 14 31.5 +0.1**
ZAA0 Zalesovo Array 32.72 30 *e*P **P 15 14 41.2 -0.5**
ZAA0 Zalesovo Array 32.72 30 *e*P **P 15 14 41.2 -0.5**
ZALV Zalesovo Beam 32.72 30 P **P 15 14 41.3 -0.4**
comp=Z,14nm,0.6s,mb5.1,baz=246,slow=9.3,SNR=82
ZALV PcP PcP 15 17 25.3 -1.8
comp=Z,0.4nm,0.4s,baz=220,slow=3.8,SNR=2.6
ZALV LR LR 15 29 51.9
comp=Z,158nm,19.3s,MS3.7,baz=246,slow=40
ZALV Zalesovo Beam 32.72 30 P **P 15 14 41.3 -0.4**
ZALV PcP PcP 15 17 25.3 -1.8
ZALV Zalesovo Beam 32.72 30 P **P 15 14 41.3 -0.4**
ZALV 15 17 25.3
ZALV pmax pmax
comp=Z,14nm,0.6s,mb5.1
ZALV MLR MLR
comp=Z,158nm,19.3s,MS3.7
ZALV Zalesovo Beam 32.72 30 P **P 15 14 41.3 -0.4**
comp=Z,14nm,0.6s,mb5.1
DRGR 32.73 314⇓P **P 15 14 42.3 +0.4**
DRGR 32.73 314⇓*i*P **P 15 14 42.3 +0.4**
DRGR 32.73 314 P **P 15 14 42.3 +0.4**
UZH Uzhgorod 33.72 317 *e*P **P 15 14 50.2 -0.4**
UZH Uzhgorod 33.72 317 *e*P **P 15 14 50.2 -0.4**
KOLS Kolonicke sedl 33.86 317 *e*P **P 15 14 53.2 +1.5**
KOLS Kolonicke sedl 33.86 317 *e*P **P 15 14 53.2 +1.5**
KOLS Kolonicke sedl 33.86 317 *e*P **P 15 14 53.2 +1.5**
CRVS Cervenica-Dubn 34.34 317 *e*P **P 15 14 56.1 +0.2**
CRVS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CRVS Cervenica-Dubn 34.34 317 *e*P **P 15 14 56.1 +0.2**
CRVS Cervenica-Dubn 34.34 317 *e*P **P 15 14 56.1 +0.2**
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 34.77 316 *e*P **P 15 15 00.4 +0.8**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 34.77 316 *e*P **P 15 15 00.4 +0.8**
KECS Kecovo 34.77 316 *e*P **P 15 15 00.4 +0.8**
comp=Z,2.0nm,0.9s,mb4.0
PSZ Piszkesteto 34.93 315⇑P **P 15 15 01.1 +0.1**
PSZ Piszkesteto 34.93 315⇑*i*P **P 15 15 01.0 0.0**
PSZ Piszkesteto 34.93 315 P **P 15 15 01.1 +0.1**
PKSM Moragy 35.18 311⇑P **P 15 15 03.6 +0.4**
PKSM Moragy 35.18 311⇑*i*P **P 15 15 03.6 +0.4**
PKSM Moragy 35.18 311 P **P 15 15 03.6 +0.4**
VYHS Vyhne 35.79 315 *e*P **P 15 15 08.6 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VYHS Vyhne 35.79 315 *e*P **P 15 15 08.6 +0.2**
VYHS Vyhne 35.79 315 *e*P **P 15 15 08.6 +0.2**
comp=Z,4.0nm,0.8s,mb4.4
OJC Ojcow 35.86 318 *e*P **P 15 15 09.0 0.0**
OJC Ojcow 35.86 318 *e*P **P 15 15 09.0 0.0**
OJC Ojcow 35.86 318 *e*P **P 15 15 09.0 0.0**
OKC Ostrava-Krasne 36.70 317 *e*P **P 15 15 15.3 -0.8**
OKC Ostrava-Krasne 36.70 317 *e*P **P 15 15 15.3 -0.8**
OKC Ostrava-Krasne 36.70 317 *e*P **P 15 15 15.3 -0.8**
GTA Gaotai 36.83 61 *e*P **P 15 15 18.0 +0.6**
GTA pP pP 15 15 28.3 +7.8
GTA S **S 15 20 58.9 -2.8**
GTA pmax pmax
comp=Z,14nm,0.7s,mb4.9
GTA pmax pmax
comp=Z,200nm,5.2s
GTA LR LR
comp=N,180nm,15.7s,MS4.1
GTA LR LR
comp=E,210nm,16.6s,MS4.1
GTA LR LR
comp=Z,230nm,16.1s,MS4.0
MORC Moravsky Berou 37.04 317 *e*P **P 15 15 18.1 -1.0**
comp=Z,6.5nm,0.8s,mb4.5
MORC Moravsky Berou 37.04 317⇓P **P 15 15 18.8 -0.3**
MORC Moravsky Berou 37.04 317⇓*i*P **P 15 15 18.8 -0.3**
MORC Moravsky Berou 37.04 317 *e*P **P 15 15 18.1 -1.0**
comp=Z,6.5nm,0.8s,mb4.5
NVLJ Novalja 37.35 307 P **P 15 15 21.1 -0.6**
DPC Dobruska-Polom 37.98 317 *e*P **P 15 15 26.4 -0.6**
DPC Dobruska-Polom 37.98 317 *e*P **P 15 15 26.4 -0.6**
DPC *ex* x 15 15 31.3
DPC Dobruska-Polom 37.98 317 *e*P **P 15 15 26.4 -0.6**
UPC Upice 38.22 317 *e*P **P 15 15 28.8 -0.2**
UPC *e* 15 15 36.2
UPC Upice 38.22 317 *e*P **P 15 15 28.8 -0.2**
UPC *ep*P pP 15 15 36.2 +4.1
UPC Upice 38.22 317 *e*P **P 15 15 28.8 -0.2**
TRI Trieste 38.35 309 *e*P **P 15 15 29.8 -0.4**
comp=Z,8.8nm,0.7s,mb4.6
TRI Trieste 38.35 309 *e*P **P 15 15 29.8 -0.4**
TRI pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
TRI Trieste 38.35 309 *e*P **P 15 15 29.8 -0.4**
comp=Z,8.8nm,0.7s,mb4.6
MOA Molln 38.51 313⇑*i*P **P 15 15 31.5 -0.1**
comp=Z,8.7nm,0.7s,mb4.6
MOA Molln 38.51 313 P **P 15 15 31.5 0.0**
comp=Z,8.7nm,0.7s,mb4.6
JOF Joensuu 38.63 341 *e*P **P 15 15 31.8 -0.5**
JOF Joensuu 38.63 341 *ep* **P 15 15 31.8 -0.5**
JOF Joensuu 38.63 341 *e*P **P 15 15 31.8 -0.5**
PRU Pruhonice 38.94 316 *e*P **P 15 15 33.7 -1.4**
PRU Pruhonice 38.94 316 *e*P **P 15 15 33.7 -1.4**
PRU Pruhonice 38.94 316 *e*P **P 15 15 33.7 -1.4**
GERES GERESS Array B 39.14 314 P **P 15 15 36.3 -0.5**
comp=Z,2.8nm,0.6s,mb4.2,baz=117,slow=8.7,SNR=20
GERES PcP PcP 15 17 45.8 -0.4
comp=Z,1.3nm,0.7s,baz=131,slow=3.7,SNR=5.7
GERES LR LR 15 34 03.6
comp=Z,118nm,18.4s,MS3.8,baz=11,slow=40
GERES GERESS Array B 39.14 314 P **P 15 15 36.3 -0.5**
GERES PcP PcP 15 17 45.8 -0.4
GERES GERESS Array B 39.14 314 P **P 15 15 36.3 -0.5**
GERES 15 17 45.8
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES MLR MLR
comp=Z,118nm,18.5s
FINES FINESS Array B 39.19 337 P **P 15 15 36.8 -0.3**
comp=Z,1.6nm,0.5s,mb4.0,baz=138,slow=8.9,SNR=18
FINES FINESS Array B 39.19 337 P **P 15 15 36.8 -0.3**
FINES FINESS Array B 39.19 337 P **P 15 15 36.8 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
KHC Kasperske Hory 39.30 314 *e*P **P 15 15 37.5 -0.6**
comp=Z,5.6nm,0.6s,mb4.5
KHC Kasperske Hory 39.30 314 *e*P **P 15 15 37.6 -0.5**
KHC *e* 15 15 45.8
KHC Kasperske Hory 39.30 314 *e*P **P 15 15 37.6 -0.5**
KHC *ep*P pP 15 15 45.8 +4.6
CMAR Chiang Mai Arr 39.36 95 P **P 15 15 37.9 -1.1**
comp=Z,0.3nm,0.4s,mb3.4,baz=298,slow=9.2,SNR=4.3
CMAR PcP PcP 15 17 47.9 +0.4
comp=Z,0.3nm,0.3s,baz=282,slow=4.2,SNR=4.9
CMAR LR LR 15 34 36.6
comp=Z,74nm,20.1s,MS3.5,baz=290,slow=40
CMAR Chiang Mai Arr 39.36 95 P **P 15 15 37.9 -1.1**
CMAR PcP PcP 15 17 47.9 +0.4
CMAR Chiang Mai Arr 39.36 95 P **P 15 15 37.9 -1.1**
CMAR 15 17 47.9
CMAR MLR MLR
comp=Z,75nm,20.1s
ABTA Abfaltersbach 39.41 310⇑*i*P **P 15 15 38.8 -0.3**
comp=Z,6.6nm,0.6s,mb4.5
ABTA Abfaltersbach 39.41 310 P **P 15 15 38.8 -0.3**
comp=Z,6.6nm,0.6s,mb4.5
LZH Lanzhou 39.96 66 *e*P **P 15 15 44.0 +0.2**
LZH pP pP 15 15 55.5 +8.6
LZH PP PP 15 17 20.1 +4.5
LZH pmax pmax
comp=Z,23nm,1.0s,mb4.9
LZH pmax pmax
comp=Z,76nm,4.7s
LZH LR LR
comp=N,380nm,12.7s,MS4.5
LZH LR LR
comp=E,330nm,13.2s,MS4.5
LZH LR LR
comp=Z,500nm,16.8s,MS4.4
WTTA Wattenberg 40.11 311⇑*i*P **P 15 15 44.4 -0.5**
comp=Z,15nm,0.6s,mb4.9
WTTA Wattenberg 40.11 311 P **P 15 15 44.4 -0.5**
comp=Z,15nm,0.6s,mb4.9
MOY Mondy 40.14 42 *e*P **P 15 15 46.2 +1.1**
CLL Collm 40.28 317⇑*i*P **P 15 15 46.0 -0.2**
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.5
CLL Collm 40.28 317⇑*i*P **P 15 15 46.0 -0.2**
comp=Z,11nm,1.0s,mb4.5
CD2 Chengdu 40.36 74 *e*P **P 15 15 47.3 +0.1**
CD2 pP pP 15 15 59.5 +9.2
CD2 sP sP 15 16 05.3 +14
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CD2 pmax pmax
comp=Z,30nm,5.2s
MOTA Moosalm 40.48 311⇓*i*P **P 15 15 47.0 -1.0**
comp=Z,9.3nm,0.6s,mb4.7
MOTA Moosalm 40.48 311 P **P 15 15 47.0 -1.0**
comp=Z,9.3nm,0.6s,mb4.7
KMI Kunming 40.63 83 P **P 15 15 48.8 -0.7**
KMI pmax pmax
comp=Z,21nm,1.0s,mb4.7
FETA Feichten 40.67 310 *i*P **P 15 15 49.0 -0.5**
comp=Z,9.8nm,0.6s,mb4.6,SNR=7.2
FETA Feichten 40.67 310 P **P 15 15 49.0 -0.5**
comp=Z,9.8nm,0.6s,mb4.6,SNR=7.2
RETA Reutte 40.74 311⇑*i*P **P 15 15 48.9 -1.2**
comp=Z,7.3nm,0.7s,mb4.4,SNR=10.0
RETA Reutte 40.74 311 P **P 15 15 48.9 -1.2**
comp=Z,7.3nm,0.7s,mb4.4,SNR=10.0
KEST Kesra 40.98 293 P **P 15 15 53.5 +1.3**
comp=Z,1.5nm,0.7s,mb3.7,baz=86,slow=22,SNR=4.4
KEST Kesra 40.98 293 P **P 15 15 53.5 +1.3**
ZAK Zakamensk 41.15 44 *e*P **P 15 15 50.5 -2.9**
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.8
DAVA Damuels 41.29 311⇑*i*P **P 15 15 53.8 -0.9**
comp=Z,20nm,0.6s,mb4.9,SNR=13
DAVA Damuels 41.29 311 P **P 15 15 53.8 -0.8**
comp=Z,20nm,0.6s,mb4.9,SNR=13
PGF Pioggiola 41.30 303 *e*P **P 15 15 54.2 -0.6**
comp=Z,8.2nm,0.8s,mb4.1
PGF Pioggiola 41.30 303 *e*P **P 15 15 54.2 -0.6**
comp=Z,8.2nm,0.8s,mb4.4
PGF Pioggiola 41.30 303 *e*P **P 15 15 54.2 -0.6**
PGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
PGF Pioggiola 41.30 303 *e*P **P 15 15 54.2 -0.6**
comp=Z,4.1nm,0.8s,mb4.1
TUE Stuetta 41.51 309 *e*P **P 15 15 55.7 -0.7**
comp=Z,5.4nm,0.6s,mb4.3
APA Apatity 41.95 347⇑*e*P **P 15 16 02.0 +2.3**
APA MLR MLR
comp=Z,2μm,20.0s,MS5.0
SAOF Saorge 42.47 305 *e*P **P 15 16 03.7 -0.6**
SAOF Saorge 42.47 305 *e*P **P 15 16 03.7 -0.6**
SBF Sospel 42.55 305 *e*P **P 15 16 04.5 -0.5**
comp=Z,57nm,0.7s,mb5.1
SBF Sospel 42.55 305 *e*P **P 15 16 04.5 -0.5**
comp=Z,57nm,0.7s,mb5.4
SBF Sospel 42.55 305 *e*P **P 15 16 04.5 -0.5**
SBF Sospel 42.55 305 *e*P **P 15 16 04.5 -0.5**
comp=Z,28nm,0.7s,mb5.1
AUTN L'Aution 42.56 305 *e*P **P 15 16 04.4 -0.7**
AUTN L'Aution 42.56 305 *e*P **P 15 16 04.4 -0.7**
SONM Songino Array 42.62 49 P **P 15 16 05.5 +0.1**
comp=Z,6.3nm,1.0s,mb4.3,baz=263,slow=8.9,SNR=38
SONM LR LR 15 35 59.9
comp=Z,173nm,20.1s,MS3.9,baz=62,slow=39
SONM Songino Array 42.62 49 P **P 15 16 05.5 +0.1**
SONM Songino Array 42.62 49 P **P 15 16 05.6 +0.1**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM MLR MLR
comp=Z,173nm,20.2s
TOUF Mont Tournerai 42.69 305 *e*P **P 15 16 06.0 -0.2**
TOUF Mont Tournerai 42.69 305 *e*P **P 15 16 06.0 -0.2**
MVIF Mont Vial 42.75 305 *e*P **P 15 16 06.2 -0.4**
MVIF Mont Vial 42.75 305 *e*P **P 15 16 06.2 -0.4**
ULN Ulaanbaatar 43.06 49 *e*P **P 15 16 08.2 -0.9**
comp=Z,7.4nm,0.8s,mb4.5
ULN Ulaanbaatar 43.06 49 *e*P **P 15 16 08.2 -0.8**
ULN pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
MBDF Montbardon 43.09 306 *e*P **P 15 16 08.6 -0.8**
comp=Z,20nm,0.6s,mb4.7
MBDF Montbardon 43.09 306 *e*P **P 15 16 08.6 -0.8**
comp=Z,20nm,0.6s,mb5.0
MBDF Montbardon 43.09 306 *e*P **P 15 16 08.6 -0.8**
MBDF pmax pmax
comp=Z,20nm,0.6s,mb5.0
MBDF Montbardon 43.09 306 *e*P **P 15 16 08.6 -0.8**
comp=Z,9.8nm,0.6s,mb4.7
FRF La Foret Royal 43.09 305 *e*P **P 15 16 08.6 -0.8**
comp=Z,3.7nm,0.5s,mb4.1
FRF La Foret Royal 43.09 305 *e*P **P 15 16 08.6 -0.8**
comp=Z,3.7nm,0.5s,mb4.4
FRF La Foret Royal 43.09 305 *e*P **P 15 16 08.6 -0.8**
FRF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
FRF La Foret Royal 43.09 305 *e*P **P 15 16 08.6 -0.8**
comp=Z,1.9nm,0.5s,mb4.1
LPG La Plagne 43.18 308 *e*P **P 15 16 09.5 -0.6**
comp=Z,25nm,0.7s,mb4.8
LPG La Plagne 43.18 308 *e*P **P 15 16 09.5 -0.6**
comp=Z,25nm,0.7s,mb5.0
LPG La Plagne 43.18 308 *e*P **P 15 16 09.5 -0.6**
LPG La Plagne 43.18 308 *e*P **P 15 16 09.5 -0.6**
comp=Z,12nm,0.7s,mb4.8
BNI Bardonecchia 43.19 307 *e*P **P 15 16 08.8 -1.3**
comp=Z,17nm,0.8s,mb4.8
BNI Bardonecchia 43.19 307 *e*P **P 15 16 08.8 -1.4**
BNI pmax pmax
comp=Z,17nm,0.8s,mb4.8
LPL La Plagne 43.20 308 *e*P **P 15 16 09.5 -0.7**
comp=Z,18nm,0.6s,mb4.7
LPL La Plagne 43.20 308 *e*P **P 15 16 09.5 -0.7**
comp=Z,18nm,0.6s,mb5.0
LPL La Plagne 43.20 308 *e*P **P 15 16 09.5 -0.7**
LPL pmax pmax
comp=Z,18nm,0.6s,mb5.0
LPL La Plagne 43.20 308 *e*P **P 15 16 09.5 -0.7**
comp=Z,8.8nm,0.6s,mb4.7
CDF Champ du Feu 43.21 312 *e*P **P 15 16 09.3 -0.9**
comp=Z,6.2nm,0.7s,mb4.1
CDF Champ du Feu 43.21 312 *e*P **P 15 16 09.3 -0.9**
comp=Z,6.2nm,0.7s,mb4.5
CDF Champ du Feu 43.21 312 *e*P **P 15 16 09.3 -0.9**
CDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
CDF Champ du Feu 43.21 312 *e*P **P 15 16 09.3 -0.9**
comp=Z,3.1nm,0.7s,mb4.1
RSL Roselend 43.29 308 *e*P **P 15 16 09.9 -1.0**
RSL Roselend 43.29 308 *e*P **P 15 16 09.9 -1.0**
HINF Hinteralfeld 43.40 311 *e*P **P 15 16 10.4 -1.4**
HINF Hinteralfeld 43.40 311 *e*P **P 15 16 10.4 -1.4**
HINF Hinteralfeld 43.40 311 *e*P **P 15 16 10.4 -1.4**
HINF Hinteralfeld 43.40 311 *e*P **P 15 16 10.4 -1.4**
GYA Guiyang 43.73 80 *e*P **P 15 16 15.0 +0.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
ORIF Oris-en-Rattie 43.74 307 *e*P **P 15 16 12.7 -1.9**
comp=Z,4.7nm,0.6s,mb4.1
ORIF Oris-en-Rattie 43.74 307 *e*P **P 15 16 12.7 -1.9**
comp=Z,4.7nm,0.6s,mb4.4
ORIF Oris-en-Rattie 43.74 307 *e*P **P 15 16 12.7 -1.9**
ORIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 43.74 307 *e*P **P 15 16 12.7 -1.9**
comp=Z,2.3nm,0.6s,mb4.1
CABF La Chapelle 43.76 309 *e*P **P 15 16 14.3 -0.4**
comp=Z,23nm,0.9s,mb4.6
CABF La Chapelle 43.76 309 *e*P **P 15 16 14.3 -0.4**
comp=Z,23nm,0.9s,mb4.9
CABF La Chapelle 43.76 309 *e*P **P 15 16 14.3 -0.4**
CABF pmax pmax
comp=Z,23nm,0.9s,mb4.9
CABF La Chapelle 43.76 309 *e*P **P 15 16 14.3 -0.4**
comp=Z,12nm,0.9s,mb4.6
HAU Haudompre 43.76 311 *e*P **P 15 16 13.2 -1.5**
HAU Haudompre 43.76 311 *e*P **P 15 16 13.2 -1.5**
HAU Haudompre 43.76 311 *e*P **P 15 16 13.2 -1.5**
HAU Haudompre 43.76 311 *e*P **P 15 16 13.2 -1.5**
SMRF Simiane la Rot 43.90 305 *e*P **P 15 16 15.5 -0.4**
comp=Z,5.6nm,0.7s,mb4.1
SMRF Simiane la Rot 43.90 305 *e*P **P 15 16 15.5 -0.4**
comp=Z,5.6nm,0.7s,mb4.4
SMRF Simiane la Rot 43.90 305 *e*P **P 15 16 15.5 -0.4**
comp=Z,2.8nm,0.7s,mb4.1
VIVF Saint-Julien-l 44.59 306 *e*P **P 15 16 20.4 -1.0**
comp=Z,27nm,0.9s,mb4.8
VIVF Saint-Julien-l 44.59 306 *e*P **P 15 16 20.4 -1.0**
comp=Z,27nm,0.9s,mb5.1
VIVF Saint-Julien-l 44.59 306 *e*P **P 15 16 20.4 -1.0**
VIVF pmax pmax
comp=Z,27nm,0.9s,mb5.1
VIVF Saint-Julien-l 44.59 306 *e*P **P 15 16 20.4 -1.0**
comp=Z,13nm,0.9s,mb4.8
SFTF Sexfontaines 44.66 311 *e*P **P 15 16 21.1 -0.8**
comp=Z,8.4nm,0.4s,mb4.6
SFTF Sexfontaines 44.66 311 *e*P **P 15 16 21.1 -0.8**
comp=Z,8.4nm,0.4s,mb4.9
SFTF Sexfontaines 44.66 311 *e*P **P 15 16 21.1 -0.8**
comp=Z,4.2nm,0.4s,mb4.6
SSB Saint Sauveur 44.71 307 *e*P **P 15 16 21.4 -1.0**
comp=Z,13nm,0.8s,mb4.8
SSB Saint Sauveur 44.71 307 *e*P **P 15 16 21.4 -1.0**
SSB pmax pmax
comp=Z,13nm,0.8s,mb4.8
NOA NORSAR Array B 44.86 330 P **P 15 16 22.3 -1.0**
comp=Z,1.6nm,0.8s,mb3.9,baz=117,slow=6.9,SNR=3.2
NOA NORSAR Array B 44.86 330 P **P 15 16 22.3 -1.0**
NOA NORSAR Array B 44.86 330 P **P 15 16 22.3 -1.0**
NOA pmax pmax
comp=Z,2.0nm,0.8s
KEV Kevo 45.09 346 *e*P **P 15 16 23.5 -1.6**
KEV Kevo 45.09 346 *ep* **P 15 16 23.5 -1.6**
LASF Ste Croix 45.14 305 *e*P **P 15 16 25.2 -0.6**
comp=Z,27nm,0.9s,mb4.8
LASF Ste Croix 45.14 305 *e*P **P 15 16 25.2 -0.6**
comp=Z,27nm,0.9s,mb5.1
LASF Ste Croix 45.14 305 *e*P **P 15 16 25.2 -0.6**
comp=Z,14nm,0.9s,mb4.8

ARCES ARCESS Array B 45.26 345 P **P 15 16 26.1 -0.3**
comp=Z,3.6nm,0.7s,mb4.3,baz=138,slow=5.6,SNR=9.2
ARCES ARCESS Array B 45.26 345 P **P 15 16 26.1 -0.3**
ARCES ARCESS Array B 45.26 345 P **P 15 16 26.1 -0.3**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
SMF Signal de Mont 45.30 309 *eP* **P 15 16 26.2 -0.9**
comp=Z,26nm,0.8s,mb4.8
SMF Signal de Mont 45.30 309 *eP* **P 15 16 26.2 -0.9**
comp=Z,26nm,0.8s,mb5.1
SMF Signal de Mont 45.30 309 *eP* **P 15 16 26.2 -0.9**
SMF pmax pmax
comp=Z,26nm,0.8s,mb5.1
SMF Signal de Mont 45.30 309 *eP* **P 15 16 26.2 -0.9**
comp=Z,13nm,0.8s,mb4.8
LOR Lormes 45.34 310 *eP* **P 15 16 26.3 -1.1**
comp=Z,14nm,0.7s,mb4.6
LOR Lormes 45.34 310 *eP* **P 15 16 26.3 -1.1**
comp=Z,14nm,0.7s,mb4.9
LOR Lormes 45.34 310 *eP* **P 15 16 26.3 -1.1**
LOR pmax pmax
comp=Z,14nm,0.7s,mb4.9
LOR Lormes 45.34 310 *eP* **P 15 16 26.3 -1.1**
comp=Z,7.0nm,0.7s,mb4.6
PLDF La Plantade 45.41 308 *eP* **P 15 16 27.2 -0.7**
PLDF La Plantade 45.41 308 *eP* **P 15 16 27.2 -0.7**
BAIF Baives 45.45 314 *eP* **P 15 16 28.3 +0.1**
comp=Z,18nm,1.0s,mb4.6
BAIF Baives 45.45 314 *eP* **P 15 16 28.3 +0.1**
comp=Z,18nm,1.0s,mb4.8
BAIF Baives 45.45 314 *eP* **P 15 16 28.3 +0.1**
BAIF pmax pmax
comp=Z,18nm,1.0s,mb4.9
BAIF Baives 45.45 314 *eP* **P 15 16 28.3 +0.1**
comp=Z,8.8nm,1.0s,mb4.6
SSF Saint Saulge 45.57 309 *eP* **P 15 16 28.3 -0.9**
comp=Z,13nm,0.6s,mb4.8
SSF Saint Saulge 45.57 309 *eP* **P 15 16 28.3 -0.9**
comp=Z,13nm,0.6s,mb5.0
SSF Saint Saulge 45.57 309 *eP* **P 15 16 28.3 -0.9**
SSF pmax pmax
comp=Z,13nm,0.6s,mb5.0
SSF Saint Saulge 45.57 309 *eP* **P 15 16 28.3 -0.9**
comp=Z,6.7nm,0.6s,mb4.8
LBL Lubilhac 45.62 307 *eP* **P 15 16 29.4 -0.2**
LBL Lubilhac 45.62 307 *eP* **P 15 16 29.4 -0.2**
AVF Avril sur Loir 45.65 309 *eP* **P 15 16 28.7 -1.1**
comp=Z,6.6nm,0.6s,mb4.5
AVF Avril sur Loir 45.65 309 *eP* **P 15 16 28.7 -1.1**
comp=Z,6.6nm,0.6s,mb4.7
AVF Avril sur Loir 45.65 309 *eP* **P 15 16 28.7 -1.1**
AVF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
AVF Avril sur Loir 45.65 309 *eP* **P 15 16 28.7 -1.1**
comp=Z,3.3nm,0.6s,mb4.5
PYM Petit Puy Mans 45.82 308 *eP* **P 15 16 30.6 -0.6**
PYM Petit Puy Mans 45.82 308 *eP* **P 15 16 30.6 -0.6**
HHC Hu-ho-hao-te 45.86 59 *eP* **P 15 16 31.1 -0.5**
HHC pP pP 15 16 43.4 +8.7
HHC sP sP 15 16 49.1 +13
HHC PP PP 15 18 18.9 0.0
HHC ScP ScP 15 21 56.5 -5.5
HHC S **S 15 23 10.3 -5.4**
HHC pmax pmax
comp=Z,19nm,1.0s,mb5.0
HHC pmax pmax
comp=Z,150nm,5.8s
HHC LR LR
comp=N,240nm,15.4s,MS4.4
HHC LR LR
comp=E,220nm,14.3s,MS4.4
HHC LR LR
comp=Z,120nm,15.9s,MS3.9
BGF Bois d'Agland 45.98 309 *eP* **P 15 16 31.6 -0.8**
comp=Z,11nm,0.6s,mb4.7
BGF Bois d'Agland 45.98 309 *eP* **P 15 16 31.6 -0.8**
comp=Z,11nm,0.6s,mb5.0
BGF Bois d'Agland 45.98 309 *eP* **P 15 16 31.6 -0.8**
BGF pmax pmax
comp=Z,11nm,0.6s,mb5.0
BGF Bois d'Agland 45.98 309 *eP* **P 15 16 31.6 -0.8**
comp=Z,5.4nm,0.6s,mb4.7
MTLF Montolieu 46.31 304 *eP* **P 15 16 35.1 0.0**
comp=Z,31nm,0.8s,mb5.0
MTLF Montolieu 46.31 304 *eP* **P 15 16 35.1 0.0**
comp=Z,31nm,0.8s,mb5.3
MTLF Montolieu 46.31 304 *eP* **P 15 16 35.1 0.0**
MTLF Montolieu 46.31 304 *eP* **P 15 16 35.1 0.0**
comp=Z,15nm,0.8s,mb5.0
TCF Toulx Ste Croi 46.40 308 *eP* **P 15 16 34.4 -1.4**
comp=Z,11nm,0.8s,mb4.5
TCF Toulx Ste Croi 46.40 308 *eP* **P 15 16 34.4 -1.4**
comp=Z,11nm,0.8s,mb4.8
TCF Toulx Ste Croi 46.40 308 *eP* **P 15 16 34.4 -1.4**
TCF pmax pmax
comp=Z,11nm,0.8s,mb4.8
TCF Toulx Ste Croi 46.40 308 *eP* **P 15 16 34.4 -1.4**
comp=Z,5.4nm,0.8s,mb4.5
CAF Calviac 46.45 306 *eP* **P 15 16 35.9 -0.2**
comp=Z,24nm,0.8s,mb4.9
CAF Calviac 46.45 306 *eP* **P 15 16 35.9 -0.2**
comp=Z,24nm,0.8s,mb5.2
CAF Calviac 46.45 306 *eP* **P 15 16 35.9 -0.2**
CAF pmax pmax
comp=Z,24nm,0.8s,mb5.2
CAF Calviac 46.45 306 *eP* **P 15 16 35.9 -0.2**
comp=Z,12nm,0.8s,mb4.9
LFF La Frestale 47.39 306 *eP* **P 15 16 43.4 -0.1**
comp=Z,15nm,0.5s,mb4.8
LFF La Frestale 47.39 306 *eP* **P 15 16 43.4 -0.1**
comp=Z,15nm,0.5s,mb5.2
LFF La Frestale 47.39 306 *eP* **P 15 16 43.4 -0.1**
LFF pmax pmax
comp=Z,15nm,0.5s,mb5.2
LFF La Frestale 47.39 306 *eP* **P 15 16 43.4 -0.1**
comp=Z,7.4nm,0.5s,mb4.8
LDF La Druitiere 48.12 311 *eP* **P 15 16 48.2 -0.9**
comp=Z,4.6nm,0.5s,mb4.5
LDF La Druitiere 48.12 311 *eP* **P 15 16 48.2 -0.9**
comp=Z,4.6nm,0.4s,mb4.9
LDF La Druitiere 48.12 311 *eP* **P 15 16 48.2 -0.9**
LDF pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
LDF La Druitiere 48.12 311 *eP* **P 15 16 48.2 -0.9**
comp=Z,2.3nm,0.5s,mb4.5
ETSF Etsaut 48.35 304 *eP* **P 15 16 51.0 0.0**
comp=Z,19nm,0.9s,mb4.8
ETSF Etsaut 48.35 304 *eP* **P 15 16 51.0 0.0**
comp=Z,19nm,0.9s,mb5.1
ETSF Etsaut 48.35 304 *eP* **P 15 16 51.0 0.0**
ETSF pmax pmax
comp=Z,19nm,0.9s,mb5.1
ETSF Etsaut 48.35 304 *eP* **P 15 16 51.0 0.0**
comp=Z,9.7nm,0.9s,mb4.8
FLN La Foliniere 48.36 312 *eP* **P 15 16 49.7 -1.3**
FLN La Foliniere 48.36 312 *eP* **P 15 16 49.7 -1.3**
FLN La Foliniere 48.36 312 *eP* **P 15 16 49.7 -1.3**
FLN La Foliniere 48.36 312 *eP* **P 15 16 49.7 -1.3**
GRR Gorron 48.59 311 *eP* **P 15 16 51.7 -1.1**
GRR Gorron 48.59 311 *eP* **P 15 16 51.7 -1.1**
GRR Gorron 48.59 311 *eP* **P 15 16 51.7 -1.1**
GRR Gorron 48.59 311 *eP* **P 15 16 51.7 -1.1**
SJPF Ste Jean 48.83 304 *eP* **P 15 16 54.6 -0.1**
comp=Z,22nm,0.9s,mb4.9
SJPF Ste Jean 48.83 304 *eP* **P 15 16 54.6 -0.1**
comp=Z,22nm,0.9s,mb5.2
SJPF Ste Jean 48.83 304 *eP* **P 15 16 54.6 -0.1**
SJPF pmax pmax
comp=Z,22nm,0.9s,mb5.2
SJPF Ste Jean 48.83 304 *eP* **P 15 16 54.6 -0.1**
comp=Z,11nm,0.9s,mb4.9
BOD Bodaibo 49.04 36 *eP* **P 15 16 55.1 -0.9**
BOD pmax pmax
comp=Z,10.0nm,1.6s,mb4.6
ESDC Sonseca Array 51.16 300 P **P 15 17 12.3 -0.1**
comp=Z,0.9nm,0.5s,mb4.0,baz=70,slow=7.4,SNR=5.3
ESDC Sonseca Array 51.16 300 P **P 15 17 12.3 -0.1**
NJ2 Nanjing 52.83 70 *eP* **P 15 17 30.3 +5.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TORD Torodi Ar. Bea 53.63 266 P **P 15 17 30.0 -1.0**
comp=Z,5.1nm,0.5s,mb4.7,baz=64,slow=7.2,SNR=53
TORD Torodi Ar. Bea 53.63 266 P **P 15 17 30.0 -1.0**
PBAR Barrancos 53.74 298 *eP* **P 15 17 31.3 -0.3**
PBAR Barrancos 53.74 298 *eP* **P 15 17 31.3 -0.3**
PCBR Castelo Branco 53.82 300 *eP* **P 15 17 32.8 +0.7**
PCBR Castelo Branco 53.82 300 *eP* **P 15 17 32.8 +0.7**
POLO Lamas de Olo 53.84 302 *eP* **P 15 17 32.5 +0.2**
POLO Lamas de Olo 53.84 302 *eP* **P 15 17 32.5 +0.2**
EVO Evora 54.44 299 *eP* **P 15 17 35.3 -1.4**
comp=Z,14nm,1.0s,mb4.5
EVOP Sao Brissos 54.52 299 *eP* **P 15 17 35.3 -2.0**
comp=Z,14nm,1.0s,mb5.0
EVOP Sao Brissos 54.52 299 *eP* **P 15 17 35.3 -2.0**
EVOP pmax pmax
comp=Z,14nm,1.0s,mb5.0
EVOP Sao Brissos 54.52 299 *eP* **P 15 17 35.3 -2.0**
comp=Z,7.2nm,1.0s,mb4.6
CN2 Changchun 55.87 54 *eP* **P 15 17 47.9 +0.9**
MDJ Mudanjiang 58.69 53 P **P 15 18 05.8 -1.1**
MDJ pmax pmax
comp=Z,220nm,5.0s
KSAR Wonju Array Be 58.87 61 P **P 15 18 06.1 -2.1**
KSAR Wonju Array Be 58.87 61 P **P 15 18 06.1 -2.1**
KSRS Korea Array 58.90 61 P **P 15 18 06.1 -2.3**
comp=Z,2.4nm,0.7s,mb4.3,baz=274,slow=7.2,SNR=5.3
KSRS LR LR 15 46 59.3
comp=Z,64nm,19.5s,MS3.8,baz=333,slow=40
KSRS Korea Array 58.90 61 P **P 15 18 06.1 -2.3**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
KSRS MLR MLR
comp=Z,64nm,19.5s,MS3.8
USRK Ussuriysk Arra 60.46 53 LR LR 15 44 46.2
comp=Z,65nm,19.1s,MS3.8,baz=161,slow=36
DBIC Dimbokro 62.29 262 P **P 15 18 28.1 -3.8**
comp=Z,2.7nm,0.7s,mb4.5,baz=23,slow=7.7,SNR=3.3
DBIC Dimbokro 62.29 262 P **P 15 18 28.1 -3.8**
DBIC Dimbokro 62.29 262 P **P 15 18 28.1 -3.8**
DBIC pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 65.06 341 *i* P **P 15 18 49.7 +0.4**
comp=Z,7.2nm,0.8s,mb4.8
SUMG *i* 15 18 58.8
SUMG Summit 65.06 341 *i* P **P 15 18 49.7 +0.4**
comp=Z,7.2nm,0.8s,mb4.8
BILL Bilibino 70.92 22⇑ *eP* **P 15 19 26.1 -0.1**
BILL pmax pmax
comp=Z,17nm,2.5s,mb4.5
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.2
RES Resolute Bay 75.79 353 P **P 15 19 53.9 -0.9**
comp=Z,0.4nm,0.5s,mb3.6,baz=54,slow=8.7,SNR=2.7
RES Resolute Bay 75.79 353 P **P 15 19 53.9 -0.8**
RES Resolute Bay 75.79 353 P **P 15 19 53.9 -0.9**
INK Inuvik 83.48 4 P **P 15 20 35.4 -1.2**
comp=Z,1.1nm,0.7s,mb4.0,baz=324,slow=7.2,SNR=6.6
INK Inuvik 83.48 4 P **P 15 20 35.4 -1.2**
INK Inuvik 83.48 4 P **P 15 20 35.4 -1.2**
INK pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 85.47 10 P **P 15 20 44.8 -2.0**
comp=Z,0.4nm,0.6s,mb3.7,baz=322,slow=5.0,SNR=9.7
ILAR Eielson Array 85.47 10 P **P 15 20 44.8 -2.0**
ILAR Eielson Array 85.47 10 P **P 15 20 44.8 -2.0**
WRA Warramunga Arr 88.52 113 P **P 15 21 02.2 -0.1**
comp=Z,3.0nm,0.7s,mb4.7,baz=319,slow=4.0,SNR=25
WRA Warramunga Arr 88.52 113 P **P 15 21 02.2 -0.1**
WRA Warramunga Arr 88.52 113 P **P 15 21 02.2 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 89.41 356 P **P 15 21 05.1 -0.7**
comp=Z,2.3nm,0.7s,mb4.6,baz=1.3,slow=5.1,SNR=53
YKA LR LR 16 04 21.3
comp=Z,12nm,18.1s,MS3.4,baz=10.0,slow=38
YKA Yellowknife Ar 89.41 356 P **P 15 21 05.1 -0.7**
YKA Yellowknife Ar 89.41 356 P **P 15 21 05.1 -0.7**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA MLR MLR
comp=Z,12nm,18.1s
ASAR Alice Springs 90.07 117 P **P 15 21 09.4 -0.1**
comp=Z,1.0nm,0.6s,mb4.3,baz=305,slow=4.7,SNR=28
ASAR Alice Springs 90.07 117 P **P 15 21 09.4 -0.1**
ASAR Alice Springs 90.07 117 P **P 15 21 09.4 -0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 119.96 341 PKP PKPdf 15 26 59.4 -1.0
comp=Z,0.6nm,0.6s,baz=154,slow=1.6,SNR=7.8
TXAR Lajitas Array 119.96 341 PKP PKPdf 15 26 59.4 -1.0
TXAR Lajitas Array 119.96 341 PKIKP PKPdf 15 26 59.4 -1.0
TXAR pmax pmax
comp=Z,1.0nm,0.6s

GUC 22 15:16:17.7±0.8, 32°48S×71°85W, h10km±7km, MD3.8, ML3.0, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.57**	**162**	↓*iP*	Pg	15 16 25.2	-3.5
IHA				*i* S	Sg	15 16 36.4	+0.1
CHNG	**Los Chungos**	**0.67**	**26**	↓*iP*	Pg	15 16 30.6	0.0
CHNG				*i* S	Sg	15 16 40.3	+0.9
ROCH	**El Roble**	**0.86**	**125**	↓*iP*	Pg	15 16 33.9	-0.4
ROCH				*i* S	Sg	15 16 46.5	+1.1
ROCH				AML	AML	15 16 48.6	
	comp=N,703nm,0.8s						
JACH	**Jahuel**	**1.08**	**101**↑	*iP*	Pb	15 16 37.5	-0.9
JACH				*i* S	Sg	15 16 52.2	-0.3
PEL	**Peldehue**	**1.18**	**124**↑	*iP*	Pb	15 16 39.2	-1.0
PEL				*i* S	Sb	15 16 55.5	0.0
PEL				AML	AML	15 16 57.9	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.33**	**139**	*eP*	Pn	15 16 41.4	-1.0
RCDM				*i* S	Sb	15 16 59.1	-0.8
RCDM				AML	AML	15 17 02.5	
	comp=N,304nm,0.3s						
CLCH	**Cerro Calan**	**1.43**	**130**	*eP*	Pn	15 16 43.0	-0.7
CLCH				*i* S	Sn	15 17 01.9	-0.7
CLCH				AML	AML	15 17 04.4	
	comp=N,668nm,0.5s						
FCH	**Farellones**	**1.56**	**123**	*eP*	Pn	15 16 47.9	+2.5
FCH				*e*S	Sn	15 17 08.9	+3.3
FCH				AML	AML	15 17 15.5	
	comp=E,229nm,0.3s						
PCH	**Pirque**	**1.60**	**136**↑	*iP*	Pn	15 16 45.8	-0.2
PCH				*i* S	Sn	15 17 06.8	+0.2
CACH	**El Canelo**	**1.94**	**148**	*eP*	Pn	15 16 51.2	+0.6
CACH				*i* S	Sn	15 17 17.9	+2.9
TLL	**Tololo Astrono**	**2.48**	**21**	*eP*	Pn	15 16 57.4	-0.7

DJA 22 15:43:05, 0°87N×125°90E, h27km, MLv3.6/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.20**	**298**	P	Pn	15 43 25.9	-0.2
MNI				S	Sn	15 43 41.7	+0.2
TNTI	**Ternate**	**1.47**	**94**	P	Pn	15 43 30.1	+0.4
KMSI	**Cibinong**	**1.94**	**261**	P	Pn	15 43 35.7	-0.5
KMSI				S	Sn	15 44 00.1	+0.3
LBMI	**Labuha**	**2.19**	**133**	P	Pn	15 43 37.8	-1.9
SGSI	**Sangihe**	**2.82**	**352**	S	Sn	15 44 24.5	+3.0
GTOI	**Gorontalo**	**2.90**	**265**	P	Pn	15 43 52.0	+2.6
GTOI				S	Sn	15 44 25.9	+2.5
LUWI	**Luwuk**	**3.66**	**239**	P	Pn	15 44 04.7	+4.8
LUWI				S	Sn	15 44 45.8	+3.6
MRSI	**Marisa**	**3.98**	**264**	P	Pn	15 44 06.0	+1.7
MRSI				S	Sn	15 44 51.2	+1.1

*IDC **22** 15:53:45.8±1.2, 10°00N×139°06E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/21, mbtmp3.6/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/36, Error ellipse: s-maj=36.2km s-min=27.0km az=89.0*
*NEIC **22** 15:53:47.4±0.6, 10°01N×139°01E, h10km, mb4.8/9, Error ellipse: s-maj=14.0km s-min=12.8km az=59.0*
*ISCJB **22** 15:53:49.1±1.0, 10°0N±0°1×139°0E±0°2, h33km, mb4.2/15, Error ellipse: s-maj=22.2km s-min=20.3km az=146.1*
ISC 22 15:53:51.2±1.0, 10°0N±0°1×139°0E±0°2, h35km, n38, σ0°47/36, mb4.2/15, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.75**	**57**	LR	LR	15 57 12.6	
	comp=Z,50nm,19.5s,baz=338,slow=31						
DAV	**Davao City (W)**	**13.61**	**259**	LR	LR	16 01 50.1	
	comp=Z,137nm,18.6s,baz=326,slow=36						

ASAR Alice Springs 33.82 188 P **P 16 00 30.1 -0.2**
0.2nm,0.4s,mb3.4,baz=21,slow=12,SNR=11
ASAR Alice Springs 33.82 188 P **P 16 00 30.1 -0.2**
CMAR Chiang Mai Arr 39.68 287 P **P 16 01 20.3 0.0**
0.8nm,0.8s,mb3.5,baz=90,slow=6.3,SNR=8.4
CMAR Chiang Mai Arr 39.68 287 P **P 16 01 20.3 0.0**
ULN Ulaanbaatar 46.36 330 *eP* **P 16 02 13.0 -0.9**
1.3nm,0.8s,mb3.9
SONM Songino Array 46.66 330 P **P 16 02 16.7 +0.4**
1.3nm,1.0s,mb3.8,baz=137,slow=7.4,SNR=5.6
SONM Songino Array 46.66 330 P **P 16 02 16.6 +0.4**
LSA Lhasa 48.72 301 *eP* **P 16 02 33.8 +1.3**
2.7nm,0.8s,mb4.3
TAPN Taplejung 51.22 297 *eP* **P 16 02 51.5 -0.1**
7.4nm,0.8s,mb4.6
TAPN Taplejung 51.22 297 *eP* **P 16 02 51.5 -0.1**
7.4nm,0.8s,mb4.7
ODAN Odare 51.42 296 *eP* **P 16 02 53.0 -0.1**
11nm,0.8s,mb4.9
ODAN Odare 51.42 296 *eP* **P 16 02 53.0 -0.1**
11nm,0.8s,mb4.8
RAMN Ramite 52.13 296 *eP* **P 16 02 58.3 -0.1**
RAMN Ramite 52.13 296 *eP* **P 16 02 58.3 -0.1**
JIRN Jiri 52.60 297 *eP* **P 16 03 02.2 +0.3**
JIRN Jiri 52.60 297 *eP* **P 16 03 02.2 +0.3**
GUN Gumba 52.91 297 *eP* **P 16 03 04.3 +0.2**
21nm,0.8s,mb5.1
GUN Gumba 52.91 297 *eP* **P 16 03 04.3 +0.2**
21nm,0.8s,mb5.1
PKI Pulchoki 53.27 297 *eP* **P 16 03 06.6 -0.2**
PKI Pulchoki 53.27 297 *eP* **P 16 03 06.6 -0.2**
KKN Kakani 53.41 297 *eP* **P 16 03 07.6 -0.3**
10nm,0.9s,mb4.7
KKN Kakani 53.41 297 *eP* **P 16 03 07.6 -0.3**
10nm,0.9s,mb4.8
DMN Daman 53.54 297 *eP* **P 16 03 08.8 0.0**
7.3nm,0.6s,mb4.8
DMN Daman 53.54 297 *eP* **P 16 03 08.8 0.0**
7.3nm,0.6s,mb4.8
GKN Gorkha 54.01 297 *eP* **P 16 03 11.9 -0.3**
GKN Gorkha 54.01 297 *eP* **P 16 03 11.9 -0.3**
DANN Dangsing 54.82 298 *eP* **P 16 03 17.9 -0.2**
10nm,0.8s,mb4.9
DANN Dangsing 54.82 298 *eP* **P 16 03 17.9 -0.2**
10nm,0.8s,mb4.9
KOLN Koldanda 54.89 297 *eP* **P 16 03 18.8 +0.2**
8.4nm,0.7s,mb4.9
KOLN Koldanda 54.89 297 *eP* **P 16 03 18.8 +0.2**
8.4nm,0.7s,mb4.9
MKAR Makanchi Array 60.23 319 P **P 16 03 55.6 -0.4**
1.1nm,0.8s,mb3.9,baz=104,slow=10,SNR=6.8
MKAR Makanchi Array 60.23 319 P **P 16 03 55.6 -0.4**
ILAR Eielson Array 74.25 25 P **P 16 05 24.0 -0.4**
0.7nm,0.8s,mb3.6,baz=248,slow=5.7,SNR=6.7
ILAR Eielson Array 74.25 25 P **P 16 05 24.0 -0.4**
YKA Yellowknife Ar 88.64 26 P **P 16 06 41.3 +0.8**
0.1nm,0.6s,mb3.3,baz=293,slow=5.5,SNR=4.7
YKA Yellowknife Ar 88.64 26 P **P 16 06 41.3 +0.8**

*ISCJB **22** 16:25:01.2±0.3, 7°26S±0°06×120°68E±0°09, h549km±5km, mb4.1/14, Error ellipse: s-maj=15.1km s-min=7.0km az=156.3*
*IDC **22** 16:25:02.3±1.0, 7°20S×120°77E, h547km±13km, mb3.1/8, mb1 3.1/11, mb1mx3.0/22, mbtmp3.1/11, Error ellipse: s-maj=38.1km s-min=10.0km az=63.0*
*NEIC **22** 16:25:02.4±0.5, 7°20S×120°82E, h552km±7km, mb4.5/9, Error ellipse: s-maj=17.9km s-min=5.0km az=57.0*
*DJA **22** 16:25:09, 6°74S×121°13E, h475km, MLv3.9/12*
ISC 22 16:25:02.1±0.3, 7°27S±0°06×120°74E±0°09, h543km±5km, n60, σ0°65/62, mb4.1/14, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.02**	**133**	P	**P**	**16 26 10.2**	**-1.0**
MMRI				S	**S**	**16 27 05.4**	**-1.9**
BKSI	**Bulukumba**	**2.02**	**342**	P	**P**	**16 26 12.2**	**+0.9**
WSI	**Waingapu**	**2.43**	**190**	P	**P**	**16 26 13.1**	**-0.1**
KAPI	**Kappang**	**2.44**	**336**	P	**P**	**16 26 14.0**	**+0.7**
	6.3nm,0.3s,baz=159,slow=2.9,SNR=23						
KAPI	**Kappang**	**2.44**	**336**	*eP*	**P**	**16 26 13.7**	**+0.4**
KAPI	**Kappang**	**2.44**	**336**	P	**P**	**16 26 14.2**	**+0.8**
BNSI	**Bone**	**2.91**	**348**	P	**P**	**16 26 15.0**	**-1.1**
SPSI	**Sidrap Palu**	**3.42**	**344**	P	**P**	**16 26 20.3**	**+1.0**
KDI	**Kendari**	**3.78**	**30**	P	**P**	**16 26 22.5**	**+0.6**
TTSI	**Tana Toraja**	**4.29**	**348**	P	**P**	**16 26 25.9**	**+0.1**
TTSI				S	**S**	**16 27 24.7**	**-9.2**
MRSI	**Marisa**	**7.78**	**9**	P	**P**	**16 26 57.8**	**+0.2**
	0.2nm44nm,0.8s						
GTOI	**Gorontalo**	**8.17**	**16**	P	**P**	**16 27 02.3**	**+0.9**
	0.3nm1μm79nm,0.6s						
KMSI	**Cibinong**	**8.43**	**23**	P	**P**	**16 27 04.2**	**+0.2**
	0.4nm122nm,0.8s						
LBMI	**Labuha**	**9.42**	**46**	P	**P**	**16 27 14.2**	**+0.1**
	0.2nm46nm,1.0s						
MNI	**Manado**	**9.57**	**25**	P	**P**	**16 27 15.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.78**	**157**	P	**P**	**16 27 38.6**	**+0.3**
	0.4nm,0.3s,baz=130,slow=10,SNR=14						
FITZ	**Fitzroy Crossi**	**11.78**	**157**	*eP*	**P**	**16 27 38.6**	**+0.3**
KSM	**Kuching**	**13.55**	**309**	*eP*	**P**	**16 27 59.9**	**+3.1**
MBWA	**Marble Bar**	**13.85**	**184**	*eP*	**P**	**16 28 00.0**	**+0.3**
KKM	**Kota Kinabalu**	**13.97**	**341**	*eP*	**P**	**16 28 00.8**	**-0.3**
WRA	**Warramunga Arr**	**18.24**	**135**	P	**P**	**16 28 42.6**	**0.0**
	0.3nm,0.3s,baz=312,slow=10,SNR=30						
WRA	**Warramunga Arr**	**18.24**	**135**	P	**P**	**16 28 42.6**	**0.0**
WRAB	**Tennant Creek**	**18.25**	**135**	*eP*	**P**	**16 28 42.8**	**+0.2**
	12nm,1.3s						
WB2	**Warramunga Arr**	**18.25**	**135**	*eP*	**P**	**16 28 42.9**	**+0.2**
AS31	**Alice Springs**	**20.63**	**144**	*eP*	**P**	**16 29 04.2**	**-0.1**
ASAR	**Alice Springs**	**20.63**	**144**	P	**P**	**16 29 04.5**	**+0.3**
	0.6nm,0.4s,baz=317,slow=8.2,SNR=33						
ASAR				PcP	PcP	16 32 50.2	-0.3
	0.6nm,0.5s,baz=334,slow=1.6,SNR=13						
ASAR				ScP	ScP	16 35 35.4	-0.8
	0.5nm,0.5s,baz=331,slow=2.2,SNR=9.9						
ASAR	**Alice Springs**	**20.63**	**144**	P	**P**	**16 29 04.5**	**+0.3**
ASAR				PcP	PcP	16 32 50.2	-0.3
ASAR				ScP	ScP	16 35 35.4	-0.8
NWAO	**Narrogin (SRO)**	**25.74**	**187**	P	**P**	**16 29 50.2**	**+0.5**
	5.4nm,1.0s,mb4.1,baz=21,slow=8.6,SNR=4.4						
NWAO	**Narrogin (SRO)**	**25.74**	**187**	P	**P**	**16 29 50.2**	**+0.6**
STKA	**Stephens Creek**	**31.27**	**144**	P	**P**	**16 30 38.5**	**+0.6**
	1.3nm,0.4s,mb3.8,baz=320,slow=8.9,SNR=9.0						
STKA	**Stephens Creek**	**31.27**	**144**	P	**P**	**16 30 38.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**33.40**	**320**	P	**P**	**16 30 55.7**	**-0.4**
	0.5nm,0.8s,mb3.1,baz=127,slow=5.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**33.40**	**320**	P	**P**	**16 30 55.7**	**-0.4**
ODAN	**Odare**	**46.85**	**318**	*eP*	**P**	**16 32 43.4**	**-0.1**
	2.4nm,0.3s,mb4.2						
ODAN	**Odare**	**46.85**	**318**	*eP*	**P**	**16 32 43.4**	**-0.1**
	2.4nm,0.3s,mb4.2						
TAPN	**Taplejung**	**46.97**	**318**	*eP*	**P**	**16 32 44.6**	**+0.2**
	12nm,0.5s,mb4.7						
TAPN	**Taplejung**	**46.97**	**318**	*eP*	**P**	**16 32 44.6**	**+0.2**
	12nm,0.5s,mb4.7						
RAMN	**Ramite**	**47.44**	**317**	*eP*	**P**	**16 32 48.3**	**+0.3**
	10.0nm,0.6s,mb4.5						
RAMN	**Ramite**	**47.44**	**317**	*eP*	**P**	**16 32 48.3**	**+0.3**
	10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**48.18**	**318**	*eP*	**P**	**16 32 53.5**	**0.0**
	11nm,0.6s,mb4.5						
JIRN	**Jiri**	**48.18**	**318**	*eP*	**P**	**16 32 53.5**	**0.0**
	11nm,0.6s,mb4.6						
GUN	**Gumba**	**48.55**	**318**	*eP*	**P**	**16 32 56.2**	**0.0**
	8.0nm,0.6s,mb4.4						
GUN	**Gumba**	**48.55**	**318**	*eP*	**P**	**16 32 56.2**	**0.0**
	8.0nm,0.6s,mb4.4						
PKI	**Pulchoki**	**48.65**	**317**	*eP*	**P**	**16 32 56.6**	**-0.4**
PKI	**Pulchoki**	**48.65**	**317**	*eP*	**P**	**16 32 56.6**	**-0.4**
DMN	**Daman**	**48.88**	**317**	*eP*	**P**	**16 32 58.3**	**-0.4**
DMN	**Daman**	**48.88**	**317**	*eP*	**P**	**16 32 58.3**	**-0.4**
GKN	**Gorkha**	**49.45**	**317**	*eP*	**P**	**16 33 02.4**	**-0.5**
	4.9nm,0.3s,mb4.5						
GKN	**Gorkha**	**49.45**	**317**	*eP*	**P**	**16 33 02.4**	**-0.5**
	4.9nm,0.3s,mb4.5						
DANN	**Dangsing**	**50.27**	**316**	*eP*	**P**	**16 33 08.7**	**-0.2**
	16nm,0.5s,mb4.7						
DANN	**Dangsing**	**50.27**	**316**	*eP*	**P**	**16 33 08.7**	**-0.2**
	16nm,0.5s,mb4.7						
SONM	**Songino Array**	**56.31**	**348**	P	**P**	**16 33 51.1**	**-0.2**
	0.8nm,0.5s,mb3.2,baz=162,slow=7.7,SNR=11						
SONM	**Songino Array**	**56.31**	**348**	P	**P**	**16 33 51.1**	**-0.2**
MK31	**Makanchi Array**	**63.73**	**332**	*eP*	**P**	**16 34 40.5**	**-0

2.8nm,0.6s,mb3.9,baz=140,slow=7.2,SNR=36
MKAR Makanchi Array 63.73 332 P **P 16 34 40.7 +0.1**
ZALV Zalesovo Beam 68.06 338 P **P 16 35 06.0 -1.4**
1.4nm,0.3s,mb3.9,baz=128,slow=4.9,SNR=8.0
ZALV Zalesovo Beam 68.06 338 P **P 16 35 06.0 -1.4**
KURK Kurchatov 68.23 333 P **P 16 35 08.0 -0.5**
1.0nm,0.5s,mb3.6,baz=139,slow=5.0,SNR=11
KURK Kurchatov 68.23 333 *eP* **P 16 35 07.8 -0.8**
1.2nm,0.3s,mb3.9

*NEIC **22** 16:33:12.8, 15°.58N×98°.89W, h36km, MD3.7(MEX), After MEX.*
MEX 22 16:33:13.0±0.6, 15°.62N×98°.89W, h13km±16km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.94**	**317**	*i* P	Pn	16 33 42.0	-3.7
CAIG				*i* S	Sn	16 34 05.8	-4.1
CAIG	**El Cayaco**	**1.94**	**317**	*i* P	Pn	16 33 42.0	-3.7
CAIG				*i* S	Sn	16 34 05.8	-4.1
MEIG	**Mezcala**	**2.40**	**343**	*i* P	Pn	16 33 49.6	-2.3
MEIG				*i* S	Sn	16 34 16.6	-4.6
MEIG	**Mezcala**	**2.40**	**343**	*i* P	Pn	16 33 49.6	-2.3
MEIG				*i* S	Sn	16 34 16.6	-4.6
VHO	**Vista Hermosa**	**2.52**	**55**	*i* P	Pn	16 33 50.9	-2.8
VHO				*eS*	Sn	16 34 19.9	-4.3
VHO	**Vista Hermosa**	**2.52**	**55**	*i* P	Pn	16 33 50.9	-2.8
VHO				*eS*	Sn	16 34 19.9	-4.3
HUIG	**Huatulco**	**2.68**	**87**	*eP*	Pn	16 33 56.2	+0.4
HUIG				*i* S	Sn	16 34 22.4	-5.8
HUIG	**Huatulco**	**2.68**	**87**	*eP*	Pn	16 33 52.5	-3.3
HUIG				*i* S	Sn	16 34 24.9	-3.3
PPM	**Popocatepetl**	**3.43**	**4**	*i* P	Pn	16 34 03.5	-2.7
PPM				*eS*	Sn	16 34 43.6	-3.1
PPM	**Popocatepetl**	**3.43**	**4**	*i* P	Pn	16 34 03.5	-2.7
PPM				*eS*	Sn	16 34 43.6	-3.1

*CSEM **22** 16:52:16.7±0.2, 15°.86N×43°.35E, h2km, Mc3.0, Error ellipse: s-maj=13.2km s-min=4.0km az=53.0*
*ISCJB **22** 16:52:17.6±0.6, 15°.89N±0°.06×43°.36E±0°.08, h10km, Error ellipse: s-maj=13.5km s-min=3.8km az=139.2*
*DHMR **22** 16:52:18.8±1.3, 15°.75N×43°.40E, h10km±10km, MD3.0, ML3.3*
*SGS **22** 16:52:20.6, 15°.97N×43°.18E, h1km*
ISC 22 16:52:17.7±0.6, 15°.91N±0°.07×43°.38E±0°.08, h10km, n16, σ1°.30/24, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**0.30**	**133**	*i* P	**Pg**	**16 52 23.0**	**-0.7**
HAJJ				*i* S	**Sg**	**16 52 26.2**	**-1.5**
HAJJ				AML	AML	16 52 27.9	
	comp=Z,5μm,0.3s						
HAJJ	**Hajjah**	**0.30**	**133**	*i* P	**Pg**	**16 52 23.0**	**-0.7**
HAJJ				*i* S	**Sg**	**16 52 26.2**	**-1.5**
	comp=Z,2μm,0.3s						
SANA	**San'a**	**0.95**	**123**	*i* P	**Pg**	**16 52 34.7**	**-1.3**
SANA				*i* S	**Sg**	**16 52 47.0**	**-1.4**
JAZS	**Jizan**	**1.24**	**339**	P	**Pn**	**16 52 40.5**	**-0.6**
JAZS	**Jizan**	**1.24**	**339**	P	**Pn**	**16 52 40.5**	**-0.6**
JAZS				S	**Sb**	**16 52 57.5**	**+0.3**
FRSS	**Farasan al Kab**	**1.47**	**305**	P	**Pn**	**16 52 43.8**	**-0.4**
FRSS	**Farasan al Kab**	**1.47**	**305**	P	**Pn**	**16 52 43.8**	**-0.4**
FRSS				S	**Sn**	**16 53 01.4**	**-2.1**
DHBB	**Dhamar BB**	**1.65**	**143**	*i* P	**Pn**	**16 52 47.1**	**+0.3**
DHBB				*i* S	**Sn**	**16 53 08.6**	**+0.6**
DHBB	**Dhamar BB**	**1.65**	**143**	*i* P	**Pn**	**16 52 47.1**	**+0.4**
DHBB				*i* S	**Sn**	**16 53 08.6**	**+0.6**
DJNS	**Zahran al Janu**	**1.79**	**5**	P	**Pn**	**16 52 50.5**	**+1.8**
DJNS	**Zahran al Janu**	**1.79**	**5**	P	**Pn**	**16 52 50.5**	**+1.8**
RADA	**Ahram - Rada'a**	**2.04**	**135**	*i* P	**Pn**	**16 52 52.2**	**+0.1**
RADA	**Ahram - Rada'a**	**2.04**	**135**	*i* P	**Pn**	**16 52 52.2**	**+0.1**
LBOS		**2.71**	**138**	*i* P	**Pn**	**16 53 04.1**	**+2.7**
LBOS				*i* S	**Sn**	**16 53 38.2**	**+3.9**
TRBA	**At Turbah**	**2.75**	**165**	*i* P	**Pn**	**16 53 02.7**	**+0.8**
BDHA	**Al Bayda'**	**2.86**	**132**	*i* P	**Pn**	**16 53 05.8**	**+2.4**
BDHA				AML	AML	16 53 51.1	
	comp=E,120nm,0.5s						

*NEIC **22** 16:59:33.2±3.8, 26°.36S×28°.38E, h5km, Error ellipse: s-maj=55.2km s-min=15.7km az=90.0*
*ISCJB **22** 16:59:41.0±0.6, 26°.45S±0°.03×27°.44E±0°.03, h11km±4km, mb3.6/2, Error ellipse: s-maj=5.1km s-min=3.6km az=138.6*
*PRE **22** 16:59:40.8±1.1, 26°.43S×27°.44E, h2km, ML2.9*
*IDC **22** 16:59:45.7±6.4, 26°.19S×26°.33E, h0km, mb3.7/2, mb1 3.4/3, mb1mx3.3/21, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=164.0km s-min=16.3km az=97.0*
ISC 22 16:59:41.5±0.4, 26°.44S±0°.03×27°.44E±0°.03, h5km±4km, n24, σ0°.86/43, mb3.6/2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.18**	**60**	*eP*	**Pg**	**16 59 44.9**	**-0.1**
KLOF				*eS*	**Sg**	**16 59 47.2**	**-0.2**
KLOF				AML	AML	16 59 49.9	
	comp=Z,3μm,0.2s						
PRYS	**Parys**	**0.49**	**188**	*eP*	**Pg**	**16 59 51.0**	**+0.1**
PRYS				*eS*	**Sg**	**16 59 57.3**	**0.0**
PRYS				AML	AML	17 00 01.7	
	comp=Z,335nm,0.5s						
BFSD	**Buffelsfontein**	**0.72**	**234**	*eP*	**Pg**	**16 59 55.5**	**+0.2**
BFSD				*eS*	**Sg**	**17 00 04.8**	**+0.1**
BFSD				AML	AML	17 00 05.3	
	comp=Z,290nm,0.4s						
ERPM	**east rand prop**	**0.73**	**83**	*eP*	**Pg**	**16 59 55.2**	**-0.2**
ERPM				*eS*	**Sg**	**17 00 05.1**	**+0.2**
ERPM				AML	AML	17 00 13.6	
	comp=Z,137nm,0.4s						
KSR	**Koster**	**0.76**	**320**	*eP*	**Pg**	**16 59 55.4**	**-0.7**
KSR				*eS*	**Sg**	**17 00 05.2**	**-0.7**
KSR				AML	AML	17 00 12.8	
	comp=Z,239nm,0.2s						
MOAB	**Moab Khotsong**	**0.79**	**226**	*eP*	**Pg**	**16 59 56.6**	**-0.1**
MOAB				*eS*	**Sg**	**17 00 07.5**	**+0.5**
MOAB				AML	AML	17 00 11.3	
	comp=Z,263nm,0.7s						
TLEK	**Tau Lekoa**	**0.86**	**233**	*eP*	**Pg**	**16 59 58.2**	**+0.2**
TLEK				*eS*	**Sg**	**17 00 10.0**	**+0.8**
SLR	**Silverton**	**1.03**	**47**	*eP*	**Pg**	**16 59 59.8**	**-1.5**
SLR				*eS*	**Sg**	**17 00 14.8**	**+0.1**
SLR				AML	AML	17 00 21.3	
	comp=Z,272nm,0.7s						
LBTB	**Lobatse**	**2.18**	**310**	*eP*	**Pn**	**17 00 19.0**	**+0.5**
LBTB				*eS*	**Sn**	**17 00 45.9**	**0.0**
LBTB				AML	AML	17 00 55.3	
	comp=Z,69nm,0.5s						
LBTB	**Lobatse**	**2.18**	**310**	*eP*	**Pn**	**17 00 19.8**	**+1.4**
LBTB				*eS*	**Sn**	**17 00 48.7**	**+2.8**
BOSA	**Boshof**	**2.91**	**221**	*eP*	**Pn**	**17 00 29.0**	**+0.6**
BOSA				*eS*	**Sn**	**17 01 03.7**	**0.0**
BOSA				AML	AML	17 01 15.4	
	comp=Z,32nm,0.5s						
BOSA	**Boshof**	**2.91**	**221**	Pn	**Pn**	**17 00 28.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=52,slow=12,SNR=53						
BOSA				Pg	**Pg**	**17 00 33.0**	**-4.2**
	comp=Z,1.0nm,0.3s,baz=44,slow=17,SNR=11						
BOSA				Lg		17 01 09.3	
	comp=Z,13nm,0.3s,baz=307,slow=22,SNR=23						
BOSA	**Boshof**	**2.91**	**221**	*e*Pn	**Pn**	**17 00 28.4**	**+0.1**
BOSA				Pg	**Pg**	**17 00 33.0**	**-4.2**
BOSA				Lg		17 01 09.3	
BOSA				*e*Sg	**Sg**	**17 01 09.4**	**-5.5**
POGA	**Pongola**	**3.84**	**105**	*eP*	**Pn**	**17 00 43.0**	**+1.7**
POGA				*eS*	**Sn**	**17 01 27.4**	**+0.7**
POGA				AML	AML	17 01 45.5	
	comp=Z,49nm,0.5s						
KSD	**Kokstad**	**4.44**	**157**	*eP*	**Pn**	**17 00 50.0**	**+0.5**
KSD				*eS*	**Sn**	**17 01 40.0**	**-1.6**
KSD				AML	AML	17 02 03.8	
	comp=Z,26nm,0.4s						
HVD	**Gariep Dam**	**4.49**	**202**	*eP*	**Pn**	**17 00 50.5**	**+0.4**
HVD				*eS*	**Sn**	**17 01 41.8**	**-0.9**
HVD				AML	AML	17 02 12.8	
	comp=Z,20nm,0.8s						
PKA	**Prieska**	**5.24**	**231**	*eP*	**Pn**	**17 01 00.2**	**-0.3**
PKA				*eS*	**Sn**	**17 01 58.9**	**-2.4**
PKA				AML	AML	17 02 23.4	
	comp=Z,20nm,0.5s						
SUR	**Sutherland**	**8.27**	**223**	*eP*	**Pn**	**17 01 42.6**	**+0.5**
SUR				*eS*	**Sn**	**17 03 11.8**	**-4.1**
SUR				AML	AML	17 03 29.2	
	comp=Z,4.1nm,0.6s						
SUR	**Sutherland**	**8.27**	**223**	P	**Pn**	**17 01 43.8**	**+1.7**
TSUM	**Tsumeb**	**11.59**	**306**	*eP*	**Pn**	**17 02 28.1**	**+0.5**
DBIC	**Dimbokro**	**45.43**	**312**	P	**P**	**17 07 57.9**	**-3.7**
	comp=Z,0.5nm,0.3s,mb3.8,baz=105,slow=5.6,SNR=2.4						
DBIC	**Dimbokro**	**45.43**	**312**	P	**P**	**17 07 57.9**	**-3.7**
TORD	**Torodi Ar. Bea**	**46.64**	**324**	P	**P**	**17 08 11.2**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=147,slow=7.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**46.64**	**324**	P	**P**	**17 08 11.2**	**+0.2**

JMA 22 17:15:02.7±0.1, 35°.16N×139°.20E, h21km±1km, M2.5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.14**	**318**	P	Pb	17 15 07.1	-0.1
JOD2				S	Sb	17 15 10.5	+0.3
AJI	**Ajiro2**	**0.14**	**218**	P	Pb	17 15 07.1	-0.1
AJI				S	Sb	17 15 10.2	-0.1
KTJJ	**Kamata 2**	**0.26**	**206**	S	Sb	17 15 12.6	-0.3
JIM2	**Oshima 3**	**0.48**	**157**	P	Pb	17 15 11.6	-0.9
JIM2				S	Sb	17 15 18.3	-0.8
JIZS	**Izushimoda**	**0.51**	**211**	P	Pb	17 15 12.9	-0.1
JIZS				S	Sb	17 15 20.5	+0.5
MAT	**Matsushiro**	**1.60**	**330**	P	Pn	17 15 31.0	+1.3
MAT				S	Sn	17 15 51.5	+1.8

IDC 22 17:16:28.4±8.2, 4°.86S×144°.66E, h94km±82km, mb3.0/2, mb1 3.2/4, mb1mx3.1/16, mbtmp3.0/4, ML3.0/2, Error ellipse: s-maj=62.0km s-min=33.2km az=145.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**151**	P	Pn	17 17 44.0	+0.9
	1.7nm,0.3s,baz=355,slow=9.6,SNR=7.9						
PMG				S	Sn	17 18 41.4	0.0
	baz=303,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**18.05**	**213**	P	Pn	17 20 31.8	-1.3
	0.1nm,0.3s,baz=33,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**21.39**	**208**	P	P	17 21 08.9	+0.5
	0.4nm,0.7s,baz=33,slow=13,SNR=6.1						
ILAR	**Eielson Array**	**85.36**	**24**	P	P	17 28 54.9	0.0
	0.4nm,0.6s,baz=258,slow=5.4,SNR=6.6						

*ISCJB **22** 17:23:28.5±0.8, 40°.84N±0°.04×28°.50E±0°.06, h1km±12km, Error ellipse: s-maj=7.9km s-min=6.0km az=29.4*
*DDA **22** 17:23:28.9, 40°.87N×28°.53E, h7km±1km, Md2.7*
*ISK **22** 17:23:28.5, 40°.87N×28°.51E, h7km, MD2.7*
*CSEM **22** 17:23:29.0±0.1, 40°.85N×28°.49E, h5km, MD2.7, Error ellipse: s-maj=2.2km s-min=1.5km az=133.0*
ISC 22 17:23:29.1±0.7, 40°.85N±0°.04×28°.50E±0°.06, h5km±10km, n20, σ0°.33/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.30**	**351**	*i* P	**Pg**	**17 23 35.1**	**+0.1**
ELBA				*i* S	**Sg**	**17 23 39.3**	**+0.4**
ELBA	**Catalca**	**0.30**	**351**	*i* P	**Pg**	**17 23 35.1**	**+0.2**
ELBA				*i* S	**Sg**	**17 23 39.3**	**+0.4**
CTKS	**Kestanelik-??a**	**0.39**	**1**	*e*PG	**Pg**	**17 23 36.6**	**0.0**
CTKS				*e*SG	**Sg**	**17 23 41.4**	**-0.2**
CTKS	**Kestanelik-??a**	**0.39**	**1**	*e*Pg	**Pg**	**17 23 36.6**	**+0.1**
CTKS				*e*Sg	**Sg**	**17 23 41.4**	**-0.2**
BGKT	**Bogazkoy**	**0.39**	**32**	*e*PG	**Pg**	**17 23 36.6**	**0.0**
BGKT				*e*SG	**Sg**	**17 23 42.1**	**+0.3**
BGKT	**Bogazkoy**	**0.39**	**32**	*e*Pg	**Pg**	**17 23 36.6**	**0.0**
BGKT				*e*Sg	**Sg**	**17 23 42.1**	**+0.3**
KLYT	**Kilyos**	**0.58**	**45**	*e*PG	**Pg**	**17 23 40.0**	**-0.1**
KLYT				*e*SG	**Sg**	**17 23 46.9**	**-0.7**
KLYT	**Kilyos**	**0.58**	**45**	*e*Pg	**Pg**	**17 23 40.0**	**-0.2**
KLYT				*e*Sg	**Sg**	**17 23 46.9**	**-0.8**
YLV	**Yalova**	**0.72**	**113**	*e*PG	**Pg**	**17 23 43.6**	**+0.6**
YLV	**Yalova**	**0.72**	**113**	*e*Pg	**Pg**	**17 23 43.6**	**+0.7**
GONE	**Gonen-Balikesi**	**1.01**	**218**	*e*PG	**Pg**	**17 23 48.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.01**	**218**	*e*Pg	**Pg**	**17 23 48.1**	**-0.3**
KRBG	**Karabiga-Canak**	**1.02**	**244**	*e*PG	**Pg**	**17 23 48.5**	**-0.1**
KRBG	**Karabiga-Canak**	**1.02**	**244**	*e*Pg	**Pg**	**17 23 48.5**	**-0.1**
ERIK	**Erikli-Kesan**	**1.52**	**264**	*e*PN	**Pn**	**17 23 57.0**	**+0.1**
ERIK	**Erikli-Kesan**	**1.52**	**264**	*e*Pn	**Pn**	**17 23 57.0**	**+0.1**
GULT	**Gulveren**	**1.59**	**104**	*e*PN	**Pn**	**17 23 57.9**	**0.0**
GULT	**Gulveren**	**1.59**	**104**	*e*Pn	**Pn**	**17 23 57.9**	**0.0**
EDRB	**Edirne**	**1.65**	**308**	*e*PN	**Pn**	**17 23 58.8**	**0.0**
EDRB	**Edirne**	**1.65**	**308**	*e*Pn	**Pn**	**17 23 58.8**	**0.0**

*ISCJB **22** 17:27:04.1±3.7, 5°.9S±0°.3×148°.7E±0°.4, h45km±36km, mb3.8/3, Error ellipse: s-maj=74.5km s-min=24.7km az=33.4*
*NEIC **22** 17:27:04.3±4.1, 5°.70S×148°.74E, h45km±42km, mb4.3/1, Error ellipse: s-maj=98.9km s-min=24.1km az=133.0*
*IDC **22** 17:27:07.0±5.3, 6°.17S×149°.12E, h75km±50km, mb3.6/3, mb1 4.0/5, mb1mx3.5/17, mbtmp3.8/5, ML3.3/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/21, Error ellipse: s-maj=87.4km s-min=31.3km az=133.0*
ISC 22 17:27:06.1±3.4, 5°.9S±0°.3×148°.7E±0°.4, h52km±34km, n19, σ0°.77/16, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**203**	P	**Pn**	**17 28 03.1**	**+0.6**
	16nm,0.3s,baz=46,slow=5.9,SNR=80						
PMG				S	**Sn**	**17 28 45.8**	**-0.4**
	24nm,0.3s,baz=194,slow=23,SNR=13						
PMG	**Port Moresby**	**3.82**	**203**	*e*Pn	**Pn**	**17 28 02.9**	**+0.5**
PMG				*e*Sn	**Sn**	**17 28 45.6**	**-0.6**
COEN	**Coen**	**9.69**	**213**	*eP*	**Pn**	**17 29 23.3**	**+0.4**
CTA	**Charters Tower**	**14.33**	**189**	LR	LR	17 34 51.2	
	comp=Z,56nm,20.0s,baz=232,slow=33						
GUMO	**Guam**	**19.69**	**349**	LR	LR	17 38 24.5	
	comp=Z,58nm,18.6s,baz=90,slow=34						
WRAB	**Tennant Creek**	**19.73**	**224**	*eP*	**Pn**	**17 31 32.5**	**-1.0**
	6.1nm,0.4s						
WB2	**Warramunga Arr**	**19.73**	**224**	*eP*	**Pn**	**17 31 32.5**	**-0.9**
WRA	**Warramunga Arr**	**19.74**	**224**	P	**Pn**	**17 31 32.8**	**-0.8**
	1.1nm,0.3s,baz=51,slow=11,SNR=56						
WRA	**Warramunga Arr**	**19.74**	**224**	P	**Pn**	**17 31 32.8**	**-0.8**
AS31	**Alice Springs**	**22.69**	**217**	*eP*	**P**	**17 32 04.2**	**+0.8**
ASAR	**Alice Springs**	**22.69**	**217**	P	**P**	**17 32 04.4**	**+1.0**
	2.0nm,0.5s,mb3.8,baz=52,slow=8.9,SNR=76						
ASAR	**Alice Springs**	**22.69**	**217**	P	**P**	**17 32 04.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**25.55**	**240**	P	**P**	**17 32 31.3**	**+1.0**
	2.1nm,0.5s,mb4.0,baz=56,slow=11,SNR=9.5						
FITZ	**Fitzroy Crossi**	**25.55**	**240**	P	**P**	**17 32 31.3**	**+1.0**
STKA	**Stephens Creek**	**26.71**	**193**	LR	LR	17 43 21.7	
	comp=Z,76nm,18.2s,baz=24,slow=37						
ILAR	**Eielson Array**	**84.71**	**23**	P	**P**	**17 39 33.6**	**-0.6**
	0.3nm,0.6s,mb3.6,baz=257,slow=4.5,SNR=6.0						
ILAR	**Eielson Array**	**84.71**	**23**	P	**P**	**17 39 33.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**146.65**	**285**	PKPbc	PKPbc	17 46 40.3	-2.9
	0.1nm,0.3s,baz=51,slow=3.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**146.65**	**285**	PKPbc	PKPbc	17 46 40.3	-2.9

*IDC **22** 17:48:42.5±1.1, 12°.16N×58°.04E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, MS3.5/3, Ms1 3.6/3, ms1mx3.2/37, Error ellipse: s-maj=29.1km s-min=26.3km az=26.0*
*ISCJB **22** 17:48:43.4±0.8, 12°.3N±0°.1×58°.1E±0°.1, h10km, mb3.7/9, MS3.5/3, Error ellipse: s-maj=23.7km s-min=16.8km az=144.2*
*NEIC **22** 17:48:44.7±0.8, 12°.26N×58°.13E, h10km, mb4.0/1, Error ellipse: s-maj=24.8km s-min=17.8km az=146.0*
ISC 22 17:48:44.9±0.8, 12°.3N±0°.1×58°.2E±0°.1, h10km, n19, σ1°.07/17, mb3.7/9, MS3.5/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.65**	**239**	*eP*	**P**	**17 54 07.3**	**+1.4**
	3.8nm,0.9s,mb3.9						
EIL	**Elat**	**27.64**	**312**	LR	LR	18 05 34.0	
	comp=Z,76nm,18.6s,MS3.3,baz=134,slow=37						
AKTO	**Aktyubinsk**	**38.06**	**360**	P	**P**	**17 56 05.2**	**+1.6**
	1.9nm,0.8s,mb3.9,baz=182,slow=8.0,SNR=4.8						
AKTO	**Aktyubinsk**	**38.06**	**360**	P	**P**	**17 56 05.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**39.75**	**76**	P	**P**	**17 56 18.9**	**+0.7**
	1.0nm,0.9s,mb3.5,baz=282,slow=8.7,SNR=8.2						
CMAR				LR	LR	18 14 57.7	
	comp=Z,21nm,18.1s,MS3.0,baz=290,slow=40						
CMAR	**Chiang Mai Arr**	**39.75**	**76**	P	**P**	**17 56 18.9**	**+0.7**
MKAR	**Makanchi Array**	**39.98**	**26**	P	**P**	**17 56 19.3**	**-0.4**
	0.8nm,0.7s,mb3.6,baz=204,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**39.98**	**26**	P	**P**	**17 56 19.3**	**-0.4**
ZALV	**Zalesovo Beam**	**46.64**	**21**	P	**P**	**17 57 12.1**	**-1.2**
	1.8nm,0.6s,mb4.2,baz=226,slow=7.5,SNR=11						
ZALV	**Zalesovo Beam**	**46.64**	**21**	P	**P**	**17 57 12.1**	**-1.2**
SONM	**Songino Array**	**53.52**	**39**	P	**P**	**17 58 06.2**	**+0.5**
	0.2nm,0.6s,mb3.3,baz=250,slow=8.6,SNR=2.1						
SONM	**Songino Array**	**53.52**	**39**	P	**P**	**17 58 06.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**54.98**	**278**	P	**P**	**17 58 15.1**	**-1.7**
	0.2nm,0.5s,mb3.4,baz=91,slow=8.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**54.98**	**278**	P	**P**	**17 58 15.1**	**-1.7**
ESDC	**Sonseca Array**	**60.85**	**309**	LR	LR	18 28 04.4	
	baz=Z,149nm,19.6s,MS4.1,baz=0.0,slow=39						
WRA	**Warramunga Arr**	**81.50**	**113**	P	**P**	**18 01 02.4**	**-0.7**
	0.3nm,0.5s,mb3.5,baz=297,slow=4.2,SNR=5.0						
WRA	**Warramunga Arr**	**81.50**	**113**	P	**P**	**18 01 02.4**	**-0.7**
ASAR	**Alice Springs**	**82.17**	**116**	P	**P**	**18 01 06.4**	**-0.2**
	0.7nm,0.6s,mb3.7,baz=291,slow=5.2,SNR=18						
ASAR	**Alice Springs**	**82.17**	**116**	P	**P**	**18 01 06.4**	**-0.2**

*ISCJB **22** 17:56:08.2±0.4, 37°.26N±0°.03×71°.97E±0°.07, h209km±6km, mb3.5/7, Error ellipse: s-maj=8.6km s-min=4.5km az=169.3*
*NEIC **22** 17:56:09.0±0.5, 37°.23N×72°.00E, h201km±6km, mb4.3/7, Error ellipse: s-maj=7.4km s-min=3.8km az=58.0*
*IDC **22** 17:56:10.8±11.0, 37°.29N×71°.95E, h214km±76km, mb3.4/7, mb1 3.5/11, mb1mx3.2/29, mbtmp3.4/11, Error ellipse: s-maj=106.2km s-min=20.7km az=6.0*
*NNC **22** 17:56:14.4±8.0, 37°.72N×71°.94E, h210km±74km, mb2.5, mpv3.7, Error ellipse: s-maj=77.0km s-min=41.6km az=5.0*
ISC 22 17:56:09.1±0.4, 37°.25N±0°.03×71°.98E±0°.07, h201km±6km, n72, σ0°.74/75, mb3.5/7, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.42**	**181**	⇑P	**Pn**	**17 57 04.3**	**+0.5**
CEP				S	**Sn**	**17 57 46.0**	**-0.6**
KBL	**Kabul**	**3.61**	**222**	*eP*	**Pn**	**17 57 06.9**	**+0.9**
CHCP	**Chirah Chowk**	**3.73**	**163**	⇑P	**Pn**	**17 57 09.2**	**+1.6**
THW	**Thamme Wali**	**4.45**	**183**	⇑P	**Pn**	**17 57 16.6**	**0.0**
AML	**Almayashu**	**5.05**	**15**	P	**Pn**	**17 57 24.3**	**+0.3**
	SNR=149						
AML				P		17 57 24.3	
	SNR=149						
UCH	**Uchtor**	**5.34**	**21**	P	**Pn**	**17 57 28.4**	**+0.7**
	SNR=6.2						
UCH				P		17 57 28.4	
	SNR=6.2						
SARP	**Sargodha**	**5.35**	**174**	P	**Pn**	**17 57 26.1**	**-1.9**
KZA	**Kyzart**	**5.44**	**27**	P	**Pn**	**17 57 28.9**	**-0.1**
	SNR=11						
KZA				P		17 57 28.9	
	SNR=11						
EKS2	**Erkin-Say**	**5.58**	**14**	P	**Pn**	**17 57 30.9**	**+0.2**
	SNR=17						
EKS2				P		17 57 30.9	
	SNR=17						
EKS2	**Erkin-Say**	**5.58**	**14**	*eP*	**Pn**	**17 57 30.9**	**+0.1**
	12nm,0.4s						
AAK	**Ala-Archa**	**5.71**	**19**	P	**Pn**	**17 57 33.1**	**+0.6**
	SNR=46						
AAK				P		17 57 33.1	
	SNR=46						
KBK	**Karagaybulak**	**5.86**	**22**	P	**Pn**	**17 57 35.2**	**+0.8**
	SNR=21						
KBK				P		17 57 35.2	
	SNR=21						
KK31	**Karatay Array**	**5.95**	**350**	⇓P	**Pn**	**17 57 35.0**	**-0.6**
	1.2nm,0.3s,baz=156,slow=11,SNR=126						
KK31				S	**Sn**	**17 58 39.1**	**-5.0**
	7.1nm,0.4s,baz=184,slow=28,SNR=9.1						
KKAR	**Karatay Array**	**5.95**	**350**	*eP*	**Pn**	**17 57 35.0**	**-0.6**
	4.4nm,0.4s						
ULHL	**Ulahol**	**5.97**	**32**	P	**Pn**	**17 57 35.7**	**-0.1**
	SNR=19						
ULHL				P		17 57 35.7	
	SNR=19						
CHMS	**Chumysh**	**6.12**	**19**	P	**Pn**	**17 57 38.3**	**+0.5**
	SNR=13						
CHMS				P		17 57 38.3	
	SNR=13						
TKM2	**Tokmak 2**	**6.30**	**25**	P	**Pn**	**17 57 40.4**	**+0.3**
	SNR=6.9						
TKM2				P		17 57 40.4	
	SNR=6.9						
TKM2	**Tokmak 2**	**6.30**	**25**	⇓P	**Pn**	**17 57 40.3**	**+0.1**
	7.8nm,0.5s						
TKM2				⇑S	**Sn**	**17 58 50.4**	**-2.0**
	14nm,1.1s						
TKM2	**Tokmak 2**	**6.30**	**25**	*eP*	**Pn**	**17 57 40.4**	**+0.2**
	12nm,0.5s						
USP	**Ospenovka**	**6.31**	**17**	P	**Pn**	**17 57 40.6**	**+0.3**
	SNR=18						
USP				P		17 57 40.6	
	SNR=18						
MK31	**Makanchi Array**	**12.22**	**36

ZALV	Zalesovo Beam	18.91	24	P		P	18 00 14.5	+0.1
SONM	Songino Array	27.26	56	P		P	18 01 35.8	+1.3
	0.9nm,0.8s,mb3.5,baz=279,slow=9.3,SNR=5.7							
SONM	Songino Array	27.26	56	P		P	18 01 35.8	+1.3
FINES	FINESS Array B	37.31	325	P		P	18 03 01.5	0.0
	7.0nm,1.1s,mb4.1,baz=117,slow=11,SNR=4.0							
FINES	FINESS Array B	37.31	325	P		P	18 03 01.5	0.0
ARCES	ARCESS Array B	40.76	337	P		P	18 03 30.5	+0.6
	3.3nm,1.0s,mb3.7,baz=113,slow=8.4,SNR=12							
ARCES	ARCESS Array B	40.76	337	P		P	18 03 30.5	+0.6
HFS	Hagfors	42.97	321	P		P	18 03 47.7	-0.3
	1.5nm,0.4s,mb3.8,baz=99,slow=9.6,SNR=11							
HFS	Hagfors	42.97	321	P		P	18 03 47.7	-0.3
NOA	NORSAR Array B	44.26	323	P		P	18 03 58.1	-0.2
	0.8nm,0.8s,mb3.1,baz=112,slow=8.4,SNR=2.6							
NOA	NORSAR Array B	44.26	323	P		P	18 03 58.1	-0.2
ILAR	Eielson Array	73.84	16	P		P	18 07 21.1	-0.1
	0.4nm,1.0s,mb3.0,baz=327,slow=6.5,SNR=4.0							
ILAR	Eielson Array	73.84	16	P		P	18 07 21.1	0.0
YKA	Yellowknife Ar	80.46	3	P		P	18 07 57.9	-0.1
	0.4nm,0.8s,mb3.1,baz=350,slow=5.2,SNR=7.5							
YKA	Yellowknife Ar	80.46	3	P		P	18 07 57.9	-0.1

*ISCJB **22** 18:03:16.5±0.5, 67°.03N±0°.03×21°.17E±0°.09, h0km, Error ellipse: s-maj=4.8km s-min=3.7km az=10.9*
*CSEM **22** 18:03:18.1±0.2, 67°.07N×21°.09E, h2km, ML2.1, Error ellipse: s-maj=6.0km s-min=3.9km az=101.0, Mining explosion.*
*IDC **22** 18:03:18.0±0.9, 67°.03N×21°.14E, h0km, mb1 3.1/4, mb1mx3.0/26, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=18.6km s-min=8.2km az=113.0*
*HEL **22** 18:03:18.3±0.0, 67°.09N×20°.97E, h0km, ML2.1, ML1.8(BER), ML2.0(NAO), Explosion*
*NAO **22** 18:03:18.3±1.1, 67°.07N×21°.24E, ML2.0*
*BER **22** 18:03:20.0±3.6, 67°.10N×20°.81E, h0km, ML1.8, ML2.0(NAO), Suspected explosion*

ISC 22 18:03:17.9±0.4, 67°.06N±0°.03×21°.12E±0°.09, h0km, n40, σ0.87/62, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	1.04	18	eP	Pg	18 03 36.7	-1.2
LANU				eS	Sg	18 03 50.4	-1.1
LANU	Lannavaara	1.04	18	P	Pg	18 03 36.7	-1.2
HEF	Hetta	1.66	34	eP	Pn	18 03 47.9	-0.3
HEF				eS	Sn	18 04 10.2	-0.1
HEF	Hetta	1.66	34	P	Pn	18 03 47.9	-0.3
HEF				S	Sn	18 04 10.1	-0.1
KIF	Kilpisjarvi	1.95	357	eP	Pn	18 03 52.8	+0.5
KIF				eS	Sn	18 04 18.1	+0.6
KIF	Kilpisjarvi	1.95	357	P	Pn	18 03 52.7	+0.4
KIF				S	Sn	18 04 18.0	+0.5
RNF	Rovaniemi	1.99	101	eP	Pn	18 03 54.0	+1.3
RNF				eSG	Sg	18 04 21.1	-0.5
RNF	Rovaniemi	1.99	101	P	Pn	18 03 54.0	+1.3
STEI	Steigen	2.42	294	eP	Pn	18 03 59.8	+1.0
STEI	Steigen	2.42	294	eP	Pn	18 03 59.8	+1.0
STEI	Steigen	2.42	294	P	Pn	18 03 59.7	+1.0
TRO	Tromso	2.71	343	eP	Pn	18 04 02.8	+0.2
TRO				eSg	Sg	18 04 41.3	-3.5
TRO				AML	AML	18 04 44.8	
	comp=Z,9.2nm,0.2s						
TRO	Tromso	2.71	343	eP	Pn	18 04 02.8	+0.2
TRO				eSG	Sg	18 04 41.3	-3.5
TRO				AML	AML	18 04 44.8	
	comp=Z,9.2nm,0.2s						
TRO	Tromso	2.71	343	P	Pn	18 04 02.7	+0.1
TRO				eSg	Sg	18 04 41.3	-3.5
	comp=Z,9.2nm,0.2s,SNR=90						
OUL	Oulu	2.78	133	ePB	Pb	18 04 07.2	-1.2
MOR8	Moi Rana	2.81	255	eSg	Sn	18 04 38.6	0.0
MOR8				AML	AML	18 04 45.2	
	comp=Z,11nm,0.1s						
MOR8	Moi Rana	2.81	255	eSG	Sn	18 04 38.6	0.0
MOR8				AML	AML	18 04 45.2	
	comp=Z,11nm,0.1s						
ARA0	ARCESS Array S	2.97	31	Pn	Pn	18 04 06.3	+0.1
	baz=209,slow=16						
ARA0				Sn	Sn	18 04 42.9	+0.4
	baz=214,slow=28						
ARA0	ARCESS Array S	2.97	31	eP	Pn	18 04 06.5	+0.3
ARA0				eS	Sn	18 04 42.5	0.0
ARA0	ARCESS Array S	2.97	31	P	Pn	18 04 06.4	+0.2
ARA0				S	Sn	18 04 42.4	-0.1
ARA0				Sn	Sn	18 04 42.8	+0.3
	baz=214,slow=23,SNR=50						
ARCES	ARCESS Array B	2.97	31	Pn	Pn	18 04 06.5	+0.3
	comp=Z,0.6nm,0.3s,baz=208,slow=14,SNR=54						
ARCES				Sn	Sn	18 04 44.1	+1.6
	comp=Z,1.5nm,0.3s,baz=212,slow=26,SNR=11						
VRF	Varrio	3.35	74	MSG		18 05 05.8	
	comp=Z,7.1nm,0.2s						
KEV	Kevo	3.47	36	MSG		18 05 13.9	
	comp=Z,3.8nm,0.2s						
VAF	Ylistaro	4.09	170	eP	Pn	18 04 22.6	+1.0
VAF				eS	Sn	18 05 10.4	+0.3
VAF				MSG		18 05 30.1	
	comp=Z,2.9nm,0.2s						
VAF	Ylistaro	4.09	170	P	Pn	18 04 22.6	+1.0
VAF				S	Sn	18 05 10.3	+0.2
APA0	Apatity Array	4.62	78	Pn	Pn	18 04 28.5	-0.4
	baz=260,slow=12						
APA0				Sn	Sn	18 05 23.3	+0.1
	baz=256,slow=28						
APA0	Apatity Array	4.62	78	eP	Pn	18 04 28.5	-0.4
APA0				eS	Sn	18 05 23.3	+0.1
APA0	Apatity Array	4.62	78	P	Pn	18 04 28.5	-0.4
APA0				Sn	Sn	18 05 23.3	+0.1
	baz=256,slow=24,SNR=50						
FIA0	FINESS Array S	6.04	157	Pn	Pn	18 04 49.2	+0.8
	baz=350,slow=16						
FIA0				Sn	Sn	18 05 58.6	+0.5
	baz=345,slow=28						
FIA0	FINESS Array S	6.04	157	eP	Pn	18 04 49.2	+0.8
FIA0				eS	Sn	18 05 58.6	+0.5
FIA0	FINESS Array S	6.04	157	P	Pn	18 04 49.1	+0.8
FIA0				S	Sn	18 05 58.6	+0.5
FINES	FINESS Array B	6.04	157	Pn	Pn	18 04 49.1	+0.8
	comp=Z,0.2nm,0.3s,baz=346,slow=13,SNR=10						
FINES				Sn	Sn	18 05 55.9	-2.2
	comp=Z,0.4nm,0.3s,baz=341,slow=22,SNR=5.8						
NB2	NORSAR Subarra	7.44	220	Pn	Pn	18 05 06.7	-0.9
	baz=30,slow=14						
NB2	NORSAR Subarra	7.44	220	eP	Pn	18 05 06.7	-0.9
NB2	NORSAR Subarra	7.44	220	Pn	Pn	18 05 06.7	-0.8
	baz=30,slow=12,SNR=50						
NOA	NORSAR Array B	7.44	220	Pn	Pn	18 05 06.0	-1.5
	comp=Z,0.1nm,0.3s,baz=260,slow=14,SNR=4.4						
HFS	Hagfors	7.70	209	Pn	Pn	18 05 10.0	-1.1
	baz=25,slow=14						
HFS	Hagfors	7.70	209	Pn	Pn	18 05 09.1	-2.0
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=11						
HFS				Sn	Sn	18 06 32.5	-6.4
	comp=Z,0.1nm,0.3s,baz=40,slow=23,SNR=2.1						
HFS	Hagfors	7.70	209	eP	Pn	18 05 10.0	-1.1
HFS	Hagfors	7.70	209	P	Pn	18 05 10.0	-1.1

*IDC **22** 18:06:26.5±0.5, 17°.40S×172°.71W, h0km, mb4.6/17, mb1 4.8/17, mb1mx4.8/21, mbtmp4.6/17, MS4.3/2, Ms1 4.3/2, ms1mx3.7/14, Error ellipse: s-maj=22.5km s-min=16.5km az=144.0*
*BJI **22** 18:06:28.7, 17°.25S×171°.72W, h35km, mB5.5/25, mb5.1/32, Ms5.2/21, Ms7 4.9/22*
*ISCJB **22** 18:06:30.5±0.2, 17°.37S±0°.06×172°.57W±0°.05, h33km, mb4.8/56, MS4.7/13, Error ellipse: s-maj=9.1km s-min=5.5km az=152.2*
*MOS **22** 18:06:31.7±1.2, 17°.28S×172°.69W, h33km, mb5.4/12, Error ellipse: s-maj=12.6km s-min=9.8km az=103.5*
*NEIC **22** 18:06:32.0±0.3, 17°.31S×172°.64W, h35km, mb5.0/25, Error ellipse: s-maj=14.8km s-min=8.6km az=128.0*

ISC 22 18:06:32.1±0.2, 17°.39S±0°.06×172°.63W±0°.05, h35km, (h36km±1.3km:pP-P), n559, σ0.77/312, mb4.8/56, MS4.7/13, 132C-114D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.56	13	Pn	Pn	18 07 16.5	-8.3
	23nm,0.3s,baz=75,slow=1.2,SNR=31						
AFI	Afiamalu	3.56	13	Pn	Pn	18 07 16.5	-8.3
AFI	Afiamalu	3.56	13	P	Pn	18 07 16.5	-8.3
MSVF	Nonsavu	8.90	266	Pn	Pn	18 08 43.0	+4.8
	610nm,1.0s,SNR=18						
RAR	Rarotonga	12.71	109	Pn	Pn	18 09 22.4	-8.0
	9.1nm,0.3s,baz=279,slow=7.3,SNR=14						
RAR	Rarotonga	12.71	109	eP	Pn	18 09 22.7	-7.7
	88nm,0.8s						
RAR	Rarotonga	12.71	109	eP	Pn	18 09 22.7	-7.7
RAR				pmax	pmax		
	comp=Z,88nm,0.8s						
DZM	Mont Dzumac	20.24	253	eLR	LR	18 15 57.2	
	comp=Z,2μm,26.9s						
PPT2	Papeete2	21.98	94	eLQ		18 15 45.1	
	comp=Z,2μm,28.8s						
PPT2				eLR	LR	18 16 41.2	
	comp=Z,3μm,25.8s,baz=261						
TIAR	Tiarei	22.21	94	eP	P	18 11 26.0	+0.4
	comp=Z,35nm,0.9s,mb4.8						
TBI	Tubuai	22.50	109	eLR	LR	18 17 00.5	
	comp=Z,4μm,30.2s,baz=282						
URZ	Urewera	22.65	201	P	P	18 11 30.3	+0.2
	comp=Z,37nm,0.5s,mb5.1,baz=2.6,slow=5.0,SNR=20						
URZ				LR	LR	18 18 47.9	
	comp=Z,1μm,21.3s,MS4.3,baz=19,slow=33						
URZ	Urewera	22.65	201	eP	P	18 11 29.6	-0.5
	comp=Z,91nm,0.9s,mb5.2						
PMOR	Pomariorio Ree	23.86	88	eP	P	18 11 42.2	-0.2
	comp=Z,78nm,1.4s,mb4.9						
KHZ	Kahutara	27.60	202	eP	P	18 12 18.3	+2.3
	comp=Z,13nm,0.7s,mb4.7						
RPZ	Rata Peaks	29.65	204	P	P	18 12 36.4	+2.1
	comp=Z,11nm,0.8s,mb4.6,baz=101,slow=16,SNR=3.3						
RPZ	Rata Peaks	29.65	204	eP	P	18 12 36.9	+2.6
	comp=Z,38nm,0.8s,mb5.2						
TAOE	Nuku Hiva Isla	32.70	79	eLQ		18 20 21.9	
	comp=Z,5μm,35.1s						
TAOE				eLR	LR	18 21 34.6	
	comp=Z,2μm,26.9s						
RKT	Rikitea	35.71	106	eLR	LR	18 23 06.5	
	comp=Z,2μm,29.5s,baz=277						
CTA	Charters Tower	38.97	259	eP	P	18 13 53.7	-1.4
PMG	Port Moresby	39.85	276	d iP	P	18 14 05.6	+3.0
PMG				pmax	pmax		
	comp=Z,28nm,1.1s						
CMSA	Cobar Meteorol	40.22	242	eP	P	18 14 03.9	-1.6
COEN	Coen	42.62	268	eP	P	18 14 22.7	-2.7
STKA	Stephens Creek	43.72	242	P	P	18 14 32.4	-1.7
	comp=Z,3.5nm,0.9s,mb4.1,baz=49,slow=11,SNR=8.9						
STKA	Stephens Creek	43.72	242	eP	P	18 14 32.8	-1.3
STKA	Stephens Creek	43.72	242	P	P	18 14 33.3	-0.8
STKA	Stephens Creek	43.72	242	P	P	18 14 33.3	-0.8
BBOO	Buckleboo	48.49	241	eP	P	18 15 09.6	-1.9
WB2	Warramunga Arr	50.13	258	eP	P	18 15 21.6	-2.7
WRA	Warramunga Arr	50.14	258	P	P	18 15 21.8	-2.6
	comp=Z,4.1nm,0.5s,mb4.7,baz=97,slow=7.6,SNR=56						
WRA	Warramunga Arr	50.14	258	P	P	18 15 21.8	-2.6
WRA	Warramunga Arr	50.14	258	P	P	18 15 21.8	-2.6
AS31	Alice Springs	50.23	253	eP	P	18 15 22.8	-2.2
ASAR	Alice Springs	50.23	253	P	P	18 15 23.2	-1.8
	comp=Z,17nm,0.6s,mb5.3,baz=91,slow=8.3,SNR=181						
ASAR	Alice Springs	50.23	253	P	P	18 15 23.2	-1.8
ASAR	Alice Springs	50.23	253	P	P	18 15 23.2	-1.8
MJAR	Matsushiro Arr	70.93	320	P	P	18 17 43.5	-2.4
	comp=Z,3.2nm,0.9s,mb4.2,baz=149,slow=4.4,SNR=6.6						
MJAR	Matsushiro Arr	70.93	320	P	P	18 17 43.5	-2.4
MJAR	Matsushiro Arr	70.93	320	P	P	18 17 43.5	-2.4
ERM	Erimo	71.83	327	eP	P	18 17 52.9	+1.7
ERM				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
YUK	Yuzh-Kuril'sk	71.94	330	c iP	pP	18 18 03.5	+0.8
YUK				pmax	pmax		
	comp=Z,677nm,3.1s						
QSPA	South Pole Qui	72.67	180	eP	P	18 17 56.5	+0.8
	comp=Z,23nm,1.0s,mb5.1						
PETK	Petropavlovsk-	74.74	342	P	P	18 18 08.4	+0.4
	comp=Z,17nm,0.9s,mb5.0,baz=138,slow=8.8,SNR=9.5						
PETK	Petropavlovsk-	74.74	342	P	P	18 18 08.4	+0.4
PETK	Petropavlovsk-	74.74	342	P	P	18 18 08.5	+0.4
Y12C	Blythe	75.16	47	⇑P	P	18 18 11.2	+0.2
	baz=75						
113A	Mohawk Valley,	75.17	48	⇑P	P	18 18 11.3	+0.3
	baz=75						
214A	Organ Pipe Nat	75.42	49	⇓P	P	18 18 12.8	+0.2
	baz=76						
Z13A	Yuma Proving G	75.47	48	⇑P	P	18 18 13.0	+0.2
	baz=76						
YSS	Yuzh-Sakhalins	75.57	330	eP	P	18 18 13.9	+0.9
	comp=Z,48nm,1.0s,mb5.4						
YSS	Yuzh-Sakhalins	75.57	330	⇓eP	P	18 18 14.0	+1.0
YSS				e		18 18 20.3	
YSS				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.5						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.9						
Y14A	Wickenburg	76.33	48	⇑P	P	18 18 17.8	+0.2
	baz=76						
W13A	Hualapai Mount	76.33	46	⇓P	P	18 18 17.6	0.0
	baz=76						
K05A	Summer Lake	76.41	37	⇓P	P	18 18 19.0	+1.1
	baz=77						
318A	Bisbee	77.23	51	⇑P	P	18 18 23.3	+0.4
	baz=77,SNR=5.6						
X16A	Lo Mia Camp, P	77.68	48	⇓P	P	18 18 25.7	+0.4
	baz=78						
Y17A	Roosevelt	77.74	49	⇓P	P	18 18 26.1	+0.5
	baz=78						
118A	Homack Ranch,	77.84	50	⇓P	P	18 18 26.5	+0.3
	baz=78						
219A	White Tail Can	78.05	51	⇓P	P	18 18 27.4	+0.1
	baz=78,SNR=6.8						
I07A	Izee	78.05	36	⇓P	P	18 18 27.8	+0.7
	baz=78						
KSRS	Korea Array	78.09	316	P	P	18 18 28.9	+1.4
	comp=Z,8.4nm,1.1s,mb4.6,baz=127,slow=6.7,SNR=11						
KSAR	Wonju Array Be	78.11	316	P	P	18 18 28.9	+1.3
KSAR	Wonju Array Be	78.11	316	P	P	18 18 28.9	+1.3
U15A	North Rim	78.14	46	⇑P	P	18 18 27.6	-0.1
	baz=78						
J08A	Circle Bar Ran	78.19	37	⇓P	P	18 18 28.4	+0.5
	baz=78						
WUAZ	Wupatki	78.30	47	⇓P	P	18 18 29.4	+0.8
	baz=78						
Y18A	Canyon Day Jun	78.36	49	⇓P	P	18 18 30.1	+1.1
	baz=78						
220A	Playas Peak, P	78.55	51	⇓P	P	18 18 30.6	+0.4
	baz=79,SNR=8.2						
120A	U Bar Ranch, L	78.78	51	⇑P	P	18 18 31.7	+0.3
	baz=79						
Y19A	Nutrioso	79.01	49	⇑P	P	18 18 33.6	+1.0
	baz=79						
Z20A	Nine Sixteen R	79.08	50	⇑P	P	18 18 33.2	+0.2
	baz=79,SNR=5.7						
U17A	Shonto	79.35	46	⇑P	P	18 18 35.6	+1.2
	baz=80						
121A	Cookes Peak, D	79.40	51	⇓P	P	18 18 35.1	+0.3
	baz=80						
V18A	Ganado	79.40	47	⇑P	P	18 18 35.1	+0.4
	baz=80						
USRK	Ussuriysk Arra	79.41	323	P	P	18 18 35.3	+0.8
	comp=Z,0.7nm,0.3s,mb4.1,baz=108,slow=4.2,SNR=7.2						
Y20A	Horse Springs,	79.63	50	⇓P	P	18 18 36.5	+0.5
	baz=80,SNR=6.2						
MFID	Camas Ranch	79.77	38	⇓P	P	18 18 36.7	+0.2
	baz=80						
MFID	Camas Ranch	79.77	38	eP	P	18 18 35.0	-1.5
	comp=Z,9.9nm,1.3s,mb4.6						
S17A	Black Ridge (B	79.79	45	⇑P	P	18 18 37.1	+0.3
	baz=80						
DUG	Dugway	79.82	42	P	P	18 18 37.4	+0.6
	comp=Z,11nm,1.3s,mb4.6						
DUG	Dugway	79.82	42	P	P	18 18 37.4	+0.5
DUG				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
X20A	Quemado	79.85	49	⇓P	P	18 18 37.7	+0.6
	baz=80						
Z21A	St. Cloud Mine	79.85	50	⇑P	P	18 18 38.0	+0.8
	baz=80,SNR=5.9						
W20A	Ramah	80.13	48	⇑P	P	18 18 39.4	+0.7
	baz=80						
T18A	Mexican Hat	80.17	46	⇓P	P	18 18 39.1	+0.3
	baz=80						
R17A	Hanksville Air	80.25	45	⇓P	P	18 18 39.0	-0.3
	baz=80						
E09A	Wood Farm, Sta	80.31	35	⇓P	P	18 18 39.7	+0.3
	baz=80						
X21A	Alamocita Cree	80.31	49	⇑P	P	18 18 39.5	-0.2
	baz=80						
Z22A	Elephant Butte	80.35	51	⇑P	P	18 18 39.6	-0.4
	baz=80						
I12A	Atlanta	80.40	38	⇑P	P	18 18 40.1	+0.2
	baz=80						
HABR	Khabarovsk	80.41	328	eP	P	18 18 39.5	-0.3
HABR				e		18 18 46.0	
HABR				PPP		18 23 31.1	
HABR				S	S	18 28 43.7	+0.3
HABR				eSS	SS	18 33 55.7	-0.4
HABR				pmax	pmax		
	comp=E,12nm,0.8s						
HABR				pmax	pmax		
	comp=N,7.0nm,0.8s						
HABR				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.3						
HABR				MLR	MLR		
	comp=Z,291nm,19.0s,MS4.7						
T19A	Beclabito	80.60	47	⇑P	P	18 18 41.4	+0.3
	baz=81						
324A	Moseley Ranch,	80.63	53	⇓P	P	18 18 41.4	0.0
	baz=81,SNR=5.8						
Y22A	Socorro	80.67	50	⇑P	P	18 18 41.8	+0.2
	baz=81						
HLID	Hailey	80.70	39	⇑P	P	18 18 41.8	+0.3
	baz=81						
425A	Indio Mountain	80.72	54	⇓P	P	18 18 41.9	-0.1
	baz=81,SNR=7.7						
U20A	Newcomb	80.73	47	⇓P	P	18 18 42.2	+0.4
	baz=81						
SRU	San Rafael	80.74	44	⇑P	P	18 18 42.0	+0.1
	baz=81						
M15A	Larsen Ranch,	80.74	41	⇑P	P	18 18 42.0	+0.2
	baz=81						
J13A	Cove Ranch, Pi	80.75	39	⇑P	P	18 18 41.9	+0.1
	baz=81,SNR=6.5						
MNTX	Cornudas Mount	80.82	53	⇓P	P	18 18 42.4	0.0
	baz=81,SNR=7.6						
626A	Big Bend Ranch	80.84	55	⇑P	P	18 18 42.7	+0.1
	baz=81						
K14A	Jones Ranch, D	80.88	40	⇓P	P	18 18 42.5	0.0
	baz=81						
224A	Cornudas Mount	80.89	52	⇓P	P	18 18 42.9	+0.1
	baz=81						
PMR	Palmer	80.92	11	eP	P	18 18 42.1	-0.1
	comp=Z,16nm,1.2s,mb4.8						
PMR	Palmer	80.92	11	eP	P	18 18 42.1	-0.1
PMR				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
S19A	Harvey Farm, M	80.98	46	⇓P	P	18 18 43.1	-0.1
	baz=81						
325A	Bean Ranch, Si	80.99	53	⇑P	P	18 18 43.2	-0.2
	baz=81,SNR=9.0						
Q18A	Rafter H Ranch	80.99	44	⇑P	P	18 18 43.3	+0.1
	baz=81						
H12A	Diamond D Ranc	81.00	38	⇓P	P	18 18 43.2	+0.1
	baz=81						
BNM	Barren Site	81.02	50	P	P	18 18 43.8	+0.3
	comp=Z,6.4nm,1.2s,mb4.4						
MDJ	Mudanjiang	81.05	322	P	P	18 18 44.1	+0.8
MDJ				S	S	18 28 48.9	-1.3
MDJ				pmax	pmax		
	comp=Z,16nm,1.9s,mb4.6						
MDJ				pmax	pmax		
	comp=Z,130nm,7.5s						
MDJ				LR	LR		
	comp=N,130nm,38.0s,MS4.2						
MDJ				LR	LR		
	comp=E,170nm,35.1s,MS4.2						
MDJ				LR	LR		
	comp=Z,290nm,35.1s,MS4.4						
L15A	Malad City	81.07	41	⇑P	P	18 18 44.1	+0.6
	baz=81						
I13A	Wildhorse Cree	81.07	39	⇓P	P	18 18 43.8	+0.3
	baz=81						
526A	Mary Lane Ranc	81.09	55	⇑P	P	18 18 44.0	0.0
	baz=81,SNR=5.5						
J14A	Carey	81.10	39	⇑P	P	18 18 44.5	+0.8
	baz=81						
TXAR	Lajitas Array	81.11	56	P	P	18 18 44.8	+0.7
	comp=Z,5.1nm,1.1s,mb4.4,baz=220,slow=5.7,SNR=23						
TXAR	Lajitas Array	81.11	56	P	P	18 18 44.8	+0.7
TXAR	Lajitas Array	81.11	56	P	P	18 18 44.8	+0.7
O17A	Robinson Place	81.16	43	⇓P	P	18 18 44.5	+0.4
	baz=81						
M16A	Huntsville	81.18	42	⇓P	P	18 18 44.8	+0.7
	baz=81						
Y23A	Lovelace Mesa,	81.34	51	⇑P	P	18 18 45.3	+0.1
	baz=81						
K15A	Arbon	81.35	40	⇑P	P	18 18 45.5	+0.5
	baz=82						
U21A	Nageezi	81.36	48	⇑P	P	18 18 45.2	0.0
	baz=82						
H13A	Challis	81.36	38	⇓P	P	18 18 45.3	+0.2
	baz=82,SNR=6.4						
627A	Terlingua Ranc	81.38	56	⇓P	P	18 18 45.6	+0.1
	baz=82,SNR=7.0						
426A	McDonald Obser	81.40	54	⇑P	P	18 18 45.6	0.0
	baz=82,SNR=6.5						
225A	Deer Hill, Car	81.43	53	⇓P	P	18 18 45.1	-0.6
	baz=82,SNR=7.0						
I14A	Mackay	81.48	39	⇑P	P	18 18 46.1	+0.4
	baz=82						
527A	Woodward Ranch	81.50	55	⇑P	P	18 18 46.1	0.0
	baz=82,SNR=7.1						
ANMO	Albuquerque	81.51	49	P	P	18 18 46.1	+0.1
	comp=Z,4.3nm,0.9s,mb4.4,baz=238,slow=5.1,SNR=5.3						
ANMO	Albuquerque	81.51	49	P	P	18 18 46.1	+0.1
ANMO	Albuquerque	81.51	49	P	P	18 18 46.2	+0.1
S20A	Disappointment	81.55	46	⇑P	P	18 18 45.8	-0.5
	baz=82						
Z24A	Sheeppen Canyo	81.57	51	⇓P	P	18 18 46.4	0.0
	baz=82						
E12A	Beaver Dam Sad	81.67	36	⇑P	P	18 18 46.6	0.0
	baz=82						
G13A	Cobalt	81.67	38	⇑P	P	18 18 46.6	-0.1
	baz=82,SNR=5.3						
T21A	Navajo Lake	81.72	47	⇑P	P	18 18 47.5	+0.4
	baz=82						
326A	Caldwell Ranch	81.72	54	⇓P	P	18 18 47.2	-0.1
	baz=82						
628A	Black Gap, Mar	81.79	56	⇓P	P	18 18 48.0	+0.3
	baz=82						
Y24A	Capitan	81.79	51	⇑P	P	18 18 47.4	-0.2
	baz=82,

baz=82,SNR=5.4
428A Kincaid Ranch, 82.47 55 ⇑P P 18 18 51.2 0.0
baz=83
N19A John Jarvie Ra 82.54 43 ⇓P P 18 18 51.8 +0.5
baz=83
S22A 4UR Ranch, Cre 82.57 47 ⇑P P 18 18 51.7 +0.2
baz=83,SNR=7.4
F14A Wisdom 82.58 37 ⇓P P 18 18 51.9 +0.4
baz=83
KLR Kul'dur 82.58 327 *eP* **P 18 18 48.0 -3.3**
Z26A Caprock 82.58 52 ⇓P P 18 18 51.5 -0.3
baz=83,SNR=5.2
Q21A Lamborn Mesa, 82.58 46 ⇓P P 18 18 51.8 +0.2
baz=83
X25A Clemmons Ranch 82.64 51 ⇑P P 18 18 52.0 0.0
baz=83
I16A Newdale 82.64 40 ⇓P P 18 18 52.4 +0.7
baz=83,SNR=5.4
328A Wristen Ranch, 82.66 54 ⇓P P 18 18 52.0 -0.1
baz=83
D13A Huson 82.69 36 ⇑P P 18 18 51.3 -0.7
baz=83,SNR=5.8
G15A Dillon 82.74 38 ⇑P P 18 18 52.1 -0.2
baz=83,SNR=7.4
TNA Tin City 82.77 2 *eP* **P 18 18 50.2 -1.7**
comp=Z,24nm,1.7s,mb4.9
MSO Missoula 82.83 36 ⇓P P 18 18 52.5 -0.1
baz=83
E14A Clinton 82.85 37 ⇓P P 18 18 52.3 -0.5
baz=83,SNR=6.0
K18A Toltan Ranch, 82.88 41 ⇑P P 18 18 53.1 +0.1
baz=83
MCK McKinley 82.93 10 *eP* **P 18 18 51.5 -1.3**
comp=Z,26nm,1.0s,mb5.2
MCK McKinley 82.93 10 *eP* **P 18 18 51.5 -1.3**
MCK pmax pmax
comp=Z,27nm,1.0s,mb5.2
BSMT Bassoo Peak 82.95 35 *eP* **P 18 18 51.0 -2.3**
comp=Z,10.0nm,1.3s,mb4.7
C13A Hot Springs 82.97 35 ⇓P P 18 18 53.6 +0.2
baz=83
L19A Farson 83.04 42 ⇑P P 18 18 54.1 +0.3
baz=83
Q22A Crested Butte, 83.05 46 ⇑P P 18 18 53.9 -0.2
baz=83,SNR=6.9
CN2 Changchun 83.08 320 *eP* **P 18 18 56.0 +2.0**
CN2 *es*P sP 18 19 10.4 +1.3
CN2 *eS* S 18 29 12.4 +1.2
CN2 pmax pmax
comp=Z,20nm,1.3s,mb5.0
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,14.0s,MS5.0
CN2 LR LR
comp=E,300nm,14.0s,MS5.0
CN2 LR LR
comp=Z,400nm,17.0s,MS4.9
F15A Butte 83.11 38 ⇑P P 18 18 53.9 -0.2
baz=83
N20A Spence Gulch, 83.11 44 ⇓P P 18 18 54.2 0.0
baz=83
G16A Moss Hill, Enn 83.18 38 ⇓P P 18 18 54.7 +0.1
baz=83
Z27A Tatum 83.18 52 ⇓P P 18 18 54.8 -0.1
baz=83
QLMT Earthquake Lak 83.19 39 *eP* **P 18 18 55.1 +0.5**
comp=Z,2.4nm,1.2s,mb4.1
MENT Mentasta 83.21 13 *eP* **P 18 18 53.4 -0.9**
I17A Pilgrim Ck. 83.22 40 ⇓P P 18 18 55.4 +0.6
baz=83
H16A Russell Place, 83.23 39 ⇑P P 18 18 55.2 +0.4
baz=83,SNR=18
FLWY Flagg Ranch 83.23 40 *eP* **P 18 18 55.1 +0.3**
comp=Z,13nm,1.0s,mb4.9
PD01 Pinedale Array 83.24 41 *eP* **P 18 18 54.2 -0.7**
BW06 Boulder Array 83.25 41 ⇑P P 18 18 55.4 +0.4
baz=83
PDAR Pinedale Array 83.25 41 P **P 18 18 54.8 -0.2**
comp=Z,5.3nm,1.0s,mb4.5,baz=205,slow=3.1,SNR=17
PDAR Pinedale Array 83.25 41 P **P 18 18 54.8 -0.2**
PD02 Pinedale Array 83.25 41 *eP* **P 18 18 53.2 -1.8**
V25A Rancho No Teng 83.26 49 ⇑P P 18 18 55.6 +0.4
baz=83
CHMT Chamberlain Mo 83.27 36 *eP* **P 18 18 54.2 -0.8**
comp=Z,7.1nm,1.3s,mb4.5
E15A Deer Lodge 83.34 37 ⇑P P 18 18 55.8 +0.4
baz=84
Y27A Causey 83.46 52 ⇓P P 18 18 56.2 -0.1
baz=84
H17A Grant Village 83.47 40 ⇓P P 18 18 56.8 +0.7
baz=84
R23A Moffat 83.48 47 ⇑P P 18 18 56.5 +0.2
baz=84
M20A Sweetwater, Wa 83.48 43 ⇑P P 18 18 56.7 +0.5
baz=84
SDCO Great Sand Dun 83.50 47 ⇓P P 18 18 56.7 +0.3
baz=84
P22A Eagle 83.51 45 ⇓P P 18 18 56.8 +0.4
baz=84
BOZ Bozeman (W) 83.51 38 ⇓P P 18 18 56.2 0.0
baz=84,SNR=7.9
N21A Black Mountain 83.56 44 ⇓P P 18 18 56.9 +0.3
baz=84
I18A Diamond G Ranc 83.57 40 ⇑P P 18 18 56.8 +0.2
baz=84
F16A Kennard Place, 83.58 38 ⇑P P 18 18 56.9 +0.3
baz=84
L20A Wamsutter 83.64 43 ⇓P P 18 18 57.0 +0.1
baz=84,SNR=7.6
S24A Houchin Ranch, 83.66 48 ⇑P P 18 18 56.8 -0.4
baz=84
U25A Circle Dot Ran 83.66 49 ⇓P P 18 18 56.5 -0.7
baz=84
K19A Absolon Red Bu 83.73 42 ⇑P P 18 18 56.8 -0.6
baz=84
D15A Lincoln 83.76 37 ⇑P P 18 18 57.2 -0.2
baz=84,SNR=6.2
A13A Flathead Natio 83.78 34 ⇓P P 18 18 57.1 -0.4
baz=84
J19A Crowheart 83.82 41 ⇓P P 18 18 57.5 -0.4
baz=84,SNR=9.5
G17A Pierce Place, 83.86 39 ⇑P P 18 18 57.4 -0.6
baz=84
O22A Kremmling 83.92 45 ⇓P P 18 18 58.0 -0.5
baz=84
E16A East Helena 83.96 37 ⇑P P 18 18 58.0 -0.5
baz=84
HRY Holter Researc 83.97 37 *eP* **P 18 18 58.2 -0.3**
comp=Z,3.7nm,0.5s,mb4.8
R24A Sanders Place, 84.00 47 ⇓P P 18 18 58.5 -0.4
baz=84
W27A Bowe Ranch, En 84.05 51 ⇓P P 18 18 58.4 -0.9
baz=84
B14A Marquette Ranc 84.07 35 ⇑P P 18 18 58.4 -0.6
baz=84,SNR=5.8
M21A Separation Pea 84.08 43 ⇑P P 18 18 59.1 -0.2
baz=84
C15A Salmond Ranch, 84.11 36 ⇓P P 18 18 58.6 -0.6
baz=84,SNR=6.0
COLA College 84.17 10 *eP* **P 18 18 58.4 -0.7**
comp=Z,34nm,1.1s,mb5.4
COLA College 84.17 10 *eP* **P 18 18 58.4 -0.7**
COLA pmax pmax
comp=Z,33nm,1.1s,mb5.4
F17A Fitzpatrick Pl 84.22 38 ⇓P P 18 18 59.5 -0.4
baz=84
ILAR Eielson Array 84.25 11 P **P 18 18 58.6 -0.9**
comp=Z,3.3nm,0.8s,mb4.5,baz=221,slow=4.6,SNR=26
ILAR Eielson Array 84.25 11 P **P 18 18 58.6 -0.9**
ILAR Eielson Array 84.25 11 P **P 18 18 58.6 -0.9**
I19A Meeteetse 84.25 41 ⇑P P 18 19 00.0 0.0
baz=84,SNR=6.1
N22A Wattenberg Ran 84.29 44 ⇓P P 18 19 00.0 -0.3
baz=84
D16A Dana Ranch, Ca 84.31 37 ⇓P P 18 19 00.1 -0.1
baz=84,SNR=6.5
A14A Double T Ranch 84.34 35 ⇑P P 18 18 59.8 -0.6
baz=84,SNR=7.1
O23A Lake Granby, G 84.37 45 ⇓P P 18 19 00.4 -0.3
baz=84
ISCO Idaho Springs 84.38 45 ⇑P P 18 19 00.1 -0.7
baz=84
E17A Martinsdale 84.40 38 ⇓P P 18 19 00.5 -0.2
baz=84
B15A Bradely Ranch, 84.44 36 ⇓P P 18 19 00.5 -0.4
baz=85
J20A Shoshoni 84.48 41 ⇑P P 18 19 00.9 -0.3
baz=85,SNR=5.7
M22A Cedar Creek Ra 84.48 44 ⇓P P 18 19 01.0 -0.3
baz=85
R25A Fountain Ranch 84.54 47 ⇑P P 18 19 01.5 -0.2
baz=85
G18A Lazy EL Ranch, 84.57 39 ⇓P P 18 19 01.4 -0.2
baz=85,SNR=5.6
H19A Powell 84.58 40 ⇑P P 18 19 01.4 -0.3
baz=85
C16A Fuhringer Ranc 84.61 36 ⇑P P 18 19 01.0 -0.8
baz=85
SEY Seymchan 84.62 345 *c iP* **P 18 19 01.0 -0.5**
RLMT Red Lodge 84.64 39 ⇑P P 18 19 01.6 -0.4
baz=85,SNR=5.2
RLMT Red Lodge 84.64 39 *eP* **P 18 19 02.1 +0.1**
comp=Z,11nm,1.3s,mb4.8
K21A Alcova 84.66 42 ⇓P P 18 19 01.4 -0.7
baz=85,SNR=5.5
N23A Red Feather La 84.67 44 ⇓P P 18 19 01.7 -0.6
baz=85
A15A Johnson Ranch, 84.71 35 ⇓P P 18 19 01.7 -0.5
baz=85
GCMT Greycliff 84.75 39 *eP* **P 18 19 01.5 -1.0**
comp=Z,14nm,1.4s,mb4.9
I20A Worland 84.75 41 ⇑P P 18 19 01.7 -0.8
baz=85
F18A Big Timber 84.78 39 ⇑P P 18 19 02.5 -0.2
baz=85,SNR=5.5
WHN Wuhan 84.82 304 P **P 18 19 05.3 +2.0**
D17A Six Diamond Ra 84.87 37 ⇓P P 18 19 02.7 -0.4
baz=85,SNR=10
J21A Lysite 84.88 42 ⇑P P 18 19 02.7 -0.6
baz=85,SNR=8.2
L22A Ellis Ranch, M 84.89 43 ⇑P P 18 19 02.3 -1.0
baz=85
B16A M & M Farms, S 84.97 36 ⇑P P 18 19 03.1 -0.4
baz=85
E18A Harlowton 85.01 38 ⇑P P 18 19 03.4 -0.4
baz=85
C17A Wharram Farm, 85.08 37 ⇓P P 18 19 03.5 -0.7
baz=85,SNR=15
M23A Laramie 85.09 44 ⇑P P 18 19 03.7 -0.7
baz=85
R26A Arlington 85.20 48 ⇓P P 18 19 04.0 -0.9
baz=85
I21A Big Trails, Te 85.21 41 ⇑P P 18 19 04.4 -0.5
baz=85
F19A Roth Farm, Mol 85.22 39 ⇓P P 18 19 04.2 -0.6
baz=85,SNR=5.1
A16A West Butte Ran 85.32 35 ⇓P P 18 19 04.6 -0.7
baz=85
EGAK Eagle 85.38 13 *eP* **P 18 19 04.7 -0.6**
comp=Z,28nm,1.2s,mb5.3
L23A Garrett 85.41 43 ⇑P P 18 19 04.9 -1.1
baz=86
B17A L&G Farms, Che 85.41 36 ⇓P P 18 19 05.1 -0.7
baz=86
E19A Rath Farm, Rou 85.62 38 ⇓P P 18 19 06.2 -0.7
baz=86
F20A Billings 85.67 39 ⇓P P 18 19 06.6 -0.6
baz=86
A17A Triple J Farms 85.82 36 ⇓P P 18 19 07.3 -0.4
baz=86
D19A Cripps Ranch, 85.92 38 ⇑P P 18 19 07.7 -0.6
baz=86
COLD Coldfoot 85.99 9 *eP* **P 18 19 08.4 +0.2**
comp=Z,16nm,1.3s,mb5.1
B18A Beardsley Farm 86.05 36 ⇑P P 18 19 08.7 -0.2
baz=86
C19A Slack Wire Ran 86.12 37 ⇓P P 18 19 08.8 -0.5
baz=86
A18A Metzger Ranch, 86.28 36 ⇓P P 18 19 09.4 -0.7
baz=86
BILL Bilibino 86.57 352⇑ *eP* **P 18 19 10.4 -0.7**
BILL *e* 18 22 35.6
BILL *eS* S 18 29 43.8 -1.0
A20A Cobblestone Ra 87.35 37 ⇑P P 18 19 15.0 -0.3
baz=88
BJI Beijing 87.37 313 P **P 18 19 16.8 +1.2**
BJI pP pP 18 19 26.3 -0.4
BJI S S 18 29 55.9 +2.2
BJI SS SS 18 35 42.0 +2.5
BJI pmax pmax
comp=Z,29nm,1.4s,mb5.3
BJI pmax pmax
comp=Z,270nm,4.4s
BJI LR LR
comp=Z,120nm,18.4s,MS4.3
H24A Dirks Ranch, A 87.38 41 ⇓P P 18 19 15.4 -0.2
baz=88
PLCA Paso Flores 87.63 132 P **P 18 19 18.1 +1.1**
comp=Z,2.9nm,1.0s,mb4.5,baz=222,slow=7.6,SNR=5.5
PLCA Paso Flores 87.63 132 P **P 18 19 18.1 +1.1**
PLCA Paso Flores 87.63 132 P **P 18 19 18.1 +1.1**
C23A Lambert 88.42 39 ⇓P P 18 19 19.6 -0.9
baz=88
ENH Enshi 88.61 302 *eP* **P 18 19 23.2 +1.4**
comp=Z,85nm,1.7s,mb5.8
GYA Guiyang 89.63 298⇑ *iP* **P 18 19 27.0 +0.4**
GYA pP pP 18 19 39.0 +1.2
GYA sP sP 18 19 43.8 +2.0
GYA PP PP 18 23 01.8 +2.8
GYA SKS 18 29 52.3
GYA S S 18 30 13.4 -2.3
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.4
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=N,510nm,20.9s,MS5.1
GYA LR LR
comp=E,480nm,21.0s,MS5.1
GYA LR LR
comp=Z,550nm,20.8s,MS5.0
XAN Xi'an 90.39 306 P **P 18 19 31.8 +1.8**
XAN pmax pmax
comp=Z,3.0nm,1.5s,mb4.4
XAN pmax pmax
comp=Z,19nm,6.0s
SYO Syowa Base 90.80 191⇑ *eP* **P 18 19 29.9 -1.4**
VNA3 Neumayer Olymp 90.82 175 *e* **P 18 19 30.7 -0.7**
SNAA Sanae 90.89 177 *e* **P 18 19 31.9 +0.2**
SNAA Sanae 90.89 177 *eP* **P 18 19 30.9 -0.8**
comp=Z,9.5nm,1.0s,mb5.1
SNAA Sanae 90.89 177 *eP* **P 18 19 30.9 -0.8**
SNAA pmax pmax
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 90.92 313 *eP* **P 18 19 32.6 +0.3**
HHC pP pP 18 19 43.3 -0.1
HHC SKS 18 29 59.8
HHC S S 18 30 25.8 -1.1
HHC SS SS 18 36 31.6 +0.6
HHC pmax pmax
comp=Z,11nm,0.9s,mb5.2
HHC pmax pmax
comp=Z,130nm,6.2s
HHC LR LR
comp=N,190nm,18.3s,MS4.8
HHC LR LR
comp=E,240nm,15.9s,MS4.8
HHC LR LR
comp=Z,170nm,16.7s,MS4.6
VNA2 Neumayer--Watz 91.32 175 *e* **P 18 19 34.2 +0.5**
VNA1 Neumayer--Stat 91.52 175 *e* **P 18 19 36.1 +1.5**
YKA Yellowknife Ar 91.62 23 P **P 18 19 34.4 -0.6**
comp=Z,1.8nm,1.1s,mb4.3,baz=232,slow=4.1,SNR=16
YKA Yellowknife Ar 91.62 23 P **P 18 19 34.5 -0.6**
YKA Yellowknife Ar 91.62 23 P **P 18 19 34.5 -0.5**
KMI Kunming 92.55 295 P **P 18 19 43.1 +2.9**
KMI pP pP 18 19 53.3 +1.9
KMI sP sP 18 19 58.3 +2.9
KMI PP PP 18 23 22.3 +0.1
KMI S S 18 30 40.5 -1.9
KMI pmax pmax
comp=Z,14nm,1.6s,mb5.1
KMI pmax pmax
comp=Z,140nm,4.1s
KMI LR LR
comp=N,210nm,20.3s,MS4.8
KMI LR LR
comp=E,320nm,19.7s,MS4.8
KMI LR LR
comp=Z,320nm,21.5s,MS4.7
CD2 Chengdu 93.47 301 *eP* **P 18 19 44.8 +0.4**
CD2 PP PP 18 23 32.3 +3.0
CD2 SKS 18 30 15.0
CD2 S S 18 30 48.1 -2.2
CD2 SS SS 18 37 10.1 +1.9
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
CD2 pmax pmax
comp=Z,30nm,6.2s
CD2 LR LR
comp=N,280nm,13.2s
CD2 LR LR
comp=Z,350nm,13.2s,MS5.0
CMAR Chiang Mai Arr 93.94 288 P **P 18 19 46.8 0.0**
comp=Z,2.9nm,0.9s,mb4.7,baz=108,slow=3.0,SNR=17
CMAR Chiang Mai Arr 93.94 288 P **P 18 19 46.8 0.0**
CMAR Chiang Mai Arr 93.94 288 P **P 18 19 46.8 0.0**
CHTO Chiang Mai 94.04 288 *eP* **P 18 19 49.2 +2.0**
comp=Z,10nm,1.3s,mb5.1
CHTO Chiang Mai 94.04 288 *eP* **P 18 19 49.2 +2.0**
CHTO pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
LZH Lanzhou 94.99 306 *eP* **P 18 19 53.3 +2.1**
LZH pP pP 18 20 04.3 +1.9
LZH sP sP 18 20 09.1 +2.7
LZH *e*PP PP 18 23 45.5 +4.5
LZH SKS 18 30 24.5
LZH *e*S S 18 31 02.4 -1.0
LZH pmax pmax
comp=Z,17nm,1.2s,mb5.3
LZH pmax pmax
comp=Z,97nm,7.1s
LZH LR LR
comp=N,280nm,17.0s,MS4.9
LZH LR LR
comp=E,250nm,16.7s,MS4.9
LZH LR LR
comp=Z,370nm,19.5s,MS4.9
ULM Lac du Bonnet 95.01 39 P **P 18 19 49.3 -1.6**
comp=Z,3.3nm,1.0s,mb4.7,baz=356,slow=3.5,SNR=3.6
ULM Lac du Bonnet 95.01 39 P **P 18 19 49.3 -1.6**
ULM Lac du Bonnet 95.01 39 P **P 18 19 49.3 -1.6**
SONM Songino Array 96.81 318 P **P 18 19 59.9 +0.7**
comp=Z,0.7nm,0.8s,mb4.2,baz=130,slow=6.2,SNR=2.6
SONM LR LR 18 57 26.1
comp=Z,124nm,21.1s,MS4.4,baz=124,slow=32
SONM Songino Array 96.81 318 P **P 18 19 59.9 +0.7**
SONM Songino Array 96.81 318 P **P 18 19 59.9 +0.7**
GTA Gaotai 99.00 308 *eP* **P 18 20 11.8 +2.6**
GTA pP pP 18 20 22.8 +2.4
GTA sP sP 18 20 26.3 +1.9
GTA PP PP 18 24 14.5 +2.7
GTA SKS 18 30 46.1
GTA S S 18 31 36.9 -0.6
GTA pmax pmax
comp=Z,5.0nm,2.1s,mb4.7
GTA pmax pmax
comp=Z,180nm,6.2s
GTA LR LR
comp=N,200nm,15.2s,MS4.9
GTA LR LR
comp=E,220nm,15.7s,MS4.9
GTA LR LR
comp=Z,420nm,19.0s,MS5.0
MKAR Makanchi Array 112.74 314 PKiKP PKiKP 18 25 04.9 -0.1
comp=Z,1.2nm,0.7s,baz=167,slow=1.1,SNR=14
MKAR Makanchi Array 112.74 314 PKiKP PKiKP 18 25 04.9 -0.1
MKAR Makanchi Array 112.74 314 PKiKP PKiKP 18 25 04.9 -0.1
KURK Kurchatov 115.12 318 *i* PKiKP PKiKP 18 25 09.4 0.0
KURK pmax pmax
comp=Z,12nm,2.5s
KSH Kashi 117.24 306 *e*PKP PKPdf 18 25 14.8 +0.9
KSH sPKP 18 25 29.6
KSH PKS 18 28 50.3
KSH SS SS 18 42 43.3 +11
KSH AMB AMB
comp=Z,270nm,6.4s
KSH LR LR
comp=N,250nm,6.8s
KSH LR LR
comp=E,330nm,7.1s
KSH LR LR
comp=Z,400nm,6.6s
BVAR Borovoye Array 119.90 322 PKP PKPdf 18 25 18.8 +0.3
comp=Z,2.5nm,0.7s,baz=127,slow=0.8,SNR=20
BVAR Borovoye Array 119.90 322 PKP PKPdf 18 25 18.8 +0.3
BVAR Borovoye Array 119.90 322 PKiKP PKPdf 18 25 18.8 +0.3
BRVK Borovoye 119.95 322 *d i* PKiKP PKPdf 18 25 19.2 +0.6
BRVK pmax pmax
comp=Z,4.0nm,1.0s
KBL Kabul 122.80 300 *e*PKPdf PKPdf 18 25 26.0 +1.3
KBL Kabul 122.80 300 *e*PKiKP PKPdf 18 25 26.0 +1.3
ARU Arti 125.41 328 PKiKP PKPdf 18 25 29.8 +0.8
ARCES ARCESS Array B 126.67 352 PKP PKPdf 18 25 30.7 -0.3
comp=Z,4.4nm,0.9s,baz=7.6,slow=3.7,SNR=5.7
ARCES ARCESS Array B 126.67 352 PKP PKPdf 18 25 30.7 -0.3
ARCES ARCESS Array B 126.67 352 PKiKP PKPdf 18 25 30.7 -0.4
FINES FINESS Array B 134.04 348 PKP PKPdf 18 25 47.0 +1.8
comp=Z,6.1nm,1.0s,baz=134,slow=5.5,SNR=4.6
FINES FINESS Array B 134.04 348 PKP PKPdf 18 25 47.0 +1.8
FINES FINESS Array B 134.04 348 PKiKP PKPdf 18 25 47.0 +1.8
OBN Obninsk 136.22 336⇑ *i* PKiKP PKPdf 18 25 50.3 +0.8
OBN *e* 18 28 34.1
OBN *e* 18 32 56.6
OBN *e*SS SS 18 46 59.7 +32
OBN pmax pmax
comp=Z,21nm,1.2s
AKASG Malin Array Be 142.45 337 PKhKP PKPpre 18 25 55.9
comp=Z,0.9nm,0.5s,baz=42,slow=3.6,SNR=4.9
AKASG PKP PKPdf 18 26 01.2 +0.2
comp=Z,0.9nm,0.5s,baz=46,slow=2.8,SNR=7.1
AKASG Malin Array Be 142.45 337 PKPpre PKPpre 18 25 55.9
AKASG PKP PKPdf 18 26 01.2 +0.2
AKASG Malin Array Be 142.45 337 PKHKP PKPpre 18 25 55.9
AKASG 18 26 01.2
LVV L'vov 144.97 341 *e*PKiKP PKPdf 18 26 04.8 -0.7
KMBO Kilima Mbogo 145.28 241 *e*PKPdf PKPdf 18 26 08.6 +1.5
KMBO Kilima Mbogo 145.28 241 *e*PKiKP PKPdf 18 26 08.6 +1.4
KWP Kalwaria Pacla 145.53 342 *e*PKP PKPdf 18 26 07.4 +1.0
KWP Kalwaria Pacla 145.53 342 *e*PKPdf PKPdf 18 26 07.0 +0.6
KWP Kalwaria Pacla 145.53 342 *e*PKiKP PKPdf 18 26 07.0 +0.6
KIS Kishinev 145.58 334 *e*UNK PKPdf 18 26 07.0 +0.4
KIS Kishinev 145.58 334 *e*PKiKP PKPdf 18 26 07.0 +0.4
KIS *e* 18 26 14.0
OJC Ojcow 145.76 346 *e*PKiKP PKPab 18 26 07.7 +0.1
OJC *ep*PKPab pPKPab 18 26 21.9 +3.0
OJC Ojcow 145.76 346 *i* PKP2 PKPab 18 26 07.7 +0.1
CLL Collm 145.87 354⇓ *i* PKPbc PKPbc 18 26 07.9 +0.4
comp=Z,40nm,1.4s
CLL *i* (PKiKP) 18 26 13.6
KSP Ksiaz 145.87 350 *e*PKP PKPdf 18 26 08.7 +1.7
KSP Ksiaz 145.87 350 *e*PKP PKPdf 18 26 08.4 +1.4
KSP *e* 18 26 42.3
KSP Ksiaz 145.87 350 *e*PKP2 PKPab 18 26 08.4 +0.4
STHS Stebnicka Huta 146.14 344 *e*PKP2 PKPab 18 26 10.2 +1.1
STHS Stebnicka Huta 146.14 344 *e*PKP PKPab 18 26 10.2 +1.1
BRG Berggiesshubel 146.19 353 *i* PKP PKPab 18 26 08.9 -0.3
comp=Z,20nm,1.2s
BRG *e* 18 26 44.1
comp=Z,42nm,1.5s
BRG Berggiesshubel 146.19 353 *i* PKP2 PKPab 18 26 08.9 -0.3
BRG pmax pmax
comp=Z,21nm,1.2s
BRG pmax pmax
comp=Z,42nm,1.5s
UPC Upice 146.24 350 *e*PKP2 PKPab 18 26 09.7 +0.2
UPC Upice 146.24 350 *e*PKP PKPab 18 26 09.7 +0.2
UPC *ep*PKP pPKPdf 18 26 24.0 +4.9
UPC *ex* x 18 26 43.2
KOLS Kolonicke sedl 146.29 342 *e*PKP2 PKPab 18 26 13.3 +3.6
KOLS Kolonicke sedl 146.29 342 *e*PKP PKPab 18 26 13.3 +3.6
DPC Dobruska-Polom 146.34 350 *e*PKP2 PKPab 18 26 09.9 +0.1
DPC Dobruska-Polom 146.34 350 *e*PKP PKPab 18 26 09.9 +0.1
DPC *ep*PKP pPKPdf 18 26 24.7 +5.4
DPC *ex* x 18 26 52.9
NIE Niedzica 146.38 345 *e*PKP PKPab 18 26 10.0 0.0
PVCC Panska Ves 146.44 352 *e*PKP2 PKPab 18 26 10.2 0.0
PVCC Panska Ves 146.44 352 *e*PKP PKPab 18 26 10.2 0.0
PVCC *ep*PKP pPKPdf 18 26 25.6 +6.2
BUR08 Bucovina Ar. S 146.46 338 *e*PKPbc PKPbc 18 26 11.1 +1.7
BURAR Bucovina Array 146.48 338⇑ PKP2 PKPab 18 26 12.1 +1.6
BURAR Bucovina Array 146.48 338⇑ *i* P PKPab 18 26 12.1 +1.6
OKC Ostrava-Krasne 146.49 347 *e*PKP2 PKPab 18 26 09.7 -0.7
OKC Ostrava-Krasne 146.49 347 *e*PKP PKPab 18 26 09.7 -0.7
OKC *ex* x 18 26 19.5
CRVS Cervenica-Dubn 146.55 343 *e*PKP2 PKPab 18 26 10.1 -0.6

CRVS	Cervenica-Dubn	146.55	343	ePKP	PKPab	18 26 10.1	-0.6
UZH	Uzhgorod	146.55	342	i PKP2	PKPab	18 26 10.2	-0.5
MORC	Moravsky Berou	146.67	348	ePKPbc	PKPbc	18 26 10.6	+0.7
MORC	Moravsky Berou	146.67	348	ePKP2	PKPbc	18 26 10.6	+0.6
MORC	Moravsky Berou	146.67	348	⇑iP	PKPab	18 26 11.1	0.0
MEM	Membach	146.84	2	PKP	PKPdf	18 26 10.5	+1.8
TESR		146.86	335	⇑iP	PKPbc	18 26 11.2	+0.6
GHRR		146.91	334	⇑iP	PKPbc	18 26 12.4	+1.6
TRPA	Tarpa	146.93	341	⇑iP	PKPbc	18 26 11.2	+0.4
PRU	Pruhonice	146.97	352	ePKP2	PKPab	18 26 11.4	-0.9
PRU	Pruhonice	146.97	352	ePKP	PKPab	18 26 11.4	-0.9
PRU				epPKP	pPKPdf	18 26 25.7	+5.4
PRU				ex	x	18 26 45.8	
NKC	Novy Kostel	146.98	354	ePKP2	PKPab	18 26 12.6	+0.3
NKC	Novy Kostel	146.98	354	ePKP	PKPab	18 26 12.6	+0.3
NKC				ex	x	18 26 46.5	
TLCR		146.99	332	⇓PKP2	PKPab	18 26 12.2	-0.3
TLCR		146.99	332	⇓iP	PKPab	18 26 12.2	-0.3
KECS	Kecovo	147.19	344	ePKP2	PKPab	18 26 12.4	-0.8
KECS	Kecovo	147.19	344	ePKP	PKPab	18 26 12.4	-0.8
KECS				e		18 26 47.9	
VRAC	Vranov	147.30	349	⇓PKP2	PKPab	18 26 13.5	-0.1
VRAC	Vranov	147.30	349	⇓iP	PKPab	18 26 13.5	-0.1
GIVF	Givet	147.30	3	ePKP1	PKPbc	18 26 12.1	+0.3
GIVF	Givet	147.30	3	eP	PKPbc	18 26 12.1	+0.3
GIVF	Givet	147.30	3	ePKP2	PKPbc	18 26 12.1	+0.3
BAIF	Baives	147.31	4	ePKP1	PKPbc	18 26 12.2	+0.4
comp=Z,23nm,1.0s							
BAIF	Baives	147.31	4	eP	PKPbc	18 26 12.2	+0.4
BAIF	Baives	147.31	4	ePKP2	PKPbc	18 26 12.2	+0.4
VRI	Vrincioaia	147.35	335	⇓PKP2	PKPab	18 26 13.1	-0.8
VRI	Vrincioaia	147.35	335	⇓iP	PKPab	18 26 13.1	+1.0
TREC	Trest	147.50	350	ePKP2	PKPbc	18 26 13.3	+0.9
TREC	Trest	147.50	350	ePKP	PKPbc	18 26 13.3	+0.9
VYHS	Vyhne	147.60	346	ePKP2	PKPbc	18 26 13.0	+0.4
VYHS	Vyhne	147.60	346	ePKP	PKPbc	18 26 13.0	+0.4
KOLL	Kolacno	147.62	346	ePKP2	PKPab	18 26 14.3	-0.6
KOLL	Kolacno	147.62	346	ePKP	PKPab	18 26 14.3	-0.6
GRF	Grafenberg Arr	147.63	355	ePKP	PKPbc	18 26 13.3	+0.6
GRF	Grafenberg Arr	147.63	355	ePKP2	PKPbc	18 26 13.3	+0.6
TIRR	Tirgusor	147.73	331	⇑PKP2	PKPbc	18 26 13.8	+0.7
TIRR	Tirgusor	147.73	331	⇑iP	PKPbc	18 26 13.8	+0.7
WLF	Walferdange	147.79	1	PKP	PKPbc	18 26 14.4	+1.3
DOPR	Dopca	147.80	336	⇓iP	PKPbc	18 26 15.3	+2.0
PSZ	Piszkesteto	147.87	344	ePKPbc	PKPbc	18 26 14.0	+0.6
PSZ	Piszkesteto	147.87	344	⇓PKP2	PKPbc	18 26 14.6	+1.2
PSZ	Piszkesteto	147.87	344	⇓ePKP	PKPbc	18 26 14.6	+1.2
PSZ	Piszkesteto	147.87	344	⇓iP	PKPbc	18 26 14.6	+1.2
SMOL	Smolenice	147.89	347	ePKP2	PKPab	18 26 15.4	-0.6
SMOL	Smolenice	147.89	347	ePKP	PKPab	18 26 15.4	-0.6
KHC	Kasperske Hory	147.94	352	ePKPbc	PKPbc	18 26 14.4	+0.9
KHC	Kasperske Hory	147.94	352	ePKP2	PKPbc	18 26 14.4	+0.9
KHC	Kasperske Hory	147.94	352	ePKP	PKPbc	18 26 14.2	+0.7
KHC				ex	x	18 26 45.5	
KHC				ex	x	18 26 55.5	
MLR	Muntele Rosu	147.98	335	PKPbc	PKPbc	18 26 14.6	+0.8
comp=Z,2.9nm,0.8s,baz=81,slow=3.3,SNR=11							
MLR	Muntele Rosu	147.98	335	PKPbc	PKPbc	18 26 14.6	+0.8
MLR	Muntele Rosu	147.98	335	⇑PKP2	PKPab	18 26 15.4	-1.0
MLR	Muntele Rosu	147.98	335	⇑iP	PKPab	18 26 15.4	-1.0
DRGR		148.06	340	⇑PKP2	PKPbc	18 26 14.6	+0.7
DRGR		148.06	340	⇑iP	PKPbc	18 26 14.6	+0.7
FLN	La Foliniere	148.06	10	ePKP1	PKPbc	18 26 13.8	-0.1
comp=Z,47nm,1.1s							
FLN				eR			
comp=Z,407nm,17.8s							
FLN	La Foliniere	148.06	10	eP	PKPbc	18 26 13.8	-0.1
FLN	La Foliniere	148.06	10	ePKP2	PKPbc	18 26 13.8	-0.1
BR131	Keskin Array S	148.16	320	ePKPbc	PKPbc	18 26 14.2	-0.2
BRTR	Keskin Array B	148.16	320	PKPbc	PKPbc	18 26 15.2	+0.8
comp=Z,4.8nm,0.8s,baz=126,slow=1.7,SNR=18							
BRTR	Keskin Array B	148.16	320	PKPbc	PKPbc	18 26 15.2	+0.8
BRTR	Keskin Array B	148.16	320	PKP2	PKPbc	18 26 15.3	+0.9
SGMF	Saint Gilles	148.16	13	ePKP1	PKPbc	18 26 14.1	-0.1
comp=Z,64nm,1.3s							
SGMF	Saint Gilles	148.16	13	eP	PKPbc	18 26 14.1	-0.1
SGMF	Saint Gilles	148.16	13	ePKP2	PKPbc	18 26 14.1	-0.1
GERES	GERESS Array B	148.21	352	PKPbc	PKPbc	18 26 14.9	+0.6
comp=Z,4.9nm,0.8s,baz=29,slow=3.0,SNR=27							
GERES	GERESS Array B	148.21	352	PKPbc	PKPbc	18 26 14.9	+0.6
GERES	GERESS Array B	148.21	352	PKP2	PKPbc	18 26 14.9	+0.6
LDF	La Druitiere	148.28	9	ePKP1	PKPbc	18 26 14.3	-0.2
comp=Z,17nm,0.9s							
LDF	La Druitiere	148.28	9	eP	PKPbc	18 26 14.3	-0.2
LDF	La Druitiere	148.28	9	ePKP2	PKPbc	18 26 14.3	-0.2
QUIF	Quistinic	148.35	14	ePKP1	PKPbc	18 26 13.6	-1.1
comp=Z,43nm,1.1s							
QUIF	Quistinic	148.35	14	eP	PKPbc	18 26 13.6	-1.1
QUIF	Quistinic	148.35	14	ePKIKP	PKPbc	18 26 13.6	-1.1
GRR	Gorron	148.36	10	ePKP1	PKPbc	18 26 14.8	+0.1
comp=Z,30nm,0.9s							
GRR	Gorron	148.36	10	eP	PKPbc	18 26 14.8	+0.1
GRR	Gorron	148.36	10	ePKP2	PKPbc	18 26 14.8	+0.1
VOIR		148.38	336	⇓PKP2	PKPab	18 26 16.4	-1.6
VOIR		148.38	336	⇓iP	PKPab	18 26 16.4	-1.6
LANF	Langenberg	148.49	359	PKP	PKPbc	18 26 15.8	+0.8
BUD	Budapest	148.50	345	⇑ePKP	PKPbc	18 26 15.7	+0.6
CONA	Conrad Observa	148.76	349	i PKIKP	PKiKP	18 26 16.8	-0.4
comp=Z,31nm,1.1s,SNR=10							
SOP	Sopron	148.86	348	⇑ePKP	PKPbc	18 26 16.9	+0.9
PAGF	Fort de Pagny	148.89	2	ePKP1	PKPbc	18 26 16.8	+0.8
comp=Z,6.7nm,1.1s							
PAGF	Fort de Pagny	148.89	2	eP	PKPbc	18 26 16.8	+0.8
MEZF	Maizieres J'vi	148.91	3	ePKP1	PKPbc	18 26 16.7	+0.6
comp=Z,21nm,0.9s							
MEZF	Maizieres J'vi	148.91	3	eP	PKPbc	18 26 16.7	+0.6
CDF	Champ du Feu	149.06	0	ePKP1	PKPbc	18 26 17.0	+0.5
comp=Z,23nm,1.0s							
CDF	Champ du Feu	149.06	0	eP	PKPbc	18 26 17.0	+0.5
CDF	Champ du Feu	149.06	0	ePKP2	PKPbc	18 26 17.0	+0.5
MOA	Molln	149.10	351	⇑iPKIKP	PKiKP	18 26 17.2	-0.6
comp=Z,14nm,1.6s							
BFO	Black Forest	149.13	359	ePKPbc	PKPbc	18 26 16.8	+0.2
BFO	Black Forest	149.13	359	ePKP2	PKPbc	18 26 16.8	+0.2
SFTF	Sexfontaines	149.21	3	ePKP1	PKPbc	18 26 17.4	+0.6
comp=Z,70nm,1.2s							
SFTF	Sexfontaines	149.21	3	eP	PKPbc	18 26 17.4	+0.6
THEF	They Montfort	149.22	2	PKP	PKPbc	18 26 17.7	+0.8
GZR	Gura Zlata	149.25	339	⇑PKHKP	PKPbc	18 26 17.6	+0.5
GZR	Gura Zlata	149.25	339	⇑iP	PKPbc	18 26 17.6	+0.5
BZS	Buzias	149.45	340	⇓PKP2	PKPbc	18 26 18.0	+0.5
BZS	Buzias	149.45	340	⇓iP	PKPbc	18 26 18.0	+0.5
HAU	Haudompre	149.46	1	ePKP1	PKPbc	18 26 17.9	+0.4
comp=Z,18nm,0.8s							
HAU				eR			
comp=Z,322nm,17.0s							
HAU	Haudompre	149.46	1	eP	PKPbc	18 26 17.9	+0.4
HAU	Haudompre	149.46	1	ePKP2	PKPbc	18 26 17.9	+0.4
ARSA	Arzberg	149.47	349	⇑iPKIKP	PKiKP	18 26 18.1	-0.5
comp=Z,9.4nm,1.2s							
HINF	Hinteralfeld	149.65	1	ePKP1	PKPbc	18 26 18.2	+0.2
comp=Z,6.1nm,0.7s							
HINF	Hinteralfeld	149.65	1	eP	PKPbc	18 26 18.2	+0.2
HINF	Hinteralfeld	149.65	1	ePKP2	PKPbc	18 26 18.2	+0.2
PKSM	Moragy	149.77	344	⇑PKP2	PKPbc	18 26 18.5	+0.2
PKSM	Moragy	149.77	344	⇑iP	PKPbc	18 26 18.5	+0.2
WATA	Walderalm	149.94	354	⇓iPKIKP	PKiKP	18 26 19.0	-0.6
comp=Z,16nm,1.0s							
MOTA	Moosalm	149.97	355	⇑iPKIKP	PKiKP	18 26 19.3	-0.3
comp=Z,20nm,1.1s,SNR=6.3							
WTTA	Wattenberg	150.00	354	⇓iPKIKP	PKiKP	18 26 19.5	-0.2
comp=Z,26nm,1.3s,SNR=10							
LOR	Lormes	150.06	5	ePKP1	PKPbc	18 26 19.6	+0.6
comp=Z,38nm,1.2s							
LOR				eR			
comp=Z,472nm,17.8s							
LOR	Lormes	150.06	5	eP	PKPbc	18 26 19.6	+0.6
LOR	Lormes	150.06	5	ePKP2	PKPbc	18 26 19.6	+0.6
DAVA	Damuels	150.12	357	⇑iPKIKP	PKiKP	18 26 20.0	0.0
comp=Z,20nm,1.2s							
SOKA	Soboth	150.12	349	⇑iPKIKP	PKiKP	18 26 19.2	-0.8
comp=Z,19nm,1.2s							
LOMF	Lomont	150.12	1	PKP	PKPbc	18 26 17.7	-1.4
PERS	Pernice	150.14	349	i PKPdf	PKPbc	18 26 19.3	+0.2
MFF	Saint Martin d	150.21	10	ePKP1	PKPbc	18 26 19.5	+0.1
comp=Z,17nm,0.9s							
MFF	Saint Martin d	150.21	10	eP	PKPbc	18 26 19.5	+0.1
MFF	Saint Martin d	150.21	10	ePKIKP	PKPbc	18 26 19.5	+0.1
SSF	Saint Saulge	150.24	5	ePKP1	PKPbc	18 26 20.1	+0.7
comp=Z,54nm,1.3s							
SSF	Saint Saulge	150.24	5	eP	PKPbc	18 26 20.1	+0.7
SSF	Saint Saulge	150.24	5	ePKIKP	PKPbc	18 26 20.1	+0.7
FETA	Feichten	150.32	355	⇑i PKiKP	PKiKP	18 26 20.4	0.0
comp=Z,22nm,1.2s,SNR=9.2							
OBKA	Obir	150.36	350	⇑iPKIKP	PKiKP	18 26 19.8	-0.7
comp=Z,10nm,1.1s							
MYKA	Terra Mystica	150.38	351	⇑iPKPbc	PKPbc	18 26 19.4	-0.3
comp=Z,15nm,1.1s							
ABTA	Abfaltersbach	150.42	353	⇑iPKIKP	PKiKP	18 26 19.9	-0.7
comp=Z,31nm,1.3s,SNR=17							
AVF	Avril sur Loir	150.50	6	ePKP1	PKPbc	18 26 20.2	+0.2
comp=Z,45nm,1.4s							
AVF	Avril sur Loir	150.50	6	eP	PKPbc	18 26 20.2	+0.2
AVF	Avril sur Loir	150.50	6	ePKIKP	PKPbc	18 26 20.2	+0.2
DAVOX	Davos/Dischmat	150.62	356	PKPbc	PKPbc	18 26 21.3	+1.0
comp=Z,7.0nm,0.7s,baz=6.3,slow=0.6,SNR=25							
DAVOX	Davos/Dischmat	150.62	356	PKPbc	PKPbc	18 26 21.3	+1.0
DAVOX	Davos/Dischmat	150.62	356	PKIKP	PKPbc	18 26 21.3	+1.0
BGF	Bois d'Agland	150.68	6	ePKP1	PKPbc	18 26 20.8	+0.3
comp=Z,35nm,1.2s							
BGF	Bois d'Agland	150.68	6	eP	PKPbc	18 26 20.8	+0.3
BGF	Bois d'Agland	150.68	6	ePKIKP	PKPbc	18 26 20.8	+0.3
SMF	Signal de Mont	150.68	5	ePKP1	PKPbc	18 26 20.8	+0.3
comp=Z,48nm,1.5s							
SMF	Signal de Mont	150.68	5	eP	PKPbc	18 26 20.8	+0.3
SMF	Signal de Mont	150.68	5	ePKIKP	PKPbc	18 26 20.8	+0.3
CABF	La Chapelle	150.84	2	ePKP1	PKPbc	18 26 21.9	+1.0
comp=Z,100nm,1.4s							
CABF	La Chapelle	150.84	2	eP	PKPbc	18 26 21.9	+1.0
CABF	La Chapelle	150.84	2	ePKIKP	PKPbc	18 26 21.9	+1.0
TCF	Toulx Ste Croi	150.87	7	ePKP1	PKPbc	18 26 21.0	+0.1
comp=Z,52nm,1.4s							
TCF	Toulx Ste Croi	150.87	7	eP	PKPbc	18 26 21.0	+0.1
TCF	Toulx Ste Croi	150.87	7	ePKIKP	PKPbc	18 26 21.0	+0.1
VOJS	Vojsko	150.93	351	i PKPdf	PKPbc	18 26 21.1	0.0
TUE	Stuetta	150.96	357	ePKPbc	PKPbc	18 26 21.9	+0.7
VISS	Visnje	151.00	349	i PKPdf	PKPbc	18 26 21.8	+0.5
BOJS	Bojanci	151.21	348	i PKPdf	PKPbc	18 26 22.4	+0.7
TRI	Trieste	151.27	351	ePKPbc	PKPbc	18 26 20.9	-1.0
TRI	Trieste	151.27	351	ePKIKP	PKPbc	18 26 20.9	-1.0
PLDF	La Plantade	151.33	5	PKP	PKPbc	18 26 22.5	+0.5
VTS	Vitosha	151.48	335	⇑PKIKP	PKPbc	18 26 24.2	+1.7
VTS	Vitosha	151.48	335	⇑iP	PKPbc	18 26 24.2	+1.7
PYM	Petit Puy Mans	151.49	6	PKP	PKPbc	18 26 23.3	+0.9
LPG	La Plagne	151.97	1	ePKP1	PKPbc	18 26 25.2	+1.7
comp=Z,13nm,0.9s							
LPG	La Plagne	151.97	1	eP	PKPbc	18 26 25.2	+1.7
LPG	La Plagne	151.97	1	ePKIKP	PKPbc	18 26 25.2	+1.7
LBL	Lubilhac	152.03	6	PKP	PKPbc	18 26 25.4	+1.8
CAF	Calviac	152.19	8	ePKP1	PKPbc	18 26 24.5	+0.5
comp=Z,13nm,1.0s							
CAF	Calviac	152.19	8	eP	PKPbc	18 26 24.5	+0.5
CAF	Calviac	152.19	8	ePKIKP	PKPbc	18 26 24.5	+0.5
BNI	Bardonecchia	152.42	1	ePKPdf	PKPdf	18 26 17.4	-0.2
BNI				ePKPbc	PKPbc	18 26 25.9	+1.4
BNI	Bardonecchia	152.42	1	ePKIKP	PKPdf	18 26 17.4	-0.3
BNI				e		18 26 25.9	
VIVF	Saint-Julien-l	152.52	4	ePKP1	PKPbc	18 26 24.2	-0.6
comp=Z,20nm,1.2s							
VIVF	Saint-Julien-l	152.52	4	eP	PKPbc	18 26 24.2	-0.6
VIVF	Saint-Julien-l	152.52	4	ePKIKP	PKPbc	18 26 24.2	-0.6
ORIF	Oris-en-Rattie	152.53	2	ePKP1	PKPbc	18 26 25.6	+0.8
comp=Z,12nm,1.1s							
ORIF				eR			
comp=Z,371nm,17.2s							
ORIF	Oris-en-Rattie	152.53	2	eP	PKPbc	18 26 25.6	+0.8
ORIF	Oris-en-Rattie	152.53	2	ePKIKP	PKPbc	18 26 25.6	+0.8
MBDF	Montbardon	152.74	1	ePKP1	PKPbc	18 26 25.0	-0.3
comp=Z,7.0nm,0.8s							
MBDF	Montbardon	152.74	1	eP	PKPbc	18 26 25.0	-0.3
MBDF	Montbardon	152.74	1	ePKIKP	PKPbc	18 26 25.0	-0.3
LASF	Ste Croix	153.23	6	ePKP1	PKPbc	18 26 27.1	+0.7
comp=Z,45nm,1.4s							
LASF	Ste Croix	153.23	6	eP	PKPbc	18 26 27.1	+0.7
SJPF	Ste Jean	153.34	14	ePKP1	PKPbc	18 26 24.6	-2.0
comp=Z,38nm,1.2s							
SJPF	Ste Jean	153.34	14	eP	PKPbc	18 26 24.6	-2.0
SJPF	Ste Jean	153.34	14	ePKIKP	PKPbc	18 26 24.6	-2.0
SMRF	Simiane la Rot	153.45	3	ePKP1	PKPbc	18 26 27.9	+1.1
comp=Z,40nm,1.4s							
SMRF	Simiane la Rot	153.45	3	eP	PKPbc	18 26 27.9	+1.1
EPF	Esparros	153.75	12	ePKP1	PKPbc	18 26 25.8	-1.7
comp=Z,7.0nm,0.9s							
EPF	Esparros	153.75	12	eP	PKPbc	18 26 25.8	-1.7
EPF	Esparros	153.75	12	ePKIKP	PKPbc	18 26 25.8	-1.7
TORD	Torodi Ar. Bea	173.08	127	PKP	PKPdf	18 26 37.5	-1.0
comp=Z,3.0nm,1.1s,baz=270,slow=2.1,SNR=11							
TORD				PKPab	PKPab	18 28 05.0	-0.8
comp=Z,3.0nm,0.9s,baz=267,slow=4.3,SNR=13							
TORD	Torodi Ar. Bea	173.08	127	PKP	PKPdf	18 26 37.5	-1.0
TORD				PKPab	PKPab	18 28 05.0	-0.8

*IDC **22** 18:06:58.9±0.7, 17°.58S×172°.73W, h0km, mb4.6/12, mb1 4.8/12, mb1mx4.7/19, mbtmp4.6/12, MS4.5/4, Ms1 4.5/4, ms1mx4.0/15, Error ellipse: s-maj=29.4km s-min=20.0km az=158.0*

*ISCJB **22** 18:07:02.9±0.4, 17°.33S±0°.09×172°.83W±0°.10, h33km, mb4.6/20, MS4.4/3, Error ellipse: s-maj=16.6km s-min=9.4km az=43.8*

*NEIC **22** 18:07:04.5±0.3, 17°.33S×172°.79W, h35km, mb4.8/5, Error ellipse: s-maj=17.6km s-min=9.3km az=133.0*

ISC 22 18:07:04.9±0.4, **17°.36S**±0°.09×**172°.73W**±0°.10, **h35**km, **n71**, σ1§**25**/53, **mb4.6**/20, **MS4.4**/3, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.55**	**15**	Pn	**Pn**	**18 07 51.1**	**-6.4**
73nm,0.3s,baz=205,slow=23,SNR=6.6							
AFI				Sn	**Sn**	**18 08 30.8**	**-7.4**
112nm,0.3s,baz=54,slow=20,SNR=4.4							
AFI				T		18 10 51.5	
62nm,0.3s,baz=338,slow=23,SNR=6.4							
AFI	**Afiamalu**	**3.55**	**15**	Pn	**Pn**	**18 07 51.1**	**-6.4**
RAR	**Rarotonga**	**12.82**	**109**	Pn	**Pn**	**18 09 56.4**	**-8.3**
12nm,0.3s,baz=250,slow=6.8,SNR=7.1							
RAR				LR	LR	18 14 10.1	
comp=Z,2μm,18.2s,baz=353,slow=34							
RAR	**Rarotonga**	**12.82**	**109**	Pn	**Pn**	**18 09 56.5**	**-8.3**
DZM	**Mont Dzumac**	**20.15**	**253**	LR	LR	18 16 54.3	
comp=Z,367nm,18.4s,MS3.8,baz=255,slow=30							
URZ	**Urewera**	**22.65**	**201**	**P**	**P**	**18 12 03.4**	**+0.6**
19nm,0.4s,mb4.9,baz=300,slow=18,SNR=5.4							
URZ	**Urewera**	**22.65**	**201**	**eP**	**P**	**18 12 01.9**	**-0.9**
KHZ	**Kahutara**	**27.59**	**202**	P	**P**	**18 12 49.9**	**+1.2**
HNR	**Honiara**	**27.69**	**283**	LR	LR	18 22 08.6	
comp=Z,2μm,20.5s,MS4.8,baz=124,slow=33							
RPZ	**Rata Peaks**	**29.64**	**204**	**P**	**P**	**18 13 08.6**	**+1.7**
13nm,0.8s,mb4.7,baz=348,slow=9.3,SNR=2.2							
RPZ	**Rata Peaks**	**29.64**	**204**	P	**P**	**18 13 08.6**	**+1.7**
STKA	**Stephens Creek**	**43.65**	**242**	**P**	**P**	**18 15 04.4**	**-1.9**
2.5nm,0.6s,mb4.2,baz=66,slow=8.9,SNR=3.9							
STKA	**Stephens Creek**	**43.65**	**242**	P	**P**	**18 15 04.4**	**-1.9**
WB2	**Warramunga Arr**	**50.04**	**258**	**eP**	**P**	**18 15 54.6**	**-1.7**
WRA	**Warramunga Arr**	**50.05**	**258**	**P**	**P**	**18 15 54.4**	**-2.0**
3.7nm,0.4s,mb4.8,baz=97,slow=7.7,SNR=12							
WRA	**Warramunga Arr**	**50.05**	**258**	**P**	**P**	**18 15 54.4**	**-2.0**
AS31	**Alice Springs**	**50.14**	**253**	**eP**	**P**	**18 15 56.0**	**-1.1**
ASAR	**Alice Springs**	**50.14**	**253**	**P**	**P**	**18 15 55.8**	**-1.4**
16nm,0.7s,mb5.2,baz=92,slow=8.5,SNR=13							
ASAR	**Alice Springs**	**50.14**	**253**	P	**P**	**18 15 55.8**	**-1.4**
MJAR	**Matsushiro Arr**	**70.84**	**320**	**P**	**P**	**18 18 18.1**	**0.0**
4.6nm,1.1s,mb4.3,baz=189,slow=7.3,SNR=4.6							
MJAR	**Matsushiro Arr**	**70.84**	**320**	P	**P**	**18 18 18.1**	**0.0**
PETK	**Petropavlovsk-**	**74.68**	**342**	**P**	**P**	**18 18 41.0**	**+0.5**
13nm,0.8s,mb4.9,baz=131,slow=8.1,SNR=5.2							
PETK	**Petropavlovsk-**	**74.68**	**342**	P	**P**	**18 18 41.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**75.49**	**330**	**eP**	**P**	**18 18 45.5**	**+0.1**
KSRS	**Korea Array**	**78.00**	**316**	P	**P**	**18 19 00.8**	**+1.1**
14nm,1.2s,mb4.8,baz=122,slow=6.7,SNR=6.6							
KSAR	**Wonju Array Be**	**78.02**	**316**	P	**P**	**18 19 00.8**	**+1.0**
USRK	**Ussuriysk Arra**	**79.32**	**323**	**P**	**P**	**18 19 08.8**	**+2.0**
3.4nm,0.9s,mb4.3,baz=50,slow=3.0,SNR=4.5							
MFID	**Camas Ranch**	**79.81**	**38**	**eP**	**P**	**18 19 08.0**	**-1.5**
8.1nm,1.1s,mb4.6							
DUG	**Dugway**	**79.86**	**42**	P	**P**	**18 19 09.8**	**0.0**
11nm,1.3s,mb4.6							
PMR	**Palmer**	**80.90**	**11**	P	**P**	**18 19 13.9**	**-1.0**
60nm,1.5s,mb5.3							
BNM	**Barren Site**	**81.08**	**50**	**eP**	**P**	**18 19 16.5**	**-0.1**
TXAR	**Lajitas Array**	**81.17**	**56**	**P**	**P**	**18 19 18.3**	**+1.1**
4.5nm,1.2s,mb4.3,baz=208,slow=7.8,SNR=4.5							
TXAR	**Lajitas Array**	**81.17**	**56**	P	**P**	**18 19 18.3**	**+1.1**
ANMO	**Albuquerque**	**81.57**	**49**	P	**P**	**18 19 19.2**	**0.0**
2.7nm,0.8s,mb4.2,baz=234,slow=6.0,SNR=4.0							
ANMO	**Albuquerque**	**81.57**	**49**	P	**P**	**18 19 19.2**	**0.0**
MCMT	**McKenzie Canyo**	**82.38**	**38**	**eP**	**P**	**18 19 24.0**	**+0.8**
3.6nm,1.0s,mb4.3							
MCMT				e	pP	18 19 34.2	0.0
BSMT	**Bassoo Peak**	**82.98**	**35**	P	**P**	**18 19 23.7**	**-2.5**
QLMT	**Earthquake Lak**	**83.23**	**39**	P	**P**	**18 19 29.2**	**+1.6**
PD01	**Pinedale Array**	**83.28**	**41**	**eP**	**P**	**18 19 27.6**	**-0.4**
PD02	**Pinedale Array**	**83.30**	**41**	**eP**	**P**	**18 19 28.1**	**+0.1**
PDAR	**Pinedale Array**	**83.30**	**41**	P	**P**	**18 19 27.6**	**-0.4**
6.6nm,1.1s,mb4.6,baz=235,slow=3.6,SNR=7.6							
PDAR	**Pinedale Array**	**83.30**	**41**	P	**P**	**18 19 27.6**	**-0.4**
CHMT	**Chamberlain Mo**	**83.30**	**36**	**eP**	**P**	**18 19 26.1**	**-1.9**
HRY	**Holter Researc**	**84.01**	**37**	**eP**	**P**	**18 19 30.9**	**-0.7**
ILAR	**Eielson Array**	**84.23**	**11**	P	**P**	**18 19 32.1**	**-0.2**
3.3nm,0.7s,mb4.6,baz=227,slow=5.0,SNR=7.5							
ILAR	**Eielson Array**	**84.23**	**11**	P	**P**	**18 19 32.1**	**-0.2**
GCMT	**Greycliff**	**84.79**	**39**	**eP**	**P**	**18 19 34.8**	**-0.8**
EGAK	**Eagle**	**85.37**	**13**	**eP**	**P**	**18 19 38.6**	**+0.6**
5.1nm,0.3s,mb5.1							
PLCA	**Paso Flores**	**87.73**	**132**	P	**P**	**18 19 50.6**	**+0.3**
2.9nm,0.8s,mb4.6,baz=24,slow=1.6,SNR=3.6							
PLCA	**Paso Flores**	**87.73**	**132**	P	**P**	**18 19 50.6**	**+0.3**
ENH	**Enshi**	**88.50**	**302**	**eP**	**P**	**18 19 57.2**	**+3.1**
CMAR	**Chiang Mai Arr**	**93.83**	**288**	P	**P**	**18 20 21.8**	**+2.7**
3.0nm,0.8s,mb4.8,baz=84,slow=2.5,SNR=8.2							
CMAR	**Chiang Mai Arr**	**93.83**	**288**	P	**P**	**18 20 21.8**	**+2.7**
CHTO	**Chiang Mai**	**93.93**	**288**	P	**P**	**18 20 22.6**	**+3.1**
SONM	**Songino Array**	**96

0.4nm1μm101nm,0.6s
GTOI S **Sn** **18 52 29.3 -2.1**
0.4nm1μm101nm,0.6s
LBMI Labuha 5.97 165 P **Pn** **18 51 39.1 +0.4**
0.1nm17nm,1.1s
LBMI S **Sn** **18 52 44.2 -1.6**
0.1nm17nm,1.1s
MRSI Marisa 6.15 221 P **Pn** **18 51 42.4 +1.3**
MRSI S **Sn** **18 52 49.7 -0.4**
LUWI Luwuk 6.94 207 P **Pn** **18 51 50.3 -1.6**
LUWI S **Pn** **18 51 50.3 -1.6**
FITZ Fitzroy Crossi 23.13 181 P **P** **18 55 10.1 +0.3**
0.7nm,0.3s,mb3.5,baz=16,slow=14,SNR=6.0
FITZ Fitzroy Crossi 23.13 181 P **P** **18 55 10.1 +0.3**
WRAB Tennant Creek 26.28 162 P **P** **18 55 40.1 +1.8**
WRA Warramunga Arr 26.28 162 P **P** **18 55 39.2 +0.8**
0.4nm,0.4s,mb3.2,baz=338,slow=10,SNR=12
WRA Warramunga Arr 26.28 162 P **P** **18 55 39.2 +0.8**
WB2 Warramunga Arr 26.29 162 *eP* **P** **18 55 40.0 +1.5**
CBIJ Chichi jima 26.73 34 LR LR 19 07 05.4
comp=Z,60nm,18.5s,baz=1.5,slow=38
ASAR Alice Springs 29.69 165 P **P** **18 56 07.8 -1.0**
0.3nm,0.8s,mb3.0,baz=352,slow=12,SNR=4.1
ASAR Alice Springs 29.69 165 P **P** **18 56 07.8 -1.0**
MK31 Makanchi Array 55.94 325 *eP* **P** **18 59 39.1 -0.8**
MKAR Makanchi Array 55.94 325 P **P** **18 59 38.9 -1.0**
1.1nm,0.9s,mb3.9,baz=121,slow=6.5,SNR=8.9
MKAR Makanchi Array 55.94 325 P **P** **18 59 38.9 -1.0**

NIED ***22*** *18:55:00,38.60N×143.30E,h14km,Mw3.6 Best double couple: M0=2.93000×10^14 NP1:φs=3.00000°,δ60.00000°, λ81.00000°. NP2:φs=201.00000°,δ32.00000°,λ106.00000°.*

JMA 22 18:55:14.0±0.2,38.55N×143.30E,h32km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.38**	**293**	P		Pn	18 55 37.9	+0.9
JIO	**Ouri**	**1.53**	**267**	P		Pn	18 55 39.9	+0.8
JIO				*eS*		Sn	18 55 58.8	+0.9
MIYJ	**Miyakonagasawa**	**1.54**	**312**	P		Pn	18 55 39.7	+0.5
MIYJ				*eS*		Sn	18 55 59.0	+0.8
JMK	**Ichinoseki**	**1.68**	**285**	P		Pn	18 55 42.3	+1.2
JMK				*eS*		Sn	18 56 03.7	+2.3
JOM	**Ohasama**	**1.81**	**301**	P		Pn	18 55 44.3	+1.3
JOU	**Okura**	**2.08**	**266**	P		Pn	18 55 48.0	+1.4
JOU				*eS*		Sn	18 56 14.0	+2.6
JMM	**Marumori**	**2.09**	**252**	P		Pn	18 55 47.3	+0.5
JMM				*eS*		Sn	18 56 12.7	+1.0
JFK	**Kawauchi**	**2.25**	**239**	P		Pn	18 55 49.4	+0.4
JFK				*eS*		Sn	18 56 15.9	+0.2
JANG	**Nango**	**2.29**	**323**	*eP*N		**Pn**	18 56 17.6	+1.1
JYK	**Kaneyama**	**2.33**	**280**	P		Pn	18 55 52.1	+2.0
JFT	**Otama**	**2.56**	**247**	P		Pn	18 55 54.9	+1.7
JFT				*eS*		Sn	18 56 25.9	+2.7
JYS	**Shirataka**	**2.56**	**264**	P		Pn	18 55 54.8	+1.5
JYS				*eS*		Sn	18 56 26.5	+3.2
MAT	**Matsushiro**	**4.52**	**245**	P		Pn	18 56 23.5	+3.4
MAT				*eS*		Sn	18 57 17.2	+5.7

ISCJB ***22*** *19:44:44.3±1.7,21.9N±0.4×94.8E±0.5,h100km±16km, mb3.5/5,Error ellipse: s-maj=100.5km s-min=11.6km az=141.5*
IDC ***22*** *19:44:45.0±4.0,21.83N×94.73E,h89km±38km,mb3.2/5, mb1 3.3/6,mb1mx3.0/26,mbtmp3.2/6,Error ellipse: s-maj=64.6km s-min=16.7km az=59.0*

ISC 22 19:44:45.8±1.6,21.9N±0.4×94.8E±0.5,h95km±15km,n7, σ1§26/8,mb3.5/5,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.54**	**324**	*e*PN		**Pn**	**19 45 54.5**	**+2.3**
SHL				*e*SN		**Sn**	**19 46 42.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**5.17**	**131**	P		**Pn**	**19 46 00.4**	**-0.4**
0.5nm,0.3s,baz=306,slow=14,SNR=51
MKAR Makanchi Array 26.83 341 P **P** **19 50 17.3 +0.1**
1.2nm,1.1s,mb3.3,baz=149,slow=10,SNR=3.2
ZALV Zalesovo Beam 32.89 349 P **P** **19 51 11.0 +0.3**
0.4nm,0.3s,mb3.7,baz=162,slow=10,SNR=2.8
AKTO Aktyubinsk 40.48 324 P **P** **19 52 14.8 -0.3**
0.6nm,0.3s,mb3.9,baz=121,slow=8.3,SNR=4.2
WRA Warramunga Arr 56.75 134 P **P** **19 54 19.7 -0.5**
0.2nm,0.7s,mb3.2,baz=320,slow=7.4,SNR=6.0
ASAR Alice Springs 59.14 138 P **P** **19 54 37.0 +0.3**
0.2nm,0.6s,mb3.3,baz=320,slow=7.6,SNR=6.0

IDC 22 19:57:39.0±38.0,30.49S×175.73W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.6/16,mbtmp3.6/3,Error ellipse: s-maj=705.1km s-min=179.8km az=99.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.36**	**257**	P		P	20 04 45.0	+0.1
0.9nm,0.7s,baz=96,slow=10,SNR=2.7
ASAR Alice Springs 45.06 266 P P 20 05 55.8 -1.0
0.4nm,0.8s,baz=106,slow=7.2,SNR=4.7
WRA Warramunga Arr 46.06 271 P P 20 06 05.3 +0.6
0.3nm,0.3s,baz=111,slow=8.1,SNR=11

GUC 22 20:16:42.2±0.8,32.48S×71.99W,h15km±7km,MD3.5, ML3.1,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.62**	**152**	*eP*		Pg	20 16 53.2	-1.2
IHA *eS* Sg 20 17 02.2 -0.5
CHNG Los Chungos 0.72 35 ⇓*iP* Pg 20 16 55.2 -1.1
CHNG *i* S Sg 20 17 05.5 -0.3
CHNG AML AML 20 17 07.8
comp=E,787nm,0.4s
ROCH El Roble 0.96 121 ⇓*iP* Pb 20 16 59.4 -1.2
ROCH *i* S Sb 20 17 12.2 -0.9
ROCH AML AML 20 17 14.2
comp=E,2μm,0.6s
JACH Jahuel 1.20 100 ⇓*iP* Pn 20 17 03.1 -1.3
JACH *i* S Sb 20 17 19.0 -0.8
PEL Peldehue 1.28 122 ⇑*iP* Pn 20 17 04.7 -0.9
PEL *i* S Sb 20 17 21.5 -0.9
PEL AML AML 20 17 23.6
comp=E,2μm,0.3s
RCDM Rinconada Maip 1.42 136 *eP* Pn 20 17 06.9 -0.6
RCDM *eS* Sn 20 17 25.1 -0.7
RCDM AML AML 20 17 26.8
comp=N,453nm,0.6s
TACH Talagante 1.47 143 *eP* Pn 20 17 07.7 -0.4
TACH *i* S Sn 20 17 26.1 -1.0
SAN Santiago 1.48 131 *eS* Sn 20 17 27.3 -0.1
SAN AML AML 20 17 30.1
comp=N,400nm,0.3s
CLCH Cerro Calan 1.53 127 ⇑*iP* Pn 20 17 08.7 -0.2
CLCH *i* S Sn 20 17 28.3 -0.3
CLCH AML AML 20 17 30.3
comp=N,539nm,0.8s
ANTU Antumapu 1.58 134 *eP* Pn 20 17 09.2 -0.5
ANTU *i* S Sn 20 17 29.5 -0.2
ANTU AML AML 20 17 34.7
comp=E,400nm,0.3s
PCH Pirque 1.69 133 *eP* Pn 20 17 11.1 0.0
PCH *i* S Sn 20 17 33.1 +0.7
CHCH Chadas Angostu 1.84 143 *eP* Pn 20 17 13.7 +0.5
CHCH *eS* Sn 20 17 36.7 +0.5
CACH El Canelo 2.01 145 *eP* Pn 20 17 16.3 +0.7
CACH *eS* Sn 20 17 42.9 +2.5
LMEL Las Melosas 2.03 133 *eP* Pn 20 17 16.5 +0.6
LMEL *i* S Sn 20 17 42.6 +1.7
LMEL AML AML 20 17 49.9
comp=N,302nm,0.2s
TLL Tololo Astrono 2.52 24 *eP* Pn 20 17 21.9 -0.6

IDC ***22*** *20:29:16.7±1.0,13.98N×92.70W,h0km,mb3.9/5, mb1 4.3/8,mb1mx3.9/24,mbtmp4.0/8,ML4.2/3,MS3.2/2, Ms1 3.2/2,ms1mx2.7/39,Error ellipse: s-maj=42.9km s-min=19.2km az=52.0*
ISCJB ***22*** *20:29:20.7±1.1,14.27N±0.05×92.95W±0.03,h27km±8km, mb4.0/6,Error ellipse: s-maj=8.6km s-min=3.6km az=15.7*
CASC ***22*** *20:29:20.1±1.5,14.50N×92.94W,h89km±26km,MD4.2, mb4.2(NEIC)*
MEX ***22*** *20:29:24.2±1.1,14.26N×92.94W,h23km±30km,MD4.4*
NEIC ***22*** *20:29:24.5,14.27N×92.95W,h22km,mb4.2/1, MD4.4(MEX),After MEX.*

ISC 22 20:29:21.8±1.1,14.29N±0.05×92.90W±0.03,h20km±8km, n50,σ1§07/71,mb4.0/6,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**0.87**	**45**	*i* P		**Pb**	**20 29 37.8**	**-0.5**
THIG *eS* **Sb** **20 29 49.9 +0.3**
THIG **0.87 45** *i* P **Pb** **20 29 37.8 -0.5**
THIG *eS* **Sb** **20 29 49.9 +0.3**
JAT Jato 1.23 88 *eP* **Pn** **20 29 42.8 -1.1**
JAT *eS* **Sb** **20 30 01.0 +1.2**
PCIG **1.44 348** *i* P **Pn** **20 29 46.8 0.0**
PCIG *eS* **Sn** **20 30 03.2 -2.0**
PCIG **1.44 348** *i* P **Pn** **20 29 46.8 0.0**
PCIG *eS* **Sn** **20 30 03.2 -2.0**
FG6 **1.98 82** *eP* **Pn** **20 29 54.1 0.0**
FG6 *eS* **Sn** **20 30 18.6 +0.3**
FUG Fuego 3 2.00 85 *eP* **Pn** **20 29 53.1 -1.4**
FUG *eS* **Sn** **20 30 18.3 -0.7**
CCIG Comitan 2.12 20 *i* P **Pn** **20 29 57.3 +1.2**
CCIG *eS* **Sn** **20 30 22.0 +0.2**
CCIG Comitan 2.12 20 *i* P **Pn** **20 29 57.3 +1.2**
CCIG *eS* **Sn** **20 30 22.0 +0.2**
PCG Pacaya 2.23 87 *eP* **Pn** **20 29 56.7 -0.9**
PCG *eS* **Sn** **20 30 25.1 +0.6**
IXG Ixpaco 2.38 92 *eP* **Pn** **20 29 58.1 -1.6**
IXG *eS* **Sn** **20 30 30.0 +1.8**
TGIG **2.48 355** *i* P **Pn** **20 30 03.0 +1.8**
TGIG *eS* **Sn** **20 30 30.5 -0.4**
TGIG **2.48 355** *i* P **Pn** **20 30 03.0 +1.8**
TGIG *eS* **Sn** **20 30 30.5 -0.4**
NBG Las Nubes 2.50 83 *eP* **Pn** **20 29 60.0 -1.3**
NBG *eS* **Sn** **20 30 30.7 -0.4**
CMIG Matias Romero 3.38 326 Pn **Pn** **20 30 13.4 0.0**
10.0nm,0.3s,baz=142,slow=12,SNR=84
CMIG Sn **Sn** **20 30 56.0 +3.1**
27nm,0.3s,baz=92,slow=15,SNR=6.2
CMIG Matias Romero 3.38 326 *i* P **Pn** **20 30 14.0 +0.6**
CMIG *eS* **Sn** **20 30 50.9 -2.1**
CMIG Sn **Sn** **20 30 56.0 +3.1**
CMIG Matias Romero 3.38 326 *i* P **Pn** **20 30 14.0 +0.6**
CMIG *eS* **Sn** **20 30 50.9 -2.1**
HUIG Huatulco 3.43 296 *i* P **Pn** **20 30 12.8 -1.3**
HUIG *eS* **Sn** **20 30 53.4 -0.8**
HUIG Huatulco 3.43 296 *i* P **Pn** **20 30 12.8 -1.3**
HUIG *eS* **Sn** **20 30 53.4 -0.8**
VHO Vista Hermosa 4.61 307 *i* P **Pn** **20 30 30.7 +0.3**
VHO *eS* **Sn** **20 31 22.5 -0.9**
VHO Vista Hermosa 4.61 307 *i* P **Pn** **20 30 30.7 +0.3**
VHO *eS* **Sn** **20 31 22.5 -0.9**
PPM Popocatepetl 7.26 312 *i* P **Pn** **20 31 06.7 0.0**
PPM *eS* **Sn** **20 32 29.0 +0.4**
PPM Popocatepetl 7.26 312 *i* P **Pn** **20 31 06.7 0.0**
PPM *eS* **Sn** **20 32 29.0 +0.4**
TEIG Tepich 7.38 36 Pn **Pn** **20 31 08.2 -0.2**
12nm,0.3s,baz=264,slow=1.3,SNR=35
TEIG Sn **Sn** **20 32 31.3 -0.2**
4.5nm,0.3s,baz=53,slow=20,SNR=3.0
TEIG LR LR 20 34 28.3
comp=Z,150nm,19.6s,baz=59,slow=42
TEIG Tepich 7.38 36 Pn **Pn** **20 31 08.2 -0.2**
TEIG Sn **Sn** **20 32 31.4 -0.2**
CAIG El Cayaco 7.61 292 *i* P **Pn** **20 31 12.4 +0.8**
CAIG *eS* **Sn** **20 32 37.3 +0.1**
CAIG El Cayaco 7.61 292 *i* P **Pn** **20 31 12.4 +0.8**
CAIG *eS* **Sn** **20 32 37.3 +0.1**
JTS JuntasAbangare 8.73 116 Pn **Pn** **20 31 20.8 -6.2**
0.5nm,0.3s,baz=324,slow=19,SNR=2.3
JTS JuntasAbangare 8.73 116 Pn **Pn** **20 31 20.8 -6.2**
TXAR Lajitas Array 17.98 328 P **Pn** **20 33 34.6 +4.0**
0.2nm,0.3s,baz=145,slow=14,SNR=16
TXAR Lajitas Array 17.98 328 P **Pn** **20 33 34.6 +4.0**
PDAR Pinedale Array 31.80 336 P **P** **20 35 46.7 +1.7**
0.5nm,0.6s,mb3.5,baz=130,slow=8.0,SNR=4.1
PDAR Pinedale Array 31.80 336 P **P** **20 35 46.7 +1.7**
NVAR Mina Array Bea 32.90 322 P **P** **20 35 57.5 +2.9**
1.3nm,0.6s,mb4.0,baz=130,slow=8.4,SNR=7.4
NVAR Mina Array Bea 32.90 322 P **P** **20 35 57.5 +2.9**
MCMT McKenzie Canyo 34.84 335 *eP* **P** **20 36 13.4 +2.0**
2.5nm,0.7s,mb4.2
SIV San Ignacio 43.53 133 P **P** **20 37 19.7 -4.6**
3.6nm,0.9s,mb4.1,baz=325,slow=9.5,SNR=11
SIV San Ignacio 43.53 133 P **P** **20 37 19.7 -4.6**
YKA Yellowknife Ar 50.55 347 P **P** **20 38 18.3 -0.2**
1.8nm,0.7s,mb4.1,baz=151,slow=7.4,SNR=29
YKA Yellowknife Ar 50.55 347 P **P** **20 38 18.3 -0.2**
PLCA Paso Flores 58.53 160 LR LR 20 58 54.0
comp=Z,28nm,20.0s,baz=23,slow=30
PAX Paxson 60.83 335 P **P** **20 39 33.1 +0.7**
ILAR Eielson Array 62.23 337 P **P** **20 39 41.0 -0.8**
0.7nm,0.7s,mb3.9,baz=133,slow=5.0,SNR=8.1
ILAR Eielson Array 62.23 337 P **P** **20 39 41.0 -0.8**
STKA Stephens Creek 127.43 241 PKP PKPdf 20 48 23.6 -2.2
1.3nm,1.0s,baz=127,slow=21,SNR=3.7
STKA Stephens Creek 127.43 241 PKP PKPdf 20 48 23.6 -2.2
WRA Warramunga Arr 134.61 256 PKP PKPdf 20 48 37.6 -2.0
0.3nm,0.7s,baz=63,slow=1.1,SNR=5.4
WRA Warramunga Arr 134.61 256 PKP PKPdf 20 48 37.6 -2.0
CMAR Chiang Mai Arr 145.43 340 PKPbc PKPbc 20 48 57.8 -1.4
1.3nm,0.7s,baz=342,slow=3.5,SNR=13
CMAR Chiang Mai Arr 145.43 340 PKPbc PKPbc 20 48 57.8 -1.4

IDC 22 20:57:21.5±16.0,22.08S×170.23W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/19,mbtmp3.7/3,Error ellipse: s-maj=422.4km s-min=60.9km az=121.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**51.22**	**257**	P		P	21 06 26.3	-0.8
0.3nm,0.4s,baz=98,slow=7.6,SNR=4.3
WRA Warramunga Arr 51.55 262 P P 21 06 30.4 +0.8
0.2nm,0.3s,baz=103,slow=8.5,SNR=9.6
MJAR Matsushiro Arr 75.95 319 P P 21 09 09.9 -0.3
2.4nm,1.0s,baz=149,slow=7.8,SNR=4.0

ISCJB ***22*** *21:19:53.3±0.6,28.18N±0.08×84.23E±0.07,h10km, mb3.7/8,Error ellipse: s-maj=13.3km s-min=6.2km az=28.7*
IDC ***22*** *21:19:53.4±1.5,28.14N×84.23E,h0km,mb3.8/7, mb1 4.0/9,mb1mx3.7/27,mbtmp3.8/9,ML4.0/1,Error ellipse: s-maj=51.3km s-min=18.5km az=64.0*
NEIC ***22*** *21:19:55.0±0.5,28.18N×84.23E,h10km,mb3.5/6,Error ellipse: s-maj=12.6km s-min=5.5km az=222.0*

ISC 22 21:19:55.6±0.6,28.26N±0.08×84.28E±0.05,h10km,n34, σ0§84/38,mb3.7/8,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.19**	**75**	*e*Pn		**Pn**	**21 21 26.4**	**-0.6**
4.1nm,0.3s
LSA *e*Sn **Sn** **21 22 36.3 -1.5**
SHL Shillong 7.29 110 *e*PKP **Pn** **21 21 47.0 +4.8**
SHL *eS* **Sg** **21 23 51.2 +1.4**
CHCP Chirah Chowk 10.88 302 P **Pn** **21 22 33.3 +1.9**
THW Thamme Wali 11.72 296 P **Pn** **21 22 43.7 +0.9**
CEP Cherat 11.97 301 P **Pn** **21 22 46.7 +0.4**
CEP S **Sn** **21 24 55.0 -4.9**
KBL Kabul 14.44 300 *e*Pn **Pn** **21 23 19.1 -0.9**
2.9nm,0.6s
KBL *e*Sn **Sn** **21 25 59.2 -1.0**
TKM2 Tokmak 2 16.23 337 *e*Pn **Pn** **21 23 43.1 -0.5**
0.9nm,0.5s
CHTO Chiang Mai 16.39 122 *e*Pn **Pn** **21 23 45.3 -0.6**
AAK Ala-Archa 16.39 334 *e*Pn **Pn** **21 23 46.2 +0.5**
12nm,0.8s
CMAR Chiang Mai Arr 16.61 123 Pn **Pn** **21 23 49.0 +0.5**
baz=310,slow=13,SNR=5.3
CMAR Chiang Mai Arr 16.61 123 Pn **Pn** **21 23 49.0 +0.5**
EKS2 Erkin-Say 16.71 332 *e*Pn **Pn** **21 23 50.2 +0.5**
1.8nm,0.7s
KKAR Karatay Array 18.53 327 *eP* **Pn** **21 24 10.8 -1.4**
0.9nm,0.4s
MK31 Makanchi Array 18.57 356 *eP* **Pn** **21 24 13.4 +0.6**
MKAR Makanchi Array 18.57 356 P **Pn** **21 24 13.5 +0.7**
0.4nm,0.3s,baz=176,slow=11,SNR=30
MKAR Makanchi Array 18.57 356 P **Pn** **21 24 13.5 +0.7**
KURK Kurchatov 22.84 351 P **P** **21 24 58.0 -0.7**
1.1nm,0.6s,mb3.5,baz=173,slow=10,SNR=12
KURK Kurchatov 22.84 351 *eP* **P** **21 24 59.1 +0.4**
2.0nm,0.7s,mb3.7
ZAA0 Zalesovo Array 25.67 1 *eP* **P** **21 25 26.0 +0.6**
ZALV Zalesovo Beam 25.67 1 P **P** **21 25 26.1 +0.7**
3.7nm,0.7s,mb4.0,baz=185,slow=9.5,SNR=19
ZALV Zalesovo Beam 25.67 1 P **P** **21 25 26.1 +0.7**
SONM Songino Array 26.02 35 P **P** **21 25 29.4 +0.7**
0.6nm,0.6s,mb3.3,baz=219,slow=10,SNR=8.8
SONM Songino Array 26.02 35 P **P** **21 25 29.4 +0.7**
ABKAR Akbulak array 28.07 325 *eP* **P** **21 25 47.1 +0.1**
0.5nm,0.5s,mb3.4
KIV Kislovodsk 36.66 307 *eP* **P** **21 27 02.2 -0.1**
JOF Joensuu 48.56 331 *ep* **P** **21 28 38.0 -0.7**
FINES FINESS Array B 50.48 328 P **P** **21 28 53.6 +0.3**
8.1nm,1.0s,mb4.7,baz=115,slow=6.8,SNR=9.8
FINES FINESS Array B 50.48 328 P **P** **21 28 53.6 +0.3**
WRA Warramunga Arr 68.09 129 P **P** **21 30 55.3 -0.5**
0.5nm,0.5s,mb3.8,baz=322,slow=6.3,SNR=7.4
WRA Warramunga Arr 68.09 129 P **P** **21 30 55.3 -0.5**
ASAR Alice Springs 70.36 132 P **P** **21 31 08.7 -1.2**
0.5nm,0.7s,mb3.6,baz=320,slow=6.1,SNR=6.3
ASAR Alice Springs 70.36 132 P **P** **21 31 08.7 -1.2**
ILAR Eielson Array 79.14 20 P **P** **21 31 59.5 -0.6**
0.4nm,0.8s,mb3.4,baz=295,slow=4.5,SNR=6.4
ILAR Eielson Array 79.14 20 P **P** **21 31 59.5 -0.6**

ISCJB ***22*** *22:32:40.3±1.3,37.88N±0.04×36.08E±0.10,h10km,Error ellipse: s-maj=11.3km s-min=6.4km az=7.2*
DDA ***22*** *22:32:43.4,37.60N×36.14E,h7km±7km,Md3.1*

ISC 22 22:32:41.3±1.2,37.81N±0.06×36.10E±0.09,h10km,n6, σ1§46/10,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.40**	**214**	*e*PG		**Pg**	**22 32 50.0**	**+1.0**
KMRS Kahramanmaras 0.70 115 *e*PG **Pg** **22 32 54.7 -0.1**
SARI SarD1z-Kayseri 0.98 28 *e*PG **Pg** **22 32 59.1 -1.2**
SARI *e*SG **Sg** **22 33 10.6 -2.5**
GZT Gaziantep 1.25 111 *i* P **Pn** **22 33 03.3 -1.4**
GZT *i* S **Sb** **22 33 22.3 +1.3**
KUZU Kuzuini 1.29 143 *i* P **Pn** **22 33 05.5 +0.1**
KUZU *i* S **Sb** **22 33 20.5 -1.8**
AKCD Akcadag 1.52 71 *i* P **Pg** **22 33 13.0 +2.6**
AKCD *i* S **Sg** **22 33 35.8 +5.8**

TRN ***22*** *22:45:21.7,18.56N×63.86W,h17km,MD3.3(RSPR)*

RSPR 22 22:45:22.6,18.85N×63.74W,h7km±14km,MD3.3/3,4C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.57**	**258**	⇓*e*P		Pg	22 45 33.3	-0.3
ABV *eS* Sg 22 45 42.0 +1.0
ABV Anegada 0.57 258 ⇓*e*P Pg 22 45 33.3 -0.3
ABV *eS* Sg 22 45 42.0 +1.0
TBVI Tortola 0.93 242 *e*S Sg 22 45 50.6 -2.1
TBVI Tortola 0.93 242 *e*S Sg 22 45 50.6 -2.1
STVI Saint Thomas 1.25 247 ⇑*e*P Pn 22 45 43.1 -3.3
STVI Saint Thomas 1.25 247 ⇑*e*P Pn 22 45 43.1 -3.3
STVI *eS* Sb 22 45 59.4 -3.5
MTP Monte Pirata 1.87 247 ⇑*e*P Pn 22 45 52.4 -2.7
MTP Monte Pirata 1.87 247 ⇑*e*P Pn 22 45 52.4 -2.7
MTP *eS* Sn 22 46 15.9 -3.0

IDC ***22*** *23:08:56.2±1.0,31.67N×104.34E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.6/28,mbtmp3.7/9,ML3.1/1,Error ellipse: s-maj=37.4km s-min=18.6km az=59.0*
NEIC ***22*** *23:08:57.9±0.4,31.64N×104.30E,h10km,mb4.0/3,Error ellipse: s-maj=11.4km s-min=6.1km az=212.0*
BJI ***22*** *23:08:58.3,31.55N×104.38E,h13km,ML3.5/12*

ISC 22 23:08:58.5±1.1,31.62N±0.06×104.33E±0.04,h15km±8km, n28,σ0§80/36,mb3.7/10,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.86**	**215**	Pg		**Pg**	**23 09 14.8**	**-0.5**
CD2 Sg **Sg** **23 09 26.5 -0.1**
CD2 smax
comp=N,1μm,0.7s
CD2 smax
comp=E,1μm,0.7s
LZH Lanzhou 4.47 355 *e*Pn **Pn** **23 10 08.5 +2.7**
LZH Pg **Pb** **23 10 16.5 -0.3**
LZH Sn **Sn** **23 11 00.8 +3.2**
LZH Sg **Sg** **23 11 15.9 -6.2**
LZH smax
comp=N,65nm,0.9s
LZH smax
comp=E,92nm,0.8s
XAN Xi'an 4.55 57 Pn **Pn** **23 10 10.3 +3.4**
XAN Sn **Sn** **23 10 58.0 -1.6**
XAN Sg **Sg** **23 11 18.8 -5.9**
XAN smax
comp=N,150nm,0.8s
XAN smax
comp=E,55nm,0.7s
ENH Enshi 4.63 106 *e*Pn **Pn** **23 10 08.5 +0.5**
ENH *e*Pg **Pg** **23 10 27.2 0.0**
ENH *e*Sg **Sg** **23 11 27.0 -0.1**
SONM Songino Array 16.27 5 Pn **Pn** **23 12 46.8 +0.4**
comp=E,0.1nm,0.3s,baz=192,slow=15,SNR=2.6
SONM Songino Array 16.27 5 Pn **Pn** **23 12 46.8 +0.4**
KSAR Wonju Array Be 20.23 67 P **P** **23 13 33.6 +0.5**
KSRS Korea Array 20.26 67 P **P** **23 13 33.6 +0.2**
comp=E,1.0nm,0.3s,baz=276,slow=11,SNR=3.3
MK31 Makanchi Array 22.72 318 *eP* **P** **23 13 59.4 -0.3**
MKAR Makanchi Array 22.72 318 P **P** **23 14 00.2 +0.5**
comp=E,1.2nm,0.9s,mb3.3,baz=130,slow=12,SNR=5.9
MKAR Makanchi Array 22.72 318 P **P** **23 14 00.2 +0.5**
TKM2 Tokmak 2 25.38 305 *eP* **P** **23 14 25.1 0.0**
AAK Ala-Archa 26.08 303 *eP* **P** **23 14 31.3 -0.2**
ZALV Zalesovo Beam 26.34 334 P **P** **23 14 33.2 -0.5**
comp=E,0.5nm,0.6s,mb3.2,baz=138,slow=5.4,SNR=3.6
ZALV Zalesovo Beam 26.34 334 P **P** **23 14 33.2 -0.5**
KURK Kurchatov 26.95 323 P **P** **23 14 38.8 -0.5**
comp=E,0.3nm,0.6s,mb3.0,baz=132,slow=8.8,SNR=5.1
KURK Kurchatov 26.95 323 P **P** **23 14 38.8 -0.5**
KBL Kabul 29.62 285 *eP* **P** **23 15 03.3 0.0**
comp=E,1.3nm,0.4s,mb4.0
BRVK Borovoye 32.58 321 *eP* **P** **23 15 29.1 -0.1**
comp=E,0.9nm,0.6s,mb3.9
ARU Arti 40.15 322 *eP* **P** **23 16 33.5 -0.1**
comp=E,2.3nm,0.6s,mb4.1
WRA Warramunga Arr 58.79 147 P **P** **23 18 56.5 +0.2**
comp=E,1.4nm,0.6s,mb4.2,baz=340,slow=7.3,SNR=16
WRA Warramunga Arr 58.79 147 P **P** **23 18 56.5 +0.2**
ASAR Alice Springs 61.83 149 P **P** **23 19 17.9 +0.9**
comp=E,0.4nm,0.7s,mb3.7,baz=341,slow=7.1,SNR=4.5
ASAR Alice Springs 61.83 149 P **P** **23 19 17.9 +0.9**
INK Inuvik 71.60 19 P **P** **23 20 18.1 -0.8**
comp=E,1.2nm,0.7s,mb3.9,baz=310,slow=4.0,SNR=4.9
INK Inuvik 71.60 19 P **P** **23 20 18.1 -0.8**
YKA Yellowknife Ar 81.14 17 P **P** **23 21 12.7 -0.4**
comp=E,0.4nm,0.5s,mb3.6,baz=327,slow=5.0,SNR=9.0
YKA Yellowknife Ar 81.14 17 P **P** **23 21 12.7 -0.4**

ISCJB ***22*** *23:24:48.5±0.2,44.48N±0.01×105.53W±0.02,h0km,Error ellipse: s-maj=2.0km s-min=1.6km az=0.6*
NEIC ***22*** *23:24:49.7±0.6,44.50N×105.44W,h0km,ML2.8,Error ellipse: s-maj=8.4km s-min=6.4km az=209.0,Suspected Mining explosion.*
NEIC 25 km [15 miles] NNE of Gillette.

ISC 22 23:24:48.9±0.2,44.49N±0.01×105.54W±0.02,h0km,n78, σ1§11/133,38C-42D,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H23A	**Clabaugh Cattl**	**0.12**	**55**	⇑P		**Pg**	**23 24 51.9**	**+0.7**
baz=0.1
H23A ⇓S **Sg** **23 24 53.9 +1.1**
baz=0.1
I23A Meade Ranch, G 0.53 174 ⇓P **Pg** **23 24 59.2 +0.1**
baz=0.5
H22A Clearmont 0.59 280 ⇑P **Pg** **23 25 00.1 -0.1**
baz=0.6
H22A ⇓S **Sg** **23 25 08.1 +0.3**
baz=0.6

H24A	Dirks Ranch, A	0.75	70	⇑P	Pg	23 25 02.6	-0.7
	baz=0.8						
G22A	Birney	0.90	324	⇑P	Pg	23 25 05.8	-0.4
	baz=0.9,SNR=8.3						
I22A	9 Mile Ranch,	0.91	229	⇑P	Pg	23 25 05.9	-0.4
	baz=0.9						
I22A				⇓S	Sg	23 25 17.7	-0.3
	baz=0.9						
H21A	Big Horn, Sher	1.08	278	⇓P	Pg	23 25 09.2	-0.5
	baz=1.1						
H21A				⇓S	Sg	23 25 24.6	+0.9
	baz=1.1						
J23A	Dilts Ranch, B	1.09	180	⇑P	Pg	23 25 09.2	-0.6
	baz=1.1						
J23A				⇑S	Sg	23 25 24.7	+0.8
	baz=1.1						
RSSD	Black Hills	1.14	108	*e*P	Pg	23 25 09.5	-1.3
RSSD				*e*S	Sg	23 25 26.6	+1.0
G24A	Alzada	1.16	43	⇓P	Pg	23 25 10.1	-1.0
	baz=1.2,SNR=13						
F23A	Volborg	1.23	4	⇓P	Pg	23 25 11.4	-1.1
	baz=1.3,SNR=44						
F23A				⇓S	Sg	23 25 29.4	+0.9
	baz=1.3						
J22A	Midwest	1.27	212	⇓P	Pg	23 25 12.0	-1.3
	baz=1.3						
J22A				⇓S	Sg	23 25 29.1	-0.7
	baz=1.3						
J24A	Dixon Ranch, L	1.32	151	⇑P	Pg	23 25 13.2	-1.1
	baz=1.3						
F22A	Rosebud	1.38	339	⇑P	Pg	23 25 14.2	-1.2
	baz=1.4,SNR=44						
F22A				⇑S	Sg	23 25 33.6	+0.2
	baz=1.4						
G21A	Lodge Grass	1.39	302	⇓P	Pn	23 25 14.7	-0.9
	baz=1.4,SNR=16						
G21A				⇓Sg	Sg	23 25 34.8	+1.1
	baz=1.4						
I21A	Big Trails, Te	1.43	242	⇓P	Pn	23 25 14.9	-1.2
	baz=1.4						
I21A				⇓S	Sg	23 25 34.6	-0.3
	baz=1.4						
F24A	Ekalaka	1.56	29	⇑P	Pn	23 25 17.1	-0.8
	baz=1.6,SNR=28						
F24A				⇓S	Sn	23 25 38.2	-0.5
	baz=1.6						
K23A	Bowen Ranch, D	1.74	182	⇓Pb	Pb	23 25 20.2	-1.4
	baz=1.7						
K23A				⇑Sg	Sg	23 25 45.2	+0.5
	baz=1.7						
F21A	Absaloka Mine,	1.74	320	⇑P	Pn	23 25 19.9	-0.4
	baz=1.8,SNR=6.4						
F21A				⇑S	Sn	23 25 42.7	-0.5
	baz=1.8						
H20A	Greybull	1.76	271	⇑P	Pn	23 25 19.8	-0.8
	baz=1.8						
H20A				⇑Sb	Sb	23 25 44.4	-0.3
	baz=1.8						
J21A	Lysite	1.79	231	⇓Pb	Pb	23 25 21.1	-1.4
	baz=1.8						
J21A				⇑Sb	Sb	23 25 45.1	-0.5
	baz=1.8						
K24A	Anderson Ranch	1.84	163	⇓Pb	Pb	23 25 22.1	-1.4
	baz=1.8						
K24A				⇓Sb	Sb	23 25 46.5	-0.6
	baz=1.8						
I20A	Worland	1.94	255	⇓Pb	Pb	23 25 23.2	-1.9
	baz=1.9						
I20A				⇓Sb	Sb	23 25 48.9	-0.9
	baz=1.9						
E22A	Miles City	1.97	352	⇑P	Pn	23 25 23.1	-0.4
	baz=2.0,SNR=7.3						
K22A	Casper	1.97	202	⇓Pb	Pb	23 25 23.9	-1.8
	baz=2.0						
K22A				⇓Sb	Sb	23 25 50.4	-0.4
	baz=2.0						
E23A	Ismay	2.01	5	⇑P	Pn	23 25 23.3	-0.8
	baz=2.0,SNR=20						
E23A				⇑Sb	Sb	23 25 52.0	0.0
	baz=2.0						
G20A	Bridger	2.04	292	⇑P	Pn	23 25 23.3	-1.1
	baz=2.0						
G20A				⇑Sb	Sb	23 25 52.5	-0.1
	baz=2.0						
J20A	Shoshoni	2.16	239	⇑Pb	Pb	23 25 27.5	-1.4
	baz=2.1						
J20A				⇓Sb	Sb	23 25 56.2	0.0
	baz=2.1						
K21A	Alcova	2.24	214	⇑Pb	Pb	23 25 28.1	-2.0
	baz=2.2						
K21A				⇑Sb	Sb	23 25 58.3	0.0
	baz=2.2						
K25A	Mack Ranch, Ha	2.24	147	⇑Pb	Pb	23 25 29.1	-1.1
	baz=2.2						
K25A				⇑Sb	Sb	23 25 58.3	0.0
	baz=2.2						
E24A	Baker	2.24	22	⇓P	Pn	23 25 27.0	-0.3
	baz=2.3						
E24A				⇓Sb	Sb	23 25 58.5	-0.1
	baz=2.3						
LAO	LASA Array	2.25	348	⇓Sb	Sb	23 25 58.3	-0.5
	baz=2.3						
LAO	LASA Array	2.25	348	*e*Pn	Pn	23 25 27.1	-0.2
LAO				*e*Sn	Sn	23 25 58.6	+2.8
F20A	Billings	2.26	306	⇑P	Pn	23 25 26.4	-1.2
	baz=2.3						
F20A				⇓Sb	Sb	23 25 59.0	-0.1
	baz=2.3						
E21A	Keefer Ranch,	2.32	333	⇓P	Pn	23 25 28.3	+0.1
	baz=2.3						
E21A				⇑Sb	Sb	23 26 00.7	0.0
	baz=2.3						
L23A	Garrett	2.38	183	⇑P	Pn	23 25 28.7	-0.4
	baz=2.4						
L23A				⇑Sb	Sb	23 26 01.9	-0.6
	baz=2.4						
H19A	Powell	2.47	275	⇓Sb	Sb	23 26 04.4	-0.7
	baz=2.5						
I19A	Meeteetse	2.52	261	⇓Sb	Sb	23 26 06.2	-0.4
	baz=2.5						
L25A	Engebretsen Ra	2.60	153	⇓Pb	Pb	23 25 35.2	-1.2
	baz=2.6						
L25A				⇓Sb	Sb	23 26 09.1	+0.2
	baz=2.6						
D23A	Lindsay	2.69	5	⇓P	Pn	23 25 33.1	-0.3
	baz=2.7						
RLMT	Red Lodge	2.73	285	⇑P	Pn	23 25 33.5	-0.4
	baz=2.7						
RLMT	Red Lodge	2.73	285	*e*Pn	Pn	23 25 33.9	0.0
RLMT				*e*Sn	Sn	23 26 13.6	+6.0
K20A	Yellowstone Ra	2.74	229	⇓Sb	Sb	23 26 12.7	-0.1
	baz=2.7						
D24A	Glendive	2.76	17	⇓P	Pn	23 25 34.6	+0.2
	baz=2.8						
F19A	Roth Farm, Mol	2.77	301	⇑P	Pn	23 25 34.1	-0.3
	baz=2.8,SNR=7.0						
J19A	Crowheart	2.82	245	⇓P	Pn	23 25 35.7	+0.5
	baz=2.8						
J19A				⇑Sb	Sb	23 26 14.7	-0.5
	baz=2.8						
K19A	Absolon Red Bu	2.92	236	⇓Sb	Sb	23 26 17.3	-0.8
	baz=2.9						
H18A	Shoshone NF, C	2.95	275	⇑P	Pn	23 25 36.4	-0.6
	baz=2.9						
G18A	Lazy EL Ranch,	2.98	288	⇓P	Pn	23 25 37.1	-0.3
	baz=3.0,SNR=44						
RWWY	Rawlins	3.06	204	*e*Pn	Pn	23 25 40.1	+1.7
RWWY				*e*Sn	Sn	23 26 20.6	+4.9
M21A	Separation Pea	3.18	205	⇓P	Pn	23 25 41.3	+1.2
	baz=3.2						
M22A	Cedar Creek Ra	3.18	194	⇑P	Pn	23 25 41.8	+1.7
	baz=3.2						
PHWY	Pilot Hill	3.19	179	*e*Pn	Pn	23 25 40.6	+0.3
PHWY				*e*Sn	Sn	23 26 20.2	+1.2
GCMT	Greycliff	3.20	295	*e*Pn	Pn	23 25 41.1	+0.8
GCMT				*e*Pg	Pg	23 25 48.4	-1.7
GCMT				*e*Sn	Sn	23 26 25.2	+6.0
GCMT				*e*Sg	Sg	23 26 38.1	+6.5
C22A	Vida	3.26	356	⇑P	Pn	23 25 42.1	+0.8
	baz=3.3,SNR=11						
F18A	Big Timber	3.27	297	⇑P	Pn	23 25 41.3	-0.1
	baz=3.3						
C23A	Lambert	3.32	4	⇓P	Pn	23 25 42.7	+0.6
	baz=3.3						
PD02	Pinedale Array	3.39	241	*e*Pn	Pn	23 25 46.1	+3.1
PD02				*e*Sn	Sn	23 26 30.9	+7.1
PD01	Pinedale Array	3.40	241	*e*Pn	Pn	23 25 45.2	+2.1
PD01				*e*Sn	Sn	23 26 30.8	+6.7
YNR	Norris Junctio	3.68	275	Pn	Pn	23 25 48.9	+1.9
YNR				*e*Sn	Sn	23 26 37.3	+6.3
FLWY	Flagg Ranch	3.73	266	*e*Pn	Pn	23 25 48.0	+0.3
FLWY				*e*Sn	Sn	23 26 40.8	+8.6
LOHW	Long Hollow	3.75	258	*e*Pn	Pn	23 25 50.7	+2.6
LOHW				*e*Sn	Sn	23 26 39.9	+6.9
MOOW	Moose Ponds	3.82	261	*e*Pn	Pn	23 25 52.3	+3.3
REDW	Red Top Meadow	4.00	255	*e*Pn	Pn	23 25 54.5	+3.1
REDW				*e*Pg	Pg	23 26 05.9	+0.3
REDW				*e*Sn	Sn	23 26 45.5	+6.5
TPAW	Teton Pass	4.03	258	*e*Pn	Pn	23 25 53.9	+2.0
TPAW				*e*Sn	Sn	23 26 42.9	+3.1
DGMT	Dagmar	4.09	13	*e*Pn	Pn	23 25 55.2	+2.7
DGMT				*e*Pg	Pg	23 26 05.4	-1.8
DGMT				*e*Sg	Sg	23 26 59.7	-0.4
QLMT	Earthquake Lak	4.22	277	*e*Pn	Pn	23 25 56.3	+1.9
QLMT				*e*Sn	Sn	23 26 51.2	+7.0
RRI2	Red Ridge	4.33	257	*e*Pn	Pn	23 25 57.3	+1.3
RRI2				*e*Sn	Sn	23 26 53.8	+6.7
OGNE	Ogallala	4.39	143	*e*Pn	Pn	23 25 57.6	+0.9
OGNE				*e*Sn	Sn	23 26 52.0	+3.5
BOZ	Bozeman (W)	4.47	287	*e*Pn	Pn	23 25 59.7	+1.9
BOZ				*e*Sn	Sn	23 26 57.0	+6.5
EGMT	Eagleton	4.58	322	*e*Pn	Pn	23 26 04.0	+4.5
EGMT				*e*Sn	Sn	23 26 58.0	+4.6
ISCO	Idaho Springs	4.69	181	*e*Pn	Pn	23 26 01.8	+0.9
ISCO				*e*Sn	Sn	23 26 57.0	+1.0
HRY	Holter Researc	4.94	299	*e*Pn	Pn	23 26 07.6	+3.3
	14nm,0.7s						
HRY				*e*Sn	Sn	23 27 00.8	-1.3
DLMT	Dillon	5.09	282	*e*Pn	Pn	23 26 09.5	+3.2
	4.3nm,0.8s						
MCMT	McKenzie Canyo	5.22	276	*e*Pn	Pn	23 26 11.0	+2.8
	1.3nm,0.8s						
DAU	Daniels Canyon	5.87	228	*e*Pn	Pn	23 26 20.2	+3.1
	8.9nm,0.8s						
AGMN	Agassiz Nation	7.70	57	Pn	Pn	23 26 42.5	+0.3
	4.9nm,0.6s						
AGMN				*e*S	Sg	23 28 52.3	-3.6
WMOK	Wichita Mounta	11.04	150	*e*Pn	Pn	23 27 29.6	+1.5
	11nm,0.9s						

ISCJB ***22*** *23:30:49.8±0.4, 40.°40N±0.°02×26.°07E±0.°02, h6km±3km, Error ellipse: s-maj=3.0km s-min=2.8km az=34.2*
CSEM ***22*** *23:30:49.9±0.1, 40.°40N×26.°05E, h5km, MD3.1, Error ellipse: s-maj=2.6km s-min=2.2km az=15.0*
ISK ***22*** *23:30:50.4, 40.°40N×26.°16E, h4km, MD3.1*
THE ***22*** *23:30:50.7, 40.°39N×26.°04E, h8km±1km, ML2.5/8, Error ellipse: s-maj=1.7km s-min=0.8km az=66.0*
ATH ***22*** *23:30:50.1, 40.°42N×26.°09E, h5km±2km, MD3.3/4*
DDA ***22*** *23:30:50.1, 40.°40N×26.°11E, h7km±2km, Md3.0*
SOF ***22*** *23:30:51.7, 40.°55N×26.°07E, h2km, MD2.6*
ISC 22 23:30:50.4±0.3, **40.°40N**±0.°02×**26.°07E**±0.°02, **h7**km±3km, **n93**, σ0°**81**/137, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.31**	**91**	*e*PG	**Pg**	**23 30 56.0**	**-0.4**
GELI				*e*SG	**Sg**	**23 31 00.0**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.31**	**91**	*e*Pg	**Pg**	**23 30 56.0**	**-0.4**
GELI				*e*Sg	**Sg**	**23 31 00.0**	**-0.4**
ENEZ	**Enez**	**0.34**	**10**	*e*PG	**Pg**	**23 30 57.4**	**+0.4**
ENEZ				*e*SG	**Sg**	**23 31 02.5**	**+1.0**
ENEZ	**Enez**	**0.34**	**10**	*e*Pg	**Pg**	**23 30 57.4**	**+0.4**
ENEZ				*e*Sg	**Sg**	**23 31 02.5**	**+1.0**
ERIK	**Erikli-Kesan**	**0.43**	**51**	*e*PG	**Pg**	**23 30 58.7**	**0.0**
ERIK				*e*SG	**Sg**	**23 31 04.5**	**+0.2**
ERIK	**Erikli-Kesan**	**0.43**	**51**	*e*Pg	**Pg**	**23 30 58.7**	**0.0**
ERIK				*e*Sg	**Sg**	**23 31 04.5**	**+0.1**
ALN	**Alexandroupoli**	**0.49**	**358**	P	**Pg**	**23 31 00.0**	**0.0**
ALN				S	**Sg**	**23 31 07.2**	**+0.7**
ALN	**Alexandroupoli**	**0.49**	**358**	P	**Pg**	**23 31 00.0**	**0.0**
ALN				S	**Sg**	**23 31 07.2**	**+0.7**
LPK	**Lapseki**	**0.53**	**93**	*e*PG	**Pg**	**23 30 59.5**	**-1.0**
LPK	**Lapseki**	**0.53**	**93**	*e*Pg	**Pg**	**23 30 59.6**	**-0.9**
BOZC	**Bozcaada**	**0.56**	**182**	*i* P	**Pg**	**23 31 01.2**	**+0.1**
BOZC				*i* S	**Sg**	**23 31 09.3**	**+0.9**
EZN	**Ezine**	**0.61**	**161**	*e*PG	**Pg**	**23 31 02.5**	**+0.5**
EZN	**Ezine**	**0.61**	**161**	*e*Pg	**Pg**	**23 31 02.5**	**+0.4**
RDO	**Rodhopi**	**0.85**	**331**	*e*PB	**Pg**	**23 31 06.4**	**-0.3**
RDO				*e*SB	**Sg**	**23 31 17.5**	**-0.2**
RDO	**Rodhopi**	**0.85**	**331**	P	**Pg**	**23 31 06.3**	**-0.4**
RDO				S	**Sg**	**23 31 19.7**	**+2.0**
RDO	**Rodhopi**	**0.85**	**331**	*e*Pb	**Pg**	**23 31 06.4**	**-0.3**
RDO				*e*Sb	**Sg**	**23 31 17.5**	**-0.2**
RDO				S	**Sg**	**23 31 19.7**	**+2.0**
LIA	**Limnos Island**	**0.85**	**234**	*e*PB	**Pg**	**23 31 06.8**	**+0.1**
LIA				*e*SB	**Sg**	**23 31 18.8**	**+1.1**
LIA	**Limnos Island**	**0.85**	**234**	P	**Pg**	**23 31 06.5**	**-0.2**
LIA				S	**Sg**	**23 31 19.0**	**+1.3**
LIA	**Limnos Island**	**0.85**	**234**	P	**Pg**	**23 31 06.5**	**-0.2**
LIA	**Limnos Island**	**0.85**	**234**	*e*Pb	**Pg**	**23 31 06.8**	**+0.1**
LIA				*e*Sb	**Sg**	**23 31 18.8**	**+1.1**
RKY	**Sarkoy-Tekirda**	**0.89**	**71**	*e*PG	**Pg**	**23 31 06.8**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.89**	**71**	*e*Pg	**Pg**	**23 31 06.8**	**-0.7**
SART	**Tekirdag**	**0.89**	**71**	*i* P	**Pg**	**23 31 06.1**	**-1.4**
SART				*i* S	**Sg**	**23 31 19.1**	**+0.1**
SART	**Tekirdag**	**0.89**	**71**	*i* P	**Pg**	**23 31 06.1**	**-1.4**
SART				*i* S	**Sg**	**23 31 19.1**	**0.0**
KRBG	**Karabiga-Canak**	**0.94**	**90**	*e*PG	**Pg**	**23 31 07.3**	**-1.0**
KRBG				*e*SG	**Sg**	**23 31 19.6**	**-0.9**
KRBG	**Karabiga-Canak**	**0.94**	**90**	*e*Pg	**Pg**	**23 31 07.3**	**-1.0**
KRBG				*e*Sg	**Sg**	**23 31 19.6**	**-0.9**
MFT	**Murefte**	**1.00**	**67**	*e*PG	**Pg**	**23 31 09.3**	**-0.3**
MFT				*e*SG	**Sg**	**23 31 22.5**	**0.0**
MFT	**Murefte**	**1.00**	**67**	*e*Pg	**Pg**	**23 31 09.3**	**-0.2**
MFT				*e*Sg	**Sg**	**23 31 22.5**	**0.0**
PRK	**Paraskevi**	**1.17**	**172**	*e*PG	**Pg**	**23 31 12.3**	**-0.4**
PRK				*e*SB	**Sb**	**23 31 29.0**	**+0.9**
PRK	**Paraskevi**	**1.17**	**172**	P	**Pg**	**23 31 12.2**	**-0.5**
PRK				S	**Sg**	**23 31 28.1**	**+0.3**
PRK	**Paraskevi**	**1.17**	**172**	*e*Pg	**Pg**	**23 31 12.3**	**-0.4**
PRK				S	**Sg**	**23 31 28.1**	**+0.3**
PRK				*e*Sb	**Sb**	**23 31 29.0**	**+0.9**
AYVA	**Ayvalik**	**1.19**	**156**	*i* P	**Pg**	**23 31 13.0**	**-0.2**
AYVA				*i* S	**Sg**	**23 31 28.8**	**+0.1**
AYVA	**Ayvalik**	**1.19**	**156**	*i* P	**Pg**	**23 31 13.0**	**-0.2**
AYVA				*i* S	**Sg**	**23 31 28.8**	**+0.1**
TKR	**Tekirdag**	**1.26**	**62**	*e*PN	**Pn**	**23 31 13.9**	**-0.4**
TKR	**Tekirdag**	**1.26**	**62**	*e*Pn	**Pn**	**23 31 13.9**	**-0.5**
GONE	**Gonen-Balikesi**	**1.28**	**106**	*e*PN	**Pn**	**23 31 13.8**	**-0.9**
GONE	**Gonen-Balikesi**	**1.28**	**106**	*e*Pn	**Pn**	**23 31 13.8**	**-0.9**
KAVA	**Kavala**	**1.33**	**297**	P	**Pn**	**23 31 13.8**	**-1.5**
KAVA				S	**Sb**	**23 31 33.1**	**+0.3**
KAVA	**Kavala**	**1.33**	**297**	P	**Pn**	**23 31 13.8**	**-1.5**
KAVA				S	**Sb**	**23 31 33.1**	**+0.3**
KDZ	**Kurdzhali**	**1.34**	**338**	P	**Pn**	**23 31 15.4**	**-0.1**
KDZ	**Kurdzhali**	**1.34**	**338**	P	**Pn**	**23 31 15.4**	**-0.1**
KDZ	**Kurdzhali**	**1.34**	**338**	P	**Pn**	**23 31 15.4**	**-0.1**
EDC	**Edincik**	**1.37**	**92**	*e*PN	**Pn**	**23 31 15.3**	**-0.6**
EDC	**Edincik**	**1.37**	**92**	*e*Pn	**Pn**	**23 31 15.3**	**-0.6**
CRLT	**Corlu**	**1.46**	**60**	*e*PN	**Pn**	**23 31 17.2**	**+0.2**
CRLT	**Corlu**	**1.46**	**60**	*e*Pn	**Pn**	**23 31 17.3**	**+0.2**
EDRB	**Edirne**	**1.53**	**19**	*e*PN	**Pn**	**23 31 18.1**	**-0.1**
EDRB	**Edirne**	**1.53**	**19**	*e*Pn	**Pn**	**23 31 18.1**	**0.0**
BALB	**Balikesir**	**1.58**	**118**	*e*PN	**Pn**	**23 31 18.9**	**+0.1**
BALB	**Balikesir**	**1.58**	**118**	*e*Pn	**Pn**	**23 31 18.9**	**+0.1**
OUR	**Ouranopolis**	**1.60**	**268**	P	**Pn**	**23 31 17.1**	**-1.9**
OUR				S	**Sn**	**23 31 39.0**	**-0.9**
OUR	**Ouranopolis**	**1.60**	**268**	P	**Pn**	**23 31 17.1**	**-1.9**
OUR				S	**Sn**	**23 31 39.0**	**-0.9**
RZN	**Rozhen**	**1.64**	**322**	*e*P	**Pn**	**23 31 21.1**	**+1.4**
RZN	**Rozhen**	**1.64**	**322**	*e*P	**Pn**	**23 31 21.1**	**+1.4**
RZN	**Rozhen**	**1.64**	**322**	*e*P	**Pn**	**23 31 21.1**	**+1.4**
KCTX	**Karacabey (Bur**	**1.75**	**94**	*e*PN	**Pn**	**23 31 20.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.75**	**94**	*e*Pn	**Pn**	**23 31 20.9**	**-0.2**
SLVT	**Silivri**	**1.82**	**62**	*e*PN	**Pn**	**23 31 22.7**	**+0.6**
SLVT	**Silivri**	**1.82**	**62**	*e*Pn	**Pn**	**23 31 22.7**	**+0.6**
NVR	**Nevrokopi**	**1.93**	**300**	P	**Pn**	**23 31 22.5**	**-1.0**
NVR	**Nevrokopi**	**1.93**	**300**	P	**Pn**	**23 31 22.5**	**-1.0**
PLD	**Plovdiv**	**1.99**	**329**	P	**Pn**	**23 31 24.4**	**0.0**
PLD				S	**Sn**	**23 31 50.1**	**+0.5**
PLD	**Plovdiv**	**1.99**	**329**	*e*P	**Pn**	**23 31 27.1**	**+2.7**
PLD	**Plovdiv**	**1.99**	**329**	*e*P	**Pn**	**23 31 27.1**	**+2.7**
PLD	**Plovdiv**	**1.99**	**329**	P	**Pn**	**23 31 24.4**	**0.0**
PLD				S	**Sn**	**23 31 50.1**	**+0.5**
CTYL	**Yal??k??y-??at**	**1.99**	**57**	*e*PN	**Pn**	**23 31 25.3**	**+0.9**
CTYL	**Yal??k??y-??at**	**1.99**	**57**	*e*Pn	**Pn**	**23 31 25.3**	**+0.9**
PLG	**Polygyros**	**2.01**	**270**	*e*PN	**Pn**	**23 31 27.2**	**+2.5**
PLG				*e*SN	**Sn**	**23 31 54.0**	**+4.0**
PLG	**Polygyros**	**2.01**	**270**	P	**Pn**	**23 31 22.9**	**-1.8**
PLG				S	**Sn**	**23 31 49.4**	**-0.6**
PLG	**Polygyros**	**2.01**	**270**	P	**Pn**	**23 31 22.9**	**-1.8**
PLG	**Polygyros**	**2.01**	**270**	*e*Pn	**Pn**	**23 31 27.2**	**+2.5**
PLG				S	**Sn**	**23 31 49.4**	**-0.6**
PLG				*e*Sn	**Sn**	**23 31 54.0**	**+4.0**
CHOS	**Chios island**	**2.01**	**180**	P	**Pn**	**23 31 24.1**	**-0.6**
CHOS				S	**Sn**	**23 31 50.3**	**+0.2**
CHOS	**Chios island**	**2.01**	**180**	P	**Pn**	**23 31 24.1**	**-0.6**
CHOS				S	**Sn**	**23 31 50.3**	**+0.2**
SRS	**Serrai**	**2.02**	**292**	P	**Pn**	**23 31 23.4**	**-1.4**
SRS				S	**Sn**	**23 31 50.6**	**+0.4**
SRS	**Serrai**	**2.02**	**292**	P	**Pn**	**23 31 23.4**	**-1.4**
SRS				S	**Sn**	**23 31 50.6**	**+0.4**
CTKS	**Kestanelik-??a**	**2.03**	**65**	*e*PN	**Pn**	**23 31 25.7**	**+0.8**
CTKS	**Kestanelik-??a**	**2.03**	**65**	*e*Pn	**Pn**	**23 31 25.7**	**+0.8**
AKS	**Akhisar**	**2.03**	**138**	*e*PN	**Pn**	**23 31 25.9**	**+1.0**
AKS	**Akhisar**	**2.03**	**138**	*e*Pn	**Pn**	**23 31 25.9**	**+0.9**
JMB	**Yambol**	**2.10**	**10**	P	**Pn**	**23 31 26.3**	**+0.4**
JMB	**Yambol**	**2.10**	**10**	P	**Pn**	**23 31 26.3**	**+0.4**
DST	**Dursunbey**	**2.11**	**111**	*e*PN	**Pn**	**23 31 26.7**	**+0.6**
DST	**Dursunbey**	**2.11**	**111**	*e*Pn	**Pn**	**23 31 26.7**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.15**	**90**	*e*PN	**Pn**	**23 31 27.2**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.15**	**90**	*e*Pn	**Pn**	**23 31 27.2**	**+0.6**
BGKT	**Bogazkoy**	**2.19**	**68**	*e*PN	**Pn**	**23 31 28.0**	**+0.8**
BGKT	**Bogazkoy**	**2.19**	**68**	*e*Pn	**Pn**	**23 31 28.0**	**+0.8**
YLV	**Yalova**	**2.52**	**85**	*e*PN	**Pn**	**23 31 32.7**	**+1.0**
YLV	**Yalova**	**2.52**	**85**	*e*Pn	**Pn**	**23 31 32.7**	**+1.0**
KNT	**Kendrikon**	**2.53**	**289**	P	**Pn**	**23 31 30.8**	**-1.0**
KNT				S	**Sn**	**23 32 01.9**	**-0.9**
KNT	**Kendrikon**	**2.53**	**289**	P	**Pn**	**23 31 30.8**	**-1.0**
KNT				S	**Sn**	**23 32 01.9**	**-0.9**
KULA	**Kula-Manisa**	**2.75**	**132**	*e*PN	**Pn**	**23 31 36.0**	**+1.1**
KULA	**Kula-Manisa**	**2.75**	**132**	*e*Pn	**Pn**	**23 31 36.0**	**+1.1**

ISCJB ***22*** *23:39:50.1±1.6, 38.°07N±0.°03×71.°42E±0.°07, h4km±12km, mb3.8/6, Error ellipse: s-maj=8.9km s-min=5.5km az=164.0*
IDC ***22*** *23:39:50.6±1.3, 37.°98N×71.°49E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.6/30, mbtmp3.7/10, ML3.5/5, Error ellipse: s-maj=22.0km s-min=20.2km az=121.0*
NNC ***22*** *23:39:55.0±3.4, 38.°39N×70.°95E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=29.3km s-min=24.4km az=59.0*
NEIC ***22*** *23:39:55.4±2.1, 38.°11N×71.°51E, h32km±17km, mb4.1/7, Error ellipse: s-maj=10.4km s-min=4.2km az=64.0*
ISC 22 23:39:51.0±1.6, **38.°05N**±0.°03×**71.°33E**±0.°06, **h1**km±13km, **n63**, σ1°**25**/74, **mb3.8**/6, **4C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.96**	**209**	*e*Pn	**Pb**	**23 41 03.0**	**+1.4**
KBL				*e*Sg	**Sg**	**23 41 57.9**	**-0.4**
CEP	**Cherat**	**4.24**	**173**	P	**Pb**	**23 41 06.8**	**+0.3**
CEP				S	**Sg**	**23 42 12.0**	**+4.6**
AML	**Almayashu**	**4.46**	**23**	P	**Pn**	**23 41 01.3**	**+1.5**
	SNR=9.3						
AML				P		23 41 01.3	
	SNR=9.3						
CHCP	**Chirah Chowk**	**4.66**	**160**	P	**Pb**	**23 41 11.5**	**-2.0**
EKS2	**Erkin-Say**	**4.97**	**21**	P	**Pn**	**23 41 12.5**	**+5.8**
	SNR=8.7						
EKS2				P		23 41 12.5	
	SNR=8.7						
EKS2	**Erkin-Say**	**4.97**	**21**	*e*Pn	**Pn**	**23 41 07.5**	**+0.8**
EKS2				*e*Sn	**Sn**	**23 42 04.6**	**-0.2**
KK31	**Karatay Array**	**5.08**	**353**	Pn	**Pn**	**23 41 09.2**	**+0.9**
	2.3nm,0.3s,baz=174,slow=13,SNR=54						
KK31				⇓Sn	**Sn**	**23 42 09.6**	**+1.9**
	4.2nm,0.3s,baz=174,slow=23						
KK31				⇑Lg		23 42 26.1	
	17nm,0.7s,baz=161,slow=27,SNR=4.1						
KKAR	**Karatay Array**	**5.08**	**353**	*e*Pn	**Pn**	**23 41 08.6**	**+0.3**
	0.7nm,1.3s	

TAPN	Taplejung	17.41	123	eP		Pn	23 43 55.4	+0.2
	5.9nm,0.6s							
TAPN	Taplejung	17.41	123	eP		Pn	23 43 55.4	+0.2
	5.9nm,0.6s							
ZAA0	Zalesovo Array	18.40	26	eP		Pn	23 44 06.2	-1.1
ZALV	Zalesovo Beam	18.40	26	P		Pn	23 44 05.3	-2.0
	0.2nm,0.3s,baz=219,slow=11,SNR=9.5							
ZALV	Zalesovo Beam	18.40	26	P		Pn	23 44 05.3	-2.0
KIV	Kislovodsk	22.34	294	eP		P	23 44 51.6	+1.4
	3.1nm,0.7s,mb3.9							
ULN	Ulaanbaatar	27.70	58	eP		P	23 45 39.6	-1.1
ENH	Enshi	32.34	92	P		P	23 46 20.2	-1.7
FINES	FINESS Array B	36.36	325	P		P	23 46 56.9	+0.6
	1.1nm,0.5s,mb3.9,baz=120,slow=9.8,SNR=3.8							
FINES	FINESS Array B	36.36	325	P		P	23 46 56.9	+0.6
ARCES	ARCESS Array B	39.82	337	P		P	23 47 25.8	+0.4
	2.2nm,0.8s,mb3.8,baz=114,slow=9.0,SNR=5.4							
ARCES	ARCESS Array B	39.82	337	P		P	23 47 25.8	+0.4
TORD	Torodi Ar. Bea	66.03	268	P		P	23 50 40.5	+0.8
	0.5nm,0.5s,mb4.0,baz=48,slow=5.9,SNR=11							
TORD	Torodi Ar. Bea	66.03	268	P		P	23 50 40.5	+0.8
YKA	Yellowknife Ar	79.69	3	P		P	23 51 59.5	-0.4
	0.2nm,0.5s,mb3.3,baz=352,slow=5.5,SNR=3.9							
YKA	Yellowknife Ar	79.69	3	P		P	23 51 59.5	-0.4
WRA	Warramunga Arr	82.59	122	P		P	23 52 14.8	-1.1
	0.6nm,0.9s,mb3.8,baz=320,slow=4.1,SNR=3.8							
WRA	Warramunga Arr	82.59	122	P		P	23 52 14.8	-1.1

ISCJB ***22*** *23:52:57.5±1.1, 15°.4S±0°.1×177°.8W±0°.1, h460km±11km, mb3.7/9, Error ellipse: s-maj=20.2km s-min=13.6km az=33.6*
NEIC ***22*** *23:52:57.7±0.8, 15°.41S×177°.78W, h448km±8km, mb3.3/2, Error ellipse: s-maj=12.6km s-min=8.6km az=124.0*
IDC ***22*** *23:52:59.2±11.0, 15°.38S×177°.81W, h463km±131km, mb3.4/7, mb1 3.7/7, mb1mx3.4/17, mbtmp3.4/7, Error ellipse: s-maj=84.7km s-min=31.5km az=154.0*
ISC 22 23:52:58.3±1.0, 15°.4S±0°.1×177°.8W±0°.1, h454km±11km, n26, σ0.62/25, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.62	239	eP	P	23 54 17.4	-2.0
MSVF				eS	S	23 55 26.4	+1.1
FUNA	Funafuti	7.44	336	P	P	23 54 48.3	+0.4
HNR	Honiara	22.53	283	eP	P	23 57 22.1	-0.6
	18nm,0.4s,mb4.8						
URZ	Urewera	23.22	190	eP	P	23 57 29.1	+0.7
SNZO	South Karori	26.63	193	eP	P	23 57 58.6	-0.1
ARMA	Armidale	31.77	237	P	P	23 58 44.0	+0.2
CAN	Canberra	35.74	230	eP	P	23 59 17.6	+0.2
STKA	Stephens Creek	40.40	239	P	P	23 59 55.1	-0.6
	1.3nm,0.5s,mb3.6,baz=85,slow=7.5,SNR=2.9						
STKA	Stephens Creek	40.40	239	eP	P	23 59 55.2	-0.4
	0.8nm,1.0s,mb3.1						
WRAB	Tennant Creek	45.72	257	eP	P	00 00 37.7	+0.1
	1.2nm,0.6s,mb3.5						
WRA	Warramunga Arr	45.73	257	P	P	00 00 37.7	0.0
	1.9nm,0.8s,mb3.6,baz=90,slow=6.7,SNR=51						
WRA	Warramunga Arr	45.73	257	P	P	00 00 37.7	0.0
ASAR	Alice Springs	46.09	252	P	P	00 00 40.8	+0.3
	8.9nm,0.6s,mb4.4,baz=84,slow=8.1,SNR=87						
ASAR	Alice Springs	46.09	252	P	P	00 00 40.8	+0.3
NWAO	Narrogin (SRO)	60.94	241	eP	P	00 02 26.2	-0.1
RPN	Rapa Nui	64.19	113	eP	P	00 02 47.0	-0.6
NVAR	Mina Array Bea	77.20	44	P	P	00 04 04.9	+0.5
	1.5nm,0.8s,mb3.6,baz=220,slow=8.3,SNR=8.2						
NVAR	Mina Array Bea	77.20	44	P	P	00 04 04.9	+0.5
ILAR	Eielson Array	83.31	13	P	P	00 04 35.9	0.0
	2.9nm,1.1s,mb3.7,baz=226,slow=6.3,SNR=11						
ILAR	Eielson Array	83.31	13	P	P	00 04 35.9	0.0
TXAR	Lajitas Array	84.15	58	P	P	00 04 41.4	+0.5
	1.8nm,0.9s,mb3.6,baz=224,slow=7.6,SNR=13						
TXAR	Lajitas Array	84.15	58	P	P	00 04 41.4	+0.5
YKA	Yellowknife Ar	91.81	24	P	P	00 05 16.0	-0.2
	0.2nm,0.8s,mb3.1,baz=244,slow=3.8,SNR=5.9						
YKA	Yellowknife Ar	91.81	24	P	P	00 05 16.1	-0.2
BRTR	Keskin Array B	143.39	318	PKP	PKPdf	00 11 39.9	-0.5
	2.6nm,0.9s,baz=64,slow=2.8,SNR=12						
BRTR	Keskin Array B	143.39	318	PKP	PKPdf	00 11 39.9	-0.5

IDC 22 23:54:10.0±8.0, 1°.65N×95°.56W, h0km, mb3.5/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.5/4, Error ellipse: s-maj=290.3km s-min=146.5km az=82.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.59	345	P	P	00 00 08.5	+0.5
	0.5nm,1.0s,baz=184,slow=11,SNR=3.6						
NVAR	Mina Array Bea	42.12	333	P	P	00 02 04.1	+0.1
	0.4nm,0.7s,baz=142,slow=8.9,SNR=3.0						
PDAR	Pinedale Array	42.81	345	P	P	00 02 09.5	-0.1
	0.5nm,0.7s,baz=143,slow=7.7,SNR=4.3						
ILAR	Eielson Array	72.93	340	P	P	00 05 41.0	+0.1
	0.5nm,0.7s,baz=148,slow=4.7,SNR=8.6						

NIED ***23*** *00:04:00, 22°.80N×120°.50E, h32km, Mw5.1 Best double couple: M0=5.09000×10^16 NP1:φs=196.00000°, δ76.00000°, λ147.00000°. NP2:φs=294.00000°, δ59.00000°, λ16.00000°.*
IDC ***23*** *00:04:40.8±0.4, 22°.91N×120°.72E, h0km, mb4.7/27, mb1 4.8/29, mb1mx4.8/31, mbtmp4.7/29, ML4.3/2, MS4.4/15, Ms1 4.4/15, ms1mx4.2/34, Error ellipse: s-maj=14.5km s-min=9.2km az=72.0*
BJI ***23*** *00:04:43.5, 23°.02N×120°.50E, h17km, mB5.0/37, mb4.8/51, ML5.2/6, Ms5.1/55, Ms7 4.9/54*
TAP ***23*** *00:04:43.8, 22°.95N×120°.55E, h17km, ML5.3, B*
MOS ***23*** *00:04:44.3±0.9, 22°.90N×120°.71E, h33km, mb5.4/56, MS4.7/12, Error ellipse: s-maj=7.6km s-min=4.6km az=115.0*
ISCJB ***23*** *00:04:44.3±0.2, 22°.89N±0°.01×120°.54E±0°.01, h29km±1km, mb5.2/154, MS4.7/32, Error ellipse: s-maj=2.1km s-min=1.9km az=29.9*
GCMT ***23*** *00:04:44.8±0.3, 22°.85N×120°.42E, h24km±1km, MW5.1, Moment Tensor Solution. s45,c53; s3,c3; Moment tensor: Scale 10^16Nm; Mrr=3.62±.22; Mθθ=0.31±.12; Mφφ=-3.31±.14; Mrθ=0.60±.15; Mrφ=1.66±.07; Mθφ=-2.97±.18; Best double couple: M0=4.90000×10^16 NP1:φs=327.00000°, δ27.00000°, λ74.00000°. NP2:φs=164.00000°, δ64.00000°, λ98.00000°. Principal axes: T 4.7200, Plg70.0000°, Azm91.0000°; N 0.3500, Plg7.0000°, Azm341.0000°; P -5.0600, Plg19.0000°, Azm248.0000°; Data Used: II IU IC G CN. Surface waves: sta= 78, comp=111, per= 50.*
JMA ***23*** *00:04:44.4±0.3, 22°.79N×120°.53E, h87km, M5.4*
NEIC ***23*** *00:04:45.6, 22°.95N×120°.57E, h11km, mb5.4/75, ML5.6(TAP), MW4.9(USGS), After TAP.*
NEIC Felt [IV] at Kao-hsiung and [III] at T'ai-nan. Also felt at Chang-hua, Chu-pei, Heng-ch'un, Hsin-chu, P'ing-tung and T'ai-chung. Recorded [4 TAP] in Chia-i, Kao-hsiung and P'ing-tung; [3 TAP] in T'ai-nan and T'ai-tung; [2 TAP] in Chang-hua; [1 TAP] in Hua-lien and P'eng-hu.
DJA ***23*** *00:04:51, 23°.07N×120°.83E, h91km, mb5.5/29*
ISC 23 00:04:44.7±0.2, 22°.92N±0°.01×120°.55E±0°.01, h19km±1km, h26km±2.1km: pP-P, n634, σ1.09/678, mb5.2/155, MS4.7/32, 61C-39D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWM1	Shoushan	0.15	231	↑iP	Pg	00 04 49.4	+0.3
	baz=223						
SGST	Jiashian	0.17	11	↑eP	Pg	00 04 48.6	-0.7
	baz=15						
SGST				eS	Sg	00 04 52.2	-0.3
	baz=15						
SSD	Sandimen	0.19	156	↓iP	Pg	00 04 49.5	-0.1
	baz=151						
SSD				S	Sg	00 04 53.6	+0.7
	baz=151						
SGLT	Jiouru	0.20	196	↑iP	Pg	00 04 50.6	+0.9
	baz=188						
CHN3	Shinhua	0.23	313	↓iP	Pg	00 04 50.5	+0.3
	baz=307						
CHN1	Nanshi	0.27	356	↓iP	Pg	00 04 50.2	-0.6
	baz=355						
STYT	Tauyuan	0.31	38	↑iP	Pg	00 04 51.1	-0.4
	baz=43						
TAI1	Yung-k'ang	0.32	292	↑P	Pg	00 04 51.6	0.0
	baz=288						
WTP	Ta-pu	0.33	10	↑iP	Pg	00 04 51.4	-0.5
	baz=12						
TPUB	Ta-pu	0.39	11	ePg	Pg	00 04 52.0	-0.8
TPUB				eSg	Sg	00 04 58.2	-0.1
KAU	Kaohsiung	0.41	213	↑P	Pg	00 04 54.3	+1.0
	baz=222						
SCLT	Jiali	0.41	308	P	Pg	00 04 53.0	-0.3
	baz=306						
SCLT				eS	Sg	00 05 00.6	+1.4
	baz=306						
TWG	Pinlang	0.49	101	↑iP	Pb	00 04 54.9	+0.2
	baz=104						
TWG				S	Sg	00 05 02.5	+1.1
	baz=104						
TWG	Pinlang	0.49	101	eP	Pb	00 04 54.9	+0.2
TWG				eSg	Sg	00 05 02.6	+1.2
ECL	Taimali	0.49	131	↓iP	Pb	00 04 54.6	-0.1
	baz=135						
ELDTW	Lidau	0.51	58	↓iP	Pb	00 04 54.7	-0.3
	baz=60						
ELDTW				eS	Sb	00 05 02.5	+0.5
	baz=60						
CHN8	Yiju	0.53	324	↑P	Pb	00 04 54.7	-0.6
	baz=323						
CHN8				eS	Sb	00 05 03.5	+1.0
	baz=323						
SCZT	Fangliau	0.55	173	↓eP	Pb	00 04 55.7	0.0
	baz=165						
SCZT				eS	Sb	00 05 05.6	+2.5
	baz=165						
TTN	Taitung	0.57	106	↓iP	Pb	00 04 57.1	+1.0
	baz=108						
TTN				eS	Sb	00 05 06.5	+2.6
	baz=108						
CHY	Chiayi	0.59	349	↓P	Pb	00 04 56.0	-0.4
	baz=359						
TWP	Hsiaoliuchiu	0.60	197	↑P	Pb	00 04 58.7	+2.2
	baz=196						
TWP				eS	Sb	00 05 10.6	+6.1
	baz=196						
EAST	Anshuo	0.60	153	↓iP	Pb	00 04 56.7	+0.2
	baz=150						
ALS	Alishan	0.63	22	↑iP	Pb	00 04 56.7	-0.4
	baz=23						
ALS				eS	Sb	00 05 06.6	+1.0
	baz=23						
TAW	Tawu	0.64	150	↓iP	Pb	00 04 57.5	+0.2
	baz=146						
TAW				i S	Sb	00 05 07.2	+1.3
	baz=146						
YUS	Yu-Shan	0.68	33	↑iP	Pb	00 04 57.8	-0.1
	baz=35						
CHN5	Tsauling	0.69	10	↓iP	Pb	00 04 57.3	-0.7
	baz=10.0						
WGK	Gukeng	0.76	1	eP	Pb	00 04 58.9	-0.5
	baz=1.0						
WGK				eS	Sb	00 05 10.6	+1.3
	baz=1.0						
CHKT	Chengkung	0.77	76	↓eP	Pb	00 04 59.8	+0.3
	baz=78						
CHKT				S	Sb	00 05 11.9	+2.3
	baz=78						
WSF	Szhu	0.78	337	eP	Pb	00 04 58.8	-0.8
	baz=337						
WSF				eS	Sb	00 05 10.6	+0.8
	baz=337						
TWF1	Yuli	0.81	58	↓iP	Pb	00 04 60.0	-0.2
	baz=66						
TWF1				S	Sb	00 05 10.9	+0.2
	baz=66						
YULB	Yu-li	0.83	55	ePn	Pn	00 05 00.0	-1.4
YULB				eSg	Sg	00 05 10.2	-1.9
WDGT	Dungji	0.89	293	↑eP	Pb	00 05 00.1	-1.4
	baz=292						
EHY	Hungye	0.92	50	↓iP	Pb	00 05 01.6	-0.4
	baz=56						
EHY				S	Sb	00 05 14.2	+0.3
	baz=56						
HEN	Hengchun	0.93	169	↓iP	Pb	00 05 03.0	+0.9
	baz=168						
SSLB	Suanglung	0.94	23	eP	Pb	00 05 01.5	-0.9
SSLB				eS	Sb	00 05 14.9	+0.5
WNT	Mingjian	0.96	7	↓P	Pb	00 05 02.0	-0.8
	baz=7.0						
WNT				eS	Sb	00 05 15.9	+0.8
	baz=7.0						
WTCT	Ta-ch'eng	0.97	345	eP	Pb	00 05 01.9	-1.1
	baz=345						
WTCT				eS	Sb	00 05 15.5	+0.1
	baz=345						
TWK1	Hengchun	1.00	166	P	Pb	00 05 03.8	+0.4
	baz=166						
TWK1				eS	Sb	00 05 19.7	+3.6
	baz=166						
SMLT	Sun Moon Lake	1.01	18	↓eP	Pb	00 05 02.8	-0.8
	baz=19						
SMLT				eS	Sb	00 05 18.5	+2.0
	baz=19						
TYC	Yuchr	1.02	16	↑eP	Pb	00 05 02.6	-1.1
	baz=17						
PNG	Penghu	1.12	305	↑iP	Pn	00 05 03.2	-2.1
	baz=305						
PNG				eS	Sb	00 05 17.7	-1.9
	baz=305						
TEGC	Jichi Village	1.20	49	eP	Pn	00 05 07.0	+0.5
	baz=49						
TEGC				eS	Sb	00 05 24.9	+2.9
	baz=49						
ESL	Shilin	1.21	42	↓P	Pn	00 05 06.6	+0.1
	baz=42						
ESL				eS	Sb	00 05 23.0	+0.9
	baz=42						
TCU	Taichung	1.23	5	↓P	Pn	00 05 06.2	-0.6
	baz=5.0						
TCU				eS	Sb	00 05 22.2	-0.5
	baz=5.0						
LAY	Lan-yu	1.27	133	eP	Pn	00 05 06.7	-0.7
	baz=134						
LAY				eS	Sn	00 05 24.3	+0.3
	baz=134						
ESF	Shoufeng Towns	1.29	43	eP	Pn	00 05 07.0	-0.7
	baz=43						
ESF				eS	Sn	00 05 25.6	+1.2
	baz=43						
WHF	Hehuan Shan	1.39	28	↓eP	Pn	00 05 09.0	0.0
	baz=18						
HWA	Hwalien	1.43	42	↓eP	Pn	00 05 10.2	+0.6
	baz=35						
HWA				eS	Sn	00 05 29.0	+1.1
	baz=35						
TWQ1	Liyutan	1.44	8	eP	Pn	00 05 08.2	-1.5
	baz=8.0						
TWQ1				eS	Sn	00 05 29.2	+1.2
	baz=8.0						
TWT	Tachien	1.45	23	↓P	Pn	00 05 09.6	-0.2
	baz=22						
TWT				eS	Sn	00 05 31.3	+3.0
	baz=22						
NSY	Sanyi	1.50	7	eP	Pn	00 05 10.3	-0.3
	baz=7.0						
NSY				eS	Sn	00 05 31.4	+1.7
	baz=7.0						
TWD	Chiawan	1.50	40	↓P	Pn	00 05 10.8	+0.2
	baz=39						
TWD				S	Sn	00 05 31.1	+1.4
	baz=39						
NACB	Ninganchiao	1.57	37	ePn	Pn	00 05 11.4	-0.2
NACB				eSn	Sn	00 05 31.6	+0.2
NNS	Nan Shan	1.69	26	↓P	Pn	00 05 13.6	+0.4
	baz=13						
NSTT	Nanjuang	1.75	14	eP	Pn	00 05 13.2	-0.8
	baz=14						
ENA	Nanau	1.86	36	eP	Pn	00 05 15.7	+0.2
	baz=36						
NSK	Sanguang	1.90	23	↓eP	Pn	00 05 16.1	+0.1
	baz=8.0						
YHNB	Yeheng	1.90	23	ePn	Pn	00 05 15.6	-0.4
YHNB				eS	Sn	00 05 46.1	+6.6
HSN	Hsinchu	1.91	12	eP	Pn	00 05 17.9	+1.7
	baz=13						
ENTT	Nioudou	1.95	28	eP	Pn	00 05 17.3	+0.6
	baz=28						
ENTT				eS	Sn	00 05 44.9	+4.2
	baz=28						
TWC	Suao	2.06	35	eP	Pn	00 05 19.1	+0.8
	baz=34						
TWC				eS	Sn	00 05 47.4	+4.0
	baz=34						
TWE	Neicheng	2.06	29	eP	Pn	00 05 19.3	+0.9
	baz=14						
NCU	National Centr	2.12	16	eP	Pn	00 05 19.1	0.0
	baz=1.0						
ILA	Ilan	2.14	31	eP	Pn	00 05 21.0	+1.7
	baz=47						
TATO	Taipei	2.22	23	ePn	Pn	00 05 20.3	-0.1
TATO				eS	Sn	00 05 55.6	+8.3
TWA	Mucha	2.26	25	eP	Pn	00 05 20.6	-0.4
	baz=25						
TAP1	Taipei	2.29	23	eP	Pn	00 05 20.9	-0.5
	baz=23						
TWS1	Kuangyinshan	2.31	20	eP	Pn	00 05 21.0	-0.7
	baz=3.0						
NWF	Wu-fen Shan	2.42	27	eP	Pn	00 05 23.6	+0.4
	baz=12						
NWF				eS	Sn	00 05 56.7	+4.5
	baz=12						
KNM	Kinmen	2.45	308	eP	Pn	00 05 23.0	-0.6
	baz=306						
TWB1	Santiao Chiao	2.46	32	eP	Pn	00 05 24.9	+1.1
	baz=45						
TWB1				eS	Sn	00 05 58.2	+5.0
	baz=45						
TWY	Chenhua	2.54	22	eP	Pn	00 05 24.6	-0.1
	baz=23						
YOJ	Yonaguni jima	2.73	55	↑iP	Pn	00 05 28.3	+0.9
	baz=55						
YOJ				eS	Sn	00 06 00.2	+0.3
	baz=55						
YOJ	Yonaguni jima	2.73	55	P	Pn	00 05 28.3	+0.9
YOJ				S	Sn	00 06 01.5	+1.6
HATJ	Hateruma jima	3.20	69	P	Pn	00 05 34.3	+0.4
HATJ				S	Sn	00 06 12.5	+1.1
IRIF	Iriomote-Funau	3.24	64	P	Pn	00 05 35.3	+0.8
IRIF				S	Sn	00 06 13.7	+1.2
JKRS	Kuro-shima	3.43	67	P	Pn	00 05 37.9	+0.7
JKRS				eS	Sn	00 06 19.2	+1.9
JIJ	Ishigaki jima	3.59	66	P	Pn	00 05 39.4	0.0
JIJ				S	Sn	00 06 21.3	0.0
JTJ	Tarama	4.17	65	P	Pn	00 05 47.8	+0.5
JTJ				eS	Sn	00 06 36.2	+0.7
JMJ	Miyako jima 2	4.74	66	eP	Pn	00 05 55.5	+0.4
	baz=66						
JMJ	Miyako jima 2	4.74	66	P	Pn	00 05 56.4	+1.4
JMJ				eS	Sn	00 06 50.9	+1.5
JOGS	Gusukube	4.81	67	P	Pn	00 05 57.2	+1.1
JOGS				eS	Sn	00 06 52.8	+1.5
JKE	Kume jima 2	6.61	58	P	Pn	00 06 20.8	0.0
GZH	Guangzhou	6.64	273	Pn	Pn	00 06 16.6	-4.6
GZH				smax			
	comp=N,2μm,1.1s						
GZH				smax			
	comp=E,2μm,0.9s						
JOW	Kunigami	8.02	59	Pn	Pn	00 06 38.9	-1.3
	comp=E,11nm,0.3s,baz=226,slow=8.9,SNR=15						
JOW	Kunigami	8.02	59	eP	Pn	00 06 39.2	-1.0
	baz=61						
JOW	Kunigami	8.02	59	ePn	Pn	00 06 38.8	-1.4
JOW	Kunigami	8.02	59	P	Pn	00 06 38.9	-1.3
SSE	Sheshan	8.16	4	P	Pn	00 06 45.1	+3.0
SSE				S	Sn	00 08 20.4	+6.5
SSE				pmax	pmax		
	comp=Z,16nm,0.7s						
SSE				pmax	pmax		
	comp=Z,240nm,4.7s						
SSE				LR	LR		
	comp=N,3μm,12.2s						
SSE				LR	LR		
	comp=E,8μm,12.2s						
SSE				LR	LR		
	comp=Z,7μm,10.8s						
TGY	Tagaytay City	8.78	178	Pn	Pn	00 06 52.5	+1.9
	comp=Z,29nm,0.3s,baz=348,slow=13,SNR=2.9						
TGY	Tagaytay City	8.78	178	Pn	Pn	00 06 52.5	+1.9
TGY	Tagaytay City	8.78	178	P	Pn	00 06 52.5	+1.9
NJ2	Nanjing	9.22	351	eP	Pn	00 06 54.8	-1.8
NJ2				pP		00 06 58.9	
NJ2				sP		00 07 02.3	
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,200nm,3.5s						
NJ2				smax			
	comp=N,2μm,1.0s						
NJ2				smax			
	comp=E,2μm,1.4s						
NJ2				LR	LR		
	comp=N,3μm,9.0s						
NJ2				LR	LR		
	comp=E,4μm,9.8s						
NJ2				LR	LR		
	comp=Z,4μm,9.4s						
WHN	Wuhan	9.40	325	↑P	Pn	00 06 57.3	-1.8
WHN				pP		00 07 01.5	
WHN				S	Sn	00 08 38.9	-5.3
WHN				LR	LR		
	comp=N,10μm,3.1s						
WHN				LR	LR		
	comp=E,12μm,3.9s						
WHN				LR	LR		
	comp=Z,15μm,15.4s						
JAM	Amami Oshima	9.83	54	P	Pn	00 07 02.8	-2.2
QIZ	Qiongzhong	10.72	251	P	Pn	00 07 17.4	+0.1
QIZ				S	Sn	00 09 13.6	-3.2
QIZ				pmax	pmax		
	comp=Z,41nm,0.8s						
QIZ				LR	LR		
	comp=N,5μm,17.4s						
QIZ				LR	LR		
	comp=E,5μm,14.1s						
QIZ				LR	LR		
	comp=Z,13μm,15.0s						
QIZ	Qiongzhong	10.72	251	ePn	Pn	00 07 16.9	-0.4
	comp=Z,193nm,0.9s						
ENH	Enshi	12.31	309	ePn	Pn	00 07 39.0	+0.1
	comp=Z,57nm,1.0s						
ENH				eSn	Sn	00 09 58.3	+2.8
GYA	Guiyang	13.11	288	↑iP	Pn	00 07 52.4	+2.6
GYA				PP		00 08 03.0	
GYA				S	Sn	00 10 20.3	+5.2
GYA				SS		00 10 35.6	
GYA				pmax	pmax		
	comp=Z,140nm,0.8s						
GYA				pmax	pmax		
	comp=Z,240nm,4.0s						
GYA				LR	LR		
	comp=N,9μm,12.9s						
GYA				LR	LR		
	comp=E,5μm,13.0s						
GYA				LR	LR		
	comp=Z,8μm,10.8s						
JNU	Nakatsue	13.65	40	ePn	Pn	00 07 58.9	+1.7
JKD	Kudamatsu	14.89	39	P	Pn	00 08 20.1	+5.9
XAN	Xi'an	15.06	320	P	Pn	00 08 14.5	-1.9
XAN				pP	pP	00 08 18.8	-8.3
XAN				PP		00 08 27.5	
XAN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
XAN				pmax	pmax		
	comp=Z,52nm,7.1s						
XAN				LR	LR		
	comp=N,2μm,13.7s						
XAN				LR	LR		
	comp=E,1μm,15.3s						
XAN				LR	LR		
	comp=Z,2μm,15.3s						
INCN	Inchon	15.43	18	eP	Pn	00 08 30.8	+10
	comp=Z,77nm,1.1s						
KSAR	Wonju Array Be	15.79	22	Pn	Pn	00 08 25.9	-0.1
KSAR	Wonju Array Be	15.79	22	P	Pn	00 08 25.9	-0.1
KSRS	Korea Array	15.82	22	Pn	Pn	00 08 25.9	-0.4
	comp=Z,0.7nm,0.3s,baz=201,slow=11,SNR=19						
KSRS				LR	LR	00 15 02.6	
	comp=Z,1μm,20.0s,baz=205,slow=40						
DL2	Dalian	15.96	3	↓P	Pn	00 08 35.8	+7.6
DL2				S	Sn	00 11 41.8	+17
DL2				sS	sS	00 11 52.8	+5.8
DL2				pmax	pmax		
	comp=Z,50nm,1.1s						
DL2				pmax	pmax		
	comp=Z,220nm,5.4s						
DL2				LR	LR		
	comp=N,850nm,17.0s						
DL2				LR	LR		

comp=E,2μm,14.1s
DL2 LR LR
comp=Z,2μm,13.4s
CTBH Cotabato--PC H 16.01 167⇑ *i*P **Pn 00 08 32.1 +3.3**
KMI Kunming 16.42 281 P **Pn 00 08 35.6 +1.5**
KMI sP sP 00 08 49.5 +4.8
KMI S **Sn 00 11 38.1 +2.2**
KMI SS 00 11 58.0
KMI pmax pmax
comp=Z,16nm,1.0s
KMI pmax pmax
comp=Z,250nm,3.2s
KMI LR LR
comp=N,2μm,10.9s
KMI LR LR
comp=E,5μm,13.6s
KMI LR LR
comp=Z,6μm,13.5s
DAV Davao City (W) 16.48 162 LR LR 00 15 03.1
comp=Z,2μm,21.2s,baz=342,slow=38
CD2 Chengdu 16.95 302⇓ *i*P **Pn 00 08 41.6 +0.9**
CD2 pP pP 00 08 46.3 -1.7
CD2 sP sP 00 08 50.3 -0.2
CD2 PP 00 08 56.3
CD2 S **Sn 00 11 49.1 +0.5**
CD2 sS sS 00 11 58.8 -8.4
CD2 SS 00 12 09.9
CD2 pmax pmax
comp=Z,100nm,1.2s
CD2 pmax pmax
comp=Z,270nm,6.0s
CD2 LR LR
comp=N,5μm,13.2s
CD2 LR LR
comp=E,5μm,13.2s
CD2 LR LR
comp=Z,8μm,13.2s
KKM Kota Kinabalu 17.29 195 *e*P **Pn 00 08 47.6 +2.5**
comp=Z,72nm,1.1s
KKM Kota Kinabalu 17.29 195 P **Pn 00 08 49.8 +4.7**
comp=Z,874nmcomp=Z,68nm,1.1s
BJT Baijiatuau 17.45 349 *e*Pn **Pn 00 08 49.1 +2.2**
comp=Z,133nm,1.3s
BJT Baijiatuau 17.45 349 *e*P **Pn 00 08 49.1 +2.2**
BJT pmax pmax
comp=Z,133nm,1.3s
BJI Beijing 17.47 349 P **Pn 00 08 49.1 +1.9**
BJI S **Sn 00 12 06.6 +5.5**
BJI LR LR
comp=N,3μm,14.1s
BJI LR LR
comp=E,1μm,13.1s
BJI LR LR
comp=Z,1μm,18.3s
MYLDM Lahad Datu 17.75 187 P **Pn 00 08 54.1 +3.3**
comp=Z,2μmcomp=Z,134nm,1.3s
SNY Shenyang 19.02 7⇓ P **Pn 00 09 04.3 -1.9**
SNY pmax pmax
comp=Z,40nm,2.5s
SNY pmax pmax
comp=Z,170nm,3.9s
SNY LR LR
comp=N,1μm,14.9s
SNY LR LR
comp=E,4μm,13.5s
SNY LR LR
comp=Z,3μm,13.7s
JGF Kuroka 19.32 45 P **Pn 00 09 08.5 -1.3**
HHC Hu-ho-hao-te 19.42 339 *e*P **Pn 00 09 12.3 +1.4**
HHC pP pP 00 09 16.5 +1.3
HHC sP sP 00 09 19.5 +1.8
HHC PP 00 09 30.4
HHC S **Sn 00 12 47.6 -0.6**
HHC sS sS 00 12 54.6 -2.3
HHC PcP PcP 00 13 31.3 +0.5
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,580nm,7.9s
HHC LR LR
comp=N,4μm,13.9s
HHC LR LR
comp=E,3μm,13.9s
HHC LR LR
comp=Z,3μm,13.9s
LZH Lanzhou 19.55 316 *e*P **Pn 00 09 12.6 +0.1**
LZH pP pP 00 09 14.3 -2.4
LZH sP sP 00 09 16.8 -2.4
LZH PP 00 09 33.4
LZH *e*S **Sn 00 12 46.3 -5.1**
LZH sS sS 00 12 52.3 -7.6
LZH SS 00 13 13.6
LZH pmax pmax
comp=Z,67nm,1.0s
LZH pmax pmax
comp=Z,810nm,6.2s
LZH LR LR
comp=N,3μm,9.8s
LZH LR LR
comp=E,570nm,5.2s
LZH LR LR
comp=Z,5μm,13.2s
CHRT Chiangrai 19.57 265 P **Pn 00 09 12.0 -0.9**
comp=Z,240nm,1.2s
SHZ3 Shizuoka 3 19.59 48 P **Pn 00 09 13.3 +0.3**
JGN Niukaw 19.67 44 P **Pn 00 09 11.7 -2.3**
SGSI Sangihe 19.72 165 P **Pn 00 09 15.3 +0.6**
comp=Z,342nm,0.8s
BTO Baotou 19.75 336 *e*P **Pn 00 09 16.8 +1.9**
JIZS Izushimoda 19.87 50 P **Pn 00 09 16.3 0.0**
JNT Takato 20.00 46 P **Pn 00 09 15.5 -2.4**
CBIJ Chichi jima 20.04 74 LR LR 00 15 38.0
comp=Z,640nm,20.5s,MS4.0,baz=292,slow=33
JOD2 Odawara 2 20.30 49 P **P 00 09 20.3 +0.9**
MAJO Matsushiro 20.43 44 *e*P **P 00 09 19.3 -1.5**
comp=Z,116nm,0.9s
MAJO Matsushiro 20.43 44 *e*P **P 00 09 19.3 -1.5**
MAJO pmax pmax
comp=Z,116nm,0.9s
MAT Matsushiro 20.43 44 P **P 00 09 18.8 -2.0**
MAT S **S 00 13 10.6 +1.7**
MAT Matsushiro 20.43 44 P **P 00 09 23.4 +2.6**
MJAR Matsushiro Arr 20.43 44 P **P 00 09 19.0 -1.9**
comp=Z,75nm,0.9s,baz=232,slow=9.3,SNR=37
MJAR LR LR 00 17 58.8
comp=Z,757nm,20.6s,MS4.0,baz=230,slow=39
MJAR Matsushiro Arr 20.43 44 P **P 00 09 19.0 -1.9**
MJAR Matsushiro Arr 20.43 44 P **P 00 09 19.0 -1.8**
NST Nakhon Sawan 20.56 253 P **P 00 09 23.0 +0.6**
JRY Ryogami san 20.59 47 P **P 00 09 20.6 -1.9**
CHG Chiang Mai 20.59 263⇓ P **P 00 09 23.4 +0.7**
comp=Z,79nm,1.2s
CHTO Chiang Mai 20.59 263 *e*P **P 00 09 23.6 +0.9**
comp=Z,74nm,1.0s
CHTO Chiang Mai 20.59 263 *e*P **P 00 09 23.6 +0.9**
CHTO pmax pmax
comp=Z,74nm,1.0s
CHTO Chiang Mai 20.59 263 P **P 00 09 23.9 +1.2**
comp=Z,1μmcomp=Z,89nm,1.1s
CM31 Chiang Mai Arr 20.69 262 *e*P **P 00 09 25.3 +1.6**
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 20.69 262 P **P 00 09 24.8 +1.0**
comp=Z,19nm,0.8s,baz=68,slow=8.8,SNR=46
CMAR PcP PcP 00 13 34.6 +1.1
comp=Z,3.1nm,0.6s,baz=59,slow=0.8,SNR=11
CMAR Chiang Mai Arr 20.69 262 P **P 00 09 24.8 +1.0**
CMAR PcP PcP 00 13 34.6 +1.1
CMAR Chiang Mai Arr 20.69 262 P **P 00 09 24.8 +1.0**
CMAR 00 13 34.6
BDT Bhumibol Dam 21.00 258 P **P 00 09 29.0 +1.9**
comp=Z,13nm,0.8s,mb4.3
JAG Ashikaga 21.18 46 P **P 00 09 25.4 -3.5**
CN2 Changchun 21.22 10 *e*P **P 00 09 27.1 -2.1**
CN2 *e*S **S 00 13 17.1 -7.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.1
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,3μm,15.0s,MS4.8
CN2 LR LR
comp=E,2μm,15.0s,MS4.8
CN2 LR LR
comp=Z,4μm,15.0s,MS4.9
MNI Manado 21.75 168 P **P 00 09 34.9 -0.3**
comp=Z,373nm,1.2s,mb5.7
SBUM Sibu 21.89 203 P **P 00 09 37.5 +0.8**
SBUM Sibu 21.89 203 P **P 00 09 37.7 +1.0**
comp=Z,58nm,1.3s,mb4.9
VLA Vladivostok 22.24 22⇓ *e*P **P 00 09 39.7 -0.5**
VLA *e*S **S 00 13 41.6 -2.5**
VLA pmax pmax
comp=Z,68nm,1.5s,mb4.9
GTOI Gorontalo 22.28 173 P **P 00 09 40.0 -0.8**
comp=Z,3μmcomp=Z,467nm,0.9s,mb5.9
NNT Nongplab 22.30 246 P **P 00 09 43.3 +2.2**
MRSI Marisa 22.35 176 P **P 00 09 44.1 +2.5**
comp=Z,2μmcomp=Z,221nm,0.8s,mb5.6
KMSI Cibinong 22.46 171 P **P 00 09 43.0 +0.3**
comp=Z,776nm,1.2s,mb6.0
JYA Atsumi 22.63 42 P **P 00 09 43.5 -0.9**
MDJ Mudanjiang 22.88 17 P **P 00 09 45.8 -1.2**
MDJ pP 00 09 48.9
MDJ S **S 00 13 58.9 +3.1**
MDJ pmax pmax
comp=Z,27nm,1.2s,mb4.5
MDJ pmax pmax
comp=Z,250nm,6.8s
MDJ LR LR
comp=N,1μm,13.1s,MS4.9
MDJ LR LR
comp=E,3μm,13.8s,MS4.9
MDJ LR LR
comp=Z,3μm,14.4s,MS4.8
MDJ Mudanjiang 22.88 17 *e*P **P 00 09 46.1 -0.9**
comp=Z,66nm,1.2s,mb4.9
JMM Marumori 22.88 45 P **P 00 09 42.9 -4.2**
TNTI Ternate 22.99 162 P **P 00 09 45.4 -3.0**
comp=Z,5μmcomp=Z,502nm,0.9s,mb6.0
USRK Ussuriysk Arra 23.23 21 P **P 00 09 49.7 -0.9**
comp=Z,11nm,0.7s,mb4.4,baz=210,slow=7.0,SNR=24
LUWI Luwuk 23.91 175 P **P 00 09 55.6 -1.9**
comp=Z,3μmcomp=Z,426nm,1.0s,mb5.8
GTA Gaotai 24.10 318 P **P 00 09 59.3 +0.3**
GTA pP 00 10 05.3
GTA sP sP 00 10 08.1 +0.8
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,370nm,7.1s
GTA LR LR
comp=N,1μm,16.6s,MS4.8
GTA LR LR
comp=E,2μm,17.1s,MS4.8
GTA LR LR
comp=Z,3μm,15.7s,MS4.9
JOM Ohasama 24.14 42 P **P 00 09 58.9 -0.5**
STKI Sintang 24.37 202 P **P 00 10 04.0 +2.3**
comp=Z,55nm,0.8s,mb5.0
LBMI Labuha 24.37 163 P **P 00 10 00.1 -1.6**
comp=Z,5μmcomp=Z,620nm,1.0s,mb6.0
GUMO Guam 24.86 108 P **P 00 10 03.2 -2.9**
comp=Z,397nm,0.8s,mb6.0,baz=185,slow=6.0,SNR=8.6
GUMO LR LR 00 19 12.7
comp=Z,913nm,18.7s,MS4.3,baz=135,slow=35
GUMO Guam 24.86 108 *e*P **P 00 10 03.5 -2.7**
GUMO Guam 24.86 108 *e*P **P 00 10 03.5 -2.7**
GUMO Guam 24.86 108 P **P 00 10 04.4 -1.8**
comp=Z,747nm,1.3s,mb6.0
TTSI Tana Toraja 25.82 182 P **P 00 10 16.0 +1.2**
comp=Z,88nm,0.7s,mb5.4
KULM Kulim 26.00 231 P **P 00 10 17.9 +1.3**
HIA Hailar 26.30 359 *e*P **P 00 10 17.4 -1.5**
comp=Z,61nm,1.2s,mb5.0
HIA Hailar 26.30 359 *e*P **P 00 10 17.5 -1.4**
HIA pmax pmax
comp=Z,61nm,1.2s
IPM Ipoh 26.31 229 P **P 00 10 19.4 +0.1**
IPM Ipoh 26.31 229 *e*P **P 00 10 18.6 -0.8**
comp=Z,25nm,0.9s,mb4.7
MJSI Majene 26.35 184 P **P 00 10 21.3 +1.6**
comp=Z,2μmcomp=Z,158nm,1.0s,mb5.5
MYKOM Kota Tinggi 26.53 220 P **P 00 10 23.9 +2.6**
SPSI Sidrap Palu 26.73 182 P **P 00 10 23.8 +0.7**
comp=Z,619nmcomp=Z,63nm,1.0s,mb5.1
NLAI Namlea 26.77 165 P **P 00 10 23.5 0.0**
comp=Z,8μmcomp=Z,1μm,0.9s,mb6.4
KDI Kendari 26.79 175 P **P 00 10 24.5 +0.9**
comp=Z,728nmcomp=Z,26nm,1.2s,mb4.6
BBKI Banjar Baru 26.81 193 P **P 00 10 26.6 +2.8**
comp=Z,147nm,1.0s,mb5.5
ULN Ulaanbaatar 27.13 340 *e*P **P 00 10 26.0 -0.5**
comp=Z,23nm,1.0s,mb4.7
ULN Ulaanbaatar 27.13 340 *e*P **P 00 10 26.0 -0.4**
ULN pmax pmax
comp=Z,23nm,1.0s,mb4.7
ULN Ulaanbaatar 27.13 340 P **P 00 10 26.4 0.0**
comp=Z,24nm,1.2s,mb4.6
BNSI Bone 27.16 181 P **P 00 10 28.4 +1.5**
comp=Z,3μmcomp=Z,60nm,0.8s,mb5.2
LSA Lhasa 27.16 291 P **P 00 10 28.6 +1.7**
LSA pP pP 00 10 37.9 +5.1
LSA sP sP 00 10 42.0 +6.8
LSA sS sS 00 15 15.6 +1.3
LSA pmax pmax
comp=Z,30nm,1.0s,mb4.8
LSA pmax pmax
comp=Z,130nm,5.0s
LSA LR LR
comp=N,420nm,18.0s,MS4.7
LSA LR LR
comp=E,2μm,17.0s,MS4.7
LSA LR LR
comp=Z,2μm,18.0s,MS4.8
LSA Lhasa 27.16 291 *e*P **P 00 10 28.4 +1.5**
comp=Z,76nm,0.8s,mb5.3
LSA Lhasa 27.16 291 *e*P **P 00 10 28.4 +1.5**
LSA pmax pmax
comp=Z,76nm,0.8s,mb5.3
SONM Songino Array 27.32 339 P **P 00 10 27.5 -0.6**
comp=Z,4.7nm,1.0s,mb4.0,baz=163,slow=6.2,SNR=21
SONM PcP PcP 00 13 47.5 +0.3
comp=Z,3.3nm,1.0s,baz=165,slow=3.4,SNR=3.7
SONM LR LR 00 21 55.1
comp=Z,960nm,18.1s,MS4.4,baz=341,slow=38
SONM Songino Array 27.32 339 P **P 00 10 27.5 -0.6**
SONM PcP PcP 00 13 47.5 +0.3
SONM Songino Array 27.32 339 P **P 00 10 27.5 -0.6**
SONM 00 13 47.5
MSAI Masohi 27.36 162 P **P 00 10 28.3 -0.4**
comp=Z,1μmcomp=Z,27nm,1.1s,mb4.7
AAI Ambon 27.48 163 P **P 00 10 28.4 -1.4**
comp=Z,2μmcomp=Z,134nm,0.9s,mb5.5
KLR Kul'dur 27.71 16 *e*P **P 00 10 26.2 -5.4**
KLR MLR MLR
comp=Z,8μm,12.0s,MS5.5
KAPI Kappang 27.77 182 P **P 00 10 30.8 -1.7**
comp=Z,4.0nm,0.5s,mb4.3,baz=12,slow=7.2,SNR=3.2
KAPI Kappang 27.77 182 *e*P **P 00 10 34.9 +2.5**
KAPI Kappang 27.77 182 P **P 00 10 32.1 -0.3**
comp=Z,730nmcomp=Z,65nm,0.8s,mb5.3
ASAJ Asahikawa 27.86 35 P **P 00 10 32.1 -0.9**
comp=Z,28nm,1.1s,mb4.8,baz=246,slow=10,SNR=3.7
ASAJ LR LR 00 22 02.9
comp=Z,3μm,19.6s,MS4.8,baz=77,slow=38
ASAJ Asahikawa 27.86 35 P **P 00 10 32.1 -0.9**
FAKI Fak Fak 28.10 155 P **P 00 10 32.7 -2.7**
comp=Z,1μmcomp=Z,158nm,0.8s,mb5.7
YUK Yuzh-Kuril'sk 29.62 39 *d i*P **P 00 10 47.8 -0.8**
YUK *i* 00 11 53.6
YUK pmax pmax
comp=N,125nm,1.0s
YUK pmax pmax
comp=Z,165nm,1.0s,mb5.7
YUK pmax pmax
comp=E,44nm,1.0s
YUK pmax pmax
comp=Z,124nm,4.7s
YUK MLR MLR
comp=N,1μm,22.0s
YUK MLR MLR
comp=Z,1μm,22.0s,MS4.5
YSS Yuzh-Sakhalins 29.91 31 *e*P **P 00 10 53.4 +2.3**
comp=Z,85nm,1.0s,mb5.4
YSS *e*PcP PcP 00 13 56.0 +2.3
YSS Yuzh-Sakhalins 29.91 31 *e*P **P 00 10 51.7 +0.6**
YSS *e* pP 00 10 59.0 +1.9
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.1
YSS MLR MLR
comp=N,700nm,16.0s,MS4.5
YSS MLR MLR
comp=Z,800nm,16.0s,MS4.5
YSS MLR MLR
comp=E,600nm,19.0s,MS4.5
MNSI Mandailing Nat 29.98 226 P **P 00 10 52.2 +0.1**
comp=E,4μmcomp=E,45nm,1.0s,mb5.2
TAPN Taplejung 30.00 285 *e*P **P 00 10 53.0 +0.7**
comp=E,106nm,1.1s,mb5.5
TAPN Taplejung 30.00 285 *e*P **P 00 10 53.0 +0.7**
comp=E,106nm,1.1s,mb5.5
ODAN Odare 30.29 284 *e*P **P 00 10 55.4 +0.6**
comp=E,66nm,0.8s,mb5.4
ODAN Odare 30.29 284 *e*P **P 00 10 55.4 +0.6**
comp=E,66nm,0.8s,mb5.4
ZAK Zakamensk 30.56 338 *e*P **P 00 11 02.2 +5.3**
ZAK *e* 00 11 15.8
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
TLE Tual 30.78 156 P **P 00 10 57.5 -1.7**
comp=Z,70nm,1.1s,mb5.4
RAMN Ramite 30.99 284 *e*P **P 00 11 01.5 +0.5**
comp=Z,80nm,0.7s,mb5.6
RAMN Ramite 30.99 284 *e*P **P 00 11 01.5 +0.5**
comp=Z,80nm,0.7s,mb5.7
JIRN Jiri 31.36 286 *e*P **P 00 11 05.0 +0.8**
comp=Z,75nm,0.7s,mb5.6
JIRN Jiri 31.36 286 *e*P **P 00 11 05.0 +0.8**
comp=Z,75nm,0.7s,mb5.6
MMRI Maumere 31.40 177 P **P 00 11 04.4 -0.2**
TLY Talaya 31.54 340 *e*P **P 00 11 06.9 +1.4**
TLY *e*S **S 00 16 14.0 +1.0**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.6
GUN Gumba 31.64 286 *e*P **P 00 11 07.2 +0.5**
comp=Z,56nm,0.7s,mb5.5
GUN Gumba 31.64 286 *e*P **P 00 11 07.2 +0.5**
comp=Z,56nm,0.7s,mb5.5
PKI Pulchoki 32.05 286 *e*P **P 00 11 10.5 +0.2**
comp=Z,40nm,0.9s,mb5.2
PKI Pulchoki 32.05 286 *e*P **P 00 11 10.5 +0.2**
comp=Z,40nm,0.9s,mb5.2
PKI Pulchoki 32.05 286 *e*P **P 00 11 10.5 +0.2**
PKI pmax pmax
comp=Z,40nm,0.9s,mb5.2
KKN Kakani 32.17 286 *e*P **P 00 11 11.5 +0.1**
comp=Z,26nm,0.9s,mb5.1
KKN Kakani 32.17 286 *e*P **P 00 11 11.5 +0.1**
comp=Z,26nm,0.9s,mb5.0
KKN Kakani 32.17 286 *e*P **P 00 11 11.5 +0.1**
KKN pmax pmax
comp=Z,26nm,0.9s,mb5.1
DMN Daman 32.32 286 *e*P **P 00 11 13.1 +0.4**
comp=Z,57nm,1.0s,mb5.4
DMN Daman 32.32 286 *e*P **P 00 11 13.1 +0.4**
comp=Z,57nm,1.0s,mb5.4
MOY Mondy 32.43 337 *e*P **P 00 11 19.5 +6.2**
MOY pmax pmax
comp=Z,31nm,2.6s,mb4.7
GKN Gorkha 32.74 286 *e*P **P 00 11 16.0 -0.4**
comp=Z,40nm,0.8s,mb5.4
GKN Gorkha 32.74 286 *e*P **P 00 11 16.0 -0.4**
comp=Z,40nm,0.8s,mb5.4
DANN Dangsing 33.52 287 *e*P **P 00 11 23.2 0.0**
comp=Z,175nm,1.4s,mb5.8
DANN Dangsing 33.52 287 *e*P **P 00 11 23.2 0.0**
comp=Z,175nm,1.4s,mb5.8
KOLN Koldanda 33.66 286 *e*P **P 00 11 24.4 0.0**
comp=Z,38nm,0.8s,mb5.4
KOLN Koldanda 33.66 286 *e*P **P 00 11 24.4 0.0**
comp=Z,38nm,0.8s,mb5.4
WMQ Urumqi 34.13 316 *e*P **P 00 11 34.9 +6.6**
WMQ pP pP 00 11 40.8 +6.6
WMQ sP sP 00 11 43.8 +7.2
WMQ PP PP 00 12 48.9 +3.3
WMQ S **S 00 16 59.5 +6.1**
WMQ sS sS 00 17 09.3 +6.1
WMQ pmax pmax
comp=Z,24nm,1.2s,mb5.0
WMQ pmax pmax
comp=Z,380nm,5.4s
WMQ LR LR
comp=N,2μm,14.8s,MS5.1
WMQ LR LR
comp=E,2μm,12.4s,MS5.1
WMQ LR LR
comp=Z,830nm,15.8s,MS4.6
PYUN Piuthan 34.20 287 *e*P **P 00 11 29.1 0.0**
comp=Z,88nm,0.9s,mb5.7
PYUN Piuthan 34.20 287 *e*P **P 00 11 29.1 0.0**
comp=Z,88nm,0.9s,mb5.7
BOD Bodaibo 35.19 354 *e*P **P 00 11 34.1 -3.1**
MK31 Makanchi Array 38.85 317 *e*P **P 00 12 08.7 +0.1**
MK31 Makanchi Array 38.85 317 *e*P **P 00 12 08.7 +0.2**
MKAR Makanchi Array 38.85 317 P **P 00 12 08.8 +0.3**
comp=Z,4.3nm,0.7s,mb4.3,baz=108,slow=8.4,SNR=23
MKAR PcP PcP 00 14 19.8 +0.4
comp=Z,5.1nm,0.9s,baz=94,slow=4.5,SNR=4.3
MKAR LR LR 00 29 25.8
comp=Z,881nm,18.4s,MS4.6,baz=238,slow=38
MKAR Makanchi Array 38.85 317 *e*P **P 00 12 08.9 +0.4**
MKAR PcP PcP 00 14 19.8 +0.4
MKAR Makanchi Array 38.85 317 *e*P **P 00 12 08.9 +0.4**
MKAR 00 14 19.8
SKR Severo-Kuril's 39.12 36 *e*P **P 00 12 08.0 -2.7**
YAK Yakutsk 39.59 7 *e*P **P 00 12 11.0 -3.4**
YAK *e**PP pP 00 12 20.7 +0.3
YAK *e* 00 13 44.5
YAK *e* 00 14 19.3
YAK *e*S **S 00 18 15.9 -0.2**
YAK *e* 00 22 11.0
YAK pmax pmax
comp=Z,19nm,1.0s,mb4.8
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,15nm,1.2s,mb4.6
YAK pmax pmax
comp=N,11nm,1.5s
YAK smax
comp=N,200nm,4.9s
YAK smax
comp=E,67nm,3.0s
YAK MLR MLR
comp=Z,1μm,16.0s,MS4.8
YAK MLR MLR
comp=N,892nm,15.0s,MS4.8
YAK MLR MLR
comp=E,362nm,14.0s,MS4.8
HYB Hyderabad 39.70 270 *i* P **P 00 12 16.5 +0.5**
HYB *e*pP pP 00 12 21.0 -1.0
ZAA0 Zalesovo Array 41.00 328 *e*P **P 00 12 25.4 -0.8**
ZAA0 *e*PcP PcP 00 14 28.6 +2.5
ZALV Zalesovo Beam 41.00 328 P **P 00 12 25.4 -0.8**
comp=E,5.5nm,0.7s,mb4.3,baz=118,slow=7.9,SNR=24
ZALV Zalesovo Beam 41.00 328 P **P 00 12 25.4 -0.8**
ZALV Zalesovo Beam 41.00 328 P **P 00 12 25.4 -0.8**
FITZ Fitzroy Crossi 41.07 173 P **P 00 12 24.5 -2.7**
comp=E,22nm,1.0s,mb4.7,baz=348,slow=8.5,SNR=4.9
FITZ Fitzroy Crossi 41.07 173 *e*P **P 00 12 24.7 -2.5**
FITZ Fitzroy Crossi 41.07 173 *e*P **P 00 12 24.5 -2.7**
comp=E,20nm,1.0s,mb4.7
KSH Kashi 41.11 304 P **P 00 12 31.0 +3.6**
KSH pP pP 00 12 34.9 +1.5
KSH sP sP 00 12 37.6 +1.8
KSH PP PP 00 14 08.6 +6.2
KSH PcP PcP 00 14 29.3 +2.5
KSH ScP ScP 00 18 17.4 +1.7
KSH PcS PcS 00 18 20.0 +2.3
KSH S **S 00 18 43.0 +3.5**
KSH sS sS 00 18 50.5 +1.1
KSH SS SS 00 21 41.5 -0.7
KSH ScS ScS 00 22 31.0 -0.1
KSH pmax pmax
comp=Z,65nm,1.7s,mb5.0
KSH pmax pmax
comp=Z,270nm,4.5s
KSH LR LR
comp=N,880nm,13.5s,MS5.0
KSH LR LR
comp=E,840nm,10.9s,MS5.0
KSH LR LR
comp=Z,2μm,16.8s

PETK Petropavlovsk- 41.24 34 P **P** **00 12 26.6 -1.6**
comp=Z,7.2nm,0.7s,mb4.4,baz=201,slow=7.6,SNR=4.6
PETK Petropavlovsk- 41.24 34 P **P** **00 12 26.6 -1.6**
PETK Petropavlovsk- 41.24 34 P **P** **00 12 26.6 -1.6**
PMG Port Moresby 41.36 138 *e*P **P** **00 12 28.1 -1.6**
comp=Z,85nm,0.9s,mb5.4
PMG Port Moresby 41.36 138 *de*P **P** **00 12 28.0 -1.7**
PMG pmax pmax
comp=Z,104nm,1.0s
PET Petropavlovsk 41.68 34 *e*P **P** **00 12 30.7 -1.2**
comp=Z,219nm,1.8s,mb5.5
PET Petropavlovsk 41.68 34 ⇓*i*P **P** **00 12 30.6 -1.3**
PET *e*S **S** **00 18 43.6 -3.9**
PET pmax pmax
comp=Z,47nm,0.9s,mb5.1
PET pmax pmax
comp=Z,100nm,10.0s
PET MLR MLR
comp=Z,500nm,17.0s,MS4.5
TKM2 Tokmak 2 42.10 309 *e*P **P** **00 12 36.3 +0.9**
comp=Z,33nm,0.9s,mb5.0
TKM2 Tokmak 2 42.10 309 *e*P **P** **00 12 36.3 +0.9**
TKM2 pmax pmax
comp=Z,33nm,0.9s,mb5.0
NVS Novosibirsk 42.27 329 ⇑*i*P **P** **00 12 42.2 +5.6**
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=E,11nm,1.1s
KURK Kurchatov 42.70 321 P **P** **00 12 40.3 +0.1**
comp=E,7.1nm,0.8s,mb4.5,baz=120,slow=7.0,SNR=9.8
KURK Kurchatov 42.70 321 *e*P **P** **00 12 41.0 +0.8**
KURK Kurchatov 42.70 321 *ce*P **P** **00 12 39.0 -1.2**
KURK pmax pmax
comp=Z,46nm,1.7s,mb4.9
KURK Kurchatov 42.70 321 P **P** **00 12 41.1 +0.9**
comp=Z,133nm,1.1s,mb5.6,SNR=6.7
FRU Bishkek 42.78 309 *e*P **P** **00 12 47.0 +6.0**
FRU pmax pmax
comp=Z,50nm,1.6s,mb5.0
FRU MLR MLR
comp=Z,1μm,17.0s,MS4.9
AAK Ala-Archa 42.82 309 *e*P **P** **00 12 42.5 +1.1**
AAK Ala-Archa 42.82 309 *e*P **P** **00 12 42.1 +0.8**
AAK pmax pmax
comp=Z,37nm,1.7s,mb4.8
AAK Ala-Archa 42.82 309 P **P** **00 12 42.6 +1.3**
comp=Z,91nm,0.9s,mb5.5,SNR=6.4
COEN Coen 42.83 147 *e*P **P** **00 12 39.9 -1.7**
comp=Z,896nm,0.9s
EKS2 Erkin-Say 43.34 308 *e*P **P** **00 12 47.0 +1.4**
comp=Z,11nm,0.8s,mb4.6
EKS2 PcP PcP 00 14 38.8 +4.7
EKS2 Erkin-Say 43.34 308 *e*P **P** **00 12 47.0 +1.4**
EKS2 00 14 38.8
EKS2 pmax pmax
comp=Z,11nm,0.8s,mb4.6
MBWA Marble Bar 43.82 181 *e*P **P** **00 12 48.0 -1.4**
MBWA *e*PP PP 00 14 34.3 +2.5
WRAB Tennant Creek 44.67 161 *e*P **P** **00 12 54.2 -2.1**
comp=Z,96nm,0.8s,mb5.7
WRAB *e*PcP PcP 00 14 37.4 -1.4
WRAB Tennant Creek 44.67 161 *e*P **P** **00 12 54.2 -2.1**
WRAB *e* 00 14 37.4
WRAB pmax pmax
comp=Z,96nm,0.8s,mb5.7
WRAB Tennant Creek 44.67 161 P **P** **00 12 54.0 -2.3**
comp=Z,764nm,0.7s,SNR=65
WRA Warramunga Arr 44.67 161 P **P** **00 12 54.1 -2.3**
comp=Z,87nm,0.7s,mb5.7,baz=344,slow=8.7,SNR=422
WRA PcP PcP 00 14 37.5 -1.3
comp=Z,11nm,0.8s,baz=342,slow=3.6,SNR=7.5
WRA Warramunga Arr 44.67 161 P **P** **00 12 54.1 -2.3**
WRA PcP PcP 00 14 37.5 -1.3
WRA Warramunga Arr 44.67 161 P **P** **00 12 54.1 -2.3**
WRA 00 14 37.6
SEY Seymchan 45.36 20 *e*P **P** **00 12 59.6 -1.8**
KK31 Karatay Array 45.78 308 *i*P **P** **00 13 05.6 +0.5**
KK31 pmax pmax
comp=Z,20nm,0.8s,mb5.1
KKAR Karatay Array 45.78 308 *e*P **P** **00 13 06.2 +1.1**
KKAR *e*PcP PcP 00 14 42.4 -0.1
KKAR *e*PP PP 00 14 53.1 +0.7
KKAR Karatay Array 45.78 308 *e*P **P** **00 13 06.2 +1.1**
KKAR *e* 00 14 42.4
KKAR *e* 00 14 53.1
KBL Kabul 46.19 296 *e*P **P** **00 13 09.5 +1.2**
comp=Z,45nm,1.0s,mb5.4
KBL *e*PcP PcP 00 14 45.5 +1.5
KBL PP PP 00 14 59.7 +2.9
KBL Kabul 46.19 296 *e*P **P** **00 13 09.5 +1.1**
KBL *e* 00 14 45.5
KBL 00 14 59.7
KBL pmax pmax
comp=Z,45nm,1.0s,mb5.3
AS31 Alice Springs 48.09 163 *e*P **P** **00 13 21.5 -1.7**
ASAR Alice Springs 48.09 163 P **P** **00 13 21.6 -1.6**
comp=Z,25nm,0.5s,mb5.5,baz=354,slow=14,SNR=240
ASAR PcP PcP 00 14 49.6 -1.2
comp=Z,12nm,0.7s,baz=346,slow=3.1,SNR=9.2
ASAR S **S** **00 20 25.9 +5.1**
comp=Z,0.7nm,1.0s,baz=334,slow=14,SNR=5.0
ASAR Alice Springs 48.09 163 P **P** **00 13 21.6 -1.6**
ASAR PcP PcP 00 14 49.6 -1.2
ASAR S **S** **00 20 25.9 +5.1**
ASAR Alice Springs 48.09 163 P **P** **00 13 21.6 -1.6**
ASAR 00 14 49.6
ASAR S **S** **00 20 26.0 +5.1**
BVA0 Borovoye Array 48.29 322 *i*P **P** **00 13 24.7 +0.3**
BVAR Borovoye Array 48.29 322 P **P** **00 13 24.7 +0.3**
comp=Z,2.7nm,0.7s,mb4.4,baz=113,slow=8.4,SNR=15
BVAR PcP PcP 00 14 51.1 -0.1
comp=Z,9.2nm,1.1s,baz=112,slow=3.8,SNR=2.9
BVAR LR LR 00 36 13.1
comp=Z,353nm,19.2s,MS4.4,baz=294,slow=39
BVAR Borovoye Array 48.29 322 P **P** **00 13 24.7 +0.3**
BVAR PcP PcP 00 14 51.0 -0.1
BVAR Borovoye Array 48.29 322 P **P** **00 13 24.7 +0.3**
BVAR 00 14 51.1
BRVK Borovoye 48.36 322 *e*P **P** **00 13 25.5 +0.5**
comp=Z,48nm,1.1s,mb5.4
BRVK Borovoye 48.36 322 *ce*P **P** **00 13 25.8 +0.8**
BRVK pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
BRVK Borovoye 48.36 322 P **P** **00 13 25.6 +0.6**
comp=Z,235nm,1.3s,mb6.1,SNR=7.1
CTA Charters Tower 49.56 148 *e*P **P** **00 13 33.3 -1.2**
CTAO Charters Tower 49.56 148 *e*P **P** **00 13 33.0 -1.5**
comp=Z,54nm,1.0s,mb5.5
CTAO *e*PcP PcP 00 14 55.8 -0.4
CTAO Charters Tower 49.56 148 *e*P **P** **00 13 33.0 -1.5**
CTAO *e* 00 14 55.8
CTAO pmax pmax
comp=Z,54nm,1.0s,mb5.5
FORT Forrest 53.87 172 *e*P **P** **00 14 05.6 -1.0**
FORT Forrest 53.87 172 *e*P **P** **00 14 05.6 -0.9**
comp=Z,46nm,0.6s,mb5.6
AB31 Akbulak array 53.91 315 *i*P **P** **00 14 07.0 +0.2**
AB31 pmax pmax
comp=Z,23nm,0.9s,mb5.1
ABKAR Akbulak array 53.91 315 *e*P **P** **00 14 07.2 +0.4**
KLBR Kellerberrin 54.27 183 *e*P **P** **00 14 07.7 -1.7**
comp=Z,12nm,0.7s,mb4.9
SVE Sverdlovsk 54.72 324 ⇑*i*P **P** **00 14 13.1 +0.6**
SVE pmax pmax
comp=Z,111nm,1.1s,mb5.8
SVE MLR MLR
comp=Z,979nm,17.0s,MS5.0
ABKT Ailbek 54.94 301 P **P** **00 14 16.3 +1.9**
comp=Z,263nm,0.9s,mb6.3,SNR=8.4
AKTO Aktyubinsk 55.28 316 P **P** **00 14 17.1 +0.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=57,slow=6.8,SNR=7.6
AKTO LR LR 00 39 38.2
comp=Z,958nm,18.2s,MS4.9,baz=309,slow=38
AKTO Aktyubinsk 55.28 316 P **P** **00 14 17.1 +0.4**
AKTO Aktyubinsk 55.28 316 P **P** **00 14 17.1 +0.5**
ARU Arti 55.77 324 *e*P **P** **00 14 19.6 -0.5**
comp=Z,87nm,1.1s,mb5.7
ARU PcP PcP 00 15 20.0 +0.9
ARU Arti 55.77 324 *d*P **P** **00 14 20.0 -0.1**
ARU PPP 00 17 37.7
ARU S **S** **00 22 07.5 +1.7**
ARU 00 24 09.9
ARU pmax pmax
comp=Z,39nm,1.7s,mb5.2

ARU Arti 55.77 324 P **P** **00 14 19.4 -0.7**
comp=Z,417nm,1.1s,mb6.4,SNR=7.5
EIDS Eidsvold 56.39 147 *e*P **P** **00 14 23.5 -1.4**
comp=Z,24nm,1.1s,mb5.2
SOKR Solikamsk 57.26 327 ⇑*i*P **P** **00 14 35.7 +5.1**
SOKR pmax pmax
comp=Z,60nm,1.5s,mb5.4
SOKR MLR MLR
comp=Z,2μm,16.0s,MS5.2
BBOO Buckleboo 57.36 164 *e*P **P** **00 14 30.6 -1.1**
comp=Z,2μm,1.0s
STKA Stephens Creek 58.09 159 P **P** **00 14 35.4 -1.4**
comp=Z,7.4nm,0.5s,mb5.0,baz=336,slow=6.9,SNR=30
STKA PP PP 00 16 43.5 -2.3
comp=Z,4.4nm,0.7s,baz=311,slow=8.6,SNR=2.9
STKA Stephens Creek 58.09 159 *e*P **P** **00 14 35.2 -1.5**
STKA Stephens Creek 58.09 159 *e*P **P** **00 14 35.3 -1.4**
comp=Z,20nm,1.8s,mb4.8
STKA PP PP 00 16 43.5 -2.3
STKA Stephens Creek 58.09 159 *e*P **P** **00 14 35.3 -1.4**
STKA 00 16 43.5
STKA pmax pmax
comp=Z,20nm,1.8s
ARMA Armidale 60.85 149 *e*P **P** **00 14 55.4 -0.5**
ARMA Armidale 60.85 149 *e*P **P** **00 14 55.9 0.0**
comp=Z,19nm,0.8s,mb5.3
MAK Makhachkala 62.59 308 *e*P **P** **00 15 04.5 -3.1**
MAK *e* 00 15 49.0
MAK *e* 00 17 22.2
MAK S **S** **00 23 30.8 -3.8**
MAK pmax pmax
comp=Z,109nm,1.5s,mb5.8
MAK MLR MLR
comp=Z,338nm,8.0s
DZM Mont Dzumac 63.22 132 *e*P **P** **00 15 10.7 -1.2**
comp=Z,105nm,1.3s,mb5.8
DZM *e*S **S** **00 23 38.8 -4.0**
comp=Z,164nm,27.9s
DZM *e*LR LR 00 34 07.3
comp=Z,629nm,23.4s
CAN Canberra 63.89 154 *e*P **P** **00 15 15.6 -0.5**
comp=Z,9.5nm,0.6s,mb5.0
CAN Canberra 63.89 154 *e*P **P** **00 15 15.6 -0.5**
CAN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
CNB Canberra Magne 64.03 154 *e*P **P** **00 15 16.7 -0.3**
TOO Toolangi 64.58 158 *e*P **P** **00 15 20.2 -0.4**
MTA Mtatsminda 64.76 307 P **P** **00 15 27.1 +5.2**
TBLG Delisi 64.79 307 P **P** **00 15 30.3 +8.2**
TBLG Delisi 64.79 307 P **P** **00 15 30.3 +8.2**
GNI Garni 65.04 305 LR LR 00 47 21.0
comp=Z,290nm,20.2s,MS4.5,baz=224,slow=39
GNI Garni 65.04 305 *e*P **P** **00 15 26.6 +2.8**
comp=Z,30nm,0.9s,mb5.3
GNI Garni 65.04 305 *e*P **P** **00 15 25.9 +2.1**
GNI pmax pmax
comp=Z,16nm,1.7s
GOR Gori 65.22 307 P **P** **00 15 32.0 +7.2**
ONI Oni 65.60 308 P **P** **00 15 34.7 +7.4**
AKH Akhalkalaki 65.77 306 P **P** **00 15 36.8 +8.4**
KIV Kislovodsk 65.93 309 *e*P **P** **00 15 30.3 +0.9**
KIV Kislovodsk 65.93 309 *e*P **P** **00 15 29.8 +0.3**
KIV pmax pmax
comp=Z,45nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,343nm,18.0s,MS4.6
KIV Kislovodsk 65.93 309 P **P** **00 15 30.6 +1.1**
comp=Z,284nm,0.8s,mb6.3,SNR=6.3
VSR Storozhevoye 67.18 318 *e*P **P** **00 15 37.0 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.3s
MOS Moscow 67.45 323 *e*P **P** **00 15 44.1 +5.2**
MOS pmax pmax
comp=Z,48nm,1.2s,mb5.4
APA Apatity 67.97 336 ⇑*i*P **P** **00 15 42.6 +0.6**
APA pmax pmax
comp=Z,31nm,1.0s,mb5.3
APA MLR MLR
comp=Z,1μm,25.0s,MS5.0
OBN Obninsk 68.13 322 *e*P **P** **00 15 45.2 +1.9**
comp=Z,35nm,1.1s,mb5.3
OBN Obninsk 68.13 322 *e*P **P** **00 15 38.9 -4.3**
OBN *i* 00 15 49.5
OBN *i* 00 18 13.4
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.7
PPLA Purkeypile 68.63 29 *e*P **P** **00 15 46.4 +0.2**
comp=Z,28nm,0.9s,mb5.2
COLD Coldfoot 68.82 25 *e*P **P** **00 15 47.4 +0.1**
MSVF Nonsavu 69.21 121 *e*P **P** **00 15 50.0 -0.5**
MSVF Nonsavu 69.21 121 *e*P **P** **00 15 50.0 -0.5**
MSVF Nonsavu 69.21 121 P **P** **00 15 50.3 -0.2**
comp=Z,430nm,0.9s,mb6.4,SNR=15
KDAK Kodiak Island 69.27 35 P **P** **00 15 49.2 -1.1**
comp=Z,19nm,0.7s,mb5.1,baz=217,slow=5.0,SNR=14
KDAK Kodiak Island 69.27 35 P **P** **00 15 49.2 -1.1**
KDAK Kodiak Island 69.27 35 *ce*P **P** **00 15 48.9 -1.4**
KDAK Kodiak Island 69.27 35 P **P** **00 15 49.0 -1.3**
comp=Z,211nm,0.7s,mb6.2,SNR=5.9
TRF Thorofare Moun 69.39 29 *e*P **P** **00 15 50.5 -0.4**
comp=Z,71nm,1.8s,mb5.3
ANN Anapa 69.48 311 *e*P **P** **00 15 57.0 +5.2**
ANN pmax pmax
comp=Z,44nm,1.0s,mb5.3
JOF Joensuu 69.52 331 *e*P **P** **00 15 50.2 -1.5**
JOF pmax pmax
comp=Z,11nm,0.7s,mb4.9
JOF Joensuu 69.52 331 *ep* **P** **00 15 50.2 -1.5**
comp=Z,10nm,0.7s,mb4.9
KEV Kevo 69.93 338 *e*P **P** **00 15 56.1 +2.0**
KEV Kevo 69.93 338 *e*P **P** **00 15 54.0 -0.2**
KEV pmax pmax
comp=Z,16nm,0.7s,mb5.1
KEV Kevo 69.93 338 *ep* **P** **00 15 54.0 -0.2**
comp=Z,16nm,0.7s,mb5.1
MCK McKinley 69.94 28 *e*P **P** **00 15 53.3 -1.0**
comp=Z,71nm,1.3s,mb5.4
MCK McKinley 69.94 28 *e*P **P** **00 15 53.3 -1.0**
MCK pmax pmax
comp=Z,71nm,1.3s,mb5.4
TAU Tasmania Unive 69.99 159 *e*P **P** **00 15 54.4 -0.4**
comp=Z,16nm,1.5s,mb5.7
TAU Tasmania Unive 69.99 159 *e*P **P** **00 15 54.4 -0.4**
TAU pmax pmax
comp=Z,163nm,1.5s,mb5.7
COLA College 70.17 27 *e*P **P** **00 15 54.7 -1.1**
comp=Z,18nm,0.7s,mb5.1
COLA College 70.17 27 *e*P **P** **00 15 54.7 -1.0**
COLA pmax pmax
comp=Z,18nm,0.7s,mb5.1
PMR Palmer 70.27 31 *e*P **P** **00 15 54.9 -1.5**
comp=Z,19nm,0.9s,mb5.0
PMR Palmer 70.27 31 *e*P **P** **00 15 54.9 -1.5**
PMR pmax pmax
comp=Z,19nm,0.9s,mb5.0
ARCES ARCESS Array B 70.49 338 P **P** **00 15 58.2 +0.6**
comp=Z,4.7nm,0.7s,mb4.5,baz=331,slow=20,SNR=23
ARCES ARCESS Array B 70.49 338 P **P** **00 15 58.2 +0.6**
ARCES ARCESS Array B 70.49 338 P **P** **00 15 58.2 +0.6**
SPB4 Spitsbergen Ar 70.59 348 *e*P **P** **00 15 58.2 +0.1**
SML Sawmill 70.60 30 *e*P **P** **00 15 57.5 -0.8**
comp=Z,11nm,1.1s,mb4.7
SML Sawmill 70.60 30 *e*P **P** **00 15 57.5 -0.9**
SML pmax pmax
comp=Z,11nm,1.1s,mb4.7
ILAR Eielson Array 70.60 27 P **P** **00 15 56.5 -1.8**
comp=Z,4.5nm,0.7s,mb4.5,baz=272,slow=4.2,SNR=71
ILAR LR LR 00 46 09.7
comp=Z,210nm,19.3s,MS4.4,baz=292,slow=35
ILAR Eielson Array 70.60 27 P **P** **00 15 56.5 -1.8**
ILAR Eielson Array 70.60 27 P **P** **00 15 56.5 -1.8**
PAX Paxson 71.63 29 *e*P **P** **00 16 04.1 -0.5**
comp=Z,18nm,1.0s,mb5.0
PAX Paxson 71.63 29 *e*P **P** **00 16 04.1 -0.5**
PAX pmax pmax
comp=Z,18nm,1.0s,mb5.0
SIM Simferopol' 71.74 312 P **P** **00 15 59.3 -6.3**
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.1
DIV Divide 71.95 31 *e*P **P** **00 16 06.2 -0.3**

DOT Dot Lake 72.07 28 *e*P **P** **00 16 06.2 -1.0**
comp=Z,9.4nm,0.8s,mb4.8
FINES FINESS Array B 72.24 330 P **P** **00 16 07.4 -0.9**
comp=Z,8.9nm,0.8s,mb4.8,baz=98,slow=5.0,SNR=14
FINES FINESS Array B 72.24 330 P **P** **00 16 07.4 -0.9**
FINES FINESS Array B 72.24 330 P **P** **00 16 07.4 -0.9**
MENT Mentasta 72.41 29 *e*P **P** **00 16 08.9 -0.4**
BMRM Bremner River 72.54 31 *e*P **P** **00 16 09.6 -0.5**
RAGM Ragged Mountai 72.67 31 *e*P **P** **00 16 10.7 -0.1**
comp=Z,210nm,1.9s,mb5.7
EGAK Eagle 72.97 26 *e*P **P** **00 16 11.9 -0.7**
comp=Z,31nm,0.8s,mb5.3
MICGM Minsk 73.17 323 *e* **P** **00 16 22.0 +8.0**
MNK Minsk 73.20 323 *e*P **P** **00 16 22.0 +7.9**
AKASG Malin Array Be 73.42 318 P **P** **00 16 14.8 -0.8**
comp=Z,3.5nm,0.6s,mb4.5,baz=60,slow=6.2,SNR=7.4
AKASG Malin Array Be 73.42 318 P **P** **00 16 14.8 -0.8**
AKASG Malin Array Be 73.42 318 P **P** **00 16 14.8 -0.7**
KIEV Kiev 73.44 318 *e*P **P** **00 16 14.3 -1.3**
KIEV Kiev 73.44 318 *d*P **P** **00 16 14.5 -1.1**
BR131 Keskin Array S 73.45 307 *e*P **P** **00 16 15.9 0.0**
comp=Z,4.2nm,0.7s,mb4.5
BRTR Keskin Array B 73.45 307 P **P** **00 16 16.7 +0.7**
comp=Z,1.5nm,0.6s,mb4.1,baz=103,slow=5.5,SNR=7.6
BRTR LR LR 00 53 55.8
comp=Z,96nm,19.4s,MS4.1,baz=275,slow=40
BRTR Keskin Array B 73.45 307 P **P** **00 16 16.7 +0.7**
BRTR Keskin Array B 73.45 307 *ce*P **P** **00 16 16.0 +0.1**
IZAR Zarasai 73.72 324 *e*P **P** **00 16 19.9 +2.7**
IZAR AMB AMB 00 16 28.0
comp=Z,12nm,1.1s,mb4.7
ISAL Salakas 73.84 324 *e*P **P** **00 16 20.5 +2.6**
ISAL AMB AMB 00 16 29.7
comp=Z,12nm,1.2s,mb4.7
IIGN Ignalina 73.85 324 *e*P **P** **00 16 20.5 +2.5**
IIGN AMB AMB 00 16 30.6
comp=Z,14nm,1.9s,mb4.6
DAWY Dawson 73.92 27 *e*P **P** **00 16 17.7 -0.5**
INK Inuvik 74.61 22 *e*P **P** **00 16 21.1 -1.0**
comp=Z,53nm,1.0s,mb5.4
INK Inuvik 74.61 22 *e*P **P** **00 16 21.1 -1.0**
INK pmax pmax
comp=Z,53nm,1.0s
TLCR 75.28 313 ⇑P **P** **00 16 26.1 -0.4**
TLCR 75.28 313 ⇑*i*P **P** **00 16 26.1 -0.4**
PNL Peninsula 75.41 31 *e*P **P** **00 16 27.4 +0.6**
comp=Z,83nm,1.4s,mb5.5
SUW Suwalki 75.95 323 *e*P **P** **00 16 30.3 +0.2**
SUW Suwalki 75.95 323 *e*P **P** **00 16 30.2 +0.1**
comp=Z,92nm,1.2s,mb5.6
SUW Suwalki 75.95 323 *e*P **P** **00 16 30.3 +0.2**
TESR 76.31 315 ⇑*i*P **P** **00 16 32.0 -0.3**
VRI Vrincioaia 76.47 314 ⇑P **P** **00 16 33.3 +0.1**
VRI Vrincioaia 76.47 314 ⇑*i*P **P** **00 16 33.3 +0.1**
PLOR Plostina 76.52 314 ⇑P **P** **00 16 34.4 +0.9**
PLOR Plostina 76.52 314 ⇑*i*P **P** **00 16 34.3 +0.8**
BURAR Bucovina Array 76.87 316 ⇑P **P** **00 16 35.4 -0.1**
BURAR Bucovina Array 76.87 316 ⇑*i*P **P** **00 16 35.4 -0.1**
BUR08 Bucovina Ar. S 76.87 316 *e*P **P** **00 16 35.4 0.0**
MLR Muntele Rosu 77.11 314 ⇑P **P** **00 16 37.7 +0.9**
MLR Muntele Rosu 77.11 314 ⇑*i*P **P** **00 16 37.7 +0.9**
SKAG Skagway 77.41 30 *e*P **P** **00 16 38.5 +0.3**
comp=Z,40nm,0.9s,mb5.3
DAG Danmarks Havn 77.52 351 *i*P **P** **00 16 37.7 -0.9**
comp=Z,12nm,0.9s,mb4.8
KWP Kalwaria Pacla 77.74 319 *e*P **P** **00 16 40.3 0.0**
KWP Kalwaria Pacla 77.74 319 *e*P **P** **00 16 40.6 +0.3**
comp=Z,76nm,1.1s,mb5.5
KWP Kalwaria Pacla 77.74 319 *e*P **P** **00 16 40.6 +0.3**
KWP pmax pmax
comp=Z,76nm,1.1s,mb5.5
HUMR Humele 78.08 313 ⇑*i*P **P** **00 16 42.2 -0.1**
UZH Uzhgorod 78.35 318 *e*P **P** **00 16 43.0 -0.7**
UZH *i* 00 16 53.0
UZH *i* 00 16 58.0
TRPA Tarpa 78.38 317 ⇑*i*P **P** **00 16 44.0 +0.1**
DRGR 78.76 316 ⇑P **P** **00 16 45.9 -0.1**
DRGR 78.76 316 ⇑*i*P **P** **00 16 45.9 -0.1**
CRVS Cervenica-Dubn 78.77 318 *e*P **P** **00 16 53.1 +7.1**
CRVS Cervenica-Dubn 78.77 318 *e*P **P** **00 16 53.1 +7.1**
NB2 NORSAR Subarra 79.07 332 P **P** **00 16 46.3 -1.1**
comp=Z,30nm,1.4s,mb5.0,baz=62,slow=5.6
NOA NORSAR Array B 79.07 332 P **P** **00 16 46.5 -0.9**
comp=Z,4.7nm,0.8s,mb4.5,baz=60,slow=5.4,SNR=10.0
NOA LR LR 00 55 53.0
comp=Z,318nm,20.2s,MS4.7,baz=75,slow=39
NOA NORSAR Array B 79.07 332 P **P** **00 16 46.5 -0.9**
NOA NORSAR Array B 79.07 332 P **P** **00 16 46.5 -0.9**
GZR Gura Zlata 79.23 315 ⇓P **P** **00 16 49.7 +1.1**
GZR Gura Zlata 79.23 315 ⇓*i*P **P** **00 16 49.7 +1.1**
OJC Ojcow 79.27 320 *e*P **P** **00 16 48.8 +0.1**
OJC *e*PcP PcP 00 16 58.0 +1.1
OJC Ojcow 79.27 320 *e*P **P** **00 16 48.9 +0.2**
comp=Z,39nm,1.2s,mb5.2
OJC Ojcow 79.27 320 *e*P **P** **00 16 48.9 +0.2**
OJC pmax pmax
comp=Z,39nm,1.2s,mb5.2
KECS Kecovo 79.52 318 *e*P **P** **00 16 57.2 +7.1**
KECS Kecovo 79.52 318 *e*P **P** **00 16 57.2 +7.1**
BZS Buzias 79.90 315 ⇑P **P** **00 16 52.0 -0.3**
BZS Buzias 79.90 315 ⇑*i*P **P** **00 16 52.0 -0.3**
VTS Vitosha 79.97 312 ⇑P **P** **00 16 53.0 +0.3**
VTS Vitosha 79.97 312 ⇑*i*P **P** **00 16 53.0 +0.3**
PSZ Piszkesteto 80.11 318 *e*P **P** **00 16 53.5 +0.2**
comp=Z,17nm,1.2s,mb4.8
PSZ Piszkesteto 80.11 318 ⇓P **P** **00 16 53.6 +0.3**
PSZ Piszkesteto 80.11 318 ⇑*e*P **P** **00 16 53.1 -0.2**
PSZ Piszkesteto 80.11 318 ⇓*i*P **P** **00 16 53.6 +0.3**
CRAG Craig 80.17 34 *e*P **P** **00 16 53.5 0.0**
OKC Ostrava-Krasne 80.39 320 *e*P **P** **00 16 54.7 -0.1**
OKC *e* pP 00 17 02.4 +1.2
OKC Ostrava-Krasne 80.39 320 *e*P **P** **00 16 54.7 -0.1**
OKC *e*pP pP 00 17 02.4 +1.2
VYHS Vyhne 80.53 319 *e*P **P** **00 16 55.7 +0.1**
VYHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VYHS Vyhne 80.53 319 *e*P **P** **00 16 55.7 +0.1**
KOLL Kolacno 80.76 319 *e*P **P** **00 16 57.7 +0.9**
KOLL Kolacno 80.76 319 *e*P **P** **00 16 57.7 +0.9**
MORC Moravsky Berou 80.78 320 *e*P **P** **00 16 56.5 -0.4**
MORC Moravsky Berou 80.78 320 ⇑P **P** **00 16 56.8 -0.1**
MORC Moravsky Berou 80.78 320 ⇑*i*P **P** **00 16 56.8 -0.1**
BUD Budapest 80.82 318 *e*PcP PcP 00 17 04.2 +0.4
RPZ Rata Peaks 80.88 145 P **P** **00 16 55.3 -2.0**
comp=Z,55nm,1.3s,mb5.3,baz=3.7,slow=6.9,SNR=6.1
RPZ Rata Peaks 80.88 145 *e*P **P** **00 16 56.3 -1.0**
KSP Ksiaz 81.06 322 *e*P **P** **00 16 58.7 +0.3**
KSP Ksiaz 81.06 322 *e*P **P** **00 16 58.4 +0.1**
KSP *e*pP pP 00 17 05.2 +0.5
KSP Ksiaz 81.06 322 ⇑*e*P **P** **00 16 58.4 +0.1**
KSP *e**PP pP 00 17 05.2 +0.5
DPC Dobruska-Polom 81.25 321 *e*P **P** **00 17 00.1 +0.7**
DPC Dobruska-Polom 81.25 321 *e*P **P** **00 16 59.3 -0.1**
DPC *e* pP 00 17 06.7 +0.9
DPC Dobruska-Polom 81.25 321 *e*P **P** **00 16 59.3 -0.1**
DPC *e*pP pP 00 17 06.7 +0.9
UPC Upice 81.36 321 *e*P **P** **00 16 59.9 -0.1**
UPC *e* 00 17 08.4
UPC Upice 81.36 321 *e*P **P** **00 16 59.9 -0.1**
UPC *e*pP pP 00 17 08.4 +2.0
PVCC Panska Ves 82.18 322 *e*P **P** **00 17 04.7 +0.4**
PVCC Panska Ves 82.18 322 *e*P **P** **00 17 04.7 +0.4**
TREC Trest 82.19 320 *e*P **P** **00 17 14.1 +10**
TREC Trest 82.19 320 *e*P **P** **00 17 14.1 +10**
BRG Berggiesshubel 82.38 322 *e*P **P** **00 17 12.3 +7.0**
comp=Z,17nm,1.5s,mb4.8
BRG Berggiesshubel 82.38 322 *e*P **P** **00 17 12.3 +7.0**
BRG pmax pmax
comp=Z,17nm,1.5s,mb4.8
PRU Pruhonice 82.44 321 *e*P **P** **00 17 06.2 +0.6**
PRU *e* 00 17 15.6
PRU Pruhonice 82.44 321 *e*P **P** **00 17 06.2 +0.6**
PRU *ex* x 00 17 15.6
CSNA Conrad Observa 82.57 319 ⇑*i*P **P** **00 17 05.8 -0.6**
comp=Z,16nm,1.6s,mb4.8
CSNA Conrad Observa 82.57 319 ⇑*i*P **P** **00 17 05.8 -0.6**
CLL Collm 82.71 323 *e*P **P** **00 17 06.0 -1.0**
CLL *e* 00 17 16.0
CLL *e* 00 17 19.0
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CLL MLR MLR
comp=Z,500nm,18.8s,MS4.9

CLL	**Collm**	**82.71**	**323**	*e*P	**P**	**00 17 06.0**	**-1.0**
	comp=Z,6.0nm,0.9s,mb4.6						
CLL				*e*(sPcP)		00 17 16.0	
CLL				*e*		00 17 19.0	
CLL				*e*PP	PP	00 20 19.0	+2.5
CLL				LmV		00 58 00.0	
	comp=Z,500nm,18.8s						
SCO	**Scoresbysund**	**83.17**	**348**	*i* P	**P**	**00 17 10.1**	**+1.0**
	comp=Z,11nm,1.2s,mb4.8						
KHC	**Kasperske Hory**	**83.39**	**321**	*e*P	**P**	**00 17 10.7**	**+0.2**
KHC	**Kasperske Hory**	**83.39**	**321**	*e*P	**P**	**00 17 10.7**	**+0.1**
KHC	**Kasperske Hory**	**83.39**	**321**	*e*P	**P**	**00 17 09.9**	**-0.7**
KHC				*e*pP	pP	00 17 20.3	+3.3
GERES	**GERESS Array B**	**83.44**	**320**	P	**P**	**00 17 10.8**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=65,slow=4.7,SNR=10						
GERES	**GERESS Array B**	**83.44**	**320**	P	**P**	**00 17 10.8**	**0.0**
GERES	**GERESS Array B**	**83.44**	**320**	P	**P**	**00 17 10.9**	**0.0**
NKC	**Novy Kostel**	**83.52**	**322**	*e*P	**P**	**00 17 12.6**	**+1.3**
NKC	**Novy Kostel**	**83.52**	**322**	*e*P	**P**	**00 17 12.6**	**+1.3**
MOA	**Molln**	**83.57**	**319⇑**	*i*P	**P**	**00 17 11.7**	**+0.1**
	comp=Z,23nm,1.6s,mb5.1						
MOA	**Molln**	**83.57**	**319⇑**	*i*P	**P**	**00 17 11.7**	**+0.1**
SOKA	**Soboth**	**83.63**	**318⇑**	*i*P	**P**	**00 17 11.6**	**-0.3**
	comp=Z,14nm,1.7s,mb4.8						
SOKA	**Soboth**	**83.63**	**318⇑**	*i*P	**P**	**00 17 11.6**	**-0.3**
SUMG	**Summit**	**83.69**	**354**	*e*P	**P**	**00 17 11.8**	**+0.1**
	comp=Z,41nm,0.8s,mb5.6						
SUMG	**Summit**	**83.69**	**354**	*e*P	**P**	**00 17 11.8**	**+0.1**
SUMG				pmax	pmax		
	comp=Z,41nm,0.8s						
SUMG	**Summit**	**83.69**	**354**	*i* P	**P**	**00 17 12.0**	**+0.3**
	comp=Z,38nm,0.9s,mb5.5						
LJU	**Ljubljana**	**84.23**	**318**	*i* P	**P**	**00 17 14.7**	**-0.3**
KMBO	**Kilima Mbogo**	**84.26**	**266**	*e*P	**P**	**00 17 17.9**	**+2.2**
KMBO	**Kilima Mbogo**	**84.26**	**266**	*e*P	**P**	**00 17 17.9**	**+2.2**
YKA	**Yellowknife Ar**	**84.36**	**23**	P	**P**	**00 17 14.0**	**-1.3**
	comp=Z,11nm,0.8s,mb5.1,baz=315,slow=4.8,SNR=219						
YKA				PKKPbc	PKKPbc	00 35 33.1	+4.5
	comp=Z,0.2nm,0.7s,baz=128,slow=2.5,SNR=3.6						
YKA	**Yellowknife Ar**	**84.36**	**23**	P	**P**	**00 17 14.0**	**-1.3**
YKA				PKKPbc	PKKPbc	00 35 33.1	+4.5
YKA	**Yellowknife Ar**	**84.36**	**23**	P	**P**	**00 17 14.0**	**-1.3**
VOY	**Vojsko**	**84.63**	**318**	*e*P	**P**	**00 17 16.5**	**-0.5**
VOY				*e*		00 17 26.3	
SKDS	**Skadanscina**	**84.78**	**317**	*i* P	**P**	**00 17 17.0**	**-0.7**
ABTA	**Abfaltersbach**	**85.14**	**319⇑**	*i*P	**P**	**00 17 18.5**	**-1.1**
	comp=Z,13nm,1.1s,mb5.0						
ABTA	**Abfaltersbach**	**85.14**	**319⇑**	*i*P	**P**	**00 17 18.5**	**-1.1**
FETA	**Feichten**	**86.07**	**320⇑**	*i*P	**P**	**00 17 23.8**	**-0.4**
	comp=Z,15nm,1.2s,mb5.1						
FETA	**Feichten**	**86.07**	**320⇑**	*i*P	**P**	**00 17 23.8**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**86.55**	**320**	*e*P	**P**	**00 17 26.9**	**+0.3**
TUE	**Stuetta**	**87.17**	**320**	*e*P	**P**	**00 17 30.8**	**+1.3**
	comp=Z,27nm,1.6s,mb5.2						
CDF	**Champ du Feu**	**87.36**	**322**	*e*P	**P**	**00 17 29.6**	**-0.9**
CDF	**Champ du Feu**	**87.36**	**322**	*e*P	**P**	**00 17 29.6**	**-0.9**
CDF	**Champ du Feu**	**87.36**	**322**	*e*P	**P**	**00 17 29.6**	**-0.9**
HINF	**Hinteralfeld**	**87.92**	**322**	*e*P	**P**	**00 17 31.7**	**-1.4**
HINF	**Hinteralfeld**	**87.92**	**322**	*e*P	**P**	**00 17 31.7**	**-1.4**
HINF	**Hinteralfeld**	**87.92**	**322**	*e*P	**P**	**00 17 31.7**	**-1.4**
HAU	**Haudompre**	**88.11**	**322**	*e*P	**P**	**00 17 32.9**	**-1.1**
HAU				*e*R			
	comp=Z,576nm,18.2s						
HAU	**Haudompre**	**88.11**	**322**	*e*P	**P**	**00 17 32.9**	**-1.1**
HAU	**Haudompre**	**88.11**	**322**	*e*P	**P**	**00 17 32.9**	**-1.1**
PAGF	**Fort de Pagny**	**88.16**	**323**	*e*P	**P**	**00 17 33.7**	**-0.5**
PAGF	**Fort de Pagny**	**88.16**	**323**	*e*P	**P**	**00 17 33.7**	**-0.5**
NLWA	**Neilton Lookou**	**89.22**	**38**	*e*P	**P**	**00 17 40.0**	**+0.7**
	comp=Z,41nm,1.1s,mb5.7						
LPG	**La Plagne**	**89.22**	**320**	*e*P	**P**	**00 17 39.3**	**0.0**
	comp=Z,16nm,0.8s,mb5.1						
LPG	**La Plagne**	**89.22**	**320**	*e*P	**P**	**00 17 39.3**	**0.0**
	comp=Z,16nm,0.8s,mb5.4						
LPG	**La Plagne**	**89.22**	**320**	*e*P	**P**	**00 17 39.3**	**0.0**
LPG				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.4						
LPL	**La Plagne**	**89.22**	**320**	*e*P	**P**	**00 17 39.2**	**-0.1**
	comp=Z,13nm,0.8s,mb5.0						
LPL	**La Plagne**	**89.22**	**320**	*e*P	**P**	**00 17 39.2**	**-0.1**
	comp=Z,13nm,0.8s,mb5.3						
LPL	**La Plagne**	**89.22**	**320**	*e*P	**P**	**00 17 39.2**	**-0.1**
LPL				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.3						
PGF	**Pioggiola**	**89.39**	**317**	*e*P	**P**	**00 17 40.0**	**-0.2**
	comp=Z,20nm,0.9s,mb5.2						
PGF	**Pioggiola**	**89.39**	**317**	*e*P	**P**	**00 17 40.0**	**-0.2**
	comp=Z,20nm,0.9s,mb5.5						
PGF	**Pioggiola**	**89.39**	**317**	*e*P	**P**	**00 17 40.0**	**-0.2**
PGF				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.5						
BNI	**Bardonecchia**	**89.50**	**320**	*e*P	**P**	**00 17 47.4**	**+6.7**
BNI	**Bardonecchia**	**89.50**	**320**	*e*P	**P**	**00 17 47.4**	**+6.7**
SBF	**Sospel**	**89.68**	**318**	*e*P	**P**	**00 17 40.8**	**-0.7**
	comp=Z,21nm,1.0s,mb5.1						
SBF	**Sospel**	**89.68**	**318**	*e*P	**P**	**00 17 40.8**	**-0.7**
	comp=Z,21nm,1.0s,mb5.4						
SBF	**Sospel**	**89.68**	**318**	*e*P	**P**	**00 17 40.8**	**-0.7**
SBF				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.4						
JCW	**Jim Creek**	**89.84**	**36**	*e*P	**P**	**00 17 42.2**	**0.0**
LOR	**Lormes**	**89.92**	**323**	*e*P	**P**	**00 17 41.7**	**-0.8**
LOR				*e*R			
	comp=Z,384nm,18.5s						
LOR	**Lormes**	**89.92**	**323**	*e*P	**P**	**00 17 41.7**	**-0.8**
LOR	**Lormes**	**89.92**	**323**	*e*P	**P**	**00 17 41.7**	**-0.8**
ORIF	**Oris-en-Rattie**	**90.05**	**320**	*e*P	**P**	**00 17 42.7**	**-0.5**
	comp=Z,24nm,1.2s,mb5.1						
ORIF				*e*R			
	comp=Z,466nm,20.2s						
ORIF	**Oris-en-Rattie**	**90.05**	**320**	*e*P	**P**	**00 17 42.7**	**-0.5**
	comp=Z,24nm,1.2s,mb5.4						
ORIF	**Oris-en-Rattie**	**90.05**	**320**	*e*P	**P**	**00 17 42.7**	**-0.5**
ORIF				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.4						
SSF	**Saint Saulge**	**90.23**	**322**	*e*P	**P**	**00 17 43.1**	**-0.9**
	comp=Z,20nm,1.3s,mb5.0						
SSF	**Saint Saulge**	**90.23**	**322**	*e*P	**P**	**00 17 43.1**	**-0.9**
	comp=Z,20nm,1.3s,mb5.3						
SSF	**Saint Saulge**	**90.23**	**322**	*e*P	**P**	**00 17 43.1**	**-0.9**
SSF				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.3						
SMF	**Signal de Mont**	**90.28**	**322**	*e*P	**P**	**00 17 43.4**	**-0.9**
	comp=Z,9.2nm,0.7s,mb4.9						
SMF	**Signal de Mont**	**90.28**	**322**	*e*P	**P**	**00 17 43.4**	**-0.9**
	comp=Z,9.2nm,0.7s,mb5.2						
SMF	**Signal de Mont**	**90.28**	**322**	*e*P	**P**	**00 17 43.4**	**-0.9**
SMF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.2						
FRF	**La Foret Royal**	**90.33**	**318**	*e*P	**P**	**00 17 43.7**	**-0.9**
	comp=Z,18nm,1.2s,mb5.0						
FRF	**La Foret Royal**	**90.33**	**318**	*e*P	**P**	**00 17 43.7**	**-0.9**
	comp=Z,18nm,1.2s,mb5.3						
FRF	**La Foret Royal**	**90.33**	**318**	*e*P	**P**	**00 17 43.7**	**-0.9**
FRF				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.3						
AVF	**Avril sur Loir**	**90.47**	**322**	*e*P	**P**	**00 17 44.2**	**-1.0**
	comp=Z,52nm,1.5s,mb5.3						
AVF	**Avril sur Loir**	**90.47**	**322**	*e*P	**P**	**00 17 44.2**	**-1.0**
	comp=Z,52nm,1.5s,mb5.6						
AVF	**Avril sur Loir**	**90.47**	**322**	*e*P	**P**	**00 17 44.2**	**-1.0**
AVF				pmax	pmax		
	comp=Z,52nm,1.5s,mb5.6						
LON	**Longmire**	**90.74**	**38**	*e*P	**P**	**00 17 46.4**	**0.0**
LON	**Longmire**	**90.74**	**38**	*e*P	**P**	**00 17 46.4**	**0.0**
VIVF	**Saint-Julien-l**	**90.80**	**320**	*e*P	**P**	**00 17 46.5**	**-0.2**
VIVF	**Saint-Julien-l**	**90.80**	**320**	*e*P	**P**	**00 17 46.5**	**-0.2**
VIVF	**Saint-Julien-l**	**90.80**	**320**	*e*P	**P**	**00 17 46.5**	**-0.2**
ETW	**Entiat**	**91.06**	**36**	*e*P	**P**	**00 17 47.6**	**-0.2**
LDF	**La Druitiere**	**91.30**	**325**	*e*P	**P**	**00 17 47.6**	**-1.4**
	comp=Z,12nm,1.1s,mb4.8						
LDF	**La Druitiere**	**91.30**	**325**	*e*P	**P**	**00 17 47.6**	**-1.4**
	comp=Z,12nm,1.1s,mb5.1						
LDF	**La Druitiere**	**91.30**	**325**	*e*P	**P**	**00 17 47.6**	**-1.4**
LDF				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.1						
OD2	**Odessa Site #2**	**92.07**	**36**	*e*P	**P**	**00 17 51.9**	**-0.6**
RSW	**Rattlesnake Hi**	**92.19**	**37**	*e*P	**P**	**00 17 53.2**	**+0.1**
HAWA	**Hanford**	**92.22**	**37**	*e*P	**P**	**00 17 53.2**	**-0.1**
	comp=Z,18nm,1.0s,mb5.3						
RJF	**Les Rejaudoux**	**92.38**	**322**	*e*P	**P**	**00 17 53.9**	**-0.1**
	comp=Z,23nm,1.0s,mb5.2						
RJF				*e*R			
	comp=Z,348nm,19.5s						
RJF	**Les Rejaudoux**	**92.38**	**322**	*e*P	**P**	**00 17 53.9**	**-0.1**
	comp=Z,23nm,1.0s,mb5.5						
RJF	**Les Rejaudoux**	**92.38**	**322**	*e*P	**P**	**00 17 53.9**	**-0.1**
RJF				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.5						
KEST	**Kesra**	**92.65**	**311**	LR	LR	01 05 02.0	
	comp=Z,54nm,18.1s,MS4.0,baz=275,slow=39						
LFF	**La Frestale**	**93.03**	**322**	*e*P	**P**	**00 17 56.3**	**-0.8**
LFF	**La Frestale**	**93.03**	**322**	*e*P	**P**	**00 17 56.3**	**-0.8**
LFF	**La Frestale**	**93.03**	**322**	*e*P	**P**	**00 17 56.3**	**-0.8**
YBH	**Yreka Blue Hor**	**93.08**	**42**	*e*P	**P**	**00 17 57.8**	**+0.4**
YBH	**Yreka Blue Hor**	**93.08**	**42**	*e*P	**P**	**00 17 57.8**	**+0.5**
LNOR	**Lincton Mounta**	**93.23**	**37**	*e*P	**P**	**00 17 58.1**	**+0.2**
LNOR	**Lincton Mounta**	**93.23**	**37**	*e*P	**P**	**00 17 58.1**	**+0.2**
BSMT	**Bassoo Peak**	**93.84**	**34**	*e*P	**P**	**00 18 01.2**	**+0.4**
JTMT	**Jette**	**94.17**	**34**	*e*P	**P**	**00 18 02.3**	**+0.1**
YBMT	**Yellow Bay**	**94.23**	**33**	*e*P	**P**	**00 18 03.3**	**+0.8**
BMO	**Blue Mountains**	**94.40**	**37**	*e*P	**P**	**00 18 03.1**	**-0.3**
MOD	**Modoc**	**94.45**	**41**	*e*P	**P**	**00 18 03.2**	**-0.4**
SWMT	**Swartz Lake**	**94.47**	**34**	*e*P	**P**	**00 18 03.4**	**-0.2**
FFC	**Flin Flon**	**94.52**	**23**	*e*P	**P**	**00 18 02.6**	**-1.1**
FFC	**Flin Flon**	**94.52**	**23**	*ce*P	**P**	**00 18 02.9**	**-0.8**
SLMT	**Seeley Lake**	**94.90**	**34**	*e*P	**P**	**00 18 05.2**	**-0.4**
LRM	**Limekiln Ridge**	**96.39**	**34**	*e*P	**P**	**00 18 12.8**	**+0.4**
PPT2	**Papeete2**	**96.57**	**106**	*e*S	S	00 29 31.1	-3.0
	comp=Z,121nm,26.5s						
PPT2				*e*LR	LR	00 49 23.6	
	comp=Z,207nm,25.5s						
DLMT	**Dillon**	**96.62**	**35**	*e*P	**P**	**00 18 13.4**	**0.0**
CMB	**Columbia Colle**	**96.67**	**44**	*e*P	**P**	**00 18 13.0**	**-0.8**
CMB	**Columbia Colle**	**96.67**	**44**	*e*P	**P**	**00 18 13.0**	**-0.8**
HLID	**Hailey**	**96.83**	**37**	*e*P	**P**	**00 18 14.5**	**+0.1**
NVAR	**Mina Array Bea**	**97.75**	**43**	P	**P**	**00 18 18.4**	**-0.3**
	comp=Z,2.1nm,1.0s,mb4.6,baz=284,slow=5.5,SNR=9.3						
NVAR	**Mina Array Bea**	**97.75**	**43**	P	**P**	**00 18 18.4**	**-0.3**
TBI	**Tubuai**	**98.77**	**112**	*e*LR	LR	00 50 34.8	
	comp=Z,175nm,30.8s						
ESDC	**Sonseca Array**	**99.03**	**320**	PP	PP	00 22 28.0	+2.1
	comp=Z,0.8nm,0.8s,baz=52,slow=7.9,SNR=5.1						
ESDC	**Sonseca Array**	**99.03**	**320**	PP	PP	00 22 28.0	+2.1
PDAR	**Pinedale Array**	**99.99**	**35**	P	Pdif	00 18 29.1	+0.7
	comp=Z,0.3nm,0.6s,baz=291,slow=2.5,SNR=3.2						
PDAR				PP	PP	00 22 31.9	-1.2
	comp=Z,1.2nm,1.1s,baz=290,slow=5.3,SNR=3.6						
PDAR	**Pinedale Array**	**99.99**	**35**	P	Pdif	00 18 29.1	+0.7
PDAR				PP	PP	00 22 31.9	-1.2
TORD	**Torodi Ar. Bea**	**110.24**	**295**	PKiKP	PKiKP	00 23 15.1	-1.0
	comp=Z,0.5nm,0.8s,baz=35,slow=2.6,SNR=3.1						
TORD				PP	PP	00 23 50.2	+0.1
	comp=Z,1.0nm,0.9s,baz=52,slow=6.0,SNR=4.0						
TORD				PKKPbc	PKKPbc	00 34 14.7	-1.8
	comp=Z,0.4nm,0.6s,baz=241,slow=3.4,SNR=5.7						
TORD				PKKPab	PKKPab	00 34 26.1	-2.9
	comp=Z,1.2nm,0.7s,baz=233,slow=3.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**110.24**	**295**	PKiKP	PKiKP	00 23 15.1	-1.0
TORD				PP	PP	00 23 50.2	+0.1
TORD				PKKPbc	PKKPbc	00 34 14.7	-1.8
TORD				PKKPab	PKKPab	00 34 26.1	-2.9
TXAR	**Lajitas Array**	**112.85**	**41**	PKiKP	PKiKP	00 23 19.8	-1.0
	comp=Z,1.0nm,0.8s,baz=231,slow=0.9,SNR=10						
TXAR	**Lajitas Array**	**112.85**	**41**	PKiKP	PKiKP	00 23 19.8	-1.0
TXAR	**Lajitas Array**	**112.85**	**41**	PKiKP	PKiKP	00 23 19.8	-1.0
VNA2	**Neumayer–Watz**	**123.51**	**198**	*e*	PKPdf	00 23 40.3	+0.4
	baz=55,slow=0.6						
VNA3	**Neumayer Olymp**	**123.98**	**197**	*e*	PKPdf	00 23 40.0	-0.8
	baz=55,slow=0.6						
TEIG	**Tepich**	**128.72**	**35**	*e*PKPdf	PKPdf	00 23 53.0	+1.6
SDV	**Santo Domingo**	**146.55**	**20**	*e*PKPdf	PKPdf	00 24 23.7	-0.5
ROSC	**El Rosal**	**148.80**	**30**	PKPbc	PKPbc	00 24 29.4	-2.4
	comp=Z,9.4nm,0.7s,baz=1.9,slow=3.7,SNR=7.9						
ROSC	**El Rosal**	**148.80**	**30**	PKPbc	PKPbc	00 24 29.4	-2.4
OTAV	**Otavalo**	**150.48**	**41**	*e*PKPdf	PKPdf	00 24 31.1	+0.5
PLCA	**Paso Flores**	**159.92**	**155**	PKPab	PKPab	00 25 21.2	-0.6
	comp=Z,2.5nm,0.9s,baz=201,slow=5.0,SNR=4.2						
PLCA	**Paso Flores**	**159.92**	**155**	PKPab	PKPab	00 25 21.2	-0.6
PLCA	**Paso Flores**	**159.92**	**155**	PKP2	PKPab	00 25 21.2	-0.6
SAML	**Samuel**	**165.66**	**15**	*e*PKPdf	PKPdf	00 24 48.1	-0.8
LPAZ	**La Paz**	**169.49**	**53**	PKP	PKPdf	00 24 52.2	+0.6
	comp=Z,8.4nm,1.1s,baz=28,slow=2.5,SNR=13						
LPAZ				PKPab	PKPab	00 26 02.7	-1.9
	comp=Z,3.5nm,0.9s,baz=337,slow=2.9,SNR=4.6						
LPAZ	**La Paz**	**169.49**	**53**	*e*PKPdf	PKPdf	00 24 52.1	+0.5
LPAZ				PKP	PKPdf	00 24 52.2	+0.6
LPAZ				PKPab	PKPab	00 26 02.7	-1.9
LPAZ	**La Paz**	**169.49**	**53**	*e*PKIKP	PKPdf	00 24 52.1	+0.5
LPAZ						00 26 02.7	
CPUP	**Villa Florida**	**176.09**	**209**	PKP	PKPdf	00 24 53.5	-0.6
	comp=Z,1.6nm,0.8s,baz=307,slow=2.4,SNR=3.0						
CPUP				PKPab	PKPab	00 26 32.0	-1.5
	comp=Z,0.3nm,0.3s,baz=225,slow=7.1,SNR=2.5						
CPUP	**Villa Florida**	**176.09**	**209**	PKP	PKPdf	00 24 53.5	-0.6
CPUP				PKPab	PKPab	00 26 32.0	-1.5
CPUP	**Villa Florida**	**176.09**	**209**	PKIKP	PKPdf	00 24 53.5	-0.6
CPUP						00 26 32.1	

*IDC **23** 00:06:37.3±5.0,27°.46N×111°.92W,h0km,mb1 3.9/4, mb1mx3.6/25,mbtmp3.5/4,ML3.7/4,Error ellipse: s-maj=64.3km s-min=16.6km az=17.0*
*ISCJB **23** 00:06:38.7±0.6,27°.90N±0°.05×111°.80W±0°.05,h10km, Error ellipse: s-maj=8.5km s-min=5.0km az=138.1*
*MEX **23** 00:06:40.4±0.5,27°.44N×113°.03W,h30km±61km,MD4.3*
*NEIC **23** 00:06:40.4±0.8,27°.86N×111°.95W,h10km,MD4.3(MEX), Error ellipse: s-maj=14.3km s-min=9.6km az=113.0*
ISC 23 00:06:40.9±0.6,27°.87N±0°.04×111°.92W±0°.05,h10km,n20, σ1§23/31,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.62**	**207**	*i* P	**Pg**	**00 06 51.9**	**-1.0**
SRIG				*e*S	**Sg**	**00 07 01.2**	**+0.2**
SRIG	**Santa Rosalia**	**0.62**	**207**	*i* P	**Pg**	**00 06 51.9**	**-1.0**
SRIG				*e*S	**Sg**	**00 07 01.2**	**+0.2**
CGIG		**4.25**	**53**	*i* P	**Pb**	**00 07 57.4**	**+1.6**
CGIG				*i* S	**Sg**	**00 08 55.5**	**-1.9**
CGIG		**4.25**	**53**	*i* P	**Pb**	**00 07 57.4**	**+1.6**
CGIG				*i* S	**Sg**	**00 08 55.5**	**-1.9**
TUC	**Tucson**	**4.53**	**12**	*e*Pn	**Pn**	**00 07 47.3**	**-2.2**
TUC				*e*Sn	**Sn**	**00 08 49.4**	**+7.2**
HPIG		**5.64**	**98**	*i* P	**Pb**	**00 08 16.3**	**-3.1**
HPIG				*i* S	**Sb**	**00 09 28.2**	**+1.2**
HPIG		**5.64**	**98**	*i* P	**Pb**	**00 08 13.7**	**-5.7**
HPIG				*i* S	**Sb**	**00 09 28.2**	**+1.2**
GLA	**Glamis**	**5.74**	**335**	Pn	**Pn**	**00 08 04.8**	**-1.2**
MNTX	**Cornudas Mount**	**6.84**	**55**	*e*Pn	**Pn**	**00 08 20.8**	**-0.5**
	6.2nm,1.1s						
MNTX				*e*Sn	**Sb**	**00 09 55.4**	**-6.3**
TXAR	**Lajitas Array**	**7.40**	**77**	Pn	**Pn**	**00 08 28.9**	**0.0**
	0.4nm,0.3s,baz=248,slow=13,SNR=45						
TXAR				Sn	**Sn**	**00 09 52.6**	**-0.3**
	0.2nm,0.3s,baz=258,slow=26,SNR=3.6						
TXAR				Lg		00 10 33.4	
	0.4nm,0.3s,baz=248,slow=27,SNR=4.0						
TXAR	**Lajitas Array**	**7.40**	**77**	Pn	**Pn**	**00 08 28.9**	**0.0**
TXAR				Sn	**Sn**	**00 09 52.6**	**-0.3**
TXAR				Lg		00 10 33.4	
LAZ	**Ladron**	**7.69**	**31**	*e*Pn	**Pn**	**00 08 33.5**	**+0.6**
	1.4nm,0.3s						
LAZ				Sn	**Sb**	**00 10 18.0**	**-8.0**
ANMO	**Albuquerque**	**8.46**	**32**	Pn	**Pn**	**00 08 46.2**	**+2.8**
	0.3nm,0.3s,baz=222,slow=12,SNR=6.1						
ANMO				Lg		00 11 06.8	
	0.2nm,0.3s,baz=320,slow=19,SNR=5.5						
ANMO	**Albuquerque**	**8.46**	**32**	*e*Pn	**Pn**	**00 08 44.2**	**+0.8**
ANMO				Lg		00 11 06.8	
CCUT	**Cedar City**	**9.72**	**353**	*e*Pn	**Pn**	**00 09 01.4**	**+0.6**
	2.9nm,0.6s						
ARUT	**Antelope Range**	**9.97**	**353**	*e*Pn	**Pn**	**00 09 05.3**	**+1.2**
	8.5nm,0.6s						
NVAR	**Mina Array Bea**	**11.80**	**335**	Pn	**Pn**	**00 09 33.3**	**+4.1**
	0.1nm,0.3s,baz=169,slow=10,SNR=3.2						
NVAR	**Mina Array Bea**	**11.80**	**335**	Pn	**Pn**	**00 09 33.4**	**+4.1**
PDAR	**Pinedale Array**	**14.98**	**7**	Pn	**Pn**	**00 10 21.6**	**+8.9**
	0.1nm,0.3s,baz=177,slow=11,SNR=22						
PDAR	**Pinedale Array**	**14.98**	**7**	Pn	**Pn**	**00 10 21.6**	**+8.9**

GUC 23 00:12:00.0±0.7,32°.47S×71°.81W,h15km±5km,MD3.5, ML2.9,7C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**166**	*i*P	Pg	00 12 10.5	-0.9
IHA				*e*S	Sg	00 12 19.4	+0.3
CHNG	**Los Chungos**	**0.64**	**25⇑**	*i*P	Pg	00 12 11.9	-0.6
CHNG				*i* S	Sg	00 12 20.8	-0.2
CHNG				AML	AML	00 12 21.4	
	comp=E,572nm,0.6s						
PTCH	**Petorca**	**0.77**	**75⇑**	*i*P	Pg	00 12 14.5	-0.6
PTCH				*i* S	Sg	00 12 24.9	-0.3
PTCH				AML	AML	00 12 25.2	
	comp=N,1μm,0.2s						
ROCH	**El Roble**	**0.84**	**127⇓**	*i*P	Pb	00 12 15.4	-1.0
ROCH				*i* S	Sg	00 12 26.7	-0.8
ROCH				AML	AML	00 12 27.6	
	comp=E,484nm,0.4s						
LCCH	**Las Cruces**	**1.03**	**169⇑**	*i*P	Pb	00 12 17.9	-1.6
JACH	**Jahuel**	**1.05**	**102**	*e*P	Pb	00 12 18.6	-1.3
JACH				*i* S	Sb	00 12 32.6	-0.9
PEL	**Peldehue**	**1.17**	**126⇑**	*i*P	Pn	00 12 20.6	-1.2
PEL				*i* S	Sb	00 12 35.7	-1.0
PEL				AML	AML	00 12 40.9	
	comp=E,988nm,0.4s						
RCDM	**Rinconada Maip**	**1.32**	**141**	*e*P	Pn	00 12 22.4	-1.6
RCDM				*i* S	Sn	00 12 40.0	-1.3
RCDM				AML	AML	00 12 46.3	
	comp=E,595nm,0.1s						
SAN	**Santiago**	**1.38**	**136**	*e*S	Sn	00 12 42.0	-0.7
SAN				AML	AML	00 12 48.2	
	comp=N,433nm,0.3s						
TACH	**Talagante**	**1.39**	**148**	*e*P	Pn	00 12 24.1	-0.8
CLCH	**Cerro Calan**	**1.42**	**131**	*e*P	Pn	00 12 24.6	-0.6
CLCH				*e*S	Sn	00 12 43.0	-0.7
CLCH				AML	AML	00 12 52.5	
	comp=E,319nm,0.4s						
ANTU	**Antumapu**	**1.48**	**138**	*e*P	Pn	00 12 25.1	-1.0
ANTU				*e*S	Sn	00 12 44.8	-0.4
ANTU				AML	AML	00 12 50.8	
	comp=N,310nm,0.5s						
LNV	**Longovilo**	**1.52**	**167⇑**	*i*P	Pn	00 12 25.5	-1.1
FCH	**Farellones**	**1.54**	**124**	*e*P	Pn	00 12 27.4	+0.5
FCH				*i* S	Sn	00 12 47.4	+0.7
FCH				AML	AML	00 12 50.9	
	comp=E,215nm,0.3s						
PCH	**Pirque**	**1.59**	**137**	*e*P	Pn	00 12 27.2	-0.4
CHCH	**Chadas Angostu**	**1.76**	**147⇑**	*i*P	Pn	00 12 30.2	+0.3
CHCH				*e*S	Sn	00 12 52.6	+0.6
LMEL	**Las Melosas**	**1.93**	**136**	*e*P	Pn	00 12 32.9	+0.7
LMEL				*i* S	Sn	00 12 57.7	+1.5
LMEL				AML	AML	00 13 04.5	
	comp=N,289nm,0.1s						
CACH	**El Canelo**	**1.93**	**149⇑**	*i*P	Pn	00 12 33.6	+1.3

*TAP **23** 00:32:14.4,22°.94N×120°.57E,h16km,ML3.5,B*
*ISCJB **23** 00:32:15.2±0.3,22°.94N±0°.02×120°.56E±0°.02,h22km±4km, Error ellipse: s-maj=3.5km s-min=2.6km az=171.1*
*NEIC **23** 00:32:16.4±2.3,23°.04N×120°.66E,h10km,Error ellipse: s-maj=26.1km s-min

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=18						
TYC	**Yuchr**	**0.99**	**16**	*e*P	**Pb**	**00 32 32.7**	**-1.1**
	baz=15						
TYC				*e*S	**Sb**	**00 32 47.9**	**+1.3**
	baz=15						
TWK1	**Hengchun**	**1.02**	**167**	*e*P	**Pb**	**00 32 33.7**	**-0.6**
	baz=167						
TWK1				*e*S	**Sb**	**00 32 49.6**	**+2.3**
	baz=167						
PNG	**Penghu**	**1.12**	**304**	*e*P	**Pn**	**00 32 34.8**	**-1.1**
	baz=303						
ESL	**Shilin**	**1.18**	**42**	*e*P	**Pn**	**00 32 36.1**	**-0.6**
	baz=42						
ESL				*e*S	**Sb**	**00 32 52.7**	**+0.8**
	baz=42						
WHF	**Hehuan Shan**	**1.36**	**28**	*e*P	**Pn**	**00 32 39.2**	**+0.1**
	baz=28						
TWQ1	**Liyutan**	**1.41**	**8**	*e*P	**Pn**	**00 32 40.3**	**+0.4**
	baz=7.0						
TWQ1				*e*S	**Sn**	**00 32 58.2**	**+0.2**
	baz=7.0						
TWT	**Tachien**	**1.42**	**23**	*e*P	**Pn**	**00 32 39.7**	**-0.3**
	baz=22						
NACB	**Ninganchiao**	**1.55**	**37**	*e*Pn	**Pn**	**00 32 42.6**	**+0.8**
NACB				*e*Sn	**Sn**	**00 33 01.1**	**-0.3**
YHNB	**Yeheng**	**1.87**	**23**	*e*Pn	**Pn**	**00 32 47.5**	**+1.2**
YHNB				*e*Sn	**Sn**	**00 33 10.2**	**+0.8**

*ISCJB **23** 00:33:16.6±0.3, 31°.24N±0°.03×103°.24E±0°.04, h10km, mb4.0/21, Error ellipse: s-maj=5.1km s-min=4.5km az=160.3*
*IDC **23** 00:33:16.6±0.7, 31°.24N×103°.10E, h0km, mb3.9/16, mb1 4.1/18, mb1mx4.0/28, mbtmp3.9/18, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/35, Error ellipse: s-maj=22.8km s-min=13.6km az=52.0*
*NEIC **23** 00:33:18.4±0.3, 31°.27N×103°.22E, h10km, mb4.6/13, Error ellipse: s-maj=6.0km s-min=4.6km az=167.0*
*BJI **23** 00:33:19.2, 31°.27N×103°.39E, h14km, mb4.3/8, ML4.0/21, Ms4.3/11, Ms7 3.8/8*
ISC 23 00:33:18.8±0.3, 31°.27N±0°.03×103°.20E±0°.03, h10km, n76, σ0§87/84, mb4.0/21, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.60**	**127**	Pg	**Pg**	**00 33 31.0**	**+0.7**
CD2				Sg	**Sg**	**00 33 40.6**	**+2.4**
CD2				smax			
	comp=N,28μm,0.8s						
CD2				smax			
	comp=E,26μm,0.7s						
LZH	**Lanzhou**	**4.83**	**6**	*e*Pn	**Pn**	**00 34 34.9**	**+3.3**
LZH				Pg	**Pb**	**00 34 44.0**	**+0.5**
LZH				Sn	**Sn**	**00 35 27.3**	**-0.3**
LZH				Sg	**Sb**	**00 35 44.9**	**+3.2**
LZH				smax			
	comp=N,180nm,0.7s						
LZH				smax			
	comp=E,250nm,0.8s						
LZH				LR	LR		
	comp=N,1μm,6.2s						
LZH				LR	LR		
	comp=E,1μm,5.3s						
LZH				LR	LR		
	comp=Z,1μm,6.2s						
ENH	**Enshi**	**5.50**	**99**	*e*Pn	**Pn**	**00 34 41.1**	**+0.4**
	comp=Z,286nm,0.8s						
ENH				*e*Sn	**Sn**	**00 35 43.8**	**-0.3**
XAN	**Xi'an**	**5.56**	**59**	Pn	**Pn**	**00 34 41.1**	**-0.4**
XAN				Sg	**Sg**	**00 36 10.5**	**-6.7**
XAN				smax			
	comp=N,360nm,1.0s						
XAN				smax			
	comp=E,200nm,0.9s						
XAN				LR	LR		
	comp=N,1μm,12.1s						
XAN				LR	LR		
	comp=E,280nm,9.6s						
XAN				LR	LR		
	comp=Z,170nm,9.7s						
KMI	**Kunming**	**6.14**	**184**	Pn	**Pn**	**00 34 50.1**	**+0.6**
KMI				Sn	**Sn**	**00 35 59.1**	**-0.7**
KMI				smax			
	comp=N,100nm,1.7s						
KMI				smax			
	comp=E,62nm,1.6s						
KMI				LR	LR		
	comp=N,600nm,3.8s						
KMI				LR	LR		
	comp=E,1μm,6.4s						
KMI				LR	LR		
	comp=Z,620nm,8.8s						
GTA	**Gaotai**	**8.58**	**342**	*e*P	**Pn**	**00 35 31.4**	**+8.4**
GTA				pP		00 35 34.8	
GTA				LR	LR		
	comp=N,620nm,8.4s						
GTA				LR	LR		
	comp=E,1μm,12.7s						
WHN	**Wuhan**	**9.61**	**91**	P	**Pn**	**00 35 34.5**	**-2.6**
WHN				S	**Sn**	**00 37 20.1**	**-5.0**
WHN				LR	LR		
	comp=N,2μm,6.7s						
WHN				LR	LR		
	comp=E,1μm,8.2s						
WHN				LR	LR		
	comp=Z,1μm,5.6s						
LSA	**Lhasa**	**10.52**	**265**	*e*Pn	**Pn**	**00 35 50.0**	**+0.4**
	comp=Z,5.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.33**	**198**	Pn	**Pn**	**00 36 26.1**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=1.9,slow=11,SNR=3.0						
CMAR	**Chiang Mai Arr**	**13.33**	**198**	Pn	**Pn**	**00 36 26.1**	**-2.0**
TAPN	**Taplejung**	**14.07**	**258**	*e*P	**Pn**	**00 36 38.7**	**+0.5**
	comp=Z,26nm,0.9s						
TAPN	**Taplejung**	**14.07**	**258**	*e*P	**Pn**	**00 36 38.7**	**+0.5**
	comp=Z,26nm,0.9s						
ODAN	**Odare**	**14.51**	**256**	*e*P	**Pn**	**00 36 45.9**	**+1.8**
	comp=Z,24nm,0.8s						
ODAN	**Odare**	**14.51**	**256**	*e*P	**Pn**	**00 36 45.9**	**+1.8**
	comp=Z,24nm,0.8s						
RAMN	**Ramite**	**15.13**	**258**	*e*P	**Pn**	**00 36 53.1**	**+0.4**
	comp=Z,17nm,0.8s						
RAMN	**Ramite**	**15.13**	**258**	*e*P	**Pn**	**00 36 53.1**	**+0.4**
	comp=Z,17nm,0.8s						
JIRN	**Jiri**	**15.25**	**261**	*e*P	**Pn**	**00 36 54.5**	**+0.4**
	comp=Z,22nm,0.9s						
JIRN	**Jiri**	**15.25**	**261**	*e*P	**Pn**	**00 36 54.5**	**+0.4**
	comp=Z,22nm,0.9s						
GUN	**Gumba**	**15.44**	**262**	*e*P	**Pn**	**00 36 56.8**	**+0.2**
	comp=Z,45nm,0.8s						
GUN	**Gumba**	**15.44**	**262**	*e*P	**Pn**	**00 36 56.8**	**+0.2**
	comp=Z,45nm,0.8s						
PKI	**Pulchoki**	**15.94**	**261**	*e*P	**Pn**	**00 37 04.0**	**+0.9**
	comp=Z,29nm,0.8s						
PKI	**Pulchoki**	**15.94**	**261**	*e*P	**Pn**	**00 37 04.0**	**+0.9**
	comp=Z,29nm,0.8s						
KKN	**Kakani**	**15.98**	**262**	*e*P	**Pn**	**00 37 04.1**	**+0.4**
	comp=Z,36nm,0.8s						
KKN	**Kakani**	**15.98**	**262**	*e*P	**Pn**	**00 37 04.1**	**+0.4**
	comp=Z,36nm,0.8s						
DMN	**Daman**	**16.18**	**262**	*e*P	**Pn**	**00 37 06.2**	**-0.1**
	comp=Z,58nm,1.0s						
DMN	**Daman**	**16.18**	**262**	*e*P	**Pn**	**00 37 06.2**	**-0.1**
	comp=Z,58nm,1.0s						
GKN	**Gorkha**	**16.47**	**263**	*e*P	**Pn**	**00 37 09.3**	**-0.6**
	comp=Z,48nm,0.6s						
GKN	**Gorkha**	**16.47**	**263**	*e*P	**Pn**	**00 37 09.3**	**-0.6**
	comp=Z,48nm,0.6s						
SONM	**Songino Array**	**16.72**	**7**	Pn	**Pn**	**00 37 13.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=194,slow=13,SNR=12						
SONM	**Songino Array**	**16.72**	**7**	Pn	**Pn**	**00 37 13.5**	**+0.5**
DANN	**Dangsing**	**17.12**	**265**	*e*P	**Pn**	**00 37 18.4**	**+0.2**
	comp=Z,20nm,0.6s						
DANN	**Dangsing**	**17.12**	**265**	*e*P	**Pn**	**00 37 18.4**	**+0.2**
	comp=Z,20nm,0.6s						
KOLN	**Koldanda**	**17.41**	**263**	*e*P	**Pn**	**00 37 23.0**	**+1.2**
	comp=Z,16nm,0.7s						
KOLN	**Koldanda**	**17.41**	**263**	*e*P	**Pn**	**00 37 23.0**	**+1.2**
	comp=Z,16nm,0.7s						
KSAR	**Wonju Array Be**	**21.26**	**66**	P	**P**	**00 38 05.7**	**+0.6**
KSRS	**Korea Array**	**21.29**	**66**	P	**P**	**00 38 05.7**	**+0.2**
	comp=Z,5.5nm,0.6s,mb4.1,baz=258,slow=11,SNR=14						
KSRS				LR	LR	00 45 58.3	
	comp=Z,72nm,19.7s,baz=280,slow=36						
CN2	**Changchun**	**21.55**	**48**	*e*P	**P**	**00 38 09.3**	**+1.1**
CN2				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.5						
DDI	**Dehra Dun**	**21.61**	**274**	*ex*	**P**	**00 38 15.0**	**+6.0**
MK31	**Makanchi Array**	**22.35**	**320**	*e*P	**P**	**00 38 17.0**	**+0.3**
MKAR	**Makanchi Array**	**22.35**	**320**	P	**P**	**00 38 16.8**	**+0.1**
	comp=Z,2.7nm,0.7s,mb3.8,baz=134,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**22.35**	**320**	P	**P**	**00 38 16.8**	**+0.1**
TKM2	**Tokmak 2**	**24.79**	**306**	*e*P	**P**	**00 38 40.4**	**-0.3**
	comp=Z,1.8nm,0.6s,mb3.8						
AAK	**Ala-Archa**	**25.47**	**304**	*e*P	**P**	**00 38 47.1**	**+0.2**
USRK	**Ussuriysk Arra**	**26.03**	**52**	P	**P**	**00 38 51.7**	**-0.3**
	comp=Z,1.4nm,0.6s,mb3.7,baz=250,slow=10,SNR=5.0						
ZAA0	**Zalesovo Array**	**26.24**	**335**	*e*P	**P**	**00 38 53.5**	**-0.3**
ZALV	**Zalesovo Beam**	**26.24**	**335**	P	**P**	**00 38 53.3**	**-0.5**
	comp=Z,1.6nm,0.6s,mb3.8,baz=139,slow=10,SNR=8.9						
ZALV	**Zalesovo Beam**	**26.24**	**335**	P	**P**	**00 38 53.3**	**-0.5**
KURK	**Kurchatov**	**26.66**	**324**	P	**P**	**00 38 57.1**	**-0.4**
	comp=Z,1.4nm,0.6s,mb3.7,baz=128,slow=9.4,SNR=11						
KURK	**Kurchatov**	**26.66**	**324**	P	**P**	**00 38 57.1**	**-0.4**
BVAR	**Borovoye Array**	**32.18**	**322**	P	**P**	**00 39 46.9**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=120,slow=8.5,SNR=2.5						
BVAR	**Borovoye Array**	**32.18**	**322**	P	**P**	**00 39 46.9**	**+0.3**
BRTR	**Keskin Array B**	**55.99**	**299**	P	**P**	**00 42 56.4**	**-1.1**
	comp=Z,0.6nm,0.9s,mb3.6,baz=69,slow=6.8,SNR=3.0						
BRTR	**Keskin Array B**	**55.99**	**299**	P	**P**	**00 42 56.4**	**-1.1**
ARCES	**ARCESS Array B**	**56.79**	**336**	P	**P**	**00 43 01.2**	**-1.5**
	comp=Z,2.8nm,0.9s,mb4.3,baz=81,slow=8.3,SNR=3.7						
ARCES	**ARCESS Array B**	**56.79**	**336**	P	**P**	**00 43 01.2**	**-1.5**
FINES	**FINESS Array B**	**57.00**	**326**	P	**P**	**00 43 03.7**	**-0.5**
	comp=Z,3.3nm,0.8s,mb4.4,baz=127,slow=5.0,SNR=5.1						
FINES	**FINESS Array B**	**57.00**	**326**	P	**P**	**00 43 03.8**	**-0.5**
WRAB	**Tennant Creek**	**59.04**	**145**	*e*P	**P**	**00 43 18.9**	**-0.2**
	comp=Z,7.8nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**59.04**	**145**	P	**P**	**00 43 18.8**	**-0.3**
	comp=Z,2.1nm,0.5s,mb4.4,baz=337,slow=7.5,SNR=27						
WRA	**Warramunga Arr**	**59.04**	**145**	P	**P**	**00 43 18.8**	**-0.3**
ASAR	**Alice Springs**	**62.04**	**148**	P	**P**	**00 43 39.7**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.9,baz=341,slow=6.5,SNR=6.5						
ASAR	**Alice Springs**	**62.04**	**148**	P	**P**	**00 43 39.6**	**+0.2**
NOA	**NORSAR Array B**	**64.10**	**327**	P	**P**	**00 43 51.8**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=74,slow=6.7,SNR=2.9						
NOA	**NORSAR Array B**	**64.10**	**327**	P	**P**	**00 43 51.8**	**-0.9**
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**00 44 30.0**	**-0.3**
	comp=Z,0.7nm,1.0s,mb3.6,baz=300,slow=3.2,SNR=5.6						
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**00 44 30.0**	**-0.3**
DAVOX	**Davos/Dischmat**	**70.06**	**313**	P	**P**	**00 44 29.1**	**-1.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=39,slow=6.5,SNR=3.8						
DAVOX	**Davos/Dischmat**	**70.06**	**313**	P	**P**	**00 44 29.1**	**-1.7**
STKA	**Stephens Creek**	**72.57**	**146**	P	**P**	**00 44 45.7**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.1,baz=0.0,slow=4.0,SNR=5.1						
STKA	**Stephens Creek**	**72.57**	**146**	P	**P**	**00 44 45.7**	**-0.4**
LPG	**La Plagne**	**72.57**	**313**	*e*P	**P**	**00 44 46.1**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.3						
LPG	**La Plagne**	**72.57**	**313**	*e*P	**P**	**00 44 46.1**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.6						
LPL	**La Plagne**	**72.58**	**313**	*e*P	**P**	**00 44 45.5**	**-0.6**
	comp=Z,2.9nm,0.6s,mb4.1						
LPL	**La Plagne**	**72.58**	**313**	*e*P	**P**	**00 44 45.5**	**-0.6**
	comp=Z,2.9nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**81.76**	**17**	P	**P**	**00 45 37.2**	**-0.2**
	comp=Z,1.1nm,1.0s,mb3.8,baz=328,slow=4.8,SNR=6.0						
YKA	**Yellowknife Ar**	**81.76**	**17**	P	**P**	**00 45 37.2**	**-0.2**

*BJI **23** 00:44:25.5, 23°.08S×174°.65W, h9km, mB5.6/25, mb5.3/25, Ms5.3/14, Ms7 4.9/14*
*ISCJB **23** 00:44:27.4±3.9, 23°.21S±0°.06×174°.86W±0°.08, h20km±26km, mb4.9/39, MS4.4/6, Error ellipse: s-maj=13.4km s-min=8.6km az=20.3*
*IDC **23** 00:44:27.6±0.5, 22°.84S×175°.10W, h0km, mb4.6/19, mb1 4.7/19, mb1mx4.7/21, mbtmp4.5/19, MS3.8/5, Ms1 3.8/5, ms1mx3.4/31, Error ellipse: s-maj=19.5km s-min=15.8km az=131.0*
*NEIC **23** 00:44:29.9±2.5, 23°.15S×174°.79W, h30km±17km, mb4.9/15, Error ellipse: s-maj=8.7km s-min=7.4km az=153.0*
ISC 23 00:44:29.4±3.6, 23°.20S±0°.06×174°.81W±0°.07, h23km±24km, h31km±1.8km; pP-P, n162, σ1§20/94, mb4.9/38, MS4.4/6, 13C-11D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.62**	**308**	*e*Pn	**Pn**	**00 46 33.7**	**+0.9**
RAR	**Rarotonga**	**14.06**	**85**	Pn	**Pn**	**00 47 42.4**	**-4.9**
	3.7nm,0.3s,baz=255,slow=11,SNR=6.3						
RAR				Sn	**Sn**	**00 50 06.5**	**-16**
	1.9nm,0.3s,baz=243,slow=15,SNR=2.2						
RAR				LR	LR	00 51 40.8	
	comp=Z,359nm,20.8s,baz=273,slow=30						
RAR	**Rarotonga**	**14.06**	**85**	*e*Pn	**Pn**	**00 47 45.5**	**-1.8**
RAR				Sn	**Sn**	**00 50 06.5**	**-16**
URZ	**Urewera**	**16.53**	**203**	Pn	**Pn**	**00 48 26.8**	**+7.1**
	1.6nm,0.3s,baz=282,slow=5.3,SNR=6.1						
URZ				Sn	**Sn**	**00 51 20.3**	**-2.2**
	1.7nm,0.3s,baz=322,slow=22,SNR=6.2						
URZ	**Urewera**	**16.53**	**203**	*e*Pn	**Pn**	**00 48 21.0**	**+1.3**
URZ				*e*Sn	**Sn**	**00 51 20.5**	**-2.1**
DZM	**Mont Dzumac**	**17.35**	**270**	*e*P	**Pn**	**00 48 35.1**	**+5.0**
DZM				*e*LR	LR	00 52 33.4	
	431nm,21.3s						
DZM	**Mont Dzumac**	**17.35**	**270**	Pn	**Pn**	**00 48 31.5**	**+1.4**
	1.0nm,0.3s,baz=90,slow=15,SNR=12						
DZM				LR	LR	00 53 51.9	
	comp=Z,257nm,19.8s,baz=210,slow=33						
DZM	**Mont Dzumac**	**17.35**	**270**	*e*Pn	**Pn**	**00 48 31.5**	**+1.4**
	26nm,0.8s						
TBI	**Tubuai**	**23.28**	**95**	*e*LR	LR	00 55 16.5	
	351nm,27.5s						
RPZ	**Rata Peaks**	**23.55**	**206**	P	**P**	**00 49 42.5**	**+4.3**
	5.7nm,0.5s,mb4.3,baz=13,slow=14,SNR=5.1						
RPZ	**Rata Peaks**	**23.55**	**206**	*e*P	**P**	**00 49 37.3**	**-0.9**
	7.7nm,0.4s,mb4.5						
PAE	**Paea**	**24.26**	**82**	*e*T		01 15 03.5	
	21nm,0.4s						
PPT2	**Papeete2**	**24.28**	**81**	*e*LR	LR	00 55 36.5	
	200nm,22.0s						
PPT2				*e*T		01 15 06.6	
	14nm,0.4s						
MEH	**Mehetia**	**25.57**	**83**	*e*T		01 16 43.5	
	45nm,0.3s						
HNR	**Honiara**	**27.76**	**295**	LR	LR	00 59 00.5	
	comp=Z,168nm,20.1s,MS3.6,baz=151,slow=32						
ARMA	**Armidale**	**30.73**	**249**	*e*P	**P**	**00 50 44.9**	**+2.1**
ARMA	**Armidale**	**30.73**	**249**	*e*P	**P**	**00 50 44.8**	**+1.9**
	14nm,0.8s,mb4.8						
EIDS	**Eidsvold**	**31.12**	**259**	*e*P	**P**	**00 50 45.6**	**-0.7**
	3.5nm,0.5s,mb4.5						
CTA	**Charters Tower**	**36.26**	**267**	*e*P	**P**	**00 51 30.3**	**-0.8**
CTAO	**Charters Tower**	**36.26**	**267**	*e*P	**P**	**00 51 30.4**	**-0.7**
	148nm,2.3s,mb5.5						
TOO	**Toolangi**	**36.84**	**238**	*e*P	**P**	**00 51 38.5**	**+2.6**
TAU	**Tasmania Unive**	**36.93**	**229**	*e*P	**P**	**00 51 36.2**	**-0.4**
PMG	**Port Moresby**	**38.86**	**284**	P	**P**	**00 51 51.2**	**-2.0**
	21nm,0.8s,mb4.9,baz=99,slow=3.7,SNR=6.8						
PMG	**Port Moresby**	**38.86**	**284**	P	**P**	**00 51 51.2**	**-2.0**
STKA	**Stephens Creek**	**39.40**	**248**	P	**P**	**00 51 57.0**	**-0.5**
	2.5nm,0.4s,mb4.3,baz=100,slow=11,SNR=13						
STKA				LR	LR	01 07 07.3	
	comp=Z,229nm,18.5s,MS4.0,baz=30,slow=35						
STKA	**Stephens Creek**	**39.40**	**248**	*e*P	**P**	**00 51 58.7**	**+1.2**
STKA	**Stephens Creek**	**39.40**	**248**	*e*P	**P**	**00 51 58.5**	**+0.9**
COEN	**Coen**	**40.75**	**275**	*e*P	**P**	**00 52 08.4**	**-0.5**
AS31	**Alice Springs**	**46.85**	**259**	*e*P	**P**	**00 52 57.3**	**-0.5**
ASAR	**Alice Springs**	**46.85**	**259**	P	**P**	**00 52 57.8**	**-0.1**
	18nm,0.7s,mb5.1,baz=96,slow=7.9,SNR=136						
ASAR	**Alice Springs**	**46.85**	**259**	P	**P**	**00 52 57.8**	**-0.1**
WB2	**Warramunga Arr**	**47.20**	**264**	*e*P	**P**	**00 52 59.7**	**-1.0**
WRAB	**Tennant Creek**	**47.21**	**264**	*e*P	**P**	**00 52 59.6**	**-1.1**
	9.7nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**47.22**	**264**	P	**P**	**00 52 59.6**	**-1.1**
	7.5nm,0.6s,mb4.8,baz=103,slow=7.8,SNR=108						
WRA				PcP	PcP	00 54 33.6	+1.6
	1.9nm,0.8s,baz=99,slow=3.8,SNR=4.7						
WRA	**Warramunga Arr**	**47.22**	**264**	P	**P**	**00 52 59.6**	**-1.1**
WRA				PcP	PcP	00 54 33.6	+1.6
FORT	**Forrest**	**51.01**	**248**	*e*P	**P**	**00 53 29.7**	**0.0**
FORT	**Forrest**	**51.01**	**248**	*e*P	**P**	**00 53 29.1**	**-0.7**
	33nm,0.7s,mb5.4						
VNDA	**Vanda**	**55.52**	**186**	*e*Pn	**P**	**00 54 01.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**55.64**	**263**	*e*P	**P**	**00 54 03.7**	**-0.2**
	7.9nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**59.64**	**246**	*e*P	**P**	**00 54 33.0**	**+1.1**
	15nm,0.7s,mb5.1						
CASY	**Casey**	**62.83**	**206**	*e*P	**P**	**00 54 53.7**	**+0.8**
QSPA	**South Pole Qui**	**66.88**	**180**	P	**P**	**00 55 24.6**	**+5.5**
	4.3nm,0.7s,mb4.6,baz=37,slow=2.6,SNR=9.3						
QSPA	**South Pole Qui**	**66.88**	**180**	*e*P	**P**	**00 55 20.5**	**+1.4**
	7.7nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**74.14**	**322**	P	**P**	**00 56 02.4**	**-1.5**
	4.8nm,0.6s,mb4.6,baz=165,slow=6.4,SNR=14						
MJAR	**Matsushiro Arr**	**74.14**	**322**	P	**P**	**00 56 02.4**	**-1.5**
MAJO	**Matsushiro**	**74.14**	**322**	*e*P	**P**	**00 56 02.2**	**-1.8**
	5.5nm,0.5s,mb4.7						
MAT	**Matsushiro**	**74.14**	**322**	P	**P**	**00 56 02.5**	**-1.5**
MAT				*e*S	S	01 05 42.0	+6.2
NIKO	**Nikolski**	**76.03**	**4**	P	**P**	**00 56 13.0**	**-1.4**
YULB	**Yu-li**	**77.45**	**302**	P	**P**	**00 56 22.4**	**-0.8**
PMSA	**Palmer Station**	**77.63**	**156**	*e*P	**P**	**00 56 24.4**	**+0.8**
KCPM	**Cahto Peak**	**78.72**	**38**	P	**P**	**00 56 28.0**	**-1.9**
PETK	**Petropavlovsk-**	**79.66**	**344**	P	**P**	**00 56 34.2**	**-0.5**
	9.9nm,0.8s,mb4.8,baz=146,slow=8.0,SNR=7.6						
PETK				LR	LR	01 31 41.1	
	comp=Z,76nm,18.4s,MS4.1,baz=210,slow=36						
PETK	**Petropavlovsk-**	**79.66**	**344**	P	**P**	**00 56 34.2**	**-0.5**
MAW	**Mawson**	**80.02**	**199**	*e*P	**P**	**00 56 36.1**	**-0.5**
SPIA	**Saint Paul Isl**	**80.15**	**3**	*e*P	**P**	**00 56 32.5**	**-4.7**
	1μm,1.5s						
KSRS	**Korea Array**	**80.87**	**317**	P	**P**	**00 56 41.3**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=132,slow=6.5,SNR=4.0						
KSAR	**Wonju Array Be**	**80.89**	**317**	P	**P**	**00 56 41.3**	**-0.4**
NVAR	**Mina Array Bea**	**81.00**	**42**	P	**P**	**00 56 44.4**	**+2.1**
	1.7nm,0.7s,mb4.1,baz=222,slow=8.2,SNR=9.3						
NVAR	**Mina Array Bea**	**81.00**	**42**	P	**P**	**00 56 44.4**	**+2.1**
USRK	**Ussuriysk Arra**	**82.86**	**325**	P	**P**	**00 56 52.7**	**+0.9**
	11nm,0.8s,mb4.9,baz=119,slow=3.6,SNR=21						
MDJ	**Mudanjiang**	**84.43**	**324**	P	**P**	**00 57 00.6**	**+0.7**
MDJ				pP	pP	00 57 07.3	-0.2
MDJ				sP	sP	00 57 09.8	-0.4
MDJ				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.3						
MDJ				pmax	pmax		
	comp=Z,260nm,5.0s						
MDJ	**Mudanjiang**	**84.43**	**324**	*e*P	**P**	**00 57 00.6**	**+0.7**
	comp=Z,16nm,0.8s,mb5.2						
SYO	**Syowa Base**	**84.73**	**192**	*e*PcP	PcP	00 57 04.5	-0.1
SYO	**Syowa Base**	**84.73**	**192**	*e*pP	pP	00 57 11.8	+3.0
SNAA	**Sanae**	**85.22**	**177**	*e*	**P**	**00 57 09.0**	**+5.4**
SNAA				*e*		00 57 21.1	
SNAA	**Sanae**	**85.22**	**177**	P	**P**	**00 57 08.4**	**+4.8**
	baz=192,slow=10						
SNAA	**Sanae**	**85.22**	**177**	*e*P	**P**	**00 57 07.9**	**+4.3**
	comp=Z,10.0nm,1.1s,mb4.9						
VNA3	**Neumayer Olymp**	**85.24**	**175**	*e*	**P**	**00 57 08.5**	**+4.8**
VNA3				*e*		00 57 21.3	
VNA2	**Neumayer--Watz**	**85.72**	**176**	*e*	**P**	**00 57 11.8**	**+5.7**
VNA2				*e*		00 57 23.0	
TXAR	**Lajitas Array**	**86.06**	**56**	P	**P**	**00 57 10.7**	**+2.2**
	comp=Z,1.6nm,1.0s,mb4.2,baz=205,slow=5.5,SNR=9.4						
TXAR	**Lajitas Array**	**86.06**	**56**	P	**P**	**00 57 10.7**	**+2.2**
CN2	**Changchun**	**86.24**	**321**	*e*P	**P**	**00 57 09.3**	**+0.3**
CN2				*e*pP	pP	00 57 17.1	+0.5
CN2				*e*S	S	01 07 41.9	-0.8
CN2				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.3						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
TRF	**Thorofare Moun**	**88.50**	**11**	*e*P	**P**	**00 57 19.5**	**+0.1**
	comp=Z,10nm,0.7s,mb5.2						
PDAR	**Pinedale Array**	**88.93**	**42**	P	**P**	**00 57 23.4**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=276,slow=0.8,SNR=2.2						
PDAR	**Pinedale Array**	**88.93**	**42**	P	**P**	**00 57 23.4**	**+1.5**
MCK	**McKinley**	**88.99**	**11**	*e*P	**P**	**00 57 20.4**	**-1.3**
BJI	**Beijing**	**89.89**	**314**	P	**P**	**00 57 27.0**	**+0.5**
BJI				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.5						
BJI				pmax	pmax		
	comp=Z,150nm,4.1s						
ENH	**Enshi**	**90.00**	**303**	*e*P	**P**	**00 57 26.7**	**-0.5**
	comp=Z,12nm,0.9s,mb5.2						
ILAR	**Eielson Array**	**90.31**	**12**	P	**P**	**00 57 27.8**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.5,baz=221,slow=6.6,SNR=12						
ILAR	**Eielson Array**	**90.31**	**12**	P	**P**	**00 57 27.8**	**-0.1**
GYA	**Guiyang**	**90.55**	**299**	P	**P**	**00 57 31.0**	**+1.1**
GYA				pP	pP	00 57 41.3	+3.8
GYA				PP	PP	01 01 08.9	+3.7
GYA			

LPAZ La Paz 98.30 112 P P 00 58 09.9 +4.1
SONM Songino Array 99.73 318 P Pdif 00 58 11.4 -0.1
comp=Z,0.4nm,0.5s,baz=158,slow=4.1,SNR=4.4
SONM Songino Array 99.73 318 P Pdif 00 58 11.4 -0.1
WMQ Urumqi 110.93 310 ePKP PKiKP 01 02 56.8 -3.9
ZALV Zalesovo Beam 114.45 320 PKP PKiKP 01 03 07.3 +0.2
comp=Z,0.8nm,0.6s,baz=197,slow=1.0,SNR=5.3
ZALV Zalesovo Beam 114.45 320 PKP PKiKP 01 03 07.3 +0.2
MKAR Makanchi Array 115.20 312 PKP PKiKP 01 03 09.1 +0.4
comp=Z,0.8nm,0.6s,baz=224,slow=3.3,SNR=5.7
MKAR Makanchi Array 115.20 312 PKP PKiKP 01 03 09.1 +0.4
KURK Kurchatov 117.98 316 ePKPdf PKPdf 01 03 12.9 -1.0
BRVK Borovoye 123.11 319 ePKPdf PKPdf 01 03 22.9 -0.9
ARU Arti 129.10 325 ePKPdf PKPdf 01 03 33.7 -1.4
ARCES ARCESS Array B 132.08 351 PKP PKPdf 01 03 42.1 +1.8
comp=Z,5.1nm,1.0s,baz=27,slow=1.3,SNR=14
ARCES ARCESS Array B 132.08 351 PKP PKPdf 01 03 42.1 +1.8
FINES FINESS Array B 139.16 345 PKhKP PKPpre 01 03 45.1
comp=Z,3.7nm,1.0s,baz=0.0,slow=2.9,SNR=2.5
FINES PKP PKPdf 01 03 56.1 +2.3
comp=Z,1.9nm,0.7s,baz=42,slow=3.1,SNR=5.6
FINES FINESS Array B 139.16 345 PKPpre PKPpre 01 03 45.1
FINES PKP PKPdf 01 03 56.1 +2.3
SUW Suwalki 146.38 341 ePKP PKPab 01 04 09.6 +0.7
SUW Suwalki 146.38 341 ePKPab PKPab 01 04 09.6 +0.7
AKASG Malin Array Be 146.79 332 PKPbc PKPbc 01 04 09.2 -0.1
comp=Z,12nm,0.7s,baz=40,slow=4.1,SNR=31
AKASG Malin Array Be 146.79 332 PKPbc PKPbc 01 04 09.2 -0.1
AKBB Malin Array Si 146.79 332 ePKPdf PKPdf 01 04 06.1 -1.4
KIEV Kiev 146.80 332 ePKPab PKPab 01 04 09.3 -1.3
LEOM Leova 150.25 327 ⇓iP PKPbc 01 04 19.9 +1.4
TLCR 150.82 324 ⇑iP PKPbc 01 04 21.0 +1.1
BUR08 Bucovina Ar. S 150.83 332 ePKPbc PKPbc 01 04 22.0 +2.1
BR131 Keskin Array S 150.84 311 ePKPbc PKPbc 01 04 19.7 -0.5
BRTR Keskin Array B 150.84 311 PKPbc PKPbc 01 04 21.1 +1.0
comp=Z,4.7nm,0.7s,baz=134,slow=4.1,SNR=27
BRTR Keskin Array B 150.84 311 PKPbc PKPbc 01 04 21.1 +1.0
BURAR Bucovina Array 150.85 332 ⇑iP PKPbc 01 04 22.9 +3.0
GHRR 150.96 327 ⇓iP PKPbc 01 04 22.4 +2.2
TESR 151.01 329 ⇓iP PKPbc 01 04 21.5 +1.2
KSP Ksiaz 151.09 345 ePKP PKPbc 01 04 21.9 +1.6
KSP Ksiaz 151.09 345 ePKP PKPbc 01 04 21.9 +1.6
CLL Collm 151.30 350 i PKPbc PKPbc 01 04 21.7 +0.9
comp=Z,11nm,1.1s
CLL ePKPab PKPab 01 04 27.0 -1.8
comp=Z,10.0nm,1.0s
CLL i pPKPab pPKPab 01 04 34.4 -2.1
CRVS Cervenica-Dubn 151.30 337 ePKP PKPbc 01 04 22.5 +1.6
VRI Vrincioaia 151.43 328 ⇓iP PKPbc 01 04 22.6 +1.3
UPC Upice 151.46 345 ⇑ePKP PKPbc 01 04 22.0 +0.8
PLOR Plostina 151.48 328 ⇑iP PKPbc 01 04 22.6 +1.2
DPC Dobruska-Polom 151.54 345 ⇑ePKP PKPbc 01 04 23.1 +1.7
DPC ePKPAB PKPab 01 04 30.7 +0.9
TRPA Tarpa 151.54 335 ⇓iP PKPbc 01 04 22.7 +1.2
BRG Berggiesshubel 151.55 348 i PKP PKPbc 01 04 22.7 +1.3
comp=Z,5.9nm,0.7s
BRG i 01 04 35.5
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 151.75 343 ⇓iP PKPbc 01 04 23.7 +1.8
PVCC Panska Ves 151.76 347 ⇑ePKP PKPbc 01 04 22.1 +0.2
KECS Kecovo 152.00 338 ePKP PKPbc 01 04 24.5 +2.0
DOPR Dopca 152.00 329 ⇓iP PKPbc 01 04 24.4 +1.8
MLR Muntele Rosu 152.08 328 ⇑iP PKPbc 01 04 25.3 +2.5
PRU Pruhonice 152.28 347 ⇑ePKP PKPbc 01 04 24.1 +1.0
PRU ePKPAB PKPab 01 04 30.3 -2.6
NKC Novy Kostel 152.43 350 ePKPAB PKPab 01 04 33.4 -0.1
VRAC Vranov 152.43 344 ⇓iP PKPab 01 04 34.8 +1.2
VYHS Vyhne 152.53 340 ePKP PKPbc 01 04 25.1 +1.4
VOIR 152.56 329 ⇓iP PKPbc 01 04 26.7 +2.8
DRGR 152.56 333 ⇓iP PKPbc 01 04 25.1 +1.3
GRFO Grafenberg 153.14 351 ePKPab PKPbc 01 04 25.0 0.0
GIVF Givet 153.15 1 ePKP2 PKPbc 01 04 26.1 +1.1
GIVF Givet 153.15 1 ePKPab PKPbc 01 04 26.1 +1.1
BAIF Baives 153.18 1 ePKP2 PKPbc 01 04 26.3 +1.2
comp=Z,4.1nm,0.6s
BAIF Baives 153.18 1 ePKPab PKPbc 01 04 26.3 +1.2
KHC Kasperske Hory 153.28 348 ⇑ePKP PKPbc 01 04 26.6 +1.3
KHC ePKPAB PKPab 01 04 35.5 -1.7
GERES GERESS Array B 153.53 347 PKPbc PKPbc 01 04 26.8 +0.9
baz=17,slow=4.6
GERES GERESS Array B 153.53 347 PKPbc PKPbc 01 04 26.8 +0.9
CONA Conrad Observa 153.90 344 ⇑isPKiKP PKPab 01 04 40.9 +1.1
comp=Z,9.0nm,1.3s
BZS Buzias 153.95 333 ⇓iP PKPbc 01 04 28.4 +1.5
SOKA Soboth 155.27 344 ⇑iPKPab PKPab 01 04 45.4 -0.3
comp=Z,6.0nm,1.3s
ESDC Sonseca Array 161.83 23 PKPab PKPab 01 05 15.4 +1.1
comp=Z,0.3nm,0.5s,baz=314,slow=3.7,SNR=5.7
ESDC Sonseca Array 161.83 23 PKPab PKPab 01 05 15.4 +1.1
TORD Torodi Ar. Bea 169.47 161 PKPab PKPab 01 05 53.8 +5.4
comp=Z,0.9nm,0.7s,baz=188,slow=3.8,SNR=7.7
TORD Torodi Ar. Bea 169.47 161 PKPab PKPab 01 05 53.8 +5.4

NIED ***23*** *01:12:00,36°.60N×142°.60E,h5km,Mw3.9 Best double couple: M0 7.24000×10^14 NP1:φ1 172.00000°, δ59.00000°, λ58.00000°, NP2:φ2 42.00000°, δ43.00000°, λ131.00000°.*
IDC ***23*** *01:12:26.9±0.7,36°.53N×142°.56E,h0km,mb3.7/10, mb1 3.9/14,mb1mx3.8/26,mbtmp3.7/14,ML3.7/3,Error ellipse: s-maj=18.8km s-min=18.4km az=163.0*
ISCJB ***23*** *01:12:27.1±1.3,36°.61N±0°.04×142°.59E±0.05,h14km±9km, mb3.8/13,Error ellipse: s-maj=7.0km s-min=5.3km az=34.6*
JMA ***23*** *01:12:27.6±0.3,36°.62N×142°.63E,h25km,M3.9*
NEIC ***23*** *01:12:28.4±0.5,36°.62N×142°.59E,h10km,mb4.5/3, MW3.8(NIED),Error ellipse: s-maj=10.7km s-min=8.1km az=154.0*
ISC 23 01:12:28.3±1.6,36°.61N±0°.04×142°.53E±0°.05,h9km±11km, n51,σ0°81/60,mb3.8/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	1.47	290	P	Pn	01 12 54.0	-1.0
JFK	Kawauchi	1.52	300	P	Pn	01 12 55.2	-0.5
JFK				S	Sn	01 13 14.4	-1.3
JHO	Hitachi	1.58	270	P	Pn	01 12 55.4	-1.1
CHOJ	Chosi	1.63	237	P	Pn	01 12 56.9	-0.3
CHOJ				S	Sn	01 13 18.0	-0.3
JMM	Marumori	1.87	313	P	Pn	01 12 59.8	-0.7
JMM				S	Sn	01 13 24.0	-0.2
JFT	Otama	1.97	298	P	Pn	01 13 01.9	0.0
JFT				S	Sn	01 13 27.4	+0.6
BSO1	Boso 1	2.33	213	P	Pn	01 13 06.3	-0.5
BSO1				S	Sn	01 13 35.4	-0.2
JAG	Ashikaga	2.48	267	P	Pn	01 13 08.5	-0.5
JAG				S	Sn	01 13 38.7	-0.7
JMK	Ichinoseki	2.55	336	P	Pn	01 13 09.3	-0.6
JYK	Kaneyama	2.87	324	P	Pn	01 13 13.9	-0.4
JRY	Ryogami san	2.99	260	P	Pn	01 13 15.4	-0.5
JRY				S	Sn	01 13 50.9	-1.0
JOM	Ohasama	3.02	341	S	Sn	01 13 53.2	+0.6
JOD2	Odawara 2	3.10	245	P	Pn	01 13 17.5	+0.1
JOD2				S	Sn	01 13 55.4	+0.8
JYN	Shimob	3.42	252	P	Pn	01 13 22.5	+0.7
JYN				S	Sn	01 14 03.2	+0.8
MJAR	Matsushiro Arr	3.48	270	Pn	Pn	01 13 23.3	+0.7
19nm,0.3s,baz=93,slow=13,SNR=138							
MJAR	Matsushiro Arr	3.48	270	Pn	Pn	01 13 23.3	+0.7
MAJO	Matsushiro	3.48	270	ePn	Pn	01 13 23.7	+1.1
MAT	Matsushiro	3.48	270	P	Pn	01 13 23.6	+1.0
MAT				S	Sn	01 14 03.9	-0.1
MAT	Matsushiro	3.48	270	P	Pn	01 13 23.8	+1.2
ERM	Erimo	5.42	5	ePn	Pn	01 13 47.1	-2.1
ERM				eS	Sn	01 14 47.0	-4.7
ASAJ	Asahikawa	7.50	0	Pn	Pn	01 14 17.9	+0.2
0.9nm,0.3s,baz=199,slow=12,SNR=4.5							
ASAJ	Asahikawa	7.50	0	Pn	Pn	01 14 17.9	+0.2
USRK	Ussuriysk Arra	11.03	317	Pn	Pn	01 15 07.4	+1.1
0.2nm,0.3s,baz=103,slow=16,SNR=2.7							
KSRS	Korea Array	11.71	278	Pn	Pn	01 15 17.0	+1.5
0.3nm,0.3s,baz=86,slow=15,SNR=3.7							
KSAR	Wonju Array Be	11.74	278	Pn	Pn	01 15 17.0	+1.0
ULN	Ulaanbaatar	28.33	305	eP	P	01 18 23.1	+0.8
13nm,1.6s,mb4.3							
SONM	Songino Array	28.76	304	P	P	01 18 26.9	+0.7
3.2nm,0.7s,mb4.1,baz=103,slow=9.1,SNR=24							
SONM	Songino Array	28.76	304	P	P	01 18 26.9	+0.7
ZAA0	Zalesovo Array	42.86	313	eP	P	01 20 22.9	-3.7
ZALV	Zalesovo Beam	42.86	313	P	P	01 20 27.4	+0.7
0.5nm,0.5s,mb3.5,baz=96,slow=12,SNR=4.4							
ZALV	Zalesovo Beam	42.86	313	P	P	01 20 27.4	+0.7

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	45.10	303	P	P	01 20 45.0	+0.2
1.0nm,0.7s,mb3.7,baz=93,slow=9.5,SNR=6.2							
MKAR	Makanchi Array	45.10	303	P	P	01 20 45.0	+0.2
KURK	Kurchatov	46.90	309	eP	P	01 20 58.3	-0.5
7.7nm,1.1s,mb4.5							
ILAR	Eielson Array	49.37	32	P	P	01 21 17.9	+0.1
0.9nm,0.9s,mb3.8,baz=262,slow=6.5,SNR=8.1							
ILAR	Eielson Array	49.37	32	P	P	01 21 17.9	+0.1
WRA	Warramunga Arr	56.78	189	P	P	01 22 11.8	-1.0
0.8nm,0.6s,mb3.9,baz=8.5,slow=7.2,SNR=12							
WRA	Warramunga Arr	56.78	189	P	P	01 22 11.8	-1.0
ABKAR	Abkulak array	58.89	311	eP	P	01 22 27.4	0.0
1.3nm,0.5s,mb4.2							
ABKAR				e		01 22 35.0	
ASAR	Alice Springs	60.50	189	P	P	01 22 38.0	-0.7
0.3nm,0.4s,mb3.8,baz=8.5,slow=7.5,SNR=4.0							
ASAR	Alice Springs	60.50	189	P	P	01 22 38.0	-0.7
YKA	Yellowknife Ar	63.72	30	P	P	01 22 59.2	-0.7
0.1nm,0.6s,mb3.0,baz=296,slow=6.5,SNR=4.3							
YKA	Yellowknife Ar	63.72	30	P	P	01 22 59.2	-0.7
NVAR	Mina Array Bea	74.52	54	P	P	01 24 08.5	+1.1
0.4nm,0.6s,mb3.5,baz=287,slow=6.2,SNR=2.9							
NVAR	Mina Array Bea	74.52	54	P	P	01 24 08.5	+1.1
AKASG	Malin Array Be	75.17	323	P	P	01 24 10.7	-0.3
1.7nm,0.8s,mb4.1,baz=52,slow=5.7,SNR=3.4							
AKASG	Malin Array Be	75.17	323	P	P	01 24 10.7	-0.3
PDAR	Pinedale Array	77.32	46	P	P	01 24 24.5	+1.2
0.5nm,0.9s,mb3.5,baz=327,slow=2.5,SNR=3.3							
PDAR	Pinedale Array	77.32	46	P	P	01 24 24.5	+1.2
LPAZ	La Paz	146.12	61	PKPbc	PKPbc	01 32 10.4	+1.1
0.9nm,0.8s,baz=301,slow=5.9,SNR=3.5							
LPAZ	La Paz	146.12	61	PKPbc	PKPbc	01 32 10.4	+1.1

ISCJB ***23*** *01:20:36.7±1.0,23°.40N±0°.07×101°.6E±0°.1,h3km±9km, mb3.6/7,Error ellipse: s-maj=24.9km s-min=6.6km az=25.9*
IDC ***23*** *01:20:37.7±1.1,23°.39N×101°.67E,h0km,mb3.7/7, mb1 3.7/8,mb1mx3.5/27,mbtmp3.6/8,ML3.6/1,Error ellipse: s-maj=32.8km s-min=17.5km az=86.0*
BJI ***23*** *01:20:38.9,23°.45N×101°.56E,h14km,ML4.1/8,Ms4.3/3, Ms7 4.0/2*
ISC 23 01:20:38.6±1.0,23°.40N±0°.06×101°.6E±0°.1,h5km±8km,n12, σ1°07/17,mb3.6/7,2C,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	2.00	30	⇑Pn	Pn	01 21 13.8	+0.8
KMI				Pg	Pg	01 21 16.4	-0.5
KMI				Sg	Sg	01 21 42.6	-0.1
KMI				smax			
comp=N,590nm,0.6s							
KMI				smax			
comp=E,500nm,1.1s							
CHG	Chiang Mai	5.20	209	⇑P	Pg	01 22 19.2	+0.9
comp=E,111nm,1.0s							
CMAR	Chiang Mai Arr	5.52	208	Pn	Pn	01 22 01.9	+0.5
comp=E,0.4nm,0.3s,baz=19,slow=12,SNR=9.2							
CMAR				Pg	Pg	01 22 22.2	-2.1
comp=E,0.6nm,0.3s,baz=24,slow=13,SNR=4.7							
CMAR				Lg		01 23 33.4	
comp=E,0.5nm,0.3s,baz=41,slow=31,SNR=12							
BDT	Bhumibol Dam	6.60	202	P	Pg	01 22 50.0	+5.0
CD2	Chengdu	7.72	14	ePn	Pn	01 22 33.5	+1.9
CD2				Sn	Sn	01 23 57.3	-2.2
CD2				Sg	Sg	01 24 46.8	+0.3
CD2				smax			
comp=N,50nm,1.4s							
CD2				smax			
comp=E,70nm,1.4s							
CD2				LR	LR		
comp=N,630nm,7.2s							
CD2				LR	LR		
comp=E,970nm,9.6s							
SONM	Songino Array	24.68	8	P	P	01 26 01.5	+1.2
comp=E,0.8nm,0.8s,mb3.3,baz=187,slow=10.0,SNR=5.4							
MKAR	Makanchi Array	28.05	331	P	P	01 26 31.6	+0.9
comp=E,0.8nm,0.6s,mb3.5,baz=140,slow=11,SNR=10.0							
KURK	Kurchatov	32.61	333	P	P	01 27 09.5	-1.5
comp=E,0.5nm,0.6s,mb3.6,baz=140,slow=8.4,SNR=7.4							
ZALV	Zalesovo Beam	33.04	342	P	P	01 27 14.1	-0.6
comp=E,1.2nm,0.8s,mb3.9,baz=159,slow=9.5,SNR=6.1							
BVAR	Borovoye Array	37.90	329	P	P	01 27 56.6	+0.1
comp=E,0.4nm,0.7s,mb3.3,baz=128,slow=12,SNR=3.6							
AKTO	Aktyubinsk	43.20	320	P	P	01 28 40.6	+0.2
comp=E,0.9nm,0.6s,mb3.6,baz=111,slow=9.3,SNR=4.7							
WRA	Warramunga Arr	53.60	141	P	P	01 30 00.4	-0.5
comp=E,0.8nm,1.0s,mb3.6,baz=334,slow=8.1,SNR=2.8							

ISCJB ***23*** *01:26:13.6±1.0,28°.1N±0°.2×100°.5E±0°.3,h10km,mb3.5/4, Error ellipse: s-maj=47.5km s-min=7.5km az=149.3*
IDC ***23*** *01:26:14.0±1.3,28°.00N×100°.31E,h0km,mb3.3/5, mb1 3.6/5,mb1mx3.4/25,mbtmp3.4/5,Error ellipse: s-maj=77.4km s-min=21.1km az=62.0*
BJI ***23*** *01:26:15.5,28°.18N×100°.37E,h13km,ML3.1/8*
ISC 23 01:26:15.6±1.0,28°.0N±0°.2×100°.3E±0°.3,h10km,n6, σ0°88/8,mb3.5/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	3.64	142	Pn	Pn	01 27 13.6	+1.7
KMI				Pg	Pg	01 27 23.5	-1.8
KMI				Sg	Sg	01 28 12.8	+0.4
KMI				smax			
comp=N,23nm,1.1s							
KMI				smax			
comp=E,30nm,0.9s							
SONM	Songino Array	20.35	12	P	P	01 30 52.1	0.0
comp=E,0.2nm,0.5s,baz=201,slow=12,SNR=3.5							
MKAR	Makanchi Array	23.46	328	P	P	01 31 25.8	+0.4
comp=E,0.4nm,0.6s,mb3.0,baz=140,slow=10.0,SNR=5.5							
KURK	Kurchatov	27.98	330	P	P	01 32 05.8	-0.4
comp=E,0.3nm,0.5s,mb3.1,baz=133,slow=11,SNR=2.3							
WRA	Warramunga Arr	57.96	142	P	P	01 36 08.0	-0.4
comp=E,1.5nm,0.7s,mb4.1,baz=329,slow=7.7,SNR=18							
ASAR	Alice Springs	60.77	144	P	P	01 36 27.8	+0.1
comp=E,0.2nm,0.3s,mb3.7,baz=331,slow=6.7,SNR=4.1							

DMN ***23*** *01:35:19.5±13.0,31°.10N×91°.26E,h10km,Mb4.9/7,Error ellipse: s-maj=307.7km s-min=23.2km az=53.0*
IDC ***23*** *01:35:34.2±1.0,29°.75N×90°.45E,h0km,mb3.5/8, mb1 3.7/10,mb1mx3.5/28,mbtmp3.5/10,ML3.6/2,Error ellipse: s-maj=37.9km s-min=17.6km az=63.0*
ISCJB ***23*** *01:35:36.9±1.0,29°.87N±0°.08×90°.59E±0°.06,h26km±10km, mb3.5/8,Error ellipse: s-maj=13.6km s-min=7.5km az=156.9*
NEIC ***23*** *01:35:36.4±0.6,29°.89N×90°.64E,h10km,Error ellipse: s-maj=10.2km s-min=7.9km az=157.0*
ISC 23 01:35:37.8±1.2,29°.89N±0°.07×90°.64E±0°.06,h19km±10km, n43,σ1°23/44,mb3.5/8,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	Lhasa	0.48	112	ePg	Pg	01 35 46.5	-1.1
LSA				eS	Sg	01 35 54.9	+0.8
TAPN	Taplejung	3.61	226	eP	Pn	01 36 34.7	+2.1
49nm,0.7s							
TAPN	Taplejung	3.61	226	eP	Pn	01 36 34.7	+2.1
ODAN	Odare	4.16	224	eP	Pn	01 36 42.7	+2.5
22nm,0.5s							
ODAN	Odare	4.16	224	eP	Pn	01 36 42.7	+2.5
JIRN	Jiri	4.49	242	eP	Pn	01 36 46.1	+1.3
36nm,0.8s							
JIRN	Jiri	4.49	242	eP	Pn	01 36 46.1	+1.3
RAMN	Ramite	4.60	232	eP	Pn	01 36 48.4	+2.1
28nm,0.7s							
RAMN	Ramite	4.60	232	eP	Pn	01 36 48.4	+2.1
GUN	Gumba	4.61	246	eP	Pn	01 36 46.1	-0.3
48nm,0.9s							
GUN	Gumba	4.61	246	eP	Pn	01 36 46.1	-0.3
PKI	Pulchoki	5.14	245	eP	Pn	01 36 54.0	+0.3
12nm,0.5s							
PKI	Pulchoki	5.14	245	eP	Pn	01 36 54.0	+0.3
12nm,0.5s							
KKN	Kakani	5.14	247	eP	Pn	01 36 54.0	+0.3
25nm,0.8s							
KKN	Kakani	5.14	247	eP	Pn	01 36 54.0	+0.3
25nm,0.8s							
DMN	Daman	5.36	246	eP	Pn	01 36 55.9	-0.8
DMN	Daman	5.36	246	eP	Pn	01 36 55.9	-0.8
GKN	Gorkha	5.58	252	eP	Pn	01 36 58.5	-1.3

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GKN	Gorkha	5.58	252	eP	Pn	01 36 58.5	-1.3
DANN	Dangsing	6.21	257	eP	Pn	01 37 06.7	-1.7
26nm,0.6s							
DANN	Dangsing	6.21	257	eP	Pn	01 37 06.7	-1.7
26nm,0.6s							
KOLN	Koldanda	6.52	253	eP	Pn	01 37 10.7	-2.0
KOLN	Koldanda	6.52	253	eP	Pn	01 37 10.7	-2.0
CMAR	Chiang Mai Arr	13.66	145	Pn	Pn	01 38 48.2	-2.3
0.2nm,0.3s,baz=324,slow=12,SNR=3.2							
CMAR	Chiang Mai Arr	13.66	145	Pn	Pn	01 38 48.2	-2.3
MKAR	Makanchi Array	18.09	341	P	Pn	01 39 47.9	+0.1
0.1nm,0.3s,baz=159,slow=12,SNR=2.8							
MKAR	Makanchi Array	18.09	341	P	Pn	01 39 47.9	+0.1
SONM	Songino Array	21.65	30	P	P	01 40 28.6	+1.8
2.3nm,0.8s,mb3.6,baz=220,slow=11,SNR=18							
SONM	Songino Array	21.65	30	P	P	01 40 28.6	+1.8
KURK	Kurchatov	22.68	340	P	P	01 40 38.5	+0.7
1.2nm,0.9s,mb3.3,baz=149,slow=10,SNR=6.2							
KURK	Kurchatov	22.68	340	P	P	01 40 38.5	+0.7
ZALV	Zalesovo Beam	24.41	352	P	P	01 40 54.9	+0.1
0.2nm,0.4s,mb2.9,baz=170,slow=8.8,SNR=2.6							
ZALV	Zalesovo Beam	24.41	352	P	P	01 40 54.9	+0.1
BVAR	Borovoye Array	27.47	333	P	P	01 41 22.0	-0.4
0.3nm,0.6s,mb3.0,baz=116,slow=13,SNR=2.4							
BVAR	Borovoye Array	27.47	333	P	P	01 41 22.0	-0.4
WRA	Warramunga Arr	65.00	134	P	P	01 46 16.7	0.0
2.1nm,1.1s,mb4.1,baz=322,slow=6.8,SNR=5.9							
WRA	Warramunga Arr	65.00	134	P	P	01 46 16.7	0.0
ASAR	Alice Springs	67.54	137	P	P	01 46 32.8	-0.1
0.9nm,0.9s,mb3.8,baz=328,slow=6.7,SNR=6.9							
ASAR	Alice Springs	67.54	137	P	P	01 46 32.8	-0.1
TORD	Torodi Ar. Bea	82.67	281	P	P	01 47 59.4	-1.0
0.5nm,0.9s,mb3.6,baz=56,slow=2.2,SNR=3.2							
TORD	Torodi Ar. Bea	82.67	281	P	P	01 47 59.4	-1.0
YKA	Yellowknife Ar	85.74	11	P	P	01 48 14.9	-0.3
0.2nm,0.8s,mb3.4,baz=336,slow=4.1,SNR=3.5							
YKA	Yellowknife Ar	85.74	11	P	P	01 48 14.9	-0.3

IDC ***23*** *01:37:39.7±4.0,36°.29N×142°.82E,h0km,mb3.5/5, mb1 3.6/7,mb1mx3.4/25,mbtmp3.5/7,ML3.5/2,Error ellipse: s-maj=82.8km s-min=29.4km az=162.0*
ISCJB ***23*** *01:37:43.6±1.5,36°.57N±0°.04×142°.50E±0°.08, h14km±11km,mb3.4/5,Error ellipse: s-maj=10.8km s-min=5.7km az=12.7*
JMA ***23*** *01:37:44.1±0.4,36°.62N×142°.38E,h9km±4km,M3.5*
ISC 23 01:37:44.3±1.8,36°.58N±0°.04×142°.43E±0°.09,h9km±14km, n22,σ0°89/31,mb3.4/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	1.41	292	P	Pn	01 38 08.6	-1.6
JFK	Kawauchi	1.48	303	P	Pn	01 38 10.1	-1.0
JFK				S	Sn	01 38 28.8	-1.7
JHO	Hitachi	1.50	272	P	Pn	01 38 10.4	-1.0
CHOJ	Chosi	1.54	236	P	Pn	01 38 12.5	+0.5
CHOJ				S	Sn	01 38 31.9	-0.3
JMM	Marumori	1.83	315	P	Pn	01 38 15.0	-1.0
JMM				S	Sn	01 38 39.2	-0.2
JFT	Otama	1.92	300	P	Pn	01 38 16.8	-0.4
JFT				S	Sn	01 38 41.1	-0.4
JIO	Ouri	2.06	336	P	Pn	01 38 19.0	-0.2
BSO1	Boso 1	2.25	212	P	Pn	01 38 22.4	+0.6
BSO1				S	Sn	01 38 49.3	-0.4
JOU	Okura	2.27	322	P	Pn	01 38 22.7	+0.6
JOU				S	Sn	01 38 50.8	+0.6
JAG	Ashikaga	2.40	267	P	Pn	01 38 24.0	+0.1
JMK	Ichinoseki	2.56	338	P	Pn	01 38 26.6	+0.6
JMK				S	Sn	01 38 57.7	+0.4
JYK	Kaneyama	2.86	326	P	Pn	01 38 30.8	+0.7
JRY	Ryogami san	2.91	260	P	Pn	01 38 30.6	-0.1
JRY				S	Sn	01 39 05.7	-0.1
JOM	Ohasama	3.03	343	S	Sn	01 39 09.3	+0.4
MJAR	Matsushiro Arr	3.40	271	Pn	Pn	01 38 38.3	+0.7
4.1nm,0.3s,baz=90,slow=8.4,SNR=26							
MAT	Matsushiro	3.40	271	P	Pn	01 38 38.5	+0.9
MAT				S	Sn	01 39 20.1	+2.1
ASAJ	Asahikawa	7.53	1	Pn	Pn	01 39 34.6	+0.3
0.8nm,0.3s,baz=141,slow=11,SNR=3.0							
SONM	Songino Array	28.72	304	P	P	01 43 42.9	+1.1
0.5nm,0.6s,mb3.5,baz=104,slow=9.4,SNR=6.4							
ZALV	Zalesovo Beam	42.83	313	P	P	01 45 42.4	0.0
0.2nm,0.3s,mb3.4,baz=99,slow=9.5,SNR=3.3							
MKAR	Makanchi Array	45.05	303	P	P	01 45 59.5	-0.9
0.3nm,0.7s,mb3.2,baz=90,slow=9.0,SNR=1.9							
KURK	Kurchatov	46.86	309	P	P	01 46 15.7	+1.1
0.2nm,0.3s,mb3.5,baz=82,slow=8.4,SNR=4.8							
ILAR	Eielson Array	49.45	32	P	P	01 46 31.6	-2.7
0.3nm,0.9s,mb3.3,baz=272,slow=7.1,SNR=2.7							

IDC ***23*** *01:41:37.4±1.3,35°.74N×70°.90E,h0km,mb3.5/3, mb1 3.6/7,mb1mx3.4/30,mbtmp3.5/7,ML3.5/4,Error ellipse: s-maj=32.8km s-min=24.2km az=118.0*
NNC ***23*** *01:42:04.3±4.6,37°.38N×70°.45E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=37.3km s-min=35.1km az=72.0*
**ISC 23 01:42:04.5±2.0,37°.0N±0°.1×71°.1E±0°.1,h244km±20km

Error ellipse: s-maj=4.5km s-min=3.4km az=162.2
*DDA **23** 01:57:32.1, 39°.28N×28°.25E, h7km±5km, Md2.8*
*CSEM **23** 01:57:32.3±0.1, 39°.29N×28°.26E, h10km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.4km az=77.0*
ISC 23 01:57:32.4±0.4, 39°.28N±0°.02×28°.27E±0°.03, h13km±4km, n40, σ0°75/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.35**	**27**	*i P*	**Pg**	**01 57 39.8**	**+0.2**
DURS				*i* S	**Sg**	**01 57 44.8**	**+0.4**
DURS	**Dursunbey**	**0.35**	**27**	*i P*	**Pg**	**01 57 39.8**	**+0.2**
DURS				*i* S	**Sg**	**01 57 44.8**	**+0.4**
DST	**Dursunbey**	**0.42**	**40**	*e*PG	**Pg**	**01 57 40.8**	**+0.1**
DST	**Dursunbey**	**0.42**	**40**	*e*Pg	**Pg**	**01 57 40.8**	**0.0**
DEMI	**Demirci**	**0.42**	**125**	*i P*	**Pg**	**01 57 41.5**	**+0.6**
DEMI				*i* S	**Sg**	**01 57 47.3**	**+0.8**
DEMI	**Demirci**	**0.42**	**125**	*i P*	**Pg**	**01 57 41.5**	**+0.7**
DEMI				*i* S	**Sg**	**01 57 47.3**	**+0.8**
BALB	**Balikesir**	**0.47**	**320**	*e*PG	**Pg**	**01 57 41.4**	**-0.2**
BALB				*e*SG	**Sg**	**01 57 48.8**	**+0.9**
BALB	**Balikesir**	**0.47**	**320**	*e*Pg	**Pg**	**01 57 41.4**	**-0.2**
BALB				*e*Sg	**Sg**	**01 57 48.8**	**+0.9**
AKHS	**Akhisar**	**0.54**	**221**	*i P*	**Pg**	**01 57 42.8**	**-0.1**
AKHS				*i* S	**Sg**	**01 57 49.6**	**-0.5**
AKHS	**Akhisar**	**0.54**	**221**	*i P*	**Pg**	**01 57 42.8**	**-0.2**
AKHS				*i* S	**Sg**	**01 57 49.6**	**-0.5**
AKS	**Akhisar**	**0.54**	**221**	*e*PG	**Pg**	**01 57 42.4**	**-0.6**
AKS	**Akhisar**	**0.54**	**221**	*e*Pg	**Pg**	**01 57 42.4**	**-0.6**
BALY	**Balya**	**0.68**	**312**	*i P*	**Pg**	**01 57 44.5**	**-1.1**
BALY				*i* S	**Sg**	**01 57 55.1**	**+0.5**
BALY	**Balya**	**0.68**	**312**	*i P*	**Pg**	**01 57 44.5**	**-1.1**
BALY				*i* S	**Sg**	**01 57 55.1**	**+0.5**
MANT	**Manisa**	**0.82**	**164**	*i P*	**Pg**	**01 57 49.0**	**+0.7**
MANT				*i* S	**Sg**	**01 57 58.8**	**-0.4**
MANT	**Manisa**	**0.82**	**164**	*i P*	**Pg**	**01 57 49.0**	**+0.6**
MANT				*i* S	**Sg**	**01 57 58.8**	**-0.3**
KULA	**Kula-Manisa**	**0.83**	**158**	*e*PG	**Pg**	**01 57 48.7**	**+0.3**
KULA				*e*SG	**Sg**	**01 57 59.0**	**-0.2**
KULA	**Kula-Manisa**	**0.83**	**158**	*e*Pg	**Pg**	**01 57 48.7**	**+0.3**
KULA				*e*Sg	**Sg**	**01 57 59.1**	**-0.2**
GONE	**Gonen-Balikesi**	**0.88**	**330**	*e*PG	**Pg**	**01 57 48.7**	**-0.8**
GONE	**Gonen-Balikesi**	**0.88**	**330**	*e*Pg	**Pg**	**01 57 48.7**	**-0.8**
GDZ	**Gediz**	**0.96**	**101**	*i P*	**Pb**	**01 57 50.3**	**-0.7**
GDZ				*i* S	**Sg**	**01 58 03.0**	**-0.6**
GDZ	**Gediz**	**0.96**	**101**	*i P*	**Pb**	**01 57 50.3**	**-0.6**
GDZ				*i* S	**Sg**	**01 58 03.0**	**-0.6**
KCTX	**Karacabey (Bur**	**0.98**	**4**	*e*PG	**Pg**	**01 57 51.4**	**0.0**
KCTX	**Karacabey (Bur**	**0.98**	**4**	*e*Pg	**Pg**	**01 57 51.4**	**0.0**
ULDT	**Uludag**	**1.09**	**38**	*i P*	**Pb**	**01 57 52.0**	**-1.0**
ULDT				*i* S	**Sb**	**01 58 04.4**	**-2.8**
ULDT	**Uludag**	**1.09**	**38**	*i P*	**Pb**	**01 57 52.0**	**-1.1**
BNT	**Bandirma**	**1.10**	**346**	*e*PN	**Pn**	**01 57 53.1**	**-0.5**
BNT				*e*SN	**Sn**	**01 58 08.5**	**-0.2**
BNT	**Bandirma**	**1.10**	**346**	*e*Pn	**Pn**	**01 57 53.1**	**-0.5**
BNT				*e*Sn	**Sn**	**01 58 08.5**	**-0.2**
EDC	**Edincik**	**1.11**	**344**	*e*PN	**Pn**	**01 57 53.1**	**-0.5**
EDC				*e*SN	**Sn**	**01 58 08.3**	**-0.5**
EDC	**Edincik**	**1.11**	**344**	*e*Pn	**Pn**	**01 57 53.1**	**-0.5**
EDC				*e*Sn	**Sn**	**01 58 08.3**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.18**	**23**	*e*PN	**Pn**	**01 57 54.6**	**-0.1**
MDNY				*e*SN	**Sn**	**01 58 11.5**	**+0.9**
MDNY	**Mudanya-Bursa**	**1.18**	**23**	*e*Pn	**Pn**	**01 57 54.6**	**-0.1**
MDNY				*e*Sn	**Sn**	**01 58 11.5**	**+0.9**
BLCB	**Balcova**	**1.31**	**227**	*e*PN	**Pn**	**01 57 56.8**	**+0.4**
BLCB	**Balcova**	**1.31**	**227**	*e*Pn	**Pn**	**01 57 56.8**	**+0.4**
ARMT	**Armutlu**	**1.36**	**19**	*e*PN	**Pn**	**01 57 58.4**	**+1.3**
ARMT	**Armutlu**	**1.36**	**19**	*e*Pn	**Pn**	**01 57 58.4**	**+1.3**
YLV	**Yalova**	**1.54**	**33**	*e*PN	**Pn**	**01 58 00.8**	**+1.2**
YLV	**Yalova**	**1.54**	**33**	*e*Pn	**Pn**	**01 58 00.8**	**+1.3**
EZN	**Ezine**	**1.60**	**290**	*e*PN	**Pn**	**01 58 01.5**	**+1.2**
EZN	**Ezine**	**1.60**	**290**	*e*Pn	**Pn**	**01 58 01.5**	**+1.2**

IDC 23 03:00:44.0±1.9, 14°.64N×89°.73W, h143km±63km, mb3.3/2, mb1 3.3/5, mb1mx3.1/22, mbtmp3.1/5, Error ellipse: s-maj=120.9km s-min=13.2km az=34.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**5.52**	**297**	P	Pn	03 02 06.2	+1.9
	0.2nm,0.3s,baz=148,slow=12,SNR=12						
CMIG				S	Sn	03 03 05.3	-1.6
	0.2nm,0.3s,baz=90,slow=20,SNR=4.7						
JTS	**JuntasAbangare**	**6.36**	**132**	P	Pn	03 02 16.0	+0.5
	5.8nm,0.3s,baz=320,slow=16,SNR=14						
JTS				S	Sn	03 03 27.0	-0.2
	0.6nm,0.3s,baz=300,slow=20,SNR=2.9						
TXAR	**Lajitas Array**	**19.48**	**321**	P	P	03 05 01.6	+1.8
	0.1nm,0.3s,baz=142,slow=12,SNR=9.4						
SCHQ	**Schefferville**	**43.88**	**19**	P	P	03 08 36.0	0.0
	3.5nm,0.9s,baz=209,slow=10,SNR=4.3						
YKA	**Yellowknife Ar**	**50.93**	**345**	P	P	03 09 29.6	-0.7
	0.2nm,0.5s,baz=138,slow=6.9,SNR=8.6						

*IDC **23** 03:30:26.9±0.7, 30°.27S×176°.64W, h0km, mb4.6/11, mb1 4.8/11, mb1mx4.5/19, mbtmp4.5/11, MS3.8/13, Ms1 3.8/13, ms1mx3.7/28, Error ellipse: s-maj=25.4km s-min=20.0km az=164.0*
*ISCJB **23** 03:30:30.6±0.6, 30°.58S±0°.05×176°.84W±0°.09, h33km, mb4.6/13, MS3.9/10, Error ellipse: s-maj=11.4km s-min=6.9km az=177.7*
*NEIC **23** 03:30:31.9±4.3, 30°.27S×176°.72W, h33km±28km, mb4.7/5, Error ellipse: s-maj=14.0km s-min=10.4km az=130.0*
ISC 23 03:30:32.4±0.6, 30°.48S±0°.05×176°.78W±0°.09, h35km, n75, σ1°09/48, mb4.6/13, MS3.9/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.57**	**321**	*e*Pn	**Pn**	**03 30 55.8**	**-2.1**
RAO				*e*S	**Sn**	**03 31 17.1**	**+0.1**
URZ	**Urewera**	**9.26**	**211**	Pn	**Pn**	**03 32 42.0**	**-1.3**
	1.8nm,0.3s,baz=312,slow=11,SNR=5.6						
URZ				Sn	**Sn**	**03 34 25.7**	**-0.6**
	5.0nm,0.3s,baz=53,slow=20,SNR=10.0						
URZ				LR	LR	03 35 51.1	
	comp=Z,199nm,19.9s,baz=31,slow=34						
URZ	**Urewera**	**9.26**	**211**	Pn	**Pn**	**03 32 42.0**	**-1.3**
URZ				Sn	**Sn**	**03 34 25.7**	**-0.5**
KHZ	**Kahutara**	**14.22**	**210**	*e*Pn	**Pn**	**03 33 48.1**	**-3.1**
	19nm,0.7s						
KHZ				*e*S	**Sn**	**03 36 20.1**	**-7.6**
RPZ	**Rata Peaks**	**16.37**	**213**	Pn	**Pn**	**03 34 15.3**	**-4.1**
	2.8nm,0.3s,baz=27,slow=2.3,SNR=11						
RPZ	**Rata Peaks**	**16.37**	**213**	*e*Pn	**Pn**	**03 34 15.3**	**-4.1**
	13nm,0.5s						
RPZ				*e*S	**S**	**03 37 11.9**	**-19**
DZM	**Mont Dzumac**	**17.20**	**295**	*e*P	**Pn**	**03 34 36.2**	**+6.1**
	105nm,1.3s						
DZM				*e*LR	LR	03 38 47.7	
	1μm,27.0s						
DZM	**Mont Dzumac**	**17.20**	**295**	Pn	**Pn**	**03 34 34.9**	**+4.9**
	0.5nm,0.3s,baz=126,slow=18,SNR=6.2						
DZM				LR	LR	03 40 01.9	
	comp=Z,390nm,18.1s,baz=205,slow=33						
DZM	**Mont Dzumac**	**17.20**	**295**	Pn	**Pn**	**03 34 34.9**	**+4.9**
RAR	**Rarotonga**	**17.86**	**63**	LR	LR	03 39 26.4	
	comp=Z,224nm,20.2s,baz=261,slow=31						
TBI	**Tubuai**	**25.33**	**80**	*e*LR	LR	03 41 53.8	
	551nm,29.0s,baz=242						
PPT2	**Papeete2**	**27.88**	**69**	*e*LR	LR	03 43 00.0	
	439nm,27.2s,baz=248						
EIDS	**Eidsvold**	**28.79**	**272**	*e*P	**P**	**03 36 28.6**	**+1.5**
HNR	**Honiara**	**30.16**	**309**	LR	LR	03 46 34.5	
	comp=Z,99nm,18.5s,MS3.5,baz=190,slow=32						
CTA	**Charters Tower**	**34.85**	**278**	P	**P**	**03 37 21.1**	**+0.7**
	8.2nm,0.9s,mb4.7,baz=102,slow=15						
CTA				LR	LR	03 48 58.8	
	comp=Z,295nm,20.8s,MS4.0,baz=295,slow=32						
CTA	**Charters Tower**	**34.85**	**278**	*e*P	**P**	**03 37 21.5**	**+1.1**
CTA	**Charters Tower**	**34.85**	**278**	P	**P**	**03 37 21.1**	**+0.8**
STKA	**Stephens Creek**	**35.49**	**257**	P	**P**	**03 37 27.5**	**+1.8**
	12nm,0.9s,mb4.8,baz=88,slow=8.4,SNR=21						
STKA				LR	LR	03 50 44.0	
	comp=Z,120nm,19.1s,MS3.7,baz=27,slow=34						
STKA	**Stephens Creek**	**35.49**	**257**	*e*P	**P**	**03 37 27.1**	**+1.4**
STKA	**Stephens Creek**	**35.49**	**257**	*e*P	**P**	**03 37 27.3**	**+1.6**
	3.0nm,1.0s,mb4.2						
RKT	**Rikitea**	**37.86**	**89**	*e*LR	LR	03 47 44.1	
	384nm,29.0s						
BBOO	**Buckleboo**	**39.96**	**254**	*e*P	**P**	**03 38 04.2**	**+0.7**
BBOO	**Buckleboo**	**39.96**	**254**	*e*P	**P**	**03 38 03.7**	**+0.2**
	259nm,0.9s						
TAOE	**Nuku Hiva Isla**	**40.38**	**66**	*e*LR	LR	03 48 50.8	
	147nm,23.7s						
AS31	**Alice Springs**	**44.16**	**266**	*e*P	**P**	**03 38 38.0**	**+0.1**
ASAR	**Alice Springs**	**44.16**	**266**	P	**P**	**03 38 37.8**	**-0.1**
	5.3nm,0.8s,mb4.3,baz=111,slow=7.6,SNR=31						
ASAR				PcP	PcP	03 40 23.3	+0.8
	2.2nm,0.9s,baz=110,slow=4.2,SNR=7.4						
ASAR	**Alice Springs**	**44.16**	**266**	P	**P**	**03 38 37.8**	**-0.1**
ASAR				PcP	PcP	03 40 23.3	+0.8
WB2	**Warramunga Arr**	**45.14**	**272**	*e*P	**P**	**03 38 45.3**	**-0.5**
WRAB	**Tennant Creek**	**45.15**	**272**	*e*P	**P**	**03 38 45.5**	**-0.4**
	29nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**45.15**	**272**	P	**P**	**03 38 45.4**	**-0.4**
	23nm,0.8s,mb5.0,baz=112,slow=7.6,SNR=66						
WRA				LR	LR	03 57 58.4	
	comp=Z,171nm,18.1s,MS4.0,baz=110,slow=36						
WRA	**Warramunga Arr**	**45.15**	**272**	P	**P**	**03 38 45.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**53.41**	**269**	P	**P**	**03 39 50.1**	**+1.0**
	13nm,0.9s,mb4.9,baz=151,slow=8.5,SNR=8.6						
FITZ	**Fitzroy Crossi**	**53.41**	**269**	*e*P	**P**	**03 39 49.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**53.41**	**269**	P	**P**	**03 39 50.1**	**+1.0**
NWAO	**Narrogin (SRO)**	**55.35**	**249**	LR	LR	03 59 49.5	
	comp=Z,109nm,19.6s,MS3.9,baz=41,slow=32						
GUMO	**Guam**	**57.28**	**314**	LR	LR	04 00 12.6	
	comp=Z,129nm,21.5s,MS4.0,baz=91,slow=31						
RPN	**Rapa Nui**	**58.40**	**105**	LR	LR	03 58 27.9	
	comp=Z,112nm,18.4s,MS4.0,baz=52,slow=29						
QSPA	**South Pole Qui**	**59.63**	**180**	P	**P**	**03 40 34.5**	**+2.2**
	4.8nm,0.6s,mb4.7,baz=52,slow=2.4,SNR=19						
QSPA	**South Pole Qui**	**59.63**	**180**	*e*P	**P**	**03 40 34.7**	**+2.4**
	12nm,1.0s,mb4.9						
SNAA	**Sanae**	**78.04**	**178**	*e*	**P**	**03 42 27.2**	**+0.3**
SNAA	**Sanae**	**78.04**	**178**	*e*P	**P**	**03 42 27.3**	**+0.4**
	13nm,1.3s,mb4.7						
VNA3	**Neumayer Olymp**	**78.15**	**176**	*e*	**P**	**03 42 28.0**	**+0.5**
VNA2	**Neumayer--Watz**	**78.60**	**176**	*e*	**P**	**03 42 30.9**	**+0.9**
	baz=195,slow=3.2						
MJAR	**Matsushiro Arr**	**78.91**	**325**	P	**P**	**03 42 31.6**	**-0.5**
	4.0nm,0.9s,mb4.3,baz=173,slow=7.0,SNR=6.7						
MJAR	**Matsushiro Arr**	**78.91**	**325**	P	**P**	**03 42 31.6**	**-0.5**
PLCA	**Paso Flores**	**81.68**	**132**	LR	LR	04 09 58.8	
	comp=Z,55nm,19.2s,MS3.9,baz=228,slow=29						
NVAR	**Mina Array Bea**	**87.59**	**42**	P	**P**	**03 43 15.4**	**-1.4**
	1.8nm,1.0s,mb4.3,baz=216,slow=7.0,SNR=6.4						
NVAR	**Mina Array Bea**	**87.59**	**42**	P	**P**	**03 43 15.4**	**-1.4**
USRK	**Ussuriysk Arra**	**87.81**	**326**	P	**P**	**03 43 19.1**	**+1.4**
	3.7nm,0.8s,mb4.6,baz=174,slow=5.9,SNR=5.0						
TXAR	**Lajitas Array**	**91.55**	**57**	P	**P**	**03 43 35.1**	**-0.5**
	0.6nm,0.9s,mb3.9,baz=238,slow=3.1,SNR=4.5						
TXAR	**Lajitas Array**	**91.55**	**57**	P	**P**	**03 43 35.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**94.42**	**289**	LR	LR	04 28 02.3	
	comp=Z,50nm,18.8s,MS4.0,baz=332,slow=37						
ILAR	**Eielson Array**	**97.77**	**12**	P	**P**	**03 44 02.2**	**-1.0**
	0.9nm,1.0s,mb4.3,baz=228,slow=4.9,SNR=7.2						
ILAR	**Eielson Array**	**97.77**	**12**	P	**P**	**03 44 02.2**	**-1.0**
CPUP	**Villa Florida**	**99.11**	**128**	LR	LR	04 22 04.6	
	comp=Z,53nm,19.9s,MS4.0,baz=19,slow=31						
KURK	**Kurchatov**	**121.86**	**314**	PKP	PKPdf	03 49 21.7	-0.7
	1.6nm,0.7s,baz=107,slow=1.9,SNR=5.9						
KURK	**Kurchatov**	**121.86**	**314**	PKP	PKPdf	03 49 21.7	-0.7
BVAR	**Borovoye Array**	**127.20**	**316**	PKP	PKPdf	03 49 32.6	0.0
	2.0nm,0.8s,baz=95,slow=3.2,SNR=6.5						
BVAR	**Borovoye Array**	**127.20**	**316**	PKP	PKPdf	03 49 32.6	0.0
MTA	**Mtatsminda**	**144.90**	**300**	P	PKPdf	03 50 05.4	-0.3
TBLG	**Delisi**	**144.94**	**300**	P	PKPdf	03 50 06.4	+0.7
GNI	**Garni**	**145.04**	**298**	PKPbc	PKPbc	03 50 05.2	-0.1
	1.7nm,0.4s,baz=135,slow=1.4,SNR=3.1						
GNI	**Garni**	**145.04**	**298**	PKPbc	PKPbc	03 50 05.2	-0.1
FINES	**FINESS Array B**	**145.57**	**341**	PKPbc	PKPbc	03 50 05.5	-0.8
	23nm,1.0s,baz=48,slow=4.1,SNR=16						
FINES	**FINESS Array B**	**145.57**	**341**	PKPbc	PKPbc	03 50 05.5	-0.8
OBN	**Obninsk**	**145.83**	**326**	*e*PKPdf	PKPdf	03 50 07.1	+0.3
NB2	**NORSAR Subarra**	**148.98**	**352**	PKP	PKPbc	03 50 15.2	-0.7
	comp=Z,2.4nm,0.8s,baz=10,slow=2.8						
NOA	**NORSAR Array B**	**148.98**	**352**	PKPbc	PKPbc	03 50 15.1	-0.8
	comp=Z,5.3nm,0.9s,baz=14,slow=4.3,SNR=9.5						
NOA	**NORSAR Array B**	**148.98**	**352**	PKPbc	PKPbc	03 50 15.1	-0.8
AKASG	**Malin Array Be**	**152.00**	**324**	PKPbc	PKPbc	03 50 23.0	-0.4
	comp=Z,4.0nm,0.6s,baz=46,slow=2.9,SNR=13						
AKASG	**Malin Array Be**	**152.00**	**324**	PKPbc	PKPbc	03 50 23.0	-0.4
BRTR	**Keskin Array B**	**153.56**	**299**	PKPbc	PKPbc	03 50 26.9	-0.4
	comp=Z,1.0nm,0.8s,baz=132,slow=2.1,SNR=4.1						
BRTR				PKPab	PKPab	03 50 39.5	-0.4
	comp=Z,0.9nm,0.8s,baz=57,slow=5.3,SNR=3.1						
BRTR	**Keskin Array B**	**153.56**	**299**	PKPbc	PKPbc	03 50 26.9	-0.4
BRTR				PKPab	PKPab	03 50 39.5	-0.4
TORD	**Torodi Ar. Bea**	**162.69**	**175**	PKP	PKPdf	03 50 31.5	+0.1
	comp=Z,0.5nm,0.9s,baz=225,slow=3.9,SNR=4.0						
TORD				PKPab	PKPab	03 51 19.8	+0.1
	comp=Z,2.6nm,0.8s,baz=180,slow=3.4,SNR=12						
TORD	**Torodi Ar. Bea**	**162.69**	**175**	PKP	PKPdf	03 50 31.5	+0.1
TORD				PKPab	PKPab	03 51 19.8	+0.1

*BJI **23** 03:36:30.1, 1°.32S×124°.60E, h57km, mB5.2/20, mb4.8/27, Ms4.8/10, Ms7 4.4/11*
*DJA **23** 03:36:38.0±0.2, 1°.S±3°×12°.4E±°, h10km, M4.8/8, mB5.2/7, mb5.1/9, MLv4.9/18, Mw(mB)4.6/7*
*IDC **23** 03:36:38.2±2.5, 0°.34S×124°.26E, h49km±25km, mb4.2/20, mb1 4.3/21, mb1mx4.2/24, mbtmp4.2/21, ML4.1/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/25, Error ellipse: s-maj=18.6km s-min=12.3km az=79.0*
*ISCJB **23** 03:36:39.7±0.5, 0°.47S±0°.03×124°.35E±0°.04, h84km±5km, mb4.6/46, Error ellipse: s-maj=6.3km s-min=5.7km az=159.1*
*NEIC **23** 03:36:42.6±1.4, 0°.45S×124°.34E, h95km±13km, mb4.5/11, Error ellipse: s-maj=14.1km s-min=6.9km az=65.0*
ISC 23 03:36:41.0±0.4, 0°.47S±0°.04×124°.37E±0°.04, h80km±4km, h62km±1.0km: pP-P, n123, σ0°99/115, mb4.6/46, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.11**	**340**	P	**Pn**	**03 37 00.7**	**-0.7**
LUWI	**Luwuk**	**1.69**	**250**	P	**Pn**	**03 37 08.0**	**-0.8**
GTOI	**Gorontalo**	**1.74**	**309**	P	**Pn**	**03 37 11.7**	**+2.2**
MNI	**Manado**	**1.96**	**14**	P	**Pn**	**03 37 14.9**	**+2.5**
MRSI	**Marisa**	**2.60**	**291**	P	**Pn**	**03 37 20.0**	**-1.0**
LBMI	**Labuha**	**3.14**	**93**	P	**Pn**	**03 37 26.6**	**-1.7**
TNTI	**Ternate**	**3.25**	**68**	P	**Pn**	**03 37 29.2**	**-0.5**
NLAI	**Namlea**	**3.88**	**135**	P	**Pn**	**03 37 36.9**	**-1.4**
KDI	**Kendari**	**3.88**	**207**	P	**Pn**	**03 37 37.0**	**-1.3**
AAI	**Ambon**	**4.99**	**130**	P	**Pn**	**03 37 53.1**	**-0.3**
TTSI	**Tana Toraja**	**5.21**	**241**	P	**Pn**	**03 37 57.0**	**+0.5**
	1.8nm7μm362nm,0.6s						
MSAI	**Masohi**	**5.38**	**122**	P	**Pn**	**03 37 59.0**	**+0.2**
	0.3nm92nm,0.8s						
SPSI	**Sidrap Palu**	**5.76**	**233**	P	**Pn**	**03 38 04.9**	**+1.0**
	1.0nm4μm240nm,0.8s						
BNSI	**Bone**	**5.77**	**227**	P	**Pn**	**03 38 04.7**	**+0.5**
	0.5nm2μm148nm,0.6s						
MJSI	**Majene**	**6.19**	**240**	P	**Pn**	**03 38 13.5**	**+3.6**
	0.8nm2μm131nm,0.7s						
BKSI	**Bulukumba**	**6.42**	**221**	P	**Pn**	**03 38 13.4**	**+0.4**
	0.3nm865nm54nm,0.6s						
KAPI	**Kappang**	**6.45**	**226**	P	**Pn**	**03 38 12.7**	**-0.7**
	4.3nm,0.3s,baz=21,slow=4.5,SNR=14						
KAPI				S	**Sn**	**03 39 25.0**	**-0.7**
	5.3nm,0.3s,baz=93,slow=16,SNR=5.6						
KAPI				LR	LR	03 41 25.7	
	comp=Z,135nm,18.1s,baz=57,slow=44						
KAPI	**Kappang**	**6.45**	**226**	*e*Pn	**Pn**	**03 38 13.7**	**+0.2**
KAPI				*e*S	**Sn**	**03 39 24.4**	**-1.2**
KAPI	**Kappang**	**6.45**	**226**	P	**Pn**	**03 38 13.7**	**+0.3**
	0.2nm733nm66nm,0.7s						
MYLDM	**Lahad Datu**	**8.11**	**314**	P	**Pn**	**03 38 40.5**	**+4.4**
FAKI	**Fak Fak**	**8.25**	**107**	P	**Pn**	**03 38 32.7**	**-5.3**
	59nm,0.9s						
MMRI	**Maumere**	**8.38**	**195**	P	Px	03 38 49.9	
KBKI	**Kotabaru**	**8.66**	**251**	P	Px	03 38 56.5	
KKM	**Kota Kinabalu**	**10.39**	**309**	*e*Pn	**Pn**	**03 39 11.3**	**+4.0**
	29nm,0.5s						
KKM				*e*S	**Sn**	**03 41 07.2**	**+5.2**
FITZ	**Fitzroy Crossi**	**17.57**	**176**	LR	LR	03 47 52.3	
	comp=Z,37nm,19.5s,baz=266,slow=38						
FITZ	**Fitzroy Crossi**	**17.57**	**176**	Pn	**Pn**	**03 40 42.1**	**+1.4**
MBWA	**Marble Bar**	**21.05**	**192**	*e*P	**P**	**03 41 20.2**	**+1.5**
	6.5nm,0.8s,mb4.0						
WRAB	**Tennant Creek**	**21.67**	**154**	*e*P	**P**	**03 41 25.2**	**-0.1**
	14nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**21.68**	**154**	P	**P**	**03 41 24.8**	**-0.6**
	6.1nm,0.6s,mb4.1,baz=334,slow=11,SNR=31						
WRA				PcP	PcP	03 45 25.7	+1.8
	0.6nm,0.5s,baz=329,slow=2.4,SNR=4.6						
WRA	**Warramunga Arr**	**21.68**	**154**	P	**P**	**03 41 24.8**	**-0.6**
WRA				PcP	PcP	03 45 25.7	+1.8
WB2	**Warramunga Arr**	**21.68**	**154**	*e*P	**P**	**03 41 24.7**	**-0.7**
COEN	**Coen**	**22.94**	**127**	*e*P	**P**	**03 41 39.4**	**+0.6**
	38nm,0.5s,mb5.0						
AS31	**Alice Springs**	**24.85**	**159**	*e*P	**P**	**03 41 57.0**	**+0.9**
ASAR	**Alice Springs**	**24.85**	**159**	P	**P**	**03 41 57.0**	**+0.8**
	4.2nm,0.8s,mb4.0,baz=320,slow=6.5,SNR=30						
ASAR				PcP	PcP	03 45 32.5	+2.0
	1.7nm,0.5s,baz=348,slow=2.1,SNR=13						
ASAR	**Alice Springs**	**24.85**	**159**	P	**P**	**03 41 57.0**	**+0.8**
ASAR				PcP	PcP	03 45 32.5	+2.0
CMAR	**Chiang Mai Arr**	**31.27**	**308**	P	**P**	**03 42 52.6**	**-0.9**
	1.2nm,0.4s,mb4.0,baz=137,slow=6.8,SNR=5.3						
CMAR				LR	LR	03 56 09.3	
	comp=Z,63nm,19.2s,baz=134,slow=38						
CMAR	**Chiang Mai Arr**	**31.27**	**308**	P	**P**	**03 42 52.6**	**-0.9**
KMI	**Kunming**	**32.94**	**322**	P	**P**	**03 43 08.5**	**+0.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**35.23**	**154**	P	**P**	**03 43 29.0**	**+1.2**
	comp=Z,0.9nm,0.4s,mb3.9,baz=318,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**35.23**	**154**	P	**P**	**03 43 29.0**	**+1.2**
CD2	**Chengdu**	**36.84**	**330**	*e*P	**P**	**03 43 42.3**	**+0.7**
CD2				pP	pP	03 43 57.5	-3.0
CD2				sP	sP	03 44 04.8	-5.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				pmax	pmax		
	comp=Z,30nm,4.8s						
KSAR	**Wonju Array Be**	**37.86**	**5**	P	**P**	**03 43 50.2**	**+0.1**
KSRS	**Korea Array**	**37.88**	**5**	P	**P**	**03 43 50.2**	**-0.1**
	comp=Z,2.5nm,0.8s,mb4.1,baz=183,slow=8.4,SNR=5.8						
KSRS				LR	LR	03 58 24.1	
	comp=Z,49nm,21.7s,baz=351,slow=35						
MAT	**Matsushiro**	**39.01**	**18**	P	**P**	**03 43 59.4**	**-0.3**
MJAR	**Matsushiro Arr**	**39.01**	**18**	P	**P**	**03 43 59.4**	**-0.3**
	comp=Z,7.4nm,0.7s,mb4.6,baz=193,slow=9.7,SNR=10						
MJAR	**Matsushiro Arr**	**39.01**	**18**	P	**P**	**03 43 59.4**	**-0.3**
BJI	**Beijing**	**41.01**	**350**	P	**P**	**03 44 17.1**	**+0.9**
BJI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
BJI				pmax	pmax		
	comp=Z,120nm,3.7s						
LZH	**Lanzhou**	**41.08**	**334**	*e*P	**P**	**03 44 19.0**	**+2.1**
LZH				pP	pP	03 44 35.0	-1.1
LZH				sP	sP	03 44 42.0	-3.3
LZH				PP	PP	03 45 57.5	+4.3
LZH				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
LZH				pmax	pmax

KURK **Kurchatov** 64.06 330 P P 03 47 05.5 -0.9
comp=Z,8.4nm,0.6s,mb4.7,baz=133,slow=6.0,SNR=37
KURK **Kurchatov** 64.06 330 *eP* P 03 47 05.1 -1.3
comp=Z,18nm,0.6s,mb5.1
BVAR **Borovoye Array** 69.59 329 P P 03 47 40.3 -1.1
comp=Z,3.4nm,0.7s,mb4.3,baz=131,slow=7.5,SNR=18
BVAR **Borovoye Array** 69.59 329 P P 03 47 40.3 -1.1
BRVK **Borovoye** 69.66 329 *eP* P 03 47 41.0 -0.9
comp=Z,2.2nm,0.5s,mb4.2
ABKAR **Akbulak array** 73.94 322 *eP* P 03 48 06.7 -0.9
comp=Z,1.4nm,0.6s,mb3.9
AKTO **Aktyubinsk** 75.50 323 P P 03 48 16.1 -0.5
comp=Z,1.7nm,0.3s,mb4.2,baz=110,slow=5.8,SNR=15
AKTO **Aktyubinsk** 75.50 323 P P 03 48 16.1 -0.5
ARU **Arti** 77.24 329 *eP* P 03 48 25.5 -0.8
comp=Z,3.1nm,0.5s,mb4.3
OPO **Ambohidratompo** 77.70 251 P P 03 48 31.3 +1.6
comp=Z,3.7nm,0.3s,mb4.6,baz=61,slow=10.0,SNR=6.9
OPO **Ambohidratompo** 77.70 251 P P 03 48 31.3 +1.6
AKUT **Akutan** 78.70 34 *eP* P 03 48 34.7 +0.2
KMBO **Kilima Mbogo** 87.10 269 *eP* P 03 49 21.3 +2.5
MCK **McKinley** 88.95 26 *eP* P 03 49 27.2 +0.7
ILAR **Eielson Array** 89.89 25 P P 03 49 30.7 -0.1
comp=Z,0.6nm,0.7s,mb3.9,baz=242,slow=4.8,SNR=17
ILAR **Eielson Array** 89.89 25 P P 03 49 30.7 -0.1
BRTR **Keskin Array B** 90.86 310 P P 03 49 34.9 -1.0
comp=Z,0.7nm,0.8s,mb3.9,baz=125,slow=6.2,SNR=4.4
BRTR **Keskin Array B** 90.86 310 P P 03 49 34.9 -1.0
JOF **Joensuu** 91.81 333 *ep* P 03 49 38.5 -1.3
comp=Z,4.1nm,0.5s,mb4.9
ARCES **ARCESS Array B** 93.54 340 P P 03 49 46.7 -1.0
comp=Z,3.2nm,0.8s,mb4.7,baz=76,slow=6.7,SNR=4.6
ARCES **ARCESS Array B** 93.54 340 P P 03 49 46.7 -1.0
FINES **FINESS Array B** 94.38 332 P P 03 49 50.9 -0.8
comp=Z,1.3nm,0.6s,mb4.5,baz=87,slow=6.7,SNR=7.2
FINES **FINESS Array B** 94.38 332 P P 03 49 50.9 -0.8
NOA **NORSAR Array B** 101.45 333 P Pdif 03 50 25.0 +1.3
comp=Z,1.0nm,0.7s,baz=71,slow=4.4,SNR=3.9
NOA **NORSAR Array B** 101.45 333 P Pdif 03 50 25.0 +1.3
YKA **Yellowknife Ar** 104.27 24 Pdif Pdif 03 50 36.1 -0.1
comp=Z,0.1nm,0.5s,baz=299,slow=4.8,SNR=2.4
YKA PKiKP PKiKP 03 54 53.9 +1.6
comp=Z,0.1nm,0.3s,baz=308,slow=1.9,SNR=4.7
YKA **Yellowknife Ar** 104.27 24 Pdif Pdif 03 50 36.1 -0.1
YKA PKiKP PKiKP 03 54 54.0 +1.6
TORD **Torodi Ar. Bea** 121.85 285 PKP PKPdf 03 55 27.8 +0.8
comp=Z,0.7nm,0.5s,baz=100,slow=2.3,SNR=10.0
TORD **Torodi Ar. Bea** 121.85 285 PKP PKPdf 03 55 27.8 +0.8
SCHQ **Schefferville** 125.04 8 PKP PKPdf 03 55 34.0 +1.9
comp=Z,4.7nm,0.9s,baz=207,slow=2.3,SNR=3.9
SCHQ **Schefferville** 125.04 8 PKP PKPdf 03 55 34.0 +2.0
TXAR **Lajitas Array** 126.00 53 PKP PKPdf 03 55 36.8 +2.2
comp=Z,0.1nm,0.5s,baz=221,slow=1.7,SNR=4.2
TXAR **Lajitas Array** 126.00 53 PKP PKPdf 03 55 36.8 +2.2

SKHL 23 03:46:08.2±0.2, 52°.50N×142°.40E, h14km±2km, mb4.0/4, 3C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**1.10**	**17**	⇑*i*Pg	Pg	03 46 30.5	+1.1
OKH				*e*Pg	Pg	03 46 30.5	+1.1
OKH				AMB	AMB	03 46 32.0	
	300nm,0.5s						
OKH				sP		03 46 38.5	
OKH				⇑*i*Sg	Sg	03 46 46.0	+2.3
OKH				A		03 46 46.0	
	7μm,0.4s						
OKH				A		03 46 47.0	
	4μm,0.6s						
OKH				A		03 46 47.0	
	3μm,0.6s						
NKL	**Nikolayevsk**	**1.23**	**303**	⇑*i*Pg	Pg	03 46 32.3	+0.4
NKL				AMB	AMB	03 46 34.0	
	40nm,0.3s						
NKL				AMB	AMB	03 46 34.0	
	80nm,0.3s						
NKL				AMB	AMB	03 46 34.0	
	110nm,0.3s						
NKL				AMB	AMB	03 46 36.0	
	350nm,1.5s						
NKL				AMB	AMB	03 46 36.0	
	400nm,1.5s						
NKL				pP		03 46 37.0	
NKL				*e*Sg	Sg	03 46 51.0	+3.1
NKL				A		03 46 55.0	
	260nm,0.4s						
NKL				A		03 47 01.5	
	500nm,1.5s						
NKL				A		03 47 01.5	
	900nm,1.5s						
TYV	**Tymovskoe**	**1.65**	**174**	*e*Pg	Pg	03 46 42.0	+2.2
TYV				AMB	AMB	03 46 48.2	
	22nm,0.8s						
TYV				sP		03 46 51.5	
TYV				*e*Sg	Sg	03 47 05.8	+4.6
TYV				A		03 47 10.8	
	55nm,0.8s						
TYV				A		03 47 10.8	
	66nm,0.8s						
GRNR	**Gornyy**	**4.11**	**247**	*e*Sg	Sg	03 48 29.0	+9.0
GRNR				A		03 48 39.0	
	34nm,0.8s						
EKMR	**Ekimchan**	**5.76**	**279**	*e*Pg	Pg	03 48 02.5	+4.0
EKMR				AMB	AMB	03 48 04.7	
	2.0nm,0.2s						
EKMR				*e*Sg	Sg	03 49 21.6	+8.6
EKMR				A		03 49 34.3	
	22nm,0.6s						
EKMR				A		03 49 34.3	
	11nm,0.6s						
EKMR				A		03 49 34.3	
	9.0nm,0.6s						

*IDC **23** 03:47:28.0±0.8, 30°.24S×176°.63W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.4/19, mbtmp4.3/9, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=28.9km s-min=23.1km az=163.0*
*ISCJB **23** 03:47:29.8±3.6, 30°.59S±0°.05×176°.9W±0°.1, h15km±22km, mb4.3/11, MS3.5/3, Error ellipse: s-maj=16.3km s-min=8.8km az=174.7*
*NEIC **23** 03:47:32.5±0.6, 30°.58S×176°.58W, h35km, mb4.2/4, Error ellipse: s-maj=14.4km s-min=13.4km az=95.0*
ISC 23 03:47:29.8±4.6, 30°.51S±0°.06×176°.8W±0°.1, h10km±28km, n51, σ1°27/34, mb4.3/11, MS3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.60**	**321**	*e*Pn	**Pn**	03 47 58.3	+0.2
RAO				*e*S	**Sn**	03 48 16.4	-2.4
URZ	**Urewera**	**9.23**	**211**	Pn	**Pn**	03 49 41.2	-1.7
	0.8nm,0.3s,baz=353,slow=7.6,SNR=5.4						
URZ				Sn	**Sn**	03 51 26.0	-0.9
	3.7nm,0.3s,baz=57,slow=20,SNR=8.2						
URZ	**Urewera**	**9.23**	**211**	Pn	**Pn**	03 49 41.2	-1.7
URZ				Sn	**Sn**	03 51 26.0	-0.8
RPZ	**Rata Peaks**	**16.34**	**213**	Pn	**Pn**	03 51 16.1	-3.1
	1.9nm,0.3s,baz=98,slow=4.2,SNR=7.0						
RPZ	**Rata Peaks**	**16.34**	**213**	*e*Pn	**Pn**	03 51 16.1	-3.2
	6.6nm,0.4s						
DZM	**Mont Dzumac**	**17.22**	**295**	*e*LR	LR	03 55 48.6	
	254nm,26.9s						
DZM	**Mont Dzumac**	**17.22**	**295**	P	**Pn**	03 51 35.0	+4.6
	0.8nm,0.3s,baz=105,slow=18,SNR=6.0						
DZM				LR	LR	03 57 04.7	
	comp=Z,72nm,18.3s,baz=208,slow=34						
DZM	**Mont Dzumac**	**17.22**	**295**	P	**Pn**	03 51 35.0	+4.6
RAR	**Rarotonga**	**17.87**	**63**	LR	LR	03 56 17.4	
	comp=Z,149nm,20.3s,baz=50,slow=30						
TBI	**Tubuai**	**25.34**	**80**	*e*LR	LR	03 58 54.4	
	155nm,28.8s						
PPT2	**Papeete2**	**27.89**	**69**	*e*LR	LR	04 00 02.4	
	127nm,26.0s						
CTA	**Charters Tower**	**34.86**	**279**	P	**P**	03 54 22.3	+1.0
	4.2nm,0.5s,mb4.6,baz=92,slow=13,SNR=3.9						
CTA				LR	LR	04 05 49.8	
	comp=Z,124nm,18.1s,MS3.7,baz=51,slow=32						
CTA	**Charters Tower**	**34.86**	**279**	P	**P**	03 54 22.3	+1.0
STKA	**Stephens Creek**	**35.48**	**257**	P	**P**	03 54 29.0	+2.5
	6.4nm,0.9s,mb4.5,baz=94,slow=12,SNR=9.0						
STKA				LR	LR	04 06 54.5	
	comp=Z,73nm,18.1s,MS3.5,baz=26,slow=33						
STKA	**Stephens Creek**	**35.48**	**257**	*e*P	**P**	03 54 28.9	+2.4
	1.3nm,0.9s,mb3.9						
BBOO	**Buckleboo**	**39.95**	**254**	*e*P	**P**	03 55 05.4	+1.0
	152nm,0.7s						
ASAR	**Alice Springs**	**44.16**	**266**	P	**P**	03 55 39.2	+0.4
	2.0nm,0.6s,mb4.0,baz=101,slow=6.8,SNR=21						
ASAR				PcP	PcP	03 57 23.7	-0.1
	0.5nm,0.4s,baz=113,slow=3.7,SNR=5.0						
ASAR	**Alice Springs**	**44.16**	**266**	P	**P**	03 55 39.2	+0.4
ASAR				PcP	PcP	03 57 23.7	-0.1
WB2	**Warramunga Arr**	**45.14**	**272**	*e*P	**P**	03 55 47.0	+0.3
WRAB	**Tennant Creek**	**45.15**	**272**	*e*P	**P**	03 55 46.9	+0.1
	11nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**45.16**	**272**	P	**P**	03 55 47.0	+0.1
	8.1nm,0.5s,mb4.8,baz=111,slow=7.8,SNR=82						
WRA				LR	LR	04 13 16.1	
	comp=Z,46nm,19.1s,MS3.4,baz=155,slow=34						
WRA	**Warramunga Arr**	**45.16**	**272**	P	**P**	03 55 47.0	+0.1
VNDA	**Vanda**	**48.09**	**186**	*e*P	**P**	03 56 07.8	-1.4
	4.0nm,1.2s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.41**	**269**	P	**P**	03 56 50.8	+0.8
	4.1nm,0.7s,mb4.5,baz=127,slow=5.1,SNR=3.6						
FITZ	**Fitzroy Crossi**	**53.41**	**269**	P	**P**	03 56 50.8	+0.8
QSPA	**South Pole Qui**	**59.60**	**180**	P	**P**	03 57 35.5	+2.3
	4.5nm,0.7s,mb4.6,baz=37,slow=4.1,SNR=7.7						
QSPA	**South Pole Qui**	**59.60**	**180**	P	**P**	03 57 35.5	+2.3
VNA3	**Neumayer Olymp**	**78.12**	**176**	*e*	**P**	03 59 29.1	+0.5
VNA2	**Neumayer--Watz**	**78.57**	**176**	*e*	**P**	03 59 32.1	+1.1
	baz=174,slow=4.5						
MJAR	**Matsushiro Arr**	**78.94**	**325**	P	**P**	03 59 33.0	-0.4
	1.9nm,0.8s,mb4.1,baz=163,slow=4.6,SNR=4.7						
MJAR	**Matsushiro Arr**	**78.94**	**325**	P	**P**	03 59 33.0	-0.4
NVAR	**Mina Array Bea**	**87.61**	**42**	P	**P**	04 00 17.3	-0.9
	0.2nm,0.3s,mb3.8,baz=211,slow=6.9,SNR=4.1						
NVAR	**Mina Array Bea**	**87.61**	**42**	P	**P**	04 00 17.3	-0.9
ILAR	**Eielson Array**	**97.80**	**12**	P	**P**	04 01 02.6	-2.0
	0.4nm,0.7s,mb4.0,baz=230,slow=5.0,SNR=5.1						
ILAR	**Eielson Array**	**97.80**	**12**	P	**P**	04 01 02.6	-2.0
MKAR	**Makanchi Array**	**118.65**	**310**	PKP	PKPdf	04 06 16.7	-1.1
	0.3nm,0.5s,baz=207,slow=1.0,SNR=3.9						
MKAR	**Makanchi Array**	**118.65**	**310**	PKP	PKPdf	04 06 16.6	-1.1
ZALV	**Zalesovo Beam**	**118.82**	**318**	PKP	PKPdf	04 06 16.3	-1.5
	0.4nm,0.5s,baz=90,slow=2.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**118.82**	**318**	PKP	PKPdf	04 06 16.3	-1.5
JOF	**Joensuu**	**142.90**	**339**	*e*pkp	PKPdf	04 06 57.8	-5.0
FINES	**FINESS Array B**	**145.60**	**341**	PKPbc	PKPbc	04 07 06.7	-1.1
	4.3nm,0.6s,baz=55,slow=3.2,SNR=21						
FINES	**FINESS Array B**	**145.60**	**341**	PKPbc	PKPbc	04 07 06.7	-1.1
NB2	**NORSAR Subarra**	**149.01**	**352**	PKP	PKPbc	04 07 16.5	-0.8
	comp=Z,1.2nm,0.7s,baz=12,slow=2.8						
NOA	**NORSAR Array B**	**149.01**	**352**	PKPbc	PKPbc	04 07 16.6	-0.7
	comp=Z,2.0nm,0.8s,baz=14,slow=4.4,SNR=4.7						
NOA	**NORSAR Array B**	**149.01**	**352**	PKPbc	PKPbc	04 07 16.6	-0.7
AKASG	**Malin Array Be**	**152.02**	**324**	PKPbc	PKPbc	04 07 24.2	-0.6
	comp=Z,4.2nm,0.7s,baz=44,slow=2.9,SNR=9.6						
AKASG	**Malin Array Be**	**152.02**	**324**	PKPbc	PKPbc	04 07 24.2	-0.6
BRTR	**Keskin Array B**	**153.58**	**299**	PKPbc	PKPbc	04 07 28.5	-0.2
	comp=Z,0.8nm,0.8s,baz=48,slow=2.1,SNR=3.9						
BRTR	**Keskin Array B**	**153.58**	**299**	PKPbc	PKPbc	04 07 28.5	-0.2
TORD	**Torodi Ar. Bea**	**162.66**	**175**	PKPab	PKPab	04 08 21.4	+0.6
	comp=Z,1.5nm,0.9s,baz=189,slow=2.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**162.66**	**175**	PKPab	PKPab	04 08 21.4	+0.6

*NEIC **23** 03:55:29.7, 28°.11N×112°.49W, h20km, MD4.3(MEX), After MEX.*
MEX 23 03:55:28.5±0.4, 28°.12N×112°.58W, h26km±22km, MD4.4, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.85**	**159**	*i* P	Pb	03 55 42.8	-1.7
SRIG				*e*S	Sb	03 55 52.7	-2.9
SRIG	**Santa Rosalia**	**0.85**	**159**	*e*P	Pb	03 55 41.8	-2.8
SRIG				*i* P		03 55 42.8	
SRIG				*e*S	Sb	03 55 52.7	-2.9
HSIG		**1.69**	**57**	*i* P	Pn	03 55 54.3	-2.1
HSIG				*e*S	Sn	03 56 13.8	-3.4
HSIG		**1.69**	**57**	*i* P	Pn	03 55 54.3	-2.1
HSIG				*e*S	Sn	03 56 13.8	-3.4
TUC	**Tucson**	**4.46**	**20**	*e*Pn	Pn	03 56 36.6	+2.2
TUC				*e*S	Sn	03 57 47.7	+22
CGIG		**4.60**	**60**	*i* P	Pn	03 56 34.8	-1.6
CGIG				*e*S	Sn	03 57 26.9	-2.1
CGIG		**4.60**	**60**	*i* P	Pn	03 56 34.8	-1.6
CGIG				*e*S	Sn	03 57 26.9	-2.1
HPIG		**6.25**	**99**	*i* P	Pn	03 56 57.7	-1.4
HPIG				*i* S	Sn	03 58 08.5	-1.1
HPIG		**6.25**	**99**	*i* P	Pn	03 56 57.7	-1.4
HPIG				*i* S	Sn	03 58 08.5	-1.1

*ISCJB **23** 03:58:37.3±0.9, 52°.6N±0°.1×175°.56E±0°.09, h119km±5km, mb4.1/27, Error ellipse: s-maj=23.2km s-min=8.9km az=175.5*
*IDC **23** 03:58:37.9±1.2, 52°.56N×175°.63E, h110km±9km, mb3.8/18, mb1 3.9/20, mb1mx3.8/30, mbtmp3.8/20, MS3.9/1, Ms1 3.9/1, ms1mx2.8/40, Error ellipse: s-maj=21.4km s-min=10.7km az=173.0*
*NEIC **23** 03:58:37.8±0.7, 52°.52N×175°.62E, h110km±5km, mb4.1/6, Error ellipse: s-maj=14.4km s-min=5.9km az=173.0*
ISC 23 03:58:38.4±0.9, 52°.6N±0°.1×175°.57E±0°.09, h113km±5km, n68, σ0°82/71, mb4.1/27, 8C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.91**	**281**	*e*Pn	**Pn**	03 58 58.9	0.0
SMY				*e*S	**Sn**	03 59 15.5	+1.2
FX1	**Attu Island--F**	**1.50**	**283**	P	**Pn**	03 59 05.1	-0.1
	573nm,0.3s,baz=49,slow=3.8,SNR=3204						
FX1				S	**Sn**	03 59 25.6	-0.1
	942nm,0.3s,baz=280,slow=16,SNR=43						
FX1	**Attu Island--F**	**1.50**	**283**	P	**Pn**	03 59 05.1	-0.1
FX1				S	**Sn**	03 59 25.6	-0.1
PEA0B	**Petropavlovsk-**	**10.83**	**280**	*e*Pn	**Pn**	04 01 08.9	-0.9
PETK	**Petropavlovsk-**	**10.83**	**280**	P	**Pn**	04 01 10.5	+0.6
	1.4nm,0.3s,baz=88,slow=19,SNR=24						
PETK				S	**Sn**	04 03 06.5	-2.5
	1.6nm,0.3s,baz=73,slow=39,SNR=8.1						
PETK	**Petropavlovsk-**	**10.83**	**280**	P	**Pn**	04 01 10.5	+0.6
PETK				S	**Sn**	04 03 06.5	-2.5
KDAK	**Kodiak Island**	**18.80**	**61**	P	**P**	04 02 47.8	-0.9
	2.0nm,0.3s,baz=263,slow=8.1,SNR=37						
KDAK	**Kodiak Island**	**18.80**	**61**	P	**P**	04 02 47.8	-0.9
ILAR	**Eielson Array**	**22.62**	**43**	P	**P**	04 03 28.8	-0.7
	1.4nm,0.6s,mb3.4,baz=246,slow=8.6,SNR=20						
ILAR	**Eielson Array**	**22.62**	**43**	P	**P**	04 03 28.8	-0.7
DAWY	**Dawson**	**25.70**	**46**	*e*P	**P**	04 03 58.0	+0.4
INK	**Inuvik**	**28.55**	**37**	P	**P**	04 04 22.7	-0.2
	1.1nm,0.9s,mb3.5,baz=296,slow=3.6,SNR=3.3						
INK	**Inuvik**	**28.55**	**37**	*e*P	**P**	04 04 22.8	-0.1
	1.2nm,0.7s,mb3.6						
YKA	**Yellowknife Ar**	**36.94**	**46**	P	**P**	04 05 36.3	+0.5
	0.5nm,0.7s,mb3.6,baz=287,slow=8.1,SNR=7.3						
YKA	**Yellowknife Ar**	**36.94**	**46**	P	**P**	04 05 36.4	+0.5
SONM	**Songino Array**	**42.99**	**293**	P	**P**	04 06 26.8	+0.8
	2.8nm,0.5s,mb4.3,baz=59,slow=8.1,SNR=27						
SONM	**Songino Array**	**42.99**	**293**	P	**P**	04 06 26.8	+0.8
WALA	**Waterton Lakes**	**43.07**	**65**	*e*P	**P**	04 06 26.8	+0.1
NVAR	**Mina Array Bea**	**46.82**	**80**	P	**P**	04 06 55.6	-0.9
	0.3nm,0.6s,mb3.2,baz=301,slow=6.1,SNR=3.3						
NVAR	**Mina Array Bea**	**46.82**	**80**	P	**P**	04 06 55.6	-0.9
SPITS	**Spitsbergen Ar**	**48.90**	**354**	P	**P**	04 07 11.8	-0.2
	1.8nm,0.4s,mb4.4,baz=51,slow=7.9,SNR=40						
SPITS	**Spitsbergen Ar**	**48.90**	**354**	P	**P**	04 07 11.8	-0.2
PDAR	**Pinedale Array**	**49.22**	**70**	P	**P**	04 07 14.8	-0.1
	1.3nm,0.6s,mb4.0,baz=314,slow=3.0,SNR=11						
PDAR	**Pinedale Array**	**49.22**	**70**	P	**P**	04 07 14.8	-0.1
ZALV	**Zalesovo Beam**	**50.64**	**310**	P	**P**	04 07 24.4	-1.1
	0.7nm,0.4s,mb4.0,baz=51,slow=5.3,SNR=4.0						
ZALV				PcP	PcP	04 08 42.1	+0.8
	0.4nm,0.4s,baz=32,slow=6.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**50.64**	**310**	P	**P**	04 07 24.4	-1.1
ZALV				PcP	PcP	04 08 42.0	+0.8
LZH	**Lanzhou**	**51.72**	**282**	*e*P	**P**	04 07 24.5	-9.3
LZH				pP	pP	04 07 29.3	-31
LZH				sP	sP	04 07 31.6	-41
LZH				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
GTA	**Gaotai**	**51.89**	**287**	*e*P	**P**	04 07 36.3	+1.3
GTA				pP	pP	04 07 55.0	-6.6
GTA				sP	sP	04 08 02.3	-12
GTA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
KEV	**Kevo**	**55.86**	**347**	*ep*	**P**	04 08 02.4	-1.0
	comp=Z,5.4nm,0.8s,mb4.6						
ARCES	**ARCESS Array B**	**56.26**	**348**	P	**P**	04 08 05.3	-1.0
	comp=Z,3.8nm,0.8s,mb4.5,baz=37,slow=9.1,SNR=7.1						
ARCES	**ARCESS Array B**	**56.26**	**348**	P	**P**	04 08 05.3	-1.0
MK31	**Makanchi Array**	**56.53**	**305**	*e*P	**P**	04 08 07.8	-0.7
MKAR	**Makanchi Array**	**56.53**	**305**	P	**P**	04 08 07.9	-0.6
	comp=Z,3.6nm,0.4s,mb4.8,baz=53,slow=6.2,SNR=98						
MKAR				LR	LR	04 36 29.3	
	comp=Z,100nm,18.7s,baz=79,slow=40						
MKAR	**Makanchi Array**	**56.53**	**305**	P	**P**	04 08 07.9	-0.6
SCHQ	**Schefferville**	**61.15**	**36**	P	**P**	04 08 40.5	+0.2
	comp=Z,2.3nm,0.8s,mb4.3,baz=293,slow=7.7,SNR=3.9						
SCHQ	**Schefferville**	**61.15**	**36**	P	**P**	04 08 40.5	+0.2
JOF	**Joensuu**	**61.48**	**342**	*ep*	**P**	04 08 41.3	-1.1
	comp=Z,2.0nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**61.86**	**78**	P	**P**	04 08 44.7	-0.8
	comp=Z,0.4nm,0.5s,mb3.7,baz=300,slow=5.6,SNR=9.8						
TXAR	**Lajitas Array**	**61.86**	**78**	P	**P**	04 08 44.7	-0.8
FINES	**FINESS Array B**	**63.77**	**344**	P	**P**	04 08 57.1	-0.5
	comp=Z,3.8nm,0.8s,mb4.3,baz=13,slow=8.2,SNR=4.7						
FINES	**FINESS Array B**	**63.77**	**344**	P	**P**	04 08 57.1	-0.5
ABKAR	**Akbulak array**	**64.83**	**319**	*e*P	**P**	04 09 05.1	+0.3
	comp=Z,2.4nm,0.5s,mb4.3						
KKAR	**Karatay Array**	**64.97**	**309**	*e*P	**P**	04 09 05.5	-0.2
	comp=Z,0.8nm,0.5s,mb3.8						
NB2	**NORSAR Subarra**	**66.06**	**352**	P	**P**	04 09 12.1	-0.3
	comp=Z,1.6nm,0.6s,mb4.0,baz=9.3,slow=6.2						
NOA	**NORSAR Array B**	**66.06**	**352**	P	**P**	04 09 12.4	0.0
	comp=Z,1.9nm,0.6s,mb4.1,baz=11,slow=6.4,SNR=9.2						
NOA	**NORSAR Array B**	**66.06**	**352**	P	**P**	04 09 12.4	0.0
CMAR	**Chiang Mai Arr**	**67.47**	**271**	P	**P**	04 09 22.7	+0.6
	comp=Z,1.9nm,0.4s,mb4.3,baz=28,slow=6.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**67.47**	**271**	P	**P**	04 09 22.6	+0.6
AKASG	**Malin Array Be**	**73.25**	**338**	P	**P**	04 09 56.5	-0.2
	comp=Z,3.1nm,0.4s,mb4.5,baz=24,slow=6.0,SNR=5.5						
AKASG	**Malin Array Be**	**73.25**	**338**	P	**P**	04 09 56.5	-0.2
CLL	**Collm**	**75.46**	**349**	*e*P	**P**	04 10 09.0	-0.5
BUR08	**Bucovina Ar. S**	**77.01**	**340**	*e*P	**P**	04 10 19.0	+0.6
BURAR	**Bucovina Array**	**77.04**	**340**	⇑*i*P	**P**	04 10 19.4	+0.9
TRPA	**Tarpa**	**77.08**	**342**	⇑*i*P	**P**	04 10 19.9	+1.2
DRGR		**78.33**	**341**	⇓*i*P	**P**	04 10 26.1	+0.4
GZR	**Gura Zlata**	**79.66**	**341**	⇓*i*P	**P**	04 10 33.7	+0.7
SOKA	**Soboth**	**79.74**	**347**	⇑*i*P	**P**	04 10 34.3	+0.9
	comp=Z,5.0nm,1.2s,mb4.2						
SOKA	**Soboth**	**79.74**	**347**	⇑*i*P	**P**	04 10 34.3	+0.9
	comp=Z,5.0nm,1.2s,mb4.2						
FETA	**Feichten**	**79.95**	**350**	⇑*i*P	**P**	04 10 36.3	+1.8
	comp=Z,3.7nm,1.5s,mb4.0						
FETA	**Feichten**	**79.95**	**350**	⇑*i*P	**P**	04 10 36.3	+1.8
	comp=Z,3.7nm,1.5s,mb4.0						
OBKA	**Obir**	**79.97**	**347**	⇑*i*P	**P**	04 10 35.8	+1.2
	comp=Z,2.2nm,0.4s,mb4.3						
OBKA	**Obir**	**79.97**	**347**	⇑*i*P	**P**	04 10 35.8	+1.2
	comp=Z,2.2nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**80.60**	**219**	P	**P**	04 10 37.4	-0.8
	comp=Z,0.4nm,0.8s,mb3.3,baz=33,slow=6.4,SNR=3.9						
WRA	**Warramunga Arr**	**80.60**	**219**	P	**P**	04 10 37.4	-0.8
BRTR	**Keskin Array B**	**82.32**	**331**	P	**P**	04 10 47.9	+0.6
	comp=Z,1.3nm,0.7s,mb3.9,baz=47,slow=3.4,SNR=8.2						
BRTR	**Keskin Array B**	**82.32**	**331**	P	**P**	04 10 47.9	+0.6
BOSA	**Boshof**	**147.52**	**306**	PKPbc	PKPbc	04 18 09.4	+0.5
	comp=Z,5.6nm,1.0s,baz=11,slow=3.5,SNR=4.3						
BOSA	**Boshof**	**147.52**	**306**	PKPbc	PKPbc	04 18 09.4	+0.5

IDC 23 04:14:42.3±3.7, 5°.91S×150°.10E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/15, mbtmp3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.8/6, Error ellipse: s-maj=146.6km s-min=46.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**10.37**	**110**	LR	LR	04 20 10.6	
	comp=Z,97nm,18.4s,baz=64,slow=32						
WRA	**Warramunga Arr**	**20.72**	**226**	P	P	04 19 24.1	-0.4
	0.5nm,0.5s,baz=52,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**23.55**	**220**	P	P	04 19 54.6	-0.1
	0.2nm,0.5s,baz=58,slow=8.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.04**	**285**	PKPbc	PKPbc	04 34 30.5	-0.5
	0.3nm,0.3s,baz=

0.5nm,0.6s,baz=110,slow=4.7,SNR=6.4
ASAR Alice Springs 44.25 257 P **P 04 28 44.9 +0.3**
ASAR PcP PcP 04 30 19.4 +1.0
ASAR ScP ScP 04 33 26.4 +4.3
WRA Warramunga Arr 44.37 263 P **P 04 28 44.6 -1.0**
0.3nm,0.3s,mb3.2,baz=98,slow=7.3,SNR=7.1
WRA Warramunga Arr 44.37 263 P **P 04 28 44.6 -0.9**
MJAR Matsushiro Arr 70.50 324 P **P 04 31 41.9 -1.9**
1.1nm,0.4s,mb3.8,baz=152,slow=6.2,SNR=5.2
MJAR Matsushiro Arr 70.50 324 P **P 04 31 41.9 -1.9**
NVAR Mina Array Bea 81.49 43 P **P 04 32 45.5 +1.0**
1.4nm,0.8s,mb3.5,baz=225,slow=8.5,SNR=8.1
NVAR Mina Array Bea 81.49 43 P **P 04 32 45.5 +1.0**
TXAR Lajitas Array 87.46 57 P **P 04 33 15.4 +1.3**
0.5nm,0.7s,mb3.4,baz=211,slow=6.3,SNR=7.2
TXAR Lajitas Array 87.46 57 P **P 04 33 15.4 +1.3**
ILAR Eielson Array 88.83 13 P **P 04 33 18.3 -1.3**
1.9nm,0.4s,mb4.2,baz=215,slow=5.3,SNR=50
ILAR Eielson Array 88.83 13 P **P 04 33 18.3 -1.3**
PDAR Pinedale Array 89.43 43 P **P 04 33 23.3 +0.4**
1.1nm,0.7s,mb3.8,baz=210,slow=3.4,SNR=9.0
PDAR Pinedale Array 89.43 43 P **P 04 33 23.3 +0.4**
CMAR Chiang Mai Arr 90.12 290 P **P 04 33 28.4 +1.8**
0.5nm,0.3s,mb3.9,baz=105,slow=2.2,SNR=5.4
CMAR Chiang Mai Arr 90.12 290 P **P 04 33 28.4 +1.8**
YKA Yellowknife Ar 97.02 25 P **P 04 33 56.2 -0.9**
0.2nm,0.6s,mb3.5,baz=244,slow=4.4,SNR=4.3
YKA Yellowknife Ar 97.02 25 P **P 04 33 56.2 -0.9**
ZALV Zalesovo Beam 110.77 321 PKiKP PKiKP 04 38 54.1 -1.0
0.6nm,0.5s,baz=107,slow=1.3,SNR=4.6
ZALV Zalesovo Beam 110.77 321 PKiKP PKiKP 04 38 54.1 -1.0
MKAR Makanchi Array 111.41 313 PKiKP PKiKP 04 38 55.9 -0.8
0.4nm,0.4s,baz=113,slow=1.3,SNR=9.7
MKAR Makanchi Array 111.41 313 PKiKP PKiKP 04 38 55.9 -0.8
AKASG Malin Array Be 143.36 331 PKhKP PKPpre 04 39 53.6
5.5nm,0.6s,baz=45,slow=4.4,SNR=13
AKASG Malin Array Be 143.36 331 PKPpre PKPpre 04 39 53.6
BRTR Keskin Array B 147.04 312 PKPbc PKPbc 04 40 06.3 0.0
1.6nm,0.6s,baz=142,slow=5.9,SNR=11
BRTR Keskin Array B 147.04 312 PKPbc PKPbc 04 40 06.3 0.0
BUR08 Bucovina Ar. S 147.39 330 *e*PKPbc PKPbc 04 40 07.8 +0.8
BURAR Bucovina Array 147.40 330 ⇓*i*P PKPbc 04 40 08.6 +1.6
TESR 147.49 327 ⇑*i*P PKPbc 04 40 07.3 0.0
VRI Vrincioaia 147.88 326 ⇑*i*P PKPbc 04 40 09.0 +0.7
CRVS Cervenica-Dubn 148.03 335 *e*PKP PKPbc 04 40 09.1 +0.5
KSP Ksiaz 148.11 343 *e*P PKPbc 04 40 09.1 +0.4
TRPA Tarpa 148.20 333 ⇓*i*P PKPbc 04 40 09.2 +0.2
DOPR Dopca 148.49 328 ⇓*i*P PKPbc 04 40 10.9 +1.1
CLL Collm 148.50 347 *e*PKPdf PKPdf 04 40 06.0 +0.6
CLL ⇓*i*PKPbc PKPbc 04 40 09.8 +0.1
comp=Z,13nm,0.7s
CLL *i* PKPab PKPab 04 40 14.4 -0.5
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 148.69 345 *i* P PKPbc 04 40 10.5 +0.4
comp=Z,6.0nm,0.7s
BRG *e* 04 40 15.4
comp=Z,4.2nm,1.0s
KECS Kecovo 148.75 336 *e*PKP PKPbc 04 40 11.1 +0.7
VYHS Vyhne 149.35 338 *e*PKP PKPbc 04 40 12.3 +0.5
GZR Gura Zlata 150.18 330 ⇑*i*P PKPbc 04 40 13.8 -0.1
KHC Kasperske Hory 150.39 344 *e*PKPbc PKPbc 04 40 14.1 -0.2
KHC Kasperske Hory 150.39 344 ⇑*e*PKP PKPbc 04 40 14.0 -0.3
KHC *e*PKPAB PKPab 04 40 23.0 +0.1
BZS Buzias 150.55 331 ⇓*i*P PKPbc 04 40 14.6 -0.1
GERES GERESS Array B 150.62 344 PKPbc PKPbc 04 40 14.9 +0.1
comp=Z,2.9nm,0.7s,baz=39,slow=2.5,SNR=19
GERES GERESS Array B 150.62 344 PKPbc PKPbc 04 40 14.9 +0.1
CONA Conrad Observa 150.84 340 ⇑*i*PKPdf PKPbc 04 40 15.4 0.0
comp=Z,5.5nm,0.6s
PKSM Moragy 151.33 335 ⇑*i*P PKPbc 04 40 16.3 -0.2
WTTA Wattenberg 152.61 345 ⇓*i*PKPdf PKPbc 04 40 19.0 -0.3
comp=Z,4.7nm,0.4s
ABTA Abfaltersbach 152.87 344 ⇑*i*PKPdf PKPbc 04 40 18.8 -1.1
comp=Z,5.2nm,0.6s

IDC 23 04:34:16.0±2.4, 29°.57S×176°.86W, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.0/16, mbtmp4.2/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=148.9km s-min=36.7km az=160.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.01**	**208**	LR	LR	04 39 52.7	
	comp=Z,58nm,19.8s,baz=268,slow=34						
DZM	**Mont Dzumac**	**16.77**	**293**	*e*LR	LR	04 42 06.6	
	198nm,26.5s						
RPZ	**Rata Peaks**	**17.10**	**211**	LR	LR	04 44 14.0	
	comp=Z,61nm,18.9s,baz=51,slow=35						
TBI	**Tubuai**	**25.27**	**82**	*e*LR	LR	04 45 40.5	
	98nm,29.2s						
PPT2	**Papeete2**	**27.63**	**71**	*e*LR	LR	04 46 48.3	
	89nm,26.8s						
CTA	**Charters Tower**	**34.66**	**277**	LR	LR	04 53 07.1	
	comp=Z,63nm,21.0s,baz=50,slow=33						
STKA	**Stephens Creek**	**35.63**	**256**	P	P	04 41 15.2	-0.5
	5.1nm,1.0s,baz=88,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**44.15**	**266**	P	P	04 42 27.0	+0.4
	1.3nm,0.8s,baz=108,slow=7.8,SNR=9.9						
ASAR				PcP	PcP	04 44 11.9	+0.2
	0.8nm,0.8s,baz=115,slow=3.9,SNR=4.5						
WRA	**Warramunga Arr**	**45.06**	**271**	P	P	04 42 33.9	-0.1
	5.8nm,0.8s,baz=111,slow=7.8,SNR=18						
KURK	**Kurchatov**	**121.19**	**314**	PKP	PKPdf	04 53 09.6	-0.9
	0.2nm,0.4s,baz=98,slow=2.0,SNR=5.2						
BVAR	**Borovoye Array**	**126.50**	**316**	PKP	PKPdf	04 53 20.9	+0.3
	0.6nm,0.7s,baz=68,slow=3.9,SNR=4.2						
FINES	**FINESS Array B**	**144.70**	**341**	PKP	PKPdf	04 53 53.9	-0.1
	3.9nm,0.8s,baz=42,slow=6.5,SNR=4.8						
AKASG	**Malin Array Be**	**151.22**	**324**	PKPbc	PKPbc	04 54 10.6	-0.4
	1.8nm,0.6s,baz=50,slow=2.8,SNR=6.5						

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*ISCJB **23** 04:48:06.0±0.3, 13°.12N±0°.06×87°.63W±0°.05, h181km±3km, mb3.8/9, Error ellipse: s-maj=11.6km s-min=3.7km az=39.7*
*IDC **23** 04:48:05.5±1.4, 13°.20N×87°.45W, h163km±19km, mb3.4/8, mb1 3.6/10, mb1mx3.4/23, mbtmp3.4/10, Error ellipse: s-maj=33.4km s-min=14.0km az=51.0*
*NEIC **23** 04:48:06.9±0.8, 13°.15N×87°.52W, h179km±7km, mb4.4/3, Error ellipse: s-maj=17.9km s-min=9.5km az=50.0*
*CASC **23** 04:48:10.5±3.0, 12°.26N×88°.15W, h26km±20km, MD4.3, ML3.6, mb4.4(NEIC)*

ISC 23 04:48:06.8±0.3, 13°.11N±0°.06×87°.62W±0°.05, h176km±3km, n64, σ0°.89/74, mb3.8/9, 12C-2D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.26**	**308**	⇑*i*P	**Pn**	**04 48 29.6**	**-0.7**
BLLM	**Bellamira**	**0.68**	**299**	⇑*i*P	**Pn**	**04 48 31.5**	**-0.6**
CRIN	**San Cristobal**	**0.69**	**126**	*e*P	**Pn**	**04 48 32.2**	**+0.1**
VSM	**San Miguel**	**0.71**	**296**	⇑*e*P	**Pn**	**04 48 31.8**	**-0.4**
CAHU	**Cacacuatique**	**0.87**	**319**	⇑*i*P	**Pn**	**04 48 33.2**	**0.0**
CAHU				*e*S	**Sn**	**04 48 54.4**	**+0.9**
TEL3	**Telica 3**	**0.93**	**125**	*e*P	**Pn**	**04 48 33.3**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.00**	**20**	*e*Pg	**Pn**	**04 48 34.5**	**+0.4**
TGUH				*e*S	**Sn**	**04 48 55.5**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.00**	**20**	⇓*i*P	**Pn**	**04 48 34.5**	**+0.4**
CNGN	**Cerro Negro**	**1.09**	**124**	*e*P	**Pn**	**04 48 34.5**	**-0.3**
CNGN				*e*S	**Sn**	**04 48 55.2**	**-1.1**
CNGN				AML	AML	04 49 02.6	
	comp=N,1μm,0.2s						
MIRN	**Miramar**	**1.11**	**127**	*e*P	**Pn**	**04 48 35.5**	**+0.5**
SNVI	**San Vicente**	**1.28**	**293**	*e*P	**Pn**	**04 48 36.1**	**-0.4**
LFRS	**El Faro**	**1.49**	**290**	⇑*i*P	**Pn**	**04 48 37.9**	**-0.5**
LFRS				*e*S	**Sn**	**04 49 02.6**	**0.0**
LBRS	**Las Brisas**	**1.52**	**294**	*e*P	**Pn**	**04 48 38.3**	**-0.3**
APYN	**Apoyeque**	**1.52**	**125**	*e*P	**Pn**	**04 48 38.7**	**0.0**
XAVN	**Gruta Xavier**	**1.59**	**127**	*e*P	**Pn**	**04 48 39.6**	**+0.3**
HUEN		**1.61**	**118**	*e*P	**Pn**	**04 48 39.8**	**+0.3**
TISN	**Laguna Tiscapa**	**1.64**	**126**	*e*P	**Pn**	**04 48 40.3**	**+0.5**
MGAN	**Managua**	**1.65**	**125**	*e*P	**Pn**	**04 48 40.5**	**+0.5**
SNET	**Serv Nac Est T**	**1.67**	**290**	⇑*e*P	**Pn**	**04 48 39.5**	**-0.6**
SNET				*e*S	**Sn**	**04 49 05.6**	**-0.2**
SNET				AML	AML	04 49 09.3	
	comp=Z,644nm,0.3s						
WILN	**Americas 2**	**1.69**	**124**	*e*P	**Pn**	**04 48 40.8**	**+0.4**
BOQS	**Boqueron**	**1.73**	**291**	⇑*e*P	**Pn**	**04 48 40.7**	**0.0**
TICN	**Ticuantepe**	**1.73**	**128**	*e*P	**Pn**	**04 48 41.1**	**+0.3**
SNJE	**San Jose**	**2.07**	**291**	*e*P	**Pn**	**04 48 44.2**	**-0.2**
SNJE				*e*S	**Sn**	**04 49 14.2**	**+0.8**
SBLS	**San Blas**	**2.08**	**291**	⇑*e*P	**Pn**	**04 48 44.2**	**-0.2**
RTR	**El Retiro**	**2.12**	**292**	⇑*e*P	**Pn**	**04 48 45.0**	**+0.1**
MTO2	**Montecristo 2**	**2.12**	**307**	⇑*e*P	**Pn**	**04 48 45.4**	**+0.5**
RBDL	**Robledal**	**2.24**	**297**	*e*P	**Pn**	**04 48 46.1**	**-0.2**
GBS2	**Las Lilas**	**3.10**	**137**	*i* S	**Sn**	**04 49 32.1**	**-3.1**
NY14	**Universidad de**	**3.19**	**140**	*i* P	**Pn**	**04 48 59.0**	**+1.3**
NY14				*i* S	**Sn**	**04 49 35.3**	**-2.0**
MESS	**Mesas**	**3.35**	**135**	*i* P	**Pn**	**04 49 00.6**	**+0.9**
A495	**El Viejo**	**3.44**	**142**	⇑*i*P	**Pn**	**04 49 00.3**	**-0.4**
A492	**Arado**	**3.50**	**145**	⇑*i*P	**Pn**	**04 49 02.0**	**+0.5**
A492				*i* S	**Sn**	**04 49 40.1**	**-4.0**
A494	**Palo Verde**	**3.54**	**141**	⇓*i*P	**Pn**	**04 49 02.0**	**0.0**
JTS	**JuntasAbangare**	**3.83**	**137**	*e*Pn	**Pn**	**04 49 04.7**	**-1.0**
	comp=Z,7.7nm,0.3s,baz=297,slow=22,SNR=66						
JTS				S	**Sn**	**04 49 48.1**	**-3.6**
	comp=Z,21nm,0.3s,baz=288,slow=23,SNR=9.4						
JTS	**JuntasAbangare**	**3.83**	**137**	*e*Pn	**Pn**	**04 49 05.8**	**+0.1**
JTS				*e*S	**Sn**	**04 49 48.5**	**-3.3**
CGA2	**Cerro Gallo 2**	**4.36**	**135**	*e*P	**Pn**	**04 49 14.1**	**+1.5**
CGA2				*e*S	**Sn**	**04 50 03.3**	**-0.6**
URSC	**Urasca**	**4.98**	**130**	*e*P	**Pn**	**04 49 24.1**	**+3.5**
URSC				*e*S	**Sn**	**04 50 18.5**	**+0.3**
QCR	**Quepos**	**4.99**	**137**	*e*P	**Pn**	**04 49 21.7**	**+1.0**
QCR				*e*S	**Sn**	**04 50 14.9**	**-3.7**
BUS	**Buena Vista**	**5.18**	**133**	*e*P	**Pn**	**04 49 25.4**	**+2.3**
BUS				*e*S	**Sn**	**04 50 24.1**	**+1.1**
CMIG	**Matias Romero**	**8.05**	**300**	P	**Pn**	**04 50 00.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=152,slow=11,SNR=6.3						
CMIG	**Matias Romero**	**8.05**	**300**	P	**Pn**	**04 50 00.8**	**-0.1**
SDV	**Santo Domingo**	**17.20**	**102**	Pn	**Pn**	**04 51 54.3**	**-2.5**
	comp=Z,13nm,0.8s						
GOGA	**Godfrey**	**20.56**	**10**	*e*P	**P**	**04 52 32.7**	**+0.9**
	comp=Z,19nm,0.6s						
TXAR	**Lajitas Array**	**21.96**	**320**	P	**P**	**04 52 47.1**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.4,baz=143,slow=9.2,SNR=15						
TXAR	**Lajitas Array**	**21.96**	**320**	P	**P**	**04 52 47.1**	**+0.4**
TKL	**Tuckaleechee C**	**22.71**	**8**	P	**P**	**04 52 53.9**	**+0.3**
	comp=Z,12nm,0.9s,mb4.3,baz=181,slow=12,SNR=9.8						
TKL	**Tuckaleechee C**	**22.71**	**8**	*e*P	**P**	**04 52 53.9**	**+0.3**
SMCO	**Snowmass**	**31.09**	**330**	P	**P**	**04 54 13.3**	**+4.8**
	comp=Z,5.4nm,0.8s,mb4.3						
LPAZ	**La Paz**	**35.00**	**146**	P	**P**	**04 54 43.6**	**+1.0**
	comp=Z,0.6nm,0.4s,mb3.6,baz=302,slow=3.6,SNR=5.6						
LPAZ	**La Paz**	**35.00**	**146**	P	**P**	**04 54 43.6**	**+1.0**
PDAR	**Pinedale Array**	**35.11**	**331**	P	**P**	**04 54 44.5**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.5,baz=131,slow=9.9,SNR=6.0						
PDAR	**Pinedale Array**	**35.11**	**331**	P	**P**	**04 54 44.5**	**+1.2**
ULM	**Lac du Bonnet**	**37.64**	**351**	P	**P**	**04 55 03.0**	**-1.6**
	comp=Z,2.5nm,0.4s,mb4.2,baz=162,slow=9.0,SNR=8.5						
ULM	**Lac du Bonnet**	**37.64**	**351**	P	**P**	**04 55 03.0**	**-1.6**
SCHQ	**Schefferville**	**44.70**	**17**	P	**P**	**04 56 00.8**	**-1.2**
	comp=Z,3.1nm,0.8s,mb4.0,baz=224,slow=8.6,SNR=6.7						
SCHQ	**Schefferville**	**44.70**	**17**	P	**P**	**04 56 00.8**	**-1.2**
YKA	**Yellowknife Ar**	**52.93**	**345**	P	**P**	**04 57 03.9**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.4,baz=139,slow=7.5,SNR=14						
YKA	**Yellowknife Ar**	**52.93**	**345**	P	**P**	**04 57 04.0**	**-0.7**
ILAR	**Eielson Array**	**65.35**	**336**	P	**P**	**04 58 29.0**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.2,baz=167,slow=4.5,SNR=7.7						
ILAR	**Eielson Array**	**65.35**	**336**	P	**P**	**04 58 29.0**	**-0.9**
WRA	**Warramunga Arr**	**139.29**	**255**	PKP	PKPdf	05 07 14.4	+0.6
	comp=Z,1.4nm,0.6s,baz=91,slow=2.4,SNR=18						
WRA	**Warramunga Arr**	**139.29**	**255**	PKP	PKPdf	05 07 14.4	+0.6
ASAR	**Alice Springs**	**139.35**	**249**	PKP	PKPdf	05 07 14.4	+0.6
	comp=Z,1.1nm,0.6s,baz=92,slow=1.9,SNR=20						
ASAR	**Alice Springs**	**139.35**	**249**	PKP	PKPdf	05 07 14.4	+0.6

IDC 23 05:15:03.6±4.2, 30°.58S×138°.23E, h0km, mb1 3.0/3, mb1mx2.9/13, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=97.7km s-min=18.4km az=39.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.16**	**115**	Pn	Pn	05 15 53.9	-0.6
	0.1nm,0.3s,baz=297,slow=4.5,SNR=2.3						
STKA				Pg	Pg	05 16 02.6	-1.5
	0.4nm,0.3s,baz=295,slow=14,SNR=6.1						
STKA				Lg		05 16 43.2	
	0.7nm,0.3s,baz=25,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**7.89**	**330**	Pn	Pn	05 17 00.4	+0.8
	0.1nm,0.3s,baz=155,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**11.16**	**341**	Pn	Pn	05 17 43.5	-1.0
	0.1nm,0.3s,baz=157,slow=13,SNR=2.6						

IDC 23 05:24:10.5±1.7, 15°.96S×172°.72W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/21, mbtmp3.9/5, ML1.7/1, MS3.6/1, Ms1 3.5/1, ms1mx2.8/29, Error ellipse: s-maj=62.1km s-min=22.8km az=124.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**24**	Pn	Pn	05 24 48.5	-0.3
	13nm,0.3s,baz=101,slow=19,SNR=8.7						
AFI				Sn	Sn	05 25 15.1	-2.1
	62nm,0.3s,baz=299,slow=19,SNR=14						
URZ	**Urewera**	**23.95**	**200**	P	P	05 29 26.4	-0.1
	4.5nm,0.4s,baz=64,slow=5.1,SNR=5.6						
STKA	**Stephens Creek**	**44.33**	**241**	LR	LR	05 47 56.7	
	comp=Z,66nm,19.5s,baz=26,slow=32						
WRA	**Warramunga Arr**	**50.35**	**257**	P	P	05 33 09.9	+0.2
	0.5nm,0.6s,baz=95,slow=8.0,SNR=4.1						
ASAR	**Alice Springs**	**50.56**	**252**	P	P	05 33 11.0	-0.2
	2.1nm,0.6s,baz=88,slow=8.2,SNR=29						
ILAR	**Eielson Array**	**82.87**	**11**	P	P	05 36 36.8	+0.3
	0.2nm,0.6s,baz=217,slow=7.4,SNR=8.2						

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*IDC **23** 05:30:55.9±1.1, 10°.22S×161°.48E, h83km±8km, mb3.4/4, mb1 3.8/6, mb1mx3.5/19, mbtmp3.6/6, Error ellipse: s-maj=21.1km s-min=12.6km az=27.0*
*ISCJB **23** 05:30:56.0±1.6, 10°.3S±0°.1×161°.4E±0°.1, h97km±14km, mb3.4/4, Error ellipse: s-maj=26.0km s-min=16.6km az=150.7*

ISC 23 05:30:56.6±1.6, 10°.2S±0°.1×161°.4E±0°.1, h88km±14km, h84km±5.0km: pP-P, n8, σ0°.63/11, mb3.4/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.66**	**298**	P	**Pn**	**05 31 24.2**	**-0.1**
	208nm,0.3s,baz=146,slow=6.3,SNR=31						
HNR				S	**Sn**	**05 31 45.2**	**-0.1**
	205nm,0.3s,baz=358,slow=20,SNR=6.5						
DZM	**Mont Dzumac**	**12.72**	**158**	*e*P	**Pn**	**05 33 54.0**	**-0.3**
DZM				*e*S	**Sn**	**05 36 07.2**	**-6.9**
DZM	**Mont Dzumac**	**12.72**	**158**	P	**Pn**	**05 33 54.4**	**+0.1**
	2.7nm,0.3s,baz=65,slow=20,SNR=34						
DZM				S	**Sn**	**05 36 08.4**	**-5.7**
	1.4nm,0.3s,baz=145,slow=22,SNR=7.8						
CTA	**Charters Tower**	**17.61**	**234**	P	**Pn**	**05 34 57.7**	**+1.2**
	0.6nm,0.3s,baz=77,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**27.84**	**247**	P	**P**	**05 36 37.4**	**-0.7**
	1.2nm,0.6s,mb3.6,baz=76,slow=9.1,SNR=5.5						
WRA				pP	pP	05 36 58.9	+0.8
	1.5nm,0.6s,baz=76,slow=9.4,SNR=5.2						
ASAR	**Alice Springs**	**29.45**	**240**	P	**P**	**05 36 51.6**	**-0.8**
	0.2nm,0.3s,mb3.2,baz=69,slow=9.3,SNR=3.6						
SONM	**Songino Array**	**75.54**	**325**	P	**P**	**05 42 32.2**	**+0.7**
	0.5nm,0.6s,mb3.4,baz=140,slow=7.4,SNR=4.7						
SONM				pP	pP	05 42 53.6	-0.8
	0.6nm,0.6s,baz=130,slow=5.8,SNR=3.2						
ILAR	**Eielson Array**	**84.13**	**20**	P	**P**	**05 43 17.4**	**-0.1**
	0.4nm,0.7s,mb3.4,baz=240,slow=4.9,SNR=6.4						
ILAR				pP	pP	05 43 38.0	-2.8
	0.3nm,0.8s,baz=231,slow=6.5,SNR=1.7						

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*ISCJB **23** 05:35:46.1±0.5, 31°.42S±0°.05×67°.89W±0°.09, h107km±5km, mb4.3/20, Error ellipse: s-maj=12.9km s-min=7.3km az=157.1*
*NEIC **23** 05:35:46.8±0.4, 31°.43S×67°.93W, h100km±4km, mb4.4/12, Error ellipse: s-maj=8.8km s-min=5.0km az=77.0*
*IDC **23** 05:35:47.4±0.3, 31°.52S×68°.16W, h106km±3km, mb4.1/11, mb1 4.2/13, mb1mx4.1/18, mbtmp4.1/13, MS3.0/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=15.5km s-min=11.1km az=94.0*

ISC 23 05:35:47.2±0.5, 31°.42S±0°.05×67°.87W±0°.08, h101km±4km, h110km±1.3km: pP-P, n68, σ0°.77/51, mb4.3/20, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.36**	**239**	P	**Pn**	**05 36 02.4**	**+0.2**
	200nm,0.3s,baz=41,slow=3.3						
CFAA				S	**Sn**	**05 36 14.1**	**+0.7**
	206nm,0.3s,baz=218,slow=19,SNR=180						
CFAA	**Coronel Fontan**	**0.36**	**239**	P	**Pn**	**05 36 02.4**	**+0.2**
CFAA				S	**Sn**	**05 36 14.1**	**+0.7**
LCO	**Las Campanas**	**3.43**	**314**	*e*Pn	**Pn**	**05 36 38.8**	**+0.2**
LCO				*e*Sn	**Sn**	**05 37 18.8**	**+0.3**
TRQA	**Tornquist**	**8.21**	**145**	*e*Pn	**Pn**	**05 37 43.4**	**0.0**
	132nm,0.6s						
LVC	**Limon Verde**	**8.82**	**354**	*e*Pn	**Pn**	**05 37 51.1**	**-0.8**
	52nm,0.6s						
PLCA	**Paso Flores**	**9.54**	**192**	P	**Pn**	**05 37 59.8**	**-1.8**
	1.1nm,0.3s,baz=12,slow=12,SNR=25						
PLCA	**Paso Flores**	**9.54**	**192**	*e*Pn	**Pn**	**05 37 59.7**	**-1.9**
	18nm,1.0s						
CPUP	**Villa Florida**	**10.54**	**64**	P	**Pn**	**05 38 15.2**	**-0.1**
	2.9nm,0.3s,baz=223,slow=14,SNR=27						
CPUP	**Villa Florida**	**10.54**	**64**	*e*Pn	**Pn**	**05 38 15.3**	**+0.1**
	144nm,0.6s						
LPAZ	**La Paz**	**15.06**	**359**	P	**Pn**	**05 39 15.2**	**+0.4**
	2.1nm,0.3s,baz=163,slow=4.1,SNR=50						
LPAZ				LR	LR	05 45 35.1	
	comp=Z,65nm,20.3s,baz=167,slow=39						
LPAZ	**La Paz**	**15.06**	**359**	*e*P	**Pn**	**05 39 15.1**	**+0.4**
	14nm,0.6s						
SIV	**San Ignacio**	**16.56**	**24**	P	**Pn**	**05 39 32.3**	**-1.1**
	1.4nm,0.3s,baz=212,slow=12,SNR=34						
SIV	**San Ignacio**	**16.56**	**24**	P	**Pn**	**05 39 32.3**	**-1.1**
NNA	**Nana**	**21.04**	**335**	P	**P**	**05 40 23.1**	**+0.1**
	3.8nm,0.4s,mb4.0,baz=180,slow=11,SNR=3.9						
NNA	**Nana**	**21.04**	**335**	P	**P**	**05 40 23.1**	**+0.1**
EFI	**East Falkland**	**21.49**	**163**	*e*P	**P**	**05 40 26.3**	**-1.3**
	28nm,0.6s,mb4.8						
SAML	**Samuel**	**22.78**	**12**	*e*P	**P**	**05 40 41.8**	**+0.3**
	6.4nm,0.6s,mb4.1						
USHA	**Ushuaia**	**23.41**	**181**	P	**P**	**05 40 46.9**	**+0.1**
	9.4nm,0.5s,mb4.4,baz=2.3,slow=8.6,SNR=14						
USHA	**Ushuaia**	**23.41**	**181**	P	**P**	**05 40 46.9**	**+0.1**
VNA3	**Neumayer Olymp**	**50.46**	**159**	*e*	**P**	**05 44 39.7**	**+5.5**
VNA2	**Neumayer--Watz**	**51.07**	**158**	*e*	**P**	**05 44 42.8**	**+4.1**
	baz=289,slow=8.7						
SNAA	**Sanae**	**52.68**	**159**	*e*	**P**	**05 44 54.6**	**+3.9**
SNAA	**Sanae**	**52.68**	**159**	P	**P**	**05 44 51.4**	**+0.8**
	2.3nm,0.4s,mb4.5,baz=270,slow=7.3,SNR=31						
SNAA	**Sanae**	**52.68**	**159**	*e*P	**P**	**05 44 52.4**	**+1.7**
	16nm,0.9s,mb5.1						
TEIG	**Tepich**	**54.95**	**336**	P	**P**	**05 45 07.6**	**-0.2**
	24nm,0.5s,baz=163,slow=1.2,SNR=29						
TEIG	**Tepich**	**54.95**	**336**	P	**P**	**05 45 07.6**	**-0.2**
QSPA	**South Pole Qui**	**58.81**	**180**	*e*P	**P**	**05 45 35.1**	**+0.8**
	15nm,1.1s,mb4.9						
SWET	**Sewanee**	**68.42**	**344**	*e*P	**P**	**05 46 37.1**	**-0.9**
	4.1nm,0.5s,mb4.5						
TXAR	**Lajitas Array**	**69.35**	**327**	P	**P**	**05 46 44.0**	**+0.2**
	2.0nm,0.6s,mb4.1,baz=151,slow=7.9,SNR=34						
TXAR				sP	sP	05 47 22.0	+1.7
	0.8nm,0.7s,baz=142,slow=9.8,SNR=2.9						
TXAR	**Lajitas Array**	**69.35**	**327**	P	**P**	**05 46 44.0**	**+0.2**
TXAR				sP	sP	05 47 22.0	+1.7
WVT	**Waverly**	**69.75**	**343**	*e*P	**P**	**05 46 45.2**	**-1.0**
	6.8nm,0.6s,mb4.7						
DBIC	**Dimbokro**	**71.01**	**69**	P	**P**	**05 46 55.3**	**+0.9**
	2.8nm,0.6s,mb4.3,baz=215,slow=7.5,SNR=6.5						
DBIC				pP	pP	05 47 22.1	+2.1
	4.9nm,0.8s,baz=193,slow=7.2,SNR=4.2						
DBIC	**Dimbokro**	**71.01**	**69**	P	**P**	**05 46 55.3**	**+0.9**
DBIC				pP	pP	05 47 22.1	+2.1
LAZ	**Ladron**	**75.19**	**327**	*e*P	**P**	**05 47 19.4**	**+0.8**
	1.9nm,1.2s,mb3.7						
ANMO	**Albuquerque**	**75.34**	**328**	*e*P	**P**	**05 47 19.8**	**+0.5**
	1.8nm,0.7s,mb3.9						
BOSA	**Boshof**	**78.11**	**116**	P	**P**	**05 47 35.6**	**+0.3**
	4.1nm,0.7s,mb4.3,baz=262,slow=6.3,SNR=7.9		

CBJI	**Citeko**	**2.66**	**40**	P	**Pn**	05 50 23.4	-0.9
CBJI				S	**Sn**	05 50 55.7	-0.1
RBSI	**Rajabasa**	**2.68**	**13**	P	**Pn**	05 50 21.2	-3.4
CISI	**Cisompet, Garu**	**2.82**	**71**	P	**Pn**	05 50 26.3	-0.1
LEM	**Lembang**	**2.96**	**57**	P	**Pn**	05 50 32.0	+3.5
MNAI	**Manna**	**4.62**	**332**	P	**Pn**	05 50 51.9	+0.6
MNAI				S	**Sn**	05 51 43.6	-0.5
UGM	**Wanagama**	**5.37**	**84**	P	**Pn**	05 51 02.2	+0.6
	0.6nm117nm,1.7s						
PCJI	**Pacitan**	**6.00**	**88**	P	**Pn**	05 51 10.8	+0.6
	0.4nm72nm,1.4s						
PWJI	**Pagerwojo**	**6.63**	**87**	P	**Pn**	05 51 19.1	+0.3
CMAR	**Chiang Mai Arr**	**27.45**	**347**	P	pP	05 55 40.2	+5.4
	0.7nm,0.3s,baz=179,slow=8.6,SNR=6.5						
WRA	**Warramunga Arr**	**30.47**	**115**	P	**P**	**05 55 54.3**	**+0.3**
	0.3nm,0.3s,mb3.4,baz=285,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**31.41**	**122**	P	**P**	**05 56 02.9**	**+0.6**
	0.4nm,0.8s,mb3.3,baz=291,slow=8.8,SNR=3.1						
STKA	**Stephens Creek**	**41.09**	**130**	P	**P**	**05 57 25.4**	**+0.6**
	1.8nm,0.7s,mb3.8,baz=315,slow=12,SNR=4.8						
TXAR	**Lajitas Array**	**145.93**	**49**	PKPbc	PKPbc	06 09 25.1	+4.1
	0.1nm,0.6s,baz=279,slow=1.7,SNR=4.8						

*TRN **23** 05:56:17.0, 18°.22N×65°.37W, h21km, MD2.4(RSPR)*

RSPR 23 05:56:18.7, 18.03N×65.33W, h17km±1km, MD2.4/3, 4C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.22**	**289⇑**	*e*P	Pg	05 56 23.7	-0.1
MTP	**Monte Pirata**	**0.22**	**289⇑**	*e*P	Pg	05 56 23.7	-0.1
STVI	**Saint Thomas**	**0.48**	**48⇑**	*e*P	Pg	05 56 27.8	-0.7
STVI	**Saint Thomas**	**0.48**	**48⇑**	*e*P	Pg	05 56 27.8	-0.7
STVI				*e*S	Sg	05 56 34.8	-0.2
HUMP	**Col San Antoni**	**0.51**	**283⇓**	*e*P	Pg	05 56 28.1	-0.8
HUMP	**Col San Antoni**	**0.51**	**283⇓**	*e*P	Pg	05 56 28.1	-0.8
CBYP	**Canovanas**	**0.56**	**296**	*e*S	Sg	05 56 36.7	-0.6
CBYP	**Canovanas**	**0.56**	**296**	*e*S	Sg	05 56 36.7	-0.6

*IDC **23** 06:17:07.3±15.0, 48°.74N×143°.08E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/31, Error ellipse: s-maj=456.4km s-min=27.2km az=167.0*

*ISCJB **23** 06:17:12.5±0.5, 49°.87N±0°.02×142°.45E±0°.07, h10km, mb3.4/4, Error ellipse: s-maj=7.0km s-min=3.4km az=171.2*

*SKHL **23** 06:17:13.2±0.5, 49°.90N×142°.40E, h13km±1km, mb4.1/6*

ISC 23 06:17:14.5±0.6, 49°.88N±0°.02×142°.72E±0°.08, h10km, n16, σ1°.03/22, mb3.4/4, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.91**	**208**	*i* P	**Pg**	**06 17 31.7**	**-0.3**
UGL				AMB	AMB	06 17 34.5	
	540nm,0.8s						
UGL				pP		06 17 35.5	
UGL				sP		06 17 40.0	
UGL				*e*Sg	**Sg**	**06 17 44.3**	**+0.4**
UGL				A		06 17 47.0	
	460nm,0.5s						
UGL				A		06 17 47.0	
	1μm,0.5s						
TYV	**Tymovskoe**	**0.98**	**358**	*e*Pg	**Pg**	**06 17 32.0**	**-1.3**
TYV				AMB	AMB	06 17 32.5	
	10.0nm,0.6s						
TYV				AMB	AMB	06 17 32.5	
	20nm,0.6s						
TYV				pP		06 17 36.5	
TYV				*e*Sg	**Sg**	**06 17 45.5**	**-0.6**
TYV				A		06 17 51.2	
	570nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.93**	**180**	*e*P	**Pn**	**06 18 00.5**	**-0.6**
YSS				pP		06 18 08.0	
YSS				*e*Pg	**Pg**	**06 18 10.0**	**-0.6**
YSS				AMB	AMB	06 18 11.0	
	40nm,0.5s						
YSS				*e*Sb	**Sb**	**06 18 38.5**	**-4.1**
YSS				*e*Sg	**Sg**	**06 18 49.5**	**+0.9**
YSS				A		06 18 50.0	
	100nm,0.8s						
NKL	**Nikolayevsk**	**3.51**	**339**	*i* P	**Pn**	**06 18 03.0**	**-6.0**
NKL				*e*Pg	**Pg**	**06 18 21.0**	**-0.7**
NKL				AMB	AMB	06 18 25.0	
	34nm,0.8s						
NKL				*e*Sg	**Sg**	**06 19 08.0**	**+0.8**
NKL				A		06 19 11.0	
	94nm,0.9s						
OKH	**Okha**	**3.67**	**2**	*e*Pg	**Pg**	**06 18 27.5**	**+2.7**
OKH				AMB	AMB	06 18 28.4	
	81nm,0.5s						
OKH				*e*Sg	**Sg**	**06 19 19.0**	**+6.6**
OKH				A		06 19 20.0	
	72nm,0.7s						
GRNR	**Gornyy**	**4.13**	**285**	*e*Pg	**Pg**	**06 18 32.0**	**-1.6**
GRNR				AMB	AMB	06 18 32.8	
	40nm,0.5s						
GRNR				*e*Sg	**Sg**	**06 19 22.0**	**-5.1**
GRNR				A		06 19 25.0	
	73nm,0.8s						
GRNR				A		06 19 25.0	
	84nm,0.8s						
TEY	**Ternei**	**6.38**	**223**	*e*Sg	**Sg**	**06 20 46.0**	**+6.8**
TEY				A		06 20 47.0	
	26nm,0.8s						
EKMR	**Ekimchan**	**6.89**	**301**	*e*Pg	**Pg**	**06 19 25.0**	**-1.2**
EKMR				AMB	AMB	06 19 52.1	
	2.0nm,0.2s						
EKMR				*e*Sg	**Sg**	**06 20 57.0**	**+1.7**
EKMR				A		06 20 57.5	
	20nm,0.5s						
EKMR				A		06 20 57.5	
	10.0nm,0.5s						
BMKR	**Bomnak**	**9.78**	**305**	*e*Sg	Sx	06 22 26.0	
BMKR				A		06 22 27.0	
	10.0nm,0.9s						
PETK	**Petropavlovsk-**	**9.88**	**65**	LR	LR	06 24 09.3	
	comp=Z,30nm,20.4s,baz=51,slow=41						
ZEA	**Zeya**	**10.33**	**298**	*e*Sg	Sx	06 22 26.0	
ZEA				A		06 22 28.0	
	58nm,0.5s						
KROS	**Kirovskiy**	**10.69**	**301**	*e*Sg	Sx	06 22 55.0	
KROS				A		06 22 58.0	
	8.0nm,0.9s						
ILAR	**Eielson Array**	**38.55**	**40**	P	**P**	**06 24 37.3**	**+0.6**
	0.4nm,0.8s,mb3.2,baz=280,slow=8.8,SNR=5.8						
MKAR	**Makanchi Array**	**39.34**	**289**	P	**P**	**06 24 43.3**	**-0.2**
	0.8nm,0.9s,mb3.5,baz=67,slow=8.2,SNR=3.0						
KURK	**Kurchatov**	**39.80**	**297**	P	**P**	**06 24 48.2**	**+0.8**
	0.3nm,0.4s,mb3.4,baz=70,slow=8.5,SNR=3.6						
YKA	**Yellowknife Ar**	**52.45**	**35**	P	**P**	**06 26 27.0**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=308,slow=7.5,SNR=5.6						

*ISCJB **23** 06:17:37.1±0.3, 31°.49N±0°.04×104°.22E±0°.05, h10km, mb4.1/20, Error ellipse: s-maj=6.5km s-min=5.0km az=38.5*

*IDC **23** 06:17:37.2±0.6, 31°.50N×104°.17E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.1/30, mbtmp4.1/17, ML4.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/33, Error ellipse: s-maj=26.0km s-min=13.6km az=58.0*

*NEIC **23** 06:17:39.2±0.4, 31°.44N×104°.02E, h10km, mb4.1/6, Error ellipse: s-maj=12.4km s-min=7.9km az=59.0*

*BJI **23** 06:17:39.8, 31°.46N×104°.19E, h11km, mb4.0/2, ML3.9/21, Ms3.9/4, Ms7 3.6/4*

ISC 23 06:17:39.2±0.3, 31°.47N±0°.03×104°.17E±0°.05, h10km, n54, σ0°.92/57, mb4.1/20, 4C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.65**	**212**	Pg	**Pg**	**06 17 51.9**	**+0.1**
CD2				Sg	**Sg**	**06 18 01.8**	**+1.4**
CD2				smax			
	comp=N,5μm,0.7s						
CD2				smax			
	comp=E,3μm,1.0s						
LZH	**Lanzhou**	**4.62**	**357**	*e*Pg	**Pg**	**06 19 08.8**	**+1.2**
LZH				Sg	**Sb**	**06 19 57.8**	**+1.9**
LZH				smax			
	comp=N,51nm,0.6s						
LZH				smax			
	comp=E,220nm,1.1s						
ENH	**Enshi**	**4.73**	**103**	*e*Pn	**Pn**	**06 18 54.7**	**+4.2**
XAN	**Xi'an**	**4.76**	**56**	Pn	**Pn**	**06 18 52.3**	**+1.4**
XAN				Sn	**Sn**	**06 19 46.8**	**+0.7**
XAN				Sg	**Sg**	**06 20 09.1**	**-2.9**
XAN				smax			
	comp=N,270nm,0.9s						
XAN				smax			
	comp=E,130nm,0.8s						
XAN				LR	LR		
	comp=N,300nm,10.1s						
XAN				LR	LR		
	comp=E,84nm,8.6s						
XAN				LR	LR		
	comp=Z,140nm,9.2s						
WHN	**Wuhan**	**8.79**	**93**	P	**Pn**	**06 19 50.5**	**+4.2**
WHN				S	**Sn**	**06 21 24.8**	**-0.6**
WHN				LR	LR		
	comp=Z,1μm,12.5s						
CMAR	**Chiang Mai Arr**	**13.79**	**201**	Pn	**Pn**	**06 20 55.3**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=6.0,slow=9.4,SNR=4.1						
CMAR	**Chiang Mai Arr**	**13.79**	**201**	Pn	**Pn**	**06 20 55.3**	**+0.6**
SONM	**Songino Array**	**16.44**	**5**	Pn	**Pn**	**06 21 30.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=193,slow=10,SNR=3.1						
SONM	**Songino Array**	**16.44**	**5**	Pn	**Pn**	**06 21 30.2**	**+0.4**
ULN	**Ulaanbaatar**	**16.53**	**7**	*e*P	**Pn**	**06 21 34.5**	**+3.6**
	comp=Z,6.0nm,1.1s						
KSAR	**Wonju Array Be**	**20.42**	**67**	P	**P**	**06 22 17.3**	**+0.8**
KSRS	**Korea Array**	**20.46**	**67**	P	**P**	**06 22 17.3**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=258,slow=11,SNR=5.3						
MK31	**Makanchi Array**	**22.74**	**319**	*e*P	**P**	**06 22 40.9**	**-0.4**
MKAR	**Makanchi Array**	**22.74**	**319**	P	**P**	**06 22 41.2**	**0.0**
	comp=Z,1.3nm,0.5s,mb3.6,baz=118,slow=10,SNR=15						
MKAR	**Makanchi Array**	**22.74**	**319**	P	**P**	**06 22 41.2**	**0.0**
ZAA0	**Zalesovo Array**	**26.42**	**334**	*e*P	**P**	**06 23 15.3**	**-0.5**
ZALV	**Zalesovo Beam**	**26.42**	**334**	P	**P**	**06 23 15.8**	**0.0**
	comp=Z,4.4nm,0.7s,mb4.1,baz=132,slow=9.8,SNR=18						
ZALV	**Zalesovo Beam**	**26.42**	**334**	P	**P**	**06 23 15.8**	**0.0**
KURK	**Kurchatov**	**26.99**	**323**	P	**P**	**06 23 20.9**	**0.0**
	comp=Z,3.1nm,0.8s,mb3.9,baz=129,slow=9.0,SNR=35						
KURK				PcP	PcP	06 26 41.2	-1.1
	comp=Z,0.6nm,0.5s,baz=116,slow=2.3,SNR=7.8						
KURK	**Kurchatov**	**26.99**	**323**	*e*P	**P**	**06 23 20.6**	**-0.3**
	comp=Z,5.9nm,1.3s,mb4.0						
KURK				PcP	PcP	06 26 41.2	-1.1
MJAR	**Matsushiro Arr**	**28.58**	**70**	LR	LR	06 34 02.7	
	comp=Z,29nm,20.1s,baz=45,slow=34						
ABKAR	**Akbulak array**	**37.47**	**311**	*e*P	**P**	**06 24 52.4**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.6						
AKTO	**Aktyubinsk**	**38.93**	**313**	P	**P**	**06 25 06.4**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=84,slow=10,SNR=4.1						
AKTO	**Aktyubinsk**	**38.93**	**313**	P	**P**	**06 25 06.4**	**+1.4**
ARU	**Arti**	**40.18**	**322**	*e*P	**P**	**06 25 15.4**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.2						
JOF	**Joensuu**	**54.75**	**328**	*e*p	**P**	**06 27 07.1**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**56.95**	**336**	P	**P**	**06 27 22.9**	**-1.4**
	comp=Z,7.5nm,1.1s,mb4.6,baz=91,slow=7.6,SNR=4.4						
ARCES				PcP	PcP	06 28 18.1	-1.3
	comp=Z,1.7nm,0.5s,baz=104,slow=5.1,SNR=8.4						
ARCES	**ARCESS Array B**	**56.95**	**336**	P	**P**	**06 27 22.9**	**-1.4**
ARCES				PcP	PcP	06 28 18.1	-1.3
FINES	**FINESS Array B**	**57.30**	**326**	P	**P**	**06 27 25.8**	**-1.0**
	comp=Z,5.4nm,0.8s,mb4.6,baz=76,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**57.30**	**326**	P	**P**	**06 27 25.8**	**-1.0**
WRAB	**Tennant Creek**	**58.74**	**146**	*e*P	**P**	**06 27 37.3**	**0.0**
	comp=Z,4.4nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**58.74**	**146**	P	**P**	**06 27 38.1**	**+0.7**
	comp=Z,3.1nm,0.5s,mb4.6,baz=338,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**58.74**	**146**	P	**P**	**06 27 38.1**	**+0.7**
WB2	**Warramunga Arr**	**58.75**	**146**	*e*P	**P**	**06 27 37.4**	**0.0**
ASAR	**Alice Springs**	**61.77**	**149**	P	**P**	**06 27 58.5**	**+0.4**
	comp=Z,0.9nm,0.7s,mb4.0,baz=339,slow=6.9,SNR=15						
ASAR	**Alice Springs**	**61.77**	**149**	P	**P**	**06 27 58.5**	**+0.4**
NB2	**NORSAR Subarra**	**64.39**	**327**	P	**P**	**06 28 13.4**	**-1.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=73,slow=6.5						
NOA	**NORSAR Array B**	**64.39**	**327**	P	**P**	**06 28 13.7**	**-1.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=72,slow=6.9,SNR=6.6						
NOA	**NORSAR Array B**	**64.39**	**327**	P	**P**	**06 28 13.7**	**-1.3**
GERES	**GERESS Array B**	**67.33**	**314**	P	**P**	**06 28 33.8**	**-0.5**
	comp=Z,0.5nm,0.7s,mb3.7,baz=42,slow=6.2,SNR=3.9						
GERES	**GERESS Array B**	**67.33**	**314**	P	**P**	**06 28 33.8**	**-0.5**
ILAR	**Eielson Array**	**69.49**	**26**	P	**P**	**06 28 46.6**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=291,slow=4.4,SNR=11						
ILAR	**Eielson Array**	**69.49**	**26**	P	**P**	**06 28 46.6**	**-0.8**
INK	**Inuvik**	**71.80**	**19**	*e*P	**P**	**06 29 00.8**	**-0.7**
	comp=Z,2.3nm,0.7s,mb4.2,baz=328,slow=8.3,SNR=11						
INK	**Inuvik**	**71.80**	**19**	*e*P	**P**	**06 29 01.2**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**72.28**	**147**	P	**P**	**06 29 03.3**	**-1.4**
	comp=Z,1.5nm,0.5s,mb4.2,baz=312,slow=9.6,SNR=7.0						
STKA	**Stephens Creek**	**72.28**	**147**	P	**P**	**06 29 03.3**	**-1.4**
SFTF	**Sexfontaines**	**72.82**	**316⇑**	*i* P	**P**	**06 29 08.2**	**+0.3**
LPG	**La Plagne**	**73.04**	**313⇑**	*i* P	**P**	**06 29 09.0**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.2						
LPL	**La Plagne**	**73.05**	**313⇑**	*i* P	**P**	**06 29 08.8**	**-0.5**
	comp=Z,3.5nm,0.7s,mb4.1						
SMF	**Signal de Mont**	**74.28**	**315⇑**	*i* P	**P**	**06 29 16.0**	**-0.5**
YKA	**Yellowknife Ar**	**81.33**	**17**	P	**P**	**06 29 55.3**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=329,slow=5.2,SNR=24						
YKA	**Yellowknife Ar**	**81.33**	**17**	P	**P**	**06 29 55.4**	**-0.1**
OTAV	**Otavalo**	**148.37**	**5**	*e*PKPbc	PKPbc	06 37 27.1	+0.6

GUC 23 06:24:39.3±0.8, 32°.47S×71°.96W, h10km±6km, MD3.7, ML3.2, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.62**	**154**	*e*P	Pg	06 24 50.8	-0.5
IHA				*e*S	Sg	06 25 00.4	+1.0
CHNG	**Los Chungos**	**0.70**	**34⇑**	*i* P	Pg	06 24 52.6	-0.2
CHNG				*e*S	Sg	06 25 02.8	+0.7
CHNG				AML	AML	06 25 05.1	
	comp=E,1μm,0.3s						
PTCH	**Petorca**	**0.90**	**77⇑**	*i* P	Pg	06 24 54.6	-2.0
PTCH				*i* S	Sg	06 25 07.8	-0.4
PTCH				AML	AML	06 25 10.8	
	comp=N,1μm,0.2s						
ROCH	**El Roble**	**0.95**	**122**	*e*P	Pg	06 24 55.9	-1.6
ROCH				*i* S	Sg	06 25 09.4	-0.5
JACH	**Jahuel**	**1.18**	**101⇓**	*i* P	Pb	06 25 00.3	-1.3
JACH				*i* S	Sb	06 25 16.2	-0.7
PEL	**Peldehue**	**1.27**	**122⇑**	*i* P	Pn	06 25 02.0	-1.1
PEL				*i* S	Sb	06 25 19.0	-0.7
PEL				AML	AML	06 25 20.8	
	comp=E,3μm,0.3s						
TACH	**Talagante**	**1.46**	**144⇑**	*i* P	Pn	06 25 04.9	-0.8
TACH				*i* S	Sn	06 25 24.3	-0.6
SAN	**Santiago**	**1.47**	**132⇑**	*i* P	Pn	06 25 05.4	-0.4
SAN				*e*S	Sn	06 25 24.5	-0.6
STL	**Santa Lucia**	**1.47**	**131**	*e*P	Pn	06 25 04.1	-1.8
STL				*i* S	Sn	06 25 24.2	-0.9
CLCH	**Cerro Calan**	**1.51**	**128⇓**	*i* P	Pn	06 25 05.7	-0.7
CLCH				*i* S	Sn	06 25 25.6	-0.6
CLCH				AML	AML	06 25 30.4	
	comp=E,563nm,0.6s						
LNV	**Longovilo**	**1.55**	**163**	*e*P	Pn	06 25 06.6	-0.3
LNV				*i* S	Sn	06 25 26.4	-0.8
ANTU	**Antumapu**	**1.57**	**135**	*e*P	Pn	06 25 06.7	-0.5
ANTU				*i* S	Sn	06 25 27.3	-0.2
ANTU				AML	AML	06 25 31.9	
	comp=E,446nm,0.5s						
FCH	**Farellones**	**1.65**	**122⇑**	*i* P	Pn	06 25 08.6	+0.3
FCH				*e*S	Sn	06 25 29.6	+0.1
FCH				AML	AML	06 25 32.6	
	comp=E,423nm,0.8s						
PCH	**Pirque**	**1.67**	**134**	*e*P	Pn	06 25 08.2	-0.4
CHCH	**Chadas Angostu**	**1.83**	**143⇑**	*i* P	Pn	06 25 11.2	+0.5
CACH	**El Canelo**	**2.00**	**146**	*e*P	Pn	06 25 14.6	+1.5
CACH				*i* S	Sn	06 25 41.1	+2.9
LMEL	**Las Melosas**	**2.02**	**133**	*e*P	Pn	06 25 13.8	+0.5
LMEL				AML	AML	06 25 47.0	
	comp=N,311nm,0.1s						

DJA 23 06:28:34, 4°.89S×102°.92E, h12km, MLv3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.53**	**4**	P	Pg	06 28 44.5	+0.2
MNAI				S	Sg	06 28 52.8	+1.5
LWLI	**Liwa**	**1.14**	**96**	P	Pb	06 28 54.4	-1.3
KSI	**Kapahiang**	**1.27**	**345**	P	Pn	06 28 56.3	-1.3
KLI	**Kotabumi**	**1.93**	**89**	P	Pn	06 29 06.9	+0.2

*NEIC **23** 06:54:25.9, 15°.97N×95°.32W, h16km, MD3.8(MEX), After MEX.*

MEX 23 06:54:25.9±0.5, 15°.98N×95°.32W, h16km±5km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.79**	**255**	*i* P	Pb	06 54 38.0	-3.2
HUIG				*e*S	Sb	06 54 48.2	-3.4
HUIG	**Huatulco**	**0.79**	**255**	*i* P	Pb	06 54 38.0	-3.2
HUIG				*e*S	Sb	06 54 48.2	-3.4
CMIG	**Matias Romero**	**1.19**	**21**	*i* P	Pn	06 54 44.2	-3.6
CMIG				*e*S	Sb	06 54 58.0	-5.1
CMIG	**Matias Romero**	**1.19**	**21**	*i* P	Pn	06 54 44.2	-3.6
CMIG				*e*S	Sb	06 54 58.0	-5.1
VHO	**Vista Hermosa**	**1.74**	**309**	*i* P	Pn	06 54 52.4	-3.1
VHO				*e*S	Sn	06 55 12.7	-4.6
VHO	**Vista Hermosa**	**1.74**	**309**	*i* P	Pn	06 54 52.4	-3.1
VHO				*e*S	Sn	06 55 12.7	-4.6
PCIG		**2.04**	**97**	*i* P	Pn	06 54 56.5	-3.1
PCIG				*e*S	Sn	06 55 19.6	-5.2
PCIG		**2.04**	**97**	*i* P	Pn	06 54 56.5	-3.1
PCIG				*e*S	Sn	06 55 19.6	-5.2
TGIG		**2.25**	**69**	*i* P	Pn	06 55 00.1	-2.5
TGIG				*e*S	Sn	06 55 24.9	-5.1
TGIG		**2.25**	**69**	*i* P	Pn	06 55 00.1	-2.5
TGIG				*e*S	Sn	06 55 24.9	-5.1
CCIG	**Comitan**	**3.07**	**84**	*i* P	Pn	06 55 11.4	-2.4
CCIG				*e*S	Sn	06 55 47.3	-2.9
CCIG	**Comitan**	**3.07**	**84**	*i* P	Pn	06 55 11.4	-2.4
CCIG				*e*S	Sn	06 55 47.3	-2.9

IDC 23 06:54:46.7±4.4, 5°.04S×151°.91E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/16, mbtmp3.6/2, Error ellipse: s-maj=211.1km s-min=47.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.63**	**228**	P	P	06 59 49.4	0.0
	0.5nm,0.4s,baz=50,slow=10.0,SNR=6.0						
ASAR	**Alice Springs**	**25.38**	**221**	P	P	07 00 15.9	0.0
	0.8nm,0.4s,baz=59,slow=9.0,SNR=12						
TORD	**Torodi Ar. Bea**	**149.53**	**287**	PKPbc	PKPbc	07 14 38.8	-0.4
	0.4nm,0.7s,baz=82,slow=2.9,SNR=2.5						

*IDC **23** 07:32:09.9±1.6, 30°.72S×176°.33W, h0km, mb4.3/4, mb1 4.4/6, mb1mx4.1/18, mbtmp4.3/6, ML4.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=56.2km s-min=24.8km az=133.0*

*ISCJB **23** 07:32:13.5±1.4, 30°.66S±0°.06×176°.6W±0°.2, h33km, mb4.2/5, Error ellipse: s-maj=21.1km s-min=7.9km az=178.1*

*NEIC **23** 07:32:15.4±1.1, 30°.63S×176°.60W, h35km, mb4.2/2, Error ellipse: s-maj=24.6km s-min=14.1km az=105.0*

ISC 23 07:32:15.2±1.4, 30°.57S±0°.06×176°.6W±0°.2, h35km, n26, σ1°.09/19, mb4.2/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.76**	**318**	*e*Pn	**Pn**	**07 32 41.9**	**-1.2**
RAO				*e*Sn	**Sn**	**07 33 03.8**	**-0.4**
URZ	**Urewera**	**9.27**	**213**	Pn	**Pn**	**07 34 25.4**	**-0.9**
	0.8nm,0.3s,baz=313,slow=4.3,SNR=2.2						
URZ				Sn	**Sn**	**07 36 09.6**	**+0.2**
	2.8nm,0.3s,baz=36,slow=22,SNR=8.0						
URZ	**Urewera**	**9.27**	**213**	Pn	**Pn**	**07 34 25.4**	**-0.9**
URZ				Sn	**Sn**	**07 36 09.6**	**+0.2**
SNZO	**South Karori**	**12.83**	**211**	*e*Pn	**Pn**	**07 35 09.4**	**-5.5**
	88nm,1.4s						
RPZ	**Rata Peaks**	**16.39**	**213**	Pn	**Pn**	**07 35 59.8**	**-2.6**
	1.7nm,0.3s,baz=73,slow=3.0,SNR=5.4						
RPZ	**Rata Peaks**	**16.39**	**213**	Pn	**Pn**	**07 35 59.8**	**-2.6**
DZM	**Mont Dzumac**	**17.40**	**295**	*e*LR	LR	07 40 06.5	
	208nm,27.1s						
TBI	**Tubuai**	**25.18**	**80**	*e*LR	LR	07 43 35.1	
	127nm,33.0s						
PPT2	**Papeete2**	**27.75**	**68**	*e*LR	LR	07 44 45.4	
	78nm,25.8s						
CTA	**Charters Tower**	**35.04**	**278**	LR	LR	07 50 17.0	
	comp=Z,75nm,20.1s,baz=51,slow=31						
STKA	**Stephens Creek**	**35.64**	**257**	P	**P**	**07 39 12.3**	**+2.6**
	4.3nm,0.9s,mb4.4,baz=90,slow=12,SNR=7.3						
STKA	**Stephens Creek**	**35.64**	**257**	*e*P	**P**	**07 39 11.5**	**+1.7**
	0.9nm,0.8s,mb3.8						
ASAR	**Alice Springs**	**44.33**	**266**	P	**P**	**07 40 23.2**	**+1.2**
	1.8nm,0.7s,mb3.9,baz=104,slow=7.3,SNR=20						
ASAR				PcP	PcP	07 42 06.3	+0.6
	0.7nm,0.6s,baz=121,slow=3.4,SNR=5.7						
ASAR	**Alice Springs**	**44.33**	**266**	P	**P**	**07 40 23.2**	**+1.2**
ASAR				PcP	PcP	07 42 06.3	+0.6
WB2	**Warramunga Arr**	**45.32**	**272**	*e*P	**P**	**07 40 30.2**	**+0.3**
WRAB	**Tennant Creek**	**45.33**	**272**	*e*P	**P**	**07 40 30.3**	**+0.4**
	7.4nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**45.33**	**272**	P	**P**	**07 40 30.8**	**+0.7**
	6.0nm,0.5s,mb4.7,baz=111,slow=7.6,SNR=26						
WRA	**Warramunga Arr**	**45.33**	**272**	P	**P**	**07 40 30.8**	**+0.7**
ILAR

TGIG		**2.80**	**62**	*i* P	Pn	07 43 49.1	-2.7
TGIG				*e*S	Sn	07 44 22.0	-3.0
CCIG	**Comitan**	**3.52**	**76**	*i* P	Pn	07 43 59.5	-2.3
CCIG				*e*S	Sn	07 44 40.6	-2.3
CCIG	**Comitan**	**3.52**	**76**	*i* P	Pn	07 43 59.5	-2.3
CCIG				*e*S	Sn	07 44 40.6	-2.3
PPM	**Popocatepetl**	**4.54**	**322**	*i* P	Pn	07 44 18.4	+2.6
PPM				*e*S	Sn	07 45 06.2	-1.9
PPM	**Popocatepetl**	**4.54**	**322**	*i* P	Pn	07 44 18.4	+2.6
PPM				*e*S	Sn	07 45 06.2	-1.9
CAIG	**El Cayaco**	**4.66**	**290**	*i* P	Pn	07 44 15.0	-2.4
CAIG	**El Cayaco**	**4.66**	**290**	*i* P	Pn	07 44 15.0	-2.4

IDC 23 07:44:06.7±5.2, 3°.77S×152°.02E, h239km±42km, mb3.5/5, mb1 3.6/7, mb1mx3.3/19, mbtmp3.5/7, Error ellipse: s-maj=62.7km s-min=26.7km az=101.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.39**	**220**	P	Pn	07 45 52.7	+0.4
	1.6nm,0.3s,baz=43,slow=11,SNR=4.0						
CTA	**Charters Tower**	**17.17**	**199**	P	P	07 47 50.5	-0.5
	0.7nm,0.3s,baz=23,slow=16,SNR=5.3						
WRA	**Warramunga Arr**	**23.57**	**226**	P	P	07 48 56.6	+0.6
	4.2nm,0.3s,baz=49,slow=9.7,SNR=50						
ASAR	**Alice Springs**	**26.41**	**220**	P	P	07 49 21.6	0.0
	0.4nm,0.3s,baz=51,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**29.49**	**239**	P	P	07 49 48.5	-0.5
	1.5nm,0.3s,baz=54,slow=11,SNR=29						
MKAR	**Makanchi Array**	**79.04**	**319**	P	P	07 55 45.7	+1.4
	0.5nm,0.7s,baz=96,slow=7.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**79.86**	**326**	P	P	07 55 47.4	-1.2
	0.3nm,0.3s,baz=103,slow=3.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.24**	**289**	PKPbc	PKPbc	08 03 27.5	-0.5
	0.7nm,0.4s,baz=77,slow=2.3,SNR=20						

*NIED **23** 08:23:00, 36°.50N×142°.40E, h11km, Mw4.0 Best double couple: M0 1.8000×10^15 NP1:φ=349.00000°, δ=80.00000°, λ=69.00000°. NP2:φ=235.00000°, δ=23.00000°, λ=154.00000°.*
*IDC **23** 08:23:22.1±0.9, 36°.38N×142°.52E, h0km, mb3.9/9, mb1 4.0/13, mb1mx3.9/26, mbtmp3.9/13, ML3.8/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/37, Error ellipse: s-maj=24.1km s-min=19.6km az=72.0*
*NEIC **23** 08:23:23.9±0.5, 36°.44N×142°.51E, h10km, mb4.2/4, Error ellipse: s-maj=10.5km s-min=8.4km az=148.0*
*ISCJB **23** 08:23:25.8±0.5, 36°.50N±0°.03×142°.40E±0°.05, h33km, mb3.9/13, Error ellipse: s-maj=6.1km s-min=4.1km az=31.2*
*JMA **23** 08:23:25.3±0.2, 36°.51N×142°.38E, h81km, M3.5*
ISC 23 08:23:27.6±0.5, 36°.51N±0°.03×142°.38E±0°.05, h35km, n50, σ0°98/61, mb3.9/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.40**	**295**	P	**Pn**	**08 23 49.3**	**-1.3**
JHO	**Hitachi**	**1.46**	**275**	P	**Pn**	**08 23 50.3**	**-1.1**
JHO				*e*S	**Sn**	**08 24 08.7**	**-0.6**
CHOJ	**Chosi**	**1.47**	**237**	P	**Pn**	**08 23 50.9**	**-0.7**
CHOJ				*e*S	**Sn**	**08 24 08.8**	**-0.7**
JFK	**Kawauchi**	**1.48**	**306**	P	**Pn**	**08 23 50.3**	**-1.4**
JMM	**Marumori**	**1.85**	**317**	P	**Pn**	**08 23 55.6**	**-1.2**
JFT	**Otama**	**1.92**	**302**	P	**Pn**	**08 23 57.6**	**-0.1**
JIO	**Ouri**	**2.11**	**337**	P	**Pn**	**08 23 59.2**	**-1.1**
JIO				*e*S	**Sn**	**08 24 25.3**	**0.0**
BSO1	**Boso 1**	**2.17**	**212**	P	**Pn**	**08 24 00.0**	**-1.3**
BSO1				*e*S	**Sn**	**08 24 27.2**	**+0.2**
JAG	**Ashikaga**	**2.36**	**269**	P	**Pn**	**08 24 03.0**	**-0.8**
JAG				*e*S	**Sn**	**08 24 31.1**	**-0.4**
JMK	**Ichinoseki**	**2.60**	**340**	P	**Pn**	**08 24 06.6**	**-0.6**
JMK				S	**Sn**	**08 24 38.4**	**+0.8**
JRY	**Ryogami san**	**2.85**	**261**	P	**Pn**	**08 24 09.8**	**-0.8**
JRY				S	**Sn**	**08 24 42.7**	**-1.0**
JYK	**Kaneyama**	**2.89**	**327**	P	**Pn**	**08 24 10.6**	**-0.5**
JOD2	**Odawara 2**	**2.94**	**246**	P	**Pn**	**08 24 11.7**	**-0.2**
JOM	**Ohasama**	**3.08**	**344**	P	**Pn**	**08 24 12.9**	**-0.8**
JOM				S	**Sn**	**08 24 50.0**	**+0.7**
JYN	**Shimob**	**3.27**	**253**	P	**Pn**	**08 24 17.3**	**+1.0**
MJAR	**Matsushiro Arr**	**3.36**	**272**	Pn	**Pn**	**08 24 17.7**	**+0.2**
	6.0nm,0.3s,baz=89,slow=8.5,SNR=58						
MJAR				Sn	**Sn**	**08 24 56.8**	**+0.7**
	3.9nm,0.3s,baz=24,slow=24,SNR=4.1						
MJAR				LR	LR	08 25 51.3	
	comp=Z,228nm,21.0s,baz=70,slow=43						
MJAR	**Matsushiro Arr**	**3.36**	**272**	Pn	**Pn**	**08 24 17.7**	**+0.2**
MJAR				Sn	**Sn**	**08 24 56.8**	**+0.7**
MAJO	**Matsushiro**	**3.36**	**272**	*e*Pn	**Pn**	**08 24 18.1**	**+0.6**
MAT	**Matsushiro**	**3.36**	**272**	P	**Pn**	**08 24 18.0**	**+0.5**
MAT				*e*S	**Sn**	**08 24 57.3**	**+1.1**
MAT	**Matsushiro**	**3.36**	**272**	P	**Pn**	**08 24 18.4**	**+0.9**
ERM	**Erimo**	**5.53**	**6**	*e*Pn	**Pn**	**08 24 46.3**	**-1.1**
ERM				*e*Sn	**Sn**	**08 25 47.3**	**-2.4**
ASAJ	**Asahikawa**	**7.60**	**1**	Pn	**Pn**	**08 25 14.7**	**-1.1**
	1.7nm,0.3s,baz=259,slow=17,SNR=13						
ASAJ				LR	LR	08 28 56.4	
	comp=Z,107nm,19.4s,baz=91,slow=43						
ASAJ	**Asahikawa**	**7.60**	**1**	Pn	**Pn**	**08 25 14.7**	**-1.1**
USRK	**Ussuriysk Arra**	**11.02**	**317**	Pn	**Pn**	**08 26 03.4**	**+0.7**
	0.3nm,0.3s,baz=126,slow=14,SNR=4.4						
KSRS	**Korea Array**	**11.60**	**279**	Pn	**Pn**	**08 26 12.2**	**+1.6**
	baz=96,slow=14,SNR=6.2						
KSRS				LR	LR	08 30 38.5	
	comp=Z,68nm,18.7s,baz=45,slow=37						
KSAR	**Wonju Array Be**	**11.63**	**279**	Pn	**Pn**	**08 26 12.2**	**+1.2**
ULN	**Ulaanbaatar**	**28.29**	**305**	*e*P	**P**	**08 29 19.1**	**+1.5**
	2.0nm,0.7s,mb3.9						
SONM	**Songino Array**	**28.72**	**305**	P	**P**	**08 29 23.2**	**+1.8**
	3.8nm,0.8s,mb4.2,baz=103,slow=8.9,SNR=15						
SONM	**Songino Array**	**28.72**	**305**	P	**P**	**08 29 23.2**	**+1.8**
ZALV	**Zalesovo Beam**	**42.84**	**313**	P	**P**	**08 31 23.0**	**+1.1**
	1.8nm,0.6s,mb4.0,baz=96,slow=7.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**42.84**	**313**	P	**P**	**08 31 23.0**	**+1.1**
MK31	**Makanchi Array**	**45.05**	**303**	*e*P	**P**	**08 31 40.8**	**+1.0**
MKAR	**Makanchi Array**	**45.05**	**303**	P	**P**	**08 31 40.5**	**+0.7**
	2.1nm,0.6s,mb4.1,baz=90,slow=10,SNR=15						
MKAR	**Makanchi Array**	**45.05**	**303**	P	**P**	**08 31 40.5**	**+0.7**
KURK	**Kurchatov**	**46.86**	**309**	*e*P	**P**	**08 31 55.0**	**+1.0**
	2.3nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**49.52**	**32**	P	**P**	**08 32 14.9**	**+0.6**
	0.5nm,0.8s,mb3.6,baz=262,slow=5.8,SNR=6.1						
ILAR	**Eielson Array**	**49.52**	**32**	P	**P**	**08 32 14.9**	**+0.6**
WRA	**Warramunga Arr**	**56.66**	**189**	P	**P**	**08 33 06.0**	**-1.3**
	0.8nm,0.7s,mb3.9,baz=8.7,slow=7.2,SNR=4.9						
WRA	**Warramunga Arr**	**56.66**	**189**	P	**P**	**08 33 06.0**	**-1.3**
ABKAR	**Abkulak array**	**58.87**	**311**	*e*P	**P**	**08 33 23.0**	**+0.4**
	0.7nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**60.38**	**189**	P	**P**	**08 33 32.2**	**-1.0**
	0.3nm,0.5s,mb3.6,baz=4.2,slow=6.4,SNR=4.2						
ASAR	**Alice Springs**	**60.38**	**189**	P	**P**	**08 33 32.2**	**-1.0**
NOA	**NORSAR Array B**	**74.97**	**338**	P	**P**	**08 35 05.6**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=56,slow=4.7,SNR=3.1						
NOA	**NORSAR Array B**	**74.97**	**338**	P	**P**	**08 35 05.6**	**+0.8**
AKASG	**Malin Array Be**	**75.18**	**323**	P	**P**	**08 35 06.1**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=45,slow=6.8,SNR=4.3						
AKASG	**Malin Array Be**	**75.18**	**323**	P	**P**	**08 35 06.1**	**-0.1**
EIL	**Elat**	**85.31**	**304**	LR	LR	09 14 01.6	
	comp=Z,74nm,19.2s,baz=100,slow=36						
WMOK	**Wichita Mounta**	**89.09**	**46**	*e*P	**P**	**08 36 21.1**	**+1.8**
	3.5nm,0.6s,mb4.9						
TXAR	**Lajitas Array**	**89.83**	**53**	P	**P**	**08 36 23.7**	**+0.9**
	0.2nm,0.7s,mb3.6,baz=354,slow=1.3,SNR=3.7						
TXAR	**Lajitas Array**	**89.83**	**53**	P	**P**	**08 36 23.7**	**+0.9**

*CSEM **23** 08:25:06.7, 13°.92N×44°.70E, h6km, Mc3.7, After DHMR*
DHMR 23 08:25:06.7±1.6, 13°.92N×44°.70E, h7km±7km, MD3.7, ML3.6, 1C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBOS		**0.54**	**95**	⇓*i*P	Pg	08 25 17.8	+0.7
LBOS				*i* S	Sg	08 25 25.3	+1.2
UDYN	**Al 'Udayn**	**0.71**	**274**	⇓*i*P	Pg	08 25 19.9	-0.5
UDYN				*i* S	Sg	08 25 29.4	-0.2
DHBB	**Dhamar BB**	**0.71**	**335**	⇑*i*P	Pg	08 25 20.6	+0.2
DHBB				*i* S	Sg	08 25 30.1	+0.3
BDHA	**Al Bayda'**	**0.85**	**86**	*i* P	Pg	08 25 22.8	-0.2
BDHA				*i* S	Sg	08 25 34.1	+0.1
BDHA	**Al Bayda'**	**0.85**	**86**	*i* P	Pg	08 25 22.8	-0.2
BDHA				*i* S	Sg	08 25 34.1	+0.1
TRBA	**At Turbah**	**0.89**	**220**	⇓*i*P	Pg	08 25 23.9	+0.1
TRBA				*i* S	Sg	08 25 35.7	+0.4
ADEN	**Aden**	**1.17**	**166**	*i* P	Pg	08 25 28.6	-0.6
ADEN				*i* S	Sg	08 25 44.8	+0.4
ADEN	**Aden**	**1.17**	**166**	*i* P	Pg	08 25 28.6	-0.6
ADEN				*i* S	Sg	08 25 44.8	+0.4
SANA	**San'a**	**1.53**	**342**	*i* S	Sn	08 25 56.3	+1.5
HAJJ	**Hajjah**	**2.06**	**329**	*i* P	Pn	08 25 43.9	+2.0
HAJJ				*i* S	Sn	08 26 12.4	+4.6
HAJJ				AML	AML	08 26 14.1	
	comp=Z,542nm,0.5s						
HAJJ	**Hajjah**	**2.06**	**329**	*i* P	Pn	08 25 43.9	+2.1
HAJJ				*i* S	Sn	08 26 12.4	+4.6
	comp=Z,271nm,0.5s						

*NEIC **23** 08:30:28.9, 45°.36S×167°.25E, h123km, MG4.2(WEL), After WEL.*
WEL 23 08:30:28.7±0.3, 45°.37S×167°.25E, h124km±2km, ML4.2/14, Error ellipse: s-maj=2.4km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.13**	**211**	PN	Pn	08 30 45.4	-0.2
DCZ				SN	Sn	08 30 57.8	-0.6
DCZ	**Deep Cove**	**0.13**	**211**	Pn	Pn	08 30 45.4	-0.2
MLZ	**Mavora Lakes**	**0.65**	**89**	PN	Pn	08 30 47.9	-0.2
MLZ				SN	Sn	08 31 02.6	0.0
MLZ	**Mavora Lakes**	**0.65**	**89**	Pn	Pn	08 30 47.9	-0.2
WHZ	**Wether Hill Ro**	**0.72**	**138**	PN	Pn	08 30 48.8	+0.2
WHZ				SN	Sn	08 31 03.4	-0.2
WHZ	**Wether Hill Ro**	**0.72**	**138**	Pn	Pn	08 30 48.8	+0.2
WHZ				Sn	Sn	08 31 02.8	-0.9
PYZ	**Puysegur Point**	**0.90**	**206**	PN	Pn	08 30 49.9	-0.1
PYZ				SN	Sn	08 31 05.2	-1.1
PYZ	**Puysegur Point**	**0.90**	**206**	Pn	Pn	08 30 50.0	-0.1
WKZ	**Wanaka**	**1.36**	**67**	PN	Pn	08 30 55.2	+0.4
WKZ				SN	Sn	08 31 14.1	-0.5
WKZ	**Wanaka**	**1.36**	**67**	Pn	Pn	08 30 55.2	+0.4
EAZ	**Earnscleugh**	**1.46**	**86**	PN	Pn	08 30 55.8	-0.1
EAZ				SN	Sn	08 31 14.8	-1.7
EAZ	**Earnscleugh**	**1.46**	**86**	Pn	Pn	08 30 55.8	-0.1
APZ	**The Paps**	**1.56**	**161**	PN	Pn	08 30 57.0	0.0
APZ				SN	Sn	08 31 18.0	-0.5
APZ	**The Paps**	**1.56**	**161**	Pn	Pn	08 30 57.0	0.0
JCZ	**Jackson Bay**	**1.68**	**40**	PN	Pn	08 30 58.5	0.0
JCZ	**Jackson Bay**	**1.68**	**40**	Pn	Pn	08 30 58.5	0.0
SYZ	**Scrubby Hill**	**1.76**	**132**	PN	Pn	08 30 59.5	0.0
SYZ	**Scrubby Hill**	**1.76**	**132**	Pn	Pn	08 30 59.5	0.0
TUZ	**Tuapeka**	**1.77**	**110**	PN	Pn	08 30 59.4	-0.2
TUZ	**Tuapeka**	**1.77**	**110**	Pn	Pn	08 30 59.4	-0.2
LBZ	**Lake Benmore**	**2.30**	**66**	PN	Pn	08 31 04.6	-1.5
LBZ	**Lake Benmore**	**2.30**	**66**	Pn	Pn	08 31 04.6	-1.5
ODZ	**Otahua Downs**	**2.42**	**84**	PN	Pn	08 31 06.4	-1.2
ODZ	**Otahua Downs**	**2.42**	**84**	Pn	Pn	08 31 06.5	-1.1
FOZ	**Fox Glacier**	**2.51**	**45**	PN	Pn	08 31 08.0	-0.7
FOZ	**Fox Glacier**	**2.51**	**45**	Pn	Pn	08 31 08.0	-0.7
RPZ	**Rata Peaks**	**3.18**	**60**	PN	Pn	08 31 15.3	-2.1
RPZ	**Rata Peaks**	**3.18**	**60**	Pn	Pn	08 31 15.3	-2.1
CRLZ	**Canterbury Las**	**4.24**	**67**	PN	Pn	08 31 30.3	-1.2
CRLZ	**Canterbury Las**	**4.24**	**67**	Pn	Pn	08 31 30.3	-1.2
LTZ	**Lake Taylor**	**4.44**	**56**	PN	Pn	08 31 31.7	-2.5
LTZ	**Lake Taylor**	**4.44**	**56**	Pn	Pn	08 31 31.7	-2.5
DSZ	**Denniston Nort**	**4.90**	**44**	PN	Pn	08 31 37.8	-2.6
DSZ	**Denniston Nort**	**4.90**	**44**	Pn	Pn	08 31 37.8	-2.6
THZ	**Tophouse**	**5.46**	**51**	PN	Pn	08 31 45.0	-2.9
THZ	**Tophouse**	**5.46**	**51**	Pn	Pn	08 31 45.0	-2.9

*IDC **23** 08:34:53.7±1.1, 7°.91N×91°.83E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/25, mbtmp4.0/10, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/42, Error ellipse: s-maj=38.6km s-min=19.3km az=54.0*
*ISCJB **23** 08:34:57.4±0.7, 8°.0N±0°.1×92°.0E±0°.1, h33km, mb4.1/15, Error ellipse: s-maj=20.9km s-min=12.4km az=144.7*
*NEIC **23** 08:34:59.2±0.6, 7°.92N×91°.91E, h35km, mb4.2/5, Error ellipse: s-maj=18.0km s-min=10.0km az=58.0*
ISC 23 08:34:59.4±0.7, 7°.9N±0°.1×91°.9E±0°.1, h35km, n29, σ0°72/28, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.47**	**32**	Pn	**Pn**	**08 37 54.4**	**-0.2**
	0.4nm,0.3s,baz=236,slow=14,SNR=13						
CMAR	**Chiang Mai Arr**	**12.47**	**32**	Pn	**Pn**	**08 37 54.4**	**-0.2**
LSA	**Lhasa**	**21.66**	**358**	*e*P	**P**	**08 39 49.6**	**+2.6**
	5.4nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**37.82**	**339**	*e*P	**P**	**08 42 13.7**	**+1.1**
	17nm,1.0s,mb4.7						
MK31	**Makanchi Array**	**39.59**	**350**	*e*P	**P**	**08 42 26.9**	**-0.4**
MKAR	**Makanchi Array**	**39.59**	**350**	P	**P**	**08 42 27.1**	**-0.2**
	1.1nm,0.6s,mb3.8,baz=163,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**39.59**	**350**	P	**P**	**08 42 27.1**	**-0.2**
KKAR	**Karaganda Array**	**39.76**	**335**	*e*P	**P**	**08 42 28.9**	**+0.1**
	0.6nm,0.4s,mb3.7						
SONM	**Songino Array**	**41.61**	**15**	P	**P**	**08 42 43.8**	**-0.2**
	3.2nm,0.8s,mb4.0,baz=196,slow=8.9,SNR=11						
SONM	**Songino Array**	**41.61**	**15**	P	**P**	**08 42 43.8**	**-0.2**
KURK	**Kurchatov**	**44.05**	**348**	P	**P**	**08 43 02.5**	**-1.2**
	2.7nm,0.8s,mb4.0,baz=172,slow=7.2,SNR=8.9						
KURK	**Kurchatov**	**44.05**	**348**	P	**P**	**08 43 02.5**	**-1.2**
ZALV	**Zalesovo Beam**	**46.23**	**354**	P	**P**	**08 43 20.4**	**-0.7**
	2.2nm,0.8s,mb4.2,baz=167,slow=9.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.23**	**354**	P	**P**	**08 43 20.4**	**-0.7**
ABKAR	**Abkulak array**	**49.15**	**333**	*e*P	**P**	**08 43 43.9**	**+0.1**
	0.5nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**50.09**	**124**	P	**P**	**08 43 51.2**	**-0.1**
	2.0nm,0.8s,mb4.2,baz=306,slow=8.8,SNR=9.1						
WRA	**Warramunga Arr**	**50.09**	**124**	P	**P**	**08 43 51.2**	**-0.1**
WRAB	**Tennant Creek**	**50.09**	**124**	*e*P	**P**	**08 43 51.5**	**+0.2**
	3.4nm,1.0s,mb4.3						
MJAR	**Matsushiro Arr**	**50.74**	**49**	LR	LR	09 07 39.8	
	comp=Z,43nm,20.5s,baz=345,slow=39						
ASAR	**Alice Springs**	**51.64**	**129**	P	**P**	**08 44 03.3**	**+0.3**
	0.9nm,0.8s,mb3.7,baz=304,slow=7.6,SNR=8.2						
ASAR	**Alice Springs**	**51.64**	**129**	P	**P**	**08 44 03.3**	**+0.3**
BRTR	**Keskin Array B**	**60.74**	**311**	P	**P**	**08 45 07.0**	**-0.7**
	2.0nm,0.8s,mb4.3,baz=111,slow=7.3,SNR=7.3						
BRTR	**Keskin Array B**	**60.74**	**311**	P	**P**	**08 45 07.0**	**-0.7**
GERES	**GERESS Array B**	**76.33**	**318**	P	**P**	**08 46 44.6**	**-0.3**
	1.6nm,0.8s,mb4.0,baz=94,slow=5.4,SNR=9.6						
GERES	**GERESS Array B**	**76.33**	**318**	P	**P**	**08 46 44.6**	**-0.3**
LPG	**La Plagne**	**81.03**	**315**	*e*P	**P**	**08 47 11.3**	**+0.5**
	5.7nm,0.5s,mb4.4						
LPL	**La Plagne**	**81.04**	**315**	*e*P	**P**	**08 47 11.4**	**+0.5**
ILAR	**Eielson Array**	**95.49**	**22**	P	**P**	**08 48 19.9**	**-0.5**
	0.4nm,0.7s,mb4.0,baz=293,slow=4.1,SNR=6.3						
ILAR	**Eielson Array**	**95.49**	**22**	P	**P**	**08 48 19.9**	**-0.5**

DJA 23 08:47:14, 2°.26S×100°.51E, h10km, MLv3.8/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.97**	**80**	P	Pg	08 47 32.0	-0.6
KRJI				S	Sg	08 47 46.3	+1.1
PDSI	**Padang**	**1.34**	**358**	P	Pn	08 47 38.3	-0.5
PDSI				S	Sb	08 47 56.6	+0.1
PPI	**Padang Panjang**	**1.79**	**356**	P	Pn	08 47 46.2	+1.2
PPI				S	Sn	08 48 10.8	+2.9

*IDC **23** 08:59:03.2±3.0, 39°.19N×77°.76E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/27, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=62.9km s-min=25.7km az=131.0*
*NNC **23** 08:59:12.6±1.5, 39°.68N×77°.25E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=12.6km s-min=8.5km az=162.0*
ISC 23 08:59:05.3±3.9, 39°.1N±0°.2×78°.0E±0°.2, h20km±18km, n23, σ1°12/24, mb3.7/6, 6C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.60**	**286**	⇓*i*Pg	**Pg**	**08 59 36.0**	**-0.1**
KSH				Sg	**Sg**	**08 59 57.4**	**+0.5**
KSH				smax			
	comp=N,780nm,0.4s						
KSH				smax			
	comp=E,600nm,0.4s						
ULHL	**Ulahol**	**3.40**	**338**	P	**Pn**	**09 00 00.4**	**+3.2**
	SNR=14						
ULHL				P		09 00 00.4	
	SNR=14						
KZA	**Kyzart**	**3.62**	**326**	P	**Pn**	**09 00 03.8**	**+3.6**
	SNR=40						
KZA				P		09 00 03.8	
	SNR=40						
KNDC	**Almaty**	**4.18**	**350**	⇑Pg	**Pb**	**09 00 16.3**	**-1.8**
	comp=E,29nm,0.3s						
KNDC				⇑Lg		09 01 05.6	
	comp=E,312nm,0.9s						
TKM2	**Tokmak 2**	**4.21**	**336**	P	**Pn**	**09 00 08.6**	**+0.2**
	SNR=15						
TKM2				P		09 00 08.6	
	SNR=15						
TKM2	**Tokmak 2**	**4.21**	**336**	⇑Pn	**Pn**	**09 00 08.3**	**-0.1**
	comp=E,11nm,0.3s						
TKM2				⇓Lg		09 01 03.4	
	comp=E,48nm,0.6s						
KBK	**Karagaybulak**	**4.22**	**328**	P	**Pn**	**09 00 14.7**	**+6.2**
	SNR=13						
KBK				P		09 00 14.7	
	SNR=13						
AAK	**Ala-Archa**	**4.40**	**324**	P	**Pn**	**09 00 18.0**	**+7.0**
	SNR=7.8						
AAK				P		09 00 18.0	
	SNR=7.8						
AML	**Almayashu**	**4.43**	**314**	P	**Pn**	**09 00 11.2**	**-0.3**
	SNR=10						
AML				P		09 00 11.2	
	SNR=10						
USP	**Ospenovka**	**4.91**	**329**	P	**Pn**	**09 00 26.3**	**+8.3**
	SNR=8.4						
USP				P		09 00 26.3	
	SNR=8.4						
KK31	**Karatay Array**	**6.90**	**308**	Pg	**Pb**	**09 01 03.1**	**-1.3**
	comp=E,1.6nm,0.6s,baz=128,slow=17,SNR=11						
KK31				⇑Lg		09 02 24.2	
	comp=E,7.6nm,0.8s,baz=126,slow=25,SNR=4.5						
MK31	**Makanchi Array**	**8.31**	**21**	Pn	**Pn**	**09 01 12.8**	**+8.2**
	comp=E,0.3nm,0.3s,baz=196,slow=12,SNR=30						
MK31				⇑Sn	**Sn**	**09 02 47.6**	**+10**
	comp=E,0.6nm,0.5s						
MKAR	**Makanchi Array**	**8.31**	**21**	Pn	**Pn**	**09 01 05.5**	**+0.9**
	comp=E,0.9nm,0.3s,baz=194,slow=12,SNR=38						
KURK	**Kurchatov**	**11.62**	**2**	Pn	**Pn**	**09 01 47.6**	**-2.4**
	comp=E,0.0nm,0.3s,baz=190,slow=12,SNR=4.2						
KURK	**Kurchatov**	**11.62**	**2**	⇑Lg		09 05 03.4	
	comp=E,5.4nm,1.0s						
BVAR	**Borovoye Array**	**14.87**	**342**	Pn	**Pn**	**09 02 35.8**	**+1.5**
	comp=E,0.2nm,0.3s,baz=146,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**38.59**	**323**	P	**P**	**09 06 25.8**	**-0.7**
	comp=E,1.1nm,0.4s,mb4.0,baz=113,slow=9.3,SNR=13						
ARCES	**ARCESS Array B**	**40.99**	**335**	P	**P**	**09 06 46.0**	**-0.4**
	comp=E,1.4nm,0.6s,mb3.8,baz=98,slow=7.6,SNR=7.9						
NB2	**NORSAR Subarra**	**45.71**	**321**	P	**P**	**09 07 23.7**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.1,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**45.71**	**321**	P	**P**	**09 07 23.8**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=87,slow=8.0,SNR=3.3						
GERES	**GERESS Array B**	**45.99**	**304**	P	**P**	**09 07 26.7**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=75,slow=5.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**71.22**	**272**	P	**P**	**09 10 23.6**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=43,slow=4.0,SNR=3.3						
YKA	**Yellowknife Ar**	**78.24**	**6**	P	**P**	**09 11 03.9**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.4,baz=346,slow=5.6,SNR=5.1						

*IDC **23** 09:03:15.1±1.2, 44°.57N×150°.01E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, MS3.2/4, Ms1 3.3/4, ms1mx2.8/52, Error ellipse: s-maj=37.0km s-min=26.2km az=88.0*
*ISCJB **23** 09:03:21.2±1.6, 43°.8N±0°.1×150°.0E±0°.1, h97km±15km, mb3.4/5, Error ellipse: s-maj=21.5km s-min=11.1km az=144.8*
ISC 23 09:03:22.2±1.5, 43°.9N±0°.1×150°.1E±0°.1, h89km±15km, n22, σ0°69/27, mb3.4/5, East of Kuril Islands

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

JTH	**Tanohata**	**1.27 347**	P	Pn	09 16 29.3	-0.1
JTH			S	Sn	09 16 45.5	+0.3
JOU	**Okura**	**1.29 255**	P	Pn	09 16 30.3	+0.7
JOU			S	Sn	09 16 46.5	+0.9
JMM	**Marumori**	**1.42 234** ⇑	P	Pn	09 16 31.4	+0.1
JMM			S	Sn	09 16 49.2	+0.4
JYK	**Kaneyama**	**1.49 279**	P	Pn	09 16 33.4	+1.0

*ISCJB **23** 09:25:37.0±1.2, 20°.3S±0°.2×67°.7E±0°.2, h10km, mb4.1/9, MS3.9/15, Error ellipse: s-maj=36.5km s-min=19.8km az=40.2*
*IDC **23** 09:25:37.3±1.3, 20°.36S×67°.71E, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.9/23, mbtmp4.1/7, MS3.9/16, Ms1 3.9/16, ms1mx3.7/41, Error ellipse: s-maj=40.8km s-min=25.2km az=35.0*
*NEIC **23** 09:25:39.3±0.6, 20°.27S×67°.73E, h10km, mb4.4/2, Error ellipse: s-maj=21.7km s-min=14.1km az=218.0*

ISC 23 09:25:39.1±1.2, 20°.3S±0°.2×67.7E±0°.2, h10km, n30, σ0°.39/17, mb4.1/9, MS3.9/15, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.42 272**		LR	LR	09 35 44.0	
	comp=Z,410nm,21.6s,baz=228,slow=31						
BOSA	**Boshof**	**39.34 249**		LR	LR	09 46 56.0	
	comp=Z,50nm,19.6s,MS3.4,baz=166,slow=32						
MAW	**Mawson**	**47.39 183**		LR	LR	09 49 39.4	
	comp=Z,190nm,20.3s,MS4.0,baz=43,slow=30						
CMAR	**Chiang Mai Arr**	**49.22 41**		P	**P**	**09 34 28.4**	**+0.5**
	3.5nm,0.8s,mb4.4,baz=235,slow=8.5,SNR=10						
CMAR				LR	LR	09 51 48.6	
	comp=Z,82nm,18.9s,MS3.7,baz=231,slow=32						
CMAR	**Chiang Mai Arr**	**49.22 41**		P	**P**	**09 34 28.4**	**+0.5**
EIL	**Elat**	**58.85 327**		LR	LR	09 56 20.0	
	comp=Z,55nm,21.9s,MS3.6,baz=84,slow=31						
ASAR	**Alice Springs**	**61.00 106**		P	**P**	**09 35 52.8**	**-0.3**
	0.9nm,0.7s,mb4.0,baz=266,slow=6.1,SNR=13						
ASAR	**Alice Springs**	**61.00 106**		P	**P**	**09 35 52.8**	**-0.3**
WRA	**Warramunga Arr**	**62.16 102**		P	**P**	**09 36 00.5**	**-0.5**
	1.0nm,1.0s,mb3.9,baz=256,slow=6.1,SNR=4.5						
WRA				LR	LR	10 00 36.1	
	comp=Z,88nm,18.0s,MS4.0,baz=220,slow=34						
WRA	**Warramunga Arr**	**62.16 102**		P	**P**	**09 36 00.5**	**-0.5**
WRAB	**Tennant Creek**	**62.17 102**	*eP*		**P**	**09 36 01.9**	**+0.7**
	12nm,1.4s,mb4.8						
STKA	**Stephens Creek**	**66.25 117**		LR	LR	10 01 00.9	
	comp=Z,132nm,19.6s,MS4.2,baz=206,slow=32						
MKAR	**Makanchi Array**	**68.07 11**		P	**P**	**09 36 38.7**	**0.0**
	1.0nm,0.7s,mb4.0,baz=208,slow=6.3,SNR=14						
MKAR				LR	LR	10 05 58.1	
	comp=Z,105nm,19.0s,MS4.1,baz=205,slow=36						
MKAR	**Makanchi Array**	**68.07 11**		P	**P**	**09 36 38.7**	**0.0**
ABKAR	**Akbulak array**	**69.58 355**	*eP*		**P**	**09 36 47.9**	**-0.2**
	0.2nm,0.2s,mb3.7						
KURK	**Kurchatov**	**71.36 7**		P	**P**	**09 36 58.5**	**-0.5**
	2.3nm,0.3s,mb4.6,baz=201,slow=6.7,SNR=4.6						
KURK				LR	LR	10 08 11.5	
	comp=Z,88nm,18.7s,MS4.0,baz=310,slow=36						
KURK	**Kurchatov**	**71.36 7**		P	**P**	**09 36 58.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**72.91 291**		P	**P**	**09 37 09.3**	**+0.3**
	0.5nm,0.9s,mb3.4,baz=106,slow=5.1,SNR=2.6						
TORD				LR	LR	10 05 54.7	
	comp=Z,72nm,20.3s,MS3.9,baz=350,slow=33						
TORD	**Torodi Ar. Bea**	**72.91 291**		P	**P**	**09 37 09.3**	**+0.3**
CTA	**Charters Tower**	**72.97 106**		LR	LR	10 06 56.6	
	comp=Z,109nm,18.9s,MS4.2,baz=231,slow=34						
BVAR	**Borovoye Array**	**73.05 2**		LR	LR	10 08 05.6	
	comp=Z,86nm,20.2s,MS4.0,baz=339,slow=35						
ZAA0	**Zalesovo Array**	**75.40 10**	*eP*		**P**	**09 37 22.7**	**0.0**
ZALV	**Zalesovo Beam**	**75.40 10**		P	**P**	**09 37 22.8**	**0.0**
	2.3nm,0.6s,mb4.3,baz=195,slow=6.4,SNR=12						
ZALV				LR	LR	10 10 04.0	
	comp=Z,74nm,18.6s,MS4.0,baz=225,slow=35						
ZALV	**Zalesovo Beam**	**75.40 10**		P	**P**	**09 37 22.8**	**0.0**
DBIC	**Dimbokro**	**76.13 283**		LR	LR	10 09 17.0	
	comp=Z,79nm,18.8s,MS4.0,baz=88,slow=34						
SONM	**Songino Array**	**76.19 26**		LR	LR	10 09 02.7	
	comp=Z,102nm,21.0s,MS4.1,baz=157,slow=34						
KSRS	**Korea Array**	**80.67 44**		LR	LR	10 10 55.5	
	comp=Z,45nm,19.4s,MS3.8,baz=350,slow=34						
DLBC	**Dease Lake**	**139.78 14**	*eP*	KPdf	PKPdf	09 45 07.8	+0.8
HALT	**Halls**	**154.56 313**	*eP*	KPdf	PKPdf	09 45 33.1	+1.0
HALT			*eP*	KPbc	PKPbc	09 45 39.5	-1.0
CPRX	**Cap Rock**	**165.26 331**	*eP*	KPdf	PKPdf	09 45 44.6	+0.4

DJA 23 09:30:03.0°.65S×123°.32E, h10km, MLv3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.67 235**		P	Pg	09 30 15.4	-0.6
LUWI				S	Sg	09 30 24.7	-0.1
GTOI	**Gorontalo**	**1.31 346**		P	Pn	09 30 27.3	-0.1
GTOI				S	Sb	09 30 45.0	+0.3
APSI	**Ampana**	**1.69 261**		P	Pn	09 30 34.0	+1.4
APSI				S	Sn	09 30 56.7	+2.4

IDC 23 09:49:31.2±28.0, 14°.44N×122°.09E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, 1D, Error ellipse: s-maj=502.8km s-min=296.1km az=148.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**2.17 112**	⇓	*eP*	Pn	09 50 14.4	+5.9
WRA	**Warramunga Arr**	**36.22 160**		P	P	09 56 34.8	-1.2
	0.2nm,0.6s,baz=340,slow=8.9,SNR=2.7						
ASAR	**Alice Springs**	**39.59 163**		P	P	09 57 05.3	+0.9
	0.6nm,0.6s,baz=343,slow=6.3,SNR=8.8						
STKA	**Stephens Creek**	**49.70 158**		P	P	09 58 25.2	+0.1
	1.7nm,0.8s,baz=331,slow=9.1,SNR=4.2						

*NIED **23** 10:05:00, 36°.60N×142°.50E, h8km, Mw3.9 Best double couple: M0:8.81000×10^14 NP1:φs352.00000°, δ54.00000°, λ78.00000°. NP2:φs193.00000°, δ38.00000°, λ106.00000°.*
*IDC **23** 10:05:22.6±0.9, 36°.41N×142°.67E, h0km, mb3.9/11, mb1 4.0/15, mb1mx3.9/29, mbtmp3.9/15, ML3.4/4, Error ellipse: s-maj=20.5km s-min=19.0km az=34.0*
*ISCJB **23** 10:05:24.6±1.5, 36°.54N±0°.03×142°.57E±0°.05, h21km±12km, mb3.9/13, Error ellipse: s-maj=6.7km s-min=5.5km az=23.1*
*JMA **23** 10:05:25.2±0.2, 36°.57N×142°.54E, h29km, M3.6*
*NEIC **23** 10:05:25.2, 36°.57N×142°.54E, h29km, mb4.0/2, After JMA.*

ISC 23 10:05:25.9±1.6, 36°.55N±0°.03×142°.50E±0°.05, h16km±11km, n49, σ1°.09/63, mb3.9/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.48 293**		P	**Pn**	**10 05 50.7**	**-1.1**
ONAJ				*eS*	**Sn**	**10 06 09.5**	**-1.2**
JFK	**Kawauchi**	**1.54 303**		P	**Pn**	**10 05 51.5**	**-1.2**
JFK				*eS*	**Sn**	**10 06 11.9**	**-0.4**
JHO	**Hitachi**	**1.56 273**		P	**Pn**	**10 05 52.0**	**-0.9**
JHO				*eS*	**Sn**	**10 06 11.8**	**-1.0**
CHOJ	**Chosi**	**1.57 238**		P	**Pn**	**10 05 53.2**	**+0.1**
JMM	**Marumori**	**1.90 314**		P	**Pn**	**10 05 56.6**	**-1.0**
JMM				*eS*	**Sn**	**10 06 20.0**	**-1.1**
JFT	**Otama**	**1.99 300**		P	**Pn**	**10 05 58.9**	**+0.1**
JIO	**Ouri**	**2.11 335**		P	**Pn**	**10 05 59.5**	**-1.1**
BSO1	**Boso 1**	**2.26 214**		P	**Pn**	**10 06 01.8**	**-0.8**
BSO1				*eS*	**Sn**	**10 06 31.0**	**+0.9**
JOU	**Okura**	**2.33 322**		P	**Pn**	**10 06 03.1**	**-0.5**
JOU				*eS*	**Sn**	**10 06 32.7**	**+0.8**
JAG	**Ashikaga**	**2.46 268**		P	**Pn**	**10 06 04.9**	**-0.4**
JAG				*eS*	**Sn**	**10 06 34.2**	**-0.8**
JMK	**Ichinoseki**	**2.61 337**		P	**Pn**	**10 06 06.7**	**-0.6**
JMK				*eS*	**Sn**	**10 06 38.4**	**-0.3**
JYK	**Kaneyama**	**2.91 325**		P	**Pn**	**10 06 11.3**	**-0.3**
JRY	**Ryogami san**	**2.96 261**		P	**Pn**	**10 06 11.7**	**-0.5**
JRY				*eS*	**Sn**	**10 06 45.6**	**-1.7**
JOD2	**Odawara 2**	**3.05 246**		P	**Pn**	**10 06 12.9**	**-0.6**
JOM	**Ohasama**	**3.07 342**		P	**Pn**	**10 06 13.8**	**0.0**
JOM				*eS*	**Sn**	**10 06 51.0**	**+0.8**
MJAR	**Matsushiro Arr**	**3.46 271**		Pn	**Pn**	**10 06 19.5**	**+0.5**
	8.5nm,0.3s,baz=86,slow=8.4,SNR=90						
MJAR				Sn	**Sn**	**10 07 02.6**	**+2.9**
	2.9nm,0.3s,baz=77,slow=13,SNR=5.6						
MJAR	**Matsushiro Arr**	**3.46 271**		Pn	**Pn**	**10 06 19.5**	**+0.5**
MJAR				Sn	**Sn**	**10 07 02.6**	**+2.9**
MAJO	**Matsushiro**	**3.46 271**		*e*Pn	**Pn**	**10 06 20.4**	**+1.3**
MAJO				*e*Sn	**Sn**	**10 06 55.6**	**-4.1**
MAT	**Matsushiro**	**3.46 271**		P	**Pn**	**10 06 20.0**	**+0.9**
MAT				*eS*	**Sn**	**10 07 01.4**	**+1.7**
ASAJ	**Asahikawa**	**7.56 1**		Pn	**Pn**	**10 07 15.1**	**-0.3**
	1.0nm,0.3s,baz=33,slow=9.0,SNR=6.5						
ASAJ	**Asahikawa**	**7.56 1**		Pn	**Pn**	**10 07 15.1**	**-0.3**
USRK	**Ussuriysk Arra**	**11.07 317**		Pn	**Pn**	**10 08 05.3**	**+1.9**
	0.4nm,0.3s,baz=133,slow=12,SNR=10						
KSRS	**Korea Array**	**11.70 279**		Pn	**Pn**	**10 08 14.8**	**+2.8**
	0.1nm,0.3s,baz=84,slow=13,SNR=5.5						
KSAR	**Wonju Array Be**	**11.73 279**		Pn	**Pn**	**10 08 14.8**	**+2.4**
ULN	**Ulaanbaatar**	**28.35 305**	*eP*		**P**	**10 11 21.0**	**+2.0**
	1.7nm,0.6s,mb3.9						
SONM	**Songino Array**	**28.78 304**		P	**P**	**10 11 24.5**	**+1.7**
	5.0nm,0.7s,mb4.3,baz=104,slow=9.2,SNR=20						
SONM	**Songino Array**	**28.78 304**		P	**P**	**10 11 24.5**	**+1.7**
ZALV	**Zalesovo Beam**	**42.89 313**		P	**P**	**10 13 24.0**	**+0.7**
	1.1nm,0.5s,mb3.9,baz=112,slow=8.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**42.89 313**		P	**P**	**10 13 24.0**	**+0.7**
MK31	**Makanchi Array**	**45.12 303**	*eP*		**P**	**10 13 41.9**	**+0.6**
MKAR	**Makanchi Array**	**45.12 303**		P	**P**	**10 13 41.7**	**+0.4**
	1.9nm,0.7s,mb4.0,baz=88,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	**45.12 303**		P	**P**	**10 13 41.7**	**+0.4**
KURK	**Kurchatov**	**46.92 309**		P	**P**	**10 13 56.5**	**+1.1**
	3.4nm,0.6s,mb4.4,baz=83,slow=8.0,SNR=22						
KURK	**Kurchatov**	**46.92 309**	*eP*		**P**	**10 13 52.9**	**-2.5**
	3.3nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**49.44 32**		P	**P**	**10 14 13.8**	**-0.9**
	0.8nm,0.8s,mb3.8,baz=263,slow=6.7,SNR=6.0						
ILAR	**Eielson Array**	**49.44 32**		P	**P**	**10 14 13.8**	**-0.9**
BVAR	**Borovoye Array**	**51.55 313**		P	**P**	**10 14 30.7**	**0.0**
	0.6nm,0.5s,mb3.8,baz=64,slow=9.8,SNR=4.3						
BVAR	**Borovoye Array**	**51.55 313**		P	**P**	**10 14 30.8**	**0.0**
WRA	**Warramunga Arr**	**56.71 189**		P	**P**	**10 15 08.0**	**-0.7**
	1.3nm,0.9s,mb3.9,baz=8.9,slow=7.4,SNR=5.3						
WRA	**Warramunga Arr**	**56.71 189**		P	**P**	**10 15 08.0**	**-0.7**
ABKAR	**Akbulak array**	**58.92 311**	*eP*		**P**	**10 15 24.3**	**+0.3**
	0.9nm,0.5s,mb4.1						
AKTO	**Aktyubinsk**	**59.65 312**		P	**P**	**10 15 29.4**	**+0.3**
	0.6nm,0.6s,mb3.8,baz=76,slow=12,SNR=4.7						
AKTO	**Aktyubinsk**	**59.65 312**		P	**P**	**10 15 29.4**	**+0.3**
ASAR	**Alice Springs**	**60.44 189**		P	**P**	**10 15 32.1**	**-2.5**
	0.4nm,0.9s,mb3.5,baz=4.1,slow=7.2,SNR=5.7						
ASAR	**Alice Springs**	**60.44 189**		P	**P**	**10 15 32.1**	**-2.5**
YKA	**Yellowknife Ar**	**63.79 30**		P	**P**	**10 15 56.8**	**+0.1**
	0.3nm,0.6s,mb3.5,baz=304,slow=6.9,SNR=4.4						
YKA	**Yellowknife Ar**	**63.79 30**		P	**P**	**10 15 56.8**	**+0.1**
TXAR	**Lajitas Array**	**89.72 53**		P	**P**	**10 18 24.0**	**+0.4**
	0.2nm,0.6s,mb3.6,baz=327,slow=3.0,SNR=3.7						
TXAR	**Lajitas Array**	**89.72 53**		P	**P**	**10 18 24.0**	**+0.4**

*ISCJB **23** 10:21:45.3±0.9, 60°.85N±0°.03×166°.58E±0°.05, h9km±5km, mb4.2/38, Error ellipse: s-maj=5.2km s-min=4.3km az=175.1*
*MOS **23** 10:21:45.3±0.9, 60°.79N×166°.65E, h13km, mb4.4/21, Error ellipse: s-maj=14.2km s-min=7.6km az=87.5*
*KRSC **23** 10:21:46.3±1.3, 60°.81N×166°.52E, h19km±20km, ML4.5*
*IDC **23** 10:21:48.4±0.7, 60°.77N×166°.61E, h20km±4km, mb4.0/25, mb1 4.2/26, mb1mx4.2/30, mbtmp4.0/26, ML3.6/1, MS3.3/2, Ms1 3.4/2, ms1mx2.9/41, Error ellipse: s-maj=12.4km s-min=10.9km az=18.0*
*NEIC **23** 10:21:48.4±0.3, 60°.75N×166°.64E, mb4.5/10, Error ellipse: s-maj=8.8km s-min=5.2km az=172.0*
*BJI **23** 10:21:48.1, 60°.90N×166°.60E, h33km, mB4.9/3, mb4.4/8, Ms4.4/2, Ms7 4.2/3*
*NERS **23** 10:21:51.4, 61°.20N×166°.63E, h33km, MPV4.6*

ISC 23 10:21:47.2±0.8, 60°.79N±0°.03×166°.67E±0°.05, h10km±5km, h20km±1.2km: pP-P, n130, σ1°.01/144, mb4.2/38, 3C-5D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.47 220**		*eP*	**Pg**	**10 21 55.9**	**-0.5**
TILR				*i* S	**Sg**	**10 22 02.9**	**+0.3**
EVEN	**Evensk**	**3.75 291**		*eP*	**Pn**	**10 22 46.1**	**+1.0**
EVEN				Pmax		10 22 50.9	
	150nm,0.3s						
EVEN				*e*Sg	**Sg**	**10 23 46.1**	**-1.5**
EVEN				Sgmax		10 23 59.2	
	3μm,0.5s						
SMKR	**Semkarok**	**5.02 215**		P	**Pn**	**10 23 04.3**	**+1.8**
KBTR	**Krutoberegovo**	**5.02 205**		*eP*	**Pn**	**10 23 03.3**	**+0.8**
KBTR				*i* S	**Sn**	**10 24 00.5**	**0.0**
KBTR	**Krutoberegovo**	**5.02 205**		PN	**Pn**	**10 23 03.3**	**+0.8**
OMS	**Omsukchan**	**5.47 293**		*eP*	**Pn**	**10 23 10.0**	**+1.3**
OMS				Pmax		10 23 10.6	
	60nm,0.5s						
OMS				*e*S	**Sn**	**10 24 13.9**	**+2.4**
OMS				*e*Sg	**Sg**	**10 24 41.9**	**-0.7**
OMS				Sgmax		10 24 52.0	
	880nm,0.8s						
OMS				Sgmax		10 24 52.0	
	180nm,0.6s						
BKI	**Bering**	**5.62 184**		*eP*	**Pn**	**10 23 10.5**	**-0.2**
BKI	**Bering**	**5.62 184**		PN	**Pn**	**10 23 10.5**	**-0.2**
MKZ	**Mys Kozlova**	**6.79 205**		*eP*	**Pn**	**10 23 27.9**	**+1.1**
MKZ	**Mys Kozlova**	**6.79 205**		PN	**Pn**	**10 23 27.9**	**+1.1**
TLAR	**Talaya**	**6.96 279**		*eP*	**Pn**	**10 23 33.9**	**+4.9**
TLAR				Pmax		10 23 36.7	
	20nm,0.8s						
TLAR				*e*S	**Sn**	**10 24 51.0**	**+2.9**
TLAR				*e*		10 25 24.7	
TLAR				*e*Sg	**Sg**	**10 25 31.4**	**+1.2**
TLAR				Sgmax		10 25 37.8	
	270nm,0.9s						
TLAR				Sgmax		10 25 37.8	
	220nm,1.0s						
SEY	**Seymchan**	**7.09 294**	⇓	*e*PN	**Pn**	**10 23 31.5**	**+0.7**
SEY	**Seymchan**	**7.09 294**		*eP*	**Pn**	**10 23 32.0**	**+1.2**
SEY				Pmax		10 23 38.9	
	10.0nm,0.6s						
SEY				*e*S	**Sn**	**10 24 51.7**	**+0.4**
SEY				*e*Sg	**Sg**	**10 25 33.1**	**-1.3**
SEY				Sgmax		10 25 53.0	
	200nm,1.0s						
SEY				Sgmax		10 25 53.0	
	80nm,0.8s						
BILL	**Bilibino**	**7.28 359**		P	**Pn**	**10 23 34.7**	**+1.3**
BILL				*i* S	**Sn**	**10 24 55.5**	**-0.5**
BILL	**Bilibino**	**7.28 359**		*eP*	**Pn**	**10 23 34.3**	**+0.9**
BILL				Pmax		10 23 41.5	
	10.0nm,0.7s						
BILL				*e*S	**Sn**	**10 24 57.6**	**+1.6**
BILL				*e*Sg	**Sg**	**10 25 30.1**	**-10**
BILL				Sgmax		10 25 49.8	
	290nm,0.9s						
BILL				Sgmax		10 25 49.8	
	110nm,0.9s						
SNGR	**Sinegor'e**	**7.90 286**		*eP*	**Pn**	**10 23 42.6**	**+0.6**
SNGR				Pmax		10 23 44.3	
	10.0nm,0.6s						
SNGR				*e*		10 25 52.2	
MGD	**Magadan 1**	**7.92 272**		*eP*	**Pn**	**10 23 47.6**	**+5.3**
MGD				Pmax		10 23 48.6	
	8.0nm,0.8s						
MGD				*e*		10 25 51.2	
FX1	**Attu Island--F**	**8.69 153**		Pn	**Pn**	**10 23 51.3**	**-1.5**
	2.2nm,0.3s,baz=63,slow=12,SNR=10						
FX1	**Attu Island--F**	**8.69 153**		Pn	**Pn**	**10 23 51.3**	**-1.5**
FX1	**Attu Island--F**	**8.69 153**		PN	**Pn**	**10 23 51.3**	**-1.5**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**8.93 213**		*e*PN	**Pn**	**10 23 52.5**	**-3.6**
PET				MLR	MLR		
	comp=Z,400nm,14.0s						
SUUS	**Susuman**	**8.98 291**		*e*	**Pn**	**10 24 06.7**	**+10**
SUUS				*e*		10 26 33.7	
SUUS				*e*		10 26 53.9	
OCHR	**Omchak**	**9.11 284**		*eP*	**Pn**	**10 24 00.7**	**+2.2**
OCHR				Pmax		10 24 01.0	
OCHR				*e*S	**Sn**	**10 25 39.6**	**-1.3**
OCHR				*e*		10 26 10.1	
PETK	**Petropavlovsk-**	**9.12 216**		LR	LR	10 27 42.5	
	comp=Z,117nm,19.3s,baz=50,slow=39						
YAK	**Yakutsk**	**17.59 290**		*eP*	**Pn**	**10 25 54.3**	**+2.2**
	comp=Z,63nm,0.8s						
YAK	**Yakutsk**	**17.59 290**		*eP*	**Pn**	**10 25 52.7**	**+0.6**
YAK				pmax	pmax		
	comp=Z,30nm,1.0s						
YAK				pmax	pmax		
	comp=E,12nm,1.2s						
YSS	**Yuzh-Sakhalins**	**19.61 236**		*eP*	**Pn**	**10 26 14.0**	**-2.7**
RSO	**Redoubt South**	**19.69 73**		*eP*	**Pn**	**10 26 17.9**	**+0.3**
	comp=E,34nm,0.9s						
TRF	**Thorofare Moun**	**20.02 64**		*eP*	**P**	**10 26 21.9**	**+2.2**
	comp=E,42nm,1.3s						
ILAR	**Eielson Array**	**21.22 59**		P	**P**	**10 26 33.5**	**+0.7**
	comp=E,6.4nm,0.6s,mb4.1,baz=276,slow=11,SNR=66						
ILAR				LR	LR	10 35 28.3	
	comp=E,110nm,19.6s,baz=164,slow=39						
ILAR	**Eielson Array**	**21.22 59**		P	**P**	**10 26 33.5**	**+0.7**
ILAR	**Eielson Array**	**21.22 59**		P	**P**	**10 26 33.5**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SML	**Sawmill**	**21.31 68**		*eP*	**P**	**10 26 33.7**	**0.0**
	comp=Z,12nm,1.3s,mb4.1						
SML	**Sawmill**	**21.31 68**		*eP*	**P**	**10 26 33.7**	**0.0**
SML				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.1						
PAX	**Paxson**	**22.25 63**		*eP*	**P**	**10 26 43.3**	**-0.5**
	comp=Z,15nm,1.3s,mb4.3						
PAX	**Paxson**	**22.25 63**		*eP*	**P**	**10 26 43.3**	**-0.5**
PAX				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.3						
DOT	**Dot Lake**	**22.68 61**		*eP*	**P**	**10 26 46.4**	**-1.9**
	comp=Z,14nm,1.1s,mb4.3						
MENT	**Mentasta**	**23.03 63**		*eP*	**P**	**10 26 51.7**	**-0.4**
INK	**Inuvik**	**25.75 48**		P	**P**	**10 27 17.4**	**-0.1**
	comp=Z,5.4nm,0.7s,mb4.2,baz=303,slow=5.9,SNR=26						
INK	**Inuvik**	**25.75 48**		*eP*	**P**	**10 27 17.8**	**+0.3**
	comp=Z,14nm,1.1s,mb4.4						
INK	**Inuvik**	**25.75 48**		*eP*	**P**	**10 27 17.8**	**+0.3**
INK				pmax	pmax		
	comp=Z,14nm,1.1s						
BOD	**Bodaibo**	**26.45 287**		*eP*	**P**	**10 27 23.2**	**-0.6**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
VLA	**Vladivostok**	**27.31 246**	⇓	*eP*	**P**	**10 27 32.8**	**+1.0**
VLA				*e*S	**S**	**10 32 10.6**	**-0.4**
VLA				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
MJA0	**Matsu Arr-Jizo**	**30.23 230**		*eP*	**P**	**10 27 58.9**	**+1.1**
MJA0				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MJAR	**Matsushiro Arr**	**30.25 230**		P	**P**	**10 27 57.0**	**-1.0**
	comp=Z,3.1nm,1.0s,mb4.0,baz=20,slow=8.6,SNR=4.6						
MJAR	**Matsushiro Arr**	**30.25 230**		P	**P**	**10 27 57.0**	**-1.0**
MJAR	**Matsushiro Arr**	**30.25 230**		P	**P**	**10 27 57.0**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DLBC	**Dease Lake**	**31.01 66**		*eP*	**P**	**10 28 06.2**	**+1.8**
KSRS	**Korea Array**	**33.68 244**		P	**P**	**10 28 27.7**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=22,slow=9.9,SNR=4.0						
KSRS	**Korea Array**	**33.68 244**		P	**P**	**10 28 27.7**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
KSAR	**Wonju Array Be**	**33.71 244**		P	**P**	**10 28 27.7**	**-0.6**
KSAR	**Wonju Array Be**	**33.71 244**		P	**P**	**10 28 27.7**	**-0.6**
YKA	**Yellowknife Ar**	**35.28 52**		P	**P**	**10 28 41.7**	**+0.1**
	comp=Z,4.3nm,0.7s,mb4.5,baz=304,slow=8.3,SNR=43						
YKA				PcP	PcP	10 31 11.4	-0.3
	comp=Z,0.2nm,0.6s,baz=320,slow=3.1,SNR=3.7						
YKA	**Yellowknife Ar**	**35.28 52**		P	**P**	**10 28 41.7**	**+0.1**
YKA				PcP	PcP	10 31 11.4	-0.3
YKA	**Yellowknife Ar**	**35.28 52**		P	**P**	**10 28 41.7**	**+0.1**
YKA						10 31 11.4	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAK	**Zakamensk**	**35.89 282**		*eP*	**P**	**10 28 43.9**	**-3.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
SONM	**Songino Array**	**36.11 277**		P	**P**	**10 28 49.3**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=40,slow=14,SNR=3.6						
SONM				pP	pP	10 28 55.1	+3.2
	comp=Z,1.8nm,0.9s,baz=72,slow=9.4,SNR=5.3						
SONM	**Songino Array**	**36.11 277**		P	**P**	**10 28 49.3**	**+0.4**
SONM				pP	pP	10 28 55.1	+3.2
SONM	**Songino Array**	**36.11 277**		P	**P**	**10 28 49.3**	**+0.4**
SONM				*PP	pP	10 28 55.1	+3.1
ZALV	**Zalesovo Beam**	**41.92 299**		P	**P**	**10 29 38.0**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.2,baz=349,slow=4.4,SNR=2.4						
ZALV				pP	pP	10 29 43.5	+3.0
	comp=Z,1.0nm,0.7s,baz=43,slow=6.7,SNR=2.8						
ZALV				PcP	PcP	10 31 31.8	-0.9
	comp=Z,1.0nm,0.6s,baz=42,slow=4.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.92 299**		P	**P**	**10 29 38.0**	**+0.6**

FINES	**FINESS Array B**	**54.40 338**	P	**P**		**10 31 12.7**	**-1.0**
	comp=Z,7.5nm,1.0s,mb4.6,baz=35,slow=7.0,SNR=4.2						
FINES	**FINESS Array B**	**54.40 338**	P	**P**		**10 31 12.7**	**-1.0**
FINES	**FINESS Array B**	**54.40 338**	P	**P**		**10 31 12.7**	**-1.0**
FINES			pmax	pmax			
	comp=Z,8.0nm,1.0s						
AAK	**Ala-Archa**	**54.94 296**	⇓*i*P	**P**		**10 31 17.9**	**0.0**
AAK			pmax	pmax			
	comp=Z,20nm,1.6s,mb4.9						
KKAR	**Karatay Array**	**56.30 299**	*e*P	**P**		**10 31 27.3**	**-0.3**
	comp=Z,1.0nm,0.6s,mb4.0						
KKAR	**Karatay Array**	**56.30 299**	*e*P	**P**		**10 31 27.3**	**-0.3**
KKAR			pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0						
NB2	**NORSAR Subarra**	**57.03 346**	P	**P**		**10 31 31.9**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.2,baz=15,slow=7.4						
NOA	**NORSAR Array B**	**57.03 346**	P	**P**		**10 31 32.0**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.4,baz=14,slow=7.3,SNR=9.1						
NOA	**NORSAR Array B**	**57.03 346**	P	**P**		**10 31 32.0**	**-0.6**
NOA	**NORSAR Array B**	**57.03 346**	P	**P**		**10 31 32.0**	**-0.6**
NOA			pmax	pmax			
	comp=Z,3.0nm,0.6s						
SCHQ	**Schefferville**	**57.18 34**	P	**P**		**10 31 32.7**	**-1.0**
	comp=Z,4.4nm,0.8s,mb4.5,baz=46,slow=14,SNR=3.8						
SCHQ	**Schefferville**	**57.18 34**	P	**P**		**10 31 32.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**63.21 260**	P	**P**		**10 32 15.2**	**-0.3**
	comp=Z,0.5nm,0.3s,mb4.1,baz=9.8,slow=5.7,SNR=5.5						
CMAR	**Chiang Mai Arr**	**63.21 260**	P	**P**		**10 32 15.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**63.21 260**	P	**P**		**10 32 15.2**	**-0.3**
CMAR			pmax	pmax			
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**63.72 331**	P	**P**		**10 32 17.7**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.2,baz=20,slow=5.1,SNR=3.5						
AKASG	**Malin Array Be**	**63.72 331**	P	**P**		**10 32 17.7**	**-0.7**
AKASG	**Malin Array Be**	**63.72 331**	P	**P**		**10 32 17.7**	**-0.7**
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.6s						
KIEV	**Kiev**	**63.73 331**	⇓*e*P	**P**		**10 32 17.6**	**-0.9**
TXAR	**Lajitas Array**	**64.71 75**	P	**P**		**10 32 25.6**	**+0.4**
	comp=Z,0.8nm,0.9s,mb3.7,baz=318,slow=3.5,SNR=6.9						
TXAR	**Lajitas Array**	**64.71 75**	P	**P**		**10 32 25.6**	**+0.4**
TXAR	**Lajitas Array**	**64.71 75**	P	**P**		**10 32 25.7**	**+0.5**
TXAR			pmax	pmax			
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**68.55 341**	P	**P**		**10 32 48.5**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=60,slow=3.7,SNR=4.4						
GERES	**GERESS Array B**	**68.55 341**	P	**P**		**10 32 48.5**	**-0.9**
GERES	**GERESS Array B**	**68.55 341**	P	**P**		**10 32 48.6**	**-0.9**
TIRR	**Tirgusor**	**69.74 329**	*e*P	**P**		**10 32 57.0**	**+0.1**
	comp=Z,68nm,0.6s						
TIRR	**Tirgusor**	**69.74 329**	*e*P	**P**		**10 32 57.1**	**+0.1**
TIRR	**Tirgusor**	**69.74 329**	⇓*i*P	**P**		**10 32 57.2**	**+0.2**
BRTR	**Keskin Array B**	**72.74 324**	P	**P**		**10 33 15.2**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=42,slow=2.3,SNR=3.5						
BRTR	**Keskin Array B**	**72.74 324**	P	**P**		**10 33 15.2**	**0.0**
BRTR	**Keskin Array B**	**72.74 324**	P	**P**		**10 33 15.2**	**0.0**
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.6s						
ESDC	**Sonseca Array**	**79.59 353**	P	**P**		**10 33 54.0**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=0.5,slow=4.9,SNR=5.0						
ESDC	**Sonseca Array**	**79.59 353**	P	**P**		**10 33 54.0**	**-0.1**
WRA	**Warramunga Arr**	**84.58 210**	P	**P**		**10 34 19.5**	**-0.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=17,slow=5.4,SNR=6.4						
WRA			pP	pP		10 34 25.6	+2.0
	comp=Z,0.9nm,0.6s,baz=18,slow=5.5,SNR=4.3						
WRA	**Warramunga Arr**	**84.58 210**	P	**P**		**10 34 19.5**	**-0.8**
WRA			pP	pP		10 34 25.6	+2.0
WRA	**Warramunga Arr**	**84.58 210**	P	**P**		**10 34 19.5**	**-0.8**
WRA			*PP	pP		10 34 25.6	+2.0
WRA			pmax	pmax			
	comp=Z,1.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**85.25 219**	*e*P	**P**		**10 34 23.9**	**+0.1**
ASAR	**Alice Springs**	**88.26 210**	P	**P**		**10 34 37.7**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.8,baz=22,slow=5.4,SNR=3.7						
ASAR	**Alice Springs**	**88.26 210**	P	**P**		**10 34 37.7**	**-0.7**
ASAR	**Alice Springs**	**88.26 210**	P	**P**		**10 34 37.7**	**-0.6**

*ISCJB **23** 10:26:05.3±1.9, 47°.3S±0°.1×165°.27E±0°.07, h4km±14km, mb3.7/3, Error ellipse: s-maj=19.7km s-min=7.5km az=167.8*
*IDC **23** 10:26:05.6±1.6, 47°.22S×165°.45E, h0km, mb3.7/3, mb1 4.1/5, mb1mx4.0/13, mbtmp4.0/5, ML4.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/17, Error ellipse: s-maj=48.0km s-min=23.8km az=171.0*
*WEL **23** 10:26:08.0±1.0, 47°.26S×165°.15E, h12km, ML4.5/15, Error ellipse: s-maj=10.2km s-min=6.2km az=90.0*
*NEIC **23** 10:26:08.0, 47°.26S×165°.15E, h12km, ML4.5(WEL), After WEL.*
ISC 23 10:26:07.3±2.1, 47°.3S±0°.1×165°.35E±0°.07, h9km±15km, n43, σ1s14/40, mb3.7/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.47**	**39**	PN	**Pn**	**10 26 33.5**	**-0.5**
APZ	**The Paps**	**1.87**	**76**	PN	**Pn**	**10 26 39.9**	**+0.4**
APZ				SN	**Sn**	**10 27 03.4**	**+0.1**
DCZ	**Deep Cove**	**2.23**	**35**	PN	**Pn**	**10 26 43.3**	**-1.1**
DCZ				SN	**Sn**	**10 27 13.4**	**+1.4**
WHZ	**Wether Hill Ro**	**2.29**	**52**	PN	**Pn**	**10 26 45.7**	**+0.5**
WHZ				SN	**Sn**	**10 27 14.2**	**+0.6**
SYZ	**Scrubby Hill**	**2.71**	**75**	PN	**Pn**	**10 26 52.5**	**+1.4**
MLZ	**Mavora Lakes**	**2.78**	**46**	PN	**Pn**	**10 26 52.6**	**+0.6**
MSZ	**Milford Sound**	**3.20**	**35**	PN	**Pn**	**10 26 58.0**	**+0.2**
TUZ	**Tuapeka**	**3.25**	**67**	PN	**Pn**	**10 26 59.3**	**+0.8**
EAZ	**Earnscleugh**	**3.45**	**54**	PN	**Pn**	**10 27 02.0**	**+0.8**
WKZ	**Wanaka**	**3.57**	**47**	PN	**Pn**	**10 27 04.6**	**+1.8**
JCZ	**Jackson Bay**	**4.03**	**38**	PN	**Pn**	**10 27 11.1**	**+1.9**
ODZ	**Otahua Downs**	**4.33**	**60**	PN	**Pn**	**10 27 12.5**	**-0.7**
ODZ	**Otahua Downs**	**4.33**	**60**	*e*Pn	**Pn**	**10 27 12.6**	**-0.7**
ODZ				*e*Sn	**Sn**	**10 28 01.1**	**-2.6**
LBZ	**Lake Benmore**	**4.47**	**51**	PN	**Pn**	**10 27 14.7**	**-0.6**
FOZ	**Fox Glacier**	**4.84**	**41**	PN	**Pn**	**10 27 21.9**	**+1.6**
RPZ	**Rata Peaks**	**5.39**	**50**	PN	**Pn**	**10 27 26.2**	**-1.7**
RPZ	**Rata Peaks**	**5.39**	**50**	Pn	**Pn**	**10 27 26.3**	**-1.5**
	7.5nm,0.3s,baz=239,slow=4.1,SNR=71						
RPZ				Sn	**Sn**	**10 28 26.8**	**-3.2**
	5.9nm,0.3s,baz=42,slow=15,SNR=3.4						
RPZ				LR	LR	10 29 24.5	
	comp=Z,217nm,19.8s,baz=168,slow=38						
RPZ	**Rata Peaks**	**5.39**	**50**	Pn	**Pn**	**10 27 26.3**	**-1.5**
RPZ				Sn	**Sn**	**10 28 26.8**	**-3.2**
RPZ				*e*Sn	**Sn**	**10 28 31.0**	**+1.0**
WVZ	**Waitaha Valley**	**5.70**	**44**	PN	**Pn**	**10 27 32.7**	**+0.6**
DSZ	**Denniston Nort**	**7.23**	**42**	PN	**Pn**	**10 27 52.1**	**-1.1**
THZ	**Tophouse**	**7.74**	**47**	PN	**Pn**	**10 27 59.4**	**-0.8**
QRZ	**Quartz Range**	**8.29**	**41**	PN	**Pn**	**10 28 06.7**	**-1.0**
NNZ	**Nelson**	**8.39**	**46**	PN	**Pn**	**10 28 07.6**	**-1.4**
URZ	**Urewera**	**12.50**	**48**	Pn	**Pn**	**10 29 02.5**	**-2.8**
	1.5nm,0.3s,baz=223,slow=8.1,SNR=7.0						
URZ	**Urewera**	**12.50**	**48**	Pn	**Pn**	**10 29 02.5**	**-2.8**
STKA	**Stephens Creek**	**23.80**	**302**	P	**P**	**10 31 21.3**	**+0.9**
	1.4nm,0.8s,mb3.4,baz=135,slow=10.0,SNR=3.2						
STKA	**Stephens Creek**	**23.80**	**302**	P	**P**	**10 31 21.3**	**+0.9**
AS31	**Alice Springs**	**34.44**	**302**	*e*P	**P**	**10 32 55.2**	**+0.1**
ASAR	**Alice Springs**	**34.44**	**302**	P	**P**	**10 32 55.2**	**+0.1**
	1.4nm,0.6s,mb4.1,baz=135,slow=7.9,SNR=26						
ASAR	**Alice Springs**	**34.44**	**302**	P	**P**	**10 32 55.2**	**+0.1**
WB2	**Warramunga Arr**	**37.14**	**307**	*e*P	**P**	**10 33 18.3**	**0.0**
WRA	**Warramunga Arr**	**37.15**	**307**	P	**P**	**10 33 17.1**	**-1.3**
	0.4nm,0.5s,mb3.5,baz=139,slow=7.8,SNR=9.0						
WRA	**Warramunga Arr**	**37.15**	**307**	P	**P**	**10 33 17.1**	**-1.3**
ILAR	**Eielson Array**	**117.78**	**21**	PKP	PKPdf	10 44 52.8	+0.1
	0.2nm,0.5s,baz=296,slow=3.0,SNR=5.9						
ILAR	**Eielson Array**	**117.78**	**21**	PKP	PKPdf	10 44 52.8	+0.1
YKA	**Yellowknife Ar**	**126.48**	**35**	PKP	PKPdf	10 45 09.4	0.0
	0.2nm,0.5s,baz=238,slow=1.5,SNR=3.3						
YKA	**Yellowknife Ar**	**126.48**	**35**	PKP	PKPdf	10 45 09.4	0.0
TORD	**Torodi Ar. Bea**	**143.28**	**207**	PKP	PKPdf	10 45 43.0	+0.8
	0.4nm,0.7s,baz=124,slow=1.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**143.28**	**207**	PKP	PKPdf	10 45 43.0	+0.8
BRTR	**Keskin Array B**	**144.65**	**276**	PKP	PKPdf	10 45 42.4	-1.4
	0.6nm,0.6s,baz=134,slow=4.2,SNR=3.6						
BRTR	**Keskin Array B**	**144.65**	**276**	PKP	PKPdf	10 45 42.4	-1.4
AKASG	**Malin Array Be**	**151.34**	**293**	PKPbc	PKPbc	10 45 59.1	-1.3
	0.4nm,0.4s,baz=73,slow=3.7,SNR=2.9						
AKASG	**Malin Array Be**	**151.34**	**293**	PKPbc	PKPbc	10 45 59.1	-1.3

*SOF **23** 10:35:03.6, 41°.16N×24°.00E, h6km, MD2.5*
*CSEM **23** 10:35:05.9±0.1, 41°.33N×24°.02E, h2km, ML2.0/4, Error ellipse: s-maj=3.4km s-min=2.9km az=36.0*

*ISCJB **23** 10:35:05.6±0.6, 41°.32N±0°.03×23°.99E±0°.04, h10km±8km, Error ellipse: s-maj=5.9km s-min=4.2km az=139.4*
*THE **23** 10:35:06.2, 41°.33N×24°.01E, h2km±23km, ML2.0/4, Error ellipse: s-maj=23.0km s-min=0.6km az=350.0*
*BEO **23** 10:35:09.2±1.2, 41°.25N×23°.82E, h0km, ML1.9/3*
*SKO **23** 10:35:10.8, 41°.40N×23°.76E, h4km, M1.5, ML1.8*
ISC 23 10:35:06.3±0.5, 41°.33N±0°.03×24°.01E±0°.04, h0km±14km, n26, σ0s86/41, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.11**	**282**	P	**Pg**	**10 35 08.3**	**-0.2**
NVR				S	**Sg**	**10 35 10.6**	**+0.7**
NVR	**Nevrokopi**	**0.11**	**282**	P	**Pg**	**10 35 08.3**	**-0.2**
NVR				S	**Sg**	**10 35 10.6**	**+0.7**
MMB	**Musomiste**	**0.34**	**321**	*i* P	**Pg**	**10 35 13.0**	**+0.2**
MMB	**Musomiste**	**0.34**	**321**	*i* P	**Pg**	**10 35 13.0**	**+0.2**
SRS	**Serrai**	**0.38**	**236**	P	**Pg**	**10 35 13.2**	**-0.3**
SRS				S	**Sg**	**10 35 18.7**	**+0.3**
SRS	**Serrai**	**0.38**	**236**	P	**Pg**	**10 35 13.2**	**-0.3**
SRS				S	**Sg**	**10 35 18.7**	**+0.3**
KAVA	**Kavala**	**0.51**	**131**	P	**Pg**	**10 35 15.6**	**-0.4**
KAVA				S	**Sg**	**10 35 23.1**	**+0.6**
KAVA	**Kavala**	**0.51**	**131**	P	**Pg**	**10 35 15.6**	**-0.4**
KAVA				S	**Sg**	**10 35 23.1**	**+0.6**
RZN	**Rozhen**	**0.64**	**56**	*i* P	**Pg**	**10 35 18.5**	**-0.2**
RZN	**Rozhen**	**0.64**	**56**	*i* P	**Pg**	**10 35 18.5**	**-0.2**
KKB	**Krupnik**	**0.88**	**308**	*i* P	**Pg**	**10 35 22.0**	**-1.2**
KKB	**Krupnik**	**0.88**	**308**	*i* P	**Pg**	**10 35 22.0**	**-1.2**
PLD	**Plovdiv**	**0.94**	**34**	*e*Pg	**Pg**	**10 35 28.4**	**+4.1**
PLD				*e*Sg	**Sg**	**10 35 43.9**	**+7.5**
PLD	**Plovdiv**	**0.94**	**34**	*e*Pg	**Pg**	**10 35 28.4**	**+4.1**
OUR	**Ouranopolis**	**0.99**	**181**	P	**Pg**	**10 35 25.0**	**-0.3**
OUR				S	**Sg**	**10 35 39.6**	**+1.4**
OUR	**Ouranopolis**	**0.99**	**181**	P	**Pg**	**10 35 25.0**	**-0.3**
OUR				S	**Sg**	**10 35 39.6**	**+1.4**
VAY	**Valandovo**	**1.08**	**270**	*e*Pg	**Pg**	**10 35 26.6**	**-0.5**
VAY				*e*Sg	**Sg**	**10 35 40.0**	**-1.2**
VAY				*e*Lg		10 35 41.1	
	comp=E,12nm,0.3s						
VAY				*e*Lg		10 35 45.3	
	comp=N,30nm,0.6s						
VAY	**Valandovo**	**1.08**	**270**	*e*Pg	**Pg**	**10 35 26.6**	**-0.5**
VAY				*e*Sg	**Sg**	**10 35 39.9**	**-1.2**
VAY				*e*Lg		10 35 41.1	
	comp=N,12nm,0.3s						
KDZ	**Kurdzhali**	**1.11**	**73**	*i* P	**Pg**	**10 35 26.3**	**-1.3**
KDZ	**Kurdzhali**	**1.11**	**73**	*i* P	**Pg**	**10 35 26.3**	**-1.3**
VTS	**Vitosha**	**1.40**	**335**	*e*Pg	**Pg**	**10 35 33.6**	**+0.5**
VTS				*e*Sg	**Sg**	**10 35 54.5**	**+3.3**
VTS	**Vitosha**	**1.40**	**335**	*i* P	**Pn**	**10 35 33.4**	**+0.4**
VTS	**Vitosha**	**1.40**	**335**	*e*Pg	**Pg**	**10 35 33.6**	**+0.5**
VTS				*e*Sg	**Sg**	**10 35 54.5**	**+3.3**
ZAPS	**Zavoj**	**2.20**	**333**	*e*Pg	**Pg**	**10 35 48.9**	**+0.5**
BARS	**Barje**	**2.21**	**313**	*e*Pn	**Pg**	**10 35 47.2**	**-1.5**
BARS				*e*Sg	**Sg**	**10 36 18.0**	**+0.7**
BARS	**Barje**	**2.21**	**313**	*e*Pn	**Pg**	**10 35 47.2**	**-1.5**
BARS				*e*Sg	**Sg**	**10 36 18.0**	**+0.7**

*ISCJB **23** 10:55:37.2±0.8, 17°.7S±0°.1×178°.9W±0°.1, h515km±9km, mb3.9/17, Error ellipse: s-maj=21.8km s-min=11.4km az=146.2*
*NEIC **23** 10:55:38.0±0.6, 17°.63S×178°.88W, h513km±7km, mb4.2/5, Error ellipse: s-maj=16.1km s-min=8.6km az=146.0*
*IDC **23** 10:55:38.9±1.7, 17°.67S×178°.95W, h520km±20km, mb3.4/13, mb1 3.7/15, mb1mx3.6/20, mbtmp3.5/15, Error ellipse: s-maj=23.0km s-min=10.7km az=145.0*
ISC 23 10:55:38.2±0.8, 17°.6S±0°.1×178°.9W±0°.1, h512km±9km, n86, σ0s86/40, mb3.9/17, 10C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.91**	**267**	*e*P	**P**	**10 56 49.5**	**0.0**
MSVF				*e*S	**S**	**10 57 58.8**	**+11**
AFI	**Afiamalu**	**7.79**	**63**	P	**P**	**10 57 32.5**	**-0.3**
	6.2nm,0.3s,baz=330,slow=6.0,SNR=13						
AFI	**Afiamalu**	**7.79**	**63**	P	**P**	**10 57 32.5**	**-0.3**
DZM	**Mont Dzumac**	**14.48**	**250**	P	**P**	**10 58 43.5**	**+0.8**
	0.7nm,0.3s,baz=51,slow=23,SNR=6.7						
DZM	**Mont Dzumac**	**14.48**	**250**	P	**P**	**10 58 43.5**	**+0.8**
URZ	**Urewera**	**20.85**	**189**	P	**P**	**10 59 41.8**	**-1.9**
	9.1nm,0.8s,baz=323,slow=16,SNR=5.9						
URZ	**Urewera**	**20.85**	**189**	P	**P**	**10 59 41.8**	**-1.9**
STKA	**Stephens Creek**	**38.36**	**241**	P	**P**	**11 02 16.1**	**+1.1**
	1.4nm,0.5s,mb3.8,baz=80,slow=10,SNR=8.0						
STKA	**Stephens Creek**	**38.36**	**241**	*e*P	**P**	**11 02 15.7**	**+0.7**
WB2	**Warramunga Arr**	**44.21**	**259**	*e*P	**P**	**11 03 01.2**	**-0.5**
WRAB	**Tennant Creek**	**44.21**	**259**	*e*P	**P**	**11 03 01.5**	**-0.2**
	3.1nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**44.22**	**259**	P	**P**	**11 03 01.3**	**-0.4**
	0.8nm,0.6s,mb3.5,baz=96,slow=6.9,SNR=10.0						
WRA				PcP	PcP	11 04 35.2	-0.2
	1.0nm,0.7s,baz=88,slow=3.7,SNR=5.7						
WRA	**Warramunga Arr**	**44.22**	**259**	P	**P**	**11 03 01.3**	**-0.4**
WRA				PcP	PcP	11 04 35.2	-0.2
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**11 03 03.5**	**+0.3**
	6.3nm,0.4s,mb4.5,baz=90,slow=7.9,SNR=147						
ASAR				PcP	PcP	11 04 36.0	0.0
	1.2nm,0.5s,baz=103,slow=4.2,SNR=11						
ASAR				S	**S**	**11 08 57.1**	**-3.3**
	1.9nm,1.0s,baz=85,slow=16,SNR=9.9						
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**11 03 03.5**	**+0.3**
ASAR				PcP	PcP	11 04 36.0	0.0
ASAR				S	**S**	**11 08 57.1**	**-3.3**
FITZ	**Fitzroy Crossi**	**52.61**	**260**	*e*P	**P**	**11 04 05.1**	**+0.8**
	16nm,1.2s,mb4.2						
VNDA	**Vanda**	**60.69**	**185**	*e*P	**P**	**11 04 59.3**	**+0.4**
	13nm,1.8s,mb4.0						
MJAR	**Matsushiro Arr**	**67.40**	**324**	P	**P**	**11 05 42.3**	**0.0**
	3.8nm,0.6s,mb4.1,baz=159,slow=6.3,SNR=12						
MJAR	**Matsushiro Arr**	**67.40**	**324**	P	**P**	**11 05 42.3**	**0.0**
PETK	**Petropavlovsk-**	**73.29**	**346**	P	**P**	**11 06 16.4**	**-0.3**
	3.8nm,0.7s,mb3.9,baz=77,slow=7.8,SNR=6.6						
PETK	**Petropavlovsk-**	**73.29**	**346**	P	**P**	**11 06 16.4**	**-0.3**
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**11 06 52.5**	**+0.9**
	1.4nm,0.7s,mb3.4,baz=230,slow=8.6,SNR=11						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**11 06 52.5**	**+0.9**
TRF	**Thorofare Moun**	**83.84**	**13**	*e*P	**P**	**11 07 12.3**	**-0.7**
	8.2nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**11 07 21.1**	**-1.0**
	1.4nm,0.7s,mb3.7,baz=225,slow=5.2,SNR=23						
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**11 07 21.1**	**-1.0**
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**11 07 27.4**	**+1.9**
	1.2nm,0.7s,mb3.6,baz=218,slow=5.9,SNR=18						
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**11 07 27.4**	**+1.9**
PDAR	**Pinedale Array**	**87.47**	**44**	P	**P**	**11 07 31.4**	**+0.5**
	1.0nm,0.5s,mb3.7,baz=229,slow=2.8,SNR=10						
PDAR	**Pinedale Array**	**87.47**	**44**	P	**P**	**11 07 31.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**88.35**	**290**	P	**P**	**11 07 36.8**	**+1.2**
	0.8nm,0.5s,mb3.7,baz=116,slow=2.8,SNR=7.0						
CMAR	**Chiang Mai Arr**	**88.35**	**290**	P	**P**	**11 07 36.8**	**+1.2**
INK	**Inuvik**	**91.74**	**15**	*e*P	**P**	**11 07 49.8**	**-0.3**
	13nm,1.7s,mb4.7						
SONM	**Songino Array**	**93.03**	**319**	P	**P**	**11 07 55.4**	**-1.2**
	0.4nm,0.6s,mb3.6,baz=132,slow=2.1,SNR=3.4						
SONM	**Songino Array**	**93.03**	**319**	P	**P**	**11 07 55.4**	**-1.2**
YKA	**Yellowknife Ar**	**94.27**	**25**	P	**P**	**11 08 01.4**	**-0.4**
	0.6nm,0.7s,mb3.8,baz=242,slow=4.4,SNR=10						
YKA	**Yellowknife Ar**	**94.27**	**25**	P	**P**	**11 08 01.4**	**-0.4**
COW	**Cow Castle Cre**	**106.18**	**60**	Pdif	Pdif	11 08 57.9	+2.5
MKAR	**Makanchi Array**	**108.60**	**314**	PKiKP	PKiKP	11 13 06.9	-1.5
	0.4nm,0.5s,baz=48,slow=2.1,SNR=6.2						
MKAR	**Makanchi Array**	**108.60**	**314**	PKiKP	PKiKP	11 13 06.9	-1.5
ABKAR	**Akbulak array**	**123.41**	**318**	*e*PKPdf	PKPdf	11 13 35.8	-0.9
BUR08	**Bucovina Ar. S**	**144.13**	**332**	*e*PKPbc	PKPdf	11 14 15.3	0.0
BRTR	**Keskin Array B**	**144.25**	**315**	PKP	PKPdf	11 14 15.2	-0.5
	2.0nm,0.6s,baz=115,slow=3.6,SNR=12						
BRTR	**Keskin Array B**	**144.25**	**315**	PKP	PKPdf	11 14 15.2	-0.5
CLL	**Collm**	**145.09**	**347**	⇑*i*PKPbc	PKPbc	11 14 17.4	-0.1
	comp=Z,12nm,0.7s						
BRG	**Berggiesshubel**	**145.28**	**346**	*i* P	PKPbc	11 14 18.1	0.0
	comp=Z,6.0nm,0.8s						
KECS	**Kecovo**	**145.41**	**337**	*e*PKP	PKPbc	11 14 18.8	+0.2
MMAI	**Mount Meron Ar**	**145.60**	**303**	PKPbc	PKPbc	11 14 19.7	+0.1
	comp=Z,5.7nm,0.6s,baz=44,slow=9.1,SNR=3.7						
MMAI	**Mount Meron Ar**	**145.60**	**303**	PKPbc	PKPbc	11 14 19.7	+0.1
VYHS	**Vyhne**	**145.99**	**339**	*e*PKP	PKPbc	11 14 20.4	+0.2
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc	PKPbc	11 14 23.8	+0.2
	comp=Z,2.9nm,0.7s,baz=24,slow=3.1,SNR=15						
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc	PKPbc	11 14 23.8	+0.2
GIVF	**Givet**	**147.46**	**356**	*e*PKP1	PKPbc	11 14 24.3	+0.1
GIVF	**Givet**	**147.46**	**356**	*e*P	PKPbc	11 14 24.3	+0.1
BAIF	**Baives**	**147.55**	**356**	⇑*i*PKP1	PKPbc	11 14 24.5	+0.1
	comp=Z,6.4nm,0.6s						
BAIF	**Baives**	**147.55**	**356**	*i* P	PKPbc	11 14 24.5	+0.1
CDF	**Champ du Feu**	**148.88**	**352**	*e*PKP1	PKPbc	11 14 27.6	-0.2
CDF	**Champ du Feu**	**148.88**	**352**	*e*P	PKPbc	11 14 27.6	-0.2
FLN	**La Foliniere**	**148.92**	**2**	⇑*i*PKP1	PKPbc	11 14 27.5	-0.4
FLN	**La Foliniere**	**148.92**	**2**	*i* P	PKPbc	11 14 27.5	-0.4
PAGF	**Fort de Pagny**	**148.92**	**354**	⇑*i*PKP1	PKPbc	11 14 28.2	+0.3
	comp=Z,1.7nm,0.5s						
PAGF	**Fort de Pagny**	**148.92**	**354**	*i* P	PKPbc	11 14 28.2	+0.3
LDF	**La Druitiere**	**149.10**	**2**	⇑*i*PKP1	PKPbc	11 14 27.8	-0.5
	comp=Z,4.3nm,0.4s						
LDF	**La Druitiere**	**149.10**	**2**	*i* P	PKPbc	11 14 27.8	-0.5
GRR	**Gorron**	**149.28**	**3**	⇑*i*PKP1	PKPbc	11 14 28.5	-0.2
GRR	**Gorron**	**149.28**	**3**	*i* P	PKPbc	11 14 28.5	-0.2
SGMF	**Saint Gilles**	**149.31**	**5**	*e*PKP1	PKPbc	11 14 28.9	+0.1
SGMF	**Saint Gilles**	**149.31**	**5**	*e*P	PKPbc	11 14 28.9	+0.1
SFTF	**Sexfontaines**	**149.33**	**355**	*e*PKP1	PKPbc	11 14 29.0	+0.1
SFTF	**Sexfontaines**	**149.33**	**355**	*e*P	PKPbc	11 14 29.0	+0.1
HAU	**Haudompre**	**149.40**	**353**	⇑*i*PKP1	PKPbc	11 14 28.9	-0.1
	comp=Z,5.7nm,0.6s						
HAU	**Haudompre**	**149.40**	**353**	*i* P	PKPbc	11 14 28.9	-0.1
HINF	**Hinteralfeld**	**149.52**	**352**	*e*PKP1	PKPbc	11 14 29.0	-0.3
HINF	**Hinteralfeld**	**149.52**	**352**	*e*P	PKPbc	11 14 29.0	-0.3
LOR	**Lormes**	**150.35**	**356**	⇑*i*PKP1	PKPbc	11 14 31.3	0.0
	comp=Z,7.3nm,0.5s						
LOR	**Lormes**	**150.35**	**356**	*i* P	PKPbc	11 14 31.3	0.0
SSF	**Saint Saulge**	**150.58**	**357**	⇑*i*PKP1	PKPbc	11 14 31.8	-0.1
	comp=Z,6.8nm,0.5s						
SSF	**Saint Saulge**	**150.58**	**357**	*i* P	PKPbc	11 14 31.8	-0.1
CABF	**La Chapelle**	**150.80**	**353**	*e*PKP1	PKPbc	11 14 32.9	+0.5
	comp=Z,17nm,1.0s						
CABF	**La Ch

MURB	**Monte Urbino**	**1.33 146**	Pg	**Pg**	**11 13 40.0**	**+0.2**
	149nm,0.3s					
MURB	**Monte Urbino**	**1.33 146**	Pg	**Pg**	**11 13 40.0**	**+0.2**
	149nm,0.3s					
MGAB	**Montegabbione**	**1.52 163**	Pg	**Pg**	**11 13 42.7**	**-0.8**
	102nm,0.5s					
MGAB	**Montegabbione**	**1.52 163**	Pg	**Pg**	**11 13 42.7**	**-0.8**
	102nm,0.5s					
CTI	**Castel Tesino**	**1.68 3**	Pg	**Pg**	**11 13 43.1**	**-3.5**
MDI	**Monti di Nese**	**1.90 318**	Pg	**Pg**	**11 13 47.8**	**-3.0**
	36nm,0.6s					
APPI	**Appiano**	**2.12 355**	Pg	**Pg**	**11 13 50.2**	**-4.7**
VOY	**Vojsko**	**2.37 45**	*e*Pn	**Pn**	**11 13 52.2**	**-1.0**
VOY			*e*(Sn)	**Sn**	**11 14 22.7**	**+0.5**
VOY			*e*		11 14 33.3	
VOY	**Vojsko**	**2.37 45**	*e*Pn	**Pn**	**11 13 52.2**	**-1.0**
NVLJ	**Novalja**	**2.41 84**	*e*Pn	**Pn**	**11 13 53.2**	**-0.7**
NVLJ			Sn	**Sn**	**11 14 21.2**	**-2.2**
NVLJ	**Novalja**	**2.41 84**	*e*Pn	**Pn**	**11 13 53.1**	**-0.7**
NVLJ			Sn	**Sn**	**11 14 21.2**	**-2.2**
ABTA	**Abfaltersbach**	**2.48 16**	⇓*i*Pn	**Pn**	**11 13 54.3**	**-0.5**
ABTA			⇓*i*Sn	**Sn**	**11 14 25.3**	**+0.2**
ABTA	**Abfaltersbach**	**2.48 16**	⇓*i*Pn	**Pn**	**11 13 54.3**	**-0.5**
ABTA			*i* Sn	**Sn**	**11 14 25.2**	**+0.2**
ABTA	**Abfaltersbach**	**2.48 16**	Pn	**Pn**	**11 13 54.3**	**-0.4**
ABTA			*i* Sn	**Sn**	**11 14 25.2**	**+0.2**
PGF	**Pioggiola**	**2.58 226**	*e*Pn	**Pn**	**11 13 56.1**	**0.0**
PGF			*e*Sn	**Sn**	**11 14 24.5**	**-3.1**
	19nm,0.3s					
PGF	**Pioggiola**	**2.58 226**	*e*Pn	**Pn**	**11 13 56.1**	**0.0**
PGF			*e*Sn	**Sn**	**11 14 24.5**	**-3.1**
PGF	**Pioggiola**	**2.58 226**	*e*Pn	**Pn**	**11 13 56.1**	**0.0**
PGF			*e*Sn	**Sn**	**11 14 24.5**	**-3.1**
	9.5nm,0.3s					
FETA	**Feichten**	**2.71 349**	⇑*i*Pn	**Pn**	**11 13 58.4**	**+0.5**
FETA			⇓*i*Sn	**Sn**	**11 14 34.6**	**+3.9**
FETA	**Feichten**	**2.71 349**	⇑*i*Pn	**Pn**	**11 13 58.4**	**+0.5**
FETA			*i* Sn	**Sn**	**11 14 34.6**	**+3.9**
FETA	**Feichten**	**2.71 349**	Pn	**Pn**	**11 13 58.4**	**+0.5**
FETA			Sn	**Sn**	**11 14 34.6**	**+3.9**
MYKA	**Terra Mystica**	**2.71 33**	⇑*i*Pn	**Pn**	**11 13 56.8**	**-1.1**
MYKA			⇑*i*Sg	**Sg**	**11 14 41.6**	**+0.2**
	9.5nm,0.4s					
MYKA	**Terra Mystica**	**2.71 33**	⇑*i*Pn	**Pn**	**11 13 56.8**	**-1.1**
MYKA			*i* Sg	**Sg**	**11 14 41.5**	**+0.2**
MYKA	**Terra Mystica**	**2.71 33**	Pn	**Pn**	**11 13 56.8**	**-1.1**
MYKA			Sg	**Sg**	**11 14 41.6**	**+0.2**
	9.5nm,0.4s					
WTTA	**Wattenberg**	**2.90 2**	⇑*i*Pn	**Pn**	**11 14 00.3**	**-0.2**
WTTA			⇑*i*Sn	**Sn**	**11 14 36.7**	**+1.4**
WTTA	**Wattenberg**	**2.90 2**	⇑*i*Pn	**Pn**	**11 14 00.3**	**-0.2**
WTTA			*i* Sn	**Sn**	**11 14 36.7**	**+1.4**
WTTA	**Wattenberg**	**2.90 2**	Pn	**Pn**	**11 14 00.3**	**-0.2**
WTTA			Sn	**Sn**	**11 14 36.7**	**+1.4**
SBF	**Sospel**	**2.98 262**	*e*Pn	**Pn**	**11 14 02.1**	**+0.5**
SBF			*e*Sn	**Sn**	**11 14 35.4**	**-2.0**
	22nm,0.5s					
SBF	**Sospel**	**2.98 262**	*e*Pn	**Pn**	**11 14 02.1**	**+0.5**
SBF			*e*Sn	**Sn**	**11 14 35.4**	**-2.0**
SBF	**Sospel**	**2.98 262**	*e*Pn	**Pn**	**11 14 02.1**	**+0.5**
SBF			*e*Sn	**Sn**	**11 14 35.4**	**-2.0**
	11nm,0.5s					
OBKA	**Obir**	**3.02 44**	⇑*i*Pn	**Pn**	**11 14 00.0**	**-2.2**
OBKA			⇓*i*Sg	**Sg**	**11 14 50.4**	**-1.0**
	14nm,0.4s					
OBKA	**Obir**	**3.02 44**	⇑*i*Pn	**Pn**	**11 14 00.0**	**-2.2**
OBKA			*i* Sg	**Sg**	**11 14 50.4**	**-1.0**
OBKA	**Obir**	**3.02 44**	Pn	**Pn**	**11 14 00.0**	**-2.2**
OBKA			Sg	**Sg**	**11 14 50.4**	**-1.0**
	14nm,0.4s					
RETA	**Reutte**	**3.16 351**	⇑*i*Pn	**Pn**	**11 14 05.7**	**+1.6**
RETA			⇑*i*Sn	**Sn**	**11 14 44.1**	**+2.3**
RETA	**Reutte**	**3.16 351**	⇑*i*Pn	**Pn**	**11 14 05.7**	**+1.6**
RETA			*i* Sn	**Sn**	**11 14 44.1**	**+2.3**
RETA	**Reutte**	**3.16 351**	Pn	**Pn**	**11 14 05.7**	**+1.6**
RETA			Sn	**Sn**	**11 14 44.1**	**+2.2**
MBDF	**Montbardon**	**3.41 278**	*e*Pn	**Pn**	**11 14 08.5**	**+1.0**
MBDF			*e*Sn	**Sn**	**11 14 46.6**	**-1.3**
	7.3nm,0.5s					
MBDF	**Montbardon**	**3.41 278**	*e*Pn	**Pn**	**11 14 08.5**	**+1.0**
MBDF			*e*Sn	**Sn**	**11 14 46.6**	**-1.3**
MBDF	**Montbardon**	**3.41 278**	*e*Pn	**Pn**	**11 14 08.5**	**+1.0**
MBDF			*e*Sn	**Sn**	**11 14 46.6**	**-1.3**
	3.7nm,0.5s					
LPG	**La Plagne**	**3.56 290**	*e*Pn	**Pn**	**11 14 11.3**	**+1.7**
LPG			*e*Sn	**Sn**	**11 14 51.6**	**-0.2**
	3.4nm,0.3s					
LPG	**La Plagne**	**3.56 290**	*e*Pn	**Pn**	**11 14 11.3**	**+1.7**
LPG			*e*Sn	**Sn**	**11 14 51.6**	**-0.2**
LPG	**La Plagne**	**3.56 290**	*e*Pn	**Pn**	**11 14 11.3**	**+1.7**
LPG			*e*Sn	**Sn**	**11 14 51.6**	**-0.2**
	1.7nm,0.3s					
FRF	**La Foret Royal**	**3.60 259**	*e*Pn	**Pn**	**11 14 10.4**	**+0.2**
FRF			*e*Sn	**Sn**	**11 14 50.0**	**-2.8**
	6.1nm,0.3s					
FRF	**La Foret Royal**	**3.60 259**	*e*Pn	**Pn**	**11 14 10.4**	**+0.2**
FRF			*e*Sn	**Sn**	**11 14 50.0**	**-2.8**
FRF	**La Foret Royal**	**3.60 259**	*e*Pn	**Pn**	**11 14 10.4**	**+0.2**
FRF			*e*Sn	**Sn**	**11 14 50.0**	**-2.8**
	3.0nm,0.3s					
LMR	**La Mourre**	**3.76 256**	*e*Pn	**Pn**	**11 14 12.3**	**-0.1**
LMR			*e*Sn	**Sn**	**11 14 53.7**	**-3.0**
	4.8nm,0.4s					
LMR	**La Mourre**	**3.76 256**	*e*Pn	**Pn**	**11 14 12.3**	**-0.1**
LMR			*e*Sn	**Sn**	**11 14 53.7**	**-3.0**
LMR	**La Mourre**	**3.76 256**	*e*Pn	**Pn**	**11 14 12.3**	**-0.1**
LMR			*e*Sn	**Sn**	**11 14 53.7**	**-3.0**
	2.4nm,0.4s					
ORIF	**Oris-en-Rattie**	**4.06 280**	*e*Pn	**Pn**	**11 14 17.5**	**+1.1**
ORIF			*e*Sn	**Sn**	**11 15 02.2**	**-1.7**
	2.9nm,0.3s					
ORIF	**Oris-en-Rattie**	**4.06 280**	*e*Pn	**Pn**	**11 14 17.5**	**+1.1**
ORIF			*e*Sn	**Sn**	**11 15 02.2**	**-1.7**
ORIF	**Oris-en-Rattie**	**4.06 280**	*e*Pn	**Pn**	**11 14 17.5**	**+1.1**
ORIF			*e*Sn	**Sn**	**11 15 02.2**	**-1.7**
	1.5nm,0.3s					
SMRF	**Simiane la Rot**	**4.29 267**	*e*Pn	**Pn**	**11 14 19.8**	**+0.2**
SMRF			*e*Sn	**Sn**	**11 15 06.2**	**-3.5**
	6.0nm,0.7s					
SMRF	**Simiane la Rot**	**4.29 267**	*e*Pn	**Pn**	**11 14 19.8**	**+0.2**
SMRF			*e*Sn	**Sn**	**11 15 06.2**	**-3.5**
SMRF	**Simiane la Rot**	**4.29 267**	*e*Pn	**Pn**	**11 14 19.8**	**+0.2**
SMRF			*e*Sn	**Sn**	**11 15 06.2**	**-3.5**
	3.0nm,0.7s					
CABF	**La Chapelle**	**4.42 302**	*e*Pn	**Pn**	**11 14 21.8**	**+0.3**
CABF			*e*Sn	**Sn**	**11 15 11.3**	**-1.7**
	2.5nm,0.4s					
CABF	**La Chapelle**	**4.42 302**	*e*Pn	**Pn**	**11 14 21.8**	**+0.3**
CABF			*e*Sn	**Sn**	**11 15 11.3**	**-1.7**
CABF	**La Chapelle**	**4.42 302**	*e*Pn	**Pn**	**11 14 21.8**	**+0.3**
CABF			*e*Sn	**Sn**	**11 15 11.3**	**-1.7**
	1.2nm,0.4s					
HINF	**Hinteralfeld**	**4.73 318**	*e*Pn	**Pn**	**11 14 25.9**	**+0.2**
HINF			*e*Sn	**Sn**	**11 15 19.1**	**-1.4**
	1.2nm,0.2s					
HINF	**Hinteralfeld**	**4.73 318**	*e*Pn	**Pn**	**11 14 25.9**	**+0.2**
HINF			*e*Sn	**Sn**	**11 15 19.1**	**-1.4**
HINF	**Hinteralfeld**	**4.73 318**	*e*Pn	**Pn**	**11 14 25.9**	**+0.2**
HINF			*e*Sn	**Sn**	**11 15 19.1**	**-1.4**
	0.6nm,0.2s					
VIVF	**Saint-Julien-l**	**4.91 278**	*e*Pn	**Pn**	**11 14 28.4**	**+0.3**
VIVF			*e*Sn	**Sn**	**11 15 21.5**	**-3.4**
	1.4nm,0.3s					
VIVF	**Saint-Julien-l**	**4.91 278**	*e*Pn	**Pn**	**11 14 28.4**	**+0.3**
VIVF			*e*Sn	**Sn**	**11 15 21.5**	**-3.4**
VIVF	**Saint-Julien-l**	**4.91 278**	*e*Pn	**Pn**	**11 14 28.4**	**+0.3**
VIVF			*e*Sn	**Sn**	**11 15 21.5**	**-3.4**
	0.7nm,0.3s					
KHC	**Kasperske Hory**	**4.97 16**	*e*PN	**Pn**	**11 14 22.5**	**-6.4**
KHC			*e*SN	**Sn**	**11 15 20.5**	**-5.9**
KHC			*ex*	x	11 15 53.5	
HAU	**Haudompre**	**5.11 317**	*e*Pn	**Pn**	**11 14 30.8**	**0.0**
HAU			*e*Sn	**Sn**	**11 15 27.9**	**-1.9**
	5.0nm,0.4s					
HAU	**Haudompre**	**5.11 317**	*e*Pn	**Pn**	**11 14 30.8**	**0.0**
HAU			*e*Sn	**Sn**	**11 15 27.9**	**-1.9**
HAU	**Haudompre**	**5.11 317**	*e*Pn	**Pn**	**11 14 30.8**	**0.0**
HAU			*e*Sn	**Sn**	**11 15 27.9**	**-1.9**
	2.5nm,0.4s					
LASF	**Ste Croix**	**5.51 270**	*e*Pn	**Pn**	**11 14 36.6**	**+0.2**
LASF			*e*Sn	**Sn**	**11 15 35.6**	**-4.2**
LASF			*e*Sg	**Sg**	**11 16 06.4**	**-4.8**
	1.2nm,0.3s					
LASF	**Ste Croix**	**5.51 270**	*e*Pn	**Pn**	**11 14 36.6**	**+0.2**
LASF			*e*Sn	**Sn**	**11 15 35.6**	**-4.2**
LASF			*e*Sg	**Sg**	**11 16 06.4**	**-4.8**
SMF	**Signal de Mont**	**5.85 296**	*e*Pn	**Pn**	**11 14 40.8**	**-0.3**
SMF			*e*Sn	**Sn**	**11 15 44.3**	**-3.9**
	4.1nm,0.4s					
SMF	**Signal de Mont**	**5.85 296**	*e*Pn	**Pn**	**11 14 40.8**	**-0.3**
SMF			*e*Sn	**Sn**	**11 15 44.3**	**-3.9**
LOR	**Lormes**	**6.08 301**	*e*Pn	**Pn**	**11 14 43.9**	**-0.3**
LOR			*e*Sn	**Sn**	**11 15 49.8**	**-4.0**
	5.8nm,0.4s					
LOR	**Lormes**	**6.08 301**	*e*Pn	**Pn**	**11 14 43.9**	**-0.3**
LOR			*e*Sn	**Sn**	**11 15 49.8**	**-4.0**
SSF	**Saint Saulge**	**6.22 298**	*e*Pn	**Pn**	**11 14 46.4**	**+0.3**
SSF			*e*Sn	**Sn**	**11 15 53.7**	**-3.5**
	2.4nm,0.3s					
SSF	**Saint Saulge**	**6.22 298**	*e*Pn	**Pn**	**11 14 46.4**	**+0.3**
SSF			*e*Sn	**Sn**	**11 15 53.7**	**-3.5**
BGF	**Bois d'Agland**	**6.47 293**	*e*Pn	**Pn**	**11 14 49.7**	**+0.1**
BGF			*e*Sn	**Sn**	**11 15 59.8**	**-3.7**
	4.1nm,0.5s					
BGF	**Bois d'Agland**	**6.47 293**	*e*Pn	**Pn**	**11 14 49.7**	**+0.1**
BGF			*e*Sn	**Sn**	**11 15 59.8**	**-3.7**

BJI ***23*** *11:15:18.6, 6°.20S×155°.39E, h61km, mB5.6/50, mb5.4/69, Ms5.4/67, Ms7 5.2/61*

NEIC ***23*** *11:15:18.5±0.1, 6°.37S×154°.94E, h32km, mb5.8/118, ME5.3, MS5.6/156, MW5.9, MW5.8, Error ellipse: s-maj=5.1km s-min=4.4km az=113.0, Moment Tensor Solution. s68 Moment tensor: Scale 10^17^Nm; Mrr4.99; Mθθ-2.12; Mφφ-2.88; Mrθ0.73; Mθφ3.07; Mφr0.03; Best double couple: M0 5.40000×10^17^ NP1:φs326.00000°, δ43.00000°, λ100.00000°. NP2:φs132.00000°, δ48.00000°, λ80.00000°. Principal axes: T 5.0800, Plg82.0000°, Azm337.0000°; N 0.5200, Plg7.0000°, Azm137.0000°; P -5.6100, Plg2.0000°, Azm228.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

MOS ***23*** *11:15:18.5±1.6, 6°.40S×154°.90E, h33km, mb5.8/69, MS5.4/41 Error ellipse: s-maj=9.9km s-min=8.5km az=67.8*

ISCJB ***23*** *11:15:19.5±0.1, 6°.39S±0°.02×154°.91E±0°.02, h50km, mb5.7/206, MS5.5/208, Error ellipse: s-maj=3.4km s-min=3.2km az=137.4*

IDC ***23*** *11:15:20.4±0.4, 6°.35S×155°.00E, h47km±3km, mb5.3/26, mb1 5.4/29, mb1mx5.4/29, mbtmp5.4/29, MS5.2/22, Ms1 5.2/22, ms1mx5.2/23, Error ellipse: s-maj=10.0km s-min=9.1km az=124.0*

DJA ***23*** *11:15:22, 6°.43S×155°.02E, h68km, Mw6.0/46*

GCMT ***23*** *11:15:25.3±0.1, 6°.67S×154°.80E, h45km, MW5.9, Moment Tensor Solution. s121, c236; s72, c86; Moment tensor: Scale 10^17^Nm; Mrr8.04±.08; Mθθ-4.12±.06; Mφφ-3.92±.06; Mrθ0.41±.06; Mθφ4.98±.05; Mφr-0.76±.06; Best double couple: M0 8.60000×10^17^ NP1:φs312.00000°, δ42.00000°, λ87.00000°. NP2:φs136.00000°, δ48.00000°, λ93.00000°. Principal axes: T 8.0900, Plg87.0000°, Azm81.0000°; N 0.9500, Plg2.0000°, Azm315.0000°; P -9.0400, Plg3.0000°, Azm224.0000°; Data Used: II IU CN IC G. Surface waves: sta=113, comp=231, per= 50.*

ISC 23 11:15:21.4±0.1, 6°.39S±0°.02×154°.93E±0°.02, h52km, h52km±.6km:pP-P,n871,o0§98/475, mb5.7/206, MS5.5/208, 43C-26D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Obir	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.82**	**122**	P		**Pn**	**11 16 46.7**	**+1.5**
	155nm,0.3s,baz=160,slow=23,SNR=44							
HNR				S		**Sn**	**11 17 57.4**	**+6.8**
	128nm,0.3s,baz=22,slow=11,SNR=6.5							
HNR				LR		LR	11 18 11.8	
	comp=Z,8μm,18.3s,baz=126,slow=30							
HNR	**Honiara**	**5.82**	**122**	*e*Pn		**Pn**	**11 16 46.5**	**+1.3**
HNR				P			11 16 46.7	
HNR				S		**Sn**	**11 17 57.4**	**+6.8**
HNR	**Honiara**	**5.82**	**122**	*e*P		**Pn**	**11 16 46.5**	**+1.3**
HNR				S		**Sn**	**11 17 57.4**	**+6.7**
PMG	**Port Moresby**	**8.26**	**248**	P		**Pn**	**11 17 20.4**	**+1.8**
	64nm,0.3s,baz=63,slow=5.4,SNR=91							
PMG				S		**Sn**	**11 18 53.6**	**+3.0**
	65nm,0.3s,baz=41,slow=14,SNR=11							
PMG				LR		LR	11 20 24.3	
	comp=Z,41μm,20.8s,baz=45,slow=36							
PMG	**Port Moresby**	**8.26**	**248**	*e*Pn		**Pn**	**11 17 20.1**	**+1.5**
PMG				*e*Sn		**Sn**	**11 18 47.0**	**-3.6**
PMG	**Port Moresby**	**8.26**	**248**	*d i*P		**Pn**	**11 17 20.3**	**+1.7**
PMG				pmax		pmax		
	comp=Z,2μm,0.7s							
PMG	**Port Moresby**	**8.26**	**248**	P		**Pn**	**11 17 20.0**	**+1.4**
	comp=Z,3μm,0.9s							
PMG				S		**Sn**	**11 18 56.7**	**+6.2**
	comp=Z,3μm,0.9s							
COEN	**Coen**	**13.79**	**236**	*e*P		**Pn**	**11 18 33.7**	**-0.6**
COEN	**Coen**	**13.79**	**236**	*e*Pn		**Pn**	**11 18 34.1**	**-0.1**
COEN	**Coen**	**13.79**	**236**	P		**Pn**	**11 18 34.3**	**0.0**
	comp=Z,6μmcomp=Z,205nm,1.3s							
JAY	**Jayapura**	**14.69**	**285**	P		**Pn**	**11 18 47.8**	**+1.6**
	comp=Z,6μmcomp=Z,162nm,1.7s							
CTA	**Charters Tower**	**16.01**	**211**	P		**Pn**	**11 19 04.5**	**+1.3**
	comp=Z,3.3nm,0.3s,baz=34,slow=14,SNR=36							
CTA				S		**S**	**11 22 05.9**	**-5.4**
	baz=9.7,slow=18,SNR=1.7							
CTA				LR		LR	11 24 29.4	
	comp=Z,20μm,20.9s,baz=23,slow=34							
CTA	**Charters Tower**	**16.01**	**211**	*e*P		**Pn**	**11 19 04.5**	**+1.3**
CTA	**Charters Tower**	**16.01**	**211**	P		**Pn**	**11 19 04.5**	**+1.3**
CTA				S		**S**	**11 22 05.9**	**-5.4**
CTA	**Charters Tower**	**16.01**	**211**	P		**Pn**	**11 19 04.5**	**+1.3**
CTA				S		**S**	**11 22 05.9**	**-5.4**
CTA				pmax		pmax		
	comp=Z,3.0nm,0.3s							
CTA				MLR		MLR		
	comp=Z,20μm,20.9s							
CTAO	**Charters Tower**	**16.01**	**211**	*e*Pn		**Pn**	**11 19 03.2**	**0.0**
	comp=Z,282nm,1.1s							
CTAO	**Charters Tower**	**16.01**	**211**	*e*P		**Pn**	**11 19 03.2**	**0.0**
CTAO				pmax		pmax		
	comp=Z,282nm,1.1s							
CTAO	**Charters Tower**	**16.01**	**211**	P		**Pn**	**11 19 04.2**	**+1.0**
	comp=Z,282nm,1.2s							
SMPI	**Sarmi**	**16.75**	**284**	P		**Pn**	**11 19 12.0**	**-0.6**
	comp=Z,8μmcomp=Z,399nm,1.6s							
NOUC	**Port Laguerre**	**19.10**	**146**	*e*P		**Pn**	**11 19 39.1**	**-2.1**
DZM	**Mont Dzumac**	**19.15**	**146**	*e*P		**Pn**	**11 19 41.5**	**-0.4**
	comp=Z,772nm,1.1s							
DZM				*e*LR		LR	11 24 14.3	
	comp=Z,31μm,26.4s							
DZM	**Mont Dzumac**	**19.15**	**146**	P		**Pn**	**11 19 41.2**	**-0.7**
	comp=Z,10nm,0.3s,baz=333,slow=9.1,SNR=108							
DZM	**Mont Dzumac**	**19.15**	**146**	*e*P		**Pn**	**11 19 40.7**	**-1.1**
	comp=Z,363nm,1.0s							
EIDS	**Eidsvold**	**19.23**	**191**	*e*P		**Pn**	**11 19 42.6**	**-0.2**
	comp=Z,290nm,1.1s							
LASL	**Noumea**	**19.34**	**146**	*e*P		**Pn**	**11 19 43.7**	**-0.3**
BAKI	**Biak**	**19.47**	**285**	P		**Pn**	**11 19 44.6**	**-1.1**
	comp=Z,363nm,1.7s							
KWAJ	**Kwajalein Atol**	**19.69**	**40**	*e*P		**Pn**	**11 19 45.4**	**-2.9**
	comp=Z,472nm,0.7s							
KWAJ	**Kwajalein Atol**	**19.69**	**40**	*e*P		**Pn**	**11 19 45.4**	**-2.9**
KWAJ				pmax		pmax		
	comp=Z,472nm,0.7s							
GUMO	**Guam**	**22.22**	**333**	P		**P**	**11 20 14.2**	**+0.5**
	comp=Z,170nm,0.7s,mb5.6,baz=168,slow=7.4,SNR=5.8							
GUMO				LR		LR	11 28 01.7	
	comp=Z,4μm,21.1s,MS4.8,baz=147,slow=34							
GUMO	**Guam**	**22.22**	**333**	*e*P		**P**	**11 20 15.2**	**+1.5**
	comp=Z,724nm,1.3s,mb6.0							
GUMO	**Guam**	**22.22**	**333**	P		**P**	**11 20 14.2**	**+0.5**
GUMO				pmax		pmax		
	comp=Z,170nm,0.7s,mb5.6							
GUMO				MLR		MLR		
	comp=Z,4μm,21.1s,MS4.8							
FAKI	**Fak Fak**	**22.86**	**278**	P		**P**	**11 20 20.6**	**0.0**
	comp=Z,339nm,1.5s,mb5.6							
WRAB	**Tennant Creek**	**24.09**	**234**	*e*P		**P**	**11 20 32.9**	**+0.6**
	comp=Z,321nm,0.9s,mb5.8							
WRAB				LR		LR		
	comp=Z,13μm,21.0s,MS5.4							
WRAB	**Tennant Creek**	**24.09**	**234**	*e*P		**P**	**11 20 32.9**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,321nm,0.9s,mb5.8							
WRAB				MLR		MLR		
	comp=Z,13μm,21.0s,MS5.4							
WRAB	**Tennant Creek**	**24.09**	**234**	P		**P**	**11 20 32.7**	**+0.4**
	comp=Z,717nm,2.2s,mb5.7							
WB2	**Warramunga Arr**	**24.10**	**234**	*e*P		**P**	**11 20 33.0**	**+0.7**
ARMA	**Armidale**	**24.10**	**187**	*e*P		**P**	**11 20 32.7**	**+0.5**
ARMA				*e*pP			11 20 43.2	
ARMA	**Armidale**	**24.10**	**187**	*e*P		**P**	**11 20 32.8**	**+0.6**
	comp=Z,625nm,1.5s,mb5.8							
WRA	**Warramunga Arr**	**24.11**	**234**	P		**P**	**11 20 32.7**	**+0.3**
	comp=Z,84nm,0.6s,mb5.4,baz=58,slow=9.5,SNR=369							
WRA				PcP		PcP	11 24 12.8	0.0
	comp=Z,19nm,0.6s,baz=66,slow=2.7,SNR=11							
WRA				pPcP			11 24 26.4	
	comp=Z,55nm,0.8s,baz=52,slow=1.8,SNR=11							
WRA				S		**S**	**11 24 49.0**	**+2.3**
	comp=Z,77nm,1.3s,baz=59,slow=16,SNR=8.6							
WRA				LR		LR	11 29 55.9	
	comp=Z,12μm,19.0s,MS5.4,baz=60,slow=36							
WRA	**Warramunga Arr**	**24.11**	**234**	P		**P**	**11 20 32.7**	**+0.3**
WRA				PcP		PcP	11 24 12.8	0.0
WRA				pPcP			11 24 26.4	
WRA				S		**S**	**11 24 49.0**	**+2.3**
WRA	**Warramunga Arr**	**24.11**	**234**	P		**P**	**11 20 32.7**	**+0.3**
WRA							11 24 12.8	
WRA				S		**S**	**11 24 49.0**	**+2.3**
WRA				pmax		pmax		
	comp=Z,84nm,0.6s							
WRA				smax				
	comp=N,77nm,1.3s							
WRA				MLR		MLR		
	comp=Z,12μm,19.0s							
FUNA	**Funafuti**	**24.16 97**		PFAKE			11 20 40.0	+7.1
FUNA				LR		LR		
	comp=Z,9μm,19.0s,MS5.3							
MSVF	**Nonsavu**	**25.23 119**		*e*P		**P**	**11 20 40.9**	**-1.7**
	comp=Z,467nm,1.4s,mb5.8							
MSVF				LR		LR		
	comp=Z,11μm,20.0s,MS5.4							
MSVF	**Nonsavu**	**25.23 119**		*e*P		**P**	**11 20 40.9**	**-1.8**
MSVF				pmax		pmax		
	comp=Z,467nm,1.4s,mb5.8							
MSVF				MLR		MLR		
	comp=Z,11μm,20.0s,MS5.4							
AS31	**Alice Springs**	**26.52 227**		*e*P		**P**	**11 20 54.1**	**-0.2**
ASAR	**Alice Springs**	**26.52 227**		P		**P**	**11 20 54.2**	**-0.1**
	comp=Z,22nm,0.6s,mb4.8,baz=58,slow=8.9,SNR=406							
ASAR				PcP		PcP	11 24 18.4	+0.2
	comp=Z,28nm,0.6s,baz=58,slow=2.5,SNR=11							
ASAR				pPcP			11 24 31.7	
	comp=Z,42nm,0.9s,baz=46,slow=2.7,SNR=12							
ASAR				P3KPbc			11 53 36.6	
	comp=Z,0.8nm,0.8s,baz=228,slow=4.6,SNR=0.6							
ASAR	**Alice Springs**	**26.52 227**		P		**P**	**11 20 54.2**	**-0.1**
ASAR				PcP		PcP	11 24 18.4	+0.2
ASAR				pPcP			11 24 31.7	
ASAR				*e*			11 53 36.6	
ASAR	**Alice Springs**	**26.52 227**		P		**P**	**11 20 54.2**	**-0.1**
ASAR							11 24 18.4	
ASAR				pmax		pmax		
	comp=Z,22nm,0.6s							
AAI	**Ambon**	**26.76 274**		P		**P**	**11 20 59.5**	**+2.9**
	comp=Z,4μmcomp=Z,290nm,0.9s,mb5.8							
MGCD	**Mangrove Creek**	**26.92 187**		*e*P		**P**	**11 20 58.3**	**+0.6**
	comp=Z,351nm,1.0s,mb5.8							
RIV	**Riverview**	**27.53 187**		*e*P		**P**	**11 21 03.7**	**+0.5**
NLAI	**Namlea**	**27.90 275**		P		**P**	**11 21 08.6**	**+1.8**
	comp=Z,2μmcomp=Z,122nm,0.9s,mb5.5							
LBMI	**Labuha**	**27.95 281**		P		**P**	**11 21 09.0**	**+1.8**
	comp=Z,10μmcomp=Z,798nm,1.0s,mb6.3							
STKA	**Stephens Creek**	**28.25 204**		P		**P**	**11 21 09.0**	**-0.7**
	comp=Z,17nm,0.6s,mb4.8,baz=11,slow=8.3,SNR=55							
STKA				PcP		PcP	11 24 21.9	-0.3
	comp=Z,13nm,0.7s,baz=322,slow=2.6,SNR=3.8							
STKA				pPcP			11 24 35.7	
	comp=Z,37nm,0.9s,baz=44,slow=3.1,SNR=3.1							
STKA				LR		LR	11 32 35.6	
	comp=Z,15μm,19.0s,MS5.6,baz=11,slow=37							
STKA	**Stephens Creek**	**28.25 204**		*e*P		**P**	**11 21 08.8**	**-0.9**
STKA	**Stephens Creek**	**28.25 204**		*e*P		**P**	**11 21 08.9**	**-0.8**
	comp=Z,83nm,1.8s,mb5.1							
STKA				PcP		PcP	11 24 21.9	-0.3
STKA				pPcP			11 24 35.7	
STKA	**Stephens Creek**	**28.25 204**		P		**P**	**11 21 09.0**	**-0.

comp=Z,2μmcomp=Z,118nm,0.9s,mb5.8
SPSI Sidrap Palu 35.09 272 P **P 11 22 09.7 -0.3**
comp=Z,1μmcomp=Z,80nm,1.1s,mb5.6
GUIM Jordan 36.36 298 *e*P **P 11 22 21.3 +0.5**
PVCP Virac 36.44 303 *e*P **P 11 22 21.9 +0.5**
MOO Moorlands 36.55 190 *e*P **P 11 22 23.5 +1.4**
RCP Roxas 36.65 299⇑*e*P **P 11 22 23.9 +0.7**
TAU Tasmania Unive 36.99 189 *e*P **P 11 22 26.9 +1.2**
comp=Z,143nm,0.9s,mb5.8
TAU LR LR
comp=Z,6μm,22.0s,MS5.3
TAU Tasmania Unive 36.99 189 *e*P **P 11 22 27.0 +1.2**
TAU pmax pmax
comp=Z,143nm,0.9s,mb5.8
TAU MLR MLR
comp=Z,6μm,22.0s,MS5.3
MBWA Marble Bar 37.08 243 *e*P **P 11 22 26.4 -0.5**
comp=Z,92nm,1.0s,mb5.6
MBWA LR LR
comp=Z,14μm,20.0s,MS5.7
URZ Urewera 37.57 151 P **P 11 22 30.9 +0.2**
comp=Z,68nm,0.6s,mb5.6,baz=336,slow=3.9,SNR=34
URZ Urewera 37.57 151 *e*P **P 11 22 30.9 +0.2**
comp=Z,176nm,1.2s,mb5.7
QRZ Quartz Range 37.73 158 *e*PN **P 11 22 32.6 +0.4**
CUYO Cuyo Island 37.85 297 *e*P **P 11 22 34.7 +1.3**
MYLDM Lahad Datu 38.13 287 P **P 11 22 37.9 +2.0**
MYLDM Lahad Datu 38.13 287 P **P 11 22 37.8 +1.9**
comp=Z,4μmcomp=Z,231nm,1.1s,mb5.8
DSZ Denniston Nort 38.28 159 *e*PN **P 11 22 36.0 -0.7**
NNZ Nelson 38.39 157 *e*PN **P 11 22 37.9 +0.2**
MTNI Mataram 38.48 264 P **P 11 22 37.5 -1.3**
comp=Z,4μmcomp=Z,258nm,0.8s,mb6.0
TSM Tawau 38.48 285 P **P 11 22 39.5 +0.6**
THZ Tophouse 38.69 158 PN **P 11 22 39.9 -0.2**
THZ PcP PcP 11 24 50.2 -1.0
TCW Tory Channel 38.74 156 *e*PN **P 11 22 40.5 -0.1**
WVZ Waitaha Valley 39.11 162 *e*PN **P 11 22 42.5 -1.2**
FOZ Fox Glacier 39.24 163 *e*PN **P 11 22 44.5 -0.2**
FOZ PcP PcP 11 24 51.9 -1.0
LTZ Lake Taylor 39.35 160 PN **P 11 22 45.5 -0.2**
TGY Tagaytay City 39.40 301 P **P 11 22 46.6 +0.2**
comp=Z,179nm,0.3s,mb6.3,baz=158,slow=11,SNR=5.9
TGY Tagaytay City 39.40 301 P **P 11 22 46.6 +0.2**
TGY Tagaytay City 39.40 301 P **P 11 22 46.6 +0.2**
TGY pmax pmax
comp=Z,179nm,0.3s
KHZ Kahutara 39.49 158 *e*P **P 11 22 46.2 -0.6**
comp=Z,2μm,2.8s,mb6.3
IGBI Denpasar 39.49 264 P **P 11 22 46.3 -1.0**
comp=Z,238nm,1.2s,mb5.8
SDKM Sandakan 39.51 287 P **P 11 22 47.4 -0.1**
RPZ Rata Peaks 39.79 162 P **P 11 22 49.6 +0.3**
comp=Z,83nm,0.7s,mb5.6,baz=297,slow=0.9,SNR=11
RPZ Rata Peaks 39.79 162 *e*P **P 11 22 49.1 -0.2**
comp=Z,109nm,0.7s,mb5.7
RPZ Rata Peaks 39.79 162 *e*PN **P 11 22 48.1 -1.2**
RPZ PcP PcP 11 24 53.0 -1.7
BATP Bataraza 39.96 292 *e*P **P 11 22 52.3 +1.1**
MEEK Meekatharra 39.99 236 *e*P **P 11 22 51.1 -0.2**
BBKI Banjar Baru 40.03 272 P **P 11 22 52.8 +1.0**
comp=Z,7μmcomp=Z,206nm,1.4s,mb5.7
LBZ Lake Benmore 40.14 163 PN **P 11 22 51.0 -1.1**
LBZ PcP PcP 11 24 55.1 -0.7
KDM Kudat 40.24 289 P **P 11 22 54.3 +0.8**
BYJI Banyuwangi 40.27 265 P **P 11 22 54.1 +0.4**
comp=Z,587nm,1.3s,mb6.2
JAGI Jajag, Banyuwa 40.47 264 P **P 11 22 53.8 -1.6**
comp=Z,3μmcomp=Z,329nm,1.0s,mb6.0
MLZ Mavora Lakes 40.48 166 PN **P 11 22 54.8 -0.3**
KKM Kota Kinabalu 40.56 287 P **P 11 22 56.9 +0.8**
KKM Kota Kinabalu 40.56 287 *e*P **P 11 22 56.5 +0.3**
comp=Z,199nm,0.9s,mb5.7
KKM LR LR
comp=Z,2μm,20.0s,MS4.9
ODZ Otahua Downs 40.87 163 *e*P **P 11 22 57.7 -0.5**
comp=Z,297nm,1.1s,mb5.8
ODZ *e*pP pP 11 23 14.3 +2.3
ODZ Otahua Downs 40.87 163 PN **P 11 22 57.0 -1.2**
ODZ PcP PcP 11 24 58.1 -0.1
GMJI Gumukmas 41.17 265 P **P 11 23 00.4 -0.8**
comp=Z,2μmcomp=Z,74nm,1.2s,mb5.2
JOW Kunigami 41.92 323 *e*P **P 11 23 07.7 +0.6**
comp=Z,24nm,0.7s,mb4.9
JOW *e*pP pP 11 23 22.0 +1.1
PWJI Pagerwojo 42.80 265 P **P 11 23 13.4 -1.1**
comp=Z,2μmcomp=Z,231nm,0.9s,mb5.9
KLBR Kellerberrin 42.82 229 *e*P **P 11 23 13.3 -1.1**
comp=Z,94nm,0.7s,mb5.6
SJI Sawahan 42.84 266 P **P 11 23 14.6 -0.2**
comp=Z,4μmcomp=Z,180nm,0.8s,mb5.9
BTM Bintulu 42.85 282 P **P 11 23 17.0 +2.1**
PCJI Pacitan 43.42 265 P **P 11 23 19.2 -0.3**
comp=Z,6μmcomp=Z,502nm,1.1s,mb6.1
SBUM Sibu 43.53 280 P **P 11 23 22.2 +1.8**
SBUM Sibu 43.53 280 P **P 11 23 21.2 +0.8**
comp=Z,3μmcomp=Z,158nm,2.0s,mb5.4
MIDW Midway 43.57 37 PFAKE 11 23 30.0 +10
MIDW LR LR
comp=Z,9μm,19.0s,MS5.7
NWAO Narrogin (SRO) 43.84 228 P **P 11 23 22.1 -0.5**
comp=Z,33nm,0.8s,mb5.1,baz=64,slow=7.6,SNR=11
NWAO Narrogin (SRO) 43.84 228 *e*P **P 11 23 22.5 -0.1**
comp=Z,186nm,1.7s,mb5.5
NWAO LR LR
comp=Z,7μm,22.0s,MS5.5
NWAO Narrogin (SRO) 43.84 228 *e*P **P 11 23 22.5 -0.1**
NWAO pmax pmax
comp=Z,186nm,1.7s
NWAO MLR MLR
comp=Z,7μm,22.0s
UGM Wanagama 44.07 265 *e*P **P 11 23 24.9 +0.2**
comp=Z,1μm,2.0s,mb6.4
UGM Wanagama 44.07 265 P **P 11 23 24.6 -0.1**
comp=Z,7μmcomp=Z,277nm,0.8s,mb6.0
YOGI Yogyakarta 44.30 265 P **P 11 23 26.7 +0.2**
comp=Z,1μm,1.0s,mb6.5
BJII Banjamegara 44.89 266 P **P 11 23 32.0 +0.7**
comp=Z,8μmcomp=Z,357nm,1.4s,mb6.0
KSM Kuching 45.22 278 P **P 11 23 34.9 +1.0**
KSM Kuching 45.22 278 *e*P **P 11 23 34.2 +0.3**
comp=Z,92nm,0.7s,mb5.7
KSM LR LR
comp=Z,2μm,22.0s,MS4.9
KSM Kuching 45.22 278 P **P 11 23 34.4 +0.5**
comp=Z,2μmcomp=Z,173nm,1.7s,mb5.6
JNU Nakatsue 45.45 331 *e*P **P 11 23 34.8 -0.5**
MJAR Matsushiro Arr 45.49 341 P **P 11 23 34.2 -1.4**
comp=Z,7.1nm,0.7s,mb4.6,baz=166,slow=7.3,SNR=18
MJAR Matsushiro Arr 45.49 341 P **P 11 23 34.2 -1.4**
MJAR Matsushiro Arr 45.49 341 P **P 11 23 34.2 -1.4**
MJAR pmax pmax
comp=Z,7.0nm,0.7s
MAJO Matsushiro 45.49 341 *e*P **P 11 23 34.8 -0.8**
MAJO LR LR
comp=Z,2μm,19.0s,MS5.1
MAJO Matsushiro 45.49 341 *e*P **P 11 23 34.8 -0.8**
MAJO MLR MLR
comp=Z,2μm,19.0s,MS5.1
MAT Matsushiro 45.49 341 P **P 11 23 34.6 -1.0**
MAT S **S 11 30 08.0 -5.7**
RAR Rarotonga 46.21 113 P **P 11 23 40.9 -0.7**
comp=Z,36nm,0.8s,mb5.4,baz=259,slow=4.2,SNR=4.2
RAR Rarotonga 46.21 113 P **P 11 23 40.9 -0.7**
RAR Rarotonga 46.21 113 P **P 11 23 40.9 -0.7**
RAR pmax pmax
comp=Z,36nm,0.8s
CISI Cisompet, Garu 46.76 266 P **P 11 23 45.1 -0.9**
comp=Z,7μmcomp=Z,511nm,1.2s,mb6.3
LEM Lembang 46.98 267 P **P 11 23 48.1 +0.3**
comp=Z,6μmcomp=Z,462nm,0.8s,mb6.5
QZH Quanzhou 47.12 313⇑*i*P **P 11 23 47.8 -0.8**
QZH pP pP 11 24 00.3 -2.3
QZH S **S 11 30 35.9 -1.5**
QZH sS sS 11 30 58.8 -2.1
QZH pmax pmax
comp=Z,320nm,0.9s,mb6.2
QZH LR LR
comp=N,2μm,14.1s
QZH LR LR
comp=E,4μm,20.0s
QZH LR LR
comp=Z,7μm,28.5s
TPI Tanjungpandan 47.24 272 P **P 11 23 50.5 +0.7**
comp=Z,1μmcomp=Z,87nm,0.9s,mb5.7
SKJI Sukabumi 48.03 266 P **P 11 23 55.1 -0.8**
comp=Z,8μmcomp=Z,712nm,0.6s,mb6.8
XMIS Christmas Isla 48.87 262 *e*P **P 11 24 02.4 0.0**
XMIS Christmas Isla 48.87 262 P **P 11 24 02.7 +0.3**
comp=Z,382nm,1.2s,mb6.3
CGJI Cibinong 48.90 267 P **P 11 24 01.2 -1.4**
SSE Sheshan 49.29 321 P **P 11 24 06.0 +0.7**
SSE S **S 11 31 10.0 +2.0**
SSE pmax pmax
comp=Z,29nm,0.6s,mb5.5
SSE pmax pmax
comp=Z,570nm,10.1s
SSE LR LR
comp=N,1μm,21.8s,MS5.0
SSE LR LR
comp=E,1μm,21.8s,MS5.0
SSE LR LR
comp=Z,2μm,22.1s,MS5.1
ERM Erimo 49.35 348 PFAKE 11 24 20.0 +14
ERM LR LR
comp=Z,4μm,22.0s,MS5.3
GZH Guangzhou 50.10 307 P **P 11 24 13.3 +1.8**
GZH S **S 11 31 25.1 +5.7**
GZH LR LR
comp=Z,5μm,23.2s,MS5.4
KSRS Korea Array 50.37 332 P **P 11 24 12.9 -0.4**
comp=Z,36nm,0.8s,mb5.5,baz=147,slow=8.2,SNR=111
KSRS pP pP 11 24 26.2 -1.2
comp=Z,18nm,0.7s,baz=138,slow=6.5,SNR=9.7
KSRS LR LR 11 44 43.4
comp=Z,1μm,20.4s,MS4.9,baz=144,slow=35
KSRS Korea Array 50.37 332 P **P 11 24 13.0 -0.4**
KSRS *PP pP 11 24 26.3 -1.1
KSRS pmax pmax
comp=Z,36nm,0.8s,mb5.5
KSRS pmax pmax
comp=Z,18nm,0.7s,mb5.2
KSAR Wonju Array Be 50.38 332 P **P 11 24 12.9 -0.5**
KSAR pP pP 11 24 26.2 -1.3
KSAR Wonju Array Be 50.38 332 P **P 11 24 13.0 -0.4**
KSAR *PP pP 11 24 26.3 -1.2
YUK Yuzh-Kuril'sk 50.85 352*c i*P **P 11 24 11.0 -5.8**
YUK *i* 11 26 08.9
YUK *i* PPP 11 27 13.9
YUK *i* S **S 11 31 25.4 -3.8**
YUK *i* SSS 11 36 40.2
YUK pmax pmax
comp=Z,118nm,4.6s
YUK MLR MLR
comp=N,1μm,19.0s
YUK MLR MLR
comp=Z,2μm,19.0s,MS5.1
INCN Inchon 51.01 331 *e*P **P 11 24 18.1 0.0**
comp=Z,140nm,0.8s,mb5.9
INCN *e*pP pP 11 24 31.1 -1.1
INCN LR LR
comp=Z,1μm,19.0s,MS4.9
QIZ Qiongzhong 51.09 301 P **P 11 24 19.5 +0.4**
QIZ pP pP 11 24 34.8 +1.6
QIZ sP sP 11 24 39.6 +0.4
QIZ S **S 11 31 37.1 +3.7**
QIZ pmax pmax
comp=Z,120nm,0.9s,mb5.8
QIZ pmax pmax
comp=Z,840nm,11.1s
QIZ LR LR
comp=N,1μm,20.8s
QIZ LR LR
comp=Z,3μm,33.9s
QIZ Qiongzhong 51.09 301 PFAKE 11 24 30.0 +11
QIZ LR LR
comp=Z,3μm,22.0s,MS5.2
NJ2 Nanjing 51.41 320 *e*P **P 11 24 21.8 +0.6**
NJ2 pP pP 11 24 37.0 +1.6
NJ2 sP sP 11 24 43.0 +1.6
NJ2 PP PP 11 26 21.0 +2.1
NJ2 S **S 11 31 30.0 -7.3**
NJ2 pmax pmax
comp=Z,40nm,1.0s,mb5.3
NJ2 pmax pmax
comp=Z,900nm,5.4s
NJ2 LR LR
comp=N,2μm,22.8s
NJ2 LR LR
comp=E,2μm,17.4s
NJ2 LR LR
comp=Z,3μm,22.1s,MS5.2
ASAJ Asahikawa 51.49 349 *e*P **P 11 24 22.6 +1.0**
comp=Z,18nm,0.6s,mb5.2
MYKOM Kota Tinggi 51.63 277 P **P 11 24 23.4 +0.1**
KGM Kluang 52.19 278 P **P 11 24 28.2 +0.7**
KTGM Kuala Trenggan 52.99 282 P **P 11 24 33.8 +0.5**
WHN Wuhan 53.46 316⇓*i*P **P 11 24 36.3 -0.2**
WHN S **S 11 32 04.0 -1.5**
WHN pmax pmax
comp=Z,100nm,0.8s,mb5.8
WHN LR LR
comp=N,2μm,6.5s
WHN LR LR
comp=E,2μm,5.0s
WHN LR LR
comp=Z,7μm,26.7s,MS5.6
VLA Vladivostok 53.53 339 *e*P **P 11 24 37.2 +0.5**
VLA pmax pmax
comp=Z,33nm,0.7s,mb5.4
KIP Kipapa 53.79 58 PFAKE 11 24 50.0 +11
KIP LR LR
comp=Z,4μm,21.0s,MS5.5
KIP Kipapa 53.79 58⇑*e*P **P 11 24 40.7 +1.6**
FRIM Kepong 54.07 279 P **P 11 24 41.4 +0.2**
YSS Yuzh-Sakhalins 54.20 350 *e*P **P 11 24 41.5 0.0**
comp=Z,45nm,0.6s,mb5.6
YSS Yuzh-Sakhalins 54.20 350⇓*i*P **P 11 24 41.4 -0.1**
YSS *e**PP pP 11 24 56.4 +0.7
YSS *e*S **S 11 32 13.0 -1.8**
YSS pmax pmax
comp=E,60nm,0.7s
YSS pmax pmax
comp=Z,50nm,0.7s,mb5.5
YSS MLR MLR
comp=Z,2μm,19.0s,MS5.3
YSS MLR MLR
comp=N,2μm,18.0s
USRK Ussuriysk Arra 54.44 340 P **P 11 24 43.2 -0.1**
comp=N,24nm,0.8s,mb5.2,baz=139,slow=4.9,SNR=30
USRK LR LR 11 48 50.2
comp=N,612nm,18.4s,MS4.7,baz=319,slow=37
DL2 Dalian 54.62 328 P **P 11 24 44.5 -0.3**
DL2 S **S 11 32 19.8 -1.0**
DL2 sS sS 11 32 46.4 +1.7
DL2 pmax pmax
comp=Z,60nm,0.8s,mb5.7
DL2 LR LR
comp=N,750nm,18.1s
DL2 LR LR
comp=Z,1μm,25.5s
IPM Ipoh 54.88 280 P **P 11 24 47.6 +0.4**
IPM Ipoh 54.88 280 *e*P **P 11 24 46.7 -0.5**
comp=Z,95nm,0.7s,mb5.9
PPT2 Papeete2 55.24 107 *e*S **S 11 32 38.8 +8.9**
comp=Z,2μm,25.8s
PPT2 *e*LQ 11 38 37.5
comp=Z,5μm,29.0s
PPT2 *e*LR LR 11 41 06.5
comp=Z,3μm,22.8s
KULM Kulim 55.41 281 P **P 11 24 50.9 -0.1**
KULM Kulim 55.41 281 *e*pP pP 11 25 02.5 -2.7
comp=Z,73nm,0.8s
KULM LR LR
comp=Z,994nm,21.0s,MS4.9
MDJ Mudanjiang 55.65 338 P **P 11 24 52.3 +0.2**
MDJ pP pP 11 25 06.6 +0.2
MDJ sP sP 11 25 12.3 -0.1
MDJ PP PP 11 26 59.8 +2.8
MDJ ScP ScP 11 29 43.8 -2.1
MDJ PcS PcS 11 29 51.5 +0.3
MDJ S **S 11 32 38.6 +4.1**
MDJ sS sS 11 32 58.4 0.0
MDJ pmax pmax
comp=Z,30nm,0.8s,mb5.4
MDJ pmax pmax
comp=Z,450nm,11.1s
MDJ LR LR
comp=N,920nm,21.2s,MS5.0
MDJ LR LR
comp=E,1μm,21.2s,MS5.0
MDJ LR LR
comp=Z,2μm,25.4s,MS5.0
MDJ Mudanjiang 55.65 338 *e*P **P 11 24 52.3 +0.2**
comp=Z,25nm,0.8s,mb5.3
MDJ LR LR
comp=Z,1μm,20.0s,MS5.0
SNG Songkhla 55.83 283 P **P 11 24 53.0 -1.0**
comp=Z,200nm,0.8s,mb6.2
SNY Shenyang 55.88 332⇑P **P 11 24 52.9 -0.9**
SNY S **S 11 32 36.0 -1.6**
SNY sS sS 11 33 02.1 +0.6
SNY pmax pmax
comp=Z,11nm,0.6s,mb5.1
SNY pmax pmax
comp=Z,880nm,12.0s
SNY LR LR
comp=N,1μm,19.6s,MS5.2
SNY LR LR
comp=E,1μm,18.2s,MS5.2
SNY LR LR
comp=Z,2μm,26.5s
TBI Tubuai 55.98 114 *e*S **S 11 32 48.1 +8.4**
comp=Z,2μm,28.8s
TBI *e*LQ 11 39 00.3
comp=Z,4μm,41.5s
TBI *e*LR LR 11 41 26.8
comp=Z,12μm,29.0s
CN2 Changchun 56.62 335 *e*P **P 11 24 58.6 -0.4**
CN2 *e*pP pP 11 25 14.6 +1.3
CN2 *e*sP sP 11 25 21.5 +2.2
CN2 *e*S **S 11 32 45.4 -1.9**
CN2 pmax pmax
comp=Z,40nm,1.1s,mb5.4
CN2 pmax pmax
comp=Z,700nm,13.0s
CN2 LR LR
comp=N,800nm,22.0s,MS5.0
CN2 LR LR
comp=E,1μm,22.0s,MS5.0
CN2 LR LR
comp=Z,1μm,21.0s,MS5.0
ENH Enshi 56.78 313 *e*P **P 11 25 00.1 -0.4**
comp=Z,72nm,0.8s,mb5.8
ENH LR LR
comp=Z,2μm,22.0s,MS5.3
SKR Severo-Kuril's 56.85 1 *e*P **P 11 25 05.5 +5.0**
SKR *e* pP 11 25 23.1 +8.3
SKR *e* 11 25 59.0
SKR *e*S **S 11 33 00.0 +10**
SKR pmax pmax
comp=Z,110nm,0.9s,mb5.9
SKR pmax pmax
comp=Z,2μm,8.0s
SKR smax
comp=N,4μm,20.0s
SKR smax
comp=E,3μm,12.0s
SKR MLR MLR
comp=E,3μm,16.0s
SKR MLR MLR
comp=Z,3μm,16.0s,MS5.5
GYA Guiyang 57.03 307⇓*i*P **P 11 25 05.4 +3.1**
GYA pP pP 11 25 20.0 +3.4
GYA sP sP 11 25 27.8 +5.2
GYA PcP PcP 11 25 58.3 +1.4
GYA PP PP 11 27 14.0 +4.4
GYA ScP ScP 11 29 51.3 -1.1
GYA PcS PcS 11 29 58.9 +0.9
GYA S **S 11 32 53.4 0.0**
GYA SS SS 11 36 45.3 +2.4
GYA pmax pmax
comp=Z,90nm,1.0s,mb5.8
GYA pmax pmax
comp=Z,380nm,5.7s
GYA LR LR
comp=N,15μm,21.9s,MS6.2
GYA LR LR
comp=E,13μm,22.0s,MS6.2
GYA LR LR
comp=Z,19μm,20.8s,MS6.2
HABR Khabarovsk 57.35 344 *e*P **P 11 25 03.4 -0.7**
HABR *e**PP pP 11 25 19.4 +1.0
HABR *e*S **S 11 32 55.1 -1.7**
HABR *e**SS sS 11 33 23.9 +3.1
HABR *e* 11 34 44.5
HABR *e*SS SS 11 36 44.4 -2.7
HABR pmax pmax
comp=N,32nm,1.7s
HABR pmax pmax
comp=E,64nm,2.1s
HABR pmax pmax
comp=Z,74nm,1.7s,mb5.4
HABR MLR MLR
comp=Z,716nm,18.0s,MS4.8
COCO West Island 57.53 260 PFAKE 11 25 20.0 +14
COCO LR LR
comp=Z,1μm,21.0s,MS4.9
COCO West Island 57.53 260 *i* P **P 11 25 07.7 +1.6**
NNT Nongplab 58.00 289 P **P 11 25 10.4 +1.1**
BJT Baijiatuau 58.37 326 *e*P **P 11 25 10.6 -0.8**
comp=Z,29nm,0.7s,mb5.4
BJT LR LR
comp=Z,1μm,20.0s,MS5.1
BJT Baijiatuau 58.37 326 *e*P **P 11 25 10.6 -0.8**
BJT pmax pmax
comp=Z,29nm,0.7s
BJT MLR MLR
comp=Z,1μm,20.0s
BJI Beijing 58.38 326 P **P 11 25 10.6 -0.9**
BJI pP pP 11 25 26.9 +1.0
BJI sP sP 11 25 32.5 +0.7
BJI PP PP 11 27 23.3 +2.0
BJI S **S 11 33 05.4 -5.2**
BJI SS SS 11 37 05.3 +1.6
BJI pmax pmax
comp=Z,27nm,0.6s,mb5.5
BJI pmax pmax
comp=Z,420nm,8.0s
BJI LR LR
comp=N,910nm,26.2s,MS5.1
BJI LR LR
comp=E,1μm,26.2s,MS5.1
BJI LR LR
comp=Z,2μm,33.8s
NST Nakhon Sawan 58.51 293⇓P **P 11 25 14.0 +1.1**
comp=Z,175nm,1.0s,mb6.0
KLR Kul'dur 58.97 342⇓*i*P **P 11 25 11.7 -3.7**
KLR pmax pmax
comp=Z,100nm,1.6s,mb5.6
XAN Xi'an 59.22 316 P **P 11 25 17.1 -0.4**
XAN pP pP 11 25 33.0 +1.1
XAN sP sP 11 25 40.3 +2.5
XAN PcP PcP 11 26 06.0 +0.6
XAN S **S 11 33 16.1 -5.6**
XAN SS SS 11 37 12.6 -4.6
XAN pmax pmax
comp=Z,21nm,0.7s,mb5.3
XAN pmax pmax
comp=Z,170nm,12.6s
XAN LR LR
comp=N,760nm,22.9s,MS4.8
XAN LR LR
comp=E,510nm,26.1s,MS4.8
XAN LR LR
comp=Z,600nm,25.0s,MS4.6
PET Petropavlovsk 59.27 3 *e*P **P 11 25 17.7 +0.3**
comp=Z,59nm,0.7s,mb5.7
PET LR LR
comp=Z,3μm,21.0s,MS5.4
PET Petropavlovsk 59.27 3 *e*P **P 11 25 17.6 +0.2**
PET *e**PP pP 11 25 33.1 +1.3
PET *e*S **S 11 33 22.3 +0.7**
PET *e**SS sS 11 33 50.6 +4.9
PET *e*SS SS 11 37 22.0 +4.9
PET pmax pmax
comp=Z,74nm,0.7s,mb5.8
PET pmax pmax
comp=Z,700nm,11.0s
PET pmax pmax
comp=Z,500nm,8.1s
PEA0B Petropavlovsk- 59.31 2 *e*P **P 11 25 18.7 +1.0**
PETK Petropavlovsk- 59.31 2 P **P 11 25 18.6 +0.8**
comp=Z,96nm,0.7s,mb5.9,baz=145,slow=7.6,SNR=127
PETK LR LR 11 47 10.8
comp=Z,2μm,21.0s,MS5.3,baz=182,slow=32

PETK Petropavlovsk- 59.31 2 P **P** **11 25 18.6 +0.8**
PETK Petropavlovsk- 59.31 2 P **P** **11 25 18.6 +0.9**
PETK pmax pmax
comp=Z,96nm,0.7s,mb5.9
KMI Kunming 59.62 304 P **P** **11 25 21.6 +1.2**
KMI pP pP 11 25 34.0 -0.8
KMI sP sP 11 25 38.6 -2.2
KMI PP PP 11 27 33.8 +1.2
KMI S **S** **11 33 30.8 +3.6**
KMI sS sS 11 33 51.3 -0.1
KMI pmax pmax
comp=Z,56nm,1.2s,mb5.5
KMI pmax pmax
comp=Z,580nm,8.3s
KMI LR LR
comp=N,820nm,23.7s,MS5.2
KMI LR LR
comp=E,2μm,23.7s,MS5.2
KMI LR LR
comp=Z,3μm,24.9s,MS5.3
BDT Bhumibol Dam 60.03 294 ⇓P **P** **11 25 25.0 +1.7**
comp=Z,42nm,0.8s,mb5.5
CHRT Chiangrai 60.18 297 ⇑P **P** **11 25 24.0 -0.3**
comp=Z,1μm,1.0s,mb6.9
CM31 Chiang Mai Arr 60.46 295 *e*P **P** **11 25 27.4 +1.1**
comp=Z,196nm,0.8s,mb6.2
CM31 LR LR
comp=Z,1μm,19.0s,MS5.0
CMAR Chiang Mai Arr 60.46 295 P **P** **11 25 27.4 +1.1**
comp=Z,190nm,0.8s,mb6.2,baz=121,slow=5.1,SNR=844
CMAR LR LR 11 50 53.6
comp=Z,1μm,20.9s,MS5.0,baz=250,slow=35
CMAR PKPPKP 11 54 46.0
comp=Z,0.6nm,0.3s,baz=281,slow=3.1,SNR=6.7
CMAR Chiang Mai Arr 60.46 295 P **P** **11 25 27.4 +1.1**
CMAR P'P' 11 54 46.0
CMAR Chiang Mai Arr 60.46 295 P **P** **11 25 27.4 +1.1**
CMAR pmax pmax
comp=Z,190nm,0.8s
CHG Chiang Mai 60.58 296 ⇑P **P** **11 25 27.8 +0.7**
comp=Z,167nm,1.0s,mb6.1
CHTO Chiang Mai 60.58 296 *e*P **P** **11 25 27.7 +0.6**
comp=Z,132nm,0.9s,mb6.1
CHTO LR LR
comp=Z,1μm,22.0s,MS5.0
CHTO Chiang Mai 60.58 296 *e*P **P** **11 25 27.7 +0.6**
CHTO pmax pmax
comp=Z,132nm,0.9s,mb6.1
CHTO MLR MLR
comp=Z,1μm,22.0s,MS5.0
DRV Dumont d'Urvil 61.06 187 P **P** **11 25 37.0 +7.5**
DRV S **S** **11 33 54.0 +10**
DRV SS SS 11 37 58.0 +13
DRV L 11 40 00.0
DRV R 11 45 00.0
SMY Shemya 61.11 13 *e*P **P** **11 25 30.7 +0.7**
comp=Z,126nm,0.5s,mb6.3
SMY LR LR
comp=Z,6μm,23.0s,MS5.7
SMY Shemya 61.11 13 *e*P **P** **11 25 30.7 +0.7**
SMY pmax pmax
comp=Z,126nm,0.5s,mb6.3
SMY MLR MLR
comp=Z,6μm,23.0s,MS5.7
CD2 Chengdu 61.37 310 ⇑*i*P **P** **11 25 32.5 +0.3**
CD2 pP pP 11 25 48.6 +1.9
CD2 sP sP 11 25 55.4 +2.8
CD2 PP PP 11 27 50.6 +2.6
CD2 S **S** **11 33 48.1 -1.3**
CD2 ScS ScS 11 35 14.6 -4.9
CD2 SS SS 11 37 51.8 +0.8
CD2 pmax pmax
comp=Z,50nm,0.9s,mb5.6
CD2 pmax pmax
comp=Z,820nm,10.2s
CD2 LR LR
comp=N,2μm,25.2s,MS5.4
CD2 LR LR
comp=E,3μm,24.0s,MS5.4
CD2 LR LR
comp=Z,3μm,24.0s,MS5.3
HHC Hu-ho-hao-te 61.57 324 ⇑P **P** **11 25 33.3 0.0**
HHC pP pP 11 25 48.8 +1.0
HHC sP sP 11 25 56.0 +2.3
HHC PcP PcP 11 26 15.0 +0.3
HHC PP PP 11 27 51.3 +1.8
HHC ScP ScP 11 30 08.1 -4.1
HHC S **S** **11 33 50.5 -1.0**
HHC sS sS 11 34 19.0 +3.2
HHC ScS ScS 11 35 16.1 -4.4
HHC SS SS 11 37 56.8 +3.1
HHC pmax pmax
comp=Z,27nm,0.8s,mb5.4
HHC pmax pmax
comp=Z,500nm,9.7s
HHC LR LR
comp=N,1μm,19.0s,MS5.2
HHC LR LR
comp=E,730nm,17.8s,MS5.2
HHC LR LR
comp=Z,2μm,19.0s,MS5.2
BTO Baotou 62.34 323 *e*P **P** **11 25 38.1 -0.4**
HIA Hailar 63.35 335 *e*P **P** **11 25 44.7 -0.3**
comp=Z,82nm,0.8s,mb5.9
HIA LR LR
comp=Z,1μm,19.0s,MS5.1
HIA Hailar 63.35 335 *e*P **P** **11 25 44.7 -0.3**
HIA pmax pmax
comp=Z,82nm,0.8s
HIA MLR MLR
comp=Z,1μm,19.0s
LZH Lanzhou 63.84 315 *e*P **P** **11 25 49.5 +0.9**
LZH pP pP 11 26 05.9 +2.8
LZH sP sP 11 26 12.1 +3.1
LZH PcP PcP 11 26 26.3 +2.3
LZH *e*S **S** **11 34 18.3 -1.8**
LZH sS sS 11 34 45.0 +0.5
LZH SS SS 11 38 28.3 -1.1
LZH pmax pmax
comp=Z,52nm,1.1s,mb5.5
LZH pmax pmax
comp=Z,460nm,5.2s
LZH LR LR
comp=N,2μm,18.1s,MS5.4
LZH LR LR
comp=E,1μm,15.9s,MS5.4
LZH LR LR
comp=Z,3μm,20.0s,MS5.5
TAOE Nuku Hiva Isla 64.33 97 *e*S **S** **11 34 35.5 +8.4**
comp=Z,2μm,24.8s
TAOE *e*LR LR 11 45 10.9
comp=Z,3μm,22.4s
IMP Imphal 66.92 300 *e*PKP **P** **11 26 08.0 -0.8**
IMP *ex* x 11 26 20.0
CASY Casey 67.14 198 *e*P **P** **11 26 08.3 -1.1**
CASY Casey 67.14 198 *e*P **P** **11 26 08.8 -0.6**
comp=Z,53nm,1.1s,mb5.5
CASY *e*pP pP 11 26 21.9 -2.1
CASY LR LR
comp=Z,4μm,20.0s,MS5.6
CLNS Chul'man 67.63 343 *e*P **P** **11 26 13.1 +0.5**
CLNS *e*PP pP 11 26 19.8 -7.4
CLNS *e* 11 26 41.8
CLNS *e*S S 11 35 05.5 -0.1
CLNS *e*PS 11 35 43.9
CLNS pmax pmax
comp=Z,47nm,0.7s,mb5.6
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS smax
comp=N,244nm,12.0s
CLNS smax
comp=E,248nm,14.1s
GTA Gaotai 68.25 317 ⇑P **P** **11 26 17.4 +0.5**
GTA pP pP 11 26 33.4 +1.9
GTA sP sP 11 26 41.3 +3.9
GTA PP PP 11 28 51.8 +3.7
GTA S S 11 35 11.9 -1.8
GTA SS SS 11 39 34.6 -3.3
GTA pmax pmax
comp=Z,45nm,0.9s,mb5.5
GTA pmax pmax
comp=Z,490nm,9.5s
GTA LR LR
comp=N,740nm,22.3s,MS5.1
GTA LR LR
comp=E,1μm,25.6s,MS5.1
GTA LR LR
comp=Z,2μm,26.1s,MS5.2
ULN Ulaanbaatar 68.46 328 *e*P **P** **11 26 18.2 +0.2**
comp=Z,44nm,0.8s,mb5.5
ULN Ulaanbaatar 68.46 328 *e*P **P** **11 26 18.2 +0.3**
ULN pmax pmax
comp=Z,44nm,0.8s,mb5.5
SONM Songino Array 68.79 327 P **P** **11 26 20.3 +0.3**
comp=Z,54nm,0.6s,mb5.6,baz=134,slow=5.6,SNR=249
SONM PKPPKP 11 54 34.8
comp=Z,2.8nm,0.8s,baz=298,slow=2.5,SNR=8.6
SONM LR LR 11 56 45.1
comp=Z,773nm,20.3s,MS4.9,baz=146,slow=36
SONM Songino Array 68.79 327 P **P** **11 26 20.3 +0.3**
SONM P'P' 11 54 34.8
SONM Songino Array 68.79 327 P **P** **11 26 20.3 +0.3**
SONM pmax pmax
comp=Z,54nm,0.6s
SONM MLR MLR
comp=Z,773nm,20.3s
SHL Shillong 68.93 300 *e*PKP **P** **11 26 21.5 +0.1**
SHL *ex* x 11 26 34.4
SHL *ex* x 11 35 21.0
SEY Seymchan 69.15 359 ⇓*e*P **P** **11 26 22.1 +0.2**
RKT Rikitea 69.23 112 *e*S S 11 35 33.6 +7.6
comp=Z,2μm,32.8s
RKT *e*LQ 11 44 30.0
comp=Z,2μm,36.5s
RKT *e*LR LR 11 47 46.5
comp=Z,8μm,28.8s
LSA Lhasa 70.88 304 P **P** **11 26 33.8 +0.6**
LSA PP PP 11 29 09.0 -2.0
LSA S S 11 35 35.0 -10
LSA pmax pmax
comp=Z,30nm,0.9s,mb5.2
LSA pmax pmax
comp=Z,570nm,9.0s
LSA LR LR
comp=N,380nm,24.0s,MS5.2
LSA LR LR
comp=E,1μm,24.0s,MS5.2
LSA LR LR
comp=Z,2μm,28.0s,MS5.2
LSA Lhasa 70.88 304 *e*P **P** **11 26 33.7 +0.5**
comp=Z,72nm,0.8s,mb5.7
LSA LR LR
comp=Z,1μm,21.0s,MS5.2
LSA Lhasa 70.88 304 *e*P **P** **11 26 33.7 +0.5**
LSA pmax pmax
comp=Z,72nm,0.8s,mb5.7
LSA MLR MLR
comp=Z,1μm,21.0s,MS5.2
YAK Yakutsk 70.95 348 *e*P **P** **11 26 33.0 +0.1**
comp=Z,67nm,0.8s,mb5.6
YAK Yakutsk 70.95 348 *c i*P **P** **11 26 32.6 -0.4**
YAK *e**PP pP 11 26 45.8 -1.9
YAK *e* 11 26 58.8
YAK *e* 11 29 11.3
YAK *e*S S 11 35 38.7 -5.9
YAK *e* 11 36 36.2
YAK *e*SS SS 11 40 28.6 +10
YAK pmax pmax
comp=Z,49nm,0.9s,mb5.4
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,111nm,3.2s
YAK pmax pmax
comp=N,106nm,3.5s
YAK pmax pmax
comp=E,82nm,3.3s
YAK smax
comp=N,534nm,13.9s
YAK smax
comp=E,417nm,13.2s
CAL Calcutta 71.16 296 *e*PKP **P** **11 26 34.4 -0.8**
VNDA Vanda 71.19 178 *e*P **P** **11 26 34.3 0.0**
comp=E,249nm,1.9s,mb5.8
VNDA *e*pP pP 11 26 47.1 -1.9
VNDA Vanda 71.19 178 *e*P **P** **11 26 34.3 0.0**
VNDA *e**PP pP 11 26 47.1 -1.9
VNDA pmax pmax
comp=Z,249nm,1.9s
SBA Scott Base 71.69 177 *e*P **P** **11 26 38.9 +1.6**
comp=Z,210nm,1.5s,mb5.8
SBA *e*pP pP 11 26 51.6 -0.5
SBA *e*sP sP 11 26 57.4 -0.6
SBA Scott Base 71.69 177 *e*P **P** **11 26 38.9 +1.6**
SBA *e**PP pP 11 26 51.6 -0.5
SBA *e**SP sP 11 26 57.4 -0.6
SBA pmax pmax
comp=Z,210nm,1.5s,mb5.8
ZAK Zakamensk 71.94 328 ⇑*i*P **P** **11 26 39.1 -0.1**
ZAK pmax pmax
comp=Z,58nm,0.8s,mb5.6
BOD Bodaibo 72.03 338 *e*P **P** **11 26 38.0 -1.6**
BOD pmax pmax
comp=Z,20nm,0.9s,mb5.0
TLY Talaya 72.51 329 *e*P **P** **11 26 42.4 -0.2**
comp=Z,25nm,0.8s,mb5.2
TLY LR LR
comp=Z,1μm,20.0s,MS5.2
TLY Talaya 72.51 329 *e*P **P** **11 26 42.1 -0.5**
TLY pmax pmax
comp=Z,27nm,0.9s,mb5.2
TLY MLR MLR
comp=Z,1μm,21.0s,MS5.1
BWNR Bhubaneshwar 72.88 293 *e*PKP **P** **11 26 43.0 -2.4**
TAPN Taplejung 73.03 301 *e*P **P** **11 26 46.5 +0.3**
comp=Z,169nm,0.6s,mb6.1
TAPN Taplejung 73.03 301 *e*P **P** **11 26 46.5 +0.3**
comp=Z,169nm,0.6s,mb6.2
ODAN Odare 73.17 300 *e*P **P** **11 26 47.3 +0.3**
comp=Z,506nm,0.7s,mb6.6
ODAN Odare 73.17 300 *e*P **P** **11 26 47.3 +0.3**
comp=Z,506nm,0.7s,mb6.6
MIR Mirnyy 73.23 202 ⇑*i*P **P** **11 26 46.4 -0.2**
MIR *e*S S 11 36 11.0 +0.3
MIR pmax pmax
comp=Z,1μm,5.0s
MIR pmax pmax
comp=Z,139nm,1.4s,mb5.7
MIR smax
comp=N,891nm,8.0s
MOY Mondy 73.86 328 *e*P **P** **11 26 50.3 -0.3**
MOY pmax pmax
comp=Z,70nm,3.1s
RAMN Ramite 73.87 300 *e*P **P** **11 26 51.1 -0.1**
comp=Z,141nm,0.7s,mb6.0
RAMN Ramite 73.87 300 *e*P **P** **11 26 51.1 -0.1**
comp=Z,141nm,0.7s,mb6.0
GAMB Gambell 74.35 15 *e*P **P** **11 26 53.7 +0.6**
comp=Z,25nm,0.8s,mb5.2
GAMB *e*pP pP 11 27 05.8 -2.2
JIRN Jiri 74.41 301 *e*P **P** **11 26 54.5 +0.2**
comp=Z,244nm,0.7s,mb6.2
JIRN Jiri 74.41 301 *e*P **P** **11 26 54.5 +0.2**
comp=Z,244nm,0.7s,mb6.2
GUN Gumba 74.75 301 *e*P **P** **11 26 56.5 +0.2**
comp=Z,417nm,0.8s,mb6.4
GUN Gumba 74.75 301 *e*P **P** **11 26 56.5 +0.2**
comp=Z,417nm,0.8s,mb6.4
PKI Pulchoki 75.06 301 *e*P **P** **11 26 57.7 -0.4**
comp=Z,78nm,0.5s,mb5.9
PKI Pulchoki 75.06 301 *e*P **P** **11 26 57.7 -0.4**
comp=Z,78nm,0.5s,mb5.9
PKI Pulchoki 75.06 301 *e*P **P** **11 26 57.7 -0.4**
PKI pmax pmax
comp=Z,78nm,0.5s,mb5.9
KKN Kakani 75.23 301 *e*P **P** **11 26 58.9 -0.1**
comp=Z,250nm,0.7s,mb6.2
KKN Kakani 75.23 301 *e*P **P** **11 26 58.9 -0.1**
comp=Z,250nm,0.7s,mb6.2
KKN Kakani 75.23 301 *e*P **P** **11 26 58.9 -0.1**
DMN Daman 75.33 301 *e*P **P** **11 26 59.8 +0.2**
comp=Z,416nm,0.8s,mb6.4
DMN Daman 75.33 301 *e*P **P** **11 26 59.8 +0.2**
comp=Z,416nm,0.8s,mb6.4
GKN Gorkha 75.83 301 *e*P **P** **11 27 02.0 -0.5**
comp=Z,237nm,0.8s,mb6.2
GKN Gorkha 75.83 301 *e*P **P** **11 27 02.0 -0.5**
comp=Z,237nm,0.8s,mb6.2
OHAK Old Harbor 76.01 26 *e*P **P** **11 27 03.5 +0.6**
comp=Z,296nm,1.5s,mb6.0
KDAK Kodiak Island 76.65 26 *e*P **P** **11 27 08.2 +1.8**
comp=Z,32nm,0.8s,mb5.3
KDAK *e*pP pP 11 27 21.8 +0.4
KDAK LR LR
comp=Z,2μm,22.0s,MS5.5
KDAK Kodiak Island 76.65 26 *i* P **P** **11 27 08.1 +1.6**
KOLN Koldanda 76.66 300 *e*P **P** **11 27 06.6 -0.6**
comp=Z,193nm,0.7s,mb6.2
KOLN Koldanda 76.66 300 *e*P **P** **11 27 06.6 -0.6**
comp=Z,193nm,0.7s,mb6.1
DANN Dangsing 76.67 301 *e*P **P** **11 27 06.6 -0.6**
comp=Z,154nm,0.7s,mb6.0
DANN Dangsing 76.67 301 *e*P **P** **11 27 06.6 -0.6**
comp=Z,154nm,0.7s,mb6.0
TNA Tin City 76.76 15 *e*P **P** **11 27 07.5 +0.7**
comp=Z,20nm,0.8s,mb5.1
SVW2 Sparrevohn 77.47 22 *e*P **P** **11 27 12.3 +1.3**
comp=Z,39nm,1.4s,mb5.1
SVW2 LR LR
comp=Z,6μm,23.0s,MS5.8
ALBI Allahabad 77.63 298 *e*PKP **P** **11 27 10.5 -2.2**
RSO Redoubt South 78.17 24 *e*P **P** **11 27 14.9 +0.1**
comp=Z,181nm,1.3s,mb5.8
RSO *e*pP pP 11 27 29.7 -0.1
WMQ Urumqi 78.34 317 P **P** **11 27 16.3 +0.1**
WMQ pP pP 11 27 32.9 +1.8
WMQ sP sP 11 27 39.8 +2.8
WMQ PP PP 11 30 15.8 +1.8
WMQ S S 11 37 05.3 -2.4
WMQ SS SS 11 42 11.4 -0.1
WMQ pmax pmax
comp=Z,33nm,0.6s,mb5.4
WMQ pmax pmax
comp=Z,1μm,4.2s
WMQ LR LR
comp=N,1μm,25.2s,MS5.2
WMQ LR LR
comp=E,1μm,25.4s,MS5.2
WMQ LR LR
comp=Z,2μm,27.6s,MS5.2
HYB Hyderabad 79.01 289 *i* P **P** **11 27 18.5 -1.9**
comp=Z,38nm,0.8s,mb5.4
HYB *e*S S 11 37 16.0 +0.1
SLKM Skilak Lake 79.22 24 *e*P **P** **11 27 20.7 0.0**
SLKM *e*pP pP 11 27 35.1 -0.5
SLKM Skilak Lake 79.22 24 *e*P **P** **11 27 20.7 0.0**
SLKM *e**PP pP 11 27 35.1 -0.5
SEW Seward 79.31 25 *e*P **P** **11 27 21.6 +0.5**
comp=Z,372nm,1.6s,mb6.1
SEW *e*PcP PcP 11 27 29.2 0.0
RC01 Rabbit Creek A 79.74 24 *e*P **P** **11 27 23.3 -0.2**
comp=Z,55nm,0.5s,mb5.7
RC01 *e*pP pP 11 27 37.5 -0.9
PPLA Purkeypile 79.84 22 *e*P **P** **11 27 24.2 +0.2**
comp=Z,240nm,1.7s,mb5.8
PPLA *e*pP pP 11 27 37.8 -1.1
PMR Palmer 80.26 24 *e*P **P** **11 27 26.4 +0.1**
comp=Z,42nm,0.6s,mb5.5
PMR LR LR
comp=Z,4μm,23.0s,MS5.7
PMR Palmer 80.26 24 *e*P **P** **11 27 26.4 +0.1**
PMR pmax pmax
comp=Z,42nm,0.6s,mb5.5
PMR MLR MLR
comp=Z,4μm,23.0s,MS5.7
SML Sawmill 80.70 24 *e*P **P** **11 27 27.8 -0.9**
comp=Z,97nm,1.4s,mb5.5
SML *e*pP pP 11 27 43.5 -0.2
SML Sawmill 80.70 24 *e*P **P** **11 27 27.8 -0.8**
SML *e**PP pP 11 27 43.5 -0.1
SML pmax pmax
comp=Z,97nm,1.4s,mb5.5
TRF Thorofare Moun 80.86 22 *e*P **P** **11 27 28.3 -1.1**
comp=Z,29nm,0.8s,mb5.3
AKL Akola 81.02 292 ⇑*i*P **P** **11 27 29.8 -1.4**
AKL AMP 11 27 31.4
comp=Z,89nm,0.7s
AKL *i* x x 11 27 43.8
BHPL Bhopal 81.11 295 *e*PKP **P** **11 27 30.5 -1.2**
BHPL AMb AMB 11 27 32.4
comp=Z,67nm,0.8s,mb5.6
BHPL *ex* x 11 27 43.6
MCK McKinley 81.52 22 *e*P **P** **11 27 32.3 -0.7**
comp=Z,146nm,1.1s,mb5.8
MCK *e*pP pP 11 27 46.7 -1.3
MCK McKinley 81.52 22 *e*P **P** **11 27 32.3 -0.7**
MCK *e**PP pP 11 27 46.7 -1.3
MCK pmax pmax
comp=Z,146nm,1.1s,mb5.8
DGAR Diego Garcia 81.76 263 PFAKE 11 27 50.0 +15
DGAR LR LR
comp=Z,2μm,22.0s,MS5.4
BMRM Bremner River 81.81 25 *e*P **P** **11 27 35.2 +0.6**
comp=Z,245nm,1.5s,mb5.9
BMRM *e*pP pP 11 27 50.0 +0.4
MNGI Mangalore 81.84 284 *e*PKP **P** **11 27 34.9 -0.8**
NDI New Delhi 82.35 300 *e*PKP **P** **11 27 35.6 -2.5**
PAX Paxson 82.45 23 *e*P **P** **11 27 37.5 -0.3**
comp=Z,154nm,1.8s,mb5.6
PAX *e*pP pP 11 27 52.0 -0.9
PAX Paxson 82.45 23 *e*P **P** **11 27 37.5 -0.3**
PAX *e**PP pP 11 27 52.0 -0.9
PAX pmax pmax
comp=Z,154nm,1.8s,mb5.6
COLA College 82.54 21 *e*P **P** **11 27 36.9 -1.4**
comp=Z,25nm,0.6s,mb5.4
COLA *e*pP pP 11 27 51.6 -1.7
COLA LR LR
comp=Z,4μm,22.0s,MS5.8
COLA College 82.54 21 *e*P **P** **11 27 36.9 -1.4**
COLA *e**PP pP 11 27 51.6 -1.7
COLA pmax pmax
comp=Z,25nm,0.6s,mb5.4
COLA MLR MLR
comp=Z,4μm,22.0s,MS5.8
ILAR Eielson Array 82.84 22 P **P** **11 27 38.5 -1.4**
comp=Z,12nm,0.8s,mb5.0,baz=239,slow=5.1,SNR=132
ILAR pP pP 11 27 52.4 -2.5
comp=Z,13nm,0.8s,baz=241,slow=5.3,SNR=9.8
ILAR PKKPbc PKKPbc 11 46 02.5 -3.9
comp=Z,0.7nm,0.6s,baz=4.2,slow=1.4,SNR=11
ILAR PKPPKP 11 54 13.6
comp=Z,0.8nm,1.0s,baz=346,slow=2.2,SNR=4.0
ILAR LR LR 12 00 10.2
comp=Z,6μm,21.8s,MS5.9,baz=252,slow=32
ILAR Eielson Array 82.84 22 P **P** **11 27 38.5 -1.4**
ILAR pP pP 11 27 52.4 -2.5
ILAR PKKPbc PKKPbc 11 46 02.5 -3.9
ILAR P'P' 11 54 13.6
ILAR Eielson Array 82.84 22 P **P** **11 27 38.5 -1.3**
ILAR *PP pP 11 27 52.4 -2.5
ILAR pmax pmax
comp=Z,12nm,0.8s
MK31 Makanchi Array 82.91 319 *e*P **P** **11 27 39.8 -0.8**
MK31 *e*pP pP 11 27 54.6 -1.1
MK31 Makanchi Array 82.91 319 *i* P **P** **11 27 39.5 -1.1**
MK31 pmax pmax
comp=Z,68nm,0.7s,mb5.8
MKAR Makanchi Array 82.91 319 P **P** **11 27 39.7 -0.9**
comp=Z,91nm,0.8s,mb5.9,baz=100,slow=4.7,SNR=522
MKAR pP pP 11 27 53.5 -2.1
comp=Z,67nm,0.8s,baz=91,slow=7.0,SNR=12
MKAR PKKPbc PKKPbc 11 46 02.1 -3.2
comp=Z,0.4nm,0.6s,baz=322,slow=0.6,SNR=4.0
MKAR PKPPKP 11 54 12.4
comp=Z,0.4nm,0.7s,baz=24,slow=1.5,SNR=3.5
MKAR LR LR 12 04 58.0
comp=Z,960nm,21.5s,MS5.1,baz=114,slow=36
MKAR Makanchi Array 82.91 319 P **P** **11 27 39.7 -0.9**
MKAR pP pP 11 27 53.5 -2.1
MKAR PKKPbc PKKPbc 11 46 02.1 -3.2
MKAR P'P' 11 54 12.4
MKAR Makanchi Array 82.91 319 P **P** **11 27 39.7 -0.9**
MKAR *PP pP 11 27 53.5 -2.1
MKAR pmax pmax
comp=Z,91nm,0.8s
MKAR MLR MLR
comp=Z,960nm,21.5s
COLD Coldfoot 83.06 19 *e*P **P** **11 27 41.5 +0.5**
comp=Z,149nm,1.8s,mb5.7
COLD *e*pP pP 11 27 56.2 +0.2
KAD Karad 83.10 288 *e*PKP **P** **11 27 41.2 -1.0**
MENT Mentasta 83.13 24 *e*P **P** **11 27 41.9 +0.5**

DOT Dot Lake 83.34 23 *e*P **P 11 27 42.5 +0.1**
comp=Z,61nm,1.4s,mb5.4
DOT *e*pP pP 11 27 57.0 -0.5
PNL Peninsula 83.54 28 *e*P **P 11 27 44.5 +1.0**
comp=Z,84nm,0.8s,mb5.9
PNL *e*pP pP 11 27 58.4 -0.2
QSPA South Pole Qui 83.58 180 *e*P **P 11 27 43.3 -0.2**
comp=Z,304nm,1.1s,mb6.3
QSPA *e*pP pP 11 27 56.6 -2.0
QSPA LR LR
comp=Z,1µm,19.0s,MS5.3
POO Poona 83.61 289 *e*PKP **P 11 27 43.3 -1.5**
POO *e*x x 11 27 55.4
POO AMb AMB 11 28 01.3
comp=Z,112nm,1.2s,mb5.9
ZAA0 Zalesovo Array 83.64 326 *e*P **P 11 27 42.3 -1.9**
ZALV Zalesovo Beam 83.64 326 P **P 11 27 42.4 -1.9**
comp=Z,52nm,0.7s,mb5.8,baz=109,slow=5.5,SNR=211
ZALV pP pP 11 27 56.9 -2.4
comp=Z,30nm,0.7s,baz=112,slow=5.6,SNR=9.1
ZALV PKPPKP 11 54 09.2
comp=Z,0.7nm,0.6s,baz=304,slow=3.2,SNR=4.6
ZALV LR LR 12 05 02.6
comp=Z,451nm,22.0s,MS4.8,baz=102,slow=36
ZALV Zalesovo Beam 83.64 326 P **P 11 27 42.4 -1.9**
ZALV pP pP 11 27 56.9 -2.4
ZALV P'P'
ZALV Zalesovo Beam 83.64 326 P **P 11 27 42.4 -1.8**
ZALV *PP pP 11 27 56.9 -2.4
ZALV pmax pmax
comp=Z,52nm,0.7s,mb5.8
ZALV MLR MLR
comp=Z,451nm,22.0s,MS4.8
AJM Ajmer 84.18 297 *e*PKP **P 11 27 45.0 -2.6**
THN Thein Dam 84.36 303 *e*x **P 11 27 45.7 -2.7**
SIT Sitka 84.53 31 *e*P **P 11 27 49.4 +0.8**
comp=Z,168nm,2.0s,mb5.8
SIT LR LR
comp=Z,2µm,19.0s,MS5.5
SIT Sitka 84.53 31 *e*P **P 11 27 49.4 +0.8**
SIT pmax pmax
comp=Z,168nm,2.0s,mb5.8
SIT MLR MLR
comp=Z,2µm,19.0s,MS5.5
NVS Novosibirsk 84.81 327⇑ *i*P **P 11 27 48.2 -1.9**
NVS pmax pmax
comp=Z,55nm,1.5s,mb5.5
NVS pmax pmax
comp=E,33nm,1.6s
MAW Mawson 84.93 203 P **P 11 27 50.5 0.0**
comp=E,63nm,0.6s,mb5.9,baz=97,slow=6.3,SNR=56
MAW LR LR 12 02 02.1
comp=E,2µm,19.6s,MS5.5,baz=89,slow=33
MAW Mawson 84.93 203 *e*P **P 11 27 50.4 -0.1**
MAW Mawson 84.93 203 P **P 11 27 50.5 0.0**
MAW Mawson 84.93 203 P **P 11 27 50.5 0.0**
MAW pmax pmax
comp=Z,63nm,0.6s
EGAK Eagle 84.99 23 *e*P **P 11 27 51.1 +0.3**
comp=Z,23nm,0.7s,mb5.4
EGAK *e*pP pP 11 28 06.4 +0.5
EGAK LR LR
comp=Z,8µm,22.0s,MS6.0
CRAG Craig 85.15 33 *e*P **P 11 27 52.0 +0.2**
comp=Z,286nm,1.7s,mb6.1
CRAG *e*pP pP 11 28 06.7 -0.2
CRAG LR LR
comp=Z,3µm,22.0s,MS5.7
DAWY Dawson 85.37 24 *e*P **P 11 27 53.3 +0.6**
DAWY *e*pP pP 11 28 08.2 +0.4
SKAG Skagway 85.37 29 *e*P **P 11 27 53.4 +0.6**
comp=Z,17nm,0.6s,mb5.3
SKAG LR LR
comp=Z,2µm,19.0s,MS5.4
KSH Kashi 85.57 310 P **P 11 27 55.3 +1.0**
KSH pP pP 11 28 12.6 +3.2
KSH sP sP 11 28 19.5 +4.3
KSH PP PP 11 31 17.0 +3.4
KSH SKS 11 38 12.4
KSH S S 11 38 22.3 0.0
KSH sS sS 11 38 51.8 +4.0
KSH SS SS 11 44 03.5 +4.2
KSH pmax pmax
comp=Z,28nm,0.7s,mb5.6
KSH pmax pmax
comp=Z,790nm,5.8s
KSH LR LR
comp=N,230nm,6.1s
KSH LR LR
comp=E,310nm,7.1s
KSH LR LR
comp=Z,1µm,22.4s,MS5.3
WRAK Wrangell Islan 85.87 32 *e*P **P 11 27 56.5 +1.1**
comp=Z,276nm,1.5s,mb6.3
WRAK *e*pP pP 11 28 11.3 +0.8
KURK Kurchatov 86.31 322 *e*P **P 11 27 55.5 -2.2**
comp=Z,15nm,0.6s,mb5.4
KURK LR LR
comp=Z,1µm,22.0s,MS5.2
KURK Kurchatov 86.31 322 *c i*P **P 11 27 55.8 -1.9**
KURK pmax pmax
comp=Z,35nm,1.7s,mb5.3
TKM2 Tokmak 2 86.55 314 P **P 11 27 59.1 +0.1**
SNR=10
TKM2 P 11 27 59.1
SNR=10
TKM2 Tokmak 2 86.55 314 *e*P **P 11 27 58.1 -0.9**
comp=Z,13nm,0.5s,mb5.4
TKM2 *e*pP pP 11 28 13.2 -1.0
TKM2 LR LR
comp=Z,1µm,21.0s,MS5.2
TKM2 Tokmak 2 86.55 314 *i*P **P 11 27 59.1 +0.1**
NIL Nilore 86.61 304 PFAKE 11 28 10.0 +10
NIL LR LR
comp=Z,70nm,21.0s,MS4.0
KBK Karagaybulak 86.96 313 P **P 11 28 01.0 0.0**
SNR=8.8
KBK P 11 28 01.0
SNR=8.8
CHMS Chumysh 87.17 314 P **P 11 28 01.7 -0.4**
SNR=8.2
CHMS P 11 28 01.7
SNR=8.2
FRU Bishkek 87.24 313 *e*P pP 11 28 16.0 -1.5
FRU pmax pmax
comp=Z,80nm,1.6s,mb5.7
AAK Ala-Archa 87.29 313 P **P 11 28 01.0 -1.6**
SNR=8.8
AAK P 11 28 01.0
SNR=8.8
AAK Ala-Archa 87.29 313 *e*P **P 11 28 01.9 -0.8**
comp=Z,57nm,0.6s,mb6.0
AAK *e*pP pP 11 28 17.1 -0.7
AAK LR LR
comp=Z,1µm,22.0s,MS5.2
AAK Ala-Archa 87.29 313 *c e*P **P 11 28 01.7 -0.9**
AAK pmax pmax
comp=Z,27nm,0.8s,mb5.5
USP Ospenovka 87.41 314 P **P 11 28 02.5 -0.7**
SNR=25
USP P 11 28 02.5
SNR=25
DLBC Dease Lake 87.66 31 LR LR 12 05 06.2
comp=Z,3µm,19.7s,MS5.6,baz=320,slow=34
DLBC Dease Lake 87.66 31 *e*P **P 11 28 05.0 +1.0**
DLBC *e*pP pP 11 28 19.3 +0.1
AML Almayashu 87.77 313 P **P 11 28 05.0 0.0**
SNR=26
AML P 11 28 05.0
SNR=26
EKS2 Erkin-Say 87.81 313 P **P 11 28 05.7 +0.5**
SNR=16
EKS2 P 11 28 05.7
SNR=16
EKS2 Erkin-Say 87.81 313 *e*P **P 11 28 04.2 -1.0**
comp=Z,15nm,0.7s,mb5.3
EKS2 *e*pP pP 11 28 19.4 -0.9
EKS2 LR LR
comp=Z,1µm,22.0s,MS5.3
EKS2 Erkin-Say 87.81 313 *e*P **P 11 28 04.2 -1.0**
EKS2 *e**PP pP 11 28 19.4 -0.9
EKS2 pmax pmax
comp=Z,15nm,0.7s,mb5.3
EKS2 MLR MLR
comp=Z,1µm,22.0s,MS5.3
NLWA Neilton Lookou 88.73 42 PFAKE 11 28 20.0 +11
NLWA LR LR
comp=Z,5µm,22.0s,MS5.9
INK Inuvik 89.18 21 PKPPKP 11 53 55.0
comp=Z,0.6nm,0.3s,baz=231,slow=9.3,SNR=5.8
INK LR LR 12 05 02.0
comp=Z,3µm,20.7s,MS5.7,baz=243,slow=34
CMB Columbia Colle 89.72 52 *e*P **P 11 28 14.7 +0.5**
comp=Z,4.2nm,0.7s,mb4.9
CMB *e*pP pP 11 28 29.1 -0.4
CMB Columbia Colle 89.72 52 *e*P **P 11 28 14.7 +0.4**
CMB *e**PP pP 11 28 29.1 -0.4
CMB pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
JCW Jim Creek 90.16 42 *e*P **P 11 28 16.3 +0.3**
comp=Z,22nm,0.8s,mb5.5
JCW *e*pP pP 11 28 29.4 -1.8
KBL Kabul 90.20 305 *e*P **P 11 28 15.6 -0.9**
comp=Z,6.9nm,0.7s,mb5.1
KBL *e*pP pP 11 28 29.0 -2.8
KBL Kabul 90.20 305 *e*P **P 11 28 15.6 -1.0**
KBL *e**PP pP 11 28 29.0 -2.8
KBL pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
KKAR Karatay Array 90.25 313 *e*P **P 11 28 15.8 -0.8**
comp=Z,28nm,1.2s,mb5.5
KKAR Karatay Array 90.25 313 *e*P **P 11 28 15.8 -0.8**
KKAR pmax pmax
comp=Z,28nm,1.2s,mb5.5
MOD Modoc 90.34 48 *e*P **P 11 28 17.4 +0.4**
comp=Z,56nm,1.5s,mb5.7
MOD *e*pP pP 11 28 32.3 +0.1
WCN Washoe City 90.39 51 *e*P **P 11 28 18.7 +1.3**
comp=Z,12nm,1.0s,mb5.2
WCN *e*pP pP 11 28 31.8 -0.8
WCN Washoe City 90.39 51 *e*P **P 11 28 18.7 +1.4**
WCN *e**PP pP 11 28 31.8 -0.8
WCN pmax pmax
comp=Z,12nm,1.0s,mb5.2
RPW Rockport 90.47 41 *e*P **P 11 28 17.1 -0.4**
comp=Z,8.7nm,0.7s,mb5.2
ISA Isabella 90.93 54 *e*P **P 11 28 20.9 +1.0**
comp=Z,44nm,1.3s,mb5.6
ISA Isabella 90.93 54 *e*P **P 11 28 21.0 +1.1**
ISA pmax pmax
comp=Z,44nm,1.3s,mb5.6
PASC Pasadena Art C 90.98 56 *e*P **P 11 28 21.2 +1.0**
comp=Z,32nm,0.9s,mb5.7
PASC *e*pP pP 11 28 35.0 -0.4
MWC Mount Wilson 91.09 56 *e*P **P 11 28 21.8 +1.0**
comp=Z,150nm,1.3s,mb6.2
MWC *e*pP pP 11 28 36.0 0.0
MWC Mount Wilson 91.09 56 *e*P **P 11 28 21.8 +1.1**
MWC *e**PP pP 11 28 36.0 +0.1
ETW Entiat 91.13 42 *e*P **P 11 28 20.8 +0.2**
comp=Z,172nm,1.7s,mb6.1
ETW *e*pP pP 11 28 36.0 +0.2
NVAR Mina Array Bea 91.40 52 P **P 11 28 22.9 +0.9**
comp=Z,24nm,0.8s,mb5.5,baz=254,slow=6.7,SNR=105
NVAR pP pP 11 28 36.5 -0.8
comp=Z,51nm,1.1s,baz=258,slow=4.5,SNR=16
NVAR PKKPbc PKKPbc 11 45 45.0 +0.6
comp=Z,1.8nm,0.6s,baz=100,slow=2.8,SNR=12
NVAR PKPPKP 11 54 03.6
comp=Z,2.3nm,0.9s,baz=81,slow=4.8,SNR=9.0
NVAR LR LR 12 04 16.3
comp=Z,3µm,20.5s,MS5.7,baz=69,slow=32
NVAR Mina Array Bea 91.40 52 P **P 11 28 22.9 +0.9**
NVAR pP pP 11 28 36.5 -0.8
NVAR PKKPbc PKKPbc 11 45 45.0 +0.6
NVAR P'P' 11 54 03.6
RSW Rattlesnake Hi 91.47 44 *e*P **P 11 28 22.6 +0.4**
comp=Z,4.6nm,0.4s,mb5.2
RSW *e*pP pP 11 28 37.1 -0.3
HAWA Hanford 91.51 44 PFAKE 11 28 30.0 +7.6
HAWA LR LR
comp=Z,5µm,20.0s,MS5.9
WVOR Wild Horse Val 91.64 48 *e*P **P 11 28 23.4 +0.3**
comp=Z,98nm,1.7s,mb5.9
WVOR *e*pP pP 11 28 37.8 -0.5
WVOR Wild Horse Val 91.64 48 *e*P **P 11 28 23.4 +0.3**
WVOR *e**PP pP 11 28 37.8 -0.5
WVOR pmax pmax
comp=Z,98nm,1.7s,mb5.9
DAC Darwin (Calif) 91.71 54 PFAKE 11 28 30.0 +6.4
DAC LR LR
comp=Z,3µm,20.0s,MS5.8
BVA0 Borovoye Array 91.77 323 *i*P **P 11 28 20.9 -2.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
BRVK Borovoye 91.84 323 *e*P **P 11 28 21.8 -1.9**
comp=Z,14nm,0.7s,mb5.4
BRVK *e*pP pP 11 28 36.2 -2.8
BRVK LR LR
comp=Z,991nm,19.0s,MS5.3
BRVK Borovoye 91.84 323 *e*P **P 11 28 21.8 -1.9**
BRVK *e**PP pP 11 28 36.2 -2.8
BRVK pmax pmax
comp=Z,14nm,0.7s,mb5.4
BRVK MLR MLR
comp=Z,991nm,19.0s,MS5.3
OD2 Odessa Site #2 92.19 43 *e*P **P 11 28 25.2 -0.4**
comp=Z,147nm,1.6s,mb6.1
OD2 *e*pP pP 11 28 39.3 -1.4
RPN Rapa Nui 92.20 117 LR LR 12 01 31.4
comp=Z,2µm,21.8s,MS5.5,baz=254,slow=30
TPH Tonopah 92.20 52 PFAKE 11 28 40.0 +14
TPH LR LR
comp=Z,2µm,20.0s,MS5.6
GSC Goldstone 92.24 55 *e*P **P 11 28 27.1 +1.1**
comp=Z,7.9nm,0.7s,mb5.2
GSC *e*pP pP 11 28 42.0 +0.8
GSC Goldstone 92.24 55 *e*P **P 11 28 27.1 +1.1**
GSC *e**PP pP 11 28 42.1 +0.9
GSC pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
LNOR Lincton Mounta 92.30 44 *e*P **P 11 28 25.3 -0.7**
comp=Z,2.3nm,0.7s,mb4.6
LNOR *e*pP pP 11 28 41.0 -0.2
LNOR Lincton Mounta 92.30 44 *e*P **P 11 28 25.3 -0.8**
LNOR *e**PP pP 11 28 41.0 -0.3
LNOR pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
PFO Pinyon Flat Ob 92.34 57 *e*P **P 11 28 27.8 +1.2**
comp=Z,68nm,1.4s,mb5.8
PFO *e*pP pP 11 28 42.5 +0.7
PFO LR LR
comp=Z,4µm,19.0s,MS5.8
PFO Pinyon Flat Ob 92.34 57 *e*P **P 11 28 27.8 +1.2**
PFO *e**PP pP 11 28 42.5 +0.7
PFO pmax pmax
comp=Z,68nm,1.4s,mb5.8
PFO MLR MLR
comp=Z,4µm,19.0s,MS5.8
BMN Battle Mountai 92.46 50 *e*P **P 11 28 28.1 +1.1**
comp=Z,16nm,0.8s,mb5.4
BMN *e*pP pP 11 28 41.8 -0.3
BMN LR LR
comp=Z,3µm,21.0s,MS5.7
BMN Battle Mountai 92.46 50 *e*P **P 11 28 28.1 +1.2**
BMN *e**PP pP 11 28 41.8 -0.4
BMN pmax pmax
comp=Z,16nm,0.8s,mb5.4
BMN MLR MLR
comp=Z,3µm,21.0s,MS5.7
ZRNK Zerenda 92.59 323 P **P 11 28 24.6 -2.6**
ZRNK pmax pmax
comp=Z,18nm,1.0s,mb5.5
SYO Syowa Base 92.87 199⇓ *i*P **P 11 28 26.0 -2.3**
BMO Blue Mountains 92.88 45 *e*P **P 11 28 28.1 -0.7**
comp=Z,28nm,1.4s,mb5.5
BMO *e*pP pP 11 28 42.8 -1.1
BMO LR LR
comp=Z,3µm,20.0s,MS5.7
BMO Blue Mountains 92.88 45 *e*P **P 11 28 28.1 -0.6**
BMO *e**PP pP 11 28 42.8 -1.1
BMO pmax pmax
comp=Z,28nm,1.4s,mb5.5
BMO MLR MLR
comp=Z,3µm,20.0s,MS5.7
LDFC Landfair 93.60 55 *e*P **P 11 28 33.7 +1.4**
comp=Z,21nm,0.7s,mb5.7
LDFC *e*pP pP 11 28 48.0 +0.5
HLID Hailey 94.83 47 PFAKE 11 28 50.0 +12
HLID LR LR
comp=Z,6µm,22.0s,MS6.0
ARUT Antelope Range 95.16 53 *e*P **P 11 28 41.0 +1.6**
comp=Z,97nm,1.8s,mb5.9
ARUT *e*pP pP 11 28 55.5 +0.9
ARUT Antelope Range 95.16 53 *e*P **P 11 28 41.0 +1.6**
ARUT *e**PP pP 11 28 55.5 +0.9
ARUT pmax pmax
comp=Z,97nm,1.8s,mb5.9
CCUT Cedar City 95.20 53 *e*P **P 11 28 41.2 +1.6**
comp=Z,68nm,1.6s,mb5.8
CCUT *e*pP pP 11 28 56.3 +1.5
MSO Missoula 95.39 44 PFAKE 11 28 50.0 +10
MSO LR LR
comp=Z,3µm,20.0s,MS5.8
DUG Dugway 95.80 50 PFAKE 11 28 50.0 +7.7
DUG LR LR
comp=Z,2µm,22.0s,MS5.5
YKA Yellowknife Ar 95.84 28 P **P 11 28 41.8 0.0**
comp=Z,21nm,0.8s,mb5.6,baz=267,slow=4.6,SNR=204
YKA pP pP 11 28 56.2 -0.9
comp=Z,25nm,0.9s,baz=267,slow=4.6,SNR=14
YKA PKiKP PKiKP 11 33 18.5 -2.4
comp=Z,0.6nm,0.7s,baz=263,slow=1.3,SNR=4.2
YKA PKKPbc PKKPbc 11 45 29.6 -4.0
comp=Z,3.3nm,0.5s,baz=85,slow=2.8,SNR=35
YKA PKPPKP 11 53 47.0
comp=Z,0.5nm,0.9s,baz=64,slow=2.5,SNR=4.6
YKA LR LR 12 10 15.9
comp=Z,154nm,19.9s,MS4.5,baz=125,slow=34
YKA Yellowknife Ar 95.84 28 P **P 11 28 41.9 0.0**
YKA pP pP 11 28 56.2 -0.9
YKA PKiKP PKiKP 11 33 18.6 -2.4
YKA PKKPbc PKKPbc 11 45 29.6 -4.0
YKA P'P' 11 53 47.0
YKA Yellowknife Ar 95.84 28 P **P 11 28 41.9 0.0**
YKA *PP pP 11 28 56.2 -0.9
HVU Hansel Valley 95.92 49 *e*P **P 11 28 43.5 +0.7**
comp=Z,46nm,1.5s,mb5.7
HVU *e*pP pP 11 28 58.4 +0.4
HVU Hansel Valley 95.92 49 *e*P **P 11 28 43.5 +0.7**
HVU *e**PP pP 11 28 58.4 +0.4
HVU pmax pmax
comp=Z,46nm,1.5s,mb5.7
MVU Marysvale 96.17 52 PFAKE 11 28 50.0 +6.0
MVU LR LR
comp=Z,2µm,21.0s,MS5.7
MSU Marysvale 96.20 52 *e*P **P 11 28 45.1 +1.0**
comp=Z,59nm,1.7s,mb5.7
MSU *e*pP pP 11 28 59.2 -0.2
MSU Marysvale 96.20 52 *e*P **P 11 28 45.1 +1.0**
MSU *e**PP pP 11 28 59.2 -0.2
MSU pmax pmax
comp=Z,59nm,1.7s,mb5.7
RER Riviere de l'E 96.22 248 PFAKE 11 29 00.0 +15
RER LR LR
comp=Z,2µm,20.0s,MS5.6
WUAZ Wupatki 96.68 55 *e*P **P 11 28 47.8 +1.4**
comp=Z,5.2nm,0.9s,mb5.0
HWUT Hardware Ranch 96.82 49 PFAKE 11 29 00.0 +13
HWUT LR LR
comp=Z,3µm,20.0s,MS5.8
BOZ Bozeman (W) 96.93 45 *e*P **P 11 28 47.1 -0.1**
comp=Z,3.6nm,0.8s,mb4.8
BOZ *e*pP pP 11 29 01.8 -0.8
BOZ LR LR
comp=Z,3µm,21.0s,MS5.8
BOZ Bozeman (W) 96.93 45 *e*P **P 11 28 47.1 -0.2**
BOZ *e**PP pP 11 29 01.8 -0.7
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
BOZ MLR MLR
comp=Z,3µm,21.0s,MS5.8
DAU Daniels Canyon 97.00 50 *e*P **P 11 28 48.5 +0.7**
comp=Z,4.9nm,0.7s,mb5.0
DAU *e*pP pP 11 29 02.5 -0.5
DAU Daniels Canyon 97.00 50 *e*P **P 11 28 48.5 +0.8**
DAU *e**PP pP 11 29 02.5 -0.5
DAU pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
RRI2 Red Ridge 97.07 47 *e*P **P 11 28 48.5 +0.6**
comp=Z,25nm,1.3s,mb5.5
RRI2 *e*pP pP 11 29 04.0 +0.8
AB31 Akbulak array 98.05 319 *i*P **P 11 28 48.6 -3.6**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.6
ABKAR Akbulak array 98.05 319 *e*P **P 11 28 49.4 -2.8**
comp=Z,2.4nm,0.6s,mb4.9
ABKAR *e*pP pP 11 29 03.9 -3.5
EGMT Eagleton 98.27 42 *e*P **P 11 28 52.4 -0.8**
comp=Z,8.3nm,0.7s,mb5.4
EGMT *e*pP pP 11 29 07.8 -0.6
EGMT LR LR
comp=Z,4µm,22.0s,MS5.9
BW06 Boulder Array 98.34 48 PFAKE 11 29 00.0 +6.3
BW06 LR LR
comp=Z,3µm,20.0s,MS5.8
PDAR Pinedale Array 98.34 48 P **P 11 28 53.3 -0.4**
comp=Z,4.9nm,0.8s,mb5.1,baz=236,slow=2.8,SNR=36
PDAR pP pP 11 29 07.8 -1.2
comp=Z,7.0nm,0.9s,baz=242,slow=3.2,SNR=14
PDAR PKiKP PKiKP 11 33 24.9 -1.0
comp=Z,3.0nm,1.2s,baz=225,slow=3.7,SNR=4.1
PDAR PKKPbc PKKPbc 11 45 24.1 -2.0
comp=Z,0.9nm,0.5s,baz=113,slow=5.1,SNR=8.4
PDAR Pinedale Array 98.34 48 P **P 11 28 53.3 -0.4**
PDAR pP pP 11 29 07.8 -1.2
PDAR PKiKP PKiKP 11 33 24.9 -1.0
PDAR PKKPbc PKKPbc 11 45 24.1 -2.0
RLMT Red Lodge 98.58 45 PFAKE 11 29 10.0 +15
RLMT LR LR
comp=Z,3µm,20.0s,MS5.8
PV04 Paradox Valley 98.76 52 *e*P **P 11 28 56.9 +1.2**
PV04 *e*pP pP 11 29 12.3 +1.4
ARU Arti 98.81 326 *e*P **P 11 28 52.0 -3.4**
comp=Z,3.0nm,0.6s,mb5.0
ARU LR LR
comp=Z,1µm,19.0s,MS5.5
ARU Arti 98.81 326 P **P 11 28 52.2 -3.2**
ARU 11 32 53.8
ARU S SKSac 11 39 23.7 -5.4
ARU MLR MLR
comp=Z,962nm,21.0s,MS5.3
MSEY Mahe Island 98.84 264 PFAKE 11 29 10.0 +13
MSEY LR LR
comp=Z,1µm,19.0s,MS5.5
PV01 Paradox Valley 99.02 52 *e*P **P 11 28 57.9 +1.1**
comp=Z,2µm,1.4s
PV01 *e*pP pP 11 29 10.8 -1.3
MVCO Mesa Verde 99.06 53 PFAKE 11 29 10.0 +13
MVCO LR LR
comp=Z,2µm,22.0s,MS5.5
SMCO Snowmass 100.28 51 *e*Pdif Pdif 11 29 03.8 +1.7
comp=Z,6.2nm,0.8s
ANMO Albuquerque 100.68 56 PFAKE 11 29 20.0 +16
ANMO LR LR
comp=Z,2µm,20.0s,MS5.7
LAO LASA Array 100.69 44 PFAKE 11 29 20.0 +16
LAO LR LR
comp=Z,3µm,21.0s,MS5.8
ISCO Idaho Springs 101.32 51 PFAKE 11 29 20.0 +13
ISCO LR LR
comp=Z,2µm,19.0s,MS5.7
SDCO Great Sand Dun 101.44 53 PFAKE 11 29 20.0 +13
SDCO LR LR
comp=Z,3µm,21.0s,MS5.8
MNTX Cornudas Mount 101.56 59 PFAKE 11 29 20.0 +12
MNTX LR LR
comp=Z,3µm,22.0s,MS5.8
DGMT Dagmar 101.97 42 PFAKE 11 29 20.0 +10
DGMT LR LR
comp=Z,5µm,22.0s,MS6.0
FFC Flin Flon 102.75 35 PFAKE 11 29 20.0 +7.0
FFC LR LR
comp=Z,2µm,20.0s,MS5.7
TXAR Lajitas Array 103.03 61 P Pdif 11 29 15.7 +1.4
comp=Z,0.7nm,0.9s,baz=244,slow=3.4,SNR=4.9
TXAR PKiKP PKiKP 11 33 32.9 -1.9
comp=Z,0.6nm,0.6s,baz=191,slow=0.9,SNR=11
TXAR PKKPbc PKKPbc 11 45 09.4 -2.7
comp=Z,3.2nm,0.7s,baz=103,slow=4.9,SNR=25
TXAR PKKP PKKPbc 11 45 21.6 +10
comp=Z,2.3nm,0.7s,baz=97,slow=5.0,SNR=4.3
TXAR PKPPKP 11 53 32.5
comp=Z,0.5nm,0.9s,baz=113,slow=2.9,SNR=3.9
TXAR Lajitas Array 103.03 61 P Pdif 11 29 15.7 +1.4
TXAR PKiKP PKiKP 11 33 32.9 -1.9

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TXAR                                    PKKPbc PKKPbc  11 45 09.4 -2.7
TXAR                                    PKKP   PKKPbc  11 45 21.6 +10
TXAR                                    P'P'           11 53 32.5
TXAR   Lajitas Array      103.03  61    P      Pdif    11 29 15.7 +1.4
TXAR                                    i              11 33 32.9
TXAR                                    pmax   pmax
       comp=Z,1.0nm,0.9s
PMSA   Palmer Station     103.37 164    PFAKE          11 29 30.0 +14
PMSA                                    LR     LR
       comp=Z,3µm,22.0s,MS5.7
ABPO   Ambohimpanom       104.48 249    PFAKE          11 29 30.0 +9.3
ABPO                                    LR     LR
       comp=Z,2µm,19.0s,MS5.6
AMTX   Amarillo           104.61  56    PFAKE          11 29 30.0 +8.7
AMTX                                    LR     LR
       comp=Z,3µm,22.0s,MS5.8
KBS    Kingsbay           105.18 353    PFAKE          11 33 50.0 +13
KBS                                     LR     LR
       comp=Z,2µm,19.0s,MS5.6
CBKS   Cedar Bluff        105.92  52    PFAKE          11 33 50.0 +10
CBKS                                    LR     LR
       comp=Z,3µm,21.0s,MS5.8
JCT    Junction City      106.37  60    ePKPdf PKiKP   11 33 39.5 -1.4
JCT                                     ePP    PP      11 33 54.6 -0.2
JCT                                     LR     LR
       comp=Z,4µm,22.0s,MS6.0
LVZ    Lovozero           106.97 340    PFAKE          11 33 50.0 +9.1
LVZ                                     LR     LR
       comp=Z,2µm,22.0s,MS5.5
ULM    Lac du Bonnet      107.13  39    PKiKP  PKiKP   11 33 39.3 -2.4
       comp=Z,3.2nm,0.6s,baz=256,slow=3.9,SNR=5.7
ULM                                     PKKPbc PKKPbc  11 44 56.8 -3.5
       comp=Z,2.0nm,0.6s,baz=150,slow=3.3,SNR=5.4
ULM    Lac du Bonnet      107.13  39    PKiKP  PKiKP   11 33 39.3 -2.4
ULM                                     PKKPbc PKKPbc  11 44 56.8 -3.5
AGMN   Agassiz Nation     107.50  41    PFAKE          11 33 50.0 +7.6
AGMN                                    LR     LR
       comp=Z,4µm,21.0s,MS6.0
APA    Apatity            107.55 340⇑   ePP    Pdif    11 29 32.0 -2.4
APA                                     MLR    MLR
       comp=Z,3µm,23.0s,MS5.8
ECSD   EROS Data Cent     107.71  46    PFAKE          11 33 50.0 +7.0
ECSD                                    LR     LR
       comp=Z,3µm,20.0s,MS5.8
KVTX   Kingsville         108.15  63    PFAKE          11 34 00.0 +16
KVTX                                    LR     LR
       comp=Z,3µm,20.0s,MS5.8
KSU1   Kansas State U     108.32  51    PFAKE          11 34 00.0 +16
KSU1                                    LR     LR
       comp=Z,3µm,20.0s,MS5.8
KEV    Kevo               108.44 343    PFAKE          11 33 50.0 +6.4
KEV                                     LR     LR
       comp=Z,2µm,21.0s,MS5.6
ARCES  ARCESS Array B     108.99 343    PKiKP  PKiKP   11 33 44.6  0.0
       comp=Z,4.5nm,0.8s,baz=72,slow=2.9,SNR=7.7
ARCES                                   PKKPbc PKKPbc  11 44 51.0 -4.1
       comp=Z,2.1nm,0.6s,baz=242,slow=2.6,SNR=9.7
ARCES  ARCESS Array B     108.99 343    PKiKP  PKiKP   11 33 44.6  0.0
ARCES                                   PKKPbc PKKPbc  11 44 51.0 -4.1
GNI    Garni              109.50 310    PFAKE          11 34 00.0 +14
GNI                                     LR     LR
       comp=Z,516nm,21.0s,MS5.1
KIV    Kislovodsk         110.37 315    PFAKE          11 34 00.0 +12
KIV                                     LR     LR
       comp=Z,627nm,20.0s,MS5.2
KIV    Kislovodsk         110.37 315    i PKIKP PKiKP  11 33 46.6 -1.4
KIV                                     e              11 34 23.5
KIV                                     ePS    PS      11 43 52.5 -1.6
KIV                                     eSS    SS      11 49 46.4 -1.0
KIV                                     pmax   pmax
       comp=Z,8.0nm,1.1s
EYMN   Ely                111.43  41    PFAKE          11 34 00.0 +12
EYMN                                    LR     LR
       comp=Z,6µm,22.0s,MS6.2
NATX   Nacogdoches        110.68  59    PFAKE          11 34 00.0 +11
NATX                                    LR     LR
       comp=Z,3µm,20.0s,MS5.8
CMIG   Matias Romero      111.12  74    PKiKP  PKiKP   11 33 48.8 -1.3
       baz=357,slow=3.6
CMIG   Matias Romero      111.12  74    PKiKP  PKiKP   11 33 48.8 -1.3
OBN    Obninsk            111.20 327    PFAKE          11 34 00.0 +11
OBN                                     LR     LR
       comp=Z,2µm,19.0s,MS5.7
OBN    Obninsk            111.20 327    eP     Pdif    11 29 56.7 +6.1
OBN                                     i              11 34 29.2
OBN                                     i PS   PS      11 43 58.5 -2.7
OBN                                     i SS   SS      11 50 18.9 +21
OBN                                     pmax   pmax
       comp=Z,4.0nm,1.0s
OBN                                     MLR    MLR
       comp=Z,1µm,19.0s,MS5.5
MIAR   Mount Ida          111.29  56    PFAKE          11 34 00.0 +10
MIAR                                    LR     LR
       comp=Z,3µm,20.0s,MS5.9
UALR   University of      112.27  55    ePKPdf PKiKP   11 33 51.2 -0.6
JFWS   Jewell Farm        112.43  46    ePKPdf PKiKP   11 33 50.4 -1.5
JFWS                                    epPKPdf        11 34 05.2
JFWS                                    LR     LR
       comp=Z,2µm,20.0s,MS5.8
JFWS   Jewell Farm        112.43  46    ePKIKP PKiKP   11 33 50.4 -1.5
JFWS                                    e              11 34 05.2
JFWS                                    MLR    MLR
       comp=Z,2µm,20.0s,MS5.8
CCM    Cathedral Cave     112.63  51    ePKPdf PKiKP   11 33 50.8 -1.6
CCM    Cathedral Cave     112.63  51    ePKIKP PKiKP   11 33 50.8 -1.7
FINES  FINESS Array B     113.36 336    Pdiff  Pdif    11 29 59.8 -0.4
       comp=Z,5.0nm,1.0s,baz=46,slow=4.0,SNR=2.6
FINES                                   PKiKP  PKiKP   11 33 51.0 -2.1
       comp=Z,3.9nm,0.8s,baz=75,slow=3.0,SNR=8.1
FINES                                   PKKPbc PKKPbc  11 44 36.8 -3.7
       comp=Z,3.3nm,0.6s,baz=189,slow=4.1,SNR=9.7
FINES  FINESS Array B     113.36 336    Pdif   Pdif    11 29 59.8 -0.4
FINES                                   PKiKP  PKiKP   11 33 51.0 -2.1
FINES                                   PKKPbc PKKPbc  11 44 36.8 -3.7
FINES  FINESS Array B     113.36 336    P      Pdif    11 29 59.8 -0.4
FINES                                   i              11 33 51.0
FINES                                   pmax   pmax
       comp=Z,5.0nm,1.0s
HDIL   Hopedale           113.64  48    ePKPdf PKiKP   11 33 53.8 -0.5
HDIL                                    epPKPdf        11 34 08.3
HDIL                                    LR     LR
       comp=Z,3µm,20.0s,MS5.9
ANN    Anapa              113.84 316    i PKIKP PKiKP  11 34 01.1 +6.6
ANN                                     pmax   pmax
       comp=Z,78nm,2.1s
PARMO  Parma              114.05  53    ePKPdf PKiKP   11 33 54.5 -0.7
VBMS   Vicksburg          114.13  58    PFAKE          11 34 10.0 +15
VBMS                                    LR     LR
       comp=Z,3µm,20.0s,MS5.8
OXF    Oxford             114.70  55    PFAKE          11 34 10.0 +13
OXF                                     LR     LR
       comp=Z,3µm,22.0s,MS5.9
OLIL   Olney              114.93  50    ePKPdf PKiKP   11 33 55.8 -1.0
USIN   University of      115.42  51    ePKPdf PKPdf   11 33 56.6 -1.2
USIN                                    epPKPdf pPKPdf 11 34 11.5 -2.1
EFI    East Falkland      115.63 158    PFAKE          11 34 10.0 +12
EFI                                     LR     LR
       comp=Z,1µm,21.0s,MS5.5
WVT    Waverly            115.67  53    ePKPdf PKPdf   11 33 56.5 -1.8
WVT                                     epPKPdf pPKPdf 11 34 10.3 -3.8
WVT    Waverly            115.67  53    ePKIKP PKPdf   11 33 56.5 -1.8
WVT                                     e              11 34 10.3
PLAL   Pickwick Lake      115.69  54    PFAKE          11 34 10.0 +12
PLAL                                    LR     LR
       comp=Z,2µm,20.0s,MS5.8
GLMI   Grayling           115.86  43    PFAKE          11 34 10.0 +12
GLMI                                    LR     LR
       comp=Z,4µm,22.0s,MS6.0
BLO    Bloomington        116.03  49    ePKPdf PKPdf   11 33 58.0 -0.9
BLO                                     epPKPdf pPKPdf 11 34 11.5 -3.2
BLO    Bloomington        116.03  49    ePKIKP PKPdf   11 33 58.0 -0.9
BLO                                     e              11 34 11.5
WCI    Wyandotte Cave     116.42  50    ePKPdf PKPdf   11 33 58.6 -1.2
WCI                                     epPKPdf pPKPdf 11 34 12.4 -3.0
WCI    Wyandotte Cave     116.42  50    ePKIKP PKPdf   11 33 58.6 -1.1
WCI                                     e              11 34 12.5
LRAL   Lakeview Retre     116.93  56    ePKPdf PKPdf   11 33 59.8 -1.1
LRAL                                    epPKPdf pPKPdf 11 34 13.7 -2.9
LRAL                                    LR     LR
       comp=Z,3µm,22.0s,MS5.9
AKASG  Malin Array Be     117.01 325    PKP    PKPdf   11 33 58.8 -1.7
       comp=Z,5.4nm,0.6s,baz=54,slow=2.5,SNR=17
AKASG                                   PKKPbc PKKPbc  11 44 24.8 -2.8
       comp=Z,2.4nm,0.5s,baz=259,slow=4.0,SNR=15
AKASG  Malin Array Be     117.01 325    PKP    PKPdf   11 33 58.8 -1.7
AKASG                                   PKKPbc PKKPbc  11 44 24.8 -2.8
AKASG  Malin Array Be     117.01 325    PKIKP  PKPdf   11 33 58.8 -1.6
AKASG                                   pmax   pmax
       comp=Z,5.0nm,0.6s
KIEV   Kiev               117.02 325    PFAKE          11 34 10.0 +10
KIEV                                    LR     LR
       comp=Z,1µm,21.0s,MS5.6
KIEV   Kiev               117.02 325⇑   i PKIKP PKPdf  11 33 58.9 -1.6
BRAL   Brewton            117.23  58    PFAKE          11 34 10.0 +8.5
BRAL                                    LR     LR
       comp=Z,2µm,19.0s,MS5.8
PLCA   Paso Flores        117.24 142    PKP    PKPdf   11 34 00.2 -1.1
       comp=Z,2.1nm,0.5s,baz=236,slow=1.9,SNR=17
PLCA   Paso Flores        117.24 142    PKP    PKPdf   11 34 00.2 -1.1
PLCA                                    LR     LR
       comp=Z,1µm,20.0s,MS5.5
PLCA   Paso Flores        117.24 142    PKIKP  PKPdf   11 34 00.2 -1.1
PLCA                                    pmax   pmax
       comp=Z,2.0nm,0.5s
AAM    Ann Arbor          117.29  45    PFAKE          11 34 10.0 +8.7
AAM                                     LR     LR
       comp=Z,4µm,22.0s,MS6.0
TEIG   Tepich             117.31  71    PKP    PKPdf   11 34 00.1 -1.8
       comp=Z,4.5nm,0.6s,baz=79,slow=1.6,SNR=5.3
TEIG   Tepich             117.31  71    PKP    PKPdf   11 34 00.1 -1.8
KMBO   Kilima Mbogo       117.34 265    ePKPdf PKPdf   11 34 02.2  0.0
KMBO                                    epPKPdf pPKPdf 11 34 16.5 -1.4
KMBO                                    LR     LR
       comp=Z,809nm,22.0s,MS5.3
KMBO   Kilima Mbogo       117.34 265    ePKIKP PKPdf   11 34 02.2  0.0
KMBO                                    e              11 34 16.5
KMBO                                    MLR    MLR
       comp=Z,809nm,22.0s
BR131  Keskin Array S     117.93 312    ePKPdf PKPdf   11 34 02.2 -0.4
BR131                                   epPKPdf pPKPdf 11 34 17.2 -1.1
BRTR   Keskin Array B     117.93 312    PKP    PKPdf   11 34 01.2 -1.3
       comp=Z,2.6nm,0.7s,baz=143,slow=3.4,SNR=9.2
BRTR                                    pPKP   pPKPdf  11 34 16.2 -2.1
       comp=Z,4.3nm,0.8s,baz=116,slow=2.9,SNR=7.2
BRTR   Keskin Array B     117.93 312    PKP    PKPdf   11 34 01.2 -1.3
BRTR                                    pPKP   pPKPdf  11 34 16.2 -2.1
BRTR   Keskin Array B     117.93 312    PKIKP  PKPdf   11 34 01.3 -1.3
BRTR                                                   11 34 16.3
BRTR                                    pmax   pmax
       comp=Z,3.0nm,0.7s
ACSO   Alum Creek Sta     118.38  47    ePKPdf PKPdf   11 34 02.3 -1.1
ACSO                                    epPKPdf pPKPdf 11 34 17.1 -2.0
ACSO                                    LR     LR
       comp=Z,2µm,20.0s,MS5.8
TGUH   Tegucigalpa,Un     118.46  78    ePKPdf PKPdf   11 34 03.4 -0.8
HFS    Hagfors            118.92 339    PKKPbc PKKPbc  11 44 17.6 -3.3
       comp=Z,2.2nm,0.6s,baz=201,slow=1.3,SNR=6.3
HFS    Hagfors            118.92 339    PKKPbc PKKPbc  11 44 17.6 -3.3
TZTN   Tazewell           118.95  52    ePKPdf PKPdf   11 34 04.0 -0.6
TZTN                                    epPKPdf pPKPdf 11 34 18.7 -1.6
TKL    Tuckaleechee C     118.99  53    ePKPdf PKPdf   11 34 03.5 -1.2
TKL                                     epPKPdf pPKPdf 11 34 17.8 -2.7
TKL    Tuckaleechee C     118.99  53    ePKIKP PKPdf   11 34 03.5 -1.2
TKL                                     e              11 34 17.8
NOA    NORSAR Array B     119.11 341    PKP    PKPdf   11 34 02.6 -1.5
       comp=Z,3.3nm,0.6s,baz=44,slow=1.9,SNR=15
NOA                                     PKKPbc PKKPbc  11 44 20.5 +0.2
       comp=Z,2.0nm,0.7s,baz=224,slow=4.4,SNR=5.9
NOA    NORSAR Array B     119.11 341    PKP    PKPdf   11 34 02.6 -1.5
NOA                                     PKKPbc PKKPbc  11 44 20.5 +0.2
NOA    NORSAR Array B     119.11 341    PKIKP  PKPdf   11 34 02.7 -1.5
NOA                                     pmax   pmax
       comp=Z,3.0nm,0.6s
CSS    Prodhromos         119.39 307    PFAKE          11 34 20.0 +14
CSS                                     LR     LR
       comp=Z,1µm,19.0s,MS5.5
GOGA   Godfrey            119.75  55    ePKPdf PKPdf   11 34 05.3 -1.0
GOGA                                    epPKPdf pPKPdf 11 34 20.2 -1.8
GOGA                                    LR     LR
       comp=Z,2µm,21.0s,MS5.7
GOGA   Godfrey            119.75  55    ePKIKP PKPdf   11 34 05.3 -1.0
GOGA                                    e              11 34 20.2
GOGA                                    MLR    MLR
       comp=Z,2µm,21.0s,MS5.7
ERPA   Erie               119.93  45    PFAKE          11 34 20.0 +14
ERPA                                    LR     LR
       comp=Z,3µm,19.0s,MS5.9
CFR    Carcaliu           119.94 319⇑   PKIKP  PKPdf   11 34 05.6 -0.7
CFR    Carcaliu           119.94 319⇑   i P    Pdif    11 30 26.2 -3.3
CFR    Carcaliu           119.94 319⇑   i P    PKPdf   11 34 05.6 -0.7
BOSA   Boshof             120.34 232    PKP    PKPdf   11 34 07.1 -0.5
       comp=Z,15nm,0.6s,baz=122,slow=2.4,SNR=31
BOSA                                    pPKP   pPKPdf  11 34 21.6 -1.7
       comp=Z,26nm,0.8s,baz=108,slow=1.5,SNR=14
BOSA                                    PKKPbc PKKPbc  11 44 13.5 -1.4
       comp=Z,2.7nm,0.7s,baz=345,slow=4.0,SNR=4.8
BOSA   Boshof             120.34 232    PKP    PKPdf   11 34 07.1 -0.5
BOSA                                    ePKPdf PKPdf   11 34 07.4 -0.2
BOSA                                    epPKPdf pPKPdf 11 34 21.6 -1.7
BOSA                                    PKKPbc PKKPbc  11 44 13.5 -1.4
BOSA                                    LR     LR
       comp=Z,3µm,20.0s,MS5.9
BOSA   Boshof             120.34 232    PKIKP  PKPdf   11 34 07.1 -0.5
BOSA                                                   11 34 21.6
BOSA                                    pmax   pmax
       comp=Z,15nm,0.6s
KONO   Kongsberg          120.68 340    PFAKE          11 34 20.0 +13
KONO                                    LR     LR
       comp=Z,2µm,20.0s,MS5.8
JTS    JuntasAbangare     120.69  82    PKP    PKPdf   11 34 07.5 -1.1
       comp=Z,14nm,0.6s,baz=319,slow=1.4,SNR=8.8
JTS    JuntasAbangare     120.69  82    PKP    PKPdf   11 34 07.5 -1.1
JTS                                     LR     LR
       comp=Z,2µm,22.0s,MS5.7
JTS    JuntasAbangare     120.69  82    PKIKP  PKPdf   11 34 07.5 -1.1
JTS                                     pmax   pmax
       comp=Z,14nm,0.6s
BURAR  Bucovina Array     120.73 323    ⇓PKIKP PKPdf   11 34 08.1 +0.4
BURAR  Bucovina Array     120.73 323    ⇓i P   PKPdf   11 34 08.1 +0.4
BLA    Blacksburg         121.18  50    ePKPdf PKPdf   11 34 07.6 -1.3
BLA                                     epPKPdf pPKPdf 11 34 21.8 -2.9
BLA                                     LR     LR
       comp=Z,3µm,20.0s,MS6.0
BLA    Blacksburg         121.18  50    ePKIKP PKPdf   11 34 07.6 -1.3
BLA                                     e              11 34 21.8
BLA                                     MLR    MLR
       comp=Z,3µm,20.0s,MS6.0
KWP    Kalwaria Pacla     121.21 326    ePKPdf PKPdf   11 34 08.0 -0.6
KWP                                     LR     LR
       comp=Z,1µm,21.0s,MS5.6
KWP    Kalwaria Pacla     121.21 326    ePKIKP PKPdf   11 34 08.0 -0.6
KWP                                     MLR    MLR
       comp=Z,1µm,21.0s,MS5.6
MLR    Muntele Rosu       121.22 320    PKKPbc PKKPbc  11 44 07.7 -4.2
       comp=Z,0.6nm,0.6s,baz=125,slow=9.2,SNR=3.5
MLR    Muntele Rosu       121.22 320    PKKPbc PKKPbc  11 44 07.7 -4.2
MLR    Muntele Rosu       121.22 320    ⇓PKIKP PKPdf   11 34 07.8 -0.9
MLR    Muntele Rosu       121.22 320⇓   i P    Pdif    11 30 36.9 +1.7
MLR    Muntele Rosu       121.22 320⇓   i P    PKPdf   11 34 07.8 -0.9
SCHQ   Schefferville      121.27  27    PKP    PKPdf   11 34 07.2 -1.3
       comp=Z,4.3nm,0.8s,baz=91,slow=3.5,SNR=6.2
SCHQ                                    PKKPbc PKKPbc  11 44 09.9 -2.2
       comp=Z,8.2nm,0.9s,baz=178,slow=3.8,SNR=12
SCHQ   Schefferville      121.27  27    PKP    PKPdf   11 34 07.2 -1.3
SCHQ                                    PKKPbc PKKPbc  11 44 09.9 -2.2
JSC    Jenkinsville       121.33  54    ePKPdf PKPdf   11 34 08.8 -0.4
JSC                                     epPKPdf pPKPdf 11 34 22.6 -2.4
JSC    Jenkinsville       121.33  54    ePKIKP PKPdf   11 34 08.8 -0.5
JSC                                     e              11 34 22.6
VWCC   Virginia Weste     121.51  50    ePKPdf PKPdf   11 34 08.2 -1.4
VWCC                                    epPKPdf pPKPdf 11 34 23.0 -2.3
LBTB   Lobatse            121.67 236    PKKPbc PKKPbc  11 44 09.2 -0.6
       comp=Z,3.4nm,0.8s,baz=304,slow=11,SNR=4.6
LBTB   Lobatse            121.67 236    ePKPdf PKPdf   11 34 09.9 -0.3
LBTB                                    epPKPdf pPKPdf 11 34 24.5 -1.5
LBTB                                    PKKPbc PKKPbc  11 44 09.2 -0.6
LBTB                                    LR     LR
       comp=Z,2µm,19.0s,MS5.7
LBTB   Lobatse            121.67 236    ePKIKP PKPdf   11 34 09.9 -0.3
LBTB                                    e              11 34 24.5
LBTB                                    MLR    MLR
       comp=Z,2µm,19.0s,MS5.7
SUR    Sutherland         121.77 226    PFAKE          11 34 20.0 +10
SUR                                     LR     LR
       comp=Z,2µm,20.0s,MS5.8
SSPA   Standing Stone     121.93  46    ePKPdf PKPdf   11 34 09.1 -1.1
SSPA                                    epPKPdf pPKPdf 11 34 24.3 -1.7
CRVS   Cervenica-Dubn     122.29 325    ePKIKP PKPdf   11 34 10.6 -0.1
CRVS                                    e              11 44 20.0
NHSC   New Hope           122.50  55    PFAKE          11 34 20.0 +8.4
NHSC                                    LR     LR
       comp=Z,2µm,22.0s,MS5.8
LONY   Lake Ozonia        122.56  40    PFAKE          11 34 20.0 +8.7
LONY                                    LR     LR
       comp=Z,4µm,21.0s,MS6.1
BINY   Binghamton         122.66  43    PFAKE          11 34 20.0 +8.4
BINY                                    LR     LR
       comp=Z,4µm,21.0s,MS6.0
KECS   Kecovo             123.06 325    ePKIKP PKPdf   11 34 11.6 -0.6
KECS   Kecovo             123.06 325    ePKP   PKPdf   11 34 11.5 -0.7
KECS                                    e              11 44 03.5
KECS                                    e              11 44 17.6
NCB    Newcomb            123.08  41    PFAKE          11 34 20.0 +7.7
NCB                                     LR     LR
       comp=Z,7µm,21.0s,MS6.3
SDMD   Soldier's Deli     123.12  47    ePKPdf PKPdf   11 34 11.8 -0.8
SDMD                                    epPKPdf pPKPdf 11 34 26.6 -1.7
CBN    Corbin             123.16  48    PFAKE          11 34 20.0 +7.3
CBN                                     LR     LR
       comp=Z,3µm,20.0s,MS6.0
GZR    Gura Zlata         123.26 321    ⇓PKIKP PKPdf   11 34 12.2 -0.4
GZR    Gura Zlata         123.26 321    ⇓i P   PKPdf   11 34 12.2 -0.4
OKC    Ostrava-Krasne     123.58 328    ePKIKP PKPdf   11 34 11.4 -1.7
OKC                                     MLR    MLR
       comp=Z,1µm,19.9s,MS5.5
OKC    Ostrava-Krasne     123.58 328    ePKPdf PKPdf   11 34 11.4 -1.7
OKC                                     ex     x       11 34 42.8
OKC                                     AMS    AMS     12 27 10.0
       comp=Z,1µm,19.9s
PSZ    Piszkesteto        123.69 325    PFAKE          11 34 20.0 +6.6
PSZ                                     LR     LR
       comp=Z,1µm,19.0s,MS5.6
PSZ    Piszkesteto        123.69 325⇓   ePKPdf PKPdf   11 34 12.7 -0.7
CNNC   Cliffs of the      123.72  52    ePKPdf PKPdf   11 34 13.4 -0.5
CNNC                                    epPKPdf pPKPdf 11 34 27.0 -2.6
CNNC                                    LR     LR
       comp=Z,3µm,20.0s,MS6.0
LCO    Las Campanas       123.74 131    ePKPdf PKPdf   11 34 13.7 -0.4
LCO                                     epPKPdf pPKPdf 11 34 27.1 -2.8
LCO                                     LR     LR
       comp=Z,1µm,20.0s,MS5.6
MDV    Middlebury         123.74  40    ePKPdf PKPdf   11 34 12.9 -0.7
MDV                                     epPKPdf pPKPdf 11 34 28.0 -1.3
BZS    Buzias             123.86 322    ⇓PKIKP PKPdf   11 34 12.4 -1.4
BZS    Buzias             123.86 322    ⇓i P   PKPdf   11 34 12.4 -1.4
MBAR   Mbarara            123.87 265    PFAKE          11 34 30.0 +15
MBAR                                    LR     LR
       comp=Z,313nm,20.0s,MS5.0
MORC   Moravsky Berou     123.94 328    ePKPdf PKPdf   11 34 12.9 -0.9
MORC                                    epPKPdf pPKPdf 11 34 25.3 -4.2
MORC   Moravsky Berou     123.94 328    ⇓PKIKP PKPdf   11 34 12.9 -0.9
MORC   Moravsky Berou     123.94 328    ⇓i P   PKPdf   11 34 12.9 -0.9
VYHS   Vyhne              123.97 326    ePKIKP PKPdf   11 34 12.9 -1.0
VYHS   Vyhne              123.97 326    ePKP   PKPdf   11 34 12.9 -1.0
VYHS                                    e              11 43 59.3
VYHS                                    e              11 44 13.0
TRQA   Tornquist          124.02 145    ePKPdf PKPdf   11 34 13.2 -1.2
TRQA                                    epPKPdf pPKPdf 11 34 27.2 -3.0
CFAA   Coronel Fontan     124.12 135    PKP    PKPdf   11 34 13.3 -1.4
       comp=Z,1.0nm,0.6s,baz=252,slow=3.5,SNR=16
CFAA                                    pPKP   pPKPdf  11 34 27.8 -2.7
       comp=Z,2.1nm,0.7s,baz=236,slow=2.8,SNR=10
CFAA   Coronel Fontan     124.12 135    PKP    PKPdf   11 34 13.3 -1.4
CFAA                                    pPKP   pPKPdf  11 34 27.8 -2.7
DPC    Dobruska-Polom     124.23 329    ePKIKP PKPdf   11 34 14.1 -0.2
DPC                                     e              11 34 29.2
DPC                                     MLR    MLR
       comp=Z,2µm,26.3s,MS5.7
DPC    Dobruska-Polom     124.23 329    ePKPdf PKPdf   11 34 14.1 -0.2
DPC                                     epPKP  pPKPdf  11 34 29.2 -0.9
DPC                                     AMS    AMS     12 27 30.0
       comp=Z,2µm,26.3s
VTS    Vitosha            124.26 318    ⇓PKIKP PKPdf   11 34 14.0 -0.6
VTS    Vitosha            124.26 318    ⇓i P   PKPdf   11 34 13.9 -0.7
UPC    Upice              124.29 329    ePKIKP PKPdf   11 34 13.8 -0.7
UPC                                     e              11 34 28.5
UPC    Upice              124.29 329    ePKPdf PKPdf   11 34 13.8 -0.7
UPC                                     epPKP  pPKPdf  11 34 28.5 -1.7
UPC                                     ex     x       11 34 44.1
LBNH   Lisbon             124.43  39    PFAKE          11 34 30.0 +15
LBNH                                    LR     LR
       comp=Z,5µm,20.0s,MS6.2
CPNY   Central Park       124.62  44    ePKPdf PKPdf   11 34 15.1 -0.3
CPNY                                    epPKPdf pPKPdf 11 34 29.5 -1.7
VRAC   Vranov             124.72 328    ⇑PKIKP PKPdf   11 34 11.6 -3.7
VRAC   Vranov             124.72 328    ⇑i P   PKPdf   11 34 11.6 -3.7
PVCC   Panska Ves         125.00 330    ePKIKP PKPdf   11 34 15.0 -0.8
PVCC                                    e              11 34 27.4
PVCC                                    MLR    MLR
       comp=Z,1µm,24.2s,MS5.4
PVCC   Panska Ves         125.00 330    ePKPdf PKPdf   11 34 15.0 -0.8
PVCC                                    ex     x       11 34 27.4
PVCC                                    ex     x       11 34 46.0
PVCC                                    AMS    AMS     12 28 40.0
       comp=Z,1µm,24.2s
BRG    Berggiesshubel     125.08 331    ePKP   PKPdf   11 34 15.2 -0.8
       comp=Z,9.9nm,0.8s
BRG                                    e              11 34 27.8
       comp=Z,40nm,1.8s
BRG                                    e              11 34 45.7
       comp=Z,15nm,1.1s
BRG    Berggiesshubel     125.08 331    ePKIKP PKPdf   11 34 15.2 -0.8
BRG                                    e              11 34 27.8
BRG                                    pmax   pmax
       comp=Z,10.0nm,0.8s
ATAH   Atahualpa          125.14 103    PKP    PKPdf   11 34 17.7 +0.6
       comp=Z,7.1nm,0.6s,baz=195,slow=1.4,SNR=6.6
ATAH   Atahualpa          125.14 103    PKP    PKPdf   11 34 17.7 +0.6
CLL    Collm              125.25 332⇑   i PKIKP PKPdf  11 34 15.3 -1.0
CLL                                    pmax   pmax
       comp=Z,13nm,0.8s
CLL                                    MLR    MLR
       comp=Z,1µm,22.2s,MS5.5
CLL    Collm              125.25 332⇑   i PKPdf PKPdf  11 34 15.3 -1.0
       comp=Z,13nm,0.8s
CLL                                    i              11 34 44.8
CLL                                    ePP    PP      11 36 07.0 +0.9
CLL                                    ePKSdf         11 37 42.0
CLL                                    ePPP           11 38 54.0
CLL                                    ePS    PS      11 46 06.0 -1.8
CLL                                    ePPS           11 47 42.0
CLL                                    eSS    SS      11 52 54.0 -5.2
CLL                                    e              11 53 54.0
CLL                                    e              11 58 30.0
CLL                                    LmV            12 34 00.0
       comp=Z,1µm,20.3s
TREC   Trest              125.30 329    AMS    AMS     12 28 10.0
       comp=Z,2µm,22.0s
PKSM   Moragy             125.34 324    ⇑PKIKP PKPdf   11 34 15.4 -1.2
PKSM   Moragy             125.34 324    ⇑i P   PKPdf   11 34 15.4 -1.2
PRU    Pruhonice          125.35 330    ePKIKP PKPdf   11 34 15.8 -0.7
PRU                                    e              11 34 28.3
PRU                                    MLR    MLR
       comp=Z,1µm,25.0s,MS5.5
PRU    Pruhonice          125.35 330    ePKPdf PKPdf   11 34 15.8 -0.7
PRU                                    epPKP  pPKPdf  11 34 28.3 -3.9
PRU                                    ex     x       11 34 45.6
PRU                                    AMS    AMS     12 28 50.0
       comp=Z,1µm,25.0s
NNA    Nana               125.38 109    PFAKE          11 34 30.0 +12
NNA                                    LR     LR
       comp=Z,957nm,20.0s,MS5.5
PKME   Peaks-Kenny Pk     125.54  37    PFAKE          11 34 30.0 +13
PKME                                   LR     LR
       comp=Z,4µm,19.0s,MS6.0
BCIP   Isla Barro Col     125.71  83    ePKPdf PKPdf   11 34 16.6 -1.6
BCIP                                   epPKPdf pPKPdf 11 34 31.8 -2.2
BCIP                                   LR     LR
       comp=Z,1µm,19.0s,MS5.6
NKC    Novy Kostel        126.22 331    ePKIKP PKPdf   11 34 17.4 -0.8
NKC                                    e              11 34 30.0
NKC                                    MLR    MLR
       comp=Z,1µm,26.7s,MS5.5
NKC    Novy Kostel        126.22 331    ePKPdf PKPdf   11 34 17.4 -0.8
NKC                                    epPKP  pPKPdf  11 34 30.0 -3.9
NKC                                    ex     x       11 34 48.0
NKC                                    AMS    AMS     12 25 20.0
       comp=Z,1µm,26.7s
KHC    Kasperske Hory     126.38 329    ePKPdf PKPdf   11 34 18.1 -0.4
KHC                                    epPKPdf pPKPdf 11 34 32.6 -1.7
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KHC Kasperske Hory 126.38 329 *e*PKIKP PKPdf 11 34 18.1 -0.4
KHC *e* 11 34 32.6
KHC Kasperske Hory 126.38 329 *e*PKPdf PKPdf 11 34 17.4 -1.1
KHC *ep*PKP pPKPdf 11 34 29.5 -4.7
KHC *ex* x 11 34 48.1
KHC AMS AMS 12 29 20.0
comp=Z,2μm,23.8s
OTAV Otavalo 126.39 94 *e*PKPdf PKPdf 11 34 21.4 +1.8
OTAV *ep*PKPdf pPKPdf 11 34 34.6 -0.8
OTAV LR LR
comp=Z,1μm,19.0s,MS5.5
GERES GERESS Array B 126.50 329 PKP PKPdf 11 34 18.2 -0.5
comp=Z,6.9nm,0.7s,baz=81,slow=1.4,SNR=41
GERES PKKPbc 11 43 52.7
comp=Z,0.5nm,0.6s,baz=209,slow=2.4,SNR=4.1
GERES GERESS Array B 126.50 329 PKP PKPdf 11 34 18.2 -0.5
GERES PKKPbc 11 43 52.7
GERES GERESS Array B 126.50 329 PKIKP PKPdf 11 34 18.2 -0.5
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.6s
TIR Tirane 127.04 318 PFAKE 11 34 30.0 +10
TIR LR LR
comp=Z,1μm,22.0s,MS5.6
SOKA Soboth 127.12 326⇓ *i*PKPdf PKPdf 11 34 19.0 -1.0
comp=Z,6.9nm,1.3s
SOKA Soboth 127.12 326⇓ *i*P PKPdf 11 34 19.1 -1.0
MTDJ Mount Denham 127.58 72 PFAKE 11 34 30.0 +8.3
MTDJ LR LR
comp=Z,1μm,21.0s,MS5.5
BOJS Bojanci 127.69 325 *e*PKPdf PKPdf 11 34 20.1 -1.0
BOJS *i* pPKPdf pPKPdf 11 34 34.9 -2.0
BOJS *i* 11 34 41.6
BOJS *e* 11 34 50.6
VISS Visnje 127.75 325 *i* PKPdf PKPdf 11 34 20.2 -1.0
LJU Ljubljana 127.78 326 *i* PKPdf PKPdf 11 34 20.3 -0.9
LJU *i* pPKPdf pPKPdf 11 34 35.0 -2.0
ESK Eskdalemuir 128.17 344 PFAKE 11 34 30.0 +8.3
ESK LR LR
comp=Z,932nm,19.0s,MS5.5
LVC Limon Verde 128.33 125 *e*PKPdf PKPdf 11 34 23.4 +0.3
LVC *ep*PKPdf pPKPdf 11 34 38.0 -0.8
LVC LR LR
comp=Z,2μm,22.0s,MS5.7
TRI Trieste 128.41 326 PFAKE 11 34 30.0 +7.5
TRI LR LR
comp=Z,893nm,19.0s,MS5.5
ABTA Abfaltersbach 128.45 328⇑ *i*PKPdf PKPdf 11 34 21.3 -1.2
comp=Z,11nm,1.0s
ABTA Abfaltersbach 128.45 328⇑ *i*P PKPdf 11 34 21.3 -1.2
WATA Walderalm 128.56 329⇑ *i*PKPdf PKPdf 11 34 21.7 -1.0
comp=Z,8.2nm,0.8s
WATA Walderalm 128.56 329⇑ *i*P PKPdf 11 34 21.7 -1.0
WATA Walderalm 128.56 329⇑ *i*PKIKP PKPdf 11 34 21.7 -1.0
WTTA Wattenberg 128.58 329⇑ *i*PKPdf PKPdf 11 34 22.0 -0.8
comp=Z,12nm,0.9s
WTTA Wattenberg 128.58 329⇑ *i*P PKPdf 11 34 22.0 -0.8
WTTA Wattenberg 128.58 329⇑ *i*PKIKP PKPdf 11 34 22.0 -0.8
MOTA Moosalm 128.80 329⇑ *i*PKPdf PKPdf 11 34 22.0 -1.2
comp=Z,9.0nm,0.7s
MOTA Moosalm 128.80 329⇑ *i*P PKPdf 11 34 22.0 -1.1
MOTA Moosalm 128.80 329⇑ *i*PKIKP PKPdf 11 34 22.0 -1.2
MEM Membach 128.87 335 PKP PKPdf 11 34 22.5 -0.7
FETA Feichten 129.21 329⇓ *i*PKPdf PKPdf 11 34 23.2 -0.8
comp=Z,11nm,0.9s
FETA Feichten 129.21 329⇓ *i*P PKPdf 11 34 23.2 -0.8
DAVA Damuels 129.46 330⇑ *i*PKPdf PKPdf 11 34 23.2 -1.2
comp=Z,8.2nm,0.8s
DAVA Damuels 129.46 330⇑ *i*P PKPdf 11 34 23.2 -1.2
BFO Black Forest 129.49 332 PFAKE 11 34 40.0 +16
BFO LR LR
comp=Z,1μm,20.0s,MS5.5
WLF Walferdange 129.51 334 PKP PKPdf 11 34 24.3 -0.2
WLF Walferdange 129.51 334 PFAKE 11 34 40.0 +16
WLF LR LR
comp=Z,2μm,21.0s,MS5.9
GTBY Guantanamo Bay 129.65 69 PFAKE 11 34 40.0 +14
GTBY LR LR
comp=Z,1μm,21.0s,MS5.6
GIVF Givet 129.75 335 *e*PKIKP PKPdf 11 34 23.3 -1.6
GIVF Givet 129.75 335 *e*PKPdf PKPdf 11 34 23.3 -1.6
GIVF Givet 129.75 335 *e*PKIKP PKPdf 11 34 23.3 -1.6
CDF Champ du Feu 129.93 332 *e*PKIKP PKPdf 11 34 24.1 -1.2
CDF Champ du Feu 129.93 332 *e*PKPdf PKPdf 11 34 24.1 -1.2
CDF Champ du Feu 129.93 332 *e*PKIKP PKPdf 11 34 24.1 -1.2
BAIF Baives 130.03 336 *e*PKIKP PKPdf 11 34 24.0 -1.4
BAIF Baives 130.03 336 *e*PKPdf PKPdf 11 34 24.0 -1.4
BAIF Baives 130.03 336 *e*PKIKP PKPdf 11 34 24.0 -1.4
ECH Echery 130.12 332 PFAKE 11 34 40.0 +14
ECH LR LR
comp=Z,1μm,21.0s,MS5.6
TUE Stuetta 130.28 329 *e*PKPdf PKPdf 11 34 26.8 +0.8
TUE *ep*PKPdf pPKPdf 11 34 40.1 -1.6
TUE LR LR
comp=Z,2μm,22.0s,MS5.7
CUC Castrocucco 130.39 319 PFAKE 11 34 40.0 +14
CUC LR LR
comp=Z,756nm,21.0s,MS5.4
PAGF Fort de Pagny 130.53 333 *e*PKIKP PKPdf 11 34 24.9 -1.5
PAGF Fort de Pagny 130.53 333 *e*PKPdf PKPdf 11 34 24.9 -1.5
HINF Hinteralfeld 130.56 332 *e*PKIKP PKPdf 11 34 24.7 -1.8
comp=Z,14nm,0.9s
HINF Hinteralfeld 130.56 332 *e*PKPdf PKPdf 11 34 24.7 -1.8
HINF Hinteralfeld 130.56 332 *e*PKIKP PKPdf 11 34 24.7 -1.8
AQU L'Aquila 130.61 323 PFAKE 11 34 40.0 +13
AQU LR LR
comp=Z,798nm,20.0s,MS5.4
HAU Haudompre 130.65 333 *e*PKIKP PKPdf 11 34 24.7 -2.0
comp=Z,13nm,0.7s
HAU *e*R
comp=Z,2μm,22.5s
HAU Haudompre 130.65 333 *e*PKPdf PKPdf 11 34 24.7 -2.0
HAU Haudompre 130.65 333 *e*PKIKP PKPdf 11 34 24.7 -2.0
MEZF Maizieres J'vi 130.86 334 *e*PKIKP PKPdf 11 34 25.3 -1.8
comp=Z,22nm,0.7s
MEZF Maizieres J'vi 130.86 334 *e*PKPdf PKPdf 11 34 25.3 -1.8
TSUM Tsumeb 130.89 238 *e*PKPdf PKPdf 11 34 26.9 -1.0
TSUM *ep*PKPdf pPKPdf 11 34 42.3 -1.4
ROSC El Rosal 130.97 89 PKP PKPdf 11 34 28.3 0.0
comp=Z,25nm,0.7s,baz=95,slow=13,SNR=11
ROSC El Rosal 130.97 89 *e*PKPdf PKPdf 11 34 28.4 +0.1
ROSC *ep*PKPdf pPKPdf 11 34 43.2 -0.8
CABF La Chapelle 131.79 331 *e*PKIKP PKPdf 11 34 26.9 -2.0
comp=Z,11nm,0.6s
CABF La Chapelle 131.79 331 *e*PKPdf PKPdf 11 34 26.9 -2.0
CABF La Chapelle 131.79 331 *e*PKIKP PKPdf 11 34 26.9 -2.0
LPAZ La Paz 131.81 118 PKP PKPdf 11 34 30.6 +0.8
comp=Z,6.0nm,0.6s,baz=276,slow=3.6,SNR=19
LPAZ La Paz 131.81 118 *e*PKPdf PKPdf 11 34 30.6 +0.9
LPAZ *ep*PKPdf pPKPdf 11 34 44.9 -0.6
LPAZ LR LR
comp=Z,893nm,20.0s,MS5.5
LPAZ La Paz 131.81 118 PKIKP PKPdf 11 34 30.6 +0.8
LPAZ pmax pmax
comp=Z,6.0nm,0.6s
LPL La Plagne 132.26 330 *e*PKIKP PKPdf 11 34 28.4 -1.4
comp=Z,13nm,0.8s
LPL La Plagne 132.26 330 *e*PKPdf PKPdf 11 34 28.4 -1.4
LPL La Plagne 132.26 330 *e*PKIKP PKPdf 11 34 28.4 -1.4
LPG La Plagne 132.26 330 *e*PKIKP PKPdf 11 34 28.6 -1.2
comp=Z,11nm,0.8s
LPG La Plagne 132.26 330 *e*PKPdf PKPdf 11 34 28.6 -1.2
LPG La Plagne 132.26 330 *e*PKIKP PKPdf 11 34 28.6 -1.2
LOR Lormes 132.32 334 *e*PKIKP PKPdf 11 34 28.1 -1.8
comp=Z,10nm,0.8s
LOR *e*R
comp=Z,2μm,22.2s
LOR Lormes 132.32 334 *e*PKPdf PKPdf 11 34 28.1 -1.8
LOR Lormes 132.32 334 *e*PKIKP PKPdf 11 34 28.1 -1.8
BNI Bardonecchia 132.61 330 *e*PKPdf PKPdf 11 34 30.5 0.0
BNI *ep*PKPdf pPKPdf 11 34 43.4 -2.8
BNI LR LR
comp=Z,2μm,20.0s,MS5.9
BNI Bardonecchia 132.61 330 *e*PKIKP PKPdf 11 34 30.5 0.0
BNI *e* 11 34 43.4
BNI MLR MLR
comp=Z,2μm,20.0s,MS5.9
SSF Saint Saulge 132.64 334 *e*PKIKP PKPdf 11 34 28.4 -2.1
comp=Z,15nm,0.8s
SSF Saint Saulge 132.64 334 *e*PKPdf PKPdf 11 34 28.4 -2.1
SSF Saint Saulge 132.64 334 *e*PKIKP PKPdf 11 34 28.4 -2.1
MBDF Montbardon 132.79 329 *e*PKIKP PKPdf 11 34 29.6 -1.2
comp=Z,4.6nm,0.6s
MBDF Montbardon 132.79 329 *e*PKPdf PKPdf 11 34 29.6 -1.2
MBDF Montbardon 132.79 329 *e*PKIKP PKPdf 11 34 29.6 -1.2
SMF Signal de Mont 132.80 333 *e*PKIKP PKPdf 11 34 29.6 -1.2
comp=Z,10nm,0.8s
SMF Signal de Mont 132.80 333 *e*PKPdf PKPdf 11 34 29.6 -1.2
SMF Signal de Mont 132.80 333 *e*PKIKP PKPdf 11 34 29.6 -1.2
AVF Avril sur Loir 132.91 333 *e*PKIKP PKPdf 11 34 29.8 -1.2
AVF Avril sur Loir 132.91 333 *e*PKPdf PKPdf 11 34 29.8 -1.2
AVF Avril sur Loir 132.91 333 *e*PKIKP PKPdf 11 34 29.8 -1.2
FLN La Foliniere 132.91 338 *e*PKIKP PKPdf 11 34 29.9 -1.0
comp=Z,21nm,0.9s
FLN *e*R
comp=Z,1μm,20.5s
FLN La Foliniere 132.91 338 *e*PKPdf PKPdf 11 34 29.9 -1.0
FLN La Foliniere 132.91 338 *e*PKIKP PKPdf 11 34 29.9 -1.0
LDF La Druitiere 132.91 338 *e*PKIKP PKPdf 11 34 29.7 -1.2
LDF La Druitiere 132.91 338 *e*PKPdf PKPdf 11 34 29.7 -1.2
LDF La Druitiere 132.91 338 *e*PKIKP PKPdf 11 34 29.7 -1.2
SBF Sospel 133.04 328 *e*PKIKP PKPdf 11 34 29.9 -1.4
comp=Z,17nm,0.8s
SBF Sospel 133.04 328 *e*PKPdf PKPdf 11 34 29.9 -1.4
SBF Sospel 133.04 328 *e*PKIKP PKPdf 11 34 29.9 -1.4
PGF Pioggiola 133.06 325 *e*PKIKP PKPdf 11 34 29.4 -2.0
comp=Z,24nm,0.8s
PGF Pioggiola 133.06 325 *e*PKPdf PKPdf 11 34 29.4 -2.0
PGF Pioggiola 133.06 325 *e*PKIKP PKPdf 11 34 29.4 -2.0
ORIF Oris-en-Rattie 133.11 330 *e*PKIKP PKPdf 11 34 29.8 -1.6
comp=Z,15nm,0.7s
ORIF *e*R
comp=Z,2μm,22.2s
ORIF Oris-en-Rattie 133.11 330 *e*PKPdf PKPdf 11 34 29.8 -1.6
ORIF Oris-en-Rattie 133.11 330 *e*PKIKP PKPdf 11 34 29.8 -1.6
WDD Wield Dalam 133.35 315 PFAKE 11 34 40.0 +7.8
WDD LR LR
comp=Z,712nm,20.0s,MS5.4
SDDR Presa de Saban 133.36 70 *e*PKPdf PKPdf 11 34 32.1 -0.5
SDDR *ep*PKPdf pPKPdf 11 34 46.6 -1.7
GRR Gorron 133.36 338 *e*PKIKP PKPdf 11 34 29.9 -1.9
comp=Z,20nm,0.8s
GRR Gorron 133.36 338 *e*PKPdf PKPdf 11 34 29.9 -1.9
GRR Gorron 133.36 338 *e*PKIKP PKPdf 11 34 29.9 -1.9
SSB Saint Sauveur 133.50 331 *e*PKPdf PKPdf 11 34 32.6 +0.5
SSB LR LR
comp=Z,1μm,20.0s,MS5.7
SSB Saint Sauveur 133.50 331 *e*PKIKP PKPdf 11 34 32.6 +0.5
SSB MLR MLR
comp=Z,1μm,20.0s,MS5.7
FRF La Foret Royal 133.67 328 *e*PKIKP PKPdf 11 34 30.2 -2.3
FRF La Foret Royal 133.67 328 *e*PKPdf PKPdf 11 34 30.2 -2.3
FRF La Foret Royal 133.67 328 *e*PKIKP PKPdf 11 34 30.2 -2.3
VIVF Saint-Julien-l 133.74 331 *e*PKIKP PKPdf 11 34 30.9 -1.7
comp=Z,22nm,1.0s
VIVF Saint-Julien-l 133.74 331 *e*PKPdf PKPdf 11 34 30.9 -1.7
VIVF Saint-Julien-l 133.74 331 *e*PKIKP PKPdf 11 34 30.9 -1.7
LMR La Mourre 133.90 328 *e*PKIKP PKPdf 11 34 30.7 -2.3
comp=Z,7.5nm,0.6s
LMR La Mourre 133.90 328 *e*PKPdf PKPdf 11 34 30.7 -2.3
LMR La Mourre 133.90 328 *e*PKIKP PKPdf 11 34 30.7 -2.3
SMRF Simiane la Rot 133.93 329 *e*PKIKP PKPdf 11 34 31.3 -1.7
comp=Z,20nm,1.1s
SMRF Simiane la Rot 133.93 329 *e*PKPdf PKPdf 11 34 31.3 -1.7
MFF Saint Martin d 134.55 336 *e*PKIKP PKPdf 11 34 32.2 -1.9
comp=Z,12nm,0.8s
MFF Saint Martin d 134.55 336 *e*PKPdf PKPdf 11 34 32.2 -1.9
MFF Saint Martin d 134.55 336 *e*PKIKP PKPdf 11 34 32.2 -1.9
LASF Ste Croix 134.71 331 *e*PKIKP PKPdf 11 34 32.7 -1.8
comp=Z,29nm,1.0s
LASF Ste Croix 134.71 331 *e*PKPdf PKPdf 11 34 32.7 -1.8
VSL Villasalto 134.76 322 PFAKE 11 34 50.0 +15
VSL LR LR
comp=Z,578nm,21.0s,MS5.3
SDV Santo Domingo 134.80 84 *e*PKPdf PKPdf 11 34 35.1 -0.3
SDV *ep*PKPdf pPKPdf 11 34 50.1 -1.1
RJF Les Rejaudoux 134.87 334 *e*PKIKP PKPdf 11 34 32.8 -1.9
RJF *e*R
comp=Z,994nm,22.0s
RJF Les Rejaudoux 134.87 334 *e*PKPdf PKPdf 11 34 32.8 -1.9
RJF Les Rejaudoux 134.87 334 *e*PKIKP PKPdf 11 34 32.8 -1.9
CPUP Villa Florida 134.87 137 PKP PKPdf 11 34 34.4 -0.9
comp=Z,3.0nm,0.7s,baz=329,slow=2.9,SNR=12
CPUP Villa Florida 134.87 137 PKP PKPdf 11 34 34.4 -0.9
CPUP LR LR
comp=Z,104nm,20.0s,MS4.5
CPUP Villa Florida 134.87 137 PKIKP PKPdf 11 34 34.4 -0.9
CPUP pmax pmax
comp=Z,3.0nm,0.7s
BBSR BB Station 134.97 50 PFAKE 11 34 50.0 +15
BBSR LR LR
comp=Z,2μm,19.0s,MS5.9
MTLF Montolieu 136.05 331 *e*PKIKP PKPdf 11 34 35.2 -1.8
comp=Z,9.9nm,0.9s
MTLF Montolieu 136.05 331 *e*PKPdf PKPdf 11 34 35.2 -1.8
MTLF Montolieu 136.05 331 *e*PKIKP PKPdf 11 34 35.2 -1.8
KEST Kesra 137.00 318 PKhKP PKPpre 11 34 29.4
comp=Z,1.1nm,0.4s,baz=322,slow=9.3,SNR=4.0
KEST PKP PKPdf 11 34 38.9 -0.1
comp=Z,2.6nm,0.7s,baz=55,slow=3.2,SNR=5.2
KEST Kesra 137.00 318 PKPpre PKPpre 11 34 29.4
KEST PKP PKPdf 11 34 38.9 -0.1
CRPR Cabo Rojo, PR 137.43 70 *e*PKPdf PKPdf 11 34 39.4 -0.9
CRPR *ep*PKPdf pPKPdf 11 34 54.1 -1.8
LRS Lares 137.62 70 *e*PKPdf PKPdf 11 34 40.1 -0.5
LRS *ep*PKPdf pPKPdf 11 34 55.1 -1.3
ETSF Etsaut 137.69 333 *e*PKIKP PKPdf 11 34 38.3 -1.7
comp=Z,13nm,0.7s
ETSF Etsaut 137.69 333 *e*PKPdf PKPdf 11 34 38.3 -1.7
ETSF Etsaut 137.69 333 *e*PKIKP PKPdf 11 34 38.3 -1.7
OBIP Obispado Ponce 137.89 70 *e*PKPdf PKPdf 11 34 40.5 -0.6
OBIP *ep*PKPdf pPKPdf 11 34 55.3 -1.5
CELP Cerrillos 137.91 70 *e*PKPdf PKPdf 11 34 40.7 -0.5
CELP *ep*PKPdf pPKPdf 11 34 55.5 -1.3
SIV San Ignacio 138.00 122 PKhKP PKPpre 11 34 29.8
comp=Z,1.1nm,0.5s,baz=191,slow=5.9,SNR=6.0
SIV PKP PKPdf 11 34 40.4 -1.0
comp=Z,4.3nm,0.6s,baz=254,slow=5.3,SNR=10
SIV San Ignacio 138.00 122 PKPpre PKPpre 11 34 29.8
SIV PKP PKPdf 11 34 40.4 -1.0
SJG San Juan 138.31 70 PKhKP PKPpre 11 34 32.3
comp=Z,22nm,0.2s,baz=270,slow=24,SNR=4.9
SJG PKP PKPdf 11 34 40.7 -1.1
comp=Z,36nm,0.4s,baz=89,slow=1.8,SNR=14
SJG San Juan 138.31 70 PKPpre PKPpre 11 34 32.3
SJG PKP PKPdf 11 34 40.7 -1.1
SJG *ep*PKPdf PKPdf 11 34 41.0 -0.8
SJG San Juan 138.31 70 PKHKP PKPpre 11 34 32.3
SJG 11 34 40.7
SJG pmax pmax
comp=Z,22nm,0.2s
CBYP Canovanas 138.55 70 *e*PKPdf PKPdf 11 34 41.3 -1.0
CBYP *ep*PKPdf pPKPdf 11 34 56.2 -1.8
MTP Monte Pirata 138.87 70 *e*PKPdf PKPdf 11 34 42.7 -0.2
MTP *ep*PKPdf pPKPdf 11 34 57.3 -1.3
SAML Samuel 139.07 111 *e*PKPdf PKPdf 11 34 42.8 -0.6
SAML *ep*PKPdf pPKPdf 11 34 57.1 -2.0
STVI Saint Thomas 139.37 69 *e*PKPdf PKPdf 11 34 42.9 -1.0
STVI *ep*PKPdf pPKPdf 11 34 57.6 -1.9
CDVI St. Croix 139.67 70 *e*PKPdf PKPdf 11 34 43.8 -0.6
CDVI *ep*PKPdf pPKPdf 11 34 58.8 -1.3
MSKU Masuku 140.56 260 PKhKP PKPpre 11 34 37.0
comp=Z,21nm,0.5s,baz=16,slow=4.7,SNR=7.1
MSKU Masuku 140.56 260 PKPpre PKPpre 11 34 37.0
MSKU LR LR
comp=Z,3.0nm,22.0s
PBRG Braganca 141.15 338 *e*LR LR 12 28 06.7
PGAV Gavieira, Arco 141.55 340 *e*PKP PKPdf 11 34 46.3 -0.8
PGAV *e*LR LR 12 25 13.3
comp=Z,684nm,22.0s
PCAB Cabril 141.69 339 *e*PKP PKPdf 11 34 47.3 -0.1
ESDC Sonseca Array 141.80 333 PKP PKPdf 11 34 44.7 -2.9
comp=Z,0.2nm,0.3s,baz=64,slow=3.0,SNR=3.1
ESDC Sonseca Array 141.80 333 PKP PKPdf 11 34 44.7 -2.9
ESLA Sonseca Array 141.80 333 PFAKE 11 35 00.0 +12
ESLA LR LR
comp=Z,6μm,21.0s,MS6.3
MVO Moncorvo 141.81 338 *e*PKP PKPdf 11 34 45.0 -2.6
MVO *e*LR LR 12 25 44.7
comp=Z,834nm,24.0s
POLO Lamas de Olo 141.91 339 *e*PKP PKPdf 11 34 47.7 -0.1
POLO *e*LR LR 12 28 29.5
PAB San Pablo 142.08 334 PFAKE 11 35 00.0 +12
PAB LR LR
comp=Z,1μm,20.0s,MS5.7
ANWB Willy Bob 142.47 69 PFAKE 11 35 00.0 +11
ANWB LR LR
comp=Z,1μm,20.0s,MS5.7
MTE Manteigas 142.67 338 *e*LR LR 12 25 34.9
comp=Z,753nm,20.0s
MTE Manteigas 142.67 338 PFAKE 11 35 00.0 +11
MTE LR LR
comp=Z,2μm,22.0s,MS5.8
SPB Sao Paulo 143.06 145 *e*PKPdf PKPdf 11 34 49.7 -0.7
SPB *ep*PKPdf pPKPdf 11 35 00.7 -5.4
SPB LR LR
comp=Z,889nm,20.0s,MS5.5
PCBR Castelo Branco 143.13 337 *e*PKP PKPdf 11 34 49.8 -0.2
PMRV Marv??o 143.45 337 *e*PKP PKPdf 11 34 46.7 -3.8
PMRV *e*LR LR 12 26 11.1
comp=Z,806nm,22.0s
GRGR Grenville 143.47 78 PFAKE 11 35 00.0 +8.7
GRGR LR LR
comp=Z,1μm,21.0s,MS5.6
FDF Fort de France 143.62 74 *e*PKPdf PKPdf 11 34 48.4 -3.1
FDF *ep*PKPdf pPKPdf 11 35 03.9 -3.3
FDF LR LR
comp=Z,1μm,21.0s,MS5.7
FDF Fort de France 143.62 74 *e*PKIKP PKPdf 11 34 48.4 -3.1
FDF *e* 11 35 03.9
FDF MLR MLR
comp=Z,1μm,21.0s,MS5.7
PTOM Tomar 143.67 338 *e*PKP PKPdf 11 34 47.9 -3.0
PESTR Estremoz 144.01 336 *e*PKP PKPdf 11 34 48.3 -3.2
PESTR *e*LR LR 12 26 55.2
comp=Z,657nm,22.0s
PMTG Montargil 144.08 337 *e*PKP PKPdf 11 34 51.2 -0.5
PMTG *e*LR LR 12 26 49.9
PBAR Barrancos 144.38 335 *e*LR LR 12 28 04.4
comp=Z,975nm,20.0s
EVO Evora 144.47 337 *e*PKIKP PKPdf 11 34 50.2 -2.2
comp=Z,15nm,0.8s
EVO *e*R
comp=Z,1μm,22.0s
EVO Evora 144.47 337 *e*PKP PKPdf 11 34 50.4 -2.0
EVOP Sao Brissos 144.51 337 *e*PKPdf PKPdf 11 34 50.2 -2.2
EVOP Sao Brissos 144.51 337 *e*PKIKP PKPdf 11 34 50.2 -2.2
PMAFR Mafra 144.58 339 *e*LR LR 12 28 29.2
comp=Z,998nm,20.0s
LIS Lisbon 144.74 338 *e*P PKPdf 11 34 50.2 -2.7
LIS AMS AMS 12 40 04.3
comp=N,1μm,24.3s
LIS Lisbon 144.74 338 *e*PKIKP PKPdf 11 34 50.2 -2.6
PBEJ Beja 144.84 336 *e*PKP PKPdf 11 34 51.8 -1.2
PNCL Nicolau / Gran 145.03 337 *e*PKP PKPdf 11 34 52.2 -1.1
PNCL *e*LR LR 12 26 42.9
comp=N,890nm,20.0s
MESJ Messejana 145.14 336 *e*P PKPbc 11 34 54.0 +0.9
MESJ *e*PP PP 11 38 12.1 +0.6
MESJ AMS AMS 12 39 51.0
comp=Z,845nm,17.8s,MS5.6
MESJ Messejana 145.14 336 *e*PP PP 11 38 12.1 +0.6
MESJ A 12 39 51.0
comp=Z,845nm,17.8s
MESJ Messejana 145.14 336 *e*PKIKP PKPdf 11 34 54.0 +0.5
MESJ *e* 11 38 12.1
PCVE Castro Verde 145.25 336 *e*PKP PKPdf 11 34 52.8 -0.9
PCVE *e*LR LR 12 27 04.4
comp=Z,1μm,22.0s
PVAQ Vaqueiros 145.31 335 *e*PKP PKPdf 11 34 53.6 -0.3
PVAQ *e*LR LR 12 27 49.1
comp=Z,1μm,20.0s
BBGH Gun Hill 145.39 76 PFAKE 11 35 10.0 +15
BBGH LR LR
comp=Z,2μm,19.0s,MS6.0
SFS San Fernando 145.44 333 PFAKE 11 35 10.0 +16
SFS LR LR
comp=Z,2μm,22.0s,MS5.8
PBDV Barranco-do-Ve 145.54 335 *e*LR LR 12 30 54.5
comp=Z,1μm,22.0s
PTEO Sao Teotonio 145.60 337 *e*PKP PKPdf 11 34 54.7 +0.4
MORF Marmelete 145.78 336 *e*LR LR 12 29 45.2
comp=Z,1μm,22.0s
MORF Marmelete 145.78 336 *e*PKP2 PKPab 11 34 54.6 -0.9
MORF *e* 11 38 15.6
PFVI Vila Bisbo 146.00 336 *e*PKP PKPdf 11 34 53.9 -1.1
PFVI *e*LR LR 12 27 21.3
comp=Z,1μm,20.0s
TAM Tamanrasset 146.31 302 *e*PKPdf PKPdf 11 34 55.8 -0.2
TAM *e*PKPbc PKPbc 11 34 57.0 -0.2
TAM *e*PKPab PKPab 11 34 58.0 -0.1
TAM *ep*PKPdf pPKPdf 11 35 11.2 -0.5
TAM LR LR
comp=Z,796nm,20.0s,MS5.5
TAM Tamanrasset 146.31 302 *e*PKIKP PKPdf 11 34 55.8 -0.2
TAM *e* 11 34 57.0
TAM *e* 11 35 11.2
TAM MLR MLR
comp=Z,796nm,20.0s,MS5.5
RTC Rabat Centre 147.77 331 PFAKE 11 35 10.0 +12
RTC LR LR
comp=Z,863nm,20.0s,MS5.5
SHEL Horse Pasture 150.69 221 *e*PKPbc PKPbc 11 35 10.0 +1.3
SHEL LR LR
comp=Z,1μm,21.0s,MS5.7
SHEL Horse Pasture 150.69 221 *e*PKIKP PKPdf 11 35 10.0 +6.8
SHEL MLR MLR
comp=Z,1μm,21.0s,MS5.7
TORD Torodi Ar. Bea 152.79 286 PKP PKPdf 11 35 04.5 -2.0
comp=Z,5.8nm,0.8s,baz=44,slow=1.6,SNR=38
TORD PKPbc PKPbc 11 35 12.3 -1.4
comp=Z,38nm,0.7s,baz=69,slow=2.1,SNR=147
TORD PKPab PKPab 11 35 25.9 +1.3
comp=Z,72nm,0.8s,baz=65,slow=1.4,SNR=33
TORD Torodi Ar. Bea 152.79 286 PKP PKPdf 11 35 04.5 -2.0
TORD PKPbc PKPbc 11 35 12.3 -1.4
TORD PKPab PKPab 11 35 25.9 +1.3
DBIC Dimbokro 159.91 272 PKP PKPdf 11 35 14.3 -1.4
comp=Z,2.7nm,0.7s,baz=122,slow=4.9,SNR=5.8
DBIC PKPab PKPab 11 35 55.0 -0.4
comp=Z,51nm,0.8s,baz=83,slow=5.0,SNR=26
DBIC Dimbokro 159.91 272 *e*PKPdf PKPdf 11 35 14.9 -0.9
DBIC *ep*PKPdf pPKPdf 11 35 29.0 -2.6
DBIC PKPab PKPab 11 35 55.0 -0.4
DBIC LR LR
comp=Z,2μm,22.0s,MS5.8
DBIC Dimbokro 159.91 272 PKIKP PKPdf 11 35 14.4 -1.4
DBIC 11 35 55.0
DBIC pmax pmax
comp=Z,3.0nm,0.7s
LIC Lamto 160.07 271 *e*PKIKP PKPdf 11 35 13.5 -2.5
LIC *e*R
comp=Z,3μm,22.8s
LIC Lamto 160.07 271 *e*PKPdf PKPdf 11 35 13.5 -2.5
RCBR Riachuelo 163.75 138 PFAKE 11 35 30.0 +10
RCBR LR LR
comp=Z,2μm,22.0s
SACV Santiago Islan 171.35 351 PFAKE 11 35 40.0 +15
SACV LR LR
comp=Z,2μm,22.0s

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*NEIC **23** 11:19:32.4, 45°.34S×167°.20E, h100km, MG4.0(WEL), After WEL.*
WEL 23 11:19:32.1±0.2, 45°.34S×167°.19E, h103km±1km, ML4.1/15, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.14**	**189**	PN	Pn	11 19 46.2	-0.3
DCZ				SN	Sn	11 19 56.4	-0.8
DCZ	**Deep Cove**	**0.14**	**189**	Pn	Pn	11 19 46.2	-0.3
DCZ				Sn	Sn	11 19 56.4	-0.8
MLZ	**Mavora Lakes**	**0.70**	**91**	PN	Pn	11 19 49.3	-0.4
MLZ				SN	Sn	11 20 02.2	-0.8
MLZ	**Mavora Lakes**	**0.70**	**91**	Pn	Pn	11 19 49.4	-0.4
WHZ	**Wether Hill Ro**	**0.77**	**136**	PN	Pn	11 19 50.3	0.0
WHZ				SN	Sn	11 20 03.8	-0.3
WHZ	**Wether Hill Ro**	**0.77**	**136**	Pn	Pn	11 19 50.3	0.0
MSZ	**Milford Sound**	**0.85**	**38**	PN	Pn	11 19 51.2	0.0
MSZ				SN	Sn	11 20 05.7	+0.2
MSZ	**Milford Sound**	**0.85**	**38**	Pn	Pn	11 19 51.2	0.0
PYZ	**Puysegur Point**	**0.90**	**203**	PN	Pn	11 19 52.0	+0.3
PYZ				SN	Sn	11 20 05.7	-0.6
PYZ	**Puysegur Point**	**0.90**	**203**	Pn	Pn	11 19 52.0	+0.3
WKZ	**Wanaka**	**1.40**	**69**	PN	Pn	11 19 57.0	-0.2
WKZ				SN	Sn	11 20 15.7	-0.6
WKZ	**Wanaka**	**1.40**	**69**	Pn	Pn	11 19 57.0	-0.2
EAZ	**Earnscleugh**	**1.50**	**86**	PN	Pn	11 19 58.3	-0.2

EAZ	Earnscleugh	1.50	86	Pn	Pn	11 19 58.4	-0.2
APZ	The Paps	1.59	160	PN	Pn	11 19 59.6	0.0
APZ	The Paps	1.59	160	Pn	Pn	11 19 59.6	0.0
JCZ	Jackson Bay	1.69	42	PN	Pn	11 20 00.7	-0.2
JCZ	Jackson Bay	1.69	42	Pn	Pn	11 20 00.7	-0.2
SYZ	Scrubby Hill	1.81	132	PN	Pn	11 20 02.3	-0.1
SYZ	Scrubby Hill	1.81	132	Pn	Pn	11 20 02.3	-0.1
TUZ	Tuapeka	1.82	110	PN	Pn	11 20 02.2	-0.2
TUZ	Tuapeka	1.82	110	Pn	Pn	11 20 02.2	-0.2
LBZ	Lake Benmore	2.34	67	PN	Pn	11 20 07.5	-1.6
LBZ	Lake Benmore	2.34	67	Pn	Pn	11 20 07.5	-1.6
ODZ	Otahua Downs	2.46	84	PN	Pn	11 20 09.4	-1.4
ODZ	Otahua Downs	2.46	84	Pn	Pn	11 20 09.4	-1.4
FOZ	Fox Glacier	2.52	46	PN	Pn	11 20 10.9	-0.7
FOZ	Fox Glacier	2.52	46	Pn	Pn	11 20 10.9	-0.7
RPZ	Rata Peaks	3.21	61	PN	Pn	11 20 18.3	-2.3
RPZ	Rata Peaks	3.21	61	Pn	Pn	11 20 18.3	-2.3
WVZ	Waitaha Valley	3.41	50	PN	Pn	11 20 20.8	-2.6
WVZ	Waitaha Valley	3.41	50	Pn	Pn	11 20 20.8	-2.6
MQZ	McQueen's Vall	4.24	69	PN	Pn	11 20 31.8	-2.7
MQZ	McQueen's Vall	4.24	69	Pn	Pn	11 20 31.8	-2.7
CRLZ	Canterbury Las	4.27	67	PN	Pn	11 20 32.7	-2.2
CRLZ	Canterbury Las	4.27	67	Pn	Pn	11 20 32.7	-2.2
LTZ	Lake Taylor	4.47	57	PN	Pn	11 20 34.6	-3.0
LTZ	Lake Taylor	4.47	57	Pn	Pn	11 20 34.6	-3.0
DSZ	Denniston Nort	4.92	45	PN	Pn	11 20 41.0	-2.7
DSZ	Denniston Nort	4.92	45	Pn	Pn	11 20 41.0	-2.7
THZ	Tophouse	5.48	51	PN	Pn	11 20 48.4	-2.9
THZ	Tophouse	5.48	51	Pn	Pn	11 20 48.4	-2.9
QRZ	Quartz Range	5.97	43	PN	Pn	11 20 55.5	-2.5
MRZ	Mangatainoka R	7.73	56	PN	Pn	11 21 18.5	-3.3

*ISCJB **23** 11:54:43.6±2.6, 53°.20N×0°.09×161°.3W±0°.1, h21km±23km, mb3.2/2, Error ellipse: s-maj=15.0km s-min=9.7km az=18.2*
*IDC **23** 11:54:45.2±5.5, 53°.20N×160°.72W, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.4/29, mbtmp3.3/5, ML3.4/3, Error ellipse: s-maj=100.3km s-min=38.2km az=90.0*
*NEIC **23** 11:54:45.9, 53°.21N×161°.36W, h15km, ML3.3(AEIC), After AEIC.*

ISC 23 11:54:43.6±2.6, 53°.26N±0°.10×161°.28W±0°.10, h8km±20km, n21, σ0°68/26, mb3.2/2, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	Deer Island	1.80	342	P	Pn	11 55 15.4	+0.5
DOL	Dolgoi Island	1.92	350	P	Pn	11 55 16.7	+0.2
DT1	Dutton Round H	1.94	343	P	Pn	11 55 17.3	+0.5
DTNA	Dutton South F	1.97	344	P	Pn	11 55 17.8	+0.5
FALS	False Pass	2.03	323	P	Pn	11 55 17.9	-0.2
FALS				S	Sn	11 55 43.3	-0.3
HAG	Hague Volcano	2.09	350	P	Pn	11 55 20.2	+1.3
SDPT	Sand Point	2.14	12	P	Pn	11 55 19.8	+0.2
SDPT				S	Sn	11 55 46.5	+0.2
SSLS	Shishaldin Sou	2.16	313	P	Pn	11 55 20.0	+0.1
SSLS				S	Sn	11 55 46.6	-0.3
SSLN	Shishaldin Nor	2.23	315	P	Pn	11 55 20.5	-0.3
SSLW	Shishaldin Wes	2.26	313	P	Pn	11 55 20.9	-0.2
AKUT	Akutan	2.81	290	P	Pn	11 55 28.5	-0.3
KDAK	Kodiak Island	6.70	44	Pn	Pn	11 56 21.7	-0.5
	0.4nm,0.3s,baz=236,slow=7.3,SNR=13						
KDAK				Sn	Sn	11 57 33.1	-5.4
	0.5nm,0.3s,baz=166,slow=15,SNR=3.9						
KDAK	Kodiak Island	6.70	44	Pn	Pn	11 56 21.7	-0.5
KDAK				Sn	Sn	11 57 33.1	-5.4
ILAR	Eielson Array	13.67	27	Pn	Pn	11 57 55.0	-2.5
	0.1nm,0.3s,baz=216,slow=13,SNR=10.0						
ILAR	Eielson Array	13.67	27	Pn	Pn	11 57 55.0	-2.5
INK	Inuvik	19.98	30	P	Pn	11 59 17.1	-0.7
	0.1nm,0.3s,baz=247,slow=12,SNR=4.2						
INK	Inuvik	19.98	30	P	Pn	11 59 17.1	-0.7
YKA	Yellowknife Ar	25.92	51	P	P	12 00 16.6	+0.9
	0.2nm,0.4s,mb3.0,baz=266,slow=8.5,SNR=5.4						
YKA	Yellowknife Ar	25.92	51	P	P	12 00 16.6	+0.9
TXAR	Lajitas Array	47.89	96	P	P	12 03 22.2	+0.2
	0.4nm,0.9s,mb3.4,baz=316,slow=3.5,SNR=4.0						
TXAR	Lajitas Array	47.89	96	P	P	12 03 22.2	+0.2

*IDC **23** 11:58:19.7±2.1, 15°.36S×173°.77W, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.0/18, mbtmp4.1/6, ML2.0/1, MS4.0/2, Ms1 4.0/2, ms1mx3.6/27, Error ellipse: s-maj=124.5km s-min=20.1km az=146.0*

NEIC 23 11:58:20.7±1.5, 15°.43S×173°.66W, h10km, mb4.2/1, Error ellipse: s-maj=92.5km s-min=11.4km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.37	50	Pn	Pn	11 58 58.5	-1.1
	20nm,0.3s,baz=247,slow=22,SNR=7.3						
AFI				Sn	Sn	11 59 22.2	-6.4
	16nm,0.3s,baz=244,slow=39,SNR=4.0						
AFI				LR	LR	11 59 43.8	
	comp=Z,525nm,21.3s,baz=241,slow=35						
AFI	Afiamalu	2.37	50	Pn	Pn	11 58 58.5	-1.1
AFI				Sn	Sn	11 59 22.2	-6.4
STKA	Stephens Creek	43.81	240	P	P	12 06 27.8	+0.8
	2.0nm,0.9s,baz=74,slow=15,SNR=3.4						
STKA	Stephens Creek	43.81	240	eP	P	12 06 27.5	+0.5
WB2	Warramunga Arr	49.59	257	eP	P	12 07 13.9	+1.5
WRAB	Tennant Creek	49.59	257	eP	P	12 07 12.0	-0.4
	2.8nm,1.1s						
WRA	Warramunga Arr	49.60	257	P	P	12 07 11.4	-1.1
	0.8nm,0.6s,baz=91,slow=7.3,SNR=7.3						
WRA	Warramunga Arr	49.60	257	P	P	12 07 11.4	-1.1
AS31	Alice Springs	49.87	252	eP	P	12 07 14.3	-0.3
ASAR	Alice Springs	49.87	252	P	P	12 07 13.8	-0.7
	7.2nm,0.7s,baz=85,slow=8.1,SNR=25						
ASAR	Alice Springs	49.87	252	P	P	12 07 13.8	-0.7
NVAR	Mina Array Bea	74.52	42	P	P	12 10 01.4	+1.8
	1.5nm,1.0s,baz=234,slow=8.9,SNR=5.0						
NVAR	Mina Array Bea	74.52	42	P	P	12 10 01.4	+1.8
ILAR	Eielson Array	82.52	11	P	P	12 10 43.7	+0.5
	1.4nm,1.1s,baz=224,slow=6.3,SNR=3.6						
ILAR	Eielson Array	82.52	11	P	P	12 10 43.7	+0.5
ATAH	Atahualpa	93.16	98	LR	LR	12 42 42.0	
	comp=Z,515nm,19.4s,baz=333,slow=28						
BRTR	Keskin Array B	146.03	321	PKPbc	PKPbc	12 18 01.8	+0.7
	0.9nm,0.9s,baz=79,slow=3.1,SNR=4.2						
BRTR	Keskin Array B	146.03	321	PKPbc	PKPbc	12 18 01.8	+0.7
GERES	GERESS Array B	146.14	351	PKPbc	PKPbc	12 18 01.2	+0.1
	0.6nm,0.8s,baz=27,slow=2.4,SNR=3.8						
GERES	GERESS Array B	146.14	351	PKPbc	PKPbc	12 18 01.2	+0.1

*ISK **23** 12:06:11.4, 41°.24N×36°.52E, h6km, MD2.7*
*ISCJB **23** 12:06:14.0±1.0, 41°.24N×0°.06×36°.37E±0°.04, h1km±6km, Error ellipse: s-maj=9.8km s-min=4.7km az=18.6*
*CSEM **23** 12:06:14.7±0.4, 41°.22N×36°.30E, h12km, MD2.7, Error ellipse: s-maj=11.7km s-min=5.5km az=15.0*
*DDA **23** 12:06:14.9, 41°.16N×36°.30E, h8km±2km, Md2.9*

ISC 23 12:06:15.1±1.0, 41°.21N±0°.06×36°.34E±0°.05, h9km±6km, n23, σ1°15/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	Kavak	0.26	239	ePG	Pg	12 06 20.0	-0.2
KVT				eSG	Sg	12 06 25.1	+1.5
KVT	Kavak	0.26	239	ePg	Pg	12 06 20.0	-0.2
KVT				eSg	Sg	12 06 25.2	+1.5
HAVZ	Havza	0.49	254	iP	Pg	12 06 24.0	-0.6
HAVZ				iS	Sg	12 06 30.6	-0.3
HAVZ	Havza	0.49	254	iP	Pg	12 06 24.0	-0.5
HAVZ				iS	Sg	12 06 30.6	-0.4
ERBA	Erbaa	0.62	149	iP	Pg	12 06 26.4	-0.6
ERBA				iS	Sg	12 06 35.4	+0.4
ERBA	Erbaa	0.62	149	iP	Pg	12 06 26.4	-0.6
ERBA				iS	Sg	12 06 35.4	+0.4
DIKM	Dikmen	0.92	299	ePG	Pg	12 06 31.5	-1.3
DIKM				eSG	Sg	12 06 46.2	+1.4
DIKM	Dikmen	0.92	299	ePg	Pg	12 06 31.5	-1.3
RSDY	Resadiye-TOKAT	1.11	137	ePG	Pg	12 06 31.7	-4.6
CTKT	Corum	1.31	244	iP	Pn	12 06 37.6	-1.9
CTKT				iS	Sb	12 06 56.7	-0.1
CTKT	Corum	1.31	244	iP	Pn	12 06 37.6	-2.0
CTKT				iS	Sb	12 06 56.7	-0.1
CORM	Corum	1.66	232	ePN	Pn	12 06 43.6	-0.7
CORM	Corum	1.66	232	ePn	Pn	12 06 43.6	-0.7
SUSE	Susehri	1.73	125	iP	Pn	12 06 44.7	-0.7
SUSE				iS	Sn	12 07 08.2	+0.6
SUSE	Susehri	1.73	125	iP	Pn	12 06 44.7	-0.7
SUSE				iS	Sn	12 07 08.2	+0.6
YOZ	Yozgat	1.75	207	ePN	Pn	12 06 44.4	-1.2
YOZ	Yozgat	1.75	207	ePn	Pn	12 06 44.4	-1.2
TOS	Tosya	1.76	265	ePN	Pn	12 06 45.2	-0.5
TOS	Tosya	1.76	265	ePn	Pn	12 06 45.2	-0.5
ELDT	Eldivan	2.32	253	iP	Pn	12 06 56.4	+2.9
ELDT				iS	Sn	12 07 25.8	+3.7
ELDT	Eldivan	2.32	253	iP	Pn	12 06 56.4	+2.9
ELDT				iS	Sn	12 07 25.8	+3.7
KELT	Kelkit	2.46	115	iP	Pn	12 06 57.1	+1.8
KELT				iS	Sn	12 07 30.0	+4.5
KELT	Kelkit	2.46	115	iP	Pn	12 06 57.1	+1.8

*NNC **23** 12:08:26.1±4.1, 39°.15N×70°.49E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=31.4km s-min=24.9km az=26.0*

ISC 23 12:08:25.3±2.2, 38°.7N±0°.1×70°.4E±0°.1, h35km, n8, σ0°95/11, 1C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.27	35	P	Pn	12 09 27.8	0.0
	SNR=9.2						
AML				P		12 09 27.8	
	SNR=9.2						
KK31	Karatay Array	4.41	1	⇓Pn	Pn	12 09 30.6	+0.9
	1.2nm,0.3s,baz=169,slow=12,SNR=19						
KK31				⇓Sn	Sn	12 10 21.4	+1.6
	2.2nm,0.3s						
KK31				⇓Lg		12 10 30.5	
	3.3nm,0.3s,baz=159,slow=30,SNR=3.4						
EKS2	Erkin-Say	4.74	32	P	Pn	12 09 35.2	+1.0
	SNR=6.5						
EKS2				P		12 09 35.2	
	SNR=6.5						
AAK	Ala-Archa	5.04	37	P	Pn	12 09 38.4	+0.1
	SNR=6.4						
AAK				P		12 09 38.4	
	SNR=6.4						
USP	Ospenovka	5.54	33	P	Pn	12 09 45.0	-0.2
	SNR=22						
USP				P		12 09 45.0	
	SNR=22						
TKM2	Tokmak 2	5.79	42	P	Pn	12 09 48.4	-0.3
	SNR=9.5						
TKM2				P		12 09 48.4	
	SNR=9.5						
TKM2	Tokmak 2	5.79	42	⇑Pn	Pn	12 09 47.9	-0.8
	3.5nm,0.4s						
TKM2				⇓Sn	Sn	12 10 52.5	-1.4
	3.7nm,0.7s						
AB31	Akbulak array	12.95	328	Pn	Pn	12 11 26.6	0.0
	0.5nm,0.6s,baz=138,slow=14,SNR=13						
AB31				⇓Sn	Sn	12 13 47.7	-1.5
	1.0nm,0.6s,baz=150,slow=24,SNR=4.7						

*IDC **23** 12:19:44.7±3.0, 6°.03S×147°.09E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/17, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=63.0km s-min=39.3km az=92.0*
*NEIC **23** 12:19:49.2±1.9, 6°.09S×147°.15E, h35km, mb3.8/2, Error ellipse: s-maj=34.4km s-min=21.3km az=77.0*

ISC 23 12:19:53.6±5.5, 6°.4S±0°.3×146°.9E±0°.5, h43km±57km, n12, σ0°39/14, mb3.6/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.04	175	Pn	Pn	12 20 39.5	+0.3
	3.2nm,0.3s,baz=356,slow=13,SNR=7.0						
PMG				Sn	Sn	12 21 14.5	+0.1
	8.6nm,0.3s,baz=310,slow=2.6,SNR=9.5						
PMG	Port Moresby	3.04	175	ePn	Pn	12 20 38.6	-0.6
PMG				Pn	Pn	12 20 39.5	+0.3
PMG				Sn	Sn	12 21 14.5	+0.1
PMG				eSn	Sn	12 21 19.9	+5.5
WRAB	Tennant Creek	18.19	221	eP	Pn	12 24 03.2	+0.1
	4.3nm,1.0s						
WB2	Warramunga Arr	18.20	221	eP	Pn	12 24 03.7	+0.6
WRA	Warramunga Arr	18.20	221	P	Pn	12 24 02.5	-0.7
	0.2nm,0.3s,baz=46,slow=12,SNR=8.5						
WRA	Warramunga Arr	18.20	221	P	Pn	12 24 02.5	-0.7
ASAR	Alice Springs	21.27	215	P	P	12 24 36.2	-0.2
	0.6nm,0.5s,mb3.2,baz=49,slow=8.7,SNR=17						
ASAR	Alice Springs	21.27	215	P	P	12 24 36.2	-0.2
FITZ	Fitzroy Crossi	23.80	239	P	P	12 25 02.9	+0.2
	2.2nm,0.4s,mb4.0,baz=62,slow=15,SNR=16						
FITZ	Fitzroy Crossi	23.80	239	eP	P	12 25 03.0	+0.2
	3.2nm,0.7s,mb3.9						
TORD	Torodi Ar. Bea	145.09	284	PKPbc	PKPbc	12 39 24.2	-2.7
	1.0nm,0.5s,baz=78,slow=3.9,SNR=8.2						
TORD	Torodi Ar. Bea	145.09	284	PKPbc	PKPbc	12 39 24.2	-2.7

*MAN **23** 12:41:02, 13°.02N×124°.98E, h8km, mb4.8, ML3.7, MS3.7*
*IDC **23** 12:41:02.9±1.0, 12°.74N×125°.06E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, Error ellipse: s-maj=113.0km s-min=17.3km az=67.0*
*ISCJB **23** 12:41:05.4±2.5, 12°.81N±0°.10×125°.0E±0°.1, h29km±17km, mb3.7/9, Error ellipse: s-maj=22.3km s-min=9.0km az=139.4*
*NEIC **23** 12:41:08.9±1.2, 12°.58N×124°.65E, h35km, mb3.9/2, Error ellipse: s-maj=134.0km s-min=11.4km az=66.0*

ISC 23 12:41:07.2±2.3, 12°.74N±0°.09×124°.9E±0°.1, h25km±15km, n27, σ1°20/28, mb3.7/9, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Cataman	0.34	227	eP	Pb	12 41 14.7	-0.1
PVCP	Virac	1.13	319	eP	Pn	12 41 20.7	-6.8
PLP	Palo	1.57	178	⇓iP	Pn	12 41 34.6	+1.1
PLP				iS	Sn	12 42 02.9	+10
RCP	Roxas	2.42	241	⇑eP	Pn	12 41 44.9	-0.5
MSLP	Maasin	2.59	181	eP	Pn	12 41 51.5	+3.9
GQP	Guinayangan	2.67	296	⇓eP	Pn	12 41 45.6	-3.1
GQP				eS	Sn	12 42 20.7	+0.5
GUIM	Jordan	3.10	228	eP	Pn	12 41 55.1	+0.5
WRAB	Tennant Creek	33.77	164	eP	P	12 47 46.2	-0.9
	2.1nm,0.7s,mb4.2						
WRA	Warramunga Arr	33.77	164	P	P	12 47 45.4	-1.8
	0.5nm,0.6s,mb3.6,baz=343,slow=9.1,SNR=4.6						
WRA	Warramunga Arr	33.77	164	P	P	12 47 45.4	-1.8
WB2	Warramunga Arr	33.78	164	eP	P	12 47 47.0	-0.2
AS31	Alice Springs	37.23	166	eP	P	12 48 19.0	+2.1
ASAR	Alice Springs	37.23	166	P	P	12 48 16.7	-0.2
	0.8nm,0.7s,mb3.7,baz=348,slow=7.2,SNR=19						
ASAR	Alice Springs	37.23	166	P	P	12 48 16.7	-0.2
SONM	Songino Array	38.26	340	P	P	12 48 27.1	+1.8
	0.3nm,0.4s,mb3.4,baz=169,slow=8.8,SNR=2.6						
SONM	Songino Array	38.26	340	P	P	12 48 27.1	+1.8
STKA	Stephens Creek	47.15	161	P	P	12 49 37.3	-0.4
	0.7nm,0.5s,mb3.9,baz=328,slow=13,SNR=4.6						
STKA	Stephens Creek	47.15	161	P	P	12 49 37.3	-0.3
STKA				eP		12 49 38.5	
MK31	Makanchi Array	49.27	322	eP	P	12 49 55.1	+1.2
MKAR	Makanchi Array	49.27	322	P	P	12 49 55.3	+1.3
	0.3nm,0.6s,mb3.5,baz=116,slow=8.2,SNR=3.9						
MKAR	Makanchi Array	49.27	322	P	P	12 49 55.2	+1.3
ZALV	Zalesovo Beam	51.84	331	P	P	12 50 13.1	-0.1
	0.5nm,0.5s,mb3.7,baz=104,slow=6.1,SNR=3.4						
ZALV	Zalesovo Beam	51.84	331	P	P	12 50 13.1	-0.1
KURK	Kurchatov	53.30	325	P	P	12 50 22.3	-1.7
	0.6nm,0.9s,mb3.5,baz=123,slow=7.8,SNR=7.9						
KURK	Kurchatov	53.30	325	P	P	12 50 22.3	-1.7
KURK				eP		12 50 25.0	
ABKAR	Akbulak array	64.15	319	eP	P	12 51 38.4	-1.2
	0.5nm,0.7s,mb3.6						
TXAR	Lajitas Array	117.18	47	PKP	PKPdf	12 59 49.8	-1.2
	0.3nm,0.5s,baz=301,slow=4.2,SNR=6.7						

TRN 23 12:45:48.3, 17°.54N×62°.19W, h10km, MD3.3, M3.7(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	Saint Kitts	0.56	249	eP	Pg	12 46 02.2	+3.0
SKI				eS	Sg	12 46 11.3	+4.7
SEG	Port Louis	1.31	150	eP	Pn	12 46 14.6	+1.9
LZG	Guadaloupe-1	1.45	164	eP	Pn	12 46 17.0	+2.4
BCG	Bois Riant Cap	1.55	159	eP	Pn	12 46 17.9	+2.0
DOG	Dongo Capester	1.60	160	eP	Pn	12 46 18.8	+2.2
DEG	La Desirade	1.63	138	eP	Pn	12 46 18.3	+1.1
TBG	Guadaloupe-3	1.76	163	eP	Pn	12 46 21.1	+2.2

*IDC **23** 12:53:08.5±1.0, 36°.09N×27°.18E, h0km, mb3.8/8, mb1 3.8/11, mb1mx3.7/26, mbtmp3.7/11, ML3.4/3, Error ellipse: s-maj=28.0km s-min=16.9km az=155.0*
*ISK **23** 12:53:09.0, 36°.01N×27°.27E, h5km, MD3.7, ML3.7*
*DDA **23** 12:53:09.9, 35°.94N×27°.31E, h8km±4km, Md3.4*
*NEIC **23** 12:53:11.1, 36°.13N×27°.16E, h26km, ML4.0(ATH), After ATH.*
*ATH **23** 12:53:11.1, 36°.13N×27°.16E, h26km±1km, MD3.4/7, ML4.0*
*THE **23** 12:53:12.6, 36°.08N×27°.15E, h21km±2km, ML3.7/2, Error ellipse: s-maj=2.4km s-min=0.8km az=76.0*
*CSEM **23** 12:53:12.5±0.1, 36°.05N×27°.16E, h20km, ML3.7/2, Error ellipse: s-maj=4.5km s-min=3.1km az=169.0*
*ISCJB **23** 12:53:12.5±0.4, 36°.06N±0°.03×27°.16E±0°.02, h33km±4km, mb3.6/8, Error ellipse: s-maj=4.4km s-min=3.2km az=163.2*

ISC 23 12:53:12.4±0.5, 36°.07N±0°.02×27°.16E±0°.02, h16km±3km, n161, σ1°07/191, mb3.6/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.53	180	ePN	Pg	12 53 23.2	+0.3
KARP				eSN	Sg	12 53 31.3	+1.4
KARP	Karpathos	0.53	180	P	Pg	12 53 23.1	+0.2
KARP				S	Sg	12 53 31.4	+1.5
KARP	Karpathos	0.53	180	ePn	Pg	12 53 23.2	+0.3
KARP				S	Sg	12 53 31.4	+1.5
NIS1	Nisyros Isl.	0.53	2	P	Pg	12 53 22.9	0.0
NIS1				S	Sg	12 53 31.3	+1.3
NIS1	Nisyros Isl.	0.53	2	P	Pg	12 53 22.9	0.0
NIS1				S	Sg	12 53 31.3	+1.3
DAT	Datca	0.74	27	ePG	Pg	12 53 24.4	-2.5
DAT				eSG	Sg	12 53 36.2	-0.4
DAT	Datca	0.74	27	ePg	Pg	12 53 24.4	-2.4
DAT				eSg	Sg	12 53 36.2	-0.4
ARG	Arkhangelos	0.80	79	ePN	Pg	12 53 27.0	-0.9
ARG				eSN	Sg	12 53 37.7	-0.7
ARG	Arkhangelos	0.80	79	P	Pg	12 53 27.2	-0.7
ARG				S	Sb	12 53 38.2	-0.2
ARG	Arkhangelos	0.80	79	P	Pg	12 53 27.2	-0.7
ARG				eSn	Sg	12 53 37.7	-0.7
ARG				S	Sb	12 53 38.2	-0.2
BODT	Bodrum	0.99	7	ePG	Pg	12 53 30.4	-1.3
BODT	Bodrum	0.99	7	ePg	Pg	12 53 30.4	-1.3
ZKR	Zakros	1.23	219	ePN	Pn	12 53 35.4	+0.5
ZKR				eSN	Sn	12 53 52.1	+1.0
ZKR	Zakros	1.23	219	P	Pn	12 53 30.8	-4.1
ZKR				S	Sb	12 53 53.4	+2.6
ZKR	Zakros	1.23	219	ePn	Pn	12 53 35.4	+0.5
ZKR				eSn	Sn	12 53 52.1	+1.0
YER	Yerkesik	1.39	40	ePN	Pn	12 53 36.2	-0.9
YER				eSN	Sn	12 53 56.5	+1.3
YER	Yerkesik	1.39	40	ePn	Pn	12 53 36.2	-1.0
YER				eSn	Sn	12 53 56.5	+1.3
TURN	Turunc	1.41	55	iP	Pn	12 53 32.2	-5.2
TURN				iS	Sn	12 53 47.2	-8.4
THR2	Thira island,	1.44	285	P	Pn	12 53 35.3	-2.5
NPS	Neapolis	1.50	238	ePN	Pn	12 53 38.3	-0.3
NPS				eSN	Sn	12 53 57.9	+0.1
NPS	Neapolis	1.50	238	P	Pn	12 53 36.6	-2.0
NPS				S	Sn	12 53 56.5	-1.3
NPS	Neapolis	1.50	238	P	Pn	12 53 36.6	-2.0
NPS	Neapolis	1.50	238	ePn	Pn	12 53 38.3	-0.3
NPS				S	Sn	12 53 56.5	-1.3
NPS				eSn	Sn	12 53 57.9	+0.1
GCAM	G?zelcaml?	1.62	2	iP	Pg	12 53 42.9	-0.8
GCAM				iS	Sg	12 54 05.8	+1.0
GCAM	G?zelcaml?	1.62	2	iP	Pg	12 53 42.9	-0.8
APE	Apeiranthos	1.65	308	ePN	Pn	12 53 41.6	+1.0
APE	Apeiranthos	1.65	308	P	Pn	12 53 38.9	-1.7
APE	Apeiranthos	1.65	308	P	Pn	12 53 38.9	-1.7
APE	Apeiranthos	1.65	308	ePn	Pn	12 53 41.6	+1.0
SMG	Samos	1.65	351	ePN	Pn	12 53 39.4	-1.3
SMG				eSN	Sn	12 54 00.5	-1.1
SMG	Samos	1.65	351	ePn	Pn	12 53 39.4	-1.3
SMG				eSn	Sn	12 54 00.5	-1.1
AYDN	Tasoluk	1.69	20	iP	Pn	12 53 43.2	+2.1
AYDN				iS	Sn	12 54 05.3	+2.9
AYDN	Tasoluk	1.69	20	iP	Pn	12 53 43.2	+2.0
AYDN				iS	Sn	12 54 05.3	+2.9
KSL	Kastellorizon	1.96	87	ePB	Pn	12 53 45.3	+0.3
KSL	Kastellorizon	1.96	87	ePn	Pn	12 53 45.3	+0.3
AKAS	Kas	1.99	85	iP	Pn	12 53 44.9	-0.4
AKAS				iS	Sn	12 54 09.7	-0.1
AKAS	Kas	1.99	85	iP	Pn	12 53 44.9	-0.4
AKAS				iS	Sn	12 54 09.7	-0.1
GLHS	Glhisar (BURDU	2.17	59	ePN	Pn	12 53 47.0	-0.8
GLHS	Glhisar (BURDU	2.17	59	ePn	Pn	12 53 47.0	-0.8
SIVA	Sivas	2.19	242	ePB	Pn	12 53 48.6	+0.5
SIVA	Sivas	2.19	242	ePb	Pn	12 53 48.6	+0.5
DNZL	Cakiroluk	2.21	43	iP	Pn	12 53 48.3	-0.2
DNZL	Cakiroluk	2.21	43	iP	Pn	12 53 48.3	-0.1
DENT	Denizli	2.25	41	ePN	Pn	12 53 48.6	-0.4
DENT	Denizli

LADK	Ladik-KONYA	4.67	61	*e*PN		Pn	12 54 22.4 +0.2
LADK	Ladik-KONYA	4.67	61	*e*Pn		Pn	12 54 22.4 +0.2
LEF	Lefka	4.77	100	*e*PN		Pn	12 54 22.6 -0.9
LEF	Lefka	4.77	100	*e*Pn		Pn	12 54 22.6 -0.9
SVRH	Sivrihisar-ESK	4.83	44	*e*PN		Pn	12 54 25.0 +0.6
SVRH	Sivrihisar-ESK	4.83	44	*e*Pn		Pn	12 54 25.0 +0.7
AGG	Agios Georgios	4.84	309	*e*PN		Pn	12 54 24.8 +0.3
AGG	Agios Georgios	4.84	309	*e*Pn		Pn	12 54 24.8 +0.3
CSS	Prodhromos	5.15	101	*e*PN		Pn	12 54 29.0 +0.1
CSS	Prodhromos	5.15	101	*e*PN		Pn	12 54 29.6 +0.7
CSS	Prodhromos	5.15	101	*e*Pn		Pn	12 54 29.0 +0.1
LFK	Lefkose	5.25	97	*e*PN		Pn	12 54 30.3 +0.1
LFK	Lefkose	5.25	97	*e*Pn		Pn	12 54 30.3 +0.1
SULT	Sultanhani-AKS	5.50	65	*e*PN		Pn	12 54 34.0 +0.3
SULT	Sultanhani-AKS	5.50	65	*e*Pn		Pn	12 54 34.0 +0.3
MERS	Mersin	5.99	80	*e*PN		Pn	12 54 41.3 +1.0
MERS	Mersin	5.99	80	*e*Pn		Pn	12 54 41.3 +1.0
KAMT	Kaman	6.15	56	*e*PN		Pn	12 54 44.0 +1.5
KAMT	Kaman	6.15	56	*e*Pn		Pn	12 54 44.0 +1.5
BRTR	Keskin Array B	6.29	53	Pn		Pn	12 54 46.8 +2.3
	0.6nm,0.3s,baz=230,slow=15,SNR=7.7						
BRTR	Keskin Array B	6.29	53	Pn		Pn	12 54 46.8 +2.3
BRTR	Keskin Array B	6.29	53	Pn		Pn	12 54 46.8 +2.4
MMAI	Mount Meron Ar	7.45	112	Pn		Pn	12 54 58.5 -1.9
	1.3nm,0.3s,baz=281,slow=15,SNR=3.2						
MMAI	Mount Meron Ar	7.45	112	Pn		Pn	12 54 58.5 -1.9
MMAI	Mount Meron Ar	7.45	112	Pn		Pn	12 54 58.5 -2.0
CUC	Castrocucco	9.77	297	*e*Pn		Pn	12 55 32.0 -0.1
	12nm,0.7s						
CUC	Castrocucco	9.77	297	*e*Pn		Pn	12 55 32.0 -0.1
	12nm,0.7s						
KEST	Kesra	14.45	274	Pn		Pn	12 56 36.0 -0.1
	0.0nm,0.3s,baz=219,slow=6.5,SNR=2.6						
KEST	Kesra	14.45	274	Pn		Pn	12 56 36.0 -0.1
KEST	Kesra	14.45	274	Pn		Pn	12 56 36.0 -0.1
GERES	GERESS Array B	16.14	326	Pn		Pn	12 56 57.8 -0.6
	0.1nm,0.3s,baz=137,slow=12,SNR=4.3						
GERES	GERESS Array B	16.14	326	Pn		Pn	12 56 57.8 -0.6
GERES	GERESS Array B	16.14	326	Pn		Pn	12 56 57.8 -0.6
ESDC	Sonseca Array	24.77	288	P		P	12 58 31.4 -1.8
	0.1nm,0.3s,mb2.9,baz=81,slow=9.4,SNR=4.7						
ESDC	Sonseca Array	24.77	288	P		P	12 58 31.4 -1.8
ESDC	Sonseca Array	24.77	288	P		P	12 58 31.5 -1.7
TORD	Torodi Ar. Bea	32.33	232	P		P	12 59 39.9 -1.0
	1.5nm,0.5s,mb4.1,baz=36,slow=9.1,SNR=12						
TORD	Torodi Ar. Bea	32.33	232	P		P	12 59 39.9 -1.0
TORD	Torodi Ar. Bea	32.33	232	P		P	12 59 39.8 -1.1
ARCES	ARCESS Array B	33.53	359	P		P	12 59 49.3 -1.6
	8.2nm,1.2s,mb4.5,baz=165,slow=7.5,SNR=3.7						
ARCES	ARCESS Array B	33.53	359	P		P	12 59 49.3 -1.6
ARCES	ARCESS Array B	33.53	359	P		P	12 59 49.3 -1.6
KURK	Kurchatov	39.34	52	P		P	13 00 38.7 -2.0
	0.7nm,0.7s,mb3.5,baz=277,slow=9.0,SNR=9.0						
KURK	Kurchatov	39.34	52	P		P	13 00 38.7 -2.0
KURK	Kurchatov	39.34	52	P		P	13 00 38.7 -2.0
DBIC	Dimbokro	41.41	233	P		P	13 00 56.7 -1.5
	1.1nm,0.5s,mb3.8,baz=125,slow=17,SNR=4.3						
DBIC	Dimbokro	41.41	233	P		P	13 00 56.7 -1.5
DBIC	Dimbokro	41.41	233	P		P	13 00 56.7 -1.5
MKAR	Makanchi Array	41.91	58	P		P	13 01 00.2 -1.7
	0.6nm,0.7s,mb3.3,baz=284,slow=4.9,SNR=3.5						
MKAR	Makanchi Array	41.91	58	P		P	13 01 00.2 -1.7
MKAR	Makanchi Array	41.91	58	P		P	13 01 00.2 -1.8
ZALV	Zalesovo Beam	43.20	47	P		P	13 01 10.3 -2.0
	0.5nm,0.5s,mb3.5,baz=262,slow=10.0,SNR=3.0						
ZALV	Zalesovo Beam	43.20	47	P		P	13 01 10.3 -2.0
ZALV	Zalesovo Beam	43.20	47	P		P	13 01 10.3 -2.0
SONM	Songino Array	57.65	52	P		P	13 03 00.6 -1.0
	0.2nm,0.4s,mb3.5,baz=311,slow=7.7,SNR=3.5						
SONM	Songino Array	57.65	52	P		P	13 03 00.6 -1.0
SONM	Songino Array	57.65	52	P		P	13 03 00.6 -1.1

*IDC **23** 13:09:14.9±2.4, 34.°97S×178.°01E, h0km, mb4.3/2, mb1 4.4/3, mb1mx4.0/15, mbtmp4.2/3, ML3.4/1, MS3.4/2, Ms1 3.5/2, ms1mx3.1/27, Error ellipse: s-maj=55.0km s-min=29.7km az=64.0*

ISC 23 13:09:06.4±1.8, 35.°0S±0.°1×179.°9W±0.°2, h42km±22km, n17, σ0°79/20, mb4.1/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	3.43	206	PN	Pn	13 09 57.4	0.0
PUZ				SN	Sn	13 10 36.5	-0.3
CNGZ	Carnagh Statio	3.82	203	PN	Pn	13 10 03.2	+0.4
CNGZ				SN	Sn	13 10 47.3	+1.0
MWZ	Matawai	3.95	211	PN	Pn	13 10 04.0	-0.5
MWZ				SN	Sn	13 10 50.2	+0.7
OPRZ	Ohinepanea	4.06	224	PN	Pn	13 10 06.2	+0.2
URZ	Urewera	4.08	216	Pn	Pn	13 10 06.7	+0.5
	3.5nm,0.3s,baz=7.0,slow=5.2,SNR=22						
URZ				Sn	Sn	13 10 50.6	-2.0
	7.7nm,0.3s,baz=122,slow=23,SNR=7.0						
URZ				LR	LR	13 11 38.3	
	comp=Z,166nm,19.9s,baz=97,slow=43						
URZ	Urewera	4.08	216	PN	Pn	13 10 06.3	+0.1
URZ				SN	Sn	13 10 48.6	-4.0
KNZ	Kokohu	4.49	205	PN	Pn	13 10 11.4	-0.5
MKAZ	Moumakai	4.55	241	PN	Pn	13 10 13.8	+1.0
RAHZ	Arahi	4.62	211	PN	Pn	13 10 14.3	+0.6
BKZ	Black Stump Fm	5.09	214	PN	Pn	13 10 19.6	-0.6
MCHZ	McNeill Hill	5.23	211	PN	Pn	13 10 21.8	-0.3
MRZ	Mangatainoka R	6.72	211	PN	Pn	13 10 39.6	-2.8
MRZ				*e*SN	Sx	13 11 50.1	
CTZ	Chatham Island	9.09	165	*e*PN	Pn	13 11 15.3	+0.3
CTZ				*e*SN	Sx	13 12 45.4	
ASAR	Alice Springs	41.53	273	P	P	13 16 50.0	+0.2
	3.1nm,0.5s,mb4.2,baz=114,slow=7.9,SNR=94						
WRA	Warramunga Arr	42.94	278	P	P	13 17 01.1	-0.2
	1.7nm,0.5s,mb4.0,baz=118,slow=7.7,SNR=24						
CPUP	Villa Florida	98.31	130	LR	LR	13 59 59.1	
	comp=Z,60nm,19.7s,baz=238,slow=31						
TORD	Torodi Ar. Bea	158.21	184	PKP	PKPdf	13 29 12.3	+13
	0.6nm,1.0s,baz=170,slow=2.5,SNR=2.8						
TORD				PKPab	PKPab	13 29 48.4	+15
	0.4nm,0.6s,baz=182,slow=3.6,SNR=2.6						

*ISCJB **23** 13:10:15.3±1.9, 24.°04S±0.°08×179.°27W±0.°09, h439km±23km, mb4.2/17, Error ellipse: s-maj=14.3km s-min=10.8km az=35.8*

*IDC **23** 13:10:15.3±2.2, 24.°10S×179.°19W, h427km±23km, mb3.8/13, mb1 4.0/15, mb1mx3.8/23, mbtmp3.8/15, Error ellipse: s-maj=16.7km s-min=13.9km az=155.0*

*NEIC **23** 13:10:17.7±1.0, 24.°16S×179.°22W, h456km±11km, mb4.4/6, Error ellipse: s-maj=14.5km s-min=9.4km az=142.0*

ISC 23 13:10:18.1±1.0, 24.°13S±0.°07×179.°23W±0.°09, h461km±13km, n62, σ1°01/53, mb4.2/17, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.85	338	*e*P	P	13 12 02.6	+1.0
	20nm,0.8s						
AFI	Afiamalu	12.37	36	P	P	13 12 58.8	-2.1
	3.3nm,0.3s,baz=297,slow=20,SNR=6.2						
AFI				S	S	13 15 06.1	-9.2
	4.8nm,0.3s,baz=353,slow=22,SNR=8.1						
AFI	Afiamalu	12.37	36	P	P	13 12 58.8	-2.1
AFI				S	S	13 15 06.1	-9.2
DZM	Mont Dzumac	13.34	276	P	P	13 13 12.8	+1.5
	1.7nm,0.3s,baz=73,slow=19,SNR=22						
DZM	Mont Dzumac	13.34	276	*e*P	P	13 13 13.2	+1.8
	47nm,1.3s						
URZ	Urewera	14.43	192	P	P	13 13 22.2	-0.5
	1.4nm,0.3s,baz=302,slow=9.5,SNR=5.4						
URZ				S	S	13 15 55.8	+0.6
	2.9nm,0.3s,baz=85,slow=17,SNR=5.7						
URZ	Urewera	14.43	192	P	P	13 13 21.9	-0.8
URZ				S	S	13 15 55.8	+0.6
RPZ	Rata Peaks	21.11	200	P	P	13 14 27.3	-1.4
	16nm,0.5s,mb4.8,baz=300,slow=0.6,SNR=16						
RPZ	Rata Peaks	21.11	200	*e*P	P	13 14 27.7	-1.0
	16nm,0.5s,mb4.8						
ARMA	Armidale	26.60	250	*e*P	P	13 15 19.2	+1.2
EIDS	Eidsvold	26.96	261	*e*P	P	13 15 21.4	+0.1
EIDS	Eidsvold	26.96	261	*e*P	P	13 15 21.4	+0.1
	4.1nm,0.4s,mb4.2						
CNB	Canberra Magne	29.35	240	*e*P	P	13 15 43.0	+0.9
CMSA	Cobar Meteorol	31.78	249	*e*P	P	13 16 03.2	0.0
CTA	Charters Tower	32.18	270	P	P	13 16 07.2	+0.4
	38nm,0.4s,mb5.2,baz=94,slow=11,SNR=157						
CTA	Charters Tower	32.18	270	*e*P	P	13 16 07.1	+0.3
CTA	Charters Tower	32.18	270	P	P	13 16 07.2	+0.4
CTAO	Charters Tower	32.18	270	*e*P	P	13 16 06.8	0.0
TOO	Toolangi	32.91	238	*e*P	P	13 16 13.2	+0.4
MTSU	Mount Surprise	34.45	273	*e*P	P	13 16 26.3	+0.2
	38nm,0.6s,mb5.0						
PMG	Port Moresby	35.23	289	P	P	13 16 32.8	+0.1
	18nm,0.7s,mb4.6,baz=95,slow=4.8,SNR=7.6						
PMG	Port Moresby	35.23	289	P	P	13 16 32.8	+0.1
STKA	Stephens Creek	35.29	248	P	P	13 16 33.1	+0.1
	7.7nm,0.5s,mb4.4,baz=97,slow=10.0,SNR=38						
STKA	Stephens Creek	35.29	248	||*P*	P	13 16 33.0	0.0
STKA	Stephens Creek	35.29	248	*e*P	P	13 16 32.9	-0.1
BBOO	Buckleboo	40.00	247	||*P*	P	13 17 10.8	-0.9
AS31	Alice Springs	42.69	261	*e*P	P	13 17 32.7	-0.5
ASAR	Alice Springs	42.69	261	P	P	13 17 32.9	-0.4
	4.7nm,0.5s,mb4.2,baz=96,slow=6.8,SNR=51						
ASAR	Alice Springs	42.69	261	P	P	13 17 32.9	-0.4
WB2	Warramunga Arr	43.08	266	*e*P	P	13 17 35.4	-1.0
WRAB	Tennant Creek	43.08	266	*e*P	P	13 17 34.9	-1.5
	11nm,0.8s,mb4.3						
WRA	Warramunga Arr	43.09	266	P	P	13 17 35.6	-0.9
	10.0nm,0.4s,mb4.6,baz=100,slow=8.4,SNR=82						
WRA				ScP	ScP	13 22 27.0	+3.8
	0.4nm,0.5s,baz=99,slow=3.7,SNR=3.2						
WRA	Warramunga Arr	43.09	266	P	P	13 17 35.6	-0.9
WRA				ScP	ScP	13 22 27.1	+3.8
FORT	Forrest	46.89	250	*e*P	P	13 18 04.5	-1.2
FITZ	Fitzroy Crossi	51.51	266	P	P	13 18 40.4	+0.2
	8.0nm,0.4s,mb4.4,baz=133,slow=5.6,SNR=16						
FITZ	Fitzroy Crossi	51.51	266	P	P	13 18 40.4	+0.2
NWAO	Narrogin (SRO)	55.78	246	P	P	13 19 09.9	-0.5
	6.0nm,0.7s,mb4.0,baz=135,slow=7.1,SNR=3.6						
NWAO	Narrogin (SRO)	55.78	246	P	P	13 19 09.9	-0.5
QSPA	South Pole Qui	65.95	180	P	P	13 20 18.8	+1.9
	2.5nm,0.7s,mb4.0,baz=77,slow=1.7,SNR=9.5						
QSPA	South Pole Qui	65.95	180	P	P	13 20 18.8	+1.9
NVAR	Mina Array Bea	84.43	44	P	P	13 22 01.3	+0.2
	0.9nm,0.8s,mb3.4,baz=224,slow=10,SNR=4.1						
NVAR	Mina Array Bea	84.43	44	P	P	13 22 01.3	+0.2
HLID	Hailey	89.80	41	*e*P	P	13 22 29.2	+2.8
	2.0nm,0.9s,mb4.0						
TXAR	Lajitas Array	89.96	58	P	P	13 22 26.3	-1.2
	1.4nm,0.8s,mb3.9,baz=138,slow=10,SNR=16						
TXAR	Lajitas Array	89.96	58	P	P	13 22 26.3	-1.2
ILAR	Eielson Array	92.09	13	P	P	13 22 36.8	+0.3
	0.3nm,0.6s,mb3.4,baz=222,slow=5.4,SNR=9.2						
ILAR	Eielson Array	92.09	13	P	P	13 22 36.8	+0.3
PDAR	Pinedale Array	92.37	44	P	P	13 22 39.9	+1.6
	0.7nm,0.7s,mb3.7,baz=219,slow=3.8,SNR=6.6						
PDAR	Pinedale Array	92.37	44	P	P	13 22 39.9	+1.6
KURK	Kurchatov	115.85	316	PKP	PKPdf	13 28 07.0	-0.1
	0.5nm,0.7s,baz=115,slow=1.7,SNR=3.8						
KURK	Kurchatov	115.85	316	PKP	PKPdf	13 28 07.0	-0.1
BVAR	Borovoye Array	121.07	319	PKP	PKPdf	13 28 17.3	+0.2
	0.4nm,0.4s,baz=160,slow=1.5,SNR=4.6						
BVAR	Borovoye Array	121.07	319	PKP	PKPdf	13 28 17.3	+0.2
FINES	FINESS Array B	138.88	342	PKhKP	PKPpre	13 28 47.5	
	3.0nm,0.8s,baz=185,slow=17,SNR=3.9						
FINES	FINESS Array B	138.88	342	PKPpre	PKPpre	13 28 47.5	
NB2	NORSAR Subarra	142.41	352	PKP	PKPpre	13 28 54.1	
	comp=Z,0.7nm,0.6s,baz=16,slow=3.2						
NOA	NORSAR Array B	142.41	352	PKhKP	PKPpre	13 28 54.1	
	comp=Z,1.0nm,0.8s,baz=156,slow=21,SNR=4.9						
NOA	NORSAR Array B	142.41	352	PKPpre	PKPpre	13 28 54.1	
AKASG	Malin Array Be	145.54	328	PKPbc	PKPbc	13 29 04.0	+0.2
	comp=Z,0.9nm,0.4s,baz=46,slow=3.6,SNR=4.8						
AKASG	Malin Array Be	145.54	328	PKPbc	PKPbc	13 29 04.0	+0.2
TORD	Torodi Ar. Bea	169.04	185	PKP	PKPdf	13 29 33.6	+1.4
	comp=Z,0.6nm,0.8s,baz=176,slow=3.9,SNR=3.8						
TORD	Torodi Ar. Bea	169.04	185	PKP	PKPdf	13 29 33.6	+1.4

*MOS **23** 13:11:50.0±1.0, 8.°74N×126.°66E, h33km, mb5.1/38, Error ellipse: s-maj=12.4km s-min=5.8km az=114.8*

*MAN **23** 13:11:51, 8.°94N×127.°12E, h52km, mb5.5, ML4.5, MS4.9*

*ISCJB **23** 13:11:53.7±0.5, 8.°90N±0.°02×126.°94E±0.°03, h65km±4km, mb4.8/102, Error ellipse: s-maj=5.6km s-min=3.4km az=154.7*

*DJA **23** 13:11:53, 9.°25N×127.°21E, h53km, mb5.0/38*

*BJI **23** 13:11:54.1, 8.°74N×126.°79E, h74km, mB5.2/32, mb4.8/44, Ms4.7/35, Ms7 4.5/36*

*IDC **23** 13:11:54.9±1.9, 8.°82N×126.°81E, h59km±17km, mb4.3/27, mb1 4.4/31, mb1mx4.4/32, mbtmp4.4/31, MS4.2/10, Ms1 4.2/10, ms1mx3.8/32, Error ellipse: s-maj=18.5km s-min=8.7km az=71.0*

*NEIC **23** 13:11:56.4±0.9, 8.°77N×126.°73E, h75km±8km, mb5.1/41, Error ellipse: s-maj=6.8km s-min=4.0km az=60.0*

ISC 23 13:11:55.6±0.4, 8.°87N±0.°02×126.°89E±0.°03, h66km±3km, h78km±2.0km; pP-P, n312, σ1°10/321, mb4.8/102, 17C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.25	274	*e*P	Pn	13 12 14.7	-2.5
BUTP				*e*S	Sn	13 12 35.0	+1.7
MATI	Mati	2.01	198	*e*P	Pn	13 12 23.2	-4.2
MATI				*e*S	Sn	13 12 51.6	0.0
BUKP	Musuan	2.06	241	*e*P	Pn	13 12 28.0	0.0
BUKP				*e*S	Sn	13 12 55.1	+2.5
CGP	Cagayan de Oro	2.21	259	||*P*	Pn	13 12 28.7	-1.2
CGP				*i* S	Sn	13 12 59.2	+3.0
DAV	Davao City (W)	2.21	216	P	Pn	13 12 29.8	-0.2
	70nm,0.3s,baz=29,slow=3.2,SNR=54						
DAV				S	Sn	13 13 03.1	+6.7
	326nm,0.3s,baz=115,slow=23,SNR=8.8						
DAV				LR	LR	13 13 06.3	
	comp=Z,3μm,20.3s,baz=73,slow=34						
DAV	Davao City (W)	2.21	216	*e*P	Pn	13 12 29.0	-1.1
DAV				S	Sn	13 13 03.1	+6.8
DAV	Davao City (W)	2.21	216	P	Pn	13 12 29.7	-0.4
DMPH	Davao City--Mi	2.24	218	||*e*P	Pn	13 12 30.0	-0.5
DMPH				*i* S	Sn	13 13 13.8	+17
MSLP	Maasin	2.36	302	*e*P	Pn	13 12 31.4	-0.6
KCP	Kidapawan	2.57	224	*i* S	Sn	13 13 07.2	+2.1
PLP	Palo	2.95	321	||*e*P	Pn	13 12 35.7	-4.5
PLP				*i* S	Sn	13 13 13.5	-0.9
CTBH	Cotabato--PC H	3.09	238	||*e*P	Pn	13 12 40.2	-1.8
TBP	Tagbilaran	3.09	285	*e*P	Pn	13 12 41.6	-0.5
TBP				*e*S	Sn	13 13 17.7	-0.2
OCLP	Ormoc	3.12	314	*e*P	Pn	13 12 41.2	-1.2
LLP	Lapu-Lapu	3.22	297	||*e*P	Pn	13 12 42.9	-0.8
LLP				*e*S	Sn	13 13 22.1	+1.2
PAGZ	Pagadian	3.61	254	*e*P	Pn	13 12 49.4	+0.2
SNPH	Sibulan	3.63	278	*e*P	Pn	13 12 49.4	-0.1
SNPH				*e*S	Sn	13 13 40.0	+8.9
CNP	Catarman	4.22	329	*e*P	Pn	13 12 59.6	+2.1
GUIM	Jordan	4.58	293	*e*P	Pn	13 13 01.5	-0.9
RCP	Roxas	4.87	304	||*e*P	Pn	13 13 04.9	-1.5
SGSI	Sangihe	5.33	195	P	Pn	13 13 18.8	+6.1
	8.9nm330nm,0.7s						
PVCP	Virac	5.40	331	*e*P	Pn	13 13 13.0	-0.7
OTRP	Odiongan	5.91	306	*e*P	Pn	13 13 19.9	-0.7
MNI	Manado	7.66	196	P	Pn	13 13 49.7	+5.2
	0.8nm3μm198nm,0.7s						
TGY	Tagaytay City	7.81	312	P	Pn	13 13 47.0	+0.4
	37nm,0.3s,baz=206,slow=2.2,SNR=5.4						
TGY	Tagaytay City	7.81	312	P	Pn	13 13 47.0	+0.4
TGY	Tagaytay City	7.81	312	P	Pn	13 13 47.0	+0.4
TNTI	Ternate	8.06	177	P	Pn	13 13 50.3	+0.2
	3μm350nm,1.2s						
KMSI	Cibinong	8.74	199	P	Pn	13 14 04.1	+4.8
	5μm404nm,1.1s						
GTOI	Gorontalo	9.05	205	P	Pn	13 14 00.5	-3.1
	1μm141nm,0.9s						
MYLDM	Lahad Datu	9.10	247	P	Pn	13 14 11.0	+6.7
MYLDM	Lahad Datu	9.10	247	P	Pn	13 14 09.5	+5.3
	2μm65nm,1.0s						
CAUP	Cauayan	9.42	329	*e*P	Pn	13 14 06.7	-1.9
LBMI	Labuha	9.47	176	P	Pn	13 14 09.8	+0.5
	2μm144nm,1.0s						
MRSI	Marisa	9.69	211	P	Pn	13 14 12.2	-0.1
	676nm84nm,0.7s						
TSM	Tawau	10.04	244	P	Pn	13 14 22.8	+5.6
SDKM	Sandakan	10.13	252	P	Pn	13 14 26.0	+7.5
LUWI	Luwuk	10.67	203	P	Pn	13 14 30.5	+4.8
	2μm184nm,1.3s						
KKM	Kota Kinabalu	10.95	256	*e*P	Pn	13 14 31.5	+2.0
	116nm,1.4s						
KKM	Kota Kinabalu	10.95	256	P	Pn	13 14 35.2	+5.7
	1μm74nm,1.6s						
NLAI	Namlea	12.03	179	P	Pn	13 14 48.1	+3.7
	67nm,0.9s						
AAI	Ambon	12.55	174	P	Pn	13 14 54.6	+3.3
	78nm,1.0s						
FAKI	Fak Fak	12.88	155	P	Pn	13 14 55.2	-0.7
	849nm49nm,1.6s						
KDI	Kendari	13.44	199	P	Pn	13 15 04.6	+1.1
	22nm,1.2s						
BAKI	Biak	13.58	137	P	Pn	13 15 03.5	-1.9
	80nm,1.2s						
TTSI	Tana Toraja	13.78	211	P	Pn	13 15 10.5	+2.5
	1μm101nm,1.1s						
SPSI	Sidrap Palu	14.59	209	P	Pn	13 15 26.6	+7.9
	38nm,1.2s						
BNSI	Bone	14.82	207	P	Pn	13 15 25.2	+3.6
	1μm59nm,1.3s						
KAPI	Kappang	15.52	208	P	Pn	13 15 29.3	-1.3
	0.3nm,0.3s,baz=45,slow=19,SNR=2.7						
KAPI	Kappang	15.52	208	P	Pn	13 15 29.3	-1.3
KAPI	Kappang	15.52	208	P	Pn	13 15 39.7	+9.1
	32nm,1.1s						
SBUM	Sibu	15.92	247	P	Pn	13 15 40.2	+4.4
SBUM	Sibu	15.92	247	P	Pn	13 15 37.9	+2.2
	964nm66nm,1.3s						
SMPI	Sarmi	15.98	132	P	Pn	13 15 34.8	-1.7
	114nm,1.2s						
KBKI	Kotabaru	16.14	222	P	pP	13 15 50.1	-4.1
	82nm,1.3s,2μm						
BBKI	Banjar Baru	17.16	225	P	Pn	13 15 59.3	+8.2
	173nm,1.1s						
QZH	Quanzhou	17.83	335	||*P*	Pn	13 15 59.0	-0.3
QZH				S	S	13 19 21.8	+1.0
QZH				LR	LR		
	comp=N,2μm,12.8s						
QZH				LR	LR		
	comp=E,1μm,14.6s						
QZH				LR	LR		
	comp=Z,2μm,18.0s						
JOW	Kunigami	17.91	4	P	Pn	13 16 01.9	+1.7
	comp=Z,0.6nm,0.3s,baz=158,slow=13,SNR=2.4						
JOW	Kunigami	17.91	4	P	Pn	13 16 01.9	+1.7
KSM	Kuching	18.06	247	*e*P	Pn	13 15 58.4	-3.8
	comp=Z,38nm,1.0s						
GUMO	Guam	18.25	73	LR	LR	13 23 11.2	
	comp=Z,462nm,18.2s,baz=269,slow=37						
QIZ	Qiongzhong	19.36	303	P	Pn	13 16 16.4	-1.3
QIZ				sP	sP	13 16 40.6	+2.4
QIZ				S	S	13 19 50.1	-1.6
QIZ				LR	LR		
	comp=E,510nm,15.1s						
QIZ				LR	LR		
	comp=Z,2μm,13.5s						
SSE	Sheshan	22.74	347	P	P	13 16 52.9	+0.7
SSE				pmax	pmax		
	comp=Z,140nm,0.7s,mb5.4						
SSE				pmax	pmax		
	comp=Z,260nm,5.0s						
SSE				LR	LR		
	comp=N,260nm,19.3s						
SSE				LR	LR		
	comp=E,79nm,19.3s						
SSE				LR	LR		
	comp=Z,300nm,20.2s						
CBIJ	Chichi jima	23.20	37	LR	LR	13 25 32.8	
	comp=Z,306nm,18.1s,baz=323,slow=35						
BJII	Banjamegara	23.50	227	P	P	13 17 00.0	+0.2
	comp=Z,2μmcomp=Z,124nm,2.0s,mb4.9						
MYKOM	Kota Tinggi	23.98	254	P	P	13 17 05.6	+1.3
NJ2	Nanjing	24.24	343	*e*P	P	13 17 07.3	+0.9
NJ2				pP		13 17 24.3	
NJ2				sP	sP	13 17 32.8	+2.9
NJ2				S	S	13 21 23.0	+2.5
NJ2				pmax	pmax		
	comp=Z,60nm,1.0s,mb4.9						
NJ2				pmax	pmax		
	comp=Z,860nm,4.2s						
NJ2				LR	LR		
	comp=N,650nm,14.1s						
NJ2				LR	LR		
	comp=E,510nm,14.5s						
NJ2				LR	LR		
	comp=Z,530nm,18.2s						
KGM	Kluang	24.41	255	P	P	13 17 09.5	+1.2
WHN	Wuhan	24.53	333	P	P	13 17 09.3	+0.2
WHN				S	S	13 21 28.3	+3.0
WHN				LR	LR		
	comp=Z,1μm,20.1s						
GYA	Guiyang	25.95	315	P	P	13 17 21.8	-0.2
GYA				pP	pP	13 17 41.0	+3.2

CMAR PcP PcP 13 20 57.5 +1.4
comp=Z,1.0nm,0.6s,baz=95,slow=2.2,SNR=4.5
CMAR Chiang Mai Arr 28.73 292 P **P** **13 17 47.1 0.0**
CMAR PcP PcP 13 20 57.5 +1.4
CMAR Chiang Mai Arr 28.73 292 P **P** **13 17 47.1 0.0**
CMAR 13 20 57.5
CHTO Chiang Mai 28.83 293 *e*P **P** **13 17 43.9 -4.1**
comp=Z,9.4nm,1.0s,mb4.4
CHTO Chiang Mai 28.83 293 *e*P **P** **13 17 43.9 -4.0**
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
CHTO Chiang Mai 28.83 293 P **P** **13 17 46.9 -1.0**
comp=Z,12nm,1.1s,mb4.4
MJAR Matsushiro Arr 29.40 19 P **P** **13 17 56.3 +3.5**
comp=Z,1.5nm,0.8s,mb3.7,baz=192,slow=9.3,SNR=3.2
MJAR LR LR 13 29 14.8
comp=Z,542nm,18.5s,baz=210,slow=35
MJAR Matsushiro Arr 29.40 19 P **P** **13 17 56.3 +3.5**
MJAR Matsushiro Arr 29.40 19 P **P** **13 17 56.3 +3.5**
WRAB Tennant Creek 29.55 166 P **P** **13 17 59.8 +5.6**
comp=Z,37nm,1.4s,mb4.8
WRA Warramunga Arr 29.56 166 P **P** **13 17 52.9 -1.4**
comp=Z,1.5nm,0.6s,mb3.8,baz=349,slow=9.3,SNR=4.2
WRA Warramunga Arr 29.56 166 P **P** **13 17 52.9 -1.4**
WRA Warramunga Arr 29.56 166 P **P** **13 17 52.9 -1.4**
BJT Baijiatuau 32.45 345 *e*P **P** **13 18 19.0 -0.7**
comp=Z,9.9nm,0.3s,mb5.0
BJT Baijiatuau 32.45 345 *e*P **P** **13 18 19.0 -0.6**
BJT pmax pmax
comp=Z,10.0nm,0.3s
BJI Beijing 32.47 345 P **P** **13 18 19.5 -0.3**
BJI pP pP 13 18 37.5 +1.7
BJI sP sP 13 18 47.3 +3.8
BJI S **S** **13 23 32.8 +2.9**
BJI pmax pmax
comp=Z,33nm,1.2s,mb4.9
BJI pmax pmax
comp=Z,190nm,3.9s
BJI LR LR
comp=N,460nm,18.9s
BJI LR LR
comp=E,310nm,16.2s
BJI LR LR
comp=Z,160nm,18.0s
ASAR Alice Springs 33.06 168 P **P** **13 18 23.9 -1.1**
comp=Z,3.1nm,0.8s,mb4.2,baz=349,slow=7.2,SNR=12
ASAR ScP ScP 13 24 49.4 +3.3
comp=Z,0.7nm,0.9s,baz=333,slow=2.4,SNR=5.0
ASAR Alice Springs 33.06 168 P **P** **13 18 23.9 -1.1**
ASAR ScP ScP 13 24 49.4 +3.3
ASAR Alice Springs 33.06 168 P **P** **13 18 24.0 -1.1**
LZH Lanzhou 34.26 326 *e*P **P** **13 18 42.3 +6.9**
LZH pP pP 13 19 01.0 +9.5
LZH sP sP 13 19 10.3 +11
LZH PP PP 13 20 00.3 +6.1
LZH *e*S **S** **13 23 56.5 -1.3**
LZH sS sS 13 24 34.1 +8.8
LZH pmax pmax
comp=Z,21nm,1.0s,mb4.9
LZH pmax pmax
comp=Z,97nm,5.2s
LZH LR LR
comp=N,810nm,13.7s
LZH LR LR
comp=E,460nm,13.4s
LZH LR LR
comp=Z,1μm,16.6s
CTA Charters Tower 34.52 147 P **P** **13 18 36.5 -1.3**
comp=Z,7.7nm,0.9s,mb4.5,baz=309,slow=10,SNR=5.5
CTA LR LR 13 34 22.4
comp=Z,349nm,19.1s,baz=128,slow=39
CTA Charters Tower 34.52 147 P **P** **13 18 36.5 -1.3**
CTA Charters Tower 34.52 147 P **P** **13 18 36.6 -1.2**
HHC Hu-ho-hao-te 34.63 339 *e*P **P** **13 18 39.9 +1.4**
HHC pP pP 13 18 57.5 +2.9
HHC sP sP 13 19 05.8 +3.5
HHC PP PP 13 19 59.3 +1.2
HHC PcP PcP 13 21 09.5 -2.1
HHC S **S** **13 24 04.4 +1.1**
HHC sS sS 13 24 35.3 +4.5
HHC ScP ScP 13 24 48.4 -3.0
HHC SS SS 13 26 21.5 -14
HHC ScS ScS 13 28 51.0 -3.4
HHC pmax pmax
comp=Z,17nm,1.0s,mb4.8
HHC pmax pmax
comp=Z,160nm,7.1s
HHC LR LR
comp=N,370nm,16.7s
HHC LR LR
comp=E,340nm,15.5s
HHC LR LR
comp=Z,360nm,17.8s
CN2 Changchun 34.82 358 *e*P **P** **13 18 44.1 +4.0**
CN2 *e*pP pP 13 19 02.3 +6.1
CN2 *e*S **S** **13 24 09.8 +3.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,300nm,14.0s
CN2 LR LR
comp=Z,300nm,19.0s
USRK Ussuriysk Arra 35.47 6 P **P** **13 18 46.2 +0.5**
comp=Z,11nm,0.9s,mb4.7,baz=192,slow=6.8,SNR=13
MDJ Mudanjiang 35.69 3 P **P** **13 18 49.0 +1.5**
MDJ pmax pmax
comp=Z,32nm,1.2s,mb5.1
MDJ pmax pmax
comp=Z,110nm,6.5s
MDJ Mudanjiang 35.69 3 *e*P **P** **13 18 49.0 +1.4**
comp=Z,38nm,1.1s,mb5.2
MEEK Meekatharra 36.20 193 *e*P **P** **13 18 51.5 -0.6**
HNR Honiara 37.61 118 LR LR 13 33 11.4
comp=Z,202nm,19.0s,baz=98,slow=34
YUK Yuzh-Kuril'sk 38.73 22 *e*P **P** **13 19 12.4 -0.9**
YUK *e*S **S** **13 25 09.6 +4.0**
YUK *e*SS SS 13 27 54.0 -4.6
YUK pmax pmax
comp=Z,70nm,4.5s
YUK MLR MLR
comp=Z,421nm,21.0s
GTA Gaotai 38.87 326 *e*P **P** **13 19 14.1 -0.5**
GTA pP pP 13 19 34.0 +3.1
GTA sP sP 13 19 42.9 +4.4
GTA PcP PcP 13 21 26.8 +2.3
GTA S **S** **13 25 04.5 -3.4**
GTA sS sS 13 25 34.9 -0.8
GTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
GTA pmax pmax
comp=Z,83nm,6.2s
GTA LR LR
comp=N,550nm,17.1s
GTA LR LR
comp=E,570nm,16.6s
GTA LR LR
comp=Z,760nm,15.7s
QLP Quilpie 39.06 155 *e*P **P** **13 19 15.5 -0.8**
MORW Morawa 39.14 195 *e*P **P** **13 19 16.7 -0.3**
LSA Lhasa 39.34 307 *e*P **P** **13 19 17.6 -1.0**
comp=Z,16nm,1.0s,mb4.8
LSA Lhasa 39.34 307 *e*P **P** **13 19 17.6 -1.0**
LSA pmax pmax
comp=Z,16nm,1.0s,mb4.8
FORT Forrest 39.44 178 *e*P **P** **13 19 15.8 -3.6**
HABR Khabarovsk 40.06 8 *e*P **P** **13 19 25.2 +0.8**
HABR *e* 13 20 58.4
HABR PPP 13 21 23.2
HABR *e* 13 21 27.8
HABR *e*S **S** **13 25 34.4 +8.8**
HABR pmax pmax
comp=E,22nm,2.5s
HABR pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
HABR pmax pmax
comp=N,13nm,1.4s
KMBL Kambalda 40.30 187 *e*P **P** **13 19 26.5 0.0**
KLR Kul'dur 40.43 5 *e*P **P** **13 19 24.3 -3.1**
HIA Hailar 40.70 353 *e*P **P** **13 19 30.3 +0.7**
comp=N,32nm,1.1s,mb5.1
HIA Hailar 40.70 353 *e*P **P** **13 19 30.3 +0.7**
HIA pmax pmax
comp=Z,32nm,1.1s
TAPN Taplejung 41.29 302 *e*P **P** **13 19 34.7 -0.1**
comp=Z,61nm,0.9s,mb5.5
TAPN Taplejung 41.29 302 *e*P **P** **13 19 34.7 -0.1**
comp=Z,61nm,0.9s,mb5.4
EIDS Eidsvold 41.40 146 P **P** **13 19 36.3 +0.6**
comp=Z,12nm,1.2s,mb4.6
ODAN Odare 41.40 301 *e*P **P** **13 19 35.6 -0.2**
comp=Z,80nm,0.6s,mb5.7
ODAN Odare 41.40 301 *e*P **P** **13 19 35.6 -0.2**
comp=Z,80nm,0.6s,mb5.7
RAMN Ramite 42.10 301 *e*P **P** **13 19 41.3 -0.2**
comp=Z,48nm,0.8s,mb5.3
RAMN Ramite 42.10 301 *e*P **P** **13 19 41.3 -0.2**
comp=Z,48nm,0.8s,mb5.3
ULN Ulaanbaatar 42.33 340 *e*P **P** **13 19 43.5 +0.5**
comp=Z,10nm,0.9s,mb4.5
ULN Ulaanbaatar 42.33 340 *e*P **P** **13 19 43.5 +0.5**
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ULN Ulaanbaatar 42.33 340 P **P** **13 19 43.7 +0.7**
comp=Z,13nm,1.2s,mb4.5
BBOO Buckleboo 42.36 169 *e*P **P** **13 19 43.1 -0.3**
BBOO Buckleboo 42.36 169 *e*P **P** **13 19 42.9 -0.5**
comp=Z,510nm,1.0s
SONM Songino Array 42.53 340 P **P** **13 19 44.9 +0.3**
comp=Z,3.1nm,0.9s,mb4.0,baz=157,slow=9.4,SNR=13
SONM Songino Array 42.53 340 P **P** **13 19 44.9 +0.3**
SONM Songino Array 42.53 340 P **P** **13 19 44.9 +0.3**
NWAO Narrogin (SRO) 42.57 192 P **P** **13 19 44.2 -0.9**
comp=Z,13nm,0.8s,mb4.7,baz=22,slow=8.5,SNR=4.0
NWAO Narrogin (SRO) 42.57 192 P **P** **13 19 44.2 -0.9**
NWAO Narrogin (SRO) 42.57 192 P **P** **13 19 44.2 -0.9**
JIRN Jiri 42.66 301 *e*P **P** **13 19 46.1 +0.1**
comp=Z,44nm,0.7s,mb5.3
JIRN Jiri 42.66 301 *e*P **P** **13 19 46.1 +0.1**
comp=Z,44nm,0.7s,mb5.3
STKA Stephens Creek 42.89 161 P **P** **13 19 47.3 -0.4**
comp=Z,12nm,0.9s,mb4.6,baz=328,slow=7.8,SNR=18
STKA Stephens Creek 42.89 161 *e*P **P** **13 19 47.5 -0.2**
STKA Stephens Creek 42.89 161 *e*P **P** **13 19 47.4 -0.4**
comp=Z,2.0nm,0.8s,mb3.9
STKA Stephens Creek 42.89 161 *e*P **P** **13 19 47.4 -0.3**
GUN Gumba 43.00 302 *e*P **P** **13 19 48.7 -0.1**
comp=Z,78nm,0.8s,mb5.5
GUN Gumba 43.00 302 *e*P **P** **13 19 48.7 -0.1**
comp=Z,78nm,0.8s,mb5.5
PKI Pulchoki 43.30 301 *e*P **P** **13 19 50.6 -0.6**
comp=Z,30nm,0.8s,mb5.0
PKI Pulchoki 43.30 301 *e*P **P** **13 19 50.6 -0.6**
comp=Z,30nm,0.8s,mb5.1
PKI Pulchoki 43.30 301 *e*P **P** **13 19 50.6 -0.6**
PKI pmax pmax
comp=Z,30nm,0.8s,mb5.1
KKN Kakani 43.47 301 *e*P **P** **13 19 51.9 -0.7**
comp=Z,47nm,1.0s,mb5.2
KKN Kakani 43.47 301 *e*P **P** **13 19 51.9 -0.7**
comp=Z,47nm,1.0s,mb5.2
KKN Kakani 43.47 301 *e*P **P** **13 19 51.9 -0.7**
KKN pmax pmax
comp=Z,47nm,1.0s,mb5.2
DMN Daman 43.57 301 *e*P **P** **13 19 52.7 -0.6**
comp=Z,39nm,0.9s,mb5.2
DMN Daman 43.57 301 *e*P **P** **13 19 52.7 -0.6**
comp=Z,39nm,0.9s,mb5.1
CMSA Cobar Meteorol 44.03 157 *e*P **P** **13 19 56.9 0.0**
GKN Gorkha 44.08 301 *e*P **P** **13 19 56.5 -0.9**
comp=Z,14nm,0.6s,mb4.9
GKN Gorkha 44.08 301 *e*P **P** **13 19 56.5 -0.9**
comp=Z,14nm,0.6s,mb4.9
CIT Chita 44.38 348 *e*P **P** **13 20 00.9 +1.5**
CIT *e* 13 20 12.0
CIT *e* pP 13 20 19.9 +3.9
KOLN Koldanda 44.89 301 *e*P **P** **13 20 03.3 -0.6**
comp=Z,52nm,0.6s,mb5.4
KOLN Koldanda 44.89 301 *e*P **P** **13 20 03.3 -0.6**
comp=Z,52nm,0.6s,mb5.4
DANN Dangsing 44.92 301 *e*P **P** **13 20 03.7 -0.4**
comp=Z,75nm,0.9s,mb5.4
DANN Dangsing 44.92 301 *e*P **P** **13 20 03.7 -0.4**
comp=Z,75nm,0.9s,mb5.4
ARMA Armidale 45.73 150 *e*P **P** **13 20 11.1 +0.7**
ARMA Armidale 45.73 150 *e*P **P** **13 20 10.9 +0.5**
comp=Z,18nm,1.1s,mb4.7
ZAK Zakamensk 45.78 339 *e*P **P** **13 20 10.7 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
TLY Talaya 46.74 340 *e*P **P** **13 20 18.1 0.0**
comp=Z,12nm,0.9s,mb4.6
TLY Talaya 46.74 340 *e*P **P** **13 20 17.5 -0.6**
TLY pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,167nm,17.0s
MOY Mondy 47.66 338 *e*P **P** **13 20 26.1 +0.9**
HYB Hyderabad 47.72 285 *i* P **P** **13 20 25.0 -1.2**
CLNS Chul'man 47.87 359 *e*P **P** **13 20 24.2 -2.6**
CLNS pmax pmax
comp=Z,16nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,5.0nm,1.0s
WMQ Urumqi 48.69 322 P **P** **13 20 34.0 +0.7**
WMQ pP pP 13 20 52.8 +2.7
WMQ sP sP 13 21 01.6 +3.9
WMQ PP PP 13 22 28.1 +1.2
WMQ S **S** **13 27 30.3 -0.7**
WMQ SS SS 13 30 56.1 -5.9
WMQ pmax pmax
comp=Z,28nm,1.0s,mb5.2
WMQ pmax pmax
comp=Z,390nm,4.6s
WMQ LR LR
comp=N,490nm,18.8s
WMQ LR LR
comp=E,290nm,23.0s
WMQ LR LR
comp=Z,350nm,20.0s
TOO Toolangi 49.38 160 *e*P **P** **13 20 39.9 +1.3**
DZM Mont Dzumac 49.50 129 *e*LR LR 13 34 50.6
comp=Z,273nm,25.4s
DZM Mont Dzumac 49.50 129 P **P** **13 20 40.5 +0.7**
comp=Z,9.6nm,0.8s,mb4.8,baz=313,slow=13,SNR=4.6
DZM Mont Dzumac 49.50 129 P **P** **13 20 40.5 +0.7**
BOD Bodaibo 49.84 351 *e*P **P** **13 20 42.2 +0.4**
BOD *e* 13 20 52.6
BOD pmax pmax
comp=Z,22nm,1.0s,mb5.0
BOD pmax pmax
comp=Z,26nm,1.1s,mb5.1
PETK Petropavlovsk- 50.66 24 P **P** **13 20 50.1 +2.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=194,slow=4.4,SNR=6.5
PETK Petropavlovsk- 50.66 24 P **P** **13 20 50.1 +2.0**
PETK Petropavlovsk- 50.66 24 P **P** **13 20 50.2 +2.1**
PET Petropavlovsk 50.98 24 *e*P **P** **13 20 53.0 +2.5**
PET *e*S **S** **13 28 08.2 +5.7**
PET pmax pmax
comp=Z,12nm,0.8s,mb5.0
YAK Yakutsk 53.09 2 *e*P **P** **13 21 05.4 -0.7**
YAK *e* pP 13 21 20.5 -2.6
YAK *e* 13 22 13.3
YAK pmax pmax
comp=Z,15nm,1.2s,mb4.9
YAK pmax pmax
comp=N,9.0nm,1.3s
MK31 Makanchi Array 53.50 323 *e*P **P** **13 21 09.3 -0.1**
MK31 Makanchi Array 53.50 323 *i* P **P** **13 21 09.3 0.0**
MK31 pmax pmax
comp=Z,37nm,0.8s,mb5.5
MKAR Makanchi Array 53.50 323 P **P** **13 21 09.5 +0.2**
comp=Z,28nm,0.8s,mb5.4,baz=122,slow=8.3,SNR=202
MKAR Makanchi Array 53.50 323 P **P** **13 21 09.5 +0.2**
MKAR Makanchi Array 53.50 323 *ce*P **P** **13 21 09.5 +0.2**
MKAR pmax pmax
comp=Z,28nm,0.8s
KSH Kashi 54.61 313 P **P** **13 21 19.0 +1.4**
KSH pP pP 13 21 38.3 +3.6
KSH sP sP 13 21 46.8 +4.7
KSH PP PP 13 23 23.6 +3.0
KSH ScP ScP 13 26 11.6 -1.2
KSH PcS PcS 13 26 19.3 -0.3
KSH S **S** **13 28 50.0 -2.5**
KSH sS sS 13 29 22.8 +1.3
KSH ScS ScS 13 30 57.6 -3.4
KSH SS SS 13 32 32.5 -3.7
KSH pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KSH pmax pmax
comp=Z,180nm,6.0s
KSH LR LR
comp=N,160nm,5.9s
KSH LR LR
comp=E,280nm,9.3s
KSH LR LR
comp=Z,290nm,7.8s
KZA Kyzart 56.02 315 P **P** **13 21 29.0 +1.4**
SNR=7.0
KZA P 13 21 29.0
SNR=7.0
TKM2 Tokmak 2 56.09 316 *e*P **P** **13 21 28.7 +0.6**
comp=Z,5.5nm,0.8s,mb4.6
TKM2 Tokmak 2 56.09 316 *e*P **P** **13 21 28.7 +0.6**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZAA0 Zalesovo Array 56.13 332 *e*P **P** **13 21 27.6 -0.7**
ZALV Zalesovo Beam 56.13 332 P **P** **13 21 27.8 -0.4**
comp=Z,11nm,0.8s,mb4.9,baz=114,slow=6.7,SNR=46
ZALV Zalesovo Beam 56.13 332 P **P** **13 21 27.8 -0.4**
ZALV Zalesovo Beam 56.13 332 P **P** **13 21 27.8 -0.4**
KBK Karagaybulak 56.43 316 P **P** **13 21 31.3 +0.7**
SNR=6.4
KBK P 13 21 31.3
SNR=6.4
CHMS Chumysh 56.69 316 P **P** **13 21 32.3 -0.1**
SNR=5.4
CHMS P 13 21 32.3
SNR=5.4
AAK Ala-Archa 56.74 316 *e*P **P** **13 21 33.3 +0.5**
comp=Z,20nm,0.9s,mb5.1
AAK Ala-Archa 56.74 316 *e*P **P** **13 21 33.3 +0.5**
AAK pmax pmax
comp=Z,20nm,0.9s,mb5.2
AAK Ala-Archa 56.74 316 P **P** **13 21 30.5 -2.3**
comp=Z,27nm,1.5s,mb5.1
USP Ospenovka 56.96 316 P **P** **13 21 34.4 0.0**
SNR=6.2
USP P 13 21 34.4
SNR=6.2
MSVF Nonsavu 57.03 118 *e*P **P** **13 21 37.0 +1.8**
comp=Z,17nm,0.9s,mb5.1
MSVF Nonsavu 57.03 118 *e*P **P** **13 21 37.0 +1.8**
MSVF pmax pmax
comp=Z,17nm,0.9s,mb5.1
AML Almayashu 57.12 315 P **P** **13 21 36.5 +1.0**
SNR=10
AML P 13 21 36.5
SNR=10
EKS2 Erkin-Say 57.24 315 P **P** **13 21 36.7 +0.4**
SNR=5.9
EKS2 P 13 21 36.7
SNR=5.9
EKS2 Erkin-Say 57.24 315 *e*P **P** **13 21 36.3 0.0**
comp=Z,11nm,0.9s,mb4.9
EKS2 Erkin-Say 57.24 315 *e*P **P** **13 21 36.3 0.0**
EKS2 pmax pmax
comp=Z,11nm,0.9s,mb4.9
NVS Novosibirsk 57.41 332⇑ *i*P **P** **13 21 36.6 -0.7**
NVS *e*S **S** **13 29 29.7 +0.6**
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,18nm,1.2s
NVS pmax pmax
comp=Z,37nm,1.2s,mb5.3
NVS smax
comp=N,30nm,2.7s
KURK Kurchatov 57.55 326 P **P** **13 21 38.4 0.0**
comp=N,18nm,0.8s,mb5.2,baz=128,slow=6.3,SNR=154
KURK Kurchatov 57.55 326 *e*P **P** **13 21 38.0 -0.3**
comp=N,45nm,0.9s,mb5.5
KURK Kurchatov 57.55 326 *c i*P **P** **13 21 38.4 0.0**
KURK pmax pmax
comp=Z,72nm,1.2s,mb5.6
KBL Kabul 58.62 305 *e*P **P** **13 21 45.5 -0.7**
comp=Z,6.8nm,0.6s,mb4.8
KBL Kabul 58.62 305 *e*P **P** **13 21 45.5 -0.6**
KBL pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KKAR Karatay Array 59.66 315 *e*P **P** **13 21 52.6 -0.5**
comp=Z,3.2nm,0.6s,mb4.5
KKAR Karatay Array 59.66 315 *e*P **P** **13 21 52.6 -0.5**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BVA0 Borovoye Array 63.15 326 *i* P **P** **13 22 16.0 -0.5**
BVA0 pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
BVAR Borovoye Array 63.15 326 P **P** **13 22 16.9 +0.4**
comp=Z,6.0nm,0.8s,mb4.6,baz=124,slow=7.9,SNR=35
BVAR Borovoye Array 63.15 326 P **P** **13 22 16.9 +0.4**
BVAR Borovoye Array 63.15 326 P **P** **13 22 16.9 +0.4**
BRVK Borovoye 63.22 326 *c i*P **P** **13 22 17.0 0.0**
BRVK pmax pmax
comp=Z,33nm,1.2s,mb5.1
RPZ Rata Peaks 65.89 146 P **P** **13 22 34.7 +0.2**
comp=Z,19nm,0.7s,mb5.0,baz=323,slow=7.6,SNR=10
RPZ Rata Peaks 65.89 146 *e*P **P** **13 22 34.9 +0.4**
comp=Z,46nm,1.0s,mb5.3
ABKT Ailbek 67.86 307 P **P** **13 22 48.4 +1.2**
comp=Z,195nm,0.8s,SNR=14
AB31 Akbulak array 68.32 320 *i* P **P** **13 22 49.7 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
ABKAR Akbulak array 68.32 320 *e*P **P** **13 22 49.6 -0.2**
comp=Z,29nm,1.3s,mb5.0
SVE Sverdlovsk 69.71 328⇓ *e*P **P** **13 22 58.7 +0.4**
SVE pmax pmax
comp=Z,50nm,1.3s,mb5.2
AKTO Aktyubinsk 69.78 321 P **P** **13 22 58.9 0.0**
comp=Z,6.8nm,0.9s,mb4.5,baz=97,slow=8.5,SNR=20
AKTO Aktyubinsk 69.78 321 P **P** **13 22 58.9 +0.1**
AKTO Aktyubinsk 69.78 321 P **P** **13 22 58.9 0.0**
ARU Arti 70.72 327 *e*P **P** **13 23 04.2 -0.3**
comp=Z,18nm,0.6s,mb5.1
ARU Arti 70.72 327 *c i*P **P** **13 23 04.2 -0.3**
ARU 13 25 37.5
ARU S S 13 32 20.8 +7.0
ARU SS SS 13 36 46.3 -0.4
ARU pmax pmax
comp=Z,28nm,1.2s,mb5.0
SOKR Solikamsk 72.35 330⇓ *i*P **P** **13 23 14.6 +0.3**
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MIB Mutribah 76.61 299 *e*P **P** **13 23 38.7 -0.9**
MIB AMb AMB 13 23 50.5
comp=Z,39nm,1.3s,mb5.0
NAY Al-Naaiem 76.72 298 *e*P **P** **13 23 39.0 -1.2**
NAY AMb AMB 13 23 41.8
comp=Z,14nm,0.9s,mb4.7
RST Umm Al-Ruwaisa 76.92 298 *e*P **P** **13 23 40.2 -1.2**
RST AMb AMB 13 23 43.2
comp=Z,6.6nm,1.1s,mb4.3
KDAK Kodiak Island 77.50 33 *i* P **P** **13 23 50.0 +6.0**
GNI Garni 78.35 309⇑ *e*P **P** **13 23 48.1 -1.0**
GNI pmax pmax
comp=Z,26nm,1.7s
PMR Palmer 79.39 29 *e*P **P** **13 23 56.1 +1.7**
comp=Z,7.7nm,0.7s,mb4.6
PMR Palmer 79.39 29 *e*P **P** **13 23 56.1 +1.8**
PMR pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
MCK McKinley 79.52 27 P **P** **13 23 55.7 +0.7**
comp=Z,22nm,1.1s,mb4.9
MCK McKinley 79.52 27 P **P** **13 23 55.7 +0.7**
MCK pmax pmax
comp=Z,22nm,1.1s,mb4.9
KIV Kislovodsk 79.74 313 *e*P **P** **13 23 57.1 +0.5**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,176nm,19.0s
SML Sawmill 79.77 29 *e*P **P** **13 23 58.2 +1.8**
comp=Z,6.0nm,1.0s,mb4.4
SML Sawmill 79.77 29 *e*P **P** **13 23 58.2 +1.8**
SML pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
ILAR Eielson Array 80.43 26 P **P** **13 24 00.8 +0.9**
comp=Z,1.0nm,0.6s,mb3.8,baz=248,slow=4.8,SNR=21
ILAR Eielson Array 80.43 26 P **P** **13 24 00.8 +0.9**
ILAR Eielson Array 80.43 26 P **P** **13 24 00.8 +0.9**
KLMR Klimovskoe 81.03 330 *e*P **P** **13 24 00.6 -2.6**
KLMR pmax pmax

comp=Z,50nm,1.5s,mb5.1
PAX Paxson 81.09 28 *e*P **P 13 24 04.1 +0.6**
comp=Z,9.4nm,1.1s,mb4.5
PAX Paxson 81.09 28 *e*P **P 13 24 04.1 +0.7**
PAX pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
MENT Mentasta 81.89 28 *e*P **P 13 24 06.5 -1.1**
OBN Obninsk 82.97 325⇑ *e*P **P 13 24 13.4 -0.1**
OBN *i* 13 24 18.9
OBN *e* 13 27 21.9
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
APA Apatity 83.19 337⇑ *i*P **P 13 24 16.0 +1.6**
APA pmax pmax
comp=Z,77nm,1.6s,mb5.3
APA MLR MLR
comp=Z,1μm,13.0s
JOF Joensuu 84.70 333 *e*P **P 13 24 21.4 -0.7**
JOF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
JOF Joensuu 84.70 333 *e*p **P 13 24 21.4 -0.7**
comp=Z,5.8nm,0.8s,mb4.6
ARCES ARCESS Array B 85.70 340 P **P 13 24 27.5 +0.5**
comp=Z,6.0nm,0.7s,mb4.6,baz=64,slow=5.6,SNR=12
ARCES ARCESS Array B 85.70 340 P **P 13 24 27.5 +0.5**
ARCES ARCESS Array B 85.70 340 P **P 13 24 27.5 +0.5**
PPT2 Papeete2 86.56 108 *e*LR LR 13 52 11.7
comp=Z,172nm,23.2s
BRTR Keskin Array B 86.88 310 P **P 13 24 32.8 -0.7**
comp=Z,1.2nm,0.8s,mb3.9,baz=104,slow=5.7,SNR=5.3
BRTR LR LR 14 08 19.1
comp=Z,101nm,18.6s,baz=195,slow=39
BRTR Keskin Array B 86.88 310 P **P 13 24 32.8 -0.7**
BRTR Keskin Array B 86.88 310 *ce*P **P 13 24 33.9 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 87.40 332 P **P 13 24 34.0 -1.5**
comp=Z,5.6nm,0.9s,mb4.5,baz=325,slow=2.3,SNR=10.0
FINES LR LR 14 12 29.4
comp=Z,236nm,18.7s,baz=17,slow=42
FINES FINESS Array B 87.40 332 P **P 13 24 34.0 -1.5**
FINES FINESS Array B 87.40 332 P **P 13 24 34.0 -1.5**
AKASG Malin Array Be 88.02 321 P **P 13 24 37.7 -1.0**
comp=Z,1.4nm,0.6s,mb4.2,baz=76,slow=3.6,SNR=5.9
AKASG LR LR 14 11 04.0
comp=Z,111nm,18.3s,baz=40,slow=40
AKASG Malin Array Be 88.02 321 P **P 13 24 37.7 -1.0**
AKASG Malin Array Be 88.02 321 *ce*P **P 13 24 38.5 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
KIEV Kiev 88.03 321⇑ *e*P **P 13 24 37.6 -1.1**
KIS Kishinev 89.04 317 *e*P **P 13 24 51.0 +7.5**
KIS Kishinev 89.04 317 *e*P **P 13 24 51.0 +7.5**
KMBO Kilima Mbogo 89.81 269 *e*P **P 13 24 46.6 -1.2**
comp=Z,6.6nm,1.1s,mb4.7
KMBO Kilima Mbogo 89.81 269 *e*P **P 13 24 46.6 -1.3**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
LVV L'vov 91.47 321 *e*P **P 13 25 01.8 +7.0**
DAG Danmarks Havn 92.21 353 *i* P **P 13 24 58.4 +0.7**
comp=Z,11nm,1.0s,mb5.0
NB2 NORSAR Subarra 94.27 334 P **P 13 25 06.5 -1.0**
comp=Z,2.1nm,0.8s,mb4.5,baz=64,slow=4.8
NOA NORSAR Array B 94.27 334 P **P 13 25 06.2 -1.3**
comp=Z,1.6nm,0.8s,mb4.4,baz=64,slow=4.8,SNR=5.3
NOA LR LR 14 14 13.1
comp=Z,165nm,20.4s,baz=160,slow=40
NOA NORSAR Array B 94.27 334 P **P 13 25 06.2 -1.3**
NOA NORSAR Array B 94.27 334 P **P 13 25 06.2 -1.3**
YKA Yellowknife Ar 94.78 24 P **P 13 25 11.3 +1.5**
comp=Z,1.1nm,0.7s,mb4.4,baz=303,slow=4.7,SNR=15
YKA Yellowknife Ar 94.78 24 P **P 13 25 11.3 +1.5**
YKA Yellowknife Ar 94.78 24 P **P 13 25 11.3 +1.5**
GERES GERESS Array B 98.16 322 P **P 13 25 24.3 -1.1**
comp=Z,1.2nm,0.9s,mb4.4,baz=21,slow=4.4,SNR=7.7
GERES GERESS Array B 98.16 322 P **P 13 25 24.3 -1.1**
GERES GERESS Array B 98.16 322 P **P 13 25 24.3 -1.1**
NVAR Mina Array Bea 103.35 47 PKKP PKKPdf 13 42 03.4 +12
comp=Z,0.3nm,0.6s,baz=117,slow=5.5,SNR=3.8
NVAR Mina Array Bea 103.35 47 PKKP PKKPdf 13 42 03.4 +12
PDAR Pinedale Array 107.37 40 PKKP PKKPab 13 41 45.4 -1.4
comp=Z,0.6nm,0.8s,baz=98,slow=4.5,SNR=4.0
PDAR Pinedale Array 107.37 40 PKKP PKKPab 13 41 45.4 -1.4
TXAR Lajitas Array 118.27 50 PKP PKPdf 13 30 38.5 +2.4
comp=Z,0.6nm,0.6s,baz=236,slow=1.3,SNR=8.8
TXAR Lajitas Array 118.27 50 PKP PKPdf 13 30 38.5 +2.4
TXAR Lajitas Array 118.27 50 PKIKP PKPdf 13 30 38.5 +2.4
JCT Junction City 120.52 47 *e*PKPdf PKPdf 13 30 41.9 +1.5
JCT Junction City 120.52 47 *e*PKIKP PKPdf 13 30 41.9 +1.5
TORD Torodi Ar. Bea 121.34 291 PKP PKPdf 13 30 42.2 -0.2
comp=Z,1.2nm,0.8s,baz=35,slow=1.7,SNR=6.4
TORD PKKPbc PKKPbc 13 40 46.5 +3.1
comp=Z,0.9nm,0.8s,baz=266,slow=3.3,SNR=4.1
TORD Torodi Ar. Bea 121.34 291 PKP PKPdf 13 30 42.2 -0.2
TORD PKKPbc PKKPbc 13 40 46.5 +3.1
PLCA Paso Flores 144.69 157 PKPbc PKPdf 13 31 29.5 +4.3
comp=Z,4.9nm,1.0s,baz=221,slow=6.3,SNR=5.5
PLCA Paso Flores 144.69 157 PKPbc PKPdf 13 31 29.5 +4.3

*IDC **23** 13:20:32.7±2.3, 25°.02N×91°.80E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/26, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=85.7km s-min=21.3km az=69.0*
*ISCJB **23** 13:20:36.2±1.3, 25°.04N±0°.07×92°.0E±0°.1, h26km±10km, mb3.6/6, Error ellipse: s-maj=17.4km s-min=11.1km az=167.3*
*NEIC **23** 13:20:39.1±1.8, 25°.00N×91°.97E, h42km±15km, mb4.0/2, Error ellipse: s-maj=28.4km s-min=10.9km az=64.0*
ISC 23 13:20:36.8±1.4, **25°.06N**±0°.07×**91°.92E**±0°.08, **h19**km±8km, **n18**, σ0§**92**/20, **mb3.6/6, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.51**	**357**	*i* P		G	**Pg**	13 20 46.7	-0.5
SHL				*e*SG			**Sg**	13 20 53.9	-0.2
AGT	**Agartala**	**1.31**	**208**	*ex*			**Pn**	13 21 01.0	+0.9
AGT				*ex*			x	13 21 50.0	
IMP	**Imphal**	**1.85**	**98**	*ex*			**Pn**	13 21 08.0	+0.5
IMP				*ex*			**Sg**	13 21 37.0	+0.4
LSA	**Lhasa**	**4.68**	**352**	*e*Pn			**Pn**	13 21 49.1	+2.8
CMAR	**Chiang Mai Arr**	**9.26**	**134**	Pn			**Pn**	13 22 48.7	-0.6
	0.1nm,0.3s,baz=317,slow=13,SNR=2.5								
CMAR	**Chiang Mai Arr**	**9.26**	**134**	Pn			**Pn**	13 22 48.7	-0.6
ENH	**Enshi**	**16.41**	**68**	*e*P			**Pn**	13 24 25.7	-0.4
	12nm,0.9s								
MKAR	**Makanchi Array**	**23.02**	**343**	P			**P**	13 25 40.0	-0.4
	0.5nm,0.6s,mb3.1,baz=134,slow=6.2,SNR=3.7								
MKAR	**Makanchi Array**	**23.02**	**343**	P			**P**	13 25 40.0	-0.5
SONM	**Songino Array**	**25.46**	**23**	P			**P**	13 26 03.7	+0.3
	2.3nm,0.8s,mb3.7,baz=205,slow=8.2,SNR=9.4								
SONM	**Songino Array**	**25.46**	**23**	P			**P**	13 26 03.7	+0.3
ULN	**Ulaanbaatar**	**25.72**	**24**	*e*P			**P**	13 26 07.2	+1.3
	4.0nm,1.0s,mb3.9								
WRA	**Warramunga Arr**	**60.85**	**133**	P			**P**	13 30 47.6	-0.6
	0.7nm,0.7s,mb3.9,baz=321,slow=7.4,SNR=6.0								
WRA	**Warramunga Arr**	**60.85**	**133**	P			**P**	13 30 47.6	-0.5
ASAR	**Alice Springs**	**63.26**	**137**	P			**P**	13 31 03.8	-0.5
	0.7nm,1.0s,mb3.8,baz=322,slow=7.1,SNR=5.6								
ASAR	**Alice Springs**	**63.26**	**137**	P			**P**	13 31 03.8	-0.5
ILAR	**Eielson Array**	**79.68**	**22**	P			**P**	13 32 41.1	-1.7
	0.5nm,0.8s,mb3.5,baz=294,slow=5.6,SNR=5.5								
ILAR	**Eielson Array**	**79.68**	**22**	P			**P**	13 32 41.1	-1.7

*ISCJB **23** 13:28:40.9±0.3, 6°.77S±0°.03×128°.22E±0°.05, h324km±4km, mb4.5/40, Error ellipse: s-maj=7.4km s-min=4.4km az=165.2*
*IDC **23** 13:28:41.5±1.3, 6°.77S×128°.17E, h311km±12km, mb4.2/13, mb1 4.3/16, mb1mx4.3/19, mbtmp4.3/16, Error ellipse: s-maj=15.5km s-min=7.7km az=77.0*
*DJA **23** 13:28:42, 6°.88S×128°.25E, h268km, mb5.1/20*
*NEIC **23** 13:28:42.3±0.7, 6°.79S×128°.12E, h322km±7km, mb4.6/24, Error ellipse: s-maj=7.7km s-min=3.9km az=56.0*
ISC 23 13:28:42.0±0.4, **6°.77S**±0°.03×**128°.19E**±0°.05, **h317**km±4km, **n138**, σ0§**87**/124, **mb4.6**/40, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.07**	**0**	P			**Pn**	13 29 38.9	-0.7
MSAI	**Masohi**	**3.48**	**12**	P			**Pn**	13 29 42.6	-1.1
MSAI				S			**S**	13 30 31.6	-1.6
NLAI	**Namlea**	**3.67**	**343**	P			**Pn**	13 29 46.6	+0.9
FAKI	**Fak Fak**	**5.57**	**47**	P			**Pn**	13 30 04.0	-2.8
	2.9nm672nm,0.7s								
FAKI				S			**S**	13 31 07.6	-7.6
	2.9nm672nm,0.7s								
LBMI	**Labuha**	**6.13**	**354**	P			**Pn**	13 30 13.4	0.0
	2.3nm7μm605nm,0.9s								
MMRI	**Maumere**	**6.18**	**252**	P			**Pn**	13 30 13.7	-0.2
	1.2nm4μm174nm,0.4s								
KDI	**Kendari**	**6.21**	**297**	P			**Pn**	13 30 15.3	+1.1
	0.1nm11nm,0.9s								
TNTI	**Ternate**	**7.54**	**354**	P			**Pn**	13 30 29.9	-0.3
	0.4nm2μm115nm,0.6s								
LUWI	**Luwuk**	**7.85**	**316**	P			**Pn**	13 30 34.9	+1.0
	0.3nm836nm63nm,0.9s								
KMSI	**Cibinong**	**8.42**	**330**	P			**Pn**	13 30 41.5	+0.6
	3μm428nm,0.9s								
KAPI	**Kappang**	**8.57**	**281**	P			**Pn**	13 30 41.9	-0.7
	0.9nm,0.3s,baz=84,slow=17,SNR=4.8								
KAPI	**Kappang**	**8.57**	**281**	*e*P			**Pn**	13 30 42.6	-0.1
GTOI	**Gorontalo**	**8.99**	**325**	P			**Pn**	13 30 51.0	+3.2
	2μm260nm,0.9s								
MRSI	**Marisa**	**9.52**	**319**	P			**Pn**	13 30 55.2	+0.9
	1μm149nm,0.7s								
BAKI	**Biak**	**9.65**	**55**	P			**Pn**	13 30 56.6	+0.7
	2μm202nm,1.0s								
WAMI	**Wamena**	**10.87**	**75**	P			**Pn**	13 31 16.9	+6.3
	292nm,0.7s								
SMPI	**Sarmi**	**11.52**	**66**	P			**Pn**	13 31 22.2	+3.7
	85nm,0.5s								
FITZ	**Fitzroy Crossi**	**11.53**	**192**	P			**Pn**	13 31 16.9	-1.6
	21nm,0.3s,baz=25,slow=7.9,SNR=79								
FITZ				S			**S**	13 33 24.8	-2.4
	2.5nm,0.3s,baz=116,slow=20,SNR=3.3								
FITZ	**Fitzroy Crossi**	**11.53**	**192**	*e*P			**Pn**	13 31 20.4	+1.8
FITZ	**Fitzroy Crossi**	**11.53**	**192**	*e*P			**Pn**	13 31 16.7	-1.9
	48nm,0.6s								
FITZ				S			**S**	13 33 24.8	-2.4
FITZ	**Fitzroy Crossi**	**11.53**	**192**	P			**Pn**	13 31 17.5	-1.1
	3μm245nm,0.6s								
JAY	**Jayapura**	**13.17**	**72**	P			**Pn**	13 31 39.8	+1.4
	8μm95nm,0.7s								
WRAB	**Tennant Creek**	**14.39**	**156**	*e*P			**P**	13 51 51.4	-0.1
WRAB	**Tennant Creek**	**14.39**	**156**	P			**P**	13 51 51.7	+0.2
	3μm236nm,0.8s								
WRA	**Warramunga Arr**	**14.39**	**156**	P			**P**	13 51 51.4	-0.1
	25nm,0.3s,baz=340,slow=12,SNR=380								
WRA				S			**S**	13 34 24.2	-4.6
	1.5nm,0.3s,baz=338,slow=21,SNR=13								
WRA				ScP			ScP	13 39 47.5	-0.2
	0.2nm,0.3s,baz=326,slow=2.4,SNR=5.4								
WRA	**Warramunga Arr**	**14.39**	**156**	P			**P**	13 51 51.4	-0.1
WRA				S			**S**	13 34 24.2	-4.6
WRA				ScP			ScP	13 39 47.5	-0.2
WB2	**Warramunga Arr**	**14.39**	**156**	*e*P			**P**	13 51 51.5	0.0
GMJI	**Gumukmas**	**14.69**	**263**	P			**P**	13 51 56.6	+1.7
	30nm,0.8s								
COEN	**Coen**	**16.38**	**117⇓**	*i* P			**P**	13 32 14.0	+0.7
COEN	**Coen**	**16.38**	**117**	*e*P			**P**	13 32 14.0	+0.7
	489nm,0.8s								
COEN	**Coen**	**16.38**	**117**	P			**P**	13 32 14.0	+0.7
	935nm86nm,0.6s								
MBWA	**Marble Bar**	**16.48**	**209**	*e*P			**P**	13 32 14.3	0.0
MBWA	**Marble Bar**	**16.48**	**209**	*e*P			**P**	13 32 14.2	-0.1
	115nm,0.9s								
MBWA	**Marble Bar**	**16.48**	**209**	P			**P**	13 32 14.5	+0.2
	169nm,0.9s								
KKM	**Kota Kinabalu**	**17.46**	**317**	*e*P			**P**	13 32 26.0	+1.0
AS31	**Alice Springs**	**17.67**	**162**	*e*P			**P**	13 32 28.0	+0.8
ASAR	**Alice Springs**	**17.67**	**162**	P			**P**	13 32 28.0	+0.8
	54nm,0.3s,baz=345,slow=12,SNR=5633								
ASAR				S			**S**	13 35 32.8	-1.4
	0.9nm,0.3s,baz=348,slow=24,SNR=7.8								
ASAR				ScP			ScP	13 39 53.4	-0.6
	0.7nm,0.3s,baz=354,slow=1.9,SNR=6.7								
ASAR	**Alice Springs**	**17.67**	**162**	P			**P**	13 32 28.0	+0.8
ASAR				S			**S**	13 35 32.8	-1.4
ASAR				ScP			ScP	13 39 53.4	-0.6
PMG	**Port Moresby**	**18.96**	**99**	P			**P**	13 32 42.9	+1.7
	3.3nm,0.3s,baz=289,slow=3.0,SNR=23								
PMG	**Port Moresby**	**18.96**	**99**	P			**P**	13 32 42.9	+1.7
PMG	**Port Moresby**	**18.96**	**99**	P			**P**	13 32 44.0	+2.9
KSM	**Kuching**	**19.63**	**294**	*e*P			**P**	13 32 47.3	-0.9
TGY	**Tagaytay City**	**21.95**	**341**	P			**P**	13 33 10.7	+0.4
	79nm,0.3s,mb5.5,baz=155,slow=7.7,SNR=4.8								
TGY	**Tagaytay City**	**21.95**	**341**	P			**P**	13 33 10.7	+0.4
FORT	**Forrest**	**23.88**	**180**	*e*P			**P**	13 33 27.7	0.0
FORT	**Forrest**	**23.88**	**180**	*e*P			**P**	13 33 27.7	-0.1
	84nm,0.8s,mb5.1								
MORW	**Morawa**	**24.96**	**206**	*e*P			**P**	13 33 37.6	+0.1
KMBL	**Kambalda**	**25.17**	**193**	*e*P			**P**	13 33 39.3	0.0
KLBR	**Kellerberrin**	**26.55**	**200**	*e*P			**P**	13 33 51.4	-0.2
	34nm,0.3s,mb5.2								
BBOO	**Buckleboo**	**26.92**	**165**	*e*P			**P**	13 33 55.1	+0.2
BBOO	**Buckleboo**	**26.92**	**165**	*e*P			**P**	13 33 55.1	+0.2
	244nm,0.7s,mb5.7								
STKA	**Stephens Creek**	**27.94**	**155**	P			**P**	13 34 04.4	+0.5
	14nm,0.5s,mb4.6,baz=330,slow=8.8,SNR=78								
STKA	**Stephens Creek**	**27.94**	**155**	*e*P			**P**	13 34 04.4	+0.5
STKA	**Stephens Creek**	**27.94**	**155**	P			**P**	13 34 04.4	+0.5
NWAO	**Narrogin (SRO)**	**27.94**	**200**	P			**P**	13 34 04.1	+0.1
	16nm,0.3s,mb4.9,baz=36,slow=8.8,SNR=34								
NWAO	**Narrogin (SRO)**	**27.94**	**200**	P			**P**	13 34 04.1	+0.1
CMSA	**Cobar Meteorol**	**29.58**	**149**	*e*P			**P**	13 34 19.1	+0.7
ARPS	**Mount Arapiles**	**32.36**	**159**	*e*P			**P**	13 34 43.6	+1.1
	60nm,1.1s,mb5.0								
JOW	**Kunigami**	**33.41**	**0**	P			**P**	13 34 51.8	+0.2
	20nm,0.5s,mb4.9,baz=190,slow=4.9,SNR=4.5								
JOW	**Kunigami**	**33.41**	**0**	P			**P**	13 34 51.8	+0.2
CMAR	**Chiang Mai Arr**	**38.22**	**311**	P			**P**	13 35 32.3	-0.1
	1.4nm,0.5s,mb3.6,baz=141,slow=7.4,SNR=11								
CMAR				PcP			PcP	13 37 41.0	+1.4
	1.5nm,0.7s,baz=168,slow=3.0,SNR=9.6								
CMAR				ScP			ScP	13 40 57.8	+0.9
	1.1nm,0.9s,baz=170,slow=2.8,SNR=5.8								
CMAR	**Chiang Mai Arr**	**38.22**	**311**	P			**P**	13 35 32.3	-0.1
CMAR				PcP			PcP	13 37 41.0	+1.4
CMAR				ScP			ScP	13 40 57.8	+0.9
ENH	**Enshi**	**40.97**	**335**	*e*P			**P**	13 35 54.1	-0.7
	8.2nm,0.7s,mb4.1								
KSAR	**Wonju Array Be**	**43.98**	**360**	P			**P**	13 36 19.0	+0.3
KSAR				PcP			PcP	13 37 58.7	+0.5
KSRS	**Korea Array**	**44.00**	**360**	P			**P**	13 36 19.0	+0.2
	8.0nm,0.6s,mb4.2,baz=177,slow=9.3,SNR=45								
KSRS				PcP			PcP	13 37 58.7	+0.4
	2.5nm,0.8s,baz=189,slow=2.7,SNR=6.5								
MJAR	**Matsushiro Arr**	**44.10**	**12**	P			**P**	13 36 17.9	-1.8
	7.4nm,0.7s,mb4.0,baz=191,slow=10.0,SNR=15								
MJAR	**Matsushiro Arr**	**44.10**	**12**	P			**P**	13 36 17.9	-1.8
MAT	**Matsushiro**	**44.10**	**12**	P			**P**	13 36 17.9	-1.8
LSA	**Lhasa**	**50.80**	**317**	*e*P			**P**	13 37 12.2	+1.1
	6.7nm,0.6s,mb4.2								
USRK	**Ussuriysk Arra**	**50.85**	**4**	P			**P**	13 37 09.8	-1.3
	8.2nm,0.6s,mb4.3,baz=187,slow=7.1,SNR=25								
ODAN	**Odare**	**51.76**	**312**	*e*P			**P**	13 37 17.5	-0.6
	32nm,1.0s,mb4.6								
ODAN	**Odare**	**51.76**	**312**	*e*P			**P**	13 37 17.5	-0.6
	32nm,1.0s,mb4.6								
TAPN	**Taplejung**	**51.80**	**313**	*e*P			**P**	13 37 18.3	-0.1
	15nm,0.4s,mb4.7								
TAPN	**Taplejung**	**51.80**	**313**	*e*P			**P**	13 37 18.3	-0.1
	15nm,0.4s,mb4.7								
RAMN	**Ramite**	**52.39**	**312**	*e*P			**P**	13 37 22.3	-0.5
	44nm,0.9s,mb4.8								
RAMN	**Ramite**	**52.39**	**312**	*e*P			**P**	13 37 22.3	-0.5
	44nm,0.9s,mb4.8								
JIRN	**Jiri**	**53.09**	**312**	*e*P			**P**	13 37 27.7	-0.1
	12nm,0.4s,mb4.6								
JIRN	**Jiri**	**53.09**	**312**	*e*P			**P**	13 37 27.7	-0.1
	12nm,0.4s,mb4.6								
GUN	**Gumba**	**53.46**	**312**	*e*P			**P**	13 37 30.3	-0.2
	21nm,0.4s,mb4.8								
GUN	**Gumba**	**53.46**	**312**	*e*P			**P**	13 37 30.3	-0.2
	21nm,0.4s,mb4.8								
PKI	**Pulchoki**	**53.62**	**312**	*e*P			**P**	13 37 31.4	-0.2
	6.4nm,0.3s,mb4.5								
PKI	**Pulchoki**	**53.62**	**312**	*e*P			**P**	13 37 31.4	-0.2
	6.4nm,0.3s,mb4.4								
KKN	**Kakani**	**53.83**	**312**	*e*P			**P**	13 37 32.9	-0.3
	6.3nm,0.4s,mb4.3								
KKN	**Kakani**	**53.83**	**312**	*e*P			**P**	13 37 32.9	-0.3
	6.3nm,0.4s,mb4.3								
DMN	**Daman**	**53.86**	**311**	*e*P			**P**	13 37 33.0	-0.4
	12nm,0.6s,mb4.4								
DMN	**Daman**	**53.86**	**311**	*e*P			**P**	13 37 33.0	-0.4
	12nm,0.6s,mb4.4								
GKN	**Gorkha**	**54.43**	**311**	*e*P			**P**	13 37 37.0	-0.4
	24nm,0.3s,mb5.0								
GKN	**Gorkha**	**54.43**	**311**	*e*P			**P**	13 37 37.0	-0.4
	24nm,0.3s,mb5.0								
KOLN	**Koldanda**	**55.08**	**311**	*e*P			**P**	13 37 41.6	-0.5
	9.9nm,0.4s,mb4.6								
KOLN	**Koldanda**	**55.08**	**311**	*e*P			**P**	13 37 41.6	-0.5
	9.9nm,0.4s,mb4.6								
DANN	**Dangsing**	**55.27**	**311**	*e*P			**P**	13 37 43.2	-0.2
	4.7nm,0.3s,mb4.4								
DANN	**Dangsing**	**55.27**	**311**	*e*P			**P**	13 37 43.2	-0.2
	4.7nm,0.3s,mb4.4								
ULN	**Ulaanbaatar**	**57.51**	**343**	*e*P			**P**	13 37 59.5	+0.7
	3.0nm,0.4s,mb4.1								
SONM	**Songino Array**	**57.67**	**343**	P			**P**	13 38 00.8	+0.9
	3.4nm,0.6s,mb4.0,baz=166,slow=6.3,SNR=21								
SONM				PcP			PcP	13 38 48.8	-0.1
	0.3nm,0.4s,baz=142,slow=4.6,SNR=3.7								
SONM	**Songino Array**	**57.67**	**343**	P			**P**	13 38 00.8	+0.9
SONM				PcP			PcP	13 38 48.8	-0.1
PEA0B	**Petropavlovsk-**	**64.69**	**19**	*e*P			**P**	13 38 46.9	+0.4
PETK	**Petropavlovsk-**	**64.69**	**19**	P			**P**	13 38 46.9	+0.5
	12nm,0.6s,mb4.7,baz=186,slow=5.1,SNR=32								
PETK				PcP			PcP	13 39 16.9	-0.4
	2.5nm,0.5s,baz=184,slow=5.6,SNR=5.0								
PETK	**Petropavlovsk-**	**64.69**	**19**	P			**P**	13 38 46.9	+0.5
PETK				PcP			PcP	13 39 16.9	-0.4
MK31	**Makanchi Array**	**67.06**	**328**	*e*P			**P**	13 39 02.0	+0.3
MKAR	**Makanchi Array**	**67.06**	**328**	P			**P**	13 39 02.1	+0.4
	6.2nm,0.6s,mb4.5,baz=115,slow=7.7,SNR=74								
MKAR				PcP			PcP	13 39 27.6	+0.3
	3.5nm,0.6s,baz=117,slow=5.5,SNR=9.7								
MKAR	**Makanchi Array**	**67.06**	**328**	P			**P**	13 39 02.1	+0.4
MKAR				PcP			PcP	13 39 27.6	+0.3
AAK	**Ala-Archa**	**69.21**	**320**	*e*P			**P**	13 39 15.7	+0.7
	58nm,1.4s,mb5.1								
ZAA0	**Zalesovo Array**	**70.59**	**335**	*e*P			**P**	13 39 22.5	-0.7
ZALV	**Zalesovo Beam**	**70.59**	**335**	P			**P**	13 39 22.6	-0.5
	7.8nm,0.5s,mb4.6,baz=135,slow=5.5,SNR=50								
ZALV	**Zalesovo Beam**	**70.59**	**335**	P			**P**	13 39 22.6	-0.5
KURK	**Kurchatov**	**71.39**	**329**	P			**P**	13 39 28.3	+0.3
	14nm,0.5s,mb4.8,baz=130,slow=4.9,SNR=107								
KURK	**Kurchatov**	**71.39**	**329**	*e*P			**P**	13 39 28.1	+0.1
	20nm,0.8s,mb4.8								
KKAR	**Karatay Array**	**71.99**	**319**	*e*P			**P**	13 39 32.0	+0.3
	1.1nm,0.3s,mb4.0								
BRVK	**Borovoye**	**76.99**	**328**	*e*P			**P**	13 39 59.8	-0.2
	14nm,1.3s,mb4.5								
ABKAR	**Akbulak array**	**81.22**	**322**	*e*P			**P**	13 40 22.8	-0.1
	3.6nm,0.4s,mb4.5								
QSPA	**South Pole Qui**	**83.20**	**180**	*e*P			**P**	13 40 32.3	-0.3
	0.7nm,0.5s,mb3.8								
ARU	**Arti**	**84.57**	**328**	*e*P			**P**	13 40 39.6	-0.2
	11nm,0.9s,mb4.7								
NAY	**Al-Naaiem**	**85.43**	**300**	*e*P			**P**	13 40 44.8	0.0
NAY				AMb			AMB	13 40 45.8	
	comp=Z,26nm,1.3s,mb4.9								
RST	**Umm Al-Ruwaisa**	**85.69**	**300**	*e*P			**P**	13 40 45.7	-0.3
RST				AMb			AMB	13 40 46.6	
	comp=Z,7.1nm,0.8s,mb4.6								
ILAR	**Eielson Array**	**93.91**	**25**	P			**P**	13 41 21.4	-2.2
	comp=Z,0.7nm,0.6s,mb3.9,baz=256,slow=4.7,SNR=15								
ILAR	**Eielson Array**	**93.91**	**25**	P			**P**	13 41 21.4	-2.2
ARCES	**ARCESS Array B**	**100.74**	**340**	P			Pdif	13 41 52.8	-1.8
	comp=Z,7.0nm,1.0s,baz=57,slow=4.5,SNR=5.4								
ARCES	**ARCESS Array B**	**100.74**	**340**	P			Pdif	13 41 52.8	-1.8
YKA	**Yellowknife Ar**	**108.34**	**26**	PKiKP			PKiKP	13 46 32.0	-0.4
	comp=Z,0.5nm,0.4s,baz=297,slow=1.7,SNR=8.6								
YKA	**Yellowknife Ar**	**108.34**	**26**	PKiKP			PKiKP	13 46 32.0	-0.4
GERES	**GERESS Array B**	**111.09**	**320**	PKiKP			PKiKP	13 46 37.4	-0.6
	comp=Z,0.

	baz=254					
ILA	**Ilan**	**0.49 313**	*e*P	**Pn**	**13 42 13.0**	**0.0**
	baz=323					
ILA			S	**Sn**	**13 42 22.3**	**+1.1**
	baz=323					
TWE	**Neicheng**	**0.52 304**	*i* P	**Pn**	**13 42 13.2**	**-0.1**
	baz=310					
TWE			S	**Sn**	**13 42 22.1**	**+0.3**
	baz=310					
ENTT	**Nioudou**	**0.56 292**	⇓*i*P	**Pn**	**13 42 13.7**	**-0.2**
	baz=290					
ENTT			S	**Sn**	**13 42 22.7**	**+0.1**
	baz=290					
TWB1	**Santiao Chiao**	**0.59 347**	*e*P	**Pn**	**13 42 13.3**	**-1.0**
	baz=352					
TWB1			S	**Sn**	**13 42 22.0**	**-1.4**
	baz=352					
TWD	**Chiawan**	**0.61 235**	*i* P	**Pn**	**13 42 13.7**	**-0.7**
	baz=224					
TWD			S	**Sn**	**13 42 23.5**	**-0.1**
	baz=224					
HWA	**Hwalien**	**0.66 228**	P	**Pn**	**13 42 14.6**	**-0.5**
	baz=215					
HWA			S	**Sn**	**13 42 24.7**	**-0.1**
	baz=215					
NNS	**Nan Shan**	**0.70 271**	P	**Pn**	**13 42 15.1**	**-0.5**
	baz=264					
NNS			S	**Sn**	**13 42 26.0**	**+0.3**
	baz=264					
NWF	**Wu-fen Shan**	**0.72 333**	*e*P	**Pn**	**13 42 15.2**	**-0.6**
	baz=345					
NWF			*e*S	**Sn**	**13 42 25.0**	**-1.1**
	baz=345					
TWA	**Mucha**	**0.75 317**	*e*P	**Pn**	**13 42 16.2**	**+0.1**
	baz=329					
TWA			*e*S	**Sn**	**13 42 27.5**	**+0.7**
	baz=329					
NSK	**Sanguang**	**0.75 289**	⇑*i*P	**Pn**	**13 42 15.8**	**-0.5**
	baz=281					
NSK			S	**Sn**	**13 42 26.2**	**-0.7**
	baz=281					
YOJ	**Yonaguni jima**	**0.79 87**	P	**Pn**	**13 42 16.7**	**-0.1**
YOJ			*e*S	**Sn**	**13 42 28.1**	**+0.3**
WHF	**Hehuan Shan**	**0.85 251**	P	**Pn**	**13 42 17.1**	**-0.3**
	baz=249					
WHF			*e*S	**Sn**	**13 42 28.9**	**-0.1**
	baz=249					
ESL	**Shilin**	**0.89 227**	*i* P	**Pn**	**13 42 16.9**	**-1.2**
	baz=235					
ESL			*e*S	**Sn**	**13 42 28.5**	**-1.5**
	baz=235					
TWT	**Tachien**	**0.90 259**	*e*P	**Pn**	**13 42 18.3**	**+0.2**
	baz=254					
TWT			S	**Sn**	**13 42 30.4**	**+0.2**
	baz=254					
TWS1	**Kuangyinshan**	**0.94 316**	P	**Pn**	**13 42 18.4**	**-0.3**
	baz=327					
TWS1			*e*S	**Sn**	**13 42 31.5**	**+0.4**
	baz=327					
TWY	**Chenhua**	**0.98 330**	*e*P	**Pn**	**13 42 19.1**	**-0.1**
	baz=343					
TWY			*e*S	**Sn**	**13 42 32.5**	**+0.5**
	baz=343					
NSTT	**Nanjuang**	**1.06 281**	P	**Pn**	**13 42 19.9**	**-0.3**
	baz=281					
NSTT			S	**Sn**	**13 42 33.9**	**-0.1**
	baz=281					
EHY	**Hungye**	**1.19 219**	P	**Pn**	**13 42 20.6**	**-1.4**
	baz=226					
EHY			*e*S	**Sn**	**13 42 35.0**	**-2.1**
	baz=226					
TWQ1	**Liyutan**	**1.25 267**	*e*P	**Pn**	**13 42 22.9**	**+0.1**
	baz=266					
TWQ1			*e*S	**Sn**	**13 42 38.6**	**0.0**
	baz=266					
SMLT	**Sun Moon Lake**	**1.26 245**	*e*P	**Pn**	**13 42 23.6**	**+0.7**
	baz=236					
SMLT			*e*S	**Sn**	**13 42 38.9**	**+0.1**
	baz=236					
NSY	**Sanyi**	**1.26 270**	*e*P	**Pn**	**13 42 22.2**	**-0.7**
	baz=269					
NSY			*e*S	**Sn**	**13 42 38.2**	**-0.6**
	baz=269					
TYC	**Yuchr**	**1.28 246**	P	**Pn**	**13 42 23.6**	**+0.4**
	baz=239					
TYC			*e*S	**Sn**	**13 42 39.2**	**-0.2**
	baz=239					
TWF1	**Yuli**	**1.32 216**	P	**Pn**	**13 42 22.4**	**-1.4**
	baz=224					
TWF1			*e*S	**Sn**	**13 42 39.4**	**-0.9**
	baz=224					
YUS	**Yu-Shan**	**1.43 230**	*e*P	**Pn**	**13 42 25.7**	**+0.3**
	baz=221					
YUS			*e*S	**Sn**	**13 42 42.8**	**-0.3**
	baz=221					
WNT	**Mingjian**	**1.44 248**	*e*P	**Pn**	**13 42 26.4**	**+0.9**
	baz=258					
WNT			*e*S	**Sn**	**13 42 45.1**	**+1.9**
	baz=258					
IRIF	**Iriomote-Funau**	**1.45 93**	P	**Pn**	**13 42 25.2**	**-0.4**
IRIF			S	**Sn**	**13 42 44.5**	**+1.0**
CHKT	**Chengkung**	**1.50 208**	*e*P	**Pn**	**13 42 25.6**	**-0.7**
	baz=196					
CHKT			*e*S	**Sn**	**13 42 42.0**	**-2.7**
	baz=196					
ALS	**Alishan**	**1.52 233**	P	**Pn**	**13 42 27.4**	**+0.8**
	baz=224					
ALS			*e*S	**Sn**	**13 42 45.8**	**+0.4**
	baz=224					
HATJ	**Hateruma jima**	**1.56 103**	P	**Pn**	**13 42 27.9**	**+0.8**
HATJ			*e*S	**Sn**	**13 42 47.8**	**+1.5**
CHN5	**Tsauling**	**1.57 239**	P	**Pn**	**13 42 27.9**	**+0.7**
	baz=228					
CHN5			*e*S	**Sn**	**13 42 47.6**	**+1.2**
	baz=228					
ELDTW	**Lidau**	**1.61 220**	P	**Pn**	**13 42 26.8**	**-0.9**
	baz=212					
ELDTW			*e*S	**Sn**	**13 42 46.5**	**-0.8**
	baz=212					
WGK	**Gukeng**	**1.62 243**	*e*P	**Pn**	**13 42 27.5**	**-0.4**
	baz=242					
WGK			*e*S	**Sn**	**13 42 49.7**	**+2.1**
	baz=242					
JKRS	**Kuro-shima**	**1.71 96**	P	**Pn**	**13 42 29.3**	**+0.1**
JKRS			*e*S	**Sn**	**13 42 50.8**	**+0.8**
STYT	**Tauyuan**	**1.79 225**	*e*P	**Pn**	**13 42 30.5**	**+0.4**
	baz=224					
STYT			*e*S	**Sn**	**13 42 52.7**	**+1.0**
	baz=224					
WTCT	**Ta-ch'eng**	**1.79 252**	*e*P	**Pn**	**13 42 30.1**	**-0.1**
	baz=261					
WTCT			*e*S	**Sn**	**13 42 51.9**	**+0.1**
	baz=261					
JIJ	**Ishigaki jima**	**1.83 92**	P	**Pn**	**13 42 30.0**	**-0.7**
JIJ			*e*S	**Sn**	**13 42 52.4**	**-0.3**
TWG	**Pinlang**	**1.88 212**	*e*P	**Pn**	**13 42 30.0**	**-1.3**
	baz=210					
TWG			*e*S	**Sn**	**13 42 51.3**	**-2.6**
	baz=210					
WSF	**Szhu**	**1.92 246**	*e*P	**Pn**	**13 42 32.0**	**0.0**
	baz=256					
WSF			*e*S	**Sn**	**13 42 55.3**	**+0.3**
	baz=256					
CHN1	**Nanshi**	**1.93 230**	*e*P	**Pn**	**13 42 33.3**	**+1.3**
	baz=229					
CHN1			*e*S	**Sn**	**13 42 55.4**	**+0.3**
	baz=229					
CHN8	**Yiju**	**2.07 239**	*e*P	**Pn**	**13 42 33.9**	**-0.1**
	baz=227					
CHN8			*e*S	**Sn**	**13 43 00.2**	**+1.6**
	baz=227					
SSD	**Sandimen**	**2.17 220**	*e*P	**Pn**	**13 42 36.5**	**+1.1**
	baz=219					
SSD			*e*S	**Sn**	**13 43 02.7**	**+1.5**
	baz=219					
TWM1	**Shoushan**	**2.24 225**	*e*P	**Pn**	**13 42 37.2**	**+0.8**
	baz=223					
TWM1			*e*S	**Sn**	**13 43 03.8**	**+0.9**
	baz=223					
JTJ	**Tarama**	**2.34 84**	P	**Pn**	**13 42 38.1**	**+0.4**
EAST	**Anshuo**	**2.36 211**	*e*P	**Pn**	**13 42 36.7**	**-1.2**
	baz=208					
SCZT	**Fangliau**	**2.48 215**	*e*P	**Pn**	**13 42 38.8**	**-0.8**
	baz=213					
SCZT			*e*S	**Sn**	**13 43 09.8**	**+1.1**
	baz=213					

NIED ***23*** *13:44:00,36.70N×142.40E,h14km,Mw3.9 Best double couple: M0=9.17000×10^14 NP1:φ=351.00000°,δ60.00000°,λ108.00000°. NP2:φ=138.00000°,δ35.00000°,λ62.00000°.*
IDC ***23*** *13:44:33.8±0.8,36.62N×142.31E,h0km,mb3.8/11, mb1 4.1/13,mb1mx3.9/24,mbtmp3.9/13,ML3.9/2,MS3.3/1, Ms1 3.3/1,ms1mx2.8/44,Error ellipse: s-maj=20.9km s-min=19.7km az=111.0*
JMA ***23*** *13:44:34.9±0.2,36.68N×142.36E,h20km,M4.0*
ISCJB ***23*** *13:44:35.2±1.4,36.66N±0.03×142.35E±0.05, h20km±10km,mb3.9/15,Error ellipse: s-maj=6.9km s-min=5.2km az=15.1*
NEIC ***23*** *13:44:35.4±0.4,36.68N×142.33E,h10km,mb4.5/4, MW3.9(NIED),Error ellipse: s-maj=9.3km s-min=7.1km az=148.0*

ISC 23 13:44:34.7±1.2,36.69N±0.03×142.28E±0.05,h4km±7km, n53,σ0=85/66,mb3.9/15,2C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.26**	**290**	P	**Pg**	**13 44 58.0**	**-0.9**
ONAJ				S	**Sg**	**13 45 15.3**	**+0.1**
JFK	**Kawauchi**	**1.31**	**301**	P	**Pn**	**13 44 59.2**	**-0.6**
JHO	**Hitachi**	**1.38**	**267**	P	**Pn**	**13 45 00.3**	**-0.4**
JHO				S	**Sg**	**13 45 18.5**	**-0.6**
JMM	**Marumori**	**1.67**	**315**	P	**Pn**	**13 45 04.1**	**-0.6**
JMM				S	**Sn**	**13 45 26.7**	**+0.1**
JFT	**Otama**	**1.76**	**299**	⇑P	**Pn**	**13 45 06.4**	**+0.4**
JFT				S	**Sn**	**13 45 29.3**	**+0.5**
JIO	**Ouri**	**1.91**	**337**	⇑P	**Pn**	**13 45 07.6**	**-0.4**
JIO				*e*S	**Sn**	**13 45 31.1**	**-1.4**
JOU	**Okura**	**2.11**	**323**	P	**Pn**	**13 45 12.4**	**+1.6**
JOU				*e*S	**Sn**	**13 45 40.1**	**+2.7**
BSO1	**Boso 1**	**2.29**	**208**	P	**Pn**	**13 45 12.8**	**-0.4**
BSO1				S	**Sn**	**13 45 41.7**	**-0.1**
JAG	**Ashikaga**	**2.29**	**264**	P	**Pn**	**13 45 13.7**	**+0.4**
JMK	**Ichinoseki**	**2.41**	**340**	P	**Pn**	**13 45 15.1**	**+0.2**
JMK				S	**Sn**	**13 45 44.5**	**-0.3**
JNS	**Sasagawa**	**2.62**	**296**	*e*S	**Sn**	**13 45 54.0**	**+4.0**
JYK	**Kaneyama**	**2.70**	**326**	P	**Pn**	**13 45 19.3**	**+0.5**
JRY	**Ryogami san**	**2.81**	**257**	P	**Pn**	**13 45 20.6**	**+0.2**
JRY				S	**Sn**	**13 45 53.9**	**-0.8**
JOM	**Ohasama**	**2.89**	**345**	P	**Pn**	**13 45 21.5**	**+0.1**
JOM				*e*S	**Sn**	**13 45 57.0**	**+0.4**
JOD2	**Odawara 2**	**2.96**	**242**	P	**Pn**	**13 45 22.9**	**+0.5**
MJAR	**Matsushiro Arr**	**3.28**	**269**	Pn	**Pn**	**13 45 28.4**	**+1.6**
	7.4nm,0.3s,baz=82,slow=8.0,SNR=104						
MJAR				Sn	**Sn**	**13 46 02.4**	**-3.9**
	5.5nm,0.3s,baz=79,slow=15,SNR=5.9						
MJAR				LR	LR	13 46 54.8	
	comp=Z,438nm,18.6s,baz=95,slow=43						
MJAR	**Matsushiro Arr**	**3.28**	**269**	Pn	**Pn**	**13 45 28.4**	**+1.6**
MJAR				Sn	**Sn**	**13 46 02.4**	**-3.9**
MAJO	**Matsushiro**	**3.28**	**269**	*e*P	**Pn**	**13 45 28.4**	**+1.5**
MAT	**Matsushiro**	**3.28**	**269**	P	**Pn**	**13 45 28.5**	**+1.6**
MAT				*e*S	**Sn**	**13 46 04.8**	**-1.5**
ERM	**Erimo**	**5.36**	**7**	P	**Pn**	**13 45 54.6**	**-0.8**
ASAJ	**Asahikawa**	**7.42**	**2**	Pn	**Pn**	**13 46 22.9**	**-0.8**
	2.8nm,0.3s,baz=222,slow=11,SNR=29						
ASAJ				Sn	**Sn**	**13 47 45.6**	**-2.7**
	1.5nm,0.3s,baz=137,slow=30,SNR=6.1						
ASAJ	**Asahikawa**	**7.42**	**2**	*e*P	**Pn**	**13 46 22.9**	**-0.8**
ASAJ				Sn	**Sn**	**13 47 45.6**	**-2.7**
YAK	**Yakutsk**	**26.56**	**347**	*e*P	**P**	**13 50 13.5**	**+0.1**
	16nm,0.6s,mb4.7						
ENH	**Enshi**	**28.00**	**266**	*e*P	**P**	**13 50 25.8**	**-0.8**
	6.0nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**28.12**	**305**	*e*P	**P**	**13 50 28.1**	**+0.6**
SONM	**Songino Array**	**28.56**	**304**	P	**P**	**13 50 31.8**	**+0.4**
	3.9nm,0.8s,mb4.2,baz=104,slow=8.7,SNR=16						
SONM	**Songino Array**	**28.56**	**304**	P	**P**	**13 50 31.8**	**+0.4**
ZALV	**Zalesovo Beam**	**42.66**	**313**	P	**P**	**13 52 32.6**	**+0.5**
	0.8nm,0.7s,mb3.6,baz=98,slow=7.6,SNR=6.0						
ZALV	**Zalesovo Beam**	**42.66**	**313**	P	**P**	**13 52 32.6**	**+0.5**
MK31	**Makanchi Array**	**44.89**	**303**	*e*P	**P**	**13 52 50.2**	**0.0**
MKAR	**Makanchi Array**	**44.89**	**303**	P	**P**	**13 52 50.4**	**+0.2**
	1.2nm,0.6s,mb3.9,baz=87,slow=9.9,SNR=8.8						
MKAR	**Makanchi Array**	**44.89**	**303**	P	**P**	**13 52 50.4**	**+0.2**
KURK	**Kurchatov**	**46.69**	**308**	*e*P	**P**	**13 53 03.8**	**-0.5**
	2.2nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**49.41**	**32**	P	**P**	**13 53 25.6**	**+0.5**
	1.0nm,0.7s,mb4.0,baz=259,slow=6.1,SNR=14						
ILAR	**Eielson Array**	**49.41**	**32**	P	**P**	**13 53 25.6**	**+0.5**
WRA	**Warramunga Arr**	**56.82**	**189**	P	**P**	**13 54 19.0**	**-1.2**
	0.7nm,0.7s,mb3.8,baz=6.2,slow=7.6,SNR=5.8						
WRA	**Warramunga Arr**	**56.82**	**189**	P	**P**	**13 54 19.0**	**-1.2**
ABKAR	**Akbulak array**	**58.70**	**311**	*e*P	**P**	**13 54 32.7**	**-0.4**
	1.9nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**60.55**	**189**	P	**P**	**13 54 45.5**	**-0.6**
	0.6nm,0.8s,mb3.8,baz=12,slow=6.9,SNR=7.3						
ASAR	**Alice Springs**	**60.55**	**189**	P	**P**	**13 54 45.5**	**-0.6**
YKA	**Yellowknife Ar**	**63.76**	**30**	P	**P**	**13 55 07.7**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=304,slow=6.8,SNR=4.7						
YKA	**Yellowknife Ar**	**63.76**	**30**	P	**P**	**13 55 07.7**	**+0.4**
AKASG	**Malin Array Be**	**75.00**	**323**	P	**P**	**13 56 17.0**	**0.0**
	0.4nm,0.3s,mb3.8,baz=47,slow=6.1,SNR=5.9						
AKASG	**Malin Array Be**	**75.00**	**323**	P	**P**	**13 56 17.0**	**0.0**
BW06	**Boulder Array**	**77.41**	**46**	*e*P	**P**	**13 56 31.6**	**+0.7**
PDAR	**Pinedale Array**	**77.41**	**46**	P	**P**	**13 56 31.6**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=229,slow=2.7,SNR=4.5						
PDAR	**Pinedale Array**	**77.41**	**46**	P	**P**	**13 56 31.6**	**+0.7**
GERES	**GERESS Array B**	**83.37**	**329**	P	**P**	**13 57 02.2**	**-0.6**
	0.3nm,0.5s,mb3.6,baz=10,slow=3.0,SNR=5.1						
GERES	**GERESS Array B**	**83.37**	**329**	P	**P**	**13 57 02.2**	**-0.6**
TXAR	**Lajitas Array**	**89.78**	**53**	P	**P**	**13 57 34.8**	**+0.2**
	0.3nm,0.7s,mb3.8,baz=293,slow=1.9,SNR=4.6						
TXAR	**Lajitas Array**	**89.78**	**53**	P	**P**	**13 57 34.8**	**+0.2**
LPAZ	**La Paz**	**146.26**	**61**	PKPbc	PKPbc	14 04 17.3	+0.4
	0.5nm,0.4s,baz=127,slow=1.7,SNR=4.3						
LPAZ	**La Paz**	**146.26**	**61**	PKPbc	PKPbc	14 04 17.3	+0.4

IDC 23 13:53:43.6±1.8,3.11N×129.00E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/19,mbtmp3.7/6,Error ellipse: s-maj=75.4km s-min=19.8km az=64.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.34**	**189**	P	P	13 58 32.9	+0.4
	0.9nm,0.5s,baz=12,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**23.50**	**167**	P	P	13 58 56.2	+0.7
	0.9nm,0.4s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.04**	**170**	P	P	13 59 27.2	-0.6
	0.4nm,0.3s,baz=351,slow=7.3,SNR=12						
CMAR	**Chiang Mai Arr**	**33.14**	**300**	P	P	14 00 23.9	+2.0
	0.4nm,0.7s,baz=106,slow=7.5,SNR=4.1						
STKA	**Stephens Creek**	**36.80**	**162**	P	P	14 00 52.4	-0.9
	0.6nm,0.3s,baz=349,slow=8.0,SNR=5.7						
MKAR	**Makanchi Array**	**59.36**	**324**	P	P	14 03 46.9	-0.8
	0.4nm,0.4s,baz=126,slow=8.0,SNR=5.4						

ISCJB ***23*** *14:01:07.4±0.4,39.23N±0.03×35.16E±0.03,h10km, Error ellipse: s-maj=4.2km s-min=3.2km az=38.9*
CSEM ***23*** *14:01:07.6±0.2,39.24N×35.17E,h2km,MD2.7,Error ellipse: s-maj=5.1km s-min=4.0km az=43.0*
ISK ***23*** *14:01:07.2,39.25N×35.18E,h6km,MD2.7*

ISC 23 14:01:08.0±0.5,39.24N±0.03×35.15E±0.03,h5km±7km, n26,σ0=75/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.42**	**18**	*e*PG	**Pg**	**14 01 15.6**	**-0.5**
YOZ				*e*SG	**Sg**	**14 01 21.4**	**-0.3**
YOZ	**Yozgat**	**0.42**	**18**	*e*Pg	**Pg**	**14 01 15.6**	**-0.6**
YOZ				*e*Sg	**Sg**	**14 01 21.4**	**-0.3**
AVNT	**Avonos**	**0.51**	**207**	*i* P	**Pg**	**14 01 18.5**	**+0.7**
AVNT	**Avonos**	**0.51**	**207**	*i* P	**Pg**	**14 01 18.5**	**+0.7**
AVNT				*i* S	**Sg**	**14 01 23.4**	**-1.0**
BNN	**Bunyan**	**0.66**	**125**	*e*PG	**Pg**	**14 01 20.6**	**-0.1**
BNN				*e*SG	**Sg**	**14 01 29.6**	**+0.4**
BNN	**Bunyan**	**0.66**	**125**	*e*Pg	**Pg**	**14 01 20.6**	**-0.1**
BNN				*e*Sg	**Sg**	**14 01 29.6**	**+0.4**
CDAG	**Cicekdag**	**0.72**	**303**	*i* P	**Pg**	**14 01 21.8**	**0.0**
CDAG	**Cicekdag**	**0.72**	**303**	*i* P	**Pg**	**14 01 21.8**	**0.0**
CDAG				*i* S	**Sg**	**14 01 32.7**	**+1.6**
CORM	**Corum**	**1.02**	**337**	*e*PG	**Pg**	**14 01 26.9**	**-0.7**
CORM	**Corum**	**1.02**	**337**	*e*Pg	**Pg**	**14 01 27.0**	**-0.6**
PINB	**Pinarbasi**	**1.12**	**119**	*i* P	**Pg**	**14 01 28.6**	**-0.9**
PINB	**Pinarbasi**	**1.12**	**119**	*i* P	**Pg**	**14 01 28.6**	**-0.9**
PINB				*i* S	**Sg**	**14 01 45.3**	**+1.3**
KAMT	**Kaman**	**1.13**	**277**	*e*PN	**Pg**	**14 01 29.1**	**-0.5**
KAMT	**Kaman**	**1.13**	**277**	*e*Pn	**Pg**	**14 01 29.1**	**-0.5**
SARI	**SarD1z-Kayseri**	**1.32**	**114**	*e*PN	**Pn**	**14 01 32.2**	**-0.8**
SARI	**SarD1z-Kayseri**	**1.32**	**114**	*e*Pn	**Pn**	**14 01 32.2**	**-0.9**
CTKT	**Corum**	**1.41**	**349**	*i* P	**Pn**	**14 01 33.8**	**-0.5**
CTKT	**Corum**	**1.41**	**349**	*i* P	**Pn**	**14 01 33.8**	**-0.5**
CTKT				*i* S	**Sb**	**14 01 53.2**	**+0.1**
AFSR	**Af`ar-Bala (A**	**1.63**	**278**	*e*PN	**Pn**	**14 01 37.8**	**+0.5**
AFSR	**Af`ar-Bala (A**	**1.63**	**278**	*e*Pn	**Pn**	**14 01 37.8**	**+0.5**
SULT	**Sultanhani-AKS**	**1.65**	**232**	*e*PN	**Pn**	**14 01 38.0**	**+0.5**
SULT	**Sultanhani-AKS**	**1.65**	**232**	*e*Pn	**Pn**	**14 01 38.1**	**+0.6**
SCER	**sogukcermik**	**1.65**	**67**	*i* P	**Pn**	**14 01 37.7**	**+0.2**
SCER	**sogukcermik**	**1.65**	**67**	*i* P	**Pn**	**14 01 37.7**	**+0.1**
SCER				*i* S	**Sg**	**14 02 01.6**	**+0.6**
ELDT	**Eldivan**	**1.83**	**314**	*i* P	**Pg**	**14 01 41.7**	**-1.2**
ELDT	**Eldivan**	**1.83**	**314**	*i* P	**Pg**	**14 01 41.7**	**-1.3**
ELDT				*i* S	**Sg**	**14 02 07.5**	**+0.8**

DJA 23 14:23:18,0.66S×99.28E,h10km,MLv3.9/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.14**	**80**	P	Pb	14 23 37.8	-1.9
PPI				S	Sb	14 23 54.6	0.0
PDSI	**Padang**	**1.21**	**102**	P	Pn	14 23 39.9	-1.1
PDSI				S	Sb	14 23 55.5	-1.2
MNSI	**Mandailing Nat**	**1.48**	**12**	P	Pn	14 23 43.1	-1.6
BKNI	**Bangkinang**	**2.01**	**61**	P	Pn	14 23 52.7	+0.6

IDC ***23*** *14:23:34.8±1.4,7.78S×120.30E,h0km,mb3.8/4, mb1 3.8/6,mb1mx3.6/19,mbtmp3.7/6,ML3.5/2,Error ellipse: s-maj=97.7km s-min=17.6km az=61.0*
DJA ***23*** *14:23:36,7.80S×120.34E,h10km,MLv3.9/4*
ISCJB ***23*** *14:23:38.8±1.0,7.85S±0.06×120.2E±0.1,h52km±12km, mb4.0/3,Error ellipse: s-maj=19.2km s-min=6.8km az=153.8*
NEIC ***23*** *14:23:40.2±0.9,7.56S×120.69E,h35km,Error ellipse: s-maj=73.0km s-min=7.6km az=58.0*

ISC 23 14:23:39.7±1.1,7.87S±0.06×120.2E±0.1,h37km±14km, n21,σ0=94/24,mb4.0/3,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.80**	**177**	P	**Pn**	**14 24 08.4**	**+0.1**
MMRI	**Maumere**	**2.16**	**111**	S	**Sn**	**14 24 39.6**	**+0.7**
BKSI	**Bulukumba**	**2.53**	**358**	P	**Pn**	**14 24 17.9**	**-0.4**
BKSI				S	**Sn**	**14 24 47.9**	**0.0**
KAPI	**Kappang**	**2.87**	**351**	Pn	**Pn**	**14 24 21.5**	**-1.5**
	24nm,0.3s,baz=142,slow=9.6,SNR=36						
KAPI				Sn	**Sn**	**14 24 54.7**	**-1.6**
	8.6nm,0.3s,baz=190,slow=18,SNR=5.8						
KAPI	**Kappang**	**2.87**	**351**	*e*P	**Pn**	**14 24 20.9**	**-2.1**
KAPI				Sn	**Sn**	**14 24 54.7**	**-1.6**
KAPI	**Kappang**	**2.87**	**351**	P	**Pn**	**14 24 23.0**	**0.0**
BNSI	**Bone**	**3.44**	**359**	P	**Pn**	**14 24 32.3**	**+1.4**
SPSI	**Sidrap Palu**	**3.90**	**354**	P	**Pn**	**14 24 39.1**	**+1.9**
WRA	**Warramunga Arr**	**18.22**	**133**	P	**Pn**	**14 27 48.8**	**-1.0**
	0.1nm,0.3s,baz=308,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**18.22**	**133**	P	**Pn**	**14 27 48.8**	**-1.0**
WRAB	**Tennant Creek**	**18.22**	**133**	P	**Pn**	**14 27 48.9**	**-1.0**
RGRI	**Rengat**	**19.30**	**292**	P	**Pn**	**14 28 08.2**	**+5.2**
AS31	**Alice Springs**	**20.49**	**142**	*e*P	**P**	**14 28 14.4**	**-0.2**
ASAR	**Alice Springs**	**20.49**	**142**	P	**P**	**14 28 14.8**	**+0.2**
	0.6nm,0.4s,baz=316,slow=10,SNR=37						
ASAR	**Alice Springs**	**20.49**	**142**	P	**P**	**14 28 14.8**	**+0.2**
STKA	**Stephens Creek**	**31.11**	**143**	P	**P**	**14 29 54.8**	**0.0**
	1.4nm,0.9s,mb3.8,baz=339,slow=8.8,SNR=4.9						
STKA	**Stephens Creek**	**31.11**	**143**	P	**P**	**14 29 54.8**	**0.0**
MKAR	**Makanchi Array**	**64.00**	**332**	P	**P**	**14 34 10.4**	**+1.0**
	1.0nm,0.6s,mb4.1,baz=144,slow=7.4,SNR=14						
MKAR	**Makanchi Array**	**64.00**	**332**	P	**P**	**14 34 10.4**	**+1.0**
ZALV	**Zalesovo Beam**	**68.42**	**338**	P	**P**	**14 34 37.6**	**0.0**
	1.0nm,0.6s,mb4.0,baz=143,slow=5.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**68.42**	**338**	P	**P**	**14 34 37.6**	**0.0**

ISCJB ***23*** *14:24:42.9±1.7,36.59N±0.10×71.6E±0.2,h222km±29km, Error ellipse: s-maj=26.3km s-min=7.4km az=145.1*
NNC ***23*** *14:24:46.2±3.2,37.32N×70.96E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=27.5km s-min=25.1km az=73.0*

ISC 23 14:24:43.9±1.9,36.7N±0.1×71.5E±0.2,h235km±29km,n20, σ0=99/24,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.72**	**17**	P	**Pn**	**14 26 08.3**	**+0.3**
	SNR=39						
AML				P		14 26 08.3	
	SNR=39						
UCH	**Uchtor**	**6.03**	**22**	P	**S**	**14 27 22.1**	**-0.2**
	SNR=6.3						
UCH				P	**S**	**14 27 22.1**	**-0.2**
	SNR=6.3						
EKS2	**Erkin-Say**	**6.24**	**16**	P	**Pn**	**14 26 15.5**	**+0.8**
	SNR=8.4						
EKS2				P		14 26 15.5	
	SNR=8.4						
AAK	**Ala-Archa**	**6.40**	**20**	P	**Pn**	**14 26 17.6**	**+1.0**
	SNR=9.4						
AAK				P		14 26 17.6	
	SNR=9.4						
KK31	**Karatay Array**	**6.47**	**354**	Pn	**Pn**	**14 26 16.6**	**-1.0**
	2.0nm,0.6s,baz=177,slow=12,SNR=22						
KK31				⇑Sn	**S**	**14 27 27.1**	**-5.4**
	22nm,

*MAN **23** 15:02:21.8±97N×127°27E, h53km, mb5.2, ML4.2, MS4.4*
*ISCJB **23** 15:02:25.3±1.1, 8°91N±0°05×126°99E±0°08, h60km±9km, mb4.3/25, Error ellipse: s-maj=14.6km s-min=6.0km az=159.8*
*IDC **23** 15:02:28.8±3.4, 8°81N×126°81E, h71km±31km, mb3.8/13, mb1 3.9/14, mb1mx3.8/22, mbtmp3.8/14, ML4.2/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/43, Error ellipse: s-maj=33.3km s-min=13.1km az=70.0*
*NEIC **23** 15:02:29.2±1.6, 8°82N×126°77E, h76km±15km, mb4.8/13, Error ellipse: s-maj=15.8km s-min=6.3km az=59.0*
ISC 23 15:02:27.5±1.1, 8°87N±0°05×126°92E±0°09, h62km±9km, n87, σ0°95/82, mb4.3/25, 6C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	2.02	199	eP	Pn	15 02 56.5	-2.8
BUKP	Musuan	2.08	242	eP	Pn	15 03 00.5	+0.4
DAV	Davao City (W)	2.23	217	P	Pn	15 03 02.0	0.0
	70nm,0.3s,baz=293,slow=3.8,SNR=23						
DAV				S	Sn	15 03 35.5	+7.1
	68nm,0.3s,baz=88,slow=18,SNR=7.1						
DAV				LR	LR	15 03 36.9	
	comp=Z,1μm,20.3s,baz=95,slow=32						
DAV	Davao City (W)	2.23	217	ePn	Pn	15 03 02.2	+0.1
DAV				S	Sn	15 03 35.5	+7.1
CGP	Cagayan de Oro	2.24	260⇓	eP	Pn	15 03 00.9	-1.3
CGP				eS	Sn	15 03 34.0	+5.3
DMPH	Davao City--Mi	2.26	218⇑	eP	Pn	15 03 02.3	-0.2
DMPH				i S	Sn	15 03 31.1	+1.8
MSLP	Maasin	2.39	302	eP	Pn	15 03 03.7	-0.6
KCP	Kidapawan	2.59	225⇓	eP	Pn	15 03 05.8	-1.3
PLP	Palo	2.98	320⇓	eP	Pn	15 03 09.2	-3.1
CTBH	Cotabato--PC H	3.11	238⇑	eP	Pn	15 03 13.8	-0.3
TBP	Tagbilaran	3.12	285	eP	Pn	15 03 14.2	-0.1
LLP	Lapu-Lapu	3.25	297⇑	eP	Pn	15 03 15.4	-0.6
LLP				eS	Sn	15 03 54.9	+1.4
PAGZ	Pagadian	3.64	254	eP	Pn	15 03 23.6	+2.2
SNPH	Sibulan	3.67	278⇑	eP	Pn	15 03 23.1	+1.4
GUIM	Jordan	4.61	293	eP	Pn	15 03 34.0	-0.6
RCP	Roxas	4.90	303⇑	eP	Pn	15 03 37.7	-0.9
PVCP	Virac	5.42	330	eP	Pn	15 03 48.2	+2.4
GUMO	Guam	18.22	73	LR	LR	15 12 15.8	
	comp=Z,98nm,19.4s,baz=246,slow=32						
FITZ	Fitzroy Crossi	26.83	183	P	P	15 08 03.5	+1.3
	6.5nm,0.8s,mb4.2,baz=56,slow=1.5,SNR=6.3						
FITZ	Fitzroy Crossi	26.83	183	eP	P	15 08 04.9	+2.7
FITZ	Fitzroy Crossi	26.83	183	eP	P	15 08 04.8	+2.6
KSAR	Wonju Array Be	28.46	2	P	P	15 08 18.1	+1.5
KSRS	Korea Array	28.47	2	P	P	15 08 18.1	+1.4
	1.3nm,0.8s,mb3.6,baz=178,slow=9.4,SNR=4.9						
CMAR	Chiang Mai Arr	28.77	292	P	P	15 08 19.9	+0.3
	1.3nm,0.5s,mb3.9,baz=100,slow=6.9,SNR=11						
CMAR	Chiang Mai Arr	28.77	292	P	P	15 08 19.9	+0.3
MJAR	Matsushiro Arr	29.40	19	LR	LR	15 19 47.7	
	comp=Z,132nm,18.3s,baz=225,slow=35						
WRA	Warramunga Arr	29.55	166	P	P	15 08 26.1	-0.4
	0.8nm,0.6s,mb3.6,baz=349,slow=9.1,SNR=5.7						
WRA	Warramunga Arr	29.55	166	P	P	15 08 26.1	-0.4
WB2	Warramunga Arr	29.55	166	P	P	15 08 26.2	-0.3
AS31	Alice Springs	33.05	168	eP	P	15 08 56.8	-0.4
ASAR	Alice Springs	33.05	168	P	P	15 08 56.4	-0.8
	0.9nm,0.8s,mb3.8,baz=350,slow=6.8,SNR=11						
ASAR	Alice Springs	33.05	168	P	P	15 08 56.4	-0.8
ASAJ	Asahikawa	37.67	19	LR	LR	15 25 07.7	
	comp=Z,143nm,18.2s,baz=148,slow=36						
QLP	Quilpie	39.05	155	eP	P	15 09 47.9	-0.5
TAPN	Taplejung	41.32	302	eP	P	15 10 07.1	-0.2
TAPN	Taplejung	41.32	302	eP	P	15 10 07.1	-0.2
ODAN	Odare	41.43	301	eP	P	15 10 08.3	0.0
	22nm,0.7s,mb4.9						
ODAN	Odare	41.43	301	eP	P	15 10 08.3	0.0
	22nm,0.7s,mb4.9						
RAMN	Ramite	42.13	301	eP	P	15 10 14.1	+0.1
	14nm,0.7s,mb4.7						
RAMN	Ramite	42.13	301	eP	P	15 10 14.1	+0.1
	14nm,0.7s,mb4.7						
BBOO	Buckleboo	42.35	169	eP	P	15 10 16.6	+1.0
SONM	Songino Array	42.55	340	P	P	15 10 17.6	+0.6
	0.5nm,0.5s,mb3.5,baz=168,slow=10,SNR=2.9						
SONM	Songino Array	42.55	340	P	P	15 10 17.6	+0.6
JIRN	Jiri	42.70	301	eP	P	15 10 18.8	+0.2
	13nm,0.7s,mb4.8						
JIRN	Jiri	42.70	301	eP	P	15 10 18.8	+0.2
	13nm,0.7s,mb4.8						
STKA	Stephens Creek	42.88	162	P	P	15 10 20.1	+0.3
	5.2nm,0.8s,mb4.3,baz=342,slow=7.5,SNR=12						
STKA	Stephens Creek	42.88	162	eP	P	15 10 20.0	+0.1
STKA	Stephens Creek	42.88	162	eP	P	15 10 19.9	0.0
	2.3nm,1.2s,mb3.8						
GUN	Gumba	43.03	302	eP	P	15 10 21.3	0.0
	25nm,1.0s,mb4.9						
GUN	Gumba	43.03	302	eP	P	15 10 21.3	0.0
	25nm,1.0s,mb4.9						
PKI	Pulchoki	43.33	301	eP	P	15 10 23.1	-0.6
PKI	Pulchoki	43.33	301	eP	P	15 10 23.1	-0.6
KKN	Kakani	43.50	301	eP	P	15 10 24.6	-0.5
	10nm,0.9s,mb4.6						
KKN	Kakani	43.50	301	eP	P	15 10 24.6	-0.5
	10nm,0.9s,mb4.6						
DMN	Daman	43.60	301	eP	P	15 10 25.4	-0.4
	19nm,1.1s,mb4.7						
DMN	Daman	43.60	301	eP	P	15 10 25.4	-0.4
	19nm,1.1s,mb4.7						
CMSA	Cobar Meteorol	44.01	157	eP	P	15 10 29.9	+0.9
KOLN	Koldanda	44.92	301	eP	P	15 10 36.2	-0.2
	11nm,0.7s,mb4.8						
KOLN	Koldanda	44.92	301	eP	P	15 10 36.2	-0.2
	11nm,0.7s,mb4.8						
DANN	Dangsing	44.95	301	eP	P	15 10 36.3	-0.4
	22nm,0.8s,mb5.0						
DANN	Dangsing	44.95	301	eP	P	15 10 36.3	-0.4
	22nm,0.8s,mb5.0						
DZM	Mont Dzumac	49.47	129	eLR	LR	15 25 43.8	
	122nm,29.8s						
MK31	Makanchi Array	53.52	323	eP	P	15 11 41.8	+0.1
MKAR	Makanchi Array	53.52	323	P	P	15 11 42.0	+0.2
	6.1nm,0.7s,mb4.7,baz=121,slow=8.2,SNR=77						
MKAR	Makanchi Array	53.52	323	P	P	15 11 42.0	+0.2
ZAA0	Zalesovo Array	56.15	332	eP	P	15 12 00.0	-0.7
ZALV	Zalesovo Beam	56.15	332	P	P	15 12 00.5	-0.2
	2.8nm,0.8s,mb4.4,baz=116,slow=7.1,SNR=12						
ZALV	Zalesovo Beam	56.15	332	P	P	15 12 00.5	-0.2
KURK	Kurchatov	57.58	326	eP	P	15 12 10.4	-0.4
	15nm,1.3s,mb4.8						
KKAR	Karatay Array	59.69	315	eP	P	15 12 24.9	-0.7
	1.6nm,0.6s,mb4.2						
BRVK	Borovoye	63.25	326	eP	P	15 12 48.2	-1.3
ABKAR	Akbulak array	68.35	320	eP	P	15 13 22.0	-0.4
	4.7nm,1.1s,mb4.4						
ARU	Arti	70.74	327	eP	P	15 13 35.8	-1.1
	5.2nm,0.8s,mb4.5						
ILAR	Eielson Array	80.42	26	P	P	15 14 32.4	+0.3
	0.5nm,0.9s,mb3.5,baz=242,slow=4.3,SNR=9.3						
ILAR	Eielson Array	80.42	26	P	P	15 14 32.4	+0.3
PPT2	Papeete2	86.53	108	eLR	LR	15 42 59.9	
	147nm,26.8s						
FINES	FINESS Array B	87.42	332	P	P	15 15 07.7	-0.2
	2.5nm,0.9s,mb4.5,baz=123,slow=12,SNR=2.6						
FINES	FINESS Array B	87.42	332	P	P	15 15 07.7	-0.2
TBI	Tubuai	87.68	114	eLR	LR	15 43 30.6	
	120nm,41.0s						
AKASG	Malin Array Be	88.05	321	P	P	15 15 10.9	-0.2
	0.2nm,0.3s,mb3.8,baz=68,slow=5.1,SNR=3.9						
AKASG	Malin Array Be	88.05	321	P	P	15 15 10.9	-0.2
YKA	Yellowknife Ar	94.77	24	P	P	15 15 44.0	+1.9
	0.5nm,0.8s,mb4.0,baz=300,slow=4.2,SNR=6.8						
YKA	Yellowknife Ar	94.77	24	P	P	15 15 44.0	+2.0
TXAR	Lajitas Array	118.24	50	PKP	PKPdf	15 21 10.1	+1.7
	0.2nm,0.7s,baz=355,slow=3.8,SNR=2.6						
TXAR	Lajitas Array	118.24	50	PKP	PKPdf	15 21 10.1	+1.7
TORD	Torodi Ar. Bea	121.37	291	PKP	PKPdf	15 21 14.1	-0.7
	0.5nm,0.8s,baz=69,slow=2.7,SNR=2.9						
TORD	Torodi Ar. Bea	121.37	291	PKP	PKPdf	15 21 14.1	-0.7

IDC 23 15:03:28.3±1.5, 51°08N×177°95W, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=38.2km s-min=13.7km az=6.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	5.78	292	Pn	Pn	15 04 54.7	-0.4
	1.6nm,0.3s,baz=210,slow=20,SNR=11						
FX1				Sn	Sn	15 05 57.1	-5.0
	0.4nm,0.3s,baz=98,slow=24,SNR=2.8						
KDAK	Kodiak Island	16.14	56	Pn	Pn	15 07 15.8	-0.5
	0.6nm,0.3s,baz=310,slow=18,SNR=11						
ILAR	Eielson Array	21.15	38	P	P	15 08 12.9	-1.5
	0.1nm,0.6s,baz=236,slow=11,SNR=4.7						
PDAR	Pinedale Array	45.89	72	P	P	15 11 52.9	+0.7
	1.1nm,0.7s,baz=313,slow=4.0,SNR=7.0						
ASAR	Alice Springs	85.63	223	P	P	15 16 07.7	-0.8
	0.4nm,0.8s,baz=21,slow=5.3,SNR=4.1						

*IDC **23** 15:15:41.3±0.9, 2°47S×101°96E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/22, mbtmp4.1/10, Error ellipse: s-maj=33.2km s-min=14.9km az=57.0*
*NEIC **23** 15:15:46.6±0.5, 2°44S×102°05E, h35km, mb4.8/8, Error ellipse: s-maj=19.1km s-min=6.4km az=49.0*
*ISCJB **23** 15:15:49.3±0.5, 2°49S±0°09×102°1E±0°1, h81km±6km, mb4.4/18, Error ellipse: s-maj=22.7km s-min=5.7km az=140.1*
*DJA **23** 15:15:49, 2°87S×101°68E, h53km, MLv4.3/8*
ISC 23 15:15:50.1±0.5, 2°50S±0°09×102°0E±0°1, h68km±7km, n49, σ0°94/50, mb4.4/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	Kerinci	0.71	305	P	Pn	15 16 04.7	-0.3
KRJI				S	Sn	15 16 20.0	+4.0
KSI	Kapahiang	1.26	154	P	Pn	15 16 11.0	-0.9
KSI				S	Sn	15 16 22.9	-5.4
MNAI	Manna	2.06	154	P	Pn	15 16 21.2	-1.3
PDSI	Padang	2.24	315	P	Pn	15 16 24.8	-0.1
PDSI				S	Sn	15 16 51.3	-0.3
PPI	Padang Panjang	2.62	321	P	Pn	15 16 30.7	+0.6
BKNI	Bangkinang	2.99	340	P	Pn	15 16 37.9	+2.8
LWLI	Liwa	3.21	141	P	Pn	15 16 39.3	+1.2
KLI	Kotabumi	3.66	130	P	Pn	15 16 44.6	+0.3
KAPI	Kappang	17.84	99	eP	Pn	15 19 51.5	-2.4
CMAR	Chiang Mai Arr	21.05	352	P	P	15 20 26.5	-2.1
	0.2nm,0.3s,baz=181,slow=8.3,SNR=3.4						
CMAR	Chiang Mai Arr	21.05	352	P	P	15 20 26.5	-2.1
FITZ	Fitzroy Crossi	27.85	125	P	P	15 21 33.1	-0.3
	4.1nm,1.0s,mb3.9,baz=15,slow=14,SNR=7.3						
FITZ	Fitzroy Crossi	27.85	125	P	P	15 21 33.1	-0.3
ODAN	Odare	32.44	335	eP	P	15 22 14.3	+0.4
	14nm,0.9s,mb4.7						
ODAN	Odare	32.44	335	eP	P	15 22 14.3	+0.4
	14nm,0.9s,mb4.7						
TAPN	Taplejung	32.74	336	eP	P	15 22 17.3	+0.8
	17nm,0.9s,mb4.9						
TAPN	Taplejung	32.74	336	eP	P	15 22 17.3	+0.8
	17nm,0.9s,mb4.9						
JIRN	Jiri	33.65	334	eP	P	15 22 24.9	+0.5
	7.1nm,0.4s,mb4.9						
JIRN	Jiri	33.65	334	eP	P	15 22 24.9	+0.5
	7.1nm,0.4s,mb4.8						
GUN	Gumba	34.01	334	eP	P	15 22 28.0	+0.5
	10nm,0.4s,mb5.0						
GUN	Gumba	34.01	334	eP	P	15 22 28.0	+0.5
	10nm,0.4s,mb5.0						
DANN	Dangsing	35.35	331	eP	P	15 22 39.1	0.0
	10.0nm,0.4s,mb5.0						
DANN	Dangsing	35.35	331	eP	P	15 22 39.1	0.0
	10.0nm,0.4s,mb5.0						
WRA	Warramunga Arr	35.98	121	P	P	15 22 45.4	+0.7
	1.4nm,0.3s,mb4.3,baz=306,slow=8.9,SNR=33						
WRA	Warramunga Arr	35.98	121	P	P	15 22 45.4	+0.7
WRAB	Tennant Creek	35.99	121	eP	P	15 22 45.5	+0.8
	2.5nm,0.4s,mb4.5						
WB2	Warramunga Arr	35.99	121	eP	P	15 22 45.5	+0.7
AS31	Alice Springs	37.31	127	eP	P	15 22 56.2	+0.3
ASAR	Alice Springs	37.31	127	P	P	15 22 56.1	+0.2
	2.1nm,0.8s,mb4.1,baz=301,slow=7.9,SNR=56						
ASAR	Alice Springs	37.31	127	P	P	15 22 56.1	+0.2
STKA	Stephens Creek	47.30	133	P	P	15 24 17.7	+0.8
	1.1nm,0.5s,mb3.8,baz=337,slow=8.0,SNR=5.8						
STKA	Stephens Creek	47.30	133	P	P	15 24 17.7	+0.8
SONM	Songino Array	50.27	4	P	P	15 24 38.5	-1.0
	0.4nm,0.4s,mb3.8,baz=174,slow=7.2,SNR=2.5						
SONM	Songino Array	50.27	4	P	P	15 24 38.5	-1.0
EKS2	Erkin-Say	51.70	334	eP	P	15 24 50.3	0.0
	5.1nm,0.9s,mb4.5						
MK31	Makanchi Array	52.09	343	eP	P	15 24 52.9	-0.2
MKAR	Makanchi Array	52.09	343	P	P	15 24 53.2	+0.2
	1.0nm,0.3s,mb4.3,baz=159,slow=9.5,SNR=9.3						
MKAR	Makanchi Array	52.09	343	P	P	15 24 53.2	+0.2
USRK	Ussuriysk Arra	53.67	26	P	P	15 25 05.3	+0.6
	0.9nm,0.4s,mb4.2,baz=205,slow=2.2,SNR=7.9						
OPO	Ambohidratompo	56.00	249	P	P	15 25 22.0	-0.1
	2.3nm,0.9s,mb4.2,baz=331,slow=9.1,SNR=3.9						
OPO	Ambohidratompo	56.00	249	P	P	15 25 22.0	-0.1
KURK	Kurchatov	56.68	342	P	P	15 25 25.0	-1.3
	0.5nm,0.4s,mb3.9,baz=159,slow=6.7,SNR=4.6						
KURK	Kurchatov	56.68	342	P	P	15 25 25.0	-1.3
ZAA0	Zalesovo Array	58.06	348	eP	P	15 25 36.2	+0.3
ZALV	Zalesovo Beam	58.06	348	P	P	15 25 36.1	+0.1
	13nm,1.0s,mb4.9,baz=160,slow=4.7,SNR=33						
ZALV	Zalesovo Beam	58.06	348	P	P	15 25 36.1	+0.1
ABKAR	Akbulak array	63.07	330	eP	P	15 26 07.8	-2.3
	1.4nm,0.5s,mb4.2						
TXAR	Lajitas Array	143.82	40	PKP	PKPdf	15 35 17.3	-0.9
	1.0nm,0.7s,baz=267,slow=1.3,SNR=13						
TXAR	Lajitas Array	143.82	40	PKP	PKPdf	15 35 17.3	-0.9

*IDC **23** 15:18:16.4±1.3, 44°46N×10°67E, h0km, mb3.6/2, mb1 3.8/6, mb1mx3.5/26, mbtmp3.6/6, ML3.3/4, Error ellipse: s-maj=31.7km s-min=14.5km az=117.0*
*ZUR **23** 15:18:16.0, 44°37N×10°39E, h8km±9km, ML3.3/5*
*GEN **23** 15:18:18.3, 44°66N×10°49E, h0km, ML3.1*
*CSEM **23** 15:18:19.8±0.1, 44°58N×10°43E, h15km, ML3.7/14, Error ellipse: s-maj=2.3km s-min=1.9km az=147.0*
*STR **23** 15:18:19.5±0.4, 44°63N×10°33E, h5km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **23** 15:18:20.2±0.2, 44°57N±0°02×10°39E±0°02, h30km±2km, mb3.5/2, Error ellipse: s-maj=2.8km s-min=1.8km az=157.7*
*ROM **23** 15:18:20.3±0.1, 44°54N×10°33E, h26km±2km, Ml3.4/13, Error ellipse: s-maj=2.3km s-min=1.9km az=58.0*
*PRU **23** 15:18:20.0, 44°63N×10°55E, h10km*
*LDG **23** 15:18:21.6±0.1, 44°59N×10°59E, h30km, Ml3.5/22, Error ellipse: s-maj=2.4km s-min=1.9km az=3.0*
*NEIC **23** 15:18:21.6, 44°59N×10°59E, h30km, ML3.6(VIE), ML3.5(LDG), After LDG.*
*VIE **23** 15:18:22.8±0.9, 44°74N×10°77E, h8km, mb3.0/13, ML3.6/15, Error ellipse: s-maj=8.6km s-min=6.3km az=70.0 52 km WNW of Bologna*
ISC 23 15:18:20.9±0.2, 44°57N±0°02×10°39E±0°02, h25km±2km, n301, σ1°11/440, mb3.5/2, 25C-24D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	Eremo	0.15	174	⇓iPg	Pb	15 18 24.9	-1.1
ERBM				Sg	Sb	15 18 29.4	0.0
	17μm,0.4s						
ERBM	Eremo	0.15	174	⇓iPg	Pb	15 18 24.9	-1.1
PRMA	PARMA	0.21	344	⇓iPg	Pb	15 18 25.7	-1.0
PRMA				Sg	Sb	15 18 31.2	+0.6
	3μm,0.5s						
PRMA	PARMA	0.21	344	⇓iPg	Pb	15 18 25.7	-1.0
VALM	Valbona	0.24	206	P	Pb	15 18 25.5	-1.5
VALM				S	Sb	15 18 30.2	-1.0
GRAM	Graiana	0.24	253	P	Pb	15 18 25.9	-1.2
GRAM				S	Sb	15 18 30.2	-1.2
NOVE	Novellara	0.33	45	⇓iPg	Pb	15 18 27.3	-1.0
NOVE				Sg	Sb	15 18 34.9	+1.5
	6μm,0.5s						
NOVE	Novellara	0.33	45	⇓iPg	Pb	15 18 27.3	-1.0
CODM	Codolo	0.42	246	P	Pb	15 18 28.5	-1.3
CODM				S	Sb	15 18 35.8	-0.1
ZCCA	Zocca	0.47	117	Pg	Pb	15 18 30.8	+0.2
	2μm,0.7s						
ZCCA	Zocca	0.47	117	Pg	Pb	15 18 30.8	+0.2
	2μm,0.7s						
BDI	Bagni Di Lucca	0.52	164	Pg	Pb	15 18 30.7	-0.8
BDI				Sg	Sb	15 18 38.7	0.0
	2μm,0.3s						
BDI	Bagni Di Lucca	0.52	164	Pg	Pb	15 18 30.7	-0.8
BDI				Sg	Sb	15 18 38.7	0.0
	2μm,0.3s						
PZZT	Monte Pizzetto	0.55	142	Pg	Pb	15 18 30.5	-1.4
PZZT				Sg	Sb	15 18 40.0	+0.6
PZZT	Monte Pizzetto	0.55	142	Pg	Pb	15 18 30.5	-1.4
PZZT				Sg	Sb	15 18 40.0	+0.6
RAVA	Ravarino	0.55	70	Pg	Pb	15 18 32.7	+0.7
	5μm,0.7s						
SBPO	S.Benedetto Po	0.61	38	Pg	Pb	15 18 34.4	+1.4
	2μm,0.3s						
SC2M	Scurtabo	0.63	256	Pg	Pb	15 18 32.3	-1.0
SC2M				Sg	Sb	15 18 40.4	-1.4
	2μm,0.6s						
SC2M	Scurtabo	0.63	256	P	Pb	15 18 32.1	-1.2
SC2M	Scurtabo	0.63	256	Pg	Pb	15 18 32.3	-1.0
SC2M				Sg	Sb	15 18 40.4	-1.4
	2μm,0.6s						
SC2M				S	Sb	15 18 42.0	+0.2
MAIM	Mastiano	0.66	174	Pg	Pb	15 18 32.9	-0.8
MAIM				Sg	Sb	15 18 41.9	-0.5
	677nm,0.4s						
MAIM	Mastiano	0.66	174	P	Pb	15 18 32.5	-1.2
MAIM	Mastiano	0.66	174	Pg	Pb	15 18 32.9	-0.8
MAIM				Sg	Sb	15 18 41.9	-0.5
	677nm,0.4s						
MAIM				S	Sb	15 18 42.3	-0.1
FNVD	Fontana Vidola	0.66	127	Pg	Pb	15 18 33.3	-0.4
FNVD				Sg	Sb	15 18 45.1	+2.6
FNVD	Fontana Vidola	0.66	127	Pg	Pb	15 18 33.3	-0.4
BOB	Bobbio (Coli)	0.70	287	Pg	Pb	15 18 34.2	-0.3
BOB				Sg	Sb	15 18 44.2	+0.5
	983nm,0.8s						
BOB	Bobbio (Coli)	0.70	287	Pg	Pb	15 18 34.2	-0.3
BOB				Sg	Sb	15 18 44.2	+0.5
	983nm,0.8s						
FIU	Minerbio Fiu	0.79	84	Pg	Pb	15 18 36.9	+1.0
	3μm,0.4s						
MTRZ	Monterenzio	0.79	103	Pg	Pb	15 18 37.5	+1.5
SEI	Scarperia	0.86	126	Pg	Pb	15 18 36.1	-1.0
	498nm,0.4s						
SEI	Scarperia	0.86	126	Pg	Pb	15 18 36.1	-1.0
	498nm,0.4s						
CRMI	Carmignano	0.88	152	Pg	Pb	15 18 37.1	-0.4
CRMI	Carmignano	0.88	152	Pg	Pb	15 18 37.1	-0.4
CMPO	Campotto Po	1.01	89	Pg	Pn	15 18 41.2	+1.8
	601nm,0.8s						
GENL	Genova Univers	1.03	262	P	Pn	15 18 39.1	-0.5
GENL				S	Sb	15 18 53.3	+0.2
SALO	Salr	1.06	5	Pg	Pn	15 18 40.2	+0.2
SALO				Sg	Sb	15 18 56.4	+2.5
SALO	Salr	1.06	5	Pg	Pn	15 18 40.2	+0.2
BALD	Monte Baldo	1.16	15	ePg	Pn	15 18 41.7	+0.3
BALD				eSg	Sn	15 18 58.2	+1.8
BALD	Monte Baldo	1.16	15	ePg	Pn	15 18 41.7	+0.3
BALD				eSg	Sn	15 18 58.2	+1.8
ROVR	Rover¯¤ Verone	1.18	24	Pg	Pn	15 18 41.6	-0.2
ROVR	Rover¯¤ Verone	1.18	24	Pg	Pn	15 18 41.6	-0.2
GROG	Isola di Gorgo	1.19	198	Pg	Pn	15 18 41.2	-0.7
	158nm,0.4s						
GROG	Isola di Gorgo	1.19	198	Pg	Pn	15 18 41.2	-0.7
	158nm,0.4s						
TEOL	Teolo	1.21	48	⇓ePg	Pn	15 18 41.7	-0.4
TEOL				eSg	Sn	15 18 57.7	+0.1
TEOL	Teolo	1.21	48	ePg	Pn	15 18 41.7	-0.4
TEOL				eSg	Sn	15 18 57.7	+0.1
SFI	Santa Sofia	1.24	122	Pg	Pn	15 18 44.5	+2.0
SFI	Santa Sofia	1.24	122	Pg	Pn	15 18 44.5	+2.0
ADRI	Adria, Italy	1.25	67	⇑ePg	Pn	15 18 45.4	+2.7
ADRI	Adria, Italy	1.25	67	ePg	Pn	15 18 45.4	+2.7
ASQU	Asqua	1.27	127	Pg	Pn	15 18 44.2	+1.3
ASQU	Asqua	1.27	127	Pg	Pn	15 18 44.2	+1.3
CSNT	Castellina Chi	1.27	149	Pg	Pn	15 18 42.9	0.0
CSNT	Castellina Chi	1.27	149	Pg	Pn	15 18 42.9	0.0
MDI	Monti di Nese	1.30	339	Pg	Pn	15 18 43.7	+0.3
MDI	Monti di Nese	1.30	339	Pg	Pn	15 18 43.7	+0.3
PCP	Piancastagn	1.32	270	Pg	Pn	15 18 44.5	+0.9
PCP	Piancastagn	1.32	270	Pg	Pn	15 18 44.5	+0.9
RNI	Roncone	1.43	7	⇓ePg	Pn	15 18 45.1	0.0
RNI				eSg	Sn	15 19 03.4	+0.3
RNI	Roncone	1.43	7	ePg	Pn	15 18 45.1	0.0
RNI				eSg	Sn	15 19 03.4	+0.3
DDS	Dosso del Somm	1.43	23	⇓ePg	Pn	15 18 44.9	-0.3
DDS				eSg	Sn	15 19 02.7	-0.4
DDS	Dosso del Somm	1.43	23	ePg	Pn	15 18 44.9	-0.3
DDS				eSg	Sn	15 19 02.7	-0.4
CRE	Caprese Michel	1.47	130	Pg	Pn	15 18 47.5	+1.8
CRE	Caprese Michel	1.47	130	Pg	Pn	15 18 47.5	+1.8
MABI	Malga Bissina	1.49	3	Pg	Pn	15 18 46.1	+0.1
MABI	Malga Bissina	1.49	3	Pg	Pn	15 18 46.1	+0.1
PANI	Panarotta	1.62	23	⇓ePg	Pn	15 18 47.7	0.0
PANI				eSg

PGF					*e*Sn	**Sn**	**15 19 21.8**	**-1.7**
	24nm,0.4s								
CIMO	**Cimolais**	**2.26**	**39**	⇑	*e*Pn	**Pn**	**15 18 55.9**	**-0.7**
CIMO	**Cimolais**	**2.26**	**39**		*e*Pn	**Pn**	**15 18 55.9**	**-0.7**
TOUF	**Mont Tournerai**	**2.32**	**257**		P	**Pn**	**15 18 58.7**	**+1.3**
TOUF					S	**Sn**	**15 19 28.2**	**+3.1**
TOUF	**Mont Tournerai**	**2.32**	**257**		P	**Pn**	**15 18 58.7**	**+1.3**
TOUF					S	**Sn**	**15 19 28.2**	**+3.1**
AFL	**Alpe Faloria**	**2.33**	**32**		*e*Pn	**Pn**	**15 18 58.5**	**+0.9**
AFL	**Alpe Faloria**	**2.33**	**32**		*e*Pn	**Pn**	**15 18 58.5**	**+1.0**
MVIF	**Mont Vial**	**2.42**	**255**		P	**Pn**	**15 18 59.8**	**+1.0**
MVIF					S	**Sn**	**15 19 31.8**	**+4.2**
MVIF	**Mont Vial**	**2.42**	**255**		P	**Pn**	**15 18 59.8**	**+1.0**
MVIF					S	**Sn**	**15 19 31.8**	**+4.2**
FETA	**Feichten**	**2.47**	**5**	⇑	Pn	**Pn**	**15 19 00.8**	**+1.4**
	SNR=38								
FETA	**Feichten**	**2.47**	**5**	⇑	Pn	**Pn**	**15 19 00.8**	**+1.4**
FETA	**Feichten**	**2.47**	**5**		Pn	**Pn**	**15 19 00.8**	**+1.4**
	SNR=38								
MPRI	**Monte Prat**	**2.48**	**47**	⇑	*e*Pn	**Pn**	**15 18 59.1**	**-0.5**
MPRI					*e*Sn	**Sn**	**15 19 29.5**	**+0.5**
MPRI	**Monte Prat**	**2.48**	**47**		*e*Pn	**Pn**	**15 18 59.1**	**-0.5**
MPRI					*e*Sn	**Sn**	**15 19 29.5**	**+0.5**
CSMI	**Casera Mimoias**	**2.51**	**38**	⇑	*e*Pn	**Pn**	**15 19 01.0**	**+1.0**
CSMI	**Casera Mimoias**	**2.51**	**38**		*e*Pn	**Pn**	**15 19 01.0**	**+1.0**
CSMI					*e*Sn	**Sn**	**15 19 31.2**	**+1.4**
SURF	**Saint Ours**	**2.56**	**269**		P	**Pn**	**15 19 01.7**	**+1.0**
SURF	**Saint Ours**	**2.56**	**269**		P	**Pn**	**15 19 01.7**	**+1.0**
MBDF	**Montbardon**	**2.59**	**275**		*e*Pn	**Pn**	**15 19 02.6**	**+1.5**
	SNR=1.0								
MBDF					*e*Sn	**Sn**	**15 19 31.8**	**+0.1**
	78nm,0.5s								
MBDF	**Montbardon**	**2.59**	**275**		*e*Pn	**Pn**	**15 19 02.6**	**+1.5**
MBDF					*e*Sn	**Sn**	**15 19 31.8**	**+0.1**
MBDF	**Montbardon**	**2.59**	**275**		*e*Pn	**Pn**	**15 19 02.6**	**+1.5**
	SNR=1.0								
MBDF					*e*Sn	**Sn**	**15 19 31.8**	**+0.1**
	39nm,0.5s								
FUSE	**Fusea**	**2.61**	**44**		*e*Pn	**Pn**	**15 19 00.8**	**-0.5**
FUSE					*e*Sn	**Sn**	**15 19 31.4**	**-0.7**
FUSE	**Fusea**	**2.61**	**44**		*e*Pn	**Pn**	**15 19 00.8**	**-0.5**
FUSE					*e*Sn	**Sn**	**15 19 31.4**	**-0.7**
ABTA	**Abfaltersbach**	**2.64**	**34**	⇓	Pn	**Pn**	**15 19 01.7**	**-0.1**
	SNR=16								
ABTA				⇑	*i*Sn	**Sn**	**15 19 31.3**	**-1.6**
ABTA	**Abfaltersbach**	**2.64**	**34**	⇓	Pn	**Pn**	**15 19 01.7**	**-0.1**
ABTA					*i* Sn	**Sn**	**15 19 31.4**	**-1.6**
ABTA	**Abfaltersbach**	**2.64**	**34**		Pn	**Pn**	**15 19 01.7**	**-0.1**
	SNR=16								
ABTA					*i* Sn	**Sn**	**15 19 31.4**	**-1.6**
TRI	**Trieste**	**2.65**	**63**	⇑	*e*Pn	**Pn**	**15 19 00.8**	**-1.0**
TRI					*e*Sn	**Sn**	**15 19 31.1**	**-2.0**
TRI	**Trieste**	**2.65**	**63**		*e*Pn	**Pn**	**15 19 00.8**	**-1.1**
TRI	**Trieste**	**2.65**	**63**		*e*Pn	**Pn**	**15 19 00.8**	**-1.1**
TRI					*e*Sn	**Sn**	**15 19 31.1**	**-2.0**
VINO	**Villanova**	**2.65**	**49**		*e*Pn	**Pn**	**15 19 01.1**	**-0.7**
VINO					*e*Sn	**Sn**	**15 19 32.7**	**-0.4**
VINO	**Villanova**	**2.65**	**49**		*e*Pn	**Pn**	**15 19 01.1**	**-0.8**
VINO					*e*Sn	**Sn**	**15 19 32.7**	**-0.4**
CALN	**Calern**	**2.65**	**253**		P	**Pn**	**15 19 02.9**	**+1.0**
CALN					S	**Sn**	**15 19 37.7**	**+4.6**
CALN	**Calern**	**2.65**	**253**		P	**Pn**	**15 19 02.9**	**+1.0**
CALN					S	**Sn**	**15 19 37.7**	**+4.6**
SABO	**M.te Sabotino**	**2.67**	**57**	⇓	*e*Pn	**Pn**	**15 19 02.1**	**-0.1**
SABO					*e*Sn	**Sn**	**15 19 32.8**	**-0.9**
SABO	**M.te Sabotino**	**2.67**	**57**		*e*Pn	**Pn**	**15 19 02.1**	**-0.1**
BNI	**Bardonecchia**	**2.69**	**282**		Pn	**Pn**	**15 19 02.7**	**+0.3**
BNI	**Bardonecchia**	**2.69**	**282**		Pn	**Pn**	**15 19 02.7**	**+0.3**
ZOU	**Zoufplan**	**2.69**	**41**		*e*Pn	**Pn**	**15 19 02.7**	**+0.2**
LPG	**La Plagne**	**2.74**	**291**		*e*Pn	**Pn**	**15 19 06.4**	**+3.2**
	SNR=1.0								
LPG					*e*Sn	**Sn**	**15 19 35.5**	**0.0**
	63nm,0.7s,SNR=1.0								
LPG	**La Plagne**	**2.74**	**291**		*e*Pn	**Pn**	**15 19 06.4**	**+3.2**
LPG					*e*Sn	**Sn**	**15 19 35.5**	**0.0**
LPG	**La Plagne**	**2.74**	**291**		*e*Pn	**Pn**	**15 19 06.4**	**+3.2**
	SNR=1.0								
LPG					*e*Sn	**Sn**	**15 19 35.5**	**0.0**
	32nm,0.7s,SNR=1.0								
DAVA	**Damuels**	**2.75**	**353**	⇑	*e*Pn	**Pn**	**15 19 05.1**	**+1.8**
	SNR=19								
DAVA	**Damuels**	**2.75**	**353**	⇑	*e*Pn	**Pn**	**15 19 05.1**	**+1.8**
DAVA	**Damuels**	**2.75**	**353**		Pn	**Pn**	**15 19 05.1**	**+1.9**
	SNR=19								
SKDS	**Skadanscina**	**2.75**	**68**		*i* Pn	**Pn**	**15 19 02.2**	**-1.1**
SKDS					*i* Sn	**Sn**	**15 19 33.3**	**-2.3**
SKDS									
	comp=Z,52nm,0.2s								
SKDS	**Skadanscina**	**2.75**	**68**		*i* Pn	**Pn**	**15 19 02.2**	**-1.1**
SKDS					*i* Sn	**Sn**	**15 19 33.3**	**-2.3**
	comp=Z,52nm,0.2s								
LPL	**La Plagne**	**2.76**	**291**		*e*Pn	**Pn**	**15 19 06.7**	**+3.2**
	SNR=1.0								
LPL	**La Plagne**	**2.76**	**291**		*e*Pn	**Pn**	**15 19 06.7**	**+3.2**
LPL	**La Plagne**	**2.76**	**291**		*e*Pn	**Pn**	**15 19 06.7**	**+3.2**
	SNR=1.0								
PLRO	**Paularo**	**2.77**	**43**		*e*Pn	**Pn**	**15 19 03.4**	**-0.2**
PLRO	**Paularo**	**2.77**	**43**		*e*Pn	**Pn**	**15 19 03.4**	**-0.2**
DRE	**Drenchia**	**2.80**	**54**		Pn	**Pn**	**15 19 03.4**	**-0.6**
DRE					Sn	**Sn**	**15 19 36.8**	**-0.1**
MOTA	**Moosalm**	**2.82**	**10**		*e*Pn	**Pn**	**15 19 06.6**	**+2.3**
	SNR=33								
MOTA	**Moosalm**	**2.82**	**10**		*e*Pn	**Pn**	**15 19 06.6**	**+2.3**
MOTA	**Moosalm**	**2.82**	**10**		Pn	**Pn**	**15 19 06.6**	**+2.3**
	SNR=33								
WTTA	**Wattenberg**	**2.84**	**17**	⇑	*e*Pn	**Pn**	**15 19 05.9**	**+1.4**
	SNR=20								
WTTA				⇓	*i*Sn	**Sn**	**15 19 39.6**	**+1.8**
WTTA	**Wattenberg**	**2.84**	**17**	⇑	*e*Pn	**Pn**	**15 19 05.9**	**+1.4**
WTTA					*i* Sn	**Sn**	**15 19 39.6**	**+1.8**
WTTA	**Wattenberg**	**2.84**	**17**		Pn	**Pn**	**15 19 05.9**	**+1.4**
	SNR=20								
WTTA					Sn	**Sn**	**15 19 39.6**	**+1.8**
VOY	**Vojsko**	**2.87**	**58**		*e*Pn	**Pn**	**15 19 04.3**	**-0.7**
VOY					*e*		15 19 08.5	
VOY					*e*Sn	**Sn**	**15 19 37.8**	**-0.9**
VOY	**Vojsko**	**2.87**	**58**		*e*Pn	**Pn**	**15 19 04.3**	**-0.7**
VOY					*e*Sn	**Sn**	**15 19 37.8**	**-0.9**
FRF	**La Foret Royal**	**2.88**	**251**		*e*Pn	**Pn**	**15 19 05.5**	**+0.4**
	SNR=1.0								
FRF					*e*Sn	**Sn**	**15 19 39.3**	**+0.4**
	comp=Z,139nm,0.3s,SNR=1.0								
FRF	**La Foret Royal**	**2.88**	**251**		*e*Pn	**Pn**	**15 19 05.5**	**+0.4**
FRF					*e*Sn	**Sn**	**15 19 39.3**	**+0.4**
FRF	**La Foret Royal**	**2.88**	**251**		*e*Pn	**Pn**	**15 19 05.5**	**+0.4**
	SNR=1.0								
FRF					*e*Sn	**Sn**	**15 19 39.3**	**+0.4**
	comp=Z,69nm,0.3s,SNR=1.0								
WATA	**Walderalm**	**2.89**	**16**	⇑	*e*Pn	**Pn**	**15 19 07.3**	**+2.1**
	SNR=30								
WATA	**Walderalm**	**2.89**	**16**	⇑	*e*Pn	**Pn**	**15 19 07.3**	**+2.1**
WATA	**Walderalm**	**2.89**	**16**		Pn	**Pn**	**15 19 07.3**	**+2.1**
	SNR=30								
LSR	**Lussari**	**2.92**	**48**		*e*Pn	**Pn**	**15 19 05.8**	**+0.2**
LSR	**Lussari**	**2.92**	**48**		*e*Pn	**Pn**	**15 19 05.8**	**+0.2**
RETA	**Reutte**	**2.93**	**5**		*e*Pn	**Pn**	**15 19 07.5**	**+1.7**
	SNR=26								
RETA	**Reutte**	**2.93**	**5**		*e*Pn	**Pn**	**15 19 07.5**	**+1.7**
RETA	**Reutte**	**2.93**	**5**		Pn	**Pn**	**15 19 07.5**	**+1.7**
	SNR=26								
ACOM	**Acomizza, Ital**	**2.96**	**47**	⇓	*e*Pn	**Pn**	**15 19 06.1**	**0.0**
ACOM	**Acomizza, Ital**	**2.96**	**47**		*e*Pn	**Pn**	**15 19 06.1**	**0.0**
OSPF	**L'Ospedale**	**3.03**	**197**		P	**Pn**	**15 19 08.1**	**+1.0**
OSPF	**L'Ospedale**	**3.03**	**197**		P	**Pn**	**15 19 08.1**	**+1.0**
LMR	**La Mourre**	**3.06**	**248**		*e*Pn	**Pn**	**15 19 07.7**	**+0.1**
	SNR=1.0								
LMR					*e*Sn	**Sn**	**15 19 43.1**	**-0.2**
	comp=Z,87nm,0.3s								
LMR	**La Mourre**	**3.06**	**248**		*e*Pn	**Pn**	**15 19 07.7**	**+0.1**
LMR					*e*Sn	**Sn**	**15 19 43.1**	**-0.2**
LMR	**La Mourre**	**3.06**	**248**		*e*Pn	**Pn**	**15 19 07.7**	**+0.1**
	SNR=1.0								
LMR					*e*Sn	**Sn**	**15 19 43.1**	**-0.2**
	comp=Z,43nm,0.3s								
NVLJ	**Novalja**	**3.20**	**88**		*e*Pn	**Pn**	**15 19 09.3**	**-0.2**
NVLJ					Sn	**Sn**	**15 19 45.7**	**-1.1**
ORIF	**Oris-en-Rattie**	**3.23**	**278**		*e*Pn	**Pn**	**15 19 12.3**	**+2.4**
	SNR=1.0								
ORIF					*e*Sn	**Sn**	**15 19 46.9**	**-0.7**
	comp=Z,59nm,0.6s								
ORIF	**Oris-en-Rattie**	**3.23**	**278**		*e*Pn	**Pn**	**15 19 12.3**	**+2.4**
ORIF					*e*Sn	**Sn**	**15 19 46.9**	**-0.7**
ORIF	**Oris-en-Rattie**	**3.23**	**278**		*e*Pn	**Pn**	**15 19 12.3**	**+2.4**
	SNR=1.0								
ORIF					*e*Sn	**Sn**	**15 19 46.9**	**-0.7**
	comp=Z,30nm,0.6s								
LJU	**Ljubljana**	**3.27**	**62**		*e*Pn	**Pn**	**15 19 11.2**	**+0.8**
VISS	**Visnje**	**3.38**	**67**		*i* Pn	**Pn**	**15 19 11.7**	**-0.2**
VISS					*e*Sn	**Sn**	**15 19 49.7**	**-1.5**
VISS									
	comp=Z,36nm,0.2s								
VISS	**Visnje**	**3.38**	**67**		*i* Pn	**Pn**	**15 19 11.7**	**-0.2**
VISS					*e*Sn	**Sn**	**15 19 49.7**	**-1.5**
	comp=Z,36nm,0.2s								
OBKA	**Obir**	**3.51**	**55**	⇑	*i*Pn	**Pn**	**15 19 14.0**	**+0.3**
	SNR=7.2								
OBKA	**Obir**	**3.51**	**55**	⇑	*i*Pn	**Pn**	**15 19 14.0**	**+0.3**
OBKA	**Obir**	**3.51**	**55**		Pn	**Pn**	**15 19 14.0**	**+0.3**
	SNR=7.2								
SMRF	**Simiane la Rot**	**3.51**	**262**		*e*Pn	**Pn**	**15 19 15.6**	**+1.9**
	SNR=1.0								
SMRF					*e*Sn	**Sn**	**15 19 54.4**	**0.0**
	comp=Z,16nm,0.5s								
SMRF	**Simiane la Rot**	**3.51**	**262**		*e*Pn	**Pn**	**15 19 15.6**	**+1.9**
SMRF					*e*Sn	**Sn**	**15 19 54.4**	**0.0**
SMRF	**Simiane la Rot**	**3.51**	**262**		*e*Pn	**Pn**	**15 19 15.6**	**+1.9**
	SNR=1.0								
SMRF					*e*Sn	**Sn**	**15 19 54.4**	**0.0**
	comp=Z,8.1nm,0.5s								
BBS	**Basel-Blauen**	**3.53**	**326**		P	**Pn**	**15 19 13.0**	**-1.0**
PDKS	**Podkum**	**3.58**	**64**		*i* Pn	**Pn**	**15 19 14.7**	**0.0**
PDKS	**Podkum**	**3.58**	**64**		*i* Pn	**Pn**	**15 19 14.7**	**0.0**
CABF	**La Chapelle**	**3.65**	**306**		*e*Pn	**Pn**	**15 19 16.5**	**+0.9**
	SNR=1.0								
CABF					*e*Sn	**Sn**	**15 19 56.9**	**-0.9**
	comp=Z,20nm,0.6s,SNR=1.0								
CABF	**La Chapelle**	**3.65**	**306**		*e*Pn	**Pn**	**15 19 16.5**	**+0.9**
CABF					*e*Sn	**Sn**	**15 19 56.9**	**-0.9**
CABF	**La Chapelle**	**3.65**	**306**		*e*Pn	**Pn**	**15 19 16.5**	**+0.9**
	SNR=1.0								
CABF					*e*Sn	**Sn**	**15 19 56.9**	**-0.9**
	comp=Z,10nm,0.6s,SNR=1.0								
FELD	**Feldberg im Sc**	**3.70**	**334**		P	**Pn**	**15 19 16.5**	**+0.1**
SPAK	**Spaichingen-Ko**	**3.71**	**343**		P	**Pn**	**15 19 15.3**	**-1.1**
LOMF	**Lomont**	**3.73**	**320**		P	**Pn**	**15 19 15.6**	**-1.2**
LOMF	**Lomont**	**3.73**	**320**		P	**Pn**	**15 19 15.6**	**-1.2**
MOF	**Molkenrain**	**3.99**	**327**		P	**Pn**	**15 19 20.4**	**+0.1**
MOF	**Molkenrain**	**3.99**	**327**		P	**Pn**	**15 19 20.4**	**+0.1**
HINF	**Hinteralfeld**	**4.08**	**324**		*e*Pn	**Pn**	**15 19 21.6**	**+0.1**
	SNR=1.0								
HINF					*e*Sn	**Sn**	**15 20 05.7**	**-2.6**
	comp=Z,47nm,0.4s								
HINF	**Hinteralfeld**	**4.08**	**324**		*e*Pn	**Pn**	**15 19 21.6**	**+0.1**
HINF					*e*Sn	**Sn**	**15 20 05.7**	**-2.6**
HINF	**Hinteralfeld**	**4.08**	**324**		*e*Pn	**Pn**	**15 19 21.6**	**+0.1**
	SNR=1.0								
HINF					*e*Sn	**Sn**	**15 20 05.7**	**-2.6**
	comp=Z,24nm,0.4s								
VIVF	**Saint-Julien-I**	**4.09**	**276**		*e*Pn	**Pn**	**15 19 22.6**	**+0.9**
	SNR=1.0								
VIVF					*e*Sn	**Sn**	**15 20 06.6**	**-2.0**
	comp=Z,11nm,0.6s,SNR=1.0								
VIVF	**Saint-Julien-I**	**4.09**	**276**		*e*Pn	**Pn**	**15 19 22.6**	**+0.9**
VIVF					*e*Sn	**Sn**	**15 20 06.6**	**-2.0**
VIVF	**Saint-Julien-I**	**4.09**	**276**		*e*Pn	**Pn**	**15 19 22.6**	**+0.9**
	SNR=1.0								
VIVF					*e*Sn	**Sn**	**15 20 06.6**	**-2.0**
	comp=Z,5.3nm,0.6s,SNR=1.0								
SSB	**Saint Sauveur**	**4.22**	**282**		P	**Pn**	**15 19 22.9**	**-0.5**
SSB	**Saint Sauveur**	**4.22**	**282**		P	**Pn**	**15 19 22.9**	**-0.5**
MOA	**Molln**	**4.25**	**38**		*i* Pn	**Pn**	**15 19 24.5**	**+0.7**
	SNR=16								
MOA	**Molln**	**4.25**	**38**		*i* Pn	**Pn**	**15 19 24.5**	**+0.7**
MOA	**Molln**	**4.25**	**38**		Pn	**Pn**	**15 19 24.5**	**+0.7**
	SNR=16								
ECH	**Echery**	**4.28**	**330**		*e*Pn	**Pn**	**15 19 24.1**	**-0.2**
ECH	**Echery**	**4.28**	**330**		*e*Pn	**Pn**	**15 19 24.1**	**-0.2**
ECH	**Echery**	**4.28**	**330**		P	**Pn**	**15 19 24.7**	**+0.4**
ECH	**Echery**	**4.28**	**330**		P	**Pn**	**15 19 24.7**	**+0.4**
CDF	**Champ du Feu**	**4.41**	**332**		*e*Pn	**Pn**	**15 19 25.0**	**-1.1**
	SNR=1.0								
CDF					*e*Sn	**Sn**	**15 20 11.0**	**-5.5**
	comp=Z,31nm,0.4s								
CDF	**Champ du Feu**	**4.41**	**332**		*e*Pn	**Pn**	**15 19 25.0**	**-1.1**
CDF					*e*Sn	**Sn**	**15 20 11.0**	**-5.5**
CDF	**Champ du Feu**	**4.41**	**332**		*e*Pn	**Pn**	**15 19 25.0**	**-1.1**
	SNR=1.0								
HAU	**Haudompre**	**4.44**	**322**		*e*Pn	**Pn**	**15 19 26.7**	**+0.2**
	SNR=1.0								
HAU					*e*Sn	**Sn**	**15 20 14.3**	**-2.9**
	comp=Z,123nm,0.6s,SNR=1.0								
HAU	**Haudompre**	**4.44**	**322**		*e*Pn	**Pn**	**15 19 26.7**	**+0.2**
HAU					*e*Sn	**Sn**	**15 20 14.3**	**-2.9**
HAU	**Haudompre**	**4.44**	**322**		*e*Pn	**Pn**	**15 19 26.7**	**+0.2**
	SNR=1.0								
HAU					*e*Sn	**Sn**	**15 20 14.3**	**-2.9**
	comp=Z,61nm,0.6s,SNR=1.0								
ARSA	**Arzberg**	**4.48**	**51**	⇑	*i*Pn	**Pn**	**15 19 26.6**	**-0.4**
	SNR=14								
ARSA	**Arzberg**	**4.48**	**51**	⇑	*i*Pn	**Pn**	**15 19 26.6**	**-0.4**
ARSA	**Arzberg**	**4.48**	**51**		Pn	**Pn**	**15 19 26.6**	**-0.4**
	SNR=14								
LASF	**Ste Croix**	**4.71**	**266**		*e*Pn	**Pn**	**15 19 30.9**	**+0.6**
	SNR=1.0								
LASF					*e*Sn	**Sn**	**15 20 21.7**	**-2.4**
	comp=Z,6.3nm,0.5s								
LASF	**Ste Croix**	**4.71**	**266**		*e*Pn	**Pn**	**15 19 30.9**	**+0.6**
LASF					*e*Sn	**Sn**	**15 20 21.7**	**-2.4**
LASF	**Ste Croix**	**4.71**	**266**		*e*Pn	**Pn**	**15 19 30.9**	**+0.6**
	SNR=1.0								
LASF					*e*Sn	**Sn**	**15 20 21.7**	**-2.4**
	comp=Z,3.2nm,0.5s								
THEF	**They Montfort**	**4.76**	**322**		P	**Pn**	**15 19 31.2**	**+0.3**
THEF	**They Montfort**	**4.76**	**322**		P	**Pn**	**15 19 31.2**	**+0.3**
GERES	**GERESS Array B**	**4.85**	**27**		Pn	**Pn**	**15 19 31.7**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=204,slow=13,SNR=62								
GERES					Sn	**Sn**	**15 20 26.3**	**-1.1**
	comp=Z,6.8nm,0.3s,baz=210,slow=23,SNR=17								
GERES	**GERESS Array B**	**4.85**	**27**		Pn	**Pn**	**15 19 31.7**	**-0.4**
GERES					Sn	**Sn**	**15 20 26.3**	**-1.1**
GERES	**GERESS Array B**	**4.85**	**27**		Pn	**Pn**	**15 19 31.7**	**-0.4**
GERES					Sn	**Sn**	**15 20 26.3**	**-1.1**
SMF	**Signal de Mont**	**5.04**	**297**		*e*Pn	**Pn**	**15 19 35.3**	**+0.5**
	SNR=1.0								
SMF					*e*Sn	**Sn**	**15 20 30.0**	**-2.2**
	comp=Z,12nm,0.5s,SNR=1.0								
SMF	**Signal de Mont**	**5.04**	**297**		*e*Pn	**Pn**	**15 19 35.3**	**+0.5**
SMF					*e*Sn	**Sn**	**15 20 30.0**	**-2.2**
SMF	**Signal de Mont**	**5.04**	**297**		*e*Pn	**Pn**	**15 19 35.3**	**+0.5**
	SNR=1.0								
SMF					*e*Sn	**Sn**	**15 20 30.0**	**-2.2**
	comp=Z,6.1nm,0.5s,SNR=1.0								
KHC	**Kasperske Hory**	**5.06**	**24**		*e*Pn	**Pn**	**15 19 34.7**	**-0.3**
KHC	**Kasperske Hory**	**5.06**	**24**		*e*PN	**Pn**	**15 19 34.8**	**-0.3**
KHC					*ex*	x	15 19 54.5	
KHC					*e*SN	**Sn**	**15 20 29.9**	**-2.8**
KHC					*ex*	x	15 20 45.5	
KHC					*e*SG	**Sn**	**15 20 52.5**	**+20**
KHC	**Kasperske Hory**	**5.06**	**24**		*e*Pn	**Pn**	**15 19 34.7**	**-0.4**
KHC					Sn	**Sn**	**15 20 29.9**	**-2.8**
CONA	**Conrad Observa**	**5.07**	**47**	⇓	*i*Pn	**Pn**	**15 19 35.3**	**+0.2**
	SNR=11								
CONA	**Conrad Observa**	**5.07**	**47**	⇓	*i*Pn	**Pn**	**15 19 35.3**	**+0.2**
CONA	**Conrad Observa**	**5.07**	**47**		Pn	**Pn**	**15 19 35.3**	**+0.2**
	SNR=11								
PAGF	**Fort de Pagny**	**5.13**	**323**		*e*Pn	**Pn**	**15 19 36.9**	**+1.0**
PAGF					*e*Sn	**Sn**	**15 20 28.9**	**-5.3**
	comp=Z,9.4nm,0.7s								
PAGF	**Fort de Pagny**	**5.13**	**323**		*e*Pn	**Pn**	**15 19 36.9**	**+1.0**
PAGF					*e*Sn	**Sn**	**15 20 28.9**	**-5.3**
PAGF	**Fort de Pagny**	**5.13**	**323**		*e*Pn	**Pn**	**15 19 36.9**	**+1.0**
SFTF	**Sexfontaines**	**5.19**	**316**		*e*Pn	**Pn**	**15 19 37.1**	**+0.3**
SFTF	**Sexfontaines**	**5.19**	**316**		*e*Pn	**Pn**	**15 19 37.1**	**+0.3**
SFTF	**Sexfontaines**	**5.19**	**316**		*e*Pn	**Pn**	**15 19 37.1**	**+0.3**
LOR	**Lormes**	**5.30**	**303**		*e*Pn	**Pn**	**15 19 38.8**	**+0.5**
	SNR=1.0								
LOR					*e*Sn	**Sn**	**15 20 36.8**	**-1.7**
	comp=Z,29nm,0.4s,SNR=1.0								
LOR	**Lormes**	**5.30**	**303**		*e*Pn	**Pn**	**15 19 38.8**	**+0.5**
LOR					*e*Sn	**Sn**	**15 20 36.8**	**-1.7**
LOR	**Lormes**	**5.30**	**303**		*e*Pn	**Pn**	**15 19 38.8**	**+0.5**
	SNR=1.0								
LOR					*e*Sn	**Sn**	**15 20 36.8**	**-1.7**
	comp=Z,14nm,0.4s,SNR=1.0								
MEZF	**Maizieres J'vi**	**5.39**	**319**		*e*Sn	**Sn**	**15 20 36.9**	**-3.8**
	comp=Z,10nm,0.4s								
MEZF	**Maizieres J'vi**	**5.39**	**319**		*e*Sn	**Sn**	**15 20 36.9**	**-3.8**
AVF	**Avril sur Loir**	**5.41**	**297**		*e*Pn	**Pn**	**15 19 40.5**	**+0.7**
	SNR=1.0								
AVF	**Avril sur Loir**	**5.41**	**297**		*e*Pn	**Pn**	**15 19 40.5**	**+0.7**
	SNR=1.0								
SSF	**Saint Saulge**	**5.42**	**300**		*e*Pn	**Pn**	**15 19 39.6**	**-0.4**
SSF					*e*Sn	**Sn**	**15 20 38.9**	**-2.6**
	comp=Z,9.2nm,0.5s,SNR=1.0								
SSF	**Saint Saulge**	**5.42**	**300**		*e*Pn	**Pn**	**15 19 39.6**	**-0.4**
SSF					*e*Sn	**Sn**	**15 20 38.9**	**-2.6**
SSF	**Saint Saulge**	**5.42**	**300**		*e*Pn	**Pn**	**15 19 39.6**	**-0.4**
STON	**Ston**	**5.56**	**105**		*e*Pn	**Pn**	**15 19 41.3**	**-0.6**
STON					Sn	**Sn**	**15 20 40.4**	**-4.6**
STON	**Ston**	**5.56**	**105**		*e*Pn	**Pn**	**15 19 41.3**	**-0.6**
BGF	**Bois d'Agland**	**5.66**	**293**		*e*Pn	**Pn**	**15 19 43.5**	**+0.2**
	SNR=1.0								
BGF					*e*Sn	**Sn**	**15 20 44.8**	**-2.6**
	comp=Z,24nm,0.5s								
BGF	**Bois d'Agland**	**5.66**	**293**		*e*Pn	**Pn**	**15 19 43.5**	**+0.2**
BGF					*e*Sn	**Sn**	**15 20 44.8**	**-2.6**
BGF	**Bois d'Agland**	**5.66**	**293**		*e*Pn	**Pn**	**15 19 43.5**	**+0.2**
	SNR=1.0								
NKC	**Novy Kostel**	**5.84**	**13**		*e*PN	**Pn**	**15 19 44.2**	**-1.5**
NKC					*e*SN	**Sn**	**15 20 48.0**	**-3.8**
NKC	**Novy Kostel**	**5.84**	**13**		Pn	**Pn**	**15 19 44.2**	**-1.5**
CAF	**Calviac**	**5.94**	**276**		*e*Pn	**Pn**	**15 19 47.6**	**+0.5**
CAF	**Calviac**	**5.94**	**276**		*e*Pn	**Pn**	**15 19 47.6**	**+0.5**
CAF	**Calviac**	**5.94**	**276**		*e*Pn	**Pn**	**15 19 47.6**	**+0.5**
TCF	**Toulx Ste Croi**	**6.01**	**290**		*e*Sn	**Sn**	**15 20 53.4**	**-2.6**
	comp=Z,6.3nm,0.5s								
TCF	**Toulx Ste Croi**	**6.01**	**290**		*e*Sn	**Sn**	**15 20 53.4**	**-2.6**
MTLF	**Montolieu**	**6.03**	**261**		*e*Pn	**Pn**	**15 19 49.5**	**+1.2**
	SNR=1.0								
MTLF					*e*Sn	**Sn**	**15 20 54.7**	**-1.7**
	comp=Z,4.5nm,0.4s								
MTLF	**Montolieu**	**6.03**	**261**		*e*Pn	**Pn**	**15 19 49.5**	**+1.2**
MTLF					*e*Sn	**

$M_{\Re}$1.09±.05; $M_{\Re}$0.64±.02; $M_{\sigma r}$0.28±.05; Best double couple: $M_0$1.80000×10^17 NP1:$\phi_0$297.00000°, δ26.00000°, λ100.00000°. NP2:$\phi_0$106.00000°, δ64.00000°, λ85.00000°.
Principal axes: T 1.6100, Plg70.0000°, Azm6.0000°; N 0.3700, Plg4.0000°, Azm108.0000°; P -1.9900, Plg19.0000°, Azm199.0000°; Data Used: II IU IC CN G.
Surface waves: sta= 91, comp=190, per= 50.
*LEDBW **23** 15:24:26.0±2.5, 44°.7N±0°.2×10°.5E±0°.1, h10^{km}, mL5.5*
Error ellipse: s-maj=68.0km s-min=28.0km az=157.0
*DJA **23** 15:24:32, 44°.42N×10°.41E, h110^{km}, mb5.0/11*
ISC 23 15:24:22.4±0.2, **44°.596N**±0°.007×**10°.402E**±0°.008, **h26**^{km}±1^{km}, **h27**^{km}±.9^{km}:**pP-P, n2021**, σ0§**95**/2327, **mb5.2**/177, **MS5.2**/69, **446C-241D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.18**	**177**	⇑*i*Pg	**Pb**	**15 24 26.5**	**-1.4**
ERBM				Sg	**Sb**	**15 24 30.9**	**-0.7**
ERBM	**Eremo**	**0.18**	**177**	⇓*i*Pg	**Pb**	**15 24 26.5**	**-1.4**
PRMA	**PARMA**	**0.18**	**339**	⇓*i*Pg	**Pb**	**15 24 27.3**	**-0.7**
PRMA				Sg	**Sb**	**15 24 32.9**	**+1.2**
PRMA	**PARMA**	**0.18**	**339**	⇓*i*Pg	**Pb**	**15 24 27.3**	**-0.7**
GRAM	**Graiana**	**0.26**	**247**	P	**Pb**	**15 24 27.5**	**-1.5**
GRAM				S	**Sb**	**15 24 31.8**	**-1.7**
GSCL	**Gusciola**	**0.28**	**152**	Pg	**Pb**	**15 24 27.7**	**-1.5**
GSCL	**Gusciola**	**0.28**	**152**	Pg	**Pb**	**15 24 27.7**	**-1.5**
NOVE	**Novellara**	**0.30**	**48**	⇓*e*Pg	**Pb**	**15 24 28.9**	**-0.6**
NOVE				Sg	**Sb**	**15 24 36.5**	**+2.1**
	228μm,0.6s						
NOVE	**Novellara**	**0.30**	**48**	⇓*e*Pg	**Pb**	**15 24 28.9**	**-0.6**
CODM	**Codolo**	**0.45**	**243**	P	**Pb**	**15 24 30.2**	**-1.6**
CODM				S	**Sb**	**15 24 37.2**	**-0.9**
ZCCA	**Zocca**	**0.48**	**121**	⇓*e*Pg	**Pb**	**15 24 31.9**	**-0.4**
ZCCA				Sg	**Sb**	**15 24 40.1**	**+1.1**
	114μm,0.6s						
ZCCA	**Zocca**	**0.48**	**121**	⇓*e*Pg	**Pb**	**15 24 31.9**	**-0.4**
RAVA	**Ravarino**	**0.54**	**72**	⇓*e*Pg	**Pb**	**15 24 33.6**	**+0.3**
RAVA				Sg	**Sb**	**15 24 44.2**	**+3.6**
	423μm,1.1s						
BDI	**Bagni Di Lucca**	**0.55**	**165**	⇓*e*Pg	**Pb**	**15 24 31.1**	**-2.4**
BDI				Sg	**Sb**	**15 24 40.1**	**-0.9**
	197μm,0.8s						
BDI	**Bagni Di Lucca**	**0.55**	**165**	⇓*e*Pg	**Pb**	**15 24 31.1**	**-2.4**
BDI				Sg	**Sb**	**15 24 40.1**	**-0.9**
	197μm,0.8s						
PZZT	**Monte Pizzetto**	**0.57**	**144**	Pg	**Pb**	**15 24 32.0**	**-1.8**
PZZT				Sg	**Sb**	**15 24 41.0**	**-0.6**
	133μm,0.6s						
PZZT	**Monte Pizzetto**	**0.57**	**144**	Pg	**Pb**	**15 24 32.0**	**-1.8**
PZZT				Sg	**Sb**	**15 24 41.0**	**-0.6**
	133μm,0.6s						
SBPO	**S.Benedetto Po**	**0.58**	**39**	⇓*e*Pg	**Pb**	**15 24 34.3**	**+0.2**
SBPO	**S.Benedetto Po**	**0.58**	**39**	⇓*e*Pg	**Pb**	**15 24 34.3**	**+0.2**
SC2M	**Scurtabo**	**0.65**	**253**	⇓*e*Pg	**Pb**	**15 24 33.4**	**-1.8**
SC2M				Sg	**Sb**	**15 24 43.1**	**-0.7**
	319μm,0.9s						
SC2M	**Scurtabo**	**0.65**	**253**	P	**Pb**	**15 24 33.5**	**-1.7**
SC2M				S	**Sb**	**15 24 42.8**	**-1.0**
SC2M				Sg	**Sb**	**15 24 43.1**	**-0.7**
	319μm,0.9s						
FNVD	**Fontana Vidola**	**0.67**	**129**	⇑*i*Pg	**Pb**	**15 24 34.8**	**-0.7**
FNVD				Sg	**Sb**	**15 24 46.3**	**+1.9**
	56μm,0.5s						
FNVD	**Fontana Vidola**	**0.67**	**129**	⇑*i*Pg	**Pb**	**15 24 34.8**	**-0.7**
MAIM	**Mastiano**	**0.69**	**175**	⇓*e*Pg	**Pb**	**15 24 33.1**	**-2.7**
MAIM				Sg	**Sb**	**15 24 43.3**	**-1.5**
	83μm,0.6s						
MAIM	**Mastiano**	**0.69**	**175**	P	**Pb**	**15 24 33.2**	**-2.6**
MAIM				S	**Sb**	**15 24 42.8**	**-2.0**
MAIM				Sg	**Sb**	**15 24 43.3**	**-1.5**
	83μm,0.6s						
BOB	**Bobbio (Coli)**	**0.70**	**284**	⇓*e*Pg	**Pb**	**15 24 35.3**	**-0.7**
BOB				Sg	**Sb**	**15 24 44.8**	**-0.5**
	233μm,0.6s						
BOB	**Bobbio (Coli)**	**0.70**	**284**	⇓*e*Pg	**Pb**	**15 24 35.3**	**-0.7**
BOB				Sg	**Sb**	**15 24 44.8**	**-0.5**
	233μm,0.6s						
FIU	**Minerbio Fiu**	**0.78**	**86**	⇓*e*Pg	**Pb**	**15 24 38.0**	**+0.7**
	216μm,0.5s						
MTRZ	**Monterenzio**	**0.79**	**106**	⇑*e*Pg	**Pb**	**15 24 38.0**	**+0.4**
	161μm,0.9s						
MTRZ	**Monterenzio**	**0.79**	**106**	⇑*e*Pg	**Pb**	**15 24 38.0**	**+0.4**
	161μm,0.9s						
SEI	**Scarperia**	**0.87**	**128**	Pg	**Pb**	**15 24 36.6**	**-2.3**
	771nm,0.2s						
SEI	**Scarperia**	**0.87**	**128**	Pg	**Pb**	**15 24 36.6**	**-2.3**
	771nm,0.2s						
CRMI	**Carmignano**	**0.90**	**153**	⇓*e*Pg	**Pn**	**15 24 37.4**	**-2.0**
CRMI				Sg	**Sb**	**15 24 51.5**	**+0.4**
	56μm,0.9s						
CRMI	**Carmignano**	**0.90**	**153**	⇓*e*Pg	**Pn**	**15 24 37.4**	**-2.0**
CRMI				Sg	**Sb**	**15 24 51.5**	**+0.4**
	56μm,0.9s						
CMPO	**Campotto Po**	**1.00**	**90**	Pg	**Pn**	**15 24 42.0**	**+1.2**
	198μm,1.1s						
SALO	**Salr**	**1.03**	**5**	⇓*e*Pg	**Pn**	**15 24 41.4**	**+0.3**
SALO				Sg	**Sb**	**15 24 57.6**	**+3.0**
	284μm,1.1s						
SALO	**Salr**	**1.03**	**5**	⇓*e*Pg	**Pn**	**15 24 41.4**	**+0.3**
GENL	**Genova Univers**	**1.04**	**260**	P	**Pn**	**15 24 40.7**	**-0.6**
GENL				S	**Sn**	**15 24 54.6**	**-0.4**
FAEN	**Faenza**	**1.10**	**106**	⇑*e*Pg	**Pn**	**15 24 44.3**	**+2.2**
BALD	**Monte Baldo**	**1.13**	**15**	⇓*i*Pg	**Pn**	**15 24 42.8**	**+0.3**
BALD				*i* Sg	**Sn**	**15 24 59.1**	**+2.0**
BALD	**Monte Baldo**	**1.13**	**15**	*i* Pg	**Pn**	**15 24 42.8**	**+0.3**
BALD				*i* Sg	**Sn**	**15 24 59.1**	**+2.0**
ROVR	**Rover¯¤ Verone**	**1.15**	**24**	⇑*e*Pg	**Pn**	**15 24 43.2**	**+0.4**
ROVR				Sg	**Sn**	**15 24 59.8**	**+2.1**
	172μm,0.5s						
ROVR	**Rover¯¤ Verone**	**1.15**	**24**	⇑*e*Pg	**Pn**	**15 24 43.2**	**+0.4**
ROVR				Sg	**Sn**	**15 24 59.8**	**+2.1**
	172μm,0.5s						
TEOL	**Teolo**	**1.18**	**49**	⇑*e*Pg	**Pn**	**15 24 43.2**	**0.0**
TEOL				*e*Sg	**Sn**	**15 25 00.2**	**+1.8**
TEOL	**Teolo**	**1.18**	**49**	*e*Pg	**Pn**	**15 24 43.2**	**0.0**
TEOL				*e*Sg	**Sn**	**15 25 00.2**	**+1.8**
GROG	**Isola di Gorgo**	**1.23**	**198**	⇓*i*Pg	**Pn**	**15 24 42.8**	**-1.0**
GROG	**Isola di Gorgo**	**1.23**	**198**	⇓*i*Pg	**Pn**	**15 24 42.8**	**-1.0**
ADRI	**Adria, Italy**	**1.23**	**68**	⇑*e*Pg	**Pn**	**15 24 44.4**	**+0.5**
ADRI				*e*Sg	**Sn**	**15 25 04.4**	**+4.7**
ADRI	**Adria, Italy**	**1.23**	**68**	*e*Pg	**Pn**	**15 24 44.4**	**+0.5**
ADRI				*e*Sg	**Sn**	**15 25 04.4**	**+4.7**
SFI	**Santa Sofia**	**1.25**	**123**	Pg	**Pn**	**15 24 44.8**	**+0.7**
	43μm,1.0s						
SFI	**Santa Sofia**	**1.25**	**123**	Pg	**Pn**	**15 24 44.8**	**+0.7**
	43μm,1.0s						
MDI	**Monti di Nese**	**1.28**	**338**	⇑*e*Pg	**Pn**	**15 24 45.2**	**+0.6**
MDI				Sg	**Sn**	**15 25 03.6**	**+2.8**
	158μm,0.9s						
MDI	**Monti di Nese**	**1.28**	**338**	⇑*e*Pg	**Pn**	**15 24 45.2**	**+0.6**
MDI				Sg	**Sn**	**15 25 03.6**	**+2.8**
	158μm,0.9s						
ASQU	**Asqua**	**1.28**	**128**	⇓*e*Pg	**Pn**	**15 24 44.9**	**+0.3**
	28μm,0.9s						
ASQU	**Asqua**	**1.28**	**128**	⇓*e*Pg	**Pn**	**15 24 44.9**	**+0.3**
	28μm,0.9s						
CSNT	**Castellina Chi**	**1.29**	**150**	⇓*e*Pg	**Pn**	**15 24 44.4**	**-0.4**
	30μm,0.7s						
CSNT	**Castellina Chi**	**1.29**	**150**	⇓*e*Pg	**Pn**	**15 24 44.4**	**-0.4**
	30μm,0.7s						
PCP	**Piancastagn**	**1.33**	**268**	⇓*e*Pg	**Pn**	**15 24 45.7**	**+0.5**
PCP				Sg	**Sn**	**15 25 03.9**	**+1.8**
	115μm,1.2s						
PCP	**Piancastagn**	**1.33**	**268**	P	**Pn**	**15 24 45.8**	**+0.6**
PCP				Sg	**Sn**	**15 25 03.9**	**+1.8**
	115μm,1.2s						
DDS	**Dosso del Somm**	**1.40**	**23**	⇑*e*Pg	**Pn**	**15 24 46.5**	**+0.3**
DDS				*e*Sg	**Sn**	**15 25 05.6**	**+1.8**
DDS	**Dosso del Somm**	**1.40**	**23**	*e*Pg	**Pn**	**15 24 46.5**	**+0.3**
DDS				*e*Sg	**Sn**	**15 25 05.6**	**+1.8**
MABI	**Malga Bissina**	**1.46**	**3**	⇑*e*Pg	**Pn**	**15 24 47.8**	**+0.7**
	53μm,0.8s						
MABI	**Malga Bissina**	**1.46**	**3**	⇑*e*Pg	**Pn**	**15 24 47.8**	**+0.7**
	53μm,0.8s						
CRE	**Caprese Michel**	**1.48**	**131**	Pg	**Pn**	**15 24 47.9**	**+0.5**
	12μm,0.7s						
CRE	**Caprese Michel**	**1.48**	**131**	Pg	**Pn**	**15 24 47.9**	**+0.5**
	12μm,0.7s						
ROTM	**Rocchetta Tana**	**1.48**	**281**	P	**Pn**	**15 24 50.1**	**+2.7**
PANI	**Panarotta**	**1.59**	**23**	⇑*e*Pg	**Pn**	**15 24 49.3**	**+0.5**
PANI				*e*Sg	**Sn**	**15 25 09.7**	**+1.2**
PANI	**Panarotta**	**1.59**	**23**	*e*Pg	**Pn**	**15 24 49.3**	**+0.5**
PANI				*e*Sg	**Sn**	**15 25 09.7**	**+1.3**
RSM	**Repubblica di**	**1.61**	**114**	⇑*i*Pg	**Pn**	**15 24 51.2**	**+2.0**
RSM	**Repubblica di**	**1.61**	**114**	⇑*i*Pg	**Pn**	**15 24 51.2**	**+2.0**
CGRP	**Cima Grappa**	**1.62**	**37**	⇑*e*Pg	**Pn**	**15 24 49.1**	**-0.2**
CGRP				*e*Sg	**Sn**	**15 25 11.2**	**+2.0**
CGRP	**Cima Grappa**	**1.62**	**37**	⇑*e*Pg	**Pn**	**15 24 49.1**	**-0.2**
CGRP	**Cima Grappa**	**1.62**	**37**	*e*Pg	**Pn**	**15 24 49.1**	**-0.2**
CGRP				*e*Sg	**Sn**	**15 25 11.2**	**+1.9**
PARC	**Parchiule**	**1.63**	**125**	⇓*e*Pg	**Pn**	**15 24 50.5**	**+1.2**
	23μm,0.8s						
PARC	**Parchiule**	**1.63**	**125**	⇓*e*Pg	**Pn**	**15 24 50.5**	**+1.2**
	23μm,0.8s						
CAFI	**Castiglion Fio**	**1.70**	**138**	⇓*e*Pg	**Pn**	**15 24 50.5**	**+0.2**
CAFI	**Castiglion Fio**	**1.70**	**138**	⇓*e*Pg	**Pn**	**15 24 50.5**	**+0.2**
CTI	**Castel Tesino**	**1.70**	**31**	⇑*e*Pg	**Pn**	**15 24 50.5**	**+0.2**
	49μm,0.4s						
MTLO	**Montello**	**1.71**	**44**	⇑*e*Pg	**Pn**	**15 24 50.5**	**+0.1**
MTLO	**Montello**	**1.71**	**44**	*e*Pg	**Pn**	**15 24 50.5**	**0.0**
BADI	**Badiali**	**1.72**	**129**	Pg	**Pn**	**15 24 51.0**	**+0.4**
BADI	**Badiali**	**1.72**	**129**	Pg	**Pn**	**15 24 51.0**	**+0.4**
CDCA	**Citt' di Caste**	**1.74**	**130**	Pg	**Pn**	**15 24 51.2**	**+0.3**
	32μm,1.0s						
CDCA	**Citt' di Caste**	**1.74**	**130**	Pg	**Pn**	**15 24 51.2**	**+0.3**
	32μm,1.0s						
RORO	**Rocca Rossa**	**1.74**	**255**	⇑*e*Pg	**Pn**	**15 24 50.2**	**-0.8**
	11μm,0.8s						
RORO	**Rocca Rossa**	**1.74**	**255**	P	**Pn**	**15 24 50.4**	**-0.6**
IESO	**Jesolo**	**1.78**	**58**	⇑*e*Pn	**Pn**	**15 24 51.4**	**0.0**
IESO	**Jesolo**	**1.78**	**58**	*e*Pn	**Pn**	**15 24 51.4**	**-0.1**
MONC	**Moncucco Torin**	**1.82**	**286**	Pg	**Pn**	**15 24 54.2**	**+2.1**
	112μm,0.8s						
MONC	**Moncucco Torin**	**1.82**	**286**	Pg	**Pn**	**15 24 54.2**	**+2.1**
	112μm,0.8s						
BERNI	**Berninapass**	**1.84**	**352**	⇑*i*P	**Pn**	**15 24 53.5**	**+1.3**
	44μm,1.5s						
BERNI	**Berninapass**	**1.84**	**352**	⇑*i*P	**Pn**	**15 24 53.5**	**+1.3**
BERNI	**Berninapass**	**1.84**	**352**	⇑*e*Pg	**Pn**	**15 24 53.5**	**+1.3**
BERNI	**Berninapass**	**1.84**	**352**	⇑*i*P	**Pn**	**15 24 53.5**	**+1.3**
	44μm,1.5s						
VARN	**Col Varnada, M**	**1.84**	**40**	⇑*e*Pn	**Pn**	**15 24 52.0**	**-0.3**
VARN	**Col Varnada, M**	**1.84**	**40**	*e*Pn	**Pn**	**15 24 52.0**	**-0.3**
PIEI	**Pieia**	**1.87**	**124**	Pg	**Pn**	**15 24 53.7**	**+1.0**
	11μm,0.8s						
PIEI	**Pieia**	**1.87**	**124**	Pg	**Pn**	**15 24 53.7**	**+1.0**
	11μm,0.8s						
PESA	**Pesaro**	**1.87**	**110**	⇑*i*Pg	**Pn**	**15 24 53.6**	**+0.9**
	33μm,1.1s						
PESA	**Pesaro**	**1.87**	**110**	⇑*i*Pg	**Pn**	**15 24 53.6**	**+0.9**
	33μm,1.1s						
BRMO	**Bormio**	**1.88**	**359**	Pg	**Pn**	**15 24 54.0**	**+1.2**
	29μm,1.2s						
FSSB	**Fossombrone**	**1.93**	**117**	⇑*e*Pg	**Pn**	**15 24 54.9**	**+1.3**
FSSB	**Fossombrone**	**1.93**	**117**	⇑*e*Pg	**Pn**	**15 24 54.9**	**+1.3**
APPI	**Appiano**	**1.97**	**17**	⇑*e*Pg	**Pn**	**15 24 55.1**	**+1.0**
FAU	**Forcella Aurin**	**1.98**	**34**	⇑*e*Pn	**Pn**	**15 24 54.5**	**+0.4**
FAU	**Forcella Aurin**	**1.98**	**34**	*e*Pn	**Pn**	**15 24 54.5**	**+0.4**
ORO	**Oropa**	**2.00**	**302**	⇑*i*Pg	**Pn**	**15 24 53.5**	**-1.0**
VDL	**Val di Lei**	**2.00**	**341**	⇑*i*P	**Pn**	**15 24 55.3**	**+0.8**
	64μm,1.2s						
VDL	**Val di Lei**	**2.00**	**341**	⇑*i*P	**Pn**	**15 24 55.3**	**+0.8**
VDL	**Val di Lei**	**2.00**	**341**	⇑*i*P	**Pn**	**15 24 55.3**	**+0.8**
VDL	**Val di Lei**	**2.00**	**341**	⇑*i*P	**Pn**	**15 24 55.3**	**+0.8**
	64μm,1.2s						
CAE	**Caneva**	**2.01**	**45**	⇑*e*Pn	**Pn**	**15 24 54.4**	**-0.3**
CAE				*e*Sn	**Sn**	**15 25 18.9**	**-0.1**
CAE	**Caneva**	**2.01**	**45**	*e*Pn	**Pn**	**15 24 54.4**	**-0.3**
CAE				*e*Sn	**Sn**	**15 25 18.9**	**0.0**
TUE	**Stuetta**	**2.02**	**339**	*e*Pn	**Pn**	**15 24 56.0**	**+1.3**
TUE	**Stuetta**	**2.02**	**339**	⇑*e*Pg	**Pn**	**15 24 56.2**	**+1.5**
	71μm,1.5s						
TUE	**Stuetta**	**2.02**	**339**	*e*Pn	**Pn**	**15 24 56.0**	**+1.3**
FUORN	**Ofenpass-Fuorn**	**2.03**	**357**	⇑*i*P	**Pn**	**15 24 56.3**	**+1.5**
	38μm,0.8s						
FUORN	**Ofenpass-Fuorn**	**2.03**	**357**	⇑*i*P	**Pn**	**15 24 56.3**	**+1.5**
FUORN	**Ofenpass-Fuorn**	**2.03**	**357**	⇑*e*Pg	**Pn**	**15 24 56.4**	**+1.6**
FUORN	**Ofenpass-Fuorn**	**2.03**	**357**	⇑*i*P	**Pn**	**15 24 56.3**	**+1.5**
	38μm,0.8s						
MURB	**Monte Urbino**	**2.03**	**130**	⇓*e*Pg	**Pn**	**15 24 55.1**	**+0.2**
	25μm,0.7s						
AGOR	**Agordo**	**2.05**	**34**	⇑*e*Pn	**Pn**	**15 24 55.5**	**+0.4**
AGOR	**Agordo**	**2.05**	**34**	⇑*e*Pg	**Pn**	**15 24 55.5**	**+0.4**
	21μm,0.5s						
POLC	**Polcenigo**	**2.06**	**45**	*e*Pn	**Pn**	**15 24 55.3**	**0.0**
POLC				*e*Sn	**Sn**	**15 25 21.9**	**+1.8**
SACS	**San Casciano d**	**2.06**	**147**	⇓*e*Pg	**Pn**	**15 24 55.4**	**+0.1**
NEGI	**Seborga**	**2.08**	**250**	P	**Pn**	**15 24 55.2**	**-0.4**
MGAB	**Montegabbione**	**2.09**	**143**	⇓*e*Pg	**Pn**	**15 24 55.9**	**+0.2**
	16μm,1.0s						
TRAV	**Traversella**	**2.09**	**297**	⇑*e*Pg	**Pn**	**15 24 55.3**	**-0.5**
	35μm,0.9s						
TRAV	**Traversella**	**2.09**	**297**	P	**Pn**	**15 24 55.3**	**-0.5**
SAOF	**Saorge**	**2.13**	**254**	P	**Pn**	**15 24 56.5**	**+0.2**
SAOF	**Saorge**	**2.13**	**254**	P	**Pn**	**15 24 56.5**	**+0.2**
RONM	**Roccetta Nervi**	**2.14**	**251**	P	**Pn**	**15 24 55.9**	**-0.5**
CSO	**Casso**	**2.15**	**38**	⇑*e*Pn	**Pn**	**15 24 56.3**	**-0.3**
CSO	**Casso**	**2.15**	**38**	*e*Pn	**Pn**	**15 24 56.3**	**-0.3**
MLNI	**Malnisio**	**2.20**	**44**	⇑*e*Pn	**Pn**	**15 24 56.9**	**-0.3**
MLNI	**Malnisio**	**2.20**	**44**	*e*Pn	**Pn**	**15 24 56.9**	**-0.3**
DAVOX	**Davos/Dischmat**	**2.21**	**351**	Pn	**Pn**	**15 24 59.6**	**+2.1**
	789nm,0.3s,baz=167,slow=13,SNR=2815						
DAVOX				Sn	**Sn**	**15 25 27.2**	**+3.3**
	1μm,0.3s,baz=333,slow=23,SNR=8.8						
DAVOX				LR	LR	15 26 06.9	
	comp=Z,58μm,18.7s,baz=20,slow=47						
DAVOX	**Davos/Dischmat**	**2.21**	**351**	⇑*i*P	**Pn**	**15 24 59.5**	**+2.1**
	44μm,1.0s						
DAVOX	**Davos/Dischmat**	**2.21**	**351**	Pn	**Pn**	**15 24 59.6**	**+2.1**
DAVOX				Sn	**Sn**	**15 25 27.2**	**+3.3**
DAVOX	**Davos/Dischmat**	**2.21**	**351**	P	**Pn**	**15 24 59.6**	**+2.2**
DAVOX						15 25 27.3	
DAVOX	**Davos/Dischmat**	**2.21**	**351**	⇑*i*Pg	**Pn**	**15 24 59.6**	**+2.2**
DAVOX	**Davos/Dischmat**	**2.21**	**351**	⇑*i*P	**Pn**	**15 24 59.5**	**+2.1**
	44μm,1.0s						
DAVOX				Sn	**Sn**	**15 25 27.2**	**+3.3**
AUTN	**L'Aution**	**2.22**	**255**	P	**Pn**	**15 24 58.0**	**+0.5**
AUTN				S	**Sn**	**15 25 26.1**	**+2.1**
AUTN	**L'Aution**	**2.22**	**255**	P	**Pn**	**15 24 58.0**	**+0.5**
AUTN				S	**Sn**	**15 25 26.1**	**+2.1**
FUSIO	**Fusio**	**2.22**	**327**	⇑*i*P	**Pn**	**15 24 57.1**	**-0.5**
	64μm,1.5s						
FUSIO	**Fusio**	**2.22**	**327**	⇑*i*P	**Pn**	**15 24 57.1**	**-0.5**
FUSIO	**Fusio**	**2.22**	**327**	⇑*i*Pg	**Pn**	**15 24 58.2**	**+0.6**
FUSIO	**Fusio**	**2.22**	**327**	⇑*i*P	**Pn**	**15 24 57.1**	**-0.5**
	64μm,1.5s						
SENI	**Senigallia**	**2.22**	**113**	Pg	**Pn**	**15 24 59.0**	**+1.4**
	29μm,1.1s						
LATE	**Laterza**	**2.23**	**152**	⇓*i*Pg	**Pn**	**15 24 57.8**	**+0.2**
	1μm,1.0s						
MAON	**Monte Argentar**	**2.23**	**166**	⇓*i*Pg	**Pn**	**15 24 57.3**	**-0.4**
	5μm,0.7s						
STV	**Sant Anna di V**	**2.23**	**262**	⇓*i*Pg	**Pn**	**15 24 58.1**	**+0.4**
	41μm,1.1s						
STV	**Sant Anna di V**	**2.23**	**262**	P	**Pn**	**15 24 58.0**	**+0.3**
CIMO	**Cimolais**	**2.23**	**39**	⇑*e*Pn	**Pn**	**15 24 57.4**	**-0.3**
CIMO	**Cimolais**	**2.23**	**39**	*e*Pn	**Pn**	**15 24 57.4**	**-0.3**
ASS	**Assisi**	**2.24**	**132**	⇓*e*Pg	**Pn**	**15 24 56.6**	**-1.1**
MMK	**Mattmark**	**2.25**	**311**	⇑*i*P	**Pn**	**15 24 58.2**	**+0.3**
	49μm,1.2s						
MMK	**Mattmark**	**2.25**	**311**	⇑*i*P	**Pn**	**15 24 58.2**	**+0.3**
MMK	**Mattmark**	**2.25**	**311**	⇑*i*P	**Pn**	**15 24 58.2**	**+0.3**
MMK	**Mattmark**	**2.25**	**311**	⇑*i*P	**Pn**	**15 24 58.2**	**+0.3**
	49μm,1.2s						
SBF	**Sospel**	**2.25**	**252**	*e*Pn	**Pn**	**15 24 58.0**	**0.0**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**15 25 25.5**	**+0.6**
	20μm,0.5s,SNR=1.0						
SBF	**Sospel**	**2.25**	**252**	*e*Pn	**Pn**	**15 24 58.0**	**0.0**
SBF				*e*Sn	**Sn**	**15 25 25.5**	**+0.6**
SBF	**Sospel**	**2.25**	**252**	*e*P	**Pn**	**15 24 58.0**	**0.0**
SBF				*e*		15 25 25.5	
SBF	**Sospel**	**2.25**	**252**	*e*Pn	**Pn**	**15 24 58.0**	**0.0**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**15 25 25.5**	**+0.6**
	10μm,0.5s,SNR=1.0						
DOI	**San Damiano**	**2.26**	**269**	Pg	**Pn**	**15 24 58.1**	**+0.1**
	46μm,0.8s						
SNTG	**Esanatoglia**	**2.27**	**125**	Pg	**Pn**	**15 24 58.2**	**0.0**
PGF	**Pioggiola**	**2.29**	**207**	*e*Pn	**Pn**	**15 24 57.5**	**-0.9**
PGF				*e*Sn	**Sn**	**15 25 24.6**	**-1.1**
	5μm,0.5s						
PGF	**Pioggiola**	**2.29**	**207**	*e*Pn	**Pn**	**15 24 57.5**	**-0.9**
PGF				*e*Sn	**Sn**	**15 25 24.6**	**-1.1**
PGF	**Pioggiola**	**2.29**	**207**	*e*P	**Pn**	**15 24 57.5**	**-0.9**
PGF				*e*		15 25 24.6	
PGF	**Pioggiola**	**2.29**	**207**	*e*Pn	**Pn**	**15 24 57.5**	**-0.9**
PGF				*e*Sn	**Sn**	**15 25 24.6**	**-1.1**
	2μm,0.5s						
RSP	**Reno Superiore**	**2.30**	**285**	Pg	**Pn**	**15 24 57.4**	**-1.2**
	31μm,1.2s						
RSP	**Reno Superiore**	**2.30**	**285**	P	**Pn**	**15 24 57.7**	**-0.9**
TLI	**Talmassons**	**2.32**	**54**	⇑*e*Pn	**Pn**	**15 24 58.6**	**-0.3**
TLI	**Talmassons**	**2.32**	**54**	*e*Pn	**Pn**	**15 24 58.6**	**-0.3**
TOUF	**Mont Tournerai**	**2.34**	**257**	P	**Pn**	**15 25 00.2**	**+1.1**
TOUF				S	**Sn**	**15 25 29.5**	**+2.5**
TOUF	**Mont Tournerai**	**2.34**	**257**	P	**Pn**	**15 25 00.2**	**+1.1**
TOUF				S	**Sn**	**15 25 29.5**	**+2.5**
REVF	**Revere**	**2.34**	**250**	P	**Pn**	**15 24 58.7**	**-0.5**
REVF	**Revere**	**2.34**	**250**	P	**Pn**	**15 24 58.7**	**-0.5**
CING	**Cingoli**	**2.36**	**120**	⇑*i*Pg	**Pn**	**15 25 00.8**	**+1.4**
	7μm,0.6s						
CESI	**CESI - Serrava**	**2.41**	**130**	Pg	**Pn**	**15 25 00.4**	**+0.3**
	5μm,0.9s						
FETA	**Feichten**	**2.44**	**5**	*e*Pn	**Pn**	**15 25 02.3**	**+1.8**
	661nm,0.6s,SNR=1845						
FETA	**Feichten**	**2.44**	**5**	*e*Pn	**Pn**	**15 25 02.3**	**+1.8**
FETA	**Feichten**	**2.44**	**5**	*e*Pn	**Pn**	**15 25 02.3**	**+1.8**
MVIF	**Mont Vial**	**2.44**	**254**	P	**Pn**	**15 25 01.5**	**+1.0**
MVIF				S	**Sn**	**15 25 32.7**	**+3.3**
MVIF	**Mont Vial**	**2.44**	**254**	P	**Pn**	**15 25 01.5**	**+1.0**
MVIF				S	**Sn**	**15 25 32.7**	**+3.3**
LLS	**Linth-Limmern**	**2.45**	**337**	⇑*i*P	**Pn**	**15 25 02.0**	**+1.3**
LLS	**Linth-Limmern**	**2.45**	**337**	⇑*i*P	**Pn**	**15 25 02.0**	**+1.3**
LLS	**Linth-Limmern**	**2.45**	**337**	⇑*i*P	**Pn**	**15 25 02.0**	**+1.3**
MPRI	**Monte Prat**	**2.45**	**47**	⇑*e*Pn	**Pn**	**15 25 00.5**	**-0.2**
MPRI				*e*Sn	**Sn**	**15 25 31.0**	**+1.2**
MPRI	**Monte Prat**	**2.45**	**47**	*e*Pn	**Pn**	**15 25 00.5**	**-0.2**
MPRI				*e*Sn	**Sn**	**15 25 31.0**	**+1.2**
CSMI	**Casera Mimoias**	**2.48**	**39**	⇑*e*Pn	**Pn**	**15 25 01.4**	**+0.2**
**CSMI

TOLF Tolfa 2.79 155⇓*i*Pg Pn 15 25 05.5 +0.2
comp=Z,4μm,1.2s
MOTA Moosalm 2.79 10⇑*i*Pn Pn 15 25 08.0 +2.7
comp=Z,847nm,0.3s,SNR=2282
MOTA Moosalm 2.79 10⇑*i*Pn Pn 15 25 08.1 +2.7
MOTA Moosalm 2.79 10⇑*i*P Pn 15 25 08.1 +2.7
MOTA Moosalm 2.79 10 *i* P Pn 15 25 08.1 +2.7
WTTA Wattenberg 2.80 17⇑*e*Pn Pn 15 25 07.0 +1.5
comp=Z,2μm,0.3s,SNR=2494
WTTA ⇓*e*Sn Sn 15 25 42.2 +3.8
comp=Z,9μm,0.4s
WTTA Wattenberg 2.80 17⇑*e*Pn Pn 15 25 07.0 +1.5
WTTA *e*Sn Sn 15 25 42.2 +3.8
WTTA Wattenberg 2.80 17⇑*e*P Pn 15 25 07.0 +1.5
WTTA *e* 15 25 42.2
WTTA Wattenberg 2.80 17 *e*P Pn 15 25 07.0 +1.5
WTTA *e*S Sn 15 25 42.2 +3.8
SENIN Lac Senin/Sane 2.81 310⇑*i*P Pn 15 25 06.7 +1.1
SENIN Lac Senin/Sane 2.81 310⇑*i*P Pn 15 25 06.7 +1.1
SENIN Lac Senin/Sane 2.81 310⇑*i*P Pn 15 25 06.7 +1.1
OBER Oberstdorf 2.81 358⇑*i*P Pn 15 25 08.0 +2.4
OBER S Sn 15 25 42.4 +3.7
OBER Oberstdorf 2.81 358⇑*i*P Pn 15 25 08.0 +2.4
OBER Sx 15 25 42.4
OBER Oberstdorf 2.81 358 P Pn 15 25 08.0 +2.4
OBER S Sn 15 25 42.3 +3.6
WIMIS Wimmis 2.84 318⇑*i*P Pn 15 25 07.6 +1.6
WIMIS Wimmis 2.84 318⇑*i*P Pn 15 25 07.6 +1.6
WIMIS Wimmis 2.84 318⇑*i*P Pn 15 25 07.6 +1.6
VOY Vojsko 2.85 59⇑*i*Pn Pn 15 25 05.9 -0.3
VOY Vojsko 2.85 59⇑*i*Pn Pn 15 25 05.9 -0.3
CADS Cadrg 2.86 54⇑*i*Pn Pn 15 25 06.0 -0.3
CADS Cadrg 2.86 54⇑*i*Pn Pn 15 25 05.9 -0.4
WATA Walderalm 2.86 16 *e*Pn Pn 15 25 08.1 +1.9
comp=Z,288nm,0.1s,SNR=1473
WATA ⇓*i*Sn Sn 15 25 44.0 +4.2
comp=Z,2μm,0.3s
WATA Walderalm 2.86 16 *e*Pn Pn 15 25 08.1 +1.9
WATA *i* Sn Sn 15 25 44.0 +4.2
WATA Walderalm 2.86 16 *e*P Pn 15 25 08.1 +1.8
WATA *i* 15 25 44.0
WATA Walderalm 2.86 16 *e*P Pn 15 25 08.1 +1.8
WATA *i* S Sn 15 25 44.0 +4.2
LSR Lussari 2.89 48⇑*e*Pn Pn 15 25 06.5 -0.2
LSR Lussari 2.89 48 *e*Pn Pn 15 25 06.5 -0.2
FRF La Foret Royal 2.90 250 *e*Pn Pn 15 25 06.7 -0.1
SNR=1.0
FRF *e*Sn Sn 15 25 40.0 -0.8
comp=Z,9μm,0.5s,SNR=1.0
FRF La Foret Royal 2.90 250 *e*Pn Pn 15 25 06.7 -0.1
FRF *e*Sn Sn 15 25 40.0 -0.8
FRF La Foret Royal 2.90 250 *e*P Pn 15 25 06.7 -0.1
FRF *e* 15 25 40.0
FRF La Foret Royal 2.90 250 *e*Pn Pn 15 25 06.7 -0.1
SNR=1.0
FRF *e*Sn Sn 15 25 40.0 -0.8
comp=Z,5μm,0.5s,SNR=1.0
OFFI Offida 2.90 124⇑*e*Pg Pn 15 25 08.5 +1.6
comp=Z,48μm,1.4s
RETA Reutte 2.90 5 *i* Pn Pn 15 25 09.0 +2.1
comp=Z,554nm,0.4s,SNR=1585
RETA ⇑*i*Sn Sn 15 25 45.7 +4.8
comp=Z,9μm,0.8s
RETA Reutte 2.90 5 *i* Pn Pn 15 25 09.0 +2.1
RETA *i* Sn Sn 15 25 45.7 +4.8
RETA Reutte 2.90 5 *i* Pn Pn 15 25 09.0 +2.1
RETA Sn Sn 15 25 45.7 +4.8
comp=Z,9μm,0.8s
ACOM Acomizza, Ital 2.93 47⇓*e*Pn Pn 15 25 07.3 +0.1
ACOM Acomizza, Ital 2.93 47 *e*Pn Pn 15 25 07.3 0.0
KNDS Knezji Dol 2.97 70⇑*i*Pn Pn 15 25 07.2 -0.6
KNDS Knezji Dol 2.97 70⇑*i*Pn Pn 15 25 07.2 -0.6
AIGLE Aigle 2.99 307⇑*i*P Pn 15 25 09.7 +1.6
AIGLE Aigle 2.99 307⇑*i*P Pn 15 25 09.7 +1.6
AIGLE Aigle 2.99 307⇑*i*P Pn 15 25 09.7 +1.6
WILA Wila 3.00 340⇑*i*P Pn 15 25 10.1 +1.8
WILA Wila 3.00 340⇑*i*P Pn 15 25 10.1 +1.8
WILA Wila 3.00 340⇑*i*P Pn 15 25 10.1 +1.8
TERO Teramo 3.05 129⇑*e*Pg Pn 15 25 10.2 +1.3
comp=Z,8μm,0.8s
MYKA Terra Mystica 3.05 47⇑*i*Pn Pn 15 25 09.1 +0.2
comp=Z,29nm,0.2s
MYKA ⇑*e*Pg Pn 15 25 18.8 +10
comp=Z,2μm,0.7s
MYKA ⇑*i*Sn Sn 15 25 46.0 +1.5
comp=Z,3μm,0.4s
MYKA ⇑*i*Sg Sn 15 26 01.3 +17
comp=Z,6μm,0.5s
MYKA Terra Mystica 3.05 47⇑*i*Pn Pn 15 25 09.1 +0.2
MYKA ⇑*e*Pg Pn 15 25 18.8 +10
MYKA *i* Sn Sn 15 25 46.0 +1.5
MYKA *i* Sg Sn 15 26 01.3 +17
MYKA Terra Mystica 3.05 47⇑*i*Pn Pn 15 25 09.1 +0.2
ZUR Degenried 3.05 336⇑*i*P Pn 15 25 10.2 +1.3
ZUR Degenried 3.05 336⇑*i*P Pn 15 25 10.2 +1.3
ZUR Degenried 3.05 336⇑*i*P Pn 15 25 10.2 +1.3
ZUR Degenried 3.05 336⇑*i*P Pn 15 25 10.2 +1.3
FIAM Fiamignano 3.05 139⇓*i*Pg Pn 15 25 09.9 +0.9
comp=Z,8μm,0.8s
OSPF L'Ospedale 3.06 197 P Pn 15 25 09.5 +0.4
OSPF L'Ospedale 3.06 197 P Pn 15 25 09.5 +0.4
LMR La Mourre 3.08 247 *e*Pn Pn 15 25 08.8 -0.5
SNR=1.0
LMR *e*Sn Sn 15 25 44.6 -0.7
comp=Z,6μm,0.4s,SNR=1.0
LMR La Mourre 3.08 247 *e*Pn Pn 15 25 08.8 -0.5
LMR *e*Sn Sn 15 25 44.6 -0.7
LMR La Mourre 3.08 247 *e*P Pn 15 25 08.8 -0.5
LMR *e* 15 25 44.6
LMR La Mourre 3.08 247 *e*Pn Pn 15 25 08.8 -0.5
SNR=1.0
LMR *e*Sn Sn 15 25 44.6 -0.7
comp=Z,3μm,0.4s,SNR=1.0
MTCE Montecelio 3.09 146⇓*i*Pg Pn 15 25 10.1 +0.7
comp=Z,2μm,0.8s
UBR Ueberruh 3.09 356⇑*i*P Pn 15 25 11.2 +1.8
UBR S Sn 15 25 48.9 +3.4
UBR Ueberruh 3.09 356⇑*i*P Pn 15 25 11.2 +1.8
UBR S Sn 15 25 48.9 +3.4
UBR Ueberruh 3.09 356 P Pn 15 25 11.2 +1.7
UBR S Sn 15 25 48.9 +3.4
WEIN Weingarten 3.09 342⇑*i*P Pn 15 25 10.7 +1.2
WEIN Weingarten 3.09 342⇑*i*P Pn 15 25 10.7 +1.2
WEIN Weingarten 3.09 342⇑*i*P Pn 15 25 10.7 +1.2
AQU L'Aquila 3.13 135 *e*Pn Pn 15 25 11.6 +1.6
AQU L'Aquila 3.13 135 *e*P Pn 15 25 11.6 +1.6
AQU L'Aquila 3.13 135 *e*P Pn 15 25 11.6 +1.6
AQU S Sn 15 25 49.1 +2.6
NVLJ Novalja 3.19 89 *i* Pn Pn 15 25 11.0 +0.1
NVLJ Sn Sn 15 25 47.2 -0.9
NVLJ Novalja 3.19 89 *i* Pn Pn 15 25 10.9 0.0
NVLJ Sn Sn 15 25 47.2 -0.9
KBA Koelnbreinsper 3.22 39⇓*i*Pn Pn 15 25 12.5 +1.2
comp=Z,286nm,0.5s,SNR=109
KBA ⇑*i*Sn Sn 15 26 06.9 +18
comp=Z,4μm,0.5s
KBA Koelnbreinsper 3.22 39⇓*i*Pn Pn 15 25 12.5 +1.2
KBA *i* Sn Sn 15 26 06.9 +18
KBA Koelnbreinsper 3.22 39⇓*i*P Pn 15 25 12.5 +1.2
KBA Koelnbreinsper 3.22 39 *i* P Pn 15 25 12.5 +1.2
ORIF Oris-en-Rattie 3.24 277 *e*Pn Pn 15 25 13.3 +1.8
SNR=1.0
ORIF *e*Sn Sn 15 25 47.3 -1.8
comp=Z,25μm,0.9s
ORIF *e*R
comp=Z,30μm,20.8s
ORIF Oris-en-Rattie 3.24 277 *e*Pn Pn 15 25 13.3 +1.8
ORIF *e*Sn Sn 15 25 47.3 -1.8
ORIF Oris-en-Rattie 3.24 277 *e*P Pn 15 25 13.3 +1.8
ORIF *e* 15 25 47.3
ORIF Oris-en-Rattie 3.24 277 *e*Pn Pn 15 25 13.3 +1.8
SNR=1.0
ORIF *e*Sn Sn 15 25 47.3 -1.8
comp=Z,13μm,0.9s
FLACH Flaach 3.24 337⇑*i*P Pn 15 25 12.6 +1.1
FLACH Flaach 3.24 337⇑*i*P Pn 15 25 12.6 +1.1
FLACH Flaach 3.24 337⇑*i*P Pn 15 25 12.6 +1.1
CERT Cerreto 3.25 144⇓*i*Pg Pn 15 25 12.1 +0.5
comp=Z,9μm,0.9s
SISB Singen-Schiene 3.25 343⇑*i*P Pn 15 25 12.5 +0.9
SISB S Sn 15 25 50.8 +1.4
SISB Singen-Schiene 3.25 343⇑*i*P Pn 15 25 12.5 +0.9
SISB Sx Sx 15 25 50.8
SISB Singen-Schiene 3.25 343 P Pn 15 25 12.5 +0.9
SISB S Sn 15 25 50.8 +1.4
LJU Ljubljana 3.25 62 *i* Pn Pn 15 25 11.7 0.0
LJU *e* 15 25 22.4
LJU *i* Sn Sn 15 25 49.8 +0.4
LJU *i* 15 25 50.9
LJU
comp=Z,3μm,0.4s
LJU Ljubljana 3.25 62 *i* Pn Pn 15 25 11.7 0.0
LJU *i* Sn Sn 15 25 49.8 +0.3
comp=Z,3μm,0.4s
TORNY Torny/Romont 3.25 313⇑*i*P Pn 15 25 12.4 +0.7
TORNY Torny/Romont 3.25 313⇑*i*P Pn 15 25 12.4 +0.7
TORNY Torny/Romont 3.25 313⇑*i*P Pn 15 25 12.4 +0.7
STEIN Stein am Rhein 3.25 341⇑*i*P Pn 15 25 12.8 +1.1
STEIN Stein am Rhein 3.25 341⇑*i*P Pn 15 25 12.8 +1.1
STEIN Stein am Rhein 3.25 341⇑*i*P Pn 15 25 12.8 +1.1
TRULL Truellikon 3.28 339⇑*i*P Pn 15 25 13.1 +1.1
TRULL Truellikon 3.28 339⇑*i*P Pn 15 25 13.1 +1.1
TRULL Truellikon 3.28 339⇑*i*P Pn 15 25 13.1 +1.1
RDP Rocca di Papa 3.30 148⇓*i*Pg Pn 15 25 13.1 +0.7
comp=Z,4μm,0.6s
BALST Balsthal 3.33 326⇑*i*P Pn 15 25 13.4 +0.7
BALST Balsthal 3.33 326⇑*i*P Pn 15 25 13.4 +0.7
BALST Balsthal 3.33 326⇑*i*P Pn 15 25 13.4 +0.7
VCEL Villa Celiera 3.33 130⇑*e*Pg Pn 15 25 14.0 +1.2
comp=Z,11μm,1.2s
SULZ Cheisacher 3.34 332⇑*i*P Pn 15 25 13.5 +0.7
SULZ Cheisacher 3.34 332⇑*i*P Pn 15 25 13.5 +0.7
SULZ Cheisacher 3.34 332⇑*i*P Pn 15 25 13.5 +0.7
VISS Visnje 3.36 67⇑*i*Pn Pn 15 25 13.0 -0.2
VISS *e*Sn Sn 15 25 51.0 -1.2
VISS Visnje 3.36 67⇑*i*Pn Pn 15 25 13.0 -0.2
VISS *e*Sn Sn 15 25 51.0 -1.2
SLE Schleitheim 3.44 338⇑*i*P Pn 15 25 16.3 +2.1
SLE Schleitheim 3.44 338⇑*i*P Pn 15 25 16.3 +2.1
SLE Schleitheim 3.44 338⇑*i*P Pn 15 25 16.3 +2.1
SLE Schleitheim 3.44 338⇑*i*P Pn 15 25 16.3 +2.1
OBKA Obir 3.48 55⇓*i*Pn Pn 15 25 14.7 -0.2
comp=Z,206nm,0.3s,SNR=471
OBKA ⇓*i*Sn Sn 15 25 56.6 +1.3
comp=Z,6μm,0.4s
OBKA Obir 3.48 55⇓*i*Pn Pn 15 25 14.7 -0.2
OBKA *i* Sn Sn 15 25 56.6 +1.3
OBKA Obir 3.48 55⇓*i*Pn Pn 15 25 14.7 -0.2
OBKA *i* Sn Sn 15 25 56.6 +1.4
GIMEL St. Georges / 3.49 305⇑*i*P Pn 15 25 14.5 -0.5
GIMEL St. Georges / 3.49 305⇑*i*P Pn 15 25 14.5 -0.5
GIMEL St. Georges / 3.49 305⇑*i*P Pn 15 25 14.5 -0.5
WYH Wyhlen 3.50 329⇑*e*P Pn 15 25 15.5 +0.3
BBS Basel-Blauen 3.50 326⇑*i*P Pn 15 25 15.8 +0.6
BBS Basel-Blauen 3.50 326⇑*i*P Pn 15 25 15.8 +0.6
BBS Basel-Blauen 3.50 326 P Pn 15 25 15.8 +0.6
GUAR Guarcino 3.52 142⇓*i*Pg Pn 15 25 16.5 +1.2
comp=Z,7μm,1.5s
SMRF Simiane la Rot 3.52 262 *e*Pn Pn 15 25 17.0 +1.6
SNR=1.0
SMRF *e*Sn Sn 15 25 55.1 -1.1
comp=Z,25μm,1.3s
SMRF Simiane la Rot 3.52 262 *e*Pn Pn 15 25 17.0 +1.6
SMRF *e*Sn Sn 15 25 55.1 -1.1
SMRF Simiane la Rot 3.52 262 *e*Pn Pn 15 25 17.0 +1.6
SNR=1.0
SMRF *e*Sn Sn 15 25 55.1 -1.1
comp=Z,12μm,1.3s
RJOB Jochberg 3.55 27 *e*Pn Pn 15 25 17.5 +1.7
RJOB *e*Sn Sn 15 26 00.6 +3.7
RJOB Jochberg 3.55 27 Pn Pn 15 25 17.5 +1.7
RJOB Sn Sn 15 26 00.6 +3.6
BOJS Bojanci 3.56 74⇑*i*Pn Pn 15 25 15.7 -0.1
BOJS
comp=Z,2μm,0.4s
BOJS Bojanci 3.56 74⇑*i*Pn Pn 15 25 15.7 -0.1
comp=Z,2μm,0.4s
PDKS Podkum 3.56 64⇑*i*Pn Pn 15 25 15.8 -0.1
PDKS Podkum 3.56 64⇑*i*Pn Pn 15 25 15.8 -0.1
LOES Loerrach-Stett 3.56 329 P Pn 15 25 16.3 +0.4
BOURR Bourrignon 3.57 323⇑*i*P Pn 15 25 16.7 +0.7
BOURR Bourrignon 3.57 323⇑*i*P Pn 15 25 16.7 +0.7
BOURR Bourrignon 3.57 323⇑*i*P Pn 15 25 16.7 +0.7
GUT Gutenstein 3.59 346⇑*i*P Pn 15 25 16.5 +0.2
GUT S Sn 15 25 57.3 -0.4
GUT Gutenstein 3.59 346⇑*i*P Pn 15 25 16.5 +0.2
GUT S Sn 15 25 57.3 -0.4
GUT Gutenstein 3.59 346 P Pn 15 25 16.5 +0.2
GUT S Sn 15 25 57.3 -0.5
FUR Furstenfeldbru 3.62 9 *e*Pn Pn 15 25 17.8 +1.1
FUR *e*Sn Sn 15 26 00.8 +2.2
FUR Furstenfeldbru 3.62 9 Pn Pn 15 25 17.8 +1.1
FUR Sn Sn 15 26 00.8 +2.2
ENDD Endenburg 3.63 330⇓*i*P Pn 15 25 17.0 +0.1
CABF La Chapelle 3.64 305 *e*Pn Pn 15 25 18.3 +1.3
SNR=1.0
CABF *e*Sn Sn 15 25 54.1 -4.9
comp=Z,18μm,1.1s
CABF La Chapelle 3.64 305 *e*Pn Pn 15 25 18.3 +1.3
CABF *e*Sn Sn 15 25 54.1 -4.9
CABF La Chapelle 3.64 305 *e*P Pn 15 25 18.3 +1.3
CABF *e* 15 25 54.1
CABF La Chapelle 3.64 305 *e*Pn Pn 15 25 18.3 +1.3
SNR=1.0
FELD Feldberg im Sc 3.68 334⇑*i*P Pn 15 25 17.8 +0.2
FELD Feldberg im Sc 3.68 334 Px Pn 15 25 17.7 +0.2
FELD Feldberg im Sc 3.68 334⇑*i*P Pn 15 25 17.8 +0.2
FELD Feldberg im Sc 3.68 334 P Pn 15 25 17.8 +0.3
SPAK Spaichingen-Ko 3.68 343⇑*i*P Pn 15 25 17.9 +0.3
SPAK S Sn 15 26 01.8 +1.8
SPAK Spaichingen-Ko 3.68 343⇑*i*P Pn 15 25 17.9 +0.3
SPAK S Sn 15 26 01.8 +1.8
SPAK Spaichingen-Ko 3.68 343 P Pn 15 25 17.9 +0.3
SPAK S Sn 15 26 01.8 +1.7
LOMF Lomont 3.71 319⇑*i*P Pn 15 25 19.1 +1.1
LOMF Lomont 3.71 319⇑*i*P Pn 15 25 19.1 +1.1
LOMF Lomont 3.71 319 P Pn 15 25 19.0 +1.0
LOMF Lomont 3.71 319 P Pn 15 25 19.0 +1.0
MSS Messtetten 3.72 345⇑*e*Px Pb 15 25 27.1 -0.3
KIZ Kirchzarten 3.78 334⇑*i*P Pn 15 25 18.8 0.0
KIZ S Sn 15 26 02.2 -0.3
KIZ Kirchzarten 3.78 334 P Pn 15 25 18.8 -0.1
KIZ Kirchzarten 3.78 334⇑*i*P Pn 15 25 18.8 0.0
KIZ S Sn 15 26 02.2 -0.3
KIZ Kirchzarten 3.78 334 P Pn 15 25 18.8 -0.1
KIZ S Sn 15 26 02.2 -0.2
BHBD Braunhartsberg 3.78 346⇑*i*P Pn 15 25 19.1 +0.2
FBB Freiburg im Br 3.84 333 P Pn 15 25 19.9 +0.1
FBB Freiburg im Br 3.84 333 P Pn 15 25 19.9 +0.1
FBB Freiburg im Br 3.84 333 P Pn 15 25 19.9 +0.2
JUND Jungingen 3.85 346 P Pn 15 25 20.1 +0.2
SOKA Soboth 3.86 56⇑*i*Pn Pn 15 25 20.3 +0.3
comp=Z,179nm,0.4s
SOKA ⇓*i*Sn Sn 15 26 05.3 +0.9
comp=Z,3μm,0.6s
SOKA Soboth 3.86 56⇑*i*Pn Pn 15 25 20.3 +0.3
SOKA *i* Sn Sn 15 26 05.3 +0.9
SOKA Soboth 3.86 56⇑*i*Pn Pn 15 25 20.3 +0.3
SOKA *i* Sn Sn 15 26 05.3 +0.9
ENGD Engstlatt 3.86 345 P Pn 15 25 20.1 +0.1
BUCH Bad Urach 3.92 350⇑*e*P Pn 15 25 20.9 0.0
BUCH S Sn 15 26 06.0 0.0
BUCH Bad Urach 3.92 350⇑*e*P Pn 15 25 20.9 0.0
BUCH S Sn 15 26 06.0 0.0
BUCH Bad Urach 3.92 350 P Pn 15 25 20.9 0.0
BUCH S Sn 15 26 06.0 0.0
MOF Molkenrain 3.97 326⇑*i*P Pn 15 25 22.0 +0.5
MOF Molkenrain 3.97 326⇑*i*P Pn 15 25 22.0 +0.5
MOF Molkenrain 3.97 326 P Pn 15 25 21.9 +0.4
MOF Molkenrain 3.97 326 P Pn 15 25 21.9 +0.4
HDH Heidenheim-Cha 3.99 358⇑*e*P Pn 15 25 21.7 -0.2
HDH S Sn 15 26 07.2 -0.6
HDH Heidenheim-Cha 3.99 358⇑*e*P Pn 15 25 21.7 -0.2
HDH S Sn 15 26 07.2 -0.6
HDH Heidenheim-Cha 3.99 358 P Pn 15 25 21.7 -0.1
HDH S Sn 15 26 07.2 -0.5
BFO Black Forest 4.00 340 *e*Pn Pn 15 25 22.0 0.0
BFO *e*Sn Sn 15 26 07.6 -0.3
BFO Black Forest 4.00 340 Pn Pn 15 25 21.1 -0.9
comp=Z,6μm,0.4s
BFO Black Forest 4.00 340⇑*i*P Pn 15 25 21.9 -0.1
BFO S Sn 15 26 06.9 -1.0
BFO Black Forest 4.00 340 Pn Pn 15 25 22.0 0.0
BFO Sn Sn 15 26 07.6 -0.3
TUBL Tuebingen-Lenn 4.03 347 P Pn 15 25 22.5 +0.1
TUBL S Sn 15 26 07.5 -1.2
TUBL Tuebingen-Lenn 4.03 347 P Pn 15 25 22.5 +0.1
TUBL Sx Sx 15 26 07.5
TUBL Tuebingen-Lenn 4.03 347 P Pn 15 25 22.5 +0.1
TUBL S Sn 15 26 07.5 -1.2
GROS Grobnik 4.04 61 *i* Pn Pn 15 25 22.1 -0.4
GROS Grobnik 4.04 61 *i* Pn Pn 15 25 22.1 -0.4
LIBD Limburg 4.05 332⇑*e*P Pn 15 25 23.0 +0.4
LIBD Limburg 4.05 332⇑*e*P Pn 15 25 23.0 +0.4
LIBD Limburg 4.05 332 P Pn 15 25 22.9 +0.3
HINF Hinteralfeld 4.05 324 *e*Pn Pn 15 25 22.9 +0.2
SNR=1.0
HINF *e*Sn Sn 15 26 07.5 -1.8
comp=Z,4μm,0.4s
HINF Hinteralfeld 4.05 324 *e*Pn Pn 15 25 22.9 +0.2
HINF *e*Sn Sn 15 26 07.5 -1.8
HINF Hinteralfeld 4.05 324 *e*P Pn 15 25 22.9 +0.2
HINF *e* 15 26 07.5
HINF Hinteralfeld 4.05 324 *e*Pn Pn 15 25 22.9 +0.2
SNR=1.0
HINF *e*Sn Sn 15 26 07.5 -1.8
comp=Z,2μm,0.4s
VIVF Saint-Julien-I 4.09 276 *e*Pn Pn 15 25 23.8 +0.6
SNR=1.0
VIVF *e*Sn Sn 15 26 07.6 -2.6
comp=Z,11μm,1.3s
VIVF Saint-Julien-I 4.09 276 *e*Pn Pn 15 25 23.8 +0.6
VIVF *e*Sn Sn 15 26 07.6 -2.6
VIVF Saint-Julien-I 4.09 276 *e*P Pn 15 25 23.8 +0.6
VIVF *e* 15 26 07.6
VIVF Saint-Julien-I 4.09 276 *e*Pn Pn 15 25 23.8 +0.6
SNR=1.0
VIVF *e*Sn Sn 15 26 07.6 -2.6
comp=Z,5μm,1.3s
OFBG Offenburg 4.20 337 Px Pn 15 25 24.8 +0.1
MOA Molln 4.22 38⇑*i*Pn Pn 15 25 25.9 +1.0
comp=Z,311nm,0.3s,SNR=723
MOA ⇓*i*Sn Sn 15 26 14.7 +1.5
comp=Z,3μm,0.6s
MOA Molln 4.22 38⇑*i*Pn Pn 15 25 25.9 +1.0
MOA *i* Sn Sn 15 26 14.7 +1.5
MOA Molln 4.22 38⇑*i*Pn Pn 15 25 25.9 +1.0
MOA *i* Sn Sn 15 26 14.7 +1.4
LBG Lerchenberg 4.22 345⇑*i*P Pn 15 25 24.8 -0.2
LBG S Sn 15 26 12.1 -1.2
LBG Lerchenberg 4.22 345⇑*i*P Pn 15 25 24.8 -0.2
LBG S Sn 15 26 12.1 -1.2
LBG Lerchenberg 4.22 345 P Pn 15 25 24.8 -0.1
LBG S Sn 15 26 12.1 -1.2
SSB Saint Sauveur 4.22 281 *e*Pn Pn 15 25 25.1 +0.1
SSB Saint Sauveur 4.22 281 *e*P Pn 15 25 25.1 +0.2
SSB Saint Sauveur 4.22 281 *e*P Pn 15 25 25.1 +0.2
SSB Saint Sauveur 4.22 281 P Pn 15 25 25.0 +0.1
ECH Echery 4.26 329 *e*Pn Pn 15 25 25.7 +0.2
ECH Echery 4.26 329 *e*P Pn 15 25 25.7 +0.2
ECH Echery 4.26 329⇑*i*P Pn 15 25 25.7 +0.2
ECH S Sn 15 26 14.3 0.0
ECH Echery 4.26 329⇑*i*P Pn 15 25 25.7 +0.2
ECH S Sn 15 26 14.3 0.0
ECH Echery 4.26 329 *e*P Pn 15 25 25.7 +0.2
ECH S Sn 15 26 14.4 +0.1
ECH Echery 4.26 329 P Pn 15 25 25.7 +0.2
STU Stuttgart 4.26 349 *e*Pn Pn 15 25 24.6 -0.9
STU Stuttgart 4.26 349 *e*P Pn 15 25 24.6 -0.9
STU Stuttgart 4.26 349 *e*Pn Pn 15 25 25.8 +0.3
STU *e*Sn Sn 15 26 12.7 -1.6
STU Stuttgart 4.26 349 P Pn 15 25 25.6 +0.1
STU Stuttgart 4.26 349 *e*P Pn 15 25 24.6 -0.9
STU Stuttgart 4.26 349 Pn Pn 15 25 25.8 +0.3
STU Sn Sn 15 26 12.7 -1.6
DGI Dorgali Grotta 4.32 188⇓*e*Pg Pn 15 25 26.1 -0.2
SISC Sisak 4.32 76 *e*Pn Pn 15 25 27.7 +1.3
SISC Sisak 4.32 76 *e*Pn Pn 15 25 27.7 +1.3
CDF Champ du Feu 4.38 332 *e*Pn Pn 15 25 27.5 +0.3
SNR=1.0
CDF *e*Sn Sn 15 26 12.4 -5.0
comp=Z,5μm,0.7s
CDF Champ du Feu 4.38 332 *e*Pn Pn 15 25 27.5 +0.3
CDF *e*Sn Sn 15 26 12.4 -5.0
CDF Champ du Feu 4.38 332 *e*P Pn 15 25 27.5 +0.3
CDF *e* 15 26 12.4
CDF Champ du Feu 4.38 332 *e*Pn Pn 15 25 27.5 +0.3
SNR=1.0
STR Strasbourg 4.38 336 P Pn 15 25 27.9 +0.7
STR Strasbourg 4.38 336 P Pn 15 25 27.9 +0.7
HAU Haudompre 4.42 322 *e*Pn Pn 15 25 28.3 +0.6
SNR=1.0
HAU *e*Sn Sn 15 26 16.0 -2.2
comp=Z,9μm,0.6s
HAU *e*R
comp=Z,47μm,14.5s
HAU Haudompre 4.42 322 *e*Pn Pn 15 25 28.3 +0.6
HAU *e*Sn Sn 15 26 16.0 -2.2
HAU Haudompre 4.42 322 *e*P Pn 15 25 28.3 +0.6
HAU *e* 15 26 16.0
HAU Haudompre 4.42 322 *e*Pn Pn 15 25 28.3 +0.6
SNR=1.0
HAU *e*Sn Sn 15 26 16.0 -2.2
comp=Z,5μm,0.6s
ARSA Arzberg 4.45 52⇑*i*Pn Pn 15 25 28.0 -0.1
comp=Z,611nm,0.5s,SNR=952
ARSA ⇓*i*Sn Sn 15 26 19.0 -0.1
comp=Z,1μm,0.6s
ARSA Arzberg 4.45 52⇑*i*Pn Pn 15 25 28.0 -0.2
ARSA *i* Sn Sn 15 26 19.0 -0.1
ARSA Arzberg 4.45 52⇑*i*Pn Pn 15 25 28.0 -0.2
ARSA *i* Sn Sn 15 26 19.0 -0.1
KOGS Kog 4.51 64⇑*i*Pn Pn 15 25 28.0 -0.9
KOGS Kog 4.51 64⇑*i*Pn Pn 15 25 28.0 -0.9
LASF Ste Croix 4.72 266 *e*Pn Pn 15 25 32.2 +0.3
SNR=1.0
LASF *e*Sn Sn 15 26 23.7 -2.1
comp=Z,1μm,0.6s,SNR=1.0
LASF Ste Croix 4.72 266 *e*Pn Pn 15 25 32.2 +0.3
LASF *e*Sn Sn 15 26 23.7 -2.1
LASF Ste Croix 4.72 266 *e*Pn Pn 15 25 32.2 +0.3
SNR=1.0
LASF *e*Sn Sn 15 26 23.7 -2.1
comp=Z,708nm,0.6s,SNR=1.0
LANF Langenberg 4.73 339⇑*e*P Pn 15 25 32.2 +0.2
LANF Langenberg 4.73 339⇑*e*P Pn 15 25 32.2 +0.2
LANF Langenberg 4.73 339 P Pn 15 25 32.2 +0.2
LANF Langenberg 4.73 339 P Pn 15 25 32.1 +0.1
THEF They Montfort 4.74 322⇑*i*P Pn 15 25 33.0 +0.8
THEF They Montfort 4.74 322⇑*i*P Pn 15 25 33.0 +0.8
THEF They Montfort 4.74 322 P Pn 15 25 33.0 +0.8
THEF They Montfort 4.74 322 P Pn 15 25 33.0 +0.8
SIND Sindeldorf 4.79 354⇑*e*P Pn 15 25 32.0 -0.8
SIND S Sn 15 26 25.9 -1.4
SIND Sindeldorf 4.79 354⇑*e*P Pn 15 25 32.0 -0.8
SIND S Sn 15 26 25.9 -1.4
SIND Sindeldorf 4.79 354 P Pn 15 25 32.0 -0.7
SIND S Sn 15 26 25.9 -1.4
GEC2 GERESS Array S 4.82 27 *e*Pn Pn 15 25 33.3 +0.1
GEC2 *e*Sn Sn 15 26 28.2 +0.1
GEC2 GERESS Array S 4.82 27 Pn Pn 15 25 33.3 +0.1
GEC2 Sn Sn 15 26 28.2 +0.1
GERES GERESS Array B 4.82 27 Pn Pn 15 25 33.2 0.0
comp=Z,95nm,0.3s,baz=203,slow=14,SNR=1188
GERES Sn Sn 15 26 27.5 -0.6
comp=Z,342nm,0.3s,baz=207,slow=25,SNR=12
GERES LR LR 15 27 39.2
comp=Z,16μm,21.6s,baz=229,slow=41
GERES GERESS Array B 4.82 27 Pn Pn 15 25 33.2 0.0
GERES Sn Sn 15 26 27.5 -0.6
GERES GERESS Array B 4.82 27 P Pn 15 25 33.2 0.0
GERES 15 26 27.5
GERES pmax pmax
comp=Z,95nm,0.3s
GERES smax
comp=N,342nm,0.3s
GERES MLR MLR
comp=Z,16μm,21.6s
GERES GERESS Array B 4.82 27 P Pn 15 25 33.2 0.0
comp=Z,95nm,0.3s
GERES S Sn 15 26 27.5 -0.6
comp=Z,16μm,21.6s
BLY Banja Luka 4.84 86⇓*i*Pn Pn 15 25 33.9 +0.4
COLF Collangettes 4.84 283 P Pn 15 25 33.2 -0.3
COLF Collangettes 4.84 283 P Pn 15 25 33.2 -0.3
BEHE Becsehely 4.85 65 *e*Sn Sn 15 26 26.6 -2.4
WET Wettzell 4.86 20 *e*Pn Pn 15 25 33.7 0.0

WET				*e*Sn	**Sn**	**15 26 28.1**	**-0.9**
WET	**Wettzell**	**4.86**	**20**	Pn	**Pn**	**15 25 33.7**	**0.0**
WET				Sn	**Sn**	**15 26 28.1**	**-0.9**
HEI	**Heidelberg (Ko**	**4.94**	**347**	P	**Pn**	**15 25 34.8**	**-0.1**
MS1	**Monte Sant'Ang**	**4.98**	**124⇑**	*i*Pn	**Pn**	**15 25 34.5**	**-0.9**
MS1				*e*Sn	**Sn**	**15 26 32.1**	**0.0**
PLDF	**La Plantade**	**4.98**	**288**	P	**Pn**	**15 25 35.4**	**0.0**
PLDF	**La Plantade**	**4.98**	**288**	P	**Pn**	**15 25 35.4**	**0.0**
KTD	**Kalmit**	**4.99**	**342**	P	**Pn**	**15 25 35.9**	**+0.4**
KTD	**Kalmit**	**4.99**	**342**	P	**Pn**	**15 25 35.9**	**+0.4**
KTD	**Kalmit**	**4.99**	**342**	P	**Pn**	**15 25 35.8**	**+0.3**
KHC	**Kasperske Hory**	**5.03**	**25**	*e*Pn	**Pn**	**15 25 36.2**	**+0.1**
KHC	**Kasperske Hory**	**5.03**	**25**	*e*P	**Pn**	**15 25 36.3**	**+0.2**
KHC				*e*		15 26 32.3	
KHC				smax			
	comp=N,3μm,0.8s						
KHC				MLR	MLR		
	comp=Z,54μm,13.6s						
KHC	**Kasperske Hory**	**5.03**	**25**	*e*PN	**Pn**	**15 25 36.3**	**+0.2**
KHC				*ex*	x	15 25 49.0	
KHC				*e*SN	**Sn**	**15 26 32.3**	**-1.0**
KHC				*e*SG	Sn	15 27 00.1	+27
	comp=Z,3μm,0.8s						
KHC				AMS	AMS	15 27 30.0	
	comp=Z,54μm,13.6s						
KHC	**Kasperske Hory**	**5.03**	**25**	*e*Pn	**Pn**	**15 25 36.2**	**+0.1**
KHC				Sn	**Sn**	**15 26 32.3**	**-1.0**
KHC				Sg	Sn	15 27 00.1	+27
	comp=Z,3μm,0.8s						
SMF	**Signal de Mont**	**5.04**	**296**	*e*Pn	**Pn**	**15 25 36.3**	**+0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**15 26 28.3**	**-5.2**
	comp=Z,4μm,0.7s						
SMF	**Signal de Mont**	**5.04**	**296**	*e*Pn	**Pn**	**15 25 36.3**	**+0.1**
SMF				*e*Sn	**Sn**	**15 26 28.3**	**-5.2**
SMF	**Signal de Mont**	**5.04**	**296**	*e*P	**Pn**	**15 25 36.3**	**+0.1**
SMF				*e*		15 26 28.3	
SMF	**Signal de Mont**	**5.04**	**296**	*e*Pn	**Pn**	**15 25 36.3**	**+0.1**
	SNR=1.0						
CONA	**Conrad Observa**	**5.04**	**47⇑**	*i*Pn	**Pn**	**15 25 36.4**	**+0.1**
	comp=Z,533nm,0.5s,SNR=516						
CONA				⇓*i*Sn	**Sn**	**15 26 34.5**	**+0.8**
	comp=Z,773nm,0.5s						
CONA	**Conrad Observa**	**5.04**	**47⇑**	*i*Pn	**Pn**	**15 25 36.4**	**+0.1**
CONA				*i* Sn	**Sn**	**15 26 34.5**	**+0.8**
CONA	**Conrad Observa**	**5.04**	**47⇑**	*i*Pn	**Pn**	**15 25 36.4**	**+0.1**
CONA				*i* Sn	**Sn**	**15 26 34.5**	**+0.9**
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	**Pn**	**15 25 37.9**	**+0.8**
	baz=146						
PAGF				*e*Sn	**Sn**	**15 26 30.2**	**-5.0**
	comp=Z,2μm,0.9s						
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	**Pn**	**15 25 37.9**	**+0.8**
PAGF				*e*Sn	**Sn**	**15 26 30.2**	**-5.0**
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	**Pn**	**15 25 37.9**	**+0.8**
	baz=146						
LBL	**Lubilhac**	**5.12**	**280**	P	**Pn**	**15 25 37.5**	**+0.1**
LBL	**Lubilhac**	**5.12**	**280**	P	**Pn**	**15 25 37.5**	**+0.1**
GRA1	**Grafenberg Arr**	**5.13**	**6**	Pn	**Pn**	**15 25 36.2**	**-1.2**
GRF	**Grafenberg Arr**	**5.13**	**6**	*e*Pn	**Pn**	**15 25 36.2**	**-1.3**
TOD	**Tromm**	**5.13**	**348⇓**	*e*P	**Pn**	**15 25 37.4**	**0.0**
TOD	**Tromm**	**5.13**	**348⇓**	*e*P	**Pn**	**15 25 37.4**	**0.0**
TOD	**Tromm**	**5.13**	**348**	P	**Pn**	**15 25 37.4**	**-0.1**
VSL	**Villasalto**	**5.15**	**189**	*e*Pn	**Pn**	**15 25 37.7**	**-0.1**
	comp=Z,389nm,0.8s						
VSL	**Villasalto**	**5.15**	**189**	*e*Pn	**Pn**	**15 25 37.7**	**-0.1**
	comp=Z,389nm,0.8s						
SFTF	**Sexfontaines**	**5.17**	**316**	*e*Pn	**Pn**	**15 25 38.8**	**+0.7**
	baz=129						
SFTF				*e*Sn	**Sn**	**15 26 32.3**	**-4.6**
	comp=Z,6μm,0.9s						
SFTF	**Sexfontaines**	**5.17**	**316**	*e*Pn	**Pn**	**15 25 38.8**	**+0.7**
SFTF				*e*Sn	**Sn**	**15 26 32.3**	**-4.6**
SFTF	**Sexfontaines**	**5.17**	**316**	*e*Pn	**Pn**	**15 25 38.8**	**+0.7**
	baz=129						
SOP	**Sopron**	**5.28**	**52⇑**	*e*Pn	**Pn**	**15 25 40.1**	**+0.6**
SOP				*e*Sn	**Sn**	**15 26 38.2**	**-1.2**
SOP	**Sopron**	**5.28**	**52⇑**	*e*Pn	**Pn**	**15 25 40.1**	**+0.6**
SOP				*e*Sn	**Sn**	**15 26 38.2**	**-1.2**
LOR	**Lormes**	**5.29**	**303**	*e*Pn	**Pn**	**15 25 40.0**	**+0.3**
	baz=122,SNR=1.0						
LOR				*e*Sn	**Sn**	**15 26 39.5**	**-0.2**
	comp=Z,4μm,0.6s,SNR=1.0						
LOR				*e*R			
	comp=Z,35μm,19.2s						
LOR	**Lormes**	**5.29**	**303**	*e*Pn	**Pn**	**15 25 40.0**	**+0.3**
LOR				*e*Sn	**Sn**	**15 26 39.5**	**-0.2**
LOR	**Lormes**	**5.29**	**303**	*e*P	**Pn**	**15 25 40.0**	**+0.3**
LOR				*e*		15 26 39.5	
LOR	**Lormes**	**5.29**	**303**	*e*Pn	**Pn**	**15 25 40.0**	**+0.3**
	baz=122,SNR=1.0						
LOR				*e*Sn	**Sn**	**15 26 39.5**	**-0.2**
	comp=Z,2μm,0.6s,SNR=1.0						
ROTZ	**Rotzenmuhle**	**5.32**	**13**	*e*Pn	**Pn**	**15 25 38.9**	**-1.1**
ROTZ				*e*Sn	**Sn**	**15 26 37.9**	**-2.4**
ROTZ	**Rotzenmuhle**	**5.32**	**13**	Pn	**Pn**	**15 25 38.9**	**-1.1**
ROTZ				Sn	**Sn**	**15 26 37.9**	**-2.5**
PYM	**Petit Puy Mans**	**5.35**	**285**	P	**Pn**	**15 25 40.2**	**-0.4**
PYM	**Petit Puy Mans**	**5.35**	**285**	P	**Pn**	**15 25 40.2**	**-0.4**
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	**Pn**	**15 25 41.6**	**+0.8**
	baz=137,SNR=1.0						
MEZF				*e*Sn	**Sn**	**15 26 37.6**	**-4.2**
	comp=Z,12μm,1.4s						
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	**Pn**	**15 25 41.6**	**+0.8**
MEZF				*e*Sn	**Sn**	**15 26 37.6**	**-4.2**
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	**Pn**	**15 25 41.6**	**+0.8**
	baz=137,SNR=1.0						
AVF	**Avril sur Loir**	**5.40**	**296**	*e*Pn	**Pn**	**15 25 40.8**	**-0.4**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**15 26 40.7**	**-1.8**
	comp=Z,7μm,1.3s,SNR=1.0						
AVF	**Avril sur Loir**	**5.40**	**296**	*e*Pn	**Pn**	**15 25 40.8**	**-0.4**
AVF				*e*Sn	**Sn**	**15 26 40.7**	**-1.8**
AVF	**Avril sur Loir**	**5.40**	**296**	*e*P	**Pn**	**15 25 40.8**	**-0.4**
AVF				*e*		15 26 40.7	
AVF	**Avril sur Loir**	**5.40**	**296**	*e*Pn	**Pn**	**15 25 40.8**	**-0.4**
	SNR=1.0						
SSF	**Saint Saulge**	**5.41**	**300**	*e*Pn	**Pn**	**15 25 41.3**	**-0.1**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**15 26 40.2**	**-2.6**
	comp=Z,3μm,0.8s,SNR=1.0						
SSF	**Saint Saulge**	**5.41**	**300**	*e*Pn	**Pn**	**15 25 41.3**	**-0.1**
SSF				*e*Sn	**Sn**	**15 26 40.2**	**-2.6**
SSF	**Saint Saulge**	**5.41**	**300**	*e*P	**Pn**	**15 25 41.3**	**-0.1**
SSF				*e*		15 26 40.2	
SSF	**Saint Saulge**	**5.41**	**300**	*e*Pn	**Pn**	**15 25 41.3**	**-0.1**
	SNR=1.0						
STON	**Ston**	**5.56**	**106**	*i* Pn	**Pn**	**15 25 42.3**	**-1.1**
STON				Sn	**Sn**	**15 26 42.9**	**-3.5**
STON	**Ston**	**5.56**	**106**	*i* Pn	**Pn**	**15 25 42.3**	**-1.1**
CDT	**Castel del Mon**	**5.56**	**127⇑**	*i*Pn	**Pn**	**15 25 43.2**	**-0.3**
CDT				*e*Sn	**Sn**	**15 26 45.0**	**-1.5**
RUP	**Ruppelstein**	**5.59**	**337⇑**	*e*P	**Pn**	**15 25 44.2**	**+0.4**
RUP	**Ruppelstein**	**5.59**	**337⇑**	*e*P	**Pn**	**15 25 44.2**	**+0.4**
RUP	**Ruppelstein**	**5.59**	**337**	P	**Pn**	**15 25 44.2**	**+0.4**
ABH	**Alteburg**	**5.63**	**341⇑**	*i*P	**Pn**	**15 25 44.7**	**+0.3**
ABH	**Alteburg**	**5.63**	**341⇑**	*i*P	**Pn**	**15 25 44.7**	**+0.3**
ABH	**Alteburg**	**5.63**	**341**	P	**Pn**	**15 25 44.7**	**+0.3**
BGF	**Bois d'Agland**	**5.66**	**293**	*e*Pn	**Pn**	**15 25 44.9**	**+0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**15 26 45.8**	**-2.9**
	comp=Z,4μm,0.7s,SNR=1.0						
BGF	**Bois d'Agland**	**5.66**	**293**	*e*Pn	**Pn**	**15 25 44.9**	**+0.2**
BGF				*e*Sn	**Sn**	**15 26 45.8**	**-2.9**
BGF	**Bois d'Agland**	**5.66**	**293**	*e*P	**Pn**	**15 25 44.9**	**+0.2**
BGF				*e*		15 26 45.8	
BGF	**Bois d'Agland**	**5.66**	**293**	*e*Pn	**Pn**	**15 25 44.9**	**+0.2**
	SNR=1.0						
RHK3	**Tenkes**	**5.69**	**74⇑**	*e*Pn	**Pn**	**15 25 43.6**	**-1.6**
VERF	**Verneugheol**	**5.72**	**284**	P	**Pn**	**15 25 45.2**	**-0.3**
VERF	**Verneugheol**	**5.72**	**284**	P	**Pn**	**15 25 45.2**	**-0.3**
TNS	**Taunus Mts**	**5.78**	**347⇓**	*i*P	**Pn**	**15 25 46.8**	**+0.3**
TNS				*e*Pn	**Pn**	**15 25 46.8**	**+0.4**
TNS				S	**Sn**	**15 26 48.7**	**-3.1**
TNS	**Taunus Mts**	**5.78**	**347⇓**	*i*P	**Pn**	**15 25 46.8**	**+0.3**
TNS				S	**Sn**	**15 26 48.7**	**-3.1**
TNS	**Taunus Mts**	**5.78**	**347**	P	**Pn**	**15 25 46.8**	**+0.4**
NKC	**Novy Kostel**	**5.81**	**13**	*e*P	**Pn**	**15 25 45.7**	**-1.1**
NKC				*e*		15 26 50.2	
NKC				MLR	MLR		
	comp=Z,50μm,14.4s						
NKC	**Novy Kostel**	**5.81**	**13**	*e*PN	**Pn**	**15 25 45.7**	**-1.1**
NKC				*e*SN	**Sn**	**15 26 50.2**	**-2.3**
NKC				AMS	AMS	15 28 10.0	
	comp=Z,50μm,14.4s						
NKC	**Novy Kostel**	**5.81**	**13**	Pn	**Pn**	**15 25 45.7**	**-1.1**
WLF	**Walferdange**	**5.84**	**332**	PN	**Pn**	**15 25 48.0**	**+0.8**
WLF				SN	**Sn**	**15 26 52.3**	**-1.0**
	comp=N,1μm,1.2s						
WLF	**Walferdange**	**5.84**	**332**	*e*Pn	**Pn**	**15 25 47.5**	**+0.3**
	comp=N,1μm,1.0s						
WLF	**Walferdange**	**5.84**	**332**	*e*P	**Pn**	**15 25 47.5**	**+0.3**
WLF				pmax	pmax		
	comp=Z,1μm,1.0s						
WLF	**Walferdange**	**5.84**	**332**	P	**Pn**	**15 25 47.6**	**+0.4**
WLF				S	**Sn**	**15 26 56.0**	**+2.8**
WLF	**Walferdange**	**5.84**	**332**	Px	Px	15 25 47.6	
WLF				Sx	Sx	15 26 56.0	
WLF	**Walferdange**	**5.84**	**332**	*e*P	**Pn**	**15 25 47.5**	**+0.3**
	comp=Z,1μm,1.0s						
WLF				S	**Sn**	**15 26 56.0**	**+2.8**
TREC	**Trest**	**5.85**	**35**	*e*P	**Pn**	**15 25 47.3**	**0.0**
TREC				MLR	MLR		
	comp=Z,59μm,13.9s						
TREC	**Trest**	**5.85**	**35**	*e*PN	**Pn**	**15 25 47.3**	**0.0**
TREC				AMS	AMS	15 28 10.0	
	comp=Z,59μm,13.9s						
TREC	**Trest**	**5.85**	**35**	Pn	**Pn**	**15 25 47.3**	**0.0**
WERN	**Wernitzgruen**	**5.85**	**13**	*e*Pn	**Pn**	**15 25 45.9**	**-1.4**
WERN				*e*Sn	**Sn**	**15 26 52.6**	**-0.9**
WERN	**Wernitzgruen**	**5.85**	**13**	Pn	**Pn**	**15 25 45.9**	**-1.4**
WERN				Sn	**Sn**	**15 26 52.6**	**-0.9**
SJAF	**Saint Jean de**	**5.86**	**252**	P	**Pn**	**15 25 47.0**	**-0.5**
SJAF	**Saint Jean de**	**5.86**	**252**	P	**Pn**	**15 25 47.0**	**-0.5**
PKS9	**Tamasi**	**5.88**	**67⇑**	*e*Pn	**Pn**	**15 25 46.4**	**-1.3**
BAI	**Bari**	**5.90**	**124**	*e*Pn	**Pn**	**15 25 47.3**	**-0.8**
LRDF	**Laroque-de-Fa**	**5.93**	**257**	P	**Pn**	**15 25 48.9**	**+0.4**
LRDF	**Laroque-de-Fa**	**5.93**	**257**	P	**Pn**	**15 25 48.9**	**+0.4**
CAF	**Calviac**	**5.95**	**276**	*e*Pn	**Pn**	**15 25 49.2**	**+0.5**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**15 26 55.6**	**-0.3**
	comp=Z,4μm,1.2s						
CAF	**Calviac**	**5.95**	**276**	*e*Pn	**Pn**	**15 25 49.2**	**+0.5**
CAF				*e*Sn	**Sn**	**15 26 55.6**	**-0.3**
CAF	**Calviac**	**5.95**	**276**	*e*P	**Pn**	**15 25 49.2**	**+0.5**
CAF				*e*		15 26 55.6	
CAF	**Calviac**	**5.95**	**276**	*e*Pn	**Pn**	**15 25 49.2**	**+0.5**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**15 26 55.6**	**-0.3**
	comp=Z,2μm,1.2s						
BGG	**Burgeitz**	**5.99**	**341**	*e*Pn	**Pn**	**15 25 49.3**	**+0.1**
BGG	**Burgeitz**	**5.99**	**341**	Pn	**Pn**	**15 25 49.3**	**+0.1**
TCF	**Toulx Ste Croi**	**6.01**	**289**	*e*Pn	**Pn**	**15 25 49.3**	**-0.2**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**15 26 54.8**	**-2.6**
	comp=Z,981nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**6.01**	**289**	*e*Pn	**Pn**	**15 25 49.3**	**-0.2**
TCF				*e*Sn	**Sn**	**15 26 54.8**	**-2.6**
TCF	**Toulx Ste Croi**	**6.01**	**289**	*e*P	**Pn**	**15 25 49.3**	**-0.2**
TCF				*e*		15 26 54.8	
TCF	**Toulx Ste Croi**	**6.01**	**289**	*e*Pn	**Pn**	**15 25 49.3**	**-0.2**
	SNR=1.0						
PKSM	**Moragy**	**6.02**	**72⇓**	*i*Pn	**Pn**	**15 25 48.0**	**-1.7**
PKSM	**Moragy**	**6.02**	**72⇑**	*i*P	**Pn**	**15 25 47.9**	**-1.8**
PKSM				S	**Sn**	**15 26 53.0**	**-4.8**
PKSM	**Moragy**	**6.02**	**72⇑**	*i*P	**Pn**	**15 25 47.9**	**-1.8**
PKSM	**Moragy**	**6.02**	**72**	S	**Sn**	**15 26 53.0**	**-4.8**
PKSM	**Moragy**	**6.02**	**72**	P	**Pn**	**15 25 47.9**	**-1.8**
HYF	**Humbligny**	**6.04**	**299**	*e*Pn	**Pn**	**15 25 50.0**	**+0.1**
HYF				*e*Sn	**Sn**	**15 26 52.7**	**-5.4**
HYF	**Humbligny**	**6.04**	**299**	*e*Pn	**Pn**	**15 25 50.0**	**+0.1**
HYF				*e*Sn	**Sn**	**15 26 52.7**	**-5.4**
HYF	**Humbligny**	**6.04**	**299**	*e*Pn	**Pn**	**15 25 50.0**	**+0.1**
MTLF	**Montolieu**	**6.04**	**261**	*e*Pn	**Pn**	**15 25 50.7**	**+0.7**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**15 26 55.8**	**-2.4**
	comp=Z,1μm,0.6s,SNR=1.0						
MTLF	**Montolieu**	**6.04**	**261**	*e*Pn	**Pn**	**15 25 50.7**	**+0.7**
MTLF				*e*Sn	**Sn**	**15 26 55.8**	**-2.4**
MTLF	**Montolieu**	**6.04**	**261**	*e*P	**Pn**	**15 25 50.7**	**+0.7**
MTLF				*e*		15 26 55.8	
MTLF	**Montolieu**	**6.04**	**261**	*e*Pn	**Pn**	**15 25 50.7**	**+0.7**
	SNR=1.0						
FILF	**Fillols**	**6.05**	**253**	P	**Pn**	**15 25 51.3**	**+1.2**
FILF	**Fillols**	**6.05**	**253**	P	**Pn**	**15 25 51.3**	**+1.2**
PRU	**Pruhonice**	**6.08**	**26**	*e*P	**Pn**	**15 25 50.3**	**-0.3**
PRU				*e*		15 26 56.1	
PRU				MLR	MLR		
	comp=Z,46μm,14.5s						
PRU	**Pruhonice**	**6.08**	**26**	*e*PN	**Pn**	**15 25 50.3**	**-0.3**
PRU				*e*SN	**Sn**	**15 26 56.1**	**-3.2**
PRU				AMS	AMS	15 28 10.0	
	comp=Z,46μm,14.5s						
PRU	**Pruhonice**	**6.08**	**26**	Pn	**Pn**	**15 25 50.3**	**-0.3**
CUC	**Castrocucco**	**6.10**	**137**	*e*Pn	**Pn**	**15 25 51.5**	**+0.6**
	comp=Z,179nm,1.1s						
CUC	**Castrocucco**	**6.10**	**137**	*e*Pn	**Pn**	**15 25 51.5**	**+0.6**
	comp=Z,179nm,1.1s						
KOE	**Koeppel**	**6.11**	**344**	*e*Pn	**Pn**	**15 25 50.9**	**0.0**
KOE	**Koeppel**	**6.11**	**344**	Pn	**Pn**	**15 25 50.9**	**0.0**
MOX	**Moxa**	**6.11**	**7**	*e*Pn	**Pn**	**15 25 49.1**	**-1.8**
MOX				*e*Sn	**Sn**	**15 26 57.6**	**-2.2**
MOX	**Moxa**	**6.11**	**7**	Pn	**Pn**	**15 25 49.1**	**-1.8**
BRY	**Bratogost**	**6.13**	**103⇑**	*i*Pn	**Pn**	**15 25 51.5**	**+0.2**
BRY				*e*Sn	**Sn**	**15 26 59.8**	**-0.7**
BRY	**Bratogost**	**6.13**	**103⇑**	*i*Pn	**Pn**	**15 25 51.5**	**+0.2**
BRY				*e*Sn	**Sn**	**15 26 59.8**	**-0.7**
PKSG		**6.23**	**61⇓**	*e*Pn	**Pn**	**15 25 51.7**	**-0.8**
SMOL	**Smolenice**	**6.23**	**49**	*e*P	**Pn**	**15 25 53.2**	**+0.6**
SMOL				*e*		15 27 01.2	
SMOL	**Smolenice**	**6.23**	**49**	*e*PN	**Pn**	**15 25 53.2**	**+0.6**
SMOL				*e*SN	**Sn**	**15 27 01.2**	**-1.7**
SMOL	**Smolenice**	**6.23**	**49**	*e*P	**Pn**	**15 25 53.2**	**+0.6**
SMOL				*e*S	**Sn**	**15 27 01.2**	**-1.7**
HILG	**Hillesheim**	**6.23**	**337**	*e*Pn	**Pn**	**15 25 52.7**	**+0.1**
HILG	**Hillesheim**	**6.23**	**337**	Pn	**Pn**	**15 25 52.7**	**+0.1**
HCY	**Herceg Novi**	**6.26**	**107⇓**	*i*Pn	**Pn**	**15 25 52.9**	**-0.1**
HCY				*e*Sn	**Sn**	**15 27 02.5**	**-1.2**
HCY	**Herceg Novi**	**6.26**	**107⇓**	*i*Pn	**Pn**	**15 25 52.9**	**-0.1**
HCY				*e*Sn	**Sn**	**15 27 02.5**	**-1.2**
UPM	**Unac-Piva**	**6.30**	**100⇑**	*i*Pn	**Pn**	**15 25 54.7**	**+1.1**
UPM				*e*Sn	**Sn**	**15 27 03.2**	**-1.4**
UPM	**Unac-Piva**	**6.30**	**100⇑**	*i*Pn	**Pn**	**15 25 54.7**	**+1.1**
UPM				*e*Sn	**Sn**	**15 27 03.2**	**-1.4**
CARF	**Carcanieres**	**6.30**	**256**	P	**Pn**	**15 25 53.9**	**+0.3**
CARF	**Carcanieres**	**6.30**	**256**	P	**Pn**	**15 25 53.9**	**+0.3**
VRAC	**Vranov**	**6.34**	**40**	Pn	**Pn**	**15 25 53.2**	**-0.9**
	comp=Z,16nm,0.3s,baz=233,slow=14,SNR=48						
VRAC				Sn	**Sn**	**15 27 03.4**	**-2.1**
	comp=Z,50nm,0.3s,baz=308,slow=18,SNR=8.2						
VRAC				LR	LR	15 29 02.3	
	comp=Z,30μm,18.3s,baz=214,slow=44						
VRAC	**Vranov**	**6.34**	**40**	Pn	**Pn**	**15 25 53.2**	**-0.9**
VRAC				Sn	**Sn**	**15 27 03.4**	**-2.1**
VRAC	**Vranov**	**6.34**	**40**	⇓P	**Pn**	**15 25 53.1**	**-0.9**
VRAC				S	**Sn**	**15 27 04.1**	**-1.4**
VRAC	**Vranov**	**6.34**	**40**	⇓*i*P	**Pn**	**15 25 53.1**	**-0.9**
VRAC	**Vranov**	**6.34**	**40**	S	**Sn**	**15 27 04.1**	**-1.4**
VRAC	**Vranov**	**6.34**	**40**	Pn	**Pn**	**15 25 53.2**	**-0.8**
VRAC				*e*Sn	**Sn**	**15 27 03.5**	**-2.0**
VRAC				S	**Sn**	**15 27 04.1**	**-1.4**
RJF	**Les Rejaudoux**	**6.35**	**280**	*e*Pn	**Pn**	**15 25 55.3**	**+1.1**
RJF				*e*Sn	**Sn**	**15 27 02.8**	**-2.9**
	comp=Z,3μm,1.1s						
RJF				*e*R			
	comp=Z,24μm,19.8s						
RJF	**Les Rejaudoux**	**6.35**	**280**	*e*Pn	**Pn**	**15 25 55.3**	**+1.1**
RJF				*e*Sn	**Sn**	**15 27 02.8**	**-2.9**
RJF	**Les Rejaudoux**	**6.35**	**280**	*e*P	**Pn**	**15 25 55.3**	**+1.1**
RJF				*e*		15 27 02.8	
RJF	**Les Rejaudoux**	**6.35**	**280**	*e*Pn	**Pn**	**15 25 55.3**	**+1.1**
PE1	**Pezze di Greco**	**6.41**	**124⇑**	*i*Pn	**Pn**	**15 25 53.5**	**-1.6**
STB	**Steinbach**	**6.46**	**339**	*e*Pn	**Pn**	**15 25 56.0**	**+0.2**
STB	**Steinbach**	**6.46**	**339**	Pn	**Pn**	**15 25 56.0**	**+0.2**
NKY	**Niksic**	**6.48**	**103**	⇓*i*Pn	**Pn**	**15 25 56.8**	**+0.8**
NKY				*e*Sn	**Sn**	**15 27 07.9**	**-1.1**
NKY	**Niksic**	**6.48**	**103**	⇓*i*Pn	**Pn**	**15 25 56.8**	**+0.8**
NKY				*e*Sn	**Sn**	**15 27 07.9**	**-1.1**
VALF	**Valcebollere**	**6.48**	**253**	P	**Pn**	**15 25 56.8**	**+0.8**
VALF	**Valcebollere**	**6.48**	**253**	P	**Pn**	**15 25 56.8**	**+0.8**
TAR1	**Taranto**	**6.51**	**126**	⇓*i*Pn	**Pn**	**15 25 55.1**	**-1.3**
BBLS	**Lazići**	**6.51**	**93⇑**	*i*Pn	**Pn**	**15 25 56.6**	**+0.2**
PVCC	**Panska Ves**	**6.57**	**24**	*e*P	**Pn**	**15 25 56.8**	**-0.4**
PVCC				MLR	MLR		
	comp=Z,48μm,15.1s						
PVCC	**Panska Ves**	**6.57**	**24**	*e*PN	**Pn**	**15 25 56.8**	**-0.4**
PVCC				AMS	AMS	15 28 40.0	
	comp=Z,48μm,15.1s						
PVCC	**Panska Ves**	**6.57**	**24**	Pn	**Pn**	**15 25 56.8**	**-0.4**
BUM	**Brajici-Budva**	**6.59**	**107⇑**	*i*Pn	**Pn**	**15 25 57.5**	**-0.1**
BUM				*e*Sn	**Sn**	**15 27 10.4**	**-1.4**
BUM	**Brajici-Budva**	**6.59**	**107⇑**	*i*Pn	**Pn**	**15 25 57.5**	**-0.1**
BUM				*e*Sn	**Sn**	**15 27 10.4**	**-1.4**
PLE	**Pljevlja**	**6.61**	**98⇓**	*i*Pn	**Pn**	**15 25 57.9**	**+0.1**
PLE				*e*Sn	**Sn**	**15 27 10.7**	**-1.5**
PLE	**Pljevlja**	**6.61**	**98⇓**	*i*Pn	**Pn**	**15 25 57.9**	**+0.1**
PLE				*e*Sn	**Sn**	**15 27 10.7**	**-1.5**
KLL	**Kalltalsperre**	**6.65**	**337**	*e*Pn	**Pn**	**15 25 58.1**	**-0.3**
KLL	**Kalltalsperre**	**6.65**	**337**	Pn	**Pn**	**15 25 58.1**	**-0.3**
BUD	**Budapest**	**6.66**	**61**	*e*Pn	**Pn**	**15 25 58.4**	**-0.1**
BUD				*e*Sn	**Sn**	**15 27 11.0**	**-2.4**
BUD	**Budapest**	**6.66**	**61**	*e*Pn	**Pn**	**15 25 58.4**	**-0.1**
BUD				*e*Sn	**Sn**	**15 27 11.4**	**-2.0**
GIVF	**Givet**	**6.68**	**327**	*e*Pn	**Pn**	**15 25 59.1**	**+0.3**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**15 27 10.8**	**-3.2**
	comp=Z,6μm,1.1s,SNR=1.0						
GIVF	**Givet**	**6.68**	**327**	*e*Pn	**Pn**	**15 25 59.1**	**+0.3**
GIVF				*e*Sn	**Sn**	**15 27 10.8**	**-3.2**
GIVF	**Givet**	**6.68**	**327**	*e*P	**Pn**	**15 25 59.1**	**+0.3**
GIVF				*e*		15 27 10.8	
GIVF	**Givet**	**6.68**	**327**	*e*Pn	**Pn**	**15 25 59.1**	**+0.3**
	SNR=1.0						
DREG	**Dreilaegerbach**	**6.69**	**337**	*e*Pn	**Pn**	**15 25 59.0**	**+0.1**
DREG	**Dreilaegerbach**	**6.69**	**337**	Pn	**Pn**	**15 25 59.0**	**+0.1**
MEM	**Membach**	**6.71**	**335**	PN	**Pn**	**15 26 00.0**	**+0.9**
MEM				SN	**Sn**	**15 27 10.6**	**-4.0**
	comp=N,530nm,0.8s						
HOBG	**Hohbusch**	**6.72**	**343**	*e*Pn	**Pn**	**15 25 59.6**	**+0.4**
HOBG				*e*Sn	**Sn**	**15 27 12.6**	**-2.2**
HOBG	**Hohbusch**	**6.72**	**343**	Pn	**Pn**	**15 25 59.6**	**+0.4**
BRG	**Berggiesshubel**	**6.72**	**20⇑**	*i*PN	**Pn**	**15 25 58.4**	**-0.9**
	comp=N,175nm,0.6s						
BRG				PG	Pn	15 26 32.5	+33
BRG				*e*		15 27 22.9	
BRG	**Berggiesshubel**	**6.72**	**20**	SB	**Sb**	**15 27 36.6**	**-1.5**
BRG				SG	Sn	15 27 57.8	+43
	comp=N,2μm,1.2s						
BRG							
	comp=Z,44μm,14.9s						
BRG							
	comp=N,28μm,14.7s						
BRG							

PVY	Plav	7.22	103⇑	iPn	Pn	15 26 07.8 +1.6
PVY				eSn	Sn	15 27 26.4 -0.9
PVY	Plav	7.22	103⇑	iPn	Pn	15 26 07.8 +1.6
PVY				eSn	Sn	15 27 26.4 -0.9
CLZ	Clausthal	7.25	360	ePn	Pn	15 26 05.6 -1.0
CLZ	Clausthal	7.25	360	Pn	Pn	15 26 05.6 -1.0
PSZ	Piszkesteto	7.37	60	ePn	Pn	15 26 07.4 -0.8
	comp=Z,220nm,0.8s					
PSZ	Piszkesteto	7.37	60	⇑P	Pn	15 26 07.6 -0.6
PSZ	Piszkesteto	7.37	60⇓	ePn	Pn	15 26 08.1 -0.1
PSZ				eSn	Sn	15 27 27.4 -3.5
PSZ	Piszkesteto	7.37	60⇑	iP	Pn	15 26 07.6 -0.6
PSZ	Piszkesteto	7.37	60	P	Pn	15 26 07.6 -0.6
PUK	Puka	7.38	107	ePN	Pn	15 26 08.7 +0.4
PUK				i SN	Px	15 26 32.1
KSP	Ksiaz	7.40	30	ePn	Pn	15 26 07.9 -0.8
KSP				ePP		15 26 08.4
KSP				eSn	Sn	15 27 29.8 -2.0
KSP	Ksiaz	7.40	30	ePn	Pn	15 26 07.8 -0.9
KSP				e		15 26 08.5
KSP				ePg	Pn	15 26 40.0 +31
KSP				eSn	Sn	15 27 27.6 -4.1
KSP				eSg	Sn	15 28 14.8 +43
KSP	Ksiaz	7.40	30	eP	Pn	15 26 07.8 -0.9
KSP				e		15 27 27.6
KSP	Ksiaz	7.40	30	ePn	Pn	15 26 07.8 -0.9
KSP				ePg	Pn	15 26 40.0 +31
KSP				eSn	Sn	15 27 27.6 -4.1
KSP				eSg	Sn	15 28 14.7 +43
KSP	Ksiaz	7.40	30	eP	Pn	15 26 07.8 -0.9
OKC	Ostrava-Krasne	7.43	42	eP	Pn	15 26 08.5 -0.6
OKC				MLR	MLR	
	comp=Z,30μm,15.1s					
OKC	Ostrava-Krasne	7.43	42	ePN	Pn	15 26 08.5 -0.6
OKC				AMS	AMS	15 29 10.0
	comp=Z,30μm,15.1s					
OKC	Ostrava-Krasne	7.43	42	Pn	Pn	15 26 08.5 -0.6
GRUS	Gruza	7.44	92	⇓iPn	Pn	15 26 09.1 -0.1
EPF	Esparros	7.45	261	ePn	Pn	15 26 09.4 +0.1
	SNR=1.0					
EPF				eSn	Sn	15 27 28.7 -4.1
	comp=Z,313nm,0.5s					
EPF	Esparros	7.45	261	ePn	Pn	15 26 09.4 +0.1
EPF				eSn	Sn	15 27 28.7 -4.1
EPF	Esparros	7.45	261	eP	Pn	15 26 09.4 +0.1
EPF				e		15 27 28.7
EPF	Esparros	7.45	261	ePn	Pn	15 26 09.4 +0.1
	SNR=1.0					
LIKS	Likavka	7.45	50	eP	Pn	15 26 11.4 +2.1
LIKS				e		15 27 32.8
LIKS	Likavka	7.45	50	ePN	Pn	15 26 11.4 +2.1
LIKS				eSN	Sn	15 27 32.8 0.0
LIKS	Likavka	7.45	50	eP	Pn	15 26 11.4 +2.1
LIKS				eS	Sn	15 27 32.8 0.0
RESF	Ens	7.51	260	P	Pn	15 26 11.0 +0.8
RESF	Ens	7.51	260	P	Pn	15 26 11.0 +0.8
RAC	Raciborz	7.62	41	eP	Pn	15 26 12.6 +0.9
RAC	Raciborz	7.62	41	eP	Pn	15 26 12.6 +0.9
LABF	Labassere	7.63	262	P	Pn	15 26 11.6 -0.2
LABF	Labassere	7.63	262	P	Pn	15 26 11.6 -0.2
TIR	Tirane	7.66	112	ePN	Pn	15 26 12.1 -0.1
TIR				i SN	Sn	15 27 32.2 -5.9
TIR	Tirane	7.66	112	⇑iPn	Pn	15 26 11.9 -0.3
TIR	Tirane	7.66	112	P	Pn	15 26 11.7 -0.5
TIR	Tirane	7.66	112	ePn	Pn	15 26 11.3 -1.0
	comp=Z,628nm,0.6s					
TIR	Tirane	7.66	112	eP	Pn	15 26 11.3 -0.9
TIR				pmax	pmax	
	comp=Z,628nm,0.6s					
TIR	Tirane	7.66	112	eP	Pn	15 26 11.3 -0.9
	comp=Z,628nm,0.6s					
MFF	Saint Martin d	7.67	289	ePn	Pn	15 26 11.9 -0.4
	SNR=1.0					
MFF				eSn	Sn	15 27 31.2 -7.0
	comp=Z,470nm,0.6s					
MFF	Saint Martin d	7.67	289	ePn	Pn	15 26 11.9 -0.4
MFF				eSn	Sn	15 27 31.2 -7.0
MFF	Saint Martin d	7.67	289	eP	Pn	15 26 11.9 -0.4
MFF	Saint Martin d	7.67	289	ePn	Pn	15 26 11.9 -0.4
	SNR=1.0					
VIEF	Viey	7.71	261	P	Pn	15 26 13.6 +0.7
VIEF	Viey	7.71	261	P	Pn	15 26 13.6 +0.7
SVIS	Svilajnac	7.75	89	ePn	Pn	15 26 13.0 -0.4
SELS	Selova	7.86	96	⇑iPn	Pn	15 26 14.4 -0.6
PHP	Peshkopia	7.90	108	ePN	Pn	15 26 15.8 +0.3
PHP				i SN	Px	15 26 39.5
PHP	Peshkopia	7.90	108	P	Pn	15 26 15.5 0.0
PHP	Peshkopia	7.90	108	P	Pn	15 26 15.5 0.0
PHP	Peshkopia	7.90	108	P	Pn	15 26 15.5 0.0
PHP	Peshkopia	7.90	108	P	Pn	15 26 15.5 0.0
KECS	Kecovo	7.96	57	eP	Pn	15 26 15.8 -0.6
KECS				e		15 27 41.1
KECS	Kecovo	7.96	57	ePN	Pn	15 26 15.8 -0.6
KECS				eSN	Sn	15 27 41.1 -4.4
KECS	Kecovo	7.96	57	eP	Pn	15 26 15.8 -0.6
BZS	Buzias	8.00	79⇑	ePn	Pn	15 26 16.6 -0.3
BZS	Buzias	8.00	79	⇑⇑P	Pn	15 26 16.1 -0.8
BZS	Buzias	8.00	79	⇑iP	Pn	15 26 16.1 -0.8
BZS	Buzias	8.00	79	P	Pn	15 26 16.1 -0.8
ETSF	Etsaut	8.12	262	ePn	Pn	15 26 20.0 +1.5
	SNR=1.0					
ETSF				eSn	Sn	15 27 49.4 +0.1
	comp=Z,858nm,1.0s					
ETSF	Etsaut	8.12	262	ePn	Pn	15 26 20.0 +1.5
ETSF				eSn	Sn	15 27 49.4 +0.1
ETSF	Etsaut	8.12	262	eP	Pn	15 26 20.0 +1.5
ETSF				e		15 27 49.4
ETSF	Etsaut	8.12	262	ePn	Pn	15 26 20.0 +1.5
	SNR=1.0					
ETSF				eSn	Sn	15 27 49.4 +0.1
	comp=Z,429nm,1.0s					
ATE	Arette	8.17	263	P	Pn	15 26 20.6 +1.4
ATE	Arette	8.17	263	P	Pn	15 26 20.6 +1.4
RUE	Ruedersdorf	8.20	15	Pn	Pn	15 26 17.8 -1.8
	comp=Z,157nm,0.7s					
RUE	Ruedersdorf	8.20	15	Pn	Pn	15 26 17.8 -1.8
	comp=Z,157nm,0.7s					
CAEH	'Ain El Ouahch	8.26	200	P	Pn	15 26 20.0 -0.5
CAEH	'Ain El Ouahch	8.26	200	P	Pn	15 26 20.0 -0.5
LDF	La Druitiere	8.28	303	ePn	Pn	15 26 19.6 -1.0
	SNR=1.0					
LDF				eSn	Sn	15 27 45.9 -7.3
	comp=Z,992nm,0.9s					
LDF	La Druitiere	8.28	303	ePn	Pn	15 26 19.6 -1.0
LDF				eSn	Sn	15 27 45.9 -7.3
LDF	La Druitiere	8.28	303	eP	Pn	15 26 19.6 -1.0
LDF	La Druitiere	8.28	303	ePn	Pn	15 26 19.6 -1.0
	SNR=1.0					
CMAH	Djebel Manchou	8.28	197	P	Pn	15 26 20.0 -0.7
CMAH	Djebel Manchou	8.28	197	P	Pn	15 26 20.0 -0.7
ORDF	Ordiarp	8.30	264	P	Pn	15 26 21.3 +0.3
ORDF	Ordiarp	8.30	264	P	Pn	15 26 21.3 +0.3
NIE	Niedzica	8.31	51	eP	Pn	15 26 22.4 +1.3
NIE				eSn	Sn	15 27 53.1 -1.0
NIE	Niedzica	8.31	51	eP	Px	15 26 33.4
NIE				e		15 27 53.1
NIE	Niedzica	8.31	51	eS	Sn	15 27 53.1 -1.0
BOLS	Boljevac	8.34	91	⇑iPn	Pn	15 26 19.8 -1.7
BARS	Barje	8.46	98	⇓iPn	Pn	15 26 22.8 -0.4
SKO	Skopje	8.47	104	ePn	Pn	15 26 23.9 +0.6
SKO				eSn	Sn	15 27 55.5 -2.4
SKO	Skopje	8.47	104	ePn	Pn	15 26 23.9 +0.6
SKO				eSn	Sn	15 27 55.5 -2.5
OJC	Ojcow	8.50	45	eP	Pn	15 26 23.0 -0.7
OJC				eSn	Sn	15 27 54.6 -4.0
OJC				L		15 30 28.5
	comp=Z,29nm,15.2s					
OJC	Ojcow	8.50	45	eP	Pn	15 26 23.0 -0.7
OJC				e		15 27 54.6
OJC				MLR	MLR	
	comp=Z,29μm,15.2s					
OJC	Ojcow	8.50	45	eP	Pn	15 26 23.0 -0.7
	comp=Z,29μm,15.2s					
KEK	Kerkira	8.51	122	eP	Pn	15 26 23.6 -0.3
KEK	Kerkira	8.51	122	P	Pn	15 26 23.5 -0.4
KEK	Kerkira	8.51	122	P	Pn	15 26 23.5 -0.4
KEK	Kerkira	8.51	122	P	Pn	15 26 23.5 -0.4
OSSF	Osses	8.53	265	P	Pn	15 26 24.6 +0.5
OSSF	Osses	8.53	265	P	Pn	15 26 24.6 +0.5
SJPF	Ste Jean	8.53	264	ePn	Pn	15 26 24.4 +0.2
	SNR=1.0					
SJPF				eSn	Sn	15 28 03.0 +3.5
	comp=Z,2μm,1.7s					
SJPF	Ste Jean	8.53	264	ePn	Pn	15 26 24.4 +0.2
SJPF				eSn	Sn	15 28 03.0 +3.5
SJPF	Ste Jean	8.53	264	eP	Pn	15 26 24.4 +0.2
SJPF				e		15 28 03.0
SJPF	Ste Jean	8.53	264	ePn	Pn	15 26 24.4 +0.2
	SNR=1.0					
SRN	Sarande	8.54	120	ePN	Pn	15 26 23.4 -0.9
SRN				i SN	Sn	15 27 39.2 -20
SRN	Sarande	8.54	120	P	Pn	15 26 23.1 -1.2
SRN	Sarande	8.54	120	P	Pn	15 26 23.1 -1.2
SRN	Sarande	8.54	120	P	Pn	15 26 23.1 -1.2
FLN	La Foliniere	8.56	303	ePn	Pn	15 26 23.3 -1.3
	baz=118,SNR=1.0					
FLN				eSn	Sn	15 27 54.4 -5.8
	comp=Z,2μm,1.1s					
FLN				eR		
	comp=Z,23μm,19.2s					
FLN	La Foliniere	8.56	303	ePn	Pn	15 26 23.3 -1.3
FLN				eSn	Sn	15 27 54.4 -5.8
FLN	La Foliniere	8.56	303	eP	Pn	15 26 23.3 -1.3
FLN				e		15 27 54.4
FLN	La Foliniere	8.56	303	ePn	Pn	15 26 23.3 -1.3
	baz=118,SNR=1.0					
KRUS	Krusevo	8.58	108	ePn	Pn	15 26 24.1 -0.7
KRUS	Krusevo	8.58	108	ePn	Pn	15 26 24.1 -0.7
ABSA	Djebel Ababsia	8.61	196	P	Pn	15 26 25.0 -0.2
ABSA	Djebel Ababsia	8.61	196	P	Pn	15 26 25.0 -0.2
GRR	Gorron	8.64	300	ePn	Pn	15 26 24.4 -1.3
	SNR=1.0					
GRR				eSn	Sn	15 27 55.8 -6.4
	comp=Z,1μm,0.9s					
GRR	Gorron	8.64	300	ePn	Pn	15 26 24.4 -1.3
GRR				eSn	Sn	15 27 55.8 -6.4
GRR	Gorron	8.64	300	eP	Pn	15 26 24.4 -1.3
GRR	Gorron	8.64	300	ePn	Pn	15 26 24.4 -1.3
	SNR=1.0					
DJES	Djerdap	8.64	85	ePn	Pn	15 26 25.5 -0.2
CKFL	Kef-Lekhel	8.65	200	P	Pn	15 26 26.0 +0.1
CKFL	Kef-Lekhel	8.65	200	P	Pn	15 26 26.0 +0.1
CRVS	Cervenica-Dubn	8.73	57	eP	Pn	15 26 27.0 +0.2
CRVS				e		15 28 02.9
CRVS	Cervenica-Dubn	8.73	57	ePN	Pn	15 26 27.0 +0.2
CRVS				eSN	Sn	15 28 02.9 -1.4
CRVS	Cervenica-Dubn	8.73	57	eP	Pn	15 26 27.0 +0.2
BIA	Bitola	8.79	110	ePn	Pn	15 26 27.1 -0.6
BIA	Bitola	8.79	110	ePn	Pn	15 26 27.1 -0.6
GZR	Gura Zlata	8.81	80	⇑iP	Pn	15 26 28.0 +0.1
STHS	Stebnicka Huta	8.84	53	eP	Pn	15 26 29.5 +1.2
STHS				e		15 28 05.0
STHS	Stebnicka Huta	8.84	53	ePN	Pn	15 26 29.5 +1.2
STHS				eSN	Sn	15 28 04.9 -2.0
STHS	Stebnicka Huta	8.84	53	eP	Pn	15 26 29.5 +1.2
CASM	Ain Smara	8.84	201	P	Pn	15 26 29.0 +0.5
CASM	Ain Smara	8.84	201	P	Pn	15 26 29.0 +0.5
KEST	Kesra	8.89	186	Pn	Pn	15 26 32.4 +3.2
	comp=Z,2.8nm,0.3s,baz=302,slow=3.4,SNR=117					
KEST				LR	LR	15 30 04.8
	comp=Z,7μm,21.4s,baz=124,slow=39					
KEST	Kesra	8.89	186	ePn	Pn	15 26 32.0 +2.8
NEST	Nestorio	8.90	114	P	Pn	15 26 29.9 +0.6
DEV	Deva	8.92	77	⇑iP	Pn	15 26 30.9 +1.5
ZAPS	Zavoj	8.93	94	ePn	Pn	15 26 30.0 +0.4
FNA	Florina	8.93	111	P	Pn	15 26 29.6 -0.1
FNA	Florina	8.93	111	P	Pn	15 26 29.6 -0.1
FNA	Florina	8.93	111	P	Pn	15 26 29.6 -0.1
FNA	Florina	8.93	111	P	Pn	15 26 29.6 -0.1
IGT	Igoumenitsa	8.95	121	P	Pn	15 26 29.8 -0.1
IGT	Igoumenitsa	8.95	121	P	Pn	15 26 29.8 -0.1
IGT	Igoumenitsa	8.95	121	P	Pn	15 26 29.8 -0.1
IGT	Igoumenitsa	8.95	121	P	Pn	15 26 29.8 -0.1
ELSH	Elham, Standar	9.04	320	eP	Pn	15 26 29.8 -1.3
ELSH				AMB	AMB	15 26 34.5
	comp=Z,137nm,0.8s					
ELSH	Elham, Standar	9.04	320	P	Pn	15 26 29.8 -1.3
ELSH				AMB	AMB	15 26 34.5
	comp=Z,137nm,0.8s					
ELSH	Elham, Standar	9.04	320	eP	Pn	15 26 29.8 -1.3
CTEI	Djebel Teioual	9.05	201	P	Pn	15 26 34.0 +2.7
TRPA	Tarpa	9.11	63	⇑iP	Pn	15 26 32.0 0.0
TRPA	Tarpa	9.11	63	S	Sn	15 28 09.6 -4.0
TRPA	Tarpa	9.11	63	⇓ePn	Pn	15 26 32.1 +0.1
UZH	Uzhgorod	9.12	60	eP	Pn	15 26 33.3 +1.0
UZH				eS	Sn	15 28 14.3 +0.3
UZH				MLR	MLR	
	comp=N,12μm,11.0s					
UZH				MLR	MLR	
	comp=E,23μm,11.0s					
UZH				MLR	MLR	
	comp=Z,16μm,11.0s					
UZH	Uzhgorod	9.12	60	eP	Pn	15 26 33.3 +1.0
JAN	Janina	9.20	119	eP	Pn	15 26 33.7 +0.4
JAN	Janina	9.20	119	P	Pn	15 26 32.6 -0.7
JAN	Janina	9.20	119	P	Pn	15 26 32.6 -0.7
JAN	Janina	9.20	119	P	Pn	15 26 32.6 -0.7
JAN	Janina	9.20	119	P	Pn	15 26 32.6 -0.7
SET	Setif	9.21	206	P	Pn	15 26 35.0 +1.5
SET	Setif	9.21	206	P	Pn	15 26 35.0 +1.5
KOLS	Kolonicke sedl	9.23	58	eP	Pn	15 26 33.9 +0.2
KOLS	Kolonicke sedl	9.23	58	ePN	Pn	15 26 33.9 +0.2
KOLS	Kolonicke sedl	9.23	58	eP	Pn	15 26 33.9 +0.2
CKHR	Kef el Ahmar	9.35	205	P	Pn	15 26 41.0 +5.6
MEV	Metsovon	9.36	117	P	Pn	15 26 36.0 +0.4
MEV	Metsovon	9.36	117	P	Pn	15 26 36.0 +0.4
MEV	Metsovon	9.36	117	P	Pn	15 26 36.0 +0.4
KZN	Kozani	9.43	113	eP	Pn	15 26 37.3 +0.8
KZN	Kozani	9.43	113	P	Pn	15 26 36.3 -0.2
KZN	Kozani	9.43	113	P	Pn	15 26 36.3 -0.2
KZN	Kozani	9.43	113	P	Pn	15 26 36.3 -0.2
KZN	Kozani	9.43	113	P	Pn	15 26 36.3 -0.2
VAY	Valandovo	9.50	106	ePn	Pn	15 26 35.9 -1.6
VAY	Valandovo	9.50	106	ePn	Pn	15 26 35.9 -1.6
VTS	Vitosha	9.51	98	⇓iPn	Pn	15 26 37.4 -0.1
VTS	Vitosha	9.51	98	P	Pn	15 26 37.2 -0.3
VTS	Vitosha	9.51	98	P	Pn	15 26 37.2 -0.3
VTS	Vitosha	9.51	98	⇓P	Pn	15 26 37.2 -0.3
VTS				S	Sn	15 28 20.6 -2.9
VTS	Vitosha	9.51	98	iP	Pn	15 26 37.0 -0.5
VTS	Vitosha	9.51	98	⇓iP	Pn	15 26 37.2 -0.3
VTS	Vitosha	9.51	98	P	Pn	15 26 37.2 -0.3
LOT	Lotru	9.51	80	⇑iP	Pn	15 26 38.0 +0.5
GRG	Griva	9.54	108	P	Pn	15 26 37.5 -0.5
GRG	Griva	9.54	108	P	Pn	15 26 37.5 -0.5
GRG	Griva	9.54	108	P	Pn	15 26 37.5 -0.5
GRG	Griva	9.54	108	P	Pn	15 26 37.5 -0.5
ABA	Alger-Bouzarea	9.58	218	P	Pn	15 26 38.4 -0.2
ABA	Alger-Bouzarea	9.58	218	P	Pn	15 26 38.4 -0.2
LKD2	Lefkada island	9.61	124	P	Pn	15 26 38.9 -0.1
LKD2	Lefkada island	9.61	124	P	Pn	15 26 38.9 -0.1
LKD2	Lefkada island	9.61	124	P	Pn	15 26 38.9 -0.1
KKB	Krupnik	9.65	102	iP	Pn	15 26 40.0 +0.5
SGMF	Saint Gilles	9.67	297	ePn	Pn	15 26 38.7 -1.0
	SNR=1.0					
SGMF				eSn	Sn	15 28 20.0 -7.3
	comp=Z,4μm,1.7s					
SGMF	Saint Gilles	9.67	297	ePn	Pn	15 26 38.7 -1.0
SGMF				eSn	Sn	15 28 20.0 -7.3
SGMF	Saint Gilles	9.67	297	eP	Pn	15 26 38.7 -1.0
SGMF	Saint Gilles	9.67	297	ePn	Pn	15 26 38.7 -1.0
	SNR=1.0					
MPEP	Malo Peshtene	9.70	93	iP	Pn	15 26 39.0 -1.2
JSA	Saint Aubin	9.75	303	eP	Pn	15 26 38.0 -2.8
JSA				AMB	AMB	15 26 46.4
	comp=Z,62nm,0.6s					
GKP	Gorka Klasztor	9.77	25	eP	Pn	15 26 42.8 +1.7
GKP				eS	Sn	15 28 19.5 -10
GKP	Gorka Klasztor	9.77	25	eP	Pn	15 26 42.8 +1.7
GKP	Gorka Klasztor	9.77	25	eP	Pn	15 26 42.8 +1.7
KWP	Kalwaria Pacla	9.78	55	eP	Pn	15 26 43.1 +1.9
KWP				eS	Sn	15 28 30.8 +0.7
KWP	Kalwaria Pacla	9.78	55	ePn	Pn	15 26 42.0 +0.7
	comp=Z,170nm,0.4s					
KWP	Kalwaria Pacla	9.78	55	eP	Pn	15 26 43.1 +1.8
KWP				eS	Sn	15 28 30.8 +0.7
KWP	Kalwaria Pacla	9.78	55	ePn	Pn	15 26 42.0 +0.7
	comp=Z,170nm,0.4s					
KWP	Kalwaria Pacla	9.78	55	eP	Pn	15 26 43.1 +1.8
KWP				eS	Sn	15 28 30.8 +0.7
KNT	Kendrikon	9.79	106	P	Pn	15 26 40.3 -1.2
KNT	Kendrikon	9.79	106	P	Pn	15 26 40.3 -1.2
KNT	Kendrikon	9.79	106	P	Pn	15 26 40.3 -1.2
KNT	Kendrikon	9.79	106	P	Pn	15 26 40.3 -1.2
QUIF	Quistinic	9.97	294	ePn	Pn	15 26 42.5 -1.3
	SNR=1.0					
QUIF				eSn	Sn	15 28 28.0 -6.7
	comp=Z,3μm,1.6s					
QUIF	Quistinic	9.97	294	ePn	Pn	15 26 42.5 -1.3
QUIF				eSn	Sn	15 28 28.0 -6.7
QUIF	Quistinic	9.97	294	eP	Pn	15 26 42.5 -1.3
QUIF	Quistinic	9.97	294	ePn	Pn	15 26 42.5 -1.3
	SNR=1.0					
VLS	Valsamata	9.98	126	eP	Pn	15 26 43.9 -0.2
VLS	Valsamata	9.98	126	P	Pn	15 26 43.9 -0.2
VLS	Valsamata	9.98	126	P	Pn	15 26 43.9 -0.2
VLS	Valsamata	9.98	126	P	Pn	15 26 43.9 -0.2
VLS	Valsamata	9.98	126	P	Pn	15 26 43.9 -0.2
THL	Klokotos Trika	9.99	116	eP	Pn	15 26 43.5 -0.6
THL	Klokotos Trika	9.99	116	P	Pn	15 26 44.1 0.0
BEL	Belsk	10.02	40	eP	Pn	15 26 45.1 +0.5
BEL				eS	Sn	15 28 33.8 -2.2
BEL	Belsk	10.02	40	eP	Pn	15 26 45.1 +0.6
BEL				eS	Sn	15 28 33.8 -2.2
BEL	Belsk	10.02	40	eP	Pn	15 26 45.1 +0.6
THE	Thessaloniki	10.07	109	P	Pn	15 26 44.5 -0.8
THE	Thessaloniki	10.07	109	P	Pn	15 26 44.5 -0.8
THE	Thessaloniki	10.07	109	P	Pn	15 26 44.5 -0.8
THE	Thessaloniki	10.07	109	P	Pn	15 26 44.5 -0.8
ROSF	Rostrenen	10.15	296	ePn	Pn	15 26 45.1 -1.2
	SNR=1.0					
ROSF				eSn	Sn	15 28 31.6 -7.5
	comp=Z,3μm,1.7s					
ROSF	Rostrenen	10.15	296	ePn	Pn	15 26 45.1 -1.2
ROSF				eSn	Sn	15 28 31.6 -7.5
ROSF	Rostrenen	10.15	296	eP	Pn	15 26 45.1 -1.2
ROSF	Rostrenen	10.15	296	ePn	Pn	15 26 45.1 -1.2
	SNR=1.0					
PGB	Panagyurishte	10.20	97	iP	Pn	15 26 48.0 +1.0
MMB	Musomiste	10.20	102	iP	Pn	15 26 47.0 0.0
EVR	Evrytania	10.23	120	eP	Pn	15 26 48.2 +0.7
EVR	Evrytania	10.23	120	P	Pn	15 26 47.7 +0.2
EVR	Evrytania	10.23	120	P	Pn	15 26 47.7 +0.2
EVR	Evrytania	10.23	120	P	Pn	15 26 47.7 +0.2
SOH	Sokhos	10.25	107	P	Pn	15 26 46.5 -1.2
SOH	Sokhos	10.25	107	P	Pn	15 26 46.5 -1.2
SOH	Sokhos	10.25	107	P	Pn	15 26 46.5 -1.2
SOH	Sokhos	10.25	107	P	Pn	15 26 46.5 -1.2
WOL	Wolverton	10.29	315	eP	Pn	15 26 46.8 -1.4
WOL				AMB	AMB	15 26 57.2
	comp=Z,126nm,2.0s					
WOL	Wolverton	10.29	315	eP	Pn	15 26 46.8 -1.3
SRS	Serrai	10.29	105	P	Pn	15 26 47.5 -0.8
SRS	Serrai	10.29	105	P	Pn	15 26 47.5 -0.8
SRS	Serrai	10.29	105	P	Pn	15 26 47.5 -0.8
SRS	Serrai	10.29	105	P	Pn	15 26 47.5 -0.8
SKP1	Kophill	10.33	318	eP	Pn	15 26 48.1 -0.7
SKP1	Kophill	10.33	318	eP	Pn	15 26 48.1 -0.7
MAKR	Makrakomi, Fth	10.38	118	P	Pn	15 26 49.7 +0.2
MAKR	Makrakomi, Fth	10.38	118	P	Pn	15 26 49.7 +0.2
MAKR	Makrakomi, Fth	10.38	118	P	Pn	15 26 49.7 +0.2
NVR	Nevrokopi	10.38	104	eP	Pn	15 26 49.6 +0.1
NVR	Nevrokopi	10.38	104	P	Pn	15 26 49.2 -0.3
NVR	Nevrokopi	10.38	104	P	Pn	15 26 49.2 -0.3
NVR	Nevrokopi	10.38	104	P	Pn	15 26 49.2 -0.3
HUMR	Humele	10.41	85	⇓iP	Pn	15 26 49.5 -0.4
VOIR		10.41	80	P	Pn	15 26 52.3 +2.4
VOIR		10.41	80	⇑iP	Pn	15 26 52.2 +2.3
PLG	Polygyros	10.52	109	eP	Pn	15 26 50.2 -1.2
PLG	Polygyros	10.52	109	P	Pn	15 26 50.8 -0.6
PLG	Polygyros	10.52	109	P	Pn	15 26 50.8 -0.6
PLG	Polygyros	10.52	109	P	Pn	15 26 50.8 -0.6
PLG	Polygyros	10.52	109	P	Pn	15 26 50.8 -0.6
RLS	Riolos of Patr	10.57	124	eP	Pn	15 26 52.6 +0.4
RLS	Riolos of Patr	10.57	124	P	Pn	15 26 53.0 +0.8
RLS	Riolos of Patr	10.57	124	P	Pn	15 26 53.0 +0.8
RLS	Riolos of Patr	10.57	124	P	Pn	15 26 53.0 +0.8
LVV	L'vov	10.64	56	eP	Pn	15 26 56.4 +3.4
LVV				eS	Sn	15 28 58.3 +7.2
LVV				MLR	MLR	
	comp=Z,4μm,10.0s					
SWN1	Swindon	10.70	315	eP	Pn	15 26 51.9 -1.8
SWN1				AMB	AMB	15 26 55.3
	comp=Z,165nm,0.8s					
SWN1	Swindon	10.70	315	eP	Pn	15 26 51.9 -1.9
PLD	Plovdiv	10.71	98	P	Pn	15 26 53.7 -0.3
PLD	Plovdiv	10.71	98	P	Pn	15 26 53.7 -0.3
PLD	Plovdiv	10.71	98	P	Pn	15 26 53.7 -0.3
PLD	Plovdiv	10.71	98	P	Pn	15 26 53.7 -0.3
BUR08	Bucovina Ar. S	10.72	68	ePn	Pn	15 26 54.8 +0.7
BUR08	Bucovina Ar. S	10.72	68	ePn	Pn	15 26 54.8 +0.7
BURAR	Bucovina Array	10.72	68	P	Pn	15 26 56.7 +2.6
BURAR	Bucovina Array	10.72	68	⇑iP	Pn

ALAS Alassa 11.77 175 eP Pn 15 27 09.3 +0.7
comp=Z,597nm,0.9s,SNR=22
HLM1 Long Mynd 11.83 317 eP Pn 15 27 07.1 -2.2
HLM1 AMB AMB 15 27 18.4
comp=Z,79nm,1.2s
OJBR Djebel Berber 11.84 224 P Pn 15 27 11.0 +1.5
OJBR Djebel Berber 11.84 224 P Pn 15 27 11.0 +1.5
STNC Stoke 11.87 320 eP Pn 15 27 08.8 -1.0
STNC AMB AMB 15 27 19.6
comp=Z,94nm,1.2s
STNC Stoke 11.87 320 eP Pn 15 27 08.8 -1.0
HTL Hartland 11.87 308 eP Pn 15 27 07.1 -2.7
HTL AMB AMB 15 27 17.8
comp=Z,99nm,2.1s
MUD Monsted U'grnd 11.90 357 i P Pn 15 27 10.7 +0.5
MUD Monsted U'grnd 11.90 357 i P Pn 15 27 10.7 +0.5
LIA Limnos Island 11.91 108 eP Pn 15 27 09.3 -1.2
JMB Yambol 11.94 95 P Pn 15 27 09.9 -0.9
JMB Yambol 11.94 95 P Pn 15 27 09.9 -0.9
JMB Yambol 11.94 95 P Pn 15 27 09.9 -0.9
JMB Yambol 11.94 95 P Pn 15 27 09.9 -0.9
NAIG Nisos Aigina 11.99 120 eP Pn 15 27 11.3 -0.2
PAB San Pablo 12.06 250 ePn Pn 15 27 12.5 0.0
comp=Z,84nm,0.6s
PAB San Pablo 12.06 250 eP Pn 15 27 12.5 0.0
PAB pmax pmax
comp=Z,84nm,0.6s
PAB San Pablo 12.06 250 eP Pn 15 27 12.5 0.0
comp=Z,84nm,0.6s
ALN Alexandroupoli 12.08 102 P Pn 15 27 11.8 -0.9
ALN Alexandroupoli 12.08 102 P Pn 15 27 11.8 -0.9
ALN Alexandroupoli 12.08 102 P Pn 15 27 11.8 -0.9
ALN Alexandroupoli 12.08 102 P Pn 15 27 11.8 -0.9
VLY Voula,Athens 12.12 119 eP Pn 15 27 11.9 -1.4
USTO Oran 12.18 227 P Px 15 27 25.0
FOEL Foel Wylfa 12.21 318 eP Pn 15 27 12.6 -1.9
FOEL AMB AMB 15 27 18.1
comp=Z,97nm,3.6s
FOEL Foel Wylfa 12.21 318 eP Pn 15 27 12.6 -1.8
ENEZ Enez 12.22 103 eP Pn 15 27 14.1 -0.6
VLI Veliai 12.34 125 eP Pn 15 27 18.0 +1.7
ERIK Erikli-Kesan 12.49 103 eP Pn 15 27 18.4 0.0
SUW Suwalki 12.56 37 eP Pn 15 27 19.4 +0.2
comp=Z,109nm,0.9s
SUW Suwalki 12.56 37 eP Pn 15 27 19.4 +0.1
SUW pmax pmax
comp=Z,109nm,0.9s
SUW Suwalki 12.56 37 eP Pn 15 27 19.4 +0.1
comp=Z,109nm,0.9s
GELI Tayfur-Gelibol 12.58 104 eP Pn 15 27 17.8 -1.8
GHAR Gharyan 12.63 170 eP Pn 15 27 20.3 0.0
comp=Z,382nm,1.5s,SNR=22
KYTH Kithira 12.70 126 eP Pn 15 27 23.7 +2.4
KYTH Kithira 12.70 126 P Pn 15 27 23.7 +2.4
KYTH Kithira 12.70 126 P Pn 15 27 23.7 +2.4
LPK Lapseki 12.79 104 eP Pn 15 27 23.6 +1.2
PBRG Braganca 12.82 263 eP Pn 15 27 23.1 +0.3
comp=Z,111nm,1.5s
PBRG eLQ 15 30 46.4
PBRG eLR LR 15 31 51.5
comp=Z,11µm,18.0s
PBRG Braganca 12.82 263 eP Pn 15 27 23.1 +0.3
comp=Z,111nm,1.5s
TIRR Tirgusor 12.86 84 ePn Pn 15 27 20.9 -2.4
comp=Z,30nm,0.8s
TIRR Tirgusor 12.86 84 ⇓P Pn 15 27 21.6 -1.7
TIRR Tirgusor 12.86 84 ⇓iP Pn 15 27 21.6 -1.7
TIRR Tirgusor 12.86 84 ePn Pn 15 27 21.0 -2.3
comp=Z,30nm,0.8s
TIRR Tirgusor 12.86 84 P Pn 15 27 21.6 -1.7
RKY Sarkoy-Tekirda 12.95 102 eP Pn 15 27 23.6 -1.1
SART Tekirdag 12.95 102 iP Pn 15 27 23.3 -1.4
PRK Paraskevi 12.97 109 P Pn 15 27 24.6 -0.3
PRK Paraskevi 12.97 109 P Pn 15 27 24.6 -0.3
PRK Paraskevi 12.97 109 P Pn 15 27 24.6 -0.3
PRK Paraskevi 12.97 109 P Pn 15 27 24.6 -0.3
MFT Murefte 12.99 101 eP Pn 15 27 23.7 -1.4
KIS Kishinev 13.07 73 eP Px 15 27 36.5
KIS Kishinev 13.07 73 eP Px 15 27 36.5
KIS pmax pmax
comp=Z,270nm,1.0s
KIS pmax pmax
comp=Z,10µm,16.0s
KIS pmax pmax
comp=Z,10µm,16.0s
XAL Allendale 13.10 326 eP Pn 15 27 24.9 -1.7
XAL Allendale 13.10 326 eP Pn 15 27 24.9 -1.7
KRBG Karabiga-Canak 13.15 103 eP Pn 15 27 25.7 -1.7
AYVA Ayvalik 13.22 108 ⇑iP Pn 15 27 28.0 -0.3
MVO Moncorvo 13.23 261 eP Pn 15 27 28.7 +0.2
comp=Z,103nm,1.5s
MVO eLQ 15 30 29.3
MVO eLR LR 15 31 54.6
comp=Z,9µm,16.0s
MVO Moncorvo 13.23 261 eP Pn 15 27 28.7 +0.2
comp=Z,103nm,1.5s
KESW Keswick, Cumbr 13.27 324 eP Pn 15 27 27.4 -1.5
KESW AMB AMB 15 27 36.6
comp=Z,89nm,4.9s
KESW Keswick, Cumbr 13.27 324 eP Pn 15 27 27.4 -1.5
EDC Edincik 13.57 102 eP Pn 15 27 31.6 -1.5
GONE Gonen-Balikesi 13.57 104 eP Pn 15 27 31.8 -1.3
BNT Bandirma 13.60 102 eP Pn 15 27 31.8 -1.7
BALY Balya 13.66 105 ⇑iP Pn 15 27 35.4 +1.1
PVRL Vila Real 13.68 262 eP Pn 15 27 34.4 -0.2
PVRL Vila Real 13.68 262 eP Pn 15 27 34.4 -0.2
APE Apeiranthos 13.69 118 ⇑iP Pn 15 27 34.1 -0.6
POLO Lamas de Olo 13.70 263 eP Pn 15 27 35.3 +0.4
comp=Z,35nm,1.5s
POLO eLQ 15 30 43.4
POLO eLR LR 15 32 14.9
comp=Z,5µm,18.0s
POLO Lamas de Olo 13.70 263 eP Pn 15 27 35.3 +0.4
comp=Z,35nm,1.5s
PCAB Cabril 13.76 264 eP Pn 15 27 36.7 +1.0
comp=Z,69nm,1.3s
PCAB Cabril 13.76 264 eP Pn 15 27 36.7 +1.0
comp=Z,69nm,1.3s
MELI Melilla 13.80 232 i P Pn 15 27 38.4 +2.1
ESK Eskdalemuir 13.82 326 eP Pn 15 27 34.4 -2.0
ESK AMB AMB 15 27 43.6
comp=Z,115nm,1.7s
ESK Eskdalemuir 13.82 326 i P Pn 15 27 38.8 +2.4
ESK Eskdalemuir 13.82 326 i P Pn 15 27 38.8 +2.4
PGAV Gavieira, Arco 13.86 266 eP Pn 15 27 38.3 +1.3
comp=Z,66nm,1.4s
PGAV eLQ 15 31 17.7
PGAV eLR LR 15 32 33.2
comp=Z,15µm,16.0s
PGAV Gavieira, Arco 13.86 266 eP Pn 15 27 38.3 +1.3
comp=Z,66nm,1.4s
BALB Balikesir 13.88 105 eP Pn 15 27 38.2 +0.8
MTE Manteigas 13.89 259 eP Pn 15 27 38.5 +1.1
comp=Z,76nm,1.0s
MTE eLQ 15 31 06.7
MTE eLR LR 15 32 24.9
comp=Z,13µm,16.0s
MTE Manteigas 13.89 259 eP Pn 15 27 37.6 +0.2
comp=Z,36nm,0.8s
MTE Manteigas 13.89 259 eP Pn 15 27 37.6 +0.2
comp=Z,36nm,0.8s
SNART Snartemo 13.90 353 eP Pn 15 27 37.3 -0.2
KCTX Karacabey (Bur 13.95 102 eP Pn 15 27 39.8 +1.6
DSB Dublin 13.99 314 eP Pn 15 27 35.6 -3.1
comp=Z,70nm,0.8s
PVIS Viseu 14.01 260 eP Pn 15 27 40.0 +0.9
comp=Z,79nm,1.7s
PVIS Viseu 14.01 260 eP Pn 15 27 40.0 +0.9
comp=Z,79nm,1.7s
ESY Stoneypath 14.03 328 eP Pn 15 27 37.7 -1.6
KIEV Kiev 14.05 58 eP Pn 15 27 38.4 -1.2
comp=Z,58nm,1.0s
KIEV Kiev 14.05 58c iP Pn 15 27 39.2 -0.4
KIEV Kiev 14.05 58 i P Pn 15 27 39.2 -0.4
IZM Izmir 14.06 110 eP Pn 15 27 39.8 -0.1
AKASG Malin Array Be 14.06 58 Pn Pn 15 27 38.4 -1.4
comp=Z,1.1nm,0.3s,baz=249,slow=12,SNR=12
AKASG Malin Array Be 14.06 58 Pn Pn 15 27 38.4 -1.4
AKASG Malin Array Be 14.06 58 P Pn 15 27 38.4 -1.4
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 14.06 58 P Pn 15 27 38.4 -1.4
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 14.06 58 eP Pn 15 27 38.6 -1.1
AKBB Malin Array Si 14.06 58 eP Pn 15 27 38.7 -1.1
PCBR Castelo Branco 14.07 256 eP Pn 15 27 40.2 +0.3
comp=Z,82nm,1.6s
PCBR Castelo Branco 14.07 256 eP Pn 15 27 40.2 +0.3
comp=Z,82nm,1.6s
EBL Broad Law 14.09 327 eP Pn 15 27 38.9 -1.1
DLF Lyons Farm 14.10 314 eP Pn 15 27 34.6 -5.6
DLF eS Sn 15 30 07.8 -7.8
ISK Istanbul-Kandi 14.14 98 eP Pn 15 27 43.8 +2.9
GAL1 Galloway 14.15 322 eP Pn 15 27 37.6 -3.3
GAL1 AMB AMB 15 27 37.8
comp=Z,116nm,1.5s
PMRV Marv??o 14.19 255 eP Pn 15 27 42.4 +0.8
comp=Z,150nm,2.0s
PMRV eLQ 15 31 05.7
PMRV eLR LR 15 32 38.9
comp=Z,5µm,20.0s
LIJA Lijar 14.22 243 i P Pn 15 27 45.0 +3.1
EDI Edinburgh 14.25 328 eP Pn 15 27 40.8 -1.5
EDI AMB AMB 15 27 47.9
comp=Z,137nm,1.9s
EAU Auchinoon 14.30 327 eP Pn 15 27 41.4 -1.5
YLV Yalova 14.54 99 eP Pn 15 27 50.9 +4.6
PBAR Barrancos 14.57 250 eP Pn 15 27 46.9 +0.2
comp=Z,91nm,1.6s
PBAR eLQ 15 31 23.6
PBAR eLR LR 15 32 34.0
comp=Z,7µm,18.0s
PESTR Estremoz 14.59 253 eP Pn 15 27 47.1 0.0
comp=Z,86nm,2.0s
PESTR eLQ 15 31 00.6
PESTR eLR LR 15 32 17.4
comp=Z,6µm,18.0s
HRT Hereke 14.65 98 eP Pn 15 27 50.1 +2.2
NACGM Naroch 14.74 40 eP Pn 15 27 46.0 -2.9
IIGN Ignalina 14.77 38 eP Pn 15 27 50.1 +0.7
IIGN AMB AMB 15 28 08.2
comp=Z,48nm,1.4s
IIGN Ignalina 14.77 38 eP Pn 15 27 50.1 +0.7
comp=Z,48nm,1.4s,SNR=45
PTOM Tomar 14.82 257 eP Pn 15 27 51.2 +1.1
comp=Z,141nm,1.7s
ADVT Abdulvahap 14.85 100 eP Pn 15 27 57.8 +7.3
ISAL Salakas 14.88 37 eP Pn 15 27 51.3 +0.5
ISAL AMB AMB 15 27 58.1
comp=Z,30nm,1.2s
ISAL Salakas 14.88 37 eP Pn 15 27 51.3 +0.5
comp=Z,30nm,1.2s,SNR=45
EAB Aberfoyle 14.89 326 eP Pn 15 27 50.4 -0.6
PMTG Montargil 14.93 255 eP Pn 15 27 52.0 +0.3
comp=Z,76nm,1.6s
PMTG eLR LR 15 32 57.9
comp=Z,4µm,18.0s
KMY Karmoy 14.97 350 eP Pn 15 27 53.6 +1.6
MNK Minsk 15.00 42 ⇓iP Pn 15 27 49.0 -3.4
MNK eS Sn 15 30 34.0 -3.5
MNK pmax pmax
comp=Z,280nm,1.0s
MNK pmax pmax
comp=N,170nm,1.1s
MNK pmax pmax
comp=E,270nm,1.0s
MNK MLR MLR
comp=Z,37µm,14.0s
MNK MLR MLR
comp=E,280nm,14.0s
MNK MLR MLR
comp=N,17µm,14.0s
CAVI Cavuskoy 15.01 100 eP Pn 15 27 53.3 +0.6
MICGM Minsk 15.02 43 ⇓iP Pn 15 27 49.0 -3.7
EVO Evora 15.04 253 eP Pn 15 27 53.7 +0.6
comp=N,144nm,0.6s
EVO eR
comp=N,10µm,17.2s
EVO Evora 15.04 253 eP Pn 15 27 53.3 +0.2
comp=N,93nm,0.7s
IZAR Zarasai 15.04 36 eP Pn 15 27 53.5 +0.4
IZAR AMB AMB 15 28 00.3
comp=Z,62nm,1.3s
KONO Kongsberg 15.09 358 eP Pn 15 27 52.9 -0.6
KONO AMB AMB 15 28 10.6
comp=Z,127nm,1.8s
KONO AMS AMS 15 34 36.6
comp=Z,13µm,15.4s
KONO Kongsberg 15.09 358 eP Pn 15 27 59.6 +6.1
comp=Z,168nm,1.5s
KONO Kongsberg 15.09 358 eP Pn 15 27 59.6 +6.1
KONO pmax pmax
comp=Z,168nm,1.5s
EVOP Sao Brissos 15.12 253 eP Pn 15 27 53.7 -0.5
comp=Z,144nm,0.6s
EVOP Sao Brissos 15.12 253 eP Pn 15 27 53.7 -0.5
EVOP pmax pmax
comp=Z,144nm,0.6s
PBEJ Beja 15.20 251 eP Pn 15 27 55.4 +0.2
comp=Z,41nm,1.9s
OSL Oslo 15.37 1 eP Pn 15 28 01.4 +4.2
OSL epP pP 15 28 09.0 +0.3
GULT Gulveren 15.40 99 eP Pn 15 28 01.0 +3.2
PVAQ Vaqueiros 15.44 249 eP Pn 15 27 58.9 +0.6
comp=Z,68nm,1.4s
PVAQ eLQ 15 31 16.1
PVAQ eLR LR 15 32 42.1
comp=Z,6µm,18.0s
ODD1 Odda 15.51 353 eP Pn 15 27 58.9 -0.2
PCVE Castro Verde 15.53 250 eP Pn 15 27 59.8 +0.4
comp=Z,64nm,1.1s
PCVE eLQ 15 31 22.0
PCVE eLR LR 15 32 58.5
comp=Z,7µm,20.0s
MESJ Messejana 15.54 251 eP Pn 15 27 59.9 +0.3
MESJ AMb AMB 15 28 10.3
comp=Z,34nm,1.2s
MESJ Messejana 15.54 251 eP Pn 15 27 59.9 +0.3
comp=Z,34nm,1.2s
MESJ Messejana 15.54 251 eP Pn 15 27 59.9 +0.3
DENT Denizli 15.59 110 eP Pn 15 28 04.9 +4.7
PNCL Nicolau / Gran 15.61 252 eP Pn 15 28 01.2 +0.7
comp=Z,58nm,1.9s
PNCL eLQ 15 31 45.9
PNCL eLR LR 15 33 10.2
comp=Z,8µm,16.0s
PBDV Barranco-do-Ve 15.67 248 eP Pn 15 28 01.0 -0.3
comp=Z,63nm,1.7s
PBDV eLQ 15 31 18.1
PBDV eLR LR 15 32 39.7
comp=Z,6µm,18.0s
ALT Altintas 15.69 104 eP Pn 15 27 56.2 -5.3
HFS Hagfors 15.69 6 Pn Pn 15 28 01.5 +0.1
comp=Z,1.1nm,0.3s,baz=195,slow=11,SNR=28
HFS LR LR 15 34 42.7
comp=Z,11µm,18.4s,baz=187,slow=40
HFS Hagfors 15.69 6 Pn Pn 15 28 01.5 +0.1
HFS Hagfors 15.69 6 P Pn 15 28 01.5 +0.1
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS MLR MLR
comp=Z,11µm,18.4s
PMAFR Mafra 15.72 256 eP Pn 15 28 03.5 +1.6
comp=Z,154nm,2.1s
PMAFR eLQ 15 31 52.6
PMAFR eLR LR 15 33 23.4
comp=Z,8µm,18.0s
MDUB Mudurnu 15.87 98 eP Pn 15 28 06.3 +2.4
ESKT Eskisehir 16.00 101 eP Pn 15 28 03.6 -1.9
ESKT Eskisehir 16.00 101 i P Pn 15 28 04.3 -1.2
PTEO Sao Teotonio 16.03 251 eP Pn 15 28 06.8 +0.8
comp=Z,140nm,2.2s
MORF Marmelete 16.11 250 eP Pn 15 28 07.5 +0.5
MORF eLQ 15 31 26.3
MORF eLR LR 15 33 16.4
comp=Z,7µm,20.0s
MORF Marmelete 16.11 250 eP Pn 15 28 07.3 +0.3
NC602 NORSAR Array S 16.18 2 eP Pn 15 28 05.9 -1.9
NAO01 NORSAR Array S 16.28 1 Pn Pn 15 28 07.6 -1.4
comp=Z,39nm,0.8s
PFVI Vila Bisbo 16.32 249 eLQ 15 31 29.8
PFVI eLR LR 15 33 18.3
comp=Z,6µm,18.0s
SGKT Sivrigoynuk 16.44 97 i P Pn 15 28 11.9 +0.7
NB2 NORSAR Subarra 16.48 1 P Pn 15 28 10.5 -1.0
comp=Z,95nm,1.1s,baz=182,slow=11
NB2 NORSAR Subarra 16.48 1 P Pn 15 28 10.5 -1.0
comp=Z,95nm,1.1s,SNR=9.6
NOA NORSAR Array B 16.48 1 Pn Pn 15 28 10.8 -0.7
comp=Z,1.0nm,0.3s,baz=183,slow=11,SNR=25
NOA LR LR 15 35 17.1
comp=Z,7µm,20.0s,baz=185,slow=40
NOA NORSAR Array B 16.48 1 Pn Pn 15 28 10.8 -0.7
NOA NORSAR Array B 16.48 1 P Pn 15 28 10.8 -0.7
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,7µm,20.0s
SAFT Safranbolu 16.66 94 eP Pn 15 28 15.3 +1.4
BCK Bucak 16.80 108 eP Pn 15 28 12.9 -2.8
SIM Simferopol' 16.84 80d iP Pn 15 28 19.1 +3.0
SIM pmax pmax
comp=Z,99nm,1.6s
SIM MLR MLR
comp=Z,9µm,14.0s
BALT Daday 17.06 92 eP Pn 15 28 15.9 -3.1
VSU Vasula 17.13 30c iP Pn 15 28 20.0 +0.2
VSU pmax pmax
comp=Z,371nm,1.2s
VSU MLR MLR
comp=Z,18µm,18.0s
FOO Floro 17.32 351 eP Pn 15 28 25.0 +2.9
FOO AMS AMS 15 36 27.7
comp=Z,38µm,15.9s
KDHN Kadinhani 17.33 103 ⇑iP Pn 15 28 25.9 +3.6
AFSR Af¨ar-Bala (A 17.59 99 eP Pn 15 28 26.4 +0.8
BR131 Keskin Array S 17.88 98 ePn Pn 15 28 31.1 +1.9
comp=Z,16nm,0.8s
BRTR Keskin Array B 17.88 98 P Pn 15 28 31.2 +2.0
comp=Z,0.4nm,0.3s,baz=278,slow=4.9,SNR=26
BRTR Keskin Array B 17.88 98 P Pn 15 28 31.2 +2.0
BRTR Keskin Array B 17.88 98ceP Pn 15 28 31.6 +2.4
BRTR pmax pmax
comp=Z,17nm,1.0s
MOL Molde 18.08 356 eP Pn 15 28 23.4 -8.1
MOL AMS AMS 15 36 36.6
comp=Z,13µm,17.4s
CTKT Corum 18.36 94 ⇑iP Pn 15 28 36.6 +1.6
CDAG Cicekdag 18.44 97 ⇑iP Pn 15 28 37.8 +1.8
TBLU Trondheim 18.69 360 eP Pn 15 28 40.1 +1.2
AVNT Avonos 19.13 99 ⇑iP Pn 15 28 45.3 +0.9
ANN Anapa 19.19 80 eP Pn 15 28 43.5 -1.5
ANN eS Sn 15 32 17.9 -1.3
ANN pmax pmax
comp=Z,218nm,1.3s
ANN MLR MLR
comp=N,2µm,13.0s
ANN MLR MLR
comp=E,2µm,13.0s
ANN MLR MLR
comp=Z,4µm,13.0s
FINES FINESS Array B 19.24 23 P Pn 15 28 44.0 -1.5
comp=Z,5.1nm,0.3s,baz=207,slow=9.6,SNR=80
FINES PcP PcP 15 33 05.7 -0.8
comp=Z,0.6nm,0.3s,baz=166,slow=3.9,SNR=4.6
FINES LR LR 15 37 53.9
comp=Z,2µm,19.6s,baz=218,slow=42
FINES FINESS Array B 19.24 23 P Pn 15 28 44.0 -1.5
FINES PcP PcP 15 33 05.7 -0.8
FINES FINESS Array B 19.24 23 P Pn 15 28 44.0 -1.5
FINES pmax pmax
comp=Z,5.0nm,0.3s
FINES MLR MLR
comp=Z,2µm,19.6s
TOKA Tokat 19.67 93 ⇑iP Pn 15 28 51.0 +0.2
ERBA Erbaa 19.75 92 ⇑iP Pn 15 28 51.6 0.0
GULE Gulek 19.76 103 ⇑iP Pn 15 28 51.8 -0.2
OBN Obninsk 19.76 49d iP Pn 15 28 49.5 -2.3
OBN i S Sn 15 32 33.9 +1.0
OBN pmax pmax
comp=Z,111nm,1.0s
OBN MLR MLR
comp=Z,8µm,19.0s
OBN Obninsk 19.76 49 P Pn 15 28 49.8 -2.0
comp=Z,669nm,1.0s,SNR=6.8
NSS Namsos 20.00 2 eP Pn 15 28 52.3 -2.1
NSS AMS AMS 15 37 28.6
comp=Z,10µm,11.8s
CSS Prodhromos 20.02 111 eP P 15 28 50.8 -2.4
comp=Z,325nm,1.5s
VSR Storozhevoye 20.30 61 eP P 15 28 55.4 -0.7
VSR e*SP sP 15 29 02.3 -4.2
VSR eS S 15 32 47.0 +4.8
VSR pmax pmax
comp=Z,280nm,0.7s
VSR pmax pmax
comp=N,30nm,0.5s
VSR pmax pmax
comp=E,180nm,0.5s
VSR smax
comp=N,1µm,5.7s
VSR smax
comp=Z,190nm,2.8s
VSR smax
comp=E,630nm,5.1s
VSR MLR MLR
comp=E,5µm,13.0s
VSR MLR MLR
comp=Z,8µm,13.0s,MS5.3
VSR MLR MLR
comp=N,3µm,19.0s
SCER sogukcermik 20.31 94 ⇑iP P 15 28 57.5 +1.3
VOR Voronezh 20.40 59 P P 15 28 57.0 -0.1
VOR pmax pmax
comp=Z,500nm,1.4s
MOS Moscow 20.55 47 eP P 15 28 58.1 -0.6
MOS e 15 29 13.7
MOS eS S 15 32 48.3 +1.2
MOS e 15 33 02.8
MOS pmax pmax
comp=Z,309nm,1.0s
MOS pmax pmax
comp=Z,500nm,1.2s
MOS smax
comp=N,3µm,6.8s
MOS MLR MLR
comp=Z,9µm,13.0s,MS5.3
MOS MLR MLR
comp=N,5µm,13.0s,MS5.3
MOS MLR MLR
comp=E,7µm,13.0s,MS5.3
ANDN Andirin 20.72 101 i P P 15 29 00.8 +0.1
GRSN GIRESUNGRSN 20.74 90 i P P 15 29 01.3 +0.4
SUSE Susehri 20.95 92 ⇑iP P 15 29 03.3 +0.1
SOC Sochi 21.04 82c iP P 15 29 04.4 +0.3
SOC e*PP 15 29 11.1
SOC e 15 29 22.3
SOC eS S 15 32 59.3 +2.5
SOC eSSS 15 33 36.6
SOC pmax pmax
comp=Z,121nm,0.8s,mb5.3
SOC MLR MLR
comp=Z,4µm,18.0s,MS4.8
AKCD Akcadag 21.51 97 i P P 15 29 09.9 +0.7
KEMA Kemaliye 21.51 95 i P P 15 29 11.8 +2.6
GZT Gaziantep 21.68 100 i P P 15 29 11.0 0.0
KELT Kelkit 21.72 92 ⇑iP P 15 29 11.9 +0.5
MOR8 Moi Rana 21.74 4 eP P 15 29 13.0 +1.6
MOR8 AMB AMB 15 29 21.0
comp=Z,97nm,1.2s,mb5.1
STOK Stokkvaagen 21.83 3 eP P 15 29 12.9 +0.5
FLOS Flostrand 21.85 3 eP P 15 29 14.1 +1.5
JOF Joensuu 21.94 26 eP P 15 29 10.9 -2.7
JOF pmax pmax
comp=Z,63nm,0.7s,mb5.2
JOF Joensuu 21.94 26 ep P 15 29 10.9 -2.7
comp=Z,63nm,0.7s,mb5.2
TAM Tamanrasset 22.12 192 eP P 15 29 16.9 +1.1
comp=Z,97nm,1.1s,mb5.2
TAM Tamanrasset 22.12 192 eP P 15 29 16.9 +1.1
TAM pmax pmax
comp=Z,97nm,1.1s,mb5.2
ELZG Elazig 22.18 96 ⇑iP P 15 29 17.2 +0.9
MMAI Mount Meron Ar 22.56 112 P P 15 29 20.5 0.0
comp=Z,28nm,0.7s,mb4.8,baz=326,slow=10,SNR=18
MMAI Mount Meron Ar 22.56 112 P P 15 29 20.5 0.0
DBOC Borcka 23.03 87 ⇑iP P 15 29 25.7 +0.3
KIV Kislovodsk 23.05 80 eP P 15 29 25.5 0.0
KIV eS S 15 33 36.4 +1.8
KIV pmax pmax
comp=Z,94nm,0.9s,mb5.2
KIV MLR MLR
comp=Z,2µm,14.0s,MS4.7

KIV Kislovodsk 23.05 80 P **P 15 29 26.1 +0.6**
SNR=16
KIV Kislovodsk 23.05 80 P **P 15 29 25.1 -0.4**
comp=Z,610nm,0.9s,mb6.0,SNR=9.0
KIV Kislovodsk 23.05 80 P **P 15 29 26.1 +0.6**
SNR=16
DDEM Demirkent 23.24 88⇑ *i*P **P 15 29 28.9 +1.4**
ARTV Artvin 23.27 87⇑ *i*P **P 15 29 28.0 +0.1**
DAGI Agillar 23.30 88⇑ *i*P **P 15 29 29.0 +0.8**
STEI Steigen 23.53 5 *e*P **P 15 29 29.8 -0.5**
STEI AMB AMB 15 29 38.0
comp=Z,110nm,4.6s
HOMI Horasan 23.65 90⇑ *i*P **P 15 29 33.0 +1.4**
PMPST Porto Santo, M 23.68 250 *e*P **P 15 29 31.9 0.0**
comp=Z,390nm,1.7s,mb5.6
PMPST *e*LR LR 15 36 42.0
comp=Z,2μm,18.0s
PMPS Porto Santo 23.69 250 *e*P **P 15 29 31.9 -0.2**
comp=Z,398nm,1.7s,mb5.6
KLMR Klimovskoe 23.70 36*c i*P **P 15 29 31.2 -0.6**
KLMR S **S 15 33 46.2 +1.4**
KLMR pmax pmax
comp=Z,247nm,1.4s,mb5.5
KLMR pmax pmax
comp=Z,424nm,5.9s
KLMR MLR MLR
comp=Z,9μm,14.0s,MS5.4
ONI Oni 23.93 83 P **P 15 29 36.0 +1.8**
ASF Jabal al Asfar 24.07 112 P **P 15 29 36.5 +0.9**
comp=Z,85nm,0.9s,mb5.2,baz=169,slow=6.0,SNR=54
ASF Jabal al Asfar 24.07 112 P **P 15 29 36.5 +0.9**
ASF Jabal al Asfar 24.07 112 P **P 15 29 36.5 +1.0**
ASF pmax pmax
comp=Z,85nm,0.9s
SARR Saratov 24.14 61*c i*P **P 15 29 35.4 -0.6**
SARR *i* S **S 15 33 52.4 +0.2**
SARR pmax pmax
comp=Z,215nm,1.2s,mb5.5
AKH Akhalkalaki 24.32 86 P **P 15 29 40.0 +2.3**
PMOZ Porto Moniz, M 24.41 251 *e*P **P 15 29 40.8 +2.1**
comp=Z,246nm,1.6s,mb5.4
PMOZ *e*LR LR 15 36 56.4
comp=Z,2μm,20.0s
EIL Elat 24.47 119 P **P 15 29 38.7 -0.5**
comp=Z,16nm,0.7s,mb4.5,baz=335,slow=11,SNR=13
EIL Elat 24.47 119 P **P 15 29 38.7 -0.5**
TUTA Tutak 24.54 91⇑ *i*P **P 15 29 41.5 +1.7**
DIGO Kars 24.57 88⇑ *i*P **P 15 29 40.5 +0.5**
TBLG Delisi 25.10 84 *e*P **P 15 29 46.1 +1.3**
TBLG Delisi 25.10 84 P **P 15 29 46.1 +1.3**
KTK1 Kautokeino 25.35 11 *e*P **P 15 29 45.9 -0.9**
KTK1 AMS AMS 15 40 30.9
comp=Z,17μm,14.5s,MS5.7
TRO Tromso 25.47 7 *e*P **P 15 29 47.2 -0.8**
TRO *e*ScP ScP 15 36 59.1 +2.8
TRO AMS AMS 15 40 34.9
comp=Z,6μm,12.7s,MS5.3
GNI Garni 25.64 88 P **P 15 29 51.4 +1.7**
comp=Z,61nm,0.8s,mb5.2,baz=350,slow=2.1,SNR=37
GNI Garni 25.64 88 *e*P **P 15 29 51.1 +1.4**
comp=Z,565nm,1.6s,mb5.8
GNI Garni 25.64 88*c i*P **P 15 29 51.2 +1.5**
GNI pmax pmax
comp=Z,233nm,1.7s
GNI MLR MLR
comp=Z,2μm,19.0s
GNI Garni 25.64 88 P **P 15 29 51.7 +2.0**
SNR=24
GNI Garni 25.64 88 P **P 15 29 51.7 +2.0**
SNR=24
APA Apatity 26.04 20⇑ *i*P **P 15 29 53.0 0.0**
APA *i* S **S 15 34 25.0 +2.9**
APA pmax pmax
comp=Z,44nm,1.0s,mb4.9
APA MLR MLR
comp=Z,10μm,17.0s,MS5.4
ARCES ARCESS Array B 26.16 12 P **P 15 29 53.0 -1.1**
comp=Z,5.8nm,0.6s,mb4.3,baz=204,slow=9.4,SNR=40
ARCES PcP PcP 15 33 20.0 -0.5
comp=Z,4.8nm,0.7s,baz=180,slow=2.4,SNR=7.5
ARCES LR LR 15 40 47.4
comp=Z,4μm,21.6s,MS4.9,baz=237,slow=38
ARCES ARCESS Array B 26.16 12 P **P 15 29 53.0 -1.1**
ARCES PcP PcP 15 33 20.0 -0.5
ARCES ARCESS Array B 26.16 12 P **P 15 29 53.0 -1.1**
ARCES 15 33 20.0
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES MLR MLR
comp=Z,4μm,21.6s
ARE0 ARCESS Array S 26.16 12 *e*P **P 15 29 53.7 -0.4**
KEV Kevo 26.59 13 *e*P **P 15 29 58.1 +0.2**
comp=Z,66nm,1.1s,mb5.1
KEV Kevo 26.59 13 *e*P **P 15 29 58.1 +0.1**
KEV pmax pmax
comp=Z,66nm,1.1s,mb5.1
KEV Kevo 26.59 13 *e*p **P 15 29 57.8 -0.2**
comp=Z,26nm,0.8s,mb4.8
KEV Kevo 26.59 13 *e*P **P 15 29 57.8 -0.2**
comp=Z,26nm,0.8s,mb4.8
LVZ Lovozero 26.60 20 *e*P **P 15 29 57.9 -0.2**
comp=Z,68nm,1.0s,mb5.1
LVZ Lovozero 26.60 20⇓ *e*P **P 15 29 58.3 +0.2**
LVZ pmax pmax
comp=Z,66nm,1.7s,mb4.9
LVZ MLR MLR
comp=Z,9μm,19.0s,MS5.3
MAK Makhachkala 26.69 80 *e*P **P 15 30 00.5 +1.3**
MAK *e* 15 30 39.1
MAK *e*S **S 15 34 34.8 +1.9**
MAK *e*SSS 15 36 01.4
MAK pmax pmax
comp=Z,63nm,0.7s,mb5.2
MAK MLR MLR
comp=Z,4μm,14.0s,MS5.1
BORG Borgarnes 26.78 330 LR LR 15 41 49.9
comp=Z,3μm,19.6s,MS4.8,baz=327,slow=39
JMIC Jan Mayen 28.05 347 LR LR 15 41 22.8
comp=Z,2μm,21.7s,MS4.7,baz=322,slow=36
BHD Baghdad 28.55 102 *e*x x 15 30 14.0
BHD *e*x x 15 35 01.0
BJO Bjornoya 30.26 5 AMS AMS 15 43 07.0
comp=Z,3μm,16.6s,MS5.0
SCO Scoresbysund 30.48 339 *i* P **P 15 30 32.7 +0.1**
SCO Scoresbysund 30.48 339 *i* P **P 15 30 32.7 +0.1**
SOKR Solikamsk 31.45 45*c i*P **P 15 30 41.2 -0.1**
SOKR S **S 15 35 42.1 -5.2**
SOKR pmax pmax
comp=Z,80nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,3μm,13.0s,MS5.1
ARU Arti 32.16 51*c i*P **P 15 30 47.0 -0.6**
ARU *e* 15 31 52.2
ARU 15 33 33.6
ARU S **S 15 35 59.0 +0.5**
ARU SS SS 15 37 45.6 -31
ARU SSS 15 38 14.3
ARU pmax pmax
comp=Z,37nm,0.6s,mb5.4
ARU MLR MLR
comp=Z,10μm,15.0s,MS5.6
ARU Arti 32.16 51 P **P 15 30 47.6 0.0**
comp=Z,402nm,0.7s,mb6.4,SNR=22
TORD Torodi Ar. Bea 32.21 196 P **P 15 30 47.1 -1.3**
comp=Z,27nm,0.6s,mb5.3,baz=8.5,slow=8.6,SNR=180
TORD LR LR 15 44 30.1
comp=Z,3μm,18.3s,MS5.0,baz=5.0,slow=38
TORD Torodi Ar. Bea 32.21 196 P **P 15 30 47.1 -1.3**
AKTO Aktyubinsk 32.23 62 P **P 15 30 47.8 -0.5**
AKTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
RST Umm Al-Ruwaisa 32.56 105 *e*P **P 15 30 51.3 -0.1**
RST AMb AMB 15 30 52.5
comp=Z,44nm,0.8s,mb5.5
RST Umm Al-Ruwaisa 32.56 105 *e*P **P 15 30 51.3 -0.1**
comp=Z,44nm,0.8s,mb5.4
HOPEN Hopen 32.60 6 AMS AMS 15 44 36.9
comp=Z,3μm,16.1s,MS5.1
MIB Mutribah 32.61 104 *e*P **P 15 30 52.0 +0.2**
MIB AMb AMB 15 30 53.2
comp=Z,193nm,1.0s,mb6.0
MIB Mutribah 32.61 104 *e*P **P 15 30 52.0 +0.2**
comp=Z,193nm,1.0s,mb6.0
NAY Al-Naaiem 32.88 105 *e*P **P 15 30 53.6 -0.6**
NAY AMb AMB 15 30 54.7
comp=Z,38nm,0.7s,mb5.4
NAY Al-Naaiem 32.88 105 *e*P **P 15 30 53.6 -0.6**
comp=Z,38nm,0.7s,mb5.4
UMR Umm Al-Rimmam 33.02 104 *e*P **P 15 30 55.4 -0.1**
UMR AMb AMB 15 30 57.3
comp=Z,176nm,1.1s,mb5.9
UMR Umm Al-Rimmam 33.02 104 *e*P **P 15 30 55.4 0.0**
comp=Z,176nm,1.1s,mb5.9
SVE Sverdlovsk 33.31 50⇓ *i*P **P 15 30 57.9 +0.3**
SVE *e* 15 32 26.1
SVE pmax pmax
comp=Z,126nm,1.1s,mb5.8
SVE MLR MLR
comp=Z,11μm,14.0s,MS5.7
SVE MLR MLR
comp=E,8μm,15.0s
AB31 Akbulak array 33.66 64 *i* P **P 15 31 00.1 -0.7**
AB31 pmax pmax
comp=Z,11nm,0.7s,mb4.9
ABKAR Akbulak array 33.66 64 *e*P **P 15 31 00.5 -0.3**
comp=Z,8.6nm,0.6s,mb4.9
SPA0 Spitsbergen Ar 33.78 2 *e*P **P 15 31 02.5 +1.0**
SPB4 Spitsbergen Ar 33.78 2 *e*P **P 15 31 01.8 +0.3**
DAG Danmarks Havn 34.44 349 *i* P **P 15 31 07.3 +0.1**
KBS Kingsbay 34.45 1 *e*P **P 15 31 08.3 +1.0**
KBS AMS AMS 15 46 05.9
comp=Z,2μm,20.0s,MS4.8
KBS Kingsbay 34.45 1 *e*P **P 15 31 07.7 +0.4**
comp=Z,27nm,0.9s,mb5.2
KBS Kingsbay 34.45 1⇑ *e*P **P 15 31 08.4 +1.1**
KBS pmax pmax
comp=Z,52nm,1.7s,mb5.2
SUMG Summit 36.02 337 *e*P **P 15 31 22.4 +1.5**
comp=Z,41nm,1.0s,mb5.3
SUMG Summit 36.02 337 *e*P **P 15 31 22.4 +1.5**
SUMG pmax pmax
comp=Z,41nm,1.0s
SUMG Summit 36.02 337 *i* P **P 15 31 22.7 +1.8**
SUMG Summit 36.02 337 *i* P **P 15 31 22.7 +1.8**
ABKT Ailbek 36.06 84 P **P 15 31 22.8 +1.2**
comp=Z,382nm,0.8s,mb6.4,SNR=22
ZRNK Zerenda 38.53 56 P **P 15 31 42.0 -0.3**
ZRNK pmax pmax
comp=Z,50nm,0.9s,mb5.2
SFJD Kangerlussuaq 38.79 327 *e*P **P 15 31 44.2 -0.1**
comp=Z,84nm,0.9s,mb5.5
SFJD Kangerlussuaq 38.79 327 *e*P **P 15 31 44.2 -0.2**
SFJD pmax pmax
comp=Z,84nm,0.9s,mb5.5
SFJD Kangerlussuaq 38.79 327 *i* P **P 15 31 43.9 -0.5**
BRVK Borovoye 39.26 56 *e*P **P 15 31 48.8 +0.4**
comp=Z,33nm,0.9s,mb5.1
BRVK Borovoye 39.26 56*ce*P **P 15 31 49.2 +0.7**
BRVK pmax pmax
comp=Z,51nm,1.2s,mb5.1
BRVK MLR MLR
comp=Z,5μm,18.0s,MS5.4
BRVK Borovoye 39.26 56 P **P 15 31 49.4 +0.9**
comp=Z,218nm,1.0s,mb5.8,SNR=19
BRVK Borovoye 39.26 56 P **P 15 31 49.3 +0.8**
SNR=12
BRVK Borovoye 39.26 56 P **P 15 31 49.3 +0.8**
SNR=12
BVA0 Borovoye Array 39.33 56 *i* P **P 15 31 48.7 -0.4**
BVAR Borovoye Array 39.33 56 LR LR 15 49 11.2
comp=Z,3μm,19.5s,MS5.2,baz=284,slow=38
DBIC Dimbokro 40.06 204 P **P 15 31 53.8 -1.7**
comp=Z,12nm,0.5s,mb4.8,baz=356,slow=10,SNR=42
DBIC LR LR 15 49 25.3
comp=Z,2μm,18.5s,MS5.0,baz=4.2,slow=38
DBIC Dimbokro 40.06 204 *e*P **P 15 31 53.6 -1.9**
comp=Z,12nm,0.6s,mb4.8
DBIC *e*pP pP 15 32 02.8 -0.6
DBIC Dimbokro 40.06 204 P **P 15 31 53.8 -1.7**
DBIC pmax pmax
comp=Z,12nm,0.5s
DBIC MLR MLR
comp=Z,2μm,18.5s
LIC Lamto 40.53 204⇑ *i*P **P 15 31 57.7 -1.7**
comp=Z,44nm,0.6s,mb5.0,baz=16
LIC *e*R
comp=Z,2μm,24.0s
LIC Lamto 40.53 204⇑ *i*P **P 15 31 57.7 -1.7**
comp=Z,44nm,0.6s,mb5.3
BANOM Banah 41.24 101 P **P 15 32 04.7 -0.5**
SNR=6.5
BANOM Banah 41.24 101 P **P 15 32 04.7 -0.5**
SNR=6.5
ASUD Al Ashush, Dub 41.38 104 P **P 15 32 06.5 +0.1**
SNR=8.6
ASUD Al Ashush, Dub 41.38 104 P **P 15 32 06.5 +0.1**
SNR=8.6
NAZ Nazwa, Dubai 41.38 103 P **P 15 32 05.8 -0.5**
SNR=8.0
NAZ Nazwa, Dubai 41.38 103 P **P 15 32 05.8 -0.6**
SNR=8.0
HATD Hatta, Dubai 41.81 103 P **P 15 32 09.2 -0.7**
SNR=10
HATD Hatta, Dubai 41.81 103 P **P 15 32 09.2 -0.7**
SNR=10
ASHO Ashiyiah 41.85 103 P **P 15 32 09.4 -0.8**
SNR=14
ASHO Ashiyiah 41.85 103 P **P 15 32 09.4 -0.8**
SNR=14
KKAR Karatay Array 42.51 70 *e*P **P 15 32 15.7 +0.4**
comp=Z,26nm,0.8s,mb5.0
KKAR Karatay Array 42.51 70 *e*P **P 15 32 15.7 +0.3**
KKAR pmax pmax
comp=Z,26nm,0.8s,mb5.0
ARQ Araqi 43.05 104 P **P 15 32 19.3 -0.6**
SNR=12
ARQ Araqi 43.05 104 P **P 15 32 19.3 -0.6**
SNR=12
HOQ Hoqain 43.44 103 P **P 15 32 21.9 -1.2**
SNR=17
HOQ Hoqain 43.44 103 P **P 15 32 21.9 -1.2**
SNR=17
ALE Alert 43.83 350 P **P 15 32 25.0 -0.5**
comp=Z,54nm,1.1s,mb5.2,SNR=5.9
BSY Bisya 43.91 104 P **P 15 32 26.3 -0.6**
SNR=7.2
BSYO Bisya 43.94 104 P **P 15 32 26.3 -0.9**
SNR=7.2
SMDO Samad 44.29 103 P **P 15 32 29.0 -1.0**
SNR=12
SMDO Samad 44.29 103 P **P 15 32 29.0 -1.0**
SNR=12
JMDO Jabal Madar 44.78 104 P **P 15 32 32.9 -1.0**
SNR=8.9
JMDO Jabal Madar 44.78 104 P **P 15 32 32.8 -1.1**
SNR=8.9
KURK Kurchatov 44.88 57 P **P 15 32 33.7 -0.6**
comp=Z,23nm,0.8s,mb5.1,baz=299,slow=8.7,SNR=130
KURK PP PP 15 34 30.5 +11
comp=Z,11nm,1.1s,baz=293,slow=11,SNR=4.3
KURK LR LR 15 53 00.1
comp=Z,3μm,18.1s,MS5.3,baz=275,slow=38
KURK Kurchatov 44.88 57 *e*P **P 15 32 33.8 -0.5**
comp=Z,35nm,0.8s,mb5.2
KURK *e*pP pP 15 32 41.9 -0.3
KURK PP PP 15 34 30.5 +11
KURK Kurchatov 44.88 57*c i*P **P 15 32 33.8 -0.5**
KURK pmax pmax
comp=Z,59nm,1.2s,mb5.3
KURK MLR MLR
comp=Z,3μm,18.0s,MS5.2
KURK Kurchatov 44.88 57 P **P 15 32 33.5 -0.8**
SNR=11
KURK Kurchatov 44.88 57 P **P 15 32 34.3 0.0**
comp=Z,305nm,0.6s,mb6.3,SNR=31
KURK Kurchatov 44.88 57 P **P 15 32 33.5 -0.8**
SNR=11
EKS2 Erkin-Say 44.88 69 P **P 15 32 35.8 +1.4**
SNR=42
EKS2 P 15 32 35.8
SNR=42
EKS2 Erkin-Say 44.88 69 *e*P **P 15 32 35.6 +1.2**
comp=Z,90nm,1.1s,mb5.5
EKS2 Erkin-Say 44.88 69 *e*P **P 15 32 35.6 +1.2**
EKS2 pmax pmax
comp=Z,90nm,1.1s,mb5.5
AML Almayashu 45.05 70 P **P 15 32 37.4 +1.6**
SNR=10
AML P 15 32 37.4
SNR=10
USP Ospenovka 45.10 68 P **P 15 32 37.2 +1.0**
SNR=16
USP P 15 32 37.2
SNR=16
FRU Bishkek 45.37 69 *e*P **P 15 32 39.0 +0.7**
FRU *e* pP 15 32 46.0 -0.2
FRU pmax pmax
comp=Z,100nm,1.4s,mb5.5
AAK Ala-Archa 45.37 69 P **P 15 32 39.6 +1.3**
SNR=25
AAK P 15 32 39.6
SNR=25
AAK Ala-Archa 45.37 69 *e*P **P 15 32 39.3 +1.0**
comp=Z,229nm,1.2s,mb5.9
AAK Ala-Archa 45.37 69*c i*P **P 15 32 39.2 +0.9**
AAK pmax pmax
comp=Z,135nm,1.3s,mb5.6
AAK MLR MLR
comp=Z,8μm,24.0s,MS5.6
AAK Ala-Archa 45.37 69 P **P 15 32 39.5 +1.2**
comp=Z,176nm,1.4s,mb5.7
AAK Ala-Archa 45.37 69 P **P 15 32 39.9 +1.6**
comp=Z,186nm,1.2s,mb5.8,SNR=15
AAK Ala-Archa 45.37 69 P **P 15 32 39.7 +1.4**
SNR=14
AAK Ala-Archa 45.37 69 P **P 15 32 39.7 +1.4**
SNR=14
CHMS Chumysh 45.38 68 P **P 15 32 39.6 +1.1**
SNR=8.8
CHMS P 15 32 39.6
SNR=8.8
KBL Kabul 45.43 82 *e*P **P 15 32 39.4 +0.5**
comp=Z,19nm,0.7s,mb5.0
KBL Kabul 45.43 82 *e*P **P 15 32 39.4 +0.5**
KBL pmax pmax
comp=Z,19nm,0.7s,mb5.0
KBK Karagaybulak 45.66 69 P **P 15 32 41.6 +0.9**
SNR=12
KBK P 15 32 41.6
SNR=12
TKM2 Tokmak 2 45.98 68 *e*P **P 15 32 43.2 +0.1**
comp=Z,14nm,1.2s,mb4.8
TKM2 Tokmak 2 45.98 68 *e*P **P 15 32 43.2 +0.1**
TKM2 pmax pmax
comp=Z,14nm,1.2s,mb4.8
KZA Kyzart 46.12 69 P **P 15 32 46.1 +1.9**
SNR=17
KZA P 15 32 46.1
SNR=17
MSKU Masuku 46.14 176 LR LR 15 53 51.6
comp=Z,2μm,18.6s,MS5.2,baz=324,slow=38
NVS Novosibirsk 46.15 50⇑ *i*P **P 15 32 44.7 +0.4**
NVS *e* 15 34 18.8
NVS pmax pmax
comp=Z,78nm,1.6s,mb5.4
ZAA0 Zalesovo Array 47.33 51 *e*P **P 15 32 52.9 -0.6**
ZALV Zalesovo Beam 47.33 51 P **P 15 32 53.4 -0.1**
comp=Z,8.7nm,0.7s,mb4.8,baz=292,slow=7.8,SNR=44
ZALV PP PP 15 34 45.3 +0.8
comp=Z,9.5nm,0.9s,baz=304,slow=11,SNR=4.3
ZALV LR LR 15 54 39.5
comp=Z,2μm,19.6s,MS5.1,baz=291,slow=38
ZALV Zalesovo Beam 47.33 51 P **P 15 32 53.4 -0.1**
ZALV PP PP 15 34 45.3 +0.8
ZALV Zalesovo Beam 47.33 51 P **P 15 32 53.4 -0.1**
ZALV 15 34 45.3
ZALV pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ZALV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZALV MLR MLR
comp=Z,2μm,19.6s,MS5.1
KSH Kashi 47.78 72 P **P 15 32 57.9 +0.6**
KSH pP pP 15 33 05.8 +0.6
KSH sP sP 15 33 08.5 +0.1
KSH PcP PcP 15 34 28.3 +2.4
KSH PP PP 15 34 48.6 -0.3
KSH ScP ScP 15 38 18.6 +0.3
KSH PcS PcS 15 38 22.9 +1.5
KSH S **S 15 39 49.4 -2.7**
KSH sS sS 15 40 01.3 -3.9
KSH ScS ScS 15 42 47.6 -1.2
KSH SS SS 15 43 10.3 -10
KSH pmax pmax
comp=Z,61nm,0.9s,mb5.6
KSH pmax pmax
comp=Z,330nm,5.7s
KSH LR LR
comp=N,620nm,9.3s
KSH LR LR
comp=E,3μm,16.6s
KSH LR LR
comp=Z,3μm,18.8s,MS5.2
SCHQ Schefferville 48.55 311 P **P 15 33 02.4 -0.5**
comp=Z,8.9nm,0.9s,mb4.8,baz=78,slow=6.8,SNR=8.1
SCHQ LR LR 15 52 41.3
comp=Z,3μm,18.0s,MS5.4,baz=68,slow=35
SCHQ Schefferville 48.55 311 P **P 15 33 02.4 -0.5**
MK31 Makanchi Array 48.62 60 *e*P **P 15 33 03.7 0.0**
MK31 Makanchi Array 48.62 60 *e*P **P 15 33 03.7 0.0**
MKAR Makanchi Array 48.62 60 P **P 15 33 03.7 0.0**
comp=Z,28nm,0.8s,mb5.4,baz=286,slow=6.1,SNR=260
MKAR PcP PcP 15 34 28.6 -0.3
comp=Z,8.2nm,0.8s,baz=301,slow=3.7,SNR=2.3
MKAR LR LR 15 54 56.2
comp=Z,3μm,20.8s,MS5.2,baz=294,slow=38
MKAR Makanchi Array 48.62 60 P **P 15 33 03.7 0.0**
MKAR PcP PcP 15 34 28.6 -0.3
MKAR Makanchi Array 48.62 60 P **P 15 33 03.7 0.0**
MKAR 15 34 28.6
MKAR pmax pmax
comp=Z,28nm,0.8s
MKAR MLR MLR
comp=Z,3μm,20.8s
THN Thein Dam 51.26 80 *e*PKP **P 15 33 21.9 -2.0**
SMLA Simla 53.01 81 *i* P **P 15 33 35.5 -1.5**
WMQ Urumqi 53.38 62 P **P 15 33 40.4 +0.9**
WMQ pP pP 15 33 48.0 +0.5
WMQ sP sP 15 33 51.3 +0.6
WMQ PP PP 15 35 42.3 +2.7
WMQ SS SS 15 44 48.9 -0.4
WMQ pmax pmax
comp=Z,33nm,0.8s,mb5.3
WMQ pmax pmax
comp=Z,380nm,6.8s
WMQ LR LR
comp=N,4μm,14.0s,MS5.6
WMQ LR LR
comp=E,2μm,16.0s,MS5.6
WMQ LR LR
comp=Z,2μm,21.4s
MOY Mondy 57.12 48 *e*P **P 15 34 07.4 +1.1**
MOY pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
POO Poona 58.40 95⇓ *i*P **P 15 34 15.0 -0.7**
comp=Z,36nm,1.0s,mb5.4
TLY Talaya 58.51 47 *e*P **P 15 34 17.0 +0.9**
comp=Z,66nm,1.4s,mb5.5
TLY Talaya 58.51 47 *e*P **P 15 34 16.0 0.0**
TLY *e* 15 35 03.7
TLY *e*S **S 15 42 13.6 -4.1**
TLY pmax pmax
comp=Z,46nm,1.2s,mb5.4
TLY MLR MLR
comp=Z,4μm,18.0s,MS5.5
TLY Talaya 58.51 47 P **P 15 34 17.7 +1.7**
SNR=9.4
TLY Talaya 58.51 47 P **P 15 34 17.2 +1.2**
comp=Z,192nm,1.2s,mb6.0,SNR=12
TLY Talaya 58.51 47 P **P 15 34 17.7 +1.7**
SNR=9.4
IRK Irkutsk 58.52 46 *e*P **P 15 34 16.3 +0.2**
IRK pmax pmax
comp=Z,59nm,1.3s,mb5.5
ZAK Zakamensk 59.03 48 *e*P **P 15 34 20.2 +0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
DANN Dangsing 59.28 79 *e*P **P 15 34 21.7 0.0**
comp=Z,34nm,0.7s,mb5.5
DANN Dangsing 59.28 79 *e*P **P 15 34 21.7 0.0**
comp=Z,34nm,0.7s,mb5.5
KAD Karad 59.44 96 *e*PKP **P 15 34 22.0 -1.0**
KOLN Koldanda 59.52 80 *e*P **P 15 34 23.0 -0.4**
comp=Z,19nm,0.6s,mb5.3
KOLN Koldanda 59.52 80 *e*P **P 15 34 23.0 -0.4**
comp=Z,19nm,0.6s,mb5.3
BOD Bodaibo 59.92 37⇓ *i*P **P 15 34 24.1 -1.6**
BOD pmax pmax

comp=Z,36nm,1.2s,mb5.3
GKN Gorkha 60.10 79 *e*P **P 15 34 27.0 -0.4**
comp=Z,91nm,1.1s,mb5.7
GKN Gorkha 60.10 79 *e*P **P 15 34 27.0 -0.4**
comp=Z,91nm,1.1s,mb5.7
DMN Daman 60.67 79 *e*P **P 15 34 31.1 -0.2**
comp=Z,113nm,1.2s,mb5.9
DMN Daman 60.67 79 *e*P **P 15 34 31.1 -0.2**
comp=Z,113nm,1.2s,mb5.9
KKN Kakani 60.68 79 *e*P **P 15 34 31.1 -0.3**
comp=Z,59nm,1.1s,mb5.6
KKN Kakani 60.68 79 *e*P **P 15 34 31.1 -0.3**
comp=Z,59nm,1.1s,mb5.6
KKN Kakani 60.68 79 *e*P **P 15 34 31.1 -0.3**
KKN pmax pmax
comp=Z,59nm,1.1s,mb5.6
PKI Pulchoki 60.91 79 *e*P **P 15 34 32.6 -0.3**
comp=Z,115nm,1.5s,mb5.8
PKI Pulchoki 60.91 79 *e*P **P 15 34 32.6 -0.3**
comp=Z,115nm,1.5s,mb5.8
PKI Pulchoki 60.91 79 *e*P **P 15 34 32.6 -0.3**
PKI pmax pmax
comp=Z,115nm,1.5s,mb5.8
GUN Gumba 61.03 78 *e*P **P 15 34 33.8 0.0**
comp=Z,168nm,1.2s,mb6.1
GUN Gumba 61.03 78 *e*P **P 15 34 33.8 0.0**
comp=Z,168nm,1.2s,mb6.0
JIRN Jiri 61.40 78 *e*P **P 15 34 36.4 +0.1**
comp=Z,131nm,1.0s,mb6.0
JIRN Jiri 61.40 78 *e*P **P 15 34 36.4 +0.1**
comp=Z,131nm,1.0s,mb6.0
RAMN Ramite 62.12 79 *e*P **P 15 34 40.7 -0.4**
comp=Z,70nm,0.9s,mb5.8
RAMN Ramite 62.12 79 *e*P **P 15 34 40.7 -0.4**
comp=Z,70nm,0.9s,mb5.8
SONM Songino Array 62.17 49 P **P 15 34 42.0 +0.8**
comp=Z,16nm,0.9s,mb5.1,baz=293,slow=8.3,SNR=61
SONM LR LR 16 04 35.6
comp=Z,5μm,18.5s,MS5.7,baz=48,slow=39
SONM Songino Array 62.17 49 P **P 15 34 42.0 +0.8**
SONM Songino Array 62.17 49 P **P 15 34 42.0 +0.8**
SONM pmax pmax
comp=Z,16nm,0.9s
SONM MLR MLR
comp=Z,5μm,18.5s
HYB Hyderabad 62.48 92 *i*P **P 15 34 42.0 -1.6**
ULN Ulaanbaatar 62.51 49 *e*P **P 15 34 44.1 +0.7**
comp=Z,23nm,1.1s,mb5.2
ULN Ulaanbaatar 62.51 49 *e*P **P 15 34 44.1 +0.7**
ULN pmax pmax
comp=Z,23nm,1.1s,mb5.2
ULN Ulaanbaatar 62.51 49 P **P 15 34 44.2 +0.8**
comp=Z,18nm,1.7s,mb4.9
ULN Ulaanbaatar 62.51 49 P **P 15 34 44.8 +1.4**
SNR=7.8
ULN Ulaanbaatar 62.51 49 P **P 15 34 44.8 +1.4**
SNR=7.8
TAPN Taplejung 62.65 78 *e*P **P 15 34 44.8 +0.1**
comp=Z,165nm,1.2s,mb6.0
TAPN Taplejung 62.65 78 *e*P **P 15 34 44.8 +0.1**
comp=Z,165nm,1.2s,mb6.0
ODAN Odare 62.73 78 *e*P **P 15 34 44.7 -0.5**
comp=Z,106nm,1.1s,mb5.9
ODAN Odare 62.73 78 *e*P **P 15 34 44.7 -0.5**
comp=Z,106nm,1.1s,mb5.9
YAK Yakutsk 63.11 27 *e*P **P 15 34 46.7 -0.4**
comp=Z,156nm,0.9s,mb6.1
YAK Yakutsk 63.11 27 *c i*P **P 15 34 46.6 -0.5**
YAK *e**PP pP 15 34 53.1 -2.2
YAK *e* 15 35 22.7
YAK *e* 15 37 02.6
YAK *e*PPP 15 38 40.9
YAK *e*S **S 15 43 16.5 +0.5**
YAK pmax pmax
comp=Z,120nm,0.9s,mb6.0
YAK pmax pmax
comp=E,38nm,1.1s
YAK pmax pmax
comp=N,44nm,1.2s
YAK pmax pmax
comp=Z,110nm,3.8s
YAK pmax pmax
comp=N,61nm,3.8s
YAK pmax pmax
comp=E,84nm,4.2s
YAK smax
comp=N,193nm,13.7s
YAK smax
comp=E,146nm,13.2s
YAK MLR MLR
comp=Z,7μm,17.0s,MS5.9
YAK MLR MLR
comp=N,4μm,17.0s,MS5.8
YAK MLR MLR
comp=E,3μm,15.0s,MS5.8
GTA Gaotai 63.38 60 ⇑P **P 15 34 50.3 +1.0**
GTA pP pP 15 34 58.9 +1.4
GTA sP sP 15 35 01.6 +1.0
GTA PP PP 15 37 13.8 +5.3
GTA S **S 15 43 22.0 +1.9**
GTA sS sS 15 43 33.9 +0.3
GTA SS SS 15 47 30.9 +4.5
GTA pmax pmax
comp=Z,18nm,0.7s,mb5.3
GTA pmax pmax
comp=Z,360nm,7.1s
GTA LR LR
comp=N,1μm,22.3s,MS5.1
GTA LR LR
comp=E,1μm,20.9s,MS5.1
GTA LR LR
comp=Z,1μm,23.3s,MS5.1
LSA Lhasa 63.59 74 *e*P **P 15 34 51.7 +0.9**
comp=Z,22nm,0.8s,mb5.2
LSA Lhasa 63.59 74 *e*P **P 15 34 51.7 +0.9**
LSA pmax pmax
comp=Z,22nm,0.8s,mb5.2
YKA Yellowknife Ar 64.57 335 P **P 15 34 57.0 +0.3**
comp=Z,46nm,0.8s,mb5.6,baz=43,slow=6.4,SNR=468
YKA LR LR 16 03 52.5
comp=Z,229nm,19.3s,MS4.4,baz=65,slow=37
YKA Yellowknife Ar 64.57 335 P **P 15 34 57.0 +0.3**
YKA Yellowknife Ar 64.57 335 P **P 15 34 57.1 +0.3**
CLNS Chul'man 65.05 33 *e*P **P 15 34 58.5 -1.5**
CLNS pmax pmax
comp=Z,14nm,0.7s,mb5.1
CLNS pmax pmax
comp=N,7.0nm,0.6s
CLNS pmax pmax
comp=E,5.0nm,0.6s
CLNS MLR MLR
comp=Z,2μm,15.0s,MS5.5
CLNS MLR MLR
comp=N,2μm,15.0s,MS5.4
CLNS MLR MLR
comp=E,471nm,13.0s,MS5.4
FFC Flin Flon 65.66 324 P **P 15 35 03.7 -0.3**
comp=E,15nm,1.1s,mb4.9
FFC Flin Flon 65.66 324 *i*P **P 15 35 04.7 +0.7**
FFC Flin Flon 65.66 324 P **P 15 35 04.8 +0.8**
comp=E,97nm,0.7s,mb5.9,SNR=5.1
ULM Lac du Bonnet 65.93 318 P **P 15 35 05.1 -0.6**
comp=E,22nm,0.9s,mb5.2,baz=53,slow=6.2,SNR=31
ULM LR LR 16 02 55.0
comp=E,2μm,18.4s,MS5.4,baz=239,slow=35
ULM Lac du Bonnet 65.93 318 *e*P **P 15 35 04.5 -1.3**
comp=E,14nm,0.7s,mb5.1
ULM Lac du Bonnet 65.93 318 P **P 15 35 05.1 -0.7**
ULM pmax pmax
comp=Z,23nm,0.9s
COLD Coldfoot 67.53 352 *e*P **P 15 35 16.0 +0.3**
comp=Z,25nm,1.0s,mb5.2
LZH Lanzhou 67.94 61 *e*P **P 15 35 20.3 +1.5**
LZH pP pP 15 35 29.3 +2.2
LZH sP sP 15 35 33.4 +3.2
LZH PcP PcP 15 35 44.3 -0.8
LZH *e*S S 15 44 14.4 -1.5
LZH sS sS 15 44 28.5 -1.1
LZH SS SS 15 48 41.3 +3.9
LZH pmax pmax
comp=Z,47nm,1.0s,mb5.5
LZH pmax pmax
comp=Z,120nm,4.8s
LZH LR LR
comp=N,2μm,15.0s,MS5.4
LZH LR LR
comp=E,470nm,15.4s,MS5.4
LZH LR LR
comp=Z,2μm,18.4s,MS5.4
HIA Hailar 68.06 42 *e*P **P 15 35 20.2 +0.9**
comp=Z,135nm,1.4s,mb5.8
HIA Hailar 68.06 42 *e*P **P 15 35 20.2 +0.9**
HIA pmax pmax
comp=Z,135nm,1.4s
IMP Imphal 68.60 76 *e*PKP **P 15 35 23.0 -0.1**
SEY Seymchan 68.61 18⇓*e*P **P 15 35 23.2 +0.7**
EGAK Eagle 68.71 347 *e*P **P 15 35 22.3 -0.8**
comp=Z,23nm,0.9s,mb5.1
HHC Hu-ho-hao-te 69.45 53 ⇑P **P 15 35 29.0 +0.8**
HHC pP pP 15 35 35.8 -0.7
HHC sP sP 15 35 40.5 +1.0
HHC PcP PcP 15 35 53.8 +2.4
HHC PP PP 15 38 06.8 +5.4
HHC ScP 15 39 53.5
HHC S S 15 44 31.6 -2.1
HHC sS sS 15 44 46.0 -1.4
HHC SS SKSac 15 45 24.3 -2.3
HHC pmax pmax
comp=Z,16nm,1.1s,mb4.9
HHC pmax pmax
comp=Z,200nm,5.9s
HHC LR LR
comp=N,380nm,16.6s,MS4.8
HHC LR LR
comp=E,280nm,15.5s,MS4.8
HHC LR LR
comp=Z,320nm,16.6s,MS4.6
HHC Hu-ho-hao-te 69.45 53 *e*P **P 15 35 28.6 +0.4**
HHC pP pP 15 35 36.3 -0.2
HHC sP sP 15 35 38.8 -0.7
HHC PcP PcP 15 35 53.0 +1.6
HHC PP PP 15 38 05.0 +3.6
HHC ScP 15 39 54.4
HHC S S 15 44 33.9 +0.2
HHC sS sS 15 44 45.8 -1.6
HHC ScS ScS 15 45 23.9 -3.7
HHC SS SS 15 49 00.3 -0.2
HHC pmax pmax
comp=Z,16nm,1.5s,mb4.7
HHC pmax pmax
comp=Z,200nm,7.1s
HHC LR LR
comp=N,190nm,17.8s,MS4.5
HHC LR LR
comp=E,190nm,17.8s,MS4.5
HHC LR LR
comp=Z,320nm,15.5s,MS4.7
ILAR Eielson Array 69.53 350 P **P 15 35 28.6 +0.4**
comp=Z,14nm,0.9s,mb4.9,baz=9.0,slow=6.1,SNR=138
ILAR LR LR 16 10 02.9
comp=Z,635nm,19.5s,MS4.9,baz=30,slow=39
ILAR Eielson Array 69.53 350 P **P 15 35 28.6 +0.4**
ILAR Eielson Array 69.53 350 P **P 15 35 28.7 +0.5**
ILAR pmax pmax
comp=Z,14nm,0.9s
ILAR MLR MLR
comp=Z,635nm,19.5s
COLA College 69.55 350 *e*P **P 15 35 28.5 +0.1**
comp=Z,13nm,0.8s,mb4.9
COLA College 69.55 350 *e*P **P 15 35 28.5 +0.2**
COLA pmax pmax
comp=Z,13nm,0.8s,mb4.9
TNA Tin City 70.17 359 *e*P **P 15 35 32.0 -0.2**
comp=Z,28nm,0.9s,mb5.2
DOT Dot Lake 70.22 348 P **P 15 35 33.3 +0.8**
comp=Z,6.2nm,0.8s,mb4.6
LBTB Lobatse 70.65 165 P **P 15 35 34.5 -1.0**
comp=Z,18nm,0.8s,mb5.0,baz=344,slow=6.3,SNR=26
LBTB Lobatse 70.65 165 *e*P **P 15 35 34.1 -1.4**
comp=Z,32nm,1.1s,mb5.2
LBTB Lobatse 70.65 165 P **P 15 35 34.5 -1.0**
LBTB pmax pmax
comp=Z,18nm,0.8s,mb5.0
ECSD EROS Data Cent 70.70 313 *e*P **P 15 35 34.1 -1.7**
comp=Z,15nm,1.0s,mb4.9
ECSD pP pP 15 35 43.7 -0.4
MCK McKinley 70.78 350 *e*P **P 15 35 35.7 -0.2**
comp=Z,45nm,1.0s,mb5.3
MCK McKinley 70.78 350 *e*P **P 15 35 35.7 -0.2**
MCK pmax pmax
comp=Z,45nm,1.0s,mb5.3
MENT Mentasta 70.84 348 *e*P **P 15 35 36.4 +0.1**
PAX Paxson 71.06 349 *e*P **P 15 35 37.5 -0.1**
comp=Z,6.3nm,0.7s,mb4.7
PAX Paxson 71.06 349 *e*P **P 15 35 37.6 0.0**
PAX pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
DGMT Dagmar 71.08 320 ⇓P **P 15 35 37.8 -0.2**
baz=71
SDDR Presa de Saban 71.10 278 *e*P **P 15 35 38.5 0.0**
comp=Z,23nm,0.8s,mb5.2
TRF Thorofare Moun 71.21 351 *e*P **P 15 35 38.5 0.0**
comp=Z,36nm,0.9s,mb5.3
CD2 Chengdu 71.23 65⇓*i*P **P 15 35 40.1 +0.9**
CD2 pP pP 15 35 47.9 +0.4
CD2 sP sP 15 35 51.3 +0.7
CD2 PP PP 15 38 19.8 +2.8
CD2 S S 15 44 53.3 -1.5
CD2 sS sS 15 45 06.3 -2.2
CD2 SS SS 15 49 28.5 +0.1
CD2 pmax pmax
comp=Z,40nm,0.9s,mb5.3
CD2 pmax pmax
comp=Z,170nm,8.4s
CD2 LR LR
comp=N,1μm,15.6s
CD2 LR LR
comp=Z,1μm,16.8s,MS5.2
OPO Ambohidratompo 71.26 143 P **P 15 35 38.5 -0.8**
comp=Z,3.9nm,1.0s,mb4.3,baz=336,slow=3.6,SNR=3.8
OPO LR LR 16 05 47.4
comp=Z,110nm,20.2s,MS4.1,baz=332,slow=35
OPO Ambohidratompo 71.26 143 P **P 15 35 38.5 -0.8**
B23A Brockton 71.44 321 ⇓P **P 15 35 39.7 -0.4**
baz=71
A22A Carney Farms, 71.47 321 ⇑P **P 15 35 40.1 -0.2**
baz=71
A21A Bergtoll Ranch 71.92 322 ⇑P **P 15 35 42.6 -0.4**
baz=72
PPLA Purkeypile 71.96 352 *e*P **P 15 35 42.9 -0.1**
comp=Z,15nm,0.7s,mb5.0
B22A Reddig Ranch S 72.02 321 ⇓P **P 15 35 43.3 -0.3**
baz=72
C23A Lambert 72.02 320 ⇓P **P 15 35 43.5 -0.2**
baz=72
C22A Vida 72.38 321 ⇓P **P 15 35 45.4 -0.4**
baz=72
XAN Xi'an 72.42 59 P **P 15 35 46.9 +0.6**
XAN pP pP 15 35 57.3 +2.7
XAN PP PP 15 38 32.3 +5.2
XAN S S 15 45 11.3 +2.8
XAN pmax pmax
comp=Z,16nm,0.9s,mb5.0
XAN pmax pmax
comp=Z,71nm,5.8s
XAN LR LR
comp=N,1μm,16.6s,MS5.2
XAN LR LR
comp=E,230nm,17.1s,MS5.2
XAN LR LR
comp=Z,440nm,18.7s,MS4.8
A20A Cobblestone Ra 72.44 322 ⇓P **P 15 35 45.4 -0.7**
baz=72,SNR=5.5
D23A Lindsay 72.49 320 ⇓P **P 15 35 46.3 -0.2**
baz=72
E24A Baker 72.52 319 ⇓P **P 15 35 46.3 -0.4**
baz=72
SKAG Skagway 72.54 342 *e*P **P 15 35 46.9 +0.4**
comp=Z,27nm,1.2s,mb5.1
SML Sawmill 72.57 350 *e*P **P 15 35 47.4 +0.7**
comp=Z,17nm,0.8s,mb5.0
SML Sawmill 72.57 350 *e*P **P 15 35 47.4 +0.7**
SML pmax pmax
comp=Z,17nm,0.8s,mb5.0
BJI Beijing 72.59 51 P **P 15 35 47.8 +0.6**
BJI pmax pmax
comp=Z,39nm,1.1s,mb5.2
BJI pmax pmax
comp=Z,200nm,5.5s
BJI LR LR
comp=N,3μm,16.1s,MS5.8
BJI LR LR
comp=E,3μm,14.1s,MS5.8
BJI LR LR
comp=Z,2μm,17.5s,MS5.5
BJT Baijiatuau 72.60 51 *e*P **P 15 35 48.2 +0.9**
comp=Z,32nm,0.9s,mb5.2
BJT Baijiatuau 72.60 51 *e*P **P 15 35 48.2 +0.9**
BJT pmax pmax
comp=Z,32nm,0.9s
B20A Solberg Farm, 72.81 322 ⇑P **P 15 35 47.6 -0.8**
baz=72,SNR=6.8
PMR Palmer 72.88 350 *e*P **P 15 35 48.6 +0.1**
comp=Z,24nm,1.0s,mb5.1
PMR Palmer 72.88 350 *e*P **P 15 35 48.6 +0.1**
PMR pmax pmax
comp=Z,24nm,1.0s,mb5.1
D22A Cohagen 72.95 320 ⇓P **P 15 35 49.1 -0.2**
baz=73
F24A Ekalaka 73.11 318 ⇓P **P 15 35 50.0 -0.2**
baz=73
BGNE Belgrade 73.14 312 ⇑P **P 15 35 50.2 -0.2**
baz=73
PNL Peninsula 73.17 345 *e*P **P 15 35 50.8 +0.5**
comp=Z,58nm,0.9s,mb5.5
B19A Brinkman Farms 73.20 323 ⇑P **P 15 35 50.2 -0.4**
baz=73
A18A Metzger Ranch, 73.23 323 ⇑P **P 15 35 50.5 -0.3**
baz=73
LAO LASA Array 73.32 320 ⇓P **P 15 35 51.2 -0.2**
baz=73,SNR=9.0
LAO LASA Array 73.32 320 P **P 15 35 52.1 +0.7**
comp=Z,34nm,1.0s,mb5.2
C20A Veseth Ranch, 73.35 322 ⇓P **P 15 35 51.3 -0.3**
baz=73
E22A Miles City 73.38 320 ⇑P **P 15 35 51.7 0.0**
baz=73
D21A La Casta Ranch 73.39 321 ⇓P **P 15 35 51.5 -0.3**
baz=73
RC01 Rabbit Creek A 73.44 350 *e*P **P 15 35 52.0 +0.2**
comp=Z,37nm,1.1s,mb5.2
KLR Kul'dur 73.46 36 *e*P **P 15 35 50.0 -2.2**
KLR *e* pP 15 35 57.7 -2.8
KLR pmax pmax
comp=Z,100nm,1.6s,mb5.5
KLR MLR MLR
comp=N,2μm,14.0s,MS5.7
KLR MLR MLR
comp=E,2μm,14.0s,MS5.7
KLR MLR MLR
comp=Z,8μm,14.0s,MS6.2
G24A Alzada 73.48 318 ⇓P **P 15 35 51.6 -0.8**
baz=73
A17A Triple J Farms 73.57 324 ⇓P **P 15 35 52.4 -0.4**
baz=73
B18A Beardsley Farm 73.61 323 ⇑P **P 15 35 52.6 -0.4**
baz=73,SNR=8.4
F23A Volborg 73.66 319 ⇑P **P 15 35 52.9 -0.5**
baz=73,SNR=5.5
C19A Slack Wire Ran 73.79 322 ⇓P **P 15 35 54.0 -0.2**
baz=74,SNR=6.3
E21A Keefer Ranch, 73.82 320 ⇑P **P 15 35 54.2 -0.2**
baz=74
D20A Manuel Ranch, 73.88 321 ⇑P **P 15 35 54.4 -0.3**
baz=74,SNR=9.6
EGMT Eagleton 73.88 323 ⇓P **P 15 35 54.5 -0.2**
baz=74
EGMT Eagleton 73.88 323 *e*P **P 15 35 54.5 -0.2**
comp=Z,93nm,1.5s,mb5.5
KSU1 Kansas State U 73.93 309 *e*P **P 15 35 53.5 -1.6**
comp=Z,30nm,0.8s,mb5.3
A16A West Butte Ran 73.95 324 ⇓P **P 15 35 54.5 -0.6**
baz=74,SNR=7.7
H24A Dirks Ranch, A 73.97 318 ⇓P **P 15 35 54.6 -0.6**
baz=74
F22A Rosebud 74.01 319 ⇓P **P 15 35 55.1 -0.4**
baz=74
BOSA Boshof 74.11 166 P **P 15 35 54.3 -1.7**
comp=Z,22nm,0.9s,mb5.1,baz=351,slow=7.4,SNR=31
BOSA LR LR 16 09 49.3
comp=Z,1μm,21.0s,MS5.2,baz=354,slow=37
BOSA Boshof 74.11 166 *e*P **P 15 35 54.2 -1.8**
comp=Z,27nm,1.1s,mb5.1
BOSA Boshof 74.11 166 P **P 15 35 54.3 -1.7**
BOSA pmax pmax
comp=Z,23nm,0.9s,mb5.1
BOSA MLR MLR
comp=Z,1μm,21.0s,MS5.2
B17A L&G Farms, Che 74.12 324 ⇓P **P 15 35 55.8 -0.3**
baz=74,SNR=21
D19A Cripps Ranch, 74.15 322 ⇑P **P 15 35 56.4 +0.1**
baz=74
RSSD Black Hills 74.18 317 *e*P **P 15 35 55.9 -0.6**
comp=Z,5.8nm,0.8s,mb4.6
RSSD Black Hills 74.18 317 *e*P **P 15 35 55.9 -0.6**
RSSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
E20A Meyer Farm, Mu 74.32 321 ⇑P **P 15 35 57.1 -0.2**
baz=74
SEW Seward 74.36 350 *e*P **P 15 35 57.6 +0.3**
A15A Johnson Ranch, 74.39 325 ⇓P **P 15 35 57.4 -0.2**
baz=74,SNR=16
KMI Kunming 74.39 70 P **P 15 35 58.3 +0.2**
KMI pP pP 15 36 05.6 -0.8
KMI sP sP 15 36 09.9 +0.4
KMI PP PP 15 38 46.1 +2.0
KMI S S 15 45 30.3 -0.7
KMI sS sS 15 45 43.1 -1.7
KMI SS SS 15 50 16.8 -0.1
KMI pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
KMI pmax pmax
comp=Z,150nm,4.3s
KMI LR LR
comp=N,420nm,20.1s,MS5.1
KMI LR LR
comp=E,770nm,16.5s,MS5.1
KMI LR LR
comp=Z,1μm,20.1s,MS5.1
RSO Redoubt South 74.40 351 *e*P **P 15 35 56.9 -0.6**
comp=Z,66nm,0.7s,mb5.7
B16A M & M Farms, S 74.41 324 ⇑P **P 15 35 57.2 -0.6**
baz=74,SNR=7.3
G22A Birney 74.45 319 ⇑P **P 15 35 57.6 -0.4**
baz=74
D18A Linhart Farms, 74.53 322 ⇓P **P 15 35 58.7 +0.2**
baz=74
C17A Wharram Farm, 74.61 323 ⇓P **P 15 35 58.6 -0.3**
baz=74,SNR=16
E19A Rath Farm, Rou 74.65 321 ⇓P **P 15 35 59.4 +0.2**
baz=74
A14A Double T Ranch 74.68 325 ⇑P **P 15 35 59.1 -0.2**
baz=74,SNR=55
CN2 Changchun 74.72 43 ⇑P **P 15 36 00.4 +0.8**
CN2 *e*pP pP 15 36 08.3 +0.3
CN2 *e*sP sP 15 36 11.5 +0.5
CN2 *e*S S 15 45 32.3 -1.7
CN2 pmax pmax
comp=Z,80nm,1.1s,mb5.6
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,20.0s,MS4.7
CN2 LR LR
comp=E,300nm,20.0s,MS4.7
CN2 LR LR
comp=Z,200nm,22.0s,MS4.4
B15A Bradely Ranch, 74.84 325 ⇓P **P 15 35 59.8 -0.4**
baz=74,SNR=8.6
G21A Lodge Grass 74.87 320 ⇑P **P 15 36 00.3 -0.2**
baz=75
C16A Fuhringer Ranc 74.90 324 ⇓P **P 15 35 59.9 -0.7**
baz=75,SNR=6.7
H22A Clearmont 74.94 319 ⇑P **P 15 36 00.9 0.0**
baz=75
D17A Six Diamond Ra 74.95 323 ⇓P **P 15 36 00.7 -0.2**
baz=75,SNR=6.3
E18A Harlowton 75.07 322 ⇓P **P 15 36 01.4 -0.2**
baz=75
J24A Dixon Ranch, L 75.07 317 ⇑P **P 15 36 01.7 0.0**
baz=75
B14A Marquette Ranc 75.10 325 ⇓P **P 15 36 00.9 -0.8**
baz=75,SNR=10
A13A Flathead Natio 75.11 326 ⇑P **P 15 36 01.3 -0.4**
baz=75,SNR=5.2
F19A Roth Farm, Mol 75.18 321 ⇓P **P 15 36 02.2 0.0**
baz=75,SNR=9.2
K25A Mack Ranch, Ha 75.22 316 ⇓P **P 15 36 02.5 0.0**
baz=75
H21A Big Horn, Sher 75.24 319 ⇓P **P 15 36 02.4 -0.3**

baz=75
SNY Shenyang 75.24 45 ⇑P P 15 36 02.9 +0.2
SNY S S 15 45 43.3 +3.4
SNY pmax pmax
comp=Z,47nm,0.8s,mb5.5
SNY pmax pmax
comp=Z,190nm,4.1s
SNY LR LR
comp=N,290nm,16.9s
SNY LR LR
comp=E,350nm,9.4s
C15A Salmond Ranch, 75.28 324 ⇑P P 15 36 02.5 -0.3
baz=75
ENH Enshi 75.32 62 *e*P **P 15 36 03.1 -0.3**
comp=E,59nm,1.4s,mb5.3
G20A Bridger 75.33 320 ⇓P P 15 36 02.5 -0.7
baz=75,SNR=11
HABR Khabarovsk 75.41 34 *e*P **P 15 36 03.2 -0.3**
HABR *e**PP pP 15 36 09.5 -2.4
HABR *e**SP sP 15 36 12.0 -2.9
HABR *e* 15 36 16.3
HABR 15 38 50.7
HABR *e*PPP 15 40 37.3
HABR *e*S S 15 45 41.6 +0.1
HABR *e* 15 46 14.7
HABR SS SS 15 50 32.0 +1.1
HABR *e*SSS 15 53 54.2
HABR pmax pmax
comp=Z,33nm,1.1s,mb5.2
HABR pmax pmax
comp=N,9.0nm,0.9s
HABR pmax pmax
comp=E,31nm,1.5s
HABR MLR MLR
comp=Z,4μm,21.0s,MS5.7
D16A Dana Ranch, Ca 75.42 323 ⇓P P 15 36 03.4 -0.2
baz=75
F18A Big Timber 75.49 321 ⇑P P 15 36 04.0 0.0
baz=75
I22A 9 Mile Ranch, 75.53 318 ⇑P P 15 36 03.9 -0.4
baz=75,SNR=14
GCMT Greycliff 75.56 321 P P 15 36 04.1 -0.3
comp=Z,8.7nm,1.2s,mb4.6
E17A Martinsdale 75.56 322 ⇓P P 15 36 04.1 -0.3
baz=75
A12A Yaak River Ran 75.60 327 ⇑P P 15 36 04.0 -0.6
baz=75,SNR=5.2
HRY Holter Researc 75.79 323 *e*P **P 15 36 05.5 -0.2**
comp=Z,14nm,1.0s,mb4.9
BLMT Blacktail Moun 75.82 325 *e*P **P 15 36 06.2 +0.3**
comp=Z,42nm,1.2s,mb5.2
D15A Lincoln 75.82 324 ⇓P P 15 36 05.5 -0.4
baz=76
E16A East Helena 75.86 323 ⇑P P 15 36 05.4 -0.8
baz=76
J22A Midwest 75.89 318 ⇑P P 15 36 05.9 -0.5
baz=76,SNR=11
CHRT Chiangrai 75.90 76 ⇑P P 15 36 06.0 -0.8
comp=Z,137nm,0.7s,mb6.0
F17A Fitzpatrick Pl 75.91 322 ⇓P P 15 36 06.6 +0.2
baz=76
K23A Bowen Ranch, D 75.97 317 ⇓P P 15 36 06.2 -0.6
baz=76,SNR=5.6
I21A Big Trails, Te 75.98 319 ⇑P P 15 36 06.3 -0.5
baz=76,SNR=11
JTMT Jette 76.00 325 *e*P **P 15 36 07.3 +0.4**
comp=Z,29nm,1.1s,mb5.1
CHG Chiang Mai 76.02 77 ⇑P P 15 36 05.1 -2.4
comp=Z,18nm,0.9s,mb5.0
CHTO Chiang Mai 76.02 77 *e*P **P 15 36 06.7 -0.8**
comp=Z,23nm,1.1s,mb5.0
CHTO Chiang Mai 76.02 77 *e*P **P 15 36 06.7 -0.8**
CHTO pmax pmax
comp=Z,23nm,1.1s,mb5.0
CHTO Chiang Mai 76.02 77 P P 15 36 07.5 0.0
comp=Z,484nmcomp=Z,20nm,1.2s,mb4.9
CHTO Chiang Mai 76.02 77 P P 15 36 08.2 +0.7
SNR=5.8
CHTO Chiang Mai 76.02 77 P P 15 36 08.2 +0.7
SNR=5.8
MDJ Mudanjiang 76.06 40 P P 15 36 07.1 -0.2
MDJ pP pP 15 36 14.1 -1.6
MDJ sP sP 15 36 16.4 -2.4
MDJ PP PP 15 38 57.1 -0.4
MDJ S S 15 45 48.8 -0.1
MDJ sS sS 15 45 59.3 -3.4
MDJ ScS ScS 15 46 18.8 -1.4
MDJ pmax pmax
comp=Z,18nm,0.8s,mb5.0
MDJ pmax pmax
comp=Z,160nm,6.0s
MDJ LR LR
comp=N,260nm,8.8s
MDJ LR LR
comp=E,93nm,6.0s
MDJ LR LR
comp=Z,190nm,8.8s
MDJ Mudanjiang 76.06 40 *e*P **P 15 36 05.7 -1.6**
comp=Z,14nm,0.8s,mb4.9
SWMT Swartz Lake 76.07 325 *e*P **P 15 36 07.6 +0.3**
comp=Z,19nm,1.1s,mb4.9
SLMT Seeley Lake 76.07 324 *e*P **P 15 36 07.5 +0.1**
comp=Z,10nm,1.0s,mb4.7
GYA Guiyang 76.10 67 ⇑*i*P **P 15 36 08.0 +0.1**
GYA pP pP 15 36 17.4 +1.2
GYA PP PP 15 39 01.0 +2.5
GYA S S 15 45 48.8 -1.1
GYA SKS 15 46 12.3
GYA SS SS 15 50 43.5 +0.8
GYA pmax pmax
comp=Z,30nm,1.0s,mb5.2
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=N,860nm,19.9s,MS5.2
GYA LR LR
comp=E,780nm,20.0s,MS5.2
GYA LR LR
comp=Z,830nm,19.8s,MS5.0
H19A Powell 76.11 320 ⇑P P 15 36 07.7 +0.1
baz=76
BSMT Bassoo Peak 76.12 325 *e*P **P 15 36 07.8 +0.2**
comp=Z,8.3nm,0.8s,mb4.7
C13A Hot Springs 76.17 325 ⇑P P 15 36 07.8 -0.1
baz=76,SNR=10
CHMT Chamberlain Mo 76.23 324 *e*P **P 15 36 07.8 -0.5**
comp=Z,9.6nm,1.2s,mb4.6
CM31 Chiang Mai Arr 76.26 78 *e*P **P 15 36 08.5 -0.3**
comp=Z,12nm,0.9s,mb4.8
CMAR Chiang Mai Arr 76.26 78 P P 15 36 08.8 -0.1
comp=Z,10nm,0.9s,mb4.7,baz=306,slow=7.1,SNR=50
CMAR LR LR 16 17 35.5
comp=Z,385nm,19.2s,MS4.7,baz=209,slow=42
CMAR Chiang Mai Arr 76.26 78 P P 15 36 08.8 -0.1
CMAR Chiang Mai Arr 76.26 78 P P 15 36 08.8 -0.1
CMAR pmax pmax
comp=Z,10.0nm,1.0s
I20A Worland 76.26 319 ⇓P P 15 36 08.2 -0.3
baz=76,SNR=5.5
E15A Deer Lodge 76.36 323 ⇓P P 15 36 08.9 -0.1
baz=76,SNR=8.9
G17A Pierce Place, 76.40 322 ⇑P P 15 36 09.2 0.0
baz=76
H18A Shoshone NF, C 76.41 321 ⇑P P 15 36 08.7 -0.7
baz=76
F16A Kennard Place, 76.43 322 ⇓P P 15 36 09.2 -0.2
baz=76
K22A Casper 76.49 317 ⇓P P 15 36 09.3 -0.5
baz=76,SNR=9.3
L23A Garrett 76.49 317 ⇓P P 15 36 09.3 -0.5
baz=76
C12B Naegeli Ranch, 76.51 326 ⇑P P 15 36 09.9 +0.1
baz=76,SNR=11
BOZ Bozeman (W) 76.53 322 ⇑P P 15 36 09.9 0.0
baz=76
BOZ Bozeman (W) 76.53 322 *e*P **P 15 36 10.2 +0.2**
comp=Z,31nm,1.6s,mb5.0
BOZ Bozeman (W) 76.53 322 *e*P **P 15 36 10.2 +0.2**
BOZ pmax pmax
comp=Z,31nm,1.6s,mb5.0
MSO Missoula 76.59 324 ⇓P P 15 36 10.1 -0.2
baz=76
D13A Huson 76.59 325 ⇑P P 15 36 10.1 -0.2
baz=76,SNR=13
I19A Meeteetse 76.60 320 ⇓P P 15 36 09.9 -0.5
baz=76
J20A Shoshoni 76.70 319 ⇑P P 15 36 11.2 +0.2
baz=76,SNR=11
E14A Clinton 76.73 324 ⇑P P 15 36 10.9 -0.2
baz=76
LRM Limekiln Ridge 76.75 323 *e*P **P 15 36 11.1 -0.1**
comp=Z,107nm,1.1s,mb5.7
K21A Alcova 76.85 318 ⇑P P 15 36 11.2 -0.6
baz=77
L22A Ellis Ranch, M 76.91 317 ⇑P P 15 36 11.9 -0.3
baz=77
G16A Moss Hill, Enn 76.94 322 ⇓P P 15 36 12.1 -0.2
baz=77
PHWY Pilot Hill 76.98 316 P **P 15 36 11.9 -0.7**
comp=Z,8.4nm,0.8s,mb4.7
E13A Victor 77.00 324 ⇓P P 15 36 12.8 +0.2
baz=77
KDAK Kodiak Island 77.00 351 *i*P **P 15 36 13.5 +1.1**
H17A Grant Village 77.04 321 ⇑P P 15 36 13.0 +0.1
baz=77
QLMT Earthquake Lak 77.09 322 P **P 15 36 10.4 -2.7**
comp=Z,0.5nm,0.4s
H16A Russell Place, 77.10 321 ⇓P P 15 36 13.2 0.0
baz=77
F14A Wisdom 77.16 323 ⇑P P 15 36 12.8 -0.7
baz=77
DLMT Dillon 77.18 323 *e*P **P 15 36 13.7 +0.1**
comp=Z,19nm,1.0s,mb5.0
P26A Davis Ranch, A 77.21 313 ⇑P P 15 36 14.0 +0.2
baz=77
J19A Crowheart 77.22 319 ⇑P P 15 36 13.5 -0.4
baz=77
I18A Diamond G Ranc 77.24 320 ⇑P P 15 36 13.5 -0.5
baz=77
KSCO Kaye Shedlock' 77.24 313 ⇑P P 15 36 14.0 -0.1
baz=77
G15A Dillon 77.29 322 ⇑P P 15 36 14.2 0.0
baz=77
K20A Yellowstone Ra 77.35 318 ⇑P P 15 36 14.3 -0.4
baz=77
I17A Pilgrim Ck. 77.41 321 ⇑P P 15 36 14.8 -0.2
baz=77
L21A Rawlins 77.42 317 ⇓P P 15 36 15.0 0.0
baz=77
SDV Santo Domingo 77.44 270 *e*P **P 15 36 14.3 -1.3**
comp=Z,25nm,0.8s,mb5.2
K19A Absolon Red Bu 77.46 319 ⇑P P 15 36 14.5 -0.8
baz=77
M22A Cedar Creek Ra 77.47 317 ⇓P P 15 36 14.9 -0.4
baz=77
USRK Ussuriysk Arra 77.47 39 P **P 15 36 15.1 -0.2**
comp=Z,22nm,0.9s,mb5.1,baz=287,slow=4.6,SNR=30
USRK LR LR 16 13 49.0
comp=Z,995nm,18.0s,MS5.2,baz=146,slow=38
N23A Red Feather La 77.53 316 ⇑P P 15 36 15.2 -0.5
baz=77
F13A Darby 77.58 324 ⇓P P 15 36 15.9 +0.1
baz=77,SNR=9.7
E12A Beaver Dam Sad 77.59 325 ⇑P P 15 36 15.7 -0.2
baz=77
G14A Jackson 77.65 323 ⇑P P 15 36 16.4 +0.2
baz=77
P25A Willow Gulch B 77.67 314 ⇓P P 15 36 16.5 0.0
baz=77
M21A Separation Pea 77.69 317 ⇑P P 15 36 16.5 0.0
baz=77
MCMT McKenzie Canyo 77.71 322 *e*P **P 15 36 17.4 +0.8**
comp=Z,1.7nm,0.6s,mb4.2
Q26A Hugo 77.77 313 ⇓P P 15 36 17.0 -0.1
baz=78
H15A Lima 77.79 322 ⇑P P 15 36 16.9 -0.2
baz=78
PD02 Pinedale Array 77.83 319 *e*P **P 15 36 16.0 -1.4**
BW06 Boulder Array 77.84 319 ⇑P P 15 36 16.9 -0.5
baz=78
PDAR Pinedale Array 77.84 319 P **P 15 36 16.6 -0.8**
comp=Z,2.2nm,0.8s,mb4.1,baz=60,slow=4.8,SNR=14
PDAR PP PP 15 39 08.7 -3.8
comp=Z,2.1nm,0.9s,baz=54,slow=9.6,SNR=3.8
PDAR Pinedale Array 77.84 319 P **P 15 36 16.6 -0.8**
PDAR PP PP 15 39 08.7 -3.8
PD01 Pinedale Array 77.84 319 *e*P **P 15 36 16.2 -1.1**
L20A Wamsutter 77.85 318 ⇓P P 15 36 17.8 +0.4
baz=78,SNR=5.6
N22A Wattenberg Ran 77.85 316 ⇑P P 15 36 17.4 -0.1
baz=78
I16A Newdale 77.86 321 ⇓P P 15 36 17.7 +0.2
baz=78
R27A Eads 77.86 312 ⇓P P 15 36 17.4 -0.2
baz=78
J17A Brown Place, J 77.91 320 ⇓P P 15 36 17.5 -0.3
baz=78
A05A Maple Falls 77.95 330 ⇓P P 15 36 17.9 0.0
baz=78
O23A Lake Granby, G 78.03 315 ⇓P P 15 36 19.0 +0.5
baz=78,SNR=6.2
OD2 Odessa Site #2 78.05 327 *e*P **P 15 36 19.6 +1.2**
comp=Z,52nm,1.0s,mb5.4
G13A Cobalt 78.09 323 ⇓P P 15 36 18.8 +0.1
baz=78
H14A Leadore 78.10 323 ⇑P P 15 36 19.1 +0.3
baz=78
WHN Wuhan 78.16 59 P **P 15 36 29.1 +10**
WHN S S 15 46 22.8 +11
WHN LR LR
comp=N,2μm,17.3s,MS5.6
WHN LR LR
comp=E,2μm,15.6s,MS5.6
WHN LR LR
comp=Z,3μm,13.8s,MS5.8
K18A Toltan Ranch, 78.17 319 ⇓P P 15 36 18.5 -0.6
baz=78
M20A Sweetwater, Wa 78.17 318 ⇓P P 15 36 19.5 +0.2
baz=78
ISCO Idaho Springs 78.19 315 ⇑P P 15 36 19.9 +0.5
baz=78,SNR=8.6
ISCO Idaho Springs 78.19 315 *e*P **P 15 36 19.7 +0.3**
comp=Z,17nm,1.2s,mb4.8
ISCO Idaho Springs 78.19 315 *e*P **P 15 36 19.7 +0.3**
ISCO pmax pmax
comp=Z,17nm,1.2s,mb4.8
R26A Arlington 78.19 313 ⇑P P 15 36 19.2 -0.2
baz=78
RRI2 Red Ridge 78.20 321 *e*P **P 15 36 20.5 +1.2**
comp=Z,15nm,1.2s,mb4.8
RPW Rockport 78.21 330 P **P 15 36 19.2 -0.1**
VLA Vladivostok 78.27 40 ⇑*e*P **P 15 36 19.4 -0.4**
VLA pmax pmax
comp=Z,50nm,1.0s,mb5.4
O22A Kremmling 78.38 316 ⇓P P 15 36 20.8 +0.4
baz=78,SNR=5.9
N21A Black Mountain 78.41 317 ⇓P P 15 36 20.9 +0.4
baz=78,SNR=6.4
ETW Entiat 78.48 328 *e*P **P 15 36 21.2 +0.4**
comp=Z,55nm,1.0s,mb5.4
H13A Challis 78.53 323 ⇓P P 15 36 21.5 +0.3
baz=78,SNR=5.5
E09A Wood Farm, Sta 78.55 327 ⇓P P 15 36 21.3 0.0
baz=78,SNR=11
JCW Jim Creek 78.58 330 *e*P **P 15 36 20.4 -0.9**
comp=Z,19nm,0.6s,mb5.2
Q24A Divide 78.58 314 ⇓P P 15 36 21.3 -0.2
baz=78
F10A Beach Ranch, E 78.62 326 ⇑P P 15 36 21.9 +0.3
baz=78,SNR=11
P23A Jefferson 78.62 315 ⇓P P 15 36 22.4 +0.6
baz=78,SNR=9.9
I14A Mackay 78.69 322 ⇑P P 15 36 22.9 +0.8
baz=78,SNR=17
PETK Petropavlovsk- 78.71 19 P **P 15 36 21.2 -0.8**
comp=Z,13nm,0.8s,mb4.9,baz=86,slow=1.9,SNR=10
PETK LR LR 16 16 10.0
comp=Z,1μm,18.1s,MS5.3,baz=335,slow=40
PETK Petropavlovsk- 78.71 19 P **P 15 36 21.2 -0.8**
PETK Petropavlovsk- 78.71 19 P **P 15 36 21.2 -0.8**
PETK pmax pmax
comp=Z,13nm,0.8s,mb4.9
PETK MLR MLR
comp=Z,1μm,18.2s,MS5.3
N20A Spence Gulch, 78.71 317 ⇓P P 15 36 22.5 +0.2
baz=78
L18A Fontenelle, Gr 78.72 319 ⇑P P 15 36 22.3 +0.1
baz=78
R25A Fountain Ranch 78.75 313 ⇓P P 15 36 22.1 -0.3
baz=78
H12A Diamond D Ranc 78.80 323 ⇑P P 15 36 22.6 -0.1
baz=78
O21A Pagoda 78.80 316 ⇑P P 15 36 22.9 +0.1
baz=78
P22A Eagle 78.92 316 ⇑P P 15 36 23.9 +0.5
baz=79
Q23A Hartsel 78.98 315 ⇓P P 15 36 24.1 +0.4
baz=79
I13A Wildhorse Cree 78.99 323 ⇑P P 15 36 24.5 +0.8
baz=79,SNR=17
PET Petropavlovsk 79.01 19 *e*P **P 15 36 17.8 -5.8**
PET *e* 15 39 19.2
PET *e*S S 15 46 10.4 -10
PET pmax pmax
comp=Z,12nm,0.7s,mb4.9
PET pmax pmax
comp=Z,200nm,17.0s
PET pmax pmax
comp=Z,100nm,15.8s
PET MLR MLR
comp=Z,3μm,14.0s,MS5.7
PET MLR MLR
comp=Z,2μm,15.0s
N19A John Jarvie Ra 79.11 318 ⇑P P 15 36 24.5 +0.1
baz=79,SNR=7.1
R24A Sanders Place, 79.11 314 ⇑P P 15 36 24.6 +0.2
baz=79
M18A Lyman 79.12 319 ⇑P P 15 36 24.7 +0.2
baz=79
LNOR Lincton Mounta 79.13 326 *e*P **P 15 36 24.5 +0.1**
comp=Z,14nm,1.3s,mb4.7
LNOR Lincton Mounta 79.13 326 *e*P **P 15 36 24.5 +0.1**
LNOR pmax pmax
comp=Z,14nm,1.3s,mb4.7
HAWA Hanford 79.19 327 *e*P **P 15 36 25.5 +0.8**
comp=Z,22nm,1.1s,mb5.0
S25A Robets Cordova 79.19 313 ⇑P P 15 36 25.3 +0.4
baz=79
J14A Carey 79.20 322 ⇓P P 15 36 25.8 +0.9
baz=79
RSW Rattlesnake Hi 79.21 327 *e*P **P 15 36 25.4 +0.6**
comp=Z,5.5nm,0.5s,mb4.7
RSW *e*pP pP 15 36 34.0 +0.8
O20A White River Ci 79.24 317 ⇓P P 15 36 25.5 +0.4
baz=79,SNR=7.7
K15A Arbon 79.27 321 ⇑P P 15 36 25.9 +0.7
baz=79
N18A Larsen Ranch, 79.28 318 ⇓P P 15 36 25.8 +0.5
baz=79
L16A Fish Haven 79.29 320 ⇓P P 15 36 25.6 +0.2
baz=79
P21A Newcastle 79.32 316 ⇑P P 15 36 26.0 +0.4
baz=79
M17A Scullys Gap (B 79.36 319 ⇑P P 15 36 25.8 0.0
baz=79
HLID Hailey 79.40 323 ⇑P P 15 36 26.1 +0.2
baz=79,SNR=9.8
J13A Cove Ranch, Pi 79.43 322 ⇑P P 15 36 26.7 +0.6
baz=79,SNR=11
GNW Green Mountain 79.43 330 *e*P **P 15 36 26.9 +0.9**
comp=Z,38nm,1.0s,mb5.3
R23A Moffat 79.51 314 ⇓P P 15 36 26.8 +0.1
baz=79
I12A Atlanta 79.52 323 ⇑P P 15 36 26.7 +0.1
baz=79,SNR=8.0
O19A Miners Draw (B 79.54 317 ⇑P P 15 36 26.8 0.0
baz=79
Q22A Crested Butte, 79.55 315 ⇑P P 15 36 27.1 +0.3
baz=79
T25A Trinidad 79.57 312 ⇓P P 15 36 27.3 +0.3
baz=79
BMO Blue Mountains 79.57 325 *e*P **P 15 36 26.4 -0.5**
comp=Z,67nm,1.3s,mb5.4
S24A Houchin Ranch, 79.61 313 ⇑P P 15 36 26.9 -0.3
baz=79
YSS Yuzh-Sakhalins 79.63 31 *e*P **P 15 36 27.4 +0.3**
comp=Z,137nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 79.63 31 α*i*P **P 15 36 27.5 +0.4**
YSS *e* 15 36 38.4
YSS pmax pmax
comp=Z,140nm,1.0s,mb5.8
YSS MLR MLR
comp=N,4μm,19.0s,MS5.8
YSS MLR MLR
comp=E,2μm,19.0s,MS5.8
YSS MLR MLR
comp=Z,4μm,19.0s,MS5.8
K14A Jones Ranch, D 79.67 321 ⇓P P 15 36 27.7 +0.3
baz=79
SDCO Great Sand Dun 79.68 314 ⇓P P 15 36 27.6 0.0
baz=79,SNR=6.2
SDCO Great Sand Dun 79.68 314 *e*P **P 15 36 26.9 -0.7**
comp=Z,13nm,1.4s,mb4.7
L15A Malad City 79.74 320 ⇑P P 15 36 27.7 -0.2
baz=79
LON Longmire 79.75 329 *e*P **P 15 36 28.3 +0.5**
comp=Z,36nm,1.2s,mb5.2
LON Longmire 79.75 329 *e*P **P 15 36 28.3 +0.5**
LON pmax pmax
comp=Z,36nm,1.2s,mb5.2
U26A Atchley Ranch, 79.77 312 ⇑P P 15 36 28.2 +0.1
baz=80,SNR=7.7
NJ2 Nanjing 79.78 55 *e*P **P 15 36 28.6 +0.4**
NJ2 pP pP 15 36 34.3 -2.3
NJ2 sP sP 15 36 35.8 -3.9
NJ2 PP PP 15 39 28.0 -1.0
NJ2 S S 15 46 32.0 +2.6
NJ2 sS sS 15 46 40.0 -3.3
NJ2 pmax pmax
comp=Z,40nm,0.8s,mb5.4
NJ2 pmax pmax
comp=Z,190nm,3.5s
NJ2 LR LR
comp=N,280nm,24.1s
NJ2 LR LR
comp=E,390nm,14.1s
NJ2 LR LR
comp=Z,400nm,20.0s,MS4.8
P20A De Beque 79.80 316 ⇓P P 15 36 27.8 -0.4
baz=80
N17A Moffit Pass 79.86 319 ⇑P P 15 36 28.1 -0.4
baz=80
Q21A Lamborn Mesa, 79.91 316 ⇓P P 15 36 28.9 +0.1
baz=80
M16A Huntsville 79.94 320 ⇓P P 15 36 28.8 -0.2
baz=80
NLWA Neilton Lookou 79.95 330 *e*P **P 15 36 30.4 +1.5**
comp=Z,62nm,1.0s,mb5.5
R22A Saguache, Gunn 79.96 315 ⇓P P 15 36 29.0 -0.1
baz=80
P19A Cripple Cowboy 79.99 317 ⇓P P 15 36 29.6 +0.4
baz=80
O18A Roosevelt 80.00 318 ⇑P P 15 36 29.3 +0.1
baz=80
L14A Malta 80.10 321 ⇑P P 15 36 30.5 +0.7
baz=80,SNR=5.1
U25A Circle Dot Ran 80.12 312 ⇑P P 15 36 30.4 +0.4
baz=80,SNR=6.6
MFID Camas Ranch 80.13 323 ⇑P P 15 36 30.3 +0.4
baz=80,SNR=10.0
MFID Camas Ranch 80.13 323 *e*P **P 15 36 30.3 +0.4**
comp=Z,10nm,0.8s,mb4.8
Q20A Ridgley Place, 80.18 316 ⇓P P 15 36 30.6 +0.4
baz=80
M15A Larsen Ranch, 80.20 320 ⇑P P 15 36 30.6 +0.3
baz=80
R21A Cimarron 80.25 315 ⇑P P 15 36 30.9 +0.3
baz=80
S22A 4UR Ranch, Cre 80.36 314 ⇑P P 15 36 31.7 +0.4
baz=80
O17A Robinson Place 80.40 318 ⇓P P 15 36 31.5 +0.1
baz=80
T23A Casias Ranch, 80.50 313 ⇓P P 15 36 32.4 +0.4
baz=80
E03A Lebam 80.56 330 ⇑P P 15 36 32.6 +0.4
baz=80
G06A Carlson Farm, 80.58 327 ⇑P P 15 36 32.9 +0.7
baz=80
P18A Preston Nutter 80.61 318 ⇓P P 15 36 32.3 -0.3
baz=80
Q19A Hogan Spring (80.65 317 ⇑P P 15 36 32.3 -0.5
baz=80
V25A Rancho No Teng 80.66 312 ⇓P P 15 36 32.9 +0.1
baz=80
KSAR Wonju Array Be 80.73 46 P **P 15 36 33.5 +0.2**
KSAR Wonju Array Be 80.73 46 P **P 15 36 33.5 +0.3**
KSRS Korea Array 80.74 46 P **P 15 36 33.5 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=323,slow=5.0,SNR=30
KSRS LR LR 16 16 27.2
comp=Z,1μm,18.8s,MS5.3,baz=157,slow=39
KSRS Korea Array 80.74 46 P **P 15 36 33.5 +0.2**
KSRS pmax pmax
comp=Z,11nm,0.8s,mb4.8

KSRS				MLR	MLR			
	comp=Z,1μm,18.8s,MS5.3							
W26A	**Owens Ranch, T**	**80.76**	**311**	⇓P	**P**	**15 36 33.5**	**+0.1**	
	baz=80							
R20A	**Redvale**	**80.81**	**316**	⇑P	**P**	**15 36 33.8**	**+0.1**	
	baz=80							
S21A	**Coal Bank Pass**	**80.92**	**315**	⇓P	**P**	**15 36 34.1**	**-0.1**	
	baz=81							
Q18A	**Rafter H Ranch**	**80.96**	**317**	⇓P	**P**	**15 36 34.3**	**-0.1**	
	baz=81							
T22A	**Edith**	**80.96**	**314**	⇓P	**P**	**15 36 34.5**	**0.0**	
	baz=81							
W25A	**X Bar L Ranch,**	**81.04**	**311**	⇑P	**P**	**15 36 35.0**	**+0.1**	
	baz=81							
MSTX	**Muleshoe**	**81.06**	**309**	⇑P	**P**	**15 36 35.0**	**0.0**	
	baz=81							
S20A	**Disappointment**	**81.08**	**315**	⇑P	**P**	**15 36 35.3**	**+0.3**	
	baz=81							
V24A	**Rampart Ranch,**	**81.09**	**312**	⇓P	**P**	**15 36 35.7**	**+0.5**	
	baz=81							
I07A	**Izee**	**81.10**	**326**	⇓P	**P**	**15 36 35.4**	**+0.3**	
	baz=81							
R19A	**Curley Farm, L**	**81.17**	**316**	⇑P	**P**	**15 36 36.2**	**+0.6**	
	baz=81							
X26A	**CR and CF Fran**	**81.19**	**310**	⇓P	**P**	**15 36 36.2**	**+0.4**	
	baz=81							
J08A	**Circle Bar Ran**	**81.28**	**325**	⇓P	**P**	**15 36 36.4**	**+0.3**	
	baz=81							
T21A	**Navajo Lake**	**81.30**	**314**	⇑P	**P**	**15 36 36.5**	**+0.1**	
	baz=81							
Y27A	**Causey**	**81.33**	**310**	⇑P	**P**	**15 36 36.6**	**+0.1**	
	baz=81							
DUG	**Dugway**	**81.37**	**320**	⇓P	**P**	**15 36 36.8**	**+0.2**	
	baz=81,SNR=5.4							
DUG	**Dugway**	**81.37**	**320**	*e*P	**P**	**15 36 36.2**	**-0.4**	
	comp=Z,7.9nm,1.1s,mb4.6							
DUG	**Dugway**	**81.37**	**320**	*e*P	**P**	**15 36 36.2**	**-0.4**	
DUG				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
R18A	**Canyonlands Na**	**81.41**	**317**	⇓P	**P**	**15 36 36.9**	**+0.1**	
	baz=81							
U22A	**Llaves**	**81.42**	**313**	⇓P	**P**	**15 36 37.1**	**+0.2**	
	baz=81							
S19A	**Harvey Farm, M**	**81.53**	**316**	⇑P	**P**	**15 36 37.6**	**+0.1**	
	baz=81,SNR=14							
W24A	**Lazy 6 Ranch,**	**81.55**	**312**	⇑P	**P**	**15 36 37.8**	**+0.2**	
	baz=81,SNR=5.3							
Q16A	**Castle Valley**	**81.61**	**318**	⇓P	**P**	**15 36 37.9**	**0.0**	
	baz=81							
MVCO	**Mesa Verde**	**81.62**	**315**	⇓P	**P**	**15 36 37.8**	**-0.2**	
	baz=81							
MVCO	**Mesa Verde**	**81.62**	**315**	*e*P	**P**	**15 36 37.9**	**-0.2**	
	comp=Z,15nm,1.2s,mb4.8							
R17A	**Hanksville Air**	**81.78**	**317**	⇓P	**P**	**15 36 38.5**	**-0.3**	
	baz=82							
Z27A	**Tatum**	**81.79**	**309**	⇓P	**P**	**15 36 38.6**	**-0.3**	
	baz=82							
U21A	**Nageezi**	**81.80**	**314**	⇓P	**P**	**15 36 38.6**	**-0.3**	
	baz=82,SNR=7.3							
V22A	**San Miguel Ran**	**81.81**	**313**	⇓P	**P**	**15 36 39.8**	**+0.8**	
	baz=82							
SSE	**Sheshan**	**81.83**	**54**	P	**P**	**15 36 39.8**	**+0.6**	
SSE				sP	sP	15 36 49.6	-1.1	
SSE				S	S	15 46 46.9	-4.0	
SSE				sS	sS	15 46 59.5	-5.3	
SSE				pmax	pmax			
	comp=Z,36nm,0.7s,mb5.4							
SSE				pmax	pmax			
	comp=Z,230nm,7.6s							
SSE				LR	LR			
	comp=N,740nm,23.1s,MS5.3							
SSE				LR	LR			
	comp=E,1μm,23.1s,MS5.3							
SSE				LR	LR			
	comp=Z,2μm,16.3s							
JCT	**Junction City**	**81.94**	**305**	⇓P	**P**	**15 36 39.6**	**-0.2**	
	baz=82							
ASAJ	**Asahikawa**	**81.97**	**33**	LR	LR	16 16 34.2		
	comp=Z,3μm,20.0s,MS5.6,baz=188,slow=38							
W23A	**Werner Place,**	**81.98**	**312**	⇑P	**P**	**15 36 40.4**	**+0.4**	
	baz=82							
S18A	**Hurst Farm, Bl**	**82.00**	**316**	⇑P	**P**	**15 36 40.5**	**+0.5**	
	baz=82							
Y25A	**Mesa, Roswell**	**82.14**	**311**	⇓P	**P**	**15 36 40.7**	**-0.1**	
	baz=82							
T19A	**Beclabito**	**82.18**	**315**	⇓P	**P**	**15 36 40.8**	**-0.1**	
	baz=82							
Z26A	**Caprock**	**82.24**	**310**	⇓P	**P**	**15 36 41.0**	**-0.3**	
	baz=82,SNR=6.7							
V21A	**Milan**	**82.27**	**314**	⇑P	**P**	**15 36 41.3**	**-0.1**	
	baz=82							
U20A	**Newcomb**	**82.28**	**315**	⇑P	**P**	**15 36 41.2**	**-0.2**	
	baz=82							
CPRX	**Cap Rock**	**82.36**	**309**	*e*P	**P**	**15 36 41.9**	**-0.1**	
	comp=Z,12nm,0.8s,mb4.9							
T18A	**Mexican Hat**	**82.37**	**316**	⇑P	**P**	**15 36 41.3**	**-0.6**	
	baz=82,SNR=13							
MSU	**Marysvale**	**82.41**	**318**	*e*P	**P**	**15 36 42.3**	**+0.2**	
	comp=Z,4.2nm,0.9s,mb4.4							
MSU	**Marysvale**	**82.41**	**318**	*e*P	**P**	**15 36 42.3**	**+0.2**	
MSU				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
S17A	**Black Ridge (B**	**82.44**	**317**	⇑P	**P**	**15 36 41.8**	**-0.5**	
	baz=82							
X23A	**Hourglass Bar**	**82.45**	**312**	⇑P	**P**	**15 36 42.8**	**+0.4**	
	baz=82							
Y24A	**Capitan**	**82.54**	**311**	⇑P	**P**	**15 36 42.9**	**+0.1**	
	baz=82							
Z25A	**Roswell**	**82.64**	**310**	⇓P	**P**	**15 36 43.5**	**+0.1**	
	baz=82							
U19A	**Dine' College,**	**82.69**	**315**	⇑P	**P**	**15 36 42.8**	**-0.9**	
	baz=82,SNR=5.2							
V20A	**Brimhall**	**82.70**	**314**	⇓P	**P**	**15 36 43.6**	**-0.1**	
	baz=82							
126A	**Clayton Basin,**	**82.74**	**309**	⇓P	**P**	**15 36 44.1**	**+0.2**	
	baz=82							
S16A	**Weppner Ranch,**	**82.76**	**317**	⇓P	**P**	**15 36 44.0**	**+0.1**	
	baz=82							
K05A	**Summer Lake**	**82.79**	**326**	⇑P	**P**	**15 36 44.5**	**+0.5**	
	baz=82							
T17A	**Navajo Res., N**	**82.94**	**316**	⇓P	**P**	**15 36 45.4**	**+0.5**	
	baz=83							
328A	**Wristen Ranch,**	**83.01**	**308**	⇑P	**P**	**15 36 45.3**	**0.0**	
	baz=83							
BNM	**Barren Site**	**83.01**	**312**	*e*P	**P**	**15 36 45.6**	**+0.3**	
	comp=Z,18nm,1.5s,mb4.9							
125A	**Gardner Draw,**	**83.08**	**310**	⇑P	**P**	**15 36 45.5**	**-0.2**	
	baz=83							
U17A	**Shonto**	**83.18**	**316**	⇑P	**P**	**15 36 46.2**	**0.0**	
	baz=83							
226A	**Malaga, Loving**	**83.22**	**309**	⇓P	**P**	**15 36 46.4**	**0.0**	
	baz=83							
MOD	**Modoc**	**83.24**	**325**	*e*P	**P**	**15 36 47.2**	**+0.9**	
	comp=Z,20nm,0.9s,mb5.2							
YUK	**Yuzh-Kuril'sk**	**83.26**	**31**	*d*iP	**P**	**15 36 46.3**	**-0.1**	
YUK				*e*		15 39 56.0		
YUK				*e*PPP		15 41 51.0		
YUK				*e*S	S	15 47 04.0	-1.0	
YUK				*e*SS	SS	15 52 32.1	+3.6	
YUK				pmax	pmax			
	comp=Z,49nm,3.6s							
YUK				MLR	MLR			
	comp=Z,2μm,20.0s,MS5.4							
YUK				MLR	MLR			
	comp=N,1μm,20.0s							
GDL2	**Guadalupe Moun**	**83.26**	**309**	*e*P	**P**	**15 36 46.7**	**0.0**	
	comp=N,14nm,1.2s,mb4.8							
QIZ	**Qiongzhong**	**83.34**	**70**	P	**P**	**15 36 48.4**	**+1.2**	
QIZ				S	S	15 47 06.6	0.0	
QIZ				pmax	pmax			
	comp=Z,35nm,2.6s,mb4.9							
QIZ				LR	LR			
	comp=N,840nm,20.1s							
QIZ				LR	LR			
	comp=Z,950nm,21.1s,MS5.1							
Y22A	**Socorro**	**83.35**	**312**	⇓P	**P**	**15 36 46.7**	**-0.3**	
	baz=83							
X21A	**Alamocita Cree**	**83.39**	**313**	⇓P	**P**	**15 36 47.6**	**+0.3**	
	baz=83,SNR=8.3							
R13A	**O'Grain Ranch,**	**83.52**	**319**	⇓P	**P**	**15 36 47.7**	**-0.2**	
	baz=83							
ARUT	**Antelope Range**	**83.59**	**319**	*e*P	**P**	**15 36 49.7**	**+1.5**	
	comp=Z,2.8nm,0.8s,mb4.4							
ARUT	**Antelope Range**	**83.59**	**319**	*e*P	**P**	**15 36 49.7**	**+1.5**	
Y21A	**Point of Rocks**	**83.67**	**312**	⇑P	**P**	**15 36 48.8**	**0.0**	
	baz=83,SNR=5.7							
X20A	**Quemado**	**83.69**	**313**	⇑P	**P**	**15 36 49.2**	**+0.4**	
	baz=83							
326A	**Caldwell Ranch**	**83.71**	**308**	⇑P	**P**	**15 36 49.2**	**+0.2**	
	baz=84							
427A	**Hayter Ranch,**	**83.74**	**308**	⇑P	**P**	**15 36 49.2**	**+0.1**	
	baz=84							
U16A	**Tuba City**	**83.78**	**316**	⇑P	**P**	**15 36 49.7**	**+0.5**	
	baz=84							
W18A	**Petrified Fore**	**83.88**	**315**	⇑P	**P**	**15 36 50.0**	**+0.3**	
	baz=84							
528A	**Cox Ranch, San**	**83.91**	**307**	⇓P	**P**	**15 36 50.0**	**0.0**	
	baz=84							
224A	**Cornudas Mount**	**84.00**	**310**	⇑P	**P**	**15 36 50.1**	**-0.3**	
	baz=84							
V17A	**Tonalea, Kykot**	**84.02**	**316**	⇑P	**P**	**15 36 50.1**	**-0.4**	
	baz=84							
Y20A	**Horse Springs,**	**84.12**	**313**	⇓P	**P**	**15 36 50.9**	**-0.1**	
	baz=84							
U15A	**North Rim**	**84.12**	**317**	⇑P	**P**	**15 36 50.5**	**-0.5**	
	baz=84,SNR=8.4							
R11A	**Troy Canyon, C**	**84.13**	**320**	⇓P	**P**	**15 36 50.4**	**-0.5**	
	baz=84							
X19A	**St. Johns**	**84.19**	**314**	⇓P	**P**	**15 36 51.3**	**-0.1**	
	baz=84							
MNTX	**Cornudas Mount**	**84.20**	**310**	⇓P	**P**	**15 36 50.8**	**-0.7**	
	baz=84							
Z21A	**St. Cloud Mine**	**84.21**	**312**	⇑P	**P**	**15 36 51.4**	**-0.1**	
	baz=84							
325A	**Bean Ranch, Si**	**84.23**	**309**	⇑P	**P**	**15 36 51.7**	**+0.1**	
	baz=84							
426A	**McDonald Obser**	**84.23**	**308**	⇓P	**P**	**15 36 51.5**	**-0.1**	
	baz=84,SNR=8.2							
122A	**Conniff Cattle**	**84.32**	**311**	⇑P	**P**	**15 36 51.7**	**-0.3**	
	baz=84							
527A	**Woodward Ranch**	**84.39**	**307**	⇓P	**P**	**15 36 52.7**	**+0.2**	
	baz=84,SNR=7.9							
WUAZ	**Wupatki**	**84.39**	**316**	⇓P	**P**	**15 36 52.0**	**-0.4**	
	baz=84							
WUAZ	**Wupatki**	**84.39**	**316**	*e*P	**P**	**15 36 52.6**	**+0.2**	
	comp=Z,6.2nm,1.0s,mb4.7							
WUAZ				*e*pP	pP	15 37 00.8	0.0	
324A	**Moseley Ranch,**	**84.45**	**309**	⇓P	**P**	**15 36 52.2**	**-0.5**	
	baz=84,SNR=9.5							
628A	**Black Gap, Mar**	**84.47**	**306**	⇑P	**P**	**15 36 52.5**	**-0.4**	
	baz=84							
Y19A	**Nutrioso**	**84.54**	**313**	⇑P	**P**	**15 36 53.2**	**0.0**	
	baz=84							
425A	**Indio Mountain**	**84.68**	**309**	⇑P	**P**	**15 36 53.5**	**-0.4**	
	baz=84							
526A	**Mary Lane Ranc**	**84.72**	**308**	⇑P	**P**	**15 36 53.9**	**-0.3**	
	baz=84,SNR=12							
SAML	**Samuel**	**84.76**	**252**	*e*P	**P**	**15 36 52.9**	**-1.5**	
	comp=Z,25nm,1.4s,mb5.2							
627A	**Terlingua Ranc**	**84.78**	**307**	⇑P	**P**	**15 36 54.2**	**-0.3**	
	baz=84,SNR=8.7							
Z20A	**Nine Sixteen R**	**84.85**	**313**	⇓P	**P**	**15 36 54.5**	**-0.2**	
	baz=85							
121A	**Cookes Peak, D**	**84.87**	**312**	⇑P	**P**	**15 36 54.8**	**-0.1**	
	baz=85							
TXAR	**Lajitas Array**	**85.03**	**307**	P	**P**	**15 36 56.0**	**+0.3**	
	comp=Z,11nm,0.9s,mb5.0,baz=69,slow=3.9,SNR=42							
TXAR				LR	LR	16 14 29.3		
	comp=Z,1μm,19.4s,MS5.4,baz=0.0,slow=35							
TXAR	**Lajitas Array**	**85.03**	**307**	P	**P**	**15 36 56.0**	**+0.3**	
TXAR	**Lajitas Array**	**85.03**	**307**	P	**P**	**15 36 56.0**	**+0.3**	
TXAR				pmax	pmax			
	comp=Z,11nm,0.9s							
TXAR				MLR	MLR			
	comp=Z,1μm,19.4s							
Y18A	**Canyon Day Jun**	**85.08**	**314**	⇓P	**P**	**15 36 55.9**	**0.0**	
	baz=85							
626A	**Big Bend Ranch**	**85.13**	**307**	⇓P	**P**	**15 36 55.9**	**-0.3**	
	baz=85,SNR=13							
WCN	**Washoe City**	**85.19**	**323**	⇓P	**P**	**15 36 56.2**	**-0.1**	
	baz=85							
WDC	**Whiskeytown Da**	**85.26**	**326**	*e*P	**P**	**15 36 55.9**	**-0.7**	
	comp=Z,15nm,1.2s,mb5.0							
WDC	**Whiskeytown Da**	**85.26**	**326**	*e*P	**P**	**15 36 55.9**	**-0.7**	
WDC				pmax	pmax			
	comp=Z,15nm,1.2s,mb5.0							
NVAR	**Mina Array Bea**	**85.28**	**322**	P	**P**	**15 36 57.2**	**+0.4**	
	comp=Z,1.0nm,0.6s,mb4.2,baz=47,slow=3.7,SNR=12							
NVAR				PP	PP	15 40 13.1	-0.9	
	comp=Z,1.9nm,1.0s,baz=35,slow=3.4,SNR=4.0							
NVAR				LR	LR	16 15 32.6		
	comp=Z,1μm,18.1s,MS5.4,baz=173,slow=36							
NVAR	**Mina Array Bea**	**85.28**	**322**	P	**P**	**15 36 57.2**	**+0.4**	
NVAR				PP	PP	15 40 13.1	-0.9	
NVAR	**Mina Array Bea**	**85.28**	**322**	P	**P**	**15 36 57.2**	**+0.4**	
X16A	**Lo Mia Camp, P**	**85.29**	**315**	⇑P	**P**	**15 36 57.3**	**+0.4**	
	baz=85,SNR=5.1							
120A	**U Bar Ranch, L**	**85.31**	**312**	⇑P	**P**	**15 36 57.0**	**-0.1**	
	baz=85							
Y17A	**Roosevelt**	**85.56**	**314**	⇓P	**P**	**15 36 58.4**	**+0.1**	
	baz=85							
220A	**Playas Peak, P**	**85.75**	**312**	⇑P	**P**	**15 36 59.2**	**-0.1**	
	baz=86							
W13A	**Hualapai Mount**	**85.96**	**317**	⇑P	**P**	**15 37 00.7**	**+0.5**	
	baz=86							
219A	**White Tail Can**	**86.07**	**312**	⇓P	**P**	**15 37 00.8**	**0.0**	
	baz=86							
MAT	**Matsushiro**	**86.44**	**40**	P	**P**	**15 37 01.5**	**-1.1**	
MAT				S	S	15 47 45.8	+8.9	
MJAR	**Matsushiro Arr**	**86.44**	**40**	P	**P**	**15 37 01.9**	**-0.6**	
	comp=Z,13nm,0.9s,mb5.2,baz=310,slow=4.7,SNR=24							
MJAR				LR	LR	16 20 37.2		
	comp=Z,2μm,18.3s,MS5.6,baz=320,slow=39							
MJAR	**Matsushiro Arr**	**86.44**	**40**	P	**P**	**15 37 01.9**	**-0.6**	
MJAR	**Matsushiro Arr**	**86.44**	**40**	P	**P**	**15 37 01.9**	**-0.7**	
MJAR				pmax	pmax			
	comp=Z,13nm,0.9s							
MJAR	**Matsushiro Arr**	**86.44**	**40**	P	**P**	**15 37 01.9**	**-0.7**	
	comp=Z,13nm,0.9s,mb5.2							
KULM	**Kulim**	**86.50**	**86**	P	**P**	**15 37 03.2**	**0.0**	
	comp=Z,28nm,1.1s,mb5.4							
PSI	**Prapat**	**87.00**	**89**	P	**P**	**15 37 05.4**	**-0.2**	
	comp=Z,38nm,1.2s,mb5.5							
GSC	**Goldstone**	**87.18**	**319**	⇑P	**P**	**15 37 05.8**	**-0.4**	
	baz=87							
IPM	**Ipoh**	**87.33**	**86**	*e*P	**P**	**15 37 06.1**	**-1.1**	
	comp=Z,49nm,1.3s,mb5.6							
IPM	**Ipoh**	**87.33**	**86**	P	**P**	**15 37 06.8**	**-0.4**	
IPM	**Ipoh**	**87.33**	**86**	*e*P	**P**	**15 37 06.1**	**-1.1**	
	comp=Z,49nm,1.3s,mb5.6							
114A	**Black Gap (USA**	**87.34**	**315**	⇓P	**P**	**15 37 07.2**	**+0.1**	
	baz=87							
Y12C	**Blythe**	**87.36**	**317**	⇓P	**P**	**15 37 06.8**	**-0.3**	
	baz=87							
ISA	**Isabella**	**87.65**	**321**	⇑P	**P**	**15 37 08.3**	**-0.2**	
	baz=87							
JOW	**Kunigami**	**89.10**	**52**	LR	LR	16 20 58.9		
	comp=Z,3μm,19.6s,MS5.7,baz=124,slow=38							
LPAZ	**La Paz**	**93.36**	**251**	LR	LR	16 17 45.9		
	comp=Z,498nm,18.1s,MS4.9,baz=217,slow=34							
CPUP	**Villa Florida**	**93.77**	**236**	LR	LR	16 20 56.8		
	comp=Z,498nm,18.1s,MS5.0,baz=30,slow=36							
FITZ	**Fitzroy Crossi**	**120.39**	**86**	PKP	PKPdf	15 43 09.9	-1.5	
	comp=Z,3.7nm,0.9s,baz=249,slow=6.1,SNR=9.8							
FITZ	**Fitzroy Crossi**	**120.39**	**86**	PKP	PKPdf	15 43 09.9	-1.5	
WRA	**Warramunga Arr**	**127.77**	**81**	PKP	PKPdf	15 43 24.3	-1.3	
	comp=Z,2.8nm,0.8s,baz=316,slow=1.8,SNR=14							
WRA	**Warramunga Arr**	**127.77**	**81**	PKP	PKPdf	15 43 24.3	-1.3	
WRA	**Warramunga Arr**	**127.77**	**81**	PKIKP	PKPdf	15 43 24.3	-1.3	
WRA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ASAR	**Alice Springs**	**129.85**	**85**	PKhKP	PKPpre	15 43 12.2		
	comp=Z,0.4nm,0.6s,baz=321,slow=1.6,SNR=7.3							
ASAR				PKP	PKPdf	15 43 26.6	-2.9	
	comp=Z,3.8nm,0.8s,baz=313,slow=1.8,SNR=29							
ASAR				PP	PP	15 45 49.2	+7.8	
	comp=Z,1.1nm,0.9s,baz=306,slow=7.5,SNR=4.1							
ASAR				SKPbc		15 46 48.4		
	comp=Z,1.4nm,0.8s,baz=322,slow=3.8,SNR=7.4							
ASAR	**Alice Springs**	**129.85**	**85**	PKPpre	PKPpre	15 43 12.2		
ASAR				PKP	PKPdf	15 43 26.6	-2.9	
ASAR				PP	PP	15 45 49.2	+7.8	
ASAR				SKPbc		15 46 48.4		
ASAR	**Alice Springs**	**129.85**	**85**	PKHKP	PKPpre	15 43 12.3		
ASAR						15 43 26.6		
ASAR						15 45 49.2		
ASAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR				pmax	pmax			
	comp=N,1.0nm,0.8s							
QSPA	**South Pole Qui**	**134.45**	**180**	*e*PKPdf	PKPdf	15 43 33.8	-2.6	
TAOE	**Nuku Hiva Isla**	**136.20**	**315**	*e*LR	LR	16 27 35.3		
	comp=N,610nm,25.6s							
STKA	**Stephens Creek**	**140.18**	**89**	PKhKP	PKPpre	15 43 37.4		
	comp=N,3.2nm,0.7s,baz=296,slow=6.9,SNR=10.0							
STKA				PKP	PKPdf	15 43 47.2	-1.2	
	comp=N,2.3nm,0.5s,baz=7.5,slow=4.5,SNR=7.4							
STKA				SKPbc	SKPbc	15 47 22.6	-0.1	
	comp=N,1.2nm,0.8s,baz=324,slow=8.7,SNR=2.4							
STKA	**Stephens Creek**	**140.18**	**89**	*e*PKP	PKPpre	15 43 38.6		
STKA	**Stephens Creek**	**140.18**	**89**	PKPpre	PKPpre	15 43 37.4		
STKA				*e*PKPpre	PKPpre	15 43 37.9		
STKA				PKP	PKPdf	15 43 47.2	-1.2	
STKA				SKPbc	SKPbc	15 47 22.6	-0.1	
STKA	**Stephens Creek**	**140.18**	**89**	PKHKP	PKPpre	15 43 37.4		
STKA						15 43 47.2		
STKA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
STKA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
RMQ	**Roma**	**142.08**	**76**	*e*PKP	PKPdf	15 43 47.2	-4.8	
	comp=Z,26nm,0.9s							
CMSA	**Cobar Meteorol**	**142.91**	**85**	*e*PKP	PKPdf	15 43 48.3	-5.1	
VNDA	**Vanda**	**145.03**	**170**	*e*PKP	PKPdf	15 43 54.1	-1.6	
VNDA	**Vanda**	**145.03**	**170**	*e*PKIKP	PKPdf	15 43 54.1	-1.6	
SBA	**Scott Base**	**145.33**	**171**	*e*PKP	PKPdf	15 43 56.1	-0.2	
SBA	**Scott Base**	**145.33**	**171**	*e*PKIKP	PKPdf	15 43 56.1	-0.1	
TOO	**Toolangi**	**145.78**	**94**	*e*PKP	PKPdf	15 43 58.4	+0.2	
YNG	**Young**	**146.30**	**87**	*e*PKP	PKPdf	15 43 59.4	+0.2	
ARMA	**Armidale**	**146.47**	**78**	*e*PKP	PKPdf	15 44 00.6	+1.0	
ARMA	**Armidale**	**146.47**	**78**	*e*PKPbc	PKPbc	15 44 00.4	-0.6	
CAN	**Canberra**	**147.24**	**88**	*e*PKPbc	PKPbc	15 44 02.4	-0.7	
CAN	**Canberra**	**147.24**	**88**	*e*PKP2	PKPbc	15 44 02.4	-0.6	
MILA	**Mila**	**148.16**	**91**	*e*PKP	PKPbc	15 44 04.2	-1.3	
	comp=Z,21nm,0.9s							
PPT2	**Papeete2**	**148.26**	**322**	*e*LR	LR	16 33 08.5		
	comp=Z,580nm,22.2s							
MOO	**Moorlands**	**148.86**	**101**	*e*PKP	PKPbc	15 44 06.8	-0.3	
AFI	**Afiamalu**	**149.36**	**4**	PKPbc	PKPbc	15 44 08.4	-0.8	
	comp=Z,41nm,0.9s,baz=263,slow=1.5,SNR=5.6							
AFI	**Afiamalu**	**149.36**	**4**	PKPbc	PKPbc	15 44 08.4	-0.8	
AFI	**Afiamalu**	**149.36**	**4**	PKP2	PKPbc	15 44 08.4	-0.7	
AFI				pmax	pmax			
	comp=Z,41nm,0.9s							
DZM	**Mont Dzumac**	**150.11**	**49**	*e*LR	LR	16 34 02.9		
	comp=Z,588nm,23.0s							
DZM	**Mont Dzumac**	**150.11**	**49**	*e*P	PKPbc	15 44 10.6	-0.2	
DZM	**Mont Dzumac**	**150.11**	**49**	PKPbc	PKPbc	15 44 11.0	+0.2	
	comp=Z,33nm,0.8s,baz=60,slow=2.4,SNR=17							
DZM	**Mont Dzumac**	**150.11**	**49**	PKPbc	PKPbc	15 44 11.0	+0.2	
TBI	**Tubuai**	**153.15**	**316**	*e*LR	LR	16 35 30.2		
	comp=Z,466nm,27.2s							

NEIC ***23*** *15:25:58.5, 39°.41S×174°.62E, h205km, MG3.5(WEL), After WEL.*
WEL 23 15:26:00.3±0.4, 39°.45S×174°.64E, h188km±2km, ML3.5/16, Error ellipse: s-maj=2.6km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.34**	**17**	PN	Pn	15 26 24.7	-0.8
VRZ				SN	Sn	15 26 43.8	-1.1
VRZ	**Vera Road**	**0.34**	**17**	Pn	Pn	15 26 24.7	-0.8
WAZ	**Wanganui**	**0.41**	**139**	PN	Pn	15 26 26.2	+0.5
WAZ				SN	Sn	15 26 45.2	-0.1
WAZ	**Wanganui**	**0.41**	**139**	Pn	Pn	15 26 26.2	+0.5
WAZ				Sn	Sn	15 26 46.2	+0.9
PKVZ	**Pokaka**	**0.57**	**74**	PN	Pn	15 26 26.1	-0.2
PKVZ				SN	Sn	15 26 45.6	-0.6
PKVZ	**Pokaka**	**0.57**	**74**	Pn	Pn	15 26 26.1	-0.2
TRVZ	**Turoa**	**0.72**	**78**	PN	Pn	15 26 27.2	+0.1
WNVZ	**Wahianoa**	**0.76**	**81**	PN	Pn	15 26 27.3	+0.1
WNVZ				SN	Sn	15 26 46.7	-1.2
WNVZ	**Wahianoa**	**0.76**	**81**	Pn	Pn	15 26 27.3	+0.1
TUVZ	**Tukino**	**0.81**	**78**	PN	Pn	15 26 27.7	+0.2
TUVZ	**Tukino**	**0.81**	**78**	Pn	Pn	15 26 27.7	+0.2
MOVZ	**Moawhango**	**0.87**	**88**	PN	Pn	15 26 27.5	-0.4
MOVZ	**Moawhango**	**0.87**	**88**	Pn	Pn	15 26 27.5	-0.4
BHHZ	**Black Hill Sta**	**1.11**	**93**	PN	Pn	15 26 29.1	-0.5
BHHZ	**Black Hill Sta**	**1.11**	**93**	Pn	Pn	15 26 29.1	-0.5
TSZ	**Takapari Road**	**1.19**	**121**	PN	Pn	15 26 30.4	+0.2
TSZ	**Takapari Road**	**1.19**	**121**	Pn	Pn	15 26 30.4	+0.2
**PO

ellipse: s-maj=11.7km s-min=2.9km az=64.0
*LDG **23** 15:35:50.0±0.6, 44˚.55N×10˚.50E, h20km, MI2.8/7, Error ellipse: s-maj=14.7km s-min=6.6km az=101.0*
*NEIC **23** 15:35:50.0, 44˚.55N×10˚.50E, h20km, ML2.8(LDG), After LDG.*

ISC 23 15:35:49.9±0.7, 44˚.59N±0˚.04×10˚.4E±0˚.1, h31km±5km, n38, σ0ˢ79/64, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.17**	**173**	Pg	**Pb**	**15 35 55.0**	**-0.9**
ERBM				Sg	**Sb**	**15 36 00.7**	**+0.7**
ERBM	**Eremo**	**0.17**	**173**	Pg	**Pb**	**15 35 55.0**	**-0.9**
ERBM				Sg	**Sb**	**15 36 00.7**	**+0.7**
PRMA	**PARMA**	**0.18**	**344**	Pg	**Pb**	**15 35 55.2**	**-0.9**
PRMA				Sg	**Sb**	**15 36 00.7**	**+0.4**
PRMA	**PARMA**	**0.18**	**344**	Pg	**Pb**	**15 35 55.2**	**-0.9**
PRMA				Sg	**Sb**	**15 36 00.7**	**+0.4**
GSCL	**Gusciola**	**0.28**	**148**	Pg	**Pb**	**15 35 56.7**	**-0.4**
GSCL	**Gusciola**	**0.28**	**148**	Pg	**Pb**	**15 35 56.7**	**-0.4**
BDI	**Bagni Di Lucca**	**0.55**	**164**	Pg	**Pb**	**15 36 01.0**	**-0.1**
BDI				Sg	**Sb**	**15 36 09.1**	**+0.4**
BDI	**Bagni Di Lucca**	**0.55**	**164**	Pg	**Pb**	**15 36 01.0**	**-0.1**
BDI				Sg	**Sb**	**15 36 09.1**	**+0.4**
SBF	**Sospel**	**2.24**	**252**	*e*Pn	**Pn**	**15 36 24.3**	**-0.4**
SBF				*e*Sn	**Sn**	**15 36 51.7**	**+0.4**
24nm,0.4s							
SBF	**Sospel**	**2.24**	**252**	*e*Pn	**Pn**	**15 36 24.3**	**-0.4**
SBF				*e*Sn	**Sn**	**15 36 51.7**	**+0.4**
SBF	**Sospel**	**2.24**	**252**	*e*Pn	**Pn**	**15 36 24.3**	**-0.4**
SBF				*e*Sn	**Sn**	**15 36 51.7**	**+0.4**
12nm,0.4s							
PGF	**Pioggiola**	**2.27**	**207**	*e*Pn	**Pn**	**15 36 25.1**	**-0.1**
PGF				*e*Sn	**Sn**	**15 36 51.9**	**-0.2**
9.1nm,0.5s							
PGF	**Pioggiola**	**2.27**	**207**	*e*Pn	**Pn**	**15 36 25.1**	**-0.1**
PGF				*e*Sn	**Sn**	**15 36 51.9**	**-0.2**
PGF	**Pioggiola**	**2.27**	**207**	*e*Pn	**Pn**	**15 36 25.1**	**-0.1**
PGF				*e*Sn	**Sn**	**15 36 51.9**	**-0.2**
4.6nm,0.5s							
FRF	**La Foret Royal**	**2.88**	**250**	*e*Pn	**Pn**	**15 36 34.0**	**+0.4**
FRF				*e*Sn	**Sn**	**15 37 07.2**	**+0.1**
13nm,0.3s							
FRF	**La Foret Royal**	**2.88**	**250**	*e*Pn	**Pn**	**15 36 34.0**	**+0.4**
FRF				*e*Sn	**Sn**	**15 37 07.2**	**+0.1**
FRF	**La Foret Royal**	**2.88**	**250**	*e*Pn	**Pn**	**15 36 34.0**	**+0.4**
FRF				*e*Sn	**Sn**	**15 37 07.2**	**+0.1**
6.6nm,0.3s							
LMR	**La Mourre**	**3.06**	**247**	*e*Pn	**Pn**	**15 36 35.0**	**-1.1**
LMR				*e*Sn	**Sn**	**15 37 10.5**	**-1.2**
12nm,0.3s							
LMR	**La Mourre**	**3.06**	**247**	*e*Pn	**Pn**	**15 36 35.0**	**-1.1**
LMR				*e*Sn	**Sn**	**15 37 10.5**	**-1.2**
LMR	**La Mourre**	**3.06**	**247**	*e*Pn	**Pn**	**15 36 35.0**	**-1.1**
LMR				*e*Sn	**Sn**	**15 37 10.5**	**-1.2**
6.0nm,0.3s							
ORIF	**Oris-en-Rattie**	**3.23**	**277**	*e*Pn	**Pn**	**15 36 41.9**	**+3.6**
ORIF				*e*Sn	**Sn**	**15 37 16.1**	**+0.5**
4.4nm,0.3s							
ORIF	**Oris-en-Rattie**	**3.23**	**277**	*e*Pn	**Pn**	**15 36 41.9**	**+3.6**
ORIF				*e*Sn	**Sn**	**15 37 16.1**	**+0.5**
ORIF	**Oris-en-Rattie**	**3.23**	**277**	*e*Pn	**Pn**	**15 36 41.9**	**+3.6**
ORIF				*e*Sn	**Sn**	**15 37 16.1**	**+0.5**
2.2nm,0.3s							
SMRF	**Simiane la Rot**	**3.51**	**262**	*e*Pn	**Pn**	**15 36 43.7**	**+1.5**
SMRF	**Simiane la Rot**	**3.51**	**262**	*e*Pn	**Pn**	**15 36 43.7**	**+1.5**
SMRF	**Simiane la Rot**	**3.51**	**262**	*e*Pn	**Pn**	**15 36 43.7**	**+1.5**
CABF	**La Chapelle**	**3.63**	**305**	*e*Pn	**Pn**	**15 36 44.0**	**+0.1**
CABF				*e*Sn	**Sn**	**15 37 19.7**	**-5.9**
4.1nm,0.4s							
CABF	**La Chapelle**	**3.63**	**305**	*e*Pn	**Pn**	**15 36 44.0**	**+0.1**
CABF				*e*Sn	**Sn**	**15 37 19.7**	**-5.9**
CABF	**La Chapelle**	**3.63**	**305**	*e*Pn	**Pn**	**15 36 44.0**	**+0.1**
HINF	**Hinteralfeld**	**4.06**	**324**	*e*Pn	**Pn**	**15 36 50.7**	**+1.0**
HINF				*e*Sn	**Sn**	**15 37 34.4**	**-1.7**
3.5nm,0.3s							
HINF	**Hinteralfeld**	**4.06**	**324**	*e*Pn	**Pn**	**15 36 50.7**	**+1.0**
HINF				*e*Sn	**Sn**	**15 37 34.4**	**-1.7**
HINF	**Hinteralfeld**	**4.06**	**324**	*e*Pn	**Pn**	**15 36 50.7**	**+1.0**
HINF				*e*Sn	**Sn**	**15 37 34.4**	**-1.7**
1.8nm,0.3s							
CDF	**Champ du Feu**	**4.39**	**332**	*e*Pn	**Pn**	**15 36 54.7**	**+0.5**
CDF	**Champ du Feu**	**4.39**	**332**	*e*Pn	**Pn**	**15 36 54.7**	**+0.5**
CDF	**Champ du Feu**	**4.39**	**332**	*e*Pn	**Pn**	**15 36 54.7**	**+0.5**
HAU	**Haudompre**	**4.42**	**322**	*e*Pn	**Pn**	**15 36 55.1**	**+0.4**
HAU	**Haudompre**	**4.42**	**322**	*e*Pn	**Pn**	**15 36 55.1**	**+0.4**
HAU	**Haudompre**	**4.42**	**322**	*e*Pn	**Pn**	**15 36 55.1**	**+0.4**

*NEIC **23** 15:36:22.9, 47˚.52S×165˚.08E, h36km, ML3.9(WEL), After WEL.*

WEL 23 15:36:23.9±0.7, 47˚.30S×165˚.06E, h33km, ML3.8/17, Error ellipse: s-maj=7.7km s-min=4.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.59**	**45**	PN	Pn	15 36 48.7	-1.0
PYZ				SN	Sn	15 37 09.1	+0.1
PYZ	**Puysegur Point**	**1.59**	**45**	Pn	Pn	15 36 48.7	-1.0
PYZ				Sn	Sn	15 37 10.1	+1.1
APZ	**The Paps**	**2.06**	**78**	PN	Pn	15 36 55.3	-0.8
APZ				SN	Sn	15 37 18.8	-1.8
APZ	**The Paps**	**2.06**	**78**	Pn	Pn	15 36 55.3	-0.8
DCZ	**Deep Cove**	**2.33**	**39**	PN	Pn	15 36 58.6	-1.2
DCZ				SN	Sn	15 37 25.9	-1.3
DCZ	**Deep Cove**	**2.33**	**39**	Pn	Pn	15 36 58.6	-1.2
WHZ	**Wether Hill Ro**	**2.44**	**56**	PN	Pn	15 37 01.2	-0.1
WHZ				SN	Sn	15 37 28.5	-1.5
WHZ	**Wether Hill Ro**	**2.44**	**56**	Pn	Pn	15 37 01.2	-0.1
SYZ	**Scrubby Hill**	**2.90**	**76**	PN	Pn	15 37 07.8	+0.2
SYZ	**Scrubby Hill**	**2.90**	**76**	Pn	Pn	15 37 07.8	+0.2
MLZ	**Mavora Lakes**	**2.91**	**49**	PN	Pn	15 37 06.9	-0.9
MLZ	**Mavora Lakes**	**2.91**	**49**	Pn	Pn	15 37 08.2	+0.4
MSZ	**Milford Sound**	**3.30**	**38**	PN	Pn	15 37 13.9	+0.7
MSZ	**Milford Sound**	**3.30**	**38**	Pn	Pn	15 37 14.4	+1.2
TUZ	**Tuapeka**	**3.43**	**69**	PN	Pn	15 37 14.8	-0.1
TUZ	**Tuapeka**	**3.43**	**69**	Pn	Pn	15 37 14.8	-0.1
EAZ	**Earnscleugh**	**3.60**	**57**	Pn	Pn	15 37 17.9	+0.6
WKZ	**Wanaka**	**3.70**	**50**	Pn	Pn	15 37 20.2	+1.5
JCZ	**Jackson Bay**	**4.14**	**40**	Pn	Pn	15 37 26.2	+1.5
ODZ	**Otahua Downs**	**4.49**	**62**	PN	Pn	15 37 27.7	-1.8
ODZ	**Otahua Downs**	**4.49**	**62**	Pn	Pn	15 37 27.7	-1.8
LBZ	**Lake Benmore**	**4.62**	**53**	PN	Pn	15 37 29.9	-1.3
LBZ	**Lake Benmore**	**4.62**	**53**	Pn	Pn	15 37 29.9	-1.3
FOZ	**Fox Glacier**	**4.96**	**43**	PN	Pn	15 37 37.2	+1.3
FOZ	**Fox Glacier**	**4.96**	**43**	Pn	Pn	15 37 37.2	+1.3
RPZ	**Rata Peaks**	**5.53**	**52**	*e*P	Pn	15 37 41.3	-2.5
WVZ	**Waitaha Valley**	**5.82**	**46**	PN	Pn	15 37 48.0	+0.2
WVZ	**Waitaha Valley**	**5.82**	**46**	Pn	Pn	15 37 48.0	+0.2
LTZ	**Lake Taylor**	**6.82**	**51**	PN	Pn	15 37 59.8	-1.6
LTZ	**Lake Taylor**	**6.82**	**51**	Pn	Pn	15 37 59.9	-1.6
DSZ	**Denniston Nort**	**7.35**	**43**	PN	Pn	15 38 07.8	-1.0
DSZ	**Denniston Nort**	**7.35**	**43**	Pn	Pn	15 38 07.8	-1.0
QRZ	**Quartz Range**	**8.41**	**42**	Pn	Pn	15 38 22.5	-0.8

*IDC **23** 15:36:39.8±5.8, 33˚.19S×179˚.83W, h110km±47km, mb3.8/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, MS3.0/2, Ms1 3.0/2, ms1mx2.7/27, Error ellipse: s-maj=48.4km s-min=27.8km az=41.0*
*NEIC **23** 15:36:44.2±4.2, 33˚.14S×179˚.95E, h145km±35km, mb4.9/1, Error ellipse: s-maj=46.7km s-min=23.6km az=217.0*
*ISCJB **23** 15:36:46.3±1.9, 33˚.6S±0˚.1×179˚.4E±0˚.2, h147km±15km, mb4.0/5, Error ellipse: s-maj=24.3km s-min=16.8km az=163.8*

ISC 23 15:36:45.6±2.0, 33˚.5S±0˚.1×179˚.5E±0˚.2, h31km±15km, n64, σ1ˢ27/40, mb4.0/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.65**	**192**	Pn	**Pn**	**15 37 53.8**	**-0.2**
PUZ	**Puketiti**	**4.65**	**192**	PN	**Pn**	**15 37 54.6**	**+0.7**
PUZ				SN	**Sn**	**15 38 47.4**	**+0.3**
MWZ	**Matawai**	**5.06**	**198**	Pn	**Pn**	**15 38 00.1**	**+0.7**
MWZ	**Matawai**	**5.06**	**198**	PN	**Pn**	**15 37 59.3**	**-0.2**
MWZ				*e*SN	**Sn**	**15 38 59.0**	**+2.1**
CNGZ	**Carnagh Statio**	**5.06**	**191**	Pn	**Pn**	**15 37 59.0**	**-0.5**
CNGZ	**Carnagh Statio**	**5.06**	**191**	PN	**Pn**	**15 37 59.9**	**+0.4**
URZ	**Urewera**	**5.11**	**201**	P	**Pn**	**15 38 01.2**	**+1.2**
4.6nm,0.3s,baz=161,slow=1.7,SNR=32							
URZ				S	**Sn**	**15 38 59.7**	**+1.6**
5.8nm,0.3s,baz=100,slow=23,SNR=9.7							
URZ				LR	LR	15 39 58.9	
comp=Z,89nm,19.7s,baz=305,slow=35							
URZ	**Urewera**	**5.11**	**201**	*e*P	**Pn**	**15 38 01.2**	**+1.2**
URZ				S	**Sn**	**15 38 59.7**	**+1.6**
URZ	**Urewera**	**5.11**	**201**	PN	**Pn**	**15 37 59.8**	**-0.3**
URZ				SN	**Sn**	**15 38 57.4**	**-0.6**
KNZ	**Kokohu**	**5.68**	**194**	PN	**Pn**	**15 38 07.1**	**-0.6**
KNZ				*e*SN	**Sn**	**15 39 08.7**	**-3.2**
RAHZ	**Arahi**	**5.72**	**199**	Pn	**Pn**	**15 38 16.4**	**+8.0**
NMHZ	**Naumai**	**5.97**	**200**	Pn	**Pn**	**15 38 13.2**	**+1.6**
BKZ	**Black Stump Fm**	**6.13**	**202**	Pn	**Pn**	**15 38 13.8**	**0.0**
BKZ	**Black Stump Fm**	**6.13**	**202**	PN	**Pn**	**15 38 12.5**	**-1.2**
BKZ				*e*SN	**Sn**	**15 39 20.4**	**-2.2**
MCHZ	**McNeill Hill**	**6.32**	**200**	PN	**Pn**	**15 38 17.7**	**+1.3**
BHHZ	**Black Hill Sta**	**6.56**	**204**	PN	**Pn**	**15 38 17.8**	**-1.8**
PXZ	**Pawanui**	**6.83**	**197**	PN	Px	15 38 20.5	
PXZ				*e*SN	Sx	15 39 36.1	
PRHZ	**Porangahau**	**7.11**	**198**	PN	Px	15 38 25.4	
MRZ	**Mangatainoka R**	**7.78**	**202**	Pn	Px	15 38 33.7	
MRZ	**Mangatainoka R**	**7.78**	**202**	PN	Px	15 38 33.7	
MRZ				*e*SN	Sx	15 39 57.7	
TIWZ	**Tintock**	**7.79**	**201**	Pn	Px	15 38 34.2	
TIWZ	**Tintock**	**7.79**	**201**	PN	Px	15 38 34.2	
HOWZ	**Holdsworth Sta**	**8.02**	**202**	Pn	**Pn**	**15 38 37.0**	**-2.2**
HOWZ	**Holdsworth Sta**	**8.02**	**202**	PN	Px	15 38 36.9	
OGWZ	**Otaki Gorge**	**8.06**	**204**	PN	Px	15 38 38.1	
KIW	**Kapiti Island**	**8.19**	**205**	Pn	**Pn**	**15 38 39.7**	**-1.7**
KIW	**Kapiti Island**	**8.19**	**205**	PN	Px	15 38 39.7	
TCW	**Tory Channel**	**8.72**	**207**	Pn	Px	15 38 46.4	
TCW	**Tory Channel**	**8.72**	**207**	*e*PN	Px	15 38 45.3	
TCW				*e*SN	Sx	15 40 20.5	
QRZ	**Quartz Range**	**9.16**	**215**	*e*PN	Px	15 38 52.8	
QRZ				*e*SN	Sx	15 40 35.1	
BSWZ	**Blackbirch Sta**	**9.31**	**207**	Pn	Px	15 38 54.6	
THZ	**Tophouse**	**9.74**	**210**	Pn	Px	15 39 00.5	
KHZ	**Kahutara**	**10.04**	**206**	Pn	Px	15 39 03.1	
CTZ	**Chatham Island**	**10.65**	**165**	Pn	**Pn**	**15 39 17.4**	**+3.1**
DZM	**Mont Dzumac**	**16.20**	**311**	LR	LR	15 44 27.4	
comp=Z,71nm,20.4s,baz=25,slow=28							
ASAR	**Alice Springs**	**40.93**	**272**	P	**P**	**15 44 16.0**	**+0.8**
1.3nm,0.7s,mb3.7,baz=112,slow=7.7,SNR=13							
ASAR	**Alice Springs**	**40.93**	**272**	P	**P**	**15 44 16.0**	**+0.8**
WB2	**Warramunga Arr**	**42.20**	**277**	*e*P	**P**	**15 44 26.0**	**+0.4**
WRA	**Warramunga Arr**	**42.21**	**277**	P	**P**	**15 44 25.9**	**+0.2**
0.9nm,0.4s,mb3.7,baz=117,slow=7.7,SNR=7.9							
WRA	**Warramunga Arr**	**42.21**	**277**	P	**P**	**15 44 25.9**	**+0.2**
QSPA	**South Pole Qui**	**56.60**	**180**	*e*P	**P**	**15 46 15.4**	**+1.4**
9.5nm,0.7s,mb4.7							
SNAA	**Sanae**	**75.09**	**179**	*e*	**P**	**15 48 11.9**	**-0.6**
VNA3	**Neumayer Olymp**	**75.33**	**177**	*e*	**P**	**15 48 13.2**	**-0.7**
VNA2	**Neumayer--Watz**	**75.74**	**178**	*e*	**P**	**15 48 15.9**	**-0.3**
baz=182,slow=5.1							
VNA1	**Neumayer--Stat**	**75.98**	**177**	*e*	**P**	**15 48 10.6**	**-7.0**
PETK	**Petropavlovsk-**	**88.33**	**347**	P	**P**	**15 49 17.6**	**-4.2**
2.4nm,0.7s,mb4.2,baz=144,slow=7.6,SNR=4.2							
PETK	**Petropavlovsk-**	**88.33**	**347**	P	**P**	**15 49 17.6**	**-4.2**
CMAR	**Chiang Mai Arr**	**92.44**	**290**	P	**P**	**15 49 41.7**	**-0.1**
0.4nm,0.3s,mb3.9,baz=150,slow=3.8,SNR=6.5							
CMAR	**Chiang Mai Arr**	**92.44**	**290**	P	**P**	**15 49 41.7**	**-0.1**
KURK	**Kurchatov**	**121.62**	**313**	PKP	PKPdf	15 55 19.6	-3.6
0.9nm,0.2s,baz=36,slow=9.0,SNR=6.0							
KURK	**Kurchatov**	**121.62**	**313**	PKP	PKPdf	15 55 19.6	-3.6
BVAR	**Borovoye Array**	**127.09**	**314**	PKP	PKPdf	15 55 30.2	-3.4
0.3nm,0.5s,baz=161,slow=2.2,SNR=4.1							
BVAR	**Borovoye Array**	**127.09**	**314**	PKP	PKPdf	15 55 30.2	-3.4
AKTO	**Aktyubinsk**	**134.54**	**310**	PKP	PKPdf	15 55 45.4	-2.4
0.6nm,0.5s,baz=175,slow=4.9,SNR=3.6							
AKTO	**Aktyubinsk**	**134.54**	**310**	PKP	PKPdf	15 55 45.4	-2.4
FINES	**FINESS Array B**	**147.24**	**337**	PKPbc	PKPbc	15 56 08.6	-4.0
1.4nm,0.5s,baz=58,slow=2.7,SNR=14							
FINES	**FINESS Array B**	**147.24**	**337**	PKPbc	PKPbc	15 56 08.6	-4.0
NB2	**NORSAR Subarra**	**151.43**	**348**	PKP	PKPdf	15 56 18.8	+2.0
comp=Z,0.6nm,0.6s,baz=20,slow=2.6							
NOA	**NORSAR Array B**	**151.43**	**348**	PKPbc	PKPbc	15 56 19.1	-3.9
comp=Z,0.6nm,0.6s,baz=17,slow=4.2,SNR=4.1							
NOA	**NORSAR Array B**	**151.43**	**348**	PKPbc	PKPbc	15 56 19.1	-3.9
DBIC	**Dimbokro**	**152.98**	**170**	PKPbc	PKPbc	15 56 24.8	-3.2
comp=Z,1.2nm,0.6s,baz=177,slow=7.4,SNR=2.5							
DBIC				PKPab	PKPab	15 56 37.5	-2.1
comp=Z,3.0nm,0.9s,baz=181,slow=2.0,SNR=3.1							
DBIC	**Dimbokro**	**152.98**	**170**	*e*PKPbc	PKPbc	15 56 25.0	-3.1
DBIC				PKPab	PKPab	15 56 37.5	-2.1
TORD	**Torodi Ar. Bea**	**159.62**	**186**	PKPab	PKPab	15 57 05.9	-2.1
comp=Z,1.2nm,0.7s,baz=180,slow=3.4,SNR=6.8							
TORD	**Torodi Ar. Bea**	**159.62**	**186**	PKPab	PKPab	15 57 05.9	-2.1

*ISCJB **23** 15:39:55.9±0.3, 44˚.57N±0˚.03×10˚.31E±0˚.05, h25km±4km, Error ellipse: s-maj=6.3km s-min=4.2km az=15.0*
*CSEM **23** 15:39:55.8±0.2, 44˚.60N×10˚.41E, h20km, MD1.8/2, Error ellipse: s-maj=5.0km s-min=4.0km az=84.0*
*ROM **23** 15:39:55.6±0.2, 44˚.56N×10˚.33E, h24km±3km, Md1.8/2, Error ellipse: s-maj=3.4km s-min=1.8km az=68.0*
*LDG **23** 15:39:56.0±0.4, 44˚.55N×10˚.60E, h20km, MI3.2/2, Error ellipse: s-maj=10.3km s-min=4.1km az=102.0*
*NEIC **23** 15:39:56.0, 44˚.55N×10˚.60E, h20km, ML3.2(LDG), After LDG.*

ISC 23 15:39:56.5±0.3, 44˚.56N±0˚.03×10˚.37E±0˚.05, h22km±4km, n76, σ0ˢ74/94, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.15**	**167**	Pg	**Pb**	**15 40 00.3**	**-0.8**
ERBM				Sg	**Sb**	**15 40 05.2**	**+1.0**
ERBM	**Eremo**	**0.15**	**167**	Pg	**Pb**	**15 40 00.3**	**-0.8**
ERBM				Sg	**Sb**	**15 40 05.2**	**+1.0**
PRMA	**PARMA**	**0.20**	**350**	Pg	**Pb**	**15 40 00.7**	**-1.1**
PRMA				Sg	**Sb**	**15 40 05.8**	**+0.3**
PRMA	**PARMA**	**0.20**	**350**	Pg	**Pb**	**15 40 00.7**	**-1.1**
PRMA				Sg	**Sb**	**15 40 05.8**	**+0.3**
NOVE	**Novellara**	**0.34**	**47**	Pg	**Pb**	**15 40 03.3**	**-0.6**
NOVE				Sg	**Sb**	**15 40 10.3**	**+1.3**
1μm,0.3s							
NOVE	**Novellara**	**0.34**	**47**	Pg	**Pb**	**15 40 03.3**	**-0.6**
NOVE				Sg	**Sb**	**15 40 10.3**	**+1.3**
1μm,0.3s							
ZCCA	**Zocca**	**0.49**	**116**	Pg	**Pb**	**15 40 06.8**	**+0.5**
184nm,0.4s							
ZCCA	**Zocca**	**0.49**	**116**	Pg	**Pb**	**15 40 06.8**	**+0.5**
184nm,0.4s							
BDI	**Bagni Di Lucca**	**0.53**	**162**	Pg	**Pb**	**15 40 06.2**	**-0.8**
BDI				Sg	**Sb**	**15 40 14.8**	**+0.6**
BDI	**Bagni Di Lucca**	**0.53**	**162**	Pg	**Pb**	**15 40 06.2**	**-0.8**
BDI				Sg	**Sb**	**15 40 14.8**	**+0.6**
SC2M	**Scurtabo**	**0.62**	**255**	Pg	**Pb**	**15 40 08.2**	**-0.3**
SC2M	**Scurtabo**	**0.62**	**255**	Pg	**Pb**	**15 40 08.2**	**-0.3**
MAIM	**Mastiano**	**0.66**	**172**	Pg	**Pb**	**15 40 08.5**	**-0.7**
MAIM				Sg	**Sb**	**15 40 17.5**	**-0.3**
MAIM	**Mastiano**	**0.66**	**172**	Pg	**Pb**	**15 40 08.5**	**-0.7**
MAIM				Sg	**Sb**	**15 40 17.5**	**-0.3**
FNVD	**Fontana Vidola**	**0.67**	**126**	Pg	**Pb**	**15 40 09.5**	**0.0**
FNVD	**Fontana Vidola**	**0.67**	**126**	Pg	**Pb**	**15 40 09.5**	**0.0**
SALO	**Salr**	**1.06**	**6**	Pg	**Pn**	**15 40 15.6**	**-0.4**
SALO	**Salr**	**1.06**	**6**	Pg	**Pn**	**15 40 15.6**	**-0.4**
ROVR	**Rover¯¤ Verone**	**1.19**	**25**	Pg	**Pn**	**15 40 17.2**	**-0.6**
ROVR				Sg	**Sn**	**15 40 34.2**	**+0.8**
ROVR	**Rover¯¤ Verone**	**1.19**	**25**	Pg	**Pn**	**15 40 17.2**	**-0.6**
ROVR				Sg	**Sn**	**15 40 34.2**	**+0.8**
MDI	**Monti di Nese**	**1.30**	**339**	Pg	**Pn**	**15 40 18.6**	**-0.7**
MDI	**Monti di Nese**	**1.30**	**339**	Pg	**Pn**	**15 40 18.6**	**-0.7**
MABI	**Malga Bissina**	**1.50**	**4**	Pg	**Pn**	**15 40 22.2**	**+0.2**
MABI	**Malga Bissina**	**1.50**	**4**	Pg	**Pn**	**15 40 22.2**	**+0.2**
TUE	**Stuetta**	**2.04**	**340**	*e*Pn	**Pn**	**15 40 29.8**	**+0.4**
TUE	**Stuetta**	**2.04**	**340**	*e*Pn	**Pn**	**15 40 29.8**	**+0.4**
SBF	**Sospel**	**2.22**	**253**	*e*Pn	**Pn**	**15 40 31.9**	**0.0**
SBF	**Sospel**	**2.22**	**253**	*e*Pn	**Pn**	**15 40 31.9**	**0.0**
SBF	**Sospel**	**2.22**	**253**	*e*Pn	**Pn**	**15 40 31.9**	**0.0**
PGF	**Pioggiola**	**2.25**	**207**	*e*Pn	**Pn**	**15 40 31.7**	**-0.6**
PGF	**Pioggiola**	**2.25**	**207**	*e*Pn	**Pn**	**15 40 31.7**	**-0.6**
PGF	**Pioggiola**	**2.25**	**207**	*e*Pn	**Pn**	**15 40 31.7**	**-0.6**
MBDF	**Montbardon**	**2.57**	**275**	*e*Pn	**Pn**	**15 40 37.7**	**+1.0**
MBDF	**Montbardon**	**2.57**	**275**	*e*Pn	**Pn**	**15 40 37.7**	**+1.0**
MBDF	**Montbardon**	**2.57**	**275**	*e*Pn	**Pn**	**15 40 37.7**	**+1.0**
LPG	**La Plagne**	**2.73**	**291**	*e*Pn	**Pn**	**15 40 39.2**	**+0.3**
LPG	**La Plagne**	**2.73**	**291**	*e*Pn	**Pn**	**15 40 39.2**	**+0.3**
LPG	**La Plagne**	**2.73**	**291**	*e*Pn	**Pn**	**15 40 39.2**	**+0.3**
LPL	**La Plagne**	**2.75**	**292**	*e*Pn	**Pn**	**15 40 39.6**	**+0.4**
LPL	**La Plagne**	**2.75**	**292**	*e*Pn	**Pn**	**15 40 39.6**	**+0.4**
LPL	**La Plagne**	**2.75**	**292**	*e*Pn	**Pn**	**15 40 39.6**	**+0.4**
FRF	**La Foret Royal**	**2.86**	**251**	*e*Pn	**Pn**	**15 40 40.7**	**0.0**
FRF				*e*Sn	**Sn**	**15 41 15.1**	**+0.6**
8.9nm,0.2s							
FRF	**La Foret Royal**	**2.86**	**251**	*e*Pn	**Pn**	**15 40 40.7**	**0.0**
FRF				*e*Sn	**Sn**	**15 41 15.1**	**+0.6**
FRF	**La Foret Royal**	**2.86**	**251**	*e*Pn	**Pn**	**15 40 40.7**	**0.0**
FRF				*e*Sn	**Sn**	**15 41 15.1**	**+0.6**
4.4nm,0.2s							
LMR	**La Mourre**	**3.04**	**248**	*e*Pn	**Pn**	**15 40 42.9**	**-0.3**
LMR				*e*Sn	**Sn**	**15 41 18.5**	**-0.5**
23nm,0.4s							
LMR	**La Mourre**	**3.04**	**248**	*e*Pn	**Pn**	**15 40 42.9**	**-0.3**
LMR				*e*Sn	**Sn**	**15 41 18.5**	**-0.5**
LMR	**La Mourre**	**3.04**	**248**	*e*Pn	**Pn**	**15 40 42.9**	**-0.3**
LMR				*e*Sn	**Sn**	**15 41 18.5**	**-0.5**
12nm,0.4s							
ORIF	**Oris-en-Rattie**	**3.22**	**278**	*e*Pn	**Pn**	**15 40 48.2**	**+2.6**
ORIF	**Oris-en-Rattie**	**3.22**	**278**	*e*Pn	**Pn**	**15 40 48.2**	**+2.6**
ORIF	**Oris-en-Rattie**	**3.22**	**278**	*e*Pn	**Pn**	**15 40 48.2**	**+2.6**
SMRF	**Simiane la Rot**	**3.49**	**262**	*e*Pn	**Pn**	**15 40 50.8**	**+1.4**
SMRF	**Simiane la Rot**	**3.49**	**262**	*e*Pn	**Pn**	**15 40 50.8**	**+1.4**
SMRF	**Simiane la Rot**	**3.49**	**262**	*e*Pn	**Pn**	**15 40 50.8**	**+1.4**
CABF	**La Chapelle**	**3.63**	**306**	*e*Pn	**Pn**	**15 40 52.1**	**+0.7**
CABF	**La Chapelle**	**3.63**	**306**	*e*Pn	**Pn**	**15 40 52.1**	**+0.7**
CABF	**La Chapelle**	**3.63**	**306**	*e*Pn	**Pn**	**15 40 52.1**	**+0.7**
HINF	**Hinteralfeld**	**4.07**	**324**	*e*Pn	**Pn**	**15 40 57.0**	**-0.3**
HINF	**Hinteralfeld**	**4.07**	**324**	*e*Pn	**Pn**	**15 40 57.0**	**-0.3**
HINF	**Hinteralfeld**	**4.07**	**324**	*e*Pn	**Pn**	**15 40 57.0**	**-0.3**
VIVF	**Saint-Julien-l**	**4.07**	**276**	*e*Pn	**Pn**	**15 40 57.7**	**+0.4**
VIVF	**Saint-Julien-l**	**4.07**	**276**	*e*Pn	**Pn**	**15 40 57.7**	**+0.4**
VIVF	**Saint-Julien-l**	**4.07**	**276**	*e*Pn	**Pn**	**15 40 57.7**	**+0.4**
ECH	**Echery**	**4.28**	**330**	*e*Pn	**Pn**	**15 40 59.3**	**-0.9**
ECH	**Echery**	**4.28**	**330**	*e*Pn	**Pn**	**15 40 59.3**	**-0.8**
CDF	**Champ du Feu**	**4.40**	**332**	*e*Pn	**Pn**	**15 41 00.9**	**-1.0**
**CDF

LPG			*e*Sn		**Sn**	**15 41 33.8**	**-0.7**
	6.2nm,0.5s						
LPL	**La Plagne**	**2.76 291**	*e*Pn		**Pn**	**15 41 04.0**	**+1.4**
LPL			*e*Sn		**Sn**	**15 41 34.3**	**-0.7**
	10nm,0.5s						
LPL	**La Plagne**	**2.76 291**	*e*Pn		**Pn**	**15 41 04.0**	**+1.4**
LPL			*e*Sn		**Sn**	**15 41 34.3**	**-0.7**
LPL	**La Plagne**	**2.76 291**	*e*Pn		**Pn**	**15 41 04.0**	**+1.4**
LPL			*e*Sn		**Sn**	**15 41 34.3**	**-0.7**
	5.2nm,0.5s						
VOY	**Vojsko**	**2.85 58**	*e*Pn		**Pn**	**15 41 03.3**	**-0.6**
VOY			*e*Sn		**Sn**	**15 41 37.4**	**+0.1**
VOY	**Vojsko**	**2.85 58**	Pn		**Pn**	**15 41 03.3**	**-0.6**
VOY			*e*Sn		**Sn**	**15 41 37.4**	**+0.1**
FRF	**La Foret Royal**	**2.90 250**	*e*Pn		**Pn**	**15 41 04.5**	**+0.1**
FRF			*e*Sn		**Sn**	**15 41 39.0**	**+0.7**
	23nm,0.2s						
FRF	**La Foret Royal**	**2.90 250**	*e*Pn		**Pn**	**15 41 04.5**	**+0.1**
FRF			*e*Sn		**Sn**	**15 41 39.0**	**+0.7**
FRF	**La Foret Royal**	**2.90 250**	*e*Pn		**Pn**	**15 41 04.5**	**+0.1**
FRF			*e*Sn		**Sn**	**15 41 39.0**	**+0.7**
	12nm,0.2s						
LMR	**La Mourre**	**3.08 247**	*e*Pn		**Pn**	**15 41 06.8**	**-0.1**
LMR			*e*Sn		**Sn**	**15 41 42.5**	**-0.3**
	20nm,0.3s						
LMR	**La Mourre**	**3.08 247**	*e*Pn		**Pn**	**15 41 06.8**	**-0.1**
LMR			*e*Sn		**Sn**	**15 41 42.5**	**-0.3**
LMR	**La Mourre**	**3.08 247**	*e*Pn		**Pn**	**15 41 06.8**	**-0.1**
LMR			*e*Sn		**Sn**	**15 41 42.5**	**-0.3**
	10.0nm,0.3s						
NVLJ	**Novalja**	**3.19 89**	*e*Pn		**Pn**	**15 41 07.8**	**-0.7**
NVLJ			Sn		**Sn**	**15 41 45.0**	**-0.7**
NVLJ	**Novalja**	**3.19 89**	*e*Pn		**Pn**	**15 41 07.8**	**-0.7**
NVLJ			Sn		**Sn**	**15 41 44.9**	**-0.8**
ORIF	**Oris-en-Rattie**	**3.24 277**	*e*Pn		**Pn**	**15 41 11.2**	**+2.1**
ORIF			*e*Sn		**Sn**	**15 41 45.3**	**-1.5**
	15nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.24 277**	*e*Pn		**Pn**	**15 41 11.2**	**+2.1**
ORIF			*e*Sn		**Sn**	**15 41 45.3**	**-1.5**
ORIF	**Oris-en-Rattie**	**3.24 277**	*e*Pn		**Pn**	**15 41 11.2**	**+2.1**
ORIF			*e*Sn		**Sn**	**15 41 45.3**	**-1.5**
	7.5nm,0.6s						
SMRF	**Simiane la Rot**	**3.52 262**	*e*Pn		**Pn**	**15 41 14.9**	**+1.9**
SMRF			*e*Sn		**Sn**	**15 41 53.1**	**-0.6**
	7.6nm,0.5s						
SMRF	**Simiane la Rot**	**3.52 262**	*e*Pn		**Pn**	**15 41 14.9**	**+1.9**
SMRF			*e*Sn		**Sn**	**15 41 53.1**	**-0.6**
SMRF	**Simiane la Rot**	**3.52 262**	*e*Pn		**Pn**	**15 41 14.9**	**+1.9**
SMRF			*e*Sn		**Sn**	**15 41 53.1**	**-0.6**
CABF	**La Chapelle**	**3.64 305**	*e*Pn		**Pn**	**15 41 16.2**	**+1.5**
CABF	**La Chapelle**	**3.64 305**	*e*Pn		**Pn**	**15 41 16.2**	**+1.5**
CABF	**La Chapelle**	**3.64 305**	*e*Pn		**Pn**	**15 41 16.2**	**+1.5**
FELD	**Feldberg im Sc**	**3.68 334**	P		**Pn**	**15 41 14.5**	**-0.8**
LOMF	**Lomont**	**3.72 319**	P		**Pn**	**15 41 16.3**	**+0.6**
LOMF	**Lomont**	**3.72 319**	P		**Pn**	**15 41 16.3**	**+0.6**
MOF	**Molkenrain**	**3.97 326**	P		**Pn**	**15 41 19.6**	**+0.4**
MOF	**Molkenrain**	**3.97 326**	P		**Pn**	**15 41 19.6**	**+0.4**
HINF	**Hinteralfeld**	**4.06 324**	*e*Pn		**Pn**	**15 41 20.5**	**+0.1**
HINF			*e*Sn		**Sn**	**15 42 05.4**	**-1.6**
	13nm,0.4s						
HINF	**Hinteralfeld**	**4.06 324**	*e*Pn		**Pn**	**15 41 20.5**	**+0.1**
HINF			*e*Sn		**Sn**	**15 42 05.4**	**-1.6**
HINF	**Hinteralfeld**	**4.06 324**	*e*Pn		**Pn**	**15 41 20.5**	**+0.1**
HINF			*e*Sn		**Sn**	**15 42 05.4**	**-1.6**
	6.3nm,0.4s						
VIVF	**Saint-Julien-l**	**4.09 276**	*e*Pn		**Pn**	**15 41 21.7**	**+0.8**
VIVF			*e*Sn		**Sn**	**15 42 05.6**	**-2.2**
	1.9nm,0.2s						
VIVF	**Saint-Julien-l**	**4.09 276**	*e*Pn		**Pn**	**15 41 21.7**	**+0.8**
VIVF			*e*Sn		**Sn**	**15 42 05.6**	**-2.2**
VIVF	**Saint-Julien-l**	**4.09 276**	*e*Pn		**Pn**	**15 41 21.7**	**+0.8**
VIVF			*e*Sn		**Sn**	**15 42 05.6**	**-2.2**
	0.9nm,0.2s						
ECH	**Echery**	**4.26 329**	P		**Pn**	**15 41 22.7**	**-0.5**
ECH	**Echery**	**4.26 329**	P		**Pn**	**15 41 22.7**	**-0.5**
CDF	**Champ du Feu**	**4.39 332**	*e*Pn		**Pn**	**15 41 24.9**	**-0.1**
CDF			*e*Sn		**Sn**	**15 42 10.6**	**-4.5**
	9.3nm,0.4s						
CDF	**Champ du Feu**	**4.39 332**	*e*Pn		**Pn**	**15 41 24.9**	**-0.1**
CDF			*e*Sn		**Sn**	**15 42 10.6**	**-4.5**
CDF	**Champ du Feu**	**4.39 332**	*e*Pn		**Pn**	**15 41 24.9**	**-0.1**
CDF			*e*Sn		**Sn**	**15 42 10.6**	**-4.5**
	4.7nm,0.4s						
HAU	**Haudompre**	**4.42 322**	*e*Pn		**Pn**	**15 41 25.7**	**+0.3**
HAU			*e*Sn		**Sn**	**15 42 14.0**	**-1.9**
	17nm,0.3s						
HAU	**Haudompre**	**4.42 322**	*e*Pn		**Pn**	**15 41 25.7**	**+0.3**
HAU			*e*Sn		**Sn**	**15 42 14.0**	**-1.9**
HAU	**Haudompre**	**4.42 322**	*e*Pn		**Pn**	**15 41 25.7**	**+0.3**
HAU			*e*Sn		**Sn**	**15 42 14.0**	**-1.9**
	8.6nm,0.3s						
LASF	**Ste Croix**	**4.72 266**	*e*Pn		**Pn**	**15 41 30.0**	**+0.5**
LASF	**Ste Croix**	**4.72 266**	*e*Pn		**Pn**	**15 41 30.0**	**+0.5**
LASF	**Ste Croix**	**4.72 266**	*e*Pn		**Pn**	**15 41 30.0**	**+0.5**
THEF	**They Montfort**	**4.75 322**	P		**Pn**	**15 41 30.4**	**+0.5**
THEF	**They Montfort**	**4.75 322**	P		**Pn**	**15 41 30.4**	**+0.5**
KHC	**Kasperske Hory**	**5.04 24**	*e*PN		**Pn**	**15 41 33.5**	**-0.3**
KHC			*e*PG		**Pb**	**15 41 55.5**	**+8.0**
KHC			*e*SN		**Sn**	**15 42 29.2**	**-1.9**
KHC			*ex*		x	15 42 46.0	
KHC			*e*SG		**Sb**	**15 42 58.5**	**+11**
KHC	**Kasperske Hory**	**5.04 24**	Pn		**Pn**	**15 41 33.5**	**-0.3**
KHC			Sn		**Sn**	**15 42 29.2**	**-1.9**
KHC			Sg		**Sb**	**15 42 58.5**	**+11**
SMF	**Signal de Mont**	**5.04 296**	*e*Pn		**Pn**	**15 41 34.1**	**+0.2**
SMF	**Signal de Mont**	**5.04 296**	*e*Pn		**Pn**	**15 41 34.1**	**+0.2**
SMF	**Signal de Mont**	**5.04 296**	*e*Pn		**Pn**	**15 41 34.1**	**+0.2**
PAGF	**Fort de Pagny**	**5.11 323**	*e*Pn		**Pn**	**15 41 35.8**	**+1.0**
PAGF			*e*Sn		**Sn**	**15 42 28.2**	**-4.7**
	0.9nm,0.2s						
PAGF	**Fort de Pagny**	**5.11 323**	*e*Pn		**Pn**	**15 41 35.8**	**+1.0**
PAGF			*e*Sn		**Sn**	**15 42 28.2**	**-4.7**
PAGF	**Fort de Pagny**	**5.11 323**	*e*Pn		**Pn**	**15 41 35.8**	**+1.0**
PAGF			*e*Sn		**Sn**	**15 42 28.2**	**-4.7**
SFTF	**Sexfontaines**	**5.18 316**	*e*Pn		**Pn**	**15 41 36.4**	**+0.6**
SFTF	**Sexfontaines**	**5.18 316**	*e*Pn		**Pn**	**15 41 36.4**	**+0.6**
SFTF	**Sexfontaines**	**5.18 316**	*e*Pn		**Pn**	**15 41 36.4**	**+0.6**
LOR	**Lormes**	**5.29 303**	*e*Pn		**Pn**	**15 41 38.0**	**+0.7**
LOR			*e*Sn		**Sn**	**15 42 36.0**	**-1.4**
	6.6nm,0.3s						
LOR	**Lormes**	**5.29 303**	*e*Pn		**Pn**	**15 41 38.0**	**+0.7**
LOR			*e*Sn		**Sn**	**15 42 36.0**	**-1.4**
LOR	**Lormes**	**5.29 303**	*e*Pn		**Pn**	**15 41 38.0**	**+0.7**
LOR			*e*Sn		**Sn**	**15 42 36.0**	**-1.4**
	3.3nm,0.3s						
AVF	**Avril sur Loir**	**5.41 296**	*e*Pn		**Pn**	**15 41 38.8**	**-0.1**
AVF	**Avril sur Loir**	**5.41 296**	*e*Pn		**Pn**	**15 41 38.8**	**-0.1**
AVF	**Avril sur Loir**	**5.41 296**	*e*Pn		**Pn**	**15 41 38.8**	**-0.1**
SSF	**Saint Saulge**	**5.42 300**	*e*Sn		**Sn**	**15 42 38.2**	**-2.2**
	2.3nm,0.5s						
SSF	**Saint Saulge**	**5.42 300**	*e*Sn		**Sn**	**15 42 38.2**	**-2.2**
STON	**Ston**	**5.56 105**	*e*Pn		**Pn**	**15 41 39.6**	**-1.4**
STON			Sn		**Sn**	**15 42 40.4**	**-3.6**
STON	**Ston**	**5.56 105**	*e*Pn		**Pn**	**15 41 39.6**	**-1.4**
STON			Sn		**Sn**	**15 42 40.4**	**-3.6**
BGF	**Bois d'Agland**	**5.66 293**	*e*Pn		**Pn**	**15 41 42.8**	**+0.4**
BGF	**Bois d'Agland**	**5.66 293**	*e*Pn		**Pn**	**15 41 42.8**	**+0.4**
BGF	**Bois d'Agland**	**5.66 293**	*e*Pn		**Pn**	**15 41 42.8**	**+0.4**
TCF	**Toulx Ste Croi**	**6.01 289**	*e*Pn		**Pn**	**15 41 47.4**	**+0.2**
TCF	**Toulx Ste Croi**	**6.01 289**	*e*Pn		**Pn**	**15 41 47.4**	**+0.2**
TCF	**Toulx Ste Croi**	**6.01 289**	*e*Pn		**Pn**	**15 41 47.4**	**+0.2**
MTLF	**Montolieu**	**6.04 261**	*e*Pn		**Pn**	**15 41 48.7**	**+1.1**
MTLF	**Montolieu**	**6.04 261**	*e*Pn		**Pn**	**15 41 48.7**	**+1.1**
MTLF	**Montolieu**	**6.04 261**	*e*Pn		**Pn**	**15 41 48.7**	**+1.1**
CLL	**Collm**	**6.95 14**	*e*Sg		**Sb**	**15 43 38.0**	**-4.3**

IDC 23 15:52:59.0±7.2, 19°56S×179°41W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/24, Error ellipse: s-maj=291.7km s-min=68.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.88**	**188**	LR	LR	16 03 19.1	
	comp=Z,102nm,19.0s,baz=95,slow=33						
WRA	**Warramunga Arr**	**43.42**	**261**	P	P	16 01 03.8	-0.1
	0.2nm,0.3s,baz=97,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**43.45**	**256**	P	P	16 01 04.0	0.0
	0.5nm,0.5s,baz=93,slow=7.4,SNR=17						
BRTR	**Keskin Array B**	**145.23**	**312**	PKPbc	PKPbc	16 12 38.0	-0.6
	1.0nm,0.9s,baz=66,slow=1.7,SNR=3.6						

*ISCJB **23** 16:02:20.5±0.7, 24°55N±0°10×94°7E±0°1, h86km±7km, mb3.6/7, Error ellipse: s-maj=24.0km s-min=8.1km az=141.0*
*IDC **23** 16:02:22.9±3.7, 24°59N×94°74E, h92km±34km, mb3.4/7, mb1 3.5/8, mb1mx3.2/27, mbtmp3.3/8, Error ellipse: s-maj=39.0km s-min=15.1km az=67.0*
*NEIC **23** 16:02:22.4±0.7, 24°61N×94°73E, h87km±8km, mb4.4/1, Error ellipse: s-maj=17.9km s-min=6.1km az=56.0*
ISC 23 16:02:21.9±0.7, 24°6N±0°1×94°7E±0°1, h82km±8km, n26, σ0°89/28, mb3.6/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.68**	**287**	*e*PKP	**Pn**	**16 02 36.0**	**-1.5**
IMP				*e*S	**Sn**	**16 02 50.0**	**+0.9**
SHL	**Shillong**	**2.69**	**292**	*e*PN	**Pn**	**16 03 01.6**	**-1.5**
SHL				*i* SN	**Sn**	**16 03 30.6**	**-4.2**
LSA	**Lhasa**	**5.98**	**329**	*e*P	**Pn**	**16 03 48.0**	**+0.2**
	5.1nm,0.6s						
CHTO	**Chiang Mai**	**6.99**	**144**	*e*P	**Pn**	**16 04 02.6**	**+1.0**
	2.2nm,0.4s						
CM31	**Chiang Mai Arr**	**7.29**	**146**	*e*Pn	**Pn**	**16 04 06.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**7.29**	**146**	P	**Pn**	**16 04 05.8**	**+0.1**
	0.3nm,0.3s,baz=323,slow=13,SNR=11						
CMAR	**Chiang Mai Arr**	**7.29**	**146**	P	**Pn**	**16 04 05.8**	**+0.1**
NIL	**Nilore**	**20.73**	**301**	*e*P	**P**	**16 06 56.3**	**+0.4**
	9.1nm,0.5s						
MK31	**Makanchi Array**	**24.27**	**339**	*e*P	**P**	**16 07 32.1**	**+0.8**
MKAR	**Makanchi Array**	**24.27**	**339**	P	**P**	**16 07 32.4**	**+1.1**
	0.6nm,0.4s,mb3.2,baz=150,slow=11,SNR=26						
MKAR	**Makanchi Array**	**24.27**	**339**	P	**P**	**16 07 32.4**	**+1.1**
KBL	**Kabul**	**24.32**	**300**	*e*P	**P**	**16 07 33.3**	**+1.3**
SONM	**Songino Array**	**25.01**	**19**	P	**P**	**16 07 38.5**	**+0.5**
	0.3nm,0.4s,mb3.0,baz=204,slow=10,SNR=3.7						
SONM	**Songino Array**	**25.01**	**19**	P	**P**	**16 07 38.5**	**+0.5**
KURK	**Kurchatov**	**28.89**	**339**	P	**P**	**16 08 11.5**	**-1.2**
	0.2nm,0.3s,mb3.3,baz=153,slow=8.3,SNR=2.8						
KURK	**Kurchatov**	**28.89**	**339**	P	**P**	**16 08 11.5**	**-1.2**
WRA	**Warramunga Arr**	**58.74**	**135**	P	**P**	**16 12 11.1**	**-0.5**
	0.7nm,0.3s,mb4.1,baz=323,slow=7.3,SNR=28						
WRA	**Warramunga Arr**	**58.74**	**135**	P	**P**	**16 12 11.1**	**-0.5**
WB2	**Warramunga Arr**	**58.75**	**135**	*e*P	**P**	**16 12 11.0**	**-0.6**
AS31	**Alice Springs**	**61.23**	**139**	*e*P	**P**	**16 12 27.9**	**-0.5**
ASAR	**Alice Springs**	**61.23**	**139**	P	**P**	**16 12 28.2**	**-0.3**
	0.5nm,0.4s,mb3.9,baz=315,slow=6.4,SNR=27						
ASAR	**Alice Springs**	**61.23**	**139**	P	**P**	**16 12 28.2**	**-0.3**
ILAR	**Eielson Array**	**79.18**	**23**	P	**P**	**16 14 16.2**	**-1.2**
	0.2nm,0.8s,mb3.0,baz=288,slow=4.7,SNR=4.3						
ILAR	**Eielson Array**	**79.18**	**23**	P	**P**	**16 14 16.2**	**-1.2**
BOSA	**Boshof**	**85.14**	**236**	P	**P**	**16 14 49.8**	**+0.6**
	7.0nm,1.2s,mb4.5,baz=24,slow=9.1,SNR=3.6						
BOSA	**Boshof**	**85.14**	**236**	P	**P**	**16 14 49.8**	**+0.6**

*DDA **23** 16:04:27.1, 36°92N×39°04E, h15km±2km, Md3.7*
*ISK **23** 16:04:29.9, 37°11N×39°12E, h11km, MD3.9, ML3.9*
*ISCJB **23** 16:04:30.3±0.6, 37°11N±0°05×39°09E±0°03, h10km, Error ellipse: s-maj=6.9km s-min=3.8km az=169.2*
*CSEM **23** 16:04:30.1±0.2, 37°11N×39°07E, h2km, MD3.7, Error ellipse: s-maj=4.6km s-min=3.8km az=127.0*
ISC 23 16:04:30.4±1.2, 37°14N±0°05×39°07E±0°03, h1km±8km, n55, σ0°64/67, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.70**	**299**	*e*P	**Pg**	**16 04 43.6**	**-0.3**
ATAB				*i* S	**Sg**	**16 04 53.9**	**+0.9**
ATAB	**Bozova**	**0.70**	**299**	*e*P	**Pg**	**16 04 43.6**	**-0.3**
ATAB				*i* S	**Sg**	**16 04 53.9**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.25**	**9**	*e*PN	**Pn**	**16 04 53.9**	**-1.1**
SVRC				*e*SN	**Sn**	**16 05 11.6**	**-1.0**
SVRC	**Sivrice-ELAZID**	**1.25**	**9**	*e*Pn	**Pn**	**16 04 53.9**	**-1.1**
SVRC				*e*Sn	**Sn**	**16 05 11.6**	**-0.9**
MALT	**Malatya**	**1.28**	**337**	*e*PN	**Pn**	**16 04 55.2**	**-0.2**
MALT				*e*SN	**Sn**	**16 05 13.5**	**+0.3**
MYA	**Malataya**	**1.29**	**337**	*e*PN	**Pn**	**16 04 55.7**	**+0.1**
MYA				*e*SN	**Sn**	**16 05 13.1**	**-0.4**
AKCD	**Akcadag**	**1.47**	**322**	*e*P	**Pn**	**16 04 58.3**	**+0.3**
AKCD				*i* S	**Sg**	**16 05 12.4**	**-5.4**
AKCD	**Akcadag**	**1.47**	**322**	*e*P	**Pn**	**16 04 58.3**	**+0.3**
GAZ	**Gaziantep**	**1.49**	**272**	*e*PN	**Pn**	**16 04 57.4**	**-0.8**
GAZ				*e*SN	**Sn**	**16 05 18.2**	**-0.1**
GAZ	**Gaziantep**	**1.49**	**272**	*e*Pn	**Pn**	**16 04 57.4**	**-0.8**
GAZ				*e*Sn	**Sn**	**16 05 18.2**	**0.0**
KMRS	**Kahramanmaras**	**1.77**	**283**	*e*PN	**Pn**	**16 05 01.6**	**-0.5**
KMRS	**Kahramanmaras**	**1.77**	**283**	*e*Pn	**Pn**	**16 05 01.6**	**-0.5**
PTK	**Pertek**	**1.77**	**8**	*e*PN	**Pn**	**16 05 01.6**	**-0.5**
BEST	**Besiri**	**1.91**	**66**	¶P	**Pn**	**16 05 03.6**	**-0.3**
BEST				*i* S	**Sn**	**16 05 30.4**	**+1.8**
ANDN	**Andirin**	**2.22**	**282**	*e*P	**Pn**	**16 05 06.0**	**-2.2**
ANDN				*i* S	**Sn**	**16 05 36.9**	**+0.7**
ANDN	**Andirin**	**2.22**	**282**	*e*P	**Pn**	**16 05 06.0**	**-2.2**
ANDN				*i* S	**Sn**	**16 05 36.9**	**+0.6**
BNGB	**Bing¨¶l**	**2.25**	**34**	*e*PN	**Pn**	**16 05 07.9**	**-0.7**
SARI	**SarD1z-Kayseri**	**2.43**	**310**	*e*PN	**Pn**	**16 05 11.1**	**-0.1**
SARI	**SarD1z-Kayseri**	**2.43**	**310**	*e*Pn	**Pn**	**16 05 11.1**	**-0.1**
BNGL	**BINGOL**	**2.45**	**42**	*e*P	**Pn**	**16 05 11.3**	**-0.1**
BNGL				*i* S	**Sn**	**16 05 48.2**	**+6.3**
HTY	**Hatay**	**2.57**	**248**	*e*PN	**Pn**	**16 05 13.4**	**+0.3**
HTY	**Hatay**	**2.57**	**248**	*e*Pn	**Pn**	**16 05 13.4**	**+0.3**
KOZT	**Kozan**	**2.61**	**279**	*e*PN	**Pn**	**16 05 13.7**	**+0.1**
KOZT	**Kozan**	**2.61**	**279**	*e*Pn	**Pn**	**16 05 13.7**	**+0.1**
CEYT	**Ceyhan**	**2.66**	**268**	*e*PN	**Pn**	**16 05 14.3**	**0.0**
CEYT	**Ceyhan**	**2.66**	**268**	*e*Pn	**Pn**	**16 05 14.3**	**0.0**
VRTB	**Varto-Mus**	**2.76**	**42**	*e*PN	**Pn**	**16 05 15.4**	**-0.4**
KRTS	**Karatas**	**3.02**	**260**	*e*PN	**Pn**	**16 05 19.4**	**+0.2**
KRTS	**Karatas**	**3.02**	**260**	*e*Pn	**Pn**	**16 05 19.4**	**+0.2**
BNN	**Bunyan**	**3.07**	**305**	*e*PN	**Pn**	**16 05 20.2**	**+0.2**
BNN	**Bunyan**	**3.07**	**305**	*e*Pn	**Pn**	**16 05 20.2**	**+0.2**
EZM	**Erzurum**	**3.30**	**32**	*e*PN	**Pn**	**16 05 23.2**	**+0.1**
GUMT	**Gumushane**	**3.33**	**5**	*e*PN	**Pn**	**16 05 23.9**	**+0.3**
GUMT	**Gumushane**	**3.33**	**5**	*e*Pn	**Pn**	**16 05 23.9**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**3.36**	**14**	*e*PN	**Pn**	**16 05 23.9**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**3.36**	**14**	*e*Pn	**Pn**	**16 05 23.9**	**-0.1**
RSDY	**Resadiye-TOKAT**	**3.53**	**338**	*e*PN	**Pn**	**16 05 26.5**	**+0.2**
RSDY	**Resadiye-TOKAT**	**3.53**	**338**	*e*Pn	**Pn**	**16 05 26.5**	**+0.2**
CUKT	**Cukurca**	**3.62**	**87**	*e*PN	**Pn**	**16 05 27.6**	**-0.1**
CUKT	**Cukurca**	**3.62**	**87**	*e*Pn	**Pn**	**16 05 27.6**	**0.0**
VANB	**Van**	**3.71**	**66**	*e*PN	**Pn**	**16 05 28.8**	**-0.1**
HWQ	**Hawqa**	**3.82**	**223**	*e*P	**Pn**	**16 05 19.5**	**-11**
YOZ	**Yozgat**	**3.86**	**311**	*e*PN	**Pn**	**16 05 31.5**	**+0.6**
YOZ	**Yozgat**	**3.86**	**311**	*e*Pn	**Pn**	**16 05 31.5**	**+0.6**
KTUT	**Trabzon**	**3.88**	**8**	*e*PN	**Pn**	**16 05 31.4**	**+0.3**
KTUT	**Trabzon**	**3.88**	**8**	*e*Sn	**Pn**	**16 05 31.4**	**+0.2**
AGRB	**Hanur-Agry**	**3.93**	**50**	*e*PN	**Pn**	**16 05 31.9**	**+0.1**
AGRB	**Hanur-Agry**	**3.93**	**50**	*e*Pn	**Pn**	**16 05 31.9**	**+0.1**
CLDR	**Caldiran**	**4.32**	**61**	*e*PN	**Pn**	**16 05 37.4**	**+0.3**
CLDR	**Caldiran**	**4.32**	**61**	*e*Pn	**Pn**	**16 05 37.4**	**+0.3**
CORM	**Corum**	**4.62**	**313**	*e*PN	**Pn**	**16 05 42.5**	**+1.2**
CORM	**Corum**	**4.62**	**313**	*e*Pn	**Pn**	**16 05 42.5**	**+1.3**
BCA	**Borcka**	**4.74**	**24**	*e*PN	**Pn**	**16 05 43.5**	**+0.6**
BCA	**Borcka**	**4.74**	**24**	*e*Pn	**Pn**	**16 05 43.5**	**+0.6**
BHD	**Baghdad**	**5.81**	**130**	*ex*	x	16 06 02.7	
BHD				*ex*	x	16 07 15.3	

*JMA **23** 16:08:19.8±0.5, 46°20N×152°33E, h30km, M4.7*
*ISCJB **23** 16:08:20.6±1.0, 45°7N±0°1×152°3E±0°1, h57km±10km, mb3.6/9, Error ellipse: s-maj=19.5km s-min=6.3km az=147.1*
*MOS **23** 16:08:20.7±1.4, 46°04N×152°37E, h42km, mb4.3/4, Error ellipse: s-maj=16.6km s-min=11.0km az=140.3*
*NEIC **23** 16:08:23.5±1.1, 46°10N×152°35E, h53km±10km, mb4.5/1, Error ellipse: s-maj=18.4km s-min=7.3km az=148.0*
*IDC **23** 16:08:24.2±2.8, 46°19N×152°28E, h57km±26km, mb3.3/10, mb1 3.6/14, mb1mx3.4/28, mbtmp3.5/14, ML3.7/4, Error ellipse: s-maj=34.9km s-min=14.5km az=156.0*
ISC 23 16:08:21.4±0.8, 45°75N±0°09×152°46E±0°09, h43km±8km, n70, σ1°43/85, mb3.6/9, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.27**	**263**	*e*PN	**Pn**	**16 09 11.0**	**+0.9**
KUR				*e*S	**Sn**	**16 09 50.0**	**+2.3**
KUR				pmax	pmax		
	comp=N,90nm,0.3s						
KUR				pmax	pmax		
	comp=E,180nm,0.3s						
KUR				pmax	pmax		
	comp=Z,230nm,0.3s						
KUR				smax			
	comp=N,780nm,0.5s						
KUR				smax			
	comp=E,950nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.99**	**252**	*c i*PN	**Pn**	**16 09 35.2**	**+1.5**
YUK				pmax	pmax		
	comp=N,36nm,0.2s						
YUK				pmax	pmax		
	comp=E,60nm,0.2s						
YUK				pmax	pmax		
	comp=Z,168nm,0.2s						
NEM2	**Nemuro 2**	**5.36**	**246**	P	**Pn**	**16 09 38.4**	**-0.3**
NEM2				*e*S	**Sn**	**16 10 36.5**	**-2.6**
SKR	**Severo-Kuril's**	**5.51**	**25**	*e*PN	**Pn**	**16 09 46.0**	**+5.3**
SKR				*e*S	**Sn**	**16 10 42.5**	**-0.2**
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
SKR				smax			
	comp=N,100nm,0.6s						
SKR				smax			
	comp=E,80nm,0.6s						
SKR				smax			
	comp=Z,80nm,0.7s						
JRA	**Rausu**	**5.52**	**253**	P	**Pn**	**16 09 42.6**	**+1.6**
JRA				*e*S	**Sn**	**16 10 45.8**	**+2.6**
JNK	**Nakash**	**5.93**	**251**	P	**Pn**	**16 09 47.7**	**+1.1**
JNK				*e*S	**Sn**	**16 10 53.3**	**+0.1**
JAK	**Akkeshi**	**6.21**	**246**	P	**Pn**	**16 09 50.0**	**-0.4**
JAK				*e*S	**Sn**	**16 10 56.9**	**-3.1**
JTKR	**Abashiri--Toko**	**6.33**	**257**	P	**Pn**	**16 09 53.7**	**+1.6**
JAR	**Ashorobuto**	**6.68**	**252**	P	**Pn**	**16 09 57.8**	**+1.0**
JAR				*e*S	**Sn**	**16 11 12.5**	**+0.9**
JMP	**Maruseppu**	**6.70**	**258**	P	**Pn**	**16 09 59.2**	**+2.1**
JOB	**Onbets**	**6.81**	**248**	P	**Pn**	**16 09 59.2**	**+0.6**
JOB				*e*S	**Sn**	**16 11 14.0**	**-0.8**
YSS	**Yuzh-Sakhalins**	**6.82**	**284**	*e*P	**Pn**	**16 09 58.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**6.82**	**284**	*e*PN	**Pn**	**16 09 58.5**	**-0.3**
JKK2	**Kamakawa 2**	**7.16**	**258**	P	**Pn**	**16 10 05.3**	**+1.9**
ASAJ	**Asahikawa**	**7.19**	**260**	P	**Pn**	**16 10 06.1**	**+2.3**
	comp=Z,2.7nm,0.3s,baz=74,slow=23,SNR=16						
ASAJ	**Asahikawa**	**7.19**	**260**	P	**Pn**	**16 10 06.1**	**+2.3**
ASAJ	**Asahikawa**	**7.19**	**260**	PN	**Pn**	**16 10 06.1**	**+2.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JCH	**Churui**	**7.25**	**248**	P	**Pn**	**16 10 04.6**	**-0.1**
JCH				*e*S	**Sn**	**16 11 22.4**	**-3.3**
JNBK	**Urakawa-nobuka**	**7.81**	**247**	P	**Pn**	**16 10 11.7**	**-0.6**
JNBK				*e*S	**Sn**	**16 11 37.2**	**-2.2**
JBT2	**Birat

BALY				*i* S	**Sg**	**16 11 56.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.07**	**38**	*e*PG	**Pg**	**16 11 46.1**	**-0.9**
KRBG				*e*SG	**Sg**	**16 12 01.9**	**+0.9**
KRBG	**Karabiga-Canak**	**1.07**	**38**	*e*Pg	**Pg**	**16 11 46.2**	**-0.9**
KRBG				*e*Sg	**Sg**	**16 12 01.9**	**+0.9**
GONE	**Gonen-Balikesi**	**1.09**	**62**	*e*PN	**Pg**	**16 11 46.4**	**-0.9**
GONE				*e*SN	**Sg**	**16 12 02.1**	**+0.7**
GONE	**Gonen-Balikesi**	**1.09**	**62**	*e*Pn	**Pg**	**16 11 46.4**	**-0.9**
GONE				*e*Sn	**Sg**	**16 12 02.1**	**+0.7**
ERIK	**Erikli-Kesan**	**1.12**	**3**	*e*PN	**Pg**	**16 11 47.6**	**-0.4**
ERIK	**Erikli-Kesan**	**1.12**	**3**	*e*Pn	**Pg**	**16 11 47.6**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.27**	**26**	*e*PN	**Pn**	**16 11 50.2**	**-0.6**
RKY				*e*SN	**Sn**	**16 12 08.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.27**	**26**	*e*Pn	**Pn**	**16 11 50.3**	**-0.6**
RKY				*e*Sn	**Sn**	**16 12 08.2**	**-0.1**
MFT	**Murefte**	**1.40**	**27**	*e*PN	**Pn**	**16 11 52.3**	**-0.3**
MFT				*e*SN	**Sn**	**16 12 12.4**	**+1.0**
MFT	**Murefte**	**1.40**	**27**	*e*Pn	**Pn**	**16 11 52.3**	**-0.3**
MFT				*e*Sn	**Sn**	**16 12 12.4**	**+1.0**

*IDC **23** 16:16:20.1±1.3, 16°62S×173°67W, h0km, mb4.2/9, mb1 4.5/10, mb1mx4.3/19, mbtmp4.2/10, ML2.1/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/35, Error ellipse: s-maj=78.5km s-min=16.8km az=145.0*
*ISCJB **23** 16:16:23.1±0.5, 16°65±0°1×173°7W±0°1, h33km, mb4.2/11, Error ellipse: s-maj=25.6km s-min=9.2km az=139.9*
*NEIC **23** 16:16:25.0±0.4, 16°76S×173°67W, h35km, mb4.0/2, Error ellipse: s-maj=19.6km s-min=9.4km az=139.0*

ISC 23 16:16:25.0±0.5,**16°75**±0°1×**173°7W**±0°1,**h35**km,**n91,** σ0**80**/35,**mb4.2**/11,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.31**	**34**	Pn	**Pn**	**16 17 11.3**	**-3.1**
	11nm,0.3s,baz=192,slow=1.6,SNR=22						
AFI				Sn	**Sn**	**16 17 42.7**	**-10**
	40nm,0.3s,baz=210,slow=23,SNR=12						
AFI				LR	LR	16 17 52.6	
	comp=Z,294nm,21.0s,baz=299,slow=28						
AFI	**Afiamalu**	**3.31**	**34**	Pn	**Pn**	**16 17 11.3**	**-3.1**
AFI				Sn	**Sn**	**16 17 42.7**	**-10**
MSVF	**Nonsavu**	**7.96**	**261**	P	**Pn**	**16 18 27.2**	**+8.9**
RAR	**Rarotonga**	**13.92**	**111**	LR	LR	16 23 25.2	
	comp=Z,202nm,20.5s,baz=223,slow=30						
DZM	**Mont Dzumac**	**19.49**	**251**	LR	LR	16 26 30.8	
	comp=Z,111nm,18.9s,baz=5,9,slow=31						
URZ	**Urewera**	**22.97**	**199**	*e*P	**P**	**16 21 26.7**	**+0.2**
ARMA	**Armidale**	**34.46**	**240**	*e*P	**P**	**16 23 10.1**	**+0.5**
RMQ	**Roma**	**36.14**	**248**	*e*P	**P**	**16 23 24.3**	**+0.2**
	6.7nm,1.1s,mb4.5						
CMSA	**Cobar Meteorol**	**39.68**	**241**	*e*P	**P**	**16 23 53.3**	**-0.6**
QLP	**Quilpie**	**40.18**	**248**	*e*P	**P**	**16 23 57.6**	**-0.5**
STKA	**Stephens Creek**	**43.17**	**241**	P	**P**	**16 24 23.1**	**+0.6**
	11nm,0.8s,mb4.6,baz=86,slow=8.9,SNR=24						
STKA	**Stephens Creek**	**43.17**	**241**	*e*P	**P**	**16 24 22.8**	**+0.3**
STKA	**Stephens Creek**	**43.17**	**241**	*e*P	**P**	**16 24 22.8**	**+0.3**
	2.6nm,0.9s,mb4.0						
BBOO	**Buckleboo**	**47.94**	**241**	*e*P	**P**	**16 25 00.3**	**0.0**
WB2	**Warramunga Arr**	**49.28**	**258**	*e*P	**P**	**16 25 10.4**	**-0.3**
WRAB	**Tennant Creek**	**49.28**	**258**	*e*P	**P**	**16 25 10.3**	**-0.4**
WRA	**Warramunga Arr**	**49.29**	**258**	P	**P**	**16 25 10.5**	**-0.4**
	1.2nm,0.4s,mb4.2,baz=96,slow=7.4,SNR=39						
WRA				PcP	PcP	16 26 34.2	+0.8
	0.6nm,0.5s,baz=95,slow=3.4,SNR=3.6						
WRA	**Warramunga Arr**	**49.29**	**258**	P	**P**	**16 25 10.5**	**-0.4**
WRA				PcP	PcP	16 26 34.2	+0.8
AS31	**Alice Springs**	**49.46**	**253**	*e*P	**P**	**16 25 11.8**	**-0.3**
ASAR	**Alice Springs**	**49.46**	**253**	P	**P**	**16 25 12.1**	**0.0**
	20nm,0.7s,mb5.3,baz=88,slow=8.5,SNR=239						
ASAR	**Alice Springs**	**49.46**	**253**	P	**P**	**16 25 12.1**	**0.0**
QSPA	**South Pole Qui**	**73.38**	**180**	P	**P**	**16 27 51.5**	**-1.3**
NVAR	**Mina Array Bea**	**75.46**	**42**	P	**P**	**16 28 06.2**	**+0.7**
	1.3nm,0.8s,mb3.9,baz=225,slow=9.6,SNR=7.8						
NVAR	**Mina Array Bea**	**75.46**	**42**	P	**P**	**16 28 06.2**	**+0.7**
HLID	**Hailey**	**80.78**	**39**	*e*P	**P**	**16 28 35.6**	**+0.6**
	2.3nm,1.0s,mb4.1						
TXAR	**Lajitas Array**	**81.55**	**56**	P	**P**	**16 28 40.6**	**+1.2**
	0.3nm,0.7s,mb3.3,baz=243,slow=5.5,SNR=3.5						
TXAR	**Lajitas Array**	**81.55**	**56**	P	**P**	**16 28 40.6**	**+1.2**
PDAR	**Pinedale Array**	**83.39**	**42**	P	**P**	**16 28 48.8**	**+0.1**
	2.2nm,0.8s,mb4.2,baz=217,slow=3.9,SNR=19						
PDAR	**Pinedale Array**	**83.39**	**42**	P	**P**	**16 28 48.8**	**+0.1**
ILAR	**Eielson Array**	**83.74**	**11**	P	**P**	**16 28 50.0**	**0.0**
	0.5nm,0.5s,mb3.9,baz=214,slow=5.4,SNR=21						
ILAR	**Eielson Array**	**83.74**	**11**	P	**P**	**16 28 50.0**	**0.0**
YKA	**Yellowknife Ar**	**91.37**	**23**	P	**P**	**16 29 26.7**	**-0.1**
	0.4nm,0.7s,mb3.8,baz=247,slow=4.4,SNR=5.7						
YKA	**Yellowknife Ar**	**91.37**	**23**	P	**P**	**16 29 26.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**92.75**	**288**	P	**P**	**16 29 36.3**	**+2.1**
	1.8nm,0.8s,mb4.6,baz=104,slow=2.3,SNR=20						
CMAR	**Chiang Mai Arr**	**92.75**	**288**	P	**P**	**16 29 36.3**	**+2.1**
MKAR	**Makanchi Array**	**111.51**	**314**	PKiKP	PKiKP	16 34 55.2	-0.4
	0.2nm,0.7s,baz=117,slow=0.3,SNR=4.3						
MKAR	**Makanchi Array**	**111.51**	**314**	PKiKP	PKiKP	16 34 55.2	-0.4
ARCES	**ARCESS Array B**	**125.82**	**352**	PKP	PKPdf	16 35 22.7	+0.3
	2.7nm,0.8s,baz=343,slow=7.9,SNR=3.9						
ARCES	**ARCESS Array B**	**125.82**	**352**	PKP	PKPdf	16 35 22.7	+0.3
CLL	**Collm**	**145.03**	**353**	*i* PKPdf	PKPdf	16 35 58.3	-0.2
	comp=Z,7.0nm,0.8s						
BRG	**Berggiesshubel**	**145.34**	**351**	*i* P	PKPbc	16 35 59.9	+1.0
	comp=Z,8.4nm,1.2s						
UPC	**Upice**	**145.36**	**349**	*e*PKP	PKPdf	16 36 00.2	+1.1
DPC	**Dobruska-Polom**	**145.45**	**349**	*e*PKP	PKPbc	16 36 00.9	+1.6
DPC				*ep*PKP	pPKPdf	16 36 15.4	+4.7
OKC	**Ostrava-Krasne**	**145.56**	**346**	*e*PKP	PKPbc	16 36 01.1	+1.5
CRVS	**Cervenica-Dubn**	**145.56**	**342**	*e*PKP	PKPbc	16 36 01.8	+2.1
PVCC	**Panska Ves**	**145.58**	**351**	*e*PKP	PKPbc	16 36 01.0	+1.3
PRU	**Pruhonice**	**146.11**	**350**	*e*PKP	PKPbc	16 36 02.6	+1.3
NKC	**Novy Kostel**	**146.16**	**353**	*e*PKP	PKPbc	16 36 02.2	+0.8
KECS	**Kecovo**	**146.22**	**343**	*e*PKP	PKPbc	16 36 03.3	+1.6
GIVF	**Givet**	**146.63**	**2**	*e*PKP1	PKPbc	16 36 03.1	+0.3
	comp=Z,13nm,0.7s						
GIVF	**Givet**	**146.63**	**2**	*e*P	PKPbc	16 36 03.1	+0.3
VYHS	**Vyhne**	**146.65**	**345**	*e*PKP	PKPbc	16 36 04.1	+1.2
BAIF	**Baives**	**146.66**	**2**	*e*PKP1	PKPbc	16 36 03.4	+0.5
	comp=Z,19nm,0.8s						
BAIF	**Baives**	**146.66**	**2**	*e*P	PKPbc	16 36 03.4	+0.5
BRTR	**Keskin Array B**	**146.95**	**320**	PKPbc	PKPbc	16 36 05.4	+1.3
	comp=Z,2.5nm,0.7s,baz=119,slow=2.8,SNR=9.7						
BRTR	**Keskin Array B**	**146.95**	**320**	PKPbc	PKPbc	16 36 05.4	+1.3
KHC	**Kasperske Hory**	**147.09**	**351**	*e*PKP	PKPbc	16 36 06.0	+1.8
KHC				*ep*PKP	pPKPdf	16 36 17.1	+3.6
GERES	**GERESS Array B**	**147.35**	**351**	PKPbc	PKPbc	16 36 05.8	+0.8
	comp=Z,1.1nm,0.7s,baz=29,slow=3.0,SNR=9.8						
GERES	**GERESS Array B**	**147.35**	**351**	PKPbc	PKPbc	16 36 05.8	+0.8
FLN	**La Foliniere**	**147.52**	**8**	*e*PKP1	PKPbc	16 36 05.2	-0.2
	comp=Z,7.5nm,0.6s						
FLN	**La Foliniere**	**147.52**	**8**	*e*P	PKPbc	16 36 05.2	-0.2
SGMF	**Saint Gilles**	**147.68**	**11**	*e*PKP1	PKPbc	16 36 04.7	-1.1
	comp=Z,26nm,1.1s						
SGMF	**Saint Gilles**	**147.68**	**11**	*e*P	PKPbc	16 36 04.7	-1.1
LDF	**La Druitiere**	**147.73**	**8**	*e*PKP1	PKPbc	16 36 05.6	-0.4
	comp=Z,8.9nm,0.8s						
LDF	**La Druitiere**	**147.73**	**8**	*e*P	PKPbc	16 36 05.6	-0.4
GRR	**Gorron**	**147.83**	**9**	*e*PKP1	PKPbc	16 36 06.3	+0.1
	comp=Z,13nm,0.8s						
GRR	**Gorron**	**147.83**	**9**	*e*P	PKPbc	16 36 06.3	+0.1
CDF	**Champ du Feu**	**148.34**	**359**	*e*PKP1	PKPbc	16 36 08.1	+0.5
	comp=Z,23nm,1.1s						
CDF	**Champ du Feu**	**148.34**	**359**	*e*P	PKPbc	16 36 08.1	+0.5
HAU	**Haudompre**	**148.75**	**360**	*e*PKP1	PKPbc	16 36 09.1	+0.4
	comp=Z,14nm,0.9s						
HAU	**Haudompre**	**148.75**	**360**	*e*P	PKPbc	16 36 09.1	+0.4
LOR	**Lormes**	**149.42**	**3**	*e*PKP1	PKPbc	16 36 10.0	-0.4
LOR	**Lormes**	**149.42**	**3**	*e*P	PKPbc	16 36 10.0	-0.4
SSF	**Saint Saulge**	**149.61**	**4**	*e*PKP1	PKPbc	16 36 10.6	-0.2
	comp=Z,41nm,1.4s						
SSF	**Saint Saulge**	**149.61**	**4**	*e*P	PKPbc	16 36 10.6	-0.2
MFF	**Saint Martin d**	**149.68**	**9**	*e*PKP1	PKPbc	16 36 11.0	0.0
MFF	**Saint Martin d**	**149.68**	**9**	*e*P	PKPbc	16 36 11.0	0.0
AVF	**Avril sur Loir**	**149.87**	**4**	*e*PKP1	PKPbc	16 36 11.6	+0.1
AVF	**Avril sur Loir**	**149.87**	**4**	*e*P	PKPbc	16 36 11.6	+0.1
BGF	**Bois d'Agland**	**150.06**	**5**	*e*PKP1	PKPbc	16 36 12.2	+0.2
	comp=Z,17nm,1.0s						
BGF	**Bois d'Agland**	**150.06**	**5**	*e*P	PKPbc	16 36 12.2	+0.2
CABF	**La Chapelle**	**150.15**	**0**	*e*PKP1	PKPbc	16 36 13.2	+1.0
	comp=Z,22nm,1.1s						
CABF	**La Chapelle**	**150.15**	**0**	*e*P	PKPbc	16 36 13.2	+1.0
LPL	**La Plagne**	**151.24**	**359**	*e*PKP1	PKPbc	16 36 16.1	+1.3
	comp=Z,7.1nm,0.9s						
LPL	**La Plagne**	**151.24**	**359**	*e*P	PKPbc	16 36 16.1	+1.3
LPG	**La Plagne**	**151.26**	**359**	*e*PKP1	PKPbc	16 36 16.3	+1.5
LPG	**La Plagne**	**151.26**	**359**	*e*P	PKPbc	16 36 16.3	+1.5
CAF	**Calviac**	**151.61**	**6**	*e*PKP1	PKPbc	16 36 16.0	+0.3
CAF	**Calviac**	**151.61**	**6**	*e*P	PKPbc	16 36 16.0	+0.3
MBDF	**Montbardon**	**152.03**	**359**	*e*PKP1	PKPbc	16 36 17.3	+0.7
	comp=Z,5.9nm,0.8s						
MBDF	**Montbardon**	**152.03**	**359**	*e*P	PKPbc	16 36 17.3	+0.7

*ISCJB **23** 16:19:36.3±0.6, 44°61N±0°03×10°42E±0°07, h30km±4km, Error ellipse: s-maj=8.5km s-min=4.8km az=167.8*
*ROM **23** 16:19:36.3±0.3, 44°60N×10°42E, h28km±4km, Md2.0/5, Ml1.9/4, Error ellipse: s-maj=4.9km s-min=2.1km az=67.0*
*CSEM **23** 16:19:37.3±0.3, 44°57N×10°40E, h20km, ML2.3/12, Error ellipse: s-maj=7.5km s-min=4.3km az=60.0*
*LDG **23** 16:19:38.0±0.6, 44°55N×10°62E, h25km, Ml2.6/9, Error ellipse: s-maj=13.7km s-min=6.6km az=95.0*
*NEIC **23** 16:19:38.0, 44°55N×10°62E, h25km, ML2.6(LDG), After LDG.*

ISC 23 16:19:37.2±0.6,**44°59N**±0°03×**10°42E**±0°07,**h25**km±4km, **n51,** σ0**98**/83,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.17**	**182**	Pg	**Pb**	**16 19 41.9**	**-0.7**
ERBM				Sg	**Sb**	**16 19 46.7**	**+0.6**
	11μm,5.4s						
ERBM	**Eremo**	**0.17**	**182**	Pg	**Pb**	**16 19 41.9**	**-0.7**
ERBM				Sg	**Sb**	**16 19 46.7**	**+0.6**
	11μm,5.4s						
PRMA	**PARMA**	**0.19**	**336**	Pg	**Pb**	**16 19 42.0**	**-0.9**
PRMA				Sg	**Sb**	**16 19 47.3**	**+0.7**
	166nm,0.3s						
PRMA	**PARMA**	**0.19**	**336**	Pg	**Pb**	**16 19 42.0**	**-0.9**
PRMA				Sg	**Sb**	**16 19 47.3**	**+0.7**
	166nm,0.3s						
GSCL	**Gusciola**	**0.27**	**153**	Pg	**Pb**	**16 19 43.5**	**-0.3**
GSCL				Sg	**Sb**	**16 19 47.9**	**-0.3**
	39nm,0.3s						
GSCL	**Gusciola**	**0.27**	**153**	Pg	**Pb**	**16 19 43.5**	**-0.3**
GSCL				Sg	**Sb**	**16 19 47.9**	**-0.3**
	39nm,0.3s						
BDI	**Bagni Di Lucca**	**0.54**	**166**	Pg	**Pb**	**16 19 47.9**	**-0.2**
BDI				Sg	**Sb**	**16 19 56.0**	**+0.5**
	71nm,0.6s						
BDI	**Bagni Di Lucca**	**0.54**	**166**	Pg	**Pb**	**16 19 47.9**	**-0.2**
BDI				Sg	**Sb**	**16 19 56.0**	**+0.5**
	71nm,0.6s						
SC2M	**Scurtabo**	**0.66**	**254**	Pg	**Pb**	**16 19 49.2**	**-0.9**
SC2M				Sg	**Sb**	**16 19 59.0**	**+0.1**
SC2M	**Scurtabo**	**0.66**	**254**	Pg	**Pb**	**16 19 49.2**	**-0.9**
SC2M				Sg	**Sb**	**16 19 59.0**	**+0.1**
MAIM	**Mastiano**	**0.68**	**176**	Pg	**Pb**	**16 19 49.9**	**-0.5**
MAIM				Sg	**Sb**	**16 19 59.1**	**-0.2**
	23nm,0.6s						
MAIM	**Mastiano**	**0.68**	**176**	Pg	**Pb**	**16 19 49.9**	**-0.5**
MAIM				Sg	**Sb**	**16 19 59.1**	**-0.2**
	23nm,0.6s						
SBF	**Sospel**	**2.27**	**252**	*e*Pn	**Pn**	**16 20 13.4**	**+0.4**
SBF				*e*Sn	**Sn**	**16 20 40.8**	**+0.7**
	10nm,0.4s						
SBF	**Sospel**	**2.27**	**252**	*e*Pn	**Pn**	**16 20 13.4**	**+0.4**
SBF				*e*Sn	**Sn**	**16 20 40.8**	**+0.7**
SBF	**Sospel**	**2.27**	**252**	*e*Pn	**Pn**	**16 20 13.4**	**+0.4**
SBF				*e*Sn	**Sn**	**16 20 40.8**	**+0.7**
	5.1nm,0.4s						
PGF	**Pioggiola**	**2.29**	**207**	*e*Pn	**Pn**	**16 20 13.0**	**-0.3**
PGF				*e*Sn	**Sn**	**16 20 39.9**	**-0.7**
	2.3nm,0.2s						
PGF	**Pioggiola**	**2.29**	**207**	*e*Pn	**Pn**	**16 20 13.0**	**-0.3**
PGF				*e*Sn	**Sn**	**16 20 39.9**	**-0.7**
PGF	**Pioggiola**	**2.29**	**207**	*e*Pn	**Pn**	**16 20 13.0**	**-0.3**
PGF				*e*Sn	**Sn**	**16 20 39.9**	**-0.7**
	1.1nm,0.2s						
MBDF	**Montbardon**	**2.61**	**274**	*e*Pn	**Pn**	**16 20 19.6**	**+1.9**
MBDF				*e*Sn	**Sn**	**16 20 47.5**	**-1.0**
	3.7nm,0.4s						
MBDF	**Montbardon**	**2.61**	**274**	*e*Pn	**Pn**	**16 20 19.6**	**+1.9**
MBDF				*e*Sn	**Sn**	**16 20 47.5**	**-1.0**
MBDF	**Montbardon**	**2.61**	**274**	*e*Pn	**Pn**	**16 20 19.6**	**+1.9**
MBDF				*e*Sn	**Sn**	**16 20 47.5**	**-1.0**
	1.9nm,0.4s						
LPL	**La Plagne**	**2.77**	**291**	*e*Pn	**Pn**	**16 20 20.6**	**+0.6**
LPL	**La Plagne**	**2.77**	**291**	*e*Pn	**Pn**	**16 20 20.6**	**+0.6**
LPL	**La Plagne**	**2.77**	**291**	*e*Pn	**Pn**	**16 20 20.6**	**+0.6**
FRF	**La Foret Royal**	**2.91**	**251**	*e*Pn	**Pn**	**16 20 22.1**	**+0.3**
FRF				*e*Sn	**Sn**	**16 20 55.8**	**-0.1**
	5.8nm,0.2s						
FRF	**La Foret Royal**	**2.91**	**251**	*e*Pn	**Pn**	**16 20 22.1**	**+0.3**
FRF				*e*Sn	**Sn**	**16 20 55.8**	**-0.1**
FRF	**La Foret Royal**	**2.91**	**251**	*e*Pn	**Pn**	**16 20 22.1**	**+0.3**
FRF				*e*Sn	**Sn**	**16 20 55.8**	**-0.1**
	2.9nm,0.2s						
LMR	**La Mourre**	**3.09**	**247**	*e*Pn	**Pn**	**16 20 24.3**	**0.0**
LMR				*e*Sn	**Sn**	**16 20 59.0**	**-1.4**
	5.1nm,0.2s						
LMR	**La Mourre**	**3.09**	**247**	*e*Pn	**Pn**	**16 20 24.3**	**0.0**
LMR				*e*Sn	**Sn**	**16 20 59.0**	**-1.4**
LMR	**La Mourre**	**3.09**	**247**	*e*Pn	**Pn**	**16 20 24.3**	**0.0**
LMR				*e*Sn	**Sn**	**16 20 59.0**	**-1.4**
	2.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.25**	**277**	*e*Pn	**Pn**	**16 20 29.4**	**+2.8**
ORIF	**Oris-en-Rattie**	**3.25**	**277**	*e*Pn	**Pn**	**16 20 29.4**	**+2.8**
ORIF	**Oris-en-Rattie**	**3.25**	**277**	*e*Pn	**Pn**	**16 20 29.4**	**+2.8**
SMRF	**Simiane la Rot**	**3.53**	**262**	*e*Pn	**Pn**	**16 20 32.5**	**+2.1**
SMRF	**Simiane la Rot**	**3.53**	**262**	*e*Pn	**Pn**	**16 20 32.5**	**+2.1**
SMRF	**Simiane la Rot**	**3.53**	**262**	*e*Pn	**Pn**	**16 20 32.5**	**+2.1**
CABF	**La Chapelle**	**3.65**	**305**	*e*Pn	**Pn**	**16 20 33.8**	**+1.7**
CABF	**La Chapelle**	**3.65**	**305**	*e*Pn	**Pn**	**16 20 33.8**	**+1.7**
CABF	**La Chapelle**	**3.65**	**305**	*e*Pn	**Pn**	**16 20 33.8**	**+1.7**
HINF	**Hinteralfeld**	**4.07**	**324**	*e*Pn	**Pn**	**16 20 38.6**	**+0.8**
HINF				*e*Sn	**Sn**	**16 21 22.9**	**-1.7**
	2.8nm,0.3s						
HINF	**Hinteralfeld**	**4.07**	**324**	*e*Pn	**Pn**	**16 20 38.6**	**+0.8**
HINF				*e*Sn	**Sn**	**16 21 22.9**	**-1.7**
HINF	**Hinteralfeld**	**4.07**	**324**	*e*Pn	**Pn**	**16 20 38.6**	**+0.8**
HINF				*e*Sn	**Sn**	**16 21 22.9**	**-1.7**
	1.4nm,0.3s						
CDF	**Champ du Feu**	**4.40**	**332**	*e*Pn	**Pn**	**16 20 41.9**	**-0.4**
CDF				*e*Sn	**Sn**	**16 21 27.9**	**-4.8**
	0.6nm,0.2s						
CDF	**Champ du Feu**	**4.40**	**332**	*e*Pn	**Pn**	**16 20 41.9**	**-0.4**
CDF				*e*Sn	**Sn**	**16 21 27.9**	**-4.8**
CDF	**Champ du Feu**	**4.40**	**332**	*e*Pn	**Pn**	**16 20 41.9**	**-0.4**
HAU	**Haudompre**	**4.43**	**322**	*e*Sn	**Sn**	**16 21 31.5**	**-2.0**
	3.8nm,0.3s						
HAU	**Haudompre**	**4.43**	**322**	*e*Sn	**Sn**	**16 21 31.5**	**-2.0**
HAU	**Haudompre**	**4.43**	**322**	*e*Sn	**Sn**	**16 21 31.5**	**-2.0**
LOR	**Lormes**	**5.30**	**303**	*e*Sn	**Sn**	**16 21 55.3**	**+0.3**
	0.9nm,0.3s						
LOR	**Lormes**	**5.30**	**303**	*e*Sn	**Sn**	**16 21 55.3**	**+0.3**
LOR	**Lormes**	**5.30**	**303**	*e*Sn	**Sn**	**16 21 55.3**	**+0.3**
	0.4nm,0.3s						

*ROM **23** 16:21:50.7±0.4, 44°55N×10°38E, h24km±5km, Md2.2/11, Ml1.9/5, Error ellipse: s-maj=3.7km s-min=3.1km az=95.0*
*ISCJB **23** 16:21:50.7±0.4, 44°57N±0°03×10°36E±0°04, h24km±3km, Error ellipse: s-maj=4.9km s-min=4.4km az=161.5*
*CSEM **23** 16:21:50.8±0.1, 44°54N×10°39E, h16km±1km, ML2.4/9, Error ellipse: s-maj=3.4km s-min=2.9km az=45.0*
*GEN **23** 16:21:50.1, 44°55N×10°43E, h22km, ML1.8*
*LDG **23** 16:21:51.5±0.5, 44°56N×10°61E, h20km, Ml2.6/11, Error ellipse: s-maj=10.3km s-min=5.3km az=92.0*
*NEIC **23** 16:21:51.5, 44°56N×10°61E, h20km, ML2.6(LDG), After LDG.*

ISC 23 16:21:51.2±0.3,**44°56N**±0°02×**10°37E**±0°04,**h20**km±3km, **n73,** σ1**97**/109,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.15**	**168**	Pg	**Pb**	**16 21 55.1**	**-0.6**
ERBM				Sg	**Sb**	**16 21 59.4**	**+0.7**
	64nm,0.1s						
ERBM	**Eremo**	**0.15**	**168**	Pg	**Pb**	**16 21 55.1**	**-0.6**
ERBM				Sg	**Sb**	**16 21 59.4**	**+0.7**
	64nm,0.1s						
PRMA	**PARMA**	**0.20**	**348**	Pg	**Pb**	**16 21 56.0**	**-0.4**
PRMA				Sg	**Sb**	**16 22 01.5**	**+1.5**
	257nm,0.5s						
PRMA	**PARMA**	**0.20**	**348**	Pg	**Pb**	**16 21 56.0**	**-0.4**
PRMA				Sg	**Sb**	**16 22 01.5**	**+1.5**
	257nm,0.5s						
GRAM	**Graiana**	**0.23**	**252**	P	**Pb**	**16 21 56.4**	**-0.4**
VALM	**Valbona**	**0.23**	**202**	P	**Pb**	**16 21 55.9**	**-0.9**
VALM				S	**Sb**	**16 21 59.9**	**-0.7**
GSCL	**Gusciola**	**0.26**	**144**	Pg	**Pb**	**16 21 56.1**	**-1.2**
GSCL				Sg	**Sb**	**16 22 02.7**	**+1.3**
	34nm,0.2s						
GSCL	**Gusciola**	**0.26**	**144**	Pg	**Pb**	**16 21 56.1**	**-1.2**
NOVE	**Novellara**	**0.34**	**46**	Pg	**Pb**	**16 21 57.4**	**-1.2**
NOVE				Sg	**Sb**	**16 22 04.8**	**+1.3**
	335nm,0.6s						
NOVE	**Novellara**	**0.34**	**46**	Pg	**Pb**	**16 21 57.4**	**-1.2**
NOVE				Sg	**Sb**	**16 22 04.8**	**+1.3**
	335nm,0.6s						
CODM	**Codolo**	**0.41**	**245**	P	**Pb**	**16 21 59.2**	**-0.6**
ZCCA	**Zocca**	**0.48**	**116**	Pg	**Pb**	**16 22 00.6**	**-0.4**
ZCCA	**Zocca**	**0.48**	**116**	Pg	**Pb**	**16 22 00.6**	**-0.4**
BDI	**Bagni Di Lucca**	**0.53**	**162**	Pg	**Pb**	**16 22 00.6**	**-1.1**
	75nm,0.7s						
BDI	**Bagni Di Lucca**	**0.53**	**162**	Pg	**Pb**	**16 22 00.6**	**-1.1**
	75nm,0.7s						
SC2M	**Scurtabo**	**0.62**	**255**	Pg	**Pb**	**16 22 03.2**	**-0.1**
SC2M				Sg	**Sb**	**16 22 12.2**	**+0.7**
SC2M	**Scurtabo**	**0.62**	**255**	P	**Pb**	**16 22 02.8**	**-0.5**
SC2M	**Scurtabo**	**0.62**	**255**	Pg	**Pb**	**16 22 03.2**	**-0.1**
SC2M				S	**Sb**	**16 22 11.4**	**-0.1**
SC2M				Sg	**Sb**	**16 22 12.2**	**+0.7**
MAIM	**Mastiano**	**0.66**	**172**	Pg	**Pb**	**16 22 04.0**	**+0.1**
MAIM				Sg	**Sb**	**16 22 12.3**	**-0.3**
MAIM	**Mastiano**	**0.66**	**172**	P	**Pb**	**16 22 02.9**	**-1.0**
MAIM	**Mastiano**	**0.66**	**172**	Pg	**Pb**	**16 22 04.0**	**+0.1**
MAIM				S	**Sb**	**16 22 10.9**	**-1.7**
MAIM				Sg	**Sb**	**16 22 12.3**	**-0.3**
FNVD	**Fontana Vidola**	**0.67**	**126**	Pg	**Pb**	**16 22 03.2**	**-1.0**
FNVD	**Fontana Vidola**	**0.67**	**126**	Pg	**Pb**	**16 22 03.2**	**-1.0**
VMG	**Vicchio**	**1.04**	**125**	Pg	**Pb**	**16 22 10.8**	**+0.4**
	21nm,0.2s						
VMG	**Vicchio**	**1.04**	**125**	Pg	**Pb**	**16 22 10.8**	**+0.4**
	21nm,0.2s						
SFI	**Santa Sofia**	**1.25**	**121**	Pg	**Pn**	**16 22 14.7**	**+1.2**
	19nm,0.7s						
SFI	**Santa Sofia**	**1.25**	**121**	Pg	**Pn**	**16 22 14.7**	**+1.2**
	19nm,0.7s						
SBF	**Sospel**	**2.22**	**253**	*e*Pn	**Pn**	**16 22 27.3**	**+0.4**
SBF				*e*Sn	**Sn**	**16 22 54.8**	**+1.1**
	7.7nm,0.3s						
SBF	**Sospel**	**2.22**	**253**	*e*Pn	**Pn**	**16 22

NOVE	Novellara	0.34	45	Pg	Pb	16 33 01.3	-0.8
NOVE				Sg	Sb	16 33 08.8	+1.6
	316nm,0.4s						
NOVE	Novellara	0.34	45	Pg	Pb	16 33 01.3	-0.8
CODM	Codolo	0.41	246	P	Pb	16 33 02.7	-0.6
CODM				S	Sb	16 33 08.2	-0.9
BDI	Bagni Di Lucca	0.52	162	Pg	Pb	16 33 04.6	-0.5
BDI				Sg	Sb	16 33 12.2	0.0
	87nm,0.4s						
BDI	Bagni Di Lucca	0.52	162	Pg	Pb	16 33 04.6	-0.5
BDI				Sg	Sb	16 33 12.2	0.0
	87nm,0.4s						
SC2M	Scurtabo	0.62	256	Pg	Pb	16 33 07.1	+0.3
SC2M				Sg	Sb	16 33 16.5	+1.4
SC2M	Scurtabo	0.62	256	P	Pb	16 33 05.7	-1.1
SC2M	Scurtabo	0.62	256	Pg	Pb	16 33 07.1	+0.3
SC2M				S	Sb	16 33 13.7	-1.4
SC2M				Sg	Sb	16 33 16.5	+1.4
MAIM	Mastiano	0.65	173	Pg	Pb	16 33 06.9	-0.4
MAIM				Sg	Sb	16 33 15.7	-0.1
	35nm,0.4s						
MAIM	Mastiano	0.65	173	P	Pb	16 33 06.3	-1.0
MAIM	Mastiano	0.65	173	Pg	Pb	16 33 06.9	-0.4
MAIM				S	Sb	16 33 14.6	-1.2
MAIM				Sg	Sb	16 33 15.7	-0.1
	35nm,0.4s						
FNVD	Fontana Vidola	0.66	126	Pg	Pb	16 33 07.5	0.0
FNVD	Fontana Vidola	0.66	126	Pg	Pb	16 33 07.5	0.0
SALO	Salr	1.07	6	Pg	Pn	16 33 14.4	+0.2
	155nm,0.6s						
SALO	Salr	1.07	6	Pg	Pn	16 33 14.4	+0.2
	155nm,0.6s						
ROVR	Rover¯¤ Verone	1.20	24	Pg	Pn	16 33 15.3	-0.6
ROVR				Sg	Sn	16 33 31.7	+0.3
ROVR	Rover¯¤ Verone	1.20	24	Pg	Pn	16 33 15.3	-0.6
ROVR				Sg	Sn	16 33 31.7	+0.3
MDI	Monti di Nese	1.31	339	Pg	Pn	16 33 18.5	+1.0
	92nm,0.3s						
MDI	Monti di Nese	1.31	339	Pg	Pn	16 33 18.5	+1.0
	92nm,0.3s						
MABI	Malga Bissina	1.50	4	Pg	Pn	16 33 20.0	-0.1
MABI				Sg	Sn	16 33 39.3	+0.3
CTI	Castel Tesino	1.74	31	Pg	Pn	16 33 23.0	-0.4
CTI				Sg	Sn	16 33 44.0	-0.9
	73nm,0.2s						
APPI	Appiano	2.01	17	Pg	Pn	16 33 27.7	+0.5
SBF	Sospel	2.23	253	*e*Pn	Pn	16 33 30.6	+0.5
SBF				*e*Sn	Sn	16 33 58.2	+1.3
	12nm,0.3s						
SBF	Sospel	2.23	253	*e*Pn	Pn	16 33 30.6	+0.5
SBF				*e*Sn	Sn	16 33 58.2	+1.3
SBF	Sospel	2.23	253	*e*Pn	Pn	16 33 30.6	+0.5
SBF				*e*Sn	Sn	16 33 58.2	+1.3
	6.2nm,0.3s						
PGF	Pioggiola	2.25	207	*e*Pn	Pn	16 33 30.3	-0.1
PGF				*e*Sn	Sn	16 33 57.0	-0.3
	2.8nm,0.2s						
PGF	Pioggiola	2.25	207	*e*Pn	Pn	16 33 30.3	-0.1
PGF				*e*Sn	Sn	16 33 57.0	-0.3
PGF	Pioggiola	2.25	207	*e*Pn	Pn	16 33 30.3	-0.1
PGF				*e*Sn	Sn	16 33 57.0	-0.3
	1.4nm,0.2s						
MBDF	Montbardon	2.58	275	*e*Pn	Pn	16 33 35.6	+0.7
MBDF				*e*Sn	Sn	16 34 05.0	-0.6
	1.3nm,0.2s						
MBDF	Montbardon	2.58	275	*e*Pn	Pn	16 33 35.6	+0.7
MBDF				*e*Sn	Sn	16 34 05.0	-0.6
MBDF	Montbardon	2.58	275	*e*Pn	Pn	16 33 35.6	+0.7
MBDF				*e*Sn	Sn	16 34 05.0	-0.6
	0.6nm,0.2s						
LPG	La Plagne	2.74	291	*e*Pn	Pn	16 33 37.6	+0.5
LPG				*e*Sn	Sn	16 34 08.5	-1.0
	1.4nm,0.3s						
LPG	La Plagne	2.74	291	*e*Pn	Pn	16 33 37.6	+0.5
LPG				*e*Sn	Sn	16 34 08.5	-1.0
LPG	La Plagne	2.74	291	*e*Pn	Pn	16 33 37.6	+0.5
LPG				*e*Sn	Sn	16 34 08.5	-1.0
	0.7nm,0.3s						
LPL	La Plagne	2.76	292	*e*Pn	Pn	16 33 38.1	+0.7
LPL	La Plagne	2.76	292	*e*Pn	Pn	16 33 38.1	+0.7
LPL	La Plagne	2.76	292	*e*Pn	Pn	16 33 38.1	+0.7
FRF	La Foret Royal	2.87	251	*e*Pn	Pn	16 33 39.4	+0.5
FRF				*e*Sn	Sn	16 34 13.6	+0.9
	11nm,0.3s						
FRF	La Foret Royal	2.87	251	*e*Pn	Pn	16 33 39.4	+0.5
FRF				*e*Sn	Sn	16 34 13.6	+0.9
FRF	La Foret Royal	2.87	251	*e*Pn	Pn	16 33 39.4	+0.5
FRF				*e*Sn	Sn	16 34 13.6	+0.9
	5.7nm,0.3s						
LMR	La Mourre	3.05	248	*e*Pn	Pn	16 33 41.6	+0.2
LMR				*e*Sn	Sn	16 34 16.5	-0.7
	6.5nm,0.3s						
LMR	La Mourre	3.05	248	*e*Pn	Pn	16 33 41.6	+0.2
LMR				*e*Sn	Sn	16 34 16.5	-0.7
LMR	La Mourre	3.05	248	*e*Pn	Pn	16 33 41.6	+0.2
LMR				*e*Sn	Sn	16 34 16.5	-0.7
	3.2nm,0.3s						
ORIF	Oris-en-Rattie	3.23	278	*e*Pn	Pn	16 33 46.1	+2.3
ORIF	Oris-en-Rattie	3.23	278	*e*Pn	Pn	16 33 46.1	+2.3
ORIF	Oris-en-Rattie	3.23	278	*e*Pn	Pn	16 33 46.1	+2.3
SMRF	Simiane la Rot	3.50	262	*e*Pn	Pn	16 33 49.4	+1.8
SMRF	Simiane la Rot	3.50	262	*e*Pn	Pn	16 33 49.4	+1.8
SMRF	Simiane la Rot	3.50	262	*e*Pn	Pn	16 33 49.4	+1.8
CABF	La Chapelle	3.65	306	*e*Pn	Pn	16 33 50.8	+1.2
CABF	La Chapelle	3.65	306	*e*Pn	Pn	16 33 50.8	+1.2
CABF	La Chapelle	3.65	306	*e*Pn	Pn	16 33 50.8	+1.2
HINF	Hinteralfeld	4.08	324	*e*Pn	Pn	16 33 55.1	-0.4
HINF				*e*Sn	Sn	16 34 40.1	-2.4
	3.0nm,0.3s						
HINF	Hinteralfeld	4.08	324	*e*Pn	Pn	16 33 55.1	-0.4
HINF				*e*Sn	Sn	16 34 40.1	-2.4
HINF	Hinteralfeld	4.08	324	*e*Pn	Pn	16 33 55.1	-0.4
HINF				*e*Sn	Sn	16 34 40.1	-2.4
	1.5nm,0.3s						
CDF	Champ du Feu	4.41	332	*e*Pn	Pn	16 33 59.0	-1.1
CDF				*e*Sn	Sn	16 34 46.3	-4.4
	3.4nm,0.4s						
CDF	Champ du Feu	4.41	332	*e*Pn	Pn	16 33 59.0	-1.1
CDF				*e*Sn	Sn	16 34 46.3	-4.4
CDF	Champ du Feu	4.41	332	*e*Pn	Pn	16 33 59.0	-1.1
CDF				*e*Sn	Sn	16 34 46.3	-4.4
	1.7nm,0.4s						
HAU	Haudompre	4.44	322	*e*Pn	Pn	16 34 00.5	0.0
HAU				*e*Sn	Sn	16 34 48.7	-2.7
	3.8nm,0.3s						
HAU	Haudompre	4.44	322	*e*Pn	Pn	16 34 00.5	0.0
HAU				*e*Sn	Sn	16 34 48.7	-2.7
HAU	Haudompre	4.44	322	*e*Pn	Pn	16 34 00.5	0.0
HAU				*e*Sn	Sn	16 34 48.7	-2.7
	1.9nm,0.3s						
SMF	Signal de Mont	5.04	297	*e*Pn	Pn	16 34 08.9	+0.2
SMF	Signal de Mont	5.04	297	*e*Pn	Pn	16 34 08.9	+0.2
SMF	Signal de Mont	5.04	297	*e*Pn	Pn	16 34 08.9	+0.2
LOR	Lormes	5.29	303	*e*Pn	Pn	16 34 12.8	+0.6
LOR				*e*Sn	Sn	16 35 12.1	-0.4
	2.4nm,0.4s						
LOR	Lormes	5.29	303	*e*Pn	Pn	16 34 12.8	+0.6
LOR				*e*Sn	Sn	16 35 12.1	-0.4
LOR	Lormes	5.29	303	*e*Pn	Pn	16 34 12.8	+0.6
LOR				*e*Sn	Sn	16 35 12.1	-0.4
	1.2nm,0.4s						

ISCJB ***23*** *16:46:12.3±0.8, 36°.51N±0°.04×142°.60E±0°.06, h33km, mb3.5/4, Error ellipse: s-maj=7.6km s-min=5.2km az=16.8*
JMA ***23*** *16:46:12.9±0.2, 36°.51N×142°.51E, h67km, M3.2*
IDC ***23*** *16:46:15.2±1.7, 36°.88N×142°.05E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/24, mbtmp3.5/6, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/43, Error ellipse: s-maj=45.5km s-min=23.1km az=70.0*
NEIC ***23*** *16:46:16.2±0.9, 36°.93N×142°.17E, h10km, MG3.2(JMA), Error ellipse: s-maj=17.1km s-min=10.9km az=116.0*
ISC 23 16:46:14.0±0.8,**36°.50N**±0°.04×**142°.56E**±0°.07,**h35**km,**n32,**
σ0°**77**/42,**mb3.5**/4,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.53**	**294**	P	**Pn**	**16 46 38.0**	**-0.9**
ONAJ				*e*S	**Sn**	**16 46 57.7**	**+0.1**
CHOJ	**Chosi**	**1.59**	**240**	P	**Pn**	**16 46 39.5**	**-0.1**
JFK	**Kawauchi**	**1.60**	**303**	P	**Pn**	**16 46 39.4**	**-0.4**
JFK				*e*S	**Sn**	**16 46 58.9**	**-0.4**
JHO	**Hitachi**	**1.60**	**275**	P	**Pn**	**16 46 38.7**	**-1.2**
JHO				*e*S	**Sn**	**16 46 58.7**	**-0.6**
JMM	**Marumori**	**1.96**	**315**	P	**Pn**	**16 46 43.8**	**-1.0**
JMM				*e*S	**Sn**	**16 47 07.5**	**-0.6**
JFT	**Otama**	**2.05**	**300**	P	**Pn**	**16 46 45.9**	**-0.1**
JFT				*e*S	**Sn**	**16 47 10.0**	**-0.3**
JIO	**Ouri**	**2.17**	**334**	P	**Pn**	**16 46 46.9**	**-0.8**
JIO				*e*S	**Sn**	**16 47 13.4**	**0.0**
BSO1	**Boso 1**	**2.25**	**215**	P	**Pn**	**16 46 48.5**	**-0.2**
JAG	**Ashikaga**	**2.50**	**269**	P	**Pn**	**16 46 51.8**	**-0.4**
JMK	**Ichinoseki**	**2.67**	**337**	P	**Pn**	**16 46 54.7**	**+0.2**
JMK				*e*S	**Sn**	**16 47 26.4**	**+0.8**
JYK	**Kaneyama**	**2.98**	**325**	P	**Pn**	**16 46 58.6**	**-0.1**
JYK				*e*S	**Sn**	**16 47 34.1**	**+0.9**
JRY	**Ryogami san**	**2.99**	**262**	P	**Pn**	**16 46 58.4**	**-0.5**
JOD2	**Odawara 2**	**3.07**	**247**	P	**Pn**	**16 46 59.5**	**-0.6**
JOM	**Ohasama**	**3.13**	**342**	P	**Pn**	**16 47 01.2**	**+0.3**
JOM				*e*S	**Sn**	**16 47 37.1**	**+0.1**
JYN	**Shimob**	**3.40**	**254**	P	**Pn**	**16 47 05.3**	**+0.7**
MJAR	**Matsushiro Arr**	**3.50**	**272**	Pn	**Pn**	**16 47 06.1**	**+0.2**
	3.4nm,0.3s,baz=84,slow=8.8,SNR=47						
MJAR				LR	LR	16 48 03.2	
	comp=Z,174nm,19.1s,baz=45,slow=35						
MJAR	**Matsushiro Arr**	**3.50**	**272**	Pn	**Pn**	**16 47 06.1**	**+0.2**
MAJO	**Matsushiro**	**3.50**	**272**	*e*P	**Pn**	**16 47 06.9**	**+0.9**
MAT	**Matsushiro**	**3.50**	**272**	P	**Pn**	**16 47 06.8**	**+0.8**
MAT				S	**Sn**	**16 47 47.1**	**+0.9**
MAT	**Matsushiro**	**3.50**	**272**	P	**Pn**	**16 47 06.9**	**+0.9**
ERM	**Erimo**	**5.53**	**5**	*e*P	**Pn**	**16 47 32.2**	**-1.6**
ASAJ	**Asahikawa**	**7.61**	**0**	Pn	**Pn**	**16 48 02.9**	**+0.6**
	0.6nm,0.3s,baz=117,slow=18,SNR=6.3						
ASAJ	**Asahikawa**	**7.61**	**0**	*e*P	**Pn**	**16 48 02.3**	**-0.1**
SONM	**Songino Array**	**28.84**	**305**	P	**P**	**16 52 10.4**	**+1.5**
	1.0nm,0.7s,mb3.7,baz=98,slow=6.7,SNR=5.1						
SONM	**Songino Array**	**28.84**	**305**	P	**P**	**16 52 10.4**	**+1.5**
MK31	**Makanchi Array**	**45.18**	**303**	P	**P**	**16 54 30.7**	**+3.4**
MKAR	**Makanchi Array**	**45.18**	**303**	P	**P**	**16 54 28.5**	**+1.2**
	0.4nm,0.7s,mb3.3,baz=93,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**45.18**	**303**	P	**P**	**16 54 28.5**	**+1.2**
WRA	**Warramunga Arr**	**56.67**	**189**	P	**P**	**16 56 02.2**	**+8.4**
	0.7nm,0.8s,mb3.7,baz=5.4,slow=7.4,SNR=8.6						
WRA	**Warramunga Arr**	**56.67**	**189**	P	**P**	**16 56 02.2**	**+8.4**
ASAR	**Alice Springs**	**60.40**	**189**	P	**P**	**16 56 28.6**	**+8.8**
	0.2nm,0.5s,mb3.4,baz=1.7,slow=6.8,SNR=8.0						
ASAR	**Alice Springs**	**60.40**	**189**	P	**P**	**16 56 28.6**	**+8.8**

ISCJB ***23*** *16:48:29.3±0.5, 27°.08S±0°.06×63°.41W±0°.08, h583km±8km, mb3.7/5, Error ellipse: s-maj=11.6km s-min=9.8km az=6.9*
IDC ***23*** *16:48:29.6±0.9, 27°.01S×63°.42W, h566km±9km, mb3.4/5, mb1 3.3/10, mb1mx3.2/19, mbtmp3.2/10, Error ellipse: s-maj=18.1km s-min=13.7km az=129.0*
NEIC ***23*** *16:48:29.5±0.5, 27°.04S×63°.43W, h571km±6km, mb4.0/6, Error ellipse: s-maj=13.7km s-min=9.5km az=94.0*
ISC 23 16:48:29.5±0.5,**27°.03S**±0°.06×**63°.45W**±0°.08,**h571**km±8km,
n36,σ0°**66**/28,**mb3.7**/4,**Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**5.52**	**84**	P	**P**	**16 50 05.4**	**+0.4**
	5.1nm,0.3s,baz=234,slow=8.8,SNR=66						
CPUP				S	**S**	**16 51 22.8**	**-0.1**
	baz=47,slow=18,SNR=1.3						
CPUP	**Villa Florida**	**5.52**	**84**	*e*P	**P**	**16 50 05.2**	**+0.2**
CPUP				S	**S**	**16 51 22.8**	**-0.1**
CFAA	**Coronel Fontan**	**6.19**	**221**	P	**P**	**16 50 11.7**	**+1.0**
	0.8nm,0.3s,baz=36,slow=8.9,SNR=63						
CFAA				S	**S**	**16 51 33.4**	**-0.3**
	0.4nm,0.3s,baz=247,slow=19,SNR=14						
CFAA	**Coronel Fontan**	**6.19**	**221**	P	**P**	**16 50 11.7**	**+1.0**
CFAA				S	**S**	**16 51 33.4**	**-0.3**
LVC	**Limon Verde**	**6.63**	**310**	*e*P	**P**	**16 50 15.7**	**+0.8**
	23nm,0.3s						
LVC				*e*S	**S**	**16 51 20.2**	**-21**
LCO	**Las Campanas**	**6.71**	**251**	*e*P	**P**	**16 50 07.3**	**-8.3**
	12nm,0.5s						
TRQA	**Tornquist**	**11.07**	**174**	*e*P	**P**	**16 50 56.9**	**-1.5**
SIV	**San Ignacio**	**11.20**	**12**	P	**P**	**16 51 00.3**	**+0.2**
	0.4nm,0.3s,baz=209,slow=9.7,SNR=17						
SIV	**San Ignacio**	**11.20**	**12**	P	**P**	**16 51 00.3**	**+0.2**
LPAZ	**La Paz**	**11.54**	**337**	P	**P**	**16 51 04.0**	**+0.5**
	1.1nm,0.3s,baz=127,slow=5.1,SNR=21						
LPAZ				S	**S**	**16 53 08.9**	**-1.1**
	0.2nm,0.3s,baz=42,slow=22,SNR=6.5						
LPAZ	**La Paz**	**11.54**	**337**	*e*P	**P**	**16 51 03.9**	**+0.3**
	5.5nm,0.4s						
LPAZ				S	**S**	**16 53 08.9**	**-1.1**
PLCA	**Paso Flores**	**14.88**	**201**	P	**P**	**16 51 36.9**	**-0.4**
	0.1nm,0.3s,baz=6.7,slow=13,SNR=3.4						
PLCA	**Paso Flores**	**14.88**	**201**	*e*P	**P**	**16 51 37.1**	**-0.2**
SNAA	**Sanae**	**55.44**	**160**	P	**P**	**16 57 10.7**	**+0.5**
	0.7nm,0.8s,mb2.9,baz=18,slow=8.7,SNR=8.8						
SNAA	**Sanae**	**55.44**	**160**	*e*P	**P**	**16 57 10.9**	**+0.7**
	0.9nm,0.5s,mb3.3						
DBIC	**Dimbokro**	**65.82**	**68**	P	**P**	**16 58 18.7**	**-0.7**
	2.6nm,0.6s,mb3.9,baz=212,slow=8.8,SNR=10						
DBIC	**Dimbokro**	**65.82**	**68**	*e*P	**P**	**16 58 19.1**	**-0.3**
	1.8nm,0.5s,mb3.9						
TORD	**Torodi Ar. Bea**	**74.75**	**66**	P	**P**	**16 59 12.2**	**+0.1**
	3.1nm,0.6s,mb3.9,baz=271,slow=6.5,SNR=21						
TORD	**Torodi Ar. Bea**	**74.75**	**66**	P	**P**	**16 59 12.2**	**+0.1**
BOSA	**Boshof**	**76.52**	**115**	P	**P**	**16 59 22.2**	**+0.4**
	2.5nm,0.5s,mb3.9,baz=294,slow=3.4,SNR=12						
BOSA	**Boshof**	**76.52**	**115**	*e*P	**P**	**16 59 22.1**	**+0.3**
	1.8nm,0.5s,mb3.8						
YKA	**Yellowknife Ar**	**98.08**	**339**	P	Pdif	17 01 04.3	-1.1
	0.2nm,0.5s,baz=113,slow=7.9,SNR=3.5						
YKA	**Yellowknife Ar**	**98.08**	**339**	P	Pdif	17 01 04.3	-1.1
ASAR	**Alice Springs**	**126.89**	**200**	PKP	PKPdf	17 06 30.0	+0.5
	0.4nm,0.5s,baz=138,slow=1.6,SNR=14						
ASAR	**Alice Springs**	**126.89**	**200**	PKP	PKPdf	17 06 30.0	+0.5
AS31	**Alice Springs**	**126.89**	**200**	*e*PKPdf	PKPdf	17 06 28.6	-0.9
WB2	**Warramunga Arr**	**130.22**	**202**	*e*PKPdf	PKPdf	17 06 35.7	-0.3
WRA	**Warramunga Arr**	**130.23**	**202**	PKP	PKPdf	17 06 36.6	+0.6
	0.3nm,0.4s,baz=162,slow=1.6,SNR=14						
WRA				SKPbc	SKPbc	17 09 06.2	-0.1
	0.6nm,0.6s,baz=156,slow=4.0,SNR=7.9						
WRA	**Warramunga Arr**	**130.23**	**202**	PKP	PKPdf	17 06 36.6	+0.6
WRA				SKPbc	SKPbc	17 09 06.2	-0.1
KURK	**Kurchatov**	**142.77**	**40**	PKP	PKPdf	17 06 56.7	-1.3
	0.7nm,0.7s,baz=296,slow=3.6,SNR=7.6						
KURK	**Kurchatov**	**142.77**	**40**	PKP	PKPdf	17 06 56.7	-1.3
KURK				*e*PKPdf	PKPdf	17 06 57.5	-0.5
ZALV	**Zalesovo Beam**	**144.39**	**32**	PKP	PKPdf	17 07 02.0	+1.3
	1.3nm,0.3s,baz=293,slow=3.9,SNR=14						
ZALV	**Zalesovo Beam**	**144.39**	**32**	PKP	PKPdf	17 07 02.0	+1.3
MK31	**Makanchi Array**	**146.61**	**45**	*e*PKPdf	PKPdf	17 07 05.5	+0.8
MK31				*e*PKPbc	PKPbc	17 07 08.1	+0.7
MK31				*e*PKPab	PKPab	17 07 11.1	+0.8
MKAR	**Makanchi Array**	**146.61**	**45**	PKP	PKPdf	17 07 06.2	+1.4
	1.6nm,0.4s,baz=344,slow=0.4,SNR=31						
MKAR				PKPbc	PKPbc	17 07 08.2	+0.8
	1.8nm,0.4s,baz=298,slow=3.0,SNR=31						
MKAR	**Makanchi Array**	**146.61**	**45**	PKP	PKPdf	17 07 06.2	+1.4
MKAR				PKPbc	PKPbc	17 07 08.2	+0.8

IDC ***23*** *16:51:06.6±3.3, 44°.53N×10°.69E, h0km, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, ML3.4/4, Error ellipse: s-maj=55.0km s-min=22.5km az=136.0*
GEN ***23*** *16:51:08.7, 44°.55N×10°.36E, h25km, ML3.0*
ISCJB ***23*** *16:51:08.9±0.2, 44°.62N±0°.02×10°.36E±0°.02, h27km±2km, Error ellipse: s-maj=2.6km s-min=2.0km az=165.9*
NEIC ***23*** *16:51:08.8±0.4, 44°.60N×10°.38E, h10km, ML3.5(LDG), ML3.4(ZUR), Error ellipse: s-maj=5.6km s-min=3.2km az=145.0*
PRU ***23*** *16:51:08.3, 44°.70N×10°.57E, h0km*
CSEM ***23*** *16:51:08.2±0.1, 44°.62N×10°.42E, h10km, ML3.7/12, Error ellipse: s-maj=2.2km s-min=2.1km az=20.0*
ROM ***23*** *16:51:09.3±0.1, 44°.56N×10°.33E, h22km±2km, Md3.0/16, Ml3.2/35, Error ellipse: s-maj=2.4km s-min=1.6km az=73.0*
STR ***23*** *16:51:09.2±0.7, 44°.67N×10°.26E, h5km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ZUR ***23*** *16:51:10.1, 44°.63N×10°.29E, h23km±2km, ML3.4/7*
LDG ***23*** *16:51:10.6±0.1, 44°.68N×10°.55E, h25km, Ml3.5/22, Error ellipse: s-maj=3.4km s-min=2.6km az=24.0*
ISC 23 16:51:09.7±0.2,**44°.60N**±0°.01×**10°.38E**±0°.02,**h22**km±2km,
n318,σ1°**15**/425,**23C-8D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.17**	**345**	Pg	**Pb**	**16 51 14.4**	**-0.3**
PRMA				Sg	**Sb**	**16 51 19.6**	**+1.6**
	5μm,0.7s						
ERBM	**Eremo**	**0.18**	**172**	Pg	**Pb**	**16 51 14.0**	**-0.8**
ERBM				Sg	**Sb**	**16 51 18.2**	**0.0**
ERBM	**Eremo**	**0.18**	**172**	Pg	**Pb**	**16 51 14.0**	**-0.8**
GRAM	**Graiana**	**0.25**	**244**	P	**Pb**	**16 51 14.6**	**-1.1**
GRAM				S	**Sb**	**16 51 18.7**	**-1.0**
VALM	**Valbona**	**0.27**	**200**	P	**Pb**	**16 51 14.6**	**-1.4**
VALM				S	**Sb**	**16 51 18.7**	**-1.5**
GSCL	**Gusciola**	**0.29**	**149**	Pg	**Pb**	**16 51 15.2**	**-1.1**
GSCL	**Gusciola**	**0.29**	**149**	Pg	**Pb**	**16 51 15.2**	**-1.1**
NOVE	**Novellara**	**0.31**	**51**	Pg	**Pb**	**16 51 16.3**	**-0.4**
NOVE				Sg	**Sb**	**16 51 23.9**	**+2.4**
	4μm,0.3s						
CODM	**Codolo**	**0.43**	**241**	P	**Pb**	**16 51 17.1**	**-1.5**
CODM				S	**Sb**	**16 51 22.6**	**-2.1**
ZCCA	**Zocca**	**0.50**	**120**	Pg	**Pb**	**16 51 20.1**	**+0.4**
ZCCA	**Zocca**	**0.50**	**120**	Pg	**Pb**	**16 51 20.1**	**+0.4**
RAVA	**Ravarino**	**0.55**	**73**	Pg	**Pb**	**16 51 21.7**	**+1.0**
	3μm,0.6s						
BDI	**Bagni Di Lucca**	**0.56**	**164**	Pg	**Pb**	**16 51 19.8**	**-1.0**
BDI				Sg	**Sb**	**16 51 27.6**	**-0.7**
	1μm,0.6s						
BDI	**Bagni Di Lucca**	**0.56**	**164**	Pg	**Pb**	**16 51 19.8**	**-1.0**
BDI				Sg	**Sb**	**16 51 27.6**	**-0.7**
	1μm,0.6s						
PZZT	**Monte Pizzetto**	**0.58**	**143**	Pg	**Pb**	**16 51 20.0**	**-1.2**
PZZT	**Monte Pizzetto**	**0.58**	**143**	Pg	**Pb**	**16 51 20.0**	**-1.2**
SBPO	**S.Benedetto Po**	**0.59**	**40**	Pg	**Pb**	**16 51 22.3**	**+0.9**
	2μm,0.2s						
SC2M	**Scurtabo**	**0.63**	**252**	Pg	**Pb**	**16 51 21.2**	**-0.9**
	1μm,0.4s						
SC2M	**Scurtabo**	**0.63**	**252**	P	**Pb**	**16 51 20.7**	**-1.4**
SC2M	**Scurtabo**	**0.63**	**252**	Pg	**Pb**	**16 51 21.2**	**-0.9**
	1μm,0.4s						
SC2M				S	**Sb**	**16 51 28.6**	**-1.9**
BOB	**Bobbio (Coli)**	**0.68**	**285**	Pg	**Pb**	**16 51 22.8**	**-0.1**
	728nm,0.4s						
BOB	**Bobbio (Coli)**	**0.68**	**285**	Pg	**Pb**	**16 51 22.8**	**-0.1**
	728nm,0.4s						
FNVD	**Fontana Vidola**	**0.69**	**129**	Pg	**Pb**	**16 51 22.7**	**-0.3**
FNVD	**Fontana Vidola**	**0.69**	**129**	Pg	**Pb**	**16 51 22.7**	**-0.3**
MAIM	**Mastiano**	**0.69**	**173**	Pg	**Pb**	**16 51 21.9**	**-1.1**
MAIM				Sg	**Sb**	**16 51 31.2**	**-0.9**
	473nm,0.5s						
MAIM	**Mastiano**	**0.69**	**173**	P	**Pb**	**16 51 21.1**	**-1.9**
MAIM	**Mastiano**	**0.69**	**173**	Pg	**Pb**	**16 51 21.9**	**-1.1**
MAIM				S	**Sb**	**16 51 29.3**	**-2.8**
MAIM				Sg	**Sb**	**16 51 31.2**	**-0.9**
	473nm,0.5s						
FIU	**Minerbio Fiu**	**0.80**	**87**	Pg	**Pb**	**16 51 26.1**	**+1.3**
	3μm,0.4s						
MTRZ	**Monterenzio**	**0.81**	**106**	Pg	**Pb**	**16 51 26.6**	**+1.5**
	556nm,0.4s						
SEI	**Scarperia**	**0.89**	**127**	Pg	**Pb**	**16 51 25.2**	**-1.2**
	546nm,0.3s						
SEI	**Scarperia**	**0.89**	**127**	Pg	**Pb**	**16 51 25.2**	**-1.2**
	546nm,0.3s						
CRMI	**Carmignano**	**0.92**	**152**	Pg	**Pb**	**16 51 26.1**	**-0.8**
CRMI				Sg	**Sb**	**16 51 39.5**	**+0.9**
	231nm,0.5s						
CRMI	**Carmignano**	**0.92**	**152**	Pg	**Pb**	**16 51 26.1**	**-0.8**
CRMI				Sg	**Sb**	**16 51 39.5**	**+0.9**
	231nm,0.5s						
CMPO	**Campotto Po**	**1.02**	**91**	Pg	**Pb**	**16 51 29.9**	**+1.2**
	1μm,1.4s						
SALO	**Salr**	**1.02**	**6**	Pg	**Pb**	**16 51 29.1**	**+0.4**
	3μm,0.6s						
SALO	**Salr**	**1.02**	**6**

DAVOX Davos/Dischmat 2.21 351 Pn **Pn 16 51 47.0 +2.0**
13nm,0.3s,baz=169,slow=16,SNR=88
DAVOX Sn **Sn 16 52 11.8 +0.2**
23nm,0.3s,baz=317,slow=18,SNR=13
DAVOX Davos/Dischmat 2.21 351 *e*P **Pn 16 51 46.8 +1.8**
504nm,0.5s
DAVOX Davos/Dischmat 2.21 351 Pn **Pn 16 51 47.0 +2.0**
DAVOX Sn **Sn 16 52 11.8 +0.2**
DAVOX Davos/Dischmat 2.21 351 Pg **Pn 16 51 46.9 +1.9**
DAVOX Davos/Dischmat 2.21 351 *e*P **Pn 16 51 46.8 +1.8**
504nm,0.5s
DAVOX Sn **Sn 16 52 11.8 +0.2**
FUSIO Fusio 2.21 328⇓ *i*P **Pn 16 51 44.9 -0.1**
634nm,0.4s
FUSIO Fusio 2.21 328⇓ *i*P **Pn 16 51 44.9 -0.1**
FUSIO Fusio 2.21 328 Pg **Pn 16 51 45.5 +0.5**
FUSIO Fusio 2.21 328⇓ *i*P **Pn 16 51 44.9 -0.1**
634nm,0.4s
STV Sant Anna di V 2.21 262 Pg **Pn 16 51 45.6 +0.5**
127nm,0.4s
MMK Mattmark 2.24 311 *e*P **Pn 16 51 45.5 +0.1**
272nm,0.4s
MMK Mattmark 2.24 311 *e*P **Pn 16 51 45.5 +0.1**
MMK Mattmark 2.24 311 *e*P **Pn 16 51 45.5 +0.1**
272nm,0.4s
SBF Sospel 2.24 252 *e*Pn **Pn 16 51 45.6 +0.2**
SBF *e*Sn **Sn 16 52 13.0 +0.6**
99nm,0.3s
SBF Sospel 2.24 252 *e*Pn **Pn 16 51 45.6 +0.2**
SBF *e*Sn **Sn 16 52 13.0 +0.6**
SBF Sospel 2.24 252 *e*Pn **Pn 16 51 45.6 +0.2**
SBF *e*Sn **Sn 16 52 13.0 +0.6**
49nm,0.3s
DOI San Damiano 2.24 269 Pg **Pn 16 51 46.3 +0.9**
148nm,0.6s
PGF Pioggiola 2.28 206 *e*Pn **Pn 16 51 45.6 -0.4**
PGF *e*Sn **Sn 16 52 11.8 -1.6**
20nm,0.3s
PGF Pioggiola 2.28 206 *e*Pn **Pn 16 51 45.6 -0.4**
PGF *e*Sn **Sn 16 52 11.8 -1.6**
PGF Pioggiola 2.28 206 *e*Pn **Pn 16 51 45.6 -0.4**
PGF *e*Sn **Sn 16 52 11.8 -1.6**
9.8nm,0.3s
TOUF Mont Tournerai 2.32 256 P **Pn 16 51 47.5 +1.0**
TOUF S **Sn 16 52 17.8 +3.4**
TOUF Mont Tournerai 2.32 256 P **Pn 16 51 47.5 +1.0**
TOUF S **Sn 16 52 17.8 +3.4**
PZZ Stroppo 2.33 269 Pg **Pn 16 51 47.4 +0.7**
MVIF Mont Vial 2.42 254 P **Pn 16 51 48.6 +0.7**
MVIF S **Sn 16 52 19.3 +2.5**
MVIF Mont Vial 2.42 254 P **Pn 16 51 48.6 +0.7**
MVIF S **Sn 16 52 19.3 +2.5**
FETA Feichten 2.44 6⇑ *e*Pn **Pn 16 51 50.0 +1.9**
SNR=24
FETA Feichten 2.44 6⇑ *e*Pn **Pn 16 51 50.0 +1.9**
FETA Feichten 2.44 6⇑ *e*Pn **Pn 16 51 50.0 +1.9**
LLS Linth-Limmern 2.44 337⇑ *i*P **Pn 16 51 49.3 +1.1**
219nm,0.8s
LLS Linth-Limmern 2.44 337⇑ *i*P **Pn 16 51 49.3 +1.1**
FDMO Fiordimonte 2.51 128 Pg **Pn 16 51 50.7 +1.6**
35nm,0.6s
SURF Saint Ours 2.55 269 P **Pn 16 51 50.5 +0.8**
SURF Saint Ours 2.55 269 P **Pn 16 51 50.5 +0.8**
MBDF Montbardon 2.58 274 *e*Pn **Pn 16 51 50.6 +0.6**
MBDF Montbardon 2.58 274 *e*Pn **Pn 16 51 50.6 +0.6**
MBDF Montbardon 2.58 274 *e*Pn **Pn 16 51 50.6 +0.6**
ABTA Abfaltersbach 2.62 34 *e*Pn **Pn 16 51 51.6 +1.0**
SNR=14
ABTA Abfaltersbach 2.62 34 *e*Pn **Pn 16 51 51.6 +1.0**
ABTA Abfaltersbach 2.62 34 *e*Pn **Pn 16 51 51.7 +1.1**
TRI Trieste 2.64 64 *e*Pn **Pn 16 51 49.9 -1.0**
TRI *e*Sn **Sn 16 52 20.6 -1.6**
TRI Trieste 2.64 64 Pg **Pn 16 51 49.9 -1.0**
CALN Calern 2.65 253 P **Pn 16 51 51.7 +0.7**
CALN S **Sn 16 52 25.3 +2.9**
CALN Calern 2.65 253 P **Pn 16 51 51.7 +0.7**
CALN S **Sn 16 52 25.3 +2.9**
SABO M.te Sabotino 2.66 58 Pg **Pn 16 51 50.9 -0.3**
712nm,0.5s
BNI Bardonecchia 2.67 281 *e*Pn **Pn 16 51 51.9 +0.6**
BNI Bardonecchia 2.67 281 *e*Pn **Pn 16 51 51.9 +0.6**
DAVA Damuels 2.71 353 *e*Pn **Pn 16 51 54.2 +2.3**
SNR=32
DAVA Damuels 2.71 353 *e*Pn **Pn 16 51 54.2 +2.3**
DAVA Damuels 2.71 353 Pn **Pn 16 51 54.2 +2.3**
SNR=32
LPG La Plagne 2.72 291 *e*Pn **Pn 16 51 51.9 -0.2**
LPG La Plagne 2.72 291 *e*Pn **Pn 16 51 51.9 -0.2**
LPG La Plagne 2.72 291 *e*Pn **Pn 16 51 51.9 -0.2**
LPL La Plagne 2.74 291 *e*Pn **Pn 16 51 52.4 +0.1**
LPL *e*Sn **Sn 16 52 23.3 -1.4**
70nm,0.6s
LPL La Plagne 2.74 291 *e*Pn **Pn 16 51 52.4 +0.1**
LPL *e*Sn **Sn 16 52 23.3 -1.4**
LPL La Plagne 2.74 291 *e*Pn **Pn 16 51 52.4 +0.1**
LPL *e*Sn **Sn 16 52 23.3 -1.4**
35nm,0.6s
SKDS Skadanscina 2.75 69 *i*Pn **Pn 16 51 51.3 -1.0**
SKDS *i*Sn **Sn 16 52 22.8 -2.1**
SKDS
comp=Z,88nm,0.2s
SKDS Skadanscina 2.75 69 Pn **Pn 16 51 51.3 -1.1**
SKDS *i*Sn **Sn 16 52 22.8 -2.1**
comp=Z,88nm,0.2s
MOTA Moosalm 2.79 10 *e*Pn **Pn 16 51 55.5 +2.4**
SNR=35
MOTA Moosalm 2.79 10 *e*Pn **Pn 16 51 55.5 +2.4**
MOTA Moosalm 2.79 10 Pn **Pn 16 51 55.5 +2.5**
SNR=35
WTTA Wattenberg 2.81 18⇑ *e*Pn **Pn 16 51 55.0 +1.8**
SNR=77
WTTA Wattenberg 2.81 18⇑ *e*Pn **Pn 16 51 55.0 +1.8**
WTTA Wattenberg 2.81 18⇑ *e*Pn **Pn 16 51 55.0 +1.8**
WATA Walderalm 2.86 17⇑ *e*Pn **Pn 16 51 55.8 +1.8**
SNR=12
WATA Walderalm 2.86 17⇑ *e*Pn **Pn 16 51 55.8 +1.8**
WATA Walderalm 2.86 17⇑ *e*Pn **Pn 16 51 55.8 +1.8**
VOY Vojsko 2.87 59⇓ *e*Pn **Pn 16 51 53.5 -0.5**
VOY *e*Sn **Sn 16 52 27.0 -0.8**
VOY Vojsko 2.87 59⇓ *e*Pn **Pn 16 51 53.5 -0.5**
VOY *e*Sn **Sn 16 52 27.0 -0.8**
RSL Roselend 2.87 294 P **Pn 16 51 55.4 +1.3**
RSL Roselend 2.87 294 P **Pn 16 51 55.4 +1.3**
FRF La Foret Royal 2.88 250 *e*Pn **Pn 16 51 54.4 +0.2**
FRF *e*Sn **Sn 16 52 27.7 -0.5**
comp=Z,86nm,0.3s
FRF La Foret Royal 2.88 250 *e*Pn **Pn 16 51 54.4 +0.2**
FRF *e*Sn **Sn 16 52 27.7 -0.5**
FRF La Foret Royal 2.88 250 *e*Pn **Pn 16 51 54.4 +0.2**
FRF *e*Sn **Sn 16 52 27.7 -0.5**
comp=Z,43nm,0.3s
RETA Reutte 2.90 5⇑ *e*Pn **Pn 16 51 56.2 +1.7**
SNR=14
RETA Reutte 2.90 5⇑ *e*Pn **Pn 16 51 56.2 +1.7**
RETA Reutte 2.90 5⇑ *e*Pn **Pn 16 51 56.2 +1.7**
JAVS Javornik 2.91 62 *i*Pn **Pn 16 51 54.0 -0.6**
JAVS *i*Sn **Sn 16 52 27.9 -1.0**
JAVS
comp=Z,55nm,0.2s
JAVS Javornik 2.91 62 *i*Pn **Pn 16 51 54.0 -0.6**
JAVS *i*Sn **Sn 16 52 27.9 -1.0**
comp=Z,55nm,0.2s
LMR La Mourre 3.06 247 *e*Pn **Pn 16 51 56.7 -0.1**
LMR *e*Sn **Sn 16 52 31.5 -1.2**
comp=Z,114nm,0.3s
LMR La Mourre 3.06 247 *e*Pn **Pn 16 51 56.7 -0.1**
LMR *e*Sn **Sn 16 52 31.5 -1.2**
LMR La Mourre 3.06 247 *e*Pn **Pn 16 51 56.7 -0.1**
LMR *e*Sn **Sn 16 52 31.5 -1.2**
comp=Z,57nm,0.3s
CRNS Crni Vrh 3.11 60 *i*Pn **Pn 16 51 57.0 -0.4**
CRNS *i*Sn **Sn 16 52 33.3 -0.6**
NVLJ Novalja 3.21 89 *e*Pn **Pn 16 51 58.5 -0.3**
NVLJ Sn **Sn 16 52 34.5 -1.9**
NVLJ Novalja 3.21 89 *e*Pn **Pn 16 51 58.5 -0.3**
NVLJ Sn **Sn 16 52 34.4 -1.9**
ORIF Oris-en-Rattie 3.22 277 *e*Pn **Pn 16 52 00.8 +1.9**
ORIF *e*Sn **Sn 16 52 36.0 -0.5**
comp=Z,20nm,0.2s
ORIF Oris-en-Rattie 3.22 277 *e*Pn **Pn 16 52 00.8 +1.9**
ORIF *e*Sn **Sn 16 52 36.0 -0.5**
ORIF Oris-en-Rattie 3.22 277 *e*Pn **Pn 16 52 00.8 +1.9**
ORIF *e*Sn **Sn 16 52 36.0 -0.5**
comp=Z,9.8nm,0.2s
LJU Ljubljana 3.27 62 *e*Pn **Pn 16 52 00.0 +0.5**
BBS Basel-Blauen 3.49 326 P **Pn 16 52 01.7 -0.9**
OBKA Obir 3.50 55 *i*Pn **Pn 16 52 03.1 +0.4**
SNR=13
OBKA Obir 3.50 55 *i*Pn **Pn 16 52 03.1 +0.4**
OBKA Obir 3.50 55 *i*Pn **Pn 16 52 03.2 +0.5**
SMRF Simiane la Rot 3.50 261 *e*Pn **Pn 16 52 04.6 +1.8**
SMRF *e*Sn **Sn 16 52 42.8 -0.8**
comp=Z,23nm,0.5s
SMRF Simiane la Rot 3.50 261 *e*Pn **Pn 16 52 04.6 +1.8**
SMRF *e*Sn **Sn 16 52 42.8 -0.8**
SMRF Simiane la Rot 3.50 261 *e*Pn **Pn 16 52 04.6 +1.8**
SMRF *e*Sn **Sn 16 52 42.8 -0.8**
comp=Z,12nm,0.5s
BOJS Bojanci 3.57 74 *i*Pn **Pn 16 52 03.8 +0.1**
BOJS Bojanci 3.57 74 *i*Pn **Pn 16 52 03.8 +0.1**
CABF La Chapelle 3.62 305 *e*Pn **Pn 16 52 05.4 +1.0**
CABF La Chapelle 3.62 305 *e*Pn **Pn 16 52 05.4 +1.0**
CABF La Chapelle 3.62 305 *e*Pn **Pn 16 52 05.4 +1.0**
FELD Feldberg im Sc 3.67 334 P **Pn 16 52 04.9 -0.1**
SPAK Spaichingen-Ko 3.67 343 P **Pn 16 52 04.0 -1.1**
LOMF Lomont 3.70 319 P **Pn 16 52 06.2 +0.7**
LOMF Lomont 3.70 319 P **Pn 16 52 06.2 +0.7**
MOF Molkenrain 3.96 326 P **Pn 16 52 09.3 +0.3**
MOF Molkenrain 3.96 326 P **Pn 16 52 09.3 +0.3**
BFO Black Forest 3.99 340 *e*Pn **Pn 16 52 09.6 +0.1**
BFO Black Forest 3.99 340 *e*Pn **Pn 16 52 09.6 +0.1**
HINF Hinteralfeld 4.04 324 *e*Pn **Pn 16 52 10.3 +0.1**
HINF *e*Sn **Sn 16 52 55.0 -1.8**
comp=Z,27nm,0.3s
HINF Hinteralfeld 4.04 324 *e*Pn **Pn 16 52 10.3 +0.1**
HINF *e*Sn **Sn 16 52 55.0 -1.8**
HINF Hinteralfeld 4.04 324 *e*Pn **Pn 16 52 10.3 +0.1**
HINF *e*Sn **Sn 16 52 55.0 -1.8**
comp=Z,14nm,0.3s
VIVF Saint-Julien-I 4.07 276 *e*Pn **Pn 16 52 11.9 +1.3**
VIVF *e*Sn **Sn 16 52 55.0 -2.6**
comp=Z,5.2nm,0.2s
VIVF Saint-Julien-I 4.07 276 *e*Pn **Pn 16 52 11.9 +1.3**
VIVF *e*Sn **Sn 16 52 55.0 -2.6**
VIVF Saint-Julien-I 4.07 276 *e*Pn **Pn 16 52 11.9 +1.3**
VIVF *e*Sn **Sn 16 52 55.0 -2.6**
comp=Z,2.6nm,0.2s
MOA Molln 4.22 38⇑ *i*Pn **Pn 16 52 13.5 +0.8**
SNR=6.2
MOA Molln 4.22 38⇑ *i*Pn **Pn 16 52 13.5 +0.8**
MOA Molln 4.22 38⇑ *i*Pn **Pn 16 52 13.5 +0.8**
ECH Echery 4.25 330 *e*Pn **Pn 16 52 12.7 -0.3**
ECH *e*Sn **Sn 16 52 59.9 -2.0**
ECH Echery 4.25 330 *e*Pn **Pn 16 52 12.7 -0.3**
ECH Echery 4.25 330 P **Pn 16 52 13.0 0.0**
ECH *e*Sn **Sn 16 52 59.8 -2.1**
ECH Echery 4.25 330 P **Pn 16 52 13.0 0.0**
CDF Champ du Feu 4.37 332 *e*Pn **Pn 16 52 14.7 0.0**
CDF *e*Sn **Sn 16 53 00.2 -4.8**
comp=Z,28nm,0.4s
CDF Champ du Feu 4.37 332 *e*Pn **Pn 16 52 14.7 0.0**
CDF *e*Sn **Sn 16 53 00.2 -4.8**
CDF Champ du Feu 4.37 332 *e*Pn **Pn 16 52 14.7 0.0**
HAU Haudompre 4.40 322 *e*Pn **Pn 16 52 15.5 +0.3**
HAU *e*Sn **Sn 16 53 03.6 -2.1**
comp=Z,36nm,0.4s
HAU Haudompre 4.40 322 *e*Pn **Pn 16 52 15.5 +0.3**
HAU *e*Sn **Sn 16 53 03.6 -2.1**
HAU Haudompre 4.40 322 *e*Pn **Pn 16 52 15.5 +0.3**
HAU *e*Sn **Sn 16 53 03.6 -2.1**
comp=Z,18nm,0.4s
ARSA Arzberg 4.46 52⇑ *i*Pn **Pn 16 52 15.6 -0.4**
SNR=21
ARSA Arzberg 4.46 52⇑ *i*Pn **Pn 16 52 15.6 -0.4**
ARSA Arzberg 4.46 52⇑ *i*Pn **Pn 16 52 15.6 -0.4**
LASF Ste Croix 4.71 266 *e*Pn **Pn 16 52 19.9 +0.6**
LASF *e*Sn **Sn 16 53 12.3 -0.9**
comp=Z,3.6nm,0.3s
LASF Ste Croix 4.71 266 *e*Pn **Pn 16 52 19.9 +0.6**
LASF *e*Sn **Sn 16 53 12.3 -0.9**
LASF Ste Croix 4.71 266 *e*Pn **Pn 16 52 19.9 +0.6**
LASF *e*Sn **Sn 16 53 12.3 -0.9**
comp=Z,1.8nm,0.3s
LANF Langenberg 4.72 339 P **Pn 16 52 19.5 -0.1**
LANF Langenberg 4.72 339 P **Pn 16 52 19.5 -0.1**
THEF They Montfort 4.73 322 P **Pn 16 52 20.3 +0.7**
THEF They Montfort 4.73 322 P **Pn 16 52 20.3 +0.7**
GERES GERESS Array B 4.82 27 Pn **Pn 16 52 20.6 -0.3**
comp=Z,2.3nm,0.3s,baz=203,slow=14,SNR=151
GERES Sn **Sn 16 53 15.1 -0.9**
comp=Z,7.4nm,0.3s,baz=210,slow=24,SNR=20
GERES GERESS Array B 4.82 27 Pn **Pn 16 52 20.6 -0.3**
GERES Sn **Sn 16 53 15.1 -0.9**
GERES GERESS Array B 4.82 27 Pn **Pn 16 52 20.6 -0.3**
GERES Sn **Sn 16 53 15.1 -0.9**
SMF Signal de Mont 5.02 296 *e*Pn **Pn 16 52 23.7 +0.1**
SMF *e*Sn **Sn 16 53 16.8 -4.1**
comp=Z,12nm,0.4s
SMF Signal de Mont 5.02 296 *e*Pn **Pn 16 52 23.7 +0.1**
SMF *e*Sn **Sn 16 53 16.8 -4.1**
SMF Signal de Mont 5.02 296 *e*Pn **Pn 16 52 23.7 +0.1**
KHC Kasperske Hory 5.04 25 *e*Pn **Pn 16 52 23.6 -0.3**
comp=Z,19nm,0.8s
KHC Kasperske Hory 5.04 25 *e*PN **Pn 16 52 23.6 -0.2**
KHC *e*PG **Pn 16 52 45.0 +21**
KHC *e*SN **Sn 16 53 19.1 -2.2**
KHC Kasperske Hory 5.04 25 Pn **Pn 16 52 23.6 -0.2**
KHC Sn **Sn 16 53 19.1 -2.2**
CONA Conrad Observa 5.05 47 *i*Pn **Pn 16 52 24.8 +0.7**
SNR=11
CONA Conrad Observa 5.05 47 *i*Pn **Pn 16 52 24.8 +0.7**
CONA Conrad Observa 5.05 47 *i*Pn **Pn 16 52 24.8 +0.7**
PAGF Fort de Pagny 5.09 323 *e*Pn **Pn 16 52 25.5 +0.9**
PAGF *e*Sn **Sn 16 53 18.3 -4.4**
comp=Z,4.8nm,0.5s
PAGF Fort de Pagny 5.09 323 *e*Pn **Pn 16 52 25.5 +0.9**
PAGF *e*Sn **Sn 16 53 18.3 -4.4**
PAGF Fort de Pagny 5.09 323 *e*Pn **Pn 16 52 25.5 +0.9**
PAGF *e*Sn **Sn 16 53 18.3 -4.4**
comp=Z,2.4nm,0.5s
SFTF Sexfontaines 5.16 316 *e*Pn **Pn 16 52 26.2 +0.7**
SFTF Sexfontaines 5.16 316 *e*Pn **Pn 16 52 26.2 +0.7**
SFTF Sexfontaines 5.16 316 *e*Pn **Pn 16 52 26.2 +0.7**
LOR Lormes 5.27 303 *e*Pn **Pn 16 52 27.4 +0.3**
LOR *e*Sn **Sn 16 53 26.1 -1.0**
comp=Z,21nm,0.3s
LOR Lormes 5.27 303 *e*Pn **Pn 16 52 27.4 +0.3**
LOR *e*Sn **Sn 16 53 26.1 -1.0**
LOR Lormes 5.27 303 *e*Pn **Pn 16 52 27.4 +0.3**
LOR *e*Sn **Sn 16 53 26.1 -1.0**
comp=Z,11nm,0.3s
MEZF Maizieres J'vi 5.36 319 *e*Pn **Pn 16 52 29.0 +0.7**
MEZF *e*Sn **Sn 16 53 24.5 -4.7**
comp=Z,9.5nm,0.4s
MEZF Maizieres J'vi 5.36 319 *e*Pn **Pn 16 52 29.0 +0.7**
MEZF *e*Sn **Sn 16 53 24.5 -4.7**
MEZF Maizieres J'vi 5.36 319 *e*Pn **Pn 16 52 29.0 +0.7**
AVF Avril sur Loir 5.39 296 *e*Pn **Pn 16 52 28.7 +0.1**
AVF *e*Sn **Sn 16 53 27.7 -2.2**
comp=Z,7.3nm,0.6s
AVF Avril sur Loir 5.39 296 *e*Pn **Pn 16 52 28.7 +0.1**
AVF *e*Sn **Sn 16 53 27.7 -2.2**
AVF Avril sur Loir 5.39 296 *e*Pn **Pn 16 52 28.7 +0.1**
SSF Saint Saulge 5.40 300 *e*Pn **Pn 16 52 28.6 -0.2**
SSF *e*Sn **Sn 16 53 27.5 -2.7**
comp=Z,9.1nm,0.5s
SSF Saint Saulge 5.40 300 *e*Pn **Pn 16 52 28.6 -0.2**
SSF *e*Sn **Sn 16 53 27.5 -2.7**
SSF Saint Saulge 5.40 300 *e*Pn **Pn 16 52 28.6 -0.2**
STON Ston 5.58 105 *e*Pn **Pn 16 52 30.1 -1.2**
STON Sn **Sn 16 53 30.8 -3.9**
STON Ston 5.58 105 *e*Pn **Pn 16 52 30.1 -1.2**
RUP Ruppelstein 5.58 337 P **Pn 16 52 31.1 -0.2**
BGF Bois d'Agland 5.64 293 *e*Pn **Pn 16 52 32.3 +0.2**
BGF *e*Sn **Sn 16 53 33.2 -2.9**
comp=Z,18nm,0.4s
BGF Bois d'Agland 5.64 293 *e*Pn **Pn 16 52 32.3 +0.2**
BGF *e*Sn **Sn 16 53 33.2 -2.9**
BGF Bois d'Agland 5.64 293 *e*Pn **Pn 16 52 32.3 +0.2**
NKC Novy Kostel 5.81 13 *e*PN **Pn 16 52 33.5 -0.9**
NKC *e*SN **Sn 16 53 37.8 -2.5**
NKC Novy Kostel 5.81 13 Pn **Pn 16 52 33.5 -0.9**
NKC Sn **Sn 16 53 37.8 -2.5**
CAF Calviac 5.93 276 *e*Pn **Pn 16 52 37.1 +1.0**
CAF Calviac 5.93 276 *e*Pn **Pn 16 52 37.1 +1.0**
CAF Calviac 5.93 276 *e*Pn **Pn 16 52 37.1 +1.0**
TCF Toulx Ste Croi 5.99 289 *e*Pn **Pn 16 52 37.1 +0.2**
TCF *e*Sn **Sn 16 53 42.4 -2.4**
comp=Z,5.0nm,0.4s
TCF Toulx Ste Croi 5.99 289 *e*Pn **Pn 16 52 37.1 +0.2**
TCF *e*Sn **Sn 16 53 42.4 -2.4**
TCF Toulx Ste Croi 5.99 289 *e*Pn **Pn 16 52 37.1 +0.2**
HYF Humbligny 6.02 299 *e*Pn **Pn 16 52 37.7 +0.4**
HYF Humbligny 6.02 299 *e*Pn **Pn 16 52 37.7 +0.4**
HYF Humbligny 6.02 299 *e*Pn **Pn 16 52 37.7 +0.4**
MTLF Montolieu 6.02 261 *e*Pn **Pn 16 52 38.5 +1.1**
MTLF *e*Sn **Sn 16 53 43.3 -2.3**
comp=Z,7.8nm,0.6s
MTLF Montolieu 6.02 261 *e*Pn **Pn 16 52 38.5 +1.1**
MTLF *e*Sn **Sn 16 53 43.3 -2.3**
MTLF Montolieu 6.02 261 *e*Pn **Pn 16 52 38.5 +1.1**
PRU Pruhonice 6.09 26 *e*PN **Pn 16 52 37.9 -0.4**
PRU *e*SN **Sn 16 53 42.6 -4.6**
PRU Pruhonice 6.09 26 Pn **Pn 16 52 37.9 -0.4**
SMOL Smolenice 6.24 49 *e*SN **Sn 16 53 47.9 -3.1**
VRAC Vranov 6.35 40 *e*Pn **Pn 16 52 40.8 -1.0**
VRAC *e*Sn **Sn 16 53 50.9 -2.7**
PVCC Panska Ves 6.57 24 *e*PN **Pn 16 52 44.2 -0.7**
PVCC Panska Ves 6.57 24 Pn **Pn 16 52 44.2 -0.7**
BRG Berggiesshubel 6.72 20 PN **Pn 16 52 47.2 +0.2**
comp=Z,2.2nm,0.4s
BRG SN **Sn 16 53 54.8 -8.0**
BRG SG Sx 16 54 40.4
comp=Z,6.1nm,0.8s
KOLL Kolacno 6.81 51 *e*PN **Pn 16 52 48.3 +0.1**
KOLL *e*SN **Sn 16 54 00.0 -5.0**
KOLL Kolacno 6.81 51 *e*Pn **Pn 16 52 48.3 +0.1**
BAIF Baives 6.88 325 *e*Pn **Pn 16 52 49.2 0.0**
BAIF Baives 6.88 325 *e*Pn **Pn 16 52 49.2 0.0**
BAIF Baives 6.88 325 *e*Pn **Pn 16 52 49.2 0.0**
CLL Collm 6.94 14 *e*Sg Sx 16 54 53.0
VYHS Vyhne 7.01 53 *e*PN **Pn 16 52 50.0 -1.0**
VYHS *e*SN **Sn 16 54 04.4 -5.6**
VYHS Vyhne 7.01 53 *e*Pn **Pn 16 52 50.0 -1.0**
DPC Dobruska-Polom 7.02 33 *e*PN **Pn 16 52 50.2 -0.9**
DPC *e*SN **Sn 16 54 04.2 -6.0**
DPC Dobruska-Polom 7.02 33 Pn **Pn 16 52 50.2 -0.9**
EPF Esparros 7.43 261 *e*Pn **Pn 16 52 56.4 -0.3**
EPF Esparros 7.43 261 *e*Pn **Pn 16 52 56.4 -0.3**
EPF Esparros 7.43 261 *e*Pn **Pn 16 52 56.4 -0.3**
KECS Kecovo 7.98 57 *e*PN **Pn 16 53 03.6 -0.6**
KECS Kecovo 7.98 57 *e*Pn **Pn 16 53 03.6 -0.6**
ETSF Etsaut 8.10 262 *e*Pn **Pn 16 53 07.7 +1.8**
ETSF Etsaut 8.10 262 *e*Pn **Pn 16 53 07.7 +1.8**
ETSF Etsaut 8.10 262 *e*Pn **Pn 16 53 07.7 +1.8**
FLN La Foliniere 8.55 303 *e*Pn **Pn 16 53 11.5 -0.5**
FLN La Foliniere 8.55 303 *e*Pn **Pn 16 53 11.5 -0.5**
FLN La Foliniere 8.55 303 *e*Pn **Pn 16 53 11.5 -0.5**
GRR Gorron 8.63 300 *e*Pn **Pn 16 53 12.0 -1.1**
GRR Gorron 8.63 300 *e*Pn **Pn 16 53 12.0 -1.1**
GRR Gorron 8.63 300 *e*Pn **Pn 16 53 12.0 -1.1**
KEST Kesra 8.89 185 Pn **Pn 16 53 18.6 +1.8**
comp=Z,0.1nm,0.3s,baz=39,slow=6.5,SNR=2.0
KEST Kesra 8.89 185 Pn **Pn 16 53 18.6 +1.8**
KEST Kesra 8.89 185 Pn **Pn 16 53 18.6 +1.8**
ESDC Sonseca Array 11.72 250 Pn **Pn 16 53 57.3 +1.7**
comp=Z,0.1nm,0.3s,baz=67,slow=15,SNR=4.2
ESDC Sonseca Array 11.72 250 Pn **Pn 16 53 57.3 +1.7**
ESDC Sonseca Array 11.72 250 Pn **Pn 16 53 57.3 +1.7**
FINES FINESS Array B 19.24 23 P **Pn 16 55 30.1 -3.2**
comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=4.0
FINES FINESS Array B 19.24 23 P **Pn 16 55 30.1 -3.2**
FINES FINESS Array B 19.24 23 P **Pn 16 55 30.0 -3.2**

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*IDC **23** 17:00:26.2±0.6, 11°.83N×141°.67E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/25, mbtmp4.3/17, ML3.7/1, MS3.5/8, Ms1 3.6/8, ms1mx3.2/45, Error ellipse: s-maj=21.2km s-min=14.3km az=83.0*
*ISCJB **23** 17:00:30.5±2.2, 11°.76N±0°.06×141°.6E±0°.1, h44km±22km, mb4.3/22, MS3.6/5, Error ellipse: s-maj=16.9km s-min=10.2km az=7.6*
*NEIC **23** 17:00:31.7±1.8, 11°.81N×141°.66E, h38km±18km, mb4.4/6, Error ellipse: s-maj=14.0km s-min=8.2km az=90.0*
ISC 23 17:00:32.8±2.0, 11°.78N±0°.06×141°.7E±0°.1, h49km±20km, n53, σ0°.94/48, mb4.3/22, MS3.6/5, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.60**	**60**		**Pn**	**Pn**	**17 01 25.0**	**-1.1**
GUMO	6.0nm,0.3s,baz=205,slow=17,SNR=5.0				Sn	**Sn**	**17 02 11.7**	**+4.2**
GUMO	25nm,0.3s,baz=17,slow=19,SNR=3.1				LR	LR	17 02 41.4	
GUMO	comp=Z,407nm,19.9s,baz=235,slow=38 **Guam**	**3.60**	**60**		**Pn**	**Pn**	**17 01 25.1**	**-1.1**
GUMO					eSn	**Sn**	**17 02 10.2**	**+2.8**
CBIJ	**Chichi jima**	**15.24**	**2**		LR	LR	17 08 48.2	
JOW	comp=Z,204nm,20.0s,baz=90,slow=33 **Kunigami**	**19.57**	**322**		LR	LR	17 12 18.7	
PMG	comp=Z,105nm,18.6s,baz=76,slow=36 **Port Moresby**	**21.75**	**165**		P	**P**	**17 05 20.6**	**+0.2**
PMG	8.7nm,0.9s,mb4.2,baz=315,slow=2.9,SNR=3.8 **Port Moresby**	**21.75**	**165**		*e*P	**P**	**17 05 20.1**	**-0.2**
MJAR	11nm,0.9s,mb4.3 **Matsushiro Arr**	**24.85**	**353**		P	**P**	**17 05 52.6**	**+1.9**
MJAR	0.6nm,0.5s,mb3.4,baz=171,slow=9.5,SNR=3.2 **Matsushiro Arr**	**24.85**	**353**		P	**P**	**17 05 52.6**	**+1.9**
KSRS	**Korea Array**	**28.38**	**337**		LR	LR	17 15 48.5	
CTA	comp=Z,83nm,21.7s,MS3.3,baz=145,slow=32 **Charters Tower**	**31.99**	**172**		LR	LR	17 20 13.2	
WRAB	comp=Z,208nm,18.7s,MS3.8,baz=223,slow=37 **Tennant Creek**	**32.33**	**193**		*e*P	**P**	**17 06 57.4**	**-0.2**
WRA	2.8nm,0.5s,mb4.3 **Warramunga Arr**	**32.34**	**193**		P	**P**	**17 06 57.1**	**-0.5**
WRA	1.9nm,0.5s,mb4.2,baz=14,slow=9.8,SNR=30 **Warramunga Arr**	**32.34**	**193**		P	**P**	**17 06 57.1**	**-0.5**
MDJ	**Mudanjiang**	**34.32**	**345**		P	**P**	**17 07 11.7**	**-2.9**
AS31	**Alice Springs**	**36.04**	**192**		*e*P	**P**	**17 07 30.4**	**+0.8**
ASAR	**Alice Springs**	**36.04**	**192**		P	**P**	**17 07 30.1**	**+0.5**
ASAR	0.8nm,0.5s,mb3.9,baz=22,slow=11,SNR=41 0.4nm,0.8s,baz=45,slow=1.7,SNR=4.1				PcP	PcP	17 09 55.5	+0.2
ASAR	**Alice Springs**	**36.04**	**192**		P	**P**	**17 07 30.1**	**+0.4**
ASAR					PcP	PcP	17 09 55.5	+0.2
CM31	**Chiang Mai Arr**	**41.70**	**285**		P	**P**	**17 08 17.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**41.70**	**285**		P	**P**	**17 08 17.7**	**+0.5**
CMAR	0.4nm,0.6s,mb3.2,baz=87,slow=6.1,SNR=6.3				LR	LR	17 23 44.2	
CMAR	comp=Z,46nm,19.3s,MS3.4,baz=90,slow=34 **Chiang Mai Arr**	**41.70**	**285**		P	**P**	**17 08 17.7**	**+0.5**
PETK	**Petropavlovsk-**	**43.17**	**14**		LR	LR	17 22 33.2	
STKA	comp=Z,70nm,21.6s,MS3.5,baz=15,slow=31 **Stephens Creek**	**43.41**	**180**		P	**P**	**17 08 30.4**	**-0.4**
STKA	2.7nm,1.1s,mb3.9,baz=7.1,slow=8.1,SNR=4.2 **Stephens Creek**	**43.41**	**180**		P	**P**	**17 08 30.4**	**-0.4**
ULN	**Ulaanbaatar**	**46.16**	**328**		*e*P	**P**	**17 08 53.4**	**+0.8**
SONM	4.0nm,1.0s,mb4.3 **Songino Array**	**46.48**	**328**		P	**P**	**17 08 56.1**	**+1.0**
SONM	1.0nm,0.6s,mb3.9,baz=139,slow=6.6,SNR=6.4 **Songino Array**	**46.48**	**328**		P	**P**	**17 08 56.1**	**+1.0**
YAK	**Yakutsk**	**50.91**	**353**		P	**P**	**17 09 27.9**	**-1.0**
MKAR	8.4nm,0.6s,mb4.8 **Makanchi Array**	**60.65**	**317**		P	**P**	**17 10 39.5**	**+0.6**
MKAR	1.5nm,0.7s,mb4.2,baz=92,slow=8.6,SNR=14 **Makanchi Array**	**60.65**	**317**		P	**P**	**17 10 39.5**	**+0.6**
ZALV	**Zalesovo Beam**	**61.30**	**326**		P	**P**	**17 10 43.2**	**0.0**
ZALV	1.7nm,0.4s,mb4.5,baz=108,slow=7.4,SNR=14 **Zalesovo Beam**	**61.30**	**326**		P	**P**	**17 10 43.2**	**0.0**

0.4nm,0.4s,mb3.7,baz=269,slow=7.8,SNR=3.4
INK Inuvik 77.22 22 P **P 17 12 21.2 -0.2**
YKA Yellowknife Ar 85.88 27 P **P 17 13 07.5 +0.2**
1.1nm,0.4s,mb4.5,baz=289,slow=4.8,SNR=12
YKA Yellowknife Ar 85.88 27 P **P 17 13 07.5 +0.2**
ARCES ARCESS Array B 87.82 342 P **P 17 13 16.2 -0.3**
1.4nm,0.5s,mb4.5,baz=76,slow=7.5,SNR=11
ARCES ARCESS Array B 87.82 342 P **P 17 13 16.2 -0.3**
NVAR Mina Array Bea 90.48 51 P **P 17 13 31.5 +1.8**
4.1nm,0.7s,mb4.9,baz=266,slow=5.4,SNR=17
NVAR Mina Array Bea 90.48 51 P **P 17 13 31.5 +1.8**
FINES FINESS Array B 91.45 334 P **P 17 13 32.3 -1.3**
1.9nm,0.6s,mb4.6,baz=71,slow=5.0,SNR=10
FINES FINESS Array B 91.45 334 P **P 17 13 32.3 -1.3**
LPAZ La Paz 150.76 102 PKPbc PKPbc 17 20 23.3 +2.6
2.5nm,0.7s,baz=280,slow=3.8,SNR=11
LPAZ La Paz 150.76 102 PKPbc PKPbc 17 20 23.3 +2.6

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*TRN **23** 17:09:35.4, 18.67N×65.10W, h35km, MD3.1(RSPR)*
*NEIC **23** 17:09:37.3, 18.67N×65.06W, h27km±3km, MD3.1(RSPR), After RSPR.*
RSPR 23 17:09:37.3, 18.67N×65.06W, h27km±3km, MD3.1/6, 17C-18D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.34**	**163**	↑eP	Pb	17 09 44.5	-0.4
STVI	**Saint Thomas**	**0.34**	**163**	↑eP	Pb	17 09 44.5	-0.4
STVI				eS	Sb	17 09 49.9	-0.3
STVI	**Saint Thomas**	**0.34**	**163**	↑eP	Pb	17 09 44.5	-0.4
STVI				eS	Sb	17 09 49.9	-0.3
TBVI	**Tortola**	**0.49**	**121**	↓eP	Pb	17 09 46.1	-1.3
TBVI				eS	Sb	17 09 53.0	-1.2
TBVI	**Tortola**	**0.49**	**121**	↓eP	Pb	17 09 46.1	-1.3
TBVI				eS	Sb	17 09 53.0	-1.2
TBVI	**Tortola**	**0.49**	**121**	↓eP	Pb	17 09 46.1	-1.3
TBVI				eS	Sb	17 09 53.5	-0.8
ABV	**Anegada**	**0.69**	**85**	↑eP	Pb	17 09 50.1	-0.7
ABV				eS	Sb	17 09 58.2	-1.7
ABV	**Anegada**	**0.69**	**85**	↑eP	Pb	17 09 50.7	-0.1
ABV				eS	Sb	17 09 58.2	-1.7
HUMP	**Col San Antoni**	**0.92**	**235**	↓eP	Pn	17 09 52.4	-2.1
HUMP	**Col San Antoni**	**0.92**	**235**	↓eP	Pn	17 09 52.4	-2.1
HUMP				eS	Sb	17 10 03.8	-2.6
HUMP	**Col San Antoni**	**0.92**	**235**	↓eP	Pn	17 09 52.4	-2.1
HUMP				eS	Sb	17 10 03.8	-2.6
CDVI	**St. Croix**	**0.96**	**163**	↑eP	Pn	17 09 52.8	-2.2
CDVI	**St. Croix**	**0.96**	**163**	↑eP	Pn	17 09 52.8	-2.2
CDVI				eS	Sb	17 10 05.3	-2.2
CDVI	**St. Croix**	**0.96**	**163**	↑eP	Pn	17 09 52.8	-2.2
CDVI				eS	Sb	17 10 05.3	-2.2
SJG	**San Juan**	**1.18**	**242**	↓eP	Pn	17 09 56.0	-2.0
SJG				eS	Sn	17 10 10.2	-3.0
SJG	**San Juan**	**1.18**	**242**	↓eP	Pn	17 09 56.0	-2.0
SJG				eS	Sn	17 10 10.2	-3.0
SJG	**San Juan**	**1.18**	**242**	↓eP	Pn	17 09 56.0	-2.0
SJG				eS	Sn	17 10 10.2	-3.0
CELP	**Cerrillos**	**1.56**	**248**	↑eP	Pn	17 10 01.9	-1.4
CELP				eS	Sn	17 10 20.4	-2.2
CELP	**Cerrillos**	**1.56**	**248**	↑eP	Pn	17 10 01.9	-1.4
CELP				eS	Sn	17 10 20.4	-2.2
CELP	**Cerrillos**	**1.56**	**248**	↑eP	Pn	17 10 01.9	-1.4
CELP				eS	Sn	17 10 20.4	-2.2
AOPR	**Arecibo Observ**	**1.64**	**259**	↓eP	Pn	17 10 02.9	-1.5
AOPR	**Arecibo Observ**	**1.64**	**259**	↓eP	Pn	17 10 02.9	-1.5
AOPR				eS	Sn	17 10 22.2	-2.5
AOPR	**Arecibo Observ**	**1.64**	**259**	↓eP	Pn	17 10 02.9	-1.5
AOPR				eS	Sn	17 10 22.2	-2.5
LRS	**Lares**	**1.74**	**258**	↑eP	Pn	17 10 04.2	-1.5
LRS				eS	Sn	17 10 23.8	-3.2
LRS	**Lares**	**1.74**	**258**	↑eP	Pn	17 10 04.2	-1.5
LRS				eS	Sn	17 10 23.8	-3.2
LRS	**Lares**	**1.74**	**258**	↑eP	Pn	17 10 04.2	-1.5
LRS				eS	Sn	17 10 23.8	-3.2
AGPR	**Aguadilla, PR**	**1.96**	**264**	↓eP	Pn	17 10 07.2	-1.5
AGPR	**Aguadilla, PR**	**1.96**	**264**	↓eP	Pn	17 10 07.2	-1.5
AGPR				eS	Sn	17 10 29.8	-2.7
AGPR	**Aguadilla, PR**	**1.96**	**264**	↓eP	Pn	17 10 07.2	-1.5
AGPR				eS	Sn	17 10 29.8	-2.7
LSP	**Las Mesas**	**1.99**	**256**	↑eP	Pn	17 10 08.0	-1.2
LSP				eS	Sn	17 10 31.0	-2.2
LSP	**Las Mesas**	**1.99**	**256**	↑eP	Pn	17 10 08.0	-1.2
LSP				eS	Sn	17 10 31.0	-2.2
LSP	**Las Mesas**	**1.99**	**256**	↑eP	Pn	17 10 08.0	-1.2
LSP				eS	Sn	17 10 31.0	-2.2
CRPR	**Cabo Rojo, PR**	**2.06**	**252**	↓eP	Pn	17 10 09.0	-1.1
CRPR	**Cabo Rojo, PR**	**2.06**	**252**	↓eP	Pn	17 10 09.0	-1.1
CRPR				eS	Sn	17 10 32.5	-2.4
CRPR	**Cabo Rojo, PR**	**2.06**	**252**	↓eP	Pn	17 10 09.0	-1.1
CRPR				eS	Sn	17 10 32.5	-2.4

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*GEN **23** 17:24:06.8, 44.56N×10.40E, h26km, ML2.1*
*ISCJB **23** 17:24:08.0±0.3, 44.56N±0.02×10.31E±0.03, h26km±2km, Error ellipse: s-maj=3.9km s-min=3.3km az=150.1*
*ROM **23** 17:24:07.6±0.2, 44.57N×10.25E, h22km±3km, Md2.2/16, Ml2.3/12, Error ellipse: s-maj=3.9km s-min=2.5km az=87.0*
*CSEM **23** 17:24:07.8±0.1, 44.59N×10.35E, h15km, ML2.7/8, Error ellipse: s-maj=3.6km s-min=2.9km az=34.0*
*STR **23** 17:24:09.7±1.1, 45.00N×9.92E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **23** 17:24:09.9±0.4, 44.57N×10.44E, h25km, Ml2.8/11, Error ellipse: s-maj=8.9km s-min=4.6km az=99.0*
*NEIC **23** 17:24:09.9, 44.57N×10.44E, h25km, ML2.8(LDG), After LDG.*
ISC 23 17:24:08.5±0.3, 44.55N±0.02×10.34E±0.03, h21km±3km, n113, σ1§04/165, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.14**	**157**	Pg	**Pb**	**17 24 12.7**	**-0.2**
ERBM				Sg	**Sb**	**17 24 17.2**	**+1.3**
626nm,0.6s							
ERBM	**Eremo**	**0.14**	**157**	Pg	**Pb**	**17 24 12.7**	**-0.2**
ERBM				Sg	**Sb**	**17 24 17.2**	**+1.3**
626nm,0.6s							
GRAM	**Graiana**	**0.20**	**254**	P	**Pb**	**17 24 13.1**	**-0.7**
GRAM				S	**Sb**	**17 24 17.5**	**+0.2**
VALM	**Valbona**	**0.21**	**198**	P	**Pb**	**17 24 13.1**	**-0.7**
VALM				S	**Sb**	**17 24 17.4**	**0.0**
PRMA	**PARMA**	**0.22**	**355**	Pg	**Pb**	**17 24 12.9**	**-1.1**
PRMA				Sg	**Sb**	**17 24 18.0**	**+0.3**
914nm,0.5s							
PRMA	**PARMA**	**0.22**	**355**	Pg	**Pb**	**17 24 12.9**	**-1.1**
PRMA				Sg	**Sb**	**17 24 18.0**	**+0.3**
914nm,0.5s							
GSCL	**Gusciola**	**0.27**	**138**	Pg	**Pb**	**17 24 14.5**	**-0.2**
87nm,0.2s							
GSCL	**Gusciola**	**0.27**	**138**	Pg	**Pb**	**17 24 14.5**	**-0.2**
87nm,0.2s							
NOVE	**Novellara**	**0.37**	**47**	Pg	**Pb**	**17 24 15.3**	**-1.1**
NOVE				Sg	**Sb**	**17 24 22.7**	**+1.0**
832nm,0.9s							
NOVE	**Novellara**	**0.37**	**47**	Pg	**Pb**	**17 24 15.3**	**-1.1**
NOVE				Sg	**Sb**	**17 24 22.7**	**+1.0**
832nm,0.9s							
CODM	**Codolo**	**0.38**	**246**	P	**Pb**	**17 24 15.7**	**-0.9**
CODM				S	**Sb**	**17 24 22.0**	**-0.1**
ZCCA	**Zocca**	**0.50**	**113**	Pg	**Pb**	**17 24 19.3**	**+0.8**
112nm,0.6s							
ZCCA	**Zocca**	**0.50**	**113**	Pg	**Pb**	**17 24 19.3**	**+0.8**
112nm,0.6s							
BDI	**Bagni Di Lucca**	**0.52**	**159**	Pg	**Pb**	**17 24 18.7**	**-0.2**
BDI				Sg	**Sb**	**17 24 27.1**	**+1.1**
146nm,0.4s							
BDI	**Bagni Di Lucca**	**0.52**	**159**	Pg	**Pb**	**17 24 18.7**	**-0.2**
BDI				Sg	**Sb**	**17 24 27.1**	**+1.1**
146nm,0.4s							
PZZT	**Monte Pizzetto**	**0.56**	**138**	Pg	**Pb**	**17 24 19.0**	**-0.6**
PZZT	**Monte Pizzetto**	**0.56**	**138**	Pg	**Pb**	**17 24 19.0**	**-0.6**
SC2M	**Scurtabo**	**0.59**	**256**	Pg	**Pb**	**17 24 19.8**	**-0.4**
133nm,0.5s							
SC2M	**Scurtabo**	**0.59**	**256**	P	**Pb**	**17 24 19.0**	**-1.2**
SC2M	**Scurtabo**	**0.59**	**256**	Pg	**Pb**	**17 24 19.8**	**-0.4**
133nm,0.5s							
SC2M				S	**Sb**	**17 24 27.4**	**-0.7**
MAIM	**Mastiano**	**0.64**	**170**	Pg	**Pb**	**17 24 20.7**	**-0.3**
50nm,0.5s							
MAIM	**Mastiano**	**0.64**	**170**	P	**Pb**	**17 24 19.7**	**-1.3**
MAIM	**Mastiano**	**0.64**	**170**	Pg	**Pb**	**17 24 20.7**	**-0.3**
50nm,0.5s							
MAIM				S	**Sb**	**17 24 27.8**	**-1.7**
FNVD	**Fontana Vidola**	**0.68**	**124**	Pg	**Pb**	**17 24 21.6**	**0.0**
FNVD	**Fontana Vidola**	**0.68**	**124**	Pg	**Pb**	**17 24 21.6**	**0.0**
FIU	**Minerbio Fiu**	**0.83**	**83**	Pg	**Pb**	**17 24 26.1**	**+1.9**
FIU	**Minerbio Fiu**	**0.83**	**83**	Pg	**Pb**	**17 24 26.1**	**+1.9**
CRMI	**Carmignano**	**0.88**	**149**	Pg	**Pb**	**17 24 25.3**	**+0.2**
CRMI	**Carmignano**	**0.88**	**149**	Pg	**Pb**	**17 24 25.3**	**+0.2**
SALO	**Salr**	**1.08**	**7**	Pg	**Pn**	**17 24 27.8**	**-0.6**
195nm,0.5s							
SALO	**Salr**	**1.08**	**7**	Pg	**Pn**	**17 24 27.8**	**-0.6**
195nm,0.5s							
ROVR	**Rover˜¤ Verone**	**1.22**	**25**	Pg	**Pn**	**17 24 29.0**	**-1.3**
ROVR	**Rover˜¤ Verone**	**1.22**	**25**	Pg	**Pn**	**17 24 29.0**	**-1.3**
SFI	**Santa Sofia**	**1.26**	**120**	Pg	**Pn**	**17 24 33.1**	**+2.2**
260nm,4.3s							
SFI	**Santa Sofia**	**1.26**	**120**	Pg	**Pn**	**17 24 33.1**	**+2.2**
260nm,4.3s							
CSNT	**Castellina Chi**	**1.27**	**147**	Pg	**Pn**	**17 24 31.5**	**+0.4**
62nm,1.5s							
CSNT	**Castellina Chi**	**1.27**	**147**	Pg	**Pn**	**17 24 31.5**	**+0.4**
62nm,1.5s							
MDI	**Monti di Nese**	**1.31**	**340**	Pg	**Pn**	**17 24 30.8**	**-0.7**
93nm,0.5s							
MDI	**Monti di Nese**	**1.31**	**340**	Pg	**Pn**	**17 24 30.8**	**-0.7**
93nm,0.5s							
MABI	**Malga Bissina**	**1.51**	**5**	Pg	**Pn**	**17 24 33.5**	**-0.9**
53nm,0.3s							
SAOF	**Saorge**	**2.08**	**255**	P	**Pn**	**17 24 42.7**	**+0.6**
SAOF				S	**Sn**	**17 25 11.1**	**+3.8**
SAOF	**Saorge**	**2.08**	**255**	P	**Pn**	**17 24 42.7**	**+0.6**
SAOF				S	**Sn**	**17 25 11.1**	**+3.8**
AUTN	**L'Aution**	**2.16**	**256**	P	**Pn**	**17 24 45.2**	**+1.9**
AUTN				S	**Sn**	**17 25 11.9**	**+2.5**
AUTN	**L'Aution**	**2.16**	**256**	P	**Pn**	**17 24 45.2**	**+1.9**
AUTN				S	**Sn**	**17 25 11.9**	**+2.5**
SBF	**Sospel**	**2.20**	**253**	ePn	**Pn**	**17 24 43.5**	**-0.3**
SBF				eSn	**Sn**	**17 25 09.9**	**-0.4**
14nm,0.3s							
SBF	**Sospel**	**2.20**	**253**	ePn	**Pn**	**17 24 43.5**	**-0.3**
SBF				eSn	**Sn**	**17 25 09.9**	**-0.4**
SBF	**Sospel**	**2.20**	**253**	ePn	**Pn**	**17 24 43.5**	**-0.3**
SBF				eSn	**Sn**	**17 25 09.9**	**-0.4**
7.0nm,0.3s							
PGF	**Pioggiola**	**2.22**	**206**	ePn	**Pn**	**17 24 44.8**	**+0.7**
PGF				eSn	**Sn**	**17 25 08.8**	**-2.1**
3.6nm,0.2s							
PGF	**Pioggiola**	**2.22**	**206**	ePn	**Pn**	**17 24 44.8**	**+0.7**
PGF				eSn	**Sn**	**17 25 08.8**	**-2.1**
PGF	**Pioggiola**	**2.22**	**206**	ePn	**Pn**	**17 24 44.8**	**+0.7**
PGF				eSn	**Sn**	**17 25 08.8**	**-2.1**
1.8nm,0.2s							
TOUF	**Mont Tournerai**	**2.28**	**258**	P	**Pn**	**17 24 46.2**	**+1.3**
TOUF	**Mont Tournerai**	**2.28**	**258**	P	**Pn**	**17 24 46.2**	**+1.3**
MVIF	**Mont Vial**	**2.38**	**255**	P	**Pn**	**17 24 48.0**	**+1.7**
MVIF	**Mont Vial**	**2.38**	**255**	P	**Pn**	**17 24 48.0**	**+1.7**
MBDF	**Montbardon**	**2.55**	**275**	ePn	**Pn**	**17 24 49.9**	**+1.3**
MBDF				eSn	**Sn**	**17 25 18.7**	**-0.4**
10nm,0.6s							
MBDF	**Montbardon**	**2.55**	**275**	ePn	**Pn**	**17 24 49.9**	**+1.3**
MBDF				eSn	**Sn**	**17 25 18.7**	**-0.4**
MBDF	**Montbardon**	**2.55**	**275**	ePn	**Pn**	**17 24 49.9**	**+1.3**
MBDF				eSn	**Sn**	**17 25 18.7**	**-0.4**
5.2nm,0.6s							
LPG	**La Plagne**	**2.72**	**292**	ePn	**Pn**	**17 24 51.7**	**+0.8**
LPG	**La Plagne**	**2.72**	**292**	ePn	**Pn**	**17 24 51.7**	**+0.8**
LPG	**La Plagne**	**2.72**	**292**	ePn	**Pn**	**17 24 51.7**	**+0.8**
LPL	**La Plagne**	**2.73**	**292**	ePn	**Pn**	**17 24 53.2**	**+2.1**
LPL	**La Plagne**	**2.73**	**292**	ePn	**Pn**	**17 24 53.2**	**+2.1**
LPL	**La Plagne**	**2.73**	**292**	ePn	**Pn**	**17 24 53.2**	**+2.1**
FRF	**La Foret Royal**	**2.84**	**251**	ePn	**Pn**	**17 24 52.8**	**+0.2**
FRF				eSn	**Sn**	**17 25 25.0**	**-1.1**
3.3nm,0.2s							
FRF	**La Foret Royal**	**2.84**	**251**	ePn	**Pn**	**17 24 52.8**	**+0.2**
FRF				eSn	**Sn**	**17 25 25.0**	**-1.1**
FRF	**La Foret Royal**	**2.84**	**251**	ePn	**Pn**	**17 24 52.8**	**+0.2**
FRF				eSn	**Sn**	**17 25 25.0**	**-1.1**
1.6nm,0.2s							
MOTA	**Moosalm**	**2.85**	**11**	Pn	**Pn**	**17 24 54.0**	**+1.3**
WTTA	**Wattenberg**	**2.87**	**18**	Pn	**Pn**	**17 24 53.5**	**+0.5**
WATA	**Walderalm**	**2.92**	**17**	Pn	**Pn**	**17 24 55.0**	**+1.3**
RETA	**Reutte**	**2.96**	**6**	Pn	**Pn**	**17 24 54.9**	**+0.7**
LMR	**La Mourre**	**3.02**	**248**	ePn	**Pn**	**17 24 55.1**	**0.0**
LMR				eSn	**Sn**	**17 25 29.0**	**-1.6**
18nm,0.4s							
LMR	**La Mourre**	**3.02**	**248**	ePn	**Pn**	**17 24 55.1**	**0.0**
LMR				eSn	**Sn**	**17 25 29.0**	**-1.6**
LMR	**La Mourre**	**3.02**	**248**	ePn	**Pn**	**17 24 55.1**	**0.0**
LMR				eSn	**Sn**	**17 25 29.0**	**-1.6**
9.2nm,0.4s							
ORIF	**Oris-en-Rattie**	**3.20**	**278**	ePn	**Pn**	**17 24 59.2**	**+1.7**
ORIF				eSn	**Sn**	**17 25 34.8**	**-0.2**
8.1nm,0.7s							
ORIF	**Oris-en-Rattie**	**3.20**	**278**	ePn	**Pn**	**17 24 59.2**	**+1.7**
ORIF				eSn	**Sn**	**17 25 34.8**	**-0.2**
ORIF	**Oris-en-Rattie**	**3.20**	**278**	ePn	**Pn**	**17 24 59.2**	**+1.7**
ORIF				eSn	**Sn**	**17 25 34.8**	**-0.2**
4.1nm,0.7s							
NVLJ	**Novalja**	**3.24**	**88**	ePn	**Pn**	**17 24 57.0**	**-1.1**
NVLJ				Sn	**Sn**	**17 25 33.9**	**-2.1**
NVLJ	**Novalja**	**3.24**	**88**	ePn	**Pn**	**17 24 57.0**	**-1.1**
NVLJ				Sn	**Sn**	**17 25 33.9**	**-2.1**
SMRF	**Simiane la Rot**	**3.47**	**262**	ePn	**Pn**	**17 25 02.5**	**+1.3**
SMRF	**Simiane la Rot**	**3.47**	**262**	ePn	**Pn**	**17 25 02.5**	**+1.3**
SMRF	**Simiane la Rot**	**3.47**	**262**	ePn	**Pn**	**17 25 02.5**	**+1.3**
CABF	**La Chapelle**	**3.63**	**306**	ePn	**Pn**	**17 25 03.5**	**+0.1**
CABF	**La Chapelle**	**3.63**	**306**	ePn	**Pn**	**17 25 03.5**	**+0.1**
CABF	**La Chapelle**	**3.63**	**306**	ePn	**Pn**	**17 25 03.5**	**+0.1**
HINF	**Hinteralfeld**	**4.07**	**325**	ePn	**Pn**	**17 25 08.7**	**-0.8**
HINF				eSn	**Sn**	**17 25 52.1**	**-4.3**
5.0nm,0.3s							
HINF	**Hinteralfeld**	**4.07**	**325**	ePn	**Pn**	**17 25 08.7**	**-0.8**
HINF				eSn	**Sn**	**17 25 52.1**	**-4.3**
HINF	**Hinteralfeld**	**4.07**	**325**	ePn	**Pn**	**17 25 08.7**	**-0.8**
HINF				eSn	**Sn**	**17 25 52.1**	**-4.3**
2.5nm,0.3s							
CDF	**Champ du Feu**	**4.41**	**332**	ePn	**Pn**	**17 25 13.1**	**-1.0**
CDF				eSn	**Sn**	**17 25 56.5**	**-8.3**
3.5nm,0.4s							
CDF	**Champ du Feu**	**4.41**	**332**	ePn	**Pn**	**17 25 13.1**	**-1.0**
CDF				eSn	**Sn**	**17 25 56.5**	**-8.3**
CDF	**Champ du Feu**	**4.41**	**332**	ePn	**Pn**	**17 25 13.1**	**-1.0**
HAU	**Haudompre**	**4.43**	**323**	ePn	**Pn**	**17 25 13.8**	**-0.6**
HAU				eSn	**Sn**	**17 26 00.4**	**-4.9**
6.2nm,0.3s							
HAU	**Haudompre**	**4.43**	**323**	ePn	**Pn**	**17 25 13.8**	**-0.6**
HAU				eSn	**Sn**	**17 26 00.4**	**-4.9**
HAU	**Haudompre**	**4.43**	**323**	ePn	**Pn**	**17 25 13.8**	**-0.6**
HAU				eSn	**Sn**	**17 26 00.4**	**-4.9**
3.1nm,0.3s							
SMF	**Signal de Mont**	**5.02**	**297**	ePn	**Pn**	**17 25 22.2**	**-0.3**
SMF	**Signal de Mont**	**5.02**	**297**	ePn	**Pn**	**17 25 22.2**	**-0.3**
SMF	**Signal de Mont**	**5.02**	**297**	ePn	**Pn**	**17 25 22.2**	**-0.3**
KHC	**Kasperske Hory**	**5.10**	**25**	ePN	**Pn**	**17 25 22.0**	**-1.6**
KHC				ex	x	17 25 39.0	
KHC				eSN	**Sn**	**17 26 17.0**	**-4.7**
KHC				ex	x	17 26 34.5	
KHC	**Kasperske Hory**	**5.10**	**25**	Pn	**Pn**	**17 25 22.0**	**-1.6**
KHC				Sn	**Sn**	**17 26 17.0**	**-4.7**
LOR	**Lormes**	**5.28**	**303**	ePn	**Pn**	**17 25 25.6**	**-0.5**
LOR				eSn	**Sn**	**17 26 22.4**	**-3.8**
3.7nm,0.4s							
LOR	**Lormes**	**5.28**	**303**	ePn	**Pn**	**17 25 25.6**	**-0.5**
LOR				eSn	**Sn**	**17 26 22.4**	**-3.8**
LOR	**Lormes**	**5.28**	**303**	ePn	**Pn**	**17 25 25.6**	**-0.5**
LOR				eSn	**Sn**	**17 26 22.4**	**-3.8**
1.9nm,0.4s							
AVF	**Avril sur Loir**	**5.39**	**297**	ePn	**Pn**	**17 25 27.4**	**-0.2**
AVF	**Avril sur Loir**	**5.39**	**297**	ePn	**Pn**	**17 25 27.4**	**-0.2**
AVF	**Avril sur Loir**	**5.39**	**297**	ePn	**Pn**	**17 25 27.4**	**-0.2**
SSF	**Saint Saulge**	**5.40**	**300**	ePn	**Pn**	**17 25 27.4**	**-0.3**
SSF				eSn	**Sn**	**17 26 24.6**	**-4.6**
2.0nm,0.4s							
SSF	**Saint Saulge**	**5.40**	**300**	ePn	**Pn**	**17 25 27.4**	**-0.3**
SSF				eSn	**Sn**	**17 26 24.6**	**-4.6**
SSF	**Saint Saulge**	**5.40**	**300**	ePn	**Pn**	**17 25 27.4**	**-0.3**
BGF	**Bois d'Agland**	**5.63**	**294**	ePn	**Pn**	**17 25 30.7**	**-0.3**
BGF	**Bois d'Agland**	**5.63**	**294**	ePn	**Pn**	**17 25 30.7**	**-0.3**
BGF	**Bois d'Agland**	**5.63**	**294**	ePn	**Pn**	**17 25 30.7**	**-0.3**
TCF	**Toulx Ste Croi**	**5.98**	**290**	ePn	**Pn**	**17 25 35.6**	**-0.1**
TCF	**Toulx Ste Croi**	**5.98**	**290**	ePn	**Pn**	**17 25 35.6**	**-0.1**
TCF	**Toulx Ste Croi**	**5.98**	**290**	ePn	**Pn**	**17 25 35.6**	**-0.1**

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*IDC **23** 17:24:14.1±23.0, 18.83S×177.64W, h355km±242km, mb3.3/8, mb1 3.5/8, mb1mx3.3/19, mbtmp3.3/8, Error ellipse: s-maj=91.8km s-min=51.6km az=162.0*
NEIC 23 17:24:19.4±1.3, 18.15S×178.08W, h400km, mb3.2/2, Error ellipse: s-maj=65.5km s-min=17.9km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.72**	**261**	P	P	17 30 26.5	+1.2
1.8nm,0.4s,baz=88,slow=12,SNR=5.7							
CTA	**Charters Tower**	**33.72**	**261**	P	P	17 30 26.5	+1.2
STKA	**Stephens Creek**	**38.79**	**242**	P	P	17 31 05.9	-1.7
0.9nm,0.4s,baz=78,slow=12,SNR=6.1							
STKA	**Stephens Creek**	**38.79**	**242**	eP	P	17 31 05.3	-2.2
0.2nm,0.5s							
WRAB	**Tennant Creek**	**44.89**	**260**	eP	P	17 31 56.9	+0.5
2.0nm,0.5s							
WRA	**Warramunga Arr**	**44.90**	**260**	P	P	17 31 57.0	+0.5
1.0nm,0.4s,baz=98,slow=6.8,SNR=35							
WRA	**Warramunga Arr**	**44.90**	**260**	P	P	17 31 57.0	+0.5
AS31	**Alice Springs**	**45.03**	**254**	eP	P	17 31 57.3	-0.1
ASAR	**Alice Springs**	**45.03**	**254**	P	P	17 31 57.8	+0.3
6.5nm,0.5s,baz=90,slow=8.3,SNR=243							
ASAR	**Alice Springs**	**45.03**	**254**	P	P	17 31 57.8	+0.3
FITZ	**Fitzroy Crossi**	**53.30**	**261**	P	P	17 33 00.7	+1.3
1.2nm,0.3s,baz=104,slow=4.2,SNR=7.3							
FITZ	**Fitzroy Crossi**	**53.30**	**261**	P	P	17 33 00.7	+1.3
YSS	**Yuzh-Sakhalins**	**73.77**	**333**	P	P	17 35 08.6	-2.4
NVAR	**Mina Array Bea**	**79.38**	**44**	P	P	17 35 43.2	+0.9
0.5nm,0.6s,baz=215,slow=8.6,SNR=3.0							
NVAR	**Mina Array Bea**	**79.38**	**44**	P	P	17 35 43.2	+0.9
TXAR	**Lajitas Array**	**85.86**	**57**	P	P	17 36 15.2	-0.3
0.2nm,0.6s,baz=209,slow=7.2,SNR=3.7							
TXAR	**Lajitas Array**	**85.86**	**57**	P	P	17 36 15.2	-0.3
ILAR	**Eielson Array**	**86.05**	**13**	P	P	17 36 17.0	+1.4
0.4nm,1.0s,baz=213,slow=4.8,SNR=4.1							
ILAR	**Eielson Array**	**86.05**	**13**	P	P	17 36 17.0	+1.4

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*ISCJB **23** 17:31:52.5±0.4, 44.56N±0.03×10.41E±0.04, h30km±3km, Error ellipse: s-maj=4.5km s-min=4.4km az=168.3*
*GEN **23** 17:31:52.8, 44.50N×10.37E, h27km, ML1.7*
*CSEM **23** 17:31:52.9±0.2, 44.55N×10.43E, h20km, ML2.4/8, Error ellipse: s-maj=3.9km s-min=3.6km az=42.0*
*ROM **23** 17:31:53.0±0.3, 44.55N×10.44E, h26km±5km, Md2.5/8, Ml2.0/4, Error ellipse: s-maj=4.7km s-min=3.0km az=82.0*
*LDG **23** 17:31:54.1±0.4, 44.57N×10.62E, h25km, Ml2.4/8, Error ellipse: s-maj=8.3km s-min=3.5km az=97.0*
ISC 23 17:31:53.2±0.3, 44.55N±0.03×10.42E±0.04, h24km±3km, n49, σ1§04/79, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.23**	**341**	Pg	**Pb**	**17 31 58.7**	**-0.4**
PRMA				Sg	**Sb**	**17 32 04.3**	**+1.2**
248nm,0.3s							
PRMA	**PARMA**	**0.23**	**341**	Pg	**Pb**	**17 31 58.7**	**-0.4**
PRMA				Sg	**Sb**	**17 32 04.3**	**+1.2**
248nm,0.3s							
GSCL	**Gusciola**	**0.23**	**148**	Pg	**Pb**	**17 31 58.6**	**-0.5**
GSCL				Sg	**Sb**	**17 32 03.8**	**+0.7**
GSCL	**Gusciola**	**0.23**	**148**	Pg	**Pb**	**17 31 58.6**	**-0.5**
GSCL				Sg	**Sb**	**17 32 03.8**	**+0.7**
VALM	**Valbona**	**0.23**	**211**	P	**Pb**	**17 31 58.3**	**-0.8**
GRAM	**Graiana**	**0.26**	**257**	P	**Pb**	**17 31 58.7**	**-0.8**
NOVE	**Novellara**	**0.33**	**40**	Pg	**Pb**	**17 31 59.8**	**-0.8**
NOVE				Sg	**Sb**	**17 32 07.4**	**+1.8**
336nm,0.4s							
NOVE	**Novellara**	**0.33**	**40**	Pg	**Pb**	**17 31 59.8**	**-0.8**
NOVE		

s-min=16.7km az=95.0
NEIC ***23*** *17:35:08.8±5.9, 20.61N×145.40E, h93km±54km, mb4.5/1, Error ellipse: s-maj=20.9km s-min=10.0km az=86.0*
ISC 23 17:35:08.5±6.4, 20.61N±0.09×145.4E±0.2, h90km±59km, n30, σ0.66/29, mb3.7/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.00**	**184**	LR	LR	17 38 49.2	
	comp=Z,77nm,20.4s,baz=113,slow=33						
KSRS	**Korea Array**	**22.62**	**322**	P	**P**	**17 40 01.8**	**-0.1**
	1.9nm,0.8s,mb3.5,baz=148,slow=9.1,SNR=6.8						
KSAR	**Wonju Array Be**	**22.64**	**322**	P	**P**	**17 40 01.8**	**-0.3**
SONM	**Songino Array**	**41.48**	**320**	P	**P**	**17 42 47.4**	**+0.8**
	0.7nm,0.4s,mb3.8,baz=126,slow=7.5,SNR=7.1						
SONM	**Songino Array**	**41.48**	**320**	P	**P**	**17 42 47.4**	**+0.8**
WRAB	**Tennant Creek**	**41.72**	**196**	P	**P**	**17 42 47.8**	**-1.0**
	9.4nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	**41.73**	**196**	P	**P**	**17 42 49.0**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=15,slow=8.7,SNR=6.4						
WRA	**Warramunga Arr**	**41.73**	**196**	P	**P**	**17 42 49.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**43.07**	**208**	P	**P**	**17 42 60.0**	**+0.2**
	2.5nm,0.8s,mb4.0,baz=14,slow=12,SNR=4.6						
FITZ	**Fitzroy Crossi**	**43.07**	**208**	P	**P**	**17 42 60.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**43.71**	**275**	P	**P**	**17 43 06.2**	**+1.1**
	0.2nm,0.6s,mb3.0,baz=75,slow=7.7,SNR=3.5						
CMAR	**Chiang Mai Arr**	**43.71**	**275**	P	**P**	**17 43 06.2**	**+1.1**
ASAR	**Alice Springs**	**45.41**	**195**	P	**P**	**17 43 18.6**	**+0.2**
	0.2nm,0.4s,mb3.2,baz=14,slow=6.9,SNR=17						
ASAR	**Alice Springs**	**45.41**	**195**	P	**P**	**17 43 18.6**	**+0.2**
MKAR	**Makanchi Array**	**56.94**	**313**	P	**P**	**17 44 44.6**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=90,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**56.94**	**313**	P	**P**	**17 44 44.6**	**+0.2**
KURK	**Kurchatov**	**59.66**	**317**	P	**P**	**17 45 02.8**	**-0.5**
	0.7nm,0.5s,mb3.9,baz=90,slow=8.3,SNR=4.2						
KURK	**Kurchatov**	**59.66**	**317**	P	**P**	**17 45 02.8**	**-0.5**
ILAR	**Eielson Array**	**62.07**	**27**	P	**P**	**17 45 18.7**	**-0.7**
	0.5nm,1.1s,mb3.5,baz=261,slow=6.4,SNR=4.0						
ILAR	**Eielson Array**	**62.07**	**27**	P	**P**	**17 45 18.7**	**-0.7**
BVAR	**Borovoye Array**	**64.83**	**320**	P	**P**	**17 45 37.3**	**-0.5**
	0.6nm,0.4s,mb3.8,baz=96,slow=6.5,SNR=9.5						
BVAR	**Borovoye Array**	**64.83**	**320**	P	**P**	**17 45 37.3**	**-0.5**
YKA	**Yellowknife Ar**	**76.44**	**28**	P	**P**	**17 46 48.9**	**+0.8**
	0.4nm,0.5s,mb3.4,baz=289,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**76.44**	**28**	P	**P**	**17 46 48.9**	**+0.8**
ARCES	**ARCESS Array B**	**80.59**	**342**	P	**P**	**17 47 10.7**	**-0.1**
	2.3nm,0.8s,mb4.1,baz=75,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**80.59**	**342**	P	**P**	**17 47 10.7**	**-0.1**
NVAR	**Mina Array Bea**	**82.20**	**52**	P	**P**	**17 47 20.8**	**+0.9**
	1.4nm,0.9s,mb3.8,baz=280,slow=5.2,SNR=4.5						
NVAR	**Mina Array Bea**	**82.20**	**52**	P	**P**	**17 47 20.8**	**+0.9**
FINES	**FINESS Array B**	**85.03**	**335**	P	**P**	**17 47 32.7**	**-1.2**
	11nm,1.2s,mb4.7,baz=72,slow=4.5,SNR=4.2						
FINES	**FINESS Array B**	**85.03**	**335**	P	**P**	**17 47 32.7**	**-1.2**

ISCJB ***23*** *17:41:09.8±0.5, 36.50N±0.03×69.99E±0.08, h232km±5km, mb3.0/4, Error ellipse: s-maj=10.2km s-min=5.0km az=172.3*
IDC ***23*** *17:41:09.0±7.7, 36.32N×70.14E, h220km±72km, mb2.9/5, mb1 3.0/9, mb1mx2.8/29, mbtmp2.8/9, Error ellipse: s-maj=43.4km s-min=28.1km az=17.0*
NEIC ***23*** *17:41:10.7±0.7, 36.49N×70.01E, h230km±8km, mb4.3/14, Error ellipse: s-maj=11.7km s-min=6.4km az=71.0*
ISC 23 17:41:10.9±0.5, 36.51N±0.03×70.01E±0.08, h223km±5km, n61, σ1.13/68, mb3.0/4, 1C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.12**	**202**	*e*Pn	**Pn**	**17 41 52.3**	**0.0**
KBL				*e*Sn	**S**	**17 42 23.9**	**-0.8**
CEP	**Cherat**	**3.10**	**149**	⇓P	**Pn**	**17 42 04.0**	**+1.1**
CEP				S	**S**	**17 42 41.0**	**-2.8**
CHCP	**Chirah Chowk**	**3.90**	**136**	P	**Pn**	**17 42 13.5**	**+1.2**
THW	**Thamme Wali**	**3.97**	**158**	P	**Pn**	**17 42 13.5**	**+0.3**
AML	**Almayashu**	**6.29**	**26**	P	**Pn**	**17 42 42.1**	**0.0**
	SNR=26						
AML				P		17 42 42.1	
	SNR=26						
KK31	**Karatay Array**	**6.59**	**3**	⇓Pn	**Pn**	**17 42 45.7**	**-0.2**
	0.9nm,0.2s,baz=189,slow=13						
KK31				⇓Sn	**S**	**17 44 00.5**	**-1.3**
	3.0nm,0.6s,baz=180,slow=23						
KKAR	**Karatay Array**	**6.59**	**3**	*e*Pn	**Pn**	**17 42 46.0**	**+0.1**
	3.8nm,0.3s						
EKS2	**Erkin-Say**	**6.79**	**24**	P	**Pn**	**17 42 49.1**	**+0.7**
	SNR=32						
EKS2				P		17 42 49.1	
	SNR=32						
EKS2	**Erkin-Say**	**6.79**	**24**	*e*Pn	**Pn**	**17 42 49.0**	**+0.5**
	18nm,0.5s						
EKS2				*e*S	**S**	**17 44 01.4**	**-5.0**
AAK	**Ala-Archa**	**7.03**	**28**	P	**Pn**	**17 42 52.4**	**+0.9**
	SNR=21						
AAK				P		17 42 52.4	
	SNR=21						
AAK	**Ala-Archa**	**7.03**	**28**	*e*Pn	**Pn**	**17 42 51.8**	**+0.3**
AAK				*e*Sn	**S**	**17 43 59.1**	**-13**
KBK	**Karagaybulak**	**7.22**	**30**	P	**Pn**	**17 42 55.0**	**+1.0**
	SNR=7.5						
KBK				P		17 42 55.0	
	SNR=7.5						
CHMS	**Chumysh**	**7.43**	**28**	P	**Pn**	**17 42 57.0**	**+0.3**
	SNR=5.2						
CHMS				P		17 42 57.0	
	SNR=5.2						
USP	**Ospenovka**	**7.58**	**26**	P	**Pn**	**17 42 59.2**	**+0.7**
	SNR=16						
USP				P		17 42 59.2	
	SNR=16						
TKM2	**Tokmak 2**	**7.71**	**32**	P	**Pn**	**17 43 00.5**	**+0.2**
	SNR=5.4						
TKM2				P		17 43 00.5	
	SNR=5.4						
TKM2	**Tokmak 2**	**7.71**	**32**	⇓Pn	**Pn**	**17 43 00.5**	**+0.3**
	3.0nm,0.5s						
TKM2				⇑Sn	**S**	**17 44 25.8**	**-2.0**
	5.1nm,1.1s						
TKM2	**Tokmak 2**	**7.71**	**32**	*e*Pn	**Pn**	**17 43 00.1**	**-0.1**
	4.8nm,0.7s						
MK31	**Makanchi Array**	**13.76**	**38**	*e*Pn	**Pn**	**17 44 16.6**	**-0.2**
MKAR	**Makanchi Array**	**13.76**	**38**	P	**Pn**	**17 44 16.8**	**0.0**
	0.1nm,0.3s,baz=221,slow=14,SNR=5.0						
MKAR	**Makanchi Array**	**13.76**	**38**	P	**Pn**	**17 44 16.8**	**0.0**
DANN	**Dangsing**	**14.17**	**121**	*e*P	**Pn**	**17 44 21.4**	**-0.6**
	11nm,0.5s						
DANN	**Dangsing**	**14.17**	**121**	*e*P	**Pn**	**17 44 21.4**	**-0.6**
KOLN	**Koldanda**	**14.43**	**123**	*e*P	**Pn**	**17 44 23.8**	**-1.4**
	2.5nm,0.3s						
KOLN	**Koldanda**	**14.43**	**123**	*e*P	**Pn**	**17 44 23.8**	**-1.4**
	2.5nm,0.3s						
ABKAR	**Akbulak array**	**14.70**	**333**	*e*Pn	**Pn**	**17 44 31.1**	**+2.9**
	1.1nm,0.6s						
GKN	**Gorkha**	**14.99**	**120**	*e*P	**Pn**	**17 44 31.0**	**-1.0**
	5.0nm,0.3s						
GKN	**Gorkha**	**14.99**	**120**	*e*P	**Pn**	**17 44 31.0**	**-1.0**
	5.0nm,0.3s						
KURK	**Kurchatov**	**15.49**	**21**	P	**Pn**	**17 44 34.7**	**-3.0**
	0.1nm,0.3s,baz=208,slow=11,SNR=3.9						
KURK	**Kurchatov**	**15.49**	**21**	P	**Pn**	**17 44 34.7**	**-3.0**
KURK				*e*Pn	**Pn**	**17 44 36.8**	**-1.0**
DMN	**Daman**	**15.56**	**121**	*e*P	**Pn**	**17 44 38.6**	**-0.3**
	5.9nm,0.5s						
DMN	**Daman**	**15.56**	**121**	*e*P	**Pn**	**17 44 38.6**	**-0.3**
	5.9nm,0.5s						
KKN	**Kakani**	**15.57**	**120**	*e*P	**Pn**	**17 44 39.1**	**+0.1**
	8.0nm,0.5s						
KKN	**Kakani**	**15.57**	**120**	*e*P	**Pn**	**17 44 39.1**	**+0.1**
	8.0nm,0.5s						
PKI	**Pulchoki**	**15.79**	**120**	*e*P	**Pn**	**17 44 41.9**	**+0.2**
	6.8nm,0.3s						
PKI	**Pulchoki**	**15.79**	**120**	*e*P	**Pn**	**17 44 41.9**	**+0.2**
	6.8nm,0.3s						
GUN	**Gumba**	**15.92**	**118**	*e*P	**Pn**	**17 44 44.6**	**+1.4**
	3.6nm,0.3s						
GUN	**Gumba**	**15.92**	**118**	*e*P	**Pn**	**17 44 44.6**	**+1.4**
	3.6nm,0.3s						
JIRN	**Jiri**	**16.29**	**118**	*e*P	**P**	**17 44 47.4**	**+0.9**
	5.9nm,0.4s						
JIRN	**Jiri**	**16.29**	**118**	*e*P	**P**	**17 44 47.4**	**+0.9**
	5.9nm,0.4s						
AKTO	**Aktyubinsk**	**16.38**	**332**	P	**P**	**17 44 49.0**	**+1.7**
	0.2nm,0.3s,baz=139,slow=11,SNR=3.9						
AKTO	**Aktyubinsk**	**16.38**	**332**	P	**P**	**17 44 49.0**	**+1.7**
BVAR	**Borovoye Array**	**16.51**	**1**	P	**P**	**17 44 49.4**	**+0.7**
	0.5nm,0.3s,baz=177,slow=9.8,SNR=14						
BVAR	**Borovoye Array**	**16.51**	**1**	P	**P**	**17 44 49.4**	**+0.7**
BRVK	**Borovoye**	**16.55**	**1**	*e*Pn	**Pn**	**17 44 50.2**	**-0.2**
	1.9nm,0.7s						
RAMN	**Ramite**	**17.01**	**119**	*e*P	**P**	**17 44 55.4**	**+1.0**
RAMN	**Ramite**	**17.01**	**119**	*e*P	**P**	**17 44 55.4**	**+1.0**
TAPN	**Taplejung**	**17.56**	**116**	*e*P	**P**	**17 45 03.7**	**+3.3**
	6.6nm,0.6s						
TAPN	**Taplejung**	**17.56**	**116**	*e*P	**P**	**17 45 03.7**	**+3.3**
	6.6nm,0.6s						
ODAN	**Odare**	**17.62**	**118**	*e*P	**P**	**17 45 03.3**	**+2.2**
ODAN	**Odare**	**17.62**	**118**	*e*P	**P**	**17 45 03.3**	**+2.2**
ZAA0	**Zalesovo Array**	**20.24**	**26**	*e*P	**P**	**17 45 28.7**	**-0.3**
ZALV	**Zalesovo Beam**	**20.24**	**26**	P	**P**	**17 45 28.8**	**-0.2**
	0.7nm,0.4s,baz=220,slow=11,SNR=5.5						
ZALV	**Zalesovo Beam**	**20.24**	**26**	P	**P**	**17 45 28.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**64.92**	**268**	P	**P**	**17 51 25.7**	**-1.2**
	0.3nm,0.7s,mb3.1,baz=50,slow=5.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**64.92**	**268**	P	**P**	**17 51 25.7**	**-1.2**
YKA	**Yellowknife Ar**	**81.27**	**2**	P	**P**	**17 53 01.2**	**-0.4**
	0.2nm,0.5s,mb3.0,baz=350,slow=5.4,SNR=3.9						
YKA	**Yellowknife Ar**	**81.27**	**2**	P	**P**	**17 53 01.2**	**-0.4**
WRA	**Warramunga Arr**	**82.67**	**121**	P	**P**	**17 53 07.4**	**-2.2**
	0.1nm,0.5s,mb2.8,baz=327,slow=4.7,SNR=3.9						
WRA	**Warramunga Arr**	**82.67**	**121**	P	**P**	**17 53 07.4**	**-2.2**
ASAR	**Alice Springs**	**84.92**	**124**	P	**P**	**17 53 18.4**	**-2.4**
	0.2nm,0.6s,mb3.0,baz=313,slow=4.3,SNR=7.6						
ASAR	**Alice Springs**	**84.92**	**124**	P	**P**	**17 53 18.4**	**-2.4**

MOS ***23*** *17:51:42.4±0.9, 2.50N×128.63E, h33km, mb5.6/76, MS4.3/30, Error ellipse: s-maj=8.6km s-min=4.7km az=112.3*
BJI ***23*** *17:51:44.9, 2.24N×128.98E, h77km, mB5.3/39, mb5.3/62, Ms4.8/49, Ms7 4.6/50*
IDC ***23*** *17:51:44.5±1.6, 2.45N×128.61E, h37km±12km, mb5.1/44, mb1 5.1/46, mb1mx5.1/46, mbtmp5.1/46, ML5.0/2, MS4.3/21, Ms1 4.3/21, ms1mx4.1/34, Error ellipse: s-maj=11.9km s-min=7.7km az=73.0*
ISCJB ***23*** *17:51:45.4±0.4, 2.44N±0.02×128.79E±0.02, h61km±3km, mb5.5/180, Error ellipse: s-maj=3.7km s-min=3.0km az=157.5*
GCMT ***23*** *17:51:46.2±0.2, 2.59N×128.72E, h27km, MW5.2, Moment Tensor Solution. s49,c66; s72,c110; Moment tensor: Scale 10^16 Nm; Mrr=5.63±.24; Mθθ=1.27±.17; Mϕϕ=6.90±.18; Mrθ=1.75±.38; Mθϕ=-1.91±.14; Mϕr=3.18±.34; Best double couple: M0=7.50000×10^16 NP1:ϕs=324.00000°, δ38.00000°, λ=127.00000°. NP2:ϕs=189.00000°, δ60.00000°, λ=64.00000°. Principal axes: T 7.9000, Plg12.0000°, Azm260.0000°; N -0.7100, Plg22.0000°, Azm355.0000°; P -7.1900, Plg65.0000°, Azm144.0000°; Data Used: IU IC II G CN.*
NEIC ***23*** *17:51:48.2±0.8, 2.41N×128.68E, h72km±7km, mb5.5/83 Error ellipse: s-maj=5.0km s-min=3.4km az=64.0*
DJA ***23*** *17:51:48, 2.34N×128.72E, h49km, Mw5.3/61*
ISC 23 17:51:47.7±0.3, 2.43N±0.02×128.78E±0.02, h66km±3km, h72km±1.9km: pP-P, n630, σ1.16/524, mb5.3/179, 26C-33D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.17**	**221**	P	**Pn**	**17 52 19.5**	**-2.1**
TNTI				S	**Sn**	**17 52 49.2**	**+1.7**
LBMI	**Labuha**	**3.31**	**203**	P	**Pn**	**17 52 35.3**	**-1.8**
LBMI				S	**Sn**	**17 53 15.6**	**+0.4**
SGSI	**Sangihe**	**3.48**	**291**	P	**Pn**	**17 52 37.8**	**-1.6**
SGSI				S	**Sn**	**17 53 19.8**	**+0.4**
MNI	**Manado**	**4.06**	**256**	P	**Pn**	**17 52 45.9**	**-1.5**
MNI				S	**Sn**	**17 53 33.7**	**0.0**
KMSI	**Cibinong**	**5.14**	**249**	P	**Pn**	**17 53 01.3**	**-0.9**
MATI	**Mati**	**5.14**	**331**	*e*P	**Pn**	**17 53 02.2**	**0.0**
MATI				*e*S	Px	17 53 25.4	
GSPH	**General Santos**	**5.27**	**314**	*e*P	**Pn**	**17 53 02.7**	**-1.3**
DAV	**Davao City (W)**	**5.61**	**325**	Pn	**Pn**	**17 53 10.2**	**+1.7**
	41nm,0.3s,baz=127,slow=5.1,SNR=5.4						
DAV	**Davao City (W)**	**5.61**	**325**	*e*Pn	**Pn**	**17 53 09.9**	**+1.4**
	571nm,0.6s						
DAV	**Davao City (W)**	**5.61**	**325**	P	**Pn**	**17 53 09.8**	**+1.3**
	5.6nm904nm,0.8s						
DAV	**Davao City (W)**	**5.61**	**325**	⇓*e*P	**Pn**	**17 53 15.5**	**+7.0**
DMPH	**Davao City--Mi**	**5.66**	**325**	*e*P	**Pn**	**17 53 11.8**	**+2.5**
MSAI	**Masohi**	**5.74**	**179**	P	**Pn**	**17 53 10.6**	**+0.2**
	0.6nm2μm135nm,0.7s						
MSAI				S	**Sn**	**17 54 15.1**	**+0.2**
	0.6nm2μm135nm,0.7s						
KCP	**Kidapawan**	**5.85**	**321**	⇑*e*P	**Pn**	**17 53 14.9**	**+3.1**
NLAI	**Namlea**	**5.88**	**197**	P	**Pn**	**17 53 10.7**	**-1.6**
	1.2nm4μm333nm,0.6s						
GTOI	**Gorontalo**	**6.04**	**253**	P	**Pn**	**17 53 14.5**	**0.0**
	3.6nm1μm,1.0s						
GTOI				S	**Sn**	**17 54 22.6**	**+0.4**
	3.6nm1μm,1.0s						
AAI	**Ambon**	**6.11**	**186**	P	**Pn**	**17 53 15.4**	**0.0**
	1.2nm4μm307nm,0.8s						
FAKI	**Fak Fak**	**6.34**	**147**	P	**Pn**	**17 53 16.8**	**-1.9**
	2.0nm5μm241nm,0.8s						
FAKI				S	**Sn**	**17 54 22.9**	**-6.9**
	2.0nm5μm241nm,0.8s						
BUKP	**Musuan**	**6.56**	**326**	*e*P	**Pn**	**17 53 22.7**	**+1.1**
CTBH	**Cotabato--PC H**	**6.56**	**317**	⇑*e*P	**Pn**	**17 53 20.6**	**-1.0**
LUWI	**Luwuk**	**6.93**	**240**	P	**Pn**	**17 53 27.4**	**+0.8**
	6.7nm974nm,1.2s						
LUWI				S	**Sn**	**17 54 44.7**	**+0.6**
	6.7nm974nm,1.2s						
MRSI	**Marisa**	**7.11**	**254**	P	**Pn**	**17 53 28.5**	**-0.6**
	3.2nm1μm,0.9s						
MRSI				S	**Sn**	**17 54 47.7**	**-0.8**
	3.2nm1μm,0.9s						
BUTP	**Butuan**	**7.22**	**334**	*e*P	**Pn**	**17 53 30.9**	**+0.4**
CGP	**Cagayan de Oro**	**7.24**	**326**	⇓*e*P	**Pn**	**17 53 40.7**	**+10**
PAGZ	**Pagadian**	**7.61**	**315**	*e*P	**Pn**	**17 53 34.8**	**-1.1**
IPIL	**Ipil**	**8.16**	**311**	*e*P	**Pn**	**17 53 41.5**	**-1.9**
BAKI	**Biak**	**8.16**	**116**	P	**Pn**	**17 53 44.7**	**+1.2**
	5μm548nm,0.9s						
MSLP	**Maasin**	**8.59**	**333**	*e*P	**Pn**	**17 53 48.4**	**-1.0**
KDI	**Kendari**	**8.84**	**224**	P	**Pn**	**17 53 51.3**	**-1.5**
	5μm486nm,1.2s						
LLP	**Lapu-Lapu**	**9.18**	**329**	*e*P	**Pn**	**17 53 56.9**	**-0.5**
BBSI	**Bau Bau**	**10.02**	**218**	P	**Pn**	**17 54 10.4**	**+1.5**
	6μm576nm,1.4s						
TTSI	**Tana Toraja**	**10.48**	**239**	P	**Pn**	**17 54 13.2**	**-2.0**
	4μm554nm,0.8s						
MYLDM	**Lahad Datu**	**10.62**	**285**	P	**Pn**	**17 54 19.1**	**+2.0**
MYLDM	**Lahad Datu**	**10.62**	**285**	P	**Pn**	**17 54 18.8**	**+1.7**
	9μm510nm,1.6s						
SMPI	**Sarmi**	**10.85**	**114**	P	**Pn**	**17 54 19.4**	**-0.9**
	168nm,0.9s						
BNSI	**Bone**	**11.01**	**232**	P	**Pn**	**17 54 20.6**	**-1.9**
	3μm300nm,0.8s						
SPSI	**Sidrap Palu**	**11.02**	**235**	P	**Pn**	**17 54 21.0**	**-1.6**
	4μm419nm,0.8s						
TSM	**Tawau**	**11.05**	**280**	P	**Pn**	**17 54 22.4**	**-0.6**
MJSI	**Majene**	**11.46**	**239**	P	**Pn**	**17 54 28.0**	**-0.6**
	3μm261nm,1.2s						
BKSI	**Bulukumba**	**11.58**	**228**	P	**Pn**	**17 54 30.5**	**+0.2**
	3μm259nm,0.6s						
KAPI	**Kappang**	**11.66**	**231**	Pn	**Pn**	**17 54 27.8**	**-3.6**
	12nm,0.3s,baz=50,slow=13,SNR=55						
KAPI				Sn	**Sn**	**17 56 34.0**	**-6.0**
	0.8nm,0.3s,baz=343,slow=19,SNR=3.9						
KAPI	**Kappang**	**11.66**	**231**	Pn	**Pn**	**17 54 27.8**	**-3.6**
KAPI				Sn	**Sn**	**17 56 34.0**	**-6.0**
KAPI				*e*Sn	**Sn**	**17 56 35.3**	**-4.7**
KAPI	**Kappang**	**11.66**	**231**	P	**Pn**	**17 54 29.4**	**-2.0**
	2μm206nm,1.3s						
KAPI	**Kappang**	**11.66**	**231**	P	**Pn**	**17 54 29.3**	**-2.1**
	SNR=15						
SMKI	**Samarinda**	**11.92**	**256**	P	**Pn**	**17 54 34.7**	**-0.2**
	2μm167nm,1.4s						
SDKM	**Sandakan**	**11.99**	**286**	P	**Pn**	**17 54 38.2**	**+2.4**
BATP	**Bataraza**	**12.62**	**301**	*e*P	**Pn**	**17 54 46.6**	**+2.2**
KDM	**Kudat**	**12.71**	**291**	P	**Pn**	**17 54 48.5**	**+2.8**
MMRI	**Maumere**	**12.78**	**211**	P	**Pn**	**17 54 56.2**	**+10**
JAY	**Jayapura**	**12.89**	**112**	P	**Pn**	**17 54 50.6**	**+2.4**
	3μm77nm,0.8s						
KKM	**Kota Kinabalu**	**13.04**	**286**	P	**Pn**	**17 54 52.5**	**+2.4**
KKM	**Kota Kinabalu**	**13.04**	**286**	*e*Pn	**Pn**	**17 54 50.0**	**-0.1**
	127nm,1.0s						
KKM	**Kota Kinabalu**	**13.04**	**286**	P	**Pn**	**17 54 51.0**	**+0.9**
	2μm120nm,1.5s						
KBKI	**Kotabaru**	**13.83**	**246**	P	**Pn**	**17 54 58.0**	**-2.8**
	1μm107nm,1.1s						
WSI	**Waingapu**	**14.69**	**215**	P	**Pn**	**17 55 09.8**	**-2.2**
	5μm377nm,0.8s						
BBKI	**Banjar Baru**	**15.11**	**247**	P	**Pn**	**17 55 16.1**	**-1.4**
	3μm222nm,1.4s						
BTM	**Bintulu**	**15.70**	**273**	P	**Pn**	**17 55 26.5**	**+1.5**
SBUM	**Sibu**	**16.55**	**270**	P	**Pn**	**17 55 38.2**	**+2.5**
SBUM	**Sibu**	**16.55**	**270**	P	**Pn**	**17 55 36.5**	**+0.8**
	3μm202nm,1.3s						
MTNI	**Mataram**	**16.70**	**229**	P	**Pn**	**17 55 37.5**	**-0.1**
	6μm461nm,1.2s						
STKI	**Sintang**	**17.46**	**263**	P	**Pn**	**17 55 46.1**	**-0.8**
	5μm136nm,2.0s						
KMMI	**Kalianget**	**17.53**	**237**	P	**Pn**	**17 55 50.7**	**+2.9**
	8μm663nm,1.2s						
IGBI	**Denpasar**	**17.60**	**230**	P	**Pn**	**17 55 50.8**	**+2.2**
	220nm,1.4s						
NBBI	**Negara**	**17.73**	**233**	P	**Pn**	**17 55 53.0**	**+2.7**
	6μm695nm,1.5s						
PBKI	**Pangkalan Bun**	**17.85**	**254**	P	**Pn**	**17 55 49.2**	**-2.5**
	2μm222nm,1.1s						
JAGI	**Jajag, Banyuwa**	**18.17**	**233**	P	**Pn**	**17 55 56.9**	**+1.3**
	5μm366nm,1.0s						
BLJI	**Banyuglugur**	**18.21**	**236**	P	**Pn**	**17 55 58.4**	**+2.3**
	5μm482nm,1.0s						
KSM	**Kuching**	**18.49**	**267**	P	**Pn**	**17 56 01.0**	**+1.6**
KSM	**Kuching**	**18.49**	**267**	*e*P	**Pn**	**17 55 59.1**	**-0.3**
	86nm,0.8s						
KSM	**Kuching**	**18.49**	**267**	P	**Pn**	**17 56 00.1**	**+0.7**
	2μm152nm,1.0s						
GMJI	**Gumukmas**	**18.63**	**235**	P	**Pn**	**17 56 01.6**	**+0.5**
	5μm325nm,1.0s						
GUMO	**Guam**	**19.39**	**54**	P	**Pn**	**17 56 09.5**	**-0.6**
	4.3nm,0.3s,baz=196,slow=16,SNR=3.0						
GUMO				LR	LR	18 02 19.5	
	comp=Z,993nm,20.4s,baz=221,slow=32						
GUMO	**Guam**	**19.39**	**54**	P	**Pn**	**17 56 09.6**	**-0.6**
GUMO	**Guam**	**19.39**	**54**	P	**Pn**	**17 56 09.6**	**-0.5**
KRKI	**Karangkates**	**19.39**	**237**	P	**Pn**	**17 56 09.9**	**-0.3**
	1μm,1.4s						
SJI	**Sawahan**	**19.75**	**239**	P	**Pn**	**17 56 13.3**	**-1.2**
	6μm545nm,1.2s						
PWJI	**Pagerwojo**	**19.86**	**238**	P	**Pn**	**17 56 14.0**	**-1.8**
	5μm457nm,1.0s						
PCJI	**Pacitan**	**20.49**	**239**	P	**P**	**17 56 20.8**	**+0.4**
	7μm653nm,1.5s						
SMRI	**Semarang**	**20.59**	**243**	P	**P**	**17 56 22.9**	**+1.4**
	536nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.64**	**189**	P	**P**	**17 56 21.4**	**-0.5**
	38nm,0.5s,baz=23,slow=8.7,SNR=88						
FITZ				LR	LR	18 05 13.1	
	comp=Z,730nm,19.9s,baz=16,slow=39						
FITZ	**Fitzroy Crossi**	**20.64**	**189**	*e*P	**P**	**17 56 21.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.64**	**189**	*e*P	**P**	**17 56 21.0**	**-1.0**
	94nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.64**	**189**	P	**P**	**17 56 20.3**	**-1.6**
	80nm,1.1s						
UGM	**Wanagama**	**20.91**	**240**	P	**P**	**17 56 27.7**	**+2.7**
	6μm572nm,1.4s						
YOGI	**Yogyakarta**	**21.07**	**241**	P	**P**	**17 56 27.4**	**+0.8**
	2μm,1.6s,mb6.3						
BJII	**Banjamegara**	**21.36**	**243**	P	**P**	**17 56 30.5**	**+0.7**
	9μm593nm,1.7s,mb5.7						
COEN	**Coen**	**21.65**	**139**	*e*P	**P**	**17 56 34.0**	**+1.1**
	792nm,0.8s,mb6.1						
COEN	**Coen**	**21.65**	**139**	P	**P**	**17 56 33.2**	**+0.3**
	2μm176nm,0.9s,mb5.4						
TPI	**Tanjungpandan**	**21.74**	**256**	P	**P**	**17 56 34.5**	**+0.6**
	872nm94nm,1.3s,mb5.0						
PMG	**Port Moresby**	**21.76**	**123**	P	**P**	**17 56 35.4**	**+1.3**
	117nm,0.9s,mb5.2,baz=331,slow=12,SNR=32						
PMG	**Port Moresby**	**21.76**	**123**	P	**P**	**17 56 35.4**	**+1.3**
PMG				LR	LR		
	comp=Z,1μm,20.0s						
PMG	**Port Moresby**	**21.76**	**123**	*d*iP	**P**	**17 56 35.9**	**+1.8**
PMG				pmax	pmax		
	comp=Z,233nm,1.2s						
PMG	**Port Moresby**	**21.76**	**123**	P

comp=Z,0.6nm,0.7s,baz=356,slow=1.2,SNR=5.1
ASAR Alice Springs 26.41 169 P **P** **17 57 18.1 -0.2**
ASAR PcP PcP 18 00 42.0 -0.4
ASAR ScP ScP 18 04 18.6 +1.9
ASAR PKiKP PKiKP 18 08 20.1 -1.5
ASAR Alice Springs 26.41 169 P **P** **17 57 18.1 -0.2**
ASAR 18 00 42.0
ASAR pmax pmax
comp=Z,99nm,0.7s
KSI Kapahiang 26.86 257 P **P** **17 57 26.0 +3.5**
comp=Z,2μcomp=Z,186nm,0.9s,mb5.6
CBIJ Chichi jima 27.68 26 P **P** **17 57 28.7 -0.9**
baz=94,slow=23,SNR=4.0
CBIJ Chichi jima 27.68 26 P **P** **17 57 28.7 -0.9**
IPM Ipoh 27.78 275 P **P** **17 57 33.5 +2.9**
BKNI Bangkinang 27.81 266 P **P** **17 57 33.1 +2.1**
comp=Z,1μcomp=Z,119nm,0.9s,mb5.4
CTA Charters Tower 28.19 143 P **P** **17 57 35.2 +0.9**
comp=Z,53nm,1.0s,mb5.0,baz=324,slow=12,SNR=28
CTA LR LR 18 09 54.1
comp=Z,624nm,18.8s,baz=326,slow=38
CTA Charters Tower 28.19 143 *e*P **P** **17 57 35.9 +1.7**
CTA Charters Tower 28.19 143 P **P** **17 57 35.2 +0.9**
CTA Charters Tower 28.19 143 P **P** **17 57 35.2 +1.0**
CTA pmax pmax
comp=Z,53nm,1.0s
CTA MLR MLR
comp=Z,624nm,18.8s
CTAO Charters Tower 28.19 143 *e*P **P** **17 57 36.0 +1.8**
comp=Z,105nm,1.2s,mb5.2
CTAO LR LR
comp=Z,721nm,19.0s
CTAO Charters Tower 28.19 143 *e*P **P** **17 57 36.0 +1.8**
CTAO pmax pmax
comp=Z,105nm,1.2s,mb5.2
CTAO MLR MLR
comp=Z,721nm,19.0s
CTAO Charters Tower 28.19 143 P **P** **17 57 35.8 +1.6**
comp=Z,1μcomp=Z,80nm,1.2s,mb5.1
KULM Kulim 28.21 277 P **P** **17 57 37.1 +2.6**
KULM Kulim 28.21 277 *e*P **P** **17 57 33.9 -0.7**
comp=Z,26nm,1.0s,mb4.7
KULM LR LR
comp=Z,651nm,22.0s
PPI Padang Panjang 28.52 265 P **P** **17 57 38.6 +1.3**
comp=Z,735nmcomp=Z,52nm,1.1s,mb5.1
MNSI Mandailing Nat 29.23 267 P **P** **17 57 44.0 +0.4**
comp=Z,701nmcomp=Z,50nm,0.7s,mb5.3
SSE Sheshan 29.40 347 P **P** **17 57 46.0 +1.2**
SSE sP sP 17 58 12.6 +4.0
SSE S **S** **18 02 36.3 +2.2**
SSE pmax pmax
comp=Z,19nm,0.7s,mb4.8
SSE pmax pmax
comp=Z,120nm,7.1s
SSE LR LR
comp=N,200nm,21.6s
SSE LR LR
comp=E,140nm,21.5s
SSE LR LR
comp=Z,260nm,20.9s
PSI Prapat 29.83 271 P **P** **17 57 49.0 +0.1**
comp=Z,38nm,1.1s,mb4.9
JNU Nakatsue 30.59 3 *e*P **P** **17 57 54.4 -1.0**
comp=Z,21nm,1.2s,mb4.7
NJ2 Nanjing 30.91 343 *e*P **P** **17 57 58.9 +0.7**
NJ2 pP pP 17 58 15.8 +1.6
NJ2 sP sP 17 58 24.9 +2.9
NJ2 S **S** **18 03 00.0 +2.2**
NJ2 sS sS 18 03 30.0 +4.9
NJ2 pmax pmax
comp=Z,20nm,0.8s,mb4.9
NJ2 pmax pmax
comp=Z,210nm,5.0s
NJ2 LR LR
comp=N,1μm,17.1s
NJ2 LR LR
comp=E,730nm,22.6s
NJ2 LR LR
comp=Z,580nm,15.2s
WHN Wuhan 31.12 335 P **P** **17 58 00.8 +0.7**
WHN S **S** **18 03 07.5 +6.4**
WHN LR LR
comp=Z,2μm,20.3s
GYA Guiyang 31.96 320⇑ *i*P **P** **17 58 09.4 +1.9**
GYA pP pP 17 58 27.6 +4.0
GYA sP sP 17 58 37.0 +5.7
GYA PP PP 17 59 18.3 -2.5
GYA PcP PcP 18 00 58.8 +2.3
GYA S **S** **18 03 15.0 +0.7**
GYA sS sS 18 03 46.5 +4.8
GYA ScP ScP 18 04 33.0 -1.4
GYA PcS PcS 18 04 42.8 +1.5
GYA SS SS 18 05 11.3 -23
GYA pmax pmax
comp=Z,30nm,0.8s,mb5.1
GYA pmax pmax
comp=Z,180nm,5.0s
GYA LR LR
comp=N,760nm,17.9s
GYA LR LR
comp=E,680nm,18.0s
GYA LR LR
comp=Z,730nm,17.8s
BDT Bhumibol Dam 32.74 299 P **P** **17 58 16.0 +1.5**
FORT Forrest 33.03 181 *e*P **P** **17 58 16.6 -0.2**
FORT *e*PCP PcP 18 01 00.5 +1.2
FORT Forrest 33.03 181 *e*P **P** **17 58 16.8 0.0**
comp=Z,182nm,0.8s,mb6.0
FORT *e*PcP PcP 18 00 59.8 +0.5
ENH Enshi 33.18 329 *e*P **P** **17 58 18.0 -0.2**
comp=Z,58nm,0.9s,mb5.4
ENH *e*PcP PcP 18 01 00.5 +0.7
ENH LR LR
comp=Z,882nm,21.0s
CHRT Chiangrai 33.21 304 P **P** **17 58 18.0 -0.5**
comp=Z,355nm,0.8s,mb6.2
HNR Honiara 33.21 111 P **P** **17 58 18.7 +0.1**
comp=Z,155nm,0.9s,mb5.8,baz=233,slow=5.1,SNR=11
HNR LR LR 18 10 37.1
comp=Z,689nm,21.3s,baz=135,slow=34
HNR Honiara 33.21 111 P **P** **17 58 18.8 +0.1**
HNR Honiara 33.21 111 P **P** **17 58 18.8 +0.2**
CM31 Chiang Mai Arr 33.29 301 *e*P **P** **17 58 19.8 +0.5**
comp=Z,12nm,0.8s,mb4.8
CM31 *e*PcP PcP 18 01 01.5 +1.2
CM31 *e*ScP ScP 18 04 41.9 +2.7
CMAR Chiang Mai Arr 33.29 301 P **P** **17 58 18.7 -0.6**
comp=Z,7.6nm,0.7s,mb4.6,baz=119,slow=7.4,SNR=29
CMAR PcP PcP 18 01 00.8 +0.5
comp=Z,8.2nm,1.0s,baz=150,slow=1.3,SNR=9.7
CMAR ScP ScP 18 04 41.8 +2.6
comp=Z,3.4nm,0.9s,baz=135,slow=1.8,SNR=9.5
CMAR PKiKP PKiKP 18 08 24.8 -1.4
comp=Z,0.5nm,0.6s,baz=270,slow=0.4,SNR=5.3
CMAR LR LR 18 11 04.0
comp=Z,278nm,19.2s,baz=119,slow=35
CMAR Chiang Mai Arr 33.29 301 P **P** **17 58 18.7 -0.6**
CMAR PcP PcP 18 01 00.8 +0.5
CMAR ScP ScP 18 04 41.8 +2.6
CMAR PKiKP PKiKP 18 08 24.8 -1.4
CMAR Chiang Mai Arr 33.29 301 P **P** **17 58 18.7 -0.6**
CMAR 18 01 00.8
CHG Chiang Mai 33.44 301 ⇑P **P** **17 58 22.0 +1.4**
comp=Z,32nm,1.1s,mb5.1
CHTO Chiang Mai 33.44 301 *e*P **P** **17 58 20.9 +0.3**
comp=Z,18nm,0.6s,mb5.1
CHTO *e*PcP PcP 18 00 59.4 -1.3
CHTO LR LR
comp=Z,368nm,19.0s
CHTO Chiang Mai 33.44 301 *e*P **P** **17 58 20.9 +0.3**
CHTO *e* 18 00 59.4
CHTO pmax pmax
comp=Z,18nm,0.6s,mb5.1
CHTO MLR MLR
comp=Z,368nm,19.0s
CHTO Chiang Mai 33.44 301 P **P** **17 58 21.0 +0.4**
comp=Z,36nm,1.2s,mb5.1
CHTO Chiang Mai 33.44 301 P **P** **17 58 22.6 +2.0**
SNR=9.0
KMI Kunming 33.74 314 P **P** **17 58 25.1 +2.0**
KMI PP PP 17 59 41.3 +0.7
KMI S **S** **18 03 47.1 +5.0**
KMI SS SS 18 05 52.1 -18
KMI pmax pmax
comp=Z,180nm,3.9s
KMI LR LR
comp=N,380nm,17.8s
KMI LR LR
comp=E,440nm,18.5s
KMI LR LR
comp=Z,650nm,18.8s
KSAR Wonju Array Be 34.85 359 P **P** **17 58 32.2 -0.3**
KSAR PcP PcP 18 01 04.3 -0.1
KSAR ScP ScP 18 04 48.6 +4.3
KSAR Wonju Array Be 34.85 359 P **P** **17 58 32.3 -0.2**
KSAR 18 01 04.3
KSRS Korea Array 34.86 359 P **P** **17 58 32.2 -0.3**
comp=Z,25nm,0.8s,mb5.1,baz=174,slow=9.9,SNR=65
KSRS PcP PcP 18 01 04.3 -0.1
comp=Z,3.4nm,0.7s,baz=191,slow=2.6,SNR=6.6
KSRS ScP ScP 18 04 48.6 +4.3
comp=Z,1.8nm,0.9s,baz=224,slow=3.4,SNR=3.8
KSRS LR LR 18 11 28.2
comp=Z,430nm,19.2s,baz=186,slow=34
KSRS Korea Array 34.86 359 P **P** **17 58 32.3 -0.3**
KSRS 18 01 04.3
KSRS pmax pmax
comp=Z,25nm,0.8s,mb5.1
KSRS MLR MLR
comp=Z,430nm,19.2s
COCO West Island 34.91 245 *e*P **P** **17 58 32.0 -1.3**
comp=Z,119nm,1.0s,mb5.7
COCO LR LR
comp=Z,426nm,19.0s
COCO West Island 34.91 245 *e*P **P** **17 58 32.1 -1.2**
COCO pmax pmax
comp=Z,119nm,1.0s,mb5.7
COCO MLR MLR
comp=Z,426nm,19.0s
INCN Inchon 34.94 357 PFAKE 17 58 50.0 +17
INCN LR LR
comp=Z,645nm,20.0s
MAJO Matsushiro 35.04 13 *e*P **P** **17 58 32.0 -2.2**
comp=Z,42nm,0.8s,mb5.3
MAJO LR LR
comp=Z,1μm,19.0s
MAJO Matsushiro 35.04 13 *e*P **P** **17 58 32.0 -2.2**
MAJO pmax pmax
comp=Z,42nm,0.8s,mb5.3
MAJO MLR MLR
comp=Z,1μm,19.0s
MAT Matsushiro 35.04 13 P **P** **17 58 33.0 -1.2**
MAT *e*S **S** **18 04 06.8 +5.0**
MJAR Matsushiro Arr 35.04 13 P **P** **17 58 32.5 -1.6**
comp=Z,36nm,0.7s,mb5.3,baz=190,slow=9.8,SNR=104
MJAR PcP PcP 18 01 06.0 +1.1
comp=Z,4.0nm,0.9s,baz=205,slow=4.0,SNR=4.8
MJAR LR LR 18 11 21.3
comp=Z,728nm,18.8s,baz=195,slow=34
MJAR Matsushiro Arr 35.04 13 P **P** **17 58 32.5 -1.6**
MJAR PcP PcP 18 01 06.0 +1.1
MJAR Matsushiro Arr 35.04 13 P **P** **17 58 32.5 -1.7**
MJAR 18 01 06.0
MJAR pmax pmax
comp=Z,36nm,0.7s
MJAR MLR MLR
comp=Z,728nm,18.8s
EIDS Eidsvold 35.08 143 *e*P **P** **17 58 35.0 +0.3**
comp=Z,195nm,1.2s,mb5.8
KLBR Kellerberrin 35.42 196 *e*P **P** **17 58 36.4 -1.1**
comp=Z,61nm,0.5s,mb5.7
KLBR *e*PCP PcP 18 01 06.1 0.0
BBOO Buckleboo 35.72 169⇓ *i*P **P** **17 58 39.8 -0.3**
comp=Z,3μm,0.7s
STKA Stephens Creek 36.22 161 P **P** **17 58 44.7 +0.3**
comp=Z,204nm,0.8s,mb6.1,baz=341,slow=9.0,SNR=458
STKA Stephens Creek 36.22 161 *e*P **P** **17 58 44.6 +0.2**
STKA Stephens Creek 36.22 161⇓ *i*P **P** **17 58 44.7 +0.4**
comp=Z,50nm,0.9s,mb5.5
STKA Stephens Creek 36.22 161 P **P** **17 58 44.7 +0.3**
XAN Xi'an 36.51 332 P **P** **17 58 46.3 -0.5**
XAN pP pP 17 59 01.3 -1.7
XAN sP sP 17 59 12.1 +1.4
XAN PP PP 18 00 10.8 -0.2
XAN PcP PcP 18 01 09.3 -0.1
XAN S **S** **18 04 21.1 -3.2**
XAN pmax pmax
comp=Z,12nm,1.1s,mb4.7
XAN pmax pmax
comp=Z,44nm,8.9s
XAN LR LR
comp=N,300nm,23.6s
XAN LR LR
comp=E,130nm,26.9s
XAN LR LR
comp=Z,180nm,18.8s
NWAO Narrogin (SRO) 36.82 196 P **P** **17 58 48.6 -0.8**
comp=Z,62nm,0.7s,mb5.7,baz=22,slow=8.8,SNR=54
NWAO LR LR 18 16 04.5
comp=Z,350nm,18.5s,baz=18,slow=40
NWAO Narrogin (SRO) 36.82 196 *e*P **P** **17 58 48.6 -0.8**
comp=Z,85nm,1.1s,mb5.6
NWAO Narrogin (SRO) 36.82 196 P **P** **17 58 48.7 -0.7**
NWAO pmax pmax
comp=Z,62nm,0.7s
NWAO MLR MLR
comp=Z,351nm,18.5s
CD2 Chengdu 36.90 323⇑ *i*P **P** **17 58 50.8 +0.6**
CD2 pP pP 17 59 08.9 +2.5
CD2 sP sP 17 59 17.9 +3.8
CD2 PP PP 18 00 19.3 +3.9
CD2 PcP PcP 18 01 10.8 +0.2
CD2 S **S** **18 04 30.3 -0.1**
CD2 sS sS 18 05 01.4 +3.3
CD2 SS SS 18 07 03.3 -11
CD2 ScS ScS 18 08 55.8 -3.5
CD2 pmax pmax
comp=Z,40nm,0.8s,mb5.4
CD2 pmax pmax
comp=Z,150nm,9.6s
CD2 LR LR
comp=N,560nm,20.4s
CD2 LR LR
comp=E,820nm,14.4s
CD2 LR LR
comp=Z,1μm,20.4s
BJT Baijiatuau 39.13 345 *e*P **P** **17 59 08.5 -0.3**
comp=Z,80nm,0.8s,mb5.6
BJT LR LR
comp=Z,250nm,19.0s
BJT Baijiatuau 39.13 345 *e*P **P** **17 59 08.5 -0.3**
BJT pmax pmax
comp=Z,80nm,0.8s
BJT MLR MLR
comp=Z,250nm,19.0s
BJI Beijing 39.15 345 P **P** **17 59 08.8 -0.1**
BJI pP pP 17 59 25.3 0.0
BJI S **S** **18 04 54.5 -10**
BJI pmax pmax
comp=Z,110nm,0.7s,mb5.8
BJI LR LR
comp=N,230nm,28.8s
BJI LR LR
comp=E,330nm,30.5s
BJI LR LR
comp=Z,200nm,24.9s
ARMA Armidale 39.27 148 *e*P **P** **17 59 11.9 +1.8**
ARMA Armidale 39.27 148⇓ *i*P **P** **17 59 11.4 +1.3**
comp=Z,193nm,1.2s,mb5.8
SNY Shenyang 39.50 354⇑P **P** **17 59 12.4 +0.6**
SNY pmax pmax
comp=Z,19nm,1.3s,mb4.8
SNY pmax pmax
comp=Z,210nm,3.5s
SNY LR LR
comp=E,630nm,15.9s
SNY LR LR
comp=Z,500nm,22.2s
IMP Imphal 40.28 307 *e*PKP **P** **17 59 19.0 +0.4**
IMP *e*PKP 18 01 22.0
VLA Vladivostok 40.61 4 *e*P **P** **17 59 21.4 +0.4**
VLA pmax pmax
comp=Z,72nm,1.7s,mb5.2
LZH Lanzhou 40.66 328 *e*P **P** **17 59 23.1 +1.5**
LZH pP pP 17 59 40.0 +2.0
LZH sP sP 17 59 49.3 +3.6
LZH *e*S **S** **18 05 27.5 +0.6**
LZH sS sS 18 05 59.3 +4.4
LZH SS SS 18 08 31.0 +1.4
LZH pmax pmax
comp=Z,120nm,1.0s,mb5.7
LZH pmax pmax
comp=Z,330nm,4.0s
LZH LR LR
comp=N,490nm,13.0s
LZH LR LR
comp=E,470nm,13.2s
HHC Hu-ho-hao-te 41.29 340⇓P **P** **17 59 27.0 +0.4**
HHC pP pP 17 59 44.3 +1.2
HHC sP sP 17 59 55.0 +4.2
HHC PP PP 18 01 06.4 +3.3
HHC PcP PcP 18 01 24.3 +0.1
HHC ScP ScP 18 05 05.4 -3.2
HHC S **S** **18 05 37.5 +1.5**
HHC sS sS 18 06 08.4 +4.4
HHC SS SS 18 08 38.3 -3.5
HHC ScS ScS 18 09 21.1 -3.4
HHC pmax pmax
comp=Z,58nm,0.8s,mb5.5
HHC pmax pmax
comp=Z,200nm,9.5s
HHC LR LR
comp=N,360nm,22.6s
HHC LR LR
comp=E,290nm,15.5s
HHC LR LR
comp=Z,380nm,19.0s
CN2 Changchun 41.30 356 *e*P **P** **17 59 26.3 -0.4**
CN2 *e*pP pP 17 59 44.8 +1.6
CN2 *e*S **S** **18 05 35.4 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=Z,500nm,20.0s
ERM Erimo 41.47 16 PFAKE 17 59 40.0 +12
ERM LR LR
comp=Z,605nm,19.0s
USRK Ussuriysk Arra 41.69 3 P **P** **17 59 30.3 +0.5**
comp=Z,36nm,0.7s,mb5.2,baz=181,slow=7.8,SNR=62
USRK LR LR 18 14 14.1
comp=Z,179nm,19.8s,baz=350,slow=32
MDJ Mudanjiang 42.02 1 P **P** **17 59 33.3 +0.8**
MDJ pP pP 17 59 51.1 +2.1
MDJ sP sP 17 59 57.6 +0.9
MDJ PP PP 18 01 11.8 +0.9
MDJ ScP ScP 18 05 09.6 -1.8
MDJ PcS PcS 18 05 18.4 +0.3
MDJ sS sS 18 06 19.4 +4.7
MDJ ScS ScS 18 09 28.4 -0.3
MDJ pmax pmax
comp=Z,55nm,1.2s,mb5.2
MDJ pmax pmax
comp=Z,170nm,6.2s
MDJ LR LR
comp=N,350nm,8.6s
MDJ LR LR
comp=E,200nm,9.1s
MDJ LR LR
comp=Z,390nm,9.6s
MDJ Mudanjiang 42.02 1⇓ *i*P **P** **17 59 32.8 +0.3**
comp=Z,78nm,1.1s,mb5.3
MDJ *e*PcP PcP 18 01 25.1 -1.4
MDJ LR LR
comp=Z,393nm,20.0s
CAN Canberra 42.06 155 *e*P **P** **17 59 34.4 +1.4**
comp=Z,183nm,1.3s,mb5.7
CAN *e*PP PP 18 01 12.2 +0.6
CAN LR LR
comp=Z,951nm,19.0s
CAN Canberra 42.06 155 *e*P **P** **17 59 34.4 +1.4**
CAN *e* 18 01 12.2
CAN MLR MLR
comp=Z,951nm,19.0s
CNB Canberra Magne 42.21 155 *e*P **P** **17 59 35.6 +1.4**
SHL Shillong 42.29 306 *i* P **P** **17 59 36.2 +1.1**
SHL *e*x x 18 01 30.0
SHL *e*S **S** **18 05 51.5 +0.2**
TOO Toolangi 42.71 160 *e*P **P** **17 59 40.1 +1.8**
ASAJ Asahikawa 43.28 15 P **P** **17 59 42.9 +0.1**
comp=Z,28nm,0.9s,mb5.0,baz=227,slow=9.7,SNR=12
ASAJ Asahikawa 43.28 15 P **P** **17 59 42.9 +0.1**
ASAJ Asahikawa 43.28 15 P **P** **17 59 42.9 +0.2**
ASAJ pmax pmax
comp=Z,28nm,0.9s
YUK Yuzh-Kuril'sk 44.11 18 *e*P **P** **17 59 56.7 +7.3**
YUK *e* 18 01 40.1
YUK *e*S **S** **18 06 18.1 +0.8**
YUK pmax pmax
comp=Z,54nm,3.1s
YUK MLR MLR
comp=Z,576nm,21.0s
DZM Mont Dzumac 44.12 125 *e*P **P** **17 59 52.4 +2.6**
comp=Z,72nm,1.1s,mb5.3
DZM *e*S **S** **18 06 30.8 +13**
comp=Z,618nm,28.1s
DZM *e*LR LR 18 12 25.8
comp=Z,438nm,24.9s
DZM Mont Dzumac 44.12 125 P **P** **17 59 50.8 +1.0**
comp=Z,24nm,1.0s,mb4.9,baz=307,slow=11,SNR=13
DZM Mont Dzumac 44.12 125 *e*P **P** **17 59 49.9 0.0**
comp=Z,35nm,1.1s,mb5.0
TARA Tarawa 44.13 91 PFAKE 18 00 00.0 +10
TARA LR LR
comp=Z,412nm,20.0s
LSA Lhasa 44.83 311 P **P** **17 59 57.5 +2.1**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
LSA Lhasa 44.83 311⇓P **P** **17 59 56.9 +1.4**
comp=Z,74nm,1.0s,mb5.4
LSA *e*PcP PcP 18 01 37.7 +1.3
LSA *e*S **S** **18 06 30.3 +2.0**
LSA LR LR
comp=Z,378nm,21.0s
LSA Lhasa 44.83 311⇓P **P** **17 59 56.9 +1.5**
LSA *e* 18 01 37.7
LSA *e*S **S** **18 06 30.3 +2.0**
LSA pmax pmax
comp=Z,73nm,1.0s,mb5.4
LSA MLR MLR
comp=Z,378nm,21.0s
GTA Gaotai 45.27 328⇓P **P** **17 59 59.4 +0.7**
GTA pP pP 18 00 20.8 +5.4
GTA sP sP 18 00 27.8 +4.8
GTA PcP PcP 18 01 39.5 +1.8
GTA ScP ScP 18 05 24.6 -0.2
GTA S **S** **18 06 33.1 -1.2**
GTA sS sS 18 07 05.6 +3.0
GTA SS SS 18 09 46.4 -12
GTA pmax pmax
comp=Z,35nm,0.8s,mb5.1
GTA pmax pmax
comp=Z,240nm,5.5s
GTA LR LR
comp=N,410nm,14.5s
GTA LR LR
comp=E,480nm,16.9s
GTA LR LR
comp=Z,620nm,19.5s
YSS Yuzh-Sakhalins 45.98 13 *e*P **P** **18 00 04.1 -0.1**
comp=Z,17nm,0.8s,mb4.8
YSS LR LR
comp=Z,242nm,22.0s
YSS Yuzh-Sakhalins 45.98 13 *e*P **P** **18 00 04.0 -0.2**
YSS MLR MLR
comp=Z,300nm,18.0s
HABR Khabarovsk 46.18 6 *de*P **P** **18 00 04.0 -1.8**
HABR *e**PP pP 18 00 21.5 -1.0
HABR *e* 18 01 38.9
HABR 18 01 53.4
HABR *e*PPP 18 02 36.2
HABR *e*S **S** **18 06 45.1 -2.1**
HABR *e* 18 09 52.5
HABR SS SS 18 10 12.9 -0.4
HABR pmax pmax
comp=Z,58nm,1.0s,mb5.3
HABR pmax pmax
comp=E,56nm,1.9s
HABR pmax pmax
comp=N,27nm,1.0s

HABR MLR MLR
comp=Z,385nm,17.0s
TAPN Taplejung 46.43 306 *e*P **P** **18 00 08.9 +0.8**
comp=Z,123nm,0.9s,mb5.7
TAPN Taplejung 46.43 306 *e*P **P** **18 00 08.9 +0.8**
comp=Z,123nm,0.9s,mb5.6
ODAN Odare 46.49 305 *e*P **P** **18 00 09.1 +0.5**
comp=Z,130nm,0.8s,mb5.7
ODAN Odare 46.49 305 *e*P **P** **18 00 09.1 +0.5**
comp=Z,130nm,0.8s,mb5.7
KLR Kul'dur 46.69 3 *e*P **P** **18 00 05.0 -4.8**
KLR *e*S ScS 18 10 08.5 +10
KLR pmax pmax
comp=Z,57nm,1.4s,mb5.1
RAMN Ramite 47.17 305 *e*P **P** **18 00 14.8 +0.9**
comp=Z,107nm,0.7s,mb5.7
RAMN Ramite 47.17 305 *e*P **P** **18 00 14.8 +0.9**
comp=Z,107nm,0.7s,mb5.7
HIA Hailar 47.30 352 *e*P **P** **18 00 14.2 -0.2**
comp=Z,20nm,0.9s,mb4.8
HIA LR LR
comp=Z,427nm,20.0s
HIA Hailar 47.30 352 *e*P **P** **18 00 14.2 -0.3**
HIA pmax pmax
comp=Z,20nm,0.9s
HIA MLR MLR
comp=Z,427nm,20.0s
MOO Moorlands 47.67 162 *e*P **P** **18 00 17.9 +0.4**
JIRN Jiri 47.79 306 *e*P **P** **18 00 19.6 +0.9**
comp=Z,90nm,0.7s,mb5.7
JIRN Jiri 47.79 306 *e*P **P** **18 00 19.6 +0.9**
comp=Z,90nm,0.7s,mb5.7
TAU Tasmania Unive 48.13 162 *e*P **P** **18 00 22.3 +1.3**
comp=Z,50nm,1.0s,mb5.3
TAU Tasmania Unive 48.13 162 *e*P **P** **18 00 22.3 +1.2**
TAU pmax pmax
comp=Z,50nm,1.0s,mb5.3
GUN Gumba 48.14 306 *e*P **P** **18 00 22.1 +0.7**
comp=Z,123nm,0.7s,mb5.9
GUN Gumba 48.14 306 *e*P **P** **18 00 22.1 +0.7**
comp=Z,123nm,0.7s,mb5.8
PKI Pulchoki 48.39 305 *e*P **P** **18 00 23.6 +0.3**
comp=Z,49nm,0.7s,mb5.5
PKI Pulchoki 48.39 305 *e*P **P** **18 00 23.6 +0.3**
comp=Z,49nm,0.7s,mb5.4
PKI Pulchoki 48.39 305 *e*P **P** **18 00 23.6 +0.3**
PKI pmax pmax
comp=Z,49nm,0.7s,mb5.5
KKN Kakani 48.58 306 *e*P **P** **18 00 25.0 +0.2**
comp=Z,46nm,0.6s,mb5.6
KKN Kakani 48.58 306 *e*P **P** **18 00 25.0 +0.2**
comp=Z,46nm,0.6s,mb5.6
KKN Kakani 48.58 306 *e*P **P** **18 00 25.0 +0.2**
KKN pmax pmax
comp=Z,46nm,0.6s,mb5.6
DMN Daman 48.65 305 *e*P **P** **18 00 25.4 +0.1**
comp=Z,75nm,0.8s,mb5.7
DMN Daman 48.65 305 *e*P **P** **18 00 25.4 +0.1**
comp=Z,75nm,0.8s,mb5.7
ULN Ulaanbaatar 49.00 341 *e*P **P** **18 00 27.9 +0.3**
comp=Z,55nm,0.7s,mb5.6
ULN LR LR
comp=Z,371nm,21.0s
ULN Ulaanbaatar 49.00 341 *e*P **P** **18 00 27.9 +0.3**
ULN pmax pmax
comp=Z,55nm,0.7s,mb5.6
ULN MLR MLR
comp=Z,371nm,21.0s
ULN Ulaanbaatar 49.00 341 P **P** **18 00 28.1 +0.5**
SNR=18
GKN Gorkha 49.19 306 *e*P **P** **18 00 29.5 +0.1**
comp=Z,45nm,0.6s,mb5.6
GKN Gorkha 49.19 306 *e*P **P** **18 00 29.5 +0.1**
comp=Z,45nm,0.6s,mb5.6
SONM Songino Array 49.19 340 P **P** **18 00 28.9 -0.2**
comp=Z,31nm,0.7s,mb5.3,baz=153,slow=7.8,SNR=165
SONM LR LR 18 21 53.5
comp=Z,259nm,21.8s,baz=163,slow=37
SONM Songino Array 49.19 340 P **P** **18 00 28.9 -0.2**
SONM Songino Array 49.19 340 P **P** **18 00 28.9 -0.2**
SONM pmax pmax
comp=Z,31nm,0.7s
SONM MLR MLR
comp=Z,259nm,21.8s
KOLN Koldanda 49.94 305 *e*P **P** **18 00 35.7 +0.5**
comp=Z,165nm,0.6s,mb6.1
KOLN Koldanda 49.94 305 *e*P **P** **18 00 35.7 +0.5**
comp=Z,165nm,0.6s,mb6.1
DANN Dangsing 50.03 306 *e*P **P** **18 00 36.4 +0.5**
comp=Z,194nm,0.6s,mb6.2
DANN Dangsing 50.03 306 *e*P **P** **18 00 36.4 +0.5**
comp=Z,194nm,0.6s,mb6.2
ALBI Allahabad 50.58 301 *ex* **P** **18 00 37.0 -3.1**
CIT Chita 51.03 348 *e*P **P** **18 00 40.9 -2.1**
CIT *e* 18 00 52.0
CIT *e* pP 18 00 57.9 -2.1
CIT *e* 18 01 52.8
CIT pmax pmax
comp=Z,96nm,2.1s,mb5.5
HYB Hyderabad 51.48 290 *i*P **P** **18 00 46.5 -0.4**
comp=Z,58nm,0.8s,mb5.7
ZAK Zakamensk 52.43 340⇓ *i*P **P** **18 00 52.9 -0.5**
ZAK *e* 18 02 04.2
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MSVF Nonsavu 52.51 114 *e*P **P** **18 00 56.4 +1.8**
comp=Z,49nm,1.1s,mb5.5
MSVF *e*PcP PcP 18 02 06.9 +2.5
MSVF Nonsavu 52.51 114 *e*P **P** **18 00 56.4 +1.8**
MSVF *e* 18 02 06.9
MSVF pmax pmax
comp=Z,49nm,1.1s,mb5.5
MSVF Nonsavu 52.51 114 P **P** **18 00 56.0 +1.4**
comp=Z,190nm,0.8s,mb6.2,SNR=9.7
TLY Talaya 53.41 341 *e*P **P** **18 01 01.2 +0.7**
comp=Z,21nm,1.1s,mb5.1
TLY LR LR
comp=Z,308nm,21.0s
TLY Talaya 53.41 341 *e*P **P** **18 01 00.2 -0.4**
TLY pmax pmax
comp=Z,18nm,1.6s,mb4.8
TLY MLR MLR
comp=Z,162nm,19.0s
MOY Mondy 54.31 339 *e*P **P** **18 01 07.5 +0.4**
MOY pmax pmax
comp=Z,35nm,1.7s,mb5.1
WMQ Urumqi 54.96 324 P **P** **18 01 13.0 +1.0**
WMQ pP pP 18 01 32.1 +2.9
WMQ sP sP 18 01 40.8 +4.1
WMQ PP PP 18 03 18.1 +2.4
WMQ S **S** **18 08 45.8 -3.2**
WMQ SS SS 18 12 30.1 -3.5
WMQ pmax pmax
comp=Z,83nm,1.0s,mb5.7
WMQ pmax pmax
comp=Z,260nm,4.8s
WMQ LR LR
comp=N,510nm,22.8s
WMQ LR LR
comp=E,310nm,23.4s
WMQ LR LR
comp=Z,370nm,22.2s
KAD Karad 55.57 289 *e*PKP **P** **18 01 16.2 -0.7**
PEA0B Petropavlovsk- 55.88 21 *e*P **P** **18 01 19.6 +1.1**
PETK Petropavlovsk- 55.88 21 P **P** **18 01 19.1 +0.6**
comp=Z,37nm,0.8s,mb5.5,baz=205,slow=3.4,SNR=30
PETK LR LR 18 25 49.7
comp=Z,121nm,18.4s,baz=307,slow=37
PETK Petropavlovsk- 55.88 21 P **P** **18 01 19.1 +0.6**
PETK Petropavlovsk- 55.88 21 P **P** **18 01 19.1 +0.6**
PETK pmax pmax
comp=Z,37nm,0.8s,mb5.5
PETK MLR MLR
comp=Z,121nm,18.4s
POO Poona 56.09 291⇑ *i*P **P** **18 01 19.0 -1.6**
comp=Z,80nm,1.0s,mb5.7
PET Petropavlovsk 56.16 21 *e*P **P** **18 01 21.4 +1.0**
PET *e*S **S** **18 09 03.4 -1.2**
PET pmax pmax
comp=Z,31nm,1.1s,mb5.2
PET MLR MLR
comp=Z,200nm,19.0s
SMLA Simla 56.38 306 *i*P **P** **18 01 21.9 -0.6**
SMLA *i*S **S** **18 09 06.5 -1.9**
BOD Bodaibo 56.45 351 *e*P **P** **18 01 22.1 -0.4**
BOD pmax pmax
comp=Z,30nm,1.0s,mb5.3
DGAR Diego Garcia 57.05 260 *e*P **P** **18 01 26.6 -0.9**
comp=Z,67nm,0.8s,mb5.7
DGAR Diego Garcia 57.05 260 *c i*P **P** **18 01 27.1 -0.4**
THN Thein Dam 57.98 307 *e*PKP **P** **18 01 31.7 -2.0**
YAK Yakutsk 59.46 0 *e*P **P** **18 01 43.5 +0.1**
comp=Z,66nm,0.6s,mb5.8
YAK LR LR
comp=Z,450nm,21.0s
YAK Yakutsk 59.46 0 *d i*P **P** **18 01 43.2 -0.2**
YAK *e**PP pP 18 01 54.1 -6.7
YAK *e* 18 02 28.7
YAK *e* 18 04 01.0
YAK *e*S **S** **18 09 52.4 +4.9**
YAK *e* 18 11 32.6
YAK *e*SS SS 18 13 42.6 -1.1
YAK pmax pmax
comp=Z,64nm,1.0s,mb5.6
YAK pmax pmax
comp=N,37nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,21nm,1.5s,mb5.0
YAK pmax pmax
comp=N,18nm,1.5s
YAK smax
comp=N,102nm,3.7s
YAK smax
comp=E,48nm,3.7s
YAK MLR MLR
comp=Z,408nm,24.0s
YAK MLR MLR
comp=N,252nm,25.0s
RPZ Rata Peaks 59.53 146 P **P** **18 01 45.1 +0.9**
comp=N,68nm,0.8s,mb5.7,baz=337,slow=9.1,SNR=19
RPZ Rata Peaks 59.53 146 *e*P **P** **18 01 44.9 +0.7**
comp=N,78nm,0.9s,mb5.7
MK31 Makanchi Array 59.79 325 *e*P **P** **18 01 46.0 0.0**
MK31 *e*PcP PcP 18 02 32.2 +0.1
MK31 Makanchi Array 59.79 325 *e*P **P** **18 01 46.0 0.0**
MK31 *e* 18 02 32.2
MKAR Makanchi Array 59.79 325 P **P** **18 01 45.7 -0.3**
comp=N,38nm,0.5s,mb5.7,baz=116,slow=7.9,SNR=677
MKAR PcP PcP 18 02 32.5 +0.4
comp=N,46nm,0.9s,baz=117,slow=5.4,SNR=10
MKAR ScP ScP 18 06 29.6 +2.1
comp=N,1.3nm,0.7s,baz=118,slow=5.3,SNR=5.2
MKAR LR LR 18 29 16.6
comp=N,319nm,20.4s,baz=116,slow=38
MKAR Makanchi Array 59.79 325 P **P** **18 01 45.7 -0.3**
MKAR PcP PcP 18 02 32.5 +0.4
MKAR ScP ScP 18 06 29.6 +2.1
MKAR Makanchi Array 59.79 325 P **P** **18 01 45.7 -0.3**
MKAR 18 02 32.5
MKAR pmax pmax
comp=Z,38nm,0.5s
MKAR MLR MLR
comp=Z,319nm,20.4s
RAO Raoul Island 59.91 126 P **P** **18 01 47.8 +0.6**
RAO Raoul Island 59.91 126 P **P** **18 01 47.8 +0.6**
KHZ Kahutara 60.20 143 *e*P **P** **18 01 48.2 -0.6**
comp=Z,85nm,1.1s,mb5.7
URZ Urewera 60.20 137 P **P** **18 01 48.9 -0.1**
comp=Z,33nm,0.9s,mb5.4,baz=357,slow=5.7,SNR=6.5
URZ LR LR 18 28 10.6
comp=Z,729nm,18.3s,baz=318,slow=36
URZ Urewera 60.20 137 P **P** **18 01 48.9 -0.1**
SNZO South Karori 60.27 141 PFAKE 18 02 00.0 +11
SNZO LR LR
comp=Z,805nm,20.0s
NIL Nilore 60.34 308 PFAKE 18 02 00.0 +10
NIL LR LR
comp=Z,80nm,21.0s
KSH Kashi 60.40 315 P **P** **18 01 52.4 +2.0**
KSH pP pP 18 02 11.8 +4.0
KSH sP sP 18 02 20.8 +5.6
KSH PcP PcP 18 02 36.9 +2.2
KSH PP PP 18 04 07.5 +3.3
KSH ScP ScP 18 06 29.6 -0.8
KSH PcS PcS 18 06 37.3 +0.1
KSH S **S** **18 09 58.8 -1.7**
KSH sS sS 18 10 32.0 +2.0
KSH ScS ScS 18 11 31.8 -3.6
KSH SS SS 18 13 59.0 -0.4
KSH pmax pmax
comp=Z,28nm,1.1s,mb5.2
KSH pmax pmax
comp=Z,260nm,4.6s
KSH LR LR
comp=N,180nm,7.8s
KSH LR LR
comp=E,240nm,6.8s
KSH LR LR
comp=Z,270nm,6.6s
AFI Afiamalu 61.10 107 LR LR 18 25 31.8
comp=Z,272nm,20.8s,baz=77,slow=33
ULHL Ulhol 61.35 318 P **P** **18 01 57.9 +1.2**
SNR=7.3
ULHL P 18 01 57.9
SNR=7.3
KZA Kyzart 61.95 317 P **P** **18 02 02.1 +1.3**
SNR=14
KZA P 18 02 02.1
SNR=14
TKM2 Tokmak 2 62.07 318 P **P** **18 02 02.4 +0.9**
SNR=18
TKM2 P 18 02 02.4
SNR=18
TKM2 Tokmak 2 62.07 318 *e*P **P** **18 02 02.0 +0.5**
comp=Z,20nm,0.7s,mb5.2
TKM2 LR LR
comp=Z,565nm,20.0s
TKM2 Tokmak 2 62.07 318 *i*P **P** **18 02 02.4 +0.8**
FX1 Attu Island--F 62.21 29 P **P** **18 02 02.9 +0.6**
comp=Z,27nm,0.6s,mb5.4,baz=304,slow=3.6,SNR=9.8
FX1 Attu Island--F 62.21 29 P **P** **18 02 02.9 +0.6**
FX1 Attu Island--F 62.21 29 P **P** **18 02 02.9 +0.6**
FX1 pmax pmax
comp=Z,27nm,0.6s
JOHN Johnston Islan 62.22 72 PFAKE 18 02 20.0 +17
JOHN LR LR
comp=Z,30µm,19.0s
KBK Karagaybulak 62.39 318 P **P** **18 02 04.4 +0.7**
SNR=8.2
KBK P 18 02 04.4
SNR=8.2
UCH Uchtor 62.51 317 P **P** **18 02 06.3 +1.8**
SNR=5.1
UCH P 18 02 06.3
SNR=5.1
CHMS Chumysh 62.67 318 P **P** **18 02 05.6 +0.1**
SNR=5.8
CHMS P 18 02 05.6
SNR=5.8
ZAA0 Zalesovo Array 62.67 332 *e*P **P** **18 02 04.2 -1.2**
ZALV Zalesovo Beam 62.67 332 P **P** **18 02 04.1 -1.3**
comp=Z,41nm,0.9s,mb5.3,baz=138,slow=9.1,SNR=131
ZALV PKP2bc 18 31 14.1
comp=Z,0.8nm,0.7s,baz=232,slow=1.7,SNR=4.0
ZALV LR LR 18 31 23.8
comp=Z,185nm,19.3s,baz=92,slow=38
ZALV Zalesovo Beam 62.67 332 P **P** **18 02 04.1 -1.2**
ZALV ⇑*e* 18 31 14.1
ZALV Zalesovo Beam 62.67 332 P **P** **18 02 04.1 -1.2**
ZALV pmax pmax
comp=Z,41nm,0.9s,mb5.4
ZALV MLR MLR
comp=Z,185nm,19.3s
AAK Ala-Archa 62.69 318 P **P** **18 02 06.3 +0.6**
SNR=7.1
AAK P 18 02 06.3
SNR=7.1
AAK Ala-Archa 62.69 318 *e*P **P** **18 02 06.4 +0.7**
comp=Z,67nm,0.6s,mb5.8
AAK LR LR
comp=Z,818nm,22.0s
AAK Ala-Archa 62.69 318 *d i*P **P** **18 02 05.9 +0.2**
AAK pmax pmax
comp=Z,30nm,0.9s,mb5.2
SEY Seymchan 62.85 12⇓ *e*P **P** **18 02 07.8 +1.5**
USP Ospenovka 62.95 318 P **P** **18 02 07.3 -0.1**
SNR=16
USP P 18 02 07.3
SNR=16
AML Almayashu 63.03 317 P **P** **18 02 08.9 +0.9**
SNR=22
AML P 18 02 08.9
SNR=22
EKS2 Erkin-Say 63.18 317 P **P** **18 02 10.1 +1.1**
SNR=24
EKS2 P 18 02 10.1
SNR=24
EKS2 Erkin-Say 63.18 317 *e*P **P** **18 02 09.8 +0.9**
comp=Z,29nm,0.9s,mb5.2
EKS2 LR LR
comp=Z,508nm,21.0s
EKS2 Erkin-Say 63.18 317 *e*P **P** **18 02 09.8 +0.8**
EKS2 pmax pmax
comp=Z,29nm,0.9s,mb5.2
EKS2 MLR MLR
comp=Z,508nm,21.0s
KBL Kabul 63.93 307 *e*P **P** **18 02 13.8 -0.3**
comp=Z,9.8nm,0.5s,mb4.9
KBL Kabul 63.93 307 *e*P **P** **18 02 13.8 -0.3**
KBL pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
KURK Kurchatov 63.93 327 P **P** **18 02 13.0 -0.7**
comp=Z,62nm,0.6s,mb5.6,baz=120,slow=6.6
KURK Kurchatov 63.93 327 P **P** **18 02 13.0 -0.7**
KURK LR LR
comp=Z,329nm,20.0s
KURK Kurchatov 63.93 327 *d i*P **P** **18 02 13.3 -0.4**
KURK pmax pmax
comp=Z,170nm,1.2s,mb5.8
KURK Kurchatov 63.93 327 P **P** **18 02 13.8 +0.1**
SNR=25
KURK Kurchatov 63.93 327 P **P** **18 02 13.2 -0.5**
comp=Z,878nm,0.6s,SNR=66
NVS Novosibirsk 63.95 333⇑ *i*P **P** **18 02 13.2 -0.6**
NVS *e*S **S** **18 10 45.4 +0.8**
NVS *e*PS 18 11 03.9
NVS *e* 18 11 58.8
NVS pmax pmax
comp=Z,86nm,1.1s,mb5.5
NVS pmax pmax
comp=N,19nm,1.2s
NVS pmax pmax
comp=E,41nm,1.2s
NVS smax
comp=N,16nm,2.1s
NVS smax
comp=E,28nm,2.2s
KK31 Karatay Array 65.57 317 P **P** **18 02 23.2 -1.4**
KK31 pmax pmax
comp=Z,15nm,0.7s,mb4.9
KKAR Karatay Array 65.57 317 *e*P **P** **18 02 23.9 -0.6**
comp=Z,21nm,0.8s,mb5.0
KKAR Karatay Array 65.57 317 *e*P **P** **18 02 23.9 -0.7**
KKAR pmax pmax
comp=Z,21nm,0.8s,mb5.0
BVA0 Borovoye Array 69.52 327 *i*P **P** **18 02 48.2 -1.1**
BVA0 pmax pmax
comp=Z,17nm,1.0s,mb4.8
BVAR Borovoye Array 69.52 327 P **P** **18 02 48.9 -0.3**
comp=Z,58nm,0.7s,mb5.5,baz=132,slow=8.1,SNR=357
BVAR Borovoye Array 69.52 327 P **P** **18 02 48.9 -0.3**
BVAR Borovoye Array 69.52 327 P **P** **18 02 48.9 -0.4**
BVAR pmax pmax
comp=Z,58nm,0.7s
BRVK Borovoye 69.59 327 *e*P **P** **18 02 49.1 -0.6**
comp=Z,127nm,1.0s,mb5.7
BRVK LR LR
comp=Z,313nm,22.0s
BRVK Borovoye 69.59 327 *d i*P **P** **18 02 49.1 -0.6**
BRVK pmax pmax
comp=Z,123nm,1.0s,mb5.7
BRVK Borovoye 69.59 327 P **P** **18 02 49.3 -0.4**
comp=Z,696nm,0.7s,mb6.6,SNR=83
BRVK Borovoye 69.59 327 P **P** **18 02 49.7 0.0**
SNR=30
CASY Casey 69.80 188 PFAKE 18 03 00.0 +9.3
CASY LR LR
comp=Z,525nm,19.0s
ZRNK Zerenda 70.25 326 P **P** **18 02 52.7 -1.1**
ZRNK pmax pmax
comp=Z,109nm,0.8s,mb5.7
BILL Bilibino 70.29 14 PFAKE 18 03 10.0 +16
BILL LR LR
comp=Z,4.0nm,19.0s
HOQ Hoqain 72.06 294 P **P** **18 03 05.8 +0.5**
SNR=6.2
BSY Bisya 72.08 293 P **P** **18 03 05.6 +0.1**
SNR=5.5
ARQ Araqi 72.76 294 P **P** **18 03 09.7 +0.3**
SNR=12
HATD Hatta, Dubai 73.24 295 P **P** **18 03 12.7 +0.4**
SNR=6.5
ASHO Ashiyiah 73.30 295 P **P** **18 03 12.9 +0.3**
SNR=5.3
ABKT Ailbek 73.30 309 P **P** **18 03 13.3 +0.9**
comp=Z,205nm,0.9s,mb6.0,SNR=14
ASUD Al Ashush, Dub 73.95 295 P **P** **18 03 17.3 +0.8**
SNR=7.3
ABKAR Akbulak array 74.45 321 *e*P **P** **18 03 18.4 -0.4**
comp=Z,39nm,0.7s,mb5.2
AKTO Aktyubinsk 75.94 322 P **P** **18 03 27.0 -0.4**
comp=Z,43nm,0.8s,mb5.2,baz=95,slow=8.4,SNR=150
AKTO Aktyubinsk 75.94 322 P **P** **18 03 27.0 -0.4**
AKTO Aktyubinsk 75.94 322 P **P** **18 03 27.0 -0.4**
AKTO pmax pmax
comp=Z,43nm,0.8s,mb5.2
SVE Sverdlovsk 76.13 328 *c i*P **P** **18 03 28.0 -0.3**
SVE *e*S S 18 13 14.8 +7.9
SVE pmax pmax
comp=Z,100nm,0.8s,mb5.6
TNA Tin City 76.99 22 *e*P **P** **18 03 34.0 +1.0**
comp=Z,9.1nm,0.8s,mb4.6
ARU Arti 77.12 328 *e*P **P** **18 03 32.9 -1.0**
comp=Z,61nm,0.6s,mb5.5
ARU Arti 77.12 328 *d i*P **P** **18 03 32.8 -1.1**
ARU 18 06 23.6
ARU S S 18 13 16.6 -1.1
ARU SS SS 18 18 19.2 +2.9
ARU pmax pmax
comp=Z,100nm,1.0s,mb5.5
ARU Arti 77.12 328 P **P** **18 03 33.5 -0.4**
comp=Z,635nm,0.6s,mb6.5,SNR=27
SDPT Sand Point 77.13 34 *e*P **P** **18 03 35.2 +1.2**
comp=Z,196nm,1.2s,mb5.7
SOKR Solikamsk 78.84 330 *d i*P **P** **18 03 42.7 -0.7**
SOKR pmax pmax
comp=Z,40nm,1.2s,mb5.1
RDF Al-Radifah 81.15 299 *e*P **P** **18 03 55.8 -0.8**
RDF AMb AMB 18 04 00.5
comp=Z,45nm,1.4s,mb5.1
MIB Mutribah 81.37 300 *e*P **P** **18 03 56.7 -1.0**
MIB AMb AMB 18 03 57.8
comp=Z,79nm,0.9s,mb5.5
NAY Al-Naaiem 81.43 299 *e*P **P** **18 03 56.8 -1.2**
NAY AMb AMB 18 04 07.8
comp=Z,32nm,0.9s,mb5.2
KDAK Kodiak Island 81.89 32 P **P** **18 04 00.8 +1.0**
comp=Z,43nm,0.8s,mb5.3,baz=266,slow=4.4,SNR=19
KDAK Kodiak Island 81.89 32 P **P** **18 04 00.8 +1.0**
KDAK Kodiak Island 81.89 32 *i*P **P** **18 04 01.1 +1.3**
KDAK Kodiak Island 81.89 32 P **P** **18 04 01.0 +1.2**
comp=Z,350nm,0.9s,mb6.2,SNR=8.2
VNDA Vanda 81.89 173 *e*P **P** **18 03 58.8 -0.7**
comp=Z,12nm,0.8s,mb4.8
VNDA LR LR
comp=Z,474nm,20.0s
VNDA Vanda 81.89 173 *e*P **P** **18 03 58.8 -0.7**
VNDA pmax pmax
comp=Z,12nm,0.8s
VNDA MLR MLR
comp=Z,474nm,20.0s
RSO Redoubt South 82.21 29 *e*P **P** **18 03 57.4 -4.0**
comp=Z,71nm,0.8s,mb5.5
PPT2 Papeete2 82.77 108 *e*LQ 18 26 38.5
comp=Z,489nm,31.8s
PPT2 *e*LR LR 18 30 22.4
comp=Z,298nm,27.2s
SBA Scott Base 82.78 172 *e*P **P** **18 04 04.7 +0.6**
SBA Scott Base 82.78 172 *e*P **P** **18 04 04.7 +0.6**
OPO Ambohidratompo 82.81 251 P **P** **18 04 04.9 -0.5**
comp=Z,12nm,0.8s,mb4.8,baz=78,slow=3.7,SNR=22
OPO Ambohidratompo 82.81 251 P **P** **18 04 04.9 -0.5**
ABPO Ambohimpanom 82.81 251 *e*P **P** **18 04 04.6 -0.8**
comp=Z,13nm,0.8s,mb4.8
ABPO Ambohimpanom 82.81 251 *e*P **P** **18 04 04.6 -0.8**
ABPO pmax pmax

comp=Z,13nm,0.8s,mb4.8
MAW Mawson 83.26 201 P **P 18 04 06.8 +0.1**
comp=Z,25nm,0.8s,mb5.1,baz=60,slow=7.7,SNR=9.6
MAW LR LR 18 34 20.3
comp=Z,285nm,21.6s,baz=219,slow=31
MAW Mawson 83.26 201 P **P 18 04 06.8 +0.1**
MAW Mawson 83.26 201 P **P 18 04 06.8 +0.1**
MAW pmax pmax
comp=Z,25nm,0.8s
MAW MLR MLR
comp=Z,285nm,21.6s
TBI Tubuai 83.39 114 *e*LR LR 18 30 34.4
comp=Z,227nm,23.2s
SLKM Skilak Lake 83.46 29 *e*P **P 18 04 08.3 +0.5**
SLKM Skilak Lake 83.46 29 *e*P **P 18 04 08.3 +0.4**
RC01 Rabbit Creek A 83.76 29 *e*P **P 18 04 09.9 +0.5**
comp=Z,55nm,0.9s,mb5.4
TRF Thorofare Moun 83.78 27 *e*P **P 18 04 10.0 +0.6**
comp=Z,54nm,1.0s,mb5.3
SEW Seward 83.79 30 *e*P **P 18 04 09.5 -0.1**
comp=Z,65nm,1.1s,mb5.4
GNI Garni 83.88 310 P **P 18 04 10.3 -0.2**
comp=Z,7.3nm,0.7s,mb4.6,baz=309,slow=6.5,SNR=6.1
GNI Garni 83.88 310 P **P 18 04 10.3 -0.2**
GNI Garni 83.88 310 P **P 18 04 10.3 -0.2**
GNI pmax pmax
comp=Z,7.0nm,0.7s
MTA Mtatsminda 83.90 311 P **P 18 04 11.0 +0.5**
TBLG Delisi 83.94 312 *e*P **P 18 04 14.5 +3.7**
TBLG Delisi 83.94 312 P **P 18 04 14.5 +3.7**
PMR Palmer 84.10 28 *e*P **P 18 04 11.7 +0.5**
comp=Z,79nm,1.0s,mb5.5
PMR Palmer 84.10 28 *e*P **P 18 04 11.7 +0.6**
PMR pmax pmax
comp=Z,79nm,1.0s,mb5.5
COLD Coldfoot 84.29 23 *e*P **P 18 04 13.3 +1.3**
comp=Z,88nm,0.9s,mb5.6
MCK McKinley 84.41 26 *e*P **P 18 04 13.2 +0.5**
comp=Z,70nm,0.9s,mb5.5
MCK McKinley 84.41 26 *e*P **P 18 04 13.2 +0.5**
MCK pmax pmax
comp=Z,70nm,0.9s,mb5.5
SML Sawmill 84.50 28 *e*P **P 18 04 14.2 +1.1**
comp=Z,37nm,1.0s,mb5.3
SML Sawmill 84.50 28 *e*P **P 18 04 14.3 +1.1**
SML pmax pmax
comp=Z,37nm,1.0s,mb5.3
AKH Akhalkalaki 84.87 311 P pP 18 04 35.1 +1.3
ONI Oni 84.92 312 P **P 18 04 22.0 +6.2**
COLA College 84.99 25 *e*P **P 18 04 15.0 -0.6**
comp=Z,6.9nm,0.7s,mb4.7
COLA College 84.99 25 *e*P **P 18 04 15.0 -0.6**
COLA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ILAR Eielson Array 85.39 25 P **P 18 04 17.0 -0.6**
comp=Z,5.9nm,0.6s,mb4.7,baz=248,slow=5.9,SNR=23
ILAR PKKPbc PKKPbc 18 22 21.1 -3.5
comp=Z,0.4nm,0.6s,baz=92,slow=2.0,SNR=7.1
ILAR LR LR 18 35 10.0
comp=Z,154nm,22.0s,baz=284,slow=30
ILAR Eielson Array 85.39 25 P **P 18 04 17.0 -0.6**
ILAR PKKPbc PKKPbc 18 22 21.1 -3.5
ILAR Eielson Array 85.39 25 P **P 18 04 17.0 -0.6**
ILAR pmax pmax
comp=Z,6.0nm,0.6s
ILAR MLR MLR
comp=Z,154nm,22.0s
KIV Kislovodsk 85.51 314 *e*P **P 18 04 16.4 -2.3**
comp=Z,22nm,0.9s,mb5.1
KIV LR LR
comp=Z,254nm,20.0s
KIV Kislovodsk 85.51 314 *e*P **P 18 04 18.3 -0.3**
KIV *e* pP 18 04 35.1 -1.8
KIV pmax pmax
comp=Z,28nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,100nm,19.0s
DIV Divide 85.68 29 *e*P **P 18 04 20.5 +1.5**
comp=Z,165nm,1.0s,mb5.9
PAX Paxson 85.91 27 *e*P **P 18 04 20.8 +0.6**
PAX Paxson 85.91 27 *e*P **P 18 04 20.8 +0.6**
BMRM Bremner River 86.24 29 *e*P **P 18 04 22.6 +0.8**
comp=Z,64nm,0.9s,mb5.5
DOT Dot Lake 86.57 27 *e*P **P 18 04 22.8 -0.6**
comp=Z,5.7nm,1.0s,mb4.5
KLMR Klimovskoe 87.53 331 *e*P **P 18 04 24.5 -3.6**
KLMR pmax pmax
comp=Z,77nm,1.3s,mb5.6
SOC Sochi 87.66 313 *e*P **P 18 04 27.4 -1.8**
SOC *e*PPP 18 09 47.1
SOC *e*S SKSac 18 14 48.4 -3.2
SOC *e*SS SS 18 20 49.7 -3.6
SOC pmax pmax
comp=Z,30nm,0.6s,mb5.5
EGAK Eagle 87.84 25 *e*P **P 18 04 30.1 +0.5**
comp=Z,14nm,1.0s,mb4.9
VSR Storozhevoye 87.88 321 *e*P **P 18 04 28.1 -1.9**
VSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.8s
MOS Moscow 88.66 326 *e*P **P 18 04 30.6 -3.0**
MOS *e* 18 15 12.0
MOS pmax pmax
comp=Z,48nm,1.0s,mb5.5
MALT Malatya 88.79 308 PFAKE 18 04 50.0 +15
MALT LR LR
comp=Z,15nm,19.0s
ANN Anapa 89.26 315 *e*P **P 18 04 34.2 -2.5**
ANN *e* 18 14 57.0
ANN pmax pmax
comp=Z,62nm,1.1s,mb5.5
OBN Obninsk 89.29 325 *e*P **P 18 04 34.2 -2.3**
comp=Z,48nm,0.8s,mb5.6
OBN Obninsk 89.29 325⇑*i*P **P 18 04 35.5 -1.1**
OBN *i* 18 04 42.7
OBN *i* 18 08 11.7
OBN *i* S S 18 15 19.8 -1.1
OBN *i* PS PS 18 16 29.2 -4.9
OBN pmax pmax
comp=Z,70nm,0.9s,mb5.7
LVZ Lovozero 89.33 338 *e*P **P 18 04 34.7 -1.8**
comp=Z,27nm,0.8s,mb5.3
LVZ LR LR
comp=Z,327nm,21.0s
LVZ Lovozero 89.33 338*d i*P **P 18 04 35.7 -0.8**
LVZ pmax pmax
comp=Z,96nm,2.5s,mb5.4
APA Apatity 89.83 338⇓*i*P **P 18 04 37.7 -1.1**
APA pmax pmax
comp=Z,39nm,1.0s,mb5.5
APA MLR MLR
comp=Z,900nm,23.0s
ASF Jabal al Asfar 90.32 302 P **P 18 04 42.7 +0.8**
comp=Z,20nm,0.9s,mb5.3,baz=121,slow=5.9,SNR=14
ASF Jabal al Asfar 90.32 302 P **P 18 04 42.7 +0.8**
ASF Jabal al Asfar 90.32 302 P **P 18 04 42.7 +0.8**
ASF pmax pmax
comp=Z,20nm,0.9s
INK Inuvik 90.61 22 P **P 18 04 41.9 -0.6**
comp=Z,9.8nm,1.0s,mb4.9,baz=298,slow=3.9,SNR=19
INK Inuvik 90.61 22 *e*P **P 18 04 41.6 -0.8**
comp=Z,13nm,1.1s,mb5.0
INK Inuvik 90.61 22 P **P 18 04 41.9 -0.6**
INK pmax pmax
comp=Z,10.0nm,1.0s
SKAG Skagway 90.92 31 *e*P **P 18 04 45.6 +1.6**
comp=Z,17nm,0.9s,mb5.2
JOF Joensuu 91.26 333 *e*P **P 18 04 42.8 -2.8**
JOF pmax pmax
comp=Z,20nm,0.6s,mb5.4
JOF Joensuu 91.26 333 *e*p **P 18 04 42.8 -2.8**
comp=Z,20nm,0.6s,mb5.4
TAOE Nuku Hiva Isla 91.43 99 *e*LR LR 18 34 20.1
comp=Z,427nm,25.0s
MMAI Mount Meron Ar 91.53 303 P **P 18 04 47.4 -0.1**
comp=Z,28nm,1.1s,mb5.4,baz=81,slow=8.9,SNR=4.4
MMAI Mount Meron Ar 91.53 303 P **P 18 04 47.4 -0.1**
KMBO Kilima Mbogo 91.58 269 *e*P **P 18 04 48.7 +0.6**
comp=Z,14nm,1.0s,mb5.2
KMBO *e* 18 04 57.3
KMBO LR LR
comp=Z,153nm,21.0s
KMBO Kilima Mbogo 91.58 269 *e*P **P 18 04 48.7 +0.6**
KMBO *e* 18 04 57.3
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO MLR MLR
comp=Z,153nm,21.0s
SIM Simferopol' 91.61 315*de*P **P 18 04 46.7 -0.9**
SIM pmax pmax
comp=Z,33nm,0.8s,mb5.6
KEV Kevo 91.80 340 *e*P **P 18 04 46.5 -1.5**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
KEV Kevo 91.80 340 *e*p **P 18 04 46.5 -1.5**
comp=Z,6.1nm,0.7s,mb4.9
SYO Syowa Base 91.96 201⇑*e*P **P 18 04 47.2 -1.5**
SYO Syowa Base 91.96 201⇓*e*pP pP 18 05 09.2 +2.1
SPITS Spitsbergen Ar 92.14 349 P **P 18 04 48.4 -1.0**
comp=Z,3.8nm,0.5s,mb4.9,baz=63,slow=9.0,SNR=17
SPITS Spitsbergen Ar 92.14 349 P **P 18 04 48.4 -1.0**
SPITS Spitsbergen Ar 92.14 349 P **P 18 04 48.4 -1.0**
SPITS pmax pmax
comp=Z,4.0nm,0.5s
EIL Elat 92.14 300 P **P 18 04 49.4 -1.0**
comp=Z,24nm,1.0s,mb5.4,baz=52,slow=6.1,SNR=6.2
EIL Elat 92.14 300 P **P 18 04 49.4 -1.0**
QSPA South Pole Qui 92.34 180 P **P 18 04 50.7 +0.4**
comp=Z,7.5nm,0.8s,mb5.0,baz=309,slow=1.1,SNR=31
QSPA South Pole Qui 92.34 180 *e*P **P 18 04 50.6 +0.4**
comp=Z,14nm,1.0s,mb5.2
ARCES ARCESS Array B 92.36 340 P **P 18 04 49.5 -1.0**
comp=Z,32nm,0.8s,mb5.6,baz=78,slow=5.7,SNR=61
ARCES LR LR 18 49 46.5
comp=Z,174nm,19.0s,baz=211,slow=38
ARCES ARCESS Array B 92.36 340 P **P 18 04 49.5 -1.0**
ARCES ARCESS Array B 92.36 340 P **P 18 04 49.5 -1.1**
ARCES pmax pmax
comp=Z,32nm,0.8s
ARCES MLR MLR
comp=Z,174nm,19.0s
ARE0 ARCESS Array S 92.36 340 P **P 18 04 49.4 -1.2**
BR131 Keskin Array S 92.42 310 *e*P **P 18 04 50.0 -1.5**
comp=Z,3.9nm,0.9s,mb4.6
BRTR Keskin Array B 92.42 310 P **P 18 04 50.1 -1.3**
comp=Z,4.4nm,0.9s,mb4.7,baz=112,slow=4.7,SNR=20
BRTR PP PP 18 08 35.7 +2.5
comp=Z,1.2nm,0.8s,baz=54,slow=7.3,SNR=3.7
BRTR Keskin Array B 92.42 310 P **P 18 04 50.1 -1.3**
BRTR PP PP 18 08 35.7 +2.5
BRTR Keskin Array B 92.42 310*ce*P **P 18 04 50.4 -1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
WRAK Wrangell Islan 92.90 33 *e*P **P 18 04 54.7 +1.4**
comp=Z,25nm,0.8s,mb5.6
DLBC Dease Lake 93.79 31 P **P 18 04 57.5 +0.2**
comp=Z,9.4nm,0.8s,mb5.2,baz=281,slow=5.5,SNR=18
DLBC Dease Lake 93.79 31 P **P 18 04 57.5 +0.2**
FINES FINESS Array B 93.94 332 P **P 18 04 56.7 -1.2**
comp=Z,7.7nm,0.6s,mb5.2,baz=76,slow=5.9,SNR=30
FINES PKiKP PKiKP 18 09 42.4 +0.1
comp=Z,3.7nm,0.9s,baz=126,slow=2.4,SNR=2.9
FINES LR LR 18 55 15.1
comp=Z,222nm,19.1s,baz=134,slow=41
FINES FINESS Array B 93.94 332 P **P 18 04 56.7 -1.2**
FINES PKiKP PKiKP 18 09 42.4 +0.1
FINES FINESS Array B 93.94 332 P **P 18 04 56.7 -1.3**
FINES pmax pmax
comp=Z,8.0nm,0.6s
FINES MLR MLR
comp=Z,222nm,19.1s
AKASG Malin Array Be 94.19 321 P **P 18 04 57.7 -1.7**
comp=Z,10nm,0.8s,mb5.2,baz=73,slow=4.1,SNR=29
AKASG LR LR 18 52 26.3
comp=Z,113nm,19.2s,baz=320,slow=39
AKASG Malin Array Be 94.19 321 P **P 18 04 57.7 -1.7**
AKASG Malin Array Be 94.19 321*ce*P **P 18 04 57.9 -1.4**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 94.19 321 *e*P **P 18 04 56.5 -2.9**
AKBB Malin Array Si 94.19 321 *e*P **P 18 04 56.5 -2.8**
KIEV Kiev 94.20 321 *e*P **P 18 04 56.5 -2.9**
comp=Z,15nm,1.1s,mb5.2
KIEV Kiev 94.20 321⇓*i*P **P 18 04 57.2 -2.2**
TLCR 95.31 316⇑P **P 18 05 03.9 -0.7**
TLCR 95.31 316⇑*i*P **P 18 05 03.9 -0.7**
TESR 96.58 317⇑*i*P **P 18 05 09.2 -1.2**
VRI Vrincioaia 96.64 317⇑P **P 18 05 10.3 -0.4**
VRI Vrincioaia 96.64 317⇑*i*P **P 18 05 10.3 -0.4**
PLOR Plostina 96.70 317⇓P **P 18 05 10.8 -0.1**
PLOR Plostina 96.70 317⇓*i*P **P 18 05 10.8 -0.1**
SULR 97.19 315⇑*i*P **P 18 05 11.1 -2.1**
MLR Muntele Rosu 97.25 316 P **P 18 05 13.0 -0.5**
comp=Z,3.5nm,0.7s,mb4.9,baz=107,slow=5.9,SNR=8.0
MLR Muntele Rosu 97.25 316 P **P 18 05 13.0 -0.5**
MLR Muntele Rosu 97.25 316 P **P 18 05 13.0 -0.4**
MLR pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 97.25 316⇓*i*P **P 18 05 12.9 -0.5**
BURAR Bucovina Array 97.33 318⇓P **P 18 05 12.9 -0.8**
BURAR Bucovina Array 97.33 318⇓*i*P **P 18 05 12.9 -0.8**
BUR08 Bucovina Ar. S 97.33 318 *e*P **P 18 05 12.2 -1.5**
RES Resolute Bay 98.71 11 P **P 18 05 19.6 +0.2**
comp=Z,6.9nm,0.6s,mb5.3,baz=314,slow=5.8,SNR=56
RES Resolute Bay 98.71 11 *e*P **P 18 05 19.5 +0.1**
comp=Z,5.2nm,0.6s,mb5.2
RES Resolute Bay 98.71 11 P **P 18 05 19.6 +0.2**
RES pmax pmax
comp=Z,7.0nm,0.6s,mb5.4
DAG Danmarks Havn 98.80 353 *i*P **P 18 05 18.6 -1.1**
comp=Z,4.4nm,0.7s,mb5.1
TRPA Tarpa 98.97 319⇓*i*P **P 18 05 20.4 -0.7**
UZH Uzhgorod 99.01 320 *i*P **P 18 05 20.8 -0.5**
UZH *e* 18 09 30.6
UZH MLR MLR
comp=N,4μm,15.0s
UZH MLR MLR
comp=E,2μm,15.0s
UZH MLR MLR
comp=Z,2μm,15.0s
CRVS Cervenica-Dubn 99.47 320 *e*P Pdif 18 05 23.5 +0.3
CRVS pmax pmax
comp=Z,10.0nm,0.8s,mb5.4
CRVS Cervenica-Dubn 99.47 320 PDIF Pdif 18 05 23.5 +0.3
STHS Stebnicka Huta 99.48 321 *e*P Pdif 18 05 23.2 0.0
STHS pmax pmax
comp=Z,6.0nm,0.6s,mb5.3
STHS Stebnicka Huta 99.48 321 PDIF Pdif 18 05 23.2 0.0
VTS Vitosha 99.77 314⇑P Pdif 18 05 24.0 -0.5
VTS Vitosha 99.77 314⇑*i*P Pdif 18 05 24.0 -0.5
YKA Yellowknife Ar 99.82 25 P Pdif 18 05 24.9 +0.3
comp=Z,6.1nm,0.9s,baz=298,slow=4.5,SNR=54
YKA PKiKP PKiKP 18 09 53.6 +1.0
comp=Z,0.6nm,0.6s,baz=305,slow=1.6,SNR=8.5
YKA PKKPbc PKKPbc 18 21 42.6 -4.5
comp=Z,0.9nm,0.8s,baz=115,slow=2.5,SNR=8.5
YKA Yellowknife Ar 99.82 25 P Pdif 18 05 24.9 +0.3
YKA PKiKP PKiKP 18 09 53.6 +1.0
YKA PKKPbc PKKPbc 18 21 42.6 -4.5
YKA Yellowknife Ar 99.82 25 P Pdif 18 05 24.9 +0.2
YKA pmax pmax
comp=Z,6.0nm,0.9s
BZS Buzias 100.19 317⇑P Pdif 18 05 25.5 -0.8
BZS Buzias 100.19 317⇑*i*P Pdif 18 05 25.5 -0.8
KECS Kecovo 100.21 320 *e*P Pdif 18 05 26.2 -0.2
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS Kecovo 100.21 320 PDIF Pdif 18 05 26.2 -0.2
NB2 NORSAR Subarra 100.85 334 P Pdif 18 05 27.6 -1.7
comp=Z,10nm,0.9s,baz=66,slow=4.6
NOA NORSAR Array B 100.85 334 P Pdif 18 05 27.8 -1.5
comp=Z,6.4nm,0.8s,baz=66,slow=4.5,SNR=17
NOA NORSAR Array B 100.85 334 P Pdif 18 05 27.8 -1.5
NOA NORSAR Array B 100.85 334 P Pdif 18 05 27.8 -1.5
NOA pmax pmax
comp=Z,6.0nm,0.8s
VYHS Vyhne 101.26 320 *e*P Pdif 18 05 30.5 -0.6
VYHS Vyhne 101.26 320 PDIF Pdif 18 05 30.5 -0.6
KSP Ksiaz 102.11 323 *e*Pdiff Pdif 18 05 34.8 -0.1
KSP Ksiaz 102.11 323 *e*P Pdif 18 05 34.8 -0.1
UPC Upice 102.39 323 *e*PP PP 18 10 03.1 +14
VRAC Vranov 102.42 322 P Pdif 18 05 35.9 -0.4
comp=Z,4.1nm,0.7s,baz=79,slow=10,SNR=7.5
VRAC Vranov 102.42 322 P Pdif 18 05 35.9 -0.4
VRAC Vranov 102.42 322⇓P Pdif 18 05 36.9 +0.6
VRAC Vranov 102.42 322⇓*i*P Pdif 18 05 36.9 +0.6
TIR Tirane 102.48 313 PFAKE 18 05 50.0 +13
TIR LR LR
comp=Z,237nm,19.0s
LBTB Lobatse 102.97 245 *e*Pdif Pdif 18 05 38.5 -0.2
comp=Z,3.2nm,0.7s
LBTB Lobatse 102.97 245 *e*P Pdif 18 05 38.5 -0.2
LBTB pmax pmax
comp=Z,3.0nm,0.7s
BOSA Boshof 103.03 241 P Pdif 18 05 38.9 -0.1
comp=Z,2.0nm,0.5s,baz=139,slow=2.3,SNR=6.5
BOSA Boshof 103.03 241 *e*Pdif Pdif 18 05 38.9 -0.1
BOSA Boshof 103.03 241 P Pdif 18 05 38.9 -0.1
BOSA pmax pmax
comp=Z,2.0nm,0.5s
PVCC Panska Ves 103.24 323 *e*PP PP 18 10 01.2 +5.6
PRU Pruhonice 103.45 323 *e*PP PP 18 10 09.0 +12
BRG Berggiesshubel 103.49 324 *e*P Pdif 18 05 40.7 -0.3
BRG Berggiesshubel 103.49 324 *e*P Pdif 18 05 40.7 -0.3
GERES GERESS Array B 104.37 322 Pdiff Pdif 18 05 44.7 -0.2
comp=Z,1.8nm,0.8s,baz=60,slow=4.7,SNR=13
GERES PKiKP PKiKP 18 10 01.1 -0.1
comp=Z,0.8nm,0.6s,baz=72,slow=3.2,SNR=7.3
GERES GERESS Array B 104.37 322 Pdif Pdif 18 05 44.7 -0.2
GERES PKiKP PKiKP 18 10 01.1 -0.1
GERES GERESS Array B 104.37 322 P Pdif 18 05 44.7 -0.2
GERES *i* 18 10 01.2
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.6s
BMO Blue Mountains 104.98 42 PFAKE 18 10 10.0 +7.5
BMO LR LR
comp=Z,222nm,19.0s
TRI Trieste 105.43 319 PFAKE 18 10 10.0 +6.7
TRI LR LR
comp=Z,123nm,19.0s
CUC Castrocucco 105.81 313 PFAKE 18 10 20.0 +16
CUC LR LR
comp=Z,108nm,19.0s
NVAR Mina Array Bea 106.23 49 Pdiff Pdif 18 05 55.6 +2.4
comp=Z,1.1nm,0.8s,baz=271,slow=6.0,SNR=3.7
NVAR PP PP 18 10 08.2 -10
comp=Z,0.7nm,0.7s,baz=284,slow=6.0,SNR=3.9
NVAR PKKPbc PKKPbc 18 21 27.7 +0.3
comp=Z,0.9nm,0.7s,baz=104,slow=3.8,SNR=5.4
NVAR Mina Array Bea 106.23 49 Pdif Pdif 18 05 55.6 +2.4
NVAR PP PP 18 10 08.2 -10
NVAR PKKPbc PKKPbc 18 21 27.7 +0.3
BMN Battle Mountai 106.44 47 PFAKE 18 10 20.0 +15
BMN LR LR
comp=Z,451nm,19.0s
DAC Darwin (Calif) 107.38 51 PFAKE 18 10 20.0 +13
DAC LR LR
comp=Z,464nm,21.0s
PFO Pinyon Flat Ob 109.03 53 PFAKE 18 10 20.0 +10
PFO LR LR
comp=Z,322nm,22.0s
PDAR Pinedale Array 110.96 42 PKiKP PKiKP 18 10 14.6 +0.8
comp=Z,0.3nm,0.5s,baz=225,slow=1.1,SNR=5.3
PDAR PKKPbc PKKPbc 18 21 11.4 -1.1
comp=Z,1.0nm,0.5s,baz=103,slow=4.7,SNR=7.6
PDAR Pinedale Array 110.96 42 PKiKP PKiKP 18 10 14.6 +0.8
PDAR PKKPbc PKKPbc 18 21 11.4 -1.1
TUC Tucson 113.96 53 PFAKE 18 10 30.0 +10
TUC LR LR
comp=Z,220nm,19.0s
ULM Lac du Bonnet 115.08 30 PKP PKiKP 18 10 21.4 -0.1
comp=Z,2.6nm,0.7s,baz=270,slow=4.2,SNR=5.1
ULM Lac du Bonnet 115.08 30 PKP PKiKP 18 10 21.4 -0.1
ULM Lac du Bonnet 115.08 30 PKIKP PKiKP 18 10 21.4 0.0
ULM pmax pmax
comp=Z,3.0nm,0.7s
MSKU Masuku 115.21 269 PFAKE 18 10 30.0 +7.3
MSKU LR LR
comp=Z,2.0nm,20.0s
AGMN Agassiz Nation 116.32 32 PFAKE 18 10 40.0 +16
AGMN LR LR
comp=Z,1μm,20.0s
ANMO Albuquerque 116.35 49 PKP PKPdf 18 10 24.8 +0.5
comp=Z,0.9nm,0.4s,baz=315,slow=2.9,SNR=5.3
ANMO Albuquerque 116.35 49 PKP PKPdf 18 10 24.8 +0.4
ANMO Albuquerque 116.35 49 PKIKP PKPdf 18 10 24.8 +0.5
ANMO pmax pmax
comp=Z,1.0nm,0.4s
MNTX Cornudas Mount 118.46 52 PFAKE 18 10 40.0 +12
MNTX LR LR
comp=Z,632nm,19.0s
ESDC Sonseca Array 119.78 319 PKP PKPdf 18 10 30.8 0.0
comp=Z,0.5nm,0.4s,baz=30,slow=1.9,SNR=9.2
ESDC Sonseca Array 119.78 319 PKP PKPdf 18 10 30.8 0.0
TXAR Lajitas Array 120.74 54 PKP PKPdf 18 10 34.1 +1.2
comp=Z,1.3nm,0.7s,baz=204,slow=2.0,SNR=14
TXAR PKKPbc PKKPbc 18 20 37.5 -0.6
comp=Z,1.3nm,0.7s,baz=111,slow=4.9,SNR=12
TXAR Lajitas Array 120.74 54 PKP PKPdf 18 10 34.1 +1.2
TXAR PKKPbc PKKPbc 18 20 37.5 -0.6
TXAR Lajitas Array 120.74 54 PKIKP PKPdf 18 10 34.1 +1.2
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
PGAV Gavieira, Arco 121.15 324 *e*PKPdf PKPdf 18 10 34.0 +0.7
POLO Lamas de Olo 121.22 323 *e*PKPdf PKPdf 18 10 34.4 +0.9
PVRL Vila Real 121.23 323 *e*PKPdf PKPdf 18 10 34.6 +1.1
SCHQ Schefferville 121.49 11 PKP PKPdf 18 10 34.4 +0.8
comp=Z,2.5nm,0.5s,baz=323,slow=5.1,SNR=6.2
SCHQ Schefferville 121.49 11 PKP PKPdf 18 10 34.4 +0.8
SCHQ LR LR
comp=Z,2μm,20.0s
MTE Manteigas 121.65 322 *e*PKPdf PKPdf 18 10 35.2 +0.9
PVIS Viseu 121.68 322 *e*PKPdf PKPdf 18 10 35.4 +1.0
PCBR Castelo Branco 121.93 321 *e*PKPdf PKPdf 18 10 35.6 +0.7
PMRV Marv??o 122.11 321 *e*PKPdf PKPdf 18 10 36.3 +1.0
PMTG Montargil 122.85 321 *e*PKPdf PKPdf 18 10 36.9 +0.2
SFS San Fernando 122.99 317 PFAKE 18 10 50.0 +13
SFS LR LR
comp=Z,814nm,22.0s
EVO Evora 123.03 320 *e*PKIKP PKPdf 18 10 35.6 -1.5
comp=Z,12nm,0.8s
EVOP Sao Brissos 123.10 320 *e*PKPdf PKPdf 18 10 35.6 -1.6
EVOP Sao Brissos 123.10 320 *e*PKIKP PKPdf 18 10 35.6 -1.6
JCT Junction City 123.32 51 *e*PKPdf PKPdf 18 10 38.8 +0.9
JCT Junction City 123.32 51 *e*PKIKP PKPdf 18 10 38.8 +0.9
PNCL Nicolau / Gran 123.60 320 *e*PKPdf PKPdf 18 10 39.1 +0.9
RTC Rabat Centre 124.75 315 PFAKE 18 10 50.0 +9.5
RTC LR LR
comp=Z,94nm,19.0s
TORD Torodi Ar. Bea 125.27 288 PKP PKPdf 18 10 41.9 -0.1
comp=Z,8.0nm,0.6s,baz=70,slow=1.8,SNR=54
TORD PKKPbc 18 20 21.6
comp=Z,2.2nm,0.9s,baz=264,slow=4.4,SNR=8.4
TORD Torodi Ar. Bea 125.27 288 PKP PKPdf 18 10 41.9 -0.1
TORD PKKPbc 18 20 21.6
NATX Nacogdoches 126.58 47 PFAKE 18 11 00.0 +16
NATX LR LR
comp=Z,717nm,22.0s
ERPA Erie 128.57 27 PFAKE 18 11 00.0 +12
ERPA LR LR
comp=Z,1μm,22.0s
PKME Peaks-Kenny Pk 129.86 17 PFAKE 18 11 00.0 +10
PKME LR LR
comp=Z,1μm,19.0s
DBIC Dimbokro 132.84 281 PKP PKPdf 18 10 56.6 +0.2
comp=Z,5.9nm,0.6s,baz=82,slow=2.9,SNR=9.0
DBIC Dimbokro 132.84 281 *e*PKPdf PKPdf 18 10 56.3 -0.1
DBIC PKP PKPdf 18 10 56.6 +0.2
DBIC Dimbokro 132.84 281 PKIKP PKPdf 18 10 56.6 +0.2
DBIC pmax pmax
comp=Z,6.0nm,0.6s
LIC Lamto 133.09 281 *e*PKIKP PKPdf 18 10 55.2 -1.7
comp=Z,20nm,0.6s
LIC Lamto 133.09 281 *e*PKPdf PKPdf 18 10 55.2 -1.7
PLCA Paso Flores 138.06 158 PKP PKPdf 18 11 06.1 +0.7
comp=Z,2.8nm,0.8s,baz=224,slow=2.3,SNR=7.2
PLCA Paso Flores 138.06 158 PKP PKPdf 18 11 06.1 +0.7
PLCA Paso Flores 138.06 158 PKIKP PKPdf 18 11 06.1 +0.7
PLCA pmax pmax
comp=Z,3.0nm,0.8s
TRQA Tornquist 143.20 166 *e*PKPdf PKPdf 18 11 11.5 -3.3
JTS JuntasAbangare 144.12 69 PKP PKPdf 18 11 16.6 -0.4
comp=Z,56nm,0.9s,baz=292,slow=3.8,SNR=26
JTS JuntasAbangare 144.12 69 *e*PKPdf PKPdf 18 11 16.6 -0.4
JTS LR LR
comp=Z,214nm,20.0s
JTS JuntasAbangare 144.12 69 PKIKP PKPdf 18 11 16.6 -0.4
JTS pmax pmax
comp=Z,56nm,0.9s

CFAA	**Coronel Fontan**	**146.84 153**	PKPbc	PKPbc	18 11 21.9	-1.2
	comp=Z,2.1nm,0.8s,baz=217,slow=4.3,SNR=15					
CFAA	**Coronel Fontan**	**146.84 153**	PKPbc	PKPbc	18 11 21.9	-1.2
SACV	**Santiago Islan**	**147.66 303**	*e*PKPdf	PKPdf	18 11 26.0	+3.0
SACV			LR	LR		
	comp=Z,205nm,19.0s					
LCO	**Las Campanas**	**147.71 147**	*e*PKPdf	PKPdf	18 11 23.7	+0.9
LCO			*e*PKPbc	PKPbc	18 11 26.7	+1.1
BCIP	**Isla Barro Col**	**149.24 68**	PFAKE		18 11 40.0	+14
BCIP			LR	LR		
	comp=Z,284nm,19.0s					
SDDR	**Presa de Saban**	**150.98 42**	*e*PKPbc	PKPbc	18 11 35.0	+1.0
SDDR			*e*PKPab	PKPab	18 11 42.4	+0.9
ATAH	**Atahualpa**	**152.53 101**	PKPbc	PKPbc	18 11 40.2	+2.5
	comp=Z,24nm,0.9s,baz=245,slow=1.3,SNR=14					
ATAH			PKPab	PKPab	18 11 51.6	+3.4
	comp=Z,74nm,0.9s,baz=229,slow=2.5,SNR=22					
ATAH	**Atahualpa**	**152.53 101**	PKPbc	PKPbc	18 11 40.2	+2.5
ATAH			PKPab	PKPab	18 11 51.6	+3.4
OTAV	**Otavalo**	**152.65 85**	*e*PKPbc	PKPbc	18 11 39.4	+1.4
OTAV			LR	LR		
	comp=Z,182nm,20.0s					
NNA	**Nana**	**152.89 112**	PKPbc	PKPbc	18 11 39.1	+0.7
	comp=Z,10.0nm,0.8s,baz=253,slow=3.1,SNR=4.4					
NNA	**Nana**	**152.89 112**	PKPbc	PKPbc	18 11 39.1	+0.7
NNA	**Nana**	**152.89 112**	PKIKP	PKPbc	18 11 39.1	+0.6
NNA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
SJG	**San Juan**	**154.84 35**	PKPab	PKPab	18 11 57.6	-0.2
	comp=Z,31nm,0.9s,baz=271,slow=2.2,SNR=4.1					
SJG	**San Juan**	**154.84 35**	PKPab	PKPab	18 11 57.6	-0.1
SJG	**San Juan**	**154.84 35**	PKP2	PKPab	18 11 57.6	-0.1
SJG			pmax	pmax		
	comp=Z,31nm,0.9s					
CPUP	**Villa Florida**	**155.52 167**	PKP	PKPdf	18 11 35.5	+0.9
	comp=Z,1.8nm,0.8s,baz=135,slow=1.4,SNR=4.7					
CPUP	**Villa Florida**	**155.52 167**	PKP	PKPdf	18 11 35.5	+0.9
CPUP	**Villa Florida**	**155.52 167**	PKIKP	PKPdf	18 11 35.5	+0.9
CPUP			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ROSC	**El Rosal**	**155.80 73**	PKPab	PKPab	18 12 05.2	+3.0
	comp=Z,16nm,0.7s,baz=275,slow=23,SNR=6.8					
ROSC	**El Rosal**	**155.80 73**	PKPab	PKPab	18 12 05.2	+3.0
SDV	**Santo Domingo**	**157.62 60**	*e*PKPbc	PKPdf	18 11 38.0	+0.4
SDV			*e*PKP	PKPdf	18 11 49.7	+12
SDV			*e*PKPab	PKPab	18 12 11.7	+1.8
SDV			LR	LR		
	comp=Z,145nm,22.0s					
LPAZ	**La Paz**	**158.40 131**	PKP	PKPdf	18 11 40.5	+1.9
	comp=Z,2.5nm,0.9s,baz=196,slow=0.8,SNR=7.2					
LPAZ			PKPab	PKPab	18 12 15.9	+2.8
	comp=Z,6.4nm,0.7s,baz=182,slow=3.4,SNR=10					
LPAZ	**La Paz**	**158.40 131**	*e*PKPdf	PKPdf	18 11 38.6	+0.1
LPAZ			PKP	PKPdf	18 11 40.5	+1.9
LPAZ			*e*PKPab	PKPab	18 12 15.8	+2.6
LPAZ			PKPab	PKPab	18 12 15.9	+2.8
LPAZ	**La Paz**	**158.40 131**	PKIKP	PKPdf	18 11 40.5	+2.0
LPAZ			pmax	pmax		
	comp=Z,3.0nm,0.9s					
SPB	**Sao Paulo**	**158.65 190**	PFAKE		18 11 50.0	+11
SPB			LR	LR		
	comp=Z,1μm,20.0s					
SIV	**San Ignacio**	**163.40 145**	PKP	PKPdf	18 11 44.2	+0.3
	comp=Z,2.8nm,0.9s,baz=207,slow=2.4,SNR=10					
SIV	**San Ignacio**	**163.40 145**	PKP	PKPdf	18 11 44.2	+0.3
RCBR	**Riachuelo**	**164.36 257**	PKPab	PKPab	18 12 38.5	-1.0
	comp=Z,9.8nm,0.9s,baz=45,slow=1.4,SNR=4.3					
RCBR	**Riachuelo**	**164.36 257**	PKPab	PKPab	18 12 38.5	-1.0
RCBR			LR	LR		
	comp=Z,148nm,19.0s					
SAML	**Samuel**	**166.45 119**	*e*PKPdf	PKPdf	18 11 46.1	-0.5
SAML			LR	LR		
	comp=Z,246nm,22.0s					

*ISCJB **23** 18:15:03.7±0.6, 44°.69N±0°.03×10°.37E±0°.04, h10km, Error ellipse: s-maj=5.4km s-min=3.9km az=147.9*
*CSEM **23** 18:15:07.7±0.2, 44°.60N×10°.43E, h40km, ML2.4/13, Error ellipse: s-maj=5.8km s-min=4.4km az=148.0*
*LDG **23** 18:15:08.1±0.4, 44°.56N×10°.53E, h25km, Ml2.5/18, Error ellipse: s-maj=8.0km s-min=4.4km az=101.0*
*NEIC **23** 18:15:08.1, 44°.56N×10°.53E, h25km, ML2.5(LDG), After LDG.*

ISC 23 18:15:05.1±0.5, **44°.62N**±0°.03×**10°.36E**±0°.04, **h10**km, **n52,**
σ1**S25**/103, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBF	**Sospel**	**2.23**	**251**	*e*Pn	**Pn**	**18 15 42.7**	**+0.6**
SBF				*e*Sn	**Sn**	**18 16 10.2**	**+0.5**
5.8nm,0.3s							
SBF	**Sospel**	**2.23**	**251**	*e*Pn	**Pn**	**18 15 42.7**	**+0.6**
SBF				*e*Sn	**Sn**	**18 16 10.2**	**+0.5**
SBF	**Sospel**	**2.23**	**251**	*e*Pn	**Pn**	**18 15 42.7**	**+0.6**
SBF				*e*Sn	**Sn**	**18 16 10.2**	**+0.5**
2.9nm,0.3s							
PGF	**Pioggiola**	**2.29**	**206**	*e*Pn	**Pn**	**18 15 42.2**	**-0.7**
PGF				*e*Sn	**Sn**	**18 16 09.3**	**-1.9**
1.8nm,0.3s							
PGF	**Pioggiola**	**2.29**	**206**	*e*Pn	**Pn**	**18 15 42.2**	**-0.7**
PGF				*e*Sn	**Sn**	**18 16 09.3**	**-1.9**
PGF	**Pioggiola**	**2.29**	**206**	*e*Pn	**Pn**	**18 15 42.2**	**-0.7**
PGF				*e*Sn	**Sn**	**18 16 09.3**	**-1.9**
0.9nm,0.3s							
MBDF	**Montbardon**	**2.56**	**274**	*e*Pn	**Pn**	**18 15 47.6**	**+1.0**
MBDF				*e*Sn	**Sn**	**18 16 17.1**	**-0.6**
1.7nm,0.3s							
MBDF	**Montbardon**	**2.56**	**274**	*e*Pn	**Pn**	**18 15 47.6**	**+1.0**
MBDF				*e*Sn	**Sn**	**18 16 17.1**	**-0.6**
MBDF	**Montbardon**	**2.56**	**274**	*e*Pn	**Pn**	**18 15 47.6**	**+1.0**
MBDF				*e*Sn	**Sn**	**18 16 17.1**	**-0.6**
0.9nm,0.3s							
LPG	**La Plagne**	**2.70**	**290**	*e*Pn	**Pn**	**18 15 49.5**	**+1.0**
LPG				*e*Sn	**Sn**	**18 16 20.5**	**-0.7**
1.2nm,0.2s							
LPG	**La Plagne**	**2.70**	**290**	*e*Pn	**Pn**	**18 15 49.5**	**+1.0**
LPG				*e*Sn	**Sn**	**18 16 20.5**	**-0.7**
LPG	**La Plagne**	**2.70**	**290**	*e*Pn	**Pn**	**18 15 49.5**	**+1.0**
LPG				*e*Sn	**Sn**	**18 16 20.5**	**-0.7**
0.6nm,0.2s							
LPL	**La Plagne**	**2.72**	**290**	*e*Pn	**Pn**	**18 15 50.1**	**+1.3**
LPL				*e*Sn	**Sn**	**18 16 21.1**	**-0.6**
1.5nm,0.3s							
LPL	**La Plagne**	**2.72**	**290**	*e*Pn	**Pn**	**18 15 50.1**	**+1.3**
LPL				*e*Sn	**Sn**	**18 16 21.1**	**-0.6**
LPL	**La Plagne**	**2.72**	**290**	*e*Pn	**Pn**	**18 15 50.1**	**+1.3**
LPL				*e*Sn	**Sn**	**18 16 21.1**	**-0.6**
0.8nm,0.3s							
FRF	**La Foret Royal**	**2.88**	**250**	*e*Pn	**Pn**	**18 15 51.4**	**+0.5**
FRF				*e*Sn	**Sn**	**18 16 25.7**	**+0.2**
3.6nm,0.2s							
FRF	**La Foret Royal**	**2.88**	**250**	*e*Pn	**Pn**	**18 15 51.4**	**+0.5**
FRF				*e*Sn	**Sn**	**18 16 25.7**	**+0.2**
FRF	**La Foret Royal**	**2.88**	**250**	*e*Pn	**Pn**	**18 15 51.4**	**+0.5**
FRF				*e*Sn	**Sn**	**18 16 25.7**	**+0.2**
1.8nm,0.2s							
LMR	**La Mourre**	**3.06**	**246**	*e*Pn	**Pn**	**18 15 53.5**	**0.0**
LMR				*e*Sn	**Sn**	**18 16 29.3**	**-0.8**
3.6nm,0.2s							
LMR	**La Mourre**	**3.06**	**246**	*e*Pn	**Pn**	**18 15 53.5**	**0.0**
LMR				*e*Sn	**Sn**	**18 16 29.3**	**-0.8**
LMR	**La Mourre**	**3.06**	**246**	*e*Pn	**Pn**	**18 15 53.5**	**0.0**
LMR				*e*Sn	**Sn**	**18 16 29.3**	**-0.8**
1.8nm,0.2s							
ORIF	**Oris-en-Rattie**	**3.20**	**277**	*e*Pn	**Pn**	**18 15 58.0**	**+2.6**
ORIF				*e*Sn	**Sn**	**18 16 32.0**	**-1.6**
2.0nm,0.4s							
ORIF	**Oris-en-Rattie**	**3.20**	**277**	*e*Pn	**Pn**	**18 15 58.0**	**+2.6**
ORIF				*e*Sn	**Sn**	**18 16 32.0**	**-1.6**
ORIF	**Oris-en-Rattie**	**3.20**	**277**	*e*Pn	**Pn**	**18 15 58.0**	**+2.6**
ORIF				*e*Sn	**Sn**	**18 16 32.0**	**-1.6**
1.0nm,0.4s							
NVLJ	**Novalja**	**3.23**	**89**	*e*Pn	**Pn**	**18 15 55.1**	**-0.6**
NVLJ				Sn	**Sn**	**18 16 31.6**	**-2.6**
NVLJ	**Novalja**	**3.23**	**89**	*e*Pn	**Pn**	**18 15 55.1**	**-0.6**
NVLJ				Sn	**Sn**	**18 16 31.5**	**-2.7**
SMRF	**Simiane la Rot**	**3.49**	**261**	*e*Pn	**Pn**	**18 16 01.7**	**+2.3**
SMRF				*e*Sn	**Sn**	**18 16 39.8**	**-0.9**
2.9nm,0.6s							
SMRF	**Simiane la Rot**	**3.49**	**261**	*e*Pn	**Pn**	**18 16 01.7**	**+2.3**
SMRF				*e*Sn	**Sn**	**18 16 39.8**	**-0.9**
SMRF	**Simiane la Rot**	**3.49**	**261**	*e*Pn	**Pn**	**18 16 01.7**	**+2.3**
SMRF				*e*Sn	**Sn**	**18 16 39.8**	**-0.9**
1.5nm,0.6s							
CABF	**La Chapelle**	**3.59**	**305**	*e*Pn	**Pn**	**18 16 03.0**	**+2.2**
CABF				*e*Sn	**Sn**	**18 16 38.8**	**-4.5**
4.6nm,0.5s							
CABF	**La Chapelle**	**3.59**	**305**	*e*Pn	**Pn**	**18 16 03.0**	**+2.2**
CABF				*e*Sn	**Sn**	**18 16 38.8**	**-4.5**
CABF	**La Chapelle**	**3.59**	**305**	*e*Pn	**Pn**	**18 16 03.0**	**+2.2**
HINF	**Hinteralfeld**	**4.01**	**324**	*e*Pn	**Pn**	**18 16 07.6**	**+1.0**
HINF				*e*Sn	**Sn**	**18 16 52.3**	**-1.3**
3.7nm,0.3s							
HINF	**Hinteralfeld**	**4.01**	**324**	*e*Pn	**Pn**	**18 16 07.6**	**+1.0**
HINF				*e*Sn	**Sn**	**18 16 52.3**	**-1.3**
HINF	**Hinteralfeld**	**4.01**	**324**	*e*Pn	**Pn**	**18 16 07.6**	**+1.0**
HINF				*e*Sn	**Sn**	**18 16 52.3**	**-1.3**
1.9nm,0.3s							
VIVF	**Saint-Julien-l**	**4.06**	**275**	*e*Pn	**Pn**	**18 16 08.5**	**+1.4**
VIVF				*e*Sn	**Sn**	**18 16 52.3**	**-2.3**
1.4nm,0.3s							
VIVF	**Saint-Julien-l**	**4.06**	**275**	*e*Pn	**Pn**	**18 16 08.5**	**+1.4**
VIVF				*e*Sn	**Sn**	**18 16 52.3**	**-2.3**
VIVF	**Saint-Julien-l**	**4.06**	**275**	*e*Pn	**Pn**	**18 16 08.5**	**+1.4**
VIVF				*e*Sn	**Sn**	**18 16 52.3**	**-2.3**
0.7nm,0.3s							
CDF	**Champ du Feu**	**4.35**	**332**	*e*Pn	**Pn**	**18 16 12.1**	**+1.0**
CDF				*e*Sn	**Sn**	**18 16 57.1**	**-4.7**
2.8nm,0.3s							
CDF	**Champ du Feu**	**4.35**	**332**	*e*Pn	**Pn**	**18 16 12.1**	**+1.0**
CDF				*e*Sn	**Sn**	**18 16 57.1**	**-4.7**
CDF	**Champ du Feu**	**4.35**	**332**	*e*Pn	**Pn**	**18 16 12.1**	**+1.0**
HAU	**Haudompre**	**4.38**	**322**	*e*Pn	**Pn**	**18 16 12.9**	**+1.4**
HAU				*e*Sn	**Sn**	**18 17 00.8**	**-1.7**
4.2nm,0.2s							
HAU	**Haudompre**	**4.38**	**322**	*e*Pn	**Pn**	**18 16 12.9**	**+1.4**
HAU				*e*Sn	**Sn**	**18 17 00.8**	**-1.7**
HAU	**Haudompre**	**4.38**	**322**	*e*Pn	**Pn**	**18 16 12.9**	**+1.4**
HAU				*e*Sn	**Sn**	**18 17 00.8**	**-1.7**
2.1nm,0.2s							
KHC	**Kasperske Hory**	**5.02**	**25**	*e*PN	**Pn**	**18 16 20.5**	**+0.1**
KHC				*e*SN	**Sn**	**18 17 17.5**	**-0.9**
KHC				*e*SG	**Sg**	**18 17 46.0**	**-0.2**
KHC	**Kasperske Hory**	**5.02**	**25**	Pn	**Pn**	**18 16 20.5**	**+0.1**
KHC				Sn	**Sn**	**18 17 17.5**	**-0.9**
KHC				Sg	**Sg**	**18 17 46.0**	**-0.2**
LOR	**Lormes**	**5.25**	**303**	*e*Pn	**Pn**	**18 16 24.6**	**+1.1**
LOR				*e*Sn	**Sn**	**18 17 24.2**	**+0.2**
3.3nm,0.4s							
LOR	**Lormes**	**5.25**	**303**	*e*Pn	**Pn**	**18 16 24.6**	**+1.1**
LOR				*e*Sn	**Sn**	**18 17 24.2**	**+0.2**
LOR	**Lormes**	**5.25**	**303**	*e*Pn	**Pn**	**18 16 24.6**	**+1.1**
LOR				*e*Sn	**Sn**	**18 17 24.2**	**+0.2**
1.6nm,0.4s							
SSF	**Saint Saulge**	**5.37**	**299**	*e*Pn	**Pn**	**18 16 26.0**	**+0.8**
SSF				*e*Sn	**Sn**	**18 17 24.9**	**-2.1**
0.7nm,0.3s							
SSF	**Saint Saulge**	**5.37**	**299**	*e*Pn	**Pn**	**18 16 26.0**	**+0.8**
SSF				*e*Sn	**Sn**	**18 17 24.9**	**-2.1**
SSF	**Saint Saulge**	**5.37**	**299**	*e*Pn	**Pn**	**18 16 26.0**	**+0.8**

*ISCJB **23** 18:21:02.1±0.6, 0°.4S±0°.1×29°.65E±0°.06, h10km, mb4.0/9, Error ellipse: s-maj=15.4km s-min=7.8km az=14.7*
*NEIC **23** 18:21:03.9±0.5, 0°.44S×29°.64E, h10km, Error ellipse: s-maj=11.2km s-min=7.7km az=183.0*
*IDC **23** 18:21:06.4±1.2, 0°.18N×29°.59E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/23, mbtmp4.0/9, Error ellipse: s-maj=37.9km s-min=24.8km az=102.0*

ISC 23 18:21:03.8±0.6, **0°.5S**±0°.1×**29°.68E**±0°.06, **h10**km, **n24,**
σ0**S66**/27, **mb4.0/9**, **Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.07**	**98**	*e*Pn	**Pn**	**18 21 25.4**	**+0.6**
MBAR				*e*Sn	**Sn**	**18 21 38.5**	**-1.2**
KMBO	**Kilima Mbogo**	**7.60**	**95**	*e*Pn	**Pn**	**18 22 55.5**	**+0.7**
10nm,0.4s							
MSKU	**Masuku**	**16.11**	**266**	Pn	**Pn**	**18 24 49.6**	**-1.0**
5.0nm,0.3s,baz=16,slow=7.4,SNR=13							
MSKU				Sn	**Sn**	**18 27 39.9**	**-10**
3.2nm,0.3s,baz=180,slow=20,SNR=4.0							
MSKU	**Masuku**	**16.11**	**266**	Pn	**Pn**	**18 24 49.6**	**-1.0**
MSKU				Sn	**Sn**	**18 27 39.9**	**-10**
TSUM	**Tsumeb**	**22.09**	**212**	P	**P**	**18 25 59.7**	**+0.3**
LBTB	**Lobatse**	**24.74**	**189**	P	**P**	**18 26 35.8**	**+10**
3.1nm,0.8s,mb3.9,baz=5.6,slow=12,SNR=4.7							
LBTB	**Lobatse**	**24.74**	**189**	P	**P**	**18 26 35.8**	**+10**
TORD	**Torodi Ar. Bea**	**30.86**	**297**	P	**P**	**18 27 21.3**	**+0.7**
1.4nm,0.5s,mb4.0,baz=108,slow=7.0,SNR=15							
TORD	**Torodi Ar. Bea**	**30.86**	**297**	P	**P**	**18 27 21.3**	**+0.7**
BRTR	**Keskin Array B**	**40.15**	**5**	P	**P**	**18 28 40.6**	**+0.6**
2.3nm,0.8s,mb4.0,baz=183,slow=9.3,SNR=14							
BRTR	**Keskin Array B**	**40.15**	**5**	P	**P**	**18 28 40.6**	**+0.6**
AKASG	**Malin Array Be**	**50.96**	**360**	P	**P**	**18 30 04.7**	**-0.7**
0.4nm,0.5s,mb3.6,baz=184,slow=6.4,SNR=4.1							
AKASG	**Malin Array Be**	**50.96**	**360**	P	**P**	**18 30 04.7**	**-0.7**
GERES	**GERESS Array B**	**51.01**	**346**	P	**P**	**18 30 05.7**	**-0.2**
0.8nm,0.6s,mb3.8,baz=165,slow=8.1,SNR=7.7							
GERES	**GERESS Array B**	**51.01**	**346**	P	**P**	**18 30 05.7**	**-0.2**
KHC	**Kasperske Hory**	**51.30**	**346**	*e*P	**P**	**18 30 07.5**	**-0.6**
FINES	**FINESS Array B**	**61.79**	**358**	P	**P**	**18 31 22.4**	**-0.1**
2.8nm,0.9s,mb4.4,baz=188,slow=5.3,SNR=5.1							
FINES	**FINESS Array B**	**61.79**	**358**	P	**P**	**18 31 22.4**	**-0.1**
NOA	**NORSAR Array B**	**62.95**	**350**	P	**P**	**18 31 30.1**	**-0.1**
0.8nm,0.7s,mb3.9,baz=164,slow=6.5,SNR=3.7							
NOA	**NORSAR Array B**	**62.95**	**350**	P	**P**	**18 31 30.1**	**-0.1**
MKAR	**Makanchi Array**	**65.70**	**37**	P	**P**	**18 31 49.5**	**+0.8**
1.2nm,0.9s,mb3.9,baz=250,slow=7.7,SNR=6.9							
MKAR	**Makanchi Array**	**65.70**	**37**	P	**P**	**18 31 49.5**	**+0.8**
ARCES	**ARCESS Array B**	**69.91**	**358**	P	**P**	**18 32 14.8**	**+0.1**
2.2nm,0.6s,mb4.3,baz=188,slow=6.1,SNR=13							
ARCES	**ARCESS Array B**	**69.91**	**358**	P	**P**	**18 32 14.8**	**+0.1**

*ISCJB **23** 18:22:06.9±0.7, 32°.23N±0°.04×6°.36W±0°.04, h31km±5km, Error ellipse: s-maj=6.1km s-min=5.8km az=29.9*
*IGIL **23** 18:22:06.0, 32°.05N×6°.26W, h0km, ML2.8*
*INMG **23** 18:22:06.7±0.8, 32°.22N×6°.24W, h0km, ML2.4, Error ellipse: s-maj=8.2km s-min=4.4km az=69.0*
*MDD **23** 18:22:06.6±0.9, 32°.09N×6°.20W, h9km±5km, mb3.8/6, Error ellipse: s-maj=8.1km s-min=5.1km az=159.0, PRXIMO*
*CSEM **23** 18:22:09.3±0.2, 32°.40N×6°.16W, h10km, ML3.3/6, Error ellipse: s-maj=6.6km s-min=4.1km az=67.0*

ISC 23 18:22:07.6±0.7, **32°.20N**±0°.05×**6°.28W**±0°.04, **h22**km±6km,
n46, σ0**S88**/86, **Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZC	**Tazercounte**	**0.19**	**254**	P	**Pb**	**18 22 11.5**	**-1.2**
TZC				S	**Sb**	**18 22 16.0**	**-0.2**
KIB	**El Ksiba**	**0.43**	**28**	P	**Pb**	**18 22 15.5**	**-1.0**
KIB				S	**Sb**	**18 22 23.5**	**+0.9**
CZD	**Col de Zad**	**1.33**	**51**	P	**Pn**	**18 22 30.5**	**-0.5**
CZD				S	**Sn**	**18 22 48.0**	**0.0**
ZFT	**Errachidia**	**1.64**	**95**	P	**Pn**	**18 22 34.0**	**-1.2**
ZFT				S	**Sn**	**18 22 54.5**	**-1.2**
TZK	**Tazeka**	**2.58**	**42**	P	**Pn**	**18 22 49.0**	**+1.0**
TZK				S	**Sn**	**18 23 20.0**	**+1.3**
EMIJ	**Mijas**	**4.53**	**16**	P	**Pn**	**18 23 15.6**	**+0.7**
0.4nm,0.2s,SNR=7.9							
EMIJ				S	**Sn**	**18 24 08.6**	**+1.7**
2.3nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**4.53**	**16**	P	**Pn**	**18 23 15.6**	**+0.7**
0.4nm,0.2s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**5.21**	**345**	*e*Pn	**Pn**	**18 23 25.0**	**+0.7**
PBDV				*e*Sn	**Sn**	**18 24 23.4**	**-0.3**
PBDV				A		18 24 30.8	
3.2nm,0.2s							
PBDV	**Barranco-do-Ve**	**5.21**	**345**	P	**Pn**	**18 23 25.0**	**+0.7**
PBDV				S	**Sn**	**18 24 23.4**	**-0.3**
3.2nm,0.2s							
PBDV	**Barranco-do-Ve**	**5.21**	**345**	*e*Pn	**Pn**	**18 23 25.0**	**+0.7**
PBDV				*e*Sn	**Sn**	**18 24 23.4**	**-0.3**
3.2nm,0.2s							
PVAQ	**Vaqueiros**	**5.33**	**348**	*e*Pn	**Pn**	**18 23 26.4**	**+0.6**
PVAQ				*e*Sn	**Sn**	**18 24 26.1**	**-0.4**
PVAQ				A		18 24 26.5	
2.5nm,0.4s							
PVAQ	**Vaqueiros**	**5.33**	**348**	P	**Pn**	**18 23 26.4**	**+0.6**
PVAQ				S	**Sn**	**18 24 26.1**	**-0.4**
2.5nm,0.4s							
PVAQ	**Vaqueiros**	**5.33**	**348**	*e*Pn	**Pn**	**18 23 26.4**	**+0.6**
PVAQ				*e*Sn	**Sn**	**18 24 26.1**	**-0.4**
2.5nm,0.4s							
PFVI	**Vila Bisbo**	**5.35**	**338**	*e*Pn	**Pn**	**18 23 26.9**	**+0.7**
PFVI				*e*Sn	**Sn**	**18 24 28.2**	**+1.1**
PFVI	**Vila Bisbo**	**5.35**	**338**	P	**Pn**	**18 23 26.8**	**+0.6**
2.3nm,0.2s,SNR=27							
PFVI				S	**Sn**	**18 24 27.2**	**+0.1**
2.2nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.35**	**338**	*e*Pn	**Pn**	**18 23 26.9**	**+0.7**
PFVI				S	**Sn**	**18 24 27.2**	**+0.1**
2.2nm,0.1s,SNR=7.9							
PFVI				*e*Sn	**Sn**	**18 24 28.2**	**+1.1**
EGRO	**El Granado**	**5.41**	**350**	P	**Pn**	**18 23 27.5**	**+0.5**
0.7nm,0.1s,SNR=18							
EGRO				S	**Sn**	**18 24 28.4**	**-0.3**
4.5nm,0.2s,SNR=5.7							
EGRO	**El Granado**	**5.41**	**350**	P	**Pn**	**18 23 27.5**	**+0.5**
0.7nm,0.1s,SNR=18							
EGRO				S	**Sn**	**18 24 28.4**	**-0.3**
4.5nm,0.2s,SNR=5.7							
MORF	**Marmelete**	**5.46**	**340**	*e*Pn	**Pn**	**18 23 28.6**	**+1.0**
MORF				*e*Sn	**Sn**	**18 24 30.2**	**+0.5**
MORF				A		18 24 35.3	
4.3nm,0.2s							
MORF	**Marmelete**	**5.46**	**340**	P	**Pn**	**18 23 28.6**	**+1.0**
MORF				S	**Sn**	**18 24 30.2**	**+0.5**
4.3nm,0.2s							
MORF	**Marmelete**	**5.46**	**340**	*e*Pn	**Pn**	**18 23 28.6**	**+1.0**
MORF				*e*Sn	**Sn**	**18 24 30.2**	**+0.5**
4.3nm,0.2s							
EMIN	**Mina Concepcio**	**5.56**	**357**	P	**Pn**	**18 23 29.0**	**-0.2**
0.3nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**18 24 30.2**	**-2.2**
0.3nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.56**	**357**	P	**Pn**	**18 23 29.0**	**-0.1**
0.3nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**18 24 30.2**	**-2.2**
0.3nm,0.1s,SNR=7.9							
PCVE	**Castro Verde**	**5.61**	**346**	*e*Pn	**Pn**	**18 23 30.6**	**+0.9**
PCVE				*e*Sn	**Sn**	**18 24 33.2**	**-0.3**
PCVE				A		18 24 34.5	
3.7nm,0.2s							
PCVE	**Castro Verde**	**5.61**	**346**	P	**Pn**	**18 23 30.6**	**+0.9**
PCVE				S	**Sn**	**18 24 33.2**	**-0.3**
3.7nm,0.2s							
PCVE	**Castro Verde**	**5.61**	**346**	*e*Pn	**Pn**	**18 23 30.6**	**+0.9**
PCVE				*e*Sn	**Sn**	**18 24 33.2**	**-0.3**
3.7nm,0.2s							
MESJ	**Messejana**	**5.85**	**345**	*e*P	**Pn**	**18 23 33.7**	**+0.7**
MESJ	**Messejana**	**5.85**	**345**	P	**Pn**	**18 23 33.7**	**+0.7**
MESJ	**Messejana**	**5.85**	**345**	*e*P	**Pn**	**18 23 33.7**	**+0.7**
PBEJ	**Beja**	**5.96**	**348**	*e*Sn	**Sn**	**18 24 41.4**	**-0.7**
PBEJ	**Beja**	**5.96**	**348**	S	**Sn**	**18 24 41.4**	**-0.7**
PBEJ	**Beja**	**5.96**	**348**	*e*Sn	**Sn**	**18 24 41.4**	**-0.7**
PBAR	**Barrancos**	**6.00**	**354**	*e*Pn	**Pn**	**18 23 35.7**	**+0.7**
PBAR				*e*Sn	**Sn**	**18 24 42.4**	**-0.6**
PBAR				A		18 24 44.8	
2.4nm,0.4s							
PBAR	**Barrancos**	**6.00**	**354**	P	**Pn**	**18 23 35.7**	**+0.7**
PBAR				S	**Sn**	**18 24 42.4**	**-0.6**
2.4nm,0.4s							
PBAR	**Barrancos**	**6.00**	**354**	*e*Pn	**Pn**	**18 23 35.7**	**+0.7**
PBAR				*e*Sn	**Sn**	**18 24 42.4**	**-0.6**
2.4nm,0.4s							
EADA	**Adamuz**	**6.12**	**13**	P	**Pn**	**18 23 36.5**	**-0.2**
0.3nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**18 24 44.1**	**-1.9**
0.9nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.12**	**13**	P	**Pn**	**18 23 36.5**	**-0.2**
0.3nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**18 24 44.1**	**-1.8**
0.9nm,0.1s,SNR=7.9							
PNCL	**Nicolau / Gran**	**6.18**	**343**	*e*Pn	**Pn**	**18 23 38.2**	**+0.6**
PNCL				*e*Sn	**Sn**	**

VLI Veliai 1.78 156 *e*Pb **Pb 18 25 04.2 -1.9**

NIED ***23*** *18:28:00, 36.00N×135.70E, h360km, Mw4.4 Best double couple: M0=4.98000×1015 NP1:φ0=249.00000°, δ57.00000°, λ-71.00000°. NP2:φ0=37.00000°, δ38.00000°, λ-116.00000°.*
ISCJB ***23*** *18:28:30.5±0.2, 35.91N±0.04×135.68E±0.04, h353km±2km, mb3.7/30, Error ellipse: s-maj=7.0km s-min=4.8km az=139.7*
IDC ***23*** *18:28:31.0±0.7, 35.87N×135.66E, h340km±7km, mb3.4/16, mb1 3.6/20, mb1mx3.5/27, mbtmp3.5/20, Error ellipse: s-maj=11.4km s-min=10.1km az=75.0*
NEIC ***23*** *18:28:30.7±0.5, 35.84N×135.63E, h341km±5km, mb4.0/18, Error ellipse: s-maj=6.9km s-min=6.6km az=181.0*
JMA ***23*** *18:28:31.4±0.1, 35.95N×135.66E, h345km±1km, M4.1*
ISC 23 18:28:31.4±0.2, 35.89N±0.04×135.66E±0.04, h346km±2km, n102, σ0.972/121, mb3.7/30, 2C-1D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.45**	**144**	⇓P	**Pn**	**18 29 15.5**	**+0.3**
JFM				S	**S**	**18 29 49.9**	**-0.3**
JWT	**Wachi**	**0.64**	**199**	P	**Pn**	**18 29 15.8**	**+0.1**
JWT				S	**S**	**18 29 50.2**	**-0.8**
JKG	**Kaga**	**0.67**	**55**	P	**Pn**	**18 29 15.5**	**-0.1**
JKG				S	**S**	**18 29 50.2**	**-0.8**
JGM	**Miyama**	**0.88**	**102**	P	**Pn**	**18 29 16.4**	**+0.1**
JGM				S	**S**	**18 29 51.8**	**-0.5**
JWY	**Kouya**	**1.67**	**182**	P	**Pn**	**18 29 20.7**	**+0.4**
JWY				*e*S	**S**	**18 29 59.0**	**-0.4**
JIE	**Ise**	**1.73**	**150**	S	**S**	**18 30 00.2**	**+0.2**
SAI	**Saigo**	**1.91**	**280**	P	**Pn**	**18 29 22.1**	**+0.4**
JSZ	**Suzu**	**2.07**	**41**	P	**Pn**	**18 29 22.7**	**-0.1**
MAJO	**Matsushiro**	**2.16**	**72**	*e*Pn	**Pn**	**18 29 23.3**	**-0.2**
MAT	**Matsushiro**	**2.16**	**72**	P	**Pn**	**18 29 23.4**	**-0.1**
MAT				S	**S**	**18 30 05.2**	**-0.1**
MAT	**Matsushiro**	**2.16**	**72**	P	**Pn**	**18 29 23.4**	**-0.1**
MAT				*e*S	**S**	**18 30 04.6**	**-0.7**
MJAR	**Matsushiro Arr**	**2.16**	**72**	P	**Pn**	**18 29 23.7**	**+0.2**
	21nm,0.3s,baz=255,slow=8.9,SNR=401						
MJAR				S	**S**	**18 30 04.3**	**-1.0**
	2.9nm,0.3s,baz=120,slow=27,SNR=4.3						
MJAR	**Matsushiro Arr**	**2.16**	**72**	P	**Pn**	**18 29 23.7**	**+0.2**
MJAR				S	**S**	**18 30 04.3**	**-1.0**
JHG	**Hegura jima**	**2.20**	**27**	P	**Pn**	**18 29 24.1**	**+0.4**
JHS	**Saijyo**	**2.26**	**247**	P	**Pn**	**18 29 24.5**	**+0.2**
JAI	**Aioi**	**2.32**	**206**	⇑P	**Pn**	**18 29 25.2**	**+0.4**
JAI				*e*S	**S**	**18 30 07.5**	**-0.1**
JWZ	**Kozaga**	**2.36**	**179**	P	**Pn**	**18 29 25.1**	**0.0**
JWZ				*e*S	**S**	**18 30 07.6**	**-0.6**
JYN	**Shimod**	**2.38**	**99**	⇑P	**Pn**	**18 29 25.1**	**-0.1**
TTO1	**TONANKAI O.B.S**	**2.45**	**157**	P	**Pn**	**18 29 26.8**	**+1.0**
TK02	**Tokai 2**	**2.60**	**138**	P	**Pn**	**18 29 27.7**	**+0.7**
JMN	**Monobe**	**2.61**	**215**	P	**Pn**	**18 29 27.7**	**+0.6**
JMN				*e*S	**S**	**18 30 12.1**	**+0.3**
JRY	**Ryogami san**	**2.64**	**86**	P	**Pn**	**18 29 26.9**	**-0.4**
JRY				*e*S	**S**	**18 30 12.2**	**+0.1**
JGT	**Gotsu**	**2.84**	**253**	P	**Pn**	**18 29 29.7**	**+0.6**
JOD2	**Odawara 2**	**2.87**	**102**	P	**Pn**	**18 29 29.7**	**+0.4**
JOD2				*e*S	**S**	**18 30 17.1**	**+1.3**
JHT	**Toyohira**	**2.92**	**246**	P	**Pn**	**18 29 30.1**	**+0.3**
JHT				*e*S	**S**	**18 30 16.7**	**+0.1**
JSD	**Sado**	**2.99**	**43**	P	**Pn**	**18 29 29.9**	**-0.4**
JTO	**Tosashimizu**	**3.84**	**219**	P	**Pn**	**18 29 39.4**	**+0.8**
JTO				*e*S	**S**	**18 30 32.7**	**0.0**
KSRS	**Korea Array**	**6.41**	**286**	P	**Pn**	**18 30 07.5**	**+0.8**
	0.6nm,0.3s,baz=105,slow=13,SNR=30						
KSAR	**Wonju Array Be**	**6.44**	**286**	P	**Pn**	**18 30 07.5**	**+0.5**
USRK	**Ussuriysk Arra**	**8.76**	**342**	P	**Pn**	**18 30 34.8**	**+0.5**
	3.8nm,0.3s,baz=157,slow=11,SNR=70						
ASAJ	**Asahikawa**	**9.79**	**31**	P	**Pn**	**18 30 45.6**	**-0.9**
	15nm,0.3s,baz=227,slow=9.1,SNR=106						
ASAJ				S	**S**	**18 32 27.5**	**-10**
	2.3nm,0.3s,baz=336,slow=20,SNR=12						
ASAJ	**Asahikawa**	**9.79**	**31**	*e*Pn	**Pn**	**18 30 44.1**	**-2.5**
	15nm,0.4s						
ASAJ				P		18 30 45.6	
ASAJ				S	**S**	**18 32 27.5**	**-10**
ASAJ				*e*S	**S**	**18 32 28.6**	**-8.8**
MDJ	**Mudanjiang**	**9.87**	**334**	*e*Pn	**Pn**	**18 30 48.0**	**+0.5**
	68nm,1.1s						
CBIJ	**Chichi jima**	**10.38**	**146**	P	**Pn**	**18 30 50.7**	**-3.3**
	22nm,0.3s,baz=297,slow=23,SNR=5.3						
CBIJ				S	**S**	**18 32 38.1**	**-13**
	30nm,0.3s,baz=287,slow=20,SNR=7.3						
CBIJ	**Chichi jima**	**10.38**	**146**	P	**Pn**	**18 30 50.7**	**-3.3**
CBIJ				S	**S**	**18 32 38.1**	**-13**
YSS	**Yuzh-Sakhalins**	**12.26**	**23**	*e*P	**Pn**	**18 31 15.2**	**-0.9**
	27nm,0.6s						
YSS				*e*S	**S**	**18 33 26.0**	**-6.0**
HIA	**Hailar**	**17.73**	**324**	*e*P	**P**	**18 32 12.9**	**-2.4**
	14nm,0.8s						
ENH	**Enshi**	**22.60**	**263**	*e*P	**P**	**18 33 02.0**	**-1.3**
	6.8nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**24.28**	**308**	*e*P	**P**	**18 33 19.9**	**+1.7**
	13nm,0.8s,mb4.2						
SONM	**Songino Array**	**24.69**	**308**	P	**P**	**18 33 22.5**	**+0.5**
	5.8nm,0.8s,mb3.9,baz=110,slow=9.3,SNR=21						
SONM	**Songino Array**	**24.69**	**308**	P	**P**	**18 33 22.5**	**+0.5**
CM31	**Chiang Mai Arr**	**36.72**	**252**	*e*P	**P**	**18 35 05.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**36.72**	**252**	P	**P**	**18 35 07.2**	**+0.3**
	0.9nm,0.7s,mb3.1,baz=50,slow=6.8,SNR=10						
CMAR	**Chiang Mai Arr**	**36.72**	**252**	P	**P**	**18 35 07.2**	**+0.3**
ZALV	**Zalesovo Beam**	**39.30**	**314**	P	**P**	**18 35 27.7**	**0.0**
	2.1nm,0.6s,mb3.6,baz=100,slow=7.9,SNR=11						
ZALV				PcP	PcP	18 37 27.4	-1.0
	1.1nm,0.7s,baz=94,slow=4.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**39.30**	**314**	P	**P**	**18 35 27.7**	**0.0**
ZALV				PcP	PcP	18 37 27.4	-1.0
MK31	**Makanchi Array**	**40.80**	**302**	*e*P	**P**	**18 35 39.6**	**-0.5**
MKAR	**Makanchi Array**	**40.80**	**302**	P	**P**	**18 35 40.3**	**+0.3**
	1.6nm,0.6s,mb3.4,baz=83,slow=11,SNR=21						
MKAR	**Makanchi Array**	**40.80**	**302**	P	**P**	**18 35 40.3**	**+0.3**
TAPN	**Taplejung**	**41.37**	**272**	*e*P	**P**	**18 35 44.0**	**-0.9**
	3.3nm,0.4s,mb4.0						
TAPN	**Taplejung**	**41.37**	**272**	*e*P	**P**	**18 35 44.0**	**-0.9**
	3.3nm,0.4s,mb3.9						
ODAN	**Odare**	**41.83**	**272**	*e*P	**P**	**18 35 47.0**	**-1.6**
	3.2nm,0.4s,mb3.8						
ODAN	**Odare**	**41.83**	**272**	*e*P	**P**	**18 35 47.0**	**-1.6**
	3.2nm,0.4s,mb3.8						
RAMN	**Ramite**	**42.43**	**272**	*e*P	**P**	**18 35 52.8**	**-0.6**
RAMN	**Ramite**	**42.43**	**272**	*e*P	**P**	**18 35 52.8**	**-0.6**
JIRN	**Jiri**	**42.47**	**273**	*e*P	**P**	**18 35 54.3**	**+0.6**
	5.9nm,0.5s,mb4.0						
JIRN	**Jiri**	**42.47**	**273**	*e*P	**P**	**18 35 54.3**	**+0.6**
	5.9nm,0.5s,mb4.0						
GUN	**Gumba**	**42.62**	**274**	*e*P	**P**	**18 35 56.0**	**+1.1**
GUN	**Gumba**	**42.62**	**274**	*e*P	**P**	**18 35 56.0**	**+1.1**
KURK	**Kurchatov**	**43.00**	**309**	*e*P	**P**	**18 35 57.0**	**-0.5**
	7.7nm,0.8s,mb3.9						
GKN	**Gorkha**	**43.59**	**275**	*e*P	**P**	**18 36 02.3**	**-0.3**
	11nm,1.0s,mb4.0						
GKN	**Gorkha**	**43.59**	**275**	*e*P	**P**	**18 36 02.3**	**-0.3**
	11nm,1.0s,mb3.9						
DANN	**Dangsing**	**44.16**	**275**	*e*P	**P**	**18 36 07.6**	**+0.5**
DANN	**Dangsing**	**44.16**	**275**	*e*P	**P**	**18 36 07.6**	**+0.5**
TKM2	**Tokmak 2**	**46.07**	**298**	*e*P	**P**	**18 36 20.7**	**-1.0**
BRVK	**Borovoye**	**47.97**	**312**	*e*P	**P**	**18 36 30.1**	**-6.0**
	2.1nm,0.8s,mb3.4						
KKAR	**Karatay Array**	**49.66**	**299**	*e*P	**P**	**18 36 49.3**	**+0.4**
	1.7nm,0.8s,mb3.3						
MCK	**McKinley**	**52.14**	**33**	*e*P	**P**	**18 37 07.3**	**+0.4**
	2.5nm,0.7s,mb3.6						
COLA	**College**	**52.50**	**32**	P	**P**	**18 37 10.9**	**+1.4**
	2.4nm,0.6s,mb3.7						
ILAR	**Eielson Array**	**52.92**	**32**	P	**P**	**18 37 13.0**	**+0.4**
	1.0nm,0.6s,mb3.4,baz=266,slow=6.4,SNR=22						
ILAR	**Eielson Array**	**52.92**	**32**	P	**P**	**18 37 13.0**	**+0.4**
ABKAR	**Akbulak array**	**55.09**	**309**	*e*P	**P**	**18 37 27.4**	**-0.9**
	1.3nm,0.4s,mb3.6						
WRAB	**Tennant Creek**	**55.53**	**181**	*e*P	**P**	**18 37 31.2**	**-0.5**
	16nm,1.3s,mb4.2						
WB2	**Warramunga Arr**	**55.54**	**181**	*e*P	**P**	**18 37 31.3**	**-0.5**
WRA	**Warramunga Arr**	**55.54**	**182**	P	**P**	**18 37 31.4**	**-0.4**
	1.7nm,0.3s,mb3.8,baz=358,slow=7.4,SNR=52						
WRA				PcP	PcP	18 38 27.3	+0.4
	1.0nm,0.9s,baz=356,slow=4.4,SNR=6.9						
WRA	**Warramunga Arr**	**55.54**	**182**	P	**P**	**18 37 31.4**	**-0.4**
WRA				PcP	PcP	18 38 27.3	+0.4
INK	**Inuvik**	**57.49**	**26**	*e*P	**P**	**18 37 45.0**	**+0.2**
AS31	**Alice Springs**	**59.26**	**182**	*e*P	**P**	**18 37 56.8**	**-0.6**
ASAR	**Alice Springs**	**59.26**	**182**	P	**P**	**18 37 57.4**	**-0.1**
	1.5nm,0.6s,mb3.6,baz=6.6,slow=5.8,SNR=51						
ASAR	**Alice Springs**	**59.26**	**182**	P	**P**	**18 37 57.4**	**-0.1**
ARCES	**ARCESS Array B**	**63.39**	**338**	P	**P**	**18 38 23.8**	**-0.5**
	2.4nm,0.8s,mb3.8,baz=50,slow=8.4,SNR=3.7						
ARCES	**ARCESS Array B**	**63.39**	**338**	P	**P**	**18 38 23.8**	**-0.5**
RES	**Resolute Bay**	**64.81**	**13**	*e*P	**P**	**18 38 33.5**	**0.0**
	2.0nm,0.9s,mb3.8						
YKA	**Yellowknife Ar**	**67.07**	**28**	P	**P**	**18 38 48.0**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=298,slow=6.7,SNR=7.2						
YKA	**Yellowknife Ar**	**67.07**	**28**	P	**P**	**18 38 48.0**	**+0.2**
FINES	**FINESS Array B**	**67.60**	**331**	P	**P**	**18 38 50.5**	**-0.6**
	0.9nm,0.4s,mb3.9,baz=64,slow=6.3,SNR=15						
FINES	**FINESS Array B**	**67.60**	**331**	P	**P**	**18 38 50.5**	**-0.6**
STKA	**Stephens Creek**	**67.64**	**175**	P	**P**	**18 38 51.6**	**-0.1**
	0.8nm,0.7s,mb3.6,baz=353,slow=7.5,SNR=5.2						
STKA	**Stephens Creek**	**67.64**	**175**	P	**P**	**18 38 51.6**	**-0.1**
NOA	**NORSAR Array B**	**73.36**	**335**	P	**P**	**18 39 25.9**	**+0.2**
	1.3nm,1.0s,mb3.6,baz=44,slow=5.6,SNR=3.3						
NOA	**NORSAR Array B**	**73.36**	**335**	P	**P**	**18 39 25.9**	**+0.2**
BRTR	**Keskin Array B**	**76.05**	**309**	P	**P**	**18 39 41.8**	**+0.5**
	1.5nm,1.0s,mb3.7,baz=50,slow=4.5,SNR=3.7						
BRTR	**Keskin Array B**	**76.05**	**309**	P	**P**	**18 39 41.8**	**+0.5**
NVAR	**Mina Array Bea**	**79.34**	**50**	P	**P**	**18 40 01.2**	**+1.8**
	0.8nm,0.6s,mb3.6,baz=302,slow=5.2,SNR=5.5						
NVAR	**Mina Array Bea**	**79.34**	**50**	P	**P**	**18 40 01.2**	**+1.8**
PDAR	**Pinedale Array**	**81.71**	**43**	P	**P**	**18 40 12.8**	**+1.0**
	1.0nm,0.7s,mb3.8,baz=315,slow=1.9,SNR=8.7						
PDAR	**Pinedale Array**	**81.71**	**43**	P	**P**	**18 40 12.8**	**+1.0**
ULM	**Lac du Bonnet**	**82.92**	**30**	P	**P**	**18 40 18.3**	**+0.4**
	2.1nm,0.7s,mb4.1,baz=9.5,slow=6.1,SNR=4.7						
ULM	**Lac du Bonnet**	**82.92**	**30**	P	**P**	**18 40 18.3**	**+0.4**
SAML	**Samuel**	**148.15**	**37**	*e*PKPbc	PKPbc	18 47 37.3	0.0
SAML				*e*PKPab	PKPab	18 47 41.4	+0.2
LPAZ	**La Paz**	**151.19**	**54**	PKPbc	PKPbc	18 47 46.0	+1.5
	1.3nm,0.5s,baz=304,slow=3.6,SNR=6.8						
LPAZ	**La Paz**	**151.19**	**54**	PKPbc	PKPbc	18 47 46.0	+1.5

NIED ***23*** *18:37:00, 39.10N×140.90E, h8km, Mw3.6 Best double couple: M0=2.83000×1014 NP1:φ0=180.00000°, δ63.00000°, λ62.00000°. NP2:φ0=50.00000°, δ38.00000°, λ134.00000°.*
IDC ***23*** *18:37:11.0±1.0, 39.07N×140.95E, h0km, mb3.4/4, mb1 3.7/7, mb1mx3.4/25, mbtmp3.5/7, ML3.0/3, Error ellipse: s-maj=34.0km s-min=16.6km az=126.0*
ISCJB ***23*** *18:37:12.1±0.6, 39.12N±0.03×140.89E±0.04, h18km±7km, mb3.5/4, Error ellipse: s-maj=5.6km s-min=5.1km az=179.2*
JMA ***23*** *18:37:12.4, 39.10N×140.86E, h11km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ0=181.00000°, δ68.00000°, λ66.00000°. NP2:φ0=51.00000°, δ32.00000°, λ135.00000°. Principal axes: T Plg60.0000°, Azm56.0000°; N Plg22.0000°, Azm191.0000°; P Plg19.0000°, Azm289.0000°;*
JMA Felt II J1.
NEIC ***23*** *18:37:15.5±8.5, 39.05N×140.98E, h30km±63km, MG3.6(JMA) Error ellipse: s-maj=41.0km s-min=16.0km az=102.0*
ISC 23 18:37:12.6±0.5, 39.11N±0.03×140.90E±0.04, h5km±5km, n23, σ0.984/28, mb3.5/4, 2C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.29**	**121**	⇓P	**Pg**	**18 37 18.4**	**+0.1**
JMK				S	**Sg**	**18 37 22.8**	**+0.7**
JRG	**Rokugo**	**0.36**	**325**	⇓P	**Pg**	**18 37 19.4**	**-0.1**
JRG				S	**Sg**	**18 37 24.6**	**+0.5**
JYK	**Kaneyama**	**0.46**	**246**	⇓P	**Pg**	**18 37 20.9**	**-0.5**
JYK				S	**Sg**	**18 37 26.7**	**-0.7**
JOM	**Ohasama**	**0.48**	**40**	⇑P	**Pg**	**18 37 22.0**	**+0.2**
JOM				S	**Sg**	**18 37 28.6**	**+0.6**
JIO	**Ouri**	**0.74**	**151**	⇓P	**Pg**	**18 37 26.3**	**-0.5**
JIO				S	**Sg**	**18 37 36.4**	**0.0**
JOU	**Okura**	**0.76**	**194**	⇑P	**Pg**	**18 37 26.8**	**-0.4**
JOU				S	**Sg**	**18 37 36.8**	**-0.3**
MAJO	**Matsushiro**	**3.33**	**221**	*e*Pn	**Pn**	**18 38 05.6**	**+0.3**
MAT	**Matsushiro**	**3.33**	**221**	P	**Pn**	**18 38 05.8**	**+0.5**
MAT				*e*S	**Sn**	**18 38 47.5**	**+2.3**
MJAR	**Matsushiro Arr**	**3.33**	**221**	Pn	**Pn**	**18 38 05.3**	**0.0**
	0.6nm,0.3s,baz=24,slow=14,SNR=9.1						
MJAR				Lg		18 38 55.2	
	1.3nm,0.3s,baz=33,slow=31,SNR=3.9						
MJAR	**Matsushiro Arr**	**3.33**	**221**	Pn	**Pn**	**18 38 05.3**	**0.0**
MJAR				Lg		18 38 55.2	
USRK	**Ussuriysk Arra**	**8.38**	**310**	Pn	**Pn**	**18 39 13.3**	**-1.3**
	0.9nm,0.3s,baz=119,slow=14,SNR=14						
KSRS	**Korea Array**	**10.34**	**265**	Pn	**Pn**	**18 39 42.9**	**+1.4**
	0.6nm,0.3s,baz=71,slow=14,SNR=11						
KSAR	**Wonju Array Be**	**10.37**	**265**	Pn	**Pn**	**18 39 42.9**	**+1.0**
ILAR	**Eielson Array**	**47.98**	**33**	P	**P**	**18 45 51.4**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=272,slow=6.1,SNR=7.3						
ILAR	**Eielson Array**	**47.98**	**33**	P	**P**	**18 45 51.4**	**-0.5**
WRA	**Warramunga Arr**	**59.06**	**187**	P	**P**	**18 47 11.6**	**-2.0**
	0.5nm,0.9s,mb3.5,baz=7.0,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**59.06**	**187**	P	**P**	**18 47 11.6**	**-2.0**
YKA	**Yellowknife Ar**	**62.23**	**31**	P	**P**	**18 47 33.9**	**-0.9**
	0.1nm,0.5s,mb3.2,baz=302,slow=6.3,SNR=2.7						
YKA	**Yellowknife Ar**	**62.23**	**31**	P	**P**	**18 47 33.9**	**-0.9**
ASAR	**Alice Springs**	**62.78**	**187**	P	**P**	**18 47 38.9**	**0.0**
	0.2nm,0.6s,mb3.4,baz=2.3,slow=7.0,SNR=3.1						
ASAR	**Alice Springs**	**62.78**	**187**	P	**P**	**18 47 38.9**	**0.0**
LPAZ	**La Paz**	**145.94**	**56**	PKPbc	PKPbc	18 56 52.6	-1.0
	0.5nm,0.5s,baz=307,slow=5.1,SNR=2.7						
LPAZ	**La Paz**	**145.94**	**56**	PKPbc	PKPbc	18 56 52.6	-1.0

ISCJB ***23*** *19:07:02.1±0.2, 44.57N±0.01×13.71E±0.02, h10km, Error ellipse: s-maj=1.9km s-min=1.7km az=34.9*
CSEM ***23*** *19:07:03.0±0.1, 44.54N×13.70E, h10km, ML4.5/5, Error ellipse: s-maj=2.6km s-min=2.1km az=153.0*
NEIC ***23*** *19:07:03.3±0.7, 44.51N×13.65E, h10km, ML3.6(VIE), ML3.5(LDG), Error ellipse: s-maj=8.5km s-min=4.8km az=131.0*
PDG ***23*** *19:07:04.7±0.5, 44.56N×13.73E, h30km±2km, ML3.8/9, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
ROM ***23*** *19:07:04.3±0.1, 44.54N×13.88E, h31km, Ml3.2/38, Error ellipse: s-maj=3.3km s-min=1.3km az=98.0*
LDG ***23*** *19:07:04.8±0.1, 44.55N×13.82E, h30km, Ml3.5/37, Error ellipse: s-maj=2.0km s-min=1.8km az=18.0*
VIE ***23*** *19:07:07.1±0.5, 44.82N×13.77E, h8km, mb2.8/14, ML3.6/17, Error ellipse: s-maj=4.8km s-min=3.3km az=21.0 77 km SW of Rijeka*
PRU ***23*** *19:07:07.9, 44.99N×13.71E, h0km*
STR ***23*** *19:07:11.8±0.9, 44.75N×12.76E, h5km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GEN ***23*** *19:07:11.9, 44.56N×13.03E, h95km, ML3.3*
ISC 23 19:07:03.4±0.1, 44.55N±0.01×13.73E±0.02, h10km, n333, σ1.904/470, 23C-21D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.81**	**89**	⇓*i*Pg	**Pg**	**19 07 19.9**	**+0.9**
NVLJ				Sg	**Sg**	**19 07 30.9**	**+1.2**
PESA	**Pesaro**	**0.88**	**227**	Pg	**Pg**	**19 07 22.4**	**+2.0**
PESA				Sg	**Sg**	**19 07 35.7**	**+3.8**
	671nm,0.3s						
SENI	**Senigallia**	**0.92**	**203**	Pg	**Pg**	**19 07 22.8**	**+1.7**
SENI				Sg	**Sg**	**19 07 36.1**	**+3.1**
	436nm,0.2s						
SKDS	**Skadanscina**	**1.02**	**11**	*i* Pg	**Pg**	**19 07 23.4**	**+0.5**
SKDS				*i* Sg	**Sg**	**19 07 36.9**	**+0.7**
SKDS							
	comp=Z,2μm,0.3s						
SKDS	**Skadanscina**	**1.02**	**11**	Pg	**Pg**	**19 07 23.5**	**+0.5**
SKDS				*i* Sg	**Sg**	**19 07 36.9**	**+0.7**
	comp=Z,2μm,0.3s						
KNDS	**Knezji Dol**	**1.08**	**25**	*i* Pg	**Pg**	**19 07 24.8**	**+0.6**
KNDS				*i* Sg	**Sg**	**19 07 39.2**	**+1.0**
KNDS							
	comp=Z,396nm,0.3s						
KNDS	**Knezji Dol**	**1.08**	**25**	*i* Pg	**Pg**	**19 07 24.8**	**+0.6**
KNDS				*i* Sg	**Sg**	**19 07 39.2**	**+1.0**
	comp=Z,396nm,0.3s						
FSSB	**Fossombrone**	**1.10**	**219**	Pg	**Pg**	**19 07 24.1**	**-0.4**
	comp=Z,124nm,0.2s						
FSSB	**Fossombrone**	**1.10**	**219**	Pg	**Pg**	**19 07 24.1**	**-0.4**
	comp=Z,124nm,0.2s						
RSM	**Repubblica di**	**1.11**	**237**	Pg	**Pg**	**19 07 25.6**	**+0.9**
	comp=Z,55nm,0.7s						
RSM	**Repubblica di**	**1.11**	**237**	Pg	**Pg**	**19 07 25.6**	**+0.9**
	comp=Z,55nm,0.7s						
TRI	**Trieste**	**1.16**	**1**	*e*Pn	**Pn**	**19 07 25.4**	**-0.3**
TRI				*e*Sn	**Sn**	**19 07 40.3**	**-1.3**
TRI	**Trieste**	**1.16**	**1**	Pg	**Pg**	**19 07 25.3**	**-0.4**
TRI				Sg	**Sg**	**19 07 40.1**	**-0.7**
	comp=Z,385nm,0.2s						
TRI	**Trieste**	**1.16**	**1**	*e*Pn	**Pn**	**19 07 25.4**	**-0.3**
TRI				Sg	**Sg**	**19 07 40.1**	**-0.7**
	comp=Z,385nm,0.2s						
CING	**Cingoli**	**1.24**	**198**	Pg	**Pg**	**19 07 26.6**	**-0.5**
	comp=Z,184nm,0.6s						
CING	**Cingoli**	**1.24**	**198**	Pg	**Pg**	**19 07 26.6**	**-0.5**
	comp=Z,184nm,0.6s						
GBRS	**Gornja Briga**	**1.24**	**38**	*i* Pg	**Pg**	**19 07 27.2**	**-0.1**
PIEI	**Pieia**	**1.33**	**221**	Pg	**Pg**	**19 07 28.1**	**-0.9**
PIEI				Sg	**Sg**	**19 07 46.4**	**+0.2**
	comp=Z,308nm,0.4s						
PIEI	**Pieia**	**1.33**	**221**	Pg	**Pg**	**19 07 28.1**	**-0.9**
PIEI				Sg	**Sg**	**19 07 46.4**	**+0.2**
	comp=Z,308nm,0.4s						
JAVS	**Javornik**	**1.36**	**10**	*i* Pg	**Pn**	**19 07 28.5**	**0.0**
JAVS	**Javornik**	**1.36**	**10**	*i* Pg	**Pn**	**19 07 28.5**	**0.0**
CMPO	**Campotto Po**	**1.38**	**272**	Pg	**Pg**	**19 07 29.6**	**-0.2**
	comp=Z,678nm,1.1s						
CMPO	**Campotto Po**	**1.38**	**272**	Pg	**Pg**	**19 07 29.6**	**-0.2**
	comp=Z,678nm,1.1s						
PARC	**Parchiule**	**1.40**	**231**	Pg	**Pn**	**19 07 29.2**	**+0.2**
	comp=Z,162nm,0.6s						
PARC	**Parchiule**	**1.40**	**231**	Pg	**Pn**	**19 07 29.2**	**+0.2**
	comp=Z,162nm,0.6s						
SNTG	**Esanatoglia**	**1.42**	**204**	Pg	**Pn**	**19 07 28.2**	**-1.0**
	comp=Z,165nm,0.5s						
SNTG	**Esanatoglia**	**1.42**	**204**	Pg	**Pn**	**19 07 28.2**	**-1.0**
	comp=Z,165nm,0.5s						
SABO	**M.te Sabotino**	**1.43**	**356**	Pg	**Pn**	**19 07 29.4**	**0.0**
	comp=Z,1μm,0.6s						
SABO	**M.te Sabotino**	**1.43**	**356**	Pg	**Pn**	**19 07 29.4**	**0.0**
	comp=Z,1μm,0.6s						
BOJS	**Bojanci**	**1.44**	**48**	*i* Pg	**Pn**	**19 07 29.9**	**+0.4**
BOJS							
	comp=Z,188nm,0.3s						
BOJS	**Bojanci**	**1.44**	**48**	*i* Pg	**Pn**	**19 07 29.9**	**+0.4**
	comp=Z,188nm,0.3s						
VISS	**Visnje**	**1.48**	**32**	*i* Pg	**Pn**	**19 07 30.3**	**+0.3**
VISS	**Visnje**	**1.48**	**32**	*i* Pg	**Pn**	**19 07 30.3**	**+0.2**
VOY	**Vojsko**	**1.49**	**4**	*e*Pg	**Pn**	**19 07 30.2**	**0.0**
VOY				*e*Sg	**Sn**	**19 07 48.5**	**-1.1**
VOY	**Vojsko**	**1.49**	**4**	*e*Pg	**Pn**	**19 07 30.2**	**0.0**
VOY				*e*Sg	**Sn**	**19 07 48.5**	**-1.1**
BADI	**Badiali**	**1.49**	**226**	Pg	**Pn**	**19 07 30.7**	**+0.4**
	comp=Z,192nm,0.5s						
BADI	**Badiali**	**1.49**	**226**	Pg	**Pn**	**19 07 30.7**	**+0.4**
	comp=Z,192nm,0.5s						
SFI	**Santa Sofia**	**1.50**	**245**	Pg	**Pn**	**19 07 30.6**	**+0.2**
	comp=Z,125nm,0.5s						
SFI	**Santa Sofia**	**1.50**	**245**	Pg	**Pn**	**19 07 30.6**	**+0.2**
	comp=Z,125nm,0.5s						
MURB	**Monte Urbino**	**1.55**	**215**	Pg	**Pn**	**19 07 31.8**	**+0.7**
MURB				Sg	**Sg**	**19 07 52.9**	**-0.5**
	comp=Z,630nm,0.3s						
MURB	**Monte Urbino**	**1.55**	**215**	Pg	**Pn**	**19 07 31.8**	**+0.7**
MURB				Sg	**Sg**	**19 07 52.9**	**-0.5**
	comp=Z,630nm,0.3s						
FDMO	**Fiordimonte**	**1.58**	**197**	Pg	**Pn**	**19 07 31.1**	**-0.

KBA	Koelnbreinsper	2.54 354	⇑	ePn	Pn	19 07 46.0	+1.3
KBA	Koelnbreinsper	2.54 354		Pn	Pn	19 07 46.0	+1.3
	SNR=11						
APPI	Appiano	2.61 318		Pg	Pn	19 07 46.5	+0.9
GRAM	Graiana	2.62 270		P	Pn	19 07 46.9	+1.1
MABI	Malga Bissina	2.73 305		Pg	Pn	19 07 47.8	+0.6
	comp=Z,71nm,0.2s						
CODM	Codolo	2.78 268		P	Pn	19 07 49.5	+1.5
BEHE	Becsehely	2.88 47		ePn	Pn	19 07 48.0	-1.3
ARSA	Arzberg	2.98 24	⇑	ePn	Pn	19 07 50.7	0.0
	SNR=20						
ARSA	Arzberg	2.98 24	⇑	ePn	Pn	19 07 50.7	0.0
ARSA	Arzberg	2.98 24		Pn	Pn	19 07 50.7	+0.1
	SNR=20						
SC2M	Scurtabo	3.01 269		Pg	Pn	19 07 52.9	+1.8
	comp=Z,148nm,0.4s						
SC2M	Scurtabo	3.01 269		P	Pn	19 07 52.8	+1.7
BRMO	Bormio	3.05 310		Pg	Pn	19 07 53.1	+1.5
	comp=Z,55nm,0.6s						
WTTA	Wattenberg	3.08 332	⇓	ePn	Pn	19 07 53.5	+1.3
	SNR=24						
WTTA	Wattenberg	3.08 332	⇓	ePn	Pn	19 07 53.5	+1.3
WTTA	Wattenberg	3.08 332		Pn	Pn	19 07 53.5	+1.4
	SNR=24						
MDI	Monti di Nese	3.10 295		Pg	Pn	19 07 52.0	-0.3
	comp=Z,77nm,0.4s						
WATA	Walderalm	3.17 332		ePn	Pn	19 07 55.0	+1.7
	SNR=47						
WATA			⇑	iSn	Sn	19 08 31.0	-0.1
WATA	Walderalm	3.17 332		ePn	Pn	19 07 55.0	+1.7
WATA				i Sn	Sn	19 08 31.0	-0.1
WATA	Walderalm	3.17 332		Pn	Pn	19 07 55.0	+1.7
	SNR=47						
WATA				Sn	Sn	19 08 31.0	-0.1
FUORN	Ofenpass-Fuorn	3.20 312		Pg	Pn	19 07 55.4	+1.7
BERNI	Berninapass	3.21 307		Pg	Pn	19 07 55.5	+1.7
FETA	Feichten	3.24 321		i Pn	Pn	19 07 55.9	+1.6
	SNR=52						
FETA	Feichten	3.24 321		i Pn	Pn	19 07 55.9	+1.6
FETA	Feichten	3.24 321		Pn	Pn	19 07 55.9	+1.6
	SNR=52						
MOA	Molln	3.32 6	⇑	iPn	Pn	19 07 56.5	+1.1
	SNR=23						
MOA	Molln	3.32 6	⇑	iPn	Pn	19 07 56.5	+1.1
MOA	Molln	3.32 6		Pn	Pn	19 07 56.5	+1.1
	SNR=23						
STON	Ston	3.33 119		ePn	Pn	19 07 54.5	-1.0
STON				Sn	Sn	19 08 32.1	-3.0
STON	Ston	3.33 119		ePn	Pn	19 07 54.5	-1.0
STON				Sn	Sn	19 08 32.1	-3.0
MOTA	Moosalm	3.34 328		i Pn	Pn	19 07 57.8	+2.2
	SNR=23						
MOTA	Moosalm	3.34 328		i Pn	Pn	19 07 57.8	+2.2
MOTA	Moosalm	3.34 328		Pn	Pn	19 07 57.8	+2.1
	SNR=23						
DAVOX	Davos/Dischmat	3.50 311		Pg	Pn	19 07 59.7	+1.8
RETA	Reutte	3.59 326	⇓	iPn	Pn	19 08 00.5	+1.4
	SNR=11						
RETA	Reutte	3.59 326	⇓	iPn	Pn	19 08 00.5	+1.4
RETA	Reutte	3.59 326		Pn	Pn	19 08 00.5	+1.4
	SNR=11						
TUE	Stuetta	3.63 303		ePn	Pn	19 08 00.9	+1.3
TUE	Stuetta	3.63 303		ePn	Pn	19 08 00.9	+1.2
CONA	Conrad Observa	3.69 23	⇑	iPn	Pn	19 08 00.6	+0.2
	SNR=18						
CONA	Conrad Observa	3.69 23	⇑	iPn	Pn	19 08 00.6	+0.2
CONA	Conrad Observa	3.69 23		Pn	Pn	19 08 00.6	+0.2
	SNR=18						
SOP	Sopron	3.70 31		eSn	Sn	19 08 44.7	+0.5
PCP	Piancastagn	3.71 272		P	Pn	19 08 00.2	-0.5
DAVA	Damuels	3.84 317		i Pn	Pn	19 08 04.4	+1.9
	SNR=38						
DAVA	Damuels	3.84 317		i Pn	Pn	19 08 04.4	+1.9
DAVA	Damuels	3.84 317		Pn	Pn	19 08 04.4	+1.9
	SNR=38						
PKSM	Moragy	3.84 63	⇓	iP	Pn	19 08 01.4	-1.1
PKSM	Moragy	3.84 63	⇓	iP	Pn	19 08 01.4	-1.1
PKSM				S	Sn	19 08 48.2	+0.6
BRY	Bratogost	3.85 114	⇑	iPn	Pn	19 08 03.8	+1.1
BRY				eSn	Sn	19 08 47.8	-0.2
BRY	Bratogost	3.85 114	⇑	iPn	Pn	19 08 03.8	+1.1
BRY				eSn	Sn	19 08 47.8	-0.2
UPM	Unac-Piva	3.97 108	⇑	iPn	Pn	19 08 05.8	+1.4
UPM				eSn	Sn	19 08 51.0	0.0
UPM	Unac-Piva	3.97 108	⇑	iPn	Pn	19 08 05.8	+1.4
UPM				eSn	Sn	19 08 51.0	0.0
PGF	Pioggiola	3.98 241		ePn	Pn	19 08 04.2	-0.2
PGF				eSn	Sn	19 08 46.7	-4.4
	comp=Z,6.9nm,0.3s						
PGF	Pioggiola	3.98 241		ePn	Pn	19 08 04.2	-0.2
PGF				eSn	Sn	19 08 46.7	-4.4
PGF	Pioggiola	3.98 241		ePn	Pn	19 08 04.2	-0.2
PGF				eSn	Sn	19 08 46.7	-4.4
	comp=Z,3.5nm,0.3s						
HCY	Herceg Novi	4.05 120	⇑	iPn	Pn	19 08 06.5	+1.1
HCY				eSn	Sn	19 08 52.3	-0.6
HCY	Herceg Novi	4.05 120	⇑	iPn	Pn	19 08 06.5	+1.1
HCY				eSn	Sn	19 08 52.3	-0.6
NKY	Niksic	4.19 113		ePn	Pn	19 08 07.6	+0.2
NKY				eSn	Sn	19 08 56.1	-0.2
NKY	Niksic	4.19 113		ePn	Pn	19 08 07.6	+0.2
NKY				eSn	Sn	19 08 56.1	-0.2
PLE	Pljevlja	4.26 105	⇓	iPn	Pn	19 08 09.6	+1.3
PLE	Pljevlja	4.26 105	⇓	iPn	Pn	19 08 09.6	+1.3
BUM	Brajici-Budva	4.38 119	⇓	iPn	Pn	19 08 10.0	+0.1
BUM				eSn	Sn	19 09 00.0	-1.0
BUM	Brajici-Budva	4.38 119	⇓	iPn	Pn	19 08 10.0	+0.1
BUM				eSn	Sn	19 09 00.0	-1.0
SAOF	Saorge	4.47 265		P	Pn	19 08 10.8	-0.4
SAOF				S	Sn	19 08 59.5	-3.8
SAOF	Saorge	4.47 265		P	Pn	19 08 10.8	-0.4
SAOF				S	Sn	19 08 59.5	-3.8
PDG	Podgorica	4.54 116		ePn	Pn	19 08 12.1	-0.1
PDG				eSn	Sn	19 09 03.3	-1.7
TTG	Podgorica	4.55 116		ePn	Pn	19 08 12.1	-0.1
TTG				eSn	Sn	19 09 03.3	-1.8
AUTN	L'Aution	4.56 265		P	Pn	19 08 12.6	+0.2
AUTN				S	Sn	19 09 01.7	-3.8
AUTN	L'Aution	4.56 265		P	Pn	19 08 12.6	+0.2
AUTN				S	Sn	19 09 01.7	-3.8
SBF	Sospel	4.58 264		ePn	Pn	19 08 11.6	-1.1
SBF				eSn	Sn	19 09 01.2	-4.7
	comp=Z,9.5nm,0.2s						
SBF	Sospel	4.58 264		ePn	Pn	19 08 11.6	-1.1
SBF				eSn	Sn	19 09 01.2	-4.7
SBF	Sospel	4.58 264		ePn	Pn	19 08 11.6	-1.1
SBF				eSn	Sn	19 09 01.2	-4.7
	comp=Z,4.8nm,0.2s						
KHC	Kasperske Hory	4.58 359		ePn	Pn	19 08 11.9	-0.8
KHC				eSn	Sn	19 09 01.3	-4.7
KHC	Kasperske Hory	4.58 359		ePN	Pn	19 08 12.8	+0.1
KHC				ePG	Pg	19 08 31.5	+0.3
KHC				eSN	Sn	19 08 59.8	-6.2
KHC				ex	x	19 09 30.5	
KHC	Kasperske Hory	4.58 359		Pn	Pn	19 08 12.8	+0.1
TOUF	Mont Tournerai	4.69 266		P	Pn	19 08 14.2	0.0
TOUF	Mont Tournerai	4.69 266		P	Pn	19 08 14.2	0.0
BUD	Budapest	4.71 50		eSn	Sn	19 09 06.7	-2.4
BUD	Budapest	4.71 50		eSn	Sn	19 09 06.7	-2.4
SMOL	Smolenice	4.71 31		eSN	Sn	19 09 07.7	-1.5
SMOL	Smolenice	4.71 31		eSn	Sn	19 09 07.7	-1.5
BEY	Berane	4.77 108	⇑	iPn	Pn	19 08 16.5	+1.2
BEY				eSn	Sn	19 09 09.7	-0.9
IVA	Berane	4.77 108	⇑	iPn	Pn	19 08 16.5	+1.2
IVA				eSn	Sn	19 09 09.7	-1.0
MVIF	Mont Vial	4.78 264		P	Pn	19 08 14.6	-0.8
MVIF	Mont Vial	4.78 264		P	Pn	19 08 14.6	-0.8
ULC	Ulcinj	4.78 121	⇑	iPn	Pn	19 08 16.0	+0.5
ULC				eSn	Sn	19 09 09.6	-1.3
ULC	Ulcinj	4.78 121	⇑	iPn	Pn	19 08 16.0	+0.5
ULC				eSn	Sn	19 09 09.6	-1.3
PVY	Plav	4.93 111	⇓	iPn	Pn	19 08 19.0	+1.5
PVY				eSn	Sn	19 09 13.4	-1.1
PVY	Plav	4.93 111	⇓	iPn	Pn	19 08 19.0	+1.5
PVY				eSn	Sn	19 09 13.4	-1.1
SPAK	Spaichingen-Ko	4.94 318		P	Pn	19 08 16.9	-0.7
MBDF	Montbardon	4.97 274		ePn	Pn	19 08 16.8	-1.3
MBDF				eSn	Sn	19 09 10.7	-4.9
	comp=Z,9.3nm,0.3s						
MBDF	Montbardon	4.97 274		ePn	Pn	19 08 16.8	-1.3
MBDF				eSn	Sn	19 09 10.7	-4.9
MBDF	Montbardon	4.97 274		ePn	Pn	19 08 16.8	-1.3

LPG	La Plagne	5.04 283		ePn	Pn	19 08 17.9	-1.1
LPG				eSn	Sn	19 09 12.4	-4.8
	comp=Z,26nm,0.6s						
LPG	La Plagne	5.04 283		ePn	Pn	19 08 17.9	-1.1
LPG				eSn	Sn	19 09 12.4	-4.8
LPG	La Plagne	5.04 283		ePn	Pn	19 08 17.9	-1.1
BNI	Bardonecchia	5.04 278		ePn	Pn	19 08 18.0	-1.0
BNI	Bardonecchia	5.04 278		ePn	Pn	19 08 18.0	-1.1
LPL	La Plagne	5.05 283		ePn	Pn	19 08 17.7	-1.5
LPL				eSn	Sn	19 09 12.7	-4.9
	comp=Z,13nm,0.3s						
LPL	La Plagne	5.05 283		ePn	Pn	19 08 17.7	-1.5
LPL				eSn	Sn	19 09 12.7	-4.9
LPL	La Plagne	5.05 283		ePn	Pn	19 08 17.7	-1.5
VRAC	Vranov	5.15 21	⇑	iP	Pn	19 08 20.2	-0.3
VRAC	Vranov	5.15 21	⇑	iP	Pn	19 08 20.2	-0.3
KOLL	Kolacno	5.16 37		ePN	Pn	19 08 18.8	-1.8
KOLL				eSN	Sn	19 09 18.2	-1.9
KOLL	Kolacno	5.16 37		ePn	Pn	19 08 18.8	-1.8
KOLL				eSn	Sn	19 09 18.2	-1.9
FELD	Feldberg im Sc	5.18 312		P	Pn	19 08 21.2	+0.2
FRF	La Foret Royal	5.20 262		ePn	Pn	19 08 20.7	-0.5
FRF				eSn	Sn	19 09 15.5	-5.7
	comp=Z,6.3nm,0.3s						
FRF	La Foret Royal	5.20 262		ePn	Pn	19 08 20.7	-0.5
FRF				eSn	Sn	19 09 15.5	-5.7
FRF	La Foret Royal	5.20 262		ePn	Pn	19 08 20.7	-0.5
BBS	Basel-Blauen	5.22 306		P	Pn	19 08 21.4	-0.1
VYHS	Vyhne	5.29 40		ePN	Pn	19 08 21.9	-0.5
VYHS				eSN	Sn	19 09 19.5	-3.8
VYHS	Vyhne	5.29 40		ePn	Pn	19 08 21.9	-0.5
VYHS				eSn	Sn	19 09 19.5	-3.8
BFO	Black Forest	5.31 317		ePn	Pn	19 08 22.7	-0.1
	comp=Z,12nm,0.5s						
BFO				eSn	Sn	19 09 18.5	-5.4
BFO	Black Forest	5.31 317		ePn	Pn	19 08 22.7	0.0
	comp=Z,12nm,0.5s						
LMR	La Mourre	5.36 259		ePn	Pn	19 08 22.5	-0.8
LMR				eSn	Sn	19 09 19.0	-6.0
	comp=Z,7.1nm,0.3s						
LMR	La Mourre	5.36 259		ePn	Pn	19 08 22.5	-0.8
LMR				eSn	Sn	19 09 19.0	-6.0
LMR	La Mourre	5.36 259		ePn	Pn	19 08 22.5	-0.8
GRFO	Grafenberg	5.42 342		ePn	Pn	19 08 31.9	+7.7
GRFO				ePg	Pg	19 08 48.8	+1.6
PSZ	Piszkesteto	5.44 50		ePn	Pn	19 08 30.1	+5.6
PSZ	Piszkesteto	5.44 50		ePn	Pn	19 08 29.9	+5.4
PSZ				eSn	Sn	19 09 25.4	-1.7
PSZ	Piszkesteto	5.44 50	⇓	iP	Pn	19 08 24.6	+0.1
PSZ	Piszkesteto	5.44 50	⇓	iP	Pn	19 08 24.6	+0.1
PSZ				eSn	Sn	19 09 25.4	-1.7
PSZ				S	Sn	19 09 28.9	+1.8
PRU	Pruhonice	5.47 5		ePN	Pn	19 08 23.8	-1.1
PRU				eSN	Sn	19 09 18.3	-9.5
PRU	Pruhonice	5.47 5		Pn	Pn	19 08 23.8	-1.1
ORIF	Oris-en-Rattie	5.61 277		ePn	Pn	19 08 27.1	+0.3
ORIF				eSn	Sn	19 09 25.8	-5.4
	comp=Z,14nm,0.5s						
ORIF	Oris-en-Rattie	5.61 277		ePn	Pn	19 08 27.1	+0.3
ORIF				eSn	Sn	19 09 25.8	-5.4
ORIF	Oris-en-Rattie	5.61 277		ePn	Pn	19 08 27.1	+0.3
MOF	Molkenrain	5.65 308		P	Pn	19 08 28.0	+0.7
MOF	Molkenrain	5.65 308		P	Pn	19 08 28.0	+0.7
CABF	La Chapelle	5.75 294		ePn	Pn	19 08 28.5	-0.2
CABF				eSn	Sn	19 09 29.0	-5.7
	comp=Z,7.7nm,0.3s						
CABF	La Chapelle	5.75 294		ePn	Pn	19 08 28.5	-0.2
CABF				eSn	Sn	19 09 29.0	-5.7
CABF	La Chapelle	5.75 294		ePn	Pn	19 08 28.5	-0.2
NKC	Novy Kostel	5.75 352		eSN	Sn	19 09 28.6	-6.2
HINF	Hinteralfeld	5.79 307		ePn	Pn	19 08 29.1	-0.1
HINF				eSn	Sn	19 09 29.6	-6.0
	comp=Z,46nm,0.5s						
HINF	Hinteralfeld	5.79 307		ePn	Pn	19 08 29.1	-0.1
HINF				eSn	Sn	19 09 29.6	-6.0
HINF	Hinteralfeld	5.79 307		ePn	Pn	19 08 29.1	-0.1
MORC	Moravsky Berou	5.84 25		ePn	Pn	19 08 28.7	-1.2
MORC	Moravsky Berou	5.84 25	⇓	iP	Pn	19 08 29.7	-0.2
MORC	Moravsky Berou	5.84 25		ePn	Pn	19 08 28.7	-1.2
MORC	Moravsky Berou	5.84 25	⇓	iP	Pn	19 08 29.7	-0.2
ECH	Echery	5.84 311		ePn	Pn	19 08 30.2	+0.2
	comp=Z,6.7nm,0.3s						
ECH				ePb	Pb	19 08 41.5	-3.8
ECH				eSn	Sn	19 09 29.7	-7.3
ECH	Echery	5.84 311		ePn	Pn	19 08 30.2	+0.2
	comp=Z,6.7nm,0.3s						
ECH	Echery	5.84 311		P	Pn	19 08 30.6	+0.6
ECH	Echery	5.84 311		P	Pn	19 08 30.6	+0.6
SMRF	Simiane la Rot	5.89 267		ePn	Pn	19 08 30.9	+0.3
SMRF				eSn	Sn	19 09 32.5	-5.6
	comp=Z,1.6nm,0.4s						
SMRF	Simiane la Rot	5.89 267		ePn	Pn	19 08 30.9	+0.3
SMRF				eSn	Sn	19 09 32.5	-5.6
SMRF	Simiane la Rot	5.89 267		ePn	Pn	19 08 30.9	+0.3
CDF	Champ du Feu	5.90 313		ePn	Pn	19 08 31.0	+0.2
CDF				eSn	Sn	19 09 32.3	-6.1
	comp=Z,27nm,0.5s						
CDF	Champ du Feu	5.90 313		ePn	Pn	19 08 31.0	+0.2
CDF				eSn	Sn	19 09 32.3	-6.1
CDF	Champ du Feu	5.90 313		ePn	Pn	19 08 31.0	+0.2
VSL	Villasalto	6.00 214		ePn	Pn	19 08 33.6	+1.4
VSL	Villasalto	6.00 214		ePn	Pn	19 08 33.6	+1.4
LANF	Langenberg	6.02 320		P	Pn	19 08 32.4	0.0
LANF	Langenberg	6.02 320		P	Pn	19 08 32.4	0.0
DPC	Dobruska-Polom	6.06 16		ePN	Pn	19 08 32.1	-0.9
DPC	Dobruska-Polom	6.06 16		Pn	Pn	19 08 32.1	-0.9
KECS	Kecovo	6.10 47		ePN	Pn	19 08 33.7	+0.2
KECS				eSN	Sn	19 09 38.1	-5.2
KECS	Kecovo	6.10 47		ePn	Pn	19 08 33.7	+0.2
BARS	Barje	6.11 104		ePn	Pn	19 08 34.1	+0.4
HAU	Haudompre	6.17 307		ePn	Pn	19 08 34.6	0.0
HAU				eSn	Sn	19 08 38.9	-6.3
	comp=Z,47nm,0.4s						
HAU	Haudompre	6.17 307		ePn	Pn	19 08 34.6	0.0
HAU				eSn	Sn	19 08 38.9	-6.3
HAU	Haudompre	6.17 307		ePn	Pn	19 08 34.6	0.0
BRG	Berggiesshubel	6.33 1		PN	Pn	19 08 37.2	+0.5
	comp=Z,1.3nm,0.5s						
BRG				PG	Pg	19 09 06.5	+2.0
BRG				SN	Sn	19 09 40.8	-8.2
BRG				e		19 09 58.0	
BRG	Berggiesshubel	6.33 1		SB	Sb	19 10 07.6	-1.7
BRG				e		19 10 34.8	
	comp=Z,7.9nm,0.7s						
VIVF	Saint-Julien-l	6.46 276		ePn	Pn	19 08 36.8	-1.8
VIVF				eSn	Sn	19 09 46.1	-6.2
	comp=Z,6.0nm,0.4s						
VIVF	Saint-Julien-l	6.46 276		ePn	Pn	19 08 36.8	-1.8
VIVF				eSn	Sn	19 09 46.1	-6.2
VIVF	Saint-Julien-l	6.46 276		ePn	Pn	19 08 36.8	-1.8
PAGF	Fort de Pagny	6.82 309		ePn	Pn	19 08 44.9	+1.5
PAGF				eSn	Sn	19 09 54.2	-6.9
	comp=Z,3.3nm,0.5s						
PAGF	Fort de Pagny	6.82 309		ePn	Pn	19 08 44.9	+1.5
PAGF				eSn	Sn	19 09 54.2	-6.9
PAGF	Fort de Pagny	6.82 309		ePn	Pn	19 08 44.9	+1.5
SFTF	Sexfontaines	7.04 304		ePn	Pn	19 08 46.3	-0.1
	baz=120						
SFTF				eSn	Sn	19 09 59.4	-7.0
	comp=Z,5.6nm,0.3s						
SFTF	Sexfontaines	7.04 304		ePn	Pn	19 08 46.3	-0.1
SFTF				eSn	Sn	19 09 59.4	-7.0
SFTF	Sexfontaines	7.04 304		ePn	Pn	19 08 46.3	-0.1
	baz=120						
LASF	Ste Croix	7.10 270		ePn	Pn	19 08 45.9	-1.4
LASF				eSn	Sn	19 10 01.4	-6.6
	comp=Z,1.2nm,0.2s						
LASF	Ste Croix	7.10 270		ePn	Pn	19 08 45.9	-1.4
LASF				eSn	Sn	19 10 01.4	-6.6
LASF	Ste Croix	7.10 270		ePn	Pn	19 08 45.9	-1.4
MEZF	Maizieres J'vi	7.17 306		ePn	Pn	19 08 47.0	-1.3
MEZF				eSn	Sn	19 10 02.7	-7.1
	comp=Z,9.1nm,0.6s						
MEZF	Maizieres J'vi	7.17 306		ePn	Pn	19 08 47.0	-1.3
MEZF				eSn	Sn	19 10 02.7	-7.1
MEZF	Maizieres J'vi	7.17 306		ePn	Pn	19 08 47.0	-1.3
SMF	Signal de Mont	7.25 290		ePn	Pn	19 08 48.6	-0.7
SMF				eSn	Sn	19 10 04.7	-6.9
	comp=Z,11nm,0.2s						
SMF	Signal de Mont	7.25 290		ePn	Pn	19 08 48.6	-0.7
SMF				eSn	Sn	19 10 04.7	-6.9
SMF	Signal de Mont	7.25 290		ePn	Pn	19 08 48.6	-0.7

WLF	Walferdange	7.27 317		ePn	Pn	19 08 51.0	+1.4
WLF	Walferdange	7.27 317		ePn	Pn	19 08 51.0	+1.4
LOR	Lormes	7.40 295		ePn	Pn	19 08 50.6	-0.8
	baz=118						
LOR				eSn	Sn	19 10 08.4	-7.0
	comp=Z,19nm,0.3s						
LOR	Lormes	7.40 295		ePn	Pn	19 08 50.6	-0.8
LOR				eSn	Sn	19 10 08.4	-7.0
LOR	Lormes	7.40 295		ePn	Pn	19 08 50.6	-0.8
	baz=118						
SSF	Saint Saulge	7.58 293		ePn	Pn	19 08 53.1	-0.7
SSF				eSn	Sn	19 10 12.6	-7.0
	comp=Z,4.3nm,0.3s						
SSF	Saint Saulge	7.58 293		ePn	Pn	19 08 53.1	-0.7
SSF				eSn	Sn	19 10 12.6	-7.0
SSF	Saint Saulge	7.58 293		ePn	Pn	19 08 53.1	-0.7
AVF	Avril sur Loir	7.61 291		ePn	Pn	19 08 53.1	-1.2
AVF				eSn	Sn	19 10 13.2	-7.3
	comp=Z,5.1nm,0.4s						
AVF	Avril sur Loir	7.61 291		ePn	Pn	19 08 53.1	-1.2
AVF				eSn	Sn	19 10 13.2	-7.3
AVF	Avril sur Loir	7.61 291		ePn	Pn	19 08 53.1	-1.2
BGF	Bois d'Agland	7.90 289		ePn	Pn	19 08 57.5	-0.8
BGF				eSn	Sn	19 10 20.4	-7.3
	comp=Z,12nm,0.5s						
BGF	Bois d'Agland	7.90 289		ePn	Pn	19 08 57.5	-0.8
BGF				eSn	Sn	19 10 20.4	-7.3
BGF	Bois d'Agland	7.90 289		ePn	Pn	19 08 57.5	-0.8
HYF	Humbligny	8.20 293		ePn	Pn	19 09 02.4	0.0
HYF				eSn	Sn	19 10 27.4	-7.6
HYF	Humbligny	8.20 293		ePn	Pn	19 09 02.4	0.0
HYF				eSn	Sn	19 10 27.4	-7.6
HYF	Humbligny	8.20 293		ePn	Pn	19 09 02.4	0.0
GIVF	Givet	8.21 316		ePn	Pn	19 09 02.7	+0.2
GIVF				eSn	Sn	19 10 27.4	-7.9
	comp=Z,3.5nm,0.3s						
GIVF	Givet	8.21 316		ePn	Pn	19 09 02.7	+0.2
GIVF				eSn	Sn	19 10 27.4	-7.9
GIVF	Givet	8.21 316		ePn	Pn	19 09 02.7	+0.2
TCF	Toulx Ste Croi	8.29 286		ePn	Pn	19 09 02.2	-1.4
TCF				eSn	Sn	19 10 29.7	-7.6
	comp=Z,3.0nm,0.2s						
TCF	Toulx Ste Croi	8.29 286		ePn	Pn	19 09 02.2	-1.4
TCF				eSn	Sn	19 10 29.7	-7.6
TCF	Toulx Ste Croi	8.29 286		ePn	Pn	19 09 02.2	-1.4
CAF	Calviac	8.32 277		ePn	Pn	19 09 01.9	-2.1
CAF				eSn	Sn	19 10 30.4	-7.5
	comp=Z,1.1nm,0.3s						
CAF	Calviac	8.32 277		ePn	Pn	19 09 01.9	-2.1
CAF				eSn	Sn	19 10 30.4	-7.5
CAF	Calviac	8.32 277		ePn	Pn	19 09 01.9	-2.1
MTLF	Montolieu	8.40 266		ePn	Pn	19 09 03.0	-2.1
MTLF				eSn	Sn	19 10 32.3	-7.6
	comp=Z,1.2nm,0.4s						
MTLF	Montolieu	8.40 266		ePn	Pn	19 09 03.0	-2.1
MTLF				eSn	Sn	19 10 32.3	-7.6
MTLF	Montolieu	8.40 266		ePn	Pn	19 09 03.0	-2.1
BAIF	Baives	8.50 314		ePn	Pn	19 09 07.2	+0.8
BAIF				eSn	Sn	19 10 34.3	-8.0
	comp=Z,1.9nm,0.3s						
BAIF	Baives	8.50 314		ePn	Pn	19 09 07.2	+0.8
BAIF				eSn	Sn	19 10 34.3	-8.0
BAIF	Baives	8.50 314		ePn	Pn	19 09 07.2	+0.8
RJF	Les Rejaudoux	8.70 279		ePn	Pn	19 09 07.2	-2.1
RJF				eSn	Sn	19 10 39.4	-8.0
	comp=Z,1.3nm,0.4s						
RJF	Les Rejaudoux	8.70 279		ePn	Pn	19 09 07.2	-2.1
RJF				eSn	Sn	19 10 39.4	-8.0
RJF	Les Rejaudoux	8.70 279		ePn	Pn	19 09 07.2	-2.1
LFF	La Frestale	9.26 277		ePn	Pn	19 09 14.7	-2.2
LFF				eSn	Sn	19 10 52.8	-8.2
	comp=Z,3.1nm,0.4s						
LFF	La Frestale	9.26 277		ePn	Pn	19 09 14.7	-2.2
LFF				eSn	Sn	19 10 52.8	-8.2
LFF	La Frestale	9.26 277		ePn	Pn	19 09 14.7	-2.2
MFF	Saint Martin d	9.95 287		ePn	Pn	19 09 24.4	-1.9
MFF				eSn	Sn	19 11 09.2	-8.7
	comp=Z,1.3nm,0.3s						
MFF	Saint Martin d	9.95 287		ePn	Pn	19 09 24.4	-1.9
MFF				eSn	Sn	19 11 09.2	-8.7
MFF	Saint Martin d	9.95 287		ePn	Pn	19 09 24.4	-1.9
LDF	La Druitiere	10.36 298		ePn	Pn	19 09 29.8	-2.1
LDF				eSn	Sn	19 11 19.0	-9.0
	comp=Z,2.7nm,0.6s						
LDF	La Druitiere	10.36 298		eP

IDC 23 19:33:12.2±6.0, 5°54S×147°14E, h193km±62km, mb3.8/2, mb1 3.9/3, mb1mx3.2/16, mbtmp3.6/3, Error ellipse: s-maj=89.2km s-min=44.7km az=132.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**180**	P	Pn	19 34 13.3	+1.5
	0.6nm,0.3s,baz=306,slow=14,SNR=2.8						
PMG				S	Sn	19 34 58.4	-0.1
	5.2nm,0.3s,baz=279,slow=19,SNR=12						
WRA	**Warramunga Arr**	**18.97**	**220**	P	P	19 37 19.2	+0.1
	0.8nm,0.3s,baz=37,slow=12,SNR=42						
ASAR	**Alice Springs**	**22.07**	**214**	P	P	19 37 52.3	+0.5
	1.5nm,0.8s,baz=47,slow=8.1,SNR=15						
FITZ	**Fitzroy Crossi**	**24.42**	**237**	P	P	19 38 13.2	-0.1
	11nm,0.4s,baz=47,slow=11,SNR=71						
TORD	**Torodi Ar. Bea**	**145.11**	**285**	PKPbc	PKPbc	19 52 26.5	-1.1
	0.3nm,0.6s,baz=83,slow=4.5,SNR=4.8						

IDC 23 19:35:06.5±17.0, 22°34S×175°54W, h0km, mb4.5/5, mb1 4.6/5, mb1mx4.0/19, mbtmp4.5/5, Error ellipse: s-maj=317.5km s-min=135.5km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.62**	**266**	P	P	19 42 07.5	+1.2
	9.3nm,0.4s,baz=94,slow=12,SNR=30						
STKA	**Stephens Creek**	**39.11**	**247**	P	P	19 42 34.8	-1.0
	1.0nm,0.4s,baz=76,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**46.35**	**258**	P	P	19 43 34.2	-0.5
	3.0nm,0.6s,baz=99,slow=7.7,SNR=32						
WRA	**Warramunga Arr**	**46.64**	**263**	P	P	19 43 36.4	-0.6
	1.9nm,0.3s,baz=95,slow=8.3,SNR=166						
FITZ	**Fitzroy Crossi**	**55.07**	**263**	P	P	19 44 41.2	+0.6
	1.4nm,0.4s,baz=118,slow=8.4,SNR=9.5						

*ISCJB **23** 19:37:27.5±0.6, 30°29N±0°06×67°56E±0°06, h10km, mb4.0/21, MS3.6/2, Error ellipse: s-maj=8.9km s-min=6.2km az=36.8*
*IDC **23** 19:37:27.7±1.0, 30°30N×67°38E, h0km, mb3.7/12, mb1 4.0/12, mb1mx3.7/30, mbtmp3.8/12, MS3.2/1, Ms1 3.2/1, ms1mx2.4/46, Error ellipse: s-maj=24.2km s-min=21.3km az=58.0*
*NEIC **23** 19:37:29.1±0.7, 30°32N×67°67E, h10km, mb4.5/14, Error ellipse: s-maj=11.6km s-min=6.4km az=219.0*
*BJI **23** 19:37:31.8, 30°52N×67°90E, h10km, mB4.5/4, mb4.3/17, Ms4.6/2, Ms7 4.3/2*

ISC 23 19:37:29.6±0.6, 30°33N±0°06×67°61E±0°06, h10km, n73, σ1°58/75, mb4.0/21, MS3.6/2, 2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**4.30**	**54**	⇓P	**Pn**	**19 38 37.1**	**+2.0**
KBL	**Kabul**	**4.37**	**16**	*e*Pn	**Pn**	**19 38 37.8**	**+1.8**
CEP	**Cherat**	**5.04**	**45**	⇓P	**Pn**	**19 38 47.4**	**+2.1**
CEP				S	**Sn**	19 39 47.0	+3.3
CHCP	**Chirah Chowk**	**5.84**	**54**	P	**Pn**	**19 38 58.8**	**+2.6**
KSH	**Kashi**	**11.44**	**35**	P	**Pn**	**19 40 07.8**	**-5.3**
KSH				S	**Sn**	**19 42 06.1**	**-15**
KSH				sS		19 42 14.8	
KKAR	**Karatay Array**	**12.96**	**10**	*e*Pn	**Pn**	**19 40 31.2**	**-2.5**
EKS2	**Erkin-Say**	**13.26**	**20**	*e*Pn	**Pn**	**19 40 37.2**	**-0.6**
	8.7nm,1.0s						
AAK	**Ala-Archa**	**13.46**	**22**	*e*Pn	**Pn**	**19 40 39.4**	**-1.2**
	24nm,0.7s						
TKM2	**Tokmak 2**	**14.10**	**25**	*e*Pn	**Pn**	**19 40 48.0**	**-1.3**
	17nm,1.0s						
KOLN	**Koldanda**	**14.22**	**96**	*e*P	**Pn**	**19 40 50.8**	**-0.3**
	35nm,0.5s						
KOLN	**Koldanda**	**14.22**	**96**	*e*P	**Pn**	**19 40 50.8**	**-0.3**
	35nm,0.5s						
DANN	**Dangsing**	**14.23**	**94**	*e*P	**Pn**	**19 40 50.5**	**-0.7**
	43nm,0.4s						
DANN	**Dangsing**	**14.23**	**94**	*e*P	**Pn**	**19 40 50.5**	**-0.7**
	43nm,0.4s						
GKN	**Gorkha**	**15.06**	**95**	*e*P	**Pn**	**19 41 00.8**	**-1.7**
	40nm,0.7s						
GKN	**Gorkha**	**15.06**	**95**	*e*P	**Pn**	**19 41 00.8**	**-1.7**
	40nm,0.7s						
DMN	**Daman**	**15.56**	**96**	*e*P	**Pn**	**19 41 07.0**	**-2.0**
	15nm,0.7s						
DMN	**Daman**	**15.56**	**96**	*e*P	**Pn**	**19 41 07.0**	**-2.0**
	15nm,0.7s						
KKN	**Kakani**	**15.66**	**95**	*e*P	**Pn**	**19 41 08.6**	**-1.8**
	32nm,0.5s						
KKN	**Kakani**	**15.66**	**95**	*e*P	**Pn**	**19 41 08.6**	**-1.8**
	32nm,0.5s						
PKI	**Pulchoki**	**15.83**	**96**	*e*P	**Pn**	**19 41 11.1**	**-1.4**
	29nm,0.7s						
PKI	**Pulchoki**	**15.83**	**96**	*e*P	**Pn**	**19 41 11.1**	**-1.4**
	29nm,0.7s						
GUN	**Gumba**	**16.15**	**94**	*e*P	**Pn**	**19 41 15.0**	**-1.7**
	125nm,0.7s						
GUN	**Gumba**	**16.15**	**94**	*e*P	**Pn**	**19 41 15.0**	**-1.7**
	125nm,0.7s						
JIRN	**Jiri**	**16.48**	**95**	*e*P	**Pn**	**19 41 20.1**	**-0.8**
	36nm,0.5s						
JIRN	**Jiri**	**16.48**	**95**	*e*P	**Pn**	**19 41 20.1**	**-0.8**
	36nm,0.5s						
RAMN	**Ramite**	**17.01**	**97**	*e*P	**Pn**	**19 41 26.0**	**-1.7**
	44nm,0.4s						
RAMN	**Ramite**	**17.01**	**97**	*e*P	**Pn**	**19 41 26.0**	**-1.7**
	44nm,0.4s						
ODAN	**Odare**	**17.71**	**96**	*e*P	**Pn**	**19 41 36.1**	**-0.3**
	38nm,0.8s						
ODAN	**Odare**	**17.71**	**96**	*e*P	**Pn**	**19 41 36.1**	**-0.3**
	38nm,0.8s						
TAPN	**Taplejung**	**17.86**	**95**	*e*P	**Pn**	**19 41 37.8**	**-0.5**
	12nm,0.4s						
TAPN	**Taplejung**	**17.86**	**95**	*e*P	**Pn**	**19 41 37.8**	**-0.5**
	12nm,0.4s						
ABKAR	**Akbulak array**	**19.77**	**345**	*e*P	**Pn**	**19 41 59.4**	**-1.9**
	1.3nm,0.6s						
MK31	**Makanchi Array**	**19.99**	**31**	*e*P	**Pn**	**19 42 01.2**	**-2.6**
MKAR	**Makanchi Array**	**19.99**	**31**	P	**Pn**	**19 42 01.4**	**-2.4**
	1.6nm,0.6s,baz=210,slow=9.5,SNR=19						
MKAR	**Makanchi Array**	**19.99**	**31**	P	**Pn**	**19 42 01.4**	**-2.4**
LSA	**Lhasa**	**20.39**	**86**	*e*P	**P**	**19 42 07.3**	**+0.6**
LSA	**Lhasa**	**20.39**	**86**	*e*P	**P**	**19 42 10.2**	**+3.5**
	3.8nm,0.6s						
WMQ	**Urumqi**	**20.86**	**44**	P	**P**	**19 42 16.3**	**+4.7**
WMQ				pP		19 42 20.3	
WMQ				sP	sP	19 42 23.3	+7.5
WMQ				pmax	pmax		
	comp=Z,13nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,330nm,7.2s						
AKTO	**Aktyubinsk**	**21.33**	**343**	P	**P**	**19 42 17.3**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.2,baz=141,slow=13,SNR=2.8						
AKTO	**Aktyubinsk**	**21.33**	**343**	P	**P**	**19 42 17.3**	**+0.7**
KURK	**Kurchatov**	**21.97**	**19**	P	**P**	**19 42 22.0**	**-1.4**
	comp=Z,3.3nm,0.8s,mb3.8,baz=210,slow=9.7,SNR=13						
KURK	**Kurchatov**	**21.97**	**19**	P	**P**	**19 42 22.0**	**-1.4**
BVAR	**Borovoye Array**	**22.77**	**4**	P	**P**	**19 42 31.8**	**-0.1**
	comp=Z,2.5nm,0.6s,mb3.8,baz=178,slow=10,SNR=17						
BVAR	**Borovoye Array**	**22.77**	**4**	P	**P**	**19 42 31.8**	**0.0**
BRVK	**Borovoye**	**22.79**	**4**	*e*P	**P**	**19 42 33.1**	**+1.0**
	comp=Z,5.6nm,1.0s,mb4.0						
ZAA0	**Zalesovo Array**	**26.69**	**23**	*e*P	**P**	**19 43 10.1**	**+1.5**
ZALV	**Zalesovo Beam**	**26.69**	**23**	P	**P**	**19 43 10.4**	**+1.7**
	comp=Z,2.2nm,0.4s,mb4.0,baz=221,slow=9.8,SNR=17						
ZALV	**Zalesovo Beam**	**26.69**	**23**	P	**P**	**19 43 10.4**	**+1.7**
GTA	**Gaotai**	**27.82**	**62**	*e*P	**P**	**19 43 22.1**	**+3.1**
GTA				pP	pP	19 43 25.8	+3.8
GTA				sP	sP	19 43 28.8	+5.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
EIL	**Elat**	**28.24**	**277**	LR	LR	19 56 34.5	
	comp=Z,52nm,20.9s,MS3.1,baz=274,slow=41						
BR131	**Keskin Array S**	**29.20**	**298**	P	**P**	**19 43 32.9**	**+1.6**
	comp=Z,3.9nm,1.1s,mb4.0						
CHTO	**Chiang Mai**	**30.62**	**105**	P	**P**	**19 43 45.5**	**+1.5**
	comp=Z,2.0nm,0.8s,mb4.0						
CMAR	**Chiang Mai Arr**	**30.79**	**105**	P	**P**	**19 43 47.5**	**+1.9**
	comp=Z,0.8nm,0.8s,mb3.6,baz=290,slow=9.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**30.79**	**105**	P	**P**	**19 43 47.5**	**+2.0**
CD2	**Chengdu**	**31.03**	**80**	*e*P	**P**	**19 43 49.6**	**+2.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
KMI	**Kunming**	**31.45**	**91**	P	**P**	**19 43 54.0**	**+2.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
GYA	**Guiyang**	**34.46**	**87**	*e*P	**P**	**19 44 21.0**	**+3.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
ENH	**Enshi**	**36.01**	**79**	P	**P**	**19 44 32.1**	**+1.1**
	comp=Z,3.4nm,0.5s,mb4.5						
HHC	**Hu-ho-hao-te**	**36.92**	**61**	*e*P	**P**	**19 44 40.6**	**+2.0**
HHC				pP	pP	19 44 44.8	+3.1
HHC				sP	sP	19 44 47.3	+4.4
HHC				PP	PP	19 46 05.8	+3.2
HHC				PcP	PcP	19 47 02.8	+2.9
HHC				S	**S**	**19 50 23.8**	**+0.4**
HHC				sS	sS	19 50 32.1	+3.6
HHC				ScP	ScP	19 50 47.5	+0.6
HHC				SS	SS	19 52 52.4	-12
HHC				ScS	ScS	19 54 52.5	-1.5
HHC				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.4						
HHC				pmax	pmax		
	comp=Z,110nm,10.7s						
HHC				LR	LR		
	comp=N,300nm,15.5s,MS4.3						
HHC				LR	LR		
	comp=E,280nm,16.7s,MS4.3						
HHC				LR	LR		
	comp=Z,210nm,16.6s,MS4.0						
NJ2	**Nanjing**	**43.54**	**74**	*e*P	**P**	**19 45 34.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
ARCES	**ARCESS Array B**	**45.89**	**341**	P	**P**	**19 45 50.4**	**-1.4**
	comp=Z,2.7nm,0.9s,mb4.2,baz=127,slow=5.7,SNR=3.3						
ARCES	**ARCESS Array B**	**45.89**	**341**	P	**P**	**19 45 50.4**	**-1.4**
CN2	**Changchun**	**47.17**	**57**	*e*P	**P**	**19 46 04.5**	**+2.2**
ESDC	**Sonseca Array**	**57.96**	**300**	P	**P**	**19 47 20.9**	**-1.4**
	comp=Z,0.1nm,0.3s,mb3.3,baz=66,slow=7.0,SNR=4.1						
ESDC	**Sonseca Array**	**57.96**	**300**	P	**P**	**19 47 20.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**62.78**	**270**	P	**P**	**19 47 53.8**	**-1.8**
	comp=Z,0.9nm,0.7s,mb4.0,baz=53,slow=5.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**62.78**	**270**	P	**P**	**19 47 53.8**	**-1.8**
WRA	**Warramunga Arr**	**81.32**	**119**	P	**P**	**19 49 46.5**	**0.0**
	comp=Z,0.5nm,0.9s,mb3.4,baz=312,slow=4.6,SNR=3.3						
WRA	**Warramunga Arr**	**81.32**	**119**	P	**P**	**19 49 46.5**	**0.0**
ASAR	**Alice Springs**	**83.22**	**122**	P	**P**	**19 49 57.1**	**+0.7**
	comp=Z,0.6nm,1.0s,mb3.6,baz=316,slow=5.2,SNR=3.5						
ASAR	**Alice Springs**	**83.22**	**122**	P	**P**	**19 49 57.1**	**+0.7**
YKA	**Yellowknife Ar**	**87.48**	**1**	P	**P**	**19 50 17.6**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.2,baz=351,slow=5.0,SNR=16						
YKA	**Yellowknife Ar**	**87.48**	**1**	P	**P**	**19 50 17.6**	**+0.5**

*JMA **23** 19:38:59.6±0.1, 33°44N×136°94E, h424km, M3.0*
*ISCJB **23** 19:39:01.5±0.8, 33°6N±0°2×137°0E±0°2, h409km±13km, mb3.2/2, Error ellipse: s-maj=33.7km s-min=15.5km az=149.0*
*IDC **23** 19:39:02.1±2.9, 33°37N×137°22E, h375km±131km, mb3.1/2, mb1 3.2/3, mb1mx2.6/24, mbtmp2.9/3, Error ellipse: s-maj=174.1km s-min=107.1km az=13.0*

ISC 23 19:39:02.9±0.8, 33°6N±0°2×137°0E±0°2, h400km±13km, n14, σ0°95/20, mb3.2/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.82**	**341**	P	**Pn**	**19 39 53.4**	**+0.1**
JKN2	**Miekihoku**	**0.89**	**315**	P	**Pn**	**19 39 53.3**	**-0.2**
JWZ	**Kozaga**	**1.10**	**266**	P	**Pn**	**19 39 53.3**	**-1.0**
JWY	**Kouya**	**1.34**	**297**	P	**Pn**	**19 39 55.1**	**-0.1**
HMMJ	**Hamamatsu 2**	**1.36**	**25**	P	**Pn**	**19 39 55.6**	**+0.3**
JNY	**Yasuok**	**1.87**	**21**	P	**Pn**	**19 39 58.5**	**+0.6**
JOD2	**Odawara 2**	**2.37**	**45**	P	**Pn**	**19 40 02.2**	**+1.1**
JOD2				S	**S**	**19 40 51.4**	**+3.1**
JRY	**Ryogami san**	**2.85**	**32**	P	**Pn**	**19 40 05.8**	**+1.1**
JRY				S	**S**	**19 40 55.7**	**+0.9**
JHU	**Hanno**	**2.90**	**39**	P	**Pn**	**19 40 05.6**	**+0.5**
JHU				S	**S**	**19 40 53.3**	**-2.3**
BSO4	**Boso 4**	**3.06**	**62**	P	**Pn**	**19 40 07.2**	**+0.7**
BSO4				S	**S**	**19 40 56.7**	**-1.3**
MJAR	**Matsushiro Arr**	**3.08**	**18**	P	**Pn**	**19 40 06.5**	**0.0**
	0.7nm,0.3s,baz=200,slow=9.8,SNR=14						
MJAR				S	**S**	**19 40 57.1**	**-1.1**
	0.1nm,0.3s,baz=194,slow=16,SNR=5.6						
JHO	**Hitachi**	**4.17**	**43**	P	**Pn**	**19 40 15.7**	**-0.7**
JHO				S	**S**	**19 41 11.6**	**-4.5**
WRA	**Warramunga Arr**	**53.31**	**183**	P	**P**	**19 47 42.2**	**-0.4**
	1.0nm,0.3s,mb3.5,baz=360,slow=7.6,SNR=37						
ASAR	**Alice Springs**	**57.04**	**183**	P	**P**	**19 48 08.8**	**-0.1**
	0.2nm,0.4s,mb2.8,baz=358,slow=5.4,SNR=7.5						

*NIED **23** 19:45:00, 36°50N×142°40E, h11km, Mw4.4 Best double couple: M0=4.69000×10^15 NP1:φ=346.00000°, δ=81.00000°, λ=66.00000°. NP2:φ=236.00000°, δ=26.00000°, λ=158.00000°.*
*IDC **23** 19:45:31.9±0.6, 36°46N×142°43E, h0km, mb4.1/19, mb1 4.2/23, mb1mx4.2/29, mbtmp4.1/23, ML3.7/3, MS3.4/7, Ms1 3.5/7, ms1mx3.1/43, Error ellipse: s-maj=16.6km s-min=15.3km az=164.0*
*NEIC **23** 19:45:33.6±3.7, 36°48N×142°46E, h13km±22km, mb4.8/19, MW4.4(NIED), Error ellipse: s-maj=11.3km s-min=7.2km az=141.0*
*ISCJB **23** 19:45:33.3±1.2, 36°52N±0°03×142°44E±0°04, h23km±8km, mb4.4/39, MS3.5/3, Error ellipse: s-maj=6.0km s-min=4.8km az=16.6*
*JMA **23** 19:45:34.2±0.2, 36°51N×142°41E, h62km, M4.0*
*MOS **23** 19:45:36.8±0.9, 36°80N×142°26E, h33km, mb4.5/25, Error ellipse: s-maj=10.2km s-min=7.5km az=122.4*

ISC 23 19:45:33.6±1.5, 36°54N±0°03×142°39E±0°04, h11km±9km, n143, σ0°90/155, mb4.4/39, MS3.5/3, 2C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.39**	**294**	P	**Pn**	**19 45 58.2**	**-0.8**
JHO	**Hitachi**	**1.46**	**274**	⇑P	**Pn**	**19 45 58.9**	**-1.1**
JHO				*e*S	**Sn**	**19 46 17.9**	**-1.2**
JFK	**Kawauchi**	**1.47**	**305**	P	**Pn**	**19 45 59.0**	**-1.0**
JFK				*e*S	**Sn**	**19 46 18.2**	**-1.0**
CHOJ	**Chosi**	**1.49**	**237**	P	**Pn**	**19 45 59.8**	**-0.5**
JMM	**Marumori**	**1.84**	**317**	P	**Pn**	**19 46 04.5**	**-0.6**
JMM				*e*S	**Sn**	**19 46 27.8**	**-0.6**
JFT	**Otama**	**1.91**	**302**	P	**Pn**	**19 46 06.3**	**+0.2**
JFT				*e*S	**Sn**	**19 46 30.6**	**+0.4**
JIO	**Ouri**	**2.09**	**337**	P	**Pn**	**19 46 08.0**	**-0.5**
JIO				S	**Sn**	**19 46 33.6**	**-0.9**
BSO1	**Boso 1**	**2.20**	**212**	P	**Pn**	**19 46 09.0**	**-1.1**
BSO1				*e*S	**Sn**	**19 46 36.5**	**-0.8**
JAG	**Ashikaga**	**2.37**	**268**	⇑P	**Pn**	**19 46 12.0**	**-0.4**
JAG				S	**Sn**	**19 46 40.7**	**-0.7**
JMK	**Ichinoseki**	**2.58**	**339**	P	**Pn**	**19 46 15.4**	**0.0**
JMK				S	**Sn**	**19 46 46.7**	**-0.1**
JRY	**Ryogami san**	**2.86**	**261**	P	**Pn**	**19 46 18.7**	**-0.5**
JYK	**Kaneyama**	**2.87**	**327**	P	**Pn**	**19 46 18.9**	**-0.4**
JOD2	**Odawara 2**	**2.96**	**246**	P	**Pn**	**19 46 20.2**	**-0.4**
JOM	**Ohasama**	**3.06**	**344**	P	**Pn**	**19 46 22.1**	**+0.2**
JOM				S	**Sn**	**19 46 58.1**	**-0.4**
JYN	**Shimob**	**3.28**	**253**	P	**Pn**	**19 46 25.4**	**+0.4**
MJAR	**Matsushiro Arr**	**3.36**	**271**	Pn	**Pn**	**19 46 25.8**	**-0.3**
	8.2nm,0.3s,baz=102,slow=7.5,SNR=105						
MJAR				Sn	**Sb**	**19 47 15.6**	**+1.4**
	4.6nm,0.3s,baz=42,slow=24,SNR=6.2						
MJAR				LR	LR	19 47 60.0	
	comp=Z,1μm,19.3s,baz=115,slow=44						
MJAR	**Matsushiro Arr**	**3.36**	**271**	Pn	**Pn**	**19 46 25.8**	**-0.3**
MJAR				Sn	**Sb**	**19 47 15.6**	**+1.4**
MJAR	**Matsushiro Arr**	**3.36**	**271**	P	**Pn**	**19 46 25.8**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MAJO	**Matsushiro**	**3.37**	**271**	*e*Pn	**Pn**	**19 46 26.9**	**+0.7**
MAJO	**Matsushiro**	**3.37**	**271**	*e*P	**Pn**	**19 46 26.9**	**+0.8**
MAT	**Matsushiro**	**3.37**	**271**	P	**Pn**	**19 46 26.8**	**+0.7**
MAT				*e*S	**Sn**	**19 47 06.7**	**+0.7**
MAT	**Matsushiro**	**3.37**	**271**	P	**Pn**	**19 46 27.4**	**+1.3**
JSD	**Sado**	**3.62**	**296**	P	**Pn**	**19 46 30.4**	**+0.8**
ERM	**Erimo**	**5.50**	**6**	*e*Pn	**Pn**	**19 46 53.8**	**-1.7**
	comp=Z,31nm,0.4s						
ERM				*e*Sn	**Sn**	**19 47 52.3**	**-6.5**
ERM	**Erimo**	**5.50**	**6**	*e*P	**Pn**	**19 46 53.8**	**-1.7**
ERM				*e*		19 47 52.3	
ERM				pmax	pmax		
	comp=Z,31nm,0.4s						
ASAJ	**Asahikawa**	**7.58**	**1**	Pn	**Pn**	**19 47 24.4**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=201,slow=13,SNR=12						
ASAJ				Sn	**Sn**	**19 48 45.2**	**-4.5**
	comp=Z,1.3nm,0.3s,baz=329,slow=18,SNR=2.6						
ASAJ				LR	LR	19 51 14.9	
	comp=Z,415nm,18.5s,baz=168,slow=45						
ASAJ	**Asahikawa**	**7.58**	**1**	Pn	**Pn**	**19 47 24.4**	**+0.5**
ASAJ				Sn	**Sn**	**19 48 45.2**	**-4.5**
ASAJ	**Asahikawa**	**7.58**	**1**	P	**Pn**	**19 47 24.5**	**+0.6**
ASAJ						19 48 45.2	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.95**	**18**	*d*iP	**Pn**	**19 47 26.1**	**-2.9**
YUK				*e*S	**Sn**	**19 48 49.5**	**-9.4**
YUK				pmax	pmax		
	comp=N,38nm,0.4s						
YUK				pmax	pmax		
	comp=E,22nm,0.4s						
YUK				pmax	pmax		
	comp=Z,65nm,0.4s						
YSS	**Yuzh-Sakhalins**	**10.41**	**1**	*e*Pn	**Pn**	**19 48 00.9**	**-2.0**
YSS	**Yuzh-Sakhalins**	**10.41**	**1**	*e*P	**Pn**	**19 48 03.0**	**+0.2**
USRK	**Ussuriysk Arra**	**11.01**	**317**	Pn	**Pn**	**19 48 12.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=2.6						
KSRS	**Korea Array**	**11.60**	**279**	Pn	**Pn**	**19 48 22.7**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=93,slow=13,SNR=15						
KSRS				LR	LR	19 52 48.5	
	comp=Z,233nm,18.3s,baz=132,slow=37						
KSRS	**Korea Array**	**11.60**	**279**	P	**Pn**	**19 48 22.7**	**+3.5**
KSAR	**Wonju Array Be**	**11.63**	**279**	Pn	**Pn**	**19 48 22.7**	**+3.1**
KSAR	**Wonju Array Be**	**11.63**	**279**	P	**Pn**	**19 48 22.7**	**+3.1**
MDJ	**Mudanjiang**	**12.63**	**314**	*e*Pn	**Pn**	**19 48 36.7**	**+3.6**
	comp=Z,10nm,1.0s						
JOW	**Kunigami**	**15.41**	**235**	LR	LR	19 55 06.6	
	comp=Z,154nm,18.8s,baz=65,slow=37						
PETK	**Petropavlovsk-**	**19.74**	**28**	P	**Pn**	**19 50 05.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=202,slow=14,SNR=4.0						
PETK				LR	LR	19 57 19.0	
	comp=Z,52nm,20.0s,baz=331,slow=36						
PETK	**Petropavlovsk-**	**19.74**	**28**	P	**Pn**	**19 50 05.2**	**+0.4**
PETK	**Petropavlovsk-**	**19.74**	**28**	P	**Pn**	**19 50 05.2**	**+0.5**
YAK	**Yakutsk**	**26.73**	**347**	*e*P	**P**	**19 51 12.8**	**0.0**
	comp=Z,14nm,0.9s,mb4.5						
YAK	**Yakutsk**	**26.73**	**347**	*e*P	**P**	**19 51 12.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,217nm,17.0s,MS3.8						
YAK				MLR	MLR		
	comp=N,189nm,18.0s,MS3.7						
YAK				MLR	MLR		
	comp=E,91nm,19.0s,MS3.7						
FX1	**Attu Island--F**	**27.02**	**43**	LR	LR	20 01 35.4	
	comp=E,79nm,19.9s,MS3.3,baz=17,slow=36						
ENH	**Enshi**	**28.08**	**267**	*e*P	**P**	**19 51 23.9**	**-1.3**
	comp=E,27nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**28.28**	**305**	*e*P	**P**	**19 51 27.5**	**+0.6**
	comp=E,7.8nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**28.28**	**305**	*e*P	**P**	**19 51 27.5**	**+0.6**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
BOD	**Bodaibo**	**28.37**	**328**	*e*P	**P**	**19 51 27.6**	**+0.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
SONM	**Songino Array**	**28.71**	**304**	P	**P**	**19 51 32.0**	**+1.3**
	comp=Z,9.7nm,0.8s,mb4.6,baz=101,slow=9.0,SNR=48						
SONM	**Songino Array**	**28.71**	**304**	P	**P**	**19 51 32.0**	**+1.3**
SONM	**Songino Array**	**28.71**	**304**	P	**P**	**19 51 32.0**	**+1.3**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZAK	**Zakamensk**	**31.19**	**309**	*e*P	**P**	**19 51 53.4**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
CMAR	**Chiang Mai Arr**	**42.13**	**257**	P	**P**	**19 53 27.1**	**+0.9**
	comp=Z,1.5nm,0.9s,mb3.6,baz=45,slow=6.4,SNR=12						
CMAR				LR	LR	20 12 50.7	
	comp=Z,43nm,19.1s,MS3.3,baz=65,slow=39						
CMAR	**Chiang Mai Arr**	**42.13**	**257**	P	**P**	**19 53 27.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**42.13**	**257**	P	**P**	**19 53 27.1**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,43nm,19.1s						
ZAA0	**Zalesovo Array**	**42.83**	**313**	*e*P	**P**	**19 53 30.9**	**-0.5**
ZALV	**Zalesovo Beam**	**42.83**	**313**	P	**P**	**19 53 31.9**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.1,baz=91,slow=7.4,SNR=15						
ZALV	**Zalesovo Beam**	**42.83**	**313**	P	**P**	**19 53 31.9**	**+0.5**
ZALV	**Zalesovo Beam**	**42.

BVAR	**Borovoye Array**	**51.48**	**313**	P	**P**	**19 54 39.3**	**+0.4**
BVAR						19 55 53.3	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKAR	**Karatay Array**	**54.05**	**301**	*e*P	**P**	**19 54 58.6**	**+0.5**
	comp=Z,5.8nm,0.9s,mb4.5						
KKAR	**Karatay Array**	**54.05**	**301**	*e*P	**P**	**19 54 58.6**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**56.67**	**189**	*e*P	**P**	**19 55 16.3**	**-0.7**
	comp=Z,5.7nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**56.67**	**189**	*e*P	**P**	**19 55 16.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**56.68**	**189**	*e*P	**P**	**19 55 15.2**	**-1.9**
WRA	**Warramunga Arr**	**56.68**	**189**	P	**P**	**19 55 17.0**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=8.8,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**56.68**	**189**	P	**P**	**19 55 17.0**	**0.0**
WRA	**Warramunga Arr**	**56.68**	**189**	P	**P**	**19 55 17.0**	**-0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	**Arti**	**57.25**	**319**	*e*P	**P**	**19 55 20.7**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.5						
ARU	**Arti**	**57.25**	**319**	*e*P	**P**	**19 55 20.7**	**-0.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KBL	**Kabul**	**58.32**	**292**	*e*P	**P**	**19 55 27.8**	**-0.9**
	comp=Z,4.1nm,0.9s,mb4.5						
KBL	**Kabul**	**58.32**	**292**	*e*P	**P**	**19 55 27.8**	**-0.9**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ABKAR	**Akbulak array**	**58.86**	**311**	*e*P	**P**	**19 55 31.4**	**-0.7**
	comp=Z,2.8nm,0.8s,mb4.3						
AKTO	**Aktyubinsk**	**59.59**	**312**	P	**P**	**19 55 36.1**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=87,slow=9.4,SNR=4.1						
AKTO	**Aktyubinsk**	**59.59**	**312**	P	**P**	**19 55 36.1**	**-1.1**
AKTO	**Aktyubinsk**	**59.59**	**312**	P	**P**	**19 55 36.1**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**60.41**	**189**	P	**P**	**19 55 42.0**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=3.0,slow=6.4,SNR=9.9						
ASAR	**Alice Springs**	**60.41**	**189**	P	**P**	**19 55 42.0**	**-1.0**
ASAR	**Alice Springs**	**60.41**	**189**	P	**P**	**19 55 42.0**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
RES	**Resolute Bay**	**62.89**	**15**	P	**P**	**19 55 59.2**	**0.0**
	comp=Z,3.4nm,1.1s,mb4.4						
RES	**Resolute Bay**	**62.89**	**15**	P	**P**	**19 55 59.2**	**0.0**
RES				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.3						
YKA	**Yellowknife Ar**	**63.85**	**30**	P	**P**	**19 56 05.9**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=304,slow=6.8,SNR=12						
YKA	**Yellowknife Ar**	**63.85**	**30**	P	**P**	**19 56 06.0**	**+0.3**
YKA	**Yellowknife Ar**	**63.85**	**30**	P	**P**	**19 56 06.0**	**+0.3**
FINES	**FINESS Array B**	**69.62**	**333**	P	**P**	**19 56 43.5**	**+1.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=79,slow=7.2,SNR=6.9						
FINES	**FINESS Array B**	**69.62**	**333**	P	**P**	**19 56 43.5**	**+1.0**
FINES	**FINESS Array B**	**69.62**	**333**	P	**P**	**19 56 43.5**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**74.66**	**53**	P	**P**	**19 57 13.6**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=297,slow=6.0,SNR=5.5						
NVAR	**Mina Array Bea**	**74.66**	**53**	P	**P**	**19 57 13.6**	**+0.4**
NOA	**NORSAR Array B**	**74.95**	**338**	P	**P**	**19 57 15.0**	**+0.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=76,slow=4.1,SNR=4.1						
NOA	**NORSAR Array B**	**74.95**	**338**	P	**P**	**19 57 15.0**	**+0.7**
NOA	**NORSAR Array B**	**74.95**	**338**	P	**P**	**19 57 15.0**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**75.17**	**323**	P	**P**	**19 57 16.3**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=46,slow=5.9,SNR=4.9						
AKASG	**Malin Array Be**	**75.17**	**323**	P	**P**	**19 57 16.3**	**+0.5**
AKASG	**Malin Array Be**	**75.17**	**323**	P	**P**	**19 57 16.3**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**77.46**	**46**	P	**P**	**19 57 29.7**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.6,baz=288,slow=0.9,SNR=2.9						
PDAR	**Pinedale Array**	**77.46**	**46**	P	**P**	**19 57 29.7**	**+0.7**
BRTR	**Keskin Array B**	**79.77**	**312**	P	**P**	**19 57 43.8**	**+2.0**
	comp=Z,1.1nm,0.9s,mb3.8,baz=57,slow=5.3,SNR=4.8						
BRTR	**Keskin Array B**	**79.77**	**312**	P	**P**	**19 57 43.8**	**+2.0**
BRTR	**Keskin Array B**	**79.77**	**312**	P	**P**	**19 57 43.8**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**83.55**	**329**	P	**P**	**19 58 02.7**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.8,baz=51,slow=5.2,SNR=5.7						
GERES	**GERESS Array B**	**83.55**	**329**	P	**P**	**19 58 02.7**	**+1.1**
GERES	**GERESS Array B**	**83.55**	**329**	P	**P**	**19 58 02.7**	**+1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**89.80**	**53**	P	**P**	**19 58 33.1**	**+0.6**
	comp=Z,0.7nm,0.7s,mb4.1,baz=312,slow=3.3,SNR=9.0						
TXAR	**Lajitas Array**	**89.80**	**53**	P	**P**	**19 58 33.1**	**+0.6**
TXAR	**Lajitas Array**	**89.80**	**53**	P	**P**	**19 58 33.1**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	**146.26**	**61**	PKPbc	PKPbc	20 05 14.4	-0.2
	comp=Z,1.2nm,0.6s,baz=341,slow=2.6,SNR=7.0						
LPAZ	**La Paz**	**146.26**	**61**	PKPbc	PKPbc	20 05 14.4	-0.2

TAP 23 19:46:32.9,23°.16N×120°.96E, h7km, ML2.2, 2C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.06**	**61**	⇓*i*P	Pg	19 46 35.2	+0.6
	baz=65						
ELDTW				*i* S	Sg	19 46 36.5	+0.7
	baz=65						
STYT	**Tauyuan**	**0.19**	**271**	*i* P	Pg	19 46 37.1	+0.4
	baz=271						
STYT				*i* S	Sg	19 46 39.8	+0.6
	baz=271						
YUS	**Yu-Shan**	**0.33**	**359**	*e*P	Pg	19 46 39.8	+0.4
	baz=8.0						
YUS				*e*S	Sg	19 46 44.9	+1.2
	baz=8.0						
TWG	**Pinlang**	**0.35**	**163**	P	Pg	19 46 40.5	+0.7
	baz=154						
TWG				*e*S	Sg	19 46 45.3	+0.9
	baz=154						
TWF1	**Yuli**	**0.37**	**58**	⇓*i*P	Pg	19 46 40.7	+0.6
	baz=58						
TWF1				*e*S	Sg	19 46 44.7	-0.1
	baz=58						
ALS	**Alishan**	**0.38**	**338**	⇑*i*P	Pg	19 46 41.1	+0.8
	baz=339						
ALS				*e*S	Sg	19 46 46.3	+1.1
	baz=339						
CHKT	**Chengkung**	**0.38**	**99**	*e*P	Pg	19 46 42.1	+1.8
	baz=98						
CHKT				*e*S	Sg	19 46 48.0	+2.7
	baz=98						
CHN1	**Nanshi**	**0.40**	**274**	*e*P	Pg	19 46 42.0	+1.4
	baz=274						
EHY	**Hungye**	**0.48**	**44**	*e*P	Pg	19 46 42.5	+0.3
	baz=52						
EHY				*e*S	Sg	19 46 48.5	0.0
	baz=52						
CHN5	**Tsauling**	**0.51**	**329**	⇑P	Pg	19 46 43.8	+1.0
	baz=329						
CHN3	**Shinhua**	**0.55**	**262**	*e*S	Sg	19 46 53.5	+2.7
	baz=263						
SMLT	**Sun Moon Lake**	**0.72**	**356**	*e*P	Pg	19 46 47.3	+0.5
TYC	**Yuchr**	**0.75**	**353**	*e*P	Pg	19 46 48.3	+1.0
	baz=358						
ESL	**Shilin**	**0.78**	**34**	*e*P	Pg	19 46 48.1	+0.1
	baz=40						
WHF	**Hehuan Shan**	**1.02**	**16**	*e*P	Pg	19 46 52.4	-0.1
	baz=16						
NNS	**Nan Shan**	**1.33**	**16**	*e*P	Pn	19 46 58.1	+0.2
	baz=4.0						

TAP 23 19:46:34.9,22°.77N×120°.70E, h19km, ML2.6, 2C-2D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.07**	**247**	⇓*i*P	Pg	19 46 38.6	+0.1
	baz=241						
SSD				*i* S	Sg	19 46 41.5	+0.7
	baz=241						
SGLT	**Jiouru**	**0.20**	**256**	*e*P	Pg	19 46 40.6	+0.7
	baz=255						
TWM1	**Shoushan**	**0.26**	**281**	⇓*i*P	Pg	19 46 41.5	+0.7
	baz=280						
TWM1				*e*S	Sg	19 46 46.4	+1.4
	baz=280						
ECL	**Taimali**	**0.29**	**127**	⇑*i*P	Pg	19 46 42.1	+0.7
	baz=126						
ECL				S	Sg	19 46 47.4	+1.6
	baz=126						
TWG	**Pinlang**	**0.35**	**82**	P	Pg	19 46 43.1	+0.8
	baz=82						
TWG				S	Sg	19 46 49.0	+1.6
	baz=82						
STYT	**Tauyuan**	**0.39**	**8**	*e*P	Pg	19 46 43.4	+0.3
	baz=9.0						
STYT				*e*S	Sg	19 46 49.1	+0.5
	baz=9.0						
SCZT	**Fangliau**	**0.41**	**190**	P	Pg	19 46 43.7	+0.3
	baz=189						
SCZT				S	Sg	19 46 50.0	+0.9
	baz=189						
EAST	**Anshuo**	**0.41**	**160**	⇑*i*P	Pg	19 46 44.2	+0.7
	baz=159						
EAST				*e*S	Sg	19 46 50.7	+1.5
	baz=159						
KAU	**Kaohsiung**	**0.41**	**241**	*e*P	Pg	19 46 45.0	+1.5
	baz=239						
CHN3	**Shinhua**	**0.43**	**314**	*e*P	Pg	19 46 44.7	+0.9
	baz=314						
CHN1	**Nanshi**	**0.44**	**339**	*e*P	Pg	19 46 44.1	+0.1
	baz=339						
CHN1				*e*S	Sg	19 46 51.1	+1.1
	baz=339						
TAW	**Tawu**	**0.45**	**156**	P	Pg	19 46 44.9	+0.7
	baz=155						
TAW				S	Sg	19 46 52.0	+1.7
	baz=155						
ELDTW	**Lidau**	**0.51**	**35**	*e*P	Pg	19 46 45.2	+0.1
	baz=36						
ELDTW				*e*S	Sg	19 46 52.3	+0.2
	baz=36						
SCLT	**Jiali**	**0.61**	**311**	*e*P	Pb	19 46 47.2	+0.2
	baz=310						
SCLT				*e*S	Sb	19 46 56.7	+1.4
	baz=310						
CHN8	**Yiju**	**0.73**	**322**	*e*P	Pb	19 46 49.3	+0.3
	baz=322						
CHN8				*e*S	Sb	19 47 00.1	+1.6
	baz=322						
ALS	**Alishan**	**0.74**	**8**	*e*P	Pb	19 46 49.7	+0.5
	baz=8.0						
ALS				*e*S	Sb	19 47 00.4	+1.5
	baz=8.0						
YUS	**Yu-Shan**	**0.75**	**18**	*e*P	Pb	19 46 49.4	0.0
	baz=18						
YUS				*e*S	Sb	19 47 00.0	+0.8
	baz=18						
CHY	**Chiayi**	**0.76**	**341**	*e*P	Pb	19 46 49.9	+0.3
	baz=341						
CHY				*e*S	Sb	19 47 00.6	+1.0
	baz=341						
HEN	**Hengchun**	**0.77**	**177**	*e*P	Pb	19 46 50.7	+1.1
	baz=176						
TWF1	**Yuli**	**0.80**	**44**	*e*P	Pb	19 46 50.0	-0.2
	baz=44						
CHN5	**Tsauling**	**0.82**	**359**	*e*P	Pb	19 46 51.3	+0.7
	baz=358						
CHN5				*e*S	Sb	19 47 02.7	+1.4
	baz=358						
WGK	**Gukeng**	**0.92**	**352**	*e*P	Pb	19 46 51.8	-0.5
	baz=352						
EHY	**Hungye**	**0.93**	**38**	*e*P	Pb	19 46 51.2	-1.1
	baz=38						
WSF	**Szhu**	**0.97**	**333**	*e*P	Pb	19 46 52.7	-0.4
	baz=333						
WSF				*e*S	Sb	19 47 05.7	+0.2
	baz=333						
SMLT	**Sun Moon Lake**	**1.12**	**9**	*e*P	Pn	19 46 55.4	-0.2
	baz=9.0						
SMLT				S	Sb	19 47 10.9	+1.0
	baz=9.0						
TYC	**Yuchr**	**1.14**	**7**	*e*P	Pn	19 46 55.9	+0.1
	baz=7.0						
TYC				*e*S	Sb	19 47 11.3	+1.0
	baz=7.0						
ESL	**Shilin**	**1.24**	**33**	*e*P	Pn	19 46 57.5	+0.3
	baz=33						
ESL				*e*S	Sb	19 47 14.1	+0.9
	baz=33						
WHF	**Hehuan Shan**	**1.46**	**21**	*e*P	Pn	19 47 01.3	+1.0
	baz=21						
TWQ1	**Liyutan**	**1.57**	**2**	*e*P	Pn	19 47 02.1	+0.3
	baz=2.0						
NNS	**Nan Shan**	**1.77**	**20**	*e*P	Pn	19 47 05.3	+0.8
	baz=20						
NNS				*e*S	Sn	19 47 26.2	-0.3
	baz=20						

*ISK **23** 19:55:28.8, 37°.82N×43°.63E, h5km, MD2.9*
*ISCJB **23** 19:55:29.7±0.6, 37°.85N±0°.03×43°.58E±0°.06, h10km, Error ellipse: s-maj=7.3km s-min=3.6km az=169.1*
*DDA **23** 19:55:30.2, 37°.87N×43°.57E, h8km±4km, Md3.0*
*CSEM **23** 19:55:30.0±0.2, 37°.83N×43°.60E, h2km, MD3.0, Error ellipse: s-maj=7.7km s-min=3.8km az=83.0*
ISC 23 19:55:30.0±0.8, 37°.85N±0°.03×43°.57E±0°.06, h20km±10km, n21, σ1ª10/32, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.31**	**159**	⇓*i*P	**Pg**	**19 55 36.3**	**-0.4**
HAKT				*i* S	**Sg**	**19 55 42.9**	**+1.6**
HAKT	**HAKKARI**	**0.31**	**159**	*i* P	**Pg**	**19 55 36.3**	**-0.4**
CUKT	**Cukurca**	**0.60**	**177**	*e*PG	**Pg**	**19 55 41.0**	**-0.9**
CUKT				*e*SG	**Sg**	**19 55 49.8**	**-0.2**
CUKT	**Cukurca**	**0.60**	**177**	*e*Pg	**Pg**	**19 55 41.0**	**-0.9**
CUKT				*e*Sg	**Sg**	**19 55 49.8**	**-0.1**
GEVA	**Gevas**	**0.62**	**319**	*i* P	**Pg**	**19 55 42.0**	**-0.3**
GEVA				*i* S	**Sg**	**19 55 51.1**	**+0.5**
GEVA	**Gevas**	**0.62**	**319**	*i* P	**Pg**	**19 55 42.0**	**-0.3**
GEVA				*i* S	**Sg**	**19 55 51.1**	**+0.5**
VANT	**Van**	**0.62**	**337**	*e*PG	**Pg**	**19 55 42.8**	**+0.3**
VANT				*e*SG	**Sg**	**19 55 53.0**	**+2.2**
VANT	**Van**	**0.62**	**337**	*e*Pg	**Pg**	**19 55 42.8**	**+0.4**
VANT				*e*Sg	**Sg**	**19 55 53.1**	**+2.3**
TVAN	**Van**	**0.69**	**349**	*e*P	**Pg**	**19 55 42.7**	**-1.0**
TVAN	**Van**	**0.69**	**349**	*e*P	**Pg**	**19 55 42.7**	**-1.0**
VANB	**Van**	**0.76**	**349**	*e*PG	**Pg**	**19 55 45.1**	**+0.1**
VANB	**Van**	**0.76**	**349**	*e*Pg	**Pg**	**19 55 45.1**	**+0.1**
SIRN	**S¨–rnak**	**0.98**	**250**	*e*P	**Pg**	**19 55 48.9**	**-0.2**
SIRN				*i* S	**Sg**	**19 56 02.7**	**+0.6**
SIRN	**S¨–rnak**	**0.98**	**250**	*e*P	**Pg**	**19 55 48.9**	**-0.2**
SIRN				*i* S	**Sg**	**19 56 02.7**	**+0.6**
CLDR	**Caldiran**	**1.32**	**12**	*e*PN	**Pg**	**19 55 55.6**	**0.0**
CLDR	**Caldiran**	**1.32**	**12**	*e*Pn	**Pg**	**19 55 55.7**	**+0.1**
TUTA	**Tutak**	**1.66**	**339**	*e*P	**Pg**	**19 56 01.5**	**-0.6**
TUTA				*i* S	**Sg**	**19 56 28.1**	**+4.4**
TUTA	**Tutak**	**1.66**	**339**	*e*P	**Pg**	**19 56 01.5**	**-0.6**
AGRB	**Hanur-Agry**	**1.79**	**345**	*e*PN	**Pg**	**19 56 02.7**	**-1.7**
AGRB	**Hanur-Agry**	**1.79**	**345**	*e*Pn	**Pg**	**19 56 02.7**	**-1.7**
MARD	**Mardin**	**2.28**	**257**	*e*P	**Pn**	**19 56 08.3**	**+1.8**
MARD				*i* S	**Sg**	**19 56 40.6**	**-2.9**

*ISCJB **23** 19:56:28.1±0.5, 35°.71N±0°.05×139°.18E±0°.06, h133km±3km, mb3.6/4, Error ellipse: s-maj=9.0km s-min=7.0km az=144.2*
*NEIC **23** 19:56:29.2±1.2, 35°.70N×139°.12E, h125km±11km, mb4.0/1, Error ellipse: s-maj=20.5km s-min=13.4km az=120.0*
*IDC **23** 19:56:30.1±1.4, 35°.59N×138°.85E, h127km±18km, mb3.2/3, mb1 3.4/4, mb1mx3.0/24, mbtmp3.2/4, Error ellipse: s-maj=41.5km s-min=23.9km az=113.0*
*JMA **23** 19:56:30.3±0.1, 35°.66N×139°.21E, h117km±1km, M3.4*
JMA Felt I J1.
ISC 23 19:56:29.3±0.5, 35°.72N±0°.05×139°.18E±0°.06, h127km±3km, n27, σ0ª74/39, mb3.8/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.16**	**32**	P	**Pn**	**19 56 47.1**	**+0.5**
JHU				S	**Sn**	**19 56 59.6**	**-0.1**
JRY	**Ryogami san**	**0.38**	**323**	P	**Pn**	**19 56 48.1**	**+0.8**
JRY				*e*S	**Sn**	**19 57 01.5**	**+0.6**
JOD2	**Odawara 2**	**0.46**	**189**	P	**Pn**	**19 56 47.3**	**-0.4**
JOD2				*e*S	**Sn**	**19 57 00.6**	**-1.0**
JYN	**Shimob**	**0.56**	**247**	P	**Pn**	**19 56 48.2**	**-0.1**
JYN				*e*S	**Sn**	**19 57 02.8**	**+0.1**
JAG	**Ashikaga**	**0.74**	**17**	P	**Pn**	**19 56 50.3**	**+0.7**
JAG				*e*S	**Sn**	**19 57 04.0**	**-1.0**
SHZ3	**Shizuoka 3**	**1.02**	**231**	P	**Pn**	**19 56 52.7**	**+0.6**
SHZ3				*e*S	**Sn**	**19 57 09.8**	**+0.4**
MJAR	**Matsushiro Arr**	**1.14**	**317**	P	**Pn**	**19 56 53.4**	**+0.2**
	33nm,0.3s,baz=157,slow=9.2,SNR=432						
MJAR				S	**Sn**	**19 57 11.2**	**-0.2**
	31nm,0.3s,baz=167,slow=19,SNR=28						
MJAR	**Matsushiro Arr**	**1.14**	**317**	P	**Pn**	**19 56 53.4**	**+0.2**
MJAR				S	**Sn**	**19 57 11.2**	**-0.2**
MAJO	**Matsushiro**	**1.14**	**317**	*e*Pn	**Pn**	**19 56 53.7**	**+0.5**
MAJO				*e*Sn	**Sn**	**19 57 11.2**	**-0.2**
MAT	**Matsushiro**	**1.14**	**317**	P	**Pn**	**19 56 53.9**	**+0.7**
MAT				S	**Sn**	**19 57 11.4**	**-0.1**
MAT	**Matsushiro**	**1.14**	**317**	P	**Pn**	**19 56 53.8**	**+0.6**
MAT				*e*S	**Sn**	**19 57 11.2**	**-0.2**
BSO1	**Boso 1**	**1.81**	**125**	P	**Pn**	**19 57 00.7**	**-0.1**
BSO1				*e*S	**Sn**	**19 57 24.8**	**-0.1**
JGM	**Miyama**	**2.00**	**270**	P	**Pn**	**19 57 04.1**	**+1.0**
ASAJ	**Asahikawa**	**8.79**	**16**	P	**Pn**	**19 58 33.1**	**-0.1**
	0.9nm,0.3s,baz=212,slow=13,SNR=4.3						
ASAJ	**Asahikawa**	**8.79**	**16**	P	**Pn**	**19 58 33.1**	**-0.1**
KSRS	**Korea Array**	**9.22**	**284**	P	**Pn**	**19 58 38.1**	**-1.0**
	0.1nm,0.3s,baz=107,slow=14,SNR=2.9						
KSAR	**Wonju Array Be**	**9.25**	**284**	P	**Pn**	**19 58 38.1**	**-1.4**
YSS	**Yuzh-Sakhalins**	**11.54**	**12**	*e*Pn	**Pn**	**19 59 08.7**	**-1.3**
KURK	**Kurchatov**	**45.34**	**309**	P	**P**	**20 04 33.9**	**-0.6**
	3.4nm,1.1s,mb4.0						
ILAR	**Eielson Array**	**51.56**	**32**	P	**P**	**20 05 24.2**	**+2.3**
	0.3nm,0.7s,mb3.5,baz=281,slow=5.0,SNR=4.1						
ILAR	**Eielson Array**	**51.56**	**32**	P	**P**	**20 05 24.2**	**+2.3**
WRAB	**Tennant Creek**	**55.53**	**186**	P	**P**	**20 05 50.9**	**-0.4**
WRA	**Warramunga Arr**	**55.54**	**186**	P	**P**	**20 05 51.1**	**-0.2**
	0.6nm,0.3s,mb4.1,baz=1.0,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**55.54**	**186**	P	**P**	**20 05 51.1**	**-0.2**
ABKAR	**Akbulak array**	**57.41**	**310**	*e*P	**P**	**20 06 05.3**	**+1.0**
ASAR	**Alice Springs**	**59.27**	**186**	P	**P**	**20 06 17.1**	**-0.3**
	0.2nm,0.3s,mb3.6,baz=357,slow=5.9,SNR=9.2						
ASAR	**Alice Springs**	**59.27**	**186**	P	**P**	**20 06 17.1**	**-0.3**

*DDA **23** 20:00:37.6, 40°.29N×25°.58E, h2km±3km, Md3.4*
*ISK **23** 20:00:37.9, 40°.25N×25°.61E, h5km, MD3.1*
*ISCJB **23** 20:00:37.7±0.5, 40°.29N±0°.02×25°.48E±0°.04, h5km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=167.1*
*ATH **23** 20:00:37.3, 40°.28N×25°.43E, h27km, MD3.1/5*
*CSEM **23** 20:00:38.0±0.2, 40°.28N×25°.45E, h10km, MD3.1, Error ellipse: s-maj=4.6km s-min=4.3km az=70.0*
*THE **23** 20:00:38.3, 40°.27N×25°.48E, h9km±1km, ML2.4/5, Error ellipse: s-maj=1.6km s-min=0.5km az=304.0*
ISC 23 20:00:38.2±0.4, 40°.27N±0°.02×25°.47E±0°.04, h8km±4km, n64, σ0ª94/89, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.43**	**210**	*e*PB	**Pg**	**20 00 46.9**	**+0.3**
LIA				*e*SB	**Sg**	**20 00 53.3**	**+1.0**
LIA	**Limnos Island**	**0.43**	**210**	P	**Pg**	**20 00 46.9**	**+0.3**
LIA				S	**Sg**	**20 00 53.3**	**+1.0**
LIA	**Limnos Island**	**0.43**	**210**	P	**Pg**	**20 00 46.9**	**+0.3**
LIA				S	**Sg**	**20 00 53.3**	**+1.0**
BOZC	**Bozcaada**	**0.62**	**134**	⇓*i*P	**Pg**	**20 00 50.0**	**-0.2**
BOZC				*i* S	**Sg**	**20 00 58.6**	**+0.4**
ENEZ	**Enez**	**0.70**	**48**	*e*PG	**Pg**	**20 00 51.3**	**-0.3**
ENEZ				*e*SG	**Sg**	**20 01 01.1**	**+0.4**
ENEZ	**Enez**	**0.70**	**48**	*e*Pg	**Pg**	**20 00 51.3**	**-0.3**
ENEZ				*e*Sg	**Sg**	**20 01 01.2**	**+0.5**
ALN	**Alexandroupoli**	**0.76**	**35**	*e*PN	**Pn**	**20 00 52.4**	**-2.9**
ALN				*e*SN	**Sg**	**20 01 03.3**	**+0.5**
ALN	**Alexandroupoli**	**0.76**	**35**	P	**Pg**	**20 00 52.5**	**-0.4**
ALN				S	**Sg**	**20 01 03.0**	**+0.2**
ALN	**Alexandroupoli**	**0.76**	**35**	P	**Pg**	**20 00 52.5**	**-0.4**
ALN				S	**Sg**	**20 01 03.0**	**+0.2**
ALN				*e*Sn	**Sg**	**20 01 03.3**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.78**	**80**	*e*PG	**Pg**	**20 00 52.3**	**-0.8**
GELI	**Tayfur-Gelibol**	**0.78**	**80**	*e*Pg	**Pg**	**20 00 52.3**	**-0.9**
EZN	**Ezine**	**0.80**	**124**	*e*PG	**Pg**	**20 00 52.4**	**-1.1**
EZN	**Ezine**	**0.80**	**124**	*e*Pg	**Pg**	**20 00 52.4**	**-1.0**
RDO	**Rodhopi**	**0.88**	**3**	*e*PN	**Pn**	**20 00 54.3**	**-2.5**
RDO				*e*SN	**Sn**	**20 01 06.9**	**-2.8**
RDO	**Rodhopi**	**0.88**	**3**	P	**Pg**	**20 00 54.6**	**-0.4**
RDO				S	**Sg**	**20 01 08.0**	**+1.6**
RDO	**Rodhopi**	**0.88**	**3**	*e*Pn	**Pn**	**20 00 54.3**	**-2.5**
RDO	**Rodhopi**	**0.88**	**3**	P	**Pg**	**20 00 54.6**	**-0.4**
RDO				*e*Sn	**Sn**	**20 01 06.9**	**-2.8**
RDO				S	**Sg**	**20 01 08.0**	**+1.6**
ERIK	**Erikli-Kesan**	**0.89**	**63**	*e*PG	**Pg**	**20 00 54.5**	**-0.8**
ERIK	**Erikli-Kesan**	**0.89**	**63**	*e*Pg	**Pg**	**20 00 54.5**	**-0.8**
LPK	**Lapseki**	**0.99**	**84**	*e*PG	**Pg**	**20 00 56.0**	**-1.2**
LPK	**Lapseki**	**0.99**	**84**	*e*Pg	**Pg**	**20 00 56.1**	**-1.1**
KAVA	**Kavala**	**1.03**	**315**	P	**Pg**	**20 00 58.0**	**+0.1**
KAVA				S	**Sg**	**20 01 12.5**	**+1.3**
KAVA	**Kavala**	**1.03**	**315**	P	**Pg**	**20 00 58.0**	**+0.1**
KAVA				S	**Sg**	**20 01 12.5**	**+1

WHZ				SN	Sn	20 13 15.6	-1.4
SYZ	**Scrubby Hill**	**2.94**	**75**	PN	Pn	20 12 53.7	0.0
MLZ	**Mavora Lakes**	**2.98**	**48**	PN	Pn	20 12 53.8	-0.5
MLZ				SN	Sn	20 13 26.7	-2.1
MSZ	**Milford Sound**	**3.37**	**38**	PN	Pn	20 12 59.9	+0.1
TUZ	**Tuapeka**	**3.47**	**68**	PN	Pn	20 13 00.6	-0.5
EAZ	**Earnscleugh**	**3.66**	**56**	PN	Pn	20 13 03.7	+0.1
WKZ	**Wanaka**	**3.77**	**49**	PN	Pn	20 13 05.5	+0.4
JCZ	**Jackson Bay**	**4.21**	**40**	PN	Pn	20 13 11.5	+0.3
FOZ	**Fox Glacier**	**5.03**	**42**	PN	Pn	20 13 23.3	+0.9

TAP 23 20:12:40.4, 24°.20N×121°.67E, h16km±1km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.14**	**210**	*i* P	Pg	20 12 45.0	+0.7
TWD	baz=207			S	Sg	20 12 48.0	+1.0
ENA	**Nanau**	**0.23**	**15**	P	Pg	20 12 45.9	+0.2
ENA	baz=17			S	Sg	20 12 50.0	+0.7
NNS	**Nan Shan**	**0.36**	**311**	P	Pg	20 12 48.8	+0.9
NNS	baz=311			S	Sg	20 12 54.2	+1.2
WHF	**Hehuan Shan**	**0.38**	**261**	*e*P	Pg	20 12 49.2	+1.0
WHF	baz=260			*e*S	Sg	20 12 53.8	+0.3
TWC	**Suao**	**0.43**	**22**	*e*P	Pg	20 12 50.1	+0.9
TWC	baz=22			*e*S	Sg	20 12 55.8	+0.6
ENTT	**Nioudou**	**0.45**	**347**	P	Pg	20 12 50.2	+0.8
ENTT	baz=348			*e*S	Sg	20 12 56.6	+1.1
ESL	**Shilin**	**0.45**	**210**	P	Pg	20 12 49.8	+0.4
ESL	baz=208			S	Sg	20 12 56.4	+0.9
TWT	**Tachien**	**0.46**	**276**	*e*P	Pg	20 12 51.8	+2.2
TWT	baz=275			*e*S	Sg	20 12 57.2	+1.4
TWE	**Neicheng**	**0.52**	**359**	*e*P	Pg	20 12 51.8	+1.1
TWE				*e*S	Sg	20 12 59.5	+1.8
NSK	**Sanguang**	**0.55**	**329**	P	Pg	20 12 52.2	+0.9
NSK	baz=329			S	Sg	20 12 59.8	+1.0
SMLT	**Sun Moon Lake**	**0.78**	**246**	*e*P	Pb	20 12 57.1	+1.6
SMLT	baz=245			*e*S	Sb	20 13 07.0	+1.2
TYC	**Yuchr**	**0.80**	**248**	*e*S	Sb	20 13 07.7	+1.1
	baz=247						

*NEIC **23** 20:17:50.4, 47°.31S×164°.91E, h12km, ML3.8(WEL), After WEL.*

WEL 23 20:17:52.5±0.7, 47°.31S×164°.99E, h33km, ML3.7/7, Error ellipse: s-maj=7.1km s-min=4.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.63**	**46**	PN	Pn	20 18 18.2	-0.6
PYZ				*e*SN	Sn	20 18 38.5	-0.1
PYZ	**Puysegur Point**	**1.63**	**46**	PN	Pn	20 18 18.3	-0.5
APZ	**The Paps**	**2.10**	**78**	PN	Pn	20 18 24.8	-0.5
APZ				SN	Sn	20 18 48.1	-2.2
APZ	**The Paps**	**2.10**	**78**	Pn	Pn	20 18 24.8	-0.5
DCZ	**Deep Cove**	**2.36**	**40**	PN	Pn	20 18 28.2	-0.8
DCZ				*e*SN	Sn	20 18 54.9	-1.9
DCZ	**Deep Cove**	**2.36**	**40**	Pn	Pn	20 18 28.0	-1.0
DCZ				Sn	Sn	20 18 57.4	+0.6
WHZ	**Wether Hill Ro**	**2.48**	**56**	PN	Pn	20 18 30.7	+0.2
WHZ				SN	Sn	20 18 59.0	-0.6
WHZ	**Wether Hill Ro**	**2.48**	**56**	Pn	Pn	20 18 30.7	+0.2
SYZ	**Scrubby Hill**	**2.94**	**76**	PN	Pn	20 18 37.5	+0.6
SYZ	**Scrubby Hill**	**2.94**	**76**	Pn	Pn	20 18 37.4	+0.4
MLZ	**Mavora Lakes**	**2.95**	**49**	PN	Pn	20 18 37.4	+0.4
MLZ	**Mavora Lakes**	**2.95**	**49**	Pn	Pn	20 18 37.7	+0.7
MSZ	**Milford Sound**	**3.34**	**39**	PN	Pn	20 18 43.8	+1.5
MSZ	**Milford Sound**	**3.34**	**39**	Pn	Pn	20 18 43.8	+1.5
TUZ	**Tuapeka**	**3.47**	**69**	PN	Pn	20 18 44.3	+0.1
TUZ	**Tuapeka**	**3.47**	**69**	Pn	Pn	20 18 44.3	+0.1
EAZ	**Earnscleugh**	**3.64**	**57**	PN	Pn	20 18 47.3	+0.7
EAZ	**Earnscleugh**	**3.64**	**57**	Pn	Pn	20 18 47.3	+0.7
WKZ	**Wanaka**	**3.74**	**50**	PN	Pn	20 18 49.2	+1.4
WKZ	**Wanaka**	**3.74**	**50**	Pn	Pn	20 18 49.6	+1.7
JCZ	**Jackson Bay**	**4.17**	**41**	PN	Pn	20 18 55.4	+1.6
JCZ	**Jackson Bay**	**4.17**	**41**	Pn	Pn	20 18 55.6	+1.8
ODZ	**Otahua Downs**	**4.53**	**62**	PN	Pn	20 18 57.2	-1.5
ODZ	**Otahua Downs**	**4.53**	**62**	Pn	Pn	20 18 57.2	-1.5
LBZ	**Lake Benmore**	**4.66**	**53**	PN	Pn	20 18 59.4	-1.0
LBZ	**Lake Benmore**	**4.66**	**53**	Pn	Pn	20 18 59.4	-1.0
FOZ	**Fox Glacier**	**4.99**	**43**	PN	Pn	20 19 06.6	+1.6
FOZ	**Fox Glacier**	**4.99**	**43**	Pn	Pn	20 19 06.6	+1.6
RPZ	**Rata Peaks**	**5.57**	**52**	*e*Pn	Pn	20 19 10.6	-2.4
RPZ				*e*Sn	Sn	20 20 09.8	-6.0

*IDC **23** 20:21:14.0±2.6, 36°.44N×142°.58E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=72.5km s-min=27.9km az=63.0*
*ISCJB **23** 20:21:16.4±2.0, 36°.50N±0°.04×142°.40E±0°.08, h23km±17km, mb3.5/4, Error ellipse: s-maj=11.2km s-min=6.0km az=25.4*
*JMA **23** 20:21:17.0±0.2, 36°.51N×142°.38E, h37km, M3.1*

ISC 23 20:21:16.5±2.0, 36°.51N±0°.04×142°.35E±0°.09, h11km±14km, n20, σ0°.86/28, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.38**	**296**	P	**Pn**	**20 21 41.2**	**-0.4**
JHO	**Hitachi**	**1.43**	**275**	P	**Pn**	**20 21 41.6**	**-0.8**
JHO				*e*S	**Sn**	**20 21 59.9**	**-1.3**
CHOJ	**Chosi**	**1.45**	**237**	P	**Pn**	**20 21 42.2**	**-0.3**
CHOJ				*e*S	**Sn**	**20 21 59.9**	**-1.6**
JFK	**Kawauchi**	**1.46**	**307**	P	**Pn**	**20 21 42.1**	**-0.6**
JFT	**Otama**	**1.90**	**303**	P	**Pn**	**20 21 48.9**	**+0.1**
JIO	**Ouri**	**2.10**	**338**	P	**Pn**	**20 21 50.6**	**-0.9**
BSO1	**Boso 1**	**2.16**	**211**	S	**Sn**	**20 22 19.3**	**+0.3**
JFY	**Yanaizu**	**2.30**	**294**	P	**Pn**	**20 21 55.6**	**+1.4**
JAG	**Ashikaga**	**2.33**	**269**	P	**Pn**	**20 21 54.6**	**-0.1**
JAG				*e*S	**Sn**	**20 22 22.8**	**-0.6**
JMK	**Ichinoseki**	**2.60**	**340**	P	**Pn**	**20 21 58.2**	**-0.2**
JMK				S	**Sn**	**20 22 29.4**	**-0.6**
JRY	**Ryogami san**	**2.83**	**261**	P	**Pn**	**20 22 01.3**	**-0.2**
JRY				S	**Sn**	**20 22 34.6**	**-0.9**
JYK	**Kaneyama**	**2.88**	**327**	P	**Pn**	**20 22 01.8**	**-0.4**
JOM	**Ohasama**	**3.08**	**345**	P	**Pn**	**20 22 04.7**	**-0.3**
JOM				*e*S	**Sn**	**20 22 42.2**	**+0.5**
JYN	**Shimob**	**3.24**	**253**	P	**Pn**	**20 22 07.7**	**+0.5**
JYN				*e*S	**Sn**	**20 22 47.7**	**+1.9**
MJAR	**Matsushiro Arr**	**3.33**	**272**	Pn	**Pn**	**20 22 09.5**	**+1.0**
	1.0nm,0.3s,baz=94,slow=8.1,SNR=17						
MAT	**Matsushiro**	**3.33**	**272**	P	**Pn**	**20 22 08.8**	**+0.3**
MAT				*e*S	**Sn**	**20 22 49.5**	**+1.4**
SONM	**Songino Array**	**28.70**	**305**	P	**P**	**20 27 14.8**	**+1.4**
	1.1nm,0.7s,mb3.7,baz=101,slow=8.9,SNR=8.5						
ZALV	**Zalesovo Beam**	**42.82**	**313**	P	**P**	**20 29 14.4**	**+0.3**
	0.3nm,0.4s,mb3.4,baz=76,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**45.03**	**303**	P	**P**	**20 29 33.0**	**+1.1**
	0.5nm,0.6s,mb3.5,baz=90,slow=8.6,SNR=6.3						
WRA	**Warramunga Arr**	**56.65**	**189**	P	**P**	**20 30 58.8**	**-0.9**
	0.4nm,0.8s,mb3.5,baz=7.6,slow=7.0,SNR=4.0						

*NIED **23** 20:25:00, 36°.50N×142°.40E, h11km, Mw4.3 Best double couple: M0=3.05000×10^15 NP1:φ=347.00000°, δ=77.00000°, λ=68.00000°. NP2:φ=227.00000°, δ=25.00000°, λ=148.00000°.*
*IDC **23** 20:25:43.8±0.9, 36°.51N×142°.49E, h0km, mb4.0/10, mb1 4.1/12, mb1mx4.0/24, mbtmp4.0/12, ML3.9/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/40, Error ellipse: s-maj=23.1km s-min=17.7km az=100.0*

*NEIC **23** 20:25:45.8±3.7, 36°.50N×142°.52E, h16km±22km, mb4.7/10, MW4.3(NIED), Error ellipse: s-maj=10.9km s-min=8.0km az=124.0*
*JMA **23** 20:25:45.9±0.1, 36°.49N×142°.44E, h48km, M4.0*
*ISCJB **23** 20:25:45.8±1.5, 36°.51N±0°.03×142°.41E±0°.05, h26km±10km, mb4.3/20, Error ellipse: s-maj=7.2km s-min=5.2km az=17.1*
*MOS **23** 20:25:46.2±0.9, 36°.58N×142°.55E, h33km, mb4.6/11, Error ellipse: s-maj=12.2km s-min=9.5km az=36.6*

ISC 23 20:25:46.6±1.6, 36°.52N±0°.03×142°.33E±0°.05, h16km±10km, n100, σ0°.89/111, mb4.3/20, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.36**	**296**	P	**Pn**	**20 26 10.1**	**-0.8**
JHO	**Hitachi**	**1.42**	**274**	⇑P	**Pn**	**20 26 11.0**	**-0.7**
JHO				S	**Sn**	**20 26 29.5**	**-0.6**
JFK	**Kawauchi**	**1.44**	**306**	P	**Pn**	**20 26 11.0**	**-1.0**
JFK				*e*S	**Sn**	**20 26 29.8**	**-0.7**
CHOJ	**Chosi**	**1.45**	**236**	P	**Pn**	**20 26 10.8**	**-1.3**
JMM	**Marumori**	**1.82**	**318**	P	**Pn**	**20 26 16.5**	**-0.7**
JFT	**Otama**	**1.88**	**302**	P	**Pn**	**20 26 18.4**	**+0.4**
JFT				S	**Sn**	**20 26 42.4**	**+1.0**
JIO	**Ouri**	**2.08**	**338**	P	**Pn**	**20 26 20.1**	**-0.7**
BSO1	**Boso 1**	**2.17**	**211**	P	**Pn**	**20 26 20.8**	**-1.2**
BSO1				*e*S	**Sn**	**20 26 47.8**	**-0.7**
JAG	**Ashikaga**	**2.32**	**268**	P	**Pn**	**20 26 23.9**	**-0.2**
JAG				S	**Sn**	**20 26 52.1**	**-0.2**
JMK	**Ichinoseki**	**2.58**	**340**	P	**Pn**	**20 26 27.6**	**-0.1**
JMK				S	**Sn**	**20 26 58.7**	**0.0**
JRY	**Ryogami san**	**2.82**	**261**	P	**Pn**	**20 26 30.6**	**-0.3**
JRY				S	**Sn**	**20 27 03.8**	**-0.7**
JYK	**Kaneyama**	**2.86**	**327**	P	**Pn**	**20 26 31.2**	**-0.3**
JOD2	**Odawara 2**	**2.92**	**245**	P	**Pn**	**20 26 32.1**	**-0.2**
JOM	**Ohasama**	**3.06**	**345**	P	**Pn**	**20 26 34.0**	**-0.2**
JOM				S	**Sn**	**20 27 09.8**	**-0.7**
JYN	**Shimob**	**3.24**	**253**	P	**Pn**	**20 26 37.4**	**+0.7**
MJAR	**Matsushiro Arr**	**3.32**	**272**	Pn	**Pn**	**20 26 38.4**	**+0.6**
	7.1nm,0.3s,baz=87,slow=8.3,SNR=70						
MJAR	**Matsushiro Arr**	**3.32**	**272**	Pn	**Pn**	**20 26 38.4**	**+0.6**
MJAR	**Matsushiro Arr**	**3.32**	**272**	P	**Pn**	**20 26 38.4**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MAJO	**Matsushiro**	**3.32**	**272**	*e*Pn	**Pn**	**20 26 38.8**	**+0.9**
MAJO	**Matsushiro**	**3.32**	**272**	*e*P	**Pn**	**20 26 38.8**	**+0.9**
MAT	**Matsushiro**	**3.32**	**272**	P	**Pn**	**20 26 38.9**	**+1.0**
MAT				S	**Sn**	**20 27 15.4**	**-1.6**
MAT	**Matsushiro**	**3.32**	**272**	P	**Pn**	**20 26 39.2**	**+1.3**
ASAJ	**Asahikawa**	**7.59**	**1**	Pn	**Pn**	**20 27 35.2**	**-1.2**
	comp=Z,2.2nm,0.3s,baz=220,slow=16,SNR=12						
ASAJ				Sn	**Sn**	**20 29 01.2**	**-0.8**
	comp=Z,2.4nm,0.3s,baz=328,slow=30,SNR=7.4						
ASAJ				LR	LR	20 31 35.2	
	comp=Z,297nm,18.6s,baz=154,slow=46						
ASAJ	**Asahikawa**	**7.59**	**1**	Pn	**Pn**	**20 27 35.2**	**-1.2**
ASAJ				Sn	**Sn**	**20 29 01.2**	**-0.8**
ASAJ	**Asahikawa**	**7.59**	**1**	P	**Pn**	**20 27 35.3**	**-1.1**
ASAJ						20 29 01.2	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.97**	**19**	*e*P	**Pn**	**20 27 38.1**	**-3.6**
YUK				*e*S	**Sn**	**20 29 03.4**	**-8.1**
YUK				pmax	pmax		
	comp=N,16nm,0.4s						
YUK				pmax	pmax		
	comp=E,17nm,0.4s						
YUK				pmax	pmax		
	comp=Z,30nm,0.4s						
USRK	**Ussuriysk Arra**	**10.99**	**317**	Pn	**Pn**	**20 28 26.4**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=97,slow=13,SNR=4.0						
USRK				LR	LR	20 32 43.3	
	comp=Z,106nm,19.0s,baz=338,slow=38						
KSRS	**Korea Array**	**11.56**	**279**	Pn	**Pn**	**20 28 34.9**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=94,slow=13,SNR=12						
KSRS				LR	LR	20 33 26.1	
	comp=Z,195nm,18.1s,baz=160,slow=39						
KSRS	**Korea Array**	**11.56**	**279**	P	**Pn**	**20 28 34.9**	**+4.0**
KSAR	**Wonju Array Be**	**11.59**	**279**	Pn	**Pn**	**20 28 34.9**	**+3.5**
KSAR	**Wonju Array Be**	**11.59**	**279**	P	**Pn**	**20 28 34.9**	**+3.5**
ENH	**Enshi**	**28.03**	**267**	*e*P	**P**	**20 31 36.5**	**-0.5**
	comp=Z,14nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**28.25**	**305**	*e*P	**P**	**20 31 39.3**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**28.25**	**305**	*e*P	**P**	**20 31 39.3**	**+0.5**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
BOD	**Bodaibo**	**28.35**	**328**	*e*P	**P**	**20 31 42.6**	**+3.0**
SONM	**Songino Array**	**28.68**	**305**	P	**P**	**20 31 43.7**	**+1.1**
	comp=Z,7.3nm,0.8s,mb4.5,baz=103,slow=8.9,SNR=49						
SONM	**Songino Array**	**28.68**	**305**	P	**P**	**20 31 43.7**	**+1.1**
SONM	**Songino Array**	**28.68**	**305**	P	**P**	**20 31 43.7**	**+1.1**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**42.09**	**257**	P	**P**	**20 33 38.4**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.4,baz=44,slow=7.4,SNR=8.2						
CMAR	**Chiang Mai Arr**	**42.09**	**257**	P	**P**	**20 33 38.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**42.09**	**257**	P	**P**	**20 33 38.4**	**+0.5**
ZAA0	**Zalesovo Array**	**42.80**	**313**	*e*P	**P**	**20 33 43.5**	**+0.2**
ZALV	**Zalesovo Beam**	**42.80**	**313**	P	**P**	**20 33 43.9**	**+0.6**
	comp=Z,2.0nm,0.6s,mb4.0,baz=91,slow=7.8,SNR=12						
ZALV	**Zalesovo Beam**	**42.80**	**313**	P	**P**	**20 33 43.9**	**+0.6**
ZALV	**Zalesovo Beam**	**42.80**	**313**	P	**P**	**20 33 43.9**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LSA	**Lhasa**	**42.99**	**276**	*e*P	**P**	**20 33 45.5**	**+0.3**
LSA	**Lhasa**	**42.99**	**276**	*e*P	**P**	**20 33 45.5**	**+0.3**
MK31	**Makanchi Array**	**45.01**	**303**	*e*P	**P**	**20 34 01.0**	**-0.1**
MK31	**Makanchi Array**	**45.01**	**303**	*e*P	**P**	**20 34 01.0**	**-0.2**
MKAR	**Makanchi Array**	**45.01**	**303**	P	**P**	**20 34 01.6**	**+0.4**
	comp=Z,3.9nm,0.7s,mb4.3,baz=90,slow=10,SNR=19						
MKAR	**Makanchi Array**	**45.01**	**303**	P	**P**	**20 34 01.6**	**+0.5**
MKAR	**Makanchi Array**	**45.01**	**303**	P	**P**	**20 34 01.6**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TAPN	**Taplejung**	**46.72**	**275**	*e*P	**P**	**20 34 16.3**	**+1.4**
TAPN	**Taplejung**	**46.72**	**275**	*e*P	**P**	**20 34 16.3**	**+1.4**
KURK	**Kurchatov**	**46.83**	**309**	*e*P	**P**	**20 34 14.8**	**-0.6**
	comp=Z,6.2nm,0.8s,mb4.6						
KURK	**Kurchatov**	**46.83**	**309**	*e*P	**P**	**20 34 14.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ODAN	**Odare**	**47.18**	**275**	*e*P	**P**	**20 34 18.8**	**+0.3**
ODAN	**Odare**	**47.18**	**275**	*e*P	**P**	**20 34 18.8**	**+0.3**
RAMN	**Ramite**	**47.78**	**275**	*e*P	**P**	**20 34 23.7**	**+0.5**
	comp=Z,28nm,1.0s,mb5.3						
RAMN	**Ramite**	**47.78**	**275**	*e*P	**P**	**20 34 23.7**	**+0.5**
	comp=Z,28nm,1.0s,mb5.2						
JIRN	**Jiri**	**47.80**	**276**	*e*P	**P**	**20 34 25.0**	**+1.7**
JIRN	**Jiri**	**47.80**	**276**	*e*P	**P**	**20 34 25.0**	**+1.7**
GUN	**Gumba**	**47.94**	**277**	*e*P	**P**	**20 34 26.5**	**+2.1**
GUN	**Gumba**	**47.94**	**277**	*e*P	**P**	**20 34 26.5**	**+2.1**
KKN	**Kakani**	**48.47**	**277**	*e*P	**P**	**20 34 29.8**	**+1.3**
	comp=Z,7.9nm,0.7s,mb4.8						
KKN	**Kakani**	**48.47**	**277**	*e*P	**P**	**20 34 29.8**	**+1.3**
	comp=Z,7.9nm,0.7s,mb4.8						
KKN	**Kakani**	**48.47**	**277**	*e*P	**P**	**20 34 29.8**	**+1.3**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
GKN	**Gorkha**	**48.90**	**277**	*e*P	**P**	**20 34 32.1**	**+0.3**
GKN	**Gorkha**	**48.90**	**277**	*e*P	**P**	**20 34 32.1**	**+0.3**
DANN	**Dangsing**	**49.45**	**278**	*e*P	**P**	**20 34 36.9**	**+0.9**
	comp=Z,17nm,0.7s,mb5.2						
DANN	**Dangsing**	**49.45**	**278**	*e*P	**P**	**20 34 36.9**	**+0.9**
	comp=Z,17nm,0.7s,mb5.2						
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**20 34 35.6**	**-0.5**
	comp=Z,1.2nm,0.9s,mb3.9,baz=270,slow=6.3,SNR=9.9						
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**20 34 35.6**	**-0.5**
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**20 34 35.7**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TKM2	**Tokmak 2**	**50.52**	**299**	*e*P	**P**	**20 34 44.5**	**+0.5**
	comp=Z,4.8nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**50.52**	**299**	*e*P	**P**	**20 34 44.5**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**51.38**	**299**	*e*P	**P**	**20 34 50.9**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**51.38**	**299**	*e*P	**P**	**20 34 50.9**	**+0.5**
AAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**56.66**	**189**	P	**P**	**20 35 27.1**	**-2.0**
WRA	**Warramunga Arr**	**56.66**	**189**	P	**P**	**20 35 28.8**	**-0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=7.5,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**56.66**	**189**	P	**P**	**20 35 28.8**	**-0.3**
WRA	**Warramunga Arr**	**56.66**	**189**	P	**P**	**20 35 28.8**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**57.23**	**319**	P	**P**	**20 35 32.7**	**-0.1**
ARU	**Arti**	**57.23**	**319**	P	**P**	**20 35 32.7**	**-0.1**
KBL	**Kabul**	**58.29**	**292**	*e*P	**P**	**20 35 40.4**	**-0.1**
	comp=Z,5.6nm,1.1s,mb4.5						
KBL	**Kabul**	**58.29**	**292**	*e*P	**P**	**20 35 40.4**	**-0.2**
KBL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
ABKAR	**Akbulak array**	**58.83**	**311**	*e*P	**P**	**20 35 43.8**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**60.39**	**189**	P	**P**	**20 35 54.7**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=1.8,slow=6.6,SNR=6.0						
ASAR	**Alice Springs**	**60.39**	**189**	P	**P**	**20 35 54.7**	**-0.3**
ASAR	**Alice Springs**	**60.39**	**189**	P	**P**	**20 35 54.7**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**63.88**	**30**	P	**P**	**20 36 17.4**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=301,slow=6.8,SNR=5.6						
YKA	**Yellowknife Ar**	**63.88**	**30**	P	**P**	**20 36 17.4**	**-0.6**
YKA	**Yellowknife Ar**	**63.88**	**30**	P	**P**	**20 36 17.4**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**69.61**	**333**	P	**P**	**20 36 55.0**	**+0.4**
	comp=Z,3.5nm,1.0s,mb4.3,baz=352,slow=2.9,SNR=3.6						
FINES	**FINESS Array B**	**69.61**	**333**	P	**P**	**20 36 55.0**	**+0.4**
FINES	**FINESS Array B**	**69.61**	**333**	P	**P**	**20 36 55.0**	**+0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GNI	**Garni**	**72.60**	**307**	LR	LR	21 09 24.4	
	comp=Z,276nm,18.9s,baz=255,slow=36						
AKASG	**Malin Array Be**	**75.15**	**323**	P	**P**	**20 37 28.1**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=46,slow=6.1,SNR=5.0						
AKASG	**Malin Array Be**	**75.15**	**323**	P	**P**	**20 37 28.1**	**+0.2**
AKASG	**Malin Array Be**	**75.15**	**323**	P	**P**	**20 37 28.1**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

JMA 23 20:47:24.9±0.1, 43°.81N×144°.86E, h9km±3km, M3.6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.23**	**56**	P	Pg	20 47 29.4	-0.1
JRA				*e*S	Sg	20 47 32.8	+0.1
JNK	**Nakash**	**0.25**	**205**	P	Pg	20 47 29.8	-0.1
JNK				*e*S	Sg	20 47 33.1	-0.1

*JMA **23** 20:49:43.2±0.2, 36°.48N×142°.43E, h59km, M3.1*
*ISCJB **23** 20:49:44.0±0.9, 36°.50N±0°.03×142°.38E±0°.08, h33km, mb3.7/3, Error ellipse: s-maj=9.3km s-min=4.1km az=13.3*
*IDC **23** 20:49:46.0±2.4, 37°.01N×141°.97E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/24, mbtmp3.5/5, Error ellipse: s-maj=66.3km s-min=26.2km az=59.0*

ISC 23 20:49:45.1±0.9, 36°.49N±0°.03×142°.38E±0°.08, h35km, n22, σ0°.91/32, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.41**	**296**	P	**Pn**	**20 50 07.4**	**-0.9**
ONAJ				*e*S	**Sn**	**20 50 23.7**	**-1.9**
CHOJ	**Chosi**	**1.46**	**238**	P	**Pn**	**20 50 08.2**	**-0.8**
CHOJ				*e*S	**Sn**	**20 50 25.4**	**-1.4**
JHO	**Hitachi**	**1.46**	**275**	P	**Pn**	**20 50 08.1**	**-0.9**
JHO				*e*S	**Sn**	**20 50 26.6**	**-0.3**
JFK	**Kawauchi**	**1.49**	**306**	P	**Pn**	**20 50 08.2**	**-1.2**
JMM	**Marumori**	**1.87**	**318**	P	**Pn**	**20 50 13.6**	**-1.0**
JFT	**Otama**	**1.93**	**303**	P	**Pn**	**20 50 15.5**	**+0.1**
JIO	**Ouri**	**2.13**	**338**	P	**Pn**	**20 50 17.3**	**-0.8**
JIO				S	**Sn**	**20 50 42.9**	**-0.4**
BSO1	**Boso 1**	**2.16**	**212**	P	**Pn**	**20 50 17.5**	**-1.1**
BSO1				*e*S	**Sn**	**20 50 44.8**	**+0.7**
BSO3	**Boso 3**	**2.27**	**223**	P	**Pn**	**20 50 19.6**	**-0.5**
BSO3				*e*S	**Sn**	**20 50 48.6**	**+1.8**
JFY	**Yanaizu**	**2.33**	**294**	P	**Pn**	**20 50 21.5**	**+0.6**
JAG	**Ashikaga**	**2.36**	**269**	P	**Pn**	**20 50 21.4**	**+0.1**
JMK	**Ichinoseki**	**2.63**	**340**	P	**Pn**	**20 50 24.8**	**-0.2**
JMK				*e*S	**Sn**	**20 50 56.3**	**+0.7**
JRY	**Ryogami san**	**2.85**	**262**	P	**Pn**	**20 50 27.8**	**-0.3**
JRY				*e*S	**Sn**	**20

comp=Z,62nm,0.4s
KK31 Karatay Array 6.69 359 Pn **Pn 20 53 54.2 +0.6**
comp=Z,21nm,0.3s,baz=187,slow=12,SNR=662
KK31 Sn **Sn 20 55 05.9 -3.8**
comp=Z,43nm,0.4s,baz=186,slow=22,SNR=10.0
KKAR Karatay Array 6.69 359 *e*Pn **Pn 20 53 54.0 +0.3**
comp=Z,75nm,0.3s
KKAR Karatay Array 6.69 359 *e*PN **Pn 20 53 54.0 +0.3**
KKAR pmax pmax
comp=Z,75nm,0.3s
AAK Ala-Archa 6.86 24 P **Pn 20 53 57.1 +1.1**
SNR=97
AAK P 20 53 57.1
SNR=97
AAK Ala-Archa 6.86 24 *e*Pn **Pn 20 53 56.6 +0.7**
comp=Z,317nm,0.3s
AAK *e*Sn **Sn 20 55 07.5 -6.4**
AAK Ala-Archa 6.86 24 *d* PN **Pn 20 53 57.0 +1.0**
BHK Bhakra 6.87 135 *e*S **Sn 20 55 08.6 -5.5**
KBK Karagaybulak 7.04 26 P **Pn 20 53 59.6 +1.3**
SNR=62
KBK P 20 53 59.6
SNR=62
ULHL Ulahol 7.22 35 P **Pn 20 54 01.7 +1.0**
SNR=76
ULHL P 20 54 01.7
SNR=76
CHMS Chumysh 7.27 24 P **Pn 20 54 01.8 +0.4**
SNR=74
CHMS P 20 54 01.8
SNR=74
USP Ospenovka 7.44 22 P **Pn 20 54 03.4 -0.1**
SNR=114
USP P 20 54 03.4
SNR=114
TKM2 Tokmak 2 7.51 29 P **Pn 20 54 05.3 +0.9**
SNR=124
TKM2 P 20 54 05.3
SNR=124
TKM2 Tokmak 2 7.51 29 ⇓Pn **Pn 20 54 05.2 +0.8**
comp=Z,73nm,0.5s
TKM2 ⇑Sn **Sn 20 55 23.1 -6.1**
comp=Z,37nm,0.9s
TKM2 Tokmak 2 7.51 29 *e*Pn **Pn 20 54 05.1 +0.7**
comp=Z,132nm,0.6s
TKM2 Tokmak 2 7.51 29 *i* PN **Pn 20 54 05.3 +0.9**
SMLA Simla 7.51 133 *i* P **Pn 20 54 03.7 -0.9**
SMLA *i* S **Sn 20 55 24.9 -4.6**
SMLA *i* S **Sn 20 55 24.9 -4.5**
SMLA ⇓AML AML 20 55 28.8
comp=N,3μm,0.4s
SMLA AML AML 20 55 29.5
comp=E,3μm,0.5s
KNDC Almaty 8.32 33 ⇓Pn **Pn 20 54 16.3 +1.3**
comp=E,69nm,0.5s
KNDC ⇑Sn **Sn 20 55 43.9 -4.5**
comp=E,22nm,0.7s
KHET Khetri 9.36 151 *e*x **Pn 20 54 27.3 -1.3**
KHET *e*S **Sn 20 56 06.5 -6.8**
KHET AML AML 20 56 09.8
comp=N,193nm,0.4s
KHET AML AML 20 56 10.1
comp=E,199nm,0.5s
AYAN Aya Nagar 9.57 144 *e*PKP **Pn 20 54 30.8 -0.7**
SONA Sohna 9.75 145 *e*PKP **Pn 20 54 33.2 -0.5**
SONA *e*S **Sn 20 56 14.9 -7.8**
AJM Ajmer 10.45 160 *e*x **Pn 20 54 41.0 -1.9**
AJM *e*S **Sn 20 56 31.0 -8.4**
AGRA Agra 11.01 144 *e*S **Sn 20 56 43.6 -9.3**
AGRA AML AML 20 56 50.2
comp=N,126nm,0.3s
AGRA AML AML 20 56 50.7
comp=E,148nm,0.3s
MK31 Makanchi Array 13.49 36 ⇓Pn **Pn 20 55 21.8 +0.5**
comp=E,5.0nm,0.7s,baz=212,slow=11,SNR=82
MK31 ⇓Sn **Sn 20 57 55.9 +4.2**
comp=E,6.7nm,1.1s
MK31 Makanchi Array 13.49 36 *e*Pn **Pn 20 55 20.4 -0.9**
MK31 Makanchi Array 13.49 36 *e*P **Pn 20 55 20.4 -1.0**
MKAR Makanchi Array 13.49 36 P **Pn 20 55 21.8 +0.4**
comp=E,0.4nm,0.3s,baz=223,slow=16,SNR=25
MKAR S **Sn 20 57 57.0 +5.3**
baz=206,slow=19,SNR=3.3
MKAR Makanchi Array 13.49 36 P **Pn 20 55 21.8 +0.4**
MKAR S **Sn 20 57 57.0 +5.3**
MKAR Makanchi Array 13.49 36 P **Pn 20 55 21.8 +0.4**
DANN Dangsing 13.62 122 *e*P **Pn 20 55 22.3 -0.9**
comp=E,32nm,0.5s
DANN *e*S **Sn 20 57 44.1 -11**
DANN Dangsing 13.62 122 *e*P **Pn 20 55 22.3 -0.9**
comp=E,32nm,0.5s
DANN *e*S **Sn 20 57 44.1 -11**
KOLN Koldanda 13.89 125 *e*P **Pn 20 55 25.9 -0.6**
comp=E,13nm,0.4s
KOLN *e*S **Sn 20 57 52.4 -9.2**
KOLN Koldanda 13.89 125 *e*P **Pn 20 55 25.9 -0.6**
comp=E,13nm,0.4s
KOLN *e*S **Sn 20 57 52.4 -9.2**
BHPL Bhopal 14.35 154 *e*PKP **Pn 20 55 34.1 +1.9**
BHPL *e*x x 20 58 02.6
GKN Gorkha 14.44 122 *e*P **Pn 20 55 33.0 -0.3**
comp=E,60nm,0.6s
GKN *e*S **Sn 20 58 02.8 -12**
GKN Gorkha 14.44 122 *e*P **Pn 20 55 33.0 -0.3**
comp=E,60nm,0.6s
GKN *e*S **Sn 20 58 02.8 -12**
DMN Daman 15.01 122 *e*P **Pn 20 55 40.3 0.0**
comp=E,44nm,0.7s
DMN *e*S **S 20 58 17.6 -10**
DMN Daman 15.01 122 *e*P **Pn 20 55 40.3 0.0**
comp=E,44nm,0.7s
DMN *e*S **S 20 58 17.6 -10**
KKN Kakani 15.02 121 *e*P **Pn 20 55 40.1 -0.3**
comp=E,62nm,0.6s
KKN *e*S **S 20 58 15.5 -12**
KKN Kakani 15.02 121 *e*P **Pn 20 55 40.1 -0.3**
comp=E,62nm,0.6s
KKN *e*S **S 20 58 15.5 -12**
KKN Kakani 15.02 121 *e*P **Pn 20 55 40.1 -0.3**
KKN *e*S **S 20 58 15.5 -12**
KKN pmax pmax
comp=Z,62nm,0.6s
AB31 Akbulak array 15.06 332 ⇑Pn **Pn 20 55 37.9 -2.7**
comp=Z,9.3nm,0.7s,baz=149,slow=12,SNR=118
AB31 ⇑Sn **Sn 20 58 22.8 -6.2**
comp=Z,2.4nm,0.5s,baz=153,slow=24,SNR=3.8
ABKAR Akbulak array 15.06 332 *e*Pn **Pn 20 55 38.9 -1.8**
comp=Z,8.0nm,0.6s
ABKAR *e*Sn **Sn 20 58 13.5 -16**
PKI Pulchoki 15.24 121 *e*P **Pn 20 55 42.9 -0.3**
comp=Z,103nm,0.8s
PKI Pulchoki 15.24 121 *e*P **Pn 20 55 42.9 -0.3**
comp=Z,103nm,0.8s
PKI Pulchoki 15.24 121 *e*P **Pn 20 55 42.9 -0.3**
PKI pmax pmax
comp=Z,103nm,0.8s
KURBB Kurchatov Arra 15.28 19 ⇑Pn **Pn 20 55 42.4 -1.0**
comp=Z,1.1nm,0.7s
KURBB ⇑Sn **Sn 20 58 32.3 -1.9**
comp=Z,1.8nm,0.8s
GUN Gumba 15.36 119 *e*P **Pn 20 55 44.6 0.0**
comp=Z,61nm,0.7s
GUN Gumba 15.36 119 *e*P **Pn 20 55 44.6 0.0**
comp=Z,61nm,0.7s
KURK Kurchatov 15.39 19 P **Pn 20 55 41.9 -2.8**
comp=Z,0.3nm,0.3s,baz=209,slow=9.7,SNR=31
KURK Kurchatov 15.39 19 ⇓Pn **Pn 20 55 43.4 -1.2**
comp=Z,3.6nm,0.8s
KURK ⇓Sn **Sn 20 58 34.3 -2.5**
comp=Z,10.0nm,1.1s
KURK Kurchatov 15.39 19 P **Pn 20 55 41.9 -2.8**
KURK *e*S **S 20 58 31.1 -4.2**
KURK Kurchatov 15.39 19 ⇑*e*P **Pn 20 55 43.8 -0.8**
KURK pmax pmax
comp=Z,8.0nm,1.7s
JIRN Jiri 15.73 119 *e*P **Pn 20 55 49.4 +0.3**
comp=Z,84nm,0.7s
JIRN Jiri 15.73 119 *e*P **Pn 20 55 49.4 +0.3**
comp=Z,84nm,0.7s
RAMN Ramite 16.46 120 *e*P **Pn 20 55 57.7 -0.1**
comp=Z,39nm,0.7s
RAMN Ramite 16.46 120 *e*P **Pn 20 55 57.7 -0.1**
comp=Z,39nm,0.7s
ZRNK Zerenda 16.58 356 ⇓Pn **Pn 20 55 59.5 +0.5**
comp=Z,4.6nm,0.8s
ZRNK ⇑Sn **S 20 59 00.6 -0.8**

comp=Z,15nm,1.4s
BVA0 Borovoye Array 16.61 359 Pn **Pn 20 55 59.6 +0.1**
comp=Z,0.7nm,0.7s,baz=164,slow=12,SNR=64
BVA0 ⇑Sn **S 20 59 02.4 +0.4**
comp=Z,2.9nm,1.2s
BVAR Borovoye Array 16.61 359 P **Pn 20 55 59.6 +0.1**
comp=Z,1.4nm,0.3s,baz=154,slow=10.0,SNR=48
BVAR S **S 20 59 02.8 +0.8**
baz=169,slow=18,SNR=6.2
BVAR Borovoye Array 16.61 359 P **Pn 20 55 59.6 +0.1**
BVAR S **S 20 59 02.8 +0.8**
BVAR Borovoye Array 16.61 359 P **Pn 20 55 59.6 +0.2**
BVAR S **S 20 59 02.8 +0.8**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 16.65 359 ⇓Pn **Pn 20 55 59.9 +0.1**
comp=Z,15nm,1.2s
BRVK ⇑Sn **S 20 59 00.5 -2.2**
comp=Z,34nm,1.3s
BRVK Borovoye 16.65 359 *e*P **Pn 20 55 59.4 -0.5**
comp=Z,5.8nm,0.7s
BRVK Borovoye 16.65 359 *ce*P **Pn 20 56 00.1 +0.3**
BRVK pmax pmax
comp=Z,11nm,1.2s
AKTO Aktyubinsk 16.75 331 P **Pn 20 56 01.4 +0.3**
comp=Z,1.7nm,0.3s,baz=145,slow=9.5,SNR=61
AKTO S **S 20 59 01.9 -2.9**
comp=Z,0.2nm,0.3s,baz=252,slow=19,SNR=3.7
AKTO Aktyubinsk 16.75 331 ⇑Pn **Pn 20 56 00.2 -0.9**
comp=Z,4.3nm,0.9s
AKTO ⇓Sn **S 20 59 03.6 -1.2**
comp=Z,1.4nm,1.2s
AKTO Aktyubinsk 16.75 331 P **Pn 20 56 01.4 +0.3**
AKTO S **S 20 59 01.9 -2.9**
AKTO Aktyubinsk 16.75 331 P **Pn 20 56 01.4 +0.3**
AKTO S **S 20 59 01.9 -2.9**
AKTO pmax pmax
comp=Z,2.0nm,0.3s
TAPN Taplejung 17.00 117 *e*P **Pn 20 56 05.2 +0.9**
comp=Z,23nm,0.7s
ODAN Odare 17.07 119 *e*P **Pn 20 56 05.7 +0.6**
comp=Z,43nm,0.7s
ODAN Odare 17.07 119 *e*P **Pn 20 56 05.7 +0.6**
comp=Z,43nm,0.7s
POO Poona 18.02 170 ⇑*i*P **P 20 56 15.0 +0.8**
POO *e*x x 20 59 34.0
LSA Lhasa 18.36 106 *e*P **P 20 56 21.7 +3.8**
comp=Z,3.7nm,0.8s
LSA Lhasa 18.36 106 *e*P **P 20 56 21.7 +3.8**
LSA pmax pmax
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 20.09 25 *e*P **P 20 56 36.0 -0.2**
ZAA0 *e*S **S 21 00 06.5 -4.3**
ZALV Zalesovo Beam 20.09 25 P **P 20 56 36.4 +0.2**
comp=Z,9.5nm,0.4s,baz=219,slow=11,SNR=67
ZALV S **S 21 00 09.3 -1.5**
comp=Z,2.3nm,0.7s,baz=212,slow=19,SNR=6.2
ZALV Zalesovo Beam 20.09 25 P **P 20 56 36.4 +0.2**
ZALV S **S 21 00 09.3 -1.5**
ZALV Zalesovo Beam 20.09 25 P **P 20 56 36.4 +0.3**
ZALV S **S 21 00 09.3 -1.5**
ZALV pmax pmax
comp=Z,10.0nm,0.4s
ZALV smax
comp=N,2.0nm,0.7s
HYB Hyderabad 20.15 158 *i* P **P 20 56 37.0 -0.1**
HYB *e*S **S 21 00 12.0 -0.6**
NVS Novosibirsk 20.34 21 *e*P **P 20 56 39.0 +0.1**
NVS *e* 20 57 38.4
NVS *e*S **S 21 00 14.1 -1.6**
NVS pmax pmax
comp=Z,16nm,0.7s
NVS pmax pmax
comp=N,13nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.6s
NVS smax
comp=N,12nm,1.0s
NVS smax
comp=E,29nm,1.3s
MIB Mutribah 20.65 258 *e*P **P 20 56 42.6 +0.2**
MIB AMb AMB 20 56 45.5
comp=Z,40nm,0.8s
GNI Garni 20.71 288 P **P 20 56 46.1 +3.1**
comp=Z,1.3nm,0.3s,baz=164,slow=23,SNR=3.6
GNI Garni 20.71 288 *e*P **P 20 56 45.1 +2.2**
comp=Z,23nm,1.3s
GNI Garni 20.71 288 ⇓*e*P **P 20 56 47.1 +4.1**
GNI pmax pmax
comp=Z,16nm,1.2s
RDF Al-Radifah 20.86 256 *e*P **P 20 56 44.6 0.0**
RDF AMb AMB 20 56 47.4
comp=Z,24nm,0.6s
NAY Al-Naaiem 20.96 257 *e*P **P 20 56 45.8 +0.2**
NAY AMb AMB 20 56 48.5
comp=Z,27nm,1.1s
SVE Sverdlovsk 21.52 345 *e*P **P 20 56 52.1 +0.8**
SVE pmax pmax
comp=Z,16nm,1.4s,mb4.4
ARU Arti 21.65 341 *e*P **P 20 56 53.0 +0.4**
comp=Z,27nm,0.8s,mb4.8
ARU Arti 21.65 341 *d*/*i*P **P 20 56 53.5 +0.9**
ARU *e* 20 57 26.6
ARU S **S 21 00 37.7 -1.0**
ARU pmax pmax
comp=Z,42nm,1.2s,mb4.8
GTA Gaotai 23.10 74 P **P 20 57 08.5 +2.2**
GTA pP 20 57 50.8
GTA sP sP 20 58 13.1 +7.1
GTA pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
MDRS Chennai 24.77 157 *e*x x 21 02 31.2
MDRS *e*x x 21 05 52.2
MDRS *e*x x 21 13 46.2
ANN Anapa 26.49 299 *e*P Px 20 57 47.6
ANN pmax pmax
comp=Z,27nm,1.2s,mb4.8
CD2 Chengdu 27.95 92 *e*P **P 20 57 52.1 +2.1**
CD2 pP pP 20 58 30.8 +1.3
CD2 PP PP 20 58 50.9 -6.2
CD2 S **S 21 02 20.8 +1.3**
CD2 sS sS 21 03 29.3 -0.6
CD2 SS SS 21 04 00.8 -25
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
CD2 pmax pmax
comp=Z,30nm,5.2s
SONM Songino Array 28.57 55 P **P 20 57 55.6 +0.3**
comp=Z,0.7nm,0.6s,mb3.5,baz=264,slow=8.1,SNR=3.9
SONM Songino Array 28.57 55 P **P 20 57 55.6 +0.3**
SONM Songino Array 28.57 55 P **P 20 57 55.6 +0.3**
ULN Ulaanbaatar 29.01 55 P **P 20 57 59.5 +0.3**
ULN Ulaanbaatar 29.01 55 P **P 20 57 59.5 +0.3**
BRTR Keskin Array B 29.25 288 P **P 20 58 02.4 +0.9**
comp=Z,0.7nm,0.7s,mb3.4,baz=134,slow=8.7,SNR=3.8
BRTR Keskin Array B 29.25 288 P **P 20 58 02.4 +0.9**
BRTR Keskin Array B 29.25 288 P **P 20 58 02.4 +0.9**
KMI Kunming 29.59 103 P **P 20 58 07.4 +2.8**
KMI pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
OBN Obninsk 29.86 320 P **P 20 58 06.6 -0.1**
comp=Z,11nm,0.7s,mb4.6
OBN Obninsk 29.86 320 ⇓*i*P **P 20 58 07.4 +0.7**
OBN *e* 20 59 16.1
OBN *e* 21 00 58.4
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
CMAR Chiang Mai Arr 30.61 118 P **P 20 58 14.6 +1.0**
comp=Z,1.0nm,0.8s,mb3.5,baz=294,slow=7.9,SNR=10
CMAR Chiang Mai Arr 30.61 118 P **P 20 58 14.6 +1.0**
CMAR Chiang Mai Arr 30.61 118 P **P 20 58 14.6 +1.0**
KLMR Klimovskoe 31.45 331 *e*P **P 20 58 19.3 -1.2**
KLMR pmax pmax
comp=Z,23nm,1.5s,mb4.6
HHC Hu-ho-hao-te 32.00 69 *e*P **P 20 58 26.5 +0.9**
HHC PP PP 20 59 39.5 -2.4
HHC PcP PcP 21 01 15.3 +4.7
HHC S **S 21 03 21.9 -0.7**
HHC ScP ScP 21 04 38.6 +3.1
HHC pmax pmax
comp=Z,11nm,1.3s,mb4.2
HHC pmax pmax
comp=Z,130nm,5.4s
HHC LR LR
comp=N,570nm,8.3s

HHC LR LR
comp=E,470nm,10.1s
HHC LR LR
comp=Z,790nm,13.1s
GYA Guiyang 32.07 98 *e*P **P 20 58 29.4 +3.0**
GYA pP pP 20 59 09.6 +3.3
GYA sP sP 20 59 32.5 +3.9
GYA PP PP 20 59 44.0 +1.1
GYA S **S 21 03 25.1 +1.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
KIS Kishinev 32.67 302 *e*P **P 20 58 32.0 +0.6**
KIS Kishinev 32.67 302 *e*P **P 20 58 32.0 +0.6**
KIS *e* 20 59 40.0
AKASG Malin Array Be 32.83 309 P **P 20 58 32.8 +0.1**
comp=Z,2.2nm,0.5s,mb3.9,baz=78,slow=7.6,SNR=11
AKASG Malin Array Be 32.83 309 P **P 20 58 32.8 +0.1**
AKASG Malin Array Be 32.83 309 P **P 20 58 32.8 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 35.84 330 *e*P **P 20 58 59.1 +0.8**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.2
JOF Joensuu 35.84 330 *ep* **P 20 58 59.1 +0.8**
comp=Z,4.1nm,0.5s,mb4.2
FINES FINESS Array B 37.44 326 P **P 20 59 12.3 +0.4**
comp=Z,2.8nm,0.6s,mb4.0,baz=120,slow=10,SNR=19
FINES FINESS Array B 37.44 326 P **P 20 59 12.3 +0.4**
FINES FINESS Array B 37.44 326 P **P 20 59 12.3 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.6s
KEV Kevo 40.80 338 *e*P **P 20 59 39.8 +0.2**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
KEV Kevo 40.80 338 *ep* **P 20 59 39.8 +0.2**
comp=Z,6.4nm,0.8s,mb4.1
ARCES ARCESS Array B 41.15 338 P **P 20 59 42.9 +0.5**
comp=Z,9.7nm,0.7s,mb4.3,baz=115,slow=7.6,SNR=20
ARCES ARCESS Array B 41.15 338 P **P 20 59 42.9 +0.5**
ARCES ARCESS Array B 41.15 338 P **P 20 59 42.9 +0.5**
ARCES pmax pmax
comp=Z,10.0nm,0.7s
ARE0 ARCESS Array S 41.15 338 *e*P **P 20 59 43.2 +0.8**
KTK1 Kautokeino 41.61 336 *e*P **P 20 59 46.8 +0.6**
CN2 Changchun 41.84 62 *e*P **P 20 59 49.8 +1.4**
CN2 *es*P sP 21 00 57.8 +5.9
CN2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,12μm,12.0s
CN2 LR LR
comp=E,11μm,12.0s
CN2 LR LR
comp=Z,12μm,15.0s
BRG Berggiesshubel 42.51 308 *e*P **P 20 59 54.4 +0.7**
comp=Z,4.4nm,1.1s,mb3.8
BRG Berggiesshubel 42.51 308 *e*P **P 20 59 54.4 +0.7**
GERES GERESS Array B 42.80 305 P **P 20 59 56.0 -0.1**
comp=Z,0.2nm,0.5s,baz=77,slow=8.9,SNR=4.5
GERES PcP PcP 21 01 43.1 -0.4
comp=Z,0.3nm,0.7s,baz=87,slow=5.5,SNR=3.6
GERES GERESS Array B 42.80 305 P **P 20 59 56.0 -0.1**
GERES PcP PcP 21 01 43.1 -0.4
GERES GERESS Array B 42.80 305 P **P 20 59 56.0 -0.1**
GERES 21 01 43.2
TRO Tromso 43.26 336 AMS AMS 21 43 57.9
comp=Z,2μm,13.3s
MOR8 Moi Rana 43.79 331 *e*P **P 21 00 03.5 -0.2**
NB2 NORSAR Subarra 44.32 323 P **P 21 00 07.4 -0.6**
comp=Z,3.2nm,0.5s,mb3.9,baz=97,slow=7.9
NOA NORSAR Array B 44.32 323 P **P 21 00 07.8 -0.3**
comp=Z,3.4nm,0.6s,mb3.9,baz=97,slow=7.7,SNR=18
NOA NORSAR Array B 44.32 323 P **P 21 00 07.8 -0.3**
NOA NORSAR Array B 44.32 323 P **P 21 00 07.8 -0.2**
NOA pmax pmax
comp=Z,3.0nm,0.6s
HOPEN Hopen 45.03 346 AMS AMS 21 36 59.4
comp=Z,4μm,20.2s
LPG La Plagne 48.01 302 *e*P **P 21 00 37.0 0.0**
comp=Z,7.2nm,0.8s,mb3.8
LPG La Plagne 48.01 302 *e*P **P 21 00 37.0 0.0**
comp=Z,7.2nm,0.8s,mb4.0
LPG La Plagne 48.01 302 *e*P **P 21 00 37.0 0.0**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
LPL La Plagne 48.02 302 *e*P **P 21 00 36.2 -0.8**
LPL La Plagne 48.02 302 *e*P **P 21 00 36.2 -0.8**
LPL La Plagne 48.02 302 *e*P **P 21 00 36.2 -0.8**
MBDF Montbardon 48.17 301 *e*P **P 21 00 36.6 -1.6**
comp=Z,3.8nm,0.5s,mb3.6
MBDF Montbardon 48.17 301 *e*P **P 21 00 36.6 -1.6**
comp=Z,3.8nm,0.5s,mb4.0
MBDF Montbardon 48.17 301 *e*P **P 21 00 36.6 -1.6**
MBDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.0
CABF La Chapelle 48.22 303 *e*P **P 21 00 37.1 -1.5**
CABF La Chapelle 48.22 303 *e*P **P 21 00 37.1 -1.5**
CABF La Chapelle 48.22 303 *e*P **P 21 00 37.1 -1.5**
KEST Kesra 48.86 288 P **P 21 00 44.6 +1.0**
comp=Z,1.1nm,0.6s,mb3.3,baz=340,slow=3.3,SNR=9.3
KEST Kesra 48.86 288 P **P 21 00 44.6 +1.0**
SMF Signal de Mont 49.72 304 *e*P **P 21 00 48.9 -1.1**
SMF Signal de Mont 49.72 304 *e*P **P 21 00 48.9 -1.1**
SMF Signal de Mont 49.72 304 *e*P **P 21 00 48.9 -1.1**
EPF Esparros 53.10 300 *e*P **P 21 01 14.4 -0.7**
EPF Esparros 53.10 300 *e*P **P 21 01 14.4 -0.7**
EPF Esparros 53.10 300 *e*P **P 21 01 14.4 -0.7**
ETSF Etsaut 53.77 300 *e*P **P 21 01 19.4 -0.6**
comp=Z,4.4nm,0.6s,mb3.9
ETSF Etsaut 53.77 300 *e*P **P 21 01 19.4 -0.6**
comp=Z,4.4nm,0.6s,mb4.2
ETSF Etsaut 53.77 300 *e*P **P 21 01 19.4 -0.6**
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
SEY Seymchan 54.62 34 ⇑*i*P **P 21 01 26.6 +0.9**
DAG Danmarks Havn 54.76 344 *i* P **P 21 01 27.1 +0.5**
comp=Z,4.8nm,0.9s,mb4.0
ESDC Sonseca Array 57.31 298 P **P 21 01 45.2 +0.1**
comp=Z,0.9nm,0.5s,mb3.6,baz=63,slow=7.1,SNR=12
ESDC Sonseca Array 57.31 298 P **P 21 01 45.2 +0.1**
BILL Bilibino 58.78 26 ⇑*e*P **P 21 01 55.5 +0.5**
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
TORD Torodi Ar. Bea 65.50 269 P **P 21 02 38.8 -1.6**
comp=Z,5.0nm,0.6s,mb4.3,baz=49,slow=5.7,SNR=53
TORD Torodi Ar. Bea 65.50 269 P **P 21 02 38.8 -1.6**
INK Inuvik 74.03 9 P **P 21 03 31.5 -0.1**
comp=Z,5.4nm,0.8s,mb4.3,baz=345,slow=4.9,SNR=11
INK Inuvik 74.03 9 P **P 21 03 31.5 -0.1**
INK Inuvik 74.03 9 P **P 21 03 31.5 -0.1**
INK pmax pmax
comp=Z,5.0nm,0.8s
ILAR Eielson Array 74.93 16 P **P 21 03 36.2 -0.5**
comp=Z,2.2nm,0.9s,mb3.8,baz=316,slow=4.4,SNR=24
ILAR Eielson Array 74.93 16 P **P 21 03 36.2 -0.5**
ILAR Eielson Array 74.93 16 P **P 21 03 36.3 -0.5**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
BOSA Boshof 77.54 220 P **P 21 03 51.8 -0.1**
comp=Z,2.5nm,0.7s,mb4.0,baz=322,slow=9.7,SNR=4.8
BOSA Boshof 77.54 220 P **P 21 03 51.8 -0.1**
BOSA Boshof 77.54 220 P **P 21 03 51.8 -0.1**
BOSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
YKA Yellowknife Ar 81.35 3 P **P 21 04 11.8 -0.3**
comp=Z,3.6nm,0.6s,mb4.2,baz=349,slow=5.3,SNR=44
YKA Yellowknife Ar 81.35 3 P **P 21 04 11.8 -0.3**
YKA Yellowknife Ar 81.35 3 P **P 21 04 11.8 -0.3**
YKA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 82.13 122 P **P 21 04 15.3 -1.4**
comp=Z,1.5nm,0.7s,mb3.7,baz=327,slow=4.9,SNR=14
WRA Warramunga Arr 82.13 122 P **P 21 04 15.3 -1.4**
WRA Warramunga Arr 82.13 122 P **P 21 04 15.4 -1.4**
WRA pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 84.38 125 P **P 21 04 26.9 -1.3**
comp=Z,1.1nm,0.7s,mb3.7,baz=309,slow=4.7,SNR=17
ASAR Alice Springs 84.38 125 P **P 21 04 26.9 -1.3**
ASAR Alice Springs 84.38 125 P **P 21 04 27.0 -1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
QSPA South Pole Qui 126.21 180 PKP PKPdf 21 10 54.8 -0.8

comp=Z,1.0nm,0.3s,baz=180,slow=0.6
QSPA South Pole Qui 126.21 180 PKP PKPdf 21 10 54.8 -0.8

IDC ***23*** *20:56:44.8±1.6, 32.°34S×72.°43W, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.7/16, mbtmp3.6/6, ML3.8/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=42.4km s-min=24.6km az=105.0*
ISCJB ***23*** *20:56:46.4±0.9, 32.°35S±0.°03×72.°22W±0.°06, h19km±6km, mb3.7/2, Error ellipse: s-maj=8.7km s-min=4.9km az=161.1*
GUC ***23*** *20:56:47.9±0.7, 32.°39S×72.°06W, h5km±2km, MD4.2, ML4.0*
NEIC ***23*** *20:56:47.9, 32.°39S×72.°06W, h5km, mb4.1/2, ML4.0(GUC), After GUC.*
NEIC Felt [II] at La Ligua, Papudo and Puchuncavi.
ISC 23 20:56:47.1±0.9, 32.°35S±0.°03×72.°14W±0.°05, h12km±4km, n50, σ0.°86/76, mb3.7/2, 10C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.62**	**108**	⇑*iP*	**Pg**	**20 56 59.2**	**0.0**
PACH				*i*S	**Sg**	**20 57 07.5**	**+0.1**
PACH	**Papudo**	**0.62**	**108**	⇑*iP*	**Pg**	**20 56 59.2**	**0.0**
PACH				*i*S	**Sg**	**20 57 07.5**	**+0.1**
CHNG	**Los Chungos**	**0.71**	**50**	⇓*iP*	**Pg**	**20 57 01.8**	**+0.9**
CHNG				*i*S	**Sg**	**20 57 12.4**	**+2.2**
CHNG	**Los Chungos**	**0.71**	**50**	⇓*iP*	**Pg**	**20 57 01.8**	**+0.9**
CHNG				*i*S	**Sg**	**20 57 12.4**	**+2.2**
IHA	**Instituto Hidr**	**0.80**	**148**	⇓*iP*	**Pg**	**20 57 01.9**	**-0.6**
IHA				*i*S	**Sg**	**20 57 13.0**	**0.0**
IHA	**Instituto Hidr**	**0.80**	**148**	⇓*iP*	**Pg**	**20 57 01.9**	**-0.6**
IHA				*i*S	**Sg**	**20 57 13.0**	**0.0**
PTCH	**Petorca**	**1.03**	**86**	⇓*iP*	**Pg**	**20 57 06.2**	**-0.6**
PTCH				*i*S	**Sg**	**20 57 19.6**	**-0.6**
PTCH	**Petorca**	**1.03**	**86**	⇓*iP*	**Pg**	**20 57 06.2**	**-0.6**
PTCH				*i*S	**Sg**	**20 57 19.6**	**-0.6**
PTCH				AML	AML	20 57 22.0	
	comp=N,10μm,0.6s						
ROCH	**El Roble**	**1.14**	**124**	⇑*iP*	**Pb**	**20 57 07.6**	**-1.1**
ROCH				*i*S	**Sb**	**20 57 23.1**	**-0.3**
ROCH	**El Roble**	**1.14**	**124**	⇑*iP*	**Pb**	**20 57 07.6**	**-1.1**
ROCH				*i*S	**Sb**	**20 57 23.1**	**-0.3**
LCCH	**Las Cruces**	**1.22**	**157**	*e*P	**Pn**	**20 57 08.8**	**-1.1**
LCCH	**Las Cruces**	**1.22**	**157**	*e*P	**Pn**	**20 57 08.8**	**-1.1**
JACH	**Jahuel**	**1.35**	**105**	⇑*iP*	**Pn**	**20 57 11.0**	**-0.7**
JACH				*i*S	**Sb**	**20 57 28.2**	**-1.2**
JACH	**Jahuel**	**1.35**	**105**	⇑*iP*	**Pn**	**20 57 11.0**	**-0.7**
JACH				*i*S	**Sb**	**20 57 28.2**	**-1.2**
PEL	**Peldehue**	**1.46**	**123**	⇑*iP*	**Pn**	**20 57 12.8**	**-0.4**
PEL				*i*S	**Sn**	**20 57 31.7**	**-0.6**
PEL				AML	AML	20 57 38.7	
	comp=E,11μm,0.5s						
RCDM	**Rinconada Maip**	**1.60**	**136**	⇑*iP*	**Pn**	**20 57 14.9**	**-0.2**
RCDM				*e*S	**Sn**	**20 57 35.6**	**-0.1**
RCDM	**Rinconada Maip**	**1.60**	**136**	⇑*iP*	**Pn**	**20 57 14.9**	**-0.2**
RCDM				*e*S	**Sn**	**20 57 35.6**	**-0.1**
RCDM				AML	AML	20 57 39.1	
	comp=N,2μm,0.6s						
TACH	**Talagante**	**1.65**	**143**	*e*P	**Pn**	**20 57 16.1**	**+0.3**
TACH				*i*S	**Sn**	**20 57 36.5**	**-0.4**
TACH	**Talagante**	**1.65**	**143**	*e*P	**Pn**	**20 57 16.1**	**+0.3**
TACH				*i*S	**Sn**	**20 57 36.5**	**-0.4**
SAN	**Santiago**	**1.66**	**132**	*e*P	**Pn**	**20 57 15.9**	**-0.1**
SAN				*i*S	**Sn**	**20 57 37.2**	**-0.1**
SAN	**Santiago**	**1.66**	**132**	*e*P	**Pn**	**20 57 15.9**	**-0.1**
SAN				*i*S	**Sn**	**20 57 37.2**	**-0.1**
SAN				AML	AML	20 57 44.1	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**1.71**	**128**	*e*P	**Pn**	**20 57 16.9**	**+0.2**
CLCH				*i*S	**Sn**	**20 57 38.8**	**+0.4**
CLCH				AML	AML	20 57 43.2	
	comp=E,4μm,0.4s						
ANTU	**Antumapu**	**1.76**	**134**	*e*P	**Pn**	**20 57 17.7**	**+0.4**
ANTU				*i*S	**Sn**	**20 57 39.9**	**+0.3**
ANTU	**Antumapu**	**1.76**	**134**	*e*P	**Pn**	**20 57 17.7**	**+0.4**
ANTU				*i*S	**Sn**	**20 57 39.9**	**+0.3**
ANTU				AML	AML	20 57 47.1	
	comp=N,3μm,0.4s						
FSR	**Penalolen**	**1.76**	**130**	*e*P	**Pn**	**20 57 17.7**	**+0.3**
FSR				*e*S	**Sn**	**20 57 40.1**	**+0.4**
FSR	**Penalolen**	**1.76**	**130**	*e*P	**Pn**	**20 57 17.7**	**+0.3**
FSR				*e*S	**Sn**	**20 57 40.1**	**+0.4**
FCH	**Farellones**	**1.84**	**123**	⇑*iP*	**Pn**	**20 57 18.4**	**0.0**
FCH				*i*S	**Sn**	**20 57 42.8**	**+1.2**
FCH				AML	AML	20 57 45.3	
	comp=N,2μm,0.1s						
PCH	**Pirque**	**1.86**	**133**	*e*P	**Pn**	**20 57 19.2**	**+0.4**
PCH	**Pirque**	**1.86**	**133**	*e*P	**Pn**	**20 57 19.2**	**+0.4**
LMEL	**Las Melosas**	**2.21**	**133**	AML	AML	20 57 60.0	
	comp=N,2μm,0.3s						
CFAA	**Coronel Fontan**	**3.40**	**78**	Pn	**Pn**	**20 57 42.7**	**+2.9**
	comp=N,2.8nm,0.3s,baz=248,slow=12,SNR=44						
CFAA				Sn	**Sn**	**20 58 27.9**	**+7.9**
	comp=N,2.7nm,0.3s,baz=312,slow=24,SNR=4.2						
CFAA	**Coronel Fontan**	**3.40**	**78**	Pn	**Pn**	**20 57 42.7**	**+2.9**
CFAA				Sn	**Sn**	**20 58 27.9**	**+7.9**
LCO	**Las Campanas**	**3.55**	**21**	*e*Pn	**Pn**	**20 57 42.1**	**+0.2**
LCO				*e*Pb	**Pb**	**20 57 49.0**	**-0.7**
LCO				*e*Sn	**Sn**	**20 58 22.0**	**-1.8**
LCO				*e*Sg	**Sg**	**20 58 37.9**	**-3.1**
PLCA	**Paso Flores**	**8.47**	**172**	Pn	**Pn**	**20 58 49.4**	**-0.1**
	comp=N,0.4nm,0.3s,baz=309,slow=5.6,SNR=9.2						
PLCA				LR	LR	21 02 26.8	
	comp=N,93nm,19.5s,baz=136,slow=40						
PLCA	**Paso Flores**	**8.47**	**172**	Pn	**Pn**	**20 58 49.4**	**-0.1**
TRQA	**Tornquist**	**10.07**	**127**	*e*Pn	**Pn**	**20 59 12.8**	**+1.3**
	comp=N,5.5nm,0.8s						
LVC	**Limon Verde**	**10.11**	**17**	Pn	**Pn**	**20 59 19.2**	**+7.2**
	comp=N,5.9nm,0.7s						
LPAZ	**La Paz**	**16.39**	**14**	Pn	**Pn**	**21 00 38.7**	**+1.6**
	comp=N,0.1nm,0.3s,baz=196,slow=6.4,SNR=6.2						
LPAZ	**La Paz**	**16.39**	**14**	*e*Pn	**Pn**	**21 00 35.3**	**-1.8**
	comp=N,3.5nm,0.9s						
LPAZ				Pn	**Pn**	**21 00 38.7**	**+1.6**
SIV	**San Ignacio**	**19.13**	**34**	P	**Pn**	**21 01 10.8**	**-0.2**
	comp=N,0.2nm,0.3s,baz=223,slow=12,SNR=10						
SIV				LR	LR	21 09 57.8	
	comp=N,69nm,19.1s,slow=41						
SIV	**San Ignacio**	**19.13**	**34**	P	**Pn**	**21 01 10.8**	**-0.2**
NNA	**Nana**	**20.72**	**347**	P	**P**	**21 01 22.1**	**-5.2**
	comp=N,89nm,1.8s						
SNAA	**Sanae**	**53.15**	**158**	P	**P**	**21 06 04.8**	**+0.6**
	comp=N,0.5nm,0.7s,mb3.5,baz=247,slow=7.7,SNR=3.2						
SNAA	**Sanae**	**53.15**	**158**	P	**P**	**21 06 04.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**83.73**	**70**	P	**P**	**21 09 16.5**	**+0.2**
	comp=N,0.6nm,0.7s,mb3.9,baz=254,slow=3.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**83.73**	**70**	P	**P**	**21 09 16.5**	**+0.2**
ZALV	**Zalesovo Beam**	**152.86**	**30**	PKPbc	PKPbc	21 16 43.9	+0.5
	comp=N,0.5nm,0.5s,baz=274,slow=4.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**152.86**	**30**	PKPbc	PKPbc	21 16 43.9	+0.5
MKAR	**Makanchi Array**	**155.71**	**46**	PKPab	PKPab	21 17 07.1	+0.2
	comp=N,0.5nm,0.7s,baz=288,slow=5.9,SNR=4.0						
MKAR	**Makanchi Array**	**155.71**	**46**	PKPab	PKPab	21 17 07.1	+0.2

NIED ***23*** *20:57:00, 36.°50N×142.°50E, h11km, Mw5.3 Best double couple: M0 1.08000×10^17 NP1:φs 27.00000°, δ61.00000°, λ91.00000°. NP2:φs 204.00000°, δ29.00000°, λ87.00000°.*
DJA ***23*** *20:57:14, 37.°67N×144.°88E, h20km, mb5.3/45*
ISCJB ***23*** *20:57:18.9±0.7, 36.°47N±0.°02×142.°36E±0.°02, h5km±4km, mb5.1/186, MS5.4/55, Error ellipse: s-maj=3.9km s-min=2.3km az=172.9*
IDC ***23*** *20:57:19.2±0.4, 36.°44N×142.°44E, h0km, mb4.6/33, mb1 4.7/39, mb1mx4.7/42, mbtmp4.6/39, ML4.5/5, MS5.0/22, Ms1 5.0/22, ms1mx4.8/38, Error ellipse: s-maj=12.0km s-min=10.4km az=107.0*
BJI ***23*** *20:57:20.0, 36.°52N×142.°12E, h11km, mB5.5/50, mb5.0/60, Ms5.6/73, Ms7 5.5/66*
NEIC ***23*** *20:57:20.2±2.1, 36.°46N×142.°40E, h8km±12km, mb5.2/85, MW5.3(NIED), Error ellipse: s-maj=5.3km s-min=4.2km az=129.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi.
JMA ***23*** *20:57:20.3±0.2, 36.°48N×142.°49E, h39km, M5.5*
JMA Felt II J1.
MOS ***23*** *20:57:22.5±1.1, 36.°37N×142.°35E, h33km, mb5.3/78, MS5.3/25, Error ellipse: s-maj=7.7km s-min=4.4km az=118.5*
GCMT ***23*** *20:57:26.3±0.2, 36.°44N×142.°52E, h17km, MW5.4, Moment Tensor Solution. s65,c108; s99,c204; Moment tensor: Scale 10^17Nm; Mrr0.96±.03; Mθθ-0.20±.02; Mφφ-0.76±.02; Mrθ0.52±.05; Mrφ-0.45±.01; Mθφ1.24±.07; Best double couple: M0 1.70000×10^17 NP1:φs 215.00000°, δ18.00000°, λ100.00000°. NP2:φs 24.00000°, δ72.00000°, λ87.00000°. Principal axes: T 1.6400, Plg63.0000°, Azm289.0000°; N 0.0500, Plg3.0000°, Azm25.0000°; P -1.6900, Plg27.0000°, Azm117.0000°; Data Used: II IU IC G CN.*
ISC 23 20:57:20.8±0.9, 36.°47N±0.°02×142.°35E±0.°02, h7km±5km, h24km±1.5km: pP-P, n742, σ0.°97/759, mb5.1/186, MS5.4/55, 100C-95D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.39**	**297**	P	**Pn**	**20 57 45.3**	**-1.3**
CHOJ	**Chosi**	**1.43**	**238**	⇑P	**Pn**	**20 57 46.2**	**-0.8**
JHO	**Hitachi**	**1.44**	**276**	⇑P	**Pn**	**20 57 46.1**	**-1.1**
JHO				*e*S	**Sn**	**20 58 05.6**	**-0.7**
JFK	**Kawauchi**	**1.48**	**308**	P	**Pn**	**20 57 46.3**	**-1.5**
JMM	**Marumori**	**1.87**	**319**	P	**Pn**	**20 57 51.6**	**-1.5**
JFT	**Otama**	**1.92**	**304**	⇑P	**Pn**	**20 57 53.6**	**-0.2**
JFT				*e*S	**Sn**	**20 58 19.3**	**+1.1**
BSO1	**Boso 1**	**2.13**	**212**	P	**Pn**	**20 57 55.5**	**-1.2**
BSO3	**Boso 3**	**2.24**	**222**	P	**Pn**	**20 57 57.7**	**-0.5**
JAG	**Ashikaga**	**2.33**	**270**	⇑P	**Pn**	**20 57 58.9**	**-0.6**
JAG				*e*S	**Sn**	**20 58 27.2**	**-1.2**
JKT	**Katashina**	**2.51**	**278**	P	**Pn**	**20 58 02.2**	**+0.3**
JMK	**Ichinoseki**	**2.63**	**340**	P	**Pn**	**20 58 02.9**	**-0.7**
JNS	**Sasagawa**	**2.77**	**300**	P	**Pn**	**20 58 06.7**	**+1.2**
JRY	**Ryogami san**	**2.82**	**262**	P	**Pn**	**20 58 05.6**	**-0.6**
JRY				*e*S	**Sn**	**20 58 39.4**	**-1.0**
JYK	**Kaneyama**	**2.91**	**328**	P	**Pn**	**20 58 06.5**	**-0.9**
JOM	**Ohasama**	**3.11**	**345**	P	**Pn**	**20 58 09.2**	**-1.0**
JOM				*e*S	**Sn**	**20 58 47.3**	**-0.3**
JAW	**Awa shima**	**3.16**	**310**	P	**Pn**	**20 58 14.1**	**+3.2**
JRG	**Rokugo**	**3.22**	**336**	⇑P	**Pn**	**20 58 11.2**	**-0.5**
JYN	**Shimob**	**3.23**	**254**	P	**Pn**	**20 58 12.3**	**+0.4**
MJAR	**Matsushiro Arr**	**3.33**	**272**	Pn	**Pn**	**20 58 12.8**	**-0.4**
	44nm,0.3s,baz=89,slow=8.6,SNR=295						
MJAR				Sn	**Sn**	**20 58 54.6**	**+1.5**
	36nm,0.3s,baz=77,slow=25,SNR=6.5						
MJAR	**Matsushiro Arr**	**3.33**	**272**	Pn	**Pn**	**20 58 12.8**	**-0.4**
MJAR				Sn	**Sn**	**20 58 54.6**	**+1.5**
MJAR	**Matsushiro Arr**	**3.33**	**272**	P	**Pn**	**20 58 12.8**	**-0.5**
MJAR						20 58 54.6	
MJAR				pmax	pmax		
	comp=Z,44nm,0.3s						
MJAR				smax			
	comp=N,36nm,0.3s						
MAJO	**Matsushiro**	**3.34**	**272**	*e*Pn	**Pn**	**20 58 14.3**	**+1.0**
MAJO	**Matsushiro**	**3.34**	**272**	*e*P	**Pn**	**20 58 14.3**	**+1.0**
MAT	**Matsushiro**	**3.34**	**272**	P	**Pn**	**20 58 13.8**	**+0.5**
MAT				S	**Sn**	**20 58 53.2**	**+0.1**
MAT	**Matsushiro**	**3.34**	**272**	P	**Pn**	**20 58 14.3**	**+1.0**
JNG	**Nsakai**	**3.43**	**270**	P	**Pn**	**20 58 15.2**	**+0.7**
JSD	**Sado**	**3.62**	**297**	P	**Pn**	**20 58 17.0**	**-0.1**
JNY	**Yasuok**	**3.81**	**254**	P	**Pn**	**20 58 21.0**	**+1.3**
JTT	**Ttatey**	**4.04**	**273**	P	**Pn**	**20 58 25.9**	**+2.9**
JHG	**Hegura jima**	**4.55**	**289**	P	**Pn**	**20 58 31.7**	**+1.8**
ERM	**Erimo**	**5.57**	**6**	*e*Pn	**Pn**	**20 58 41.5**	**-2.5**
	comp=N,100nm,0.5s						
ERM				*e*Sn	**Sn**	**20 59 44.0**	**-4.2**
ERM	**Erimo**	**5.57**	**6**	*c iP*	**Pn**	**20 58 42.0**	**-2.0**
ERM	**Erimo**	**5.57**	**6**	Pn	**Pn**	**20 58 42.8**	**-1.2**
	comp=N,1μm,0.6s,SNR=25						
ASAJ	**Asahikawa**	**7.64**	**1**	Pn	**Pn**	**20 59 11.2**	**-1.1**
	comp=N,20nm,0.3s,baz=212,slow=9.9,SNR=64						
ASAJ				Sn	**Sn**	**21 00 36.0**	**-3.2**
	comp=N,5.2nm,0.3s,baz=307,slow=27,SNR=4.5						
ASAJ				LR	LR	21 03 02.7	
	comp=N,19μm,19.5s,baz=179,slow=45						
ASAJ	**Asahikawa**	**7.64**	**1**	*e*Pn	**Pn**	**20 59 10.8**	**-1.5**
	comp=N,34nm,0.6s						
ASAJ				*e*Sn	**Sn**	**21 00 30.9**	**-8.2**
ASAJ				Sn	**Sn**	**21 00 36.0**	**-3.2**
ASAJ	**Asahikawa**	**7.64**	**1**	P	**Pn**	**20 59 11.3**	**-1.1**
ASAJ						21 00 36.0	
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,19μm,19.5s						
YUK	**Yuzh-Kuril'sk**	**8.02**	**18**	*c iP*	**Pn**	**20 59 14.3**	**-3.2**
YUK				pmax	pmax		
	comp=E,136nm,0.5s						
YUK				pmax	pmax		
	comp=Z,210nm,0.5s						
YUK				pmax	pmax		
	comp=N,88nm,0.5s						
CBIJ	**Chichi jima**	**9.35**	**181**	Pn	**Pn**	**20 59 32.7**	**-3.2**
	comp=N,30nm,0.3s,baz=271,slow=22,SNR=7.2						
CBIJ				Sn	**Sn**	**21 01 10.6**	**-11**
	comp=N,33nm,0.3s,baz=0.0,slow=20,SNR=4.2						
CBIJ				LR	LR	21 02 51.7	
	comp=N,4μm,18.9s,baz=339,slow=36						
CBIJ	**Chichi jima**	**9.35**	**181**	Pn	**Pn**	**20 59 32.7**	**-3.2**
CBIJ				Sn	**Sn**	**21 01 10.6**	**-11**
JNU	**Nakatsue**	**10.01**	**254**	*e*Pn	**Pn**	**20 59 46.7**	**+1.8**
	comp=N,55nm,1.0s						
VLA	**Vladivostok**	**10.43**	**313**	⇓*e*P	**Pn**	**20 59 52.1**	**+1.6**
VLA				*e*S	**Sn**	**21 01 49.8**	**+2.3**
VLA				pmax	pmax		
	comp=Z,48nm,0.8s						
YSS	**Yuzh-Sakhalins**	**10.48**	**2**	*e*Pn	**Pn**	**20 59 48.9**	**-2.4**
	comp=Z,57nm,0.6s						
YSS				*e*Sn	**Sn**	**21 01 47.0**	**-1.8**
YSS	**Yuzh-Sakhalins**	**10.48**	**2**	*α iP*	**Pn**	**20 59 50.0**	**-1.3**
YSS				pmax	pmax		
	comp=N,60nm,0.8s						
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				MLR	MLR		
	comp=N,12μm,14.0s						
YSS				MLR	MLR		
	comp=E,16μm,14.0s						
YSS				MLR	MLR		
	comp=Z,9μm,14.0s						
JUR	**Ureshino**	**10.74**	**255**	P	**Pn**	**20 59 57.2**	**+2.3**
USRK	**Ussuriysk Arra**	**11.04**	**318**	Pn	**Pn**	**21 00 00.9**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=115,slow=11,SNR=22						
USRK				LR	LR	21 03 46.7	
	comp=Z,3μm,20.0s,baz=70,slow=35						
KSRS	**Korea Array**	**11.58**	**279**	Pn	**Pn**	**21 00 09.3**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=96,slow=14,SNR=48						
KSRS				LR	LR	21 04 17.8	
	comp=Z,7μm,18.6s,baz=101,slow=36						
KSAR	**Wonju Array Be**	**11.62**	**279**	Pn	**Pn**	**21 00 09.3**	**+2.4**
INCN	**Inchon**	**12.61**	**279**	*e*Pn	**Pn**	**21 00 22.7**	**+2.2**
MDJ	**Mudanjiang**	**12.65**	**314**	P	**Pn**	**21 00 22.8**	**+1.8**
MDJ				S	**Sn**	**21 02 43.8**	**+1.8**
MDJ				ScP	ScP	21 09 33.5	+1.5
MDJ				ScS	ScS	21 13 08.9	+0.8
MDJ				pmax	pmax		
	comp=Z,15nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,2μm,9.7s						
MDJ				LR	LR		
	comp=N,4μm,11.6s						
MDJ				LR	LR		
	comp=E,8μm,12.8s						
MDJ				LR	LR		
	comp=Z,7μm,12.8s						
MDJ	**Mudanjiang**	**12.65**	**314**	*e*Pn	**Pn**	**21 00 22.2**	**+1.2**
	comp=Z,48nm,0.8s						
HABR	**Khabarovsk**	**13.14**	**338**	*e*P	**Pn**	**21 00 26.5**	**-1.1**
HABR				*e*		21 02 50.5	
HABR				pmax	pmax		
	comp=E,26nm,1.9s						
HABR				pmax	pmax		
	comp=N,17nm,1.4s						
HABR				pmax	pmax		
	comp=Z,80nm,1.9s						
HABR				MLR	MLR		
	comp=Z,9μm,15.0s						
CN2	**Changchun**	**14.84**	**305**	*e*P	**Pn**	**21 00 50.8**	**-0.1**
CN2				*e*S	**Sn**	**21 03 35.5**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,12μm,12.0s						
CN2				LR	LR		
	comp=E,11μm,12.0s						
CN2				LR	LR		
	comp=Z,12μm,15.0s						
KLR	**Kul'dur**	**14.91**	**332**	*e*P	**Pn**	**21 00 46.5**	**-5.3**
KLR				*e*		21 03 48.5	
JOW	**Kunigami**	**15.35**	**235**	Pn	**Pn**	**21 01 00.2**	**+2.5**
	comp=Z,0.8nm,0.3s,baz=83,slow=16,SNR=2.8						
JOW	**Kunigami**	**15.35**	**235**	*e*Pn	**Pn**	**21 00 58.1**	**+0.4**
	comp=Z,44nm,1.3s						
SNY	**Shenyang**	**15.51**	**296**	⇑P	**Pn**	**21 01 05.0**	**+5.3**
SNY				S	**Sn**	**21 04 08.1**	**+16**
SNY				pmax	pmax		
	comp=Z,42nm,0.9s						
SNY				pmax	pmax		
	comp=Z,2μm,12.0s						
SNY				LR	LR		
	comp=N,9μm,14.9s						
SNY				LR	LR		
	comp=E,11μm,18.0s						
SNY				LR	LR		
	comp=Z,16μm,13.3s						
DL2	**Dalian**	**16.58**	**285**	⇑*iP*	**Pn**	**21 01 13.5**	**-0.1**
DL2				S	**Sn**	**21 04 15.6**	**-2.2**
DL2				pmax	pmax		
	comp=Z,30nm,1.1s						
DL2				pmax	pmax		
	comp=Z,1μm,6.9s						
DL2				LR	LR		
	comp=N,4μm,12.2s						
DL2				LR	LR		
	comp=E,6μm,13.7s						
OKH	**Okha**	**17.08**	**1**	*e*P	**Pn**	**21 01 24.0**	**+4.2**
OKH				*e*S	**Sn**	**21 04 29.8**	**0.0**
OKH				pmax	pmax		
	comp=Z,1μm,3.0s						
OKH				smax			
	comp=E,2μm,10.0s						
OKH				smax			
	comp=Z,12μm,16.0s						
SSE	**Sheshan**	**18.38**	**259**	P	**Pn**	**21 01 34.4**	**-1.6**
SSE				sP	sP	21 01 47.0	+7.9
SSE				S	**Sn**	**21 04 59.3**	**-2.2**
SSE				pmax	pmax		
	comp=Z,21nm,0.7s						
SSE				pmax	pmax		
	comp=Z,1μm,9.4s						
SSE				LR	LR		
	comp=N,7μm,12.9s						
SSE				LR	LR		
	comp=E,9μm,12.9s						
SSE				LR	LR		
	comp=Z,12μm,12.3s						
PETK	**Petropavlovsk-**	**19.81**	**28**	P	**Pn**	**21 01 50.4**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=210,slow=8.6,SNR=5.5						
PETK	**Petropavlovsk-**	**19.81**	**28**	P	**Pn**	**21 01 50.4**	**-2.8**
PETK	**Petropavlovsk-**	**19.81**	**28**	P	**Pn**	**21 01 50.4**	**-2.7**
NJ2	**Nanjing**	**19.90**	**264**	*e*P	**Pn**	**21 01 53.9**	**-0.4**
NJ2				pP	pP	21 02 01.6	+6.8
NJ2				S	**Sn**	**21 05 34.0**	**-4.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,1μm,9.2s						
NJ2				LR	LR		
	comp=N,8μm,19.7s						
NJ2				LR	LR		
	comp=E,9μm,13.4s						
NJ2				LR	LR		
	comp=Z,10μm,14.4s						
PET	**Petropavlovsk**	**20.12**	**30**	*e*P	**P**	**21 01 57.5**	**+2.6**
PET				*e*S	**S**	**21 05 35.4**	**-5.6**
PET				pmax	pmax		
	comp=Z,500nm,15.0s						
PET				pmax	pmax		
	comp=Z,600nm,8.9s						
PET				pmax	pmax		
	comp=Z,42nm,1.1s						
PET				MLR	MLR		
	comp=Z,4μm,16.0s,MS4.9						
PET				MLR	MLR		
	comp=Z,4μm,16.0s						
TIA	**Tai'an**	**20.31**	**277**	⇑P	**P**	**21 01 54.3**	**-2.9**
TIA				S	**S**	**21 05 40.5**	**-4.5**
TIA				LR	LR		
	comp=N,5μm,17.0s,MS5.3						
TIA				LR	LR		
	comp=E,11μm,16.5s,MS5.3						
TIA				LR	LR		
	comp=Z,13μm,13.0s,MS5.5						
HIA	**Hailar**	**20.83**	**315**	*e*P	**P**	**21 02 00.6**	**-2.2**
	comp=Z,58nm,1.1s						
HIA	**Hailar**	**20.83**	**315**	*e*P	**P**	**21 02 00.6**	**-2.1**
HIA				pmax	pmax		
	comp=Z,58nm,1.1s						
BJI	**Beijing**	**20.83**	**288**	P	**P**	**21 02 00.8**	**-2.0**
BJI				S	**S**	**21 05 54.0**	**-1.4**
BJI				pmax	pmax		
	comp=Z,35nm,2.1s						
BJI				pmax	pmax		
	comp=Z,710nm,9.8s						
BJI				LR	LR		
	comp=N,5μm,14.3s,MS5.2						
BJI				LR	LR		
	comp=E,7μm,13.9s,MS5.2						
BJI				LR	LR		
	comp=Z,2μm,15.4s,MS4.7						
BJT	**Baijiatuau**	**20.84**	**288**	*e*P	**P**	**21 02 00.9**	**-2.0**
	comp=Z,68nm,0.8s						
BJT	**Baijiatuau**	**20.84**	**288**	*e*P	**P**	**21 02 00.9**	**-2.0**
BJT				pmax	pmax		
	comp=Z,68nm,0.8s						
GUMO	**Guam**	**22.90**	**174**	LR	LR	21 09 47.0	
	comp=Z,2μm,18.4s,MS4.6,baz=167,slow=33						
QZH	**Quanzhou**	**23.37**	**247**	P	**P**	**21 02 29.8**	**-0.2**
QZH				S	**S**	**21 06 29.3**	**-14**
QZH				LR	LR		
	comp=N,9μm,13.4s,MS5.6						
QZH				LR	LR		
	comp=E,8μm,11.8s,MS5.6						
QZH				LR	LR		
	comp=Z,12μm,15.2s,MS5.5						
CLNS	**Chul'man**	**23.50**	**336**	*e*P	**P**	**21 02 29.8**	**-1.3**
CLNS				*e*PP		21 02 39.1	
CLNS				*e*PPP		21 03 06.2	
CLNS				*e*S	**S**	**21 06 47.3**	**+2.7**
CLNS				*e*		21

HHC	**Hu-ho-hao-te**	**24.37 290**	⇓P	**P**	**21 02 38.8**	**-0.4**
HHC			pP		21 02 48.3	
HHC			PP		21 03 13.3	
HHC			PcP	PcP	21 06 18.8	+0.3
HHC			S	**S**	**21 06 55.6**	**-3.3**
HHC			sS	sS	21 07 07.4	+4.8
HHC			SS		21 07 45.5	
HHC			ScP	ScP	21 09 55.1	-2.4
HHC			ScS	ScS	21 13 39.9	-5.0
HHC			pmax	pmax		
	comp=Z,30nm,1.9s,mb4.4					
HHC			pmax	pmax		
	comp=Z,640nm,8.3s					
HHC			LR	LR		
	comp=N,4μm,14.3s,MS5.3					
HHC			LR	LR		
	comp=E,7μm,14.3s,MS5.3					
HHC			LR	LR		
	comp=Z,6μm,14.3s,MS5.2					
BTO	**Baotou**	**25.54 289**	*e*P	**P**	**21 02 50.3**	**+0.4**
CIT	**Chita**	**25.60 316**	*e*P	**P**	**21 02 51.4**	**+1.0**
CIT			*e*		21 02 59.4	
CIT			*e*		21 03 29.6	
CIT			*e*		21 03 45.5	
CIT			pmax	pmax		
	comp=Z,687nm,2.2s,mb5.8					
YAK	**Yakutsk**	**26.79 347**	*e*Pn	**P**	**21 02 59.6**	**-1.4**
	comp=Z,127nm,0.8s,mb5.5					
YAK	**Yakutsk**	**26.79 347***c i*P		**P**	**21 03 00.6**	**-0.4**
YAK			*e**PP	pP	21 03 09.5	+6.3
YAK			*e*PPP		21 03 50.6	
YAK			*e*		21 06 21.8	
YAK			*e*S	**S**	**21 07 32.5**	**-4.4**
YAK			*e*SSS		21 08 49.1	
YAK			pmax	pmax		
	comp=Z,112nm,1.0s,mb5.3					
YAK			pmax	pmax		
	comp=N,43nm,1.2s					
YAK			pmax	pmax		
	comp=E,30nm,1.8s					
YAK			smax			
	comp=E,1μm,7.1s					
YAK			smax			
	comp=N,936nm,4.8s					
YAK			MLR	MLR		
	comp=Z,11μm,16.0s,MS5.5					
YAK			MLR	MLR		
	comp=N,7μm,14.0s,MS5.4					
YAK			MLR	MLR		
	comp=E,3μm,14.0s,MS5.4					
SEY	**Seymchan**	**27.20 10**⇓*e*P		**P**	**21 03 05.5**	**+0.8**
XAN	**Xi'an**	**27.33 275**	P	**P**	**21 03 04.9**	**-1.3**
XAN			sP	sP	21 03 09.9	+0.6
XAN			PP		21 03 49.8	
XAN			PcP	PcP	21 06 21.8	-3.7
XAN			S	**S**	**21 07 41.1**	**-5.0**
XAN			SS		21 08 56.8	
XAN			pmax	pmax		
	comp=Z,15nm,1.5s,mb4.3					
XAN			pmax	pmax		
	comp=Z,370nm,9.1s					
XAN			LR	LR		
	comp=N,4μm,15.1s,MS5.1					
XAN			LR	LR		
	comp=E,1μm,16.0s,MS5.1					
XAN			LR	LR		
	comp=Z,3μm,13.9s,MS5.0					
ENH	**Enshi**	**28.04 267**	*e*P	**P**	**21 03 11.1**	**-1.5**
	comp=Z,102nm,0.8s,mb5.5					
HKC	**Hong Kong Obse**	**28.20 248**	*e*P	**P**	**21 03 14.0**	**0.0**
ULN	**Ulaanbaatar**	**28.29 305**	*e*Pn	**P**	**21 03 14.5**	**-0.1**
	comp=Z,62nm,1.1s,mb5.2					
ULN	**Ulaanbaatar**	**28.29 305**	*e*P	**P**	**21 03 14.5**	**-0.1**
ULN			pmax	pmax		
	comp=Z,62nm,1.1s,mb5.2					
ULN	**Ulaanbaatar**	**28.29 305**	P	**P**	**21 03 15.8**	**+1.2**
	comp=Z,1μmcomp=Z,57nm,1.2s,mb5.1					
ULN	**Ulaanbaatar**	**28.29 305**	P	**P**	**21 03 15.4**	**+0.8**
	SNR=25					
GZH	**Guangzhou**	**28.37 250**	P	**P**	**21 03 11.4**	**-4.1**
GZH			S	**S**	**21 07 53.4**	**-9.2**
GZH			LR	LR		
	comp=N,6μm,15.6s,MS5.5					
GZH			LR	LR		
	comp=E,6μm,15.9s,MS5.5					
GZH			LR	LR		
	comp=Z,7μm,12.9s,MS5.5					
BOD	**Bodaibo**	**28.41 328**	*e*P	**P**	**21 03 14.9**	**-0.6**
BOD			pmax	pmax		
	comp=Z,75nm,1.5s,mb5.1					
SONM	**Songino Array**	**28.72 305**	P	**P**	**21 03 18.9**	**+0.5**
	comp=Z,46nm,0.8s,mb5.3,baz=104,slow=7.9,SNR=152					
SONM			LR	LR	21 14 35.2	
	comp=Z,2μm,20.4s,MS4.7,baz=16,slow=36					
SONM	**Songino Array**	**28.72 305**	P	**P**	**21 03 18.9**	**+0.5**
SONM	**Songino Array**	**28.72 305**	P	**P**	**21 03 18.9**	**+0.5**
SONM			pmax	pmax		
	comp=Z,46nm,0.8s					
SONM			MLR	MLR		
	comp=Z,2μm,20.4s					
LZH	**Lanzhou**	**30.91 281**	*e*P	**P**	**21 03 38.0**	**+0.1**
LZH			pP	pP	21 03 44.6	+4.4
LZH			sP	sP	21 03 46.8	+5.7
LZH			PP	PP	21 04 39.1	-8.5
LZH			*e*S	**S**	**21 08 41.4**	**-0.9**
LZH			sS	sS	21 08 46.5	+0.5
LZH			pmax	pmax		
	comp=Z,98nm,1.2s,mb5.5					
LZH			pmax	pmax		
	comp=Z,650nm,7.9s					
LZH			LR	LR		
	comp=N,2μm,12.1s,MS5.7					
LZH			LR	LR		
	comp=E,10μm,15.8s,MS5.7					
LZH			LR	LR		
	comp=Z,12μm,17.8s,MS5.6					
IRK	**Irkutsk**	**31.03 313**	*e*P	**P**	**21 03 40.5**	**+1.7**
IRK			pmax	pmax		
	comp=Z,84nm,2.2s,mb5.2					
ZAK	**Zakamensk**	**31.21 309**	*e*P	**P**	**21 03 40.4**	**0.0**
ZAK			pmax	pmax		
	comp=Z,26nm,1.2s,mb4.9					
TLY	**Talaya**	**31.27 311**	*e*Pn	**P**	**21 03 40.5**	**-0.4**
	comp=Z,88nm,1.6s,mb5.3					
TLY	**Talaya**	**31.27 311***c i*P		**P**	**21 03 40.9**	**0.0**
TLY			*e*		21 04 54.8	
TLY			*e*S	**S**	**21 08 53.7**	**+6.1**
TLY			*e*SS	SS	21 10 52.8	-8.1
TLY			pmax	pmax		
	comp=Z,21nm,1.0s,mb4.9					
TLY			MLR	MLR		
	comp=Z,3μm,16.0s,MS5.0					
TLY	**Talaya**	**31.27 311**	P	**P**	**21 03 42.6**	**+1.7**
	SNR=8.4					
TLY	**Talaya**	**31.27 311**	P	**P**	**21 03 41.3**	**+0.4**
	comp=Z,113nm,1.9s,mb5.4,SNR=6.0					
GYA	**Guiyang**	**31.88 262**⇓*i*P		**P**	**21 03 47.0**	**+0.4**
GYA			PP	PP	21 04 52.5	-6.0
GYA			PcP	PcP	21 06 38.8	+1.6
GYA			S	**S**	**21 08 56.4**	**-1.2**
GYA			ScP	ScP	21 10 20.0	-0.9
GYA			SS	SS	21 10 47.5	-27
GYA			pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0					
GYA			pmax	pmax		
	comp=Z,120nm,4.8s					
CD2	**Chengdu**	**32.43 272**⇓*i*P		**P**	**21 03 51.1**	**-0.3**
CD2			sP	sP	21 04 05.1	+10
CD2			PP	PP	21 04 58.6	-6.0
CD2			PcP	PcP	21 06 38.9	+0.2
CD2			S	**S**	**21 09 01.3**	**-4.9**
CD2			sS	sS	21 09 16.8	+6.9
CD2			PcS	PcS	21 10 23.3	-0.4
CD2			SS	SS	21 10 55.6	-30
CD2			ScS	ScS	21 14 16.8	-5.3
CD2			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2					
CD2			pmax	pmax		
	comp=Z,1μm,12.0s					
CD2			LR	LR		
	comp=N,7μm,13.2s,MS5.8					
CD2			LR	LR		
	comp=E,8μm,10.8s,MS5.8					
CD2			LR	LR		
	comp=Z,11μm,10.8s,MS5.8					
MOY	**Mondy**	**32.88 311**	*e*P	**P**	**21 03 55.3**	**+0.3**
MOY			pmax	pmax		
	comp=Z,17nm,2.5s,mb4.5					
QIZ	**Qiongzhong**	**33.39 247**	P	**P**	**21 03 59.3**	**-0.6**
QIZ			S	**S**	**21 09 23.1**	**+1.8**
QIZ			pmax	pmax		
	comp=Z,38nm,2.1s,mb5.0					
QIZ			pmax	pmax		
	comp=Z,280nm,3.7s					
QIZ			LR	LR		
	comp=N,3μm,13.1s,MS5.2					
QIZ			LR	LR		
	comp=E,2μm,15.2s,MS5.2					
QIZ			LR	LR		
	comp=Z,4μm,13.0s,MS5.3					
GTA	**Gaotai**	**33.45 288** ⇑P		**P**	**21 04 00.6**	**+0.4**
GTA			pP	pP	21 04 05.4	+2.9
GTA			sP	sP	21 04 08.4	+5.0
GTA			PP	PP	21 05 11.6	-4.1
GTA			S	**S**	**21 09 22.0**	**+0.2**
GTA			sS	sS	21 09 29.6	+4.0
GTA			SS	SS	21 11 25.0	-21
GTA			pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2					
GTA			pmax	pmax		
	comp=Z,1μm,8.1s					
GTA			LR	LR		
	comp=N,3μm,20.4s					
GTA			LR	LR		
	comp=E,5μm,13.3s					
GTA			LR	LR		
	comp=Z,4μm,12.8s					
BILL	**Bilibino**	**34.36 16** *e*P		**P**	**21 04 06.7**	**-1.1**
	comp=Z,24nm,1.1s,mb5.0					
BILL	**Bilibino**	**34.36 16**⇑*i*P		**P**	**21 04 07.8**	**0.0**
BILL			*e*		21 05 20.5	
BILL			*i* S	**S**	**21 09 37.5**	**+2.2**
BILL			*e*SS	SS	21 11 46.7	-17
BILL			pmax	pmax		
	comp=Z,35nm,1.6s,mb5.0					
BILL			MLR	MLR		
	comp=Z,2μm,16.0s,MS5.0					
KMI	**Kunming**	**35.63 263**	P	**P**	**21 04 18.4**	**-0.8**
KMI			pP	pP	21 04 24.0	+2.5
KMI			sP	sP	21 04 26.8	+4.4
KMI			PP	PP	21 05 38.9	-1.1
KMI			S	**S**	**21 09 52.5**	**-3.2**
KMI			sS	sS	21 10 02.1	+2.6
KMI			SS	SS	21 12 11.0	-20
KMI			pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9					
KMI			pmax	pmax		
	comp=Z,590nm,6.3s					
KMI			LR	LR		
	comp=N,4μm,13.3s,MS5.5					
KMI			LR	LR		
	comp=E,5μm,13.7s,MS5.5					
KMI			LR	LR		
	comp=Z,4μm,14.0s,MS5.4					
BAKI	**Biak**	**37.92 190**	P	**P**	**21 04 43.4**	**+4.7**
	comp=Z,108nm,1.1s,mb5.5					
MYLDM	**Lahad Datu**	**38.06 221**	P	**P**	**21 04 40.0**	**0.0**
	comp=Z,46nm,1.4s,mb5.0					
MYLDM	**Lahad Datu**	**38.06 221**	P	**P**	**21 04 48.2**	**+8.2**
TNTI	**Ternate**	**38.14 205**	P	**P**	**21 04 49.6**	**+9.0**
	comp=Z,2μmcomp=Z,90nm,2.2s,mb5.1					
TNTI	**Ternate**	**38.14 205**	P	**P**	**21 04 49.0**	**+8.4**
	comp=Z,2μmcomp=Z,90nm,2.2s,mb5.1					
SMPI	**Sarmi**	**38.41 186**	P	**P**	**21 04 43.8**	**+0.9**
MNI	**Manado**	**38.44 209**	P	Px	21 04 52.2	
	comp=Z,102nm,1.0s					
KKM	**Kota Kinabalu**	**38.59 225**	P	Px	21 04 54.5	
	comp=Z,24nm,2.4s					
UBT	**Ubonrachathani**	**39.35 247**	P	Px	21 05 06.0	
LBMI	**Labuha**	**39.41 204**	P	Px	21 05 01.9	
	comp=Z,71nm,1.7s,comp=Z,2μm					
LBMI	**Labuha**	**39.41 204**	P	**P**	**21 04 59.1**	**+7.8**
	comp=Z,2μmcomp=Z,71nm,1.7s,mb5.1					
KMSI	**Cibinong**	**39.57 210**	P	**P**	**21 04 52.3**	**-0.3**
	comp=Z,2μmcomp=Z,194nm,0.8s,mb5.9					
KMSI	**Cibinong**	**39.57 210**	P	**P**	**21 05 01.7**	**+9.1**
	comp=Z,2μmcomp=Z,212nm,1.2s,mb5.7					
GTOI	**Gorontalo**	**39.91 211**	P	**P**	**21 04 55.2**	**-0.2**
	comp=Z,1μmcomp=Z,94nm,1.3s,mb5.4					
GTOI	**Gorontalo**	**39.91 211**	P	**P**	**21 04 58.9**	**+3.5**
WAMI	**Wamena**	**40.29 186**	P	**P**	**21 05 03.6**	**+5.0**
	comp=Z,4μmcomp=Z,94nm,0.6s,mb5.7					
FAKI	**Fak Fak**	**40.30 196**	P	**P**	**21 05 04.5**	**+5.8**
	comp=Z,30nm,1.3s,mb4.9					
MRSI	**Marisa**	**40.51 212**	P	**P**	**21 05 01.7**	**+1.3**
	comp=Z,1μmcomp=Z,112nm,1.4s,mb5.3					
MRSI	**Marisa**	**40.51 212**	P	**P**	**21 05 00.6**	**+0.2**
CHRT	**Chiangrai**	**40.65 258**	P	**P**	**21 05 00.0**	**-1.6**
	comp=Z,158nm,1.1s,mb5.6					
LUWI	**Luwuk**	**41.52 210**	P	**P**	**21 05 07.7**	**-1.1**
	comp=Z,1μmcomp=Z,69nm,1.8s,mb5.0					
LUWI	**Luwuk**	**41.52 210**	P	**P**	**21 05 08.4**	**-0.4**
MSAI	**Masohi**	**41.55 200**	P	**P**	**21 05 15.5**	**+6.6**
	comp=Z,575nmcomp=Z,17nm,1.5s,mb4.5					
WMQ	**Urumqi**	**41.77 298**	P	**P**	**21 05 11.4**	**+0.9**
WMQ			pP	pP	21 05 15.9	+3.1
WMQ			sP	sP	21 05 18.4	+4.7
WMQ			PP	PP	21 06 51.5	+4.6
WMQ			S	**S**	**21 11 28.3**	**+0.4**
WMQ			SS	SS	21 14 28.9	-4.5
WMQ			pmax	pmax		
	comp=Z,78nm,0.7s,mb5.5					
WMQ			pmax	pmax		
	comp=Z,1μm,4.0s					
WMQ			LR	LR		
	comp=N,4μm,12.8s,MS5.7					
WMQ			LR	LR		
	comp=E,4μm,13.0s,MS5.7					
WMQ			LR	LR		
	comp=Z,2μm,19.0s					
APSI	**Ampana**	**41.88 212**	P	**P**	**21 05 12.4**	**+0.7**
APSI	**Ampana**	**41.88 212**	P	**P**	**21 05 18.8**	**+7.1**
CHG	**Chiang Mai**	**41.89 257** ⇑P		**P**	**21 05 16.9**	**+5.1**
	comp=Z,22nm,0.8s,mb4.8					
CHTO	**Chiang Mai**	**41.89 257** *e*P		**P**	**21 05 11.2**	**-0.6**
	comp=Z,14nm,0.8s,mb4.7					
CHTO	**Chiang Mai**	**41.89 257** *e*P		**P**	**21 05 11.2**	**-0.6**
CHTO			pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7					
CHTO	**Chiang Mai**	**41.89 257**	P	**P**	**21 05 15.5**	**+3.7**
AAI	**Ambon**	**42.08 201**	P	**P**	**21 05 17.5**	**+4.2**
CM31	**Chiang Mai Arr**	**42.09 257** *e*P		**P**	**21 05 11.5**	**-1.9**
	comp=Z,9.8nm,0.8s,mb4.5					
CMAR	**Chiang Mai Arr**	**42.09 257** P		**P**	**21 05 13.2**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.0,baz=46,slow=7.7,SNR=16					
CMAR			LR	LR	21 23 15.0	
	comp=Z,1μm,19.5s,MS4.8,baz=241,slow=37					
CMAR	**Chiang Mai Arr**	**42.09 257**	P	**P**	**21 05 13.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.09 257**	P	**P**	**21 05 13.2**	**-0.2**
CMAR			pmax	pmax		
	comp=Z,3.0nm,0.8s					
CMAR			MLR	MLR		
	comp=Z,1μm,19.5s					
NST	**Nakhon Sawan**	**42.78 252**	P	**P**	**21 05 21.0**	**+1.9**
ZAA0	**Zalesovo Array**	**42.85 313** *e*P		**P**	**21 05 18.9**	**-0.2**
ZALV	**Zalesovo Beam**	**42.85 313** P		**P**	**21 05 18.8**	**-0.4**
	comp=Z,12nm,0.7s,mb4.8,baz=96,slow=7.2,SNR=60					
ZALV			LR	LR	21 24 16.5	
	comp=Z,2μm,18.1s,MS5.1,baz=88,slow=38					
ZALV	**Zalesovo Beam**	**42.85 313**	P	**P**	**21 05 18.8**	**-0.4**
ZALV	**Zalesovo Beam**	**42.85 313**	P	**P**	**21 05 18.8**	**-0.4**
ZALV			pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7					
ZALV			MLR	MLR		
	comp=Z,2μm,18.2s,MS5.1					
LSA	**Lhasa**	**43.01 276**	P	**P**	**21 05 22.6**	**+1.7**
LSA			S	**S**	**21 11 49.3**	**+2.6**
LSA			pmax	pmax		
	comp=Z,70nm,1.0s,mb5.3					
LSA			pmax	pmax		
	comp=Z,760nm,8.0s					
LSA			LR	LR		
	comp=N,1μm,14.0s,MS5.3					
LSA			LR	LR		
	comp=E,3μm,18.0s,MS5.3					
LSA			LR	LR		
	comp=Z,4μm,17.0s,MS5.4					
LSA	**Lhasa**	**43.01 276** *e*P		**P**	**21 05 21.8**	**+0.9**
	comp=Z,20nm,0.8s,mb4.9					
LSA	**Lhasa**	**43.01 276** *e*P		**P**	**21 05 21.8**	**+0.9**
LSA			pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9					
SMKI	**Samarinda**	**43.52 218** P		**P**	**21 05 30.2**	**+5.2**
	comp=Z,2μmcomp=Z,68nm,1.0s,mb5.3					
SMKI	**Samarinda**	**43.52 218** P		**P**	**21 05 34.7**	**+10**
	comp=Z,2μmcomp=Z,68nm,1.0s,mb5.3					
NVS	**Novosibirsk**	**43.77 314** *e*P		**P**	**21 05 26.0**	**-0.6**
NVS			*e*S	**S**	**21 11 52.2**	**-4.9**
NVS			pmax	pmax		
	comp=E,45nm,1.7s					
NVS			pmax	pmax		
	comp=Z,78nm,1.7s,mb5.2					
NVS			smax			
	comp=N,88nm,3.7s					
NVS			smax			
	comp=E,200nm,3.7s					
SBUM	**Sibu**	**43.81 226** P		Px	21 05 40.3	
	comp=E,27nm,1.8s					
SBUM	**Sibu**	**43.81 226** P		Px	21 05 39.4	
KDI	**Kendari**	**44.24 209** P		**P**	**21 05 38.0**	**+7.2**
	comp=E,21nm,1.8s,mb4.6					
KDI	**Kendari**	**44.24 209** P		**P**	**21 05 39.0**	**+8.2**
	comp=E,21nm,1.8s,mb4.6					
TTSI	**Tana Toraja**	**44.58 213** P		**P**	**21 05 42.4**	**+8.9**
	comp=E,14nm,1.2s,mb4.7					
MK31	**Makanchi Array**	**45.05 303** *e*P		**P**	**21 05 36.0**	**-1.0**
MK31	**Makanchi Array**	**45.05 303***c e*P		**P**	**21 05 36.5**	**-0.5**
MKAR	**Makanchi Array**	**45.05 303** P		**P**	**21 05 36.5**	**-0.6**
	comp=E,26nm,0.7s,mb5.2,baz=88,slow=9.2,SNR=54					
MKAR			LR	LR	21 23 42.7	
	comp=E,2μm,22.0s,MS4.9,baz=85,slow=35					
MKAR	**Makanchi Array**	**45.05 303** P		**P**	**21 05 36.5**	**-0.6**
MKAR	**Makanchi Array**	**45.05 303** P		**P**	**21 05 36.5**	**-0.5**
MKAR			pmax	pmax		
	comp=Z,27nm,0.7s					
MKAR			MLR	MLR		
	comp=Z,2μm,22.0s					
MJSI	**Majene**	**45.40 214** P		**P**	**21 05 47.3**	**+7.2**
	comp=Z,870nmcomp=Z,46nm,1.5s,mb5.1					
MJSI	**Majene**	**45.40 214** P		**P**	**21 05 47.4**	**+7.3**
	comp=Z,868nmcomp=Z,50nm,1.8s,mb5.0					
SPSI	**Sidrap Palu**	**45.42 213** P		**P**	**21 05 45.4**	**+5.2**
	comp=Z,27nm,1.2s,mb5.0					
SPSI	**Sidrap Palu**	**45.42 213** P		**P**	**21 05 45.8**	**+5.6**
BBSI	**Bau Bau**	**45.66 208** P		**P**	**21 05 49.7**	**+7.6**
	comp=Z,59nm,1.3s,mb5.4					
BNSI	**Bone**	**45.67 212** P		**P**	**21 05 46.7**	**+4.5**
	comp=Z,1μmcomp=Z,55nm,1.4s,mb5.3					
BNSI	**Bone**	**45.67 212** P		**P**	**21 05 50.0**	**+7.8**
	comp=Z,1μmcomp=Z,55nm,1.4s,mb5.3					
KSM	**Kuching**	**45.72 228** *e*P		**P**	**21 05 43.4**	**+0.8**
KSM	**Kuching**	**45.72 228** P		Px	21 05 52.8	
	comp=Z,40nm,0.8s					
PMG	**Port Moresby**	**45.85 173** P		**P**	**21 05 43.8**	**+0.2**
	comp=Z,26nm,1.1s,mb5.1,baz=324,slow=2.4,SNR=7.6					
PMG	**Port Moresby**	**45.85 173** *e*P		**P**	**21 05 43.3**	**-0.3**
	comp=Z,34nm,1.1s,mb5.2					
PMG	**Port Moresby**	**45.85 173** *e*P		**P**	**21 05 43.3**	**-0.3**
PMG			pmax	pmax		
	comp=Z,34nm,1.1s					
PMG	**Port Moresby**	**45.85 173** P		**P**	**21 05 43.4**	**-0.2**
	comp=Z,790nmcomp=Z,32nm,1.2s,mb5.1					
STKI	**Sintang**	**46.17 225** P		Px	21 05 59.5	
	comp=Z,68nm,0.9s					
STKI	**Sintang**	**46.17 225** P		Px	21 05 56.6	
	comp=Z,68nm,1.0s					
KAPI	**Kappang**	**46.37 212** P		**P**	**21 05 47.7**	**0.0**
	comp=Z,6.7nm,0.8s,mb4.6,baz=97,slow=8.1,SNR=2.8					
KAPI	**Kappang**	**46.37 212** *e*P		**P**	**21 05 45.0**	**-2.7**
	comp=Z,120nm,1.4s,mb5.6					
KAPI	**Kappang**	**46.37 212** P		**P**	**21 05 52.2**	**+4.5**
	comp=Z,961nmcomp=Z,63nm,1.9s,mb5.2					
KAPI	**Kappang**	**46.37 212** P		**P**	**21 05 54.3**	**+6.6**
	comp=Z,959nmcomp=Z,63nm,1.9s,mb5.2					
BKSI	**Bulukumba**	**46.49 211** P		**P**	**21 05 54.6**	**+5.9**
	comp=Z,386nmcomp=Z,19nm,0.9s,mb5.0					
BKSI	**Bulukumba**	**46.49 211** P		**P**	**21 05 54.7**	**+6.0**
KBKI	**Kotabaru**	**46.50 217** P		**P**	**21 05 58.1**	**+9.4**
	comp=Z,25nm,1.1s,mb5.1					
TAPN	**Taplejung**	**46.73 275** *e*P		**P**	**21 05 51.2**	**+0.7**
	comp=Z,28nm,0.5s,mb5.4					
TAPN	**Taplejung**	**46.73 275** *e*P		**P**	**21 05 51.2**	**+0.7**
	comp=Z,28nm,0.5s,mb5.5					
KURK	**Kurchatov**	**46.87 309** P		**P**	**21 05 51.2**	**-0.1**
	comp=Z,24nm,0.8s,mb5.2,baz=84,slow=8.0,SNR=116					
KURK			LR	LR	21 26 37.5	
	comp=Z,3μm,18.5s,MS5.2,baz=85,slow=37					
KURK	**Kurchatov**	**46.87 309** *e*P		**P**	**21 05 50.1**	**-1.2**
	comp=Z,36nm,0.8s,mb5.4					
KURK	**Kurchatov**	**46.87 309***c i*P		**P**	**21 05 50.5**	**-0.8**
KURK			pmax	pmax		
	comp=Z,40nm,0.7s,mb5.5					
KURK	**Kurchatov**	**46.87 309** P		**P**	**21 05 51.5**	**+0.2**
	SNR=21					
KURK	**Kurchatov**	**46.87 309** P		**P**	**21 05 50.6**	**-0.7**
	comp=Z,267nm,0.8s,mb6.2,SNR=40					
KDAK	**Kodiak Island**	**47.02 42** P		**P**	**21 05 51.0**	**-1.3**
	comp=Z,8.1nm,0.6s,mb4.8,baz=212,slow=16,SNR=4.0					
KDAK	**Kodiak Island**	**47.02 42** P		**P**	**21 05 51.0**	**-1.3**
KDAK	**Kodiak Island**	**47.02 42** *i* P		**P**	**21 05 54.9**	**+2.6**
ODAN	**Odare**	**47.20 275** *e*P		**P**	**21 05 53.5**	**-0.7**
	comp=Z,106nm,1.0s,mb5.7					
ODAN	**Odare**	**47.20 275** *e*P		**P**	**21 05 53.5**	**-0.7**
	comp=Z,106nm,1.0s,mb5.7					
BBKI	**Banjar Baru**	**47.30 219** P		**P**	**21 06 02.4**	**+7.4**
BBKI	**Banjar Baru**	**47.30 219** P		**P**	**21 06 02.6**	**+7.6**
	comp=Z,63nm,1.6s,mb5.3					
RAMN	**Ramite**	**47.80 275** *e*P		**P**	**21 05 58.6**	**-0.2**
	comp=Z,141nm,0.9s,mb6.0					
RAMN	**Ramite**	**47.80 275** *e*P		**P**	**21 05 58.6**	**-0.2**
	comp=Z,141nm,0.9s,mb6.0					
JIRN	**Jiri**	**47.82 276** *e*P		**P**	**21 05 59.1**	**+0.1**
	comp=Z,71nm,0.8s,mb5.7					
JIRN	**Jiri**	**47.82 276** *e*P		**P**	**21 05 59.1**	**+0.1**
	comp=Z,71nm,0.8s,mb5.8					
GUN	**Gumba**	**47.96 277** *e*P		**P**	**21 06 00.8**	**+0.7**
	comp=Z,148nm,0.9s,mb6.0					
GUN	**Gumba**	**47.96 277** *e*P		**P**	**21 06 00.8**	**+0.7**
	comp=Z,148nm,0.9s,mb6.0					
PBKI	**Pangkalan Bun**	**48.34 223** P		**P**	**21 06 12.5**	**+9.4**
	comp=Z,59nm,1.2s,mb5.5					
PKI	**Pulchoki**	**48.48 276** *e*P		**P**	**21 06 03.6**	**-0.5**
	comp=Z,70nm,1.0s,mb5.6					
PKI	**Pulchoki**	**48.48 276** *e*P		**P**	**21 06 03.6**	**-0.5**
	comp=Z,70nm,1.0s,mb5.7					
PKI	**Pulchoki**	**48.48 276** *e*P		**P**	**21 06 03.6**	**-0.5**
KKN	**Kakani**	**48.49 277** *e*P		**P**	**21 06 04.6**	**+0.4**
	comp=Z,43nm,0.7s,mb5.6					
KKN	**Kakani**	**48.49 277** *e*P		**P**	**21 06 04.6**	**+0.4**
	comp=Z,43nm,0.7s,mb5.6					
KKN	**Kakani**	**48.49 277** *e*P		**P**	**21 06 04.6**	**+0.4**
PMR	**Palmer**	**48.63 36** *e*P		**P**	**21 06 03.0**	**-1.8**
PMR	**Palmer**	**48.63 36** *e*P		**P**	**21 06 03.0**	**-1.8**
MCK	**McKinley**	**48.69 34** *e*P		**P**	**21 06 04.2**	**-1.0**
	comp=Z,9.1nm,0.9s,mb4.8					
MCK	**McKinley**	**48.69 34** *e*P		**P**	**21 06 04.2**	**-1.0**
MCK			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8					
MMRI	**Maumere**	**48.69 207** P		**P**	**21 06 14.1**	**+8.4**
DMN	**Daman**	**48.71 277** *e*P		**P**	**21 06 05.4**	**-0.5**
	comp=Z,31nm,0.7s,mb5.4					
DMN	**Daman**	**48.71 277** *e*P		**P**	**21 06 05.4**	**-0.5**
	comp

ILAR Eielson Array 49.57 32 P P 21 06 11.1 -0.9
comp=Z,4.5nm,0.8s,mb4.5,baz=268,slow=5.9,SNR=34
ILAR Eielson Array 49.57 32 P P 21 06 11.1 -0.9
ILAR Eielson Array 49.57 32 P P 21 06 11.1 -0.8
ILAR pmax pmax
comp=Z,5.0nm,0.8s
TPRI Tanjung Pinang 49.75 233 P P 21 06 22.6 +8.6
comp=Z,16nm,0.7s,mb5.2
KOLN Koldanda 49.84 278 *e*P **P 21 06 14.0 -0.6**
comp=Z,19nm,0.5s,mb5.4
KOLN Koldanda 49.84 278 *e*P **P 21 06 14.0 -0.6**
comp=Z,19nm,0.5s,mb5.4
COEN Coen 50.16 179 *e*P **P 21 06 18.1 +1.2**
comp=Z,88nm,1.0s,mb5.7
COEN Coen 50.16 179 P **P 21 06 18.3 +1.4**
comp=Z,24nm,1.0s,mb5.2
TKM2 Tokmak 2 50.56 299 *e*P **P 21 06 20.3 +0.5**
comp=Z,42nm,0.9s,mb5.4
TKM2 Tokmak 2 50.56 299 *e*P **P 21 06 20.3 +0.5**
TKM2 pmax pmax
comp=Z,42nm,0.9s,mb5.4
TPI Tanjungpandan 50.67 227 P **P 21 06 30.2 +9.3**
comp=Z,32nm,0.9s,mb5.3
KMMI Kalianget 50.82 217 P **P 21 06 29.6 +7.6**
comp=Z,117nm,1.6s,mb5.6
MENT Mentasta 51.07 34 *e*P **P 21 06 23.6 +0.3**
PPBI Pangkal Pinang 51.12 229 P **P 21 06 32.7 +8.4**
comp=Z,34nm,1.2s,mb5.2
MTNI Mataram 51.17 214 P **P 21 06 32.0 +7.4**
comp=Z,2μmcomp=Z,57nm,0.9s,mb5.5
FRU Bishkek 51.27 299 *e*P **P 21 06 26.0 +0.9**
FRU *e* 21 06 36.0
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
FRU MLR MLR
comp=E,4μm,16.0s
KSH Kashi 51.32 295 P **P 21 06 31.5 +5.9**
KSH pP pP 21 06 36.0 +8.1
KSH sP sP 21 06 38.3 +9.5
KSH PcP PcP 21 07 43.5 +3.1
KSH PP PP 21 08 30.6 +8.2
KSH ScP ScP 21 11 33.4 -3.9
KSH PcS PcS 21 11 40.8 +2.7
KSH S **S 21 13 53.1 +8.2**
KSH sS sS 21 14 00.6 +12
KSH ScS ScS 21 16 17.3 +0.8
KSH pmax pmax
comp=Z,65nm,1.9s,mb5.2
KSH pmax pmax
comp=Z,410nm,4.0s
KSH LR LR
comp=N,4μm,15.5s,MS5.6
KSH LR LR
comp=E,2μm,12.4s,MS5.6
KSH LR LR
comp=Z,5μm,16.3s,MS5.6
AAK Ala-Archa 51.42 299 *e*P **P 21 06 26.4 +0.2**
comp=Z,100nm,1.0s,mb5.7
AAK Ala-Archa 51.42 299*c i*P **P 21 06 28.6 +2.4**
AAK pmax pmax
comp=Z,75nm,1.7s,mb5.3
AAK Ala-Archa 51.42 299 P **P 21 06 26.8 +0.6**
comp=Z,3μmcomp=Z,95nm,0.9s,mb5.7
AAK Ala-Archa 51.42 299 P **P 21 06 27.8 +1.6**
comp=Z,115nm,1.3s,mb5.7,SNR=5.1
AAK Ala-Archa 51.42 299 P **P 21 06 28.5 +2.3**
SNR=6.6
BVAR Borovoye Array 51.51 313 P **P 21 06 26.9 +0.2**
comp=Z,3.4nm,0.6s,mb4.5,baz=72,slow=7.9,SNR=36
BVAR Borovoye Array 51.51 313 P **P 21 06 26.9 +0.2**
BVAR Borovoye Array 51.51 313 P **P 21 06 26.9 +0.2**
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 51.56 313 *e*P **P 21 06 25.7 -1.5**
comp=Z,15nm,0.9s,mb4.9
BRVK Borovoye 51.56 313*ce*P **P 21 06 27.2 +0.1**
BRVK pmax pmax
comp=Z,56nm,2.5s,mb5.0
BRVK Borovoye 51.56 313 P **P 21 06 27.6 +0.5**
comp=Z,91nm,1.1s,mb5.6,SNR=9.6
BRVK Borovoye 51.56 313 P **P 21 06 28.3 +1.2**
SNR=9.9
EKS2 Erkin-Say 51.91 299 *e*P **P 21 06 29.4 -0.5**
comp=Z,13nm,0.8s,mb4.9
EKS2 Erkin-Say 51.91 299 *e*P **P 21 06 29.5 -0.4**
EKS2 pmax pmax
comp=Z,13nm,0.8s,mb4.9
BKNI Bangkinang 52.49 236 P **P 21 06 43.1 +8.5**
comp=Z,3μmcomp=Z,99nm,0.9s,mb5.7
SJI Sawahan 52.51 219 P **P 21 06 42.8 +8.2**
comp=Z,50nm,0.9s,mb5.4
KRKI Karangkates 52.53 218 P **P 21 06 41.4 +6.7**
comp=Z,270nm,0.8s,mb6.2
SMRI Semarang 52.62 221 P **P 21 06 44.0 +8.5**
comp=Z,126nm,1.9s,mb5.5
PWJI Pagerwojo 52.74 219 P **P 21 06 43.9 +7.6**
comp=Z,103nm,0.7s,mb5.9
BJII Banjamegara 53.25 222 P **P 21 06 48.6 +8.5**
comp=Z,40nm,1.4s,mb5.2
PPI Padang Panjang 53.50 236 P Px 21 06 52.9
CLJI Cilicap 53.95 222 P **P 21 06 52.9 +7.7**
comp=Z,323nm,1.0s,mb6.2
LEM Lembang 53.99 224 P **P 21 06 50.2 +4.7**
KK31 Karatay Array 54.06 301*ce*P **P 21 06 46.3 +0.6**
KKAR Karatay Array 54.06 301 *e*P **P 21 06 46.2 +0.4**
comp=Z,9.8nm,0.7s,mb4.8
KKAR Karatay Array 54.06 301 *e*P **P 21 06 46.2 +0.5**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
INK Inuvik 54.55 27 P **P 21 06 48.9 0.0**
comp=Z,3.7nm,0.8s,mb4.5,baz=283,slow=6.7,SNR=7.6
INK LR LR 21 32 03.6
comp=Z,1μm,19.1s,MS5.0,baz=292,slow=38
INK Inuvik 54.55 27 P **P 21 06 48.9 0.0**
INK Inuvik 54.55 27 P **P 21 06 48.9 0.0**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK MLR MLR
comp=Z,1μm,19.1s
SVE Sverdlovsk 56.06 319*de*P **P 21 07 00.7 +0.7**
SVE *e* 21 09 10.5
SVE *e*S **S 21 14 52.7 +4.0**
SVE pmax pmax
comp=Z,32nm,1.0s,mb5.3
SVE MLR MLR
comp=E,4μm,16.0s
SVE MLR MLR
comp=Z,5μm,16.0s,MS5.7
CTAO Charters Tower 56.37 176 P **P 21 07 02.2 -0.3**
comp=Z,9.3nm,1.7s,mb4.5
FITZ Fitzroy Crossi 56.53 199 P **P 21 07 04.1 +0.4**
comp=Z,4.8nm,0.6s,mb4.7,baz=358,slow=6.7,SNR=12
FITZ Fitzroy Crossi 56.53 199 *e*P **P 21 07 05.1 +1.4**
FITZ Fitzroy Crossi 56.53 199 P **P 21 07 04.1 +0.4**
FITZ Fitzroy Crossi 56.53 199 P **P 21 07 08.3 +4.6**
comp=Z,36nm,2.7s,mb4.9
WRAB Tennant Creek 56.60 189 *e*P **P 21 07 02.8 -1.4**
comp=Z,30nm,1.0s,mb5.3
WRAB Tennant Creek 56.60 189 *e*P **P 21 07 02.8 -1.4**
WRAB pmax pmax
comp=Z,30nm,1.0s,mb5.3
WRAB Tennant Creek 56.60 189 P **P 21 07 04.7 +0.5**
WB2 Warramunga Arr 56.61 189 *e*P **P 21 07 02.2 -2.0**
WRA Warramunga Arr 56.61 189 P **P 21 07 02.9 -1.3**
comp=Z,10nm,0.8s,mb4.9,baz=7.9,slow=7.3,SNR=40
WRA LR LR 21 30 29.6
comp=Z,704nm,20.2s,MS4.8,baz=20,slow=35
WRA Warramunga Arr 56.61 189 P **P 21 07 02.9 -1.3**
WRA Warramunga Arr 56.61 189 P **P 21 07 02.9 -1.4**
WRA pmax pmax
comp=Z,11nm,0.8s
WRA MLR MLR
comp=Z,704nm,20.2s
SOKR Solikamsk 57.23 323⇑*i*P **P 21 07 10.2 +1.9**
SOKR S **S 21 15 03.4 -0.7**
SOKR SS SS 21 18 51.7 -0.8
SOKR pmax pmax
comp=Z,50nm,3.0s
SOKR MLR MLR
comp=Z,4μm,17.0s,MS5.6
ARU Arti 57.28 319 *e*P **P 21 07 05.9 -2.7**
comp=Z,80nm,1.4s,mb5.6
ARU Arti 57.28 319*d i*P **P 21 07 08.5 -0.2**
ARU 21 08 01.2
ARU S SS 21 18 49.6 -3.7
ARU pmax pmax
comp=Z,71nm,1.7s,mb5.4
ARU MLR MLR
comp=Z,3μm,18.0s,MS5.5
ARU Arti 57.28 319 P **P 21 07 08.1 -0.6**
comp=Z,171nm,0.7s,mb6.2,SNR=12
KBL Kabul 58.32 292 *e*P **P 21 07 15.3 -1.1**
comp=Z,16nm,0.9s,mb5.0
KBL Kabul 58.32 292 *e*P **P 21 07 15.3 -1.0**
KBL pmax pmax
comp=Z,16nm,0.9s,mb5.0
DLBC Dease Lake 58.61 38 P **P 21 07 16.9 -1.1**
comp=Z,1.8nm,0.8s,mb4.2,baz=292,slow=11
DLBC LR LR 21 32 53.3
comp=Z,692nm,18.7s,MS4.8,baz=94,slow=36
DLBC Dease Lake 58.61 38 P **P 21 07 16.9 -1.1**
AB31 Akbulak array 58.88 311*ce*P **P 21 07 19.1 -0.9**
AB31 pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
ABKAR Akbulak array 58.88 311 *e*P **P 21 07 18.9 -1.0**
comp=Z,7.4nm,0.5s,mb5.0
HYB Hyderabad 58.94 269 *i* P **P 21 07 20.0 -0.9**
AKTO Aktyubinsk 59.61 312 P **P 21 07 24.8 -0.3**
comp=Z,8.6nm,0.8s,mb4.8,baz=77,slow=12,SNR=16
AKTO Aktyubinsk 59.61 312 P **P 21 07 24.8 -0.3**
AKTO Aktyubinsk 59.61 312 P **P 21 07 24.8 -0.2**
AKTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AS31 Alice Springs 60.34 189 *e*P **P 21 07 28.9 -1.3**
ASAR Alice Springs 60.34 189 P **P 21 07 28.8 -1.5**
comp=Z,3.6nm,0.7s,mb4.5,baz=12,slow=6.2,SNR=23
ASAR Alice Springs 60.34 189 P **P 21 07 28.8 -1.5**
ASAR Alice Springs 60.34 189 P **P 21 07 28.8 -1.4**
ASAR pmax pmax
comp=Z,4.0nm,0.7s
DZM Mont Dzumac 62.52 155 *e*P **P 21 07 45.4 +0.4**
comp=Z,41nm,1.1s,mb5.5
DZM *e*S **S 21 16 08.1 -4.7**
comp=Z,2μm,27.0s
DZM *e*LR LR 21 26 23.3
comp=Z,2μm,21.4s
RES Resolute Bay 62.96 15 P **P 21 07 47.1 -0.2**
comp=Z,7.8nm,0.9s,mb4.8,baz=316,slow=7.0,SNR=13
RES Resolute Bay 62.96 15 P **P 21 07 47.1 -0.2**
RES Resolute Bay 62.96 15 P **P 21 07 47.1 -0.2**
RES pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
APA Apatity 63.51 336⇑*i*P **P 21 07 51.4 +0.3**
APA *i* S **S 21 16 26.0 +1.8**
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
APA MLR MLR
comp=Z,3μm,13.0s,MS5.7
YKA Yellowknife Ar 63.92 30 P **P 21 07 53.4 -0.5**
comp=Z,0.5nm,0.7s,baz=300,slow=6.4,SNR=4.1
YKA Yellowknife Ar 63.92 30 P **P 21 07 53.4 -0.5**
YKA Yellowknife Ar 63.92 30 P **P 21 07 53.4 -0.5**
KEV Kevo 64.23 340 *e*P **P 21 08 00.3 +4.5**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KEV Kevo 64.23 340 *e*p **P 21 08 00.3 +4.5**
comp=Z,3.8nm,0.6s,mb4.6
KLMR Klimovskoe 64.63 328 *e*P **P 21 07 55.4 -3.2**
KLMR pmax pmax
comp=Z,41nm,1.4s,mb5.3
ARCES ARCESS Array B 64.79 340 P **P 21 07 60.0 +0.5**
comp=Z,4.7nm,0.9s,mb4.5,baz=53,slow=11,SNR=6.0
ARCES LR LR 21 41 44.0
comp=Z,4μm,18.0s,MS5.7,baz=34,slow=41
ARCES ARCESS Array B 64.79 340 P **P 21 07 60.0 +0.5**
ARCES ARCESS Array B 64.79 340 P **P 21 08 00.0 +0.6**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,4μm,18.0s
JOF Joensuu 66.81 332 *e*P **P 21 08 11.8 -0.8**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
JOF Joensuu 66.81 332 *e*p **P 21 08 11.8 -0.8**
comp=Z,8.6nm,0.5s,mb5.0
STKA Stephens Creek 67.99 181 P **P 21 08 20.0 -0.3**
comp=Z,3.3nm,0.9s,mb4.4,baz=338,slow=6.4,SNR=6.3
STKA LR LR 21 37 15.6
comp=Z,669nm,19.0s,MS4.9,baz=266,slow=35
STKA Stephens Creek 67.99 181 *e*P **P 21 08 19.9 -0.4**
STKA Stephens Creek 67.99 181 *e*P **P 21 08 19.2 -1.1**
comp=Z,1.4nm,0.9s,mb4.0
STKA Stephens Creek 67.99 181 *e*P **P 21 08 19.2 -1.1**
MOS Moscow 68.15 324 *e*P **P 21 08 20.9 -0.3**
MOS *e* 21 08 36.2
MOS *e* 21 08 43.5
MOS *e* 21 10 51.5
MOS *e*S S 21 17 14.8 -6.4
MOS pmax pmax
comp=Z,200nm,1.8s,mb5.8
MOS pmax pmax
comp=Z,84nm,1.5s,mb5.5
MOS MLR MLR
comp=E,1μm,15.0s,MS5.5
MOS MLR MLR
comp=Z,2μm,15.0s,MS5.6
MOS MLR MLR
comp=N,2μm,15.0s,MS5.5
FORT Forrest 68.23 193 *e*P **P 21 08 21.7 -0.1**
FORT Forrest 68.23 193 *e*P **P 21 08 21.4 -0.5**
comp=N,35nm,0.7s,mb5.5
OBN Obninsk 69.00 324 *e*P **P 21 08 25.3 -1.2**
comp=N,15nm,0.7s,mb5.0
OBN Obninsk 69.00 324 *e*P **P 21 08 25.7 -0.8**
OBN *i* 21 08 35.2
OBN 21 08 49.3
OBN *i* S S 21 17 31.6 +0.3
OBN *i* SS SS 21 21 51.8 -4.2
OBN pmax pmax
comp=Z,58nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,3μm,14.0s,MS5.7
BBOO Buckleboo 69.17 186 *e*P **P 21 08 26.1 -1.6**
MAK Makhachkala 69.40 309 P **P 21 08 25.0 -4.2**
MAK *e* 21 08 50.4
MAK *e* 21 11 02.6
MAK *e*PPP 21 12 39.5
MAK *e*S S 21 17 30.2 -6.2
MAK *e* 21 18 24.4
MAK *e*SS SS 21 21 58.2 -4.6
FINES FINESS Array B 69.66 333 P **P 21 08 30.4 -0.1**
comp=Z,16nm,0.7s,mb5.0,baz=57,slow=7.0,SNR=24
FINES LR LR 21 44 05.5
comp=Z,2μm,18.8s,MS5.3,baz=43,slow=40
FINES FINESS Array B 69.66 333 P **P 21 08 30.4 -0.1**
FINES FINESS Array B 69.66 333 P **P 21 08 30.4 -0.1**
FINES pmax pmax
comp=Z,16nm,0.7s
FINES MLR MLR
comp=Z,2μm,18.8s
VSR Storozhevoye 69.85 319 *e*P **P 21 08 32.8 +1.0**
VSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.5s
VSR MLR MLR
comp=E,3μm,15.0s,MS5.7
VSR MLR MLR
comp=Z,5μm,15.0s,MS5.9
VSR MLR MLR
comp=N,2μm,16.0s,MS5.7
E09A Wood Farm, Sta 70.36 46⇑P **P 21 08 33.9 -1.2**
baz=70
K05A Summer Lake 70.72 51⇓P **P 21 08 36.9 -0.4**
baz=70
I07A Izee 70.86 49⇑P **P 21 08 38.2 +0.1**
baz=71
A13A Flathead Natio 71.15 43⇑P **P 21 08 39.5 -0.3**
baz=71
VSU Vasula 71.32 330⇑*e*P **P 21 08 42.1 +1.4**
VSU pmax pmax
comp=Z,67nm,1.6s,mb5.3
A14A Double T Ranch 71.66 42⇑P **P 21 08 42.9 0.0**
baz=71
C13A Hot Springs 71.76 44⇓P **P 21 08 43.4 -0.2**
baz=72
MTA Mtatsminda 71.77 309 P **P 21 08 43.6 -0.1**
TBLG Delisi 71.79 309 *e*P **P 21 08 43.3 -0.5**
TBLG Delisi 71.79 309 P **P 21 08 43.3 -0.5**
KIV Kislovodsk 71.84 311 *e*P **P 21 08 44.4 +0.7**
comp=Z,26nm,0.8s,mb5.2
KIV Kislovodsk 71.84 311 *e*P **P 21 08 44.4 +0.3**
KIV *e*S S 21 18 02.8 -2.1
KIV *e*SS SS 21 22 38.2 -2.1
KIV pmax pmax
comp=Z,35nm,1.1s,mb5.2
KIV Kislovodsk 71.84 311 P **P 21 08 46.0 +1.9**
SNR=6.7
KIV Kislovodsk 71.84 311 P **P 21 08 45.5 +1.4**
comp=Z,164nm,1.3s,mb5.8,SNR=5.9
J08A Circle Bar Ran 71.88 49⇑P **P 21 08 44.4 +0.1**
baz=72
E12A Beaver Dam Sad 71.91 45⇓P **P 21 08 44.6 +0.2**
baz=72
BANOM Banah 72.10 289 P **P 21 08 47.6 +1.7**
SNR=5.1
ONI Oni 72.12 310 P **P 21 08 46.9 +1.1**
D13A Huson 72.16 44⇓P **P 21 08 45.5 -0.4**
baz=72
SWMT Swartz Lake 72.18 44 *e*P **P 21 08 46.4 +0.4**
comp=Z,6.3nm,1.0s,mb4.5
B15A Bradely Ranch, 72.51 43⇑P **P 21 08 47.6 -0.4**
baz=72,SNR=5.7
MSO Missoula 72.60 44⇑P **P 21 08 48.4 -0.2**
baz=72
SLMT Seeley Lake 72.61 44 *e*P **P 21 08 48.8 +0.2**
comp=Z,11nm,1.1s,mb4.7
GNI Garni 72.64 307 P **P 21 08 50.0 +1.1**
comp=Z,4.4nm,0.8s,mb4.5,baz=23,slow=7.7,SNR=3.3
GNI Garni 72.64 307 *e*P **P 21 08 49.8 +0.9**
comp=Z,16nm,0.9s,mb5.0
GNI Garni 72.64 307 *e*P **P 21 08 49.8 +0.8**
GNI pmax pmax
comp=Z,16nm,0.9s
A16A West Butte Ran 72.66 42⇑P **P 21 08 48.5 -0.4**
baz=72
C15A Salmond Ranch, 72.80 43⇓P **P 21 08 49.7 0.0**
baz=72,SNR=5.4
NWAO Narrogin (SRO) 72.92 202 P **P 21 08 49.8 -0.6**
NWAO Narrogin (SRO) 72.92 202 P **P 21 08 49.8 -0.6**
F13A Darby 72.97 45⇓P **P 21 08 50.5 -0.3**
baz=73
C16A Fuhringer Ranc 73.25 43⇑P **P 21 08 52.5 +0.1**
baz=73
D15A Lincoln 73.27 44⇓P **P 21 08 52.0 -0.5**
baz=73
IZAR Zarasai 73.28 328 *e*P **P 21 08 54.1 +1.7**
IZAR AMB AMB 21 08 55.6
comp=Z,10.0nm,1.4s,mb4.6
H12A Diamond D Ranc 73.38 47⇑P **P 21 08 53.2 0.0**
baz=73
MICGM Minsk 73.38 326⇓*e*P **P 21 08 53.0 -0.1**
MNK Minsk 73.40 326⇓*e*P **P 21 08 53.0 -0.2**
MNK *e* 21 11 36.0
MNK *e*S S 21 18 20.0 -2.4
MNK *e*PS 21 18 54.0
MNK *e*SS SS 21 23 08.0 +4.5
MNK MLR MLR
comp=N,7μm,13.0s
MNK MLR MLR
comp=Z,8μm,14.0s,MS6.2
MFID Camas Ranch 73.44 48⇓P **P 21 08 54.2 +0.6**
baz=73
ISAL Salakas 73.45 328 *e*P **P 21 08 55.1 +1.6**
ISAL AMB AMB 21 08 56.6
comp=Z,16nm,1.1s,mb4.9
B17A L&G Farms, Che 73.47 42⇓P **P 21 08 53.0 -0.7**
baz=73
IIGN Ignalina 73.56 328 *e*P **P 21 08 55.7 +1.6**
IIGN AMB AMB 21 08 57.2
comp=Z,9.6nm,1.1s,mb4.6
E15A Deer Lodge 73.56 44⇑P **P 21 08 54.2 -0.1**
baz=73
A18A Metzger Ranch, 73.61 41⇑P **P 21 08 54.1 -0.4**
baz=73
NACGM Naroch 73.61 327 *e*P **P 21 08 53.0 -1.4**
I12A Atlanta 73.64 47⇓P **P 21 08 54.8 0.0**
baz=73
H13A Challis 73.72 46⇑P **P 21 08 54.9 -0.3**
baz=74
FFC Flin Flon 73.77 33 *i* P **P 21 08 56.5 +1.2**
D16A Dana Ranch, Ca 73.81 43⇑P **P 21 08 55.7 -0.1**
baz=74
SOC Sochi 73.83 312 *e*P **P 21 08 55.2 -0.7**
SOC *e*PPP 21 13 23.8
SOC *e*S S 21 18 22.4 -5.2
SOC *e* 21 19 04.7
SOC *e*SS SS 21 23 17.1 +6.5
SOC pmax pmax
comp=Z,28nm,1.0s,mb5.2
C17A Wharram Farm, 73.89 42⇑P **P 21 08 56.0 -0.2**
baz=74
B18A Beardsley Farm 73.96 41⇑P **P 21 08 56.6 +0.1**
baz=74
LRM Limekiln Ridge 74.02 45 *e*P **P 21 08 57.0 0.0**
comp=Z,100nm,1.0s,mb5.7
E16A East Helena 74.04 44⇓P **P 21 08 57.3 +0.2**
baz=74,SNR=6.3
I13A Wildhorse Cree 74.17 47⇑P **P 21 08 58.6 +0.7**
baz=74
EGMT Eagleton 74.20 42⇑P **P 21 08 58.5 +0.6**
baz=74
HLID Hailey 74.20 47⇑P **P 21 08 58.7 +0.6**
baz=74
H14A Leadore 74.20 46⇓P **P 21 08 58.3 +0.2**
baz=74
D17A Six Diamond Ra 74.22 43⇓P **P 21 08 58.8 +0.7**
baz=74
B19A Brinkman Farms 74.36 41⇑P **P 21 08 59.5 +0.6**
baz=74
G15A Dillon 74.39 45⇑P **P 21 08 59.7 +0.6**
baz=74
J13A Cove Ranch, Pi 74.44 47⇓P **P 21 08 59.9 +0.5**
baz=74
ANN Anapa 74.46 314 *e*P **P 21 08 59.4 -0.2**
ANN *e*S S 21 18 35.3 +0.7
ANN pmax pmax
comp=Z,50nm,1.6s,mb5.2
F16A Kennard Place, 74.51 44⇑P **P 21 09 00.4 +0.6**
baz=74
E17A Martinsdale 74.53 43⇑P **P 21 09 00.0 +0.1**
baz=74
I14A Mackay 74.56 47⇑P **P 21 09 00.6 +0.5**
baz=74
BOZ Bozeman (W) 74.59 44⇑P **P 21 09 00.4 +0.1**
baz=74,SNR=6.6
BOZ Bozeman (W) 74.59 44 *e*P **P 21 09 00.2 -0.1**
comp=Z,4.4nm,0.9s,mb4.4
BOZ Bozeman (W) 74.59 44 *e*P **P 21 09 00.2 -0.1**
BOZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
H15A Lima 74.62 46⇑P **P 21 09 00.7 +0.2**
baz=74
A20A Cobblestone Ra 74.64 40⇑P **P 21 09 01.1 +0.6**
baz=74
D18A Linhart Farms, 74.67 42⇑P **P 21 09 00.8 +0.1**
baz=74
NVAR Mina Array Bea 74.72 53 P **P 21 09 01.4 +0.2**
comp=Z,2.4nm,1.0s,mb4.1,baz=302,slow=5.2,SNR=3.6
NVAR Mina Array Bea 74.72 53 P **P 21 09 01.4 +0.2**
C19A Slack Wire Ran 74.75 42⇓P **P 21 09 01.0 -0.2**
baz=74
J14A Carey 74.87 47⇓P **P 21 09 02.3 +0.3**
baz=75
F17A Fitzpatrick Pl 74.98 44⇑P **P 21 09 03.1 +0.6**
baz=75
E18A Harlowton 74.99 43⇑P **P 21 09 03.0 +0.4**
baz=75
NB2 NORSAR Subarra 74.99 338 P **P 21 09 02.3 0.0**
comp=Z,17nm,0.9s,mb5.0,baz=39,slow=5.9
NOA NORSAR Array B 74.99 338 P **P 21 09 01.9 -0.4**
comp=Z,6.7nm,0.8s,mb4.6,baz=38,slow=5.7,SNR=20
NOA LR LR 21 45 46.1
comp=Z,2μm,18.6s,MS5.4,baz=55,slow=39
NOA NORSAR Array B 74.99 338 P **P 21 09 01.9 -0.4**
NOA NORSAR Array B 74.99 338 P **P 21 09 01.9 -0.4**
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA MLR MLR
comp=Z,2μm,18.6s
D19A Cripps Ranch, 75.19 42⇓P **P 21 09 04.4 +0.7**
baz=75
AKASG Malin Array Be 75.20 323 P **P 21 09 03.3 -0.4**
comp=Z,9.9nm,0.8s,mb4.8,baz=45,slow=5.7,SNR=20
AKASG LR LR 21 47 16.5
comp=Z,2μm,18.4s,MS5.4,baz=50,slow=40
AKASG Malin Array Be 75.20 323 P **P 21 09 03.3 -0.4**

AKASG Malin Array Be 75.20 323 P **P 21 09 03.3 -0.4**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKASG MLR MLR
comp=Z,2µm,18.4s
AKBB Malin Array Si 75.20 323 *e*P **P 21 09 03.5 -0.2**
AKBB Malin Array Si 75.20 323 *e*P **P 21 09 03.5 -0.2**
KIEV Kiev 75.21 323 *e*P **P 21 09 03.4 -0.4**
comp=Z,20nm,0.9s,mb5.1
KIEV Kiev 75.21 323⇓*e*P **P 21 09 04.1 +0.3**
G17A Pierce Place, 75.29 44⇑P **P 21 09 04.6 +0.3**
baz=75
H16A Russell Place, 75.37 45⇓P **P 21 09 04.5 -0.3**
baz=75
B21A Ellsworth Farm 75.39 40⇑P **P 21 09 05.2 +0.3**
baz=75
F18A Big Timber 75.50 43⇑P **P 21 09 05.8 +0.2**
baz=75
A22A Carney Farms, 75.60 39⇑P **P 21 09 06.5 +0.4**
baz=75
GCMT Greycliff 75.60 43 *e*P **P 21 09 06.5 +0.4**
comp=Z,6.5nm,1.3s,mb4.4
D20A Manuel Ranch, 75.63 42⇑P **P 21 09 06.2 -0.1**
baz=75
E19A Rath Farm, Rou 75.67 42⇑P **P 21 09 06.2 -0.3**
baz=75
I16A Newdale 75.73 46⇑P **P 21 09 07.1 +0.2**
baz=76
SUW Suwalki 75.77 328 *e*P **P 21 09 08.6 +1.7**
SUW Suwalki 75.77 328 *e*P **P 21 09 07.2 +0.3**
comp=Z,57nm,1.0s,mb5.5
SUW Suwalki 75.77 328 *e*P **P 21 09 07.2 +0.3**
SUW pmax pmax
comp=Z,57nm,1.0s,mb5.5
H17A Grant Village 75.94 45⇑P **P 21 09 08.4 +0.3**
baz=76
E20A Meyer Farm, Mu 76.00 42⇓P **P 21 09 08.6 +0.2**
baz=76
I17A Pilgrim Ck. 76.23 45⇑P **P 21 09 10.1 +0.3**
baz=76,SNR=6.7
SIM Simferopol' 76.25 316 P **P 21 09 10.8 +0.9**
SIM *e*S S 21 18 55.0 +0.5
SIM *e*SSS 21 27 01.0
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,2µm,14.9s,MS5.5
H18A Shoshone NF, C 76.28 44⇓P **P 21 09 10.5 +0.4**
baz=76
LOHW Long Hollow 76.40 46 P **P 21 09 11.8 +1.0**
comp=Z,10.0nm,0.6s,mb4.9
B23A Brockton 76.41 39⇓P **P 21 09 10.7 +0.1**
baz=76
REDW Red Top Meadow 76.41 46 *e*P **P 21 09 10.6 -0.2**
comp=Z,9.7nm,1.5s,mb4.5
R11A Troy Canyon, C 76.52 52⇓P **P 21 09 11.5 0.0**
baz=76
MPMC Manual Prospec 76.61 55⇓P **P 21 09 12.1 0.0**
baz=76
D22A Cohagen 76.64 41⇓P **P 21 09 11.9 -0.1**
baz=76
BHD Baghdad 76.73 302 *ex* SKSac 21 19 28.7 +3.4
BHD *ex* x 21 19 38.7
C23A Lambert 76.74 40⇓P **P 21 09 11.9 -0.7**
baz=76
LAO LASA Array 76.91 41⇑P **P 21 09 13.7 +0.2**
baz=77
LAO LASA Array 76.91 41 *e*P **P 21 09 14.2 +0.6**
comp=Z,62nm,0.8s,mb5.6
D23A Lindsay 77.13 40⇓P **P 21 09 14.7 -0.1**
baz=77
FRB Frobisher Bay 77.15 14 P **P 21 09 14.5 -0.1**
comp=Z,12nm,0.7s,mb5.0,baz=336,slow=7.7,SNR=6.1
FRB Frobisher Bay 77.15 14 P **P 21 09 14.5 -0.1**
FRB Frobisher Bay 77.15 14 P **P 21 09 14.5 -0.1**
FRB pmax pmax
comp=Z,12nm,0.7s
DUG Dugway 77.16 49⇓P **P 21 09 15.0 0.0**
baz=77
DUG Dugway 77.16 49 *e*P **P 21 09 13.7 -1.3**
comp=Z,5.6nm,0.9s,mb4.5
DUG Dugway 77.16 49 *e*P **P 21 09 13.7 -1.3**
DUG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
PD01 Pinedale Array 77.50 46 *e*P **P 21 09 17.0 +0.1**
J19A Crowheart 77.50 45⇓P **P 21 09 17.4 +0.4**
baz=77,SNR=5.1
BW06 Boulder Array 77.52 46⇑P **P 21 09 17.6 +0.6**
baz=77
PDAR Pinedale Array 77.52 46 P **P 21 09 17.4 +0.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=250,slow=1.2,SNR=8.4
PDAR Pinedale Array 77.52 46 P **P 21 09 17.4 +0.3**
D24A Glendive 77.63 40⇑P **P 21 09 18.0 +0.4**
baz=77
R13A O'Grain Ranch, 77.64 52⇓P **P 21 09 18.5 +0.7**
baz=77
M17A Scullys Gap (B 77.67 47⇓P **P 21 09 18.2 +0.3**
baz=77
L18A Fontenelle, Gr 77.77 47⇓P **P 21 09 19.1 +0.7**
baz=78
KIS Kishinev 77.81 320 *e*P **P 21 09 19.0 +0.4**
KIS *e*S S 21 19 09.0 -2.4
KIS LRM 21 46 44.0
comp=Z,4µm,16.0s
KIS Kishinev 77.81 320 *e*P **P 21 09 19.0 +0.4**
KIS *e* 21 09 31.0
KIS *e* 21 19 09.0
KIS *e* 21 19 32.0
KIS MLR MLR
comp=Z,4µm,16.0s,MS5.8
KIS MLR MLR
comp=Z,4µm,16.0s
N17A Moffit Pass 77.90 48⇓P **P 21 09 19.1 0.0**
baz=78
DAU Daniels Canyon 77.97 48 *e*P **P 21 09 19.6 0.0**
comp=Z,14nm,1.2s,mb4.8
DAU Daniels Canyon 77.97 48 *e*P **P 21 09 19.6 0.0**
DAU pmax pmax
comp=Z,14nm,1.2s,mb4.8
TUQ Turquoise Moun 78.01 55⇓P **P 21 09 20.0 +0.1**
baz=78
ARUT Antelope Range 78.21 52 *e*P **P 21 09 20.9 -0.1**
comp=Z,2.3nm,0.8s,mb4.2
ARUT Antelope Range 78.21 52 *e*P **P 21 09 20.9 -0.1**
LVV L'vov 78.28 324 *e*P **P 21 09 20.2 -0.9**
LVV *e*S S 21 19 09.6 -6.7
BEL Belsk 78.32 327 *e*P **P 21 09 23.8 +2.5**
BEL Belsk 78.32 327 *e*P **P 21 09 23.8 +2.5**
MSU Marysvale 78.56 50 *e*P **P 21 09 24.4 +1.5**
comp=Z,13nm,1.8s,mb4.6
MSU Marysvale 78.56 50 *e*P **P 21 09 24.4 +1.5**
MSU pmax pmax
comp=Z,13nm,1.8s,mb4.6
H23A Clabaugh Cattl 78.72 42⇑P **P 21 09 23.3 -0.3**
baz=78
P17A Butcher Ranch, 78.86 49⇑P **P 21 09 24.6 +0.1**
baz=79
N19A John Jarvie Ra 78.91 47⇓P **P 21 09 25.0 +0.2**
baz=79
KWP Kalwaria Pacla 79.02 325 *e*P **P 21 09 27.0 +1.8**
KWP Kalwaria Pacla 79.02 325 *e*P **P 21 09 26.3 +1.0**
comp=Z,89nm,1.3s,mb5.5
KWP Kalwaria Pacla 79.02 325 *e*P **P 21 09 26.3 +1.1**
KWP pmax pmax
comp=Z,89nm,1.3s,mb5.5
P18A Preston Nutter 79.06 49⇑P **P 21 09 25.0 -0.7**
baz=79
BUR08 Bucovina Ar. S 79.21 322 *e*P **P 21 09 25.8 -0.4**
BURAR Bucovina Array 79.22 322⇓P **P 21 09 26.6 +0.3**
BURAR Bucovina Array 79.22 322⇓*i*P **P 21 09 26.6 +0.3**
TESR 79.25 321⇓*i*P **P 21 09 27.0 +0.5**
IRM Iron Mountain 79.28 55⇓P **P 21 09 26.2 -0.7**
baz=79
BC3 Big Chuckawall 79.38 56⇑P **P 21 09 27.1 -0.4**
baz=79
N20A Spence Gulch, 79.49 47⇓P **P 21 09 27.5 -0.4**
baz=79
R17A Hanksville Air 79.53 50⇓P **P 21 09 28.2 0.0**
baz=79
ULM Lac du Bonnet 79.56 34 P **P 21 09 27.7 -0.4**
comp=Z,1.0nm,0.3s,mb4.2,baz=270,slow=3.0,SNR=2.6
ULM LR LR 21 50 20.9
comp=Z,660nm,18.1s,MS5.0,baz=332,slow=40
ULM Lac du Bonnet 79.56 34 P **P 21 09 27.7 -0.4**
ULM Lac du Bonnet 79.56 34 P **P 21 09 27.7 -0.4**
ULM pmax pmax
comp=Z,1.0nm,0.3s
ULM MLR MLR
comp=Z,660nm,18.1s
VRI Vrincioaia 79.64 320⇓P **P 21 09 30.3 +1.6**
VRI Vrincioaia 79.64 320⇓*i*P **P 21 09 30.3 +1.6**
KOLS Kolonicke sedl 79.72 325 *e*PCP PcP 21 09 38.6 +1.8
U15A North Rim 79.77 52⇓P **P 21 09 28.6 -0.9**
baz=80
BR131 Keskin Array S 79.79 312 *e*P **P 21 09 29.7 +0.1**
comp=Z,4.8nm,0.8s,mb4.5
BRTR Keskin Array B 79.79 312 P **P 21 09 31.6 +2.1**
comp=Z,3.0nm,0.8s,mb4.2,baz=81,slow=3.9,SNR=11
BRTR LR LR 21 51 20.2
comp=Z,996nm,18.0s,MS5.2,baz=202,slow=41
BRTR Keskin Array B 79.79 312 P **P 21 09 31.6 +2.1**
BRTR Keskin Array B 79.79 312 P **P 21 09 31.7 +2.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR MLR MLR
comp=Z,996nm,18.0s
P19A Cripple Cowboy 79.82 48⇓P **P 21 09 29.5 -0.3**
baz=80
OJC Ojcow 79.92 327 *e*P **P 21 09 30.9 +0.8**
OJC Ojcow 79.92 327 *e*P **P 21 09 30.8 +0.7**
S17A Black Ridge (B 79.96 51⇓P **P 21 09 30.0 -0.5**
baz=80
R18A Canyonlands Na 80.05 49⇓P **P 21 09 30.6 -0.4**
baz=80
CRVS Cervenica-Dubn 80.12 325 *e*P **P 21 09 31.1 -0.1**
CRVS pmax pmax
comp=Z,30nm,1.9s,mb4.9
CRVS Cervenica-Dubn 80.12 325 *e*P **P 21 09 31.1 -0.1**
TRPA Tarpa 80.16 324⇑*i*P **P 21 09 33.5 +2.1**
S18A Hurst Farm, Bl 80.42 50⇓P **P 21 09 33.2 +0.1**
baz=80
U16A Tuba City 80.68 52⇓P **P 21 09 34.7 +0.2**
baz=80
U17A Shonto 80.69 51⇑P **P 21 09 34.7 +0.2**
baz=80
T18A Mexican Hat 80.85 50⇑P **P 21 09 34.8 -0.5**
baz=81
Z13A Yuma Proving G 80.85 55⇓P **P 21 09 35.0 -0.4**
baz=81
KECS Kecovo 80.87 325 *e*P **P 21 09 37.0 +1.8**
KECS Kecovo 80.87 325 *e*P **P 21 09 37.0 +1.8**
WUAZ Wupatki 80.91 52⇓P **P 21 09 35.7 0.0**
baz=81
S19A Harvey Farm, M 80.92 50⇑P **P 21 09 35.7 -0.1**
baz=81
O22A Kremmling 80.92 46⇑P **P 21 09 35.6 -0.1**
baz=81
OKC Ostrava-Krasne 80.93 327 *e*P **P 21 09 37.2 +1.7**
OKC *e* 21 09 44.7
OKC MLR MLR
comp=Z,3µm,14.9s,MS5.7
OKC Ostrava-Krasne 80.93 327 *e*P **P 21 09 37.2 +1.7**
OKC *ep*P pP 21 09 44.7 +6.7
OKC AMS AMS 21 51 20.0
comp=Z,3µm,14.9s
KSP Ksiaz 80.97 329 *e*P **P 21 09 37.1 +1.3**
KSP Ksiaz 80.97 329 *e*P **P 21 09 37.5 +1.7**
KSP *e*PcP PcP 21 09 44.9 +2.7
KSP *e*S S 21 19 48.0 +3.2
KSP LM 21 48 46.0
comp=Z,5.7nm,16.5s
KSP Ksiaz 80.97 329 *e*P **P 21 09 37.5 +1.7**
KSP *e* 21 09 44.9
KSP *e*S S 21 19 48.0 +3.2
PV01 Paradox Valley 81.02 49 *e*P **P 21 09 37.0 +0.8**
comp=Z,487nm,0.8s
113A Mohawk Valley, 81.04 56⇓P **P 21 09 35.7 -0.7**
baz=81
R20A Redvale 81.10 49⇓P **P 21 09 36.7 +0.1**
baz=81
P22A Eagle 81.17 47⇑P **P 21 09 36.8 -0.2**
baz=81,SNR=5.9
V17A Tonalea, Kykot 81.22 52⇑P **P 21 09 37.3 0.0**
baz=81
MORC Moravsky Berou 81.24 327 *e*P **P 21 09 36.7 -0.4**
comp=Z,13nm,1.1s,mb4.8
MORC Moravsky Berou 81.24 327 *e*P **P 21 09 36.7 -0.5**
MORC pmax pmax
comp=Z,13nm,1.1s,mb4.8
MORC Moravsky Berou 81.24 327⇓*i*P **P 21 09 38.1 +0.9**
DPC Dobruska-Polom 81.33 328 *e*P **P 21 09 36.9 -0.8**
DPC *e* 21 09 46.9
DPC *e* 21 19 46.2
DPC MLR MLR
comp=Z,2µm,14.2s,MS5.7
DPC Dobruska-Polom 81.33 328 *e*P **P 21 09 36.9 -0.8**
DPC *ep*P pP 21 09 46.9 +6.8
DPC *e*S S 21 19 46.2 -2.4
DPC AMS AMS 21 56 00.0
comp=Z,2µm,14.2s
S20A Disappointment 81.34 49⇑P **P 21 09 37.9 -0.1**
baz=81
KRLC Kraliky 81.34 328 *e*P **P 21 09 39.3 +1.6**
UPC Upice 81.34 329 *e*P **P 21 09 39.4 +1.7**
UPC *e* 21 09 46.5
UPC Upice 81.34 329 *e*P **P 21 09 39.4 +1.7**
UPC *ep*P pP 21 09 46.5 +6.3
R21A Cimarron 81.49 48⇓P **P 21 09 39.0 +0.3**
baz=81
PSZ Piszkesteto 81.55 325 *e*P **P 21 09 41.0 +2.1**
comp=Z,19nm,1.0s,mb5.0
PSZ Piszkesteto 81.55 325⇓P **P 21 09 40.6 +1.7**
PSZ Piszkesteto 81.55 325⇓*e*PcP **P 21 09 40.9 +2.0**
PSZ Piszkesteto 81.55 325⇓*i*P **P 21 09 40.6 +1.7**
Q22A Crested Butte, 81.55 48⇓P **P 21 09 39.7 +0.7**
baz=81
X16A Lo Mia Camp, P 81.55 53⇓P **P 21 09 39.6 +0.5**
baz=81
T19A Beclabito 81.57 50⇓P **P 21 09 39.3 +0.1**
baz=81
VYHS Vyhne 81.61 326 *e*P **P 21 09 40.0 +0.8**
VYHS pmax pmax
comp=Z,26nm,2.3s,mb4.8
VYHS Vyhne 81.61 326 *e*P **P 21 09 40.0 +0.8**
ISCO Idaho Springs 81.70 46 *e*P **P 21 09 38.3 -1.6**
comp=Z,9.6nm,1.4s,mb4.5
ISCO Idaho Springs 81.70 46 *e*P **P 21 09 38.3 -1.5**
ISCO pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
V18A Ganado 81.71 52⇑P **P 21 09 39.7 -0.3**
baz=81
KOLL Kolacno 81.75 326 *e*P **P 21 09 41.9 +2.0**
KOLL Kolacno 81.75 326 *e*P **P 21 09 41.9 +2.0**
S21A Coal Bank Pass 81.79 49⇑P **P 21 09 40.7 +0.3**
baz=82
U19A Dine' College, 81.79 51⇓P **P 21 09 40.6 +0.2**
baz=82
BRG Berggiesshubel 81.92 330 *i* P **P 21 09 42.0 +1.3**
comp=Z,63nm,2.2s,mb5.2
BRG *e* 21 09 49.7
comp=Z,13nm,1.0s
BRG *e* 21 10 06.8
comp=Z,7.2nm,1.1s
BRG S S 21 19 56.0 +1.4
BRG
comp=Z,5µm,16.1s
BRG
comp=N,3µm,15.0s
BRG
comp=E,3µm,15.0s
BRG Berggiesshubel 81.92 330 *i* P **P 21 09 42.0 +1.2**
BRG *e* 21 09 49.7
BRG S S 21 19 56.0 +1.4
BRG pmax pmax
comp=Z,63nm,2.3s,mb5.1
BRG MLR MLR
comp=Z,5µm,16.1s,MS5.9
BRG MLR MLR
comp=N,3µm,15.0s,MS5.9
BRG MLR MLR
comp=E,3µm,15.0s,MS5.9
PVCC Panska Ves 81.93 329 *e*P **P 21 09 42.6 +1.8**
PVCC *e* 21 09 49.4
PVCC MLR MLR
comp=Z,3µm,14.4s,MS5.8
PVCC Panska Ves 81.93 329 *e*P **P 21 09 42.6 +1.8**
PVCC *ep*P pP 21 09 49.4 +6.1
PVCC AMS AMS 21 49 40.0
comp=Z,3µm,14.4s
CLL Collm 81.96 331⇓*i*P **P 21 09 41.8 +0.8**
CLL *i* 21 09 49.8
CLL *e*S S 21 19 55.0 0.0
CLL pmax pmax
comp=Z,11nm,0.9s,mb4.8
CLL MLR MLR
comp=Z,2µm,19.0s,MS5.5
CLL Collm 81.96 331⇓*i*P **P 21 09 41.8 +0.8**
comp=Z,11nm,0.9s,mb4.8
CLL *i* (sPcP) 21 09 49.8
CLL *e*S S 21 19 55.0 0.0
CLL *e*SS SS 21 25 18.0 +5.7
CLL *e* 21 26 36.0
CLL *e*SSS 21 29 06.0
CLL LV 21 53 00.0
comp=Z,2µm,19.0s
GZR Gura Zlata 81.97 322⇑P **P 21 09 43.0 +1.8**
GZR Gura Zlata 81.97 322⇑*i*P **P 21 09 43.0 +1.8**
VRAC Vranov 82.00 328⇓P **P 21 09 42.9 +1.7**
VRAC Vranov 82.00 328⇓*i*P **P 21 09 42.9 +1.7**
R22A Saguache, Gunn 82.05 48⇑P **P 21 09 42.3 +0.6**
baz=82
U20A Newcomb 82.17 50⇑P **P 21 09 42.8 +0.4**
baz=82
BUD Budapest 82.27 325⇓*e*PcP **P 21 09 44.4 +1.7**
S22A 4UR Ranch, Cre 82.32 48⇓P **P 21 09 43.4 +0.3**
baz=82
PRU Pruhonice 82.35 329 *e*P **P 21 09 43.8 +0.7**
PRU *e* 21 09 51.6
PRU MLR MLR
comp=Z,2µm,17.2s,MS5.6
PRU Pruhonice 82.35 329 *e*P **P 21 09 43.8 +0.7**
PRU *ep*P pP 21 09 51.6 +6.1
PRU AMS AMS 21 50 00.0
comp=Z,2µm,17.2s
BZS Buzias 82.39 323⇓P **P 21 09 43.7 +0.4**
BZS Buzias 82.39 323⇓*i*P **P 21 09 43.7 +0.4**
TREC Trest 82.48 328 *e*P **P 21 09 39.3 -4.5**
TREC Trest 82.48 328 *e*P **P 21 09 44.7 +0.9**
TREC *ep*P pP 21 09 52.6 +6.4
TREC AMS AMS 21 51 40.0
comp=Z,4µm,15.4s
R23A Moffat 82.63 48⇓P **P 21 09 45.5 +0.8**
baz=82
P25A Willow Gulch B 82.73 46⇓P **P 21 09 45.6 +0.4**
baz=82
MMAI Mount Meron Ar 82.90 306 P **P 21 09 48.0 +1.8**
comp=Z,5.0nm,0.8s,mb4.6,baz=49,slow=9.8,SNR=4.0
MMAI Mount Meron Ar 82.90 306 P **P 21 09 48.0 +1.8**
W20A Ramah 82.98 51⇓P **P 21 09 46.5 -0.2**
baz=83
NKC Novy Kostel 83.02 330 *e*P **P 21 09 47.3 +0.8**
NKC *e* 21 09 55.9
NKC MLR MLR
comp=Z,3µm,14.9s,MS5.8
NKC Novy Kostel 83.02 330 *e*P **P 21 09 47.3 +0.8**
NKC *ep*P pP 21 09 55.9 +6.9
NKC AMS AMS 21 50 20.0
comp=Z,3µm,14.9s
R24A Sanders Place, 83.03 47⇓P **P 21 09 47.0 +0.2**
baz=83
Q25A Bedland, Calha 83.08 46⇓P **P 21 09 47.6 +0.5**
baz=83
SDCO Great Sand Dun 83.12 48⇓P **P 21 09 47.3 +0.1**
baz=83
SOP Sopron 83.24 326⇓*e*PcP **P 21 09 49.3 +1.6**
S24A Houchin Ranch, 83.36 48⇑P **P 21 09 49.1 +0.5**
baz=83
PKSM Moragy 83.38 324⇑P **P 21 09 49.1 +0.6**
PKSM Moragy 83.38 324⇑*i*P **P 21 09 49.1 +0.6**
KHC Kasperske Hory 83.41 329 *e*P **P 21 09 48.4 -0.2**
comp=Z,12nm,1.0s,mb4.9
KHC Kasperske Hory 83.41 329 *e*P **P 21 09 48.4 -0.2**
KHC pmax pmax
comp=Z,12nm,1.0s,mb4.9
KHC Kasperske Hory 83.41 329 *e*P **P 21 09 48.6 0.0**
KHC *ep*P pP 21 09 57.0 +6.0
KHC *ex* x 21 20 15.1
KHC AMS AMS 21 51 50.0
comp=Z,2µm,14.2s
V22A San Miguel Ran 83.46 50⇓P **P 21 09 49.2 +0.1**
baz=83
R25A Fountain Ranch 83.57 47⇑P **P 21 09 49.9 +0.3**
baz=83
GERES GERESS Array B 83.58 329 P **P 21 09 49.4 -0.1**
comp=Z,2.8nm,0.8s,mb4.4,baz=35,slow=4.9,SNR=25
GERES GERESS Array B 83.58 329 P **P 21 09 49.4 -0.1**
GERES GERESS Array B 83.58 329 P **P 21 09 49.4 -0.1**
118A Homack Ranch, 83.62 54⇓P **P 21 09 50.4 +0.5**
baz=83
U23A El Rito 83.63 49⇓P **P 21 09 50.1 +0.2**
baz=83
PPT2 Papeete2 83.72 117 *e*S S 21 20 07.4 -6.4
comp=Z,1000nm,32.5s
PPT2 *e*LR LR 21 35 56.5
comp=Z,1µm,27.5s,baz=310
VTS Vitosha 83.73 320⇑P **P 21 09 50.6 +0.3**
VTS Vitosha 83.73 320⇑*i*P **P 21 09 50.5 +0.2**
T24A Torres, Weston 83.83 48⇑P **P 21 09 51.6 +0.7**
baz=84
GRFO Grafenberg 83.93 331 P **P 21 09 50.7 -0.5**
comp=Z,18nm,1.0s,mb5.2
GRFO Grafenberg 83.93 331 P **P 21 09 50.7 -0.5**
GRFO pmax pmax
comp=Z,18nm,1.0s,mb5.2
R26A Arlington 83.96 46⇓P **P 21 09 51.6 0.0**
baz=84
218A Dragoon 83.99 55⇑P **P 21 09 52.5 +0.6**
baz=84
T25A Trinidad 84.17 48⇑P **P 21 09 53.1 +0.4**
baz=84
Z20A Nine Sixteen R 84.21 53⇑P **P 21 09 53.4 +0.5**
baz=84
R27A Eads 84.34 46⇑P **P 21 09 54.6 +1.0**
baz=84
318A Bisbee 84.37 55⇓P **P 21 09 54.0 +0.2**
baz=84
ANMO Albuquerque 84.37 50 P **P 21 09 53.6 -0.2**
comp=Z,3.1nm,0.9s,mb4.4,baz=295,slow=4.9,SNR=5.4
ANMO Albuquerque 84.37 50 P **P 21 09 53.6 -0.2**
ANMO Albuquerque 84.37 50 P **P 21 09 53.6 -0.1**
W24A Lazy 6 Ranch, 84.85 50⇓P **P 21 09 57.1 +0.9**
baz=85
VAY Valandovo 84.97 319 *e*P **P 21 09 56.1 -0.6**
U26A Atchley Ranch, 85.06 48⇓P **P 21 09 57.0 -0.2**
baz=85
121A Cookes Peak, D 85.10 53⇑P **P 21 09 58.0 +0.5**
baz=85
MEM Membach 85.15 334 P **P 21 09 57.7 +0.3**
TAOE Nuku Hiva Isla 85.30 105 *e*LR LR 21 36 47.7
comp=Z,1µm,22.5s
W25A X Bar L Ranch, 85.42 49⇓P **P 21 09 59.0 -0.1**
baz=85
STU Stuttgart 85.47 331 *e*P **P 21 09 59.1 +0.1**
comp=Z,26nm,1.0s,mb5.3
STU Stuttgart 85.47 331 *e*P **P 21 09 59.1 +0.1**
STU pmax pmax
comp=Z,27nm,1.0s,mb5.3
BCLA Clavier 85.56 334 P **P 21 10 00.6 +1.2**
comp=Z,12nm,1.9s,mb4.8
KRUS Krusevo 85.63 320 *e*P **P 21 09 59.0 -1.0**
SCHQ Schefferville 85.67 16 LR LR 21 48 02.8
comp=Z,1µm,21.0s,MS5.2,baz=307,slow=36
Y24A Capitan 85.68 51⇑P **P 21 10 00.7 +0.3**
baz=85
BIA Bitola 85.84 319 *e*P **P 21 10 00.2 -0.7**
WLF Walferdange 85.88 333 P **P 21 10 01.4 +0.3**
comp=Z,15nm,1.9s,mb4.9
GIVF Givet 85.99 334 *e*P **P 21 10 00.4 -1.2**
GIVF Givet 85.99 334 *e*P **P 21 10 00.4 -1.2**
GIVF Givet 85.99 334 *e*P **P 21 10 00.4 -1.2**
DOU Dourbes 86.08 334 P **P 21 10 02.3 +0.3**
BFO Black Forest 86.16 331 *e*P **P 21 10 00.6 -1.8**
comp=Z,12nm,1.0s,mb5.1
BFO Black Forest 86.16 331 *e*P **P 21 10 00.6 -1.8**
BFO pmax pmax
comp=Z,12nm,1.0s,mb5.1
BAIF Baives 86.24 334 *e*P **P 21 10 01.7 -1.1**
comp=Z,16nm,1.1s,mb4.9
BAIF Baives 86.24 334 *e*P **P 21 10 01.7 -1.1**
comp=Z,16nm,1.1s,mb5.2
BAIF Baives 86.24 334 *e*P **P 21 10 01.7 -1.1**
BAIF pmax pmax
comp=Z,16nm,1.1s,mb5.2
CDF Champ du Feu 86.50 332 *e*P **P 21 10 03.2 -0.9**
comp=Z,17nm,0.9s,mb5.0
CDF Champ du Feu 86.50 332 *e*P **P 21 10 03.2 -0.9**
comp=Z,17nm,0.9s,mb5.3

CDF	**Champ du Feu**	**86.50**	**332**	*eP*	**P**	**21 10 03.2**	**-0.9**
CDF				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.3						
ECH	**Echery**	**86.70**	**332**	*eP*	**P**	**21 10 03.1**	**-2.0**
	comp=Z,15nm,1.3s,mb5.1						
ECH	**Echery**	**86.70**	**332**	*eP*	**P**	**21 10 03.1**	**-2.0**
ECH				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.1						
PAGF	**Fort de Pagny**	**86.96**	**333**	*eP*	**P**	**21 10 05.7**	**-0.7**
	comp=Z,15nm,1.3s,mb4.8						
PAGF	**Fort de Pagny**	**86.96**	**333**	*eP*	**P**	**21 10 05.7**	**-0.7**
	comp=Z,15nm,1.3s,mb5.1						
HINF	**Hinterlalfeld**	**87.15**	**332**	*eP*	**P**	**21 10 05.9**	**-1.4**
HINF	**Hinterlalfeld**	**87.15**	**332**	*eP*	**P**	**21 10 05.9**	**-1.4**
HINF	**Hinterlalfeld**	**87.15**	**332**	*eP*	**P**	**21 10 05.9**	**-1.4**
HAU	**Haudompre**	**87.18**	**332**	*eP*	**P**	**21 10 06.2**	**-1.3**
HAU				*eR*			
	comp=Z,3μm,17.2s						
HAU	**Haudompre**	**87.18**	**332**	*eP*	**P**	**21 10 06.2**	**-1.3**
HAU	**Haudompre**	**87.18**	**332**	*eP*	**P**	**21 10 06.2**	**-1.3**
MEZF	**Maizieres J'vi**	**87.25**	**333**	*eP*	**P**	**21 10 07.0**	**-0.8**
	comp=Z,35nm,1.2s,mb5.1						
MEZF	**Maizieres J'vi**	**87.25**	**333**	*eP*	**P**	**21 10 07.0**	**-0.8**
	comp=Z,35nm,1.3s,mb5.4						
Z27A	**Tatum**	**87.46**	**50** ⇓	*P*	**P**	**21 10 09.0**	**-0.1**
	baz=87						
SFTF	**Sexfontaines**	**87.50**	**333**	*eP*	**P**	**21 10 08.1**	**-0.9**
	comp=Z,41nm,1.2s,mb5.2						
SFTF	**Sexfontaines**	**87.50**	**333**	*eP*	**P**	**21 10 08.1**	**-0.9**
	comp=Z,41nm,1.2s,mb5.5						
TBI	**Tubuai**	**87.59**	**121**	*eS*	S	21 20 47.2	-4.5
	comp=Z,388nm,29.8s						
TBI				*eLR*	LR	21 37 51.1	
	comp=Z,1μm,26.2s,baz=308						
CABF	**La Chapelle**	**88.44**	**332**	*eP*	**P**	**21 10 12.6**	**-0.9**
	comp=Z,60nm,1.7s,mb5.3						
CABF	**La Chapelle**	**88.44**	**332**	*eP*	**P**	**21 10 12.6**	**-0.9**
	comp=Z,60nm,1.7s,mb5.5						
CABF	**La Chapelle**	**88.44**	**332**	*eP*	**P**	**21 10 12.6**	**-0.9**
CABF				pmax	pmax		
	comp=Z,61nm,1.7s,mb5.5						
LOR	**Lormes**	**88.72**	**333**	*eP*	**P**	**21 10 13.8**	**-1.0**
	comp=Z,54nm,1.7s,mb5.3						
LOR				*eR*			
	comp=Z,1μm,19.5s						
LOR	**Lormes**	**88.72**	**333**	*eP*	**P**	**21 10 13.8**	**-1.0**
	comp=Z,54nm,1.7s,mb5.6						
LOR	**Lormes**	**88.72**	**333**	*eP*	**P**	**21 10 13.8**	**-1.0**
LOR				pmax	pmax		
	comp=Z,54nm,1.7s,mb5.6						
FLN	**La Foliniere**	**88.93**	**336**	*eP*	**P**	**21 10 14.7**	**-1.0**
FLN				*eR*			
	comp=Z,2μm,18.2s						
FLN	**La Foliniere**	**88.93**	**336**	*eP*	**P**	**21 10 14.7**	**-1.0**
FLN	**La Foliniere**	**88.93**	**336**	*eP*	**P**	**21 10 14.7**	**-1.0**
LDF	**La Druitiere**	**88.96**	**336**	*eP*	**P**	**21 10 15.1**	**-0.8**
LDF	**La Druitiere**	**88.96**	**336**	*eP*	**P**	**21 10 15.1**	**-0.8**
LDF	**La Druitiere**	**88.96**	**336**	*eP*	**P**	**21 10 15.1**	**-0.8**
SSF	**Saint Saulge**	**89.03**	**333**	*eP*	**P**	**21 10 15.3**	**-0.9**
	comp=Z,6.4nm,0.9s,mb4.7						
SSF	**Saint Saulge**	**89.03**	**333**	*eP*	**P**	**21 10 15.3**	**-0.9**
	comp=Z,6.4nm,0.9s,mb5.0						
SSF	**Saint Saulge**	**89.03**	**333**	*eP*	**P**	**21 10 15.3**	**-0.9**
SSF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
LPL	**La Plagne**	**89.09**	**331**	*eP*	**P**	**21 10 15.7**	**-0.9**
LPL	**La Plagne**	**89.09**	**331**	*eP*	**P**	**21 10 15.7**	**-0.9**
LPL	**La Plagne**	**89.09**	**331**	*eP*	**P**	**21 10 15.7**	**-0.9**
LPG	**La Plagne**	**89.10**	**331**	*eP*	**P**	**21 10 15.9**	**-0.7**
	comp=Z,16nm,1.2s,mb4.9						
LPG	**La Plagne**	**89.10**	**331**	*eP*	**P**	**21 10 15.9**	**-0.7**
	comp=Z,16nm,1.2s,mb5.2						
LPG	**La Plagne**	**89.10**	**331**	*eP*	**P**	**21 10 15.9**	**-0.7**
LPG				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.2						
SMF	**Signal de Mont**	**89.26**	**333**	*eP*	**P**	**21 10 16.4**	**-0.9**
	comp=Z,18nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**89.26**	**333**	*eP*	**P**	**21 10 16.4**	**-0.9**
	comp=Z,18nm,1.1s,mb5.3						
SMF	**Signal de Mont**	**89.26**	**333**	*eP*	**P**	**21 10 16.4**	**-0.9**
SMF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.3						
AVF	**Avril sur Loir**	**89.31**	**333**	*eP*	**P**	**21 10 16.7**	**-0.9**
	comp=Z,20nm,1.0s,mb5.1						
AVF	**Avril sur Loir**	**89.31**	**333**	*eP*	**P**	**21 10 16.7**	**-0.9**
	comp=Z,20nm,1.0s,mb5.4						
AVF	**Avril sur Loir**	**89.31**	**333**	*eP*	**P**	**21 10 16.7**	**-0.9**
AVF				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.4						
BGF	**Bois d'Agland**	**89.69**	**333**	*eP*	**P**	**21 10 17.7**	**-1.7**
	comp=Z,8.1nm,0.8s,mb4.8						
BGF	**Bois d'Agland**	**89.69**	**333**	*eP*	**P**	**21 10 17.7**	**-1.7**
	comp=Z,8.1nm,0.8s,mb5.1						
BGF	**Bois d'Agland**	**89.69**	**333**	*eP*	**P**	**21 10 17.7**	**-1.7**
BGF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.1						
MBDF	**Montbardon**	**89.73**	**330**	*eP*	**P**	**21 10 18.2**	**-1.4**
MBDF	**Montbardon**	**89.73**	**330**	*eP*	**P**	**21 10 18.2**	**-1.4**
MBDF	**Montbardon**	**89.73**	**330**	*eP*	**P**	**21 10 18.2**	**-1.4**
TXAR	**Lajitas Array**	**89.87**	**53**	*P*	**P**	**21 10 20.6**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.5,baz=304,slow=3.5,SNR=10						
TXAR				LR	LR	21 52 46.0	
	comp=Z,660nm,18.2s,MS5.1,baz=5.0,slow=37						
TXAR	**Lajitas Array**	**89.87**	**53**	*P*	**P**	**21 10 20.6**	**+0.1**
TXAR	**Lajitas Array**	**89.87**	**53**	*P*	**P**	**21 10 20.7**	**+0.2**
TXAR				MLR	MLR		
	comp=Z,660nm,18.2s						
SGMF	**Saint Gilles**	**90.03**	**337**	*eP*	**P**	**21 10 19.9**	**-1.0**
	comp=Z,48nm,1.3s,mb5.4						
SGMF	**Saint Gilles**	**90.03**	**337**	*eP*	**P**	**21 10 19.9**	**-1.0**
	comp=Z,48nm,1.3s,mb5.7						
SGMF	**Saint Gilles**	**90.03**	**337**	*eP*	**P**	**21 10 19.9**	**-1.0**
SGMF				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.7						
VIVF	**Saint-Julien-l**	**90.45**	**331**	*eP*	**P**	**21 10 22.1**	**-0.9**
	comp=Z,10nm,0.9s,mb4.8						
VIVF	**Saint-Julien-l**	**90.45**	**331**	*eP*	**P**	**21 10 22.1**	**-0.9**
	comp=Z,10nm,0.9s,mb5.2						
VIVF	**Saint-Julien-l**	**90.45**	**331**	*eP*	**P**	**21 10 22.1**	**-0.9**
VIVF				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.2						
PGF	**Pioggiola**	**90.58**	**327**	*eP*	**P**	**21 10 21.9**	**-1.7**
	comp=Z,18nm,1.0s,mb5.0						
PGF	**Pioggiola**	**90.58**	**327**	*eP*	**P**	**21 10 21.9**	**-1.7**
	comp=Z,18nm,1.0s,mb5.3						
PGF	**Pioggiola**	**90.58**	**327**	*eP*	**P**	**21 10 21.9**	**-1.7**
PGF				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.4						
MFF	**Saint Martin d**	**90.70**	**335**	*eP*	**P**	**21 10 22.5**	**-1.6**
	comp=Z,35nm,1.2s,mb5.3						
MFF	**Saint Martin d**	**90.70**	**335**	*eP*	**P**	**21 10 22.5**	**-1.6**
	comp=Z,35nm,1.2s,mb5.6						
MFF	**Saint Martin d**	**90.70**	**335**	*eP*	**P**	**21 10 22.5**	**-1.6**
MFF				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.6						
FRF	**La Foret Royal**	**90.75**	**329**	*eP*	**P**	**21 10 22.4**	**-1.9**
FRF	**La Foret Royal**	**90.75**	**329**	*eP*	**P**	**21 10 22.4**	**-1.9**
FRF	**La Foret Royal**	**90.75**	**329**	*eP*	**P**	**21 10 22.4**	**-1.9**
LMR	**La Mourre**	**90.99**	**329**	*eP*	**P**	**21 10 23.9**	**-1.6**
	comp=Z,32nm,1.1s,mb5.2						
LMR	**La Mourre**	**90.99**	**329**	*eP*	**P**	**21 10 23.9**	**-1.6**
	comp=Z,32nm,1.1s,mb5.6						
LMR	**La Mourre**	**90.99**	**329**	*eP*	**P**	**21 10 23.9**	**-1.6**
LMR				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.6						
RJF	**Les Rejaudoux**	**91.25**	**334**	*eP*	**P**	**21 10 26.1**	**-0.5**
	comp=Z,24nm,1.1s,mb5.1						
RJF				*eR*			
	comp=Z,2μm,18.8s						
RJF	**Les Rejaudoux**	**91.25**	**334**	*eP*	**P**	**21 10 26.1**	**-0.5**
	comp=Z,24nm,1.1s,mb5.4						
RJF	**Les Rejaudoux**	**91.25**	**334**	*eP*	**P**	**21 10 26.1**	**-0.5**
RJF				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.4						
CAF	**Calviac**	**91.37**	**333**	*eP*	**P**	**21 10 26.9**	**-0.3**
CAF	**Calviac**	**91.37**	**333**	*eP*	**P**	**21 10 26.9**	**-0.3**
CAF	**Calviac**	**91.37**	**333**	*eP*	**P**	**21 10 26.9**	**-0.3**
RKT	**Rikitea**	**97.84**	**113**	*eLR*	LR	21 42 30.1	
	comp=Z,1μm,26.0s,baz=306						
TORD	**Torodi Ar. Bea**	**118.26**	**315**	PKP	PKPdf	21 16 09.0	-0.2
	comp=Z,0.4nm,0.8s,baz=350,slow=1.6,SNR=4.3						
TORD				PP	PP	21 17 20.4	-3.5
	comp=Z,1.7nm,0.9s,baz=34,slow=6.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**118.26**	**315**	PKP	PKPdf	21 16 09.0	-0.2
TORD				PP	PP	21 17 20.4	-3.5
QSPA	**South Pole Qui**	**126.21**	**180**	PKP	PKPdf	21 16 22.1	-0.4
	comp=Z,2.6nm,0.9s,baz=42,slow=0.7,SNR=6.1						
QSPA	**South Pole Qui**	**126.21**	**180**	PKP	PKPdf	21 16 22.1	-0.4
SYO	**Syowa Base**	**128.04**	**207** ⇑	*eX*	Pdif	21 13 07.3	-3.9
VNA2	**Neumayer--Watz**	**141.98**	**196**	*e*	PKPdf	21 16 50.8	-1.4
VNA3	**Neumayer Olymp**	**142.21**	**194**	*e*	PKPdf	21 16 43.9	-8.7
SAML	**Samuel**	**144.10**	**47**	*e*PKPdf	PKPdf	21 16 54.5	-3.2
LPAZ	**La Paz**	**146.32**	**61**	PKPbc	PKPbc	21 17 03.1	+0.6
	comp=Z,9.2nm,0.8s,baz=335,slow=4.1,SNR=13						
LPAZ	**La Paz**	**146.32**	**61**	*e*PKPdf	PKPdf	21 17 02.5	+1.1
LPAZ				PKPbc	PKPbc	21 17 03.1	+0.6
LVC	**Limon Verde**	**149.65**	**72**	*e*PKPdf	PKPdf	21 17 08.2	+1.5
SIV	**San Ignacio**	**150.86**	**52**	PKPbc	PKPbc	21 17 14.2	-0.2
	comp=Z,4.5nm,0.8s,baz=293,slow=0.9,SNR=10						
SIV	**San Ignacio**	**150.86**	**52**	PKPbc	PKPbc	21 17 14.2	-0.2
LCO	**Las Campanas**	**151.32**	**85**	*e*PKPbc	PKPbc	21 17 13.7	-1.5

*IDC **23** 21:19:30.3±2.0, 36°.49N×142°.60E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/24, mbtmp3.6/6, ML3.2/2, Error ellipse: s-maj=49.7km s-min=26.1km az=74.0*
*ISCJB **23** 21:19:31.8±1.8, 36°.50N±0°.04×142°.43E±0°.07, h20km±17km, mb3.5/4, Error ellipse: s-maj=9.9km s-min=5.8km az=19.7*
*JMA **23** 21:19:32.1±0.2, 36°.52N×142°.43E, h25km, M3.2*

ISC 23 21:19:32.3±1.9, 36°.51N±0°.04×142°.35E±0°.09, h10km±15km, n20, σ0°74/30, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.38**	**296**	P	**Pn**	**21 19 57.1**	**-0.5**
JHO	**Hitachi**	**1.44**	**274**	P	**Pn**	**21 19 57.7**	**-0.7**
JHO				*eS*	**Sn**	**21 20 16.7**	**-0.7**
CHOJ	**Chosi**	**1.45**	**237**	P	**Pn**	**21 19 58.7**	**+0.1**
CHOJ				*eS*	**Sn**	**21 20 17.9**	**+0.2**
JFK	**Kawauchi**	**1.46**	**306**	*eS*	**Sn**	**21 20 18.1**	**+0.2**
JMM	**Marumori**	**1.84**	**318**	P	**Pn**	**21 20 03.4**	**-0.5**
JMM				*eS*	**Sn**	**21 20 26.8**	**-0.4**
JFT	**Otama**	**1.90**	**303**	P	**Pn**	**21 20 04.9**	**+0.1**
JIO	**Ouri**	**2.10**	**338**	P	**Pn**	**21 20 06.8**	**-0.7**
JIO				S	**Sn**	**21 20 33.4**	**-0.2**
BSO1	**Boso 1**	**2.17**	**212**	P	**Pn**	**21 20 07.7**	**-0.7**
JAG	**Ashikaga**	**2.34**	**269**	P	**Pn**	**21 20 11.0**	**+0.2**
JAG				*eS*	**Sn**	**21 20 38.7**	**-0.9**
JMK	**Ichinoseki**	**2.59**	**340**	P	**Pn**	**21 20 14.3**	**0.0**
JMK				S	**Sn**	**21 20 45.4**	**-0.5**
JRY	**Ryogami san**	**2.83**	**261**	P	**Pn**	**21 20 17.5**	**-0.1**
JRY				S	**Sn**	**21 20 50.6**	**-1.1**
JYK	**Kaneyama**	**2.87**	**327**	P	**Pn**	**21 20 18.5**	**+0.3**
JYK				S	**Sn**	**21 20 54.5**	**+1.7**
JOM	**Ohasama**	**3.07**	**345**	P	**Pn**	**21 20 20.6**	**-0.3**
JOM				S	**Sn**	**21 20 57.1**	**-0.6**
MJAR	**Matsushiro Arr**	**3.34**	**272**	Pn	**Pn**	**21 20 25.9**	**+1.3**
	1.1nm,0.3s,baz=88,slow=8.3,SNR=12						
MAT	**Matsushiro**	**3.34**	**272**	P	**Pn**	**21 20 25.5**	**+1.0**
MAT				S	**Sn**	**21 21 05.3**	**+1.0**
ASAJ	**Asahikawa**	**7.60**	**1**	Pn	**Pn**	**21 21 22.2**	**-0.8**
	0.5nm,0.3s,baz=207,slow=6.8,SNR=4.0						
SONM	**Songino Array**	**28.70**	**305**	P	**P**	**21 25 31.1**	**+1.6**
	1.3nm,0.8s,mb3.7,baz=105,slow=8.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**42.82**	**313**	P	**P**	**21 27 30.9**	**+0.8**
	0.4nm,0.5s,mb3.4,baz=105,slow=9.1,SNR=3.4						
MKAR	**Makanchi Array**	**45.03**	**303**	P	**P**	**21 27 48.8**	**+0.8**
	0.6nm,0.7s,mb3.6,baz=90,slow=9.8,SNR=7.2						
WRA	**Warramunga Arr**	**56.66**	**189**	P	**P**	**21 29 15.3**	**-0.4**
	0.4nm,0.9s,mb3.4,baz=7.3,slow=7.4,SNR=3.5						

IDC 23 21:22:04.4±3.2, 24°.95N×97°.71E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/25, mbtmp3.5/3, Error ellipse: s-maj=275.7km s-min=26.8km az=60.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.04**	**334**	P	P	21 27 31.3	+1.2
	0.2nm,0.5s,baz=156,slow=9.3,SNR=6.1						
ZALV	**Zalesovo Beam**	**30.52**	**345**	P	P	21 28 18.1	-1.0
	0.8nm,0.5s,baz=173,slow=7.5,SNR=5.1						
WRA	**Warramunga Arr**	**57.10**	**138**	P	P	21 31 52.7	-0.1
	1.0nm,1.2s,baz=324,slow=6.3,SNR=6.6						

MAN 23 21:24:12, 8°.35N×124°.66E, h33km, mb3.5, ML2.2, MS1.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.11**	**18** ⇑	*eP*	Pb	21 24 19.9	+2.1
CGP				*i* S	Sb	21 24 24.6	+2.8
BUKP	**Musuan**	**0.62**	**140**	*eP*	Pn	21 24 25.9	+1.5
BUKP				*eS*	Sb	21 24 35.8	+2.8
PAGZ	**Pagadian**	**1.36**	**248**	*eP*	Pn	21 24 35.8	+1.1
PAGZ				*eS*	Sn	21 24 48.8	-2.8

*IDC **23** 21:39:40.9±1.5, 2°.19N×96°.16E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/24, mbtmp3.9/9, ML4.0/1, MS4.5/2, Ms1 4.5/2, ms1mx3.3/39, Error ellipse: s-maj=68.8km s-min=19.3km az=56.0*
*DJA **23** 21:39:43, 2°.27N×96°.04E, h26km, MLv4.0/8*
*ISCJB **23** 21:39:44.1±0.7, 2°.28N±0°.06×96°.17E±0°.05, h33km, mb3.9/10, MS4.5/2, Error ellipse: s-maj=8.8km s-min=6.5km az=25.1*
*NEIC **23** 21:39:46.1±0.6, 2°.26N×96°.27E, h35km, mb3.9/2, Error ellipse: s-maj=13.8km s-min=9.1km az=51.0*

ISC 23 21:39:45.9±0.6, 2°.25N±0°.06×96°.15E±0°.05, h35km, n35, σ0°92/37, mb3.9/10, MS4.5/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.44**	**46**	P	**Pn**	**21 40 08.0**	**-1.5**
TPTI				S	**Sn**	**21 40 28.8**	**+1.7**
TSI	**Tuntungan**	**2.71**	**63**	P	**Pn**	**21 40 27.4**	**+0.4**
PSI	**Prapat**	**2.83**	**79**	P	**Pn**	**21 40 27.8**	**-0.8**
LHMI	**Lhok Sumawe**	**3.06**	**15**	P	**Pn**	**21 40 32.3**	**+0.5**
BSI	**Banda Aceh**	**3.33**	**345**	P	**Pn**	**21 40 34.4**	**-1.2**
BSI				S	**Sn**	**21 41 12.7**	**-1.3**
MNSI	**Mandailing Nat**	**3.72**	**113**	P	**Pn**	**21 40 41.3**	**+0.4**
IPM	**Ipoh**	**5.35**	**65**	*e*Pn	**Pn**	**21 41 02.3**	**-0.9**
	15nm,0.3s						
IPM				*e*Sn	**Sn**	**21 42 04.7**	**+1.0**
IPM	**Ipoh**	**5.35**	**65**	P	**Pn**	**21 41 02.9**	**-0.4**
	0.1nm24nm,0.7s						
KULM	**Kulim**	**5.41**	**56**	*e*Pn	**Pn**	**21 41 03.2**	**-0.9**
	50nm,0.8s						
KULM				*e*Sn	**Sn**	**21 42 04.7**	**-0.6**
KULM	**Kulim**	**5.41**	**56**	P	**Pn**	**21 41 03.3**	**-0.8**
CM31	**Chiang Mai Arr**	**16.34**	**9**	Pn	**Pn**	**21 43 31.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**16.34**	**9**	Pn	**Pn**	**21 43 34.4**	**+1.6**
	0.2nm,0.3s,baz=199,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**16.34**	**9**	Pn	**Pn**	**21 43 34.4**	**+1.6**
LSA	**Lhasa**	**27.71**	**351**	*eP*	**P**	**21 45 31.8**	**+0.8**
	1.3nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**43.48**	**122**	P	**P**	**21 47 45.6**	**-0.5**
	0.2nm,0.4s,mb3.2,baz=300,slow=9.4,SNR=4.6						
WRA	**Warramunga Arr**	**43.48**	**122**	P	**P**	**21 47 45.6**	**-0.5**
WRAB	**Tennant Creek**	**43.48**	**122**	*eP*	**P**	**21 47 45.2**	**-0.9**
	1.4nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**44.86**	**127**	P	**P**	**21 47 57.0**	**-0.1**
	0.3nm,0.7s,mb3.2,baz=297,slow=7.2,SNR=3.9						
ASAR	**Alice Springs**	**44.86**	**127**	P	**P**	**21 47 57.0**	**-0.1**
MK31	**Makanchi Array**	**45.98**	**347**	*eP*	**P**	**21 48 05.7**	**+0.1**
MKAR	**Makanchi Array**	**45.98**	**347**	P	**P**	**21 48 06.3**	**+0.7**
	1.4nm,0.4s,mb4.2,baz=158,slow=8.9,SNR=50						
MKAR	**Makanchi Array**	**45.98**	**347**	P	**P**	**21 48 06.3**	**+0.7**
SONM	**Songino Array**	**46.27**	**10**	P	**P**	**21 48 08.1**	**+0.3**
	0.7nm,0.3s,mb4.0,baz=188,slow=9.0,SNR=8.2						
SONM				PcP	PcP	21 49 44.7	+1.8
	0.4nm,0.5s,baz=185,slow=3.1,SNR=4.5						
SONM	**Songino Array**	**46.27**	**10**	P	**P**	**21 48 08.1**	**+0.3**
SONM				PcP	PcP	21 49 44.7	+1.8
ZAA0	**Zalesovo Array**	**52.37**	**352**	*eP*	**P**	**21 48 53.5**	**-0.8**
ZALV	**Zalesovo Beam**	**52.37**	**352**	P	**P**	**21 48 54.8**	**+0.5**
	2.3nm,0.4s,mb4.4,baz=166,slow=7.0,SNR=18						
ZALV	**Zalesovo Beam**	**52.37**	**352**	P	**P**	**21 48 54.8**	**+0.5**
BVAR	**Borovoye Array**	**54.92**	**341**	P	**P**	**21 49 13.7**	**+0.6**
	1.0nm,0.5s,mb4.1,baz=138,slow=11,SNR=7.8						
BVAR	**Borovoye Array**	**54.92**	**341**	P	**P**	**21 49 13.7**	**+0.6**
GNI	**Garni**	**59.81**	**316**	LR	LR	22 18 56.6	
	comp=Z,336nm,18.2s,MS4.5,baz=76,slow=39						
EIL	**Elat**	**64.01**	**302**	LR	LR	22 15 16.3	
	comp=Z,340nm,19.0s,MS4.5,baz=58,slow=33						
FINES	**FINESS Array B**	**78.59**	**333**	P	**P**	**21 51 44.6**	**+0.9**
	2.1nm,0.8s,mb4.1,baz=140,slow=6.5,SNR=6.7						
FINES	**FINESS Array B**	**78.59**	**333**	P	**P**	**21 51 44.6**	**+0.9**
ARCES	**ARCESS Array B**	**81.20**	**340**	P	**P**	**21 51 58.9**	**+1.2**
	0.9nm,0.4s,mb4.0,baz=104,slow=6.1,SNR=12						
ARCES	**ARCESS Array B**	**81.20**	**340**	P	**P**	**21 51 58.9**	**+1.2**

KRSC 23 21:41:11.7±0.5, 54°.30N×159°.84E, h129km±129km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.13**	**76**	*eP*	Pn	21 41 37.4	+1.7
MKZ				*eS*	Sn	21 41 55.5	+1.5
NLC	**Nalytchevo**	**1.17**	**195**	*eS*	Sn	21 41 57.0	+2.4
SDLR	**Sedlovina**	**1.17**	**209**	*eP*	Pn	21 41 38.1	+2.0
AVH	**Avacha**	**1.23**	**213**	*eP*	Pn	21 41 39.0	+2.3
KOK	**Koryaka**	**1.24**	**216**	*eP*	Pn	21 41 39.1	+2.3
RUS	**Russkaya**	**2.03**	**204**	*eP*	Pn	21 41 46.9	+0.9
RUS				*eS*	Sn	21 42 13.1	+0.9
KBTR	**Krutoberegovo**	**2.56**	**41**	*eP*	Pn	21 41 54.4	+1.9
KBTR				*eS*	Sn	21 42 25.8	+1.8
BKI	**Bering**	**3.67**	**73**	*eS*	Sn	21 42 49.1	-0.6

IDC 23 21:44:39.3±1.1, 12°.34N×144°.12E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/23, mbtmp3.5/5, Error ellipse: s-maj=39.6km s-min=17.0km az=111.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.44**	**30**	Pn	Pn	21 45 08.4	+1.7
	83nm,0.3s,baz=196,slow=6.5,SNR=22						
GUMO				Sn	Sn	21 45 27.2	+0.9
	47nm,0.3s,baz=9.2,slow=24,SNR=4.1						
WRA	**Warramunga Arr**	**33.49**	**197**	P	P	21 51 19.9	-0.7
	0.5nm,1.0s,baz=20,slow=9.9,SNR=2.6						
ASAR	**Alice Springs**	**37.15**	**196**	P	P	21 51 53.1	+1.1
	0.3nm,0.6s,baz=24,slow=9.5,SNR=5.3						
MKAR	**Makanchi Array**	**61.89**	**317**	P	P	21 55 01.3	+0.7
	0.3nm,0.5s,baz=90,slow=8.5,SNR=8.4						
ILAR	**Eielson Array**	**70.00**	**25**	P	P	21 55 50.9	-1.7
	0.1nm,0.4s,baz=249,slow=6.5,SNR=4.2						
BVAR	**Borovoye Array**	**70.45**	**322**	P	P	21 55 55.2	-0.3
	0.4nm,0.3s,baz=106,slow=9.8,SNR=3.5						

*ISCJB **23** 21:47:50.3±0.6, 40°.27N±0°.03×25°.37E±0°.04, h10km, Error ellipse: s-maj=4.8km s-min=4.1km az=41.1*
*CSEM **23** 21:47:50.7±0.3, 40°.25N×25°.28E, h2km, MD3.1, Error ellipse: s-maj=6.2km s-min=6.2km az=46.0*
*ATH **23** 21:47:51.3, 40°.19N×25°.22E, h11km±3km, MD3.1/5*
*DDA **23** 21:47:52.4, 40°.22N×25°.31E, h4km, Md3.1*
*ISK **23** 21:47:53.6, 40°.29N×25°.63E, h5km, ML2.3*

ISC 23 21:47:50.9±0.6, 40°.26N±0°.03×25°.35E±0°.04, h10km, n27, σ1°12/41, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.38**	**199**	*e*PG	**Pg**	**21 47 57.7**	**-0.6**
LIA				*e*SG	**Sg**	**21 48 01.6**	**-1.8**
LIA	**Limnos Island**	**0.38**	**199**	*e*Pg	**Pg**	**21 47 57.7**	**-0.6**
LIA				*e*Sg	**Sg**	**21 48 01.6**	**-1.8**
BOZC	**Bozcaada**	**0.68**	**127**	*eP*	**Pg**	**21 48 05.1**	**+1.1**
BOZC				*i* S	**Sg**	**21 48 12.9**	**0.0**
ENEZ	**Enez**	**0.78**	**52**	*e*PG	**Pg**	**21 48 06.4**	**+0.5**

PCG	Pacaya	3.03	98	eP	Pn	21 56 05.1	-0.2
IXG	Ixpaco	3.22	101	eP	Pn	21 56 07.5	-0.4
NBG	Las Nubes	3.26	94	eP	Pn	21 56 10.4	+2.0
VHO	Vista Hermosa	3.67	308	iP	Pn	21 56 13.9	-0.1
VHO				eS	Sn	21 56 55.3	-0.7
VHO	Vista Hermosa	3.67	308	iP	Pn	21 56 13.9	-0.1
VHO				eS	Sn	21 56 55.3	-0.7
SBLS	San Blas	4.08	103	eP	Pn	21 56 19.6	-0.2
BOQS	Boqueron	4.43	104	eP	Pn	21 56 25.6	+1.1
BOQS				eS	Sn	21 57 25.2	+10
SCIG	Sabancuy	4.77	30	iP	Pn	21 56 30.0	+0.8
SCIG				eS	Sn	21 57 24.3	+1.0
SCIG	Sabancuy	4.77	30	iP	Pn	21 56 30.0	+0.8
SCIG				eS	Sn	21 57 24.3	+1.0
SNVI	San Vicente	4.88	104	eP	Pn	21 56 30.8	+0.1
SNVI				eS	Sn	21 57 33.1	+7.2
SNVI				AML	AML	21 57 38.3	
	comp=Z,144nm,0.4s						
TPIG	Tehuac#an	5.00	316	iP	Pn	21 56 32.7	+0.4
TPIG				iS	Sn	21 57 29.0	+0.1
TPIG	Tehuac#an	5.00	316	iP	Pn	21 56 32.7	+0.4
TPIG				iS	Sn	21 57 29.0	+0.1
CNCH	Conchagua	5.91	104	eP	Pn	21 56 45.5	+0.7
PPM	Popocatepetl	6.32	313	iP	Pn	21 56 51.4	+1.0
PPM				eS	Sn	21 58 02.3	+1.0
PPM	Popocatepetl	6.32	313	iP	Pn	21 56 51.4	+1.0
PPM				eS	Sn	21 58 02.3	+1.0
CAIG	El Cayaco	6.68	290	iP	Pn	21 56 55.3	-0.2
CAIG				eS	Sn	21 58 10.6	+0.2
CAIG	El Cayaco	6.68	290	iP	Pn	21 56 55.3	-0.2
CAIG				eS	Sn	21 58 10.6	+0.2
CRIN	San Cristobal	6.81	107	eP	Pn	21 56 57.4	+0.2
CRIN				AML	AML	21 58 26.2	
	comp=N,239nm,0.5s						
TEIG	Tepich	7.46	43	Pn	Pn	21 57 05.4	-0.7
	comp=N,41nm,0.3s,baz=260,slow=0.9,SNR=70						
TEIG				Sn	Sn	21 58 22.8	-6.7
	comp=N,14nm,0.3s,baz=68,slow=19,SNR=2.7						
TEIG	Tepich	7.46	43	Pn	Pn	21 57 05.4	-0.7
TEIG				Sn	Sn	21 58 22.8	-6.7
TEIG	Tepich	7.46	43	eP	Pn	21 57 05.4	-0.7
APYN	Apoyeque	7.61	109	eP	Pn	21 57 08.2	0.0
ZIIG	Zihuatanejo	7.95	291	iP	Pn	21 57 13.5	+0.7
ZIIG				eS	Sn	21 58 41.8	+0.4
ZIIG	Zihuatanejo	7.95	291	iP	Pn	21 57 13.5	+0.7
ZIIG				eS	Sn	21 58 41.8	+0.4
JTS	JuntasAbangare	9.66	117	Pn	Pn	21 57 40.0	+3.6
	comp=N,1.8nm,0.3s,baz=273,slow=16,SNR=5.2						
JTS				Sn	Sn	21 59 32.5	+8.8
	comp=N,0.9nm,0.3s,baz=297,slow=18,SNR=2.1						
JTS	JuntasAbangare	9.66	117	Pn	Pn	21 57 40.0	+3.6
JTS				Sn	Sn	21 59 32.5	+8.8
TXAR	Lajitas Array	17.12	329	P	Pn	21 59 18.4	+2.3
	comp=N,0.1nm,0.3s,baz=153,slow=17,SNR=19						
TXAR	Lajitas Array	17.12	329	P	Pn	21 59 18.4	+2.3
ROSC	El Rosal	21.49	116	P	P	22 00 07.7	+2.3
	comp=N,5.5nm,0.3s,mb4.4,baz=270,slow=23,SNR=12						
ROSC	El Rosal	21.49	116	P	P	22 00 07.7	+2.3
TKL	Tuckaleechee C	22.57	21	LR	LR	22 12 11.0	
	comp=N,430nm,18.0s,MS3.9,baz=285,slow=46						
ANMO	Albuquerque	23.09	332	P	P	22 00 24.8	+2.6
	comp=N,1.9nm,0.7s,mb3.6,baz=138,slow=15,SNR=4.2						
ANMO	Albuquerque	23.09	332	P	P	22 00 24.8	+2.6
ATAH	Atahualpa	26.59	144	P	P	22 00 54.6	0.0
	comp=N,9.9nm,0.9s,mb4.3,baz=310,slow=0.7,SNR=5.7						
ATAH	Atahualpa	26.59	144	P	P	22 00 54.6	0.0
PDAR	Pinedale Array	31.00	337	P	P	22 01 34.1	+0.6
	comp=N,0.9nm,0.8s,mb3.6,baz=128,slow=9.7,SNR=7.2						
PDAR	Pinedale Array	31.00	337	P	P	22 01 34.1	+0.6
NVAR	Mina Array Bea	31.99	322	P	P	22 01 45.0	+2.6
	comp=N,2.0nm,0.8s,mb4.0,baz=138,slow=8.8,SNR=11						
NVAR	Mina Array Bea	31.99	322	P	P	22 01 45.0	+2.6
ULM	Lac du Bonnet	35.37	358	P	P	22 02 09.4	-2.1
	comp=N,1.5nm,0.6s,mb4.1,baz=176,slow=12,SNR=4.0						
ULM	Lac du Bonnet	35.37	358	P	P	22 02 09.4	-2.1
SIV	San Ignacio	44.47	132	P	P	22 03 26.0	-1.5
	comp=N,2.1nm,0.6s,mb4.0,baz=329,slow=10,SNR=10.0						
SIV	San Ignacio	44.47	132	P	P	22 03 26.0	-1.5
YKA	Yellowknife Ar	49.85	347	P	P	22 04 08.6	-0.2
	comp=N,3.3nm,0.8s,mb4.4,baz=151,slow=7.2,SNR=37						
YKA	Yellowknife Ar	49.85	347	P	P	22 04 08.7	-0.2
FRB	Frobisher Bay	51.90	14	P	P	22 04 21.5	-2.7
	comp=N,4.4nm,1.0s,mb4.3,baz=221,slow=12,SNR=4.2						
FRB	Frobisher Bay	51.90	14	P	P	22 04 21.5	-2.7
CPUP	Villa Florida	54.09	139	P	P	22 04 39.0	-1.9
	comp=N,0.5nm,0.4s,mb3.8,baz=0.0,slow=7.1,SNR=2.6						
CPUP	Villa Florida	54.09	139	P	P	22 04 39.0	-1.9
RES	Resolute Bay	59.86	360	P	P	22 05 20.1	-1.0
	comp=N,2.0nm,0.7s,mb4.3,baz=193,slow=9.4,SNR=11						
RES	Resolute Bay	59.86	360	P	P	22 05 20.1	-1.0
ILAR	Eielson Array	61.43	337	P	P	22 05 32.9	+1.0
	comp=N,1.4nm,0.9s,mb4.1,baz=140,slow=5.1,SNR=13						
ILAR	Eielson Array	61.43	337	P	P	22 05 32.9	+1.0
NOA	NORSAR Array B	84.21	28	LR	LR	22 47 29.5	
	comp=N,104nm,20.3s,MS4.2,baz=180,slow=37						
ARCES	ARCESS Array B	85.87	18	P	P	22 07 55.1	0.0
	comp=N,1.0nm,0.6s,mb4.2,baz=283,slow=4.5,SNR=3.7						
ARCES				LR	LR	22 48 25.1	
	comp=N,201nm,18.6s,MS4.5,baz=357,slow=37						
ARCES	ARCESS Array B	85.87	18	P	P	22 07 55.1	0.0
GERES	GERESS Array B	90.01	39	LR	LR	22 48 52.5	
	comp=N,143nm,19.7s,MS4.4,baz=98,slow=36						
CMAR	Chiang Mai Arr	144.65	339	PKP	PKPdf	22 14 51.2	-2.0
	comp=N,0.4nm,0.3s,baz=336,slow=3.8,SNR=5.1						
CMAR	Chiang Mai Arr	144.65	339	PKP	PKPdf	22 14 51.2	-2.0

IDC 23 21:56:00.6±4.6, 29°.54S×177°.43W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/15, mbtmp3.5/2, Error ellipse: s-maj=226.3km s-min=72.2km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.66	266	P	P	22 04 06.3	-0.9
	0.4nm,0.6s,baz=100,slow=7.7,SNR=6.2						
WRA	Warramunga Arr	44.57	271	P	P	22 04 15.2	+0.7
	0.5nm,0.5s,baz=112,slow=7.8,SNR=16						
FINES	FINESS Array B	144.50	341	PKP	PKPdf	22 15 37.5	-0.7
	2.1nm,0.5s,baz=60,slow=2.8,SNR=19						

BJI 23 21:58:22.6, 44°.87N×10°.34E, h7km, mB5.3/32, mb5.0/47, Ms5.1/32, Ms7 4.8/31
BGS 23 21:58:23.8±2.9, 44°.31N×10°.24E, h25km, mb4.9
MOS 23 21:58:24.2±0.9, 44°.64N×10°.44E, h14km, mb5.2/40, MS4.5/35, Error ellipse: s-maj=3.0km s-min=2.7km az=92.3
ISCJB 23 21:58:25.8±0.2, 44°.585N±0°.008×10°.445E±0°.009, h27km±1km, mb5.0/90, MS4.5/34, Error ellipse: s-maj=1.4km s-min=1.1km az=5.6
NEIC 23 21:58:25.0, 44°.52N×10°.39E, h31km, mb5.3/32, ML5.1(ZUR), ML4.7(ROM), After ROM.
NEIC Felt [V] at Isola della Scala and Sant'Ilario d'Enza; [IV] at Asola, Avenza, Bergamo, Bogliano, Caldiero, Cariglione delle Stiviere, Castelnovo ne'Monti, Cellatica, Darfo Boario Terme, La Spezia, Marina di Massa, Modena, Montecchio Emilia, Montechiarugolo, Parma, Quattro Castella, Reggio nell'Emillia, Reolto, Sassuolo, Soliera, Torre Boldone, Verona and Vobarno. Felt widely in Emilia Romagna, Liguria, Lombardia, northern Toscana and Trentino-Alto Adige.
STR 23 21:58:25.8±0.3, 44°.61N×10°.39E, h5km, Ml4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
GEN 23 21:58:25.6, 44°.56N×10°.52E, h15km, ML4.5
BGR 23 21:58:25.9±0.7, 44°.60N×10°.39E, h10km, ML5.4/7, Error ellipse: s-maj=13.3km s-min=11.1km az=132.0
ZUR 23 21:58:25.1, 44°.52N×10°.42E, h11km±1km, ML5.1/6
PRU 23 21:58:26.9, 44°.62N×10°.59E, h10km, M5.3
LDG 23 21:58:26.2, 44°.58N×10°.67E, h30km
IDC 23 21:58:26.9±0.4, 44°.53N×10°.45E, h26km±2km, mb4.6/33, mb1 4.7/40, mb1mx4.6/43, mbtmp4.6/40, ML4.4/7, MS4.4/22, Ms1 4.4/22, ms1mx4.2/42, Error ellipse: s-maj=9.4km s-min=6.6km az=130.0
PDG 23 21:58:26.1±1.4, 44°.63N×10°.43E, h25km±2km, MD5.0/6, ML5.0/8, Error ellipse: s-maj=0.9km s-min=1.4km az=0.0
ROM 23 21:58:26.5±0.1, 44°.53N×10°.36E, h24km±1km, Ml4.8/61, Error ellipse: s-maj=2.1km s-min=1.4km az=72.0
CRAAG 23 21:58:26.9, 44°.60N×10°.40E, Mw4.9
CSEM 23 21:58:27.5±0.0, 44°.60N×10°.46E, h29km, mb5.3/39, ML5.1/17, Mw5.0, Error ellipse: s-maj=1.5km s-min=1.1km az=6.0
BNS 23 21:58:28.2±0.4, 44°.58N×10°.27E, h20km, ML4.9
GCMT 23 21:58:30.3±0.5, 44°.50N×10°.23E, h30km±1km, MW5.0, Moment Tensor Solution. s26,c31; s51,c80; Moment tensor: Scale 10^{16}Nm; M_{rr}2.54±.22; $M_{\theta\theta}$-2.68±.13; $M_{\phi\phi}$0.14±.15; $M_{r\theta}$1.12±.16; $M_{r\phi}$1.40±.12; $M_{\theta\phi}$-1.37±.23; Best double couple: $M_0$3.40000×10^{16} NP1:ϕ_s273.00000°, δ34.00000°, λ59.00000°. NP2:ϕ_s129.00000°, δ62.00000°, λ109.00000°. Principal axes: T 3.2000, Plg67.0000°, Azm77.0000°; N 0.4600, Plg17.0000°, Azm300.0000°; P -3.6600, Plg14.0000°, Azm205.0000°; Data Used: II IC IU G CN.

ISC 23 21:58:27.2±0.2, 44°.596N±0°.008×10°.433E±0°.009, h23km±1km, h24km±2.2km; pP-P, n1836, σ1.903/2127, mb5.0/90, MS4.5/34, 177C-218D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	Eremo	0.18	185	P	Pb	21 58 30.9	-1.5
ERBM	Eremo	0.18	185	Pg	Pb	21 58 31.0	-1.4
ERBM				Sg	Sb	21 58 35.6	-0.3
ERBM	Eremo	0.18	185	Pg	Pb	21 58 31.0	-1.4
ERBM				Sg	Sb	21 58 35.6	-0.3
PRMA	PARMA	0.19	333	↓ePg	Pb	21 58 32.4	-0.1
PRMA				Sg	Sb	21 58 38.1	+1.9
	197µm,0.5s						
PRMA	PARMA	0.19	333	↓ePg	Pb	21 58 32.4	-0.1
PRMA				Sg	Sb	21 58 38.1	+1.9
	197µm,0.5s						
VALM	Valbona	0.28	208	P	Pb	21 58 31.7	-2.1
VALM				S	Sb	21 58 35.8	-2.4
GRAM	Graiana	0.28	248	P	Pb	21 58 32.4	-1.4
GRAM				S	Sb	21 58 37.1	-1.2
NOVE	Novellara	0.29	45	↓ePg	Pb	21 58 33.7	-0.2
NOVE				Sg	Sb	21 58 41.2	+2.8
	237µm,0.6s						
NOVE	Novellara	0.29	45	↓ePg	Pb	21 58 33.7	-0.2
NOVE				Sg	Sb	21 58 41.2	+2.8
	237µm,0.6s						
ZCCA	Zocca	0.46	122	↓ePg	Pb	21 58 36.4	-0.3
	55µm,0.8s						
ZCCA	Zocca	0.46	122	↓ePg	Pb	21 58 36.4	-0.3
	55µm,0.8s						
CODM	Codolo	0.47	244	P	Pb	21 58 35.3	-1.4
CODM				S	Sb	21 58 42.0	-1.2
RAVA	Ravarino	0.52	72	P	Pb	21 58 37.8	+0.2
RAVA	Ravarino	0.52	72	↓ePg	Pb	21 58 37.9	+0.3
RAVA				Sg	Sb	21 58 48.9	+4.3
	272µm,0.9s						
RAVA	Ravarino	0.52	72	P	Pb	21 58 37.8	+0.2
RAVA				Sg	Sb	21 58 48.9	+4.3
	272µm,0.9s						
BDI	Bagni Di Lucca	0.55	168	P	Pb	21 58 34.4	-3.7
BDI	Bagni Di Lucca	0.55	168	P	Pb	21 58 34.4	-3.7
BDI	Bagni Di Lucca	0.55	168	↓ePg	Pb	21 58 35.6	-2.5
BDI				Sg	Sb	21 58 43.9	-1.6
	137µm,1.1s						
BDI	Bagni Di Lucca	0.55	168	P	Pb	21 58 34.4	-3.7
BDI	Bagni Di Lucca	0.55	168	↓ePg	Pb	21 58 35.6	-2.5
BDI				Sg	Sb	21 58 43.9	-1.6
	137µm,1.1s						
SBPO	S.Benedetto Po	0.57	37	↓ePg	Pb	21 58 39.1	+0.5
SBPO				Sg	Sb	21 58 50.5	+4.2
SBPO	S.Benedetto Po	0.57	37	↓ePg	Pb	21 58 39.1	+0.5
SBPO				Sg	Sb	21 58 50.5	+4.2
FNVD	Fontana Vidola	0.65	131	Pg	Pb	21 58 38.6	-1.3
FNVD	Fontana Vidola	0.65	131	Pg	Pb	21 58 38.6	-1.3
SC2M	Scurtabo	0.67	254	Pg	Pb	21 58 38.7	-1.5
	56µm,0.6s						
SC2M	Scurtabo	0.67	254	Pg	Pb	21 58 38.7	-1.5
	56µm,0.6s						
SC2M				S	Sb	21 58 48.0	-1.1
MAIM	Mastiano	0.68	176	↓ePg	Pb	21 58 37.7	-2.7
MAIM				Sg	Sb	21 58 48.7	-0.7
	41µm,0.9s						
MAIM	Mastiano	0.68	176	↓ePg	Pb	21 58 37.7	-2.7
MAIM				S	Sb	21 58 46.0	-3.4
MAIM				Sg	Sb	21 58 48.7	-0.7
	41µm,0.9s						
BOB	Bobbio (Coli)	0.72	284	P	Pb	21 58 40.5	-0.6
BOB	Bobbio (Coli)	0.72	284	P	Pb	21 58 40.5	-0.6
BOB	Bobbio (Coli)	0.72	284	Pg	Pb	21 58 40.3	-0.8
	50µm,0.8s						
BOB	Bobbio (Coli)	0.72	284	Pg	Pb	21 58 40.3	-0.8
	50µm,0.8s						
FIU	Minerbio Fiu	0.76	86	P	Pb	21 58 42.1	+0.4
FIU	Minerbio Fiu	0.76	86	↓ePg	Pb	21 58 42.3	+0.6
	250µm,1.0s						
FIU	Minerbio Fiu	0.76	86	↓ePg	Pb	21 58 42.3	+0.6
	250µm,1.0s						
MTRZ	Monterenzio	0.77	106	↑ePg	Pb	21 58 42.7	+0.8
	41µm,0.5s						
MTRZ	Monterenzio	0.77	106	↑ePg	Pb	21 58 42.7	+0.8
	41µm,0.5s						
SEI	Scarperia	0.86	129	↓ePg	Pb	21 58 41.5	-1.9
	873nm,0.3s						
SEI	Scarperia	0.86	129	↓ePg	Pb	21 58 41.5	-1.9
	873nm,0.3s						
CRMI	Carmignano	0.89	154	↓ePg	Pb	21 58 41.9	-2.1
CRMI				Sg	Sb	21 58 55.8	+0.3
	16µm,0.7s						
CRMI	Carmignano	0.89	154	↓ePg	Pb	21 58 41.9	-2.1
CRMI				Sg	Sb	21 58 55.8	+0.3
	16µm,0.7s						
CMPO	Campotto Po	0.98	90	Pg	Pn	21 58 46.2	+0.7
CMPO	Campotto Po	0.98	90	Pg	Pn	21 58 46.2	+0.7
VMG	Vicchio	1.02	128	P	Pn	21 58 42.8	-3.2
VMG	Vicchio	1.02	128	Pg	Pn	21 58 44.2	-1.8
VMG	Vicchio	1.02	128	Pg	Pn	21 58 44.2	-1.8
SALO	Salr	1.02	4	↓ePg	Pn	21 58 46.5	+0.4
SALO				Sg	Sb	21 59 03.0	+3.7
	289µm,0.8s						
SALO	Salr	1.02	4	↓ePg	Pn	21 58 46.5	+0.4
SALO				Sg	Sb	21 59 03.0	+3.7
	289µm,0.8s						
GENL	Genova Univers	1.06	260	P	Pn	21 58 45.8	-0.8
GENL				S	Sb	21 58 59.1	-1.3
FAEN	Faenza	1.08	106	↑ePg	Pn	21 58 48.9	+2.1
FAEN	Faenza	1.08	106	↑ePg	Pn	21 58 48.9	+2.1
BALD	Monte Baldo	1.12	14	↓ePg	Pn	21 58 47.9	+0.5
BALD				eSg	Sb	21 59 03.5	+1.5
BALD	Monte Baldo	1.12	14	eSg	Pn	21 58 47.9	+0.5
BALD				eSg	Sb	21 59 03.5	+1.5
ROVR	Rover¤ Verone	1.14	23	Pg	Pn	21 58 48.0	+0.3
ROVR				Sg	Sn	21 59 04.7	+2.0
	154µm,0.7s						
ROVR	Rover¤ Verone	1.14	23	Pg	Pn	21 58 48.0	+0.3
ROVR				Sg	Sn	21 59 04.7	+2.0
	154µm,0.7s						
ADRI	Adria, Italy	1.21	68	↑ePg	Pn	21 58 49.3	+0.6
ADRI				eSg	Sn	21 59 07.0	+2.7
ADRI	Adria, Italy	1.21	68	ePg	Pn	21 58 49.3	+0.7
ADRI				eSg	Sn	21 59 06.9	+2.6
SFI	Santa Sofia	1.23	124	P	Pn	21 58 48.0	-0.9
SFI	Santa Sofia	1.23	124	P	Pn	21 58 48.0	-0.9
SFI	Santa Sofia	1.23	124	Pg	Pn	21 58 49.6	+0.7
	17µm,1.0s						
SFI	Santa Sofia	1.23	124	P	Pn	21 58 48.0	-0.9
SFI	Santa Sofia	1.23	124	Pg	Pn	21 58 49.6	+0.7
	17µm,1.0s						
GROG	Isola di Gorgo	1.23	199	Pg	Pn	21 58 47.5	-1.4
GROG	Isola di Gorgo	1.23	199	Pg	Pn	21 58 47.5	-1.4
ASQU	Asqua	1.26	129	↓ePg	Pn	21 58 49.3	0.0
	19µm,1.4s						
ASQU	Asqua	1.26	129	↓ePg	Pn	21 58 49.3	0.0
	19µm,1.4s						
CSNT	Castellina Chi	1.28	151	P	Pn	21 58 48.8	-0.9
CSNT	Castellina Chi	1.28	151	↓ePg	Pn	21 58 49.0	-0.6
	18µm,1.2s						
CSNT	Castellina Chi	1.28	151	P	Pn	21 58 48.8	-0.8
MDI	Monti di Nese	1.29	337	Pg	Pn	21 58 50.3	+0.6
	42µm,0.7s						
MDI	Monti di Nese	1.29	337	Pg	Pn	21 58 50.3	+0.6
	42µm,0.7s						
PCP	Piancastagn	1.35	268	↓ePg	Pn	21 58 51.0	+0.4
	16µm,0.8s						
PCP	Piancastagn	1.35	268	P	Pn	21 58 50.9	+0.3
DDS	Dosso del Somm	1.39	22	↓ePg	Pn	21 58 51.3	+0.2
DDS				eSg	Sn	21 59 10.1	+1.3
DDS	Dosso del Somm	1.39	22	eP	Pn	21 58 51.3	+0.2
DDS				eS	Sn	21 59 10.1	+1.4
RNI	Roncone	1.39	6	↓ePg	Pn	21 58 51.5	+0.4
RNI				eSg	Sn	21 59 10.5	+1.7
RNI	Roncone	1.39	6	eP	Pn	21 58 51.5	+0.3
RNI				eS	Sn	21 59 10.5	+1.7
MABI	Malga Bissina	1.46	2	P	Pn	21 58 48.5	-3.6
MABI	Malga Bissina	1.46	2	↓ePg	Pn	21 58 52.8	+0.7
MABI	Malga Bissina	1.46	2	↓ePg	Pn	21 58 52.8	+0.7
CRE	Caprese Michel	1.47	131	P	Pn	21 58 52.6	+0.4
CRE	Caprese Michel	1.47	131	P	Pn	21 58 52.6	+0.5
CRE	Caprese Michel	1.47	131	Pg	Pn	21 58 52.8	+0.7
	4µm,0.4s						
CRE	Caprese Michel	1.47	131	Pg	Pn	21 58 52.8	+0.7
	4µm,0.4s						
PANI	Panarotta	1.58	23	↓ePg	Pn	21 58 54.0	+0.3
PANI				eSg	Sn	21 59 14.8	+1.4
PANI	Panarotta	1.58	23	eP	Pn	21 58 54.0	+0.3
PANI				eS	Sn	21 59 14.8	+1.4
RSM	Repubblica di	1.59	114	P	Pn	21 58 55.6	+1.7
RSM	Repubblica di	1.59	114	P	Pn	21 58 55.6	+1.7
RSM	Repubblica di	1.59	114	Pg	Pn	21 58 55.6	+1.7
RSM	Repubblica di	1.59	114	Pg	Pn	21 58 55.6	+1.7
CGRP	Cima Grappa	1.61	36	↓ePg	Pn	21 58 53.9	-0.2
CGRP				eSg	Sn	21 59 14.7	+0.6
CGRP	Cima Grappa	1.61	36	Pg	Pn	21 58 53.9	-0.2
	39µm,1.0s						
CGRP	Cima Grappa	1.61	36	Pg	Pn	21 58 53.9	-0.2
	39µm,1.0s						
CGRP				eS	Sn	21 59 14.7	+0.6
PARC	Parchiule	1.61	125	↓ePg	Pn	21 58 54.9	+0.8
	10µm,1.0s						
PARC	Parchiule	1.61	125	↓ePg	Pn	21 58 54.9	+0.8
	10µm,1.0s						
CTI	Castel Tesino	1.69	30	P	Pn	21 58 55.3	+0.1
CTI	Castel Tesino	1.69	30	P	Pn	21 58 55.3	+0.1
CTI	Castel Tesino	1.69	30	↓ePg	Pn	21 58 55.3	+0.1
	14µm,0.3s						
CTI	Castel Tesino	1.69	30	↓ePg	Pn	21 58 55.3	+0.1
	14µm,0.3s						
MTLO	Montello	1.69	43	↑ePg	Pn	21 58 55.1	-0.1
MTLO				eSg	Sn	21 59 16.3	+0.1
MTLO	Montello	1.69	43	eP	Pn	21 58 55.1	-0.2
BADI	Badiali	1.70	129	Pg	Pn	21 58 56.1	+0.8
	18µm,1.3s						
BADI	Badiali	1.70	129	Pg	Pn	21 58 56.1	+0.8
	18µm,1.3s						
CDCA	Citt' di Caste	1.73	131	P	Pn	21 58 55.8	+0.1
CDCA	Citt' di Caste	1.73	131	↑ePg	Pn	21 58 55.8	+0.1
	43µm,1.9s						
CDCA	Citt' di Caste	1.73	131	↑ePg	Pn	21 58 55.8	+0.1
	43µm,1.9s						
RORO	Rocca Rossa	1.77	255	↑ePg	Pn	21 58 55.4	-0.9
	4µm,0.3s						
RORO	Rocca Rossa	1.77	255	↑ePg	Pn	21 58 55.4	-0.9
	4µm,0.3s						
VARN	Col Varnada, M	1.83	40	↓ePg	Pn	21 58 56.5	-0.6
VARN				eSn	Sn	21 59 20.3	+0.7
VARN	Col Varnada, M	1.83	40	ePn	Pn	21 58 56.5	-0.6
VARN				eSn	Sn	21 59 20.3	+0.8
BERNI	Berninapass	1.84	351	↓iP	Pn	21 58 58.5	+1.2
	21µm,0.6s						
BERNI	Berninapass	1.84	351	P	Pn	21 58 58.5	+1.2
BERNI	Berninapass	1.84	351	↓ePg	Pn	21 58 58.6	+1.3
BERNI	Berninapass	1.84	351	↓eP	Pn	21 58 58.6	+1.3
MONC	Moncucco Torin	1.85	286	↑ePg	Pn	21 58 59.5	+2.1
MONC	Moncucco Torin	1.85	286	↑eP	Pn	21 58 59.5	+2.1
PESA	Pesaro	1.85	110	↑ePg	Pn	21 58 58.2	+0.8
	16µm,1.1s						
PESA	Pesaro	1.85	110	↑eP	Pn	21 58 58.2	+0.8
	16µm,1.1s						
PIEI	Pieia	1.85	124	P	Pn	21 58 54.1	-3.3
PIEI	Pieia	1.85	124	Pg	Pn	21 58 58.4	+1.0
PIEI	Pieia	1.85	124	P	Pn	21 58 58.4	+1.0
BRMO	Bormio	1.88	359	P	Pn	21 58 59.1	+1.2
BRMO	Bormio	1.88	359	Pg	Pn	21 58 59.1	+1.2
	8µm,1.0s						
BRMO	Bormio	1.88	359	P	Pn	21 58 59.1	+1.2
	8µm,1.0s						
ARCI	Arcidosso	1.90	156	↓iPg	Pn	21 58 57.4	-0.7
	11µm,2.1s						
ARCI	Arcidosso	1.90	156	↓iP	Pn	21 58 57.4	-0.7
	11µm,2.1s						
FSSB	Fossombrone	1.91	117	P	Pn	21 58 58.3	0.0
FSSB	Fossombrone	1.91	117	Pg	Pn	21 58 58.2	-0.1
	424nm,0.5s						
FSSB	Fossombrone	1.91	117	P	Pn	21 58 58.2	-0.1
	424nm,0.5s						
APPI	Appiano	1.96	16	↓ePg	Pn	21 59 00.0	+1.0
APPI	Appiano	1.96	16	↓ePg	Pn	21 59 00.0	+1.0
FAU	Forcella Aurin	1.96	33	↓ePn	Pn	21 58 59.3	+0.3
FAU				eSn	Sn	21 59 24.2	+1.3
FAU	Forcella Aurin	1.96	33	ePn	Pn	21 58 59.3	+0.3
FAU				eSn	Sn	21 59 24.2	+1.3
CAE	Caneva	2.00	44	↓ePn

comp=Z,7µm,19.5s,baz=9.0,slow=46
DAVOX Davos/Dischmat 2.22 350⇓ iP Pn 21 59 02.3 -0.2
18µm,0.8s
DAVOX Davos/Dischmat 2.22 350 P Pn 21 59 02.3 -0.2
DAVOX Sn Sn 21 59 30.2 +1.1
DAVOX Davos/Dischmat 2.22 350 P Pn 21 59 02.3 -0.2
DAVOX 21 59 30.3
DAVOX Davos/Dischmat 2.22 350⇓ ePg Pn 21 59 04.8 +2.3
DAVOX Davos/Dischmat 2.22 350⇓ iP Pn 21 59 02.3 -0.2
18µm,0.8s
DAVOX Davos/Dischmat 2.22 350⇓ ePg Pn 21 59 04.8 +2.3
DAVOX Sn Sn 21 59 30.2 +1.0
ASS Assisi 2.22 133 P Pn 21 59 01.1 -1.4
ASS Assisi 2.22 133 P Pn 21 59 01.2 -1.3
ASS Assisi 2.22 133 P Pn 21 59 01.2 -1.3
CIMO Cimolais 2.22 39⇓ ePn Pn 21 59 02.0 -0.5
CIMO Cimolais 2.22 39 ePn Pn 21 59 02.0 -0.5
MAON Monte Argentar 2.23 167 P Pn 21 59 01.9 -0.7
MAON Monte Argentar 2.23 167⇓ ePg Pn 21 59 01.9 -0.7
3µm,1.1s
MAON Monte Argentar 2.23 167⇓ ePg Pn 21 59 01.9 -0.7
3µm,1.1s
FUSIO Fusio 2.24 327⇑ iP Pn 21 59 03.3 +0.6
28µm,0.9s
FUSIO Fusio 2.24 327 P Pn 21 59 03.3 +0.6
FUSIO Fusio 2.24 327⇑ iP Pn 21 59 03.3 +0.6
28µm,0.9s
AUTN L'Aution 2.24 256 Pn Pn 21 59 02.9 +0.1
AUTN L'Aution 2.24 256 P Pn 21 59 02.9 +0.1
AUTN L'Aution 2.24 256 P Pn 21 59 02.9 +0.1
AUTN S Sn 21 59 32.3 +2.6
AUTN L'Aution 2.24 256 P Pn 21 59 02.9 +0.1
AUTN S Sn 21 59 32.3 +2.6
SNTG Esanatoglia 2.25 126 P Pn 21 59 02.7 -0.3
SNTG Esanatoglia 2.25 126 P Pn 21 59 02.7 -0.3
STV Sant Anna di V 2.25 262 P Pn 21 59 00.4 -2.6
STV Sant Anna di V 2.25 262 P Pn 21 59 00.4 -2.6
STV Sant Anna di V 2.25 262⇓ ePg Pn 21 59 03.2 +0.2
10µm,1.2s
STV Sant Anna di V 2.25 262 P Pn 21 59 00.4 -2.6
STV Sant Anna di V 2.25 262⇓ ePg Pn 21 59 03.2 +0.2
10µm,1.2s
MMK Mattmark 2.27 311⇑ iP Pn 21 59 04.6 +1.4
13µm,0.7s
MMK Mattmark 2.27 311 P Pn 21 59 04.6 +1.4
MMK Mattmark 2.27 311 P Pn 21 59 04.6 +1.4
MMK Mattmark 2.27 311⇑ iP Pn 21 59 04.6 +1.4
13µm,0.7s
SBF Sospel 2.28 252 ePn Pn 21 59 02.9 -0.4
SBF eSn Sn 21 59 30.5 -0.1
3µm,0.3s
SBF Sospel 2.28 252 ePn Pn 21 59 02.9 -0.4
SBF eSn Sn 21 59 30.5 -0.1
SBF Sospel 2.28 252 eP Pn 21 59 02.9 -0.4
SBF e 21 59 30.5
SBF Sospel 2.28 252 ePn Pn 21 59 02.9 -0.4
SBF eSn Sn 21 59 30.5 -0.1
2µm,0.3s
DOI San Damiano 2.28 269 P Pn 21 59 01.8 -1.5
DOI San Damiano 2.28 269 P Pn 21 59 01.8 -1.5
DOI San Damiano 2.28 269 P Pn 21 59 01.8 -1.5
AFL Alpe Faloria 2.29 32⇓ ePn Pn 21 59 04.7 +1.2
AFL Alpe Faloria 2.29 32 ePn Pn 21 59 04.7 +1.2
PGF Pioggiola 2.30 207 ePn Pn 21 59 02.4 -1.2
PGF eSn Sn 21 59 29.7 -1.4
1µm,0.3s
PGF Pioggiola 2.30 207 ePn Pn 21 59 02.4 -1.2
PGF eSn Sn 21 59 29.7 -1.4
PGF Pioggiola 2.30 207 eP Pn 21 59 02.4 -1.2
PGF e 21 59 29.7
PGF Pioggiola 2.30 207 eP Pn 21 59 02.4 -1.2
PGF eSn Sn 21 59 29.7 -1.4
680nm,0.3s
TLI Talmassons 2.30 54⇓ ePn Pn 21 59 03.2 -0.5
TLI Talmassons 2.30 54 ePn Pn 21 59 03.2 -0.5
RSP Reno Superiore 2.32 285 P Pn 21 59 02.8 -1.1
RSP Reno Superiore 2.32 285 P Pn 21 59 02.8 -1.1
RSP Reno Superiore 2.32 285 Pg Pn 21 59 02.6 -1.3
3µm,0.8s
RSP Reno Superiore 2.32 285 Pg Pn 21 59 02.6 -1.3
3µm,0.8s
CING Cingoli 2.34 120 P Pn 21 59 05.4 +1.2
CING Cingoli 2.34 120 Pg Pn 21 59 05.3 +1.2
4µm,0.9s
CING Cingoli 2.34 120 Pg Pn 21 59 05.3 +1.2
4µm,0.9s
TOUF Mont Tournerai 2.36 257 Pn Pn 21 59 05.2 +0.8
TOUF Mont Tournerai 2.36 257 P Pn 21 59 05.2 +0.8
TOUF Mont Tournerai 2.36 257 P Pn 21 59 05.2 +0.8
TOUF S Sn 21 59 35.4 +2.8
TOUF Mont Tournerai 2.36 257 P Pn 21 59 05.2 +0.8
TOUF S Sn 21 59 35.4 +2.8
REVF Revere 2.37 250 Pn Pn 21 59 03.9 -0.6
REVF Revere 2.37 250 P Pn 21 59 03.9 -0.6
REVF Revere 2.37 250 P Pn 21 59 03.9 -0.6
CESI CESI - Serrava 2.39 131 P Pn 21 59 04.4 -0.5
CESI CESI - Serrava 2.39 131 Pg Pn 21 59 04.9 0.0
5µm,1.4s
CESI CESI - Serrava 2.39 131 P Pn 21 59 04.4 -0.5
CESI CESI - Serrava 2.39 131 Pg Pn 21 59 04.9 0.0
5µm,1.4s
FETA Feichten 2.43 5 Pn Pn 21 59 07.5 +2.1
SNR=1214
MPRI Monte Prat 2.44 47⇓ ePn Pn 21 59 05.3 -0.2
MPRI Monte Prat 2.44 47 ePn Pn 21 59 05.3 -0.2
MVIF Mont Vial 2.46 255 Pn Pn 21 59 06.5 +0.7
MVIF Mont Vial 2.46 255 P Pn 21 59 06.5 +0.7
MVIF Mont Vial 2.46 255 P Pn 21 59 06.5 +0.7
MVIF S Sn 21 59 38.4 +3.3
MVIF Mont Vial 2.46 255 P Pn 21 59 06.5 +0.7
MVIF S Sn 21 59 38.4 +3.3
LLS Linth-Limmern 2.46 337⇑ iP Pn 21 59 07.0 +1.2
LLS Linth-Limmern 2.46 337 P Pn 21 59 07.0 +1.2
LLS Linth-Limmern 2.46 337 P Pn 21 59 07.0 +1.2
CSMI Casera Mimoias 2.47 38⇓ ePn Pn 21 59 06.2 +0.2
CSMI eSn Sn 21 59 34.8 -0.6
CSMI Casera Mimoias 2.47 38 ePn Pn 21 59 06.2 +0.2
CSMI eSn Sn 21 59 34.8 -0.6
FDMO Fiordimonte 2.47 128 P Pn 21 59 06.9 +0.9
FDMO Fiordimonte 2.47 128 P Pn 21 59 06.9 +0.9
LSD Lago del Serru 2.49 291 Pg Pn 21 59 05.2 -1.1
2µm,0.8s
GEPF Gemona 2.54 48 Pg Pn 21 59 06.5 -0.4
7µm,0.7s
BOO Bordano 2.55 46⇓ ePn Pn 21 59 06.5 -0.5
BOO Bordano 2.55 46 ePn Pn 21 59 06.6 -0.4
PLONS Plons/SG 2.56 344⇓ iP Pn 21 59 09.2 +2.0
PLONS Plons/SG 2.56 344 P Pn 21 59 09.2 +2.0
PLONS Plons/SG 2.56 344 P Pn 21 59 09.2 +2.0
FUSE Fusea 2.56 44⇓ ePn Pn 21 59 06.8 -0.5
FUSE Fusea 2.56 44 ePn Pn 21 59 06.8 -0.4
BAD Bernadia 2.57 49⇓ ePn Pn 21 59 06.7 -0.6
BAD Bernadia 2.57 49 ePn Pn 21 59 06.7 -0.6
SURF Saint Ours 2.59 269 P Pn 21 59 08.8 +1.2
SURF Saint Ours 2.59 269 P Pn 21 59 08.8 +1.2
FVI Forni Avoltri 2.59 39 P Pn 21 59 08.1 +0.4
FVI Forni Avoltri 2.59 39 P Pn 21 59 08.1 +0.5
FVI Forni Avoltri 2.59 39 P Pn 21 59 08.1 +0.5
ABTA Abfaltersbach 2.60 33 Pn Pn 21 59 09.0 +1.2
SNR=782
VINO Villanova 2.60 49⇓ ePn Pn 21 59 07.2 -0.6
VINO eSn Sn 21 59 38.5 -0.1
VINO Villanova 2.60 49 ePn Pn 21 59 07.2 -0.6
VINO eSn Sn 21 59 38.5 -0.2
TRI Trieste 2.61 64⇓ ePn Pn 21 59 06.9 -1.0
TRI Trieste 2.61 64 ePn Pn 21 59 06.8 -1.0
TRI eSn Sn 21 59 38.9 +0.2
TRI Trieste 2.61 64 eP Pn 21 59 06.8 -1.0
TRI e 21 59 38.9
TRI Trieste 2.61 64 Pg Pn 21 59 06.9 -0.9
4µm,0.7s
TRI Trieste 2.61 64 eP Pn 21 59 06.8 -1.0
TRI eS Sn 21 59 38.9 +0.2
MBDF Montbardon 2.62 274 ePn Pn 21 59 07.9 -0.1
MBDF eSn Sn 21 59 37.4 -1.6
1µm,0.4s
MBDF Montbardon 2.62 274 ePn Pn 21 59 07.9 -0.1
MBDF eSn Sn 21 59 37.4 -1.6
MBDF Montbardon 2.62 274 eP Pn 21 59 07.9 -0.1
MBDF e 21 59 37.4
MBDF Montbardon 2.62 274 ePn Pn 21 59 07.9 -0.1
MBDF eSn Sn 21 59 37.4 -1.6
558nm,0.4s
NRCA Norcia 2.62 131 P Pn 21 59 07.3 -0.7
NRCA Norcia 2.62 131 P Pn 21 59 07.3 -0.8
SABO M.te Sabotino 2.63 57⇓ ePn Pn 21 59 08.0 -0.1
SABO M.te Sabotino 2.63 57 ePn Pn 21 59 08.0 -0.1
ZOU Zoufplan 2.65 41⇓ ePn Pn 21 59 08.6 +0.2
ZOU Zoufplan 2.65 41⇓ ePn Pn 21 59 08.6 +0.2
ZOU Zoufplan 2.65 41 ePn Pn 21 59 08.6 +0.2
LKBD Leukerbad 2.67 313⇑ iP Pn 21 59 09.4 +0.8
LKBD Leukerbad 2.67 313 P Pn 21 59 09.4 +0.8
LKBD Leukerbad 2.67 313⇑ iP Pn 21 59 09.4 +0.8
BNALP Bannalp 2.67 329⇑ iP Pn 21 59 09.7 +0.9
BNALP Bannalp 2.67 329 P Pn 21 59 09.7 +0.9
BNALP Bannalp 2.67 329⇑ iP Pn 21 59 09.7 +0.9
MUO Muotathal 2.68 333⇑ iP Pn 21 59 11.0 +2.1
MUO Muotathal 2.68 333 P Pn 21 59 11.0 +2.1
MUO Muotathal 2.68 333⇑ iP Pn 21 59 11.0 +2.1
CALN Calern 2.69 253 Pn Pn 21 59 09.6 +0.7
CALN Calern 2.69 253 P Pn 21 59 09.6 +0.7
CALN Calern 2.69 253 P Pn 21 59 09.6 +0.7
CALN S Sn 21 59 44.3 +3.6
CALN Calern 2.69 253 P Pn 21 59 09.6 +0.7
CALN S Sn 21 59 44.3 +3.6
HASLI Hasliberg/Brie 2.69 324⇑ iP Pn 21 59 09.8 +0.8
HASLI Hasliberg/Brie 2.69 324 P Pn 21 59 09.8 +0.8
HASLI Hasliberg/Brie 2.69 324⇑ iP Pn 21 59 09.8 +0.8
BNI Bardonecchia 2.71 281 ePn Pn 21 59 09.5 +0.2
BNI eSn Sn 21 59 41.4 +0.1
BNI Bardonecchia 2.71 281 eP Pn 21 59 09.5 +0.2
BNI e 21 59 41.4
BNI Bardonecchia 2.71 281 Pg Pn 21 59 09.7 +0.4
BNI Bardonecchia 2.71 281 eP Pn 21 59 09.5 +0.2
BNI eS Sn 21 59 41.4 +0.1
SKDS Skadanscina 2.71 68 i Pn Pn 21 59 08.1 -1.1
SKDS eSn Sn 21 59 39.2 -2.1
SKDS
comp=Z,4µm,0.7s
SKDS Skadanscina 2.71 68 i Pn Pn 21 59 08.1 -1.1
SKDS eSn Sn 21 59 39.2 -2.1
comp=Z,4µm,0.7s
DAVA Damuels 2.72 352 Pn Pn 21 59 12.0 +2.6
SNR=124
DAVA Sn Sn 21 59 46.3 +4.8
PLRO Paularo 2.73 43⇓ ePn Pn 21 59 09.5 0.0
PLRO Paularo 2.73 43 ePn Pn 21 59 09.5 0.0
LNSS Leonessa 2.75 136 Pg Pn 21 59 10.4 +0.6
comp=Z,14µm,1.1s
LNSS Leonessa 2.75 136 Pg Pn 21 59 10.4 +0.6
comp=Z,14µm,1.1s
MNS Montasola 2.75 143 P Pn 21 59 10.0 +0.2
MNS Montasola 2.75 143 P Pn 21 59 10.0 +0.2
MNS Montasola 2.75 143⇓ ePg Pn 21 59 10.0 +0.2
comp=Z,4µm,1.3s
MNS Montasola 2.75 143⇓ ePg Pn 21 59 10.0 +0.2
comp=Z,4µm,1.3s
DRE Drenchia 2.76 54⇓ ePn Pn 21 59 09.5 -0.4
DRE Drenchia 2.76 54 ePn Pn 21 59 09.5 -0.4
LPG La Plagne 2.76 290 ePn Pn 21 59 09.8 -0.1
LPG eSn Sn 21 59 40.8 -1.7
comp=Z,3µm,0.8s
LPG La Plagne 2.76 290 ePn Pn 21 59 09.8 -0.1
LPG eSn Sn 21 59 40.8 -1.7
LPG La Plagne 2.76 290 eP Pn 21 59 09.8 -0.1
LPG e 21 59 40.8
LPG La Plagne 2.76 290 ePn Pn 21 59 09.8 -0.1
LPG eSn Sn 21 59 40.8 -1.7
comp=Z,2µm,0.8s
TOLF Tolfa 2.78 155 Pg Pn 21 59 09.9 -0.3
comp=Z,954nm,0.9s
TOLF Tolfa 2.78 155 Pg Pn 21 59 09.9 -0.3
comp=Z,954nm,0.9s
LPL La Plagne 2.78 291 ePn Pn 21 59 10.4 +0.2
LPL eSn Sn 21 59 41.3 -1.7
comp=Z,1µm,0.4s
LPL La Plagne 2.78 291 ePn Pn 21 59 10.4 +0.2
LPL eSn Sn 21 59 41.3 -1.7
LPL La Plagne 2.78 291 eP Pn 21 59 10.4 +0.2
LPL e 21 59 41.3
LPL La Plagne 2.78 291 ePn Pn 21 59 10.4 +0.2
LPL eSn Sn 21 59 41.3 -1.7
comp=Z,618nm,0.4s
MOTA Moosalm 2.79 9 Pn Pn 21 59 12.8 +2.5
SNR=1321
WTTA Wattenberg 2.80 17 Pn Pn 21 59 11.9 +1.5
SNR=2050
SENIN Lac Senin/Sane 2.83 310⇑ iP Pn 21 59 11.8 +1.0
SENIN Lac Senin/Sane 2.83 310 ePn Pn 21 59 11.9 +1.0
SENIN Lac Senin/Sane 2.83 310⇑ iP Pn 21 59 11.8 +1.0
VOY Vojsko 2.83 58⇓ ePn Pn 21 59 10.3 -0.6
VOY Vojsko 2.83 58 Pn Pn 21 59 10.3 -0.6
CADS Cadrg 2.84 54 i Pn Pn 21 59 10.6 -0.4
CADS Cadrg 2.84 54 i Pn Pn 21 59 10.6 -0.5
WATA Walderalm 2.85 16 Pn Pn 21 59 13.4 +2.2
SNR=1252
WATA Sn Sn 21 59 50.2 +5.4
WIMIS Wimmis 2.86 317⇑ iP Pn 21 59 12.8 +1.5
WIMIS Wimmis 2.86 317 P Pn 21 59 12.8 +1.5
WIMIS Wimmis 2.86 317⇑ iP Pn 21 59 12.8 +1.5
JAVS Javornik 2.88 62 i Pn Pn 21 59 10.8 -0.7
JAVS Javornik 2.88 62 i Pn Pn 21 59 10.8 -0.7
LSR Lussari 2.88 48⇓ ePn Pn 21 59 11.2 -0.3
LSR Lussari 2.88 48 ePn Pn 21 59 11.2 -0.3
OFFI Offida 2.88 124 P Pn 21 59 13.1 +1.5
OFFI Offida 2.88 124⇑ ePg Pn 21 59 13.0 +1.4
comp=Z,14µm,1.0s
OFFI Offida 2.88 124⇑ ePg Pn 21 59 13.0 +1.4
comp=Z,14µm,1.0s
SALAN Lac Salanfe 2.89 304⇓ iP Pn 21 59 13.6 +1.9
SALAN Lac Salanfe 2.89 304 P Pn 21 59 13.6 +1.9
SALAN Lac Salanfe 2.89 304⇓ iP Pn 21 59 13.6 +1.9
RETA Reutte 2.90 4 Pn Pn 21 59 13.9 +2.1
SNR=1114
ACOM Acomizza, Ital 2.91 47 ePn Pn 21 59 11.9 -0.1
ACOM Acomizza, Ital 2.91 47 ePn Pn 21 59 11.9 -0.1
FRF La Foret Royal 2.92 251 ePn Pn 21 59 11.7 -0.4
FRF eSn Sn 21 59 46.0 -0.4
comp=Z,4µm,0.3s
FRF La Foret Royal 2.92 251 ePn Pn 21 59 11.7 -0.4
FRF eSn Sn 21 59 46.0 -0.4
FRF La Foret Royal 2.92 251 eP Pn 21 59 11.7 -0.4
FRF e 21 59 46.0
FRF La Foret Royal 2.92 251 ePn Pn 21 59 11.7 -0.4
FRF eSn Sn 21 59 46.0 -0.4
comp=Z,2µm,0.3s
GUMA Gualdo di Mace 2.96 120 Pg Pn 21 59 09.3 -3.4
GUMA Gualdo di Mace 2.96 120 Pg Pn 21 59 09.3 -3.4
AIGLE Aigle 3.01 307⇑ iP Pn 21 59 14.7 +1.4
AIGLE Aigle 3.01 307 P Pn 21 59 14.7 +1.4
AIGLE Aigle 3.01 307⇑ iP Pn 21 59 14.7 +1.4
WILA Wila 3.01 340⇓ iP Pn 21 59 15.2 +1.8
WILA Wila 3.01 340 P Pn 21 59 15.2 +1.8
WILA Wila 3.01 340⇓ iP Pn 21 59 15.2 +1.8
TERO Teramo 3.03 129 P Pn 21 59 14.8 +1.1
TERO Teramo 3.03 129⇑ ePg Pn 21 59 14.6 +0.9
comp=Z,3µm,0.8s
TERO Teramo 3.03 129⇑ ePg Pn 21 59 14.6 +0.9
comp=Z,3µm,0.8s
FIAM Fiamignano 3.04 139 P Pn 21 59 14.7 +0.9
FIAM Fiamignano 3.04 139 Pg Pn 21 59 14.7 +0.9
comp=Z,4µm,1.0s
FIAM Fiamignano 3.04 139 Pg Pn 21 59 14.7 +0.9
comp=Z,4µm,1.0s
CEY Cerknica 3.05 67 P Pn 21 59 13.3 -0.6
CEY Cerknica 3.05 67 P Pn 21 59 13.3 -0.6
ZUR Degenried 3.06 336⇓ iP Pn 21 59 15.3 +1.2
ZUR Degenried 3.06 336 P Pn 21 59 15.3 +1.2
ZUR Degenried 3.06 336 P Pn 21 59 15.3 +1.2
ZUR Degenried 3.06 336⇓ iP Pn 21 59 15.3 +1.2
OSPF L'Ospedale 3.07 198 P Pn 21 59 14.0 -0.2
OSPF L'Ospedale 3.07 198 P Pn 21 59 14.0 -0.2
MTCE Montecelio 3.08 146 P Pn 21 59 14.5 +0.2
MTCE Montecelio 3.08 146⇓ ePg Pn 21 59 14.6 +0.3
comp=Z,2µm,1.3s
MTCE Montecelio 3.08 146⇓ ePg Pn 21 59 14.6 +0.3
comp=Z,2µm,1.3s
LMR La Mourre 3.10 247 ePn Pn 21 59 13.9 -0.7
LMR eSn Sn 21 59 49.6 -1.3
comp=Z,3µm,0.3s
LMR La Mourre 3.10 247 ePn Pn 21 59 13.9 -0.7
LMR eSn Sn 21 59 49.6 -1.3
LMR La Mourre 3.10 247 eP Pn 21 59 13.9 -0.7
LMR e 21 59 49.6
LMR La Mourre 3.10 247 ePn Pn 21 59 13.9 -0.7
LMR eSn Sn 21 59 49.6 -1.3
comp=Z,1µm,0.3s
WEIN Weingarten 3.10 342⇓ iP Pn 21 59 15.8 +1.2
WEIN Weingarten 3.10 342 P Pn 21 59 15.8 +1.2
WEIN Weingarten 3.10 342⇓ iP Pn 21 59 15.8 +1.2
AQU L'Aquila 3.11 135 ePn Pn 21 59 15.8 +1.0
AQU eSn Sn 21 59 52.4 +1.2
AQU L'Aquila 3.11 135 ⇑iP Pn 21 59 15.8 +1.0
AQU S Sn 21 59 55.5 +4.3
AQU L'Aquila 3.11 135⇑ iP Pn 21 59 15.8 +1.0
AQU L'Aquila 3.11 135 S Sn 21 59 55.5 +4.3
AQU L'Aquila 3.11 135 P Pn 21 59 15.8 +1.0
AQU eSn Sn 21 59 52.4 +1.2
OG01 Vacheresse 3.16 305 P Pn 21 59 17.2 +1.8
OG01 Vacheresse 3.16 305 P Pn 21 59 17.2 +1.8
NVLJ Novalja 3.17 89 i Pn Pn 21 59 15.3 -0.3
NVLJ Sn Sn 21 59 51.7 -1.0
NVLJ Novalja 3.17 89 i Pn Pn 21 59 15.2 -0.4
NVLJ Sn Sn 21 59 51.6 -1.1
KBA Koelnbreinsper 3.21 38 Pn Pn 21 59 17.6 +1.4
SNR=61
LJU Ljubljana 3.23 62⇑ ePn Pn 21 59 16.5 +0.1
LJU Ljubljana 3.23 62 P Pn 21 59 16.5 +0.1
LJU Ljubljana 3.23 62 P Pn 21 59 16.5 +0.1
LJU Ljubljana 3.23 62 P Pn 21 59 16.5 +0.1
CERT Cerreto 3.23 144 P Pn 21 59 16.8 +0.3
CERT Cerreto 3.23 144 P Pn 21 59 16.8 +0.3
FLACH Flaach 3.25 337⇓ iP Pn 21 59 17.7 +1.1
FLACH Flaach 3.25 337 P Pn 21 59 17.7 +1.1
FLACH Flaach 3.25 337⇓ iP Pn 21 59 17.7 +1.1
ORIF Oris-en-Rattie 3.26 277 ePn Pn 21 59 18.3 +1.5
ORIF eSn Sn 21 59 52.4 -2.4
comp=Z,2µm,0.5s
ORIF Oris-en-Rattie 3.26 277 ePn Pn 21 59 18.3 +1.5
ORIF eSn Sn 21 59 52.4 -2.4
ORIF Oris-en-Rattie 3.26 277 eP Pn 21 59 18.3 +1.5
ORIF e 21 59 52.4
ORIF Oris-en-Rattie 3.26 277 ePn Pn 21 59 18.3 +1.5
ORIF eSn Sn 21 59 52.4 -2.4
comp=Z,1µm,0.5s
STEIN Stein am Rhein 3.26 341⇓ iP Pn 21 59 17.9 +1.1
STEIN Stein am Rhein 3.26 341 P Pn 21 59 17.9 +1.1
STEIN Stein am Rhein 3.26 341⇓ iP Pn 21 59 17.9 +1.1
TORNY Torny/Romont 3.27 313⇑ iP Pn 21 59 17.4 +0.5
TORNY Torny/Romont 3.27 313 P Pn 21 59 17.4 +0.5
TORNY Torny/Romont 3.27 313⇑ iP Pn 21 59 17.4 +0.5
FAGN Fagnano 3.27 134 Pg Pn 21 59 18.1 +1.2
comp=Z,2µm,0.5s
FAGN Fagnano 3.27 134 Pg Pn 21 59 18.1 +1.2
comp=Z,2µm,0.5s
TRULL Truellikon 3.29 339⇓ iP Pn 21 59 18.2 +1.0
TRULL Truellikon 3.29 339 P Pn 21 59 18.2 +1.0
TRULL Truellikon 3.29 339⇓ iP Pn 21 59 18.2 +1.0
RDP Rocca di Papa 3.29 149 P Pn 21 59 17.9 +0.6
RDP Rocca di Papa 3.29 149 P Pn 21 59 17.9 +0.7
RDP Rocca di Papa 3.29 149 P Pn 21 59 17.9 +0.7
BALST Balsthal 3.34 326⇑ iP Pn 21 59 18.5 +0.6
BALST Balsthal 3.34 326 P Pn 21 59 18.5 +0.6
BALST Balsthal 3.34 326⇑ iP Pn 21 59 18.5 +0.6
VISS Visnje 3.34 67 i Pn Pn 21 59 17.6 -0.3
VISS Visnje 3.34 67 i Pn Pn 21 59 17.6 -0.3
SULZ Cheisacher 3.35 332⇓ iP Pn 21 59 18.5 +0.5
SULZ Cheisacher 3.35 332 P Pn 21 59 18.5 +0.5
SULZ Cheisacher 3.35 332⇓ iP Pn 21 59 18.5 +0.5
GRN Grenoble 3.39 283 P Pn 21 59 20.4 +1.8
GRN Grenoble 3.39 283 P Pn 21 59 20.4 +1.8
SLE Schleitheim 3.44 338⇓ iP Pn 21 59 19.5 +0.2
SLE Schleitheim 3.44 338⇓ iP Pn 21 59 19.5 +0.2
SLE Schleitheim 3.44 338⇓ iP Pn 21 59 19.5 +0.2
SLE Schleitheim 3.44 338⇓ iP Pn 21 59 19.5 +0.2
OBKA Obir 3.47 55 Pn Pn 21 59 19.7 0.0
SNR=140
GUAR Guarcino 3.50 142 P Pn 21 59 21.1 +1.0
GUAR Guarcino 3.50 142⇓ ePg Pn 21 59 20.9 +0.7
comp=Z,879nm,0.8s
GUAR Guarcino 3.50 142⇓ ePg Pn 21 59 20.9 +0.7
comp=Z,879nm,0.8s
GIMEL St. Georges / 3.51 305⇑ iP Pn 21 59 21.4 +1.1
GIMEL St. Georges / 3.51 305⇑ iP Pn 21 59 21.4 +1.1
GIMEL St. Georges / 3.51 305⇑ iP Pn 21 59 21.4 +1.1
BBS Basel-Blauen 3.52 326 Pn Pn 21 59 20.0 -0.4
BBS Basel-Blauen 3.52 326 P Pn 21 59 20.0 -0.4
BBS Basel-Blauen 3.52 326 P Pn 21 59 20.0 -0.4
BOJS Bojanci 3.53 73 i Pn Pn 21 59 20.1 -0.4
BOJS Bojanci 3.53 73 i Pn Pn 21 59 20.1 -0.5
SMRF Simiane la Rot 3.54 262 ePn Pn 21 59 22.0 +1.3
SMRF eSn Sn 22 00 00.2 -1.6
comp=Z,359nm,0.4s
SMRF Simiane la Rot 3.54 262 eP Pn 21 59 21.1 +0.4
SMRF eSn Sn 22 00 00.2 -1.6
SMRF Simiane la Rot 3.54 262 eP Pn 21 59 21.1 +0.4
SMRF Simiane la Rot 3.54 262 ePn Pn 21 59 22.0 +1.3
SMRF eSn Sn 22 00 00.2 -1.6
comp=Z,180nm,0.4s
RJOB Jochberg 3.54 27 ePn Pn 21 59 22.6 +1.9
RJOB eSn Sn 22 00 05.9 +4.1
RJOB Jochberg 3.54 27 Pn Pn 21 59 22.6 +1.9
RJOB Sn Sn 22 00 05.9 +4.1
VVLD Villa Vallelon 3.58 138 P Pn 21 59 23.2 +1.9
VVLD Villa Vallelon 3.58 138 P Pn 21 59 23.2 +1.9
FUR Furstenfeldbru 3.62 9 ePn Pn 21 59 22.8 +1.0
FUR eSn Sn 22 00 05.3 +1.6
FUR Furstenfeldbru 3.62 9 Pn Pn 21 59 22.8 +1.1
FUR Sn Sn 22 00 05.3 +1.6
INTR Introdacqua 3.62 134 P Pn 21 59 22.8 +1.1
INTR Introdacqua 3.62 134 P Pn 21 59 22.8 +1.1
CABF La Chapelle 3.66 305 ePn Pn 21 59 23.3 +1.1
CABF eSn Sn 21 59 59.2 -5.4
comp=Z,453nm,0.4s
CABF La Chapelle 3.66 305 ePn Pn 21 59 23.3 +1.1
CABF eSn Sn 21 59 59.2 -5.4
CABF La Chapelle 3.66 305 eP Pn 21 59 23.3 +1.1
CABF e 21 59 59.2
CABF La Chapelle 3.66 305 ePn Pn 21 59 23.3 +1.1
SPAK Spaichingen-Ko 3.69 343 Pn Pn 21 59 21.9 -0.8
SPAK Spaichingen-Ko 3.69 343 P Pn 21 59 21.9 -0.8
FELD Feldberg im Sc 3.69 334 Pn Pn 21 59 23.0 +0.3
FELD Feldberg im Sc 3.69 334 P Pn 21 59 23.0 +0.3
LOMF Lomont 3.73 319 Pn Pn 21 59 24.2 +0.9
LOMF Lomont 3.73 319 P Pn 21 59 24.2 +0.9
LOMF Lomont 3.73 319 P Pn 21 59 24.2 +0.9
LOMF Lomont 3.73 319 P Pn 21 59 24.2 +0.9
POFI Posta Fibreno 3.75 139 Pg Pn 21 59 24.8 +1.3
comp=Z,3µm,1.8s
POFI Posta Fibreno 3.75 139 Pg Pn 21 59 24.8 +1.3
comp=Z,3µm,1.8s
CRES Cresnjev 3.76 69 P Pn 21 59 23.4 -0.2
CRES Cresnjev 3.76 69 P Pn 21 59 23.4 -0.2
SDI San Donato 3.80 138 P Pn 21 59 24.4 +0.2
SDI San Donato 3.80 138 P Pn 21 59 24.4 +0.2
SDI San Donato 3.80 138 P Pn 21 59 24.4 +0.2
RNI2 Rionero Sannit 3.97 135 P Pn 21 59 28.4 +1.9
RNI2 Rionero Sannit 3.97 135 P Pn 21 59 28.4 +1.8
MOF Molkenrain 3.98 326 Pn Pn 21 59 27.3 +0.6
MOF Molkenrain 3.98 326 P Pn 21 59 27.3 +0.6
MOF Molkenrain 3.98 326 P Pn 21 59 27.3 +0.6
MOF Molkenrain 3.98 326 P Pn 21 59 27.3 +0.6
BFO Black Forest 4.01 339 ePn Pn 21 59 27.1 0.0
BFO eSn Sn 22 00 13.2 0.0
BFO Black Forest 4.01 339 eP Pn 21 59 27.1 0.0
BFO e 22 00 13.2
BFO Black Forest 4.01 339 ePn Pn 21 59 27.0 -0.1
BFO eSn Sn 22 00 11.1 -2.2
BFO Black Forest 4.01 339 Pn Pn 21 59 27.9 +0.8
comp=Z,7µm,0.5s
BFO Black Forest 4.01 339 eP Pn 21 59 27.1 0.0
BFO eSn Sn 22 00 13.2 -0.1
FRES Fresagrandinar 4.05 129⇑ iPg Pn 21 59 27.7 0.0
comp=Z,4µm,1.6s
FRES Fresagrandinar 4.05 129⇑ iPg Pn 21 59 27.7 0.0
comp=Z,4µm,1.6s
LIBD Limburg 4.06 332 Pn Pn 21 59 28.5 +0.7
LIBD Limburg 4.06 332 P Pn 21 59 28.5 +0.7
LIBD Limburg 4.06 332 P Pn 21 59 28.5 +0.7
MIDA Miranda 4.07 135 P Pn 21 59 29.1 +1.2
MIDA Miranda 4.07 135⇑ ePg Pn 21 59 28.5 +0.6
comp=Z,3µm,1.5s
MIDA Miranda 4.07 135⇑ ePg Pn 21 59 28.5 +0.6
comp=Z,3µm,1.5s
MIDA Miranda 4.07 135 P Pn 21 59 29.1 +1.2

HINF	**Hinterlafeld**	**4.07 324**	*e*Pn	**Pn**	**21 59 27.9**	**0.0**
HINF			*e*Sn	**Sn**	**22 00 12.4**	**-2.4**
	comp=Z,1μm,0.3s					
HINF	**Hinterlafeld**	**4.07 324**	*e*Pn	**Pn**	**21 59 27.9**	**0.0**
HINF			*e*Sn	**Sn**	**22 00 12.4**	**-2.4**
HINF	**Hinterlafeld**	**4.07 324**	*e*P	**Pn**	**21 59 27.9**	**0.0**
HINF			*e*		22 00 12.4	
HINF	**Hinterlafeld**	**4.07 324**	*e*Pn	**Pn**	**21 59 27.9**	**0.0**
HINF			*e*Sn	**Sn**	**22 00 12.4**	**-2.4**
	comp=Z,692nm,0.3s					
VIVF	**Saint-Julien-I**	**4.11 276**	*e*Pn	**Pn**	**21 59 28.8**	**+0.3**
VIVF			*e*Sn	**Sn**	**22 00 12.6**	**-3.3**
	comp=Z,326nm,0.5s					
VIVF	**Saint-Julien-I**	**4.11 276**	*e*Pn	**Pn**	**21 59 28.8**	**+0.3**
VIVF			*e*Sn	**Sn**	**22 00 12.6**	**-3.3**
VIVF	**Saint-Julien-I**	**4.11 276**	*e*P	**Pn**	**21 59 28.8**	**+0.3**
VIVF			*e*		22 00 12.6	
VIVF	**Saint-Julien-I**	**4.11 276**	*e*Pn	**Pn**	**21 59 28.8**	**+0.3**
VIVF			*e*Sn	**Sn**	**22 00 12.6**	**-3.3**
	comp=Z,163nm,0.5s					
MOA	**Molln**	**4.20 38**	Pn	**Pn**	**21 59 30.7**	**+1.0**
	SNR=618					
VAGA	**Valle Agricola**	**4.23 137**	Pg	**Pn**	**21 59 30.8**	**+0.7**
	comp=Z,2μm,1.6s					
VAGA	**Valle Agricola**	**4.23 137**	Pg	**Pn**	**21 59 30.8**	**+0.7**
	comp=Z,2μm,1.6s					
SSB	**Saint Sauveur**	**4.24 281⇑**	*e*Pn	**Pn**	**21 59 30.3**	**+0.1**
SSB			*e*Sn	**Sn**	**22 00 18.4**	**-0.6**
SSB	**Saint Sauveur**	**4.24 281⇑**	*e*P	**Pn**	**21 59 30.3**	**0.0**
SSB			*e*		22 00 18.4	
SSB	**Saint Sauveur**	**4.24 281**	P	**Pn**	**21 59 30.3**	**0.0**
SSB			*e*Sn	**Sn**	**22 00 18.4**	**-0.6**
SSB	**Saint Sauveur**	**4.24 281**	P	**Pn**	**21 59 30.3**	**0.0**
STU	**Stuttgart**	**4.26 349**	*e*Pn	**Pn**	**21 59 30.4**	**-0.2**
STU			*e*Sn	**Sn**	**22 00 18.2**	**-1.4**
STU	**Stuttgart**	**4.26 349**	*e*P	**Pn**	**21 59 30.4**	**-0.2**
STU			*e*		22 00 18.2	
STU	**Stuttgart**	**4.26 349**	*e*Pn	**Pn**	**21 59 30.8**	**+0.2**
STU			*e*Sn	**Sn**	**22 00 18.4**	**-1.1**
STU	**Stuttgart**	**4.26 349**	*e*P	**Pn**	**21 59 30.4**	**-0.2**
STU	**Stuttgart**	**4.26 349**	Pn	**Pn**	**21 59 30.8**	**+0.2**
STU			Sn	**Sn**	**22 00 18.4**	**-1.2**
ECH	**Echery**	**4.27 329**	Pn	**Pn**	**21 59 31.0**	**+0.3**
ECH	**Echery**	**4.27 329**	P	**Pn**	**21 59 31.0**	**+0.3**
ECH	**Echery**	**4.27 329**	P	**Pn**	**21 59 31.0**	**+0.3**
ECH	**Echery**	**4.27 329**	P	**Pn**	**21 59 31.0**	**+0.3**
SISC	**Sisak**	**4.30 76**	*e*Pn	**Pn**	**21 59 32.5**	**+1.4**
SISC	**Sisak**	**4.30 76**	*e*Pn	**Pn**	**21 59 32.5**	**+1.4**
DGI	**Dorgali Grotta**	**4.32 188**	P	**Pn**	**21 59 30.1**	**-1.2**
DGI	**Dorgali Grotta**	**4.32 188⇓**	*e*Pg	**Pn**	**21 59 30.9**	**-0.5**
	comp=Z,481nm,0.9s					
DGI	**Dorgali Grotta**	**4.32 188**	P	**Pn**	**21 59 30.1**	**-1.3**
DGI	**Dorgali Grotta**	**4.32 188⇓**	*e*Pg	**Pn**	**21 59 30.9**	**-0.5**
	comp=Z,481nm,0.9s					
SGG	**Gregorio Mates**	**4.32 137**	P	**Pn**	**21 59 32.3**	**+0.9**
SGG	**Gregorio Mates**	**4.32 137**	P	**Pn**	**21 59 32.3**	**+0.9**
STR	**Strasbourg**	**4.39 336**	Pn	**Pn**	**21 59 33.1**	**+0.7**
STR	**Strasbourg**	**4.39 336**	P	**Pn**	**21 59 33.1**	**+0.7**
STR	**Strasbourg**	**4.39 336**	P	**Pn**	**21 59 33.1**	**+0.7**
STR	**Strasbourg**	**4.39 336**	P	**Pn**	**21 59 33.1**	**+0.7**
CDF	**Champ du Feu**	**4.40 331**	*e*Pn	**Pn**	**21 59 32.5**	**+0.1**
CDF			*e*Sn	**Sn**	**22 00 17.4**	**-5.4**
	comp=Z,1μm,0.4s					
CDF	**Champ du Feu**	**4.40 331**	*e*Pn	**Pn**	**21 59 32.5**	**+0.1**
CDF			*e*Sn	**Sn**	**22 00 17.4**	**-5.4**
CDF	**Champ du Feu**	**4.40 331**	*e*P	**Pn**	**21 59 32.5**	**+0.1**
CDF			*e*		22 00 17.4	
CDF	**Champ du Feu**	**4.40 331**	*e*Pn	**Pn**	**21 59 32.5**	**+0.1**
CIGN	**Sant'Elia a Pi**	**4.40 130**	P	**Pn**	**21 59 34.2**	**+1.7**
CIGN	**Sant'Elia a Pi**	**4.40 130**	P	**Pn**	**21 59 34.2**	**+1.7**
PTRJ	**Pietraroja**	**4.41 136**	Pg	**Pn**	**21 59 33.1**	**+0.5**
	comp=Z,5μm,1.7s					
PTRJ	**Pietraroja**	**4.41 136**	Pg	**Pn**	**21 59 33.1**	**+0.5**
	comp=Z,5μm,1.7s					
HAU	**Haudompre**	**4.43 322**	*e*Pn	**Pn**	**21 59 33.3**	**+0.4**
HAU			*e*Sn	**Sn**	**22 00 21.1**	**-2.6**
	comp=Z,7μm,0.6s					
HAU	**Haudompre**	**4.43 322**	*e*Pn	**Pn**	**21 59 33.3**	**+0.4**
HAU			*e*Sn	**Sn**	**22 00 21.1**	**-2.6**
HAU	**Haudompre**	**4.43 322**	*e*P	**Pn**	**21 59 33.3**	**+0.4**
HAU			*e*		22 00 21.1	
HAU	**Haudompre**	**4.43 322**	*e*Pn	**Pn**	**21 59 33.3**	**+0.4**
HAU			*e*Sn	**Sn**	**22 00 21.1**	**-2.6**
	comp=Z,3μm,0.6s					
ARSA	**Arzberg**	**4.43 51**	Pn	**Pn**	**21 59 32.7**	**-0.3**
	SNR=203					
FG2	**Serracapriola**	**4.44 127**	P	**Pn**	**21 59 32.0**	**-1.0**
FG2	**Serracapriola**	**4.44 127**	P	**Pn**	**21 59 32.0**	**-1.1**
KOGS	**Kog**	**4.49 64**	*i* Pn	**Pn**	**21 59 32.9**	**-0.8**
KOGS						
	comp=Z,5μm,1.7s					
KOGS	**Kog**	**4.49 64**	P	**Pn**	**21 59 33.2**	**-0.5**
KOGS	**Kog**	**4.49 64**	*i* Pn	**Pn**	**21 59 32.9**	**-0.8**
	comp=Z,5μm,1.7s					
KOGS	**Kog**	**4.49 64**	P	**Pn**	**21 59 33.2**	**-0.5**
PSB1	**Pescosannita**	**4.66 135**	P	**Pn**	**21 59 38.2**	**+2.2**
LANF	**Langenberg**	**4.74 339**	P	**Pn**	**21 59 37.4**	**+0.2**
LANF	**Langenberg**	**4.74 339**	P	**Pn**	**21 59 37.4**	**+0.2**
LASF	**Ste Croix**	**4.75 266**	*e*Pn	**Pn**	**21 59 37.2**	**0.0**
LASF			*e*Sn	**Sn**	**22 00 28.7**	**-2.8**
	comp=Z,238nm,0.6s					
LASF	**Ste Croix**	**4.75 266**	*e*Pn	**Pn**	**21 59 37.2**	**0.0**
LASF			*e*Sn	**Sn**	**22 00 28.7**	**-2.8**
LASF	**Ste Croix**	**4.75 266**	*e*Pn	**Pn**	**21 59 37.2**	**0.0**
LASF			*e*Sn	**Sn**	**22 00 28.7**	**-2.8**
	comp=Z,119nm,0.6s					
THEF	**They Montfort**	**4.76 321**	Pn	**Pn**	**21 59 38.1**	**+0.7**
THEF	**They Montfort**	**4.76 321**	P	**Pn**	**21 59 38.1**	**+0.7**
THEF	**They Montfort**	**4.76 321**	P	**Pn**	**21 59 38.1**	**+0.7**
THEF	**They Montfort**	**4.76 321**	P	**Pn**	**21 59 38.1**	**+0.7**
RGNG	**Rignano Grg**	**4.77 126**	P	**Pn**	**21 59 35.8**	**-1.7**
RGNG	**Rignano Grg**	**4.77 126**	P	**Pn**	**21 59 35.8**	**-1.8**
GEC2	**GERESS Array S**	**4.81 27**	*e*Pn	**Pn**	**21 59 38.0**	**0.0**
GEC2			*e*Sn	**Sn**	**22 00 31.6**	**-1.3**
GEC2	**GERESS Array S**	**4.81 27**	Pn	**Pn**	**21 59 38.0**	**-0.1**
GEC2			Sn	**Sn**	**22 00 31.6**	**-1.4**
GERES	**GERESS Array B**	**4.81 27**	Pn	**Pn**	**21 59 38.0**	**0.0**
	comp=Z,29nm,0.3s,baz=203,slow=14,SNR=1071					
GERES			Pg	**Pb**	**21 59 56.0**	**+5.3**
	comp=Z,37nm,0.3s,baz=209,slow=16,SNR=14					
GERES			Sn	**Sn**	**22 00 31.6**	**-1.4**
	comp=Z,131nm,0.3s,baz=204,slow=25,SNR=13					
GERES	**GERESS Array B**	**4.81 27**	Pn	**Pn**	**21 59 38.0**	**0.0**
GERES			Pg	**Pb**	**21 59 56.0**	**+5.3**
GERES			Sn	**Sn**	**22 00 31.6**	**-1.4**
GERES	**GERESS Array B**	**4.81 27**	P	**Pn**	**21 59 38.0**	**-0.1**
GERES					22 00 31.6	
GERES			pmax	pmax		
	comp=Z,29nm,0.3s					
GERES			smax			
	comp=N,131nm,0.3s					
GERES	**GERESS Array B**	**4.81 27**	P	**Pn**	**21 59 38.0**	**-0.1**
	comp=N,29nm,0.3s					
SGRT	**San Giovanni R**	**4.81 124**	P	**Pn**	**21 59 37.6**	**-0.5**
SGRT	**San Giovanni R**	**4.81 124⇑**	*i*Pg	**Pn**	**21 59 37.6**	**-0.5**
	comp=N,524nm,0.6s					
SGRT	**San Giovanni R**	**4.81 124⇑**	*i*Pg	**Pn**	**21 59 37.6**	**-0.5**
	comp=N,524nm,0.6s					
MRB1	**Monte Rocchett**	**4.81 135**	P	**Pn**	**21 59 40.0**	**+1.9**
MRB1	**Monte Rocchett**	**4.81 135**	P	**Pn**	**21 59 40.0**	**+1.9**
WET	**Wettzell**	**4.85 19**	*e*Pn	**Pn**	**21 59 38.5**	**-0.2**
WET			*e*Sn	**Sn**	**22 00 32.1**	**-1.8**
WET	**Wettzell**	**4.85 19**	Pn	**Pn**	**21 59 38.5**	**-0.1**
WET			Sn	**Sn**	**22 00 32.1**	**-1.9**
FG5	**Orsara di Pugl**	**4.85 131**	P	**Pn**	**21 59 38.3**	**-0.4**
FG5	**Orsara di Pugl**	**4.85 131**	P	**Pn**	**21 59 38.3**	**-0.4**
FG5	**Orsara di Pugl**	**4.85 131**	P	**Pn**	**21 59 38.3**	**-0.4**
COLF	**Collangettes**	**4.86 283**	P	**Pn**	**21 59 38.5**	**-0.3**
COLF	**Collangettes**	**4.86 283**	P	**Pn**	**21 59 38.5**	**-0.3**
MSAG	**Monte S. Angel**	**4.94 124**	P	**Pn**	**21 59 39.1**	**-0.7**
MSAG	**Monte S. Angel**	**4.94 124**	P	**Pn**	**21 59 39.1**	**-0.7**
MS1	**Monte Sant'Ang**	**4.96 124⇑**	*i*Pn	**Pn**	**21 59 39.0**	**-1.2**
KTD	**Kalmit**	**4.99 342**	P	**Pn**	**21 59 41.0**	**+0.4**
KTD	**Kalmit**	**4.99 342**	P	**Pn**	**21 59 41.0**	**+0.4**
KTD	**Kalmit**	**4.99 342**	P	**Pn**	**21 59 40.9**	**+0.3**
PLDF	**La Plantade**	**5.00 288**	Pn	**Pn**	**21 59 40.5**	**-0.2**
PLDF	**La Plantade**	**5.00 288**	P	**Pn**	**21 59 40.5**	**-0.2**
PLDF	**La Plantade**	**5.00 288**	P	**Pn**	**21 59 40.5**	**-0.2**
PLDF	**La Plantade**	**5.00 288**	P	**Pn**	**21 59 40.5**	**-0.2**
KHC	**Kasperske Hory**	**5.02 24**	*e*Pn	**Pn**	**21 59 41.1**	**+0.1**
KHC			*e*Sn	**Sn**	**22 00 37.2**	**-1.1**
KHC	**Kasperske Hory**	**5.02 24**	*e*P	**Pn**	**21 59 41.2**	**+0.2**
KHC			*e*		22 00 37.4	
KHC			smax			
	comp=N,1μm,1.0s					
KHC			MLR	MLR		
	comp=Z,8μm,13.4s					
KHC	**Kasperske Hory**	**5.02 24**	*e*PN	**Pn**	**21 59 41.2**	**+0.2**
KHC			*e*SN	**Sn**	**22 00 37.4**	**-0.9**
KHC			*e*SG	Sn	22 01 04.2	+26
	comp=Z,1μm,1.0s					
KHC			AMS	AMS	22 01 40.0	
	comp=Z,8μm,13.4s					
KHC	**Kasperske Hory**	**5.02 24**	*e*Pn	**Pn**	**21 59 41.1**	**+0.1**
KHC			Sn	**Sn**	**22 00 37.4**	**-0.9**
KHC			Sg	Sn	22 01 04.2	+26
	comp=Z,1μm,1.0s					
CONA	**Conrad Observa**	**5.03 47**	Pn	**Pn**	**21 59 41.3**	**+0.2**
	SNR=513					
CSSN	**Cassano Irpino**	**5.04 136**	P	**Pn**	**21 59 41.1**	**-0.2**
CSSN	**Cassano Irpino**	**5.04 136**	P	**Pn**	**21 59 41.1**	**-0.1**
SMF	**Signal de Mont**	**5.06 296**	*e*Pn	**Pn**	**21 59 41.3**	**-0.2**
SMF			*e*Sn	**Sn**	**22 00 33.3**	**-5.8**
	comp=Z,569nm,0.4s					
SMF	**Signal de Mont**	**5.06 296**	*e*Pn	**Pn**	**21 59 41.3**	**-0.2**
SMF			*e*Sn	**Sn**	**22 00 33.3**	**-5.8**
SMF	**Signal de Mont**	**5.06 296**	*e*P	**Pn**	**21 59 41.3**	**-0.2**
SMF			*e*		22 00 33.3	
SMF	**Signal de Mont**	**5.06 296**	*e*Pn	**Pn**	**21 59 41.3**	**-0.2**
PAGF	**Fort de Pagny**	**5.12 322**	*e*Pn	**Pn**	**21 59 43.0**	**+0.7**
PAGF			*e*Sn	**Sn**	**22 00 35.2**	**-5.5**
	comp=Z,358nm,0.7s					
PAGF	**Fort de Pagny**	**5.12 322**	*e*Pn	**Pn**	**21 59 43.0**	**+0.7**
PAGF			*e*Sn	**Sn**	**22 00 35.2**	**-5.5**
PAGF	**Fort de Pagny**	**5.12 322**	*e*Pn	**Pn**	**21 59 43.0**	**+0.7**
GRFO	**Grafenberg**	**5.13 6**	*e*Pn	**Pn**	**21 59 41.1**	**-1.3**
GRFO			*e*Sn	**Sn**	**22 00 39.3**	**-1.5**
GRFO	**Grafenberg**	**5.13 6**	*e*P	**Pn**	**21 59 41.2**	**-1.2**
GRFO			*e*		22 00 39.3	
GRFO	**Grafenberg**	**5.13 6**	*e*P	**Pn**	**21 59 41.2**	**-1.2**
GRFO			*e*Sn	**Sn**	**22 00 39.3**	**-1.5**
GRA1	**Grafenberg Arr**	**5.13 6**	Pn	**Pn**	**21 59 41.1**	**-1.3**
GRA1			Sn	**Sn**	**22 00 39.1**	**-1.7**
GRF	**Grafenberg Arr**	**5.13 6**	*e*Pn	**Pn**	**21 59 41.1**	**-1.3**
GRF			*e*Sn	**Sn**	**22 00 39.1**	**-1.7**
LBL	**Lubilhac**	**5.14 280**	Pn	**Pn**	**21 59 42.7**	**0.0**
LBL	**Lubilhac**	**5.14 280**	P	**Pn**	**21 59 42.7**	**0.0**
LBL	**Lubilhac**	**5.14 280**	P	**Pn**	**21 59 42.7**	**0.0**
LBL	**Lubilhac**	**5.14 280**	P	**Pn**	**21 59 42.7**	**0.0**
VSL	**Villasalto**	**5.16 189**	*e*Pn	**Pn**	**21 59 43.0**	**+0.1**
VSL	**Villasalto**	**5.16 189**	*e*Pn	**Pn**	**21 59 43.0**	**+0.1**
SFTF	**Sexfontaines**	**5.19 316**	*e*Pn	**Pn**	**21 59 43.9**	**+0.6**
	baz=130					
SFTF			*e*Sn	**Sn**	**22 00 37.3**	**-5.1**
	comp=Z,642nm,0.5s					
SFTF	**Sexfontaines**	**5.19 316**	*e*Pn	**Pn**	**21 59 43.9**	**+0.6**
SFTF			*e*Sn	**Sn**	**22 00 37.3**	**-5.1**
SFTF	**Sexfontaines**	**5.19 316**	*e*Pn	**Pn**	**21 59 43.9**	**+0.6**
	baz=130					
SOP	**Sopron**	**5.26 52⇓**	*e*Pn	**Pn**	**21 59 44.2**	**-0.1**
SOP			*e*PB	**Sn**	**22 00 42.9**	**-1.2**
SOP	**Sopron**	**5.26 52⇓**	*e*Pn	**Pn**	**21 59 44.2**	**-0.1**
LOR	**Lormes**	**5.31 303**	*e*Pn	**Pn**	**21 59 45.0**	**+0.1**
	baz=123					
LOR			*e*Sn	**Sn**	**22 00 44.5**	**-0.8**
	comp=Z,1μm,0.4s					
LOR	**Lormes**	**5.31 303**	*e*Pn	**Pn**	**21 59 45.0**	**+0.1**
LOR			*e*Sn	**Sn**	**22 00 44.5**	**-0.8**
LOR	**Lormes**	**5.31 303**	*e*P	**Pn**	**21 59 45.0**	**+0.1**
LOR			*e*		22 00 44.5	
LOR	**Lormes**	**5.31 303**	*e*Pn	**Pn**	**21 59 45.0**	**+0.1**
	baz=123					
LOR			*e*Sn	**Sn**	**22 00 44.5**	**-0.8**
	comp=Z,637nm,0.4s					
ROTZ	**Rotzenmuhle**	**5.31 13**	*e*Pn	**Pn**	**21 59 43.9**	**-1.1**
ROTZ			*e*Sn	**Sn**	**22 00 42.8**	**-2.6**
ROTZ	**Rotzenmuhle**	**5.31 13**	Pn	**Pn**	**21 59 43.9**	**-1.1**
ROTZ			Sn	**Sn**	**22 00 42.8**	**-2.6**
MRLC	**Muro Lucano**	**5.35 134**	P	**Pn**	**21 59 47.3**	**+1.8**
MRLC	**Muro Lucano**	**5.35 134**	P	**Pn**	**21 59 47.3**	**+1.8**
PYM	**Petit Puy Mans**	**5.38 285**	Pn	**Pn**	**21 59 45.4**	**-0.5**
PYM	**Petit Puy Mans**	**5.38 285**	P	**Pn**	**21 59 45.4**	**-0.5**
PYM	**Petit Puy Mans**	**5.38 285**	P	**Pn**	**21 59 45.4**	**-0.5**
PYM	**Petit Puy Mans**	**5.38 285**	P	**Pn**	**21 59 45.4**	**-0.5**
MEZF	**Maizieres J'vi**	**5.39 318**	*e*Pn	**Pn**	**21 59 46.6**	**+0.6**
	baz=134					
MEZF			*e*Sn	**Sn**	**22 00 42.6**	**-4.7**
	comp=Z,551nm,0.5s					
MEZF	**Maizieres J'vi**	**5.39 318**	*e*Pn	**Pn**	**21 59 46.6**	**+0.6**
MEZF			*e*Sn	**Sn**	**22 00 42.6**	**-4.7**
MEZF	**Maizieres J'vi**	**5.39 318**	*e*Pn	**Pn**	**21 59 46.6**	**+0.6**
	baz=134					
SGO	**Sicignano**	**5.40 137**	P	**Pn**	**21 59 46.2**	**-0.1**
SGO	**Sicignano**	**5.40 137**	P	**Pn**	**21 59 46.2**	**-0.1**
SGO	**Sicignano**	**5.40 137**	P	**Pn**	**21 59 46.2**	**-0.1**
AVF	**Avril sur Loir**	**5.42 296**	*e*Pn	**Pn**	**21 59 45.8**	**-0.7**
AVF			*e*Sn	**Sn**	**22 00 45.8**	**-2.4**
	comp=Z,278nm,0.7s					
AVF	**Avril sur Loir**	**5.42 296**	*e*Pn	**Pn**	**21 59 45.8**	**-0.7**
AVF			*e*Sn	**Sn**	**22 00 45.8**	**-2.4**
AVF	**Avril sur Loir**	**5.42 296**	*e*P	**Pn**	**21 59 45.8**	**-0.7**
AVF			*e*		22 00 45.8	
AVF	**Avril sur Loir**	**5.42 296**	*e*Pn	**Pn**	**21 59 45.8**	**-0.7**
SSF	**Saint Saulge**	**5.43 299**	*e*Pn	**Pn**	**21 59 46.3**	**-0.3**
SSF			*e*Sn	**Sn**	**22 00 45.1**	**-3.3**
	comp=Z,538nm,0.6s					
SSF	**Saint Saulge**	**5.43 299**	*e*Pn	**Pn**	**21 59 46.3**	**-0.3**
SSF			*e*Sn	**Sn**	**22 00 45.1**	**-3.3**
SSF	**Saint Saulge**	**5.43 299**	*e*P	**Pn**	**21 59 46.3**	**-0.3**
SSF			*e*		22 00 45.1	
SSF	**Saint Saulge**	**5.43 299**	*e*Pn	**Pn**	**21 59 46.3**	**-0.3**
STON	**Ston**	**5.54 106**	*e*Pn	**Pn**	**21 59 47.0**	**-1.1**
STON			Sn	**Sn**	**22 00 47.3**	**-3.7**
STON	**Ston**	**5.54 106**	*e*Pn	**Pn**	**21 59 47.0**	**-1.1**
CDT	**Castel del Mon**	**5.55 127⇑**	*i*Pn	**Pn**	**21 59 47.7**	**-0.5**
ACER	**Acerenza**	**5.56 131**	P	**Pn**	**21 59 48.4**	**-0.1**
ACER	**Acerenza**	**5.56 131**	P	**Pn**	**21 59 48.4**	**-0.1**
RUP	**Ruppelstein**	**5.60 337**	P	**Pn**	**21 59 48.6**	**-0.4**
ABH	**Alteburg**	**5.64 341**	P	**Pn**	**21 59 48.8**	**-0.7**
RHK3	**Tenkes**	**5.67 74⇓**	*e*Pn	**Pn**	**21 59 48.6**	**-1.3**
BGF	**Bois d'Agland**	**5.67 293**	*e*Pn	**Pn**	**21 59 49.9**	**-0.1**
BGF			*e*Sn	**Sn**	**22 00 50.9**	**-3.5**
	comp=Z,453nm,0.4s					
BGF	**Bois d'Agland**	**5.67 293**	*e*Pn	**Pn**	**21 59 49.9**	**-0.1**
BGF			*e*Sn	**Sn**	**22 00 50.9**	**-3.5**
BGF	**Bois d'Agland**	**5.67 293**	*e*P	**Pn**	**21 59 49.9**	**-0.1**
BGF			*e*		22 00 50.9	
BGF	**Bois d'Agland**	**5.67 293**	*e*Pn	**Pn**	**21 59 49.9**	**-0.1**
VERF	**Verneugheol**	**5.74 284**	P	**Pn**	**21 59 50.5**	**-0.3**
VERF	**Verneugheol**	**5.74 284**	P	**Pn**	**21 59 50.5**	**-0.3**
TNS	**Taunus Mts**	**5.79 347**	*e*Pn	**Pn**	**21 59 51.7**	**+0.2**
TNS	**Taunus Mts**	**5.79 347**	Pn	**Pn**	**21 59 51.7**	**+0.2**
NKC	**Novy Kostel**	**5.80 13**	*e*P	**Pn**	**21 59 50.5**	**-1.2**
NKC			*e*		22 00 54.9	
NKC			MLR	MLR		
	comp=Z,7μm,12.4s					
NKC	**Novy Kostel**	**5.80 13**	*e*PN	**Pn**	**21 59 50.5**	**-1.2**
NKC			*e*SN	**Sn**	**22 00 54.9**	**-2.6**
NKC			AMS	AMS	22 02 00.0	
	comp=Z,7μm,12.4s					
NKC	**Novy Kostel**	**5.80 13**	Pn	**Pn**	**21 59 50.5**	**-1.2**
NKC			Sn	**Sn**	**22 00 54.9**	**-2.6**
PTRP	**Pietrapertosa**	**5.82 132**	P	**Pn**	**21 59 52.5**	**+0.5**
PTRP	**Pietrapertosa**	**5.82 132**	P	**Pn**	**21 59 52.5**	**+0.5**
TREC	**Trest**	**5.84 35**	*e*P	**Pn**	**21 59 52.1**	**-0.1**
TREC			*e*		22 00 56.0	
TREC			MLR	MLR		
	comp=Z,8μm,13.3s					
TREC	**Trest**	**5.84 35**	*e*PN	**Pn**	**21 59 52.1**	**-0.1**
TREC			*e*SN	**Sn**	**22 00 56.0**	**-2.3**
TREC			AMS	AMS	22 02 10.0	
	comp=Z,8μm,13.3s					
TREC	**Trest**	**5.84 35**	Pn	**Pn**	**21 59 52.1**	**-0.1**
TREC			Sn	**Sn**	**22 00 56.0**	**-2.3**
WERN	**Wernitzgruen**	**5.84 12**	*e*Pn	**Pn**	**21 59 50.9**	**-1.4**
WERN			*e*Sn	**Sn**	**22 00 56.4**	**-2.1**
WERN	**Wernitzgruen**	**5.84 12**	Pn	**Pn**	**21 59 50.9**	**-1.4**
WERN			Sn	**Sn**	**22 00 56.4**	**-2.1**
WLF	**Walferdange**	**5.85 332**	*e*Pn	**Pn**	**21 59 53.3**	**+0.9**
WLF			*e*Sn	**Sn**	**22 00 58.3**	**-0.4**
WLF	**Walferdange**	**5.85 332**	*e*P	**Pn**	**21 59 53.3**	**+0.9**
WLF			*e*		22 00 58.3	
WLF	**Walferdange**	**5.85 332**	*e*P	**Pn**	**21 59 53.3**	**+0.9**
WLF			*e*Sn	**Sn**	**22 00 58.3**	**-0.3**
SJAF	**Saint Jean de**	**5.88 252**	P	**Pn**	**21 59 52.3**	**-0.5**
SJAF	**Saint Jean de**	**5.88 252**	P	**Pn**	**21 59 52.3**	**-0.5**
BAI	**Bari**	**5.88 124**	*e*Pn	**Pn**	**21 59 51.5**	**-1.3**
EJON	**La Jonquera**	**5.89 251**	P	**Pn**	**21 59 52.7**	**-0.2**
EJON			S	**Sn**	**22 00 57.8**	**-1.9**
EJON	**La Jonquera**	**5.89 251**	P	**Pn**	**21 59 52.7**	**-0.2**
EJON			S	**Sn**	**22 00 57.8**	**-1.9**
LRDF	**Laroque-de-Fa**	**5.95 257**	P	**Pn**	**21 59 53.9**	**+0.1**
LRDF	**Laroque-de-Fa**	**5.95 257**	P	**Pn**	**21 59 53.9**	**+0.1**
CAF	**Calviac**	**5.97 276**	*e*Pn	**Pn**	**21 59 54.3**	**+0.3**
CAF			*e*Sn	**Sn**	**22 01 00.5**	**-1.1**
	comp=Z,522nm,1.1s					
CAF	**Calviac**	**5.97 276**	*e*Pn	**Pn**	**21 59 54.3**	**+0.3**
CAF			*e*Sn	**Sn**	**22 01 00.5**	**-1.1**
CAF	**Calviac**	**5.97 276**	*e*Pn	**Pn**	**21 59 54.3**	**+0.3**
CAF			*e*Sn	**Sn**	**22 01 00.5**	**-1.1**
	comp=Z,261nm,1.1s					
BGG	**Burgeitz**	**5.99 341**	*e*Pn	**Pn**	**21 59 54.5**	**+0.2**
BGG	**Burgeitz**	**5.99 341**	Pn	**Pn**	**21 59 54.5**	**+0.2**
PKSM	**Moragy**	**6.00 71**	⇑P	**Pn**	**21 59 52.6**	**-1.9**
PKSM	**Moragy**	**6.00 71**	⇑*i*P	**Pn**	**21 59 52.6**	**-1.9**
PKSM	**Moragy**	**6.00 71**	P	**Pn**	**21 59 52.6**	**-1.9**
PKSM	**Moragy**	**6.00 71**	⇓*e*Pn	**Pn**	**21 59 52.9**	**-1.6**
TCF	**Toulx Ste Croi**	**6.03 289**	*e*Pn	**Pn**	**21 59 54.3**	**-0.5**
TCF			*e*Sn	**Sn**	**22 00 59.9**	**-3.1**
	comp=Z,358nm,0.7s					
TCF	**Toulx Ste Croi**	**6.03 289**	*e*Pn	**Pn**	**21 59 54.3**	**-0.5**
TCF			*e*Sn	**Sn**	**22 00 59.9**	**-3.1**
TCF	**Toulx Ste Croi**	**6.03 289**	*e*P	**Pn**	**21 59 54.3**	**-0.5**
TCF			*e*		22 00 59.9	
TCF	**Toulx Ste Croi**	**6.03 289**	*e*Pn	**Pn**	**21 59 54.3**	**-0.5**
HYF	**Humbligny**	**6.06 299**	*e*Pn	**Pn**	**21 59 55.0**	**-0.2**
HYF			*e*Sn	**Sn**	**22 00 57.6**	**-6.1**
HYF	**Humbligny**	**6.06 299**	*e*Pn	**Pn**	**21 59 55.0**	**-0.2**
HYF			*e*Sn	**Sn**	**22 00 57.6**	**-6.1**
HYF	**Humbligny**	**6.06 299**	*e*Pn	**Pn**	**21 59 55.0**	**-0.2**
MTLF	**Montolieu**	**6.06 261**	*e*Pn	**Pn**	**21 59 55.7**	**+0.4**
MTLF			*e*Sn	**Sn**	**22 01 00.8**	**-3.1**
	comp=Z,122nm,0.4s					
MTLF	**Montolieu**	**6.06 261**	*e*Pn	**Pn**	**21 59 55.7**	**+0.4**
MTLF			*e*Sn	**Sn**	**22 01 00.8**	**-3.1**
MTLF	**Montolieu**	**6.06 261**	*e*P	**Pn**	**21 59 55.7**	**+0.4**
MTLF			*e*		22 01 00.8	
MTLF	**Montolieu**	**6.06 261**	*e*Pn	**Pn**	**21 59 55.7**	**+0.4**
FILF	**Fillols**	**6.07 253**	P	**Pn**	**21 59 56.6**	**+1.2**
FILF	**Fillols**	**6.07 253**	P	**Pn**	**21 59 56.6**	**+1.2**
**PR

BUD				*e*Sn	Sn	22 01 12.5	-5.6
KLL	**Kalltalsperre**	6.66	337	*e*Pn	Pn	22 00 03.4	-0.1
KLL	**Kalltalsperre**	6.66	337	Pn	Pn	22 00 03.4	-0.1
GIVF	**Givet**	6.70	327	*e*Pn	Pn	22 00 04.1	+0.1
GIVF				*e*Sn	Sn	22 01 15.8	-3.7
comp=Z,796nm,0.8s							
GIVF	**Givet**	6.70	327	*e*Pn	Pn	22 00 04.1	+0.1
GIVF				*e*Sn	Sn	22 01 15.8	-3.7
GIVF	**Givet**	6.70	327	*e*P	Pn	22 00 04.1	+0.1
GIVF				*e*		22 01 15.8	
GIVF	**Givet**	6.70	327	*e*Pn	Pn	22 00 04.1	+0.1
DREG	**Dreilaegerbach**	6.70	336	*e*Pn	Pn	22 00 04.0	0.0
DREG	**Dreilaegerbach**	6.70	336	Pn	Pn	22 00 04.0	0.0
BRG	**Berggiesshubel**	6.71	19	*i* PN	Pn	22 00 03.3	-0.9
comp=Z,100nm,0.5s							
BRG				*i*		22 00 11.5	
BRG	**Berggiesshubel**	6.71	19	PG	Px	22 00 32.1	
BRG				*e*		22 01 07.5	
BRG	**Berggiesshubel**	6.71	19	SN	Sn	22 01 16.9	-2.9
BRG				SG	Sn	22 02 04.2	+44
comp=Z,1μm,1.2s							
BRG							
comp=Z,6μm,15.4s							
BRG							
comp=N,4μm,13.8s							
BRG							
comp=E,4μm,13.8s							
BRG	**Berggiesshubel**	6.71	19	*i* P	Pn	22 00 03.3	-0.9
BRG						22 01 16.9	
BRG				pmax	pmax		
comp=Z,100nm,0.5s							
BRG				smax			
comp=N,1μm,1.2s							
BRG				MLR	MLR		
comp=Z,6μm,15.4s							
BRG				MLR	MLR		
comp=N,4μm,13.8s							
BRG				MLR	MLR		
comp=E,4μm,13.8s							
BRG	**Berggiesshubel**	6.71	19	*e*Pn	Pn	22 00 03.5	-0.7
BRG				*e*Sn	Sn	22 01 17.0	-2.8
BRG	**Berggiesshubel**	6.71	19	Pn	Pn	22 00 03.5	-0.7
HOBG	**Hohbusch**	6.72	343	*e*Pn	Pn	22 00 04.7	+0.4
HOBG				*e*Sn	Sn	22 01 18.2	-1.9
HOBG	**Hohbusch**	6.72	343	Pn	Pn	22 00 04.7	+0.4
HOBG				Sn	Sn	22 01 18.2	-1.9
BNS	**Bensberg**	6.74	342	*e*Pn	Pn	22 00 04.7	+0.1
BNS	**Bensberg**	6.74	342	Pn	Pn	22 00 04.7	+0.1
PDG	**Podgorica**	6.77	106	⇓*i*Pn	Pn	22 00 05.0	0.0
PDG				*e*Sn	Sn	22 01 20.3	-1.0
TTG	**Podgorica**	6.77	106	⇓*i*Pn	Pn	22 00 05.0	-0.1
TTG				*e*Sn	Sn	22 01 20.3	-1.1
TTG	**Podgorica**	6.77	106	P	Pn	22 00 05.0	-0.1
TTG				S	Sn	22 01 20.0	-1.4
TTG	**Podgorica**	6.77	106	P	Pn	22 00 05.0	-0.1
TTG				S	Sn	22 01 20.0	-1.4
TTG	**Podgorica**	6.77	106	P	Pn	22 00 05.0	-0.1
TTG				S	Sn	22 01 20.0	-1.4
DOU	**Dourbes**	6.78	326	PN	Pn	22 00 05.8	+0.6
DOU				SN	Sn	22 01 22.4	+0.8
comp=E,142nm,0.8s							
BCLA	**Clavier**	6.78	331	PN	Pn	22 00 06.3	+1.2
BCLA				SN	Sn	22 01 17.7	-3.9
comp=N,224nm,0.8s							
KOLL	**Kolacno**	6.78	51	*e*P	Pn	22 00 04.0	-1.2
KOLL				*e*		22 01 16.1	
KOLL	**Kolacno**	6.78	51	*e*PN	Pn	22 00 04.0	-1.2
KOLL				*e*SN	Sn	22 01 16.1	-5.5
KOLL	**Kolacno**	6.78	51	*e*P	Pn	22 00 04.0	-1.2
DIVS	**Divibare**	6.87	91	P	Pn	22 00 05.7	-0.7
LFF	**La Frestale**	6.91	276	*e*Pn	Pn	22 00 07.6	+0.7
LFF				*e*Sn	Sn	22 01 18.6	-6.1
comp=N,249nm,0.9s							
LFF	**La Frestale**	6.91	276	*e*Pn	Pn	22 00 07.6	+0.7
LFF				*e*Sn	Sn	22 01 18.6	-6.1
LFF	**La Frestale**	6.91	276	*e*P	Pn	22 00 07.6	+0.7
LFF				*e*		22 01 18.6	
LFF	**La Frestale**	6.91	276	*e*Pn	Pn	22 00 07.6	+0.7
BAIF	**Baives**	6.91	324	*e*Pn	Pn	22 00 06.5	-0.4
BAIF				*e*Sn	Sn	22 01 19.6	-5.1
comp=N,566nm,1.0s							
BAIF	**Baives**	6.91	324	*e*Pn	Pn	22 00 06.5	-0.4
BAIF				*e*Sn	Sn	22 01 19.6	-5.1
BAIF	**Baives**	6.91	324	*e*P	Pn	22 00 06.5	-0.4
BAIF				*e*		22 01 19.6	
BAIF	**Baives**	6.91	324	*e*Pn	Pn	22 00 06.5	-0.4
CLL	**Collm**	6.93	13	*e*P	Pn	22 00 06.0	-1.2
CLL				*e*		22 01 23.0	
CLL	**Collm**	6.93	13	*e*Pn	Pn	22 00 05.7	-1.5
CLL				*e*Sn	Sn	22 01 23.5	-1.8
CLL	**Collm**	6.93	13	*e*Pn	Pn	22 00 06.0	-1.2
CLL				*e*Pg	Pn	22 00 38.0	+31
CLL				*e*		22 00 57.0	
CLL				*e*Sn	Sn	22 01 23.0	-2.3
CLL				*e*Sb	Sb	22 01 45.0	-4.1
CLL				*e*Sg	Sn	22 02 09.0	+44
comp=Z,2μm,1.9s							
CLL	**Collm**	6.93	13	Pn	Pn	22 00 05.7	-1.5
CLL	**Collm**	6.93	13	*e*P	Pn	22 00 06.0	-1.2
CLL				*e*S	Sn	22 01 23.0	-2.3
CLL				Sn	Sn	22 01 23.5	-1.8
ULC	**Ulcinj**	6.95	109	⇑*i*Pn	Pn	22 00 06.7	-0.8
ULC				*e*Sn	Sn	22 01 25.2	-0.5
ULC	**Ulcinj**	6.95	109	P	Pn	22 00 06.6	-0.9
ULC				S	Sn	22 01 25.0	-0.7
ULC	**Ulcinj**	6.95	109	P	Pn	22 00 06.6	-0.9
ULC				S	Sn	22 01 25.0	-0.7
ULC	**Ulcinj**	6.95	109	⇑*i*Pn	Pn	22 00 06.7	-0.8
ULC				S	Sn	22 01 25.0	-0.7
SALF	**Salau**	6.95	258	P	Pn	22 00 07.7	+0.2
SALF	**Salau**	6.95	258	P	Pn	22 00 07.7	+0.2
MLS	**Moulis**	6.96	260	P	Pn	22 00 08.1	+0.5
MLS	**Moulis**	6.96	260	P	Pn	22 00 08.1	+0.5
KRLC	**Kraliky**	6.97	36	*e*PN	Pn	22 00 07.6	-0.2
KRLC	**Kraliky**	6.97	36	Pn	Pn	22 00 07.6	-0.2
BEBN	**Eben Émael**	6.98	334	PN	Pn	22 00 09.8	+1.9
BEBN				SN	Sn	22 01 25.9	-0.6
comp=Z,138nm,0.5s							
VYHS	**Vyhne**	6.98	53	*e*P	Pn	22 00 06.6	-1.3
VYHS				*e*		22 01 22.7	
VYHS	**Vyhne**	6.98	53	*e*PN	Pn	22 00 06.6	-1.3
VYHS				*e*SN	Sn	22 01 22.7	-3.8
VYHS				*e*SG	Sn	22 02 13.5	+47
VYHS	**Vyhne**	6.98	53	*e*P	Pn	22 00 06.6	-1.3
DPC	**Dobruska-Polom**	7.00	33	*e*P	Pn	22 00 07.2	-1.0
DPC				MLR	MLR		
comp=Z,6μm,14.2s							
DPC	**Dobruska-Polom**	7.00	33	*e*PN	Pn	22 00 07.2	-1.0
DPC				AMS	AMS	22 02 50.0	
comp=Z,6μm,14.2s							
DPC	**Dobruska-Polom**	7.00	33	Pn	Pn	22 00 07.2	-1.0
EMIR	**Miracle**	7.03	251	P	Pn	22 00 09.7	+1.1
EMIR				S	Sn	22 01 26.8	-1.0
EMIR	**Miracle**	7.03	251	P	Pn	22 00 09.7	+1.1
EMIR				S	Sn	22 01 26.8	-1.0
BEY	**Berane**	7.07	101	⇑*i*Pn	Pn	22 00 09.6	+0.5
BEY				*e*Sn	Sn	22 01 27.5	-1.1
IVA	**Berane**	7.07	101	⇑*i*Pn	Pn	22 00 09.6	+0.5
IVA				*e*Sn	Sn	22 01 27.5	-1.2
IVA	**Berane**	7.07	101	P	Pn	22 00 09.6	+0.5
IVA				S	Sn	22 01 27.0	-1.7
IVA	**Berane**	7.07	101	P	Pn	22 00 09.6	+0.5
IVA				S	Sn	22 01 27.0	-1.7
MORC	**Moravsky Berou**	7.09	41	*e*Pn	Pn	22 00 08.6	-0.8
MORC				*e*Sn	Sn	22 01 27.0	-2.2
MORC	**Moravsky Berou**	7.09	41	*e*P	Pn	22 00 08.6	-0.8
MORC				*e*		22 01 27.0	
MORC	**Moravsky Berou**	7.09	41	⇓*i*P	Pn	22 00 08.5	-0.9
MORC	**Moravsky Berou**	7.09	41	*e*P	Pn	22 00 08.6	-0.8
MORC				*e*S	Sn	22 01 27.0	-2.2
CSOR	**Sort**	7.12	255	P	Pn	22 00 11.9	+2.1
CSOR				S	Sn	22 01 28.7	-1.2
CSOR	**Sort**	7.12	255	P	Pn	22 00 11.9	+2.1
CSOR				S	Sn	22 01 28.7	-1.2
GIB	**Gibilmanna**	7.13	156	P	Pn	22 00 13.1	+3.1
GIB	**Gibilmanna**	7.13	156	P	Pn	22 00 13.1	+3.1
LAUG	**Laupendahl**	7.15	342	*e*Pn	Pn	22 00 11.1	+0.9
LAUG	**Laupendahl**	7.15	342	Pn	Pn	22 00 11.1	+0.9
BUG	**Bochum–Univer**	7.17	344	*e*Pn	Pn	22 00 11.3	+0.8
BUG				*e*Sn	Sn	22 01 30.7	-0.4
PVY	**Plav**	7.20	103	⇑*i*Pn	Pn	22 00 12.4	+1.5
PVY				*e*Sn	Sn	22 01 31.7	-0.2
PVY	**Plav**	7.20	103	P	Pn	22 00 12.3	+1.4
PVY				S	Sn	22 01 31.0	-0.9
PVY	**Plav**	7.20	103	P	Pn	22 00 12.3	+1.4
PVY				S	Sn	22 01 31.0	-0.9
PVY				*e*Sn	Sn	22 01 31.7	-0.2
MELF	**Melles**	7.22	260	P	Pn	22 00 11.9	+0.8
MELF	**Melles**	7.22	260	P	Pn	22 00 11.9	+0.8
SNF	**Seneffe**	7.23	327	PN	Pn	22 00 12.6	+1.3
CLZ	**Clausthal**	7.25	360	*e*Pn	Pn	22 00 10.7	-0.9
CLZ	**Clausthal**	7.25	360	Pn	Pn	22 00 10.7	-0.9
ALJA	**Alia**	7.28	159	P	Pn	22 00 17.0	+4.9
GRI	**Girifalco**	7.30	140	P	Pn	22 00 15.5	+3.1
GRI	**Girifalco**	7.30	140	P	Pn	22 00 15.5	+3.2
PSZ	**Piszkesteto**	7.35	60	*e*Pn	Pn	22 00 12.5	-0.4
PSZ				*e*Sn	Sn	22 01 36.2	+0.6
PSZ	**Piszkesteto**	7.35	60	*e*P	Pn	22 00 12.5	-0.5
PSZ				*e*		22 01 36.2	
PSZ	**Piszkesteto**	7.35	60	⇓*e*	Pn	22 00 12.9	-0.1
PSZ				*e*Pn	Pn	22 01 33.1	+80
PSZ	**Piszkesteto**	7.35	60	⇑*i*P	Pn	22 00 12.4	-0.6
PSZ	**Piszkesteto**	7.35	60	*e*P	Pn	22 00 12.5	-0.5
PSZ				*e*S	Sn	22 01 36.2	+0.6
BCI	**Bajram Curri**	7.35	104	*e*PN	Pn	22 00 13.7	+0.7
BCI				*i* SN	Sn	22 02 22.4	+47
PUK	**Puka**	7.36	107	*e*PN	Pn	22 00 13.1	0.0
PUK				*i* SN	Sn	22 02 37.7	+62
MNO	**Monte Soro**	7.39	153	P	Pn	22 00 18.6	+5.1
MNO	**Monte Soro**	7.39	153	P	Pn	22 00 18.7	+5.2
KSP	**Ksiaz**	7.39	30	*e*P	Pn	22 00 13.1	-0.4
KSP	**Ksiaz**	7.39	30	*e*Pn	Pn	22 00 13.1	-0.4
KSP				*e*Pg	Pn	22 00 44.6	+31
KSP				*e*Sn	Sn	22 01 32.7	-3.9
KSP				*e*Sg	Sn	22 02 18.8	+42
KSP	**Ksiaz**	7.39	30	*e*P	Pn	22 00 13.1	-0.4
KSP				*e*		22 01 32.7	
KSP	**Ksiaz**	7.39	30	*e*Pn	Pn	22 00 13.1	-0.4
KSP				*e*Pg	Pn	22 00 44.7	+31
KSP				*e*Sn	Sn	22 01 32.7	-3.9
KSP				*e*Sg	Sn	22 02 19.8	+43
KSP	**Ksiaz**	7.39	30	*e*P	Pn	22 00 13.1	-0.4
OKC	**Ostrava-Krasne**	7.42	42	*e*P	Pn	22 00 13.7	-0.2
OKC				MLR	MLR		
comp=Z,5μm,11.4s							
OKC	**Ostrava-Krasne**	7.42	42	*e*PN	Pn	22 00 13.7	-0.2
OKC				AMS	AMS	22 03 20.0	
comp=Z,5μm,11.4s							
OKC	**Ostrava-Krasne**	7.42	42	Pn	Pn	22 00 13.7	-0.2
LIKS	**Likavka**	7.43	50	*e*SN	Sn	22 01 31.3	-6.2
ETOS	**Mallorca**	7.43	232	P	Pn	22 00 15.8	+1.7
ETOS				S	Sn	22 01 34.4	-3.3
ETOS	**Mallorca**	7.43	232	P	Pn	22 00 15.8	+1.7
EPF	**Esparros**	7.47	261	*e*Pn	Pn	22 00 14.4	-0.2
EPF				*e*Sn	Sn	22 01 33.7	-4.8
comp=Z,165nm,0.9s							
EPF	**Esparros**	7.47	261	*e*Pn	Pn	22 00 14.4	-0.2
EPF				*e*Sn	Sn	22 01 33.7	-4.8
EPF	**Esparros**	7.47	261	*e*P	Pn	22 00 14.4	-0.2
EPF				*e*		22 01 33.7	
EPF	**Esparros**	7.47	261	*e*Pn	Pn	22 00 14.4	-0.2
RESF	**Ens**	7.53	260	P	Pn	22 00 16.4	+0.9
RESF	**Ens**	7.53	260	P	Pn	22 00 16.4	+0.9
EPOB	**Poblet**	7.59	248	P	Pn	22 00 17.5	+1.3
EPOB				S	Sn	22 01 39.1	-2.3
EPOB	**Poblet**	7.59	248	P	Pn	22 00 17.5	+1.3
EPOB				S	Sn	22 01 39.1	-2.3
TIR	**Tirane**	7.64	112	*e*Pn	Pn	22 00 16.1	-0.8
TIR				*e*Sn	Sn	22 01 40.2	-2.5
TIR	**Tirane**	7.64	112	*e*P	Pn	22 00 16.1	-0.9
TIR				*e*		22 01 40.3	
TIR	**Tirane**	7.64	112	*e*P	Pn	22 00 16.1	-0.9
TIR				*e*S	Sn	22 01 40.3	-2.4
LABF	**Labassere**	7.65	262	P	Pn	22 00 17.5	+0.4
LABF	**Labassere**	7.65	262	P	Pn	22 00 17.5	+0.4
MFF	**Saint Martin d**	7.69	289	*e*Pn	Pn	22 00 16.9	-0.7
MFF				*e*Sn	Sn	22 01 36.2	-7.7
comp=Z,264nm,0.9s							
MFF	**Saint Martin d**	7.69	289	Pn	Pn	22 00 19.1	+1.5
MFF				*e*Sn	Sn	22 01 36.2	-7.7
MFF	**Saint Martin d**	7.69	289	P	Pn	22 00 19.1	+1.5
MFF	**Saint Martin d**	7.69	289	*e*Pn	Pn	22 00 16.9	-0.7
MFF	**Saint Martin d**	7.69	289	P	Pn	22 00 19.1	+1.5
EBIE	**Bielsa**	7.71	259	P	Pn	22 00 20.3	+2.4
EBIE	**Bielsa**	7.71	259	P	Pn	22 00 20.3	+2.4
VIEF	**Viey**	7.73	261	P	Pn	22 00 19.2	+1.0
VIEF	**Viey**	7.73	261	P	Pn	22 00 19.2	+1.0
SOI	**Samo**	7.77	145	P	Pn	22 00 23.3	+4.5
SOI	**Samo**	7.77	145	P	Pn	22 00 23.3	+4.6
PTS	**Pantelleria**	7.87	171	P	Pn	22 00 22.9	+2.9
PTS	**Pantelleria**	7.87	171	P	Pn	22 00 23.0	+2.9
PHP	**Peshkopia**	7.88	108	*e*PN	Pn	22 00 20.3	+0.1
PHP				*i* SN	Sn	22 02 38.8	+50
PHP	**Peshkopia**	7.88	108	P	Pn	22 00 20.5	+0.3
KECS	**Kecovo**	7.95	57	*e*P	Pn	22 00 20.7	-0.4
KECS				*e*		22 01 45.1	
KECS	**Kecovo**	7.95	57	*e*PN	Pn	22 00 20.7	-0.4
KECS				*e*SN	Sn	22 01 45.1	-5.1
KECS	**Kecovo**	7.95	57	*e*P	Pn	22 00 20.7	-0.4
BZS	**Buzias**	7.98	79	P	Pn	22 00 21.3	-0.3
BZS	**Buzias**	7.98	79	⇑P	Pn	22 00 21.3	-0.3
BZS	**Buzias**	7.98	79	⇑*i*P	Pn	22 00 21.3	-0.3
BZS	**Buzias**	7.98	79	P	Pn	22 00 21.3	-0.3
HVZN	**Vizzini**	8.09	155	P	Pn	22 00 28.3	+5.1
ETSF	**Etsaut**	8.14	262	*e*Pn	Pn	22 00 25.1	+1.3
ETSF				*e*Sn	Sn	22 01 54.3	-0.7
comp=Z,110nm,0.8s							
ETSF	**Etsaut**	8.14	262	*e*Pn	Pn	22 00 25.1	+1.3
ETSF				*e*Sn	Sn	22 01 54.3	-0.7
ETSF	**Etsaut**	8.14	262	*e*P	Pn	22 00 25.1	+1.3
ETSF				*e*		22 01 54.3	
ETSF	**Etsaut**	8.14	262	*e*Pn	Pn	22 00 25.1	+1.3
ETSF				*e*Sn	Sn	22 01 54.3	-0.7
comp=Z,55nm,0.8s							
CAEH	**'Ain El Ouahch**	8.27	200	P	Pn	22 00 25.0	-0.6
ERTA	**Horta de San J**	8.27	247	P	Pn	22 00 28.0	+2.4
ERTA	**Horta de San J**	8.27	247	P	Pn	22 00 28.0	+2.4
CMAH	**Djebel Manchou**	8.29	197	P	Pn	22 00 26.0	+0.2
LDF	**La Druitiere**	8.29	303	*e*Pn	Pn	22 00 24.5	-1.4
LDF				*e*Sn	Sn	22 01 50.9	-7.9
comp=Z,167nm,0.6s							
LDF	**La Druitiere**	8.29	303	*e*Pn	Pn	22 00 24.5	-1.4
LDF				*e*Sn	Sn	22 01 50.9	-7.9
LDF	**La Druitiere**	8.29	303	*e*P	Pn	22 00 24.5	-1.4
LDF	**La Druitiere**	8.29	303	*e*Pn	Pn	22 00 24.5	-1.4
NIE	**Niedzica**	8.30	51	*e*P	Pn	22 00 27.2	+1.3
NIE				*e*		22 01 26.0	
NIE				*e*Sn	Sn	22 01 57.7	-1.1
NIE	**Niedzica**	8.30	51	*e*P	Pn	22 00 27.2	+1.3
NIE				*e*		22 01 57.7	
NIE	**Niedzica**	8.30	51	*e*P	Pn	22 00 27.2	+1.3
NIE				*e*S	Sn	22 01 57.7	-1.1
SKO	**Skopje**	8.45	104	*e*Pn	Pn	22 00 28.4	+0.4
SKO				*e*Sn	Sn	22 01 58.5	-4.0
SKO	**Skopje**	8.45	104	*e*Pn	Pn	22 00 28.4	+0.4
ESAC	**San Caprasio**	8.47	254	P	Pn	22 00 30.2	+1.8
ESAC	**San Caprasio**	8.47	254	P	Pn	22 00 30.2	+1.8
OJC	**Ojcow**	8.48	45	*e*P	Pn	22 00 28.3	-0.2
OJC				*e*Sn	Sn	22 01 59.5	-3.8
OJC				L		22 04 32.7	
comp=Z,4.8nm,15.5s							
OJC	**Ojcow**	8.48	45	*e*Pn	Pn	22 00 27.5	-0.9
OJC	**Ojcow**	8.48	45	*e*P	Pn	22 00 28.3	-0.2
OJC				*e*		22 01 59.5	
OJC				MLR	MLR		
comp=Z,5μm,15.5s							
OJC	**Ojcow**	8.48	45	*e*Pn	Pn	22 00 27.5	-1.0
OJC	**Ojcow**	8.48	45	*e*P	Pn	22 00 28.3	-0.2
comp=Z,5μm,15.5s							
KEK	**Kerkira**	8.49	122	*e*P	Pn	22 00 28.5	-0.2
KEK	**Kerkira**	8.49	122	P	Pn	22 00 28.1	-0.6
SRN	**Sarande**	8.52	120	P	Pn	22 00 28.0	-1.0
OSSF	**Osses**	8.55	265	P	Pn	22 00 29.3	-0.1
OSSF	**Osses**	8.55	265	P	Pn	22 00 29.3	-0.1
SJPF	**Ste Jean**	8.55	264	*e*Pn	Pn	22 00 29.4	-0.1
SJPF				*e*Sn	Sn	22 02 08.0	+2.8
comp=Z,26nm,0.5s							
SJPF	**Ste Jean**	8.55	264	*e*Pn	Pn	22 00 29.4	-0.1
SJPF				*e*Sn	Sn	22 02 08.0	+2.8
SJPF	**Ste Jean**	8.55	264	*e*P	Pn	22 00 29.4	-0.1
SJPF				*e*		22 02 08.0	
SJPF	**Ste Jean**	8.55	264	*e*Pn	Pn	22 00 29.4	-0.1
KRUS	**Krusevo**	8.56	108	*e*Pn	Pn	22 00 28.9	-0.7
KRUS	**Krusevo**	8.56	108	*e*Pn	Pn	22 00 28.8	-0.8
FLN	**La Foliniere**	8.58	303	*e*Pn	Pn	22 00 28.3	-1.6
baz=117							
FLN				*e*Sn	Sn	22 01 59.5	-6.3
comp=Z,277nm,0.8s							
FLN	**La Foliniere**	8.58	303	*e*Pn	Pn	22 00 28.3	-1.6
FLN				*e*Sn	Sn	22 01 59.5	-6.3
FLN	**La Foliniere**	8.58	303	*e*P	Pn	22 00 28.3	-1.6
FLN				*e*		22 01 59.5	
FLN	**La Foliniere**	8.58	303	*e*Pn	Pn	22 00 28.3	-1.6
baz=117							
ABSA	**Djebel Ababsia**	8.61	196	P	Pn	22 00 30.0	-0.3
CKFL	**Kef-Lekhel**	8.66	200	P	Pn	22 00 31.0	0.0
GRR	**Gorron**	8.66	300	*e*Pn	Pn	22 00 29.5	-1.5
GRR				*e*Sn	Sn	22 02 00.8	-7.0
comp=Z,106nm,0.6s							
GRR	**Gorron**	8.66	300	*e*Pn	Pn	22 00 29.5	-1.5
GRR				*e*Sn	Sn	22 02 00.8	-7.0
GRR	**Gorron**	8.66	300	*e*P	Pn	22 00 29.5	-1.5
GRR				*e*		22 02 00.8	
GRR	**Gorron**	8.66	300	*e*Pn	Pn	22 00 29.5	-1.5
CRVS	**Cervenica-Dubn**	8.71	56	*e*P	Pn	22 00 31.7	+0.1
CRVS				*e*		22 02 04.0	
CRVS	**Cervenica-Dubn**	8.71	56	*e*PN	Pn	22 00 31.7	+0.1
CRVS				*e*SN	Sn	22 02 04.0	-5.0
CRVS				*e*SG	Sn	22 03 25.0	+76
CRVS	**Cervenica-Dubn**	8.71	56	*e*P	Pn	22 00 31.7	+0.1
EALK	**Alkurruntz**	8.73	265	P	Pn	22 00 31.6	-0.3
EALK	**Alkurruntz**	8.73	265	P	Pn	22 00 31.6	-0.3
BIA	**Bitola**	8.77	110	*e*Pn	Pn	22 00 31.6	-0.8
BIA	**Bitola**	8.77	110	*e*Pn	Pn	22 00 31.5	-0.9
GZR	**Gura Zlata**	8.79	80	P	Pn	22 00 33.1	+0.4
GZR	**Gura Zlata**	8.79	80	⇓*i*P	Pn	22 00 33.1	+0.4
GZR	**Gura Zlata**	8.79	80	P	Pn	22 00 33.1	+0.4
CASM	**Ain Smara**	8.85	201	P	Pn	22 00 33.0	-0.6
NEST	**Nestorio**	8.88	114	P	Pn	22 00 34.1	+0.1
KEST	**Kesra**	8.89	186	Pn	Pn	22 00 36.9	+2.7
comp=Z,3.4nm,0.3s,baz=304,slow=2.9,SNR=120							
KEST				LR	LR	22 03 56.6	
comp=Z,1μm,20.8s,baz=223,slow=37							
KEST	**Kesra**	8.89	186	*e*Pn	Pn	22 00 37.3	+3.2
KEST				*e*Sn	Sn	22 02 14.8	+1.2
DEV	**Deva**	8.89	77	P	Pn	22 00 35.7	+1.5
DEV	**Deva**	8.89	77	⇓P	Pn	22 00 35.7	+1.5
DEV	**Deva**	8.89	77	⇓*i*P	Pn	22 00 35.7	+1.5
DEV	**Deva**	8.89	77	P	Pn	22 00 35.7	+1.5
FNA	**Florina**	8.91	112	P	Pn	22 00 34.2	-0.2
IGT	**Igoumenitsa**	8.93	121	P	Pn	22 00 33.9	-0.8
ELSH	**Elham, Standar**	9.05	320	*e*P	Pn	22 00 35.7	-0.6
ELSH	**Elham, Standar**	9.05	320	P	Pn	22 00 35.7	-0.6
ELSH	**Elham, Standar**	9.05	320	*e*P	Pn	22 00 35.7	-0.6
CTEI	**Djebel Teioual**	9.06	201	P	Pn	22 00 37.0	+0.6
UZH	**Uzhgorod**	9.10	60	*e*P	Pn	22 00 38.2	+1.2
UZH				*e*S	Sn	22 02 19.0	+0.3
UZH				MLR	MLR		
comp=N,2μm,13.0s							
UZH				MLR	MLR		
comp=E,4μm,13.0s							
UZH				MLR	MLR		
comp=Z,3μm,13.0s							

comp=Z,0.1nm,0.3s,baz=288,slow=9.6,SNR=6.3
MLR Muntele Rosu 11.02 80 Pn **Pn 22 01 04.2 +1.0**
MLR Muntele Rosu 11.02 80 P **Pn 22 01 04.2 +1.0**
MLR Muntele Rosu 11.02 80⇓ *i*P **Pn 22 01 04.5 +1.3**
MLR Muntele Rosu 11.02 80 P **Pn 22 01 04.2 +1.0**
CART Cartagena 11.11 235 *e*Pn **Pn 22 01 05.1 +0.6**
comp=Z,38nm,0.8s
CART Cartagena 11.11 235 *e*Pn **Pn 22 01 05.1 +0.6**
comp=Z,38nm,0.8s
LKR Lokris 11.12 118 *e*P **Pn 22 01 04.0 -0.6**
EANR 'Ain N'Sour 11.19 223 P **Pn 22 01 11.0 +5.4**
DYA Yadsworthy 11.33 306 *e*P **Pn 22 01 04.0 -3.4**
DYA Yadsworthy 11.33 306 P **Pn 22 01 05.0 -2.4**
PRAR RASCA 11.34 70⇓ *i*P **Pn 22 01 09.7 +2.2**
EVIA Vianos 11.36 243 P **Pn 22 01 09.2 +1.3**
EVIA Vianos 11.36 243 P **Pn 22 01 09.2 +1.3**
EVIA Vianos 11.36 243 P **Pn 22 01 09.2 +1.3**
ITM Ithomi 11.42 126 *e*P **Pn 22 01 11.0 +2.3**
GUD Guadarrama 11.45 255 P **Pn 22 01 10.6 +1.4**
GUD Guadarrama 11.45 255 P **Pn 22 01 10.6 +1.4**
GUD Guadarrama 11.45 255 P **Pn 22 01 10.6 +1.4**
PLOR Plostina 11.51 78⇓ P **Pn 22 01 10.6 +0.7**
PLOR Plostina 11.51 78⇓ *i*P **Pn 22 01 10.6 +0.7**
PLOR Plostina 11.51 78 P **Pn 22 01 10.6 +0.7**
TESR 11.53 75⇓ *i*P **Pn 22 01 13.1 +2.8**
HEX Exmoor 11.54 309 *e*P **Pn 22 01 08.1 -2.3**
HEX Exmoor 11.54 309 *e*P **Pn 22 01 08.1 -2.3**
ETRT Tiaret 11.55 220 P **Pn 22 01 16.0 +5.4**
VRI Vrincioaia 11.56 78⇓ P **Pn 22 01 11.8 +1.1**
VRI Vrincioaia 11.56 78⇓ *i*P **Pn 22 01 11.8 +1.1**
VRI Vrincioaia 11.56 78 P **Pn 22 01 11.8 +1.1**
MCH1 Michaelchurch 11.60 314 *e*P **Pn 22 01 07.6 -3.6**
RDO Rodhopi 11.61 102 P **Pn 22 01 11.3 0.0**
ESDC Sonseca Array 11.76 250 Pn **Pn 22 01 13.2 -0.2**
comp=Z,0.6nm,0.3s,baz=58,slow=14,SNR=32
ESDC Sonseca Array 11.76 250 Pn **Pn 22 01 13.2 -0.2**
ESDC Sonseca Array 11.76 250 Pn **Pn 22 01 13.2 -0.2**
ESLA Sonseca Array 11.76 250 *e*Pn **Pn 22 01 14.0 +0.6**
comp=Z,6.1nm,0.8s
ESLA *e*Sn **Sn 22 03 23.3 -0.5**
ESLA Sonseca Array 11.76 250 *e*Pn **Pn 22 01 14.0 +0.6**
comp=Z,6.1nm,0.8s
ESLA *e*Sn **Sn 22 03 23.3 -0.6**
HLM1 Long Mynd 11.85 317 *e*P **Pn 22 01 12.3 -2.2**
HLM1 Long Mynd 11.85 317 *e*P **Pn 22 01 12.3 -2.2**
STNC Stoke 11.88 320 *e*P **Pn 22 01 14.4 -0.6**
STNC Stoke 11.88 320 *e*P **Pn 22 01 14.4 -0.6**
HTL Hartland 11.89 308 *e*P **Pn 22 01 11.4 -3.7**
MUD Monsted U'grnd 11.90 357 *i*P **Pn 22 01 14.4 -0.8**
MUD *i*S Sn 22 03 01.3 -26
MUD Monsted U'grnd 11.90 357 *i*P **Pn 22 01 14.5 -0.7**
SNR=46
MUD *i*S Sn 22 03 01.3 -26
SNR=48
EHUE Huescar 11.91 240 P **Pn 22 01 17.6 +2.1**
EHUE Huescar 11.91 240 P **Pn 22 01 17.6 +2.1**
EHUE Huescar 11.91 240 P **Pn 22 01 17.6 +2.1**
ALN Alexandroupoli 12.06 102 P **Pn 22 01 16.2 -1.3**
PAB San Pablo 12.08 250 *e*Pn **Pn 22 01 18.4 +0.6**
PAB *e*Sn **Sn 22 03 30.6 -1.1**
PAB San Pablo 12.08 250 *e*P **Pn 22 01 18.4 +0.6**
PAB *e* 22 03 30.6
PAB San Pablo 12.08 250 *e*P **Pn 22 01 18.4 +0.6**
PAB *e*Sn **Sn 22 03 30.6 -1.2**
FOEL Foel Wylfa 12.22 318 *e*P **Pn 22 01 17.6 -2.1**
FOEL Foel Wylfa 12.22 318 *e*P **Pn 22 01 17.6 -2.1**
VLI Veliai 12.32 125 *e*P **Pn 22 01 23.5 +2.4**
SUW Suwalki 12.55 37 *e*P **Pn 22 01 28.6 +4.5**
SUW Suwalki 12.55 37 *e*P **Pn 22 01 28.6 +4.5**
PBRG Braganca 12.84 263 *e*P **Pn 22 01 29.3 +1.2**
comp=Z,30nm,1.7s
PBRG Braganca 12.84 263 *e*P **Pn 22 01 29.3 +1.2**
comp=Z,30nm,1.7s
EPLA Plasencia 13.03 255 P **Pn 22 01 31.2 +0.5**
EPLA Plasencia 13.03 255 P **Pn 22 01 31.2 +0.5**
EPLA Plasencia 13.03 255 P **Pn 22 01 31.2 +0.5**
KIS Kishinev 13.05 73 *e*P Px 22 01 41.0
comp=Z,200nm,1.0s
KIS *e*S **Sn 22 04 12.0 +17**
KIS LRM 22 07 55.0
comp=Z,2μm,14.0s
KIS Kishinev 13.05 73 *e*P Px 22 01 41.0
KIS pmax pmax
comp=Z,180nm,1.0s
KIS MLR MLR
comp=Z,2μm,14.0s
XAL Allendale 13.11 326 *e*P **Pn 22 01 29.1 -2.7**
MVO Moncorvo 13.26 261 *e*P **Pn 22 01 34.1 +0.3**
comp=Z,36nm,1.1s
MVO Moncorvo 13.26 261 *e*P **Pn 22 01 34.1 +0.3**
comp=Z,36nm,1.1s
KESW Keswick, Cumbr 13.28 324 *e*P **Pn 22 01 32.2 -1.9**
KESW Keswick, Cumbr 13.28 324 *e*P **Pn 22 01 32.2 -1.9**
APE Apeiranthos 13.67 118 P **Pn 22 01 39.5 0.0**
APE Apeiranthos 13.67 118 P **Pn 22 01 39.5 0.0**
APE Apeiranthos 13.67 118 P **Pn 22 01 39.5 0.0**
PVRL Vila Real 13.70 262 *e*P **Pn 22 01 41.8 +1.9**
comp=Z,32nm,1.5s
PVRL Vila Real 13.70 262 *e*P **Pn 22 01 41.8 +1.9**
comp=Z,32nm,1.5s
POLO Lamas de Olo 13.73 263 *e*P **Pn 22 01 45.7 +5.5**
comp=Z,22nm,1.5s
POLO Lamas de Olo 13.73 263 *e*P **Pn 22 01 45.7 +5.5**
comp=Z,22nm,1.5s
PCAB Cabril 13.78 264 *e*P **Pn 22 01 41.3 +0.3**
comp=Z,27nm,1.8s
ESK Eskdalemuir 13.83 326 *e*P **Pn 22 01 38.9 -2.7**
ESK AMB AMB 22 01 40.1
comp=Z,67nm,3.7s
ESK Eskdalemuir 13.83 326 *e*Pn **Pn 22 01 40.2 -1.4**
ESK *e*Sn **Sn 22 04 11.9 -2.4**
ESK Eskdalemuir 13.83 326 *e*P **Pn 22 01 40.2 -1.4**
ESK *e* 22 04 11.9
ESK Eskdalemuir 13.83 326 *e*Pn **Pn 22 01 40.2 -1.4**
MTE Manteigas 13.91 259 *e*P **Pn 22 01 44.0 +1.3**
comp=Z,42nm,1.4s
MTE Manteigas 13.91 259 *e*Pn **Pn 22 01 43.6 +0.9**
MTE *e*Sn **Sn 22 04 12.5 -3.8**
MTE Manteigas 13.91 259 *e*Pn **Pn 22 01 43.6 +0.9**
PVIS Viseu 14.03 260 *e*P **Pn 22 01 46.4 +2.0**
PVIS Viseu 14.03 260 *e*P **Pn 22 01 46.6 +2.2**
KIEV Kiev 14.03 58⇑ *e*P **Pn 22 01 44.0 -0.4**
ESY Stoneypath 14.04 328 *e*P **Pn 22 01 45.0 +0.5**
AKASG Malin Array Be 14.04 58 Pn **Pn 22 01 43.3 -1.2**
comp=Z,0.4nm,0.3s,baz=248,slow=12,SNR=9.6
AKASG Malin Array Be 14.04 58 Pn **Pn 22 01 43.3 -1.2**
AKASG Malin Array Be 14.04 58 *i*P **Pn 22 01 43.9 -0.6**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 14.04 58 Pn **Pn 22 01 43.3 -1.2**
AKBB Malin Array Si 14.04 58 *e*Pn **Pn 22 01 44.3 -0.2**
AKBB *e*Sn **Sn 22 04 19.6 +0.1**
AKBB Malin Array Si 14.04 58 *e*P **Pn 22 01 44.3 -0.2**
AKBB *e* 22 04 19.7
AKBB Malin Array Si 14.04 58 *e*Pn **Pn 22 01 44.3 -0.2**
AKBB *e*Sn **Sn 22 04 19.6 +0.1**
PCBR Castelo Branco 14.09 257 *e*P **Pn 22 01 45.4 +0.2**
PCBR Castelo Branco 14.09 257 *e*P **Pn 22 01 45.9 +0.7**
EBL Broad Law 14.10 327 *e*P **Pn 22 01 43.8 -1.4**
DLF Lyons Farm 14.11 314 *e*P **Pn 22 01 42.6 -2.8**
DLF *e*S **Sn 22 04 09.5 -12**
GAL1 Galloway 14.16 322 *e*P **Pn 22 01 45.1 -1.0**
GAL1 AMB AMB 22 01 45.6
comp=Z,80nm,3.4s
PMRV Marv??o 14.21 255 *e*P **Pn 22 01 47.4 +0.5**
comp=Z,64nm,0.8s
PMRV Marv??o 14.21 255 *e*P **Pn 22 01 47.8 +0.9**
EDI Edinburgh 14.27 327 *e*P **Pn 22 01 46.2 -1.3**
EDI AMB AMB 22 01 54.0
comp=Z,101nm,3.6s
EAU Auchinoon 14.31 327 *e*P **Pn 22 01 46.7 -1.4**
PBAR Barrancos 14.59 250 *e*P **Pn 22 01 52.8 +0.8**
comp=Z,42nm,1.6s
PESTR Estremoz 14.61 253 *e*P **Pn 22 01 52.6 +0.2**
comp=Z,36nm,1.6s
PESTR Estremoz 14.61 253 *e*P **Pn 22 01 52.8 +0.4**
NACGM Naroch 14.72 40 *e*P **Pn 22 01 52.0 -1.8**
IIGN Ignalina 14.76 38 *e*P **Pn 22 01 56.2 +2.0**
IIGN AMB AMB 22 02 01.9
comp=Z,19nm,1.2s
IIGN Ignalina 14.76 38 *e*P **Pn 22 01 56.2 +2.0**
comp=Z,19nm,1.2s,SNR=45
PTOM Tomar 14.84 257 *e*P **Pn 22 01 56.6 +1.2**
comp=Z,37nm,1.1s
PTOM Tomar 14.84 257 *e*P **Pn 22 01 56.6 +1.2**
ISAL Salakas 14.86 37 *e*P **Pn 22 01 57.4 +1.8**
ISAL AMB AMB 22 02 04.5
comp=Z,24nm,1.6s
EAB Aberfoyle 14.91 326 *e*P **Pn 22 01 56.1 -0.2**
PMTG Montargil 14.96 255 *e*P **Pn 22 01 57.3 +0.3**
comp=Z,19nm,0.9s
MNK Minsk 14.98 42 *e*P **Pn 22 01 53.0 -4.3**
MNK *e*S **Sn 22 04 36.0 -6.3**
MNK MLR MLR
comp=Z,4μm,14.0s
MICGM Minsk 15.01 42 *e*P **Pn 22 01 53.0 -4.6**
IZAR Zarasai 15.03 36 *e*P **Pn 22 01 59.6 +1.7**
IZAR AMB AMB 22 02 05.2
comp=Z,30nm,1.3s
EVO Evora 15.07 253 *e*P **Pn 22 01 58.4 -0.1**
comp=Z,42nm,1.0s
PBEJ Beja 15.22 251 *e*P **Pn 22 02 01.3 +0.8**
comp=Z,17nm,1.6s
PCVE Castro Verde 15.55 250 *e*P **Pn 22 02 05.3 +0.6**
PNCL Nicolau / Gran 15.63 252 *e*P **Pn 22 02 06.6 +0.8**
HFS Hagfors 15.69 6 Pn **Pn 22 02 10.0 +3.6**
comp=Z,1.0nm,0.3s,baz=186,slow=13,SNR=32
HFS LR LR 22 08 37.8
comp=Z,1μm,20.5s,baz=209,slow=39
HFS Hagfors 15.69 6 Pn **Pn 22 02 10.0 +3.6**
HFS Hagfors 15.69 6 P **Pn 22 02 10.0 +3.6**
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS MLR MLR
comp=Z,1μm,20.5s
HFS Hagfors 15.69 6 P **Pn 22 02 10.0 +3.6**
comp=Z,1μm,20.5s
NC602 NORSAR Array S 16.18 2 *e*P **Pn 22 02 16.5 +3.7**
NC602 NORSAR Array S 16.18 2 *e*P **Pn 22 02 16.5 +3.7**
SNR=45
KPL Plockton 16.23 327 *e*P **Pn 22 02 14.0 +0.6**
KPL AMB AMB 22 02 15.1
comp=Z,151nm,3.5s
KPL Plockton 16.23 327 *e*P **Pn 22 02 14.0 +0.5**
NAO01 NORSAR Array S 16.28 1 *e*Pn **Pn 22 02 14.7 +0.7**
comp=Z,37nm,1.0s
NAO01 NORSAR Array S 16.28 1 *e*Pn **Pn 22 02 14.7 +0.7**
comp=Z,37nm,1.0s
NB2 NORSAR Subarra 16.48 1 P **Pn 22 02 17.9 +1.3**
comp=Z,25nm,0.8s,baz=182,slow=11
NB2 NORSAR Subarra 16.48 1 P **Pn 22 02 17.9 +1.3**
comp=Z,25nm,0.8s,baz=182,slow=11,SNR=7.9
NOA NORSAR Array B 16.48 1 Pn **Pn 22 02 17.6 +1.1**
comp=Z,0.8nm,0.3s,baz=182,slow=11,SNR=26
NOA LR LR 22 09 21.2
comp=Z,906nm,19.7s,baz=185,slow=40
NOA NORSAR Array B 16.48 1 Pn **Pn 22 02 17.6 +1.1**
NOA NORSAR Array B 16.48 1 P **Pn 22 02 17.7 +1.1**
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,906nm,19.7s
NOA NORSAR Array B 16.48 1 Pn **Pn 22 02 17.6 +1.0**
SIM Simferopol' 16.81 80 *de*P **Pn 22 02 23.7 +2.8**
SIM pmax pmax
comp=Z,34nm,0.9s
SIM MLR MLR
comp=Z,1μm,13.1s
SIM Simferopol' 16.81 80 *e*P **Pn 22 02 23.7 +2.8**
comp=Z,1μm,13.1s
VSU Vasula 17.12 30⇓ *e*P **Pn 22 02 25.5 +0.8**
VSU pmax pmax
comp=Z,208nm,1.2s
VSU Vasula 17.12 30 *e*P **Pn 22 02 25.5 +0.8**
comp=Z,208nm,1.2s
BR131 Keskin Array S 17.86 98 *e*Pn **Pn 22 02 34.9 +0.9**
comp=Z,15nm,1.0s
BR131 Keskin Array S 17.86 98 *e*Pn **Pn 22 02 34.8 +0.9**
comp=Z,15nm,1.0s
BRTR Keskin Array B 17.86 98 P **Pn 22 02 36.2 +2.3**
comp=Z,0.2nm,0.3s,baz=274,slow=5.3,SNR=29
BRTR Keskin Array B 17.86 98 P **Pn 22 02 36.3 +2.4**
BRTR Keskin Array B 17.86 98 *ce*P **Pn 22 02 36.2 +2.3**
BRTR pmax pmax
comp=Z,14nm,0.9s
BRTR Keskin Array B 17.86 98 *e*P **Pn 22 02 36.2 +2.3**
comp=Z,14nm,0.9s
ANN Anapa 19.17 80 *e*P **Pn 22 02 47.6 -2.2**
ANN *e*S **Sn 22 06 22.0 -1.8**
ANN pmax pmax
comp=Z,130nm,1.0s
ANN MLR MLR
comp=N,356nm,13.0s
ANN MLR MLR
comp=E,371nm,13.0s
ANN MLR MLR
comp=Z,809nm,13.0s
ANN Anapa 19.17 80 *e*P **Pn 22 02 47.6 -2.2**
comp=Z,130nm,1.0s
ANN *e*S **Sn 22 06 22.0 -1.8**
FINES FINESS Array B 19.23 23 P **Pn 22 02 49.3 -1.1**
comp=Z,2.3nm,0.3s,baz=180,slow=10,SNR=52
FINES LR LR 22 10 43.6
comp=Z,1μm,21.5s,baz=202,slow=38
FINES FINESS Array B 19.23 23 P **Pn 22 02 49.3 -1.1**
FINES FINESS Array B 19.23 23 P **Pn 22 02 49.3 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES MLR MLR
comp=Z,1μm,21.5s
FINES FINESS Array B 19.23 23 P **Pn 22 02 49.3 -1.1**
comp=Z,1μm,21.5s
OBN Obninsk 19.75 49 *e*P **Pn 22 02 54.0 -2.6**
comp=Z,117nm,1.4s
OBN Obninsk 19.75 49 *d i*P **Pn 22 02 54.6 -2.1**
OBN *i*S **Sn 22 06 33.2 -4.4**
OBN pmax pmax
comp=Z,27nm,0.8s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 19.75 49 *i*P **Pn 22 02 54.6 -2.1**
comp=Z,27nm,0.8s
NSS Namsos 20.00 2 *e*P **Pn 22 02 57.4 -2.1**
NSS Namsos 20.00 2 *e*P **Pn 22 02 57.4 -2.1**
SNR=41
VSR Storozhevoye 20.28 61 *e*P **P 22 03 00.2 -0.7**
VSR *e**PP 22 03 07.1
VSR pmax pmax
comp=N,30nm,0.7s
VSR pmax pmax
comp=Z,140nm,0.7s
VSR pmax pmax
comp=E,130nm,0.6s
VSR Storozhevoye 20.28 61 *e*P **P 22 03 00.2 -0.7**
VOR Voronezh 20.38 59 P **P 22 03 02.0 0.0**
VOR pmax pmax
comp=Z,240nm,1.2s
VOR Voronezh 20.38 59 P **P 22 03 02.0 0.0**
comp=Z,240nm,1.2s
MOS Moscow 20.54 47 *e*P **P 22 03 05.6 +2.0**
MOS pmax pmax
comp=Z,187nm,1.1s
MOS pmax pmax
comp=Z,200nm,1.1s
MOS MLR MLR
comp=E,1μm,13.0s
MOS MLR MLR
comp=Z,2μm,13.0s,MS4.6
MOS Moscow 20.54 47 *e*P **P 22 03 05.6 +2.0**
comp=Z,2μm,13.0s
ANDN Andirin 20.70 101 *e*P **P 22 03 05.4 -0.1**
SOC Sochi 21.01 82 *i*P **P 22 03 09.0 +0.1**
SOC pmax pmax
comp=Z,122nm,0.9s,mb5.2
AKCD Akcadag 21.49 97 *e*P **P 22 03 12.3 -1.7**
MOR8 Moi Rana 21.74 4 *e*P **P 22 03 19.1 +2.6**
MOR8 Moi Rana 21.74 4 *e*P **P 22 03 19.1 +2.6**
SNR=35
STOK Stokkvaagen 21.83 3 *e*P **P 22 03 17.0 -0.5**
JOF Joensuu 21.93 26 *e*P **P 22 03 17.1 -1.5**
JOF pmax pmax
comp=Z,20nm,0.7s,mb4.7
JOF Joensuu 21.93 26 *e*p **P 22 03 17.1 -1.5**
comp=Z,20nm,0.7s,mb4.7
OUL Oulu 22.25 17 *e*P **P 22 03 21.1 -0.9**
MMAI Mount Meron Ar 22.54 112 P **P 22 03 24.9 -0.5**
comp=Z,54nm,1.0s,mb4.9,baz=324,slow=9.3,SNR=12
MMAI Mount Meron Ar 22.54 112 P **P 22 03 24.9 -0.5**
SNR=35
MMAI Mount Meron Ar 22.54 112 P **P 22 03 24.9 -0.5**
KIV Kislovodsk 23.03 80 *e*P **P 22 03 30.5 +0.1**
comp=Z,79nm,0.9s,mb5.1
KIV Kislovodsk 23.03 80 *e*P **P 22 03 30.2 -0.2**
KIV pmax pmax
comp=Z,96nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,198nm,14.0s,MS3.7
KIV Kislovodsk 23.03 80 P **P 22 03 30.7 +0.3**
SNR=11
KIV Kislovodsk 23.03 80 P **P 22 03 30.5 +0.1**
comp=Z,512nm,0.8s,mb6.0,SNR=12
KIV Kislovodsk 23.03 80 *e*P **P 22 03 30.5 +0.1**
comp=Z,79nm,0.9s,mb5.1
ARTV Artvin 23.25 87 *e*P **P 22 03 32.9 +0.2**
KLMR Klimovskoe 23.68 36 *e*P **P 22 03 32.8 -4.0**
KLMR pmax pmax
comp=Z,175nm,1.7s,mb5.2
ONI Oni 23.91 83 P **P 22 03 40.3 +1.2**
ASF Jabal al Asfar 24.05 112 P **P 22 03 41.2 +0.7**
comp=Z,86nm,0.9s,mb5.2,baz=167,slow=6.1,SNR=47
ASF Jabal al Asfar 24.05 112 P **P 22 03 41.2 +0.7**
ASF Jabal al Asfar 24.05 112 P **P 22 03 41.2 +0.7**
ASF pmax pmax
comp=Z,86nm,1.0s
AKH Akhalkalaki 24.29 86 P **P 22 03 44.6 +2.0**
EIL Elat 24.45 119 P **P 22 03 42.8 -1.4**
comp=Z,9.7nm,0.8s,mb4.3,baz=335,slow=5.9,SNR=6.6
EIL Elat 24.45 119 P **P 22 03 42.8 -1.4**
EIL Elat 24.45 119 P **P 22 03 42.8 -1.3**
TBLG Delisi 25.08 84 *e*P **P 22 03 51.1 +1.4**
TBLG Delisi 25.08 84 P **P 22 03 51.1 +1.4**
MTA Mtatsminda 25.13 84 P **P 22 03 51.5 +1.3**
KTK1 Kautokeino 25.35 11 *e*P **P 22 03 48.7 -3.3**
TRO Tromso 25.47 7 *e*P **P 22 03 52.3 -0.7**
TRO Tromso 25.47 7 *e*P **P 22 03 52.3 -0.7**
SNR=34
GNI Garni 25.61 88 P **P 22 03 55.7 +1.1**
comp=Z,51nm,0.8s,mb5.1,baz=349,slow=3.0,SNR=54
GNI Garni 25.61 88 P **P 22 03 55.8 +1.1**
GNI Garni 25.61 88 P **P 22 03 55.7 +1.1**
GNI pmax pmax
comp=Z,51nm,0.9s
GNI Garni 25.61 88 P **P 22 03 56.9 +2.3**
SNR=10
GNI Garni 25.61 88 P **P 22 03 55.8 +1.2**
APA Apatity 26.03 20⇑ *i*P **P 22 03 58.0 -0.1**
APA pmax pmax
comp=Z,16nm,1.0s,mb4.5
APA MLR MLR
comp=Z,2μm,14.0s,MS4.8
ARE0 ARCESS Array S 26.15 12 *e*P **P 22 03 57.2 -2.0**
ARE0 ARCESS Array S 26.15 12 *e*P **P 22 03 57.2 -2.0**
SNR=34
ARCES ARCESS Array B 26.15 12 P **P 22 03 58.3 -0.9**
comp=Z,1.9nm,0.5s,mb3.9,baz=202,slow=9.3,SNR=52
ARCES PcP PcP 22 07 23.4 -2.3
comp=Z,4.3nm,1.0s,baz=242,slow=1.9,SNR=3.7
ARCES LR LR 22 15 00.0
comp=Z,835nm,18.5s,MS4.3,baz=235,slow=38
ARCES ARCESS Array B 26.15 12 P **P 22 03 58.3 -0.9**
ARCES PcP PcP 22 07 23.4 -2.3
ARCES ARCESS Array B 26.15 12 P **P 22 03 58.3 -0.9**
ARCES 22 07 23.4
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES MLR MLR
comp=Z,835nm,18.5s
ARCES ARCESS Array B 26.15 12 P **P 22 03 58.3 -0.9**
ARCES ARCESS Array B 26.15 12 PcP PcP 22 07 23.4 -2.2
KEV Kevo 26.58 13 *e*P **P 22 04 01.5 -1.6**
KEV pmax pmax
comp=Z,12nm,0.7s,mb4.5
KEV Kevo 26.58 13 *ep* **P 22 04 01.5 -1.6**
comp=Z,12nm,0.7s,mb4.5
BORG Borgarnes 26.79 330 LR LR 22 16 04.9
comp=Z,423nm,20.3s,MS4.0,baz=237,slow=39
JMIC Jan Mayen 28.05 347 LR LR 22 15 50.2
comp=Z,438nm,19.3s,MS4.1,baz=254,slow=37
BHD Baghdad 28.53 102 *ex* **P 22 04 17.0 -3.9**
BHD *ex* x 22 09 05.0
SOKR Solikamsk 31.43 45 *d i*P **P 22 04 46.3 0.0**
SOKR MLR MLR
comp=Z,590nm,15.0s,MS4.4
SOKR Solikamsk 31.43 45 *i*P **P 22 04 46.3 0.0**
comp=Z,590nm,15.0s
ARU Arti 32.15 51 *e*P **P 22 04 51.6 -1.0**
comp=Z,28nm,0.8s,mb5.2
ARU Arti 32.15 51 *c i*P **P 22 04 51.6 -1.0**
ARU PPP 22 06 09.6
ARU 22 07 41.2
ARU S **S 22 10 03.8 +0.2**
ARU SS SS 22 11 52.2 -29
ARU pmax pmax
comp=Z,24nm,0.7s,mb5.1
ARU MLR MLR
comp=Z,2μm,15.0s,MS4.8
ARU Arti 32.15 51 P **P 22 04 51.5 -1.1**
comp=Z,271nm,0.7s,SNR=11
ARU Arti 32.15 51 *i*P **P 22 04 51.6 -1.0**
comp=Z,24nm,0.7s,mb5.1
AKTK Aktyubinsk 32.21 62 P **P 22 04 52.8 -0.4**
comp=Z,622nm,18.2s
AKTO Aktyubinsk 32.21 62 P **P 22 04 52.8 -0.5**
comp=Z,13nm,0.9s,mb4.8,baz=280,slow=8.9,SNR=43
AKTO LR LR 22 19 58.9
comp=Z,622nm,18.2s,MS4.3,baz=133,slow=40
AKTO Aktyubinsk 32.21 62 P **P 22 04 52.8 -0.5**
AKTO Aktyubinsk 32.21 62 P **P 22 04 52.8 -0.4**
AKTO pmax pmax
comp=Z,13nm,0.9s,mb4.8
AKTO MLR MLR
comp=Z,622nm,18.2s,MS4.3
AKTO Aktyubinsk 32.21 62 P **P 22 04 52.8 -0.4**
TORD Torodi Ar. Bea 32.22 196 P **P 22 04 51.8 -1.8**
comp=Z,23nm,0.8s,mb5.0,baz=6.3,slow=9.3,SNR=128
TORD pP pP 22 05 00.3 -0.3
comp=Z,14nm,0.7s,baz=7.9,slow=8.4,SNR=15
TORD PcP PcP 22 07 39.2 -2.6
comp=Z,1.9nm,0.8s,baz=356,slow=1.7,SNR=5.2
TORD Torodi Ar. Bea 32.22 196 P **P 22 04 51.8 -1.8**
TORD pP pP 22 05 00.3 -0.3
TORD PcP PcP 22 07 39.2 -2.6
TORD Torodi Ar. Bea 32.22 196 P **P 22 04 51.8 -1.8**
TORD pP pP 22 05 00.3 -0.3
MIB Mutribah 32.59 104 *e*P **P 22 04 56.4 -0.3**
MIB AMb AMB 22 04 57.8
comp=Z,166nm,1.0s,mb5.9
NAY Al-Naaiem 32.86 105 *e*P **P 22 04 58.5 -0.6**
NAY AMb AMB 22 04 59.7
comp=Z,32nm,0.9s,mb5.2
UMR Umm Al-Rimmam 33.00 104 *e*P **P 22 05 00.2 -0.2**
UMR AMb AMB 22 05 01.9
comp=Z,124nm,1.2s,mb5.7
RDF Al-Radifah 33.27 105 *e*P **P 22 05 02.2 -0.5**
RDF AMb AMB 22 05 04.7
comp=Z,85nm,1.2s,mb5.5
SVE Sverdlovsk 33.29 50⇓ *e*P **P 22 05 02.7 +0.1**
SVE *e* 22 12 18.1
SVE pmax pmax
comp=Z,60nm,1.1s,mb5.4
SVE MLR MLR
comp=Z,1μm,14.0s,MS4.8
SVE Sverdlovsk 33.29 50 *e*P **P 22 05 02.7 +0.1**
comp=Z,60nm,1.1s,mb5.4
ABKAR Akbulak array 33.64 64 *e*P **P 22 05 05.3 -0.4**
ABKAR *e*PcP PcP 22 07 44.3 -1.0
ABKAR Akbulak array 33.64 64 *e*P **P 22 05 05.3 -0.4**
SPA0 Spitsbergen Ar 33.78 2 *e*P **P 22 05 16.1 +9.4**
SPITS Spitsbergen Ar 33.78 2 P **P 22 05 07.7 +1.1**
comp=Z,13nm,0.9s,mb4.8,baz=181,slow=3.3,SNR=3.5
SPITS Spitsbergen Ar 33.78 2 P **P 22 05 07.7 +1.1**
SPITS Spitsbergen Ar 33.78 2 P **P 22 05 07.7 +1.1**
SPITS pmax pmax
comp=Z,13nm,0.9s
SPITS Spitsbergen Ar 33.78 2 P **P 22 05 07.7 +1.1**
comp=Z,13nm,0.9s,mb4.9
SUMG Summit 36.03 337 P **P 22 05 26.4 +0.3**
SUMG Summit 36.03 337 P **P 22 05 26.4 +0.3**
SUMG Summit 36.03 337 *i*P **P 22 05 28.0 +1.9**
SUMG Summit 36.03 337 P **P 22 05 26.4 +0.3**
ABKT Ailbek 36.04 84 P **P 22 05 27.0 +0.5**
comp=Z,263nm,0.8s,SNR=5.4
BBTS Babate 37.60 226 P **P 22 05 40.5 +0.5**
comp=Z,26nm,0.8s,mb5.0,baz=17,slow=5.0,SNR=3.8
BBTS Babate 37.60 226 P **P 22 05 40.5 +0.5**

BBTS	**Babate**	**37.60**	**226**	P	**P**	**22 05 40.5**	**+0.5**
SFJD	**Kangerlussuaq**	**38.80**	**327**	*e*P	**P**	**22 05 49.9**	**+0.2**
	comp=Z,50nm,0.9s,mb5.2						
SFJD	**Kangerlussuaq**	**38.80**	**327**	*e*P	**P**	**22 05 49.9**	**+0.3**
SFJD				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2						
SFJD	**Kangerlussuaq**	**38.80**	**327**	*e*P	**P**	**22 05 49.9**	**+0.3**
	comp=Z,50nm,0.9s,mb5.2						
BRVK	**Borovoye**	**39.24**	**56***c*	*i*P	**P**	**22 05 53.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.9						
BRVK	**Borovoye**	**39.24**	**56**	P	**P**	**22 05 53.1**	**-0.4**
	comp=Z,124nm,0.9s,mb5.6,SNR=5.5						
BRVK	**Borovoye**	**39.24**	**56**	P	**P**	**22 05 54.2**	**+0.7**
	SNR=5.5						
BRVK	**Borovoye**	**39.24**	**56**	*i* P	**P**	**22 05 53.6**	**+0.1**
	comp=Z,21nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	**39.31**	**56**	P	**P**	**22 05 54.2**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.4,baz=297,slow=6.5,SNR=22						
BVAR				LR	LR	22 23 44.0	
	comp=Z,483nm,18.3s,MS4.4,baz=287,slow=39						
BVAR	**Borovoye Array**	**39.31**	**56**	P	**P**	**22 05 54.2**	**+0.2**
BVAR	**Borovoye Array**	**39.31**	**56**	P	**P**	**22 05 54.2**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BVAR				MLR	MLR		
	comp=Z,483nm,18.3s						
BVAR	**Borovoye Array**	**39.31**	**56**	P	**P**	**22 05 54.2**	**+0.2**
	comp=Z,483nm,18.3s						
DBIC	**Dimbokro**	**40.07**	**204**	P	**P**	**22 05 58.8**	**-1.9**
	comp=Z,4.9nm,0.8s,mb4.3,baz=7.5,slow=9.2,SNR=8.8						
DBIC	**Dimbokro**	**40.07**	**204**	P	**P**	**22 05 58.8**	**-1.8**
DBIC	**Dimbokro**	**40.07**	**204**	P	**P**	**22 05 58.8**	**-1.9**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DBIC	**Dimbokro**	**40.07**	**204**	P	**P**	**22 05 58.8**	**-1.9**
	comp=Z,5.0nm,0.8s,mb4.3						
BANOM	**Banah**	**41.22**	**101**	P	**P**	**22 06 09.2**	**-0.9**
	SNR=5.3						
BANOM	**Banah**	**41.22**	**101**	P	**P**	**22 06 09.2**	**-0.9**
	SNR=5.3						
NAZ	**Nazwa, Dubai**	**41.36**	**103**	P	**P**	**22 06 10.7**	**-0.6**
	SNR=8.3						
NAZ	**Nazwa, Dubai**	**41.36**	**103**	P	**P**	**22 06 10.7**	**-0.6**
	SNR=8.3						
ASUD	**Al Ashush, Dub**	**41.36**	**104**	P	**P**	**22 06 11.1**	**-0.2**
	SNR=8.2						
ASUD	**Al Ashush, Dub**	**41.36**	**104**	P	**P**	**22 06 11.1**	**-0.2**
	SNR=8.2						
HATD	**Hatta, Dubai**	**41.79**	**103**	P	**P**	**22 06 13.9**	**-0.9**
	SNR=6.4						
HATD	**Hatta, Dubai**	**41.79**	**103**	P	**P**	**22 06 13.9**	**-1.0**
	SNR=6.4						
ASHO	**Ashiyiah**	**41.83**	**103**	P	**P**	**22 06 13.9**	**-1.3**
	SNR=9.0						
ASHO	**Ashiyiah**	**41.83**	**103**	P	**P**	**22 06 13.9**	**-1.3**
	SNR=9.0						
KKAR	**Karatay Array**	**42.49**	**70**	*e*P	**P**	**22 06 21.0**	**+0.6**
KKAR	**Karatay Array**	**42.49**	**70**	*e*P	**P**	**22 06 21.0**	**+0.7**
KKAR	**Karatay Array**	**42.49**	**70**	*e*P	**P**	**22 06 21.0**	**+0.7**
ARQ	**Araqi**	**43.03**	**104**	P	**P**	**22 06 24.1**	**-0.8**
	SNR=9.6						
ARQ	**Araqi**	**43.03**	**104**	P	**P**	**22 06 24.1**	**-0.8**
	SNR=9.6						
HOQ	**Hoqain**	**43.41**	**103**	P	**P**	**22 06 27.1**	**-0.9**
	SNR=13						
HOQ	**Hoqain**	**43.41**	**103**	P	**P**	**22 06 27.1**	**-0.9**
	SNR=13						
SMDO	**Samad**	**44.27**	**103**	P	**P**	**22 06 33.9**	**-1.0**
	SNR=9.2						
SMDO	**Samad**	**44.27**	**103**	P	**P**	**22 06 33.9**	**-1.0**
	SNR=9.2						
JMDO	**Jabal Madar**	**44.76**	**104**	P	**P**	**22 06 37.8**	**-1.0**
	SNR=7.6						
JMDO	**Jabal Madar**	**44.76**	**104**	P	**P**	**22 06 37.8**	**-1.0**
	SNR=7.6						
KURK	**Kurchatov**	**44.86**	**57**	P	**P**	**22 06 38.5**	**-0.8**
	comp=Z,12nm,0.8s,mb4.8,baz=294,slow=9.0,SNR=83						
KURK				PcP	PcP	22 08 20.4	-0.2
	comp=Z,3.7nm,0.8s,baz=296,slow=4.3,SNR=5.5						
KURK	**Kurchatov**	**44.86**	**57**	*e*P	**P**	**22 06 38.7**	**-0.6**
	comp=Z,20nm,0.8s,mb5.0						
KURK				PcP	PcP	22 08 20.4	-0.2
KURK	**Kurchatov**	**44.86**	**57**	*e*P	**P**	**22 06 38.7**	**-0.6**
KURK						22 08 20.4	
KURK				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
KURK	**Kurchatov**	**44.86**	**57**	P	**P**	**22 06 38.8**	**-0.4**
	SNR=7.1						
KURK	**Kurchatov**	**44.86**	**57**	P	**P**	**22 06 38.8**	**-0.5**
	comp=Z,160nm,0.7s,mb6.0,SNR=14						
KURK	**Kurchatov**	**44.86**	**57**	P	**P**	**22 06 38.8**	**-0.5**
	SNR=7.1						
EKS2	**Erkin-Say**	**44.86**	**69**	P	**P**	**22 06 40.5**	**+1.1**
	SNR=21						
EKS2				P		22 06 40.5	
	SNR=21						
EKS2	**Erkin-Say**	**44.86**	**69**	*e*P	**P**	**22 06 40.5**	**+1.1**
EKS2	**Erkin-Say**	**44.86**	**69**	*e*P	**P**	**22 06 40.5**	**+1.1**
EKS2	**Erkin-Say**	**44.86**	**69**	*e*P	**P**	**22 06 40.5**	**+1.1**
AML	**Almayashu**	**45.03**	**70**	P	**P**	**22 06 42.3**	**+1.5**
	SNR=5.5						
AML				P		22 06 42.3	
	SNR=5.5						
AML	**Almayashu**	**45.03**	**70**	P	**P**	**22 06 42.3**	**+1.5**
AML	**Almayashu**	**45.03**	**70**	P	**P**	**22 06 42.3**	**+1.5**
AML	**Almayashu**	**45.03**	**70**	P	**P**	**22 06 42.3**	**+1.5**
USP	**Ospenovka**	**45.08**	**68**	P	**P**	**22 06 41.9**	**+0.7**
	SNR=7.2						
USP				P		22 06 41.9	
	SNR=7.2						
USP	**Ospenovka**	**45.08**	**68**	P	**P**	**22 06 41.9**	**+0.7**
USP	**Ospenovka**	**45.08**	**68**	P	**P**	**22 06 41.9**	**+0.7**
USP	**Ospenovka**	**45.08**	**68**	P	**P**	**22 06 41.9**	**+0.7**
AAK	**Ala-Archa**	**45.35**	**69**	P	**P**	**22 06 44.4**	**+1.1**
	SNR=12						
AAK				P		22 06 44.4	
	SNR=12						
AAK	**Ala-Archa**	**45.35**	**69**	*e*P	**P**	**22 06 43.8**	**+0.5**
AAK	**Ala-Archa**	**45.35**	**69***c*	*i*P	**P**	**22 06 43.8**	**+0.5**
AAK				pmax	pmax		
	comp=Z,86nm,1.3s,mb5.4						
AAK	**Ala-Archa**	**45.35**	**69**	P	**P**	**22 06 44.5**	**+1.2**
	comp=Z,116nm,1.2s,mb5.6,SNR=9.3						
AAK	**Ala-Archa**	**45.35**	**69**	P	**P**	**22 06 45.0**	**+1.7**
	SNR=8.1						
AAK	**Ala-Archa**	**45.35**	**69**	*i* P	**P**	**22 06 43.8**	**+0.5**
	comp=Z,86nm,1.3s,mb5.4						
CHMS	**Chumysh**	**45.36**	**68**	P	**P**	**22 06 44.7**	**+1.3**
	SNR=5.2						
CHMS				P		22 06 44.7	
	SNR=5.2						
KBL	**Kabul**	**45.41**	**82**	*e*P	**P**	**22 06 44.7**	**+0.9**
	comp=Z,14nm,0.8s,mb4.8						
KBL	**Kabul**	**45.41**	**82**	*e*P	**P**	**22 06 44.7**	**+0.9**
KBL				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
KBL	**Kabul**	**45.41**	**82**	*e*P	**P**	**22 06 44.7**	**+0.9**
	comp=Z,14nm,0.8s,mb4.8						
KBK	**Karagaybulak**	**45.64**	**69**	P	**P**	**22 06 46.5**	**+0.9**
	SNR=6.5						
KBK				P		22 06 46.5	
	SNR=6.5						
KBK	**Karagaybulak**	**45.64**	**69**	P	**P**	**22 06 46.5**	**+0.9**
KBK	**Karagaybulak**	**45.64**	**69**	P	**P**	**22 06 46.5**	**+0.9**
KBK	**Karagaybulak**	**45.64**	**69**	P	**P**	**22 06 46.5**	**+0.9**
KZA	**Kyzart**	**46.09**	**69**	P	**P**	**22 06 51.4**	**+2.2**
	SNR=11						
KZA				P		22 06 51.4	
	SNR=11						
KZA	**Kyzart**	**46.09**	**69**	P	**P**	**22 06 51.4**	**+2.2**
KZA	**Kyzart**	**46.09**	**69**	P	**P**	**22 06 51.4**	**+2.2**
KZA	**Kyzart**	**46.09**	**69**	P	**P**	**22 06 51.4**	**+2.2**
NVS	**Novosibirsk**	**46.14**	**50**⇑	*i*P	**P**	**22 06 49.5**	**+0.2**
NVS				*e*		22 08 25.3	
NVS				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NVS	**Novosibirsk**	**46.14**	**50**	*i* P	**P**	**22 06 49.5**	**+0.2**
	comp=E,28nm,1.4s,mb5.0						
FRB	**Frobisher Bay**	**46.57**	**323**	P	**P**	**22 06 52.4**	**-0.3**
	comp=E,21nm,0.8s,mb5.1,baz=76,slow=8.2,SNR=35						
FRB				pP	pP	22 07 00.8	+0.9
	comp=E,16nm,0.7s,baz=83,slow=8.5,SNR=12						
FRB	**Frobisher Bay**	**46.57**	**323**	P	**P**	**22 06 52.4**	**-0.3**
FRB				pP	pP	22 07 00.8	+0.9
FRB	**Frobisher Bay**	**46.57**	**323**	P	**P**	**22 06 52.4**	**-0.2**
FRB				*PP	pP	22 07 00.8	+0.9
FRB				pmax	pmax		
	comp=Z,21nm,0.8s						
FRB	**Frobisher Bay**	**46.57**	**323**	P	**P**	**22 06 52.4**	**-0.2**
	comp=Z,21nm,0.8s,mb5.1						
FRB				pP	pP	22 07 00.8	+0.9
ZAA0	**Zalesovo Array**	**47.31**	**51**	*e*P	**P**	**22 06 57.4**	**-1.2**
ZAA0	**Zalesovo Array**	**47.31**	**51**	*e*P	**P**	**22 06 57.4**	**-1.1**
ZALV	**Zalesovo Beam**	**47.31**	**51**	P	**P**	**22 06 57.9**	**-0.6**
	comp=Z,6.4nm,0.9s,mb4.6,baz=292,slow=7.8,SNR=29						
ZALV				PP	PP	22 08 47.6	-1.8
	comp=Z,3.8nm,0.9s,baz=297,slow=9.8,SNR=4.6						
ZALV				LR	LR	22 28 42.4	
	comp=Z,344nm,18.9s,MS4.3,baz=83,slow=38						
ZALV	**Zalesovo Beam**	**47.31**	**51**	P	**P**	**22 06 57.9**	**-0.6**
ZALV				PP	PP	22 08 47.6	-1.8
ZALV	**Zalesovo Beam**	**47.31**	**51**	P	**P**	**22 06 57.9**	**-0.6**
ZALV						22 08 47.6	
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ZALV				MLR	MLR		
	comp=Z,344nm,19.0s,MS4.3						
ZALV	**Zalesovo Beam**	**47.31**	**51**	P	**P**	**22 06 57.9**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.5						
ZALV	**Zalesovo Beam**	**47.31**	**51**	PP	PP	22 08 47.6	-1.8
KSH	**Kashi**	**47.76**	**72**	P	**P**	**22 07 02.9**	**+0.7**
KSH				pP	pP	22 07 07.3	-2.2
KSH				sP	sP	22 07 09.1	-3.2
KSH				PcP	PcP	22 08 33.3	+2.3
KSH				PP	PP	22 08 53.5	-0.3
KSH				ScP	ScP	22 12 25.0	+1.3
KSH				S	**S**	**22 13 55.3**	**-1.9**
KSH				sS	sS	22 14 03.1	-6.0
KSH				ScS	ScS	22 16 53.8	-0.3
KSH				SS	SS	22 17 16.3	-9.0
KSH				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.4						
KSH				LR	LR		
	comp=N,220nm,6.2s						
KSH				LR	LR		
	comp=E,300nm,8.2s						
KSH				LR	LR		
	comp=Z,490nm,7.7s						
SCHQ	**Schefferville**	**48.56**	**311**	P	**P**	**22 07 07.6**	**-0.6**
	comp=Z,5.2nm,0.8s,mb4.6,baz=57,slow=6.0,SNR=5.6						
SCHQ				LR	LR	22 26 54.1	
	comp=Z,648nm,20.2s,MS4.6,baz=52,slow=35						
SCHQ	**Schefferville**	**48.56**	**311**	P	**P**	**22 07 07.6**	**-0.6**
SCHQ	**Schefferville**	**48.56**	**311**	P	**P**	**22 07 07.6**	**-0.6**
MK31	**Makanchi Array**	**48.61**	**60**	*e*P	**P**	**22 07 08.2**	**-0.4**
MK31				*e*PcP	PcP	22 08 34.0	0.0
MK31	**Makanchi Array**	**48.61**	**60**	*e*P	**P**	**22 07 08.2**	**-0.5**
MK31				*e*		22 08 34.0	
MK31	**Makanchi Array**	**48.61**	**60**	*e*P	**P**	**22 07 08.2**	**-0.5**
MKAR	**Makanchi Array**	**48.61**	**60**	P	**P**	**22 07 08.5**	**-0.2**
	comp=Z,14nm,0.8s,mb5.1,baz=289,slow=5.9,SNR=114						
MKAR				PcP	PcP	22 08 33.2	-0.7
	comp=Z,3.6nm,0.8s,baz=296,slow=3.9,SNR=3.6						
MKAR				LR	LR	22 28 59.6	
	comp=Z,487nm,19.2s,MS4.5,baz=298,slow=38						
MKAR	**Makanchi Array**	**48.61**	**60**	*e*P	**P**	**22 07 08.4**	**-0.2**
MKAR				PcP	PcP	22 08 33.2	-0.7
MKAR	**Makanchi Array**	**48.61**	**60**	P	**P**	**22 07 08.5**	**-0.2**
MKAR						22 08 33.3	
MKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,487nm,19.2s						
MKAR	**Makanchi Array**	**48.61**	**60**	*e*P	**P**	**22 07 08.4**	**-0.3**
MKAR	**Makanchi Array**	**48.61**	**60**	PcP	PcP	22 08 33.2	-0.8
RES	**Resolute Bay**	**51.37**	**341**	P	**P**	**22 07 29.6**	**+0.4**
	comp=Z,2.9nm,0.8s,mb4.3,baz=50,slow=16,SNR=8.4						
RES	**Resolute Bay**	**51.37**	**341**	P	**P**	**22 07 29.6**	**+0.4**
RES	**Resolute Bay**	**51.37**	**341**	P	**P**	**22 07 29.7**	**+0.4**
RES				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
RES	**Resolute Bay**	**51.37**	**341**	P	**P**	**22 07 29.6**	**+0.3**
WMQ	**Urumqi**	**53.36**	**62**	P	**P**	**22 07 45.3**	**+0.8**
WMQ				pP	pP	22 07 49.8	-2.0
WMQ				sP	sP	22 07 52.3	-2.3
WMQ				PP	PP	22 09 47.5	+2.9
WMQ				S	**S**	**22 15 14.8**	**0.0**
WMQ				sS	sS	22 15 22.3	-4.6
WMQ				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
WMQ				pmax	pmax		
	comp=Z,260nm,6.2s						
WMQ				LR	LR		
	comp=N,320nm,19.8s,MS4.5						
WMQ				LR	LR		
	comp=E,290nm,21.6s,MS4.5						
WMQ				LR	LR		
	comp=Z,320nm,19.8s,MS4.4						
MOY	**Mondy**	**57.11**	**48**	*e*P	**P**	**22 08 12.1**	**+0.8**
TLY	**Talaya**	**58.49**	**47**	*e*P	**P**	**22 08 21.7**	**+0.6**
TLY	**Talaya**	**58.49**	**47**	*e*P	**P**	**22 08 21.0**	**-0.1**
TLY				*e*	pP	22 08 29.1	+0.6
TLY				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
TLY				MLR	MLR		
	comp=Z,584nm,18.0s,MS4.7						
TLY	**Talaya**	**58.49**	**47**	*e*P	**P**	**22 08 21.7**	**+0.6**
ZAK	**Zakamensk**	**59.02**	**48**	*e*P	**P**	**22 08 25.3**	**+0.6**
DANN	**Dangsing**	**59.26**	**79**	*e*P	**P**	**22 08 26.4**	**-0.3**
	comp=Z,79nm,1.3s,mb5.6						
DANN	**Dangsing**	**59.26**	**79**	*e*P	**P**	**22 08 26.4**	**-0.3**
	comp=Z,79nm,1.3s,mb5.6						
DANN	**Dangsing**	**59.26**	**79**	*e*P	**P**	**22 08 26.4**	**-0.3**
	comp=Z,79nm,1.3s,mb5.6						
KOLN	**Koldanda**	**59.49**	**80**	*e*P	**P**	**22 08 27.8**	**-0.6**
	comp=Z,16nm,0.8s,mb5.1						
KOLN	**Koldanda**	**59.49**	**80**	*e*P	**P**	**22 08 27.8**	**-0.6**
	comp=Z,16nm,0.8s,mb5.1						
KOLN	**Koldanda**	**59.49**	**80**	*e*P	**P**	**22 08 27.8**	**-0.6**
	comp=Z,16nm,0.8s,mb5.1						
BOD	**Bodaibo**	**59.91**	**37**	*e*P	**P**	**22 08 29.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
GKN	**Gorkha**	**60.08**	**79**	*e*P	**P**	**22 08 31.7**	**-0.7**
	comp=Z,70nm,1.0s,mb5.7						
GKN	**Gorkha**	**60.08**	**79**	*e*P	**P**	**22 08 31.7**	**-0.7**
	comp=Z,70nm,1.0s,mb5.7						
GKN	**Gorkha**	**60.08**	**79**	*e*P	**P**	**22 08 31.7**	**-0.7**
	comp=Z,70nm,1.0s,mb5.7						
DMN	**Daman**	**60.65**	**79**	*e*P	**P**	**22 08 36.1**	**-0.2**
	comp=Z,72nm,1.1s,mb5.7						
DMN	**Daman**	**60.65**	**79**	*e*P	**P**	**22 08 36.1**	**-0.2**
	comp=Z,72nm,1.1s,mb5.7						
DMN	**Daman**	**60.65**	**79**	*e*P	**P**	**22 08 36.1**	**-0.2**
	comp=Z,72nm,1.1s,mb5.7						
KKN	**Kakani**	**60.66**	**79**	*e*P	**P**	**22 08 35.6**	**-0.8**
KKN	**Kakani**	**60.66**	**79**	*e*P	**P**	**22 08 35.6**	**-0.8**
KKN	**Kakani**	**60.66**	**79**	*e*P	**P**	**22 08 35.6**	**-0.8**
KKN	**Kakani**	**60.66**	**79**	*e*P	**P**	**22 08 35.6**	**-0.8**
PKI	**Pulchoki**	**60.89**	**79**	*e*P	**P**	**22 08 37.4**	**-0.5**
	comp=Z,61nm,1.2s,mb5.6						
PKI	**Pulchoki**	**60.89**	**79**	*e*P	**P**	**22 08 37.4**	**-0.5**
	comp=Z,61nm,1.2s,mb5.6						
PKI	**Pulchoki**	**60.89**	**79**	*e*P	**P**	**22 08 37.4**	**-0.5**
PKI				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.6						
PKI	**Pulchoki**	**60.89**	**79**	*e*P	**P**	**22 08 37.4**	**-0.5**
	comp=Z,61nm,1.2s,mb5.6						
GUN	**Gumba**	**61.01**	**78**	*e*P	**P**	**22 08 38.6**	**-0.2**
	comp=Z,86nm,1.0s,mb5.8						
GUN	**Gumba**	**61.01**	**78**	*e*P	**P**	**22 08 38.6**	**-0.2**
	comp=Z,86nm,1.0s,mb5.8						
GUN	**Gumba**	**61.01**	**78**	*e*P	**P**	**22 08 38.6**	**-0.2**
	comp=Z,86nm,1.0s,mb5.8						
JIRN	**Jiri**	**61.38**	**78**	*e*P	**P**	**22 08 41.2**	**-0.1**
	comp=Z,82nm,1.0s,mb5.8						
JIRN	**Jiri**	**61.38**	**78**	*e*P	**P**	**22 08 41.2**	**-0.1**
	comp=Z,82nm,1.0s,mb5.8						
JIRN	**Jiri**	**61.38**	**78**	*e*P	**P**	**22 08 41.2**	**-0.1**
	comp=Z,82nm,1.0s,mb5.8						
RAMN	**Ramite**	**62.10**	**79**	*e*P	**P**	**22 08 45.5**	**-0.7**
	comp=Z,55nm,1.0s,mb5.7						
RAMN	**Ramite**	**62.10**	**79**	*e*P	**P**	**22 08 45.5**	**-0.7**
	comp=Z,55nm,1.0s,mb5.6						
RAMN	**Ramite**	**62.10**	**79**	*e*P	**P**	**22 08 45.5**	**-0.7**
	comp=Z,55nm,1.0s,mb5.6						
SONM	**Songino Array**	**62.16**	**49**	P	**P**	**22 08 46.7**	**+0.5**
	comp=Z,7.2nm,0.8s,mb4.8,baz=284,slow=8.7,SNR=43						
SONM				LR	LR	22 38 58.1	
	comp=Z,450nm,20.4s,MS4.6,baz=302,slow=39						
SONM	**Songino Array**	**62.16**	**49**	P	**P**	**22 08 46.7**	**+0.5**
SONM	**Songino Array**	**62.16**	**49**	P	**P**	**22 08 46.7**	**+0.5**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,450nm,20.4s						
SONM	**Songino Array**	**62.16**	**49**	P	**P**	**22 08 46.7**	**+0.5**
ULN	**Ulaanbaatar**	**62.49**	**49**	*e*P	**P**	**22 08 49.3**	**+0.8**
	comp=Z,10nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**62.49**	**49**	*e*P	**P**	**22 08 49.3**	**+0.8**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**62.49**	**49**	*e*P	**P**	**22 08 49.3**	**+0.8**
	comp=Z,10nm,1.1s,mb4.9						
TAPN	**Taplejung**	**62.63**	**78**	*e*P	**P**	**22 08 49.4**	**-0.3**
	comp=Z,93nm,1.1s,mb5.8						
TAPN	**Taplejung**	**62.63**	**78**	*e*P	**P**	**22 08 49.4**	**-0.3**
	comp=Z,93nm,1.1s,mb5.8						
TAPN	**Taplejung**	**62.63**	**78**	*e*P	**P**	**22 08 49.4**	**-0.3**
	comp=Z,93nm,1.1s,mb5.8						
ODAN	**Odare**	**62.71**	**78**	*e*P	**P**	**22 08 49.7**	**-0.5**
	comp=Z,50nm,1.0s,mb5.6						
ODAN	**Odare**	**62.71**	**78**	*e*P	**P**	**22 08 49.7**	**-0.5**
	comp=Z,50nm,1.0s,mb5.6						
ODAN	**Odare**	**62.71**	**78**	*e*P	**P**	**22 08 49.7**	**-0.5**
	comp=Z,50nm,1.0s,mb5.6						
YAK	**Yakutsk**	**63.10**	**27**	*e*P	**P**	**22 08 52.1**	**-0.1**
	comp=Z,69nm,0.9s,mb5.8						
YAK	**Yakutsk**	**63.10**	**27***c*	*i*P	**P**	**22 08 51.6**	**-0.6**
YAK				*e**PP	pP	22 08 59.4	-0.3
YAK				*e*		22 09 29.1	
YAK				*e*		22 11 13.1	
YAK				*e*S	**S**	**22 17 20.4**	**-0.9**
YAK				*e*		22 18 41.3	
YAK				*e*SSS		22 24 08.3	
YAK				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.7						
YAK				pmax	pmax		
	comp=N,22nm,1.1s						
YAK				pmax	pmax		
	comp=E,24nm,1.1s						
YAK				pmax	pmax		
	comp=E,25nm,2.2s						
YAK				pmax	pmax		
	comp=Z,185nm,4.7s						
YAK				pmax	pmax		
	comp=N,86nm,5.1s						
YAK				smax			
	comp=E,146nm,4.9s						
YAK				smax			
	comp=N,30nm,2.3s						
YAK				MLR	MLR		
	comp=Z,896nm,16.0s,MS5.0						
YAK				MLR	MLR		
	comp=N,500nm,15.0s,MS5.0						
YAK				MLR	MLR		
	comp=E,529nm,17.0s,MS5.0						
YAK	**Yakutsk**	**63.10**	**27**	*e*P	**P**	**22 08 52.1**	**-0.1**
	comp=E,69nm,0.9s,mb5.8						
GTA	**Gaotai**	**63.36**	**60**	*e*P	**P**	**22 08 54.8**	**+0.5**
GTA				pP	pP	22 08 59.1	-2.7
GTA				sP	sP	22 09 01.8	-2.8
GTA				PcP	PcP	22 09 32.3	+1.1
GTA				S	**S**	**22 17 25.6**	**+0.3**
GTA				SS	SS	22 21 33.6	+2.1
GTA				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.1						
GTA				pmax	pmax		
	comp=Z,330nm,8.1s						
GTA				LR	LR		
	comp=N,270nm,17.1s,MS4.7						
GTA				LR	LR		
	comp=E,290nm,15.7s,MS4.7						
GTA				LR	LR		
	comp=Z,350nm,17.6s,MS4.6						
LSA	**Lhasa**	**63.56**	**74**	P	**P**	**22 08 56.5**	**+0.6**
LSA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
LSA	**Lhasa**	**63.56**	**74**	*e*P	**P**	**22 08 56.6**	**+0.7**
	comp=Z,11nm,0.8s,mb4.9						
LSA	**Lhasa**	**63.56**	**74**	*e*P	**P**	**22 08 56.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
LSA	**Lhasa**	**63.56**	**74**	*e*P	**P**	**22 08 56.6**	**+0.7**
	comp=Z,11nm,0.8s,mb4.9						
YKA	**Yellowknife Ar**	**64.58**	**335**	P	**P**	**22 09 02.0**	**0.0**
	comp=Z,27nm,0.8s,mb5.3,baz=43,slow=6.4,SNR=294						
YKA	**Yellowknife Ar**	**64.58**	**335**	P	**P**	**22 09 02.0**	**0.0**
YKA	**Yellowknife Ar**	**64.58**	**335**	P	**P**	**22 09 02.0**	**0.0**
YKA				pmax	pmax		
	comp=Z,27nm,0.8s						
YKA	**Yellowknife Ar**	**64.58**	**335**	P	**P**	**22 09 02.0**	**0.0**
RCBR	**Riachuelo**	**65.15**	**232**	P	**P**	**22 09 06.2**	**-0.2**
	comp=Z,18nm,1.1s,mb5.0,baz=332,slow=2.7,SNR=3.6						
RCBR	**Riachuelo**	**65.15**	**232**	P	**P**	**22 09 06.2**	**-0.2**
RCBR	**Riachuelo**	**65.15**	**232**	P	**P**	**22 09 06.2**	**-0.1**
FFC	**Flin Flon**	**65.67**	**324**	*e*P	**P**	**22 09 09.1**	**-0.1**
FFC	**Flin Flon**	**65.67**	**324**	*i* P	**P**	**22 09 09.7**	**+0.5**
FFC	**Flin Fl

HHC LR LR
comp=E,430nm,17.8s,MS4.9
HHC LR LR
comp=Z,590nm,19.0s,MS4.8
ILAR Eielson Array 69.53 350 P **P 22 09 33.2 -0.2**
comp=Z,1.1nm,0.9s,baz=21,slow=5.3,SNR=4.4
ILAR Eielson Array 69.53 350 P **P 22 09 33.2 -0.2**
ILAR Eielson Array 69.53 350 P **P 22 09 33.2 -0.2**
ILAR Eielson Array 69.53 350 P **P 22 09 33.2 -0.2**
COLA College 69.55 350 *eP* **P 22 09 33.3 -0.2**
comp=Z,6.5nm,0.4s,mb4.9
COLA College 69.55 350 *eP* **P 22 09 33.3 -0.2**
COLA pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
COLA College 69.55 350 *eP* **P 22 09 33.3 -0.2**
comp=Z,6.5nm,0.4s,mb4.9
ECSD EROS Data Cent 70.72 313 *eP* **P 22 09 40.0 -1.0**
comp=Z,8.8nm,1.0s,mb4.6
ECSD EROS Data Cent 70.72 313 *eP* **P 22 09 40.0 -1.0**
comp=Z,8.8nm,1.0s,mb4.6
MCK McKinley 70.79 350 *eP* **P 22 09 40.9 -0.2**
MCK McKinley 70.79 350 *eP* **P 22 09 40.9 -0.2**
MCK McKinley 70.79 350 *eP* **P 22 09 40.9 -0.2**
DGMT Dagmar 71.09 320 ⇓P **P 22 09 43.6 +0.4**
baz=71
CD2 Chengdu 71.21 65 *eP* **P 22 09 44.8 +0.5**
CD2 pP pP 22 09 49.6 -2.2
CD2 sP sP 22 09 52.3 -2.3
CD2 PP PP 22 12 24.4 +2.5
CD2 S S 22 18 59.0 -1.0
CD2 sS sS 22 19 07.6 -4.8
CD2 SS SS 22 23 34.0 +0.6
CD2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
CD2 pmax pmax
comp=Z,330nm,6.0s
CD2 LR LR
comp=E,340nm,14.4s
CD2 LR LR
comp=Z,340nm,12.0s,MS4.8
TRF Thorofare Moun 71.22 351 *eP* **P 22 09 44.1 +0.4**
TRF Thorofare Moun 71.22 351 *eP* **P 22 09 44.1 +0.4**
A22A Carney Farms, 71.48 322 ⇑P **P 22 09 46.9 +1.3**
baz=71
A21A Bergtoll Ranch 71.93 322 ⇑P **P 22 09 48.5 +0.3**
baz=72
PPLA Purkeypile 71.96 352 *eP* **P 22 09 48.4 +0.3**
PPLA Purkeypile 71.96 352 *eP* **P 22 09 48.4 +0.2**
B22A Reddig Ranch S 72.03 321 ⇓P **P 22 09 49.3 +0.4**
baz=72
C23A Lambert 72.03 320 ⇓P **P 22 09 49.7 +0.8**
baz=72
C22A Vida 72.39 321 ⇑P **P 22 09 51.9 +0.9**
baz=72
XAN Xi'an 72.41 59 P **P 22 09 51.5 +0.1**
XAN sP sP 22 10 03.1 +1.4
XAN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
XAN pmax pmax
comp=Z,41nm,9.3s
A20A Cobblestone Ra 72.45 322 ⇓P **P 22 09 52.1 +0.8**
baz=72
D23A Lindsay 72.50 320 ⇑P **P 22 09 52.7 +1.0**
baz=72
E24A Baker 72.54 319 ⇑P **P 22 09 52.5 +0.6**
baz=72
BJI Beijing 72.57 51 P **P 22 09 52.9 +0.7**
BJI S S 22 19 14.3 -1.0
BJI pmax pmax
comp=Z,20nm,1.2s,mb4.9
BJI pmax pmax
comp=Z,180nm,5.2s
BJI LR LR
comp=N,570nm,16.4s,MS5.0
BJI LR LR
comp=E,440nm,14.8s,MS5.0
BJI LR LR
comp=Z,320nm,16.4s,MS4.7
SML Sawmill 72.57 350 *eP* **P 22 09 52.6 +0.8**
SML Sawmill 72.57 350 *eP* **P 22 09 52.6 +0.7**
SML Sawmill 72.57 350 *eP* **P 22 09 52.6 +0.7**
B20A Solberg Farm, 72.82 322 ⇓P **P 22 09 53.8 +0.3**
baz=72
BMRM Bremner River 72.85 348 *eP* **P 22 09 54.0 +0.5**
comp=Z,17nm,0.8s,mb5.0
BMRM Bremner River 72.85 348 *eP* **P 22 09 54.0 +0.5**
comp=Z,17nm,0.8s,mb5.0
D22A Cohagen 72.97 320 ⇓P **P 22 09 55.3 +0.9**
baz=73
E23A Ismay 73.05 319 ⇑P **P 22 09 55.3 +0.3**
baz=73
F24A Ekalaka 73.13 318 ⇓P **P 22 09 56.2 +0.8**
baz=73
B19A Brinkman Farms 73.21 323 ⇓P **P 22 09 56.4 +0.5**
baz=73
A18A Metzger Ranch, 73.25 323 ⇓P **P 22 09 56.2 +0.1**
baz=73
LAO LASA Array 73.33 320 ⇓P **P 22 09 57.3 +0.7**
baz=73,SNR=5.2
C20A Veseth Ranch, 73.36 322 ⇑P **P 22 09 57.2 +0.4**
baz=73
D21A La Casta Ranch 73.40 321 ⇑P **P 22 09 56.8 -0.2**
baz=73
KLR Kul'dur 73.44 36 *eP* **P 22 09 53.2 -4.0**
KLR pmax pmax
comp=Z,68nm,1.6s,mb5.3
B18A Beardsley Farm 73.62 323 ⇑P **P 22 09 58.8 +0.5**
baz=73
F23A Volborg 73.67 319 ⇑P **P 22 09 58.5 -0.2**
baz=73
C19A Slack Wire Ran 73.81 322 ⇓P **P 22 09 59.0 -0.5**
baz=74
D20A Manuel Ranch, 73.89 321 ⇓P **P 22 10 00.7 +0.8**
baz=74,SNR=7.2
EGMT Eagleton 73.89 323 ⇓P **P 22 09 60.0 +0.1**
baz=74
EGMT Eagleton 73.89 323 *eP* **P 22 10 00.5 +0.6**
comp=Z,246nm,2.8s,mb5.6
EGMT Eagleton 73.89 323 *eP* **P 22 10 00.5 +0.6**
comp=Z,246nm,2.8s,mb5.6
KSU1 Kansas State U 73.94 309 *eP* **P 22 09 59.1 -1.3**
KSU1 Kansas State U 73.94 309 *eP* **P 22 09 59.1 -1.3**
A16A West Butte Ran 73.96 324 ⇓P **P 22 10 00.2 0.0**
baz=74
H24A Dirks Ranch, A 73.99 318 ⇑P **P 22 10 01.5 +1.0**
baz=74
F22A Rosebud 74.03 319 ⇑P **P 22 10 00.8 +0.1**
baz=74
G23A Biddle 74.05 319 ⇑P **P 22 10 01.3 +0.4**
baz=74
BOSA Boshof 74.10 166 P **P 22 09 59.2 -1.9**
comp=Z,18nm,0.9s,mb5.0,baz=348,slow=5.9,SNR=17
BOSA Boshof 74.10 166 P **P 22 09 59.2 -1.9**
BOSA Boshof 74.10 166 P **P 22 09 59.3 -1.9**
BOSA pmax pmax
comp=Z,18nm,0.9s,mb5.0
BOSA Boshof 74.10 166 P **P 22 09 59.2 -2.0**
B17A L&G Farms, Che 74.13 324 ⇑P **P 22 10 01.1 -0.2**
baz=74,SNR=12
D19A Cripps Ranch, 74.17 322 ⇑P **P 22 10 01.7 +0.2**
baz=74
RSSD Black Hills 74.20 317 *eP* **P 22 10 01.8 0.0**
RSSD Black Hills 74.20 317 *eP* **P 22 10 01.8 0.0**
RSSD Black Hills 74.20 317 *eP* **P 22 10 01.8 0.0**
KMI Kunming 74.37 70 P **P 22 10 02.8 -0.3**
KMI pP pP 22 10 08.5 -2.2
KMI sP sP 22 10 10.8 -2.6
KMI PP PP 22 12 51.3 +2.3
KMI S S 22 19 37.3 +1.1
KMI SS SS 22 24 23.8 +1.9
KMI pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
KMI pmax pmax
comp=Z,210nm,3.5s
KMI LR LR
comp=N,170nm,31.2s,MS4.3
KMI LR LR
comp=E,190nm,30.1s,MS4.3
KMI LR LR
comp=Z,190nm,22.4s
A15A Johnson Ranch, 74.41 325 ⇑P **P 22 10 01.7 -1.2**
baz=74,SNR=7.4
B16A M & M Farms, S 74.42 324 ⇑P **P 22 10 02.6 -0.4**
baz=74
D18A Linhart Farms, 74.55 322 ⇓P **P 22 10 03.9 +0.1**
baz=74

C17A Wharram Farm, 74.63 323 ⇓P **P 22 10 04.5 +0.3**
baz=74,SNR=6.6
E19A Rath Farm, Rou 74.66 321 ⇑P **P 22 10 04.7 +0.3**
baz=74
A14A Double T Ranch 74.69 325 ⇑P **P 22 10 04.6 +0.1**
baz=74,SNR=33
CN2 Changchun 74.70 43 *eP* **P 22 10 05.3 +0.6**
CN2 *eS*P sP 22 10 12.3 -2.7
CN2 *eS* S 22 19 38.0 -1.3
CN2 pmax pmax
comp=Z,40nm,1.0s,mb5.3
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,14.0s,MS5.0
CN2 LR LR
comp=E,400nm,14.0s,MS5.0
CN2 LR LR
comp=Z,300nm,16.0s,MS4.7
B15A Bradely Ranch, 74.86 325 ⇑P **P 22 10 05.2 -0.3**
baz=74
C16A Fuhringer Ranc 74.92 324 ⇓P **P 22 10 05.4 -0.5**
baz=75,SNR=6.3
H22A Clearmont 74.96 319 ⇑P **P 22 10 06.1 0.0**
baz=75
D17A Six Diamond Ra 74.97 323 ⇓P **P 22 10 06.3 +0.1**
baz=75,SNR=5.8
E18A Harlowton 75.08 322 ⇑P **P 22 10 07.2 +0.4**
baz=75
B14A Marquette Ranc 75.11 325 ⇑P **P 22 10 06.8 -0.2**
baz=75
A13A Flathead Natio 75.12 326 ⇓P **P 22 10 06.9 -0.1**
baz=75
F19A Roth Farm, Mol 75.20 321 ⇑P **P 22 10 07.7 +0.2**
baz=75
C15A Salmond Ranch, 75.30 324 ⇓P **P 22 10 07.4 -0.6**
baz=75
ENH Enshi 75.30 62 *eP* **P 22 10 06.8 -1.7**
comp=Z,10nm,0.8s,mb4.8
ENH Enshi 75.30 62 *eP* **P 22 10 06.8 -1.6**
comp=Z,10nm,0.8s,mb4.8
G20A Bridger 75.35 320 ⇓P **P 22 10 08.5 +0.1**
baz=75
MIAR Mount Ida 75.39 304 *eP* **P 22 10 07.8 -1.0**
MIAR Mount Ida 75.39 304 *eP* **P 22 10 07.9 -0.9**
MIAR Mount Ida 75.39 304 *eP* **P 22 10 07.8 -1.0**
D16A Dana Ranch, Ca 75.43 323 ⇓P **P 22 10 08.7 -0.1**
baz=75
F18A Big Timber 75.50 321 ⇑P **P 22 10 08.8 -0.4**
baz=75
I22A 9 Mile Ranch, 75.55 318 ⇑P **P 22 10 09.2 -0.4**
baz=75
E17A Martinsdale 75.58 322 ⇑P **P 22 10 10.1 +0.5**
baz=75
A12A Yaak River Ran 75.61 327 ⇓P **P 22 10 09.8 -0.1**
baz=75
HRY Holter Researc 75.80 323 *eP* **P 22 10 12.8 +1.9**
HRY Holter Researc 75.80 323 *eP* **P 22 10 12.8 +1.8**
D15A Lincoln 75.84 324 ⇓P **P 22 10 10.6 -0.6**
baz=76
E16A East Helena 75.88 323 ⇓P **P 22 10 10.8 -0.6**
baz=76
G18A Lazy EL Ranch, 75.89 321 ⇑P **P 22 10 11.2 -0.3**
baz=76
RLMT Red Lodge 75.91 321 ⇓P **P 22 10 12.5 +0.9**
baz=76
J22A Midwest 75.91 318 ⇓P **P 22 10 11.0 -0.6**
baz=76
F17A Fitzpatrick Pl 75.92 322 ⇓P **P 22 10 12.4 +0.7**
baz=76
K23A Bowen Ranch, D 75.99 317 ⇑P **P 22 10 11.8 -0.3**
baz=76
I21A Big Trails, Te 75.99 319 ⇓P **P 22 10 11.9 -0.2**
baz=76
CHTO Chiang Mai 76.00 77 *eP* **P 22 10 11.8 -0.7**
CHTO Chiang Mai 76.00 77 *eP* **P 22 10 11.8 -0.7**
CHTO Chiang Mai 76.00 77 *eP* **P 22 10 11.8 -0.7**
MDJ Mudanjiang 76.05 40 P **P 22 10 12.3 -0.1**
MDJ pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
MDJ pmax pmax
comp=Z,190nm,10.4s
MDJ Mudanjiang 76.05 40 *eP* **P 22 10 12.9 +0.5**
comp=Z,9.0nm,0.9s,mb4.7
MDJ Mudanjiang 76.05 40 *eP* **P 22 10 12.9 +0.5**
comp=Z,9.0nm,0.9s,mb4.7
GYA Guiyang 76.08 67 P **P 22 10 14.3 +1.4**
GYA PP PP 22 13 05.6 +2.2
GYA S S 22 19 55.3 +0.2
GYA SKS 22 20 19.8
GYA SS SS 22 24 49.8 +2.0
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,540nm,19.6s,MS5.0
GYA LR LR
comp=E,490nm,20.0s,MS5.0
GYA LR LR
comp=Z,510nm,19.4s,MS4.8
SWMT Swartz Lake 76.08 325 *eP* **P 22 10 13.2 +0.6**
SWMT Swartz Lake 76.08 325 *eP* **P 22 10 13.2 +0.6**
H19A Powell 76.12 320 ⇑P **P 22 10 12.6 -0.2**
baz=76
BSMT Bassoo Peak 76.13 325 *eP* **P 22 10 14.4 +1.6**
BSMT Bassoo Peak 76.13 325 *eP* **P 22 10 14.4 +1.6**
C13A Hot Springs 76.18 325 ⇓P **P 22 10 13.3 +0.1**
baz=76
N26A Koester Ranch, 76.22 314 ⇓P **P 22 10 13.7 +0.3**
baz=76
CMAR Chiang Mai Arr 76.24 78 P **P 22 10 13.2 -0.8**
comp=Z,3.9nm,0.8s,mb4.4,baz=305,slow=7.0,SNR=30
CMAR LR LR 22 47 38.9
comp=Z,91nm,18.4s,MS4.1,baz=65,slow=39
CMAR Chiang Mai Arr 76.24 78 P **P 22 10 13.2 -0.8**
CMAR Chiang Mai Arr 76.24 78 P **P 22 10 13.2 -0.7**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR MLR MLR
comp=Z,91nm,18.4s
CMAR Chiang Mai Arr 76.24 78 P **P 22 10 13.1 -0.8**
I20A Worland 76.28 319 ⇓P **P 22 10 13.4 -0.3**
baz=76
E15A Deer Lodge 76.37 323 ⇑P **P 22 10 14.4 +0.2**
baz=76,SNR=5.5
J21A Lysite 76.42 318 ⇓P **P 22 10 14.8 +0.2**
baz=76
H18A Shoshone NF, C 76.43 321 ⇑P **P 22 10 14.7 +0.1**
baz=76
K22A Casper 76.50 317 ⇓P **P 22 10 14.9 -0.2**
baz=76
L23A Garrett 76.51 317 ⇓P **P 22 10 14.3 -0.8**
baz=76
BOZ Bozeman (W) 76.55 322 ⇑P **P 22 10 15.7 +0.5**
baz=76
BOZ Bozeman (W) 76.55 322 *eP* **P 22 10 15.3 +0.1**
comp=Z,3.3nm,0.8s,mb4.3
BOZ Bozeman (W) 76.55 322 *eP* **P 22 10 15.3 +0.1**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BOZ Bozeman (W) 76.55 322 *eP* **P 22 10 15.3 +0.1**
comp=Z,3.3nm,0.8s,mb4.3
MSO Missoula 76.60 324 ⇓P **P 22 10 15.3 -0.3**
baz=76
MSO Missoula 76.60 324 *eP* **P 22 10 15.8 +0.3**
MSO Missoula 76.60 324 *eP* **P 22 10 15.8 +0.3**
D13A Huson 76.60 325 ⇑P **P 22 10 15.0 -0.5**
baz=76,SNR=9.4
I19A Meeteetse 76.61 320 ⇑P **P 22 10 16.5 +0.8**
baz=76
J20A Shoshoni 76.71 319 ⇑P **P 22 10 16.1 -0.2**
baz=76
K21A Alcova 76.87 318 ⇓P **P 22 10 16.7 -0.4**
baz=77
KDAK Kodiak Island 77.01 351 P **P 22 10 20.5 +2.9**
KDAK Kodiak Island 77.01 351 *i*P **P 22 10 20.5 +2.9**
F14A Wisdom 77.17 323 ⇑P **P 22 10 18.5 -0.2**
baz=77
DLMT Dillon 77.19 323 *eP* **P 22 10 19.9 +1.0**
DLMT Dillon 77.19 323 *eP* **P 22 10 19.9 +1.0**
J19A Crowheart 77.23 319 ⇑P **P 22 10 18.9 -0.3**
baz=77
G15A Dillon 77.30 323 ⇓P **P 22 10 19.0 -0.5**
baz=77
K20A Yellowstone Ra 77.37 318 ⇓P **P 22 10 19.2 -0.7**
baz=77

USRK Ussuriysk Arra 77.46 39 P **P 22 10 20.4 0.0**
comp=Z,13nm,0.9s,mb4.8,baz=289,slow=4.8,SNR=20
USRK pP pP 22 10 28.3 +0.3
comp=Z,9.7nm,0.8s,baz=301,slow=4.0,SNR=9.9
USRK LR LR 22 50 34.4
comp=Z,167nm,18.3s,MS4.4,baz=47,slow=40
SDV Santo Domingo 77.47 270 *eP* **P 22 10 21.1 +0.3**
SDV Santo Domingo 77.47 270 *eP* **P 22 10 21.1 +0.2**
K19A Absolon Red Bu 77.48 319 ⇑P **P 22 10 19.9 -0.7**
baz=77
M22A Cedar Creek Ra 77.48 317 ⇑P **P 22 10 19.2 -1.4**
baz=77
F13A Darby 77.59 324 ⇑P **P 22 10 20.2 -0.9**
baz=77,SNR=6.2
E12A Beaver Dam Sad 77.61 325 ⇑P **P 22 10 20.5 -0.7**
baz=77
MOOW Moose Ponds 77.64 321 *eP* **P 22 10 22.3 +0.9**
MOOW Moose Ponds 77.64 321 *eP* **P 22 10 22.3 +0.9**
M21A Separation Pea 77.70 317 ⇑P **P 22 10 21.2 -0.6**
baz=77
Q26A Hugo 77.79 313 ⇑P **P 22 10 21.6 -0.7**
baz=78
BW06 Boulder Array 77.86 319 ⇓P **P 22 10 21.8 -0.8**
baz=78
PDAR Pinedale Array 77.86 319 P **P 22 10 21.1 -1.5**
comp=Z,1.1nm,0.8s,mb3.9,baz=67,slow=4.8,SNR=10.0
PDAR pP pP 22 10 30.7 +0.5
comp=Z,2.2nm,0.9s,baz=55,slow=4.5,SNR=10
PDAR PP PP 22 13 20.0 +2.2
comp=Z,1.3nm,0.9s,baz=71,slow=6.9,SNR=4.6
PDAR Pinedale Array 77.86 319 P **P 22 10 21.1 -1.5**
PDAR pP pP 22 10 30.7 +0.5
PDAR PP PP 22 13 20.0 +2.2
PDAR Pinedale Array 77.86 319 P **P 22 10 21.1 -1.5**
PDAR pP pP 22 10 30.7 +0.5
N22A Wattenberg Ran 77.87 316 ⇑P **P 22 10 22.2 -0.5**
baz=78
OD2 Odessa Site #2 78.06 327 *eP* **P 22 10 24.8 +1.1**
OD2 Odessa Site #2 78.06 327 *eP* **P 22 10 24.8 +1.1**
M20A Sweetwater, Wa 78.19 318 ⇑P **P 22 10 24.0 -0.5**
baz=78
ISCO Idaho Springs 78.20 315 ⇓P **P 22 10 24.8 +0.1**
baz=78
R26A Arlington 78.21 313 ⇓P **P 22 10 24.4 -0.3**
baz=78
WMOK Wichita Mounta 78.27 307 *eP* **P 22 10 24.6 -0.5**
WMOK Wichita Mounta 78.27 307 *eP* **P 22 10 24.6 -0.5**
WMOK Wichita Mounta 78.27 307 *eP* **P 22 10 24.5 -0.6**
L19A Farson 78.28 319 ⇓P **P 22 10 24.6 -0.4**
baz=78
N21A Black Mountain 78.42 317 ⇑P **P 22 10 25.7 -0.1**
baz=78
ETW Entiat 78.50 328 *eP* **P 22 10 26.5 +0.4**
ETW Entiat 78.50 328 *eP* **P 22 10 26.5 +0.4**
H13A Challis 78.54 323 ⇓P **P 22 10 26.5 +0.1**
baz=78
E09A Wood Farm, Sta 78.56 327 ⇑P **P 22 10 26.3 -0.1**
baz=78,SNR=6.9
JCW Jim Creek 78.59 330 *eP* **P 22 10 26.6 0.0**
JCW Jim Creek 78.59 330 *eP* **P 22 10 26.6 0.0**
Q24A Divide 78.60 314 ⇓P **P 22 10 27.1 +0.3**
baz=78
F10A Beach Ranch, E 78.64 326 ⇑P **P 22 10 26.3 -0.6**
baz=78,SNR=6.9
P23A Jefferson 78.64 315 ⇑P **P 22 10 28.8 +1.7**
baz=78
I14A Mackay 78.70 322 ⇓P **P 22 10 28.4 +1.1**
baz=78,SNR=7.5
PETK Petropavlovsk- 78.70 19 P **P 22 10 26.3 -0.8**
comp=Z,6.1nm,0.8s,mb4.6,baz=92,slow=4.5,SNR=6.0
PETK Petropavlovsk- 78.70 19 P **P 22 10 26.3 -0.8**
PETK Petropavlovsk- 78.70 19 P **P 22 10 26.3 -0.8**
PETK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
PETK Petropavlovsk- 78.70 19 P **P 22 10 26.3 -0.8**
N20A Spence Gulch, 78.73 317 ⇓P **P 22 10 28.2 +0.7**
baz=78
L18A Fontenelle, Gr 78.73 319 ⇑P **P 22 10 28.0 +0.5**
baz=78
H12A Diamond D Ranc 78.81 323 ⇓P **P 22 10 27.9 0.0**
baz=78,SNR=7.0
I13A Wildhorse Cree 79.00 323 ⇑P **P 22 10 29.0 0.0**
baz=79,SNR=13
N19A John Jarvie Ra 79.12 318 ⇓P **P 22 10 29.0 -0.6**
baz=79
HAWA Hanford 79.20 327 *eP* **P 22 10 31.1 +1.1**
HAWA Hanford 79.20 327 *eP* **P 22 10 31.1 +1.1**
S25A Robets Cordova 79.21 313 ⇓P **P 22 10 30.2 +0.1**
baz=79
J14A Carey 79.21 322 ⇑P **P 22 10 30.3 +0.2**
baz=79
RSW Rattlesnake Hi 79.22 327 *eP* **P 22 10 31.5 +1.4**
RSW Rattlesnake Hi 79.22 327 *eP* **P 22 10 31.5 +1.4**
N18A Larsen Ranch, 79.30 318 ⇓P **P 22 10 30.6 0.0**
baz=79
L16A Fish Haven 79.31 320 ⇑P **P 22 10 30.7 +0.1**
baz=79
HLID Hailey 79.41 323 ⇓P **P 22 10 31.5 +0.3**
baz=79
HLID Hailey 79.41 323 *eP* **P 22 10 32.4 +1.2**
HLID Hailey 79.41 323 *eP* **P 22 10 32.4 +1.2**
J13A Cove Ranch, Pi 79.44 322 ⇓P **P 22 10 32.4 +1.1**
baz=79,SNR=6.0
GNW Green Mountain 79.44 330 *eP* **P 22 10 33.7 +2.4**
R23A Moffat 79.53 314 ⇑P **P 22 10 32.7 +0.8**
baz=79
I12A Atlanta 79.54 323 ⇑P **P 22 10 31.9 +0.1**
baz=79
O19A Miners Draw (B 79.56 317 ⇓P **P 22 10 32.9 +0.9**
baz=79
Q22A Crested Butte, 79.57 315 ⇓P **P 22 10 33.1 +1.0**
baz=79
BMO Blue Mountains 79.58 325 *eP* **P 22 10 31.5 -0.6**
comp=Z,20nm,0.8s,mb5.1
BMO *e*PcP PcP 22 10 41.0 +1.0
BMO Blue Mountains 79.58 325 *eP* **P 22 10 31.5 -0.6**
comp=Z,20nm,0.8s,mb5.1
BMO Blue Mountains 79.58 325 *e*PcP PcP 22 10 41.0 +1.0
YSS Yuzh-Sakhalins 79.62 31 *eP* **P 22 10 32.4 +0.1**
YSS Yuzh-Sakhalins 79.62 31 ⇑*eP* **P 22 10 32.0 -0.2**
YSS *e* 22 10 43.0
YSS Yuzh-Sakhalins 79.62 31 *eP* **P 22 10 32.4 +0.2**
SDCO Great Sand Dun 79.70 314 ⇑P **P 22 10 33.7 +0.8**
baz=79
NJ2 Nanjing 79.76 55 *eP* **P 22 10 33.8 +0.5**
NJ2 pP pP 22 10 36.4 -4.5
NJ2 sP sP 22 10 37.8 -5.8
NJ2 PP PP 22 13 33.5 -0.5
NJ2 S S 22 20 36.0 +1.4
NJ2 sS sS 22 20 43.0 -4.2
NJ2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
NJ2 pmax pmax
comp=Z,290nm,5.2s
NJ2 LR LR
comp=N,2μm,25.5s
NJ2 LR LR
comp=E,1μm,19.6s
NJ2 LR LR
comp=Z,390nm,18.0s
LON Longmire 79.76 329 *eP* **P 22 10 33.8 +0.7**
LON Longmire 79.76 329 *eP* **P 22 10 33.8 +0.8**
LON Longmire 79.76 329 *eP* **P 22 10 33.8 +0.8**
N17A Moffit Pass 79.87 319 ⇓P **P 22 10 34.0 +0.3**
baz=80
M16A Huntsville 79.95 320 ⇓P **P 22 10 34.1 0.0**
baz=80
NLWA Neilton Lookou 79.96 330 *eP* **P 22 10 35.7 +1.6**
NLWA Neilton Lookou 79.96 330 *eP* **P 22 10 35.7 +1.6**
T24A Torres, Weston 79.97 313 ⇑P **P 22 10 34.3 -0.1**
baz=80
P19A Cripple Cowboy 80.00 317 ⇓P **P 22 10 34.2 -0.3**
baz=80
MFID Camas Ranch 80.14 323 ⇑P **P 22 10 35.1 0.0**
baz=80
U25A Circle Dot Ran 80.14 312 ⇑P **P 22 10 35.4 +0.2**
baz=80
S22A 4UR Ranch, Cre 80.38 314 ⇓P **P 22 10 37.4 +0.9**
baz=80
O17A Robinson Place 80.41 318 ⇓P **P 22 10 37.5 +0.8**
baz=80
W27A Bowe Ranch, En 80.42 310 ⇓P **P 22 10 36.4 -0.4**
baz=80
E03A Lebam 80.57 330 ⇓P **P 22 10 37.7 +0.3**
baz=80
G06A Carlson Farm, 80.59 327 ⇑P **P 22 10 38.1 +0.5**

baz=80,SNR=8.4
KSAR Wonju Array Be 80.71 46 P P 22 10 37.9 -0.5
KSAR pP pP 22 10 46.4 +0.4
KSAR Wonju Array Be 80.71 46 P P 22 10 37.9 -0.4
KSAR *PP pP 22 10 46.4 +0.5
KSAR Wonju Array Be 80.71 46 P P 22 10 37.8 -0.5
KSAR pP pP 22 10 46.3 +0.4
KSRS Korea Array 80.72 46 P P 22 10 37.9 -0.5
comp=Z,5.3nm,0.8s,mb4.5,baz=328,slow=4.6,SNR=14
KSRS pP pP 22 10 46.4 +0.4
comp=Z,4.9nm,0.8s,baz=328,slow=4.9,SNR=7.9
KSRS LR LR 22 50 50.8
comp=Z,476nm,18.4s,MS4.9,baz=158,slow=39
KSRS Korea Array 80.72 46 P P 22 10 37.9 -0.5
KSRS *PP pP 22 10 46.4 +0.4
KSRS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KSRS MLR MLR
comp=Z,476nm,18.4s,MS4.9
T22A Edith 80.98 314 ⇓P P 22 10 39.9 +0.2
baz=81
I07A Izee 81.11 326 ⇑P P 22 10 40.1 -0.2
baz=81
TJN Taejon 81.25 47 P P 22 10 40.5 -0.7
TJN Taejon 81.25 47 P P 22 10 40.5 -0.7
Y27A Causey 81.35 310 ⇓P P 22 10 41.9 +0.1
baz=81
DUG Dugway 81.39 320 ⇑P P 22 10 42.5 +0.6
baz=81
DUG Dugway 81.39 320 *eP* **P 22 10 44.6 +2.8**
DUG Dugway 81.39 320 *eP* **P 22 10 44.7 +2.8**
R18A Canyonlands Na 81.42 317 ⇑P P 22 10 41.6 -0.5
baz=81
U22A Llaves 81.44 314 ⇑P P 22 10 42.6 +0.4
baz=81
S19A Harvey Farm, M 81.55 316 ⇑P P 22 10 43.1 +0.4
baz=81
W24A Lazy 6 Ranch, 81.57 312 ⇑P P 22 10 43.1 +0.2
baz=81
U21A Nageezi 81.82 314 ⇓P P 22 10 44.1 -0.1
baz=82
JCT Junction City 81.96 305 ⇓P P 22 10 45.4 +0.3
baz=82
W23A Werner Place, 82.00 312 ⇑P P 22 10 45.1 -0.1
baz=82
S18A Hurst Farm, Bl 82.01 316 ⇓P P 22 10 45.5 +0.3
baz=82
T19A Beclabito 82.20 315 ⇑P P 22 10 45.9 -0.4
baz=82
ANMO Albuquerque 82.33 312 P P 22 10 47.7 +0.8
comp=Z,0.6nm,0.3s,mb4.0,baz=28,slow=5.9,SNR=4.9
ANMO Albuquerque 82.33 312 P P 22 10 47.7 +0.8
ANMO Albuquerque 82.33 312 P P 22 10 47.7 +0.8
ANMO Albuquerque 82.33 312 P P 22 10 47.7 +0.8
T18A Mexican Hat 82.39 316 ⇑P P 22 10 47.4 +0.2
baz=82
Y24A Capitan 82.56 311 ⇑P P 22 10 48.0 -0.2
baz=82
V20A Brimhall 82.72 314 ⇓P P 22 10 48.8 -0.1
baz=82
K05A Summer Lake 82.80 326 ⇑P P 22 10 49.5 +0.3
baz=82,SNR=5.7
ROSC El Rosal 82.89 270 LR LR 22 45 39.7
comp=Z,154nm,19.2s,MS4.4,baz=192,slow=34
328A Wristen Ranch, 83.03 308 ⇓P P 22 10 50.5 -0.1
baz=83
MOD Modoc 83.25 325 *eP* **P 22 10 51.9 +0.3**
comp=Z,12nm,1.1s,mb4.8
MOD Modoc 83.25 325 *eP* **P 22 10 51.9 +0.3**
comp=Z,12nm,1.1s,mb4.8
X21A Alamocita Cree 83.41 313 ⇑P P 22 10 53.2 +0.6
baz=83
R13A O'Grain Ranch, 83.54 319 ⇓P P 22 10 53.6 +0.5
baz=83
326A Caldwell Ranch 83.73 308 ⇓P P 22 10 54.2 0.0
baz=84
W18A Petrified Fore 83.89 315 ⇑P P 22 10 55.2 +0.2
baz=84
V17A Tonalea, Kykot 84.03 316 ⇑P P 22 10 55.6 -0.2
baz=84
U15A North Rim 84.14 317 ⇑P P 22 10 55.7 -0.5
baz=84
R11A Troy Canyon, C 84.15 320 ⇓P P 22 10 56.4 +0.2
baz=84
426A McDonald Obser 84.25 308 ⇑P P 22 10 57.6 +0.7
baz=84
324A Moseley Ranch, 84.47 309 ⇓P P 22 10 57.7 -0.3
baz=84
628A Black Gap, Mar 84.49 306 ⇑P P 22 10 58.4 +0.2
baz=84
425A Indio Mountain 84.70 309 ⇓P P 22 10 58.6 -0.6
baz=84
526A Mary Lane Ranc 84.74 308 ⇑P P 22 10 59.5 +0.1
baz=84
SAML Samuel 84.78 252 *eP* **P 22 10 58.2 -1.5**
comp=Z,9.2nm,1.3s,mb4.8
SAML Samuel 84.78 252 *eP* **P 22 10 58.2 -1.5**
comp=Z,9.2nm,1.3s,mb4.8
627A Terlingua Ranc 84.80 307 ⇑P P 22 11 00.4 +0.7
baz=85
Z20A Nine Sixteen R 84.86 313 ⇓P P 22 11 00.1 +0.2
baz=85
TXAR Lajitas Array 85.05 307 P P 22 11 00.8 -0.2
comp=Z,5.7nm,0.9s,mb4.7,baz=76,slow=4.2,SNR=25
TXAR LR LR 22 47 30.6
comp=Z,270nm,19.6s,MS4.6,baz=10.0,slow=35
TXAR Lajitas Array 85.05 307 P P 22 11 00.8 -0.2
TXAR Lajitas Array 85.05 307 P P 22 11 00.8 -0.2
TXAR pmax pmax
comp=Z,6.0nm,1.0s
TXAR MLR MLR
comp=Z,270nm,19.6s
TXAR Lajitas Array 85.05 307 P P 22 11 00.8 -0.2
626A Big Bend Ranch 85.15 307 ⇑P P 22 11 01.9 +0.5
baz=85
WCN Washoe City 85.20 324 ⇑P P 22 11 02.1 +0.5
baz=85
NVAR Mina Array Bea 85.30 322 P P 22 11 02.5 +0.4
comp=Z,1.2nm,0.9s,mb4.0,baz=54,slow=5.2,SNR=7.1
NVAR pP pP 22 11 11.0 +1.3
comp=Z,1.6nm,0.9s,baz=70,slow=4.8,SNR=5.8
NVAR LR LR 22 45 32.3
comp=Z,258nm,21.3s,MS4.6,baz=175,slow=33
NVAR Mina Array Bea 85.30 322 P P 22 11 02.5 +0.4
NVAR pP pP 22 11 11.0 +1.3
NVAR Mina Array Bea 85.30 322 P P 22 11 02.5 +0.5
NVAR pP pP 22 11 11.0 +1.3
X16A Lo Mia Camp, P 85.31 315 ⇓P P 22 11 02.6 +0.4
baz=85
MAJO Matsushiro 86.42 40 P P 22 11 06.4 -1.3
MAJO Matsushiro 86.42 40 P P 22 11 06.4 -1.3
MAJO Matsushiro 86.42 40 P P 22 11 06.4 -1.3
MAT Matsushiro 86.42 40 P P 22 11 06.4 -1.3
MJAR Matsushiro Arr 86.43 40 P P 22 11 06.5 -1.1
comp=Z,7.4nm,0.9s,mb4.9,baz=303,slow=5.5,SNR=15
MJAR pP pP 22 11 15.4 +0.1
comp=Z,4.3nm,0.8s,baz=308,slow=4.6,SNR=7.4
MJAR LR LR 22 54 40.8
comp=Z,302nm,19.6s,MS4.7,baz=310,slow=39
MJAR Matsushiro Arr 86.43 40 P P 22 11 06.5 -1.1
MJAR pP pP 22 11 15.4 +0.1
MJAR Matsushiro Arr 86.43 40 P P 22 11 06.6 -1.1
MJAR *PP pP 22 11 15.4 +0.1
MJAR pmax pmax
comp=Z,7.0nm,0.9s
MJAR MLR MLR
comp=Z,302nm,19.6s
MJAR Matsushiro Arr 86.43 40 P P 22 11 06.6 -1.1
MJAR pP pP 22 11 15.4 +0.1
CWC Cottonwood Cre 86.84 321 ⇑P P 22 11 09.7 -0.1
baz=86
SIV San Ignacio 88.49 246 P P 22 11 16.4 -1.3
comp=Z,2.8nm,0.7s,mb4.6,baz=84,slow=6.0,SNR=13
SIV pP pP 22 11 25.3 -0.1
comp=Z,3.7nm,0.8s,baz=73,slow=7.5,SNR=7.8
SIV San Ignacio 88.49 246 P P 22 11 16.4 -1.3
SIV pP pP 22 11 25.3 -0.1
SIV San Ignacio 88.49 246 P P 22 11 16.4 -1.3
SIV pP pP 22 11 25.3 -0.1
WRA Warramunga Arr 127.75 81 PKP PKPdf 22 17 28.8 -1.9
comp=Z,2.0nm,1.1s,baz=306,slow=2.6,SNR=6.9
WRA pPKP pPKPdf 22 17 38.0 -0.6
comp=Z,0.5nm,0.7s,baz=25,slow=1.2,SNR=2.7
WRA Warramunga Arr 127.75 81 PKP PKPdf 22 17 28.8 -1.9
WRA pPKP pPKPdf 22 17 38.0 -0.6
WRA Warramunga Arr 127.75 81 PKIKP PKPdf 22 17 28.8 -1.9
WRA 22 17 38.0
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 127.75 81 PKIKP PKPdf 22 17 28.8 -1.9
ASAR Alice Springs 129.83 85 PKP PKPdf 22 17 32.8 -1.8
comp=Z,1.3nm,0.7s,baz=332,slow=1.6,SNR=12
ASAR PP PP 22 19 41.2 -5.1
comp=Z,1.5nm,1.1s,baz=303,slow=6.9,SNR=4.6
ASAR SKPbc 22 20 54.1
comp=Z,0.8nm,0.7s,baz=319,slow=4.2,SNR=6.1
ASAR Alice Springs 129.83 85 PKP PKPdf 22 17 32.8 -1.8
ASAR PP PP 22 19 41.2 -5.1
ASAR SKPbc 22 20 54.1
ASAR Alice Springs 129.83 85 PKIKP PKPdf 22 17 32.8 -1.8
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 129.83 85 PKIKP PKPdf 22 17 32.8 -1.8
QSPA South Pole Qui 134.45 180 SKPbc SKPbc 22 21 06.6 -3.1
comp=Z,0.7nm,0.3s,baz=259,slow=5.2,SNR=5.3
QSPA South Pole Qui 134.45 180 SKPbc SKPbc 22 21 06.6 -3.1
VNDA Vanda 145.03 170 *e*PKPbc PKPbc 22 17 59.1 -1.3
VNDA Vanda 145.03 170 *e*PKPbc PKPbc 22 17 59.1 -1.3
SBA Scott Base 145.33 171 *e*PKPbc PKPbc 22 18 01.0 -0.3
SBA Scott Base 145.33 171 *e*PKPbc PKPbc 22 18 01.0 -0.3
CAN Canberra 147.22 88 *e*PKP PKPdf 22 18 06.9 +1.0
CAN Canberra 147.22 88 *e*PKIKP PKPdf 22 18 06.9 +1.0
AFI Afiamalu 149.36 4 PKPbc PKPbc 22 18 15.0 +0.7
comp=Z,18nm,0.2s,baz=221,slow=18,SNR=3.7
AFI Afiamalu 149.36 4 PKPbc PKPbc 22 18 15.0 +0.7
AFI Afiamalu 149.36 4 PKPbc PKPbc 22 18 15.0 +0.7
DZM Mont Dzumac 150.10 49 PKPbc PKPbc 22 18 16.7 +0.8
comp=Z,22nm,0.9s,baz=47,slow=10.0,SNR=8.1
DZM Mont Dzumac 150.10 49 PKPbc PKPbc 22 18 16.7 +0.8
DZM Mont Dzumac 150.10 49 PKPbc PKPbc 22 18 16.7 +0.7
MSVF Nonsavu 151.27 25 PKPdf PKPdf 22 18 13.8 +1.0
MSVF Nonsavu 151.27 25 PKIKP PKPdf 22 18 13.8 +0.9
MSVF Nonsavu 151.27 25 PKIKP PKPdf 22 18 13.8 +0.9

ISCJB ***23*** *22:04:20.7±0.7, 10°.72N±0°.05×62°.42W±0°.04, h84km±8km,*
Error ellipse: s-maj=9.1km s-min=5.9km az=170.7
FUNV ***23*** *22:04:22.3, 10°.75N×62°.37W, h72km, MW3.0*
TRN ***23*** *22:04:23.4, 11°.08N×62°.23W, h19km, MD2.9*
ISC 23 22:04:21.8±0.7, 10°.72N±0°.06×62°.42W±0°.04, h77km±8km,
n15,σ0°.99/24, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.21**	**110**	⇑*i*P	**Pn**	**22 04 33.2**	**-0.1**
GUIV				*e*S	**Sn**	**22 04 41.0**	**-0.7**
GUNV	**Guanoco**	**0.75**	**223**	⇑*i*P	**Pn**	**22 04 38.5**	**+0.7**
GUNV				*e*S	**Sn**	**22 04 50.4**	**+0.7**
ITEV	**Isla Los Testi**	**0.94**	**312**	*e*P	**Pn**	**22 04 39.4**	**-0.5**
TRN	**Trinidad (W)**	**1.01**	**94**	*e*P	**Pn**	**22 04 41.4**	**+0.7**
TRN				*e*S	**Sn**	**22 04 54.2**	**-0.7**
TBH	**Brigand Hill**	**1.35**	**100**	*e*P	**Pn**	**22 04 46.2**	**+1.1**
TBH				*e*S	**Sn**	**22 05 04.0**	**+1.4**
ORIV	**Oritupano**	**1.90**	**211**	*e*P	**Pn**	**22 04 53.5**	**+1.2**
ORIV				*e*S	**Sn**	**22 05 15.9**	**+0.3**
TOSP	**Speyside**	**1.94**	**73**	*e*P	**Pn**	**22 04 52.6**	**-0.3**
TOSP				*e*S	**Sn**	**22 05 13.1**	**-3.4**
PCRV	**Puerto La Cruz**	**2.24**	**256**	*e*P	**Pn**	**22 04 57.5**	**+0.6**
IBAV	**Isla La Blanqu**	**2.38**	**298**	⇑*i*P	**Pn**	**22 04 58.6**	**-0.1**
RIOV	**Rio Grande**	**2.70**	**167**	*e*P	**Pn**	**22 05 03.6**	**+0.5**
RIOV				*e*S	**Sn**	**22 05 32.7**	**-2.1**
GURV	**El Guri**	**3.01**	**193**	*e*P	**Pn**	**22 05 07.7**	**+0.4**
CUPV	**Cœpira**	**3.37**	**259**	*e*P	**Pn**	**22 05 13.2**	**+1.0**
CUPV				*e*S	**Sn**	**22 05 49.8**	**-1.4**
MERV	**Las Mercedes**	**4.08**	**249**	*e*P	**Pn**	**22 05 22.1**	**+0.3**
MERV				*e*S	**Sn**	**22 06 05.3**	**-3.2**
LUEV	**Luepa**	**4.94**	**169**	*e*P	**Pn**	**22 05 32.1**	**-1.4**
BAUV	**El Baul**	**5.81**	**253**	*e*P	**Pn**	**22 05 45.3**	**-0.2**

STR ***23*** *22:14:02.9±0.5, 44°.64N×10°.32E, h5km, MI3.3, Error*
ellipse: s-maj=0.0km s-min=0.0km az=0.0
GEN ***23*** *22:14:02.9, 44°.53N×10°.35E, h26km, ML2.8*
ISCJB ***23*** *22:14:03.1±0.2, 44°.58N±0°.02×10°.33E±0°.02, h30km±2km,*
Error ellipse: s-maj=3.0km s-min=2.1km az=159.0
CSEM ***23*** *22:14:03.3±0.1, 44°.56N×10°.38E, h20km, ML3.2/17, Error*
ellipse: s-maj=2.4km s-min=2.0km az=170.0
ROM ***23*** *22:14:03.5±0.1, 44°.56N×10°.31E, h24km±2km, MI3.0/26,*
Error ellipse: s-maj=2.6km s-min=2.0km az=62.0
LDG ***23*** *22:14:04.4±0.2, 44°.63N×10°.57E, h30km, MI3.1/35, Error*
ellipse: s-maj=5.1km s-min=3.1km az=159.0
NEIC ***23*** *22:14:04.4, 44°.63N×10°.57E, h30km, ML3.1(LDG),*
ML3.0(VIE), After LDG.
PRU ***23*** *22:14:04.1, 44°.72N×10°.64E, h0km*
ISC 23 22:14:03.9±0.2, 44°.56N±0°.02×10°.36E±0°.02, h25km±2km,
n275,σ1°.12/403, 9C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERBM	**Eremo**	**0.15**	**164**	Pg	**Pb**	**22 14 08.2**	**-0.7**
ERBM				Sg	**Sb**	**22 14 13.0**	**+0.7**
	10μm,1.3s						
ERBM	**Eremo**	**0.15**	**164**	Pg	**Pb**	**22 14 08.2**	**-0.7**
PRMA	**PARMA**	**0.20**	**351**	Pg	**Pb**	**22 14 08.7**	**-0.8**
PRMA				Sg	**Sb**	**22 14 14.1**	**+0.8**
	3μm,0.2s						
PRMA	**PARMA**	**0.20**	**351**	Pg	**Pb**	**22 14 08.7**	**-0.8**
GRAM	**Graiana**	**0.22**	**251**	P	**Pb**	**22 14 08.8**	**-0.9**
GRAM				S	**Sb**	**22 14 12.9**	**-0.8**
VALM	**Valbona**	**0.23**	**200**	P	**Pb**	**22 14 08.7**	**-1.1**
VALM				S	**Sb**	**22 14 12.7**	**-1.1**
GSCL	**Gusciola**	**0.27**	**142**	Pg	**Pb**	**22 14 09.9**	**-0.5**
GSCL	**Gusciola**	**0.27**	**142**	Pg	**Pb**	**22 14 09.9**	**-0.5**
NOVE	**Novellara**	**0.35**	**48**	Pg	**Pb**	**22 14 10.7**	**-0.9**
NOVE				Sg	**Sb**	**22 14 18.4**	**+1.6**
	2μm,0.3s						
NOVE	**Novellara**	**0.35**	**48**	Pg	**Pb**	**22 14 10.7**	**-0.9**
CODM	**Codolo**	**0.40**	**245**	P	**Pb**	**22 14 11.1**	**-1.3**
CODM				S	**Sb**	**22 14 16.9**	**-1.3**
ZCCA	**Zocca**	**0.49**	**115**	Pg	**Pb**	**22 14 14.6**	**+0.7**
	363nm,0.5s						
ZCCA	**Zocca**	**0.49**	**115**	Pg	**Pb**	**22 14 14.6**	**+0.7**
	363nm,0.5s						
BDI	**Bagni Di Lucca**	**0.53**	**161**	Pg	**Pb**	**22 14 14.2**	**-0.4**
BDI				Sg	**Sb**	**22 14 22.2**	**+0.4**
	787nm,0.4s						
BDI	**Bagni Di Lucca**	**0.53**	**161**	Pg	**Pb**	**22 14 14.2**	**-0.4**
BDI				Sg	**Sb**	**22 14 22.2**	**+0.4**
	787nm,0.4s						
RAVA	**Ravarino**	**0.58**	**70**	Pg	**Pb**	**22 14 16.1**	**+0.7**
	2μm,1.1s						
RAVA	**Ravarino**	**0.58**	**70**	Pg	**Pb**	**22 14 16.1**	**+0.7**
	2μm,1.1s						
SC2M	**Scurtabo**	**0.61**	**255**	Pg	**Pb**	**22 14 14.9**	**-1.0**
	1μm,0.4s						
SC2M	**Scurtabo**	**0.61**	**255**	P	**Pb**	**22 14 14.5**	**-1.4**
SC2M	**Scurtabo**	**0.61**	**255**	Pg	**Pb**	**22 14 14.9**	**-1.0**
	1μm,0.4s						
SC2M				S	**Sb**	**22 14 22.6**	**-1.4**
SBPO	**S.Benedetto Po**	**0.63**	**39**	Pg	**Pb**	**22 14 17.0**	**+0.7**
	748nm,0.3s						
SBPO	**S.Benedetto Po**	**0.63**	**39**	Pg	**Pb**	**22 14 17.0**	**+0.7**
	748nm,0.3s						
MAIM	**Mastiano**	**0.66**	**171**	Pg	**Pb**	**22 14 16.3**	**-0.4**
	302nm,0.6s						
MAIM	**Mastiano**	**0.66**	**171**	P	**Pb**	**22 14 15.3**	**-1.4**
MAIM	**Mastiano**	**0.66**	**171**	Pg	**Pb**	**22 14 16.3**	**-0.4**
	302nm,0.6s						
MAIM				S	**Sb**	**22 14 23.6**	**-1.8**
BOB	**Bobbio (Coli)**	**0.68**	**288**	Pg	**Pb**	**22 14 16.8**	**-0.3**
	361nm,0.5s						
BOB	**Bobbio (Coli)**	**0.68**	**288**	Pg	**Pb**	**22 14 16.8**	**-0.3**
	361nm,0.5s						
FIU	**Minerbio Fiu**	**0.81**	**84**	Pg	**Pb**	**22 14 20.5**	**+1.1**
	1μm,0.5s						
FIU	**Minerbio Fiu**	**0.81**	**84**	Pg	**Pb**	**22 14 20.5**	**+1.1**
	1μm,0.5s						
SEI	**Scarperia**	**0.88**	**125**	Pg	**Pb**	**22 14 19.8**	**-0.7**
	293nm,0.4s						
SEI	**Scarperia**	**0.88**	**125**	Pg	**Pb**	**22 14 19.8**	**-0.7**
	293nm,0.4s						
CRMI	**Carmignano**	**0.89**	**150**	Pg	**Pb**	**22 14 20.7**	**0.0**
	117nm,0.4s						
CRMI	**Carmignano**	**0.89**	**150**	Pg	**Pb**	**22 14 20.7**	**0.0**
	117nm,0.4s						
CMPO	**Campotto Po**	**1.04**	**89**	Pg	**Pn**	**22 14 24.4**	**+1.6**
	398nm,1.1s						
CMPO	**Campotto Po**	**1.04**	**89**	Pg	**Pn**	**22 14 24.4**	**+1.6**
	398nm,1.1s						
SALO	**Salr**	**1.06**	**6**	Pg	**Pn**	**22 14 23.6**	**+0.4**
	1μm,0.6s						
SALO	**Salr**	**1.06**	**6**	Pg	**Pn**	**22 14 23.6**	**+0.4**
	1μm,0.6s						
GROG	**Isola di Gorgo**	**1.19**	**197**	Pg	**Pn**	**22 14 24.5**	**-0.4**
GROG	**Isola di Gorgo**	**1.19**	**197**	Pg	**Pn**	**22 14 24.5**	**-0.4**
ROVR	**Rover¨¤ Verone**	**1.20**	**25**	Pg	**Pn**	**22 14 24.8**	**-0.2**
	1μm,0.3s						
ROVR	**Rover¨¤ Verone**	**1.20**	**25**	Pg	**Pn**	**22 14 24.8**	**-0.2**
	1μm,0.3s						
CSNT	**Castellina Chi**	**1.28**	**148**	Pg	**Pn**	**22 14 26.9**	**+0.7**
	67nm,0.6s						
CSNT	**Castellina Chi**	**1.28**	**148**	Pg	**Pn**	**22 14 26.9**	**+0.7**
	67nm,0.6s						
PCP	**Piancastagn**	**1.29**	**270**	Pg	**Pn**	**22 14 27.6**	**+1.2**
	149nm,0.5s						
PCP	**Piancastagn**	**1.29**	**270**	Pg	**Pn**	**22 14 27.6**	**+1.2**
	149nm,0.5s						
MDI	**Monti di Nese**	**1.30**	**340**	Pg	**Pn**	**22 14 26.9**	**+0.5**
	478nm,0.4s						
MDI	**Monti di Nese**	**1.30**	**340**	Pg	**Pn**	**22 14 26.9**	**+0.5**
	478nm,0.4s						
MABI	**Malga Bissina**	**1.50**	**4**	Pg	**Pn**	**22 14 29.5**	**+0.4**
	209nm,0.3s						
PARC	**Parchiule**	**1.64**	**123**	Pg	**Pn**	**22 14 33.4**	**+2.3**
	33nm,0.7s						
PARC	**Parchiule**	**1.64**	**123**	Pg	**Pn**	**22 14 33.4**	**+2.3**
	33nm,0.7s						
CGRP	**Cima Grappa**	**1.67**	**37**	Pg	**Pn**	**22 14 31.7**	**+0.2**
	210nm,0.3s						
RORO	**Rocca Rossa**	**1.70**	**255**	Pg	**Pn**	**22 14 32.1**	**+0.1**
	46nm,0.3s						
CTI	**Castel Tesino**	**1.74**	**31**	Pg	**Pn**	**22 14 32.4**	**-0.1**
BERNI	**Berninapass**	**1.86**	**353**	Pg	**Pn**	**22 14 35.3**	**+1.1**
BRMO	**Bormio**	**1.91**	**0**	Pg	**Pn**	**22 14 36.4**	**+1.5**
	34nm,0.6s						
APPI	**Appiano**	**2.01**	**17**	Pg	**Pn**	**22 14 36.9**	**+0.7**
TUE	**Stuetta**	**2.04**	**340**	*e*Pn	**Pn**	**22 14 37.2**	**+0.6**
TUE				*e*Sn	**Sn**	**22 15 00.9**	**-0.3**
TUE	**Stuetta**	**2.04**	**340**	Pg	**Pn**	**22 14 37.9**	**+1.3**
	71nm,0.4s						
TUE	**Stuetta**	**2.04**	**340**	*e*Pn	**Pn**	**22 14 37.2**	**+0.6**
TUE				*e*Sn	**Sn**	**22 15 00.9**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**2.06**	**358**	Pg	**Pn**	**22 14 38.5**	**+1.6**
AGOR	**Agordo**	**2.09**	**34**	Pg	**Pn**	**22 14 37.6**	**+0.3**
	93nm,0.2s						
SAOF	**Saorge**	**2.09**	**255**	P	**Pn**	**22 14 38.3**	**+0.9**
SAOF				S	**Sn**	**22 15 06.7**	**+4.1**
SAOF	**Saorge**	**2.09**	**255**	P	**Pn**	**22 14 38.3**	**+0.9**
SAOF				S	**Sn**	**22 15 06.7**	**+4.1**
AUTN	**L'Aution**	**2.18**	**256**	P	**Pn**	**22 14 40.0**	**+1.5**
AUTN				S	**Sn**	**22 15 08.9**	**+4.2**
AUTN	**L'Aution**	**2.18**	**256**	P	**Pn**	**22 14 40.0**	**+1.5**
AUTN				S	**Sn**	**22 15 08.9**	**+4.2**
STV	**Sant Anna di V**	**2.19**	**263**	Pg	**Pn**	**22 14 39.7**	**+0.9**
	87nm,0.6s						
SBF	**Sospel**	**2.21**	**253**	*e*Pn	**Pn**	**22 14 39.3**	**+0.3**
SBF				*e*Sn	**Sn**	**22 15 06.9**	**+1.3**
	74nm,0.3s						
SBF	**Sospel**	**2.21**	**253**	*e*Pn	**Pn**	**22 14 39.3**	**+0.3**
SBF				*e*Sn	**Sn**	**22 15 06.9**	**+1.3**
SBF	**Sospel**	**2.21**	**253**	*e*Pn	**Pn**	**22 14 39.3**	**+0.3**
SBF				*e*Sn	**Sn**	**22 15 06.9**	**+1.3**
	37nm,0.3s						
PGF	**Pioggiola**	**2.24**	**207**	*e*Pn	**Pn**	**22 14 38.8**	**-0.6**
PGF				*e*Sn	**Sn**	**22 15 06.0**	**-0.3**
	26nm,0.3s						
PGF	**Pioggiola**	**2.24**	**207**	*e*Pn	**Pn**	**22 14 38.8**	**-0.6**
PGF				*e*Sn	**Sn**	**22 15 06.0**	**-0.3**
PGF	**Pioggiola**	**2.24**	**207**	*e*Pn	**Pn**	**22 14 38.8**	**-0.6**
PGF				*e*Sn	**Sn**	**22 15 06.0**	**-0.3**
	13nm,0.3s						
RSP	**Reno Superiore**	**2.27**	**286**	Pg	**Pn**	**22 14 39.0**	**-0.8**
TOUF	**Mont Tournerai**	**2.30**	**257**	P	**Pn**	**22 14 41.8**	**+1.6**
TOUF				S	**Sn**	**22 15 12.1**	**+4.4**
TOUF	**Mont Tournerai**	**2.30**	**257**	P	**Pn**	**22 14 41.8**	**+1.6**
TOUF				S	**Sn**	**22 15 12.1**	**+4.4**
REVF	**Revere**	**2.30**	**250**	P	**Pn**	**22 14 40.8**	**+0.6**
REVF	**Revere**	**2.30**	**250**	P	**Pn**	**22 14 40.8**	**+0.6**
MVIF	**Mont Vial**	**2.40**	**255**	P	**Pn**	**22 14 42.8**	**+1.3**
MVIF				S	**Sn**	**22 15 13.9**	**+3.8**
MVIF	**Mont Vial**	**2.40**	**255**	P	**Pn**	**22 14 42.8**	**+1.3**
MVIF				S	**Sn**	**22 15 13.9**	**+3.8**
FETA	**Feichten**	**2.47**	**6**	Pn	**Pn**	**22 14 44.6**	**+2.0**
	SNR=9.8						
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**22 14 44.2**	**+0.4**
MBDF				*e*Sn	**Sn**	**22 15 13.7**	**-0.5**
	52nm,0.5s						
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**22 14 44.2**	**+0.4**
MBDF				*e*Sn	**Sn**	**22 15 13.7**	**-0.5**
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**22 14 44.2**	**+0.4**
MBDF				*e*Sn	**Sn**	**22 15 13.7**	**-0.5**
	26nm,0.5s						
CALN	**Calern**	**2.62**	**253**	P	**Pn**	**22 14 45.9**	**+1.3**
CALN				S	**Sn**	**22 15 20.7**	**+5.0**
CALN	**Calern**	**2.62**	**253**	P	**Pn**	**22 14 45.9**	**+1.3**
CALN				S	**Sn**	**22 15 20.7**	**+5.0**
ABTA	**Abfaltersbach**	**2.66**	**34**	Pn	**Pn**	**22 14 46.0**	**+0.9**
	SNR=12						
BNI	**Bardonecchia**	**2.66**	**282**	*e*Pn	**Pn**	**22 14 46.6**	**+1.4**
BNI				*e*Sn	**Sn**	**22 15 19.2**	**+2.6**
BNI	**Bardonecchia**	**2.66**	**282**	*e*Pn	**Pn**	**22 14 46.6**	**+1.4**
BNI				*e*Sn	**Sn**	**22 15 19.2**	**+2.6**
VINO	**Villanova**	**2.67**	**50**	Pg	**Pn**	**22 14 44.5**	**-0.7**
TRI	**Trieste**	**2.67**	**63**	*e*Pn	**Pn**	**22 14 44.2**	**-1.1**
TRI				*e*Sn	**Sn**	**22 15 13.1**	**-3.8**
TRI	**Trieste**	**2.67**	**63**	*e*Pn	**Pn**	**22 14 44.2**	**-1.1**
TRI				*e*Sn	**Sn**	**22 15 13.1**	**-3.7**
LPG	**La Plagne**	**2.72**	**291**	*e*Pn	**Pn**	**22 14 46.1**	**+0.1**
LPG				*e*Sn	**Sn**	**22 15 17.1**	**-1.0**
	19nm,0.4s						
LPG	**La Plagne**	**2.72**	**291**	*e*Pn	**Pn**	**22 14 46.1**	**+0.1**
LPG				*e*Sn	**Sn**	**22 15 17.1**	**-1.0**
LPG	**La Plagne**	**2.72**	**291**	*e*Pn	**Pn**	**22 14 46.1**	**+0.1**
LPG				*e*Sn	**Sn**	**22 15 17.1**	**-1.0**
	9.6nm,0.4s						
LPL	**La Plagne**	**2.74**	**292**	*e*Pn	**Pn**	**22 14 47.0**	**+0.8**
LPL				*e*Sn	**Sn**	**22 15 17.6**	**-0.9**
	27nm,0.6s						
LPL	**La Plagne**	**2.74**	**292**	*e*Pn	**Pn**	**22 14 47.0**	**+0.8**
LPL				*e*Sn	**Sn**	**22 15 17.6**	**-0.9**
LPL	**La Plagne**	**2.74**	**292**	*e*Pn	**Pn**	**22 14 47.0**	**+0.8**
LPL				*e*Sn	**Sn**	**22 15 17.6**	**-0.9**
	14nm,0.6s						
SKDS	**Skadanscina**	**2.77**	**68**	*i* Pn	**Pn**	**22 14 45.8**	**-0.9**
SKDS				*e*Sn	**Sn**	**22 15 17.2**	**-2.2**
SKDS							
	comp=Z,26nm,0.2s						
SKDS	**Skadanscina**	**2.77**	**68**	Pn	**Pn**	**22 14 45.8**	**-0.9**

CADS	Cadrg	2.91	54	P	Pn	22 14 48.1	-0.4
CADS				eSn	Sn	22 15 22.0	-0.6
RETA	Reutte	2.94	5	ePn	Pn	22 14 50.8	+1.9
SNR=17							
RETA	Reutte	2.94	5	ePn	Pn	22 14 50.9	+1.9
RETA	Reutte	2.94	5	ePn	Pn	22 14 50.8	+1.8
JAVS	Javornik	2.94	62	P	Pn	22 14 48.4	-0.6
JAVS	Javornik	2.94	62	P	Pn	22 14 48.4	-0.6
LMR	La Mourre	3.04	247	ePn	Pn	22 14 50.1	-0.2
LMR				eSn	Sn	22 15 25.9	0.0
comp=Z,60nm,0.4s							
LMR	La Mourre	3.04	247	ePn	Pn	22 14 50.1	-0.2
LMR				eSn	Sn	22 15 25.9	0.0
LMR	La Mourre	3.04	247	ePn	Pn	22 14 50.1	-0.2
LMR				eSn	Sn	22 15 25.9	0.0
comp=Z,30nm,0.4s							
GORS	Gorjuse	3.10	54	P	Pn	22 14 50.9	-0.4
GORS	Gorjuse	3.10	54	P	Pn	22 14 50.9	-0.4
UBR	Ueberruh	3.12	357	P	Pn	22 14 53.3	+1.8
UBR	Ueberruh	3.12	357	P	Pn	22 14 53.3	+1.8
ORIF	Oris-en-Rattie	3.21	278	ePn	Pn	22 14 54.8	+2.1
ORIF				eSn	Sn	22 15 28.6	-1.5
comp=Z,16nm,0.4s							
ORIF	Oris-en-Rattie	3.21	278	ePn	Pn	22 14 54.8	+2.1
ORIF				eSn	Sn	22 15 28.6	-1.5
ORIF	Oris-en-Rattie	3.21	278	ePn	Pn	22 14 54.8	+2.1
ORIF				eSn	Sn	22 15 28.6	-1.5
comp=Z,8.2nm,0.4s							
NVLJ	Novalja	3.23	88	i Pn	Pn	22 14 52.8	-0.2
NVLJ				Sn	Sn	22 15 28.9	-1.7
NVLJ	Novalja	3.23	88	i Pn	Pn	22 14 52.8	-0.2
NVLJ				Sn	Sn	22 15 28.8	-1.8
SISB	Singen-Schiene	3.27	343	P	Pn	22 14 54.2	+0.7
SISB	Singen-Schiene	3.27	343	P	Pn	22 14 54.2	+0.7
VISS	Visnje	3.40	67	i Pn	Pn	22 14 55.3	0.0
VISS	Visnje	3.40	67	P	Pn	22 14 55.3	-0.1
VISS	Visnje	3.40	67	P	Pn	22 14 55.3	-0.1
SMRF	Simiane la Rot	3.48	262	ePn	Pn	22 14 58.3	+1.8
SMRF				eSn	Sn	22 15 36.4	-0.5
comp=Z,19nm,0.6s							
SMRF	Simiane la Rot	3.48	262	ePn	Pn	22 14 58.3	+1.8
SMRF				eSn	Sn	22 15 36.4	-0.5
SMRF	Simiane la Rot	3.48	262	ePn	Pn	22 14 58.3	+1.8
SMRF				eSn	Sn	22 15 36.4	-0.5
comp=Z,9.4nm,0.6s							
BBS	Basel-Blauen	3.51	327	P	Pn	22 14 56.4	-0.5
BOJS	Bojanci	3.60	73	ePn	Pn	22 14 58.5	+0.4
BOJS	Bojanci	3.60	73	ePn	Pn	22 14 58.5	+0.5
GUT	Gutenstein	3.61	347	P	Pn	22 14 58.2	0.0
GUT	Gutenstein	3.61	347	P	Pn	22 14 58.2	0.0
CABF	La Chapelle	3.63	306	ePn	Pn	22 14 59.6	+1.1
CABF				eSn	Sn	22 15 35.5	-5.0
comp=Z,6.5nm,0.4s							
CABF	La Chapelle	3.63	306	ePn	Pn	22 14 59.6	+1.1
CABF				eSn	Sn	22 15 35.5	-5.0
CABF	La Chapelle	3.63	306	ePn	Pn	22 14 59.6	+1.1
FELD	Feldberg im Sc	3.69	335	P	Pn	22 15 00.0	+0.7
FELD	Feldberg im Sc	3.69	335	P	Pn	22 14 59.3	0.0
SPAK	Spaichingen-Ko	3.70	343	P	Pn	22 14 58.5	-1.0
LOMF	Lomont	3.72	320	P	Pn	22 15 00.8	+1.1
LOMF	Lomont	3.72	320	P	Pn	22 15 00.1	+0.4
LOMF	Lomont	3.72	320	P	Pn	22 15 00.1	+0.4
KIZ	Kirchzarten	3.79	334	P	Pn	22 15 00.7	0.0
KIZ	Kirchzarten	3.79	334	P	Pn	22 15 00.7	0.0
PERS	Pernice	3.93	57	P	Pn	22 15 02.8	+0.2
PERS	Pernice	3.93	57	P	Pn	22 15 02.8	+0.2
BUCH	Bad Urach	3.95	350	P	Pn	22 15 03.7	+0.9
BUCH	Bad Urach	3.95	350	P	Pn	22 15 03.7	+0.9
MOF	Molkenrain	3.98	327	P	Pn	22 15 04.9	+1.7
MOF	Molkenrain	3.98	327	P	Pn	22 15 04.9	+1.7
BFO	Black Forest	4.02	340	ePn	Pn	22 15 03.8	0.0
BFO				eSn	Sn	22 15 48.6	-1.5
BFO	Black Forest	4.02	340	ePn	Pn	22 15 03.8	0.0
BFO				eSn	Sn	22 15 48.6	-1.5
HINF	Hinteralfeld	4.06	324	ePn	Pn	22 15 04.3	-0.1
HINF				eSn	Sn	22 15 49.0	-2.1
comp=Z,12nm,0.2s							
HINF	Hinteralfeld	4.06	324	ePn	Pn	22 15 04.3	-0.1
HINF				eSn	Sn	22 15 49.0	-2.1
HINF	Hinteralfeld	4.06	324	ePn	Pn	22 15 04.3	-0.1
HINF				eSn	Sn	22 15 49.0	-2.1
comp=Z,5.9nm,0.2s							
VIVF	Saint-Julien-l	4.06	276	ePn	Pn	22 15 05.0	+0.6
VIVF				eSn	Sn	22 15 48.9	-2.2
comp=Z,4.3nm,0.3s							
VIVF	Saint-Julien-l	4.06	276	ePn	Pn	22 15 05.0	+0.6
VIVF				eSn	Sn	22 15 48.9	-2.2
VIVF	Saint-Julien-l	4.06	276	ePn	Pn	22 15 05.0	+0.6
VIVF				eSn	Sn	22 15 48.9	-2.2
comp=Z,2.2nm,0.3s							
LBG	Lerchenberg	4.24	346	P	Pn	22 15 07.1	+0.3
LBG	Lerchenberg	4.24	346	P	Pn	22 15 07.1	+0.3
MOA	Molln	4.26	38⇑	iSPKiKP	Pn	22 15 07.5	+0.4
SNR=12							
MOA	Molln	4.26	38⇑	iPn	Pn	22 15 07.5	+0.4
MOA	Molln	4.26	38⇑	iPn	Pn	22 15 07.5	+0.3
ECH	Echery	4.27	330	ePn	Pn	22 15 07.3	0.0
ECH				eSn	Sn	22 15 54.5	-1.8
ECH	Echery	4.27	330	ePn	Pn	22 15 07.3	0.0
ECH				eSn	Sn	22 15 54.5	-1.8
ECH	Echery	4.27	330	P	Pn	22 15 07.1	-0.2
CDF	Champ du Feu	4.40	332	ePn	Pn	22 15 08.8	-0.2
CDF				eSn	Sn	22 15 53.7	-5.7
comp=Z,8.4nm,0.2s							
CDF	Champ du Feu	4.40	332	ePn	Pn	22 15 08.8	-0.2
CDF				eSn	Sn	22 15 53.7	-5.7
CDF	Champ du Feu	4.40	332	ePn	Pn	22 15 08.8	-0.2
HAU	Haudompre	4.42	323	ePn	Pn	22 15 09.6	+0.2
HAU				eSn	Sn	22 15 57.3	-2.7
comp=Z,23nm,0.2s							
HAU	Haudompre	4.42	323	ePn	Pn	22 15 09.6	+0.2
HAU				eSn	Sn	22 15 57.3	-2.7
HAU	Haudompre	4.42	323	ePn	Pn	22 15 09.6	+0.2
HAU				eSn	Sn	22 15 57.3	-2.7
comp=Z,12nm,0.2s							
ARSA	Arzberg	4.50	51⇑	iSPKiKP	Pn	22 15 10.0	-0.4
SNR=21							
ARSA	Arzberg	4.50	51⇑	iPn	Pn	22 15 10.0	-0.4
ARSA	Arzberg	4.50	51⇑	iPn	Pn	22 15 10.0	-0.4
LASF	Ste Croix	4.69	266	ePn	Pn	22 15 13.5	+0.5
LASF				eSn	Sn	22 16 05.0	-1.6
comp=Z,4.6nm,0.5s							
LASF	Ste Croix	4.69	266	ePn	Pn	22 15 13.5	+0.5
LASF				eSn	Sn	22 16 05.0	-1.6
LASF	Ste Croix	4.69	266	ePn	Pn	22 15 13.5	+0.5
LASF				eSn	Sn	22 16 05.0	-1.6
comp=Z,2.3nm,0.5s							
THEF	They Montfort	4.75	322	P	Pn	22 15 15.0	+1.2
THEF	They Montfort	4.75	322	P	Pn	22 15 14.4	+0.6
THEF	They Montfort	4.75	322	P	Pn	22 15 14.4	+0.6
SIND	Sindeldorf	4.81	354	P	Pn	22 15 14.3	-0.4
SIND	Sindeldorf	4.81	354	P	Pn	22 15 14.3	-0.4
WET	Wettzell	4.90	20	P	Pn	22 15 15.4	-0.5
WET	Wettzell	4.90	20	P	Pn	22 15 15.4	-0.5
PLDF	La Plantade	4.96	289	P	Pn	22 15 16.8	+0.1
PLDF	La Plantade	4.96	289	P	Pn	22 15 16.8	+0.1
SMF	Signal de Mont	5.02	297	ePn	Pn	22 15 17.6	0.0
SMF				eSn	Sn	22 16 09.6	-5.2
comp=Z,5.9nm,0.4s							
SMF	Signal de Mont	5.02	297	ePn	Pn	22 15 17.6	0.0
SMF				eSn	Sn	22 16 09.6	-5.2
SMF	Signal de Mont	5.02	297	ePn	Pn	22 15 17.6	0.0
KHC	Kasperske Hory	5.08	25	ePn	Pn	22 15 16.9	-1.4
KHC				eSn	Sn	22 16 12.9	-3.2
KHC	Kasperske Hory	5.08	25	ePN	Pn	22 15 18.2	-0.1
KHC				ex	x	22 15 33.0	
KHC				eSN	Sn	22 16 13.5	-2.6
KHC				ex	x	22 16 29.5	
KHC	Kasperske Hory	5.08	25	Pn	Pn	22 15 18.2	-0.1
KHC				Sn	Sn	22 16 13.5	-2.6
PAGF	Fort de Pagny	5.11	323	ePn	Pn	22 15 19.3	+0.5
PAGF				eSn	Sn	22 16 11.6	-5.4
comp=Z,2.8nm,0.6s							
PAGF	Fort de Pagny	5.11	323	ePn	Pn	22 15 19.3	+0.5
PAGF				eSn	Sn	22 16 11.6	-5.4
PAGF	Fort de Pagny	5.11	323	ePn	Pn	22 15 19.3	+0.5
SFTF	Sexfontaines	5.18	317	ePn	Pn	22 15 20.2	+0.5
SFTF				eSn	Sn	22 16 13.6	-5.0
comp=Z,4.2nm,0.2s							
SFTF	Sexfontaines	5.18	317	ePn	Pn	22 15 20.2	+0.5
SFTF				eSn	Sn	22 16 13.6	-5.0
SFTF	Sexfontaines	5.18	317	ePn	Pn	22 15 20.2	+0.5
LOR	Lormes	5.28	303	ePn	Pn	22 15 21.3	+0.2
LOR				eSn	Sn	22 16 20.9	-0.2
comp=Z,9.6nm,0.4s							
LOR	Lormes	5.28	303	ePn	Pn	22 15 21.3	+0.2
LOR				eSn	Sn	22 16 20.9	-0.2
LOR	Lormes	5.28	303	ePn	Pn	22 15 21.3	+0.2
LOR				eSn	Sn	22 16 20.9	-0.2
comp=Z,4.8nm,0.4s							
MEZF	Maizieres J'vi	5.38	319	ePn	Pn	22 15 23.0	+0.6
MEZF				eSn	Sn	22 16 18.9	-4.6
comp=Z,4.6nm,0.3s							
MEZF	Maizieres J'vi	5.38	319	ePn	Pn	22 15 23.0	+0.6
MEZF				eSn	Sn	22 16 18.9	-4.6
MEZF	Maizieres J'vi	5.38	319	ePn	Pn	22 15 23.0	+0.6
MEZF				eSn	Sn	22 16 18.9	-4.6
comp=Z,2.3nm,0.3s							
AVF	Avril sur Loir	5.39	297	ePn	Pn	22 15 22.0	-0.6
AVF				eSn	Sn	22 16 21.9	-1.9
comp=Z,1.4nm,0.2s							
AVF	Avril sur Loir	5.39	297	ePn	Pn	22 15 22.0	-0.6
AVF				eSn	Sn	22 16 21.9	-1.9
AVF	Avril sur Loir	5.39	297	ePn	Pn	22 15 22.0	-0.6
AVF				eSn	Sn	22 16 21.9	-1.9
comp=Z,0.7nm,0.2s							
SSF	Saint Saulge	5.40	300	ePn	Pn	22 15 22.6	-0.2
SSF				eSn	Sn	22 16 21.5	-2.6
comp=Z,3.8nm,0.3s							
SSF	Saint Saulge	5.40	300	ePn	Pn	22 15 22.6	-0.2
SSF				eSn	Sn	22 16 21.5	-2.6
SSF	Saint Saulge	5.40	300	ePn	Pn	22 15 22.6	-0.2
STON	Ston	5.58	105	ePn	Pn	22 15 23.9	-1.5
STON				Sn	Sn	22 16 25.8	-2.9
STON	Ston	5.58	105	ePn	Pn	22 15 23.9	-1.5
BGF	Bois d'Agland	5.64	293	ePn	Pn	22 15 26.2	+0.2
BGF				eSn	Sn	22 16 27.1	-2.9
comp=Z,8.2nm,0.3s							
BGF	Bois d'Agland	5.64	293	ePn	Pn	22 15 26.2	+0.2
BGF				eSn	Sn	22 16 27.1	-2.9
BGF	Bois d'Agland	5.64	293	ePn	Pn	22 15 26.2	+0.2
TNS	Taunus Mts	5.81	348	P	Pn	22 15 28.6	+0.2
TNS	Taunus Mts	5.81	348	P	Pn	22 15 28.6	+0.2
NKC	Novy Kostel	5.85	13	eSN	Sn	22 16 31.4	-3.7
CAF	Calviac	5.92	276	ePn	Pn	22 15 30.6	+0.7
CAF				eSn	Sn	22 16 36.9	0.0
comp=Z,1.6nm,0.4s							
CAF	Calviac	5.92	276	ePn	Pn	22 15 30.6	+0.7
CAF				eSn	Sn	22 16 36.9	0.0
CAF	Calviac	5.92	276	ePn	Pn	22 15 30.6	+0.7
CAF				eSn	Sn	22 16 36.9	0.0
comp=Z,0.8nm,0.4s							
TCF	Toulx Ste Croi	5.99	290	ePn	Pn	22 15 30.6	-0.2
TCF				eSn	Sn	22 16 36.1	-2.5
comp=Z,3.2nm,0.3s							
TCF	Toulx Ste Croi	5.99	290	ePn	Pn	22 15 30.6	-0.2
TCF				eSn	Sn	22 16 36.1	-2.5
TCF	Toulx Ste Croi	5.99	290	ePn	Pn	22 15 30.6	-0.2
MTLF	Montolieu	6.00	261	ePn	Pn	22 15 32.0	+0.9
MTLF				eSn	Sn	22 16 37.1	-1.8
comp=Z,4.2nm,0.5s							
MTLF	Montolieu	6.00	261	ePn	Pn	22 15 32.0	+0.9
MTLF				eSn	Sn	22 16 37.1	-1.8
MTLF	Montolieu	6.00	261	ePn	Pn	22 15 32.0	+0.9
HYF	Humbligny	6.02	299	ePn	Pn	22 15 31.4	0.0
HYF				eSn	Sn	22 16 34.1	-5.4
HYF	Humbligny	6.02	299	ePn	Pn	22 15 31.4	0.0
HYF				eSn	Sn	22 16 34.1	-5.4
HYF	Humbligny	6.02	299	ePn	Pn	22 15 31.4	0.0
KRUC	Moravsky	6.12	41	P	Pn	22 15 31.6	-1.0
KRUC	Moravsky	6.12	41	P	Pn	22 15 31.6	-1.0
PRU	Pruhonice	6.13	26	ePN	Pn	22 15 32.5	-0.3
PRU				eSN	Sn	22 16 38.1	-3.9
PRU	Pruhonice	6.13	26	Pn	Pn	22 15 32.5	-0.3
RJF	Les Rejaudoux	6.32	280	ePn	Pn	22 15 36.8	+1.4
RJF				eSn	Sn	22 16 44.2	-2.5
comp=Z,6.2nm,0.7s							
RJF	Les Rejaudoux	6.32	280	ePn	Pn	22 15 36.8	+1.4
RJF				eSn	Sn	22 16 44.2	-2.5
RJF	Les Rejaudoux	6.32	280	ePn	Pn	22 15 36.8	+1.4
PVCC	Panska Ves	6.61	24	eSN	Sn	22 16 51.2	-2.7
PVCC	Panska Ves	6.61	24	Sn	Sn	22 16 51.2	-2.7
GIVF	Givet	6.69	328	ePn	Pn	22 15 40.4	-0.1
GIVF				eSn	Sn	22 16 52.2	-3.7
comp=Z,2.8nm,0.2s							
GIVF	Givet	6.69	328	ePn	Pn	22 15 40.4	-0.1
GIVF				eSn	Sn	22 16 52.2	-3.7
GIVF	Givet	6.69	328	ePn	Pn	22 15 40.4	-0.1
BRG	Berggiesshubel	6.76	20	PN	Pn	22 15 41.8	+0.4
BRG				PG	Pn	22 16 08.6	+27
BRG				SN	Sn	22 16 54.0	-3.6
BRG				e		22 17 44.5	
comp=Z,9.2nm,1.4s							
LFF	La Frestale	6.86	277	ePn	Pn	22 15 43.9	+1.1
LFF				eSn	Sn	22 16 54.9	-5.1
comp=Z,0.8nm,0.3s							
LFF	La Frestale	6.86	277	ePn	Pn	22 15 43.9	+1.1
LFF				eSn	Sn	22 16 54.9	-5.1
LFF	La Frestale	6.86	277	ePn	Pn	22 15 43.9	+1.1
VYHS	Vyhne	7.05	53	P	Pn	22 15 44.5	-0.9
VYHS	Vyhne	7.05	53	P	Pn	22 15 44.5	-0.9
EPF	Esparros	7.41	262	ePn	Pn	22 15 50.7	+0.3
EPF				eSn	Sn	22 17 10.0	-3.6
comp=Z,0.8nm,0.4s							
EPF	Esparros	7.41	262	ePn	Pn	22 15 50.7	+0.3
EPF				eSn	Sn	22 17 10.0	-3.6
EPF	Esparros	7.41	262	ePn	Pn	22 15 50.7	+0.3
ETSF	Etsaut	8.08	262	ePn	Pn	22 16 01.2	+1.6
ETSF				eSn	Sn	22 17 30.8	+0.7
comp=Z,1.8nm,0.5s							
ETSF	Etsaut	8.08	262	ePn	Pn	22 16 01.2	+1.6
ETSF				eSn	Sn	22 17 30.8	+0.7
ETSF	Etsaut	8.08	262	ePn	Pn	22 16 01.2	+1.6
ETSF				eSn	Sn	22 17 30.8	+0.7
comp=Z,0.9nm,0.5s							
SJPF	Ste Jean	8.50	264	ePn	Pn	22 16 05.8	+0.5
SJPF				eSn	Sn	22 17 44.4	+4.1
comp=Z,1.0nm,0.4s							
SJPF	Ste Jean	8.50	264	ePn	Pn	22 16 05.8	+0.5
SJPF				eSn	Sn	22 17 44.4	+4.1
SJPF	Ste Jean	8.50	264	ePn	Pn	22 16 05.8	+0.5

IDC 23 22:46:38.0±22.0, 21°.34S×179°.97E, h294km±179km, mb3.2/3, mb1 3.5/3, mb1mx3.2/16, mbtmp3.2/3, MS3.1/1, Ms1 3.1/1, ms1mx2.8/11, Error ellipse: s-maj=294.8km s-min=57.5km az=143.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.59	264	LR	LR	22 52 30.2	
comp=Z,79nm,18.7s,baz=30,slow=28							
ASAR	Alice Springs	42.48	258	P	P	22 54 04.0	-1.0
0.7nm,0.9s,baz=103,slow=6.4,SNR=7.7							
WRA	Warramunga Arr	42.61	263	P	P	22 54 06.8	+0.7
0.9nm,0.4s,baz=96,slow=8.4,SNR=28							
ILAR	Eielson Array	89.56	14	P	P	22 59 01.8	0.0
0.4nm,0.4s,baz=222,slow=5.3,SNR=12							
BRTR	Keskin Array B	145.96	310	PKPbc	PKPbc	23 05 42.8	-0.6
0.6nm,0.6s,baz=140,slow=4.9,SNR=3.1							

IDC 23 22:53:18.6±1.2, 32°.72N×105°.23E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/26, mbtmp3.7/7, Error ellipse: s-maj=45.7km s-min=22.7km az=57.0
BJI 23 22:53:20.3, 32°.82N×105°.12E, h13km, ML3.4/15
NEIC 23 22:53:20.4±0.5, 32°.80N×105°.21E, h10km, mb3.7/2, Error ellipse: s-maj=15.5km s-min=7.8km az=54.0

ISC 23 22:53:19.3±1.1, 32°.71N±0°.04×105°.16E±0°.04, h0km±8km, n23, σ0°91/32, mb3.6/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.16	214	Pn	Pn	22 53 56.0	-0.5
CD2				Pg	Pb	22 53 59.0	-0.2
CD2				Sn	Sn	22 54 24.6	+0.7
CD2				Sg	Sg	22 54 28.3	-0.3
CD2				smax			
comp=N,710nm,0.7s							
CD2				smax			
comp=E,760nm,0.7s							
XAN	Xi'an	3.42	66	Pn	Pn	22 54 15.5	+1.7
XAN				Pg	Pg	22 54 25.8	+1.1
XAN				Sn	Sn	22 54 55.0	+0.1
XAN				Sg	Sg	22 55 07.5	-1.5
XAN				smax			
comp=N,200nm,0.9s							
XAN				smax			
comp=E,55nm,0.9s							
LZH	Lanzhou	3.54	342	ePg	Pn	22 54 16.9	+1.5
LZH				Sg	Sn	22 54 59.1	+1.2
LZH				smax			
comp=N,130nm,0.6s							
LZH				smax			
comp=E,230nm,0.8s							
ENH	Enshi	4.43	122	ePn	Pn	22 54 28.3	+0.7
ENH				ePg	Pg	22 54 45.0	+0.9
ENH				eSg	Sg	22 55 40.8	-0.7
GTA	Gaotai	7.96	329	ePn	Pn	22 55 15.8	-0.4
CMAR	Chiang Mai Arr	15.26	203	Pn	Pn	22 56 57.8	+1.7
baz=10,slow=9.1,SNR=8.2							
CMAR	Chiang Mai Arr	15.26	203	Pn	Pn	22 56 57.8	+1.7
MK31	Makanchi Array	22.41	316	eP	P	22 58 18.3	-0.9
MKAR	Makanchi Array	22.41	316	P	P	22 58 19.1	-0.1
comp=E,1.7nm,0.8s,mb3.5,baz=114,slow=12,SNR=13							
MKAR	Makanchi Array	22.41	316	P	P	22 58 19.1	-0.1
TKM2	Tokmak 2	25.36	302	eP	P	22 58 48.3	+0.3
comp=E,1.4nm,0.9s,mb3.7							
ZALV	Zalesovo Beam	25.70	332	P	P	22 58 50.1	-0.7
comp=E,1.0nm,0.5s,mb3.7,baz=135,slow=11,SNR=8.2							
ZALV	Zalesovo Beam	25.70	332	P	P	22 58 50.1	-0.7
KURK	Kurchatov	26.54	321	P	P	22 58 58.3	-0.2
comp=E,1.4nm,0.8s,mb3.8,baz=127,slow=11,SNR=14							
KURK	Kurchatov	26.54	321	eP	P	22 58 57.4	-1.1
comp=E,1.4nm,0.7s,mb3.8							
BRVK	Borovoye	32.19	320	P	P	22 59 48.1	-0.6
ARU	Arti	39.73	321	P	P	23 00 52.2	-1.0
BRTR	Keskin Array B	56.74	299	P	P	23 03 04.3	-0.5
comp=E,0.8nm,0.9s,mb3.7,baz=16,slow=5.7,SNR=3.8							
BRTR	Keskin Array B	56.74	299	P	P	23 03 04.3	-0.5
WRA	Warramunga Arr	59.33	148	P	P	23 03 21.8	-1.3
comp=E,0.5nm,0.8s,mb3.6,baz=342,slow=7.2,SNR=5.3							
WRA	Warramunga Arr	59.33	148	P	P	23 03 21.8	-1.3
YKA	Yellowknife Ar	79.89	18	P	P	23 05 29.3	-0.2
comp=E,0.3nm,0.5s,mb3.4,baz=328,slow=5.0,SNR=7.0							
YKA	Yellowknife Ar	79.89	18	P	P	23 05 29.3	-0.2

IDC 23 22:59:13.1±1.5, 32°.55S×71°.97W, h0km, mb4.3/4, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, ML4.1/4, Error ellipse: s-maj=53.8km s-min=23.4km az=95.0
ISCJB 23 22:59:15.0±1.0, 32°.58S±0°.04×72°.09W±0°.06, h23km±5km, mb4.1/5, Error ellipse: s-maj=9.5km s-min=4.9km az=156.6
GUC 23 22:59:17.6±0.8, 32°.62S×71°.85W, h6km±4km, MD4.3, ML4.3
NEIC 23 22:59:17.6, 32°.62S×71°.85W, h6km, mb3.8/2, ML4.3(GUC), After GUC.
NEIC Felt [II] at La Ligua, Papudo and Puchuncavi.

ISC 23 22:59:16.0±0.9, 32°.58S±0°.03×71°.99W±0°.06, h16km±5km, n54, σ0°74/73, mb4.1/5, 6C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.54	147	iP	Pg	22 59 26.8	+0.1
IHA				i S	Sg	22 59 33.5	-0.5
IHA	Instituto Hidr	0.54	147	iP	Pg	22 59 26.8	+0.1
IHA				i S	Sg	22 59 33.5	-0.5
CHNG	Los Chungos	0.81	31	iP	Pb	22 59 31.4	-0.2
CHNG				i S	Sb	22 59 42.9	+0.7
CHNG	Los Chungos	0.81	31	iP	Pb	22 59 31.4	-0.2
CHNG				i S	Sb	22 59 42.9	+0.7
ROCH	El Roble	0.92	116	iP	Pb	22 59 33.1	-0.4
ROCH				i S	Sb	22 59 45.0	-0.4
ROCH				AML	AML	22 59 47.7	
comp=N,14μm,0.2s							
PTCH	Petorca	0.95	71	iP	Pb	22 59 33.8	-0.3
PTCH				i S	Sb	22 59 46.8	+0.4
PTCH	Petorca	0.95	71	iP	Pb	22 59 33.8	-0.3
PTCH				i S	Sb	22 59 46.8	+0.4
PTCH				AML	AML	22 59 48.8	
comp=N,11μm,0.3s							
JACH	Jahuel	1.19	96	eP	Pn	22 59 37.2	-0.7
JACH	Jahuel	1.19	96	eP	Pn	22 59 37.2	-0.7
PEL	Peldehue	1.24	118	eP	Pn	22 59 38.2	-0.4
PEL				i S	Sb	22 59 54.4	-0.3
PEL				AML	AML	22 59 59.4	
comp=E,23μm,0.3s							
RCDM	Rinconada Maip	1.35	133	eP	Pn	22 59 39.7	-0.4
RCDM				S	Sn	22 59 57.3	-0.4
RCDM	Rinconada Maip	1.35	133	eP	Pn	22 59 39.7	-0.4
RCDM				eS	Sn	22 59 57.3	-0.4
SAN	Santiago	1.42	128	iP	Pn	22 59 41.2	+0.1
SAN				eS	Sn	22 59 59.1	-0.3
SAN	Santiago	1.42	128	iP	Pn	22 59 41.2	+0.1
SAN				eS	Sn	22 59 59.1	-0.3
STL	Santa Lucia	1.42	127	eP	Pn	22 59 40.9	-0.3
STL				eS	Sn	22 59 59.1	-0.5
CLCH	Cerro Calan	1.47	124	iP	Pn	22 59 42.1	+0.2
CLCH				i S	Sn	23 00

KURK	**Kurchatov**	**151.80**	**41**	PKPbc	PKPbc	23 19 09.4	0.0
	comp=E,1.2nm,0.6s,baz=303,slow=2.9,SNR=19						
KURK				PKPab	PKPab	23 19 19.4	+1.0
	comp=E,0.9nm,0.5s,baz=304,slow=2.8,SNR=11						
KURK	**Kurchatov**	**151.80**	**41**	PKPbc	PKPbc	23 19 09.4	0.0
KURK				PKPab	PKPab	23 19 19.4	+1.0
ZALV	**Zalesovo Beam**	**153.00**	**31**	PKPbc	PKPbc	23 19 11.6	-0.4
	comp=E,1.2nm,0.6s,baz=306,slow=3.3,SNR=7.9						
ZALV				PKPab	PKPab	23 19 21.0	-2.3
	comp=E,1.7nm,0.6s,baz=306,slow=3.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**153.00**	**31**	PKPbc	PKPbc	23 19 11.6	-0.4
ZALV				PKPab	PKPab	23 19 21.0	-2.3
MKAR	**Makanchi Array**	**155.78**	**47**	PKPab	PKPab	23 19 35.2	-0.2
	comp=E,1.1nm,0.7s,baz=288,slow=3.0,SNR=11						

IDC 23 23:08:27.2±1.9, 6°98S×144°54E, h0km, mb4.0/1, mb1 3.7/4, mb1mx3.5/15, mbtmp3.4/4, ML2.9/3, Error ellipse: s-maj=34.7km s-min=24.2km az=47.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**133**	Pn	Pn	23 09 23.9	+0.4
	2.8nm,0.3s,baz=324,slow=9.9,SNR=4.2						
PMG				Lg		23 10 19.2	
	3.8nm,0.3s,baz=142,slow=19,SNR=7.6						
WRA	**Warramunga Arr**	**16.25**	**217**	Pn	Pn	23 12 17.2	+0.3
	0.1nm,0.3s,baz=36,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**19.48**	**210**	P	Pn	23 12 55.8	-1.3
	0.1nm,0.3s,baz=40,slow=8.9,SNR=4.8						
ILAR	**Eielson Array**	**87.35**	**24**	P	P	23 21 15.8	0.0
	0.3nm,0.8s,baz=263,slow=5.7,SNR=4.9						

*ROM **23** 23:29:54.6±0.2, 44°.52N×10°.39E, h26km±2km, Md2.7/13, Ml2.5/10, Error ellipse: s-maj=4.4km s-min=1.9km az=85.0*
*CSEM **23** 23:29:54.5±0.1, 44°.56N×10°.43E, h17km±1km, ML2.4/12, Error ellipse: s-maj=3.7km s-min=3.2km az=97.0*
*GEN **23** 23:29:54.0, 44°.59N×10°.46E, h5km, ML2.2*
*ISCJB **23** 23:29:54.2±0.3, 44°.56N±0°.02×10°.39E±0°.03, h29km±2km, Error ellipse: s-maj=4.0km s-min=3.7km az=148.4*
*NEIC **23** 23:29:56.7, 44°.56N×10°.52E, h25km, ML2.5(LDG), After LDG.*
*LDG **23** 23:29:56.7±0.2, 44°.56N×10°.52E, h25km, Ml2.5/21, Error ellipse: s-maj=5.8km s-min=4.3km az=37.0*

ISC 23 23:29:55.0±0.3, 44°.55N±0°.02×10°.40E±0°.03, h24km±3km, n92, σ1§08/160, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.13**	**175**	Pg	**Pb**	**23 29 58.9**	**-0.8**
ERBM				Sg	**Sb**	**23 30 03.2**	**+0.4**
	2μm,0.4s						
ERBM	**Eremo**	**0.13**	**175**	Pg	**Pb**	**23 29 58.9**	**-0.8**
VALM	**Valbona**	**0.22**	**209**	P	**Pb**	**23 29 59.7**	**-1.1**
PRMA	**PARMA**	**0.23**	**345**	Pg	**Pb**	**23 30 01.3**	**+0.5**
PRMA				Sg	**Sb**	**23 30 06.3**	**+1.5**
	282nm,0.5s						
PRMA	**PARMA**	**0.23**	**345**	Pg	**Pb**	**23 30 01.3**	**+0.5**
GSCL	**Gusciola**	**0.24**	**145**	Pg	**Pb**	**23 29 59.7**	**-1.3**
GSCL				Sg	**Sb**	**23 30 04.9**	**-0.1**
	228nm,0.7s						
GSCL	**Gusciola**	**0.24**	**145**	Pg	**Pb**	**23 29 59.7**	**-1.3**
GSCL				Sg	**Sb**	**23 30 04.9**	**-0.1**
	228nm,0.7s						
GRAM	**Graiana**	**0.24**	**257**	P	**Pb**	**23 30 00.1**	**-0.9**
GRAM				S	**Sb**	**23 30 04.0**	**-1.1**
NOVE	**Novellara**	**0.34**	**42**	Pg	**Pb**	**23 30 02.1**	**-0.4**
NOVE				Sg	**Sb**	**23 30 09.6**	**+2.0**
	402nm,0.4s						
NOVE	**Novellara**	**0.34**	**42**	Pg	**Pb**	**23 30 02.1**	**-0.4**
CODM	**Codolo**	**0.42**	**249**	P	**Pb**	**23 30 03.1**	**-0.7**
CODM				S	**Sb**	**23 30 09.2**	**-0.6**
ZCCA	**Zocca**	**0.46**	**115**	Pg	**Pb**	**23 30 04.8**	**+0.4**
ZCCA	**Zocca**	**0.46**	**115**	Pg	**Pb**	**23 30 04.8**	**+0.4**
BDI	**Bagni Di Lucca**	**0.50**	**163**	Pg	**Pb**	**23 30 04.4**	**-0.8**
BDI				Sg	**Sb**	**23 30 12.3**	**+0.2**
	129nm,0.6s						
BDI	**Bagni Di Lucca**	**0.50**	**163**	Pg	**Pb**	**23 30 04.4**	**-0.8**
BDI				Sg	**Sb**	**23 30 12.3**	**+0.2**
	129nm,0.6s						
SC2M	**Scurtabo**	**0.63**	**257**	Pg	**Pb**	**23 30 07.0**	**-0.4**
	145nm,0.6s						
SC2M	**Scurtabo**	**0.63**	**257**	Pg	**Pb**	**23 30 07.0**	**-0.4**
	145nm,0.6s						
MAIM	**Mastiano**	**0.64**	**174**	Pg	**Pb**	**23 30 07.7**	**+0.3**
MAIM				Sg	**Sb**	**23 30 15.6**	**-0.3**
	50nm,0.6s						
MAIM	**Mastiano**	**0.64**	**174**	Pg	**Pb**	**23 30 07.7**	**+0.3**
MAIM				Sg	**Sb**	**23 30 15.6**	**-0.3**
	50nm,0.6s						
CRMI	**Carmignano**	**0.86**	**151**	Pg	**Pb**	**23 30 10.9**	**-0.3**
	35nm,0.5s						
CRMI	**Carmignano**	**0.86**	**151**	Pg	**Pb**	**23 30 10.9**	**-0.3**
	35nm,0.5s						
SALO	**Salr**	**1.08**	**5**	Pg	**Pn**	**23 30 15.4**	**+0.8**
	381nm,0.4s						
SALO	**Salr**	**1.08**	**5**	Pg	**Pn**	**23 30 15.4**	**+0.8**
	381nm,0.4s						
ROVR	**Rover¤ Verone**	**1.20**	**23**	Pg	**Pn**	**23 30 16.4**	**+0.1**
	381nm,0.2s						
ROVR	**Rover¤ Verone**	**1.20**	**23**	Pg	**Pn**	**23 30 16.4**	**+0.1**
	381nm,0.2s						
MDI	**Monti di Nese**	**1.32**	**339**	Pg	**Pn**	**23 30 19.2**	**+1.2**
	62nm,0.5s						
MDI	**Monti di Nese**	**1.32**	**339**	Pg	**Pn**	**23 30 19.2**	**+1.2**
	62nm,0.5s						
CTI	**Castel Tesino**	**1.74**	**30**	Pg	**Pn**	**23 30 23.4**	**-0.3**
SBF	**Sospel**	**2.24**	**253**	*e*Pn	**Pn**	**23 30 31.4**	**+0.9**
SBF				*e*Sn	**Sn**	**23 30 59.0**	**+1.6**
	17nm,0.4s						
SBF	**Sospel**	**2.24**	**253**	*e*Pn	**Pn**	**23 30 31.4**	**+0.9**
SBF				*e*Sn	**Sn**	**23 30 59.0**	**+1.6**
SBF	**Sospel**	**2.24**	**253**	*e*Pn	**Pn**	**23 30 31.4**	**+0.9**
SBF				*e*Sn	**Sn**	**23 30 59.0**	**+1.6**
	8.4nm,0.4s						
PGF	**Pioggiola**	**2.24**	**207**	*e*Pn	**Pn**	**23 30 30.8**	**+0.2**
PGF				*e*Sn	**Sn**	**23 30 58.1**	**+0.6**
	3.5nm,0.3s						
PGF	**Pioggiola**	**2.24**	**207**	*e*Pn	**Pn**	**23 30 30.8**	**+0.2**
PGF				*e*Sn	**Sn**	**23 30 58.1**	**+0.6**
PGF	**Pioggiola**	**2.24**	**207**	*e*Pn	**Pn**	**23 30 30.8**	**+0.2**
PGF				*e*Sn	**Sn**	**23 30 58.1**	**+0.6**
	1.8nm,0.3s						
MBDF	**Montbardon**	**2.59**	**275**	*e*Pn	**Pn**	**23 30 36.3**	**+0.9**
MBDF				*e*Sn	**Sn**	**23 31 05.8**	**-0.4**
	6.8nm,0.6s						
MBDF	**Montbardon**	**2.59**	**275**	*e*Pn	**Pn**	**23 30 36.3**	**+0.9**
MBDF				*e*Sn	**Sn**	**23 31 05.8**	**-0.4**
MBDF	**Montbardon**	**2.59**	**275**	*e*Pn	**Pn**	**23 30 36.3**	**+0.9**
MBDF				*e*Sn	**Sn**	**23 31 05.8**	**-0.4**
	3.4nm,0.6s						
LPG	**La Plagne**	**2.75**	**291**	*e*Pn	**Pn**	**23 30 38.1**	**+0.5**
LPG				*e*Sn	**Sn**	**23 31 09.2**	**-0.9**
	3.1nm,0.4s						
LPG	**La Plagne**	**2.75**	**291**	*e*Pn	**Pn**	**23 30 38.1**	**+0.5**
LPG				*e*Sn	**Sn**	**23 31 09.2**	**-0.9**
LPG	**La Plagne**	**2.75**	**291**	*e*Pn	**Pn**	**23 30 38.1**	**+0.5**
LPG				*e*Sn	**Sn**	**23 31 09.2**	**-0.9**
	1.5nm,0.4s						
LPL	**La Plagne**	**2.77**	**292**	*e*Pn	**Pn**	**23 30 38.8**	**+0.9**
LPL				*e*Sn	**Sn**	**23 31 09.8**	**-0.8**
	2.6nm,0.5s						
LPL	**La Plagne**	**2.77**	**292**	*e*Pn	**Pn**	**23 30 38.8**	**+0.9**
LPL				*e*Sn	**Sn**	**23 31 09.8**	**-0.8**
LPL	**La Plagne**	**2.77**	**292**	*e*Pn	**Pn**	**23 30 38.8**	**+0.9**
LPL				*e*Sn	**Sn**	**23 31 09.8**	**-0.8**
	1.3nm,0.5s						
FRF	**La Foret Royal**	**2.88**	**251**	*e*Pn	**Pn**	**23 30 40.1**	**+0.8**
FRF				*e*Sn	**Sn**	**23 31 14.5**	**+1.3**
	13nm,0.5s						
FRF	**La Foret Royal**	**2.88**	**251**	*e*Pn	**Pn**	**23 30 40.1**	**+0.8**
FRF				*e*Sn	**Sn**	**23 31 14.5**	**+1.3**
FRF	**La Foret Royal**	**2.88**	**251**	*e*Pn	**Pn**	**23 30 40.1**	**+0.8**
FRF				*e*Sn	**Sn**	**23 31 14.5**	**+1.3**
	6.5nm,0.5s						
LMR	**La Mourre**	**3.06**	**248**	*e*Pn	**Pn**	**23 30 42.1**	**+0.3**
LMR				*e*Sn	**Sn**	**23 31 18.0**	**+0.4**
	9.1nm,0.3s						
LMR	**La Mourre**	**3.06**	**248**	*e*Pn	**Pn**	**23 30 42.1**	**+0.3**
LMR				*e*Sn	**Sn**	**23 31 18.0**	**+0.4**
LMR	**La Mourre**	**3.06**	**248**	*e*Pn	**Pn**	**23 30 42.1**	**+0.3**
LMR				*e*Sn	**Sn**	**23 31 18.0**	**+0.4**
	4.6nm,0.3s						
NVLJ	**Novalja**	**3.20**	**88**	*e*Pn	**Pn**	**23 30 42.7**	**-1.1**
NVLJ				Sn	**Sn**	**23 31 19.3**	**-1.8**
NVLJ	**Novalja**	**3.20**	**88**	*e*Pn	**Pn**	**23 30 42.6**	**-1.1**
NVLJ				Sn	**Sn**	**23 31 19.3**	**-1.8**
ORIF	**Oris-en-Rattie**	**3.24**	**278**	*e*Pn	**Pn**	**23 30 46.7**	**+2.4**
ORIF				*e*Sn	**Sn**	**23 31 20.7**	**-1.4**
	3.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.24**	**278**	*e*Pn	**Pn**	**23 30 46.7**	**+2.4**
ORIF				*e*Sn	**Sn**	**23 31 20.7**	**-1.4**
ORIF	**Oris-en-Rattie**	**3.24**	**278**	*e*Pn	**Pn**	**23 30 46.7**	**+2.4**
ORIF				*e*Sn	**Sn**	**23 31 20.7**	**-1.4**
	1.6nm,0.4s						
SMRF	**Simiane la Rot**	**3.51**	**262**	*e*Pn	**Pn**	**23 30 50.5**	**+2.5**
SMRF				*e*Sn	**Sn**	**23 31 28.5**	**-0.3**
	1.9nm,0.4s						
SMRF	**Simiane la Rot**	**3.51**	**262**	*e*Pn	**Pn**	**23 30 50.5**	**+2.5**
SMRF				*e*Sn	**Sn**	**23 31 28.5**	**-0.3**
SMRF	**Simiane la Rot**	**3.51**	**262**	*e*Pn	**Pn**	**23 30 50.5**	**+2.5**
SMRF				*e*Sn	**Sn**	**23 31 28.5**	**-0.3**
	0.9nm,0.4s						
CABF	**La Chapelle**	**3.66**	**306**	*e*Pn	**Pn**	**23 30 51.7**	**+1.6**
CABF				*e*Sn	**Sn**	**23 31 27.5**	**-5.0**
	1.2nm,0.4s						
CABF	**La Chapelle**	**3.66**	**306**	*e*Pn	**Pn**	**23 30 51.7**	**+1.6**
CABF				*e*Sn	**Sn**	**23 31 27.5**	**-5.0**
CABF	**La Chapelle**	**3.66**	**306**	*e*Pn	**Pn**	**23 30 51.7**	**+1.6**
HINF	**Hinteralfeld**	**4.09**	**324**	*e*Pn	**Pn**	**23 30 56.4**	**+0.4**
HINF				*e*Sn	**Sn**	**23 31 40.9**	**-2.2**
	5.0nm,0.5s						
HINF	**Hinteralfeld**	**4.09**	**324**	*e*Pn	**Pn**	**23 30 56.4**	**+0.4**
HINF				*e*Sn	**Sn**	**23 31 40.9**	**-2.2**
HINF	**Hinteralfeld**	**4.09**	**324**	*e*Pn	**Pn**	**23 30 56.4**	**+0.4**
HINF				*e*Sn	**Sn**	**23 31 40.9**	**-2.2**
	2.5nm,0.5s						
VIVF	**Saint-Julien-l**	**4.09**	**276**	*e*Pn	**Pn**	**23 30 57.2**	**+1.2**
VIVF				*e*Sn	**Sn**	**23 31 41.0**	**-2.1**
	0.7nm,0.3s						
VIVF	**Saint-Julien-l**	**4.09**	**276**	*e*Pn	**Pn**	**23 30 57.2**	**+1.2**
VIVF				*e*Sn	**Sn**	**23 31 41.0**	**-2.1**
VIVF	**Saint-Julien-l**	**4.09**	**276**	*e*Pn	**Pn**	**23 30 57.2**	**+1.2**
VIVF				*e*Sn	**Sn**	**23 31 41.0**	**-2.1**
	0.3nm,0.3s						
CDF	**Champ du Feu**	**4.43**	**332**	*e*Pn	**Pn**	**23 31 01.0**	**+0.4**
CDF				*e*Sn	**Sn**	**23 31 45.8**	**-5.6**
	2.0nm,0.3s						
CDF	**Champ du Feu**	**4.43**	**332**	*e*Pn	**Pn**	**23 31 01.0**	**+0.4**
CDF				*e*Sn	**Sn**	**23 31 45.8**	**-5.6**
CDF	**Champ du Feu**	**4.43**	**332**	*e*Pn	**Pn**	**23 31 01.0**	**+0.4**
HAU	**Haudompre**	**4.46**	**322**	*e*Pn	**Pn**	**23 31 01.7**	**+0.7**
HAU				*e*Sn	**Sn**	**23 31 49.4**	**-2.7**
	8.5nm,0.5s						
HAU	**Haudompre**	**4.46**	**322**	*e*Pn	**Pn**	**23 31 01.7**	**+0.7**
HAU				*e*Sn	**Sn**	**23 31 49.4**	**-2.7**
HAU	**Haudompre**	**4.46**	**322**	*e*Pn	**Pn**	**23 31 01.7**	**+0.7**
HAU				*e*Sn	**Sn**	**23 31 49.4**	**-2.7**
	4.2nm,0.5s						
SMF	**Signal de Mont**	**5.06**	**297**	*e*Pn	**Pn**	**23 31 09.7**	**+0.4**
SMF				*e*Sn	**Sn**	**23 32 01.7**	**-5.2**
	1.0nm,0.4s						
SMF	**Signal de Mont**	**5.06**	**297**	*e*Pn	**Pn**	**23 31 09.7**	**+0.4**
SMF				*e*Sn	**Sn**	**23 32 01.7**	**-5.2**
SMF	**Signal de Mont**	**5.06**	**297**	*e*Pn	**Pn**	**23 31 09.7**	**+0.4**
KHC	**Kasperske Hory**	**5.08**	**24**	*e*PN	**Pn**	**23 31 09.0**	**-0.6**
KHC				*ex*	x	23 31 37.5	
KHC				*e*SN	**Sn**	**23 32 06.0**	**-1.4**
KHC				*ex*	x	23 32 31.0	
KHC	**Kasperske Hory**	**5.08**	**24**	Pn	**Pn**	**23 31 09.0**	**-0.6**
KHC				Sn	**Sn**	**23 32 06.0**	**-1.4**
PAGF	**Fort de Pagny**	**5.14**	**323**	*e*Pn	**Pn**	**23 31 11.4**	**+0.9**
PAGF				*e*Sn	**Sn**	**23 32 03.6**	**-5.4**
	0.4nm,0.4s						
PAGF	**Fort de Pagny**	**5.14**	**323**	*e*Pn	**Pn**	**23 31 11.4**	**+0.9**
PAGF				*e*Sn	**Sn**	**23 32 03.6**	**-5.4**
PAGF	**Fort de Pagny**	**5.14**	**323**	*e*Pn	**Pn**	**23 31 11.4**	**+0.9**
SFTF	**Sexfontaines**	**5.21**	**317**	*e*Pn	**Pn**	**23 31 12.3**	**+0.9**
SFTF				*e*Sn	**Sn**	**23 32 05.7**	**-4.9**
	4.3nm,0.6s						
SFTF	**Sexfontaines**	**5.21**	**317**	*e*Pn	**Pn**	**23 31 12.3**	**+0.9**
SFTF				*e*Sn	**Sn**	**23 32 05.7**	**-4.9**
SFTF	**Sexfontaines**	**5.21**	**317**	*e*Pn	**Pn**	**23 31 12.3**	**+0.9**
LOR	**Lormes**	**5.31**	**303**	*e*Pn	**Pn**	**23 31 13.2**	**+0.4**
LOR				*e*Sn	**Sn**	**23 32 13.0**	**-0.2**
	2.4nm,0.5s						
LOR	**Lormes**	**5.31**	**303**	*e*Pn	**Pn**	**23 31 13.2**	**+0.4**
LOR				*e*Sn	**Sn**	**23 32 13.0**	**-0.2**
LOR	**Lormes**	**5.31**	**303**	*e*Pn	**Pn**	**23 31 13.2**	**+0.4**
LOR				*e*Sn	**Sn**	**23 32 13.0**	**-0.2**
	1.2nm,0.5s						
SSF	**Saint Saulge**	**5.43**	**300**	*e*Pn	**Pn**	**23 31 14.8**	**+0.3**
SSF				*e*Sn	**Sn**	**23 32 13.7**	**-2.5**
	0.7nm,0.4s						
SSF	**Saint Saulge**	**5.43**	**300**	*e*Pn	**Pn**	**23 31 14.8**	**+0.3**
SSF				*e*Sn	**Sn**	**23 32 13.7**	**-2.5**
SSF	**Saint Saulge**	**5.43**	**300**	*e*Pn	**Pn**	**23 31 14.8**	**+0.3**
BGF	**Bois d'Agland**	**5.67**	**293**	*e*Pn	**Pn**	**23 31 18.3**	**+0.6**
BGF				*e*Sn	**Sn**	**23 32 19.2**	**-2.8**
	3.2nm,0.6s						
BGF	**Bois d'Agland**	**5.67**	**293**	*e*Pn	**Pn**	**23 31 18.3**	**+0.6**
BGF				*e*Sn	**Sn**	**23 32 19.2**	**-2.8**
BGF	**Bois d'Agland**	**5.67**	**293**	*e*Pn	**Pn**	**23 31 18.3**	**+0.6**

*IDC **23** 23:37:03.3±0.9, 44°.61N×10°.30E, h0km, mb4.0/10, mb1 4.1/15, mb1mx4.0/31, mbtmp4.0/15, ML4.1/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/38, Error ellipse: s-maj=17.7km s-min=13.3km az=109.0*
*MOS **23** 23:37:04.2±0.9, 44°.65N×10°.34E, h17km, mb4.1/10, Error ellipse: s-maj=3.5km s-min=2.7km az=102.6*
*ZUR **23** 23:37:04.9, 44°.59N×10°.31E, h12km±1km, ML4.0/8*
*CSEM **23** 23:37:05.5±0.1, 44°.63N×10°.36E, h12km, mb4.1/10, ML4.4/16, Error ellipse: s-maj=1.6km s-min=1.3km az=10.0*
*ISCJB **23** 23:37:05.5±0.2, 44°.64N±0°.01×10°.34E±0°.01, h29km±2km, mb4.0/12, Error ellipse: s-maj=1.7km s-min=1.3km az=179.3*
*GEN **23** 23:37:05.1, 44°.62N×10°.38E, h15km, ML3.8*
*PRU **23** 23:37:05.8, 44°.72N×10°.43E, h0km, M4.1*
*PDG **23** 23:37:06.1±0.8, 44°.66N×10°.37E, h24km±1km, ML4.2/7, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*ROM **23** 23:37:06.0±0.1, 44°.58N×10°.26E, h19km±2km, Ml4.0/45, Error ellipse: s-maj=2.1km s-min=1.7km az=80.0*
*LDG **23** 23:37:06.5±0.1, 44°.66N×10°.47E, h25km, Ml4.1/41, Error ellipse: s-maj=3.3km s-min=2.4km az=20.0*
*NEIC **23** 23:37:06.0, 44°.57N×10°.29E, h21km, mb4.1/2, ML4.1(LDG), ML3.9(ROM), ML4.1(VIE), ML4.0(ZUR), After ROM.*
NEIC Felt [IV] at Collecchio and Sala Baganza and [III] at Parma and Reggio nell'Emilia. Also felt at Corregio, Fidenza and Quattro Castella.
*STR **23** 23:37:07.0±0.5, 44°.72N×10°.10E, h5km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 23 23:37:06.7±0.2, 44°.641N±0°.010×10°.35E±0°.01, h22km±2km, n973, σ1§18/1221, mb4.0/12, 42C-53D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.13**	**348**	Pg	**Pb**	**23 37 10.7**	**-0.5**
PRMA				Sg	**Sb**	**23 37 15.6**	**+1.4**
	113μm,0.3s						
PRMA	**PARMA**	**0.13**	**348**	Pg	**Pb**	**23 37 10.7**	**-0.5**
PRMA				Sg	**Sb**	**23 37 15.6**	**+1.4**
	113μm,0.3s						
ERBM	**Eremo**	**0.23**	**169**	P	**Pb**	**23 37 10.9**	**-1.5**
ERBM	**Eremo**	**0.23**	**169**	⇓*e*Pg	**Pb**	**23 37 11.0**	**-1.4**
ERBM				Sg	**Sb**	**23 37 15.7**	**-0.5**
	26μm,0.9s						
ERBM	**Eremo**	**0.23**	**169**	P	**Pb**	**23 37 10.9**	**-1.5**
ERBM				Sg	**Sb**	**23 37 15.7**	**-0.5**
	26μm,0.9s						
GRAM	**Graiana**	**0.25**	**234**	P	**Pb**	**23 37 10.9**	**-1.8**
GRAM				S	**Sb**	**23 37 14.6**	**-2.2**
VALM	**Valbona**	**0.30**	**194**	P	**Pb**	**23 37 11.4**	**-2.1**
VALM				S	**Sb**	**23 37 15.3**	**-2.8**
NOVE	**Novellara**	**0.30**	**59**	P	**Pb**	**23 37 13.3**	**-0.3**
NOVE	**Novellara**	**0.30**	**59**	⇓*e*Pg	**Pb**	**23 37 13.4**	**-0.2**
NOVE				Sg	**Sb**	**23 37 21.2**	**+3.0**
	117μm,0.4s						
NOVE	**Novellara**	**0.30**	**59**	P	**Pb**	**23 37 13.3**	**-0.3**
GSCL	**Gusciola**	**0.34**	**150**	Pg	**Pb**	**23 37 12.9**	**-1.2**
GSCL	**Gusciola**	**0.34**	**150**	Pg	**Pb**	**23 37 12.9**	**-1.2**
CODM	**Codolo**	**0.44**	**235**	P	**Pb**	**23 37 13.7**	**-2.0**
CODM				S	**Sb**	**23 37 19.7**	**-2.1**
ZCCA	**Zocca**	**0.53**	**123**	P	**Pb**	**23 37 17.4**	**0.0**
ZCCA	**Zocca**	**0.53**	**123**	⇑*i*Pg	**Pb**	**23 37 17.4**	**0.0**
	6μm,0.6s						
ZCCA	**Zocca**	**0.53**	**123**	⇑*i*Pg	**Pb**	**23 37 17.4**	**0.0**
	6μm,0.6s						
RAVA	**Ravarino**	**0.56**	**78**	P	**Pb**	**23 37 18.5**	**+0.7**
RAVA	**Ravarino**	**0.56**	**78**	Pg	**Pb**	**23 37 18.9**	**+1.1**
	54μm,0.8s						
RAVA	**Ravarino**	**0.56**	**78**	P	**Pb**	**23 37 18.5**	**+0.7**
RAVA	**Ravarino**	**0.56**	**78**	Pg	**Pb**	**23 37 18.9**	**+1.1**
	54μm,0.8s						
SBPO	**S.Benedetto Po**	**0.58**	**44**	⇓*e*Pg	**Pb**	**23 37 18.7**	**+0.6**
SBPO	**S.Benedetto Po**	**0.58**	**44**	⇓*e*Pg	**Pb**	**23 37 18.7**	**+0.6**
BDI	**Bagni Di Lucca**	**0.60**	**163**	P	**Pb**	**23 37 16.1**	**-2.5**
BDI	**Bagni Di Lucca**	**0.60**	**163**	P	**Pb**	**23 37 16.1**	**-2.5**
BDI	**Bagni Di Lucca**	**0.60**	**163**	⇓*e*Pg	**Pb**	**23 37 16.1**	**-2.5**
BDI				Sg	**Sb**	**23 37 24.9**	**-1.7**
	7μm,0.8s						
BDI	**Bagni Di Lucca**	**0.60**	**163**	⇓*e*Pg	**Pb**	**23 37 16.1**	**-2.5**
BDI				Sg	**Sb**	**23 37 24.9**	**-1.7**
	7μm,0.8s						
SC2M	**Scurtabo**	**0.63**	**248**	⇓*e*Pg	**Pb**	**23 37 16.9**	**-2.1**
SC2M				Sg	**Sb**	**23 37 26.0**	**-1.4**
	9μm,0.3s						
SC2M	**Scurtabo**	**0.63**	**248**	P	**Pb**	**23 37 16.9**	**-2.1**
SC2M				S	**Sb**	**23 37 25.4**	**-2.0**
SC2M				Sg	**Sb**	**23 37 26.0**	**-1.4**
	9μm,0.3s						
BOB	**Bobbio (Coli)**	**0.66**	**281**	P	**Pb**	**23 37 18.3**	**-1.1**
BOB	**Bobbio (Coli)**	**0.66**	**281**	P	**Pb**	**23 37 18.3**	**-1.1**
BOB	**Bobbio (Coli)**	**0.66**	**281**	⇑*e*Pg	**Pb**	**23 37 18.3**	**-1.1**
	9μm,0.7s						
BOB	**Bobbio (Coli)**	**0.66**	**281**	⇑*e*Pg	**Pb**	**23 37 18.3**	**-1.1**
	9μm,0.7s						
FNVD	**Fontana Vidola**	**0.73**	**130**	P	**Pb**	**23 37 19.5**	**-1.2**
FNVD	**Fontana Vidola**	**0.73**	**130**	P	**Pb**	**23 37 19.5**	**-1.2**
MAIM	**Mastiano**	**0.73**	**172**	⇓*e*Pg	**Pb**	**23 37 18.0**	**-2.8**
	4μm,0.8s						
MAIM	**Mastiano**	**0.73**	**172**	⇓*e*Pg	**Pb**	**23 37 18.0**	**-2.8**
	4μm,0.8s						
MAIM	**Mastiano**	**0.73**	**172**	P	**Pb**	**23 37 18.4**	**-2.4**
MAIM				S	**Sb**	**23 37 27.3**	**-3.0**
FIU	**Minerbio Fiu**	**0.81**	**90**	P	**Pb**	**23 37 23.1**	**+1.0**
FIU	**Minerbio Fiu**	**0.81**	**90**	Pg	**Pb**	**23 37 23.1**	**+1.0**
	21μm,0.7s						
FIU	**Minerbio Fiu**	**0.81**	**90**	Pg	**Pb**	**23 37 23.1**	**+1.0**
	21μm,0.7s						
MTRZ	**Monterenzio**	**0.84**	**108**	Pg	**Pb**	**23 37 23.7**	**+1.1**
	7μm,0.7s						
MTRZ	**Monterenzio**	**0.84**	**108**	Pg	**Pb**	**23 37 23.7**	**+1.1**
	7μm,0.7s						
SEI	**Scarperia**	**0.93**	**129**	Pg	**Pb**	**23 37 22.9**	**-1.2**
SEI	**Scarperia**	**0.93**	**129**	Pg	**Pb**	**23 37 22.9**	**-1.2**
CRMI	**Carmignano**	**0.96**	**152**	Pg	**Pb**	**23 37 23.7**	**-0.9**
	1μm,0.7s						
CRMI	**Carmignano**	**0.96**	**152**	Pg	**Pb**	**23 37 23.7**	**-0.9**
	1μm,0.7s						
SALO	**Salr**	**0.98**	**7**	Pg	**Pb**	**23 37 25.1**	**0.0**
	22μm,0.5s						
SALO	**Salr**	**0.98**	**7**	Pg	**Pb**	**23 37 25.1**	**0.0**
	22μm,0.5s						
GENL	**Genova Univers**	**1.01**	**257**	P	**Pb**	**23 37 23.0**	**-2.6**
GENL				S	**Sb**	**23 37 34.7**	**-3.8**
CMPO	**Campotto Po**	**1.04**	**93**	Pg	**Pn**	**23 37 27.3**	**+1.4**
	9μm,1.0s						
CMPO	**Campotto Po**	**1.04**	**93**	Pg	**Pn**	**23 37 27.3**	**+1.4**
	9μm,1.0s						
VMG	**Vicchio**	**1.09**	**128**	P	**Pn**	**23 37 25.3**	**-1.4**
VMG	**Vicchio**	**1.09**	**128**	Pg	**Pn**	**23 37 25.3**	**-1.4**
	2μm,0.6s						
**

PIEI	Pieia	1.92	124	P	Pn	23 37 37.7	-0.4
APPI	Appiano	1.94	18	P	Pn	23 37 37.2	-1.1
APPI	Appiano	1.94	18	P	Pn	23 37 37.2	-1.1
ORO	Oropa	1.95	301	P	Pn	23 37 37.3	-1.1
ORO	Oropa	1.95	301	P	Pn	23 37 37.3	-1.1
ORO	Oropa	1.95	301	P	Pn	23 37 37.3	-1.1
VDL	Val di Lei	1.95	341	⇓i P	Pn	23 37 38.8	+0.4
	3µm,0.7s						
VDL	Val di Lei	1.95	341	⇓i P	Pn	23 37 38.8	+0.4
VDL	Val di Lei	1.95	341	⇓i P	Pn	23 37 38.8	+0.4
VDL	Val di Lei	1.95	341	⇓i P	Pn	23 37 38.8	+0.4
	3µm,0.7s						
TUE	Stuetta	1.96	339	ePn	Pn	23 37 40.9	+2.3
TUE				eSn	Sn	23 38 03.2	+0.7
TUE	Stuetta	1.96	339	Pg	Pn	23 37 39.8	+1.2
	928nm,0.5s						
TUE	Stuetta	1.96	339	Pg	Pn	23 37 39.8	+1.2
	928nm,0.5s						
TUE	Stuetta	1.96	339	ePn	Pn	23 37 40.9	+2.3
TUE				eSn	Sn	23 38 03.2	+0.7
ARCI	Arcidosso	1.96	155	Pg	Pn	23 37 38.2	-0.5
	794nm,1.8s						
ARCI	Arcidosso	1.96	155	Pg	Pn	23 37 38.2	-0.5
	794nm,1.8s						
FUORN	Ofenpass-Fuorn	1.98	358	⇓i P	Pn	23 37 40.2	+1.3
	2µm,0.5s						
FUORN	Ofenpass-Fuorn	1.98	358	⇓i P	Pn	23 37 40.2	+1.3
FUORN	Ofenpass-Fuorn	1.98	358	Pg	Pn	23 37 40.6	+1.7
FUORN	Ofenpass-Fuorn	1.98	358	⇓i P	Pn	23 37 40.2	+1.3
	2µm,0.5s						
FUORN	Ofenpass-Fuorn	1.98	358	Pg	Pn	23 37 40.6	+1.7
FSSB	Fossombrone	1.99	118	P	Pn	23 37 39.0	0.0
FSSB	Fossombrone	1.99	118	P	Pn	23 37 39.0	0.0
AGOR	Agordo	2.03	35	Pg	Pn	23 37 40.2	+0.6
	2µm,0.4s						
MURB	Monte Urbino	2.09	130	P	Pn	23 37 41.0	+0.7
MURB	Monte Urbino	2.09	130	Pg	Pn	23 37 41.0	+0.7
	2µm,1.3s						
MURB	Monte Urbino	2.09	130	Pg	Pn	23 37 41.0	+0.7
	2µm,1.3s						
SAOF	Saorge	2.11	253	P	Pn	23 37 40.2	-0.4
SAOF				S	Sn	23 38 07.9	+1.7
SAOF	Saorge	2.11	253	P	Pn	23 37 40.2	-0.4
SAOF				S	Sn	23 38 07.9	+1.7
MGAB	Montegabbione	2.15	143	P	Pn	23 37 41.7	+0.5
MGAB	Montegabbione	2.15	143	Pg	Pn	23 37 41.5	+0.3
	719nm,0.9s						
MGAB	Montegabbione	2.15	143	P	Pn	23 37 41.7	+0.5
DAVOX	Davos/Dischmat	2.17	351	Pn	Pn	23 37 43.4	+2.0
	105nm,0.3s,baz=172,slow=9.6,SNR=904						
DAVOX				Sn	Sn	23 38 08.9	+1.3
	94nm,0.3s,baz=328,slow=21,SNR=9.4						
DAVOX	Davos/Dischmat	2.17	351	⇓i P	Pn	23 37 43.4	+2.0
	2µm,0.7s						
DAVOX	Davos/Dischmat	2.17	351	Pn	Pn	23 37 43.4	+2.0
DAVOX				Sn	Sn	23 38 08.9	+1.3
DAVOX	Davos/Dischmat	2.17	351	P	Pn	23 37 43.4	+2.0
DAVOX						23 38 08.9	
DAVOX	Davos/Dischmat	2.17	351	Pg	Pn	23 37 43.5	+2.1
DAVOX	Davos/Dischmat	2.17	351	⇓i P	Pn	23 37 43.4	+2.0
	2µm,0.7s						
DAVOX				S	Sn	23 38 08.9	+1.3
FUSIO	Fusio	2.17	327	eP	Pn	23 37 41.6	+0.2
	2µm,0.8s						
FUSIO	Fusio	2.17	327	eP	Pn	23 37 41.6	+0.2
FUSIO	Fusio	2.17	327	Pg	Pn	23 37 41.9	+0.5
FUSIO	Fusio	2.17	327	eP	Pn	23 37 41.6	+0.2
	2µm,0.8s						
AUTN	L'Aution	2.19	254	P	Pn	23 37 42.0	+0.2
AUTN	L'Aution	2.19	254	P	Pn	23 37 42.0	+0.2
AUTN	L'Aution	2.19	254	P	Pn	23 37 41.8	0.0
AUTN				S	Sn	23 38 10.0	+1.7
AUTN	L'Aution	2.19	254	P	Pn	23 37 41.8	0.0
AUTN				S	Sn	23 38 10.0	+1.7
MMK	Mattmark	2.19	311	eP	Pn	23 37 41.8	0.0
	1µm,0.6s						
MMK	Mattmark	2.19	311	eP	Pn	23 37 41.8	0.0
MMK	Mattmark	2.19	311	eP	Pn	23 37 41.8	0.0
MMK	Mattmark	2.19	311	eP	Pn	23 37 41.8	0.0
	1µm,0.6s						
SBF	Sospel	2.23	251	ePn	Pn	23 37 41.8	-0.6
SBF				eSn	Sn	23 38 09.3	+0.1
	2µm,0.6s						
SBF	Sospel	2.23	251	Pn	Pn	23 37 42.4	0.0
SBF				eSn	Sn	23 38 09.3	+0.1
SBF	Sospel	2.23	251	P	Pn	23 37 42.4	0.0
SBF				e		23 38 09.3	
SBF	Sospel	2.23	251	P	Pn	23 37 42.4	0.0
SBF				eSn	Sn	23 38 09.3	+0.1
	917nm,0.6s						
RSP	Reno Superiore	2.25	284	P	Pn	23 37 43.7	+1.1
RSP	Reno Superiore	2.25	284	P	Pn	23 37 43.7	+1.1
RSP	Reno Superiore	2.25	284	P	Pn	23 37 43.7	+1.1
MAON	Monte Argentar	2.28	165	P	Pn	23 37 42.8	-0.2
MAON	Monte Argentar	2.28	165	P	Pn	23 37 42.8	-0.2
LATE	Laterza	2.29	152	P	Pn	23 37 44.4	+1.4
LATE	Laterza	2.29	152	P	Pn	23 37 44.4	+1.4
ASS	Assisi	2.29	133	P	Pn	23 37 42.4	-0.8
ASS	Assisi	2.29	133	P	Pn	23 37 42.4	-0.8
ASS	Assisi	2.29	133	P	Pn	23 37 42.4	-0.8
PGF	Pioggiola	2.31	206	ePn	Pn	23 37 41.7	-1.7
PGF				eSn	Sn	23 38 08.3	-2.8
	399nm,0.6s						
PGF	Pioggiola	2.31	206	Pn	Pn	23 37 42.4	-1.0
PGF				Sn	Sn	23 38 10.0	-1.1
PGF	Pioggiola	2.31	206	P	Pn	23 37 42.4	-1.0
PGF						23 38 10.0	
PGF	Pioggiola	2.31	206	P	Pn	23 37 42.4	-1.0
PGF				S	Sn	23 38 10.0	-1.1
TOUF	Mont Tournerai	2.31	255	P	Pn	23 37 43.9	+0.5
TOUF				S	Sn	23 38 11.8	+0.6
TOUF	Mont Tournerai	2.31	255	P	Pn	23 37 43.9	+0.5
TOUF				S	Sn	23 38 11.8	+0.6
PZZ	Stroppo	2.31	268	Pg	Pn	23 37 43.6	+0.1
	1µm,0.5s						
SNTG	Esanatoglia	2.33	126	P	Pn	23 37 44.1	+0.5
SNTG	Esanatoglia	2.33	126	P	Pn	23 37 44.1	+0.5
FETA	Feichten	2.40	6	ePn	Pn	23 37 46.3	+1.8
	SNR=312						
FETA	Feichten	2.40	6	ePn	Pn	23 37 46.4	+1.8
FETA	Feichten	2.40	6	ePn	Pn	23 37 46.3	+1.7
LLS	Linth-Limmern	2.40	337	⇓i P	Pn	23 37 45.8	+1.2
	1µm,0.4s						
LLS	Linth-Limmern	2.40	337	⇓i P	Pn	23 37 45.8	+1.2
LLS	Linth-Limmern	2.40	337	⇓i P	Pn	23 37 45.8	+1.2
CING	Cingoli	2.41	121	P	Pn	23 37 46.0	+1.2
CING	Cingoli	2.41	121	⇑i Pg	Pn	23 37 45.9	+1.1
	482nm,1.0s						
CING	Cingoli	2.41	121	P	Pn	23 37 46.0	+1.2
MVIF	Mont Vial	2.42	253	P	Pn	23 37 44.4	-0.4
MVIF	Mont Vial	2.42	253	P	Pn	23 37 44.4	-0.4
MVIF	Mont Vial	2.42	253	P	Pn	23 37 44.4	-0.4
MVIF				S	Sn	23 38 15.3	+1.6
MVIF	Mont Vial	2.42	253	P	Pn	23 37 45.3	+0.5
MVIF				S	Sn	23 38 15.3	+1.6
MPRI	Monte Prat	2.45	48	P	Pn	23 37 45.0	-0.3
MPRI	Monte Prat	2.45	48	P	Pn	23 37 45.0	-0.3
CESI	CESI - Serrava	2.47	131	P	Pn	23 37 47.4	+1.8
CESI	CESI - Serrava	2.47	131	Pg	Pn	23 37 46.1	+0.5
	183nm,0.7s						
CESI	CESI - Serrava	2.47	131	P	Pn	23 37 47.4	+1.8
CSMI	Casera Mimoias	2.47	40	P	Pn	23 37 46.0	+0.4
CSMI	Casera Mimoias	2.47	40	P	Pn	23 37 46.0	+0.4
PLONS	Plons/SG	2.50	345	⇓i P	Pn	23 37 48.0	+2.0
	1µm,0.4s						
PLONS	Plons/SG	2.50	345	⇓i P	Pn	23 37 48.0	+2.0
PLONS	Plons/SG	2.50	345	⇓i P	Pn	23 37 48.0	+2.0
SURF	Saint Ours	2.53	268	P	Pn	23 37 47.2	+0.7
SURF	Saint Ours	2.53	268	P	Pn	23 37 47.2	+0.7
FDMO	Fiordimonte	2.55	128	P	Pn	23 37 48.3	+1.6
FDMO	Fiordimonte	2.55	128	Pg	Pn	23 37 48.1	+1.4
	508nm,1.1s						
FDMO	Fiordimonte	2.55	128	P	Pn	23 37 48.3	+1.6
MBDF	Montbardon	2.55	273	ePn	Pn	23 37 46.6	-0.2
MBDF				eSn	Sn	23 38 16.1	-1.0
	1µm,0.8s						
MBDF	Montbardon	2.55	273	Pn	Pn	23 37 46.9	+0.1
MBDF				Sn	Sn	23 38 17.0	-0.1
MBDF				Sg	Sn	23 38 27.0	+10
MBDF	Montbardon	2.55	273	P	Pn	23 37 46.9	+0.1
MBDF						23 38 17.0	
MBDF	Montbardon	2.55	273	ePn	Pn	23 37 46.6	-0.2
MBDF	Montbardon	2.55	273	P	Pn	23 37 46.9	+0.1
MBDF				S	Sn	23 38 17.0	-0.1
BAD	Bernadia	2.59	51	P	Pn	23 37 46.0	-1.2
BAD	Bernadia	2.59	51	P	Pn	23 37 46.0	-1.2
ABTA	Abfaltersbach	2.59	35	⇓e Pn	Pn	23 37 48.8	+1.5
	SNR=95						
ABTA	Abfaltersbach	2.59	35	⇓e Pn	Pn	23 37 48.8	+1.5
ABTA	Abfaltersbach	2.59	35	⇓e Pn	Pn	23 37 48.8	+1.5
FVI	Forni Avoltri	2.59	40	P	Pn	23 37 47.5	+0.2
FVI	Forni Avoltri	2.59	40	P	Pn	23 37 47.5	+0.2
FVI	Forni Avoltri	2.59	40	P	Pn	23 37 47.5	+0.2
BNALP	Bannalp	2.61	330	P	Pn	23 37 49.2	+1.7
BNALP	Bannalp	2.61	330	P	Pn	23 37 49.2	+1.7
HASLI	Hasliberg/Brie	2.62	325	eP	Pn	23 37 48.4	+0.8
HASLI	Hasliberg/Brie	2.62	325	eP	Pn	23 37 48.4	+0.8
HASLI	Hasliberg/Brie	2.62	325	eP	Pn	23 37 48.4	+0.8
TRI	Trieste	2.64	65	ePn	Pn	23 37 47.1	-0.9
TRI				eSn	Sn	23 38 19.2	-0.1
TRI	Trieste	2.64	65	eP	Pn	23 37 47.1	-0.8
TRI				e		23 38 19.2	
TRI	Trieste	2.64	65	⇑i Pg	Pn	23 37 47.2	-0.7
	695nm,0.5s						
TRI	Trieste	2.64	65	eP	Pn	23 37 47.1	-0.8
TRI				eS	Sn	23 38 19.2	-0.1
CALN	Calern	2.64	252	P	Pn	23 37 48.2	+0.2
CALN				S	Sn	23 38 21.2	+1.9
CALN	Calern	2.64	252	P	Pn	23 37 48.2	+0.2
CALN				S	Sn	23 38 21.2	+1.9
BNI	Bardonecchia	2.64	280	ePn	Pn	23 37 48.5	+0.5
BNI				eSn	Sn	23 38 17.6	-1.7
BNI	Bardonecchia	2.64	280	eP	Pn	23 37 48.5	+0.5
BNI				e		23 38 17.6	
BNI	Bardonecchia	2.64	280	eP	Pn	23 37 48.5	+0.5
BNI				eS	Sn	23 38 17.6	-1.7
DAVA	Damuels	2.67	353	ePn	Pn	23 37 50.7	+2.4
	SNR=387						
DAVA	Damuels	2.67	353	ePn	Pn	23 37 50.7	+2.4
DAVA	Damuels	2.67	353	ePn	Pn	23 37 50.7	+2.4
LPG	La Plagne	2.69	290	ePn	Pn	23 37 48.5	-0.1
LPG				eSn	Sn	23 38 19.4	-1.1
	457nm,0.6s						
LPG	La Plagne	2.69	290	Pn	Pn	23 37 48.9	+0.3
LPG				eSn	Sn	23 38 19.4	-1.1
LPG	La Plagne	2.69	290	P	Pn	23 37 48.9	+0.3
LPG				e		23 38 19.4	
LPG	La Plagne	2.69	290	P	Pn	23 37 48.9	+0.3
LPG				eSn	Sn	23 38 19.4	-1.1
	229nm,0.6s						
NRCA	Norcia	2.70	131	P	Pn	23 37 48.7	0.0
NRCA	Norcia	2.70	131	P	Pn	23 37 48.7	0.0
LPL	La Plagne	2.71	290	ePn	Pn	23 37 49.1	+0.2
LPL				eSn	Sn	23 38 20.1	-0.8
	800nm,0.7s						
LPL	La Plagne	2.71	290	ePn	Pn	23 37 49.1	+0.2
LPL				eSn	Sn	23 38 20.1	-0.8
LPL	La Plagne	2.71	290	eP	Pn	23 37 49.1	+0.2
LPL				e		23 38 20.1	
LPL	La Plagne	2.71	290	ePn	Pn	23 37 49.1	+0.2
LPL				eSn	Sn	23 38 20.1	-0.8
	400nm,0.7s						
PLRO	Paularo	2.74	45	P	Pn	23 37 50.0	+0.7
PLRO	Paularo	2.74	45	P	Pn	23 37 50.0	+0.7
ROBS	Robic	2.74	53	P	Pn	23 37 48.9	-0.4
ROBS	Robic	2.74	53	P	Pn	23 37 48.9	-0.4
SKDS	Skadanscina	2.75	69	⇑i Pn	Pn	23 37 48.6	-0.8
SKDS				eSn	Sn	23 38 20.8	-1.2
SKDS	Skadanscina	2.75	69	Pn	Pn	23 37 48.6	-0.8
SKDS				eSn	Sn	23 38 20.8	-1.1
PTCC	Patocco-Chiusa	2.75	49	P	Pn	23 37 49.1	-0.4
PTCC	Patocco-Chiusa	2.75	49	P	Pn	23 37 49.1	-0.4
MOTA	Moosalm	2.75	11	ePn	Pn	23 37 52.1	+2.6
	SNR=302						
MOTA	Moosalm	2.75	11	ePn	Pn	23 37 52.1	+2.6
MOTA	Moosalm	2.75	11	eP	Pn	23 37 52.1	+2.6
MOTA	Moosalm	2.75	11	eP	Pn	23 37 52.1	+2.6
WTTA	Wattenberg	2.77	18	ePn	Pn	23 37 51.6	+1.8
	SNR=268						
WTTA	Wattenberg	2.77	18	ePn	Pn	23 37 51.6	+1.8
WTTA	Wattenberg	2.77	18	eP	Pn	23 37 51.6	+1.8
WTTA	Wattenberg	2.77	18	eP	Pn	23 37 51.6	+1.8
DRE	Drenchia	2.78	55	P	Pn	23 37 49.0	-0.9
DRE	Drenchia	2.78	55	P	Pn	23 37 49.0	-0.9
MNS	Montasola	2.82	142	P	Pn	23 37 51.4	+1.0
MNS	Montasola	2.82	142	P	Pn	23 37 51.4	+1.0
MNS	Montasola	2.82	142	⇑i Pg	Pn	23 37 51.3	+0.9
	256nm,0.7s						
MNS	Montasola	2.82	142	P	Pn	23 37 51.4	+1.0
LNSS	Leonessa	2.82	135	Pg	Pn	23 37 52.0	+1.6
	2µm,1.3s						
WATA	Walderalm	2.83	17	ePn	Pn	23 37 52.8	+2.3
	SNR=125						
WATA	Walderalm	2.83	17	ePn	Pn	23 37 52.8	+2.3
WATA	Walderalm	2.83	17	eP	Pn	23 37 52.8	+2.3
WATA	Walderalm	2.83	17	eP	Pn	23 37 52.8	+2.3
TOLF	Tolfa	2.84	154	P	Pn	23 37 52.0	+1.3
TOLF	Tolfa	2.84	154	P	Pn	23 37 52.0	+1.3
VOJS	Vojsko	2.85	60	P	Pn	23 37 50.6	-0.3
VOJS	Vojsko	2.85	60	P	Pn	23 37 50.6	-0.3
VOY	Vojsko	2.86	60	⇑i Pn	Pn	23 37 50.7	-0.2
VOY				eSn	Sn	23 38 24.5	-0.2
VOY	Vojsko	2.86	60	⇑i Pn	Pn	23 37 50.7	-0.2
VOY				eSn	Sn	23 38 24.5	-0.2
RETA	Reutte	2.86	6	ePn	Pn	23 37 53.0	+2.0
	SNR=216						
RETA	Reutte	2.86	6	ePn	Pn	23 37 53.0	+2.0
RETA	Reutte	2.86	6	ePn	Pn	23 37 53.0	+2.0
CADS	Cadrg	2.86	55	⇑i Pn	Pn	23 37 50.6	-0.4
CADS	Cadrg	2.86	55	P	Pn	23 37 50.6	-0.4
CADS	Cadrg	2.86	55	P	Pn	23 37 50.6	-0.4
FRF	La Foret Royal	2.88	249	ePn	Pn	23 37 50.4	-0.8
FRF				eSn	Sn	23 38 24.0	-1.1
	881nm,0.6s						
FRF	La Foret Royal	2.88	249	Sn	Sn	23 38 23.0	-2.1
FRF				eSn	Sn	23 38 24.0	-1.1
FRF	La Foret Royal	2.88	249	ePn	Pn	23 37 50.4	-0.8
FRF				eSn	Sn	23 38 24.0	-1.1
	441nm,0.6s						
LSR	Lussari	2.89	49	P	Pn	23 37 51.0	-0.4
LSR	Lussari	2.89	49	P	Pn	23 37 51.0	-0.4
JAVS	Javornik	2.91	63	⇑i Pn	Pn	23 37 51.2	-0.4
JAVS				eSn	Sn	23 38 25.3	-0.5
JAVS							
	comp=Z,949nm,0.3s						
JAVS	Javornik	2.91	63	P	Pn	23 37 51.1	-0.5
JAVS	Javornik	2.91	63	⇑i Pn	Pn	23 37 51.2	-0.4
JAVS				eSn	Sn	23 38 25.3	-0.5
	comp=Z,949nm,0.3s						
OFFI	Offida	2.96	124	P	Pn	23 37 54.0	+1.7
OFFI	Offida	2.96	124	P	Pn	23 37 54.0	+1.7
KNDS	Knezji Dol	2.99	71	P	Pn	23 37 52.3	-0.4
KNDS	Knezji Dol	2.99	71	P	Pn	23 37 52.3	-0.4
CAMP	Campotosto	3.06	132	Pg	Pn	23 37 54.6	+0.9
	comp=Z,111nm,1.4s						
GORS	Gorjuse	3.06	56	P	Pn	23 37 53.6	-0.1
GORS	Gorjuse	3.06	56	P	Pn	23 37 53.6	-0.1
LMR	La Mourre	3.06	246	ePn	Pn	23 37 52.6	-1.2
LMR				eSn	Sn	23 38 27.6	-2.1
	comp=Z,283nm,0.3s						
LMR	La Mourre	3.06	246	ePn	Pn	23 37 52.6	-1.2
LMR				Sn	Sn	23 38 30.1	+0.4
LMR	La Mourre	3.06	246	eP	Pn	23 37 52.6	-1.2
LMR						23 38 30.1	
LMR	La Mourre	3.06	246	ePn	Pn	23 37 52.6	-1.2
LMR				S	Sn	23 38 30.1	+0.4
CEY	Cerknica	3.08	68	P	Pn	23 37 53.4	-0.6
CEY	Cerknica	3.08	68	P	Pn	23 37 53.4	-0.6
TERO	Teramo	3.11	129	P	Pn	23 37 55.6	+1.3
TERO	Teramo	3.11	129	Pg	Pn	23 37 55.3	+1.0
	comp=Z,312nm,0.9s						
TERO	Teramo	3.11	129	P	Pn	23 37 55.6	+1.3
FIAM	Fiamignano	3.11	139	P	Pn	23 37 55.9	+1.5
FIAM	Fiamignano	3.11	139	Pg	Pn	23 37 55.4	+1.0
	comp=Z,243nm,0.9s						
FIAM	Fiamignano	3.11	139	P	Pn	23 37 55.9	+1.5
MTCE	Montecelio	3.15	145	P	Pn	23 37 56.0	+1.1
MTCE	Montecelio	3.15	145	P	Pn	23 37 56.0	+1.1
AQU	L'Aquila	3.19	135	ePn	Pn	23 37 55.3	-0.2
AQU				eSn	Sn	23 38 31.6	-1.2
AQU	L'Aquila	3.19	135	eP	Pn	23 37 55.3	-0.1
AQU				e		23 38 31.6	
AQU	L'Aquila	3.19	135	⇓i P	Pn	23 37 57.2	+1.8
AQU	L'Aquila	3.19	135	S	Sn	23 38 35.8	+3.1
AQU	L'Aquila	3.19	135	eP	Pn	23 37 55.3	-0.1
AQU				eS	Sn	23 38 31.6	-1.1
SISB	Singen-Schiene	3.19	343	P	Pn	23 37 56.4	+0.8
SISB	Singen-Schiene	3.19	343	P	Pn	23 37 56.4	+0.8
ORIF	Oris-en-Rattie	3.20	277	ePn	Pn	23 37 57.0	+1.4
ORIF				eSn	Sn	23 38 31.2	-1.8
	comp=Z,804nm,0.7s						
ORIF	Oris-en-Rattie	3.20	277	ePn	Pn	23 37 57.0	+1.4
ORIF				eSn	Sn	23 38 31.2	-1.8
ORIF	Oris-en-Rattie	3.20	277	eP	Pn	23 37 57.0	+1.4
ORIF				e		23 38 31.2	
ORIF	Oris-en-Rattie	3.20	277	ePn	Pn	23 37 57.0	+1.4
ORIF				eSn	Sn	23 38 31.2	-1.8
	comp=Z,402nm,0.7s						
KBA	Koelnbreinsper	3.21	40	Pn	Pn	23 37 57.4	+1.6
	SNR=9.4						
NVLJ	Novalja	3.23	90	i Pn	Pn	23 37 55.6	-0.4
NVLJ				Sn	Sn	23 38 31.6	-2.2
NVLJ	Novalja	3.23	90	i Pn	Pn	23 37 55.6	-0.4
NVLJ				Sn	Sn	23 38 31.5	-2.3
LJU	Ljubljana	3.26	63	ePn	Pn	23 37 56.5	0.0
LJU	Ljubljana	3.26	63	P	Pn	23 37 56.6	+0.1
LJU	Ljubljana	3.26	63	P	Pn	23 37 56.6	+0.1
LJU	Ljubljana	3.26	63	P	Pn	23 37 56.6	+0.1
CERT	Cerreto	3.31	144	P	Pn	23 37 58.8	+1.7
CERT	Cerreto	3.31	144	P	Pn	23 37 58.8	+1.7
MOZS	Mozjanca	3.32	59	P	Pn	23 37 57.4	+0.1
MOZS	Mozjanca	3.32	59	P	Pn	23 37 57.4	+0.1
RDP	Rocca di Papa	3.36	148	P	Pn	23 38 01.3	+3.5
RDP	Rocca di Papa	3.36	148	P	Pn	23 38 01.3	+3.5
RDP	Rocca di Papa	3.36	148	P	Pn	23 38 01.3	+3.5
VISS	Visnje	3.38	68	⇑i Pn	Pn	23 37 58.0	0.0
VISS				eSn	Sn	23 38 36.9	-0.5
VISS							
	comp=Z,277nm,0.4s						
VISS	Visnje	3.38	68	P	Pn	23 37 58.0	-0.1
VISS	Visnje	3.38	68	P	Pn	23 37 58.0	-0.1
VISS				eSn	Sn	23 38 36.9	-0.6
	comp=Z,277nm,0.4s						
SLE	Schleitheim	3.38	338	P	Pn	23 37 57.9	-0.2
SLE	Schleitheim	3.38	338	P	Pn	23 37 57.9	-0.2
SLE	Schleitheim	3.38	338	P	Pn	23 37 57.9	-0.2
PTQR	Pietraquaria	3.44	139	P	Pn	23 37 59.8	+0.9
PTQR	Pietraquaria	3.44	139	P	Pn	23 37 59.8	+0.9
BBS	Basel-Blauen	3.45	326	P	Pn	23 38 00.1	+1.1
BBS	Basel-Blauen	3.45	326	P	Pn	23 38 00.1	+1.1
BBS	Basel-Blauen	3.45	326	P	Pn	23 37 58.6	-0.4
OBKA	Obir	3.49	56	⇑i Pn	Pn	23 37 60.0	+0.3
	SNR=22						
OBKA	Obir	3.49	56	⇑i Pn	Pn	23 37 60.0	+0.3
OBKA	Obir	3.49	56	⇑i Pn	Pn	23 38 00.0	+0.4
SMRF	Simiane la Rot	3.49	261	ePn	Pn	23 38 00.8	+1.2
SMRF				eSn	Sn	23 38 39.0	-1.3
	comp=Z,284nm,0.6s						
SMRF	Simiane la Rot	3.49	261	ePn	Pn	23 38 00.8	+1.2
SMRF				eSn	Sn	23 38 39.0	-1.3
SMRF	Simiane la Rot	3.49	261	ePn	Pn	23 38 00.8	+1.2
SMRF				eSn	Sn	23 38 39.0	-1.3
	comp=Z,142nm,0.6s						
BOURR	Bourrignon	3.51	323	P	Pn	23 38 03.5	+3.6
GUT	Gutenstein	3.54	346	P	Pn	23 38 00.3	+0.1
GUT	Gutenstein	3.54	346	P	Pn	23 38 00.3	+0.1
GUAR	Guarcino	3.58	142	P	Pn	23 38 02.3	+1.5
GUAR	Guarcino	3.58	142	P	Pn	23 38 02.3	+1.5
BOJS	Bojanci	3.58	74	⇑i Pn	Pn	23 38 00.7	-0.1
BOJS							
	comp=Z,145nm,0.3s						
BOJS	Bojanci	3.58	74	P	Pn	23 38 00.7	-0.1
BOJS	Bojanci	3.58	74	P	Pn	23 38 00.7	-0.1
CABF	La Chapelle	3.58	305	ePn	Pn	23 38 02.0	+1.1
CABF				eSn	Sn	23 38 37.9	-4.6
	comp=Z,267nm,0.7s						
CABF	La Chapelle	3.58	305	ePn	Pn	23 38 02.0	+1.1
CABF				eSn	Sn	23 38 37.9	-4.6
CABF	La Chapelle	3.58	305	eP	Pn	23 38 02.0	+1.1
CABF				e		23 38 37.9	
CABF	La Chapelle	3.58	305	ePn	Pn	23 38 02.0	+1.1
FUR	Furstenfeldbru	3.58	10	P	Pn	23 38

ECH eS Sn 23 38 56.9 -0.9
ECH Echery 4.20 329 P Pn 23 38 09.5 +0.1
MOA Molln 4.20 39⇑ iPn Pn 23 38 10.5 +1.1
SNR=36
MOA Molln 4.20 39⇑ iPn Pn 23 38 10.5 +1.1
MOA Molln 4.20 39⇑ iPn Pn 23 38 10.5 +1.1
STU Stuttgart 4.21 350 ePn Pn 23 38 08.9 -0.6
STU eSn Sn 23 38 55.9 -2.0
STU Stuttgart 4.21 350 eP Pn 23 38 08.9 -0.6
STU e 23 38 55.9
STU Stuttgart 4.21 350 eP Pn 23 38 08.9 -0.6
STU eS Sn 23 38 55.9 -2.0
RFI Roccamonfina 4.27 140 P Pn 23 38 12.1 +1.7
RFI Roccamonfina 4.27 140 P Pn 23 38 12.1 +1.7
CDF Champ du Feu 4.33 332 ePn Pn 23 38 11.2 +0.1
CDF eSn Sn 23 38 56.1 -4.8
comp=Z,97nm,0.4s
CDF Champ du Feu 4.33 332 ePn Pn 23 38 11.2 +0.1
CDF eSn Sn 23 38 56.1 -4.8
CDF Champ du Feu 4.33 332 eP Pn 23 38 11.2 +0.1
CDF e 23 38 56.1
CDF Champ du Feu 4.33 332 ePn Pn 23 38 11.2 +0.1
SISC Sisak 4.35 77 ePn Pn 23 38 09.4 -1.9
SISC Sisak 4.35 77 ePn Pn 23 38 09.4 -2.0
DGI Dorgali Grotta 4.36 188 P Pn 23 38 11.8 +0.3
DGI Dorgali Grotta 4.36 188 Pg Pn 23 38 11.3 -0.2
comp=Z,55nm,1.1s
DGI Dorgali Grotta 4.36 188 P Pn 23 38 11.8 +0.3
HAU Haudompre 4.36 322 ePn Pn 23 38 12.0 +0.4
HAU eSn Sn 23 38 59.7 -2.0
comp=Z,214nm,0.4s
HAU Haudompre 4.36 322 ePn Pn 23 38 12.0 +0.4
HAU eSn Sn 23 38 59.7 -2.0
HAU Haudompre 4.36 322 eP Pn 23 38 12.0 +0.4
HAU e 23 38 59.7
HAU Haudompre 4.36 322 ePn Pn 23 38 12.0 +0.4
HAU eSn Sn 23 38 59.7 -2.0
comp=Z,107nm,0.4s
SGG Gregorio Mates 4.39 136 P Pn 23 38 14.4 +2.4
ARSA Arzberg 4.45 52⇑ iPn Pn 23 38 12.6 -0.2
SNR=45
ARSA Arzberg 4.45 52⇑ iPn Pn 23 38 12.6 -0.2
ARSA P 23 38 13.4
ARSA Arzberg 4.45 52⇑ iPn Pn 23 38 12.6 -0.2
FG2 Serracapriola 4.51 127 P Pn 23 38 13.0 -0.7
FG2 Serracapriola 4.51 127 P Pn 23 38 13.0 -0.7
KOGS Kog 4.52 64 P Pn 23 38 13.2 -0.6
KOGS Kog 4.52 64 P Pn 23 38 13.2 -0.6
LANF Langenberg 4.68 339 P Pn 23 38 16.7 +0.8
LANF Langenberg 4.68 339 P Pn 23 38 16.7 +0.8
LANF Langenberg 4.68 339 P Pn 23 38 16.0 +0.1
LANF Langenberg 4.68 339 P Pn 23 38 16.0 +0.1
THEF They Montfort 4.69 321 P Pn 23 38 17.2 +1.2
THEF They Montfort 4.69 321 P Pn 23 38 17.2 +1.2
THEF They Montfort 4.69 321 P Pn 23 38 16.8 +0.8
THEF They Montfort 4.69 321 P Pn 23 38 16.8 +0.8
LASF Ste Croix 4.69 265 ePn Pn 23 38 15.9 -0.2
LASF eSn Sn 23 39 07.5 -2.3
comp=Z,77nm,0.7s
LASF Ste Croix 4.69 265 ePn Pn 23 38 15.9 -0.2
LASF eSn Sn 23 39 07.5 -2.3
LASF Ste Croix 4.69 265 ePn Pn 23 38 15.9 -0.2
LASF eSn Sn 23 39 07.5 -2.3
comp=Z,39nm,0.7s
SIND Sindeldorf 4.74 354 P Pn 23 38 16.3 -0.4
SIND Sindeldorf 4.74 354 P Pn 23 38 16.3 -0.4
GERES GERESS Array B 4.79 28 Pn Pn 23 38 17.6 +0.1
comp=Z,10nm,0.3s,baz=203,slow=13,SNR=321
GERES Sn Sn 23 39 11.0 -1.4
comp=Z,52nm,0.3s,baz=209,slow=24,SNR=20
GERES LR LR 23 40 32.9
comp=Z,297nm,18.2s,baz=135,slow=43
GERES GERESS Array B 4.79 28 Pn Pn 23 38 17.6 +0.1
GERES Sn Sn 23 39 11.0 -1.4
GERES GERESS Array B 4.79 28 P Pn 23 38 17.6 +0.1
GERES 23 39 11.0
GERES pmax pmax
comp=Z,10.0nm,0.3s
GERES smax
comp=N,53nm,0.3s
GERES GERESS Array B 4.79 28 P Pn 23 38 17.6 +0.1
comp=N,10.0nm,0.3s
GERES S Sn 23 39 11.0 -1.4
comp=N,53nm,0.3s
WET Wettzell 4.83 20 P Pn 23 38 17.8 -0.2
WET Wettzell 4.83 20 P Pn 23 38 17.8 -0.2
WET Wettzell 4.83 20 P Pn 23 38 17.8 -0.2
RGNG Rignano Grg 4.84 126 P Pn 23 38 16.5 -1.7
RGNG Rignano Grg 4.84 126 P Pn 23 38 16.5 -1.7
BEHE Becsehely 4.87 66⇓ ePn Pn 23 38 17.9 -0.7
BEHE eSn Sn 23 39 11.2 -3.0
BLY Banja Luka 4.87 86 P Pn 23 38 19.0 +0.4
BLY Banja Luka 4.87 86 P Pn 23 38 19.0 +0.4
SGRT San Giovanni R 4.88 124 P Pn 23 38 18.4 -0.4
SGRT San Giovanni R 4.88 124 Pg Pn 23 38 18.1 -0.7
comp=N,92nm,0.7s
SGRT San Giovanni R 4.88 124 P Pn 23 38 18.4 -0.4
FG5 Orsara di Pugl 4.93 131 P Pn 23 38 19.2 -0.2
FG5 Orsara di Pugl 4.93 131 P Pn 23 38 19.2 -0.2
FG5 Orsara di Pugl 4.93 131 P Pn 23 38 19.2 -0.2
PLDF La Plantade 4.93 288 P Pn 23 38 19.4 0.0
PLDF La Plantade 4.93 288 P Pn 23 38 19.4 0.0
PLDF La Plantade 4.93 288 P Pn 23 38 19.4 0.0
PLDF La Plantade 4.93 288 P Pn 23 38 19.1 -0.3
KTD Kalmit 4.93 342 P Pn 23 38 21.0 +1.6
KTD Kalmit 4.93 342 P Pn 23 38 21.0 +1.6
KTD Kalmit 4.93 342 P Pn 23 38 21.0 +1.6
SMF Signal de Mont 4.99 296 ePn Pn 23 38 20.1 0.0
SMF eSn Sn 23 39 12.1 -5.0
comp=N,120nm,0.5s
SMF Signal de Mont 4.99 296 ePn Pn 23 38 20.1 0.0
SMF eSn Sn 23 39 12.1 -5.0
SMF Sn Sn 23 39 15.7 -1.4
SMF Signal de Mont 4.99 296 eP Pn 23 38 20.1 0.0
SMF 23 39 15.7
SMF Signal de Mont 4.99 296 ePn Pn 23 38 20.1 0.0
SMF S Sn 23 39 15.7 -1.4
KHC Kasperske Hory 5.01 25 ePn Pn 23 38 20.3 -0.2
comp=N,146nm,0.6s
KHC eSn Sn 23 39 15.2 -2.3
KHC Kasperske Hory 5.01 25 eP Pn 23 38 20.8 +0.4
KHC e 23 39 15.6
KHC smax
comp=N,188nm,0.9s
KHC MLR MLR
comp=Z,900nm,8.5s
KHC Kasperske Hory 5.01 25 ePN Pn 23 38 20.8 +0.4
KHC ex x 23 38 36.5
KHC eSN Sn 23 39 15.6 -2.0
KHC ex x 23 39 25.0
KHC eSG Sn 23 39 43.1 +26
comp=Z,188nm,0.9s
KHC AMS AMS 23 40 10.0
comp=Z,900nm,8.5s
KHC Kasperske Hory 5.01 25 ePn Pn 23 38 20.3 -0.1
comp=Z,146nm,0.6s
KHC Sn Sn 23 39 15.6 -2.0
KHC Sg Sn 23 39 43.1 +26
comp=Z,188nm,0.9s
CONA Conrad Observa 5.04 47 i Pn Pn 23 38 21.4 +0.6
SNR=55
CONA Conrad Observa 5.04 47 i Pn Pn 23 38 21.4 +0.6
CONA Conrad Observa 5.04 47 i Pn Pn 23 38 21.5 +0.6
PAGF Fort de Pagny 5.05 322 ePn Pn 23 38 21.7 +0.7
PAGF eSn Sn 23 39 14.0 -4.6
comp=Z,33nm,0.6s
PAGF Fort de Pagny 5.05 322 ePn Pn 23 38 21.7 +0.7
PAGF eSn Sn 23 39 14.0 -4.6
PAGF Fort de Pagny 5.05 322 ePn Pn 23 38 21.7 +0.7
LBL Lubilhac 5.08 279 P Pn 23 38 22.3 +0.9
LBL Lubilhac 5.08 279 P Pn 23 38 22.3 +0.9
LBL Lubilhac 5.08 279 P Pn 23 38 21.2 -0.2
LBL Lubilhac 5.08 279 P Pn 23 38 21.2 -0.2
TOD Tromm 5.08 349 P Pn 23 38 21.5 +0.1
TOD Tromm 5.08 349 P Pn 23 38 21.5 +0.1
TOD Tromm 5.08 349 P Pn 23 38 21.5 +0.1
GRFO Grafenberg 5.09 6 ePn Pn 23 38 20.2 -1.3
GRFO Sn Sn 23 39 18.3 -1.2
GRFO Grafenberg 5.09 6 eP Pn 23 38 20.2 -1.3
GRFO 23 39 18.3
GRFO Grafenberg 5.09 6 eP Pn 23 38 20.2 -1.3
GRFO S Sn 23 39 18.3 -1.3

SFTF Sexfontaines 5.12 316 ePn Pn 23 38 22.6 +0.6
SFTF eSn Sn 23 39 16.1 -4.2
comp=Z,41nm,0.4s
SFTF Sexfontaines 5.12 316 ePn Pn 23 38 22.6 +0.6
SFTF eSn Sn 23 39 16.1 -4.2
SFTF Sexfontaines 5.12 316 ePn Pn 23 38 22.6 +0.6
SFTF eSn Sn 23 39 16.1 -4.2
comp=Z,20nm,0.4s
VSL Villasalto 5.19 188 ePn Pn 23 38 24.1 +1.1
comp=Z,24nm,0.8s
VSL eSn Sn 23 39 22.4 +0.2
VSL Villasalto 5.19 188 ePn Pn 23 38 24.1 +1.1
comp=Z,24nm,0.8s
VSL eSn Sn 23 39 22.4 +0.2
LOR Lormes 5.23 302 ePn Pn 23 38 23.6 0.0
LOR eSn Sn 23 39 23.3 +0.1
comp=Z,117nm,0.4s
LOR Lormes 5.23 302 ePn Pn 23 38 23.6 0.0
LOR eSn Sn 23 39 23.3 +0.1
LOR Lormes 5.23 302 eP Pn 23 38 23.6 0.0
LOR e 23 39 23.3
LOR Lormes 5.23 302 ePn Pn 23 38 23.6 0.0
LOR eSn Sn 23 39 23.3 +0.1
comp=Z,59nm,0.4s
SOP Sopron 5.28 53 P Pn 23 38 24.4 +0.2
SOP Sopron 5.28 53 P Pn 23 38 24.4 +0.2
SOP Sopron 5.28 53⇑ ePn Pn 23 38 24.7 +0.5
SOP eSn Sn 23 39 23.2 -1.1
SOP Sopron 5.28 53 P Pn 23 38 24.4 +0.2
SOP Sopron 5.28 53⇑ ePn Pn 23 38 24.7 +0.5
SOP eSn Sn 23 39 23.2 -1.1
PYM Petit Puy Mans 5.31 285 P Pn 23 38 24.9 +0.3
PYM Petit Puy Mans 5.31 285 P Pn 23 38 24.9 +0.3
MEZF Maizieres J'vi 5.32 318 ePn Pn 23 38 25.4 +0.7
MEZF eSn Sn 23 39 21.3 -3.9
comp=Z,65nm,0.4s
MEZF Maizieres J'vi 5.32 318 ePn Pn 23 38 25.4 +0.7
MEZF eSn Sn 23 39 21.3 -3.9
MEZF Maizieres J'vi 5.32 318 ePn Pn 23 38 25.4 +0.7
MEZF eSn Sn 23 39 21.3 -3.9
comp=Z,33nm,0.4s
AVF Avril sur Loir 5.35 296 ePn Pn 23 38 24.5 -0.7
AVF eSn Sn 23 39 24.4 -1.7
comp=Z,92nm,0.8s
AVF Avril sur Loir 5.35 296 ePn Pn 23 38 24.5 -0.7
AVF eSn Sn 23 39 24.4 -1.7
AVF Avril sur Loir 5.35 296 eP Pn 23 38 24.5 -0.7
AVF e 23 39 24.4
AVF Avril sur Loir 5.35 296 ePn Pn 23 38 24.5 -0.7
AVF eSn Sn 23 39 24.4 -1.7
comp=Z,46nm,0.8s
SSF Saint Saulge 5.36 299 ePn Pn 23 38 24.9 -0.4
SSF eSn Sn 23 39 23.9 -2.4
comp=Z,69nm,0.5s
SSF Saint Saulge 5.36 299 ePn Pn 23 38 24.9 -0.4
SSF eSn Sn 23 39 23.9 -2.4
SSF Saint Saulge 5.36 299 eP Pn 23 38 24.9 -0.4
SSF e 23 39 23.9
SSF Saint Saulge 5.36 299 ePn Pn 23 38 24.9 -0.4
SSF eSn Sn 23 39 23.9 -2.4
comp=Z,35nm,0.5s
RUP Ruppelstein 5.54 337 P Pn 23 38 29.2 +1.5
RUP Ruppelstein 5.54 337 P Pn 23 38 29.2 +1.5
RUP Ruppelstein 5.54 337 P Pn 23 38 26.9 -0.8
ABH Alteburg 5.58 341 P Pn 23 38 28.8 +0.5
ABH Alteburg 5.58 341 P Pn 23 38 28.8 +0.5
BGF Bois d'Agland 5.60 293 ePn Pn 23 38 28.6 0.0
BGF eSn Sn 23 39 29.5 -2.8
comp=Z,178nm,0.6s
BGF Bois d'Agland 5.60 293 ePn Pn 23 38 28.6 0.0
BGF eSn Sn 23 39 29.5 -2.8
BGF Bois d'Agland 5.60 293 eP Pn 23 38 28.6 0.0
BGF e 23 39 29.5
BGF Bois d'Agland 5.60 293 ePn Pn 23 38 28.6 0.0
STON Ston 5.61 106 ePn Pn 23 38 27.5 -1.2
STON Sn Sn 23 39 29.3 -3.2
STON Ston 5.61 106 ePn Pn 23 38 27.5 -1.2
CDT Castel del Mon 5.62 127 eP Pn 23 38 28.9 0.0
RHK3 Tenkes 5.72 75⇓ ePn Pn 23 38 28.8 -1.4
TNS Taunus Mts 5.73 348 P Pn 23 38 30.6 +0.2
TNS Taunus Mts 5.73 348 P Pn 23 38 30.6 +0.2
TNS Taunus Mts 5.73 348 P Pn 23 38 30.6 +0.2
NKC Novy Kostel 5.77 14 P Pn 23 38 32.5 +1.5
NKC Novy Kostel 5.77 14 P Pn 23 38 32.5 +1.5
NKC Novy Kostel 5.77 14 ePN Pn 23 38 30.1 -0.9
NKC eSN Sn 23 39 33.8 -2.6
NKC Novy Kostel 5.77 14 Pn Pn 23 38 30.1 -0.9
NKC Novy Kostel 5.77 14 P Pn 23 38 32.5 +1.5
VLF Walferdange 5.78 332 PN Pn 23 38 32.5 +1.4
WLF SN Sn 23 39 38.6 +1.9
comp=N,42nm,0.9s
WLF Walferdange 5.78 332 ePn Pn 23 38 32.1 +1.0
comp=N,26nm,0.6s
WLF eSn Sn 23 39 36.1 -0.6
WLF Walferdange 5.78 332 eP Pn 23 38 32.1 +1.0
WLF e 23 39 36.1
WLF pmax pmax
comp=Z,26nm,0.6s
WLF Walferdange 5.78 332 eP Pn 23 38 32.1 +1.0
comp=Z,26nm,0.6s
WLF eS Sn 23 39 36.1 -0.6
TREC Trest 5.83 35 eP Pn 23 38 31.9 +0.1
TREC e 23 39 36.2
TREC Trest 5.83 35 ePN Pn 23 38 31.9 +0.1
TREC eSN Sn 23 39 36.2 -1.7
TREC Trest 5.83 35 Pn Pn 23 38 31.9 +0.1
TREC Sn Sn 23 39 36.2 -1.7
SJAF Saint Jean de 5.84 251 P Pn 23 38 31.5 -0.4
SJAF Saint Jean de 5.84 251 P Pn 23 38 31.5 -0.4
EJON La Jonquera 5.85 251 P Pn 23 38 31.7 -0.3
EJON La Jonquera 5.85 251 P Pn 23 38 31.7 -0.3
GUNZ Gunzen 5.88 12 P Pn 23 38 31.8 -0.6
GUNZ Gunzen 5.88 12 P Pn 23 38 31.8 -0.6
CAF Calviac 5.91 276 ePn Pn 23 38 33.0 +0.2
CAF eSn Sn 23 39 39.2 -0.5
comp=Z,70nm,0.8s
CAF Calviac 5.91 276 ePn Pn 23 38 33.0 +0.2
CAF eSn Sn 23 39 39.2 -0.5
CAF Calviac 5.91 276 eP Pn 23 38 33.0 +0.2
CAF e 23 39 39.2
CAF Calviac 5.91 276 ePn Pn 23 38 33.0 +0.2
CAF eSn Sn 23 39 39.2 -0.5
comp=Z,35nm,0.8s
LRDF Laroque-de-Fa 5.91 256 P Pn 23 38 32.5 -0.3
LRDF Laroque-de-Fa 5.91 256 P Pn 23 38 32.5 -0.3
BAI Bari 5.96 124 eP Pn 23 38 32.5 -1.0
TCF Toulx Ste Croi 5.96 289 ePn Pn 23 38 32.9 -0.6
TCF eSn Sn 23 39 38.5 -2.5
comp=Z,99nm,0.6s
TCF Toulx Ste Croi 5.96 289 ePn Pn 23 38 32.9 -0.6
TCF eSn Sn 23 39 38.5 -2.5
TCF Toulx Ste Croi 5.96 289 eP Pn 23 38 32.9 -0.6
TCF e 23 39 38.5
TCF Toulx Ste Croi 5.96 289 ePn Pn 23 38 32.9 -0.6
HYF Humbligny 5.98 299 ePn Pn 23 38 33.7 -0.2
HYF eSn Sn 23 39 36.5 -5.1
HYF Humbligny 5.98 299 ePn Pn 23 38 33.7 -0.2
HYF eSn Sn 23 39 36.5 -5.1
HYF Humbligny 5.98 299 ePn Pn 23 38 33.7 -0.2
MTLF Montolieu 6.01 260 ePn Pn 23 38 34.4 +0.2
MTLF eSn Sn 23 39 39.6 -2.7
comp=Z,52nm,0.7s
MTLF Montolieu 6.01 260 ePn Pn 23 38 34.4 +0.2
MTLF eSn Sn 23 39 39.6 -2.7
MTLF Montolieu 6.01 260 eP Pn 23 38 34.4 +0.2
MTLF e 23 39 39.6
MTLF Montolieu 6.01 260 ePn Pn 23 38 34.4 +0.2
FILF Fillols 6.03 253 P Pn 23 38 36.0 +1.5
FILF Fillols 6.03 253 P Pn 23 38 36.0 +1.5
PKSM Moragy 6.04 72 P Pn 23 38 34.3 -0.4
PKSM Moragy 6.04 72 P Pn 23 38 34.3 -0.4
PKSM Moragy 6.04 72⇑ iP Pn 23 38 32.9 -1.8
PKSM Moragy 6.04 72 S Sn 23 39 40.4 -2.7
PKSM Moragy 6.04 72⇓ ePn Pn 23 38 33.1 -1.6
PKSM Moragy 6.04 72 P Pn 23 38 34.3 -0.4
KRUC Moravsky 6.06 41 P Pn 23 38 36.1 +1.2
KRUC Moravsky 6.06 41 P Pn 23 38 36.1 +1.2
KRUC Moravsky 6.06 41 P Pn 23 38 36.1 +1.2
PRU Pruhonice 6.06 27 P Pn 23 38 35.6 +0.7
PRU Pruhonice 6.06 27 P Pn 23 38 35.6 +0.7
PRU Pruhonice 6.06 27 ePN Pn 23 38 35.0 +0.1

PRU eSN Sn 23 39 40.4 -3.1
PRU AMS AMS 23 41 10.0
comp=Z,900nm,7.4s
PRU Pruhonice 6.06 27 Pn Pn 23 38 35.0 +0.1
PRU Pruhonice 6.06 27 P Pn 23 38 35.6 +0.7
MOX Moxa 6.07 8 P Pn 23 38 34.6 -0.4
MOX Moxa 6.07 8 P Pn 23 38 34.6 -0.4
MOX Moxa 6.07 8 P Pn 23 38 34.6 -0.4
BRY Bratogost 6.18 103⇓ iPn Pn 23 38 37.3 +0.8
BRY eSn Sn 23 39 45.7 -0.8
BRY Bratogost 6.18 103 P Pn 23 38 37.3 +0.8
BRY S Sn 23 39 45.0 -1.5
BRY Bratogost 6.18 103 P Pn 23 38 37.3 +0.8
BRY S Sn 23 39 45.0 -1.5
BRY Bratogost 6.18 103⇓ iPn Pn 23 38 37.3 +0.8
BRY S Sn 23 39 45.0 -1.5
BRY eSn Sn 23 39 45.7 -0.8
SMOL Smolenice 6.23 49 eP Pn 23 38 38.1 +0.9
SMOL Smolenice 6.23 49 ePN Pn 23 38 38.1 +0.9
SMOL Smolenice 6.23 49 eP Pn 23 38 38.1 +0.9
PKSG 6.24 61⇓ ePn Pn 23 38 36.5 -0.8
PKSG eSn Sn 23 39 46.2 -1.7
CARF Carcanieres 6.28 255 P Pn 23 38 38.1 +0.2
CARF Carcanieres 6.28 255 P Pn 23 38 38.1 +0.2
RJF Les Rejaudoux 6.30 279 ePn Pn 23 38 39.1 +0.9
RJF eSn Sn 23 39 46.5 -3.0
comp=Z,74nm,1.0s
RJF Les Rejaudoux 6.30 279 ePn Pn 23 38 39.1 +0.9
RJF eSn Sn 23 39 46.5 -3.0
RJF Les Rejaudoux 6.30 279 eP Pn 23 38 39.1 +0.9
RJF e 23 39 46.5
RJF Les Rejaudoux 6.30 279 ePn Pn 23 38 39.1 +0.9
HCY Herceg Novi 6.31 107⇓ iPn Pn 23 38 38.6 +0.2
HCY eSn Sn 23 39 49.7 0.0
HCY Herceg Novi 6.31 107 P Pn 23 38 38.6 +0.2
HCY S Sn 23 39 49.0 -0.7
HCY Herceg Novi 6.31 107 P Pn 23 38 38.6 +0.2
HCY S Sn 23 39 49.0 -0.7
HCY Herceg Novi 6.31 107⇓ iPn Pn 23 38 38.6 +0.2
HCY S Sn 23 39 49.0 -0.7
HCY eSn Sn 23 39 49.7 0.0
VRAC Vranov 6.33 40 Pn Pn 23 38 37.9 -0.6
comp=Z,1.5nm,0.3s,baz=236,slow=12,SNR=9.3
VRAC Sn Sn 23 39 47.3 -2.7
comp=Z,3.9nm,0.3s,baz=282,slow=13,SNR=3.7
VRAC Lg 23 40 26.5
comp=Z,1.8nm,0.3s,baz=127,slow=18,SNR=3.5
VRAC LR LR 23 41 46.1
comp=Z,236nm,19.7s,baz=222,slow=44
VRAC Vranov 6.33 40 Pn Pn 23 38 37.9 -0.6
VRAC Sn Sn 23 39 47.3 -2.7
VRAC Lg 23 40 26.5
VRAC Vranov 6.33 40 P Pn 23 38 37.9 -0.7
VRAC 23 39 47.3
VRAC pmax pmax
comp=Z,2.0nm,0.3s
VRAC smax
comp=N,4.0nm,0.3s
VRAC Vranov 6.33 40⇑ iP Pn 23 38 38.2 -0.4
VRAC Vranov 6.33 40 P Pn 23 38 37.9 -0.7
comp=N,2.0nm,0.3s
VRAC eSn Sn 23 39 48.3 -1.8
UPM Unac-Piva 6.34 100⇑ iPn Pn 23 38 39.9 +1.1
UPM eSn Sn 23 39 49.6 -0.9
UPM Unac-Piva 6.34 100 P Pn 23 38 39.9 +1.1
UPM S Sn 23 39 49.0 -1.5
UPM Unac-Piva 6.34 100⇑ iPn Pn 23 38 39.9 +1.1
UPM S Sn 23 39 49.0 -1.5
UPM eSn Sn 23 39 49.6 -0.9
CLLI Llivia 6.46 253 P Pn 23 38 41.3 +0.9
CLLI Llivia 6.46 253 P Pn 23 38 41.3 +0.9
VALF Valcebollere 6.46 253 P Pn 23 38 41.0 +0.6
VALF Valcebollere 6.46 253 P Pn 23 38 41.0 +0.6
CFON Fontmartina 6.46 246 P Pn 23 38 40.1 -0.3
CFON Fontmartina 6.46 246 P Pn 23 38 40.1 -0.3
PE1 Pezze di Greco 6.47 124 eP Pn 23 38 40.5 0.0
NKY Niksic 6.52 103⇑ iPn Pn 23 38 42.4 +1.1
NKY Niksic 6.52 103 P Pn 23 38 42.4 +1.1
NKY Niksic 6.52 103 P Pn 23 38 42.4 +1.1
NKY Niksic 6.52 103⇑ iPn Pn 23 38 42.4 +1.1
PVCC Panska Ves 6.54 24 P Pn 23 38 41.3 -0.2
PVCC Panska Ves 6.54 24 eP Pn 23 38 41.2 -0.3
PVCC e 23 39 54.1
PVCC Panska Ves 6.54 24 ePN Pn 23 38 41.2 -0.3
PVCC eSN Sn 23 39 54.1 -1.3
PVCC Panska Ves 6.54 24 P Pn 23 38 41.3 -0.2
PVCC Sn Sn 23 39 54.1 -1.3
JAVC Velka Javorina 6.56 47 P Pn 23 38 43.9 +2.1
JAVC Velka Javorina 6.56 47 P Pn 23 38 43.9 +2.1
JAVC Velka Javorina 6.56 47 P Pn 23 38 43.9 +2.1
GIVF Givet 6.63 327 ePn Pn 23 38 42.8 +0.1
GIVF eSn Sn 23 39 54.5 -3.0
comp=N,31nm,0.5s
GIVF Givet 6.63 327 ePn Pn 23 38 42.8 +0.1
GIVF eSn Sn 23 39 54.5 -3.0
GIVF Givet 6.63 327 eP Pn 23 38 42.8 +0.1
GIVF e 23 39 54.5
GIVF Givet 6.63 327 ePn Pn 23 38 42.8 +0.1
BUM Brajici-Budva 6.64 108⇑ iPn Pn 23 38 43.1 +0.2
BUM eSn Sn 23 39 56.8 -1.1
BUM Brajici-Budva 6.64 108 P Pn 23 38 43.0 +0.1
BUM S Sn 23 39 56.0 -1.9
BUM Brajici-Budva 6.64 108 P Pn 23 38 43.0 +0.1
BUM S Sn 23 39 56.0 -1.9
BUM eSn Sn 23 39 56.8 -1.1
PLE Pljevlja 6.65 98⇑ iPn Pn 23 38 43.9 +0.9
PLE eSn Sn 23 39 57.4 -0.7
PLE Pljevlja 6.65 98 P Pn 23 38 43.9 +0.9
PLE S Sn 23 39 57.0 -1.1
PLE Pljevlja 6.65 98 P Pn 23 38 43.9 +0.9
PLE S Sn 23 39 57.0 -1.1
PLE Pljevlja 6.65 98⇑ iPn Pn 23 38 43.9 +0.9
PLE S Sn 23 39 57.0 -1.1
PLE eSn Sn 23 39 57.4 -0.7
MEM Membach 6.65 335 PN Pn 23 38 45.2 +2.2
MEM Membach 6.65 335 Pn Pn 23 38 45.2 +2.2
BUD Budapest 6.67 62 eSn Sn 23 39 55.7 -2.8
BRG Berggiesshubel 6.69 20 i PN Pn 23 38 42.9 -0.6
comp=N,9.2nm,0.5s
BRG SN Sn 23 39 55.7 -3.3
BRG SG Sn 23 40 39.0 +40
comp=N,114nm,1.4s
BRG Berggiesshubel 6.69 20 P Pn 23 38 43.0 -0.5
BRG Berggiesshubel 6.69 20 i P Pn 23 38 42.9 -0.6
BRG 23 39 55.7
BRG pmax pmax
comp=Z,9.0nm,0.5s
BRG smax
comp=N,114nm,1.4s
BRG Berggiesshubel 6.69 20 P Pn 23 38 43.0 -0.5
DOU Dourbes 6.71 326 PN Pn 23 38 46.6 +2.8
BCLA Clavier 6.71 331 PN Pn 23 38 45.9 +2.0
BCLA SN Sn 23 39 58.2 -1.4
comp=N,15nm,0.0s
BCLA Clavier 6.71 331 Pn Pn 23 38 45.9 +2.0
BCLA Sn Sn 23 39 58.2 -1.4
KOLL Kolacno 6.80 52 P Pn 23 38 45.3 +0.2
KOLL Kolacno 6.80 52 P Pn 23 38 45.3 +0.2
KOLL Kolacno 6.80 52 ePN Pn 23 38 44.2 -0.9
KOLL eSN Sn 23 39 56.7 -5.1
KOLL Kolacno 6.80 52 ePn Pn 23 38 44.2 -0.9
KOLL Kolacno 6.80 52 P Pn 23 38 45.3 +0.2
PDG Podgorica 6.84 106⇑ iPn Pn 23 38 46.0 +0.4
PDG eSn Sn 23 40 01.8 -0.9
BAIF Baives 6.84 325 ePn Pn 23 38 45.3 -0.3
BAIF eSn Sn 23 39 58.4 -4.3
comp=N,29nm,0.6s
BAIF Baives 6.84 325 ePn Pn 23 38 45.3 -0.3
BAIF eSn Sn 23 39 58.4 -4.3
BAIF Baives 6.84 325 eP Pn 23 38 45.3 -0.3
BAIF e 23 39 58.4
BAIF Baives 6.84 325 ePn Pn 23 38 45.3 -0.3
TTG Podgorica 6.84 106⇑ iPn Pn 23 38 46.0 +0.3
TTG eSn Sn 23 40 01.8 -1.0
TTG Podgorica 6.84 106 P Pn 23 38 46.0 +0.3
TTG S Sn 23 40 01.0 -1.8
TTG Podgorica 6.84 106 P Pn 23 38 46.0 +0.3
TTG S Sn 23 40 01.0 -1.8
TTG Podgorica 6.84 106 P Pn 23 38 46.0 +0.3
TTG S Sn 23 40 01.0 -1.8
LFF La Frestale 6.85 276 ePn Pn 23 38 46.4 +0.7

LFF *eSn* **Sn** **23 39 57.3 -5.6**
comp=N,94nm,1.0s
LFF La Frestale 6.85 276 *ePn* **Pn** **23 38 46.4 +0.7**
LFF *eSn* **Sn** **23 39 57.3 -5.6**
LFF La Frestale 6.85 276 *eP* **Pn** **23 38 46.4 +0.7**
LFF *e* 23 39 57.3
LFF La Frestale 6.85 276 *ePn* **Pn** **23 38 46.4 +0.7**
SALF Salau 6.90 257 P **Pn** **23 38 47.3 +0.8**
SALF Salau 6.90 257 P **Pn** **23 38 47.3 +0.8**
CLL Collm 6.90 14 P **Pn** **23 38 45.7 -0.8**
CLL Collm 6.90 14 *eP* **Pn** **23 38 45.0 -1.5**
CLL *e* 23 40 02.0
CLL Collm 6.90 14 *ePn* **Pn** **23 38 45.0 -1.5**
CLL *ePg* Pn 23 39 16.0 +30
CLL *eSn* **Sn** **23 40 02.0 -2.3**
CLL *e* 23 40 13.0
CLL *eSb* **Sb** **23 40 37.0 +9.2**
CLL *eSg* Sn 23 40 48.0 +44
comp=Z,142nm,1.1s
CLL Collm 6.90 14 P **Pn** **23 38 45.7 -0.8**
MLS Moulis 6.91 259 P **Pn** **23 38 47.1 +0.6**
MLS Moulis 6.91 259 P **Pn** **23 38 47.1 +0.6**
KRLC Kraliky 6.97 36 *ePN* **Pn** **23 38 47.9 +0.5**
KRLC *eSN* **Sn** **23 40 03.2 -2.8**
KRLC Kraliky 6.97 36 Pn **Pn** **23 38 47.9 +0.5**
EMIR Miracle 6.99 250 P **Pn** **23 38 48.7 +1.0**
EMIR Miracle 6.99 250 P **Pn** **23 38 48.7 +1.0**
DPC Dobruska-Polom 7.00 33 P **Pn** **23 38 47.7 -0.1**
DPC Dobruska-Polom 7.00 33 *eP* **Pn** **23 38 47.8 0.0**
DPC Dobruska-Polom 7.00 33 *ePN* **Pn** **23 38 47.8 0.0**
DPC Dobruska-Polom 7.00 33 P **Pn** **23 38 47.7 -0.1**
VYHS Vyhne 7.00 54 P **Pn** **23 38 48.7 +0.9**
VYHS Vyhne 7.00 54 P **Pn** **23 38 48.7 +0.9**
VYHS Vyhne 7.00 54 *ePN* **Pn** **23 38 46.8 -1.0**
VYHS *eSN* **Sn** **23 40 01.7 -5.0**
VYHS Vyhne 7.00 54 *ePn* **Pn** **23 38 46.8 -1.0**
VYHS Vyhne 7.00 54 P **Pn** **23 38 48.7 +0.9**
UPC Upice 7.01 31 P **Pn** **23 38 47.6 -0.3**
UPC Upice 7.01 31 *eP* **Pn** **23 38 47.8 -0.1**
UPC Upice 7.01 31 *ePN* **Pn** **23 38 47.8 -0.1**
UPC Upice 7.01 31 Pn **Pn** **23 38 47.8 -0.1**
ULC Ulcinj 7.02 109 ⇓*i*Pn **Pn** **23 38 47.5 -0.6**
ULC *eSn* **Sn** **23 40 05.9 -1.2**
ULC Ulcinj 7.02 109 P **Pn** **23 38 47.4 -0.7**
ULC S **Sn** **23 40 05.0 -2.1**
ULC Ulcinj 7.02 109 P **Pn** **23 38 47.4 -0.7**
ULC S **Sn** **23 40 05.0 -2.1**
ULC Ulcinj 7.02 109 ⇓*i*Pn **Pn** **23 38 47.5 -0.6**
ULC *eSn* **Sn** **23 40 05.9 -1.2**
CSOR Sort 7.07 255 P **Pn** **23 38 50.8 +2.0**
CSOR Sort 7.07 255 P **Pn** **23 38 50.8 +2.0**
MORC Moravsky Berou 7.10 41 *ePn* **Pn** **23 38 47.5 -1.6**
comp=Z,9.9nm,0.6s
MORC *eSn* **Sn** **23 40 06.3 -2.7**
MORC Moravsky Berou 7.10 41 *eP* **Pn** **23 38 47.5 -1.6**
MORC *e* 23 40 06.3
MORC pmax pmax
comp=Z,10.0nm,0.6s
MORC Moravsky Berou 7.10 41 ⇑*i*P **Pn** **23 38 49.0 -0.1**
MORC Moravsky Berou 7.10 41 *eP* **Pn** **23 38 47.5 -1.6**
comp=Z,10.0nm,0.6s
BEY Berane 7.13 101 ⇑*i*Pn **Pn** **23 38 50.2 +0.6**
BEY *eSn* **Sn** **23 40 07.8 -2.2**
IVA Berane 7.14 101 ⇑*i*Pn **Pn** **23 38 50.2 +0.5**
IVA *eSn* **Sn** **23 40 07.8 -2.2**
IVA Berane 7.14 101 P **Pn** **23 38 50.2 +0.5**
IVA Berane 7.14 101 P **Pn** **23 38 50.2 +0.5**
IVAS Ivanjica 7.14 95 *ePn* **Pn** **23 38 49.2 -0.5**
SNF Seneffe 7.16 327 PN **Pn** **23 38 51.9 +1.9**
SNF Seneffe 7.16 327 Pn **Pn** **23 38 51.8 +1.8**
PVY Plav 7.27 103 ⇓*i*Pn **Pn** **23 38 52.3 +0.8**
PVY *eSn* **Sn** **23 40 12.4 -0.9**
PVY Plav 7.27 103 P **Pn** **23 38 52.3 +0.8**
PVY S **Sn** **23 40 12.0 -1.3**
PVY Plav 7.27 103 ⇓*i*Pn **Pn** **23 38 52.3 +0.8**
PVY S **Sn** **23 40 12.0 -1.3**
PVY *eSn* **Sn** **23 40 12.4 -0.9**
PSZ Piszkesteto 7.38 60 *ePn* **Pn** **23 38 51.8 -1.2**
comp=Z,19nm,0.8s
PSZ *eSn* **Sn** **23 40 13.3 -2.7**
PSZ Piszkesteto 7.38 60 *eP* **Pn** **23 38 51.8 -1.2**
PSZ *e* 23 40 13.3
PSZ pmax pmax
comp=Z,19nm,0.8s
PSZ Piszkesteto 7.38 60⇓*ePn* **Pn** **23 38 52.8 -0.2**
PSZ *eSn* **Sn** **23 40 12.5 -3.5**
PSZ Piszkesteto 7.38 60⇑*iP* **Pn** **23 38 52.9 -0.1**
PSZ Piszkesteto 7.38 60 *eP* **Pn** **23 38 51.8 -1.2**
comp=Z,19nm,0.8s
KSP Ksiaz 7.38 31 *eP* **Pn** **23 38 53.2 +0.1**
KSP Ksiaz 7.38 31 *ePn* **Pn** **23 38 53.2 +0.1**
KSP *eSn* **Sn** **23 40 26.7 +11**
KSP *eSg* Sn 23 41 02.9 +47
KSP Ksiaz 7.38 31 P **Pn** **23 38 53.2 +0.1**
KSP Ksiaz 7.38 31 *eP* **Pn** **23 38 53.2 +0.1**
KSP *e* 23 40 26.7
KSP Ksiaz 7.38 31 *ePn* **Pn** **23 38 53.3 +0.2**
KSP *ePg* Pn 23 39 25.2 +32
KSP *eSn* **Sn** **23 40 27.3 +11**
KSP *eSg* Sn 23 41 03.2 +47
KSP Ksiaz 7.38 31 P **Pn** **23 38 53.2 +0.1**
KSP *eSg* Sn 23 41 02.9 +47
ETOS Mallorca 7.42 232 P **Pn** **23 38 54.5 +1.0**
ETOS S **Sn** **23 40 14.7 -2.2**
ETOS Mallorca 7.42 232 P **Pn** **23 38 54.5 +1.0**
ETOS S **Sn** **23 40 14.7 -2.2**
EPF Esparros 7.42 261 *ePn* **Pn** **23 38 53.1 -0.4**
EPF *eSn* **Sn** **23 40 12.4 -4.5**
comp=Z,36nm,0.7s
EPF Esparros 7.42 261 *ePn* **Pn** **23 38 53.1 -0.4**
EPF *eSn* **Sn** **23 40 12.4 -4.5**
EPF Esparros 7.42 261 *eP* **Pn** **23 38 53.1 -0.4**
EPF *e* 23 40 12.4
EPF Esparros 7.42 261 *ePn* **Pn** **23 38 53.1 -0.4**
OKC Ostrava-Krasne 7.43 43 P **Pn** **23 38 53.4 -0.2**
OKC Ostrava-Krasne 7.43 43 *eP* **Pn** **23 38 53.0 -0.6**
OKC Ostrava-Krasne 7.43 43 *ePN* **Pn** **23 38 53.0 -0.6**
OKC Ostrava-Krasne 7.43 43 Pn **Pn** **23 38 53.0 -0.6**
OKC Ostrava-Krasne 7.43 43 P **Pn** **23 38 53.4 -0.2**
GRUS Gruza 7.48 92 *ePn* **Pn** **23 38 54.1 -0.3**
EPOB Poblet 7.55 247 P **Pn** **23 38 57.5 +2.1**
EPOB S **Sn** **23 40 20.6 +0.4**
EPOB Poblet 7.55 247 P **Pn** **23 38 57.5 +2.1**
EPOB S **Sn** **23 40 20.6 +0.4**
MFF Saint Martin d 7.62 289 *ePn* **Pn** **23 38 55.6 -0.7**
MFF *eSn* **Sn** **23 40 14.9 -6.9**
comp=Z,32nm,0.7s
MFF Saint Martin d 7.62 289 *ePn* **Pn** **23 38 55.6 -0.7**
MFF *eSn* **Sn** **23 40 14.9 -6.9**
MFF Saint Martin d 7.62 289 *eP* **Pn** **23 38 55.6 -0.7**
MFF *e* 23 40 14.9
MFF Saint Martin d 7.62 289 *ePn* **Pn** **23 38 55.6 -0.7**
EBIE Bielsa 7.66 259 P **Pn** **23 39 00.4 +3.6**
TIR Tirane 7.71 112 P **Pn** **23 38 57.0 -0.6**
TIR Tirane 7.71 112 P **Pn** **23 38 57.0 -0.6**
TIR Tirane 7.71 112 P **Pn** **23 38 57.0 -0.6**
KECS Kecovo 7.97 58 *eP* **Pn** **23 39 00.3 -0.8**
KECS *e* 23 40 26.9
KECS Kecovo 7.97 58 *ePN* **Pn** **23 39 00.3 -0.8**
KECS *eSN* **Sn** **23 40 26.9 -3.6**
KECS Kecovo 7.97 58 *eP* **Pn** **23 39 00.3 -0.8**
BZS Buzias 8.03 79 P **Pn** **23 39 04.6 +2.7**
BZS Buzias 8.03 79 P **Pn** **23 39 04.6 +2.7**
BZS Buzias 8.03 79 ⇓*i*P **Pn** **23 39 02.5 +0.6**
BZS Buzias 8.03 79 ⇓*i*P **Pn** **23 39 02.5 +0.6**
ETSF Etsaut 8.09 261 *ePn* **Pn** **23 39 03.7 +1.0**
ETSF *eSn* **Sn** **23 40 33.1 -0.3**
comp=Z,24nm,0.6s
ETSF Etsaut 8.09 261 *ePn* **Pn** **23 39 03.7 +1.0**
ETSF *eSn* **Sn** **23 40 33.1 -0.3**
ETSF Etsaut 8.09 261 *eP* **Pn** **23 39 03.7 +1.0**
ETSF *e* 23 40 33.1
ETSF Etsaut 8.09 261 *ePn* **Pn** **23 39 03.7 +1.0**
ETSF *eSn* **Sn** **23 40 33.1 -0.3**
comp=Z,12nm,0.6s
LDF La Druitiere 8.22 302 *ePn* **Pn** **23 39 03.4 -1.1**
LDF *eSn* **Sn** **23 40 29.6 -7.1**
comp=Z,15nm,0.4s
LDF La Druitiere 8.22 302 *ePn* **Pn** **23 39 03.4 -1.1**
LDF *eSn* **Sn** **23 40 29.6 -7.1**
LDF La Druitiere 8.22 302 *eP* **Pn** **23 39 03.4 -1.1**
LDF *e* 23 40 29.6
LDF La Druitiere 8.22 302 *ePn* **Pn** **23 39 03.4 -1.1**
ERTA Horta de San J 8.23 247 P **Pn** **23 39 07.0 +2.3**
ERTA Horta de San J 8.23 247 P **Pn** **23 39 07.0 +2.3**
BOLS Boljevac 8.37 91 *ePn* **Pn** **23 39 05.0 -1.6**
ESAC San Caprasio 8.43 254 P **Pn** **23 39 08.8 +1.4**
ESAC San Caprasio 8.43 254 P **Pn** **23 39 08.8 +1.4**
OJC Ojcow 8.49 46 *eP* **Pn** **23 39 10.2 +2.0**
OJC Ojcow 8.49 46 *eP* **Pn** **23 39 10.2 +2.0**
OJC Ojcow 8.49 46 *eP* **Pn** **23 39 10.2 +2.0**
BARS Barje 8.50 98 *ePn* **Pn** **23 39 07.7 -0.7**
SJPF Ste Jean 8.50 264 *ePn* **Pn** **23 39 08.1 -0.3**
SJPF *eSn* **Sn** **23 40 46.8 +3.2**
comp=Z,29nm,1.1s
SJPF Ste Jean 8.50 264 *ePn* **Pn** **23 39 08.1 -0.3**
SJPF *eSn* **Sn** **23 40 46.8 +3.2**
SJPF Ste Jean 8.50 264 *eP* **Pn** **23 39 08.1 -0.3**
SJPF *e* 23 40 46.8
SJPF Ste Jean 8.50 264 *ePn* **Pn** **23 39 08.1 -0.3**
FLN La Foliniere 8.51 303 *ePn* **Pn** **23 39 07.1 -1.4**
FLN *eSn* **Sn** **23 40 38.0 -5.7**
comp=Z,16nm,0.6s
FLN La Foliniere 8.51 303 *ePn* **Pn** **23 39 07.1 -1.4**
FLN *eSn* **Sn** **23 40 38.0 -5.7**
FLN La Foliniere 8.51 303 *eP* **Pn** **23 39 07.1 -1.4**
FLN *e* 23 40 38.0
FLN La Foliniere 8.51 303 *ePn* **Pn** **23 39 07.1 -1.4**
SKO Skopje 8.52 104 *ePn* **Pn** **23 39 09.2 +0.6**
SKO Skopje 8.52 104 *ePn* **Pn** **23 39 09.2 +0.6**
GRR Gorron 8.59 300 *ePn* **Pn** **23 39 08.2 -1.4**
GRR *eSn* **Sn** **23 40 39.6 -6.1**
comp=Z,28nm,0.6s
GRR Gorron 8.59 300 *ePn* **Pn** **23 39 08.2 -1.4**
GRR *eSn* **Sn** **23 40 39.6 -6.1**
GRR Gorron 8.59 300 *eP* **Pn** **23 39 08.2 -1.4**
GRR *e* 23 40 39.6
GRR Gorron 8.59 300 *ePn* **Pn** **23 39 08.2 -1.4**
KRUS Krusevo 8.63 108 *ePn* **Pn** **23 39 09.3 -0.9**
KRUS Krusevo 8.63 108 *ePn* **Pn** **23 39 09.2 -1.0**
EALK Alkurruntz 8.68 265 P **Pn** **23 39 13.0 +2.2**
EALK Alkurruntz 8.68 265 P **Pn** **23 39 13.0 +2.2**
CRVS Cervenica-Dubn 8.73 57 *eP* **Pn** **23 39 12.1 +0.5**
CRVS Cervenica-Dubn 8.73 57 *ePN* **Pn** **23 39 12.1 +0.5**
CRVS Cervenica-Dubn 8.73 57 *eP* **Pn** **23 39 12.1 +0.5**
EIBI Ibiza 8.75 233 P **Pn** **23 39 12.6 +0.7**
EIBI Ibiza 8.75 233 P **Pn** **23 39 12.6 +0.7**
GZR Gura Zlata 8.84 81 P **Pn** **23 39 14.0 +1.0**
GZR Gura Zlata 8.84 81 P **Pn** **23 39 14.0 +1.0**
GZR Gura Zlata 8.84 81 ⇓*iP* **Pn** **23 39 13.8 +0.8**
GZR Gura Zlata 8.84 81 P **Pn** **23 39 14.0 +1.0**
KEST Kesra 8.93 185 *ePn* **Pn** **23 39 17.4 +3.0**
comp=Z,0.1nm,0.3s,baz=292,slow=5.4,SNR=6.4
KEST LR LR 23 42 36.3
comp=Z,70nm,21.3s,baz=236,slow=37
KEST Kesra 8.93 185 *ePn* **Pn** **23 39 14.1 -0.2**
KEST Kesra 8.93 185 *ePn* **Pn** **23 39 14.1 -0.2**
FNA Florina 8.98 112 P **Pn** **23 39 16.0 +1.0**
FNA Florina 8.98 112 P **Pn** **23 39 16.0 +1.0**
FNA Florina 8.98 112 P **Pn** **23 39 16.0 +1.0**
EMOS Mosqueruela 9.06 246 P **Pn** **23 39 18.2 +2.1**
EMOS Mosqueruela 9.06 246 P **Pn** **23 39 18.2 +2.1**
VAY Valandovo 9.55 106 *ePn* **Pn** **23 39 21.3 -1.5**
VAY Valandovo 9.55 106 *ePn* **Pn** **23 39 21.2 -1.6**
VTS Vitosha 9.55 98 P **Pn** **23 39 22.4 -0.4**
VTS Vitosha 9.55 98 P **Pn** **23 39 22.4 -0.4**
VTS Vitosha 9.55 98 ⇑*iP* **Pn** **23 39 22.3 -0.5**
VTS Vitosha 9.55 98 P **Pn** **23 39 22.4 -0.4**
SGMF Saint Gilles 9.61 297 *ePn* **Pn** **23 39 22.5 -1.1**
SGMF *eSn* **Sn** **23 41 03.6 -7.3**
comp=Z,9.4nm,0.5s
SGMF Saint Gilles 9.61 297 *ePn* **Pn** **23 39 22.5 -1.1**
SGMF *eSn* **Sn** **23 41 03.6 -7.3**
SGMF Saint Gilles 9.61 297 *eP* **Pn** **23 39 22.5 -1.1**
SGMF Saint Gilles 9.61 297 *ePn* **Pn** **23 39 22.5 -1.1**
EBEN Beniarda 9.88 237 P **Pn** **23 39 29.0 +1.6**
EBEN Beniarda 9.88 237 P **Pn** **23 39 29.0 +1.6**
QUIF Quistinic 9.91 294 *ePn* **Pn** **23 39 26.3 -1.5**
QUIF *eSn* **Sn** **23 41 11.8 -6.5**
comp=Z,3.7nm,0.4s
QUIF Quistinic 9.91 294 *ePn* **Pn** **23 39 26.3 -1.5**
QUIF *eSn* **Sn** **23 41 11.8 -6.5**
QUIF Quistinic 9.91 294 *eP* **Pn** **23 39 26.3 -1.5**
QUIF *e* 23 41 11.8
QUIF Quistinic 9.91 294 *ePn* **Pn** **23 39 26.3 -1.5**
ROSF Rostrenen 10.10 296 *ePn* **Pn** **23 39 28.9 -1.3**
ROSF *eSn* **Sn** **23 41 15.3 -7.4**
comp=Z,5.9nm,0.5s
ROSF Rostrenen 10.10 296 *ePn* **Pn** **23 39 28.9 -1.3**
ROSF *eSn* **Sn** **23 41 15.3 -7.4**
ROSF Rostrenen 10.10 296 *eP* **Pn** **23 39 28.9 -1.3**
ROSF Rostrenen 10.10 296 *ePn* **Pn** **23 39 28.9 -1.3**
AGG Agios Georgios 10.55 118 P **Pn** **23 39 36.2 -0.3**
AGG Agios Georgios 10.55 118 P **Pn** **23 39 36.2 -0.3**
AGG Agios Georgios 10.55 118 P **Pn** **23 39 36.2 -0.3**
BUR08 Bucovina Ar. S 10.73 69 *ePn* **Pn** **23 39 38.5 -0.4**
BUR08 *eSn* **Sn** **23 41 34.2 -4.2**
BUR08 Bucovina Ar. S 10.73 69 *ePn* **Pn** **23 39 38.5 -0.5**
BURAR Bucovina Array 10.74 69 ⇓*iP* **Pn** **23 39 40.1 +1.1**
BURAR Bucovina Array 10.74 69 ⇓*iP* **Pn** **23 39 40.1 +1.1**
MLR Muntele Rosu 11.07 80 LR LR 23 44 19.2
comp=Z,51nm,18.7s,baz=317,slow=39
EARI Arriondas 11.30 269 P **Pn** **23 39 48.1 +1.4**
EARI Arriondas 11.30 269 P **Pn** **23 39 48.1 +1.4**
GUD Guadarrama 11.40 255 P **Pn** **23 39 49.7 +1.5**
GUD Guadarrama 11.40 255 P **Pn** **23 39 49.7 +1.5**
GUD Guadarrama 11.40 255 P **Pn** **23 39 49.7 +1.5**
VRI Vrincioaia 11.61 78 ⇓*iP* **Pn** **23 39 52.2 +1.2**
VRI Vrincioaia 11.61 78 ⇓*iP* **Pn** **23 39 52.2 +1.2**
ESDC Sonseca Array 11.72 250 Pn **Pn** **23 39 52.1 -0.4**
comp=Z,0.9nm,0.3s,baz=60,slow=14,SNR=46
ESDC Sonseca Array 11.72 250 Pn **Pn** **23 39 52.1 -0.4**
ESDC Sonseca Array 11.72 250 Pn **Pn** **23 39 52.2 -0.3**
ESLA Sonseca Array 11.72 250 *ePn* **Pn** **23 39 53.2 +0.7**
comp=Z,1.0nm,0.8s
ESLA Sonseca Array 11.72 250 *ePn* **Pn** **23 39 53.2 +0.7**
comp=Z,1.0nm,0.8s
PAB San Pablo 12.04 250 *ePn* **Pn** **23 39 57.0 0.0**
comp=Z,4.0nm,0.6s
PAB San Pablo 12.04 250 *eP* **Pn** **23 39 57.0 +0.1**
PAB pmax pmax
comp=Z,4.0nm,0.6s
PAB San Pablo 12.04 250 *eP* **Pn** **23 39 57.0 +0.1**
comp=Z,4.0nm,0.6s
ALN Alexandroupoli 12.12 102 P **Pn** **23 39 58.0 0.0**
ALN Alexandroupoli 12.12 102 P **Pn** **23 39 58.0 0.0**
ALN Alexandroupoli 12.12 102 P **Pn** **23 39 58.0 0.0**
AKASG Malin Array Be 14.07 58 Pn **Pn** **23 40 32.5 +8.0**
comp=Z,0.4nm,0.3s,baz=248,slow=11,SNR=3.5
AKASG Malin Array Be 14.07 58 Pn **Pn** **23 40 32.5 +8.0**
AKASG Malin Array Be 14.07 58 P **Pn** **23 40 32.5 +8.0**
PMRV Marv??o 14.17 255 *eP* **Pn** **23 40 26.7 +0.8**
comp=Z,27nm,1.0s
PMRV Marv??o 14.17 255 *eP* **Pn** **23 40 26.7 +0.8**
comp=Z,27nm,1.0s
PBAR Barrancos 14.55 250 *eP* **Pn** **23 40 30.1 -1.0**
PESTR Estremoz 14.57 253 *eP* **Pn** **23 40 32.0 +0.6**
PMTG Montargil 14.91 255 *eP* **Pn** **23 40 35.2 -0.8**
EVO Evora 15.02 252 *eP* **Pn** **23 40 37.4 -0.1**
HFS Hagfors 15.65 6 Pn **Pn** **23 40 45.4 -0.2**
comp=Z,0.1nm,0.3s,baz=162,slow=10.0,SNR=2.4
HFS Hagfors 15.65 6 Pn **Pn** **23 40 45.4 -0.2**
HFS Hagfors 15.65 6 P **Pn** **23 40 45.4 -0.2**
HFS Hagfors 15.65 6 Pn **Pn** **23 40 45.4 -0.2**
NB2 NORSAR Subarra 16.44 1 P **Pn** **23 40 58.9 +3.2**
comp=Z,7.1nm,1.0s,baz=182,slow=11
NB2 NORSAR Subarra 16.44 1 P **Pn** **23 40 58.9 +3.2**
comp=Z,7.1nm,1.0s,SNR=5.0
NOA NORSAR Array B 16.44 1 Pn **Pn** **23 40 58.5 +2.9**
comp=Z,0.1nm,0.3s,baz=184,slow=11,SNR=3.9
NOA NORSAR Array B 16.44 1 Pn **Pn** **23 40 58.5 +2.9**
NOA NORSAR Array B 16.44 1 P **Pn** **23 40 58.5 +2.8**
NOA NORSAR Array B 16.44 1 P **Pn** **23 40 58.5 +2.8**
BRTR Keskin Array B 17.92 98 P **Pn** **23 41 17.2 +2.8**
comp=Z,0.1nm,0.3s,baz=273,slow=7.4,SNR=4.8
BRTR Keskin Array B 17.92 98 P **Pn** **23 41 17.2 +2.8**
BRTR Keskin Array B 17.92 98 P **Pn** **23 41 17.3 +2.9**
BRTR Keskin Array B 17.92 98 P **Pn** **23 41 17.2 +2.8**
FINES FINESS Array B 19.21 23 P **Pn** **23 41 29.0 -0.9**
comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=8.5
FINES FINESS Array B 19.21 23 P **Pn** **23 41 29.0 -0.9**
FINES FINESS Array B 19.21 23 P **Pn** **23 41 29.0 -0.9**
FINES FINESS Array B 19.21 23 P **Pn** **23 41 29.0 -0.9**
comp=Z,9.0nm,1.0s
OBN Obninsk 19.76 49 *eP* **Pn** **23 41 40.8 +4.3**
OBN pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 20.31 61 *eP* **P** **23 41 46.0 +5.1**
VSR pmax pmax
comp=Z,50nm,0.6s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,70nm,0.7s
JOF Joensuu 21.92 26 *eP* **P** **23 41 57.4 -0.7**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
JOF Joensuu 21.92 26 *ep* **P** **23 41 57.4 -0.7**
comp=Z,2.9nm,0.6s,mb3.9
JOF Joensuu 21.92 26 *eP* **P** **23 41 57.4 -0.7**
comp=Z,3.0nm,0.6s,mb3.9
TAM Tamanrasset 22.15 192 *eP* **P** **23 42 00.7 -0.2**
comp=Z,2.9nm,0.9s,mb3.7
TAM Tamanrasset 22.15 192 *eP* **P** **23 42 00.7 -0.2**
TAM pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
TAM Tamanrasset 22.15 192 *eP* **P** **23 42 00.7 -0.2**
comp=Z,3.0nm,0.9s,mb3.7
MMAI Mount Meron Ar 22.61 112 P **P** **23 42 07.5 +1.7**
comp=Z,6.9nm,0.9s,mb4.1,baz=316,slow=8.1,SNR=4.5
MMAI Mount Meron Ar 22.61 112 P **P** **23 42 07.5 +1.7**
MMAI Mount Meron Ar 22.61 112 P **P** **23 42 07.6 +1.8**
ONI Oni 23.96 83 P **P** **23 42 20.8 +1.5**
ASF Jabal al Asfar 24.12 112 P **P** **23 42 22.2 +1.4**
comp=Z,9.4nm,1.0s,mb4.2,baz=159,slow=9.8,SNR=7.2
ASF Jabal al Asfar 24.12 112 P **P** **23 42 22.2 +1.4**
ASF Jabal al Asfar 24.12 112 P **P** **23 42 22.2 +1.4**
ASF pmax pmax
comp=Z,9.0nm,1.0s
AKH Akhalkalaki 24.35 86 P **P** **23 42 17.5 -5.3**
TBLG Delisi 25.13 84 *eP* **P** **23 42 19.6 -10**
TBLG Delisi 25.13 84 P **P** **23 42 19.6 -10**
MTA Mtatsminda 25.18 85 P **P** **23 42 20.1 -10**
GNI Garni 25.67 88 P **P** **23 42 36.0 +1.2**
comp=Z,8.9nm,0.8s,mb4.3,baz=335,slow=5.2,SNR=12
GNI Garni 25.67 88 *eP* **P** **23 42 34.8 -0.1**
comp=Z,9.4nm,0.8s,mb4.4
GNI Garni 25.67 88 *eP* **P** **23 42 34.8 0.0**
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 25.67 88 *eP* **P** **23 42 34.8 0.0**
comp=Z,9.0nm,0.8s,mb4.3
TORD Torodi Ar. Bea 32.25 196 P **P** **23 43 32.5 -1.0**
comp=Z,1.1nm,0.7s,mb3.8,baz=10,slow=9.0,SNR=13
TORD Torodi Ar. Bea 32.25 196 P **P** **23 43 32.5 -1.0**
TORD Torodi Ar. Bea 32.25 196 P **P** **23 43 32.5 -1.0**
KURK Kurchatov 44.88 57 P **P** **23 45 18.7 -0.5**
comp=Z,1.2nm,0.7s,mb3.8,baz=295,slow=9.0,SNR=11
KURK Kurchatov 44.88 57 P **P** **23 45 18.7 -0.5**
KURK Kurchatov 44.88 57 P **P** **23 45 18.7 -0.5**
KURK pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
KURK Kurchatov 44.88 57 P **P** **23 45 18.7 -0.5**
comp=Z,1.0nm,0.7s,mb3.8
MKAR Makanchi Array 48.63 61 P **P** **23 45 48.6 0.0**
comp=Z,1.5nm,0.7s,mb4.1,baz=304,slow=5.5,SNR=14
MKAR Makanchi Array 48.63 61 P **P** **23 45 48.6 0.0**
MKAR Makanchi Array 48.63 61 P **P** **23 45 48.6 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 48.63 61 P **P** **23 45 48.6 0.0**
comp=Z,2.0nm,0.7s,mb4.3
SONM Songino Array 62.17 49 P **P** **23 47 27.0 +1.0**
comp=Z,1.3nm,0.9s,mb4.1,baz=294,slow=4.0,SNR=6.8
SONM Songino Array 62.17 49 P **P** **23 47 27.0 +1.0**
SONM Songino Array 62.17 49 P **P** **23 47 27.0 +1.0**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 62.17 49 P **P** **23 47 27.0 +1.0**
comp=Z,1.0nm,0.9s,mb4.0
YKA Yellowknife Ar 64.51 335 P **P** **23 47 41.6 +0.3**
comp=Z,1.1nm,0.6s,mb4.0,baz=42,slow=6.4,SNR=22
YKA Yellowknife Ar 64.51 335 P **P** **23 47 41.6 +0.3**
YKA Yellowknife Ar 64.51 335 P **P** **23 47 41.6 +0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 64.51 335 P **P** **23 47 41.6 +0.3**
comp=Z,1.0nm,0.6s,mb4.0
ILAR Eielson Array 69.48 350 P **P** **23 48 13.1 +0.3**
comp=Z,0.5nm,0.7s,mb3.5,baz=14,slow=5.4,SNR=7.3
ILAR Eielson Array 69.48 350 P **P** **23 48 13.1 +0.3**
ILAR Eielson Array 69.48 350 P **P** **23 48 13.1 +0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 69.48 350 P **P** **23 48 13.1 +0.3**
comp=Z,1.0nm,0.7s,mb3.9
CMAR Chiang Mai Arr 76.29 78 P **P** **23 48 53.0 -1.0**
comp=Z,0.5nm,0.7s,mb3.6,baz=298,slow=7.8,SNR=6.0
CMAR Chiang Mai Arr 76.29 78 P **P** **23 48 53.0 -1.0**
CMAR Chiang Mai Arr 76.29 78 P **P** **23 48 53.0 -0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 76.29 78 P **P** **23 48 53.0 -0.9**
comp=Z,1.0nm,0.7s,mb3.9

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*ISCJB **23** 23:40:33.6±0.3, 44°.58N±0°.02×10°.28E±0°.05, h26km±5km,*
Error ellipse: s-maj=5.5km s-min=3.7km az=1.6
*CSEM **23** 23:40:33.2±0.2, 44°.57N×10°.34E, h10km, ML3.1/16, Error*
ellipse: s-maj=4.2km s-min=3.0km az=53.0
*ROM **23** 23:40:33.8±0.1, 44°.54N×10°.40E, h25km±2km, Md2.6/15,*
Error ellipse: s-maj=4.9km s-min=1.9km az=68.0
*NEIC **23** 23:40:36.6, 44°.57N×10°.42E, h25km, ML3.1(LDG), After*
LDG.
*LDG **23** 23:40:36.6±0.2, 44°.57N×10°.42E, h25km, Ml3.1/30, Error*
ellipse: s-maj=4.3km s-min=3.5km az=62.0

ISC 23 23:40:34.5±0.3, 44°.56N±0°.02×10°.34E±0°.04, h23km±4km,
n118,σ1°.02/204, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.15**	**160**	Pg	**Pb**	**23 40 38.3**	**-1.0**
ERBM				Sg	**Sb**	**23 40 42.5**	**-0.1**
	10μm,0.2s						
ERBM	**Eremo**	**0.15**	**160**	Pg	**Pb**	**23 40 38.3**	**-1.0**
PRMA	**PARMA**	**0.20**	**354**	Pg	**Pb**	**23 40 39.5**	**-0.5**
PRMA				Sg	**Sb**	**23 40 45.4**	**+1.7**
	2μm,0.5s						
PRMA	**PARMA**	**0.20**	**354**	Pg	**Pb**	**23 40 39.5**	**-0.5**
GSCL	**Gusciola**	**0.27**	**140**	Pg	**Pb**	**23 40 39.4**	**-1.5**
GSCL	**Gusciola**	**0.27**	**140**	Pg	**Pb**	**23 40 39.4**	**-1.5**
ZCCA	**Zocca**	**0.50**	**115**	Pg	**Pb**	**23 40 44.1**	**-0.5**
ZCCA	**Zocca**	**0.50**	**115**	Pg	**Pb**	**23 40 44.1**	**-0.5**
MAIM	**Mastiano**	**0.66**	**171**	Pg	**Pb**	**23 40 46.3**	**-0.9**
MAIM				Sg	**Sb**	**23 40 55.2**	**-0.7**
	259nm,0.5s						
MAIM	**Mastiano**	**0.66**	**171**	Pg	**Pb**	**23 40 46.3**	**-0.9**
MAIM				Sg	**Sb**	**23 40 55.2**	**-0.7**
	259nm,0.5s						
FNVD	**Fontana Vidola**	**0.68**	**125**	Pg	**Pb**	**23 40 46.6**	**-1.1**
FNVD	**Fontana Vidola**	**0.68**	**125**	Pg	**Pb**	**23 40 46.6**	**-1.1**
CRMI	**Carmignano**	**0.89**	**149**	Pg	**Pb**	**23 40 50.2**	**-1.0**
CRMI				Sg	**Sb**	**23 41 03.2**	**+0.5**
	268nm,0.4s						
CRMI	**Carmignano**	**0.89**	**149**	Pg	**Pb**	**23 40 50.2**	**-1.0**
CRMI				Sg	**Sb**	**23 41 03.2**	**+0.5**
	268nm,0.4s						
GROG	**Isola di Gorgo**	**1.18**	**196**	Pg	**Pn**	**23 40 54.8**	**-0.7**
GROG	**Isola di Gorgo**	**1.18**	**196**	Pg	**Pn**	**23 40 54.8**	**-0.7**
ROVR	**Rover¯¤ Verone**	**1.20**	**25**	Pg	**Pn**	**23 40 55.2**	**-0.6**
ROVR				Sg	**Sn**	**23 41 11.9**	**+0.5**

MABI	**Malga Bissina**	**1.50**	**5**	Pg	**Pn**	**23 40 59.9**	**0.0**
	130nm,0.3s						
MABI	**Malga Bissina**	**1.50**	**5**	Pg	**Pn**	**23 40 59.9**	**0.0**
	130nm,0.3s						
BRMO	**Bormio**	**1.92**	**1**	Pg	**Pn**	**23 41 06.4**	**+0.8**
	47nm,0.5s						
APPI	**Appiano**	**2.02**	**18**	Pg	**Pn**	**23 41 07.3**	**+0.3**
SBF	**Sospel**	**2.20**	**253**	*e*Pn	**Pn**	**23 41 10.1**	**+0.6**
SBF				*e*Sn	**Sn**	**23 41 37.7**	**+1.7**
	92nm,0.5s						
SBF	**Sospel**	**2.20**	**253**	*e*Pn	**Pn**	**23 41 10.1**	**+0.6**
SBF				*e*Sn	**Sn**	**23 41 37.7**	**+1.7**
SBF	**Sospel**	**2.20**	**253**	*e*Pn	**Pn**	**23 41 10.1**	**+0.6**
SBF				*e*Sn	**Sn**	**23 41 37.7**	**+1.7**
	46nm,0.5s						
PGF	**Pioggiola**	**2.24**	**206**	*e*Pn	**Pn**	**23 41 09.7**	**-0.3**
PGF				*e*Sn	**Sn**	**23 41 36.9**	**+0.1**
	33nm,0.3s						
PGF	**Pioggiola**	**2.24**	**206**	*e*Pn	**Pn**	**23 41 09.7**	**-0.3**
PGF				*e*Sn	**Sn**	**23 41 36.9**	**+0.1**
PGF	**Pioggiola**	**2.24**	**206**	*e*Pn	**Pn**	**23 41 09.7**	**-0.3**
PGF				*e*Sn	**Sn**	**23 41 36.9**	**+0.1**
	16nm,0.3s						
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**23 41 15.0**	**+0.6**
MBDF				*e*Sn	**Sn**	**23 41 44.6**	**-0.1**
	41nm,0.7s						
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**23 41 15.0**	**+0.6**
MBDF				*e*Sn	**Sn**	**23 41 44.6**	**-0.1**
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**23 41 15.0**	**+0.6**
MBDF				*e*Sn	**Sn**	**23 41 44.6**	**-0.1**
	20nm,0.7s						
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	**Pn**	**23 41 17.0**	**+0.4**
LPG				*e*Sn	**Sn**	**23 41 48.0**	**-0.6**
	36nm,0.7s						
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	**Pn**	**23 41 17.0**	**+0.4**
LPG				*e*Sn	**Sn**	**23 41 48.0**	**-0.6**
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	**Pn**	**23 41 17.0**	**+0.4**
LPG				*e*Sn	**Sn**	**23 41 48.0**	**-0.6**
	18nm,0.7s						
LPL	**La Plagne**	**2.73**	**292**	*e*Pn	**Pn**	**23 41 17.7**	**+0.9**
LPL				*e*Sn	**Sn**	**23 41 48.5**	**-0.6**
	17nm,0.5s						
LPL	**La Plagne**	**2.73**	**292**	*e*Pn	**Pn**	**23 41 17.7**	**+0.9**
LPL				*e*Sn	**Sn**	**23 41 48.5**	**-0.6**
LPL	**La Plagne**	**2.73**	**292**	*e*Pn	**Pn**	**23 41 17.7**	**+0.9**
LPL				*e*Sn	**Sn**	**23 41 48.5**	**-0.6**
	8.5nm,0.5s						
FRF	**La Foret Royal**	**2.84**	**251**	*e*Pn	**Pn**	**23 41 18.9**	**+0.5**
FRF				*e*Sn	**Sn**	**23 41 53.2**	**+1.3**
	47nm,0.3s						
FRF	**La Foret Royal**	**2.84**	**251**	*e*Pn	**Pn**	**23 41 18.9**	**+0.5**
FRF				*e*Sn	**Sn**	**23 41 53.2**	**+1.3**
FRF	**La Foret Royal**	**2.84**	**251**	*e*Pn	**Pn**	**23 41 18.9**	**+0.5**
FRF				*e*Sn	**Sn**	**23 41 53.2**	**+1.3**
	24nm,0.3s						
LMR	**La Mourre**	**3.03**	**247**	*e*Pn	**Pn**	**23 41 21.0**	**+0.1**
LMR				*e*Sn	**Sn**	**23 41 56.9**	**+0.5**
	38nm,0.3s						
LMR	**La Mourre**	**3.03**	**247**	*e*Pn	**Pn**	**23 41 21.0**	**+0.1**
LMR				*e*Sn	**Sn**	**23 41 56.9**	**+0.5**
LMR	**La Mourre**	**3.03**	**247**	*e*Pn	**Pn**	**23 41 21.0**	**+0.1**
LMR				*e*Sn	**Sn**	**23 41 56.9**	**+0.5**
	19nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*Pn	**Pn**	**23 41 25.6**	**+2.4**
ORIF				*e*Sn	**Sn**	**23 41 59.6**	**-1.0**
	26nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*Pn	**Pn**	**23 41 25.6**	**+2.4**
ORIF				*e*Sn	**Sn**	**23 41 59.6**	**-1.0**
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*Pn	**Pn**	**23 41 25.6**	**+2.4**
ORIF				*e*Sn	**Sn**	**23 41 59.6**	**-1.0**
	13nm,0.5s						
SMRF	**Simiane la Rot**	**3.47**	**262**	*e*Pn	**Pn**	**23 41 29.2**	**+2.2**
SMRF				*e*Sn	**Sn**	**23 42 07.4**	**0.0**
	13nm,0.4s						
SMRF	**Simiane la Rot**	**3.47**	**262**	*e*Pn	**Pn**	**23 41 29.2**	**+2.2**
SMRF				*e*Sn	**Sn**	**23 42 07.4**	**0.0**
SMRF	**Simiane la Rot**	**3.47**	**262**	*e*Pn	**Pn**	**23 41 29.2**	**+2.2**
SMRF				*e*Sn	**Sn**	**23 42 07.4**	**0.0**
	6.4nm,0.4s						
CABF	**La Chapelle**	**3.62**	**306**	*e*Pn	**Pn**	**23 41 30.5**	**+1.4**
CABF				*e*Sn	**Sn**	**23 42 06.2**	**-4.8**
	5.5nm,0.4s						
CABF	**La Chapelle**	**3.62**	**306**	*e*Pn	**Pn**	**23 41 30.5**	**+1.4**
CABF				*e*Sn	**Sn**	**23 42 06.2**	**-4.8**
CABF	**La Chapelle**	**3.62**	**306**	*e*Pn	**Pn**	**23 41 30.5**	**+1.4**
VIVF	**Saint-Julien-l**	**4.05**	**276**	*e*Pn	**Pn**	**23 41 36.0**	**+1.0**
VIVF				*e*Sn	**Sn**	**23 42 19.8**	**-1.8**
	2.5nm,0.3s						
VIVF	**Saint-Julien-l**	**4.05**	**276**	*e*Pn	**Pn**	**23 41 36.0**	**+1.0**
VIVF				*e*Sn	**Sn**	**23 42 19.8**	**-1.8**
VIVF	**Saint-Julien-l**	**4.05**	**276**	*e*Pn	**Pn**	**23 41 36.0**	**+1.0**
VIVF				*e*Sn	**Sn**	**23 42 19.8**	**-1.8**
	1.2nm,0.3s						
HINF	**Hinteralfeld**	**4.06**	**325**	*e*Pn	**Pn**	**23 41 35.1**	**+0.1**
HINF				*e*Sn	**Sn**	**23 42 19.8**	**-2.0**
	32nm,0.4s						
HINF	**Hinteralfeld**	**4.06**	**325**	*e*Pn	**Pn**	**23 41 35.1**	**+0.1**
HINF				*e*Sn	**Sn**	**23 42 19.8**	**-2.0**
HINF	**Hinteralfeld**	**4.06**	**325**	*e*Pn	**Pn**	**23 41 35.1**	**+0.1**
HINF				*e*Sn	**Sn**	**23 42 19.8**	**-2.0**
	16nm,0.4s						
CDF	**Champ du Feu**	**4.40**	**332**	*e*Pn	**Pn**	**23 41 39.7**	**0.0**
CDF				*e*Sn	**Sn**	**23 42 24.7**	**-5.4**
	11nm,0.3s						
CDF	**Champ du Feu**	**4.40**	**332**	*e*Pn	**Pn**	**23 41 39.7**	**0.0**
CDF				*e*Sn	**Sn**	**23 42 24.7**	**-5.4**
CDF	**Champ du Feu**	**4.40**	**332**	*e*Pn	**Pn**	**23 41 39.7**	**0.0**
HAU	**Haudompre**	**4.42**	**323**	*e*Pn	**Pn**	**23 41 40.5**	**+0.5**
HAU				*e*Sn	**Sn**	**23 42 28.3**	**-2.4**
	42nm,0.4s						
HAU	**Haudompre**	**4.42**	**323**	*e*Pn	**Pn**	**23 41 40.5**	**+0.5**
HAU				*e*Sn	**Sn**	**23 42 28.3**	**-2.4**
HAU	**Haudompre**	**4.42**	**323**	*e*Pn	**Pn**	**23 41 40.5**	**+0.5**
HAU				*e*Sn	**Sn**	**23 42 28.3**	**-2.4**
	21nm,0.4s						
LASF	**Ste Croix**	**4.68**	**266**	*e*Pn	**Pn**	**23 41 44.4**	**+0.8**
LASF				*e*Sn	**Sn**	**23 42 35.9**	**-1.2**
	2.2nm,0.4s						
LASF	**Ste Croix**	**4.68**	**266**	*e*Pn	**Pn**	**23 41 44.4**	**+0.8**
LASF				*e*Sn	**Sn**	**23 42 35.9**	**-1.2**
LASF	**Ste Croix**	**4.68**	**266**	*e*Pn	**Pn**	**23 41 44.4**	**+0.8**
LASF				*e*Sn	**Sn**	**23 42 35.9**	**-1.2**
	1.1nm,0.4s						
SMF	**Signal de Mont**	**5.02**	**297**	*e*Pn	**Pn**	**23 41 48.6**	**+0.4**
SMF				*e*Sn	**Sn**	**23 42 40.5**	**-4.9**
	8.2nm,0.4s						
SMF	**Signal de Mont**	**5.02**	**297**	*e*Pn	**Pn**	**23 41 48.6**	**+0.4**
SMF				*e*Sn	**Sn**	**23 42 40.5**	**-4.9**
SMF	**Signal de Mont**	**5.02**	**297**	*e*Pn	**Pn**	**23 41 48.6**	**+0.4**
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	**Pn**	**23 41 50.1**	**+0.6**
PAGF				*e*Sn	**Sn**	**23 42 42.4**	**-5.2**
	1.1nm,0.4s						
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	**Pn**	**23 41 50.1**	**+0.6**
PAGF				*e*Sn	**Sn**	**23 42 42.4**	**-5.2**
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	**Pn**	**23 41 50.1**	**+0.6**
SFTF	**Sexfontaines**	**5.17**	**317**	*e*Pn	**Pn**	**23 41 51.1**	**+0.8**
SFTF				*e*Sn	**Sn**	**23 42 44.5**	**-4.7**
	1.7nm,0.2s						
SFTF	**Sexfontaines**	**5.17**	**317**	*e*Pn	**Pn**	**23 41 51.1**	**+0.8**
SFTF				*e*Sn	**Sn**	**23 42 44.5**	**-4.7**
SFTF	**Sexfontaines**	**5.17**	**317**	*e*Pn	**Pn**	**23 41 51.1**	**+0.8**
LOR	**Lormes**	**5.27**	**303**	*e*Pn	**Pn**	**23 41 52.2**	**+0.5**
LOR				*e*Sn	**Sn**	**23 42 51.6**	**-0.1**
	10.0nm,0.4s						
LOR	**Lormes**	**5.27**	**303**	*e*Pn	**Pn**	**23 41 52.2**	**+0.5**
LOR				*e*Sn	**Sn**	**23 42 51.6**	**-0.1**
LOR	**Lormes**	**5.27**	**303**	*e*Pn	**Pn**	**23 41 52.2**	**+0.5**
LOR				*e*Sn	**Sn**	**23 42 51.6**	**-0.1**
	5.0nm,0.4s						
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	**Pn**	**23 41 53.8**	**+0.7**
MEZF				*e*Sn	**Sn**	**23 42 49.8**	**-4.3**
	2.4nm,0.3s						
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	**Pn**	**23 41 53.8**	**+0.7**
MEZF				*e*Sn	**Sn**	**23 42 49.8**	**-4.3**
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	**Pn**	**23 41 53.8**	**+0.7**
AVF	**Avril sur Loir**	**5.38**	**297**	*e*Pn	**Pn**	**23 41 53.1**	**-0.1**
AVF				*e*Sn	**Sn**	**23 42 52.9**	**-1.5**
	1.7nm,0.3s						
AVF	**Avril sur Loir**	**5.38**	**297**	*e*Pn	**Pn**	**23 41 53.1**	**-0.1**
AVF				*e*Sn	**Sn**	**23 42 52.9**	**-1.5**
AVF	**Avril sur Loir**	**5.38**	**297**	*e*Pn	**Pn**	**23 41 53.1**	**-0.1**
AVF				*e*Sn	**Sn**	**23 42 52.9**	**-1.5**
	0.9nm,0.3s						
SSF	**Saint Saulge**	**5.39**	**300**	*e*Pn	**Pn**	**23 41 53.5**	**+0.1**
SSF				*e*Sn	**Sn**	**23 42 52.5**	**-2.2**
	5.2nm,0.4s						
SSF	**Saint Saulge**	**5.39**	**300**	*e*Pn	**Pn**	**23 41 53.5**	**+0.1**
SSF				*e*Sn	**Sn**	**23 42 52.5**	**-2.2**
SSF	**Saint Saulge**	**5.39**	**300**	*e*Pn	**Pn**	**23 41 53.5**	**+0.1**
SSF				*e*Sn	**Sn**	**23 42 52.5**	**-2.2**
	2.6nm,0.4s						
BGF	**Bois d'Agland**	**5.63**	**293**	*e*Pn	**Pn**	**23 41 57.2**	**+0.6**
BGF				*e*Sn	**Sn**	**23 42 58.0**	**-2.5**
	13nm,0.4s						
BGF	**Bois d'Agland**	**5.63**	**293**	*e*Pn	**Pn**	**23 41 57.2**	**+0.6**
BGF				*e*Sn	**Sn**	**23 42 58.0**	**-2.5**
BGF	**Bois d'Agland**	**5.63**	**293**	*e*Pn	**Pn**	**23 41 57.2**	**+0.6**
CAF	**Calviac**	**5.91**	**276**	*e*Pn	**Pn**	**23 42 01.5**	**+1.1**
CAF				*e*Sn	**Sn**	**23 43 07.8**	**+0.4**
	2.5nm,0.5s						
CAF	**Calviac**	**5.91**	**276**	*e*Pn	**Pn**	**23 42 01.5**	**+1.1**
CAF				*e*Sn	**Sn**	**23 43 07.8**	**+0.4**
CAF	**Calviac**	**5.91**	**276**	*e*Pn	**Pn**	**23 42 01.5**	**+1.1**
CAF				*e*Sn	**Sn**	**23 43 07.8**	**+0.4**
	1.2nm,0.5s						
TCF	**Toulx Ste Croi**	**5.98**	**290**	*e*Pn	**Pn**	**23 42 01.4**	**0.0**
TCF				*e*Sn	**Sn**	**23 43 07.1**	**-2.0**
	3.8nm,0.4s						
TCF	**Toulx Ste Croi**	**5.98**	**290**	*e*Pn	**Pn**	**23 42 01.4**	**0.0**
TCF				*e*Sn	**Sn**	**23 43 07.1**	**-2.0**
TCF	**Toulx Ste Croi**	**5.98**	**290**	*e*Pn	**Pn**	**23 42 01.4**	**0.0**
MTLF	**Montolieu**	**5.99**	**261**	*e*Pn	**Pn**	**23 42 02.9**	**+1.3**
MTLF				*e*Sn	**Sn**	**23 43 08.0**	**-1.4**
	3.8nm,0.4s						
MTLF	**Montolieu**	**5.99**	**261**	*e*Pn	**Pn**	**23 42 02.9**	**+1.3**
MTLF				*e*Sn	**Sn**	**23 43 08.0**	**-1.4**
MTLF	**Montolieu**	**5.99**	**261**	*e*Pn	**Pn**	**23 42 02.9**	**+1.3**
MTLF				*e*Sn	**Sn**	**23 43 08.0**	**-1.4**
	1.9nm,0.4s						
HYF	**Humbligny**	**6.02**	**299**	*e*Pn	**Pn**	**23 42 02.3**	**+0.4**
HYF				*e*Sn	**Sn**	**23 43 04.9**	**-5.1**
HYF	**Humbligny**	**6.02**	**299**	*e*Pn	**Pn**	**23 42 02.3**	**+0.4**
HYF				*e*Sn	**Sn**	**23 43 04.9**	**-5.1**
HYF	**Humbligny**	**6.02**	**299**	*e*Pn	**Pn**	**23 42 02.3**	**+0.4**
GIVF	**Givet**	**6.69**	**328**	*e*Pn	**Pn**	**23 42 11.2**	**0.0**
GIVF				*e*Sn	**Sn**	**23 43 23.1**	**-3.5**
	2.7nm,0.3s						
GIVF	**Givet**	**6.69**	**328**	*e*Pn	**Pn**	**23 42 11.2**	**0.0**
GIVF				*e*Sn	**Sn**	**23 43 23.1**	**-3.5**
GIVF	**Givet**	**6.69**	**328**	*e*Pn	**Pn**	**23 42 11.2**	**0.0**
LFF	**La Frestale**	**6.85**	**277**	*e*Pn	**Pn**	**23 42 14.8**	**+1.4**
LFF				*e*Sn	**Sn**	**23 43 25.9**	**-4.6**
	3.4nm,0.5s						
LFF	**La Frestale**	**6.85**	**277**	*e*Pn	**Pn**	**23 42 14.8**	**+1.4**
LFF				*e*Sn	**Sn**	**23 43 25.9**	**-4.6**
LFF	**La Frestale**	**6.85**	**277**	*e*Pn	**Pn**	**23 42 14.8**	**+1.4**
BAIF	**Baives**	**6.90**	**325**	*e*Pn	**Pn**	**23 42 13.6**	**-0.5**
BAIF				*e*Sn	**Sn**	**23 43 26.9**	**-4.9**
	2.6nm,0.5s						
BAIF	**Baives**	**6.90**	**325**	*e*Pn	**Pn**	**23 42 13.6**	**-0.5**
BAIF				*e*Sn	**Sn**	**23 43 26.9**	**-4.9**
BAIF	**Baives**	**6.90**	**325**	*e*Pn	**Pn**	**23 42 13.6**	**-0.5**

MAN 23 23:41:38.6±44.4N×125°53.6E, h24km, mb4.6, ML3.4, MS3.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.67**	**239**	*e*P	Pb	23 41 48.1	-3.0
GSPH				*i* S	Sb	23 41 57.1	-2.9
KCP	**Kidapawan**	**0.72**	**323**	*i*eP	Pb	23 41 51.6	-0.2
KCP				*i* S	Sb	23 42 01.2	-0.1
CTBH	**Cotabato--PC H**	**1.50**	**302**	*i*P	Pn	23 42 04.0	+0.6
BUKP	**Musuan**	**1.51**	**342**	*e*P	Pn	23 42 03.5	-0.1
BUKP				*e*S	Sn	23 42 22.8	+0.3

*ISCJB **24** 00:28:00.3±0.6, 24°27S±0°04×67°1W±0°1, h178km±10km, mb3.8/4, Error ellipse: s-maj=16.0km s-min=7.0km az=178.9*
*IDC **24** 00:28:00.5±1.6, 24°25S×67°09W, h160km±16km, mb3.7/3, mb1 3.6/6, mb1mx3.4/17, mbtmp3.5/6, MS3.0/1, Ms1 3.0/1, ms1mx2.2/19, Error ellipse: s-maj=33.1km s-min=13.2km az=93.0*
*NEIC **24** 00:28:01.7±0.6, 24°25S×67°07W, h177km±8km, mb3.9/5, Error ellipse: s-maj=13.4km s-min=7.7km az=92.0*

ISC 24 00:28:01.3±0.6, 24°26S±0°04×67°1W±0°1, h169km±10km, n25, σ1§09/26, mb3.8/4, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.34**	**314**	*i*P*i*Pn	**Pn**	**00 28 44.3**	**+2.8**
LVC				*e*Sn	**Sn**	**00 29 12.6**	**0.0**
LCO	**Las Campanas**	**5.73**	**214**	*e*Pn	**Pn**	**00 29 24.6**	**0.0**
	20nm,0.3s						
LCO				*e*Sn	**Sn**	**00 30 21.5**	**-8.5**
CFAA	**Coronel Fontan**	**7.39**	**188**	P	**Pn**	**00 29 46.5**	**0.0**
	0.1nm,0.3s,baz=359,slow=11,SNR=9.8						
CFAA				S	**Sn**	**00 31 06.2**	**-3.2**
	0.2nm,0.3s,baz=288,slow=23,SNR=11						
CFAA	**Coronel Fontan**	**7.39**	**188**	P	**Pn**	**00 29 46.5**	**0.0**
CFAA				S	**Sn**	**00 31 06.2**	**-3.2**
LPAZ	**La Paz**	**7.99**	**353**	P	**Pn**	**00 29 55.9**	**+1.5**
	1.8nm,0.3s,baz=168,slow=7.6,SNR=39						
LPAZ				S	**Sn**	**00 31 22.6**	**-1.3**
	0.6nm,0.3s,baz=19,slow=19,SNR=6.1						
LPAZ	**La Paz**	**7.99**	**353**	P	**Pn**	**00 29 55.9**	**+1.5**
LPAZ				S	**Sn**	**00 31 22.6**	**-1.3**
CPUP	**Villa Florida**	**9.07**	**105**	P	**Pn**	**00 30 10.1**	**+1.4**
	0.2nm,0.3s,baz=270,slow=10,SNR=3.4						
CPUP	**Villa Florida**	**9.07**	**105**	P	**Pn**	**00 30 10.1**	**+1.4**
SIV	**San Ignacio**	**9.97**	**36**	P	**Pn**	**00 30 19.4**	**-1.3**
	2.1nm,0.3s,baz=257,slow=10,SNR=23						
SIV	**San Ignacio**	**9.97**	**36**	P	**Pn**	**00 30 19.4**	**-1.3**
TRQA	**Tornquist**	**14.43**	**164**	*e*Pn	**Pn**	**00 31 17.9**	**+0.3**
	8.0nm,0.7s						
SAML	**Samuel**	**15.67**	**14**	*e*Pn	**Pn**	**00 31 32.2**	**-1.0**
	1.9nm,0.5s						
PLCA	**Paso Flores**	**16.69**	**189**	*e*P	**Pn**	**00 31 44.5**	**-0.7**
	0.7nm,0.5s						
ATAH	**Atahualpa**	**20.18**	**326**	LR	LR	00 40 20.2	
	comp=Z,38nm,19.5s,baz=310,slow=37						
OTAV	**Otavalo**	**26.73**	**334**	*e*P	**P**	**00 33 25.4**	**+0.3**
	1.4nm,0.5s,mb3.9						
SNAA	**Sanae**	**59.14**	**161**	P	**P**	**00 37 44.7**	**+1.1**
	0.8nm,0.8s,mb3.6,baz=315,slow=10,SNR=6.6						
SNAA	**Sanae**	**59.14**	**161**	P	**P**	**00 37 44.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**00 39 33.8**	**-0.6**
	0.8nm,0.5s,mb3.6,baz=262,slow=5.7,SNR=28						
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**00 39 33.8**	**-0.6**
BOSA	**Boshof**	**80.69**	**117**	P	**P**	**00 39 56.1**	**+0.3**
	5.4nm,0.9s,mb4.2,baz=261,slow=5.7,SNR=10						
BOSA	**Boshof**	**80.69**	**117**	P	**P**	**00 39 56.1**	**+0.3**
ZALV	**Zalesovo Beam**	**143.66**	**28**	PKP	PKPdf	00 47 14.4	-1.2
	0.2nm,0.4s,baz=302,slow=5.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**143.66**	**28**	PKP	PKPdf	00 47 14.4	-1.2
MKAR	**Makanchi Array**	**146.77**	**40**	PKPbc	PKPbc	00 47 23.9	+0.6
	0.8nm,0.5s,baz=321,slow=2.7,SNR=18						
MKAR	**Makanchi Array**	**146.77**	**40**	PKPbc	PKPbc	00 47 23.9	+0.6

KRSC 24 00:39:38.5±2.2, 53°66N×167°51E, h41km±40km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.79**	**330**	*e*S	Sn	00 40 29.5	+1.2
MKZ	**Mys Kozlova**	**3.52**	**287**	*e*P	Pn	00 40 33.7	+3.1
MKZ				*e*S	Sn	00 41 13.9	+3.0
KBTR	**Krutoberegovo**	**3.72**	**315**	P	Pn	00 40 35.4	+2.1
SDLR	**Sedlovina**	**5.17**	**269**	*e*P	Pn	00 40 57.7	+4.5
AVH	**Avacha**	**5.26**	**269**	*e*P	Pn	00 40 59.1	+4.7
RUS	**Russkaya**	**5.56**	**261**	*e*P	Pn	00 41 02.4	+3.7
RUS				S	Sn	00 42 02.8	+1.5
MTVR	**Mutnovka**	**5.75**	**262**	*e*P	Pn	00 41 05.6	+4.5
MTVR				*e*S	Sn	00 42 08.2	+2.5
ASAK	**Asacha**	**5.94**	**261**	*e*P	Pn	00 41 08.6	+4.8

*CSEM **24** 00:43:36.9±0.9, 51°46N×16°15E, h2km, ML3.0/4, Error ellipse: s-maj=15.0km s-min=9.0km az=25.0*
*WAR **24** 00:43:37.4, 51°51N×16°12E, ML2.3, Mining Induced*

PRU 24 00:43:36.6, 51°51N×16°17E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**173**	*e*Pg	Pg	00 43 49.8	+0.3
KSP				*e*Sg	Sg	00 43 59.0	+0.8
UPC	**Upice**	**1.01**	**186**	*e*PG	Pg	00 43 55.6	-0.3
UPC	**Upice**	**1.01**	**186**	Pg	Pg	00 43 55.6	-0.3
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	Pg	00 43 58.7	-0.2
DPC				*e*SG	Sg	00 44 13.6	-0.4
	5.8nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**175**	Pg	Pg	00 43 58.7	-0.2
DPC				Sg	Sg	00 44 13.6	-0.4
	5.8nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**226**	*e*PG	Pg	00 44 03.1	-0.5
PVCC				*e*SG	Sg	00 44 21.6	-0.3
	32nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**226**	Pg	Pg	00 44 03.1	-0.5
PVCC				Sg	Sg	00 44 21.6	-0.3
	32nm,0.2s						
KRLC	**Kraliky**	**1.49**	**165**	*e*PG	Pg	00 44 04.5	-0.6
KRLC	**Kraliky**	**1.49**	**165**	Pg	Pg	00 44 04.5	-0.6
BRG	**Berggiesshubel**	**1.54**	**246**	PG	Pg	00 44 05.4	-0.7
BRG				SG	Sg	00 44 25.9	-0.1
	14nm,0.4s						
PRU	**Pruhonice**	**1.84**	**215**	*e*PN	Pn	00 44 08.9	-0.5
PRU				*e*PG	Pg	00 44 10.7	-1.2
PRU				*e*SG	Sg	00 44 35.1	-0.6
	9.3nm,0.3s						
PRU	**Pruhonice**	**1.84**	**215**	Pn	Pn	00 44 08.9	-0.5
MORC	**Moravsky Berou**	**1.94**	**153**	*e*Pn	Pn	00 44 10.3	-0.5
CLL	**Collm**	**1.99**	**265**	*i* Pg	Pg	00 44 13.3	-1.5
CLL				*i*		00 44 17.0	
CLL				*e*Sg	Sg	00 44 40.0	-0.6
	comp=Z,7.0nm,0.7s						
OKC	**Ostrava-Krasne**	**2.09**	**142**	*e*SG	Sg	00 44 42.4	-1.4
OKC	**Ostrava-Krasne**	**2.09**	**142**	Sg	Sg	00 44 42.4	-1.4
VRAC	**Vranov**	**2.22**	**173**	*e*Sg	Sg	00 44 46.9	-1.0
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	Pn	00 44 18.4	-2.6
NKC				*e*SG	Sg	00 45 03.6	+0.9
	comp=Z,8.9nm,0.3s						
NKC	**Novy Kostel**	**2.68**	**243**	Pn	Pn	00 44 18.4	-2.6
NKC				Sg	Sg	00 45 03.6	+0.9
	comp=Z,8.9nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	Pn	00 44 23.8	-0.2
KHC				*e*PG	Pg	00 44 29.6	-2.6
KHC				*e*SG	Sg	00 45 07.9	-1.9
KHC	**Kasperske Hory**	**2.90**	**216**	Pn	Pn	00 44 23.8	-0.2
KHC	**Kasperske Hory**	**2.90**	**216**	Pg	Pg	00 44 29.6	-2.6
KHC				Sg	Sg	00 45 07.9	-1.9
VYHS	**Vyhne**	**3.48**	**149**	*e*SG	Sg	00 45 22.9	-5.3
VYHS	**Vyhne**	**3.48**	**149**	*e*Sg	Sg	00 45 22.9	-5.3

*GEN **24** 00:44:11.5, 44°61N×10°44E, h22km, ML2.1*
*CSEM **24** 00:44:13.0±0.1, 44°56N×10°30E, h16km±1km, ML2.5/18, Error ellipse: s-maj=3.0km s-min=2.6km az=8.0*
*NEIC **24** 00:44:13.3, 44°59N×10°27E, h12km, ML2.6(LDG), ML2.5(CSEM), After CSEM.*
*LDG **24** 00:44:14.4±0.2, 44°60N×10°44E, h20km, Ml2.6/28, Error ellipse: s-maj=4.2km s-min=3.3km az=20.0*
*STR **24** 00:44:15.8±0.5, 44°78N×9°91E, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ROM 24 00:44:12.8±0.2, 44°56N×10°34E, h24km±3km, Md2.5/16, Ml2.5/13, 3C-3D, Error ellipse: s-maj=3.5km s-min=2.2km az=100.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.15**	**159**	P	Pb	00 44 17.6	-0.2
ERBM	**Eremo**	**0.15**	**159**	Pg	Pb	00 44 17.5	-0.3
ERBM				Sg

MABI	**Malga Bissina**	**1.50**	**5**	P	Pn	00 44 38.8 +0.6
MABI				S	Sn	00 44 58.6 +1.6
CTI	**Castel Tesino**	**1.75**	**31**	P	Pn	00 44 41.6 0.0
CTI	**Castel Tesino**	**1.75**	**31**	Pg	Pn	00 44 41.6 0.0
BRMO	**Bormio**	**1.92**	**1**	P	Pn	00 44 47.7 +3.8
BRMO				S	Sn	00 45 09.8 +2.6
BRMO	**Bormio**	**1.92**	**1**	P	Pn	00 44 47.7 +3.8
BRMO				S	Sn	00 45 09.8 +2.6
FSSB	**Fossombrone**	**1.96**	**115**	P	Pn	00 44 49.3 +4.8
FSSB	**Fossombrone**	**1.96**	**115**	P	Pn	00 44 49.3 +4.8
APPI	**Appiano**	**2.02**	**18**	P	Pn	00 44 46.3 +1.0
APPI	**Appiano**	**2.02**	**18**	Pg	Pn	00 44 46.3 +1.0
SAOF	**Saorge**	**2.08**	**255**	P	Pn	00 44 47.9 +1.8
SAOF				S	Sn	00 45 13.7 +2.5
SAOF	**Saorge**	**2.08**	**255**	P	Pn	00 44 47.9 +1.8
SAOF				S	Sn	00 45 13.7 +2.5
AGOR	**Agordo**	**2.10**	**34**	Pg	Pn	00 44 46.9 +0.5
	31nm,0.3s					
AUTN	**L'Aution**	**2.17**	**256**	P	Pn	00 44 48.9 +1.6
AUTN				S	Sn	00 45 15.5 +2.1
AUTN	**L'Aution**	**2.17**	**256**	P	Pn	00 44 48.9 +1.6
AUTN				S	Sn	00 45 15.5 +2.1
SBF	**Sospel**	**2.20**	**253**	*e*Pn	Pn	00 44 48.6 +0.8
SBF				*e*Sn	Sn	00 45 16.3 +2.1
	26nm,0.5s					
SBF	**Sospel**	**2.20**	**253**	*e*Pn	Pn	00 44 48.6 +0.8
SBF				*e*Sn	Sn	00 45 16.3 +2.1
SBF	**Sospel**	**2.20**	**253**	*e*Pn	Pn	00 44 48.6 +0.8
SBF				*e*Sn	Sn	00 45 16.3 +2.1
	13nm,0.5s					
PGF	**Pioggiola**	**2.23**	**206**	*e*Pn	Pn	00 44 48.2 -0.1
PGF				*e*Sn	Sn	00 45 15.3 +0.2
	5.3nm,0.4s					
PGF	**Pioggiola**	**2.23**	**206**	*e*Pn	Pn	00 44 48.2 -0.1
PGF				*e*Sn	Sn	00 45 15.3 +0.2
PGF	**Pioggiola**	**2.23**	**206**	*e*Pn	Pn	00 44 48.2 -0.1
PGF				*e*Sn	Sn	00 45 15.3 +0.2
	2.7nm,0.4s					
ASS	**Assisi**	**2.25**	**131**	P	Pn	00 44 49.3 +0.8
ASS	**Assisi**	**2.25**	**131**	P	Pn	00 44 49.3 +0.8
TOUF	**Mont Tournerai**	**2.29**	**257**	P	Pn	00 44 51.2 +2.2
TOUF	**Mont Tournerai**	**2.29**	**257**	P	Pn	00 44 51.2 +2.2
MVIF	**Mont Vial**	**2.38**	**255**	P	Pn	00 44 52.5 +2.2
MVIF	**Mont Vial**	**2.38**	**255**	P	Pn	00 44 52.5 +2.2
MBDF	**Montbardon**	**2.55**	**275**	*e*Pn	Pn	00 44 53.5 +0.9
MBDF				*e*Sn	Sn	00 45 23.0 +0.1
	7.8nm,0.5s					
MBDF	**Montbardon**	**2.55**	**275**	*e*Pn	Pn	00 44 53.5 +0.9
MBDF				*e*Sn	Sn	00 45 23.0 +0.1
MBDF	**Montbardon**	**2.55**	**275**	*e*Pn	Pn	00 44 53.5 +0.9
MBDF				*e*Sn	Sn	00 45 23.0 +0.1
	3.9nm,0.5s					
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	Pn	00 44 55.4 +0.6
LPG				*e*Sn	Sn	00 45 26.5 -0.3
	3.7nm,0.4s					
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	Pn	00 44 55.4 +0.6
LPG				*e*Sn	Sn	00 45 26.5 -0.3
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	Pn	00 44 55.4 +0.6
LPG				*e*Sn	Sn	00 45 26.5 -0.3
	1.9nm,0.4s					
LPL	**La Plagne**	**2.73**	**292**	*e*Pn	Pn	00 44 56.1 +1.0
LPL				*e*Sn	Sn	00 45 27.1 -0.2
	3.8nm,0.4s					
LPL	**La Plagne**	**2.73**	**292**	*e*Pn	Pn	00 44 56.1 +1.0
LPL				*e*Sn	Sn	00 45 27.1 -0.2
LPL	**La Plagne**	**2.73**	**292**	*e*Pn	Pn	00 44 56.1 +1.0
LPL				*e*Sn	Sn	00 45 27.1 -0.2
	1.9nm,0.4s					
DAVA	**Damuels**	**2.75**	**353**	*e*Pn	Pn	00 44 57.8 +2.5
	SNR=12					
DAVA	**Damuels**	**2.75**	**353**	*e*Pn	Pn	00 44 57.8 +2.5
DAVA	**Damuels**	**2.75**	**353**	*e*Pn	Pn	00 44 57.8 +2.5
MOTA	**Moosalm**	**2.83**	**11**	*e*Pn	Pn	00 44 59.0 +2.5
	SNR=7.6					
MOTA	**Moosalm**	**2.83**	**11**	*e*Pn	Pn	00 44 59.0 +2.5
MOTA	**Moosalm**	**2.83**	**11**	*e*Pn	Pn	00 44 59.0 +2.5
FRF	**La Foret Royal**	**2.84**	**251**	*e*Pn	Pn	00 44 57.4 +0.8
FRF				*e*Sn	Sn	00 45 31.8 +1.7
	13nm,0.5s					
FRF	**La Foret Royal**	**2.84**	**251**	*e*Pn	Pn	00 44 57.4 +0.8
FRF				*e*Sn	Sn	00 45 31.8 +1.7
FRF	**La Foret Royal**	**2.84**	**251**	*e*Pn	Pn	00 44 57.4 +0.8
FRF				*e*Sn	Sn	00 45 31.8 +1.7
	6.6nm,0.5s					
WTTA	**Wattenberg**	**2.85**	**18**⇑	*e*Pn	Pn	00 44 58.5 +1.7
	SNR=21					
WTTA	**Wattenberg**	**2.85**	**18**⇑	*e*Pn	Pn	00 44 58.5 +1.7
WTTA	**Wattenberg**	**2.85**	**18**⇑	*e*Pn	Pn	00 44 58.5 +1.7
WATA	**Walderalm**	**2.91**	**17**⇓	*e*Pn	Pn	00 44 59.4 +1.9
	SNR=33					
WATA	**Walderalm**	**2.91**	**17**⇓	*e*Pn	Pn	00 44 59.4 +1.9
WATA	**Walderalm**	**2.91**	**17**⇓	*e*Pn	Pn	00 44 59.4 +1.9
LMR	**La Mourre**	**3.02**	**247**	*e*Pn	Pn	00 44 59.5 +0.4
LMR				*e*Sn	Sn	00 45 35.2 +0.6
	14nm,0.4s					
LMR	**La Mourre**	**3.02**	**247**	*e*Pn	Pn	00 44 59.5 +0.4
LMR				*e*Sn	Sn	00 45 35.2 +0.6
LMR	**La Mourre**	**3.02**	**247**	*e*Pn	Pn	00 44 59.5 +0.4
LMR				*e*Sn	Sn	00 45 35.2 +0.6
	6.8nm,0.4s					
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*Pn	Pn	00 45 04.0 +2.5
ORIF				*e*Sn	Sn	00 45 38.0 -0.8
	7.2nm,0.7s					
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*Pn	Pn	00 45 04.0 +2.5
ORIF				*e*Sn	Sn	00 45 38.0 -0.8
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*Pn	Pn	00 45 04.0 +2.5
ORIF				*e*Sn	Sn	00 45 38.0 -0.8
	3.6nm,0.7s					
NVLJ	**Novalja**	**3.24**	**88**	*e*Pn	Pn	00 45 01.5 -0.6
NVLJ				Sn	Sn	00 45 37.6 -2.3
NVLJ	**Novalja**	**3.24**	**88**	*e*Pn	Pn	00 45 01.5 -0.6
NVLJ				Sn	Sn	00 45 37.5 -2.4
SMRF	**Simiane la Rot**	**3.47**	**262**	*e*Pn	Pn	00 45 07.7 +2.4
SMRF				*e*Sn	Sn	00 45 45.8 +0.2
	4.7nm,0.7s					
SMRF	**Simiane la Rot**	**3.47**	**262**	*e*Pn	Pn	00 45 07.7 +2.4
SMRF				*e*Sn	Sn	00 45 45.8 +0.2
SMRF	**Simiane la Rot**	**3.47**	**262**	*e*Pn	Pn	00 45 07.7 +2.4
SMRF				*e*Sn	Sn	00 45 45.8 +0.2
	2.3nm,0.7s					
CABF	**La Chapelle**	**3.62**	**306**	*e*Pn	Pn	00 45 08.9 +1.6
CABF				*e*Sn	Sn	00 45 44.8 -4.4
	2.1nm,0.5s					
CABF	**La Chapelle**	**3.62**	**306**	*e*Pn	Pn	00 45 08.9 +1.6
CABF				*e*Sn	Sn	00 45 44.8 -4.4
CABF	**La Chapelle**	**3.62**	**306**	*e*Pn	Pn	00 45 08.9 +1.6
VIVF	**Saint-Julien-l**	**4.05**	**276**	*e*Pn	Pn	00 45 14.4 +1.2
VIVF				*e*Sn	Sn	00 45 58.3 -1.5
	1.0nm,0.4s					
VIVF	**Saint-Julien-l**	**4.05**	**276**	*e*Pn	Pn	00 45 14.4 +1.2
VIVF				*e*Sn	Sn	00 45 58.3 -1.5
VIVF	**Saint-Julien-l**	**4.05**	**276**	*e*Pn	Pn	00 45 14.4 +1.2
VIVF				*e*Sn	Sn	00 45 58.3 -1.5
	0.5nm,0.4s					
HINF	**Hinteralfeld**	**4.06**	**325**	*e*Pn	Pn	00 45 13.7 +0.4
HINF				*e*Sn	Sn	00 45 58.2 -1.8
	3.5nm,0.3s					
HINF	**Hinteralfeld**	**4.06**	**325**	*e*Pn	Pn	00 45 13.7 +0.4
HINF				*e*Sn	Sn	00 45 58.2 -1.8
HINF	**Hinteralfeld**	**4.06**	**325**	*e*Pn	Pn	00 45 13.7 +0.4
HINF				*e*Sn	Sn	00 45 58.2 -1.8
	1.8nm,0.3s					
CDF	**Champ du Feu**	**4.39**	**332**	*e*Pn	Pn	00 45 18.1 +0.2
CDF				*e*Sn	Sn	00 46 03.1 -5.2
	6.8nm,0.5s					
CDF	**Champ du Feu**	**4.39**	**332**	*e*Pn	Pn	00 45 18.1 +0.2
CDF				*e*Sn	Sn	00 46 03.1 -5.2
CDF	**Champ du Feu**	**4.39**	**332**	*e*Pn	Pn	00 45 18.1 +0.2
HAU	**Haudompre**	**4.42**	**323**	*e*Pn	Pn	00 45 19.2 +0.9
HAU				*e*Sn	Sn	00 46 06.8 -2.1
	3.0nm,0.2s					
HAU	**Haudompre**	**4.42**	**323**	*e*Pn	Pn	00 45 19.2 +0.9
HAU				*e*Sn	Sn	00 46 06.8 -2.1
HAU	**Haudompre**	**4.42**	**323**	*e*Pn	Pn	00 45 19.2 +0.9
HAU				*e*Sn	Sn	00 46 06.8 -2.1
	1.5nm,0.2s					
LASF	**Ste Croix**	**4.67**	**266**	*e*Pn	Pn	00 45 23.0 +1.2
LASF				*e*Sn	Sn	00 46 14.4 -0.9
	0.7nm,0.5s					
LASF	**Ste Croix**	**4.67**	**266**	*e*Pn	Pn	00 45 23.0 +1.2
LASF				*e*Sn	Sn	00 46 14.4 -0.9
LASF	**Ste Croix**	**4.67**	**266**	*e*Pn	Pn	00 45 23.0 +1.2
LASF				*e*Sn	Sn	00 46 14.4 -0.9
	0.3nm,0.5s					
SMF	**Signal de Mont**	**5.01**	**297**	*e*Pn	Pn	00 45 27.0 +0.6
SMF				*e*Sn	Sn	00 46 19.0 -4.6
	1.1nm,0.3s					
SMF	**Signal de Mont**	**5.01**	**297**	*e*Pn	Pn	00 45 27.0 +0.6
SMF				*e*Sn	Sn	00 46 19.0 -4.6
SMF	**Signal de Mont**	**5.01**	**297**	*e*Pn	Pn	00 45 27.0 +0.6
KHC	**Kasperske Hory**	**5.08**	**25**	*e*PN	Pn	00 45 27.0 -0.4
KHC				*ex*	x	00 45 53.5
KHC				*e*SN	Sn	00 46 22.5 -2.8
KHC				*ex*	x	00 46 49.0
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	Pn	00 45 28.7 +1.0
PAGF				*e*Sn	Sn	00 46 20.9 -5.0
	0.4nm,0.3s					
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	Pn	00 45 28.7 +1.0
PAGF				*e*Sn	Sn	00 46 20.9 -5.0
PAGF	**Fort de Pagny**	**5.11**	**323**	*e*Pn	Pn	00 45 28.7 +1.0
SFTF	**Sexfontaines**	**5.17**	**317**	*e*Pn	Pn	00 45 29.5 +0.9
SFTF				*e*Sn	Sn	00 46 22.9 -4.5
	8.9nm,0.5s					
SFTF	**Sexfontaines**	**5.17**	**317**	*e*Pn	Pn	00 45 29.5 +0.9
SFTF				*e*Sn	Sn	00 46 22.9 -4.5
SFTF	**Sexfontaines**	**5.17**	**317**	*e*Pn	Pn	00 45 29.5 +0.9
LOR	**Lormes**	**5.27**	**303**	*e*Pn	Pn	00 45 30.7 +0.7
LOR				*e*Sn	Sn	00 46 30.4 +0.5
	2.7nm,0.3s					
LOR	**Lormes**	**5.27**	**303**	*e*Pn	Pn	00 45 30.7 +0.7
LOR				*e*Sn	Sn	00 46 30.4 +0.5
LOR	**Lormes**	**5.27**	**303**	*e*Pn	Pn	00 45 30.7 +0.7
LOR				*e*Sn	Sn	00 46 30.4 +0.5
	1.4nm,0.3s					
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	Pn	00 45 32.5 +1.2
MEZF				*e*Sn	Sn	00 46 28.2 -4.1
	2.5nm,0.4s					
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	Pn	00 45 32.5 +1.2
MEZF				*e*Sn	Sn	00 46 28.2 -4.1
MEZF	**Maizieres J'vi**	**5.37**	**319**	*e*Pn	Pn	00 45 32.5 +1.2
AVF	**Avril sur Loir**	**5.38**	**297**	*e*Pn	Pn	00 45 32.1 +0.6
AVF				*e*Sn	Sn	00 46 31.4 -1.2
	0.7nm,0.3s					
AVF	**Avril sur Loir**	**5.38**	**297**	*e*Pn	Pn	00 45 32.1 +0.6
AVF				*e*Sn	Sn	00 46 31.4 -1.2
AVF	**Avril sur Loir**	**5.38**	**297**	*e*Pn	Pn	00 45 32.1 +0.6
AVF				*e*Sn	Sn	00 46 31.4 -1.2
	0.3nm,0.3s					
SSF	**Saint Saulge**	**5.39**	**300**	*e*Pn	Pn	00 45 31.9 +0.3
SSF				*e*Sn	Sn	00 46 30.8 -2.1
	1.1nm,0.4s					
SSF	**Saint Saulge**	**5.39**	**300**	*e*Pn	Pn	00 45 31.9 +0.3
SSF				*e*Sn	Sn	00 46 30.8 -2.1
SSF	**Saint Saulge**	**5.39**	**300**	*e*Pn	Pn	00 45 31.9 +0.3
SSF				*e*Sn	Sn	00 46 30.8 -2.1
	0.6nm,0.4s					
BGF	**Bois d'Agland**	**5.63**	**293**	*e*Pn	Pn	00 45 35.6 +0.7
BGF				*e*Sn	Sn	00 46 36.5 -2.2
	3.6nm,0.5s					
BGF	**Bois d'Agland**	**5.63**	**293**	*e*Pn	Pn	00 45 35.6 +0.7
BGF				*e*Sn	Sn	00 46 36.5 -2.2
BGF	**Bois d'Agland**	**5.63**	**293**	*e*Pn	Pn	00 45 35.6 +0.7
TCF	**Toulx Ste Croi**	**5.97**	**290**	*e*Pn	Pn	00 45 39.9 +0.2
TCF				*e*Sn	Sn	00 46 45.5 -1.8
	1.1nm,0.5s					
TCF	**Toulx Ste Croi**	**5.97**	**290**	*e*Pn	Pn	00 45 39.9 +0.2
TCF				*e*Sn	Sn	00 46 45.5 -1.8
TCF	**Toulx Ste Croi**	**5.97**	**290**	*e*Pn	Pn	00 45 39.9 +0.2
MTLF	**Montolieu**	**5.99**	**261**	*e*Pn	Pn	00 45 41.3 +1.5
MTLF				*e*Sn	Sn	00 46 46.6 -1.0
	0.3nm,0.3s					
MTLF	**Montolieu**	**5.99**	**261**	*e*Pn	Pn	00 45 41.3 +1.5
MTLF				*e*Sn	Sn	00 46 46.6 -1.0
MTLF	**Montolieu**	**5.99**	**261**	*e*Pn	Pn	00 45 41.3 +1.5
MTLF				*e*Sn	Sn	00 46 46.6 -1.0
	0.2nm,0.3s					

*CSEM **24** 00:56:54.9±0.6, 50.°96N×6.°58E, h1km, ML2.1/8, Error ellipse: s-maj=11.8km s-min=7.6km az=6.0*
*LDG **24** 00:56:55.5±0.1, 51.°09N×6.°51E, h1km, Ml2.1/10, Error ellipse: s-maj=2.2km s-min=1.4km az=16.0, Suspected Mining induced.*

UCC 24 00:56:55.9±0.5, 51.°06N×6.°47E, h7km±4km, ML1.2, 3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEM	**Membach**	**0.54**	**213**	⇓P	Pg	00 57 05.6	-0.7
MEM				S	Sg	00 57 13.5	+0.2
	comp=N,6.6nm,0.3s						
MEM	**Membach**	**0.54**	**213**	P	Pg	00 57 05.6	-0.7
MEM				S	Sg	00 57 13.5	+0.2
	comp=N,6.6nm,0.3s						
BCLA	**Clavier**	**0.98**	**229**	⇓P	Pg	00 57 14.4	-0.3
BCLA				S	Sg	00 57 27.4	0.0
	comp=N,5.0nm,0.1s						
BCLA	**Clavier**	**0.98**	**229**	P	Pg	00 57 14.3	-0.4
BCLA				S	Sg	00 57 27.4	0.0
	comp=N,5.0nm,0.1s						
GIVF	**Givet**	**1.42**	**228**	*e*Pn	Pn	00 57 21.0	-1.1
GIVF				*e*Sn	Sn	00 57 39.8	-1.2
	comp=N,11nm,0.2s						
GIVF	**Givet**	**1.42**	**228**	*e*Pn	Pn	00 57 21.0	-1.1
GIVF				*e*Sn	Sn	00 57 39.8	-1.2
	comp=N,5.3nm,0.2s						
DOU	**Dourbes**	**1.54**	**232**	⇓P	Pn	00 57 23.3	-0.3
DOU				S	Sn	00 57 43.8	+0.1
	comp=N,2.0nm,0.2s						
DOU	**Dourbes**	**1.54**	**232**	P	Pn	00 57 23.3	-0.3
DOU				S	Sn	00 57 43.8	0.0
	comp=N,2.0nm,0.2s						
BAIF	**Baives**	**1.76**	**236**	*e*Pn	Pn	00 57 25.8	-0.8
BAIF				*e*Sn	Sn	00 57 47.8	-1.4
	comp=N,7.1nm,0.3s						
BAIF	**Baives**	**1.76**	**236**	*e*Pn	Pn	00 57 25.8	-0.8
BAIF				*e*Sn	Sn	00 57 47.8	-1.4
	comp=N,3.5nm,0.3s						
PAGF	**Fort de Pagny**	**2.56**	**191**	*e*Pn	Pn	00 57 36.5	-1.2
PAGF				*e*Sn	Sn	00 58 06.8	-2.2
	comp=N,0.2nm,0.2s						
PAGF	**Fort de Pagny**	**2.56**	**191**	*e*Pn	Pn	00 57 36.5	-1.2
PAGF				*e*Sn	Sn	00 58 06.8	-2.2
	comp=N,0.1nm,0.2s						
CDF	**Champ du Feu**	**2.71**	**168**	*e*Pn	Pn	00 57 38.4	-1.3
CDF				*e*Sn	Sn	00 58 10.3	-2.3
	comp=N,0.7nm,0.3s						
CDF	**Champ du Feu**	**2.71**	**168**	*e*Pn	Pn	00 57 38.4	-1.3
CDF				*e*Sn	Sn	00 58 10.3	-2.3
	comp=N,0.3nm,0.3s						
MEZF	**Maizieres J'vi**	**2.72**	**200**	*e*Pn	Pn	00 57 39.0	-0.9
MEZF				*e*Sn	Sn	00 58 10.8	-2.3
	comp=N,1.8nm,0.4s						
MEZF	**Maizieres J'vi**	**2.72**	**200**	*e*Pn	Pn	00 57 39.0	-0.9
MEZF				*e*Sn	Sn	00 58 10.8	-2.3
	comp=N,0.9nm,0.4s						
SFTF	**Sexfontaines**	**3.01**	**198**	*e*Pn	Pn	00 57 42.8	-1.1
SFTF				*e*Sn	Sn	00 58 17.6	-2.5
	comp=N,1.4nm,0.4s						
SFTF	**Sexfontaines**	**3.01**	**198**	*e*Pn	Pn	00 57 42.8	-1.1
SFTF				*e*Sn	Sn	00 58 17.6	-2.5
	comp=N,0.7nm,0.4s						
LOR	**Lormes**	**4.17**	**205**	*e*Pn	Pn	00 57 58.5	-1.3
LOR				*e*Sn	Sn	00 58 45.3	-3.3
	comp=N,1.4nm,0.2s						
LOR	**Lormes**	**4.17**	**205**	*e*Pn	Pn	00 57 58.5	-1.3
LOR				*e*Sn	Sn	00 58 45.3	-3.3
	comp=N,0.7nm,0.2s						
SSF	**Saint Saulge**	**4.45**	**207**	*e*Pn	Pn	00 58 02.7	-1.0
SSF				*e*Sn	Sn	00 58 52.2	-3.5
	comp=N,2.2nm,0.6s						
SSF	**Saint Saulge**	**4.45**	**207**	*e*Pn	Pn	00 58 02.7	-1.0
SSF				*e*Sn	Sn	00 58 52.2	-3.5
	comp=N,1.1nm,0.6s						

DJA 24 01:08:21, 1.°37N×122.°05E, h10km, MLv3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.89**	**187**	P	Pg	01 08 35.0	-3.2
MRSI				S	Sg	01 08 47.7	-2.2
GTOI	**Gorontalo**	**1.21**	**127**	P	Pn	01 08 42.3	-1.6
GTOI				S	Sb	01 08 58.2	-1.4
APSI	**Ampana**	**2.30**	**190**	P	Pn	01 08 59.7	+0.7
APSI				S	Sn	01 09 30.9	+3.5
LUWI	**Luwuk**	**2.50**	**163**	P	Pn	01 09 04.6	+2.8
LUWI				S	Sn	01 09 36.9	+4.5

*NEIC **24** 01:15:21.4±4.0, 38.°42N×77.°11E, h10km, mb3.4/1, Error ellipse: s-maj=49.4km s-min=17.0km az=192.0*
*BJI **24** 01:15:27.2, 39.°84N×77.°25E, h10km, mB4.6/3, mb3.6/4, ML4.0/6*
*IDC **24** 01:15:27.4±3.9, 38.°84N×77.°85E, h0km, mb2.9/1, mb1 3.5/6, mb1mx3.3/30, mbtmp3.5/6, ML3. 1/5, MS3.2/3, Ms1 3.2/3, ms1mx2.9/9, Error ellipse: s-maj=45.2km s-min=34.9km az=7.0*
*ISCJB **24** 01:15:28.5±1.1, 39.°10N±0.°09×77.°51E±0.°06, h10km, MS3.1/2, Error ellipse: s-maj=13.4km s-min=6.3km az=8.6*
*NNC **24** 01:15:29.6±1.8, 39.°63N×77.°10E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=13.4km s-min=11.9km az=177.0*

ISC 24 01:15:29.4±1.2, 39.°01N±0.°10×77.°47E±0.°06, h10km, n39, σ1°36/39, MS3.1/2, 9C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.27**	**294**	Pn	**Pn**	**01 15 53.3**	**+0.1**
KSH				Sg	**Sg**	**01 16 10.6**	**+0.4**
KSH				smax			
	comp=N,640nm,1.0s						
KSH				smax			
	comp=E,770nm,1.0s						
ULHL	**Ulahol**	**3.36**	**344**	P	**Pn**	**01 16 19.4**	**-2.5**
	SNR=11						
ULHL				P		01 16 19.4	
	SNR=11						
KZA	**Kyzart**	**3.50**	**332**	P	**Pn**	**01 16 20.3**	**-3.6**
	SNR=5.8						
KZA				P		01 16 20.3	
	SNR=5.8						
KBK	**Karagaybulak**	**4.11**	**333**	P	**Pn**	**01 16 28.9**	**-3.4**
	SNR=16						
KBK				P		01 16 28.9	
	SNR=16						
TKM2	**Tokmak 2**	**4.15**	**341**	⇑Pn	**Pn**	**01 16 25.1**	**-7.7**
	comp=E,19nm,0.6s						
TKM2				⇓Lg		01 17 20.5	
	comp=E,124nm,0.8s						
TKM2	**Tokmak 2**	**4.15**	**341**	*e*Pn	**Pn**	**01 16 28.2**	**-4.7**
TKM2				*e*Sn	**Sn**	**01 17 21.4**	**0.0**
KNDC	**Almaty**	**4.22**	**355**	⇓Pg	**Pn**	**01 16 33.6**	**-0.1**
	comp=E,78nm,0.7s						
KNDC				⇓Lg		01 17 24.8	
	comp=E,322nm,0.6s						
AML	**Almayashu**	**4.24**	**318**	P	**Pn**	**01 16 38.2**	**+4.2**
	SNR=9.4						
AML				P		01 16 38.2	
	SNR=9.4						
AAK	**Ala-Archa**	**4.26**	**329**	P	**Pn**	**01 16 32.1**	**-2.3**
	SNR=9.6						
AAK				P		01 16 32.1	
	SNR=9.6						
AAK	**Ala-Archa**	**4.26**	**329**	*e*Pn	**Pn**	**01 16 30.4**	**-4.0**
AAK				*e*Sn	**Sn**	**01 17 25.9**	**+1.8**
EKS2	**Erkin-Say**	**4.59**	**324**	P	**Pn**	**01 16 43.2**	**+4.3**
	SNR=7.6						
EKS2				P		01 16 43.2	
	SNR=7.6						
EKS2	**Erkin-Say**	**4.59**	**324**	*e*Pn	**Pn**	**01 16 34.8**	**-4.1**
USP	**Ospenovka**	**4.80**	**333**	P	**Pn**	**01 16 48.3**	**+6.5**
	SNR=6.4						
USP				P		01 16 48.3	
	SNR=6.4						
KK31	**Karatay Array**	**6.66**	**310**	⇑Pg	**Pb**	**01 17 20.6**	**-4.7**
	comp=E,7.5nm,0.8s,baz=130,slow=16,SNR=9.3						
KK31				⇑Lg		01 18 42.3	
	comp=E,46nm,1.0s,baz=127,slow=23,SNR=4.7						
KKAR	**Karatay Array**	**6.66**	**310**	*e*Pg	**Pb**	**01 17 23.1**	**-2.1**
	comp=E,15nm,0.9s						
MK31	**Makanchi Array**	**8.54**	**23**	⇓Pn	**Pn**	**01 17 29.4**	**-3.6**
	comp=E,6.7nm,1.1s,baz=196,slow=13,SNR=14						
MK31				⇑Pg	Pn	01 17 58.1	+25
	comp=E,8.1nm,0.8s						
MK31				⇑Lg		01 19 48.2	
	comp=E,47nm,1.1s						
MK31	**Makanchi Array**	**8.54**	**23**	*e*Pn	**Pn**	**01 17 33.4**	**+0.4**
MKAR	**Makanchi Array**	**8.54**	**23**	Pn	**Pn**	**01 17 33.1**	**+0.1**
	comp=E,0.2nm,0.3s,baz=201,slow=13,SNR=12						
MKAR				Pg	Pn	01 18 01.5	+28
	comp=E,0.4nm,0.3s,baz=205,slow=15,SNR=5.9						
MKAR				Lg		01 19 59.9	
	comp=E,1.2nm,0.3s,baz=194,slow=28,SNR=4.8						
MKAR	**Makanchi Array**	**8.54**	**23**	Pn	**Pn**	**01 17 33.1**	**+0.1**
MKAR				Pg	Pn	01 18 01.5	+28
MKAR				Lg		01 19 59.9	
WMQ	**Urumqi**	**9.06**	**55**	*e*Pn	**Pn**	**01 17 45.5**	**+5.3**
WMQ				Sn	**Sn**	**01 19 38.5**	**+16**
WMQ				smax			
	comp=N,62nm,0.7s						
WMQ				smax			
	comp=E,55nm,0.6s						
KURBB	**Kurchatov Arra**	**11.63**	**3**	⇑Lg		01 21 21.8	
	comp=E,10nm,0.9s						
KURK	**Kurchatov**	**11.73**	**4**	Pn	**Pn**	**01 18

ASAR Alice Springs 17.41 167 P Pn 01 22 05.6 +0.3
0.3nm,0.3s,baz=339,slow=9.0,SNR=7.5
MKAR Makanchi Array 67.73 327 P P 01 29 00.3 +0.1
0.2nm,0.4s,baz=112,slow=7.8,SNR=6.6

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*ISCJB **24** 01:24:17.0±1.1, 36°.58N±0°.04×142°.50E±0°.09, h10km, mb3.4/3, Error ellipse: s-maj=10.0km s-min=5.8km az=177.7*
*JMA **24** 01:24:17.3±0.3, 36°.55N×142°.43E, h9km, M3.1*
*IDC **24** 01:24:21.2±2.4, 37°.23N×142°.28E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/23, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=53.1km s-min=30.1km az=40.0*
*NEIC **24** 01:24:28.3±1.6, 37°.04N×141°.78E, h35km, MG3.1(JMA), Error ellipse: s-maj=33.9km s-min=18.1km az=208.0*
ISC 24 01:24:17.6±1.1,**36°.60N**±0°.04×**142°.52E**±0°.09,**h10**km,**n19,**
σ1§**01**/29,**mb3.4/3,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.47**	**291**	P	**Pn**	**01 24 43.2**	**-1.0**
JFK	**Kawauchi**	**1.53**	**301**	P	**Pn**	**01 24 43.8**	**-1.1**
JFK				*e*S	**Sn**	**01 25 04.1**	**-0.7**
JMM	**Marumori**	**1.87**	**313**	P	**Pn**	**01 24 48.7**	**-1.0**
JMM				*e*S	**Sn**	**01 25 10.0**	**-3.4**
JFT	**Otama**	**1.98**	**298**	P	**Pn**	**01 24 51.9**	**+0.8**
JFT				*e*S	**Sn**	**01 25 16.4**	**+0.5**
JIO	**Ouri**	**2.08**	**334**	P	**Pn**	**01 24 53.1**	**+0.6**
JIO				*e*S	**Sn**	**01 25 18.4**	**0.0**
JOU	**Okura**	**2.30**	**321**	P	**Pn**	**01 24 56.9**	**+1.3**
JOU				*e*S	**Sn**	**01 25 23.6**	**-0.4**
BSO1	**Boso 1**	**2.31**	**213**	P	**Pn**	**01 24 54.6**	**-1.1**
BSO1				*e*S	**Sn**	**01 25 24.5**	**+0.3**
BSO3	**Boso 3**	**2.42**	**223**	P	**Pn**	**01 24 56.5**	**-0.8**
JAG	**Ashikaga**	**2.48**	**267**	P	**Pn**	**01 24 57.5**	**-0.5**
JAG				*e*S	**Sn**	**01 25 26.6**	**-1.7**
MJAR	**Matsushiro Arr**	**3.47**	**270**	Pn	**Pn**	**01 25 12.5**	**+0.8**
	2.1nm,0.3s,baz=97,slow=7.7,SNR=12						
MJAR				Sn	**Sn**	**01 25 55.0**	**+2.2**
	0.4nm,0.3s,baz=214,slow=41,SNR=2.6						
MJAR	**Matsushiro Arr**	**3.47**	**270**	Pn	**Pn**	**01 25 12.5**	**+0.8**
MJAR				Sn	**Sn**	**01 25 55.0**	**+2.2**
MAJO	**Matsushiro**	**3.47**	**270**	*e*Pn	**Pn**	**01 25 11.9**	**+0.2**
MAT	**Matsushiro**	**3.47**	**270**	P	**Pn**	**01 25 12.4**	**+0.7**
MAT				S	**Sn**	**01 25 53.7**	**+0.8**
MKAR	**Makanchi Array**	**45.10**	**303**	P	**P**	**01 32 35.1**	**+1.3**
	0.4nm,0.8s,mb3.3,baz=95,slow=8.6,SNR=4.1						
MKAR	**Makanchi Array**	**45.10**	**303**	P	**P**	**01 32 35.1**	**+1.3**
WRA	**Warrarmunga Arr**	**56.76**	**189**	P	**P**	**01 34 10.9**	**+9.1**
	0.2nm,0.4s,mb3.5,baz=22,slow=7.2,SNR=9.9						
WRA	**Warrarmunga Arr**	**56.76**	**189**	P	**P**	**01 34 10.9**	**+9.1**
ASAR	**Alice Springs**	**60.48**	**189**	P	**P**	**01 34 37.6**	**+10**
	0.2nm,0.4s,mb3.5,baz=7.2,slow=6.3,SNR=5.7						
ASAR	**Alice Springs**	**60.48**	**189**	P	**P**	**01 34 37.6**	**+10**

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*IDC **24** 01:34:50.0±1.4, 8°.11S×120°.17E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=84.8km s-min=17.2km az=63.0*
*DJA **24** 01:34:51, 8°.01S×120°.43E, h10km, MLv3.6/5*
*ISCJB **24** 01:34:54.7±0.7, 8°.04S±0°.04×120°.41E±0°.08, h56km±9km, mb3.8/4, Error ellipse: s-maj=13.5km s-min=5.7km az=161.1*
*NEIC **24** 01:34:55.5±1.7, 7°.99S×120°.50E, h37km±17km, mb3.9/1, Error ellipse: s-maj=66.9km s-min=9.1km az=61.0*
ISC 24 01:34:55.8±0.7,**8°.04S**±0°.04×**120°.41E**±0°.08,**h42**km±9km,
n23,σ0§**92**/27,**mb3.8/4,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.62**	**184**	P	**Pn**	**01 35 21.1**	**-0.9**
WSI				S	**Sn**	**01 35 42.7**	**+1.0**
MMRI	**Maumere**	**1.91**	**108**	P	**Pn**	**01 35 27.4**	**+1.5**
MMRI				S	**Sn**	**01 35 48.4**	**-0.3**
BKSI	**Bulukumba**	**2.71**	**354**	P	**Pn**	**01 35 35.3**	**-1.7**
BKSI				S	**Sn**	**01 36 09.0**	**+0.4**
KAPI	**Kappang**	**3.07**	**348**	Pn	**Pn**	**01 35 41.8**	**-0.2**
	5.3nm,0.3s,baz=174,slow=8.5,SNR=25						
KAPI				Sn	**Sn**	**01 36 17.9**	**+0.4**
	1.7nm,0.3s,baz=228,slow=14,SNR=3.9						
KAPI	**Kappang**	**3.07**	**348**	Pn	**Pn**	**01 35 41.8**	**-0.2**
KAPI				Sn	**Sn**	**01 36 17.9**	**+0.4**
KAPI	**Kappang**	**3.07**	**348**	P	**Pn**	**01 35 41.3**	**-0.6**
BNSI	**Bone**	**3.63**	**355**	P	**Pn**	**01 35 50.3**	**+0.8**
SRBI	**Singaraja**	**5.14**	**269**	P	Px	01 36 23.9	
FITZ	**Fitzroy Crossi**	**11.22**	**154**	Pn	**Pn**	**01 37 33.2**	**-0.5**
	0.2nm,0.3s,baz=329,slow=12,SNR=3.2						
FITZ	**Fitzroy Crossi**	**11.22**	**154**	Pn	**Pn**	**01 37 33.2**	**-0.5**
WRA	**Warrarmunga Arr**	**17.95**	**133**	P	**Pn**	**01 39 01.1**	**-1.3**
	0.2nm,0.3s,baz=298,slow=12,SNR=12						
WRA	**Warrarmunga Arr**	**17.95**	**133**	P	**Pn**	**01 39 01.1**	**-1.3**
AS31	**Alice Springs**	**20.22**	**142**	*e*P	**P**	**01 39 27.4**	**0.0**
ASAR	**Alice Springs**	**20.22**	**142**	P	**P**	**01 39 26.7**	**-0.7**
	2.1nm,0.8s,baz=324,slow=10,SNR=17						
ASAR	**Alice Springs**	**20.22**	**142**	P	**P**	**01 39 26.7**	**-0.7**
STKA	**Stephens Creek**	**30.84**	**143**	P	**P**	**01 41 10.3**	**+2.2**
	1.3nm,0.7s,mb3.8,baz=319,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**30.84**	**143**	P	**P**	**01 41 10.3**	**+2.2**
MK31	**Makanchi Array**	**64.25**	**332**	*e*P	**P**	**01 45 26.8**	**+0.2**
MKAR	**Makanchi Array**	**64.25**	**332**	P	**P**	**01 45 27.1**	**+0.5**
	0.5nm,0.7s,mb3.7,baz=129,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**64.25**	**332**	P	**P**	**01 45 27.1**	**+0.5**
ZALV	**Zalesovo Beam**	**68.65**	**338**	P	**P**	**01 45 54.0**	**-0.6**
	0.7nm,0.6s,mb3.8,baz=155,slow=5.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**68.65**	**338**	P	**P**	**01 45 54.0**	**-0.5**
KURK	**Kurchatov**	**68.76**	**333**	*e*P	**P**	**01 45 54.9**	**-0.4**
	0.9nm,0.7s,mb3.8						

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*ISCJB **24** 02:04:21.0±0.6, 38°.89N±0°.05×27°.89E±0°.05, h12km±6km, Error ellipse: s-maj=8.8km s-min=6.2km az=17.0*
*ISK **24** 02:04:20.7, 38°.89N×27°.90E, h12km, ML2.1*
*DDA **24** 02:04:20.7, 38°.92N×27°.87E, h7km±4km, Md2.8*
*CSEM **24** 02:04:21.1±0.1, 38°.92N×27°.88E, h10km, ML2.1, Error ellipse: s-maj=2.9km s-min=2.4km az=143.0*
ISC 24 02:04:21.3±0.9,**38°.92N**±0°.04×**27°.88E**±0°.05,**h12**km±9km,
n12,σ0§**39**/24,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.07**	**232**	*e*PG	**Pg**	**02 04 23.4**	**-0.3**
AKS				*e*SG	**Sg**	**02 04 25.5**	**0.0**
AKS	**Akhisar**	**0.07**	**232**	*e*Pg	**Pg**	**02 04 23.4**	**-0.3**
AKS				*e*Sg	**Sg**	**02 04 25.5**	**+0.1**
DEMI	**Demirci**	**0.66**	**79**	*i* P	**Pg**	**02 04 34.2**	**+0.1**
DEMI				*i* S	**Sg**	**02 04 43.2**	**+0.4**
DEMI	**Demirci**	**0.66**	**79**	*i* P	**Pg**	**02 04 34.2**	**+0.1**
DEMI				*i* S	**Sg**	**02 04 43.2**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**123**	*e*PG	**Pg**	**02 04 34.8**	**-0.7**
KULA				*e*SG	**Sg**	**02 04 45.0**	**0.0**
KULA	**Kula-Manisa**	**0.73**	**123**	*e*Pg	**Pg**	**02 04 34.8**	**-0.7**
KULA				*e*Sg	**Sg**	**02 04 45.0**	**0.0**
DURS	**Dursunbey**	**0.82**	**34**	*i* P	**Pg**	**02 04 37.4**	**+0.2**
DURS				*i* S	**Sg**	**02 04 48.2**	**+0.4**
DURS	**Dursunbey**	**0.82**	**34**	*i* P	**Pg**	**02 04 37.4**	**+0.2**
DURS				*i* S	**Sg**	**02 04 48.2**	**+0.3**
BALY	**Balya**	**0.84**	**346**	*i* P	**Pg**	**02 04 37.1**	**-0.5**
BALY				*i* S	**Sg**	**02 04 48.5**	**-0.1**
BALY	**Balya**	**0.84**	**346**	*i* P	**Pg**	**02 04 37.1**	**-0.5**
BALY				*i* S	**Sg**	**02 04 48.5**	**-0.1**
BLCB	**Balcova**	**0.85**	**231**	*e*PG	**Pg**	**02 04 37.3**	**-0.3**
BLCB				*e*SG	**Sg**	**02 04 49.5**	**+0.8**
BLCB	**Balcova**	**0.85**	**231**	*e*Pg	**Pg**	**02 04 37.3**	**-0.3**
BLCB				*e*Sg	**Sg**	**02 04 49.5**	**+0.8**

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*IDC **24** 02:04:27.0±2.9, 33°.77S×179°.34W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/16, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=68.2km s-min=35.6km az=114.0*
ISC 24 02:04:31.1±2.7,**33°.95**±0°.1×**179°.2W**±0°.4,**h35**km,**n8,**
σ0§**79**/10,**mb3.0/2,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.62**	**206**	SN	**Sn**	**02 06 30.6**	**-0.2**
CNGZ	**Carnagh Statio**	**5.01**	**204**	*e*PN	**Pn**	**02 05 44.3**	**+0.6**
URZ	**Urewera**	**5.25**	**214**	Pn	**Pn**	**02 05 48.7**	**+1.6**
	1.7nm,0.3s,baz=141,slow=20,SNR=14						
URZ				Sn	**Sn**	**02 06 47.9**	**+1.4**
	1.3nm,0.3s,baz=286,slow=21,SNR=6.1						
URZ	**Urewera**	**5.25**	**214**	*e*PN	**Pn**	**02 05 42.2**	**-4.9**
URZ				SN	**Sn**	**02 06 46.9**	**+0.4**
BKZ	**Black Stump Fm**	**6.27**	**212**	*e*PN	**Pn**	**02 05 59.8**	**-1.3**
BKZ				*e*SN	**Sn**	**02 07 10.9**	**-0.7**
ASAR	**Alice Springs**	**42.04**	**271**	P	**P**	**02 12 19.4**	**0.0**
	0.2nm,0.5s,mb3.0,baz=116,slow=7.5,SNR=5.3						
WRA	**Warrarmunga Arr**	**43.35**	**277**	P	**P**	**02 12 30.0**	**-0.1**
	0.1nm,0.3s,mb3.0,baz=117,slow=7.9,SNR=8.7						
FINES	**FINESS Array B**	**148.05**	**337**	PKPbc	PKPbc	02 24 12.2	+0.1
	7.6nm,1.1s,baz=72,slow=2.4,SNR=7.2						

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*ISCJB **24** 02:10:44.4±0.8, 30°.33N±0°.08×67°.54E±0°.09, h10km, mb3.6/8, Error ellipse: s-maj=14.3km s-min=7.2km az=135.4*
*IDC **24** 02:10:45.3±1.1, 30°.41N×67°.26E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.5/29, mbtmp3.6/8, Error ellipse: s-maj=33.4km s-min=24.3km az=97.0*
*NEIC **24** 02:10:46.1±0.9, 30°.30N×67°.55E, h10km, mb3.7/4, Error ellipse: s-maj=15.8km s-min=8.4km az=46.0*
*DMN **24** 02:13:59.2±0.5, 28°.00N×83°.65E, h10km, Error ellipse: s-maj=12.0km s-min=9.7km az=107.0*
ISC 24 02:10:46.0±0.8,**30°.30N**±0°.07×**67°.52E**±0°.09,**h10**km,**n49,**
σ1§**36**/49,**mb3.6/8,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.42**	**17**	*e*Pn	**Pn**	**02 11 54.2**	**+1.0**
KKAR	**Karatay Array**	**13.01**	**10**	*e*Pn	**Pn**	**02 13 52.5**	**+1.7**
EKS2	**Erkin-Say**	**13.32**	**20**	*e*Pn	**Pn**	**02 13 55.0**	**-0.1**
AAK	**Ala-Archa**	**13.52**	**23**	*e*Pn	**Pn**	**02 13 58.5**	**+0.6**
	10nm,0.6s						
TKM2	**Tokmak 2**	**14.16**	**25**	*e*Pn	**Pn**	**02 14 05.6**	**-1.0**
	6.9nm,0.8s						
KOLN	**Koldanda**	**14.29**	**96**	*e*P	**Pn**	**02 14 05.2**	**-3.3**
	6.8nm,0.5s						
KOLN	**Koldanda**	**14.29**	**96**	*e*P	**Pn**	**02 14 05.2**	**-3.3**
	6.8nm,0.5s						
DANN	**Dangsing**	**14.30**	**94**	*e*P	**Pn**	**02 14 08.2**	**-0.4**
	29nm,0.7s						
DANN	**Dangsing**	**14.30**	**94**	*e*P	**Pn**	**02 14 08.2**	**-0.4**
	29nm,0.7s						
GKN	**Gorkha**	**15.13**	**94**	*e*P	**Pn**	**02 14 17.3**	**-2.6**
	13nm,0.7s						
GKN	**Gorkha**	**15.13**	**94**	*e*P	**Pn**	**02 14 17.3**	**-2.6**
	13nm,0.7s						
DMN	**Daman**	**15.63**	**96**	*e*P	**Pn**	**02 14 25.4**	**-1.0**
DMN	**Daman**	**15.63**	**96**	*e*P	**Pn**	**02 14 25.4**	**-1.0**
KKN	**Kakani**	**15.73**	**95**	*e*P	**Pn**	**02 14 27.0**	**-0.8**
	14nm,0.8s						
KKN	**Kakani**	**15.73**	**95**	*e*P	**Pn**	**02 14 27.0**	**-0.8**
	14nm,0.8s						
PKI	**Pulchoki**	**15.90**	**95**	*e*P	**Pn**	**02 14 28.8**	**-1.1**
	8.2nm,0.6s						
PKI	**Pulchoki**	**15.90**	**95**	*e*P	**Pn**	**02 14 28.8**	**-1.1**
	8.2nm,0.6s						
GUN	**Gumba**	**16.22**	**94**	*e*P	**Pn**	**02 14 32.5**	**-1.6**
	61nm,0.8s						
GUN	**Gumba**	**16.22**	**94**	*e*P	**Pn**	**02 14 32.5**	**-1.6**
	61nm,0.8s						
JIRN	**Jiri**	**16.55**	**95**	*e*P	**Pn**	**02 14 37.7**	**-0.5**
	12nm,0.5s						
JIRN	**Jiri**	**16.55**	**95**	*e*P	**Pn**	**02 14 37.7**	**-0.5**
	12nm,0.5s						
RAMN	**Ramite**	**17.08**	**97**	*e*P	**Pn**	**02 14 45.6**	**+0.6**
	20nm,0.4s						
RAMN	**Ramite**	**17.08**	**97**	*e*P	**Pn**	**02 14 45.6**	**+0.6**
	20nm,0.4s						
ODAN	**Odare**	**17.78**	**96**	*e*P	**Pn**	**02 14 55.7**	**+2.0**
	14nm,0.6s						
ODAN	**Odare**	**17.78**	**96**	*e*P	**Pn**	**02 14 55.7**	**+2.0**
	14nm,0.6s						
TAPN	**Taplejung**	**17.93**	**94**	*e*P	**Pn**	**02 14 57.4**	**+1.8**
	17nm,0.8s						
TAPN	**Taplejung**	**17.93**	**94**	*e*P	**Pn**	**02 14 57.4**	**+1.8**
	17nm,0.8s						
ABKAR	**Akbulak array**	**19.79**	**345**	*e*P	**Pn**	**02 15 16.0**	**-1.9**
	0.7nm,0.6s						
MK31	**Makanchi Array**	**20.06**	**31**	*e*P	**P**	**02 15 18.5**	**-0.8**
MKAR	**Makanchi Array**	**20.06**	**31**	P	**P**	**02 15 19.6**	**+0.2**
	1.2nm,0.8s,baz=214,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**20.06**	**31**	P	**P**	**02 15 19.6**	**+0.2**
LSA	**Lhasa**	**20.47**	**86**	*e*P	**P**	**02 15 25.7**	**+1.7**
	5.9nm,0.8s						
KURK	**Kurchatov**	**22.03**	**19**	P	**P**	**02 15 39.2**	**-1.3**
	1.1nm,0.8s,mb3.3,baz=210,slow=10,SNR=7.3						
KURK	**Kurchatov**	**22.03**	**19**	*e*P	**P**	**02 15 38.5**	**-2.0**
	3.0nm,0.9s,mb3.7						
BVAR	**Borovoye Array**	**22.81**	**4**	P	**P**	**02 15 48.6**	**-0.2**
	0.8nm,0.6s,mb3.3,baz=181,slow=7.2,SNR=6.5						
BVAR	**Borovoye Array**	**22.81**	**4**	P	**P**	**02 15 48.6**	**-0.2**
BRVK	**Borovoye**	**22.84**	**4**	*e*P	**P**	**02 15 49.6**	**+0.5**
	2.0nm,0.6s,mb3.7						
ZAA0	**Zalesovo Array**	**26.75**	**23**	*e*P	**P**	**02 16 26.8**	**+1.1**
ZALV	**Zalesovo Beam**	**26.75**	**23**	P	**P**	**02 16 26.6**	**+1.0**
	1.1nm,0.5s,mb3.7,baz=214,slow=10,SNR=7.5						
ZALV	**Zalesovo Beam**	**26.75**	**23**	P	**P**	**02 16 26.6**	**+1.0**
AKBB	**Malin Array Si**	**35.01**	**317**	*e*P	**P**	**02 17 36.5**	**-2.1**
TORD	**Torodi Ar. Bea**	**62.71**	**270**	P	**P**	**02 21 10.6**	**-1.0**
	0.6nm,0.9s,mb3.7,baz=53,slow=5.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**62.71**	**270**	P	**P**	**02 21 10.6**	**-1.0**
WRA	**Warrarmunga Arr**	**81.37**	**119**	P	**P**	**02 23 05.6**	**+2.4**
	0.4nm,0.7s,mb3.4,baz=319,slow=4.8,SNR=4.3						
WRA	**Warrarmunga Arr**	**81.37**	**119**	P	**P**	**02 23 05.6**	**+2.4**
ASAR	**Alice Springs**	**83.26**	**122**	P	**P**	**02 23 15.2**	**+2.2**
	0.4nm,0.7s,mb3.6,baz=304,slow=5.2,SNR=5.8						
ASAR	**Alice Springs**	**83.26**	**122**	P	**P**	**02 23 15.2**	**+2.2**
YKA	**Yellowknife Ar**	**87.52**	**1**	P	**P**	**02 23 35.0**	**+1.2**
	0.6nm,0.7s,mb3.9,baz=351,slow=5.0,SNR=9.5						
YKA	**Yellowknife Ar**	**87.52**	**1**	P	**P**	**02 23 35.0**	**+1.2**

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*CSEM **24** 02:38:19.7±0.3, 43°.64N×13°.48E, h30km, ML3.4/9, Error ellipse: s-maj=5.0km s-min=4.6km az=16.0*
*ISCJB **24** 02:38:21.1±0.5, 43°.64N±0°.03×13°.50E±0°.04, h32km±3km, Error ellipse: s-maj=5.4km s-min=4.4km az=10.5*
*ROM **24** 02:38:21.4±0.2, 43°.63N×13°.40E, h35km±1km, Md2.6/14, Ml2.5/16, Error ellipse: s-maj=3.7km s-min=2.2km az=50.0*
ISC 24 02:38:21.4±0.5,**43°.65N**±0°.03×**13°.47E**±0°.04,**h33**km±3km,
n46,σ0§**77**/75,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENI	**Senigallia**	**0.18**	**289**	Pg	**Pb**	**02 38 27.9**	**+0.2**
SENI				Sg	**Sb**	**02 38 33.3**	**+1.3**
	580nm,0.3s						
SENI	**Senigallia**	**0.18**	**289**	Pg	**Pb**	**02 38 27.9**	**+0.2**
SENI				Sg	**Sb**	**02 38 33.3**	**+1.3**
	580nm,0.3s						
CING	**Cingoli**	**0.34**	**217**	Pg	**Pb**	**02 38 29.6**	**+0.1**
CING				Sg	**Sb**	**02 38 35.6**	**+0.5**
	565nm,0.3s						
CING	**Cingoli**	**0.34**	**217**	Pg	**Pb**	**02 38 29.6**	**+0.1**
CING				Sg	**Sb**	**02 38 35.6**	**+0.5**
	565nm,0.3s						
FSSB	**Fossombrone**	**0.51**	**276**	Pg	**Pb**	**02 38 30.6**	**-1.4**
FSSB				Sg	**Sb**	**02 38 38.8**	**-0.5**
	202nm,0.2s						
FSSB	**Fossombrone**	**0.51**	**276**	Pg	**Pb**	**02 38 30.6**	**-1.4**
FSSB				Sg	**Sb**	**02 38 38.8**	**-0.5**
	202nm,0.2s						
PESA	**Pesaro**	**0.54**	**303**	Pg	**Pb**	**02 38 32.7**	**+0.1**
	459nm,0.2s						
PESA	**Pesaro**	**0.54**	**303**	Pg	**Pb**	**02 38 32.7**	**+0.1**
	459nm,0.2s						
SNTG	**Esanatoglia**	**0.55**	**225**	Pg	**Pb**	**02 38 31.3**	**-1.4**
SNTG				Sg	**Sb**	**02 38 40.3**	**-0.1**
	182nm,0.2s						
SNTG	**Esanatoglia**	**0.55**	**225**	Pg	**Pb**	**02 38 31.3**	**-1.4**
SNTG				Sg	**Sb**	**02 38 40.3**	**-0.1**
	182nm,0.2s						
FDMO	**Fiordimonte**	**0.67**	**205**	Pg	**Pn**	**02 38 34.2**	**-0.3**
FDMO				Sg	**Sb**	**02 38 44.2**	**+0.5**
	158nm,0.3s						
FDMO	**Fiordimonte**	**0.67**	**205**	Pg	**Pn**	**02 38 34.2**	**-0.3**
FDMO				Sg	**Sb**	**02 38 44.2**	**+0.5**
	158nm,0.3s						
GUMA	**Gualdo di Mace**	**0.67**	**150**	Pg	**Pn**	**02 38 33.8**	**-0.8**
GUMA				Sg	**Sb**	**02 38 43.1**	**-0.7**
	484nm,0.3s						
GUMA	**Gualdo di Mace**	**0.67**	**150**	Pg	**Pn**	**02 38 33.8**	**-0.8**
GUMA				Sg	**Sb**	**02 38 43.1**	**-0.7**
	484nm,0.3s						
PIEI	**Pieia**	**0.69**	**261**	Pg	**Pn**	**02 38 34.1**	**-0.7**
PIEI				Sg	**Sb**	**02 38 44.1**	**-0.1**
	316nm,0.3s						
PIEI	**Pieia**	**0.69**	**261**	Pg	**Pn**	**02 38 34.1**	**-0.7**
PIEI				Sg	**Sb**	**02 38 44.1**	**-0.1**
	316nm,0.3s						
CESI	**CESI - Serrava**	**0.76**	**213**	Pg	**Pn**	**02 38 35.6**	**-0.2**
CESI				Sg	**Sn**	**02 38 46.9**	**+0.8**
	184nm,0.3s						
CESI	**CESI - Serrava**	**0.76**	**213**	Pg	**Pn**	**02 38 35.6**	**-0.2**
CESI				Sg	**Sn**	**02 38 46.9**	**+0.8**
	184nm,0.3s						
MURB	**Monte Urbino**	**0.79**	**241**	Pg	**Pn**	**02 38 35.9**	**-0.3**
MURB				Sg	**Sn**	**02 38 47.6**	**+0.8**
	2μm,0.3s						
MURB	**Monte Urbino**	**0.79**	**241**	Pg	**Pn**	**02 38 35.9**	**-0.3**
MURB				Sg	**Sn**	**02 38 47.6**	**+0.8**
	2μm,0.3s						
ASS	**Assisi**	**0.83**	**226**	Pg	**Pn**	**02 38 35.6**	**-1.2**
ASS				Sg	**Sn**	**02 38 47.4**	**-0.5**
ASS	**Assisi**	**0.83**	**226**	Pg	**Pn**	**02 38 35.6**	**-1.2**
ASS				Sg	**Sn**	**02 38 47.4**	**-0.5**
NRCA	**Norcia**	**0.85**	**198**	Pg	**Pn**	**02 38 36.1**	**-0.9**
NRCA				Sg	**Sn**	**02 38 48.8**	**+0.4**
	36nm,0.2s						
NRCA	**Norcia**	**0.85**	**198**	Pg	**Pn**	**02 38 36.1**	**-0.9**
NRCA				Sg	**Sn**	**02 38 48.8**	**+0.4**
	36nm,0.2s						
PARC	**Parchiule**	**0.90**	**271**	Pg	**Pn**	**02 38 37.5**	**-0.1**
PARC				Sg	**Sn**	**02 38 49.7**	**+0.3**
	168nm,0.3s						
PARC	**Parchiule**	**0.90**	**271**	Pg	**Pn**	**02 38 37.5**	**-0.1**
PARC				Sg	**Sn**	**02 38 49.7**	**+0.3**
	168nm,0.3s						
BADI	**Badiali**	**0.90**	**262**	Pg	**Pn**	**02 38 37.7**	**0.0**
	185nm,0.3s						
BADI	**Badiali**	**0.90**	**262**	Pg	**Pn**	**02 38 37.7**	**0.0**
	185nm,0.3s						
TERO	**Teramo**	**1.03**	**175**	Pg	**Pn**	**02 38 39.8**	**+0.4**
	55nm,0.3s						
TERO	**Teramo**	**1.03**	**175**	Pg	**Pn**	**02 38 39.8**	**+0.4**
	55nm,0.3s						
LNSS	**Leonessa**	**1.09**	**197**	Pg	**Pn**	**02 38 40.9**	**+0.6**
	188nm,0.3s						
LNSS	**Leonessa**	**1.09**	**197**	Pg	**Pn**	**02 38 40.9**	**+0.6**
	188nm,0.3s						
CAMP	**Campotosto**	**1.11**	**182**	Pg	**Pn**	**02 38 40.8**	**+0.2**
	8.0nm,0.8s						
CAMP	**Campotosto**	**1.11**	**182**	Pg	**Pn**	**02 38 40.8**	**+0.2**
	8.0nm,0.8s						
SFI	**Santa Sofia**	**1.21**	**283**	Pg	**Pn**	**02 38 42.7**	**+0.8**
	25nm,0.5s						
SFI	**Santa Sofia**	**1.21**	**283**	Pg	**Pn**	**02 38 42.7**	**+0.8**
	25nm,0.5s						
ASQU	**Asqua**	**1.23**	**278**	Pg	**Pn**	**02 38 43.2**	**+1.0**
	49nm,0.7s						
ASQU	**Asqua**	**1.23**	**278**	Pg	**Pn**	**02 38 43.2**	**+1.0**
	49nm,0.7s						
NVLJ	**Novalja**	**1.36**	**47**	*e*Pg	**Pn**	**02 38 45.0**	**+0.9**
NVLJ				Sg	**Sn**	**02 39 02.2**	**+1.2**
NVLJ	**Novalja**	**1.36**	**47**	*e*Pg	**Pn**	**02 38 45.0**	**+0.9**
NVLJ				Sg	**Sn**	**02 39 02.2**	**+1.2**
SACS	**San Casciano d**	**1.39**	**236**	Pg	**Pn**	**02 38 44.3**	**-0.1**
FIAM	**Fiamignano**	**1.40**	**191**	Pg	**Pn**	**02 38 45.7**	**+1.1**
	20nm,0.5s						
FIAM	**Fiamignano**	**1.40**	**191**	Pg	**Pn**	**02 38 45.7**	**+1.1**
	20nm,0.5s						
STON	**Ston**	**3.18**	**103**	*e*Pn	**Pn**	**02 39 09.3**	**+0.2**
STON				Sn	**Sn**	**02 39 45.3**	**-0.6**
STON	**Ston**	**3.18**	**103**	*e*Pn	**Pn**	**02 39 09.3**	**+0.2**
STON				Sn	**Sn**	**02 39 45.3**	**-0.6**
KHC	**Kasperske Hory**	**5.49**	**1**	*e*PN	**Pn**	**02 39 50.0**	**+9.3**
KHC				*e*SN	**Sn**	**02 40 40.0**	**-2.7**

IDC 24 03:22:36.9±3.5,**17°.79S**×**178°.59W**,**h614**km±42km,
mb3.2/4,mb1 3.5/4,mb1mx3.0/17,mbtmp3.2/4,Error ellipse: s-maj=82.3km s-min=23.9km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.53**	**241**	P	P	03 29 08.7	-0.2
	3.2nm,0.7s,baz=92,slow=11,SNR=13						
WRA

ADVT	**Abdulvahap**	**2.64**	**9**	*e*PN	**Pn**	**03 29 21.4**	**+0.2**
ADVT	**Abdulvahap**	**2.64**	**9**	*e*Pn	**Pn**	**03 29 21.4**	**+0.1**
PRK	**Paraskevi**	**2.71**	**302**	*e*PN	**Pn**	**03 29 22.0**	**-0.3**
BNT	**Bandirma**	**2.72**	**339**	*e*PN	**Pn**	**03 29 23.6**	**+1.1**
BNT	**Bandirma**	**2.72**	**339**	*e*Pn	**Pn**	**03 29 23.6**	**+1.2**
EDC	**Edincik**	**2.73**	**338**	*e*PN	**Pn**	**03 29 23.6**	**+1.0**
EDC	**Edincik**	**2.73**	**338**	*e*Pn	**Pn**	**03 29 23.6**	**+1.0**
HDMB	**Hadim**	**2.74**	**107**	*e*PN	**Pn**	**03 29 23.0**	**+0.4**
HDMB	**Hadim**	**2.74**	**107**	*e*Pn	**Pn**	**03 29 23.0**	**+0.3**
YLV	**Yalova**	**2.74**	**2**	*e*PN	**Pn**	**03 29 23.0**	**+0.3**
YLV	**Yalova**	**2.74**	**2**	*e*Pn	**Pn**	**03 29 23.0**	**+0.3**
ARMT	**Armutlu**	**2.75**	**354**	*e*PN	**Pn**	**03 29 23.0**	**+0.2**
ARMT	**Armutlu**	**2.75**	**354**	*e*Pn	**Pn**	**03 29 23.0**	**+0.2**
GULT	**Gulveren**	**2.79**	**21**	*e*PN	**Pn**	**03 29 24.1**	**+0.7**
GULT	**Gulveren**	**2.79**	**21**	*e*Pn	**Pn**	**03 29 24.1**	**+0.7**
KARP	**Karpathos**	**2.81**	**217**	*e*PN	**Pn**	**03 29 24.5**	**+0.9**
ZKR	**Zakros**	**3.63**	**223**	*e*PN	**Pn**	**03 29 38.0**	**+3.1**
NPS	**Neapolis**	**3.87**	**230**	*e*PN	**Pn**	**03 29 39.0**	**+0.8**
GVD	**Gavdhos**	**5.10**	**236**	*e*PN	**Pn**	**03 29 58.0**	**+2.8**

*ISCJB **24** 03:29:06.5±0.8, 37°.85N±0°.07×29°.2E±0°.1, h10km, Error ellipse: s-maj=15.7km s-min=5.2km az=35.4*
*DDA **24** 03:29:07.0, 37°.88N×29°.23E, h7km±3km, Ml2.6*
*IDC **24** 03:29:08.3±1.7, 37°.71N×29°.36E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/25, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=30.6km s-min=25.6km az=168.0*
ISC 24 03:29:07.4±1.0, 37.88N±0°.07×29.1E±0°.1, h10km, n6, σ19°07/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.20**	**195**	*e*P	**Pg**	**03 29 11.3**	**-0.2**
DNZL				*i* S	**Sg**	**03 29 13.1**	**-1.2**
KHAL	**Karahalli**	**0.57**	**31**	*e*P	**Pg**	**03 29 17.7**	**-0.9**
KHAL				*i* S	**Sg**	**03 29 25.1**	**-1.0**
BRTR	**Keskin Array B**	**3.99**	**61**	Pn	**Pn**	**03 30 09.3**	**+0.8**
	0.6nm,0.3s,baz=243,slow=14,SNR=9.2						
BRTR				Sn	**Sn**	**03 30 56.2**	**+0.9**
	0.5nm,0.3s,baz=238,slow=24,SNR=5.0						
MMAI	**Mount Meron Ar**	**7.06**	**132**	Pn	**Pn**	**03 30 50.5**	**-0.3**
	4.9nm,0.3s,baz=316,slow=12,SNR=14						
GERES	**GERESS Array B**	**15.64**	**319**	Pn	**Pn**	**03 32 55.4**	**+7.7**
	0.0nm,0.3s,baz=134,slow=13,SNR=4.8						
TORD	**Torodi Ar. Bea**	**34.67**	**232**	P	**P**	**03 35 59.6**	**+2.5**
	0.3nm,0.5s,baz=33,slow=8.8,SNR=5.3						

*IDC **24** 03:39:44.5±1.2, 31°.96S×71°.41W, h0km, mb4.2/3, mb1 4.3/6, mb1mx4.1/14, mbtmp4.2/6, ML4.4/3, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=42.2km s-min=34.9km az=160.0*
*ISCJB **24** 03:39:51.2±0.6, 31°.84S±0°.02×71°.61W±0°.10, h66km±5km, mb3.9/5, Error ellipse: s-maj=13.6km s-min=3.7km az=175.7*
*NEIC **24** 03:39:52.4, 31°.87S×71°.51W, h50km, mb4.1/4, After GUC.*
NEIC Felt [IV] at Canela, Illapel and Salamanca; [III] at Los Vilos; [II] at Cabildo, Papudo and Petorca.
*GUC **24** 03:39:52.4±0.6, 31°.87S×71°.51W, h50km±2km, ML4.3*
ISC 24 03:39:52.3±0.6, 31°.84S±0°.02×71°.60W±0°.10, h57km±5km, n56, σ0°68/66, mb4.1/5, MS3.6/2, 4C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.09**	**115**	⇓*i*P	**Pn**	**03 40 00.4**	**-0.6**
CHNG				*i* S	**Sn**	**03 40 05.8**	**-1.3**
CHNG	**Los Chungos**	**0.09**	**115**	⇓*i*P	**Pn**	**03 40 00.4**	**-0.6**
CHNG				*i* S	**Sn**	**03 40 05.8**	**-1.3**
CHNG				AML	AML	03 40 06.6	
	comp=N,39μm,0.3s						
IHA	**Instituto Hidr**	**1.18**	**182**	⇑*i*P	**Pn**	**03 40 12.4**	**-0.2**
IHA				*i* S	**Sn**	**03 40 27.8**	**+0.1**
IHA	**Instituto Hidr**	**1.18**	**182**	⇑*i*P	**Pn**	**03 40 12.4**	**-0.2**
IHA				*i* S	**Sn**	**03 40 27.8**	**+0.1**
JACH	**Jahuel**	**1.19**	**135**	*e*P	**Pn**	**03 40 12.2**	**-0.5**
JACH	**Jahuel**	**1.19**	**135**	*e*P	**Pn**	**03 40 12.2**	**-0.5**
ROCH	**El Roble**	**1.23**	**156**	P	**Pn**	**03 40 13.2**	**-0.1**
ROCH				*i* S	**Sn**	**03 40 29.5**	**+0.6**
ROCH	**El Roble**	**1.23**	**156**	*i* P	**Pn**	**03 40 13.2**	**-0.1**
ROCH				*i* S	**Sn**	**03 40 29.5**	**+0.6**
ROCH				AML	AML	03 40 30.7	
	comp=N,16μm,0.4s						
OVCH	**Ovalle**	**1.28**	**15**	⇓*i*P	**Pn**	**03 40 14.2**	**+0.3**
OVCH				*i* S	**Sn**	**03 40 31.3**	**+1.2**
OVCH	**Ovalle**	**1.28**	**15**	⇓*i*P	**Pn**	**03 40 14.2**	**+0.3**
OVCH				*i* S	**Sn**	**03 40 31.3**	**+1.2**
OVCH				AML	AML	03 40 32.9	
	comp=N,35μm,0.6s						
PEL	**Peldehue**	**1.51**	**150**	⇓*i*P	**Pn**	**03 40 16.8**	**-0.2**
PEL				*i* S	**Sn**	**03 40 35.2**	**-0.4**
PEL				AML	AML	03 40 38.1	
	comp=E,9μm,0.3s						
RCDM	**Rinconada Maip**	**1.77**	**158**	⇓*i*P	**Pn**	**03 40 20.5**	**0.0**
RCDM				*i* S	**Sn**	**03 40 41.8**	**-0.2**
RCDM	**Rinconada Maip**	**1.77**	**158**	⇓*i*P	**Pn**	**03 40 20.5**	**0.0**
RCDM				*i* S	**Sn**	**03 40 41.8**	**-0.2**
RCDM				AML	AML	03 40 48.4	
	comp=E,3μm,0.1s						
CLCH	**Cerro Calan**	**1.79**	**150**	*e*P	**Pn**	**03 40 20.9**	**+0.1**
CLCH				AML	AML	03 40 56.9	
	comp=N,4μm,0.4s						
CLCH				AML	AML	03 40 56.9	
	comp=E,5μm,0.5s						
SAN	**Santiago**	**1.79**	**154**	*e*P	**Pn**	**03 40 20.8**	**0.0**
SAN				*e*S	**Sn**	**03 40 42.0**	**-0.4**
SAN	**Santiago**	**1.79**	**154**	*e*P	**Pn**	**03 40 20.8**	**0.0**
SAN				*e*S	**Sn**	**03 40 42.0**	**-0.4**
TLL	**Tololo Astrono**	**1.81**	**22**	⇓*i*P	**Pn**	**03 40 21.4**	**+0.4**
TLL				*i* S	**Sn**	**03 40 44.0**	**+1.2**
TLL	**Tololo Astrono**	**1.81**	**22**	⇓*i*P	**Pn**	**03 40 21.4**	**+0.4**
TLL				*i* S	**Sn**	**03 40 44.0**	**+1.2**
TLL				AML	AML	03 40 49.8	
	comp=N,6μm,0.6s						
FCH	**Farellones**	**1.84**	**144**	*e*P	**Pn**	**03 40 22.2**	**+0.6**
FCH				*i* S	**Sn**	**03 40 44.4**	**+0.6**
ANTU	**Antumapu**	**1.90**	**155**	AML	AML	03 41 00.7	
	comp=E,3μm,0.6s						
SJCH	**San Jose de Ma**	**2.08**	**150**	AML	AML	03 41 02.9	
	comp=E,2μm,0.3s						
LMEL	**Las Melosas**	**2.32**	**150**	*e*P	**Pn**	**03 40 28.2**	**+0.2**
LMEL				*i* S	**Sn**	**03 40 55.0**	**-0.4**
LMEL	**Las Melosas**	**2.32**	**150**	*e*P	**Pn**	**03 40 28.2**	**+0.2**
LMEL				*i* S	**Sn**	**03 40 55.0**	**-0.4**
LMEL				AML	AML	03 41 03.0	
	comp=N,2μm,0.1s						
CACH	**El Canelo**	**2.42**	**160**	⇑*e*P	**Pn**	**03 40 30.2**	**+0.8**
CACH				*i* S	**Sn**	**03 40 58.6**	**+0.9**
CACH	**El Canelo**	**2.42**	**160**	⇑*e*P	**Pn**	**03 40 30.2**	**+0.8**
CACH				*i* S	**Sn**	**03 40 58.6**	**+0.9**
CFAA	**Coronel Fontan**	**2.87**	**86**	Pn	**Pn**	**03 40 36.2**	**+0.6**
	comp=N,9.6nm,0.3s,baz=248,slow=9.7,SNR=194						
CFAA				Lg		03 41 13.3	
	comp=N,19nm,0.3s,baz=194,slow=19,SNR=9.2						
CFAA	**Coronel Fontan**	**2.87**	**86**	Pn	**Pn**	**03 40 36.2**	**+0.6**
CFAA				Lg		03 41 13.3	
LCO	**Las Campanas**	**2.93**	**16**	*e*Pn	**Pn**	**03 40 36.4**	**0.0**
LCO				*e*Sn	**Sn**	**03 41 10.2**	**-0.2**
PLCA	**Paso Flores**	**8.91**	**175**	Pn	**Pn**	**03 41 57.9**	**-0.4**
	comp=N,0.3nm,0.3s,baz=329,slow=9.4,SNR=5.1						
PLCA				LR	LR	03 45 21.6	
	comp=N,132nm,21.2s,baz=286,slow=38						
PLCA	**Paso Flores**	**8.91**	**175**	*e*Pn	**Pn**	**03 41 59.0**	**+0.7**
LVC	**Limon Verde**	**9.50**	**15**	*e*Pn	**Pn**	**03 42 06.3**	**-0.1**
LVC				*e*Sn	**Sn**	**03 43 51.1**	**-0.7**
TRQA	**Tornquist**	**10.03**	**131**	*e*Pn	**Pn**	**03 42 13.4**	**-0.2**
	comp=N,10nm,0.8s						
CPUP	**Villa Florida**	**13.63**	**70**	Pn	**Pn**	**03 42 59.0**	**-3.8**
	comp=N,0.7nm,0.3s,baz=218,slow=11,SNR=6.6						
CPUP				LR	LR	03 48 31.4	
	comp=N,105nm,19.8s,baz=194,slow=39						
CPUP	**Villa Florida**	**13.63**	**70**	*e*Pn	**Pn**	**03 42 58.7**	**-4.1**
LPAZ	**La Paz**	**15.80**	**12**	Pn	**Pn**	**03 43 31.9**	**+0.7**
	comp=N,0.5nm,0.3s,baz=188,slow=7.2,SNR=19						
LPAZ	**La Paz**	**15.80**	**12**	*e*Pn	**Pn**	**03 43 31.6**	**+0.3**
	comp=N,20nm,1.2s						
SIV	**San Ignacio**	**18.46**	**34**	P	**Pn**	**03 44 02.5**	**-1.6**
	comp=N,0.7nm,0.3s,baz=222,slow=11,SNR=28						
SIV				LR	LR	03 52 21.5	
	comp=N,124nm,20.9s,slow=41						
SIV	**San Ignacio**	**18.46**	**34**	P	**Pn**	**03 44 02.5**	**-1.6**
SAML	**Samuel**	**24.09**	**21**	*e*P	**P**	**03 45 01.6**	**-1.0**
	comp=N,5.6nm,0.9s,mb4.0						
OTAV	**Otavalo**	**32.56**	**347**	*e*P	**P**	**03 46 17.9**	**-0.3**
	comp=N,1.3nm,0.7s,mb4.0						
PMSA	**Palmer Station**	**33.28**	**174**	LR	LR	04 00 35.5	
	comp=N,128nm,18.4s,MS3.7,baz=164,slow=38						
RCBR	**Riachuelo**	**42.22**	**60**	LR	LR	04 06 35.0	
	comp=N,81nm,18.6s,MS3.6,baz=58,slow=38						
TXAR	**Lajitas Array**	**68.05**	**330**	P	**P**	**03 50 47.3**	**+1.5**
	comp=N,0.3nm,0.7s,mb3.5,baz=134,slow=7.2,SNR=3.8						
TXAR	**Lajitas Array**	**68.05**	**330**	P	**P**	**03 50 47.3**	**+1.5**
DBIC	**Dimbokro**	**74.14**	**72**	P	**P**	**03 51 22.3**	**-0.7**
	comp=N,3.5nm,0.8s,mb4.4,baz=184,slow=5.1,SNR=8.3						
DBIC	**Dimbokro**	**74.14**	**72**	*e*P	**P**	**03 51 22.4**	**-0.7**
	comp=N,6.1nm,0.8s,mb4.6						
TORD	**Torodi Ar. Bea**	**83.13**	**70**	P	**P**	**03 52 11.5**	**-0.8**
	comp=N,3.0nm,0.7s,mb4.4,baz=250,slow=4.6,SNR=20						
TORD	**Torodi Ar. Bea**	**83.13**	**70**	P	**P**	**03 52 11.5**	**-0.8**
WRA	**Warramunga Arr**	**122.82**	**209**	PKP	PKPdf	03 58 42.1	-0.3
	comp=N,0.4nm,0.5s,baz=161,slow=1.6,SNR=7.1						
WRA	**Warramunga Arr**	**122.82**	**209**	PKP	PKPdf	03 58 42.1	-0.3
BVAR	**Borovoye Array**	**145.43**	**41**	PKPbc	PKPbc	03 59 24.2	+0.8
	comp=N,2.1nm,0.6s,baz=282,slow=3.0,SNR=15						
BVAR	**Borovoye Array**	**145.43**	**41**	PKPbc	PKPbc	03 59 24.2	+0.8
ZALV	**Zalesovo Beam**	**152.20**	**30**	PKPbc	PKPbc	03 59 41.2	+0.3
	comp=N,4.1nm,0.7s,baz=310,slow=3.4,SNR=13						
ZALV				PKPab	PKPab	03 59 53.2	+2.4
	comp=N,0.9nm,0.4s,baz=5.7,slow=1.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**152.20**	**30**	PKPbc	PKPbc	03 59 41.2	+0.3
ZALV				PKPab	PKPab	03 59 53.2	+2.4
MKAR	**Makanchi Array**	**155.03**	**46**	PKPbc	PKPdf	03 59 47.4	+9.0
	comp=N,0.3nm,0.6s,baz=278,slow=1.7,SNR=3.4						
MKAR				PKPab	PKPab	04 00 02.6	-0.5
	comp=N,0.5nm,0.9s,baz=318,slow=1.6,SNR=4.0						
MKAR	**Makanchi Array**	**155.03**	**46**	PKPbc	PKPdf	03 59 47.4	+9.0
MKAR				PKPab	PKPab	04 00 02.6	-0.5

IDC 24 03:40:43.1±1.8, 3°.23N×123°.34E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=204.3km s-min=25.8km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.44**	**155**	P	P	03 46 12.3	-0.4
	0.6nm,0.3s,baz=333,slow=11,SNR=17						
ASAR	**Alice Springs**	**28.65**	**159**	P	P	03 46 42.2	+0.6
	0.2nm,0.5s,baz=342,slow=7.8,SNR=2.8						
MKAR	**Makanchi Array**	**56.08**	**327**	P	P	03 50 24.1	+0.1
	0.2nm,0.3s,baz=128,slow=7.6,SNR=5.9						

*NIED **24** 03:40:00, 41°.60N×143°.30E, h26km, Mw4.1 Best double couple: M0 1.39000×10^15 NP1:φs 71.00000°, δ64.00000°, λ119.00000°. NP2:φs 200.00000°, δ39.00000°, λ45.00000°.*
*MOS **24** 03:40:50.0±0.9, 41°.59N×143°.22E, h38km, mb4.4/20, Error ellipse: s-maj=14.7km s-min=8.4km az=88.5*
*ISCJB **24** 03:40:50.3±0.7, 41°.57N±0°.05×143°.26E±0°.08, h40km±5km, mb4.1/28, MS3.6/2, Error ellipse: s-maj=11.5km s-min=6.7km az=35.6*
*JMA **24** 03:40:51.0±0.2, 41°.62N×143°.27E, h20km±2km, M4.2*
*NEIC **24** 03:40:51.2±0.9, 41°.62N×143°.23E, h30km±6km, mb4.3/8, Error ellipse: s-maj=8.8km s-min=6.2km az=123.0*
*IDC **24** 03:40:53.9±2.1, 41°.52N×143°.17E, h57km±17km, mb3.7/17, mb1 3.9/20, mb1mx3.8/27, mbtmp3.7/20, ML3.9/2, MS3.2/6, Ms1 3.2/6, ms1mx3.0/44, Error ellipse: s-maj=16.8km s-min=12.5km az=106.0*
ISC 24 03:40:51.1±1.0, 41°.64N±0°.05×143°.26E±0°.08, h28km±6km, n95, σ0°81/98, mb4.1/28, MS3.6/2, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.39**	**349**	*e*Pn	**Pb**	**03 40 59.2**	**-0.5**
ERM	**Erimo**	**0.39**	**349**	*e*P	**Pb**	**03 40 59.2**	**-0.5**
JEM	**Erimo**	**0.39**	**349**	⇓P	**Pb**	**03 40 59.1**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.75**	**330**	⇓P	**Pb**	**03 41 05.5**	**-0.1**
JCH	**Churui**	**0.98**	**4**	⇓P	**Pn**	**03 41 09.2**	**+0.2**
JCH				*e*S	**Sn**	**03 41 23.1**	**+1.1**
JBT2	**Biratori 2**	**1.32**	**330**	⇓P	**Pn**	**03 41 14.4**	**+0.7**
JOB	**Onbets**	**1.34**	**18**	⇑P	**Pn**	**03 41 14.4**	**+0.5**
ASAJ	**Asahikawa**	**2.53**	**349**	P	**Pn**	**03 41 32.0**	**+1.7**
	26nm,0.3s,baz=208,slow=9.8,SNR=100						
ASAJ				S	**Sn**	**03 42 05.7**	**+5.6**
	11nm,0.3s,baz=335,slow=30,SNR=5.5						
ASAJ				LR	LR	03 42 46.3	
	comp=Z,374nm,19.7s,baz=163,slow=43						
ASAJ	**Asahikawa**	**2.53**	**349**	P	**Pn**	**03 41 32.0**	**+1.7**
ASAJ				S	**Sn**	**03 42 05.7**	**+5.6**
ASAJ	**Asahikawa**	**2.53**	**349**	P	**Pn**	**03 41 32.0**	**+1.7**
ASAJ				S	**Sn**	**03 42 05.7**	**+5.6**
ASAJ				pmax	pmax		
	comp=Z,26nm,0.3s						
ASAJ				smax			
	comp=N,11nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.07**	**38**	*i* P	**Pn**	**03 41 37.5**	**-0.2**
YUK				*i* S	**Sn**	**03 42 12.4**	**-1.0**
YUK				pmax	pmax		
	comp=N,119nm,0.4s						
YUK				pmax	pmax		
	comp=E,129nm,0.4s						
YUK				pmax	pmax		
	comp=Z,408nm,0.4s						
YUK				smax			
	comp=N,263nm,0.4s						
YUK				smax			
	comp=E,481nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.33**	**356**	*e*P	**Pn**	**03 42 14.3**	**+5.6**
YSS				*e*		03 43 02.6	
MAJO	**Matsushiro**	**6.43**	**219**	*e*Pn	**Pn**	**03 42 24.1**	**+0.3**
	comp=E,11nm,0.6s						
MAJO	**Matsushiro**	**6.43**	**219**	*e*P	**Pn**	**03 42 24.1**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s						
MAT	**Matsushiro**	**6.43**	**219**	P	**Pn**	**03 42 24.8**	**+1.0**
MJAR	**Matsushiro Arr**	**6.43**	**219**	P	**Pn**	**03 42 24.7**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=28,slow=12,SNR=17						
MJAR				LR	LR	03 45 20.2	
	comp=Z,207nm,20.8s,baz=55,slow=42						
MJAR	**Matsushiro Arr**	**6.43**	**219**	P	**Pn**	**03 42 24.7**	**+0.9**
MJAR	**Matsushiro Ar**	**6.43**	**219**	P	**Pn**	**03 42 24.7**	**+0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
USRK	**Ussuriysk Arra**	**8.65**	**291**	P	**Pn**	**03 42 56.2**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=140,slow=43,SNR=4.6						
USRK				LR	LR	03 46 06.2	
	comp=Z,42nm,19.4s,baz=342,slow=36						
KLR	**Kul'dur**	**11.09**	**317**	*e*P	**Pn**	**03 43 25.4**	**-2.2**
KSRS	**Korea Array**	**12.55**	**256**	LR	LR	03 48 50.1	
	comp=Z,48nm,18.8s,baz=10.0,slow=38						
SONM	**Songino Array**	**26.73**	**296**	P	**P**	**03 46 28.1**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.4,baz=66,slow=9.0,SNR=5.4						
SONM	**Songino Array**	**26.73**	**296**	P	**P**	**03 46 28.1**	**+0.2**
SONM	**Songino Array**	**26.73**	**296**	P	**P**	**03 46 28.1**	**+0.2**
ZALV	**Zalesovo Beam**	**40.02**	**308**	P	**P**	**03 48 22.9**	**-0.3**
	comp=Z,1.7nm,0.7s,mb3.9,baz=90,slow=7.2,SNR=7.8						
ZALV				LR	LR	04 05 40.9	
	comp=Z,39nm,19.1s,MS3.3,baz=342,slow=37						
ZALV	**Zalesovo Beam**	**40.02**	**308**	P	**P**	**03 48 22.9**	**-0.3**
ZALV	**Zalesovo Beam**	**40.02**	**308**	P	**P**	**03 48 23.0**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
MK31	**Makanchi Array**	**43.04**	**298**	*e*P	**P**	**03 48 47.9**	**-0.2**
MK31	**Makanchi Array**	**43.04**	**298**	*e*P	**P**	**03 48 47.9**	**-0.2**
MKAR	**Makanchi Array**	**43.04**	**298**	P	**P**	**03 48 48.0**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.5,baz=85,slow=9.7,SNR=6.1						
MKAR	**Makanchi Array**	**43.04**	**298**	P	**P**	**03 48 48.0**	**-0.1**
MKAR	**Makanchi Array**	**43.04**	**298**	P	**P**	**03 48 48.1**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MCK	**McKinley**	**44.05**	**36**	*e*P	**P**	**03 48 56.0**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.2						
MCK	**McKinley**	**44.05**	**36**	*e*P	**P**	**03 48 56.0**	**0.0**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**44.35**	**305**	*e*P	**P**	**03 48 58.2**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.3						
KURK	**Kurchatov**	**44.35**	**305**	*e*P	**P**	**03 48 58.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
COLA	**College**	**44.45**	**35**	*e*P	**P**	**03 48 59.7**	**+0.5**
	comp=Z,7.3nm,0.9s,mb4.4						
COLA	**College**	**44.45**	**35**	*e*P	**P**	**03 48 59.7**	**+0.5**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**44.87**	**35**	P	**P**	**03 49 02.5**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.3,baz=266,slow=5.8,SNR=46						
ILAR	**Eielson Array**	**44.87**	**35**	P	**P**	**03 49 02.5**	**-0.1**
ILAR	**Eielson Array**	**44.87**	**35**	P	**P**	**03 49 02.5**	**0.0**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**48.64**	**310**	P	**P**	**03 49 32.3**	**+0.2**
	comp=Z,1.3nm,0.4s,mb4.3,baz=76,slow=8.8,SNR=19						
BVAR	**Borovoye Array**	**48.64**	**310**	P	**P**	**03 49 32.3**	**+0.2**
BVAR	**Borovoye Array**	**48.64**	**310**	P	**P**	**03 49 32.3**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**48.69**	**310**	*e*P	**P**	**03 49 31.5**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.2						
BRVK	**Borovoye**	**48.69**	**310**	*e*P	**P**	**03 49 31.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
TKM2	**Tokmak 2**	**48.82**	**295**	*e*P	**P**	**03 49 34.0**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**48.82**	**295**	*e*P	**P**	**03 49 34.0**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ABKAR	**Akbulak array**	**56.14**	**308**	*e*P	**P**	**03 50 27.5**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.1						
SPITS	**Spitsbergen Ar**	**56.30**	**349**	LR	LR	04 13 42.7	
	comp=Z,115nm,21.1s,MS3.9,baz=215,slow=35						
YKA	**Yellowknife Ar**	**59.13**	**32**	P	**P**	**03 50 48.7**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=306,slow=6.7,SNR=11						
YKA	**Yellowknife Ar**	**59.13**	**32**	P	**P**	**03 50 48.7**	**0.0**
YKA	**Yellowknife Ar**	**59.13**	**32**	P	**P**	**03 50 48.7**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KEV	**Kevo**	**59.66**	**339**	*e*P	**P**	**03 50 51.2**	**-1.0**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KEV	**Kevo**	**59.66**	**339**	*e*p	**P**	**03 50 51.2**	**-1.0**
	comp=Z,0.6nm,0.3s,mb4.1						
ARCES	**ARCESS Array B**	**60.21**	**339**	P	**P**	**03 50 55.1**	**-0.9**
	comp=Z,7.7nm,1.2s,mb4.6,baz=55,slow=10,SNR=7.0						
ARCES	**ARCESS Array B**	**60.21**	**339**	P	**P**	**03 50 55.1**	**-0.9**
ARCES	**ARCESS Array B**	**60.21**	**339**	P	**P**	**03 50 55.1**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**61.82**	**190**	P	**P**	**03 51 05.1**	**-2.3**
	comp=Z,0.9nm,0.6s,mb4.1,baz=7.0,slow=6.9,SNR=12						
WRA	**Warramunga Arr**	**61.82**	**190**	P	**P**	**03 51 05.1**	**-2.3**
WRA	**Warramunga Arr**	**61.82**	**190**	P	**P**	**03 51 05.1**	**-2.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	**Joensuu**	**62.60**	**331**	*e*P	**P**	**03 51 11.1**	**-1.1**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
JOF	**Joensuu**	**62.60**	**331**	*e*p	**P**	**03 51 11.1**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**65.42**	**332**	P	**P**	**03 51 30.4**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.3,baz=53,slow=6.8,SNR=34						
FINES	**FINESS Array B**	**65.42**	**332**	P	**P**	**03 51 30.4**	**-0.4**
FINES	**FINESS Array B**	**65.42**	**332**	P	**P**	**03 51 30.4**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**65.55**	**189**	P	**P**	**03 51 31.3**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=5.5,slow=6.2,SNR=7.5						
ASAR	**Alice Springs**	**65.55**	**189**	P	**P**	**03 51 31.3**	**-0.6**
ASAR	**Alice Springs**	**65.55**	**189**	P	**P**	**03 51 31.3**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SUMG	**Summit**	**66.08**	**1**	*i* P	**P**	**03 51 35.9**	**+1.0**
	comp=Z,5.6nm,0.7s,mb4.7						
BOZ	**Bozeman (W)**	**70.

GLHS				*e*Sg	Sg	03 54 34.9	+1.1
YER	**Yerkesik**	**1.06**	**225**	*e*PG	Pg	03 54 28.3	-1.2
YER	**Yerkesik**	**1.06**	**225**	*e*Pg	Pg	03 54 28.3	-1.1
AYDN	**Tasoluk**	**1.09**	**258**	*i* P	Pg	03 54 28.8	-1.0
AYDN				*i* S	Sg	03 54 44.9	+0.9
AYDN	**Tasoluk**	**1.09**	**258**	*i* P	Pg	03 54 28.8	-1.1
AYDN				*i* S	Sg	03 54 44.9	+0.9
BCK	**Bucak**	**1.17**	**111**	*e*PN	Pn	03 54 31.7	-0.5
BCK	**Bucak**	**1.17**	**111**	*e*Pn	Pn	03 54 31.7	-0.4
DEMI	**Demirci**	**1.21**	**341**	*i* P	Pg	03 54 31.7	-0.5
DEMI				*i* S	Sg	03 54 48.1	+0.2
DEMI	**Demirci**	**1.21**	**341**	*i* P	Pg	03 54 31.7	-0.5
DEMI				*i* S	Sg	03 54 48.1	+0.2
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*PN	Pn	03 54 32.7	-0.3
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*Pn	Pn	03 54 32.7	-0.3
ELL	**Elmali**	**1.27**	**154**	*e*PN	Pn	03 54 33.4	-0.1
ELL	**Elmali**	**1.27**	**154**	*e*Pn	Pn	03 54 33.4	-0.1
ALT	**Altintas**	**1.35**	**31**	*e*PN	Pn	03 54 35.0	+0.4
ALT	**Altintas**	**1.35**	**31**	*e*Pn	Pn	03 54 35.0	+0.4
SUTC	**Sutluce-Ispart**	**1.47**	**106**	*e*PN	Pn	03 54 36.9	+0.6
SUTC	**Sutluce-Ispart**	**1.47**	**106**	*e*Pn	Pn	03 54 36.9	+0.6
AKS	**Akhisar**	**1.48**	**312**	*e*PN	Pn	03 54 36.6	+0.2
AKS	**Akhisar**	**1.48**	**312**	*e*Pn	Pn	03 54 36.6	+0.2

*ISCJB **24** 03:54:23.0±0.8, 17°.50S±0°.06×69°.16W±0°.09, h178km±7km, mb4.1/5, Error ellipse: s-maj=14.5km s-min=8.7km az=15.6*
*NEIC **24** 03:54:23.3±0.9, 17°.46S×69°.24W, h169km±8km, mb4.2/5, Error ellipse: s-maj=15.9km s-min=10.0km az=92.0*
*IDC **24** 03:54:24.3±1.6, 17°.41S×69°.16W, h175km±9km, mb3.9/5, mb1 3.9/7, mb1mx3.6/17, mbtmp3.8/7, Error ellipse: s-maj=24.5km s-min=21.8km az=104.0*

ISC 24 03:54:23.9±0.8, 17°.51S±0°.06×69°.15W±0°.09, h173km±7km, n19, σ0.87/24, mb4.1/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.56**	**39**	P	**Pn**	**03 54 56.5**	**+0.7**
	269nm,0.3s,baz=242,slow=5.8,SNR=8809						
LPAZ				S	**Sn**	**03 55 21.3**	**+0.8**
	19nm,0.3s,baz=0.3,slow=3.5,SNR=5.5						
LPAZ	**La Paz**	**1.56**	**39**	P	**Pn**	**03 54 56.5**	**+0.7**
LPAZ				S	**Sn**	**03 55 21.3**	**+0.8**
LVC	**Limon Verde**	**5.08**	**178**	*e*Pn	**Pn**	**03 55 38.2**	**-0.6**
	31nm,0.6s						
LVC				*e*Sn	**Sn**	**03 56 36.7**	**-0.8**
SIV	**San Ignacio**	**7.88**	**80**	P	**Pn**	**03 56 15.2**	**-0.5**
	5.6nm,0.3s,baz=280,slow=12,SNR=94						
SIV				S	**Sn**	**03 57 43.0**	**-1.0**
	0.4nm,0.3s,baz=265,slow=13,SNR=3.1						
SIV	**San Ignacio**	**7.88**	**80**	P	**Pn**	**03 56 15.2**	**-0.5**
SIV				S	**Sn**	**03 57 43.0**	**-1.0**
SAML	**Samuel**	**10.30**	**35**	*e*Pn	**Pn**	**03 56 46.8**	**-0.8**
	1.6nm,0.4s						
CPUP	**Villa Florida**	**14.04**	**131**	P	**Pn**	**03 57 37.6**	**+2.3**
	0.3nm,0.3s,baz=301,slow=15,SNR=4.0						
CPUP	**Villa Florida**	**14.04**	**131**	P	**Pn**	**03 57 37.6**	**+2.3**
OTAV	**Otavalo**	**19.87**	**332**	*e*P	**P**	**03 58 41.6**	**-0.4**
	2.0nm,1.0s						
PLCA	**Paso Flores**	**23.17**	**183**	P	**P**	**03 59 16.1**	**+1.0**
	3.8nm,0.9s,mb3.9,baz=356,slow=11,SNR=7.2						
PLCA	**Paso Flores**	**23.17**	**183**	*e*P	**P**	**03 59 15.7**	**+0.7**
	4.8nm,1.0s,mb3.9						
DBIC	**Dimbokro**	**67.87**	**75**	P	**P**	**04 05 04.6**	**+0.5**
	15nm,0.6s,mb4.9,baz=223,slow=6.4,SNR=45						
DBIC	**Dimbokro**	**67.87**	**75**	*e*P	**P**	**04 05 04.4**	**+0.2**
	12nm,0.5s,mb4.9						
TORD	**Torodi Ar. Bea**	**76.26**	**71**	P	**P**	**04 05 54.1**	**+0.1**
	8.5nm,0.7s,mb4.5,baz=254,slow=5.7,SNR=149						
TORD	**Torodi Ar. Bea**	**76.26**	**71**	P	**P**	**04 05 54.1**	**+0.1**
ESDC	**Sonseca Array**	**83.17**	**45**	P	**P**	**04 06 31.3**	**+0.7**
	0.7nm,0.7s,mb3.5,baz=256,slow=6.0,SNR=5.5						
ESDC	**Sonseca Array**	**83.17**	**45**	P	**P**	**04 06 31.3**	**+0.7**
YKA	**Yellowknife Ar**	**87.37**	**341**	P	**P**	**04 06 49.8**	**-1.1**
	0.7nm,0.5s,mb3.7,baz=133,slow=4.9,SNR=9.9						
YKA				pP	pP	04 07 33.2	-0.8
	0.4nm,0.8s,baz=138,slow=4.7,SNR=2.4						
YKA	**Yellowknife Ar**	**87.37**	**341**	P	**P**	**04 06 49.9**	**-1.1**
YKA				pP	pP	04 07 33.2	-0.8

TRN 24 03:59:26.8, 17°.03N×62°.39W, h11km, MD3.6, M3.5(FDF), 4C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRV		**0.28**	**139**	*i* P	Pg	03 59 35.0	+2.4
MBGB		**0.33**	**152**	*i* P	Pg	03 59 36.4	+2.9
MBGB				*i* S	Sg	03 59 41.6	+3.7
MBWH		**0.34**	**146**	*i* P	Pg	03 59 36.2	+2.6
MBWH				*i* S	Sg	03 59 41.5	+3.3
MLYT	**Lee's Yard**	**0.36**	**148**	*i* P	Pg	03 59 35.7	+1.8
MLYT	**Lee's Yard**	**0.36**	**148**	*i* P	Pg	03 59 36.8	+2.8
MLYT				*i* S	Sg	03 59 41.1	+2.4
MLYT				*i* S	Sg	03 59 42.2	+3.4
SKI	**Saint Kitts**	**0.45**	**312**	⇑*i*P	Pg	03 59 38.4	+2.7
SKI				*e*S	Sg	03 59 45.0	+3.4
BPA	**Boggy Peak**	**0.51**	**88**	*e*P	Pg	03 59 40.1	+3.3
BPA				*e*S	Sg	03 59 47.4	+3.9
SEG	**Port Louis**	**1.05**	**126**	*e*P	Pg	03 59 48.9	+1.8
LZG	**Guadaloupe-1**	**1.06**	**146**	⇑*i*P	Pb	03 59 48.9	+1.7
BCG	**Bois Riant Cap**	**1.20**	**142**	*e*P	Pb	03 59 51.4	+1.9
SCG	**Saint Claude**	**1.21**	**146**	⇑*i*P	Pn	03 59 51.2	+1.6
PHG	**Guadaloupe-2**	**1.24**	**144**	*e*P	Pn	03 59 51.8	+1.7
DOG	**Dongo Capester**	**1.24**	**143**	*e*P	Pn	03 59 51.9	+1.8
TBG	**Guadaloupe-3**	**1.37**	**148**	⇑*i*P	Pn	03 59 53.6	+1.7
MGG	**Marie-Galante**	**1.51**	**137**	*e*P	Pn	03 59 56.6	+2.8
DWS	**Wesley**	**1.78**	**144**	*e*P	Pn	04 00 00.2	+2.6
DWS				*e*S	Sn	04 00 24.1	+3.8

*BJI **24** 04:11:36.1, 43°.60N×127°.00W, h10km, mB4.9/3, mb4.5/3, Ms4.8/2, Ms7 4.7/2*
*NEIC **24** 04:11:39.9±1.3, 43°.39N×127°.09W, h10km, mb4.0/7, Error ellipse: s-maj=15.7km s-min=7.3km az=66.0*
*IDC **24** 04:11:40.1±2.2, 43°.61N×126°.82W, h0km, mb3.4/4, mb1 3.9/7, mb1mx3.6/27, mbtmp3.5/7, ML2.9/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/20, Error ellipse: s-maj=42.6km s-min=17.9km az=51.0*

ISC 24 04:11:44.5±1.6, 43°.55N±0°.03×126°.99W±0°.07, h31km±13km, n65, σ1.02/72, mb4.0/7, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.06**	**108**	*e*Pn	**Pn**	**04 12 12.5**	**-4.3**
KEBM				*e*Sn	**Sn**	**04 12 37.1**	**-4.3**
KBO	**Bosley Butte**	**2.43**	**123**	*e*Pn	**Pn**	**04 12 17.6**	**-4.4**
COR	**Corvallis**	**2.85**	**67**	*e*Pn	**Pn**	**04 12 26.3**	**-1.5**
COR				*e*Sn	**Sn**	**04 13 00.4**	**-0.6**
HEBO	**Mount Hebo**	**2.85**	**53**	*e*Pn	**Pn**	**04 12 26.1**	**-1.7**
HUMO	**Hull Mountain**	**3.10**	**106**	*e*Pn	**Pn**	**04 12 27.5**	**-3.7**
HUMO				*e*Sn	**Sn**	**04 13 07.3**	**+0.2**
YBH	**Yreka Blue Hor**	**3.64**	**119**	*e*Pn	**Pn**	**04 12 36.7**	**-1.9**
YBH				*e*Sn	**Sn**	**04 13 19.5**	**-1.0**
NLWA	**Neilton Lookou**	**4.42**	**29**	*e*Pn	**Pn**	**04 12 49.0**	**-0.4**
NLWA				*e*Sn	**Sn**	**04 13 40.5**	**+0.8**
LON	**Longmire**	**4.86**	**47**	*e*Pn	**Pn**	**04 12 55.9**	**+0.5**
LON				*e*Sn	**Sn**	**04 13 50.1**	**-0.4**
GNW	**Green Mountain**	**4.96**	**35**	*e*Pn	**Pn**	**04 12 56.2**	**-0.6**
GNW				*e*Sn	**Sn**	**04 13 53.5**	**+0.5**
MOD	**Modoc**	**5.19**	**106**	*e*Pn	**Pn**	**04 12 57.9**	**-2.1**
JCW	**Jim Creek**	**5.83**	**35**	*e*Pn	**Pn**	**04 13 08.5**	**-0.2**
JCW				*e*Sn	**Sn**	**04 14 12.6**	**-1.8**
RSW	**Rattlesnake Hi**	**5.96**	**59**	*e*Pn	**Pn**	**04 13 10.5**	**-0.1**
ETW	**Entiat**	**6.18**	**47**	*e*Pn	**Pn**	**04 13 14.0**	**+0.5**
ETW				*e*Sn	**Sn**	**04 14 22.9**	**-0.1**
RPW	**Rockport**	**6.20**	**36**	*e*Pn	**Pn**	**04 13 13.6**	**-0.2**
RPW				*e*Sn	**Sn**	**04 14 25.4**	**+1.8**
WVOR	**Wild Horse Val**	**6.22**	**97**	*e*Pn	**Pn**	**04 13 11.2**	**-2.9**
	3.8nm,0.4s						
LNOR	**Lincton Mounta**	**6.62**	**67**	*e*Pn	**Pn**	**04 13 18.4**	**-1.1**
OD2	**Odessa Site #2**	**6.97**	**54**	*e*Pn	**Pn**	**04 13 24.0**	**-0.3**
CMB	**Columbia Colle**	**7.45**	**136**	*e*Pn	**Pn**	**04 13 31.1**	**+0.2**
NVAR	**Mina Array Bea**	**8.32**	**125**	Pn	**Pn**	**04 13 42.9**	**0.0**
	0.1nm,0.3s,baz=297,slow=14,SNR=6.4						
NVAR	**Mina Array Bea**	**8.32**	**125**	Pn	**Pn**	**04 13 42.9**	**0.0**
BBB	**Bella Bella**	**8.67**	**355**	LR	LR	04 16 35.5	
	comp=Z,169nm,20.9s,baz=316,slow=34						
HLID	**Hailey**	**9.13**	**86**	*e*Pn	**Pn**	**04 13 56.5**	**+2.5**
BSMT	**Bassoo Peak**	**9.55**	**59**	*e*Pn	**Pn**	**04 14 01.3**	**+1.6**
MSO	**Missoula**	**9.78**	**66**	*e*Pn	**Pn**	**04 14 02.4**	**-0.4**
JTMT	**Jette**	**9.83**	**60**	*e*Pn	**Pn**	**04 14 04.3**	**+0.7**
SLMT	**Seeley Lake**	**10.18**	**64**	*e*Pn	**Pn**	**04 14 08.0**	**-0.3**
MCMT	**McKenzie Canyo**	**10.24**	**78**	*e*Pn	**Pn**	**04 14 09.2**	**+0.1**
	1.4nm,0.4s						
ISA	**Isabella**	**10.25**	**137**	*e*Pn	**Pn**	**04 14 09.8**	**+0.5**
CHMT	**Chamberlain Mo**	**10.25**	**66**	*e*Pn	**Pn**	**04 14 09.2**	**-0.2**
DLMT	**Dillon**	**10.45**	**75**	*e*Pn	**Pn**	**04 14 12.1**	**+0.1**
LRM	**Limekiln Ridge**	**10.60**	**73**	*e*Pn	**Pn**	**04 14 13.8**	**-0.2**
DUG	**Dugway**	**11.09**	**103**	*e*Pn	**Pn**	**04 14 28.4**	**+7.7**
BOZ	**Bozeman (W)**	**11.15**	**74**	*e*Pn	**Pn**	**04 14 21.6**	**0.0**
RRI2	**Red Ridge**	**11.39**	**86**	*e*Pn	**Pn**	**04 14 29.0**	**+4.0**
TPAW	**Teton Pass**	**11.65**	**85**	*e*Pn	**Pn**	**04 14 30.3**	**+1.9**
LOHW	**Long Hollow**	**11.89**	**84**	*e*Pn	**Pn**	**04 14 33.5**	**+1.9**
LDFC	**Landfair**	**12.49**	**129**	*e*Pn	**Pn**	**04 14 41.5**	**+1.6**
BW06	**Boulder Array**	**12.75**	**88**	*e*Pn	**Pn**	**04 14 43.7**	**+0.2**
PDAR	**Pinedale Array**	**12.75**	**88**	Pn	**Pn**	**04 14 44.9**	**+1.4**
	baz=278,slow=13,SNR=11						
PDAR	**Pinedale Array**	**12.75**	**88**	Pn	**Pn**	**04 14 44.9**	**+1.4**
DLBC	**Dease Lake**	**15.02**	**354**	LR	LR	04 19 37.3	
	comp=Z,75nm,19.4s,baz=316,slow=32						
RSSD	**Black Hills**	**16.56**	**80**	*e*Pn	**Pn**	**04 15 35.0**	**+0.8**
TUC	**Tucson**	**16.98**	**126**	*e*Pn	**Pn**	**04 15 39.8**	**+0.2**
SDCO	**Great Sand Dun**	**17.29**	**102**	*e*Pn	**Pn**	**04 15 43.3**	**0.0**
	4.8nm,0.9s						
ANMO	**Albuquerque**	**18.04**	**112**	P	**Pn**	**04 15 52.0**	**-0.6**
	0.1nm,0.3s,baz=310,slow=9.6,SNR=6.8						
ANMO	**Albuquerque**	**18.04**	**112**	*e*P	**Pn**	**04 15 52.3**	**-0.3**
	2.4nm,1.0s						
FFC	**Flin Flon**	**19.70**	**47**	*e*P	**Pn**	**04 16 11.8**	**-0.8**
YKA	**Yellowknife Ar**	**20.31**	**17**	P	**P**	**04 16 17.5**	**0.0**
	1.0nm,0.6s,baz=201,slow=10,SNR=9.2						
YKA	**Yellowknife Ar**	**20.31**	**17**	P	**P**	**04 16 17.5**	**0.0**
MNTX	**Cornudas Mount**	**20.74**	**118**	*e*P	**P**	**04 16 22.9**	**+0.5**
	2.8nm,1.1s						
CBKS	**Cedar Bluff**	**21.00**	**94**	*e*P	**P**	**04 16 25.7**	**+0.5**
	5.1nm,0.7s,mb4.0						
ECSD	**EROS Data Cent**	**21.93**	**79**	*e*P	**P**	**04 16 35.3**	**+0.2**
	28nm,1.9s,mb4.4						
AGMN	**Agassiz Nation**	**22.08**	**67**	*e*P	**P**	**04 16 40.1**	**+3.5**
	17nm,1.0s,mb4.4						
ULM	**Lac du Bonnet**	**22.18**	**62**	P	**P**	**04 16 36.8**	**-0.9**
	3.2nm,0.6s,mb3.9,baz=269,slow=8.9,SNR=5.8						
ULM	**Lac du Bonnet**	**22.18**	**62**	*e*P	**P**	**04 16 37.5**	**-0.2**
	66nm,2.1s,mb4.7						
TXAR	**Lajitas Array**	**23.42**	**120**	P	**P**	**04 16 51.1**	**+0.1**
	0.9nm,0.9s,mb3.2,baz=294,slow=9.1,SNR=6.3						
TXAR	**Lajitas Array**	**23.42**	**120**	P	**P**	**04 16 51.1**	**+0.1**
WMOK	**Wichita Mounta**	**23.49**	**102**	*e*P	**P**	**04 16 51.5**	**-0.1**
ILAR	**Eielson Array**	**24.03**	**339**	P	**P**	**04 16 55.5**	**-0.7**
	1.2nm,0.8s,mb3.4,baz=150,slow=9.0,SNR=17						
ILAR	**Eielson Array**	**24.03**	**339**	P	**P**	**04 16 55.5**	**-0.7**
INK	**Inuvik**	**25.05**	**354**	LR	LR	04 27 08.2	
	comp=Z,72nm,19.7s,baz=159,slow=37						
MDJ	**Mudanjiang**	**68.90**	**312**	P	**P**	**04 22 44.3**	**-1.7**
MDJ				pmax	pmax		
	comp=Z,5.0nm,2.3s,mb4.0						
MDJ				pmax	pmax		
	comp=Z,69nm,4.4s						
HHC	**Hu-ho-hao-te**	**80.82**	**319**	*e*P	**P**	**04 23 50.0**	**-5.0**
HHC				pP	pP	04 23 54.5	-10
HHC				sP	sP	04 23 57.6	-11
HHC				PP	PP	04 26 55.0	-3.7
HHC				S	S	04 33 56.8	-4.1
HHC				pmax	pmax		
	comp=Z,110nm,5.5s						
HHC				LR	LR		
	comp=N,150nm,6.1s						
HHC				LR	LR		
	comp=E,120nm,8.2s						
HHC				LR	LR		
	comp=Z,220nm,6.3s						
WMQ	**Urumqi**	**87.65**	**336**	*e*P	**P**	**04 24 31.4**	**+1.8**
GYA	**Guiyang**	**94.71**	**314**	*e*P	**P**	**04 25 03.0**	**+0.2**

*ISCJB **24** 04:48:53.5±0.3, 36°.60N±0°.02×2°.72W±0°.02, h10km, Error ellipse: s-maj=2.9km s-min=2.3km az=171.7*
*LDG **24** 04:48:54.5±0.3, 36°.43N×2°.67W, h10km, Ml3.7/4, Error ellipse: s-maj=6.6km s-min=4.6km az=157.0*
*CRAAG **24** 04:48:54.3, 36°.40N×2°.50W, Ml3.2*
*CSEM **24** 04:48:55.2±0.2, 36°.55N×2°.62W, h14km, ML3.5/31, Error ellipse: s-maj=4.6km s-min=3.0km az=169.0*
*SFS **24** 04:48:55.0, 36°.46N×2°.53W, h6km, ML3.0*
*INMG **24** 04:48:55.3±1.5, 36°.47N×2°.54W, h18km±2km, ML3.1, Error ellipse: s-maj=2.8km s-min=2.2km az=120.0*
*MDD **24** 04:48:55.3±0.3, 36°.48N×2°.56W, h11km, mbLg3.0/19, Error ellipse: s-maj=3.2km s-min=2.4km az=115.0, PRXIMO*
*IGIL **24** 04:48:55.3, 36°.47N×2°.56W, h0km, ML3.4*

ISC 24 04:48:54.3±0.3, 36°.53N±0°.02×2°.66W±0°.02, h10km, n161, σ1.33/287, 4C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.41**	**333**	⇓Pg	**Pg**	**04 49 04.6**	**+2.2**
	214nm,0.1s,SNR=18						
EBER				Lg		04 49 11.6	
	2μm,0.3s,SNR=7.9						
EBER	**Berja**	**0.41**	**333**	Pg	**Pg**	**04 49 04.6**	**+2.3**
	214nm,0.1s,SNR=18						
EBER				Lg		04 49 11.6	
	2μm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**0.57**	**39**	⇓Pg	**Pg**	**04 49 05.5**	**+0.2**
	56nm,0.2s,SNR=18						
ENIJ				Lg		04 49 11.4	
	190nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**0.57**	**39**	Pg	**Pg**	**04 49 05.5**	**+0.2**
	56nm,0.2s,SNR=18						
ENIJ				Lg		04 49 11.4	
	190nm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.67**	**207**	⇑Pg	**Pg**	**04 49 07.2**	**0.0**
	23nm,0.1s,SNR=18						
EALB				Lg		04 49 16.2	
	357nm,0.2s,SNR=15						
EALB	**Alboran**	**0.67**	**207**	Pg	**Pg**	**04 49 07.2**	**0.0**
	23nm,0.1s,SNR=18						
EALB				Lg		04 49 16.2	
	357nm,0.2s,SNR=15						
EGUA	**Guajares**	**0.79**	**293**	Pg	**Pg**	**04 49 10.9**	**+1.3**
	2.7nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**0.79**	**293**	Pg	**Pg**	**04 49 10.9**	**+1.3**
	2.7nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**0.92**	**317**	⇓Pg	**Pg**	**04 49 14.1**	**+2.1**
	13nm,0.2s,SNR=18						
EQUE				Lg		04 49 27.0	
	230nm,0.2s,SNR=22						
EQUE	**Quentar**	**0.92**	**317**	Pg	**Pg**	**04 49 14.1**	**+2.1**
	13nm,0.2s,SNR=18						
EQUE				Lg		04 49 27.0	
	230nm,0.2s,SNR=22						
ECOG	**Cogollos-Vega**	**1.04**	**316**	⇑Pg	**Pg**	**04 49 16.4**	**+2.1**
	19nm,0.1s,SNR=18						
ECOG				Lg		04 49 30.7	
	234nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.04**	**316**	Pg	**Pg**	**04 49 16.4**	**+2.1**
	19nm,0.1s,SNR=18						
ECOG				Lg		04 49 30.7	
	234nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.04**	**298**	⇑Pg	**Pg**	**04 49 15.1**	**+0.8**
	0.9nm,0.1s,SNR=18						
ERON				Lg		04 49 32.6	
	86nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.04**	**298**	Pg	**Pg**	**04 49 15.1**	**+0.7**
	0.9nm,0.1s,SNR=18						
ERON				Lg		04 49 32.6	
	86nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**1.28**	**2**	⇑Pg	**Pg**	**04 49 19.2**	**+0.3**
	1.1nm,0.3s,SNR=18						
EHUE				Lg		04 49 40.1	
	22nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**1.28**	**2**	Pg	**Pg**	**04 49 19.2**	**+0.3**
	1.1nm,0.3s,SNR=18						
EHUE				Lg		04 49 40.1	
	22nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.31**	**345**	Pg	**Pg**	**04 49 21.1**	**+1.6**
	0.8nm,0.1s,SNR=162						
EQES				Lg		04 49 40.0	
	10nm,0.1s,SNR=7.3						
EQES	**Quesada**	**1.31**	**345**	Pg	**Pg**	**04 49 21.1**	**+1.6**
	0.8nm,0.1s,SNR=162						
EQES				Lg		04 49 40.0	
	10nm,0.1s,SNR=7.3						
ELOJ	**Sierra Loja**	**1.35**	**297**	Pg	**Pg**	**04 49 21.3**	**+1.2**
	0.3nm,0.1s,SNR=20						
ELOJ				Lg		04 49 40.1	
	25nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.35**	**297**	Pg	**Pg**	**04 49 21.3**	**+1.1**
	0.3nm,0.1s,SNR=20						
ELOJ				Lg		04 49 40.1	
	25nm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.45**	**280**	Pn	**Pn**	**04 49 19.8**	**-0.7**
EMAL				Sn	**Sn**	**04 49 37.1**	**-2.4**
EMAL	**Malaga-Limoner**	**1.45**	**280**	*e*P	**Pn**	**04 49 19.8**	**-0.7**
EMAL				*e*S	**Sn**	**04 49 37.1**	**-2.4**
ZAI	**Zaio**	**1.56**	**183**	Pg	**Pg**	**04 49 22.0**	**-2.3**
ZAI				Sn	**Sn**	**04 49 35.0**	**-7.4**
ELUQ	**Luque**	**1.65**	**309**	Pg	**Pg**	**04 49 26.1**	**+0.2**
	3.7nm,0.2s,SNR=7.9						
ELUQ				Lg		04 49 51.5	
	22nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.65**	**309**	Pg	**Pg**	**04 49 26.1**	**+0.2**
	3.7nm,0.2s,SNR=7.9						
ELUQ				Lg		04 49 51.5	
	22nm,0.2s,SNR=7.9						
MPAL	**Palemas**	**1.67**	**219**	Pg	**Pg**	**04 49 27.0**	**+0.6**
MPAL				Sn	**Sn**	**04 49 44.0**	**-1.1**
EMIJ	**Mijas**	**1.71**	**272**	Pn	**Pn**	**04 49 22.5**	**-1.6**
	3.5nm,0.1s,SNR=71						
EMIJ				Sn	**Sn**	**04 49 42.8**	**-3.2**
	37nm,0.3s,SNR=11						
EMIJ	**Mijas**	**1.71**	**272**	Pn	**Pn**	**04 49 22.5**	**-1.6**
	3.5nm,0.1s,SNR=71						
EMIJ				Sn	**Sn**	**04 49 42.8**	**-3.1**
	37nm,0.3s,SNR=11						
EMUR	**La Murta**	**1.73**	**40**	Pn	**Pn**	**04 49 23.1**	**-1.3**
	0.2nm,0.1s,SNR=18						
EMUR				Sn	**Sn**	**04 49 44.4**	**-2.0**
	42nm,0.3s,SNR=14						
EMUR	**La Murta**	**1.73**	**40**	Pn	**Pn**	**04 49 23.1**	**-1.3**
	0.2nm,0.1s,SNR=18						
EMUR				Sn	**Sn**	**04 49 44.4**	**-2.1**
	42nm,0.3s,SNR=14						
TOU	**Touzarine**	**1.81**	**210**	Pg	**Pg**	**04 49 29.0**	**+0.1**
TOU				Sn	**Sn**	**04 49 47.0**	**-1.4**
EVIA	**Vianos**	**2.10**	**3**	Pn	**Pn**	**04 49 32.4**	**+2.8**
	0.6nm,0.1s,SNR=123						
EVIA				Pg	**Pg**	**04 49 35.6**	**+0.9**
	172nm,0.5s,SNR=7.9						
EVIA				Sn	**Sn**	**04 49 57.1**	**+1.3**
	82nm,0.4s,SNR=7.9						
EVIA				Lg		04 50 04.4	
	746nm,0.8s,SNR=7.9						
EVIA	**Vianos**	**2.10**	**3**	Pn	**Pn**	**04 49 32.4**	**+2.8**
	0.6nm,0.1s,SNR=123						
EADA	**Adamuz**	**2.24**	**317**	Pg	**Pg**	**04 49 37.2**	**0.0**
	1.3nm,0.1s,SNR=46						
EADA				Lg		04 50 08.8	
	14nm,0.1s,SNR=8.9						
EADA	**Adamuz**	**2.24**	**317**	Pg	**Pg**	**04 49 37.2**	**0.0**
	1.3nm,0.1s,SNR=46						
EADA				Lg		04 50 08.8	
	14nm,0.1s,SNR=8.9						
LIJA	**Lijar**	**2.24**	**280**	Pg	**Pg**	**04 49 35.0**	**-2.2**
LIJA				Lg		04 50 08.0	
LIJA	**Lijar**	**2.24**	**280**	*i* P	**Pg**	**04 49 35.0**	**-2.2**
EJIF	**Jimena Fronter**	**2.27**	**269**	Pn	**Pn**	**04 49 31.7**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.27**	**269**	Pn	**Pn**	**04 49 31.7**	**-0.1**
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**2.28**	**22**	Pn	**Pn**	**04 49 32.7**	**+0.7**
	0.7nm,0.1s,SNR=49						
ETOB				Sn	**Sn**	**04 49 59.9**	**-0.3**
	3.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.28**	**22**	Pn	**Pn**	**04 49 32.7**	**+0.7**
	0.7nm,0.1s,SNR=49						
ETOB				Sn	**Sn**	**04 49 59.9**	**-0.3**
	3.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.59**	**278**	Pn	**Pn**	**04 49 38.1**	**+1.8**
	0.2nm,0.1s,SNR=17						
ESPR				Sn	**

	4.7nm,0.2s,SNR=7.9						
EBAD				Lg		04 51 08.1	
	13nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.11 304**		Pn	**Pn**	**04 49 57.8**	**+0.7**
	0.3nm,0.1s,SNR=20						
EBAD				Sn	**Sn**	**04 50 44.3**	**-0.9**
	4.7nm,0.2s,SNR=7.9						
EBAD				Lg		04 51 08.1	
	13nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.15 284**		*e*Pn	**Pn**	**04 49 58.2**	**+0.6**
PVAQ				*e*Sn	**Sn**	**04 50 44.5**	**-1.6**
PVAQ				A		04 50 47.2	
	17nm,0.3s						
PVAQ	**Vaqueiros**	**4.15 284**		Pn	**Pn**	**04 49 58.2**	**+0.6**
PVAQ				Sn	**Sn**	**04 50 44.5**	**-1.6**
	17nm,0.3s						
PVAQ	**Vaqueiros**	**4.15 284**		*e*Pn	**Pn**	**04 49 58.2**	**+0.6**
PVAQ				*e*Sn	**Sn**	**04 50 44.5**	**-1.6**
	17nm,0.3s						
EMOS	**Mosqueruela**	**4.19**	**23**	Pn	**Pn**	**04 50 00.1**	**+1.9**
	0.0nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.19**	**23**	Pn	**Pn**	**04 50 00.1**	**+1.9**
	SNR=7.9						
GUD	**Guadarrama**	**4.27 344**		Pg	**Pg**	**04 50 15.6**	**-0.5**
	2.9nm,0.4s,SNR=7.9						
GUD				Lg		04 51 13.7	
	13nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**4.27 344**		Pg	**Pg**	**04 50 15.6**	**-0.4**
	2.9nm,0.4s,SNR=7.9						
GUD				Lg		04 51 13.7	
	13nm,0.3s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.29 281**		*e*Pn	**Pn**	**04 50 00.7**	**+1.1**
PBDV				*e*Sn	**Sn**	**04 50 48.6**	**-1.1**
PBDV				A		04 50 55.4	
	11nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.29 281**		Pn	**Pn**	**04 50 00.7**	**+1.1**
PBDV				Sn	**Sn**	**04 50 48.6**	**-1.1**
	11nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.29 281**		*e*Pn	**Pn**	**04 50 00.7**	**+1.1**
PBDV				*e*Sn	**Sn**	**04 50 48.6**	**-1.1**
	11nm,0.6s						
ETOR	**Torete**	**4.30**	**6**	Pn	**Pn**	**04 50 00.2**	**+0.4**
	1.2nm,0.1s,SNR=9.5						
ETOR				Pg	**Pg**	**04 50 16.3**	**-0.4**
	1.9nm,0.2s,SNR=7.9						
ETOR				Lg		04 51 13.7	
	82nm,1.2s,SNR=7.9						
ETOR	**Torete**	**4.30**	**6**	Pn	**Pn**	**04 50 00.2**	**+0.4**
	1.2nm,0.1s,SNR=9.5						
PBEJ	**Beja**	**4.42 291**		*e*Pn	**Pn**	**04 50 02.4**	**+1.1**
PBEJ				*e*Sn	**Sn**	**04 50 52.3**	**-0.5**
PBEJ				A		04 51 29.1	
	12nm,0.7s						
PBEJ	**Beja**	**4.42 291**		Pn	**Pn**	**04 50 02.4**	**+1.1**
PBEJ				Sn	**Sn**	**04 50 52.3**	**-0.5**
	6.2nm,0.7s						
PBEJ	**Beja**	**4.42 291**		*e*Pn	**Pn**	**04 50 02.4**	**+1.1**
PBEJ				*e*Sn	**Sn**	**04 50 52.3**	**-0.5**
	12nm,0.7s						
EPLA	**Plasencia**	**4.44 324**		Pn	**Pn**	**04 50 03.0**	**+1.4**
	0.5nm,0.1s,SNR=16						
EPLA				Lg		04 51 19.4	
	36nm,0.5s,SNR=7.9						
EPLA	**Plasencia**	**4.44 324**		Pn	**Pn**	**04 50 03.0**	**+1.4**
	0.5nm,0.1s,SNR=16						
EPLA				Lg		04 51 19.4	
	36nm,0.5s,SNR=7.9						
PCVE	**Castro Verde**	**4.44 286**		*e*Pn	**Pn**	**04 50 02.9**	**+1.2**
PCVE				*e*Sn	**Sn**	**04 50 52.8**	**-0.6**
PCVE				A		04 51 25.3	
	15nm,0.4s						
PCVE	**Castro Verde**	**4.44 286**		Pn	**Pn**	**04 50 02.9**	**+1.2**
PCVE				Sn	**Sn**	**04 50 52.8**	**-0.6**
	15nm,0.4s						
PCVE	**Castro Verde**	**4.44 286**		*e*Pn	**Pn**	**04 50 02.9**	**+1.2**
PCVE				*e*Sn	**Sn**	**04 50 52.8**	**-0.6**
	15nm,0.4s						
PESTR	**Estremoz**	**4.55 302**		*e*Pn	**Pn**	**04 50 04.7**	**+1.5**
PESTR				*e*Sn	**Sn**	**04 50 55.7**	**-0.5**
PESTR				*e*Sg	**Sg**	**04 51 19.4**	**-1.1**
PESTR				A		04 51 36.3	
	20nm,0.6s						
PESTR	**Estremoz**	**4.55 302**		Pn	**Pn**	**04 50 04.7**	**+1.5**
PESTR				Sn	**Sn**	**04 50 55.7**	**-0.5**
PESTR				Lg		04 51 19.4	
	20nm,0.6s						
PESTR	**Estremoz**	**4.55 302**		*e*Pn	**Pn**	**04 50 04.7**	**+1.5**
PESTR				*e*Sn	**Sn**	**04 50 55.7**	**-0.5**
PESTR				*e*Sg	**Sg**	**04 51 19.4**	**-1.1**
	20nm,0.6s						
MESJ	**Messejana**	**4.63 288**		*e*P	**Pn**	**04 50 05.5**	**+1.2**
MESJ				*e*S	**Sn**	**04 50 57.2**	**-0.9**
MESJ	**Messejana**	**4.63 288**		Pn	**Pn**	**04 50 05.5**	**+1.2**
MESJ				Sn	**Sn**	**04 50 57.2**	**-0.9**
MESJ	**Messejana**	**4.63 288**		*e*P	**Pn**	**04 50 05.5**	**+1.2**
MESJ				*e*S	**Sn**	**04 50 57.2**	**-0.9**
EVO	**Evora**	**4.70 297**		*e*Pn	**Pn**	**04 50 05.9**	**+0.6**
EVO				*e*Sn	**Sn**	**04 50 57.8**	**-2.1**
EVO				*e*Sg	**Sg**	**04 51 25.8**	**+0.5**
	53nm,0.6s						
EVO	**Evora**	**4.70 297**		*e*Pn	**Pn**	**04 50 06.6**	**+1.3**
EVO				*e*Sn	**Sn**	**04 50 59.1**	**-0.8**
EVO				A		04 51 34.8	
	20nm,0.7s						
EVO	**Evora**	**4.70 297**		Pn	**Pn**	**04 50 06.6**	**+1.3**
EVO				Sn	**Sn**	**04 50 59.1**	**-0.8**
	20nm,0.7s						
EVO	**Evora**	**4.70 297**		*e*Pn	**Pn**	**04 50 06.6**	**+1.3**
EVO				*e*Sn	**Sn**	**04 50 59.1**	**-0.8**
	20nm,0.7s						
PMRV	**Marv??o**	**4.73 309**		*e*Pn	**Pn**	**04 50 07.3**	**+1.7**
PMRV				*e*Sn	**Sn**	**04 50 59.6**	**-0.9**
PMRV				*e*Sg	**Sg**	**04 51 22.0**	**-4.1**
PMRV				A		04 51 34.4	
	32nm,0.3s						
PMRV	**Marv??o**	**4.73 309**		Pn	**Pn**	**04 50 07.3**	**+1.7**
PMRV				Sn	**Sn**	**04 50 59.6**	**-0.9**
PMRV				Lg		04 51 22.0	
	32nm,0.3s						
PMRV	**Marv??o**	**4.73 309**		*e*Pn	**Pn**	**04 50 07.3**	**+1.7**
PMRV				*e*Sn	**Sn**	**04 50 59.6**	**-0.9**
PMRV				*e*Sg	**Sg**	**04 51 22.0**	**-4.1**
	32nm,0.3s						
EVOP	**Sao Brissos**	**4.78 296**		*e*Pn	**Pn**	**04 50 05.9**	**-0.4**
EVOP				*e*Sn	**Sn**	**04 50 57.8**	**-4.0**
EVOP				*e*Sg	**Sg**	**04 51 25.8**	**-2.0**
	26nm,0.6s						
MORF	**Marmelete**	**4.87 281**		*e*Pn	**Pn**	**04 50 08.9**	**+1.4**
MORF				*e*Sn	**Sn**	**04 51 03.2**	**-0.7**
MORF				A		04 51 08.7	
	8.5nm,0.3s						
MORF	**Marmelete**	**4.87 281**		Pn	**Pn**	**04 50 08.9**	**+1.4**
MORF				Sn	**Sn**	**04 51 03.2**	**-0.7**
	8.5nm,0.3s						
MORF	**Marmelete**	**4.87 281**		*e*Pn	**Pn**	**04 50 08.9**	**+1.4**
MORF				*e*Sn	**Sn**	**04 51 03.2**	**-0.7**
	8.5nm,0.3s						
PNCL	**Nicolau / Gran**	**4.94 290**		*e*Pn	**Pn**	**04 50 09.5**	**+1.0**
PNCL				*e*Sn	**Sn**	**04 51 04.7**	**-1.0**
PNCL				A		04 51 50.1	
	10nm,0.6s						
PNCL	**Nicolau / Gran**	**4.94 290**		*e*Pn	**Pn**	**04 50 09.5**	**+1.0**
PNCL				*e*Sn	**Sn**	**04 51 04.7**	**-1.0**
	10nm,0.6s						
MOE	**Montemor**	**4.94 295**		*e*Sn	**Sn**	**04 51 04.7**	**-1.1**
MOE	**Montemor**	**4.94 295**		Sn	**Sn**	**04 51 04.7**	**-1.1**
MOE	**Montemor**	**4.94 295**		*e*Sn	**Sn**	**04 51 04.7**	**-1.1**
PTEO	**Sao Teotonio**	**4.96 284**		*e*Pn	**Pn**	**04 50 10.1**	**+1.3**
PTEO				*e*Sn	**Sn**	**04 51 05.3**	**-0.9**
PTEO				A		04 51 49.1	
	17nm,0.5s						
PTEO	**Sao Teotonio**	**4.96 284**		Pn	**Pn**	**04 50 10.1**	**+1.3**
PTEO				Sn	**Sn**	**04 51 05.3**	**-0.9**
	8.6nm,0.5s						
PTEO	**Sao Teotonio**	**4.96 284**		*e*Pn	**Pn**	**04 50 10.1**	**+1.3**
PTEO				*e*Sn	**Sn**	**04 51 05.3**	**-0.9**
	17nm,0.5s						
PFVI	**Vila Bisbo**	**4.99 279**		*e*Pn	**Pn**	**04 50 10.2**	**+1.0**
PFVI				*e*Sn	**Sn**	**04 51 06.1**	**-0.8**
PFVI				A		04 51 17.6	
	16nm,0.6s						
PFVI	**Vila Bisbo**	**4.99 279**		Pn	**Pn**	**04 50 10.2**	**+1.1**
	0.5nm,0.1s,SNR=9.2						
PFVI				Sn	**Sn**	**04 51 05.5**	**-1.4**
	15nm,0.4s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.99 279**		Pn	**Pn**	**04 50 10.2**	**+1.0**
	0.5nm,0.1s,SNR=9.2						
PFVI				Sn	**Sn**	**04 51 05.5**	**-1.4**
	15nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.00**	**27**	Pn	**Pn**	**04 50 10.7**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**04 51 05.1**	**-2.0**
	4.3nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.00**	**27**	Pn	**Pn**	**04 50 10.7**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**04 51 05.1**	**-2.0**
	4.3nm,0.4s,SNR=7.9						
PCBR	**Castelo Branco**	**5.03 312**		*e*Pn	**Pn**	**04 50 11.7**	**+1.9**
PCBR				*e*Sn	**Sn**	**04 51 07.4**	**-0.6**
PCBR				*e*Sg	**Sg**	**04 51 35.8**	**0.0**
PCBR				A		04 51 43.2	
	26nm,0.7s						
PCBR	**Castelo Branco**	**5.03 312**		Pn	**Pn**	**04 50 11.7**	**+1.9**
PCBR				Sn	**Sn**	**04 51 07.4**	**-0.6**
PCBR				Lg		04 51 35.8	
	13nm,0.7s						
PCBR	**Castelo Branco**	**5.03 312**		*e*Pn	**Pn**	**04 50 11.7**	**+1.9**
PCBR				*e*Sn	**Sn**	**04 51 07.4**	**-0.6**
PCBR				*e*Sg	**Sg**	**04 51 35.8**	**0.0**
	26nm,0.7s						
PMTG	**Montargil**	**5.08 302**		*e*Pn	**Pn**	**04 50 11.5**	**+1.0**
PMTG				*e*Sn	**Sn**	**04 51 07.8**	**-1.5**
PMTG				*e*Sg	**Sg**	**04 51 35.9**	**-1.6**
PMTG				A		04 51 45.7	
	28nm,0.6s						
PMTG	**Montargil**	**5.08 302**		*e*Pn	**Pn**	**04 50 11.5**	**+1.0**
PMTG				*e*Sn	**Sn**	**04 51 07.8**	**-1.5**
PMTG				*e*Sg	**Sg**	**04 51 35.9**	**-1.6**
	28nm,0.6s						
ETOS	**Mallorca**	**5.38**	**52**	Pn	**Pn**	**04 50 13.8**	**-0.8**
	0.1nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**04 51 12.1**	**-4.6**
	0.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**5.38**	**52**	Pn	**Pn**	**04 50 13.8**	**-0.9**
	0.1nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**04 51 12.1**	**-4.6**
	0.6nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**5.44 317**		*e*Pn	**Pn**	**04 50 17.7**	**+2.3**
MTE				*e*Sn	**Sn**	**04 51 17.6**	**-0.5**
MTE				*e*Sg	**Sg**	**04 51 43.9**	**-5.1**
MTE				A		04 51 52.4	
	34nm,0.5s						
MTE	**Manteigas**	**5.44 317**		Pn	**Pn**	**04 50 17.7**	**+2.3**
MTE				Sn	**Sn**	**04 51 17.6**	**-0.5**
MTE				Lg		04 51 43.9	
	17nm,0.5s						
MTE	**Manteigas**	**5.44 317**		*e*Pn	**Pn**	**04 50 17.7**	**+2.3**
MTE				*e*Sn	**Sn**	**04 51 17.6**	**-0.5**
MTE				*e*Sg	**Sg**	**04 51 43.9**	**-5.1**
	34nm,0.5s						
PTOM	**Tomar**	**5.49 306**		*e*Pn	**Pn**	**04 50 17.7**	**+1.7**
PTOM				*e*Sn	**Sn**	**04 51 17.9**	**-1.3**
PTOM				*e*Sg	**Sg**	**04 51 50.4**	**0.0**
PTOM				A		04 52 00.9	
	21nm,0.9s						
PTOM	**Tomar**	**5.49 306**		Pn	**Pn**	**04 50 17.7**	**+1.7**
PTOM				Sn	**Sn**	**04 51 17.9**	**-1.3**
PTOM				Lg		04 51 50.4	
	10nm,0.9s						
PTOM	**Tomar**	**5.49 306**		*e*Pn	**Pn**	**04 50 17.7**	**+1.7**
PTOM				*e*Sn	**Sn**	**04 51 17.9**	**-1.3**
PTOM				*e*Sg	**Sg**	**04 51 50.4**	**0.0**
	21nm,0.9s						
MVO	**Moncorvo**	**5.75 325**		*e*Pn	**Pn**	**04 50 21.8**	**+2.2**
MVO				*e*Sn	**Sn**	**04 51 24.8**	**-0.8**
MVO				*e*Sg	**Sg**	**04 52 00.3**	**+1.6**
MVO				A		04 52 07.7	
	28nm,0.4s						
MVO	**Moncorvo**	**5.75 325**		*e*Pn	**Pn**	**04 50 21.8**	**+2.2**
MVO				*e*Sn	**Sn**	**04 51 24.8**	**-0.8**
PMAFR	**Mafra**	**5.78 297**		*e*Pn	**Pn**	**04 50 21.3**	**+1.2**
PMAFR				*e*Sn	**Sn**	**04 51 25.4**	**-1.1**
PMAFR				A		04 52 21.1	
	22nm,0.6s						
PMAFR	**Mafra**	**5.78 297**		*e*Pn	**Pn**	**04 50 21.3**	**+1.2**
PMAFR				*e*Sn	**Sn**	**04 51 25.4**	**-1.1**
	22nm,0.6s						
PVIS	**Viseu**	**5.85 317**		*e*Pn	**Pn**	**04 50 23.1**	**+2.0**
PVIS				*e*Sn	**Sn**	**04 51 27.1**	**-1.1**
PVIS				A		04 52 10.4	
	12nm,0.4s						
PVIS	**Viseu**	**5.85 317**		Pn	**Pn**	**04 50 23.1**	**+2.0**
PVIS				Sn	**Sn**	**04 51 27.1**	**-1.1**
	6.2nm,0.4s						
PVIS	**Viseu**	**5.85 317**		*e*Pn	**Pn**	**04 50 23.1**	**+2.0**
PVIS				*e*Sn	**Sn**	**04 51 27.1**	**-1.1**
	12nm,0.4s						
PVRL	**Vila Real**	**6.16 322**		*e*Pn	**Pn**	**04 50 27.0**	**+1.7**
PVRL				*e*Sn	**Sn**	**04 51 34.5**	**-1.3**
PVRL				A		04 52 20.3	
	11nm,0.5s						
PVRL	**Vila Real**	**6.16 322**		Pn	**Pn**	**04 50 27.0**	**+1.7**
PVRL				Sn	**Sn**	**04 51 34.5**	**-1.3**
	5.6nm,0.5s						
PVRL	**Vila Real**	**6.16 322**		*e*Pn	**Pn**	**04 50 27.0**	**+1.7**
PVRL				*e*Sn	**Sn**	**04 51 34.5**	**-1.3**
	11nm,0.5s						
POLO	**Lamas de Olo**	**6.28 322**		*e*Pn	**Pn**	**04 50 29.1**	**+2.2**
POLO				*e*Sn	**Sn**	**04 51 37.4**	**-1.2**
POLO				A		04 52 25.9	
	7.2nm,0.8s						
POLO	**Lamas de Olo**	**6.28 322**		*e*Pn	**Pn**	**04 50 29.1**	**+2.2**
POLO				*e*Sn	**Sn**	**04 51 37.4**	**-1.2**
	7.2nm,0.8s						
ETSF	**Etsaut**	**6.56**	**14**	*e*Pn	**Pn**	**04 50 30.0**	**-0.8**
ETSF				*e*Sg	**Sg**	**04 52 23.0**	**-1.8**
	33nm,1.2s						
ETSF	**Etsaut**	**6.56**	**14**	Pn	**Pn**	**04 50 30.0**	**-0.8**
ETSF				Lg		04 52 23.0	
	16nm,1.2s						
ETSF	**Etsaut**	**6.56**	**14**	*e*Pn	**Pn**	**04 50 30.0**	**-0.8**
ETSF				*e*Sg	**Sg**	**04 52 23.0**	**-1.8**
	16nm,1.2s						
PCAB	**Cabril**	**6.64 323**		*e*Pn	**Pn**	**04 50 34.1**	**+2.2**
PCAB				*e*Sn	**Sn**	**04 51 46.0**	**-1.7**
PCAB				A		04 52 35.0	
	15nm,0.6s						
PCAB	**Cabril**	**6.64 323**		Pn	**Pn**	**04 50 34.1**	**+2.2**
PCAB				Sn	**Sn**	**04 51 46.0**	**-1.7**
	7.7nm,0.6s						
PCAB	**Cabril**	**6.64 323**		*e*Pn	**Pn**	**04 50 34.1**	**+2.2**
PCAB				*e*Sn	**Sn**	**04 51 46.0**	**-1.7**
	15nm,0.6s						
SJPF	**Ste Jean**	**6.66**	**9**	*e*Pn	**Pn**	**04 50 31.4**	**-0.8**
SJPF				*e*Sg	**Sg**	**04 52 26.3**	**-1.8**
	66nm,1.5s						
SJPF	**Ste Jean**	**6.66**	**9**	Pn	**Pn**	**04 50 31.4**	**-0.8**
SJPF				Lg		04 52 26.3	
	33nm,1.5s						
SJPF	**Ste Jean**	**6.66**	**9**	*e*Pn	**Pn**	**04 50 31.4**	**-0.8**
SJPF				*e*Sg	**Sg**	**04 52 26.3**	**-1.8**
	33nm,1.5s						
EPF	**Esparros**	**6.89**	**19**	*e*Pn	**Pn**	**04 50 34.5**	**-0.7**
EPF				*e*Sg	**Sg**	**04 52 33.0**	**-2.2**
	23nm,1.1s						
EPF	**Esparros**	**6.89**	**19**	Pn	**Pn**	**04 50 34.5**	**-0.7**
EPF				Lg		04 52 33.0	
	11nm,1.1s						
EPF	**Esparros**	**6.89**	**19**	*e*Pn	**Pn**	**04 50 34.5**	**-0.7**
EPF				*e*Sg	**Sg**	**04 52 33.0**	**-2.2**
	11nm,1.1s						
PGAV	**Gavieira, Arco**	**6.96 323**		*e*Pn	**Pn**	**04 50 38.7**	**+2.5**
PGAV				*e*Sn	**Sn**	**04 51 53.5**	**-1.8**
PGAV				A		04 52 50.7	
	19nm,1.0s						
PGAV	**Gavieira, Arco**	**6.96 323**		*e*Pn	**Pn**	**04 50 38.7**	**+2.5**
PGAV				*e*Sn	**Sn**	**04 51 53.5**	**-1.8**
	19nm,1.0s						

GUC 24 04:51:05.7±0.7, 32°.50S×71°.82W, h10km±4km, MD3.5, ML2.7, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.55**	**164**	⇑*i*P	Pg	04 51 16.7	+0.3
IHA				*e*S	Sg	04 51 25.0	+1.4
CHNG	**Los Chungos**	**0.67**	**24**	⇓*i*P	Pg	04 51 18.9	+0.2
CHNG				*i*S	Sg	04 51 28.2	+0.8
CHNG				AML	AML	04 51 30.5	
	comp=N,325nm,0.3s						
PTCH	**Petorca**	**0.79**	**73**	⇓*i*P	Pg	04 51 21.1	+0.2
PTCH				*i*S	Sg	04 51 31.9	+0.7
PTCH				AML	AML	04 51 33.4	
	comp=N,816nm,0.2s						
ROCH	**El Roble**	**0.83**	**125**	⇓*i*P	Pg	04 51 21.5	-0.2
ROCH				*i*S	Sg	04 51 32.7	+0.2
ROCH				AML	AML	04 51 34.9	
	comp=N,477nm,0.4s						
JACH	**Jahuel**	**1.05**	**100**	⇑*i*P	Pg	04 51 25.1	-0.8
JACH				*i*S	Sg	04 51 39.2	-0.4
PEL	**Peldehue**	**1.15**	**124**	⇑*i*P	Pb	04 51 26.8	-0.9
PEL				*i*S	Sb	04 51 42.2	-0.5
PEL				AML	AML	04 51 45.1	
	comp=E,661nm,0.3s						
RCDM	**Rinconada Maip**	**1.31**	**140**	*e*P	Pn	04 51 29.6	-0.3
RCDM				*e*S	Sb	04 51 47.5	+0.4
RCDM				AML	AML	04 51 50.5	
	comp=N,365nm,0.2s						
SAN	**Santiago**	**1.36**	**135**	*e*P	Pn	04 51 29.6	-1.1
SAN				*i*S	Sb	04 51 48.0	-0.8
SAN				AML	AML	04 51 53.1	
	comp=N,201nm,0.3s						
TACH	**Talagante**	**1.37**	**148**	*e*P	Pn	04 51 30.1	-0.8
TACH				*i*S	Sb	04 51 47.9	-1.1
CLCH	**Cerro Calan**	**1.40**	**130**	⇑*i*P	Pn	04 51 30.6	-0.7
CLCH				*i*S	Sn	04 51 49.4	-0.4
CLCH				AML	AML	04 51 52.3	
	comp=E,217nm,0.7s						
ANTU	**Antumapu**	**1.46**	**137**	*e*P	Pn	04 51 31.6	-0.5
ANTU				*i*S	Sn	04 51 51.0	-0.3
ANTU				AML	AML	04 51 52.3	
	comp=E,187nm,0.5s						
LNV	**Longovilo**	**1.50**	**167**	⇑*i*P	Pn	04 51 31.7	-0.9
FCH	**Farellones**	**1.53**	**123**	*e*P	Pn	04 51 32.6	-0.5
FCH				AML	AML	04 51 55.5	
	comp=N,131nm,0.2s						
PCH	**Pirque**	**1.57**	**136**	*e*P	Pn	04 51 33.1	-0.5
PCH				*i*S	Sn	04 51 54.4	+0.5
CHCH	**Chadas Angostu**	**1.73**	**146**	*e*P	Pn	04 51 35.8	-0.1
CACH	**El Canelo**	**1.91**	**148**	*e*P	Pn	04 51 39.0	+0.7
CACH				*e*S	Sn	04 52 05.2	+2.8
LMEL	**Las Melosas**	**1.91**	**135**	*e*P	Pn	04 51 38.6	+0.4
LMEL				*e*S	Sn	04 52 04.1	+1.7
LMEL				AML	AML	04 52 07.1	
	comp=N,111nm,0.2s						

*SFS **24** 04:53:31.0, 36°.46N×2°.53W, h10km, ML2.5*
*CSEM **24** 04:53:31.3±0.2, 36°.52N×2°.54W, h15km, ML2.8/16, Error ellipse: s-maj=5.4km s-min=3.1km az=160.0*
*INMG **24** 04:53:32.0±1.2, 36°.45N×2°.55W, h11km±3km, ML2.0, Error ellipse: s-maj=2.6km s-min=1.7km az=109.0*
*LDG **24** 04:53:32.2±0.2, 36°.47N×2°.57W, h10km, Ml2.6/4, Error ellipse: s-maj=3.6km s-min=2.6km az=156.0*

MDD 24 04:53:31.8±0.5, 36°.46N×2°.52W, h11km, mbLg2.5/17, 1D, Error ellipse: s-maj=4.3km s-min=3.1km az=142.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.53**	**326**	⇓Pg	Pg	04 53 41.5	-0.6
	74nm,0.1s,SNR=18						
EBER				Lg		04 53 48.3	
	328nm,0.2s,SNR=5.0						
EBER	**Berja**	**0.53**	**326**	Pg	Pg	04 53 41.5	-0.6
	74nm,0.1s,SNR=18						
EBER				Lg		04 53 48.3	
	328nm,0.2s,SNR=5.0						
ENIJ	**Nijar**	**0.57**	**26**	Pg	Pg	04 53 42.4	-0.5
	86nm,0.3s,SNR=7.9						
ENIJ				Lg		04 53 50.5	
	469nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**0.57**	**26**	Pg	Pg	04 53 42.4	-0.5
	86nm,0.3s,SNR=7.9						
ENIJ				Lg		04 53 50.5	
	469nm,0.4s,SNR=7.9						
EALB	**Alboran**	**0.67**	**219**	Pg	Pg	04 53 44.0	-0.7
	22nm,0.2s,SNR=6.7						
EALB				Lg		04 53 52.8	
	174nm,0.1s,SNR=12						
EALB	**Alboran**	**0.67**	**219**	Pg	Pg	04 53 44.0	-0.7
	22nm,0.2s,SNR=6.7						
EALB				Lg		04 53 52.8	
	174nm,0.1s,SNR=12						
EGUA	**Guajares**	**0.92**	**294**	Pg	Pg	04 53 48.2	-1.3
	52nm,0.3s,SNR=7.9						
EGUA				Lg		04 54 00.1	
	180nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**0.92**	**294**	Pg	Pg	04 53 48.2	-1.3
	52nm,0.3s,SNR=7.9						
EGUA				Lg		04 54 00.1	
	180nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.05**	**316**	Pg	Pg	04 53 51.1	-0.9
	41nm,0.3s,SNR=79						
EQUE				Lg		04 54 03.2	
	26nm,0.1s,SNR=10						
EQUE	**Quentar**	**1.05**	**316**	Pg	Pg	04 53 51.1	-0.9
	41nm,0.3s,SNR=79						
EQUE				Lg		04 54 03.2	
	26nm,0.1s,SNR=10						
ECOG	**Cogollos-Vega**	**1.17**	**315**	Pg	Pg	04 53 53.4	-0.9
	34nm,0.2s,SNR=25						
ECOG				Lg		04 54 07.6	
	40nm,0.2s,SNR=12						
ECOG	**Cogollos-Vega**	**1.17**	**315**	Pg	Pg	04 53 53.4	-0.9
	34nm,0.2s,SNR=25						
ECOG				Lg		04 54 07.6	
	40nm,0.2s,SNR=12						
ERON	**Agron**	**1.17**	**299**	Pn	Pn	04 53 52.0	-2.2
	0.6nm,0.1s,SNR=7.9						
ERON				Pg	Pg	04 53 53.1	-1.2
	12nm,0.2s,SNR=7.9						
ERON				Lg		04 54 07.8	
	20nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.17**

EMIJ	**Mijas**	**1.82 274**	Pn	Pn	04 53 59.4	-3.6
	1.9nm,0.1s,SNR=9.0					
EMIJ	**Mijas**	**1.82 274**	Pn	Pn	04 53 59.4	-3.7
	1.9nm,0.1s,SNR=9.0					
EVIA	**Vianos**	**2.17 0**	Pn	Pn	04 54 08.1	+0.1
	0.4nm,0.1s,SNR=7.9					
EVIA			Pg	Pg	04 54 12.3	-1.2
	19nm,0.3s,SNR=21					
EVIA			Sn	Sn	04 54 33.5	-1.5
	6.6nm,0.2s,SNR=8.2					
EVIA			Lg		04 54 41.3	
	44nm,0.5s,SNR=6.4					
EVIA	**Vianos**	**2.17 0**	Pn	Pn	04 54 08.1	+0.1
	0.4nm,0.1s,SNR=7.9					
ETOB	**Tobarra**	**2.31 19**	Pn	Pn	04 54 09.2	-0.7
	3.7nm,0.2s,SNR=14					
ETOB			Sn	Sn	04 54 36.5	-1.8
	2.9nm,0.1s,SNR=6.0					
ETOB	**Tobarra**	**2.31 19**	Pn	Pn	04 54 09.2	-0.7
	3.7nm,0.2s,SNR=14					
ETOB			Sn	Sn	04 54 36.5	-1.9
	2.9nm,0.1s,SNR=6.0					
LIJA	**Lijar**	**2.36 282**	Pn	Pn	04 54 05.0	-5.5
EADA	**Adamuz**	**2.36 317**	Pn	Pn	04 54 10.2	-0.4
	0.1nm,0.1s,SNR=4.0					
EADA			Pg	Pg	04 54 15.3	-1.8
	3.5nm,0.3s,SNR=14					
EADA			Sn	Sn	04 54 38.2	-1.5
	2.8nm,0.2s,SNR=5.2					
EADA	**Adamuz**	**2.36 317**	Pn	Pn	04 54 10.2	-0.4
	0.1nm,0.1s,SNR=4.0					
OKGL	**Djebel Kef Gue**	**2.59 98**	Pn	Pn	04 54 13.2	-0.6
	2.9nm,0.1s,SNR=7.9					
OKGL			Sn	Sn	04 54 43.4	-1.8
	42nm,0.3s,SNR=7.9					
OKGL	**Djebel Kef Gue**	**2.59 98**	Pn	Pn	04 54 13.1	-0.6
	2.9nm,0.1s,SNR=7.9					
OKGL			Sn	Sn	04 54 43.4	-1.8
	42nm,0.3s,SNR=7.9					
ESPR	**Espera**	**2.71 280**	Pn	Pn	04 54 14.5	-0.9
	0.3nm,0.1s,SNR=7.9					
ESPR			Pg	Pg	04 54 21.5	-2.3
	0.5nm,0.1s,SNR=7.9					
ESPR	**Espera**	**2.71 280**	Pn	Pn	04 54 14.5	-0.9
	0.3nm,0.1s,SNR=7.9					
EBEN	**Beniarda**	**2.89 38**	Pn	Pn	04 54 16.7	-1.1
	0.2nm,0.1s,SNR=7.9					
EBEN			Sn	Sn	04 54 48.7	-3.8
	0.6nm,0.2s,SNR=7.9					
EBEN	**Beniarda**	**2.89 38**	Pn	Pn	04 54 16.7	-1.1
	0.2nm,0.1s,SNR=7.9					
EBEN			Sn	Sn	04 54 48.7	-3.8
	0.6nm,0.2s,SNR=7.9					
ESDC	**Sonseca Array**	**3.41 341**	Pg	Pg	04 54 35.0	-2.1
	1.4nm,0.1s,baz=162,slow=17,SNR=14					
ESDC			Lg		04 55 18.6	
	3.8nm,0.5s,baz=155,slow=30,SNR=3.9					
ESDC	**Sonseca Array**	**3.41 341**	Pg	Pg	04 54 35.0	-2.1
	1.4nm,0.1s,baz=162,slow=17,SNR=14					
ESDC			Lg		04 55 18.6	
	3.8nm,0.5s,SNR=3.9					
EMIN	**Mina Concepcio**	**3.57 293**	Pn	Pn	04 54 25.3	-1.8
	0.2nm,0.1s,SNR=7.5					
EMIN			Sn	Sn	04 55 05.5	-3.8
	0.1nm,0.1s,SNR=7.9					
EMIN			Lg		04 55 20.7	
	1.2nm,0.3s,SNR=5.0					
EMIN	**Mina Concepcio**	**3.57 293**	Pn	Pn	04 54 25.3	-1.8
	0.2nm,0.1s,SNR=7.5					
EMIN			Sn	Sn	04 55 05.5	-3.7
	0.1nm,0.1s,SNR=7.9					
EMIN			Lg		04 55 20.7	
	1.2nm,0.3s,SNR=5.0					
PBAR	**Barrancos**	**3.99 297**	*e*Pn	Pn	04 54 32.0	-0.9
PBAR			*e*Sn	Sn	04 55 16.1	-3.5
PBAR			A		04 55 47.7	
	2.6nm,0.5s					
PBAR	**Barrancos**	**3.99 297**	Pn	Pn	04 54 32.0	-0.9
PBAR			Sn	Sn	04 55 16.1	-3.5
	2.6nm,0.5s					
PBAR	**Barrancos**	**3.99 297**	*e*Pn	Pn	04 54 32.0	-0.9
PBAR			*e*Sn	Sn	04 55 16.1	-3.5
	2.6nm,0.5s					
EIBI	**Ibiza**	**3.99 49**	Pn	Pn	04 54 31.4	-1.5
	0.5nm,0.1s,SNR=7.9					
EIBI			Sn	Sn	04 55 15.7	-4.1
	1.6nm,0.2s,SNR=7.9					
EIBI	**Ibiza**	**3.99 49**	Pn	Pn	04 54 31.4	-1.6
	0.5nm,0.1s,SNR=7.9					
EIBI			Sn	Sn	04 55 15.7	-4.1
	1.6nm,0.2s,SNR=7.9					
EGRO	**El Granado**	**4.11 287**	Pn	Pn	04 54 33.3	-1.4
	0.4nm,0.1s,SNR=7.9					
EGRO			Sn	Sn	04 55 18.1	-4.7
	0.5nm,0.2s,SNR=7.9					
EGRO	**El Granado**	**4.11 287**	Pn	Pn	04 54 33.3	-1.3
	0.4nm,0.1s,SNR=7.9					
EGRO			Sn	Sn	04 55 18.1	-4.7
	0.5nm,0.2s,SNR=7.9					
EBAD	**Badajoz**	**4.24 304**	Pn	Pn	04 54 34.8	-1.6
	0.2nm,0.2s,SNR=6.3					
EBAD			Sn	Sn	04 55 21.2	-4.7
	4.0nm,0.2s,SNR=7.9					
EBAD	**Badajoz**	**4.24 304**	Pn	Pn	04 54 34.8	-1.6
	0.2nm,0.2s,SNR=6.3					
EBAD			Sn	Sn	04 55 21.2	-4.7
	4.0nm,0.2s,SNR=7.9					
PVAQ	**Vaqueiros**	**4.27 284**	*e*Pn	Pn	04 54 35.4	-1.4
PVAQ			*e*Sn	Sn	04 55 23.1	-3.5
PVAQ			A		04 55 26.0	
	2.6nm,0.3s					
PVAQ	**Vaqueiros**	**4.27 284**	Pn	Pn	04 54 35.4	-1.4
PVAQ			Sn	Sn	04 55 23.1	-3.5
	2.6nm,0.3s					
PVAQ	**Vaqueiros**	**4.27 284**	*e*Pn	Pn	04 54 35.4	-1.4
PVAQ			*e*Sn	Sn	04 55 23.1	-3.5
	2.6nm,0.3s					
ETOR	**Torete**	**4.37 5**	Pn	Pn	04 54 37.0	-1.2
	0.7nm,0.2s,SNR=5.8					
ETOR			Pg	Pg	04 54 51.9	-3.6
	3.0nm,0.2s,SNR=7.9					
ETOR			Sn	Sn	04 55 24.7	-4.3
	1.0nm,0.2s,SNR=7.9					
ETOR			Lg		04 55 50.5	
	7.7nm,0.3s,SNR=7.9					
ETOR	**Torete**	**4.37 5**	Pn	Pn	04 54 37.0	-1.1
	0.7nm,0.2s,SNR=5.8					
GUD	**Guadarrama**	**4.37 343**	Pn	Pn	04 54 38.5	+0.3
	0.1nm,0.2s,SNR=7.9					
GUD			Pg	Pg	04 54 52.5	-2.9
	2.2nm,0.3s,SNR=7.9					
GUD			Lg		04 55 46.8	
	7.8nm,0.5s,SNR=7.9					
GUD	**Guadarrama**	**4.37 343**	Pn	Pn	04 54 38.5	+0.4
	0.1nm,0.2s,SNR=7.9					
PBEJ	**Beja**	**4.54 292**	*e*Pn	Pn	04 54 40.0	-0.5
PBEJ			*e*Sn	Sn	04 55 29.0	-4.3
PBEJ	**Beja**	**4.54 292**	Pn	Pn	04 54 40.0	-0.5
PBEJ			Sn	Sn	04 55 29.0	-4.3
PBEJ	**Beja**	**4.54 292**	*e*Pn	Pn	04 54 40.0	-0.5
PBEJ			*e*Sn	Sn	04 55 29.0	-4.3
EPLA	**Plasencia**	**4.56 323**	Pn	Pn	04 54 40.3	-0.5
	0.3nm,0.2s,SNR=7.9					
EPLA	**Plasencia**	**4.56 323**	Pn	Pn	04 54 40.3	-0.5
	0.3nm,0.2s,SNR=7.9					
PCVE	**Castro Verde**	**4.57 286**	*e*Pn	Pn	04 54 39.9	-1.0
PCVE			*e*Sn	Sn	04 55 30.5	-3.4
PCVE	**Castro Verde**	**4.57 286**	Pn	Pn	04 54 39.9	-1.0
PCVE			Sn	Sn	04 55 30.5	-3.4
PCVE	**Castro Verde**	**4.57 286**	*e*Pn	Pn	04 54 39.9	-1.0
PCVE			*e*Sn	Sn	04 55 30.5	-3.4
EVO	**Evora**	**4.83 297**	*e*Pn	Pn	04 54 42.8	-1.7
EVO			*e*Sn	Sn	04 55 34.7	-5.8
EVO			*e*Sg	Sg	04 56 02.6	-4.4
	7.0nm,0.6s					
EVO	**Evora**	**4.83 297**	*e*Pn	Pn	04 54 43.3	-1.2
EVO			*e*Sn	Sn	04 55 37.6	-2.9
EVO	**Evora**	**4.83 297**	Pn	Pn	04 54 43.3	-1.2
EVO			Sn	Sn	04 55 37.6	-2.9
EVO	**Evora**	**4.83 297**	*e*Pn	Pn	04 54 43.3	-1.2
EVO			*e*Sn	Sn	04 55 37.6	-2.9
EVOP	**Sao Brissos**	**4.91 297**	*e*Pn	Pn	04 54 42.8	-2.8
ERTA	**Horta de San J**	**5.01 26**	Pn	Pn	04 54 47.2	+0.2
	0.3nm,0.2s,SNR=7.9					
ERTA			Sn	Sn	04 55 41.3	-3.7
	0.5nm,0.3s,SNR=7.9					
ERTA	**Horta de San J**	**5.01 26**	Pn	Pn	04 54 47.2	+0.2
	0.3nm,0.2s,SNR=7.9					
ERTA			Sn	Sn	04 55 41.3	-3.6
	0.5nm,0.3s,SNR=7.9					
PNCL	**Nicolau / Gran**	**5.07 291**	*e*Pn	Pn	04 54 46.3	-1.4
PNCL	**Nicolau / Gran**	**5.07 291**	*e*Pn	Pn	04 54 46.3	-1.4
PFVI	**Vila Bisbo**	**5.11 279**	*e*Pn	Pn	04 54 47.2	-1.1
PFVI			*e*Sn	Sn	04 55 44.5	-2.7
PFVI	**Vila Bisbo**	**5.11 279**	Pn	Pn	04 54 47.0	-1.3
	1.0nm,0.1s,SNR=7.9					
PFVI			Sn	Sn	04 55 44.5	-2.7
	3.5nm,0.3s,SNR=7.9					
PFVI	**Vila Bisbo**	**5.11 279**	Pn	Pn	04 54 47.0	-1.3
	1.0nm,0.1s,SNR=7.9					
PFVI			Sn	Sn	04 55 44.5	-2.7
	3.5nm,0.3s,SNR=7.9					
MVO	**Moncorvo**	**5.87 325**	Pn	Pn	04 54 58.6	-0.2
	0.5nm,0.2s,SNR=7.9					
MVO			Sn	Sn	04 56 03.1	-2.9
	1.1nm,0.2s,SNR=7.9					
MVO	**Moncorvo**	**5.87 325**	Pn	Pn	04 54 58.6	-0.1
	0.5nm,0.2s,SNR=7.9					
MVO			Sn	Sn	04 56 03.1	-2.9
	1.1nm,0.2s,SNR=7.9					
ETSF	**Etsaut**	**6.61 13**	*e*Pn	Pn	04 55 07.2	-1.7
ETSF			*e*Sg	Sg	04 56 59.4	-4.4
	0.5nm,0.3s					
ETSF	**Etsaut**	**6.61 13**	Pn	Pn	04 55 07.2	-1.7
ETSF			Lg		04 56 59.4	
	0.2nm,0.3s					
ETSF	**Etsaut**	**6.61 13**	*e*Pn	Pn	04 55 07.2	-1.7
SJPF	**Ste Jean**	**6.72 8**	*e*Pn	Pn	04 55 08.6	-1.8
SJPF			*e*Sg	Sg	04 57 02.8	-4.6
	0.5nm,0.3s					
SJPF	**Ste Jean**	**6.72 8**	Pn	Pn	04 55 08.6	-1.8
SJPF			Lg		04 57 02.8	
	0.2nm,0.3s					
SJPF	**Ste Jean**	**6.72 8**	*e*Pn	Pn	04 55 08.6	-1.8
EPF	**Esparros**	**6.92 18**	*e*Pn	Pn	04 55 11.5	-1.7
EPF			*e*Sg	Sg	04 57 09.7	-4.2
	0.7nm,0.4s					
EPF	**Esparros**	**6.92 18**	Pn	Pn	04 55 11.5	-1.7
EPF			Lg		04 57 09.7	
	0.3nm,0.4s					
EPF	**Esparros**	**6.92 18**	*e*Pn	Pn	04 55 11.5	-1.7

ATH ***24*** *05:00:44.1,41.°72N×23.°88E,h21km±1km,MD3.4/5*
CSEM ***24*** *05:00:45.3±0.1,41.°67N×23.°81E,h8km,ML3.0/13,Error ellipse: s-maj=2.5km s-min=2.5km az=43.0*
SKO ***24*** *05:00:45.7,41.°64N×23.°85E,h9km,M2.5,ML2.8*
BEO ***24*** *05:00:46.6±0.8,41.°55N×23.°52E,h0km,ML3.2/7*

THE 24 05:00:45.3,41.°67N×23.°77E,h3km,ML3.0/13,7C-2D, Error ellipse: s-maj=1.0km s-min=0.6km az=303.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.32**	**168**	*e*PB	Pg	05 00 51.7	+0.2
NVR	**Nevrokopi**	**0.32**	**168**	P	Pg	05 00 51.8	+0.3
NVR				S	Sg	05 00 56.3	+0.7
NVR	**Nevrokopi**	**0.32**	**168**	*e*Pb	Pg	05 00 51.5	0.0
NVR	**Nevrokopi**	**0.32**	**168**	P	Pg	05 00 51.8	+0.3
NVR				S	Sg	05 00 56.3	+0.7
SRS	**Serrai**	**0.56**	**194**	P	Pg	05 00 56.9	+0.8
SRS				S	Sg	05 01 04.5	+1.1
SRS	**Serrai**	**0.56**	**194**	P	Pg	05 00 56.9	+0.8
SRS				S	Sg	05 01 04.5	+1.1
PLD	**Plovdiv**	**0.82**	**57**	P	Pg	05 01 00.3	-0.7
PLD				S	Sg	05 01 12.2	+0.5
PLD	**Plovdiv**	**0.82**	**57**	P	Pg	05 01 00.3	-0.7
PLD				S	Sg	05 01 12.2	+0.5
KNT	**Kendrikon**	**0.83**	**233**	P	Pg	05 01 01.7	+0.5
KNT				S	Sg	05 01 13.1	+1.2
KNT	**Kendrikon**	**0.83**	**233**	P	Pg	05 01 01.7	+0.5
KNT				S	Sg	05 01 13.1	+1.2
KAVA	**Kavala**	**0.87**	**140**	P	Pg	05 01 00.9	-1.1
KAVA	**Kavala**	**0.87**	**140**	P	Pg	05 01 00.9	-1.1
SOH	**Sokhos**	**0.90**	**201**	P	Pg	05 01 02.7	+0.1
SOH				S	Sg	05 01 14.8	+0.6
SOH	**Sokhos**	**0.90**	**201**	P	Pg	05 01 02.7	+0.1
SOH				S	Sg	05 01 14.8	+0.6
VAY	**Valandovo**	**0.97**	**250**	*i* Pg	Pg	05 01 04.2	+0.4
VAY				*i* Sg	Sg	05 01 18.4	+2.0
VAY				*e*Lg		05 01 20.0	
	comp=N,312nm,0.3s						
VAY				*e*Lg		05 01 20.3	
	comp=E,297nm,0.3s						
VAY	**Valandovo**	**0.97**	**250**	*i* Pg	Pg	05 01 04.2	+0.4
VAY				*i* Sg	Sg	05 01 18.3	+1.9
VAY				*e*Lg		05 01 20.0	
	comp=E,312nm,0.3s						
VTS	**Vitosha**	**1.02**	**336**	*e*Pg	Pg	05 01 04.3	-0.5
VTS				*e*Sg	Sg	05 01 20.2	+2.2
VTS	**Vitosha**	**1.02**	**336**	P	Pg	05 01 04.2	-0.6
VTS				S	Sg	05 01 18.4	+0.4
VTS	**Vitosha**	**1.02**	**336**	⇑*i*P	Pg	05 01 04.1	-0.7
VTS				S	Sg	05 01 20.4	+2.4
VTS	**Vitosha**	**1.02**	**336**	*e*Pg	Pg	05 01 04.3	-0.5
VTS				S	Sg	05 01 18.4	+0.4
VTS				*e*Sg	Sg	05 01 20.2	+2.2
HORT	**Hortiatis**	**1.18**	**206**	P	Pg	05 01 08.1	+0.2
HORT				S	Sg	05 01 23.8	+0.5
HORT	**Hortiatis**	**1.18**	**206**	P	Pg	05 01 08.1	+0.2
HORT				S	Sg	05 01 23.8	+0.5
THE	**Thessaloniki**	**1.20**	**211**	P	Pg	05 01 08.3	0.0
THE				S	Sg	05 01 24.2	+0.4
THE	**Thessaloniki**	**1.20**	**211**	P	Pg	05 01 08.3	0.0
THE				S	Sg	05 01 24.2	+0.4
GRG	**Griva**	**1.25**	**236**	P	Pg	05 01 09.1	-0.2
GRG				S	Sg	05 01 26.8	+1.2
GRG	**Griva**	**1.25**	**236**	P	Pg	05 01 09.1	-0.2
GRG				S	Sg	05 01 26.8	+1.2
PLG	**Polygyros**	**1.31**	**191**	*e*PN	Pn	05 01 10.2	-0.3
PLG				*e*SN	Sn	05 01 28.9	+0.4
PLG	**Polygyros**	**1.31**	**191**	P	Pn	05 01 10.2	-0.3
PLG				S	Sg	05 01 28.3	+0.8
PLG	**Polygyros**	**1.31**	**191**	P	Pn	05 01 10.2	-0.3
PLG				S	Sg	05 01 28.3	+0.8
PLG				*e*Sn	Sn	05 01 28.9	+0.4
OUR	**Ouranopolis**	**1.34**	**173**	P	Pn	05 01 09.7	-1.1
OUR				S	Sg	05 01 28.6	+0.3
OUR	**Ouranopolis**	**1.34**	**173**	P	Pn	05 01 09.7	-1.1
OUR				S	Sg	05 01 28.6	+0.3
RDO	**Rodhopi**	**1.42**	**111**	*e*PN	Pn	05 01 10.5	-1.5
RDO				*e*SN	Sn	05 01 29.4	-1.8
RDO	**Rodhopi**	**1.42**	**111**	P	Pn	05 01 10.6	-1.4
RDO				S	Sb	05 01 31.7	+0.8
RDO	**Rodhopi**	**1.42**	**111**	P	Pn	05 01 10.6	-1.4
RDO				*e*Sn	Sn	05 01 29.4	-1.8
PAIG	**Paliouri**	**1.74**	**182**	P	Pn	05 01 15.4	-0.9
PAIG				S	Sn	05 01 38.7	-0.2
PAIG	**Paliouri**	**1.74**	**182**	P	Pn	05 01 15.4	-0.9
PAIG				S	Sn	05 01 38.7	-0.2
SKO	**Skopje**	**1.77**	**281**	*e*Pn	Pn	05 01 18.0	+1.3
SKO				*e*Sg	Sg	05 01 43.1	+0.9
SKO				*e*Lg		05 01 46.6	
	comp=E,23nm,0.4s						
SKO				*e*Lg		05 01 47.8	
	comp=N,46nm,0.6s						
SKO	**Skopje**	**1.77**	**281**	*e*Pn	Pn	05 01 18.0	+1.2
SKO				*e*Sg	Sg	05 01 43.1	+0.9
SKO				*e*Lg		05 01 46.5	
	comp=N,23nm,0.4s						
ZAPS	**Zavoj**	**1.82**	**333**	*e*Pn	Pn	05 01 20.0	+2.6
LIT	**Litokhoron**	**1.84**	**212**	P	Pn	05 01 17.1	-0.6
LIT				S	Sn	05 01 41.7	+0.2
LIT	**Litokhoron**	**1.84**	**212**	P	Pn	05 01 17.1	-0.6
LIT				S	Sn	05 01 41.7	+0.2
BARS	**Barje**	**1.85**	**309**	*e*Pn	Pn	05 01 20.2	+2.3
BARS				*e*Sg	Sg	05 01 44.1	-0.8
BARS	**Barje**	**1.85**	**309**	*e*Sg	Sg	05 01 44.1	-0.8
BARS	**Barje**	**1.85**	**309**	*e*Pn	Pn	05 01 20.2	+2.3
ALN	**Alexandroupoli**	**1.88**	**113**	P	Pn	05 01 17.2	-1.0
ALN				S	Sn	05 01 43.3	+1.0
ALN	**Alexandroupoli**	**1.88**	**113**	P	Pn	05 01 17.2	-1.0
KRUS	**Krusevo**	**1.92**	**262**	*e*Pn	Pn	05 01 18.4	-0.4
KRUS	**Krusevo**	**1.92**	**262**	*e*Pn	Pn	05 01 18.4	-0.4
BIA	**Bitola**	**1.96**	**252**	*e*Pn	Pn	05 01 19.4	+0.1
BIA	**Bitola**	**1.96**	**252**	*e*Pn	Pn	05 01 19.3	0.0
FNA	**Florina**	**2.01**	**245**	P	Pn	05 01 20.3	+0.2
FNA				S	Sn	05 01 45.4	-0.3
FNA	**Florina**	**2.01**	**245**	P	Pn	05 01 20.3	+0.2
FNA				S	Sn	05 01 45.4	-0.3
ENEZ	**Enez**	**2.02**	**117**	*e*PN	Pn	05 01 21.7	+1.5
ENEZ				*e*SN	Sn	05 01 42.5	-3.4
ENEZ	**Enez**	**2.02**	**117**	*e*Pn	Pn	05 01 21.7	+1.5
ENEZ				*e*Sn	Sn	05 01 42.5	-3.4
KZN	**Kozani**	**2.04**	**229**	P	Pn	05 01 19.8	-0.6
KZN	**Kozani**	**2.04**	**229**	P	Pn	05 01 19.8	-0.6
LIA	**Limnos Island**	**2.06**	**148**	*e*PB	Pb	05 01 19.6	-3.7
LIA				*e*SN	Sn	05 01 46.0	-1.0
LIA	**Limnos Island**	**2.06**	**148**	P	Pn	05 01 19.2	-1.6
LIA				S	Sn	05 01 47.6	+0.6
LIA	**Limnos Island**	**2.06**	**148**	P	Pn	05 01 19.2	-1.6
LIA				*e*Sn	Sn	05 01 46.0	-1.0
LIA				S	Sn	05 01 47.6	+0.6
JMB	**Yambol**	**2.24**	**68**	P	Pn	05 01 23.1	-0.1
JMB				S	Sn	05 01 52.0	+0.7
JMB	**Yambol**	**2.24**	**68**	P	Pn	05 01 23.1	-0.1
ERIK	**Erikli-Kesan**	**2.29**	**115**	*e*PN	Pn	05 01 25.2	+1.3
ERIK	**Erikli-Kesan**	**2.29**	**115**	*e*Pn	Pn	05 01 25.2	+1.3
ZIMR		**2.31**	**30**	S	Sn	05 01 58.9	+5.8
GELI	**Tayfur-Gelibol**	**2.40**	**121**	*e*PN	Pn	05 01 24.2	-1.2
GELI	**Tayfur-Gelibol**	**2.40**	**121**	*e*Pn	Pn	05 01 24.2	-1.2
SELS	**Selova**	**2.50**	**309**	*e*Pn	Pn	05 01 26.8	0.0
BOLS	**Boljevac**	**2.54**	**329**	*e*Pn	Pn	05 01 26.2	-1.2
BOLS	**Boljevac**	**2.54**	**329**	*e*Pn	Pn	05 01 26.2	-1.2
LPK	**Lapseki**	**2.60**	**119**	*e*PN	Pn	05 01 28.5	+0.3
LPK	**Lapseki**	**2.60**	**119**	*e*Pn	Pn	05 01 28.5	+0.3
EZN	**Ezine**	**2.67**	**133**	*e*PN	Pn	05 01 26.0	-3.1
EZN	**Ezine**	**2.67**	**133**	*e*Pn	Pn	05 01 26.0	-3.1
RKY	**Sarkoy-Tekirda**	**2.75**	**110**	*e*PN	Pn	05 01 33.0	+2.8
RKY	**Sarkoy-Tekirda**	**2.75**	**110**	*e*Pn	Pn	05 01 33.0	+2.8
AGG	**Agios Georgios**	**2.86**	**203**	P	Pn	05 01 31.6	-0.1
AGG	**Agios Georgios**	**2.86**	**203**	P	Pn	05 01 31.6	-0.1
MAKR	**Makrakomi, Fth**	**2.93**	**206**	P	Pn	05 01 32.8	+0.1
MAKR				S	Sn	05 02 08.9	+0.5
MAKR	**Makrakomi, Fth**	**2.93**	**206**	P	Pn	05 01 32.8	+0.1
MAKR				S	Sn	05 02 08.9	+0.5
KRBG	**Karabiga-Canak**	**2.95**	**114**	*e*PN	Pn	05 01 33.9	+0.9
KRBG	**Karabiga-Canak**	**2.95**	**114**	*e*Pn	Pn	05 01 33.9	+0.9
HUMR	**Humele**	**3.00**	**17**	⇓*i*P	Pn	05 01 37.8	+4.2
HUMR	**Humele**	**3.00**	**17**	S	Sn	05 02 19.3	+9.4
CRLT	**Corlu**	**3.03**	**99**	*e*PN	Pn	05 01 38.8	+4.8
PRK	**Paraskevi**	**3.08**	**141**	*e*PN	Pn	05 01 34.0	-0.7
PRK				*e*SN	Sn	05 02 10.2	-1.8
PRK	**Paraskevi**	**3.08**	**141**	*e*Pn	Pn	05 01 34.0	-0.7
PRK				*e*Sn	Sn	05 02 10.2	-1.8
EVR	**Evrytania**	**3.13**	**209**	P	Pn	05 01 35.2	-0.2
EVR				S	Sn	05 02 13.7	+0.4
EVR	**Evrytania**	**3.13**	**209**	P	Pn	05 01 35.2	-0.2
EVR				S	Sn	05 02 13.7	+0.4
DJES	**Djerdap**	**3.14**	**343**	*e*Pn	Pn	05 01 41.9	+6.4
GRUS	**Gruza**	**3.16**	**316**	*e*Pn	Pn	05 01 35.6	-0.3
IVAS	**Ivanjica**	**3.29**	**307**	*e*Pn	Pn	05 01 38.8	+1.2
IVAS	**Ivanjica**	**3.29**	**307**	*e*Pn	Pn	05 01 38.8	+1.2
SLVT	**Silivri**	**3.36**	**96**	*e*PN	Pn	05 01 44.4	+5.7
GONE	**Gonen-Balikesi**	**3.38**	**117**	*e*PN	Pn	05 01 38.2	-0.7
GONE	**Gonen-Balikesi**	**3.38**	**117**	*e*Pn	Pn	05 01 38.2	-0.7
DIVS	**Divibare**	**3.69**	**312**	*e*Pn	Pn	05 01 42.8	-0.4
DIVS	**Divibare**	**3.69**	**312**	P	Pn	05 01 42.8	-0.4
DIVS	**Divibare**	**3.69**	**312**	P	Pn	05 01 42.8	-0.4
CHOS	**Chios island**	**3.71**	**151**	P	Pn	05 01 42.9	-0.6
CHOS	**Chios island**	**3.71**	**151**	P	Pn	05 01 42.9	-0.6
BGKT	**Bogazkoy**	**3.79**	**96**	*e*PN	Pn	05 01 50.8	+6.3
GZR	**Gura Zlata**	**3.80**	**349**	⇑*i*P	Pn	05 01 43.6	-1.0
GZR	**Gura Zlata**	**3.80**	**349**	S	Sg	05 02 45.5	-1.7
GZR	**Gura Zlata**	**3.80**	**349**	⇑*i*P	Pn	05 01 43.6	-1.0
VOIR		**3.88**	**13**	S	Sn	05 02 33.9	+2.1
VOIR		**3.88**	**13**	S	Sn	05 02 33.9	+2.1
MLR	**Muntele Rosu**	**4.14**	**22**	⇓*i*P	Pg	05 02 04.5	0.0
MLR	**Muntele Rosu**	**4.14**	**22**	S	Sg	05 02 57.4	-0.7
DID	**Didima**	**4.17**	**186**	P	Pn	05 01 49.4	-0.4
DID	**Didima**	**4.17**	**186**	P	Pn	05 01 49.4	-0.4
IZM	**Izmir**	**4.22**	**139**	*e*PN	Pn	05 01 46.7	-3.8
IZM	**Izmir**	**4.22**	**139**	*e*Pn	Pn	05 01 46.7	-3.7
BZS	**Buzias**	**4.25**	**339**	⇑*i*P	Pn	05 01 49.2	-1.6
BZS	**Buzias**	**4.25**	**339**	S	Sg	05 02 59.8	-1.9
BZS	**Buzias**	**4.25**	**339**	⇑*i

GUMO Guam 3.19 51 *e*Pn **Pn 05 28 05.8 -1.5**
GUMO *e*Sn **Sn 05 28 44.6 +0.5**
GUMO S **Sn 05 28 47.1 +3.1**
JOW Kunigami 20.10 321 P **P 05 31 51.4 +1.6**
23nm,0.6s,baz=168,slow=6.9,SNR=7.6
JOW LR LR 05 39 16.2
comp=Z,256nm,18.4s,MS3.6,baz=159,slow=36
JOW Kunigami 20.10 321 *e*Pn **P 05 31 50.2 +0.4**
14nm,0.8s
PMG Port Moresby 21.42 167 P **P 05 32 02.4 -1.8**
18nm,1.0s,mb4.4,baz=347,slow=4.2,SNR=6.6
PMG Port Moresby 21.42 167 *e*P **P 05 32 02.9 -1.2**
JNU Nakatsue 23.85 336 *e*P **P 05 32 28.8 -0.3**
30nm,1.5s,mb4.5
MJAR Matsushiro Arr 25.11 352 P **P 05 32 39.6 -0.8**
1.4nm,0.4s,mb3.9,baz=169,slow=7.7,SNR=5.2
MJAR LR LR 05 42 08.3
comp=Z,148nm,19.6s,MS3.5,baz=190,slow=35
MJAR Matsushiro Arr 25.11 352 P **P 05 32 39.6 -0.8**
KSRS Korea Array 28.80 336 LR LR 05 44 42.7
comp=Z,111nm,19.8s,MS3.5,baz=182,slow=36
CTA Charters Tower 31.73 173 P **P 05 33 41.4 +1.7**
7.2nm,0.8s,mb4.6,baz=353,slow=9.7,SNR=8.4
CTA Charters Tower 31.73 173 P **P 05 33 41.4 +1.7**
CTAO Charters Tower 31.73 173 *e*P **P 05 33 40.4 +0.7**
9.1nm,0.9s,mb4.6
WRA Warramunga Arr 32.31 194 P **P 05 33 44.1 -0.8**
4.6nm,1.0s,mb4.3,baz=12,slow=9.3,SNR=11
WRA pP pP 05 33 57.9 +1.7
1.2nm,0.6s,baz=9.2,slow=9.6,SNR=5.7
WRA LR LR 05 46 43.8
comp=Z,155nm,20.4s,MS3.7,baz=35,slow=36
WRA Warramunga Arr 32.31 194 P **P 05 33 44.1 -0.7**
WRA pP pP 05 33 57.9 +1.7
USRK Ussuriysk Arra 33.67 347 P **P 05 33 56.6 +0.1**
3.3nm,0.6s,mb4.5,baz=176,slow=9.0,SNR=10
USRK LR LR 05 46 08.2
comp=Z,84nm,18.3s,MS3.5,baz=100,slow=34
ASAR Alice Springs 36.00 193 P **P 05 34 17.1 +0.4**
0.8nm,0.5s,mb3.9,baz=20,slow=12,SNR=10
ASAR pP pP 05 34 29.6 +1.4
0.9nm,0.7s,baz=16,slow=11,SNR=5.0
ASAR Alice Springs 36.00 193 P **P 05 34 17.1 +0.4**
ASAR pP pP 05 34 29.6 +1.4
BJT Baijiatuau 36.53 325 *e*P **P 05 34 21.0 -0.2**
28nm,0.5s,mb5.3
BJI Beiging 36.55 325 P **P 05 34 21.5 +0.2**
BJI pmax pmax
comp=Z,33nm,0.9s,mb5.2
BJI pmax pmax
comp=Z,110nm,4.5s
BJI LR LR
comp=N,340nm,22.7s,MS4.1
BJI LR LR
comp=E,190nm,23.1s,MS4.1
BJI LR LR
comp=Z,190nm,19.6s,MS3.9
DZM Mont Dzumac 40.99 145 *e*LR LR 05 46 34.5
comp=Z,127nm,23.9s
DZM Mont Dzumac 40.99 145 P **P 05 34 58.5 -0.2**
comp=Z,7.3nm,0.5s,mb4.6,baz=73,slow=22,SNR=15
DZM Mont Dzumac 40.99 145 P **P 05 34 58.5 -0.2**
CMAR Chiang Mai Arr 42.35 285 P **P 05 35 11.6 +1.6**
comp=Z,3.1nm,0.6s,mb4.1,baz=84,slow=6.5,SNR=13
CMAR LR LR 05 51 12.9
comp=Z,63nm,19.7s,MS3.5,baz=95,slow=34
CMAR Chiang Mai Arr 42.35 285 P **P 05 35 11.6 +1.6**
PETK Petropavlovsk- 43.20 14 LR LR 05 52 57.5
comp=Z,77nm,18.7s,MS3.6,baz=14,slow=36
STKA Stephens Creek 43.23 181 P **P 05 35 16.0 -0.9**
comp=Z,5.7nm,1.0s,mb4.3,baz=345,slow=9.3,SNR=9.0
STKA LR LR 05 52 05.0
comp=Z,93nm,18.1s,MS3.7,baz=26,slow=34
STKA Stephens Creek 43.23 181 *e*P **P 05 35 17.6 +0.8**
MSVF Nonsavu 45.78 129 *e*P **P 05 35 38.3 +0.9**
comp=Z,43nm,1.0s,mb5.3
ULN Ulaanbaatar 46.65 328 *e*P **P 05 35 44.7 +0.9**
comp=Z,14nm,1.6s,mb4.7
GTA Gaotai 46.68 314 *e*P **P 05 35 47.8 +3.5**
GTA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SONM Songino Array 46.97 327 P **P 05 35 47.1 +0.7**
comp=Z,1.5nm,0.4s,mb4.2,baz=134,slow=6.5,SNR=19
SONM PcP PcP 05 37 18.2 -0.2
comp=Z,1.5nm,0.7s,baz=166,slow=4.1,SNR=6.0
SONM Songino Array 46.97 327 P **P 05 35 47.1 +0.7**
SONM PcP PcP 05 37 18.2 -0.2
RPZ Rata Peaks 60.97 156 LR LR 06 01 20.7
comp=Z,98nm,19.4s,MS4.0,baz=201,slow=34
MKAR Makanchi Array 61.21 317 P **P 05 37 30.9 +0.7**
comp=Z,1.7nm,0.7s,mb4.3,baz=94,slow=8.4,SNR=15
MKAR Makanchi Array 61.21 317 *e*P **P 05 37 30.9 +0.7**
ZALV Zalesovo Beam 61.80 326 P **P 05 37 33.8 -0.3**
comp=Z,1.0nm,0.5s,mb4.2,baz=112,slow=7.8,SNR=6.1
ZALV PcP PcP 05 38 13.9 -1.0
comp=Z,1.0nm,0.5s,baz=138,slow=4.8,SNR=3.7
ZALV Zalesovo Beam 61.80 326 P **P 05 37 33.8 -0.3**
ZALV PcP PcP 05 38 13.9 -1.0
KURK Kurchatov 64.51 321 *e*P **P 05 37 52.2 0.0**
comp=Z,11nm,1.1s,mb4.8
RC01 Rabbit Creek A 69.31 29 *e*P **P 05 38 21.8 -0.7**
comp=Z,268nm,2.7s,mb5.7
TRF Thorofare Moun 69.66 26 *e*P **P 05 38 23.9 -0.6**
comp=Z,70nm,2.0s,mb5.2
BRVK Borovoye 70.01 322 *e*P **P 05 38 27.4 +0.5**
comp=Z,5.7nm,0.6s,mb4.7
SML Sawmill 70.13 28 *e*P **P 05 38 27.2 -0.3**
comp=Z,12nm,1.4s,mb4.6
COLD Coldfoot 70.73 22 *e*P **P 05 38 31.5 +0.5**
comp=Z,18nm,0.7s,mb5.1
COLA College 71.04 25 *e*P **P 05 38 32.1 -0.9**
comp=Z,5.8nm,0.6s,mb4.7
ILAR Eielson Array 71.42 25 P **P 05 38 33.5 -1.8**
comp=Z,11nm,0.5s,mb5.0,baz=249,slow=5.9,SNR=314
ILAR LR LR 06 04 20.3
comp=Z,96nm,20.9s,MS4.0,baz=248,slow=31
ILAR Eielson Array 71.42 25 P **P 05 38 33.5 -1.8**
PAX Paxson 71.68 27 *e*P **P 05 38 36.9 0.0**
comp=Z,8.4nm,0.7s,mb4.8
DOT Dot Lake 72.42 27 *e*P **P 05 38 40.8 -0.5**
comp=Z,6.7nm,0.8s,mb4.6
PPT2 Papeete2 73.24 112 *e*LR LR 06 01 22.4
comp=Z,78nm,22.8s
ABKAR Akbulak array 76.33 318 *e*P **P 05 39 04.1 -0.2**
AKTO Aktyubinsk 77.53 319 LR LR 06 16 48.1
comp=Z,91nm,18.1s,MS4.1,baz=29,slow=38
JCW Jim Creek 85.26 42 *e*P **P 05 39 53.0 +0.9**
RPW Rockport 85.48 42 *e*P **P 05 39 54.3 +1.2**
YKA Yellowknife Ar 85.76 27 P **P 05 39 54.0 -0.2**
comp=Z,3.1nm,0.8s,mb4.6,baz=287,slow=5.2,SNR=27
YKA pP pP 05 40 07.3 +0.6
comp=Z,1.3nm,0.6s,baz=286,slow=5.0,SNR=6.3
YKA LR LR 06 14 11.0
comp=Z,17nm,19.9s,MS3.4,baz=80,slow=33
YKA Yellowknife Ar 85.76 27 P **P 05 39 54.0 -0.2**
YKA pP pP 05 40 07.3 +0.6
ETW Entiat 86.44 42 *e*P **P 05 39 58.3 +0.4**
RSW Rattlesnake Hi 87.21 43 *e*P **P 05 40 02.5 +0.8**
comp=Z,4.9nm,0.6s,mb4.9
HAWA Hanford 87.25 43 *e*P **P 05 40 02.6 +0.7**
comp=Z,47nm,2.0s,mb5.4
KEV Kevo 87.62 342 *e*p **P 05 40 01.3 -1.9**
comp=Z,2.2nm,0.6s,mb4.6
ARCES ARCESS Array B 88.19 342 P **P 05 40 05.0 -0.8**
comp=Z,1.6nm,0.5s,mb4.5,baz=79,slow=7.7,SNR=14
ARCES ARCESS Array B 88.19 342 P **P 05 40 05.0 -0.8**
JOF Joensuu 89.03 335 *e*p **P 05 40 08.3 -1.7**
comp=Z,1.8nm,0.6s,mb4.6
BMO Blue Mountains 89.15 44 *e*P **P 05 40 11.1 +0.1**
comp=Z,7.8nm,1.4s,mb4.8
NVAR Mina Array Bea 90.11 51 P **P 05 40 16.6 +1.1**
comp=Z,2.9nm,0.6s,mb4.8,baz=264,slow=5.8,SNR=24
NVAR pP pP 05 40 29.9 +1.8
comp=Z,3.2nm,0.8s,baz=255,slow=7.2,SNR=7.2
NVAR Mina Array Bea 90.11 51 P **P 05 40 16.6 +1.1**
NVAR pP pP 05 40 29.9 +1.8
FINES FINESS Array B 91.88 334 P **P 05 40 21.4 -1.8**
comp=Z,3.6nm,0.8s,mb4.8,baz=72,slow=4.6,SNR=13
FINES FINESS Array B 91.88 334 P **P 05 40 21.4 -1.8**
GSC Goldstone 92.09 53 *e*P **P 05 40 25.6 +0.8**
comp=Z,7.1nm,1.1s,mb4.9
AKASG Malin Array Be 95.17 324 LR LR 06 23 56.3
comp=Z,104nm,18.8s,MS4.3,baz=300,slow=36
PHWY Pilot Hill 98.51 45 *e*P **P 05 40 47.9 -6.1**
comp=Z,9.4nm,0.8s,mb5.4
TORD Torodi Ar. Bea 133.83 301 PKP PKPdf 05 46 33.0 -0.1
comp=Z,0.3nm,0.8s,baz=346,slow=2.4,SNR=3.3
TORD Torodi Ar. Bea 133.83 301 PKP PKPdf 05 46 33.0 -0.1
CFAA Coronel Fontan 145.51 130 PKPbc PKPbc 05 46 53.9 -0.1
comp=Z,0.3nm,0.6s,baz=225,slow=4.3,SNR=10
CFAA Coronel Fontan 145.51 130 PKPbc PKPbc 05 46 53.9 -0.1
LPAZ La Paz 150.11 102 PKPbc PKPbc 05 47 07.7 +0.8
comp=Z,4.2nm,0.8s,baz=359,slow=3.6,SNR=13
LPAZ La Paz 150.11 102 PKPbc PKPbc 05 47 07.7 +0.8

ISCJB ***24*** *05:34:07.1±0.4, 17°.09N±0°.06×94°.58W±0°.03, h136km±5km, mb3.2/3, Error ellipse: s-maj=10.2km s-min=3.9km az=14.1*
IDC ***24*** *05:34:07.7±0.7, 17°.19N×94°.47W, h122km±7km, mb3.3/4, mb1 3.6/7, mb1mx3.4/25, mbtmp3.4/7, Error ellipse: s-maj=21.3km s-min=18.3km az=171.0*
NEIC ***24*** *05:34:10.3, 16°.99N×94°.61W, h130km, MD4.2(MEX), After MEX.*
MEX ***24*** *05:34:10.4±0.7, 17°.04N×94°.59W, h129km±6km, MD4.2*
ISC 24 05:34:08.2±0.4, 17°.08N±0°.06×94°.58W±0°.03, h133km±5km, n41, σ0°97/71, mb3.2/3, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.29**	**272**	P	**Pn**	**05 34 26.9**	**+0.2**
	67nm,0.3s,baz=98,slow=2.9,SNR=3274						
CMIG				S	**Sn**	**05 34 40.0**	**-0.6**
	211nm,0.3s,baz=287,slow=22,SNR=202						
CMIG	**Matias Romero**	**0.29**	**272**	P	**Pn**	**05 34 26.9**	**+0.2**
CMIG				*i* P		05 34 27.1	
CMIG				S	**Sn**	**05 34 40.0**	**-0.6**
CMIG				*e*S	**Sn**	**05 34 40.3**	**-0.3**
CMIG	**Matias Romero**	**0.29**	**272**	*i* P	**Pn**	**05 34 27.1**	**+0.4**
CMIG				*e*S	**Sn**	**05 34 40.3**	**-0.3**
TGIG		**1.43**	**102**	*i* P	**Pn**	**05 34 36.4**	**+0.7**
TGIG				*e*S	**Sn**	**05 34 55.1**	**-1.4**
TGIG		**1.43**	**102**	*i* P	**Pn**	**05 34 36.4**	**+0.7**
TGIG				*e*S	**Sn**	**05 34 55.7**	**-0.9**
PCIG		**1.89**	**136**	*i* P	**Pn**	**05 34 42.1**	**+1.1**
PCIG				*e*S	**Sn**	**05 35 05.9**	**-0.2**
PCIG		**1.89**	**136**	*i* P	**Pn**	**05 34 42.1**	**+1.1**
PCIG				*e*S	**Sn**	**05 35 05.9**	**-0.2**
HUIG	**Huatulco**	**1.96**	**229**	*i* P	**Pn**	**05 34 40.6**	**-1.3**
HUIG				*e*S	**Sn**	**05 35 07.2**	**-0.5**
HUIG	**Huatulco**	**1.96**	**229**	*i* P	**Pn**	**05 34 40.7**	**-1.2**
HUIG				*e*S	**Sn**	**05 35 07.2**	**-0.5**
OXX	**Oaxaca**	**2.05**	**270**	*i* P	**Pn**	**05 34 44.5**	**+1.5**
OXX				*e*S	**Sn**	**05 35 09.5**	**0.0**
OXX	**Oaxaca**	**2.05**	**270**	*i* P	**Pn**	**05 34 44.5**	**+1.5**
OXX				*e*S	**Sn**	**05 35 09.5**	**0.0**
VHO	**Vista Hermosa**	**2.06**	**270**	*i* P	**Pn**	**05 34 44.5**	**+1.5**
VHO				*e*S	**Sn**	**05 35 09.9**	**+0.2**
VHO	**Vista Hermosa**	**2.06**	**270**	*i* P	**Pn**	**05 34 44.5**	**+1.5**
VHO				*e*S	**Sn**	**05 35 09.9**	**+0.2**
CCIG	**Comitan**	**2.47**	**108**	*i* P	**Pn**	**05 34 49.2**	**+1.0**
CCIG				*e*S	**Sn**	**05 35 18.5**	**-0.3**
CCIG	**Comitan**	**2.47**	**108**	*i* P	**Pn**	**05 34 49.2**	**+1.0**
CCIG				*e*S	**Sn**	**05 35 18.5**	**-0.3**
TPIG	**Tehuac#an**	**2.97**	**297**	*i* P	**Pn**	**05 34 55.6**	**+1.1**
TPIG				*e*S	**Sn**	**05 35 30.7**	**+0.5**
TPIG	**Tehuac#an**	**2.97**	**297**	*i* P	**Pn**	**05 34 55.6**	**+1.1**
TPIG				*e*S	**Sn**	**05 35 30.7**	**+0.5**
THIG		**3.10**	**134**	*i* P	**Pn**	**05 34 56.7**	**+0.4**
THIG				*e*S	**Sn**	**05 35 33.5**	**+0.2**
THIG		**3.10**	**134**	*i* P	**Pn**	**05 34 56.7**	**+0.4**
THIG				*e*S	**Sn**	**05 35 33.5**	**+0.2**
PNIG	**Pinotepa**	**3.47**	**259**	*i* P	**Pn**	**05 34 59.9**	**-1.1**
PNIG				*e*S	**Sn**	**05 35 40.8**	**-1.1**
PNIG	**Pinotepa**	**3.47**	**259**	*i* P	**Pn**	**05 35 00.0**	**-1.0**
PNIG				*i* S	**Sn**	**05 35 41.4**	**-0.5**
PPM	**Popocatepetl**	**4.33**	**298**	*i* P	**Pn**	**05 35 15.7**	**+3.3**
PPM				*e*S	**Sn**	**05 35 56.3**	**-5.9**
PPM	**Popocatepetl**	**4.33**	**298**	*i* P	**Pn**	**05 35 15.7**	**+3.3**
PPM				*i* S	**Sn**	**05 36 00.6**	**-1.7**
CAIG	**El Cayaco**	**5.44**	**270**	*i* P	**Pn**	**05 35 26.9**	**-0.4**
CAIG				*e*S	**Sn**	**05 36 28.5**	**-0.4**
CAIG	**El Cayaco**	**5.44**	**270**	*i* P	**Pn**	**05 35 26.9**	**-0.4**
CAIG				*e*S	**Sn**	**05 36 28.5**	**-0.4**
ZIIG	**Zihuatanejo**	**6.60**	**276**	*i* P	**Pn**	**05 35 43.8**	**+1.0**
ZIIG				*e*S	**Sn**	**05 36 55.6**	**-1.1**
ZIIG	**Zihuatanejo**	**6.60**	**276**	*i* P	**Pn**	**05 35 43.8**	**+1.0**
ZIIG				*e*S	**Sn**	**05 36 55.6**	**-1.1**
TEIG	**Tepich**	**6.74**	**61**	P	**Pn**	**05 35 43.1**	**-1.7**
	7.3nm,0.3s,baz=263,slow=7.6,SNR=47						
TEIG				S	**Sn**	**05 36 56.1**	**-4.1**
	3.0nm,0.3s,baz=338,slow=19,SNR=5.8						
TEIG	**Tepich**	**6.74**	**61**	P	**Pn**	**05 35 43.1**	**-1.7**
TEIG				S	**Sn**	**05 36 56.1**	**-4.1**
JTS	**JuntasAbangare**	**11.53**	**125**	P	**Pn**	**05 36 49.5**	**+0.6**
	1.0nm,0.3s,baz=319,slow=19,SNR=4.8						
JTS	**JuntasAbangare**	**11.53**	**125**	P	**Pn**	**05 36 49.5**	**+0.6**
TXAR	**Lajitas Array**	**14.77**	**327**	P	**Pn**	**05 37 32.2**	**+1.6**
	0.1nm,0.3s,baz=146,slow=12,SNR=8.8						
TXAR	**Lajitas Array**	**14.77**	**327**	P	**Pn**	**05 37 32.2**	**+1.6**
TKL	**Tuckaleechee C**	**20.85**	**25**	P	**P**	**05 38 37.8**	**-1.7**
	2.5nm,0.7s,baz=191,slow=14,SNR=4.9						
TKL	**Tuckaleechee C**	**20.85**	**25**	P	**P**	**05 38 37.8**	**-1.7**
SIV	**San Ignacio**	**46.60**	**133**	P	**P**	**05 42 23.2**	**0.0**
	0.6nm,0.7s,mb3.4,baz=336,slow=6.2,SNR=5.0						
SIV	**San Ignacio**	**46.60**	**133**	P	**P**	**05 42 23.2**	**0.0**
YKA	**Yellowknife Ar**	**47.49**	**348**	P	**P**	**05 42 28.9**	**-0.5**
	0.4nm,0.6s,mb3.2,baz=154,slow=7.2,SNR=5.9						
YKA	**Yellowknife Ar**	**47.49**	**348**	P	**P**	**05 42 28.9**	**-0.5**
ESDC	**Sonseca Array**	**79.77**	**52**	P	**P**	**05 46 01.7**	**0.0**
	0.1nm,0.3s,mb2.9,baz=301,slow=5.9,SNR=5.3						
ESDC	**Sonseca Array**	**79.77**	**52**	P	**P**	**05 46 01.7**	**0.0**

ATH ***24*** *05:46:33.2, 36°.82N×28°.57E, h9km±1km, MD3.6/9*
ISCJB ***24*** *05:46:34.3±0.5, 36°.76N±0°.03×28°.56E±0°.03, h1km±5km, Error ellipse: s-maj=4.3km s-min=3.4km az=165.3*
ISK ***24*** *05:46:34.5, 36°.80N×28°.57E, h4km, MD3.5*
DDA ***24*** *05:46:34.0, 36°.74N×28°.53E, h20km±2km, Md3.5*
CSEM ***24*** *05:46:35.1±0.1, 36°.78N×28°.56E, h2km, MD3.5, Error ellipse: s-maj=3.5km s-min=2.7km az=168.0*
ISC 24 05:46:35.2±0.5, 36°.77N±0°.02×28°.56E±0°.03, h2km±4km, n78, σ0°81/97, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.10**	**20**	⇑*i*P	**Pg**	**05 46 39.5**	**+2.2**
TURN				*i* S	**Sg**	**05 46 43.9**	**+5.2**
TURN	**Turunc**	**0.10**	**20**	*i* P	**Pg**	**05 46 39.5**	**+2.3**
YER	**Yerkesik**	**0.42**	**329**	*e*PG	**Pg**	**05 46 43.3**	**0.0**
YER				*e*SG	**Sg**	**05 46 49.4**	**+0.6**
YER	**Yerkesik**	**0.42**	**329**	*e*Pg	**Pg**	**05 46 43.3**	**0.0**
YER				*e*Sg	**Sg**	**05 46 49.4**	**+0.6**
ARG	**Arkhangelos**	**0.66**	**212**	*e*PG	**Pg**	**05 46 46.5**	**-1.3**
ARG				*e*SB	**Sg**	**05 46 56.5**	**+0.2**
ARG	**Arkhangelos**	**0.66**	**212**	*e*Pg	**Pg**	**05 46 46.5**	**-1.3**
ARG				*e*Sb	**Sg**	**05 46 56.5**	**+0.2**
DAT	**Datca**	**0.79**	**267**	*e*PG	**Pg**	**05 46 50.1**	**-0.2**
DAT				*e*SG	**Sg**	**05 47 01.9**	**+1.4**
DAT	**Datca**	**0.79**	**267**	*e*Pg	**Pg**	**05 46 50.1**	**-0.2**
DAT				*e*Sg	**Sg**	**05 47 01.9**	**+1.4**
GLHS	**Glhisar (BURDU**	**0.84**	**63**	*e*PG	**Pg**	**05 46 50.6**	**-0.8**
GLHS				*e*SG	**Sg**	**05 47 02.4**	**+0.1**
GLHS	**Glhisar (BURDU**	**0.84**	**63**	*e*Pg	**Pg**	**05 46 50.6**	**-0.8**
GLHS				*e*Sg	**Sg**	**05 47 02.4**	**+0.1**
GOLH	**Golhisar**	**0.93**	**60**	*e*P	**Pg**	**05 46 51.2**	**-1.7**
GOLH				*i* S	**Sg**	**05 47 00.9**	**-4.0**
GOLH	**Golhisar**	**0.93**	**60**	*e*P	**Pg**	**05 46 51.2**	**-1.7**
DNZL	**Cakiroluk**	**0.99**	**23**	*e*P	**Pg**	**05 46 54.9**	**+0.7**
DNZL				*i* S	**Sg**	**05 47 07.2**	**0.0**
DNZL	**Cakiroluk**	**0.99**	**23**	*e*P	**Pg**	**05 46 54.9**	**+0.7**
DNZL				*i* S	**Sg**	**05 47 07.2**	**+0.1**
AKAS	**Kas**	**1.00**	**122**	*i* P	**Pg**	**05 46 53.7**	**-0.7**
AKAS				*i* S	**Sg**	**05 47 09.8**	**+2.5**
AKAS	**Kas**	**1.00**	**122**	*i* P	**Pg**	**05 46 53.7**	**-0.7**
AKAS				*i* S	**Sg**	**05 47 09.8**	**+2.5**
AYDN	**Tasoluk**	**1.04**	**329**	*e*P	**Pg**	**05 46 55.0**	**-0.1**
AYDN				*i* S	**Sg**	**05 47 12.3**	**+3.8**
AYDN	**Tasoluk**	**1.04**	**329**	*e*P	**Pg**	**05 46 55.0**	**-0.1**
BODT	**Bodrum**	**1.04**	**286**	*e*PG	**Pg**	**05 46 54.0**	**-1.1**
BODT	**Bodrum**	**1.04**	**286**	*e*Pg	**Pg**	**05 46 54.0**	**-1.1**
DENT	**Denizli**	**1.05**	**21**	*e*PG	**Pg**	**05 46 55.0**	**-0.3**
DENT	**Denizli**	**1.05**	**21**	*e*Pg	**Pg**	**05 46 55.0**	**-0.3**
ELL	**Elmali**	**1.08**	**91**	*e*PG	**Pg**	**05 46 55.4**	**-0.6**
ELL	**Elmali**	**1.08**	**91**	*e*Pg	**Pg**	**05 46 55.4**	**-0.6**
GCAM	**G?zelcaml?**	**1.41**	**312**	*e*P	**Pn**	**05 47 01.0**	**-0.8**
GCAM				*i* S	**Sg**	**05 47 20.9**	**+0.5**
GCAM	**G?zelcaml?**	**1.41**	**312**	*e*P	**Pn**	**05 47 01.0**	**-0.8**
GCAM				*i* S	**Sg**	**05 47 20.9**	**+0.6**
SMG	**Samos**	**1.66**	**305**	*e*PB	**Pb**	**05 47 04.0**	**-2.5**
SMG	**Samos**	**1.66**	**305**	*e*Pb	**Pb**	**05 47 04.0**	**-2.5**
KARP	**Karpathos**	**1.67**	**223**	*e*PN	**Pn**	**05 47 05.4**	**0.0**
KARP	**Karpathos**	**1.67**	**223**	*e*Pn	**Pn**	**05 47 05.7**	**+0.3**
ANTB	**Antalya**	**1.69**	**85**	*e*PN	**Pn**	**05 47 05.9**	**+0.2**
ANTB	**Antalya**	**1.69**	**85**	*e*Pn	**Pn**	**05 47 05.9**	**+0.2**
KULA	**Kula-Manisa**	**1.74**	**3**	*e*PN	**Pn**	**05 47 05.9**	**-0.6**
KULA	**Kula-Manisa**	**1.74**	**3**	*e*Pn	**Pn**	**05 47 05.9**	**-0.5**
BCK	**Bucak**	**1.76**	**66**	*e*PN	**Pn**	**05 47 06.8**	**+0.1**
BCK	**Bucak**	**1.76**	**66**	*e*Pn	**Pn**	**05 47 06.8**	**+0.1**
IZM	**Izmir**	**1.92**	**328**	*e*PN	**Pn**	**05 47 08.9**	**0.0**
IZM	**Izmir**	**1.92**	**328**	*e*Pn	**Pn**	**05 47 08.9**	**0.0**
BLCB	**Balcova**	**2.01**	**324**	*e*PN	**Pn**	**05 47 09.6**	**-0.5**
BLCB	**Balcova**	**2.01**	**324**	*e*Pn	**Pn**	**05 47 09.6**	**-0.6**
SUTC	**Sutluce-Ispart**	**2.07**	**69**	*e*PN	**Pn**	**05 47 11.1**	**+0.1**
SUTC	**Sutluce-Ispart**	**2.07**	**69**	*e*Pn	**Pn**	**05 47 11.1**	**+0.1**
AKHS	**Akhisar**	**2.18**	**345**	*e*P	**Pn**	**05 47 12.1**	**-0.4**
AKHS				*i* S	**Sn**	**05 47 40.6**	**+0.5**
AKHS	**Akhisar**	**2.18**	**345**	*e*P	**Pn**	**05 47 12.1**	**-0.4**
AKHS				*i* S	**Sn**	**05 47 40.7**	**+0.5**
AKS	**Akhisar**	**2.18**	**345**	*e*PN	**Pn**	**05 47 11.8**	**-0.7**
AKS	**Akhisar**	**2.18**	**345**	*e*Pn	**Pn**	**05 47 11.9**	**-0.6**
SHUT	**Suhut-Afyon**	**2.38**	**41**	*e*PN	**Pn**	**05 47 14.9**	**-0.3**
SHUT	**Suhut-Afyon**	**2.38**	**41**	*e*Pn	**Pn**	**05 47 14.9**	**-0.3**
APE	**Apeiranthos**	**2.44**	**278**	*e*PN	**Pn**	**05 47 16.4**	**+0.3**
APE	**Apeiranthos**	**2.44**	**278**	*e*Pn	**Pn**	**05 47 15.3**	**-0.8**
APE	**Apeiranthos**	**2.44**	**278**	*e*Pb	**Pb**	**05 47 15.1**	**-4.8**
APE	**Apeiranthos**	**2.44**	**278**	*e*Pn	**Pn**	**05 47 16.4**	**+0.3**
ZKR	**Zakros**	**2.52**	**230**	*e*PN	**Pn**	**05 47 17.1**	**-0.1**
ZKR	**Zakros**	**2.52**	**230**	*e*Pn	**Pn**	**05 47 18.1**	**+0.9**
ALT	**Altintas**	**2.59**	**28**	*e*PN	**Pn**	**05 47 17.9**	**-0.2**
ALT	**Altintas**	**2.59**	**28**	*e*Pn	**Pn**	**05 47 17.9**	**-0.2**
NPS	**Neapolis**	**2.82**	**239**	*e*PN	**Pn**	**05 47 20.9**	**-0.5**
NPS	**Neapolis**	**2.82**	**239**	*e*Pn	**Pn**	**05 47 20.9**	**-0.5**
HDMB	**Hadim**	**3.15**	**85**	*e*PN	**Pn**	**05 47 26.9**	**+1.0**
HDMB	**Hadim**	**3.15**	**85**	*e*Pn	**Pn**	**05 47 26.9**	**+1.0**
KONT	**Konya--Tatoy**	**3.25**	**68**	*e*PN	**Pn**	**05 47 27.8**	**+0.7**
KONT	**Konya--Tatoy**	**3.25**	**68**	*e*Pn	**Pn**	**05 47 27.8**	**+0.6**
ESKT	**Eskisehir**	**3.28**	**33**	*e*PN	**Pn**	**05 47 27.4**	**-0.2**
ESKT	**Eskisehir**	**3.28**	**33**	*e*Pn	**Pn**	**05 47 27.4**	**-0.3**
GONE	**Gonen-Balikesi**	**3.34**	**348**	*e*PN	**Pn**	**05 47 28.4**	**0.0**
GONE	**Gonen-Balikesi**	**3.34**	**348**	*e*Pn	**Pn**	**05 47 28.4**	**0.0**
LADK	**Ladik-KONYA**	**3.34**	**64**	*e*PN	**Pn**	**05 47 28.5**	**0.0**
LADK	**Ladik-KONYA**	**3.34**	**64**	*e*Pn	**Pn**	**05 47 28.5**	**0.0**
SIVA	**Sivas**	**3.51**	**241**	*e*PN	**Pn**	**05 47 31.1**	**+0.3**
SIVA	**Sivas**	**3.51**	**241**	*e*Pn	**Pn**	**05 47 31.1**	**+0.3**
EZN	**Ezine**	**3.52**	**331**	*e*PN	**Pn**	**05 47 31.1**	**+0.2**
EZN	**Ezine**	**3.52**	**331**	*e*Pn	**Pn**	**05 47 31.1**	**+0.2**
SVRH	**Sivrihisar-ESK**	**3.55**	**40**	*e*PN	**Pn**	**05 47 31.8**	**+0.5**
SVRH	**Sivrihisar-ESK**	**3.55**	**40**	*e*Pn	**Pn**	**05 47 31.8**	**+0.5**
VAM	**Vamos**	**3.78**	**250**	*e*PN	**Pn**	**05 47 35.0**	**+0.4**
GULT	**Gulveren**	**3.96**	**22**	*e*PN	**Pn**	**05 47 37.3**	**+0.4**
GULT	**Gulveren**	**3.96**	**22**	*e*Pn	**Pn**	**05 47 37.3**	**+0.3**
KYTH	**Kithira**	**4.47**	**265**	*e*PN	**Pn**	**05 47 44.7**	**+0.7**

IDC 24 05:48:38.3±5.7, 18°.25S×174°.87W, h343km±168km, mb3.4/5, mb1 3.5/6, mb1mx3.2/20, mbtmp3.4/6, Error ellipse: s-maj=162.2km s-min=29.1km az=68.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.24**	**35**	P	Pn	05 50 02.3	+2.0
	2.4nm,0.3s,baz=160,slow=12,SNR=3.0						
AFI				S	S	05 51 06.2	-0.5
	7.1nm,0.3s,baz=44,slow=22,SNR=6.9						
URZ	**Urewera**	**21.13**	**198**	P	P	05 52 56.6	-0.4
	11nm,0.4s,baz=330,slow=4.0,SNR=16						
CTA	**Charters Tower**	**36.71**	**261**	P	P	05 55 12.7	-1.3
	0.9nm,0.3s,baz=77,slow=11,SNR=4.7						
STKA	**Stephens Creek**	**41.43**	**242**	P	P	05 55 54.3	+1.7
	0.3nm,0.4s,baz=70,slow=15,SNR=3.2						
WRA	**Warramunga Arr**	**47.88**	**259**	P	P	05 56 42.6	-0.6
	0.4nm,0.4s,baz=97,slow=7.1,SNR=6.5						
ASAR	**Alice Springs**	**47.94**	**254**	P	P	05 56 43.9	+0.3
	2.4nm,0.6s,baz=93,slow=8.8,SNR=61						

THE ***24*** *05:54:55.0, 37°.89N×29°.99E, h0km±2km, ML4.5/3,

AKAS			*i* S	Sg	05 55 56.5	+2.8
AKAS	**Kas**	**1.65 170**	*i* P	Pn	05 55 31.4	+0.6
BODT	**Bodrum**	**1.73 243**	*e*PN	Pn	05 55 29.5	-2.4
BODT	**Bodrum**	**1.73 243**	*e*Pn	Pn	05 55 29.5	-2.3
KSL	**Kastellorizon**	**1.73 171**	*e*PN	Pn	05 55 32.6	+0.7
DAT	**Datca**	**1.74 230**	*e*PN	Pn	05 55 30.1	-1.9
DAT	**Datca**	**1.74 230**	*e*Pn	Pn	05 55 30.1	-1.9
BLCB	**Balcova**	**1.81 287**	*e*PN	Pn	05 55 32.1	-0.9
BLCB	**Balcova**	**1.81 287**	*e*Pn	Pn	05 55 32.1	-0.8
ARG	**Arkhangelos**	**1.87 209**	*e*PB	Pb	05 55 35.6	+0.1
ARG	**Arkhangelos**	**1.87 209**	P	Pn	05 55 30.5	-3.2
ARG			S	Sg	05 56 01.7	+1.1
ARG	**Arkhangelos**	**1.87 209**	P	Pn	05 55 30.5	-3.2
ARG	**Arkhangelos**	**1.87 209**	P	Pn	05 55 30.5	-3.2
SMG	**Samos**	**1.91 266**	*e*PN	Pn	05 55 33.1	-1.2
NIS1	**Nisyros Isl.**	**2.07 233**	P	Pn	05 55 37.1	+0.6
NIS1			S	Sg	05 56 09.7	+2.6
NIS1	**Nisyros Isl.**	**2.07 233**	P	Pn	05 55 37.1	+0.6
NIS1	**Nisyros Isl.**	**2.07 233**	P	Pn	05 55 37.1	+0.6
ESKT	**Eskisehir**	**2.08 37**	*e*PN	Pn	05 55 37.0	+0.3
ESKT	**Eskisehir**	**2.08 37**	*i* P	Pn	05 55 35.2	-1.5
ESKT	**Eskisehir**	**2.08 37**	*e*Pn	Pn	05 55 37.0	+0.3
SEYT	**Eskypehyr**	**2.08 37**	*i* P	Pn	05 55 35.2	-1.5
BALY	**Balya**	**2.26 327**	*e*P	Pn	05 55 37.8	-1.3
BALY	**Balya**	**2.26 327**	*e*P	Pn	05 55 37.8	-1.4
CAVI	**Cavuskoy**	**2.38 11**	*e*PN	Pn	05 55 40.4	-0.5
CAVI	**Cavuskoy**	**2.38 11**	*e*Pn	Pn	05 55 40.4	-0.5
SVRH	**Sivrihisar-ESK**	**2.39 48**	*e*PN	Pn	05 55 41.3	+0.4
SVRH	**Sivrihisar-ESK**	**2.39 48**	*e*Pn	Pn	05 55 41.3	+0.4
KONT	**Konya--Tatoy**	**2.47 87**	*e*PN	Pn	05 55 42.3	+0.3
KONT	**Konya--Tatoy**	**2.47 87**	*e*Pn	Pn	05 55 42.3	+0.2
LADK	**Ladik-KONYA**	**2.49 81**	*e*PN	Pn	05 55 41.9	-0.4
LADK	**Ladik-KONYA**	**2.49 81**	*e*Pn	Pn	05 55 41.9	-0.4
GONE	**Gonen-Balikesi**	**2.49 331**	*e*PN	Pn	05 55 41.9	-0.5
GONE	**Gonen-Balikesi**	**2.49 331**	*e*Pn	Pn	05 55 41.9	-0.5
KCTX	**Karacabey (Bur**	**2.50 344**	*e*PN	Pn	05 55 42.7	+0.3
KCTX	**Karacabey (Bur**	**2.50 344**	*e*Pn	Pn	05 55 42.7	+0.3
MDNY	**Mudanya-Bursa**	**2.52 354**	*e*PN	Pn	05 55 43.2	+0.5
MDNY	**Mudanya-Bursa**	**2.52 354**	*e*Pn	Pn	05 55 43.2	+0.5
CHOS	**Chios island**	**2.56 283**	P	Pn	05 55 43.3	0.0
CHOS			S	Sg	05 56 23.0	0.0
CHOS	**Chios island**	**2.56 283**	P	Pn	05 55 43.3	0.0
GEMT	**Gemlik**	**2.57 359**	*e*PN	Pn	05 55 44.0	+0.6
GEMT	**Gemlik**	**2.57 359**	*e*Pn	Pn	05 55 44.0	+0.6
ADVT	**Abdulvahap**	**2.60 8**	*e*PN	Pn	05 55 44.6	+0.8
ADVT	**Abdulvahap**	**2.60 8**	*e*Pn	Pn	05 55 44.6	+0.8
BNT	**Bandirma**	**2.69 338**	*e*PN	Pn	05 55 45.3	+0.2
BNT	**Bandirma**	**2.69 338**	*e*Pn	Pn	05 55 45.3	+0.2
EDC	**Edincik**	**2.70 337**	*e*PN	Pn	05 55 46.2	+1.0
EDC	**Edincik**	**2.70 337**	*e*Pn	Pn	05 55 46.2	+1.0
YLV	**Yalova**	**2.70 2**	*e*PN	Pn	05 55 46.5	+1.2
YLV	**Yalova**	**2.70 2**	*e*Pn	Pn	05 55 46.5	+1.3
PRK	**Paraskevi**	**2.70 302**	*e*PN	Pn	05 55 44.8	-0.5
PRK	**Paraskevi**	**2.70 302**	P	Pn	05 55 44.9	-0.4
PRK			S	Sg	05 56 26.1	-1.4
PRK	**Paraskevi**	**2.70 302**	P	Pn	05 55 44.9	-0.4
PRK			S	Sg	05 56 26.1	-1.4
PRK	**Paraskevi**	**2.70 302**	P	Pn	05 55 44.9	-0.4
ARMT	**Armutlu**	**2.71 354**	*e*PN	Pn	05 55 46.2	+0.8
ARMT	**Armutlu**	**2.71 354**	*e*Pn	Pn	05 55 46.2	+0.8
HDMB	**Hadim**	**2.74 108**	*e*PN	Pn	05 55 45.6	-0.1
HDMB	**Hadim**	**2.74 108**	*e*Pn	Pn	05 55 45.6	-0.1
GULT	**Gulveren**	**2.75 21**	*e*PN	Pn	05 55 47.0	+1.1
GULT	**Gulveren**	**2.75 21**	*e*Pn	Pn	05 55 47.0	+1.1
KARP	**Karpathos**	**2.85 216**	*e*PN	Pn	05 55 48.0	+0.8
KARP	**Karpathos**	**2.85 216**	P	Pn	05 55 46.6	-0.6
KARP	**Karpathos**	**2.85 216**	P	Pn	05 55 46.6	-0.6
KARP	**Karpathos**	**2.85 216**	P	Pn	05 55 46.6	-0.6
SPNC	**Sapanca-Adapaz**	**2.94 16**	*e*PN	Pn	05 55 49.0	+0.5
SPNC	**Sapanca-Adapaz**	**2.94 16**	*e*Pn	Pn	05 55 49.0	+0.5
KRBG	**Karabiga-Canak**	**2.94 330**	*e*PN	Pn	05 55 47.9	-0.6
KRBG	**Karabiga-Canak**	**2.94 330**	*e*Pn	Pn	05 55 47.9	-0.6
HRT	**Hereke**	**2.97 6**	*e*PN	Pn	05 55 49.4	+0.5
HRT	**Hereke**	**2.97 6**	*e*Pn	Pn	05 55 49.4	+0.4
EZN	**Ezine**	**3.00 312**	*e*PN	Pn	05 55 48.4	-1.0
EZN	**Ezine**	**3.00 312**	*e*Pn	Pn	05 55 48.4	-0.9
MDUB	**Mudurnu**	**3.02 30**	*e*PN	Pn	05 55 50.4	+0.8
MDUB	**Mudurnu**	**3.02 30**	*e*Pn	Pn	05 55 50.4	+0.8
APE	**Apeiranthos**	**3.05 256**	*e*PN	Pn	05 55 50.0	-0.1
APE	**Apeiranthos**	**3.05 256**	*e*PN	Pn	05 55 49.8	-0.3
APE	**Apeiranthos**	**3.05 256**	P	Pn	05 55 49.6	-0.5
APE	**Apeiranthos**	**3.05 256**	P	Pn	05 55 49.6	-0.5
APE	**Apeiranthos**	**3.05 256**	P	Pn	05 55 49.6	-0.5
APE	**Apeiranthos**	**3.05 256**	*e*Pn	Pn	05 55 50.0	-0.1
ISK	**Istanbul-Kandi**	**3.20 358**	*e*PN	Pn	05 55 53.1	+1.0
ISK	**Istanbul-Kandi**	**3.20 358**	*e*Pn	Pn	05 55 53.1	+1.0
RKY	**Sarkoy-Tekirda**	**3.24 331**	*e*PN	Pn	05 55 53.8	+1.2
RKY	**Sarkoy-Tekirda**	**3.24 331**	*e*Pn	Pn	05 55 53.8	+1.1
SILT	**Sile**	**3.30 5**	*e*PN	Pn	05 55 53.6	+0.1
SILT	**Sile**	**3.30 5**	*e*Pn	Pn	05 55 53.6	+0.1
GELI	**Tayfur-Gelibol**	**3.32 321**	*e*PN	Pn	05 55 53.8	+0.1
GELI	**Tayfur-Gelibol**	**3.32 321**	*e*Pn	Pn	05 55 53.8	+0.1
BGKT	**Bogazkoy**	**3.33 354**	*e*PN	Pn	05 55 54.9	+1.0
BGKT	**Bogazkoy**	**3.33 354**	*e*Pn	Pn	05 55 54.9	+1.0
KLYT	**Kilyos**	**3.39 358**	*e*PN	Pn	05 55 56.2	+1.5
KLYT	**Kilyos**	**3.39 358**	*e*Pn	Pn	05 55 56.2	+1.5
TKR	**Tekirdag**	**3.39 338**	*e*PN	Pn	05 55 56.0	+1.4
TKR	**Tekirdag**	**3.39 338**	*e*Pn	Pn	05 55 56.0	+1.3
AFSR	**Af´ar-Bala (A**	**3.39 61**	*e*PN	Pn	05 55 54.6	-0.1
AFSR	**Af´ar-Bala (A**	**3.39 61**	*e*Pn	Pn	05 55 54.6	-0.1
SULT	**Sultanhani-AKS**	**3.40 83**	*e*PN	Pn	05 55 55.5	+0.7
SULT	**Sultanhani-AKS**	**3.40 83**	*e*Pn	Pn	05 55 55.5	+0.7
CTKS	**Kestanelik-??a**	**3.42 351**	*e*PN	Pn	05 55 55.4	+0.4
CTKS	**Kestanelik-??a**	**3.42 351**	*e*Pn	Pn	05 55 55.4	+0.4
LOD	**Lodumlu**	**3.42 53**	*e*PN	Pn	05 55 56.0	+1.0
LOD	**Lodumlu**	**3.42 53**	*e*Pn	Pn	05 55 56.1	+1.1
SLVT	**Silivri**	**3.46 347**	*e*PN	Pn	05 55 56.9	+1.3
SLVT	**Silivri**	**3.46 347**	*e*Pn	Pn	05 55 56.9	+1.3
CRLT	**Corlu**	**3.46 341**	*e*PN	Pn	05 55 57.1	+1.4
CRLT	**Corlu**	**3.46 341**	*e*Pn	Pn	05 55 57.1	+1.4
ERIK	**Erikli-Kesan**	**3.51 324**	*e*PN	Pn	05 55 55.9	-0.4
ERIK	**Erikli-Kesan**	**3.51 324**	*e*Pn	Pn	05 55 55.9	-0.5
ZKR	**Zakros**	**3.67 222**	*e*PN	Pn	05 56 00.2	+1.7
ZKR	**Zakros**	**3.67 222**	P	Pn	05 55 58.5	0.0
ZKR	**Zakros**	**3.67 222**	P	Pn	05 55 58.5	0.0
ZKR	**Zakros**	**3.67 222**	P	Pn	05 55 58.5	0.0
CTYL	**Yal??k??y-??at**	**3.68 349**	*e*PN	Pn	05 56 00.2	+1.5
CTYL	**Yal??k??y-??at**	**3.68 349**	*e*Pn	Pn	05 56 00.2	+1.5
ENEZ	**Enez**	**3.74 321**	*e*PN	Pn	05 55 59.1	-0.3
ENEZ	**Enez**	**3.74 321**	*e*Pn	Pn	05 55 59.1	-0.3
LIA	**Limnos Island**	**3.76 304**	P	Pn	05 56 00.1	+0.3
LIA	**Limnos Island**	**3.76 304**	P	Pn	05 56 00.1	+0.3
LIA	**Limnos Island**	**3.76 304**	P	Pn	05 56 00.1	+0.3
KAMT	**Kaman**	**3.81 65**	*e*PN	Pn	05 56 00.9	+0.4
KAMT	**Kaman**	**3.81 65**	*e*Pn	Pn	05 56 00.9	+0.4
NPS	**Neapolis**	**3.90 229**	P	Pn	05 56 02.3	+0.5
NPS	**Neapolis**	**3.90 229**	P	Pn	05 56 02.3	+0.5
NPS	**Neapolis**	**3.90 229**	P	Pn	05 56 02.3	+0.5
BRTR	**Keskin Array B**	**3.91 60**	Pn	Pn	05 56 02.1	+0.3
	3.4nm,0.3s,baz=243,slow=16,SNR=62					
BRTR			Sn	Sn	05 56 49.4	+1.0
	1.9nm,0.3s,baz=242,slow=23,SNR=5.5					
BRTR			LR	LR	05 57 54.6	
	comp=Z,893nm,18.0s,baz=284,slow=44					
BRTR	**Keskin Array B**	**3.91 60**	Pn	Pn	05 56 02.1	+0.3
BRTR			Sn	Sn	05 56 49.4	+1.0
BRTR	**Keskin Array B**	**3.91 60**	Pn	Pn	05 56 02.2	+0.4
BRTR			Sn	Sn	05 56 49.4	+1.0
ALN	**Alexandroupoli**	**3.91 322**	P	Pn	05 56 01.4	-0.4
ALN	**Alexandroupoli**	**3.91 322**	P	Pn	05 56 01.4	-0.4
ALN	**Alexandroupoli**	**3.91 322**	P	Pn	05 56 01.4	-0.4
LEF	**Lefka**	**4.02 132**	*e*PN	Pn	05 56 03.0	-0.3
LEF	**Lefka**	**4.02 132**	*e*Pn	Pn	05 56 03.0	-0.3
NIG	**Nigde**	**4.25 85**	*e*PN	Pn	05 56 07.4	+0.8
NIG	**Nigde**	**4.25 85**	*e*Pn	Pn	05 56 07.4	+0.9
SAFT	**Safranbolu**	**4.30 37**	*e*PN	Pn	05 56 09.1	+1.9
SAFT	**Safranbolu**	**4.30 37**	*e*Pn	Pn	05 56 09.1	+1.9
LFK	**Lefkose**	**4.31 125**	*e*PN	Pn	05 56 07.7	+0.3
LFK	**Lefkose**	**4.31 125**	*e*Pn	Pn	05 56 07.7	+0.3
MERS	**Mersin**	**4.33 102**	*e*PN	Pn	05 56 08.5	+0.9
MERS	**Mersin**	**4.33 102**	*e*Pn	Pn	05 56 08.5	+0.9
RDO	**Rodhopi**	**4.35 320**	P	Pn	05 56 07.6	-0.3
RDO	**Rodhopi**	**4.35 320**	P	Pn	05 56 07.6	-0.3
RDO	**Rodhopi**	**4.35 320**	P	Pn	05 56 07.6	-0.3
SIVA	**Sivas**	**4.56 233**	*e*PN	Pn	05 56 13.1	+2.3
SIVA	**Sivas**	**4.56 233**	P	Pn	05 56 12.1	+1.3
SIVA	**Sivas**	**4.56 233**	P	Pn	05 56 12.1	+1.3
SIVA	**Sivas**	**4.56 233**	P	Pn	05 56 12.1	+1.3
DID	**Didima**	**4.77 268**	P	Pn	05 56 13.7	0.0
DID	**Didima**	**4.77 268**	P	Pn	05 56 13.7	0.0
KDZ	**Kurdzhali**	**4.79 323**	P	Pn	05 56 13.8	-0.2
KDZ	**Kurdzhali**	**4.79 323**	P	Pn	05 56 13.8	-0.2
KAVA	**Kavala**	**4.81 312**	P	Pn	05 56 13.7	-0.5
KAVA	**Kavala**	**4.81 312**	P	Pn	05 56 13.7	-0.5
KAVA	**Kavala**	**4.81 312**	P	Pn	05 56 13.7	-0.5
RZN	**Rozhen**	**5.17 319**	P	Pn	05 56 19.2	+0.1
RZN	**Rozhen**	**5.17 319**	P	Pn	05 56 19.2	+0.1
NVR	**Nevrokopi**	**5.42 312**	P	Pn	05 56 22.4	-0.1
NVR	**Nevrokopi**	**5.42 312**	P	Pn	05 56 22.4	-0.1
NVR	**Nevrokopi**	**5.42 312**	P	Pn	05 56 22.4	-0.1
GUR	**Goura**	**5.45 273**	P	Pn	05 56 24.1	+1.1
GUR	**Goura**	**5.45 273**	P	Pn	05 56 24.1	+1.1
PLD	**Plovdiv**	**5.48 322**	P	Pn	05 56 22.8	-0.6
PLD	**Plovdiv**	**5.48 322**	P	Pn	05 56 22.8	-0.6
PLD	**Plovdiv**	**5.48 322**	P	Pn	05 56 22.8	-0.6
KALE	**Kalithea**	**5.62 278**	P	Pn	05 56 26.2	+0.9
KALE	**Kalithea**	**5.62 278**	P	Pn	05 56 26.2	+0.9
KALE	**Kalithea**	**5.62 278**	P	Pn	05 56 26.2	+0.9
MMB	**Musomiste**	**5.65 313**	*e*P	Pn	05 56 25.0	-0.7
MMB	**Musomiste**	**5.65 313**	*e*P	Pn	05 56 25.0	-0.7
LAKA	**Lakka**	**5.74 276**	P	Pn	05 56 28.4	+1.4
LAKA	**Lakka**	**5.74 276**	P	Pn	05 56 28.4	+1.4
LAKA	**Lakka**	**5.74 276**	P	Pn	05 56 28.4	+1.4
EFP	**Efpalio**	**5.81 278**	P	Pn	05 56 29.1	+1.2
EFP	**Efpalio**	**5.81 278**	P	Pn	05 56 29.1	+1.2
THL	**Klokotos Trika**	**5.90 289**	P	Pn	05 56 29.9	+0.7
THL	**Klokotos Trika**	**5.90 289**	P	Pn	05 56 29.9	+0.7
PVL	**Pavlikeni**	**6.12 332**	P	Pn	05 56 32.0	-0.2
PVL	**Pavlikeni**	**6.12 332**	P	Pn	05 56 32.0	-0.2
NEST	**Nestorio**	**6.86 294**	P	Pn	05 56 43.3	+1.0
NEST	**Nestorio**	**6.86 294**	P	Pn	05 56 43.3	+1.0
MMAI	**Mount Meron Ar**	**6.98 132**	Pn	Pn	05 56 43.7	-0.3
	14nm,0.3s,baz=317,slow=11,SNR=40					
MMAI	**Mount Meron Ar**	**6.98 132**	Pn	Pn	05 56 43.7	-0.3
MMAI	**Mount Meron Ar**	**6.98 132**	Pn	Pn	05 56 43.7	-0.3
TLCR		**7.33 358** ⇑	*i*P	Pn	05 56 48.8	+0.1
TLCR		**7.33 358** ⇑	*i*P	Pn	05 56 48.8	+0.1
CFR	**Carcaliu**	**7.36 354** ⇓	*i*P	Pn	05 56 48.5	-0.6
CFR	**Carcaliu**	**7.36 354** ⇓	*i*P	Pn	05 56 48.5	-0.6
MLR	**Muntele Rosu**	**8.01 343**	Pn	Pn	05 56 58.9	+0.8
	0.2nm,0.3s,baz=293,slow=6.9,SNR=4.1					
MLR	**Muntele Rosu**	**8.01 343**	Pn	Pn	05 56 58.9	+0.8
MLR	**Muntele Rosu**	**8.01 343** ⇓	*i*P	Pn	05 56 59.3	+1.2
MLR	**Muntele Rosu**	**8.01 343**	Pn	Pn	05 56 58.9	+0.8
MLR	**Muntele Rosu**	**8.01 343** ⇓	*i*P	Pn	05 56 59.3	+1.2
PLOR	**Plostina**	**8.21 347** ⇑	*i*P	Pn	05 57 01.8	+0.9
PLOR	**Plostina**	**8.21 347** ⇑	*i*P	Pn	05 57 01.8	+0.9
VRI	**Vrincioaia**	**8.21 348** ⇑	*i*P	Pn	05 57 01.7	+0.8
VRI	**Vrincioaia**	**8.21 348** ⇑	*i*P	Pn	05 57 01.7	+0.8
ASF	**Jabal al Asfar**	**8.46 130**	Pn	Pn	05 57 04.2	-0.2
	0.4nm,0.3s,baz=329,slow=14,SNR=3.1					
ASF			LR	LR	06 00 50.9	
	comp=Z,40nm,18.8s,baz=195,slow=41					
ASF	**Jabal al Asfar**	**8.46 130**	Pn	Pn	05 57 04.2	-0.2
DOPR	**Dopca**	**8.59 342** ⇓	*i*P	Pn	05 57 05.1	-1.0
DOPR	**Dopca**	**8.59 342** ⇓	*i*P	Pn	05 57 05.1	-1.0
BURAR	**Bucovina Array**	**10.18 344** ⇑	*i*P	Pn	05 57 27.7	-0.2
BURAR	**Bucovina Array**	**10.18 344** ⇑	*i*P	Pn	05 57 27.7	-0.2
GNI	**Garni**	**12.28 74**	LR	LR	06 02 54.3	
	comp=Z,129nm,19.0s,baz=276,slow=38					
BHD	**Baghdad**	**13.15 106**	*ex*	x	05 58 06.0	
BHD			*ex*	x	06 00 34.7	
BHD	**Baghdad**	**13.15 106**	*e*P	Pn	05 58 06.0	-2.5
BHD			*e*S	Sn	06 00 34.7	-0.8
GERES	**GERESS Array B**	**15.72 319**	Pn	Pn	05 58 45.7	+2.5
	0.1nm,0.3s,baz=129,slow=10,SNR=18					
GERES			LR	LR	06 04 20.2	
	comp=Z,105nm,21.0s,baz=122,slow=35					
GERES	**GERESS Array B**	**15.72 319**	Pn	Pn	05 58 45.7	+2.5
GERES	**GERESS Array B**	**15.72 319**	Pn	Pn	05 58 45.7	+2.5
KHC	**Kasperske Hory**	**15.96 320**	*e*P	Pn	05 58 50.0	+3.7
DAVOX	**Davos/Dischmat**	**16.83 308**	LR	LR	06 05 29.9	
	comp=Z,171nm,21.3s,baz=21,slow=37					
FINES	**FINESS Array B**	**23.69 356**	P	**P**	**06 00 12.9**	**-0.8**
	2.8nm,0.7s,mb3.9,baz=151,slow=12,SNR=8.8					
FINES			LR	LR	06 10 09.5	
	comp=Z,158nm,19.9s,MS3.5,baz=139,slow=38					
FINES	**FINESS Array B**	**23.69 356**	P	**P**	**06 00 12.9**	**-0.8**
FINES	**FINESS Array B**	**23.69 356**	P	**P**	**06 00 12.9**	**-0.8**
AKTO	**Aktyubinsk**	**24.00 49**	P	**P**	**06 00 15.7**	**-1.0**
	1.7nm,0.8s,mb3.6,baz=238,slow=6.1,SNR=6.7					
AKTO	**Aktyubinsk**	**24.00 49**	P	**P**	**06 00 15.7**	**-1.0**
AKTO	**Aktyubinsk**	**24.00 49**	P	**P**	**06 00 15.7**	**-1.0**
HFS	**Hagfors**	**24.39 341**	P	**P**	**06 00 19.4**	**-0.7**
	3.6nm,0.7s,mb4.0,baz=182,slow=7.4,SNR=7.6					
HFS	**Hagfors**	**24.39 341**	P	**P**	**06 00 19.4**	**-0.7**
HFS	**Hagfors**	**24.39 341**	P	**P**	**06 00 19.4**	**-0.7**
NB2	**NORSAR Subarra**	**25.81 340**	P	**P**	**06 00 31.9**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.5,baz=143,slow=9.3					
NB2	**NORSAR Subarra**	**25.81 340**	P	**P**	**06 00 31.9**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.5,baz=143,slow=9.2,SNR=4.5					
NOA	**NORSAR Array B**	**25.81 340**	P	**P**	**06 00 31.2**	**-1.8**
	comp=Z,1.6nm,0.7s,mb3.7,baz=146,slow=9.1,SNR=5.4					
NOA			LR	LR	06 12 29.2	
	comp=Z,120nm,18.9s,MS3.5,baz=155,slow=40					
NOA	**NORSAR Array B**	**25.81 340**	P	**P**	**06 00 31.2**	**-1.8**
NOA	**NORSAR Array B**	**25.81 340**	P	**P**	**06 00 31.2**	**-1.9**
ESDC	**Sonseca Array**	**25.87 284**	P	**P**	**06 00 34.1**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.2,baz=70,slow=10,SNR=4.3					
ESDC	**Sonseca Array**	**25.87 284**	P	**P**	**06 00 34.1**	**+0.3**
ESDC	**Sonseca Array**	**25.87 284**	P	**P**	**06 00 34.1**	**+0.3**
ARCES	**ARCESS Array B**	**31.80 358**	LR	LR	06 14 57.0	
	comp=Z,188nm,18.3s,MS3.8,baz=7.9,slow=38					
TORD	**Torodi Ar. Bea**	**34.74 232**	P	**P**	**06 01 51.6**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=35,slow=8.7,SNR=12					
TORD	**Torodi Ar. Bea**	**34.74 232**	P	**P**	**06 01 51.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**34.74 232**	P	**P**	**06 01 51.7**	**-0.8**
KURK	**Kurchatov**	**36.93 53**	P	**P**	**06 02 09.9**	**-1.1**
	comp=Z,2.0nm,0.6s,mb4.0,baz=279,slow=8.3,SNR=7.0					
KURK			PcP	PcP	06 04 30.5	-1.8
	comp=Z,0.8nm,0.9s,baz=266,slow=4.3,SNR=4.3					
KURK	**Kurchatov**	**36.93 53**	P	**P**	**06 02 09.9**	**-1.1**
KURK			PcP	PcP	06 04 30.5	-1.8
KURK	**Kurchatov**	**36.93 53**	P	**P**	**06 02 09.9**	**-1.1**
MKAR	**Makanchi Array**	**39.56 60**	P	**P**	**06 02 32.8**	**-0.3**
	comp=Z,1.2nm,0.7s,mb3.7,baz=282,slow=6.1,SNR=5.6					
MKAR			LR	LR	06 20 18.1	
	comp=Z,77nm,18.5s,MS3.6,baz=73,slow=38					
MKAR	**Makanchi Array**	**39.56 60**	P	**P**	**06 02 32.8**	**-0.3**
MKAR	**Makanchi Array**	**39.56 60**	P	**P**	**06 02 32.8**	**-0.4**
ZALV	**Zalesovo Beam**	**40.76 48**	P	**P**	**06 02 41.0**	**-2.0**
	comp=Z,2.7nm,0.3s,mb4.5,baz=299,slow=7.0,SNR=4.0					
ZALV			LR	LR	06 22 54.8	
	comp=Z,70nm,18.1s,MS3.6,baz=60,slow=41					
ZALV	**Zalesovo Beam**	**40.76 48**	P	**P**	**06 02 41.0**	**-2.0**
ZALV	**Zalesovo Beam**	**40.76 48**	P	**P**	**06 02 41.0**	**-2.0**
DBIC	**Dimbolo**	**43.81 234**	LR	LR	06 22 48.3	
	comp=Z,81nm,18.3s,MS3.7,baz=339,slow=38					
SONM	**Songino Array**	**55.24 53**	P	**P**	**06 04 35.1**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=289,slow=7.0,SNR=5.1					
SONM	**Songino Array**	**55.24 53**	P	**P**	**06 04 35.1**	**-0.1**
SONM	**Songino Array**	**55.24 53**	P	**P**	**06 04 35.1**	**-0.1**
SCHQ	**Schefferville**	**63.25 320**	P	**P**	**06 05 29.1**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.5,baz=61,slow=17,SNR=4.1					
SCHQ	**Schefferville**	**63.25 320**	P	**P**	**06 05 29.1**	**-1.4**
SCHQ	**Schefferville**	**63.25 320**	P	**P**	**06 05 29.1**	**-1.4**
KSRS	**Korea Array**	**74.04 55**	LR	LR	06 44 37.2	
	comp=Z,50nm,18.5s,MS3.8,baz=356,slow=40					
YKA	**Yellowknife Ar**	**75.84 344**	P	**P**	**06 06 46.5**	**-1.6**
	comp=Z,0.6nm,1.0s,mb3.7,baz=29,slow=5.5,SNR=4.5					
YKA	**Yellowknife Ar**	**75.84 344**	P	**P**	**06 06 46.5**	**-1.6**
YKA	**Yellowknife Ar**	**75.84 344**	P	**P**	**06 06 46.5**	**-1.6**

*CSEM **24** 06:02:03.9, 36°.80N×28°.45E, h5km, MD2.7, After ISK*
ISK 24 06:02:03.9, 36°.80N×28°.45E, h5km, MD2.7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.36**	**338**	*e*PG	Pg	06 02 12.0	+1.2
YER				*e*SG	Sg	06 02 18.4	+2.9
YER	**Yerkesik**	**0.36**	**338**	*e*Pg	Pg	06 02 12.0	+1.2
YER				*e*Sg	Sg	06 02 18.4	+2.9
DAT	**Datca**	**0.70**	**264**	*e*PG	Pg	06 02 18.8	+1.4
DAT				*e*SG	Sg	06 02 29.6	+3.1
DAT	**Datca**	**0.70**	**264**	*e*Pg	Pg	06 02 18.8	+1.4
DAT				*e*Sg	Sg	06 02 29.6	+3.1
BODT	**Bodrum**	**0.95**	**286**	*e*PG	Pg	06 02 22.9	+0.8
BODT	**Bodrum**	**0.95**	**286**	*e*Pg	Pg	06 02 22.9	+0.8
ELL	**Elmali**	**1.18**	**92**	*e*PN	Pn	06 02 27.5	+0.5
ELL	**Elmali**	**1.18**	**92**	*e*Pn	Pn	06 02 27.5	+0.5
KULA	**Kula-Manisa**	**1.72**	**6**	*e*PN	Pn	06 02 36.1	+1.7
KULA	**Kula-Manisa**	**1.72**	**6**	*e*Pn	Pn	06 02 36.2	+1.7

*ISCJB **24** 06:06:31.6±3.1, 16°.7S±0°.2×168°.3E±0°.2, h230km±30km, mb3.6/7, Error ellipse: s-maj=33.9km s-min=25.0km az=172.2*
*IDC **24** 06:06:31.2±3.9, 16°.66S×168°.40E, h215km±37km, mb3.3/7, mb1 3.5/8, mb1mx3.4/19, mbtmp3.3/8, Error ellipse: s-maj=34.4km s-min=21.6km az=168.0*
ISC 24 06:06:31.7±3.0, 16°.7S±0°.2×168°.4E±0°.2, h218km±29km, n26, σ0°73/9, mb3.6/7, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.68**	**199**	P	**Pn**	**06 07 55.1**	**-0.1**
	1.2nm,0.3s,baz=47,slow=22,SNR=30						
DZM				S	**S**	**06 09 01.6**	**+0.1**
	2.4nm,0.3s,baz=137,slow=22,SNR=7.5						
URZ	**Urewera**	**22.83**	**162**	P	**P**	**06 11 15.9**	**0.0**
	24nm,1.1s,mb4

TOO	Toolangi	35.60	152	*e*P	P		06 20 25.0	+2.0
KSAR	Wonju Array Be	44.18	3	P	P		06 21 31.2	-0.6
KSRS	Korea Array	44.19	3	P	P		06 21 31.2	-0.7
	0.7nm,0.4s,mb3.5,baz=180,slow=8.8,SNR=4.7							
MJAR	Matsushiro Arr	44.87	15	P	P		06 21 35.4	-1.8
	3.3nm,0.7s,mb4.0,baz=199,slow=9.4,SNR=7.0							
MJAR	Matsushiro Arr	44.87	15	P	P		06 21 35.4	-1.8
LSA	Lhasa	49.03	320	*e*P	P		06 22 09.5	+0.9
	11nm,0.6s,mb4.6							
ODAN	Odare	49.78	314	⇓*i*P	P		06 22 14.2	0.0
	11nm,0.4s,mb4.7							
ODAN	Odare	49.78	314	⇓*i*P	P		06 22 14.2	0.0
	11nm,0.4s,mb4.7							
TAPN	Taplejung	49.85	315	*e*P	P		06 22 14.8	+0.1
	22nm,0.4s,mb5.0							
TAPN	Taplejung	49.85	315	*e*P	P		06 22 14.8	+0.1
	22nm,0.4s,mb4.9							
RAMN	Ramite	50.40	314	⇓*i*P	P		06 22 19.3	+0.5
	42nm,0.5s,mb5.1							
RAMN	Ramite	50.40	314	⇓*i*P	P		06 22 19.3	+0.5
	42nm,0.5s,mb5.1							
JIRN	Jiri	51.11	314	⇓*i*P	P		06 22 24.1	+0.2
	11nm,0.5s,mb4.4							
JIRN	Jiri	51.11	314	⇓*i*P	P		06 22 24.1	+0.2
	11nm,0.5s,mb4.4							
USRK	Ussuriysk Arra	51.22	6	P	P		06 22 24.1	-0.2
	3.5nm,0.6s,mb3.9,baz=195,slow=6.9,SNR=11							
GUN	Gumba	51.48	314	⇓*i*P	P		06 22 26.8	+0.2
	26nm,0.5s,mb4.8							
GUN	Gumba	51.48	314	⇓*i*P	P		06 22 26.8	+0.2
	26nm,0.5s,mb4.8							
PKI	Pulchoki	51.62	313	⇓*i*P	P		06 22 27.5	-0.1
	18nm,0.4s,mb4.7							
PKI	Pulchoki	51.62	313	⇓*i*P	P		06 22 27.5	-0.1
	18nm,0.4s,mb4.8							
KKN	Kakani	51.84	314	⇓*i*P	P		06 22 29.2	0.0
	12nm,0.5s,mb4.5							
KKN	Kakani	51.84	314	⇓*i*P	P		06 22 29.2	0.0
	12nm,0.5s,mb4.5							
DMN	Daman	51.86	313	⇓*i*P	P		06 22 29.3	-0.1
	14nm,0.5s,mb4.5							
DMN	Daman	51.86	313	⇓*i*P	P		06 22 29.3	-0.1
	14nm,0.5s,mb4.5							
GKN	Gorkha	52.43	313	⇓*i*P	P		06 22 33.3	-0.1
	26nm,0.4s,mb5.0							
GKN	Gorkha	52.43	313	⇓*i*P	P		06 22 33.3	-0.1
	26nm,0.4s,mb4.9							
KOLN	Koldanda	53.05	312	⇓*i*P	P		06 22 38.0	+0.1
	19nm,0.5s,mb4.7							
KOLN	Koldanda	53.05	312	⇓*i*P	P		06 22 38.0	+0.1
	19nm,0.5s,mb4.7							
DANN	Dangsing	53.26	313	⇓*i*P	P		06 22 39.3	-0.1
	14nm,0.6s,mb4.5							
DANN	Dangsing	53.26	313	⇓*i*P	P		06 22 39.3	-0.1
	14nm,0.6s,mb4.5							
RPZ	Rata Peaks	54.20	140	P	P		06 22 46.4	+0.6
	7.4nm,0.5s,mb4.3,baz=334,slow=5.6,SNR=8.2							
RPZ	Rata Peaks	54.20	140	P	P		06 22 46.4	+0.7
SONM	Songino Array	57.01	345	P	P		06 23 05.3	+0.2
	2.1nm,0.7s,mb3.5,baz=160,slow=7.9,SNR=14							
SONM	Songino Array	57.01	345	P	P		06 23 05.3	+0.2
MKAR	Makanchi Array	65.69	329	P	P		06 24 01.8	-0.2
	3.0nm,0.6s,mb4.0,baz=123,slow=6.9,SNR=48							
MKAR	Makanchi Array	65.69	329	P	P		06 24 01.8	-0.1
PETK	Petropavlovsk-	65.77	21	P	P		06 24 02.7	+0.4
	2.3nm,0.5s,mb4.0,baz=190,slow=4.2,SNR=6.4							
PETK	Petropavlovsk-	65.77	21	P	P		06 24 02.7	+0.4
ZAA0	Zalesovo Array	69.52	336	*e*P	P		06 24 24.0	-1.3
ZALV	Zalesovo Beam	69.52	336	P	P		06 24 24.2	-1.1
	4.8nm,0.5s,mb4.3,baz=140,slow=5.8,SNR=16							
ZALV	Zalesovo Beam	69.52	336	P	P		06 24 24.2	-1.1
AKTO	Aktyubinsk	81.20	323	P	P		06 25 30.2	-0.1
	1.4nm,0.4s,mb3.7,baz=111,slow=6.7,SNR=7.6							
AKTO	Aktyubinsk	81.20	323	P	P		06 25 30.2	-0.1
TORD	Torodi Ar. Bea	124.25	281	PKP	PKPdf		06 32 09.0	-0.5
	0.5nm,0.7s,baz=59,slow=2.6,SNR=3.6							
TORD	Torodi Ar. Bea	124.25	281	PKP	PKPdf		06 32 09.0	-0.5
TXAR	Lajitas Array	128.82	58	SKPbc			06 34 49.2	
	0.3nm,0.7s,baz=224,slow=3.5,SNR=3.5							
DBIC	Dimbokro	130.56	273	SKPbc	SKPbc		06 34 56.0	+0.3
	1.9nm,0.8s,baz=78,slow=2.7,SNR=4.8							

*ISCJB **24** 06:15:22.6±0.5, 37°.89N±0°.02×29°.21E±0°.03, h2km±4km, mb3.4/5, Error ellipse: s-maj=4.3km s-min=3.8km az=174.0*
*NEIC **24** 06:15:22.0, 37°.82N×29°.21E, h4km, ML3.7(ISK), After ISK,*
*DDA **24** 06:15:22.7, 37°.90N×29°.23E, h1km, Ml3.8*
*IDC **24** 06:15:23.7±1.2, 37°.88N×29°.36E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/27, mbtmp3.6/8, ML3.2/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/41, Error ellipse: s-maj=27.1km s-min=19.0km az=166.0*
*CSEM **24** 06:15:24.4±0.2, 37°.94N×29°.22E, h5km, ML3.7, Error ellipse: s-maj=5.9km s-min=5.3km az=94.0*

ISC 24 06:15:23.7±0.5, **37°.90N**±0°.02×**29°.20E**±0°.03, **h3**km±4km, **n60**, σ1⁹**13**/71, **mb3.4/5**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHAL	**Karahalli**	**0.52**	**26**	*i* P	**Pg**	06 15 33.6	-0.2
KHAL				*i* S	**Sg**	06 15 40.9	+0.3
KHAL	**Karahalli**	**0.52**	**26**	*i* P	**Pg**	06 15 33.6	-0.1
KHAL				*i* S	**Sg**	06 15 40.9	+0.4
GOLH	**Golhisar**	**0.72**	**157**	*i* P	**Pg**	06 15 35.0	-2.5
GOLH				*i* S	**Sg**	06 15 47.8	+1.0
GOLH	**Golhisar**	**0.72**	**157**	*i* P	**Pg**	06 15 35.0	-2.5
GOLH				*i* S	**Sg**	06 15 47.8	+1.0
MANT	**Manisa**	**0.78**	**320**	*i* P	**Pg**	06 15 38.7	+0.1
MANT				*i* S	**Sg**	06 15 49.8	+1.1
MANT	**Manisa**	**0.78**	**320**	*i* P	**Pg**	06 15 38.7	+0.1
MANT				*i* S	**Sg**	06 15 49.8	+1.1
TURN	**Turunc**	**1.13**	**205**	*i* P	**Pg**	06 15 47.6	+2.3
TURN	**Turunc**	**1.13**	**205**	*i* P	**Pg**	06 15 47.7	+2.4
GDZ	**Gediz**	**1.21**	**10**	*i* P	**Pg**	06 15 45.8	-1.0
GDZ	**Gediz**	**1.21**	**10**	*i* P	**Pg**	06 15 45.8	-1.0
AKHS	**Akhisar**	**1.47**	**312**	*i* P	**Pn**	06 15 50.9	0.0
AKHS	**Akhisar**	**1.47**	**312**	*i* P	**Pn**	06 15 50.9	-0.1
GCAM	**G?zelcaml?**	**1.57**	**263**	*i* P	**Pg**	06 15 53.6	-0.2
GCAM	**G?zelcaml?**	**1.57**	**263**	*i* P	**Pg**	06 15 53.6	-0.2
BOLV	**Bolvadin**	**1.60**	**59**	*i* P	**Pg**	06 15 53.1	-1.2
BOLV	**Bolvadin**	**1.60**	**59**	*i* P	**Pg**	06 15 53.1	-1.3
AKAS	**Kas**	**1.69**	**169**	*i* P	**Pg**	06 15 55.4	-0.7
AKAS	**Kas**	**1.69**	**169**	*i* P	**Pg**	06 15 55.4	-0.7
KSL	**Kastellorizon**	**1.77**	**170**	*e*PN	**Pb**	06 15 56.0	-0.8
DURS	**Dursunbey**	**1.79**	**342**	*i* P	**Pg**	06 15 58.9	+0.9
DURS	**Dursunbey**	**1.79**	**342**	*i* P	**Pg**	06 15 58.9	+0.9
SMG	**Samos**	**1.88**	**265**	*e*PN	**Pn**	06 15 56.2	-0.5
ARG	**Arkhangelos**	**1.89**	**207**	*e*PN	**Pb**	06 15 58.1	-0.6
URLA	**Izmir**	**2.11**	**283**	*i* P	**Pg**	06 16 04.0	0.0
URLA				*i* S	**Sg**	06 16 30.7	-0.7
URLA	**Izmir**	**2.11**	**283**	*i* P	**Pg**	06 16 04.0	0.0
URLA				*i* S	**Sg**	06 16 30.7	-0.6
BORA	**Eskisehir**	**2.21**	**26**	*i* P	**Pb**	06 16 02.3	-1.9
BORA				*i* S	**Sg**	06 16 35.0	+0.4
BORA	**Eskisehir**	**2.21**	**26**	*i* P	**Pn**	06 16 02.3	+1.1
BALY	**Balya**	**2.22**	**327**	*i* P	**Pb**	06 16 03.1	-1.3
BALY				*i* S	**Sg**	06 16 38.7	+3.8
BALY	**Balya**	**2.22**	**327**	*i* P	**Pn**	06 16 03.1	+1.8
KDHN	**Kadinhani**	**2.38**	**74**	*i* P	**Pn**	06 16 05.1	+1.5
KDHN	**Kadinhani**	**2.38**	**74**	*i* P	**Pn**	06 16 05.1	+1.6
AYVA	**Ayvalik**	**2.42**	**306**	*i* P	**Pg**	06 16 11.0	+1.0
AYVA				*i* S	**Sn**	06 16 32.8	-1.4
PRK	**Paraskevi**	**2.66**	**301**	*e*PN	**Pn**	06 16 05.6	-1.8
KARP	**Karpathos**	**2.86**	**216**	*e*PN	**Pn**	06 16 11.0	+0.8
APE	**Apeiranthos**	**3.04**	**255**	*e*PN	**Pn**	06 16 12.5	-0.1
ZKR	**Zakros**	**3.67**	**222**	*e*PN	**Pn**	06 16 23.0	+1.7
BRTR	**Keskin Array B**	**3.92**	**61**	Pn	**Pn**	06 16 25.6	+0.9
	1.1nm,0.3s,baz=242,slow=14,SNR=40						
BRTR				Sn	**Sn**	06 17 12.2	+1.0
	1.4nm,0.3s,baz=129,slow=15,SNR=6.7						
BRTR	**Keskin Array B**	**3.92**	**61**	Pn	**Pn**	06 16 25.6	+0.9
BRTR				Sn	**Sn**	06 17 12.2	+1.0
BRTR	**Keskin Array B**	**3.92**	**61**	Pn	**Pn**	06 16 25.5	+0.8
BRTR				Sn	**Sn**	06 17 12.1	+1.0
MMAI	**Mount Meron Ar**	**7.02**	**132**	Pn	**Pn**	06 17 07.0	-0.4
	8.7nm,0.3s,baz=318,slow=11,SNR=33						
MMAI	**Mount Meron Ar**	**7.02**	**132**	Pn	**Pn**	06 17 07.0	-0.4
MMAI	**Mount Meron Ar**	**7.02**	**132**	Pn	**Pn**	06 17 07.0	-0.4
ASF	**Jabal al Asfar**	**8.51**	**130**	LR	LR	06 20 33.5	
	comp=Z,40nm,18.4s,baz=235,slow=37						
GNI	**Garni**	**12.29**	**75**	LR	LR	06 23 46.0	
	comp=Z,135nm,18.3s,baz=275,slow=41						

BHD	**Baghdad**	**13.19**	**106**	*ex*	x		06 18 39.0	
BHD				*ex*	x		06 21 20.0	
GERES	**GERESS Array B**	**15.68**	**319**	Pn	**Pn**		**06 19 09.5**	**+4.2**
	0.0nm,0.3s,baz=123,slow=16,SNR=5.4							
GERES	**GERESS Array B**	**15.68**	**319**	Pn	**Pn**		**06 19 09.5**	**+4.2**
FINES	**FINESS Array B**	**23.65**	**356**	P	**P**		**06 20 34.6**	**-1.5**
	3.6nm,1.0s,mb3.8,baz=210,slow=8.0,SNR=4.2							
FINES	**FINESS Array B**	**23.65**	**356**	P	**P**		**06 20 34.6**	**-1.5**
AKTO	**Aktyubinsk**	**24.00**	**49**	P	**P**		**06 20 38.2**	**-1.2**
	1.0nm,0.8s,mb3.3,baz=227,slow=12,SNR=4.0							
AKTO	**Aktyubinsk**	**24.00**	**49**	P	**P**		**06 20 38.2**	**-1.2**
AKTO	**Aktyubinsk**	**24.00**	**49**	P	**P**		**06 20 38.2**	**-1.2**
ESDC	**Sonseca Array**	**25.83**	**284**	P	**P**		**06 20 59.4**	**+3.2**
	0.1nm,0.2s,mb2.9,baz=78,slow=12,SNR=4.1							
ESDC	**Sonseca Array**	**25.83**	**284**	P	**P**		**06 20 59.4**	**+3.2**
TORD	**Torodi Ar. Bea**	**34.74**	**232**	P	**P**		**06 22 15.4**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=36,slow=8.7,SNR=4.7							
TORD	**Torodi Ar. Bea**	**34.74**	**232**	P	**P**		**06 22 15.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**34.74**	**232**	P	**P**		**06 22 15.4**	**+0.3**
MKAR	**Makanchi Array**	**39.57**	**60**	P	**P**		**06 22 55.7**	**-0.2**
	0.7nm,0.8s,mb3.5,baz=282,slow=6.1,SNR=5.4							
MKAR	**Makanchi Array**	**39.57**	**60**	P	**P**		**06 22 55.7**	**-0.2**
MKAR	**Makanchi Array**	**39.57**	**60**	P	**P**		**06 22 55.7**	**-0.2**

*CSEM **24** 06:20:02.3, 38°.07N×28°.72E, h14km, MD3.0, After ISK*

ISK 24 06:20:02.3, 38°.07N×28°.72E, h14km**, MD3.0, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.44**	**354**	*e*Pg	Pg	06 20 11.9	+0.7
KULA				*e*Sg	Sg	06 20 18.2	+1.1
KULA	**Kula-Manisa**	**0.44**	**354**	*e*PG	Pg	06 20 11.9	+0.7
KULA				*e*SG	Sg	06 20 18.2	+1.1
YER	**Yerkesik**	**1.00**	**200**	*e*PG	Pg	06 20 21.8	+0.3
YER	**Yerkesik**	**1.00**	**200**	*e*Pg	Pg	06 20 21.8	+0.2
GLHS	**Glhisar (BURDU**	**1.10**	**146**	*e*PN	Pn	06 20 23.9	+0.6
GLHS	**Glhisar (BURDU**	**1.10**	**146**	*e*Pn	Pn	06 20 24.0	+0.7
SHUT	**Suhut-Afyon**	**1.52**	**71**	*e*PN	Pn	06 20 29.7	+0.7
SHUT	**Suhut-Afyon**	**1.52**	**71**	*e*Pn	Pn	06 20 29.7	+0.7
ELL	**Elmali**	**1.62**	**144**	*e*PN	Pn	06 20 31.2	+0.7
ELL	**Elmali**	**1.62**	**144**	*e*Pn	Pn	06 20 31.2	+0.7
SUTC	**Sutluce-Ispart**	**1.90**	**108**	*e*PN	Pn	06 20 35.3	+1.0
SUTC	**Sutluce-Ispart**	**1.90**	**108**	*e*Pn	Pn	06 20 35.3	+1.0

KRSC 24 06:26:26.4±1.6, **54°.31N**×**154°.58E, h551**km±111km, **ML4.3, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVH	**Avacha**	**2.68**	**111**	*e*P	P	06 27 40.3	+0.8
SDLR	**Sedlovina**	**2.75**	**110**	P	P	06 27 42.1	+2.2
ASAK	**Asacha**	**2.77**	**133**	*e*P	P	06 27 42.3	+2.2
MTNR	**Mutnovka**	**2.83**	**129**	P	P	06 27 42.3	+1.9
RUS	**Russkaya**	**3.01**	**127**	P	P	06 27 42.7	+1.2
RUS				*i* S	S	06 28 39.5	-3.3
MKZ	**Mys Kozlova**	**4.18**	**84**	P	P	06 27 51.3	+1.8
MKZ				*i* S	S	06 28 51.9	-5.7
KBTR	**Krutoberegovo**	**5.08**	**65**	P	P	06 27 59.9	+3.2
KBTR				*i* S	S	06 29 06.7	-4.1

*DDA **24** 06:32:44.9, 37°.90N×29°.24E, h7km±3km, Md2.7*
*ISCJB **24** 06:32:45.3±0.6, 37°.89N±0°.03×29°.19E±0°.06, h6km±8km, Error ellipse: s-maj=8.6km s-min=4.7km az=160.3*
*ISK **24** 06:32:45.8, 37°.90N×29°.10E, h18km, MD2.7*
*CSEM **24** 06:32:45.9±0.2, 37°.89N×29°.13E, h15km, MD2.7, Error ellipse: s-maj=4.2km s-min=3.4km az=76.0*

ISC 24 06:32:45.8±0.6, **37°.89N**±0°.03×**29°.19E**±0°.07, **h9**km±8km, **n22**, σ0⁹**91**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**223**	*e*PG	**Pg**	**06 32 50.5**	**+0.9**
DENT	**Denizli**	**0.18**	**223**	*e*Pg	**Pg**	**06 32 50.5**	**+0.9**
KHAL	**Karahalli**	**0.54**	**26**	*i* P	**Pg**	**06 32 52.8**	**-3.5**
KHAL				*i* S	**Sg**	**06 33 03.6**	**+0.2**
KHAL	**Karahalli**	**0.54**	**26**	*i* P	**Pg**	**06 32 52.8**	**-3.5**
KHAL				*i* S	**Sg**	**06 33 03.6**	**+0.2**
GOLH	**Golhisar**	**0.71**	**155**	*i* P	**Pg**	**06 32 56.9**	**-2.6**
GOLH				*i* S	**Sg**	**06 33 09.6**	**+0.7**
GOLH	**Golhisar**	**0.71**	**155**	*i* P	**Pg**	**06 32 56.9**	**-2.6**
GOLH				*i* S	**Sg**	**06 33 09.6**	**+0.8**
KULA	**Kula-Manisa**	**0.75**	**327**	*e*PG	**Pg**	**06 33 00.4**	**0.0**
KULA				*e*SG	**Sg**	**06 33 10.3**	**+0.1**
KULA	**Kula-Manisa**	**0.75**	**327**	*e*Pg	**Pg**	**06 33 00.4**	**+0.1**
KULA				*e*Sg	**Sg**	**06 33 10.3**	**+0.2**
MANT	**Manisa**	**0.78**	**321**	*i* P	**Pg**	**06 33 00.4**	**-0.5**
MANT				*i* S	**Sg**	**06 33 12.2**	**+1.1**
MANT	**Manisa**	**0.78**	**321**	*i* P	**Pg**	**06 33 00.4**	**-0.5**
MANT				*i* S	**Sg**	**06 33 12.2**	**+1.1**
YER	**Yerkesik**	**1.04**	**224**	*e*PG	**Pg**	**06 33 05.0**	**-0.7**
YER	**Yerkesik**	**1.04**	**224**	*e*Pg	**Pg**	**06 33 05.1**	**-0.7**
BCK	**Bucak**	**1.19**	**110**	*e*PN	**Pn**	**06 33 09.2**	**+0.7**
BCK	**Bucak**	**1.19**	**110**	*e*Pn	**Pn**	**06 33 09.2**	**+0.6**
GDZ	**Gediz**	**1.22**	**11**	*i* P	**Pn**	**06 33 07.9**	**-1.1**
GDZ				*i* S	**Sb**	**06 33 24.1**	**-0.8**
GDZ	**Gediz**	**1.22**	**11**	*i* P	**Pn**	**06 33 07.9**	**-1.1**
GDZ				*i* S	**Sb**	**06 33 24.1**	**-0.8**
SHUT	**Suhut-Afyon**	**1.26**	**58**	*e*PN	**Pn**	**06 33 09.7**	**+0.1**
SHUT				*e*SN	**Sn**	**06 33 27.5**	**+0.9**
SHUT	**Suhut-Afyon**	**1.26**	**58**	*e*Pn	**Pn**	**06 33 09.7**	**+0.1**
SHUT				*e*Sn	**Sn**	**06 33 27.5**	**+0.8**
ALT	**Altintas**	**1.37**	**31**	*e*PN	**Pn**	**06 33 11.5**	**+0.4**
ALT	**Altintas**	**1.37**	**31**	*e*Pn	**Pn**	**06 33 11.5**	**+0.4**
SUTC	**Sutluce-Ispart**	**1.49**	**105**	*e*PN	**Pn**	**06 33 12.9**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.49**	**105**	*e*Pn	**Pn**	**06 33 12.9**	**+0.1**

*ISK **24** 06:35:43.7, 37°.86N×29°.24E, h5km, MD2.8*
*ISCJB **24** 06:35:44.0±0.5, 37°.86N±0°.02×29°.26E±0°.04, h4km±7km, Error ellipse: s-maj=5.8km s-min=3.8km az=164.3*
*DDA **24** 06:35:44.2, 37°.89N×29°.25E, h6km±3km, Md2.8*
*CSEM **24** 06:35:44.3±0.2, 37°.84N×29°.22E, h15km, MD2.8, Error ellipse: s-maj=5.4km s-min=3.5km az=76.0*

ISC 24 06:35:44.6±0.4, **37°.86N**±0°.02×**29°.26E**±0°.05, **h11**km±6km, **n24**, σ0⁹**74**/39, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**240**	*e*PG	**Pg**	**06 35 48.2**	**-0.7**
DENT				*e*SG	**Sg**	06 35 51.6	-0.2
DENT	**Denizli**	**0.20**	**240**	*e*Pg	**Pg**	**06 35 48.2**	**-0.7**
DENT				*e*Sg	**Sg**	06 35 51.6	-0.2
KHAL	**Karahalli**	**0.55**	**20**	*i* P	**Pg**	**06 35 55.3**	**+0.1**
KHAL				*i* S	**Sg**	06 36 02.6	+0.2
GOLH	**Golhisar**	**0.66**	**158**	*i* P	**Pg**	**06 35 57.0**	**-0.4**
GOLH				*i* S	**Sg**	06 36 07.8	+1.7
GLHS	**Glhisar (BURDU**	**0.72**	**164**	*e*PG	**Pg**	**06 35 58.8**	**+0.2**
GLHS				*e*SG	**Sg**	06 36 08.6	+0.6
GLHS	**Glhisar (BURDU**	**0.72**	**164**	*e*Pg	**Pg**	**06 35 58.8**	**+0.2**
GLHS				*e*Sg	**Sg**	06 36 08.6	+0.6
KULA	**Kula-Manisa**	**0.81**	**325**	*e*PG	**Pg**	**06 35 59.8**	**-0.4**
KULA				*e*SG	**Sg**	**06 36 11.0**	**+0.3**
KULA	**Kula-Manisa**	**0.81**	**325**	*e*Pg	**Pg**	**06 35 59.8**	**-0.4**
KULA				*e*Sg	**Sg**	**06 36 11.0**	**+0.3**
MANT	**Manisa**	**0.84**	**319**	*i* P	**Pg**	**06 36 00.8**	**+0.1**
MANT				*i* S	**Sg**	**06 36 12.5**	**+0.7**
MANT	**Manisa**	**0.84**	**319**	*i* P	**Pg**	**06 36 00.8**	**0.0**
MANT				*i* S	**Sg**	**06 36 12.5**	**+0.8**
YER	**Yerkesik**	**1.06**	**227**	*e*PG	**Pg**	**06 36 03.8**	**-1.1**
YER				*e*SG	**Sg**	**06 36 18.7**	**+0.1**
YER	**Yerkesik**	**1.06**	**227**	*e*Pg	**Pg**	**06 36 03.8**	**-1.1**
BCK	**Bucak**	**1.13**	**110**	*e*PN	**Pg**	**06 36 05.0**	**-1.3**
BCK	**Bucak**	**1.13**	**110**	*e*Pn	**Pg**	**06 36 05.0**	**-1.3**
ELL	**Elmali**	**1.22**	**155**	*e*PN	**Pn**	**06 36 07.6**	**0.0**
ELL	**Elmali**	**1.22**	**155**	*e*Pn	**Pn**	**06 36 07.6**	**0.0**
SHUT	**Suhut-Afyon**	**1.24**	**55**	*e*PN	**Pn**	**06 36 07.9**	**+0.1**
SHUT	**Suhut-Afyon**	**1.24**	**55**	*e*Pn	**Pn**	**06 36 07.9**	**+0.1**
GDZ	**Gediz**	**1.24**	**8**	*i* P	**Pn**	**06 36 06.3**	**-1.6**
GDZ				*i* S	**Sb**	**06 36 23.5**	**-0.6**
GDZ	**Gediz**	**1.24**	**8**	*i* P	**Pn**	**06 36 06.3**	**-1.6**
GDZ				*i* S	**Sb**	**06 36 23.5**	**-0.6**
DEMI	**Demirci**	**1.26**	**341**	*i* P	**Pn**	**06 36 08.2**	**+0.1**
DEMI				*i* S	**Sb**	**06 36 25.7**	**+1.2**
DEMI	**Demirci**	**1.26**	**341**	*i* P	**Pn**	**06 36 08.2**	**+0.1**
DEMI				*i* S	**Sb**	**06 36 25.7**	**+1.2**
ALT	**Altintas**	**1.37**	**29**	*e*PN	**Pn**	**06 36 10.4**	**+0.8**
ALT	**Altintas**	**1.37**	**29**	*e*Pn	**Pn**	**06 36 10.4**	**+0.7**

*IDC **24** 06:40:33.7±5.4, 6°.34S×146°.41E, h79km±51km, mb3.3/4, mb1 3.5/6, mb1mx3.3/17, mbtmp3.3/6, ML3.3/2, Error ellipse: s-maj=56.6km s-min=28.2km az=135.0*
*NEIC **24** 06:40:33.7±3.1, 6°.26S×146°.33E, h80km±27km, mb3.8/1, Error ellipse: s-maj=34.3km s-min=20.1km az=146.0*

ISC 24 06:40:34.5±3.6, **6°.3S**±0°.2×**146°.3E**±0°.2, **h85**km±32km, **n19**, σ0⁹**97**/19, **mb3.5/3**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**164**	P	**Pn**	**06 41 21.2**	**-2.1**
	20nm,0.3s,baz=338,slow=5.0,SNR=45						
PMG				S	**Sn**	**06 41 53.8**	**-7.1**
	9.4nm,0.3s,baz=348,slow=10,SNR=5.8						
PMG	**Port Moresby**	**3.25**	**164**	*e*Pn	**Pn**	06 41 20.9	-2.4
PMG				P		06 41 21.2	
PMG				S	**Sn**	**06 41 53.8**	**-7.1**
COEN	**Coen**	**8.22**	**201**	*e*Pn	**Pn**	**06 42 31.6**	**+0.7**
	61nm,0.7s						
CTA	**Charters Tower**	**13.74**	**180**	P	**Pn**	**06 43 47.3**	**+1.7**
	1.5nm,0.3s,baz=357,slow=13,SNR=15						
CTA	**Charters Tower**	**13.74**	**180**	P	**Pn**	**06 43 47.3**	**+1.7**
CTAO	**Charters Tower**	**13.74**	**180**	*e*Pn	**Pn**	**06 43 44.9**	**-0.7**
WRAB	**Tennant Creek**	**17.84**	**219**	P	**Pn**	**06 44 36.6**	**-0.5**
	10nm,1.8s						
WRA	**Warramunga Arr**	**17.85**	**219**	P	**Pn**	**06 44 36.4**	**-0.9**
	0.2nm,0.3s,baz=44,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**17.85**	**219**	P	**Pn**	**06 44 36.4**	**-0.9**
ASAR	**Alice Springs**	**20.98**	**213**	P	**P**	**06 45 11.3**	**+0.4**
	0.4nm,0.3s,baz=54,slow=8.9,SNR=13						
ASAR	**Alice Springs**	**20.98**	**213**	P	**P**	**06 45 11.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.29**	**238**	P	**P**	**06 45 35.5**	**+0.5**
	1.8nm,0.7s,mb3.5,baz=63,slow=6.8,SNR=5.5						
FITZ	**Fitzroy Crossi**	**23.29**	**238**	P	**P**	**06 45 35.5**	**+0.5**
STKA	**Stephens Creek**	**25.85**	**189**	P	**P**	**06 45 57.5**	**-0.5**
	0.6nm,0.3s,mb3.5,baz=5.7,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**25.85**	**189**	P	**P**	**06 45 57.5**	**-0.5**
ILAR	**Eielson Array**	**86.02**	**23**	P	**P**	**06 53 05.2**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=251,slow=5.3,SNR=8.4						
ILAR	**Eielson Array**	**86.02**	**23**	P	**P**	**06 53 05.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**144.43**	**284**	PKP	PKPdf	07 00 02.2	+0.3
	1.0nm,0.6s,baz=71,slow=3.2,SNR=6.3						
TORD	**Torodi Ar. Bea**	**144.43**	**284**	PKP	PKPdf	07 00 02.2	+0.3

**NNC

ELL	**Elmali**	**1.26**	**153**	*e*PN	**Pn**	**07 04 30.7**	**-0.5**
ELL	**Elmali**	**1.26**	**153**	*e*Pn	**Pn**	**07 04 30.7**	**-0.5**
SHUT	**Suhut-Afyon**	**1.27**	**57**	*e*PN	**Pn**	**07 04 31.2**	**-0.1**
SHUT	**Suhut-Afyon**	**1.27**	**57**	*e*Pn	**Pn**	**07 04 31.2**	**-0.1**
ALT	**Altintas**	**1.39**	**31**	*e*PN	**Pn**	**07 04 32.9**	**+0.1**
ALT	**Altintas**	**1.39**	**31**	*e*Pn	**Pn**	**07 04 32.9**	**0.0**
SUTC	**Sutluce-Ispart**	**1.49**	**105**	*e*PN	**Pn**	**07 04 34.5**	**+0.2**
SUTC	**Sutluce-Ispart**	**1.49**	**105**	*e*Pn	**Pn**	**07 04 34.5**	**+0.2**
ANTB	**Antalya**	**1.52**	**129**	*e*PN	**Pn**	**07 04 34.7**	**0.0**
ANTB	**Antalya**	**1.52**	**129**	*e*Pn	**Pn**	**07 04 34.7**	**0.0**
GCAM	**G?zelcaml?**	**1.56**	**264**	*i* P	**Pn**	**07 04 33.6**	**-1.6**
GCAM	**G?zelcaml?**	**1.56**	**264**	*i* P	**Pn**	**07 04 33.6**	**-1.6**
IZM	**Izmir**	**1.60**	**290**	*e*PN	**Pn**	**07 04 35.7**	**-0.2**
IZM	**Izmir**	**1.60**	**290**	*e*Pn	**Pn**	**07 04 35.7**	**-0.2**
BOLV	**Bolvadin**	**1.62**	**58**	*i* P	**Pn**	**07 04 36.2**	**+0.1**
BOLV	**Bolvadin**	**1.62**	**58**	*i* P	**Pn**	**07 04 36.2**	**+0.1**
BODT	**Bodrum**	**1.70**	**242**	*e*PN	**Pn**	**07 04 37.3**	**+0.1**
BODT	**Bodrum**	**1.70**	**242**	*e*Pn	**Pn**	**07 04 37.3**	**+0.1**
DAT	**Datca**	**1.72**	**229**	*e*PN	**Pn**	**07 04 37.5**	**0.0**
DAT	**Datca**	**1.72**	**229**	*e*Pn	**Pn**	**07 04 37.5**	**+0.1**
KSL	**Kastellorizon**	**1.75**	**169**	*e*P	**Pn**	**07 04 39.9**	**+2.0**
BLCB	**Balcova**	**1.77**	**287**	*e*PN	**Pn**	**07 04 38.9**	**+0.8**
BLCB	**Balcova**	**1.77**	**287**	*e*Pn	**Pn**	**07 04 38.9**	**+0.8**
DURS	**Dursunbey**	**1.81**	**342**	*i* P	**Pn**	**07 04 37.5**	**-1.3**
DURS	**Dursunbey**	**1.81**	**342**	*i* P	**Pn**	**07 04 37.5**	**-1.2**
ARG	**Arkhangelos**	**1.86**	**207**	*e*P	**Pn**	**07 04 38.9**	**-0.5**
ARG	**Arkhangelos**	**1.86**	**207**	*e*P	**Pn**	**07 04 38.9**	**-0.5**
SMG	**Samos**	**1.87**	**266**	*e*PN	**Pn**	**07 04 38.7**	**-0.8**
SMG	**Samos**	**1.87**	**266**	*e*P	**Pn**	**07 04 38.7**	**-0.8**
ESKT	**Eskisehir**	**2.10**	**38**	*e*PN	**Pn**	**07 04 43.8**	**+1.1**
ESKT	**Eskisehir**	**2.10**	**38**	*e*Pn	**Pn**	**07 04 43.8**	**+1.1**
CAVI	**Cavuskoy**	**2.38**	**12**	*e*PN	**Pn**	**07 04 47.6**	**+1.0**
CAVI	**Cavuskoy**	**2.38**	**12**	*e*Pn	**Pn**	**07 04 47.6**	**+1.0**
GONE	**Gonen-Balikesi**	**2.46**	**332**	*e*PN	**Pn**	**07 04 47.6**	**-0.2**
GONE	**Gonen-Balikesi**	**2.46**	**332**	*e*Pn	**Pn**	**07 04 47.6**	**-0.1**
KCTX	**Karacabey (Bur**	**2.47**	**345**	*e*PN	**Pn**	**07 04 49.1**	**+1.3**
KCTX	**Karacabey (Bur**	**2.47**	**345**	*e*Pn	**Pn**	**07 04 49.1**	**+1.3**
LADK	**Ladik-KONYA**	**2.53**	**82**	*e*PN	**Pn**	**07 04 49.3**	**+0.7**
LADK	**Ladik-KONYA**	**2.53**	**82**	*e*Pn	**Pn**	**07 04 49.3**	**+0.7**
ADVT	**Abdulvahap**	**2.59**	**9**	*e*PN	**Pn**	**07 04 50.7**	**+1.3**
ADVT	**Abdulvahap**	**2.59**	**9**	*e*Pn	**Pn**	**07 04 50.7**	**+1.2**
GULT	**Gulveren**	**2.76**	**22**	*e*PN	**Pn**	**07 04 53.1**	**+1.4**
GULT	**Gulveren**	**2.76**	**22**	*e*Pn	**Pn**	**07 04 53.1**	**+1.4**
HDMB	**Hadim**	**2.78**	**108**	*e*PN	**Pn**	**07 04 52.9**	**+0.9**
HDMB	**Hadim**	**2.78**	**108**	*e*Pn	**Pn**	**07 04 52.9**	**+0.9**
SPNC	**Sapanca-Adapaz**	**2.94**	**17**	*e*PN	**Pn**	**07 04 55.9**	**+1.6**
SPNC	**Sapanca-Adapaz**	**2.94**	**17**	*e*Pn	**Pn**	**07 04 55.9**	**+1.7**
APE	**Apeiranthos**	**3.02**	**256**	*e*P	**Pn**	**07 04 55.2**	**-0.1**
APE	**Apeiranthos**	**3.02**	**256**	*e*P	**Pn**	**07 04 55.8**	**+0.5**
MDUB	**Mudurnu**	**3.03**	**30**	*e*PN	**Pn**	**07 04 56.0**	**+0.5**
MDUB	**Mudurnu**	**3.03**	**30**	*e*Pn	**Pn**	**07 04 56.0**	**+0.5**
BRTR	**Keskin Array B**	**3.94**	**61**	Pn	**Pn**	**07 05 08.1**	**+0.1**
	1.1nm,0.3s,baz=241,slow=14,SNR=28						
BRTR				Sn	**Sn**	**07 05 55.8**	**+1.2**
	1.3nm,0.3s,baz=249,slow=28,SNR=4.8						
BRTR	**Keskin Array B**	**3.94**	**61**	Pn	**Pn**	**07 05 08.1**	**+0.1**
BRTR				Sn	**Sn**	**07 05 55.8**	**+1.2**
BRTR	**Keskin Array B**	**3.94**	**61**	Pn	**Pn**	**07 05 08.1**	**+0.1**
BRTR				Sn	**Sn**	**07 05 55.8**	**+1.3**
MMAI	**Mount Meron Ar**	**7.02**	**132**	Pn	**Pn**	**07 05 49.8**	**-0.5**
	5.1nm,0.3s,baz=319,slow=11,SNR=15						
MMAI				Sn	**Sn**	**07 07 09.0**	**-1.4**
	0.9nm,0.3s,baz=305,slow=28,SNR=2.2						
MMAI	**Mount Meron Ar**	**7.02**	**132**	Pn	**Pn**	**07 05 49.8**	**-0.5**
MMAI				Sn	**Sn**	**07 07 09.0**	**-1.4**
MMAI	**Mount Meron Ar**	**7.02**	**132**	Pn	**Pn**	**07 05 49.8**	**-0.5**
MMAI				Sn	**Sn**	**07 07 09.0**	**-1.4**
GNI	**Garni**	**12.31**	**75**	LR	LR	07 12 29.0	
	comp=Z,134nm,19.3s,baz=93,slow=41						
BHD	**Baghdad**	**13.19**	**106**	*ex*	**Pn**	**07 07 13.3**	**-1.5**
BHD				*ex*	x	07 09 45.0	
BHD	**Baghdad**	**13.19**	**106**	*e*P	**Pn**	**07 07 13.3**	**-1.5**
GERES	**GERESS Array B**	**15.69**	**319**	Pn	**Pn**	**07 07 52.4**	**+3.9**
	0.0nm,0.3s,baz=125,slow=13,SNR=3.9						
GERES	**GERESS Array B**	**15.69**	**319**	Pn	**Pn**	**07 07 52.4**	**+3.9**
ARCES	**ARCESS Array B**	**31.78**	**358**	LR	LR	07 24 44.5	
	comp=Z,102nm,21.3s,MS3.5,baz=353,slow=39						
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	**P**	**07 10 56.9**	**-0.9**
	0.6nm,0.7s,mb3.6,baz=34,slow=10.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	**P**	**07 10 56.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	**P**	**07 10 56.9**	**-0.9**
KURK	**Kurchatov**	**36.96**	**53**	P	**P**	**07 11 14.5**	**-2.3**
	0.5nm,0.6s,mb3.5,baz=276,slow=8.7,SNR=6.5						
KURK	**Kurchatov**	**36.96**	**53**	P	**P**	**07 11 14.5**	**-2.3**
MKAR	**Makanchi Array**	**39.59**	**60**	P	**P**	**07 11 37.4**	**-1.6**
	0.6nm,0.8s,mb3.4,baz=269,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**39.59**	**60**	P	**P**	**07 11 37.4**	**-1.6**
MKAR	**Makanchi Array**	**39.59**	**60**	P	**P**	**07 11 37.4**	**-1.6**
KSRS	**Korea Array**	**74.07**	**55**	LR	LR	07 49 21.8	
	comp=Z,34nm,18.8s,MS3.7,baz=338,slow=37						

*ISCJB **24** 07:08:48.9±1.4, 48°.5N±0°.1×154°.7E±0°.2, h50km±14km, mb3.8/7, Error ellipse: s-maj=28.8km s-min=8.6km az=40.9*
*MOS **24** 07:08:49.3±1.0, 48°.48N×154°.61E, h54km, mb4.3/4, Error ellipse: s-maj=26.8km s-min=12.9km az=66.4*
*IDC **24** 07:08:50.9±4.2, 48°.41N×154°.64E, h52km±38km, mb3.6/7, mb1 3.8/8, mb1mx3.5/23, mbtmp3.6/8, MS3.1/1, Ms1 3.1/1, ms1mx2.4/32, Error ellipse: s-maj=29.1km s-min=24.8km az=145.0*
*NEIC **24** 07:08:51.3±1.1, 48°.46N×154°.66E, h56km±9km, Error ellipse: s-maj=21.4km s-min=8.0km az=135.0*

ISC 24 07:08:51.1±1.2, 48°.5N±0°.1×154°.7E±0°.2, h54km±11km, n35, σ0s67/34, mb3.8/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.39**	**23**	*e*PN	**Pn**	**07 09 27.0**	**-0.8**
SKR				*e*S	**Sn**	**07 09 55.5**	**-0.3**
SKR				pmax	pmax		
	comp=N,70nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				smax			
	comp=N,360nm,0.2s						
SKR				smax			
	comp=E,150nm,0.2s						
SKR				smax			
	comp=Z,120nm,0.8s						
PETK	**Petropavlovsk-**	**5.01**	**22**	P	**Pn**	**07 10 04.7**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=170,slow=15,SNR=25						
PETK	**Petropavlovsk-**	**5.01**	**22**	P	**Pn**	**07 10 04.7**	**+1.1**
PETK	**Petropavlovsk-**	**5.01**	**22**	PN	**Pn**	**07 10 04.7**	**+1.1**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**5.20**	**28**	*e*Pn	**Pn**	**07 10 06.3**	**+0.1**
	comp=Z,15nm,0.5s						
PET				*e*Sn	**Sn**	**07 11 04.8**	**0.0**
PET	**Petropavlovsk**	**5.20**	**28**	*e*PN	**Pn**	**07 10 06.6**	**+0.4**
PET				*e*S	**Sn**	**07 11 04.3**	**-0.4**
PET				pmax	pmax		
	comp=Z,23nm,0.5s						
PET				smax			
	comp=E,38nm,0.6s						
PET				smax			
	comp=N,43nm,0.7s						
ASAJ	**Asahikawa**	**9.42**	**247**	*e*Pn	**Pn**	**07 11 04.1**	**+0.1**
ERM	**Erimo**	**10.37**	**236**	Pn	**Pn**	**07 11 17.1**	**0.0**
ERM	**Erimo**	**10.37**	**236**	PN	**Pn**	**07 11 17.1**	**+0.1**
KSRS	**Korea Array**	**22.34**	**250**	P	**P**	**07 13 44.3**	**+0.1**
	comp=N,0.6nm,0.4s,mb3.4,baz=52,slow=9.3,SNR=4.3						
KSRS				LR	LR	07 21 58.0	
	comp=N,46nm,18.8s,baz=5.0,slow=35						
KSRS	**Korea Array**	**22.34**	**250**	P	**P**	**07 13 44.3**	**+0.1**
KSAR	**Wonju Array Be**	**22.37**	**250**	P	**P**	**07 13 44.3**	**-0.2**
KSAR	**Wonju Array Be**	**22.37**	**250**	P	**P**	**07 13 44.3**	**-0.3**
SONM	**Songino Array**	**31.77**	**287**	PcP	PcP	07 17 59.8	-0.3
	comp=N,0.5nm,0.7s,baz=132,slow=2.1,SNR=3.8						
SONM	**Songino Array**	**31.77**	**287**	PcP	PcP	07 17 59.8	-0.3
ZALV	**Zalesovo Beam**	**42.45**	**305**	PcP	PcP	07 18 33.2	+0.9
	comp=N,0.7nm,0.7s,baz=76,slow=6.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.45**	**305**	PcP	PcP	07 18 33.2	+0.9
MKAR	**Makanchi Array**	**47.08**	**297**	P	**P**	**07 17 17.1**	**-0.2**
	comp=N,1.5nm,0.7s,mb4.0,baz=61,slow=7.2,SNR=13						
MKAR				PcP	PcP	07 18 48.8	+0.4
	comp=N,0.5nm,0.8s,baz=46,slow=6.2,SNR=3.0						
MKAR	**Makanchi Array**	**47.08**	**297**	P	**P**	**07 17 17.1**	**-0.2**
MKAR				PcP	PcP	07 18 48.8	+0.4
MKAR	**Makanchi Array**	**47.08**	**297**	P	**P**	**07 17 17.1**	**-0.2**
MKAR						07 18 48.8	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**47.28**	**303**	P	**P**	**07 17 19.3**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.2,baz=67,slow=8.6,SNR=19						
KURK	**Kurchatov**	**47.28**	**303**	P	**P**	**07 17 19.3**	**+0.6**
KURK	**Kurchatov**	**47.28**	**303**	P	**P**	**07 17 19.3**	**+0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**50.56**	**309**	P	**P**	**07 17 42.9**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=61,slow=7.6,SNR=3.7						
BVAR				PcP	PcP	07 19 01.1	+0.2
	comp=Z,0.7nm,0.5s,baz=338,slow=1.6,SNR=4.5						
BVAR	**Borovoye Array**	**50.56**	**309**	P	**P**	**07 17 42.9**	**-0.9**
BVAR				PcP	PcP	07 19 01.1	+0.2
BVAR	**Borovoye Array**	**50.56**	**309**	P	**P**	**07 17 42.9**	**-1.0**
BVAR						07 19 01.1	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**53.79**	**256**	P	**P**	**07 18 09.3**	**+1.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=34,slow=6.4,SNR=5.2						
CMAR	**Chiang Mai Arr**	**53.79**	**256**	P	**P**	**07 18 09.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**53.79**	**256**	P	**P**	**07 18 09.4**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**70.50**	**200**	P	**P**	**07 19 58.7**	**-1.3**
	comp=Z,1.9nm,0.7s,mb4.1,baz=17,slow=6.7,SNR=10						
WRA	**Warramunga Arr**	**70.50**	**200**	P	**P**	**07 19 58.7**	**-1.3**
WRA	**Warramunga Arr**	**70.50**	**200**	P	**P**	**07 19 58.7**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**75.74**	**62**	P	**P**	**07 20 31.8**	**+0.8**
	comp=Z,0.2nm,0.8s,mb3.1,baz=289,slow=5.5,SNR=3.0						
TXAR	**Lajitas Array**	**75.74**	**62**	P	**P**	**07 20 31.8**	**+0.8**
TXAR	**Lajitas Array**	**75.74**	**62**	P	**P**	**07 20 31.8**	**+0.8**

*ISK **24** 07:16:19.9, 37°.89N×29°.12E, h6km, MD2.9*
*DDA **24** 07:16:19.3, 37°.90N×29°.23E, h2km±3km, Md2.7*
*ISCJB **24** 07:16:20.0±0.4, 37°.88N±0°.02×29°.15E±0°.04, h10km, Error ellipse: s-maj=4.5km s-min=3.3km az=10.5*
*CSEM **24** 07:16:20.0±0.2, 37°.90N×29°.18E, h2km, MD2.9, Error ellipse: s-maj=4.3km s-min=2.8km az=106.0*

ISC 24 07:16:20.4±0.5, 37°.91N±0°.02×29°.18E±0°.04, h1km±10km, n24, σ0s50/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**217**	*e*PG	**Pg**	**07 16 23.7**	**-0.3**
DENT	**Denizli**	**0.19**	**217**	*e*Pg	**Pg**	**07 16 23.7**	**-0.3**
DNZL	**Cakiroluk**	**0.24**	**206**	*i* P	**Pg**	**07 16 24.1**	**-0.9**
DNZL	**Cakiroluk**	**0.24**	**206**	*i* P	**Pg**	**07 16 24.1**	**-0.8**
KHAL	**Karahalli**	**0.53**	**28**	*i* P	**Pg**	**07 16 30.3**	**-0.2**
KHAL				*i* S	**Sg**	**07 16 37.3**	**0.0**
KHAL	**Karahalli**	**0.53**	**28**	*i* P	**Pg**	**07 16 30.3**	**-0.2**
KHAL				*i* S	**Sg**	**07 16 37.3**	**0.0**
KULA	**Kula-Manisa**	**0.73**	**326**	*e*PG	**Pg**	**07 16 34.2**	**-0.2**
KULA				*e*SG	**Sg**	**07 16 44.3**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**326**	*e*Pg	**Pg**	**07 16 34.3**	**-0.1**
KULA				*e*Sg	**Sg**	**07 16 44.3**	**+0.4**
GLHS	**Glhisar (BURDU**	**0.79**	**161**	*e*PG	**Pg**	**07 16 35.2**	**-0.3**
GLHS				*e*SG	**Sg**	**07 16 46.7**	**+0.9**
GLHS	**Glhisar (BURDU**	**0.79**	**161**	*e*Pg	**Pg**	**07 16 35.2**	**-0.3**
GLHS				*e*Sg	**Sg**	**07 16 46.7**	**+1.0**
YER	**Yerkesik**	**1.05**	**223**	*e*PG	**Pg**	**07 16 39.8**	**-0.6**
YER				*e*SG	**Sg**	**07 16 54.0**	**0.0**
YER	**Yerkesik**	**1.05**	**223**	*e*Pg	**Pg**	**07 16 39.8**	**-0.7**
YER				*e*Sg	**Sg**	**07 16 54.0**	**0.0**
AYDN	**Tasoluk**	**1.06**	**257**	*i* P	**Pg**	**07 16 41.4**	**+0.7**
AYDN				*i* S	**Sg**	**07 16 54.3**	**0.0**
AYDN	**Tasoluk**	**1.06**	**257**	*i* P	**Pg**	**07 16 41.4**	**+0.8**
AYDN				*i* S	**Sg**	**07 16 54.3**	**0.0**
DEMI	**Demirci**	**1.19**	**342**	*i* P	**Pg**	**07 16 43.5**	**+0.3**
DEMI				*i* S	**Sg**	**07 16 59.4**	**+0.7**
DEMI	**Demirci**	**1.19**	**342**	*i* P	**Pg**	**07 16 43.5**	**+0.3**
DEMI				*i* S	**Sg**	**07 16 59.4**	**+0.7**
BCK	**Bucak**	**1.20**	**111**	*e*PN	**Pn**	**07 16 44.6**	**+0.3**
GDZ	**Gediz**	**1.21**	**11**	*i* P	**Pg**	**07 16 42.4**	**-1.1**
GDZ				*i* S	**Sg**	**07 16 59.0**	**-0.1**
GDZ	**Gediz**	**1.21**	**11**	*i* P	**Pg**	**07 16 42.4**	**-1.1**
GDZ				*i* S	**Sg**	**07 16 59.0**	**-0.1**
SHUT	**Suhut-Afyon**	**1.26**	**59**	*e*PN	**Pn**	**07 16 44.8**	**-0.3**
SHUT	**Suhut-Afyon**	**1.26**	**59**	*e*Pn	**Pn**	**07 16 44.8**	**-0.3**
ELL	**Elmali**	**1.29**	**153**	*e*PN	**Pg**	**07 16 45.8**	**+0.6**
ALT	**Altintas**	**1.36**	**32**	*e*PN	**Pn**	**07 16 46.5**	**0.0**
SUTC	**Sutluce-Ispart**	**1.51**	**106**	*e*PN	**Pg**	**07 16 49.2**	**0.0**

*DDA **24** 07:34:46.0, 37°.90N×29°.23E, h6km±3km, Md2.7*
*ISCJB **24** 07:34:46.2±0.5, 37°.87N±0°.02×29°.23E±0°.05, h3km±8km, Error ellipse: s-maj=6.3km s-min=3.9km az=165.2*
*ISK **24** 07:34:46.1, 37°.84N×29°.22E, h7km, MD2.7*
*CSEM **24** 07:34:46.2±0.1, 37°.87N×29°.24E, h2km, MD2.7, Error ellipse: s-maj=3.4km s-min=2.2km az=91.0*

ISC 24 07:34:46.7±0.4, 37°.87N±0°.03×29°.20E±0°.05, h11km±6km, n24, σ0s73/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.17**	**231**	*e*PG	**Pg**	**07 34 50.2**	**-0.4**
DENT				*e*SG	**Sg**	**07 34 53.5**	**+0.3**
DENT	**Denizli**	**0.17**	**231**	*e*Pg	**Pg**	**07 34 50.2**	**-0.4**
DENT				*e*Sg	**Sg**	**07 34 53.5**	**+0.3**
DNZL	**Cakiroluk**	**0.21**	**216**	*i* P	**Pg**	**07 34 51.1**	**-0.1**
DNZL				*i* S	**Sg**	**07 34 55.2**	**+0.9**
DNZL	**Cakiroluk**	**0.21**	**216**	*i* P	**Pg**	**07 34 51.1**	**-0.1**
DNZL				*i* S	**Sg**	**07 34 55.2**	**+0.9**
KHAL	**Karahalli**	**0.55**	**24**	*i* P	**Pg**	**07 34 56.9**	**-0.6**
KHAL				*i* S	**Sg**	**07 35 04.5**	**-0.3**
KHAL	**Karahalli**	**0.55**	**24**	*i* P	**Pg**	**07 34 56.9**	**-0.6**
KHAL				*i* S	**Sg**	**07 35 04.5**	**-0.3**
GOLH	**Golhisar**	**0.69**	**155**	*i* P	**Pg**	**07 34 59.2**	**-0.9**
GOLH				*i* S	**Sg**	**07 35 10.1**	**+1.0**
GOLH	**Golhisar**	**0.69**	**155**	*i* P	**Pg**	**07 34 59.2**	**-0.8**
GOLH				*i* S	**Sg**	**07 35 10.1**	**+1.0**
GLHS	**Glhisar (BURDU**	**0.74**	**162**	*e*PG	**Pg**	**07 35 00.5**	**-0.7**
GLHS				*e*SG	**Sg**	**07 35 10.5**	**-0.4**
GLHS	**Glhisar (BURDU**	**0.74**	**162**	*e*Pg	**Pg**	**07 35 00.5**	**-0.6**
GLHS				*e*Sg	**Sg**	**07 35 10.5**	**-0.4**
KULA	**Kula-Manisa**	**0.78**	**327**	*e*PG	**Pg**	**07 35 01.7**	**-0.1**
KULA				*e*SG	**Sg**	**07 35 13.5**	**+1.6**
KULA	**Kula-Manisa**	**0.78**	**327**	*e*Pg	**Pg**	**07 35 01.7**	**0.0**
KULA				*e*Sg	**Sg**	**07 35 13.5**	**+1.6**
MANT	**Manisa**	**0.81**	**321**	*i* P	**Pg**	**07 35 02.6**	**+0.3**
MANT				*i* S	**Sg**	**07 35 12.6**	**-0.3**
MANT	**Manisa**	**0.81**	**321**	*i* P	**Pg**	**07 35 02.6**	**+0.3**
MANT				*i* S	**Sg**	**07 35 12.6**	**-0.2**
YER	**Yerkesik**	**1.03**	**225**	*e*PG	**Pg**	**07 35 05.9**	**-0.7**
YER	**Yerkesik**	**1.03**	**225**	*e*Pg	**Pg**	**07 35 05.9**	**-0.7**
DEMI	**Demirci**	**1.24**	**342**	*i* P	**Pn**	**07 35 09.8**	**-0.1**
DEMI				*i* S	**Sb**	**07 35 25.6**	**-0.4**
DEMI	**Demirci**	**1.24**	**342**	*i* P	**Pn**	**07 35 09.8**	**-0.1**
DEMI				*i* S	**Sb**	**07 35 25.6**	**-0.4**
GDZ	**Gediz**	**1.24**	**10**	*i* P	**Pn**	**07 35 08.9**	**-1.1**
GDZ				*i* S	**Sb**	**07 35 25.5**	**-0.6**
GDZ	**Gediz**	**1.24**	**10**	*i* P	**Pn**	**07 35 08.9**	**-1.1**
GDZ				*i* S	**Sb**	**07 35 25.5**	**-0.7**
SHUT	**Suhut-Afyon**	**1.27**	**57**	*e*PN	**Pn**	**07 35 10.9**	**+0.6**
SHUT				*e*SN	**Sn**	**07 35 28.9**	**+1.6**
SHUT	**Suhut-Afyon**	**1.27**	**57**	*e*Pn	**Pn**	**07 35 10.9**	**+0.6**
SHUT				*e*Sn	**Sn**	**07 35 28.9**	**+1.6**
ALT	**Altintas**	**1.39**	**31**	*e*PN	**Pn**	**07 35 12.4**	**+0.5**
ALT	**Altintas**	**1.39**	**31**	*e*Pn	**Pn**	**07 35 12.4**	**+0.4**

IDC 24 07:45:45.9±1.5, 1°.91N×125°.09E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/18, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=110.2km s-min=21.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.89**	**178**	P	Pn	07 50 18.3	-2.3
	0.4nm,0.3s,baz=2.9,slow=7.8,SNR=9.5						
WRA	**Warramunga Arr**	**23.53**	**158**	P	P	07 50 58.4	+0.2
	6.4nm,0.3s,baz=337,slow=10,SNR=80						
STKA	**Stephens Creek**	**37.07**	**156**	P	P	07 52 57.8	-0.1
	1.3nm,0.3s,baz=322,slow=8.9,SNR=12						
SONM	**Songino Array**	**48.53**	**343**	P	P	07 54 34.7	+4.0
	0.4nm,0.8s,baz=153,slow=6.2,SNR=2.9						
MKAR	**Makanchi Array**	**58.14**	**327**	P	P	07 55 41.6	+0.1
	0.5nm,0.3s,baz=124,slow=7.6,SNR=28						

*ISCJB **24** 08:05:07.8±0.6, 31°.20S±0°.07×68°.5W±0°.1, h107km±7km, mb3.8/3, Error ellipse: s-maj=17.5km s-min=10.3km az=166.4*
*IDC **24** 08:05:08.2±1.1, 31°.18S×68°.53W, h96km±8km, mb3.7/3, mb1 3.7/7, mb1mx3.5/17, mbtmp3.5/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/18, Error ellipse: s-maj=34.3km s-min=20.7km az=107.0*
*NEIC **24** 08:05:08.7±0.6, 31°.19S×68°.46W, h102km±6km, Error ellipse: s-maj=13.9km s-min=8.1km az=84.0*

ISC 24 08:05:09.0±0.6, 31°.19S±0°.06×68°.5W±0°.1, h101km±7km, n25, σ0s91/22, mb3.8/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.45**	**155**	P	**Pn**	**08 05 24.8**	**+0.1**
	32nm,0.3s,baz=334,slow=7.3,SNR=7153						
CFAA				S	**Sn**	**08 05 36.8**	**+0.5**
	103nm,0.3s,baz=188,slow=19,SNR=317						
CFAA	**Coronel Fontan**	**0.45**	**155**	P	**Pn**	**08 05 24.8**	**+0.1**
CFAA				S	**Sn**	**08 05 36.8**	**+0.5**
LCO	**Las Campanas**	**2.91**	**318**	*e*Pn	**Pn**	**08 05 54.5**	**+0.8**
LCO				*e*Sn	**Sn**	**08 06 23.5**	**-4.5**
LVC	**Limon Verde**	**8.55**	**357**	*e*Pn	**Pn**	**08 07 08.6**	**-1.5**
	13nm,0.6s						
TRQA	**Tornquist**	**8.68**	**144**	*e*Pn	**Pn**	**08 07 10.4**	**-1.3**
	24nm,0.5s						
PLCA	**Paso Flores**	**9.67**	**189**	P	**Pn**	**08 07 24.2**	**-0.9**
	0.3nm,0.3s,baz=6.3,slow=15,SNR=7.4						
PLCA				LR	LR	08 11 01.6	
	comp=Z,64nm,18.4s,baz=150,slow=36						
PLCA	**Paso Flores**	**9.67**	**189**	P	**Pn**	**08 07 24.2**	**-0.9**
CPUP	**Villa Florida**	**10.90**	**66**	P	**Pn**	**08 07 42.8**	**+0.8**
	0.3nm,0.3s,baz=238,slow=15,SNR=2.6						
CPUP	**Villa Florida**	**10.90**	**66**	P	**Pn**	**08 07 42.8**	**+0.8**
LPAZ	**La Paz**	**14.84**	**1**	P	**Pn**	**08 08 34.6**	**+0.9**
	0.3nm,0.3s,baz=183,slow=6.7,SNR=17						
LPAZ	**La Paz**	**14.84**	**1**	P	**Pn**	**08 08 34.6**	**+0.9**
SIV	**San Ignacio**	**16.57**	**26**	P	**Pn**	**08 08 54.7**	**-0.5**
	0.2nm,0.3s,baz=217,slow=9.6,SNR=5.6						
SIV	**San Ignacio**	**16.57**	**26**	P	**Pn**	**08 08 54.7**	**-0.5**
USHA	**Ushuaia**	**23.63**	**180**	P	**P**	**08 10 12.2**	**+1.5**
	12nm,0.9s,mb4.3,baz=337,slow=9.3,SNR=3.3						
USHA	**Ushuaia**	**23.63**	**180**	P	**P**	**08 10 12.2**	**+1.5**
TXAR	**Lajitas Array**	**68.88**	**327**	P	**P**	**08 16 02.6**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=147,slow=6.7,SNR=4.8						
TXAR	**Lajitas Array**	**68.88**	**327**	P	**P**	**08 16 02.6**	**-0.2**
**TORD

M_0r0.07±.02; Best double couple: $M_0$1.10000×10^{18} NP1:$\phi_0$358.00000°,δ43.00000°,λ-101.00000°. NP2: $\phi_0$192.00000°,δ47.00000°,λ-80.00000°. Principal axes: T 1.2300, Plg2.0000°, Azm275.0000°; N -0.1900, Plg7.0000°, Azm6.0000°; P -1.0400, Plg82.0000°, Azm170.0000°; Data Used: II IU IC G CN. Surface waves: sta=117, comp=275, per= 50.

ISC 24 09:11:34.1±1.7,17°.27S±0°.03×171°.87W±0°.02,h7km±10km, h18km±2.9km:pP-P,n1526,σ0s67/900,mb5.7/253, MS5.6/217,238C-265D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.34**	**2**	Pn		**Pn**	**Pn**	**09 12 22.4**	**-4.4**
	86nm,0.3s,baz=182,slow=4.1,SNR=55								
AFI				Sn			**Sn**	**09 12 56.9**	**-10**
	2μm,0.3s,baz=128,slow=18,SNR=9.2								
AFI				T				09 15 54.4	
	90nm,0.3s,baz=63,slow=19,SNR=3.7								
AFI	**Afiamalu**	**3.34**	**2**	Pn		**Pn**	**Pn**	**09 12 22.4**	**-4.4**
AFI				Sn			**Sn**	**09 12 56.9**	**-10**
AFI				TT				09 15 54.4	
AFI	**Afiamalu**	**3.34**	**2**	P			**Pn**	**09 12 22.4**	**-4.4**
AFI								09 12 56.9	
AFI				pmax		pmax			
	comp=Z,86nm,0.3s								
MSVF	**Nonsavu**	**9.63**	**266**	*e*Pn		**Pn**	**Pn**	**09 13 55.2**	**+2.0**
MSVF				*e*Sn		Sx		09 16 25.5	
MSVF	**Nonsavu**	**9.63**	**266**	*e*P		**Pn**	**Pn**	**09 13 55.3**	**+2.0**
MSVF	**Nonsavu**	**9.63**	**266**	Pn			**Pn**	**09 13 56.5**	**+3.2**
	comp=Z,3μm,1.2s,SNR=32								
RAR	**Rarotonga**	**12.08**	**111**	Pn		**Pn**	**Pn**	**09 14 20.6**	**-6.2**
	comp=Z,32nm,0.3s,baz=262,slow=6.8,SNR=53								
RAR				Sn			**Sn**	**09 16 42.9**	**+1.2**
	comp=Z,20nm,0.3s,baz=35,slow=19,SNR=3.2								
RAR				LR		LR		09 17 55.2	
	comp=Z,32μm,19.9s,baz=201,slow=31								
RAR	**Rarotonga**	**12.08**	**111**	*e*Pn		**Pn**	**Pn**	**09 14 21.1**	**-5.7**
RAR				Sn			**Sn**	**09 16 43.0**	**+1.2**
RAR				*e*Sn			**Sn**	**09 16 47.7**	**+5.9**
RAR	**Rarotonga**	**12.08**	**111**	*e*P			**Pn**	**09 14 21.1**	**-5.6**
RAR				*e*				09 16 47.7	
FUNA	**Funafuti**	**12.30**	**314**	*e*Pn		**Pn**	**Pn**	**09 14 28.5**	**-1.3**
RAO	**Raoul Island**	**13.16**	**204**	*e*Pn		**Pn**	**Pn**	**09 14 37.0**	**-4.5**
RAO	**Raoul Island**	**13.16**	**204**	*e*P		**Pn**	**Pn**	**09 14 37.0**	**-4.5**
DZM	**Mont Dzumac**	**20.97**	**253**	*e*P		**P**	**P**	**09 16 16.6**	**-1.4**
	comp=Z,330nm,1.6s								
DZM				*e*LR		LR		09 21 13.7	
	comp=Z,71μm,27.6s								
DZM	**Mont Dzumac**	**20.97**	**253**	*e*P		**P**	**P**	**09 16 12.7**	**-5.3**
DZM	**Mont Dzumac**	**20.97**	**253**	P		**P**	**P**	**09 16 15.2**	**-2.8**
	comp=Z,28nm,0.7s,baz=94,slow=14,SNR=15								
DZM				S		**S**	**S**	**09 20 06.2**	**-5.8**
	comp=Z,7.3nm,1.0s,baz=74,slow=20,SNR=2.2								
DZM				LR		LR		09 22 17.6	
	comp=Z,12μm,20.6s,MS5.3,baz=85,slow=31								
DZM	**Mont Dzumac**	**20.97**	**253**	*e*P		**P**	**P**	**09 16 16.5**	**-1.4**
DZM				S		**S**	**S**	**09 20 06.2**	**-5.8**
NOUC	**Port Laguerre**	**21.10**	**253**	*e*P		**P**	**P**	**09 16 16.6**	**-2.8**
PAE	**Paea**	**21.26**	**94**	*e*P		**P**	**P**	**09 16 21.4**	**+0.2**
	comp=Z,78nm,1.2s,mb4.9								
PPT2	**Papeete2**	**21.27**	**94**	*e*P		**P**	**P**	**09 16 21.5**	**+0.2**
	comp=Z,465nm,1.5s,mb5.6								
PPT2				*e*LQ				09 20 26.6	
	comp=Z,17μm,27.6s								
PPT2				*e*LR		LR		09 21 14.3	
	comp=Z,59μm,26.5s,baz=260								
TIAR	**Tiarei**	**21.49**	**94**	*e*P		**P**	**P**	**09 16 23.4**	**-0.3**
	comp=Z,459nm,1.1s,mb5.7								
TBI	**Tubuai**	**21.86**	**110**	*e*P		**P**	**P**	**09 16 27.3**	**-0.2**
	comp=Z,789nm,1.3s,mb6.0								
TBI				*e*LQ				09 20 42.5	
	comp=Z,43μm,26.5s								
TBI				*e*LR		LR		09 21 21.3	
	comp=Z,64μm,30.2s,baz=285								
OUZ	**Omahuta**	**22.08**	**213**	*e*P		**P**	**P**	**09 16 29.1**	**-0.7**
	comp=Z,454nm,1.3s,mb5.7								
OUZ	**Omahuta**	**22.08**	**213**	P*		**P**	**P**	**09 16 30.3**	**+0.5**
WCZ	**Waipu Caves**	**22.27**	**211**	P*		**P**	**P**	**09 16 33.7**	**+1.9**
PUZ	**Puketiti**	**22.47**	**201**	P*		**P**	**P**	**09 16 33.4**	**-0.5**
PUZ				*e*S*		**S**	**S**	**09 20 31.0**	**-10**
MEH	**Mehetia**	**22.70**	**95**	*e*P		**P**	**P**	**09 16 35.5**	**-1.0**
	comp=Z,380nm,1.5s,mb5.6								
OTAZ	**Otara**	**22.82**	**208**	*e*P*		**P**	**P**	**09 16 38.6**	**+1.0**
MKAZ	**Moumakai**	**22.84**	**208**	P*		**P**	**P**	**09 16 38.7**	**+0.8**
MWZ	**Matawai**	**22.96**	**202**	P*		**P**	**P**	**09 16 38.7**	**-0.3**
MWZ				*e*S*		**S**	**S**	**09 20 42.8**	**-6.9**
URZ	**Urewera**	**23.04**	**203**	P		**P**	**P**	**09 16 39.5**	**-0.4**
	comp=Z,137nm,0.3s,mb5.8,baz=8.8,slow=6.8,SNR=38								
URZ				S		**S**	**S**	**09 20 50.6**	**-0.5**
	comp=Z,45nm,0.6s,baz=38,slow=21,SNR=9.2								
URZ	**Urewera**	**23.04**	**203**	*e*P		**P**	**P**	**09 16 40.2**	**+0.3**
URZ				S		**S**	**S**	**09 20 50.6**	**-0.5**
URZ	**Urewera**	**23.04**	**203**	P*		**P**	**P**	**09 16 39.3**	**-0.6**
URZ				*e*S*		**S**	**S**	**09 20 41.8**	**-9.3**
PMOR	**Pomariorio Ree**	**23.14**	**88**	*e*P		**P**	**P**	**09 16 40.4**	**-0.8**
	comp=Z,864nm,1.4s,mb6.0								
TOZ	**Tahuroa Road**	**23.21**	**206**	P*		**P**	**P**	**09 16 42.2**	**+0.4**
PRRZ	**Plateau Road**	**23.52**	**204**	P*		**P**	**P**	**09 16 48.3**	**+3.4**
XMAS	**Kiritimati**	**23.89**	**38**	*e*P		**P**	**P**	**09 16 49.1**	**+0.5**
	comp=Z,175nm,1.0s,mb5.4								
XMAS				LR		LR			
	comp=Z,11μm,19.0s,MS5.4								
NMHZ	**Naumai**	**23.89**	**202**	*e*P*		**P**	**P**	**09 16 48.7**	**+0.2**
SNZO	**South Karori**	**26.60**	**203**	*e*P		**P**	**P**	**09 17 11.6**	**-1.5**
	comp=Z,155nm,1.1s,mb5.5								
SNZO				*e*S		**S**	**S**	**09 21 56.9**	**+8.8**
SNZO				LR		LR			
	comp=Z,4μm,20.0s,MS4.9								
NNZ	**Nelson**	**27.04**	**205**	*e*P*		**P**	**P**	**09 17 22.1**	**+5.1**
NNZ				*e*S*		**S**	**S**	**09 22 04.3**	**+9.3**
QRZ	**Quartz Range**	**27.07**	**207**	*e*P*		**P**	**P**	**09 17 21.6**	**+4.4**
THZ	**Tophouse**	**27.69**	**205**	*e*P*		**P**	**P**	**09 17 30.8**	**+7.9**
THZ				*e*S*		**S**	**S**	**09 22 16.4**	**+11**
KHZ	**Kahutara**	**28.00**	**203**	*e*P		**P**	**P**	**09 17 24.4**	**-1.2**
	comp=Z,114nm,1.1s,mb5.4								
KHZ	**Kahutara**	**28.00**	**203**	P*		**P**	**P**	**09 17 34.9**	**+9.4**
DSZ	**Denniston Nort**	**28.13**	**207**	P*		**P**	**P**	**09 17 34.5**	**+7.7**
HNR	**Honiara**	**28.48**	**282**	P		**P**	**P**	**09 17 31.4**	**+1.2**
	comp=Z,312nm,1.2s,mb5.8,baz=217,slow=6.8,SNR=8.8								
HNR				S		**S**	**S**	**09 22 18.5**	**+0.2**
	comp=Z,32nm,0.8s,baz=66,slow=20,SNR=1.7								
HNR				LR		LR		09 27 10.0	
	comp=Z,25μm,19.4s,MS5.8,baz=110,slow=33								
HNR	**Honiara**	**28.48**	**282**	*e*P		**P**	**P**	**09 17 29.6**	**-0.6**
HNR				S		**S**	**S**	**09 22 18.5**	**+0.2**
HNR	**Honiara**	**28.48**	**282**	*e*P		**P**	**P**	**09 17 29.6**	**-0.6**
LTZ	**Lake Taylor**	**28.80**	**205**	P*		**P**	**P**	**09 17 40.8**	**+8.0**
WVZ	**Waitaha Valley**	**29.67**	**206**	*e*P*		**P**	**P**	**09 17 47.6**	**+7.1**
RPZ	**Rata Peaks**	**30.07**	**205**	P		**P**	**P**	**09 17 42.8**	**-1.2**
	comp=Z,11nm,0.7s,mb4.7,baz=234,slow=2.2,SNR=4.2								
RPZ				S		**S**	**S**	**09 22 42.6**	**0.0**
	comp=Z,1.6nm,0.3s,baz=9.5,slow=19,SNR=2.2								
RPZ	**Rata Peaks**	**30.07**	**205**	*e*P		**P**	**P**	**09 17 43.1**	**-0.9**
RPZ				S		**S**	**S**	**09 22 42.6**	**0.0**
RPZ	**Rata Peaks**	**30.07**	**205**	P*		**P**	**P**	**09 17 51.6**	**+7.7**
FOZ	**Fox Glacier**	**30.52**	**207**	P*		**P**	**P**	**09 17 55.5**	**+7.6**
JCZ	**Jackson Bay**	**31.33**	**207**	P*		**P**	**P**	**09 18 01.3**	**+6.2**
ODZ	**Otahua Downs**	**31.34**	**204**	*e*P		**P**	**P**	**09 17 54.0**	**-1.2**
	comp=Z,117nm,0.8s,mb5.8								
TAOE	**Nuku Hiva Isla**	**31.97**	**79**	*e*S		**S**	**S**	**09 23 10.7**	**-2.4**
	comp=Z,2μm,24.3s								
TAOE				*e*LR		LR		09 26 07.6	
	comp=Z,32μm,27.5s,baz=256								
RKT	**Rikitea**	**35.05**	**106**	*e*S		**S**	**S**	**09 23 55.6**	**-5.1**
	comp=Z,4μm,29.2s								
RKT				*e*LQ				09 26 15.6	
	comp=Z,2μm,27.0s								
RKT				*e*LR		LR		09 27 26.3	
	comp=Z,36μm,29.5s,baz=276								
EIDS	**Eidsvold**	**35.35**	**250**	*e*P		**P**	**P**	**09 18 28.8**	**-1.7**
	comp=Z,104nm,1.1s,mb5.7								
EIDS				*e*PP		PP		09 19 50.0	-0.7
EIDS				*e*S		**S**	**S**	**09 23 53.6**	**-12**
ARMA	**Armidale**	**35.70**	**242**	*e*P		**P**	**P**	**09 18 31.7**	**-1.7**
ARMA	**Armidale**	**35.70**	**242**	*e*P		**P**	**P**	**09 18 32.5**	**-0.9**
ARMA				*e*pP		pP	pP	09 18 46.2	+11
ARMA				*e*sP		sP	sP	09 18 52.8	+16
CNB	**Canberra Magne**	**38.83**	**235**	*e*P		**P**	**P**	**09 18 59.6**	**-0.3**
CAN	**Canberra**	**39.12**	**235**	*e*P		**P**	**P**	**09 19 02.0**	**-0.3**
	comp=Z,200nm,1.2s,mb5.7								
CAN				LR		LR			
	comp=Z,7μm,19.0s,MS5.5								
CAN	**Canberra**	**39.12**	**235**	*e*P		**P**	**P**	**09 19 02.0**	**-0.3**
CAN				pmax		pmax			
	comp=Z,200nm,1.2s,mb5.7								
CAN				MLR		MLR			
	comp=Z,7μm,19.0s,MS5.5								
CTA	**Charters Tower**	**39.70**	**259**	*e*P		**P**	**P**	**09 19 05.1**	**-2.3**
CTAO	**Charters Tower**	**39.70**	**259**	*e*P		**P**	**P**	**09 19 05.3**	**-2.0**
	comp=Z,431nm,1.7s,mb5.9								
CTAO				*e*PP		PP	PP	09 20 40.6	+2.1
CTAO				*e*PcP		PcP	PcP	09 21 15.8	+1.6
CTAO				LR		LR			
	comp=Z,13μm,20.0s,MS5.8								
CTAO	**Charters Tower**	**39.70**	**259**	*e*P		**P**	**P**	**09 19 05.4**	**-2.0**
CTAO				*e*				09 20 40.6	
CTAO				*e*				09 21 15.8	
CTAO				pmax		pmax			
	comp=Z,431nm,1.7s,mb5.9								
CTAO				MLR		MLR			
	comp=Z,13μm,20.0s,MS5.8								
CTAO	**Charters Tower**	**39.70**	**259**	P		**P**	**P**	**09 19 07.0**	**-0.4**
	comp=Z,3μmcomp=Z,142nm,1.3s,mb5.5								
CTAO	**Charters Tower**	**39.70**	**259**	P		**P**	**P**	**09 19 07.0**	**-0.4**
	comp=Z,3μmcomp=Z,142nm,1.3s,mb5.5								
PMG	**Port Moresby**	**40.56**	**276**	*e*P		**P**	**P**	**09 19 14.1**	**-0.5**
	comp=Z,175nm,1.1s,mb5.6								
PMG				*e*PcP		PcP	PcP	09 21 18.4	+1.4
PMG				*e*S		**S**	**S**	**09 25 18.6**	**-5.9**
PMG				LR		LR			
	comp=Z,9μm,22.0s,MS5.6								
PMG	**Port Moresby**	**40.56**	**276**	*d i*P		**P**	**P**	**09 19 13.5**	**-1.1**
KIP	**Kipapa**	**40.78**	**20**	*e*P		**P**	**P**	**09 19 16.3**	**+0.1**
	comp=Z,399nm,1.2s,mb5.9								
KIP				*e*pP		pP	pP	09 19 27.9	+10
KIP				LR		LR			
	comp=Z,3μm,19.0s,MS5.2								
KIP	**Kipapa**	**40.78**	**20**	*d i*P		**P**	**P**	**09 19 14.9**	**-1.2**
KIP				pmax		pmax			
	comp=Z,487nm,1.2s,mb6.0								
WAKE	**Wake Island**	**42.01**	**329**	PFAKE				09 19 40.0	+14
WAKE				LR		LR			
	comp=Z,3μm,19.0s,MS5.2								
TOO	**Toolangi**	**42.47**	**233**	*i j i*P		**P**	**P**	**09 19 28.9**	**-1.1**
MOO	**Moorlands**	**42.90**	**225**	*e*P		**P**	**P**	**09 19 33.2**	**-0.1**
TAU	**Tasmania Unive**	**42.99**	**225**	PFAKE				09 19 50.0	+16
TAU				LR		LR			
	comp=Z,5μm,19.0s,MS5.5								
COEN	**Coen**	**43.35**	**268**	*e*P		**P**	**P**	**09 19 36.9**	**-0.5**
	comp=Z,954nm,1.2s,mb6.4								
STKA	**Stephens Creek**	**44.42**	**242**	P		**P**	**P**	**09 19 45.0**	**-0.7**
	comp=Z,122nm,0.9s,mb5.6,baz=94,slow=8.9,SNR=101								
STKA				S		**S**	**S**	**09 26 16.3**	**-4.7**
	comp=Z,5.6nm,1.2s,baz=96,slow=18,SNR=3.6								
STKA				LR		LR		09 35 07.7	
	comp=Z,11μm,21.9s,MS5.8,baz=76,slow=32								
STKA	**Stephens Creek**	**44.42**	**242**	*e*P		**P**	**P**	**09 19 44.6**	**-1.2**
STKA	**Stephens Creek**	**44.42**	**242**	P		**P**	**P**	**09 19 45.0**	**-0.7**
STKA				S		**S**	**S**	**09 26 16.3**	**-4.7**
STKA	**Stephens Creek**	**44.42**	**242**	P		**P**	**P**	**09 19 45.1**	**-0.7**
STKA				S		**S**	**S**	**09 26 16.3**	**-4.7**
STKA				pmax		pmax			
	comp=Z,122nm,0.9s								
STKA				smax					
	comp=N,6.0nm,1.2s								
MIDW	**Midway**	**45.52**	**353**	PFAKE				09 20 10.0	+16
MIDW				LR		LR			
	comp=Z,5μm,19.0s,MS5.5								
BBOO	**Buckleboo**	**49.18**	**241**	*e*P		**P**	**P**	**09 20 21.6**	**-1.4**
	comp=Z,10μm,1.3s								
BBOO				*e*S		**S**	**S**	**09 27 24.1**	**-5.0**
WRAB	**Tennant Creek**	**50.87**	**258**	*e*P		**P**	**P**	**09 20 34.4**	**-1.6**
	comp=Z,426nm,1.0s,mb6.3								
WRAB				*e*S		**S**	**S**	**09 27 45.5**	**-7.5**
WRAB				LR		LR			
	comp=Z,14μm,22.0s,MS5.9								
WRAB	**Tennant Creek**	**50.87**	**258**	*e*P		**P**	**P**	**09 20 34.4**	**-1.7**
WRAB				*e*S		**S**	**S**	**09 27 45.5**	**-7.5**
WRAB				pmax		pmax			
	comp=Z,426nm,1.0s,mb6.3								
WRAB				MLR		MLR			
	comp=Z,14μm,22.0s,MS5.9								
WRAB	**Tennant Creek**	**50.87**	**258**	P		**P**	**P**	**09 20 35.0**	**-1.1**
	comp=Z,2μm,1.2s,mb6.9,SNR=93								
WRA	**Warramunga Arr**	**50.88**	**258**	P		**P**	**P**	**09 20 34.8**	**-1.3**
	comp=Z,281nm,0.9s,mb6.2,baz=92,slow=7.1,SNR=321								
WRA				S		**S**	**S**	**09 27 48.1**	**-4.9**
	comp=Z,1.1nm,0.9s,baz=93,slow=8.4,SNR=6.1								
WRA				LR		LR		09 40 10.4	
	comp=Z,13μm,21.6s,MS5.9,baz=100,slow=34								
WRA				PKP2ab				09 52 07.7	
	comp=Z,0.9nm,0.8s,baz=279,slow=2.3,SNR=4.7								
WRA	**Warramunga Arr**	**50.88**	**258**	P		**P**	**P**	**09 20 34.8**	**-1.3**
WRA				S		**S**	**S**	**09 27 48.1**	**-4.9**
WRA				P'P'ab				09 52 07.7	
WRA	**Warramunga Arr**	**50.88**	**258**	P		**P**	**P**	**09 20 34.8**	**-1.3**
WRA				S		**S**	**S**	**09 27 48.2**	**-4.9**
WRA				pmax		pmax			
	comp=Z,281nm,1.0s								
WRA				smax					
	comp=N,1.0nm,0.9s								
GUMO	**Guam**	**52.58**	**303**	PFAKE				09 21 00.0	+11
GUMO				LR		LR			
	comp=Z,3μm,21.0s,MS5.4								
GUMO	**Guam**	**52.58**	**303**	P		**P**	**P**	**09 20 54.6**	**+5.8**
	comp=Z,436nm,1.6s,mb6.2								
FORT	**Forrest**	**55.91**	**244**	*e*P		**P**	**P**	**09 21 13.1**	**+0.1**
FORT	**Forrest**	**55.91**	**244**	*e*P		**P**	**P**	**09 21 12.1**	**-0.9**
	comp=Z,338nm,1.1s,mb6.3								
RPN	**Rapa Nui**	**58.23**	**112**	LR		LR		09 40 54.6	
	comp=Z,3μm,18.5s,MS5.4,baz=266,slow=30								
DRV	**Dumont d'Urvil**	**58.35**	**200**	P		**P**	**P**	**09 21 28.0**	**-1.7**
DRV	**Dumont d'Urvil**	**58.35**	**200**	PP		PP	PP	09 23 39.0	+0.3
DRV				S		**S**	**S**	**09 29 32.0**	**-0.4**
DRV				L				09 36 00.0	
FITZ	**Fitzroy Crossi**	**59.28**	**259**	*e*P		**P**	**P**	**09 21 36.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**59.28**	**259**	*e*P		**P**	**P**	**09 21 36.4**	**-0.5**
	comp=Z,538nm,1.9s,mb6.2								
MSAI	**Masohi**	**59.64**	**276**	P		**P**	**P**	**09 21 40.3**	**+0.8**
	comp=Z,1μmcomp=Z,39nm,1.3s,mb5.3								
AAI	**Ambon**	**60.23**	**276**	P		**P**	**P**	**09 21 43.8**	**+0.2**
	comp=Z,7μmcomp=Z,382nm,0.9s,mb6.4								
NLAI	**Namlea**	**61.41**	**276**	P		**P**	**P**	**09 21 52.0**	**+0.4**
	comp=Z,6μmcomp=Z,295nm,1.5s,mb6.2								
SBA	**Scott Base**	**61.52**	**185**	*e*P		**P**	**P**	**09 21 51.7**	**+0.4**
	comp=Z,110nm,1.0s,mb5.9								
SBA				LR		LR			
	comp=Z,3μm,20.0s,MS5.4								
SBA	**Scott Base**	**61.52**	**185**	*e*P		**P**	**P**	**09 21 51.7**	**+0.4**
SBA				pmax		pmax			
	comp=Z,110nm,1.0s,mb5.9								
SBA				MLR		MLR			
	comp=Z,3μm,20.0s,MS5.4								
LBMI	**Labuha**	**61.85**	**279**	P		**P**	**P**	**09 21 55.5**	**+1.0**
	comp=Z,6μmcomp=Z,423nm,0.9s,mb6.5								
TNTI	**Ternate**	**62.44**	**280**	P		**P**	**P**	**09 21 59.4**	**+0.9**
	comp=Z,921nm,1.4s,mb6.7								
MBWA	**Marble Bar**	**64.27**	**254**	*e*P		**P**	**P**	**09 22 10.6**	**0.0**
	comp=Z,279nm,1.2s,mb6.2								
MBWA				LR		LR			
	comp=Z,8μm,19.0s,MS5.9								
MBWA	**Marble Bar**	**64.27**	**254**	P		**P**	**P**	**09 22 11.4**	**+0.9**
	comp=Z,7μmcomp=Z,431nm,1.1s,mb6.4								
KLBR	**Kellerberrin**	**64.68**	**243**	*e*P		**P**	**P**	**09 22 11.0**	**-2.1**
	comp=Z,688nm,1.4s,mb6.5								
NWAO	**Narrogin (SRO)**	**65.00**	**241**	*e*P		**P**	**P**	**09 22 14.9**	**-0.3**
	comp=Z,235nm,1.4s,mb6.0								
NWAO				LR		LR			
	comp=Z,4μm,19.0s,MS5.6								
NWAO	**Narrogin (SRO)**	**65.00**	**241**	*e*P		**P**	**P**	**09 22 14.9**	**-0.3**
NWAO				pmax		pmax			
	comp=Z,235nm,1.4s								
NWAO				MLR		MLR			
	comp=Z,4μm,19.0s								
MNI	**Manado**	**65.05**	**280**	P		**P**	**P**	**09 22 21.4**	**+5.7**
DAV	**Davao City (W)**	**66.36**	**286**	*e*P		**P**	**P**	**09 22 24.9**	**+0.8**
DAV				LR		LR			
	comp=Z,2μm,19.0s,MS5.4								
DAV	**Davao City (W)**	**66.36**	**286**	*j e*P		**P**	**P**	**09 22 24.0**	**-0.2**
CTBH	**Cotabato--PC H**	**67.64**	**286**	*j i*P		**P**	**P**	**09 22 33.7**	**+1.4**
KAPI	**Kappang**	**67.89**	**272**	*e*P		**P**	**P**	**09 22 33.1**	**-0.9**
	comp=Z,210nm,1.4s,mb6.0								
KAPI				LR		LR			
	comp=Z,2μm,21.0s,MS5.2								
KAPI	**Kappang**	**67.89**	**272**	P		**P**	**P**	**09 22 34.0**	**0.0**
	comp=Z,5μmcomp=Z,281nm,2.4s,mb5.9								
KAPI	**Kappang**	**67.89**	**272**	P		**P**	**P**	**09 22 33.6**	**-0.3**
	SNR=15								
CASY	**Casey**	**69.34**	**205**	PFAKE				09 22 50.0	+7.9
CASY				LR		LR			
	comp=Z,1μm,21.0s,MS5.1								
BSC	**Santa Cruz Isl**	**71.22**	**44**	⇑P		**P**	**P**	**09 22 54.1**	**+0.1**
	baz=72,SNR=8.2								
MJAR	**Matsushiro Arr**	**71.31**	**319**	P		**P**	**P**	**09 22 54.2**	**-0.4**
	comp=Z,25nm,0.9s,mb5.1,baz=164,slow=6.0,SNR=43								
MJAR				S		S		09 32 16.1	+3.5
	comp=Z,0.8nm,0.8s,baz=128,slow=7.9,SNR=2.6								
MJAR				LR		LR		09 47 17.9	
	comp=Z,922nm,20.7s,MS5.0,baz=135,slow=30								
MJAR	**Matsushiro Arr**	**71.31**	**319**	P		**P**	**P**	**09 22 54.1**	**-0.4**
MJAR				S		S		09 32 16.1	+3.5
MJAR	**Matsushiro Arr**	**71.31**	**319**	P		**P**	**P**	**09 22 54.2**	**-0.3**
MJAR				pmax		pmax			
	comp=Z,25nm,0.9s								
MAJO	**Matsushiro**	**71.31**	**319**	*e*P		**P**	**P**	**09 22 53.4**	**-1.1**
	comp=Z,76nm,1.2s,mb5.5								
MAJO				LR		LR			
	comp=Z,1μm,19.0s,MS5.2								
MAJO	**Matsushiro**	**71.31**	**319**	*e*P		**P**	**P**	**09 22 53.4**	**-1.1**
MAJO				pmax		pmax			
	comp=Z,76nm,1.2s,mb5.5								
MAJO				MLR		MLR			
	comp=Z,1μm,19.0s,MS5.2								
MAT	**Matsushiro**	**71.31**	**319**	P		**P**	**P**	**09 22 54.1**	**-0.4**
MAT				S		S		09 32 14.0	+1.3
SCI	**San Clemente I**	**71.34**	**45**	⇑P		**P**	**P**	**09 22 54.9**	**0.0**
	baz=72,SNR=5.2								
SCI				⇑S		S		09 32 16.1	+2.8
	baz=72								
SBC	**Santa Barbara**	**71.43**	**44**	⇑P		**P**	**P**	**09 22 55.6**	**+0.2**
	baz=72								
PKM	**Peak Mountain**	**71.64**	**43**	⇑P		**P**	**P**	**09 22 56.4**	**-0.1**
	baz=72,SNR=8.6								
BLG	**Laguna Peak**	**71.66**	**44**	⇓P		**P**	**P**	**09 22 56.8**	**+0.1**
	baz=72								
SMKI	**Samarinda**	**71.67**	**275**	P		**P**	**P**	**09 23 03.4**	**+6.2**
CIS	**Catalina Islan**	**71.69**	**45**	⇑P		**P**	**P**	**09 22 56.3**	**-0.6**
	baz=72,SNR=12								
SAO	**San Andreas Ge**	**71.75**	**41**	*e*P		**P**	**P**	**09 22 58.1**	**+0.9**
	comp=Z,158nm,1.3s,mb5.8								
SAO	**San Andreas Ge**	**71.75**	**41**	*e*P		**P**	**P**	**09 22 58.1**	**+0.9**
SAO				pmax		pmax			
	comp=Z,158nm,1.3s,mb5.8								
SMMC	**Simmler**	**71.77**	**43**	⇓P		**P**	**P**	**09 22 57.3**	**-0.1**
	baz=72,SNR=12								
KBKI	**Kotabaru**	**71.81**	**272**	P		**P**	**P**	**09 22 59.7**	**+1.6**
	comp=Z,5μmcomp=Z,243nm,1.8s,mb5.8								
FMP	**Fort Macarthur**	**71.94**	**45**	⇓P		**P**	**P**	**09 22 58.5**	**+0.1**
	baz=72								
ERM	**Erimo**	**72.12**	**326**	*e*P		**P**	**P**	**09 22 58.3**	**-1.0**
ERM				*e*PcP		PcP	PcP	09 23 21.4	+3.8
ERM				*e*PP		PP	PP	09 25 41.3	+1.5
ERM				LR		LR			
	comp=Z,2μm,19.0s,MS5.4								
ERM	**Erimo**	**72.12**	**326**	*e*P		**P**	**P**	**09 22 58.3**	**-1.0**

comp=Z,160nm,0.8s,mb6.0
SKR pmax pmax
comp=Z,3µm,10.0s
SKR smax
comp=N,3µm,14.0s
SKR smax
comp=E,4µm,14.0s
SKR MLR MLR
comp=N,3µm,18.0s
SKR MLR MLR
comp=Z,3µm,18.0s,MS5.6
SKR MLR MLR
comp=E,3µm,24.0s
LRMC Laurel Mountai 73.38 44 ⇑P **P 09 23 06.7 -0.2**
baz=74,SNR=26
KRMB Red Mountain 73.40 36 *e*P **P 09 23 08.0 +1.1**
comp=E,156nm,1.4s,mb5.8
RRX Edison Barstow 73.49 45 ⇓P **P 09 23 07.4 -0.2**
baz=74
WDC Whiskeytown Da 73.55 37 *e*P **P 09 23 08.3 +0.4**
comp=E,180nm,1.4s,mb5.8
WDC Whiskeytown Da 73.55 37 *e*P **P 09 23 08.3 +0.5**
WDC pmax pmax
comp=Z,180nm,1.4s,mb5.8
SDKM Sandakan 73.63 281 P **P 09 23 09.9 +1.0**
BELC Belle Mtn. Jos 73.67 46 ⇓P **P 09 23 08.3 -0.4**
baz=74,SNR=80
CWC Cottonwood Cre 73.70 43 ⇓P **P 09 23 08.8 0.0**
baz=74,SNR=68
BC3 Big Chuckawall 73.85 46 ⇓P **P 09 23 09.8 +0.1**
baz=74,SNR=44
MPMC Manual Prospec 73.86 43 ⇓P **P 09 23 10.0 +0.2**
baz=74,SNR=120
GSC Goldstone 73.87 44 ⇓P **P 09 23 09.8 -0.1**
baz=74,SNR=46
GSC Goldstone 73.87 44 *e*P **P 09 23 09.9 +0.1**
comp=Z,128nm,1.4s,mb5.7
GSC Goldstone 73.87 44 *e*P **P 09 23 09.9 +0.1**
GSC pmax pmax
comp=Z,128nm,1.4s,mb5.7
ASAJ Asahikawa 73.89 328 *e*P **P 09 23 09.8 +0.1**
comp=Z,15nm,0.8s,mb5.0
HEC Hector,Ludlow 73.91 45 ⇓P **P 09 23 09.7 -0.4**
baz=74,SNR=43
DAC Darwin (Calif) 73.92 43 PFAKE 09 23 20.0 +10
DAC LR LR
comp=Z,4µm,20.0s,MS5.7
MLAC Mammoth Lakes 73.93 41 ⇓P **P 09 23 10.4 +0.3**
baz=74,SNR=26
GLA Glamis 73.95 47 ⇓P **P 09 23 10.4 +0.1**
baz=74,SNR=16
GLA Glamis 73.95 47 *e*P **P 09 23 10.8 +0.5**
comp=Z,153nm,1.4s,mb5.7
GLA *e*PcP PcP 09 23 28.1 +2.4
GLA Glamis 73.95 47 *e*P **P 09 23 10.8 +0.4**
GLA *e* 09 23 28.1
GLA pmax pmax
comp=Z,153nm,1.4s,mb5.7
TIN Tinemaha 73.97 42 ⇑P **P 09 23 10.5 +0.2**
baz=74,SNR=16
KRKI Karangkates 74.00 266 P **P 09 23 15.6 +4.5**
KEBM Edson Butte 74.08 34 *e*P **P 09 23 11.6 +0.7**
comp=Z,319nm,1.4s,mb6.1
JNU Nakatsue 74.14 313 *e*P **P 09 23 11.6 +0.2**
comp=Z,52nm,1.6s,mb5.2
JNU *e*PcP PcP 09 23 28.4 +1.8
YBH Yreka Blue Hor 74.21 36 *e*P **P 09 23 12.2 +0.5**
comp=Z,235nm,1.5s,mb5.9
YBH Yreka Blue Hor 74.21 36 *e*P **P 09 23 12.2 +0.5**
YBH pmax pmax
comp=Z,235nm,1.5s
IRM Iron Mountain 74.34 46 ⇓P **P 09 23 12.7 +0.1**
baz=75,SNR=110
WCN Washoe City 74.38 39 ⇓P **P 09 23 12.7 0.0**
baz=75,SNR=63
WCN Washoe City 74.38 39 *e*P **P 09 23 13.2 +0.5**
comp=Z,156nm,1.2s,mb5.8
WCN Washoe City 74.38 39 *e*P **P 09 23 13.2 +0.5**
WCN pmax pmax
comp=Z,157nm,1.2s,mb5.8
GRAC Grapevine Rang 74.49 43 ⇑P **P 09 23 13.9 +0.5**
baz=75,SNR=24
PET Petropavlovsk 74.49 342 PFAKE 09 23 20.0 +7.0
PET LR LR
comp=Z,2µm,20.0s,MS5.3
PET Petropavlovsk 74.49 342 *e*P **P 09 23 12.9 -0.1**
PET *e*S S 09 32 44.9 -3.4
PET pmax pmax
comp=Z,79nm,1.9s,mb5.3
PET pmax pmax
comp=Z,1µm,8.4s
FURC Furnace Creek, 74.51 43 ⇓P **P 09 23 12.9 -0.7**
baz=75,SNR=46
TUQ Turquoise Moun 74.53 45 ⇓P **P 09 23 13.5 -0.2**
baz=75,SNR=64
113A Mohawk Valley, 74.54 48 ⇓P **P 09 23 13.5 -0.3**
baz=75,SNR=45
Y12C Blythe 74.55 47 ⇑P **P 09 23 13.6 -0.2**
baz=75,SNR=26
SHOC Shoshone 74.56 44 ⇑P **P 09 23 13.7 -0.2**
baz=75,SNR=44
HUMO Hull Mountain 74.65 35 *e*P **P 09 23 14.9 +0.7**
comp=Z,159nm,1.4s,mb5.8
PWJI Pagerwojo 74.66 266 P **P 09 23 15.4 +0.5**
comp=Z,6µmcomp=Z,146nm,1.9s,mb5.6
KKM Kota Kinabalu 74.69 281 P **P 09 23 16.8 +1.7**
KKM Kota Kinabalu 74.69 281 *e*P **P 09 23 14.8 -0.2**
comp=Z,34nm,0.8s,mb5.3
KKM LR LR
comp=Z,2µm,22.0s,MS5.4
KKM Kota Kinabalu 74.69 281 P **P 09 23 16.2 +1.1**
comp=Z,4µmcomp=Z,89nm,1.5s,mb5.5
NVAR Mina Array Bea 74.75 41 P **P 09 23 15.3 +0.5**
comp=Z,43nm,0.7s,mb5.5,baz=228,slow=8.0,SNR=133
NVAR LR LR 09 50 18.0
comp=Z,4µm,18.1s,MS5.7,baz=126,slow=31
NVAR PKPPKP 09 50 41.3
comp=Z,0.3nm,0.7s,baz=127,slow=2.7,SNR=2.5
NVAR Mina Array Bea 74.75 41 P **P 09 23 15.3 +0.5**
NVAR P'P' 09 50 41.3
SJI Sawahan 74.77 267 P **P 09 23 16.6 +1.0**
comp=Z,9µmcomp=Z,243nm,1.8s,mb5.8
214A Organ Pipe Nat 74.80 49 ⇓P **P 09 23 15.4 +0.1**
baz=75,SNR=22
PETK Petropavlovsk- 74.85 342 P **P 09 23 14.3 -0.8**
comp=Z,50nm,0.9s,mb5.5,baz=122,slow=7.5,SNR=31
PETK S S 09 32 55.2 +3.0
comp=Z,3.5nm,0.8s,baz=216,slow=14,SNR=2.1
PETK LR LR 09 55 03.9
comp=Z,1µm,18.8s,MS5.2,baz=147,slow=35
PETK Petropavlovsk- 74.85 342 P **P 09 23 14.3 -0.8**
PETK S S 09 32 55.2 +3.0
PETK Petropavlovsk- 74.85 342 P **P 09 23 14.3 -0.8**
PETK pmax pmax
comp=Z,50nm,0.9s,mb5.4
Z13A Yuma Proving G 74.86 48 ⇓P **P 09 23 15.7 0.0**
baz=75,SNR=37
LDFC Landfair 74.88 45 *e*P **P 09 23 15.9 +0.2**
comp=Z,486nm,1.4s,mb6.2
NEE2 Needles Airpor 75.04 46 ⇓P **P 09 23 16.7 0.0**
baz=75,SNR=6.8
PDMCI Parker Dam,Lak 75.11 46 ⇑P **P 09 23 16.8 -0.3**
baz=75,SNR=26
114A Black Gap (USA 75.16 48 ⇑P **P 09 23 17.2 -0.2**
baz=75,SNR=18
PCJI Pacitan 75.21 266 P **P 09 23 19.0 +0.9**
comp=Z,8µmcomp=Z,421nm,1.4s,mb6.2
TPH Tonopah 75.22 42 PFAKE 09 23 30.0 +12
TPH LR LR
comp=Z,3µm,21.0s,MS5.6
Z14A Wintersburg 75.44 48 ⇓P **P 09 23 19.3 +0.3**
baz=76,SNR=25
MOD Modoc 75.69 37 *e*P **P 09 23 20.2 0.0**
comp=Z,128nm,1.2s,mb5.7
Y14A Wickenburg 75.71 47 ⇓P **P 09 23 20.3 -0.2**
baz=76,SNR=29
W13A Hualapai Mount 75.73 46 ⇓P **P 09 23 20.6 0.0**
baz=76,SNR=88
OHAK Old Harbor 75.81 10 *e*P **P 09 23 21.0 +0.5**
comp=Z,300nm,2.1s,mb5.9
YSS Yuzh-Sakhalins 75.83 330 *e*P **P 09 23 20.9 0.0**
comp=Z,92nm,1.0s,mb5.7
YSS LR LR
comp=Z,485nm,19.0s,MS4.8
YSS Yuzh-Sakhalins 75.83 330⇓*e*P **P 09 23 20.0 -0.9**
YSS *e**SP sP 09 23 28.0 +4.0
YSS *e* 09 23 36.0
YSS *e*PPP 09 27 54.0
YSS *e*S S 09 32 54.0 -9.4
YSS *e*PPS 09 33 40.0
YSS *e*SS SS 09 37 54.0 -1.9
YSS pmax pmax
comp=Z,140nm,1.1s,mb5.8
YSS pmax pmax
comp=E,40nm,1.0s
YSS MLR MLR
comp=Z,1µm,18.0s,MS5.2
YSS MLR MLR
comp=N,500nm,15.0s,MS5.1
YSS MLR MLR
comp=E,500nm,17.0s,MS5.1
K05A Summer Lake 75.88 36 ⇑P **P 09 23 21.9 +0.6**
baz=76
UGM Wanagama 75.91 266 P **P 09 23 27.3 +5.1**
MIR Mirnyy 76.33 204⇑*i*P **P 09 23 22.6 -1.0**
MIR pmax pmax
comp=Z,144nm,1.4s,mb5.7
MIR pmax pmax
comp=Z,3µm,7.0s
R11A Troy Canyon, C 76.42 42 ⇑P **P 09 23 24.6 +0.1**
baz=77,SNR=76
TUC Tucson 76.45 50 *e*P **P 09 23 25.1 +0.3**
comp=Z,190nm,1.5s,mb5.8
TUC LR LR
comp=Z,3µm,19.0s,MS5.6
TUC Tucson 76.45 50 *e*P **P 09 23 25.1 +0.3**
TUC pmax pmax
comp=Z,190nm,1.5s,mb5.8
TUC MLR MLR
comp=Z,3µm,19.0s,MS5.6
KDAK Kodiak Island 76.47 10 *e*P **P 09 23 24.3 0.0**
comp=Z,233nm,1.5s,mb5.9
KDAK LR LR
comp=Z,3µm,19.0s,MS5.7
KDAK Kodiak Island 76.47 10 *i*P **P 09 23 24.7 +0.5**
318A Bisbee 76.59 51 ⇓P **P 09 23 25.9 +0.3**
baz=77,SNR=39
BMN Battle Mountai 76.62 40 *e*P **P 09 23 25.6 +0.1**
comp=Z,78nm,1.0s,mb5.6
BMN LR LR
comp=Z,2µm,20.0s,MS5.5
BMN Battle Mountai 76.62 40 *e*P **P 09 23 25.7 +0.2**
BMN pmax pmax
comp=Z,78nm,1.0s,mb5.6
BMN MLR MLR
comp=Z,2µm,20.0s,MS5.5
BTM Bintulu 76.72 278 P **P 09 23 28.7 +2.0**
YULB Yu-li 76.77 300 *e*P **P 09 23 26.4 -0.3**
comp=Z,42nm,1.0s,mb5.3
218A Dragoon 76.82 50 ⇑P **P 09 23 27.3 +0.4**
baz=77,SNR=56
NACB Ninganchiao 76.86 301 *e*P **P 09 23 28.0 +0.7**
comp=Z,180nm,1.3s,mb5.8
E03A Lebam 76.98 32 ⇓P **P 09 23 27.7 +0.3**
baz=77,SNR=7.0
WVOR Wild Horse Val 76.99 37 *e*P **P 09 23 27.4 -0.2**
comp=Z,162nm,1.4s,mb5.8
WVOR LR LR
comp=Z,3µm,20.0s,MS5.6
WVOR Wild Horse Val 76.99 37 *e*P **P 09 23 27.4 -0.2**
WVOR pmax pmax
comp=Z,162nm,1.4s,mb5.8
WVOR MLR MLR
comp=Z,3µm,20.0s,MS5.6
X16A Lo Mia Camp, P 77.06 48 ⇓P **P 09 23 28.8 +0.6**
baz=77,SNR=89
319A Douglas 77.09 51 ⇓P **P 09 23 28.9 +0.5**
baz=77,SNR=41
Y17A Roosevelt 77.11 48 ⇓P **P 09 23 28.7 +0.2**
baz=77,SNR=57
Z17A San Carlos Hig 77.18 49 ⇓P **P 09 23 29.4 +0.6**
baz=77,SNR=26
118A Homack Ranch, 77.21 50 ⇑P **P 09 23 29.7 +0.7**
baz=77,SNR=60
SSLB Suanglung 77.22 300 *e*P **P 09 23 28.1 -1.2**
comp=Z,82nm,1.2s,mb5.5
YHNB Yeheng 77.25 301 *e*P **P 09 23 29.1 -0.4**
comp=Z,172nm,1.4s,mb5.8
YHNB LR LR
comp=Z,1µm,20.0s,MS5.2
TPUB Ta-pu 77.28 299 *e*P **P 09 23 29.2 -0.5**
comp=Z,125nm,1.0s,mb5.8
TATO Taipei 77.30 301 PFAKE 09 23 40.0 +10
TATO LR LR
comp=Z,2µm,21.0s,MS5.4
SBUM Sibu 77.30 277 P **P 09 23 30.7 +0.7**
SBUM Sibu 77.30 277 P **P 09 23 32.0 +2.0**
comp=Z,4µmcomp=Z,42nm,3.6s
R13A O'Grain Ranch, 77.37 43 ⇑P **P 09 23 30.3 +0.5**
baz=78,SNR=62
Z18A Geronimo 77.38 49 ⇑P **P 09 23 30.6 +0.6**
baz=78,SNR=11
NLWA Neilton Lookou 77.41 31 *e*P **P 09 23 30.8 +1.0**
comp=Z,57nm,1.1s,mb5.4
NLWA LR LR
comp=Z,5µm,19.0s,MS5.8
219A White Tail Can 77.41 51 ⇓P **P 09 23 30.6 +0.4**
baz=78,SNR=37
CCUT Cedar City 77.42 44 *e*P **P 09 23 30.7 +0.5**
comp=Z,147nm,1.5s,mb5.7
X17A Forest Lakes 77.47 48 ⇓P **P 09 23 31.1 +0.6**
baz=78,SNR=33
ARUT Antelope Range 77.50 44 *e*P **P 09 23 30.9 +0.4**
comp=Z,196nm,1.4s,mb5.8
ARUT Antelope Range 77.50 44 *e*P **P 09 23 31.0 +0.4**
ARUT pmax pmax
comp=Z,196nm,1.4s,mb5.8
I07A Izee 77.53 36 ⇑P **P 09 23 31.1 +0.5**
baz=78,SNR=51
U15A North Rim 77.54 45 ⇑P **P 09 23 31.8 +1.0**
baz=78,SNR=104
320A Kipp Ranch, An 77.63 52 ⇓P **P 09 23 31.9 +0.5**
baz=78,SNR=32
G06A Carlson Farm, 77.64 34 ⇑P **P 09 23 31.0 -0.2**
baz=78,SNR=24
J08A Circle Bar Ran 77.66 37 ⇑P **P 09 23 31.4 +0.1**
baz=78,SNR=68
WUAZ Wupatki 77.68 47 ⇓P **P 09 23 32.1 +0.4**
baz=78,SNR=53
WUAZ Wupatki 77.68 47 *e*P **P 09 23 32.0 +0.4**
comp=Z,118nm,1.3s,mb5.7
WUAZ LR LR
comp=Z,3µm,22.0s,MS5.6
Y18A Canyon Day Jun 77.73 49 ⇑P **P 09 23 32.1 +0.1**
baz=78,SNR=88
119A Ashpeak Ranch, 77.76 50 ⇓P **P 09 23 32.2 0.0**
baz=78,SNR=36
220A Playas Peak, P 77.91 51 ⇓P **P 09 23 33.3 +0.4**
baz=78,SNR=77
W17A Winslow 77.92 47 ⇑P **P 09 23 33.6 +0.6**
baz=78,SNR=7.9
LON Longmire 78.02 33 *e*P **P 09 23 32.7 -0.5**
comp=Z,102nm,1.7s,mb5.5
LON Longmire 78.02 33 *e*P **P 09 23 32.7 -0.5**
LON pmax pmax
comp=Z,102nm,1.7s,mb5.5
Z19A T-Link Ranch, 78.05 49 ⇑P **P 09 23 34.5 +0.8**
baz=78,SNR=16
120A U Bar Ranch, L 78.14 50 ⇑P **P 09 23 34.8 +0.5**
baz=78,SNR=36
V17A Tonalea, Kykot 78.14 47 ⇑P **P 09 23 34.6 +0.4**
baz=78,SNR=86
X18A Snowflake 78.18 48 ⇑P **P 09 23 34.8 +0.4**
baz=78,SNR=62
U16A Tuba City 78.18 46 ⇓P **P 09 23 35.0 +0.6**
baz=78,SNR=75
Y19A Nutrioso 78.39 49 ⇓P **P 09 23 36.6 +1.1**
baz=79,SNR=75
Z20A Nine Sixteen R 78.45 50 ⇓P **P 09 23 36.6 +0.6**
baz=79,SNR=61
R15A Junction 78.50 44 ⇑P **P 09 23 37.2 +1.0**
baz=79,SNR=50
KSRS Korea Array 78.51 315 P **P 09 23 37.5 +1.3**
comp=Z,27nm,1.0s,mb5.2,baz=128,slow=5.8,SNR=55
KSRS LR LR 09 56 27.1
comp=Z,668nm,18.9s,MS5.0,baz=115,slow=34
KSRS Korea Array 78.51 315 P **P 09 23 37.5 +1.3**
KSRS pmax pmax
comp=Z,27nm,1.0s,mb5.1
221A Mesquite Ranch 78.52 51 ⇑P **P 09 23 37.1 +0.7**
baz=79,SNR=16
KSAR Wonju Array Be 78.53 315 P **P 09 23 37.5 +1.2**
KSAR Wonju Array Be 78.53 315 P **P 09 23 37.5 +1.2**
X19A St. Johns 78.59 48 ⇓P **P 09 23 37.6 +0.8**
baz=79,SNR=77
W18A Petrified Fore 78.63 48 ⇓P **P 09 23 37.6 +0.7**
baz=79,SNR=9.5
S16A Weppner Ranch, 78.70 45 ⇑P **P 09 23 37.6 +0.4**
baz=79,SNR=64
MVU Marysvale 78.71 44 PFAKE 09 23 50.0 +13
MVU LR LR
comp=Z,3µm,20.0s,MS5.7
MSU Marysvale 78.73 44 *e*P **P 09 23 38.3 +0.9**
comp=Z,189nm,1.3s,mb5.9
MSU Marysvale 78.73 44 *e*P **P 09 23 38.3 +0.9**
MSU pmax pmax
comp=Z,189nm,1.3s,mb5.9
U17A Shonto 78.74 46 ⇓P **P 09 23 38.4 +0.9**
baz=79,SNR=69
121A Cookes Peak, D 78.76 51 ⇑P **P 09 23 38.7 +1.0**
baz=79,SNR=38
V18A Ganado 78.79 47 ⇑P **P 09 23 38.0 +0.3**
baz=79,SNR=157
KSM Kuching 78.82 275 P **P 09 23 40.0 +1.6**
KSM Kuching 78.82 275 *e*P **P 09 23 37.4 -1.0**
comp=Z,195nm,1.2s,mb5.9
KSM LR LR
comp=Z,1µm,19.0s,MS5.2
KSM Kuching 78.82 275 P **P 09 23 39.4 +0.9**
comp=Z,4µmcomp=Z,188nm,1.3s,mb5.9
T17A Navajo Res., N 78.85 46 ⇑P **P 09 23 38.9 +0.8**
baz=79,SNR=77
W19A Sanders 78.87 48 ⇓P **P 09 23 38.6 +0.3**
baz=79,SNR=42
JCW Jim Creek 78.92 31 *e*P **P 09 23 38.1 -0.1**
comp=Z,130nm,1.6s,mb5.6
JCW *e*PP PP 09 26 38.0 +0.8
RSW Rattlesnake Hi 78.95 34 *e*P **P 09 23 38.4 0.0**
comp=Z,148nm,1.3s,mb5.8
HAWA Hanford 78.98 34 *e*P **P 09 23 38.9 +0.4**
comp=Z,148nm,1.4s,mb5.7
HAWA LR LR
comp=Z,6µm,19.0s,MS6.0
RSO Redoubt South 78.98 10 *e*P **P 09 23 37.9 -0.3**
comp=Z,85nm,1.1s,mb5.6
Y20A Horse Springs, 79.00 49 ⇑P **P 09 23 39.7 +0.8**
baz=79,SNR=114
222A Williams Famil 79.07 51 ⇓P **P 09 23 39.7 +0.3**
baz=79
VLA Vladivostok 79.17 322⇓*i*P **P 09 23 39.1 -0.6**
VLA pmax pmax
comp=Z,43nm,1.6s,mb5.1
S17A Black Ridge (B 79.19 45 ⇑P **P 09 23 39.9 0.0**
baz=79,SNR=74
SEW Seward 79.21 11 *e*P **P 09 23 39.5 0.0**
comp=Z,83nm,1.1s,mb5.6
Z21A St. Cloud Mine 79.22 50 ⇓P **P 09 23 40.9 +0.7**
baz=79,SNR=105
X20A Quemado 79.22 49 ⇑P **P 09 23 40.7 +0.6**
baz=79,SNR=64
MFID Camas Ranch 79.23 38 ⇓P **P 09 23 40.0 0.0**
baz=80,SNR=67
MFID Camas Ranch 79.23 38 *e*P **P 09 23 39.4 -0.6**
comp=Z,116nm,1.3s,mb5.7
BMO Blue Mountains 79.24 36 *e*P **P 09 23 39.4 -0.6**
comp=Z,80nm,1.4s,mb5.5
BMO LR LR
comp=Z,3µm,19.0s,MS5.7
DUG Dugway 79.24 42 ⇓P **P 09 23 40.2 +0.1**
baz=80,SNR=65
DUG Dugway 79.24 42 *e*P **P 09 23 40.0 -0.1**
comp=Z,83nm,1.2s,mb5.5
DUG LR LR
comp=Z,2µm,20.0s,MS5.5
DUG Dugway 79.24 42 *e*P **P 09 23 40.0 -0.1**
DUG pmax pmax
comp=Z,83nm,1.2s,mb5.5
DUG MLR MLR
comp=Z,2µm,20.0s,MS5.5
P15A Leamington 79.24 43 ⇓P **P 09 23 40.5 +0.3**
baz=80,SNR=24
RPW Rockport 79.29 31 *e*P **P 09 23 39.5 -0.7**
comp=Z,6.0nm,0.7s,mb4.6
LNOR Lincton Mounta 79.32 35 *e*P **P 09 23 40.4 -0.1**
comp=Z,74nm,1.7s,mb5.3
LNOR Lincton Mounta 79.32 35 *e*P **P 09 23 40.4 0.0**
LNOR pmax pmax
comp=Z,74nm,1.7s,mb5.3
ETW Entiat 79.34 33 *e*P **P 09 23 40.4 -0.1**
comp=Z,155nm,1.3s,mb5.8
A05A Maple Falls 79.38 31 ⇑P **P 09 23 40.3 -0.4**
baz=80
INCN Inchon 79.40 315 *e*P **P 09 23 43.2 +2.1**
comp=Z,433nm,1.8s,mb6.1
INCN LR LR
comp=Z,1µm,21.0s,MS5.2
V19A Window Rock 79.41 47 ⇑P **P 09 23 42.2 +1.0**
baz=80,SNR=35
122A Conniff Cattle 79.42 51 ⇑P **P 09 23 42.3 +0.9**
baz=80,SNR=6.7
SLKM Skilak Lake 79.45 11 *e*P **P 09 23 40.7 -0.1**
SLKM Skilak Lake 79.45 11 *e*P **P 09 23 40.7 -0.1**
O15A The Old Anders 79.50 42 ⇓P **P 09 23 41.9 +0.3**
baz=80,SNR=19
W20A Ramah 79.51 48 ⇑P **P 09 23 42.3 +0.6**
baz=80,SNR=164
223A Chaparral, Ant 79.52 52 ⇑P **P 09 23 42.3 +0.4**
baz=80,SNR=7.3
Y21A Point of Rocks 79.55 50 ⇓P **P 09 23 42.9 +0.9**
baz=80,SNR=88
T18A Mexican Hat 79.56 46 ⇓P **P 09 23 42.2 +0.3**
baz=80,SNR=193
U19A Dine' College, 79.59 47 ⇑P **P 09 23 42.8 +0.6**
baz=80,SNR=100
Q16A Castle Valley 79.61 44 ⇑P **P 09 23 42.8 +0.6**
baz=80,SNR=40
R17A Hanksville Air 79.66 44 ⇓P **P 09 23 42.4 0.0**
baz=80,SNR=67
QZH Quanzhou 79.66 300⇓*i*P **P 09 23 41.8 -1.0**
QZH PP PP 09 26 43.8 -0.1
QZH S S 09 33 43.3 -2.5
QZH SS SS 09 38 52.0 -2.6
QZH pmax pmax
comp=Z,130nm,1.1s,mb5.8
QZH pmax pmax
comp=Z,5µm,7.2s
QZH LR LR
comp=N,1µm,13.5s,MS5.7
QZH LR LR
comp=E,2µm,17.6s,MS5.7
P16A Fountain Green 79.66 43 ⇓P **P 09 23 43.4 +0.9**
baz=80,SNR=22
X21A Alamocita Cree 79.69 49 ⇓P **P 09 23 43.5 +0.8**
baz=80,SNR=51
Z22A Elephant Butte 79.71 50 ⇓P **P 09 23 43.5 +0.6**
baz=80,SNR=54
USRK Ussuriysk Arra 79.75 323 P **P 09 23 42.4 -0.4**
comp=E,10nm,0.9s,mb4.8,baz=114,slow=4.6,SNR=26
USRK LR LR 09 57 39.4
comp=E,653nm,19.5s,MS5.0,baz=78,slow=35
S18A Hurst Farm, Bl 79.76 45 ⇑P **P 09 23 43.4 +0.3**
baz=80,SNR=19
TMUT Trail Mountain 79.79 43 *e*P **P 09 23 43.0 -0.1**
comp=E,137nm,1.2s,mb5.8
E09A Wood Farm, Sta 79.80 34 ⇓P **P 09 23 42.6 -0.4**
baz=80,SNR=38
XMIS Christmas Isla 79.85 262 *e*P **P 09 23 43.0 -1.1**
XMIS Christmas Isla 79.85 262 P **P 09 23 39.4 -4.7**
I12A Atlanta 79.86 38 ⇑P **P 09 23 43.6 +0.2**
baz=80,SNR=115
V20A Brimhall 79.86 48 ⇓P **P 09 23 43.7 +0.1**
baz=80,SNR=18
MPU Maple Canyon 79.90 43 *e*P **P 09 23 44.8 +1.1**
comp=E,68nm,1.2s,mb5.5
123A Bell Site, Whi 79.94 51 ⇑P **P 09 23 44.8 +0.7**
baz=80
F10A Beach Ranch, E 79.97 35 ⇑P **P 09 23 43.4 -0.5**
baz=80,SNR=53
324A Moseley Ranch, 79.98 53 ⇑P **P 09 23 44.4 0.0**
baz=80,SNR=37
T19A Beclabito 79.99 46 ⇑P **P 09 23 44.8 +0.5**
baz=80,SNR=81
L14A Malta 79.99 40 ⇓P **P 09 23 43.8 -0.4**
baz=80,SNR=30
Y22A Socorro 80.04 50 ⇑P **P 09 23 45.1 +0.5**
baz=80,SNR=40
OD2 Odessa Site #2 80.05 34 *e*P **P 09 23 43.8 -0.5**
comp=E,498nm,2.0s,mb6.1
425A Indio Mountain 80.06 53 ⇑P **P 09 23 44.9 +0.1**
baz=80,SNR=55
RC01 Rabbit Creek A 80.08 11 *e*P **P 09 23 43.5 -0.7**
comp=E,156nm,1.5s,mb5.7

W21A San Fidel 80.11 49 ⇑P P 09 23 45.8 +0.8
baz=80
U20A Newcomb 80.11 47 ⇑P P 09 23 45.3 +0.4
baz=80,SNR=57
LAZ Ladron 80.13 49 *e*P **P 09 23 46.1 +0.9**
comp=E,89nm,1.5s,mb5.5
Y22D IRIS PASSCAL I 80.13 50 ⇑P P 09 23 45.8 +0.6
baz=80,SNR=8.2
HVU Hansel Valley 80.14 41 *e*P **P 09 23 44.8 -0.2**
comp=E,197nm,1.7s,mb5.8
HVU Hansel Valley 80.14 41 *e*P **P 09 23 44.8 -0.2**
HVU pmax pmax
comp=Z,197nm,1.7s,mb5.8
LENM Lemitar 80.14 50 *e*P **P 09 23 46.0 +0.8**
comp=Z,78nm,1.2s,mb5.5
SRU San Rafael 80.14 44 *e*P **P 09 23 45.0 -0.1**
comp=Z,118nm,1.3s,mb5.7
SRU San Rafael 80.14 44 *e*P **P 09 23 45.0 -0.1**
SRU pmax pmax
comp=Z,119nm,1.3s,mb5.7
HLID Hailey 80.15 38 ⇓P P 09 23 45.4 +0.5
baz=80,SNR=92
HLID Hailey 80.15 38 *e*P **P 09 23 45.3 +0.3**
comp=Z,241nm,1.6s,mb5.9
HLID LR LR
comp=Z,2μm,19.0s,MS5.4
M15A Larsen Ranch, 80.17 41 ⇓P P 09 23 44.3 -0.9
baz=80,SNR=25
MNTX Cornudas Mount 80.17 52 ⇓P P 09 23 45.2 -0.3
baz=80,SNR=88
MNTX Cornudas Mount 80.17 52 *e*P **P 09 23 45.5 +0.1**
comp=Z,116nm,1.4s,mb5.6
MNTX LR LR
comp=Z,2μm,20.0s,MS5.4
626A Big Bend Ranch 80.17 55 ⇓P P 09 23 45.6 +0.1
baz=80,SNR=62
R18A Canyonlands Na 80.19 45 ⇑P P 09 23 45.2 -0.2
baz=80,SNR=87
P17A Butcher Ranch, 80.19 43 ⇓P P 09 23 45.8 +0.5
baz=80,SNR=43
J13A Cove Ranch, Pi 80.20 39 ⇓P P 09 23 45.3 +0.1
baz=80,SNR=124
224A Cornudas Mount 80.24 52 ⇑P P 09 23 45.9 +0.1
baz=80,SNR=65
SSE Sheshan 80.25 307 P **P 09 23 45.8 0.0**
SSE PP PP 09 26 49.0 +0.3
SSE S S 09 33 45.5 -6.2
SSE SS SS 09 38 58.6 -4.6
SSE pmax pmax
comp=Z,61nm,0.7s,mb5.6
SSE pmax pmax
comp=Z,2μm,11.1s
SSE LR LR
comp=N,1μm,18.6s,MS5.5
SSE LR LR
comp=E,2μm,18.6s,MS5.5
SSE LR LR
comp=Z,3μm,19.6s,MS5.6
Z23A Rita Site, Whi 80.26 51 ⇑P P 09 23 46.0 +0.2
baz=80,SNR=23
X22A Bernardo 80.28 49 ⇓P P 09 23 46.9 +1.0
baz=80,SNR=24
K14A Jones Ranch, D 80.32 40 ⇓P P 09 23 45.7 -0.2
baz=81,SNR=72
JLU Jordanelle 80.33 42 *e*P **P 09 23 45.9 -0.2**
comp=Z,161nm,1.6s,mb5.7
325A Bean Ranch, Si 80.33 53 ⇑P P 09 23 46.4 +0.1
baz=80,SNR=61
DAU Daniels Canyon 80.36 42 *e*P **P 09 23 46.8 +0.6**
comp=Z,65nm,1.3s,mb5.4
DAU Daniels Canyon 80.36 42 *e*P **P 09 23 46.8 +0.6**
DAU pmax pmax
comp=Z,65nm,1.3s,mb5.4
S19A Harvey Farm, M 80.37 46 ⇓P P 09 23 47.0 +0.7
baz=81,SNR=64
BNM Barren Site 80.38 50 *e*P **P 09 23 47.3 +0.8**
comp=Z,239nm,1.7s,mb5.8
Q18A Rafter H Ranch 80.40 44 ⇓P P 09 23 46.4 0.0
baz=81,SNR=64
526A Mary Lane Ranc 80.43 54 ⇑P P 09 23 46.6 -0.2
baz=81,SNR=49
TXAR Lajitas Array 80.44 55 P **P 09 23 47.6 +0.6**
comp=Z,17nm,0.9s,mb5.0,baz=216,slow=6.2,SNR=116
TXAR PKKP PKKPbc 09 42 19.8 -10
comp=Z,0.9nm,1.1s,baz=101,slow=3.8,SNR=4.2
TXAR LR LR 09 54 27.1
comp=Z,2μm,18.1s,MS5.5,baz=35,slow=32
TXAR Lajitas Array 80.44 55 P **P 09 23 47.5 +0.6**
TXAR PKKP PKKPbc 09 42 19.8 -10
TXAR Lajitas Array 80.44 55 P **P 09 23 47.6 +0.7**
TXAR 09 42 19.8
V21A Milan 80.45 48 ⇓P P 09 23 47.5 +0.7
baz=81,SNR=67
LPM Los Pinos Moun 80.46 50 *e*P **P 09 23 47.0 +0.1**
comp=Z,201nm,1.5s,mb5.8
N16A Rees Ranch, Co 80.49 42 ⇑P P 09 23 47.7 +0.8
baz=81,SNR=39
L15A Malad City 80.50 41 ⇓P P 09 23 46.4 -0.5
baz=81,SNR=25
I13A Wildhorse Cree 80.53 38 ⇓P P 09 23 47.3 +0.3
baz=81,SNR=35
WRAK Wrangell Islan 80.54 21 PFAKE 09 24 00.0 +13
WRAK LR LR
comp=Z,2μm,20.0s,MS5.4
MVCO Mesa Verde 80.54 46 ⇑P P 09 23 47.3 0.0
baz=81,SNR=25
MVCO Mesa Verde 80.54 46 *e*P **P 09 23 47.4 +0.1**
comp=Z,88nm,1.4s,mb5.5
MVCO LR LR
comp=Z,3μm,21.0s,MS5.6
J14A Carey 80.55 39 ⇑P P 09 23 47.8 +0.7
baz=81,SNR=112
R19A Curley Farm, L 80.57 45 ⇓P P 09 23 47.7 +0.3
baz=81,SNR=57
O17A Robinson Place 80.58 43 ⇓P P 09 23 47.9 +0.5
baz=81,SNR=70
W22A Albuquerque 80.65 49 ⇓P P 09 23 48.7 +0.8
baz=81,SNR=52
PMR Palmer 80.66 11 *e*P **P 09 23 46.8 -0.5**
comp=Z,173nm,1.5s,mb5.8
PMR Palmer 80.66 11 *e*P **P 09 23 46.8 -0.5**
PMR pmax pmax
comp=Z,173nm,1.5s,mb5.8
HABR Khabarovsk 80.69 327 *e*P **P 09 23 47.1 -0.7**
HABR *e**SP sP 09 23 59.1 +8.2
HABR 09 26 49.5
HABR *e*PPP 09 28 38.7
HABR S S 09 33 52.3 -3.3
HABR pmax pmax
comp=E,63nm,2.2s
HABR pmax pmax
comp=Z,1μm,3.0s
HABR pmax pmax
comp=N,28nm,1.5s
HABR pmax pmax
comp=Z,219nm,1.5s,mb5.9
HABR MLR MLR
comp=Z,1μm,17.0s,MS5.2
Y23A Lovelace Mesa, 80.70 50 ⇓P P 09 23 48.2 0.0
baz=81,SNR=51
627A Terlingua Ranc 80.71 55 ⇓P P 09 23 49.0 +0.6
baz=81,SNR=91
U21A Nageezi 80.74 47 ⇑P P 09 23 49.3 +0.9
baz=81,SNR=115
426A McDonald Obser 80.74 54 ⇓P P 09 23 48.9 +0.4
baz=81,SNR=76
PV10 Paradox Valley 80.76 45 *e*P **P 09 23 48.6 +0.2**
comp=Z,772nm,0.8s,mb6.7
225A Deer Hill, Car 80.78 52 ⇓P P 09 23 49.0 +0.4
baz=81,SNR=18
GAMB Gambell 80.78 0 *e*P **P 09 23 49.3 +1.4**
comp=Z,106nm,1.5s,mb5.5
K15A Arbon 80.79 40 ⇓P P 09 23 48.2 -0.2
baz=81,SNR=30
H13A Challis 80.82 38 ⇓P P 09 23 48.3 -0.3
baz=81,SNR=55
527A Woodward Ranch 80.84 55 ⇓P P 09 23 49.2 +0.1
baz=81,SNR=46
PV04 Paradox Valley 80.86 45 *e*P **P 09 23 49.0 0.0**
DIV Divide 80.88 12 *e*P **P 09 23 48.1 -0.3**
comp=Z,128nm,1.3s,mb5.7
ANMO Albuquerque 80.89 49 LR LR 09 52 04.5
comp=Z,2μm,18.5s,MS5.6,baz=246,slow=30
ANMO Albuquerque 80.89 49 *e*P **P 09 23 49.5 +0.4**
comp=Z,86nm,1.1s,mb5.6
ANMO Albuquerque 80.89 49 *e*P **P 09 23 49.5 +0.3**
ANMO pmax pmax
comp=Z,86nm,1.1s
X23A Hourglass Bar 80.91 50 ⇓P P 09 23 50.0 +0.7
baz=81,SNR=5.9
N17A Moffit Pass 80.91 42 ⇓P P 09 23 49.3 +0.2
baz=81,SNR=32
I14A Mackay 80.93 39 ⇑P P 09 23 49.2 +0.1
baz=81,SNR=32
Z24A Sheeppen Canyo 80.93 51 ⇑P P 09 23 49.5 0.0
baz=81,SNR=24
S20A Disappointment 80.95 46 ⇓P P 09 23 49.7 +0.3
baz=81,SNR=58
PV01 Paradox Valley 80.96 46 *e*P **P 09 23 49.8 +0.3**
comp=Z,18μm,1.4s
BMRM Bremner River 80.98 13 *e*P **P 09 23 49.1 +0.1**
comp=Z,214nm,1.4s,mb5.9
SML Sawmill 81.00 11 *e*P **P 09 23 49.2 +0.1**
comp=Z,57nm,1.7s,mb5.2
SML Sawmill 81.00 11 *e*P **P 09 23 49.2 +0.1**
SML pmax pmax
comp=Z,57nm,1.7s,mb5.2
326A Caldwell Ranch 81.07 53 ⇑P P 09 23 49.9 -0.3
baz=81,SNR=32
O18A Roosevelt 81.09 43 ⇑P P 09 23 50.6 +0.5
baz=81,SNR=10
T21A Navajo Lake 81.11 47 ⇑P P 09 23 50.9 +0.6
baz=81,SNR=44
L16A Fish Haven 81.11 41 ⇓P P 09 23 50.0 -0.2
baz=81,SNR=18
R20A Redvale 81.11 46 ⇑P P 09 23 50.7 +0.4
baz=81,SNR=40
628A Black Gap, Mar 81.12 55 ⇓P P 09 23 50.6 +0.1
baz=81,SNR=63
Y24A Capitan 81.15 50 ⇓P P 09 23 51.1 +0.4
baz=81,SNR=82
125A Gardner Draw, 81.15 52 ⇑P P 09 23 50.8 +0.1
baz=81,SNR=41
GDL2 Guadalupe Moun 81.17 52 P **P 09 23 52.5 +1.8**
comp=Z,332nm,1.5s,mb6.0
W23A Werner Place, 81.21 49 ⇑P P 09 23 51.5 +0.6
baz=81,SNR=12
S21A Coal Bank Pass 81.25 46 ⇑P P 09 23 52.1 +1.0
baz=82,SNR=99
U22A Llaves 81.28 48 ⇓P P 09 23 51.8 +0.6
baz=82,SNR=13
M17A Scullys Gap (B 81.30 42 ⇑P P 09 23 51.5 +0.3
baz=82,SNR=18
226A Malaga, Loving 81.31 53 ⇓P P 09 23 51.4 0.0
baz=82,SNR=55
427A Hayter Ranch, 81.31 54 ⇓P P 09 23 52.5 +1.0
baz=82,SNR=69
H14A Leadore 81.37 38 ⇓P P 09 23 51.7 +0.2
baz=82,SNR=68
Z25A Roswell 81.39 51 ⇓P P 09 23 52.2 +0.3
baz=82
MDJ Mudanjiang 81.39 322 P **P 09 23 52.8 +1.2**
MDJ pP pP 09 23 56.1 +2.2
MDJ sP sP 09 23 57.3 +2.6
MDJ PP PP 09 26 58.6 +0.8
MDJ S S 09 34 05.1 +2.0
MDJ sS sS 09 34 10.8 +3.9
MDJ pmax pmax
comp=Z,46nm,1.6s,mb5.2
MDJ pmax pmax
comp=Z,2μm,6.4s
MDJ LR LR
comp=N,2μm,33.6s,MS5.3
MDJ LR LR
comp=E,1μm,31.2s,MS5.3
MDJ LR LR
comp=Z,2μm,38.5s
MDJ Mudanjiang 81.39 322 *e*P **P 09 23 51.1 -0.5**
comp=Z,329nm,2.0s,mb5.9
MDJ *e*PP PP 09 26 54.9 -2.9
MDJ LR LR
comp=Z,1μm,21.0s,MS5.2
NEW Newport 81.43 33 *e*P **P 09 23 51.3 -0.4**
comp=Z,61nm,1.5s,mb5.3
NEW Newport 81.43 33 *e*P **P 09 23 51.3 -0.4**
NEW pmax pmax
comp=Z,61nm,1.5s
P19A Cripple Cowboy 81.44 44 ⇓P P 09 23 52.3 +0.3
baz=82,SNR=46
X24A Lazy VL Ranch, 81.45 50 ⇓P P 09 23 52.4 +0.2
baz=82,SNR=27
V23A Ortiz Mt. (NFS 81.46 49 ⇑P P 09 23 53.1 +0.9
baz=82,SNR=51
327A Balmorhea Ranc 81.47 54 ⇑P P 09 23 52.3 -0.1
baz=82
F13A Darby 81.48 37 ⇓P P 09 23 51.6 -0.5
baz=82,SNR=35
528A Cox Ranch, San 81.49 55 ⇓P P 09 23 53.0 +0.5
baz=82,SNR=70
L17A Cokeville 81.50 41 ⇑P P 09 23 51.3 -0.9
baz=82,SNR=19
I15A Monteview 81.55 39 ⇓P P 09 23 52.7 +0.3
baz=82,SNR=10.0
Q20A Ridgley Place, 81.55 45 ⇑P P 09 23 52.8 +0.2
baz=82,SNR=106
T22A Edith 81.56 47 ⇑P P 09 23 52.4 -0.3
baz=82,SNR=50
CLNB Carlsbad 81.56 53 *e*P **P 09 23 53.1 +0.2**
comp=Z,47nm,1.5s,mb5.2
126A Clayton Basin, 81.63 52 ⇓P P 09 23 52.8 -0.4
baz=82,SNR=38
M18A Lyman 81.66 42 ⇓P P 09 23 53.1 0.0
baz=82,SNR=30
G14A Jackson 81.67 37 ⇓P P 09 23 52.9 -0.2
baz=82,SNR=14
N18A Larsen Ranch, 81.68 43 ⇑P P 09 23 53.2 0.0
baz=82,SNR=16
O19A Miners Draw (B 81.68 43 ⇓P P 09 23 53.0 -0.3
baz=82,SNR=24
Y25A Mesa, Roswell 81.70 51 ⇑P P 09 23 53.4 -0.1
baz=82
U23A El Rito 81.73 48 ⇓P P 09 23 54.0 +0.4
baz=82,SNR=35
P20A De Beque 81.76 44 ⇓P P 09 23 54.3 +0.6
baz=82
R21A Cimarron 81.77 46 ⇑P P 09 23 54.4 +0.6
baz=82,SNR=98
W24A Lazy 6 Ranch, 81.77 49 ⇑P P 09 23 53.6 -0.3
baz=82,SNR=40
MCMT McKenzie Canyo 81.79 38 *e*P **P 09 23 53.6 -0.1**
comp=Z,34nm,1.2s,mb5.2
H15A Lima 81.80 38 ⇓P P 09 23 53.6 -0.2
baz=82,SNR=68
428A Kincaid Ranch, 81.81 54 ⇑P P 09 23 54.6 +0.4
baz=82,SNR=46
K17A Gardner Place, 81.82 41 ⇓P P 09 23 53.8 -0.2
baz=82,SNR=54
PMSA Palmer Station 81.88 156 PFAKE 09 24 10.0 +16
PMSA LR LR
comp=Z,2μm,19.0s,MS5.5
RRI2 Red Ridge 81.90 40 *e*P **P 09 23 54.9 +0.6**
comp=Z,141nm,1.4s,mb5.7
227A Bennet, Jal 81.90 53 ⇓P P 09 23 54.2 -0.4
baz=82,SNR=12
CPRX Cap Rock 81.92 52 *e*P **P 09 23 55.1 +0.4**
comp=Z,134nm,1.2s,mb5.8
L18A Fontenelle, Gr 81.94 42 ⇑P P 09 23 54.9 +0.3
baz=82,SNR=20
Z26A Capock 81.94 52 ⇓P P 09 23 54.3 -0.5
baz=82,SNR=87
N19A John Jarvie Ra 81.95 43 ⇑P P 09 23 54.2 -0.5
baz=82,SNR=22
S22A 4UR Ranch, Cre 81.96 47 ⇑P P 09 23 55.3 +0.5
baz=82
C12B Naegeli Ranch, 81.97 35 ⇑P P 09 23 54.2 -0.4
baz=82,SNR=34
Q21A Lamborn Mesa, 81.98 45 ⇑P P 09 23 55.0 +0.1
baz=82,SNR=13
328A Wristen Ranch, 82.00 54 ⇓P P 09 23 54.6 -0.6
baz=82,SNR=43
X25A Clemmons Ranch 82.00 50 ⇓P P 09 23 54.9 -0.2
baz=82,SNR=26
SKAG Skagway 82.04 18 *e*P **P 09 23 54.6 -0.1**
comp=Z,110nm,1.3s,mb5.6
F14A Wisdom 82.05 37 ⇓P P 09 23 54.4 -0.7
baz=82,SNR=27
I16A Newdale 82.08 39 ⇓P P 09 23 55.4 +0.1
baz=82,SNR=48
V24A Rampart Ranch, 82.11 49 ⇓P P 09 23 56.1 +0.5
baz=82,SNR=55
DCID1 Drake Creek 82.11 40 *e*P **P 09 23 56.3 +0.8**
comp=Z,187nm,1.4s,mb5.8
127A Arkansas Junct 82.14 52 ⇑P P 09 23 55.3 -0.5
baz=82,SNR=32
D13A Huson 82.17 36 ⇑P P 09 23 54.3 -1.4
baz=82,SNR=46
T23A Casias Ranch, 82.18 47 ⇑P P 09 23 56.4 +0.4
baz=82,SNR=44
O20A White River Ci 82.18 44 ⇓P P 09 23 56.0 +0.1
baz=82,SNR=45
REDW Red Top Meadow 82.19 40 *e*P **P 09 23 55.8 0.0**
comp=Z,170nm,1.4s,mb5.8
G15A Dillon 82.19 38 ⇓P P 09 23 55.6 -0.2
baz=82,SNR=62
TRF Thorofare Moun 82.20 10 *e*P **P 09 23 54.4 -1.1**
comp=Z,165nm,1.5s,mb5.7
TPAW Teton Pass 82.20 40 *e*P **P 09 23 55.8 -0.1**
comp=Z,103nm,1.3s,mb5.6
DLMT Dillon 82.24 38 *e*P **P 09 23 55.6 -0.4**
comp=Z,128nm,1.4s,mb5.7
R22A Saguache, Gunn 82.25 46 ⇑P P 09 23 56.8 +0.5
baz=82,SNR=53
J17A Brown Place, J 82.28 40 ⇑P P 09 23 56.0 -0.3
baz=83,SNR=44
M19A Rock Springs 82.28 42 ⇓P P 09 23 55.9 -0.5
baz=83,SNR=30
MSO Missoula 82.30 36 ⇑P P 09 23 55.3 -1.1
baz=83,SNR=37
MSO Missoula 82.30 36 *e*P **P 09 23 55.6 -0.8**
comp=Z,64nm,1.4s,mb5.4
MSO LR LR
comp=Z,3μm,19.0s,MS5.7
SNOW Snow King Moun 82.31 40 *e*P **P 09 23 56.6 +0.1**
comp=Z,110nm,1.3s,mb5.6
K18A Toltan Ranch, 82.31 41 ⇓P P 09 23 56.3 -0.2
baz=83,SNR=80
E14A Clinton 82.32 36 ⇓P P 09 23 56.2 -0.3
baz=83,SNR=50
HKC Hong Kong Obse 82.34 296 ⇓*i*P **P 09 23 58.0 +0.8**
HKC S S 09 34 12.0 -1.9
Y26A Elida 82.34 51 ⇑P P 09 23 56.4 -0.5
baz=82,SNR=13
P21A Newcastle 82.41 45 ⇓P P 09 23 57.1 0.0
baz=83,SNR=54
U24A Moreno Valley 82.42 48 ⇑P P 09 23 58.0 +0.7
baz=83
BSMT Bassoo Peak 82.43 35 *e*P **P 09 23 56.6 -0.4**
comp=Z,57nm,1.1s,mb5.4
C13A Hot Springs 82.45 35 ⇓P P 09 23 56.0 -1.1
baz=83,SNR=27
Q22A Crested Butte, 82.45 46 ⇓P P 09 23 57.4 +0.1
baz=83,SNR=108
NJ2 Nanjing 82.46 307 *e*P **P 09 23 58.6 +1.1**
NJ2 pP pP 09 24 03.3 +3.5
NJ2 pmax pmax
comp=Z,120nm,1.4s,mb5.6
NJ2 pmax pmax
comp=Z,2μm,8.1s
NJ2 LR LR
comp=N,1μm,27.4s,MS5.7
NJ2 LR LR
comp=E,4μm,27.0s,MS5.7
NJ2 LR LR
comp=Z,5μm,24.4s,MS5.8
W25A X Bar L Ranch, 82.46 50 ⇑P P 09 23 57.4 -0.1
baz=83,SNR=56
L19A Farson 82.46 42 ⇓P P 09 23 57.0 -0.4
baz=83,SNR=30
LOHW Long Hollow 82.48 40 *e*P **P 09 23 57.5 +0.2**
comp=Z,130nm,1.6s,mb5.6
S23A Nye Farm, Mont 82.52 47 ⇓P P 09 23 57.9 +0.2
baz=83,SNR=12
N20A Spence Gulch, 82.52 43 ⇓P P 09 23 57.9 +0.2
baz=83,SNR=88
Z27A Tatum 82.53 52 ⇓P P 09 23 57.3 -0.6
baz=83,SNR=45
SMCO Snowmass 82.56 45 *e*P **P 09 23 58.4 +0.5**
comp=Z,195nm,1.2s,mb6.0
LRM Limekiln Ridge 82.58 37 *e*P **P 09 23 58.0 +0.1**
comp=Z,687nm,1.5s,mb6.5
A12A Yaak River Ran 82.61 34 ⇓P P 09 23 57.9 -0.1
baz=83,SNR=24
PAX Paxson 82.61 12 *e*P **P 09 23 56.3 -1.3**
comp=Z,85nm,1.4s,mb5.6
PAX Paxson 82.61 12 *e*P **P 09 23 56.3 -1.3**
PAX pmax pmax
comp=Z,85nm,1.4s,mb5.6
TNA Tin City 82.63 2 *e*P **P 09 23 57.4 -0.2**
comp=Z,224nm,1.5s,mb6.0
V25A Rancho No Teng 82.63 49 ⇑P P 09 23 58.6 +0.2
baz=83,SNR=97
G16A Moss Hill, Enn 82.63 38 ⇑P P 09 23 58.0 -0.1
baz=83,SNR=24
QLMT Earthquake Lak 82.64 39 *e*P **P 09 23 58.5 +0.3**
comp=Z,17nm,1.3s,mb4.9
X26A CR and CF Fran 82.64 51 ⇑P P 09 23 58.1 -0.3
baz=83,SNR=19
JTMT Jette 82.65 35 *e*P **P 09 23 57.5 -0.7**
comp=Z,36nm,1.3s,mb5.2
I17A Pilgrim Ck. 82.66 40 ⇓P P 09 23 58.6 +0.3
baz=83,SNR=36
SWMT Swartz Lake 82.67 35 *e*P **P 09 23 58.0 -0.2**
comp=Z,32nm,1.3s,mb5.2
BW06 Boulder Array 82.68 41 ⇑P P 09 23 57.9 -0.6
baz=83,SNR=53
BW06 Boulder Array 82.68 41 *e*P **P 09 23 58.3 -0.2**
comp=Z,150nm,1.6s,mb5.8
BW06 LR LR
comp=Z,2μm,19.0s,MS5.6
PDAR Pinedale Array 82.68 41 P **P 09 23 58.3 -0.2**
comp=Z,27nm,0.9s,mb5.3,baz=212,slow=4.9,SNR=94
PDAR PKKP PKKPbc 09 42 16.4 -8.5
comp=Z,0.5nm,0.9s,baz=108,slow=2.9,SNR=2.9
PDAR Pinedale Array 82.68 41 P **P 09 23 58.3 -0.2**
PDAR PKKP PKKPbc 09 42 16.4 -8.5
MCK McKinley 82.68 10 *e*P **P 09 23 57.7 -0.2**
comp=Z,118nm,1.2s,mb5.8
MCK McKinley 82.68 10 *e*P **P 09 23 57.7 -0.2**
MCK pmax pmax
comp=Z,118nm,1.2s,mb5.8
O21A Pagoda 82.73 44 ⇓P P 09 23 58.5 -0.3
baz=83,SNR=32
BLMT Blacktail Moun 82.76 35 *e*P **P 09 23 58.7 0.0**
comp=Z,27nm,1.2s,mb5.2
YFT Old Faithful 82.79 39 *e*P **P 09 24 01.1 +2.1**
comp=Z,103nm,1.3s,mb5.7
E15A Deer Lodge 82.81 37 ⇓P P 09 23 58.4 -0.7
baz=83,SNR=40
Y27A Causey 82.82 51 ⇓P P 09 23 59.0 -0.4
baz=83,SNR=48
YMR Madison River 82.83 39 *e*P **P 09 23 59.1 -0.1**
comp=Z,220nm,1.4s,mb6.0
YBMT Yellow Bay 82.86 35 *e*P **P 09 23 58.8 -0.5**
comp=Z,20nm,1.2s,mb5.0
R23A Moffat 82.87 47 ⇓P P 09 23 59.4 -0.2
baz=83,SNR=63
KLR Kul'dur 82.88 327 *e*P **P 09 23 55.0 -4.3**
KLR *e*S S 09 34 16.0 -2.2
KLR *e*SS SS 09 39 30.5 -11
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
KLR pmax pmax
comp=Z,3μm,11.0s
SDCO Great Sand Dun 82.89 47 ⇓P P 09 23 59.7 0.0
baz=83,SNR=58
SDCO Great Sand Dun 82.89 47 *e*P **P 09 23 59.9 +0.3**
comp=Z,75nm,1.2s,mb5.6
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5
T24A Torres, Weston 82.89 48 ⇑P P 09 24 00.1 +0.4
baz=83,SNR=38
M20A Sweetwater, Wa 82.90 43 ⇓P P 09 23 60.0 +0.3
baz=83,SNR=42
P22A Eagle 82.91 45 ⇓P P 09 23 59.7 0.0
baz=83,SNR=71
W26A Owens Ranch, T 82.91 50 ⇑P P 09 23 59.5 -0.3
baz=83,SNR=23
H17A Grant Village 82.91 39 ⇑P P 09 24 00.3 +0.7
baz=83,SNR=12
MENT Mentasta 82.93 13 *e*P **P 09 24 00.2 +0.9**
BOZ Bozeman (W) 82.97 38 ⇓P P 09 23 60.0 +0.2
baz=83,SNR=31
BOZ Bozeman (W) 82.97 38 *e*P **P 09 23 59.7 -0.1**
comp=Z,177nm,1.5s,mb5.9
BOZ LR LR
comp=Z,3μm,20.0s,MS5.6
BOZ Bozeman (W) 82.97 38 *e*P **P 09 23 59.7 -0.1**
BOZ pmax pmax
comp=Z,177nm,1.5s,mb5.9
BOZ MLR MLR
comp=Z,3μm,20.0s,MS5.6

N21A **Black Mountain** 82.97 44 ⇓P P 09 24 00.2 +0.2
baz=83,SNR=116
I18A **Diamond G Ranc** 83.01 40 ⇑P P 09 23 59.9 -0.2
baz=83,SNR=32
YNR **Norris Junctio** 83.02 39 eP P 09 24 02.0 +1.8
comp=Z,207nm,1.6s,mb5.9
U25A **Circle Dot Ran** 83.04 49 ⇑P P 09 24 00.4 0.0
baz=83,SNR=68
S24A **Houchin Ranch,** 83.04 47 ⇓P P 09 24 00.6 +0.2
baz=83,SNR=51
F16A **Kennard Place,** 83.04 38 ⇓P P 09 23 59.9 -0.3
baz=83,SNR=30
L20A **Wamsutter** 83.06 42 ⇑P P 09 24 00.7 +0.2
baz=83,SNR=56
CMIG **Matias Romero** 83.13 70 LR LR 09 54 20.0
comp=Z,5μm,18.4s,MS5.9,baz=247,slow=31
MSTX **Muleshoe** 83.15 51 ⇑P P 09 24 00.5 -0.6
baz=83,SNR=43
K19A **Absolon Red Bu** 83.16 41 ⇓P P 09 23 59.9 -1.0
baz=84,SNR=44
Q23A **Hartsel** 83.20 46 ⇑P P 09 24 01.0 -0.3
baz=83,SNR=43
X27A **F and S Farms,** 83.20 51 ⇓P P 09 24 01.0 -0.4
baz=83,SNR=28
D15A **Lincoln** 83.23 36 ⇓P P 09 24 00.4 -0.8
baz=84,SNR=44
J19A **Crowheart** 83.26 41 ⇓P P 09 24 00.6 -0.8
baz=84,SNR=44
A13A **Flathead Natio** 83.27 34 ⇑P P 09 24 00.9 -0.5
baz=84
G17A **Pierce Place,** 83.31 38 ⇓P P 09 24 01.8 +0.1
baz=84,SNR=14
O22A **Kremmling** 83.33 45 ⇑P P 09 24 02.0 +0.1
baz=84,SNR=75
GZH **Guangzhou** 83.35 297 P P 09 24 03.6 +1.2
GZH sP sP 09 24 15.1 +10
GZH S S 09 34 23.8 -0.3
GZH pmax pmax
comp=Z,4μm,7.3s
T25A **Trinidad** 83.37 48 ⇑P P 09 24 02.2 0.0
baz=84,SNR=22
R24A **Sanders Place,** 83.39 47 ⇑P P 09 24 01.9 -0.3
baz=84,SNR=93
K20A **Yellowstone Ra** 83.39 42 ⇓P P 09 24 01.1 -1.0
baz=84,SNR=64
W27A **Bowe Ranch, En** 83.42 50 ⇓P P 09 24 01.8 -0.6
baz=84,SNR=57
E16A **East Helena** 83.42 37 ⇑P P 09 24 01.6 -0.6
baz=84,SNR=55
P23A **Jefferson** 83.42 45 ⇑P P 09 24 03.3 +1.0
baz=84,SNR=41
HRY **Holter Researc** 83.44 37 eP P 09 24 02.2 -0.1
comp=Z,82nm,0.8s,mb5.8
CN2 **Changchun** 83.45 320 eP P 09 24 02.4 0.0
CN2 epP pP 09 24 07.1 +2.4
CN2 esP sP 09 24 09.5 +4.0
CN2 PP PP 09 27 14.0 -0.8
CN2 eS S 09 34 21.6 -2.7
CN2 pmax pmax
comp=Z,70nm,1.5s,mb5.5
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,16.0s,MS5.3
CN2 LR LR
comp=E,800nm,16.0s,MS5.3
CN2 LR LR
comp=Z,500nm,14.0s,MS5.0
M21A **Separation Pea** 83.49 43 ⇓P P 09 24 02.4 -0.3
baz=84,SNR=58
DOT **Dot Lake** 83.50 12 eP P 09 24 01.7 -0.5
comp=Z,44nm,1.3s,mb5.4
U26A **Atchley Ranch,** 83.51 49 ⇑P P 09 24 03.1 +0.2
baz=84,SNR=88
DL2 **Dalian** 83.53 314 P P 09 24 03.3 +0.4
DL2 S S 09 34 29.3 +4.0
DL2 pmax pmax
comp=Z,50nm,1.4s,mb5.5
DL2 pmax pmax
comp=Z,1μm,8.1s
DL2 LR LR
comp=N,730nm,19.8s,MS5.2
DL2 LR LR
comp=E,550nm,19.2s,MS5.2
DL2 LR LR
comp=Z,810nm,24.5s
B14A **Marquette Ranc** 83.55 35 ⇓P P 09 24 01.8 -1.0
baz=84,SNR=21
C15A **Salmond Ranch,** 83.59 36 ⇑P P 09 24 02.1 -0.9
baz=84,SNR=29
S25A **Robets Cordova** 83.60 48 ⇑P P 09 24 03.2 -0.1
baz=84,SNR=74
RWWY **Rawlins** 83.64 43 eP P 09 24 03.8 +0.4
comp=Z,548nm,1.7s,mb6.4
SNY **Shenyang** 83.64 317 ⇓P P 09 24 03.3 -0.1
SNY SS SS 09 39 57.1 +3.9
SNY pmax pmax
comp=Z,78nm,2.0s,mb5.5
SNY LR LR
comp=N,420nm,15.3s,MS5.2
SNY LR LR
comp=E,710nm,15.1s,MS5.2
SNY LR LR
comp=Z,950nm,20.6s
L21A **Rawlins** 83.67 43 ⇑P P 09 24 02.5 -1.0
baz=84,SNR=61
F17A **Fitzpatrick Pl** 83.67 38 ⇓P P 09 24 03.6 +0.1
baz=84,SNR=45
I19A **Meeteetse** 83.69 40 ⇓P P 09 24 03.4 -0.2
baz=84,SNR=43
N22A **Wattenberg Ran** 83.70 44 ⇓P P 09 24 03.8 0.0
baz=84,SNR=64
Q24A **Divide** 83.70 46 ⇓P P 09 24 04.1 +0.3
baz=84,SNR=56
O23A **Lake Granby, G** 83.77 45 ⇓P P 09 24 04.1 0.0
baz=84,SNR=50
D16A **Dana Ranch, Ca** 83.77 37 ⇓P P 09 24 04.4 +0.4
baz=84,SNR=28
ISCO **Idaho Springs** 83.78 45 ⇑P P 09 24 04.7 +0.5
baz=84,SNR=32
ISCO **Idaho Springs** 83.78 45 eP P 09 24 05.0 +0.8
comp=Z,101nm,1.4s,mb5.8
ISCO LR LR
comp=Z,2μm,21.0s,MS5.4
ISCO **Idaho Springs** 83.78 45 eP P 09 24 05.0 +0.8
ISCO pmax pmax
comp=Z,101nm,1.4s,mb5.8
ISCO MLR MLR
comp=Z,2μm,21.0s,MS5.4
A14A **Double T Ranch** 83.82 34 ⇑P P 09 24 03.4 -0.7
baz=84,SNR=27
E17A **Martinsdale** 83.86 37 ⇑P P 09 24 04.5 0.0
baz=84,SNR=24
M22A **Cedar Creek Ra** 83.90 43 ⇓P P 09 24 04.5 -0.2
baz=84,SNR=34
J20A **Shoshoni** 83.91 41 ⇓P P 09 24 04.6 -0.1
baz=84,SNR=55
B15A **Bradely Ranch,** 83.92 35 ⇓P P 09 24 03.4 -1.3
baz=84,SNR=31
COLA **College** 83.92 10 eP P 09 24 03.2 -1.1
comp=Z,120nm,1.0s,mb6.0
COLA LR LR
comp=Z,1μm,19.0s,MS5.4
COLA **College** 83.92 10 eP P 09 24 03.2 -1.1
COLA pmax pmax
comp=Z,121nm,1.0s,mb6.0
COLA MLR MLR
comp=Z,1μm,19.0s,MS5.4
R25A **Fountain Ranch** 83.93 47 ⇓P P 09 24 04.6 -0.4
baz=84,SNR=56
JCT **Junction City** 83.97 56 ⇓P P 09 24 05.0 -0.3
baz=84,SNR=26
JCT **Junction City** 83.97 56 eP P 09 24 05.5 +0.1
comp=Z,126nm,1.6s,mb5.8
JCT LR LR
comp=Z,2μm,20.0s,MS5.5
JCT **Junction City** 83.97 56 eP P 09 24 05.5 +0.1
JCT pmax pmax
comp=Z,126nm,1.6s,mb5.8
JCT MLR MLR
comp=Z,2μm,20.0s,MS5.5
ILAR **Eielson Array** 83.99 10 P P 09 24 03.3 -1.3
comp=Z,6.9nm,0.7s,mb4.9,baz=212,slow=4.7,SNR=56
ILAR PKKP PKKPbc 09 42 15.4 -7.5
comp=Z,0.4nm,0.7s,baz=1.4,slow=4.2,SNR=6.2
ILAR LR LR 09 56 12.0
comp=Z,2μm,19.1s,MS5.4,baz=218,slow=32
ILAR **Eielson Array** 83.99 10 P P 09 24 03.3 -1.3
ILAR PKKP PKKPbc 09 42 15.3 -7.5
ILAR **Eielson Array** 83.99 10 P P 09 24 03.3 -1.4
G18A **Lazy EL Ranch,** 84.01 39 ⇓P P 09 24 05.3 +0.1
baz=84,SNR=11
H19A **Powell** 84.03 40 ⇓P P 09 24 05.0 -0.3
baz=84,SNR=52
K21A **Alcova** 84.08 42 ⇑P P 09 24 05.1 -0.5
baz=84,SNR=58
N23A **Red Feather La** 84.08 44 ⇓P P 09 24 05.7 0.0
baz=84,SNR=17
C16A **Fuhringer Ranc** 84.09 36 ⇓P P 09 24 04.6 -0.9
baz=84,SNR=40
RLMT **Red Lodge** 84.09 39 ⇑P P 09 24 05.6 -0.1
baz=84,SNR=7.9
RLMT **Red Lodge** 84.09 39 eP P 09 24 06.7 +1.1
comp=Z,110nm,1.3s,mb5.8
RLMT LR LR
comp=Z,2μm,22.0s,MS5.5
P24A **Kohler Place,** 84.13 46 ⇑P P 09 24 06.0 +0.1
baz=84,SNR=11
I20A **Worland** 84.18 41 ⇑P P 09 24 05.4 -0.7
baz=84,SNR=62
A15A **Johnson Ranch,** 84.20 35 ⇓P P 09 24 04.8 -1.3
baz=85,SNR=77
GCMT **Greycliff** 84.20 38 eP P 09 24 06.5 +0.4
comp=Z,89nm,1.3s,mb5.7
F18A **Big Timber** 84.23 38 ⇓P P 09 24 06.2 -0.2
baz=85,SNR=46
O24A **Longmont** 84.30 45 ⇑P P 09 24 06.5 -0.3
baz=85,SNR=34
Q25A **Bedland, Calha** 84.30 46 ⇑P P 09 24 06.7 -0.2
baz=84,SNR=29
J21A **Lysite** 84.31 41 ⇑P P 09 24 06.5 -0.3
baz=85,SNR=43
L22A **Ellis Ranch, M** 84.31 43 ⇓P P 09 24 06.6 -0.2
baz=85,SNR=42
D17A **Six Diamond Ra** 84.33 37 ⇑P P 09 24 06.5 -0.4
baz=85,SNR=66
KVTX **Kingsville** 84.35 59 eP P 09 24 09.6 +2.2
comp=Z,301nm,1.5s,mb6.2
KVTX LR LR
comp=Z,3μm,20.0s,MS5.6
AMTX **Amarillo** 84.36 51 ⇓P P 09 24 06.9 -0.4
baz=84,SNR=20
AMTX **Amarillo** 84.36 51 eP P 09 24 07.1 -0.2
comp=Z,146nm,0.9s,mb6.1
AMTX LR LR
comp=Z,4μm,21.0s,MS5.7
B16A **M & M Farms, S** 84.45 35 ⇑P P 09 24 06.7 -0.7
baz=85,SNR=38
E18A **Harlowton** 84.47 38 ⇑P P 09 24 07.4 -0.1
baz=85
M23A **Laramie** 84.50 44 ⇑P P 09 24 07.2 -0.6
baz=85,SNR=14
H20A **Greybull** 84.54 40 ⇑P P 09 24 07.0 -1.0
baz=85,SNR=16
C17A **Wharram Farm,** 84.55 37 ⇓P P 09 24 07.1 -0.8
baz=85,SNR=91
K22A **Casper** 84.55 42 ⇓P P 09 24 07.4 -0.7
baz=85,SNR=36
R26A **Arlington** 84.58 47 ⇓P P 09 24 07.6 -0.8
baz=85,SNR=58
PHWY **Pilot Hill** 84.60 44 eP P 09 24 08.6 +0.3
comp=Z,48nm,1.3s,mb5.5
P25A **Willow Gulch B** 84.63 46 ⇑P P 09 24 07.8 -0.7
baz=85,SNR=58
I21A **Big Trails, Te** 84.64 41 ⇑P P 09 24 07.6 -0.9
baz=85,SNR=70
F19A **Roth Farm, Mol** 84.67 39 ⇓P P 09 24 07.9 -0.7
baz=85,SNR=47
SEY **Seymchan** 84.70 344 ⇑iP P 09 24 07.8 -0.5
N24A **Carr** 84.76 45 ⇓P P 09 24 08.7 -0.4
baz=85
G20A **Bridger** 84.78 39 ⇓P P 09 24 08.9 -0.2
baz=85,SNR=8.6
A16A **West Butte Ran** 84.80 35 ⇓P P 09 24 08.5 -0.7
baz=85
Q26A **Hugo** 84.81 47 ⇓P P 09 24 08.7 -0.7
baz=85,SNR=26
L23A **Garrett** 84.83 43 ⇓P P 09 24 08.7 -0.7
baz=85,SNR=30
D18A **Linhart Farms,** 84.86 37 ⇓P P 09 24 09.0 -0.5
baz=85,SNR=27
B17A **L&G Farms, Che** 84.89 36 ⇑P P 09 24 08.8 -0.8
baz=85,SNR=28
O25A **Wiggins** 84.94 45 ⇓P P 09 24 09.3 -0.8
baz=85,SNR=12
J22A **Midwest** 84.95 42 ⇑P P 09 24 09.5 -0.6
baz=85
QIZ **Qiongzhong** 84.96 292 P P 09 24 12.0 +1.4
QIZ PP PP 09 27 26.6 -1.0
QIZ S S 09 34 45.0 +4.6
QIZ SS SS 09 40 14.1 +0.5
QIZ pmax pmax
comp=Z,2μm,8.3s
QIZ LR LR
comp=E,1μm,24.0s
QIZ LR LR
comp=Z,5μm,26.3s,MS5.8
QIZ **Qiongzhong** 84.96 292 eP P 09 24 10.5 -0.1
comp=Z,192nm,1.7s,mb6.0
QIZ LR LR
comp=Z,3μm,22.0s,MS5.7
R27A **Eads** 85.03 48 ⇑P P 09 24 09.7 -0.9
baz=85,SNR=34
MYKOM **Kota Tinggi** 85.07 273 P P 09 24 12.7 +1.3
E19A **Rath Farm, Rou** 85.07 38 ⇓P P 09 24 10.2 -0.4
baz=85,SNR=37
M24A **Cheyenne** 85.10 44 ⇓P P 09 24 10.6 -0.3
baz=85,SNR=14
EGAK **Eagle** 85.10 13 eP P 09 24 09.9 -0.4
comp=Z,115nm,1.4s,mb5.8
EGAK LR LR
comp=Z,3μm,19.0s,MS5.7
F20A **Billings** 85.11 39 ⇑P P 09 24 10.0 -0.8
baz=85,SNR=7.8
K23A **Bowen Ranch, D** 85.18 43 ⇑P P 09 24 10.5 -0.7
baz=86,SNR=22
I22A **9 Mile Ranch,** 85.19 41 ⇑P P 09 24 10.0 -1.2
baz=86,SNR=28
H21A **Big Horn, Sher** 85.20 40 ⇑P P 09 24 10.4 -0.9
baz=86,SNR=17
P26A **Davis Ranch, A** 85.22 46 ⇑P P 09 24 11.4 -0.1
baz=86,SNR=13
L24A **Wheatland** 85.30 43 ⇓P P 09 24 11.4 -0.4
baz=86,SNR=11
A17A **Triple J Farms** 85.30 35 ⇓P P 09 24 10.7 -1.0
baz=86,SNR=56
EGMT **Eagleton** 85.33 37 ⇓P P 09 24 11.5 -0.4
baz=86,SNR=18
EGMT **Eagleton** 85.33 37 eP P 09 24 11.2 -0.7
comp=Z,102nm,1.4s,mb5.8
EGMT LR LR
comp=Z,3μm,20.0s,MS5.7
WHN **Wuhan** 85.35 304 P P 09 24 11.4 -1.0
WHN S S 09 34 37.8 -6.0
WHN pmax pmax
comp=Z,5μm,7.4s
WHN LR LR
comp=N,2μm,17.3s,MS5.7
WHN LR LR
comp=E,2μm,17.6s,MS5.7
WHN LR LR
comp=Z,3μm,22.8s
D19A **Cripps Ranch,** 85.38 38 ⇑P P 09 24 11.8 -0.3
baz=86,SNR=29
G21A **Lodge Grass** 85.39 40 ⇑P P 09 24 11.4 -0.9
baz=86,SNR=8.8
KSCO **Kaye Shedlock'** 85.47 47 ⇓P P 09 24 12.5 -0.3
baz=86,SNR=22
E20A **Meyer Farm, Mu** 85.48 38 ⇓P P 09 24 12.1 -0.6
baz=86,SNR=19
B18A **Beardsley Farm** 85.52 36 ⇑P P 09 24 12.1 -0.6
baz=86,SNR=23
J23A **Dilts Ranch, B** 85.54 42 ⇑P P 09 24 12.4 -0.6
baz=86
O26A **Horse Wrangler** 85.55 46 ⇓P P 09 24 12.5 -0.6
baz=86,SNR=12
C19A **Slack Wire Ran** 85.58 37 ⇓P P 09 24 12.8 -0.3
baz=86,SNR=31
M25A **Palm-Egli Farm** 85.59 44 ⇓P P 09 24 12.8 -0.5
baz=86,SNR=6.4
H22A **Clearmont** 85.61 41 ⇑P P 09 24 12.9 -0.4
baz=86,SNR=9.5
KGM **Kluang** 85.64 273 P P 09 24 14.2 0.0
K24A **Anderson Ranch** 85.69 43 ⇑P P 09 24 13.9 +0.1
baz=86
F21A **Absaloka Mine,** 85.75 39 ⇓P P 09 24 13.5 -0.5
baz=86
A18A **Metzger Ranch,** 85.76 36 ⇓P P 09 24 13.0 -1.0
baz=86,SNR=47
COLD **Coldfoot** 85.76 8 eP P 09 24 13.5 -0.1
comp=Z,74nm,1.3s,mb5.8
D20A **Manuel Ranch,** 85.78 38 ⇑P P 09 24 13.7 -0.4
baz=86,SNR=31
I23A **Meade Ranch, G** 85.86 42 ⇓P P 09 24 14.3 -0.3
baz=86
N26A **Koester Ranch,** 85.88 45 ⇓P P 09 24 14.4 -0.3
baz=86
G22A **Birney** 85.95 40 ⇑P P 09 24 14.7 -0.3
baz=86
L25A **Engebretsen Ra** 85.98 44 ⇑P P 09 24 14.7 -0.5
baz=86
B19A **Brinkman Farms** 86.02 36 ⇓P P 09 24 14.7 -0.5
baz=86,SNR=35
J24A **Dixon Ranch, L** 86.08 42 ⇓P P 09 24 15.1 -0.6
baz=86
O27A **Beecher Island** 86.10 46 ⇓P P 09 24 15.5 -0.4
baz=86
E21A **Keefer Ranch,** 86.13 39 ⇑P P 09 24 15.6 -0.2
baz=86,SNR=9.6
C20A **Veseth Ranch,** 86.18 37 ⇓P P 09 24 15.7 -0.3
baz=86,SNR=32
H23A **Clabaugh Cattl** 86.19 41 ⇓P P 09 24 16.1 -0.1
baz=86
M26A **McRoberts Ranc** 86.22 45 ⇑P P 09 24 16.1 -0.3
baz=86
F22A **Rosebud** 86.25 40 ⇓P P 09 24 15.9 -0.5
baz=87
K25A **Mack Ranch, Ha** 86.26 43 ⇓P P 09 24 15.9 -0.6
baz=86,SNR=7.6
N27A **Anderson Farm,** 86.33 45 ⇓P P 09 24 16.4 -0.6
baz=87,SNR=11
D21A **La Casta Ranch** 86.44 38 ⇑P P 09 24 17.2 -0.2
baz=87,SNR=14
WMOK **Wichita Mounta** 86.47 52 eP P 09 24 17.6 -0.2
comp=Z,98nm,1.5s,mb5.8
WMOK LR LR
comp=Z,2μm,21.0s,MS5.6
WMOK **Wichita Mounta** 86.47 52 eP P 09 24 17.6 -0.2
WMOK pmax pmax
comp=Z,98nm,1.5s,mb5.8
WMOK MLR MLR
comp=Z,2μm,21.0s,MS5.6
MAW **Mawson** 86.50 198 P P 09 24 16.9 -0.5
comp=Z,103nm,0.9s,mb6.1,baz=117,slow=6.4,SNR=41
MAW LR LR 10 01 10.4
comp=Z,2μm,18.2s,MS5.6,baz=114,slow=34
MAW **Mawson** 86.50 198 eP P 09 24 16.9 -0.5
MAW **Mawson** 86.50 198 P P 09 24 16.9 -0.5
MAW **Mawson** 86.50 198 P P 09 24 16.9 -0.5
MAW pmax pmax
comp=Z,103nm,0.9s
G23A **Biddle** 86.50 41 ⇑P P 09 24 17.0 -0.7
baz=87,SNR=6.5
L26A **Underwood Farm** 86.52 44 ⇑P P 09 24 17.2 -0.7
baz=87
B20A **Solberg Farm,** 86.54 37 ⇑P P 09 24 17.4 -0.4
baz=87,SNR=30
BILL **Bilibino** 86.55 352 eP P 09 24 16.6 -0.9
comp=Z,141nm,1.1s,mb6.1
BILL LR LR
comp=Z,2μm,20.0s,MS5.6
BILL **Bilibino** 86.55 352 ⇑iP P 09 24 16.7 -0.7
BILL e 09 24 23.8
BILL 09 27 37.0
BILL i 09 34 41.0
BILL ePS 09 35 47.3
BILL pmax pmax
comp=Z,190nm,1.7s,mb6.0
BILL MLR MLR
comp=Z,1μm,19.0s,MS5.3
LAO **LASA Array** 86.72 39 ⇑P P 09 24 18.2 -0.5
baz=87,SNR=15
LAO **LASA Array** 86.72 39 eP P 09 24 19.1 +0.4
comp=Z,118nm,1.5s,mb5.9
LAO LR LR
comp=Z,2μm,21.0s,MS5.5
F23A **Volborg** 86.74 40 ⇑P P 09 24 17.8 -1.0
baz=87,SNR=12
K26A **Motz Farm, Whi** 86.75 43 ⇓P P 09 24 19.1 +0.1
baz=87,SNR=8.9
M27A **Reverse DX Ran** 86.75 45 ⇑P P 09 24 18.2 -0.8
baz=87,SNR=5.4
E22A **Miles City** 86.76 39 ⇑P P 09 24 18.3 -0.6
baz=87
H24A **Dirks Ranch, A** 86.81 41 ⇓P P 09 24 18.4 -0.8
baz=87,SNR=28
A20A **Cobblestone Ra** 86.82 36 ⇓P P 09 24 18.3 -0.9
baz=87,SNR=32
RSSD **Black Hills** 86.85 42 eP P 09 24 18.6 -0.8
comp=Z,29nm,0.8s,mb5.5
RSSD **Black Hills** 86.85 42 eP P 09 24 18.6 -0.8
RSSD pmax pmax
comp=Z,29nm,0.8s,mb5.6
HKT **Hockley** 86.93 58 eP P 09 24 20.2 0.0
comp=Z,252nm,1.7s,mb6.2
HKT **Hockley** 86.93 58 eP P 09 24 20.2 0.0
HKT pmax pmax
comp=Z,252nm,1.7s,mb6.2
D22A **Cohagen** 86.97 39 ⇑P P 09 24 19.6 -0.4
baz=87,SNR=9.9
L27A **T5 Ranch, Ells** 87.05 44 ⇓P P 09 24 19.3 -1.2
baz=87
B21A **Ellsworth Farm** 87.11 37 ⇑P P 09 24 19.8 -0.8
baz=87,SNR=15
G24A **Alzada** 87.17 41 ⇓P P 09 24 19.8 -1.2
baz=88
E23A **Ismay** 87.18 39 ⇓P P 09 24 21.2 +0.2
baz=88,SNR=6.5
PLCA **Paso Flores** 87.18 132 P P 09 24 21.1 -0.2
comp=Z,14nm,0.9s,mb5.2,baz=246,slow=4.6,SNR=27
PLCA PKKPbc PKKPbc 09 42 14.2 +0.9
comp=Z,2.2nm,0.8s,baz=116,slow=1.8,SNR=4.2
PLCA LR LR 09 56 44.4
comp=Z,3μm,18.0s,MS5.8,baz=257,slow=31
PLCA **Paso Flores** 87.18 132 P P 09 24 21.1 -0.2
PLCA PKKPbc PKKPbc 09 42 14.2 +0.9
PLCA **Paso Flores** 87.18 132 P P 09 24 21.1 -0.2
PLCA pmax pmax
comp=Z,15nm,0.9s
K27A **Flueckinger Fa** 87.37 44 ⇓P P 09 24 22.4 +0.4
baz=88,SNR=9.0
F24A **Ekalaka** 87.39 40 ⇑P P 09 24 22.2 +0.2
baz=88,SNR=6.1
RFTA **Plano** 87.40 54 eP P 09 24 22.8 +0.5
CBKS **Cedar Bluff** 87.43 48 ⇑P P 09 24 21.9 -0.5
baz=88,SNR=11
CBKS **Cedar Bluff** 87.43 48 eP P 09 24 22.3 -0.1
comp=Z,41nm,0.9s,mb5.7
CBKS LR LR
comp=Z,2μm,20.0s,MS5.6
CBKS **Cedar Bluff** 87.43 48 eP P 09 24 22.3 -0.1
CBKS pmax pmax
comp=Z,41nm,0.9s,mb5.7
CBKS MLR MLR
comp=Z,2μm,20.0s,MS5.6
C22A **Vida** 87.43 38 ⇑P P 09 24 21.9 -0.3
baz=88
A21A **Bergtoll Ranch** 87.44 37 ⇑P P 09 24 22.2 0.0
baz=88,SNR=23
D23A **Lindsay** 87.56 39 ⇓P P 09 24 22.4 -0.4
baz=88,SNR=11
B22A **Reddig Ranch S** 87.64 38 ⇑P P 09 24 23.2 0.0
baz=88,SNR=14
COCO **West Island** 87.67 258 PFAKE 09 24 30.0 +5.9
COCO LR LR
comp=Z,3μm,20.0s,MS5.7
BJT **Baijiatuau** 87.81 313 eP P 09 24 24.5 +0.3
comp=Z,368nm,1.8s,mb6.3
BJT LR LR
comp=Z,1μm,20.0s,MS5.2
BJT **Baijiatuau** 87.81 313 eP P 09 24 24.5 +0.3
BJT pmax pmax
comp=Z,368nm,1.8s
BJT MLR MLR
comp=Z,1μm,20.0s
BJI **Beijing** 87.81 313 P P 09 24 24.5 +0.3
BJI PP PP 09 27 46.3 -4.0
BJI S S 09 35 10.9 +3.6
BJI SS SS 09 40 52.1 -2.6
BJI pmax pmax
comp=Z,81nm,1.4s,mb5.8
BJI pmax pmax
comp=Z,2μm,8.2s

BJI LR LR
comp=N,880nm,20.7s,MS5.3
BJI LR LR
comp=E,800nm,23.4s,MS5.3
BJI LR LR
comp=Z,1µm,28.3s,MS5.2
E24A Baker 87.81 40 ⇓P **P 09 24 23.8 -0.2**
baz=88
C23A Lambert 87.87 38 ⇓P **P 09 24 23.9 -0.4**
baz=88,SNR=15
A22A Carney Farms, 88.02 37 ⇑P **P 09 24 24.5 -0.5**
baz=88,SNR=9.2
D24A Glendive 88.06 39 ⇓P **P 09 24 25.0 -0.2**
baz=88
C24A Savage 88.20 39 ⇓P **P 09 24 25.8 -0.1**
baz=88
B23A Brockton 88.30 38 ⇑P **P 09 24 26.0 -0.3**
baz=89,SNR=16
NATX Nacogdoches 88.53 56 *e*P **P 09 24 28.4 +0.6**
comp=Z,721nm,1.8s,mb6.7
NATX LR LR
comp=Z,3µm,21.0s,MS5.7
IPM Ipoh 88.56 275 P **P 09 24 29.1 +0.7**
IPM Ipoh 88.56 275 *e*P **P 09 24 28.9 +0.6**
comp=Z,114nm,1.3s,mb6.0
IPM Ipoh 88.56 275 P **P 09 24 30.1 +1.7**
comp=Z,3µmcomp=Z,112nm,0.9s,mb6.2
A23A Redstone 88.61 37 ⇓P **P 09 24 26.7 -1.0**
baz=89
DGMT Dagmar 88.77 38 ⇓P **P 09 24 28.7 +0.2**
baz=89,SNR=12
DGMT Dagmar 88.77 38 *e*P **P 09 24 28.7 +0.1**
comp=Z,64nm,1.0s,mb5.9
DGMT LR LR
comp=Z,3µm,21.0s,MS5.7
TGUH Tegucigalpa,Un 89.07 75 *e*P **P 09 24 30.3 -0.4**
comp=Z,329nm,1.7s,mb6.4
TGUH LR LR
comp=Z,3µm,22.0s,MS5.6
A24A Westby 89.10 38 ⇓P **P 09 24 29.1 -0.9**
baz=89,SNR=6.0
ENH Enshi 89.15 302 *e*P **P 09 24 32.0 +1.2**
comp=Z,261nm,1.8s,mb6.3
ENH LR LR
comp=Z,997nm,21.0s,MS5.2
KULM Kulim 89.15 276 *e*P **P 09 24 31.8 +0.6**
comp=Z,116nm,1.5s,mb6.0
KULM LR LR
comp=Z,2µm,20.0s,MS5.5
KULM Kulim 89.15 276 P **P 09 24 33.2 +2.0**
comp=Z,3µmcomp=Z,148nm,1.8s,mb6.0
TUL1 Tulsa 89.17 52 ⇑P **P 09 24 30.3 -0.5**
baz=89
HIA Hailar 89.56 322 *e*P **P 09 24 32.6 +0.4**
comp=Z,97nm,1.5s,mb5.9
HIA LR LR
comp=Z,745nm,21.0s,MS5.1
HIA Hailar 89.56 322 *e*P **P 09 24 32.6 +0.4**
HIA pmax pmax
comp=Z,97nm,1.5s
HIA MLR MLR
comp=Z,745nm,21.0s
TIY Taiyuan 89.57 310 *e*P **P 09 24 32.0 -0.6**
TIY sP sP 09 24 39.8 +4.1
TIY S S 09 35 14.3 -10
TIY pmax pmax
comp=Z,2µm,7.7s
TIY LR LR
comp=N,1µm,19.7s
TIY LR LR
comp=E,410nm,12.2s
TIY LR LR
comp=E,410nm,12.2s
BGNE Belgrade 89.59 46 ⇓P **P 09 24 31.9 -0.6**
baz=90
KSU1 Kansas State U 89.78 49 *e*P **P 09 24 33.0 -0.5**
comp=E,29nm,0.8s,mb5.7
KSU1 LR LR
comp=Z,3µm,19.0s,MS5.8
FCH Farellones 89.95 125 *e*P **P 09 24 39.2 +4.6**
PSI Prapat 90.06 273 P **P 09 24 36.0 +0.5**
comp=Z,2µmcomp=Z,105nm,1.7s,mb5.9
TEIG Tepich 90.07 69 *e*P **P 09 24 35.2 -0.1**
comp=Z,104nm,1.3s,mb6.0
TEIG LR LR
comp=Z,3µm,21.0s,MS5.7
JTS JuntasAbangare 90.10 79 *e*P **P 09 24 36.0 +0.4**
comp=Z,620nm,1.6s,mb6.7
JTS LR LR
comp=Z,5µm,19.0s,MS6.0
JTS JuntasAbangare 90.10 79*d i*P **P 09 24 34.0 -1.6**
JTS JuntasAbangare 90.10 79 P **P 09 24 36.1 +0.5**
comp=Z,1µm,1.1s,mb7.1,SNR=14
GYA Guiyang 90.21 298 ⇓*i*P **P 09 24 37.6 +1.8**
GYA PP PP 09 28 13.0 +3.2
GYA SKS 09 35 05.6
GYA SS SS 09 41 32.0 +1.9
GYA pmax pmax
comp=Z,90nm,1.0s,mb6.0
GYA pmax pmax
comp=Z,480nm,6.7s
BRSD Miller 90.27 43 ⇓P **P 09 24 35.1 -0.5**
baz=90
MIAR Mount Ida 90.37 54 *e*P **P 09 24 35.6 -0.8**
comp=Z,72nm,1.4s,mb5.8
MIAR LR LR
comp=Z,2µm,19.0s,MS5.7
MIAR Mount Ida 90.37 54 *e*P **P 09 24 35.6 -0.8**
MIAR pmax pmax
comp=Z,72nm,1.4s,mb5.8
MIAR MLR MLR
comp=Z,2µm,19.0s,MS5.7
EFI East Falkland 90.53 145 PFAKE 09 24 50.0 +13
EFI LR LR
comp=Z,3µm,19.0s,MS5.7
CLNS Chul'man 90.57 331 *e*P **P 09 24 36.4 -0.4**
CLNS *e* 09 28 09.3
CLNS *e*S SKSac 09 35 02.3 -6.2
CLNS *e*SS SS 09 41 23.6 -10
CLNS pmax pmax
comp=Z,72nm,1.3s,mb5.8
CLNS pmax pmax
comp=E,27nm,1.4s
CLNS pmax pmax
comp=N,39nm,1.4s
CLNS pmax pmax
comp=E,4.0nm,1.3s
CLNS pmax pmax
comp=Z,12nm,1.7s,mb5.0
CLNS pmax pmax
comp=N,11nm,1.5s
CLNS smax
comp=N,277nm,14.4s
CLNS smax
comp=E,364nm,13.0s
CLNS MLR MLR
comp=E,330nm,16.0s,MS5.1
CLNS MLR MLR
comp=N,429nm,15.0s,MS5.1
CLNS MLR MLR
comp=Z,435nm,15.0s,MS5.0
VNA3 Neumayer Olymp 90.87 174 *e* **P 09 24 38.5 +0.4**
XAN Xi'an 90.91 305 P **P 09 24 39.1 +0.2**
XAN SS SS 09 41 44.4 +4.4
XAN pmax pmax
comp=Z,10.0nm,1.9s,mb4.8
XAN pmax pmax
comp=Z,360nm,8.7s
XAN LR LR
comp=N,1µm,37.6s
XAN LR LR
comp=E,370nm,29.4s
SNAA Sanae 90.97 177 *e* **P 09 24 37.7 -0.8**
SNAA Sanae 90.97 177 P **P 09 24 37.6 -1.0**
comp=E,19nm,0.9s,mb5.4,baz=206,slow=4.0,SNR=44
SNAA Sanae 90.97 177 *e*P **P 09 24 37.6 -1.0**
comp=E,66nm,1.0s,mb5.9
SNAA Sanae 90.97 177 P **P 09 24 37.6 -0.9**
SNAA pmax pmax
comp=Z,19nm,1.0s
SYO Syowa Base 91.06 191 ⇑*e*P **P 09 24 35.6 -3.4**
SYO Syowa Base 91.06 191 ⇑*i*PcP PcP 09 24 37.2 -2.8
LCO Las Campanas 91.13 121 *e*P **P 09 24 41.3 +1.1**
comp=Z,84nm,1.4s,mb5.9
LCO LR LR
comp=Z,2µm,21.0s,MS5.6
NNA Nana 91.20 103 P **P 09 24 41.5 +0.7**
comp=Z,11nm,0.8s,mb5.2,baz=250,slow=6.2,SNR=5.0
NNA Nana 91.20 103 *e*P **P 09 24 40.8 +0.1**
comp=Z,116nm,1.7s,mb5.9
NNA LR LR
comp=Z,3µm,19.0s,MS5.7
NNA Nana 91.20 103 *i*P **P 09 24 43.2 +2.4**
ATAH Atahualpa 91.21 98 P **P 09 24 42.4 +1.6**
comp=Z,24nm,0.9s,mb5.5,baz=267,slow=6.3,SNR=14
ATAH Atahualpa 91.21 98 P **P 09 24 42.4 +1.6**
YKA Yellowknife Ar 91.22 23 P **P 09 24 38.8 -0.9**
comp=Z,8.9nm,0.9s,mb5.1,baz=233,slow=4.2,SNR=77
YKA PP PP 09 28 16.8 -0.1
comp=Z,2.9nm,1.2s,baz=235,slow=7.5,SNR=5.1
YKA PKKPbc PKKPbc 09 42 01.0 -3.8
comp=Z,0.9nm,0.9s,baz=38,slow=2.6,SNR=5.3
YKA PKPPKP 09 50 10.4
comp=Z,0.6nm,0.9s,baz=28,slow=2.5,SNR=4.3
YKA LR LR 10 01 37.9
comp=Z,161nm,18.1s,MS4.5,baz=260,slow=33
YKA Yellowknife Ar 91.22 23 P **P 09 24 38.8 -0.9**
YKA PP PP 09 28 16.8 -0.1
YKA PKKPbc PKKPbc 09 42 01.0 -3.9
YKA P'P' 09 50 10.4
YKA Yellowknife Ar 91.22 23 P **P 09 24 38.8 -0.9**
YKA 09 28 16.8
YKA pmax pmax
comp=Z,9.0nm,0.9s
YKA pmax pmax
comp=Z,3.0nm,1.2s
MDND Maddock 91.26 40 ⇑P **P 09 24 39.6 -0.5**
baz=92
HHC Hu-ho-hao-te 91.37 312 *e*P **P 09 24 42.5 +1.6**
HHC PP PP 09 28 23.8 +5.2
HHC SKS 09 35 05.9
HHC pmax pmax
comp=Z,38nm,1.2s,mb5.6
HHC pmax pmax
comp=Z,1µm,8.4s
HHC LR LR
comp=N,750nm,13.7s,MS5.4
HHC LR LR
comp=E,620nm,13.5s,MS5.4
HHC LR LR
comp=Z,2µm,16.5s,MS5.5
VNA2 Neumayer--Watz 91.38 175 *e* **P 09 24 40.4 -0.1**
baz=189,slow=2.7
YAK Yakutsk 91.40 336 *e*P **P 09 24 39.7 -0.8**
comp=Z,89nm,1.2s,mb6.0
YAK LR LR
comp=Z,859nm,20.0s,MS5.2
YAK Yakutsk 91.40 336 *e*P **P 09 24 38.0 -2.5**
YAK *e**PP pP 09 24 48.3 +5.5
YAK *e* 09 28 14.3
YAK *e*S SKSac 09 35 01.9 -11
YAK *e* 09 35 31.9
YAK *e* 09 36 42.2
YAK *e*SS SS 09 41 46.6 +0.8
YAK pmax pmax
comp=Z,62nm,1.4s,mb5.8
YAK pmax pmax
comp=E,18nm,1.5s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=Z,183nm,2.7s,mb5.9
YAK pmax pmax
comp=N,171nm,3.8s
YAK pmax pmax
comp=E,79nm,2.1s
YAK smax
comp=N,173nm,5.0s
YAK smax
comp=E,128nm,4.4s
UALR University of 91.40 54 *e*P **P 09 24 41.5 +0.3**
comp=E,72nm,1.0s,mb6.0
ECSD EROS Data Cent 91.54 45 *e*P **P 09 24 41.2 -0.4**
comp=E,56nm,1.3s,mb5.7
ECSD LR LR
comp=Z,2µm,19.0s,MS5.7
VNA1 Neumayer--Stat 91.57 175 *e* **P 09 24 42.7 +1.4**
VBMS Vicksburg 91.99 57 *e*P **P 09 24 44.6 +0.7**
comp=Z,371nm,1.6s,mb6.5
VBMS LR LR
comp=Z,2µm,19.0s,MS5.7
MAIT Maitri 92.15 181 *e*P **P 09 24 44.0 0.0**
MAIT *e* 09 24 52.1
CFAA Coronel Fontan 92.19 124 P **P 09 24 44.7 -0.3**
comp=Z,3.1nm,0.9s,mb4.6,baz=254,slow=4.1,SNR=30
CFAA Coronel Fontan 92.19 124 P **P 09 24 44.7 -0.3**
BTO Baotou 92.37 312 *e*P **P 09 24 45.9 +0.4**
FFC Flin Flon 92.85 33 *e*P **P 09 24 46.5 -0.8**
comp=Z,75nm,1.5s,mb5.9
FFC LR LR
comp=Z,4µm,19.0s,MS5.9
FFC Flin Flon 92.85 33 *i*P **P 09 24 47.0 -0.4**
FFC Flin Flon 92.85 33 P **P 09 24 47.8 +0.4**
comp=Z,164nm,1.5s,mb6.2,SNR=17
KMI Kunming 93.15 295 P **P 09 24 51.0 +1.5**
KMI pP pP 09 24 57.6 +5.8
KMI sP sP 09 25 00.3 +7.7
KMI PP PP 09 28 36.0 +2.9
KMI SKS 09 35 24.6
KMI S S 09 35 57.8 +0.7
KMI sS sS 09 36 06.6 +5.6
KMI pmax pmax
comp=Z,39nm,1.9s,mb5.5
KMI pmax pmax
comp=Z,1µm,6.3s
KMI LR LR
comp=N,680nm,17.6s
KMI LR LR
comp=E,1µm,24.2s
SCIA State Center 93.21 47 *e*P **P 09 24 49.7 +0.3**
comp=E,113nm,1.4s,mb6.1
SCIA LR LR
comp=Z,3µm,20.0s,MS5.7
OTAV Otavalo 93.33 91 *e*P **P 09 24 50.4 -0.2**
comp=Z,12nm,1.1s,mb5.2
OTAV LR LR
comp=Z,2µm,22.0s,MS5.5
CCM Cathedral Cave 93.34 51 *e*P **P 09 24 49.4 -0.7**
comp=Z,52nm,1.1s,mb5.9
CCM Cathedral Cave 93.34 51 *e*P **P 09 24 49.4 -0.6**
CCM pmax pmax
comp=Z,52nm,1.1s,mb5.9
GNAR Gosnell 93.59 54 *e*P **P 09 24 51.6 +0.3**
comp=Z,2µm,1.4s
OXF Oxford 93.60 55 PFAKE 09 25 00.0 +8.7
OXF LR LR
comp=Z,3µm,19.0s,MS5.8
AGMN Agassiz Nation 93.74 40 PFAKE 09 25 00.0 +8.4
AGMN LR LR
comp=Z,2µm,20.0s,MS5.5
PVMO Portageville 93.97 53 *e*P **P 09 24 52.8 -0.2**
CD2 Chengdu 94.03 301 P **P 09 24 54.3 +0.9**
CD2 PP PP 09 28 41.3 +1.5
CD2 S S 09 35 55.3 -9.3
CD2 SS SS 09 42 20.6 -4.4
CD2 pmax pmax
comp=Z,30nm,1.2s,mb5.6
CD2 pmax pmax
comp=Z,1µm,10.8s
CD2 LR LR
comp=N,2µm,27.2s,MS5.6
CD2 LR LR
comp=E,2µm,25.2s,MS5.6
CD2 LR LR
comp=Z,1µm,24.0s,MS5.3
SLM Saint Louis 94.27 51 *e*P **P 09 24 54.1 -0.2**
comp=Z,62nm,1.2s,mb5.9
SLM Saint Louis 94.27 51 *e*P **P 09 24 54.1 -0.2**
SLM pmax pmax
comp=Z,62nm,1.2s,mb5.9
CIT Chita 94.30 323 *e*P **P 09 24 54.5 +0.4**
CIT pmax pmax
comp=Z,205nm,1.9s,mb6.2
TRQA Tornquist 94.33 132 *e*P **P 09 24 54.8 0.0**
comp=Z,8.4nm,0.8s,mb5.2
TRQA LR LR
comp=Z,3µm,19.0s,MS5.7
BRAL Brewton 94.42 59 PFAKE 09 25 10.0 +15
BRAL LR LR
comp=Z,2µm,21.0s,MS5.6
ULM Lac du Bonnet 94.46 39 P **P 09 24 53.9 -1.0**
comp=Z,16nm,0.9s,mb5.4,baz=248,slow=4.4,SNR=19
ULM LR LR 10 02 58.7
comp=Z,3µm,18.0s,MS5.8,baz=253,slow=33
ULM Lac du Bonnet 94.46 39 P **P 09 24 53.9 -1.0**
ULM Lac du Bonnet 94.46 39 P **P 09 24 53.9 -1.0**
ULM pmax pmax
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 94.59 288 P **P 09 24 57.5 +1.3**
comp=Z,18nm,1.1s,mb5.4,baz=94,slow=2.6,SNR=42
CMAR PP PP 09 28 45.1 +0.7
comp=Z,0.8nm,0.3s,baz=108,slow=5.8,SNR=4.0
CMAR PKKPbc PKKPbc 09 41 53.5 -0.9
comp=Z,1.9nm,0.3s,baz=284,slow=3.6,SNR=7.3
CMAR LR LR 10 00 32.4
comp=Z,1µm,21.8s,MS5.3,baz=284,slow=31
CMAR Chiang Mai Arr 94.59 288 P **P 09 24 57.5 +1.3**
CMAR PP PP 09 28 45.1 +0.7
CMAR PKKPbc PKKPbc 09 41 53.5 -0.9
CMAR Chiang Mai Arr 94.59 288 P **P 09 24 57.5 +1.3**
CMAR 09 28 45.1
CMAR pmax pmax
comp=Z,18nm,1.1s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
UTMT University of 94.59 54 *e*P **P 09 24 55.6 -0.3**
comp=Z,203nm,1.3s,mb6.4
BCIP Isla Barro Col 94.59 82 PFAKE 09 25 10.0 +14
BCIP LR LR
comp=Z,2µm,19.0s,MS5.5
SPMN St. Paul 94.62 44 ⇑P **P 09 24 55.4 -0.4**
baz=95
CHTO Chiang Mai 94.69 288 *e*P **P 09 24 56.6 -0.1**
comp=Z,127nm,1.9s,mb6.0
CHTO LR LR
comp=Z,2µm,22.0s,MS5.5
CHTO Chiang Mai 94.69 288 *e*P **P 09 24 56.6 -0.1**
CHTO pmax pmax
comp=Z,127nm,1.9s,mb6.0
CHTO MLR MLR
comp=Z,2µm,22.0s,MS5.5
CHTO Chiang Mai 94.69 288 P **P 09 24 58.5 +1.8**
comp=Z,1µmcomp=Z,38nm,1.7s,mb5.5
SIUC Southern Illin 94.75 52 *e*P **P 09 24 56.1 -0.5**
comp=Z,39nm,0.9s,mb5.8
PLAL Pickwick Lake 94.79 55 PFAKE 09 25 10.0 +13
PLAL LR LR
comp=Z,2µm,22.0s,MS5.6
LVC Limon Verde 94.89 115 *e*P **P 09 24 58.2 +0.6**
comp=Z,38nm,1.5s,mb5.6
LVC LR LR
comp=Z,4µm,20.0s,MS5.9
LRAL Lakeview Retre 95.06 57 *e*P **P 09 24 59.1 +1.0**
comp=Z,53nm,1.8s,mb5.7
LRAL LR LR
comp=Z,2µm,19.0s,MS5.6
LZH Lanzhou 95.51 306 *e*P **P 09 25 01.6 +1.5**
LZH pP pP 09 25 06.0 +3.6
LZH sP sP 09 25 08.0 +4.8
LZH PP PP 09 28 50.3 -0.9
LZH SKS 09 35 38.0
LZH S S 09 36 14.0 -3.3
LZH pmax pmax
comp=Z,110nm,1.0s,mb6.2
LZH pmax pmax
comp=Z,530nm,5.4s
LZH LR LR
comp=N,1µm,19.7s,MS5.5
LZH LR LR
comp=E,610nm,15.2s,MS5.5
LZH LR LR
comp=Z,2µm,20.1s,MS5.5
JFWS Jewell Farm 95.61 47 *e*P **P 09 24 59.9 -0.5**
comp=Z,56nm,0.8s,mb6.0
JFWS LR LR
comp=Z,3µm,19.0s,MS5.8
JFWS Jewell Farm 95.61 47 *e*P **P 09 24 59.9 -0.5**
JFWS pmax pmax
comp=Z,56nm,0.8s,mb6.0
JFWS MLR MLR
comp=Z,3µm,19.0s,MS5.8
USIN University of 95.99 52 *e*P **P 09 25 03.2 +1.0**
comp=Z,53nm,1.1s,mb5.9
BOD Bodaibo 96.28 329 *e*P **P 09 25 02.2 -0.8**
BOD pmax pmax
comp=Z,10.0nm,1.8s,mb4.9
EYMN Ely 96.37 42 PFAKE 09 25 10.0 +6.3
EYMN LR LR
comp=Z,2µm,20.0s,MS5.7
ULN Ulaanbaatar 96.80 318 *e*P **P 09 25 06.0 +0.4**
comp=Z,12nm,1.2s,mb5.2
ULN LR LR
comp=Z,939nm,19.0s,MS5.3
ULN Ulaanbaatar 96.80 318 *e*P **P 09 25 06.0 +0.4**
ULN pmax pmax
comp=Z,12nm,1.2s,mb5.2
ULN MLR MLR
comp=Z,939nm,19.0s,MS5.3
ULN Ulaanbaatar 96.80 318 P **P 09 25 06.5 +0.9**
SFIN Scholer Farm 97.11 50 ⇓P **P 09 25 06.4 -0.9**
baz=97
BLO Bloomington 97.20 51 *e*P **P 09 25 07.5 -0.2**
comp=Z,18nm,0.9s,mb5.5
BLO Bloomington 97.20 51 *e*P **P 09 25 07.5 -0.2**
BLO pmax pmax
comp=Z,18nm,0.9s,mb5.5
SONM Songino Array 97.21 318 P **P 09 25 07.6 +0.2**
comp=Z,4.1nm,0.8s,mb4.9,baz=120,slow=3.3,SNR=19
SONM PP PP 09 29 01.8 -2.3
comp=Z,3.2nm,1.1s,baz=116,slow=6.6,SNR=9.5
SONM PKKPbc PKKPbc 09 41 47.8 -0.6
comp=Z,0.9nm,0.3s,baz=270,slow=2.9,SNR=11
SONM LR LR 10 03 19.1
comp=Z,832nm,20.6s,MS5.2,baz=249,slow=32
SONM Songino Array 97.21 318 P **P 09 25 07.6 +0.2**
SONM PP PP 09 29 01.8 -2.3
SONM PKKPbc PKKPbc 09 41 47.8 -0.6
SONM Songino Array 97.21 318 P **P 09 25 07.6 +0.1**
SONM 09 29 01.8
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM pmax pmax
comp=Z,3.0nm,1.1s
LPAZ La Paz 97.80 110 P **P 09 25 13.2 +2.3**
comp=Z,2.1nm,0.9s,mb4.7,baz=262,slow=4.2,SNR=7.3
LPAZ LR LR 10 00 47.8
comp=Z,2µm,18.9s,MS5.5,baz=255,slow=30
LPAZ La Paz 97.80 110 P **P 09 25 13.2 +2.3**
LPAZ La Paz 97.80 110 P **P 09 25 13.2 +2.3**
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
GOGA Godfrey 98.01 58 PFAKE 09 25 20.0 +8.5
GOGA LR LR
comp=Z,2µm,19.0s,MS5.7
ROSC El Rosal 98.61 88 LR LR 10 01 45.8
comp=Z,1µm,19.1s,MS5.3,baz=202,slow=30
MTDJ Mount Denham 99.22 74 PFAKE 09 25 30.0 +13
MTDJ LR LR
comp=Z,2µm,21.0s,MS5.7
GTA Gaotai 99.49 308 *e*P **P 09 25 19.1 +1.2**
GTA pP pP 09 25 23.6 +3.4
GTA sP sP 09 25 25.9 +4.8
GTA PP PP 09 29 20.5 -1.2
GTA SKS 09 35 56.5
GTA S S 09 36 47.8 -3.3
GTA sS sS 09 36 55.4 +0.4
GTA SS SS 09 43 37.8 -3.9
GTA pmax pmax
comp=Z,10.0nm,2.1s,mb5.0
GTA pmax pmax
comp=Z,440nm,10.0s
GTA LR LR
comp=N,880nm,19.9s,MS5.4
GTA LR LR
comp=E,1µm,23.3s,MS5.4
GTA LR LR
comp=Z,2µm,29.0s
ZAK Zakamensk 99.89 320 *e*P Pdif 09 25 19.5 0.0
ZAK pmax pmax
comp=Z,4.0nm,1.6s,mb4.6
TLY Talaya 100.00 321 PFAKE 09 25 30.0 +10
TLY LR LR
comp=Z,822nm,19.0s,MS5.3
TLY Talaya 100.00 321 *e*P Pdif 09 25 17.4 -2.6
TLY *e* 09 29 22.5
TLY *e* 09 35 49.0
TLY *e*S 09 36 52.8
TLY *e*PS PS 09 38 15.6 -8.6
TLY *e*SSS 09 47 35.5

TLY pmax pmax
comp=Z,9.0nm,1.5s
TLY MLR MLR
comp=Z,690nm,20.0s,MS5.2
GLMI Grayling 100.06 46 PFAKE 09 25 30.0 +10
GLMI LR LR
comp=Z,3μm,20.0s,MS5.8
ACSO Alum Creek Sta 100.11 51 PFAKE 09 25 30.0 +10
ACSO LR LR
comp=Z,3μm,20.0s,MS5.7
NHSC New Hope 100.60 59 PFAKE 09 25 30.0 +7.3
NHSC LR LR
comp=Z,2μm,20.0s,MS5.5
BLA Blacksburg 101.36 54 PFAKE 09 25 40.0 +14
BLA LR LR
comp=Z,3μm,20.0s,MS5.8
GTBY Guantanamo Bay 101.87 73 PFAKE 09 25 40.0 +12
GTBY LR LR
comp=Z,1μm,19.0s,MS5.5
ERPA Erie 102.73 50 PFAKE 09 25 40.0 +7.8
ERPA LR LR
comp=Z,3μm,20.0s,MS5.8
SHL Shillong 102.74 293 *e*PKP Pdif 09 25 32.0 -0.2
SHL *ex* SKSac 09 36 20.0 +6.6
CNNC Cliffs of the 102.93 57 PFAKE 09 25 40.0 +7.0
CNNC LR LR
comp=Z,2μm,21.0s,MS5.6
SDV Santo Domingo 103.25 85 PFAKE 09 25 50.0 +16
SDV LR LR
comp=Z,505nm,19.0s,MS5.1
CBN Corbin 103.93 54 PFAKE 09 25 50.0 +13
CBN LR LR
comp=Z,3μm,19.0s,MS5.8
LSA Lhasa 104.27 297 *e*Pdif Pdif 09 25 40.4 +1.4
LSA LR LR
comp=Z,754nm,22.0s,MS5.2
LSA Lhasa 104.27 297 *e*P Pdif 09 25 40.4 +1.4
LSA MLR MLR
comp=Z,754nm,22.0s,MS5.2
SAML Samuel 104.88 104 PFAKE 09 25 50.0 +8.3
SAML LR LR
comp=Z,3μm,22.0s,MS5.8
SDDR Presa de Saban 105.15 75 PFAKE 09 30 10.0 +12
SDDR LR LR
comp=Z,4μm,22.0s,MS5.9
CAL Calcutta 105.24 289 *e*PKP Pdif 09 25 42.3 -1.0
CAL *ex* x 09 29 43.5
BINY Binghamton 105.67 50 PFAKE 09 30 10.0 +12
BINY LR LR
comp=Z,4μm,21.0s,MS5.9
LONY Lake Ozonia 107.04 48 PFAKE 09 30 10.0 +9.1
LONY LR LR
comp=Z,3μm,20.0s,MS5.8
NCB Newcomb 107.21 49 PFAKE 09 30 10.0 +8.7
NCB LR LR
comp=Z,3μm,19.0s,MS5.9
VIS Vishakhapatnam 108.78 283 *ex* PKiKP 09 29 57.6 -7.3
LBNH Lisbon 108.89 48 PFAKE 09 30 20.0 +16
LBNH LR LR
comp=Z,3μm,19.0s,MS5.9
WMQ Urumqi 109.20 311 Pdif Pdif 09 26 02.5 +1.6
WMQ PP PP 09 30 39.5 +5.6
WMQ AMB AMB
comp=Z,810nm,7.1s
WMQ LR LR
comp=N,640nm,29.2s,MS5.2
WMQ LR LR
comp=E,640nm,28.0s,MS5.2
WMQ LR LR
comp=Z,1μm,26.7s,MS5.3
SJG San Juan 109.71 77 PFAKE 09 30 20.0 +13
SJG LR LR
comp=Z,1μm,20.0s,MS5.5
MDRS Chennai 110.62 278 *e*PKP PKiKP 09 30 07.0 -1.5
MDRS *ex* x 09 31 07.2
MDRS *ex* x 09 37 03.2
PKME Peaks-Kenny Pk 110.84 48 PFAKE 09 30 20.0 +12
PKME LR LR
comp=Z,3μm,20.0s,MS5.8
ZALV Zalesovo Beam 111.59 322 PKiKP PKiKP 09 30 07.5 -1.6
comp=Z,5.6nm,0.7s,baz=120,slow=1.4,SNR=26
ZALV PP PP 09 30 46.9 -3.9
comp=Z,1.0nm,0.8s,baz=89,slow=9.4,SNR=2.3
ZALV PKKPbc PKKPbc 09 41 03.2 -1.8
comp=Z,0.6nm,0.7s,baz=306,slow=5.0,SNR=2.4
ZALV Zalesovo Beam 111.59 322 PKiKP PKiKP 09 30 07.5 -1.6
ZALV PP PP 09 30 46.9 -3.9
ZALV PKKPbc PKKPbc 09 41 03.2 -1.8
ZALV Zalesovo Beam 111.59 322 *i* PKIKP PKiKP 09 30 07.6 -1.6
ZALV 09 30 46.9
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.8s
DGAR Diego Garcia 111.89 254 PFAKE 09 30 20.0 +9.0
DGAR LR LR
comp=Z,4μm,22.0s,MS6.0
SPB Sao Paulo 112.23 125 PFAKE 09 30 20.0 +8.6
SPB LR LR
comp=Z,2μm,22.0s,MS5.7
NVS Novosibirsk 112.50 323 *e*PKIKP PKiKP 09 30 10.1 -0.8
NVS *e* 09 30 53.4
GRGR Grenville 112.61 84 PFAKE 09 30 20.0 +7.7
GRGR LR LR
comp=Z,1μm,19.0s,MS5.5
TRD Trivandrum 112.63 272 *e*PKP PKiKP 09 30 10.9 -1.4
MK31 Makanchi Array 113.18 314 PKIKP PKiKP 09 30 10.8 -1.6
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 113.18 314 PKiKP PKiKP 09 30 11.0 -1.4
comp=Z,4.8nm,0.7s,baz=110,slow=0.3,SNR=29
MKAR PP PP 09 30 57.7 -4.6
comp=Z,1.8nm,0.9s,baz=105,slow=3.4,SNR=2.6
MKAR PKKPbc PKKPbc 09 40 56.5 -3.0
comp=Z,1.3nm,0.8s,baz=261,slow=2.3,SNR=10
MKAR Makanchi Array 113.18 314 PKiKP PKiKP 09 30 11.0 -1.4
MKAR PP PP 09 30 57.7 -4.6
MKAR PKKPbc PKKPbc 09 40 56.5 -2.9
MKAR Makanchi Array 113.18 314 *i* PKIKP PKiKP 09 30 11.0 -1.4
MKAR 09 30 57.7
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
BBSR BB Station 113.32 62 PFAKE 09 30 20.0 +6.8
BBSR LR LR
comp=Z,1μm,20.0s,MS5.5
FDF Fort de France 113.68 81 PFAKE 09 30 30.0 +16
FDF LR LR
comp=Z,1μm,19.0s,MS5.5
ANWB Willy Bob 113.69 78 PFAKE 09 30 30.0 +16
ANWB LR LR
comp=Z,1μm,20.0s,MS5.5
BBGH Gun Hill 114.83 83 PFAKE 09 30 30.0 +13
BBGH LR LR
comp=Z,3μm,20.0s,MS5.9
BHPL Bhopal 115.25 288 *e*PKP PKiKP 09 30 16.1 -1.0
KURK Kurchatov 115.51 318 *e*PKPdf PKPdf 09 30 15.4 -1.4
KURK *e*PP PP 09 31 14.3 -4.4
KURK LR LR
comp=Z,858nm,21.0s,MS5.3
KURK Kurchatov 115.51 318 *d i* PKIKP PKPdf 09 30 16.2 -0.6
KURK pmax pmax
comp=Z,16nm,1.0s
MNGI Mangalore 115.74 276 *e*PKP PKPdf 09 30 15.4 -2.9
NDI New Delhi 116.14 294 *e*PKP PKPdf 09 30 17.2 -1.5
KAD Karad 117.24 281 *e*PKP PKPdf 09 30 19.9 -1.2
KSH Kashi 117.76 306 *e*PKP PKPdf 09 30 23.9 +2.4
KSH PKS 09 33 49.8
KSH SKS SKSdf 09 37 33.9 -0.2
KSH AMB AMB
comp=Z,1μm,6.3s
KSH LR LR
comp=N,250nm,9.1s
KSH LR LR
comp=E,310nm,7.8s
KSH LR LR
comp=Z,620nm,20.8s,MS5.2
POO Poona 117.78 282 *e*PKP PKPdf 09 30 20.8 -1.3
TKM2 Tokmak 2 117.98 310 P PKPdf 09 30 22.2 +0.4
SNR=6.0
TKM2 P 09 30 22.2
SNR=6.0
TKM2 Tokmak 2 117.98 310 *e*PKPdf PKPdf 09 30 21.0 -0.7
TKM2 LR LR
comp=Z,875nm,20.0s,MS5.4
TKM2 Tokmak 2 117.98 310 *e*PKIKP PKPdf 09 30 21.0 -0.8
TKM2 MLR MLR
comp=Z,875nm,20.0s,MS5.4
KBS Kingsbay 118.28 359 PFAKE 09 30 30.0 +8.6
KBS LR LR
comp=Z,1μm,21.0s,MS5.5
KBK Karagaybulak 118.47 310 P PKPdf 09 30 23.3 +0.6
SNR=5.2
KBK P 09 30 23.3
SNR=5.2
SUMG Summit 118.63 14 *i* P PKPdf 09 30 23.8 +1.6
comp=Z,9.1nm,0.9s
USP Ospenovka 118.77 310 P PKPdf 09 30 23.6 +0.3
SNR=6.2
USP P 09 30 23.6
SNR=6.2
AAK Ala-Archa 118.80 310 P PKPdf 09 30 24.0 +0.6
SNR=5.3
AAK P 09 30 24.0
SNR=5.3
AAK Ala-Archa 118.80 310 *e*PKPdf PKPdf 09 30 23.5 +0.2
AAK LR LR
comp=Z,1μm,21.0s,MS5.4
AAK Ala-Archa 118.80 310 ⇓ *i*PKIKP PKPdf 09 30 22.2 -1.2
AAK pmax pmax
comp=Z,39nm,1.7s
AAK Ala-Archa 118.80 310 PKP PKPdf 09 30 23.9 +0.5
EKS2 Erkin-Say 119.33 310 P PKPdf 09 30 25.2 +0.8
SNR=5.8
EKS2 P 09 30 25.2
SNR=5.8
EKS2 Erkin-Say 119.33 310 *e*PKPdf PKPdf 09 30 24.1 -0.3
EKS2 LR LR
comp=Z,984nm,19.0s,MS5.5
EKS2 Erkin-Say 119.33 310 *e*PKIKP PKPdf 09 30 24.1 -0.3
EKS2 MLR MLR
comp=Z,984nm,19.0s,MS5.5
AML Almayashu 119.42 309 P PKPdf 09 30 25.8 +1.2
SNR=6.2
AML P 09 30 25.8
SNR=6.2
NIL Nilore 119.87 299 PFAKE 09 30 40.0 +14
NIL LR LR
comp=Z,87nm,21.0s,MS4.4
BVA0 Borovoye Array 120.25 322 *i* PKIKP PKPdf 09 30 24.6 -1.2
BVA0 pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 120.31 322 *e*PKPdf PKPdf 09 30 24.6 -1.3
BRVK *e*PP PP 09 31 47.7 -4.1
BRVK LR LR
comp=Z,972nm,20.0s,MS5.4
BRVK Borovoye 120.31 322 *d i* PKIKP PKPdf 09 30 24.7 -1.2
BRVK pmax pmax
comp=Z,47nm,1.7s
BRVK Borovoye 120.31 322 P PKPdf 09 30 26.0 +0.1
SNR=7.6
KK31 Karatay Array 121.69 310 PKIKP PKPdf 09 30 28.7 -0.2
KK31 pmax pmax
comp=Z,19nm,1.1s
KKAR Karatay Array 121.69 310 *e*PKPdf PKPdf 09 30 28.8 -0.1
KKAR Karatay Array 121.69 310 *e*PKIKP PKPdf 09 30 28.8 -0.1
SCO Scoresbysund 123.76 12 *i* P PKPdf 09 30 33.0 +0.9
comp=Z,14nm,0.9s
SVE Sverdlovsk 124.48 328 *i* PKIKP PKPdf 09 30 34.4 +0.6
SVE pmax pmax
comp=Z,27nm,1.0s
SOKR Solikamsk 125.11 332 *c i* PKIKP PKPdf 09 30 34.1 -0.9
SOKR SS SS 09 49 26.4 +5.8
SOKR pmax pmax
comp=Z,40nm,0.8s
ARU Arti 125.69 328 *e*PKPdf PKPdf 09 30 35.9 -0.3
ARU LR LR
comp=Z,1μm,20.0s,MS5.5
ARU Arti 125.69 328 *i* PKIKP PKPdf 09 30 36.1 -0.1
ARU 09 32 25.7
ARU 09 37 36.5
ARU SS SS 09 49 13.2 -15
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.5
KEV Kevo 126.25 352 PFAKE 09 30 50.0 +13
KEV LR LR
comp=Z,1μm,20.0s,MS5.5
KEV Kevo 126.25 352 *e*PKIKP PKPdf 09 30 35.6 -1.3
KEV pmax pmax
comp=Z,9.0nm,0.8s
KEV Kevo 126.25 352 *ep* PKPdf 09 30 35.6 -1.3
comp=Z,9.4nm,0.8s
LVZ Lovozero 126.63 348 PFAKE 09 30 50.0 +12
LVZ LR LR
comp=Z,1μm,20.0s,MS5.6
ARCES ARCESS Array B 126.65 352 PKP PKPdf 09 30 37.1 -0.5
comp=Z,17nm,0.8s,baz=42,slow=1.5,SNR=27
ARCES ARCESS Array B 126.65 352 PKP PKPdf 09 30 37.1 -0.5
ARCES ARCESS Array B 126.65 352 PKIKP PKPdf 09 30 37.1 -0.5
ARCES pmax pmax
comp=Z,17nm,0.8s
APA Apatity 127.16 348 ⇓ *i*PKIKP PKPdf 09 30 38.4 -0.3
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,2μm,20.0s,MS5.7
ABPO Ambohimpanom 127.30 229 PFAKE 09 30 50.0 +10
ABPO LR LR
comp=Z,2μm,20.0s,MS5.8
AB31 Akbulak array 127.58 319 PKIKP PKPdf 09 30 39.9 -0.1
ABKAR Akbulak array 127.58 319 *e*PKPdf PKPdf 09 30 39.3 -0.7
AKTO Aktyubinsk 128.35 321 PKP PKPdf 09 30 41.2 -0.2
comp=Z,5.7nm,0.9s,baz=75,slow=2.3,SNR=14
AKTO Aktyubinsk 128.35 321 PKP PKPdf 09 30 41.2 -0.2
AKTO Aktyubinsk 128.35 321 PKIKP PKPdf 09 30 41.3 -0.1
AKTO pmax pmax
comp=Z,6.0nm,0.9s
MSEY Mahe Island 128.42 249 PFAKE 09 30 50.0 +7.3
MSEY LR LR
comp=Z,3μm,21.0s,MS5.9
SUR Sutherland 129.16 194 PKP PKPdf 09 30 43.7 0.0
comp=Z,20nm,0.8s,baz=178,slow=3.1,SNR=5.9
SUR Sutherland 129.16 194 PKP PKPdf 09 30 43.7 0.0
SUR LR LR
comp=Z,1μm,20.0s,MS5.6
RCBR Riachuelo 130.82 114 PFAKE 09 31 00.0 +13
RCBR LR LR
comp=Z,2μm,20.0s,MS5.9
KLMR Klimovskoe 131.04 340 *e*PKIKP PKPdf 09 30 41.9 -4.3
KLMR *e* 09 32 58.2
KLMR pmax pmax
comp=Z,65nm,1.8s
KLMR MLR MLR
comp=Z,2μm,20.0s,MS5.8
BOSA Boshof 131.48 200 PKP PKPdf 09 30 48.6 +0.4
comp=Z,21nm,1.0s,baz=183,slow=4.9,SNR=9.2
BOSA Boshof 131.48 200 PKP PKPdf 09 30 48.6 +0.4
BOSA Boshof 131.48 200 PKIKP PKPdf 09 30 48.6 +0.4
BOSA pmax pmax
comp=Z,21nm,1.0s
JOF Joensuu 131.63 346 *e*PKIKP PKPdf 09 30 46.7 -0.6
JOF pmax pmax
comp=Z,15nm,0.7s
JOF Joensuu 131.63 346 *ep* PKPdf 09 30 46.7 -0.6
comp=Z,15nm,0.7s
JMDO Jabal Madar 132.88 285 P PKPdf 09 30 51.8 +0.9
SNR=6.5
SMDO Samad 132.97 286 P PKPdf 09 30 52.3 +1.3
SNR=5.8
BSY Bisya 133.74 285 P PKPdf 09 30 52.9 +0.5
SNR=9.5
FINES FINESS Array B 134.07 348 PKhKP PKPpre 09 30 40.2
comp=Z,2.6nm,0.8s,baz=54,slow=3.3,SNR=6.4
FINES PKP PKPdf 09 30 51.4 -0.5
comp=Z,16nm,0.9s,baz=15,slow=1.0,SNR=8.8
FINES FINESS Array B 134.07 348 PKPpre PKPpre 09 30 40.2
FINES PKP PKPdf 09 30 51.4 -0.5
FINES FINESS Array B 134.07 348 PKHKP PKPpre 09 30 40.2
FINES 09 30 51.4
FINES pmax pmax
comp=Z,16nm,0.9s
HATD Hatta, Dubai 134.76 288 P PKPdf 09 30 54.7 +0.4
SNR=5.5
NAZ Nazwa, Dubai 135.19 288 P PKPdf 09 30 56.4 +1.3
SNR=5.9
MOS Moscow 135.53 337 *e*PKIKP PKPdf 09 30 58.0 +3.2
MOS *e* 09 33 28.4
MOS pmax pmax
comp=Z,47nm,1.5s
NOA NORSAR Array B 136.23 358 PKhKP PKPpre 09 30 44.2
comp=Z,1.5nm,0.8s,baz=6.2,slow=3.8,SNR=5.1
NOA PKP PKPdf 09 30 55.6 -0.4
comp=Z,5.9nm,0.8s,baz=13,slow=4.1,SNR=10
NOA PP PP 09 33 36.4 +0.9
comp=Z,2.2nm,0.9s,baz=6.3,slow=6.3,SNR=3.9
NOA NORSAR Array B 136.23 358 PKPpre PKPpre 09 30 44.2
NOA PKP PKPdf 09 30 55.6 -0.4
NOA PP PP 09 33 36.4 +0.9
NOA NORSAR Array B 136.23 358 PKIKP PKPdf 09 30 55.6 -0.4
NOA 09 33 36.4
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 136.40 337 PFAKE 09 31 10.0 +14
OBN LR LR
comp=Z,1μm,20.0s,MS5.6
OBN Obninsk 136.40 337 ⇑ *i*PKIKP PKPdf 09 30 56.9 +0.4
OBN *e* 09 31 01.2
OBN *e* 09 31 08.3
OBN *e* 09 33 34.6
OBN *e*SSS 09 56 40.8
OBN pmax pmax
comp=Z,28nm,0.7s
VSU Vasula 136.63 346 *i* PKIKP PKPdf 09 30 58.3 +1.5
HFS Hagfors 137.00 356 PKhKP PKPpre 09 30 45.2
baz=64,slow=3.4
HFS PKP PKPdf 09 30 56.8 -0.6
comp=Z,15nm,0.8s,baz=64,slow=3.4
HFS Hagfors 137.00 356 PKPpre PKPpre 09 30 45.2
HFS PKP PKPdf 09 30 56.8 -0.6
HFS Hagfors 137.00 356 PKHKP PKPpre 09 30 45.2
HFS 09 30 56.8
HFS pmax pmax
comp=Z,15nm,0.8s
KONO Kongsberg 137.66 359 PFAKE 09 31 10.0 +11
KONO LR LR
comp=Z,1μm,20.0s,MS5.6
VSR Storozhevoye 138.10 331 *e*PKIKP PKPdf 09 30 56.6 -3.1
VSR *e* 09 33 42.4
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,1.0nm,0.3s
VSR pmax pmax
comp=N,140nm,2.9s
VSR pmax pmax
comp=E,120nm,2.9s
VSR pmax pmax
comp=Z,170nm,2.9s
VSR MLR MLR
comp=N,670nm,18.0s
VSR MLR MLR
comp=Z,1μm,18.0s,MS5.7
VSR MLR MLR
comp=E,360nm,9.0s
MTA Mtatsminda 140.31 316 P PKPdf 09 30 58.4 -5.7
TBLG Delisi 140.33 316 *e*PKIKP PKPdf 09 30 58.3 -5.8
TBLG Delisi 140.33 316 P PKPdf 09 30 58.3 -5.8
ZEI Tsey 140.40 318 *i* PKIKP PKPdf 09 31 00.9 -3.3
ZEI pmax pmax
comp=Z,27nm,2.0s
KIV Kislovodsk 140.57 320 PFAKE 09 31 20.0 +16
KIV LR LR
comp=Z,854nm,19.0s,MS5.5
KIV Kislovodsk 140.57 320 *i* PKIKP PKPdf 09 31 01.6 -2.9
KIV *e* 09 33 59.9
KIV *e*SS SS 09 52 20.5 -8.4
KIV *e*SSS 09 57 37.2
KIV pmax pmax
comp=Z,17nm,1.1s
ONI Oni 140.77 318 P PKPdf 09 31 00.6 -4.2
GNI Garni 141.02 313 PFAKE 09 31 20.0 +15
GNI LR LR
comp=Z,662nm,21.0s,MS5.4
GNI Garni 141.02 313 *i* PKIKP PKPdf 09 31 07.7 +2.3
ESK Eskdalemuir 141.04 10 PFAKE 09 31 20.0 +15
ESK LR LR
comp=Z,2μm,21.0s,MS5.7
AKH Akhalkalaki 141.31 316 P PKPdf 09 30 57.5 -8.4
SUW Suwalki 141.51 346 *e*PKP PKPdf 09 31 00.7 -5.1
SUW Suwalki 141.51 346 *e*PKIKP PKPdf 09 31 00.7 -5.1
XAL Allendale 141.64 10 *e*P PKPdf 09 31 00.6 -5.5
KESW Keswick, Cumbr 141.75 11 *e*P PKPdf 09 31 01.8 -4.5
KESW AMB AMB 09 31 16.1
comp=Z,137nm,5.5s
QRN Al-Qurain 141.80 295 *e*P PKPdf 09 31 05.8 -1.3
QRN AMb AMB 09 31 08.7
comp=Z,96nm,0.8s
DIGO Kars 141.84 315 *i* P PKPdf 09 31 00.2 -6.7
DYDN Diyadin 142.01 313 *i* P PKPdf 09 31 03.3 -3.9
MIB Mutribah 142.13 296 *e*P PKPdf 09 31 03.1 -4.6
MIB AMb AMB 09 31 14.9
comp=Z,82nm,1.1s
DLF Lyons Farm 142.26 14 *e*P PKPpre 09 30 56.2
NAY Al-Naaiem 142.31 296 *e*P PKPdf 09 31 04.6 -3.4
NAY AMb AMB 09 31 11.1
comp=Z,30nm,1.5s
ARTV Artvin 142.45 316 *i* P PKPdf 09 31 03.6 -4.4
DAGI Agillar 142.51 316 *i* P PKPdf 09 31 01.9 -6.2
SOC Sochi 142.57 321 *e*PKIKP PKPdf 09 31 03.8 -4.3
SOC *e* 09 34 13.5
SOC *e*SS SS 09 52 48.2 -3.9
SOC pmax pmax
comp=Z,22nm,1.0s
AKASG Malin Array Be 142.62 338 PKhKP PKPpre 09 31 02.7
comp=Z,11nm,0.7s,baz=30,slow=3.7,SNR=32
AKASG PP PP 09 34 11.7 -3.5
comp=Z,0.3nm,0.3s,baz=35,slow=6.0,SNR=5.3
AKASG Malin Array Be 142.62 338 PKPpre PKPpre 09 31 02.7
AKASG PP PP 09 34 11.7 -3.5
AKASG Malin Array Be 142.62 338 PKIKP PKPdf 09 31 02.7 -5.2
AKASG 09 34 11.7
AKASG pmax pmax
comp=Z,11nm,0.7s
KIEV Kiev 142.63 338 *e*PKPdf PKPdf 09 31 02.8 -5.1
KIEV Kiev 142.63 338 ⇓ *i*PKIKP PKPdf 09 31 03.8 -4.1
DDEM Demirkent 142.71 316 *i* P PKPdf 09 31 02.4 -6.0
HAKT HAKKARI 142.81 310 *i* P PKPdf 09 31 02.2 -6.5
HOMI Horasan 143.01 315 *i* P PKPdf 09 31 04.4 -4.6
ANN Anapa 143.17 324 *i* PKIKP PKPdf 09 31 02.8 -6.3
ANN *e* 09 34 20.3
ANN pmax pmax
comp=Z,74nm,1.4s
FOEL Foel Wylfa 143.36 12 *e*P PKPdf 09 31 05.1 -4.1
FOEL AMB AMB 09 31 07.6
comp=Z,86nm,4.8s
GKP Gorka Klasztor 143.37 351 *e*PKP PKPdf 09 31 08.0 -1.2
GKP Gorka Klasztor 143.37 351 *e*PKIKP PKPdf 09 31 08.0 -1.2
BHD Baghdad 143.77 303 *ex* PKPdf 09 31 06.7 -3.8
BHD *i* x x 09 34 19.5
BHD *i* x x 09 36 44.0
BHD *i* x x 09 38 23.0
HLM1 Long Mynd 143.77 11 *e*P PKPdf 09 31 06.5 -3.4
HLM1 AMB AMB 09 31 09.8
comp=Z,90nm,2.0s
SIRN S¨–rnak 143.78 311 *i* P PKPdf 09 31 06.6 -3.8
KOPT Kop Dagi 143.97 316 *i* P PKPdf 09 31 08.4 -2.2
MACK Trabzon 143.98 317 *i* P PKPdf 09 31 07.6 -3.1
BNGL BINGOL 144.04 314 *i* P PKPdf 09 31 07.8 -3.0
BEL Belsk 144.08 347 *e*PKP PKPdf 09 31 09.2 -1.3
BEL Belsk 144.08 347 *e*PKIKP PKPdf 09 31 09.2 -1.3
MCH1 Michaelchurch 144.24 12 *e*P PKPdf 09 31 09.0 -1.7
MCH1 AMB AMB 09 31 10.7
comp=Z,86nm,4.0s
SHEL Horse Pasture 144.26 157 *e*PKPdf PKPdf 09 31 10.3 -1.6
SHEL LR LR
comp=Z,1μm,19.0s,MS5.7
SHEL Horse Pasture 144.26 157 *e*PKIKP PKPdf 09 31 10.3 -1.6
SHEL MLR MLR
comp=Z,1μm,19.0s,MS5.7
SSW Stow on the Wo 144.49 11 *e*P PKPdf 09 31 09.6 -1.6
RUE Ruedersdorf 144.58 354 *e*PKPdf PKPdf 09 31 10.0 -1.3
HGH Gray Hill 144.62 12 *e*P PKPdf 09 31 10.2 -1.3
KELT Kelkit 144.73 317 *i* P PKPdf 09 31 10.5 -1.5
SIM Simferopol' 144.85 327 *de*PKIKP PKPdf 09 31 10.6 -1.4
SIM pmax pmax
comp=Z,56nm,1.0s
SIM pmax pmax
comp=Z,740nm,9.4s
HTL Hartland 144.87 14 *e*P PKPdf 09 31 10.9 -1.0
HTL AMB AMB 09 31 13.0

comp=Z,145nm,5.2s
SWN1 Swindon 144.93 11 *e*P PKPdf 09 31 11.6 -0.4
SWN1 AMB AMB 09 31 12.2
comp=Z,222nm,2.1s
MARD Mardin 145.04 311 *i* P PKPbc 09 31 10.9 -1.1
DHBB Dhamar BB 145.06 271⇓*e*P PKPbc 09 31 14.0 +1.3
LVV L'vov 145.08 342 *e*PKIKP PKPdf 09 31 10.1 -2.2
TRBA At Turbah 145.09 268⇑*e*P PKPbc 09 31 14.3 +1.5
WOL Wolverton 145.22 10 *e*P PKPbc 09 31 12.0 0.0
WOL AMB AMB 09 31 13.9
comp=Z,467nm,2.3s
SUSE Susehri 145.38 318 *i* P PKPbc 09 31 11.7 -1.3
DYA Yadsworthy 145.52 14 *e*P PKPdf 09 31 10.4 -2.6
DYA AMB AMB 09 31 16.4
comp=Z,297nm,1.8s
KWP Kalwaria Pacla 145.63 343 *e*PKP PKPdf 09 31 12.6 -0.6
KWP Kalwaria Pacla 145.63 343 *e*PKPdf PKPdf 09 31 12.9 -0.3
KWP LR LR
comp=Z,2µm,22.0s,MS5.8
KWP Kalwaria Pacla 145.63 343 *e*PKIKP PKPdf 09 31 12.6 -0.6
KWP Kalwaria Pacla 145.63 343⇓*i*P PKPdf 09 31 13.6 +0.4
KEMA Kemaliye 145.69 316 *i* P PKPdf 09 31 13.7 0.0
ELSH Elham, Standar 145.74 8 *e*P PKPdf 09 31 13.8 +0.5
ELSH AMB AMB 09 31 15.8
comp=Z,523nm,2.1s
ELZG Elazig 145.74 314 *i* P PKPdf 09 31 15.4 +1.6
KIS Kishinev 145.78 335 *e*PKP PKPpre 09 31 06.0
KIS comp=Z,800nm,2.0s *e*pPKP pPKPdf 09 31 28.5 +13
KIS Kishinev 145.78 335 *e*PP PP 09 34 36.0 +1.7
KIS Kishinev 145.78 335 *e*PKS 09 34 56.0
KIS Kishinev 145.78 335 *e*PKHKP PKPpre 09 31 06.0
KIS *i* 09 31 12.0
KIS *e* 09 34 36.0
KIS *e*PPP 09 37 48.0
KIS pmax pmax
comp=Z,840nm,2.0s
KIS pmax pmax
comp=Z,7µm,7.0s
OJC Ojcow 145.81 347 *e*PKP PKPdf 09 31 13.4 -0.1
OJC Ojcow 145.81 347 *e*PKP2 PKPdf 09 31 13.4 -0.1
CLL Collm 145.82 355 *i* PKP2 PKPdf 09 31 14.1 +0.6
CLL pmax pmax
comp=Z,529nm,1.7s
CLL pmax pmax
comp=Z,373nm,1.5s
CLL MLR MLR
comp=Z,1µm,20.5s,MS5.7
CLL Collm 145.82 355 *i* PKPdf PKPdf 09 31 14.1 +0.6
comp=Z,529nm,1.7s
CLL *i* PKiKP PKiKP 09 31 17.1 -0.5
comp=Z,373nm,1.5s
CLL *e*PP PP 09 34 37.0 +2.9
CLL *e*PSKS 09 44 48.0
CLL *e*SS SS 09 53 48.0 +20
CLL *e*PSPS 09 54 36.0
CLL *e*SSS 09 59 00.0
CLL *e*SSSS 10 03 12.0
CLL Lm 10 42 00.0
comp=N,800nm,19.4s
CLL Lm 10 42 00.0
comp=E,900nm,20.4s
CLL Lm 10 42 00.0
comp=Z,1µm,20.5s
KSP Ksiaz 145.87 351 *e*PKP PKPdf 09 31 13.3 -0.2
KSP Ksiaz 145.87 351 *e*PKPbc PKPbc 09 31 13.1 -1.0
KSP *i* PKP PKPdf 09 31 15.2 +1.6
KSP *e*PP PP 09 34 32.0 -2.5
KSP LM 10 37 33.0
comp=Z,2.4nm,20.6s
KSP Ksiaz 145.87 351 *e*PKP2 PKPab 09 31 13.1 -1.5
KSP *e* 09 34 32.0
KSP MLR MLR
comp=Z,2µm,20.6s,MS6.0
KMBO Kilima Mbogo 145.98 240 PFAKE 09 31 30.0 +15
KMBO LR LR
comp=Z,2µm,22.0s,MS5.8
ERBA Erbaa 146.04 319 *i* P PKPdf 09 31 15.0 +0.8
IAS Iasi 146.13 336 PKP2 PKPdf 09 31 14.2 +0.1
IAS Iasi 146.13 336⇓*i*P PKPab 09 31 16.3 +0.6
BRG Berggiesshubel 146.15 353 *i* PKP PKPdf 09 31 14.1 0.0
comp=Z,741nm,2.0s
BRG Berggiesshubel 146.15 353 *i* PKP2 PKPdf 09 31 14.1 0.0
BRG pmax pmax
comp=Z,741nm,2.1s
STHS Stebnicka Huta 146.22 345 *e*PKP2 PKPab 09 31 16.7 +0.8
STHS Stebnicka Huta 146.22 345 *e*PKP PKPab 09 31 16.6 +0.7
UPC Upice 146.24 351 *e*PKP2 PKPdf 09 31 14.6 +0.4
UPC Upice 146.24 351 *e*PKP PKPdf 09 31 14.6 +0.4
SCER sogukcermik 146.26 318 *i* P PKPdf 09 31 16.1 +1.5
RAC Raciborz 146.28 348 *e*PKP2 PKPab 09 31 15.4 -0.7
DPC Dobruska-Polom 146.35 351 *e*PKP2 PKPbc 09 31 15.2 -0.4
DPC MLR MLR
comp=Z,1µm,19.7s,MS5.7
DPC Dobruska-Polom 146.35 351 *e*PKP PKPbc 09 31 15.2 -0.4
DPC AMS AMS 10 36 30.0
comp=Z,1µm,19.7s
KOLS Kolonicke sedl 146.38 343 *e*PKP2 PKPab 09 31 17.8 +1.2
KOLS Kolonicke sedl 146.38 343 *e*PKP PKPab 09 31 17.8 +1.2
UCC Uccle 146.41 4 PKP PKPdf 09 31 14.0 -0.5
PVCC Panska Ves 146.42 353 *e*PKP2 PKPbc 09 31 15.2 -0.6
PVCC MLR MLR
comp=Z,1µm,20.5s,MS5.7
PVCC Panska Ves 146.42 353 *e*PKP PKPbc 09 31 15.2 -0.6
PVCC AMS AMS 10 38 30.0
comp=Z,1µm,20.5s
LEOM Leova 146.44 335 PKP2 PKPbc 09 31 15.2 -0.8
LEOM Leova 146.44 335⇑*i*P PKPab 09 31 17.1 +0.2
NIE Niedzica 146.44 346 *e*PKP2 PKPbc 09 31 15.7 -0.2
HAVZ Havza 146.45 321 *i* P PKPdf 09 31 15.3 +0.4
BEBN Eben Emael 146.49 3 PKPbc PKPbc 09 31 15.2 -0.8
OKC Ostrava-Krasne 146.52 348 *e*PKP2 PKPdf 09 31 15.0 +0.3
OKC MLR MLR
comp=Z,1µm,20.7s,MS5.6
OKC Ostrava-Krasne 146.52 348 *e*PKP PKPdf 09 31 15.0 +0.3
OKC AMS AMS 10 40 50.0
comp=Z,1µm,20.7s
KRLC Kraliky 146.54 350 *e*PKP PKPdf 09 31 15.5 +0.8
AKCD Akcadag 146.57 315 *i* P PKPab 09 31 19.1 +1.4
CRVS Cervenica-Dubn 146.63 344 *e*PKP2 PKPdf 09 31 14.7 -0.2
CRVS Cervenica-Dubn 146.63 344 *e*PKP PKPdf 09 31 14.7 -0.2
CRVS *e* 09 31 17.8
BURAR Bucovina Array 146.63 339⇑PKP2 PKPbc 09 31 16.7 +0.2
BURAR Bucovina Array 146.63 339⇑*i*P PKPbc 09 31 16.7 +0.2
UZH Uzhgorod 146.65 343 *e*PKP2 PKPab 09 31 15.8 -1.8
UZH *e* 09 34 37.0
UZH *e*SS SS 09 53 31.0 -6.6
MORC Moravsky Berou 146.69 349 *e*PKPbc PKPdf 09 31 15.6 +0.5
MORC Moravsky Berou 146.69 349 *e*PKP2 PKPdf 09 31 15.6 +0.6
MORC Moravsky Berou 146.69 349⇑*i*P PKPbc 09 31 16.5 -0.1
MEM Membach 146.69 2 PKPbc PKPbc 09 31 16.5 -0.1
MEM PKPab PKPab 09 31 18.2 +0.5
SNF Seneffe 146.69 4 PKPbc PKPbc 09 31 15.7 -0.9
SNF PKPab PKPab 09 31 16.7 -1.0
ATAB Bozova 146.72 313 *e*P PKPdf 09 31 15.2 -0.3
BCLA Clavier 146.85 3 PKP PKPdf 09 31 14.9 -0.4
BCLA PKPbc PKPbc 09 31 17.0 -0.1
PRA Prague 146.89 353 PKP PKPbc 09 31 17.0 -0.2
NKC Novy Kostel 146.93 355 *e*PKP2 PKPdf 09 31 16.1 +0.7
NKC MLR MLR
comp=Z,1µm,23.5s,MS5.6
NKC Novy Kostel 146.93 355 *e*PKP PKPdf 09 31 16.1 +0.7
NKC AMS AMS 10 37 20.0
comp=Z,1µm,23.5s
PRU Pruhonice 146.95 352 *e*PKP2 PKPdf 09 31 15.6 +0.2
PRU MLR MLR
comp=Z,1µm,19.1s,MS5.8
PRU Pruhonice 146.95 352 *e*PKP PKPdf 09 31 15.6 +0.2
PRU AMS AMS 10 43 10.0
comp=Z,1µm,19.1s
TRPA Tarpa 147.03 342⇑*i*P PKPdf 09 31 16.4 +0.8
TESR 147.04 336⇑*i*P PKPbc 09 31 17.5 -0.2
JSA Saint Aubin 147.08 12 *e*P PKPdf 09 31 14.7 -1.0
JSA AMB AMB 09 31 21.4
comp=Z,323nm,2.6s
DOU Dourbes 147.13 4 PKPbc PKPbc 09 31 16.7 -1.2
BAIF Baives 147.14 5 *e*PKIKP PKPdf 09 31 16.2 +0.5
BAIF Baives 147.14 5 *e*PKPdf PKPdf 09 31 16.2 +0.5
BAIF Baives 147.14 5 *e*PKP2 PKPdf 09 31 16.2 +0.5
GIVF Givet 147.14 4 *e*PKIKP PKPdf 09 31 16.1 +0.3
GIVF Givet 147.14 4 *e*PKPdf PKPdf 09 31 16.1 +0.3
GIVF Givet 147.14 4 *e*PKP2 PKPdf 09 31 16.1 +0.3
BMR Baia Mare 147.15 341⇓PKP2 PKPab 09 31 19.0 -0.6
BMR Baia Mare 147.15 341⇓*i*P PKPab 09 31 19.0 -0.6
TLCR 147.22 333⇓PKP2 PKPbc 09 31 17.9 -0.4
TLCR 147.22 333⇓*i*P PKPbc 09 31 17.9 -0.4
KECS Kecovo 147.27 345 *e*PKP2 PKPdf 09 31 16.8 +0.8
KECS Kecovo 147.27 345 *e*PKP PKPdf 09 31 16.8 +0.8
KECS *e* 09 31 19.6
CTKT Corum 147.28 321 *e*P PKPdf 09 31 16.6 +0.3
VRAC Vranov 147.31 350⇓PKP2 PKPab 09 31 19.7 -0.5
VRAC Vranov 147.31 350⇓*i*P PKPab 09 31 19.7 -0.5
PINB Pinarbasi 147.38 317 *i* P PKPab 09 31 20.3 -0.6
PETR 147.46 335⇑*i*P PKPab 09 31 20.9 0.0
BST Brest 147.48 15 PKP PKPdf 09 31 12.4 -4.0
TREC Trest 147.50 351 *e*PKP2 PKPdf 09 31 16.9 +0.5
TREC MLR MLR
comp=Z,2µm,18.5s,MS5.9
TREC Trest 147.50 351 *e*PKP PKPdf 09 31 16.9 +0.5
TREC AMS AMS 10 40 30.0
comp=Z,2µm,18.5s
CFR Carcaliu 147.52 333 PKP2 PKPbc 09 31 19.6 +0.5
CFR Carcaliu 147.52 333⇓*i*P PKPbc 09 31 20.5 +1.4
VRI Vrincioaia 147.55 335 PKP2 PKPbc 09 31 18.7 -0.5
VRI Vrincioaia 147.55 335⇑*i*P PKPbc 09 31 20.0 +0.8
GRF Grafenberg Arr 147.56 356 *e*PKP PKPdf 09 31 17.0 +0.5
comp=Z,206nm,1.2s
GRFO Grafenberg 147.56 356 *e*PKPbc PKPbc 09 31 18.8 -0.3
GRFO Grafenberg 147.56 356 *e*PKP2 PKPbc 09 31 18.8 -0.3
PLOR Plostina 147.59 336 PKP2 PKPbc 09 31 20.2 +0.9
PLOR Plostina 147.59 336⇑*i*P PKPbc 09 31 20.3 +1.0
ROSF Rostrenen 147.64 14 *e*PKIKP PKPdf 09 31 16.9 +0.3
comp=Z,28nm,1.0s
ROSF Rostrenen 147.64 14 *e*PKPdf PKPdf 09 31 16.9 +0.3
ROSF Rostrenen 147.64 14 *e*PKP2 PKPdf 09 31 16.9 +0.3
WLF Walferdange 147.64 2 PKPbc PKPbc 09 31 17.8 -1.5
WLF PKPab PKPab 09 31 20.4 -1.1
WLF Walferdange 147.64 2 *e*PKPbc PKPbc 09 31 20.4 +1.1
WLF LR LR
comp=Z,2µm,20.0s,MS6.0
WLF Walferdange 147.64 2 *e*PKP2 PKPbc 09 31 20.4 +1.1
WLF MLR MLR
comp=Z,2µm,20.0s,MS6.0
VYHS Vyhne 147.65 347 *e*PKP2 PKPdf 09 31 16.6 -0.1
VYHS Vyhne 147.65 347 *e*PKP PKPdf 09 31 16.6 -0.1
VYHS *e* 09 31 20.9
KOLL Kolacno 147.66 347 *e*PKP2 PKPab 09 31 20.8 -0.8
KOLL Kolacno 147.66 347 *e*PKP PKPdf 09 31 20.8 +4.1
FLN La Foliniere 147.81 11 *e*PKIKP PKPdf 09 31 17.3 +0.4
comp=Z,107nm,1.3s
FLN *e*R
comp=Z,2µm,19.0s
FLN La Foliniere 147.81 11 *e*PKPdf PKPdf 09 31 17.3 +0.4
FLN La Foliniere 147.81 11 *e*PKP2 PKPdf 09 31 17.3 +0.4
GRER 147.85 335⇓*i*P PKPab 09 31 22.6 +0.2
SGMF Saint Gilles 147.88 13 *e*PKIKP PKPdf 09 31 17.2 +0.2
comp=Z,52nm,1.2s
SGMF Saint Gilles 147.88 13 *e*PKPdf PKPdf 09 31 17.2 +0.2
SGMF Saint Gilles 147.88 13 *e*PKP2 PKPdf 09 31 17.2 +0.2
KHC Kasperske Hory 147.91 353 *e*PKPdf PKPdf 09 31 16.6 -0.5
KHC *e*PKPbc PKPbc 09 31 19.8 -0.2
KHC Kasperske Hory 147.91 353 *e*PKP2 PKPdf 09 31 17.4 +0.3
KHC MLR MLR
comp=Z,2µm,22.5s,MS5.7
KHC Kasperske Hory 147.91 353 *e*PKP PKPdf 09 31 17.4 +0.3
KHC *e*pPKP pPKPdf 09 31 23.5 +4.1
KHC *e*x x 09 31 29.5
KHC AMS AMS 10 43 20.0
comp=Z,2µm,22.5s
KUZU Kuzuini 147.91 313 *i* P PKPdf 09 31 19.7 +2.2
SMOL Smolenice 147.92 348 *e*PKP2 PKPdf 09 31 18.3 +1.2
SMOL Smolenice 147.92 348 *e*PKP PKPdf 09 31 18.3 +1.2
SMOL *e* 09 31 21.7
PSZ Piszkesteto 147.94 345 *e*PKPdf PKPdf 09 31 15.0 -2.1
PSZ *e*PKPbc PKPbc 09 31 19.3 -0.8
PSZ LR LR
comp=Z,1µm,20.0s,MS5.6
PSZ Piszkesteto 147.94 345 *e*PKIKP PKPdf 09 31 15.0 -2.2
PSZ *e* 09 31 19.3
PSZ MLR MLR
comp=Z,1µm,20.0s,MS5.6
PSZ Piszkesteto 147.94 345⇓*e*PKP PKPbc 09 31 21.2 +1.0
PSZ Piszkesteto 147.94 345⇑*i*P PKPbc 09 31 21.2 +1.0
TIRR Tirgusor 147.97 332 *e*PKPbc PKPbc 09 31 20.7 +0.3
TIRR Tirgusor 147.97 332 *e*PKP2 PKPbc 09 31 20.7 +0.3
TIRR Tirgusor 147.97 332⇑*i*P PKPbc 09 31 21.6 +1.2
DOPR Dopca 147.98 337⇓*i*P PKPbc 09 31 22.5 +2.2
ANDN Andirin 148.00 315 *i* P PKPdf 09 31 18.2 +0.6
LDF La Druitiere 148.04 10 *e*PKIKP PKPdf 09 31 17.4 +0.1
comp=Z,15nm,1.0s
LDF La Druitiere 148.04 10 *e*PKPdf PKPdf 09 31 17.4 +0.1
LDF La Druitiere 148.04 10 *e*PKP2 PKPdf 09 31 17.4 +0.1
QUIF Quistinic 148.06 14 *e*PKIKP PKPdf 09 31 17.7 +0.3
comp=Z,93nm,1.4s
QUIF Quistinic 148.06 14 *e*PKPdf PKPdf 09 31 17.7 +0.3
QUIF Quistinic 148.06 14 *e*PKP2 PKPdf 09 31 17.7 +0.3
GRR Gorron 148.10 11 *e*PKIKP PKPdf 09 31 17.8 +0.4
comp=Z,41nm,1.0s
GRR Gorron 148.10 11 *e*PKPdf PKPdf 09 31 17.8 +0.4
GRR Gorron 148.10 11 *e*PKP2 PKPdf 09 31 17.8 +0.4
CDAG Cicekdag 148.14 320 *i* P PKPdf 09 31 18.8 +1.0
MLR Muntele Rosu 148.17 336 PKP2 PKPab 09 31 21.8 -1.9
MLR Muntele Rosu 148.17 336⇑*i*P PKPab 09 31 22.0 -1.7
ELDT Eldivan 148.18 322 *i* P PKPdf 09 31 18.9 +1.1
GERES GERESS Array B 148.18 353 PKPbc PKPbc 09 31 20.6 -0.2
comp=Z,50nm,0.8s,baz=16,slow=1.5,SNR=138
GERES GERESS Array B 148.18 353 PKPbc PKPbc 09 31 20.6 -0.2
GERES GERESS Array B 148.18 353 PKP2 PKPbc 09 31 20.6 -0.2
GERES pmax pmax
comp=Z,51nm,0.8s
MDB Medias 148.19 338 PKP2 PKPab 09 31 22.7 -1.1
PGOR Pogoanele 148.22 334⇑*i*P PKPab 09 31 22.6 -1.4
ISR Istrita 148.24 335⇑PKP2 PKPbc 09 31 22.2 +1.2
ISR Istrita 148.24 335⇑*i*P PKPbc 09 31 22.2 +1.2
LANF Langenberg 148.37 0 PKP PKPdf 09 31 19.1 +1.3
MANR Mangalia 148.38 331⇑*i*P PKPbc 09 31 21.5 0.0
SECR 148.50 335⇑*i*P PKPbc 09 31 22.2 +0.5
BRTR Keskin Array B 148.53 321 PKP PKPdf 09 31 19.3 +0.9
comp=Z,35nm,0.8s,baz=192,slow=1.3,SNR=37
BRTR PKPbc PKPbc 09 31 22.6 +0.7
comp=Z,34nm,0.8s,baz=117,slow=1.9,SNR=86
BRTR Keskin Array B 148.53 321 PKP PKPdf 09 31 19.3 +0.9
BRTR PKPbc PKPbc 09 31 22.6 +0.7
BRTR Keskin Array B 148.53 321 PKP2 PKPdf 09 31 19.3 +0.9
BRTR pmax pmax
comp=Z,35nm,0.8s
VOIR 148.55 337⇑PKP2 PKPab 09 31 22.8 -2.4
VOIR 148.55 337⇑*i*P PKPbc 09 31 22.8 +0.9
BUD Budapest 148.56 346⇓*e*PKP PKPbc 09 31 22.5 +0.7
STU Stuttgart 148.57 359 *e*PKPbc PKPbc 09 31 23.0 +1.2
STU *e*PKPab PKPab 09 31 25.9 +0.8
STU Stuttgart 148.57 359 *e*PKP2 PKPbc 09 31 23.0 +1.2
SULR 148.71 335⇓*i*P PKPbc 09 31 20.6 -1.7
PAGF Fort de Pagny 148.73 3 *e*PKIKP PKPdf 09 31 18.2 -0.2
comp=Z,2.9nm,0.7s
PAGF Fort de Pagny 148.73 3 *e*PKPdf PKPdf 09 31 18.2 -0.2
MEZF Maizieres J'vi 148.75 4 *e*PKIKP PKPdf 09 31 19.3 +0.8
comp=Z,74nm,1.1s
MEZF Maizieres J'vi 148.75 4 *e*PKPdf PKPdf 09 31 19.3 +0.8
CONA Conrad Observa 148.77 350⇓*i*PKPdf PKPdf 09 31 18.5 0.0
comp=Z,203nm,1.0s,SNR=119
CONA Conrad Observa 148.77 350⇓*i*P PKPdf 09 31 18.5 0.0
SOP Sopron 148.88 349⇓*e*PKP PKPbc 09 31 23.8 +1.2
DEV Deva 148.93 340⇓PKP2 PKPbc 09 31 23.1 +0.3
DEV Deva 148.93 340⇓*i*P PKPbc 09 31 23.1 +0.3
CDF Champ du Feu 148.93 1 *e*PKIKP PKPdf 09 31 19.0 +0.2
comp=Z,26nm,1.4s
CDF Champ du Feu 148.93 1 *e*PKPdf PKPdf 09 31 19.0 +0.2
CDF Champ du Feu 148.93 1 *e*PKP2 PKPdf 09 31 19.0 +0.2
BBAL Bala 148.95 321 *i* P PKPdf 09 31 19.9 +0.8
LOT Lotru 149.01 338⇑*i*P PKPab 09 31 27.1 0.0
BFO Black Forest 149.02 360 *e*PKPdf PKPdf 09 31 17.3 -1.6
BFO *e*PKPbc PKPbc 09 31 22.5 -0.4
BFO LR LR
comp=Z,1µm,20.0s,MS5.7
BFO Black Forest 149.02 360 *e*PKIKP PKPdf 09 31 17.3 -1.6
BFO *e* 09 31 22.5
BFO MLR MLR
comp=Z,1µm,20.0s,MS5.7
SFTF Sexfontaines 149.04 4 *e*PKIKP PKPdf 09 31 19.5 +0.6
comp=Z,111nm,1.2s
SFTF Sexfontaines 149.04 4 *e*PKPdf PKPdf 09 31 19.5 +0.6
THEF They Montfort 149.07 3 PKP PKPdf 09 31 19.6 +0.6
MOA Molln 149.09 352⇑*i*PKPdf PKPdf 09 31 19.3 +0.3
comp=Z,102nm,1.2s,SNR=28
MOA Molln 149.09 352⇑*i*P PKPdf 09 31 19.3 +0.3
ECH Echery 149.12 1 *e*PKPdf PKPdf 09 31 18.8 -0.3
ECH *e*PKPbc PKPbc 09 31 23.5 +0.2
ECH *e*PKPab PKPab 09 31 27.8 +0.4
ECH LR LR
comp=Z,2µm,19.0s,MS5.9
ECH Echery 149.12 1 *e*PKIKP PKPdf 09 31 18.8 -0.3
ECH *e* 09 31 23.5
ECH *e* 09 31 27.8
ECH MLR MLR
comp=Z,2µm,19.0s,MS5.9
ECH Echery 149.12 1 PKP PKPdf 09 31 19.1 0.0
HAU Haudompre 149.31 2 *e*PKIKP PKPdf 09 31 19.8 +0.4
comp=Z,59nm,1.5s
HAU *e*R
comp=Z,2µm,22.8s
HAU Haudompre 149.31 2 *e*PKPdf PKPdf 09 31 19.8 +0.4
HAU Haudompre 149.31 2 *e*PKP2 PKPdf 09 31 19.8 +0.4
HUMR Humele 149.35 336⇑*i*P PKPbc 09 31 24.3 +0.4
GZR Gura Zlata 149.40 340⇑PKP2 PKPbc 09 31 23.4 -0.6
GZR Gura Zlata 149.40 340⇑*i*P PKPbc 09 31 23.4 -0.6
SACV Santiago Islan 149.44 90 *e*PKPbc PKPbc 09 31 24.1 -0.9
SACV LR LR
comp=Z,1µm,22.0s,MS5.7
ARSA Arzberg 149.48 350⇑*i*PKPdf PKPdf 09 31 20.1 +0.4
comp=Z,94nm,1.3s,SNR=43
ARSA Arzberg 149.48 350⇑*i*P PKPdf 09 31 20.1 +0.4
MOF Molkenrain 149.49 1 PKP PKPdf 09 31 21.0 +1.3
HINF Hinteralfeld 149.51 2 *e*PKIKP PKPdf 09 31 20.0 +0.3
comp=Z,52nm,1.5s
HINF Hinteralfeld 149.51 2 *e*PKPdf PKPdf 09 31 20.0 +0.3
HINF Hinteralfeld 149.51 2 *e*PKHKP PKPdf 09 31 20.0 +0.3
BZS Buzias 149.57 341⇑PKP2 PKPdf 09 31 21.7 +1.8
BZS Buzias 149.57 341⇑*i*P PKPdf 09 31 21.7 +1.8
HYF Humbligny 149.74 7 *e*PKIKP PKPdf 09 31 20.9 +0.8
HYF Humbligny 149.74 7 *e*PKPdf PKPdf 09 31 20.9 +0.8
RETA Reutte 149.78 356⇑*i*pPKPdf PKPdf 09 31 20.9 +0.7
comp=Z,122nm,1.0s,SNR=30
RETA Reutte 149.78 356⇑*i*P PKPdf 09 31 20.9 +0.7
PKSM Moragy 149.84 345⇑PKP2 PKPbc 09 31 25.9 +0.8
PKSM Moragy 149.84 345⇑*i*P PKPbc 09 31 25.9 +0.8
LOR Lormes 149.88 6 *e*PKIKP PKPdf 09 31 21.0 +0.7
comp=Z,106nm,1.2s
LOR *e*R
comp=Z,2µm,19.0s
LOR Lormes 149.88 6 *e*PKPdf PKPdf 09 31 21.0 +0.7
LOR Lormes 149.88 6 *e*PKHKP PKPdf 09 31 21.0 +0.7
WATA Walderalm 149.88 355⇓*i*pPKPdf PKPdf 09 31 21.2 +0.9
comp=Z,102nm,1.0s,SNR=13
WATA Walderalm 149.88 355⇓*i*P PKPdf 09 31 21.2 +0.9
WATA Walderalm 149.88 355⇓*i*PKHKP PKPdf 09 31 21.2 +0.9
MOTA Moosalm 149.91 356 *i* pPKPdf PKPdf 09 31 20.9 +0.6
comp=Z,163nm,0.9s,SNR=94
MOTA Moosalm 149.91 356 *i* P PKPdf 09 31 20.9 +0.6
MOTA Moosalm 149.91 356 *i* PKHKP PKPdf 09 31 20.9 +0.5
WTTA Wattenberg 149.95 355 *i* PKPdf PKPdf 09 31 20.8 +0.4
comp=Z,208nm,0.8s,SNR=83
WTTA Wattenberg 149.95 355 *i* P PKPdf 09 31 20.8 +0.4
WTTA Wattenberg 149.95 355 *i* PKHKP PKPdf 09 31 20.8 +0.4
MFF Saint Martin d 149.95 11 *e*PKIKP PKPdf 09 31 20.8 +0.3
comp=Z,49nm,1.1s
MFF Saint Martin d 149.95 11 *e*PKPdf PKPdf 09 31 20.8 +0.3
MFF Saint Martin d 149.95 11 *e*PKHKP PKPdf 09 31 20.8 +0.3
KBA Koelnbreinsper 149.96 353⇑*i*PKPdf PKPdf 09 31 20.6 +0.1
comp=Z,64nm,0.9s,SNR=9.7
KBA Koelnbreinsper 149.96 353⇑*i*P PKPdf 09 31 20.6 +0.1
KBA Koelnbreinsper 149.96 353⇑*i*PKHKP PKPdf 09 31 20.6 +0.1
LOMF Lomont 149.98 2 PKP PKPdf 09 31 21.5 +1.0
SZH Strazhica 150.00 333 P PKPbc 09 31 27.3 +1.7
DAVA Damuels 150.03 358⇑*i*pPKPdf PKPdf 09 31 21.5 +0.9
comp=Z,197nm,1.0s,SNR=37
DAVA Damuels 150.03 358⇑*i*P PKPdf 09 31 21.5 +0.9
SSF Saint Saulge 150.04 6 *e*PKIKP PKPdf 09 31 21.2 +0.6
comp=Z,98nm,1.2s
SSF Saint Saulge 150.04 6 *e*PKP1 PKPbc 09 31 26.4 +0.9
SSF Saint Saulge 150.04 6 *e*PKPdf PKPdf 09 31 21.2 +0.6
SSF *e* 09 31 26.4
SSF Saint Saulge 150.04 6 *e*PKHKP PKPdf 09 31 21.2 +0.6
SSF *e* 09 31 26.4
SOKA Soboth 150.12 350⇑*i*PKPdf PKPdf 09 31 21.0 +0.3
comp=Z,168nm,1.6s
SOKA Soboth 150.12 350⇑*i*P PKPdf 09 31 21.0 +0.3
PERS Pernice 150.15 350 *i* PKPdf PKPdf 09 31 20.6 -0.1
PERS *i* PKPbc PKPbc 09 31 26.0 +0.2
FETA Feichten 150.25 356 *i* pPKPdf PKPdf 09 31 21.6 +0.6
comp=Z,168nm,1.0s,SNR=55
FETA Feichten 150.25 356 *i* P PKPdf 09 31 21.6 +0.7
BORA Eskisehir 150.29 324 *i* P PKPdf 09 31 21.9 +0.7
PVL Pavlikeni 150.29 334 P PKPdf 09 31 22.0 +0.9
AVF Avril sur Loir 150.29 7 *e*PKIKP PKPdf 09 31 21.2 +0.2
comp=Z,24nm,1.0s
AVF Avril sur Loir 150.29 7 *e*PKPdf PKPdf 09 31 21.2 +0.2
AVF Avril sur Loir 150.29 7 *e*PKIKP PKPdf 09 31 21.2 +0.2
MYKA Terra Mystica 150.37 352⇑*i*PKPdf PKPdf 09 31 21.1 0.0
comp=Z,178nm,1.8s
MYKA Terra Mystica 150.37 352⇑*i*P PKPdf 09 31 21.1 0.0
ABTA Abfaltersbach 150.38 354⇑*i*PKPdf PKPdf 09 31 21.1 0.0
comp=Z,245nm,0.9s,SNR=32
ABTA Abfaltersbach 150.38 354⇑*i*P PKPdf 09 31 21.1 0.0
BGF Bois d'Agland 150.47 7 *e*PKIKP PKPdf 09 31 21.7 +0.4
comp=Z,65nm,1.2s
BGF Bois d'Agland 150.47 7 *e*PKPdf PKPdf 09 31 21.7 +0.4
BGF Bois d'Agland 150.47 7 *e*PKIKP PKPdf 09 31 21.7 +0.4
SMF Signal de Mont 150.49 6 *e*PKIKP PKPdf 09 31 21.7 +0.4
comp=Z,63nm,1.4s
SMF Signal de Mont 150.49 6 *e*PKPdf PKPdf 09 31 21.7 +0.4
SMF Signal de Mont 150.49 6 *e*PKIKP PKPdf 09 31 21.7 +0.4
DAVOX Davos/Dischmat 150.53 358 PKPbc PKPbc 09 31 27.0 +0.3
baz=4.3,slow=5.8
DAVOX Davos/Dischmat 150.53 358 PKPbc PKPbc 09 31 27.0 +0.3
DAVOX Davos/Dischmat 150.53 358 PKIKP PKPbc 09 31 27.0 +0.3
TCF Toulx Ste Croi 150.65 8 *e*PKIKP PKPdf 09 31 21.9 +0.4
comp=Z,66nm,1.2s
TCF Toulx Ste Croi 150.65 8 *e*PKPdf PKPdf 09 31 21.9 +0.4
TCF Toulx Ste Croi 150.65 8 *e*PKIKP PKPdf 09 31 21.9 +0.4
CABF La Chapelle 150.69 3 *e*PKIKP PKPdf 09 31 22.8 +1.2
comp=Z,146nm,1.4s
CABF La Chapelle 150.69 3 *e*PKPdf PKPdf 09 31 22.8 +1.2
CABF La Chapelle 150.69 3 *e*PKIKP PKPdf 09 31 22.8 +1.2
MPEP Malo Peshtene 150.82 336 P PKPbc 09 31 26.9 -0.6
LJU Ljubljana 150.82 351 *i* PKPdf PKPdf 09 31 22.2 +0.4
LJU *i* PKPbc PKPbc 09 31 27.9 +0.5
LJU *i* PKPab PKPab 09 31 37.3 +2.9
TUE Stuetta 150.86 358 *e*PKPdf PKPdf 09 31 21.6 -0.3
TUE *e*PKPbc PKPbc 09 31 28.9 +1.4
TUE *e*PKPab PKPab 09 31 37.7 +3.1
TUE LR LR
comp=Z,2µm,20.0s,MS5.9
OG01 Vacheresse 151.00 2 PKP PKPdf 09 31 24.0 +1.9
JAVS Javornik 151.03 351 *i* PKPdf PKPdf 09 31 22.1 0.0
JAVS *i* PKPbc PKPbc 09 31 28.3 +0.3
JAVS *e* 09 35 06.5
PLDF La Plantade 151.13 7 PKP PKPdf 09 31 23.4 +1.1
DIM Dimitrovgrad 151.16 333 P PKPbc 09 31 29.5 +1.2
VERF Verneugheol 151.21 8 PKP PKPdf 09 31 24.0 +1.6
BOJS Bojanci 151.22 350 *i* PKPdf PKPdf 09 31 23.9 +1.4
BOJS *i* PKPbc PKPbc 09 31 29.9 +1.5
BOJS *i* PKPab PKPab 09 31 38.3 +2.2
OG35 Corcelles 151.23 4 PKP PKPdf 09 31 23.5 +1.0
TRI Trieste 151.25 352 *e*PKPdf PKPdf 09 31 21.4 -1.2
TRI *e*PKPbc PKPbc 09 31 28.4 -0.1
TRI LR LR
comp=Z,1µm,20.0s,MS5.7
TRI Trieste 151.25 352 *e*PKIKP PKPdf 09 31 21.4 -1.1
TRI *e* 09 31 28.4
TRI MLR MLR
comp=Z,1µm,20.0s,MS5.7
PYM Petit Puy Mans 151.28 7 PKP PKPdf 09 31 23.3 +0.8
DIVS Divibare 151.44 342 P PKPbc 09 31 30.0 +1.1
RJF Les Rejaudoux 151.50 10 *e*PKIKP PKPdf 09 31 23.4 +0.5
comp=Z,53nm,1.1s
RJF *e*R
comp=Z,2µm,20.2s
RJF Les Rejaudoux 151.50 10 *e*PKPdf PKPdf 09 31 23.4 +0.5
RJF Les Rejaudoux 151.50 10 *e*PKIKP PKPdf 09 31 23.4 +0.5
MBAR Mbarara 151.52 234 PFAKE 09 31 40.0 +16
MBAR LR LR
comp=Z,1µm,22.0s,MS5.6
KDZ Kurdzhali 151.53 332 P PKPdf 09 31 23.0 -0.1
DURS Dursunbey 151.58 326 *i* P PKPdf 09 31 23.0 -0.2
RSL Roselend 151.63 2 PKP PKPdf 09 31 24.8 +1.7
PGAV Gavieira, Arco 151.66 26 *e*PKPdf PKPdf 09 31 24.4 +1.2
PGAV Gavieira, Arco 151.66 26 *e*PKPbc PKPbc 09 31 30.8 +1.3

VTS	Vitosha	151.67	336	P	PKPbc	09 31 30.4	+0.9
VTS	Vitosha	151.67	336	⇑PKIKP	PKPbc	09 31 30.7	+1.2
VTS	Vitosha	151.67	336	P	PKPdf	09 31 24.0	+0.8
VTS	Vitosha	151.67	336	⇑iP	PKPbc	09 31 30.7	+1.2
LFF	La Frestale	151.72	11	ePKIKP	PKPdf	09 31 23.7	+0.5
LFF	La Frestale	151.72	11	ePKPdf	PKPdf	09 31 23.7	+0.5
LFF	La Frestale	151.72	11	ePKIKP	PKPdf	09 31 23.7	+0.5
LPL	La Plagne	151.81	2	ePKIKP	PKPdf	09 31 24.7	+1.3
	comp=Z,55nm,1.2s						
LPL	La Plagne	151.81	2	ePKPdf	PKPdf	09 31 24.7	+1.3
LPL	La Plagne	151.81	2	ePKIKP	PKPdf	09 31 24.7	+1.3
LBL	Lubilhac	151.82	7	PKP	PKPdf	09 31 24.5	+1.1
LPG	La Plagne	151.83	2	ePKIKP	PKPdf	09 31 24.8	+1.4
LPG	La Plagne	151.83	2	ePKPdf	PKPdf	09 31 24.8	+1.4
LPG	La Plagne	151.83	2	ePKIKP	PKPdf	09 31 24.8	+1.4
ALN	Alexandroupoli	151.84	330	P	PKPbc	09 31 29.3	-0.7
DEMI	Demirci	151.84	325	i P	PKPdf	09 31 24.7	+1.1
SSB	Saint Sauveur	151.91	5	ePKPdf	PKPdf	09 31 24.1	+0.6
SSB				ePKPbc	PKPbc	09 31 31.6	+1.7
SSB				ePKPab	PKPab	09 31 40.8	+1.8
SSB				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
SSB	Saint Sauveur	151.91	5	ePKIKP	PKPdf	09 31 24.2	+0.7
SSB				e		09 31 31.6	
SSB				e		09 31 40.8	
SSB				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.8						
SSB	Saint Sauveur	151.91	5	PKP	PKPdf	09 31 25.1	+1.6
CAF	Calviac	151.96	9	ePKIKP	PKPdf	09 31 24.3	+0.7
	comp=Z,23nm,1.0s						
CAF	Calviac	151.96	9	ePKPdf	PKPdf	09 31 24.3	+0.7
CAF	Calviac	151.96	9	ePKIKP	PKPdf	09 31 24.3	+0.7
PCAB	Cabril	151.97	26	ePKPdf	PKPdf	09 31 25.4	+1.7
PCAB	Cabril	151.97	26	ePKPbc	PKPbc	09 31 31.4	+1.2
PCAB	Cabril	151.97	26	ePKPab	PKPab	09 31 39.5	+0.1
GRN	Grenoble	152.04	4	PKP	PKPdf	09 31 25.5	+1.8
GDM	Grand'Maison	152.10	3	PKP	PKPdf	09 31 25.5	+1.7
BNI	Bardonecchia	152.27	2	ePKPdf	PKPdf	09 31 25.4	+1.4
BNI				ePKPbc	PKPbc	09 31 33.1	+2.3
BNI				ePKPab	PKPab	09 31 41.7	+1.2
BNI				LR	LR		
	comp=Z,2μm,19.0s,MS6.0						
BNI	Bardonecchia	152.27	2	ePKIKP	PKPdf	09 31 25.5	+1.4
BNI				e		09 31 33.1	
BNI				e		09 31 41.7	
BNI				MLR	MLR		
	comp=Z,2μm,19.0s,MS6.0						
MMB	Musomiste	152.31	334	P	PKPdf	09 31 23.0	-1.2
VIVF	Saint-Julien-l	152.34	5	ePKIKP	PKPdf	09 31 25.1	+0.9
	comp=Z,30nm,1.2s						
VIVF	Saint-Julien-l	152.34	5	ePKPdf	PKPdf	09 31 25.1	+0.9
VIVF	Saint-Julien-l	152.34	5	ePKIKP	PKPdf	09 31 25.1	+0.9
POLO	Lamas de Olo	152.35	26	ePKPbc	PKPbc	09 31 31.8	+0.7
POLO				eLR	LR	10 27 04.6	
	comp=Z,762nm,20.0s						
ORIF	Oris-en-Rattie	152.37	3	ePKIKP	PKPdf	09 31 25.1	+0.9
	comp=Z,53nm,1.2s						
ORIF				eR			
	comp=Z,2μm,22.5s						
ORIF	Oris-en-Rattie	152.37	3	ePKPdf	PKPdf	09 31 25.1	+0.9
ORIF	Oris-en-Rattie	152.37	3	ePKIKP	PKPdf	09 31 25.1	+0.9
PBRG	Braganca	152.42	24	ePKPbc	PKPbc	09 31 32.1	+0.9
PBRG	Braganca	152.42	24	ePKPab	PKPab	09 31 40.9	-0.4
PBRG				eLR	LR	10 26 24.4	
	comp=Z,1μm,18.0s						
NVR	Nevrokopi	152.45	334	P		09 34 58.6	
PVRL	Vila Real	152.46	26	ePKPdf	PKPdf	09 31 25.9	+1.4
PVRL	Vila Real	152.46	26	ePKPbc	PKPbc	09 31 32.5	+1.2
PVRL	Vila Real	152.46	26	ePKPab	PKPab	09 31 42.4	+0.9
MBDF	Montbardon	152.60	2	ePKIKP	PKPdf	09 31 25.4	+0.8
	comp=Z,51nm,1.1s						
MBDF	Montbardon	152.60	2	ePKPdf	PKPdf	09 31 25.4	+0.8
MBDF	Montbardon	152.60	2	ePKIKP	PKPdf	09 31 25.4	+0.8
OG26	St.-Nazaire-De	152.67	4	PKP	PKPdf	09 31 26.1	+1.4
MVO	Moncorvo	152.84	26	ePKPdf	PKPdf	09 31 25.9	+0.9
MVO	Moncorvo	152.84	26	ePKPbc	PKPbc	09 31 32.7	+0.5
PVIS	Viseu	152.84	27	ePKPdf	PKPdf	09 31 26.4	+1.4
PVIS	Viseu	152.84	27	ePKPbc	PKPbc	09 31 33.1	+0.9
PVIS	Viseu	152.84	27	ePKPab	PKPab	09 31 43.9	+0.8
SURF	Saint Ours	152.85	2	PKP	PKPdf	09 31 26.0	+1.1
SKO	Skopje	152.87	338	ePKP	PKPdf	09 31 26.0	+1.0
OSSF	Osses	152.89	15	PKP	PKPdf	09 31 26.6	+1.6
LASF	Ste Croix	153.03	7	ePKIKP	PKPdf	09 31 26.2	+1.0
	comp=Z,39nm,1.2s						
LASF	Ste Croix	153.03	7	ePKPdf	PKPdf	09 31 26.2	+1.0
SJPF	Ste Jean	153.04	15	ePKIKP	PKPdf	09 31 26.2	+1.0
	comp=Z,41nm,1.3s						
SJPF	Ste Jean	153.04	15	ePKPdf	PKPdf	09 31 26.2	+1.0
SJPF	Ste Jean	153.04	15	ePKIKP	PKPdf	09 31 26.2	+1.0
ATE	Arette	153.19	14	PKP	PKPdf	09 31 27.1	+1.6
MTE	Manteigas	153.25	27	ePKPdf	PKPdf	09 31 27.0	+1.3
MTE	Manteigas	153.25	27	ePKPdf	PKPdf	09 31 26.1	+0.5
MTE				ePKPbc	PKPbc	09 31 34.0	+0.9
MTE				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
SMRF	Simiane la Rot	153.29	4	ePKIKP	PKPdf	09 31 26.8	+1.2
	comp=Z,38nm,1.1s						
SMRF	Simiane la Rot	153.29	4	ePKPdf	PKPdf	09 31 26.8	+1.2
TOUF	Mont Tournerai	153.33	1	PKP	PKPdf	09 31 26.3	+0.7
AUTN	L'Aution	153.35	1	PKP	PKPdf	09 31 26.6	+0.9
SAOF	Saorge	153.36	1	PKP	PKPdf	09 31 25.2	-0.5
ETSF	Etsaut	153.40	14	ePKIKP	PKPdf	09 31 26.9	+1.1
	comp=Z,38nm,1.1s						
ETSF	Etsaut	153.40	14	ePKPdf	PKPdf	09 31 26.9	+1.1
ETSF	Etsaut	153.40	14	ePKIKP	PKPdf	09 31 26.9	+1.1
LABF	Labassere	153.40	13	PKP	PKPdf	09 31 27.3	+1.5
MVIF	Mont Vial	153.44	2	PKP	PKPdf	09 31 26.5	+0.7
KRUS	Krusevo	153.46	338	ePKP	PKPdf	09 31 24.9	-1.0
KRUS				ePKP	PKPbc	09 31 32.9	-0.6
EPF	Esparros	153.48	13	ePKIKP	PKPdf	09 31 26.7	+0.8
	comp=Z,39nm,1.2s						
EPF	Esparros	153.48	13	ePKPdf	PKPdf	09 31 26.7	+0.8
EPF	Esparros	153.48	13	ePKIKP	PKPdf	09 31 26.7	+0.8
SBF	Sospel	153.48	1	ePKIKP	PKPdf	09 31 26.1	+0.2
	comp=Z,75nm,1.2s						
SBF	Sospel	153.48	1	ePKPdf	PKPdf	09 31 26.1	+0.2
SBF	Sospel	153.48	1	ePKIKP	PKPdf	09 31 26.1	+0.2
PTOM	Tomar	153.49	30	ePKPdf	PKPdf	09 31 27.2	+1.2
PTOM	Tomar	153.49	30	ePKPbc	PKPbc	09 31 35.0	+1.3
PTOM	Tomar	153.49	30	ePKPab	PKPab	09 31 46.6	+0.7
MTLF	Montolieu	153.53	10	ePKIKP	PKPdf	09 31 26.7	+0.7
	comp=Z,24nm,1.1s						
MTLF	Montolieu	153.53	10	ePKPdf	PKPdf	09 31 26.7	+0.7
MTLF	Montolieu	153.53	10	ePKIKP	PKPdf	09 31 26.7	+0.7
VIEF	Viey	153.55	13	PKP	PKPdf	09 31 28.0	+2.0
CALN	Calern	153.58	2	PKP	PKPdf	09 31 27.1	+1.1
PMAFR	Mafra	153.58	32	ePKPdf	PKPdf	09 31 28.0	+1.8
RESF	Ens	153.69	13	PKP	PKPdf	09 31 28.3	+2.1
MLS	Moulis	153.70	12	PKP	PKPdf	09 31 27.3	+1.1
PCBR	Castelo Branco	153.74	28	ePKPdf	PKPdf	09 31 27.3	+0.9
PCBR	Castelo Branco	153.74	28	ePKPbc	PKPbc	09 31 35.0	+0.8
FRF	La Foret Royal	153.76	2	ePKIKP	PKPdf	09 31 26.5	+0.2
	comp=Z,44nm,1.3s						
FRF	La Foret Royal	153.76	2	ePKPdf	PKPdf	09 31 26.5	+0.2
FRF	La Foret Royal	153.76	2	ePKIKP	PKPdf	09 31 26.5	+0.2
LIS	Lisbon	153.83	32	eP	PKPdf	09 31 26.9	+0.3
LIS				AMS	AMS	10 33 02.1	
	comp=N,1μm,24.2s						
LIS	Lisbon	153.83	32	ePKIKP	PKPdf	09 31 26.9	+0.4
TIR	Tirane	153.97	340	PFAKE		09 31 40.0	+13
TIR				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
LMR	La Mourre	153.98	3	ePKIKP	PKPdf	09 31 26.9	+0.3
	comp=Z,27nm,1.0s						
LMR	La Mourre	153.98	3	ePKPdf	PKPdf	09 31 26.9	+0.3
LMR	La Mourre	153.98	3	ePKIKP	PKPdf	09 31 26.9	+0.3
PMTG	Montargil	154.01	30	eLR	LR	10 26 58.9	
	comp=Z,1μm,22.0s						
PMRV	Marv??o	154.11	28	ePKPdf	PKPdf	09 31 28.1	+1.2
PMRV	Marv??o	154.11	28	ePKPbc	PKPbc	09 31 35.6	+0.6
PMRV	Marv??o	154.11	28	ePKPab	PKPab	09 31 49.1	+0.6
PMRV				eLR	LR	10 27 20.5	
	comp=Z,1μm,22.0s						
VALF	Valcebollere	154.41	11	PKP	PKPdf	09 31 29.0	+1.8
PESTR	Estremoz	154.47	29	ePKPdf	PKPdf	09 31 28.2	+0.8
PESTR	Estremoz	154.47	29	ePKPab	PKPab	09 31 50.8	+0.7
EVOP	Sao Brissos	154.49	31	ePKPdf	PKPdf	09 31 27.8	+0.3
EVOP	Sao Brissos	154.49	31	ePKIKP	PKPdf	09 31 27.8	+0.3
EVO	Evora	154.54	30	ePKIKP	PKPdf	09 31 27.8	+0.3
	comp=Z,100nm,1.4s						
EVO				eR			
	comp=Z,2μm,19.5s						
AQU	L'Aquila	154.59	351	PFAKE		09 31 40.0	+13
AQU				LR	LR		
	comp=Z,1μm,19.0s,MS5.8						
PNCL	Nicolau / Gran	154.61	32	ePKPdf	PKPdf	09 31 28.2	+0.5
PNCL	Nicolau / Gran	154.61	32	ePKPbc	PKPbc	09 31 37.1	+1.0
PNCL	Nicolau / Gran	154.61	32	ePKPab	PKPab	09 31 51.5	+0.8
PNCL				eLR	LR	10 24 35.5	
	comp=Z,1μm,20.0s						
PGF	Pioggiola	154.79	358	ePKIKP	PKPdf	09 31 27.9	+0.1
	comp=Z,42nm,1.1s						
PGF	Pioggiola	154.79	358	ePKPdf	PKPdf	09 31 27.9	+0.1
PGF	Pioggiola	154.79	358	ePKIKP	PKPdf	09 31 27.9	+0.1
PTEO	Sao Teotonio	154.94	33	ePKPdf	PKPdf	09 31 29.8	+1.7
PTEO	Sao Teotonio	154.94	33	ePKPab	PKPab	09 31 53.0	+0.9
MESJ	Messejana	154.97	32	eP	PKPdf	09 31 28.9	+0.7
MESJ				ePP	PP	09 35 27.8	+0.4
MESJ				AMS	AMS	10 37 01.1	
	comp=Z,1μm,17.8s,MS5.7						
MESJ	Messejana	154.97	32	ePP	PP	09 35 27.8	+0.3
MESJ				A		10 37 01.1	
	comp=Z,1μm,17.8s						
MESJ	Messejana	154.97	32	ePKIKP	PKPdf	09 31 28.9	+0.7
MESJ				e		09 35 27.8	
PBEJ	Beja	155.00	31	ePKPdf	PKPdf	09 31 29.6	+1.4
PBEJ	Beja	155.00	31	ePKPbc	PKPdf	09 31 37.9	+10
AGG	Agios Georgios	155.03	333	P	PKPdf	09 31 35.6	+7.4
MORF	Marmelete	155.16	33	ePKPdf	PKPdf	09 31 29.8	+1.4
MORF				eLR	LR	10 27 55.6	
	comp=Z,1μm,20.0s						
MORF	Marmelete	155.16	33	ePKIKP	PKPdf	09 31 28.7	+0.3
MORF				e		09 35 29.3	
PFVI	Vila Bisbo	155.19	34	ePKPdf	PKPdf	09 31 29.8	+1.3
PFVI	Vila Bisbo	155.19	34	ePKPab	PKPab	09 31 54.1	+0.9
PFVI				eLR	LR	10 27 23.1	
	comp=Z,1μm,20.0s						
PCVE	Castro Verde	155.22	32	ePKPdf	PKPdf	09 31 29.2	+0.7
PCVE	Castro Verde	155.22	32	ePKPab	PKPab	09 31 54.0	+0.7
PCVE				eLR	LR	10 25 02.4	
	comp=Z,981nm,24.0s						
PBAR	Barrancos	155.28	30	ePKPdf	PKPdf	09 31 29.3	+0.7
PBAR	Barrancos	155.28	30	ePKPab	PKPab	09 31 54.5	+1.0
PAB	San Pablo	155.29	24	ePKPdf	PKPdf	09 31 29.6	+1.0
PAB				ePKPbc	PKPdf	09 31 38.0	+9.5
PAB				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
PAB	San Pablo	155.29	24	ePKIKP	PKPdf	09 31 29.6	+1.1
PAB				e		09 31 38.0	
PAB				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.8						
ESDC	Sonseca Array	155.32	23	PKP	PKPdf	09 31 28.9	+0.4
	comp=Z,0.2nm,0.3s,baz=333,slow=2.9,SNR=5.8						
ESDC				PKPbc	PKPdf	09 31 38.3	+10
	comp=Z,3.4nm,0.7s,baz=330,slow=2.3,SNR=15						
ESDC				PKPab	PKPab	09 31 54.0	+0.4
	comp=Z,2.6nm,0.6s,baz=326,slow=3.9,SNR=7.3						
ESDC	Sonseca Array	155.32	23	PKP	PKPdf	09 31 28.9	+0.4
ESDC				PKPbc	PKPdf	09 31 38.3	+10
ESDC				PKPab	PKPab	09 31 54.0	+0.4
ESLA	Sonseca Array	155.32	23	ePKPdf	PKPdf	09 31 29.5	+0.9
ESLA				ePKPab	PKPab	09 31 54.6	+1.0
PVAQ	Vaqueiros	155.56	32	ePKPdf	PKPdf	09 31 29.3	+0.3
PVAQ	Vaqueiros	155.56	32	ePKPab	PKPab	09 31 55.9	+1.1
PVAQ				eLR	LR	10 27 13.8	
	comp=Z,1μm,18.0s						
PBDV	Barranco-do-Ve	155.58	32	ePKPdf	PKPdf	09 31 30.4	+1.4
PBDV	Barranco-do-Ve	155.58	32	ePKPab	PKPab	09 31 56.2	+1.4
PBDV				eLR	LR	10 27 06.0	
	comp=Z,1μm,22.0s						
KALE	Kalithea	155.64	333	P	PKPdf	09 31 26.6	-2.5
KALE	Kalithea	155.64	333	P	PKPdf	09 31 26.6	-2.5
CUC	Castrocucco	156.39	345	PFAKE		09 31 40.0	+10
CUC				LR	LR		
	comp=Z,849nm,20.0s,MS5.6						
SFS	San Fernando	157.05	31	PFAKE		09 31 40.0	+9.0
SFS				LR	LR		
	comp=Z,2μm,20.0s,MS6.0						
VSL	Villasalto	157.82	357	ePKPdf	PKPdf	09 31 32.1	+0.3
VSL				LR	LR		
	comp=Z,1μm,21.0s,MS5.8						
RTC	Rabat Centre	158.60	36	PFAKE		09 31 40.0	+7.0
RTC				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
WDD	Wield Dalam	160.62	344	PFAKE		09 31 50.0	+15
WDD				LR	LR		
	comp=Z,1μm,21.0s						
KEST	Kesra	161.58	357	PKP	PKPdf	09 31 36.9	+0.7
	comp=Z,1.1nm,0.5s,baz=5.9,slow=1.8,SNR=4.9						
KEST				PKPab	PKPab	09 32 20.8	+0.1
	comp=Z,4.3nm,0.8s,baz=304,slow=3.5,SNR=7.0						
KEST	Kesra	161.58	357	PKP	PKPdf	09 31 36.9	+0.7
KEST				PKPab	PKPab	09 32 20.8	+0.1
LIC	Lamto	163.09	129	ePKIKP	PKPdf	09 31 36.9	-1.5
	comp=Z,47nm,1.0s						
LIC				eR			
	comp=Z,3μm,20.5s						
LIC	Lamto	163.09	129	ePKPdf	PKPdf	09 31 36.9	-1.5
DBIC	Dimbokro	163.51	128	PKP	PKPdf	09 31 38.2	-0.6
	comp=Z,8.6nm,1.0s,baz=199,slow=1.5,SNR=7.2						
DBIC				PKPab	PKPab	09 32 29.9	0.0
	comp=Z,12nm,0.9s,baz=209,slow=5.0,SNR=8.8						
DBIC	Dimbokro	163.51	128	PKP	PKPdf	09 31 38.2	-0.6
DBIC				PKPab	PKPab	09 32 29.9	0.0
DBIC	Dimbokro	163.51	128	PKIKP	PKPdf	09 31 38.2	-0.6
DBIC						09 32 29.9	
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,12nm,0.9s						
TORD	Torodi Ar. Bea	172.56	123	PKP	PKPdf	09 31 43.2	-1.8
	comp=Z,7.6nm,0.9s,baz=325,slow=1.3,SNR=34						
TORD				PKPab	PKPab	09 33 09.8	-0.2
	comp=Z,6.8nm,0.7s,baz=250,slow=4.2,SNR=14						
TORD				PP	PP	09 37 01.2	0.0
	comp=Z,2.3nm,1.0s,baz=219,slow=6.5,SNR=4.8						
TORD	Torodi Ar. Bea	172.56	123	PKP	PKPdf	09 31 43.2	-1.8
TORD				PKPab	PKPab	09 33 09.8	-0.2
TORD				PP	PP	09 37 01.2	0.0
TAM	Tamanrasset	173.98	24	ePKPdf	PKPdf	09 31 44.9	-0.4
TAM				ePKPab	PKPab	09 33 16.9	+1.0
TAM				LR	LR		
	comp=Z,2μm,22.0s						
TAM	Tamanrasset	173.98	24	ePKIKP	PKPdf	09 31 44.9	-0.4
TAM				e		09 33 16.9	
TAM				MLR	MLR		
	comp=Z,2μm,22.0s						

IDC ***24*** *09:57:01.0±0.6, 0.°65S×147.°39E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/18, mbtmp4.4/16, ML4.1/1, MS3.8/3, Ms1 3.8/3, ms1mx3.6/23, Error ellipse: s-maj=23.8km s-min=14.1km az=87.0*

ISCJB ***24*** *09:57:03.3±2.9, 0.°68S±0.°05×147.°40E±0.°07, h25km±20km, mb4.7/50, MS4.5/4, Error ellipse: s-maj=11.4km s-min=8.8km az=161.6*

DJA ***24*** *09:57:04, 0.°51S×147.°31E, h10km, mb4.8/7*

BJI ***24*** *09:57:04.4, 0.°54S×147.°74E, h35km, mB5.2/20, mb4.7/32, Ms5.0/14, Ms7 4.7/14*

NEIC ***24*** *09:57:06.7±0.3, 0.°67S×147.°38E, h35km, mb4.7/17, Error ellipse: s-maj=9.2km s-min=5.7km az=81.0*

ISC 24 09:57:07.8±1.8, 0.°72S±0.°06×147.°42E±0.°07, h46km±17km, h29km±2.7km:pP-P, n109, σ0.98/98, mb4.7/50, MS4.5/4,

Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.63	182	Pn	Pn		09 59 11.8	+1.7
	1.2nm,0.3s,baz=10,slow=5.3,SNR=7.3							
PMG	Port Moresby	8.63	182	ePn	Pn		09 59 10.7	+0.6
PMG	Port Moresby	8.63	182	P	Pn		09 59 13.6	+3.5
	0.3nm77nm,0.9s							
COEN	Coen	13.80	198	ePn	Pn		10 00 21.3	+0.4
COEN	Coen	13.80	198	P	Pn		10 00 28.7	+7.8
GUMO	Guam	14.44	350	LR	LR		10 05 42.8	
	comp=Z,235nm,18.7s,baz=138,slow=36							
FAKI	Fak Fak	15.31	262	P	pP		10 00 52.9	-2.9
CTA	Charters Tower	19.28	183	P	Pn		10 01 30.2	+0.1
	0.4nm,0.3s,baz=3.7,slow=11,SNR=11							
CTA				LR	LR		10 08 01.2	
	comp=Z,358nm,20.3s,baz=291,slow=34							
CTA	Charters Tower	19.28	183	eP	Pn		10 01 30.0	-0.1
CTA	Charters Tower	19.28	183	P	Pn		10 01 30.2	+0.1
CTAO	Charters Tower	19.28	183	eP	Pn		10 01 30.2	+0.1
	59nm,1.5s							
CTAO	Charters Tower	19.28	183	P	Pn		10 01 31.5	+1.4
	46nm,1.0s							
WRAB	Tennant Creek	22.98	213	eP	P		10 02 07.5	-1.1
	115nm,0.8s,mb5.4							
WRA	Warramunga Arr	22.99	213	P	P		10 02 07.4	-1.3
	92nm,0.8s,mb5.3,baz=35,slow=10,SNR=144							
WRA	Warramunga Arr	22.99	213	P	P		10 02 07.4	-1.3
EIDS	Eidsvold	24.76	172	eP	P		10 02 25.6	+0.4
	31nm,1.5s,mb4.6							
TARA	Tarawa	25.59	85	eP	P		10 02 30.8	-2.1
	19nm,1.1s,mb4.5							
FITZ	Fitzroy Crossi	27.50	230	P	P		10 02 48.9	-1.1
	13nm,1.0s,mb4.4,baz=64,slow=9.5,SNR=8.6							
FITZ	Fitzroy Crossi	27.50	230	eP	P		10 02 49.0	-1.0
FITZ	Fitzroy Crossi	27.50	230	P	P		10 02 48.9	-1.1
SPSI	Sidrap Palu	27.81	263	P	pP		10 03 09.5	+4.4
CBIJ	Chichi jima	28.11	350	LR	LR		10 12 12.4	
	comp=Z,289nm,18.7s,MS3.9,baz=98,slow=32							
DZM	Mont Dzumac	28.17	140	P	P		10 02 56.5	+0.5
	16nm,0.7s,mb4.8,baz=342,slow=12,SNR=14							
DZM	Mont Dzumac	28.17	140	P	P		10 02 56.5	+0.5
WSI	Waingapu	28.41	251	P	P		10 02 57.1	-1.1
	828nm,0.5s							
ARMA	Armidale	29.80	173	eP	P		10 03 10.9	+0.6
STKA	Stephens Creek	31.47	190	P	P		10 03 24.2	-0.8
	7.2nm,0.6s,mb4.7,baz=353,slow=8.6,SNR=48							
STKA	Stephens Creek	31.47	190	eP	P		10 03 23.7	-1.4
STKA	Stephens Creek	31.47	190	P	P		10 03 24.2	-0.8
KKM	Kota Kinabalu	31.87	283	P	P		10 03 28.0	-0.8
	18nm,0.9s,mb4.9							
KKM				ePP	PP		10 04 41.4	0.0
BBOO	Buckleboo	33.66	197	eP	P		10 03 43.3	-1.0
	222nm,0.9s							
CNB	Canberra Magne	34.46	177	eP	P		10 03 43.2	-7.9
MSVF	Nonsavu	34.53	121	eP	P		10 03 54.1	+2.1
	19nm,1.0s,mb5.0							
TOO	Toolangi	36.71	183	eP	P		10 04 10.5	+0.1
KSM	Kuching	37.17	273	eP	P		10 04 14.2	-0.5
	8.7nm,0.9s,mb4.6							
KLBR	Kellerberrin	41.58	220	eP	P		10 04 50.0	-1.2
	8.1nm,0.7s,mb4.5							
KSRS	Korea Array	42.05	337	P	P		10 04 53.4	-1.6
	2.0nm,0.8s,mb3.8,baz=160,slow=9.0,SNR=6.4							
KSAR	Wonju Array Be	42.06	337	P	P		10 04 53.4	-1.6
USRK	Ussuriysk Arra	46.80	345	P	P		10 05 31.9	-0.8
	4.3nm,0.8s,mb4.5,baz=177,slow=7.3,SNR=20							
GYA	Guiyang	47.66	308	P	P		10 05 41.0	+1.2
GYA				pP	pP		10 05 50.8	-1.8
GYA				sP	sP		10 05 55.9	-2.1
GYA				PP	PP		10 07 32.4	+0.6
GYA				ScP	ScP		10 11 01.3	+1.8
GYA				S	S		10 12 33.0	+0.4
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.9							
GYA				pmax	pmax			
	comp=Z,90nm,5.0s							
MDJ	Mudanjiang	47.85	343	P	P		10 05 40.1	-0.8
MDJ				pP	pP		10 05 49.0	-4.7
MDJ				sP	sP		10 05 52.9	-6.2
MDJ				S	S		10 12 34.3	-0.4
MDJ				ScS	ScS		10 15 31.4	+1.0
MDJ				pmax	pmax			
	comp=Z,9.0nm,1.9s,mb4.5							
MDJ				pmax	pmax			
	comp=Z,320nm,7.4s							
MDJ				LR	LR			
	comp=N,340nm,16.2s,MS4.5							
MDJ				LR	LR			
	comp=E,330nm,17.5s,MS4.5							
MDJ				LR	LR			
	comp=Z,480nm,17.0s,MS4.5							
CN2	Changchun	48.49	339	eP	P		10 05 49.1	+3.2
CN2				pmax	pmax			
	comp=Z,10.0nm,0.4s,mb5.2							
CN2				pmax	pmax			
	comp=Z,200nm,6.0s							
KMI	Kunming	50.26	304	P	P		10 06 01.3	+1.5
KMI				pP	pP		10 06 08.0	-4.6
KMI				pmax	pmax			
	comp

comp=Z,21nm,0.8s,mb5.2
WMQ Urumqi 69.13 318 *e*P P **10 08 10.1 +0.8**
WMQ pP pP 10 08 20.1 -2.5
WMQ sP sP 10 08 24.1 -3.8
WMQ pmax pmax
comp=Z,12nm,1.1s,mb4.7
WMQ pmax pmax
comp=Z,140nm,6.2s
MKAR Makanchi Array 73.75 320 P P **10 08 36.9 -0.2**
comp=Z,1.8nm,0.9s,mb4.0,baz=99,slow=7.5,SNR=7.3
MKAR Makanchi Array 73.75 320 P P **10 08 36.9 -0.2**
ZALV Zalesovo Beam 74.82 327 P P **10 08 42.4 -0.8**
comp=Z,2.8nm,0.8s,mb4.2,baz=104,slow=6.3,SNR=14
ZALV Zalesovo Beam 74.82 327 P P **10 08 42.4 -0.8**
VNDA Vanda 77.12 177 *e*P P **10 08 56.9 +1.1**
comp=Z,12nm,1.1s,mb4.7
KURK Kurchatov 77.28 323 P P **10 08 57.1 -0.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=111,slow=5.1,SNR=3.5
KURK Kurchatov 77.28 323 P P **10 08 57.1 -0.1**
comp=Z,2.8nm,0.8s,mb4.2
COLD Coldfoot 80.28 20 *e*P P **10 09 13.5 +0.1**
comp=Z,7.2nm,1.2s,mb4.5
ILAR Eielson Array 80.50 23 P P **10 09 13.3 -1.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=251,slow=5.7,SNR=44
ILAR Eielson Array 80.50 23 P P **10 09 13.3 -1.3**
KKAR Karatay Array 80.94 314 *e*P P **10 09 17.1 -0.3**
comp=Z,3.6nm,0.8s,mb4.3
BVAR Borovoye Array 82.78 324 P P **10 09 26.8 -0.1**
comp=Z,2.3nm,0.7s,mb4.3,baz=101,slow=7.7,SNR=12
BVAR Borovoye Array 82.78 324 P P **10 09 26.8 -0.1**
BRVK Borovoye 82.85 324 *e*P P **10 09 26.8 -0.5**
comp=Z,18nm,1.2s,mb5.0
ABKAR Abkulak array 88.89 319 *e*P P **10 09 55.5 -1.6**
comp=Z,0.8nm,0.6s,mb4.2
NVAR Mina Array Bea 93.81 52 P P **10 10 21.6 +1.4**
comp=Z,0.6nm,0.6s,mb4.2,baz=266,slow=6.1,SNR=4.6
NVAR Mina Array Bea 93.81 52 P P **10 10 21.6 +1.4**
BMO Blue Mountains 94.26 45 *e*P P **10 10 22.2 +0.1**
comp=Z,4.4nm,1.0s,mb4.8
YKA Yellowknife Ar 94.33 27 P P **10 10 22.0 -0.1**
comp=Z,0.6nm,0.9s,mb4.0,baz=274,slow=4.8,SNR=5.3
YKA Yellowknife Ar 94.33 27 P P **10 10 22.0 -0.1**
HLID Hailey 96.42 46 *e*P P **10 10 31.6 -0.5**
comp=Z,47nm,2.6s,mb5.5
GDL2 Guadalupe Moun 105.77 57 *e*PKPdf PKiKP 10 15 28.0 +1.2
BOSA Boshof 117.52 237 *e*PKPdf PKPdf 10 15 48.5 -0.8
LPAZ La Paz 141.06 117 PKP PKPdf 10 16 36.0 +2.0
comp=Z,1.4nm,0.8s,baz=266,slow=4.0,SNR=4.4
LPAZ La Paz 141.06 117 PKP PKPdf 10 16 36.0 +2.0
TORD Torodi Ar. Bea 143.87 291 PKP PKPdf 10 16 39.0 -0.1
comp=Z,0.8nm,0.7s,baz=64,slow=3.7,SNR=4.6
TORD Torodi Ar. Bea 143.87 291 PKP PKPdf 10 16 39.0 -0.1
SAML Samuel 148.04 108 *e*PKPbc PKPbc 10 16 50.4 +1.0
DBIC Dimbokro 151.72 283 PKPbc PKPbc 10 16 58.9 +0.5
comp=Z,3.2nm,0.7s,baz=65,slow=2.6,SNR=4.5
DBIC Dimbokro 151.72 283 *e*PKPdf PKPdf 10 16 48.7 -3.3
DBIC PKPbc PKPbc 10 16 58.9 +0.5

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*ISK **24** 10:04:34.9,37°.84N×29°.20E, h4km, ML3.7*
*IDC **24** 10:04:35.0±1.1,37°.89N×29°.17E, h0km, mb3.8/10, mb1 3.8/15, mb1mx3.7/30, mbtmp3.7/15, ML3.3/5, Error ellipse: s-maj=21.0km s-min=16.4km az=18.0*
*ISCJB **24** 10:04:35.4±0.3,37°.85N±0°.02×29°.18E±0°.03, h9km±3km, mb3.7/10, Error ellipse: s-maj=3.5km s-min=2.7km az=148.0*
*DDA **24** 10:04:35.1,37°.90N×29°.22E, h3km±2km, Md3.7*
*CSEM **24** 10:04:35.6±0.1,37°.85N×29°.21E, h2km, ML3.7, Error ellipse: s-maj=3.3km s-min=2.7km az=56.0*
*NEIC **24** 10:04:35.0,37°.82N×29°.24E, h4km, ML3.8(ISK), After ISK.*
ISC 24 10:04:35.9±0.4,37°.86N±0°.02×29°.19E±0°.03, h4km±3km, n137,σ0°.93/167, mb3.7/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.16**	**230**	PG	**Pg**	**10 04 39.0**	**-0.1**
DENT	**Denizli**	**0.16**	**230**	*i* Pg	**Pg**	**10 04 39.0**	**-0.1**
KHAL	**Karahalli**	**0.56**	**25**	*i* P	**Pg**	**10 04 45.8**	**-0.9**
KHAL				*i* S	**Sg**	**10 04 52.9**	**-1.1**
KHAL	**Karahalli**	**0.56**	**25**	*i* P	**Pg**	**10 04 45.8**	**-0.9**
KHAL				*i* S	**Sg**	**10 04 52.9**	**-1.1**
GOLH	**Golhisar**	**0.69**	**155**	*i* P	**Pg**	**10 04 48.1**	**-0.9**
GOLH				*i* S	**Sg**	**10 04 59.1**	**+1.2**
GOLH	**Golhisar**	**0.69**	**155**	*i* P	**Pg**	**10 04 48.1**	**-0.9**
GOLH				*i* S	**Sg**	**10 04 59.1**	**+1.2**
GLHS	**Glhisar (BURDU**	**0.74**	**161**	*e*PG	**Pg**	**10 04 49.6**	**-0.5**
GLHS				*e*SG	**Sg**	**10 05 00.5**	**+0.7**
GLHS	**Glhisar (BURDU**	**0.74**	**161**	*e*Pg	**Pg**	**10 04 49.6**	**-0.5**
GLHS				*e*Sg	**Sg**	**10 05 00.5**	**+0.8**
KULA	**Kula-Manisa**	**0.78**	**328**	*e*PG	**Pg**	**10 04 51.1**	**+0.3**
KULA				*e*SG	**Sg**	**10 05 01.9**	**+1.0**
KULA	**Kula-Manisa**	**0.78**	**328**	*e*Pg	**Pg**	**10 04 51.1**	**+0.3**
KULA				*e*Sg	**Sg**	**10 05 01.9**	**+1.0**
MANT	**Manisa**	**0.81**	**322**	*i* P	**Pg**	**10 04 51.3**	**-0.1**
MANT				*i* S	**Sg**	**10 05 01.6**	**-0.2**
MANT	**Manisa**	**0.81**	**322**	*i* P	**Pg**	**10 04 51.3**	**0.0**
MANT				*i* S	**Sg**	**10 05 01.6**	**-0.2**
YER	**Yerkesik**	**1.02**	**225**	*e*PG	**Pg**	**10 04 54.3**	**-1.1**
YER	**Yerkesik**	**1.02**	**225**	*e*Pg	**Pg**	**10 04 54.3**	**-1.2**
AYDN	**Tasoluk**	**1.06**	**260**	*i* P	**Pg**	**10 04 56.6**	**+0.5**
AYDN				*i* S	**Sg**	**10 05 09.8**	**-0.1**
AYDN	**Tasoluk**	**1.06**	**260**	*i* P	**Pg**	**10 04 56.6**	**+0.4**
AYDN				*i* S	**Sg**	**10 05 09.8**	**-0.1**
TURN	**Turunc**	**1.09**	**206**	*i* P	**Pg**	**10 05 00.4**	**+3.7**
TURN				*i* S	**Sg**	**10 05 21.4**	**+10**
TURN	**Turunc**	**1.09**	**206**	*i* P	**Pg**	**10 05 00.4**	**+3.6**
BCK	**Bucak**	**1.18**	**109**	*e*PN	**Pn**	**10 04 57.3**	**-1.9**
BCK	**Bucak**	**1.18**	**109**	*e*Pn	**Pn**	**10 04 57.3**	**-1.9**
DEMI	**Demirci**	**1.24**	**343**	*i* P	**Pg**	**10 04 59.3**	**-0.4**
DEMI				*i* S	**Sg**	**10 05 14.4**	**-1.4**
DEMI	**Demirci**	**1.24**	**343**	*i* P	**Pg**	**10 04 59.3**	**-0.4**
DEMI				*i* S	**Sg**	**10 05 14.4**	**-1.4**
ELL	**Elmali**	**1.25**	**152**	*e*PN	**Pn**	**10 04 58.8**	**-1.3**
ELL	**Elmali**	**1.25**	**152**	*e*Pn	**Pn**	**10 04 58.8**	**-1.3**
GDZ	**Gediz**	**1.25**	**10**	*i* P	**Pg**	**10 04 57.8**	**-2.1**
GDZ				*i* S	**Sg**	**10 05 14.5**	**-1.6**
GDZ	**Gediz**	**1.25**	**10**	*i* P	**Pg**	**10 04 57.8**	**-2.1**
GDZ				*i* S	**Sg**	**10 05 14.5**	**-1.6**
SHUT	**Suhut-Afyon**	**1.28**	**57**	*e*PN	**Pn**	**10 04 60.0**	**-0.5**
SHUT	**Suhut-Afyon**	**1.28**	**57**	*e*Pn	**Pn**	**10 05 00.0**	**-0.5**
ALT	**Altintas**	**1.40**	**31**	*e*PN	**Pn**	**10 05 02.0**	**-0.2**
ALT	**Altintas**	**1.40**	**31**	*e*Pn	**Pn**	**10 05 02.0**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.48**	**104**	*e*PN	**Pn**	**10 05 02.7**	**-0.7**
SUTC	**Sutluce-Ispart**	**1.48**	**104**	*e*Pn	**Pn**	**10 05 02.7**	**-0.7**
AKHS	**Akhisar**	**1.49**	**314**	*i* P	**Pn**	**10 05 02.3**	**-1.1**
AKHS				*i* S	**Sg**	**10 05 24.6**	**+0.9**
AKHS	**Akhisar**	**1.49**	**314**	*i* P	**Pn**	**10 05 02.3**	**-1.1**
AKHS				*i* S	**Sg**	**10 05 24.6**	**+0.9**
AKS	**Akhisar**	**1.49**	**314**	*e*PN	**Pn**	**10 05 03.1**	**-0.3**
AKS	**Akhisar**	**1.49**	**314**	*e*Pn	**Pn**	**10 05 03.1**	**-0.3**
ANTB	**Antalya**	**1.51**	**129**	*e*PN	**Pn**	**10 05 03.2**	**-0.5**
ANTB	**Antalya**	**1.51**	**129**	*e*Pn	**Pn**	**10 05 03.2**	**-0.5**
GCAM	**G?zelcaml?**	**1.56**	**265**	*i* P	**Pg**	**10 05 05.7**	**-0.1**
GCAM				*i* S	**Sg**	**10 05 27.7**	**+1.7**
GCAM	**G?zelcaml?**	**1.56**	**265**	*i* P	**Pg**	**10 05 05.7**	**-0.1**
GCAM				*i* S	**Sg**	**10 05 27.7**	**+1.7**
IZM	**Izmir**	**1.61**	**290**	*e*PN	**Pb**	**10 05 05.5**	**-0.7**
IZM	**Izmir**	**1.61**	**290**	*e*Pn	**Pb**	**10 05 05.5**	**-0.7**
BOLV	**Bolvadin**	**1.63**	**58**	*i* P	**Pb**	**10 05 05.5**	**-1.0**
BOLV				*i* S	**Sg**	**10 05 30.4**	**+2.2**
BOLV	**Bolvadin**	**1.63**	**58**	*i* P	**Pb**	**10 05 05.5**	**-1.0**
BOLV				*i* S	**Sg**	**10 05 30.4**	**+2.2**
AKAS	**Kas**	**1.66**	**168**	*i* P	**Pb**	**10 05 06.9**	**0.0**
AKAS				*i* S	**Sg**	**10 05 31.9**	**+2.9**
AKAS	**Kas**	**1.66**	**168**	*i* P	**Pb**	**10 05 06.9**	**0.0**
AKAS				*i* S	**Sg**	**10 05 32.0**	**+3.0**
KSL	**Kastellorizon**	**1.73**	**169**	*e*P	**Pg**	**10 05 09.6**	**+0.5**
DST	**Dursunbey**	**1.80**	**346**	*e*PN	**Pn**	**10 05 08.3**	**+0.5**
DST	**Dursunbey**	**1.80**	**346**	*e*Pn	**Pn**	**10 05 08.3**	**+0.6**
ARG	**Arkhangelos**	**1.85**	**208**	*e*P	**Pg**	**10 05 10.3**	**-1.0**
SMG	**Samos**	**1.87**	**266**	*e*P	**Pn**	**10 05 07.9**	**-0.8**
ESKT	**Eskisehir**	**2.11**	**38**	*e*PN	**Pn**	**10 05 12.5**	**+0.5**
ESKT	**Eskisehir**	**2.11**	**38**	*e*Pn	**Pn**	**10 05 12.5**	**+0.6**
CAVI	**Cavuskoy**	**2.40**	**12**	*e*PN	**Pn**	**10 05 16.7**	**+0.8**
CAVI	**Cavuskoy**	**2.40**	**12**	*e*Pn	**Pn**	**10 05 16.7**	**+0.8**
SVRH	**Sivrihisar-ESK**	**2.42**	**48**	*e*PN	**Pn**	**10 05 16.7**	**+0.5**
SVRH	**Sivrihisar-ESK**	**2.42**	**48**	*e*Pn	**Pn**	**10 05 16.7**	**+0.5**
GONE	**Gonen-Balikesi**	**2.48**	**332**	*e*PN	**Pn**	**10 05 17.1**	**0.0**
GONE	**Gonen-Balikesi**	**2.48**	**332**	*e*Pn	**Pn**	**10 05 17.1**	**0.0**
KCTX	**Karacabey (Bur**	**2.49**	**345**	*e*PN	**Pn**	**10 05 18.2**	**+1.0**
KCTX	**Karacabey (Bur**	**2.49**	**345**	*e*Pn	**Pn**	**10 05 18.2**	**+1.0**
KONT	**Konya--Tatoy**	**2.51**	**87**	*e*PN	**Pn**	**10 05 17.5**	**+0.1**
KONT	**Konya--Tatoy**	**2.51**	**87**	*e*Pn	**Pn**	**10 05 17.5**	**0.0**
MDNY	**Mudanya-Bursa**	**2.52**	**355**	*e*PN	**Pn**	**10 05 18.7**	**+1.1**
MDNY	**Mudanya-Bursa**	**2.52**	**355**	*e*Pn	**Pn**	**10 05 18.7**	**+1.1**
LADK	**Ladik-KONYA**	**2.53**	**81**	*e*PN	**Pn**	**10 05 17.7**	**-0.1**
LADK	**Ladik-KONYA**	**2.53**	**81**	*e*Pn	**Pn**	**10 05 17.7**	**0.0**
ADVT	**Abdulvahap**	**2.61**	**9**	*e*PN	**Pn**	**10 05 19.7**	**+0.9**
ADVT	**Abdulvahap**	**2.61**	**9**	*e*Pn	**Pn**	**10 05 19.7**	**+0.9**
YLV	**Yalova**	**2.71**	**3**	*e*PN	**Pn**	**10 05 21.0**	**+0.7**
YLV	**Yalova**	**2.71**	**3**	*e*Pn	**Pn**	**10 05 21.0**	**+0.8**
ARMT	**Armutlu**	**2.72**	**355**	*e*PN	**Pn**	**10 05 21.8**	**+1.4**
ARMT	**Armutlu**	**2.72**	**355**	*e*Pn	**Pn**	**10 05 21.8**	**+1.5**
GULT	**Gulveren**	**2.77**	**21**	*e*PN	**Pn**	**10 05 20.7**	**-0.4**
GULT	**Gulveren**	**2.77**	**21**	*e*Pn	**Pn**	**10 05 20.7**	**-0.3**
HDMB	**Hadim**	**2.77**	**108**	*e*PN	**Pn**	**10 05 21.0**	**-0.1**
HDMB	**Hadim**	**2.77**	**108**	*e*Pn	**Pn**	**10 05 21.0**	**-0.1**
KARP	**Karpathos**	**2.83**	**216**	*e*P	**Pn**	**10 05 15.5**	**-6.3**
HRT	**Hereke**	**2.98**	**7**	*e*PN	**Pn**	**10 05 25.0**	**+1.0**
HRT	**Hereke**	**2.98**	**7**	*e*Pn	**Pn**	**10 05 25.0**	**+1.0**
APE	**Apeiranthos**	**3.02**	**256**	*e*P	**Pn**	**10 05 23.2**	**-1.3**
MDUB	**Mudurnu**	**3.04**	**30**	*e*PN	**Pn**	**10 05 25.6**	**+0.8**
MDUB	**Mudurnu**	**3.04**	**30**	*e*Pn	**Pn**	**10 05 25.6**	**+0.8**
SILT	**Sile**	**3.31**	**6**	*e*PN	**Pn**	**10 05 30.0**	**+1.5**
SILT	**Sile**	**3.31**	**6**	*e*Pn	**Pn**	**10 05 30.0**	**+1.5**
SULT	**Sultanhani-AKS**	**3.43**	**83**	*e*PN	**Pn**	**10 05 30.8**	**+0.6**
SULT	**Sultanhani-AKS**	**3.43**	**83**	*e*Pn	**Pn**	**10 05 30.8**	**+0.6**
LOD	**Lodumlu**	**3.45**	**53**	*e*PN	**Pn**	**10 05 31.2**	**+0.9**
LOD	**Lodumlu**	**3.45**	**53**	*e*Pn	**Pn**	**10 05 31.3**	**+0.9**
KAMT	**Kaman**	**3.85**	**66**	*e*PN	**Pn**	**10 05 36.4**	**+0.5**
KAMT	**Kaman**	**3.85**	**66**	*e*Pn	**Pn**	**10 05 36.4**	**+0.5**
BRTR	**Keskin Array B**	**3.94**	**60**	Pn	**Pn**	**10 05 37.7**	**+0.5**
	0.9nm,0.3s,baz=242,slow=14,SNR=28						
BRTR				Sn	**Sn**	**10 06 24.2**	**+0.3**
	1.3nm,0.3s,baz=227,slow=25,SNR=5.9						
BRTR	**Keskin Array B**	**3.94**	**60**	Pn	**Pn**	**10 05 37.7**	**+0.5**
BRTR				Sn	**Sn**	**10 06 24.2**	**+0.3**
BRTR	**Keskin Array B**	**3.94**	**60**	Pn	**Pn**	**10 05 37.7**	**+0.5**
BRTR				Sn	**Sn**	**10 06 24.2**	**+0.3**
MMAI	**Mount Meron Ar**	**7.00**	**132**	Pn	**Pn**	**10 06 18.8**	**-0.4**
	4.7nm,0.3s,baz=315,slow=12,SNR=12						
MMAI				Sn	**Sn**	**10 07 36.2**	**-3.2**
	1.1nm,0.3s,baz=313,slow=25,SNR=3.5						
MMAI	**Mount Meron Ar**	**7.00**	**132**	Pn	**Pn**	**10 06 18.8**	**-0.4**
MMAI				Sn	**Sn**	**10 07 36.1**	**-3.2**
MMAI	**Mount Meron Ar**	**7.00**	**132**	Pn	**Pn**	**10 06 18.8**	**-0.4**
MLR	**Muntele Rosu**	**8.00**	**343**	Pn	**Pn**	**10 06 33.4**	**+0.5**
	0.1nm,0.3s,baz=128,slow=12,SNR=1.5						
MLR	**Muntele Rosu**	**8.00**	**343**	Pn	**Pn**	**10 06 33.4**	**+0.5**
MLR	**Muntele Rosu**	**8.00**	**343**	Pn	**Pn**	**10 06 33.4**	**+0.5**
ASF	**Jabal al Asfar**	**8.49**	**130**	Pn	**Pn**	**10 06 40.4**	**+0.7**
	0.3nm,0.3s,baz=280,slow=6.1,SNR=2.0						
ASF	**Jabal al Asfar**	**8.49**	**130**	Pn	**Pn**	**10 06 40.4**	**+0.7**
BHD	**Baghdad**	**13.18**	**106**	*ex*	x	10 07 44.5	
BHD				*ex*	x	10 10 11.5	
BHD	**Baghdad**	**13.18**	**106**	*e*P	**Pn**	**10 07 44.5**	**+0.6**
BHD				*e*S	**Sn**	**10 10 11.5**	**+0.5**
GERES	**GERESS Array B**	**15.70**	**319**	Pn	**Pn**	**10 08 19.5**	**+1.7**
	0.1nm,0.3s,baz=134,slow=11,SNR=8.6						
GERES	**GERESS Array B**	**15.70**	**319**	Pn	**Pn**	**10 08 19.5**	**+1.7**
GERES	**GERESS Array B**	**15.70**	**319**	Pn	**Pn**	**10 08 19.5**	**+1.7**
FINES	**FINESS Array B**	**23.69**	**356**	P	**P**	**10 09 48.0**	**-0.5**
	2.6nm,0.9s,mb3.7,baz=181,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**23.69**	**356**	P	**P**	**10 09 48.0**	**-0.5**
FINES	**FINESS Array B**	**23.69**	**356**	P	**P**	**10 09 48.0**	**-0.5**
AKTO	**Aktyubinsk**	**24.04**	**49**	P	**P**	**10 09 51.9**	**0.0**
	0.6nm,0.6s,mb3.2,baz=264,slow=10,SNR=3.3						
AKTO	**Aktyubinsk**	**24.04**	**49**	P	**P**	**10 09 51.9**	**0.0**
AKTO	**Aktyubinsk**	**24.04**	**49**	P	**P**	**10 09 51.8**	**0.0**
HFS	**Hagfors**	**24.38**	**341**	P	**P**	**10 09 54.5**	**-0.3**
	3.2nm,0.9s,mb3.8,baz=188,slow=8.7,SNR=3.3						
HFS	**Hagfors**	**24.38**	**341**	P	**P**	**10 09 54.5**	**-0.3**
HFS	**Hagfors**	**24.38**	**341**	P	**P**	**10 09 54.5**	**-0.3**
NOA	**NORSAR Array B**	**25.80**	**340**	P	**P**	**10 10 07.0**	**-0.7**
	1.0nm,0.8s,mb3.4,baz=145,slow=9.1,SNR=3.3						
NOA	**NORSAR Array B**	**25.80**	**340**	P	**P**	**10 10 07.0**	**-0.7**
NOA	**NORSAR Array B**	**25.80**	**340**	P	**P**	**10 10 07.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	**P**	**10 11 27.0**	**0.0**
	0.9nm,0.6s,mb3.9,baz=37,slow=8.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	**P**	**10 11 27.0**	**0.0**
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	**P**	**10 11 27.0**	**0.0**
KURK	**Kurchatov**	**36.96**	**53**	P	**P**	**10 11 45.1**	**-0.9**
	1.3nm,0.6s,mb4.0,baz=274,slow=8.7,SNR=6.6						
KURK	**Kurchatov**	**36.96**	**53**	P	**P**	**10 11 45.1**	**-0.9**
KURK	**Kurchatov**	**36.96**	**53**	P	**P**	**10 11 45.1**	**-0.9**
MKAR	**Makanchi Array**	**39.59**	**60**	P	**P**	**10 12 08.0**	**-0.3**
	1.0nm,0.7s,mb3.6,baz=281,slow=6.9,SNR=5.1						
MKAR	**Makanchi Array**	**39.59**	**60**	P	**P**	**10 12 08.0**	**-0.3**
MKAR	**Makanchi Array**	**39.59**	**60**	P	**P**	**10 12 08.0**	**-0.2**
ZALV	**Zalesovo Beam**	**40.79**	**48**	P	**P**	**10 12 17.2**	**-0.9**
	0.4nm,0.5s,mb3.3,baz=267,slow=8.1,SNR=2.4						
ZALV	**Zalesovo Beam**	**40.79**	**48**	P	**P**	**10 12 17.2**	**-0.9**
ZALV	**Zalesovo Beam**	**40.79**	**48**	P	**P**	**10 12 17.2**	**-0.9**
SONM	**Songino Array**	**55.27**	**53**	P	**P**	**10 14 10.1**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=300,slow=10,SNR=3.3						
SONM	**Songino Array**	**55.27**	**53**	P	**P**	**10 14 10.1**	**-0.1**
SONM	**Songino Array**	**55.27**	**53**	P	**P**	**10 14 10.1**	**-0.1**
SCHQ	**Schefferville**	**63.23**	**320**	P	**P**	**10 15 04.0**	**-1.2**
	4.5nm,0.9s,mb4.6,baz=45,slow=7.1,SNR=3.0						
SCHQ	**Schefferville**	**63.23**	**320**	P	**P**	**10 15 04.0**	**-1.2**
SCHQ	**Schefferville**	**63.23**	**320**	P	**P**	**10 15 04.0**	**-1.2**

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*ISCJB **24** 10:08:14.7±6.3,16°.85±0°.1×172°.4W±0°.2, h15km±43km, mb4.0/9, Error ellipse: s-maj=35.8km s-min=11.5km az=34.5*
*IDC **24** 10:08:14.6±1.2,16°.78S×172°.34W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/19, mbtmp3.9/8, ML1.7/1, MS3.7/1, Ms1 3.7/1, ms1mx3.3/26, Error ellipse: s-maj=51.1km s-min=18.7km az=137.0*
*NEIC **24** 10:08:20.2±0.7,16°.66S×172°.45W, h35km, mb4.6/3, Error ellipse: s-maj=30.4km s-min=9.3km az=139.0*
ISC 24 10:08:15.5±6.6,16°.8S±0°.1×172°.4W±0°.2, h7km±40km, n28, σ0°.36/21, mb4.0/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.90**	**11**	Pn	**Pn**	**10 09 02.2**	**0.0**
	6.2nm,0.3s,baz=127,slow=11,SNR=14						
AFI				Sn	**Sn**	**10 09 37.3**	**-0.1**
	42nm,0.3s,baz=310,slow=21,SNR=16						
AFI				T		10 12 32.3	
	10nm,0.3s,baz=37,slow=23,SNR=4.0						
AFI	**Afiamalu**	**2.90**	**11**	Pn	**Pn**	**10 09 02.2**	**0.0**
AFI				Sn	**Sn**	**10 09 37.3**	**-0.1**
AFI				TT		10 12 32.3	
HNR	**Honiara**	**27.93**	**282**	LR	LR	10 23 57.0	
	comp=Z,137nm,18.1s,baz=340,slow=34						
EIDS	**Eidsvold**	**35.09**	**250**	*e*P	**P**	**10 15 09.1**	**-0.5**
	12nm,1.3s,mb4.7						
CTA	**Charters Tower**	**39.34**	**259**	P	**P**	**10 15 45.5**	**-0.3**
	1.5nm,0.4s,mb4.0,baz=72,slow=11,SNR=4.0						
CTA	**Charters Tower**	**39.34**	**259**	P	**P**	**10 15 45.5**	**-0.3**
CTAO	**Charters Tower**	**39.34**	**259**	*e*P	**P**	**10 15 45.5**	**-0.3**
	4.3nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**44.25**	**241**	P	**P**	**10 16 25.4**	**-0.4**
	4.3nm,0.9s,mb4.2,baz=82,slow=11,SNR=8.4						
STKA	**Stephens Creek**	**44.25**	**241**	P	**P**	**10 16 25.4**	**-0.4**
WRAB	**Tennant Creek**	**50.52**	**258**	*e*P	**P**	**10 17 15.6**	**+0.8**
	22nm,1.4s,mb4.9						
WRA	**Warramunga Arr**	**50.53**	**258**	P	**P**	**10 17 15.2**	**+0.3**
	10nm,0.9s,mb4.7,baz=95,slow=8.2,SNR=58						
WRA	**Warramunga Arr**	**50.53**	**258**	P	**P**	**10 17 15.2**	**+0.3**
NVAR	**Mina Array Bea**	**74.68**	**41**	P	**P**	**10 19 56.2**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=228,slow=10,SNR=5.7						
NVAR	**Mina Array Bea**	**74.68**	**41**	P	**P**	**10 19 56.2**	**+0.3**
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**10 20 28.7**	**-0.2**
	0.2nm,0.8s,mb3.1,baz=196,slow=6.4,SNR=2.8						
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**10 20 28.7**	**-0.2**
ILAR	**Eielson Array**	**83.60**	**11**	P	**P**	**10 20 44.4**	**+0.3**
	0.2nm,0.7s,mb3.4,baz=223,slow=4.9,SNR=6.3						
ILAR	**Eielson Array**	**83.60**	**11**	P	**P**	**10 20 44.4**	**+0.3**
YKA	**Yellowknife Ar**	**90.95**	**23**	P	**P**	**10 21 19.5**	**-0.3**
	0.3nm,0.9s,mb3.6,baz=248,slow=4.6,SNR=3.2						
YKA	**Yellowknife Ar**	**90.95**	**23**	P	**P**	**10 21 19.5**	**-0.3**
NACGM	**Naroch**	**139.19**	**343**	*e*LR	LR	10 27 31.0	
CLL	**Collm**	**145.29**	**354**	*e*PKPdf	PKPdf	10 27 54.0	0.0
	comp=Z,6.0nm,1.2s						
GERES	**GERESS Array B**	**147.64**	**353**	PKPbc	PKPbc	10 28 01.1	+0.4
	comp=Z,0.8nm,0.7s,baz=25,slow=3.2,SNR=6.2						
GERES	**GERESS Array B**	**147.64**	**353**	PKPbc	PKPbc	10 28 01.1	+0.4
BRTR	**Keskin Array B**	**147.86**	**321**	PKPbc	PKPbc	10 28 02.9	+1.3
	comp=Z,2.1nm,0.9s,baz=106,slow=2.7,SNR=3.3						
BRTR	**Keskin Array B**	**147.86**	**321**	PKPbc	PKPbc	10 28 03.0	+1.3
DAVOX	**Davos/Dischmat**	**150.03**	**357**	PKPbc	PKPbc	10 28 07.9	+1.0
	comp=Z,1.8nm,0.6s,baz=11,slow=5.2,SNR=5.6						
DAVOX	**Davos/Dischmat**	**150.03**	**357**	PKPbc	PKPbc	10 28 07.9	+1.0

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*ISK **24** 10:17:52.7,37°.89N×29°.21E, h11km, MD2.8*
*ISCJB **24** 10:17:53.0±0.6,37°.89N±0°.02×29°.25E±0°.04, h2km±7km, Error ellipse: s-maj=5.2km s-min=4.0km az=13.9*
*DDA **24** 10:17:53.1,37°.91N×29°.24E, h7km±4km, Md2.9*
*CSEM **24** 10:17:53.2±0.1,37°.88N×29°.26E, h8km, MD2.8, Error ellipse: s-maj=3.2km s-min=2.4km az=105.0*
ISC 24 10:17:53.6±0.5,37°.89N±0°.03×29°.25E±0°.04, h10km±6km, n24, σ0°.61/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.22**	**231**	*e*PG	**Pg**	**10 17 57.7**	**-0.4**
DENT				*e*SG	**Sg**	**10 18 00.2**	**-0.8**
DENT	**Denizli**	**0.22**	**231**	*e*Pg	**Pg**	**10 17 57.7**	**-0.3**
DENT				*e*Sg	**Sg**	**10 18 00.2**	**-0.8**
KHAL	**Karahalli**	**0.52**	**22**	*e*P	**Pg**	**10 18 03.8**	**+0.2**
KHAL				*e*S	**Sg**	**10 18 10.7**	**+0.2**
KHAL	**Karahalli**	**0.52**	**22**	*e*P	**Pg**	**10 18 03.8**	**+0.2**
KHAL				*e*S	**Sg**	**10 18 10.7**	**+0.2**
GOLH	**Golhisar**	**0.70**	**159**	*e*P	**Pg**	**10 18 06.2**	**-0.9**
GOLH				*e*S	**Sg**	**10 18 17.4**	**+1.1**
GOLH	**Golhisar**	**0.70**	**159**	*e*P	**Pg**	**10 18 06.2**	**-0.9**
GOLH				*e*S	**Sg**	**10 18 17.4**	**+1.2**
KULA	**Kula-Manisa**	**0.77**	**324**	*e*PG	**Pg**	**10 18 08.1**	**-0.4**
KULA				*e*SG	**Sg**	**10 18 18.7**	**+0.1**
KULA	**Kula-Manisa**	**0.77**	**324**	*e*Pg	**Pg**	**10 18 08.1**	**-0.4**
KULA				*e*Sg	**Sg**	**10 18 18.7**	**+0.1**
MANT	**Manisa**	**0.81**	**318**	*e*P	**Pg**	**10 18 10.0**	**+0.9**
MANT				*e*S	**

DEMI				*i* S	Sg	10 31 25.4	-1.5
GDZ	**Gediz**	**1.24**	**11**	*i* P	Pg	10 31 08.9	-2.2
GDZ				*i* S	Sg	10 31 26.1	-1.2
GDZ	**Gediz**	**1.24**	**11**	*i* P	Pg	10 31 08.9	-2.3
GDZ				*i* S	Sg	10 31 26.1	-1.2
ELL	**Elmali**	**1.26**	**152**	*e*PN	Pn	10 31 11.6	-0.5
ELL	**Elmali**	**1.26**	**152**	*e*Pn	Pn	10 31 11.6	-0.5
SHUT	**Suhut-Afyon**	**1.28**	**57**	*e*PN	Pn	10 31 12.0	-0.3
SHUT	**Suhut-Afyon**	**1.28**	**57**	*e*Pn	Pn	10 31 12.0	-0.4
ALT	**Altintas**	**1.39**	**31**	*e*PN	Pn	10 31 12.9	-1.1
ALT	**Altintas**	**1.39**	**31**	*e*Pn	Pn	10 31 12.9	-1.1
AKHS	**Akhisar**	**1.48**	**314**	*e*P	Pn	10 31 14.4	-0.7
AKHS				*e*S	Sg	10 31 37.8	+3.0
AKHS	**Akhisar**	**1.48**	**314**	*e*P	Pn	10 31 14.4	-0.7
AKHS				*e*S	Sg	10 31 37.8	+3.0
AKS	**Akhisar**	**1.48**	**314**	*e*PN	Pn	10 31 14.9	-0.2
AKS	**Akhisar**	**1.48**	**314**	*e*Pn	Pn	10 31 14.9	-0.2
SUTC	**Sutluce-Ispart**	**1.49**	**105**	*e*PN	Pn	10 31 14.4	-0.9
SUTC	**Sutluce-Ispart**	**1.49**	**105**	*e*Pn	Pn	10 31 14.4	-0.9
ANTB	**Antalya**	**1.52**	**129**	*e*PN	Pn	10 31 14.9	-0.8
ANTB	**Antalya**	**1.52**	**129**	*e*Pn	Pn	10 31 14.9	-0.8
IZM	**Izmir**	**1.60**	**290**	*e*PN	Pn	10 31 16.7	-0.1
IZM	**Izmir**	**1.60**	**290**	*e*Pn	Pn	10 31 16.7	-0.2
BOLV	**Bolvadin**	**1.63**	**58**	*e*P	Pn	10 31 16.4	-0.8
BOLV				*e*S	Sg	10 31 41.4	+1.6
BOLV	**Bolvadin**	**1.63**	**58**	*e*P	Pn	10 31 16.4	-0.8
BOLV				*e*S	Sg	10 31 41.4	+1.6
BODT	**Bodrum**	**1.69**	**242**	*e*PN	Pn	10 31 16.7	-1.3
BODT	**Bodrum**	**1.69**	**242**	*e*Pn	Pn	10 31 16.7	-1.4
DAT	**Datca**	**1.71**	**229**	*e*PN	Pb	10 31 18.1	-1.5
DAT	**Datca**	**1.71**	**229**	*e*Pn	Pb	10 31 18.1	-1.5
KSL	**Kastellorizon**	**1.74**	**169**	*e*PB	Pb	10 31 21.2	+1.0
BLCB	**Balcova**	**1.77**	**288**	*e*PN	Pb	10 31 19.3	-1.3
BLCB	**Balcova**	**1.77**	**288**	*e*Pn	Pb	10 31 19.3	-1.2
ARG	**Arkhangelos**	**1.85**	**207**	*e*PB	Pb	10 31 21.9	-0.1
SMG	**Samos**	**1.86**	**266**	*e*PB	Pn	10 31 19.5	-0.9
ESKT	**Eskisehir**	**2.10**	**38**	*e*PN	Pn	10 31 23.7	-0.1
ESKT	**Eskisehir**	**2.10**	**38**	*e*Pn	Pn	10 31 23.7	0.0
CAVI	**Cavuskoy**	**2.39**	**12**	*e*PN	Pn	10 31 28.3	+0.6
CAVI	**Cavuskoy**	**2.39**	**12**	*e*Pn	Pn	10 31 28.3	+0.7
SVRH	**Sivrihisar-ESK**	**2.42**	**49**	*e*PN	Pn	10 31 27.8	-0.2
SVRH	**Sivrihisar-ESK**	**2.42**	**49**	*e*Pn	Pn	10 31 27.8	-0.3
GONE	**Gonen-Balikesi**	**2.47**	**332**	*e*PN	Pn	10 31 29.1	+0.4
GONE	**Gonen-Balikesi**	**2.47**	**332**	*e*Pn	Pn	10 31 29.1	+0.3
KCTX	**Karacabey (Bur**	**2.48**	**345**	*e*PN	Pn	10 31 29.9	+1.0
KCTX	**Karacabey (Bur**	**2.48**	**345**	*e*Pn	Pn	10 31 29.9	+1.0
MDNY	**Mudanya-Bursa**	**2.51**	**355**	*e*PN	Pn	10 31 28.9	-0.4
MDNY	**Mudanya-Bursa**	**2.51**	**355**	*e*Pn	Pn	10 31 28.9	-0.4
KONT	**Konya--Tatoy**	**2.52**	**87**	*e*PN	Pn	10 31 28.9	-0.5
KONT	**Konya--Tatoy**	**2.52**	**87**	*e*Pn	Pn	10 31 28.9	-0.5
LADK	**Ladik-KONYA**	**2.54**	**81**	*e*PN	Pn	10 31 28.9	-0.8
LADK	**Ladik-KONYA**	**2.54**	**81**	*e*Pn	Pn	10 31 28.9	-0.8
GEMT	**Gemlik**	**2.56**	**0**	*e*PN	Pn	10 31 30.6	+0.5
GEMT	**Gemlik**	**2.56**	**0**	*e*Pn	Pn	10 31 30.6	+0.5
ADVT	**Abdulvahap**	**2.60**	**9**	*e*PN	Pn	10 31 31.3	+0.8
ADVT	**Abdulvahap**	**2.60**	**9**	*e*Pn	Pn	10 31 31.3	+0.8
PRK	**Paraskevi**	**2.67**	**302**	*e*PN	Pn	10 31 31.5	+0.1
BNT	**Bandirma**	**2.67**	**339**	*e*PN	Pn	10 31 32.7	+1.1
BNT	**Bandirma**	**2.67**	**339**	*e*Pn	Pn	10 31 32.7	+1.1
EDC	**Edincik**	**2.68**	**338**	*e*PN	Pn	10 31 32.5	+0.8
EDC	**Edincik**	**2.68**	**338**	*e*Pn	Pn	10 31 32.5	+0.8
YLV	**Yalova**	**2.70**	**3**	*e*PN	Pn	10 31 32.9	+0.9
YLV	**Yalova**	**2.70**	**3**	*e*Pn	Pn	10 31 32.9	+1.0
ARMT	**Armutlu**	**2.71**	**355**	*e*PN	Pn	10 31 32.9	+0.9
ARMT	**Armutlu**	**2.71**	**355**	*e*Pn	Pn	10 31 32.9	+0.9
GULT	**Gulveren**	**2.76**	**22**	*e*PN	Pn	10 31 33.8	+1.0
GULT	**Gulveren**	**2.76**	**22**	*e*Pn	Pn	10 31 33.8	+1.0
HDMB	**Hadim**	**2.78**	**108**	*e*PN	Pn	10 31 32.9	-0.1
HDMB	**Hadim**	**2.78**	**108**	*e*Pn	Pn	10 31 32.9	-0.1
KARP	**Karpathos**	**2.83**	**216**	*e*PN	Pn	10 31 34.4	+0.7
KRBG	**Karabiga-Canak**	**2.92**	**330**	*e*PN	Pn	10 31 35.6	+0.7
KRBG	**Karabiga-Canak**	**2.92**	**330**	*e*Pn	Pn	10 31 35.6	+0.7
HRT	**Hereke**	**2.98**	**7**	*e*PN	Pn	10 31 36.4	+0.7
HRT	**Hereke**	**2.98**	**7**	*e*Pn	Pn	10 31 36.4	+0.7
APE	**Apeiranthos**	**3.01**	**256**	*e*PN	Pn	10 31 36.5	+0.3
APE	**Apeiranthos**	**3.01**	**256**	*e*PN	Pn	10 31 36.8	+0.6
APE	**Apeiranthos**	**3.01**	**256**	*e*Pn	Pn	10 31 36.5	+0.3
MDUB	**Mudurnu**	**3.04**	**30**	*e*PN	Pn	10 31 37.8	+1.2
MDUB	**Mudurnu**	**3.04**	**30**	*e*Pn	Pn	10 31 37.8	+1.2
ISK	**Istanbul-Kandi**	**3.20**	**358**	*e*PN	Pn	10 31 39.6	+0.9
ISK	**Istanbul-Kandi**	**3.20**	**358**	*e*Pn	Pn	10 31 39.6	+0.9
GELI	**Tayfur-Gelibol**	**3.29**	**321**	*e*PN	Pn	10 31 40.1	+0.1
GELI	**Tayfur-Gelibol**	**3.29**	**321**	*e*Pn	Pn	10 31 40.1	+0.1
SULT	**Sultanhani-AKS**	**3.44**	**83**	*e*PN	Pn	10 31 42.2	+0.1
SULT	**Sultanhani-AKS**	**3.44**	**83**	*e*Pn	Pn	10 31 42.2	+0.1
ZKR	**Zakros**	**3.64**	**222**	*e*PN	Pn	10 31 46.1	+1.2
BRTR	**Keskin Array B**	**3.95**	**61**	Pn	Pn	10 31 48.9	-0.2
	2.2nm,0.3s,baz=240,slow=15,SNR=30						
BRTR				Sn	Sn	10 32 37.7	+1.7
	1.5nm,0.3s,baz=236,slow=31,SNR=5.6						
BRTR	**Keskin Array B**	**3.95**	**61**	Pn	Pn	10 31 48.9	-0.2
BRTR				Sn	Sn	10 32 37.7	+1.7
BRTR	**Keskin Array B**	**3.95**	**61**	Pn	Pn	10 31 48.8	-0.3
BRTR				Sn	Sn	10 32 37.7	+1.7
SIVA	**Sivas**	**4.53**	**232**	*e*PN	Pn	10 31 58.3	+1.2
MMAI	**Mount Meron Ar**	**7.01**	**132**	Pn	Pn	10 32 30.6	-0.6
	8.1nm,0.3s,baz=314,slow=12,SNR=25						
MMAI				Sn	Sn	10 33 53.4	+1.8
	3.1nm,0.3s,baz=313,slow=25,SNR=3.6						
MMAI	**Mount Meron Ar**	**7.01**	**132**	Pn	Pn	10 32 30.6	-0.6
MMAI				Sn	Sn	10 33 53.4	+1.8
MMAI	**Mount Meron Ar**	**7.01**	**132**	Pn	Pn	10 32 30.6	-0.6
MLR	**Muntele Rosu**	**7.99**	**343**	Pn	Pn	10 32 44.4	-0.2
	0.0nm,0.3s,baz=166,slow=12,SNR=1.8						
MLR	**Muntele Rosu**	**7.99**	**343**	Pn	Pn	10 32 44.4	-0.2
MLR	**Muntele Rosu**	**7.99**	**343**	Pn	Pn	10 32 44.4	-0.2
ASF	**Jabal al Asfar**	**8.50**	**130**	Pn	Pn	10 32 53.1	+1.4
	0.7nm,0.3s,baz=15,slow=19,SNR=3.0						
ASF	**Jabal al Asfar**	**8.50**	**130**	Pn	Pn	10 32 53.1	+1.4
EIL	**Elat**	**9.48**	**148**	Pn	Pn	10 33 05.3	+0.2
	0.4nm,0.3s,baz=15,slow=17,SNR=2.6						
EIL	**Elat**	**9.48**	**148**	Pn	Pn	10 33 05.3	+0.2
EIL	**Elat**	**9.48**	**148**	Pn	Pn	10 33 05.3	+0.3
GERES	**GERESS Array B**	**15.69**	**319**	Pn	Pn	10 34 33.7	+4.2
	0.0nm,0.3s,baz=119,slow=11,SNR=5.5						
GERES				LR	LR	10 39 31.8	
	comp=Z,1μm,20.9s,baz=15,slow=34						
GERES	**GERESS Array B**	**15.69**	**319**	Pn	Pn	10 34 33.7	+4.2
FINES	**FINESS Array B**	**23.68**	**356**	P	P	10 35 59.4	-1.0
	2.2nm,0.9s,mb3.7,baz=187,slow=18,SNR=3.1						
FINES	**FINESS Array B**	**23.68**	**356**	P	P	10 35 59.4	-1.0
FINES	**FINESS Array B**	**23.68**	**356**	P	P	10 35 59.4	-1.0
AKTO	**Aktyubinsk**	**24.04**	**49**	P	P	10 36 03.1	-0.6
	0.4nm,0.4s,mb3.3,baz=245,slow=12,SNR=4.4						
AKTO	**Aktyubinsk**	**24.04**	**49**	P	P	10 36 03.1	-0.6
AKTO	**Aktyubinsk**	**24.04**	**49**	P	P	10 36 03.1	-0.6
HFS	**Hagfors**	**24.37**	**341**	P	P	10 36 05.4	-1.3
	2.1nm,0.8s,mb3.7,baz=158,slow=12,SNR=2.8						
HFS	**Hagfors**	**24.37**	**341**	P	P	10 36 05.4	-1.3
HFS	**Hagfors**	**24.37**	**341**	P	P	10 36 05.4	-1.3
NOA	**NORSAR Array B**	**25.79**	**340**	P	P	10 36 18.9	-0.8
	0.9nm,0.8s,mb3.5,baz=145,slow=9.3,SNR=3.2						
NOA	**NORSAR Array B**	**25.79**	**340**	P	P	10 36 18.9	-0.8
NOA	**NORSAR Array B**	**25.79**	**340**	P	P	10 36 18.9	-0.7
BVAR	**Borovoye Array**	**32.13**	**48**	P	P	10 37 16.0	-0.2
	0.3nm,0.5s,mb3.5,baz=271,slow=9.7,SNR=3.0						
BVAR	**Borovoye Array**	**32.13**	**48**	P	P	10 37 16.0	-0.2
BVAR	**Borovoye Array**	**32.13**	**48**	P	P	10 37 16.0	-0.2
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	P	10 37 37.8	-1.1
	0.7nm,0.6s,mb3.8,baz=36,slow=8.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	P	10 37 37.8	-1.1
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P	P	10 37 37.8	-1.1
KURK	**Kurchatov**	**36.97**	**53**	P	P	10 37 56.2	-1.8
	0.8nm,0.5s,mb3.7,baz=274,slow=8.7,SNR=7.1						
KURK	**Kurchatov**	**36.97**	**53**	P	P	10 37 56.2	-1.8
KURK	**Kurchatov**	**36.97**	**53**	P	P	10 37 56.2	-1.8
MKAR	**Makanchi Array**	**39.60**	**60**	P	P	10 38 19.4	-0.8
	0.8nm,0.9s,mb3.4,baz=282,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**39.60**	**60**	P	P	10 38 19.4	-0.8
MKAR	**Makanchi Array**	**39.60**	**60**	P	P	10 38 19.4	-0.8

*ISCJB **24** 10:31:41.3±0.6, 13°.86N±0°.06×120°.6E±0°.2, h124km±7km, mb3.7/6, Error ellipse: s-maj=25.6km s-min=10.5km az=175.1*
*MAN **24** 10:31:41, 13°.88N×120°.51E, h105km, mb4.2, ML3.0, MS2.7*
*IDC **24** 10:31:41.9±1.8, 13°.83N×120°.68E, h115km±22km, mb3.4/6, mb1 3.4/6, mb1mx3.2/22, mbtmp3.4/6, Error ellipse: s-maj=104.0km s-min=21.5km az=68.0*

ISC 24 10:31:42.4±0.6,**13°.84N**±0°.06×**120°.5E**±0°.2,**h117**km±7km, **n13**,σ0**s59**/16,**mb3.7**/6,**1D**,**Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.47**	**55**	P	**Pn**	**10 31 59.8**	**+0.1**
	233nm,0.3s,baz=188,slow=4.6,SNR=26						
TGY				S	**Sn**	**10 32 13.0**	**+0.2**
	330nm,0.3s,baz=255,slow=20,SNR=36						
TGY	**Tagaytay City**	**0.47**	**55**	⇓*e*P	**Pn**	**10 31 59.6**	**-0.1**
TGY				*e*S	**Sn**	**10 32 12.8**	**0.0**
BUSP	**Coron**	**1.85**	**190**	*e*P	**Pn**	**10 32 13.8**	**0.0**
BUSP				*e*S	**Sn**	**10 32 34.2**	**-3.7**
OTRP	**Odiongan**	**2.06**	**135**	*e*P	**Pn**	**10 32 16.8**	**+0.4**
BOLP	**Bolinao**	**2.60**	**347**	*e*P	**Pn**	**10 32 22.5**	**-0.8**
ENPP	**El Nido**	**2.83**	**203**	*e*P	**Pn**	**10 32 27.1**	**+0.7**
CUYO	**Cuyo Island**	**3.00**	**171**	*e*P	**Pn**	**10 32 29.1**	**+0.4**
SONM	**Songino Array**	**35.88**	**344**	P	**P**	**10 38 31.3**	**+0.3**
	1.4nm,0.6s,mb4.1,baz=164,slow=9.9,SNR=14						
WRA	**Warramunga Arr**	**36.21**	**158**	P	**P**	**10 38 33.0**	**-1.1**
	0.2nm,0.4s,mb3.4,baz=333,slow=9.9,SNR=3.9						
WRA				pP	pP	10 38 59.4	-0.7
	0.3nm,0.6s,baz=334,slow=9.7,SNR=1.9						
MKAR	**Makanchi Array**	**45.83**	**324**	P	**P**	**10 39 52.9**	**+0.3**
	0.2nm,0.4s,mb3.2,baz=116,slow=8.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**48.87**	**333**	P	**P**	**10 40 15.6**	**-0.4**
	0.4nm,0.3s,mb3.8,baz=129,slow=6.5,SNR=2.9						
KURK	**Kurchatov**	**49.99**	**326**	P	**P**	**10 40 24.9**	**+0.3**
	0.6nm,0.4s,mb3.9,baz=122,slow=8.1,SNR=10.0						
BVAR	**Borovoye Array**	**55.58**	**326**	P	**P**	**10 41 05.9**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=110,slow=6.5,SNR=6.1						

*ISCJB **24** 10:32:31.5±5.5, 16°.8S±0°.1×172°.3W±0°.2, h11km±34km, mb4.1/7, Error ellipse: s-maj=33.6km s-min=11.7km az=28.5*
*IDC **24** 10:32:31.6±1.2, 16°.77S×172°.32W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/19, mbtmp4.1/7, ML1.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/31, Error ellipse: s-maj=50.5km s-min=18.9km az=138.0*
*NEIC **24** 10:32:37.2±0.8, 16°.64S×172°.43W, h35km, mb4.7/1, Error ellipse: s-maj=32.0km s-min=10.9km az=136.0*
ISC 24 10:32:31.7±6.7,**16°.8S**±0°.1×**172°.3W**±0°.2,**h1**km±41km,**n19**, σ0**s32**/17,**mb4.2**/7,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.90**	**11**	Pn	**Pn**	**10 33 19.0**	**-0.1**
	7.3nm,0.3s,baz=261,slow=19,SNR=5.6						
AFI				Sn	**Sn**	**10 33 54.6**	**0.0**
	24nm,0.3s,baz=20,slow=22,SNR=4.3						
AFI				T		10 36 45.2	
	11nm,0.3s,baz=62,slow=16,SNR=7.6						
AFI	**Afiamalu**	**2.90**	**11**	Pn	**Pn**	**10 33 19.0**	**-0.1**
AFI				Sn	**Sn**	**10 33 54.6**	**0.0**
AFI				TT		10 36 45.2	
CTA	**Charters Tower**	**39.35**	**259**	P	**P**	**10 40 03.6**	**+0.6**
	3.1nm,0.8s,mb4.0,baz=92,slow=8.6,SNR=5.8						
CTA	**Charters Tower**	**39.35**	**259**	P	**P**	**10 40 03.6**	**+0.7**
STKA	**Stephens Creek**	**44.26**	**241**	P	**P**	**10 40 42.5**	**-0.4**
	3.5nm,0.9s,mb4.1,baz=92,slow=9.5,SNR=7.3						
STKA	**Stephens Creek**	**44.26**	**241**	P	**P**	**10 40 42.5**	**-0.4**
WRAB	**Tennant Creek**	**50.53**	**258**	*e*P	**P**	**10 41 32.0**	**0.0**
	7.3nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**50.54**	**258**	P	**P**	**10 41 31.9**	**-0.2**
	8.0nm,0.9s,mb4.7,baz=95,slow=8.3,SNR=45						
WRA				LR	LR	11 01 05.9	
	comp=Z,190nm,18.2s,baz=60,slow=34						
WRA	**Warramunga Arr**	**50.54**	**258**	P	**P**	**10 41 31.9**	**-0.2**
NVAR	**Mina Array Bea**	**74.67**	**41**	P	**P**	**10 44 13.4**	**+0.4**
	1.0nm,0.7s,mb4.0,baz=233,slow=9.4,SNR=6.2						
NVAR	**Mina Array Bea**	**74.67**	**41**	P	**P**	**10 44 13.4**	**+0.4**
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**10 44 46.0**	**0.0**
	1.6nm,1.2s,mb3.9,baz=212,slow=4.4,SNR=4.8						
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**10 44 46.0**	**0.0**
ILAR	**Eielson Array**	**83.60**	**11**	P	**P**	**10 45 00.8**	**-0.4**
	0.3nm,0.6s,mb3.7,baz=230,slow=6.7,SNR=5.7						
ILAR	**Eielson Array**	**83.60**	**11**	P	**P**	**10 45 00.8**	**-0.4**
GERES	**GERESS Array B**	**147.64**	**353**	PKPbc	PKPbc	10 52 18.1	+0.2
	0.9nm,0.8s,baz=1,4,slow=3.9,SNR=7.3						
GERES	**GERESS Array B**	**147.64**	**353**	PKPbc	PKPbc	10 52 18.1	+0.2
BRTR	**Keskin Array B**	**147.87**	**321**	PKPbc	PKPbc	10 52 19.8	+0.9
	1.0nm,0.7s,baz=50,slow=3.9,SNR=4.0						
BRTR	**Keskin Array B**	**147.87**	**321**	PKPbc	PKPbc	10 52 19.8	+0.9

*IDC **24** 10:45:41.6±2.3, 36°.06N×69°.50E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.4/27, mbtmp3.6/8, ML3.3/3, MS4.1/1, Ms1 4.1/1, ms1mx3.1/42, Error ellipse: s-maj=49.1km s-min=25.5km az=138.0*
*ISCJB **24** 10:45:45.5±2.5, 36°.52N±0°.09×69°.2E±0°.1, h20km±20km, mb3.5/4, Error ellipse: s-maj=18.1km s-min=9.1km az=135.6*
*NEIC **24** 10:45:45.2±1.5, 36°.41N×69°.19E, h10km, mb3.4/1, Error ellipse: s-maj=23.6km s-min=12.4km az=155.0*
*NNC **24** 10:45:50.8±6.1, 36°.56N×69°.13E, h89km±107km, mb3.1, mpv3.9, Error ellipse: s-maj=52.9km s-min=45.1km az=135.0*
ISC 24 10:45:46.2±2.4,**36°.47N**±0°.09×**69°.1E**±0°.1,**h12**km±18km, **n31**,σ1**s19**/36,**mb3.5**/4,**3C-1D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.71**	**9**	P	**Pn**	**10 47 25.9**	**+1.5**
	2.2nm,0.3s,baz=207,slow=15,SNR=76						
KK31				⇑S	**Sn**	**10 48 40.2**	**-0.6**
	1.4nm,0.4s,baz=174,slow=10,SNR=5.4						
KKAR	**Karatay Array**	**6.71**	**9**	*e*Pn	**Pn**	**10 47 26.1**	**+1.6**
	7.1nm,0.4s						
KKAR				*e*Sn	**Sn**	**10 48 40.5**	**-0.3**
EKS2	**Erkin-Say**	**7.16**	**29**	*e*Pn	**Pn**	**10 47 29.9**	**-0.8**
EKS2				*e*Sn	**Sn**	**10 48 52.6**	**+0.7**
AAK	**Ala-Archa**	**7.43**	**32**	*e*Pn	**Pn**	**10 47 35.7**	**+1.3**
	21nm,0.4s						
AAK				*e*Sn	**Sn**	**10 48 59.9**	**+1.3**
TKM2	**Tokmak 2**	**8.16**	**36**	⇓P	**Pn**	**10 47 45.1**	**+0.8**
	9.7nm,1.2s						
TKM2				⇑S	**Sn**	**10 49 15.1**	**-1.3**
	4.2nm,1.1s						
TKM2	**Tokmak 2**	**8.16**	**36**	*e*Pn	**Pn**	**10 47 43.6**	**-0.8**
	5.0nm,0.8s						
MKAR	**Makanchi Array**	**14.25**	**40**	Pn	**Pn**	**10 49 06.6**	**-1.1**
	0.1nm,0.3s,baz=228,slow=17,SNR=2.9						
MKAR	**Makanchi Array**	**14.25**	**40**	Pn	**Pn**	**10 49 06.6**	**-1.1**
AB31	**Akbulak array**	**14.41**	**335**	P	**Pn**	**10 49 08.2**	**-1.6**
	0.9nm,0.5s,baz=150,slow=13,SNR=13						
ABKAR	**Akbulak array**	**14.41**	**335**	*e*Pn	**Pn**	**10 49 08.3**	**-1.5**
	1.3nm,0.5s						
ABKAR				*e*Sn	**Sn**	**10 51 39.9**	**-10**
KURK	**Kurchatov**	**15.80**	**23**	Pn	**Pn**	**10 49 26.8**	**-1.5**
	0.1nm,0.3s,baz=214,slow=10,SNR=4.1						
KURK	**Kurchatov**	**15.80**	**23**	Pn	**Pn**	**10 49 26.8**	**-1.5**
AKTO	**Aktyubinsk**	**16.08**	**334**	Pn	**Pn**	**10 49 32.5**	**+0.6**
	0.1nm,0.3s,baz=146,slow=17,SNR=5.3						
AKTO	**Aktyubinsk**	**16.08**	**334**	⇑P	**Pn**	**10 49 29.1**	**-2.8**
	0.4nm,1.0s						
AKTO	**Aktyubinsk**	**16.08**	**334**	Pn	**Pn**	**10 49 32.5**	**+0.6**
BVA0	**Borovoye Array**	**16.57**	**3**	P	**Pn**	**10 49 40.6**	**+2.3**
	0.1nm,0.3s,baz=156,slow=9.5,SNR=8.5						
BVAR	**Borovoye Array**	**16.57**	**3**	Pn	**Pn**	**10 49 37.9**	**-0.3**
	0.5nm,0.3s,baz=192,slow=13,SNR=7.2						
BVAR	**Borovoye Array**	**16.57**	**3**	Pn	**Pn**	**10 49 37.9**	**-0.3**
BRVK	**Borovoye**	**16.60**	**3**	*e*Pn	**Pn**	**10 49 39.4**	**+0.8**
	2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**20.61**	**27**	P	**P**	**10 50 23.9**	**-1.1**
	1.2nm,0.3s,baz=219,slow=10,SNR=5.6						
ZALV	**Zalesovo Beam**	**20.61**	**27**	P	**P**	**10 50 23.9**	**-1.1**
FINES	**FINESS Array B**	**36.65**	**327**	P	**P**	**10 52 53.6**	**+1.4**
	0.9nm,0.7s,mb3.7,baz=120,slow=11,SNR=3.7						
FINES	**FINESS Array B**	**36.65**	**327**	P	**P**	**10 52 53.6**	**+1.4**
NB2	**NORSAR Subarra**	**43.48**	**323**	P	**P**	**10 53 49.8**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.5,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**43.48**	**323**	P	**P**	**10 53 50.0**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.6,baz=97,slow=8.2,SNR=4.0						
NOA	**NORSAR Array B**	**43.48**	**323**	P	**P**	**10 53 50.0**	**+1.1**
DAV	**Davao City (W)**	**59.07**	**105**	LR	LR	11 21 20.1	
	comp=Z,145nm,19.3s,baz=42,slow=36						
TORD	**Torodi Ar. Bea**	**64.18**	**267**	P	**P**	**10 56 21.0**	**0.0**
	comp=Z,0.3nm,0.8s,mb3.4,baz=42,slow=5.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**64.18**	**267**	P	**P**	**10 56 21.0**	**0.0**
YKA	**Yellowknife Ar**	**81.33**	**2**	P	**P**	**10 58 01.0**	**-1.1**
	comp=Z,0.2nm,0.7s,mb3.2,baz=349,slow=7.0,SNR=3.6						
YKA	**Yellowknife Ar**	**81.33**	**2**	P	**P**	**10 58 01.0**	**-1.1**

*DDA **24** 11:02:39.8, 36°.78N×28°.60E, h7km±6km, Md2.9*
*ISK **24** 11:02:40.2, 36°.76N×28°.54E, h2km, MD2.9*
*CSEM **24** 11:02:40.5±0.2, 36°.73N×28°.57E, h2km, MD2.9, Error ellipse: s-maj=6.2km s-min=3.3km az=17.0*
*ISCJB **24** 11:02:42.1±0.6, 36°.78N±0°.05×28°.55E±0°.04, h21km±7km, Error ellipse: s-maj=9.0km s-min=4.9km az=14.3*
ISC 24 11:02:42.1±0.6,**36°.78N**±0°.05×**28°.54E**±0°.04,**h20**km±7km, **n17**,σ1**s01**/30,**1C**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.10**	**27**	⇑*i*Pg	**Pb**	**11 02 45.8**	**-0.3**
TURN				*i* Sg	**Sb**	**11 02 49.5**	**+0.7**
YER	**Yerkesik**	**0.41**	**329**	*e*PG	**Pb**	**11 02 49.3**	**-1.4**
YER				*e*SG	**Sb**	**11 02 56.3**	**-0.2**
YER	**Yerkesik**	**0.41**	**329**	*e*Pg	**Pb**	**11 02 49.3**	**-1.3**
YER				*e*Sg	**Sb**	**11 02 56.3**	**-0.1**
DAT	**Datca**	**0.78**	**266**	*e*PG	**Pb**	**11 02 55.9**	**-1.0**
DAT				*e*SG	**Sb**	**11 03 07.8**	**+0.8**
DAT	**Datca**	**0.78**	**266**	*e*Pg	**Pb**	**11 02 55.9**	**-1.0**
DAT				*e*Sg	**Sb**	**11 03 07.8**	**+0.8**
GOLH	**Golhisar**	**0.93**	**61**	*e*P	**Pb**	**11 02 55.6**	**-3.9**
GOLH				*e*S	**Sb**	**11 03 10.8**	**-0.7**
GOLH	**Golhisar**	**0.93**	**61**	*e*P	**Pb**	**11 02 55.6**	**-3.9**
GOLH				*e*S	**Sb**	**11 03 10.8**	**-0.7**
AKAS	**Kas**	**1.01**	**122**	*e*P	**Pb**	**11 02 59.4**	**-1.6**
AKAS				*e*S	**Sb**	**11 03 15.4**	**+1.5**
AKAS	**Kas**	**1.01**	**122**	*e*P	**Pb**	**11 02 59.3**	**-1.6**
AKAS				*e*S	**Sb**	**11 03 15.4**	**+1.6**
AYDN	**Tasoluk**	**1.02**	**329**	*e*P	**Pb**	**11 03 00.9**	**-0.2**
AYDN				*e*S

ellipse: s-maj=5.3km s-min=3.3km az=132.0
*PDG **24** 11:20:25.5±0.1, 43°.44N×19°.02E, h10km, MD2.2/2, ML2.2/8, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*
*BEO **24** 11:20:25.6±1.2, 43°.51N×18°.94E, h15km±8km, ML2.3/5*
ISC 24 11:20:24.9±0.6, **43°.50N**±0°.03×**18°.96E**±0°.04, **h6**km±5km, **n34**, σ1§**03**/67, **12C-8D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.30**	**187**	⇓*i*Pg	**Pg**	**11 20 30.3**	**-0.5**
UPM				*e*Sg	**Sg**	**11 20 34.6**	**-0.1**
UPM	**Unac-Piva**	**0.30**	**187**	⇓*i*Pg	**Pg**	**11 20 30.3**	**-0.5**
UPM				*e*Sg	**Sg**	**11 20 34.6**	**-0.1**
PLE	**Pljevlja**	**0.36**	**118**	⇑*i*Pg	**Pg**	**11 20 31.2**	**-0.7**
PLE				*e*Sg	**Sg**	**11 20 35.8**	**-0.8**
PLE	**Pljevlja**	**0.36**	**118**	⇑*i*Pg	**Pg**	**11 20 31.2**	**-0.7**
PLE				*e*Sg	**Sg**	**11 20 35.8**	**-0.8**
BBLS	**Lazići**	**0.49**	**41**	*e*Pg	**Pg**	**11 20 35.2**	**+0.8**
BBLS				*e*Sg	**Sg**	**11 20 43.4**	**+2.6**
BBLS	**Lazići**	**0.49**	**41**	*e*Pg	**Pg**	**11 20 35.2**	**+0.8**
BBLS				*e*Sg	**Sg**	**11 20 43.4**	**+2.6**
BRY	**Bratogost**	**0.67**	**207**	⇑*i*Pg	**Pg**	**11 20 36.9**	**-0.9**
BRY				*e*Sg	**Sg**	**11 20 47.3**	**+0.7**
BRY	**Bratogost**	**0.67**	**207**	⇑*i*Pg	**Pg**	**11 20 36.9**	**-0.9**
BRY				*e*Sg	**Sg**	**11 20 47.3**	**+0.7**
NKY	**Niksic**	**0.69**	**178**	⇓*i*Pg	**Pg**	**11 20 37.3**	**-0.8**
NKY				*e*Sg	**Sg**	**11 20 47.2**	**+0.1**
NKY	**Niksic**	**0.69**	**178**	⇓*i*Pg	**Pg**	**11 20 37.3**	**-0.8**
NKY				*e*Sg	**Sg**	**11 20 47.2**	**+0.1**
BEY	**Berane**	**0.93**	**132**	⇑*i*Pg	**Pg**	**11 20 41.4**	**-1.4**
BEY				*e*Sg	**Sg**	**11 20 54.7**	**-0.1**
IVA	**Berane**	**0.93**	**132**	⇑*i*Pg	**Pg**	**11 20 41.4**	**-1.4**
IVA				*e*Sg	**Sg**	**11 20 54.7**	**-0.2**
DIVS	**Divibare**	**0.96**	**51**	*e*Pg	**Pg**	**11 20 43.4**	**+0.1**
DIVS				*e*Sg	**Sg**	**11 20 56.1**	**+0.3**
PDG	**Podgorica**	**1.09**	**168**	⇑*i*Pg	**Pg**	**11 20 44.7**	**-1.2**
PDG				*e*Sg	**Sg**	**11 21 00.6**	**+0.6**
TTG	**Podgorica**	**1.09**	**168**	⇑*i*Pg	**Pg**	**11 20 44.7**	**-1.2**
TTG				*e*Sg	**Sg**	**11 21 00.6**	**+0.5**
HCY	**Herceg Novi**	**1.11**	**198**	⇓*i*Pg	**Pg**	**11 20 45.3**	**-0.8**
HCY				*e*Sg	**Sg**	**11 21 02.1**	**+1.6**
HCY	**Herceg Novi**	**1.11**	**198**	⇓*i*Pg	**Pg**	**11 20 45.3**	**-0.8**
STON	**Ston**	**1.11**	**236**	*i*Pg	**Pg**	**11 20 44.9**	**-1.4**
STON				Sg	**Sg**	**11 21 02.5**	**+1.8**
STON	**Ston**	**1.11**	**236**	*i*Pg	**Pg**	**11 20 44.9**	**-1.4**
STON				Sg	**Sg**	**11 21 02.5**	**+1.8**
PVY	**Plav**	**1.17**	**141**	⇓*i*Pg	**Pn**	**11 20 45.8**	**-1.9**
PVY				*e*Sg	**Sg**	**11 21 02.6**	**+0.2**
PVY	**Plav**	**1.17**	**141**	⇓*i*Pg	**Pn**	**11 20 45.8**	**-1.9**
PVY				*e*Sg	**Sg**	**11 21 02.6**	**+0.2**
BUM	**Brajici-Budva**	**1.20**	**182**	⇑*i*Pg	**Pn**	**11 20 46.8**	**-1.4**
BUM				*e*Sg	**Sg**	**11 21 04.4**	**+0.9**
BUM	**Brajici-Budva**	**1.20**	**182**	⇑*i*Pg	**Pn**	**11 20 46.8**	**-1.4**
BUM				*e*Sg	**Sg**	**11 21 04.4**	**+0.9**
TRUS	**Trudelj**	**1.27**	**55**	*e*Pg	**Pn**	**11 20 48.6**	**-0.6**
TRUS				*e*Sg	**Sg**	**11 21 06.7**	**+0.9**
GRUS	**Gruza**	**1.33**	**72**	*e*Pg	**Pn**	**11 20 48.8**	**-1.2**
GRUS				*e*Sg	**Sg**	**11 21 08.1**	**+0.3**
BCI	**Bajram Curri**	**1.40**	**144**	*i*PN	**Pn**	**11 20 50.8**	**-0.1**
BCI				*i*SN	**Sn**	**11 21 11.2**	**+1.7**
BCI	**Bajram Curri**	**1.40**	**144**	*i*Pn	**Pn**	**11 20 50.8**	**-0.1**
BCI				*i*Sn	**Sn**	**11 21 11.2**	**+1.7**
ULC	**Ulcinj**	**1.55**	**172**	⇑*i*Pg	**Pn**	**11 20 53.3**	**+0.3**
ULC				*e*Sg	**Sg**	**11 21 15.3**	**+0.6**
ULC	**Ulcinj**	**1.55**	**172**	⇑*i*Pg	**Pn**	**11 20 53.3**	**+0.3**
ULC				*e*Sg	**Sg**	**11 21 15.3**	**+0.6**
PUK	**Puka**	**1.61**	**154**	*i*PN	**Pn**	**11 20 54.8**	**+1.0**
PUK				*i*SN	**Sn**	**11 21 19.3**	**+4.4**
PUK	**Puka**	**1.61**	**154**	*i*Pn	**Pn**	**11 20 54.8**	**+1.0**
PUK				*i*Sn	**Sn**	**11 21 19.3**	**+4.4**
PHP	**Peshkopia**	**2.12**	**148**	*i*PN	**Pn**	**11 21 04.6**	**+3.8**
PHP				*i*SN	**Sn**	**11 21 34.9**	**+7.5**
PHP	**Peshkopia**	**2.12**	**148**	*i*Pn	**Pn**	**11 21 04.6**	**+3.8**
PHP				*i*Sn	**Sn**	**11 21 34.9**	**+7.5**
BARS	**Barje**	**2.20**	**107**	*e*Pg	**Pg**	**11 21 05.5**	**-1.6**
BARS				*e*Sg	**Sg**	**11 21 36.3**	**+0.7**

*NEIC **24** 11:28:10.9, 18°.71N×66°.80W, h98km, MD3.5(RSPR), After RSPR.*
RSPR 24 11:28:10.9, 18°.71N×66°.80W, h98km±9km, 8C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**0.60**	**207**	*e*Pn	Pn	11 28 24.6	-2.6
CELP	**Cerrillos**	**0.67**	**162**	⇑*e*P	Pn	11 28 27.6	-0.2
CELP	**Cerrillos**	**0.67**	**162**	⇑*e*P	Pn	11 28 27.6	-0.2
OBIP	**Obispado Ponce**	**0.69**	**165**	⇑*e*P	Pn	11 28 27.7	-0.3
OBIP	**Obispado Ponce**	**0.69**	**165**	⇑*e*P	Pn	11 28 27.7	-0.3
OBIP				*e*S	Sn	11 28 40.5	-0.3
CRPR	**Cabo Rojo, PR**	**0.76**	**203**	⇑*e*P	Pn	11 28 28.0	-0.7
CRPR	**Cabo Rojo, PR**	**0.76**	**203**	⇑*e*P	Pn	11 28 28.0	-0.7
CRPR				*e*S	Sn	11 28 41.8	-0.2
MTP	**Monte Pirata**	**1.33**	**117**	⇑*e*P	Pn	11 28 34.4	-0.5
MTP	**Monte Pirata**	**1.33**	**117**	⇑*e*P	Pn	11 28 34.4	-0.5

*IDC **24** 12:02:10.5±1.7, 15°.91S×177°.40W, h404km±20km, mb3.4/7, mb1 3.7/8, mb1mx3.4/17, mbtmp3.4/8, Error ellipse: s-maj=33.9km s-min=12.4km az=141.0*
*ISCJB **24** 12:02:11.0±0.7, 16°.05±0°.2×177°.4W±0°.1, h421km±10km, mb3.6/9, Error ellipse: s-maj=33.9km s-min=10.4km az=148.8*
*NEIC **24** 12:02:11.4±0.9, 15°.97S×177°.32W, h418km±11km, mb3.6/2, Error ellipse: s-maj=31.8km s-min=12.4km az=149.0*
ISC 24 12:02:11.5±0.8, **16°.05**±0°.2×**177°.3W**±0°.1, **h413**km±11km, **n34**, σ1§**06**/26, **mb3.6**/9, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.79**	**248**	*e*Pn	**P**	**12 03 33.3**	**+1.2**
AFI	**Afiamalu**	**5.72**	**70**	P	**P**	**12 03 40.7**	**-1.0**
	10.0nm,0.3s,baz=326,slow=4.1,SNR=16						
AFI				S	**S**	**12 04 55.1**	**0.0**
	baz=309,slow=18,SNR=2.1						
AFI	**Afiamalu**	**5.72**	**70**	P	**P**	**12 03 40.7**	**-1.0**
AFI				S	**S**	**12 04 55.1**	**0.0**
URZ	**Urewera**	**22.77**	**191**	P	**P**	**12 06 38.8**	**-1.3**
	10nm,0.6s,mb4.5,baz=134,slow=6.2,SNR=9.3						
URZ	**Urewera**	**22.77**	**191**	P	**P**	**12 06 38.8**	**-1.3**
EIDS	**Eidsvold**	**30.96**	**247**	*e*P	**P**	**12 07 51.9**	**-0.9**
	5.5nm,1.0s,mb3.8						
CNB	**Canberra Magne**	**35.46**	**231**	*e*P	**P**	**12 08 32.0**	**+0.9**
CMSA	**Cobar Meteorol**	**37.05**	**239**	*e*P	**P**	**12 08 44.6**	**+0.3**
TOO	**Toolangi**	**39.23**	**229**	*e*P	**P**	**12 09 02.6**	**+0.4**
STKA	**Stephens Creek**	**40.51**	**239**	P	**P**	**12 09 13.7**	**+1.0**
	3.9nm,0.6s,mb4.0,baz=88,slow=9.7,SNR=18						
STKA	**Stephens Creek**	**40.51**	**239**	*e*P	**P**	**12 09 13.6**	**+0.9**
STKA	**Stephens Creek**	**40.51**	**239**	P	**P**	**12 09 13.7**	**+1.0**
BBOO	**Buckleboo**	**45.29**	**239**	*e*P	**P**	**12 09 51.1**	**+0.7**
WRAB	**Tennant Creek**	**46.04**	**258**	*e*P	**P**	**12 09 54.7**	**-1.7**
	1.1nm,0.6s,mb3.4						
WRA	**Warramunga Arr**	**46.05**	**258**	P	**P**	**12 09 54.8**	**-1.8**
	0.5nm,0.4s,mb3.2,baz=96,slow=8.6,SNR=16						
WRA	**Warramunga Arr**	**46.05**	**258**	P	**P**	**12 09 54.8**	**-1.8**
NVAR	**Mina Array Bea**	**77.29**	**44**	P	**P**	**12 13 22.8**	**+1.0**
	1.1nm,0.7s,mb3.6,baz=223,slow=9.1,SNR=7.0						
NVAR	**Mina Array Bea**	**77.29**	**44**	P	**P**	**12 13 22.8**	**+1.0**
ILAR	**Eielson Array**	**83.75**	**13**	P	**P**	**12 13 54.3**	**-0.8**
	0.3nm,0.7s,mb3.1,baz=211,slow=6.8,SNR=4.1						
ILAR	**Eielson Array**	**83.75**	**13**	P	**P**	**12 13 54.3**	**-0.8**
TXAR	**Lajitas Array**	**84.06**	**57**	P	**P**	**12 13 59.4**	**+1.9**
	1.3nm,0.7s,mb3.8,baz=220,slow=7.1,SNR=17						
TXAR	**Lajitas Array**	**84.06**	**57**	P	**P**	**12 13 59.4**	**+1.9**
YKA	**Yellowknife Ar**	**92.12**	**24**	P	**P**	**12 14 34.7**	**-0.1**
	0.2nm,0.5s,mb3.3,baz=229,slow=4.5,SNR=4.6						
YKA	**Yellowknife Ar**	**92.12**	**24**	P	**P**	**12 14 34.7**	**-0.1**
BVAR	**Borovoye Array**	**115.98**	**322**	PKP	PKPdf	12 20 05.2	-0.7
	0.4nm,0.5s,baz=105,slow=3.5,SNR=3.7						
BVAR	**Borovoye Array**	**115.98**	**322**	PKP	PKPdf	12 20 05.2	-0.7
ARCES	**ARCESS Array B**	**124.57**	**350**	PKP	PKPdf	12 20 20.4	-1.5
	1.3nm,0.9s,baz=46,slow=2.6,SNR=5.6						
ARCES	**ARCESS Array B**	**124.57**	**350**	PKP	PKPdf	12 20 20.4	-1.5
BRTR	**Keskin Array B**	**144.11**	**317**	PKP	PKPdf	12 20 58.1	-1.0
	3.1nm,0.8s,baz=90,slow=2.5,SNR=9.4						
BRTR	**Keskin Array B**	**144.11**	**317**	PKP	PKPdf	12 20 58.1	-1.0
GERES	**GERESS Array B**	**145.97**	**347**	PKPbc	PKPbc	12 21 02.2	-1.4
	0.6nm,0.5s,baz=35,slow=3.3,SNR=5.6						
GERES	**GERESS Array B**	**145.97**	**347**	PKPbc	PKPbc	12 21 02.2	-1.4
DAVOX	**Davos/Dischmat**	**148.68**	**350**	PKPbc	PKPbc	12 21 10.4	-0.4
	3.2nm,0.6s,baz=294,slow=15,SNR=10						
DAVOX	**Davos/Dischmat**	**148.68**	**350**	PKPbc	PKPbc	12 21 10.4	-0.4

*CSEM **24** 12:09:03.5±0.3, 37°.84N×29°.36E, h2km, MD2.7, Error ellipse: s-maj=6.9km s-min=5.4km az=92.0*
*ISCJB **24** 12:09:04.4±0.5, 37°.82N±0°.03×29°.29E±0°.04, h10km, Error ellipse: s-maj=4.8km s-min=3.9km az=4.9*
*ISK **24** 12:09:04.1, 37°.84N×29°.30E, h9km, MD2.7*
*DDA **24** 12:09:04.0, 37°.85N×29°.32E, h3km±2km, Md2.9*
ISC 24 12:09:04.7±0.5, **37°.83N**±0°.03×**29°.32E**±0°.04, **h10**km, **n18**, σ1§**20**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.24**	**253**	*e*PG	**Pg**	**12 09 08.3**	**-1.3**
DENT				*e*SG	**Sg**	**12 09 13.1**	**+0.2**
DENT	**Denizli**	**0.24**	**253**	*e*Pg	**Pg**	**12 09 08.3**	**-1.3**
DENT				*e*Sg	**Sg**	**12 09 13.1**	**+0.3**
GOLH	**Golhisar**	**0.62**	**162**	*i*P	**Pg**	**12 09 14.2**	**-2.4**
GOLH				*i*S	**Sg**	**12 09 26.5**	**+1.8**
GOLH	**Golhisar**	**0.62**	**162**	*i*P	**Pg**	**12 09 14.2**	**-2.5**
GOLH				*i*S	**Sg**	**12 09 26.5**	**+1.7**
KULA	**Kula-Manisa**	**0.86**	**323**	*e*PG	**Pg**	**12 09 20.3**	**-1.0**
KULA				*e*SG	**Sg**	**12 09 33.5**	**+1.0**
KULA	**Kula-Manisa**	**0.86**	**323**	*e*Pg	**Pg**	**12 09 20.3**	**-1.0**
KULA				*e*Sg	**Sg**	**12 09 33.6**	**+1.1**
MANT	**Manisa**	**0.90**	**318**	*i*P	**Pg**	**12 09 20.8**	**-1.1**
MANT				*i*S	**Sg**	**12 09 34.9**	**+1.3**
MANT	**Manisa**	**0.90**	**318**	*i*P	**Pg**	**12 09 20.8**	**-1.1**
MANT				*i*S	**Sg**	**12 09 34.9**	**+1.3**
YER	**Yerkesik**	**1.07**	**230**	*e*PG	**Pg**	**12 09 24.8**	**-0.5**
YER				*e*SG	**Sg**	**12 09 40.5**	**+1.2**
YER	**Yerkesik**	**1.07**	**230**	*e*Pg	**Pg**	**12 09 24.8**	**-0.6**
YER				*e*Sg	**Sg**	**12 09 40.5**	**+1.2**
ELL	**Elmali**	**1.17**	**156**	*e*PN	**Pn**	**12 09 27.9**	**+0.8**
ELL	**Elmali**	**1.17**	**156**	*e*Pn	**Pn**	**12 09 27.9**	**+0.8**
SHUT	**Suhut-Afyon**	**1.21**	**53**	*e*PN	**Pn**	**12 09 27.3**	**-0.4**
SHUT				*e*SN	**Sn**	**12 09 45.4**	**+1.2**
SHUT	**Suhut-Afyon**	**1.21**	**53**	*e*Pn	**Pn**	**12 09 27.3**	**-0.4**
SHUT				*e*Sn	**Sn**	**12 09 45.4**	**+1.3**
GDZ	**Gediz**	**1.27**	**6**	*i*P	**Pn**	**12 09 26.2**	**-2.2**
GDZ				*i*S	**Sb**	**12 09 45.8**	**+0.7**
GDZ	**Gediz**	**1.27**	**6**	*i*P	**Pn**	**12 09 26.2**	**-2.3**
GDZ				*i*S	**Sb**	**12 09 45.8**	**+0.8**
ALT	**Altintas**	**1.38**	**27**	*e*PN	**Pn**	**12 09 29.8**	**-0.2**
ALT	**Altintas**	**1.38**	**27**	*e*Pn	**Pn**	**12 09 29.8**	**-0.1**

*CSEM **24** 12:09:50.8, 36°.43N×20°.55E, h24km, MD3.7, After ATH*
ATH 24 12:09:50.6, 36°.41N×20°.55E, h25km±2km, **MD3.7**/10, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**1.07**	**63**	*e*PN	Pn	12 10 11.2	+1.2
PYL	**PYLOS**	**1.07**	**63**	*e*Pn	Pn	12 10 11.2	+1.2
ITM	**Ithomi**	**1.35**	**55**	*e*PN	Pn	12 10 15.5	+1.7
ITM	**Ithomi**	**1.35**	**55**	*e*Pn	Pn	12 10 15.5	+1.7
VLX	**Vlachokerasia**	**1.75**	**56**	*e*PN	Pn	12 10 21.9	+2.5
VLX	**Vlachokerasia**	**1.75**	**56**	*e*Pn	Pn	12 10 21.9	+2.5
VLS	**Valsamata**	**1.76**	**1**	*e*PN	Pn	12 10 21.9	+2.4
VLS	**Valsamata**	**1.76**	**1**	*e*Pn	Pn	12 10 21.9	+2.4
RLS	**Riolos of Patr**	**1.80**	**24**	*e*PN	Pn	12 10 22.1	+2.1
RLS	**Riolos of Patr**	**1.80**	**24**	*e*Pb	Pb	12 10 21.1	-1.8
VLI	**Veliai**	**1.95**	**80**	*e*PN	Pn	12 10 24.4	+2.4
VLI	**Veliai**	**1.95**	**80**	*e*Pn	Pn	12 10 24.4	+2.4
GUR	**Goura**	**2.09**	**43**	*e*PB	Pb	12 10 26.6	-1.2
GUR	**Goura**	**2.09**	**43**	*e*Pn	Pn	12 10 26.8	+2.8
EFP	**Efpalio**	**2.28**	**28**	*e*PN	Pn	12 10 29.2	+2.5
EFP	**Efpalio**	**2.28**	**28**	*e*Pb	Pb	12 10 30.7	-0.4
DID	**Didima**	**2.41**	**62**	*e*PN	Pn	12 10 30.7	+2.2
DID	**Didima**	**2.41**	**62**	*e*Pn	Pn	12 10 30.7	+2.2
LTK	**Loutraki**	**2.51**	**49**	*e*PN	Pn	12 10 32.0	+2.2
LTK	**Loutraki**	**2.51**	**49**	*e*Pn	Pn	12 10 32.0	+2.2

*THR **24** 12:18:11.1±0.5, 39°.76N×51°.88E, h15km, ML3.9*
*IDC **24** 12:18:12.1±1.5, 39°.43N×52°.00E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.7/27, mbtmp3.8/13, ML4.0/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/39, Error ellipse: s-maj=25.2km s-min=18.4km az=176.0*
*ISCJB **24** 12:18:14.5±1.7, 39°.60N±0°.03×52°.06E±0°.05, h24km±15km, mb3.6/10, Error ellipse: s-maj=6.3km s-min=5.3km az=176.3*
*NEIC **24** 12:18:14.2±1.5, 39°.53N×52°.04E, h10km, mb3.8/2, Error ellipse: s-maj=29.2km s-min=10.4km az=184.0*
*CSEM **24** 12:18:16.8±0.2, 39°.56N×52°.05E, h30km, ML3.9, Error ellipse: s-maj=6.0km s-min=4.5km az=88.0*
*TEH **24** 12:18:16.4, 39°.43N×52°.05E, h7km*
*NNC **24** 12:18:20.0±2.6, 40°.34N×51°.80E, h0km, mb3.4, Error ellipse: s-maj=60.7km s-min=19.3km az=107.0*
ISC 24 12:18:16.5±1.8, **39°.58N**±0°.03×**52°.05E**±0°.05, **h24**km±16km, **n104**, σ0§**93**/114, **mb3.6**/10, **2C-2D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**3.34**	**176**	*e*	**Sn**	**12 19 48.0**	**+1.9**
	comp=Z,7μm,0.1s						
IPRN				*e*Pn	**Pn**	**12 19 05.5**	**-1.7**
IGLO	**Ghaloghah**	**3.38**	**155**	*e*	**Sn**	**12 19 46.8**	**-0.3**
	comp=Z,5μm,0.1s						
IGLO				*e*Pn	**Pn**	**12 19 07.0**	**-0.8**
IALA	**Alasht**	**3.54**	**170**	*e*Pn	**Pn**	**12 19 08.4**	**-1.6**
IALA	**Alasht**	**3.54**	**170**	*e*Pn	**Pn**	**12 19 08.4**	**-1.6**
IKIA	**Kiasar**	**3.61**	**158**	*e*Pn	**Pn**	**12 19 10.7**	**-0.2**
IKIA				*e*		12 19 57.1	
	comp=Z,1μm,0.1s						
IKIA	**Kiasar**	**3.61**	**158**	*e*Pn	**Pn**	**12 19 10.7**	**-0.2**
MRVT	**Maraveh tapeh**	**3.70**	**120**	*e*Pn	**Pn**	**12 19 12.4**	**+0.3**
MRVT	**Maraveh tapeh**	**3.70**	**120**	*e*Pn	**Pn**	**12 19 12.4**	**+0.2**
CHTH	**Charan**	**3.74**	**192**	*e*Pn	**Pn**	**12 19 12.6**	**-0.1**
CHTH	**Charan**	**3.74**	**192**	*e*Pn	**Pn**	**12 19 12.6**	**-0.1**
THKV	**Tehran--Karaj**	**3.77**	**195**	*e*Pn	**Pn**	**12 19 12.7**	**-0.4**
THKV				AML	AML	12 19 57.8	
	comp=E,112nm,0.3s						
ISHM	**Shahmirzad**	**3.90**	**165**	*e*Pn	**Pn**	**12 19 14.5**	**-0.3**
ISHM				*e*		12 20 03.1	
	comp=Z,5μm,0.1s						
ISHM	**Shahmirzad**	**3.90**	**165**	*e*Pn	**Pn**	**12 19 14.5**	**-0.3**
ZNJK	**Zanjan**	**3.93**	**223**	*e*Pn	**Pn**	**12 19 13.9**	**-1.4**
ZNJK	**Zanjan**	**3.93**	**223**	*e*Pn	**Pn**	**12 19 13.9**	**-1.5**
DAMV	**Damavand**	**3.94**	**181**	*e*Pn	**Pn**	**12 19 15.9**	**+0.4**
DAMV				AML	AML	12 20 01.8	
	comp=E,220nm,0.3s						
DAMV	**Damavand**	**3.94**	**181**	*e*Pn	**Pn**	**12 19 15.9**	**+0.4**
IFIR	**Firoozkooh**	**3.97**	**172**	*e*Pn	**Pn**	**12 19 15.7**	**-0.2**
IFIR				*e*		12 20 03.4	
	comp=Z,3μm,0.1s						
IFIR	**Firoozkooh**	**3.97**	**172**	*e*Pn	**Pn**	**12 19 15.7**	**-0.2**
IDMV	**Damavand**	**4.00**	**180**	*e*Pn	**Pn**	**12 19 16.2**	**0.0**
IDMV				*e*		12 20 04.4	
	comp=Z,923nm,0.1s						
IDMV	**Damavand**	**4.00**	**180**	*e*Pn	**Pn**	**12 19 16.2**	**0.0**
IMHD	**Mahdasht**	**4.04**	**196**	*e*Pn	**Pn**	**12 19 16.6**	**-0.2**
IMHD				*e*		12 20 06.2	
	comp=Z,1μm,0.1s						
IMHD	**Mahdasht**	**4.04**	**196**	*e*Pn	**Pn**	**12 19 16.6**	**-0.2**
IHRS	**Heris**	**4.10**	**254**	*e*Pn	**Pn**	**12 19 18.6**	**+1.0**
IHRS				*e*		12 20 06.3	
	comp=Z,2μm,0.1s						
IHRS	**Heris**	**4.10**	**254**	*e*Pn	**Pn**	**12 19 18.6**	**+1.0**
ILAS	**Lasjerd**	**4.25**	**170**	*e*Pn	**Pn**	**12 19 19.9**	**+0.1**
ILAS				*e*Sn	**Sn**	**12 20 05.9**	**-2.7**
ILAS				*e*		12 20 11.2	
	comp=Z,1μm,0.2s						
ILAS	**Lasjerd**	**4.25**	**170**	*e*Pn	**Pn**	**12 19 19.9**	**+0.1**
ILAS				*e*Sn	**Sn**	**12 20 05.9**	**-2.7**
IANJ	**Anjilo**	**4.37**	**160**	*e*Pn	**Pn**	**12 19 21.7**	**+0.4**
IANJ				*e*		12 20 12.7	
	comp=Z,832nm,0.2s						
IANJ	**Anjilo**	**4.37**	**160**	*e*Pn	**Pn**	**12 19 21.7**	**+0.4**
IBST	**Bostanabad**	**4.45**	**247**	*e*Pn	**Pn**	**12 19 22.9**	**+0.4**
IBST				*e*		12 19 36.3	
	comp=Z,198nm,0.1s						
IBST	**Bostanabad**	**4.45**	**247**	*e*Pn	**Pn**	**12 19 22.9**	**+0.4**
ISHV	**Shirvan**	**4.88**	**113**	*e*Pn	**Pn**	**12 19 29.2**	**+0.8**
ISHV				*e*		12 19 35.1	
	comp=Z,1μm,0.1s						
ISHV	**Shirvan**	**4.88**	**113**	*e*Pn	**Pn**	**12 19 29.2**	**+0.8**
IMRD	**Marand**	**5.01**	**262**	*e*Pn	**Pn**	**12 19 31.3**	**+1.2**
IMRD				*e*		12 19 47.6	
	comp=Z,550nm,0.1s						
IMRD	**Marand**	**5.01**	**262**	*e*Pn	**Pn**	**12 19 31.3**	**+1.2**
GHVR	**GHOM**	**5.13**	**187**	*e*Pn	**Pn**	**12 19 31.6**	**-0.2**
GHVR	**GHOM**	**5.13**	**187**	*e*Pn	**Pn**	**12 19 31.6**	**-0.2**
ISHB	**Shabestar**	**5.18**	**258**	*e*Pn	**Pn**	**12 19 35.8**	**+3.4**
ISHB				*e*		12 19 58.6	
	comp=Z,146nm,0.3s						
ISFB	**Sefidab**	**5.22**	**178**	*e*Pn	**Pn**	**12 19 32.5**	**-0.6**
ISFB				*e*		12 19 57.4	
	comp=Z,209nm,0.2s						
ISFB	**Sefidab**	**5.22**	**178**	*e*Pn	**Pn**	**12 19 32.5**	**-0.6**
ASAO	**Ashtian**	**5.28**	**198**	*e*Pn	**Pn**	**12 19 33.4**	**-0.4**
ASAO	**Ashtian**	**5.28**	**198**	*e*Pn	**Pn**	**12 19 33.4**	**-0.4**
ISFR	**Sfrayin**	**5.32**	**116**	*e*Pn	**Pn**	**12 19 35.2**	**+0.8**
ISFR				*e*		12 19 39.6	
	comp=Z,881nm,0.1s						
ISFR	**Sfrayin**	**5.32**	**116**	*e*Pn	**Pn**	**12 19 35.2**	**+0.8**
IEMG	**Emamgholi**	**5.62**	**111**	*e*Pn	**Pn**	**12 19 38.8**	**+0.4**
IEMG				*e*		12 19 46.0	
	comp=Z,715nm,0.1s						
IEMG	**Emamgholi**	**5.62**	**111**	*e*Pn	**Pn**	**12 19 38.8**	**+0.4**
GNI	**Garni**	**5.65**	**278**	LR	LR	12 22 31.7	
	comp=Z,86nm,21.5s,baz=308,slow=46						
IKRD	**Kardeh**	**5.81**	**117**	*e*Pn	**Pn**	**12 19 51.0**	**+10**
IKRD				*e*		12 21 07.3	
	comp=Z,313nm,0.1s						
NASN	**Na'in**	**6.80**	**175**	*e*Pn	**Pn**	**12 19 55.4**	**+0.7**
NASN	**Na'in**	**6.80**	**175**	*e*Pn	**Pn**	**12 19 55.4**	**+0.7**
TABS	**Tabas**	**7.19**	**144**	*e*PN5	**Pn**	**12 20 01.6**	**+1.5**
BHD	**Baghdad**	**8.82**	**227**	*ex*	**Pn**	**12 20 24.0**	**+1.5**
BHD	**Baghdad**	**8.82**	**227**	*e*P	**Pn**	**12 20 24.0**	**+1.5**
AB31	**Akbulak array**	**11.19**	**28**	Pn	**Pn**	**12 20 54.1**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=209,slow=13,SNR=7.5						
AB31				Sn	**Sn**	**12 22 54.4**	**-4.7**
	comp=Z,6.6nm,0.7s,baz=215,slow=26,SNR=12						
AB31	**Akbulak array**	**11.19**	**28**	Pn	**Pn**	**12 20 54.1**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=209,SNR=7.5						
AKTO	**Aktyubinsk**	**11.64**	**19**	Pn	**Pn**	**12 21 00.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=201,slow=14,SNR=3.6						
AKTO				Sn	**Sn**	**12 23 04.3**	**-5.7**
	comp=Z,2.0nm,0.3s,baz=199,slow=23,SNR=11						
AKTO	**Aktyubinsk**	**11.64**	**19**	⇓Pn	**Pn**	**12 20 58.0**	**-3.0**
	comp=Z,1.1nm,1.1s						
AKTO				⇑Sn	**Sn**	**12 23 03.3**	**-6.8**
	comp=Z,3.1nm,1.0s						
AKTO	**Aktyubinsk**	**11.64**	**19**	Pn	**Pn**	**12 21 00.1**	**-0.8**
AKT

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.15**	**187**	⇓*i*Pg			**Pb**	**12 23 02.7**	**-0.9**
ERBM							Sg	**12 23 06.7**	**-0.2**
	53µm,0.4s								
ERBM	**Eremo**	**0.15**	**187**	⇓*i*Pg			**Pb**	**12 23 02.7**	**-0.9**
ERBM							Sg	**12 23 06.7**	**-0.2**
	53µm,0.4s								
PRMA	**PARMA**	**0.22**	**336**	⇑*e*Pg			**Pb**	**12 23 04.3**	**-0.1**
PRMA							Sg	**12 23 10.4**	**+2.1**
	8µm,0.5s								
PRMA	**PARMA**	**0.22**	**336**	⇑*e*Pg			**Pb**	**12 23 04.3**	**-0.1**
GSCL	**Gusciola**	**0.24**	**153**	⇓*i*Pg			**Pb**	**12 23 03.5**	**-1.2**
GSCL	**Gusciola**	**0.24**	**153**	⇓*i*Pg			**Pb**	**12 23 03.5**	**-1.2**
VALM	**Valbona**	**0.26**	**212**	P			**Pb**	**12 23 03.6**	**-1.3**
VALM						S	**Sb**	**12 23 07.9**	**-1.3**
GRAM	**Graiana**	**0.28**	**254**	P			**Pb**	**12 23 04.5**	**-0.7**
GRAM						S	**Sb**	**12 23 09.1**	**-0.6**
NOVE	**Novellara**	**0.30**	**40**	⇓*e*Pg			**Pb**	**12 23 05.3**	**-0.3**
NOVE						Sg	**Sb**	**12 23 12.8**	**+2.4**
	26µm,1.0s								
NOVE	**Novellara**	**0.30**	**40**	⇓*e*Pg			**Pb**	**12 23 05.3**	**-0.3**
ZCCA	**Zocca**	**0.44**	**119**	⇑*i*Pg			**Pb**	**12 23 07.5**	**-0.3**
	5µm,0.4s								
ZCCA	**Zocca**	**0.44**	**119**	⇑*i*Pg			**Pb**	**12 23 07.5**	**-0.3**
	5µm,0.4s								
CODM	**Codolo**	**0.46**	**248**	P			**Pb**	**12 23 07.2**	**-0.8**
CODM						S	**Sb**	**12 23 14.1**	**-0.3**
BDI	**Bagni Di Lucca**	**0.52**	**167**	Pg			**Pb**	**12 23 08.1**	**-0.9**
BDI						Sg	**Sb**	**12 23 15.3**	**-0.8**
	7µm,0.3s								
BDI	**Bagni Di Lucca**	**0.52**	**167**	Pg			**Pb**	**12 23 08.1**	**-0.9**
BDI						Sg	**Sb**	**12 23 15.3**	**-0.8**
	7µm,0.3s								
RAVA	**Ravarino**	**0.52**	**68**	⇓*e*Pg			**Pb**	**12 23 10.0**	**+0.9**
	9µm,0.5s								
RAVA	**Ravarino**	**0.52**	**68**	⇓*e*Pg			**Pb**	**12 23 10.0**	**+0.9**
	9µm,0.5s								
PZZT	**Monte Pizzetto**	**0.53**	**145**	⇑*e*Pg			**Pb**	**12 23 07.6**	**-1.7**
PZZT						Sg	**Sb**	**12 23 16.4**	**-0.1**
	3µm,0.3s								
PZZT	**Monte Pizzetto**	**0.53**	**145**	⇑*e*Pg			**Pb**	**12 23 07.6**	**-1.7**
PZZT						Sg	**Sb**	**12 23 16.4**	**-0.1**
	3µm,0.3s								
SBPO	**S.Benedetto Po**	**0.59**	**35**	⇓*e*Pg			**Pb**	**12 23 10.8**	**+0.4**
	3µm,0.3s								
SBPO	**S.Benedetto Po**	**0.59**	**35**	⇓*e*Pg			**Pb**	**12 23 10.8**	**+0.4**
	3µm,0.3s								
FNVD	**Fontana Vidola**	**0.63**	**129**	⇑*e*Pg			**Pb**	**12 23 09.4**	**-1.6**
FNVD	**Fontana Vidola**	**0.63**	**129**	⇑*e*Pg			**Pb**	**12 23 09.4**	**-1.6**
MAIM	**Mastiano**	**0.65**	**177**	Pg			**Pb**	**12 23 10.4**	**-0.9**
MAIM						Sg	**Sb**	**12 23 18.1**	**-1.9**
	2µm,0.6s								
MAIM	**Mastiano**	**0.65**	**177**	Pg			**Pb**	**12 23 10.4**	**-0.9**
MAIM						Sg	**Sb**	**12 23 18.1**	**-1.9**
	2µm,0.6s								
MAIM						S	**Sb**	**12 23 18.7**	**-1.3**
SC2M	**Scurtabo**	**0.67**	**256**	Pg			**Pb**	**12 23 10.7**	**-0.9**
SC2M						Sg	**Sb**	**12 23 20.7**	**+0.3**
	5µm,0.4s								
SC2M	**Scurtabo**	**0.67**	**256**	P			**Pb**	**12 23 10.5**	**-1.1**
SC2M						S	**Sb**	**12 23 19.7**	**-0.7**
SC2M						Sg	**Sb**	**12 23 20.7**	**+0.3**
	5µm,0.4s								
BOB	**Bobbio (Coli)**	**0.73**	**286**	Pg			**Pb**	**12 23 12.7**	**0.0**
	3µm,0.7s								
BOB	**Bobbio (Coli)**	**0.73**	**286**	Pg			**Pb**	**12 23 12.7**	**0.0**
	3µm,0.7s								
FIU	**Minerbio Fiu**	**0.76**	**84**	Pg			**Pb**	**12 23 14.5**	**+1.4**
	12µm,0.4s								
FIU	**Minerbio Fiu**	**0.76**	**84**	Pg			**Pb**	**12 23 14.5**	**+1.4**
	12µm,0.4s								
MTRZ	**Monterenzio**	**0.76**	**104**	Pg			**Pb**	**12 23 14.1**	**+0.9**
	4µm,0.8s								
MTRZ	**Monterenzio**	**0.76**	**104**	Pg			**Pb**	**12 23 14.1**	**+0.9**
	4µm,0.8s								
SEI	**Scarperia**	**0.83**	**127**	Pg			**Pb**	**12 23 12.9**	**-1.5**
	1µm,0.3s								
SEI	**Scarperia**	**0.83**	**127**	Pg			**Pb**	**12 23 12.9**	**-1.5**
	1µm,0.3s								
CRMI	**Carmignano**	**0.86**	**154**	Pg			**Pb**	**12 23 14.1**	**-0.8**
	867nm,0.4s								
CRMI	**Carmignano**	**0.86**	**154**	Pg			**Pb**	**12 23 14.1**	**-0.8**
	867nm,0.4s								
CMPO	**Campotto Po**	**0.98**	**89**	Pg			**Pn**	**12 23 18.4**	**+1.6**
	4µm,0.8s								
CMPO	**Campotto Po**	**0.98**	**89**	Pg			**Pn**	**12 23 18.4**	**+1.6**
	4µm,0.8s								
VMG	**Vicchio**	**1.00**	**127**	Pg			**Pn**	**12 23 15.9**	**-1.2**
	802nm,0.4s								
VMG	**Vicchio**	**1.00**	**127**	Pg			**Pn**	**12 23 15.9**	**-1.2**
	802nm,0.4s								
SALO	**Salr**	**1.05**	**3**	Pg			**Pn**	**12 23 18.4**	**+0.5**
	9µm,0.5s								
SALO	**Salr**	**1.05**	**3**	Pg			**Pn**	**12 23 18.4**	**+0.5**
	9µm,0.5s								
GENL	**Genova Univers**	**1.06**	**262**	P			**Pn**	**12 23 17.0**	**-1.0**
GENL						S	**Sb**	**12 23 29.1**	**-2.7**
FAEN	**Faenza**	**1.07**	**105**	Pg			**Pn**	**12 23 21.0**	**+3.0**
GROG	**Isola di Gorgo**	**1.21**	**199**	⇓*i*Pg			**Pn**	**12 23 19.1**	**-0.8**
GROG	**Isola di Gorgo**	**1.21**	**199**	⇓*i*Pg			**Pn**	**12 23 19.1**	**-0.8**
SFI	**Santa Sofia**	**1.21**	**123**	Pg			**Pn**	**12 23 20.9**	**+0.9**
	2µm,1.2s								
SFI	**Santa Sofia**	**1.21**	**123**	Pg			**Pn**	**12 23 20.9**	**+0.9**
	2µm,1.2s								
CSNT	**Castellina Chi**	**1.25**	**150**	⇑*e*Pg			**Pn**	**12 23 20.3**	**-0.3**
	820nm,0.6s								
CSNT	**Castellina Chi**	**1.25**	**150**	⇑*e*Pg			**Pn**	**12 23 20.3**	**-0.3**
	820nm,0.6s								
MDI	**Monti di Nese**	**1.32**	**337**	⇑*e*Pg			**Pn**	**12 23 22.1**	**+0.7**
	2µm,0.6s								
MDI	**Monti di Nese**	**1.32**	**337**	⇑*e*Pg			**Pn**	**12 23 22.1**	**+0.7**
	2µm,0.6s								
PCP	**Piancastagn**	**1.35**	**270**	Pg			**Pn**	**12 23 23.0**	**+1.0**
	681nm,0.6s								
PCP	**Piancastagn**	**1.35**	**270**	P			**Pn**	**12 23 22.0**	**0.0**
PCP	**Piancastagn**	**1.35**	**270**	Pg			**Pn**	**12 23 23.0**	**+1.0**
	681nm,0.6s								
PCP						S	**Sn**	**12 23 37.9**	**-1.2**
CRE	**Caprese Michel**	**1.44**	**130**	Pg			**Pn**	**12 23 23.9**	**+0.7**
	351nm,0.6s								
CRE	**Caprese Michel**	**1.44**	**130**	Pg			**Pn**	**12 23 23.9**	**+0.7**
	351nm,0.6s								
MABI	**Malga Bissina**	**1.49**	**2**	⇓*i*Pg			**Pn**	**12 23 24.6**	**+0.8**
	669nm,0.4s								
MABI	**Malga Bissina**	**1.49**	**2**	⇓*i*Pg			**Pn**	**12 23 24.6**	**+0.8**
	669nm,0.4s								
RSM	**Repubblica di**	**1.58**	**113**	Pg			**Pn**	**12 23 27.2**	**+2.1**
	403nm,1.4s								
RSM	**Repubblica di**	**1.58**	**113**	Pg			**Pn**	**12 23 27.2**	**+2.1**
	403nm,1.4s								
PARC	**Parchiule**	**1.59**	**125**	Pg			**Pn**	**12 23 26.5**	**+1.3**
	526nm,0.9s								
PARC	**Parchiule**	**1.59**	**125**	Pg			**Pn**	**12 23 26.5**	**+1.3**
	526nm,0.9s								
BADI	**Badiali**	**1.68**	**128**	Pg			**Pn**	**12 23 27.7**	**+1.3**
	412nm,0.7s								
BADI	**Badiali**	**1.68**	**128**	Pg			**Pn**	**12 23 27.7**	**+1.3**
	412nm,0.7s								
CDCA	**Citt' di Caste**	**1.70**	**130**	Pg			**Pn**	**12 23 27.8**	**+1.0**
	365nm,0.8s								
CDCA	**Citt' di Caste**	**1.70**	**130**	Pg			**Pn**	**12 23 27.8**	**+1.0**
	365nm,0.8s								
CTI	**Castel Tesino**	**1.71**	**30**	⇓*e*Pg			**Pn**	**12 23 26.9**	**0.0**
	849nm,0.5s								
RORO	**Rocca Rossa**	**1.76**	**256**	Pg			**Pn**	**12 23 27.7**	**+0.1**
	210nm,0.3s								
PIEI	**Pieia**	**1.83**	**124**	Pg			**Pn**	**12 23 30.2**	**+1.7**
	236nm,0.7s								
PIEI	**Pieia**	**1.83**	**124**	Pg			**Pn**	**12 23 30.2**	**+1.7**
	236nm,0.7s								
PESA	**Pesaro**	**1.84**	**109**	Pg			**Pn**	**12 23 29.8**	**+1.2**
	660nm,0.8s								
BERNI	**Berninapass**	**1.87**	**351**	⇑*i*P			**Pn**	**12 23 30.4**	**+1.3**
	1µm,0.5s								
BERNI	**Berninapass**	**1.87**	**351**	⇑*i*P			**Pn**	**12 23 30.4**	**+1.3**
BERNI	**Berninapass**	**1.87**	**351**	Pg			**Pn**	**12 23 30.5**	**+1.4**
BERNI	**Berninapass**	**1.87**	**351**	⇑*i*P			**Pn**	**12 23 30.4**	**+1.3**
	1µm,0.5s								
FSSB	**Fossombrone**	**1.90**	**117**	Pg			**Pn**	**12 23 29.9**	**+0.5**
	353nm,0.8s								
BRMO	**Bormio**	**1.91**	**359**	Pg			**Pn**	**12 23 31.0**	**+1.4**
	389nm,0.9s								
APPI	**Appiano**	**1.99**	**16**	⇓*e*Pg			**Pn**	**12 23 31.7**	**+1.0**
MURB	**Monte Urbino**	**1.99**	**130**	Pg			**Pn**	**12 23 31.3**	**+0.6**
	817nm,0.7s								
SACS	**San Casciano d**	**2.02**	**148**	Pg			**Pn**	**12 23 31.3**	**+0.2**
VDL	**Val di Lei**	**2.04**	**340**	⇑*i*P			**Pn**	**12 23 31.7**	**+0.3**
	1µm,0.7s								
VDL	**Val di Lei**	**2.04**	**340**	⇑*i*P			**Pn**	**12 23 31.7**	**+0.3**
VDL	**Val di Lei**	**2.04**	**340**	⇑*i*P			**Pn**	**12 23 31.7**	**+0.3**
	1µm,0.7s								
TUE	**Stuetta**	**2.06**	**338**	*e*Pn			**Pn**	**12 23 32.9**	**+1.3**
TUE				*e*Sn			**Sn**	**12 23 59.2**	**+2.8**
TUE	**Stuetta**	**2.06**	**338**	⇑*e*Pg			**Pn**	**12 23 33.1**	**+1.5**
	391nm,0.5s								
TUE	**Stuetta**	**2.06**	**338**	*e*Pn			**Pn**	**12 23 32.9**	**+1.3**
TUE				*e*Sn			**Sn**	**12 23 59.2**	**+2.8**
AGOR	**Agordo**	**2.06**	**33**	Pg			**Pn**	**12 23 31.9**	**+0.3**
	458nm,0.4s								
FUORN	**Ofenpass-Fuorn**	**2.06**	**357**	*e*P			**Pn**	**12 23 33.7**	**+2.1**
	1µm,0.6s								
FUORN	**Ofenpass-Fuorn**	**2.06**	**357**	*e*P			**Pn**	**12 23 33.7**	**+2.1**
FUORN	**Ofenpass-Fuorn**	**2.06**	**357**	Pg			**Pn**	**12 23 33.7**	**+2.1**
FUORN	**Ofenpass-Fuorn**	**2.06**	**357**	*e*P			**Pn**	**12 23 33.7**	**+2.1**
	1µm,0.6s								
TRAV	**Traversella**	**2.13**	**297**	⇑*e*Pg			**Pn**	**12 23 32.3**	**-0.3**
	272nm,0.7s								
SAOF	**Saorge**	**2.15**	**255**	P			**Pn**	**12 23 33.3**	**+0.4**
SAOF						S	**Sn**	**12 24 02.6**	**+3.8**
SAOF	**Saorge**	**2.15**	**255**	P			**Pn**	**12 23 33.3**	**+0.4**
SAOF						S	**Sn**	**12 24 02.6**	**+3.8**
MAON	**Monte Argentar**	**2.20**	**166**	Pg			**Pn**	**12 23 33.9**	**+0.4**
	150nm,0.9s								
AUTN	**L'Aution**	**2.24**	**256**	P			**Pn**	**12 23 35.2**	**+1.1**
AUTN						S	**Sn**	**12 24 05.8**	**+4.9**
AUTN	**L'Aution**	**2.24**	**256**	P			**Pn**	**12 23 35.2**	**+1.1**
AUTN						S	**Sn**	**12 24 05.8**	**+4.9**
DAVOX	**Davos/Dischmat**	**2.25**	**350**	Pn			**Pn**	**12 23 36.6**	**+2.4**
	21nm,0.3s,baz=234,slow=22,SNR=125								
DAVOX						Sn	**Sn**	**12 24 04.3**	**+3.1**
	28nm,0.3s,baz=134,slow=23,SNR=16								
DAVOX	**Davos/Dischmat**	**2.25**	**350**	⇑*i*P			**Pn**	**12 23 36.4**	**+2.1**
	1µm,0.8s								
DAVOX	**Davos/Dischmat**	**2.25**	**350**	⇑*i*P			**Pn**	**12 23 36.4**	**+2.1**
DAVOX						Sn	**Sn**	**12 24 04.3**	**+3.1**
DAVOX	**Davos/Dischmat**	**2.25**	**350**	⇑*e*Pg			**Pn**	**12 23 36.6**	**+2.3**
DAVOX	**Davos/Dischmat**	**2.25**	**350**	⇑*i*P			**Pn**	**12 23 36.4**	**+2.1**
	1µm,0.8s								
DAVOX						Sn	**Sn**	**12 24 04.3**	**+3.1**
STV	**Sant Anna di V**	**2.25**	**263**	⇑*e*Pg			**Pn**	**12 23 35.3**	**+1.0**
	364nm,0.5s								
FUSIO	**Fusio**	**2.26**	**327**	⇑*i*P			**Pn**	**12 23 34.2**	**-0.3**
	1µm,0.5s								
FUSIO	**Fusio**	**2.26**	**327**	⇑*i*P			**Pn**	**12 23 34.2**	**-0.3**
FUSIO	**Fusio**	**2.26**	**327**	⇑*e*Pg			**Pn**	**12 23 35.2**	**+0.7**
FUSIO	**Fusio**	**2.26**	**327**	⇑*i*P			**Pn**	**12 23 34.2**	**-0.3**
	1µm,0.5s								
SBF	**Sospel**	**2.27**	**253**	*e*Pn			**Pn**	**12 23 34.5**	**-0.1**
SBF				*e*Sn			**Sn**	**12 24 02.0**	**+0.2**
	636nm,0.5s								
SBF	**Sospel**	**2.27**	**253**	*e*Pn			**Pn**	**12 23 34.5**	**-0.1**
SBF				*e*Sn			**Sn**	**12 24 02.0**	**+0.2**
SBF	**Sospel**	**2.27**	**253**	*e*Pn			**Pn**	**12 23 34.5**	**-0.1**
SBF				*e*Sn			**Sn**	**12 24 02.0**	**+0.2**
	318nm,0.5s								
PGF	**Pioggiola**	**2.27**	**208**	*e*Pn			**Pn**	**12 23 33.9**	**-0.7**
PGF				*e*Sn			**Sn**	**12 24 01.2**	**-0.6**
	110nm,0.4s								
PGF	**Pioggiola**	**2.27**	**208**	*e*Pn			**Pn**	**12 23 33.9**	**-0.7**
PGF				*e*Sn			**Sn**	**12 24 01.2**	**-0.6**
PGF	**Pioggiola**	**2.27**	**208**	*e*Pn			**Pn**	**12 23 33.9**	**-0.7**
PGF				*e*Sn			**Sn**	**12 24 01.2**	**-0.6**
	55nm,0.4s								
MMK	**Mattmark**	**2.29**	**311**	*e*P			**Pn**	**12 23 35.2**	**+0.3**
	473nm,0.7s								
MMK	**Mattmark**	**2.29**	**311**	*e*P			**Pn**	**12 23 35.2**	**+0.3**
MMK	**Mattmark**	**2.29**	**311**	*e*P			**Pn**	**12 23 35.2**	**+0.3**
	473nm,0.7s								
TOUF	**Mont Tournerai**	**2.36**	**258**	P			**Pn**	**12 23 37.2**	**+1.5**
TOUF	**Mont Tournerai**	**2.36**	**258**	P			**Pn**	**12 23 37.2**	**+1.5**
TOUF						S	**Sn**	**12 24 09.1**	**+5.2**
REVF	**Revere**	**2.36**	**251**	P			**Pn**	**12 23 36.0**	**+0.2**
REVF	**Revere**	**2.36**	**251**	P			**Pn**	**12 23 36.0**	**+0.2**
MVIF	**Mont Vial**	**2.46**	**255**	P			**Pn**	**12 23 38.2**	**+1.1**
MVIF						S	**Sn**	**12 24 11.3**	**+5.0**
MVIF	**Mont Vial**	**2.46**	**255**	P			**Pn**	**12 23 38.2**	**+1.1**
MVIF						S	**Sn**	**12 24 11.3**	**+5.0**
FETA	**Feichten**	**2.46**	**5**	Pn			**Pn**	**12 23 39.7**	**+2.4**
	SNR=35								
LLS	**Linth-Limmern**	**2.49**	**337**	⇑*i*P			**Pn**	**12 23 39.0**	**+1.4**
	482nm,0.8s								
LLS	**Linth-Limmern**	**2.49**	**337**	⇑*i*P			**Pn**	**12 23 39.0**	**+1.4**
LSD	**Lago del Serru**	**2.51**	**292**	Pg			**Pn**	**12 23 37.2**	**-0.6**
SURF	**Saint Ours**	**2.59**	**269**	P			**Pn**	**12 23 39.4**	**+0.4**
SURF	**Saint Ours**	**2.59**	**269**	P			**Pn**	**12 23 39.4**	**+0.4**
FVI	**Forni Avoltri**	**2.61**	**38**	Pg			**Pn**	**12 23 39.7**	**+0.4**
	201nm,0.5s								
TRI	**Trieste**	**2.62**	**63**	*e*Pn			**Pn**	**12 23 38.5**	**-0.8**
TRI				*e*Sn			**Sn**	**12 24 09.2**	**-1.1**
TRI	**Trieste**	**2.62**	**63**	⇓*i*Pg			**Pn**	**12 23 38.6**	**-0.7**
TRI	**Trieste**	**2.62**	**63**	*e*Pn			**Pn**	**12 23 38.5**	**-0.8**
TRI				*e*Sn			**Sn**	**12 24 09.2**	**-1.1**
VINO	**Villanova**	**2.62**	**49**	Pg			**Pn**	**12 23 38.9**	**-0.5**
	266nm,0.7s								
ABTA	**Abfaltersbach**	**2.62**	**33**	*e*Pn			**Pn**	**12 23 40.6**	**+1.2**
	SNR=71								
ABTA	**Abfaltersbach**	**2.62**	**33**	*e*Pn			**Pn**	**12 23 40.6**	**+1.2**
ABTA	**Abfaltersbach**	**2.62**	**33**	Pn			**Pn**	**12 23 40.6**	**+1.2**
	SNR=71								
MBDF	**Montbardon**	**2.62**	**275**	*e*Pn			**Pn**	**12 23 39.4**	**0.0**
MBDF				*e*Sn			**Sn**	**12 24 08.9**	**-1.5**
	183nm,0.6s								
MBDF	**Montbardon**	**2.62**	**275**	*e*Pn			**Pn**	**12 23 39.4**	**0.0**
MBDF				*e*Sn			**Sn**	**12 24 08.9**	**-1.5**
MBDF	**Montbardon**	**2.62**	**275**	*e*Pn			**Pn**	**12 23 39.4**	**0.0**
MBDF				*e*Sn			**Sn**	**12 24 08.9**	**-1.5**
	91nm,0.6s								
SABO	**M.te Sabotino**	**2.64**	**57**	⇓*i*Pg			**Pn**	**12 23 39.6**	**-0.1**
	484nm,0.5s								
CALN	**Calern**	**2.68**	**254**	P			**Pn**	**12 23 41.4**	**+1.2**
CALN	**Calern**	**2.68**	**254**	P			**Pn**	**12 23 41.4**	**+1.2**
SKDS	**Skadanscina**	**2.72**	**68**	*i* Pn			**Pn**	**12 23 39.9**	**-0.8**
SKDS				*i*				12 23 46.2	
SKDS				*i*				12 23 48.6	
SKDS				*i* Sn			**Sn**	**12 24 11.0**	**-1.8**
SKDS									
	comp=Z,226nm,0.4s								
SKDS	**Skadanscina**	**2.72**	**68**	Pn			**Pn**	**12 23 39.9**	**-0.8**
SKDS				*i* Sn			**Sn**	**12 24 11.0**	**-1.8**
	comp=Z,226nm,0.4s								
BNI	**Bardonecchia**	**2.72**	**282**	*e*Pn			**Pn**	**12 23 42.1**	**+1.4**
BNI				*e*Sn			**Sn**	**12 24 16.4**	**+3.6**
BNI	**Bardonecchia**	**2.72**	**282**	*e*Pn			**Pn**	**12 23 42.1**	**+1.4**
BNI				*e*Sn			**Sn**	**12 24 16.4**	**+3.6**
DAVA	**Damuels**	**2.75**	**352**	Pn			**Pn**	**12 23 43.8**	**+2.6**
	SNR=14								
LPG	**La Plagne**	**2.77**	**291**	*e*Pn			**Pn**	**12 23 41.3**	**-0.2**
LPG				*e*Sn			**Sn**	**12 24 12.4**	**-1.8**
	comp=Z,203nm,0.6s								
LPG	**La Plagne**	**2.77**	**291**	*e*Pn			**Pn**	**12 23 41.3**	**-0.2**
LPG				*e*Sn			**Sn**	**12 24 12.4**	**-1.8**
LPG	**La Plagne**	**2.77**	**291**	*e*Pn			**Pn**	**12 23 41.3**	**-0.2**
LPG				*e*Sn			**Sn**	**12 24 12.4**	**-1.8**
	comp=Z,102nm,0.6s								
LPL	**La Plagne**	**2.79**	**291**	*e*Pn			**Pn**	**12 23 41.9**	**+0.2**
LPL				*e*Sn			**Sn**	**12 24 12.8**	**-1.8**
	comp=Z,135nm,0.5s								
LPL	**La Plagne**	**2.79**	**291**	*e*Pn			**Pn**	**12 23 41.9**	**+0.2**
LPL				*e*Sn			**Sn**	**12 24 12.8**	**-1.8**
LPL	**La Plagne**	**2.79**	**291**	*e*Pn			**Pn**	**12 23 41.9**	**+0.2**
LPL				*e*Sn			**Sn**	**12 24 12.8**	**-1.8**
	comp=Z,68nm,0.5s								
MOTA	**Moosalm**	**2.82**	**9**	Pn			**Pn**	**12 23 44.9**	**+2.8**
	SNR=87								
WTTA	**Wattenberg**	**2.83**	**17**	Pn			**Pn**	**12 23 43.9**	**+1.7**
	SNR=163								
VOJS	**Vojsko**	**2.84**	**58**	*i* Pn			**Pn**	**12 23 42.1**	**-0.3**
VOJS									
	comp=Z,146nm,0.3s								
VOJS	**Vojsko**	**2.84**	**58**	*i* Pn			**Pn**	**12 23 42.1**	**-0.3**
	comp=Z,146nm,0.3s								
VOY	**Vojsko**	**2.84**	**58**	*e*Sn			**Sn**	**12 24 14.8**	**-1.1**
VOY	**Vojsko**	**2.84**	**58**	*e*Sn			**Sn**	**12 24 14.8**	**-1.1**
CADS	**Cadrg**	**2.86**	**53**	*i* Pn			**Pn**	**12 23 42.2**	**-0.4**
CADS	**Cadrg**	**2.86**	**53**	*i* Pn			**Pn**	**12 23 42.2**	**-0.4**
WATA	**Walderalm**	**2.88**	**16**	Pn			**Pn**	**12 23 44.9**	**+1.9**
	SNR=89								
JAVS	**Javornik**	**2.89**	**61**	*i* Pn			**Pn**	**12 23 42.6**	**-0.5**
JAVS	**Javornik**	**2.89**	**61**	*i* Pn			**Pn**	**12 23 42.6**	**-0.4**
FRF	**La Foret Royal**	**2.91**	**251**	*e*Pn			**Pn**	**12 23 43.2**	**-0.2**
FRF				*e*Sn			**Sn**	**12 24 17.6**	**0.0**
	comp=Z,221nm,0.3s								
FRF	**La Foret Royal**	**2.91**	**251**	*e*Pn			**Pn**	**12 23 43.2**	**-0.2**
FRF				*e*Sn			**Sn**	**12 24 17.6**	**0.0**
FRF	**La Foret Royal**	**2.91**	**251**	*e*Pn			**Pn**	**12 23 43.2**	**-0.2**
FRF				*e*Sn			**Sn**	**12 24 17.6**	**0.0**
	comp=Z,111nm,0.3s								
RSL	**Roselend**	**2.92**	**294**	P			**Pn**	**12 23 45.1**	**+1.6**
RSL	**Roselend**	**2.92**	**294**	P			**Pn**	**12 23 45.1**	**+1.6**
RETA	**Reutte**	**2.93**	**4**	Pn			**Pn**	**12 23 45.9**	**+2.3**
	SNR=85								
ACOM	**Acomizza, Ital**	**2.93**	**46**	Pg			**Pn**	**12 23 43.8**	**+0.2**
	comp=Z,298nm,0.4s								
KNDS	**Knezji Dol**	**2.96**	**70**	*i* Pn			**Pn**	**12 23 43.4**	**-0.6**
KNDS	**Knezji Dol**	**2.96**	**70**	*i* Pn			**Pn**	**12 23 43.4**	**-0.6**
CAMP	**Campotosto**	**2.96**	**132**	Pg			**Pn**	**12 23 45.5**	**+1.4**
	comp=Z,30nm,0.9s								
TERO	**Teramo**	**3.01**	**129**	Pg			**Pn**	**12 23 46.5**	**+1.8**
	comp=Z,134nm,0.6s								
OSPF	**L'Ospedale**	**3.04**	**198**	P			**Pn**	**12 23 45.3**	**+0.1**
OSPF	**L'Ospedale**	**3.04**	**198**	P			**Pn**	**12 23 45.3**	**+0.1**
GORS	**Gorjuse**	**3.06**	**54**	*i* Pn			**Pn**	**12 23 45.0**	**-0.3**
GORS	**Gorjuse**	**3.06**	**54**	*i* Pn			**Pn**	**12 23 45.0**	**-0.3**
AQU	**L'Aquila**	**3.09**	**135**	*e*Pn			**Pn**	**12 23 48.5**	**+2.7**
AQU	**L'Aquila**	**3.09**	**135**	*e*Pn			**Pn**	**12 23 48.5**	**+2.7**
CRNS	**Crni Vrh**	**3.09**	**59**	*i* Pn			**Pn**	**12 23 45.6**	**-0.3**
LMR	**La Mourre**	**3.09**	**248**	*e*Pn			**Pn**	**12 23 45.3**	**-0.6**
LMR				*e*Sn			**Sn**	**12 24 21.1**	**-0.9**
	comp=Z,179nm,0.3s								
LMR	**La Mourre**	**3.09**	**248**	*e*Pn			**Pn**	**12 23 45.3**	**-0.6**
LMR				*e*Sn			**Sn**	**12 24 21.1**	**-0.9**
LMR	**La Mourre**	**3.09**	**248**	*e*Pn			**Pn**	**12 23 45.3**	**-0.6**
LMR				*e*Sn			**Sn**	**12 24 21.1**	**-0.9**
	comp=Z,89nm,0.3s								
GDM	**Grand'Maison**	**3.14**	**283**	P			**Pn**	**12 23 48.6**	**+2.1**
GDM	**Grand'Maison**	**3.14**

LASF *e*Sn **Sn** **12 25 00.1 -2.7**
LASF Ste Croix 4.75 266 *e*Pn **Pn** **12 24 08.7 +0.1**
LASF *e*Sn **Sn** **12 25 00.1 -2.7**
comp=Z,9.9nm,0.4s
LANF Langenberg 4.77 339 P **Pn** **12 24 08.7 -0.2**
LANF Langenberg 4.77 339 P **Pn** **12 24 08.7 -0.2**
THEF They Montfort 4.78 322 P **Pn** **12 24 09.9 +0.8**
THEF They Montfort 4.78 322 P **Pn** **12 24 09.9 +0.8**
GERES GERESS Array B 4.83 27 Pn **Pn** **12 24 09.7 0.0**
comp=Z,3.0nm,0.3s,baz=203,slow=13,SNR=96
GERES Sn **Sn** **12 25 03.8 -1.1**
comp=Z,11nm,0.3s,baz=201,slow=23,SNR=14
GERES LR LR 12 26 17.8
comp=Z,85nm,19.9s,baz=263,slow=42
GERES GERESS Array B 4.83 27 Pn **Pn** **12 24 09.7 0.0**
GERES Sn **Sn** **12 25 03.8 -1.1**
GERES GERESS Array B 4.83 27 Pn **Pn** **12 24 09.7 -0.1**
GERES GERESS Array B 4.83 27 Sn **Sn** **12 25 03.8 -1.1**
CONA Conrad Observa 5.04 46⇓ *i*Pn **Pn** **12 24 12.7 0.0**
SNR=25
CONA Conrad Observa 5.04 46 Pn **Pn** **12 24 12.7 0.0**
CONA Conrad Observa 5.04 46 Pn **Pn** **12 24 12.7 0.0**
SNR=25
KHC Kasperske Hory 5.05 24 *e*Pn **Pn** **12 24 12.8 +0.1**
KHC *e*Sn **Sn** **12 25 08.0 -2.2**
KHC Kasperske Hory 5.05 24 *e*PN **Pn** **12 24 12.9 +0.2**
KHC *ex* x 12 24 35.0
KHC *e*SN **Sn** **12 25 08.0 -2.2**
KHC *ex* x 12 25 25.5
KHC *e*SG Sn 12 25 36.5 +26
comp=Z,63nm,0.9s
KHC Kasperske Hory 5.05 24 Pn **Pn** **12 24 12.9 +0.2**
KHC Sn **Sn** **12 25 08.0 -2.2**
KHC Sg Sn 12 25 36.5 +26
comp=Z,63nm,0.9s
SMF Signal de Mont 5.07 297 *e*Pn **Pn** **12 24 13.1 0.0**
SMF *e*Sn **Sn** **12 25 05.0 -5.9**
comp=Z,58nm,0.4s
SMF Signal de Mont 5.07 297 *e*Pn **Pn** **12 24 13.1 0.0**
SMF *e*Sn **Sn** **12 25 05.0 -5.9**
SMF Signal de Mont 5.07 297 *e*Pn **Pn** **12 24 13.1 0.0**
VSL Villasalto 5.13 189 *e*Pn **Pn** **12 24 14.5 +0.7**
comp=Z,9.8nm,0.5s
VSL *e*Sn **Sn** **12 25 12.7 +0.5**
VSL Villasalto 5.13 189 *e*Pn **Pn** **12 24 14.5 +0.7**
comp=Z,9.8nm,0.5s
VSL *e*Sn **Sn** **12 25 12.7 +0.5**
PAGF Fort de Pagny 5.14 323 *e*Pn **Pn** **12 24 14.5 +0.4**
baz=144
PAGF Fort de Pagny 5.14 323 *e*Pn **Pn** **12 24 14.5 +0.4**
PAGF Fort de Pagny 5.14 323 *e*Pn **Pn** **12 24 14.5 +0.4**
baz=144
SFTF Sexfontaines 5.21 316 *e*Pn **Pn** **12 24 15.3 +0.3**
baz=130
SFTF Sexfontaines 5.21 316 *e*Pn **Pn** **12 24 15.3 +0.3**
SFTF Sexfontaines 5.21 316 *e*Pn **Pn** **12 24 15.3 +0.3**
baz=130
SOP Sopron 5.27 52⇑ *e*Pn **Pn** **12 24 16.3 +0.5**
SOP *e*Sn **Sn** **12 25 14.5 -1.3**
SOP Sopron 5.27 52⇑ *e*Pn **Pn** **12 24 16.3 +0.5**
SOP *e*Sn **Sn** **12 25 14.5 -1.3**
LOR Lormes 5.33 303 *e*Pn **Pn** **12 24 16.5 0.0**
baz=122
LOR *e*Sn **Sn** **12 25 16.1 -1.0**
comp=Z,84nm,0.5s
LOR Lormes 5.33 303 *e*Pn **Pn** **12 24 16.5 0.0**
LOR *e*Sn **Sn** **12 25 16.1 -1.0**
LOR Lormes 5.33 303 *e*Pn **Pn** **12 24 16.5 0.0**
baz=122
LOR *e*Sn **Sn** **12 25 16.1 -1.0**
comp=Z,42nm,0.5s
MEZF Maizieres J'vi 5.41 319 *e*Pn **Pn** **12 24 18.3 +0.6**
baz=141
MEZF *e*Sn **Sn** **12 25 14.2 -5.0**
comp=Z,21nm,0.5s
MEZF Maizieres J'vi 5.41 319 *e*Pn **Pn** **12 24 18.3 +0.6**
MEZF *e*Sn **Sn** **12 25 14.2 -5.0**
MEZF Maizieres J'vi 5.41 319 *e*Pn **Pn** **12 24 18.3 +0.6**
baz=141
AVF Avril sur Loir 5.44 297 *e*Pn **Pn** **12 24 17.3 -0.8**
AVF *e*Sn **Sn** **12 25 17.1 -2.8**
comp=Z,12nm,0.6s
AVF Avril sur Loir 5.44 297 *e*Pn **Pn** **12 24 17.3 -0.8**
AVF *e*Sn **Sn** **12 25 17.1 -2.8**
AVF Avril sur Loir 5.44 297 *e*Pn **Pn** **12 24 17.3 -0.8**
SSF Saint Saulge 5.45 300 *e*Pn **Pn** **12 24 17.8 -0.4**
SSF *e*Sn **Sn** **12 25 16.8 -3.3**
comp=Z,19nm,0.4s
SSF Saint Saulge 5.45 300 *e*Pn **Pn** **12 24 17.8 -0.4**
SSF *e*Sn **Sn** **12 25 16.8 -3.3**
SSF Saint Saulge 5.45 300 *e*Pn **Pn** **12 24 17.8 -0.4**
STON Ston 5.53 105 *e*Pn **Pn** **12 24 18.4 -1.0**
STON Sn **Sn** **12 25 18.3 -3.8**
STON Ston 5.53 105 *e*Pn **Pn** **12 24 18.3 -1.0**
RUP Ruppelstein 5.63 337 P **Pn** **12 24 20.0 -0.7**
BGF Bois d'Agland 5.69 293 *e*Pn **Pn** **12 24 21.3 -0.2**
BGF *e*Sn **Sn** **12 25 22.3 -3.7**
comp=Z,52nm,0.5s
BGF Bois d'Agland 5.69 293 *e*Pn **Pn** **12 24 21.3 -0.2**
BGF *e*Sn **Sn** **12 25 22.3 -3.7**
BGF Bois d'Agland 5.69 293 *e*Pn **Pn** **12 24 21.3 -0.2**
NKC Novy Kostel 5.83 13 *e*PN **Pn** **12 24 22.5 -1.0**
NKC *e*SN **Sn** **12 25 26.4 -3.1**
NKC Novy Kostel 5.83 13 Pn **Pn** **12 24 22.5 -1.0**
CAF Calviac 5.97 276 *e*Pn **Pn** **12 24 25.7 +0.2**
CAF *e*Sn **Sn** **12 25 31.9 -1.2**
comp=Z,9.3nm,0.6s
CAF Calviac 5.97 276 *e*Pn **Pn** **12 24 25.7 +0.2**
CAF *e*Sn **Sn** **12 25 31.9 -1.2**
CAF Calviac 5.97 276 *e*Pn **Pn** **12 24 25.7 +0.2**
CAF *e*Sn **Sn** **12 25 31.9 -1.2**
comp=Z,4.7nm,0.6s
PKSM Moragy 6.01 71 *e*Pn **Pn** **12 24 25.1 -0.8**
TCF Toulx Ste Croi 6.04 289 *e*Pn **Pn** **12 24 26.6 +0.2**
TCF Toulx Ste Croi 6.04 289 *e*Pn **Pn** **12 24 26.6 +0.2**
TCF Toulx Ste Croi 6.04 289 *e*Pn **Pn** **12 24 26.6 +0.2**
MTLF Montolieu 6.06 261 *e*Pn **Pn** **12 24 27.2 +0.6**
MTLF *e*Sn **Sn** **12 25 32.4 -2.7**
comp=Z,22nm,0.4s
MTLF Montolieu 6.06 261 *e*Pn **Pn** **12 24 27.2 +0.6**
MTLF *e*Sn **Sn** **12 25 32.4 -2.7**
MTLF Montolieu 6.06 261 *e*Pn **Pn** **12 24 27.2 +0.6**
FILF Fillols 6.06 253 P **Pn** **12 24 29.1 +2.4**
FILF Fillols 6.06 253 P **Pn** **12 24 29.1 +2.4**
HYF Humbligny 6.07 299 *e*Pn **Pn** **12 24 26.3 -0.5**
HYF *e*Sn **Sn** **12 25 29.3 -6.2**
HYF Humbligny 6.07 299 *e*Pn **Pn** **12 24 26.3 -0.5**
HYF *e*Sn **Sn** **12 25 29.3 -6.2**
HYF Humbligny 6.07 299 *e*Pn **Pn** **12 24 26.3 -0.5**
PRU Pruhonice 6.10 26 *e*PN **Pn** **12 24 27.0 -0.2**
PRU *e*SN **Sn** **12 25 33.2 -2.9**
PRU Pruhonice 6.10 26 Pn **Pn** **12 24 27.0 -0.2**
PKSG 6.22 60 *e*Pn **Pn** **12 24 27.7 -1.1**
PKSG *e*Sn **Sn** **12 25 37.7 -1.4**
SMOL Smolenice 6.23 48 *e*PN **Pn** **12 24 28.7 -0.3**
SMOL Smolenice 6.23 48 *e*Pn **Pn** **12 24 28.7 -0.3**
CARF Carcanieres 6.32 256 P **Pn** **12 24 31.3 +1.1**
CARF Carcanieres 6.32 256 P **Pn** **12 24 31.3 +1.1**
VRAC Vranov 6.34 39 Pn **Pn** **12 24 29.6 -0.9**
comp=Z,0.7nm,0.3s,baz=210,slow=16,SNR=7.9
VRAC Sn **Sn** **12 25 40.0 -2.1**
comp=Z,1.0nm,0.3s,baz=287,slow=17,SNR=5.3
VRAC Vranov 6.34 39 Pn **Pn** **12 24 29.6 -0.9**
VRAC Sn **Sn** **12 25 40.0 -2.1**
VRAC Vranov 6.34 39 Pn **Pn** **12 24 29.6 -0.9**
VRAC Sn **Sn** **12 25 40.0 -2.1**
RJF Les Rejaudoux 6.38 280 *e*Pn **Pn** **12 24 31.9 +0.9**
RJF *e*Sn **Sn** **12 25 39.3 -3.6**
comp=Z,14nm,0.7s
RJF Les Rejaudoux 6.38 280 *e*Pn **Pn** **12 24 31.9 +0.9**
RJF *e*Sn **Sn** **12 25 39.3 -3.6**
RJF Les Rejaudoux 6.38 280 *e*Pn **Pn** **12 24 31.9 +0.9**
VALF Valcebollere 6.50 253 P **Pn** **12 24 34.8 +2.2**
VALF Valcebollere 6.50 253 P **Pn** **12 24 34.8 +2.2**
GIVF Givet 6.72 327 *e*Pn **Pn** **12 24 35.6 -0.1**
GIVF *e*Sn **Sn** **12 25 47.2 -4.3**
comp=Z,12nm,0.6s
GIVF Givet 6.72 327 *e*Pn **Pn** **12 24 35.6 -0.1**
GIVF *e*Sn **Sn** **12 25 47.2 -4.3**
GIVF Givet 6.72 327 *e*Pn **Pn** **12 24 35.6 -0.1**
BRG Berggiesshubel 6.74 19 PN **Pn** **12 24 36.5 +0.6**
comp=Z,5.3nm,0.4s
BRG PG Pn 12 25 08.0 +32

BRG SN **Sn** **12 25 48.6 -3.2**
BRG SG Sn 12 26 34.2 +42
comp=Z,20nm,1.1s
KOLL Kolacno 6.80 51 *e*PN **Pn** **12 24 35.1 -1.6**
KOLL *e*SN **Sn** **12 25 50.0 -3.3**
KOLL Kolacno 6.80 51 *e*Pn **Pn** **12 24 35.1 -1.6**
LFF La Frestale 6.92 276 *e*Pn **Pn** **12 24 38.7 +0.3**
LFF *e*Sn **Sn** **12 25 50.3 -5.9**
comp=Z,12nm,0.7s
LFF La Frestale 6.92 276 *e*Pn **Pn** **12 24 38.7 +0.3**
LFF *e*Sn **Sn** **12 25 50.3 -5.9**
LFF La Frestale 6.92 276 *e*Pn **Pn** **12 24 38.7 +0.3**
BAIF Baives 6.94 325 *e*Pn **Pn** **12 24 38.1 -0.5**
BAIF *e*Sn **Sn** **12 25 51.6 -5.1**
comp=Z,7.3nm,0.5s
BAIF Baives 6.94 325 *e*Pn **Pn** **12 24 38.1 -0.5**
BAIF *e*Sn **Sn** **12 25 51.6 -5.1**
BAIF Baives 6.94 325 *e*Pn **Pn** **12 24 38.1 -0.5**
CLL Collm 6.96 13 *e*Pn **Pn** **12 24 38.0 -1.0**
CLL *e*Pg Pn 12 25 12.0 +33
CLL *e*Sn **Sn** **12 25 53.0 -4.3**
CLL *e*Sg Sn 12 26 38.0 +41
comp=Z,42nm,1.3s
KRLC Kraliky 7.00 36 *e*PN **Pn** **12 24 39.1 -0.3**
KRLC Kraliky 7.00 36 Pn **Pn** **12 24 39.1 -0.3**
VYHS Vyhne 7.00 53 *e*PN **Pn** **12 24 38.5 -1.0**
VYHS *e*SN **Sn** **12 25 53.2 -5.0**
VYHS Vyhne 7.00 53 *e*Pn **Pn** **12 24 38.5 -1.0**
DPC Dobruska-Polom 7.03 32 *e*PN **Pn** **12 24 38.9 -1.0**
DPC Dobruska-Polom 7.03 32 Pn **Pn** **12 24 38.9 -1.0**
UPC Upice 7.04 30 *e*PN **Pn** **12 24 39.4 -0.6**
UPC Upice 7.04 30 Pn **Pn** **12 24 39.4 -0.6**
IVAS Ivanjica 7.07 95 *e*Pn **Pn** **12 24 41.5 +1.0**
MORC Moravsky Berou 7.11 40 *e*Pn **Pn** **12 24 40.6 -0.4**
comp=Z,3.3nm,0.7s
MORC *e*Sn **Sn** **12 25 56.3 -4.8**
MORC Moravsky Berou 7.11 40 *e*Pn **Pn** **12 24 40.6 -0.4**
comp=Z,3.3nm,0.7s
PSZ Piszkesteto 7.36 60 *e*Pn **Pn** **12 24 44.8 +0.3**
PSZ *e*Sn **Sn** **12 26 05.5 -1.7**
PSZ Piszkesteto 7.36 60 *e*Pn **Pn** **12 24 44.8 +0.3**
PSZ *e*Sn **Sn** **12 26 05.5 -1.7**
GRUS Gruza 7.42 92 *e*Pn **Pn** **12 24 43.9 -1.3**
EPF Esparros 7.47 262 *e*Pn **Pn** **12 24 45.8 -0.1**
EPF *e*Sn **Sn** **12 26 05.2 -4.6**
comp=Z,9.2nm,0.6s
EPF Esparros 7.47 262 *e*Pn **Pn** **12 24 45.8 -0.1**
EPF *e*Sn **Sn** **12 26 05.2 -4.6**
EPF Esparros 7.47 262 *e*Pn **Pn** **12 24 45.8 -0.1**
MFF Saint Martin d 7.70 289 *e*Pn **Pn** **12 24 48.2 -0.9**
MFF *e*Sn **Sn** **12 26 07.8 -7.7**
comp=Z,3.9nm,0.6s
MFF Saint Martin d 7.70 289 *e*Pn **Pn** **12 24 48.2 -0.9**
MFF *e*Sn **Sn** **12 26 07.8 -7.7**
MFF Saint Martin d 7.70 289 *e*Pn **Pn** **12 24 48.2 -0.9**
SELS Selova 7.83 96 *e*Pn **Pn** **12 24 50.5 -0.5**
KECS Kecovo 7.96 57 *e*PN **Pn** **12 24 52.6 -0.1**
KECS *e* 12 26 14.2
KECS Kecovo 7.96 57 *e*Pn **Pn** **12 24 52.6 -0.1**
ETSF Etsaut 8.14 262 *e*Pn **Pn** **12 24 56.7 +1.6**
ETSF *e*Sn **Sn** **12 26 25.9 -0.4**
comp=Z,7.8nm,0.6s
ETSF Etsaut 8.14 262 *e*Pn **Pn** **12 24 56.7 +1.6**
ETSF *e*Sn **Sn** **12 26 25.9 -0.4**
ETSF Etsaut 8.14 262 *e*Pn **Pn** **12 24 56.7 +1.6**
ETSF *e*Sn **Sn** **12 26 25.9 -0.4**
comp=Z,3.9nm,0.6s
LDF La Druitiere 8.31 303 *e*Pn **Pn** **12 24 55.9 -1.6**
LDF *e*Sn **Sn** **12 26 22.4 -8.2**
comp=Z,8.7nm,0.8s
LDF La Druitiere 8.31 303 *e*Pn **Pn** **12 24 55.9 -1.6**
LDF *e*Sn **Sn** **12 26 22.4 -8.2**
LDF La Druitiere 8.31 303 *e*Pn **Pn** **12 24 55.9 -1.6**
BARS Barje 8.43 98⇓ *i*Pn **Pn** **12 24 58.8 -0.3**
SJPF Ste Jean 8.56 264 *e*Pn **Pn** **12 25 00.7 -0.2**
SJPF *e*Sn **Sn** **12 26 39.5 +2.9**
comp=Z,6.0nm,0.8s
SJPF Ste Jean 8.56 264 *e*Pn **Pn** **12 25 00.7 -0.2**
SJPF *e*Sn **Sn** **12 26 39.5 +2.9**
SJPF Ste Jean 8.56 264 *e*Pn **Pn** **12 25 00.7 -0.2**
FLN La Foliniere 8.60 303 *e*Pn **Pn** **12 25 00.0 -1.5**
baz=128
FLN *e*Sn **Sn** **12 26 31.0 -6.6**
comp=Z,6.0nm,0.6s
FLN La Foliniere 8.60 303 *e*Pn **Pn** **12 25 00.0 -1.5**
FLN *e*Sn **Sn** **12 26 31.0 -6.6**
FLN La Foliniere 8.60 303 *e*Pn **Pn** **12 25 00.0 -1.5**
baz=128
GRR Gorron 8.68 300 *e*Pn **Pn** **12 25 01.1 -1.5**
GRR *e*Sn **Sn** **12 26 32.3 -7.3**
comp=Z,2.3nm,0.4s
GRR Gorron 8.68 300 *e*Pn **Pn** **12 25 01.1 -1.5**
GRR *e*Sn **Sn** **12 26 32.3 -7.3**
GRR Gorron 8.68 300 *e*Pn **Pn** **12 25 01.1 -1.5**
KEST Kesra 8.86 186 Pn **Pn** **12 25 09.6 +4.5**
comp=Z,0.4nm,0.3s,baz=333,slow=6.4,SNR=7.4
KEST Kesra 8.86 186 Pn **Pn** **12 25 09.6 +4.4**
ESDC Sonseca Array 11.76 250 Pn **Pn** **12 25 46.5 +1.8**
comp=Z,0.9nm,0.3s,baz=56,slow=14,SNR=19
ESDC Sonseca Array 11.76 250 Pn **Pn** **12 25 46.5 +1.8**
ESDC Sonseca Array 11.76 250 Pn **Pn** **12 25 46.5 +1.8**
FINES FINESS Array B 19.26 23 P **Pn** **12 27 22.6 +0.5**
comp=Z,0.1nm,0.3s,baz=193,slow=11,SNR=3.3
TORD Torodi Ar. Bea 32.19 196 P **P** **12 29 23.5 -1.1**
comp=Z,0.7nm,0.7s,mb3.6,baz=7.9,slow=9.3,SNR=3.7
YKA Yellowknife Ar 64.61 335 P **P** **12 33 34.1 +0.7**
comp=Z,0.7nm,0.6s,mb3.9,baz=40,slow=6.1,SNR=14

*ISCJB **24** 12:24:42.1±0.4, 22°.95S±0°.05×68°.83W±0°.05, h100km, mb4.0/6, Error ellipse: s-maj=6.8km s-min=5.8km az=159.3*
*NEIC **24** 12:24:43.5±0.5, 22°.97S×68°.90W, mb4.1/2, Error ellipse: s-maj=15.8km s-min=9.1km az=88.0*
*GUC **24** 12:24:43.6±0.6, 22°.91S×68°.94W, h90km, MD3.6, ML4.0*
*IDC **24** 12:24:44.4±0.5, 22°.81S×68°.72W, h100km±3km, mb3.8/6, mb1 3.8/10, mb1mx3.7/17, mbtmp3.7/10, Error ellipse: s-maj=19.0km s-min=14.9km az=74.0*
ISC 24 12:24:43.4±0.4, 22°.95S±0°.05×68°.90W±0°.05, h102km, h102km±1.4km: pP-P, n39, σ1§10/39, mb4.0/6, 4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.34**	**359**	*e*Pn	**Pn**	**12 24 58.2**	**-0.2**
LVC				*e*Sn	**Sn**	**12 25 09.1**	**-0.6**
MACH	**Maria Elena**	**1.09**	**313**⇑	*i*P	**Pn**	**12 25 04.5**	**-0.5**
MACH				*i* S	**Sn**	**12 25 20.5**	**-0.8**
CEN1	**Los Morros**	**1.27**	**250**⇑	*i*P	**Pn**	**12 25 07.7**	**+0.7**
CEN1				*i* S	**Sn**	**12 25 26.7**	**+1.7**
CEN1				AML	AML	12 25 31.7	
comp=N,2μm,0.8s							
MECH	**Mejillones**	**1.43**	**264**⇑	*i*P	**Pn**	**12 25 08.7**	**-0.2**
MECH				*i* S	**Sn**	**12 25 27.6**	**-0.7**
ANCH	**Antofagasta**	**1.56**	**242**⇑	*i*P	**Pn**	**12 25 10.3**	**-0.2**
ANCH				*i* S	**Sn**	**12 25 31.1**	**-0.2**
ANCH				AML	AML	12 25 36.6	
comp=E,4μm,0.3s							
LCO	**Las Campanas**	**6.25**	**195**	*e*Pn	**Pn**	**12 26 10.2**	**-2.9**
comp=E,44nm,0.6s							
LCO				*e*Sn	**Sn**	**12 27 18.8**	**-4.2**
LPAZ	**La Paz**	**6.67**	**6**	P	**Pn**	**12 26 19.5**	**+0.6**
comp=E,1.2nm,0.3s,baz=200,slow=7.5,SNR=21							
LPAZ	**La Paz**	**6.67**	**6**	P	**Pn**	**12 26 19.5**	**+0.6**
CFAA	**Coronel Fontan**	**8.64**	**176**	P	**Pn**	**12 26 44.6**	**-1.0**
comp=E,0.2nm,0.3s,baz=358,slow=16,SNR=7.7							
CFAA				S	**Sn**	**12 28 15.2**	**-6.0**
baz=246,slow=20,SNR=1.6							
CFAA	**Coronel Fontan**	**8.64**	**176**	P	**Pn**	**12 26 44.6**	**-1.0**
CFAA				S	**Sn**	**12 28 15.2**	**-6.0**
SIV	**San Ignacio**	**10.12**	**48**	P	**Pn**	**12 27 02.5**	**-3.3**
comp=E,3.5nm,0.3s,baz=236,slow=12,SNR=33							
SIV	**San Ignacio**	**10.12**	**48**	P	**Pn**	**12 27 02.5**	**-3.3**
CPUP	**Villa Florida**	**11.05**	**110**	P	**Pn**	**12 27 19.8**	**+1.4**
comp=E,0.4nm,0.3s,baz=268,slow=11,SNR=8.7							
CPUP	**Villa Florida**	**11.05**	**110**	P	**Pn**	**12 27 19.8**	**+1.4**
SAML	**Samuel**	**14.96**	**22**	Pn	**Pn**	**12 28 08.1**	**-1.6**
TRQA	**Tornquist**	**16.18**	**160**	*e*Pn	**Pn**	**12 28 23.9**	**-0.9**
comp=E,5.0nm,0.8s							
PLCA	**Paso Flores**	**17.78**	**184**	P	**Pn**	**12 28 45.2**	**+0.9**
comp=E,0.1nm,0.3s,baz=359,slow=14,SNR=2.9							
PLCA	**Paso Flores**	**17.78**	**184**	P	**Pn**	**12 28 45.2**	**+0.9**

SPB Sao Paulo 19.74 96 *e*P **P** **12 29 05.2 +0.1**
comp=E,17nm,0.6s
TXAR Lajitas Array 61.82 326 P **P** **12 34 52.4 +0.7**
comp=E,0.3nm,0.7s,mb3.4,baz=163,slow=6.6,SNR=2.9
TXAR pP pP 12 35 17.8 +0.8
comp=E,0.1nm,0.6s,baz=116,slow=8.1,SNR=1.5
TXAR sP sP 12 35 29.3 +1.1
comp=E,0.5nm,0.8s,baz=164,slow=4.0,SNR=4.3
TXAR Lajitas Array 61.82 326 P **P** **12 34 52.4 +0.7**
TXAR pP pP 12 35 17.8 +0.8
TXAR sP sP 12 35 29.3 +1.1
QSPA South Pole Qui 67.25 180 P **P** **12 35 28.9 +2.6**
comp=E,4.3nm,0.5s,mb4.6,baz=212,slow=0.6,SNR=52
QSPA pP pP 12 35 54.8 +2.9
comp=E,2.1nm,0.7s,baz=168,slow=2.9,SNR=3.7
QSPA sP sP 12 36 05.4 +2.3
comp=E,2.7nm,0.6s,baz=94,slow=2.3,SNR=4.4
QSPA South Pole Qui 67.25 180 P **P** **12 35 28.9 +2.6**
QSPA pP pP 12 35 54.8 +2.9
QSPA sP sP 12 36 05.4 +2.3
ANMO Albuquerque 67.72 327 P **P** **12 35 31.8 +1.9**
comp=E,0.6nm,0.6s,mb3.6,baz=144,slow=11,SNR=4.9
ANMO sP sP 12 36 08.2 +1.5
comp=E,0.7nm,0.6s,baz=106,slow=6.5,SNR=2.8
ANMO Albuquerque 67.72 327 P **P** **12 35 31.8 +1.9**
ANMO sP sP 12 36 08.2 +1.5
DBIC Dimbokro 69.15 73 P **P** **12 35 39.1 -0.1**
comp=E,1.9nm,0.7s,mb4.0,baz=220,slow=4.5,SNR=4.2
DBIC pP pP 12 36 04.6 -0.4
comp=E,3.5nm,0.6s,baz=216,slow=7.7,SNR=4.1
DBIC Dimbokro 69.15 73 P **P** **12 35 39.1 -0.1**
DBIC pP pP 12 36 04.6 -0.4
ULM Lac du Bonnet 76.70 343 pP pP 12 36 49.5 +0.3
comp=E,1.2nm,0.4s,baz=150,slow=10,SNR=3.0
ULM Lac du Bonnet 76.70 343 pP pP 12 36 49.5 +0.3
TORD Torodi Ar. Bea 77.84 70 P **P** **12 36 30.4 +0.2**
comp=E,2.2nm,0.4s,mb4.2,baz=261,slow=5.5,SNR=16
TORD pP pP 12 36 55.7 -0.8
comp=E,2.2nm,0.6s,baz=255,slow=5.1,SNR=3.7
TORD sP sP 12 37 06.5 -0.9
comp=E,2.4nm,0.6s,baz=251,slow=5.2,SNR=3.7
TORD Torodi Ar. Bea 77.84 70 P **P** **12 36 30.4 +0.2**
TORD pP pP 12 36 55.7 -0.8
TORD sP sP 12 37 06.5 -0.9
YKA Yellowknife Ar 92.55 341 P **P** **12 37 43.3 +0.6**
comp=E,0.5nm,0.5s,mb4.1,baz=139,slow=4.5,SNR=13
YKA pP pP 12 38 10.3 +0.7
comp=E,0.4nm,0.6s,baz=132,slow=4.5,SNR=3.9
YKA sP sP 12 38 20.2 -0.2
comp=E,0.3nm,0.4s,baz=136,slow=4.4,SNR=3.5
YKA Yellowknife Ar 92.55 341 P **P** **12 37 43.3 +0.6**
YKA pP pP 12 38 10.3 +0.7
YKA sP sP 12 38 20.2 -0.2
WRA Warramunga Arr 131.71 210 PKP PKPdf 12 43 46.4 +1.2
comp=E,0.6nm,0.5s,baz=154,slow=1.6,SNR=15
WRA Warramunga Arr 131.71 210 PKP PKPdf 12 43 46.4 +1.2
ZALV Zalesovo Beam 143.25 26 PKP PKPdf 12 44 06.8 +1.6
comp=E,0.7nm,0.6s,baz=293,slow=2.7,SNR=4.9
ZALV pPKP pPKPdf 12 44 32.4 -0.9
comp=E,1.0nm,0.7s,baz=292,slow=3.2,SNR=3.7
ZALV Zalesovo Beam 143.25 26 PKP PKPdf 12 44 06.8 +1.6
ZALV pPKP pPKPdf 12 44 32.4 -0.9
MKAR Makanchi Array 146.79 37 PKPbc PKPbc 12 44 12.9 -0.6
comp=E,0.6nm,0.5s,baz=314,slow=3.0,SNR=8.6
MKAR pPKPbc pPKPbc 12 44 40.7 -0.5
comp=E,0.9nm,0.7s,baz=33,slow=1.2,SNR=4.9
MKAR Makanchi Array 146.79 37 PKPbc PKPbc 12 44 12.9 -0.6
MKAR pPKPbc pPKPbc 12 44 40.7 -0.5

*IDC **24** 12:27:13.2±1.0, 13°.01N×125°.37E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/22, mbtmp3.9/10, ML4.5/1, MS3.4/4, Ms1 3.4/4, ms1mx2.8/24, Error ellipse: s-maj=38.8km s-min=17.1km az=65.0*
*MAN **24** 12:27:16, 12°.96N×124°.73E, h2km, mb4.8, ML3.7, MS3.7*
*ISCJB **24** 12:27:17.0±0.6, 12°.99N±0°.04×124°.92E±0°.05, h33km, mb3.9/10, MS3.0/3, Error ellipse: s-maj=7.5km s-min=5.9km az=146.7*
*NEIC **24** 12:27:18.5±0.6, 13°.00N×125°.23E, h35km, mb4.2/4, Error ellipse: s-maj=15.9km s-min=8.9km az=75.0*
ISC 24 12:27:18.9±0.6, 12°.95N±0°.05×124°.87E±0°.05, h35km, n35, σ1§32/38, mb3.9/10, MS3.0/3, 3D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.94**	**313**	*e*P	**Pn**	**12 27 32.6**	**-3.2**
PVCP				*e*S	**Sn**	**12 27 47.4**	**-0.6**
MMPH	**Masbate**	**1.35**	**244**	*e*P	**Pn**	**12 27 45.8**	**+4.4**
MMPH				*e*S	**Sn**	**12 27 57.0**	**-1.0**
PLP	**Palo**	**1.78**	**177**⇓	*i*P	**Pn**	**12 27 47.0**	**-0.2**
PLP				*i* S	**Sn**	**12 28 14.4**	**+5.8**
RCP	**Roxas**	**2.50**	**237**⇓	*e*P	**Pn**	**12 27 57.1**	**0.0**
RCP				*e*S	**Sn**	**12 28 23.5**	**-2.8**
GQP	**Guinayangan**	**2.54**	**292**⇓	*e*P	**Pn**	**12 27 57.4**	**-0.2**
GQP				*e*S	**Sn**	**12 28 28.1**	**+0.6**
BOAC	**Boac**	**2.99**	**280**	*e*P	**Pn**	**12 28 04.5**	**+0.6**
BOAC				*e*S	**Sn**	**12 28 37.1**	**-1.3**
GUIM	**Jordan**	**3.21**	**224**	*e*P	**Pn**	**12 28 07.1**	**+0.1**
TGY	**Tagaytay City**	**3.99**	**287**	Pn	**Pn**	**12 28 20.9**	**+3.2**
22nm,0.3s,baz=135,slow=13,SNR=3.1							
TGY	**Tagaytay City**	**3.99**	**287**	Pn	**Pn**	**12 28 20.9**	**+3.2**
CAUP	**Cauayan**	**4.94**	**324**	*e*P	**Pn**	**12 28 30.8**	**+0.1**
BUKP	**Musuan**	**5.05**	**178**	*e*P	**Pn**	**12 28 35.8**	**+3.6**
JOW	**Kunigami**	**14.17**	**13**	LR	LR	12 34 21.4	
comp=Z,694nm,21.7s,baz=120,slow=30							
KSM	**Kuching**	**18.39**	**233**	*e*P	**Pn**	**12 31 33.5**	**+2.2**
17nm,1.3s							
KAPI	**Kappang**	**18.56**	**196**	P	**Pn**	**12 31 35.9**	**+2.6**
21nm,1.1s							
KSAR	**Wonju Array Be**	**24.54**	**6**	P	**P**	**12 32 33.9**	**-1.3**
KSRS	**Korea Array**	**24.55**	**6**	P	**P**	**12 32 33.9**	**-1.5**
1.1nm,0.7s,mb3.5,baz=189,slow=9.9,SNR=4.2							
KSRS				LR	LR	12 41 16.4	
comp=Z,66nm,20.4s,MS3.1,baz=345,slow=34							
CMAR	**Chiang Mai Arr**	**25.54**	**286**	P	**P**	**12 32 49.1**	**+4.6**
0.7nm,0.3s,mb3.6,baz=98,slow=7.3,SNR=4.8							
CMAR	**Chiang Mai Arr**	**25.54**	**286**	P	**P**	**12 32 49.1**	**+4.6**
MJAR	**Matsushiro Arr**	**26.37**	**25**	LR	LR	12 42 40.9	
comp=Z,25nm,18.0s,MS2.8,baz=35,slow=36							
USRK	**Ussuriysk Arr**	**31.73**	**10**	LR	LR	12 46 31.5	
comp=Z,45nm,21.4s,MS3.1,baz=120,slow=37							
WRAB	**Tennant Creek**	**33.99**	**164**	*e*P	**P**	**12 33 58.0**	**-1.4**
2.4nm,0.9s,mb4.1							
WRA	**Warramunga Arr**	**33.99**	**164**	P	**P**	**12 33 58.0**	**-1.4**
0.7nm,0.6s,mb3.8,baz=343,slow=9.2,SNR=10							
WRA	**Warramunga Arr**	**33.99**	**164**	P	**P**	**12 33 58.0**	**-1.4**
SONM	**Songino Array**	**38.04**	**340**	P	**P**	**12 34 34.7**	**+0.8**
0.9nm,0.8s,mb3.5,baz=123,slow=5.5,SNR=5.7							
SONM	**Songino Array**	**38.04**	**340**	P	**P**	**12 34 34.7**	**+0.8**
STKA	**Stephens Creek**	**47.37**	**161**	P	**P**	**12 35 48.0**	**-1.7**
3.8nm,0.7s,mb4.4,baz=338,slow=8.9,SNR=15							
STKA	**Stephens Creek**	**47.37**	**161**	P	**P**	**12 35 48.0**	**-1.6**

KBTR			*e*S	Sn	12 35 35.1	+0.3
SDLR	**Sedlovina**	**2.46 203**	*e*P	Pn	12 35 21.0	+2.0
NLC	**Nalytchevo**	**2.48 196**	*e*S	Sn	12 35 51.8	-1.3
AVH	**Avacha**	**2.51 204**	P	Pn	12 35 23.0	+3.5
BKI	**Bering**	**3.17 94**	*e*P	Pn	12 35 29.5	+2.5
BKI			*e*S	Sn	12 36 08.3	+1.1

*NEIC **24** 12:41:52.4±0.9, 10°.02N×104°.37W, h10km, mb4.2/3, Error ellipse: s-maj=35.8km s-min=11.1km az=60.0*
*ISCJB **24** 12:41:54.4±1.7, 10°.1N±0°.2×104°.3W±0°.4, h33km, mb4.0/9, MS3.7/9, Error ellipse: s-maj=62.1km s-min=12.8km az=148.0*
*IDC **24** 12:41:54.5±1.3, 10°.97N×103°.17W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.0/17, mbtmp4.0/5, MS3.7/10, Ms1 3.7/10, ms1mx3.5/28, Error ellipse: s-maj=71.1km s-min=19.9km az=57.0*

ISC 24 12:41:56.9±1.6, 10°.2N±0°.2×104°.2W±0°.4, h35km, n26, σ0§80/17, mb4.0/9, MS3.7/9, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.35**	**52**	LR	LR	12 47 55.0	
	comp=Z,324nm,20.6s,baz=210,slow=36						
TXAR	**Lajitas Array**	**19.07**	**1**	P	**Pn**	**12 46 17.4**	**+0.1**
	0.0nm,0.3s,baz=174,slow=8.7,SNR=18						
TXAR	**Lajitas Array**	**19.07**	**1**	P	**Pn**	**12 46 17.4**	**+0.1**
GDL2	**Guadalupe Moun**	**21.92**	**360**	*e*P	**P**	**12 46 47.7**	**+0.5**
	8.7nm,0.9s,mb4.2						
TUC	**Tucson**	**22.86**	**345**	*e*P	**P**	**12 46 57.1**	**-0.1**
	5.7nm,1.1s,mb3.9						
ANMO	**Albuquerque**	**24.75**	**356**	P	**P**	**12 47 10.8**	**-4.4**
	0.2nm,0.3s,mb3.1,baz=180,slow=6.1,SNR=3.0						
ANMO	**Albuquerque**	**24.75**	**356**	P	**P**	**12 47 10.8**	**-4.4**
ROSC	**El Rosal**	**30.05**	**98**	LR	LR	12 57 42.7	
	comp=Z,65nm,21.2s,MS3.2,baz=23,slow=32						
NVAR	**Mina Array Bea**	**30.85**	**338**	P	**P**	**12 48 11.2**	**+1.4**
	0.9nm,1.0s,mb3.6,baz=171,slow=10.0,SNR=4.0						
NVAR				LR	LR	12 58 47.2	
	comp=Z,215nm,19.9s,MS3.8,baz=89,slow=33						
NVAR	**Mina Array Bea**	**30.85**	**338**	P	**P**	**12 48 11.2**	**+1.4**
LPAZ	**La Paz**	**44.32**	**126**	P	**P**	**12 50 04.7**	**+0.9**
	2.4nm,0.8s,mb4.0,baz=334,slow=8.3,SNR=9.1						
LPAZ				LR	LR	13 06 50.8	
	comp=Z,50nm,21.2s,MS3.4,baz=112,slow=34						
LPAZ	**La Paz**	**44.32**	**126**	P	**P**	**12 50 04.7**	**+0.9**
SAML	**Samuel**	**45.01**	**114**	*e*P	**P**	**12 50 09.3**	**-0.2**
	5.5nm,1.4s,mb4.2						
SIV	**San Ignacio**	**49.97**	**121**	P	**P**	**12 50 47.5**	**-0.5**
	1.6nm,0.8s,mb4.1,baz=312,slow=11,SNR=6.1						
SIV				LR	LR	13 10 36.9	
	comp=Z,58nm,18.1s,MS3.6,slow=35						
SIV	**San Ignacio**	**49.97**	**121**	P	**P**	**12 50 47.5**	**-0.5**
YKA	**Yellowknife Ar**	**52.77**	**354**	P	**P**	**12 51 06.9**	**-1.3**
	1.4nm,0.6s,mb4.1,baz=165,slow=7.4,SNR=21						
YKA	**Yellowknife Ar**	**52.77**	**354**	P	**P**	**12 51 06.9**	**-1.3**
CFAA	**Coronel Fontan**	**53.95**	**142**	LR	LR	13 08 40.8	
	comp=Z,15nm,20.1s,MS3.0,baz=34,slow=30						
CPUP	**Villa Florida**	**58.21**	**130**	LR	LR	13 15 16.1	
	comp=Z,107nm,18.2s,MS4.0,baz=239,slow=34						
PLCA	**Paso Flores**	**59.41**	**151**	LR	LR	13 11 38.1	
	comp=Z,132nm,18.4s,MS4.1,baz=344,slow=30						
ILAR	**Eielson Array**	**62.05**	**341**	P	**P**	**12 52 12.8**	**-0.8**
	3.3nm,0.8s,mb4.5,baz=149,slow=4.5,SNR=39						
ILAR	**Eielson Array**	**62.05**	**341**	P	**P**	**12 52 12.8**	**-0.8**
URZ	**Urewera**	**87.51**	**231**	LR	LR	13 27 52.3	
	comp=Z,65nm,18.3s,MS4.1,baz=126,slow=31						
DZM	**Mont Dzumac**	**93.19**	**248**	LR	LR	13 26 36.6	
	comp=Z,98nm,19.6s,MS4.3,baz=208,slow=28						
WRA	**Warramunga Arr**	**122.90**	**253**	PKhKP	PKPpre	13 00 49.4	
	0.3nm,0.7s,baz=87,slow=2.7,SNR=3.7						
WRA				PKP	PKPdf	13 00 55.6	+5.3
	0.5nm,0.8s,baz=89,slow=2.2,SNR=8.1						
WRA	**Warramunga Arr**	**122.90**	**253**	PKPpre	PKPpre	13 00 49.4	
WRA				PKP	PKPdf	13 00 55.6	+5.3

*CSEM **24** 13:02:14.4, 39°.44N×29°.74W, h5km, ML3.3, After PDA*

PDA 24 13:02:14.4±0.7, 39°.44N×29°.74W, h5km, MD3.7, ML3.3, Error ellipse: s-maj=11.4km s-min=5.1km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.14**	**134**	*e*S	Sg	13 02 45.2	-5.9
PCED				A		13 02 47.4	
	191nm,0.4s						
PCED	**Cedros**	**1.14**	**134**	*e*S	Sg	13 02 45.2	-5.9
CALA	**Caldeira**	**1.18**	**136**	*e*P	Pg	13 02 32.9	-4.1
CALA				*e*S	Sg	13 02 46.2	-6.0
CALA	**Caldeira**	**1.18**	**136**	*e*P	Pg	13 02 32.9	-4.1
CALA				*e*S	Sg	13 02 46.2	-6.0
HOR	**Horta**	**1.25**	**136**	*e*S	Sg	13 02 48.2	-6.5
HOR	**Horta**	**1.25**	**136**	*e*S	Sg	13 02 48.2	-6.5
ROSA	**Rosais**	**1.37**	**121**	*e*P	Pn	13 02 35.0	-5.1
ROSA				*e*S	Sb	13 02 51.0	-7.3
ROSA				A		13 02 52.2	
	106nm,0.4s						
ROSA	**Rosais**	**1.37**	**121**	*e*P	Pn	13 02 35.0	-5.1
ROSA				*e*S	Sb	13 02 51.0	-7.3
PCAN	**Candelaria**	**1.38**	**134**	*e*P	Pn	13 02 35.5	-4.8
PCAN				*e*S	Sb	13 02 51.4	-7.1
PCAN				A		13 02 53.4	
	218nm,0.2s						
PCAN	**Candelaria**	**1.38**	**134**	*e*P	Pn	13 02 35.5	-4.8
PCAN				*e*S	Sb	13 02 51.4	-7.1
PICO	**Pico**	**1.39**	**132**	*e*P	Pn	13 02 35.6	-4.8
PICO				*e*S	Sb	13 02 51.8	-7.0
PICO	**Pico**	**1.39**	**132**	*e*P	Pn	13 02 35.6	-4.8
PICO				*e*S	Sb	13 02 51.8	-7.0
PMAN	**Manadas**	**1.52**	**121**	*e*S	Sn	13 02 54.5	-7.8
PMAN				A		13 02 55.7	
	74nm,0.2s						
PMAN	**Manadas**	**1.52**	**121**	*e*S	Sn	13 02 54.5	-7.8

*ISCJB **24** 13:05:31.2±0.5, 37°.85N±0°.03×29°.21E±0°.05, h10km, Error ellipse: s-maj=5.5km s-min=4.0km az=5.0*
*ISK **24** 13:05:31.0, 37°.90N×29°.17E, h8km, MD2.6*
*DDA **24** 13:05:31.2, 37°.90N×29°.24E, h2km±3km, Md3.0*
*CSEM **24** 13:05:31.0±0.2, 37°.86N×29°.24E, h2km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.9km az=90.0*

ISC 24 13:05:31.5±0.6, 37°.86N±0°.03×29°.21E±0°.05, h8km±6km, n24, σ0§72/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**233**	*e*PG	**Pg**	**13 05 35.5**	**+0.4**
DENT				*e*SG	**Sg**	**13 05 38.1**	**+0.5**
DENT	**Denizli**	**0.18**	**233**	*e*Pg	**Pg**	**13 05 35.5**	**+0.4**
DENT				*e*Sg	**Sg**	**13 05 38.1**	**+0.5**
KHAL	**Karahalli**	**0.55**	**23**	*i* P	**Pg**	**13 05 42.1**	**-0.1**
KHAL				*i* S	**Sg**	**13 05 49.9**	**+0.5**
KHAL	**Karahalli**	**0.55**	**23**	*i* P	**Pg**	**13 05 42.1**	**-0.1**
KHAL				*i* S	**Sg**	**13 05 49.9**	**+0.5**
GOLH	**Golhisar**	**0.68**	**156**	*i* P	**Pg**	**13 05 43.0**	**-1.5**
GOLH				*i* S	**Sg**	**13 05 59.3**	**+5.9**
GOLH	**Golhisar**	**0.68**	**156**	*i* P	**Pg**	**13 05 43.0**	**-1.6**
KULA	**Kula-Manisa**	**0.79**	**326**	*e*PG	**Pg**	**13 05 45.6**	**-0.9**
KULA				*e*SG	**Sg**	**13 05 56.0**	**-0.8**
KULA	**Kula-Manisa**	**0.79**	**326**	*e*Pg	**Pg**	**13 05 45.6**	**-1.0**
KULA				*e*Sg	**Sg**	**13 05 56.0**	**-0.8**
MANT	**Manisa**	**0.81**	**321**	*i* P	**Pg**	**13 05 46.8**	**-0.3**
MANT				*i* S	**Sg**	**13 05 58.7**	**+1.0**
MANT	**Manisa**	**0.81**	**321**	*i* P	**Pg**	**13 05 46.8**	**-0.3**
MANT				*i* S	**Sg**	**13 05 58.7**	**+1.0**
YER	**Yerkesik**	**1.04**	**226**	*e*PG	**Pg**	**13 05 51.2**	**-0.1**
YER	**Yerkesik**	**1.04**	**226**	*e*Pg	**Pg**	**13 05 51.2**	**-0.1**
BCK	**Bucak**	**1.16**	**110**	*e*PN	**Pg**	**13 05 54.5**	**+0.8**
BCK	**Bucak**	**1.16**	**110**	*e*Pn	**Pg**	**13 05 54.6**	**+0.8**
ELL	**Elmali**	**1.24**	**153**	*e*PN	**Pn**	**13 05 55.5**	**+0.4**
ELL	**Elmali**	**1.24**	**153**	*e*Pn	**Pn**	**13 05 55.5**	**+0.4**
DEMI	**Demirci**	**1.24**	**342**	*i* P	**Pn**	**13 05 55.9**	**+0.8**
DEMI				*i* S	**Sb**	**13 06 11.5**	**+0.2**
DEMI	**Demirci**	**1.24**	**342**	*i* P	**Pn**	**13 05 55.9**	**+0.8**
GDZ	**Gediz**	**1.24**	**10**	*i* P	**Pn**	**13 05 53.7**	**-1.4**
GDZ				*i* S	**Sb**	**13 06 11.2**	**-0.1**
GDZ	**Gediz**	**1.24**	**10**	*i* P	**Pn**	**13 05 53.7**	**-1.4**
SHUT	**Suhut-Afyon**	**1.26**	**56**	*e*PN	**Pn**	**13 05 55.5**	**+0.1**
SHUT	**Suhut-Afyon**	**1.26**	**56**	*e*Pn	**Pn**	**13 05 55.5**	**+0.2**
ALT	**Altintas**	**1.39**	**30**	*e*PN	**Pn**	**13 05 57.6**	**+0.5**
ALT	**Altintas**	**1.39**	**30**	*e*Pn	**Pn**	**13 05 57.6**	**+0.5**

*CSEM **24** 13:06:35.8, 39°.42N×29°.78W, h5km, ML2.8, After PDA*

PDA 24 13:06:35.8±0.7, 39°.42N×29°.78W, h5km, MD3.6, ML2.8, Error ellipse: s-maj=13.0km s-min=5.9km az=54.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.15**	**133**	*e*P	Pg	13 06 54.0	-3.9
PCED				*e*S	Sg	13 07 07.1	-5.7
PCED				A		13 07 09.5	
	64nm,0.4s						
PCED	**Cedros**	**1.15**	**133**	*e*P	Pg	13 06 54.0	-3.9
PCED				*e*S	Sg	13 07 07.1	-5.7
CALA	**Caldeira**	**1.19**	**135**	*e*S	Sg	13 07 08.1	-5.8
CALA	**Caldeira**	**1.19**	**135**	*e*S	Sg	13 07 08.1	-5.8
HOR	**Horta**	**1.26**	**135**	*e*S	Sg	13 07 09.6	-6.8
HOR	**Horta**	**1.26**	**135**	*e*S	Sg	13 07 09.6	-6.8
ROSA	**Rosais**	**1.39**	**120**	*e*P	Pn	13 06 56.9	-4.9
ROSA				*e*S	Sb	13 07 12.6	-7.5
ROSA				A		13 07 13.7	
	32nm,0.3s						
ROSA	**Rosais**	**1.39**	**120**	*e*P	Pn	13 06 56.9	-4.9
ROSA				*e*S	Sb	13 07 12.6	-7.5
PCAN	**Candelaria**	**1.39**	**133**	*e*S	Sb	13 07 12.9	-7.3
PCAN				A		13 07 13.1	
	72nm,0.2s						
PCAN	**Candelaria**	**1.39**	**133**	*e*S	Sb	13 07 12.9	-7.3
PICO	**Pico**	**1.40**	**131**	*e*P	Pn	13 06 57.0	-4.9
PICO				*e*S	Sb	13 07 13.6	-6.9
PICO	**Pico**	**1.40**	**131**	*e*P	Pn	13 06 57.0	-4.9
PICO				*e*S	Sb	13 07 13.6	-6.9
PMAN	**Manadas**	**1.53**	**120**	*e*S	Sn	13 07 16.5	-7.6
PMAN				A		13 07 19.4	
	27nm,0.3s						
PMAN	**Manadas**	**1.53**	**120**	*e*S	Sn	13 07 16.5	-7.6

*IDC **24** 13:22:27.5±1.7, 14°.36S×166°.58E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, ML3.8/1, MS3.3/2, Ms1 3.2/2, ms1mx2.9/23, Error ellipse: s-maj=43.5km s-min=27.5km az=115.0*
*ISCJB **24** 13:22:30.7±1.4, 14°.43S±0°.09×166°.5E±0°.2, h33km, mb3.5/3, MS3.1/2, Error ellipse: s-maj=27.3km s-min=12.1km az=170.1*
*NEIC **24** 13:22:32.6±1.3, 14°.45S×166°.60E, h35km, mb3.1/1, Error ellipse: s-maj=24.1km s-min=20.8km az=93.0*

ISC 24 13:22:32.6±1.4, 14°.34S±0°.09×166°.6E±0°.2, h35km, n11, σ0§98/13, mb3.5/3, MS3.1/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.69**	**181**	Pn	**Pn**	**13 24 20.7**	**-1.4**
	1.4nm,0.3s,baz=5.9,slow=22,SNR=26						
DZM				Sn	**Sn**	**13 25 48.8**	**+0.8**
	0.5nm,0.3s,baz=323,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**7.69**	**181**	*e*Pn	**Pn**	**13 24 20.5**	**-1.6**
DZM				Sn	**Sn**	**13 25 48.8**	**+0.8**
CTA	**Charters Tower**	**20.20**	**251**	P	**P**	**13 27 05.7**	**+1.2**
	3.1nm,1.0s,baz=109,slow=12,SNR=3.5						
CTA				LR	LR	13 33 30.3	
	comp=Z,57nm,19.5s,MS2.9,baz=51,slow=33						
CTA	**Charters Tower**	**20.20**	**251**	P	**P**	**13 27 05.7**	**+1.2**
CTAO	**Charters Tower**	**20.20**	**251**	P	**P**	**13 27 04.4**	**-0.2**
STKA	**Stephens Creek**	**28.72**	**228**	P	**P**	**13 28 27.1**	**+0.4**
	1.3nm,0.6s,mb3.9,baz=64,slow=9.7,SNR=7.9						
STKA				LR	LR	13 40 11.5	
	comp=Z,76nm,19.5s,MS3.3,baz=200,slow=37						
STKA	**Stephens Creek**	**28.72**	**228**	*e*P	**P**	**13 28 27.3**	**+0.6**
	0.2nm,0.5s,mb3.1						
WRA	**Warramunga Arr**	**31.24**	**255**	P	**P**	**13 28 48.0**	**-1.2**
	0.3nm,0.9s,mb3.1,baz=87,slow=9.4,SNR=4.8						
WRA	**Warramunga Arr**	**31.24**	**255**	P	**P**	**13 28 48.0**	**-1.2**
ILAR	**Eielson Array**	**86.38**	**18**	P	**P**	**13 35 11.4**	**+0.6**
	0.6nm,0.8s,mb3.9,baz=238,slow=4.8,SNR=7.5						
ILAR	**Eielson Array**	**86.38**	**18**	P	**P**	**13 35 11.4**	**+0.6**

*IDC **24** 13:28:20.0±1.1, 2°.55N×126°.47E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=96.1km s-min=16.9km az=70.0*
*NEIC **24** 13:28:24.6±0.7, 2°.68N×126°.93E, h35km, mb3.9/1, Error ellipse: s-maj=57.6km s-min=9.7km az=72.0*
*DJA **24** 13:28:26, 2°.60N×127°.12E, h10km, MLv3.9/6*
*ISCJB **24** 13:28:28.2±1.1, 2°.71N±0°.07×127°.17E±0°.09, h91km±11km, mb3.8/7, Error ellipse: s-maj=15.8km s-min=9.6km az=148.5*

ISC 24 13:28:29.4±1.1, 2°.67N±0°.07×127°.19E±0°.09, h84km±11km, n22, σ0§93/24, mb3.8/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.90**	**175**	P	**Pn**	**13 28 59.8**	**-0.3**
TNTI				S	**Sn**	**13 29 21.8**	**-1.7**
SGSI	**Sangihe**	**1.94**	**301**	P	**Pn**	**13 29 09.1**	**+8.4**
MNI	**Manado**	**2.65**	**243**	P	**Pn**	**13 29 11.6**	**+1.5**
MNI				S	**Sn**	**13 29 41.5**	**+0.1**
LBMI	**Labuha**	**3.30**	**175**	P	**Pn**	**13 29 20.8**	**+1.8**
GTOI	**Gorontalo**	**4.64**	**244**	P	**Pn**	**13 29 35.9**	**-1.3**
DAV	**Davao City (W)**	**4.65**	**340**	P	**Pn**	**13 29 37.3**	**0.0**
MRSI	**Marisa**	**5.69**	**248**	P	**Pn**	**13 29 51.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.70**	**184**	P	**P**	**13 33 02.2**	**-0.8**
	4.0nm,1.2s,baz=357,slow=8.4,SNR=6.5						
FITZ	**Fitzroy Crossi**	**20.70**	**184**	P	**P**	**13 33 02.2**	**-0.8**
WRAB	**Tennant Creek**	**23.54**	**163**	*e*P	**P**	**13 33 32.4**	**+0.2**
	1.5nm,0.4s,mb3.7						
WRA	**Warramunga Arr**	**23.55**	**163**	P	**P**	**13 33 32.5**	**+0.2**
	1.5nm,0.4s,mb3.7,baz=338,slow=10,SNR=39						
WRA	**Warramunga Arr**	**23.55**	**163**	P	**P**	**13 33 32.5**	**+0.2**
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**13 35 32.0**	**+1.3**
	1.9nm,0.6s,mb4.2,baz=318,slow=9.1,SNR=6.7						
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**13 35 32.0**	**+1.3**
SONM	**Songino Array**	**48.44**	**341**	P	**P**	**13 37 03.7**	**+0.5**
	0.6nm,0.7s,mb3.5,baz=160,slow=8.8,SNR=5.3						
SONM	**Songino Array**	**48.44**	**341**	P	**P**	**13 37 03.7**	**+0.5**
MKAR	**Makanchi Array**	**58.68**	**325**	P	**P**	**13 38 17.4**	**-0.7**
	0.3nm,0.4s,mb3.7,baz=131,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**58.68**	**325**	P	**P**	**13 38 17.4**	**-0.7**
ZALV	**Zalesovo Beam**	**61.73**	**333**	P	**P**	**13 38 38.4**	**-0.4**
	0.3nm,0.4s,mb3.7,baz=101,slow=7.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**61.73**	**333**	P	**P**	**13 38 38.4**	**-0.4**
KURK	**Kurchatov**	**62.87**	**328**	P	**P**	**13 38 45.6**	**-0.8**
	0.5nm,0.4s,mb3.8,baz=129,slow=6.5,SNR=7.1						
KURK	**Kurchatov**	**62.87**	**328**	P	**P**	**13 38 45.6**	**-0.8**

*CSEM **24** 13:58:51.2, 35°.26N×61°.59E, h6km, ML3.8, After TEH*

TEH 24 13:58:51.2, 35°.26N×61°.59E, h6km, Turkmenistan-Afghanistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMYA	**Miami**	**1.62**	**312**	*e*Pn	Pn	13 59 19.6	-0.7
IMYA				*e*Sg	Sg	13 59 42.0	-1.3
IMYA				*e*		13 59 49.1	
	comp=Z,20μm,0.2s						
IMYA	**Miami**	**1.62**	**312**	*e*Pn	Pn	13 59 19.6	-0.7
IMYA				*e*Sg	Sg	13 59 42.0	-1.3
MHI	**Mashad**	**2.02**	**302**	*e*Pn	Pn	13 59 25.7	0.0
MHI				*e*Sg	Sg	13 59 54.4	-1.6
MHI				*e*		13 59 58.4	
	comp=Z,9μm,0.1s						
IMOG	**Moghan**	**2.02**	**295**	*e*Pn	Pn	13 59 26.7	+0.9
IMOG				*e*Sg	Sg	13 59 54.2	-1.9
IMOG				*e*		14 00 00.5	
	comp=Z,12μm,0.1s						
IMOG	**Moghan**	**2.02**	**295**	*e*Pn	Pn	13 59 26.7	+0.9
IMOG				*e*Sg	Sg	13 59 54.2	-1.9
IPAY	**Payeh**	**2.42**	**300**	*e*Pn	Pn	13 59 31.2	-0.1
IPAY				*e*		14 00 14.3	
	comp=Z,7μm,0.1s						
IPAY	**Payeh**	**2.42**	**300**	*e*Pn	Pn	13 59 31.2	-0.1
IMON	**Monand**	**2.61**	**218**	*e*Pn	Pn	13 59 33.9	0.0
IMON				*e*		14 00 19.9	
	comp=Z,3μm,0.1s						
IMON	**Monand**	**2.61**	**218**	*e*Pn	Pn	13 59 33.9	0.0
IAKL	**Akhelmad**	**2.66**	**301**	*e*Pn	Pn	13 59 35.2	+0.6
IAKL				*e*		14 00 18.8	
	comp=Z,6μm,0.2s						
IDAH	**Dahanechah**	**2.90**	**210**	*e*Pn	Pn	13 59 37.6	-0.2
IDAH				*e*		14 00 17.2	
	comp=Z,2μm,0.2s						
IDAH	**Dahanechah**	**2.90**	**210**	*e*Pn	Pn	13 59 37.6	-0.2
IKRD	**Kardeh**	**2.92**	**302**	*e*Pn	Pn	13 59 28.8	-9.3
IKRD				*e*Sg	Sg	14 00 01.7	-23
IKRD				*e*		14 00 06.6	
	comp=Z,7μm,0.1s						
IKRD	**Kardeh**	**2.92**	**302**	*e*Pn		13 59 28.8	-9.3
IKRD				*e*Sg	Sg	14 00 01.7	-23
IEMG	**Emamgholi**	**3.20**	**313**	*e*Pn	Pn	13 59 42.1	+0.1
IEMG				*e*		14 00 54.2	
	comp=Z,3μm,0.1s						
IEMG	**Emamgholi**	**3.20**	**313**	*e*Pn	Pn	13 59 42.1	+0.1
ITEG	**Tejag**	**3.34**	**226**	*e*Pn	Pn	13 59 44.0	+0.1
ITEG				*e*		14 00 00.5	
	comp=Z,678nm,0.2s						
ITEG	**Tejag**	**3.34**	**226**	*e*Pn	Pn	13 59 44.0	+0.1
ISFR	**Sfrayin**	**3.41**	**303**	*e*Pn	Pn	13 59 44.6	-0.3
ISFR				*e*		14 00 46.2	
	comp=Z,2μm,0.2s						
ISFR	**Sfrayin**	**3.41**	**303**	*e*Pn	Pn	13 59 44.6	-0.3
IKOO	**Kooshah**	**3.56**	**218**	*e*Pn	Pn	13 59 46.5	-0.4
IKOO				*e*		14 00 06.3	
	comp=Z,462nm,0.1s						
IKOO	**Kooshah**	**3.56**	**218**	*e*Pn	Pn	13 59 46.5	-0.4

*IDC **24** 14:22:00.6±0.6, 8°.50S×128°.27E, h0km, mb4.3/9, mb1 4.3/11, mb1mx4.2/17, mbtmp4.3/11, ML3.9/2, MS4.0/5, Ms1 4.0/5, ms1mx3.4/27, Error ellipse: s-maj=26.9km s-min=14.6km az=58.0*
*ISCJB **24** 14:22:01.6±0.3, 8°.83S±0°.03×128°.54E±0°.05, h33km, mb4.6/24, MS3.9/4, Error ellipse: s-maj=6.5km s-min=4.8km az=172.9*
*DJA **24** 14:22:03, 8°.69S×128°.63E, h10km, mb4.8/21*
*NEIC **24** 14:22:07.4±1.4, 8°.43S×128°.39E, h54km±13km, mb4.9/16, Error ellipse: s-maj=13.1km s-min=5.8km az=224.0*
*BJI **24** 14:22:09.5, 8°.50S×128°.50E, h100km, mb4.5/5*

ISC 24 14:22:04.1±0.3, 8°.78S±0°.04×128°.54E±0°.05, h35km, n108, σ1§48/102, mb4.6/24, MS3.9/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**5.08**	**356**	P	**Pn**	**14 23 18.6**	**+0.9**
	0.6nm3μm138nm,0.5s						
TLE	**Tual**	**5.21**	**53**	P	**Pn**	**14 23 21.2**	**+1.6**
	0.7nm4μm155nm,0.9s						
MSAI	**Masohi**	**5.42**	**4**	P	**Pn**	**14 23 24.1**	**+1.7**
	0.1nm31nm,0.7s						
NLAI	**Namlea**	**5.69**	**345**	P	**Pn**	**14 23 29.1**	**+2.9**
	0.3nm818nm112nm,0.7s						
MMRI	**Maumere**	**6.23**	**271**	P	**Pn**	**14 23 37.9**	**+4.3**
	0.5nm2μm154nm,1.4s						
BBSI	**Bau Bau**	**6.76**	**299**	P	**Pn**	**14 23 45.3**	**+4.3**
	1.0nm3μm291nm,1.2s						
FAKI	**Fak Fak**	**6.90**	**33**	P	**Pn**	**14 23 41.6**	**-1.2**
	0.3nm852nm113nm,0.9s						
KDI	**Kendari**	**7.59**	**309**	P	**Pn**	**14 23 54.4**	**+2.1**
	0.1nm585nm40nm,1.4s						
LBMI	**Labuha**	**8.16**	**353**	P	**Pn**	**14 24 04.2**	**+4.1**
	0.5nm2μm96nm,1.4s						
WSI	**Waingapu**	**8.18**	**263**	P	**Pn**	**14 24 06.3**	**+5.9**
	237nm,0.7s						
BKSI	**Bulukumba**	**9.03**	**292**	P	**Pn**	**14 24 15.1**	**+3.0**
	770nm67nm,1.2s						
BNSI	**Bone**	**9.44**	**297**	P	**Pn**	**14 24 20.7**	**+3.0**
	1μm104nm,1.0s						
KAPI	**Kappang**	**9.49**	**293**	Pn	**Pn**	**14 24 21.3**	**+3.0**
	2.0nm,0.3s,baz=205,slow=20,SNR=6.4						
KAPI				LR	LR	14 27 58.0	
	comp=Z,667nm,18.9s,baz=126,slow=39						
KAPI	**Kappang**	**9.49**	**293**	P	**Pn**	**14 24 18.6**	**+0.2**
	82nm,1.4s						
KAPI	**Kappang**	**9.49**	**293**	P	**Pn**	**14 24 22.7**	**+4.3**
	46nm,1.4s						
TNTI	**Ternate**	**9.56**	**353**	P	**Pn**	**14 24 22.4**	**+3.0**
	1μm86nm,1.3s						
LUWI	**Luwuk**	**9.60**	**323**	P	**Pn**	**14 24 22.6**	**+2.8**
	60nm,1.3s						
FITZ	**Fitzroy Crossi**	**9.68**	**197**	Pn	**Pn**	**14 24 21.7**	**+0.7**
	2.0nm,0.3s,baz=27,slow=12,SNR=71						
FITZ				Sn	**Sn**	**14 26 10.2**	**+1.7**
	9.0nm,0.3s,baz=102,slow=18,SNR=13						
FITZ	**Fitzroy Crossi**	**9.68**	**197**	*e*P	**Pn**	**14 24 22.4**	**+1.4**
FITZ				*e*S	**Sn**	**14 26 05.9**	**-2.6**
FITZ	**Fitzroy Crossi**	**9.68**	**197**	*e*P	**Pn**	**14 24 22.9**	**+1.9**
	17nm,0.7s						
FITZ				*e*S	**Sn**	**14 26 09.8**	**+1.3**
FITZ				Sn	**Sn**	**14 26 10.2**	**+1.7**
FITZ	**Fitzroy Crossi**	**9.68**	**197**	P	**Pn**	**14 24 24.0**	**+3.0**

TAPN	Taplejung	53.42	314	eP	P	14 31 19.6	-1.1
	4.2nm,0.4s,mb4.7						
TAPN	Taplejung	53.42	314	eP	P	14 31 19.6	-1.1
	4.2nm,0.4s,mb4.7						
RAMN	Ramite	53.99	312	eP	P	14 31 23.9	-1.0
	33nm,1.0s,mb5.2						
RAMN	Ramite	53.99	312	eP	P	14 31 23.9	-1.0
	33nm,1.0s,mb5.2						
JIRN	Jiri	54.70	313	eP	P	14 31 29.2	-0.9
	9.0nm,0.9s,mb4.8						
JIRN	Jiri	54.70	313	eP	P	14 31 29.2	-0.9
	9.0nm,0.9s,mb4.8						
GTA	Gaotai	54.86	333	eP	P	14 31 27.8	-3.2
GTA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
GUN	Gumba	55.06	313	eP	P	14 31 31.7	-1.0
	comp=Z,20nm,0.8s,mb5.2						
GUN	Gumba	55.06	313	eP	P	14 31 31.7	-1.0
	comp=Z,20nm,0.8s,mb5.2						
PKI	Pulchoki	55.21	312	eP	P	14 31 32.6	-1.2
PKI	Pulchoki	55.21	312	eP	P	14 31 32.6	-1.2
KKN	Kakani	55.43	312	eP	P	14 31 34.6	-0.8
KKN	Kakani	55.43	312	eP	P	14 31 34.6	-0.8
DMN	Daman	55.45	312	eP	P	14 31 34.3	-1.2
DMN	Daman	55.45	312	eP	P	14 31 34.3	-1.2
GKN	Gorkha	56.02	312	eP	P	14 31 38.3	-1.3
	comp=Z,6.1nm,0.4s,mb5.0						
GKN	Gorkha	56.02	312	eP	P	14 31 38.3	-1.3
	comp=Z,6.1nm,0.4s,mb5.0						
KOLN	Koldanda	56.65	311	eP	P	14 31 43.0	-1.1
	comp=Z,11nm,0.8s,mb4.9						
KOLN	Koldanda	56.65	311	eP	P	14 31 43.0	-1.1
	comp=Z,11nm,0.8s,mb4.9						
DANN	Dangsing	56.85	312	eP	P	14 31 43.6	-1.9
	comp=Z,18nm,1.1s,mb5.0						
DANN	Dangsing	56.85	312	eP	P	14 31 43.6	-1.9
	comp=Z,18nm,1.1s,mb5.0						
SONM	Songino Array	59.69	343	P	P	14 32 04.7	-0.2
	comp=Z,1.0nm,0.9s,mb3.8,baz=153,slow=6.8,SNR=7.0						
SONM	Songino Array	59.69	343	P	P	14 32 04.7	-0.2
MK31	Makanchi Array	68.94	328	eP	P	14 33 04.5	-1.0
MKAR	Makanchi Array	68.94	328	P	P	14 33 04.6	-0.9
	comp=Z,2.1nm,0.4s,mb4.4,baz=116,slow=8.2,SNR=60						
MKAR	Makanchi Array	68.94	328	P	P	14 33 04.6	-0.9
AAK	Ala-Archa	70.98	321	eP	P	14 33 17.8	-0.4
	comp=Z,19nm,0.9s,mb5.0						
ZALV	Zalesovo Beam	72.55	335	P	P	14 33 25.8	-1.5
	comp=Z,8.6nm,0.8s,mb4.7,baz=119,slow=5.2,SNR=34						
ZALV	Zalesovo Beam	72.55	335	P	P	14 33 25.8	-1.5
KURK	Kurchatov	73.29	329	eP	P	14 33 30.4	-1.4
	comp=Z,14nm,0.9s,mb4.9						
KURK	Kurchatov	73.29	329	P	P	14 33 31.2	-0.6
	comp=Z,84nm,0.5s,SNR=11						
BRVK	Borovoye	78.88	328	eP	P	14 34 02.4	-1.2
	comp=Z,9.4nm,1.1s,mb4.6						
BRVK	Borovoye	78.88	328	P	P	14 34 02.0	-1.6
	comp=Z,47nm,1.0s,mb5.4,SNR=7.2						
ABKAR	Akbulak array	83.01	322	eP	P	14 34 24.6	-1.1
	comp=Z,0.5nm,0.4s,mb3.9						
ARU	Arti	86.45	328	eP	P	14 34 41.8	-1.1
	comp=Z,12nm,1.1s,mb5.0						
BHD	Baghdad	89.92	304	ex	x	14 35 14.0	
ILAR	Eielson Array	95.57	25	P	P	14 35 23.2	-2.1
	comp=Z,0.1nm,0.6s,mb3.5,baz=270,slow=5.2,SNR=6.6						
ILAR	Eielson Array	95.57	25	P	P	14 35 23.2	-2.1
YKA	Yellowknife Ar	109.98	26	PKiKP	PKiKP	14 40 33.5	+2.0
	comp=Z,0.2nm,0.7s,baz=292,slow=1.6,SNR=4.5						
YKA	Yellowknife Ar	109.98	26	PKiKP	PKiKP	14 40 33.5	+2.0
TXAR	Lajitas Array	127.08	60	PKP	PKPdf	14 41 06.2	+1.0
	comp=Z,0.2nm,0.8s,baz=113,slow=2.9,SNR=3.5						
TXAR	Lajitas Array	127.08	60	PKP	PKPdf	14 41 06.2	+1.0
TORD	Torodi Ar. Bea	127.71	280	PKP	PKPdf	14 41 07.7	+0.9
	comp=Z,0.6nm,0.9s,baz=45,slow=3.1,SNR=3.9						
TORD	Torodi Ar. Bea	127.71	280	PKP	PKPdf	14 41 07.7	+0.9
CPUP	Villa Florida	144.63	171	PKP	PKPdf	14 41 40.6	+2.8
	comp=Z,2.1nm,0.6s,baz=213,slow=2.9,SNR=10						
CPUP	Villa Florida	144.63	171	PKP	PKPdf	14 41 40.6	+2.8
LPAZ	La Paz	150.12	146	PKPbc	PKPbc	14 41 57.3	+5.1
	comp=Z,2.2nm,0.8s,baz=155,slow=3.7,SNR=8.2						
LPAZ	La Paz	150.12	146	ePKPbc	PKPbc	14 41 57.1	+4.9

*IDC **24** 14:28:35.1±1.6, 6°.56S×143°.13E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.3/14, mbtmp4.2/11, ML4.0/1, MS4.0/8, Ms1 4.0/8, ms1mx3.5/26, Error ellipse: s-maj=43.6km s-min=20.5km az=126.0*

*ISCJB **24** 14:28:36.6±3.5, 6°.46S±0°.06×143°.00E±0°.07, h15km±22km, mb4.4/17, MS3.9/7, Error ellipse: s-maj=13.7km s-min=7.9km az=142.4*

*DJA **24** 14:28:37, 6°.48S×142°.92E, h10km, mb4.6/11*

*NEIC **24** 14:28:41.1±0.4, 6°.49S×142°.92E, h35km, mb4.6/6, Error ellipse: s-maj=12.3km s-min=9.3km az=81.0*

ISC 24 14:28:38.8±3.8, 6°.46S±0°.06×142°.98E±0°.07, h18km±24km, n55, σ1º08/46, mb4.4/17, MS3.9/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	4.53	330	P	Pn	14 29 46.4	-0.1
PMG	Port Moresby	5.07	126	Pn	Pn	14 29 54.7	+0.8
PMG				Sn	Sn	14 30 50.8	-1.1
	19nm,0.3s,baz=230,slow=22,SNR=15						
PMG	Port Moresby	5.07	126	Pn	Pn	14 29 54.7	+0.8
PMG				Sn	Sn	14 30 50.8	-1.1
PMG	Port Moresby	5.07	126	P	Pn	14 29 54.6	+0.7
	0.6nm1μm88nm,1.1s						
SMPI	Sarmi	6.16	316	P	Pn	14 30 07.8	-1.1
	0.4nm1μm72nm,1.3s						
TLE	Tual	10.22	274	P	Pn	14 31 02.6	-2.1
	93nm,0.9s						
FAKI	Fak Fak	11.26	288	P	Pn	14 31 17.5	-1.5
	26nm,1.6s						
CTA	Charters Tower	13.91	167	Lg		14 36 03.6	
	0.1nm,0.3s,baz=66,slow=20,SNR=3.7						
CTAO	Charters Tower	13.91	167	P	Pn	14 31 59.4	+4.3
WRAB	Tennant Creek	15.80	211	eP	Pn	14 32 21.3	+0.8
WRA	Warramunga Arr	15.81	211	Pn	Pn	14 32 18.2	-2.4
	0.6nm,0.3s,baz=31,slow=11,SNR=7.2						
WRA				Sn	Sn	14 35 08.0	-7.5
	0.3nm,0.3s,baz=26,slow=23,SNR=3.1						
WRA				Lg		14 36 55.4	
	0.4nm,0.3s,baz=32,slow=21,SNR=5.1						
WRA				LR	LR	14 39 04.1	
	comp=Z,1μm,18.5s,baz=35,slow=40						
WRA	Warramunga Arr	15.81	211	Pn	Pn	14 32 18.2	-2.4
WRA				Sn	Sn	14 35 08.1	-7.5
WRA				Lg		14 36 55.4	
EIDS	Eidsvold	20.33	158	eP	P	14 33 16.1	+2.0
	35nm,1.1s						
FITZ	Fitzroy Crossi	20.49	234	P	P	14 33 15.3	-0.6
	8.5nm,0.6s,baz=63,slow=11,SNR=11						
FITZ				Lg		14 39 29.0	
	26nm,0.9s,baz=276,slow=7.5,SNR=3.7						
FITZ				LR	LR	14 41 47.0	
	comp=Z,800nm,19.2s,MS4.1,baz=64,slow=38						
FITZ	Fitzroy Crossi	20.49	234	eP	P	14 33 15.3	-0.6
FITZ				Lg		14 39 29.0	
FITZ	Fitzroy Crossi	20.49	234	P	P	14 33 15.9	0.0
	31nm,2.6s						
LUWI	Luwuk	20.87	284	P	P	14 33 21.4	+1.3
	57nm,1.3s						
GTOI	Gorontalo	21.14	289	P	P	14 33 24.0	+0.9
	67nm,0.7s,mb5.1						
MRSI	Marisa	22.10	287	P	P	14 33 34.6	+1.2
	15nm,1.1s,mb4.3						
BKSI	Bulukumba	22.77	272	P	P	14 33 42.0	+1.6
	19nm,1.1s,mb4.4						
KAPI	Kappang	23.16	272	P	P	14 33 45.1	+0.6
	7.8nm,0.8s,mb4.2,baz=103,slow=19,SNR=5.8						
KAPI	Kappang	23.16	272	P	P	14 33 45.1	+0.5
KAPI	Kappang	23.16	272	P	P	14 33 44.5	-0.1
STKA	Stephens Creek	25.32	183	LR	LR	14 44 36.1	
	comp=Z,470nm,18.1s,MS4.0,baz=123,slow=38						
DZM	Mont Dzumac	27.46	127	eLR	LR	14 41 24.4	
	674nm,24.6s						
NWAO	Narrogin (SRO)	35.58	219	LR	LR	14 51 15.9	
	comp=Z,317nm,19.4s,MS4.1,baz=215,slow=38						
MJAR	Matsushiro Arr	43.01	354	LR	LR	14 51 38.9	
	comp=Z,71nm,19.8s,MS3.6,baz=190,slow=32						
KSAR	Wonju Array Be	45.90	343	P	P	14 37 01.0	+0.7
KSRS	Korea Array	45.90	343	P	P	14 37 01.0	+0.7
	3.3nm,1.0s,mb4.2,baz=150,slow=10,SNR=7.6						
KSRS				LR	LR	14 52 49.5	
	comp=Z,62nm,20.4s,MS3.5,baz=283,slow=32						
CMAR	Chiang Mai Arr	49.99	301	P	P	14 37 32.6	+0.2
	1.4nm,0.8s,mb4.0,baz=117,slow=5.6,SNR=11						
CMAR				PcP	PcP	14 38 55.2	+2.8
	1.1nm,1.0s,baz=136,slow=3.8,SNR=4.1						
CMAR	Chiang Mai Arr	49.99	301	P	P	14 37 32.6	+0.2
CMAR				PcP	PcP	14 38 55.2	+2.8
USRK	Ussuriysk Arra	51.39	350	P	P	14 37 42.6	+0.1
	1.7nm,0.7s,mb4.1,baz=142,slow=9.6,SNR=4.1						
PETK	Petropavlovsk-	60.64	10	P	P	14 38 48.9	+0.4
	4.9nm,0.9s,mb4.6,baz=170,slow=9.4,SNR=2.8						
PETK	Petropavlovsk-	60.64	10	P	P	14 38 48.9	+0.4
ULN	Ulaanbaatar	62.67	334	P	P	14 39 03.1	+0.9
	1.2nm,0.5s,mb4.3						
SONM	Songino Array	62.94	333	P	P	14 39 04.3	+0.2
	1.6nm,0.9s,mb4.2,baz=151,slow=6.5,SNR=9.5						
SONM	Songino Array	62.94	333	P	P	14 39 04.3	+0.2
PPT2	Papeete2	66.59	106	eLR	LR	14 59 27.6	
	159nm,30.2s						
TBI	Tubuai	66.87	113	eLR	LR	14 59 36.8	
	177nm,25.2s						
MKAR	Makanchi Array	75.35	322	P	P	14 40 21.6	+0.5
	4.9nm,1.1s,mb4.4,baz=100,slow=6.6,SNR=19						
MKAR	Makanchi Array	75.35	322	P	P	14 40 21.6	+0.5
ZALV	Zalesovo Beam	77.31	329	P	P	14 40 31.2	-0.9
	1.1nm,0.5s,mb4.1,baz=116,slow=6.1,SNR=7.5						
ZALV				LR	LR	15 17 27.8	
	comp=Z,55nm,19.6s,MS3.9,baz=251,slow=38						
ZALV	Zalesovo Beam	77.31	329	P	P	14 40 31.2	-0.9
KURK	Kurchatov	79.22	324	eP	P	14 40 41.0	-1.7
	17nm,1.4s,mb4.8						
MAW	Mawson	80.29	203	LR	LR	15 14 25.2	
	comp=Z,164nm,19.9s,MS4.4,baz=250,slow=34						
QSPA	South Pole Qui	83.51	180	eP	P	14 41 04.9	-0.1
	8.4nm,1.2s,mb4.8						
BRVK	Borovoye	84.88	325	eP	P	14 41 12.3	-0.1
	19nm,1.1s,mb5.1						
ILAR	Eielson Array	87.49	24	P	P	14 41 23.6	-1.5
	1.7nm,0.8s,mb4.3,baz=254,slow=4.9,SNR=25						
ILAR	Eielson Array	87.49	24	P	P	14 41 23.6	-1.5
ABKAR	Akbulak array	90.32	319	eP	P	14 41 38.1	-0.6
	0.9nm,0.8s,mb4.2						
TORD	Torodi Ar. Bea	141.32	283	PKhKP	PKPpre	14 48 03.7	
	0.3nm,0.5s,baz=93,slow=2.9,SNR=3.1						
TORD	Torodi Ar. Bea	141.32	283	PKPpre	PKPpre	14 48 03.7	
DBIC	Dimbokro	148.05	272	PKPbc	PKPbc	14 48 24.5	+0.1
	11nm,1.2s,baz=44,slow=3.5,SNR=6.3						
DBIC	Dimbokro	148.05	272	PKPbc	PKPbc	14 48 24.5	+0.1
SAML	Samuel	149.76	120	ePKPbc	PKPbc	14 48 29.6	+0.8

*IDC **24** 14:43:37.5±1.7, 19°.71N×94°.40E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.5/25, mbtmp3.7/7, ML3.4/1, MS3.2/2, Ms1 3.1/2, ms1mx2.5/33, Error ellipse: s-maj=53.6km s-min=18.1km az=48.0*

*NEIC **24** 14:43:44.9±3.7, 19°.77N×94°.47E, h55km±30km, Error ellipse: s-maj=53.3km s-min=11.7km az=58.0*

*ISCJB **24** 14:43:45.0±2.7, 19°.9N±0°.2×94°.6E±0°.3, h73km±20km, mb3.6/7, Error ellipse: s-maj=56.4km s-min=9.9km az=141.0*

ISC 24 14:43:46.9±2.4, 19°.9N±0°.2×94°.6E±0°.3, h71km±17km, n21, σ0º57/22, mb3.6/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	Chiang Mai	4.22	104	P	Pn	14 44 49.3	+0.5
CMAR	Chiang Mai Arr	4.33	108	Pn	Pn	14 44 48.5	-1.7
	0.5nm,0.3s,baz=281,slow=13,SNR=9.1						
CMAR				Pg	Pn	14 44 57.7	+7.5
	0.5nm,0.3s,baz=281,slow=15,SNR=6.3						
CMAR	Chiang Mai Arr	4.33	108	Pn	Pn	14 44 48.5	-1.7
CMAR				Pg	Pn	14 44 57.7	+7.5
SHL	Shillong	6.21	337	ePKP	Pn	14 45 17.0	+1.0
SHL				eS	Sn	14 46 25.0	-0.7
MKAR	Makanchi Array	28.70	342	P	P	14 49 37.5	+0.2
	0.8nm,0.5s,mb3.6,baz=151,slow=9.4,SNR=7.3						
MKAR	Makanchi Array	28.70	342	P	P	14 49 37.5	+0.2
SONM	Songino Array	29.50	16	P	P	14 49 44.7	+0.4
	0.1nm,0.3s,mb3.0,baz=204,slow=9.8,SNR=3.4						
SONM	Songino Array	29.50	16	P	P	14 49 44.8	+0.4
KURK	Kurchatov	33.29	341	P	P	14 50 17.5	-0.1
	0.9nm,0.2s,mb4.2,baz=151,slow=8.6,SNR=5.0						
KURK	Kurchatov	33.29	341	P	P	14 50 17.5	-0.1
ZALV	Zalesovo Beam	34.85	350	P	P	14 50 31.2	+0.2
	0.9nm,0.4s,mb4.0,baz=169,slow=8.7,SNR=4.7						
ZALV	Zalesovo Beam	34.85	350	P	P	14 50 31.2	+0.2
BVAR	Borovoye Array	38.04	336	P	P	14 50 57.5	-0.7
	0.2nm,0.4s,mb3.3,baz=142,slow=11,SNR=2.8						
BVAR	Borovoye Array	38.04	336	P	P	14 50 57.5	-0.7
AKTO	Aktyubinsk	42.02	325	LR	LR	15 10 56.2	
	comp=Z,81nm,18.1s,baz=119,slow=39						
WRA	Warramunga Arr	55.49	133	P	P	14 53 14.6	-0.3
	0.2nm,0.9s,mb3.1,baz=318,slow=7.6,SNR=12						
WRA	Warramunga Arr	55.49	133	P	P	14 53 14.6	-0.3
WRAB	Tennant Creek	55.49	133	eP	P	14 53 15.0	+0.2
ARCES	ARCESS Array B	64.27	339	P	P	14 54 14.4	+0.1
	5.5nm,1.2s,mb4.3,baz=94,slow=9.0,SNR=4.6						
ARCES	ARCESS Array B	64.27	339	P	P	14 54 14.4	+0.1
BOSA	Boshof	82.48	236	LR	LR	15 28 36.7	
	comp=Z,4.5nm,18.4s,baz=166,slow=33						

*JMA **24** 14:47:45.4±0.1, 36°.60N×142°.45E, h33km, M3.0*

*ISCJB **24** 14:47:46.6±1.0, 36°.59N±0°.05×142°.44E±0°.08, h33km, mb3.3/3, Error ellipse: s-maj=10.2km s-min=5.9km az=31.6*

*IDC **24** 14:47:50.7±2.5, 37°.04N×141°.74E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/22, mbtmp3.3/5, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/20, Error ellipse: s-maj=64.2km s-min=29.5km az=63.0*

ISC 24 14:47:47.5±1.1, 36°.59N±0°.05×142°.47E±0°.08, h35km, n19, σ1º03/24, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.44	291	P	Pn	14 48 10.0	-1.0
JHO	Hitachi	1.53	271	P	Pn	14 48 10.9	-1.4
JHO				eS	Sn	14 48 29.9	-1.1
JMM	Marumori	1.85	314	P	Pn	14 48 15.8	-0.9
JIO	Ouri	2.07	335	P	Pn	14 48 18.9	-0.8
JIO				eS	Sn	14 48 44.1	-0.1
BSO1	Boso 1	2.28	213	P	Pn	14 48 22.1	-0.6
JAG	Ashikaga	2.44	267	P	Pn	14 48 24.3	-0.5
JAG				eS	Sn	14 48 52.9	-0.5
JMK	Ichinoseki	2.56	338	P	Pn	14 48 26.1	-0.4
JMK				eS	Sn	14 48 56.6	+0.2
JYK	Kaneyama	2.87	325	P	Pn	14 48 30.4	-0.3
JRY	Ryogami san	2.94	260	P	Pn	14 48 31.0	-0.7
JRY				eS	Sn	14 49 05.8	+0.1
JOM	Ohasama	3.03	342	P	Pn	14 48 32.7	-0.2
JOD2	Odawara 2	3.05	245	P	Pn	14 48 32.8	-0.4
JYN	Shimob	3.36	252	P	Pn	14 48 37.8	+0.3
MJAR	Matsushiro Arr	3.43	271	Pn	Pn	14 48 38.2	-0.3
	1.8nm,0.3s,baz=85,slow=8.2,SNR=8.6						
MJAR				Sn	Sn	14 49 19.4	+1.5
	baz=93,slow=13,SNR=2.2						
MAT	Matsushiro	3.43	271	P	Pn	14 48 39.2	+0.7
MAT				S	Sn	14 49 19.3	+1.4
PETK	Petropavlovsk-	19.66	28	LR	LR	14 59 00.5	
	comp=Z,49nm,19.7s,baz=11,slow=34						
SONM	Songino Array	28.74	304	P	P	14 53 43.8	+2.4
	0.4nm,0.7s,mb3.2,baz=90,slow=7.8,SNR=3.5						
MKAR	Makanchi Array	45.08	303	P	P	14 56 02.7	+2.7
	0.3nm,0.5s,mb3.4,baz=87,slow=12,SNR=2.5						
KURK	Kurchatov	46.88	309	P	P	14 56 16.3	+2.2
	0.3nm,0.8s,mb3.3,baz=82,slow=8.2,SNR=2.8						
WRA	Warramunga Arr	56.74	189	P	pP	14 57 38.7	+0.3
	0.1nm,0.4s,baz=0.5,slow=7.5,SNR=5.9						

*DDA **24** 14:49:36.2, 37°.90N×29°.30E, h7km±3km, Md2.8*

*ISCJB **24** 14:49:37.7±0.5, 37°.90N±0°.03×29°.18E±0°.04, h10km, Error ellipse: s-maj=4.2km s-min=3.6km az=153.9*

*ISK **24** 14:49:37.8, 37°.93N×29°.15E, h5km, MD2.7*

*CSEM **24** 14:49:38.0±0.1, 37°.94N×29°.19E, h2km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.7km az=91.0*

ISC 24 14:49:38.3±0.5, 37°.93N±0°.03×29°.18E±0°.04, h10km, n22, σ0º80/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.21	214	ePG	Pg	14 49 42.3	-0.4
DENT	Denizli	0.21	214	ePg	Pg	14 49 42.3	-0.4
KULA	Kula-Manisa	0.71	325	ePG	Pg	14 49 51.7	-0.4
KULA				eSG	Sg	14 50 01.9	+0.5
KULA	Kula-Manisa	0.71	325	ePg	Pg	14 49 51.7	-0.4
KULA				eSg	Sg	14 50 01.9	+0.5
GOLH	Golhisar	0.76	156	iP	Pg	14 49 49.1	-3.7
GOLH				iS	Sg	14 50 01.8	-0.9
GOLH	Golhisar	0.76	156	iP	Pg	14 49 49.1	-3.8
GOLH				iS	Sg	14 50 01.8	-0.9
AYDN	Tasoluk	1.07	256	iP	Pg	14 49 58.6	-0.1
AYDN				iS	Sg	14 50 13.3	+0.7
AYDN	Tasoluk	1.07	256	iP	Pg	14 49 58.7	-0.1
AYDN				iS	Sg	14 50 13.4	+0.7
YER	Yerkesik	1.07	222	ePG	Pg	14 49 58.2	-0.6
YER				eSG	Sg	14 50 13.3	+0.5
YER	Yerkesik	1.07	222	ePg	Pg	14 49 58.3	-0.5
YER				eSg	Sg	14 50 13.3	+0.6
DEMI	Demirci	1.17	342	iP	Pb	14 50 00.7	+0.1
DEMI				iS	Sb	14 50 16.5	+0.7
DEMI	Demirci	1.17	342	iP	Pb	14 50 00.7	+0.1
DEMI				iS	Sb	14 50 16.5	+0.7
GDZ	Gediz	1.18	11	iP	Pb	14 49 59.4	-1.4
GDZ				iS	Sb	14 50 15.5	-0.7
GDZ	Gediz	1.18	11	iP	Pb	14 49 59.4	-1.4
GDZ				iS	Sb	14 50 15.5	-0.6
BCK	Bucak	1.21	112	ePN	Pg	14 50 02.2	+0.7
BCK				eSN	Sg	14 50 18.9	+1.6
BCK	Bucak	1.21	112	ePn	Pg	14 50 02.3	+0.7
BCK				eSn	Sg	14 50 18.9	+1.6
SHUT	Suhut-Afyon	1.24	60	ePN	Pg	14 50 02.9	+0.7
SHUT	Suhut-Afyon	1.24	60	ePn	Pg	14 50 02.9	+0.7
ELL	Elmali	1.31	154	ePN	Pg	14 50 03.8	+0.2
ELL	Elmali	1.31	154	ePn	Pg	14 50 03.8	+0.3
SUTC	Sutluce-Ispart	1.51	107	ePN	Pg	14 50 06.4	-0.9
SUTC	Sutluce-Ispart	1.51	107	ePn	Pg	14 50 06.4	-0.9

*IDC **24** 14:57:33.0±1.0, 8°.06S×154°.69E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/16, mbtmp4.0/11, ML3.9/1, MS3.4/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=28.9km s-min=20.9km az=123.0*

*NEIC **24** 14:57:40.1±1.7, 8°.07S×154°.81E, h54km±18km, mb4.1/3, Error ellipse: s-maj=17.4km s-min=13.4km az=151.0*

*ISCJB **24** 14:57:42.1±1.9, 8°.0S±0°.1×154°.54E±0°.07, h78km±20km, mb3.8/12, Error ellipse: s-maj=17.4km s-min=10.6km az=169.2*

ISC 24 14:57:44.4±1.5, 8°.1S±0°.1×154°.53E±0°.07, h86km±17km, n34, σ0º91/34, mb3.8/12, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.52	104	Pn	Pn	14 58 53.9	-10
	4.1nm,0.3s,baz=201,slow=8.1,SNR=3.6						
HNR				Sn	Sn	15 00 06.2	0.0
	4.4nm,0.3s,baz=260,slow=11,SNR=3.7						
HNR	Honiara	5.52	104	eP	Pn	14 58 54.6	-9.5
HNR				Sn	Sn	15 00 06.2	0.0
PMG	Port Moresby	7.40	259	Pn	Pn	14 59 30.3	+0.5
	1.0nm,0.3s,baz=29,slow=10,SNR=6.2						
PMG	Port Moresby	7.40	259	Pn	Pn	14 59 30.3	+0.5
CTA	Charters Tower	14.37	213	Pn	Pn	15 01 03.4	-0.3
	0.1nm,0.3s,baz=28,slow=16,SNR=3.2						
CTA				LR	LR	15 05 45.8	
	comp=Z,102nm,18.6s,baz=51,slow=34						
CTA	Charters Tower	14.37	213	eP	Pn	15 01 03.0	-0.7
CTA	Charters Tower	14.37	213	Pn	Pn	15 01 03.4	-0.3
EIDS	Eidsvold	17.49	190	eP	Pn	15 01 43.3	+0.5
	7.3nm,0.8s						
ARMA	Armidale	22.38	187	eP	P	15 02 26.8	-8.8
ARMA	Armidale	22.38	187	eP	P	15 02 34.7	-0.8
	27nm,1.3s,mb4.4						
WRAB	Tennant Creek	22.81	237	eP	P	15 02 40.1	-0.2
	3.6nm,0.5s,mb4.0						
WRA	Warramunga Arr	22.82	237	P	P	15 02 40.2	-0.2
	3.9nm,0.6s,mb3.9,baz=62,slow=9.8,SNR=43						
WRA	Warramunga Arr	22.82	237	P	P	15 02 40.2	-0.2
STKA	Stephens Creek	26.55	205	P	P	15 03 13.6	-0.6
	2.0nm,0.5s,mb3.9,baz=39,slow=15,SNR=8.5						
STKA				LR	LR	15 13 28.7	
	comp=Z,94nm,19.0s,baz=25,slow=36						
STKA	Stephens Creek	26.55	205	eP	P	15 03 14.1	-0.2
STKA	Stephens Creek	26.55	205	P	P	15 03 13.6	-0.6
FITZ	Fitzroy Crossi	29.80	248	P	P	15 03 43.8	+0.4
	3.3nm,0.9s,mb4.0,baz=53,slow=15,SNR=3.2						
FITZ	Fitzroy Crossi	29.80	248	eP	P	15 03 44.0	+0.6
KSRS	Korea Array	51.69	333	P	P	15 06 40.9	-1.8
	0.5nm,0.4s,mb3.9,baz=174,slow=6.6,SNR=2.7						
KSAR	Wonju Array Be	51.70	333	P	P	15 06 40.9	-1.9
CMAR	Chiang Mai Arr	60.84	296	P	P	15 07

0.4nm,0.4s,mb3.4,baz=86,slow=7.8,SNR=2.6
ZALV Zalesovo Beam 42.08 312 P **P 15 19 27.7 -0.5**
MKAR Makanchi Array 44.32 302 P **P 15 19 46.8 +0.4**
1.1nm,0.9s,mb3.6,baz=92,slow=8.5,SNR=4.8
MKAR Makanchi Array 44.32 302 P **P 15 19 46.8 +0.4**
KURK Kurchatov 46.11 308 P **P 15 20 01.1 +0.6**
0.6nm,0.4s,mb3.9,baz=82,slow=7.9,SNR=4.1
KURK Kurchatov 46.11 308 P **P 15 20 00.9 +0.4**
3.8nm,1.0s,mb4.3
ILAR Eielson Array 49.34 32 P **P 15 20 23.1 -2.3**
0.5nm,0.7s,mb3.6,baz=266,slow=6.3,SNR=6.0
ILAR Eielson Array 49.34 32 P **P 15 20 23.1 -2.3**
AKASG Malin Array Be 74.43 322 P **P 15 23 11.2 -3.0**
0.3nm,0.3s,mb3.7,baz=43,slow=5.8,SNR=4.3
AKASG Malin Array Be 74.43 322 P **P 15 23 11.2 -3.0**

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*IDC **24** 15:15:50.7±1.4,3°.36S×130°.50E,h0km,mb4.4/3,*
mb1 4.2/5,mb1mx3.8/18,mbtmp4.1/5,ML4.1/2,MS3.0/1,
Ms1 3.0/1,ms1mx2.2/25,Error ellipse: s-maj=78.7km
s-min=23.1km az=70.0
*ISCJB **24** 15:15:55.2±0.8,3°.47S±0°.07×130°.76E±0°.05,h67km±12km,*
mb4.1/3,Error ellipse: s-maj=11.6km s-min=8.4km az=7.3
*DJA **24** 15:15:56,3°.19S×130°.67E,h95km,MLv3.8/7*
ISC 24 15:15:56.2±0.8,3°.37S±0°.08×130°.75E±0°.05,h48km±13km,
n14,σ1°20/21,mb4.2/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.56**	**73**	P	**Pn**	**15 16 22.1**	**+0.6**
FAKI				S	**Sn**	**15 16 47.1**	**+6.5**
MSAI	**Masohi**	**1.82**	**271**	P	**Pn**	**15 16 25.6**	**+0.5**
MSAI				S	**Sn**	**15 16 48.3**	**+1.3**
AAI	**Ambon**	**2.57**	**263**	P	**Pn**	**15 16 36.5**	**+1.1**
TLE	**Tual**	**3.00**	**139**	P	**Pn**	**15 16 46.2**	**+5.0**
TLE				S	**Sn**	**15 17 22.5**	**+6.5**
NLAI	**Namlea**	**3.65**	**272**	P	**Pn**	**15 16 50.2**	**0.0**
NLAI				S	**Sn**	**15 17 32.8**	**+0.8**
LBMI	**Labuha**	**4.23**	**310**	P	**Pn**	**15 16 55.3**	**-2.9**
BAKI	**Biak**	**5.77**	**68**	P	**Pn**	**15 17 19.6**	**+0.3**
	4μm184nm,0.7s						
GTOI	**Gorontalo**	**8.70**	**297**	P	**Pn**	**15 17 58.6**	**-0.9**
	16nm,0.8s						
GTOI				S	**Sn**	**15 19 34.6**	**-1.8**
	16nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.47**	**199**	Pn	**Pn**	**15 19 29.8**	**-1.6**
	0.5nm,0.3s,baz=360,slow=5.5,SNR=10						
FITZ				Sn	**Sn**	**15 22 15.5**	**-6.4**
	0.1nm,0.3s,baz=257,slow=14,SNR=2.3						
FITZ				LR	LR	15 26 09.0	
	comp=Z,55nm,21.3s,baz=8.3,slow=40						
WRA	**Warramunga Arr**	**16.84**	**168**	Pn	**Pn**	**15 19 47.1**	**-1.5**
	0.9nm,0.3s,baz=348,slow=11,SNR=31						
WRA				Sn	**Sn**	**15 22 48.9**	**-6.0**
	0.5nm,0.3s,baz=354,slow=21,SNR=4.9						
STKA	**Stephens Creek**	**30.13**	**161**	P	**P**	**15 22 03.7**	**+2.1**
	2.0nm,0.6s,mb4.0,baz=337,slow=8.9,SNR=8.3						
STKA	**Stephens Creek**	**30.13**	**161**	*eP*	**P**	**15 22 05.0**	**+3.4**
MKAR	**Makanchi Array**	**65.64**	**326**	P	**P**	**15 26 35.9**	**+0.4**
	3.1nm,0.4s,mb4.7,baz=111,slow=8.2,SNR=4.9						
KURK	**Kurchatov**	**69.85**	**328**	P	**P**	**15 27 02.3**	**+0.5**
	0.4nm,0.3s,mb3.9,baz=128,slow=5.7,SNR=5.7						

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*NEIC **24** 15:24:50.3,17°.07N×101°.02W,h16km,MD3.7(MEX),After MEX.*
MEX 24 15:24:50.3±0.8,17°.07N×101°.02W,h16km±11km,MD3.7,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.68**	**322**	*i* P	Pg	15 25 01.2	-2.5
ZIIG				*eS*	Sg	15 25 09.7	-3.1
ZIIG	**Zihuatanejo**	**0.68**	**322**	*i* P	Pg	15 25 01.2	-2.5
ZIIG				*eS*	Sg	15 25 09.7	-3.1
CAIG	**El Cayaco**	**0.72**	**91**	*i* P	Pg	15 25 01.8	-2.6
CAIG				*eS*	Sg	15 25 10.3	-3.7
CAIG	**El Cayaco**	**0.72**	**91**	*i* P	Pg	15 25 01.8	-2.6
CAIG				*eS*	Sg	15 25 10.3	-3.7
MEIG	**Mezcala**	**1.58**	**57**	*i* P	Pn	15 25 14.9	-2.8
MEIG				*eS*	Sn	15 25 32.5	-5.4
MEIG	**Mezcala**	**1.58**	**57**	*i* P	Pn	15 25 14.9	-2.8
MEIG				*eS*	Sn	15 25 32.5	-5.4
PPM	**Popocatepetl**	**3.02**	**49**	*i* P	Pn	15 25 36.4	-1.1
PPM				*eS*	Sn	15 26 10.0	-3.4
PPM	**Popocatepetl**	**3.02**	**49**	*i* P	Pn	15 25 36.4	-1.1
PPM				*eS*	Sn	15 26 10.0	-3.4

DJA 24 15:29:30,2°.88S×130°.75E,h59km,MLv3.5/7,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.50**	**92**	P	Pn	15 29 55.3	+0.7
MSAI	**Masohi**	**1.88**	**256**	P	Pn	15 29 59.7	-0.1
AAI	**Ambon**	**2.67**	**252**	P	Pn	15 30 11.8	+1.1
TLE	**Tual**	**3.38**	**144**	P	Pn	15 30 20.5	+0.2
NLAI	**Namlea**	**3.66**	**264**	P	Pn	15 30 23.3	-0.9
LBMI	**Labuha**	**3.94**	**304**	P	Pn	15 30 28.6	+0.6

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*IDC **24** 15:38:16.6±2.1,36°.47N×142°.60E,h0km,mb3.4/2,*
mb1 3.5/4,mb1mx3.3/22,mbtmp3.4/4,ML3.0/2,Error
ellipse: s-maj=47.5km s-min=26.4km az=83.0
*ISCJB **24** 15:38:20.1±1.0,36°.61N±0°.04×142°.48E±0°.07,*
h39km±15km,mb3.4/2,Error ellipse: s-maj=9.8km
s-min=5.9km az=15.2
*JMA **24** 15:38:20.3±0.2,36°.60N×142°.42E,h65km,M2.8*
ISC 24 15:38:20.9±2.0,36°.62N±0°.04×142°.42E±0°.08,h27km±19km,
n16,σ0°80/29,mb3.4/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.39**	**291**	P	**Pn**	**15 38 44.0**	**-0.5**
ONAJ				*eS*	**Sn**	**15 39 03.0**	**+1.0**
JFK	**Kawauchi**	**1.45**	**302**	P	**Pn**	**15 38 44.3**	**-1.0**
JFK				*eS*	**Sn**	**15 39 02.3**	**-1.1**
JHO	**Hitachi**	**1.49**	**270**	P	**Pn**	**15 38 45.2**	**-0.7**
JHO				*eS*	**Sn**	**15 39 04.1**	**-0.4**
JMM	**Marumori**	**1.80**	**314**	P	**Pn**	**15 38 50.3**	**+0.1**
JMM				*eS*	**Sn**	**15 39 11.2**	**-1.0**
JFT	**Otama**	**1.90**	**299**	P	**Pn**	**15 38 52.2**	**+0.7**
JFT				*eS*	**Sn**	**15 39 14.5**	**0.0**
JIO	**Ouri**	**2.02**	**335**	P	**Pn**	**15 38 53.4**	**+0.2**
JIO				*eS*	**Sn**	**15 39 17.4**	**-0.2**
BSO1	**Boso 1**	**2.29**	**211**	P	**Pn**	**15 38 56.1**	**-0.7**
BSO1				*eS*	**Sn**	**15 39 24.5**	**+0.4**
JAG	**Ashikaga**	**2.40**	**266**	P	**Pn**	**15 38 58.4**	**0.0**
JAG				*eS*	**Sn**	**15 39 26.3**	**-0.6**
JMK	**Ichinoseki**	**2.52**	**338**	P	**Pn**	**15 39 00.4**	**+0.4**
JMK				*eS*	**Sn**	**15 39 30.3**	**+0.5**
JRY	**Ryogami san**	**2.91**	**259**	P	**Pn**	**15 39 05.2**	**-0.1**
JRY				*eS*	**Sn**	**15 39 38.8**	**-0.6**
JOM	**Ohasama**	**2.99**	**343**	P	**Pn**	**15 39 06.6**	**+0.1**
JOM				*eS*	**Sn**	**15 39 41.1**	**-0.3**
MJAR	**Matsushiro Arr**	**3.39**	**270**	Pn	**Pn**	**15 39 12.1**	**+0.1**
	1.7nm,0.3s,baz=106,slow=7.8,SNR=13						
MAT	**Matsushiro**	**3.40**	**270**	P	**Pn**	**15 39 13.3**	**+1.2**
MAT				S	**Sn**	**15 39 54.0**	**+2.6**
ASAJ	**Asahikawa**	**7.49**	**1**	Pn	**Pn**	**15 40 08.2**	**-0.1**
	0.2nm,0.3s,baz=84,slow=30,SNR=5.0						
ASAJ				Sn	**Sn**	**15 41 38.9**	**+6.5**
	0.2nm,0.3s,baz=86,slow=14,SNR=2.3						
SONM	**Songino Array**	**28.69**	**304**	P	**P**	**15 44 17.4**	**+2.0**
	0.5nm,0.8s,mb3.3,baz=116,slow=8.9,SNR=4.5						
WRA	**Warramunga Arr**	**56.77**	**189**	P	**P**	**15 48 01.6**	**-0.9**
	0.2nm,0.5s,mb3.5,baz=7.0,slow=7.3,SNR=6.7						

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*IDC **24** 15:59:05.4±3.1,33°.42N×90°.25E,h0km,mb3.4/2,*
mb1 3.6/4,mb1mx3.3/24,mbtmp3.4/4,ML3.3/2,Error
ellipse: s-maj=205.8km s-min=25.0km az=65.0
*ISCJB **24** 15:59:08.2±0.7,33°.52N±0°.06×90°.3E±0°.1,h33km,Error*
ellipse: s-maj=14.0km s-min=7.8km az=8.0
*NEIC **24** 15:59:09.8±5.1,33°.51N×90°.40E,h29km±45km,Error*
ellipse: s-maj=17.4km s-min=8.5km az=81.0
ISC 24 15:59:10.4±0.8,33°.53N±0°.05×90°.4E±0°.1,h35km,n33,
σ1°04/33,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.88**	**170**	*eP*	**Pn**	**16 00 08.8**	**+1.3**
TAPN	**Taplejung**	**6.58**	**201**	*eP*	**Pn**	**16 00 44.4**	**-0.3**
	8.7nm,0.5s						
TAPN	**Taplejung**	**6.58**	**201**	*eP*	**Pn**	**16 00 44.4**	**-0.3**
	8.7nm,0.5s						
GUN	**Gumba**	**6.82**	**216**	*eP*	**Pn**	**16 00 49.5**	**+1.6**
	7.3nm,0.5s						
GUN	**Gumba**	**6.82**	**216**	*eP*	**Pn**	**16 00 49.5**	**+1.6**
	7.3nm,0.5s						
JIRN	**Jiri**	**6.88**	**213**	*eP*	**Pn**	**16 00 49.4**	**+0.6**
	9.8nm,0.5s						
JIRN	**Jiri**	**6.88**	**213**	*eP*	**Pn**	**16 00 49.4**	**+0.6**
	9.8nm,0.5s						
ODAN	**Odare**	**7.14**	**202**	*eP*	**Pn**	**16 00 51.4**	**-0.9**
	15nm,0.5s						
ODAN	**Odare**	**7.14**	**202**	*eP*	**Pn**	**16 00 51.4**	**-0.9**
	15nm,0.5s						
KKN	**Kakani**	**7.22**	**219**	*eP*	**Pn**	**16 00 53.9**	**+0.5**
	4.7nm,0.5s						
KKN	**Kakani**	**7.22**	**219**	*eP*	**Pn**	**16 00 53.9**	**+0.5**
	4.7nm,0.5s						
PKI	**Pulchoki**	**7.33**	**217**	*eP*	**Pn**	**16 00 56.4**	**+1.4**
	7.8nm,0.5s						
PKI	**Pulchoki**	**7.33**	**217**	*eP*	**Pn**	**16 00 56.4**	**+1.4**
	7.8nm,0.5s						
RAMN	**Ramite**	**7.33**	**208**	*eP*	**Pn**	**16 00 54.0**	**-1.0**
	17nm,0.5s						
RAMN	**Ramite**	**7.33**	**208**	*eP*	**Pn**	**16 00 54.0**	**-1.0**
	17nm,0.5s						
GKN	**Gorkha**	**7.41**	**223**	*eP*	**Pn**	**16 00 56.2**	**+0.2**
	5.0nm,0.4s						
GKN	**Gorkha**	**7.41**	**223**	*eP*	**Pn**	**16 00 56.2**	**+0.2**
	5.0nm,0.4s						
DMN	**Daman**	**7.46**	**219**	*eP*	**Pn**	**16 00 56.8**	**+0.1**
	7.0nm,0.5s						
DMN	**Daman**	**7.46**	**219**	*eP*	**Pn**	**16 00 56.8**	**+0.1**
	7.0nm,0.5s						
DANN	**Dangsing**	**7.69**	**230**	*eP*	**Pn**	**16 00 58.9**	**-0.9**
	4.8nm,0.6s						
DANN	**Dangsing**	**7.69**	**230**	*eP*	**Pn**	**16 00 58.9**	**-0.9**
	4.8nm,0.6s						
KOLN	**Koldanda**	**8.20**	**227**	*eP*	**Pn**	**16 01 05.3**	**-1.5**
KOLN	**Koldanda**	**8.20**	**227**	*eP*	**Pn**	**16 01 05.3**	**-1.5**
MKAR	**Makanchi Array**	**14.61**	**337**	Pn	**Pn**	**16 02 35.1**	**+0.7**
	0.0nm,0.3s,baz=141,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**14.61**	**337**	Pn	**Pn**	**16 02 35.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.85**	**151**	Pn	**Pn**	**16 03 01.9**	**-1.8**
	0.1nm,0.3s,baz=327,slow=11,SNR=9.5						
CMAR	**Chiang Mai Arr**	**16.85**	**151**	Pn	**Pn**	**16 03 01.9**	**-1.8**
KURK	**Kurchatov**	**19.22**	**337**	P	**Pn**	**16 03 30.9**	**-1.5**
	0.0nm,0.3s,baz=150,slow=11,SNR=2.8						
KURK	**Kurchatov**	**19.22**	**337**	P	**Pn**	**16 03 30.9**	**-1.5**
ZALV	**Zalesovo Beam**	**20.79**	**351**	P	**P**	**16 03 49.0**	**+0.7**
	1.0nm,0.7s,baz=172,slow=13,SNR=6.1						
ZALV	**Zalesovo Beam**	**20.79**	**351**	P	**P**	**16 03 49.0**	**+0.7**
WRA	**Warramunga Arr**	**67.71**	**135**	P	**P**	**16 10 05.0**	**+0.7**
	0.2nm,0.4s,baz=328,slow=6.9,SNR=5.9						
WRA	**Warramunga Arr**	**67.71**	**135**	P	**P**	**16 10 05.0**	**+0.7**

CASC 24 16:54:04.8±1.9,11°.50N×86°.49W,h125km±13km,MD3.8,
ML3.7,1C,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	**Ticuantepe**	**0.59**	**25**	*eP*	Pn	16 54 23.9	0.0
XAVN	**Gruta Xavier**	**0.67**	**13**	*eP*	Pn	16 54 24.3	-0.1
XAVN				*eS*	Sn	16 54 42.0	+2.7
CSAN		**0.68**	**5**	*eP*	Pn	16 54 23.9	-0.7
COPN	**Copaltepe**	**0.69**	**351**	*eP*	Pn	16 54 24.8	+0.1
COPN				AML	AML	16 54 44.9	
	comp=Z,480nm,0.1s						
MGAN	**Managua**	**0.69**	**20**	*eP*	Pn	16 54 24.1	-0.5
MGAN				*eS*	Sn	16 54 40.1	+0.5
APYN	**Apoyeque**	**0.74**	**10**	*eP*	Pn	16 54 24.7	-0.4
HUEN		**0.89**	**20**	*eP*	Pn	16 54 25.3	-1.0
MIRN	**Miramar**	**0.96**	**347**	*eP*	Pn	16 54 27.1	+0.2
CNGN	**Cerro Negro**	**1.02**	**348**	*eP*	Pn	16 54 27.1	-0.3
CNGN				*eS*	Sn	16 54 45.0	+0.3
GBS2	**Las Lilas**	**1.21**	**123**	*i* S	Sn	16 54 48.2	+0.1
NY14	**Universidad de**	**1.26**	**132**	*i* P	Pn	16 54 30.6	+0.6
LAPC	**Finca la Perla**	**1.26**	**125**	⇑*i* P	Pn	16 54 30.1	+0.2
LAPC				*i* S	Sn	16 54 49.4	+0.3
CRIN	**San Cristobal**	**1.32**	**335**	*eP*	Pn	16 54 30.7	+0.1
CRIN				*eS*	Sn	16 54 52.9	+2.8
CRIN				AML	AML	16 54 55.9	
	comp=E,3μm,0.2s						
GPS3	**Bodega del ICE**	**1.32**	**124**	*i* S	Sn	16 54 51.5	+1.2
LIM1	**Limonal**	**1.45**	**123**	*i* P	Pn	16 54 32.6	+0.6
MESS	**Mesas**	**1.47**	**121**	*i* P	Pn	16 54 32.2	-0.1
MESS				*i* S	Sn	16 54 54.0	+0.8
CUI	**Cuipilapa**	**1.54**	**123**	*i* P	Pn	16 54 33.3	+0.3
JCR	**Jicaral**	**2.12**	**140**	*eP*	Pn	16 54 41.4	+1.3
JCR				*eS*	Sn	16 55 08.2	+1.2
CNCH	**Conchagua**	**2.21**	**323**	*eP*	Pn	16 54 41.6	+0.5
CNCH				*eS*	Sn	16 55 09.9	+1.0
LAJ	**Bijagual**	**2.83**	**125**	*eP*	Pn	16 54 46.7	-2.4
QCR	**Quepos**	**3.07**	**132**	*eP*	Pn	16 54 54.1	+1.8
URSC	**Urasca**	**3.13**	**122**	*eP*	Pn	16 54 54.4	+1.4

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*IDC **24** 17:37:29.8±1.8,30°.73N×83°.42E,h0km,mb3.6/5,*
mb1 3.6/7,mb1mx3.4/27,mbtmp3.5/7,ML3.2/2,Error
ellipse: s-maj=56.1km s-min=21.6km az=63.0
*ISCJB **24** 17:37:32.4±1.4,30°.9N±0°.1×83°.4E±0°.2,h33km,mb3.5/4,*
Error ellipse: s-maj=31.0km s-min=12.3km az=141.8
*NEIC **24** 17:37:35.0±1.4,30°.86N×83°.44E,h35km,mb3.7/1,Error*
ellipse: s-maj=34.0km s-min=12.9km az=54.0
ISC 24 17:37:34.8±1.4,30°.9N±0°.1×83°.4E±0°.2,h35km,n15,
σ0°90/15,mb3.5/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.79**	**98**	*eP*	**Pn**	**17 39 12.3**	**+0.4**
	6.1nm,0.8s						
MKAR	**Makanchi Array**	**15.95**	**357**	Pn	**Pn**	**17 41 15.3**	**-1.1**
	0.0nm,0.3s,baz=172,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**15.95**	**357**	Pn	**Pn**	**17 41 15.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**18.72**	**128**	P	**Pn**	**17 41 50.9**	**-0.2**
	0.1nm,0.3s,baz=313,slow=9.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**18.72**	**128**	P	**Pn**	**17 41 50.9**	**-0.2**
KURK	**Kurchatov**	**20.17**	**351**	P	**P**	**17 42 05.6**	**-0.3**
	0.8nm,0.4s,baz=171,slow=11,SNR=7.2						
KURK	**Kurchatov**	**20.17**	**351**	*eP*	**P**	**17 42 05.4**	**-0.6**
	3.8nm,1.0s						
ZALV	**Zalesovo Beam**	**23.11**	**2**	P	**P**	**17 42 40.2**	**+2.8**
	0.5nm,0.5s,mb3.2,baz=166,slow=8.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**23.11**	**2**	P	**P**	**17 42 40.2**	**+2.8**
SONM	**Songino Array**	**24.43**	**40**	P	**P**	**17 42 49.6**	**-0.3**
	0.5nm,0.6s,mb3.1,baz=231,slow=11,SNR=5.3						
SONM	**Songino Array**	**24.43**	**40**	P	**P**	**17 42 49.6**	**-0.3**
FINES	**FINESS Array B**	**47.89**	**327**	P	**P**	**17 46 09.6**	**+0.5**
	1.2nm,0.8s,mb4.0,baz=106,slow=8.8,SNR=4.2						
FINES	**FINESS Array B**	**47.89**	**327**	P	**P**	**17 46 09.6**	**+0.5**
WRA	**Warramunga Arr**	**70.31**	**129**	P	**P**	**17 48 44.5**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=324,slow=6.5,SNR=8.0						
WRA	**Warramunga Arr**	**70.31**	**129**	P	**P**	**17 48 44.5**	**-0.3**

IDC 24 17:39:05.7±1.6,30°.65N×83°.86E,h0km,mb3.4/5,
mb1 3.5/7,mb1mx3.3/27,mbtmp3.3/7,ML3.0/1,Error
ellipse: s-maj=53.4km s-min=21.7km az=58.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.17**	**356**	Pn	Pn	17 42 51.2	-3.0
	0.1nm,0.3s,baz=173,slow=13,SNR=3.0						
CMAR	**Chiang Mai Arr**	**18.29**	**128**	P	Pn	17 43 22.4	+1.5
	baz=319,slow=11,SNR=3.4						
ZALV	**Zalesovo Beam**	**23.30**	**1**	P	P	17 44 16.1	+1.1
	0.4nm,0.5s,baz=181,slow=9.8,SNR=3.4						
SONM	**Songino Array**	**24.34**	**39**	P	P	17 44 24.2	-0.8
	0.5nm,0.6s,baz=224,slow=10.0,SNR=4.2						
BVAR	**Borovoye Array**	**24.43**	**340**	P	P	17 44 27.0	+1.2
	0.3nm,0.5s,baz=133,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**48.28**	**327**	P	P	17 47 47.2	-1.0
	1.3nm,0.3s,baz=117,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**69.88**	**129**	P	P	17 50 18.3	-0.2
	0.5nm,0.7s,baz=323,slow=6.3,SNR=6.1						

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*ISCJB **24** 17:45:33.9±0.5,32°.18N±0°.05×139°.24E±0°.09,*
h261km±6km,mb3.3/4,Error ellipse: s-maj=12.7km
s-min=7.7km az=157.2
*IDC **24** 17:45:34.4±1.5,32°.08N×139°.01E,h243km±30km,mb3.3/4,*
mb1 3.2/5,mb1mx2.9/22,mbtmp3.1/5,Error ellipse:
s-maj=83.8km s-min=12.8km az=68.0
*JMA **24** 17:45:36.6±0.5,32°.37N×139°.14E,h255km±4km,M3.5*
ISC 24 17:45:34.8±0.5,32°.17N±0°.05×139°.26E±0°.09,h253km±6km,
n25,σ0°76/31,mb3.4/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.05**	**27**	P	**Pn**	**17 46 12.4**	**+2.0**
JHJ2				*eS*	**S**	**17 46 39.3**	**+0.8**
TTO2	**TONANKAI O.B.S**	**2.44**	**310**	P	**Pn**	**17 46 21.6**	**0.0**
TTO1	**TONANKAI O.B.S**	**2.54**	**305**	P	**Pn**	**17 46 22.4**	**-0.1**
JIZS	**Izushimoda**	**2.56**	**353**	P	**Pn**	**17 46 23.6**	**+0.8**
BSO1	**Boso 1**	**2.86**	**30**	P	**Pn**	**17 46 26.3**	**+0.4**
BSO1				S	**S**	**17 47 06.0**	**-0.5**
TATJ	**Tateyama 2**	**2.90**	**10**	P	**Pn**	**17 46 26.5**	**+0.2**
TATJ				S	**S**	**17 47 06.0**	**-1.2**
HMMJ	**Hamamatsu 2**	**2.97**	**335**	P	**Pn**	**17 46 27.1**	**+0.1**
SHZ3	**Shizuoka 3**	**3.02**	**343**	P	**Pn**	**17 46 28.2**	**+0.7**
JAA	**Atsumi**	**3.03**	**325**	P	**Pn**	**17 46 27.6**	**0.0**
JIE	**Ise**	**3.08**	**317**	P	**Pn**	**17 46 28.1**	**-0.1**
JOD2	**Odawara 2**	**3.09**	**357**	P	**Pn**	**17 46 28.7**	**+0.4**
JOD2				*eS*	**S**	**17 47 09.7**	**-1.1**
JKN2	**Miekihoku**	**3.24**	**310**	P	**Pn**	**17 46 29.6**	**-0.4**
JWZ	**Kozaga**	**3.28**	**295**	P	**Pn**	**17 46 29.5**	**-0.9**
JYN	**Shimoji**	**3.37**	**350**	P	**Pn**	**17 46 31.9**	**+0.5**
JNY	**Yasuok**	**3.39**	**340**	P	**Pn**	**17 46 32.1**	**+0.5**
TSUJ	**Tsu 2**	**3.47**	**318**	P	**Pn**	**17 46 32.5**	**0.0**
JAO	**Obara**	**3.51**	**332**	P	**Pn**	**17 46 33.2**	**+0.2**
JWY	**Kouya**	**3.69**	**305**	P	**Pn**	**17 46 34.9**	**-0.1**
JRY	**Ryogami san**	**3.85**	**356**	P	**Pn**	**17 46 37.2**	**+0.4**
JRY				*eS*	**S**	**17 47 24.4**	**-1.8**
MJAR	**Matsushiro Arr**	**4.45**	**349**	P	**Pn**	**17 46 44.9**	**+1.1**
	0.4nm,0.3s,baz=133,slow=16,SNR=4.6						
CBIJ	**Chichi jima**	**5.66**	**153**	P	**Pn**	**17 46 58.9**	**+0.1**
	2.7nm,0.3s,baz=287,slow=21,SNR=6.0						
CBIJ				S	**S**	**17 48 04.3**	**-1.7**
	6.2nm,0.3s,baz=287,slow=19,SNR=6.4						
SONM	**Songino Array**	**29.37**	**312**	P	**P**	**17 51 14.1**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=121,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**45.36**	**306**	P	**P**	**17 53 27.1**	**-0.7**
	0.9nm,0.4s,mb3.4,baz=86,slow=9.9,SNR=28						
WRA	**Warramunga Arr**	**52.03**	**186**	P	**P**	**17 54 19.1**	**+0.4**
	0.3nm,0.3s,mb3.2,baz=1.5,slow=8.3,SNR=16						
FINES	**FINESS Array B**	**72.29**	**332**	P	**P**	**17 56 32.4**	**+0.1**
	1.7nm,0.9s,mb3.7,baz=72,slow=4.5,SNR=1.8						

IDC 24 17:58:27.8±3.0,17°.12S×172°.11W,h0km,mb3.9/2,
mb1 4.3/2,mb1mx3.7/18,mbtmp3.9/2,MS3.3/4,Ms1 3.3/4,
ms1mx3.0/27,Error ellipse: s-maj=224.5km
s-min=36.1km az=157.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.79**	**253**	*e*LR	LR	18 08 08.1	
	76nm,23.1s						
DZM	**Mont Dzumac**	**20.79**	**253**	LR	LR	18 09 44.7	
	comp=Z,96nm,19.5s,baz=173,slow=33						
PPT2	**Papeete2**	**21.52**	**95**	*e*LR	LR	18 08 07.3	
	73nm,24.2s						
HNR	**Honiara**	**28.22**	**282**	LR	LR	18 13 52.0	
	comp=Z,95nm,18.4s,baz=89,slow=33						
WRA	**Warramunga Arr**	**50.68**	**258**	P	P	18 07 29.6	+0.2
	1.8nm,0.6s,baz=97,slow=7.9,SNR=21						
NWAO	**Narrogin (SRO)**	**64.87**	**241**	LR	LR	18 35 38.7	
	comp=Z,77nm,18.8s,baz=262,slow=34						
TGY	**Tagaytay City**	**73.00**	**291**	LR	LR	18 36 12.9	
	comp=Z,2.2nm,19.2s,baz=102,slow=31						
TXAR	**Lajitas Array**	**80.55**	**55**	P	P	18 10 42.8	+0.5
	0.5nm,1.0s,baz=236,slow=6.4,SNR=3.5						
GERES	**GERESS Array B**	**148.01**	**353**	PKPbc	PKPbc	18 18 14.1	-1.0
	0.5nm,0.9s,baz=68,slow=2.6,SNR=4.0						

TAP 24 18:19:21.4,22°.93N×120°.57E,h16km,ML3.6,15C-3D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWM1	**Shoushan**	**0.17**	**233**	⇑*i* P	Pg	18 19 26.9	+1.2
	baz=232						
TWM1				*eS*	Sg	18 19 31.0	+2.4
	baz=232						
SSD	**Sandimen**	**0.19**	**163**	⇑*i* P	Pg	18 19 26.6	+0.7
	baz=160						
SSD				*i* S	Sg	18 19 30.1	+

baz=8.0
CHN5 S Sg 18 19 46.0 +2.5
baz=8.0
CHKT Chengkung 0.75 77 *e*P Pg 18 19 36.9 +0.9
baz=76
CHKT *e*S Sg 18 19 48.0 +2.0
baz=76
WGK Gukeng 0.76 359 ⇑P Pg 18 19 36.9 +0.8
baz=360
WGK *e*S Sg 18 19 48.2 +2.1
baz=360
WSF Szhu 0.78 336 *e*P Pb 18 19 37.0 +0.4
baz=336
WSF *e*S Sg 18 19 48.8 +2.0
baz=336
TWF1 Yuli 0.79 58⇑*i*P Pb 18 19 37.4 +0.7
baz=65
TWF1 S Sg 18 19 48.4 +1.2
baz=65
EHY Hungye 0.90 50 P Pb 18 19 39.3 +0.7
baz=50
EHY S Sb 18 19 51.5 +1.2
baz=50
HEN Hengchun 0.93 170⇓*i*P Pb 18 19 40.3 +1.2
baz=157
HEN *e*S Sb 18 19 52.9 +1.6
baz=157
WNT Mingjian 0.95 6 P Pb 18 19 40.3 +0.8
baz=353
WNT S Sb 18 19 54.0 +2.2
baz=353
WTCT Ta-ch'eng 0.97 344 *e*P Pb 18 19 39.8 0.0
baz=345
WTCT *e*S Sb 18 19 53.8 +1.4
baz=345
SMLT Sun Moon Lake 1.00 18 P Pb 18 19 41.0 +0.7
baz=17
SMLT *e*S Sb 18 19 55.4 +2.2
baz=17
TWK1 Hengchun 1.00 168 *e*P Pb 18 19 41.0 +0.6
baz=166
TWK1 *e*S Sb 18 19 55.3 +2.0
baz=166
TYC Yuchr 1.01 15 *e*P Pb 18 19 40.9 +0.4
baz=15
TYC *e*S Sb 18 19 56.0 +2.5
baz=15
PNG Penghu 1.13 304 *e*P Pn 18 19 41.3 -1.3
baz=306
ESL Shilin 1.19 42 P Pn 18 19 44.2 +0.9
baz=41
ESL *e*S Sb 18 20 00.7 +2.1
baz=41
TCU Taichung 1.22 4 *e*P Pn 18 19 44.4 +0.6
baz=4.0
TCU *e*S Sb 18 20 01.4 +1.9
baz=4.0
LAY Lan-yu 1.27 134 *e*P Pn 18 19 44.2 -0.2
baz=133
LAY *e*S Sb 18 20 01.7 +0.8
baz=133
WHF Hehuan Shan 1.37 28 *e*P Pn 18 19 47.4 +1.5
baz=17
WHF *e*S Sn 18 20 06.5 +2.9
baz=17
TWQ1 Liyutan 1.43 7 P Pn 18 19 48.0 +1.4
baz=7.0
TWQ1 *e*S Sn 18 20 07.5 +2.4
baz=7.0
TWT Tachien 1.43 23 *e*P Pn 18 19 48.0 +1.3
baz=21
TWT *e*S Sn 18 20 06.8 +1.6
baz=21
TWD Chiawan 1.48 39 *e*P Pn 18 19 48.8 +1.4
baz=39
TWD *e*S Sn 18 20 08.6 +2.2
baz=39
NSY Sanyi 1.49 7 *e*P Pn 18 19 49.1 +1.6
baz=6.0
NSY *e*S Sn 18 20 08.7 +2.0
baz=6.0
NNS Nan Shan 1.68 26 *e*P Pn 18 19 51.9 +1.8
baz=12
NNS *e*S Sn 18 20 13.5 +2.3
baz=12
NSTT Nanjuang 1.74 13 *e*P Pn 18 19 51.8 +0.8
baz=356
NSTT *e*S Sn 18 20 13.7 +0.9
baz=356
ENA Nanau 1.84 35 *e*P Pn 18 19 53.8 +1.5
baz=35
ENA *e*S Sn 18 20 17.7 +2.5
baz=35
NSK Sanguang 1.88 22 *e*P Pn 18 19 55.6 +2.7
baz=6.0
NSK *e*S Sn 18 20 18.7 +2.4
baz=6.0
ENTT Nioudou 1.93 28 *e*P Pn 18 19 55.7 +2.1
baz=28
ENTT *e*S Sn 18 20 21.8 +4.3
baz=28
TWC Suao 2.04 35 *e*P Pn 18 19 57.3 +2.2
baz=34
TWC *e*S Sn 18 20 23.1 +2.8
baz=34
TWE Neicheng 2.05 29 *e*P Pn 18 19 57.8 +2.6
baz=29
TWE *e*S Sn 18 20 24.0 +3.6
baz=29
TWA Mucha 2.24 24 *e*P Pn 18 20 00.5 +2.7
baz=24
NWF Wu-fen Shan 2.40 27 *e*P Pn 18 20 03.2 +3.2
baz=12
KNM Kinmen 2.46 308 *e*P Pn 18 20 05.3 +4.4
baz=308

MAN 24 18:34:37.13̇59N×120̇70E, h112km, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.56**	**24**⇑	*i*P	Pn	18 34 57.0	+2.5
BOAC	**Boac**	**1.12**	**96**	*e*P	Pn	18 35 01.0	+1.3
BOAC				*e*S	Sn	18 35 17.9	+1.2
BUSP	**Coron**	**1.65**	**197**	*e*P	Pn	18 35 06.9	+1.2
SCZP	**Santa Cruz**	**2.31**	**341**	*e*P	Pn	18 35 14.9	+0.9

*DDA **24** 18:36:46.8, 37̇92N×29̇21E, h5km±2km, Md3.5*
*IDC **24** 18:36:46.9±1.0, 37̇78N×29̇30E, h0km, mb3.5/8, mb1 3.6/14, mb1mx3.5/30, mbtmp3.5/14, ML3.1/5, Error ellipse: s-maj=19.8km s-min=16.1km az=47.0*
*NEIC **24** 18:36:47.0, 37̇86N×29̇13E, h5km, ML3.6(ISK), After ISK.*
*ISCJB **24** 18:36:47.6±0.9, 37̇90N±0̇03×29̇21E±0̇04, h11km±7km, mb3.4/8, Error ellipse: s-maj=5.8km s-min=4.5km az=177.9*
*CSEM **24** 18:36:47.2±0.2, 37̇90N×29̇20E, h2km, MD3.5, Error ellipse: s-maj=4.8km s-min=3.8km az=81.0*
*ATH **24** 18:36:51.2, 37̇89N×28̇96E, h39km, MD3.6/6*
ISC 24 18:36:47.9±0.6, 37̇91N±0̇02×29̇19E±0̇04, h6km±5km, n73, σ1̇9̇00/89, mb3.4/8, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHAL	**Karahalli**	**0.52**	**27**	*i*P	**Pg**	18 36 57.4	-0.6
KHAL				*i*S	**Sg**	18 37 05.3	+0.6
KHAL	**Karahalli**	**0.52**	**27**	*i*P	**Pg**	18 36 57.4	-0.5
KHAL				*i*S	**Sg**	18 37 05.3	+0.6
GOLH	**Golhisar**	**0.73**	**156**	*i*P	**Pg**	18 36 59.8	-2.1
GOLH				*i*S	**Sg**	18 37 11.7	+0.3
GOLH	**Golhisar**	**0.73**	**156**	*i*P	**Pg**	18 36 59.8	-2.1
GOLH				*i*S	**Sg**	18 37 11.7	+0.3
MANT	**Manisa**	**0.77**	**320**	*i*P	**Pg**	18 37 02.8	+0.2
MANT				*i*S	**Sg**	18 37 13.5	+0.9
MANT	**Manisa**	**0.77**	**320**	*i*P	**Pg**	18 37 02.8	+0.2
MANT				*i*S	**Sg**	18 37 13.5	+0.9
TURN	**Turunc**	**1.13**	**205**	*i*P	**Pg**	18 37 12.0	+2.4
TURN				*i*S	**Sg**	18 37 33.5	+9.3
GDZ	**Gediz**	**1.20**	**11**⇑	*i*P	**Pg**	18 37 09.3	-1.6
GDZ				*i*S	**Sg**	18 37 26.3	-0.3
GDZ	**Gediz**	**1.20**	**11**	*i*P	**Pg**	18 37 09.3	-1.7
GDZ				*i*S	**Sg**	18 37 26.3	-0.3
KORT	**Korkueli**	**1.29**	**134**	*i*P	**Pn**	18 37 12.5	0.0
KORT				*i*S	**Sb**	18 37 32.7	+3.2
KORT	**Korkueli**	**1.29**	**134**	*i*P	**Pn**	18 37 12.5	0.0
AKHS	**Akhisar**	**1.45**	**312**	*i*P	**Pn**	18 37 14.3	-0.4
AKHS				*i*S	**Sn**	18 37 38.8	+4.7
AKHS	**Akhisar**	**1.45**	**312**	*i*P	**Pn**	18 37 14.3	-0.4
BOLV	**Bolvadin**	**1.60**	**59**	*i*P	**Pn**	18 37 17.2	+0.4
BOLV				*i*S	**Sn**	18 37 42.6	+4.8
BOLV	**Bolvadin**	**1.60**	**59**	*i*P	**Pn**	18 37 17.2	+0.4
AKAS	**Kas**	**1.70**	**169**	*i*P	**Pn**	18 37 18.7	+0.6
AKAS				*i*S	**Sn**	18 37 46.4	+6.2
AKAS	**Kas**	**1.70**	**169**	*i*P	**Pn**	18 37 18.7	+0.6
KSL	**Kastellorizon**	**1.78**	**170**	*e*PN	**Pn**	18 37 21.5	+2.3
SMG	**Samos**	**1.87**	**265**	*e*PN	**Pn**	18 37 19.8	-0.7
SMG	**Samos**	**1.87**	**265**	*e*Pn	**Pn**	18 37 19.8	-0.7
ARG	**Arkhangelos**	**1.89**	**207**	*e*PB	**Pb**	18 37 21.9	-0.9
ARG	**Arkhangelos**	**1.89**	**207**	*e*Pb	**Pb**	18 37 22.1	-0.7
KDHN	**Kadinhani**	**2.39**	**74**	*i*P	**Pn**	18 37 28.9	+1.4
KDHN	**Kadinhani**	**2.39**	**74**	*i*P	**Pn**	18 37 28.9	+1.4
PRK	**Paraskevi**	**2.65**	**301**	*e*PN	**Pn**	18 37 31.4	+0.2
PRK	**Paraskevi**	**2.65**	**301**	*e*Pn	**Pn**	18 37 31.4	+0.2
KARP	**Karpathos**	**2.86**	**215**	*e*PN	**Pn**	18 37 34.6	+0.5
KARP	**Karpathos**	**2.86**	**215**	*e*Pn	**Pn**	18 37 34.6	+0.5
APE	**Apeiranthos**	**3.03**	**255**	*e*PN	**Pn**	18 37 36.4	0.0
APE	**Apeiranthos**	**3.03**	**255**	*e*Pn	**Pn**	18 37 36.4	0.0
BR131	**Keskin Array S**	**3.92**	**61**	*e*P	**Pn**	18 37 48.9	+0.3
BR131	**Keskin Array S**	**3.92**	**61**	*e*P	**Pn**	18 37 48.9	+0.3
BRTR	**Keskin Array B**	**3.92**	**61**	Pn	**Pn**	18 37 49.5	+0.9
	0.9nm,0.3s,baz=252,slow=15,SNR=50						
BRTR				Sn	**Sn**	18 38 36.0	+1.0
	1.3nm,0.3s,baz=228,slow=26,SNR=7.9						
BRTR	**Keskin Array B**	**3.92**	**61**	Pn	**Pn**	18 37 49.5	+0.9
BRTR				Sn	**Sn**	18 38 36.0	+1.0
BRTR	**Keskin Array B**	**3.92**	**61**	Pn	**Pn**	18 37 49.5	+0.9
BRTR				Sn	**Sn**	18 38 36.0	+1.0
TIRR	**Tirgusor**	**6.57**	**355**	*e*P	**Pn**	18 38 25.6	+0.6
TIRR	**Tirgusor**	**6.57**	**355**	*e*P	**Pn**	18 38 25.6	+0.6
MMAI	**Mount Meron Ar**	**7.04**	**132**	Pn	**Pn**	18 38 30.5	-0.9
	4.7nm,0.3s,baz=316,slow=12,SNR=20						
MMAI	**Mount Meron Ar**	**7.04**	**132**	Pn	**Pn**	18 38 30.5	-0.9
MMAI	**Mount Meron Ar**	**7.04**	**132**	Pn	**Pn**	18 38 30.5	-0.9
MLR	**Muntele Rosu**	**7.96**	**343**	Pn	**Pn**	18 38 49.0	+4.9
	0.1nm,0.3s,baz=141,slow=19,SNR=3.8						
MLR	**Muntele Rosu**	**7.96**	**343**	Pn	**Pn**	18 38 49.0	+4.9
ASF	**Jabal al Asfar**	**8.52**	**130**	Pn	**Pn**	18 38 50.0	-1.8
	0.1nm,0.3s,baz=315,slow=1.4,SNR=2.0						
ASF	**Jabal al Asfar**	**8.52**	**130**	Pn	**Pn**	18 38 50.0	-1.8
EIL	**Elat**	**9.51**	**148**	Pn	**Pn**	18 39 04.4	-1.0
	0.1nm,0.3s,baz=347,slow=18,SNR=2.1						
EIL	**Elat**	**9.51**	**148**	Pn	**Pn**	18 39 04.4	-1.0
EIL	**Elat**	**9.51**	**148**	Pn	**Pn**	18 39 04.4	-1.0
GERES	**GERESS Array B**	**15.66**	**319**	Pn	**Pn**	18 40 34.0	+4.9
	0.1nm,0.3s,baz=146,slow=9.7,SNR=7.0						
GERES	**GERESS Array B**	**15.66**	**319**	Pn	**Pn**	18 40 34.0	+4.9
FINES	**FINESS Array B**	**23.64**	**356**	P	**P**	18 41 59.3	-0.5
	2.3nm,1.0s,mb3.6,baz=149,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**23.64**	**356**	P	**P**	18 41 59.3	-0.5
FINES	**FINESS Array B**	**23.64**	**356**	P	**P**	18 41 59.3	-0.5
AKTO	**Aktyubinsk**	**24.00**	**49**	P	**P**	18 42 03.2	0.0
	0.6nm,0.5s,mb3.3,baz=235,slow=12,SNR=3.5						
AKTO	**Aktyubinsk**	**24.00**	**49**	P	**P**	18 42 03.2	0.0
AKTO	**Aktyubinsk**	**24.00**	**49**	P	**P**	18 42 03.2	0.0
HFS	**Hagfors**	**24.33**	**341**	P	**P**	18 42 06.5	+0.4
	1.8nm,0.8s,mb3.5,baz=171,slow=10,SNR=2.5						
HFS	**Hagfors**	**24.33**	**341**	P	**P**	18 42 06.5	+0.4
HFS	**Hagfors**	**24.33**	**341**	P	**P**	18 42 06.5	+0.4
TORD	**Torodi Ar. Bea**	**34.74**	**232**	P	**P**	18 43 38.3	-0.6
	0.3nm,0.4s,mb3.5,baz=35,slow=9.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**34.74**	**232**	P	**P**	18 43 38.3	-0.6
TORD	**Torodi Ar. Bea**	**34.74**	**232**	P	**P**	18 43 38.3	-0.6
MKAR	**Makanchi Array**	**39.57**	**60**	P	**P**	18 44 19.7	0.0
	0.7nm,0.8s,mb3.4,baz=270,slow=8.6,SNR=6.6						
MKAR	**Makanchi Array**	**39.57**	**60**	P	**P**	18 44 19.7	0.0
MKAR	**Makanchi Array**	**39.57**	**60**	P	**P**	18 44 19.7	0.0
ZALV	**Zalesovo Beam**	**40.76**	**48**	P	**P**	18 44 28.8	-0.7
	0.3nm,0.5s,mb3.2,baz=270,slow=5.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**40.76**	**48**	P	**P**	18 44 28.8	-0.7
ZALV	**Zalesovo Beam**	**40.76**	**48**	P	**P**	18 44 28.8	-0.7
SONM	**Songino Array**	**55.24**	**53**	P	**P**	18 46 21.9	+0.3
	0.3nm,0.8s,mb3.4,baz=312,slow=9.9,SNR=3.1						
SONM	**Songino Array**	**55.24**	**53**	P	**P**	18 46 21.9	+0.3
SONM	**Songino Array**	**55.24**	**53**	P	**P**	18 46 21.9	+0.2
CMAR	**Chiang Mai Arr**	**63.10**	**87**	P	**P**	18 47 15.1	-1.5
	0.3nm,0.7s,mb3.5,baz=293,slow=6.4,SNR=4.0						
CMAR	**Chiang Mai Arr**	**63.10**	**87**	P	**P**	18 47 15.1	-1.5
CMAR	**Chiang Mai Arr**	**63.10**	**87**	P	**P**	18 47 15.1	-1.4

IDC 24 18:38:58.5±9.7, 22̇19S×65̇71W, h260km±80km, mb3.4/1, mb1 3.2/2, mb1mx2.9/15, mbtmp3.1/2, Error ellipse: s-maj=113.9km s-min=76.7km az=28.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.30**	**338**	P	Pn	18 40 31.4	+0.6
	0.4nm,0.3s,baz=207,slow=6.8,SNR=7.0						
LPAZ				S	S	18 41 46.1	+1.5
	0.2nm,0.3s,baz=291,slow=18,SNR=5.0						
TORD	**Torodi Ar. Bea**	**74.81**	**69**	P	P	18 50 11.0	+0.1
	0.6nm,0.3s,baz=255,slow=4.9,SNR=7.4						
MKAR	**Makanchi Array**	**144.38**	**39**	PKP	PKPdf	18 58 03.1	-0.5
	0.3nm,0.3s,baz=290,slow=6.0,SNR=8.4						

*ISCJB **24** 18:42:04.5±0.4, 28̇18N±0̇04×139̇71E±0̇08, h501km±5km, mb3.6/24, Error ellipse: s-maj=11.0km s-min=5.7km az=164.0*
*IDC **24** 18:42:04.9±0.5, 28̇15N×139̇69E, h491km±6km, mb3.1/16, mb1 3.3/19, mb1mx3.2/28, mbtmp3.1/19, Error ellipse: s-maj=14.0km s-min=8.4km az=75.0*
*NEIC **24** 18:42:05.4±0.4, 28̇19N×139̇64E, h494km±5km, mb4.4/10, Error ellipse: s-maj=7.4km s-min=6.5km az=68.0*
*JMA **24** 18:42:05.6±0.2, 28̇31N×139̇95E, h500km±4km, M4.1*
ISC 24 18:42:05.5±0.4, 28̇22N±0̇04×139̇70E±0̇08, h494km±5km, n79, σ0̇88/96, mb3.6/24, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.47**	**116**	P	**P**	18 43 12.7	0.0
	18nm,0.3s,baz=269,slow=12,SNR=8.5						
CBIJ				S	**S**	18 44 05.5	-1.7
	110nm,0.3s,baz=310,slow=20,SNR=25						
CBIJ	**Chichi jima**	**2.47**	**116**	P	**P**	18 43 12.7	0.0
CBIJ				S	**S**	18 44 05.5	-1.7
CBIJ	**Chichi jima**	**2.47**	**116**	P	**P**	18 43 12.6	-0.1
CBIJ				*e*S	**S**	18 44 05.3	-1.9
JHHJ	**Haha-jima-NKT**	**2.71**	**125**	P	**P**	18 43 14.9	+0.7
JHHJ				*e*S	**S**	18 44 09.7	-0.2
JHJ2	**Mitsune**	**4.88**	**1**	P	**P**	18 43 31.5	+0.6
JHJ2				*e*S	**S**	18 44 39.8	-1.0
JWZ	**Kozaga**	**6.30**	**328**	P	**P**	18 43 45.9	+1.5
BSO1	**Boso 1**	**6.51**	**9**	P	**P**	18 43 47.1	+0.7
BSO1				*e*S	**S**	18 45 08.3	-0.8
BSO3	**Boso 3**	**6.60**	**6**	P	**P**	18 43 47.8	+0.5
BSO3				*e*S	**S**	18 45 08.9	-1.9
JIE	**Ise**	**6.66**	**338**	P	**P**	18 43 49.7	+1.7
JIE				*e*S	**S**	18 45 13.3	+1.4
JKN2	**Miekihoku**	**6.68**	**335**	P	**P**	18 43 49.5	+1.4
JKN2				*e*S	**S**	18 45 11.2	-1.0
BSO4	**Boso 4**	**6.77**	**4**	P	**P**	18 43 50.7	+1.7
BSO4				*e*S	**S**	18 45 13.4	-0.5
HMMJ	**Hamamatsu 2**	**6.83**	**346**	P	**P**	18 43 50.6	+1.0
HMMJ				*e*S	**S**	18 45 14.3	-0.7
JOD2	**Odawara 2**	**7.04**	**356**	P	**P**	18 43 52.2	+0.4
JNY	**Yasuok**	**7.29**	**348**	P	**P**	18 43 55.5	+1.2
JAO	**Obara**	**7.33**	**344**	P	**P**	18 43 56.4	+1.7
JAO				*e*S	**S**	18 45 24.7	+0.5
MJAR	**Matsushiro Arr**	**8.39**	**352**	P	**P**	18 44 05.7	0.0
	1.8nm,0.3s,baz=212,slow=8.6,SNR=34						
MJAR				S	**S**	18 45 42.8	-1.7
	0.5nm,0.3s,baz=136,slow=11,SNR=4.6						
MJAR	**Matsushiro Arr**	**8.39**	**352**	P	**P**	18 44 05.7	0.0
MJAR				S	**S**	18 45 42.8	-1.6
MAJO	**Matsushiro**	**8.40**	**352**	*e*P	**P**	18 44 05.6	-0.1
	30nm,0.8s						
MAT	**Matsushiro**	**8.40**	**352**	P	**P**	18 44 05.9	+0.2
MAT				S	**S**	18 45 42.4	-2.1
JNU	**Nakatsue**	**9.03**	**305**	*e*P	**P**	18 44 13.3	+0.9
	28nm,0.9s						
KSRS	**Korea Array**	**13.51**	**316**	P	**P**	18 44 59.1	-0.8
	0.3nm,0.3s,baz=129,slow=11,SNR=14						
KSAR	**Wonju Array Be**	**13.53**	**316**	P	**P**	18 44 59.1	-1.0
USRK	**Ussuriysk Arra**	**17.10**	**341**	P	**P**	18 45 37.5	+0.1
	0.5nm,0.3s,baz=164,slow=8.5,SNR=18						
SSLB	**Suanglung**	**17.41**	**260**	*e*P	**P**	18 45 39.5	-1.3
	48nm,1.0s						
ENH	**Enshi**	**26.40**	**282**	*e*P	**P**	18 47 01.0	-0.7
	8.5nm,0.8s,mb4.2						
SONM	**Songino Array**	**32.38**	**316**	P	**P**	18 47 53.6	+0.2
	0.4nm,0.4s,mb3.2,baz=125,slow=8.1,SNR=9.7						
SONM	**Songino Array**	**32.38**	**316**	P	**P**	18 47 53.6	+0.2
CHTO	**Chiang Mai**	**38.37**	**265**	*e*P	**P**	18 48 43.3	-0.5
	4.0nm,0.8s,mb3.9						
CM31	**Chiang Mai Arr**	**38.51**	**264**	*e*P	**P**	18 48 44.7	-0.1
	1.2nm,0.5s,mb3.6						
CMAR	**Chiang Mai Arr**	**38.51**	**264**	P	**P**	18 48 44.8	0.0
	1.2nm,0.6s,mb3.5,baz=79,slow=4.8,SNR=17						
CMAR	**Chiang Mai Arr**	**38.51**	**264**	P	**P**	18 48 44.8	0.0
TAPN	**Taplejung**	**45.70**	**282**	*e*P	**P**	18 49 41.7	+0.1
	5.8nm,0.9s,mb4.0						
TAPN	**Taplejung**	**45.70**	**282**	*e*P	**P**	18 49 41.7	+0.1
	5.8nm,0.9s,mb4.0						
ODAN	**Odare**	**46.10**	**281**	*e*P	**P**	18 49 44.0	-0.6
ODAN	**Odare**	**46.10**	**281**	*e*P	**P**	18 49 44.0	-0.6
RAMN	**Ramite**	**46.76**	**282**	*e*P	**P**	18 49 49.0	-0.7
	9.1nm,0.6s,mb4.4						
RAMN	**Ramite**	**46.76**	**282**	*e*P	**P**	18 49 49.0	-0.7
	9.1nm,0.6s,mb4.4						
JIRN	**Jiri**	**46.94**	**283**	*e*P	**P**	18 49 51.2	+0.2
	18nm,0.7s,mb4.6						
JIRN	**Jiri**	**46.94**	**283**	*e*P	**P**	18 49 51.2	+0.2
	18nm,0.7s,mb4.6						
GUN	**Gumba**	**47.15**	**283**	*e*P	**P**	18 49 53.0	+0.4
GUN	**Gumba**	**47.15**	**283**	*e*P	**P**	18 49 53.0	+0.4
ZALV	**Zalesovo Beam**	**47.20**	**319**	P	**P**	18 49 51.9	-0.6
	0.3nm,0.4s,mb3.1,baz=90,slow=7.5,SNR=3.3						
ZALV				ScP	ScP	18 54 19.8	-0.8
	0.4nm,0.6s,baz=106,slow=4.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**47.20**	**319**	P	**P**	18 49 51.9	-0.6
ZALV				ScP	ScP	18 54 19.8	-0.8
KKN	**Kakani**	**47.69**	**283**	*e*P	**P**	18 49 57.2	+0.5
KKN	**Kakani**	**47.69**	**283**	*e*P	**P**	18 49 57.2	+0.5
MKAR	**Makanchi Array**	**48.06**	**309**	P	**P**	18 49 59.0	0.0
	0.4nm,0.3s,mb3.2,baz=85,slow=11,SNR=19						
MKAR				ScP	ScP	18 54 23.1	-1.4
	0.7nm,0.8s,baz=101,slow=1.5,SNR=3.9						
MKAR	**Makanchi Array**	**48.06**	**309**	P	**P**	18 49 59.0	0.0
MKAR				ScP	ScP	18 54 23.1	-1.4
WRA	**Warramunga Arr**	**48.16**	**187**	P	**P**	18 49 59.8	-0.3
	4.2nm,0.5s,mb4.1,baz=2.9,slow=7.7,SNR=115						
WRA				ScP	ScP	18 54 24.0	-1.2
	0.4nm,0.7s,baz=1.2,slow=4.8,SNR=4.9						
WRA				S	**S**	18 56 18.8	-3.4
	1.5nm,0.7s,baz=9.5,slow=14,SNR=10						
WRA	**Warramunga Arr**	**48.16**	**187**	P	**P**	18 49 59.8	-0.3
WRA				ScP	ScP	18 54 24.0	-1.2
WRA				S	**S**	18 56 18.8	-3.4
GKN	**Gorkha**	**48.20**	**283**	*e*P	**P**	18 50 00.5	+0.1
GKN	**Gorkha**	**48.20**	**283**	*e*P	**P**	18 50 00.5	+0.1
DANN	**Dangsing**	**48.86**	**284**	*e*P	**P**	18 50 05.9	+0.5
	14nm,0.7s,mb4.4						
DANN	**Dangsing**	**48.86**	**284**	*e*P	**P**	18 50 05.9	+0.5
	14nm,0.7s,mb4.4						
KOLN	**Koldanda**	**49.14**	**283**	*e*P	**P**	18 50 06.4	-1.1
KOLN	**Koldanda**	**49.14**	**283**	*e*P	**P**	18 50 06.4	-1.1
KURK	**Kurchatov**	**50.62**	**314**	P	**P**	18 50 18.2	+0.2
	1.4nm,0.4s,mb3.6,baz=91,slow=7.7,SNR=42						
KURK	**Kurchatov**	**50.62**	**314**	P	**P**	18 50 18.2	+0.2
AS31	**Alice Springs**	**51.88**	**187**	*e*P	**P**	18 50 27.2	-0.2
BVAR	**Borovoye Array**	**55.72**	**317**	P	**P**	18 50 54.5	+0.1
	1.3nm,0.5s,mb3.6,baz=90,slow=7.1,SNR=18						
BVAR				ScP	ScP	18 54 56.3	-1.3
	0.2nm,0.4s,baz=94,slow=4.8,SNR=3.2						
BVAR	**Borovoye Array**	**55.72**	**317**	P	**P**	18 50 54.5	+0.1
BVAR				ScP	ScP	18 54 56.3	-1.3
KKAR	**Karatay Array**	**56.64**	**305**	*e*P	**P**	18 51 00.9	+0.1
	0.6nm,0.5s,mb3.2						
ILAR	**Eielson Array**	**57.80**	**29**	P	**P**	18 51 08.9	+0.5
	0.2nm,0.4s,mb2.8,baz=250,slow=5.9,SNR=9.2						
ILAR	**Eielson Array**	**57.80**	**29**	P	**P**	18 51 08.9	+0.5
STKA	**Stephens Creek**	**59.79**	**178**	P	**P**	18 51 22.3	+0.1
	1.8nm,1.0s,mb3.5,baz=356,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**59.79**	**178**	P	**P**	18 51 22.3	+0.1
AKTO	**Aktyubinsk**	**63.69**	**315**	P	**P**	18 51 49.0	+1.4
	0.4nm,0.4s,mb3.3,baz=72,slow=14,SNR=4.0						
AKTO	**Aktyubinsk**	**63.69**	**315**	P	**P**	18 51 49.0	+1.4
NWAO	**Narrogin (SRO)**	**64.44**	**201**	P	**P**	18 51 52.4	-0.2
	5.8nm,0.8s,mb4.2,baz=3.1,slow=8.0,SNR=4.6						
NWAO	**Narrogin (SRO)**	**64.44**	**201**	P	**P**	18 51 52.4	-0.2
YKA	**Yellowknife Ar**	**72.20**	**28**	P	**P**	18 52 40.2	+0.8
	0.4nm,0.4s,mb3.3,baz=297,slow=6.2,SNR=8.9						
YKA	**Yellowknife Ar**	**72.20**	**28**	P	**P**	18 52 40.2	+0.8
FINES	**FINESS Array B**	**75.96**	**333**	P	**P**	18 53 00.4	-0.3
	0.6nm,0.4s,mb3.5,baz=62,slow=4.5,SNR=13						
FINES	**FINESS Array B**	**75.96**	**333**	P	**P**	18 53 00.4	-0.3
HFS	**Hagfors**	**81.51**	**336**	P	**P**	18 53 29.6	-0.8
	2.7nm,1.0s,mb3.8,baz=114,slow=14,SNR=2.8						
HFS	**Hagfors**	**81.51**	**336**	P	**P**	18 53 29.6	-0.8
NVAR	**Mina Array Bea**	**81.55**	**51**	P	**P**	18 53 31.7	+0.7
	0.4nm,0.3s,mb3.4,baz=284,slow=5.5,SNR=3.3						
NVAR	**Mina Array Bea**	**81.55**	**51**	P	**P**	18 53 31.7	+0.7
NOA	**NORSAR Array B**	**81.74**	**337**	P	**P**	18 53 30.5	-1.0
	0.7nm,0.7s,mb3.3,baz=44,slow=5.1,SNR=3.2						
NOA	**NORSAR Array B**	**81.74**	**337**	P	**P**	18 53 30.5	-1.0

*ISK **24** 18:47:15.3, 37̇86N×29̇22E, h5km, MD2.8*
*DDA **24** 18:47:15.6, 37̇90N×29̇27E, h7km±4km, Md3.0*
*ISCJB **24** 18:47:16.1±0.4, 37̇88N±0̇02×29̇23E±0̇05, h10km, Error ellipse: s-maj=5.6km s-min=3.2km az=162.5*
*CSEM **24** 18:47:16.0±0.2, 37̇88N×29̇26E, h2km, MD2.8, Error ellipse: s-maj=5.3km s-min=3.8km az=77.0*
ISC 24 18:47:16.4±0.5, 37̇89N±0̇02×29̇25E±0̇05, h0km±8km, n28, σ0̇91/40, Turkey

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

s-maj=106.2km s-min=19.9km az=53.0

ISC 24 18:52:48.9±3.1, 9°.93S±0°.10×108°.71E±0°.05, h28km±23km, n14, σ1§12/15, mb3.6/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**2.52**	**339**	P		**Pn**		**18 53 25.6**	**-2.4**
UGM	**Wanagama**	**2.69**	**42**	P		**Pn**		**18 53 29.8**	**-0.5**
BJII	**Banjamegara**	**2.76**	**21**	P		**Pn**		**18 53 30.5**	**-0.9**
PCJI	**Pacitan**	**2.98**	**55**	P		**Pn**		**18 53 36.0**	**+1.6**
XMIS	**Christmas Isla**	**3.06**	**259**	P		**Pn**		**18 53 38.0**	**+2.5**
XMIS				S		**Sn**		**18 54 09.8**	**-1.4**
LEM	**Lembang**	**3.27**	**341**	P		**Pn**		**18 53 38.4**	**+0.1**
LEM				S		**Sn**		**18 54 17.5**	**+1.2**
PWJI	**Pagerwojo**	**3.60**	**58**	S		**Sn**		**18 54 23.0**	**-1.4**
SJI	**Sawahan**	**3.73**	**54**	S		**Sn**		**18 54 28.3**	**+0.7**
WRA	**Warramunga Arr**	**26.65**	**115**	P		Px		18 59 07.6	
	0.5nm,0.7s,baz=287,slow=11,SNR=6.0								
SONM	**Songino Array**	**57.54**	**358**	P		**P**		**19 02 36.2**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=171,slow=8.9,SNR=3.5								
MKAR	**Makanchi Array**	**61.20**	**340**	P		**P**		**19 03 01.4**	**+0.4**
	0.7nm,0.5s,mb4.0,baz=150,slow=7.7,SNR=22								
KURK	**Kurchatov**	**65.81**	**340**	P		**P**		**19 03 31.5**	**0.0**
	0.1nm,0.4s,mb3.2,baz=151,slow=5.0,SNR=5.2								
ZALV	**Zalesovo Beam**	**66.78**	**345**	P		**P**		**19 03 37.7**	**+0.1**
	0.3nm,0.3s,mb3.7,baz=143,slow=3.6,SNR=2.5								
BVAR	**Borovoye Array**	**70.71**	**337**	P		**P**		**19 04 01.9**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=116,slow=9.8,SNR=3.8								

IDC 24 18:53:49.0±3.3, 6°.55S×106°.98E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.8/5, Error ellipse: s-maj=148.0km s-min=27.1km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.70**	**119**	P		P		18 59 57.2	+0.2
	0.5nm,1.0s,baz=286,slow=12,SNR=3.2								
SONM	**Songino Array**	**54.15**	**360**	P		P		19 03 15.4	-0.5
	0.5nm,0.6s,baz=180,slow=8.5,SNR=4.6								
MKAR	**Makanchi Array**	**57.46**	**340**	P		P		19 03 40.7	+1.0
	1.1nm,0.5s,baz=144,slow=7.5,SNR=19								
ZALV	**Zalesovo Beam**	**63.09**	**346**	P		P		19 04 17.3	-0.8
	0.5nm,0.4s,baz=140,slow=5.6,SNR=3.0								
BVAR	**Borovoye Array**	**66.95**	**337**	P		P		19 04 43.5	+0.2
	0.7nm,0.6s,baz=134,slow=11,SNR=5.2								

*IDC **24** 18:58:44.9±0.5, 12°.01N×143°.95E, h0km, mb4.7/26, mb1 4.8/26, mb1mx4.7/31, mbtmp4.7/26, MS4.0/16, Ms1 4.0/16, ms1mx3.8/40, Error ellipse: s-maj=16.4km s-min=11.5km az=83.0*

*MOS **24** 18:58:48.5±1.3, 12°.06N×143°.81E, h33km, mb5.3/35, Error ellipse: s-maj=10.5km s-min=6.3km az=108.6*

*ISCJB **24** 18:58:49.8±0.9, 12°.12N±0°.04×143°.78E±0°.04, h37km±7km, mb5.0/122, MS4.2/31, Error ellipse: s-maj=7.3km s-min=5.7km az=158.9*

*BJI **24** 18:58:50.3, 12°.24N×144°.01E, h48km, mB5.1/37, mb4.9/44, Ms4.7/37, Ms7 4.3/35*

*NEIC **24** 18:58:50.9±0.2, 11°.98N×143°.82E, h40km, mb5.2/55, Error ellipse: s-maj=6.3km s-min=6.2km az=195.0*

*GCMT **24** 18:58:53.4±0.3, 11°.77N×143°.65E, h16km±1km, MW4.8, Moment Tensor Solution. s21,c25; s49,c76; Moment tensor: Scale 10^{16}Nm; M_{rr}1.91±.17; $M_{\theta\theta}$-1.57±.10; $M_{\phi\phi}$-0.34±.12; $M_{r\theta}$1.04±.31; $M_{\theta\phi}$-0.95±.07; $M_{\phi r}$-0.19±.36; Best double couple: $M_0$2.30000×10^{16} NP1:ϕ_s225.00000°, δ36.00000°, λ62.00000°. NP2:ϕ_s78.00000°, δ59.00000°, λ109.00000°. Principal axes: T 2.2700, Plg70.0000°, Azm31.0000°; N -0.0200, Plg16.0000°, Azm248.0000°; P -2.2500, Plg12.0000°, Azm155.0000°; Data Used: II IC IU G CN.*

*TEH **24** 18:58:53.0, 12°.48N×143°.81E, h48km*

*DJA **24** 18:59:53, 9°.95N×140°.70E, h377km, mb4.7/8*

ISC 24 18:58:51.1±0.9, 12°.04N±0°.04×143°.86E±0°.04, h38km±7km, h45km±1.9km: pP-P, n285, σ1§12/279, mb5.0/122, MS4.2/31, 9C-3D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.83**	**33**	Pn		**Pn**		**18 59 18.8**	**-1.3**
	211nm,0.3s,baz=182,slow=7.7,SNR=42								
GUMO				LR		LR		18 59 34.1	
	comp=Z,638nm,19.0s,baz=209,slow=27								
GUMO				Sn		**Sn**		**18 59 43.4**	**+1.4**
	404nm,0.3s,baz=22,slow=21,SNR=12								
GUMO	**Guam**	**1.83**	**33**	*e*Pn		**Pn**		**18 59 18.8**	**-1.3**
GUMO				Sn		**Sn**		**18 59 43.4**	**+1.4**
GUMO	**Guam**	**1.83**	**33**	*e*P		**Pn**		**18 59 18.8**	**-1.2**
GUMO								18 59 43.4	
CBIJ	**Chichi jima**	**15.06**	**354**	LR		LR		19 06 28.3	
	comp=Z,163nm,20.5s,baz=154,slow=31								
LBMI	**Labuha**	**20.55**	**233**	P		**P**		**19 03 27.1**	**+0.5**
	1μm62nm,1.4s								
JOW	**Kunigami**	**20.76**	**317**	P		**P**		**19 03 30.1**	**+1.3**
	35nm,0.5s,baz=152,slow=11,SNR=14								
JOW				LR		LR		19 11 25.3	
	comp=Z,458nm,18.9s,MS3.9,baz=118,slow=36								
JOW	**Kunigami**	**20.76**	**317**	*e*Pn		**P**		**19 03 29.4**	**+0.7**
	13nm,0.7s								
MSAI	**Masohi**	**21.30**	**225**	P		**P**		**19 03 36.6**	**+1.9**
	500nm24nm,1.0s,mb4.5								
PMG	**Port Moresby**	**21.56**	**171**	P		**P**		**19 03 34.8**	**-2.6**
	9.2nm,0.9s,mb4.2,baz=186,slow=2.2,SNR=4.0								
PMG	**Port Moresby**	**21.56**	**171**	*e*P		**P**		**19 03 34.8**	**-2.6**
PMG	**Port Moresby**	**21.56**	**171**	*e*P		**P**		**19 03 39.8**	**+2.4**
MNI	**Manado**	**21.60**	**242**	P		**P**		**19 03 37.6**	**-0.3**
	1μm104nm,0.9s,mb5.3								
AAI	**Ambon**	**22.06**	**226**	P		**P**		**19 03 42.7**	**-0.1**
	1μm112nm,0.9s,mb5.3								
TGY	**Tagaytay City**	**22.42**	**278**	P		**P**		**19 03 47.2**	**+0.6**
	88nm,0.7s,mb5.3,baz=34,slow=1.3,SNR=7.1								
TGY	**Tagaytay City**	**22.42**	**278**	P		**P**		**19 03 47.2**	**+0.6**
TGY	**Tagaytay City**	**22.42**	**278**	P		**P**		**19 03 47.2**	**+0.6**
GTOI	**Gorontalo**	**23.58**	**243**	P		**P**		**19 03 58.7**	**+0.1**
	64nm,1.5s,mb4.8								
JNU	**Nakatsue**	**24.12**	**333**	*e*P		**P**		**19 04 02.6**	**-0.8**
	13nm,0.8s,mb4.4								
LUWI	**Luwuk**	**24.64**	**240**	P		**P**		**19 04 07.8**	**-0.6**
	169nm,1.2s,mb5.4								
SSLB	**Suanglung**	**24.68**	**301**	*e*P		**P**		**19 04 08.1**	**-0.6**
	26nm,0.9s,mb4.8								
MJAR	**Matsushiro Arr**	**24.92**	**349**	P		**P**		**19 04 08.4**	**-2.2**
	8.0nm,0.9s,mb4.3,baz=169,slow=9.8,SNR=17								
MJAR				LR		LR		19 13 02.7	
	comp=Z,620nm,18.7s,MS4.1,baz=185,slow=34								
MJAR	**Matsushiro Arr**	**24.92**	**349**	P		**P**		**19 04 08.4**	**-2.2**
MJAR	**Matsushiro Arr**	**24.92**	**349**	P		**P**		**19 04 08.4**	**-2.2**
MAJO	**Matsushiro**	**24.92**	**349**	*e*P		**P**		**19 04 08.3**	**-2.3**
	21nm,1.1s,mb4.6								
MAJO	**Matsushiro**	**24.92**	**349**	*e*P		**P**		**19 04 08.3**	**-2.3**
MAJO				pmax		pmax			
	comp=Z,21nm,1.1s,mb4.6								
MAT	**Matsushiro**	**24.92**	**349**	P		**P**		**19 04 08.5**	**-2.1**
MAT				S		**S**		**19 08 35.0**	**+3.4**
MYLDM	**Lahad Datu**	**25.96**	**257**	P		**P**		**19 04 22.8**	**+2.4**
HNR	**Honiara**	**26.66**	**142**	LR		LR		19 13 14.2	
	comp=Z,200nm,20.4s,MS3.7,baz=146,slow=33								
KSRS	**Korea Array**	**29.06**	**333**	P		**P**		**19 04 47.4**	**-0.5**
	comp=Z,4.0nm,0.6s,mb4.3,baz=131,slow=8.8,SNR=16								
KSRS				LR		LR		19 13 44.1	
	comp=Z,219nm,20.7s,MS3.8,baz=162,slow=31								
KSAR	**Wonju Array Be**	**29.07**	**333**	P		**P**		**19 04 47.4**	**-0.5**
KSAR	**Wonju Array Be**	**29.07**	**333**	P		**P**		**19 04 47.4**	**-0.5**
NJ2	**Nanjing**	**30.42**	**315**	*e*P		**P**		**19 05 00.0**	**0.0**
NJ2				pP		pP		19 05 11.3	+0.8
NJ2				S		**S**		**19 09 54.0**	**-4.4**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s,mb4.7								
NJ2				pmax		pmax			
	comp=Z,200nm,7.9s								
NJ2				LR		LR			
	comp=N,1μm,21.0s,MS4.8								
NJ2				LR		LR			
	comp=E,2μm,23.2s,MS4.8								
NJ2				LR		LR			
	comp=Z,5μm,25.2s,MS5.1								
ASAJ	**Asahikawa**	**31.98**	**358**	P		**P**		**19 05 12.9**	**-0.6**
	comp=Z,5.8nm,0.8s,mb4.4,baz=90,slow=3.0,SNR=4.4								
ASAJ	**Asahikawa**	**31.98**	**358**	P		**P**		**19 05 12.9**	**-0.6**
CTA	**Charters Tower**	**32.01**	**176**	P		**P**		**19 05 12.7**	**-1.3**
	comp=Z,3.4nm,0.9s,mb4.2,baz=344,slow=15,SNR=2.4								
CTA	**Charters Tower**	**32.01**	**176**	P		**P**		**19 05 12.7**	**-1.3**
CTA	**Charters Tower**	**32.01**	**176**	P		**P**		**19 05 12.7**	**-1.3**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VLA	**Vladivostok**	**32.66**	**344**	P		**P**		**19 05 16.1**	**-3.4**
VLA				pmax		pmax			
	comp=Z,19nm,0.6s,mb5.2								
WRAB	**Tennant Creek**	**33.12**	**197**	*e*P		**P**		**19 05 21.2**	**-2.6**
	comp=Z,9.4nm,0.9s,mb4.7								
WRAB	**Tennant Creek**	**33.12**	**197**	*e*P		**P**		**19 05 21.2**	**-2.5**
WRAB				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
WB2	**Warramunga Arr**	**33.13**	**197**	*e*P		**P**		**19 05 21.2**	**-2.6**
WRA	**Warramunga Arr**	**33.13**	**197**	P		**P**		**19 05 22.7**	**-1.2**
	comp=Z,3.3nm,0.8s,mb4.3,baz=21,slow=9.9,SNR=25								
WRA				LR		LR		19 19 20.9	
	comp=Z,589nm,19.1s,MS4.3,baz=15,slow=37								
WRA	**Warramunga Arr**	**33.13**	**197**	P		**P**		**19 05 22.7**	**-1.2**
WRA	**Warramunga Arr**	**33.13**	**197**	P		**P**		**19 05 22.7**	**-1.1**
QIZ	**Qiongzhong**	**33.46**	**286**	P		**P**		**19 05 27.8**	**+1.0**
QIZ				S		**S**		**19 10 45.8**	**-0.2**
QIZ				pmax		pmax			
	comp=Z,290nm,4.6s								
USRK	**Ussuriysk Arra**	**33.63**	**345**	LR		LR		19 18 04.1	
	comp=Z,204nm,19.2s,MS3.9,baz=325,slow=34								
MDJ	**Mudanjiang**	**34.70**	**342**	P		**P**		**19 05 36.9**	**-0.3**
MDJ				pP		pP		19 05 47.5	-0.3
MDJ				sP		sP		19 05 53.1	+0.7
MDJ				PP		PP		19 06 55.1	-1.2
MDJ				S		**S**		**19 11 02.4**	**-2.1**
MDJ				ScP		ScP		19 11 53.5	+0.3
MDJ				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
MDJ				pmax		pmax			
	comp=Z,84nm,4.1s								
MDJ				LR		LR			
	comp=N,210nm,18.0s,MS4.0								
MDJ				LR		LR			
	comp=E,130nm,19.9s,MS4.0								
MDJ				LR		LR			
	comp=Z,410nm,18.0s,MS4.2								
CN2	**Changchun**	**35.41**	**337**	*e*P		**P**		**19 05 45.3**	**+2.0**
CN2				*e*pP		pP		19 05 53.0	-1.0
CN2				*e*S		**S**		**19 11 12.3**	**-3.3**
CN2				SS		SS		19 13 29.1	-21
CN2				pmax		pmax			
	comp=Z,10.0nm,0.3s,mb5.2								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,200nm,15.0s,MS4.4								
CN2				LR		LR			
	comp=E,500nm,15.0s,MS4.4								
CN2				LR		LR			
	comp=Z,300nm,16.0s,MS4.1								
ENH	**Enshi**	**36.63**	**305**	*e*P		**P**		**19 05 54.2**	**+0.3**
	comp=Z,12nm,0.4s,mb5.1								
AS31	**Alice Springs**	**36.79**	**195**	*e*P		**P**		**19 05 53.4**	**-2.0**
HABR	**Khabarovsk**	**37.06**	**350**	*e*P		**P**		**19 05 53.7**	**-3.6**
HABR				*PP		pP		19 06 03.4	-4.7
HABR				*e*SP		sP		19 06 06.9	-5.7
HABR								19 07 18.0	
HABR				*e*				19 08 15.6	
HABR				*e*S		**S**		**19 11 36.4**	**-4.2**
HABR				*e*SS		sS		19 11 53.3	-5.1
HABR				*e*SS		SS		19 14 11.1	-13
HABR				*e*				19 16 05.8	
HABR				pmax		pmax			
	comp=N,36nm,2.3s								
HABR				pmax		pmax			
	comp=E,41nm,2.3s								
HABR				pmax		pmax			
	comp=Z,27nm,1.9s,mb4.8								
HABR				MLR		MLR			
	comp=Z,388nm,16.0s,MS4.3								
BJT	**Baijiatuau**	**37.06**	**324**	*e*P		**P**		**19 05 56.2**	**-1.3**
	comp=Z,24nm,0.6s,mb5.2								
BJT	**Baijiatuau**	**37.06**	**324**	*e*P		**P**		**19 05 56.2**	**-1.3**
BJT				pmax		pmax			
	comp=Z,24nm,0.6s								
BJI	**Beijing**	**37.07**	**324**	P		**P**		**19 05 57.3**	**-0.3**
BJI				S		**S**		**19 11 40.6**	**-0.5**
BJI				pmax		pmax			
	comp=Z,31nm,0.6s,mb5.3								
BJI				LR		LR			
	comp=N,570nm,18.7s,MS4.5								
BJI				LR		LR			
	comp=E,440nm,17.4s,MS4.5								
BJI				LR		LR			
	comp=Z,230nm,22.6s								
GYA	**Guiyang**	**37.77**	**298⇑**	*i*P		**P**		**19 06 04.5**	**+0.7**
GYA				pP		pP		19 06 18.4	+3.9
GYA				sP		sP		19 06 23.8	+4.8
GYA				PP		PP		19 07 34.0	+3.5
GYA				S		**S**		**19 11 50.3**	**-1.8**
GYA				ScP		ScP		19 12 05.9	+1.0
GYA				sS		sS		19 12 12.0	+2.1
GYA				SS		SS		19 14 25.8	-13
GYA				pmax		pmax			
	comp=Z,20nm,1.0s,mb4.8								
GYA				pmax		pmax			
	comp=Z,140nm,4.9s								
GYA				LR		LR			
	comp=N,860nm,16.8s,MS4.8								
GYA				LR		LR			
	comp=E,780nm,17.2s,MS4.8								
GYA				LR		LR			
	comp=Z,930nm,16.9s,MS4.7								
KLR	**Kul'dur**	**38.41**	**347**	*e*P		**P**		**19 06 04.0**	**-4.8**
KLR				*e*				19 08 15.8	
KLR				pmax		pmax			
	comp=Z,40nm,1.6s,mb4.9								
XAN	**Xi'an**	**38.61**	**310**	P		**P**		**19 06 10.3**	**-0.4**
XAN				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.0								
XAN				pmax		pmax			
	comp=Z,13nm,4.3s								
XAN				LR		LR			
	comp=N,160nm,13.7s,MS4.0								
XAN				LR		LR			
	comp=E,70nm,15.5s,MS4.0								
XAN				LR		LR			
	comp=Z,110nm,15.2s,MS3.8								
HHC	**Hu-ho-hao-te**	**40.33**	**321**	*e*P		**P**		**19 06 25.9**	**+1.0**
HHC				pP		pP		19 06 38.5	+2.8
HHC				sP		sP		19 06 43.3	+3.1
HHC				PP		PP		19 08 02.9	+4.7
HHC				S		**S**		**19 12 26.9**	**-3.2**
HHC				sS		sS		19 12 48.4	+0.4
HHC				SS		SS		19 15 19.6	-10
HHC				pmax		pmax			
	comp=Z,23nm,0.9s,mb4.9								
HHC				pmax		pmax			
	comp=Z,95nm,6.1s								
HHC				LR		LR			
	comp=N,410nm,15.5s,MS4.5								
HHC				LR		LR			
	comp=E,440nm,17.5s,MS4.5								
HHC				LR		LR			
	comp=Z,640nm,16.9s,MS4.5								
DZM	**Mont Dzumac**	**40.50**	**147**	*e*P		**P**		**19 06 25.2**	**-1.3**
DZM	**Mont Dzumac**	**40.50**	**147**	P		**P**		**19 06 25.8**	**-0.7**
	comp=Z,11nm,0.5s,mb4.8,baz=302,slow=21,SNR=23								
DZM	**Mont Dzumac**	**40.50**	**147**	P		**P**		**19 06 25.8**	**-0.7**
KMI	**Kunming**	**40.92**	**294**	P		**P**		**19 06 29.8**	**-0.3**
KMI				pP		pP		19 06 41.4	+0.5
KMI				sP		sP		19 06 47.3	+1.9
KMI				S		**S**		**19 12 36.6**	**-2.9**
KMI				sS		sS		19 13 00.3	+2.9
KMI				SS		SS		19 15 33.9	-8.2
KMI				pmax		pmax			
	comp=Z,8.0nm,1.3s,mb4.2								
KMI				pmax		pmax			
	comp=Z,57nm,3.9s								
KMI				LR		LR			
	comp=N,160nm,17.2s,MS4.2								
KMI				LR		LR			
	comp=E,200nm,16.6s,MS4.2								
KMI				LR		LR			
	comp=Z,330nm,16.1s,MS4.3								
BTO	**Baotou**	**41.15**	**320**	*e*P		**P**		**19 06 31.6**	**-0.1**
CD2	**Chengdu**	**41.49**	**303**	P		**P**		**19 06 34.8**	**+0.2**
CD2				pP		pP		19 06 47.3	+1.8
CD2				sP		sP		19 06 52.6	+2.6
CD2				PP		PP		19 08 13.8	+2.9
CD2				PcP		PcP		19 08 33.9	+2.0
CD2				S		**S**		**19 12 45.0**	**-2.7**
CD2				sS		sS		19 13 05.6	0.0
CD2				SS		SS		19 15 44.5	-8.6
CD2				ScS		ScS		19 16 32.9	-2.7
CD2				pmax		pmax			
	comp=Z,40nm,0.8s,mb5.1								
CD2				pmax		pmax			
	comp=Z,120nm,5.8s								
CD2				LR		LR			
	comp=N,260nm,16.8s,MS4.5								
CD2				LR		LR			
	comp=E,530nm,15.6s,MS4.5								
CD2				LR		LR			
	comp=Z,370nm,16.8s,MS4.3								
PETK	**Petropavlovsk-**	**42.44**	**12**	LR		LR		19 21 56.5	
	comp=Z,149nm,20.9s,MS3.9,baz=85,slow=33								
LZH	**Lanzhou**	**43.24**	**311**	*e*P		**P**		**19 06 49.9**	**+1.1**
LZH				pP		pP		19 07 02.0	+2.3
LZH				sP		sP		19 07 09.0	+4.8
LZH				*e*S		**S**		**19 13 10.0**	**-3.5**
LZH				*e*SS		SS		19 16 20.0	-7.6
LZH				pmax		pmax			
	comp=Z,89nm,1.4s,mb5.3								
LZH				pmax		pmax			
	comp=Z,160nm,6.1s								
LZH				LR		LR			
	comp=N,370nm,13.4s,MS4.5								
LZH				LR		LR			
	comp=E,220nm,11.5s,MS4.5								
LZH				LR		LR			
	comp=Z,490nm,15.4s,MS4.5								
CM31	**Chiang Mai Arr**	**43.71**	**284**	*e*P		**P**		**19 06 54.1**	**+1.2**
	comp=Z,5.9nm,0.8s,mb4.4								
CMAR	**Chiang Mai Arr**	**43.71**	**284**	P		**P**		**19 06 54.3**	**+1.4**
	comp=Z,4.1nm,0.8s,mb4.2,baz=87,slow=6.1,SNR=32								
CMAR				LR		LR		19 23 53.3	
	comp=Z,222nm,19.5s,MS4.1,baz=100,slow=34								
CMAR	**Chiang Mai Arr**	**43.71**	**284**	P		**P**		**19 06 54.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**43.71**	**284**	P		**P**		**19 06 54.3**	**+1.4**
STKA	**Stephens Creek**	**43.72**	**183**	P		**P**		**19 06 50.2**	**-2.4**
	comp=Z,3.1nm,0.9s,mb4.0,baz=352,slow=8.8,SNR=7.0								
STKA				LR		LR		19 26 13.0	
	comp=Z,268nm,18.7s,MS4.2,baz=24,slow=38								
STKA	**Stephens Creek**	**43.72**	**183**	P		**P**		**19 06 50.2**	**-2.4**
STKA	**Stephens Creek**	**43.72**	**183**	P		**P**		**19 06 50.2**	**-2.4**
BBOO	**Buckleboo**	**45.21**	**189**	*e*P		**P**		**19 07 02.0**	**-2.5**
	comp=Z,166nm,0.7s,mb6.0								
ULN	**Ulaanbaatar**	**47.10**	**327**	*e*P		**P**		**19 07 19.1**	**-0.2**
	comp=Z,45nm,1.7s,mb5.1								
ULN	**Ulaanbaatar**	**47.10**	**327**	*e*P		**P**		**19 07 19.1**	**-0.2**
ULN				pmax		pmax			
	comp=Z,45nm,1.7s,mb5.1								
SONM	**Songino Array**	**47.44**	**326**	P		**P**		**19 07 22.4**	**+0.4**
	comp=Z,5.3nm,0.5s,mb4.7,baz=147,slow=7.4,SNR=57								
SONM				PcP		PcP		19 08 52.5	+0.5
	comp=Z,2.3nm,0.6s,baz=161,slow=3.5,SNR=7.3								
SONM	**Songino Array**	**47.44**	**326**	P		**P**		**19 07 22.4**	**+0.4**
SONM				PcP		PcP		19 08 52.5	+0.5
SONM	**Songino Array**	**47.44**	**326**	P		**P**		**19 07 22.4**	**+0.5**
SONM								19 08 52.5	
GTA	**Gaotai**	**47.48**	**313**	P		**P**		**19 07 23.4**	**+1.0**
GTA				pP		pP		19 07 36.8	+3.4
GTA				sP		sP		19 07 41.8	+4.0
GTA				PP		PP		19 09 13.9	0.0
GTA				S		**S**		**19 14 14.6**	**0.0**
GTA				sS		sS		19 14 35.5	+2.8
GTA				pmax		pmax			
	comp=Z,14nm,0.6s,mb5.1								
GTA				pmax		pmax			
	comp=Z,160nm,6.2s								
GTA				LR		LR			
	comp=N,190nm,15.2s,MS4.5								
GTA				LR		LR			
	comp=E,370nm,16.6s,MS4.5								
GTA				LR		LR			
	comp=Z,330nm,19.0s,MS4.3								
ZAK	**Zakamensk**	**50.59**	**327⇑**	*i*P		**P**		**19 07 45.8**	**-0.2**
ZAK				*e*				19 09 03.2	
ZAK				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.7								
SHL	**Shillong**	**50.71**	**293**	*ex*		**P**		**19 07 47.0**	**-0.3**
YAK	**Yakutsk**	**50.95**	**351**	*e*P		**P**		**19 07 46.9**	**-1.6**
	comp=Z,21nm,0.7s,mb5.2								
YAK	**Yakutsk**	**50.95**	**351**	*e*P		**P**		**19 07 46.6**	**-1.9**
YAK				pmax		pmax			
	comp=Z,12nm,1.0s,mb4.8								
YAK				pmax		pmax			
	comp=N,6.0nm,1.1s								
BOD	**Bodaibo**	**51.01**	**340**	*e*P		**P**		**19 07 47.8**	**-1.2**
BOD				pmax		pmax			
	comp=Z,6.0nm,1.6s,mb4.3								
TLY	**Talaya**	**51.15**	**329**	*e*P		**P**		**19 07 49.8**	**-0.4**
TLY	**Talaya**	**51.15**	**329**	*e*P		**P**		**19 07 50.0**	**-0.2**
TLY				*e*S		**S**		**19 15 00.0**	**-5.6**
TLY				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
TLY				MLR		MLR			
	comp=Z,160nm,17.0s,MS4.1								
SEY	**Seymchan**	**51.18**	**5**	*e*P		**P**		**19 07 48.0**	**-2.2**
LSA	**Lhasa**	**51.84**	**298**	*e*P		**P**		**19 07 57.4**	**+1.7**
	comp=Z,9.4nm,0.8s,mb4.8								
LSA	**Lhasa**	**51.84**	**298**	*e*P		**P**		**19 07 57.4**	**+1.7**
LSA				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
TAPN	**Taplejung**	**54.59**	**295**	*e*P		**P**		**19 08 16.0**	**0.0**
	comp=Z,14nm,0.6s,mb5.2								
TAPN	**Taplejung**	**54.59**	**295**	*e*P		**P**		**19 08 16.0**	**0.0**
	comp=Z,14nm,0.6

KOLN Koldanda 58.26 295 *eP* **P 19 08 42.0 -0.1**
comp=Z,15nm,0.7s,mb5.2
KOLN Koldanda 58.26 295 *eP* **P 19 08 42.0 -0.1**
comp=Z,15nm,0.7s,mb5.1
SDPT Sand Point 60.97 33 *eP* **P 19 08 58.5 -1.9**
comp=Z,32nm,0.7s,mb5.6
MK31 Makanchi Array 61.92 317 *eP* **P 19 09 07.0 +0.1**
MK31 Makanchi Array 61.92 317 *eP* **P 19 09 07.0 +0.1**
MKAR Makanchi Array 61.92 317 P **P 19 09 07.3 +0.4**
comp=Z,7.2nm,0.8s,mb4.8,baz=93,slow=8.9,SNR=38
MKAR LR LR 19 38 43.8
comp=Z,157nm,18.8s,MS4.2,baz=241,slow=39
MKAR Makanchi Array 61.92 317 *eP* **P 19 09 07.7 +0.7**
MKAR Makanchi Array 61.92 317 *i P* **P 19 09 07.3 +0.4**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
ZAA0 Zalesovo Array 62.31 325 *eP* **P 19 09 08.6 -0.8**
ZALV Zalesovo Beam 62.31 325 P **P 19 09 08.8 -0.6**
comp=Z,6.7nm,0.6s,mb5.0,baz=104,slow=6.9,SNR=31
ZALV PcP PcP 19 09 48.1 -0.8
comp=Z,5.8nm,0.7s,baz=118,slow=3.6,SNR=7.5
ZALV Zalesovo Beam 62.31 325 P **P 19 09 08.8 -0.6**
ZALV PcP PcP 19 09 48.1 -0.8
ZALV Zalesovo Beam 62.31 325 P **P 19 09 08.8 -0.6**
ZALV 19 09 48.1
TNA Tin City 62.64 20 *eP* **P 19 09 10.3 -1.0**
comp=Z,6.7nm,1.0s,mb4.7
HYB Hyderabad 63.13 284 *i* P **P 19 09 15.0 -0.5**
NVS Novosibirsk 63.47 326 *eP* **P 19 09 16.5 -0.6**
NVS *e* 19 09 53.7
NVS *eS* **S 19 17 49.9 +2.4**
NVS pmax pmax
comp=E,22nm,1.3s
NVS pmax pmax
comp=Z,37nm,1.3s,mb5.3
NVS pmax pmax
comp=N,9.0nm,1.2s
NVS smax
comp=N,11nm,2.0s
NVS smax
comp=E,14nm,2.0s
KURK Kurchatov 65.14 320 *eP* **P 19 09 27.7 -0.3**
comp=E,46nm,1.0s,mb5.5
KURK Kurchatov 65.14 320 *c iP* **P 19 09 27.8 -0.3**
KURK pmax pmax
comp=Z,67nm,1.2s,mb5.5
KURK Kurchatov 65.14 320 P **P 19 09 27.8 -0.3**
comp=Z,274nm,0.9s,mb6.3,SNR=28
KSH Kashi 65.40 308 P **P 19 09 33.4 +3.4**
KSH pP pP 19 09 46.1 +4.7
KSH sP sP 19 09 51.3 +5.5
KSH PcP PcP 19 10 06.1 +4.2
KSH PP PP 19 11 58.8 +4.6
KSH ScP 19 14 03.5
KSH PcS 19 14 07.4
KSH S S 19 18 11.6 -0.3
KSH ScS ScS 19 19 20.5 -2.3
KSH SS SS 19 22 26.8 +1.3
KSH pmax pmax
comp=Z,11nm,1.1s,mb4.8
KSH pmax pmax
comp=Z,250nm,6.3s
KSH LR LR
comp=N,170nm,7.7s
KSH LR LR
comp=E,220nm,5.9s
KSH LR LR
comp=Z,300nm,9.8s
TKM2 Tokmak 2 66.00 312 P **P 19 09 34.7 +0.9**
TKM2 pmax pmax
comp=Z,12nm,1.4s,mb4.7
AAK Ala-Archa 66.78 311 *eP* **P 19 09 39.2 +0.4**
comp=Z,38nm,1.2s,mb5.3
AAK Ala-Archa 66.78 311 ⇑ *i P* **P 19 09 39.0 +0.2**
AAK pmax pmax
comp=Z,20nm,1.2s,mb5.0
KAD Karad 67.30 284 *e*PKP **P 19 09 42.7 +0.2**
POO Poona 67.49 285 *ex* x 19 09 42.5
RC01 Rabbit Creek A 68.20 29 *eP* **P 19 09 46.1 -1.3**
comp=Z,66nm,1.6s,mb5.4
TRF Thorofare Moun 68.60 26 *eP* **P 19 09 48.4 -1.5**
comp=Z,20nm,1.2s,mb4.9
SML Sawmill 69.03 28 *eP* **P 19 09 51.1 -1.4**
comp=Z,10nm,1.2s,mb4.6
SML Sawmill 69.03 28 *eP* **P 19 09 51.2 -1.4**
SML pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
KK31 Karatay Array 69.73 312 *i* P **P 19 09 57.8 +0.5**
KK31 pmax pmax
comp=Z,19nm,1.0s,mb5.0
KKAR Karatay Array 69.73 312 *eP* **P 19 09 57.6 +0.3**
KKAR Karatay Array 69.73 312 *eP* **P 19 09 57.6 +0.3**
COLD Coldfoot 69.75 22 *eP* **P 19 09 57.3 +0.4**
comp=Z,13nm,0.8s,mb4.9
ILAR Eielson Array 70.38 25 P **P 19 09 58.5 -2.4**
comp=Z,3.9nm,0.6s,mb4.5,baz=253,slow=5.5,SNR=50
ILAR Eielson Array 70.38 25 P **P 19 09 58.5 -2.4**
ILAR Eielson Array 70.38 25 P **P 19 09 58.5 -2.4**
BVA0 Borovoye Array 70.53 322 *i* P **P 19 10 01.6 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
PAX Paxson 70.59 27 *eP* **P 19 10 01.9 -0.3**
comp=Z,21nm,1.4s,mb4.9
PAX Paxson 70.59 27 *eP* **P 19 10 01.9 -0.3**
PAX pmax pmax
comp=Z,21nm,1.4s,mb4.9
BRVK Borovoye 70.60 322 *eP* **P 19 10 02.0 -0.3**
comp=Z,29nm,0.7s,mb5.3
BRVK Borovoye 70.60 322 *c iP* **P 19 10 01.7 -0.7**
BRVK pmax pmax
comp=Z,26nm,0.6s,mb5.3
BRVK Borovoye 70.60 322 P **P 19 10 02.2 -0.2**
comp=Z,282nm,0.6s,SNR=12
KBL Kabul 70.82 302 *eP* **P 19 10 04.7 +0.5**
comp=Z,28nm,1.3s,mb5.0
KBL Kabul 70.82 302 *eP* **P 19 10 04.7 +0.6**
KBL pmax pmax
comp=Z,28nm,1.3s,mb5.0
DOT Dot Lake 71.35 27 *eP* **P 19 10 05.5 -1.3**
comp=Z,4.1nm,0.7s,mb4.5
ZRNK Zerenda 71.36 322 P **P 19 10 06.2 -0.8**
ZRNK pmax pmax
comp=Z,35nm,1.1s,mb5.2
EGAK Eagle 72.79 26 *eP* **P 19 10 15.6 +0.2**
comp=Z,88nm,2.2s,mb5.3
INK Inuvik 76.17 22 P **P 19 10 34.5 -0.5**
comp=Z,26nm,1.0s,mb5.1,baz=267,slow=6.9,SNR=55
INK Inuvik 76.17 22 P **P 19 10 34.5 -0.4**
INK Inuvik 76.17 22 P **P 19 10 34.5 -0.4**
SVE Sverdlovsk 76.31 326 ⇑ *i P* **P 19 10 36.7 +0.7**
SVE pmax pmax
comp=Z,39nm,1.0s,mb5.3
AB31 Akbulak array 77.03 318 *i P* **P 19 10 39.7 -0.4**
AB31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ABKAR Akbulak array 77.03 318 *eP* **P 19 10 39.6 -0.5**
ARU Arti 77.47 325 *eP* **P 19 10 42.0 -0.5**
comp=Z,29nm,0.8s,mb5.2
ARU Arti 77.47 325 *c iP* **P 19 10 42.2 -0.3**
ARU PPP 19 15 28.1
ARU S S 19 20 33.1 +2.5
ARU pmax pmax
comp=Z,66nm,1.7s,mb5.3
ARU Arti 77.47 325 P **P 19 10 42.9 +0.4**
comp=Z,238nm,0.6s,mb6.3,SNR=10
IMYA Miami 77.98 305 *eP* **P 19 10 47.1 +1.3**
AKTO Aktyubinsk 78.19 319 P **P 19 10 46.3 -0.3**
comp=Z,5.4nm,0.6s,mb4.7,baz=96,slow=7.6,SNR=33
AKTO Aktyubinsk 78.19 319 P **P 19 10 46.3 -0.3**
AKTO Aktyubinsk 78.19 319 P **P 19 10 46.3 -0.3**
SOKR Solikamsk 78.24 329 *d iP* **P 19 10 47.1 +0.4**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.0
ISRO Mashad 78.49 305 *eP* **P 19 10 49.4 +0.8**
IDAH Dahanechah 78.59 301 *eP* **P 19 10 50.3 +1.1**
IEMG Emamgholi 79.02 306 *eP* **P 19 10 53.0 +1.5**
IKRD Kardeh 79.20 305 *eP* **P 19 10 50.5 -2.0**
ABKT Ailbek 79.38 307 P **P 19 10 54.5 +1.1**
comp=Z,134nm,0.9s,mb5.9,SNR=8.1
ITEG Tejag 79.50 302 *eP* **P 19 10 55.1 +0.9**
IGLO Ghaloghah 82.97 306 *eP* **P 19 11 13.7 +1.2**
GNW Green Mountain 83.45 43 *eP* **P 19 11 15.9 +1.1**
comp=Z,8.0nm,0.9s,mb4.8
ILAS Lasjerd 83.86 305 *eP* **P 19 11 18.2 +1.0**
JCW Jim Creek 83.92 42 *eP* **P 19 11 17.6 +0.4**

IFIR Firoozkooh 83.98 305 *eP* **P 19 11 17.3 -0.5**
RPW Rockport 84.14 42 *eP* **P 19 11 18.6 +0.3**
ISFB Sefidab 84.63 304 *eP* **P 19 11 21.5 +0.4**
YBH Yreka Blue Hor 84.63 49 *eP* **P 19 11 21.3 +0.4**
comp=Z,242nm,3.0s
YBH Yreka Blue Hor 84.63 49 *eP* **P 19 11 21.3 +0.4**
YBH pmax pmax
comp=Z,242nm,3.0s
YKA Yellowknife Ar 84.68 27 P **P 19 11 19.8 -0.9**
comp=Z,8.7nm,0.6s,mb5.0,baz=287,slow=5.3,SNR=92
YKA LR LR 19 48 42.7
comp=Z,22nm,19.9s,MS3.5,baz=310,slow=35
YKA Yellowknife Ar 84.68 27 P **P 19 11 19.8 -0.9**
YKA Yellowknife Ar 84.68 27 P **P 19 11 19.8 -0.9**
ALE Alert 84.83 3 P **P 19 11 21.0 -0.2**
comp=Z,114nm,0.9s,mb6.0,SNR=6.9
ISRV Sarvestan 84.83 299 *eP* **P 19 11 22.6 +0.4**
IZEF Zefreh 84.83 302 *eP* **P 19 11 23.3 +1.2**
ETW Entiat 85.09 43 *eP* **P 19 11 23.4 +0.3**
IGAR Gharneh 85.16 302 *eP* **P 19 11 22.7 -1.1**
IKLH Kolahrood 85.37 303 *eP* **P 19 11 26.7 +1.9**
SPITS Spitsbergen Ar 85.41 351 P **P 19 11 24.4 +0.2**
comp=Z,20nm,1.1s,mb5.2,baz=102,slow=12,SNR=4.2
SPITS Spitsbergen Ar 85.41 351 P **P 19 11 24.4 +0.2**
SPITS Spitsbergen Ar 85.41 351 P **P 19 11 24.4 +0.3**
RSW Rattlesnake Hi 85.85 44 *eP* **P 19 11 27.2 +0.3**
HAWA Hanford 85.89 44 *eP* **P 19 11 29.1 +2.0**
comp=Z,8.8nm,0.9s,mb5.0
IPIR Pirpir 86.06 302 *eP* **P 19 11 29.9 +1.6**
OD2 Odessa Site #2 86.21 42 *eP* **P 19 11 28.9 +0.2**
RES Resolute Bay 86.28 13 P **P 19 11 28.8 +0.3**
comp=Z,12nm,0.7s,mb5.3,baz=318,slow=5.0,SNR=65
RES Resolute Bay 86.28 13 P **P 19 11 28.8 +0.3**
RES Resolute Bay 86.28 13 P **P 19 11 28.8 +0.3**
KLMR Klimovskoe 86.44 332 *eP* **P 19 11 21.5 -8.0**
KLMR pmax pmax
comp=Z,35nm,1.6s,mb5.3
APA Apatity 86.55 339 ⇑ *i P* **P 19 11 29.6 -0.3**
APA pmax pmax
comp=Z,90nm,1.4s,mb5.8
APA MLR MLR
comp=Z,1μm,14.0s
CMB Columbia Colle 87.16 52 *eP* **P 19 11 33.9 +0.4**
comp=Z,23nm,1.6s,mb5.2
CMB Columbia Colle 87.16 52 *eP* **P 19 11 33.9 +0.4**
CMB pmax pmax
comp=Z,23nm,1.6s,mb5.2
ISRB Sarab 87.53 308 *eP* **P 19 11 34.8 -0.5**
KEV Kevo 87.68 342 *eP* **P 19 11 33.2 -2.2**
KEV Kevo 87.68 342 *ep* **P 19 11 33.2 -2.2**
comp=Z,2.5nm,0.5s,mb4.7
BMO Blue Mountains 87.78 45 *eP* **P 19 11 36.9 +0.6**
comp=Z,12nm,0.8s,mb5.2
BMO Blue Mountains 87.78 45 *eP* **P 19 11 36.9 +0.5**
BMO pmax pmax
comp=Z,12nm,0.8s,mb5.2
ARCES ARCESS Array B 88.25 342 P **P 19 11 37.6 -0.5**
comp=Z,2.6nm,0.5s,mb4.7,baz=79,slow=7.9,SNR=23
ARCES ARCESS Array B 88.25 342 P **P 19 11 37.6 -0.5**
ARCES ARCESS Array B 88.25 342 P **P 19 11 37.6 -0.5**
NVAR Mina Array Bea 88.66 51 P **P 19 11 41.8 +1.2**
comp=Z,11nm,0.7s,mb5.3,baz=266,slow=5.5,SNR=32
NVAR Mina Array Bea 88.66 51 P **P 19 11 41.8 +1.2**
BSMT Bassoo Peak 88.66 41 *eP* **P 19 11 41.0 +0.5**
MOS Moscow 89.07 327 *eP* **P 19 11 37.0 -5.2**
GNI Garni 89.18 311 LR LR 19 57 22.2
comp=Z,85nm,18.1s,MS4.2,baz=262,slow=39
MFID Camas Ranch 89.18 46 *eP* **P 19 11 43.7 +0.7**
comp=Z,13nm,0.9s,mb5.3
JOF Joensuu 89.28 335 *eP* **P 19 11 40.2 -2.8**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
JOF Joensuu 89.28 335 *ep* **P 19 11 40.2 -2.8**
comp=Z,7.7nm,0.6s,mb5.2
KIV Kislovodsk 89.63 315 *eP* **P 19 11 45.6 +0.5**
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,188nm,20.0s,MS4.5
MIB Mutribah 89.66 300 *eP* **P 19 11 45.8 +0.2**
MIB AMb AMB 19 11 50.4
comp=Z,21nm,0.7s,mb5.6
VSR Storozhevoye 89.71 323 *eP* **P 19 11 42.8 -2.5**
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
OBN Obninsk 89.85 327 ⇓ *i P* **P 19 11 44.9 -1.0**
OBN *e*PP pP 19 11 58.4 +0.7
OBN pmax pmax
comp=Z,49nm,1.7s,mb5.6
NAY Al-Naaiem 89.87 300 *eP* **P 19 11 46.5 -0.1**
NAY AMb AMB 19 11 50.4
comp=Z,16nm,0.8s,mb5.4
RST Umm Al-Ruwaisa 90.02 300 *eP* **P 19 11 47.0 -0.2**
RST AMb AMB 19 11 54.7
comp=Z,4.2nm,1.3s,mb4.6
HLID Hailey 90.13 45 *eP* **P 19 11 48.0 +0.6**
comp=Z,6.7nm,0.8s,mb5.0
ELK Elko 90.34 48 *eP* **P 19 11 49.8 +1.3**
comp=Z,7.4nm,1.1s,mb4.9
ELK Elko 90.34 48 *eP* **P 19 11 49.8 +1.3**
ELK pmax pmax
comp=Z,7.0nm,1.1s
GSC Goldstone 90.61 54 *eP* **P 19 11 50.9 +1.1**
comp=Z,11nm,1.0s,mb5.1
GSC Goldstone 90.61 54 *eP* **P 19 11 50.9 +1.0**
GSC pmax pmax
comp=Z,11nm,1.0s,mb5.1
HRY Holter Researc 90.92 42 *eP* **P 19 11 51.8 +0.7**
QLMT Earthquake Lak 91.79 44 *eP* **P 19 11 56.6 +1.5**
LDFC Landfair 92.01 54 *eP* **P 19 11 57.4 +1.1**
comp=Z,26nm,1.1s,mb5.5
FINES FINESS Array B 92.14 335 P **P 19 11 54.9 -1.5**
comp=Z,6.4nm,0.5s,mb5.2,baz=62,slow=4.4,SNR=43
FINES FINESS Array B 92.14 335 P **P 19 11 54.9 -1.5**
FINES FINESS Array B 92.14 335 P **P 19 11 54.9 -1.5**
DUG Dugway 92.27 48 *eP* **P 19 11 58.0 +0.6**
comp=Z,44nm,2.4s,mb5.4
DUG Dugway 92.27 48 *eP* **P 19 11 58.1 +0.7**
DUG pmax pmax
comp=Z,44nm,2.4s,mb5.4
RRI2 Red Ridge 92.34 45 *eP* **P 19 11 59.3 +1.6**
comp=Z,7.1nm,0.6s,mb5.2
ARUT Antelope Range 92.52 51 *eP* **P 19 12 00.4 +1.8**
comp=Z,2.6nm,0.6s,mb4.8
ARUT Antelope Range 92.52 51 *eP* **P 19 12 00.4 +1.7**
ARUT pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
TPAW Teton Pass 92.55 45 *eP* **P 19 12 01.1 +2.4**
comp=Z,33nm,1.8s,mb5.5
GCMT Greycliff 92.64 42 *eP* **P 19 11 60.0 +0.9**
comp=Z,6.2nm,0.8s,mb5.1
ANN Anapa 92.95 317 *eP* **P 19 12 02.5 +2.0**
JLU Jordanelle 93.13 48 *eP* **P 19 12 03.2 +1.7**
comp=Z,38nm,2.5s,mb5.4
RLMT Red Lodge 93.14 43 *eP* **P 19 12 03.2 +1.8**
comp=Z,12nm,0.6s,mb5.5
FFC Flin Flon 93.64 32 *eP* **P 19 12 03.1 -0.3**
FFC Flin Flon 93.64 32 *i P* **P 19 12 03.7 +0.3**
PDAR Pinedale Array 93.75 45 P **P 19 12 04.9 +0.7**
comp=Z,1.7nm,0.6s,mb4.7,baz=260,slow=2.3,SNR=12
PDAR Pinedale Array 93.75 45 P **P 19 12 04.9 +0.7**
LAO LASA Array 94.54 40 *eP* **P 19 12 07.9 +0.1**
comp=Z,29nm,0.8s,mb5.8
AKASG Malin Array Be 95.70 324 LR LR 19 59 01.5
comp=Z,186nm,18.2s,MS4.6,baz=80,slow=38
ASF Jabal al Asfar 97.60 305 LR LR 20 04 51.0
comp=Z,76nm,18.5s,MS4.2,baz=55,slow=41
NB2 NORSAR Subarra 98.14 339 P **P 19 12 22.7 -1.0**
comp=Z,2.2nm,0.8s,mb4.7,baz=51,slow=4.4
NOA NORSAR Array B 98.14 339 P **P 19 12 22.4 -1.3**
comp=Z,0.5nm,0.8s,mb4.1,baz=57,slow=4.1,SNR=4.6
NOA LR LR 19 56 57.4
comp=Z,103nm,21.2s,MS4.3,baz=285,slow=36
NOA NORSAR Array B 98.14 339 P **P 19 12 22.4 -1.3**
NOA NORSAR Array B 98.14 339 P **P 19 12 22.4 -1.3**
ULM Lac du Bonnet 99.07 34 P **P 19 12 27.3 -0.9**
comp=Z,3.4nm,0.8s,mb4.9,baz=285,slow=3.5,SNR=5.9
ULM Lac du Bonnet 99.07 34 P **P 19 12 27.3 -0.9**
ULM Lac du Bonnet 99.07 34 P **P 19 12 27.3 -0.9**
TXAR Lajitas Array 103.04 56 P Pdif 19 12 47.0 +1.3
comp=Z,0.2nm,0.6s,baz=298,slow=5.5,SNR=3.9

TXAR Lajitas Array 103.04 56 P Pdif 19 12 47.0 +1.3
TXAR Lajitas Array 103.04 56 P Pdif 19 12 47.0 +1.3
SYO Syowa Base 106.27 201 ⇑ *eP* Pdif 19 13 00.5 +0.4
ESDC Sonseca Array 120.48 332 PKP PKPdf 19 17 39.7 +0.8
comp=Z,0.3nm,0.7s,baz=16,slow=2.7,SNR=3.4
ESDC Sonseca Array 120.48 332 PKP PKPdf 19 17 39.7 +0.8
TORD Torodi Ar. Bea 134.89 302 PKP PKPdf 19 18 08.3 +1.2
comp=Z,0.5nm,0.5s,baz=41,slow=3.7,SNR=4.5
TORD PP PP 19 20 39.4 -1.7
comp=Z,1.0nm,0.9s,baz=49,slow=3.3,SNR=4.2
TORD Torodi Ar. Bea 134.89 302 PKP PKPdf 19 18 08.3 +1.2
TORD PP PP 19 20 39.4 -1.7
DBIC Dimbokro 143.76 299 PKhKP PKPpre 19 18 20.1
comp=Z,5.1nm,0.7s,baz=60,slow=3.8,SNR=10
DBIC Dimbokro 143.76 299 *e*PKPpre PKPpre 19 18 19.9
DBIC PKPpre PKPpre 19 18 20.1
DBIC Dimbokro 143.76 299 *e*PKIKP PKPpre 19 18 19.9
LPAZ La Paz 148.72 102 PKPbc PKPbc 19 18 36.6 +1.3
comp=Z,3.8nm,0.8s,baz=35,slow=3.4,SNR=10.0
LPAZ La Paz 148.72 102 *e*PKPdf PKPdf 19 18 32.5 +1.0
LPAZ PKPbc PKPbc 19 18 36.6 +1.3
LPAZ La Paz 148.72 102 *e*PKIKP PKPdf 19 18 32.5 +1.0
LPAZ 19 18 36.6
SAML Samuel 153.24 86 *e*PKPdf PKPdf 19 18 39.1 +0.6

GEN ***24*** *19:00:09.4, 44°.63N×10°.44E, h11km, ML2.0*
CSEM ***24*** *19:00:10.2±0.1, 44°.58N×10°.38E, h20km, ML2.5/14, Error ellipse: s-maj=3.5km s-min=2.9km az=46.0*
LDG ***24*** *19:00:10.9±0.2, 44°.52N×10°.55E, h30km, Ml2.7/20, Error ellipse: s-maj=5.2km s-min=4.2km az=87.0*
NEIC ***24*** *19:00:10.9, 44°.52N×10°.55E, h30km, ML2.7(LDG), After LDG.*
ROM ***24*** *19:00:10.2±0.2, 44°.56N×10°.35E, h26km±2km, Md2.1/4, Error ellipse: s-maj=3.3km s-min=1.6km az=72.0*
ISCJB ***24*** *19:00:10.0±0.3, 44°.58N±0°.02×10°.34E±0°.03, h28km±2km, Error ellipse: s-maj=4.0km s-min=3.6km az=155.6*
STR ***24*** *19:00:12.1±0.8, 45°.32N×9°.58E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 24 19:00:10.7±0.3, 44°.57N±0°.02×10°.35E±0°.03, h23km±3km, n88, σ0°.96/150, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.16**	**164**	Pg	**Pb**	**19 00 15.0**	**-0.6**
ERBM				Sg	**Sb**	**19 00 19.8**	**+0.9**
329nm,0.6s							
ERBM	**Eremo**	**0.16**	**164**	Pg	**Pb**	**19 00 15.0**	**-0.6**
ERBM				Sg	**Sb**	**19 00 19.8**	**+0.9**
329nm,0.6s							
PRMA	**PARMA**	**0.19**	**352**	Pg	**Pb**	**19 00 15.5**	**-0.5**
PRMA				Sg	**Sb**	**19 00 20.7**	**+1.1**
383nm,0.2s							
PRMA	**PARMA**	**0.19**	**352**	Pg	**Pb**	**19 00 15.5**	**-0.5**
PRMA				Sg	**Sb**	**19 00 20.7**	**+1.1**
383nm,0.2s							
GRAM	**Graiana**	**0.22**	**248**	P	**Pb**	**19 00 15.5**	**-0.8**
GRAM				S	**Sb**	**19 00 19.6**	**-0.6**
VALM	**Valbona**	**0.24**	**198**	P	**Pb**	**19 00 15.6**	**-0.9**
VALM				S	**Sb**	**19 00 19.8**	**-0.7**
GSCL	**Gusciola**	**0.28**	**143**	Pg	**Pb**	**19 00 16.7**	**-0.5**
GSCL				Sg	**Sb**	**19 00 22.1**	**+0.5**
59nm,0.3s							
GSCL	**Gusciola**	**0.28**	**143**	Pg	**Pb**	**19 00 16.7**	**-0.5**
GSCL				Sg	**Sb**	**19 00 22.1**	**+0.5**
59nm,0.3s							
NOVE	**Novellara**	**0.34**	**49**	Pg	**Pb**	**19 00 17.6**	**-0.6**
NOVE				Sg	**Sb**	**19 00 25.0**	**+1.7**
280nm,0.3s							
NOVE	**Novellara**	**0.34**	**49**	Pg	**Pb**	**19 00 17.6**	**-0.6**
CODM	**Codolo**	**0.40**	**243**	P	**Pb**	**19 00 18.5**	**-0.6**
CODM				S	**Sb**	**19 00 24.9**	**0.0**
ZCCA	**Zocca**	**0.50**	**116**	Pg	**Pb**	**19 00 21.5**	**+0.7**
ZCCA	**Zocca**	**0.50**	**116**	Pg	**Pb**	**19 00 21.5**	**+0.7**
BDI	**Bagni Di Lucca**	**0.54**	**161**	Pg	**Pb**	**19 00 20.8**	**-0.7**
BDI				Sg	**Sb**	**19 00 29.0**	**+0.2**
82nm,0.4s							
BDI	**Bagni Di Lucca**	**0.54**	**161**	Pg	**Pb**	**19 00 20.8**	**-0.7**
BDI				Sg	**Sb**	**19 00 29.0**	**+0.2**
82nm,0.4s							
PZZT	**Monte Pizzetto**	**0.57**	**140**	Pg	**Pb**	**19 00 21.1**	**-0.9**
PZZT	**Monte Pizzetto**	**0.57**	**140**	Pg	**Pb**	**19 00 21.1**	**-0.9**
SC2M	**Scurtabo**	**0.61**	**254**	Pg	**Pb**	**19 00 23.0**	**+0.4**
106nm,0.4s							
SC2M	**Scurtabo**	**0.61**	**254**	P	**Pb**	**19 00 22.1**	**-0.5**
SC2M	**Scurtabo**	**0.61**	**254**	Pg	**Pb**	**19 00 23.0**	**+0.4**
106nm,0.4s							
SC2M				S	**Sb**	**19 00 30.8**	**+0.1**
MAIM	**Mastiano**	**0.67**	**171**	Pg	**Pb**	**19 00 23.1**	**-0.5**
29nm,0.5s							
MAIM	**Mastiano**	**0.67**	**171**	P	**Pb**	**19 00 22.8**	**-0.8**
MAIM	**Mastiano**	**0.67**	**171**	Pg	**Pb**	**19 00 23.1**	**-0.5**
29nm,0.5s							
MAIM				S	**Sb**	**19 00 31.7**	**-0.7**
SALO	**Salr**	**1.05**	**7**	Pg	**Pn**	**19 00 30.4**	**+0.4**
292nm,0.4s							
SALO	**Salr**	**1.05**	**7**	Pg	**Pn**	**19 00 30.4**	**+0.4**
292nm,0.4s							
MDI	**Monti di Nese**	**1.29**	**340**	Pg	**Pn**	**19 00 33.6**	**+0.4**
MDI	**Monti di Nese**	**1.29**	**340**	Pg	**Pn**	**19 00 33.6**	**+0.4**
MABI	**Malga Bissina**	**1.49**	**4**	Pg	**Pn**	**19 00 36.2**	**+0.2**
59nm,0.4s							
CTI	**Castel Tesino**	**1.74**	**31**	Pg	**Pn**	**19 00 39.2**	**-0.2**
85nm,0.3s							
SAOF	**Saorge**	**2.09**	**255**	P	**Pn**	**19 00 45.2**	**+0.9**
SAOF	**Saorge**	**2.09**	**255**	P	**Pn**	**19 00 45.2**	**+0.9**
SAOF				S	**Sn**	**19 01 13.0**	**+3.5**
AUTN	**L'Aution**	**2.18**	**256**	P	**Pn**	**19 00 46.9**	**+1.5**
AUTN	**L'Aution**	**2.18**	**256**	P	**Pn**	**19 00 46.9**	**+1.5**
SBF	**Sospel**	**2.21**	**252**	*e*Pn	**Pn**	**19 00 46.3**	**+0.4**
SBF				*e*Sn	**Sn**	**19 01 13.8**	**+1.3**
35nm,0.4s							
SBF	**Sospel**	**2.21**	**252**	*e*Pn	**Pn**	**19 00 46.3**	**+0.4**
SBF				*e*Sn	**Sn**	**19 01 13.8**	**+1.3**
SBF	**Sospel**	**2.21**	**252**	*e*Pn	**Pn**	**19 00 46.3**	**+0.4**
SBF				*e*Sn	**Sn**	**19 01 13.8**	**+1.3**
18nm,0.4s							
PGF	**Pioggiola**	**2.25**	**206**	*e*Pn	**Pn**	**19 00 45.6**	**-0.8**
PGF				*e*Sn	**Sn**	**19 01 12.9**	**-0.5**
5.7nm,0.4s							
PGF	**Pioggiola**	**2.25**	**206**	*e*Pn	**Pn**	**19 00 45.6**	**-0.8**
PGF				*e*Sn	**Sn**	**19 01 12.9**	**-0.5**
PGF	**Pioggiola**	**2.25**	**206**	*e*Pn	**Pn**	**19 00 45.6**	**-0.8**
PGF				*e*Sn	**Sn**	**19 01 12.9**	**-0.5**
2.8nm,0.4s							
TOUF	**Mont Tournerai**	**2.30**	**257**	P	**Pn**	**19 00 48.6**	**+1.5**
TOUF				S	**Sn**	**19 01 16.2**	**+1.6**
TOUF	**Mont Tournerai**	**2.30**	**257**	P	**Pn**	**19 00 48.6**	**+1.5**
TOUF				S	**Sn**	**19 01 16.2**	**+1.6**
MVIF	**Mont Vial**	**2.40**	**255**	P	**Pn**	**19 00 49.6**	**+1.2**
MVIF	**Mont Vial**	**2.40**	**255**	P	**Pn**	**19 00 49.6**	**+1.2**
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**19 00 51.2**	**+0.5**
MBDF				*e*Sn	**Sn**	**19 01 20.7**	**-0.4**
6.8nm,0.4s							
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**19 00 51.2**	**+0.5**
MBDF				*e*Sn	**Sn**	**19 01 20.7**	**-0.4**
MBDF	**Montbardon**	**2.56**	**275**	*e*Pn	**Pn**	**19 00 51.2**	**+0.5**
MBDF				*e*Sn	**Sn**	**19 01 20.7**	**-0.4**
3.4nm,0.4s							
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	**Pn**	**19 00 53.0**	**+0.2**
LPG				*e*Sn	**Sn**	**19 01 24.0**	**-0.9**
5.4nm,0.4s							
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	**Pn**	**19 00 53.0**	**+0.2**
LPG				*e*Sn	**Sn**	**19 01 24.0**	**-0.9**
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	**Pn**	**19 00 53.0**	**+0.2**
LPG				*e*Sn	**Sn**	**19 01 24.0**	**-0.9**
2.7nm,0.4s							
LPL	**La Plagne**	**2.73**	**291**	*e*Pn	**Pn**	**19 00 53.7**	**+0.6**
LPL				*e*Sn	**Sn**	**19 01 24.5**	**-0.9**
6.8nm,0.4s							
LPL	**La Plagne**	**2.73**	**291**	*e*Pn	**Pn**	**19 00 53.7**	**+0.6**
LPL				*e*Sn	**Sn**	**19 01 24.5**	**-0.9**
LPL	**La Plagne**	**2.73**	**291**	*e*Pn	**Pn**	**19 00 53.7**	**+0.6**
LPL				*e*Sn	**Sn**	**19 01 24.5**	**-0.9**
3.4nm,0.4s							
FRF	**La Foret Royal**	**2.85**	**251**	*e*Pn	**Pn**	**19 00 55.0**	**+0.2**
FRF				*e*Sn	**Sn**	**19 01 29.3**	**+0.9**
10.0nm,0.4s							
FRF	**La Foret Royal**	**2.85**	**251**	*e*Pn	**Pn**	**19 00 55.0**	**+0.2**
FRF				*e*Sn	**Sn**	**19 01 29.3**	**+0.9**
FRF	**La Foret Royal**	**2.85**	**251**	*e*Pn	**Pn**	**19 00 55.0**	**+0.2**
FRF				*e*Sn	**Sn**	**19 01 29.3**	**+0.9**

	5.0nm,0.4s					
LMR	**La Mourre**	**3.04 247**	*e*Pn	**Pn**	**19 00 56.9**	**-0.4**
LMR			*e*Sn	**Sn**	**19 01 32.8**	**-0.1**
	14nm,0.5s					
LMR	**La Mourre**	**3.04 247**	*e*Pn	**Pn**	**19 00 56.9**	**-0.4**
LMR			*e*Sn	**Sn**	**19 01 32.8**	**-0.1**
LMR	**La Mourre**	**3.04 247**	*e*Pn	**Pn**	**19 00 56.9**	**-0.4**
LMR			*e*Sn	**Sn**	**19 01 32.8**	**-0.1**
	7.0nm,0.5s					
ORIF	**Oris-en-Rattie**	**3.20 278**	*e*Pn	**Pn**	**19 01 01.7**	**+2.2**
ORIF			*e*Sn	**Sn**	**19 01 35.6**	**-1.4**
	6.7nm,0.5s					
ORIF	**Oris-en-Rattie**	**3.20 278**	*e*Pn	**Pn**	**19 01 01.7**	**+2.2**
ORIF			*e*Sn	**Sn**	**19 01 35.6**	**-1.4**
ORIF	**Oris-en-Rattie**	**3.20 278**	*e*Pn	**Pn**	**19 01 01.7**	**+2.2**
NVLJ	**Novalja**	**3.23 89**	*e*Pn	**Pn**	**19 00 59.4**	**-0.5**
NVLJ			Sn	**Sn**	**19 01 36.5**	**-1.1**
NVLJ	**Novalja**	**3.23 89**	*e*Pn	**Pn**	**19 00 59.4**	**-0.5**
NVLJ			Sn	**Sn**	**19 01 36.5**	**-1.1**
SMRF	**Simiane la Rot**	**3.48 262**	*e*Pn	**Pn**	**19 01 05.2**	**+1.8**
SMRF			*e*Sn	**Sn**	**19 01 43.4**	**-0.4**
	1.9nm,0.3s					
SMRF	**Simiane la Rot**	**3.48 262**	*e*Pn	**Pn**	**19 01 05.2**	**+1.8**
SMRF			*e*Sn	**Sn**	**19 01 43.4**	**-0.4**
SMRF	**Simiane la Rot**	**3.48 262**	*e*Pn	**Pn**	**19 01 05.2**	**+1.8**
SMRF			*e*Sn	**Sn**	**19 01 43.4**	**-0.4**
	0.9nm,0.3s					
CABF	**La Chapelle**	**3.62 306**	*e*Pn	**Pn**	**19 01 06.5**	**+1.2**
CABF			*e*Sn	**Sn**	**19 01 42.4**	**-4.9**
	1.6nm,0.4s					
CABF	**La Chapelle**	**3.62 306**	*e*Pn	**Pn**	**19 01 06.5**	**+1.2**
CABF			*e*Sn	**Sn**	**19 01 42.4**	**-4.9**
CABF	**La Chapelle**	**3.62 306**	*e*Pn	**Pn**	**19 01 06.5**	**+1.2**
HINF	**Hinteralfeld**	**4.05 324**	*e*Pn	**Pn**	**19 01 11.1**	**-0.1**
HINF			*e*Sn	**Sn**	**19 01 55.8**	**-2.1**
	2.6nm,0.3s					
HINF	**Hinteralfeld**	**4.05 324**	*e*Pn	**Pn**	**19 01 11.1**	**-0.1**
HINF			*e*Sn	**Sn**	**19 01 55.8**	**-2.1**
HINF	**Hinteralfeld**	**4.05 324**	*e*Pn	**Pn**	**19 01 11.1**	**-0.1**
HINF			*e*Sn	**Sn**	**19 01 55.8**	**-2.1**
	1.3nm,0.3s					
VIVF	**Saint-Julien-l**	**4.06 276**	*e*Pn	**Pn**	**19 01 11.9**	**+0.6**
VIVF			*e*Sn	**Sn**	**19 01 55.9**	**-2.1**
	1.8nm,0.3s					
VIVF	**Saint-Julien-l**	**4.06 276**	*e*Pn	**Pn**	**19 01 11.9**	**+0.6**
VIVF			*e*Sn	**Sn**	**19 01 55.9**	**-2.1**
CDF	**Champ du Feu**	**4.39 332**	*e*Pn	**Pn**	**19 01 15.8**	**0.0**
CDF			*e*Sn	**Sn**	**19 02 00.7**	**-5.5**
	2.1nm,0.3s					
CDF	**Champ du Feu**	**4.39 332**	*e*Pn	**Pn**	**19 01 15.8**	**0.0**
CDF			*e*Sn	**Sn**	**19 02 00.7**	**-5.5**
CDF	**Champ du Feu**	**4.39 332**	*e*Pn	**Pn**	**19 01 15.8**	**0.0**
HAU	**Haudompre**	**4.41 322**	*e*Pn	**Pn**	**19 01 16.4**	**+0.2**
HAU			*e*Sn	**Sn**	**19 02 04.3**	**-2.5**
	3.1nm,0.2s					
HAU	**Haudompre**	**4.41 322**	*e*Pn	**Pn**	**19 01 16.4**	**+0.2**
HAU			*e*Sn	**Sn**	**19 02 04.3**	**-2.5**
HAU	**Haudompre**	**4.41 322**	*e*Pn	**Pn**	**19 01 16.4**	**+0.2**
HAU			*e*Sn	**Sn**	**19 02 04.3**	**-2.5**
	1.5nm,0.2s					
KHC	**Kasperske Hory**	**5.07 25**	*e*PG	Px	19 01 52.0	
KHC			*ex*	x	19 02 18.5	
KHC			*ex*	x	19 02 47.5	
KHC			*ex*	x	19 03 17.5	
LOR	**Lormes**	**5.27 303**	*e*Pn	**Pn**	**19 01 28.2**	**+0.3**
LOR			*e*Sn	**Sn**	**19 02 27.8**	**-0.1**
	1.0nm,0.3s					
LOR	**Lormes**	**5.27 303**	*e*Pn	**Pn**	**19 01 28.2**	**+0.3**
LOR			*e*Sn	**Sn**	**19 02 27.8**	**-0.1**
LOR	**Lormes**	**5.27 303**	*e*Sn	**Sn**	**19 02 27.8**	**-0.1**
	0.5nm,0.3s					
MEZF	**Maizieres J'vi**	**5.37 319**	*e*Pn	**Pn**	**19 01 29.9**	**+0.7**
MEZF			*e*Sn	**Sn**	**19 02 25.8**	**-4.5**
	2.4nm,0.5s					
MEZF	**Maizieres J'vi**	**5.37 319**	*e*Pn	**Pn**	**19 01 29.9**	**+0.7**
MEZF			*e*Sn	**Sn**	**19 02 25.8**	**-4.5**
SSF	**Saint Saulge**	**5.39 300**	*e*Pn	**Pn**	**19 01 29.5**	**-0.1**
SSF			*e*Sn	**Sn**	**19 02 28.4**	**-2.5**
	1.4nm,0.5s					
SSF	**Saint Saulge**	**5.39 300**	*e*Pn	**Pn**	**19 01 29.5**	**-0.1**
SSF			*e*Sn	**Sn**	**19 02 28.4**	**-2.5**

*IDC **24** 19:06:07.5±1.3,23°.21S×174°.65W,h0km,mb4.4/12, mb1 4.6/12,mb1mx4.4/17,mbtmp4.3/12,MS3.5/1, Ms1 3.5/1,ms1mx3.1/24,Error ellipse: s-maj=56.0km s-min=18.3km az=155.0*

*ISCJB **24** 19:06:18.3±2.6,23°.11S±0°.10×174°.9W±0°.1,h91km±22km, mb4.2/13,Error ellipse: s-maj=19.7km s-min=15.8km az=20.6*

*NEIC **24** 19:06:19.5±2.0,23°.07S×174°.86W,h88km±17km,mb4.8/2, Error ellipse: s-maj=16.1km s-min=12.4km az=125.0*

ISC 24 19:06:19.3±2.3,23°.1S±0°.1×174°.9W±0°.1,h85km±19km,n49, σ1§10/39,mb4.2/13,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.52**	**307**	*e*P	**Pn**	**19 08 19.8**	**-0.2**
	25nm,0.9s						
RAR	**Rarotonga**	**14.11**	**85**	LR	LR	19 13 01.6	
	comp=Z,221nm,20.9s,baz=315,slow=30						
URZ	**Urewera**	**16.60**	**203**	Pn	**Pn**	**19 10 07.5**	**+0.8**
	0.8nm,0.3s,baz=0.0,slow=6.1,SNR=4.7						
URZ	**Urewera**	**16.60**	**203**	Pn	**Pn**	**19 10 07.5**	**+0.8**
DZM	**Mont Dzumac**	**17.30**	**270**	*e*P	**Pn**	**19 10 12.8**	**-2.6**
	43nm,1.4s						
DZM				*e*LR	LR	19 14 22.4	
	347nm,26.8s						
DZM	**Mont Dzumac**	**17.30**	**270**	P	**Pn**	**19 10 17.1**	**+1.7**
	0.3nm,0.3s,baz=85,slow=18,SNR=4.9						
DZM	**Mont Dzumac**	**17.30**	**270**	P	**Pn**	**19 10 17.1**	**+1.7**
TBI	**Tubuai**	**23.34**	**96**	*e*LR	LR	19 16 38.0	
	224nm,28.2s						
PPT2	**Papeete2**	**24.32**	**82**	*e*LR	LR	19 17 01.9	
	236nm,26.2s						
CTA	**Charters Tower**	**36.21**	**267**	P	**P**	**19 13 13.8**	**-0.3**
	10.0nm,0.6s,mb4.9,baz=91,slow=10,SNR=32						
CTA	**Charters Tower**	**36.21**	**267**	P	**P**	**19 13 13.8**	**-0.3**
CTAO	**Charters Tower**	**36.21**	**267**	*e*P	**P**	**19 13 13.3**	**-0.8**
	7.7nm,0.6s,mb4.8						
CTAO				*e*		19 13 25.2	
STKA	**Stephens Creek**	**39.39**	**247**	P	**P**	**19 13 40.0**	**-0.8**
	1.1nm,0.5s,mb3.9,baz=104,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**39.39**	**247**	*e*P	**P**	**19 13 40.6**	**-0.2**
AS31	**Alice Springs**	**46.82**	**259**	*e*P	**P**	**19 14 40.5**	**-0.3**
WB2	**Warramunga Arr**	**47.16**	**264**	*e*P	**P**	**19 14 42.1**	**-1.5**
WRAB	**Tennant Creek**	**47.17**	**264**	*e*P	**P**	**19 14 42.2**	**-1.3**
	12nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**47.18**	**264**	P	**P**	**19 14 42.5**	**-1.1**
	7.3nm,0.6s,mb4.6,baz=102,slow=8.3,SNR=82						
WRA	**Warramunga Arr**	**47.18**	**264**	P	**P**	**19 14 42.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**55.60**	**263**	P	**P**	**19 15 47.2**	**+0.6**
	4.4nm,1.0s,mb4.4,baz=82,slow=14,SNR=7.7						
FITZ	**Fitzroy Crossi**	**55.60**	**263**	P	**P**	**19 15 47.2**	**+0.6**
QSPA	**South Pole Qui**	**66.98**	**180**	*e*P	**P**	**19 17 03.5**	**+1.1**
MJAR	**Matsushiro Arr**	**74.03**	**322**	P	**P**	**19 17 45.9**	**+0.1**
	2.4nm,0.8s,mb4.0,baz=171,slow=6.1,SNR=5.6						
MJAR	**Matsushiro Arr**	**74.03**	**322**	P	**P**	**19 17 45.9**	**+0.1**
PETK	**Petropavlovsk-**	**79.55**	**344**	P	**P**	**19 18 16.6**	**+0.2**
	8.3nm,0.9s,mb4.6,baz=145,slow=8.3,SNR=5.2						
PETK	**Petropavlovsk-**	**79.55**	**344**	P	**P**	**19 18 16.6**	**+0.2**
KSRS	**Korea Array**	**80.76**	**317**	P	**P**	**19 18 25.3**	**+2.0**
	2.1nm,0.9s,mb4.0,baz=244,slow=30,SNR=4.2						
KSAR	**Wonju Array Be**	**80.78**	**317**	P	**P**	**19 18 25.4**	**+1.9**
NVAR	**Mina Array Bea**	**80.96**	**42**	P	**P**	**19 18 24.0**	**-0.5**
	baz=222,slow=8.1,SNR=7.3						
NVAR	**Mina Array Bea**	**80.96**	**42**	P	**P**	**19 18 24.0**	**-0.5**
SNAA	**Sanae**	**85.32**	**177**	*e*	**P**	**19 18 41.7**	**-4.8**
VNA2	**Neumayer--Watz**	**85.82**	**176**	*e*	**P**	**19 18 45.6**	**-3.3**
TXAR	**Lajitas Array**	**86.04**	**56**	P	**P**	**19 18 50.5**	**-0.2**
	2.1nm,0.9s,mb4.0,baz=211,slow=7.0,SNR=14						
TXAR	**Lajitas Array**	**86.04**	**56**	P	**P**	**19 18 50.5**	**-0.2**
PDAR	**Pinedale Array**	**88.89**	**42**	P	**P**	**19 19 03.1**	**-0.9**
	0.7nm,0.8s,mb3.8,baz=208,slow=5.0,SNR=4.0						
PDAR	**Pinedale Array**	**88.89**	**42**	P	**P**	**19 19 03.1**	**-0.9**
ILAR	**Eielson Array**	**90.22**	**12**	P	**P**	**19 19 09.3**	**-0.4**
	1.8nm,0.9s,mb4.2,baz=221,slow=5.9,SNR=12						
ILAR	**Eielson Array**	**90.22**	**12**	P	**P**	**19 19 09.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.71**	**288**	P	**P**	**19 19 29.0**	**+2.0**
	0.6nm,0.8s,mb4.0,baz=132,slow=3.5,SNR=5.1						
CMAR	**Chiang Mai Arr**	**93.71**	**288**	P	**P**	**19 19 29.0**	**+2.0**
YKA	**Yellowknife Ar**	**97.67**	**24**	P	**P**	**19 19 43.5**	**-0.4**
	0.2nm,0.8s,mb3.7,baz=254,slow=7.3,SNR=4.4						
YKA	**Yellowknife Ar**	**97.67**	**24**	P	**P**	**19 19 43.5**	**-0.4**
ARCES	**ARCESS Array B**	**131.97**	**351**	PKP	PKPdf	19 25 23.4	+1.3
	4.6nm,1.0s,baz=308,slow=3.0,SNR=2.9						
ARCES	**ARCESS Array B**	**131.97**	**351**	PKP	PKPdf	19 25 23.4	+1.3
AKASG	**Malin Array Be**	**146.68**	**332**	PKPbc	PKPbc	19 25 51.1	+0.1
	0.6nm,0.4s,baz=35,slow=3.8,SNR=6.8						
AKASG	**Malin Array Be**	**146.68**	**332**	PKPbc	PKPbc	19 25 51.1	+0.1
CLL	**Collm**	**151.19**	**350**	*e*PKPbc	PKPbc	19 26 03.0	+0.5
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**153.43**	**347**	PKPbc	PKPbc	19 26 06.7	-0.8
	comp=Z,0.2nm,0.4s,baz=304,slow=2.9,SNR=3.7						
GERES	**GERESS Array B**	**153.43**	**347**	PKPbc	PKPbc	19 26 06.7	-0.8

IDC 24 19:09:43.6±1.6,15°.89S×177°.61E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/16,mbtmp3.8/4,Error ellipse: s-maj=103.0km s-min=27.4km az=147.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.22**	**238**	*e*LR	LR	19 15 21.3	
	347nm,26.8s						
PPT2	**Papeete2**	**31.45**	**98**	*e*LQ		19 22 56.2	
	184nm,24.5s						
PPT2				*e*LR	LR	19 24 15.3	
	202nm,30.0s						
TBI	**Tubuai**	**31.84**	**109**	*e*LQ		19 23 03.2	
	202nm,27.2s						
TBI				*e*LR	LR	19 24 28.8	
	208nm,31.0s						
STKA	**Stephens Creek**	**36.37**	**238**	P	P	19 16 49.8	+0.1
	3.2nm,0.8s,baz=80,slow=9.0,SNR=5.6						
WRA	**Warramunga Arr**	**41.29**	**258**	P	P	19 17 31.1	0.0
	0.7nm,1.1s,baz=90,slow=8.5,SNR=2.5						
ILAR	**Eielson Array**	**84.84**	**14**	P	P	19 22 20.0	+0.3
	1.2nm,1.0s,baz=231,slow=5.5,SNR=6.2						
TXAR	**Lajitas Array**	**88.18**	**59**	P	P	19 22 37.2	+0.3
	0.2nm,0.6s,baz=251,slow=5.6,SNR=2.3						
GERES	**GERESS Array B**	**144.59**	**342**	PKP	PKPdf	19 29 20.4	-1.8
	1.1nm,1.0s,baz=105,slow=3.0,SNR=5.2						

*ISCJB **24** 19:10:46.6±0.5,37°.90N±0°.03×29°.25E±0°.06,h3km±9km, Error ellipse: s-maj=8.1km s-min=4.2km az=165.7*

*DDA **24** 19:10:46.2,37°.90N×29°.27E,h7km±3km,Md2.8*

*CSEM **24** 19:10:46.8±0.2,37°.90N×29°.27E,h5km,MD2.6,Error ellipse: s-maj=4.6km s-min=2.9km az=85.0*

*ISK **24** 19:10:47.0,37°.88N×29°.25E,h8km,MD2.6*

ISC 24 19:10:47.1±0.5,37°.90N±0°.02×29°.25E±0°.06,h5km±9km, n24,σ0§57/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.23**	**229**	*e*PG	**Pg**	**19 10 51.9**	**+0.3**
DENT	**Denizli**	**0.23**	**229**	*e*Pg	**Pg**	**19 10 51.9**	**+0.4**
KHAL	**Karahalli**	**0.50**	**22**	*e*P	**Pg**	**19 10 56.9**	**+0.1**
KHAL				*e*S	**Sg**	**19 11 03.9**	**+0.6**
KHAL	**Karahalli**	**0.50**	**22**	*e*P	**Pg**	**19 10 56.9**	**+0.1**
KHAL				*e*S	**Sg**	**19 11 03.9**	**+0.6**
GOLH	**Golhisar**	**0.71**	**160**	*e*P	**Pg**	**19 10 59.1**	**-1.6**
GOLH				*e*S	**Sg**	**19 11 10.3**	**+0.4**
GOLH	**Golhisar**	**0.71**	**160**	*e*P	**Pg**	**19 10 59.1**	**-1.6**
GOLH				*e*S	**Sg**	**19 11 10.3**	**+0.4**
KULA	**Kula-Manisa**	**0.77**	**323**	*e*PG	**Pg**	**19 11 02.6**	**+0.7**
KULA	**Kula-Manisa**	**0.77**	**323**	*e*Pg	**Pg**	**19 11 02.6**	**+0.8**
GLHS	**Glhisar (BURDU**	**0.77**	**165**	*e*PG	**Pg**	**19 11 01.6**	**-0.2**
GLHS				*e*SG	**Sg**	**19 11 12.7**	**+0.8**
GLHS	**Glhisar (BURDU**	**0.77**	**165**	*e*Pg	**Pg**	**19 11 01.6**	**-0.3**
GLHS				*e*Sg	**Sg**	**19 11 12.7**	**+0.8**
MANT	**Manisa**	**0.80**	**317**	*e*P	**Pg**	**19 11 02.3**	**-0.2**
MANT				*e*S	**Sg**	**19 11 13.0**	**+0.1**
MANT	**Manisa**	**0.80**	**317**	*e*P	**Pg**	**19 11 02.3**	**-0.2**
MANT				*e*S	**Sg**	**19 11 13.0**	**+0.1**
YER	**Yerkesik**	**1.09**	**225**	*e*PG	**Pg**	**19 11 07.7**	**-0.3**
YER	**Yerkesik**	**1.09**	**225**	*e*Pg	**Pg**	**19 11 07.7**	**-0.2**
BCK	**Bucak**	**1.15**	**112**	*e*PN	**Pg**	**19 11 09.3**	**+0.2**
BCK	**Bucak**	**1.15**	**112**	*e*Pn	**Pg**	**19 11 09.3**	**+0.2**
GDZ	**Gediz**	**1.20**	**9**	*e*P	**Pg**	**19 11 09.1**	**-0.9**
GDZ				*e*S	**Sg**	**19 11 25.2**	**-0.4**
GDZ	**Gediz**	**1.20**	**9**	*e*P	**Pg**	**19 11 09.1**	**-1.0**
GDZ				*e*S	**Sg**	**19 11 25.2**	**-0.4**
SHUT	**Suhut-Afyon**	**1.21**	**57**	*e*PN	**Pn**	**19 11 10.9**	**+0.2**
SHUT	**Suhut-Afyon**	**1.21**	**57**	*e*Pn	**Pn**	**19 11 10.9**	**+0.2**
ELL	**Elmali**	**1.27**	**155**	*e*PN	**Pn**	**19 11 11.2**	**-0.2**
ELL	**Elmali**	**1.27**	**155**	*e*Pn	**Pn**	**19 11 11.2**	**-0.2**
ALT	**Altintas**	**1.33**	**30**	*e*PN	**Pn**	**19 11 12.6**	**+0.2**
ALT	**Altintas**	**1.33**	**30**	*e*Pn	**Pn**	**19 11 12.6**	**+0.2**

*IDC **24** 19:36:43.2±1.8, 13°.24N×88°.42W,h0km,mb3.8/6, mb1 4.1/8,mb1mx3.8/23,mbtmp3.8/8,ML3.4/2,Error ellipse: s-maj=51.0km s-min=26.2km az=35.0*

*ISCJB **24** 19:36:44.9±1.0, 12°.43N±0°.08×89°.07W±0°.08,h54km±9km, mb4.0/8,Error ellipse: s-maj=18.3km s-min=5.0km az=44.2*

*CASC **24** 19:36:45.5±2.0, 12°.46N×89°.15W,h35km±999km,MD4.0, mb4.4(NEIC)*

*NEIC **24** 19:36:48.3±1.3, 12°.57N×88°.95W,h64km±12km, mb4.4/1, Error ellipse: s-maj=23.3km s-min=12.8km az=209.0*

ISC 24 19:36:46.8±0.9,12°.52N±0°.08×89°.03W±0°.08,h49km±9km, n38,σ1§25/43,mb4.0/8,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.09**	**358**	*e*P	**Pn**	**19 37 05.2**	**-0.6**
BLLM	**Bellamira**	**1.20**	**40**	*e*P	**Pn**	**19 37 06.7**	**-0.4**
LBRS	**Las Brisas**	**1.21**	**359**	*e*P	**Pn**	**19 37 07.0**	**-0.3**
BOQS	**Boqueron**	**1.23**	**348**	*e*P	**Pn**	**19 37 06.8**	**-0.8**
BOQS				*e*S	**Sn**	**19 37 24.0**	**+0.9**
CNCH	**Conchagua**	**1.39**	**57**	*e*P	**Pn**	**19 37 10.4**	**+0.7**
SBLS	**San Blas**	**1.43**	**336**	*e*P	**Pn**	**19 37 09.3**	**-1.0**
SBLS				*e*S	**Sn**	**19 37 29.2**	**+1.1**
SNJE	**San Jose**	**1.45**	**337**	*e*P	**Pn**	**19 37 09.1**	**-1.5**
CAHU	**Cacacuatique**	**1.47**	**33**	*e*P	**Pn**	**19 37 12.3**	**+1.3**
RTR	**El Retiro**	**1.49**	**336**	*e*P	**Pn**	**19 37 10.1**	**-1.1**
RBDL	**Robledal**	**1.71**	**338**	*e*P	**Pn**	**19 37 13.5**	**-0.6**
MTO2	**Montecristo 2**	**1.90**	**350**	*e*P	**Pn**	**19 37 16.4**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.29**	**48**	*e*P	**Pn**	**19 37 23.5**	**+1.4**
JTS	**JuntasAbangare**	**4.57**	**119**	Pn	**Pn**	**19 37 54.2**	**+0.8**
	2.6nm,0.3s,baz=315,slow=20,SNR=9.8						
JTS				Sn	**Sn**	**19 38 43.5**	**-1.8**
	1.5nm,0.3s,baz=292,slow=21,SNR=3.1						
JTS	**JuntasAbangare**	**4.57**	**119**	Pn	**Pn**	**19 37 54.2**	**+0.8**
JTS				Sn	**Sn**	**19 38 43.5**	**-1.8**
LAJ	**Bijagual**	**5.49**	**118**	*e*P	**Pn**	**19 38 04.4**	**-1.7**
LAJ				*e*S	**Sn**	**19 38 60.0**	**-8.0**
QCR	**Quepos**	**5.68**	**122**	*e*P	**Pn**	**19 38 09.6**	**+0.9**
URSC	**Urasca**	**5.80**	**117**	*e*P	**Pn**	**19 38 13.2**	**+2.9**
URSC				*e*S	**Sn**	**19 39 17.8**	**+2.2**
BUS	**Buena Vista**	**5.95**	**119**	*e*P	**Pn**	**19 38 17.3**	**+4.9**
BUS				*e*S	**Sn**	**19 39 17.9**	**-1.5**
CMIG	**Matias Romero**	**7.26**	**309**	Pn	**Pn**	**19 38 31.4**	**+1.0**
	0.5nm,0.3s,baz=88,slow=11,SNR=5.4						
CMIG	**Matias Romero**	**7.26**	**309**	Pn	**Pn**	**19 38 31.4**	**+1.0**
TEIG	**Tepich**	**7.69**	**5**	*e*P	**Pn**	**19 38 32.7**	**-3.6**
TXAR	**Lajitas Array**	**21.57**	**323**	P	**P**	**19 41 33.6**	**+1.3**
	2.1nm,0.6s,mb3.8,baz=146,slow=10,SNR=39						
TXAR	**Lajitas Array**	**21.57**	**323**	P	**P**	**19 41 33.6**	**+1.3**
TKL	**Tuckaleechee C**	**23.52**	**11**	P	**P**	**19 41 51.6**	**-0.9**
	6.8nm,0.9s,mb4.1,baz=187,slow=13,SNR=6.7						
TKL	**Tuckaleechee C**	**23.52**	**11**	P	**P**	**19 41 51.6**	**-0.9**
CCM	**Cathedral Cave**	**25.50**	**356**	*e*P	**P**	**19 42 10.4**	**-0.2**
	11nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**36.65**	**320**	P	**P**	**19 43 50.4**	**+1.7**
	0.3nm,0.4s,mb3.5,baz=137,slow=9.4,SNR=3.5						
NVAR	**Mina Array Bea**	**36.65**	**320**	P	**P**	**19 43 50.4**	**+1.7**
SCHQ	**Schefferville**	**45.67**	**18**	P	**P**	**19 44 57.6**	**-4.9**
	5.2nm,0.9s,mb4.5,baz=174,slow=6.4,SNR=6.3						
SCHQ	**Schefferville**	**45.67**	**18**	P	**P**	**19 44 57.6**	**-4.8**
FRB	**Frobisher Bay**	**53.15**	**11**	P	**P**	**19 45 57.6**	**-1.8**
	2.2nm,0.6s,mb4.3,baz=218,slow=8.0,SNR=7.1						
FRB	**Frobisher Bay**	**53.15**	**11**	P	**P**	**19 45 57.6**	**-1.8**
YKA	**Yellowknife Ar**	**53.15**	**345**	P	**P**	**19 45 58.3**	**-1.1**
	1.2nm,1.0s,mb3.8,baz=143,slow=7.4,SNR=11						
YKA	**Yellowknife Ar**	**53.15**	**345**	P	**P**	**19 45 58.3**	**-1.1**
ILAR	**Eielson Array**	**65.34**	**336**	P	**P**	**19 47 24.8**	**+1.2**
	0.2nm,0.6s,mb3.3,baz=90,slow=9.0,SNR=3.5						
ILAR	**Eielson Array**	**65.34**	**336**	P	**P**	**19 47 24.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**148.23**	**346**	PKPbc	PKPbc	19 56 28.2	-0.1
	0.9nm,0.8s,baz=337,slow=3.5,SNR=9.6						
CMAR	**Chiang Mai Arr**	**148.23**	**346**	PKPbc	PKPbc	19 56 28.2	-0.1

*ISCJB **24** 19:42:35.8±0.7,39°.06N±0°.03×72°.14E±0°.05,h20km±5km, mb3.8/18,Error ellipse: s-maj=6.4km s-min=4.3km az=172.3*

*IDC **24** 19:42:36.0±0.8,39°.28N×72°.27E,h0km,mb3.8/12, mb1 4.0/17,mb1mx3.8/30,mbtmp3.8/17,ML3.6/5,Error ellipse: s-maj=13.1km s-min=12.5km az=117.0*

*NEIC **24** 19:42:36.6±0.3,39°.14N×72°.32E,h10km,mb4.4/9,Error ellipse: s-maj=8.3km s-min=4.3km az=56.0*

*MOS **24** 19:42:38.2±1.2,39°.16N×72°.29E,h33km,mb4.2/14,Error ellipse: s-maj=12.0km s-min=6.3km az=86.9*

*NNC **24** 19:42:39.1±2.0,39°.49N×72°.20E,h0km,mb4.3,mpv4.1, Error ellipse: s-maj=17.2km s-min=9.5km az=17.0*

*BJI **24** 19:42:43.7,39°.50N×72°.70E,h50km,mB4.5/1,mb4.1/5, ML3.7/5,Ms4.1/2,Ms7 3.8/2*

ISC 24 19:42:34.6±1.4,39°.08N±0°.03×72°.07E±0°.05,h1km±9km, n131,σ1§26/144,mb3.9/18,14C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.06**	**81**	P	**Pn**	**19 43 22.9**	**-1.2**
KSH				smax			
	comp=N,410nm,0.7s						
KSH				smax			
	comp=E,500nm,0.8s						
AML	**Almayashu**	**3.29**	**22**	P	**Pn**	**19 43 28.2**	**+1.0**
	SNR=281						
AML				P		19 43 28.2	
	SNR=281						
UCH	**Uchtor**	**3.65**	**30**	P	**Pn**	**19 43 34.0**	**+1.7**
	SNR=12						
UCH				P		19 43 34.0	
	SNR=12						
EKS2	**Erkin-Say**	**3.80**	**19**	P	**Pn**	**19 43 35.3**	**+0.9**
	SNR=56						
EKS2				P		19 43 35.3	
	SNR=56						
EKS2	**Erkin-Say**	**3.80**	**19**	*e*P	**Pn**	**19 43 34.5**	**+0.2**
EKS2	**Erkin-Say**	**3.80**	**19**	*e*PN	**Pn**	**19 43 34.5**	**+0.1**
KZA	**Kyzart**	**3.85**	**38**	P	**Pn**	**19 43 35.6**	**+0.6**
	SNR=13						
KZA				P		19 43 35.6	
	SNR=13						
AAK	**Ala-Archa**	**3.99**	**27**	P	**Pn**	**19 43 38.3**	**+1.3**
	SNR=36						
AAK				P		19 43 38.3	
	SNR=36						
AAK	**Ala-Archa**	**3.99**	**27**	*e*P	**Pn**	**19 43 37.3**	**+0.3**
AAK	**Ala-Archa**	**3.99**	**27**	*i* PN	**Pn**	**19 43 37.7**	**+0.7**
KBK	**Karagaybulak**	**4.18**	**31**	P	**Pn**	**19 43 40.7**	**+1.1**
	SNR=26						
KBK				P		19 43 40.7	
	SNR=26						
KK31	**Karatay Array**	**4.18**	**344**	Pn	**Pn**	**19 43 40.0**	**+0.4**
	comp=E,6.6nm,0.3s,baz=154,slow=13,SNR=255						
KK31				⇓Pg	**Pb**	**19 43 49.4**	**+0.3**
	comp=E,12nm,0.3s,baz=172,slow=16,SNR=6.8						
KK31				⇓Sn	**Sn**	**19 44 26.8**	**-2.4**
	comp=E,33nm,0.5s						
KK31				⇑Lg		19 44 39.1	
	comp=E,60nm,0.5s						
KK31	**Karatay Array**	**4.18**	**344**	*e*PN	**Pn**	**19 43 39.9**	**+0.3**
KK31						19 44 39.8	
KK31				pmax	pmax		
	comp=Z,15nm,0.3s						
KK31				pmax	pmax		
	comp=N,52nm,0.3s						
KKAR	**Karatay Array**	**4.

comp=Z,15nm,1.4s
BRVK Borovoye 14.03 356 ⇑Pn **Pn 19 45 52.9 -1.6**
comp=Z,13nm,1.4s
BRVK Borovoye 14.03 356 *c*eP **Pn 19 45 55.9 +1.4**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
DANN Dangsing 14.45 134 *e*P **Pn 19 45 59.8 -0.5**
comp=Z,34nm,0.7s
DANN Dangsing 14.45 134 *e*P **Pn 19 45 59.8 -0.5**
comp=Z,34nm,0.7s
KOLN Koldanda 14.81 136 *e*P **Pn 19 46 06.1 +0.8**
comp=Z,18nm,0.6s
KOLN Koldanda 14.81 136 *e*P **Pn 19 46 06.1 +0.8**
comp=Z,18nm,0.6s
AKTO Aktyubinsk 15.09 323 Pn **Pn 19 46 07.1 -1.7**
comp=Z,0.3nm,0.3s,baz=128,slow=14,SNR=5.9
AKTO Sn **Sn 19 48 46.5 -10**
comp=Z,0.2nm,0.3s,baz=299,slow=19,SNR=2.7
AKTO Aktyubinsk 15.09 323 ⇓Pn **Pn 19 46 09.5 +0.7**
comp=Z,1.9nm,0.9s
AKTO ⇓Sn **Sn 19 48 54.0 -2.4**
comp=Z,1.6nm,1.4s
AKTO Aktyubinsk 15.09 323 Pn **Pn 19 46 07.1 -1.7**
AKTO Sn **Sn 19 48 46.5 -10**
AKTO Aktyubinsk 15.09 323 P **Pn 19 46 07.1 -1.7**
GKN Gorkha 15.21 133 *e*P **Pn 19 46 10.6 0.0**
GKN Gorkha 15.21 133 *e*P **Pn 19 46 10.6 0.0**
KKN Kakani 15.74 132 *e*P **Pn 19 46 16.1 -1.5**
comp=Z,23nm,0.7s
KKN Kakani 15.74 132 *e*P **Pn 19 46 16.1 -1.5**
comp=Z,23nm,0.7s
KKN Kakani 15.74 132 *e*P **Pn 19 46 16.1 -1.5**
KKN pmax pmax
comp=Z,23nm,0.7s
DMN Daman 15.78 133 *e*P **Pn 19 46 17.8 -0.3**
DMN Daman 15.78 133 *e*P **Pn 19 46 17.8 -0.3**
PKI Pulchoki 15.98 132 *e*P **Pn 19 46 19.8 -0.9**
comp=Z,15nm,0.5s
PKI Pulchoki 15.98 132 *e*P **Pn 19 46 19.8 -0.9**
comp=Z,15nm,0.5s
PKI Pulchoki 15.98 132 *e*P **Pn 19 46 19.8 -0.9**
PKI pmax pmax
comp=Z,15nm,0.5s
GUN Gumba 16.00 130 *e*P **Pn 19 46 20.8 -0.2**
comp=Z,20nm,0.8s
GUN Gumba 16.00 130 *e*P **Pn 19 46 20.8 -0.2**
comp=Z,20nm,0.8s
JIRN Jiri 16.38 130 *e*P **Pn 19 46 25.0 -0.8**
comp=Z,15nm,0.4s
JIRN Jiri 16.38 130 *e*P **Pn 19 46 25.0 -0.8**
comp=Z,15nm,0.4s
RAMN Ramite 17.14 131 *e*P **Pn 19 46 35.7 +0.2**
comp=Z,32nm,0.6s
RAMN Ramite 17.14 131 *e*P **Pn 19 46 35.7 +0.2**
comp=Z,32nm,0.6s
ZAA0 Zalesovo Array 17.22 26 *e*P **Pn 19 46 34.0 -2.3**
ZALV Zalesovo Beam 17.22 26 Pn **Pn 19 46 33.7 -2.6**
comp=Z,0.5nm,0.3s,baz=220,slow=11,SNR=14
ZALV Zalesovo Beam 17.22 26 Pn **Pn 19 46 33.7 -2.6**
ZALV Zalesovo Beam 17.22 26 P **Pn 19 46 33.7 -2.6**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
NVS Novosibirsk 17.47 22 *e*P **Pn 19 46 37.8 -1.6**
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=Z,9.0nm,1.0s
TAPN Taplejung 17.52 127 *e*P **Pn 19 46 39.6 -0.7**
comp=Z,8.2nm,0.6s
TAPN Taplejung 17.52 127 *e*P **Pn 19 46 39.6 -0.7**
comp=Z,8.2nm,0.6s
ODAN Odare 17.68 129 *e*P **Pn 19 46 41.5 -0.8**
comp=Z,17nm,0.6s
ODAN Odare 17.68 129 *e*P **Pn 19 46 41.5 -0.8**
comp=Z,17nm,0.6s
SVE Sverdlovsk 19.29 341 *e*P **Pn 19 46 56.8 -4.8**
SVE pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 19.52 337 *c i*P **Pn 19 47 06.8 +2.3**
ARU S **Sn 19 50 42.4 -1.5**
ARU pmax pmax
comp=Z,6.0nm,1.2s
GNI Garni 21.05 282 P **P 19 47 21.8 +1.8**
comp=Z,16nm,1.0s,mb4.3
GTA Gaotai 21.46 80 *e*P **P 19 47 25.8 +1.4**
GTA pP 19 47 34.1
GTA sP sP 19 47 37.8 +13
GTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
KIV Kislovodsk 22.47 292 *e*P **P 19 47 45.5 +10**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
ZAK Zakamensk 24.70 53 *e*P **P 19 47 57.2 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
SONM Songino Array 26.23 59 P **P 19 48 10.9 -0.1**
comp=Z,1.7nm,0.6s,mb3.8,baz=268,slow=9.0,SNR=16
SONM Songino Array 26.23 59 P **P 19 48 10.9 -0.1**
SONM Songino Array 26.23 59 P **P 19 48 10.9 -0.1**
SONM pmax pmax
comp=Z,2.0nm,0.6s
ANN Anapa 26.26 294 *e*P **P 19 48 12.6 +1.3**
ANN *e**PP 19 48 28.3
ANN *e*S **S 19 52 37.1 -7.4**
ULN Ulaanbaatar 26.67 59 *e*P **P 19 48 14.2 -0.8**
comp=Z,1.8nm,0.6s,mb4.0
ULN Ulaanbaatar 26.67 59 *e*P **P 19 48 14.2 -0.8**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
CMAR Chiang Mai Arr 31.07 124 P **P 19 48 55.1 +0.8**
comp=Z,0.6nm,0.7s,mb3.6,baz=305,slow=7.1,SNR=7.2
CMAR Chiang Mai Arr 31.07 124 P **P 19 48 55.1 +0.8**
CMAR Chiang Mai Arr 31.07 124 P **P 19 48 55.2 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
BOD Bodaibo 32.83 41 *e*P **P 19 49 08.0 -1.5**
JOF Joensuu 34.10 328 *e*P **P 19 49 22.0 +1.6**
JOF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
JOF Joensuu 34.10 328 *e*p **P 19 49 22.0 +1.6**
comp=Z,2.3nm,0.8s,mb4.2
FINES FINESS Array B 35.86 324 P **P 19 49 36.5 +0.8**
comp=Z,1.3nm,0.5s,mb4.0,baz=114,slow=9.3,SNR=16
FINES FINESS Array B 35.86 324 P **P 19 49 36.5 +0.8**
FINES FINESS Array B 35.86 324 P **P 19 49 36.5 +0.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 39.11 336 P **P 19 50 04.6 +1.5**
comp=Z,1.5nm,0.7s,mb3.7,baz=117,slow=8.2,SNR=9.0
ARCES ARCESS Array B 39.11 336 P **P 19 50 04.6 +1.5**
ARCES ARCESS Array B 39.11 336 P **P 19 50 04.6 +1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 41.60 320 P **P 19 50 25.6 +1.8**
comp=Z,2.6nm,0.4s,mb4.3,baz=98,slow=11,SNR=21
HFS Hagfors 41.60 320 P **P 19 50 25.6 +1.8**
HFS Hagfors 41.60 320 P **P 19 50 25.6 +1.8**
HFS pmax pmax
comp=Z,3.0nm,0.4s
GERES GERESS Array B 42.18 303 P **P 19 50 32.1 +3.4**
comp=Z,0.2nm,0.5s,mb3.1,baz=61,slow=8.4,SNR=6.4
GERES GERESS Array B 42.18 303 P **P 19 50 32.1 +3.4**
GERES GERESS Array B 42.18 303 P **P 19 50 32.2 +3.4**
NB2 NORSAR Subarra 42.86 321 P **P 19 50 34.9 +0.8**
comp=Z,0.7nm,0.5s,mb3.6,baz=91,slow=8.6
NOA NORSAR Array B 42.86 321 P **P 19 50 35.1 +1.0**
comp=Z,1.3nm,0.7s,mb3.8,baz=92,slow=8.1,SNR=5.2
NOA NORSAR Array B 42.86 321 P **P 19 50 35.1 +1.0**
NOA NORSAR Array B 42.86 321 P **P 19 50 35.1 +1.0**
NOA pmax pmax
comp=Z,1.0nm,0.7s
ESDC Sonseca Array 57.03 297 P **P 19 52 23.5 +1.4**
comp=Z,0.2nm,0.4s,mb3.5,baz=64,slow=6.4,SNR=2.7
ESDC Sonseca Array 57.03 297 P **P 19 52 23.5 +1.4**
TORD Torodi Ar. Bea 66.64 268 P **P 19 53 29.2 +2.0**
comp=Z,0.3nm,0.4s,mb3.9,baz=54,slow=5.7,SNR=6.6
TORD Torodi Ar. Bea 66.64 268 P **P 19 53 29.2 +2.0**
ILAR Eielson Array 72.07 16 P **P 19 53 58.8 -1.3**
comp=Z,0.8nm,0.8s,mb3.9,baz=318,slow=4.0,SNR=9.0
ILAR Eielson Array 72.07 16 P **P 19 53 58.8 -1.3**
ILAR Eielson Array 72.07 16 P **P 19 53 58.8 -1.2**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 78.63 3 P **P 19 54 37.6 -0.1**
comp=Z,0.8nm,0.7s,mb3.9,baz=351,slow=5.4,SNR=12
YKA Yellowknife Ar 78.63 3 P **P 19 54 37.6 -0.1**
YKA Yellowknife Ar 78.63 3 P **P 19 54 37.6 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 82.66 123 P **P 19 55 01.1 +1.1**
comp=Z,0.7nm,0.6s,mb4.1,baz=326,slow=5.0,SNR=11
WRA Warramunga Arr 82.66 123 P **P 19 55 01.1 +1.1**
WRA Warramunga Arr 82.66 123 P **P 19 55 01.1 +1.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 82.66 123 *e*P **P 19 55 00.3 +0.4**
WRAB Tennant Creek 82.66 123 *e*P **P 19 55 00.3 +0.4**

ISCJB ***24*** *19:49:03.8±0.5, 32°.74N±0°.04×59°.38E±0°.03, h11km±5km,*
Error ellipse: s-maj=6.6km s-min=3.9km az=151.8
THR ***24*** *19:49:03.6±0.3, 34°.83N×59°.65E, h70km, ML3.8*
TEH ***24*** *19:49:04.8, 32°.68N×59°.43E, h3km*
CSEM ***24*** *19:49:04.1±0.1, 32°.71N×59°.42E, h2km, ML3.6, Error*
ellipse: s-maj=3.2km s-min=1.7km az=152.0

ISC 24 19:49:04.7±0.6, 32°.73N±0°.03×59°.40E±0°.03, h4km±5km, n37, σ0ˢ75/50, 6C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDAH	**Dahanechah**	**0.39**	**89⇑**	*e*Pg	**Pg**	**19 49 11.6**	**-0.6**
IDAH				*e*Sg	**Sg**	**19 49 17.2**	**-0.1**
IDAH				*e*		19 49 17.9	
comp=Z,23μm,0.1s							
IDAH	**Dahanechah**	**0.39**	**89⇑**	*e*Pg	**Pg**	**19 49 11.6**	**-0.6**
IDAH				*e*Sg	**Sg**	**19 49 17.2**	**-0.1**
IKOO	**Kooshah**	**0.46**	**228⇑**	*e*Pg	**Pg**	**19 49 12.7**	**-0.7**
IKOO				*e*		19 49 13.2	
comp=Z,100μm,0.1s							
IKOO				*e*Sg	**Sg**	**19 49 19.4**	**+0.1**
IKOO	**Kooshah**	**0.46**	**228⇑**	*e*Pg	**Pg**	**19 49 12.7**	**-0.7**
IKOO				*e*Sg	**Sg**	**19 49 19.4**	**+0.1**
IMON	**Monand**	**0.51**	**26⇑**	*e*Pg	**Pg**	**19 49 14.6**	**+0.1**
IMON				*e*Sg	**Sg**	**19 49 22.1**	**+1.0**
IMON				*e*		19 49 23.3	
comp=Z,49μm,0.1s							
IMON	**Monand**	**0.51**	**26⇑**	*e*Pg	**Pg**	**19 49 14.6**	**+0.1**
IMON				*e*Sg	**Sg**	**19 49 22.1**	**+1.0**
ITEG	**Tejag**	**0.57**	**287⇓**	*e*Pg	**Pg**	**19 49 15.6**	**-0.1**
ITEG				*e*Sg	**Sg**	**19 49 23.8**	**+0.6**
ITEG				*e*		19 49 26.3	
comp=Z,37μm,0.1s							
ITEG	**Tejag**	**0.57**	**287⇓**	*e*Pg	**Pg**	**19 49 15.6**	**-0.1**
ITEG				*e*Sg	**Sg**	**19 49 23.8**	**+0.6**
SHRT	**Shahrakht**	**1.18**	**39**	*e*Pg	**Pg**	**19 49 26.8**	**-0.5**
SHRT				*e*Sg	**Sg**	**19 49 43.6**	**+1.1**
SHRT	**Shahrakht**	**1.18**	**39**	*e*Pg	**Pg**	**19 49 26.8**	**-0.4**
SHRT				*e*Sg	**Sg**	**19 49 43.6**	**+1.1**
TABS	**Tabas**	**2.12**	**296**	*e*Pg	**Pg**	**19 49 41.7**	**-3.6**
TABS				AML	AML	19 50 16.7	
comp=N,169nm,0.7s							
TABS	**Tabas**	**2.12**	**296**	*e*Sg	**Sg**	**19 50 12.9**	**0.0**
IBAF	**Bafgh**	**3.45**	**252**	*e*Sg	**Sg**	**19 50 51.9**	**-3.5**
IBAF				*e*		19 51 04.9	
comp=Z,695nm,0.2s							
KRBR	**Kerman**	**3.55**	**220**	*e*Pn	**Pn**	**19 50 00.6**	**0.0**
KRBR				AML	AML	19 51 10.3	
comp=N,70nm,0.5s							
KRBR				AML	AML	19 51 16.9	
comp=E,74nm,0.7s							
ISRO	**Mashad**	**3.57**	**1**	*e*Sg	**Sg**	**19 50 57.7**	**-1.6**
ISRO	**Mashad**	**3.57**	**1**	*e*Sg	**Sg**	**19 50 57.7**	**-1.6**
IMYA	**Miami**	**3.65**	**9**	*e*Pn	**Pn**	**19 50 02.3**	**+0.5**
IMYA				*e*		19 51 21.0	
comp=Z,653nm,0.4s							
IMYA	**Miami**	**3.65**	**9**	*e*Pn	**Pn**	**19 50 02.3**	**+0.5**
IKRD	**Kardeh**	**4.10**	**350**	*e*	**Sn**	**19 50 54.6**	**-1.9**
comp=Z,257nm,0.3s							
IKRD				*e*Pn	**Pn**	**19 50 07.8**	**-0.3**
ICHK	**Chekchek**	**4.25**	**265**	*e*Pn	**Pn**	**19 50 10.4**	**+0.3**
ICHK				*e*Sg	**Sg**	**19 51 21.8**	**+0.6**
ICHK				*e*		19 51 22.9	
comp=Z,729nm,0.2s							
ICHK	**Chekchek**	**4.25**	**265**	*e*Pn	**Pn**	**19 50 10.4**	**+0.3**
ICHK				*e*Sg	**Sg**	**19 51 21.8**	**+0.6**
IMEH	**Mehriz**	**4.28**	**253**	*e*Pn	**Pn**	**19 50 10.6**	**0.0**
IMEH				*e*		19 51 31.6	
comp=Z,434nm,0.4s							
IMEH	**Mehriz**	**4.28**	**253**	*e*Pn	**Pn**	**19 50 10.6**	**0.0**
IEMG	**Emamgholi**	**4.71**	**353**	*e*Pn	**Pn**	**19 50 17.1**	**+0.6**
IEMG				*e*		19 50 22.1	
comp=Z,155nm,0.1s							
IEMG	**Emamgholi**	**4.71**	**353**	*e*Pn	**Pn**	**19 50 17.1**	**+0.6**
IANJ	**Anjilo**	**5.31**	**302**	*e*Pn	**Pn**	**19 50 25.3**	**+0.6**
IANJ	**Anjilo**	**5.31**	**302**	*e*Pn	**Pn**	**19 50 25.3**	**+0.6**
ISHM	**Shahmirzad**	**5.92**	**303**	*e*Pn	**Pn**	**19 50 33.5**	**+0.5**
ISHM	**Shahmirzad**	**5.92**	**303**	*e*Pn	**Pn**	**19 50 33.5**	**+0.5**
IZEF	**Zefreh**	**5.96**	**273**	*e*Pn	**Pn**	**19 50 33.7**	**+0.1**
IZEF				*e*		19 50 42.8	
comp=Z,75nm,0.1s							
IZEF	**Zefreh**	**5.96**	**273**	*e*Pn	**Pn**	**19 50 33.7**	**+0.1**
ISFB	**Sefidab**	**6.20**	**287**	*e*Pn	**Pn**	**19 50 37.0**	**+0.1**
ISFB	**Sefidab**	**6.20**	**287**	*e*Pn	**Pn**	**19 50 37.0**	**+0.1**
IFIR	**Firoozkooh**	**6.23**	**300**	*e*Pn	**Pn**	**19 50 37.5**	**+0.2**
IFIR				*e*		19 50 42.6	
comp=Z,236nm,0.1s							
IFIR	**Firoozkooh**	**6.23**	**300**	*e*Pn	**Pn**	**19 50 37.5**	**+0.2**
IKLH	**Kolahrood**	**6.60**	**277**	*e*Pn	**Pn**	**19 50 42.5**	**+0.1**
IKLH				*e*		19 50 48.3	
comp=Z,167nm,0.2s							
IKLH	**Kolahrood**	**6.60**	**277**	*e*Pn	**Pn**	**19 50 42.5**	**+0.1**

MAN 24 19:54:23, 8°.81N×127°.11E, h88km, mb4.8, ML3.8, MS3.8, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.48**	**276**	*e*P	Pn	19 54 43.0	-5.3
BUTP				*e*S	Sn	19 55 01.1	-6.4
MATI	**Mati**	**2.04**	**204**	*e*P	Pn	19 54 56.6	+1.0
BUKP	**Musuan**	**2.23**	**245**	*e*P	Pn	19 54 59.5	+1.3
CGP	**Cagayan de Oro**	**2.41**	**262⇓**	*e*P	Pn	19 55 02.1	+1.5
CGP				*i* S	Sn	19 55 30.8	+1.4
MSLP	**Maasin**	**2.58**	**301**	*e*P	Pn	19 55 04.1	+1.3
CTBH	**Cotabato--PC H**	**3.25**	**241⇑**	*i*P	Pn	19 55 14.5	+2.7

ISCJB ***24*** *19:58:24.8±0.6, 38°.44N±0°.02×20°.26E±0°.03, h0km±4km,*
mb3.8/8, Error ellipse: s-maj=4.8km s-min=2.9km az=41.5
ATH ***24*** *19:58:25.2, 38°.46N×20°.38E, h5km±2km, ML3.5*
CSEM ***24*** *19:58:26.4±0.2, 38°.45N×20°.35E, h2km, ML3.5/8, Error*
ellipse: s-maj=5.0km s-min=2.8km az=40.0
IDC ***24*** *19:58:26.8±1.9, 38°.82N×20°.64E, h0km, mb3.7/7,*
mb1 3.6/12, mb1mx3.5/30, mbtmp3.5/12, ML3.4/4, Error
ellipse: s-maj=31.9km s-min=18.8km az=7.0
NEIC ***24*** *19:58:27.4±1.0, 38°.62N×20°.68E, h10km, Error ellipse:*
s-maj=16.8km s-min=8.8km az=185.0
THE ***24*** *19:58:27.6, 38°.44N×20°.44E, h0km±1km, ML3.5/8, Error*
ellipse: s-maj=2.1km s-min=0.8km az=242.0
SKO ***24*** *19:58:32.1, 38°.83N×20°.38E, h10km*
BEO ***24*** *19:58:48.7±0.8, 40°.35N×19°.51E, h0km*

ISC 24 19:58:26.2±0.6, 38°.45N±0°.02×20°.33E±0°.03, h1km±3km, n191, σ1ˢ11/232, mb3.8/8, 1C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.34**	**142**	*e*PB	**Pg**	**19 58 32.7**	**-0.1**
VLS				*e*SB	**Sg**	**19 58 37.6**	**+0.4**
VLS	**Valsamata**	**0.34**	**142**	P	**Pg**	**19 58 32.8**	**0.0**
VLS				S	**Sg**	**19 58 37.5**	**+0.3**
VLS	**Valsamata**	**0.34**	**142**	P	**Pg**	**19 58 32.8**	**0.0**
VLS				S	**Sg**	**19 58 37.5**	**+0.3**
LKD2	**Lefkada island**	**0.43**	**37**	P	**Pg**	**19 58 34.4**	**0.0**
LKD2				S	**Sg**	**19 58 40.1**	**+0.1**
LKD2	**Lefkada island**	**0.43**	**37**	P	**Pg**	**19 58 34.4**	**0.0**
LKD2				S	**Sg**	**19 58 40.1**	**+0.1**
RLS	**Riolos of Patr**	**0.98**	**113**	*e*PB	**Pg**	**19 58 43.4**	**-1.6**
RLS	**Riolos of Patr**	**0.98**	**113**	P	**Pg**	**19 58 43.4**	**-1.6**
RLS				S	**Sg**	**19 58 57.4**	**-0.3**
RLS	**Riolos of Patr**	**0.98**	**113**	P	**Pg**	**19 58 43.4**	**-1.6**
RLS				S	**Sg**	**19 58 57.4**	**-0.3**
IGT	**Igoumenitsa**	**1.08**	**0**	P	**Pg**	**19 58 47.3**	**+0.3**
IGT				S	**Sg**	**19 59 04.6**	**+3.6**
IGT	**Igoumenitsa**	**1.08**	**0**	P	**Pg**	**19 58 47.3**	**+0.3**
UPR	**University Cam**	**1.16**	**98**	*e*PB	**Pg**	**19 58 46.8**	**-1.7**
UPR	**University Cam**	**1.16**	**98**	*e*Pn	**Pg**	**19 58 46.8**	**-1.7**
EFP	**Efpalio**	**1.24**	**91**	*e*PG	**Pn**	**19 58 47.8**	**-2.9**
EFP	**Efpalio**	**1.24**	**91**	*e*Pn	**Pn**	**19 58 47.5**	**-3.2**
EVR	**Evrytania**	**1.25**	**68**	*e*PB	**Pn**	**19 58 48.3**	**-2.6**
EVR	**Evrytania**	**1.25**	**68**	P	**Pn**	**19 58 48.3**	**-2.6**
EVR				S	**Sg**	**19 59 06.5**	**+0.1**
EVR	**Evrytania**	**1.25**	**68**	P	**Pn**	**19 58 48.3**	**-2.6**
EVR				S	**Sg**	**19 59 06.5**	**+0.1**
JAN	**Janina**	**1.27**	**19**	*e*PB	**Pn**	**19 58 49.3**	**-1.9**
JAN	**Janina**	**1.27**	**19**	P	**Pg**	**19 58 50.9**	**+0.3**
JAN	**Janina**	**1.27**	**19**	P	**Pg**	**19 58 50.9**	**+0.3**
LAKA	**Lakka**	**1.32**	**99**	P	**Pn**	**19 58 49.0**	**-2.8**
LAKA				S	**Sg**	**19 59 08.8**	**+0.3**
LAKA	**Lakka**	**1.32**	**99**	P	**Pn**	**19 58 49.0**	**-2.8**
LAKA				S	**Sg**	**19 59 08.8**	**+0.3**
KEK	**Kerkira**	**1.33**	**342**	*e*PG	**Pn**	**19 58 50.3**	**-1.6**
KEK	**Kerkira**	**1.33**	**342**	P	**Pg**	**19 58 52.2**	**+0.5**
KEK				S	**Sg**	**19 59 13.3**	**+4.4**
KEK	**Kerkira**	**1.33**	**342**	*e*Pn	**Pn**	**19 58 50.3**	**-1.6**
KEK	**Kerkira**	**1.33**	**342**	P	**Pg**	**19 58 52.2**	**+0.5**
TRIZ	**Trizonia**	**1.38**	**93**	P	**Pn**	**19 58 48.8**	**-3.8**
TRIZ				S	**Sg**	**19 59 10.7**	**+0.3**
KALE	**Kalithea**	**1.43**	**92**	P	**Pn**	**19 58 53.3**	**0.0**
KALE	**Kalithea**	**1.43**	**92**	P	**Pn**	**19 58 53.3**	**0.0**
SRN	**Sarande**	**1.45**	**350**	*e*PN	**Pn**	**19 58 54.9**	**+1.3**
SRN	**Sarande**	**1.45**	**350**	*e*Pn	**Pn**	**19 58 54.9**	**+1.3**
MEV	**Metsovon**	**1.51**	**27**	P	**Pn**	**19 58 55.3**	**+0.9**
MEV				S	**Sg**	**19 59 15.7**	**+1.0**
MEV	**Metsovon**	**1.51**	**27**	P	**Pn**	**19 58 55.3**	**+0.9**
MEV				S	**Sg**	**19 59 15.7**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.52**	**68**	P	**Pn**	**19 58 53.6**	**-1.0**
MAKR				S	**Sb**	**19 59 15.4**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.52**	**68**	P	**Pn**	**19 58 53.6**	**-1.0**
MAKR				S	**Sb**	**19 59 15.4**	**+0.4**
AGG	**Agios Georgios**	**1.67**	**69**	*e*PG	**Pn**	**19 58 55.5**	**-1.1**
AGG	**Agios Georgios**	**1.67**	**69**	P	**Pn**	**19 58 55.6**	**-1.0**
AGG				S	**Sn**	**19 59 19.1**	**+0.4**
AGG	**Agios Georgios**	**1.67**	**69**	P	**Pn**	**19 58 55.6**	**-1.0**
AGG				S	**Sn**	**19 59 19.1**	**+0.4**
GUR	**Goura**	**1.67**	**107**	*e*PG	**Pn**	**19 58 55.8**	**-0.8**
GUR	**Goura**	**1.67**	**107**	*e*Pn	**Pn**	**19 58 54.8**	**-1.8**
THL	**Klokotos Trika**	**1.72**	**49**	*e*PB	**Pn**	**19 58 57.1**	**-0.3**
THL	**Klokotos Trika**	**1.72**	**49**	P	**Pn**	**19 58 58.1**	**+0.7**
THL	**Klokotos Trika**	**1.72**	**49**	*e*Pg	**Pn**	**19 58 57.1**	**-0.3**
THL	**Klokotos Trika**	**1.72**	**49**	P	**Pn**	**19 58 58.1**	**+0.7**
DESF	**Desfina**	**1.73**	**91**	P	**Pn**	**19 58 56.5**	**-1.0**
DESF	**Desfina**	**1.73**	**91**	P	**Pn**	**19 58 56.5**	**-1.0**
ITM	**Ithomi**	**1.79**	**134**	*e*PN	**Pn**	**19 58 59.2**	**+0.9**
ITM	**Ithomi**	**1.79**	**134**	P	**Pn**	**19 58 58.8**	**+0.5**
ITM				S	**Sn**	**19 59 22.5**	**+0.8**
ITM	**Ithomi**	**1.79**	**134**	P	**Pn**	**19 58 58.8**	**+0.5**
ITM	**Ithomi**	**1.79**	**134**	*e*Pn	**Pn**	**19 58 59.6**	**+1.3**
ITM				S	**Sn**	**19 59 22.5**	**+0.8**
PYL	**PYLOS**	**1.92**	**144**	*e*PG	**Pn**	**19 59 00.6**	**+0.6**
PYL	**PYLOS**	**1.92**	**144**	*e*Pn	**Pn**	**19 58 59.6**	**-0.4**
VLX	**Vlachokerasia**	**1.95**	**123**	*e*PN	**Pn**	**19 59 01.5**	**+1.1**
VLX	**Vlachokerasia**	**1.95**	**123**	*e*Pg	**Pg**	**19 59 03.5**	**-0.1**
NEST	**Nestorio**	**2.04**	**16**	P	**Pn**	**19 59 03.6**	**+1.9**
NEST				S	**Sn**	**19 59 29.5**	**+1.6**
NEST	**Nestorio**	**2.04**	**16**	P	**Pn**	**19 59 03.6**	**+1.9**
NEST				S	**Sn**	**19 59 29.5**	**+1.6**
LKR	**Lokris**	**2.11**	**84**	*e*PN	**Pn**	**19 59 03.0**	**+0.4**
LKR	**Lokris**	**2.11**	**84**	P	**Pn**	**19 59 03.0**	**+0.4**
LKR	**Lokris**	**2.11**	**84**	*e*Pn	**Pn**	**19 59 02.8**	**+0.2**
LTK	**Loutraki**	**2.12**	**101**	*e*PN	**Pn**	**19 59 03.4**	**+0.6**
LTK	**Loutraki**	**2.12**	**101**	*e*Pn	**Pn**	**19 59 03.4**	**+0.6**
ATAL	**Atalanti**	**2.13**	**83**	P	**Pn**	**19 59 03.2**	**+0.3**
ATAL				S	**Sn**	**19 59 30.8**	**+0.8**
ATAL	**Atalanti**	**2.13**	**83**	P	**Pn**	**19 59 03.2**	**+0.3**
ATAL				S	**Sn**	**19 59 30.8**	**+0.8**
KZN	**Kozani**	**2.17**	**31**	*e*PG	**Pn**	**19 59 04.8**	**+1.3**
KZN	**Kozani**	**2.17**	**31**	P	**Pn**	**19 59 04.3**	**+0.8**
KZN	**Kozani**	**2.17**	**31**	P	**Pn**	**19 59 04.3**	**+0.8**
KZN	**Kozani**	**2.17**	**31**	*e*Pn	**Pn**	**19 59 04.8**	**+1.3**
LIT	**Litokhoron**	**2.35**	**45**	*e*PN	**Pn**	**19 59 07.1**	**+1.1**
LIT	**Litokhoron**	**2.35**	**45**	P	**Pn**	**19 59 06.7**	**+0.7**
LIT				S	**Sn**	**19 59 36.3**	**+0.7**
LIT	**Litokhoron**	**2.35**	**45**	P	**Pn**	**19 59 06.7**	**+0.7**
LIT	**Litokhoron**	**2.35**	**45**	*e*Pn	**Pn**	**19 59 07.1**	**+1.1**
LIT				S	**Sn**	**19 59 36.3**	**+0.7**
VIL1	**Vilia, Western**	**2.38**	**96**	*e*PN	**Pn**	**19 59 06.7**	**+0.3**
XOR	**Xorichti**	**2.42**	**67**	P	**Pn**	**19 59 07.1**	**+0.2**
XOR	**Xorichti**	**2.42**	**67**	P	**Pn**	**19 59 07.1**	**+0.2**
NEO	**Neokhori**	**2.42**	**68**	*e*PN	**Pn**	**19 59 07.2**	**+0.3**
NEO	**Neokhori**	**2.42**	**68**	*e*Pn	**Pn**	**19 59 06.8**	**-0.1**
FNA	**Florina**	**2.47**	**19**	P	**Pn**	**19 59 08.3**	**+0.7**
FNA	**Florina**	**2.47**	**19**	P	**Pn**	**19 59 08.3**	**+0.7**
DID	**Didima**	**2.49**	**111**	*e*PN	**Pn**	**19 59 08.2**	**+0.4**
DID	**Didima**	**2.49**	**111**	*e*Pn	**Pn**	**19 59 08.0**	**+0.2**
MRKA	**Markates**	**2.57**	**83**	P	**Pn**	**19 59 09.4**	**+0.4**
MRKA	**Markates**	**2.57**	**83**	P	**Pn**	**19 59 09.4**	**+0.4**
NAIG	**Nisos Aigina**	**2.59**	**104**	*e*PN	**Pn**	**19 59 10.3**	**+1.1**
NAIG	**Nisos Aigina**	**2.59**	**104**	*e*Pn	**Pn**	**19 59 10.3**	**+1.1**
BIA	**Bitola**	**2.68**	**16**	*e*Pn	**Pn**	**19 59 11.1**	**+0.6**
BIA	**Bitola**	**2.68**	**16**	*e*Pn	**Pn**	**19 59 11.1**	**+0.6**
VLI	**Veliai**	**2.70**	**129**	*e*PN	**Pn**	**19 59 12.2**	**+1.4**
VLI	**Veliai**	**2.70**	**129**	*e*Pg	**Pg**	**19 59 14.2**	**-3.8**
ATH	**Athens Observa**	**2.71**	**99**	*e*PN	**Pn**	**19 59 11.4**	**+0.4**
ATH	**Athens Observa**	**2.71**	**99**	P	**Pn**	**19 59 11.4**	**+0.4**
ATH				S	**Sn**	**19 59 44.3**	**-0.1**
ATH	**Athens Observa**

DIVS	**Divibare**	**5.65**	**358**	*e*Pn	**Pn**	**19 59 49.9**	**-1.4**
DIVS				*e*Sg	**Sn**	**20 00 52.2**	**-4.6**
DIVS	**Divibare**	**5.65**	**358**	*e*Pn	**Pn**	**19 59 49.9**	**-1.4**
NVLJ	**Novalja**	**7.35**	**328**	*e*Pn	**Pn**	**20 00 14.1**	**-0.5**
NVLJ				Sn	**Sn**	**20 01 33.5**	**-5.2**
NVLJ	**Novalja**	**7.35**	**328**	*e*Pn	**Pn**	**20 00 14.1**	**-0.6**
PKSM	**Moragy**	**7.86**	**351**	*e*Pn	**Pn**	**20 00 21.0**	**-0.6**
PKSM				*e*Sg	**Sn**	**20 01 43.1**	**-8.0**
PKSM	**Moragy**	**7.86**	**351**	*e*Pn	**Pn**	**20 00 21.0**	**-0.6**
MLR	**Muntele Rosu**	**8.19**	**29**	Pn	**Pn**	**20 00 21.9**	**-4.2**
	0.0nm,0.3s,baz=193,slow=16,SNR=2.1						
MLR	**Muntele Rosu**	**8.19**	**29**	Pn	**Pn**	**20 00 21.9**	**-4.2**
SOKA	**Soboth**	**9.10**	**336**	⇓*i*Pn	**Pn**	**20 00 37.2**	**-1.5**
SOKA	**Soboth**	**9.10**	**336**	⇓*i*Pn	**Pn**	**20 00 37.2**	**-1.4**
SOKA	**Soboth**	**9.10**	**336**	⇓*i*Pn	**Pn**	**20 00 37.2**	**-1.4**
MOA	**Molln**	**10.38**	**337**	⇑*i*Pn	**Pn**	**20 00 55.0**	**-1.2**
	SNR=6.8						
MOA	**Molln**	**10.38**	**337**	Pn	**Pn**	**20 00 55.0**	**-1.2**
	SNR=6.8						
BRTR	**Keskin Array B**	**10.43**	**79**	Pn	**Pn**	**20 00 53.5**	**-3.4**
	0.0nm,0.3s,baz=286,slow=10,SNR=2.4						
BRTR	**Keskin Array B**	**10.43**	**79**	Pn	**Pn**	**20 00 53.5**	**-3.4**
MOTA	**Moosalm**	**11.16**	**326**	*i* Pn	**Pn**	**20 01 07.7**	**+0.9**
	SNR=7.8						
MOTA	**Moosalm**	**11.16**	**326**	Pn	**Pn**	**20 01 07.7**	**+0.8**
	SNR=7.8						
DAVOX	**Davos/Dischmat**	**11.33**	**321**	Pn	**Pn**	**20 01 09.8**	**+0.7**
	0.3nm,0.3s,baz=151,slow=20,SNR=4.4						
DAVOX				Sn	**Sn**	**20 03 12.1**	**-4.3**
	0.1nm,0.3s,baz=336,slow=20,SNR=2.9						
DAVOX	**Davos/Dischmat**	**11.33**	**321**	Pn	**Pn**	**20 01 09.8**	**+0.7**
DAVOX				Sn	**Sn**	**20 03 12.1**	**-4.3**
DAVOX	**Davos/Dischmat**	**11.33**	**321**	Pn	**Pn**	**20 01 09.8**	**+0.6**
GERES	**GERESS Array B**	**11.44**	**337**	Pn	**Pn**	**20 01 08.1**	**-2.6**
	0.2nm,0.3s,baz=156,slow=14,SNR=16						
GERES				Sn	**Sn**	**20 03 09.1**	**-10**
	0.1nm,0.3s,baz=170,slow=17,SNR=2.8						
GERES	**GERESS Array B**	**11.44**	**337**	Pn	**Pn**	**20 01 08.1**	**-2.6**
GERES				Sn	**Sn**	**20 03 09.2**	**-10**
ESDC	**Sonseca Array**	**18.89**	**281**	P	**Pn**	**20 02 50.2**	**+1.7**
	0.1nm,0.3s,baz=80,slow=11,SNR=4.4						
ESDC	**Sonseca Array**	**18.89**	**281**	P	**Pn**	**20 02 50.2**	**+1.7**
ESDC	**Sonseca Array**	**18.89**	**281**	P	**Pn**	**20 02 50.2**	**+1.6**
GNI	**Garni**	**18.96**	**77**	P	**Pn**	**20 02 42.8**	**-6.6**
	0.4nm,0.3s,baz=17,slow=14,SNR=2.8						
GNI	**Garni**	**18.96**	**77**	P	**Pn**	**20 02 42.8**	**-6.6**
HFS	**Hagfors**	**22.11**	**351**	P	**P**	**20 03 21.5**	**-1.2**
	2.3nm,0.6s,mb3.8,baz=163,slow=11,SNR=15						
HFS	**Hagfors**	**22.11**	**351**	P	**P**	**20 03 21.5**	**-1.3**
HFS	**Hagfors**	**22.11**	**351**	P	**P**	**20 03 21.5**	**-1.2**
FINES	**FINESS Array B**	**23.30**	**7**	P	**P**	**20 03 32.5**	**-2.8**
	1.2nm,0.4s,mb3.8,baz=180,slow=9.8,SNR=18						
FINES	**FINESS Array B**	**23.30**	**7**	P	**P**	**20 03 32.5**	**-2.8**
NOA	**NORSAR Array B**	**23.32**	**349**	P	**P**	**20 03 34.3**	**-1.3**
	1.1nm,0.7s,mb3.5,baz=160,slow=9.9,SNR=4.0						
NOA	**NORSAR Array B**	**23.32**	**349**	P	**P**	**20 03 34.3**	**-1.3**
NOA	**NORSAR Array B**	**23.32**	**349**	P	**P**	**20 03 34.3**	**-1.3**
JOF	**Joensuu**	**25.39**	**12**	*e*p	**P**	**20 03 51.7**	**-3.1**
	1.5nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**45.29**	**59**	P	**P**	**20 06 42.5**	**-2.9**
	0.3nm,0.4s,mb3.6,baz=282,slow=7.1,SNR=10						
MKAR	**Makanchi Array**	**45.29**	**59**	P	**P**	**20 06 42.5**	**-2.9**
ZALV	**Zalesovo Beam**	**45.63**	**48**	P	**P**	**20 06 44.9**	**-3.0**
	1.2nm,0.4s,mb4.3,baz=272,slow=8.7,SNR=9.4						
ZALV	**Zalesovo Beam**	**45.63**	**48**	P	**P**	**20 06 44.9**	**-3.0**
SCHQ	**Schefferville**	**58.16**	**317**	P	**P**	**20 08 20.6**	**-0.7**
	2.9nm,0.9s,mb4.3,baz=106,slow=7.4,SNR=2.7						
SCHQ	**Schefferville**	**58.16**	**317**	P	**P**	**20 08 20.6**	**-0.7**
SCHQ	**Schefferville**	**58.16**	**317**	P	**P**	**20 08 20.6**	**-0.8**
YKA	**Yellowknife Ar**	**73.08**	**340**	P	**P**	**20 09 57.9**	**+0.2**
	0.1nm,0.6s,mb3.1,baz=45,slow=4.6,SNR=2.9						
YKA	**Yellowknife Ar**	**73.08**	**340**	P	**P**	**20 09 57.9**	**+0.2**
YKA	**Yellowknife Ar**	**73.08**	**340**	P	**P**	**20 09 57.9**	**+0.2**

*NNC **24** 20:02:09.6±4.6, 37.°08N×71.°05E, h196km±58km, mb2.4, mpv3.5, Error ellipse: s-maj=44.1km s-min=25.7km az=23.0*

ISC 24 20:01:59.3±2.8, 36.°4N±0.°1×71.°2E±0.°2, h113km±49km, n13, σ1°03/16, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.67**	**356**	P	**Pn**	**20 03 36.5**	**+1.8**
	0.7nm,0.3s,baz=171,slow=12,SNR=23						
KK31				⇑S	**Sn**	**20 04 47.4**	**-1.7**
	3.7nm,0.6s,baz=184,slow=23,SNR=9.0						
TKM2	**Tokmak 2**	**7.32**	**27**	⇑P	**Pn**	**20 03 47.2**	**+3.7**
	4.0nm,0.5s						
TKM2				⇑S	**Sn**	**20 05 05.1**	**+0.2**
	3.4nm,1.0s						
DANN	**Dangsing**	**13.36**	**124**	*e*P	**Pn**	**20 05 03.3**	**-1.1**
	6.5nm,0.4s						
GKN	**Gorkha**	**14.17**	**123**	*e*P	**Pn**	**20 05 13.7**	**-1.2**
	6.8nm,0.3s						
DMN	**Daman**	**14.74**	**123**	*e*P	**Pn**	**20 05 21.5**	**-0.6**
	4.3nm,0.3s						
KKN	**Kakani**	**14.74**	**122**	*e*P	**Pn**	**20 05 21.3**	**-0.9**
	4.8nm,0.5s						
PKI	**Pulchoki**	**14.97**	**122**	*e*P	**Pn**	**20 05 25.0**	**0.0**
GUN	**Gumba**	**15.08**	**120**	*e*P	**Pn**	**20 05 26.8**	**+0.3**
	3.7nm,0.3s						
AB31	**Akbulak array**	**15.19**	**331**	⇑P	**Pn**	**20 05 28.1**	**+0.4**
	0.6nm,0.6s,baz=157,slow=12,SNR=14						
AB31				⇑S	**S**	**20 08 06.6**	**-18**
	2.4nm,1.1s,baz=153,slow=24,SNR=5.0						
JIRN	**Jiri**	**15.45**	**120**	*e*P	**Pn**	**20 05 31.4**	**+0.3**
	14nm,0.4s						
TAPN	**Taplejung**	**16.71**	**118**	*e*P	**Pn**	**20 05 48.2**	**+1.6**
	7.3nm,0.5s						
ODAN	**Odare**	**16.79**	**120**	*e*P	**Pn**	**20 05 48.6**	**+1.0**
	4.9nm,0.5s						
AKTO	**Aktyubinsk**	**16.89**	**330**	⇓P	**Pn**	**20 05 48.0**	**-0.6**
	0.6nm,1.4s						

*ISK **24** 20:31:37.2, 38.°77N×40.°20E, h5km, MD2.9*
*DDA **24** 20:31:37.7, 38.°84N×40.°27E, h6km±5km, Md2.9*
*CSEM **24** 20:31:37.9±0.7, 38.°94N×40.°02E, h2km, MD2.9, Error ellipse: s-maj=20.8km s-min=13.5km az=7.0*
*ISCJB **24** 20:31:38.1±0.5, 38.°80N±0.°03×40.°20E±0.°05, h10km, Error ellipse: s-maj=5.6km s-min=4.5km az=152.4*

ISC 24 20:31:38.0±0.9, 38.°77N±0.°04×40.°19E±0.°06, h5km±9km, n20, σ0°70/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.26**	**66**	*e*Pg	**Pg**	**20 31 46.7**	**+3.7**
BINT				*e*Sg	**Sg**	**20 31 52.2**	**+5.8**
BNGB	**Bing^¶l**	**0.44**	**60**	*e*PG	**Pg**	**20 31 46.7**	**+0.1**
BNGB				*e*SG	**Sg**	**20 31 52.2**	**-0.1**
BNGL	**BINGOL**	**0.78**	**76**	*e*P	**Pg**	**20 31 51.6**	**-1.2**
ERZN	**Erzincan**	**0.89**	**336**	*e*PG	**Pg**	**20 31 54.4**	**-0.7**
ERZN				*e*SG	**Sg**	**20 32 07.7**	**+1.1**
VRTB	**Varto-Mus**	**1.06**	**68**	*e*PG	**Pg**	**20 31 57.9**	**-0.5**
VRTB	**Varto-Mus**	**1.06**	**68**	*e*Pg	**Pg**	**20 31 57.9**	**-0.5**
EZC	**Erzincan**	**1.18**	**327**	*e*Pg	**Pg**	**20 31 54.4**	**-6.1**
EZC				*e*Sg	**Sg**	**20 32 07.7**	**-8.0**
BEST	**Besiri**	**1.22**	**135**	*i* P	**Pg**	**20 32 01.3**	**-0.1**
BEST				*i* S	**Sg**	**20 32 18.3**	**+1.1**
KEMA	**Kemaliye**	**1.41**	**291**	*e*P	**Pn**	**20 32 04.1**	**-0.1**
KEMA	**Kemaliye**	**1.41**	**291**	*e*P	**Pn**	**20 32 04.1**	**-0.2**
MALT	**Malatya**	**1.45**	**252**	*e*PN	**Pn**	**20 32 05.3**	**+0.5**
MALT	**Malatya**	**1.45**	**252**	*e*Pn	**Pn**	**20 32 05.3**	**+0.5**
EZM	**Erzurum**	**1.46**	**38**	*e*PN	**Pn**	**20 32 04.7**	**-0.2**
MARD	**Mardin**	**1.53**	**162**	*i* P	**Pn**	**20 32 05.4**	**-0.4**
MARD				*i* S	**Sn**	**20 32 26.2**	**+0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.62**	**359**	*e*PN	**Pn**	**20 32 07.3**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.62**	**359**	*e*Pn	**Pn**	**20 32 07.3**	**+0.1**
URFA	**Urfa**	**1.71**	**219**	*e*PN	**Pn**	**20 32 07.5**	**-0.8**
URFA	**Urfa**	**1.71**	**219**	*e*Pn	**Pn**	**20 32 07.6**	**-0.8**
AGRB	**Hanur-Agry**	**2.33**	**69**	*e*PN	**Pn**	**20 32 17.7**	**+0.8**
AGRB	**Hanur-Agry**	**2.33**	**69**	*e*Pn	**Pn**	**20 32 17.7**	**+0.9**

*NIED **24** 20:32:00, 42.°30N×144.°70E, h35km, Mw4.9 Best double couple: M0:2.85000×10^16 NP1:φs:23.00000°, δ:81.00000°, λ:78.00000°. NP2:φs:258.00000°, δ:15.00000°, λ:143.00000°.*
*SZGRF **24** 20:32:03.7, 43.°34N×146.°98E, h33km, mb4.9, Kuril Islands, Russia*
*ISCJB **24** 20:32:05.3±0.3, 42.°24N±0.°02×144.°62E±0.°03, h37km±2km, mb5.0/188, MS4.5/43, Error ellipse: s-maj=4.6km s-min=2.6km az=42.1*
*SKHL **24** 20:32:06.0±1.7, 42.°23N×144.°75E, h55km±14km, mb5.1/1, Ms4.7/3, msh5.4/2*
*JMA **24** 20:32:06.1, 42.°31N×144.°72E, h32km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φs:54.00000°, δ:88.00000°, λ:81.00000°. NP2:φs:257.00000°, δ:24.00000°, λ:111.00000°. Principal axes: T Plg66.0000°, Azm308.0000°; N Plg8.0000°, Azm58.0000°; P Plg22.0000°, Azm151.0000°;*
JMA Felt II J1.
*MOS **24** 20:32:06.3±0.9, 42.°36N×144.°50E, h40km, mb5.3/79, MS4.5/24 Error ellipse: s-maj=7.1km s-min=4.1km az=114.0*
*IDC **24** 20:32:07.9±1.7, 42.°32N×144.°61E, h44km±15km, mb4.4/36, mb1 4.5/40, mb1mx4.5/40, mbtmp4.4/40, ML4.3/3, MS4.3/24, Ms1 4.3/24, ms1mx4.2/38, Error ellipse: s-maj=13.4km s-min=10.7km az=144.0*
*BJI **24** 20:32:07.2, 42.°33N×144.°32E, h40km, mB5.2/37, mb5.1/59, Ms4.6/54, Ms7 4.5/54*
*NEIC **24** 20:32:08.5±0.5, 42.°34N×144.°53E, h47km±4km, mb5.2/105, MW4.9(NIED), Error ellipse: s-maj=5.4km s-min=3.4km az=154.0*
NEIC Recorded [2 JMA] in southeastern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate, Honshu.
*TEH **24** 20:32:09.0, 42.°35N×144.°39E, h48km*
*GCMT **24** 20:32:09.3±0.5, 42.°09N×144.°71E, h43km±2km, MW4.9, Moment Tensor Solution. s22,c28; s54,c80; Moment tensor: Scale 10^16Nm; Mrr1.97±.23; Mθθ-1.62±.14; Mφφ-0.35±.13; Mrθ1.33±.13; Mrφ-1.03±.08; Mθφ0.99±.10; Best double couple: M0:2.70000×10^16 NP1:φs:247.00000°, δ:26.00000°, λ:100.00000°. NP2:φs:56.00000°, δ:64.00000°, λ:85.00000°. Principal axes: T 2.5600, Plg70.0000°, Azm316.0000°; N 0.2100, Plg4.0000°, Azm58.0000°; P -2.7700, Plg19.0000°, Azm149.0000°; Data Used: II IU IC G CN.*

ISC 24 20:32:07.0±0.7, 42.°30N±0.°02×144.°60E±0.°03, h35km±4km, h41km±.8km; pP-P, n634, σ0°97/663, mb5.0/188, MS4.5/43, 97C-34D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.69**	**6**	⇓P	**Pn**	**20 32 19.4**	**-0.9**
JAK				*e*S	**Sn**	**20 32 29.7**	**-0.1**
JOB	**Onbets**	**0.82**	**317**	⇓P	**Pn**	**20 32 22.6**	**+0.5**
JOB				*e*S	**Sn**	**20 32 35.6**	**+2.6**
JCH	**Churui**	**0.97**	**289**	⇓P	**Pn**	**20 32 25.1**	**+1.1**
JCH				*e*S	**Sn**	**20 32 39.1**	**+2.5**
ERM	**Erimo**	**1.11**	**255**	*e*Pn	**Pn**	**20 32 27.0**	**+1.0**
ERM				*e*Sn	**Sn**	**20 32 38.2**	**-1.9**
ERM	**Erimo**	**1.11**	**255**	*ce*PN	**Pn**	**20 32 26.9**	**+0.9**
ERM				pmax	pmax		
	comp=Z,3μm,0.6s						
ERM	**Erimo**	**1.11**	**255**	*e*P	**Pn**	**20 32 26.9**	**+0.9**
ERM	**Erimo**	**1.11**	**255**	Pn	**Pn**	**20 32 28.3**	**+2.3**
	comp=Z,64μm,0.4s						
JEM	**Erimo**	**1.11**	**255**	P	**Pn**	**20 32 27.6**	**+1.6**
JAR	**Ashorobuto**	**1.17**	**329**	⇓P	**Pn**	**20 32 26.8**	**0.0**
JNK	**Nakash**	**1.28**	**4**	⇓P	**Pn**	**20 32 27.5**	**-0.9**
JNK				*e*S	**Sn**	**20 32 43.5**	**-0.8**
NEM2	**Nemuro 2**	**1.35**	**38**	⇓P	**Pn**	**20 32 28.1**	**-1.2**
NEM2				*e*S	**Sn**	**20 32 44.7**	**-1.3**
JNBK	**Urakawa-nobuka**	**1.37**	**270**	⇑P	**Pn**	**20 32 30.3**	**+0.7**
JRA	**Rausu**	**1.68**	**13**	⇓P	**Pn**	**20 32 33.2**	**-0.6**
JBT2	**Biratori 2**	**1.72**	**287**	⇑P	**Pn**	**20 32 34.6**	**+0.2**
JTKR	**Abashiri--Toko**	**1.74**	**343**	⇓P	**Pn**	**20 32 35.4**	**+0.7**
JMP	**Maruseppu**	**1.93**	**332**	⇓P	**Pn**	**20 32 38.3**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**1.96**	**28**	*i* PN	**Pn**	**20 32 37.3**	**-0.4**
YUK				*i* S	**Sn**	**20 33 02.2**	**+1.2**
YUK				pmax	pmax		
	comp=N,420nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=E,509nm,0.4s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,10μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.96**	**28**	⇑*i*P	**Pn**	**20 32 37.3**	**-0.4**
YUK				AMB	AMB	20 32 39.8	
	comp=E,420nm,0.3s						
YUK				AMB	AMB	20 32 39.8	
	comp=E,510nm,0.3s						
YUK				AMB	AMB	20 32 39.8	
	comp=E,4μm,0.3s						
YUK				*i* S	**Sn**	**20 33 02.3**	**+1.3**
YUK				A		20 33 06.7	
	comp=E,2μm,0.5s						
YUK				A		20 33 06.7	
	comp=E,10μm,0.5s						
JKK2	**Kamakawa 2**	**2.08**	**320**	⇑P	**Pn**	**20 32 40.6**	**+1.4**
JAB	**Ashibetsu**	**2.12**	**305**	⇑P	**Pn**	**20 32 42.0**	**+2.1**
ASAJ	**Asahikawa**	**2.33**	**322**	P	**Pn**	**20 32 44.5**	**+1.7**
	comp=E,90nm,0.3s,baz=174,slow=13,SNR=292						
ASAJ				S	**Sn**	**20 33 16.7**	**+6.5**
	comp=E,254nm,0.3s,baz=227,slow=20,SNR=11						
ASAJ				LR	LR	20 34 00.1	
	comp=E,9μm,19.6s,baz=228,slow=48						
ASAJ	**Asahikawa**	**2.33**	**322**	P	**Pn**	**20 32 44.5**	**+1.7**
ASAJ				S	**Sn**	**20 33 16.7**	**+6.5**
ASAJ	**Asahikawa**	**2.33**	**322**	PN	**Pn**	**20 32 44.5**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,90nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,9μm,19.6s						
ASAJ	**Asahikawa**	**2.33**	**322**	⇑P	**Pn**	**20 32 44.4**	**+1.6**
JOT	**Ohata**	**2.81**	**252**	⇑P	**Pn**	**20 32 50.3**	**+0.9**
JANG	**Nango**	**3.02**	**231**	⇑P	**Pn**	**20 32 51.6**	**-0.7**
JTH	**Tanohata**	**3.14**	**222**	⇑P	**Pn**	**20 32 52.5**	**-1.4**
JYM2	**Yakumo 2**	**3.15**	**268**	⇑P	**Pn**	**20 32 55.6**	**+1.6**
JSI2	**Shiura 2**	**3.38**	**250**	⇑P	**Pn**	**20 32 58.2**	**+1.0**
JKZ	**Kuzumaki**	**3.39**	**228**	⇑P	**Pn**	**20 32 57.2**	**-0.1**
MIYJ	**Miyakonagasawa**	**3.44**	**219**	P	**Pn**	**20 32 56.8**	**-1.3**
MIYJ				S	**Sn**	**20 33 33.9**	**-3.8**
KUR	**Kuril'sk**	**3.76**	**38**	⇑*i*PN	**Pn**	**20 33 03.0**	**+0.6**
KUR				S	**Sn**	**20 33 45.1**	**-0.4**
KUR				pmax	pmax		
	comp=Z,4μm,1.8s						
KUR				pmax	pmax		
	comp=N,990nm,0.9s						
KUR				pmax	pmax		
	comp=E,640nm,0.9s						
KUR				pmax	pmax		
	comp=Z,2μm,0.9s						
KUR				smax			
	comp=N,2μm,1.0s						
KUR				smax			
	comp=E,850nm,0.9s						
KUR				smax			
	comp=N,12μm,2.0s						
KUR				smax			
	comp=E,5μm,2.0s						
KUR	**Kuril'sk**	**3.76**	**38**	⇑*i*P	**Pn**	**20 33 03.0**	**+0.6**
KUR				AMB	AMB	20 33 11.0	
	comp=E,4μm,1.8s						
KUR				AMB	AMB	20 33 19.5	
	comp=E,990nm,0.9s						
KUR				AMB	AMB	20 33 19.5	
	comp=E,640nm,0.9s						
KUR				AMB	AMB	20 33 19.5	
	comp=E,2μm,0.9s						
KUR				*e*S	**Sn**	**20 33 45.1**	**-0.4**
KUR				A		20 33 56.0	
	comp=E,2μm,1.0s						
KUR				A		20 33 56.0	
	comp=E,850nm,1.0s						
KUR				A		20 34 25.0	
	comp=E,12μm,2.0s						
KUR				A		20 34 25.0	
	comp=E,5μm,2.0s						
JOM	**Ohasama**	**3.78**	**223**	⇓P	**Pn**	**20 33 02.2**	**-0.5**
OFUJ	**Ofunato**	**3.92**	**216**	P	**Pn**	**20 33 03.5**	**-1.1**
JRG	**Rokugo**	**4.18**	**227**	⇓P	**Pn**	**20 33 08.6**	**+0.4**
JMK	**Ichinoseki**	**4.22**	**219**	⇓P	**Pn**	**20 33 07.9**	**-0.9**
JIO	**Ouri**	**4.58**	**214**	⇓P	**Pn**	**20 33 12.0**	**-1.7**
YSS	**Yuzh-Sakhalins**	**4.83**	**345**	*e*Pn	**Pn**	**20 33 18.3**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.83**	**345**	⇓*e*PN	**Pn**	**20 33 17.9**	**+0.8**
YSS				pmax	pmax		
	comp=Z,120nm,1.0s						
YSS				MLR	MLR		
	comp=Z,4μm,17.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,5μm,16.0s						
YSS	**Yuzh-Sakhalins**	**4.83**	**345**	⇓*e*P	**Pn**	**20 33 17.9**	**+0.8**
YSS				AMB	AMB	20 33 20.0	
	comp=E,120nm,1.0s						
YSS				*e*S	**Sn**	**20 34 11.0**	**-0.8**
YSS				AMS	AMS	20 35 27.0	
	comp=E,2μm,16.0s						
YSS				AMS	AMS	20 35 27.0	
	comp=E,5μm,16.0s						
YSS				AMS	AMS	20 35 27.0	
	comp=E,4μm,17.0s						
JOU	**Okura**	**4.95**	**219**	P	**Pn**	**20 33 18.1**	**-0.7**
JMM	**Marumori**	**5.31**	**215**	⇓P	**Pn**	**20 33 21.5**	**-2.2**
JYS	**Shiratake**	**5.35**	**222**	P	**Pn**	**20 33 24.2**	**-0.1**
JFT	**Otama**	**5.80**	**216**	P	**Pn**	**20 33 29.4**	**-1.0**
TEY	**Ternei**	**6.41**	**298**	*e*P	**Pn**	**20 33 45.0**	**+6.2**
TEY				AMB	AMB	20 33 45.6	
	comp=E,21nm,0.8s						
TEY				AMB	AMB	20 33 45.6	
	comp=E,43nm,1.0s						
TEY				*e*LR	LR	20 36 00.0	
TEY				AMS	AMS	20 36 18.0	
	comp=E,3μm,18.0s						
TEY				AMS	AMS	20 36 18.0	
	comp=E,3μm,17.0s						
TEY				AMS	AMS	20 36 18.0	
	comp=E,1μm,17.0s						
JHO	**Hitachi**	**6.49**	**210**	P	**Pn**	**20 33 37.3**	**-2.6**
UGL	**Uglegorsk**	**7.00**	**346**	*e*PN	**Pn**	**20 33 48.0**	**+1.1**
UGL				*e*		20 35 19.0	
UGL				pmax	pmax		
	comp=Z,150nm,1.0s						
UGL				MLR	MLR		
	comp=N,8μm,17.0s						
UGL				MLR	MLR		
	comp=E,4μm,16.0s						
UGL	**Uglegorsk**	**7.00**	**346**	*e*P	**Pn**	**20 33 48.0**	**+1.1**
UGL				AMB	AMB	20 34 01.5	
	comp=E,150nm,1.0s						
UGL				*e*L		20 35 51.0	
UGL				AMS	AMS	20 37 00.0	
	comp=E,4μm,16.0s						
UGL				AMS	AMS	20 37 00.0	
	comp=E,8μm,17.0s						
JAG	**Ashikaga**	**7.10**	**216**	P	**Pn**	**20 33 47.0**	**-1.3**
MAJO	**Matsushiro**	**7.59**	**223**	*e*Pn	**Pn**	**20 33 54.9**	**-0.1**
	comp=E,72nm,0.6s						
MAJO	**Matsushiro**	**7.59**	**223**	*e*PN	**Pn**	**20 33 54.9**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,72nm,0.6s						
MAT	**Matsushiro**	**7.59**	**223**	P	**Pn**	**20 33 55.0**	**0.0**
MAT				S	**Sn**	**20 35 22.4**	**+2.7**
MAT	**Matsushiro**	**7.59**	**223**	P	**Pn**	**20 33 55.1**	**+0.1**
MJAR	**Matsushiro Arr**	**7.59**	**223**	P	**Pn**	**20 33 55.2**	**+0.2**
	comp=Z,7.1nm,0.3s,baz=29,slow=14,SNR=91						
MJAR				S	**Sn**	**20 35 25.6**	**+5.9**
	comp=Z,2.2nm,0.3s,baz=45,slow=28,SNR=2.9						
MJAR				LR	LR	20 37 14.0	
	comp=Z,760nm,21.9s,baz=50,slow=40						
MJAR	**Matsushiro Arr**	**7.59**	**223**	P	**Pn**	**20 33 55.2**	**+0.2**
MJAR				S	**Sn**	**20 35 25.6**	**+5.9**
MJAR	**Matsushiro Arr**	**7.59**	**223**	PN	**Pn**	**20 33 55.2**	**+0.2**
MJAR				S	**Sn**	**20 35 25.7**	**+6.0**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR				smax			
	comp=N,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,760nm,21.9s						
JNG	**Nsakai**	**7.75**	**223**	P	**Pn**	**20 33 57.5**	**+0.3**
TYV	**Tymovskoe**	**8.67**	**352**	*e*P	**Pn**	**20 34 11.5**	**+1.8**
TYV				AMB	AMB	20 34 22.5	
	comp=Z,40nm,1.0s						
TYV				AMB	AMB	20 34 22.5	
	comp=Z,44nm,1.0s						
TYV				AMB	AMB	20 34 22.5	
	comp=Z,110nm,1.0s						
TYV				AMB	AMB	20 34 39.0	
	comp=Z,500nm,6.0s						
TYV				AMB	AMB	20 34 39.0	
	comp=Z,500nm,8.0s						
TYV				AMS	AMS	20 38 10.0	
	comp=Z,2μm,12.0s						
TYV				AMS	AMS	20 38 10.0	
	comp=Z,2μm,14.0s						
JNY	**Yasuok**	**8.70**	**219**	P	**Pn**	**20 34 10.8**	**+0.5**
HABR	**Khabarovsk**	**9.12**	**316**	*de*PN	**Pn**	**20 34 15.4**	**-0.5**
HABR				pmax	pmax		
	comp=E,211nm,2.6s						
HABR				pmax	pmax		
	comp=Z,299nm,2.6s						
HABR				pmax	pmax		
	comp=N,107nm,2.1s						
HABR				MLR	MLR		
	comp=Z,4μm,18.0s						
USRK	**Ussuriysk Arra**	**9.39**	**286**	P	**Pn**	**20 34 22.4**	**+2.7**
	comp=Z,1.4nm,0.3s,baz=88,slow=15,SNR=27						
USRK				LR	LR	20 38 19.6	
	comp=Z,1μm,18.4s,baz=264,slow=40						
VLA	**Vladivostok**	**9.39**	**279**	⇓*e*PN	**Pn**	**20 34 22.6**	**+2.9**
VLA				S	**Sn**	**20 36 09.8**	**+5.8**
VLA				pmax	pmax		
	comp=Z,77nm,0.9s						
MDJ	**Mudanjiang**	**11.15**	**287**	P	**Pn**	**20

PETK LR LR 20 41 05.6
comp=Z,338nm,18.2s,baz=233,slow=39
PETK Petropavlovsk- 13.92 35 P **Pn 20 35 18.4 -3.2**
PETK Petropavlovsk- 13.92 35 P **Pn 20 35 18.4 -3.2**
CN2 Changchun 14.09 283 *e*P **Pn 20 35 23.8 -0.1**
CN2 *es*P 20 35 37.0
CN2 *e*S **Sn 20 37 56.8 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,800nm,16.0s
CN2 LR LR
comp=E,2μm,16.0s
CN2 LR LR
comp=Z,2μm,19.0s
CBIJ Chichi jima 15.30 188 P **Pn 20 35 35.0 -5.2**
baz=24,slow=20
CBIJ S **Sn 20 38 12.8 -16**
baz=277,slow=17
CBIJ LR LR 20 42 28.1
comp=Z,364nm,18.8s,baz=333,slow=40
CBIJ Chichi jima 15.30 188 P **Pn 20 35 35.0 -5.2**
CBIJ S **Sn 20 38 12.8 -16**
SNY Shenyang 15.62 275 ⇓P **Pn 20 35 44.5 +0.2**
SNY S **Sn 20 38 34.0 -2.2**
SNY pmax pmax
comp=Z,21nm,1.0s
SNY pmax pmax
comp=Z,220nm,3.6s
SNY LR LR
comp=E,940nm,19.8s
SNY LR LR
comp=Z,1μm,22.2s
ZEA Zeya 16.25 321 *e*P **Pn 20 35 50.0 -2.3**
ZEA AMB AMB 20 35 51.5
comp=Z,60nm,0.7s
ZEA AMB AMB 20 35 51.5
comp=Z,62nm,0.8s
ZEA AMB AMB 20 35 51.5
comp=Z,130nm,0.8s
ZEA A 20 39 05.0
comp=Z,200nm,6.0s
DL2 Dalian 17.76 267 P **Pn 20 36 10.5 -0.8**
DL2 *e*S **Sn 20 39 23.5 -4.6**
DL2 pmax pmax
comp=Z,70nm,0.9s
DL2 LR LR
comp=E,660nm,20.4s
DL2 LR LR
comp=Z,550nm,19.2s
HIA Hailar 18.63 300 *e*P **Pn 20 36 19.4 -2.5**
comp=Z,47nm,0.6s
HIA Hailar 18.63 300 *e*P **Pn 20 36 19.4 -2.5**
HIA pmax pmax
comp=Z,47nm,0.6s
CLNS Chul'man 19.26 326 *e*P **Pn 20 36 27.6 -1.7**
CLNS *e*S **Sn 20 40 03.8 -0.1**
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=Z,20nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS smax
comp=N,176nm,12.3s
CLNS smax
comp=E,169nm,14.1s
CLNS MLR MLR
comp=N,697nm,16.0s
CLNS MLR MLR
comp=E,502nm,15.0s
CLNS MLR MLR
comp=Z,789nm,15.0s
JOW Kunigami 20.41 226 P **P 20 36 42.9 +2.0**
comp=Z,8.8nm,0.5s,baz=65,slow=17,SNR=3.8
JOW Kunigami 20.41 226 P **P 20 36 42.9 +2.0**
SEY Seymchan 21.16 10*ce*P **P 20 36 45.7 -3.1**
BJI Beijing 21.48 274 P **P 20 36 51.0 -1.4**
BJI pmax pmax
comp=Z,29nm,1.0s,mb4.6
BJI LR LR
comp=N,620nm,15.5s,MS4.5
BJI LR LR
comp=E,1μm,17.6s,MS4.5
BJI LR LR
comp=Z,920nm,19.8s,MS4.2
BJT Baijiatuau 21.49 273 *e*P **P 20 36 51.1 -1.4**
comp=Z,53nm,0.7s,mb5.0
BJT Baijiatuau 21.49 273 *e*P **P 20 36 51.1 -1.4**
BJT pmax pmax
comp=Z,53nm,0.7s
YAK Yakutsk 21.67 341 *e*P **P 20 36 49.7 -4.5**
comp=Z,78nm,0.6s,mb5.3
YAK *e*S **S 20 40 46.1 -5.8**
YAK Yakutsk 21.67 341 *e*P **P 20 36 49.6 -4.6**
YAK *e**PP 20 37 03.0
YAK *e*S **S 20 40 43.5 -8.3**
YAK *e*SS 20 41 03.9
YAK pmax pmax
comp=Z,64nm,0.9s,mb5.0
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK smax
comp=N,141nm,1.6s
YAK smax
comp=E,89nm,1.6s
YAK MLR MLR
comp=Z,1μm,14.0s,MS4.4
YAK MLR MLR
comp=E,568nm,17.0s,MS4.3
YAK MLR MLR
comp=N,702nm,15.0s,MS4.3
SSE Sheshan 21.78 247 P **P 20 36 52.0 -3.7**
SSE sP sP 20 37 10.3 +0.9
SSE S **S 20 40 51.8 -2.8**
SSE pmax pmax
comp=Z,42nm,0.7s,mb5.0
SSE pmax pmax
comp=Z,140nm,3.9s
SSE LR LR
comp=N,350nm,15.9s,MS4.2
SSE LR LR
comp=E,590nm,15.9s,MS4.2
SSE LR LR
comp=Z,860nm,14.9s,MS4.3
FX1 Attu Island--F 21.83 51 P **P 20 36 55.7 -0.3**
comp=Z,26nm,0.7s,mb4.8,baz=205,slow=23,SNR=4.7
FX1 LR LR 20 46 13.3
comp=Z,258nm,18.5s,MS3.7,baz=46,slow=39
FX1 Attu Island--F 21.83 51 P **P 20 36 55.7 -0.3**
FX1 Attu Island--F 21.83 51 P **P 20 36 55.7 -0.3**
FX1 pmax pmax
comp=Z,26nm,0.7s
FX1 MLR MLR
comp=Z,258nm,18.5s
NJ2 Nanjing 22.85 252 *e*P **P 20 37 05.6 -1.4**
NJ2 pP 20 37 15.6
NJ2 sP sP 20 37 21.6 +0.9
NJ2 S **S 20 41 08.5 -5.7**
NJ2 sS sS 20 41 19.5 -11
NJ2 pmax pmax
comp=Z,30nm,0.8s,mb4.8
NJ2 pmax pmax
comp=Z,150nm,5.6s
NJ2 LR LR
comp=N,1μm,16.6s,MS4.7
NJ2 LR LR
comp=E,2μm,19.6s,MS4.7
NJ2 LR LR
comp=Z,2μm,16.7s,MS4.5
CIT Chita 23.08 306 *e*P **P 20 37 08.4 -0.9**
CIT *e* 20 37 20.0
CIT *e* 20 37 26.0
CIT *e* 20 37 33.3
CIT *e* 20 37 55.3
CIT pmax pmax
comp=Z,280nm,1.1s,mb5.6
HHC Hu-ho-hao-te 24.68 278 *e*P **P 20 37 25.3 +0.9**
HHC pP 20 37 36.6
HHC sP sP 20 37 42.3 +3.7
HHC PP 20 38 02.9
HHC S **S 20 41 38.4 -5.2**
HHC pmax pmax
comp=Z,20nm,0.9s,mb4.7
HHC pmax pmax
comp=Z,230nm,3.9s
HHC LR LR
comp=N,330nm,11.7s,MS4.4
HHC LR LR
comp=E,680nm,12.1s,MS4.4
HHC LR LR
comp=Z,840nm,11.1s,MS4.5
BOD Bodaibo 24.74 319 *e*P **P 20 37 21.5 -3.3**
BOD pmax pmax
comp=Z,16nm,0.8s,mb4.6
BTO Baotou 25.87 278 *e*P **P 20 37 36.0 +0.8**
YHNB Yeheng 26.03 235 *e*P **P 20 37 31.2 -5.6**
WHN Wuhan 26.88 254 P **P 20 37 43.1 -1.4**
WHN S **S 20 42 19.3 +0.5**
WHN LR LR
comp=N,1μm,10.7s,MS4.8
WHN LR LR
comp=E,940nm,11.8s,MS4.8
WHN LR LR
comp=Z,2μm,18.7s
ULN Ulaanbaatar 26.90 295 *e*P **P 20 37 44.2 -0.2**
comp=Z,34nm,0.8s,mb4.9
ULN Ulaanbaatar 26.90 295 *e*P **P 20 37 44.2 -0.2**
ULN pmax pmax
comp=Z,34nm,0.8s,mb4.9
ULN Ulaanbaatar 26.90 295 P **P 20 37 45.1 +0.7**
SNR=17
SONM Songino Array 27.34 295 P **P 20 37 48.4 0.0**
comp=Z,33nm,0.7s,mb5.0,baz=82,slow=7.0,SNR=152
SONM LR LR 20 49 41.3
comp=Z,847nm,19.3s,MS4.3,baz=352,slow=38
SONM Songino Array 27.34 295 P **P 20 37 48.4 0.0**
SONM Songino Array 27.34 295 P **P 20 37 48.4 0.0**
SONM pmax pmax
comp=Z,33nm,0.7s
SONM MLR MLR
comp=Z,847nm,19.3s
QZH Quanzhou 27.57 239 *e*P **P 20 37 49.4 -1.2**
QZH S **S 20 42 29.0 -0.6**
QZH LR LR
comp=Z,1μm,16.5s,MS4.5
BILL Bilibino 28.28 17 *e*P **P 20 37 54.2 -2.4**
comp=Z,20nm,1.2s,mb4.6
BILL Bilibino 28.28 17 P **P 20 37 54.0 -2.5**
BILL *e* 20 38 10.0
GUMO Guam 28.61 179 LR LR 20 47 31.3
comp=Z,312nm,20.4s,MS3.9,baz=15,slow=32
IRK Irkutsk 28.77 304 *e*P **P 20 38 00.8 -0.3**
IRK pmax pmax
comp=Z,98nm,1.3s,mb5.4
TLY Talaya 29.13 303 *e*P **P 20 38 05.0 +0.7**
comp=Z,38nm,0.9s,mb5.1
TLY Talaya 29.13 303 *e*P **P 20 38 04.7 +0.4**
TLY *e* 20 39 04.4
TLY *e*S **S 20 42 52.3 -1.4**
TLY pmax pmax
comp=Z,34nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,465nm,16.0s,MS4.2
TLY Talaya 29.13 303 P **P 20 38 05.7 +1.4**
SNR=6.7
TLY Talaya 29.13 303 P **P 20 38 05.7 +1.4**
comp=Z,218nm,1.0s,mb5.8,SNR=7.3
ZAK Zakamensk 29.33 300⇑*i*P **P 20 38 06.7 +0.6**
ZAK *e* pP 20 38 16.1 0.0
ZAK pmax pmax
comp=Z,38nm,1.2s,mb5.0
ENH Enshi 30.54 258 *e*P **P 20 38 17.1 +0.1**
comp=Z,29nm,0.7s,mb5.2
MOY Mondy 30.78 303 *e*P **P 20 38 19.2 +0.4**
MOY pmax pmax
comp=Z,55nm,1.7s,mb5.1
LZH Lanzhou 31.96 273 *e*P **P 20 38 31.4 +1.9**
LZH pP pP 20 38 42.4 +2.9
LZH sP sP 20 38 45.3 +1.6
LZH S **S 20 43 37.0 -1.4**
LZH sS sS 20 43 54.3 -0.7
LZH pmax pmax
comp=Z,39nm,1.0s,mb5.2
LZH pmax pmax
comp=Z,250nm,4.4s
LZH LR LR
comp=N,470nm,12.8s,MS4.6
LZH LR LR
comp=E,760nm,13.6s,MS4.6
LZH LR LR
comp=Z,870nm,16.0s,MS4.5
GTA Gaotai 33.71 280 P **P 20 38 45.8 +1.1**
GTA pP pP 20 38 57.6 +2.8
GTA sP sP 20 39 02.8 +3.8
GTA PcP PcP 20 41 23.3 -0.4
GTA S **S 20 44 07.6 +2.1**
GTA sS sS 20 44 27.1 +5.0
GTA pmax pmax
comp=Z,11nm,0.9s,mb4.8
GTA pmax pmax
comp=Z,260nm,6.2s
GTA LR LR
comp=N,290nm,17.6s,MS4.3
GTA LR LR
comp=E,440nm,21.8s,MS4.3
GTA LR LR
comp=Z,590nm,18.1s,MS4.3
CD2 Chengdu 34.40 264⇑*i*P **P 20 38 51.5 +0.7**
CD2 pP pP 20 39 03.8 +2.9
CD2 sP sP 20 39 08.9 +3.8
CD2 PP PP 20 40 07.3 -1.7
CD2 PcP PcP 20 41 27.8 +1.9
CD2 S **S 20 44 14.0 -2.4**
CD2 sS sS 20 44 34.3 +1.3
CD2 PcS PcS 20 45 12.3 0.0
CD2 SS SS 20 46 24.8 -21
CD2 pmax pmax
comp=Z,60nm,0.8s,mb5.6
CD2 pmax pmax
comp=Z,190nm,5.8s
CD2 LR LR
comp=N,640nm,15.6s,MS4.5
CD2 LR LR
comp=E,350nm,16.8s,MS4.5
CD2 LR LR
comp=Z,800nm,14.4s,MS4.6
GYA Guiyang 34.75 255⇑*i*P **P 20 38 54.3 +0.5**
GYA pP pP 20 39 07.4 +3.4
GYA sP sP 20 39 14.3 +6.1
GYA PP PP 20 40 12.0 -0.9
GYA S **S 20 44 19.9 -1.9**
GYA ScP ScP 20 45 08.6 -0.9
GYA SS SS 20 46 33.0 -20
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,760nm,16.9s,MS4.6
GYA LR LR
comp=E,680nm,17.0s,MS4.6
GYA LR LR
comp=Z,730nm,16.7s,MS4.5
TNA Tin City 35.07 32 *e*P **P 20 38 55.9 -0.3**
comp=Z,16nm,0.9s,mb4.9
QIZ Qiongzhong 37.45 243 P **P 20 39 18.5 +1.5**
QIZ S **S 20 45 02.5 -0.7**
QIZ pmax pmax
comp=Z,220nm,4.7s
QIZ LR LR
comp=Z,710nm,20.2s,MS4.5
KMI Kunming 38.38 257 ⇑P **P 20 39 26.1 +1.3**
KMI pP pP 20 39 34.9 -0.1
KMI sP sP 20 39 38.4 -0.7
KMI S **S 20 45 13.3 -3.9**
KMI pmax pmax
comp=Z,48nm,1.0s,mb5.2
KMI pmax pmax
comp=Z,84nm,5.2s
KMI LR LR
comp=N,340nm,15.5s,MS4.4
KMI LR LR
comp=E,320nm,16.0s,MS4.4
KMI LR LR
comp=Z,580nm,15.7s,MS4.5
ZAA0 Zalesovo Array 40.40 308 *e*P **P 20 39 40.6 -0.7**
ZAA0 *e*PcP PcP 20 41 43.5 -0.3
ZALV Zalesovo Beam 40.40 308 P **P 20 39 41.0 -0.3**
comp=Z,29nm,0.8s,mb5.1,baz=85,slow=8.1,SNR=146
ZALV PcP PcP 20 41 44.1 +0.4
comp=Z,6.2nm,0.5s,baz=84,slow=3.8,SNR=7.1
ZALV ScP ScP 20 45 30.1 -0.2
comp=Z,3.8nm,0.9s,baz=84,slow=4.6,SNR=6.3
ZALV LR LR 20 57 38.1
comp=Z,338nm,18.8s,MS4.2,baz=182,slow=38
ZALV Zalesovo Beam 40.40 308 P **P 20 39 41.0 -0.3**
ZALV PcP PcP 20 41 44.1 +0.4
ZALV ScP ScP 20 45 30.1 -0.2
ZALV Zalesovo Beam 40.40 308 P **P 20 39 41.0 -0.3**
ZALV 20 41 44.2
ZALV pmax pmax
comp=Z,29nm,0.8s,mb5.1
ZALV MLR MLR
comp=Z,338nm,18.8s,MS4.2
WMQ Urumqi 40.90 292 P **P 20 39 46.3 +0.7**
WMQ pP pP 20 39 58.6 +2.8
WMQ sP sP 20 40 04.0 +4.0
WMQ PP PP 20 41 24.3 +4.2
WMQ S **S 20 45 53.1 -1.5**
WMQ SS SS 20 48 49.9 -6.7
WMQ pmax pmax
comp=Z,35nm,1.0s,mb4.9
WMQ pmax pmax
comp=Z,170nm,4.0s
WMQ LR LR
comp=N,250nm,19.0s,MS4.5
WMQ LR LR
comp=E,540nm,17.6s,MS4.5
WMQ LR LR
comp=Z,600nm,18.3s,MS4.5
NVS Novosibirsk 41.18 310⇑*i*P **P 20 39 47.4 -0.3**
NVS *e*S **S 20 45 59.9 +1.4**
NVS pmax pmax
comp=Z,69nm,1.7s,mb5.0
NVS pmax pmax
comp=E,37nm,1.6s
NVS smax
comp=E,24nm,2.5s
PPLA Purkeypile 41.48 38 *e*P **P 20 39 51.7 +1.6**
comp=E,50nm,1.2s,mb5.0
KDAK Kodiak Island 41.60 46 P **P 20 39 51.4 +0.2**
comp=E,3.8nm,0.5s,mb4.2,baz=282,slow=17,SNR=4.3
KDAK Kodiak Island 41.60 46 P **P 20 39 51.4 +0.2**
KDAK Kodiak Island 41.60 46 *i* P **P 20 39 59.0 +7.9**
COLD Coldfoot 42.37 32 *e*P **P 20 39 55.9 -1.4**
comp=E,16nm,1.1s,mb4.5
RC01 Rabbit Creek A 42.72 41 *e*P **P 20 40 00.9 +0.7**
SML Sawmill 43.33 40 *e*P **P 20 40 05.9 +0.8**
comp=E,5.7nm,0.8s,mb4.3
SML Sawmill 43.33 40 *e*P **P 20 40 05.9 +0.8**
SML pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MK31 Makanchi Array 43.61 298 *e*P **P 20 40 07.2 -0.4**
MK31 Makanchi Array 43.61 298 P **P 20 40 07.4 -0.2**
MK31 pmax pmax
comp=Z,11nm,0.5s,mb4.8
MKAR Makanchi Array 43.61 298 P **P 20 40 07.5 -0.1**
comp=Z,7.3nm,0.5s,mb4.6,baz=82,slow=9.8,SNR=99
MKAR LR LR 21 00 08.8
comp=Z,359nm,18.2s,MS4.3,baz=74,slow=39
MKAR Makanchi Array 43.61 298 P **P 20 40 07.5 -0.1**
MKAR Makanchi Array 43.61 298 P **P 20 40 07.5 -0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR MLR MLR
comp=Z,359nm,18.2s
ILAR Eielson Array 43.75 35 P **P 20 40 08.3 -0.1**
comp=Z,11nm,0.9s,mb4.6,baz=271,slow=6.6,SNR=65
ILAR Eielson Array 43.75 35 P **P 20 40 08.3 -0.1**
ILAR Eielson Array 43.75 35 P **P 20 40 08.4 -0.1**
ILAR pmax pmax
comp=Z,11nm,0.9s
LSA Lhasa 44.36 271 P **P 20 40 16.1 +2.2**
LSA Lhasa 44.36 271 *e*P **P 20 40 15.7 +1.8**
comp=Z,29nm,0.9s,mb5.0
LSA Lhasa 44.36 271 *e*P **P 20 40 15.7 +1.8**
LSA pmax pmax
comp=Z,29nm,0.9s,mb5.0
KURK Kurchatov 44.80 305 P **P 20 40 17.5 +0.5**
comp=Z,46nm,0.7s,mb5.4,baz=74,slow=8.8,SNR=205
KURK Kurchatov 44.80 305 *e*P **P 20 40 16.6 -0.5**
comp=Z,35nm,0.7s,mb5.3
KURK Kurchatov 44.80 305*c i*P **P 20 40 16.8 -0.2**
KURK pmax pmax
comp=Z,37nm,0.7s,mb5.3
KURK Kurchatov 44.80 305 P **P 20 40 17.2 +0.2**
SNR=16
KURK Kurchatov 44.80 305 P **P 20 40 16.4 -0.6**
comp=Z,325nm,0.6s,mb6.3,SNR=42
CHTO Chiang Mai 45.08 253 *e*P **P 20 40 20.3 +0.6**
comp=Z,13nm,0.8s,mb4.8
CHTO Chiang Mai 45.08 253 *e*P **P 20 40 20.3 +0.6**
CHTO pmax pmax
comp=Z,13nm,0.8s,mb4.8
CM31 Chiang Mai Arr 45.32 253 *e*P **P 20 40 22.6 +1.0**
comp=Z,6.2nm,0.7s,mb4.5
CMAR Chiang Mai Arr 45.32 253 P **P 20 40 22.8 +1.3**
comp=Z,5.0nm,0.8s,mb4.4,baz=45,slow=7.0,SNR=52
CMAR LR LR 21 01 23.8
comp=Z,594nm,18.1s,MS4.6,baz=50,slow=39
CMAR Chiang Mai Arr 45.32 253 P **P 20 40 22.8 +1.3**
CMAR Chiang Mai Arr 45.32 253 P **P 20 40 22.8 +1.3**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR MLR MLR
comp=Z,594nm,18.1s
EGAK Eagle 46.19 35 *e*P **P 20 40 29.5 +1.6**
comp=Z,19nm,0.9s,mb5.0
TAPN Taplejung 48.17 271 *e*P **P 20 40 44.9 +1.1**
comp=Z,86nm,0.9s,mb5.8
TAPN Taplejung 48.17 271 *e*P **P 20 40 44.9 +1.1**
comp=Z,86nm,0.9s,mb5.8
INK Inuvik 48.59 29 P **P 20 40 46.6 +0.2**
comp=Z,4.1nm,0.6s,mb4.7,baz=297,slow=6.4,SNR=23
INK Inuvik 48.59 29 P **P 20 40 46.6 +0.2**
INK Inuvik 48.59 29 P **P 20 40 46.7 +0.3**
INK pmax pmax
comp=Z,4.0nm,0.6s
ODAN Odare 48.68 271 *e*P **P 20 40 48.6 +0.8**
comp=Z,67nm,1.0s,mb5.6
ODAN Odare 48.68 271 *e*P **P 20 40 48.6 +0.8**
comp=Z,67nm,1.0s,mb5.6
BVA0 Borovoye Array 48.98 310 *i* P **P 20 40 49.7 0.0**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 49.03 310 *e*P **P 20 40 50.0 0.0**
comp=Z,53nm,1.1s,mb5.5
BRVK Borovoye 49.03 310*c i*P **P 20 40 50.1 +0.1**
BRVK pmax pmax
comp=Z,49nm,1.2s,mb5.4
BRVK Borovoye 49.03 310 P **P 20 40 50.9 +0.9**
comp=Z,194nm,0.8s,mb6.2,SNR=17
BRVK Borovoye 49.03 310 P **P 20 40 50.6 +0.6**
SNR=15
JIRN Jiri 49.13 272 *e*P **P 20 40 51.9 +0.7**
comp=Z,75nm,0.8s,mb5.8
JIRN Jiri 49.13 272 *e*P **P 20 40 51.9 +0.7**
comp=Z,75nm,0.8s,mb5.8
RAMN Ramite 49.22 271 *e*P **P 20 40 52.4 +0.5**
comp=Z,55nm,0.6s,mb5.8
RAMN Ramite 49.22 271 *e*P **P 20 40 52.4 +0.5**
comp=Z,55nm,0.6s,mb5.8
GUN Gumba 49.23 273 *e*P **P 20 40 52.6 +0.7**
comp=Z,174nm,0.8s,mb6.1
GUN Gumba 49.23 273 *e*P **P 20 40 52.6 +0.7**
comp=Z,174nm,0.8s,mb6.1
TKM2 Tokmak 2 49.44 295 *e*P **P 20 40 53.9 +0.6**
comp=Z,18nm,0.7s,mb5.2
TKM2 Tokmak 2 49.44 295 *e*P **P 20 40 53.9 +0.6**
TKM2 pmax pmax
comp=Z,19nm,0.7s,mb5.2
KKN Kakani 49.73 273 *e*P **P 20 40 56.3 +0.5**
comp=Z,70nm,0.9s,mb5.7
KKN Kakani 49.73 273 *e*P **P 20 40 56.3 +0.5**
comp=Z,70nm,0.9s,mb5.7
KKN Kakani 49.73 273 *e*P **P 20 40 56.3 +0.5**
PKI Pulchoki 49.76 273 *e*P **P 20 40 56.5 +0.5**
comp=Z,121nm,1.2s,mb5.8
PKI Pulchoki 49.76 273 *e*P **P 20 40 56.5 +0.5**
comp=Z,121nm,1.2s,mb5.8
PKI Pulchoki 49.76 273 *e*P **P 20 40 56.5 +0.5**
DMN Daman 49.96 273 *e*P **P 20 40 58.2 +0.7**

comp=Z,56nm,0.7s,mb5.7
DMN Daman 49.96 273 *e*P **P 20 40 58.2 +0.7**
comp=Z,56nm,0.7s,mb5.7
GKN Gorkha 50.09 274 *e*P **P 20 40 58.8 +0.3**
comp=Z,85nm,0.9s,mb5.8
GKN Gorkha 50.09 274 *e*P **P 20 40 58.8 +0.3**
comp=Z,85nm,0.9s,mb5.8
FRU Bishkek 50.13 296 *e*P **P 20 40 59.0 +0.4**
AAK Ala-Archa 50.30 296 *e*P **P 20 40 60.0 +0.1**
comp=Z,23nm,0.7s,mb5.3
AAK Ala-Archa 50.30 296⇑ *i*P **P 20 40 59.2 -0.7**
AAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
DANN Dangsing 50.56 275 *e*P **P 20 41 03.1 +1.1**
comp=Z,115nm,0.5s,mb6.0
DANN Dangsing 50.56 275 *e*P **P 20 41 03.1 +1.1**
comp=Z,115nm,0.5s,mb6.1
KSH Kashi 50.65 291 P **P 20 41 06.8 +4.2**
KSH pP pP 20 41 20.0 +7.0
KSH PcP PcP 20 42 23.3 +3.7
KSH PP PP 20 43 03.5 +5.0
KSH ScP ScP 20 46 14.3 +1.4
KSH PcS PcS 20 46 19.3 +2.3
KSH S **S 20 48 17.3 +2.4**
KSH ScS ScS 20 50 50.6 +0.1
KSH SS SS 20 51 49.3 +0.2
KSH pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KSH pmax pmax
comp=Z,170nm,3.9s
KSH LR LR
comp=N,380nm,5.9s
KSH LR LR
comp=E,530nm,7.1s
KSH LR LR
comp=Z,250nm,7.5s
EKS2 Erkin-Say 50.77 296 *e*P **P 20 41 03.4 0.0**
comp=Z,7.5nm,0.6s,mb4.8
EKS2 Erkin-Say 50.77 296 *e*P **P 20 41 03.4 0.0**
EKS2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KOLN Koldanda 50.99 274 *e*P **P 20 41 06.0 +0.7**
comp=Z,55nm,0.8s,mb5.5
KOLN Koldanda 50.99 274 *e*P **P 20 41 06.0 +0.7**
comp=Z,55nm,0.8s,mb5.5
KK31 Karatay Array 52.73 298 P **P 20 41 17.5 -0.6**
KK31 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KKAR Karatay Array 52.73 298 *e*P **P 20 41 17.7 -0.4**
comp=Z,9.3nm,0.6s,mb4.9
KKAR Karatay Array 52.73 298 *e*P **P 20 41 17.7 -0.4**
KKAR pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
SVE Sverdlovsk 52.91 317⇓ *i*P **P 20 41 19.3 +0.1**
SVE pmax pmax
comp=Z,62nm,0.9s,mb5.5
SVE MLR MLR
comp=Z,1μm,22.0s,MS4.9
HNR Honiara 53.37 161 LR LR 21 00 09.3
comp=Z,364nm,20.3s,MS4.4,baz=322,slow=32
SOKR Solikamsk 53.73 321*c i*P **P 20 41 24.4 -0.7**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
SOKR MLR MLR
comp=Z,900nm,20.0s,MS4.8
SMLA Simla 53.91 281 *i* P **P 20 41 26.0 -0.9**
SMLA *i* x x 20 41 33.5
ARU Arti 54.12 317 *e*P **P 20 41 27.4 -0.7**
comp=Z,63nm,1.0s,mb5.5
ARU Arti 54.12 317*c i*P **P 20 41 27.6 -0.4**
ARU 20 42 31.2
ARU PPP 20 44 36.6
ARU S **S 20 49 02.8 +0.8**
ARU SS SS 20 52 40.9 -2.4
ARU pmax pmax
comp=Z,57nm,1.0s,mb5.5
ARU Arti 54.12 317 P **P 20 41 27.7 -0.3**
comp=Z,294nm,0.6s,SNR=29
ALE Alert 54.70 4 P **P 20 41 30.1 -1.8**
comp=Z,80nm,0.3s,mb6.2,SNR=7.2
NDI New Delhi 55.19 279 *e*PKP **P 20 41 36.5 +0.3**
SPA0 Spitsbergen Ar 55.84 349 *e*P **P 20 41 39.5 -0.7**
AB31 Akbulak array 56.51 309 P **P 20 41 45.1 -0.2**
AB31 pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
ABKAR Akbulak array 56.51 309 *e*P **P 20 41 44.9 -0.4**
comp=Z,13nm,0.5s,mb5.2
RES Resolute Bay 56.88 16 P **P 20 41 46.7 -0.9**
comp=Z,9.9nm,0.7s,mb4.9,baz=316,slow=6.6,SNR=20
RES Resolute Bay 56.88 16 P **P 20 41 46.7 -0.9**
RES Resolute Bay 56.88 16 P **P 20 41 46.7 -0.9**
RES pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VIS Vishakhapatnam 57.13 264 *e*x x 20 41 33.6
KBL Kabul 57.91 289 *e*P **P 20 41 54.3 -1.2**
comp=Z,31nm,0.8s,mb5.4
KBL Kabul 57.91 289 *e*P **P 20 41 54.3 -1.2**
KBL pmax pmax
comp=Z,31nm,0.8s,mb5.4
YKA Yellowknife Ar 58.03 33 P **P 20 41 55.5 -0.4**
comp=Z,1.5nm,0.7s,mb4.2,baz=302,slow=7.3,SNR=16
YKA Yellowknife Ar 58.03 33 P **P 20 41 55.5 -0.4**
YKA Yellowknife Ar 58.03 33 P **P 20 41 55.5 -0.4**
BHPL Bhopal 58.15 273 *e*PKP **P 20 41 57.0 -0.3**
BHPL AMb AMB 20 41 58.8
comp=Z,28nm,1.3s,mb5.1
APA Apatity 58.92 335⇑ *i*P **P 20 42 04.0 +2.0**
APA pmax pmax
comp=Z,16nm,0.8s,mb5.1
APA MLR MLR
comp=Z,1μm,23.0s,MS4.9
KEV Kevo 59.40 339 *e*P **P 20 42 03.9 -1.4**
KEV pmax pmax
comp=Z,11nm,0.7s,mb5.0
KEV Kevo 59.40 339 *e*p **P 20 42 03.9 -1.4**
comp=Z,11nm,0.7s,mb5.0
ARCES ARCESS Array B 59.94 339 P **P 20 42 07.8 -1.2**
comp=Z,5.6nm,0.9s,mb4.6,baz=48,slow=7.2,SNR=12
ARCES LR LR 21 14 44.0
comp=Z,258nm,18.9s,MS4.4,baz=199,slow=43
ARCES ARCESS Array B 59.94 339 P **P 20 42 07.8 -1.2**
ARCES ARCESS Array B 59.94 339 P **P 20 42 07.8 -1.2**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES MLR MLR
comp=Z,258nm,18.9s
ARE0 ARCESS Array S 59.94 339 *e*P **P 20 42 11.0 +2.0**
KLMR Klimovskoe 60.65 327 *e*P **P 20 42 11.5 -2.4**
KLMR pmax pmax
comp=Z,20nm,1.0s,mb5.2
DAG Danmarks Havn 60.73 356 *i* P **P 20 42 13.9 -0.4**
comp=Z,17nm,0.9s,mb5.2
DAG *i* pP 20 42 26.0 +1.0
HYB Hyderabad 60.86 267 *i* P **P 20 42 15.0 -1.0**
KTK1 Kautokeino 60.89 339 *e*P **P 20 42 14.5 -1.0**
TRO Tromso 61.53 341 *e*P **P 20 42 19.1 -0.7**
CTA Charters Tower 62.09 178 LR LR 21 05 08.8
comp=Z,148nm,21.6s,MS4.1,baz=162,slow=32
RPW Rockport 62.17 49 *e*P **P 20 42 17.3 -7.2**
MDRS Chennai 62.39 262 *e*PKP **P 20 42 25.8 -0.6**
MDRS AMb AMB 20 42 37.3
comp=Z,94nm,0.2s
JOF Joensuu 62.49 332 *e*P **P 20 42 24.3 -2.0**
JOF pmax pmax
comp=Z,11nm,0.5s,mb5.2
JOF Joensuu 62.49 332 *e*p **P 20 42 24.3 -2.0**
comp=Z,11nm,0.5s,mb5.2
FITZ Fitzroy Crossi 62.60 200 P **P 20 42 26.7 -0.8**
comp=Z,3.9nm,0.8s,mb4.6,baz=70,slow=6.1,SNR=4.5
FITZ Fitzroy Crossi 62.60 200 P **P 20 42 26.7 -0.8**
WRA Warramunga Arr 62.65 191 P **P 20 42 26.7 -1.2**
comp=Z,3.3nm,0.7s,mb4.6,baz=11,slow=6.8,SNR=12
WRA Warramunga Arr 62.65 191 P **P 20 42 26.7 -1.2**
WRA Warramunga Arr 62.65 191 P **P 20 42 26.7 -1.2**
WRA pmax pmax
comp=Z,3.0nm,0.7s
IMYA Miami 63.06 296 *e*P **P 20 42 30.9 +0.3**
ETW Entiat 63.30 49 *e*P **P 20 42 32.9 +0.9**
comp=Z,9.2nm,0.7s,mb5.0
IEMG Emamgholi 63.42 297 *e*P **P 20 42 33.6 +0.6**
ABKT Ailbek 63.48 298 P **P 20 42 33.4 0.0**
comp=Z,141nm,0.8s,mb6.2,SNR=8.1
POO Poona 63.65 272 *e*PKP **P 20 42 34.2 -0.5**
IKRD Kardeh 63.87 297 *e*P **P 20 42 31.5 -4.5**
KAD Karad 64.17 270 *e*PKP **P 20 42 38.0 -0.1**

MOS Moscow 64.50 323 *e*P **P 20 42 37.9 -1.8**
MOS *e* pP 20 42 50.7 +0.2
IMON Monand 65.15 293 *e*P **P 20 42 44.5 +0.2**
MOR8 Moi Rana 65.27 340 *e*P **P 20 42 42.9 -1.7**
IDAH Dahanechah 65.27 292 *e*P **P 20 42 45.5 +0.3**
FINES FINESS Array B 65.30 332 P **P 20 42 44.1 -0.8**
comp=Z,20nm,0.7s,mb5.3,baz=45,slow=7.7,SNR=137
FINES LR LR 21 13 14.6
comp=Z,510nm,18.3s,MS4.8,baz=228,slow=38
FINES FINESS Array B 65.30 332 P **P 20 42 44.1 -0.8**
FINES FINESS Array B 65.30 332 P **P 20 42 44.1 -0.7**
FINES pmax pmax
comp=Z,20nm,0.7s
FINES MLR MLR
comp=Z,510nm,18.3s
OBN Obninsk 65.36 323 *e*P **P 20 42 44.4 -1.0**
comp=Z,39nm,1.2s,mb5.3
OBN Obninsk 65.36 323⇑ *e*P **P 20 42 44.6 -0.7**
OBN *e**PP pP 20 42 57.2 +1.1
OBN *e**SP sP 20 43 02.3 +2.1
OBN 20 45 10.0
OBN pmax pmax
comp=Z,31nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,600nm,20.0s,MS4.8
SUMG Summit 65.40 1 *e*P **P 20 42 45.7 +0.3**
comp=Z,35nm,0.9s,mb5.4
SUMG Summit 65.40 1 *e*P **P 20 42 45.7 +0.3**
SUMG pmax pmax
comp=Z,35nm,0.9s
SUMG Summit 65.40 1 *i* P **P 20 42 45.1 -0.3**
comp=Z,24nm,0.9s,mb5.2
ITEG Tejag 65.95 293 *e*P **P 20 42 49.9 +0.4**
VSR Storozhevoye 66.60 319 *e*P **P 20 42 52.6 -0.8**
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
SWMT Swartz Lake 66.82 46 *e*P **P 20 42 56.9 +2.0**
comp=Z,14nm,1.0s,mb4.9
SCO Scoresbysund 67.10 355 *i* P **P 20 42 56.2 -0.1**
comp=Z,7.9nm,0.9s,mb4.7
DZM Mont Dzumac 67.16 158 *e*S S 20 51 54.1 +5.1
comp=Z,101nm,25.9s
DZM *e*LR LR 21 03 19.5
comp=Z,266nm,23.0s
VSU Vasula 67.16 330 *e*P **P 20 42 54.8 -2.0**
VSU pmax pmax
comp=Z,20nm,0.9s,mb5.2
SLMT Seeley Lake 67.26 46 *e*P **P 20 42 60.0 +2.3**
comp=Z,29nm,1.3s,mb5.2
FFC Flin Flon 67.97 35 *e*P **P 20 43 01.4 -0.6**
comp=Z,18nm,1.0s,mb5.0
FFC Flin Flon 67.97 35 *i* P **P 20 43 02.1 +0.1**
ILAS Lasjerd 68.34 298 *e*P **P 20 43 04.4 -0.2**
HRY Holter Researc 68.48 46 *e*P **P 20 43 07.3 +2.0**
comp=Z,11nm,0.7s,mb5.0
LRM Limekiln Ridge 68.71 47 *e*P **P 20 43 08.0 +1.2**
comp=Z,162nm,1.1s,mb5.9
EGMT Eagleton 68.73 44 *e*P **P 20 43 07.7 +0.8**
comp=Z,12nm,0.8s,mb4.9
DLMT Dillon 68.92 47 *e*P **P 20 43 09.0 +0.9**
comp=Z,21nm,1.2s,mb5.0
IZAR Zarasai 69.28 328 *e*P **P 20 43 10.1 0.0**
IZAR AMB AMB 20 43 18.5
comp=Z,5.6nm,0.9s,mb4.5
KIV Kislovodsk 69.32 311 *e*P **P 20 43 11.3 +0.8**
comp=Z,72nm,1.1s,mb5.5
KIV Kislovodsk 69.32 311 *e*P **P 20 43 10.7 +0.1**
KIV *e* 20 43 35.3
KIV *e*S S 20 52 14.1 -0.5
KIV pmax pmax
comp=Z,42nm,1.0s,mb5.3
KIV pmax pmax
comp=Z,31nm,3.2s
KIV MLR MLR
comp=Z,1μm,18.0s,MS5.1
KIV Kislovodsk 69.32 311 P **P 20 43 12.3 +1.7**
SNR=9.7
KIV Kislovodsk 69.32 311 P **P 20 43 12.4 +1.8**
comp=Z,262nm,0.8s,mb6.2,SNR=11
ZEI Tsey 69.38 309 *e*P **P 20 43 10.1 -0.9**
ZEI pmax pmax
comp=Z,14nm,1.0s,mb4.8
ISAL Salakas 69.45 328 *e*P **P 20 43 11.2 0.0**
ISAL AMB AMB 20 43 24.2
comp=Z,16nm,1.2s,mb4.8
MTA Mtatsminda 69.53 308 P **P 20 43 12.7 +0.7**
TBLG Delisi 69.54 308 P **P 20 43 12.7 +0.7**
TBLG Delisi 69.54 308 P **P 20 43 12.7 +0.7**
IIGN Ignalina 69.57 328 *e*P **P 20 43 11.9 0.0**
IIGN AMB AMB 20 43 25.0
comp=Z,13nm,0.9s,mb4.9
NACGM Naroch 69.67 327 *e* **P 20 43 10.0 -2.6**
ONI Oni 69.74 309 P **P 20 43 13.8 +0.6**
NVAR Mina Array Bea 69.93 56 P **P 20 43 15.4 +0.9**
comp=Z,2.8nm,0.6s,mb4.3,baz=296,slow=7.1,SNR=15
NVAR Mina Array Bea 69.93 56 P **P 20 43 15.4 +1.0**
NB2 NORSAR Subarra 70.26 338 P **P 20 43 15.5 -0.6**
comp=Z,5.5nm,0.7s,mb4.6,baz=34,slow=6.5
NOA NORSAR Array B 70.26 338 P **P 20 43 15.4 -0.7**
comp=Z,9.1nm,0.8s,mb4.8,baz=35,slow=6.1,SNR=40
NOA LR LR 21 17 54.1
comp=Z,327nm,21.3s,MS4.5,baz=305,slow=39
NOA NORSAR Array B 70.26 338 P **P 20 43 15.4 -0.7**
NOA NORSAR Array B 70.26 338 P **P 20 43 15.4 -0.7**
NOA pmax pmax
comp=Z,9.0nm,0.8s
NOA MLR MLR
comp=Z,327nm,21.3s
IZEF Zefreh 70.26 297 *e*P **P 20 43 16.1 -0.5**
HFS Hagfors 70.28 336 P **P 20 43 15.6 -0.6**
comp=Z,13nm,0.7s,mb5.0,baz=54,slow=7.5,SNR=71
HFS Hagfors 70.28 336 P **P 20 43 15.6 -0.6**
HFS Hagfors 70.28 336 P **P 20 43 15.6 -0.6**
HFS pmax pmax
comp=Z,13nm,0.7s
NC602 NORSAR Array S 70.42 338 *e*P **P 20 43 15.8 -1.3**
AKH Akhalkalaki 70.47 308 P **P 20 43 19.5 +1.8**
IKLH Kolahrood 70.50 297 *e*P **P 20 43 17.8 -0.2**
GNI Garni 70.53 307 *e*P **P 20 43 19.4 +1.3**
comp=Z,42nm,1.5s,mb5.2
GNI Garni 70.53 307 *e*P **P 20 43 19.4 +1.3**
GNI pmax pmax
comp=Z,42nm,1.5s
RRI2 Red Ridge 70.91 48 *e*P **P 20 43 21.9 +1.5**
comp=Z,19nm,1.0s,mb5.0
TPAW Teton Pass 71.02 48 *e*P **P 20 43 22.8 +1.7**
comp=Z,8.2nm,1.4s,mb4.5
SOC Sochi 71.21 312 *e*P **P 20 43 20.3 -1.8**
SOC *e**PP pP 20 43 32.5 -0.5
SOC *e**SP sP 20 43 38.5 +1.5
SOC *e*PPP 20 47 36.9
SOC *e*S S 20 52 32.5 -4.1
SOC pmax pmax
comp=Z,17nm,0.5s,mb5.2
SOC MLR MLR
comp=Z,2μm,23.0s,MS5.2
DGMT Dagmar 71.22 41 *e*P **P 20 43 23.6 +1.5**
comp=Z,12nm,0.6s,mb5.0
IPIR Pirpir 71.34 297 *e*P **P 20 43 24.1 +0.9**
AKASG Malin Array Be 71.62 323 P **P 20 43 23.9 -0.7**
comp=Z,4.9nm,0.5s,mb4.7,baz=40,slow=5.8,SNR=21
AKASG LR LR 21 18 10.1
comp=Z,484nm,18.6s,MS4.8,baz=320,slow=39
AKASG Malin Array Be 71.62 323 P **P 20 43 23.9 -0.7**
AKASG Malin Array Be 71.62 323 *i* P **P 20 43 23.8 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 71.62 323 P **P 20 43 23.9 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG MLR MLR
comp=Z,484nm,18.6s
AKBB Malin Array Si 71.62 323 *e*P **P 20 43 23.8 -0.7**
AKBB Malin Array Si 71.62 323 *e*P **P 20 43 23.8 -0.7**
KIEV Kiev 71.63 323 *e*P **P 20 43 23.8 -0.8**
comp=Z,18nm,0.8s,mb5.1
KIEV Kiev 71.63 323*c i*P **P 20 43 23.7 -0.9**
IPAR Pars 71.67 294 *e*P **P 20 43 25.9 +0.7**
SUW Suwalki 71.76 328 *e*P **P 20 43 25.5 +0.3**
SUW *e* 20 51 43.5
SUW Suwalki 71.76 328 *e*P **P 20 43 25.5 +0.2**

ISRV Sarvestan 71.91 293 *e*P **P 20 43 26.4 -0.2**
WBK Wadi Bani Khal 72.03 284 P **P 20 43 29.2 +1.8**
SNR=9.5
DUG Dugway 72.11 52 *e*P **P 20 43 28.7 +1.0**
comp=Z,13nm,1.1s,mb4.8
DUG Dugway 72.11 52 *e*P **P 20 43 28.7 +1.1**
DUG pmax pmax
comp=Z,13nm,1.1s,mb4.8
PDAR Pinedale Array 72.27 48 P **P 20 43 28.9 +0.4**
comp=Z,1.5nm,0.6s,mb4.1,baz=289,slow=1.1,SNR=23
PDAR Pinedale Array 72.27 48 P **P 20 43 28.9 +0.4**
HOQ Hoqain 72.61 286 P **P 20 43 31.4 +0.6**
SNR=12
HATD Hatta, Dubai 72.66 288 P **P 20 43 31.9 +0.7**
SNR=7.0
JMDO Jabal Madar 72.80 285 P **P 20 43 32.8 +0.8**
SNR=8.5
ASHO Ashiyiah 72.81 288 P **P 20 43 32.6 +0.5**
SNR=6.1
BSY Bisya 73.21 286 P **P 20 43 35.6 +1.2**
SNR=10
ULM Lac du Bonnet 73.77 36 P **P 20 43 37.0 -0.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=289,slow=4.8,SNR=3.5
ULM Lac du Bonnet 73.77 36 P **P 20 43 37.0 -0.3**
ULM Lac du Bonnet 73.77 36 P **P 20 43 37.0 -0.3**
ULM pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 73.87 183 P **P 20 43 38.0 +0.1**
comp=Z,3.7nm,0.8s,mb4.4,baz=333,slow=9.1,SNR=7.8
STKA LR LR 21 17 29.0
comp=Z,116nm,19.3s,MS4.2,baz=24,slow=37
STKA Stephens Creek 73.87 183 P **P 20 43 38.0 +0.1**
STKA Stephens Creek 73.87 183 P **P 20 43 38.0 +0.1**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA MLR MLR
comp=Z,117nm,19.3s
SRU San Rafael 74.15 51 *e*P **P 20 43 40.0 +0.3**
comp=Z,16nm,1.1s,mb4.8
SRU San Rafael 74.15 51 *e*P **P 20 43 40.0 +0.3**
SRU pmax pmax
comp=Z,15nm,1.1s,mb4.8
RSSD Black Hills 74.30 44 *e*P **P 20 43 42.2 +1.7**
comp=Z,5.3nm,0.8s,mb4.5
RSSD Black Hills 74.30 44 *e*P **P 20 43 42.2 +1.7**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BEL Belsk 74.35 328 *e*P **P 20 43 41.2 +0.5**
BEL Belsk 74.35 328 *e*P **P 20 43 41.2 +0.6**
KIS Kishinev 74.45 320 *e*P **P 20 43 41.0 -0.3**
KIS Kishinev 74.45 320 *e*PcP pP 20 43 49.0 -3.2
KIS Kishinev 74.45 320 *e*P **P 20 43 41.0 -0.3**
KIS *e* pP 20 43 49.0 -3.2
LVV L'vov 74.55 325 *e*P **P 20 43 49.6 +7.8**
GKP Gorka Klasztor 74.59 330 *e*P pP 20 43 54.4 +1.5
GKP Gorka Klasztor 74.59 330 *e*P pP 20 43 54.4 +1.5
KWP Kalwaria Pacla 75.25 325 *e*P **P 20 43 46.5 +0.6**
KWP Kalwaria Pacla 75.25 325 *e*P **P 20 43 46.2 +0.3**
comp=Z,38nm,1.0s,mb5.3
KWP Kalwaria Pacla 75.25 325 *e*P **P 20 43 46.5 +0.6**
UMR Umm Al-Rimmam 75.43 297 *e*P **P 20 43 46.6 -0.7**
UMR AMb AMB 20 43 48.8
comp=Z,25nm,1.1s,mb5.1
MIB Mutribah 75.52 297 *e*P **P 20 43 47.1 -0.7**
MIB AMb AMB 20 44 01.4
comp=Z,39nm,0.8s,mb5.4
BUR08 Bucovina Ar. S 75.66 323 *e*P **P 20 43 48.3 +0.1**
BURAR Bucovina Array 75.67 323⇑P **P 20 43 48.5 +0.2**
BURAR Bucovina Array 75.67 323⇑ *i*P **P 20 43 48.5 +0.2**
TLCR 75.77 319⇓P **P 20 43 49.0 +0.1**
TLCR 75.77 319⇓ *i*P **P 20 43 49.0 +0.1**
QRN Al-Qurain 75.82 296 *e*P **P 20 43 48.8 -0.7**
QRN AMb AMB 20 43 49.9
comp=Z,56nm,1.0s,mb5.5
TESR 75.83 321⇓ *i*P **P 20 43 49.3 0.0**
RST Umm Al-Ruwaisa 75.94 297 *e*P **P 20 43 50.0 -0.2**
RST AMb AMB 20 43 51.6
comp=Z,6.4nm,1.0s,mb4.5
RDF Al-Radifah 75.95 296 *e*P **P 20 43 49.8 -0.4**
RDF AMb AMB 20 43 51.1
comp=Z,50nm,1.0s,mb5.4
OJC Ojcow 76.00 327 *e*P **P 20 43 50.6 +0.4**
OJC *e*pP pP 20 44 02.2 +1.1
OJC Ojcow 76.00 327 *e*P **P 20 43 50.6 +0.4**
OJC *e**PP pP 20 44 02.2 +1.1
STHS Stebnicka Huta 76.03 326 *e*P **P 20 43 51.3 +0.9**
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
STHS Stebnicka Huta 76.03 326 *e*P **P 20 43 51.3 +0.9**
WUAZ Wupatki 76.04 55 *e*P **P 20 43 51.6 +0.9**
comp=Z,15nm,1.0s,mb4.9
UZH Uzhgorod 76.19 325 *e*P **P 20 43 52.7 +1.4**
UZH *e* pP 20 44 04.0 +1.8
UZH *i* 20 44 10.0
VRI Vrincioaia 76.27 321⇑P **P 20 43 52.8 +1.0**
VRI Vrincioaia 76.27 321⇑ *i*P **P 20 43 52.8 +1.0**
CRVS Cervenica-Dubn 76.33 325 *e*P **P 20 43 52.3 +0.2**
CRVS pmax pmax
comp=Z,39nm,2.3s,mb4.9
CRVS Cervenica-Dubn 76.33 325 *e*P **P 20 43 52.3 +0.2**
NIE Niedzica 76.41 326 *e*P **P 20 43 53.3 +0.8**
NIE *e*pP pP 20 44 05.8 +2.4
NIE Niedzica 76.41 326 *e*P **P 20 43 53.3 +0.8**
NIE *e**PP pP 20 44 05.8 +2.4
TRPA Tarpa 76.47 324⇑ *i*P **P 20 43 53.6 +0.7**
KSP Ksiaz 76.88 329 *e*P **P 20 43 55.7 +0.5**
KSP Ksiaz 76.88 329 *e*P **P 20 43 55.3 +0.2**
KSP *e*pP pP 20 44 07.6 +1.5
KSP LM 21 20 03.0
comp=Z,1.2nm,20.9s
KSP Ksiaz 76.88 329 *e*P **P 20 43 55.3 +0.2**
KSP *e**PP pP 20 44 07.6 +1.5
KSP MLR MLR
comp=Z,1μm,20.9s,MS5.2
MLR Muntele Rosu 76.92 321 P **P 20 43 55.7 +0.2**
comp=Z,1.1nm,0.8s,mb3.8,baz=163,slow=9.1,SNR=4.2
MLR Muntele Rosu 76.92 321 P **P 20 43 55.7 +0.2**
MLR Muntele Rosu 76.92 321 P **P 20 43 55.7 +0.2**
OKC Ostrava-Krasne 76.96 328 *e*P **P 20 43 56.0 +0.4**
OKC *e**PP pP 20 44 08.2 +1.7
OKC Ostrava-Krasne 76.96 328⇑ *e*P **P 20 43 56.0 +0.4**
OKC *e*pP pP 20 44 08.2 +1.7
BR131 Keskin Array S 77.16 312 *e*P **P 20 43 57.1 +0.2**
comp=Z,1.7nm,0.6s,mb4.2
BRTR Keskin Array B 77.16 312 P **P 20 43 57.5 +0.5**
comp=Z,3.4nm,0.7s,mb4.4,baz=69,slow=3.3,SNR=12
BRTR LR LR 21 21 09.0
comp=Z,221nm,18.7s,MS4.5,baz=86,slow=38
BRTR Keskin Array B 77.16 312 P **P 20 43 57.5 +0.5**
BRTR Keskin Array B 77.16 312 P **P 20 43 57.5 +0.5**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR MLR MLR
comp=Z,221nm,18.7s
MORC Moravsky Berou 77.25 328 *e*P **P 20 43 57.6 +0.3**
comp=Z,21nm,1.0s,mb5.0
MORC *e* pP 20 44 10.3 +2.2
MORC Moravsky Berou 77.25 328⇓P **P 20 43 57.4 +0.2**
MORC Moravsky Berou 77.25 328⇓ *i*P **P 20 43 57.4 +0.2**
UPC Upice 77.25 329 *e*P **P 20 43 57.0 -0.3**
UPC *e**PP pP 20 44 09.8 +1.6
UPC Upice 77.25 329⇑ *e*P **P 20 43 57.0 -0.3**
UPC *e*pP pP 20 44 09.8 +1.6
DPC Dobruska-Polom 77.26 329⇑ *i*P **P 20 43 57.2 -0.1**
DPC *e**PP pP 20 44 10.4 +2.2
DPC Dobruska-Polom 77.26 329⇑ *i*P **P 20 43 57.2 -0.1**
DPC *e*pP pP 20 44 10.4 +2.2
CLL Collm 77.71 331⇑ *i*P **P 20 43 59.4 -0.4**
CLL *i* pP 20 44 11.9 +1.2
CLL pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLL MLR MLR
comp=Z,400nm,20.5s,MS4.7
CLL Collm 77.71 331⇑ *i*P **P 20 43 59.4 -0.4**
comp=Z,19nm,0.9s,mb5.0
CLL *e* 20 44 06.0
CLL *i* (PcP) PcP 20 44 11.9 +2.1
comp=Z,24nm,1.0s
CLL Lm 21 21 00.0
comp=Z,400nm,20.5s
BRG Berggiesshubel 77.73 331 *i* P **P 20 43 59.6 -0.3**
comp=Z,6.7nm,1.1s,mb4.5
BRG *e*pP pP 20 44 12.0 +1.2
comp=Z,12nm,1.1s

BRG Berggiesshubel 77.73 331 *i* P **P 20 43 59.6 -0.3**
BRG *e**PP pP 20 44 12.0 +1.2
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
VYHS Vyhne 77.75 326 *e*P **P 20 44 00.6 +0.6**
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
VYHS Vyhne 77.75 326 *e*P **P 20 44 00.6 +0.6**
PSZ Piszkesteto 77.76 326 *e*P **P 20 43 59.8 -0.3**
comp=Z,18nm,1.1s,mb4.9
PSZ *e* 20 44 13.3
PSZ Piszkesteto 77.76 326 ⇓P **P 20 44 00.3 +0.2**
PSZ Piszkesteto 77.76 326⇑*e*P **P 20 44 00.8 +0.7**
PSZ Piszkesteto 77.76 326 ⇓*i*P **P 20 44 00.3 +0.2**
PVCC Panska Ves 77.78 330 *e*P **P 20 44 00.3 +0.1**
PVCC *e**PP pP 20 44 12.8 +1.7
PVCC Panska Ves 77.78 330⇑*e*P **P 20 44 00.3 +0.1**
PVCC *e*pP pP 20 44 12.8 +1.7
KOLL Kolacno 77.86 327 *e*P **P 20 44 01.1 +0.5**
KOLL Kolacno 77.86 327 *e*P **P 20 44 01.1 +0.5**
VRAC Vranov 78.00 328 P **P 20 44 02.0 +0.6**
comp=Z,12nm,1.0s,mb4.8,baz=37,slow=5.6,SNR=18
VRAC Vranov 78.00 328 P **P 20 44 02.0 +0.6**
VRAC Vranov 78.00 328 ⇑P **P 20 44 02.4 +1.0**
VRAC Vranov 78.00 328⇑*i*P **P 20 44 02.4 +1.0**
PRU Pruhonice 78.23 330⇑*i*P **P 20 44 02.7 0.0**
PRU *e**PP pP 20 44 15.5 +1.9
PRU MLR MLR
comp=Z,900nm,24.3s,MS5.0
PRU Pruhonice 78.23 330⇑*i*P **P 20 44 02.7 0.0**
PRU *e*pP pP 20 44 15.5 +1.9
PRU AMS AMS 21 21 10.0
comp=Z,900nm,24.3s
TREC Trest 78.44 329⇑*i*P **P 20 44 04.0 +0.2**
TREC *e**PP pP 20 44 16.6 +1.8
TREC Trest 78.44 329⇑*i*P **P 20 44 04.0 +0.2**
TREC *e*pP pP 20 44 16.6 +1.8
GZR Gura Zlata 78.45 322 ⇓P **P 20 44 04.1 +0.1**
GZR Gura Zlata 78.45 322 ⇓*i*P **P 20 44 04.1 +0.1**
BUD Budapest 78.46 326⇓*e*P **P 20 44 04.6 +0.6**
TUC Tucson 78.57 57 *e*P **P 20 44 05.3 +0.4**
comp=Z,13nm,1.4s,mb4.7
TUC Tucson 78.57 57 *e*P **P 20 44 05.3 +0.4**
TUC pmax pmax
comp=Z,13nm,1.4s,mb4.7
NKC Novy Kostel 78.80 331 *e*P **P 20 44 06.0 +0.2**
NKC *e**PP pP 20 44 18.1 +1.3
NKC Novy Kostel 78.80 331⇑*e*P **P 20 44 06.0 +0.2**
NKC *e*pP pP 20 44 18.1 +1.3
BZS Buzias 78.80 323 ⇓P **P 20 44 05.8 -0.1**
BZS Buzias 78.80 323 ⇓*i*P **P 20 44 05.8 -0.1**
KHC Kasperske Hory 79.29 330 *e*P **P 20 44 08.6 0.0**
comp=Z,18nm,0.8s,mb5.1
KHC *e* pP 20 44 21.2 +1.7
KHC Kasperske Hory 79.29 330⇑*i*P **P 20 44 08.9 +0.3**
KHC *e**PP pP 20 44 21.3 +1.8
KHC MLR MLR
comp=Z,900nm,22.9s,MS5.0
KHC Kasperske Hory 79.29 330⇑*i*P **P 20 44 08.9 +0.3**
KHC *e*pP pP 20 44 21.3 +1.8
KHC *ex* x 20 44 29.5
KHC AMS AMS 21 22 00.0
comp=Z,900nm,22.9s
SOP Sopron 79.31 327⇑*e*P **P 20 44 09.6 +0.9**
ANMO Albuquerque 79.36 52 P **P 20 44 10.3 +1.1**
comp=Z,0.8nm,0.6s,mb3.8,baz=311,slow=8.1,SNR=3.4
ANMO Albuquerque 79.36 52 P **P 20 44 10.3 +1.1**
ANMO Albuquerque 79.36 52 P **P 20 44 10.3 +1.1**
GERES GERESS Array B 79.48 329 P **P 20 44 09.5 -0.1**
comp=Z,1.5nm,0.4s,mb4.2,baz=39,slow=6.0,SNR=32
GERES LR LR 21 22 28.0
comp=Z,617nm,20.6s,MS4.9,baz=26,slow=38
GERES GERESS Array B 79.48 329 P **P 20 44 09.5 -0.1**
GERES GERESS Array B 79.48 329 P **P 20 44 09.5 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.4s
GERES MLR MLR
comp=Z,617nm,20.6s
MPEP Malo Peshtene 79.56 320 P **P 20 44 09.9 -0.2**
SCHQ Schefferville 79.59 18 P **P 20 44 09.5 -0.5**
comp=Z,8.2nm,1.0s,mb4.6,baz=353,slow=8.1,SNR=4.7
SCHQ LR LR 21 24 30.2
comp=Z,203nm,18.9s,MS4.5,baz=322,slow=40
SCHQ Schefferville 79.59 18 P **P 20 44 09.5 -0.5**
PKSM Moragy 79.63 325 ⇑P **P 20 44 10.2 -0.2**
PKSM Moragy 79.63 325⇑*i*P **P 20 44 10.2 -0.2**
GRF Grafenberg Arr 79.69 331 *e*P **P 20 44 10.7 0.0**
comp=Z,16nm,1.1s,mb4.9
GRFO Grafenberg 79.69 331 *e*P **P 20 44 10.7 0.0**
comp=Z,18nm,0.9s,mb5.0
GRFO Grafenberg 79.69 331 *e*P **P 20 44 10.7 0.0**
GRFO pmax pmax
comp=Z,18nm,0.9s,mb5.0
VTS Vitosha 80.40 320 P **P 20 44 15.2 +0.5**
ASF Jabal al Asfar 80.56 305 P **P 20 44 16.0 +0.3**
comp=Z,3.6nm,1.0s,mb4.3,baz=244,slow=3.7,SNR=4.2
ASF Jabal al Asfar 80.56 305 P **P 20 44 16.0 +0.3**
ASF Jabal al Asfar 80.56 305 P **P 20 44 16.0 +0.3**
ASF pmax pmax
comp=Z,4.0nm,1.0s
MEM Membach 80.66 335 P **P 20 44 15.9 0.0**
MEM AP pP 20 44 28.3 +1.4
comp=Z,8.2nm,1.0s
SOKA Soboth 80.74 327⇑*i*P **P 20 44 16.7 +0.3**
comp=Z,25nm,1.0s,mb5.1
SOKA Soboth 80.74 327⇑*i*P **P 20 44 16.7 +0.3**
comp=Z,25nm,1.0s,mb5.1
PERS Pernice 80.74 327 *i* P **P 20 44 16.7 +0.2**
MMAI Mount Meron Ar 80.87 307 P **P 20 44 17.6 +0.3**
comp=Z,13nm,0.7s,mb5.0,baz=33,slow=5.1,SNR=7.2
MMAI Mount Meron Ar 80.87 307 P **P 20 44 17.6 +0.3**
MMB Musomiste 80.92 319 P **P 20 44 18.2 +0.7**
KKB Krupnik 81.01 320 P **P 20 44 18.7 +0.7**
BCLA Clavier 81.05 335 P **P 20 44 17.5 -0.5**
BCLA AP pP 20 44 29.9 +1.0
GIVF Givet 81.47 335 *e*P **P 20 44 19.6 -0.7**
GIVF Givet 81.47 335 *e*P **P 20 44 19.6 -0.7**
GIVF Givet 81.47 335 *e*P **P 20 44 19.6 -0.7**
VISS Visnje 81.53 327 *i* P **P 20 44 20.2 -0.4**
WATA Walderalm 81.53 330 ⇓*i*P **P 20 44 20.8 +0.2**
comp=Z,6.9nm,0.5s,mb4.8
WATA Walderalm 81.53 330 ⇓*i*P **P 20 44 20.8 +0.2**
comp=Z,6.9nm,0.5s,mb4.8
WATA Walderalm 81.53 330 ⇓*i*P **P 20 44 20.8 +0.2**
WATA pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
DOU Dourbes 81.55 335 P **P 20 44 20.1 -0.6**
WTTA Wattenberg 81.57 330⇑*i*P **P 20 44 21.4 +0.6**
comp=Z,21nm,1.1s,mb5.0
WTTA Wattenberg 81.57 330⇑*i*P **P 20 44 21.4 +0.6**
comp=Z,21nm,1.1s,mb5.0
WTTA Wattenberg 81.57 330⇑*i*P **P 20 44 21.4 +0.6**
WTTA pmax pmax
comp=Z,21nm,1.1s,mb5.0
DLF Lyons Farm 81.58 343 *e*P **P 20 44 19.7 -1.1**
BOJS Bojanci 81.61 327 *i* P **P 20 44 20.9 -0.1**
VAY Valandovo 81.68 320 *e*P **P 20 44 19.9 -1.6**
MOTA Moosalm 81.70 330⇑*i*P **P 20 44 21.8 +0.3**
comp=Z,29nm,1.0s,mb5.2
MOTA Moosalm 81.70 330⇑*i*P **P 20 44 21.8 +0.3**
comp=Z,29nm,1.0s,mb5.2
MOTA Moosalm 81.70 330⇑*i*P **P 20 44 21.8 +0.3**
MOTA pmax pmax
comp=Z,29nm,1.0s,mb5.2
BAIF Baives 81.70 335 *e*P **P 20 44 20.7 -0.8**
BAIF Baives 81.70 335 *e*P **P 20 44 20.7 -0.8**
BAIF Baives 81.70 335 *e*P **P 20 44 20.7 -0.8**
SKO Skopje 81.71 321 *e*P **P 20 44 22.0 +0.3**
JAVS Javornik 81.77 328 *i* P **P 20 44 20.9 -1.0**
BFO Black Forest 81.86 332 *e*P **P 20 44 21.9 -0.4**
comp=Z,26nm,1.5s,mb4.9
BFO Black Forest 81.86 332 *e*P **P 20 44 21.9 -0.4**
BFO pmax pmax
comp=Z,26nm,1.5s,mb4.9
FETA Feichten 82.11 330⇑*i*P **P 20 44 23.6 -0.1**
comp=Z,12nm,0.8s,mb4.9
FETA Feichten 82.11 330⇑*i*P **P 20 44 23.6 -0.1**
comp=Z,12nm,0.8s,mb4.9
CDF Champ du Feu 82.14 333 *e*P **P 20 44 23.5 -0.3**
comp=Z,14nm,0.9s,mb4.6
CDF Champ du Feu 82.14 333 *e*P **P 20 44 23.5 -0.3**
comp=Z,14nm,0.9s,mb4.9
CDF Champ du Feu 82.14 333 *e*P **P 20 44 23.5 -0.3**
CDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
KRUS Krusevo 82.27 321 *e*P **P 20 44 23.0 -1.6**
ECH Echery 82.36 333 *e*P **P 20 44 20.5 -4.5**
comp=Z,14nm,1.3s,mb4.7
ECH Echery 82.36 333 *e*P **P 20 44 20.5 -4.4**
ECH pmax pmax
comp=Z,14nm,1.3s,mb4.7
PAGF Fort de Pagny 82.54 334 *e*P **P 20 44 25.7 -0.2**
comp=Z,14nm,1.1s,mb4.6
PAGF Fort de Pagny 82.54 334 *e*P **P 20 44 25.7 -0.2**
comp=Z,14nm,1.1s,mb4.9
DAVOX Davos/Dischmat 82.62 331 P **P 20 44 26.5 +0.1**
comp=Z,7.1nm,0.9s,mb4.7,baz=2.2,slow=3.4,SNR=6.7
DAVOX Davos/Dischmat 82.62 331 P **P 20 44 26.5 +0.1**
DAVOX Davos/Dischmat 82.62 331 P **P 20 44 26.5 +0.1**
MEZF Maizieres J'vi 82.80 334 *e*P **P 20 44 27.0 -0.2**
comp=Z,39nm,1.2s,mb5.0
MEZF Maizieres J'vi 82.80 334 *e*P **P 20 44 27.0 -0.2**
comp=Z,39nm,1.2s,mb5.3
HAU Haudompre 82.81 333 *e*P **P 20 44 26.7 -0.6**
HAU *e*R
comp=Z,421nm,20.2s
HAU Haudompre 82.81 333 *e*P **P 20 44 26.7 -0.6**
HAU Haudompre 82.81 333 *e*P **P 20 44 26.7 -0.6**
SFTF Sexfontaines 83.07 334 *e*P **P 20 44 28.1 -0.5**
comp=Z,23nm,1.0s,mb4.9
SFTF Sexfontaines 83.07 334 *e*P **P 20 44 28.1 -0.5**
comp=Z,23nm,1.0s,mb5.2
TUE Stuetta 83.08 331 *e*P **P 20 44 28.8 +0.1**
TUE *e* pP 20 44 41.6 +1.9
LOMF Lomont 83.22 333 *e*P **P 20 44 29.0 -0.4**
EIL Elat 83.50 304 P **P 20 44 30.6 -0.6**
comp=Z,8.6nm,0.9s,mb4.9,baz=321,slow=18,SNR=3.8
EIL Elat 83.50 304 P **P 20 44 30.6 -0.6**
CABF La Chapelle 84.11 333 *e*P **P 20 44 33.7 -0.3**
comp=Z,13nm,1.1s,mb4.7
CABF La Chapelle 84.11 333 *e*P **P 20 44 33.7 -0.3**
comp=Z,13nm,1.1s,mb5.0
CABF La Chapelle 84.11 333 *e*P **P 20 44 33.7 -0.3**
CABF pmax pmax
comp=Z,13nm,1.1s,mb5.0
FLN La Foliniere 84.25 338 *e*P **P 20 44 33.9 -0.7**
comp=Z,7.8nm,0.6s,mb4.7
FLN *e*R
comp=Z,359nm,18.8s
FLN La Foliniere 84.25 338 *e*P **P 20 44 33.9 -0.7**
comp=Z,7.8nm,0.6s,mb5.0
FLN La Foliniere 84.25 338 *e*P **P 20 44 33.9 -0.7**
FLN pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
LOR Lormes 84.27 334⇑*i*P **P 20 44 34.3 -0.5**
comp=Z,31nm,1.0s,mb5.1,baz=19
LOR *e*R
comp=Z,424nm,22.2s
LOR Lormes 84.27 334⇑*i*P **P 20 44 34.3 -0.5**
comp=Z,31nm,1.0s,mb5.4
LOR Lormes 84.27 334⇑*i*P **P 20 44 34.3 -0.5**
LOR pmax pmax
comp=Z,31nm,1.0s,mb5.4
LDF La Druitiere 84.30 337 *e*P **P 20 44 34.0 -0.9**
comp=Z,8.2nm,0.7s,mb4.7
LDF La Druitiere 84.30 337 *e*P **P 20 44 34.0 -0.9**
comp=Z,8.2nm,0.7s,mb5.0
LDF La Druitiere 84.30 337 *e*P **P 20 44 34.0 -0.9**
LDF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
SSF Saint Saulge 84.57 334 *e*P **P 20 44 35.9 -0.4**
comp=Z,16nm,0.9s,mb4.8
SSF Saint Saulge 84.57 334 *e*P **P 20 44 35.9 -0.4**
comp=Z,16nm,0.9s,mb5.2
SSF Saint Saulge 84.57 334 *e*P **P 20 44 35.9 -0.4**
SSF pmax pmax
comp=Z,16nm,0.9s,mb5.2
GRR Gorron 84.69 338 *e*P **P 20 44 36.5 -0.4**
comp=Z,13nm,0.7s,mb4.9
GRR Gorron 84.69 338 *e*P **P 20 44 36.5 -0.4**
comp=Z,13nm,0.7s,mb5.2
GRR Gorron 84.69 338 *e*P **P 20 44 36.5 -0.4**
GRR pmax pmax
comp=Z,13nm,0.7s,mb5.2
SMF Signal de Mont 84.83 334 *e*P **P 20 44 37.3 -0.3**
comp=Z,32nm,1.0s,mb5.1
SMF Signal de Mont 84.83 334 *e*P **P 20 44 37.3 -0.3**
comp=Z,32nm,1.0s,mb5.4
SMF Signal de Mont 84.83 334 *e*P **P 20 44 37.3 -0.3**
SMF pmax pmax
comp=Z,32nm,1.0s,mb5.4
LPL La Plagne 84.84 332⇑*i*P **P 20 44 38.0 +0.3**
comp=Z,27nm,1.1s,mb5.0
LPL La Plagne 84.84 332⇑*i*P **P 20 44 38.0 +0.3**
comp=Z,27nm,1.1s,mb5.3
LPL La Plagne 84.84 332⇑*i*P **P 20 44 38.0 +0.3**
LPL pmax pmax
comp=Z,27nm,1.1s,mb5.3
LPG La Plagne 84.84 332⇑*i*P **P 20 44 38.3 +0.6**
comp=Z,30nm,0.9s,mb5.1
LPG La Plagne 84.84 332⇑*i*P **P 20 44 38.3 +0.6**
comp=Z,30nm,0.9s,mb5.4
LPG La Plagne 84.84 332⇑*i*P **P 20 44 38.3 +0.6**
LPG pmax pmax
comp=Z,30nm,0.9s,mb5.4
AVF Avril sur Loir 84.86 334 *e*P **P 20 44 37.5 -0.3**
comp=Z,27nm,0.9s,mb5.1
AVF Avril sur Loir 84.86 334 *e*P **P 20 44 37.5 -0.3**
comp=Z,27nm,0.9s,mb5.4
AVF Avril sur Loir 84.86 334 *e*P **P 20 44 37.5 -0.3**
AVF pmax pmax
comp=Z,27nm,0.9s,mb5.4
PPT2 Papeete2 84.93 119 *e*LR LR 21 11 27.6
comp=Z,401nm,22.8s,baz=316
AQU L'Aquila 84.96 326 *e*P **P 20 44 38.7 +0.3**
comp=Z,24nm,0.8s,mb5.4
AQU L'Aquila 84.96 326⇑P **P 20 44 39.4 +1.0**
AQU L'Aquila 84.96 326⇑*i*P **P 20 44 39.4 +1.0**
TXAR Lajitas Array 85.01 55 P **P 20 44 39.5 +0.6**
comp=Z,1.2nm,0.6s,mb4.2,baz=299,slow=3.8,SNR=22
TXAR Lajitas Array 85.01 55 P **P 20 44 39.5 +0.6**
TXAR Lajitas Array 85.01 55 P **P 20 44 39.5 +0.6**
BNI Bardonecchia 85.26 332 *e*P **P 20 44 39.7 -0.2**
comp=Z,15nm,1.0s,mb5.1
BNI Bardonecchia 85.26 332 *e*P **P 20 44 39.7 -0.1**
BNI pmax pmax
comp=Z,15nm,1.0s,mb5.1
SGMF Saint Gilles 85.28 339 *e*P **P 20 44 39.8 -0.1**
SGMF Saint Gilles 85.28 339 *e*P **P 20 44 39.8 -0.1**
SGMF Saint Gilles 85.28 339 *e*P **P 20 44 39.8 -0.1**
ROSF Rostrenen 85.40 339 *e*P **P 20 44 40.4 0.0**
ROSF Rostrenen 85.40 339 *e*P **P 20 44 40.4 0.0**
ROSF Rostrenen 85.40 339 *e*P **P 20 44 40.4 0.0**
MBDF Montbardon 85.51 331 *e*P **P 20 44 40.7 -0.4**
comp=Z,32nm,1.2s,mb5.1
MBDF Montbardon 85.51 331 *e*P **P 20 44 40.7 -0.4**
comp=Z,32nm,1.2s,mb5.4
MBDF Montbardon 85.51 331 *e*P **P 20 44 40.7 -0.4**
MBDF pmax pmax
comp=Z,32nm,1.2s,mb5.4
ORIF Oris-en-Rattie 85.65 332⇑*i*P **P 20 44 41.9 +0.1**
comp=Z,21nm,0.9s,mb5.1
ORIF *e*R
comp=Z,293nm,18.2s
ORIF Oris-en-Rattie 85.65 332⇑*i*P **P 20 44 41.9 +0.1**
comp=Z,21nm,0.9s,mb5.4
ORIF Oris-en-Rattie 85.65 332⇑*i*P **P 20 44 41.9 +0.1**
ORIF pmax pmax
comp=Z,21nm,0.9s,mb5.4
TCF Toulx Ste Croi 85.66 335 *e*P **P 20 44 41.9 +0.1**
comp=Z,10nm,1.0s,mb4.7
TCF Toulx Ste Croi 85.66 335 *e*P **P 20 44 41.9 +0.1**
comp=Z,10nm,1.0s,mb5.0
TCF Toulx Ste Croi 85.66 335 *e*P **P 20 44 41.9 +0.1**
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
QUIF Quistinic 85.75 339 *e*P **P 20 44 41.9 -0.3**
comp=Z,37nm,1.1s,mb5.2
QUIF Quistinic 85.75 339 *e*P **P 20 44 41.9 -0.3**
comp=Z,37nm,1.1s,mb5.5
QUIF Quistinic 85.75 339 *e*P **P 20 44 41.9 -0.3**
QUIF pmax pmax
comp=Z,37nm,1.1s,mb5.5
SAOF Saorge 85.86 330 *e*P **P 20 44 42.2 -0.7**
TOUF Mont Tournerai 85.95 331 *e*P **P 20 44 42.9 -0.4**
SBF Sospel 86.01 330⇑*i*P **P 20 44 42.9 -0.7**
comp=Z,68nm,0.9s,mb5.6
SBF Sospel 86.01 330⇑*i*P **P 20 44 42.9 -0.7**
comp=Z,68nm,0.9s,mb5.9
SBF Sospel 86.01 330⇑*i*P **P 20 44 42.9 -0.7**
MVIF Mont Vial 86.09 331 *e*P **P 20 44 43.7 -0.3**
MFF Saint Martin d 86.10 336⇑*i*P **P 20 44 44.1 +0.1**
comp=Z,25nm,0.8s,mb5.2
MFF Saint Martin d 86.10 336⇑*i*P **P 20 44 44.1 +0.1**
comp=Z,25nm,0.8s,mb5.5
MFF Saint Martin d 86.10 336⇑*i*P **P 20 44 44.1 +0.1**
MFF pmax pmax
comp=Z,25nm,0.8s,mb5.5
VIVF Saint-Julien-l 86.12 333⇑*i*P **P 20 44 44.4 +0.3**
comp=Z,26nm,0.9s,mb5.2
VIVF Saint-Julien-l 86.12 333⇑*i*P **P 20 44 44.4 +0.3**
comp=Z,26nm,0.9s,mb5.5
VIVF Saint-Julien-l 86.12 333⇑*i*P **P 20 44 44.4 +0.3**
VIVF pmax pmax
comp=Z,26nm,0.9s,mb5.5
REVF Revere 86.14 330 *e*P **P 20 44 43.4 -0.8**
SIUC Southern Illin 86.49 40 *e*P **P 20 44 47.6 +1.5**
comp=Z,17nm,0.7s,mb5.4
PGF Pioggiola 86.56 329 *e*P **P 20 44 45.6 -0.7**
comp=Z,18nm,0.9s,mb5.0
PGF Pioggiola 86.56 329 *e*P **P 20 44 45.6 -0.7**
comp=Z,18nm,0.9s,mb5.3
PGF Pioggiola 86.56 329 *e*P **P 20 44 45.6 -0.7**
PGF pmax pmax
comp=Z,18nm,0.9s,mb5.3
FRF La Foret Royal 86.56 331 *e*P **P 20 44 45.7 -0.6**
comp=Z,32nm,1.1s,mb5.2
FRF La Foret Royal 86.56 331 *e*P **P 20 44 45.7 -0.6**
comp=Z,32nm,1.1s,mb5.5
FRF La Foret Royal 86.56 331 *e*P **P 20 44 45.7 -0.6**
FRF pmax pmax
comp=Z,32nm,1.1s,mb5.5
SMRF Simiane la Rot 86.58 332 *e*P **P 20 44 46.5 +0.1**
comp=Z,17nm,1.1s,mb4.9
SMRF Simiane la Rot 86.58 332 *e*P **P 20 44 46.5 +0.1**
comp=Z,17nm,1.1s,mb5.2
RJF Les Rejaudoux 86.76 335 *e*P **P 20 44 47.4 +0.2**
comp=Z,26nm,1.0s,mb5.1
RJF *e*R
comp=Z,476nm,21.0s
RJF Les Rejaudoux 86.76 335 *e*P **P 20 44 47.4 +0.2**
comp=Z,26nm,1.0s,mb5.4
RJF Les Rejaudoux 86.76 335 *e*P **P 20 44 47.4 +0.2**
RJF pmax pmax
comp=Z,26nm,1.0s,mb5.4
LMR La Mourre 86.81 331 *e*P **P 20 44 47.1 -0.4**
comp=Z,53nm,1.0s,mb5.4
LMR La Mourre 86.81 331 *e*P **P 20 44 47.1 -0.4**
comp=Z,53nm,1.0s,mb5.7
LMR La Mourre 86.81 331 *e*P **P 20 44 47.1 -0.4**
LMR pmax pmax
comp=Z,53nm,1.0s,mb5.7
CAF Calviac 86.92 334⇑*i*P **P 20 44 48.8 +0.7**
comp=Z,43nm,0.9s,mb5.4
CAF Calviac 86.92 334⇑*i*P **P 20 44 48.8 +0.7**
comp=Z,43nm,0.9s,mb5.7
CAF Calviac 86.92 334⇑*i*P **P 20 44 48.8 +0.7**
CAF pmax pmax
comp=Z,43nm,0.9s,mb5.7
LASF Ste Croix 87.09 333 *e*P **P 20 44 49.3 +0.4**
comp=Z,22nm,1.0s,mb5.0
LASF Ste Croix 87.09 333 *e*P **P 20 44 49.3 +0.4**
comp=Z,22nm,1.0s,mb5.3
LFF La Frestale 87.33 335 *e*P **P 20 44 50.5 +0.5**
comp=Z,34nm,0.9s,mb5.3
LFF La Frestale 87.33 335 *e*P **P 20 44 50.5 +0.5**
comp=Z,34nm,0.9s,mb5.6
LFF La Frestale 87.33 335 *e*P **P 20 44 50.5 +0.5**
LFF pmax pmax
comp=Z,34nm,0.9s,mb5.6
MTLF Montolieu 88.29 334⇑*i*P **P 20 44 55.1 +0.5**
comp=Z,12nm,0.9s,mb4.8
MTLF Montolieu 88.29 334⇑*i*P **P 20 44 55.1 +0.5**
comp=Z,12nm,0.9s,mb5.1
MTLF Montolieu 88.29 334⇑*i*P **P 20 44 55.1 +0.5**
MTLF pmax pmax
comp=Z,12nm,0.9s,mb5.1
EPF Esparros 89.17 335 *e*P **P 20 44 58.6 -0.2**
comp=Z,3.0nm,0.6s,mb4.5
EPF Esparros 89.17 335 *e*P **P 20 44 58.6 -0.2**
comp=Z,3.0nm,0.6s,mb4.8
EPF Esparros 89.17 335 *e*P **P 20 44 58.6 -0.2**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
TBI Tubuai 89.21 123 *e*LR LR 21 13 26.4
comp=Z,229nm,22.5s,baz=321
ETSF Etsaut 89.58 335⇑*i*P **P 20 45 01.4 +0.7**
comp=Z,8.7nm,0.7s,mb4.9
ETSF Etsaut 89.58 335⇑*i*P **P 20 45 01.4 +0.7**
comp=Z,8.7nm,0.7s,mb5.2
ETSF Etsaut 89.58 335⇑*i*P **P 20 45 01.4 +0.7**
ETSF pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
KEST Kesra 92.22 325 P **P 20 45 12.7 -0.5**
comp=Z,2.5nm,0.9s,mb4.5,baz=326,slow=5.4,SNR=11
KEST LR LR 21 32 57.9
comp=Z,117nm,18.5s,MS4.4,baz=235,slow=40
KEST Kesra 92.22 325 *e*P **P 20 45 12.5 -0.6**
ESDC Sonseca Array 93.56 336 P **P 20 45 19.0 -0.2**
comp=Z,1.0nm,0.7s,mb4.4,baz=15,slow=4.2,SNR=11
ESDC LR LR 21 32 10.2
comp=Z,159nm,20.3s,MS4.5,baz=20,slow=38
ESDC Sonseca Array 93.56 336 P **P 20 45 19.0 -0.2**
EVO Evora 95.78 339 *e*P **P 20 45 28.4 -1.0**
comp=Z,3.4nm,0.6s,mb4.6
EVO *e*R
comp=Z,219nm,19.5s
EVOP Sao Brissos 95.81 339 *e*P **P 20 45 28.4 -1.1**
comp=Z,3.4nm,0.6s,mb5.0
EVOP Sao Brissos 95.81 339 *e*P **P 20 45 28.4 -1.1**
EVOP pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
RKT Rikitea 98.52 113 *e*LR LR 21 17 35.2
comp=Z,353nm,26.0s,baz=309
TORD Torodi Ar. Bea 115.14 320 PKP PKiKP 20 50 43.0 -1.8
comp=Z,0.3nm,0.4s,baz=11,slow=1.9,SNR=4.0
TORD Torodi Ar. Bea 115.14 320 PKP PKiKP 20 50 43.0 -1.8
QSPA South Pole Qui 132.04 180 PKP PKPdf 20 51 16.4 +1.2
comp=Z,1.1nm,0.9s,baz=31,slow=2.7,SNR=5.6
QSPA South Pole Qui 132.04 180 PKP PKPdf 20 51 16.4 +1.2
SNAA Sanae 146.51 198 *e* PKPdf 20 51 42.1 +0.5
SNAA Sanae 146.51 198 *e*PKPdf PKPdf 20 51 41.5 -0.1
SNAA Sanae 146.51 198 *e*PKIKP PKPdf 20 51 41.5 -0.1
VNA2 Neumayer--Watz 148.06 197 *e* PKPdf 20 51 47.0 +2.8
baz=168,slow=1.5
VNA3 Neumayer Olymp 148.29 195 *e* PKPdf 20 51 41.7 -2.9

IDC ***24*** *20:32:01.7±1.1,23°.07S×174°.82W,h0km,mb4.7/12, mb1 4.8/12,mb1mx4.6/20,mbtmp4.7/12,MS3.6/7, Ms1 3.6/7,ms1mx3.3/31,Error ellipse: s-maj=32.8km s-min=23.4km az=135.0*
ISCJB ***24*** *20:32:10.7±3.6,23°.1S±0°.1×175°.0W±0°.2,h77km±27km, mb4.6/14,Error ellipse: s-maj=30.6km s-min=18.8km az=14.0*
NEIC ***24*** *20:32:11.5±3.7,23°.12S×174°.87W,h76km±27km,mb4.9/7, Error ellipse: s-maj=31.4km s-min=18.8km az=123.0*
ISC 24 20:32:13.3±2.7,23°.1S±0°.1×175°.0W±0°.2,h85km±20km,n62, σ1§**13/42,mb4.6/14,1C,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 170nm,1.6s	**8.42**	**308**	*e*P	**Pn**	**20 34 11.9**	**-0.6**
AFI	**Afiamalu** comp=Z,130nm,18.9s,baz=313,slow=35	**9.63**	**19**	LR	LR	20 37 33.6	
RAR	**Rarotonga** 3.5nm,0.3s,baz=265,slow=11,SNR=4.1	**14.24**	**85**	Pn	**Pn**	**20 35 12.6**	**-18**
RAR	comp=Z,188nm,22.0s,baz=123,slow=28			LR	LR	20 38 28.2	
RAR	**Rarotonga**	**14.24**	**85**	Pn	**Pn**	**20 35 12.6**	**-18**
URZ	**Urewera** 0.4nm,0.3s,baz=298,slow=2.4,SNR=3.2	**16.56**	**202**	Pn	**Pn**	**20 36 01.1**	**+0.9**
URZ	0.6nm,0.3s,baz=184,slow=18,SNR=5.2			Sn	**Sn**	**20 38 51.4**	**-12**
URZ	**Urewera**	**16.56**	**202**	Pn	**Pn**	**20 36 01.1**	**+0.9**
URZ				Sn	**Sn**	**20 38 51.4**	**-12**
DZM	**Mont Dzumac** 353nm,27.6s	**17.16**	**270**	*e*LR	LR	20 40 31.5	
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=94,slow=17,SNR=11	**17.16**	**270**	P	**Pn**	**20 36 09.6**	**+1.8**
DZM	comp=Z,140nm,19.4s,baz=190,slow=31			LR	LR	20 41 01.4	
DZM	**Mont Dzumac** 55nm,1.1s	**17.16**	**270**	*e*P	**Pn**	**20 36 10.3**	**+2.5**
TBI	**Tubuai**	**23.47**	**96**	*e*LQ		20 41 28.8	

	319nm,28.0s						
TBI				*e*LR	LR	20 42 31.6	
	476nm,29.2s,baz=274						
PPT2	**Papeete2**	**24.45**	**82**	*e*LQ		20 41 46.4	
	401nm,28.2s						
PPT2				*e*LR	LR	20 42 55.6	
	498nm,27.0s						
CMSA	**Cobar Meteorol**	**35.77 248**		*e*P	**P**	**20 39 03.5**	**-0.8**
CTA	**Charters Tower**	**36.08 267**		P	**P**	**20 39 06.8**	**-0.2**
	16nm,0.8s,mb5.0,baz=95,slow=11,SNR=31						
CTA	**Charters Tower**	**36.08 267**		*e*P	**P**	**20 39 06.6**	**-0.4**
CTA				*e*		20 39 18.9	
CTA	**Charters Tower**	**36.08 267**		P	**P**	**20 39 06.8**	**-0.2**
CTAO	**Charters Tower**	**36.08 267**		*e*P	**P**	**20 39 06.4**	**-0.7**
	11nm,0.6s,mb5.0						
RKT	**Rikitea**	**36.74**	**98**	*e*LR	LR	20 48 33.5	
	330nm,28.8s						
PMG	**Port Moresby**	**38.66 284**		P	**P**	**20 39 28.5**	**-0.4**
	54nm,1.0s,mb5.3,baz=170,slow=4.0,SNR=10						
PMG	**Port Moresby**	**38.66 284**		*e*P	**P**	**20 39 28.8**	**-0.1**
	33nm,1.3s,mb5.0						
STKA	**Stephens Creek**	**39.27 247**		P	**P**	**20 39 33.7**	**-0.1**
	3.5nm,0.7s,mb4.3,baz=81,slow=8.1,SNR=8.6						
STKA				LR	LR	20 53 09.1	
	comp=Z,152nm,18.9s,baz=208,slow=32						
STKA	**Stephens Creek**	**39.27 247**		*e*P	**P**	**20 39 33.6**	**-0.2**
STKA	**Stephens Creek**	**39.27 247**		*e*P	**P**	**20 39 33.6**	**-0.2**
	2.2nm,1.2s,mb3.9						
AS31	**Alice Springs**	**46.69 259**		*e*P	**P**	**20 40 33.5**	**-0.4**
WB2	**Warramunga Arr**	**47.03 264**		*e*P	**P**	**20 40 35.6**	**-1.0**
WRAB	**Tennant Creek**	**47.04 264**		*e*P	**P**	**20 40 35.3**	**-1.2**
	17nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**47.04 264**		P	**P**	**20 40 35.0**	**-1.6**
	158nm,0.9s,mb5.7,SNR=16						
WRA	**Warramunga Arr**	**47.05 264**		P	**P**	**20 40 35.9**	**-0.8**
	20nm,0.8s,mb4.9,baz=102,slow=8.2,SNR=88						
WRA	**Warramunga Arr**	**47.05 264**		P	**P**	**20 40 35.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**55.47 263**		P	**P**	**20 41 39.8**	**+0.2**
	17nm,1.1s,mb5.0,baz=92,slow=7.8,SNR=9.3						
FITZ	**Fitzroy Crossi**	**55.47 263**		*e*P	**P**	**20 41 40.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**55.47 263**		*e*P	**P**	**20 41 39.8**	**+0.2**
	11nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**66.99 180**		P	**P**	**20 42 56.1**	**-0.4**
	0.5nm,0.3s,mb3.8,baz=344,slow=2.1,SNR=4.0						
QSPA	**South Pole Qui**	**66.99 180**		P	**P**	**20 42 56.1**	**-0.4**
MJAR	**Matsushiro Arr**	**73.94 322**		P	**P**	**20 43 37.6**	**-1.8**
	4.1nm,0.8s,mb4.2,baz=169,slow=6.2,SNR=9.7						
MJAR	**Matsushiro Arr**	**73.94 322**		P	**P**	**20 43 37.6**	**-1.8**
JOW	**Kunigami**	**73.95 309**		LR	LR	21 10 17.6	
	comp=Z,46nm,20.4s,baz=163,slow=31						
ASAJ	**Asahikawa**	**77.33 330**		LR	LR	21 11 10.7	
	comp=Z,90nm,21.8s,baz=165,slow=30						
PETK	**Petropavlovsk-**	**79.50 344**		P	**P**	**20 44 09.8**	**-0.4**
	5.8nm,0.8s,mb4.5,baz=148,slow=8.6,SNR=4.6						
PETK	**Petropavlovsk-**	**79.50 344**		P	**P**	**20 44 09.8**	**-0.4**
KSRS	**Korea Array**	**80.67 317**		P	**P**	**20 44 18.1**	**+1.2**
	7.3nm,1.1s,mb4.4,baz=133,slow=5.8,SNR=9.1						
KSRS				LR	LR	21 19 19.5	
	comp=Z,66nm,19.1s,baz=138,slow=35						
KSAR	**Wonju Array Be**	**80.68 317**		P	**P**	**20 44 18.1**	**+1.1**
USRK	**Ussuriysk Arra**	**82.66 325**		P	**P**	**20 44 28.9**	**+1.7**
	6.3nm,0.9s,mb4.5,baz=113,slow=2.8,SNR=10						
SYO	**Syowa Base**	**84.80 192**		*e*P	sP	20 45 15.4	+5.8
ENH	**Enshi**	**89.79 303**		*e*P	**P**	**20 45 04.0**	**+1.4**
	22nm,1.4s,mb5.1						
ILAR	**Eielson Array**	**90.25**	**12**	P	**P**	**20 45 02.3**	**-1.5**
	2.2nm,0.9s,mb4.3,baz=213,slow=5.5,SNR=9.5						
ILAR	**Eielson Array**	**90.25**	**12**	P	**P**	**20 45 02.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**93.59 288**		P	**P**	**20 45 22.9**	**+2.4**
	1.0nm,0.8s,mb4.2,baz=139,slow=2.9,SNR=5.3						
CMAR	**Chiang Mai Arr**	**93.59 288**		P	**P**	**20 45 22.9**	**+2.4**
AKASG	**Malin Array Be**	**146.61 332**		PKPbc	PKPbc	20 51 43.7	-1.2
	2.3nm,0.8s,baz=37,slow=3.6,SNR=8.4						
AKASG	**Malin Array Be**	**146.61 332**		PKPbc	PKPbc	20 51 43.7	-1.2
BRTR	**Keskin Array B**	**150.63 311**		PKPbc	PKPbc	20 51 55.8	+0.2
	0.7nm,0.7s,baz=59,slow=3.7,SNR=4.0						
BRTR	**Keskin Array B**	**150.63 311**		PKPbc	PKPbc	20 51 55.8	+0.2
KSP	**Ksiaz**	**150.94 345**		*e*P	PKPbc	20 51 56.3	+0.4
KSP	**Ksiaz**	**150.94 345**		*e*	PKPbc	20 51 56.7	+0.8
NIE	**Niedzica**	**151.08 339**		*e*PX	PKPbc	20 51 57.2	+0.9
CRVS	**Cervenica-Dubn**	**151.13 337**		*e*PKP	PKPbc	20 51 57.0	+0.5
CLL	**Collm**	**151.16 350**		*i* PKPbc	PKPbc	20 51 56.0	-0.4
	comp=Z,8.0nm,1.0s						
BRG	**Berggiesshubel**	**151.41 348**		*e*P	PKPbc	20 51 57.0	0.0
	comp=Z,4.7nm,1.0s						
KECS	**Kecovo**	**151.83 338**		*e*PKP	PKPbc	20 52 00.0	+1.9
VYHS	**Vyhne**	**152.37 340**		*e*PKP	PKPbc	20 51 59.5	+0.2
GERES	**GERESS Array B**	**153.39 347**		PKPbc	PKPbc	20 52 03.6	+2.1
	comp=Z,0.4nm,0.9s,baz=108,slow=5.3,SNR=3.4						
GERES	**GERESS Array B**	**153.39 347**		PKPbc	PKPbc	20 52 03.6	+2.1

*ISCJB **24** 20:44:20.3±0.6, 37°.07N±0°.02×23°.73E±0°.04, h10km±4km, Error ellipse: s-maj=5.1km s-min=3.5km az=31.9*
*CSEM **24** 20:44:20.8±0.1, 37°.09N×23°.73E, h10km, ML2.9, Error ellipse: s-maj=3.4km s-min=2.4km az=130.0*
*ATH **24** 20:44:22.8, 37°.15N×23°.63E, h27km±1km, ML2.9*
*THE **24** 20:44:23.0, 37°.04N×23°.71E, h31km±48km, ML3.2/3, Error ellipse: s-maj=48.7km s-min=1.1km az=202.0*

ISC 24 20:44:21.0±0.6, 37°.06N±0°.02×23°.73E±0°.04, h12km±3km, n64, σ0s62/95, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIDY	**Didyma**	**0.58**	**315**	P	**Pg**	**20 44 31.7**	**-0.7**
DIDY				S	**Sg**	**20 44 39.5**	**-0.6**
DIDY	**Didyma**	**0.58**	**315**	P	**Pg**	**20 44 31.7**	**-0.7**
DIDY				S	**Sg**	**20 44 39.5**	**-0.6**
DID	**Didima**	**0.59**	**319**	*e*PB	**Pg**	**20 44 32.5**	**0.0**
DID				*e*SB	**Sg**	**20 44 40.4**	**+0.1**
DID	**Didima**	**0.59**	**319**	*e*Pb	**Pg**	**20 44 32.1**	**-0.4**
DID				*e*Sb	**Sg**	**20 44 40.4**	**+0.1**
NAIG	**Nisos Aigina**	**0.72**	**345**	*e*PN	**Pg**	**20 44 35.0**	**0.0**
NAIG	**Nisos Aigina**	**0.72**	**345**	*e*Pb	**Pg**	**20 44 34.7**	**-0.3**
VLI	**Veliai**	**0.72**	**242**	P	**Pg**	**20 44 35.0**	**0.0**
VLI				S	**Sg**	**20 44 45.4**	**+1.0**
VLI	**Veliai**	**0.72**	**242**	P	**Pg**	**20 44 35.0**	**0.0**
VLI				S	**Sg**	**20 44 45.4**	**+1.0**
VLY	**Voula,Athens**	**0.79**	**4**	*e*PN	**Pg**	**20 44 37.0**	**+0.7**
VLY				*e*SN	**Sg**	**20 44 47.9**	**+1.3**
VLY	**Voula,Athens**	**0.79**	**4**	P	**Pg**	**20 44 35.8**	**-0.5**
VLY				S	**Sg**	**20 44 49.0**	**+2.4**
VLY	**Voula,Athens**	**0.79**	**4**	P	**Pg**	**20 44 35.8**	**-0.5**
VLY				*e*Sn	**Sg**	**20 44 47.9**	**+1.3**
VLY				S	**Sg**	**20 44 49.0**	**+2.4**
ATH	**Athens Observa**	**0.91**	**359**	*e*PN	**Pg**	**20 44 38.7**	**+0.2**
ATH				*e*SN	**Sg**	**20 44 51.1**	**+0.7**
ATH	**Athens Observa**	**0.91**	**359**	P	**Pg**	**20 44 38.7**	**+0.2**
ATH				S	**Sg**	**20 44 50.9**	**+0.5**
ATH	**Athens Observa**	**0.91**	**359**	*e*Pn	**Pg**	**20 44 38.9**	**+0.4**
ATH				*e*Sn	**Sg**	**20 44 51.1**	**+0.7**
KYTH	**Kithira**	**0.96**	**216**	P	**Pg**	**20 44 39.6**	**+0.2**
KYTH				S	**Sg**	**20 44 51.1**	**-0.8**
KYTH	**Kithira**	**0.96**	**216**	P	**Pg**	**20 44 39.6**	**+0.2**
KYTH				S	**Sg**	**20 44 51.1**	**-0.8**
PTL	**Penteli**	**0.99**	**6**	*e*PN	**Pg**	**20 44 40.1**	**0.0**
PTL				*e*SN	**Sg**	**20 44 53.3**	**+0.3**
PTL	**Penteli**	**0.99**	**6**	P	**Pg**	**20 44 40.0**	**-0.1**
PTL				S	**Sg**	**20 44 53.0**	**0.0**
PTL	**Penteli**	**0.99**	**6**	*e*Pn	**Pg**	**20 44 40.1**	**0.0**
PTL				S	**Sg**	**20 44 53.0**	**0.0**
PTL				*e*Sn	**Sg**	**20 44 53.3**	**+0.3**
MRMA	**Marmari**	**1.12**	**27**	P	**Pg**	**20 44 42.1**	**-0.4**
MRMA				S	**Sg**	**20 44 57.4**	**+0.3**
VLX	**Vlachokerasia**	**1.12**	**286**	*e*PN	**Pg**	**20 44 42.2**	**-0.3**
VLX				*e*SN	**Sg**	**20 44 57.2**	**+0.1**
VLX	**Vlachokerasia**	**1.12**	**286**	*e*Pn	**Pg**	**20 44 42.2**	**-0.3**
VLX				*e*Sn	**Sg**	**20 44 57.8**	**+0.7**
LTK	**Loutraki**	**1.13**	**328**	*e*PN	**Pg**	**20 44 42.2**	**-0.6**
LTK	**Loutraki**	**1.13**	**328**	*e*Pn	**Pg**	**20 44 42.2**	**-0.6**
VIL1	**Vilia, Western**	**1.15**	**344**	*e*PN	**Pg**	**20 44 42.5**	**-0.5**
VIL1				*e*SN	**Sg**	**20 44 57.9**	**-0.1**
ERET	**Eretria**	**1.38**	**3**	P	**Pn**	**20 44 46.3**	**+0.3**
ERET				S	**Sn**	**20 45 04.0**	**-0.2**
ERET	**Eretria**	**1.38**	**3**	P	**Pn**	**20 44 46.3**	**+0.3**
ERET				S	**Sn**	**20 45 04.0**	**-0.2**
GUR	**Goura**	**1.41**	**309**	*e*PN	**Pn**	**20 44 46.5**	**+0.1**
GUR	**Goura**	**1.41**	**309**	*e*Pn	**Pn**	**20 44 46.3**	**-0.1**
APE	**Apeiranthos**	**1.44**	**89**	P	**Pn**	**20 44 46.9**	**0.0**
APE				S	**Sn**	**20 45 05.4**	**-0.3**
APE	**Apeiranthos**	**1.44**	**89**	P	**Pn**	**20 44 46.9**	**0.0**
APE				S	**Sn**	**20 45 05.4**	**-0.3**
ITM	**Ithomi**	**1.45**	**275**	P	**Pn**	**20 44 47.7**	**+0.8**
ITM	**Ithomi**	**1.45**	**275**	P	**Pn**	**20 44 47.7**	**+0.8**
PYL	**PYLOS**	**1.60**	**265**	*e*PN	**Pn**	**20 44 50.4**	**+1.4**
PYL	**PYLOS**	**1.60**	**265**	*e*Pn	**Pn**	**20 44 50.4**	**+1.4**
LKR	**Lokris**	**1.69**	**340**	*e*PN	**Pn**	**20 44 50.8**	**+0.5**
LKR	**Lokris**	**1.69**	**340**	P	**Pn**	**20 44 50.1**	**-0.2**
LKR	**Lokris**	**1.69**	**340**	P	**Pn**	**20 44 50.1**	**-0.2**
VAM	**Vamos**	**1.69**	**167**	*e*PN	**Pn**	**20 44 54.2**	**+3.8**
ATAL	**Atalanti**	**1.72**	**341**	P	**Pn**	**20 44 50.7**	**0.0**
ATAL				S	**Sn**	**20 45 12.6**	**0.0**
ATAL	**Atalanti**	**1.72**	**341**	P	**Pn**	**20 44 50.7**	**0.0**
ATAL				S	**Sn**	**20 45 12.6**	**0.0**
LAKA	**Lakka**	**1.82**	**311**	P	**Pn**	**20 44 52.2**	**+0.1**
LAKA	**Lakka**	**1.82**	**311**	P	**Pn**	**20 44 52.2**	**+0.1**
KALE	**Kalithea**	**1.83**	**317**	P	**Pn**	**20 44 52.1**	**-0.1**
KALE	**Kalithea**	**1.83**	**317**	P	**Pn**	**20 44 52.1**	**-0.1**
EFP	**Efpalio**	**1.99**	**314**	*e*PB	**Pb**	**20 44 54.7**	**-2.3**
AGG	**Agios Georgios**	**2.25**	**331**	P	**Pn**	**20 44 58.5**	**+0.6**
AGG	**Agios Georgios**	**2.25**	**331**	P	**Pn**	**20 44 58.5**	**+0.6**
CHOS	**Chios island**	**2.27**	**54**	P	**Pn**	**20 44 58.3**	**0.0**
CHOS	**Chios island**	**2.27**	**54**	P	**Pn**	**20 44 58.3**	**0.0**
NEO	**Neokhori**	**2.28**	**350**	*e*PN	**Pn**	**20 44 58.8**	**+0.5**
NEO	**Neokhori**	**2.28**	**350**	*e*Pn	**Pn**	**20 44 57.8**	**-0.6**
EVR	**Evrytania**	**2.39**	**321**	P	**Pn**	**20 44 59.7**	**-0.3**
EVR	**Evrytania**	**2.39**	**321**	P	**Pn**	**20 44 59.7**	**-0.3**
PAIG	**Paliouri**	**2.86**	**359**	P	**Pn**	**20 45 05.8**	**-0.6**
PAIG	**Paliouri**	**2.86**	**359**	P	**Pn**	**20 45 05.8**	**-0.6**
LIA	**Limnos Island**	**3.05**	**22**	P	**Pn**	**20 45 08.6**	**-0.4**
LIA	**Limnos Island**	**3.05**	**22**	P	**Pn**	**20 45 08.6**	**-0.4**
OUR	**Ouranopolis**	**3.27**	**3**	P	**Pn**	**20 45 12.0**	**-0.1**
OUR	**Ouranopolis**	**3.27**	**3**	P	**Pn**	**20 45 12.0**	**-0.1**
PLG	**Polygyros**	**3.31**	**356**	P	**Pn**	**20 45 13.3**	**+0.7**
PLG				S	**Sn**	**20 45 51.7**	**-0.2**
PLG	**Polygyros**	**3.31**	**356**	P	**Pn**	**20 45 13.3**	**+0.7**
PLG				S	**Sn**	**20 45 51.7**	**-0.2**
SRS	**Serrai**	**4.05**	**359**	P	**Pn**	**20 45 22.7**	**0.0**
SRS	**Serrai**	**4.05**	**359**	P	**Pn**	**20 45 22.7**	**0.0**

*ISCJB **24** 20:47:10.1±0.3, 3°.83S±0°.05×76°.38W±0°.08, h113km, mb4.1/28, Error ellipse: s-maj=12.1km s-min=7.0km az=167.9*
*NEIC **24** 20:47:10.3±0.8, 3°.77S×76°.23W, h95km±7km, mb4.6/14, Error ellipse: s-maj=10.6km s-min=6.4km az=65.0*
*IDC **24** 20:47:11.6±0.5, 3°.84S×76°.37W, h114km±4km, mb3.7/17, mb1 3.9/21, mb1mx3.9/27, mbtmp3.8/21, MS2.8/1, Ms1 2.8/1, ms1mx2.4/26, Error ellipse: s-maj=17.2km s-min=10.2km az=66.0*

ISC 24 20:47:11.8±0.3, 3°.85S±0°.05×76°.39W±0°.08, h115km, h115km±2.0km: pP-P, n104, σ0s56/72, mb4.1/28, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.83**	**211**	P	**Pn**	**20 48 08.8**	**-0.2**
	18nm,0.3s,baz=24,slow=10,SNR=134						
ATAH	**Atahualpa**	**3.83**	**211**	P	**Pn**	**20 48 08.8**	**-0.2**
OTAV	**Otavalo**	**4.55**	**333**	*e*P	**Pn**	**20 48 18.9**	**+0.2**
NNA	**Nana**	**8.10**	**183**	P	**Pn**	**20 49 06.2**	**-0.5**
	1.8nm,0.3s,baz=356,slow=12,SNR=6.7						
NNA				S	**Sn**	**20 50 31.8**	**-4.9**
	9.8nm,0.3s,baz=167,slow=17,SNR=9.0						
NNA	**Nana**	**8.10**	**183**	P	**Pn**	**20 49 06.2**	**-0.5**
NNA				S	**Sn**	**20 50 31.8**	**-4.9**
ROSC	**El Rosal**	**8.89**	**13**	LR	LR	20 53 15.2	
	comp=Z,54nm,20.0s,baz=169,slow=41						
SAML	**Samuel**	**14.06**	**112**	*e*P	**Pn**	**20 50 21.6**	**-4.5**
	49nm,0.7s						
LPAZ	**La Paz**	**14.79**	**147**	P	**Pn**	**20 50 35.8**	**+0.6**
	0.4nm,0.3s,baz=335,slow=14,SNR=12						
LPAZ	**La Paz**	**14.79**	**147**	*e*P	**Pn**	**20 50 33.9**	**-1.4**
	4.5nm,0.6s						
SIV	**San Ignacio**	**19.29**	**130**	P	**P**	**20 51 27.5**	**-0.4**
	1.0nm,0.3s,baz=318,slow=11,SNR=9.9						
SIV	**San Ignacio**	**19.29**	**130**	P	**P**	**20 51 27.5**	**-0.4**
LVC	**Limon Verde**	**20.01**	**159**	*e*P	**P**	**20 51 38.8**	**+3.2**
	16nm,0.7s						
SJG	**San Juan**	**24.04**	**25**	P	**P**	**20 52 16.4**	**0.0**
	5.9nm,0.2s,mb4.5,baz=270,slow=18,SNR=3.2						
SJG	**San Juan**	**24.04**	**25**	P	**P**	**20 52 16.4**	**0.0**
CPUP	**Villa Florida**	**28.86**	**143**	P	**P**	**20 52 59.5**	**-0.1**
	0.9nm,0.5s,mb3.7,baz=336,slow=2.7,SNR=3.9						
CPUP	**Villa Florida**	**28.86**	**143**	P	**P**	**20 52 59.5**	**-0.1**
PLCA	**Paso Flores**	**37.09**	**173**	P	**P**	**20 54 11.7**	**+0.7**
	1.3nm,0.7s,mb4.0,baz=328,slow=14,SNR=3.4						
PLCA				PcP	PcP	20 56 29.4	+0.2
	1.6nm,1.1s,baz=108,slow=16,SNR=3.5						
PLCA	**Paso Flores**	**37.09**	**173**	P	**P**	**20 54 11.7**	**+0.7**
PLCA				PcP	PcP	20 56 29.4	+0.2
TXAR	**Lajitas Array**	**42.11**	**323**	P	**P**	**20 54 53.1**	**+0.3**
	0.2nm,0.5s,mb3.1,baz=133,slow=11,SNR=3.4						
TXAR				PcP	PcP	20 56 46.2	+0.8
	0.8nm,0.7s,baz=156,slow=5.9,SNR=6.9						
TXAR	**Lajitas Array**	**42.11**	**323**	P	**P**	**20 54 53.1**	**+0.3**
TXAR				PcP	PcP	20 56 46.2	+0.8
ANMO	**Albuquerque**	**47.84**	**326**	P	**P**	**20 55 38.2**	**+0.2**
	2.4nm,0.7s,mb4.1,baz=146,slow=8.6,SNR=10						
ANMO				pP	pP	20 56 06.1	+1.3
	3.2nm,0.7s,baz=142,slow=9.5,SNR=4.4						
ANMO	**Albuquerque**	**47.84**	**326**	P	**P**	**20 55 38.2**	**+0.2**
ANMO				pP	pP	20 56 06.1	+1.3
PDAR	**Pinedale Array**	**55.26**	**331**	P	**P**	**20 56 33.5**	**+0.4**
	1.4nm,0.7s,mb4.1,baz=130,slow=8.6,SNR=7.6						
PDAR				PcP	PcP	20 57 32.4	-0.2
	0.7nm,0.6s,baz=135,slow=5.6,SNR=5.2						
PDAR	**Pinedale Array**	**55.26**	**331**	P	**P**	**20 56 33.5**	**+0.4**
PDAR				PcP	PcP	20 57 32.4	-0.2
ULM	**Lac du Bonnet**	**56.44**	**345**	P	**P**	**20 56 39.9**	**-1.6**
	2.5nm,0.7s,mb4.4,baz=142,slow=8.9,SNR=3.9						
ULM	**Lac du Bonnet**	**56.44**	**345**	P	**P**	**20 56 39.9**	**-1.6**
NVAR	**Mina Array Bea**	**57.19**	**321**	P	**P**	**20 56 47.4**	**+0.4**
	0.5nm,0.4s,mb3.9,baz=127,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**57.19**	**321**	P	**P**	**20 56 47.4**	**+0.4**
SCHQ	**Schefferville**	**59.01**	**6**	P	**P**	**20 56 59.0**	**-0.3**
	5.8nm,1.0s,mb4.5,baz=240,slow=3.6,SNR=6.0						
SCHQ	**Schefferville**	**59.01**	**6**	P	**P**	**20 56 59.0**	**-0.3**
DBIC	**Dimbokro**	**72.16**	**82**	P	**P**	**20 58 25.1**	**+0.4**
	3.8nm,0.6s,mb4.4,baz=216,slow=2.1,SNR=9.6						
DBIC				pP	pP	20 58 53.0	-0.4
	2.1nm,0.5s,baz=250,slow=7.5,SNR=2.7						
DBIC	**Dimbokro**	**72.16**	**82**	*e*P	**P**	**20 58 25.1**	**+0.3**
	3.2nm,0.6s,mb4.3						
DBIC				pP	pP	20 58 53.0	-0.4
YKA	**Yellowknife Ar**	**72.25**	**342**	P	**P**	**20 58 23.5**	**-0.7**
	1.1nm,0.7s,mb3.8,baz=138,slow=5.7,SNR=20						
YKA				PcP	PcP	20 58 41.3	-0.4
	0.6nm,0.6s,baz=142,slow=4.4,SNR=9.0						
YKA				pP	pP	20 58 52.0	-0.9
	1.3nm,0.8s,baz=136,slow=5.5,SNR=7.5						
YKA	**Yellowknife Ar**	**72.25**	**342**	P	**P**	**20 58 23.6**	**-0.7**
YKA				PcP	PcP	20 58 41.3	-0.4
YKA				pP	pP	20 58 52.0	-0.9
ESDC	**Sonseca Array**	**79.04**	**49**	P	**P**	**20 59 04.1**	**+0.6**
	0.2nm,0.4s,mb3.3,baz=269,slow=7.4,SNR=4.7						
ESDC				pP	pP	20 59 31.7	-0.9
	0.5nm,0.7s,baz=259,slow=5.4,SNR=3.2						
ESDC	**Sonseca Array**	**79.04**	**49**	P	**P**	**20 59 04.0**	**+0.6**
ESDC				pP	pP	20 59 31.7	-0.9
RES	**Resolute Bay**	**79.21**	**355**	P	**P**	**20 59 03.2**	**-0.5**
	0.8nm,0.8s,mb3.6,baz=175,slow=8.7,SNR=3.6						
RES	**Resolute Bay**	**79.21**	**355**	P	**P**	**20 59 03.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**79.30**	**76**	P	**P**	**20 59 05.1**	**-0.3**
	1.0nm,0.5s,mb3.9,baz=284,slow=6.0,SNR=18						
TORD				pP	pP	20 59 33.9	-0.6
	2.2nm,0.5s,baz=281,slow=5.6,SNR=8.1						
TORD	**Torodi Ar. Bea**	**79.30**	**76**	P	**P**	**20 59 05.1**	**-0.3**
TORD				pP	pP	20 59 33.9	-0.6
SNAA	**Sanae**	**81.22**	**162**	P	**P**	**20 59 14.8**	**+0.3**
	0.6nm,0.9s,mb3.4,baz=254,slow=12,SNR=3.8						
SNAA				pP	pP	20 59 44.2	+0.3
	0.5nm,0.7s,baz=280,slow=11,SNR=3.0						
SNAA	**Sanae**	**81.22**	**162**	P	**P**	**20 59 14.8**	**+0.3**
SNAA				pP	pP	20 59 44.2	+0.4
QUIF	**Quistinic**	**81.69**	**41**	*e*P	**P**	**20 59 17.3**	**-0.2**
	15nm,0.9s,mb4.5						
QUIF	**Quistinic**	**81.69**	**41**	*e*P	**P**	**20 59 17.3**	**-0.2**
	15nm,0.9s,mb4.8						
ROSF	**Rostrenen**	**81.73**	**40**	*e*P	**P**	**20 59 17.8**	**+0.1**
ROSF	**Rostrenen**	**81.73**	**40**	*e*P	**P**	**20 59 17.8**	**+0.1**
SJPF	**Ste Jean**	**81.85**	**46**	*e*P	**P**	**20 59 19.0**	**+0.6**
	15nm,1.0s,mb4.5						
SJPF	**Ste Jean**	**81.85**	**46**	*e*P	**P**	**20 59 19.0**	**+0.6**
	15nm,1.0s,mb4.8						
EPF	**Esparros**	**82.95**	**46**	*e*P	**P**	**20 59 24.2**	**0.0**
	1.7nm,0.5s,mb3.8						
EPF	**Esparros**	**82.95**	**46**	*e*P	**P**	**20 59 24.2**	**0.0**
	1.7nm,0.5s,mb4.1						
GRR	**Gorron**	**83.31**	**41**	*e*P	**P**	**20 59 25.9**	**+0.1**
	5.7nm,0.6s,mb4.3						
GRR	**Gorron**	**83.31**	**41**	*e*P	**P**	**20 59 25.9**	**+0.1**
	5.7nm,0.6s,mb4.6						
MFF	**Saint Martin d**	**83.38**	**42**	*e*P	**P**	**20 59 26.2**	**0.0**
	9.3nm,0.7s,mb4.4						
MFF	**Saint Martin d**	**83.38**	**42**	*e*P	**P**	**20 59 26.2**	**0.0**
	9.3nm,0.7s,mb4.7						
LFF	**La Frestale**	**83.63**	**44**	*e*P	**P**	**20 59 27.8**	**+0.2**
	6.7nm,0.7s,mb4.3						
LFF	**La Frestale**	**83.63**	**44**	*e*P	**P**	**20 59 27.8**	**+0.2**
	6.7nm,0.7s,mb4.6						
FLN	**La Foliniere**	**83.64**	**40**	*e*P	**P**	**20 59 27.0**	**-0.5**
	9.5nm,0.7s,mb4.4						
FLN	**La Foliniere**	**83.64**	**40**	*e*P	**P**	**20 59 27.0**	**-0.5**
	9.5nm,0.7s,mb4.7						
LDF	**La Druitiere**	**83.83**	**40**	*e*P	**P**	**20 59 28.5**	**0.0**
	7.8nm,0.7s,mb4.3						
LDF	**La Druitiere**	**83.83**	**40**	*e*P	**P**	**20 59 28.5**	**0.0**
	7.8nm,0.7s,mb4.7						
RJF	**Les Rejaudoux**	**84.24**	**44**	*e*P	**P**	**20 59 30.6**	**-0.1**
	5.6nm,0.9s,mb4.1						
RJF	**Les Rejaudoux**	**84.24**	**44**	*e*P	**P**	**20 59 30.6**	**-0.1**
	5.6nm,0.9s,mb4.4						
MTLF	**Montolieu**	**84.36**	**46**	*e*P	**P**	**20 59 31.3**	**0.0**
	2.3nm,0.6s,mb3.9						
MTLF	**Montolieu**	**84.36**	**46**	*e*P	**P**	**20 59 31.3**	**0.0**
	2.3nm,0.6s,mb4.2						
CAF	**Calviac**	**84.55**	**44**	*e*P	**P**	**20 59 32.3**	**+0.1**
CAF	**Calviac**	**84.55**	**44**	*e*P	**P**	**20 59 32.3**	**+0.1**
ILAR	**Eielson Array**	**85.27**	**336**	P	**P**	**20 59 35.2**	**-0.2**
	1.4nm,0.8s,mb3.9,baz=123,slow=3.1,SNR=15						
ILAR				pP	pP	21 00 05.0	+0.1
	0.7nm,0.8s,baz=126,slow=4.7,SNR=4.3						
ILAR	**Eielson Array**	**85.27**	**336**	P	**P**	**20 59 35.2**	**-0.2**
ILAR				pP	pP	21 00 05.0	+0.1
QSPA	**South Pole Qui**	**86.23**	**180**	P	**P**	**20 59 39.1**	**-0.8**
	5.2nm,0.9s,mb4.5,baz=167,slow=4.3						
QSPA	**South Pole Qui**	**86.23**	**180**	*e*P	**P**	**20 59 40.8**	**+0.9**
	5.8nm,1.0s,mb4.5

PNIG				*i* S	Sg	20 56 09.8	0.0
VHO	**Vista Hermosa**	**1.44**	**61**	*i* P	Pn	20 56 29.8	-3.5
VHO				*i* S	Sn	20 56 47.8	-4.8
VHO	**Vista Hermosa**	**1.44**	**61**	*i* P	Pn	20 56 29.8	-3.5
VHO				*i* S	Sn	20 56 47.2	-5.3
TPIG	**Tehuac#an**	**2.14**	**18**	*i* P	Pn	20 56 40.5	-2.4
TPIG				*i* S	Sn	20 57 05.3	-4.6
TPIG	**Tehuac#an**	**2.14**	**18**	*i* P	Pn	20 56 40.5	-2.4
TPIG				*i* S	Sn	20 57 05.3	-4.6
MEIG	**Mezcala**	**2.15**	**316**	*i* P	Pn	20 56 40.7	-2.4
MEIG				*i* S	Sn	20 57 04.6	-5.6
MEIG	**Mezcala**	**2.15**	**316**	*i* P	Pn	20 56 40.7	-2.4
MEIG				*i* S	Sn	20 57 05.1	-5.0
CAIG	**El Cayaco**	**2.23**	**288**	*i* P	Pn	20 56 42.4	-1.8
CAIG				*e*S	Sn	20 57 08.3	-3.6
CAIG	**El Cayaco**	**2.23**	**288**	*i* P	Pn	20 56 41.2	-2.9
CAIG				*e*S	Sn	20 57 07.1	-4.9
PPM	**Popocatepetl**	**2.74**	**349**	*i* P	Pn	20 56 49.9	-1.3
PPM				*i* S	Sn	20 57 21.8	-2.8
PPM	**Popocatepetl**	**2.74**	**349**	*i* P	Pn	20 56 49.1	-2.1
PPM				*i* S	Sn	20 57 21.8	-2.8
CMIG	**Matias Romero**	**3.12**	**76**	*i* P	Pn	20 56 54.1	-2.3
CMIG				*e*S	Sn	20 57 32.0	-2.0
CMIG	**Matias Romero**	**3.12**	**76**	*i* P	Pn	20 56 54.1	-2.3
CMIG				*i* S	Sn	20 57 30.6	-3.4
CMIG				*e*S	Sn	20 57 31.1	-2.9

*BJI **24** 21:08:12.0, 30.′06N×102.′76E, h19km, ML3.0/8*
IDC 24 21:08:10.3±1.7, 29.′93N×102.′73E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.1/23, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=82.5km s-min=27.3km az=62.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.11**	**8**	P	Pn	21 12 23.5	+0.4
	0.0nm,0.3s,baz=174,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**23.14**	**322**	P	P	21 13 18.0	0.0
	0.3nm,0.7s,baz=125,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**58.18**	**145**	P	P	21 18 06.2	0.0
	0.5nm,0.7s,baz=336,slow=7.4,SNR=7.2						

*IDC **24** 21:11:39.3±1.4, 46.′92N×155.′50E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.6/24, mbtmp3.6/11, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/36, Error ellipse: s-maj=40.5km s-min=18.8km az=172.0*
*ISCJB **24** 21:11:42.6±0.9, 47.′0N±0.′1×155.′4E±0.′2, h33km, mb3.6/11, Error ellipse: s-maj=23.4km s-min=13.6km az=150.8*
*NEIC **24** 21:11:44.6±0.9, 47.′02N×155.′36E, h35km, mb3.9/2, Error ellipse: s-maj=23.1km s-min=13.4km az=152.0*
ISC 24 21:11:41.6±10.0, 47.′0N±0.′2×155.′4E±0.′2, h14km±62km, n25, σ0°76/25, mb3.6/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.34**	**13**	Pn	**Pn**	**21 13 14.7**	**+0.2**
	0.8nm,0.3s,baz=190,slow=11,SNR=9.1						
PETK				LR	LR	21 15 31.7	
	comp=Z,115nm,18.7s,baz=328,slow=37						
PETK	**Petropavlovsk-**	**6.34**	**13**	Pn	**Pn**	**21 13 14.7**	**+0.2**
SONM	**Songino Array**	**32.76**	**290**	P	**P**	**21 18 14.0**	**+0.2**
	0.4nm,0.8s,mb3.4,baz=63,slow=8.9,SNR=3.1						
SONM	**Songino Array**	**32.76**	**290**	P	**P**	**21 18 14.0**	**+0.2**
TWG	**Pinlang**	**36.60**	**241**	*e*P	**P**	**21 18 47.1**	**-0.2**
ZALV	**Zalesovo Beam**	**43.78**	**306**	P	**P**	**21 19 45.5**	**-0.9**
	0.7nm,0.6s,mb3.6,baz=64,slow=9.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**43.78**	**306**	P	**P**	**21 19 45.5**	**-0.9**
MKAR	**Makanchi Array**	**48.25**	**298**	P	**P**	**21 20 22.3**	**+0.5**
	0.8nm,0.9s,mb3.7,baz=69,slow=7.9,SNR=8.1						
MKAR	**Makanchi Array**	**48.25**	**298**	P	**P**	**21 20 22.3**	**+0.5**
KURK	**Kurchatov**	**48.57**	**304**	P	**P**	**21 20 25.1**	**+1.0**
	0.9nm,0.7s,mb3.9,baz=69,slow=8.2,SNR=8.0						
KURK	**Kurchatov**	**48.57**	**304**	*e*P	**P**	**21 20 22.2**	**-2.0**
	1.3nm,0.8s,mb4.0						
YKA	**Yellowknife Ar**	**49.81**	**37**	P	**P**	**21 20 33.3**	**-0.2**
	0.1nm,0.5s,mb3.1,baz=296,slow=6.8,SNR=2.5						
YKA	**Yellowknife Ar**	**49.81**	**37**	P	**P**	**21 20 33.3**	**-0.2**
BRVK	**Borovoye**	**51.99**	**310**	P	**P**	**21 20 46.8**	**-3.2**
CMAR	**Chiang Mai Arr**	**53.96**	**258**	P	**P**	**21 21 05.5**	**+0.6**
	0.2nm,0.6s,mb3.3,baz=39,slow=7.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**53.96**	**258**	P	**P**	**21 21 05.5**	**+0.6**
ABKAR	**Akbulak array**	**59.51**	**311**	*e*P	**P**	**21 21 44.4**	**+0.4**
	0.3nm,0.4s,mb3.7						
NVAR	**Mina Array Bea**	**60.93**	**64**	P	**P**	**21 21 53.7**	**-0.2**
	0.2nm,0.3s,mb3.7,baz=284,slow=8.8,SNR=2.8						
NVAR	**Mina Array Bea**	**60.93**	**64**	P	**P**	**21 21 53.7**	**-0.2**
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**21 22 18.0**	**+0.5**
	2.0nm,0.9s,mb4.1,baz=38,slow=7.0,SNR=14						
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**21 22 18.0**	**+0.5**
TXAR	**Lajitas Array**	**76.01**	**62**	P	**P**	**21 23 28.3**	**0.0**
	0.5nm,0.5s,mb3.7,baz=297,slow=5.4,SNR=12						
TXAR	**Lajitas Array**	**76.01**	**62**	P	**P**	**21 23 28.3**	**0.0**
GERES	**GERESS Array B**	**78.95**	**335**	P	**P**	**21 23 45.0**	**+0.5**
	0.2nm,0.7s,mb3.2,baz=33,slow=5.8,SNR=4.0						
GERES	**GERESS Array B**	**78.95**	**335**	P	**P**	**21 23 45.0**	**+0.5**

*ISCJB **24** 21:31:40.1±0.7, 5.′26N±0.′06×73.′59W±0.′10, h166km±8km, mb3.5/2, Error ellipse: s-maj=17.2km s-min=7.9km az=25.2*
*FUNV **24** 21:31:40.2, 5.′01N×73.′69W, h147km, MW3.8*
*NEIC **24** 21:31:41.3±0.9, 5.′17N×73.′60W, h160km±9km, mb3.4/1, Error ellipse: s-maj=21.7km s-min=14.9km az=85.0*
*IDC **24** 21:31:42.2±0.8, 4.′83N×74.′21W, h169km±5km, mb3.2/2, mb1 3.4/2, mb1mx2.9/20, mbtmp3.2/2, Error ellipse: s-maj=38.7km s-min=5.5km az=94.0*
ISC 24 21:31:41.0±0.7, 5.′23N±0.′06×73.′57W±0.′09, h159km±8km, n25, σ0°72/28, mb3.5/2, 3D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.85**	**244**	P	**Pn**	**21 32 05.9**	**+0.4**
	76nm,0.3s,baz=96,slow=3.9,SNR=152						
ROSC				S	**Sn**	**21 32 23.3**	**-0.9**
	76nm,0.3s,baz=98,slow=19,SNR=12						
ROSC	**El Rosal**	**0.85**	**244**	*e*P	**Pn**	**21 32 06.1**	**+0.6**
ROSC				*e*S	**Sn**	**21 32 20.3**	**-3.9**
CAPV	**Capacho**	**2.90**	**25**	‖*e*P	**Pn**	**21 32 28.6**	**+1.1**
CAPV				*e*S	**Sn**	**21 33 04.2**	**+0.7**
SOCV	**Socops**	**4.05**	**41**	‖*e*P	**Pn**	**21 32 42.6**	**+0.4**
SOCV				*e*S	**Sn**	**21 33 29.5**	**-0.4**
VIGV	**El Vigia**	**4.20**	**31**	*e*P	**Pn**	**21 32 44.8**	**+0.7**
VIGV				*e*S	**Sn**	**21 33 32.3**	**-1.0**
ELOV	**Elorza**	**4.42**	**66**	*e*P	**Pn**	**21 32 46.9**	**-0.1**
SDV	**Santo Domingo**	**4.65**	**39**	*e*Pn	**Pn**	**21 32 51.1**	**+1.1**
SDV				*e*Sn	**Sn**	**21 33 39.2**	**-4.7**
VIRV	**Villa del Rosa**	**5.36**	**12**	*e*P	**Pn**	**21 32 59.5**	**+0.1**
VIRV				*e*S	**Sn**	**21 33 58.3**	**-2.4**
QARV	**Quebrada Arrib**	**5.79**	**31**	‖*e*P	**Pn**	**21 33 05.2**	**+0.2**
SANV	**Sanarito**	**5.83**	**43**	*e*P	**Pn**	**21 33 05.4**	**-0.2**
TEPV	**Terepaima**	**6.39**	**42**	*e*P	**Pn**	**21 33 12.7**	**-0.4**
BAUV	**El Baul**	**6.61**	**56**	*e*P	**Pn**	**21 33 15.6**	**-0.3**
MAPV	**Macapo**	**6.82**	**48**	*e*P	**Pn**	**21 33 18.6**	**-0.1**
MONV	**Montecano**	**7.57**	**28**	*e*P	**Pn**	**21 33 29.3**	**+0.7**
TURV	**Turiamo**	**7.68**	**47**	*e*P	**Pn**	**21 33 30.3**	**+0.1**
SAML	**Samuel**	**17.48**	**144**	*e*P	**Pn**	**21 35 35.2**	**-0.1**
	1.2nm,0.6s						
LPAZ	**La Paz**	**22.05**	**166**	P	**P**	**21 36 22.3**	**-0.9**
SIV	**San Ignacio**	**24.44**	**150**	P	**P**	**21 36 45.2**	**-0.1**
	0.4nm,0.5s,mb3.2,baz=294,slow=14,SNR=3.2						
SIV	**San Ignacio**	**24.44**	**150**	P	**P**	**21 36 45.2**	**-0.1**
TXAR	**Lajitas Array**	**37.21**	**314**	PcP	PcP	21 40 55.5	+1.9
	0.1nm,0.5s,baz=140,slow=5.1,SNR=4.0						
TXAR	**Lajitas Array**	**37.21**	**314**	PcP	PcP	21 40 55.5	+1.9
YKA	**Yellowknife Ar**	**64.60**	**340**	P	**P**	**21 42 01.2**	**+0.2**
	0.7nm,0.5s,mb3.7,baz=134,slow=6.2,SNR=20						
YKA	**Yellowknife Ar**	**64.60**	**340**	P	**P**	**21 42 01.2**	**+0.2**
WRA	**Warramunga Arr**	**149.17**	**239**	PKPbc	PKPbc	21 51 10.7	-0.9
	0.3nm,0.4s,baz=117,slow=2.3,SNR=11						
WRA	**Warramunga Arr**	**149.17**	**239**	PKPbc	PKPbc	21 51 10.7	-0.9

WEL 24 21:33:05.5±1.1, 36.′37S×177.′56E, h33km, ML3.5/4, Error ellipse: s-maj=7.9km s-min=6.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.33**	**153**	*e*P*	Pb	21 33 26.8	-3.2
MXZ				S*	Sb	21 33 42.4	-4.3
MXZ				S*	Sb	21 33 42.9	-3.8
KUZ	**Kuaotunu**	**1.53**	**255**	PN	Pn	21 33 29.8	-0.6
KUZ				SN	Sn	21 33 47.2	-1.9
KUZ				*e*SN	Sn	21 33 47.5	-1.7
URZ	**Urewera**	**1.92**	**191**	P*	Pb	21 33 36.5	-3.4
URZ				*e*S*	Sb	21 33 58.6	-4.9
MWZ	**Matawai**	**1.96**	**181**	P*	Pb	21 33 36.8	-3.8

IDC 24 21:37:45.0±1.5, 14.′67S×167.′87E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=59.2km s-min=26.6km az=124.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.49**	**190**	Pn	Pn	21 39 35.4	-0.1
	1.9nm,0.3s,baz=113,slow=21,SNR=16						
DZM				Sn	Sn	21 40 54.5	-6.5
	baz=114,slow=18,SNR=2.6						
STKA	**Stephens Creek**	**29.47**	**230**	P	P	21 43 51.5	+0.8
	0.9nm,0.5s,baz=49,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**32.40**	**256**	P	P	21 44 15.4	-1.3
	0.5nm,0.7s,baz=87,slow=9.9,SNR=4.6						
ILAR	**Eielson Array**	**86.29**	**18**	P	P	21 50 28.1	-0.1
	0.7nm,0.8s,baz=233,slow=5.6,SNR=8.6						
YKA	**Yellowknife Ar**	**97.23**	**27**	P	P	21 51 18.4	-0.9
	0.2nm,0.7s,baz=247,slow=4.2,SNR=3.5						
MKAR	**Makanchi Array**	**97.56**	**316**	P	P	21 51 22.9	+1.8
	0.6nm,0.8s,baz=95,slow=6.6,SNR=3.2						

IDC 24 22:11:18.3±2.8, 2.′45S×141.′22E, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.6/14, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=119.4km s-min=30.6km az=82.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.64**	**201**	P	Pn	22 15 38.5	+0.5
	0.2nm,0.3s,baz=20,slow=12,SNR=18						
STKA	**Stephens Creek**	**29.27**	**179**	P	P	22 17 21.2	-1.2
	3.3nm,1.1s,baz=9.5,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**71.13**	**322**	P	P	22 22 38.0	-0.8
	0.6nm,0.7s,baz=118,slow=7.6,SNR=4.4						
DBIC	**Dimbokro**	**145.94**	**278**	PKPbc	PKPbc	22 31 01.9	+0.9
	2.0nm,0.6s,baz=68,slow=3.0,SNR=6.5						

*ISCJB **24** 22:15:06.5±0.6, 55.′05N±0.′02×161.′87E±0.′06, h73km±9km, Error ellipse: s-maj=6.1km s-min=3.9km az=9.9*
*KRSC **24** 22:15:06.4±0.3, 55.′08N×161.′80E, h64km±55km, ML4.0*
*MOS **24** 22:15:06.4±0.5, 55.′05N×161.′84E, h53km, mb4.2/1, Error ellipse: s-maj=29.8km s-min=17.5km az=90.7*
ISC 24 22:15:07.5±0.6, 55.′06N±0.′02×161.′87E±0.′06, h65km±11km, n27, σ0°85/50, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.51**	**189**	*e*P	**Pn**	**22 15 19.5**	**-0.5**
MKZ				*e*S	**Sn**	**22 15 29.4**	**+0.3**
MKZ	**Mys Kozlova**	**0.51**	**189**	PN	**Pn**	**22 15 19.5**	**-0.5**
MKZ				S	**Sn**	**22 15 29.4**	**+0.3**
TUMR	**Tumrok**	**1.02**	**283**	*e*P	**Pn**	**22 15 25.2**	**-0.7**
TUMR				*e*S	**Sn**	**22 15 39.8**	**+0.2**
KMNR	**Kamenistaya**	**1.16**	**307**	*e*P	**Pn**	**22 15 27.3**	**-0.5**
KMNR				*e*S	**Sn**	**22 15 43.4**	**+0.4**
KPT	**Kopyto**	**1.30**	**315**	*e*P	**Pn**	**22 15 29.5**	**-0.2**
KLY	**Klyuchi**	**1.43**	**332**	*e*P	**Pn**	**22 15 30.6**	**-0.7**
KLY				*e*S	**Sn**	**22 15 48.4**	**-0.9**
KLY	**Klyuchi**	**1.43**	**332**	PN	**Pn**	**22 15 30.6**	**-0.7**
KLY				S	**Sn**	**22 15 48.4**	**-0.9**
KOZR	**Kozyr**	**1.51**	**313**	PN	**Pn**	**22 15 32.1**	**-0.2**
KOZR				S	**Sn**	**22 15 51.6**	**+0.5**
KOZ	**Kozyrevsk**	**1.51**	**312**	*e*P	**Pn**	**22 15 32.1**	**-0.3**
KOZ				*e*S	**Sn**	**22 15 51.6**	**+0.4**
SMKR	**Semkarok**	**1.54**	**352**	*e*P	**Pn**	**22 15 33.2**	**+0.4**
SMKR				*e*S	**Sn**	**22 15 53.4**	**+1.5**
BDR	**Baidarnaya**	**1.56**	**346**	*e*P	**Pn**	**22 15 33.8**	**+0.8**
BDR				*e*S	**Sn**	**22 15 54.0**	**+1.8**
SRKR	**Sorokina**	**1.65**	**346**	*e*P	**Pn**	**22 15 34.8**	**+0.6**
SRDR	**Sredinnyy**	**1.75**	**317**	*e*P	**Pn**	**22 15 35.1**	**-0.5**
SRDR				*e*S	**Sn**	**22 15 56.0**	**-1.0**
ESO	**Esso**	**2.00**	**297**	*e*P	**Pn**	**22 15 37.7**	**-1.3**
ESO				*e*S	**Sn**	**22 16 00.7**	**-2.3**
ESO	**Esso**	**2.00**	**297**	PN	**Pn**	**22 15 37.7**	**-1.3**
ESO				S	**Sn**	**22 16 00.7**	**-2.3**
BKI	**Bering**	**2.36**	**85**	*e*P	**Pn**	**22 15 43.9**	**+0.1**
BKI				*e*S	**Sn**	**22 16 10.3**	**-1.3**
BKI	**Bering**	**2.36**	**85**	PN	**Pn**	**22 15 43.9**	**+0.1**
BKI				S	**Sn**	**22 16 10.3**	**-1.3**
NLC	**Nalytchevo**	**2.41**	**219**	*e*P	**Pn**	**22 15 44.0**	**-0.5**
NLC				*e*S	**Sn**	**22 16 11.9**	**-1.0**
NLC	**Nalytchevo**	**2.41**	**219**	PN	**Pn**	**22 15 44.0**	**-0.5**
NLC				S	**Sn**	**22 16 11.9**	**-1.0**
SDLR	**Sedlovina**	**2.51**	**226**	*e*P	**Pn**	**22 15 45.9**	**+0.1**
SDLR				*e*S	**Sn**	**22 16 15.7**	**+0.4**
AVH	**Avacha**	**2.58**	**227**	*e*P	**Pn**	**22 15 47.3**	**+0.5**
AVH				*e*S	**Sn**	**22 16 17.0**	**0.0**
KOK	**Koryaka**	**2.60**	**228**	*e*P	**Pn**	**22 15 47.5**	**+0.4**
PET	**Petropavlovsk**	**2.79**	**224**	*e*P	**Pn**	**22 15 50.0**	**+0.3**
PET				*e*S	**Sn**	**22 16 22.2**	**+0.1**
PET	**Petropavlovsk**	**2.79**	**224**	*e*PN	**Pn**	**22 15 49.9**	**+0.2**
PET				*e*S	**Sn**	**22 16 21.7**	**-0.4**
PET				pmax	pmax		
	comp=Z,61nm,0.4s						
PET				smax			
	comp=E,211nm,0.3s						
PET				smax			
	comp=N,201nm,0.5s						
RUS	**Russkaya**	**3.30**	**219**	*e*S	**Sn**	**22 16 33.7**	**-1.0**
MTVR	**Mutnovka**	**3.39**	**222**	*e*P	**Pn**	**22 15 58.7**	**+0.9**
MTVR				*e*S	**Sn**	**22 16 36.8**	**0.0**
ASAK	**Asacha**	**3.57**	**223**	*e*P	**Pn**	**22 16 01.7**	**+1.3**
ASAK				*e*S	**Sn**	**22 16 43.4**	**+2.1**

*ISCJB **24** 22:32:16.3±0.4, 38.′36N±0.′02×21.′92E±0.′03, h7km±3km, Error ellipse: s-maj=4.5km s-min=3.1km az=1.2*
*ATH **24** 22:32:16.6, 38.′35N×21.′90E, h5km±1km, MD3.0/11*
*THE **24** 22:32:16.5, 38.′36N×21.′93E, h10km±1km, ML1.7/5, Error ellipse: s-maj=1.5km s-min=0.7km az=93.0*
*CSEM **24** 22:32:16.2±0.1, 38.′36N×21.′95E, h6km±1km, MD3.0, Error ellipse: s-maj=3.0km s-min=1.9km az=97.0*
ISC 24 22:32:16.5±0.4, 38.′36N±0.′02×21.′92E±0.′04, h9km±3km, n40, σ0°64/64, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**351**	*e*PG	**Pg**	**22 32 17.9**	**-0.6**
EFP				*e*SG	**Sg**	**22 32 19.4**	**-0.6**
EFP	**Efpalio**	**0.07**	**351**	*e*Pg	**Pg**	**22 32 17.9**	**-0.6**
EFP				*e*Sg	**Sg**	**22 32 19.4**	**-0.6**
TRIZ	**Trizonia**	**0.12**	**88**	P	**Pg**	**22 32 18.4**	**-0.9**
TRIZ				S	**Sg**	**22 32 21.3**	**+0.1**
TRIZ	**Trizonia**	**0.12**	**88**	P	**Pg**	**22 32 18.4**	**-0.9**
TRIZ				S	**Sg**	**22 32 21.3**	**+0.1**
LAKA	**Lakka**	**0.13**	**159**	P	**Pg**	**22 32 19.5**	**+0.1**
LAKA				S	**Sg**	**22 32 22.0**	**+0.6**
LAKA	**Lakka**	**0.13**	**159**	P	**Pg**	**22 32 19.5**	**+0.1**
LAKA				S	**Sg**	**22 32 22.0**	**+0.6**
UPR	**University Cam**	**0.13**	**234**	*e*PG	**Pg**	**22 32 19.1**	**-0.3**
UPR	**University Cam**	**0.13**	**234**	*e*Pg	**Pg**	**22 32 19.1**	**-0.3**
KALE	**Kalithea**	**0.18**	**80**	P	**Pg**	**22 32 20.3**	**+0.1**
KALE				S	**Sg**	**22 32 23.5**	**+0.8**
KALE	**Kalithea**	**0.18**	**80**	P	**Pg**	**22 32 20.3**	**+0.1**
KALE				S	**Sg**	**22 32 23.5**	**+0.8**
RLS	**Riolos of Patr**	**0.47**	**230**	P	**Pg**	**22 32 25.4**	**-0.1**
RLS				S	**Sg**	**22 32 32.5**	**+0.8**
RLS	**Riolos of Patr**	**0.47**	**230**	P	**Pg**	**22 32 25.4**	**-0.1**
RLS				S	**Sg**	**22 32 32.5**	**+0.8**
DESF	**Desfina**	**0.48**	**84**	P	**Pg**	**22 32 24.8**	**-1.1**
DESF				S	**Sg**	**22 32 32.1**	**-0.2**
DESF	**Desfina**	**0.48**	**84**	P	**Pg**	**22 32 24.8**	**-1.1**
DESF				S	**Sg**	**22 32 32.1**	**-0.2**
GUR	**Goura**	**0.54**	**142**	*e*PG	**Pg**	**22 32 26.8**	**-0.1**
GUR				*e*SB	**Sg**	**22 32 35.0**	**+1.0**
GUR	**Goura**	**0.54**	**142**	*e*Pb	**Pg**	**22 32 26.6**	**-0.3**
GUR				*e*Sb	**Sg**	**22 32 35.0**	**+1.0**
EVR	**Evrytania**	**0.56**	**351**	*e*PB	**Pb**	**22 32 27.5**	**-1.0**
EVR				*e*SB	**Sg**	**22 32 35.8**	**+1.1**
EVR	**Evrytania**	**0.56**	**351**	P	**Pg**	**22 32 27.2**	**-0.2**
EVR				S	**Sg**	**22 32 35.7**	**+1.0**
EVR	**Evrytania**	**0.56**	**351**	P	**Pg**	**22 32 27.2**	**-0.2**
EVR	**Evrytania**	**0.56**	**351**	*e*Pb	**Pb**	**22 32 27.5**	**-1.0**
EVR				S	**Sg**	**22 32 35.7**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.67**	**14**	P	**Pg**	**22 32 29.5**	**0.0**
MAKR				S	**Sg**	**22 32 39.5**	**+1.2**
MAKR	**Makrakomi, Fth**	**0.67**	**14**	P	**Pg**	**22 32 29.5**	**0.0**
MAKR				S	**Sg**	**22 32 39.5**	**+1.2**
AGG	**Agios Georgios**	**0.73**	**26**	*e*PB	**Pb**	**22 32 31.2**	**-0.2**
AGG				*e*SB	**Sb**	**22 32 41.6**	**0.0**
AGG	**Agios Georgios**	**0.73**	**26**	P	**Pg**	**22 32 29.6**	**-1.0**
AGG				S	**Sg**	**22 32 41.5**	**+1.3**
AGG	**Agios Georgios**	**0.73**	**26**	P	**Pg**	**22 32 29.6**	**-1.0**
AGG	**Agios Georgios**	**0.73**	**26**	*e*Pb	**Pb**	**22 32 31.2**	**-0.2**
AGG				S	**Sg**	**22 32 41.5**	**+1.3**
LTK	**Loutraki**	**0.89**	**112**	*e*PB	**Pb**	**22 32 34.2**	**+0.1**
LTK	**Loutraki**	**0.89**	**112**	*e*Pn	**Pn**	**22 32 35.1**	**-0.1**
VLX	**Vlachokerasia**	**1.05**	**160**	*e*PG	**Pg**	**22 32 36.3**	**-0.4**
VLX	**Vlachokerasia**	**1.05**	**160**	*e*Pg	**Pg**	**22 32 36.3**	**-0.4**
VIL1	**Vilia, Western**	**1.13**	**100**	*e*PB	**Pb**	**22 32 38.3**	**+0.2**
ITM	**Ithomi**	**1.18**	**180**	*e*PB	**Pb**	**22 32 39.1**	**+0.1**
ITM	**Ithomi**	**1.18**	**180**	P	**Pb**	**22 32 39.1**	**+0.1**
ITM				S	**Sb**	**22 32 55.0**	**+0.7**
ITM	**Ithomi**	**1.18**	**180**	P	**Pb**	**22 32 39.1**	**+0.1**
ITM				S	**Sb**	**22 32 55.0**	**+0.7**
DID	**Didima**	**1.35**	**129**	*e*PG	**Pg**	**22 32 41.8**	**-0.5**
DID	**Didima**	**1.35**	**129**	*e*Pn	**Pn**	**22 32 41.5**	**+0.1**
PYL	**PYLOS**	**1.47**	**186**	*e*PB	**Pb**	**22 32 44.2**	**+0.3**
PYL	**PYLOS**	**1.47**	**186**	*e*Pb	**Pb**	**22 32 44.2**	**+0.3**
VLI	**Veliai**	**1.83**	**153**	*e*PG	**Pg**	**22 32 50.5**	**-1.0**
VLI	**Veliai**	**1.83**	**153**	*e*Pg	**Pg**	**22 32 50.2**	**-1.3**

IDC 24 22:34:05.4±1.8, 57.′83S×26.′10W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.5/11, mbtmp3.9/1, Error ellipse: s-maj=102.0km s-min=68.5km az=136.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**74.33**	**28**	P	P	22 45 44.5	+0.1
	0.8nm,0.7s,baz=203,slow=6.4,SNR=9.1						
YKA	**Yellowknife Ar**	**137.88**	**316**	PKP	PKPdf	22 53 29.9	-0.2
	0.1nm,0.3s,baz=136,slow=1.7,SNR=5.5						
SONM	**Songino Array**	**150.20**	**89**	PKPbc	PKPbc	22 53 56.9	-0.1
	0.3nm,0.4s,baz=218,slow=2.9,SNR=6.9						
ILAR	**Eielson Array**	**151.72**	**309**	PKPbc	PKPbc	22 53 60.0	-0.2
	0.5nm,0.5s,baz=123,slow=1.7,SNR=9.6						

IDC 24 22:51:49.2±7.5, 17.′90S×70.′20W, h125km±48km, mb3.3/2, mb1 3.3/4, mb1mx3.2/17, mbtmp3.1/4, Error ellipse: s-maj=106.2km s-min=46.3km az=27.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.55**	**51**	P	Pn	22 52 31.0	+1.1
	0.7nm,0.3s,baz=223,slow=9.9,SNR=18						
SIV	**San Ignacio**	**8.94**	**79**	P	Pn	22 53 54.4	-1.1
	0.5nm,0.3s,baz=276,slow=14,SNR=8.9						
TORD	**Torodi Ar. Bea**	**77.34**	**72**	P	P	23 03 31.1	+0.4
	0.5nm,0.8s,baz=250,slow=4.9,SNR=4.7						
YKA	**Yellowknife Ar**	**87.41**	**341**	P	P	23 04 21.7	-0.2
	0.4nm,0.6s,baz=132,slow=4.8,SNR=12						
WRA	**Warramunga Arr**	**135.34**	**214**	PKP	PKPdf	23 10 54.9	-0.2
	0.3nm,0.8s,baz=144,slow=1.6,SNR=4.7						

*DDA **24** 23:11:57.8, 37.′96N×29.′21E, h7km±2km, Md2.5*
*ISCJB **24** 23:11:58.1±0.6, 37.′94N±0.′03×29.′19E±0.′06, h10km, Error ellipse: s-maj=6.7km s-min=5.0km az=172.9*
*ISK **24** 23:11:58.2, 37.′93N×29.′18E, h8km, MD2.6*
*CSEM **24** 23:11:58.1±0.1, 37.′94N×29.′22E, h2km, MD2.6, Error ellipse: s-maj=4.1km s-min=3.0km az=92.0*
**ISC 24 23:11:58.3±0.7, 37.′93N±0.′04×29.′22E±

WB2	Warramunga Arr	22.18	165	*e*P	P	23 20 30.4	0.0
STKA	Stephens Creek	35.57	160	P	P	23 22 33.6	+2.3
	0.8nm,0.4s,mb4.0,baz=339,slow=10,SNR=6.1						
STKA	Stephens Creek	35.57	160	*e*P	P	23 22 31.4	+0.1
	1.0nm,1.1s,mb3.7						
TAPN	Taplejung	46.54	307	*e*P	P	23 24 02.1	+0.4
	6.9nm,0.4s,mb4.9						
TAPN	Taplejung	46.54	307	*e*P	P	23 24 02.1	+0.4
	6.9nm,0.4s,mb4.9						
ODAN	Odare	46.58	306	*e*P	P	23 24 02.6	+0.6
	11nm,0.6s,mb5.0						
ODAN	Odare	46.58	306	*e*P	P	23 24 02.6	+0.6
	11nm,0.6s,mb5.0						
RAMN	Ramite	47.26	306	*e*P	P	23 24 07.9	+0.6
	16nm,0.6s,mb5.1						
RAMN	Ramite	47.26	306	*e*P	P	23 24 07.9	+0.6
	16nm,0.6s,mb5.1						
JIRN	Jiri	47.89	307	*e*P	P	23 24 12.2	0.0
	9.4nm,0.2s,mb5.5						
JIRN	Jiri	47.89	307	*e*P	P	23 24 12.2	0.0
	9.4nm,0.2s,mb5.5						
GUN	Gumba	48.25	307	*e*P	P	23 24 15.6	+0.6
	24nm,0.5s,mb5.5						
GUN	Gumba	48.25	307	*e*P	P	23 24 15.6	+0.6
	24nm,0.5s,mb5.5						
KKN	Kakani	48.68	306	*e*P	P	23 24 18.4	+0.1
	6.9nm,0.5s,mb5.0						
KKN	Kakani	48.68	306	*e*P	P	23 24 18.4	+0.1
	6.9nm,0.5s,mb4.9						
DMN	Daman	48.74	306	*e*P	P	23 24 19.1	+0.3
DMN	Daman	48.74	306	*e*P	P	23 24 19.1	+0.3
GKN	Gorkha	49.28	306	*e*P	P	23 24 22.9	0.0
	8.7nm,0.8s,mb4.8						
GKN	Gorkha	49.28	306	*e*P	P	23 24 22.9	0.0
	8.7nm,0.8s,mb4.8						
ULN	Ulaanbaatar	49.66	341	*e*P	P	23 24 25.5	+0.1
	7.0nm,0.8s,mb4.7						
SONM	Songino Array	49.84	341	P	P	23 24 26.7	-0.1
	2.8nm,0.7s,mb4.4,baz=151,slow=6.8,SNR=32						
SONM	Songino Array	49.84	341	P	P	23 24 26.7	-0.1
KOLN	Koldanda	50.03	306	*e*P	P	23 24 29.1	+0.5
	24nm,0.5s,mb5.5						
KOLN	Koldanda	50.03	306	*e*P	P	23 24 29.1	+0.5
	24nm,0.5s,mb5.5						
DANN	Dangsing	50.13	306	*e*P	P	23 24 29.8	+0.4
	20nm,0.6s,mb5.3						
DANN	Dangsing	50.13	306	*e*P	P	23 24 29.8	+0.4
	20nm,0.6s,mb5.3						
MK31	Makanchi Array	60.21	325	*e*P	P	23 25 41.3	-0.5
MKAR	Makanchi Array	60.21	325	P	P	23 25 41.6	-0.1
	4.5nm,0.4s,mb4.8,baz=118,slow=8.3,SNR=12						
MKAR	Makanchi Array	60.21	325	P	P	23 25 41.6	-0.1
TKM2	Tokmak 2	62.39	319	*e*P	P	23 25 56.4	-0.2
AAK	Ala-Archa	62.99	318	*e*P	P	23 26 00.4	-0.2
ZALV	Zalesovo Beam	63.21	333	P	P	23 26 00.4	-1.4
	0.6nm,0.5s,mb4.0,baz=139,slow=7.5,SNR=4.1						
ZALV	Zalesovo Beam	63.21	333	P	P	23 26 00.4	-1.4
EKS2	Erkin-Say	63.48	318	*e*P	P	23 26 03.8	-0.1
	2.1nm,0.7s,mb4.4						
KURK	Kurchatov	64.39	328	*e*P	P	23 26 09.1	-0.6
	3.9nm,0.6s,mb4.6						
BRVK	Borovoye	70.04	327	*e*P	P	23 26 45.0	-0.5
	2.9nm,0.5s,mb4.5						
ARU	Arti	77.59	328	*e*P	P	23 27 29.2	-0.4

CSEM ***24*** *23:16:12.5, 37.°79N×25.°44W, h1km, ML2.3, After PDA*
PDA 24 23:16:12.5±0.4, 37.°79N×25.°44W, h1km±1km, MD3.5, ML2.3, Error ellipse: s-maj=1.8km s-min=0.6km az=22.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRON	Grota Negra	0.08	251	*i* P	Pg	23 16 14.1	+0.1
GRON				*e*S	Sg	23 16 15.6	+0.6
GRON				A		23 16 16.4	
	1μm,0.2s						
PDA	Ponta Delgada	0.18	255	*e*P	Pg	23 16 16.9	+0.9
PDA				*e*S	Sg	23 16 20.3	+2.0
PDA				A		23 16 22.2	
	533nm,0.3s						
PDA	Ponta Delgada	0.18	255	*e*P	Pg	23 16 16.9	+0.9
PDA				*e*S	Sg	23 16 20.3	+2.0
BART	Pico Bartolome	0.22	94	*e*P	Pg	23 16 17.7	+1.1
BART				*e*S	Sg	23 16 21.9	+2.5
BART	Pico Bartolome	0.22	94	*e*P	Pg	23 16 17.7	+1.1
BART				*e*S	Sg	23 16 21.9	+2.5
PSET	Sete Cidades	0.22	278	*e*P	Pg	23 16 17.8	+1.0
PSET				*e*S	Sg	23 16 21.8	+2.1
PSET				A		23 16 29.3	
	1μm,0.5s						
PSET	Sete Cidades	0.22	278	*e*P	Pg	23 16 17.8	+1.0
PSET				*e*S	Sg	23 16 21.8	+2.1
PSMA	Santa Maria	0.83	163	*e*P	Pg	23 16 27.2	-1.3
PSMA				*e*S	Sg	23 16 37.8	-1.5
PSMA				A		23 16 38.6	
	24nm,0.1s						
PSMN	Pico do Norte,	0.84	159	*e*P	Pg	23 16 27.3	-1.4
PSMN				*e*S	Sg	23 16 38.3	-1.3
PSMN	Pico do Norte,	0.84	159	*e*P	Pg	23 16 27.3	-1.4
PSMN				*e*S	Sg	23 16 38.3	-1.3

IDC ***24*** *23:37:55.1±1.8, 3.°95N×96.°47E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.8/3, Error ellipse: s-maj=110.0km s-min=28.0km az=46.0*
ISCJB ***24*** *23:38:01.1±1.0, 3.°94N±0.°07×96.°6E±0.°1, h57km±11km, mb3.7/3, Error ellipse: s-maj=18.8km s-min=8.5km az=156.1*
DJA ***24*** *23:38:01, 3.°96N×96.°61E, h12km, MLv4.2/8*
ISC 24 23:38:02.0±1.1, 3.°94N±0.°07×96.°6E±0.°1, h48km±13km, n12, σ1°29/16, mb3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		0.92	138	P	Pn	23 38 16.4	-2.2
TPTI				S	Sn	23 38 29.3	-1.4
LHMI	Lhok Sumawe	1.33	17	P	Pn	23 38 23.3	-1.0
LHMI				S	Sn	23 38 41.2	+0.3
BSI	Banda Aceh	1.99	321	P	Pn	23 38 34.2	+0.9
BSI				S	Sn	23 39 02.7	+5.6
TSI	Tuntungan	2.05	102	P	Pn	23 38 35.7	+1.7
TSI				S	Sn	23 39 03.0	+4.6
PSI	Prapat	2.62	116	P	Pn	23 38 44.3	+2.5
KULM	Kulim	4.29	72	P	Pn	23 39 03.1	-1.7
MNSI	Mandailing Nat	4.34	136	P	Pn	23 39 07.0	+1.4
IPM	Ipoh	4.48	83	P	Pn	23 39 07.8	+0.3
CMAR	Chiang Mai Arr	14.61	9	Pn	Pn	23 41 31.8	+5.8
	0.4nm,0.3s,baz=195,slow=10,SNR=7.3						
WRA	Warramunga Arr	44.05	124	P	P	23 46 05.8	+0.2
	1.9nm,0.8s,mb3.9,baz=301,slow=9.2,SNR=17						
MKAR	Makanchi Array	44.44	346	P	P	23 46 07.4	-0.9
	0.9nm,1.0s,mb3.5,baz=160,slow=8.9,SNR=3.8						
BRTR	Keskin Array B	66.81	312	P	P	23 48 48.8	-0.2
	1.3nm,1.0s,mb3.9,baz=124,slow=7.5,SNR=3.6						

ATH ***24*** *23:54:29.8, 40.°60N×22.°76E, h25km±1km, MD3.1/9*
CSEM ***24*** *23:54:30.4±0.1, 40.°58N×22.°81E, h9km, ML2.4/10, Error ellipse: s-maj=2.6km s-min=2.3km az=162.0*
THE 24 23:54:30.7, 40.°59N×22.°80E, h4km±1km, ML2.4/10, Error ellipse: s-maj=1.6km s-min=0.5km az=1.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	Thessaloniki	0.13	73	P	Pg	23 54 33.7	+0.4
THE				S	Sg	23 54 35.3	+0.2
THE	Thessaloniki	0.13	73	P	Pg	23 54 33.7	+0.4
THE				S	Sg	23 54 35.3	+0.2
HORT	Hortiatis	0.23	89	P	Pg	23 54 35.4	+0.3
HORT				S	Sg	23 54 38.0	-0.2
HORT	Hortiatis	0.23	89	P	Pg	23 54 35.4	+0.3
HORT				S	Sg	23 54 38.0	-0.2
GRG	Griva	0.47	320	P	Pg	23 54 40.1	+0.3
GRG				S	Sg	23 54 46.0	+0.1
GRG	Griva	0.47	320	P	Pg	23 54 40.1	+0.3
GRG				S	Sg	23 54 46.0	+0.1
SOH	Sokhos	0.48	62	*e*PN	Pg	23 54 40.1	+0.2
SOH				*e*SN	Sg	23 54 47.4	+1.2
SOH	Sokhos	0.48	62	P	Pg	23 54 40.0	+0.1
SOH				S	Sg	23 54 47.3	+1.1
SOH	Sokhos	0.48	62	P	Pg	23 54 40.0	+0.1
SOH				S	Sg	23 54 47.3	+1.1
PLG	Polygyros	0.54	114	*e*PN	Pg	23 54 40.9	-0.2
PLG				*e*SN	Sg	23 54 49.1	+1.0
PLG	Polygyros	0.54	114	P	Pg	23 54 41.0	-0.1
PLG				S	Sg	23 54 49.3	+1.2
PLG	Polygyros	0.54	114	*e*Pn	Pg	23 54 40.9	-0.2
PLG				S	Sg	23 54 49.3	+1.2
LIT	Litokhoron	0.55	206	*e*PN	Pg	23 54 41.4	+0.2
LIT	Litokhoron	0.55	206	P	Pg	23 54 41.2	0.0
LIT	Litokhoron	0.55	206	P	Pg	23 54 41.2	0.0
KNT	Kendrikon	0.57	8	P	Pg	23 54 41.8	+0.1
KNT				S	Sg	23 54 50.1	+1.0
KNT	Kendrikon	0.57	8	P	Pg	23 54 41.8	+0.1
KNT				S	Sg	23 54 50.1	+1.0
SRS	Serrai	0.80	49	P	Pg	23 54 45.6	-0.4
SRS				S	Sg	23 54 56.4	+0.1
SRS	Serrai	0.80	49	P	Pg	23 54 45.6	-0.4
SRS				S	Sg	23 54 56.4	+0.1
KZN	Kozani	0.83	250	*e*PN	Pn	23 54 45.6	-3.6
KZN				*e*SN	Sg	23 54 57.5	0.0
KZN	Kozani	0.83	250	P	Pg	23 54 46.0	-0.7
KZN				S	Sg	23 54 58.8	+1.3
KZN	Kozani	0.83	250	*e*Pn	Pn	23 54 45.6	-3.6
KZN	Kozani	0.83	250	P	Pg	23 54 46.0	-0.7
KZN				*e*Sn	Sg	23 54 57.5	0.0
KZN				S	Sg	23 54 58.8	+1.3
OUR	Ouranopolis	0.94	106	P	Pg	23 54 48.3	-0.4
OUR				S	Sg	23 55 01.5	+0.6
OUR	Ouranopolis	0.94	106	P	Pg	23 54 48.3	-0.4
OUR				S	Sg	23 55 01.5	+0.6
PAIG	Paliouri	0.95	134	P	Pg	23 54 48.2	-0.7
PAIG				S	Sg	23 55 02.6	+1.4
PAIG	Paliouri	0.95	134	P	Pg	23 54 48.2	-0.7
PAIG				S	Sg	23 55 02.6	+1.4
FNA	Florina	1.10	280	P	Pg	23 54 52.0	+0.3
FNA				S	Sg	23 55 06.5	+0.5
FNA	Florina	1.10	280	P	Pg	23 54 52.0	+0.3
FNA				S	Sg	23 55 06.5	+0.5
NVR	Nevrokopi	1.10	47	*e*PN	Pn	23 54 51.2	-1.7
NVR				*e*SN	Sn	23 55 07.0	-1.6
NVR	Nevrokopi	1.10	47	*e*Pn	Pn	23 54 51.2	-1.7
NVR				*e*Sn	Sn	23 55 07.0	-1.6
THL	Klokotos Trika	1.19	211	*e*PN	Pn	23 54 52.9	-1.2
THL	Klokotos Trika	1.19	211	*e*Pn	Pn	23 54 52.9	-1.2
XOR	Xorichti	1.26	166	P	Pg	23 54 53.3	-1.6
XOR	Xorichti	1.26	166	P	Pg	23 54 53.3	-1.6
NEO	Neokhori	1.33	166	*e*PN	Pn	23 54 54.5	-1.5
NEO	Neokhori	1.33	166	*e*Pb	Pb	23 54 54.2	-1.9
KAVA	Kavala	1.36	72	P	Pn	23 54 55.7	-0.8
KAVA				S	Sg	23 55 15.9	+1.4
KAVA	Kavala	1.36	72	P	Pn	23 54 55.7	-0.8
AGG	Agios Georgios	1.61	193	*e*PN	Pn	23 54 58.7	-1.2
AGG	Agios Georgios	1.61	193	P	Pn	23 54 58.6	-1.3
AGG	Agios Georgios	1.61	193	*e*Pn	Pn	23 54 58.7	-1.2
EVR	Evrytania	1.84	205	*e*PN	Pn	23 55 02.3	-0.7
EVR	Evrytania	1.84	205	*e*Pn	Pn	23 55 02.8	-0.2
RDO	Rodhopi	2.15	74	*e*PN	Pn	23 55 06.6	-0.7
RDO	Rodhopi	2.15	74	*e*Pn	Pn	23 55 06.6	-0.7
ALN	Alexandroupoli	2.49	82	*e*PN	Pn	23 55 11.2	-0.7
ALN	Alexandroupoli	2.49	82	P	Pn	23 55 11.3	-0.6
ALN	Alexandroupoli	2.49	82	*e*Pn	Pn	23 55 11.2	-0.7

ISCJB ***24*** *23:55:57.2±0.5, 38.°31N±0.°03×22.°09E±0.°03, h10km, Error ellipse: s-maj=4.9km s-min=3.6km az=162.2*
THE ***24*** *23:55:57.7, 38.°33N×22.°08E, h0km±2km, ML1.5/4, Error ellipse: s-maj=2.4km s-min=0.9km az=344.0*
CSEM ***24*** *23:55:57.2±0.2, 38.°31N×22.°09E, h8km, ML1.5/4, Error ellipse: s-maj=6.6km s-min=4.9km az=11.0*
ATH ***24*** *23:55:58.0, 38.°30N×22.°07E, h7km, MD2.7/5*
ISC 24 23:55:57.5±0.5, 38.°32N±0.°03×22.°08E±0.°03, h10km, n21, σ0°85/39, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	Trizonia	0.05	353	P	Pg	23 55 58.0	-1.6
TRIZ				S	Sg	23 55 59.0	-2.0
TRIZ	Trizonia	0.05	353	P	Pg	23 55 58.0	-1.6
TRIZ				S	Sg	23 55 59.0	-2.0
KALE	Kalithea	0.09	31	P	Pg	23 55 59.8	-0.2
KALE				S	Sg	23 56 01.1	-0.7
KALE	Kalithea	0.09	31	P	Pg	23 55 59.8	-0.2
KALE				S	Sg	23 56 01.1	-0.7
LAKA	Lakka	0.11	227	P	Pg	23 56 00.2	-0.1
LAKA				S	Sg	23 56 02.3	+0.1
LAKA	Lakka	0.11	227	P	Pg	23 56 00.2	-0.1
LAKA				S	Sg	23 56 02.3	+0.1
EFP	Efpalio	0.18	309	*e*PG	Pg	23 56 01.5	+0.1
EFP				*e*SG	Sg	23 56 04.3	+0.3
EFP	Efpalio	0.18	309	*e*Pg	Pg	23 56 01.1	-0.3
EFP				*e*Sg	Sg	23 56 04.3	+0.3
UPR	University Cam	0.23	262	*e*PG	Pg	23 56 02.6	+0.3
UPR				*e*SG	Sg	23 56 06.2	+0.6
UPR	University Cam	0.23	262	*e*Pg	Pg	23 56 02.6	+0.3
UPR				*e*Sg	Sg	23 56 06.5	+0.9
DESF	Desfina	0.37	74	P	Pg	23 56 03.8	-1.0
DESF				S	Sg	23 56 10.0	+0.3
DESF	Desfina	0.37	74	P	Pg	23 56 03.8	-1.0
DESF				S	Sg	23 56 10.0	+0.3
GUR	Goura	0.43	151	*e*PB	Pg	23 56 06.1	+0.1
GUR	Goura	0.43	151	*e*Pb	Pg	23 56 06.1	+0.1
RLS	Riolos of Patr	0.55	242	*e*PG	Pg	23 56 08.1	-0.1
EVR	Evrytania	0.64	341	*e*PB	Pg	23 56 09.9	0.0
EVR				*e*SB	Sb	23 56 19.9	+0.1
EVR	Evrytania	0.64	341	P	Pg	23 56 09.6	-0.3
EVR				S	Sg	23 56 19.4	+1.1
EVR	Evrytania	0.64	341	P	Pg	23 56 09.6	-0.3
EVR				S	Sg	23 56 19.4	+1.1
EVR				*e*Sb	Sb	23 56 19.9	+0.1
LKR	Lokris	0.80	65	*e*PB	Pg	23 56 13.4	+0.5
LKR	Lokris	0.80	65	P	Pg	23 56 13.4	+0.5
LKR				S	Sg	23 56 25.3	+2.0
LKR	Lokris	0.80	65	P	Pg	23 56 13.4	+0.5
LKR				S	Sg	23 56 25.3	+2.0

MAN ***24*** *23:56:49, 8.°44N×126.°74E, h108km, mb5.6, ML4.6, MS4.9*
MAN INTENSITY II - BISLIG CITY; BUTUAN CITY.
IDC ***24*** *23:56:49.4±1.4, 8.°58N×126.°63E, h44km±12km, mb4.5/27, mb1 4.6/29, mb1mx4.6/30, mbtmp4.5/29, ML4.3/2, MS4.1/13, Ms1 4.1/13, ms1mx3.8/44, Error ellipse: s-maj=18.2km s-min=9.1km az=75.0*
ISCJB ***24*** *23:56:52.7±0.5, 8.°49N±0.°02×126.°54E±0.°04, h88km±4km, mb4.8/70, Error ellipse: s-maj=7.0km s-min=3.4km az=159.9*
MOS ***24*** *23:56:52.3±1.2, 8.°57N×126.°46E, h81km, mb5.0/18, Error ellipse: s-maj=12.8km s-min=6.3km az=118.8*
DJA ***24*** *23:56:54, 8.°16N×126.°65E, h10km, mb5.1/15*
NEIC ***24*** *23:56:54.8±0.9, 8.°41N×126.°44E, h91km±8km, mb5.0/31, Error ellipse: s-maj=8.0km s-min=5.2km az=69.0*
NEIC Felt [II PIVS] at Bislig and Butuan. Also felt at Davao.
BJI ***24*** *23:56:58.2, 9.°13N×126.°27E, h88km, mB4.9/28, mb4.7/38, Ms4.5/25, Ms7 4.3/24*
ISC 24 23:56:54.1±0.4, 8.°48N±0.°02×126.°51E±0.°04, h84km±4km, h97km±3.5km; pP-P, n280, σ1°24/271, mb4.8/70, 11C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.55	189	*e*P	Pn	23 57 15.3	-4.9
MATI				*e*S	Sn	23 57 39.1	-0.9
BUKP	Musuan	1.56	247	*e*P	Pn	23 57 19.8	-0.6
BUKP				*e*S	Sn	23 57 41.9	+1.7
DAV	Davao City (W)	1.68	213	P	Pn	23 57 20.1	-1.9
	214nm,0.3s,baz=42,slow=2.9,SNR=107						
DAV				S	Sn	23 57 44.7	+1.7
	396nm,0.3s,baz=94,slow=19,SNR=11						
DAV				LR	LR	23 58 24.6	
	comp=Z,16μm,19.4s,baz=20,slow=52						
DAV	Davao City (W)	1.68	213	*e*Pn	Pn	23 57 20.4	-1.5
DAV				*e*Sn	Sn	23 57 41.2	-1.8
DAV	Davao City (W)	1.68	213	P	Pn	23 57 21.3	-0.7
DMPH	Davao City--Mi	1.71	216	↑*i*P	Pn	23 57 20.9	-1.4
DMPH				*i* S	Sn	23 57 45.0	+1.3
CGP	Cagayan de Oro	1.80	269	↑*i*P	Pn	23 57 22.9	-0.6
CGP				*i* S	Sn	23 57 46.5	+0.7
KCP	Kidapawan	2.03	224	↑*e*P	Px	23 57 37.3	
MSLP	Maasin	2.31	315	*e*P	Pn	23 57 28.9	-1.5
CTBH	Cotabato--PC H	2.57	241	↓*e*P	Pn	23 57 32.0	-1.7
TBP	Tagbilaran	2.88	295	*e*P	Pn	23 57 37.2	-0.7
TBP				*e*S	Sn	23 58 11.8	+0.1
PLP	Palo	3.06	331	↑*e*P	Pn	23 57 38.5	-2.0
PLP				*e*S	Sn	23 58 17.5	+1.4
LLP	Lapu-Lapu	3.10	306	↓*e*P	Pn	23 57 39.9	-1.0
LLP				*e*S	Sn	23 58 19.5	+2.4
PAGZ	Pagadian	3.16	259	*e*P	Pn	23 57 43.0	+1.3
OCLP	Ormoc	3.17	324	*e*P	Pn	23 57 42.0	+0.1
GUIM	Jordan	4.42	299	*e*P	Pn	23 57 58.3	-0.5
RCP	Roxas	4.81	310	↑*i*P	Pn	23 58 04.4	+0.3
SGSI	Sangihe	4.86	192	P	Pn	23 58 04.7	-0.2
PVCP	Virac	5.58	336	*e*P	Pn	23 58 12.6	-2.1
OTRP	Odiongan	5.86	311	*e*P	Pn	23 58 19.1	+0.6
CUYO	Cuyo Island	5.91	294	*e*P	Pn	23 58 18.6	-0.5
MNI	Manado	7.19	193	P	Pn	23 58 37.4	+0.8
	4μm258nm,0.6s						
ENPP	El Nido	7.49	292	*e*P	Pn	23 58 40.1	-0.6
TNTI	Ternate	7.71	174	P	Pn	23 58 44.4	+0.7
	4μm416nm,1.4s						
TGY	Tagaytay City	7.81	316	P	Pn	23 58 45.6	+0.4
	42nm,0.3s,baz=211,slow=18,SNR=3.5						
TGY	Tagaytay City	7.81	316	P	Pn	23 58 45.6	+0.4
TGY	Tagaytay City	7.81	316	P	Pn	23 58 45.6	+0.5
GTOI	Gorontalo	8.54	204	P	Pn	23 58 52.7	-2.4
	2μm282nm,0.8s						
MYLDM	Lahad Datu	8.61	248	P	Pn	23 59 02.3	+6.4
	0.3nm2μm47nm,1.2s						
LBMI	Labuha	9.11	174	P	Pn	23 59 04.3	+1.4
	2μm242nm,0.9s						
LUWI	Luwuk	10.17	202	P	Pn	23 59 19.6	+2.3
	2μm201nm,1.2s						
NLAI	Namlea	11.66	177	P	Pn	23 59 35.5	-2.1
	109nm,0.8s						
MSAI	Masohi	11.99	168	P	Pn	23 59 35.9	-6.3
AAI	Ambon	12.20	172	P	Pn	23 59 47.1	+2.1
	82nm,0.8s						
FAKI	Fak Fak	12.69	153	P	Pn	23 59 48.2	-3.3
	42nm,0.8s						
KDI	Kendari	12.95	198	P	Pn	23 59 58.0	+3.0
	982nm35nm,1.0s						
KAPI	Kappang	15.01	207	P	Pn	00 00 19.6	-2.1
	0.4nm,0.3s,baz=32,slow=9.2,SNR=8.5						
KAPI				LR	LR	00 06 24.3	
	comp=Z,447nm,21.7s,baz=251,slow=38						
KAPI	Kappang	15.01	207	*e*Pn	Pn	00 00 19.6	-2.1
KAPI	Kappang	15.01	207	P	Pn	00 00 21.6	-0.2
	37nm,1.1s						
BKSI	Bulukumba	15.12	205	P	Pn	00 00 24.1	+0.9
TLE	Tual	15.34	156	P	Pn	00 00 26.4	+0.4
	52nm,0.8s						
SBUM	Sibu	15.43	248	P	Pn	00 00 33.0	+5.8
SBUM	Sibu	15.43	248	P	Pn	00 00 32.4	+5.2
	96nm,1.2s						
YULB	Yu-li	15.65	342	*e*Pn	Pn	00 00 32.0	+2.2
	110nm,2.0s						
SSLB	Suanglung	16.12	341	*e*P	Pn	00 00 38.4	+2.6
	22nm,0.8s						
NACB	Ninganchiao	16.30	344	*e*Pn	Pn	00 00 39.3	+1.4
	359nm,2.5s						
MMRI	Maumere	17.53	194	P	Pn	00 00 57.2	+4.0
	81nm,1.1s						
KSM	Kuching	17.57	248	P	Pn	00 00 58.4	+4.7
KSM	Kuching	17.57	248	*e*Pn	Pn	00 00 54.5	+0.8
	76nm,1.3s						
KSM	Kuching	17.57	248	P	Pn	00 00 58.9	+5.2
JOW	Kunigami	18.33	5	P	Pn	00 01 00.9	-1.8
	3.0nm,0.3s,baz=181,slow=10,SNR=8.0						
JOW				LR	LR	00 07 41.7	
	comp=Z,693nm,20.4s,baz=150,slow=36						
JOW	Kunigami	18.33	5	*e*P	Pn	00 01 03.7	+1.0
GUMO	Guam	18.71	73	LR	LR	00 06 43.6	
	comp=Z,635nm,19.6s,baz=249,slow=32						
QIZ	Qiongzhong	19.27	305	P	Pn	00 01 11.9	-2.1
QIZ				LR	LR		
	comp=N,610nm,17.5s						
QIZ				LR	LR		
	comp=Z,970nm,21.6s						
CBIJ	Chichi jima	23.73	37	LR	LR	00 10 10.7	
	comp=Z,307nm,18.1s,baz=289,slow=34						
IPM	Ipoh	25.63	263	P	P	00 02 19.0	+2.9
IPM	Ipoh	25.63	263	*e*P	P	00 02 17.1	+1.0
	comp=Z,48nm,0.9s,mb4.9						
KULM	Kulim	25.87	265	P	P	00 02 21.3	+3.0
KULM	Kulim	25.87	265	*e*P	P	00 02 19.8	+1.5
	comp=Z,43nm,0.9s,mb4.9						
GYA	Guiyang	25.97	316	P	P	00 02 18.9	-0.1
GYA				pP	pP	00 02 41.8	+3.6
GYA				sP	sP	00 02 53.6	+5.6
GYA				PP		00 03 04.5	
GYA				S	S	00 06 40.0	-3.6
GYA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,660nm,15.9s						
GYA				LR	LR		
	comp=E,580nm,16.0s						
GYA				LR	LR		
	comp=Z,730nm,14.7s						
FITZ	Fitzroy Crossi	26.43	182	P	P	00 02 22.7	-0.4
	comp=Z,69nm,0.7s,mb5.2,baz=5.0,slow=13,SNR=26						
FITZ	Fitzroy Crossi	26.43	182	*e*P	P	00 02 22.6	-0.6
FITZ	Fitzroy Crossi	26.43	182	*e*P	P	00 02 22.7	-0.4
	comp=Z,72nm,0.8s,mb5.2						
PMG	Port Moresby	27.18	130	P	P	00 02 28.2	-1.8
	comp=Z,14nm,0.7s,mb4.7,baz=333,slow=11,SNR=7.3						
PMG	Port Moresby	27.18	130	*e*P	P	00 02 29.3	-0.7
PMG	Port Moresby	27.18	130	*

MJAR LR LR 00 15 06.6
comp=Z,281nm,18.3s,baz=210,slow=37
MJAR Matsushiro Arr 29.89 19 P P 00 02 51.8 -2.1
MJAR Matsushiro Arr 29.89 19 P P 00 02 51.8 -2.1
CD2 Chengdu 30.80 320 *e*P **P 00 03 04.3 +2.3**
CD2 pP pP 00 03 26.1 +4.7
CD2 sP sP 00 03 38.0 +6.8
CD2 S **S 00 08 00.4 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
CD2 pmax pmax
comp=Z,30nm,7.2s
CD2 LR LR
comp=N,620nm,20.2s
CD2 LR LR
comp=E,640nm,19.0s
CD2 LR LR
comp=Z,490nm,19.2s
BJI Beijing 32.75 345 P **P 00 03 17.6 -1.4**
BJI pmax pmax
comp=Z,12nm,0.8s,mb4.8
BJI pmax pmax
comp=Z,100nm,3.7s
AS31 Alice Springs 32.76 167 *e*P **P 00 03 18.1 -1.0**
AS31 *e*ScP ScP 00 09 41.8 +2.2
SNY Shenyang 33.31 356 ⇓P **P 00 03 24.0 +0.2**
SNY pmax pmax
comp=Z,33nm,0.8s,mb5.2
SNY LR LR
comp=N,460nm,19.5s
SNY LR LR
comp=E,270nm,15.0s
SNY LR LR
comp=Z,360nm,18.0s
LZH Lanzhou 34.38 326 *e*P **P 00 03 35.8 +2.6**
LZH pP pP 00 03 54.0 +1.2
LZH pmax pmax
comp=Z,16nm,1.0s,mb4.8
LZH LR LR
comp=N,360nm,15.8s
LZH LR LR
comp=E,290nm,15.0s
LZH LR LR
comp=Z,420nm,13.8s
CTA Charters Tower 34.40 146 P **P 00 03 32.6 -0.9**
comp=Z,5.6nm,0.8s,mb4.4,baz=317,slow=12,SNR=14
CTA ScP ScP 00 09 50.5 +5.0
comp=Z,8.3nm,0.8s,baz=313,slow=6.9,SNR=9.8
CTA Charters Tower 34.40 146 *e*P **P 00 03 33.7 +0.2**
CTA Charters Tower 34.40 146 P **P 00 03 32.6 -0.9**
CTA ScP ScP 00 09 50.5 +5.0
CTA Charters Tower 34.40 146 P **P 00 03 32.6 -0.9**
CTAO Charters Tower 34.40 146 *e*P **P 00 03 33.5 0.0**
comp=Z,15nm,1.2s,mb4.7
CTAO Charters Tower 34.40 146 *e*P **P 00 03 33.5 0.0**
CTAO pmax pmax
comp=Z,15nm,1.2s,mb4.7
HHC Hu-ho-hao-te 34.87 340 *e*P **P 00 03 39.4 +2.1**
HHC pP pP 00 04 01.6 +4.7
HHC sP sP 00 04 13.4 +6.8
HHC S **S 00 09 05.8 +3.5**
HHC pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
HHC pmax pmax
comp=Z,160nm,4.9s
HHC LR LR
comp=N,280nm,16.3s
HHC LR LR
comp=E,240nm,12.9s
HHC LR LR
comp=Z,310nm,15.5s
CN2 Changchun 35.19 359 *e*P **P 00 03 43.4 +3.3**
CN2 *e*S **S 00 09 10.1 +2.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MEEK Meekatharra 35.74 192 *e*P **P 00 03 45.4 +0.4**
USRK Ussuriysk Arra 35.90 7 P **P 00 03 46.2 +0.1**
comp=Z,15nm,0.6s,mb5.1,baz=180,slow=7.8,SNR=38
USRK LR LR 00 16 05.2
comp=Z,209nm,21.9s,baz=341,slow=32
ASAJ Asahikawa 38.16 19 *e*P **P 00 04 06.7 +1.4**
comp=Z,23nm,1.0s,mb5.0
GTA Gaotai 38.99 326 ⇓P **P 00 04 11.8 -0.5**
GTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GTA pmax pmax
comp=Z,50nm,5.7s
GTA LR LR
comp=N,270nm,15.7s
GTA LR LR
comp=E,250nm,15.9s
GTA LR LR
comp=Z,340nm,17.8s
FORT Forrest 39.06 178 *e*P **P 00 04 13.2 +0.2**
comp=Z,852nm,2.9s
KMBL Kambalda 39.87 186 *e*P **P 00 04 20.1 +0.4**
KLBR Kellerberrin 40.72 191 *e*P **P 00 04 27.5 +0.8**
comp=Z,52nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 40.77 17 P **P 00 04 27.0 +0.1**
KLR Kul'dur 40.85 5 *e*P **P 00 04 23.8 -3.8**
TAPN Taplejung 41.18 302 *e*P **P 00 04 30.5 -0.1**
comp=Z,50nm,0.7s,mb5.4
TAPN Taplejung 41.18 302 *e*P **P 00 04 30.5 -0.1**
comp=Z,50nm,0.7s,mb5.5
ODAN Odare 41.29 301 *e*P **P 00 04 31.9 +0.4**
comp=Z,74nm,0.8s,mb5.5
ODAN Odare 41.29 301 *e*P **P 00 04 31.9 +0.4**
comp=Z,74nm,0.8s,mb5.6
RAMN Ramite 41.98 301 *e*P **P 00 04 37.4 +0.2**
RAMN Ramite 41.98 301 *e*P **P 00 04 37.4 +0.2**
NWAO Narrogin (SRO) 42.12 192 P **P 00 04 39.2 +1.1**
comp=Z,18nm,0.8s,mb4.8,baz=26,slow=8.4,SNR=10
NWAO Narrogin (SRO) 42.12 192 P **P 00 04 39.2 +1.1**
NWAO Narrogin (SRO) 42.12 192 P **P 00 04 39.2 +1.1**
JIRN Jiri 42.55 302 *e*P **P 00 04 42.1 +0.3**
comp=Z,88nm,0.9s,mb5.5
JIRN Jiri 42.55 302 *e*P **P 00 04 42.1 +0.3**
comp=Z,88nm,0.9s,mb5.5
ULN Ulaanbaatar 42.58 341 *e*P **P 00 04 41.0 -0.7**
comp=Z,6.6nm,0.8s,mb4.4
ULN Ulaanbaatar 42.58 341 *e*P **P 00 04 41.0 -0.7**
ULN pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
STKA Stephens Creek 42.64 161 P **P 00 04 41.8 -0.6**
comp=Z,13nm,0.7s,mb4.8,baz=334,slow=7.3,SNR=34
STKA ScP ScP 00 10 19.9 +3.3
comp=Z,5.6nm,0.8s,baz=338,slow=7.7,SNR=8.3
STKA Stephens Creek 42.64 161 *e*P **P 00 04 41.7 -0.7**
STKA Stephens Creek 42.64 161 *e*P **P 00 04 41.8 -0.6**
comp=Z,2.5nm,0.7s,mb4.0
STKA ScP ScP 00 10 19.9 +3.3
STKA Stephens Creek 42.64 161 *e*P **P 00 04 41.8 -0.6**
STKA pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 42.77 340 P **P 00 04 42.3 -0.9**
comp=Z,1.8nm,0.7s,mb3.9,baz=157,slow=11,SNR=11
SONM PcP PcP 00 06 33.7 +0.4
comp=Z,2.2nm,0.7s,baz=158,slow=3.1,SNR=5.1
SONM LR LR 00 24 10.6
comp=Z,212nm,21.0s,baz=191,slow=38
SONM Songino Array 42.77 340 P **P 00 04 42.3 -0.9**
SONM PcP PcP 00 06 33.7 +0.4
SONM Songino Array 42.77 340 P **P 00 04 42.3 -0.9**
SONM 00 06 33.7
GUN Gumba 42.90 302 *e*P **P 00 04 45.3 +0.7**
comp=Z,80nm,0.8s,mb5.5
GUN Gumba 42.90 302 *e*P **P 00 04 45.3 +0.7**
comp=Z,80nm,0.8s,mb5.5
PKI Pulchoki 43.18 301 *e*P **P 00 04 46.8 -0.1**
PKI Pulchoki 43.18 301 *e*P **P 00 04 46.8 -0.1**
PKI Pulchoki 43.18 301 *e*P **P 00 04 46.8 -0.1**
KKN Kakani 43.36 302 *e*P **P 00 04 48.4 0.0**
KKN Kakani 43.36 302 *e*P **P 00 04 48.4 0.0**
KKN Kakani 43.36 302 *e*P **P 00 04 48.4 0.0**
DMN Daman 43.45 301 *e*P **P 00 04 49.4 +0.3**
comp=Z,75nm,1.1s,mb5.3
DMN Daman 43.45 301 *e*P **P 00 04 49.4 +0.3**
comp=Z,75nm,1.1s,mb5.3
GKN Gorkha 43.97 302 *e*P **P 00 04 52.9 -0.3**
GKN Gorkha 43.97 302 *e*P **P 00 04 52.9 -0.3**
KOLN Koldanda 44.77 301 *e*P **P 00 05 01.0 +1.3**
comp=Z,78nm,0.7s,mb5.5
KOLN Koldanda 44.77 301 *e*P **P 00 05 01.0 +1.3**
comp=Z,78nm,0.7s,mb5.5
DANN Dangsing 44.81 302 *e*P **P 00 05 00.1 +0.2**
comp=Z,63nm,0.7s,mb5.4
DANN Dangsing 44.81 302 *e*P **P 00 05 00.1 +0.2**
comp=Z,63nm,0.7s,mb5.5
ARMA Armidale 45.58 149 *e*P **P 00 05 07.2 +1.3**
MDRS Chennai 45.63 280 *e*x **P 00 05 04.2 -2.4**
MDRS *e*x x 00 12 04.2
MDRS *e*x x 00 19 04.2
MDRS *e*x x 00 23 58.2
ZAK Zakamensk 46.01 339 *e*P **P 00 05 09.8 +0.8**
TLY Talaya 46.99 341 *e*P **P 00 05 15.7 -1.0**
TLY *e*S **S 00 12 10.7 +8.9**
TLY *e*SSS 00 16 34.4
TLY pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
TLY MLR MLR
comp=Z,93nm,17.0s
ARPS Mount Arapiles 47.26 163 *e*P **P 00 05 18.6 -0.3**
comp=Z,47nm,0.8s,mb5.3
HYB Hyderabad 47.47 286 *i*P **P 00 05 20.0 -0.9**
WMQ Urumqi 48.78 323 P **P 00 05 31.0 +0.4**
WMQ pP pP 00 05 54.3 +3.1
WMQ sP sP 00 06 05.5 +4.9
WMQ *e*S **S 00 12 25.4 -2.0**
WMQ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WMQ pmax pmax
comp=Z,390nm,7.4s
WMQ LR LR
comp=N,530nm,25.4s
WMQ LR LR
comp=E,340nm,22.5s
WMQ LR LR
comp=Z,180nm,17.8s
TOO Toolangi 49.13 160 *e*P **P 00 05 34.2 +0.8**
BOD Bodaibo 50.16 351 *e*P **P 00 05 39.8 -1.1**
BOD pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PETK Petropavlovsk- 51.16 24 P **P 00 05 49.4 +0.8**
comp=Z,16nm,0.6s,mb5.2,baz=205,slow=6.0,SNR=15
PETK Petropavlovsk- 51.16 24 P **P 00 05 49.4 +0.8**
PETK Petropavlovsk- 51.16 24 P **P 00 05 49.4 +0.9**
MK31 Makanchi Array 53.59 323 *e*P **P 00 06 06.3 -0.3**
MK31 Makanchi Array 53.59 323 *e*P **P 00 06 06.3 -0.3**
MKAR Makanchi Array 53.59 323 P **P 00 06 05.9 -0.7**
comp=Z,7.6nm,0.7s,mb4.8,baz=120,slow=8.0,SNR=48
MKAR PcP PcP 00 07 11.6 -0.6
comp=Z,5.3nm,0.8s,baz=131,slow=3.8,SNR=3.7
MKAR ScP ScP 00 11 08.1 +5.4
comp=Z,0.8nm,0.8s,baz=95,slow=5.3,SNR=3.3
MKAR Makanchi Array 53.59 323 *e*P **P 00 06 06.3 -0.3**
MKAR PcP PcP 00 07 11.6 -0.6
MKAR ScP ScP 00 11 08.1 +5.4
MKAR Makanchi Array 53.59 323 *e*P **P 00 06 06.3 -0.3**
MKAR 00 07 11.6
KSH Kashi 54.61 313 P **P 00 06 18.5 +4.4**
KSH pP pP 00 06 42.4 +7.4
KSH sP sP 00 06 53.5 +9.1
KSH PcP PcP 00 07 18.8 +2.6
KSH PP PP 00 08 24.4 +7.0
KSH ScP ScP 00 11 07.4 +0.1
KSH PcS PcS 00 11 17.3 +1.4
KSH S **S 00 13 51.9 +4.3**
KSH pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KSH pmax pmax
comp=Z,110nm,5.3s
KSH LR LR
comp=N,190nm,6.9s
KSH LR LR
comp=E,220nm,7.3s
KSH LR LR
comp=Z,240nm,8.1s
TKM2 Tokmak 2 56.11 317 *e*P **P 00 06 24.8 -0.1**
comp=Z,5.6nm,0.9s,mb4.6
TKM2 Tokmak 2 56.11 317 *e*P **P 00 06 24.8 -0.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ZAA0 Zalesovo Array 56.30 332 *e*P **P 00 06 24.3 -1.7**
ZAA0 *e*PcP PcP 00 07 20.8 -1.6
ZALV Zalesovo Beam 56.30 332 P **P 00 06 24.4 -1.6**
comp=Z,5.8nm,0.6s,mb4.8,baz=133,slow=6.8,SNR=32
ZALV PcP PcP 00 07 20.7 -1.8
comp=Z,2.8nm,0.6s,baz=134,slow=4.2,SNR=2.5
ZALV Zalesovo Beam 56.30 332 P **P 00 06 24.4 -1.6**
ZALV PcP PcP 00 07 20.7 -1.8
ZALV Zalesovo Beam 56.30 332 P **P 00 06 24.4 -1.6**
ZALV 00 07 20.7
AAK Ala-Archa 56.76 316 *e*P **P 00 06 30.2 +0.8**
comp=Z,18nm,0.9s,mb5.1
AAK Ala-Archa 56.76 316 ⇓*i*P **P 00 06 29.5 0.0**
AAK pmax pmax
comp=Z,15nm,2.3s,mb4.6
MSVF Nonsavu 57.18 117 *e*P **P 00 06 35.0 +2.2**
MSVF Nonsavu 57.18 117 *e*P **P 00 06 35.0 +2.2**
MSVF Nonsavu 57.18 117 P **P 00 06 34.9 +2.1**
comp=Z,247nm,0.9s,SNR=5.4
EKS2 Erkin-Say 57.26 316 *e*P **P 00 06 33.8 +0.8**
EKS2 Erkin-Say 57.26 316 *e*P **P 00 06 33.8 +0.8**
SEY Seymchan 57.49 14 *c*e**P P 00 06 35.9 +1.7**
KURK Kurchatov 57.67 326 P **P 00 06 34.9 -0.8**
comp=Z,9.4nm,0.6s,mb5.0,baz=123,slow=6.8,SNR=135
KURK Kurchatov 57.67 326 *e*P **P 00 06 33.9 -1.9**
comp=Z,16nm,1.1s,mb5.0
KURK Kurchatov 57.67 326 ⇑*i*P **P 00 06 34.8 -0.9**
KURK pmax pmax
comp=Z,13nm,1.3s,mb4.8
FX1 Attu Island--F 58.12 31 *e*P **P 00 06 40.9 +2.0**
FX1 Attu Island--F 58.12 31 *e*P **P 00 06 40.9 +2.0**
KBL Kabul 58.55 305 *e*P **P 00 06 42.4 +0.2**
comp=Z,14nm,0.7s,mb5.1
BVA0 Borovoye Array 63.27 326 *i*P **P 00 07 13.2 -0.6**
BVAR Borovoye Array 63.27 326 P **P 00 07 13.2 -0.6**
comp=Z,14nm,0.7s,mb5.0,baz=129,slow=8.8,SNR=54
BVAR Borovoye Array 63.27 326 P **P 00 07 13.2 -0.6**
BVAR Borovoye Array 63.27 326 P **P 00 07 13.2 -0.6**
BRVK Borovoye 63.34 326 *e*P **P 00 07 14.0 -0.3**
comp=Z,21nm,0.7s,mb5.2
BRVK Borovoye 63.34 326 ⇓*e*P **P 00 07 14.0 -0.3**
BRVK pmax pmax
comp=Z,32nm,1.1s,mb5.2
AFI Afiamalu 65.15 110 LR LR 00 29 20.7
comp=Z,552nm,20.5s,baz=41,slow=30
AB31 Akbulak array 68.38 320 *i*P **P 00 07 45.9 -0.8**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
ABKAR Akbulak array 68.38 320 *e*P **P 00 07 46.0 -0.7**
SVE Sverdlovsk 69.84 328 *c*e**P P 00 07 55.4 -0.2**
SVE pmax pmax
comp=Z,26nm,0.8s,mb5.1
AKTO Aktyubinsk 69.85 321 P **P 00 07 55.0 -0.8**
comp=Z,5.7nm,0.8s,mb4.4,baz=83,slow=7.5,SNR=13
AKTO LR LR 00 41 42.8
comp=Z,196nm,18.2s,baz=278,slow=39
AKTO Aktyubinsk 69.85 321 P **P 00 07 55.0 -0.8**
AKTO Aktyubinsk 69.85 321 P **P 00 07 55.0 -0.8**
ARU Arti 70.84 327 *e*P **P 00 08 00.8 -0.9**
comp=Z,19nm,0.6s,mb5.1
ARU Arti 70.84 327 *d i*P **P 00 08 00.8 -0.9**
ARU S S 00 17 09.3 -0.9
ARU pmax pmax
comp=Z,15nm,0.6s,mb5.0
ARU Arti 70.84 327 P **P 00 08 00.5 -1.2**
comp=Z,199nm,0.6s,SNR=11
KDAK Kodiak Island 78.02 33 *e*P **P 00 08 45.2 +1.9**
KDAK Kodiak Island 78.02 33 *i*P **P 00 08 44.7 +1.4**
GNI Garni 78.31 309 P **P 00 08 47.0 +1.7**
comp=Z,3.9nm,0.7s,mb4.2,baz=80,slow=6.1,SNR=5.2
GNI LR LR 00 47 50.1
comp=Z,134nm,18.1s,baz=276,slow=39
GNI Garni 78.31 309 P **P 00 08 47.0 +1.7**
GNI Garni 78.31 309 P **P 00 08 47.0 +1.7**
TRF Thorofare Moun 79.42 27 *e*P **P 00 08 52.5 +1.6**
RC01 Rabbit Creek A 79.61 29 *e*P **P 00 08 52.7 +0.8**
comp=Z,8.6nm,0.5s,mb4.8
COLD Coldfoot 79.63 23 *e*P **P 00 08 54.2 +2.3**
SEW Seward 79.73 30 *e*P **P 00 08 53.5 +0.9**
PMR Palmer 79.91 29 *e*P **P 00 08 54.4 +0.8**
PMR Palmer 79.91 29 *e*P **P 00 08 54.4 +0.8**
MCK McKinley 80.04 27 *e*P **P 00 08 54.7 +0.5**
comp=Z,11nm,0.5s,mb4.9
MCK McKinley 80.04 27 *e*P **P 00 08 54.7 +0.5**
MCK pmax pmax
comp=Z,11nm,0.5s,mb4.9
SML Sawmill 80.29 29 *e*P **P 00 08 57.3 +1.7**
SML Sawmill 80.29 29 *e*P **P 00 08 57.3 +1.7**
ILAR Eielson Array 80.94 26 P **P 00 08 58.7 -0.4**
comp=Z,2.7nm,0.6s,mb4.3,baz=279,slow=3.8,SNR=72
ILAR PKKPbc PKKPbc 00 27 36.4 -2.6
comp=Z,0.2nm,0.5s,baz=128,slow=3.0,SNR=5.1
ILAR Eielson Array 80.94 26 P **P 00 08 58.7 -0.4**
ILAR PKKPbc PKKPbc 00 27 36.4 -2.6
ILAR Eielson Array 80.94 26 P **P 00 08 58.7 -0.3**
ILAR 00 27 36.4
OPO Ambohidratompo 82.68 250 LR LR 00 40 29.6
comp=Z,189nm,20.8s,baz=3.5,slow=32
EGAK Eagle 83.39 26 *e*P **P 00 09 13.8 +2.0**
APA Apatity 83.41 337 ⇑*i*P **P 00 09 09.0 -2.9**
APA MLR MLR
comp=Z,700nm,20.0s
JOF Joensuu 84.88 333 *e*P **P 00 09 17.8 -1.6**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
JOF Joensuu 84.88 333 *e*p **P 00 09 17.8 -1.6**
comp=Z,7.5nm,0.6s,mb4.8
KEV Kevo 85.38 340 *e*P **P 00 09 20.0 -1.8**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KEV Kevo 85.38 340 *e*p **P 00 09 20.0 -1.8**
comp=Z,5.2nm,0.8s,mb4.5
INK Inuvik 85.85 22 PKKPbc PKKPbc 00 27 24.3 -3.3
comp=Z,1.6nm,1.1s,baz=166,slow=2.9,SNR=3.7
INK Inuvik 85.85 22 PKKPbc PKKPbc 00 27 24.3 -3.3
ARCES ARCESS Array B 85.94 340 P **P 00 09 23.8 -0.8**
comp=Z,9.4nm,0.7s,mb4.8,baz=77,slow=6.0,SNR=19
ARCES ARCESS Array B 85.94 340 P **P 00 09 23.8 -0.8**
ARCES ARCESS Array B 85.94 340 P **P 00 09 23.8 -0.8**
BRTR Keskin Array B 86.84 310 P **P 00 09 28.4 -1.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=106,slow=4.8,SNR=6.1
BRTR Keskin Array B 86.84 310 P **P 00 09 28.4 -1.3**
BRTR Keskin Array B 86.84 310 *c*e**P P 00 09 29.0 -0.7**
FINES FINESS Array B 87.57 332 P **P 00 09 31.7 -1.0**
comp=Z,8.5nm,0.8s,mb4.8,baz=72,slow=4.5,SNR=29
FINES FINESS Array B 87.57 332 P **P 00 09 31.7 -1.0**
FINES FINESS Array B 87.57 332 P **P 00 09 31.7 -1.0**
AKASG Malin Array Be 88.09 321 P **P 00 09 34.2 -1.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=68,slow=4.8,SNR=12
AKASG Malin Array Be 88.09 321 P **P 00 09 34.2 -1.2**
AKASG Malin Array Be 88.09 321 *c*e**P P 00 09 34.2 -1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
VNDA Vanda 88.14 173 *e*P **P 00 09 35.4 +0.4**
comp=Z,7.0nm,1.0s,mb4.7
VNDA Vanda 88.14 173 *e*P **P 00 09 35.4 +0.4**
VNDA pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 89.43 269 *e*P **P 00 09 42.6 +0.1**
comp=Z,8.8nm,1.5s,mb4.6
KMBO Kilima Mbogo 89.43 269 *e*P **P 00 09 42.6 +0.1**
KMBO pmax pmax
comp=Z,9.0nm,1.5s
HFS Hagfors 93.73 332 P **P 00 10 00.1 -1.3**
comp=Z,5.3nm,0.7s,mb5.0,baz=77,slow=6.4,SNR=14
HFS Hagfors 93.73 332 P **P 00 10 00.1 -1.3**
HFS Hagfors 93.73 332 P **P 00 10 00.1 -1.3**
OJC Ojcow 94.04 322 *e*PX **P 00 10 02.8 -0.2**
OJC Ojcow 94.04 322 *e*P **P 00 10 02.8 -0.2**
NB2 NORSAR Subarra 94.46 334 P **P 00 10 02.9 -1.8**
comp=Z,2.6nm,0.7s,mb4.7,baz=65,slow=4.6
NOA NORSAR Array B 94.46 334 P **P 00 10 03.2 -1.5**
comp=Z,2.8nm,0.7s,mb4.7,baz=64,slow=4.6,SNR=17
NOA NORSAR Array B 94.46 334 P **P 00 10 03.2 -1.5**
NOA NORSAR Array B 94.46 334 P **P 00 10 03.2 -1.5**
YKA Yellowknife Ar 95.28 24 P **P 00 10 09.1 +0.7**
comp=Z,1.1nm,0.7s,mb4.4,baz=301,slow=4.7,SNR=23
YKA PKKP PKKPbc 00 27 00.6 -3.2
comp=Z,0.6nm,0.7s,baz=125,slow=2.9,SNR=11
YKA Yellowknife Ar 95.28 24 P **P 00 10 09.2 +0.7**
YKA PKKP PKKPbc 00 27 00.6 -3.1
YKA Yellowknife Ar 95.28 24 P **P 00 10 09.2 +0.7**
VRAC Vranov 96.30 322 P **P 00 10 12.9 -0.5**
comp=Z,3.5nm,0.9s,mb4.8,baz=71,slow=5.8,SNR=9.9
VRAC Vranov 96.30 322 P **P 00 10 12.9 -0.5**
VRAC Vranov 96.30 322 P **P 00 10 12.9 -0.5**
KHC Kasperske Hory 98.20 322 *e*P **P 00 10 21.5 -0.5**
KHC Kasperske Hory 98.20 322 *e*PDIFF **P 00 10 21.5 -0.5**
GERES GERESS Array B 98.24 322 P **P 00 10 21.9 -0.2**
comp=Z,1.3nm,0.8s,mb4.5,baz=60,slow=4.1,SNR=15
GERES GERESS Array B 98.24 322 P **P 00 10 21.9 -0.2**
GERES GERESS Array B 98.24 322 P **P 00 10 21.9 -0.2**
TXAR Lajitas Array 118.80 50 PKP PKPdf 00 15 34.9 +1.5
comp=Z,0.4nm,0.6s,baz=243,slow=0.2,SNR=6.6
TXAR Lajitas Array 118.80 50 PKP PKPdf 00 15 34.9 +1.5
TXAR Lajitas Array 118.80 50 PKIKP PKPdf 00 15 34.9 +1.5
WMOK Wichita Mounta 119.34 42 *e*PKPdf PKPdf 00 15 34.7 +0.4
WMOK Wichita Mounta 119.34 42 *e*PKIKP PKPdf 00 15 34.7 +0.4
JCT Junction City 121.06 47 *e*PKPdf PKPdf 00 15 38.3 +0.5
JCT Junction City 121.06 47 *e*PKIKP PKPdf 00 15 38.3 +0.6
TORD Torodi Ar. Bea 121.14 291 PKP PKPdf 00 15 37.3 -1.0
comp=Z,2.2nm,0.7s,baz=63,slow=1.8,SNR=20
TORD PKKPbc PKKPbc 00 25 41.5 +1.1
comp=Z,0.6nm,0.8s,baz=283,slow=3.2,SNR=4.6
TORD Torodi Ar. Bea 121.14 291 PKP PKPdf 00 15 37.3 -1.0
TORD PKKPbc PKKPbc 00 25 41.5 +1.1
DBIC Dimbokro 129.23 286 PKP PKPdf 00 15 54.1 +0.3
comp=Z,2.6nm,0.7s,baz=45,slow=1.4,SNR=6.6
DBIC SKPbc 00 19 10.9
comp=Z,2.6nm,0.7s,baz=70,slow=6.2,SNR=5.3
DBIC Dimbokro 129.23 286 PKP PKPdf 00 15 54.1 +0.3
DBIC SKPbc 00 19 10.9
DBIC Dimbokro 129.23 286 PKIKP PKPdf 00 15 54.2 +0.4
PLCA Paso Flores 144.48 157 PKP PKPdf 00 16 21.9 +0.9
comp=Z,4.6nm,0.7s,baz=230,slow=3.9,SNR=4.5
PLCA Paso Flores 144.48 157 PKP PKPdf 00 16 21.9 +0.9
PLCA Paso Flores 144.48 157 PKIKP PKPdf 00 16 22.0 +0.9
CPUP Villa Florida 161.88 169 PKPab PKPab 00 17 33.4 +1.2
comp=Z,1.2nm,0.7s,baz=180,slow=5.8,SNR=4.0
CPUP Villa Florida 161.88 169 PKPab PKPab 00 17 33.4 +1.2
CPUP Villa Florida 161.88 169 PKP2 PKPab 00 17 33.4 +1.2
LPAZ La Paz 163.74 120 PKP PKPdf 00 16 48.6 +0.2
comp=Z,1.6nm,0.7s,baz=236,slow=3.6,SNR=3.8
LPAZ La Paz 163.74 120 PKP PKPdf 00 16 48.6 +0.2
LPAZ La Paz 163.74 120 PKIKP PKPdf 00 16 48.6 +0.2

*THE **24** 23:59:09.5,35°.98N×21°.59E,h0km±4km,ML4.3/3,Error ellipse: s-maj=6.8km s-min=2.2km az=192.0*
*IDC **24** 23:59:10.7±0.7,36°.34N×21°.85E,h0km,mb4.1/15, mb1 4.1/22,mb1mx4.0/33,mbtmp4.0/22,ML3.6/6,MS4.4/4, Ms1 4.4/4,ms1mx3.3/50,Error ellipse: s-maj=16.1km s-min=14.4km az=157.0*
*ISCJB **24** 23:59:10.8±0.3,36°.11N±0°.02×21°.68E±0°.03,h10km, mb4.5/31,MS4.9/4,Error ellipse: s-maj=3.7km s-min=3.1km az=22.7*
*NEIC **24** 23:59:13.8,36°.31N×21°.77E,h21km,mb4.4/28, ML3.9(ATH),After ATH.*
*MOS **24** 23:59:13.1±1.1,36°.04N×21°.74E,h33km,mb4.5/14,Error ellipse: s-maj=7.1km s-min=3.9km az=98.8*
*CSEM **24** 23:59:13.9±0.2,36°.22N×21°.76E,h20km,mb4.6/25,Ms3.2, Error ellipse: s-maj=6.6km s-min=5.1km az=13.0*
*ATH **24** 23:59:13.9,36°.32N×21°.78E,h21km±1km,ML3.9*
ISC 24 23:59:12.4±0.3,36°.12N±0°.02×21°.72E±0°.03,h10km,n477, σ1§37/513,**mb4.5**/31,**MS4.9**/4,**3C-6D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase Op	Time h m s	Res ISC
PYL	**PYLOS**	**0.78**	**1**	*e*PN	**23 59 25.0**	**-2.4**
PYL				*e*SN	**23 59 34.0**	**-3.6**
PYL	**PYLOS**	**0.78**	**1**	*e*Pn	**23 59 24.7**	**-2.7**
PYL				*e*Sn	**23 59 34.0**	**-3.6**
ITM	**Ithomi**	**1.07**	**9**	*e*PB	**23 59 30.2**	**-2.8**
ITM				*e*SN	**23 59 43.3**	**-3.7**
ITM	**Ithomi**	**1.07**	**9**	P	**23 59 30.2**	**-2.8**
ITM				S	**23 59 50.4**	**+3.4**
ITM	**Ithomi**	**1.07**	**9**	P	**23 59 29.7**	**-3.3**
ITM	**Ithomi**	**1.07**	**9**	P	**23 59 29.7**	**-3.3**
ITM	**Ithomi**	**1.07**	**9**	*e*Pb	**23 59 30.2**	**-2.8**
ITM				*e*Sn	**23 59 43.6**	**-3.4**
ITM				S	**23 59 50.4**	**+3.4**
KYTH	**Kithira**	**1.08**	**81**	*e*PN	**23 59 33.9**	**+0.8**
KYTH	**Kithira**	**1.08**	**81**	P	**23 59 33.7**	**+0.6**
KYTH	**Kithira**	**1.08**	**81**	*e*Pn	**23 59 33.9**	**+0.8**
VLI	**Veliai**	**1.15**	**58**	*e*PN	**23 59 33.4**	**-1.1**
VLI	**Veliai**	**1.15**	**58**	P	**23 59 33.4**	**-1.1**
VLI				S	**23 59 54.8**	**+5.4**
VLI	**Veliai**	**1.15**	**58**	P	**23 59 33.4**	**-1.1**
VLI				S	**23 59 54.8**	**+5.4**
VLX	**Vlachokerasia**	**1.36**	**23**	*e*PN	**23 59 35.3**	**-2.1**

VLX				*e*SN	Sn	23 59 51.8	-3.7
VLX	**Vlachokerasia**	1.36	23	*e*Pn	Pn	23 59 35.3	-2.1
VLX				*e*Sn	Sn	23 59 51.8	-3.7
DIDY	**Didyma**	1.81	41	P	Pn	23 59 43.3	-0.3
DIDY				S	Sb	00 00 10.1	+1.8
DIDY	**Didyma**	1.81	41	P	Pn	23 59 43.3	-0.3
DID	**Didima**	1.85	41	*e*PN	Pn	23 59 44.3	+0.2
DID	**Didima**	1.85	41	*e*Pn	Pn	23 59 44.3	+0.2
GUR	**Goura**	1.88	15	*e*PN	Pn	23 59 44.3	-0.3
GUR	**Goura**	1.88	15	*e*Pn	Pn	23 59 44.3	-0.3
RLS	**Riolos of Patr**	1.95	354	*e*PN	Pn	23 59 45.9	+0.4
RLS	**Riolos of Patr**	1.95	354	P	Pn	23 59 46.0	+0.5
RLS				S	Sb	00 00 13.0	+0.7
RLS	**Riolos of Patr**	1.95	354	P	Pn	23 59 46.0	+0.5
RLS	**Riolos of Patr**	1.95	354	P	Pn	23 59 46.0	+0.5
LAKA	**Lakka**	2.13	5	P	Pn	23 59 49.0	+1.0
LAKA				S	Sb	00 00 17.8	+0.3
LAKA	**Lakka**	2.13	5	P	Pn	23 59 48.3	+0.3
LAKA	**Lakka**	2.13	5	P	Pn	23 59 48.3	+0.3
VAM	**Vamos**	2.14	109	*e*PN	Pb	23 59 51.2	+0.1
VAM	**Vamos**	2.14	109	P	Pb	23 59 51.0	-0.1
VAM	**Vamos**	2.14	109	P	Pb	23 59 58.4	+7.3
VAM	**Vamos**	2.14	109	P	Pb	23 59 58.4	+7.3
VAM	**Vamos**	2.14	109	*e*Pn	Pb	23 59 51.2	+0.1
LTK	**Loutraki**	2.15	27	*e*PN	Pn	23 59 48.2	0.0
LTK	**Loutraki**	2.15	27	P	Pn	23 59 49.5	+1.3
LTK	**Loutraki**	2.15	27	*e*Pn	Pn	23 59 48.2	0.0
LTK	**Loutraki**	2.15	27	P	Pn	23 59 49.5	+1.3
UPR	**University Cam**	2.17	1	*e*PN	Pn	23 59 48.5	+0.1
UPR	**University Cam**	2.17	1	*e*Pn	Pn	23 59 49.2	+0.8
NAIG	**Nisos Aigina**	2.17	40	*e*PN	Pn	23 59 49.0	+0.5
NAIG	**Nisos Aigina**	2.17	40	*e*Pn	Pn	23 59 49.3	+0.8
VLS	**Valsamata**	2.25	337	*e*PB	Pn	23 59 48.1	-0.1
VLS	**Valsamata**	2.25	337	P	Pn	23 59 48.9	-0.7
VLS	**Valsamata**	2.25	337	P	Pn	23 59 50.9	+1.3
VLS	**Valsamata**	2.25	337	P	Pn	23 59 50.9	+1.3
VLS	**Valsamata**	2.25	337	*e*Pb	Pn	23 59 49.5	-0.1
VLS	**Valsamata**	2.25	337	P	Pn	23 59 50.9	+1.3
TRIZ	**Trizonia**	2.26	7	P	Pn	23 59 50.4	+0.6
TRIZ				S	Sb	00 00 22.0	+0.7
TRIZ	**Trizonia**	2.26	7	P	Pn	23 59 50.4	+0.6
KALE	**Kalithea**	2.30	8	P	Pn	23 59 50.9	+0.7
KALE				S	Sb	00 00 22.9	+0.6
KALE	**Kalithea**	2.30	8	P	Pn	23 59 50.9	+0.7
EFP	**Efpalio**	2.31	4	*e*PN	Pn	23 59 50.8	+0.3
EFP	**Efpalio**	2.31	4	*e*Pn	Pn	23 59 51.8	+1.3
DSF	**Desfina**	2.38	15	P	Pn	23 59 51.5	+0.1
DSF	**Desfina**	2.38	15	P	Pn	23 59 51.5	+0.1
DESF	**Desfina**	2.38	16	P	Pn	23 59 50.6	-0.8
DESF				S	Sn	00 00 23.0	+2.3
DESF	**Desfina**	2.38	16	P	Pn	23 59 50.6	-0.8
VLY	**Voula,Athens**	2.40	43	*e*PB	Pn	23 59 51.6	-0.1
VLY	**Voula,Athens**	2.40	43	P	Pn	23 59 51.8	+0.1
VLY	**Voula,Athens**	2.40	43	P	Pn	23 59 52.2	+0.5
VLY	**Voula,Athens**	2.40	43	*e*Pb	Pn	23 59 51.6	-0.1
VLY	**Voula,Athens**	2.40	43	P	Pn	23 59 52.2	+0.5
VIL1	**Vilia, Western**	2.42	32	*e*PB	Pn	23 59 51.5	-0.4
ATH	**Athens Observa**	2.45	40	*e*PN	Pn	23 59 52.3	0.0
ATH	**Athens Observa**	2.45	40	P	Pn	23 59 53.1	+0.8
ATH	**Athens Observa**	2.45	40	P	Pn	23 59 54.4	+2.1
ATH	**Athens Observa**	2.45	40	P	Pn	23 59 54.4	+2.1
ATH	**Athens Observa**	2.45	40	*e*Pn	Pn	23 59 52.3	0.0
ATH	**Athens Observa**	2.45	40	P	Pn	23 59 53.1	+0.8
ATHU	**Athens Univers**	2.48	41	P	Pn	23 59 57.8	+5.0
ATHU	**Athens Univers**	2.48	41	P	Pn	23 59 57.8	+5.0
PTL	**Penteli**	2.58	41	*e*PN	Pn	23 59 53.6	-0.6
PTL	**Penteli**	2.58	41	P	Pn	23 59 54.0	-0.2
PTL	**Penteli**	2.58	41	P	Pn	23 59 54.3	+0.1
PTL	**Penteli**	2.58	41	*e*Pn	Pn	23 59 53.6	-0.6
PTL	**Penteli**	2.58	41	P	Pn	23 59 54.3	+0.1
LKR	**Lokris**	2.73	22	*e*PN	Pn	23 59 55.6	-0.6
LKR	**Lokris**	2.73	22	P	Pn	23 59 55.2	-1.0
LKR	**Lokris**	2.73	22	P	Pn	23 59 57.7	+1.5
LKR	**Lokris**	2.73	22	*e*Pn	Pn	23 59 55.2	-1.0
LKR	**Lokris**	2.73	22	P	Pn	23 59 57.7	+1.5
ATAL	**Atalanti**	2.77	22	P	Pn	23 59 55.9	-0.9
ATAL	**Atalanti**	2.77	22	P	Pn	23 59 58.9	+2.1
ATAL	**Atalanti**	2.77	22	P	Pn	23 59 55.9	-0.9
EVR	**Evrytania**	2.80	1	*e*PB	Pn	23 59 57.8	+0.7
EVR	**Evrytania**	2.80	1	P	Pn	23 59 59.8	+2.7
EVR	**Evrytania**	2.80	1	P	Pn	00 00 01.3	+4.2
EVR	**Evrytania**	2.80	1	P	Pn	23 59 59.8	+2.7
LKD2	**Lefkada island**	2.80	343	P	Pn	23 59 57.5	+0.3
LKD2	**Lefkada island**	2.80	343	P	Pn	23 59 57.5	+0.3
ERET	**Eretria**	2.86	35	P	Pn	23 59 57.4	-0.6
ERET	**Eretria**	2.86	35	P	Pn	23 59 57.4	-0.6
MAKR	**Makrakomi, Fth**	2.91	6	P	Pn	00 00 00.1	+1.4
MAKR	**Makrakomi, Fth**	2.91	6	P	Pn	00 00 00.6	+1.9
MAKR	**Makrakomi, Fth**	2.91	6	P	Pn	00 00 00.1	+1.4
AGG	**Agios Georgios**	2.94	9	*e*PN	Pn	23 59 59.2	+0.1
AGG	**Agios Georgios**	2.94	9	P	Pn	00 00 00.0	+0.9
AGG	**Agios Georgios**	2.94	9	P	Pn	00 00 00.8	+1.7
AGG	**Agios Georgios**	2.94	9	P	Pn	00 00 00.8	+1.7
AGG	**Agios Georgios**	2.94	9	*e*Pn	Pn	23 59 59.2	+0.1
AGG	**Agios Georgios**	2.94	9	P	Pn	00 00 00.0	+0.9
MRKA	**Markates**	2.98	29	P	Pn	23 59 58.6	-1.1
MRKA	**Markates**	2.98	29	P	Pn	23 59 58.6	-1.1
APE	**Apeiranthos**	3.21	72	P	Pn	00 00 03.8	+1.0
APE	**Apeiranthos**	3.21	72	P	Pn	00 00 03.8	+1.0
NPS	**Neapolis**	3.28	104	*e*PN	Pn	00 00 07.2	+3.4
NPS	**Neapolis**	3.28	104	P	Pn	00 00 07.7	+3.9
NPS	**Neapolis**	3.28	104	P	Pn	00 00 07.7	+3.9
NEO	**Neokhori**	3.40	20	P	Pn	00 00 07.8	+2.4
NEO	**Neokhori**	3.40	20	P	Pn	00 00 08.6	+2.4
XOR	**Xorichti**	3.45	19	P	Pn	00 00 06.3	+0.2
XOR	**Xorichti**	3.45	19	P	Pn	00 00 06.3	+0.2
THL	**Klokotos Trika**	3.45	4	P	Pn	00 00 06.4	+0.3
THL	**Klokotos Trika**	3.45	4	P	Pn	00 00 06.4	+0.3
IGT	**Igoumenitsa**	3.58	343	P	Pn	00 00 07.5	-0.4
IGT	**Igoumenitsa**	3.58	343	P	Pn	00 00 07.3	-0.6
IGT	**Igoumenitsa**	3.58	343	P	Pn	00 00 07.3	-0.6
IGT	**Igoumenitsa**	3.58	343	P	Pn	00 00 07.5	-0.4
JAN	**Janina**	3.60	349	P	Pn	00 00 08.5	+0.3
JAN	**Janina**	3.60	349	P	Pn	00 00 08.5	+0.3
JAN	**Janina**	3.60	349	P	Pn	00 00 08.5	+0.3
JAN	**Janina**	3.60	349	P	Pn	00 00 08.5	+0.3
MEV	**Metsovon**	3.68	354	P	Pn	00 00 10.7	+1.4
MEV	**Metsovon**	3.68	354	P	Pn	00 00 10.7	+1.4
ZKR	**Zakros**	3.80	104	P	Pn	00 00 13.4	+2.5
ZKR	**Zakros**	3.80	104	P	Pn	00 00 13.4	+2.5
KEK	**Kerkira**	3.90	338	P	Pn	00 00 13.4	+1.1
KEK	**Kerkira**	3.90	338	P	Pn	00 00 13.4	+1.1
SRN	**Sarande**	4.00	341	*e*PN	Pn	00 00 13.7	+0.1
SRN				*i* SN	Sn	00 00 58.7	-1.8
LIT	**Litokhoron**	4.03	8	*e*PN	Pn	00 00 14.5	+0.5
LIT	**Litokhoron**	4.03	8	P	Pn	00 00 14.6	+0.6
LIT	**Litokhoron**	4.03	8	P	Pn	00 00 16.1	+2.1
LIT	**Litokhoron**	4.03	8	P	Pn	00 00 16.1	+2.1
LIT	**Litokhoron**	4.03	8	P	Pn	00 00 14.6	+0.6
PAIG	**Paliouri**	4.11	22	P	Pn	00 00 18.7	+3.6
PAIG	**Paliouri**	4.11	22	P	Pn	00 00 18.7	+3.6
PAIG	**Paliouri**	4.11	22	P	Pn	00 00 18.7	+3.6
CHOS	**Chios island**	4.13	55	*e*PN	Pn	00 00 16.4	+0.9
KZN	**Kozani**	4.18	1	P	Pn	00 00 16.8	+0.6
KZN	**Kozani**	4.18	1	P	Pn	00 00 17.2	+1.0
KZN	**Kozani**	4.18	1	P	Pn	00 00 17.2	+1.0
KZN	**Kozani**	4.18	1	P	Pn	00 00 16.8	+0.6
NEST	**Nestorio**	4.33	353	P	Pn	00 00 19.1	+1.0
NEST	**Nestorio**	4.33	353	P	Pn	00 00 19.4	+1.0
KARP	**Karpathos**	4.46	96	*e*PN	Pn	00 00 22.6	+2.6
PLG	**Polygyros**	4.46	17	P	Pn	00 00 20.8	+0.8
PLG	**Polygyros**	4.46	17	P	Pn	00 00 22.1	+2.1
PLG	**Polygyros**	4.46	17	P	Pn	00 00 22.1	+2.1
PLG	**Polygyros**	4.46	17	P	Pn	00 00 20.8	+0.8
OUR	**Ouranopolis**	4.57	22	P	Pn	00 00 25.3	+3.8
OUR	**Ouranopolis**	4.57	22	P	Pn	00 00 25.3	+3.8
OUR	**Ouranopolis**	4.57	22	P	Pn	00 00 25.3	+3.8
HORT	**Hortiatis**	4.60	13	P	Pn	00 00 22.4	+0.4
HORT	**Hortiatis**	4.60	13	P	Pn	00 00 23.7	+1.7
HORT	**Hortiatis**	4.60	13	P	Pn	00 00 22.4	+0.4
THE	**Thessaloniki**	4.61	12	P	Pn	00 00 22.6	+0.5
THE	**Thessaloniki**	4.61	12	P	Pn	00 00 23.3	+1.2
THE	**Thessaloniki**	4.61	12	P	Pn	00 00 23.3	+1.2
THE	**Thessaloniki**	4.61	12	P	Pn	00 00 22.6	+0.5
FNA	**Florina**	4.67	357	P	Pn	00 00 22.3	-0.6
FNA	**Florina**	4.67	357	P	Pn	00 00 23.9	+1.0
FNA	**Florina**	4.67	357	P	Pn	00 00 23.9	+1.0
FNA	**Florina**	4.67	357	P	Pn	00 00 23.9	+1.0
GRG	**Griva**	4.86	6	P	Pn	00 00 24.8	-0.7
GRG	**Griva**	4.86	6	P	Pn	00 00 25.5	0.0
GRG	**Griva**	4.86	6	P	Pn	00 00 25.5	0.0
GRG	**Griva**	4.86	6	P	Pn	00 00 25.5	0.0
SOH	**Sokhos**	4.87	15	P	Pn	00 00 26.4	+0.8
SOH	**Sokhos**	4.87	15	P	Pn	00 00 28.3	+2.7
SOH	**Sokhos**	4.87	15	P	Pn	00 00 28.3	+2.7
SOH	**Sokhos**	4.87	15	P	Pn	00 00 26.4	+0.8
KNT	**Kendrikon**	5.12	10	P	Pn	00 00 28.7	-0.4
KNT	**Kendrikon**	5.12	10	P	Pn	00 00 28.4	-0.7
KNT	**Kendrikon**	5.12	10	P	Pn	00 00 28.4	-0.7
KNT	**Kendrikon**	5.12	10	P	Pn	00 00 28.7	-0.4
ARG	**Arkhangelos**	5.18	87	*e*PN	Pn	00 00 32.5	+2.6
SRS	**Serrai**	5.20	16	P	Pn	00 00 30.4	+0.2
SRS	**Serrai**	5.20	16	P	Pn	00 00 31.3	+1.1
SRS	**Serrai**	5.20	16	P	Pn	00 00 31.3	+1.1
SRS	**Serrai**	5.20	16	P	Pn	00 00 30.4	+0.2
KAVA	**Kavala**	5.34	23	P	Pn	00 00 34.5	+2.4
KAVA	**Kavala**	5.34	23	P	Pn	00 00 34.5	+2.4
TIR	**Tirane**	5.42	345	*e*PN	Pn	00 00 32.9	-0.3
TIR				*i* SN	Sn	00 01 33.9	-1.7
NVR	**Nevrokopi**	5.49	17	P	Pn	00 00 34.4	+0.3
NVR	**Nevrokopi**	5.49	17	P	Pn	00 00 35.3	+1.2
NVR	**Nevrokopi**	5.49	17	P	Pn	00 00 34.4	+0.3
PHP	**Peshkopia**	5.65	350	*e*PN	Pn	00 00 36.5	+0.2
MMB	**Musomiste**	5.69	15	P	Pn	00 00 37.6	+0.8
KKB	**Krupnik**	5.84	10	P	Pn	00 00 39.7	+0.8
RDO	**Rodhopi**	5.84	30	P	Pn	00 00 40.7	+1.7
RDO	**Rodhopi**	5.84	30	P	Pn	00 00 40.7	+1.7
ALN	**Alexandroupoli**	5.86	34	*e*PN	Pn	00 00 39.6	+0.4
CUC	**Castrocucco**	6.06	311	P	Pn	00 00 44.1	+2.2
CUC	**Castrocucco**	6.06	311	P	Pn	00 00 44.1	+2.2
PUK	**Puka**	6.09	347	*e*PN	Pn	00 00 41.9	-0.4
ULC	**Ulcinj**	6.15	342 ⇓	*i*Pn	Pn	00 00 40.6	-2.6
ULC				*e*Sn	Sn	00 01 46.8	-6.7
KDZ	**Kurdzhali**	6.23	26	P	Pn	00 00 46.4	+2.1
BCI	**Bajram Curri**	6.37	349	*e*PN	Pn	00 00 44.4	-1.9
BUM	**Brajici-Budva**	6.55	341 ⇑	*i*Pn	Pn	00 00 45.8	-2.9
BUM				*e*Sn	Sn	00 01 57.1	-6.4
VTS	**Vitosha**	6.57	10	P	Pn	00 00 51.1	+2.2
VTS	**Vitosha**	6.57	10	P	Pn	00 00 51.1	+2.2
VTS	**Vitosha**	6.57	10	P	Pn	00 00 50.7	+1.8
VTS	**Vitosha**	6.57	10	P	Pn	00 00 51.1	+2.2
TTG	**Podgorica**	6.59	344 ⇓	*i*Pn	Pn	00 00 47.4	-1.8
TTG				*e*Sn	Sn	00 01 57.9	-6.4
PVY	**Plav**	6.61	349 ⇓	*i*Pn	Pn	00 00 48.6	-0.9
PVY				*e*Sn	Sn	00 02 00.7	-4.2
DIM	**Dimitrovgrad**	6.63	25	P	Pn	00 00 52.1	+2.4
HCY	**Herceg Novi**	6.80	339 ⇓	*i*Pn	Pn	00 00 49.1	-3.0
HCY				*e*Sn	Sn	00 02 01.2	-8.3
IVA	**Berane**	6.89	349 ⇓	*i*Pn	Pn	00 00 52.1	-1.3
IVA				*e*Sn	Sn	00 02 06.5	-5.3
NKY	**Niksic**	7.01	343 ⇓	*i*Pn	Pn	00 00 52.2	-2.8
NKY				*e*Sn	Sn	00 02 08.4	-6.4
BRY	**Bratogost**	7.21	341 ⇑	*i*Pn	Pn	00 00 55.7	-2.0
BRY				*e*Sn	Sn	00 02 12.2	-7.4
MPEP	**Malo Peshtene**	7.40	12	P	Pn	00 01 02.1	+1.8
UPM	**Unac-Piva**	7.40	344 ⇑	*i*Pn	Pn	00 00 59.2	-1.2
UPM				*e*Sn	Sn	00 02 17.8	-6.6
STON	**Ston**	7.43	337	*i* Pn	Pn	00 00 56.5	-4.2
STON				Sn	Sn	00 02 14.8	-10
SZH	**Strazhica**	7.84	23	P	Pn	00 00 59.0	-7.4
AQU	**L'Aquila**	8.97	317	P	Pn	00 01 27.7	+5.9
AQU	**L'Aquila**	8.97	317	P	Pn	00 01 27.7	+5.9
MLR	**Muntele Rosu**	9.90	18	Pn	Pn	00 01 38.8	+4.3
0.1nm,0.3s,baz=186,slow=14,SNR=5.1							
MLR	**Muntele Rosu**	9.90	18	Pn	Pn	00 01 38.8	+4.3
MLR	**Muntele Rosu**	9.90	18	P	Pn	00 01 38.8	+4.2
NVLJ	**Novalja**	9.92	330	*e*Pn	Pn	00 01 32.2	-2.7
NVLJ				Sn	Sn	00 03 15.0	-11
KEST	**Kesra**	10.04	271	Pn	Pn	00 01 36.4	-0.3
0.1nm,0.3s,baz=83,slow=6.7,SNR=13							
KEST				LR	LR	00 05 36.2	
comp=Z,72nm,19.6s,baz=174,slow=38							
KEST	**Kesra**	10.04	271	Pn	Pn	00 01 36.4	-0.3
BRTR	**Keskin Array B**	10.08	65	Pn	Pn	00 01 40.4	+3.3
0.1nm,0.3s,baz=244,slow=14,SNR=6.0							
BRTR	**Keskin Array B**	10.08	65	Pn	Pn	00 01 40.4	+3.3
BRTR	**Keskin Array B**	10.08	65	P	Pn	00 01 40.4	+3.3
BRTR	**Keskin Array B**	10.08	65	Pn	Pn	00 01 40.4	+3.3
BRTR	**Keskin Array B**	10.08	65	P	Pn	00 01 40.4	+3.3
BOJS	**Bojanci**	10.58	334	*i* Pn	Pn	00 01 41.5	-2.4
CRES	**Cresnjev**	10.79	336	*i* Pn	Pn	00 01 43.7	-3.1
CRES				*i* Sn	Sn	00 03 36.8	-11
VOY	**Vojsko**	11.53	332	*e*Pn	Pn	00 01 55.3	-1.6
VOY				*e*Sn	Sn	00 03 55.4	-10
MMAI	**Mount Meron Ar**	11.70	101	Pn	Pn	00 01 58.5	-0.8
0.7nm,0.3s,baz=290,slow=14,SNR=4.0							
MMAI	**Mount Meron Ar**	11.70	101	Pn	Pn	00 01 58.5	-0.8
PGF	**Pioggiola**	11.75	307	*e*P	Pn	00 02 02.3	+2.3
35nm,1.1s							
PGF	**Pioggiola**	11.75	307	*e*P	Pn	00 02 02.3	+2.3
35nm,1.1s							
PGF	**Pioggiola**	11.75	307	*e*P	Pn	00 02 02.3	+2.3
PGF				pmax	pmax		
comp=Z,35nm,1.1s							
PGF	**Pioggiola**	11.75	307	*e*P	Pn	00 02 02.3	+2.3
comp=Z,18nm,1.1s							
EIL	**Elat**	12.84	116	Pn	Pn	00 02 13.0	-1.9
comp=Z,0.3nm,0.3s,baz=287,slow=11,SNR=3.2							
EIL				Sn	Sn	00 04 32.5	-5.3
comp=Z,0.4nm,0.3s,baz=229,slow=17,SNR=4.3							
EIL	**Elat**	12.84	116	Pn	Pn	00 02 13.0	-1.9
EIL				Sn	Sn	00 04 32.5	-5.3
VRAC	**Vranov**	13.71	346	Pn	Pn	00 02 23.0	-3.7
comp=Z,0.1nm,0.3s,baz=164,slow=7.4,SNR=3.2							
VRAC	**Vranov**	13.71	346	Pn	Pn	00 02 23.0	-3.7
VRAC	**Vranov**	13.71	346	P	Pn	00 02 23.0	-3.7
DAVOX	**Davos/Dischmat**	13.85	324	Pn	Pn	00 02 29.8	+1.1
comp=Z,0.1nm,0.3s,baz=153,slow=16,SNR=3.2							
DAVOX				Sn	Sn	00 04 53.0	-9.4
comp=Z,0.4nm,0.3s,baz=25,slow=9.8,SNR=9.5							
DAVOX	**Davos/Dischmat**	13.85	324	Pn	Pn	00 02 29.8	+1.1
DAVOX				Sn	Sn	00 04 53.0	-9.4
DAVOX	**Davos/Dischmat**	13.85	324	P	Pn	00 02 29.8	+1.2
DAVOX	**Davos/Dischmat**	13.85	324	Pn	Pn	00 02 29.8	+1.2
OKC	**Ostrava-Krasne**	13.96	350	*e*P	Pn	00 02 37.7	+7.6
OKC	**Ostrava-Krasne**	13.96	350	*e*P	Pn	00 02 37.7	+7.6
OKC	**Ostrava-Krasne**	13.96	350	*e*P	Pn	00 02 37.7	+7.6
GERES	**GERESS Array B**	14.02	338	Pn	Pn	00 02 28.8	-2.1
comp=Z,0.1nm,0.3s,baz=157,slow=14,SNR=8.9							
GERES				Sn	Sn	00 04 56.6	-10
comp=Z,0.2nm,0.3s,baz=157,slow=23,SNR=5.9							
GERES	**GERESS Array B**	14.02	338	Pn	Pn	00 02 28.8	-2.1
GERES				Sn	Sn	00 04 56.6	-10
GERES	**GERESS Array B**	14.02	338	P	Pn	00 02 28.8	-2.1
MBDF	**Montbardon**	14.25	312	*e*P	Pn	00 02 39.9	+5.8
comp=Z,20nm,1.2s							
MBDF	**Montbardon**	14.25	312	*e*P	Pn	00 02 39.9	+5.8
comp=Z,20nm,1.2s							
MBDF	**Montbardon**	14.25	312	*e*P	Pn	00 02 39.9	+5.8
MBDF				pmax	pmax		
comp=Z,20nm,1.2s							
MBDF	**Montbardon**	14.25	312	*e*P	Pn	00 02 39.9	+5.8
comp=Z,9.9nm,1.2s							
KHC	**Kasperske Hory**	14.31	338	*e*P	Pn	00 02 32.5	-2.3
KHC				*e*S	Sn	00 05 17.5	+4.0
KHC	**Kasperske Hory**	14.31	338	*e*P	Pn	00 02 32.5	-2.3
KHC				*ex*	x	00 02 42.6	
KHC				*ex*	x	00 02 55.1	
KHC				*ex*	x	00 05 01.5	
KHC				*e*S	Sn	00 05 17.5	+4.0
LPL	**La Plagne**	14.71	314	*e*P	Pn	00 02 40.9	+0.6
comp=Z,7.8nm,1.0s							
LPL	**La Plagne**	14.71	314	*e*P	Pn	00 02 40.9	+0.6
comp=Z,7.8nm,1.0s							
LPL	**La Plagne**	14.71	314	*e*P	Pn	00 02 40.9	+0.6
LPL				pmax	pmax		
comp=Z,8.0nm,1.0s							
DPC	**Dobruska-Polom**	14.76	346	*e*P	Pn	00 02 46.8	+5.9
DPC	**Dobruska-Polom**	14.76	346	*e*P	Pn	00 02 46.8	+5.9
DPC	**Dobruska-Polom**	14.76	346	*e*P	Pn	00 02 46.8	+5.9
PRU	**Pruhonice**	14.81	342	AMS	AMS	00 07 40.0	
ORIF	**Oris-en-Rattie**	14.89	311	*e*P	Pn	00 02 43.7	+0.8
comp=Z,9.1nm,1.1s							
ORIF				*e*R			
comp=Z,185nm,19.0s							
ORIF	**Oris-en-Rattie**	14.89	311	*e*P	Pn	00 02 43.7	+0.8
comp=Z,9.1nm,1.0s							
ORIF	**Oris-en-Rattie**	14.89	311	*e*P	Pn	00 02 43.7	+0.8
ORIF				pmax	pmax		
comp=Z,9.0nm,1.0s							
UPC	**Upice**	14.96	346	*e*P	Pn	00 02 49.1	+5.3
UPC	**Upice**	14.96	346	*e*P	Pn	00 02 49.1	+5.3
UPC	**Upice**	14.96	346	*e*P	Pn	00 02 49.1	+5.3
SLE	**Schleitheim**	15.22	324	P	Pn	00 02 55.4	+8.2
SLE	**Schleitheim**	15.22	324	P	Pn	00 02 55.4	+8.2
KSP	**Ksiaz**	15.23	347	*e*P	Pn	00 02 52.0	+4.7
KSP	**Ksiaz**	15.23	347	P	Pn	00 02 54.3	+7.0
KSP	**Ksiaz**	15.23	347	*e*P	Pn	00 02 52.0	+4.7
KSP	**Ksiaz**	15.23	347	*e*P	Pn	00 02 52.0	+4.7
AKASG	**Malin Array Be**	15.55	18	Pn	Pn	00 02 47.4	-4.1
comp=Z,0.6nm,0.3s,baz=209,slow=12,SNR=3.4							
AKASG	**Malin Array Be**	15.55	18	Pn	Pn	00 02 47.4	-4.1
AKASG	**Malin Array Be**	15.55	18	P	Pn	00 02 47.4	-4.1
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
CABF	**La Chapelle**	15.71	317	*e*P	Pn	00 02 54.1	+0.5
CABF	**La Chapelle**	15.71	317	*e*P	Pn	00 02 54.1	+0.5
CABF	**La Chapelle**	15.71	317	*e*P	Pn	00 02 54.1	+0.5
HINF	**Hinteralfeld**	16.06	321	*e*P	Pn	00 03 00.0	+1.9
comp=Z,17nm,1.2s							
HINF	**Hinteralfeld**	16.06	321	*e*P	Pn	00 03 00.0	+1.9
comp=Z,17nm,1.2s							
HINF	**Hinteralfeld**	16.06	321	*e*

comp=Z,11nm,0.9s
LDF La Druitiere 20.31 315 *e*P **P 00 03 46.9 -1.4**
LDF pmax pmax
comp=Z,11nm,0.9s
LDF La Druitiere 20.31 315 *e*P **P 00 03 46.9 -1.4**
comp=Z,5.6nm,0.9s
ESDC Sonseca Array 20.55 288 P **P 00 03 51.4 +0.4**
comp=Z,1.7nm,0.6s,baz=80,slow=11,SNR=14
ESDC Sonseca Array 20.55 288 P **P 00 03 51.4 +0.4**
ESDC Sonseca Array 20.55 288 P **P 00 03 51.4 +0.4**
FLN La Foliniere 20.60 315 *e*P **P 00 03 52.2 +0.7**
comp=Z,26nm,1.1s
FLN *e*R
comp=Z,216nm,18.8s
FLN La Foliniere 20.60 315 *e*P **P 00 03 52.2 +0.7**
comp=Z,26nm,1.1s
FLN La Foliniere 20.60 315 *e*P **P 00 03 52.2 +0.7**
FLN pmax pmax
comp=Z,26nm,1.1s
FLN La Foliniere 20.60 315 *e*P **P 00 03 52.2 +0.7**
comp=Z,13nm,1.1s
GRR Gorron 20.64 313 *e*P **P 00 03 51.4 -0.5**
comp=Z,48nm,1.3s
GRR Gorron 20.64 313 *e*P **P 00 03 51.4 -0.5**
comp=Z,48nm,1.3s
GRR Gorron 20.64 313 *e*P **P 00 03 51.4 -0.5**
GRR pmax pmax
comp=Z,48nm,1.3s
GRR Gorron 20.64 313 *e*P **P 00 03 51.4 -0.5**
comp=Z,24nm,1.3s
QUIF Quistinic 21.83 310 *e*P **P 00 04 05.5 +0.8**
QUIF Quistinic 21.83 310 *e*P **P 00 04 05.5 +0.8**
QUIF Quistinic 21.83 310 *e*P **P 00 04 05.5 +0.8**
QUIF Quistinic 21.83 310 *e*P **P 00 04 05.5 +0.8**
HFS Hagfors 24.59 350 P **P 00 04 30.0 -2.2**
comp=Z,2.5nm,0.4s,mb4.1,baz=158,slow=12,SNR=18
HFS Hagfors 24.59 350 P **P 00 04 30.1 -2.2**
HFS Hagfors 24.59 350 P **P 00 04 30.1 -2.1**
HFS Hagfors 24.59 350 P **P 00 04 30.1 -2.1**
FINES FINESS Array B 25.50 5 P **P 00 04 38.5 -2.1**
comp=Z,3.0nm,0.6s,mb4.0,baz=187,slow=8.7,SNR=15
FINES FINESS Array B 25.50 5 P **P 00 04 38.5 -2.1**
FINES FINESS Array B 25.50 5 P **P 00 04 38.5 -2.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 25.50 5 P **P 00 04 38.5 -2.0**
comp=Z,3.0nm,0.6s,mb4.0
NB2 NORSAR Subarra 25.83 348 P **P 00 04 40.4 -3.1**
comp=Z,5.0nm,1.2s,mb3.9,baz=156,slow=10
NB2 NORSAR Subarra 25.83 348 P **P 00 04 40.4 -3.1**
comp=Z,5.0nm,1.2s,mb3.9,SNR=6.5
NOA NORSAR Array B 25.83 348 P **P 00 04 41.8 -1.7**
comp=Z,1.7nm,0.7s,mb3.7,baz=156,slow=9.0,SNR=8.6
NOA NORSAR Array B 25.83 348 P **P 00 04 41.8 -1.7**
NOA NORSAR Array B 25.83 348 P **P 00 04 41.8 -1.7**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 25.83 348 P **P 00 04 41.8 -1.7**
comp=Z,2.0nm,0.7s,mb3.8
JOF Joensuu 27.48 10 *e*P **P 00 04 55.6 -2.8**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb3.9
JOF Joensuu 27.48 10 *e*p **P 00 04 55.6 -2.8**
comp=Z,1.5nm,0.5s,mb3.8
JOF Joensuu 27.48 10 *e*P **P 00 04 55.6 -2.8**
comp=Z,2.0nm,0.5s,mb3.9
TORD Torodi Ar. Bea 29.11 223 P **P 00 05 15.7 +2.4**
comp=Z,2.0nm,0.7s,mb4.0,baz=31,slow=9.2,SNR=18
TORD LR LR 00 18 04.7
comp=Z,88nm,19.3s,baz=355,slow=39
TORD Torodi Ar. Bea 29.11 223 P **P 00 05 15.7 +2.4**
TORD Torodi Ar. Bea 29.11 223 P **P 00 05 15.7 +2.4**
ABKAR Abkulak array 30.67 53 *e*P **P 00 05 24.5 -2.4**
comp=Z,0.7nm,0.5s,mb3.8
ABKAR Abkulak array 30.67 53 *e*P **P 00 05 24.5 -2.4**
comp=Z,0.7nm,0.5s,mb3.8
ARCES ARCESS Array B 33.54 2 P **P 00 05 49.8 -2.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=190,slow=9.7,SNR=9.2
ARCES ARCESS Array B 33.54 2 P **P 00 05 49.8 -2.0**
ARCES ARCESS Array B 33.54 2 P **P 00 05 49.8 -2.0**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 33.54 2 P **P 00 05 49.8 -2.0**
comp=Z,3.0nm,0.8s,mb4.3
KEV Kevo 33.82 3 *e*P **P 00 05 51.2 -3.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KEV Kevo 33.82 3 *e*p **P 00 05 51.2 -3.1**
comp=Z,0.8nm,0.4s,mb4.0
KEV Kevo 33.82 3 *e*P **P 00 05 51.2 -3.1**
comp=Z,1.0nm,0.4s,mb4.1
KK31 Karatay Array 37.79 64 *i* P **P 00 06 27.3 -1.4**
KK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KK31 Karatay Array 37.79 64 *i* P **P 00 06 27.3 -1.4**
comp=Z,5.0nm,0.6s,mb4.4
KKAR Karatay Array 37.79 64 *e*P **P 00 06 27.4 -1.2**
comp=Z,4.6nm,0.6s,mb4.4
KKAR Karatay Array 37.79 64 *e*P **P 00 06 27.5 -1.2**
KKAR pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KKAR Karatay Array 37.79 64 *e*P **P 00 06 27.5 -1.2**
comp=Z,5.0nm,0.6s,mb4.4
DBIC Dimbokro 38.09 226 P **P 00 06 32.6 +1.1**
comp=Z,5.7nm,0.8s,mb4.3,baz=22,slow=11,SNR=8.1
DBIC Dimbokro 38.09 226 P **P 00 06 32.6 +1.1**
DBIC Dimbokro 38.09 226 P **P 00 06 32.6 +1.2**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 38.09 226 P **P 00 06 32.6 +1.2**
comp=Z,6.0nm,0.8s,mb4.4
LIC Lamto 38.55 226 *e*P **P 00 06 36.6 +1.3**
comp=Z,7.6nm,0.4s,mb4.5
LIC Lamto 38.55 226 *e*P **P 00 06 36.6 +1.3**
comp=Z,7.6nm,0.4s,mb4.8
LIC Lamto 38.55 226 *e*P **P 00 06 36.6 +1.3**
comp=Z,3.8nm,0.4s,mb4.5
MKAR Makanchi Array 45.59 57 P **P 00 07 30.3 -2.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=266,slow=8.0,SNR=10
MKAR LR LR 00 31 14.4
comp=Z,168nm,18.6s,MS4.0,baz=123,slow=42
MKAR Makanchi Array 45.59 57 P **P 00 07 30.3 -2.1**
MKAR Makanchi Array 45.59 57 P **P 00 07 30.3 -2.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,168nm,18.6s
MKAR Makanchi Array 45.59 57 P **P 00 07 30.3 -2.2**
comp=Z,168nm,18.6s
ZALV Zalesovo Beam 46.38 47 P **P 00 07 36.0 -2.6**
comp=Z,1.6nm,0.5s,mb4.2,baz=268,slow=8.4,SNR=6.5
ZALV Zalesovo Beam 46.38 47 P **P 00 07 36.0 -2.6**
ZALV Zalesovo Beam 46.38 47 P **P 00 07 36.0 -2.6**
ZALV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ZALV Zalesovo Beam 46.38 47 P **P 00 07 36.0 -2.6**
comp=Z,2.0nm,0.5s,mb4.3
DANN Dangsing 52.28 80 *e*P **P 00 08 24.0 0.0**
comp=Z,53nm,0.6s,mb5.6
DANN Dangsing 52.28 80 *e*P **P 00 08 24.0 0.0**
comp=Z,53nm,0.6s
DANN Dangsing 52.28 80 *e*P **P 00 08 24.0 0.0**
comp=Z,53nm,0.6s,mb5.7
KOLN Koldanda 52.40 81 *e*P **P 00 08 24.4 -0.5**
comp=Z,10nm,0.6s,mb5.0
KOLN Koldanda 52.40 81 *e*P **P 00 08 24.4 -0.5**
comp=Z,10nm,0.6s,mb4.9
KOLN Koldanda 52.40 81 *e*P **P 00 08 24.4 -0.5**
comp=Z,10nm,0.6s,mb4.9
GKN Gorkha 53.13 80 *e*P **P 00 08 29.4 -0.9**
comp=Z,26nm,0.6s,mb5.4
GKN Gorkha 53.13 80 *e*P **P 00 08 29.4 -0.9**
comp=Z,26nm,0.6s,mb5.3
GKN Gorkha 53.13 80 *e*P **P 00 08 29.4 -0.9**
comp=Z,26nm,0.6s,mb5.3
DMN Daman 53.67 80 *e*P **P 00 08 33.8 -0.5**
comp=Z,31nm,0.6s,mb5.4
DMN Daman 53.67 80 *e*P **P 00 08 33.8 -0.5**
comp=Z,31nm,0.6s,mb5.4
DMN Daman 53.67 80 *e*P **P 00 08 33.8 -0.5**
comp=Z,31nm,0.6s,mb5.4
KKN Kakani 53.73 80 *e*P **P 00 08 34.0 -0.8**
comp=Z,20nm,0.6s,mb5.2
KKN Kakani 53.73 80 *e*P **P 00 08 34.0 -0.8**
comp=Z,20nm,0.6s,mb5.2
KKN Kakani 53.73 80 *e*P **P 00 08 34.0 -0.8**
KKN pmax pmax
comp=Z,20nm,0.6s,mb5.2
KKN Kakani 53.73 80 *e*P **P 00 08 34.0 -0.8**
comp=Z,20nm,0.6s,mb5.2
PKI Pulchoki 53.93 80 *e*P **P 00 08 35.4 -0.8**
comp=Z,13nm,0.7s,mb5.0
PKI Pulchoki 53.93 80 *e*P **P 00 08 35.4 -0.8**
comp=Z,13nm,0.7s,mb5.0
PKI Pulchoki 53.93 80 *e*P **P 00 08 35.4 -0.8**
PKI pmax pmax
comp=Z,13nm,0.7s,mb5.0
PKI Pulchoki 53.93 80 *e*P **P 00 08 35.4 -0.8**
comp=Z,13nm,0.7s,mb5.0
GUN Gumba 54.16 79 *e*P **P 00 08 37.3 -0.6**
comp=Z,21nm,0.6s,mb5.2
GUN Gumba 54.16 79 *e*P **P 00 08 37.3 -0.6**
comp=Z,21nm,0.6s,mb5.2
GUN Gumba 54.16 79 *e*P **P 00 08 37.3 -0.6**
comp=Z,21nm,0.6s,mb5.2
JIRN Jiri 54.51 79 *e*P **P 00 08 39.9 -0.6**
comp=Z,14nm,0.5s,mb5.2
JIRN Jiri 54.51 79 *e*P **P 00 08 39.9 -0.6**
comp=Z,14nm,0.5s,mb5.2
JIRN Jiri 54.51 79 *e*P **P 00 08 39.9 -0.6**
comp=Z,14nm,0.5s,mb5.2
RAMN Ramite 55.16 80 *e*P **P 00 08 44.0 -1.1**
comp=Z,23nm,0.8s,mb5.3
RAMN Ramite 55.16 80 *e*P **P 00 08 44.0 -1.1**
comp=Z,23nm,0.8s,mb5.3
RAMN Ramite 55.16 80 *e*P **P 00 08 44.0 -1.1**
comp=Z,23nm,0.8s,mb5.3
ODAN Odare 55.83 80 *e*P **P 00 08 49.4 -0.6**
comp=Z,5.9nm,0.5s,mb4.9
ODAN Odare 55.83 80 *e*P **P 00 08 49.4 -0.6**
comp=Z,5.9nm,0.5s,mb4.9
ODAN Odare 55.83 80 *e*P **P 00 08 49.4 -0.6**
comp=Z,5.9nm,0.5s,mb4.9
TAPN Taplejung 55.86 79 *e*P **P 00 08 49.4 -0.8**
comp=Z,10nm,0.7s,mb5.0
TAPN Taplejung 55.86 79 *e*P **P 00 08 49.4 -0.8**
comp=Z,10nm,0.7s,mb5.0
TAPN Taplejung 55.86 79 *e*P **P 00 08 49.4 -0.8**
comp=Z,10nm,0.7s,mb5.0
SCHQ Schefferville 60.63 318 P **P 00 09 23.5 +0.4**
comp=Z,2.7nm,0.9s,mb4.4,baz=67,slow=7.7,SNR=2.2
SCHQ Schefferville 60.63 318 P **P 00 09 23.5 +0.4**
SCHQ Schefferville 60.63 318 P **P 00 09 23.5 +0.4**
SONM Songino Array 61.04 50 P **P 00 09 24.3 -1.7**
comp=Z,1.0nm,0.9s,mb4.0,baz=284,slow=5.8,SNR=3.7
SONM Songino Array 61.04 50 P **P 00 09 24.3 -1.7**
SONM Songino Array 61.04 50 P **P 00 09 24.3 -1.7**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 61.04 50 P **P 00 09 24.3 -1.7**
comp=Z,1.0nm,0.9s,mb4.0
CMAR Chiang Mai Arr 69.23 82 P **P 00 10 19.1 -0.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=301,slow=9.0,SNR=6.0
CMAR Chiang Mai Arr 69.23 82 P **P 00 10 19.1 -0.5**
CMAR Chiang Mai Arr 69.23 82 P **P 00 10 19.2 -0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 69.23 82 P **P 00 10 19.1 -0.6**
YKA Yellowknife Ar 75.65 341 P **P 00 10 56.7 -0.6**
comp=Z,0.3nm,0.6s,mb3.4,baz=33,slow=5.1,SNR=5.9
YKA Yellowknife Ar 75.65 341 P **P 00 10 56.7 -0.6**
YKA Yellowknife Ar 75.65 341 P **P 00 10 56.7 -0.6**
YKA Yellowknife Ar 75.65 341 P **P 00 10 56.7 -0.6**
USRK Ussuriysk Arra 78.12 44 P **P 00 11 09.8 -1.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=251,slow=6.0,SNR=5.3
KSAR Wonju Array Be 79.87 51 P **P 00 11 20.8 -0.5**
KSAR Wonju Array Be 79.87 51 P **P 00 11 20.8 -0.5**
KSAR Wonju Array Be 79.87 51 P **P 00 11 20.8 -0.5**
KSRS Korea Array 79.89 51 P **P 00 11 20.8 -0.6**
comp=Z,3.2nm,0.5s,mb4.5,baz=315,slow=5.0,SNR=6.5
KSRS LR LR 00 53 00.6
comp=Z,650nm,19.8s,MS5.0,baz=127,slow=40
KSRS Korea Array 79.89 51 P **P 00 11 20.8 -0.6**
KSRS pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KSRS Korea Array 79.89 51 P **P 00 11 20.8 -0.6**
comp=Z,3.0nm,0.5s,mb4.5
PETK Petropavlovsk- 83.27 25 LR LR 00 49 21.5
comp=Z,979nm,21.5s,MS5.2,baz=153,slow=36
TXAR Lajitas Array 97.09 314 LR LR 00 58 56.4
comp=Z,1μm,18.1s,MS5.5,baz=275,slow=37

ISCJB ***25*** *00:10:47.2±1.7, 18°.34S±0°.03×176°.72E±0°.03, h14km±10km, mb5.5/151, MS5.2/204, Error ellipse: s-maj=5.6km s-min=3.9km az=150.4*
NEIC ***25*** *00:10:47.8±0.1, 18°.34S×176°.78E, h10km, mb5.5/88, MS5.2/154, MW5.5, MW5.5, Error ellipse: s-maj=5.3km s-min=3.6km az=141.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^17Nm; Mrr0.54; Mθθ-1.65; Mφφ1.12; Mrθ-0.39; Mrφ-0.82; Mθφ0.93; Best double couple: M0=2.00000×10^17 NP1:φ=294.00000°, δ69.00000°, λ152.00000°. NP2:φ=35.00000°, δ64.00000°, λ23.00000°. Principal axes: T 2.0200, Plg34.0000°, Azm253.0000°; N -0.1300, Plg55.0000°, Azm80.0000°; P -1.8800, Plg3.0000°, Azm345.0000°;*
NEIC Felt at Nandi.
BJI ***25*** *00:10:48.0, 18°.12S×177°.37E, h28km, mB5.4/32, mb5.2/47, Ms5.3/44, Ms7 5.0/44*
MOS ***25*** *00:10:50.2±1.3, 18°.36S×176°.72E, h33km, mb5.5/46, MS5.1/39, Error ellipse: s-maj=8.4km s-min=7.4km az=137.4*
GCMT ***25*** *00:10:52.2±0.1, 18°.31S×176°.71E, h12km, MW5.5, Moment Tensor Solution. s83,c149; s37,c40; Moment tensor: Scale 10^17Nm; Mrr0.16±.03; Mθθ-2.13±.03; Mφφ1.96±.03; Mrθ0.01±.07; Mrφ-1.10±.02; Mθφ0.42±.07; Best double couple: M0=2.40000×10^17 NP1:φ=300.00000°, δ81.00000°, λ174.00000°. NP2:φ=31.00000°, δ84.00000°, λ9.00000°. Principal axes: T 2.3100, Plg11.0000°, Azm256.0000°; N 0.0900, Plg79.0000°, Azm63.0000°; P -2.4100, Plg2.0000°, Azm166.0000°; Data Used: II IU IC G GE CU. Surface waves: sta=101, comp=194, per= 50.*
IDC ***25*** *00:10:53.8±2.6, 18°.39S×176°.72E, h55km±23km, mB4.9/28, mb1 5.0/32, mb1mx5.0/33, mbtmp5.0/32, ML4.4/3, MS4.9/28, Ms1 4.9/28, ms1mx4.8/32 Error ellipse: s-maj=12.1km s-min=11.4km az=170.0*
DJA ***25*** *00:11:02, 18°.69S×175°.18E, h10km, mb5.7/23*
ISC 25 00:10:50.6±1.6, 18°.35S±0°.03×176°.76E±0°.03, h26km±11km, h27km±2.6km; pP-P, n1252, σ0°.66/684, mb5.5/151, MS5.2/204, 214C-175D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.37**	**64**	*e*P	**Pn**	**00 11 08.0**	**-6.1**
MSVF				*e*Sn	**Sn**	**00 11 31.8**	**+0.4**
MSVF	**Nonsavu**	**1.37**	**64**	*e*P	**Pn**	**00 11 08.0**	**-6.1**
MSVF				*e*		00 11 31.8	
MSVF	**Nonsavu**	**1.37**	**64**	Pn	**Pn**	**00 11 08.0**	**-6.1**
	71μm,0.6s						
FUNA	**Funafuti**	**10.05**	**14**	*e*Pn	**Pn**	**00 13 11.1**	**-2.3**
PLUM	**Mont Dore**	**10.26**	**246**	*e*P	**Pn**	**00 13 17.0**	**+0.8**
DZM	**Mont Dzumac**	**10.37**	**247**	*e*P	**Pn**	**00 13 17.8**	**+0.1**
	702nm,1.6s						
DZM				*e*LR	LR	00 15 32.7	
	29μm,25.7s						
DZM	**Mont Dzumac**	**10.37**	**247**	P	**Pn**	**00 13 18.1**	**+0.5**
	0.7nm,0.3s,baz=74,slow=15,SNR=32						
DZM	**Mont Dzumac**	**10.37**	**247**	P	**Pn**	**00 13 18.1**	**+0.5**
NOUC	**Port Laguerre**	**10.50**	**247**	*e*P	**Pn**	**00 13 21.0**	**+1.5**
AFI	**Afiamalu**	**11.87**	**70**	P	**Pn**	**00 13 40.7**	**+2.5**
	5.4nm,0.3s,baz=248,slow=18,SNR=6.2						
AFI				LR	LR	00 17 27.4	
	comp=Z,15μm,20.7s,baz=256,slow=33						
AFI	**Afiamalu**	**11.87**	**70**	P	**Pn**	**00 13 40.7**	**+2.5**
AFI	**Afiamalu**	**11.87**	**70**	P	**Pn**	**00 13 40.7**	**+2.5**
OUZ	**Omahuta**	**17.04**	**189**	*e*Pn	**Pn**	**00 14 47.4**	**+0.4**
	2μm,2.7s						
HNR	**Honiara**	**18.56**	**296**	P	**Pn**	**00 15 06.3**	**+0.4**
	3.6nm,0.3s,baz=104,slow=12,SNR=4.6						
HNR				LR	LR	00 21 02.9	
	comp=Z,2μm,19.7s,baz=132,slow=33						
HNR	**Honiara**	**18.56**	**296**	*e*P	**Pn**	**00 15 06.2**	**+0.2**
	373nm,1.1s						
HNR	**Honiara**	**18.56**	**296**	*e*P	**Pn**	**00 15 06.2**	**+0.2**
HNR				pmax	pmax		
	comp=Z,373nm,1.1s						
URZ	**Urewera**	**19.84**	**179**	P	**Pn**	**00 15 20.3**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=4.1,slow=7.3,SNR=34						
URZ				LR	LR	00 21 04.6	
	comp=Z,6μm,20.5s,baz=189,slow=31						
URZ	**Urewera**	**19.84**	**179**	*e*Pn	**Pn**	**00 15 19.1**	**-2.1**
	comp=Z,608nm,1.1s						
URZ	**Urewera**	**19.84**	**179**	P*	**Pn**	**00 15 20.8**	**-0.3**
PKE	**Pukeiti**	**20.91**	**186**	P*	**P**	**00 15 36.4**	**+5.3**
NEZ	**North Egmont**	**20.97**	**186**	P*	**P**	**00 15 37.8**	**+6.1**
MRZ	**Mangatainoka R**	**22.26**	**182**	P*	**P**	**00 15 45.3**	**-0.2**
RAR	**Rarotonga**	**22.26**	**101**	P	**P**	**00 15 48.2**	**+2.5**
	comp=Z,96nm,1.3s,mb5.1,baz=266,slow=8.3,SNR=6.7						
RAR				LR	LR	00 22 20.6	
	comp=Z,3μm,20.6s,MS4.6,baz=274,slow=31						
RAR	**Rarotonga**	**22.26**	**101**	*e*P	**P**	**00 15 43.7**	**-2.0**
	comp=Z,2μm,2.5s,mb6.0						
RAR	**Rarotonga**	**22.26**	**101**	*e*P	**P**	**00 15 43.7**	**-2.0**
RAR				pmax	pmax		
	comp=Z,2μm,2.5s						
TCW	**Tory Channel**	**22.88**	**185**	P*	**P**	**00 15 53.4**	**+1.2**
SNZO	**South Karori**	**22.95**	**184**	*e*P	**P**	**00 15 53.6**	**+0.8**
	comp=Z,264nm,1.0s,mb5.6						
SNZO				LR	LR		
	comp=Z,4μm,22.0s,MS4.9						
NNZ	**Nelson**	**22.97**	**187**	P*	**P**	**00 15 52.9**	**-0.2**
THZ	**Tophouse**	**23.57**	**187**	P*	**P**	**00 15 58.6**	**-0.6**
KHZ	**Kahutara**	**24.14**	**186**	*e*P	**P**	**00 16 03.6**	**-0.8**
	comp=Z,230nm,0.8s,mb5.7						
KHZ	**Kahutara**	**24.14**	**186**	P*	**P**	**00 16 03.4**	**-1.1**
LTZ	**Lake Taylor**	**24.65**	**188**	P*	**P**	**00 16 09.6**	**+0.6**
EIDS	**Eidsvold**	**24.81**	**249**	*e*P	**P**	**00 16 10.3**	**-0.4**
	comp=Z,105nm,1.0s,mb5.3						
WVZ	**Waitaha Valley**	**25.17**	**190**	P*	**P**	**00 16 13.3**	**-0.5**
RPZ	**Rata Peaks**	**25.74**	**190**	P	**P**	**00 16 20.5**	**+1.6**
	comp=Z,86nm,0.9s,mb5.3,baz=77,slow=2.1,SNR=23						
RPZ				LR	LR	00 25 28.9	
	comp=Z,4μm,19.3s,MS5.0,baz=268,slow=34						
RPZ	**Rata Peaks**	**25.74**	**190**	*e*P	**P**	**00 16 21.4**	**+2.5**
	comp=Z,112nm,0.9s,mb5.4						
ARMA	**Armidale**	**25.78**	**237**	*e*P	**P**	**00 16 19.9**	**+0.4**
ARMA	**Armidale**	**25.78**	**237**	*e*P	**P**	**00 16 20.1**	**+0.6**
	comp=Z,114nm,0.9s,mb5.4						
ODZ	**Otahua Downs**	**27.10**	**190**	*e*P	**P**	**00 16 31.4**	**+0.2**
	comp=Z,894nm,1.7s,mb6.0						
WHZ	**Wether Hill Ro**	**28.42**	**193**	*e*P	**P**	**00 16 43.9**	**+0.9**
KWAJ	**Kwajalein Atol**	**28.45**	**341**	*e*P	**P**	**00 16 44.1**	**+0.5**
	comp=Z,187nm,0.9s,mb5.7						
KWAJ	**Kwajalein Atol**	**28.45**	**341**	*e*P	**P**	**00 16 44.1**	**+0.6**
KWAJ				pmax	pmax		
	comp=Z,187nm,0.9s,mb5.7						
CTA	**Charters Tower**	**28.84**	**262**	P	**P**	**00 16 47.3**	**+0.3**
	comp=Z,132nm,1.0s,mb5.6,baz=86,slow=11,SNR=37						
CTA				LR	LR	00 26 41.9	
	comp=Z,4μm,19.7s,MS5.0,baz=78,slow=33						
CTA	**Charters Tower**	**28.84**	**262**	*e*P	**P**	**00 16 46.6**	**-0.4**
CTA				*e*pP	pP	00 16 51.9	-2.9
CTA	**Charters Tower**	**28.84**	**262**	P	**P**	**00 16 47.3**	**+0.3**
CTA	**Charters Tower**	**28.84**	**262**	P	**P**	**00 16 47.3**	**+0.3**
CTAO	**Charters Tower**	**28.84**	**262**	*e*P	**P**	**00 16 46.1**	**-0.9**
	comp=Z,167nm,1.0s,mb5.7						
CTAO				LR	LR		
	comp=Z,4μm,21.0s,MS5.0						
CTAO	**Charters Tower**	**28.84**	**262**	*e*P	**P**	**00 16 46.1**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,167nm,1.0s,mb5.7						
CTAO				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.0						
CTAO	**Charters Tower**	**28.84**	**262**	P	**P**	**00 16 46.9**	**-0.1**
	comp=Z,2μmcomp=Z,190nm,1.1s,mb5.8						
CNB	**Canberra Magne**	**29.57**	**230**	*e*P	**P**	**00 16 54.2**	**+0.8**
CAN	**Canberra**	**29.84**	**230**	*e*P	**P**	**00 16 55.8**	**0.0**
	comp=Z,54nm,1.5s,mb5.1						
CAN				LR	LR		
	comp=Z,1μm,22.0s,MS4.6						
CAN	**Canberra**	**29.84**	**230**	*e*P	**P**	**00 16 55.8**	**0.0**
CAN				pmax	pmax		
	comp=Z,54nm,1.5s,mb5.1						
CAN				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.6						
PMG	**Port Moresby**	**30.04**	**283**	P	**P**	**00 16 59.0**	**+1.3**
	comp=Z,71nm,1.0s,mb5.3,baz=94,slow=10,SNR=8.9						
PMG	**Port Moresby**	**30.04**	**283**	*e*P	**P**	**00 16 58.9**	**+1.2**
	comp=Z,90nm,1.1s,mb5.4						
PMG				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
PMG	**Port Moresby**	**30.04**	**283**	*ce*P	**P**	**00 16 59.0**	**+1.3**
PMG				pmax	pmax		
	comp=Z,55nm,1.0s						
PMG	**Port Moresby**	**30.04**	**283**	P	**P**	**00 16 59.4**	**+1.7**
	comp=Z,83nm,1.1s,mb5.4						
TBI	**Tubuai**	**31.91**	**105**	*e*S	**S**	**00 22 24.0**	**+0.2**
	comp=Z,1μm,31.2s						
TBI				*e*LQ		00 24 13.4	
	comp=Z,11μm,28.8s						
TBI				*e*LR	LR	00 25 40.6	
	comp=Z,4μm,28.0s,baz=283						
PPT2	**Papeete2**	**32.01**	**94**	*e*S	**S**	**00 22 27.4**	**+2.0**
	comp=Z,607nm,27.2s						
PPT2				*e*LQ		00 24 28.6	
	comp=Z,9μm,27.0s						
PPT2				*e*LR	LR	00 26 00.2	
	comp=Z,10μm,25.8s,baz=258						
XMAS	**Kiritimati**	**32.49**	**54**	PFAKE		00 17 30.0	+11
XMAS				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
COEN	**Coen**	**32.52**	**273**	*e*P	**P**	**00 17 18.8**	**-0.8**
	comp=Z,384nm,1.1s,mb6.2						
COEN	**Coen**	**32.52**	**273**	P	**P**	**00 17 19.9**	**+0.3**
	comp=Z,1μmcomp=Z,57nm,1.3s,mb5.4						
TOO	**Toolangi**	**33.38**	**229**	*e*P	**P**	**00 17 27.2**	**+0.4**
STKA	**Stephens Creek**	**34.41**	**240**	P	**P**	**00 17 35.4**	**-0.5**
	comp=Z,102nm,1.0s,mb5.7,baz=74,slow=7.8,SNR=82						
STKA				LR	LR	00 30 52.1	
	comp=Z,3μm,18.1s,MS5.1,baz=73,slow=35						
STKA	**Stephens Creek**	**34.41**	**240**	*e*P	**P**	**00 17 35.8**	**-0.1**
STKA	**Stephens Creek**	**34.41**	**240**	*e*P	**P**	**00 17 35.3**	**-0.5**
	comp=Z,33nm,1.1s,mb5.2						
STKA	**Stephens Creek**	**34.41**	**240**	*e*P	**P**	**00 17 35.3**	**-0.6**
STKA				pmax	pmax		
	comp=Z,33nm,1.1s						
MOO	**Moorlands**	**34.73**	**220**	*e*P	**P**	**00 17 38.8**	**+0.3**
TAU	**Tasmania Unive**	**34.91**	**219**	*e*P	**P**	**00 17 40.7**	**+0.6**
	comp=Z,55nm,1.0s,mb5.4						
TAU				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
TAU	**Tasmania Unive**	**34.91**	**219**	*e*P	**P**	**00 17 40.7**	**+0.6**
TAU				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.4						
TAU				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.7						
JOHN	**Johnston Islan**	**37.38**	**22**	PFAKE		00 18 10.0	+8.6
JOHN				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
JAY	**Jayapura**	**38.67**	**290**	P	**P**	**00 18 16.8**	**+4.4**
	comp=Z,6μmcomp=Z,99nm,1.4s,mb5.3						
WAKE	**Wake Island**	**38.69**	**345**	PFAKE		00 18 20.0	+7.6
WAKE				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
BBOO	**Buckleboo**	**39.18**	**240**	*e*P	**P**	**00 18 16.0**	**-0.5**
BBOO	**Buckleboo**	**39.18**	**240**	*e*P	**P**	**00 18 15.8**	**-0.7**
	comp=Z,3μm,0.9s						
WB2	**Warramunga Arr**	**40.02**	**261**	*e*P	**P**	**00 18 21.9**	**-1.7**
WRAB	**Tennant Creek**	**40.02**	**261**	*e*P	**P**	**00 18 21.2**	**-2.4**
	comp=Z,200nm,1.1s,mb5.8						
WRAB				LR	LR		
	comp=Z,3μm,21.0s,MS5.1						
WRAB	**Tennant Creek**	**40.02**	**261**	*e*P	**P**	**00 18 21.2**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,200nm,1.1s,mb5.8						
WRAB				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.1						
WRA	**Warramunga Arr**	**40.03**	**261**	P	**P**	**00 18 22.2**	**-1.6**
	comp=Z,48nm,1.0s,mb5.2

GUMO	**Guam**	**44.68 313**	LR	LR	00 33 40.8	
	comp=Z,1μm,21.6s,MS4.9,baz=119,slow=31					
TLE	**Tual**	**44.75 281**	P	**P**	**00 19 03.1**	**+0.9**
	comp=Z,128nm,1.2s,mb5.6					
RKT	**Rikitea**	**45.23 105**	*e*S	**S**	**00 25 45.9**	**+1.2**
	comp=Z,639nm,28.2s					
RKT			*e*LQ		00 29 29.4	
	comp=Z,4μm,36.2s					
RKT			*e*LR	LR	00 31 50.7	
	comp=Z,3μm,28.8s,baz=267					
FORT	**Forrest**	**45.67 245**	*e*P	**P**	**00 19 08.5**	**-0.8**
FORT			*ep*P	pP	00 19 12.9	-4.4
FORT	**Forrest**	**45.67 245**	*e*P	**P**	**00 19 08.5**	**-0.8**
	comp=Z,193nm,1.0s,mb6.0					
FAKI	**Fak Fak**	**46.19 284**	P	**P**	**00 19 14.3**	**+0.6**
	comp=Z,2μmcomp=Z,125nm,1.3s,mb5.7					
FITZ	**Fitzroy Crossi**	**48.42 262**	P	**P**	**00 19 30.7**	**-0.3**
	comp=Z,82nm,1.1s,mb5.7,baz=90,slow=6.8,SNR=16					
FITZ			LR	LR	00 38 48.4	
	comp=Z,4μm,19.2s,MS5.4,baz=92,slow=35					
FITZ	**Fitzroy Crossi**	**48.42 262**	*e*P	**P**	**00 19 30.4**	**-0.6**
FITZ			*ep*P	pP	00 19 35.5	-3.5
FITZ	**Fitzroy Crossi**	**48.42 262**	*e*P	**P**	**00 19 30.4**	**-0.6**
	comp=Z,169nm,1.3s,mb5.9					
FITZ	**Fitzroy Crossi**	**48.42 262**	P	**P**	**00 19 31.2**	**+0.2**
	comp=Z,105nm,1.3s,mb5.7					
AAI	**Ambon**	**49.67 281**	P	**P**	**00 19 41.1**	**+0.5**
	comp=Z,2μmcomp=Z,179nm,1.1s,mb6.0					
AAI	**Ambon**	**49.67 281**	P	**P**	**00 19 41.1**	**+0.5**
	comp=Z,2μmcomp=Z,179nm,1.1s,mb6.0					
NLAI	**Namlea**	**50.85 281**	P	**P**	**00 19 50.2**	**+0.7**
NLAI	**Namlea**	**50.85 281**	P	**P**	**00 19 50.2**	**+0.7**
	comp=Z,121nm,1.4s,mb5.6					
KMBL	**Kambalda**	**50.99 244**	*e*P	**P**	**00 19 49.1**	**-1.3**
LBMI	**Labuha**	**51.44 284**	P	**P**	**00 19 59.2**	**+5.2**
	comp=Z,2μmcomp=Z,146nm,1.4s,mb5.7					
LBMI	**Labuha**	**51.44 284**	P	**P**	**00 19 59.2**	**+5.2**
	comp=Z,2μmcomp=Z,146nm,1.4s,mb5.7					
TNTI	**Ternate**	**52.13 286**	P	**P**	**00 20 03.6**	**+4.5**
	comp=Z,3μmcomp=Z,212nm,1.5s,mb5.8					
TNTI	**Ternate**	**52.13 286**	P	**P**	**00 20 03.6**	**+4.5**
	comp=Z,3μmcomp=Z,212nm,1.5s,mb5.8					
MBWA	**Marble Bar**	**53.51 257**	*e*P	**P**	**00 20 08.5**	**-0.7**
	comp=Z,92nm,1.1s,mb5.6					
MBWA			LR	LR		
	comp=Z,3μm,19.0s,MS5.4					
MBWA	**Marble Bar**	**53.51 257**	P	**P**	**00 20 13.4**	**+4.2**
MBWA	**Marble Bar**	**53.51 257**	P	**P**	**00 20 13.4**	**+4.2**
	comp=Z,194nm,1.4s,mb5.9					
MMRI	**Maumere**	**53.72 273**	P	**P**	**00 20 10.2**	**-0.7**
	comp=Z,2μmcomp=Z,220nm,1.0s,mb6.1					
MMRI	**Maumere**	**53.72 273**	P	**P**	**00 20 10.2**	**-0.7**
	comp=Z,2μmcomp=Z,220nm,1.0s,mb6.1					
DRV	**Dumont d'Urvil**	**53.83 197**	S	**S**	**00 27 44.0**	**+0.2**
DRV			R		00 36 00.0	
KLBR	**Kellerberrin**	**54.51 244**	*e*P	**P**	**00 20 14.9**	**-1.5**
	comp=Z,96nm,1.1s,mb5.7					
MNI	**Manado**	**54.71 285**	P	**P**	**00 20 22.0**	**+3.9**
	comp=Z,179nm,1.2s,mb6.0					
KDI	**Kendari**	**54.79 278**	P	**P**	**00 20 19.6**	**+0.9**
	comp=Z,820nmcomp=Z,55nm,1.2s,mb5.5					
NWAO	**Narrogin (SRO)**	**54.94 242**	P	**P**	**00 20 18.4**	**-1.1**
	comp=Z,32nm,1.0s,mb5.3,baz=96,slow=5.6,SNR=7.6					
NWAO	**Narrogin (SRO)**	**54.94 242**	*e*P	**P**	**00 20 18.7**	**-0.8**
NWAO			LR	LR		
	comp=Z,2μm,22.0s,MS5.2					
NWAO	**Narrogin (SRO)**	**54.94 242**	*e*P	**P**	**00 20 18.7**	**-0.8**
NWAO			MLR	MLR		
	comp=Z,2μm,22.0s					
LUWI	**Luwuk**	**55.67 282**	P	**P**	**00 20 25.6**	**+0.6**
	comp=Z,2μmcomp=Z,165nm,1.2s,mb5.9					
CBIJ	**Chichi jima**	**56.26 323**	LR	LR	00 39 50.5	
	comp=Z,1μm,19.1s,MS4.9,baz=125,slow=31					
DAV	**Davao City (W)**	**56.45 292**	LR	LR	00 43 29.4	
	comp=Z,806nm,19.5s,MS4.8,baz=114,slow=35					
BKSI	**Bulukumba**	**56.71 276**	P	**P**	**00 20 35.8**	**+3.3**
	comp=Z,649nmcomp=Z,35nm,1.1s,mb5.3					
KAPI	**Kappang**	**57.15 276**	P	**P**	**00 20 34.2**	**-1.4**
	comp=Z,46nm,1.0s,mb5.5,baz=136,slow=5.3,SNR=15					
KAPI	**Kappang**	**57.15 276**	*e*P	**P**	**00 20 34.3**	**-1.3**
	comp=Z,63nm,1.0s,mb5.6					
KAPI			LR	LR		
	comp=Z,628nm,20.0s,MS4.7					
KAPI	**Kappang**	**57.15 276**	P	**P**	**00 20 38.4**	**+2.8**
CTBH	**Cotabato--PC H**	**57.70 291**	⇓*e*P	**P**	**00 20 39.1**	**-0.3**
MTNI	**Mataram**	**59.48 271**	P	**P**	**00 20 55.6**	**+3.7**
	comp=Z,7μmcomp=Z,129nm,1.0s,mb5.9					
VNDA	**Vanda**	**59.66 184**	*e*P	**P**	**00 20 50.9**	**-1.3**
	comp=Z,64nm,1.8s,mb5.3					
VNDA			LR	LR		
	comp=Z,2μm,21.0s,MS5.1					
VNDA	**Vanda**	**59.66 184**	*e*P	**P**	**00 20 50.9**	**-1.2**
VNDA			pmax	pmax		
	comp=Z,64nm,1.8s					
VNDA			MLR	MLR		
	comp=Z,2μm,21.0s					
SBA	**Scott Base**	**59.74 182**	*e*P	**P**	**00 20 52.9**	**+0.3**
	comp=Z,190nm,1.7s,mb5.8					
SBA			LR	LR		
	comp=Z,988nm,19.0s,MS5.0					
SBA	**Scott Base**	**59.74 182**	*e*P	**P**	**00 20 52.9**	**+0.3**
SBA			pmax	pmax		
	comp=Z,190nm,1.7s,mb5.8					
SBA			MLR	MLR		
	comp=Z,988nm,19.0s,MS5.0					
KHKI	**Kahang-Kahang**	**60.09 271**	P	**P**	**00 21 00.0**	**+3.9**
	comp=Z,93nm,0.9s,mb5.8					
IGBI	**Denpasar**	**60.40 270**	P	**P**	**00 21 02.2**	**+4.0**
	comp=Z,219nm,1.2s,mb6.1					
SRBI	**Singaraja**	**60.54 271**	P	**P**	**00 20 57.6**	**-1.6**
GMJI	**Gumukmas**	**62.17 270**	P	**P**	**00 21 13.9**	**+3.7**
	comp=Z,76nm,1.0s,mb5.8					
BLJI	**Banyuglugur**	**62.17 271**	P	**P**	**00 21 14.1**	**+3.9**
TGY	**Tagaytay City**	**63.77 297**	P	**P**	**00 21 22.4**	**+1.6**
	comp=Z,65nm,0.3s,mb6.1,baz=125,slow=12,SNR=4.3					
TGY	**Tagaytay City**	**63.77 297**	P	**P**	**00 21 22.4**	**+1.6**
TGY	**Tagaytay City**	**63.77 297**	P	**P**	**00 21 22.4**	**+1.6**
PWJI	**Pagerwojo**	**63.80 270**	P	**P**	**00 21 24.9**	**+3.9**
	comp=Z,72nm,1.0s,mb5.7					
CASY	**Casey**	**63.83 204**	PFAKE		00 21 30.0	+10
CASY			LR	LR		
	comp=Z,834nm,20.0s,MS4.9					
SJI	**Sawahan**	**63.91 270**	P	**P**	**00 21 25.6**	**+3.8**
	comp=Z,5μmcomp=Z,127nm,1.3s,mb5.8					
PCJI	**Pacitan**	**64.34 270**	P	**P**	**00 21 28.9**	**+4.3**
	comp=Z,3μmcomp=Z,31nm,1.2s,mb6.2					
KKM	**Kota Kinabalu**	**64.42 286**	*e*P	**P**	**00 21 30.0**	**+4.9**
	comp=Z,231nm,1.8s,mb5.9					
KKM			LR	LR		
	comp=Z,540nm,22.0s,MS4.7					
JOW	**Kunigami**	**65.04 312**	P	**P**	**00 21 28.4**	**-0.5**
	comp=Z,35nm,1.1s,mb5.3,baz=119,slow=4.6,SNR=4.3					
JOW			LR	LR	00 44 58.5	
	comp=Z,572nm,20.4s,MS4.8,baz=120,slow=31					
JOW	**Kunigami**	**65.04 312**	*e*P	**P**	**00 21 29.0**	**+0.1**
SMRI	**Semarang**	**65.37 271**	P	**P**	**00 21 36.5**	**+5.2**
	comp=Z,110nm,1.7s,mb5.6					
MJAR	**Matsushiro Arr**	**65.63 327**	P	**P**	**00 21 31.4**	**-1.1**
	comp=Z,21nm,1.1s,mb5.1,baz=163,slow=4.8,SNR=20					
MJAR			LR	LR	00 44 58.4	
	comp=Z,637nm,20.9s,MS4.8,baz=135,slow=31					
MJAR	**Matsushiro Arr**	**65.63 327**	P	**P**	**00 21 31.4**	**-1.1**
MJAR	**Matsushiro Arr**	**65.63 327**	P	**P**	**00 21 31.4**	**-1.0**
MAJO	**Matsushiro**	**65.63 327**	*e*P	**P**	**00 21 32.0**	**-0.5**
MAJO			LR	LR		
	comp=Z,808nm,20.0s,MS4.9					
MAJO	**Matsushiro**	**65.63 327**	*e*P	**P**	**00 21 32.0**	**-0.5**
MAJO			MLR	MLR		
	comp=Z,808nm,20.0s,MS4.9					
MAT	**Matsushiro**	**65.63 327**	P	**P**	**00 21 31.2**	**-1.3**
MAT			S	S	00 30 17.0	+0.5
BJII	**Banjamegara**	**65.98 270**	P	**P**	**00 21 40.3**	**+5.0**
	comp=Z,74nm,1.3s,mb5.5					
JNU	**Nakatsue**	**67.38 319**	*e*P	**P**	**00 21 49.4**	**+5.7**
	comp=Z,50nm,1.3s,mb5.4					
ERM	**Erimo**	**67.62 334**	PFAKE		00 22 00.0	+15
ERM			LR	LR		
	comp=Z,2μm,20.0s,MS5.2					
RPN	**Rapa Nui**	**67.88 112**	P	**P**	**00 21 46.8**	**-0.4**
	comp=Z,29nm,0.8s,mb5.3,baz=246,slow=4.7,SNR=4.4					
RPN	**Rapa Nui**	**67.88 112**	P	**P**	**00 21 46.8**	**-0.4**
RPN	**Rapa Nui**	**67.88 112**	P	**P**	**00 21 46.8**	**-0.3**
TWG	**Pinlang**	**68.08 305**	*e*P	**P**	**00 21 51.5**	**+3.1**
	comp=Z,113nm,1.1s,mb5.8					
LEM	**Lembang**	**68.11 270**	P	**P**	**00 21 49.4**	**+0.6**
	comp=Z,3μmcomp=Z,229nm,1.2s,mb6.1					
KSM	**Kuching**	**68.20 279**	*e*P	**P**	**00 21 49.5**	**+0.1**
	comp=Z,60nm,1.0s,mb5.6					
KSM			LR	LR		
	comp=Z,351nm,21.0s,MS4.6					
YULB	**Yu-li**	**68.21 305**	*e*P	**P**	**00 21 49.2**	**+0.1**
	comp=Z,107nm,1.6s,mb5.6					
YUK	**Yuzh-Kuril'sk**	**68.22 336**	*d i*P	**P**	**00 21 44.7**	**-4.1**
YUK			*i* S	S	00 30 42.9	-4.6
YUK			MLR	MLR		
	comp=N,673nm,20.0s					
YUK			MLR	MLR		
	comp=Z,742nm,20.0s,MS4.9					
NACB	**Ninganchiao**	**68.40 306**	*e*P	**P**	**00 21 50.2**	**-0.2**
	comp=Z,136nm,1.0s,mb5.9					
TPUB	**Ta-pu**	**68.68 305**	*e*P	**P**	**00 21 51.6**	**-0.5**
	comp=Z,218nm,1.1s,mb6.0					
SSLB	**Suanglung**	**68.69 306**	*e*P	**P**	**00 21 51.9**	**-0.3**
	comp=Z,83nm,1.0s,mb5.6					
YHNB	**Yeheng**	**68.84 307**	*e*P	**P**	**00 21 52.0**	**-1.1**
	comp=Z,197nm,1.1s,mb6.0					
TATO	**Taipei**	**68.92 307**	*e*P	**P**	**00 21 55.6**	**+2.0**
	comp=Z,197nm,1.2s,mb5.9					
XMIS	**Christmas Isla**	**68.96 266**	*e*P	**P**	**00 21 58.4**	**+4.3**
	comp=Z,474nm,1.1s,mb6.3					
CBJI	**Citeko**	**68.96 270**	P	**P**	**00 21 57.0**	**+2.9**
	comp=Z,527nm,1.1s,mb6.4					
ASAJ	**Asahikawa**	**69.58 334**	LR	LR	00 47 01.6	
	comp=Z,2μm,22.0s,MS5.2,baz=191,slow=31					
ASAJ	**Asahikawa**	**69.58 334**	*e*P	**P**	**00 21 57.6**	**+0.4**
	comp=Z,17nm,1.5s,mb4.7					
SBJI	**Serang**	**69.73 270**	P	**P**	**00 22 03.6**	**+4.7**
FX1	**Attu Island--F**	**71.00 358**	LR	LR	00 45 57.7	
	comp=Z,962nm,21.6s,MS5.0,baz=215,slow=30					
QZH	**Quanzhou**	**71.12 305**	P	**P**	**00 22 15.1**	**+8.0**
QZH			S	S	00 31 29.0	+6.5
QZH			pmax	pmax		
	comp=Z,1μm,3.5s					
QZH			LR	LR		
	comp=Z,1μm,22.0s,MS5.2					
QSPA	**South Pole Qui**	**71.70 180**	P	**P**	**00 22 08.7**	**-1.0**
	comp=Z,66nm,1.0s,mb5.5,baz=26,slow=4.1,SNR=56					
QSPA	**South Pole Qui**	**71.70 180**	P	**P**	**00 22 08.7**	**-1.0**
QSPA			LR	LR		
	comp=Z,1μm,22.0s,MS5.1					
YSS	**Yuzh-Sakhalins**	**71.86 336**	PFAKE		00 22 20.0	+9.0
YSS			LR	LR		
	comp=Z,734nm,21.0s,MS4.9					
YSS	**Yuzh-Sakhalins**	**71.86 336**	*e*P	**P**	**00 22 06.0**	**-5.0**
YSS			*e*		00 22 17.0	
YSS			*e*		00 31 26.0	
KSRS	**Korea Array**	**72.06 321**	P	**P**	**00 22 12.8**	**+0.3**
	comp=Z,11nm,1.1s,mb4.7,baz=138,slow=6.3,SNR=9.6					
KSAR	**Wonju Array Be**	**72.08 321**	P	**P**	**00 22 12.8**	**+0.2**
KSAR	**Wonju Array Be**	**72.08 321**	P	**P**	**00 22 12.8**	**+0.2**
SSE	**Sheshan**	**72.56 312**	*e*P	**P**	**00 22 13.6**	**-2.0**
SSE			PcP	PcP	00 22 32.3	-0.8
SSE			S	S	00 31 37.9	-0.8
SSE			ScS	ScS	00 32 19.9	-1.2
SSE			pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2					
SSE			pmax	pmax		
	comp=Z,110nm,3.5s					
SSE			LR	LR		
	comp=N,370nm,22.3s,MS4.6					
SSE			LR	LR		
	comp=E,100nm,22.2s,MS4.6					
SSE			LR	LR		
	comp=Z,370nm,21.6s,MS4.6					
PET	**Petropavlovsk**	**72.79 349**	*e*P	**P**	**00 22 15.4**	**-1.0**
	comp=Z,58nm,1.1s,mb5.4					
PET			LR	LR		
	comp=Z,1μm,20.0s,MS5.1					
PET	**Petropavlovsk**	**72.79 349**	*e*P	**P**	**00 22 13.4**	**-3.0**
PET			*e*		00 25 06.9	
PET			*e*S	S	00 31 37.0	-3.4
PET			*e*SS	SS	00 36 20.1	-1.1
PET			pmax	pmax		
	comp=Z,200nm,15.3s					
PET	**Petropavlovsk**	**72.79 349**	*e*P	**P**	**00 22 15.5**	**-0.9**
PET			pmax	pmax		
	comp=Z,58nm,1.1s,mb5.4					
PET			MLR	MLR		
	comp=Z,1μm,20.0s,MS5.1					
INCN	**Inchon**	**72.86 320**	PFAKE		00 22 30.0	+13
INCN			LR	LR		
	comp=Z,744nm,19.0s,MS5.0					
PEA0B	**Petropavlovsk-**	**73.05 348**	*e*P	**P**	**00 22 17.7**	**-0.3**
PETK	**Petropavlovsk-**	**73.05 348**	P	**P**	**00 22 18.0**	**0.0**
	comp=Z,85nm,1.2s,mb5.5,baz=115,slow=6.7,SNR=18					
PETK	**Petropavlovsk-**	**73.05 348**	P	**P**	**00 22 18.0**	**0.0**
PETK	**Petropavlovsk-**	**73.05 348**	P	**P**	**00 22 18.0**	**0.0**
USRK	**Ussuriysk Arra**	**74.48 328**	P	**P**	**00 22 26.9**	**+0.4**
	comp=Z,9.5nm,1.1s,mb4.6,baz=129,slow=5.2,SNR=9.3					
USRK			LR	LR	00 50 43.0	
	comp=Z,498nm,21.0s,MS4.8,baz=108,slow=32					
NJ2	**Nanjing**	**74.74 312**	*e*P	**P**	**00 22 28.6**	**+0.2**
NJ2			pP	pP	00 22 38.5	+1.7
NJ2			sP	sP	00 22 42.1	+2.2
NJ2			S	S	00 32 01.5	-1.8
NJ2			pmax	pmax		
	comp=Z,80nm,1.0s,mb5.6					
NJ2			LR	LR		
	comp=N,1μm,23.2s,MS5.6					
NJ2			LR	LR		
	comp=E,3μm,23.8s,MS5.6					
NJ2			LR	LR		
	comp=Z,8μm,19.4s,MS6.0					
QIZ	**Qiongzhong**	**75.47 296**	P	**P**	**00 22 33.5**	**+0.6**
QIZ			S	S	00 32 11.8	-0.2
QIZ			pmax	pmax		
	comp=Z,330nm,5.4s					
QIZ			LR	LR		
	comp=N,590nm,20.0s					
QIZ			LR	LR		
	comp=Z,730nm,22.8s,MS4.9					
QIZ	**Qiongzhong**	**75.47 296**	PFAKE		00 22 40.0	+7.1
QIZ			LR	LR		
	comp=Z,818nm,22.0s,MS5.0					
MDJ	**Mudanjiang**	**75.99 327**	P	**P**	**00 22 36.0**	**+0.7**
MDJ			pP	pP	00 22 45.3	+1.6
MDJ			sP	sP	00 22 49.0	+2.2
MDJ			PP	PP	00 25 25.9	-0.4
MDJ			S	S	00 32 18.3	+1.6
MDJ			sS	sS	00 32 34.3	+3.7
MDJ			SS	SS	00 37 13.6	+3.4
MDJ			pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7					
MDJ			pmax	pmax		
	comp=Z,160nm,3.6s					
MDJ			LR	LR		
	comp=N,520nm,25.9s,MS4.9					
MDJ			LR	LR		
	comp=E,650nm,24.9s,MS4.9					
MDJ			LR	LR		
	comp=Z,860nm,26.4s,MS4.9					
MDJ	**Mudanjiang**	**75.99 327**	*e*P	**P**	**00 22 35.5**	**+0.2**
	comp=Z,34nm,1.0s,mb5.2					
MDJ			LR	LR		
	comp=Z,490nm,21.0s,MS4.8					
HABR	**Khabarovsk**	**76.22 333**	*e*P	**P**	**00 22 36.3**	**-0.2**
HABR			*e*S	S	00 32 20.5	+1.5
HABR					00 32 50.4	
HABR			*e*SS	SS	00 37 13.7	+0.2
HABR			pmax	pmax		
	comp=N,68nm,2.1s					
HABR			pmax	pmax		
	comp=Z,118nm,1.1s,mb5.7					
HABR			pmax	pmax		
	comp=E,42nm,1.2s					
HABR			MLR	MLR		
	comp=Z,415nm,17.0s,MS4.8					
COCO	**West Island**	**76.81 261**	PFAKE		00 22 50.0	+9.3
COCO			LR	LR		
	comp=Z,1μm,19.0s,MS5.2					
DL2	**Dalian**	**76.83 319**	P	**P**	**00 22 45.8**	**+5.6**
DL2			pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2					
DL2			LR	LR		
	comp=N,340nm,16.4s,MS4.8					
DL2			LR	LR		
	comp=E,260nm,17.3s,MS4.8					
DL2			LR	LR		
	comp=Z,340nm,17.5s,MS4.7					
WHN	**Wuhan**	**77.22 308**	⇑P	**P**	**00 22 42.0**	**-0.6**
WHN			S	S	00 32 21.9	-8.8
WHN			pmax	pmax		
	comp=Z,90nm,1.5s,mb5.5					
WHN			LR	LR		
	comp=N,1μm,22.8s					
WHN			LR	LR		
	comp=E,1μm,30.5s					
WHN			LR	LR		
	comp=Z,2μm,27.0s,MS5.3					
CHGN	**Chignik**	**77.25 14**	*e*P	**P**	**00 22 41.0**	**-1.1**
SNY	**Shenyang**	**77.44 322**	⇑P	**P**	**00 22 28.4**	**-15**
SNY			S	S	00 32 40.4	+7.8
SNY			pmax	pmax		
	comp=Z,160nm,5.4s					
SNY			LR	LR		
	comp=N,410nm,21.6s,MS5.0					
SNY			LR	LR		
	comp=E,570nm,21.6s,MS5.0					
SNY			LR	LR		
	comp=Z,680nm,22.2s,MS4.9					
CN2	**Changchun**	**77.64 325**	*e*P	**P**	**00 22 44.4**	**-0.2**
CN2			*e*S	S	00 32 36.3	+1.6
CN2			SS	SS	00 37 39.6	+4.3
CN2			pmax	pmax		
	comp=Z,30nm,1.3s,mb5.1					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,500nm,21.0s,MS5.1					
CN2			LR	LR		
	comp=E,900nm,21.0s,MS5.1					
CN2			LR	LR		
	comp=Z,900nm,22.0s,MS5.0					
IPM	**Ipoh**	**77.93 279**	*e*P	**P**	**00 22 46.7**	**-0.3**
	comp=Z,102nm,1.2s,mb5.6					
KLR	**Kul'dur**	**78.24 332**	*e*P	**P**	**00 22 44.0**	**-3.8**
KLR			*e*S	S	00 32 50.0	+9.1
KULM	**Kulim**	**78.56 280**	*e*P	**P**	**00 22 54.7**	**+4.3**
KULM			LR	LR		
	comp=Z,590nm,21.0s,MS4.9					
OHAK	**Old Harbor**	**79.34 16**	*e*P	**P**	**00 22 54.1**	**+0.5**
	comp=Z,73nm,1.0s,mb5.6					
BSC	**Santa Cruz Isl**	**79.83 49**	⇓P	**P**	**00 22 57.0**	**+0.1**
	baz=80					
SAO	**San Andreas Ge**	**79.98 46**	*e*P	**P**	**00 22 57.8**	**+0.1**
	comp=Z,36nm,1.0s,mb5.3					
SAO	**San Andreas Ge**	**79.98 46**	*e*P	**P**	**00 22 57.8**	**+0.1**
SAO			pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3					
SBC	**Santa Barbara**	**79.99 49**	⇓P	**P**	**00 22 57.9**	**+0.1**
	baz=80					
KDAK	**Kodiak Island**	**80.01 16**	P	**P**	**00 22 56.6**	**-0.7**
	comp=Z,58nm,1.1s,mb5.4,baz=194,slow=4.2,SNR=8.1					
KDAK	**Kodiak Island**	**80.01 16**	*e*P	**P**	**00 22 58.0**	**+0.7**
KDAK			LR	LR		
	comp=Z,2μm,21.0s,MS5.4					
KDAK	**Kodiak Island**	**80.01 16**	*i* P	**P**	**00 22 58.2**	**+0.9**
SCI	**San Clemente I**	**80.11 50**	⇓P	**P**	**00 22 58.0**	**-0.5**
	baz=80					
PKM	**Peak Mountain**	**80.15 48**	⇓P	**P**	**00 22 59.1**	**+0.5**
	baz=80					
SMMC	**Simmler**	**80.23 48**	⇑P	**P**	**00 22 59.2**	**+0.1**
	baz=80					
CIS	**Catalina Islan**	**80.43 50**	⇑P	**P**	**00 22 59.8**	**-0.4**
	baz=81					
FMP	**Fort Macarthur**	**80.66 50**	⇑P	**P**	**00 23 01.0**	**-0.3**
	baz=81					
ENH	**Enshi**	**80.77 306**	*e*P	**P**	**00 23 02.0**	**0.0**
	comp=Z,124nm,1.5s,mb5.6					
ENH			LR	LR		
	comp=Z,600nm,22.0s,MS4.9					
OSI	**Osito Adit**	**80.79 49**	⇑P	**P**	**00 23 01.8**	**-0.3**
	baz=81					
DECC	**Green Verdugo**	**80.89 49**	⇑P	**P**	**00 23 02.0**	**-0.7**
	baz=81					
BJT	**Baijiatuau**	**80.93 317**	*e*P	**P**	**00 23 02.6**	**-0.1**
	comp=Z,51nm,1.3s,mb5.3					
BJT			LR	LR		
	comp=Z,528nm,21.0s,MS4.9					
BJT	**Baijiatuau**	**80.93 317**	*e*P	**P**	**00 23 02.6**	**-0.1**
BJT			pmax	pmax		
	comp=Z,51nm,1.3s					
BJT			MLR	MLR		
	comp=Z,528nm,21.0s					
BJI	**Beijing**	**80.93 317**	P	**P**	**00 23 02.8**	**+0.1**
BJI			S	S	00 33 16.4	+6.5
BJI			SS	SS	00 38 29.3	+4.5
BJI			pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8					
BJI			LR	LR		
	comp=N,480nm,24.2s,MS4.9					
BJI			LR	LR		
	comp=E,330nm,20.6s,MS4.9					
BJI			LR	LR		
	comp=Z,620nm,41.3s					
ARVC	**Arvin**	**80.97 48**	⇓P	**P**	**00 23 02.9**	**-0.1**
	baz=81					
MWC	**Mount Wilson**	**81.08 50**	*e*P	**P**	**00 23 03.5**	**-0.1**
	comp=Z,47nm,1.2s,mb5.3					
MWC	**Mount Wilson**	**81.08 50**	*e*P	**P**	**00 23 03.5**	**-0.1**
MWC			pmax	pmax		
	comp=Z,47nm,1.2s,mb5.3					
109C	**Camp Elliot, M**	**81.13 51**	⇑P	**P**	**00 23 03.7**	**-0.2**
	baz=81					
VES	**Vestal, Richgr**	**81.14 48**	⇓P	**P**	**00 23 03.2**	**-0.7**
	baz=81,SNR=7.5					
WDC	**Whiskeytown Da**	**81.30 42**	*e*P	**P**	**00 23 04.4**	**-0.3**
	comp=Z,38nm,1.3s,mb5.2					
WDC	**Whiskeytown Da**	**81.30 42**	*e*P	**P**	**00 23 04.4**	**-0.2**
WDC			pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2					
GYA	**Guiyang**	**81.31 301**	⇓*i*P	**P**	**00 23 06.0**	**+1.0**
GYA			pP	pP	00 23 15.8	+2.3
GYA			PP	PP	00 26 14.4	+3.3
GYA			S	S	00 33 13.0	-1.3
GYA			SKS		00 33 20.4	
GYA			sS	sS	00 33 29.5	+1.1
GYA			SS	SS	00 38 33.3	+2.4
GYA			pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4					
GYA			pmax	pmax		
	comp=Z,190nm,5.9s					
GYA			LR	LR		
	comp=N,3μm,20.9s,MS5.6					
GYA			LR	LR		
	comp=E,2μm,21.0s,MS5.6					
GYA			LR	LR		
	comp=Z,3μm,20.7s,MS5.6					
CMB	**Columbia Colle**	**81.36 45**	*e*P	**P**	**00 23 05.1**	**+0.1**
CMB	**Columbia Colle**	**81.36 45**	*e*P	**P**	**00 23 05.1**	**+0.1**
BFSC	**Mount Baldy Ra**	**81.37 50**	⇑P	**P**	**00 23 04.8**	**-0.4**
	baz=82,SNR=5.1					
MURC	**Murrieta**	**81.40 50**	⇑P	**P**	**00 23 05.0**	**-0.3**
	baz=82

PFO MLR MLR
comp=Z,642nm,19.0s,MS5.0
SWSC Sam W. Stewart 82.13 52 ⇑P P 00 23 08.9 -0.3
baz=82,SNR=5.5
CWC Cottonwood Cre 82.14 48 ⇑P P 00 23 09.1 -0.1
baz=82
HUMO Hull Mountain 82.15 40 eP P 00 23 10.5 +1.4
comp=Z,32nm,1.0s,mb5.2
RRX Edison Barstow 82.16 49 ⇑P P 00 23 08.5 -0.8
baz=82
MLAC Mammoth Lakes 82.21 46 ⇓P P 00 23 09.5 0.0
baz=82
MTUM Tungsten Hills 82.26 47 eP P 00 23 10.6 +0.8
RSO Redoubt South 82.31 15 eP P 00 23 08.9 -0.6
TIN Tinemaha 82.34 47 ⇓P P 00 23 10.3 +0.1
baz=83
GAMB Gambell 82.35 5 eP P 00 23 09.6 -0.1
comp=Z,159nm,1.5s,mb5.7
MPMC Manual Prospec 82.38 48 ⇑P P 00 23 10.2 -0.2
baz=83,SNR=12
DAC Darwin (Calif) 82.41 48 PFAKE 00 23 20.0 +9.4
DAC LR LR
comp=Z,1μm,21.0s,MS5.2
WCN Washoe City 82.44 44 ⇓P P 00 23 11.2 +0.5
baz=83
WCN Washoe City 82.44 44 eP P 00 23 10.3 -0.3
comp=Z,24nm,0.9s,mb5.1
WCN Washoe City 82.44 44 eP P 00 23 10.3 -0.4
WCN pmax pmax
comp=Z,24nm,0.9s,mb5.1
BELC Belle Mtn. Jos 82.47 51 ⇑P P 00 23 10.8 -0.1
baz=83,SNR=9.3
GSC Goldstone 82.50 49 ⇑P P 00 23 11.0 -0.1
baz=83,SNR=6.9
GSC Goldstone 82.50 49 eP P 00 23 11.2 +0.2
comp=Z,25nm,1.2s,mb5.0
GSC Goldstone 82.50 49 eP P 00 23 11.3 +0.2
GSC pmax pmax
comp=Z,25nm,1.2s,mb5.0
HEC Hector,Ludlow 82.62 50 ⇑P P 00 23 11.4 -0.3
baz=83,SNR=16
BC3 Big Chuckawall 82.71 51 ⇑P P 00 23 12.0 -0.2
baz=83,SNR=7.4
SEW Seward 82.84 16 eP P 00 23 11.6 -0.7
comp=Z,65nm,1.3s,mb5.5
GLA Glamis 82.90 52 ⇓P P 00 23 13.3 +0.1
baz=83,SNR=8.6
GLA Glamis 82.90 52 eP P 00 23 13.5 +0.3
comp=Z,18nm,0.9s,mb5.1
GLA Glamis 82.90 52 eP P 00 23 13.5 +0.3
GLA pmax pmax
comp=Z,18nm,0.9s,mb5.1
GRAC Grapevine Rang 82.92 47 ⇓P P 00 23 13.5 +0.2
baz=83,SNR=9.1
XAN Xi'an 82.93 309 P P 00 23 18.3 +5.0
XAN S S 00 33 39.0 +8.3
XAN pmax pmax
comp=Z,11nm,1.4s,mb4.7
XAN pmax pmax
comp=Z,78nm,6.0s
XAN LR LR
comp=N,240nm,25.5s,MS4.6
XAN LR LR
comp=E,200nm,22.9s,MS4.6
XAN LR LR
comp=Z,200nm,29.1s
NVAR Mina Array Bea 82.98 46 P P 00 23 13.6 +0.1
comp=Z,20nm,0.9s,mb5.1,baz=227,slow=8.6,SNR=50
NVAR LR LR 00 52 13.2
comp=Z,822nm,21.5s,MS5.1,baz=114,slow=30
NVAR Mina Array Bea 82.98 46 P P 00 23 13.6 +0.2
SLKM Skilak Lake 82.99 16 eP P 00 23 12.5 -0.5
SLKM *e*PcP PcP 00 23 17.9 +0.2
SLKM Skilak Lake 82.99 16 eP P 00 23 12.5 -0.5
SLKM *e* 00 23 17.9
FURC Furnace Creek, 83.02 48 ⇑P P 00 23 13.1 -0.7
baz=83
SHOC Shoshone 83.16 49 ⇑P P 00 23 13.8 -0.7
baz=83
IRM Iron Mountain 83.17 51 ⇓P P 00 23 14.3 -0.3
baz=83,SNR=19
TUQ Turquoise Moun 83.20 49 ⇑P P 00 23 14.2 -0.5
baz=83,SNR=11
SEY Seymchan 83.25 349 *ce*P P 00 23 12.8 -1.5
MOD Modoc 83.43 42 eP P 00 23 16.0 +0.2
comp=Z,43nm,1.3s,mb5.3
Y12C Blythe 83.44 51 ⇑P P 00 23 15.8 -0.2
baz=84,SNR=7.8
TPH Tonopah 83.54 47 PFAKE 00 23 30.0 +14
TPH LR LR
comp=Z,892nm,22.0s,MS5.1
113A Mohawk Valley, 83.57 53 ⇑P P 00 23 16.4 -0.3
baz=84,SNR=8.2
RC01 Rabbit Creek A 83.61 16 eP P 00 23 15.6 -0.6
LDFC Landfair 83.62 50 eP P 00 23 17.2 +0.3
comp=Z,62nm,1.0s,mb5.7
NEE2 Needles Airpor 83.83 50 ⇓P P 00 23 17.8 -0.2
baz=84
Z13A Yuma Proving G 83.84 52 ⇑P P 00 23 17.9 -0.2
baz=84,SNR=11
214A Organ Pipe Nat 83.94 54 ⇑P P 00 23 18.5 -0.1
baz=84,SNR=7.7
PDMCI Parker Dam,Lak 83.98 51 ⇓P P 00 23 18.6 -0.2
baz=84,SNR=7.9
KMI Kunming 83.98 299 P P 00 23 20.0 +1.1
KMI pP pP 00 23 31.4 +3.9
KMI sP sP 00 23 35.3 +4.8
KMI PP PP 00 26 34.8 +1.7
KMI S S 00 33 41.6 -0.1
KMI sS sS 00 33 59.9 +4.1
KMI SS SS 00 39 14.8 +4.1
KMI pmax pmax
comp=Z,34nm,1.2s,mb5.3
KMI pmax pmax
comp=Z,290nm,6.4s
KMI LR LR
comp=N,400nm,21.9s
KMI LR LR
comp=E,410nm,15.2s
KMI LR LR
comp=Z,560nm,23.1s,MS4.9
E03A Lebam 84.00 37 ⇑P P 00 23 18.5 -0.1
baz=84
HIA Hailar 84.13 326 eP P 00 23 18.9 -0.2
comp=Z,39nm,1.2s,mb5.4
HIA LR LR
comp=Z,686nm,21.0s,MS5.0
HIA Hailar 84.13 326 eP P 00 23 19.0 -0.1
HIA pmax pmax
comp=Z,39nm,1.2s
HIA MLR MLR
comp=Z,686nm,21.0s
PMR Palmer 84.19 16 eP P 00 23 18.1 -1.0
comp=Z,83nm,1.2s,mb5.7
PMR Palmer 84.19 16 eP P 00 23 18.1 -1.0
PMR pmax pmax
comp=Z,83nm,1.2s,mb5.7
114A Black Gap (USA 84.23 53 ⇑P P 00 23 19.7 -0.3
baz=84,SNR=11
NLWA Neilton Lookou 84.31 36 PFAKE 00 23 30.0 +10
NLWA LR LR
comp=Z,793nm,19.0s,MS5.1
HHC Hu-ho-hao-te 84.36 316 *e*P P 00 23 20.8 +0.3
HHC sP sP 00 23 34.6 +2.5
HHC PP PP 00 26 38.0 +2.1
HHC SKS 00 33 38.0
HHC S S 00 33 43.8 -1.0
HHC sS sS 00 34 01.8 +2.9
HHC SS SS 00 39 16.5 +0.9
HHC pmax pmax
comp=Z,12nm,0.7s,mb5.1
HHC pmax pmax
comp=Z,310nm,6.8s
HHC LR LR
comp=N,460nm,17.2s,MS5.1
HHC LR LR
comp=E,520nm,16.7s,MS5.1
HHC LR LR
comp=Z,630nm,17.3s,MS5.1
Z14A Wintersburg 84.45 52 ⇑P P 00 23 20.8 -0.3
baz=85,SNR=7.1
TNA Tin City 84.46 6 eP P 00 23 20.6 +0.2
comp=Z,80nm,1.1s,mb5.8
CHRT Chiangrai 84.51 293 P P 00 23 21.0 -0.7
comp=Z,421nm,0.9s,mb6.6
W13A Hualapai Mount 84.52 50 ⇓P P 00 23 21.2 -0.3
baz=85,SNR=7.6
SML Sawmill 84.58 16 eP P 00 23 21.2 +0.1
SML Sawmill 84.58 16 eP P 00 23 21.2 +0.1
Y14A Wickenburg 84.66 52 ⇓P P 00 23 21.6 -0.6
baz=85,SNR=10
BMN Battle Mountai 84.69 44 eP P 00 23 22.2 0.0
comp=Z,35nm,1.1s,mb5.4
BMN LR LR
comp=Z,863nm,19.0s,MS5.2
BMN Battle Mountai 84.69 44 eP P 00 23 22.2 0.0
BMN pmax pmax
comp=Z,35nm,1.1s,mb5.4
BMN MLR MLR
comp=Z,863nm,19.0s,MS5.2
DIV Divide 84.71 17 eP P 00 23 21.9 +0.2
CM31 Chiang Mai Arr 84.73 291 eP P 00 23 22.7 -0.2
comp=Z,50nm,1.0s,mb5.6
CM31 LR LR
comp=Z,426nm,20.0s,MS4.8
CMAR Chiang Mai Arr 84.73 291 P P 00 23 23.1 +0.2
comp=Z,9.4nm,0.9s,mb4.9,baz=128,slow=3.5,SNR=42
CMAR LR LR 00 56 11.6
comp=Z,408nm,21.9s,MS4.8,baz=340,slow=32
CMAR Chiang Mai Arr 84.73 291 P P 00 23 23.1 +0.2
CMAR Chiang Mai Arr 84.73 291 P P 00 23 23.1 +0.2
WVOR Wild Horse Val 84.77 42 eP P 00 23 22.7 +0.1
comp=Z,41nm,1.2s,mb5.4
WVOR LR LR
comp=Z,871nm,21.0s,MS5.1
WVOR Wild Horse Val 84.77 42 eP P 00 23 22.7 +0.2
WVOR pmax pmax
comp=Z,41nm,1.2s,mb5.4
WVOR MLR MLR
comp=Z,871nm,21.0s,MS5.1
R11A Troy Canyon, C 84.81 47 ⇑P P 00 23 23.0 +0.1
baz=85
CHG Chiang Mai 84.86 292 ⇓P P 00 23 23.7 +0.2
comp=Z,53nm,0.7s,mb5.8
CHTO Chiang Mai 84.86 292 eP P 00 23 23.7 +0.2
comp=Z,58nm,1.1s,mb5.6
CHTO LR LR
comp=Z,373nm,22.0s,MS4.7
CHTO Chiang Mai 84.86 292 eP P 00 23 23.7 +0.2
CHTO pmax pmax
comp=Z,58nm,1.1s,mb5.6
CHTO MLR MLR
comp=Z,373nm,22.0s,MS4.7
BMRM Bremner River 84.91 18 eP P 00 23 22.7 -0.1
comp=Z,76nm,1.2s,mb5.7
BBB Bella Bella 84.97 30 LR LR 00 53 11.6
comp=Z,721nm,21.1s,MS5.0,baz=47,slow=30
G06A Carlson Farm, 84.99 39 ⇑P P 00 23 23.5 -0.1
baz=85
I07A Izee 85.07 40 ⇓P P 00 23 23.8 -0.2
baz=85,SNR=14
J08A Circle Bar Ran 85.34 41 ⇑P P 00 23 25.0 -0.4
baz=86,SNR=9.7
CD2 Chengdu 85.49 304 eP P 00 23 27.8 +1.4
CD2 pP pP 00 23 32.8 -2.2
CD2 sP sP 00 23 35.0 -3.0
CD2 PP PP 00 26 48.3 +3.0
CD2 SKS 00 33 49.4
CD2 S S 00 33 57.8 +1.3
CD2 SS SS 00 39 37.3 +4.6
CD2 pmax pmax
comp=Z,90nm,1.0s,mb5.8
CD2 pmax pmax
comp=Z,340nm,7.2s
CD2 LR LR
comp=N,400nm,22.6s,MS5.0
CD2 LR LR
comp=E,660nm,23.8s,MS5.0
CD2 LR LR
comp=Z,630nm,19.0s,MS5.0
TRF Thorofare Moun 85.49 14 eP P 00 23 25.0 -0.7
comp=Z,30nm,1.1s,mb5.3
TUC Tucson 85.64 54 eP P 00 23 27.0 -0.2
comp=Z,28nm,1.3s,mb5.3
TUC LR LR
comp=Z,1μm,19.0s,MS5.2
TUC Tucson 85.64 54 eP P 00 23 27.0 -0.2
TUC pmax pmax
comp=Z,28nm,1.3s,mb5.3
TUC MLR MLR
comp=Z,1μm,19.0s,MS5.2
R13A O'Grain Ranch, 85.85 48 ⇓P P 00 23 28.1 0.0
baz=86
318A Bisbee 85.90 55 ⇑P P 00 23 28.7 +0.3
baz=86
CCUT Cedar City 86.00 48 eP P 00 23 30.5 +1.7
comp=Z,18nm,1.2s,mb5.2
X16A Lo Mia Camp, P 86.03 52 ⇑P P 00 23 29.2 +0.2
baz=86,SNR=19
ARUT Antelope Range 86.05 48 eP P 00 23 30.1 +1.1
comp=Z,37nm,1.5s,mb5.4
ARUT Antelope Range 86.05 48 eP P 00 23 30.2 +1.1
ARUT pmax pmax
comp=Z,37nm,1.5s,mb5.4
MCK McKinley 86.05 15 eP P 00 23 27.4 -1.0
comp=Z,49nm,1.3s,mb5.6
MCK McKinley 86.05 15 eP P 00 23 27.4 -1.0
MCK pmax pmax
comp=Z,49nm,1.3s,mb5.6
218A Dragoon 86.07 55 ⇑P P 00 23 29.5 +0.2
baz=86,SNR=9.3
ELK Elko 86.17 45 eP P 00 23 29.8 +0.3
ELK Elko 86.17 45 eP P 00 23 29.8 +0.2
Y17A Roosevelt 86.18 53 ⇑P P 00 23 29.6 -0.2
baz=86,SNR=8.6
A05A Maple Falls 86.20 35 ⇑P P 00 23 29.1 -0.4
baz=86
RSW Rattlesnake Hi 86.22 38 eP P 00 23 30.1 +0.5
HAWA Hanford 86.25 38 eP P 00 23 30.7 +0.9
Z17A San Carlos Hig 86.29 53 ⇓P P 00 23 30.2 -0.2
baz=86
118A Homack Ranch, 86.41 54 ⇓P P 00 23 31.0 +0.1
baz=87,SNR=12
319A Douglas 86.43 55 ⇓P P 00 23 31.1 +0.1
baz=87
ETW Entiat 86.43 37 eP P 00 23 30.1 -0.5
X17A Forest Lakes 86.47 52 ⇓P P 00 23 31.6 +0.3
baz=87,SNR=7.3
BILL Bilibino 86.48 356 eP P 00 23 29.8 -0.7
comp=Z,31nm,1.4s,mb5.3
BILL LR LR
comp=Z,672nm,21.0s,MS5.0
BILL Bilibino 86.48 356 ⇓*i*P P 00 23 29.4 -1.1
BILL *e* 00 23 34.5
BILL *e* 00 26 54.4
BILL pmax pmax
comp=Z,22nm,1.8s,mb5.1
CLNS Chul'man 86.51 334 eP P 00 23 31.4 +0.6
CLNS *e*PPP 00 28 45.5
CLNS *e*S SKSac 00 33 53.3 -2.0
CLNS pmax pmax
comp=Z,50nm,1.3s,mb5.6
CLNS pmax pmax
comp=E,4.0nm,1.2s
CLNS pmax pmax
comp=N,29nm,1.4s
CLNS smax
comp=N,189nm,13.1s
CLNS smax
comp=E,277nm,15.4s
Z18A Geronimo 86.54 54 ⇓P P 00 23 31.7 +0.1
baz=87
WUAZ Wupatki 86.55 51 ⇑P P 00 23 31.6 0.0
baz=87,SNR=5.7
WUAZ Wupatki 86.55 51 eP P 00 23 32.2 +0.6
comp=E,32nm,1.5s,mb5.3
WUAZ LR LR
comp=Z,680nm,21.0s,MS5.0
BMO Blue Mountains 86.82 41 PFAKE 00 23 40.0 +7.4
BMO LR LR
comp=Z,644nm,20.0s,MS5.0
Y18A Canyon Day Jun 86.83 53 ⇑P P 00 23 33.2 +0.2
baz=87,SNR=10
W17A Winslow 86.86 52 ⇓P P 00 23 32.9 -0.2
baz=87
119A Ashpeak Ranch, 86.97 54 ⇑P P 00 23 33.8 +0.1
baz=87,SNR=5.7
U16A Tuba City 87.00 50 ⇓P P 00 23 33.8 0.0
baz=87,SNR=9.0
320A Kipp Ranch, An 87.00 56 ⇓P P 00 23 34.5 +0.6
baz=87,SNR=9.2
V17A Tonalea, Kykot 87.02 51 ⇑P P 00 23 33.8 -0.1
baz=87
MFID Camas Ranch 87.05 42 ⇓P P 00 23 33.6 -0.2
baz=87,SNR=11
MFID Camas Ranch 87.05 42 eP P 00 23 33.4 -0.4
comp=Z,22nm,1.1s,mb5.3
R15A Junction 87.06 48 ⇑P P 00 23 34.3 +0.3
baz=87
E09A Wood Farm, Sta 87.14 39 ⇑P P 00 23 33.6 -0.6
baz=87
X18A Snowflake 87.20 52 ⇓P P 00 23 34.4 -0.4
baz=87,SNR=5.9
Z19A T-Link Ranch, 87.21 54 ⇓P P 00 23 34.8 -0.1
baz=87
220A Playas Peak, P 87.23 55 ⇑P P 00 23 34.8 -0.1
baz=87,SNR=5.7
MVU Marysvale 87.23 48 PFAKE 00 23 50.0 +15
MVU LR LR
comp=Z,857nm,21.0s,MS5.1
OD2 Odessa Site #2 87.25 38 eP P 00 23 34.8 0.0
COLA College 87.27 14 eP P 00 23 33.6 -0.8
comp=Z,21nm,1.2s,mb5.2
COLA LR LR
comp=Z,1μm,20.0s,MS5.3
COLA College 87.27 14 eP P 00 23 33.6 -0.8
COLA pmax pmax
comp=Z,21nm,1.2s,mb5.2
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.3
S16A Weppner Ranch, 87.33 49 ⇓P P 00 23 35.8 +0.5
baz=88
120A U Bar Ranch, L 87.40 55 ⇓P P 00 23 35.8 +0.1
baz=88
ILAR Eielson Array 87.42 15 P P 00 23 33.3 -1.7
comp=Z,6.4nm,1.0s,mb4.8,baz=233,slow=5.5,SNR=24
ILAR LR LR 00 54 56.4
comp=Z,1μm,21.7s,MS5.2,baz=48,slow=30
ILAR Eielson Array 87.42 15 P P 00 23 33.3 -1.7
ILAR Eielson Array 87.42 15 P P 00 23 33.3 -1.8
F10A Beach Ranch, E 87.42 40 ⇑P P 00 23 34.2 -1.3
baz=88
Y19A Nutrioso 87.49 53 ⇓P P 00 23 36.2 0.0
baz=88,SNR=12
U17A Shonto 87.53 50 ⇓P P 00 23 36.4 0.0
baz=88
DUG Dugway 87.56 46 ⇑P P 00 23 36.2 -0.2
baz=88
DUG Dugway 87.56 46 eP P 00 23 37.2 +0.8
DUG LR LR
comp=Z,1μm,22.0s,MS5.2
DUG Dugway 87.56 46 eP P 00 23 37.2 +0.8
DUG MLR MLR
comp=Z,1μm,22.0s,MS5.2
LZH Lanzhou 87.56 309 eP P 00 23 37.5 +1.0
LZH pP pP 00 23 47.3 +2.2
LZH sP sP 00 23 51.0 +2.9
LZH SKS 00 34 02.0
LZH *e*S S 00 34 15.0 -1.5
LZH pmax pmax
comp=Z,20nm,1.0s,mb5.3
LZH pmax pmax
comp=Z,190nm,5.8s
LZH LR LR
comp=N,250nm,11.5s
LZH LR LR
comp=E,870nm,19.8s
LZH LR LR
comp=Z,620nm,20.2s
T17A Navajo Res., N 87.60 50 ⇑P P 00 23 36.7 +0.1
baz=88,SNR=8.7
W18A Petrified Fore 87.60 52 ⇑P P 00 23 36.5 -0.2
baz=88
SYO Syowa Base 87.65 194 ⇓*e*P P 00 23 33.2 -3.2
X19A St. Johns 87.65 53 ⇑P P 00 23 36.7 -0.2
baz=88,SNR=8.7
P15A Leamington 87.66 47 ⇓P P 00 23 36.6 -0.2
baz=88
Z20A Nine Sixteen R 87.66 54 ⇓P P 00 23 37.0 0.0
baz=88,SNR=8.7
I12A Atlanta 87.67 42 ⇑P P 00 23 36.5 -0.3
baz=88,SNR=11
V18A Ganado 87.70 51 ⇓P P 00 23 37.3 +0.2
baz=88
O15A The Old Anders 87.84 46 ⇑P P 00 23 37.2 -0.5
baz=88
221A Mesquite Ranch 87.85 55 ⇑P P 00 23 37.8 -0.2
baz=88
W19A Sanders 87.86 52 ⇑P P 00 23 37.7 -0.2
baz=88
S17A Black Ridge (B 87.87 49 ⇓P P 00 23 37.8 -0.1
baz=88
HLID Hailey 88.02 43 ⇓P P 00 23 38.4 -0.1
baz=88,SNR=10
HLID Hailey 88.02 43 eP P 00 23 38.8 +0.3
comp=Z,11nm,1.0s,mb5.1
HLID LR LR
comp=Z,1μm,21.0s,MS5.2
121A Cookes Peak, D 88.05 55 ⇑P P 00 23 38.7 -0.2
baz=88,SNR=5.2
L14A Malta 88.09 44 ⇓P P 00 23 39.2 +0.3
baz=88,SNR=8.0
J13A Cove Ranch, Pi 88.10 43 ⇑P P 00 23 38.8 -0.1
baz=88,SNR=13
P16A Fountain Green 88.10 47 ⇑P P 00 23 39.1 +0.1
baz=88
DLBC Dease Lake 88.11 25 LR LR 00 58 20.6
comp=Z,526nm,20.1s,MS5.0,baz=50,slow=32
Y20A Horse Springs, 88.14 53 ⇓P P 00 23 39.3 +0.1
baz=88,SNR=11
Q16A Castle Valley 88.15 48 ⇑P P 00 23 39.0 -0.2
baz=88,SNR=12
H12A Diamond D Ranc 88.20 42 ⇑P P 00 23 38.9 -0.4
baz=88,SNR=16
R17A Hanksville Air 88.26 49 ⇑P P 00 23 39.4 -0.3
baz=88,SNR=9.5
TMUT Trail Mountain 88.28 48 eP P 00 23 40.6 +0.7
HVU Hansel Valley 88.29 45 eP P 00 23 40.9 +1.1
HVU Hansel Valley 88.29 45 eP P 00 23 40.9 +1.1
X20A Quemado 88.30 53 ⇓P P 00 23 40.0 -0.1
baz=88
T18A Mexican Hat 88.33 50 ⇓P P 00 23 40.0 -0.2
baz=88,SNR=18
YAK Yakutsk 88.34 340 PFAKE 00 23 50.0 +10
YAK LR LR
comp=Z,1μm,22.0s,MS5.3
YAK Yakutsk 88.34 340 eP P 00 23 37.2 -2.3
YAK *e**PP pP 00 23 43.4 -4.7
YAK *e* 00 27 04.4
YAK *e*S SKSac 00 34 05.7 -0.5
YAK *e**SS sS 00 34 11.3 -26
YAK *e*SS SS 00 40 14.6 +1.4
YAK *e*SSS 00 43 53.6
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=Z,24nm,1.3s,mb5.3
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
YAK smax
comp=E,117nm,3.8s
YAK smax
comp=N,109nm,5.3s
YAK MLR MLR
comp=Z,425nm,17.0s,MS4.9
YAK MLR MLR
comp=N,250nm,17.0s,MS4.9
YAK MLR MLR
comp=E,298nm,18.0s,MS4.9
V19A Window Rock 88.36 52 ⇓P P 00 23 39.9 -0.4
baz=88
K14A Jones Ranch, D 88.37 44 ⇑P P 00 23 40.1 0.0
baz=89,SNR=7.3
M15A Larsen Ranch, 88.37 45 ⇓P P 00 23 39.8 -0.4
baz=89,SNR=8.4
I13A Wildhorse Cree 88.38 42 ⇑P P 00 23 40.1 0.0
baz=89,SNR=8.0
222A Williams Famil 88.42 56 ⇓P P 00 23 40.7 0.0
baz=89
Z21A St. Cloud Mine 88.44 54 ⇓P P 00 23 40.9 +0.2
baz=89,SNR=14
O16A Springville 88.47 47 ⇑P P 00 23 40.1 -0.5
baz=89
S18A Hurst Farm, Bl 88.47 49 ⇓P P 00 23 40.8 +0.1
baz=89
U19A Dine' College, 88.47 51 ⇓P P 00 23 40.7 -0.1
baz=89,SNR=6.2
W20A Ramah 88.53 52 ⇑P P 00 23 41.0 -0.1
baz=89,SNR=8.9

H13A **Challis** 88.59 42 ⇓P P 00 23 40.9 -0.3
baz=89,SNR=7.0
L15A **Malad City** 88.65 45 ⇓P P 00 23 41.0 -0.5
baz=89,SNR=13
JLU **Jordanelle** 88.68 46 eP P 00 23 41.6 0.0
comp=E,27nm,1.4s,mb5.4
SRU **San Rafael** 88.69 48 eP P 00 23 41.5 -0.2
SRU **San Rafael** 88.69 48 eP P 00 23 41.5 -0.2
P17A **Butcher Ranch,** 88.69 48 ⇓P P 00 23 41.3 -0.4
baz=89,SNR=8.5
Y21A **Point of Rocks** 88.72 54 ⇓P P 00 23 42.1 +0.1
baz=89,SNR=14
122A **Conniff Cattle** 88.73 55 ⇓P P 00 23 42.3 +0.2
baz=89
DAU **Daniels Canyon** 88.73 47 eP P 00 23 42.1 +0.2
DAU **Daniels Canyon** 88.73 47 eP P 00 23 42.1 +0.2
X21A **Alamocita Cree** 88.80 53 ⇓P P 00 23 42.1 -0.3
baz=89
N16A **Rees Ranch, Co** 88.81 46 ⇑P P 00 23 42.2 0.0
baz=89,SNR=8.9
I14A **Mackay** 88.81 43 ⇑P P 00 23 42.1 -0.1
baz=89,SNR=11
V20A **Brimhall** 88.82 52 ⇑P P 00 23 42.1 -0.4
baz=89
T19A **Beclabito** 88.83 51 ⇑P P 00 23 42.1 -0.3
baz=89
R18A **Canyonlands Na** 88.83 49 ⇓P P 00 23 41.8 -0.6
baz=89,SNR=6.9
K15A **Arbon** 88.86 44 ⇑P P 00 23 42.5 +0.1
baz=89
M16A **Huntsville** 88.86 46 ⇓P P 00 23 42.0 -0.5
baz=89
EGAK **Eagle** 88.89 17 eP P 00 23 41.4 -0.7
EGAK LR LR
comp=Z,1µm,19.0s,MS5.3
223A **Chaparral, Ant** 88.91 56 ⇓P P 00 23 42.4 -0.5
baz=89
Q18A **Rafter H Ranch** 88.96 48 ⇓P P 00 23 42.4 -0.6
baz=89,SNR=10
Z22A **Elephant Butte** 88.97 55 ⇓P P 00 23 42.7 -0.5
baz=89,SNR=9.9
O17A **Robinson Place** 88.99 47 ⇑P P 00 23 43.0 -0.1
baz=89,SNR=37
U20A **Newcomb** 89.01 51 ⇑P P 00 23 42.8 -0.5
baz=89
P18A **Preston Nutter** 89.10 48 ⇓P P 00 23 43.8 +0.1
baz=89
F13A **Darby** 89.11 41 ⇓P P 00 23 42.6 -1.0
baz=89,SNR=14
S19A **Harvey Farm, M** 89.11 50 ⇓P P 00 23 43.3 -0.5
baz=89,SNR=8.2
W21A **San Fidel** 89.17 53 ⇓P P 00 23 44.0 -0.1
baz=89
H14A **Leadore** 89.18 42 ⇑P P 00 23 44.2 +0.3
baz=89
Y22A **Socorro** 89.23 54 ⇑P P 00 23 44.0 -0.4
baz=89,SNR=10
N17A **Moffit Pass** 89.24 46 ⇓P P 00 23 44.0 -0.4
baz=89
R19A **Curley Farm, L** 89.25 49 ⇑P P 00 23 44.0 -0.4
baz=89,SNR=8.8
LAZ **Ladron** 89.28 53 eP P 00 23 45.1 +0.5
comp=Z,15nm,1.7s,mb5.0
123A **Bell Site, Whi** 89.28 55 ⇓P P 00 23 44.7 0.0
baz=90
L16A **Fish Haven** 89.30 45 ⇓P P 00 23 44.2 -0.3
baz=90
LENM **Lemitar** 89.31 54 eP P 00 23 45.5 +0.7
Y22D **IRIS PASSCAL I** 89.32 54 ⇓P P 00 23 45.1 +0.2
baz=90
MVCO **Mesa Verde** 89.36 50 ⇓P P 00 23 45.1 +0.2
baz=90
MVCO **Mesa Verde** 89.36 50 eP P 00 23 46.1 +1.1
MVCO LR LR
comp=Z,936nm,20.0s,MS5.2
G14A **Jackson** 89.40 42 ⇓P P 00 23 44.4 -0.6
baz=90
X22A **Bernardo** 89.41 53 ⇓P P 00 23 45.0 -0.3
baz=90
324A **Moseley Ranch,** 89.44 57 ⇓P P 00 23 44.8 -0.7
baz=90,SNR=10
V21A **Milan** 89.44 52 ⇓P P 00 23 44.9 -0.5
baz=90,SNR=5.5
I15A **Monteview** 89.47 43 ⇑P P 00 23 45.6 +0.3
baz=90
Q19A **Hogan Spring (** 89.52 49 ⇑P P 00 23 45.0 -0.6
baz=90,SNR=12
O18A **Roosevelt** 89.53 47 ⇑P P 00 23 45.4 -0.3
baz=90,SNR=7.8
Z23A **Rita Site, Whi** 89.54 55 ⇑P P 00 23 45.6 -0.3
baz=90
PV04 **Paradox Valley** 89.54 49 eP P 00 23 45.6 -0.1
BNM **Barren Site** 89.57 54 eP P 00 23 45.8 -0.2
comp=Z,29nm,1.8s,mb5.3
M17A **Scully's Gap (B** 89.58 46 ⇓P P 00 23 45.2 -0.7
baz=90,SNR=9.8
425A **Indio Mountain** 89.60 57 ⇑P P 00 23 46.0 -0.2
baz=90,SNR=8.7
MCMT **McKenzie Canyo** 89.60 42 eP P 00 23 45.7 -0.2
comp=Z,4.8nm,1.1s,mb4.7
MNTX **Cornudas Mount** 89.62 56 ⇑P P 00 23 45.8 -0.5
baz=90,SNR=10
MNTX **Cornudas Mount** 89.62 56 PFAKE 00 24 00.0 +14
MNTX LR LR
comp=Z,897nm,20.0s,MS5.2
LPM **Los Pinos Moun** 89.63 54 eP P 00 23 47.0 +0.7
D13A **Huson** 89.64 40 ⇑P P 00 23 46.5 +0.6
baz=90
H15A **Lima** 89.64 42 ⇓P P 00 23 45.8 -0.3
baz=90,SNR=8.6
224A **Cornudas Mount** 89.65 56 ⇓P P 00 23 46.0 -0.4
baz=90,SNR=10
U21A **Nageezi** 89.67 51 ⇓P P 00 23 46.0 -0.5
baz=90,SNR=22
PV01 **Paradox Valley** 89.68 50 eP P 00 23 46.6 +0.2
comp=Z,1µm,1.3s
L17A **Cokeville** 89.71 45 ⇑P P 00 23 45.8 -0.7
baz=90
S20A **Disappointment** 89.71 50 ⇑P P 00 23 46.4 -0.2
baz=90,SNR=11
F14A **Wisdom** 89.72 41 ⇓P P 00 23 47.1 +0.7
baz=90
W22A **Albuquerque** 89.74 53 ⇑P P 00 23 46.7 -0.1
baz=90
BSMT **Bassoo Peak** 89.79 39 eP P 00 23 46.5 -0.2
A12A **Yaak River Ran** 89.80 38 ⇓P P 00 23 46.9 +0.2
baz=90,SNR=7.8
325A **Bean Ranch, Si** 89.83 57 ⇑P P 00 23 46.9 -0.4
baz=90,SNR=11
MSO **Missoula** 89.83 40 ⇓P P 00 23 47.1 +0.2
baz=90
MSO **Missoula** 89.83 40 PFAKE 00 24 00.0 +13
MSO LR LR
comp=Z,511nm,19.0s,MS5.0
626A **Big Bend Ranch** 89.84 59 ⇑P P 00 23 47.3 -0.1
baz=90,SNR=13
C13A **Hot Springs** 89.84 39 ⇓P P 00 23 47.3 +0.4
baz=90
R20A **Redvale** 89.84 50 ⇓P P 00 23 47.4 +0.2
baz=90
E14A **Clinton** 89.91 40 ⇑P P 00 23 46.7 -0.6
baz=90,SNR=8.7
Y23A **Lovelace Mesa,** 89.93 54 ⇓P P 00 23 47.9 +0.2
baz=90
RRI2 **Red Ridge** 89.94 44 eP P 00 23 47.7 +0.2
comp=Z,50nm,1.4s,mb5.7
K17A **Gardner Place,** 89.95 45 ⇓P P 00 23 47.6 0.0
baz=90
M18A **Lyman** 89.97 46 ⇑P P 00 23 46.9 -0.8
baz=90,SNR=14
G15A **Dillon** 89.98 42 ⇓P P 00 23 47.4 -0.2
baz=90,SNR=7.3
T21A **Navajo Lake** 89.98 51 ⇓P P 00 23 48.2 +0.3
baz=90
P19A **Cripple Cowboy** 89.99 48 ⇑P P 00 23 47.3 -0.5
baz=90,SNR=6.8
DLMT **Dillon** 90.00 42 eP P 00 23 48.8 +1.1
ANMO **Albuquerque** 90.00 53 LR LR 00 57 06.8
comp=Z,819nm,19.1s,MS5.2,baz=67,slow=31
ANMO **Albuquerque** 90.00 53 eP P 00 23 47.6 -0.4
comp=Z,12nm,1.2s,mb5.1
ANMO **Albuquerque** 90.00 53 eP P 00 23 47.6 -0.4
ANMO pmax pmax
comp=Z,12nm,1.2s
526A **Mary Lane Ranc** 90.06 58 ⇓P P 00 23 48.2 -0.2
baz=90,SNR=8.7
N18A **Larsen Ranch,** 90.06 47 ⇓P P 00 23 48.1 0.0
baz=90
S21A **Coal Bank Pass** 90.06 50 ⇓P P 00 23 48.0 -0.2
baz=90,SNR=14
I16A **Newdale** 90.06 43 ⇑P P 00 23 48.2 +0.1
baz=90,SNR=6.6
TXAR **Lajitas Array** 90.14 59 P P 00 23 49.6 +0.8
comp=Z,10.0nm,1.1s,mb5.1,baz=227,slow=3.6,SNR=48
TXAR **Lajitas Array** 90.14 59 P P 00 23 49.6 +0.8
TXAR **Lajitas Array** 90.14 59 P P 00 23 49.6 +0.8
O19A **Miners Draw (B** 90.16 47 ⇑P P 00 23 48.0 -0.6
baz=90,SNR=8.9
L18A **Fontenelle, Gr** 90.20 46 ⇑P P 00 23 49.1 +0.3
baz=90
Q20A **Ridgley Place,** 90.21 49 ⇓P P 00 23 48.6 -0.3
baz=90,SNR=14
SNAA **Sanae** 90.21 180 e P 00 23 47.7 -0.7
SNAA **Sanae** 90.21 180 P P 00 23 46.6 -1.8
comp=Z,4.3nm,0.9s,mb4.8,baz=192,slow=5.2,SNR=23
SNAA **Sanae** 90.21 180 eP P 00 23 47.5 -0.9
comp=Z,11nm,0.9s,mb5.2
SNAA **Sanae** 90.21 180 eP P 00 23 47.5 -0.9
SNAA pmax pmax
comp=Z,11nm,0.9s
D14A **Greenough** 90.21 40 ⇑P P 00 23 48.5 -0.2
baz=90
225A **Deer Hill, Car** 90.21 56 ⇑P P 00 23 48.6 -0.5
baz=90,SNR=7.9
Z24A **Sheeppen Canyo** 90.24 55 ⇑P P 00 23 49.2 0.0
baz=90
U22A **Llaves** 90.25 52 ⇓P P 00 23 49.6 +0.5
baz=90
CHMT **Chamberlain Mo** 90.29 40 eP P 00 23 48.6 -0.4
SLMT **Seeley Lake** 90.29 40 eP P 00 23 48.7 -0.4
comp=Z,13nm,1.4s,mb5.1
LRM **Limekiln Ridge** 90.30 41 eP P 00 23 49.4 +0.3
W23A **Werner Place,** 90.32 53 ⇑P P 00 23 49.6 +0.1
baz=90
426A **McDonald Obser** 90.32 58 ⇓P P 00 23 49.7 0.0
baz=90,SNR=24
J17A **Brown Place, J** 90.35 44 ⇑P P 00 23 49.5 0.0
baz=91,SNR=7.4
P20A **De Beque** 90.36 48 ⇓P P 00 23 49.8 +0.2
baz=91,SNR=8.8
N19A **John Jarvie Ra** 90.36 47 ⇓P P 00 23 49.9 +0.3
baz=91
Y24A **Capitan** 90.40 54 ⇑P P 00 23 49.7 -0.2
baz=91,SNR=8.8
627A **Terlingua Ranc** 90.41 59 ⇑P P 00 23 50.1 +0.1
baz=91,SNR=20
E15A **Deer Lodge** 90.44 41 ⇓P P 00 23 50.1 +0.3
baz=91
G16A **Moss Hill, Enn** 90.44 42 ⇑P P 00 23 49.9 +0.1
baz=91
T22A **Edith** 90.46 51 ⇓P P 00 23 49.5 -0.6
baz=91,SNR=6.2
527A **Woodward Ranch** 90.47 58 ⇑P P 00 23 50.7 +0.4
baz=91
K18A **Toltan Ranch,** 90.49 45 ⇑P P 00 23 49.9 -0.2
baz=91,SNR=11
MAIT **Maitri** 90.50 185 eP P 00 23 47.9 -1.8
MAIT e 00 23 53.6
NVL **N'lazarevskaya** 90.50 185 eP sP 00 24 05.2 +3.8
NVL eS S 00 34 29.7 -13
NVL pmax pmax
comp=Z,15nm,0.7s,mb5.4
NVL MLR MLR
comp=Z,875nm,19.0s,MS5.2
QLMT **Earthquake Lak** 90.51 43 eP P 00 23 51.2 +1.1
R21A **Cimarron** 90.51 50 ⇑P P 00 23 50.1 -0.3
baz=91,SNR=20
V23A **Ortiz Mt. (NFS** 90.51 52 ⇑P P 00 23 50.3 -0.1
baz=91,SNR=7.7
A13A **Flathead Natio** 90.52 38 ⇓P P 00 23 50.7 +0.6
baz=91
VNA3 **Neumayer Olymp** 90.53 178 e P 00 23 49.2 -0.7
125A **Gardner Draw,** 90.54 56 ⇑P P 00 23 50.1 -0.5
baz=91,SNR=6.8
ULN **Ulaanbaatar** 90.55 321 eP P 00 23 49.4 -0.9
comp=Z,28nm,1.1s,mb5.5
ULN LR LR
comp=Z,498nm,19.0s,MS5.0
ULN **Ulaanbaatar** 90.55 321 eP P 00 23 49.4 -0.8
ULN pmax pmax
comp=Z,28nm,1.1s,mb5.5
ULN MLR MLR
comp=Z,498nm,19.0s,MS5.0
326A **Caldwell Ranch** 90.60 57 ⇑P P 00 23 50.3 -0.5
baz=91,SNR=5.6
GDL2 **Guadalupe Moun** 90.61 56 eP P 00 23 50.9 0.0
M19A **Rock Springs** 90.63 46 ⇑P P 00 23 50.9 +0.1
baz=91
Q21A **Lamborn Mesa,** 90.68 49 ⇑P P 00 23 51.6 +0.6
baz=91
I17A **Pilgrim Ck.** 90.68 44 ⇓P P 00 23 51.9 +0.9
baz=91
O20A **White River Ci** 90.71 48 ⇑P P 00 23 50.7 -0.5
baz=91,SNR=8.5
Z25A **Roswell** 90.72 55 ⇓P P 00 23 52.1 +0.7
baz=91
U23A **El Rito** 90.73 52 ⇓P P 00 23 51.2 -0.2
baz=91,SNR=6.8
L19A **Farson** 90.73 46 ⇑P P 00 23 50.9 -0.4
baz=91,SNR=11
BOZ **Bozeman (W)** 90.74 42 ⇑P P 00 23 51.8 +0.6
baz=91
BOZ **Bozeman (W)** 90.74 42 PFAKE 00 24 00.0 +8.8
BOZ LR LR
comp=Z,894nm,19.0s,MS5.2
226A **Malaga, Loving** 90.77 57 ⇑P P 00 23 51.1 -0.6
baz=91,SNR=9.4
D15A **Lincoln** 90.79 40 ⇑P P 00 23 50.8 -0.6
baz=91,SNR=8.6
S22A **4UR Ranch, Cre** 90.80 50 ⇑P P 00 23 51.9 +0.3
baz=91,SNR=23
628A **Black Gap, Mar** 90.83 59 ⇑P P 00 23 52.1 +0.1
baz=91,SNR=10
BW06 **Boulder Array** 90.87 45 ⇓P P 00 23 51.4 -0.5
baz=91,SNR=11
BW06 **Boulder Array** 90.87 45 PFAKE 00 24 00.0 +8.1
BW06 LR LR
comp=Z,836nm,20.0s,MS5.2
PDAR **Pinedale Array** 90.87 45 P P 00 23 51.7 -0.2
comp=Z,5.3nm,1.0s,mb4.8,baz=202,slow=3.2,SNR=14
PDAR LR LR 00 56 40.9
comp=Z,541nm,19.5s,MS5.0,baz=249,slow=30
PDAR **Pinedale Array** 90.87 45 P P 00 23 51.7 -0.2
427A **Hayter Ranch,** 90.89 58 ⇓P P 00 23 52.2 -0.1
baz=91,SNR=23
W24A **Lazy 6 Ranch,** 90.90 53 ⇑P P 00 23 51.6 -0.6
baz=91,SNR=5.7
VNA2 **Neumayer--Watz** 90.91 179 e P 00 23 51.2 -0.5
B14A **Marquette Ranc** 90.93 39 ⇓P P 00 23 51.5 -0.5
baz=91,SNR=9.4
SONM **Songino Array** 90.93 321 P P 00 23 51.6 -0.4
comp=Z,5.4nm,1.1s,mb4.8,baz=121,slow=2.9,SNR=13
SONM LR LR 01 05 32.9
comp=Z,371nm,19.1s,MS4.8,baz=280,slow=36
SONM **Songino Array** 90.93 321 P P 00 23 51.6 -0.4
SONM **Songino Array** 90.93 321 P P 00 23 51.6 -0.4
N20A **Spence Gulch,** 90.98 47 ⇑P P 00 23 52.4 0.0
baz=91,SNR=6.1
Y25A **Mesa, Roswell** 90.98 55 ⇓P P 00 23 52.0 -0.6
baz=91,SNR=5.6
R22A **Saguache, Gunn** 91.03 50 ⇑P P 00 23 52.6 -0.1
baz=91,SNR=12
P21A **Newcastle** 91.03 49 ⇑P P 00 23 52.7 0.0
baz=91,SNR=7.1
126A **Clayton Basin,** 91.04 56 ⇓P P 00 23 52.9 0.0
baz=91
C15A **Salmond Ranch,** 91.06 40 ⇑P P 00 23 52.1 -0.5
baz=91,SNR=7.1
HRY **Holter Researc** 91.07 41 eP P 00 23 53.0 +0.3
I18A **Diamond G Ranc** 91.08 44 ⇓P P 00 23 53.0 +0.2
baz=91
E16A **East Helena** 91.09 41 ⇓P P 00 23 53.4 +0.7
baz=91
A14A **Double T Ranch** 91.12 38 ⇓P P 00 23 53.8 +0.9
baz=91
528A **Cox Ranch, San** 91.15 59 ⇑P P 00 23 53.7 +0.2
baz=91,SNR=12
VNA1 **Neumayer--Stat** 91.16 178 e P 00 23 52.6 -0.2
Q22A **Crested Butte,** 91.17 49 ⇓P P 00 23 53.3 0.0
baz=91,SNR=11
V24A **Rampart Ranch,** 91.19 53 ⇑P P 00 23 54.1 +0.6
baz=91
X25A **Clemmons Ranch** 91.22 54 ⇑P P 00 23 54.2 +0.5
baz=91
SMCO **Snowmass** 91.24 49 eP P 00 23 54.3 +0.6
comp=Z,8.8nm,0.9s,mb5.1
O21A **Pagoda** 91.29 48 ⇑P P 00 23 54.1 +0.2
baz=92
M20A **Sweetwater, Wa** 91.29 47 ⇓P P 00 23 54.2 +0.3
baz=92,SNR=5.5
Z26A **Caprock** 91.30 55 ⇓P P 00 23 53.5 -0.6
baz=92,SNR=14
CPRX **Cap Rock** 91.30 56 eP P 00 23 54.5 +0.4
comp=Z,17nm,1.1s,mb5.3
B15A **Bradely Ranch,** 91.33 39 ⇑P P 00 23 53.7 -0.2
baz=92
D16A **Dana Ranch, Ca** 91.39 41 ⇓P P 00 23 54.9 +0.7
baz=92,SNR=5.1
S23A **Nye Farm, Mont** 91.39 51 ⇑P P 00 23 54.9 +0.5
baz=92
L20A **Wamsutter** 91.39 46 ⇑P P 00 23 54.2 -0.1
baz=92,SNR=12
J19A **Crowheart** 91.41 45 ⇓P P 00 23 54.9 +0.5
baz=92
428A **Kincaid Ranch,** 91.43 58 ⇑P P 00 23 54.8 0.0
baz=92,SNR=5.7
F17A **Fitzpatrick Pl** 91.46 42 ⇓P P 00 23 55.1 +0.6
baz=92
N21A **Black Mountain** 91.47 47 ⇑P P 00 23 55.3 +0.6
baz=92
A15A **Johnson Ranch,** 91.53 38 ⇑P P 00 23 55.1 +0.4
baz=92
328A **Wristen Ranch,** 91.55 58 ⇑P P 00 23 54.8 -0.6
baz=92,SNR=8.5
P22A **Eagle** 91.55 49 ⇑P P 00 23 55.1 0.0
baz=92,SNR=6.4
127A **Arkansas Junct** 91.57 56 ⇑P P 00 23 55.5 +0.1
baz=92
C16A **Fuhringer Ranc** 91.60 40 ⇑P P 00 23 55.6 +0.5
baz=92
W25A **X Bar L Ranch,** 91.62 53 ⇓P P 00 23 54.8 -0.7
baz=92,SNR=9.2
K20A **Yellowstone Ra** 91.65 45 ⇑P P 00 23 55.8 +0.3
baz=92
Y26A **Elida** 91.65 55 ⇓P P 00 23 56.0 +0.3
baz=92
R23A **Moffat** 91.70 50 ⇓P P 00 23 55.4 -0.5
baz=92,SNR=7.0
V25A **Rancho No Teng** 91.73 53 ⇓P P 00 23 55.2 -0.8
baz=92,SNR=5.3
I19A **Meteetse** 91.76 44 ⇓P P 00 23 56.2 +0.2
baz=92
SDCO **Great Sand Dun** 91.77 51 ⇑P P 00 23 55.4 -0.8
baz=92,SNR=11
SDCO **Great Sand Dun** 91.77 51 PFAKE 00 24 10.0 +14
SDCO LR LR
comp=Z,796nm,22.0s,MS5.1
BOD **Bodaibo** 91.81 332 eP P 00 23 54.5 -1.4
BOD pmax pmax
comp=Z,16nm,1.3s,mb5.2
GTA **Gaotai** 91.82 311⇓eP P 00 23 56.8 +0.5
GTA pP pP 00 24 07.3 +2.4
GTA sP sP 00 24 11.3 +3.3
GTA SKS 00 34 25.0
GTA S S 00 34 54.8 -1.1
GTA sS sS 00 35 12.1 +2.0
GTA pmax pmax
comp=Z,10.0nm,1.8s,mb4.8
GTA pmax pmax
comp=Z,260nm,5.9s
GTA LR LR
comp=N,340nm,20.9s,MS5.0
GTA LR LR
comp=E,470nm,19.0s,MS5.0
GTA LR LR
comp=Z,760nm,20.4s,MS5.1
T24A **Torres, Weston** 91.85 52 ⇑P P 00 23 57.0 +0.4
baz=92
B16A **M & M Farms, S** 91.89 39 ⇑P P 00 23 56.5 +0.1
baz=92,SNR=9.0
M21A **Separation Pea** 91.90 47 ⇓P P 00 23 57.0 +0.3
baz=92
Z27A **Tatum** 91.91 56 ⇑P P 00 23 56.4 -0.6
baz=92
O22A **Kremmling** 91.92 48 ⇓P P 00 23 56.6 -0.2
baz=92,SNR=12
S24A **Houchin Ranch,** 91.94 51 ⇑P P 00 23 56.7 -0.3
baz=92,SNR=6.1
Q23A **Hartsel** 91.96 50 ⇑P P 00 23 57.0 0.0
baz=92
D17A **Six Diamond Ra** 91.97 41 ⇓P P 00 23 56.6 -0.2
baz=92,SNR=8.8
H19A **Powell** 92.03 43 ⇑P P 00 23 58.1 +0.9
baz=92
RLMT **Red Lodge** 92.03 43 ⇑P P 00 23 58.3 +1.1
baz=92
RLMT **Red Lodge** 92.03 43 eP P 00 23 57.4 +0.2
comp=Z,6.9nm,1.2s,mb4.9
F18A **Big Timber** 92.06 42 ⇑P P 00 23 57.9 +0.6
baz=92
U25A **Circle Dot Ran** 92.09 52 ⇑P P 00 23 57.8 +0.1
baz=92
J20A **Shoshoni** 92.10 45 ⇓P P 00 23 57.3 -0.3
baz=92,SNR=8.5
W26A **Owens Ranch, T** 92.11 54 ⇓P P 00 23 58.5 +0.7
baz=92
C17A **Wharram Farm,** 92.13 40 ⇓P P 00 23 57.6 0.0
baz=92,SNR=7.4
P23A **Jefferson** 92.13 49 ⇓P P 00 23 59.0 +1.2
baz=92
Y27A **Causey** 92.15 55 ⇑P P 00 23 58.0 0.0
baz=92
A16A **West Butte Ran** 92.19 39 ⇑P P 00 23 58.0 +0.2
baz=92
E18A **Harlowton** 92.21 41 ⇓P P 00 23 58.8 +0.8
baz=92
N22A **Wattenberg Ran** 92.23 48 ⇑P P 00 23 59.0 +0.8
baz=92
R24A **Sanders Place,** 92.24 50 ⇑P P 00 23 58.8 +0.5
baz=92
I20A **Worland** 92.30 44 ⇓P P 00 23 58.8 +0.3
baz=92
T25A **Trinidad** 92.36 52 ⇓P P 00 23 59.5 +0.6
baz=92
M22A **Cedar Creek Ra** 92.36 47 ⇑P P 00 23 59.2 +0.4
baz=93
K21A **Alcova** 92.38 46 ⇓P P 00 23 59.0 +0.1
baz=93
B17A **L&G Farms, Che** 92.38 40 ⇑P P 00 23 59.4 +0.7
baz=93
ISCO **Idaho Springs** 92.45 49 ⇓P P 00 23 60.0 +0.7
baz=93
ISCO **Idaho Springs** 92.45 49 PFAKE 00 24 10.0 +11
ISCO LR LR
comp=Z,693nm,20.0s,MS5.1
Q24A **Divide** 92.48 50 ⇑P P 00 23 59.4 0.0
baz=93,SNR=5.8
MSTX **Muleshoe** 92.48 55 ⇑P P 00 23 58.8 -0.7
baz=93,SNR=6.7
J21A **Lysite** 92.52 45 ⇓P P 00 23 59.4 -0.1
baz=93,SNR=6.2
S25A **Robets Cordova** 92.53 51 ⇑P P 00 23 59.4 -0.3
baz=93,SNR=6.7
F19A **Roth Farm, Mol** 92.53 42 ⇑P P 00 23 59.9 +0.4
baz=93
D18A **Linhart Farms,** 92.54 41 ⇓P P 00 24 00.3 +0.8
baz=93
U26A **Atchley Ranch,** 92.59 53 ⇓P P 00 23 59.9 -0.1
baz=93
H20A **Greybull** 92.60 44 ⇓P P 00 24 00.2 +0.4
baz=93
N23A **Red Feather La** 92.62 48 ⇓P P 00 24 00.9 +0.9
baz=93
W27A **Bowe Ranch, En** 92.64 54 ⇓P P 00 24 01.0 +0.7
baz=93
A17A **Triple J Farms** 92.72 39 ⇑P P 00 23 59.9 -0.3
baz=93,SNR=10
I21A **Big Trails, Te** 92.81 45 ⇑P P 00 24 00.8 0.0
baz=93,SNR=6.4
E19A **Rath Farm, Rou** 92.88 42 ⇑P P 00 24 01.6 +0.6
baz=93
O24A **Longmont** 92.95 49 ⇑P P 00 24 03.0 +1.4
baz=93
B18A **Beardsley Farm** 93.05 40 ⇓P P 00 24 01.7 0.0
baz=93,SNR=6.5
D19A **Cripps Ranch,** 93.10 41 ⇑P P 00 24 02.8 +0.8
baz=93
J22A **Midwest** 93.20 45 ⇑P P 00 24 02.9 +0.3
baz=93
A18A **Metzger Ranch,** 93.22 39 ⇑P P 00 24 02.9 +0.3
baz=93
C19A **Slack Wire Ran** 93.22 41 ⇑P P 00 24 03.2 +0.6
baz=93

L23A	Garrett	93.25	47	⇓P		P	00 24 03.6	+0.8
	baz=93							
E20A	Meyer Farm, Mu	93.31	42	⇑P		P	00 24 04.1	+1.1
	baz=94							
I22A	9 Mile Ranch,	93.38	45	⇓P		P	00 24 03.9	+0.5
	baz=94							
P25A	Willow Gulch B	93.38	50	⇓P		P	00 24 03.9	+0.3
	baz=94							
G21A	Lodge Grass	93.41	43	⇑P		P	00 24 04.2	+0.7
	baz=94							
R26A	Arlington	93.48	51	⇓P		P	00 24 03.5	-0.5
	baz=94,SNR=6.4							
D20A	Manuel Ranch,	93.54	41	⇑P		P	00 24 04.3	+0.2
	baz=94							
INK	Inuvik	93.57	17	P		P	00 24 02.2	-1.5
	comp=Z,8.3nm,1.2s,mb5.0,baz=228,slow=3.5,SNR=8.4							
INK				LR		LR	00 59 08.6	
	comp=Z,608nm,21.8s,MS5.0,baz=60,slow=31							
INK	Inuvik	93.57	17	P		P	00 24 02.2	-1.5
INK	Inuvik	93.57	17	P		P	00 24 02.2	-1.5
B19A	Brinkman Farms	93.58	40	⇓P		P	00 24 03.7	-0.6
	baz=94,SNR=7.4							
AMTX	Amarillo	93.64	55	*e*P		P	00 24 04.3	-0.6
	comp=Z,41nm,1.4s,mb5.7							
AMTX				LR		LR		
	comp=Z,933nm,20.0s,MS5.2							
JCT	Junction City	93.68	59	⇑P		P	00 24 05.2	0.0
	baz=94							
JCT	Junction City	93.68	59	PFAKE			00 24 20.0	+15
JCT				LR		LR		
	comp=Z,1μm,19.0s,MS5.4							
C20A	Veseth Ranch,	93.86	41	⇓P		P	00 24 06.9	+1.3
	baz=94							
ZAK	Zakamensk	93.87	322	*e*P		P	00 24 07.2	+1.7
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb5.0							
R27A	Eads	93.96	51	⇓P		P	00 24 06.3	+0.1
	baz=94							
TLY	Talaya	94.19	323	PFAKE			00 24 20.0	+13
TLY				LR		LR		
	comp=Z,490nm,22.0s,MS4.9							
D21A	La Casta Ranch	94.25	42	⇑P		P	00 24 08.4	+1.1
	baz=94							
PLCA	Paso Flores	94.30	135	LR		LR	00 57 04.2	
	comp=Z,343nm,20.3s,MS4.8,baz=32,slow=29							
KVTX	Kingsville	94.33	63	PFAKE			00 24 20.0	+12
KVTX				LR		LR		
	comp=Z,1μm,19.0s,MS5.5							
A20A	Cobblestone Ra	94.36	40	⇑P		P	00 24 08.8	+1.0
	baz=95							
J24A	Dixon Ranch, L	94.40	46	⇓P		P	00 24 08.6	+0.4
	baz=95							
LAO	LASA Array	94.59	42	⇑P		P	00 24 09.8	+0.9
	baz=95							
LAO	LASA Array	94.59	42	PFAKE			00 24 20.0	+11
LAO				LR		LR		
	comp=Z,794nm,22.0s,MS5.1							
E22A	Miles City	94.68	43	⇑P		P	00 24 10.2	+0.9
	baz=95							
F23A	Volborg	94.77	43	⇓P		P	00 24 10.1	+0.3
	baz=95							
D22A	Cohagen	94.79	42	⇓P		P	00 24 10.6	+0.7
	baz=95							
H24A	Dirks Ranch, A	94.98	45	⇓P		P	00 24 10.9	+0.1
	baz=95							
A21A	Bergtoll Ranch	95.02	40	⇑P		P	00 24 11.4	+0.6
	baz=95							
RSSD	Black Hills	95.11	45	*e*P		P	00 24 11.4	0.0
	comp=Z,5.8nm,0.9s,mb5.0							
RSSD	Black Hills	95.11	45	*e*P		P	00 24 11.4	0.0
RSSD				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb5.0							
LSA	Lhasa	95.22	299	*e*P		P	00 24 13.3	+1.1
	comp=Z,8.8nm,1.0s,mb5.1							
LSA				LR		LR		
	comp=Z,298nm,21.0s,MS4.7							
LSA	Lhasa	95.22	299	*e*P		P	00 24 13.4	+1.1
LSA				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb5.2							
LSA				MLR		MLR		
	comp=Z,298nm,21.0s,MS4.7							
OGNE	Ogallala	95.41	49	PFAKE			00 24 20.0	+7.1
OGNE				LR		LR		
	comp=Z,726nm,19.0s,MS5.2							
D23A	Lindsay	95.42	42	⇑P		P	00 24 13.7	+1.0
	baz=96							
EFI	East Falkland	95.50	149	PFAKE			00 24 20.0	+6.8
EFI				LR		LR		
	comp=Z,1μm,21.0s,MS5.3							
C23A	Lambert	95.66	42	⇑P		P	00 24 14.1	+0.3
	baz=96							
WMOK	Wichita Mounta	95.85	55	PFAKE			00 24 30.0	+15
WMOK				LR		LR		
	comp=Z,976nm,20.0s,MS5.3							
D24A	Glendive	95.96	42	⇑P		P	00 24 16.0	+0.8
	baz=96							
C24A	Savage	96.04	42	⇑P		P	00 24 16.6	+1.0
	baz=96							
CBKS	Cedar Bluff	96.39	51	PFAKE			00 24 30.0	+13
CBKS				LR		LR		
	comp=Z,1μm,22.0s,MS5.2							
DGMT	Dagmar	96.51	41	PFAKE			00 24 30.0	+12
DGMT				LR		LR		
	comp=Z,615nm,19.0s,MS5.1							
YKA	Yellowknife Ar	96.69	26	P		P	00 24 17.6	-0.5
	comp=Z,3.3nm,1.0s,mb4.7,baz=249,slow=4.4,SNR=18							
YKA				LR		LR	01 04 01.0	
	comp=Z,62nm,19.1s,MS4.1,baz=200,slow=33							
YKA	Yellowknife Ar	96.69	26	P		P	00 24 17.6	-0.5
YKA	Yellowknife Ar	96.69	26	P		P	00 24 17.6	-0.5
NATX	Nacogdoches	98.27	59	PFAKE			00 24 40.0	+14
NATX				LR		LR		
	comp=Z,2μm,19.0s,MS5.5							
KSU1	Kansas State U	98.81	52	PFAKE			00 24 40.0	+12
KSU1				LR		LR		
	comp=Z,978nm,20.0s,MS5.3							
LCO	Las Campanas	99.67	125	PFAKE			00 24 40.0	+8.1
LCO				LR		LR		
	comp=Z,416nm,19.0s,MS5.0							
TGUH	Tegucigalpa,Un	99.87	78	PFAKE			00 24 40.0	+7.2
TGUH				LR		LR		
	comp=Z,853nm,21.0s,MS5.2							
MIAR	Mount Ida	99.91	57	PFAKE			00 24 40.0	+7.0
MIAR				LR		LR		
	comp=Z,1μm,19.0s,MS5.5							
ECSD	EROS Data Cent	100.08	47	PFAKE			00 24 40.0	+6.3
ECSD				LR		LR		
	comp=Z,1μm,22.0s,MS5.3							
TEIG	Tepich	100.64	72	PFAKE			00 24 50.0	+14
TEIG				LR		LR		
	comp=Z,947nm,21.0s,MS5.3							
JTS	JuntasAbangare	100.97	83	PFAKE			00 24 50.0	+12
JTS				LR		LR		
	comp=Z,918nm,21.0s,MS5.3							
DGAR	Diego Garcia	101.11	258	PFAKE			00 24 50.0	+12
DGAR				LR		LR		
	comp=Z,2μm,20.0s,MS5.5							
TRQA	Tornquist	101.36	137	PFAKE			00 24 50.0	+11
TRQA				LR		LR		
	comp=Z,709nm,22.0s,MS5.1							
NNA	Nana	101.41	107	PFAKE			00 24 50.0	+10
NNA				LR		LR		
	comp=Z,638nm,20.0s,MS5.1							
AGMN	Agassiz Nation	101.77	43	PFAKE			00 24 50.0	+8.8
AGMN				LR		LR		
	comp=Z,717nm,21.0s,MS5.2							
VBMS	Vicksburg	101.79	60	PFAKE			00 24 50.0	+8.7
VBMS				LR		LR		
	comp=Z,1μm,21.0s,MS5.5							
WMQ	Urumqi	101.81	312	*e*P		Pdif	00 24 43.1	+1.7
WMQ				LR		LR		
	comp=N,390nm,23.0s,MS5.0							
WMQ				LR		LR		
	comp=E,320nm,22.0s,MS5.0							
WMQ				LR		LR		
	comp=Z,410nm,19.5s,MS5.0							
SCIA	State Center	102.04	50	PFAKE			00 24 50.0	+7.6
SCIA				LR		LR		
	comp=Z,936nm,20.0s,MS5.3							
ULM	Lac du Bonnet	102.23	41	PFAKE			00 24 50.0	+6.7
ULM				LR		LR		
	comp=Z,809nm,20.0s,MS5.2							
OXF	Oxford	103.23	58	PFAKE			00 25 00.0	+12
OXF				LR		LR		
	comp=Z,1μm,19.0s,MS5.5							
LVC	Limon Verde	104.00	120	PFAKE			00 25 00.0	+8.8
LVC				LR		LR		
	comp=Z,331nm,19.0s,MS4.9							
OTAV	Otavalo	104.11	94	PFAKE			00 25 00.0	+8.4
OTAV				LR		LR		
	comp=Z,606nm,20.0s,MS5.1							
BRAL	Brewton	104.38	62	PFAKE			00 25 00.0	+7.2
BRAL				LR		LR		
	comp=Z,877nm,21.0s,MS5.3							
JFWS	Jewell Farm	104.40	49	PFAKE			00 25 00.0	+7.0
JFWS				LR		LR		
	comp=Z,731nm,19.0s,MS5.2							
PLAL	Pickwick Lake	104.41	58	PFAKE			00 25 00.0	+7.0
PLAL				LR		LR		
	comp=Z,1μm,20.0s,MS5.5							
EYMN	Ely	104.54	44	PFAKE			00 25 00.0	+6.4
EYMN				LR		LR		
	comp=Z,649nm,19.0s,MS5.2							
HDIL	Hopedale	104.62	52	PFAKE			00 25 10.0	+16
HDIL				LR		LR		
	comp=Z,840nm,19.0s,MS5.3							
LRAL	Lakeview Retre	104.86	60	PFAKE			00 25 10.0	+15
LRAL				LR		LR		
	comp=Z,1μm,21.0s,MS5.4							
BCIP	Isla Barro Col	105.48	85	PFAKE			00 29 20.0	+7.8
BCIP				LR		LR		
	comp=Z,336nm,20.0s,MS4.9							
ZALV	Zalesovo Beam	105.75	322	Pdiff		Pdif	00 25 02.2	+3.2
	comp=Z,1.3nm,0.8s,baz=95,slow=4.9,SNR=6.8							
ZALV	Zalesovo Beam	105.75	322	Pdif		Pdif	00 25 02.2	+3.2
ZALV	Zalesovo Beam	105.75	322	P		Pdif	00 25 02.2	+3.3
LPAZ	La Paz	107.45	114	PFAKE			00 29 30.0	+14
LPAZ				LR		LR		
	comp=Z,320nm,20.0s,MS4.9							
GOGA	Godfrey	107.84	60	PFAKE			00 29 30.0	+14
GOGA				LR		LR		
	comp=Z,1μm,20.0s,MS5.5							
GLMI	Grayling	108.73	48	PFAKE			00 29 30.0	+13
GLMI				LR		LR		
	comp=Z,1μm,21.0s,MS5.4							
KURK	Kurchatov	109.09	318	PKiKP		PKiKP	00 29 17.1	-0.8
	comp=Z,2.3nm,1.0s,baz=103,slow=1.6,SNR=3.7							
KURK	Kurchatov	109.09	318	PKiKP		PKiKP	00 29 17.1	-0.8
KURK				LR		LR		
	comp=Z,530nm,19.0s,MS5.1							
AAM	Ann Arbor	109.10	51	PFAKE			00 29 30.0	+12
AAM				LR		LR		
	comp=Z,1μm,19.0s,MS5.5							
ACSO	Alum Creek Sta	109.32	53	PFAKE			00 29 30.0	+11
ACSO				LR		LR		
	comp=Z,1μm,20.0s,MS5.4							
MTDJ	Mount Denham	109.98	77	PFAKE			00 29 30.0	+10
MTDJ				LR		LR		
	comp=Z,839nm,21.0s,MS5.3							
TKM2	Tokmak 2	110.33	310	PFAKE			00 29 30.0	+10
TKM2				LR		LR		
	comp=Z,359nm,20.0s,MS4.9							
NHSC	New Hope	110.50	61	PFAKE			00 29 30.0	+8.9
NHSC				LR		LR		
	comp=Z,1μm,22.0s,MS5.5							
BLA	Blacksburg	110.90	56	PFAKE			00 29 30.0	+8.3
BLA				LR		LR		
	comp=Z,1μm,19.0s,MS5.5							
NIL	Nilore	110.96	300	PFAKE			00 29 30.0	+8.1
NIL				LR		LR		
	comp=Z,101nm,22.0s,MS4.4							
AAK	Ala-Archa	111.11	309	PFAKE			00 29 30.0	+8.1
AAK				LR		LR		
	comp=Z,520nm,19.0s,MS5.1							
AAK	Ala-Archa	111.11	309	⇓*i*PKIKP		PKiKP	00 29 23.0	+1.1
CPUP	Villa Florida	111.22	129	Pdiff		Pdif	00 25 22.3	-0.9
	comp=Z,0.6nm,0.5s,baz=225,slow=4.3,SNR=3.7							
CPUP	Villa Florida	111.22	129	Pdif		Pdif	00 25 22.3	-0.9
CPUP	Villa Florida	111.22	129	P		Pdif	00 25 22.3	-0.9
EKS2	Erkin-Say	111.64	309	PFAKE			00 29 30.0	+7.1
EKS2				LR		LR		
	comp=Z,461nm,22.0s,MS5.0							
ERPA	Erie	111.78	51	PFAKE			00 29 30.0	+6.8
ERPA				LR		LR		
	comp=Z,1μm,21.0s,MS5.5							
CNNC	Cliffs of the	112.68	59	PFAKE			00 29 40.0	+15
CNNC				LR		LR		
	comp=Z,2μm,20.0s,MS5.7							
CBN	Corbin	113.41	56	PFAKE			00 29 40.0	+14
CBN				LR		LR		
	comp=Z,1μm,20.0s,MS5.5							
SDV	Santo Domingo	114.13	88	PFAKE			00 29 40.0	+12
SDV				LR		LR		
	comp=Z,149nm,21.0s,MS4.6							
BVAR	Borovoye Array	114.28	321	PKP		PKiKP	00 29 26.9	-0.7
	comp=Z,2.0nm,0.8s,baz=113,slow=3.7,SNR=3.0							
BVAR	Borovoye Array	114.28	321	PKP		PKiKP	00 29 26.9	-0.7
BVAR	Borovoye Array	114.28	321	PKIKP		PKiKP	00 29 26.9	-0.7
BRVK	Borovoye	114.34	321	PFAKE			00 29 40.0	+12
BRVK				LR		LR		
	comp=Z,637nm,20.0s,MS5.2							
BRVK	Borovoye	114.34	321	*c i*PKIKP		PKiKP	00 29 28.6	+0.9
BRVK				pmax		pmax		
	comp=Z,8.0nm,1.7s							
BINY	Binghamton	114.76	51	PFAKE			00 29 40.0	+11
BINY				LR		LR		
	comp=Z,955nm,20.0s,MS5.4							
SAML	Samuel	114.94	109	PFAKE			00 29 40.0	+10
SAML				LR		LR		
	comp=Z,328nm,20.0s,MS4.9							
LONY	Lake Ozonia	115.85	49	PFAKE			00 29 40.0	+9.1
LONY				LR		LR		
	comp=Z,855nm,21.0s,MS5.3							
SDDR	Presa de Saban	115.92	77	PFAKE			00 29 40.0	+8.2
SDDR				LR		LR		
	comp=Z,1μm,21.0s,MS5.6							
NCB	Newcomb	116.10	49	PFAKE			00 29 40.0	+8.6
NCB				LR		LR		
	comp=Z,996nm,19.0s,MS5.5							
LBNH	Lisbon	117.76	49	PFAKE			00 29 50.0	+15
LBNH				LR		LR		
	comp=Z,1μm,19.0s,MS5.5							
MSEY	Mahe Island	117.79	254	PFAKE			00 29 50.0	+14
MSEY				LR		LR		
	comp=Z,739nm,19.0s,MS5.3							
ABPO	Ambohimpanom	118.07	236	PFAKE			00 29 50.0	+14
ABPO				LR		LR		
	comp=Z,855nm,20.0s,MS5.4							
SVE	Sverdlovsk	119.43	325	*e*PKIKP		PKPdf	00 29 41.5	+4.1
SVE				pmax		pmax		
	comp=Z,12nm,1.3s							
PKME	Peaks-Kenny Pk	119.59	48	PFAKE			00 29 50.0	+12
PKME				LR		LR		
	comp=Z,896nm,20.0s,MS5.4							
SCHQ	Schefferville	119.98	37	PFAKE			00 29 50.0	+11
SCHQ				LR		LR		
	comp=Z,1μm,20.0s,MS5.6							
SPB	Sao Paulo	120.01	132	PFAKE			00 29 50.0	+10
SPB				LR		LR		
	comp=Z,440nm,20.0s,MS5.1							
ARU	Arti	120.63	325	PFAKE			00 29 50.0	+10
ARU				LR		LR		
	comp=Z,1μm,21.0s,MS5.5							
ARU	Arti	120.63	325	*i* PKIKP		PKPdf	00 29 38.1	-1.6
ARU							00 31 06.9	
ARU							00 36 33.6	
ARU				SP		SP	00 41 01.4	+6.7
ARU				SS		SS	00 47 33.5	-2.2
ABKAR	Akbulak array	121.14	317	*e*PKPdf		PKPdf	00 29 40.9	0.0
SUMG	Summit	122.15	12	*i* P		PKPdf	00 29 47.4	+5.2
	comp=Z,12nm,1.0s							
AKTO	Aktyubinsk	122.19	319	PKP		PKPdf	00 29 41.8	-1.1
	comp=Z,6.1nm,0.8s,baz=50,slow=3.9,SNR=5.9							
AKTO	Aktyubinsk	122.19	319	PKP		PKPdf	00 29 41.8	-1.1
AKTO	Aktyubinsk	122.19	319	PKIKP		PKPdf	00 29 41.8	-1.1
BBSR	BB Station	123.42	63	PFAKE			00 30 00.0	+14
BBSR				LR		LR		
	comp=Z,698nm,20.0s,MS5.3							
GRGR	Grenville	123.49	87	PFAKE			00 30 00.0	+14
GRGR				LR		LR		
	comp=Z,667nm,19.0s,MS5.3							
FDF	Fort de France	124.56	84	PFAKE			00 30 00.0	+12
FDF				LR		LR		
	comp=Z,620nm,22.0s,MS5.2							
LVZ	Lovozero	124.98	344	PFAKE			00 30 00.0	+12
LVZ				LR		LR		
	comp=Z,983nm,20.0s,MS5.5							
KEV	Kevo	125.38	348	PFAKE			00 30 00.0	+12
KEV				LR		LR		
	comp=Z,990nm,20.0s,MS5.5							
KEV	Kevo	125.38	348	*e*PKIKP		PKPdf	00 29 50.0	+1.5
KEV	Kevo	125.38	348	*e*pkp		PKPdf	00 29 50.0	+1.5
APA	Apatity	125.55	344	⇑*i*PKIKP		PKPdf	00 29 53.0	+4.1
APA				pmax		pmax		
	comp=Z,64nm,1.5s							
BOSA	Boshof	125.79	211	PKP		PKPdf	00 29 50.8	+0.1
	comp=Z,7.6nm,1.1s,baz=135,slow=3.7,SNR=2.7							
BOSA	Boshof	125.79	211	PKP		PKPdf	00 29 50.8	+0.1
BOSA	Boshof	125.79	211	PKIKP		PKPdf	00 29 50.8	+0.2
ARCES	ARCESS Array B	125.86	348	PKP		PKPdf	00 29 49.8	+0.3
	comp=Z,13nm,0.9s,baz=28,slow=2.5,SNR=4.1							
ARCES	ARCESS Array B	125.86	348	PKP		PKPdf	00 29 49.8	+0.3
ARCES	ARCESS Array B	125.86	348	PKIKP		PKPdf	00 29 49.8	+0.4
SCO	Scoresbysund	126.66	8	*i* P		PKPdf	00 29 56.5	+5.6
	comp=Z,8.4nm,1.1s							
KLMR	Klimovskoe	127.90	335	*e*PKIKP		PKPdf	00 29 49.9	-3.6
KLMR				pmax		pmax		
	comp=Z,34nm,1.7s							
JOF	Joensuu	129.51	340	*e*PKIKP		PKPdf	00 29 59.0	+2.5
JOF	Joensuu	129.51	340	*e*pkp		PKPdf	00 29 59.0	+2.5
MAK	Makhachkala	130.82	311	*e*P		Pdif	00 26 55.7	+5.3
MAK				*e*			00 30 00.0	
MAK				*e*			00 37 12.0	
MAK				*e*SSS			00 54 41.8	
MAK				MLR		MLR		
	comp=Z,836nm,19.0s,MS5.5							
OBN	Obninsk	132.48	330	PFAKE			00 30 10.0	+7.6
OBN				LR		LR		
	comp=Z,1μm,22.0s,MS5.5							
OBN	Obninsk	132.48	330	*i* PKIKP		PKPdf	00 30 01.7	-0.7
OBN				*e*PS		PS	00 42 40.9	-1.8
OBN				pmax		pmax		
	comp=Z,15nm,1.5s							
OBN				MLR		MLR		
	comp=Z,400nm,17.0s,MS5.2							
VSR	Storozhevoye	133.19	324	*e*PKIKP		PKPdf	00 30 04.7	+0.9
VSR				pmax		pmax		
	comp=N,3.0nm,0.9s							
VSR				pmax		pmax		
	comp=E,4.0nm,0.9s							
VSR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GNI	Garni	133.50	308	*e*PKPdf		PKPdf	00 30 05.7	+0.9
GNI				LR		LR		
	comp=Z,345nm,21.0s,MS5.0							
GNI	Garni	133.50	308	*c i*PKIKP		PKPdf	00 30 09.0	+4.2
GNI				pmax		pmax		
	comp=Z,25nm,1.7s							
KIV	Kislovodsk	133.91	314	PFAKE			00 30 20.0	+15
KIV				LR		LR		
	comp=Z,371nm,19.0s,MS5.1							
KMBO	Kilima Mbogo	135.73	248	*e*PKPdf		PKPdf	00 30 09.7	-0.2
KMBO				LR		LR		
	comp=Z,744nm,19.0s,MS5.4							
KMBO	Kilima Mbogo	135.73	248	*e*PKIKP		PKPdf	00 30 09.7	-0.1
KMBO				MLR		MLR		
	comp=Z,744nm,19.0s							
NOA	NORSAR Array B	136.14	350	PKP		PKPdf	00 30 09.2	+0.2
	comp=Z,1.3nm,0.8s,baz=16,slow=4.1,SNR=3.9							
NOA	NORSAR Array B	136.14	350	PKP		PKPdf	00 30 09.2	+0.2
NOA	NORSAR Array B	136.14	350	PKIKP		PKPdf	00 30 09.3	+0.2
HFS	Hagfors	136.53	348	PKP		PKPdf	00 30 08.8	-1.0
	comp=Z,3.1nm,0.9s,baz=45,slow=4.3,SNR=3.3							
HFS	Hagfors	136.53	348	PKP		PKPdf	00 30 08.8	-1.0
HFS	Hagfors	136.53	348	PKIKP		PKPdf	00 30 08.8	-1.0
TSUM	Tsumeb	137.44	210	PFAKE			00 30 20.0	+7.2
TSUM				LR		LR		
	comp=Z,1μm,22.0s,MS5.5							
KONO	Kongsberg	137.72	350	PFAKE			00 30 20.0	+8.0
KONO				LR		LR		
	comp=Z,521nm,20.0s,MS5.3							
AKASG	Malin Array Be	138.69	329	PKP		PKPdf	00 30 15.1	+1.0
	comp=Z,5.5nm,0.9s,baz=44,slow=2.8,SNR=12							
AKASG	Malin Array Be	138.69	329	PKP		PKPdf	00 30 15.1	+1.0
AKASG	Malin Array Be	138.69	329	PKIKP		PKPdf	00 30 15.1	+1.0
KIEV	Kiev	138.70	329	*e*PKPdf		PKPdf	00 30 14.0	-0.1
KIEV				LR		LR		
	comp=Z,686nm,21.0s,MS5.4							
KIEV	Kiev	138.70	329	*i* PKIKP		PKPdf	00 30 20.2	+6.1
SUW	Suwalki	138.99	336	*e*PKP		PKPdf	00 30 15.5	+1.0
SUW	Suwalki	138.99	336	*e*PKIKP		PKPdf	00 30 15.5	+1.0
RCBR	Riachuelo	139.81	124	PFAKE			00 30 30.0	+13
RCBR				LR		LR		
	comp=Z,337nm,22.0s,MS5.0							
KIS	Kishinev	141.18	325	*e*PKP		PKPdf	00 30 17.0	-1.7
KIS				*e*LR		LR	01 30 12.0	
	comp=Z,800nm,23.0s							
KIS	Kishinev	141.18	325	*e*PKIKP		PKPdf	00 30 17.0	-1.7
KIS				MLR		MLR		
	comp=Z,800nm,23.0s,MS5.4							
MBAR	Mbarara	141.66	244	PFAKE			00 30 30.0	+9.3
MBAR				LR		LR		
	comp=Z,485nm,20.0s,MS5.3							
BR131	Keskin Array S	141.73	312	*e*PKPdf		PKPdf	00 30 20.4	+0.4
BRTR	Keskin Array B	141.73	312	PKP		PKPdf	00 30 17.7	-2.3
	comp=Z,2.5nm,0.9s,baz=112,slow=3.2,SNR=2.8							
BRTR				PP		PP	00 33 26.6	+2.3
	comp=Z,4.2nm,1.1s,baz=64,slow=5.6,SNR=4.0							
BRTR	Keskin Array B	141.73	312	PKP		PKPdf	00 30 17.7	-2.3
BRTR				PP		PP	00 33 26.6	+2.3
BRTR	Keskin Array B	141.73	312	PKIKP		PKPdf	00 30 17.7	-2.3
BRTR							00 33 26.6	
TLCR		142.24	322	⇑PKIKP		PKPdf	00 30 23.9	+3.2
TLCR		142.24	322	⇑*i*P		PKPdf	00 30 23.9	+3.2
KWP	Kalwaria Pacla	142.47	332	PFAKE			00 30 30.0	+9.0
KWP				LR		LR		
	comp=Z,1μm,20.0s,MS5.7							
VRI	Vrincioaia	143.02	325	⇑PKIKP		PKPdf	00 30 22.9	+0.8
VRI	Vrincioaia	143.02	325	⇑*i*P		PKPdf	00 30 22.9	+0.8
OJC	Ojcow	143.25	335	*e*PKP		PKPdf	00 30 20.8	-1.5
OJC	Ojcow	143.25	335	*e*PKIKP		PKPdf	00 30 20.8	-1.5
UZH	Uzhgorod	143.39	331	*e*PKIKP		PKPdf	00 30 20.0	-2.6
UZH				*i*			00 30 26.3	
CRVS	Cervenica-Dubn	143.56	332	*e*PKIKP		PKPdf	00 30 20.6	-2.3
CRVS				*e*			00 30 26.5	
CRVS	Cervenica-Dubn	143.56	332	*e*PKP		PKPdf	00 30 20.6	-2.3
CRVS				*e*			00 30 26.5	
TRPA	Tarpa	143.64	331	⇑*i*P		PKPdf	00 30 27.2	+4.1
NI

CLL pmax pmax
comp=Z,76nm,1.5s
CLL MLR MLR
comp=Z,400nm,22.0s,MS5.2
CLL Collm 144.69 342 ⇓*i*PKPdf PKPdf 00 30 23.3 -1.5
comp=Z,76nm,1.5s
CLL *i* PKiKP PKiKP 00 30 28.6 +0.1
comp=Z,113nm,1.0s
CLL *e*PSKS 00 43 52.0
CLL *e*SKSSKSac 00 54 00.0
CLL *e*SSS 00 58 30.0
CLL LmV 01 31 00.0
comp=Z,400nm,22.0s
BRG Berggiesshubel 144.79 341 *i* PKP PKPdf 00 30 23.6 -1.4
comp=Z,108nm,1.6s
BRG *i* 00 30 29.5
comp=Z,115nm,1.2s
BRG *e* 00 30 43.3
comp=Z,93nm,1.4s
BRG Berggiesshubel 144.79 341 *i* PKIKP PKPdf 00 30 23.6 -1.4
BRG *i* 00 30 29.5
BRG pmax pmax
comp=Z,108nm,1.6s
HUMR Humele 144.81 324 ⇑*i*P PKPdf 00 30 22.4 -2.9
LOT Lotru 144.88 326 ⇑*i*P PKPdf 00 30 25.5 +0.2
PVCC Panska Ves 144.89 340 *e*PKIKP PKPdf 00 30 24.1 -1.1
PVCC *e* 00 30 29.6
PVCC MLR MLR
comp=Z,2μm,25.0s,MS5.7
PVCC Panska Ves 144.89 340 *e*PKP PKPdf 00 30 24.1 -1.1
PVCC *ep*PKP pPKPdf 00 30 29.6 -4.4
PVCC AMS AMS 01 30 50.0
comp=Z,2μm,25.0s
PSZ Piszkesteto 144.99 333 *e*PKP PKPdf 00 30 24.3 -1.2
PSZ LR LR
comp=Z,939nm,22.0s,MS5.5
PSZ Piszkesteto 144.99 333 *e*PKIKP PKPdf 00 30 24.3 -1.1
PSZ MLR MLR
comp=Z,939nm,22.0s,MS5.5
PSZ Piszkesteto 144.99 333 ⇓*e*PKP PKPdf 00 30 24.7 -0.7
PSZ Piszkesteto 144.99 333 ⇑*i*P PKPdf 00 30 25.0 -0.4
VYHS Vyhne 145.00 334 *e*PKIKP PKPdf 00 30 24.4 -1.0
VYHS *e* 00 30 30.3
VYHS Vyhne 145.00 334 *e*PKP PKPdf 00 30 24.4 -1.0
VYHS *e* 00 30 30.3
DEV Deva 145.04 328 ⇑PKIKP PKPdf 00 30 30.5 +4.9
DEV Deva 145.04 328 ⇑*i*P PKPbc 00 30 30.5 +5.5
JMB Yambol 145.11 320 P PKPbc 00 30 32.1 +6.8
JMB Yambol 145.11 320 P PKPbc 00 30 32.1 +6.8
JMB Yambol 145.11 320 PKIKP PKPdf 00 30 32.1 +6.3
KOLL Kolacno 145.11 335 *e*PKIKP PKPdf 00 30 25.5 -0.1
KOLL *e* 00 30 30.8
KOLL Kolacno 145.11 335 *e*PKP PKPdf 00 30 25.5 -0.1
KOLL *e* 00 30 30.8
ZIMR 145.13 323 ⇑PKIKP PKPdf 00 30 31.5 +5.7
ZIMR 145.13 323 ⇑*i*P PKPbc 00 30 31.5 +6.1
VRAC Vranov 145.22 337 PKPbc PKPbc 00 30 25.0 -0.5
comp=Z,25nm,1.3s,baz=41,slow=4.9,SNR=24
VRAC Vranov 145.22 337 PKPbc PKPbc 00 30 25.0 -0.5
VRAC Vranov 145.22 337 PKIKP PKPdf 00 30 25.0 -0.8
VRAC Vranov 145.22 337 ⇓*i*P PKPbc 00 30 25.4 -0.1
STNC Stoke 145.32 359 *e*P PKPbc 00 30 25.5 -0.1
PRU Pruhonice 145.37 340 *e*PKIKP PKPdf 00 30 25.7 -0.3
PRU *e* 00 30 31.0
PRU MLR MLR
comp=Z,1μm,24.0s,MS5.6
PRU Pruhonice 145.37 340 *e*PKP PKPdf 00 30 25.7 -0.3
PRU *ep*PKP pPKPdf 00 30 31.0 -3.8
PRU AMS AMS 01 31 10.0
comp=Z,1μm,24.0s
PVL Pavlikeni 145.42 322 P PKPbc 00 30 27.0 +0.7
GZR Gura Zlata 145.44 327 ⇑PKIKP PKPdf 00 30 25.6 -0.7
GZR Gura Zlata 145.44 327 ⇑*i*P PKPbc 00 30 25.5 -0.8
FOEL Foel Wylfa 145.53 360 *e*P PKPdf 00 30 24.3 -1.9
TREC Trest 145.63 338 *e*PKP2 PKPab 00 30 26.3 -0.8
TREC Trest 145.63 338 *e*PKP PKPdf 00 30 26.3 -0.2
TREC *ep*PKP pPKPdf 00 31.7 -3.6
BUD Budapest 145.70 333 ⇓*e*PKP PKPdf 00 30 26.9 +0.2
NKC Novy Kostel 145.80 342 *e*PKP2 PKPab 00 30 26.4 -1.3
NKC Novy Kostel 145.80 342 *e*PKP PKPdf 00 30 26.4 -0.4
NKC *ep*PKP pPKPdf 00 30 33.5 -2.1
SHEL Horse Pasture 145.82 176 *e*PKPdf PKPdf 00 30 27.7 -0.1
SHEL Horse Pasture 145.82 176 *e*PKP2 PKPab 00 30 27.7 -0.9
BZS Buzias 145.87 328 ⇓PKP2 PKPab 00 30 26.7 -1.4
BZS Buzias 145.87 328 ⇓*i*P PKPdf 00 30 26.7 -0.3
HLM1 Long Mynd 145.90 360 *e*P PKPdf 00 30 24.2 -2.6
DIM Dimitrovgrad 145.98 320 P PKPdf 00 30 27.7 +0.4
MPEP Malo Peshtene 146.25 323 P PKPdf 00 30 33.4 +5.7
KDZ Kurdzhali 146.28 320 P PKPdf 00 30 29.8 +1.9
KHC Kasperske Hory 146.42 340 *e*PKPdf PKPdf 00 30 27.0 -0.9
KHC Kasperske Hory 146.42 340 *e*PKIKP PKPdf 00 30 26.8 -1.1
KHC *e* 00 30 34.6
KHC MLR MLR
comp=Z,1μm,20.7s,MS5.7
KHC Kasperske Hory 146.42 340 *e*PKP PKPdf 00 30 26.8 -1.1
KHC *ep*PKP pPKPdf 00 30 34.6 -2.1
KHC AMS AMS 01 31 20.0
comp=Z,1μm,20.7s
MCH1 Michaelchurch 146.43 360 *e*P PKPdf 00 30 27.0 -0.8
SSW Stow on the Wo 146.44 358 *e*P PKPdf 00 30 27.5 -0.3
PLD Plovdiv 146.45 321 P PKPdf 00 30 24.9 -3.2
RDO Rodhopi 146.49 319 *e*P PKPdf 00 30 29.5 +1.3
RDO Rodhopi 146.49 319 P PKPdf 00 30 34.2 +6.0
RDO Rodhopi 146.49 319 P PKPdf 00 30 34.2 +6.0
PGB Panagyurishte 146.50 322 P PKPdf 00 30 29.3 +1.1
SOP Sopron 146.57 335 ⇑*e*PKP PKPdf 00 30 29.1 +1.0
GERES GERESS Array B 146.63 340 PKPbc PKPbc 00 30 29.0 -0.8
comp=Z,6.7nm,0.9s,baz=29,slow=2.2,SNR=42
GERES GERESS Array B 146.63 340 PKPbc PKPbc 00 30 29.0 -0.8
CONA Conrad Observa 146.64 336 ⇓*i*PKPbc PKPbc 00 30 28.3 -1.6
comp=Z,112nm,1.2s,SNR=25
CONA Conrad Observa 146.64 336 ⇓*i*P PKPdf 00 30 28.3 0.0
GRF Grafenberg Arr 146.64 343 *e*PKP PKPdf 00 30 28.5 +0.3
comp=Z,42nm,1.4s
GRFO Grafenberg 146.64 343 *e*PKPdf PKPdf 00 30 28.6 +0.4
SKP1 Kophill 146.65 357 *e*P PKPdf 00 30 28.7 +0.6
RZN Rozhen 146.69 320 P PKPdf 00 30 25.7 -2.9
HGH Gray Hill 146.79 360 *e*P PKPdf 00 30 27.4 -1.0
PKSM Moragy 146.85 332 ⇑PKP2 PKPbc 00 30 30.1 -0.4
PKSM Moragy 146.85 332 ⇑*i*P PKPbc 00 30 30.1 -0.4
BEBN Eben Emael 146.86 350 PKP PKPdf 00 30 29.9 +1.4
SWN1 Swindon 146.89 358 *e*P PKPdf 00 30 29.1 +0.6
MEM Membach 146.98 349 PKP PKPdf 00 30 30.6 +1.8
VTS Vitosha 147.03 323 P PKPab 00 30 36.0 +3.3
VTS Vitosha 147.03 323 P PKPab 00 30 36.0 +3.3
VTS Vitosha 147.03 323 PKP2 PKPab 00 30 36.0 +3.3
VTS Vitosha 147.03 323 P PKPab 00 30 36.3 +3.6
VTS Vitosha 147.03 323 ⇑*i*P PKPab 00 30 36.1 +3.4
PRK Paraskevi 147.04 315 *e*P PKPbc 00 30 31.4 +0.1
PRK Paraskevi 147.04 315 P PKPbc 00 30 30.4 -0.9
PRK Paraskevi 147.04 315 P PKPbc 00 30 30.4 -0.9
PRK Paraskevi 147.04 315 PKP2 PKPbc 00 30 30.4 -0.9
WOL Wolverton 147.07 358 *e*P PKPdf 00 30 30.3 +1.4
KAVA Kavala 147.22 319 P PKPab 00 30 36.8 +3.4
KAVA Kavala 147.22 319 P PKPab 00 30 36.8 +3.4
BCLA Clavier 147.29 350 PKP PKPdf 00 30 30.6 +1.3
ARSA Arzberg 147.32 336 *i* PKPbc PKPbc 00 30 31.1 -0.7
comp=Z,34nm,1.3s,SNR=12
ARSA Arzberg 147.32 336 *i* P PKPdf 00 30 31.1 +1.6
MMB Musomiste 147.34 321 P PKPdf 00 30 30.9 +1.2
SNF Seneffe 147.36 351 PKP PKPdf 00 30 31.2 +1.8
SMG Samos 147.40 312 *e*P PKPab 00 30 35.9 +1.6
LIA Limnos Island 147.41 317 *e*P PKPdf 00 30 30.4 +0.6
LIA Limnos Island 147.41 317 P PKPdf 00 30 28.0 -1.8
LIA Limnos Island 147.41 317 P PKPdf 00 30 28.0 -1.8
NVR Nevrokopi 147.41 320 *e*P PKPdf 00 30 31.6 +1.8
NVR Nevrokopi 147.41 320 P PKPdf 00 30 28.6 -1.2
NVR Nevrokopi 147.41 320 P PKPdf 00 30 28.6 -1.2
HTL Hartland 147.42 1 *e*P PKPdf 00 30 29.6 +0.1
KKB Krupnik 147.56 322 P PKPdf 00 30 27.7 -2.3
GIVF Givet 147.67 350 *e*PKP1 PKPbc 00 30 31.8 -0.9
comp=Z,128nm,1.4s
GIVF Givet 147.67 350 *e*P PKPbc 00 30 31.8 -0.9
GIVF Givet 147.67 350 *e*PKP2 PKPbc 00 30 31.8 -0.9
KOGS Kog 147.69 334 *e*PKPbc PKPbc 00 30 32.3 -0.5
SRS Serrai 147.71 320 P PKPab 00 30 37.4 +2.0
SRS Serrai 147.71 320 P PKPab 00 30 37.4 +2.0
SRS Serrai 147.71 320 PKP2 PKPab 00 30 37.4 +2.0
DOU Dourbes 147.71 351 PKP PKPbc 00 30 32.6 -0.2
DIVS Divibare 147.76 328 P PKPab 00 30 37.7 +2.2
BAIF Baives 147.81 351 *e*PKP1 PKPbc 00 30 32.3 -0.7
comp=Z,84nm,1.4s
BAIF Baives 147.81 351 *e*P PKPbc 00 30 32.3 -0.7
BAIF Baives 147.81 351 *e*PKP2 PKPbc 00 30 32.3 -0.7
WLF Walferdange 147.86 349 PKP PKPbc 00 30 33.2 0.0
WLF Walferdange 147.86 349 *e*PKPbc PKPbc 00 30 33.1 -0.1
WLF LR LR
comp=Z,645nm,20.0s,MS5.4
WLF Walferdange 147.86 349 *e*PKP2 PKPbc 00 30 33.1 -0.1
WLF MLR MLR
comp=Z,645nm,20.0s,MS5.4
OUR Ouranopolis 147.93 319 P PKPbc 00 30 32.8 -0.9
OUR Ouranopolis 147.93 319 P PKPbc 00 30 32.8 -0.9
OUR Ouranopolis 147.93 319 PKP2 PKPbc 00 30 32.8 -0.9
SOKA Soboth 147.99 336 ⇑*i*pPKPdf PKPbc 00 30 32.9 -0.7
comp=Z,40nm,1.4s
SOKA Soboth 147.99 336 ⇑*i*P PKPbc 00 30 32.9 -0.7
STU Stuttgart 148.03 344 *e*PKPdf PKPdf 00 30 31.4 +0.9
STU Stuttgart 148.03 344 *e*PKIKP PKPdf 00 30 31.4 +0.9
KNT Kendrikon 148.10 321 P PKPab 00 30 37.7 +0.8
KNT Kendrikon 148.10 321 P PKPab 00 30 37.7 +0.8
KNT Kendrikon 148.10 321 PKP2 PKPab 00 30 37.7 +0.8
KARP Karpathos 148.12 309 S PKPab 00 30 39.5 +2.3
KARP Karpathos 148.12 309 S PKPab 00 30 39.5 +2.3
LANF Langenberg 148.17 346 PKP PKPbc 00 30 33.4 -0.6
PLG Polygyros 148.24 319 P PKPdf 00 30 31.2 0.0
PLG Polygyros 148.24 319 P PKPdf 00 30 31.2 0.0
PLG Polygyros 148.24 319 PKIKP PKPdf 00 30 31.2 0.0
HORT Hortiatis 148.32 320 P PKPdf 00 30 29.6 -1.7
HORT Hortiatis 148.32 320 P PKPdf 00 30 29.6 -1.7
PAIG Paliouri 148.35 318 P PKPpre 00 30 26.8
PAIG Paliouri 148.35 318 P PKPpre 00 30 26.8
PAIG Paliouri 148.35 318 PKHKP PKPpre 00 30 26.8
SKO Skopje 148.44 323 *e*PKP PKPdf 00 30 30.8 -0.7
WATA Walderalm 148.64 340 ⇑*i*PKPdf PKPdf 00 30 30.9 -0.7
comp=Z,26nm,1.0s,SNR=18
WATA Walderalm 148.64 340 ⇑*i*P PKPdf 00 30 30.9 -0.7
WATA Walderalm 148.64 340 ⇑*i*PKIKP PKPdf 00 30 30.9 -0.7
BFO Black Forest 148.65 345 *e*PKPbc PKPbc 00 30 34.6 -0.7
BFO LR LR
comp=Z,1μm,19.0s,MS5.6
BFO Black Forest 148.65 345 *e*PKP2 PKPbc 00 30 34.6 -0.7
BFO MLR MLR
comp=Z,1μm,19.0s,MS5.6
WTTA Wattenberg 148.69 340 ⇑*i*PKPbc PKPbc 00 30 34.3 -1.1
comp=Z,74nm,1.2s,SNR=14
WTTA Wattenberg 148.69 340 ⇑*i*P PKPbc 00 30 34.3 -1.1
WTTA Wattenberg 148.69 340 ⇑*i*PKP2 PKPbc 00 30 34.3 -1.1
RETA Reutte 148.76 342 *i* sPKPdf PKPbc 00 30 35.1 -0.5
comp=Z,42nm,1.7s,SNR=11
RETA Reutte 148.76 342 *i* P PKPbc 00 30 35.1 -0.5
MOTA Moosalm 148.78 341 ⇑*i*PKPdf PKPdf 00 30 31.1 -0.7
comp=Z,41nm,1.0s,SNR=22
MOTA Moosalm 148.78 341 ⇑*i*P PKPdf 00 30 31.1 -0.7
MOTA Moosalm 148.78 341 ⇑*i*PKIKP PKPdf 00 30 31.1 -0.7
CDF Champ du Feu 148.82 346 *e*PKP1 PKPbc 00 30 34.9 -0.8
comp=Z,127nm,1.6s
CDF Champ du Feu 148.82 346 *e*P PKPbc 00 30 34.9 -0.8
CDF Champ du Feu 148.82 346 *e*PKP2 PKPbc 00 30 34.9 -0.8
ABTA Abfaltersbach 148.85 339 *i* PKPbc PKPbc 00 30 34.8 -1.1
comp=Z,51nm,1.2s,SNR=17
ABTA Abfaltersbach 148.85 339 *i* P PKPbc 00 30 34.8 -1.1
BOJS Bojanci 148.86 334 *e*PKPbc PKPbc 00 30 35.9 -0.1
KRUS Krusevo 148.94 323 *e*PKP PKPdf 00 30 31.6 -0.6
LIT Litokhoron 148.99 320 P PKPab 00 30 40.7 +0.1
LIT Litokhoron 148.99 320 P PKPab 00 30 40.7 +0.1
LIT Litokhoron 148.99 320 PKP2 PKPab 00 30 40.7 +0.1
PAGF Fort de Pagny 149.00 348 *e*PKP1 PKPbc 00 30 35.6 -0.6
comp=Z,38nm,1.5s
PAGF Fort de Pagny 149.00 348 *e*P PKPbc 00 30 35.6 -0.6
ECH Echery 149.03 346 *e*PKPdf PKPdf 00 30 33.1 +0.9
ECH LR LR
comp=Z,769nm,21.0s,MS5.5
ECH Echery 149.03 346 *e*PKIKP PKPdf 00 30 33.1 +0.9
ECH MLR MLR
comp=Z,769nm,21.0s,MS5.5
ECH Echery 149.03 346 PKP PKPbc 00 30 35.1 -1.2
BIA Bitola 149.12 322 *e*PKP PKPdf 00 30 31.9 -0.6
MEZF Maizieres J'vi 149.18 349 *e*PKP1 PKPbc 00 30 36.1 -0.5
comp=Z,209nm,1.6s
MEZF Maizieres J'vi 149.18 349 *e*P PKPbc 00 30 36.1 -0.5
FETA Feichten 149.19 341 *i* sPKPdf PKPbc 00 30 36.1 -0.6
comp=Z,79nm,1.1s,SNR=14
FETA Feichten 149.19 341 *i* P PKPbc 00 30 36.1 -0.6
DAVA Damuels 149.20 342 *i* sPKPdf PKPbc 00 30 36.3 -0.5
comp=Z,81nm,1.3s,SNR=15
DAVA Damuels 149.20 342 *i* P PKPbc 00 30 36.3 -0.5
JSA Saint Aubin 149.23 359 *e*P PKPbc 00 30 35.2 -1.5
FNA Florina 149.24 322 P PKPbc 00 30 37.9 +0.8
FNA Florina 149.24 322 P PKPbc 00 30 37.9 +0.8
FNA Florina 149.24 322 PKP2 PKPbc 00 30 37.9 +0.8
PTL Penteli 149.27 315 *e*P PKPbc 00 30 36.6 -0.6
PTL Penteli 149.27 315 P PKPab 00 30 42.0 +0.2
PTL Penteli 149.27 315 P PKPab 00 30 42.0 +0.2
THEF They Montfort 149.27 348 PKP PKPbc 00 30 35.4 -1.5
TRI Trieste 149.28 336 PFAKE 00 30 40.0 +7.3
TRI LR LR
comp=Z,915nm,19.0s,MS5.6
KZN Kozani 149.30 321 P PKPdf 00 30 27.2 -5.7
KZN Kozani 149.30 321 P PKPdf 00 30 27.2 -5.7
KZN Kozani 149.30 321 PKIKP PKPdf 00 30 27.2 -5.7
ATHU Athens Univers 149.37 315 P PKPab 00 30 45.4 +3.2
ATHU Athens Univers 149.37 315 P PKPab 00 30 45.4 +3.2
MOF Molkenrain 149.38 346 PKP PKPbc 00 30 35.8 -1.4
NPS Neapolis 149.39 309 *e*P PKPbc 00 30 35.2 -2.4
NPS Neapolis 149.39 309 P PKPdf 00 30 29.8 -3.4
NPS Neapolis 149.39 309 P PKPdf 00 30 29.8 -3.4
NPS Neapolis 149.39 309 PKIKP PKPdf 00 30 29.8 -3.4
HAU Haudompre 149.41 347 *e*PKP1 PKPbc 00 30 36.2 -1.0
comp=Z,80nm,1.4s
HAU *e*R
comp=Z,619nm,19.0s
HAU Haudompre 149.41 347 *e*P PKPbc 00 30 36.2 -1.0
HAU Haudompre 149.41 347 *e*PKP2 PKPbc 00 30 36.2 -1.0
ATH Athens Observa 149.41 315 P PKPab 00 30 41.1 -1.2
ATH Athens Observa 149.41 315 P PKPab 00 30 41.1 -1.2
ATH Athens Observa 149.41 315 PKP2 PKPab 00 30 41.1 -1.2
VLY Voula,Athens 149.42 315 *e*P PKPbc 00 30 35.7 -1.9
VLY Voula,Athens 149.42 315 P PKPab 00 30 41.0 -1.4
VLY Voula,Athens 149.42 315 P PKPab 00 30 41.0 -1.4
SFTF Sexfontaines 149.47 349 *e*PKP1 PKPbc 00 30 36.6 -0.8
comp=Z,152nm,1.3s
SFTF Sexfontaines 149.47 349 *e*P PKPbc 00 30 36.6 -0.8
ATAL Atalanti 149.47 317 P PKPab 00 30 41.7 -0.9
ATAL Atalanti 149.47 317 P PKPab 00 30 41.7 -0.9
HINF Hinteralfeld 149.48 347 *e*PKP1 PKPbc 00 30 36.2 -1.2
comp=Z,71nm,1.4s
HINF Hinteralfeld 149.48 347 *e*P PKPbc 00 30 36.2 -1.2
HINF Hinteralfeld 149.48 347 *e*PKP2 PKPbc 00 30 36.2 -1.2
LKR Lokris 149.51 317 P PKPab 00 30 42.0 -0.7
LKR Lokris 149.51 317 P PKPab 00 30 42.0 -0.7
FLN La Foliniere 149.58 356 *e*PKP1 PKPbc 00 30 36.4 -1.2
comp=Z,154nm,1.2s
FLN *e*R
comp=Z,850nm,20.8s
FLN La Foliniere 149.58 356 *e*P PKPbc 00 30 36.4 -1.2
FLN La Foliniere 149.58 356 *e*PKP2 PKPbc 00 30 36.4 -1.2
THL Klokotos Trika 149.60 319 *e*P PKPbc 00 30 36.8 -1.2
NEST Nestorio 149.66 322 P PKPbc 00 30 38.0 -0.1
AGG Agios Georgios 149.72 318 P PKPbc 00 30 37.6 -0.7
AGG Agios Georgios 149.72 318 P PKPbc 00 30 37.6 -0.7
AGG Agios Georgios 149.72 318 PKP2 PKPbc 00 30 37.6 -0.7
LDF La Druitiere 149.73 356 *e*PKP1 PKPbc 00 30 36.6 -1.4
comp=Z,34nm,1.1s
LDF La Druitiere 149.73 356 *e*P PKPbc 00 30 36.6 -1.4
LDF La Druitiere 149.73 356 *e*PKHKP PKPbc 00 30 36.6 -1.4
TIR Tirane 149.73 324 PFAKE 00 30 40.0 +6.4
TIR LR LR
comp=Z,857nm,21.0s,MS5.5
MAKR Makrakomi, Fth 149.86 318 P PKPab 00 30 42.9 -1.2
MAKR Makrakomi, Fth 149.86 318 P PKPab 00 30 42.9 -1.2
LOMF Lomont 149.92 346 PKP PKPbc 00 30 37.5 -1.0
DESF Desfina 149.94 317 P PKPab 00 30 41.8 -2.7
GRR Gorron 149.98 357 *e*PKP1 PKPbc 00 30 37.5 -1.1
comp=Z,104nm,1.4s
GRR Gorron 149.98 357 *e*P PKPbc 00 30 37.5 -1.1
GRR Gorron 149.98 357 *e*PKHKP PKPbc 00 30 37.5 -1.1
SIVA Sivas 150.08 309 P PKPbc 00 30 36.9 -2.4
SIVA Sivas 150.08 309 P PKPbc 00 30 36.9 -2.4
TUE Stuetta 150.09 342 *e*PKPbc PKPbc 00 30 39.1 +0.1
TUE LR LR
comp=Z,886nm,19.0s,MS5.6
ROSF Rostrenen 150.09 0 *e*PKP1 PKPbc 00 30 37.3 -1.6
ROSF Rostrenen 150.09 0 *e*P PKPbc 00 30 37.3 -1.6
ROSF Rostrenen 150.09 0 *e*PKIKP PKPbc 00 30 37.3 -1.6
SGMF Saint Gilles 150.17 359 *e*PKP1 PKPbc 00 30 37.4 -1.7
comp=Z,68nm,1.0s
SGMF Saint Gilles 150.17 359 *e*P PKPbc 00 30 37.4 -1.7
SGMF Saint Gilles 150.17 359 *e*PKIKP PKPbc 00 30 37.4 -1.7
KALE Kalithea 150.21 317 P PKPbc 00 30 39.5 0.0
KALE Kalithea 150.21 317 P PKPbc 00 30 39.5 0.0
JAN Janina 150.26 321 P PKPab 00 30 44.9 -0.9
JAN Janina 150.26 321 P PKPab 00 30 44.9 -0.9
JAN Janina 150.26 321 PKIKP PKPab 00 30 44.9 -0.9
TRIZ Trizonia 150.27 317 P PKPab 00 30 43.5 -2.4
LAKA Lakka 150.40 317 P PKPbc 00 30 41.0 +1.0
LAKA Lakka 150.40 317 P PKPbc 00 30 41.0 +1.0
QUIF Quistinic 150.51 360 *e*PKP1 PKPbc 00 30 38.6 -1.3
comp=Z,47nm,1.2s
QUIF Quistinic 150.51 360 *e*P PKPbc 00 30 38.6 -1.3
QUIF Quistinic 150.51 360 *e*PKIKP PKPbc 00 30 38.6 -1.3
LOR Lormes 150.58 350 *e*PKP1 PKPbc 00 30 39.2 -0.9
comp=Z,57nm,1.4s
LOR *e*R
comp=Z,707nm,22.5s
LOR Lormes 150.58 350 *e*P PKPbc 00 30 39.2 -0.9
LOR Lormes 150.58 350 *e*PKIKP PKPbc 00 30 39.2 -0.9
VLI Veliai 150.59 314 *e*P PKPbc 00 30 40.6 +0.1
VLI Veliai 150.59 314 P PKPdf 00 30 33.2 -1.9
VLI Veliai 150.59 314 P PKPdf 00 30 33.2 -1.9
IGT Igoumenitsa 150.65 321 P PKPdf 00 30 26.5 -8.5
IGT Igoumenitsa 150.65 321 P PKPdf 00 30 26.5 -8.5
IGT Igoumenitsa 150.65 321 PKIKP PKPdf 00 30 26.5 -8.5
HYF Humbligny 150.76 352 *e*PKP1 PKPbc 00 30 40.0 -0.5
HYF Humbligny 150.76 352 *e*P PKPbc 00 30 40.0 -0.5
CABF La Chapelle 150.79 347 *e*PKP1 PKPbc 00 30 40.3 -0.3
comp=Z,144nm,1.4s
CABF La Chapelle 150.79 347 *e*P PKPbc 00 30 40.3 -0.3
CABF La Chapelle 150.79 347 *e*PKIKP PKPbc 00 30 40.3 -0.3
SSF Saint Saulge 150.84 351 *e*PKP1 PKPbc 00 30 39.7 -1.0
comp=Z,88nm,1.2s
SSF Saint Saulge 150.84 351 *e*P PKPbc 00 30 39.7 -1.0
SSF Saint Saulge 150.84 351 *e*PKIKP PKPbc 00 30 39.7 -1.0
RLS Riolos of Patr 150.84 317 *e*P PKPbc 00 30 41.2 +0.2
RLS Riolos of Patr 150.84 317 P PKPbc 00 30 41.4 +0.4
RLS Riolos of Patr 150.84 317 P PKPbc 00 30 41.4 +0.4
ITM Ithomi 151.03 315 *e*P PKPbc 00 30 40.7 -0.8
ITM Ithomi 151.03 315 P PKPbc 00 30 40.8 -0.7
ITM Ithomi 151.03 315 P PKPbc 00 30 40.8 -0.7
AVF Avril sur Loir 151.12 351 *e*PKP1 PKPbc 00 30 40.1 -1.3
comp=Z,32nm,1.2s
AVF Avril sur Loir 151.12 351 *e*P PKPbc 00 30 40.1 -1.3
AVF Avril sur Loir 151.12 351 *e*PKIKP PKPbc 00 30 40.1 -1.3
SMF Signal de Mont 151.19 350 *e*PKP1 PKPbc 00 30 40.3 -1.2
comp=Z,71nm,1.4s
SMF Signal de Mont 151.19 350 *e*P PKPbc 00 30 40.3 -1.2
SMF Signal de Mont 151.19 350 *e*PKIKP PKPbc 00 30 40.3 -1.2
BGF Bois d'Agland 151.43 351 *e*PKP1 PKPbc 00 30 40.9 -1.2
comp=Z,68nm,1.3s
BGF Bois d'Agland 151.43 351 *e*P PKPbc 00 30 40.9 -1.2
BGF Bois d'Agland 151.43 351 *e*PKIKP PKPbc 00 30 40.9 -1.2
LPL La Plagne 151.67 345 *e*PKP1 PKPbc 00 30 41.8 -0.9
LPL La Plagne 151.67 345 *e*P PKPbc 00 30 41.8 -0.9
LPL La Plagne 151.67 345 *e*PKIKP PKPbc 00 30 41.8 -0.9
LPG La Plagne 151.68 345 *e*PKP1 PKPbc 00 30 41.9 -0.8
LPG La Plagne 151.68 345 *e*P PKPbc 00 30 41.9 -0.8
LPG La Plagne 151.68 345 *e*PKIKP PKPbc 00 30 41.9 -0.8
MFF Saint Martin d 151.71 355 *e*PKP1 PKPbc 00 30 41.5 -1.3
comp=Z,61nm,1.2s
MFF Saint Martin d 151.71 355 *e*P PKPbc 00 30 41.5 -1.3
MFF Saint Martin d 151.71 355 *e*PKIKP PKPbc 00 30 41.5 -1.3
TCF Toulx Ste Croi 151.78 352 *e*PKP1 PKPbc 00 30 41.6 -1.3
comp=Z,93nm,1.5s
TCF Toulx Ste Croi 151.78 352 *e*P PKPbc 00 30 41.6 -1.3
TCF Toulx Ste Croi 151.78 352 *e*PKIKP PKPbc 00 30 41.6 -1.3
PLDF La Plantade 151.88 350 PKP PKPbc 00 30 41.8 -1.4
GDM Grand'Maison 152.11 346 PKP PKPbc 00 30 43.4 -0.3
BNI Bardonecchia 152.12 345 *e*PKPdf PKPdf 00 30 37.0 -0.1
BNI *e*PKPbc PKPbc 00 30 42.3 -1.4
BNI LR LR
comp=Z,1μm,20.0s,MS5.8
BNI Bardonecchia 152.12 345 *e*PKIKP PKPdf 00 30 37.0 -0.1
BNI *e* 00 30 42.3
BNI MLR MLR
comp=Z,1μm,20.0s,MS5.8
GRN Grenoble 152.16 346 PKP PKPbc 00 30 44.3 +0.5
AQU L'Aquila 152.20 333 *e*PKPdf PKPdf 00 30 37.7 +0.4
AQU LR LR
comp=Z,874nm,22.0s,MS5.5
AQU L'Aquila 152.20 333 *e*PKIKP PKPdf 00 30 37.7 +0.4
AQU MLR MLR
comp=Z,874nm,22.0s,MS5.5
SSB Saint Sauveur 152.38 348 *e*PKPbc PKPbc 00 30 42.7 -1.6
SSB LR LR
comp=Z,856nm,19.0s,MS5.6
SSB Saint Sauveur 152.38 348 *e*PKIKP PKPbc 00 30 42.7 -1.6
SSB MLR MLR
comp=Z,856nm,19.0s,MS5.6
MBDF Montbardon 152.40 344 *e*PKP1 PKPbc 00 30 43.1 -1.3
comp=Z,23nm,1.2s
MBDF Montbardon 152.40 344 *e*P PKPbc 00 30 43.1 -1.3
MBDF Montbardon 152.40 344 *e*PKIKP PKPbc 00 30 43.1 -1.3
SURF Saint Ours 152.62 344 PKP PKPbc 00 30 43.3 -1.6
LBL Lubilhac 152.66 350 PKP PKPbc 00 30 42.0 -2.9
VIVF Saint-Julien-l 152.76 348 *e*PKP1 PKPbc 00 30 44.2 -1.0
comp=Z,28nm,1.2s
VIVF Saint-Julien-l 152.76 348 *e*P PKPbc 00 30 44.2 -1.0
VIVF Saint-Julien-l 152.76 348 *e*PKIKP PKPbc 00 30 44.2 -1.0
RJF Les Rejaudoux 152.84 353 *e*PKP1 PKPbc 00 30 44.1 -1.2
comp=Z,14nm,1.0s
RJF *e*R
comp=Z,654nm,22.2s
RJF Les Rejaudoux 152.84 353 *e*P PKPbc 00 30 44.1 -1.2
RJF Les Rejaudoux 152.84 353 *e*PKIKP PKPbc 00 30 44.1 -1.2
CUC Castrocucco 152.88 327 PFAKE 00 30 50.0 +12
CUC LR LR
comp=Z,340nm,20.0s,MS5.2
SAOF Saorge 152.88 343 PKP PKPbc 00 30 42.8 -2.7
TOUF Mont Tournerai 152.94 343 PKP PKPbc 00 30 46.8 +1.2
TIP Timpagrande 152.95 324 PFAKE 00 30 50.0 +11
TIP LR LR
comp=Z,632nm,21.0s,MS5.4
SBF Sospel 153.02 343 *e*PKP1 PKPbc 00 30 44.5 -1.3
comp=Z,11nm,0.7s
SBF Sospel 153.02 343 *e*P PKPbc 00 30 44.5 -1.3
SBF Sospel 153.02 343 *e*PKIKP PKPbc 00 30 44.5 -1.3
MVIF Mont Vial 153.07 343 PKP PKPbc 00 30 45.1 -0.8
CAF Calviac 153.14 352 *e*PKP1 PKPbc 00 30 43.8 -2.2
comp=Z,25nm,1.2s
CAF Calviac 153.14 352 *e*P PKPbc 00 30 43.8 -2.2
CAF Calviac 153.14 352 *e*PKIKP PKPbc 00 30 43.8 -2.2
CALN Calern 153.28 344 PKP PKPbc 00 30 43.5 -2.8
SMRF Simiane la Rot 153.40 346 *e*PKP1 PKPbc 00 30 44.3 -2.3
comp=Z,76nm,1.6s
SMRF Simiane la Rot 153.40 346 *e*P PKPbc 00 30 44.3 -2.3
FRF La Foret Royal 153.52 344 *e*PKP1 PKPbc 00 30 43.6 -3.3
comp=Z,56nm,1.4s
FRF La Foret Royal 153.52 344 *e*P PKPbc 00 30 43.6 -3.3
FRF La Foret Royal 153.52 344 *e*PKIKP PKPbc 00 30 43.6 -3.3
LASF Ste Croix 153.67 348 *e*PKP1 PKPbc 00 30 44.5 -2.7
comp=Z,24nm,1.1s
LASF Ste Croix 153.67 348 *e*P PKPbc 00 30 44.5 -2.7
PGF Pioggiola 153.73 339 *e*PKP1 PKPbc 00 30 43.7 -3.7
comp=Z,54nm,1.2s
PGF Pioggiola 153.73 339 *e*P PKPbc 00 30 43.7 -3.7
PGF Pioggiola 153.73 339 *e*PKIKP PKPbc 00 30 43.7 -3.7
LMR La Mourre 153.77 344 *e*PKP1 PKPbc 00 30 43.9 -3.5
comp=Z,73nm,1.7s
LMR La Mourre 153.77 344 *e*P PKPbc 00 30 43.9 -3.5
LMR La Mourre 153.77 344 *e*PKIKP PKPbc 00 30 43.9 -3.5
VSL Villasalto 156.26 335 PFAKE 00 30 50.0 +6.9
VSL LR LR
comp=Z,336nm,20.0s,MS5.2
WDD Wield Dalam 156.52 322 PFAKE 00 30 50.0 +6.4
WDD LR LR
comp=Z

ESDC				PKPab	PKPab	00 31 20.5	-1.1
ESLA	**Sonseca Array**	**158.74**	**2**	PFAKE		00 31 00.0	+14
ESLA				LR	LR		
comp=Z,5μm,20.0s,MS6.4							
PAB	**San Pablo**	**158.86**	**2**	PFAKE		00 31 00.0	+14
PAB				LR	LR		
comp=Z,797nm,21.0s,MS5.5							
PMTG	**Montargil**	**158.91**	**11**	*e*PKPdf	PKPdf	00 30 50.8	+4.4
KEST	**Kesra**	**159.41**	**330**	PKPab	PKPab	00 31 24.5	-0.2
comp=Z,2.0nm,1.0s,baz=2.0,slow=3.5,SNR=3.1							
KEST	**Kesra**	**159.41**	**330**	PKPab	PKPab	00 31 24.5	-0.2
EVOP	**Sao Brissos**	**159.45**	**11**	*e*PKPdf	PKPdf	00 30 43.0	-4.1
EVOP	**Sao Brissos**	**159.45**	**11**	*e*PKIKP	PKPdf	00 30 43.0	-4.1
EVO	**Evora**	**159.47**	**11**	*e*PKIKP	PKPdf	00 30 43.0	-4.1
EVO				*e*R			
comp=Z,908nm,23.0s							
EVO	**Evora**	**159.47**	**11**	*e*PKPdf	PKPdf	00 30 52.4	+5.3
PNCL	**Nicolau / Gran**	**159.78**	**12**	*e*PKPdf	PKPdf	00 30 52.5	+5.0
PBAR	**Barrancos**	**159.97**	**9**	*e*PKPdf	PKPdf	00 30 52.4	+4.7
PBEJ	**Beja**	**159.99**	**11**	*e*PKPdf	PKPdf	00 30 53.2	+5.5
SACV	**Santiago Islan**	**160.20**	**97**	PFAKE		00 31 00.0	+11
SACV				LR	LR		
comp=Z,400nm,19.0s							
SFS	**San Fernando**	**161.77**	**8**	PFAKE		00 31 00.0	+10
SFS				LR	LR		
comp=Z,1μm,19.0s							
RTC	**Rabat Centre**	**164.10**	**11**	PFAKE		00 31 00.0	+8.0
RTC				LR	LR		
comp=Z,747nm,20.0s							
LIC	**Lamto**	**167.82**	**172**	*e*PKIKP	PKPdf	00 30 59.6	+4.0
LIC				*e*R			
comp=Z,22nm,1.0s							
LIC							
comp=Z,798nm,22.5s							
LIC	**Lamto**	**167.82**	**172**	*e*PKPdf	PKPdf	00 30 59.6	+4.0
DBIC	**Dimbokro**	**168.28**	**172**	PKP	PKPdf	00 30 56.2	+0.3
comp=Z,7.4nm,1.0s,baz=135,slow=2.9,SNR=7.2							
DBIC				PKPab	PKPab	00 32 02.4	-1.7
comp=Z,3.6nm,0.8s,baz=184,slow=5.2,SNR=4.4							
DBIC	**Dimbokro**	**168.28**	**172**	PKP	PKPdf	00 30 56.2	+0.3
DBIC				PKPab	PKPab	00 32 02.4	-1.7
DBIC				LR	LR		
comp=Z,664nm,22.0s							
DBIC	**Dimbokro**	**168.28**	**172**	PKIKP	PKPdf	00 30 56.2	+0.3
DBIC						00 32 02.4	
DBIC				MLR	MLR		
comp=Z,664nm,22.0s							
TAM	**Tamanrasset**	**170.68**	**300**	*e*PKPdf	PKPdf	00 30 55.9	-1.2
TAM				LR	LR		
comp=Z,614nm,22.0s							
TAM	**Tamanrasset**	**170.68**	**300**	*e*PKIKP	PKPdf	00 30 55.9	-1.2
TAM				MLR	MLR		
comp=Z,614nm,22.0s							
TORD	**Torodi Ar. Bea**	**172.98**	**223**	PKP	PKPdf	00 30 58.0	-0.4
comp=Z,4.5nm,1.0s,baz=337,slow=1.9,SNR=7.0							
TORD				PKPab	PKPab	00 32 24.1	-1.0
comp=Z,5.7nm,0.8s,baz=140,slow=1.1,SNR=10							
TORD	**Torodi Ar. Bea**	**172.98**	**223**	PKP	PKPdf	00 30 58.0	-0.4
TORD				PKPab	PKPab	00 32 24.1	-1.0

IDC 25 00:11:58.2±1.6, 29°.35S×61°.19E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/23, mbtmp3.9/4, Error ellipse: s-maj=88.3km s-min=31.0km az=20.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**66.21**	**100**	P	P	00 22 48.2	0.0
1.3nm,0.9s,baz=246,slow=5.8,SNR=2.7							
TORD	**Torodi Ar. Bea**	**71.24**	**298**	P	P	00 23 19.4	-0.2
1.6nm,0.9s,baz=113,slow=5.5,SNR=9.6							
KURK	**Kurchatov**	**81.19**	**11**	P	P	00 24 14.6	-0.7
0.4nm,1.1s,baz=200,slow=5.9,SNR=4.5							
ESDC	**Sonseca Array**	**91.54**	**316**	P	P	00 25 08.7	+2.0
0.7nm,0.8s,baz=124,slow=6.4,SNR=4.1							
YKA	**Yellowknife Ar**	**146.73**	**356**	PKPbc	PKPbc	00 31 41.4	+0.1
2.5nm,0.8s,baz=0.4,slow=2.8,SNR=31							
ULM	**Lac du Bonnet**	**152.87**	**327**	PKPbc	PKPbc	00 31 56.5	-0.4
3.7nm,0.9s,baz=36,slow=5.0,SNR=5.5							
ULM				PKPab	PKPab	00 32 05.6	-2.4
2.4nm,0.7s,baz=149,slow=3.1,SNR=3.9							

*NEIC **25** 00:21:58.7, 35°.11S×70°.71W, h48km, MG3.9(GUC), After GUC.*

GUC 25 00:21:58.7±0.8, 35°.11S×70°.71W, h48km±6km, ML3.9, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.44**	**284**	⇓*i*P	Pn	00 22 09.6	+0.4
NICH				*i* S	Sn	00 22 17.3	+0.6
NICH	**Los Niches**	**0.44**	**284**	⇓*i*P	Pn	00 22 09.6	+0.4
NICH				*i* S	Sn	00 22 17.3	+0.6
TALC	**Talca**	**0.81**	**249**	*e*P	Pn	00 22 14.6	+0.7
TALC				*e*S	Sn	00 22 26.8	+1.9
TALC	**Talca**	**0.81**	**249**	*e*P	Pn	00 22 14.6	+0.7
TALC				*e*S	Sn	00 22 26.8	+1.9
CACH	**El Canelo**	**1.00**	**5**	⇑*i*P	Pn	00 22 17.5	+1.2
CACH				*i* S	Sn	00 22 31.6	+2.3
CACH	**El Canelo**	**1.00**	**5**	⇑*i*P	Pn	00 22 17.5	+1.2
CACH				*i* S	Sn	00 22 31.6	+2.3
LNCH	**Linares**	**1.04**	**225**	*e*P	Pn	00 22 17.7	+0.9
LNCH				*i* S	Sn	00 22 32.8	+2.6
LNCH	**Linares**	**1.04**	**225**	*e*P	Pn	00 22 17.7	+0.9
LNCH				*i* S	Sn	00 22 32.8	+2.6
LNCH				AML	AML	00 22 34.5	
comp=N,4μm,0.7s							
CHCH	**Chadas Angostu**	**1.18**	**2**	*e*P	Pn	00 22 20.7	+2.0
CHCH	**Chadas Angostu**	**1.18**	**2**	*e*P	Pn	00 22 20.7	+2.0
LMEL	**Las Melosas**	**1.33**	**18**	*e*P	Pn	00 22 23.1	+2.2
LMEL				*i* S	Sn	00 22 41.7	+4.3
LMEL	**Las Melosas**	**1.33**	**18**	*e*P	Pn	00 22 23.1	+2.2
LMEL				*i* S	Sn	00 22 41.7	+4.3
PCH	**Pirque**	**1.50**	**6**	*e*P	Pn	00 22 26.2	+3.0
PCH				*i* S	Sn	00 22 46.8	+5.3
PCH	**Pirque**	**1.50**	**6**	*e*P	Pn	00 22 26.2	+3.0
PCH				*i* S	Sn	00 22 46.8	+5.3
ANTU	**Antumapu**	**1.54**	**2**	*e*P	Pn	00 22 27.4	+3.7
ANTU				*e*S	Sn	00 22 48.8	+6.3
ANTU	**Antumapu**	**1.54**	**2**	*e*P	Pn	00 22 27.4	+3.7
ANTU				*e*S	Sn	00 22 48.8	+6.3
ANTU				AML	AML	00 22 50.9	
comp=E,2μm,0.3s							
RCDM	**Rinconada Maip**	**1.62**	**357**	*e*P	Pn	00 22 31.3	+6.5
CLCH	**Cerro Calan**	**1.72**	**5**	AML	AML	00 23 07.0	
comp=E,2μm,0.5s							
FCH	**Farellones**	**1.81**	**11**	*e*P	Pn	00 22 32.0	+4.5
FCH				*e*S	Sn	00 22 56.7	+7.5
FCH				AML	AML	00 23 07.1	
comp=N,2μm,0.3s							
CCHI	**Chillan**	**1.86**	**216**	*e*P	Pn	00 22 31.5	+3.4
CCHI				*e*S	Sn	00 22 57.2	+6.8
CCHI	**Chillan**	**1.86**	**216**	*e*P	Pn	00 22 31.5	+3.4
CCHI				*e*S	Sn	00 22 57.2	+6.8
CCHI				AML	AML	00 23 02.0	
comp=E,962nm,0.3s							
PEL	**Peldehue**	**1.96**	**0**	*e*P	Pn	00 22 33.8	+4.3
PEL				*e*S	Sn	00 22 59.8	+6.8
PEL				AML	AML	00 23 07.2	
comp=E,3μm,0.5s							
COCH	**Cobquecura**	**1.98**	**238**	*e*P	Pn	00 22 33.3	+3.6
COCH				*i* S	Sn	00 22 59.8	+6.5
COCH	**Cobquecura**	**1.98**	**238**	*e*P	Pn	00 22 33.3	+3.6
COCH				*i* S	Sn	00 22 59.8	+6.5
ROCH	**El Roble**	**2.15**	**353**	*e*P	Pn	00 22 37.2	+5.1
ROCH				*e*S	Sn	00 23 06.1	+8.6
ROCH				AML	AML	00 23 09.0	
comp=N,2μm,0.5s							
IHA	**Instituto Hidr**	**2.22**	**339**	*e*P	Pn	00 22 37.7	+4.6
IHA	**Instituto Hidr**	**2.22**	**339**	*e*P	Pn	00 22 37.7	+4.6
CHNG	**Los Chungos**	**3.29**	**348**	*e*P	Pn	00 22 54.0	+6.3
TLL	**Tololo Astrono**	**4.93**	**359**	*e*P	Pn	00 23 04.4	-5.8

*LDG **25** 00:26:30.8±0.4, 27°.55N×88°.40E, h10km, Mb4.8/21, Ms3.7/1, Error ellipse: s-maj=20.7km s-min=6.0km az=166.0*
*DMN **25** 00:26:31.6±0.4, 27°.21N×89°.04E, h60km, Ml5.7/8, Error ellipse: s-maj=42.9km s-min=8.2km az=12.0*
*IDC **25** 00:26:32.8±4.3, 27°.24N×88°.70E, h20km±27km, mb4.2/30, mb1 4.4/31, mb1mx4.3/35, mbtmp4.2/31, ML4.3/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/41, Error ellipse: s-maj=15.8km s-min=11.8km az=37.0*
*BJI **25** 00:26:32.3, 27°.38N×88°.97E, h9km, mB4.7/9, mb4.6/23, ML4.5/2, Ms3.7/7, Ms7 3.6/6*
*MOS **25** 00:26:32.4±0.8, 27°.22N×88°.63E, h33km, mb5.0/30, Error ellipse: s-maj=10.6km s-min=4.8km az=122.8*
*NDI **25** 00:26:33.7±4.8, 27°.15N×88°.63E, h19km±14km, ML4.8, mb4.8(NEIC)*
*ISCJB **25** 00:26:33.2±0.5, 27°.16N±0°.03×88°.58E±0°.03, h42km±4km, mb4.5/74, MS4.1/7, Error ellipse: s-maj=5.8km s-min=3.8km az=12.2*
*NEIC **25** 00:26:36.2±0.5, 27°.24N×88°.63E, h49km±4km, mb4.8/32, Error ellipse: s-maj=6.5km s-min=4.2km az=193.0*
NEIC Felt at Darjiling, Gangtok and Paro. Also felt at Thimphu, Bhutan.

ISC 25 00:26:34.7±0.4, 27°.15N±0°.03×88°.65E±0°.03, h39km±4km, h32km±3.8km: pP-P, n315, σ1°.03/334, mb4.5/74, MS4.1/7, 3C-8D, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**0.18**	**350**	*e*PKP	Pn	00 26 31.5	-10
GTK				*e*S	Sn	00 26 34.0	-13
SLGI	**Shiliguri**	**0.50**	**205**	*e*PKP	Pn	00 26 44.0	-1.4
SLGI				*e*S	Sn	00 26 51.3	-1.6
JIRN	**Jiri**	**2.25**	**284**	*e*Pn	Pn	00 27 11.6	+2.2
JIRN				*e*Sn	Sn	00 27 40.7	+4.8
12μm,0.3s							
JIRN	**Jiri**	**2.25**	**284**	*e*Pn	Pn	00 27 11.6	+2.2
JIRN				*e*Sn	Sn	00 27 40.7	+4.8
GUN	**Gumba**	**2.58**	**288**	*e*Pn	Pn	00 27 16.0	+2.1
GUN				*e*Sn	Sn	00 27 48.9	+4.9
12μm,0.4s							
GUN	**Gumba**	**2.58**	**288**	*e*Pn	Pn	00 27 16.0	+2.1
GUN				*e*Sn	Sn	00 27 48.9	+4.9
PKI	**Pulchoki**	**2.91**	**279**	*e*Pn	Pn	00 27 20.3	+1.7
PKI	**Pulchoki**	**2.91**	**279**	*e*Pn	Pn	00 27 20.3	+1.7
PKI	**Pulchoki**	**2.91**	**279**	*e*P	Pn	00 27 20.3	+1.7
KKN	**Kakani**	**3.06**	**283**	*e*Pn	Pn	00 27 22.3	+1.7
KKN				*e*Sn	Sn	00 27 59.7	+3.7
6μm,0.4s							
KKN	**Kakani**	**3.06**	**283**	*e*Pn	Pn	00 27 22.3	+1.7
KKN				*e*Sn	Sn	00 27 59.7	+3.7
KKN	**Kakani**	**3.06**	**283**	*e*P	Pn	00 27 22.3	+1.7
KKN				*e*		00 27 59.7	
DMN	**Daman**	**3.19**	**279**	*e*Pn	Pn	00 27 23.8	+1.5
DMN				*e*Sn	Sn	00 28 02.9	+3.8
8μm,0.7s							
DMN	**Daman**	**3.19**	**279**	*e*Pn	Pn	00 27 23.8	+1.5
DMN				*e*Sn	Sn	00 28 02.9	+3.8
SHL	**Shillong**	**3.30**	**118**	*e*PKP	Pn	00 27 24.1	+0.2
LSA	**Lhasa**	**3.36**	**40**	Pg	Pn	00 27 26.8	+2.1
LSA				Sg	Sn	00 28 10.9	+7.6
LSA				smax			
comp=N,640nm,1.0s							
LSA				smax			
comp=E,1μm,1.0s							
LSA	**Lhasa**	**3.36**	**40**	*e*Pn	Pn	00 27 26.1	+1.4
LSA				*e*Sn	Sn	00 28 07.7	+4.4
LSA	**Lhasa**	**3.36**	**40**	*e*P	Pn	00 27 26.1	+1.4
LSA				*e*		00 28 07.7	
GKN	**Gorkha**	**3.66**	**284**	*e*Pn	Pn	00 27 30.5	+1.6
GKN				*e*Sn	Sn	00 28 13.6	+2.8
comp=E,6μm,0.5s							
GKN	**Gorkha**	**3.66**	**284**	*e*Pn	Pn	00 27 30.5	+1.6
GKN				*e*Sn	Sn	00 28 13.6	+2.8
BOK	**Bokaro**	**4.18**	**217**	*e*PKP	Pn	00 27 36.6	+0.7
BOK				*ex*	x	00 28 44.0	
DANN	**Dangsing**	**4.50**	**286**	*e*Pn	Pn	00 27 40.5	+0.2
DANN				*e*Sn	Sn	00 28 32.3	+0.9
comp=E,2μm,0.4s							
DANN	**Dangsing**	**4.50**	**286**	*e*Pn	Pn	00 27 40.5	+0.2
DANN				*e*Sn	Sn	00 28 32.3	+0.9
KOLN	**Koldanda**	**4.53**	**279**	*e*Pn	Pn	00 27 41.5	+0.7
KOLN				*e*Sn	Sn	00 28 34.4	+2.2
comp=E,3μm,0.4s							
KOLN	**Koldanda**	**4.53**	**279**	*e*Pn	Pn	00 27 41.5	+0.7
KOLN				*e*Sn	Sn	00 28 34.4	+2.2
CAL	**Calcutta**	**4.60**	**184**	*e*PKP	Pn	00 27 42.4	+0.6
CAL				*e*S	Sn	00 28 30.0	-4.0
CAL				*ex*	x	00 28 55.6	
PYUN	**Piuthan**	**5.11**	**282**	*e*Sn	Sn	00 28 47.6	+1.1
comp=E,6μm,0.8s							
PYUN	**Piuthan**	**5.11**	**282**	*e*Sn	Sn	00 28 47.6	+1.1
IMP	**Imphal**	**5.31**	**115**	*e*PKP	Pn	00 27 54.0	+2.5
IMP				*ex*	x	00 28 55.0	
ALBI	**Allahabad**	**6.41**	**255**	*ex*	Pn	00 28 05.5	-1.2
BWNR	**Bhubaneshwar**	**7.31**	**201**	*ex*	Pn	00 28 18.0	-1.0
BWNR				*ex*	x	00 31 16.0	
PTH	**Pithoragarh**	**7.81**	**290**	*e*PKP	Pn	00 28 26.1	+0.3
PTH				*ex*	x	00 29 52.3	
JBP	**Jabalpur**	**8.80**	**245**	*e*PKP	Pn	00 28 39.9	+0.5
JBP				*ex*	x	00 30 16.3	
AGRA	**Agra**	**9.54**	**273**	*e*PKP	Pn	00 28 48.3	-1.2
AGRA				*ex*	x	00 31 33.5	
DDI	**Dehra Dun**	**9.82**	**291**	*e*PKP	Pn	00 28 53.1	-0.3
DDI				*ex*	x	00 30 39.8	
NDI	**New Delhi**	**10.23**	**281**	*ex*	Pn	00 28 56.3	-2.7
NDI				*e*S	Sn	00 30 44.9	-7.5
NDI				AML	AML	00 30 47.8	
comp=N,123nm,0.4s							
NDI				AML	AML	00 30 49.1	
comp=E,252nm,0.5s							
AYAN	**Aya Nagar**	**10.29**	**280**	*e*PKP	Pn	00 28 58.4	-1.4
SONA	**Sohna**	**10.31**	**279**	*e*PKP	Pn	00 28 58.5	-1.6
SONA				*e*S	Sn	00 30 45.4	-9.0
SONA				AML	AML	00 32 15.8	
comp=E,121nm,0.5s							
SONA				AML	AML	00 32 16.5	
comp=N,137nm,0.7s							
NGP	**Nagpur**	**10.61**	**238**	*ex*	Pn	00 29 00.2	-4.0
NGP				*ex*	x	00 30 54.7	
SMLA	**Simla**	**10.79**	**294**	*i* P	Pn	00 29 06.2	-0.5
SMLA				*i* x	x	00 30 59.8	
SMLA				⇓AML	AML	00 31 05.9	
comp=E,2μm,0.4s							
SMLA				⇓AML	AML	00 31 06.4	
comp=N,2μm,0.4s							
BHPL	**Bhopal**	**10.89**	**251**	*ex*	Pn	00 29 06.3	-1.7
BHPL				*e*S	Sn	00 30 59.8	-8.8
SDNR	**Sundarnagar**	**11.07**	**296**	*e*PKP	Pn	00 29 10.0	-0.5
SDNR				*ex*	x	00 31 07.0	
BHK	**Bhakra**	**11.49**	**295**	*ex*	Sn	00 31 22.0	-1.3
THN	**Thein Dam**	**12.40**	**298**	*e*PKP	Pn	00 29 32.7	+4.0
THN				*e*S	Sn	00 31 42.6	-2.9
AKL	**Akola**	**12.43**	**241**	⇓*i*P	Pn	00 29 28.4	-0.7
AKL				*i* x	x	00 31 39.4	
AJM	**Ajmer**	**12.53**	**270**	*ex*	Pn	00 29 27.0	-3.5
AJM				*ex*	x	00 31 39.0	
CMAR	**Chiang Mai Arr**	**12.84**	**130**	Pn	Pn	00 29 36.1	+1.4
comp=N,0.5nm,0.3s,baz=308,slow=14,SNR=4.9							
CMAR	**Chiang Mai Arr**	**12.84**	**130**	Pn	Pn	00 29 36.1	+1.4
CMAR	**Chiang Mai Arr**	**12.84**	**130**	P	Pn	00 29 36.1	+1.4
HYB	**Hyderabad**	**13.46**	**226**	*i* P	Pn	00 29 40.0	-3.1
HYB				*e*S	Sn	00 32 15.0	+3.6
LATR	**Latur**	**14.13**	**235**	*e*PKP	Pn	00 29 52.0	-0.4
LATR				*ex*	x	00 32 22.0	
GTA	**Gaotai**	**15.36**	**34**	*e*P	Pn	00 30 08.5	-0.1
GTA				pP	pP	00 30 12.1	-10
GTA				sP	sP	00 30 14.6	-13
GTA				pmax	pmax		
comp=Z,5.0nm,1.5s							
THW	**Thamme Wali**	**15.69**	**295**	P	Pn	00 30 06.9	-6.0
LZH	**Lanzhou**	**15.69**	**52**	*e*P	Pn	00 30 08.6	-4.3
LZH				pP	pP	00 30 15.0	-11
LZH				sP	sP	00 30 18.5	-13
LZH				pmax	pmax		
comp=Z,21nm,1.1s							
LZH				pmax	pmax		
comp=Z,230nm,7.0s							
CEP	**Cherat**	**15.88**	**299**	P	Pn	00 30 11.9	-3.5
CEP				S	S	00 33 02.0	-21
GYA	**Guiyang**	**16.10**	**88**	P	Pn	00 30 18.8	+0.6
GYA				pP	pP	00 30 27.0	-3.8
GYA				PP		00 30 33.4	
GYA				S	S	00 33 18.3	-10
GYA				pmax	pmax		
comp=Z,10.0nm,0.7s							
POO	**Poona**	**16.11**	**241**	*ex*	Pn	00 30 15.9	-2.4
KAD	**Karad**	**16.58**	**237**	*ex*	Pn	00 30 21.8	-2.6
KAD				*ex*	x	00 33 18.5	
GOA	**Goa**	**18.02**	**233**	⇓*ex*	x	00 33 50.7	
GOA				*i* x	x	00 35 51.1	
KBL	**Kabul**	**18.36**	**298**	*e*Pn	Pn	00 30 44.0	-2.2
KBL				*e*Sn	Sn	00 34 10.4	0.0
KBL	**Kabul**	**18.36**	**298**	*e*P	Pn	00 30 44.0	-2.3
KBL				*e*		00 34 10.4	
ENH	**Enshi**	**18.54**	**75**	*e*P	Pn	00 30 47.7	-0.8
comp=Z,25nm,0.7s							
ENH				*e*S	S	00 34 15.0	-2.4
XAN	**Xi'an**	**18.73**	**64**	P	Pn	00 30 46.8	-4.0
XAN				pmax	pmax		
comp=Z,3.0nm,1.1s							
XAN				pmax	pmax		
comp=Z,55nm,6.8s							
XAN				LR	LR		
comp=N,260nm,24.2s							
XAN				LR	LR		
comp=E,220nm,22.5s							
XAN				LR	LR		
comp=Z,210nm,28.5s							
TKM2	**Tokmak 2**	**18.98**	**329**	*e*P	Pn	00 30 53.8	+0.1
comp=Z,8.2nm,0.8s							
TKM2	**Tokmak 2**	**18.98**	**329**	*e*P	Pn	00 30 53.8	+0.1
TKM2				pmax	pmax		
comp=Z,8.0nm,0.8s							
AAK	**Ala-Archa**	**19.28**	**327**	*e*P	Pn	00 30 57.3	+0.1
comp=Z,47nm,0.9s							
AAK	**Ala-Archa**	**19.28**	**327**	*e*P	Pn	00 30 55.9	-1.4
AAK				pmax	pmax		
comp=Z,16nm,1.0s							
EKS2	**Erkin-Say**	**19.66**	**326**	*e*P	Pn	00 31 00.7	-1.1
comp=Z,13nm,0.8s							
EKS2	**Erkin-Say**	**19.66**	**326**	*e*P	Pn	00 31 00.7	-1.0
EKS2				pmax	pmax		
comp=Z,13nm,0.8s							
MK31	**Makanchi Array**	**20.24**	**347**	*e*P	P	00 31 05.7	-0.7
MK31	**Makanchi Array**	**20.24**	**347**	P	P	00 31 06.1	-0.3
MK31				pmax	pmax		
comp=Z,13nm,0.7s							
MKAR	**Makanchi Array**	**20.24**	**347**	P	P	00 31 06.5	+0.1
comp=Z,2.6nm,0.6s,baz=166,slow=9.6,SNR=24							
MKAR				LR	LR	00 40 18.0	
comp=Z,200nm,18.2s,MS3.5,baz=291,slow=41							
MKAR	**Makanchi Array**	**20.24**	**347**	*e*P	P	00 31 07.1	+0.7
MKAR	**Makanchi Array**	**20.24**	**347**	*e*P	P	00 31 07.1	+0.7
KK31	**Karatay Array**	**21.68**	**322**	*i* P	P	00 31 21.5	-0.5
KK31				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.1							
KKAR	**Karatay Array**	**21.68**	**322**	*e*P	P	00 31 22.2	+0.1
KKAR	**Karatay Array**	**21.68**	**322**	*e*P	P	00 31 22.2	+0.2
WHN	**Wuhan**	**22.75**	**75**	⇓P	P	00 31 32.5	-1.0
KURK	**Kurchatov**	**24.74**	**345**	P	P	00 31 51.6	-0.7
comp=Z,8.7nm,0.6s,mb4.5,baz=167,slow=8.7,SNR=65							
KURK				LR	LR	00 42 01.1	
comp=Z,85nm,18.8s,MS3.3,baz=145,slow=38							
KURK	**Kurchatov**	**24.74**	**345**	*e*P	P	00 31 51.4	-0.9
comp=Z,14nm,0.9s,mb4.5							
KURK	**Kurchatov**	**24.74**	**345**	*d* iP	P	00 31 52.3	0.0
KURK				pmax	pmax		
comp=Z,17nm,1.0s,mb4.5							
SONM	**Songino Array**	**24.88**	**29**	P	P	00 31 53.7	+0.1
comp=Z,4.4nm,0.8s,mb4.0,baz=217,slow=8.9,SNR=23							
SONM				ScP	ScP	00 39 07.6	+3.1
comp=Z,0.7nm,0.7s,baz=226,slow=3.0,SNR=4.6							
SONM				LR	LR	00 42 45.2	
comp=Z,407nm,20.2s,MS3.9,baz=258,slow=39							
SONM	**Songino Array**	**24.88**	**29**	P	P	00 31 53.7	+0.1
SONM				ScP	ScP	00 39 07.6	+3.1
SONM	**Songino Array**	**24.88**	**29**	P	P	00 31 53.7	+0.2
ULN	**Ulaanbaatar**	**25.19**	**30**	*e*P	P	00 31 55.9	-0.5
comp=Z,26nm,1.0s,mb4.7							
ULN	**Ulaanbaatar**	**25.19**	**30**	*e*P	P	00 31 55.9	-0.5
ULN				pmax	pmax		
comp=Z,26nm,1.0s,mb4.7							
ZAK	**Zakamensk**	**25.75**	**22**	*e*P	P	00 32 01.4	-0.1
ZAK				*e*	pP	00 32 08.9	-3.4
ZAK				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.1							
ZAA0	**Zalesovo Array**	**26.92**	**355**	*e*P	P	00 32 10.9	-1.0
ZALV	**Zalesovo Beam**	**26.92**	**355**	P	P	00 32 11.6	-0.4
comp=Z,3.8nm,0.6s,mb4.1,baz=177,slow=8.5,SNR=14							
ZALV				LR	LR	00 44 15.0	
comp=Z,170nm,19.9s,MS3.6,baz=239,slow=40							
ZALV	**Zalesovo Beam**	**26.92**	**355**	P	P	00 32 11.6	-0.4
ZALV	**Zalesovo Beam**	**26.92**	**355**	P	P	00 32 11.6	-0.3
NVS	**Novosibirsk**	**27.94**	**353**	*e*P	P	00 32 20.8	-0.3
BVAR	**Borovoye Array**	**29.20**	**337**	P	P	00 32 32.4	0.0
comp=Z,0.8nm,0.5s,mb3.7,baz=144,slow=9.2,SNR=4.0							
BVAR	**Borovoye Array**	**29.20**	**337**	P	P	00 32 32.4	0.0
BVAR	**Borovoye Array**	**29.20**	**337**	P	P	00 32 32.4	0.0
AB31	**Akbulak array**	**31.24**	**323**	*i* P	P	00 32 50.1	-0.3
AB31				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.1							
ABKAR	**Akbulak array**	**31.24**	**323**	*e*P	P	00 32 49.0	-1.5
comp=Z,2.1nm,0.5s,mb4.2							
SNY	**Shenyang**	**32.05**	**54**	⇓P	P	00 33 03.6	+6.0
SNY				pmax	pmax		
comp=Z,13nm,0.8s,mb4.8							
SNY				LR	LR		
comp=N,260nm,16.8s,MS4.2							
SNY				LR	LR		
comp=E,250nm,12.9s,MS4.2							
SNY				LR	LR		
comp=Z,210nm,16.2s,MS3.9							
**AK

AKASG	Malin Array Be	50.32 315	P	P	00 35 26.7	-0.7
AKASG	Malin Array Be	50.32 315	*e*P	P	00 35 27.2	-0.1
AKASG			pmax	pmax		
	comp=Z,6.0nm,0.7s					
KIEV	Kiev	50.33 315	*e*P	P	00 35 26.5	-1.0
	comp=Z,7.9nm,0.8s,mb4.8					
KIEV	Kiev	50.33 315	↑ *i*P	P	00 35 27.2	-0.2
JOF	Joensuu	51.41 330	*e*P	P	00 35 34.6	-0.8
JOF			pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0					
JOF	Joensuu	51.41 330	*e*p	P	00 35 34.6	-0.8
	comp=Z,12nm,0.6s,mb5.0					
MLR	Muntele Rosu	52.41 308	P	P	00 35 44.5	+1.4
	comp=Z,6.6nm,0.9s,mb4.6,baz=102,slow=0.9,SNR=26					
MLR	Muntele Rosu	52.41 308	P	P	00 35 44.5	+1.4
MLR	Muntele Rosu	52.41 308	P	P	00 35 44.5	+1.4
IIGN	Ignalina	52.54 320	*e*P	P	00 35 43.9	-0.1
IIGN			AMB	AMB	00 35 44.5	
	comp=Z,8.5nm,0.9s,mb4.7					
IZAR	Zarasai	52.57 321	*e*P	P	00 35 44.0	-0.1
IZAR			AMB	AMB	00 35 45.6	
	comp=Z,4.7nm,0.9s,mb4.4					
ISAL	Salakas	52.62 321	*e*P	P	00 35 44.4	-0.1
ISAL			AMB	AMB	00 35 47.1	
	comp=Z,11nm,1.3s,mb4.6					
BUR08	Bucovina Ar. S	52.86 311	*e*P	P	00 35 46.3	-0.1
FINES	FINESS Array B	53.47 328	P	P	00 35 51.0	+0.4
	comp=Z,12nm,0.6s,mb5.0,baz=103,slow=8.3,SNR=112					
FINES	FINESS Array B	53.47 328	P	P	00 35 51.0	+0.4
FINES	FINESS Array B	53.47 328	P	P	00 35 51.0	+0.4
SUW	Suwalki	54.21 319	*e*P	P	00 35 56.2	0.0
	comp=Z,17nm,0.8s,mb5.0					
SUW	Suwalki	54.21 319	*e*P	P	00 35 56.2	0.0
SUW			pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0					
KEV	Kevo	55.05 338	*e*P	P	00 36 01.3	-0.7
KEV			pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8					
KEV	Kevo	55.05 338	*e*p	P	00 36 01.3	-0.7
	comp=Z,5.7nm,0.6s,mb4.8					
ARCES	ARCESS Array B	55.49 338	P	P	00 36 06.0	+0.7
	comp=Z,5.4nm,0.7s,mb4.7,baz=99,slow=7.5,SNR=18					
ARCES	ARCESS Array B	55.49 338	P	P	00 36 06.0	+0.7
ARCES	ARCESS Array B	55.49 338	P	P	00 36 06.0	+0.8
KECS	Kecovo	55.99 312	*e*P	P	00 36 09.7	+0.6
KECS			*e*	pP	00 36 20.7	+0.1
KECS	Kecovo	55.99 312	*e*P	P	00 36 09.7	+0.6
KECS			*e*pP	pP	00 36 20.7	+0.1
NIE	Niedzica	56.04 313	*e*P	P	00 36 11.0	+1.5
NIE	Niedzica	56.04 313	*e*P	P	00 36 11.0	+1.5
OJC	Ojcow	56.33 314	*e*P	P	00 36 12.1	+0.6
OJC	Ojcow	56.33 314	*e*P	P	00 36 12.3	+0.8
	comp=Z,45nm,2.1s,mb5.1					
OJC	Ojcow	56.33 314	*e*P	P	00 36 12.3	+0.8
OJC			pmax	pmax		
	comp=Z,45nm,2.1s,mb5.1					
VYHS	Vyhne	57.08 312	*e*P	P	00 36 17.6	+0.7
VYHS			*e*	pP	00 36 26.2	-2.2
VYHS			*e*SP		00 36 35.9	
VYHS	Vyhne	57.08 312	*e*P	P	00 36 17.6	+0.7
VYHS			*e*pP	pP	00 36 26.2	-2.2
VYHS			*e*sP	sP	00 36 35.9	+2.9
OKC	Ostrava-Krasne	57.42 314	*e*P	P	00 36 20.1	+0.8
OKC	Ostrava-Krasne	57.42 314	*e*P	P	00 36 20.1	+0.8
MORC	Moravsky Berou	57.82 314	*e*P	P	00 36 22.7	+0.6
	comp=Z,4.2nm,0.8s,mb4.5					
MORC	Moravsky Berou	57.82 314	*e*P	P	00 36 22.7	+0.7
MORC			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5					
VRAC	Vranov	58.48 313	P	P	00 36 27.1	+0.4
	comp=Z,5.1nm,0.7s,mb4.7,baz=94,slow=6.8,SNR=17					
VRAC	Vranov	58.48 313	P	P	00 36 27.1	+0.4
VRAC	Vranov	58.48 313	P	P	00 36 27.1	+0.4
DPC	Dobruska-Polom	58.55 314	*e*P	P	00 36 27.9	+0.8
DPC	Dobruska-Polom	58.55 314	*e*P	P	00 36 27.9	+0.8
STEI	Steigen	58.91 335	*e*pP	pP	00 36 43.1	+2.2
TREC	Trest	59.20 313	*e*P	P	00 36 32.3	+0.6
TREC	Trest	59.20 313	*e*P	P	00 36 32.3	+0.6
HFS	Hagfors	59.42 326	P	P	00 36 33.2	+0.1
	comp=Z,16nm,0.6s,mb5.2,baz=99,slow=6.6,SNR=62					
HFS	Hagfors	59.42 326	P	P	00 36 33.2	+0.1
HFS	Hagfors	59.42 326	P	P	00 36 33.2	+0.2
FLOS	Flostrand	59.56 333	*e*P	P	00 36 34.0	+0.2
LOF	Lofoten	59.56 335	*e*P	P	00 36 17.4	-16
KONS	Konsvik	59.66 333	*e*P	P	00 36 34.9	+0.3
STOK	Stokkvaagen	59.70 333	*e*P	P	00 36 35.4	+0.6
PRU	Pruhonice	59.72 314	*e*P	P	00 36 36.0	+0.7
PRU	Pruhonice	59.72 314	*e*P	P	00 36 36.0	+0.7
SPA0	Spitsbergen Ar	59.99 347	*e*P	P	00 36 37.9	+1.2
SPITS	Spitsbergen Ar	59.99 347	P	P	00 36 37.7	+1.0
	comp=Z,12nm,1.0s,mb4.9,baz=93,slow=13,SNR=6.6					
SPITS	Spitsbergen Ar	59.99 347	P	P	00 36 37.7	+1.0
SPITS	Spitsbergen Ar	59.99 347	P	P	00 36 37.7	+1.0
NSS	Namsos	60.13 331	*e*P	P	00 36 37.1	-0.7
GERES	GERESS Array B	60.42 313	P	P	00 36 40.5	+0.5
	comp=Z,3.5nm,1.0s,mb4.3,baz=85,slow=5.3,SNR=13					
GERES	GERESS Array B	60.42 313	P	P	00 36 40.5	+0.5
GERES	GERESS Array B	60.42 313	P	P	00 36 40.5	+0.4
KHC	Kasperske Hory	60.46 313	*e*P	P	00 36 41.1	+0.7
KHC	Kasperske Hory	60.46 313	*e*P	P	00 36 41.1	+0.7
NC602	NORSAR Array S	60.46 327	*e*P	P	00 36 40.0	-0.1
BILL	Bilibino	60.50 25	‖ *i*P	P	00 36 40.6	+0.3
BILL			pmax	pmax		
	comp=Z,9.0nm,2.5s,mb4.4					
BILL			MLR	MLR		
	comp=Z,2μm,18.0s,MS5.3					
NB2	NORSAR Subarra	60.60 327	P	P	00 36 40.6	-0.5
	comp=Z,8.4nm,0.6s,mb5.0,baz=86,slow=6.9					
NOA	NORSAR Array B	60.60 327	P	P	00 36 40.9	-0.2
	comp=Z,8.1nm,0.6s,mb5.0,baz=86,slow=6.8,SNR=44					
NOA	NORSAR Array B	60.60 327	P	P	00 36 40.9	-0.2
NOA	NORSAR Array B	60.60 327	P	P	00 36 40.9	-0.2
OPO	Ambohidratompo	60.68 226	P	P	00 36 43.9	+1.7
	comp=Z,2.1nm,0.9s,mb4.3,baz=14,slow=4.2,SNR=7.0					
OPO	Ambohidratompo	60.68 226	P	P	00 36 43.9	+1.7
NAO01	NORSAR Array S	60.77 327	*e*P	P	00 36 42.0	-0.3
	comp=Z,3.5nm,0.6s,mb4.7					
WRA	Warramunga Arr	64.43 132	P	P	00 37 08.3	+1.1
	comp=Z,4.9nm,0.8s,mb4.6,baz=323,slow=6.7,SNR=59					
WRA	Warramunga Arr	64.43 132	P	P	00 37 08.3	+1.1
WRA	Warramunga Arr	64.43 132	P	P	00 37 08.3	+1.1
WRAB	Tennant Creek	64.43 132	*e*P	P	00 37 08.0	+0.8
	comp=Z,7.9nm,1.0s,mb4.7					
WRAB			*e*	pP	00 37 17.9	-1.0
WRAB	Tennant Creek	64.43 132	*e*P	P	00 37 08.0	+0.8
WRAB			*e*	pP	00 37 17.9	-1.0
WRAB			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7					
PGF	Pioggiola	64.91 307	*e*P	P	00 37 09.5	-0.6
	comp=Z,22nm,1.0s,mb4.8					
PGF	Pioggiola	64.91 307	*e*P	P	00 37 09.5	-0.6
	comp=Z,22nm,1.0s,mb5.2					
PGF	Pioggiola	64.91 307	*e*P	P	00 37 09.5	-0.6
PGF			pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2					
HINF	Hinteralfeld	65.10 313	*e*P	P	00 37 11.1	-0.2
HINF	Hinteralfeld	65.10 313	*e*P	P	00 37 11.1	-0.2
HINF	Hinteralfeld	65.10 313	*e*P	P	00 37 11.1	-0.2
HAU	Haudompre	65.39 313	*e*P	P	00 37 12.9	-0.2
HAU	Haudompre	65.39 313	*e*P	P	00 37 12.9	-0.2
HAU	Haudompre	65.39 313	*e*P	P	00 37 12.9	-0.2
PAGF	Fort de Pagny	65.66 314	*e*P	P	00 37 14.8	-0.1
PAGF	Fort de Pagny	65.66 314	*e*P	P	00 37 14.8	-0.1
SBF	Sospel	65.68 308	*e*P	P	00 37 14.7	-0.4
	comp=Z,24nm,0.8s,mb5.0					
SBF	Sospel	65.68 308	*e*P	P	00 37 14.7	-0.4
	comp=Z,24nm,0.8s,mb5.3					
SBF	Sospel	65.68 308	*e*P	P	00 37 14.7	-0.4
SBF			pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3					
LPG	La Plagne	65.73 310	*e*P	P	00 37 15.8	+0.4
	comp=Z,20nm,1.1s,mb4.8					
LPG	La Plagne	65.73 310	*e*P	P	00 37 15.8	+0.4
	comp=Z,20nm,1.1s,mb5.1					
LPG	La Plagne	65.73 310	*e*P	P	00 37 15.8	+0.4
LPG			pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1					
LPL	La Plagne	65.74 310	*e*P	P	00 37 15.8	+0.3
	comp=Z,12nm,0.8s,mb4.6					
LPL	La Plagne	65.74 310	*e*P	P	00 37 15.8	+0.3
	comp=Z,12nm,0.8s,mb5.0					
LPL	La Plagne	65.74 310	*e*P	P	00 37 15.8	+0.3
LPL			pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0					
MBDF	Montbardon	65.92 309	*e*P	P	00 37 15.8	-0.8
	comp=Z,7.3nm,0.7s,mb4.5					
MBDF	Montbardon	65.92 309	*e*P	P	00 37 15.8	-0.8
	comp=Z,7.3nm,0.7s,mb4.8					
MBDF	Montbardon	65.92 309	*e*P	P	00 37 15.8	-0.8
MBDF			pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8					
MEZF	Maizieres J'vi	66.11 314	*e*P	P	00 37 17.6	-0.1
MEZF	Maizieres J'vi	66.11 314	*e*P	P	00 37 17.6	-0.1
SFTF	Sexfontaines	66.19 313	*e*P	P	00 37 17.8	-0.5
SFTF	Sexfontaines	66.19 313	*e*P	P	00 37 17.8	-0.5
FRF	La Foret Royal	66.31 308	*e*P	P	00 37 18.7	-0.4
	comp=Z,16nm,0.9s,mb4.8					
FRF	La Foret Royal	66.31 308	*e*P	P	00 37 18.7	-0.4
	comp=Z,16nm,0.9s,mb5.0					
FRF	La Foret Royal	66.31 308	*e*P	P	00 37 18.7	-0.4
FRF			pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0					
LMR	La Mourre	66.47 308	*e*P	P	00 37 19.8	-0.4
	comp=Z,5.7nm,0.7s,mb4.4					
LMR	La Mourre	66.47 308	*e*P	P	00 37 19.8	-0.4
	comp=Z,5.7nm,0.7s,mb4.7					
LMR	La Mourre	66.47 308	*e*P	P	00 37 19.8	-0.4
LMR			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7					
ORIF	Oris-en-Rattie	66.48 310	*e*P	P	00 37 19.5	-0.7
	comp=Z,16nm,1.1s,mb4.7					
ORIF	Oris-en-Rattie	66.48 310	*e*P	P	00 37 19.5	-0.7
	comp=Z,16nm,1.1s,mb5.0					
ORIF	Oris-en-Rattie	66.48 310	*e*P	P	00 37 19.5	-0.7
ORIF			pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0					
KEST	Kesra	66.52 299	P	P	00 37 21.5	+0.8
	comp=Z,2.6nm,0.9s,mb4.2,baz=39,slow=6.5,SNR=7.8					
KEST	Kesra	66.52 299	*e*P	P	00 37 21.3	+0.7
KEST			*e*		00 37 29.2	
AS31	Alice Springs	66.80 135	*e*P	P	00 37 23.7	+1.3
SMRF	Simiane la Rot	66.94 309	*e*P	P	00 37 23.4	+0.2
SMRF	Simiane la Rot	66.94 309	*e*P	P	00 37 23.4	+0.2
LOR	Lormes	67.20 313	*e*P	P	00 37 25.1	+0.3
LOR	Lormes	67.20 313	*e*P	P	00 37 25.1	+0.3
LOR	Lormes	67.20 313	*e*P	P	00 37 25.1	+0.3
VIVF	Saint-Julien-l	67.32 310	*e*P	P	00 37 25.4	-0.2
	comp=Z,7.2nm,0.9s,mb4.4					
VIVF	Saint-Julien-l	67.32 310	*e*P	P	00 37 25.4	-0.2
	comp=Z,7.2nm,0.9s,mb4.7					
VIVF	Saint-Julien-l	67.32 310	*e*P	P	00 37 25.4	-0.2
VIVF			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7					
SSF	Saint Saulge	67.49 312	*e*P	P	00 37 26.1	-0.5
	comp=Z,8.3nm,0.9s,mb4.4					
SSF	Saint Saulge	67.49 312	*e*P	P	00 37 26.1	-0.5
	comp=Z,8.3nm,0.9s,mb4.8					
SSF	Saint Saulge	67.49 312	*e*P	P	00 37 26.1	-0.5
SSF			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8					
LASF	Ste Croix	68.10 309	*e*P	P	00 37 30.5	0.0
	comp=Z,41nm,1.3s,mb5.0					
LASF	Ste Croix	68.10 309	*e*P	P	00 37 30.5	0.0
	comp=Z,41nm,1.3s,mb5.3					
TCF	Toulx Ste Croi	68.57 312	*e*P	P	00 37 33.4	0.0
	comp=Z,16nm,1.1s,mb4.5					
TCF	Toulx Ste Croi	68.57 312	*e*P	P	00 37 33.4	0.0
	comp=Z,16nm,1.1s,mb4.8					
TCF	Toulx Ste Croi	68.57 312	*e*P	P	00 37 33.4	0.0
TCF			pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9					
CAF	Calviac	69.07 311	*e*P	P	00 37 36.7	+0.1
	comp=Z,14nm,1.1s,mb4.5					
CAF	Calviac	69.07 311	*e*P	P	00 37 36.7	+0.1
	comp=Z,14nm,1.1s,mb4.8					
CAF	Calviac	69.07 311	*e*P	P	00 37 36.7	+0.1
CAF			pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8					
RJF	Les Rejaudoux	69.33 311	*e*P	P	00 37 38.4	+0.3
RJF	Les Rejaudoux	69.33 311	*e*P	P	00 37 38.4	+0.3
RJF	Les Rejaudoux	69.33 311	*e*P	P	00 37 38.4	+0.3
LDF	La Druitiere	69.38 315	*e*P	P	00 37 37.2	-1.2
LDF	La Druitiere	69.38 315	*e*P	P	00 37 37.2	-1.2
LDF	La Druitiere	69.38 315	*e*P	P	00 37 37.2	-1.2
MTLF	Montolieu	69.46 309	*e*P	P	00 37 38.8	-0.2
	comp=Z,8.8nm,1.0s,mb4.3					
MTLF	Montolieu	69.46 309	*e*P	P	00 37 38.8	-0.2
	comp=Z,8.8nm,1.0s,mb4.6					
MTLF	Montolieu	69.46 309	*e*P	P	00 37 38.8	-0.2
MTLF			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7					
LFF	La Frestale	69.96 311	*e*P	P	00 37 42.3	+0.3
LFF	La Frestale	69.96 311	*e*P	P	00 37 42.3	+0.3
LFF	La Frestale	69.96 311	*e*P	P	00 37 42.3	+0.3
ETSF	Etsaut	71.53 309	*e*P	P	00 37 51.7	+0.1
	comp=Z,9.1nm,0.7s,mb4.5					
ETSF	Etsaut	71.53 309	*e*P	P	00 37 51.7	+0.1
	comp=Z,9.1nm,0.7s,mb4.8					
ETSF	Etsaut	71.53 309	*e*P	P	00 37 51.7	+0.1
ETSF			pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8					
SJPF	Ste Jean	71.91 310	*e*P	P	00 37 53.8	-0.1
	comp=Z,27nm,1.3s,mb4.7					
SJPF	Ste Jean	71.91 310	*e*P	P	00 37 53.8	-0.1
	comp=Z,27nm,1.3s,mb5.0					
SJPF	Ste Jean	71.91 310	*e*P	P	00 37 53.8	-0.1
SJPF			pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0					
CTA	Charters Tower	72.92 124	P	P	00 38 01.4	+1.3
	comp=Z,2.5nm,0.9s,mb4.2,baz=320,slow=7.9,SNR=3.0					
CTA	Charters Tower	72.92 124	P	P	00 38 01.4	+1.3
CTA	Charters Tower	72.92 124	P	P	00 38 01.4	+1.3
ESDC	Sonseca Array	75.09 307	P	P	00 38 13.2	+0.5
	comp=Z,3.1nm,0.7s,mb4.3,baz=59,slow=5.9,SNR=25					
ESDC	Sonseca Array	75.09 307	P	P	00 38 13.2	+0.5
COLD	Coldfoot	76.19 20	*e*P	P	00 38 18.4	0.0
	comp=Z,5.8nm,1.0s,mb4.5					
STKA	Stephens Creek	77.39 136	P	P	00 38 26.1	+0.4
	comp=Z,2.2nm,0.8s,mb4.1,baz=310,slow=6.1,SNR=4.9					
STKA	Stephens Creek	77.39 136	P	P	00 38 26.1	+0.4
STKA	Stephens Creek	77.39 136	P	P	00 38 26.1	+0.4
PPLA	Purkeypile	78.19 24	*e*P	P	00 38 30.6	+0.9
EVO	Evora	78.43 307	*e*P	P	00 38 32.2	+0.7
	comp=Z,6.8nm,0.8s,mb4.3					
EVOP	Sao Brissos	78.51 307	*e*P	P	00 38 32.2	+0.2
	comp=Z,6.8nm,0.8s,mb4.6					
EVOP	Sao Brissos	78.51 307	*e*P	P	00 38 32.2	+0.2
EVOP			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6					
ILAR	Eielson Array	78.81 21	P	P	00 38 33.1	+0.1
	comp=Z,0.8nm,0.9s,mb3.7,baz=309,slow=4.9,SNR=9.2					
ILAR	Eielson Array	78.81 21	P	P	00 38 33.1	+0.1
ILAR	Eielson Array	78.81 21	P	P	00 38 33.2	+0.1
INK	Inuvik	79.87 15	P	P	00 38 38.4	-0.4
	comp=Z,2.8nm,0.9s,mb4.2,baz=327,slow=7.5,SNR=8.0					
INK	Inuvik	79.87 15	P	P	00 38 38.4	-0.4
INK	Inuvik	79.87 15	P	P	00 38 38.4	-0.4
TORD	Torodi Ar. Bea	81.45 280	P	P	00 38 48.4	+0.2
	comp=Z,1.7nm,0.6s,mb4.2,baz=60,slow=4.5,SNR=28					
TORD	Torodi Ar. Bea	81.45 280	P	P	00 38 48.4	+0.2
SUR	Sutherland	87.57 232	LR	LR	01 18 15.2	
	comp=Z,389nm,21.5s,MS4.8,baz=164,slow=35					
YKA	Yellowknife Ar	88.74 11	P	P	00 39 24.1	+0.3
	comp=Z,0.6nm,0.6s,mb4.1,baz=331,slow=4.6,SNR=12					
YKA	Yellowknife Ar	88.74 11	P	P	00 39 24.1	+0.3
YKA	Yellowknife Ar	88.74 11	P	P	00 39 24.2	+0.3
DBIC	Dimbokro	90.10 277	P	P	00 39 31.2	0.0
	comp=Z,3.0nm,0.8s,mb4.7,baz=67,slow=6.9,SNR=8.0					
DBIC	Dimbokro	90.10 277	P	P	00 39 31.2	0.0
DBIC	Dimbokro	90.10 277	P	P	00 39 31.2	0.0
TXAR	Lajitas Array	122.61 13	PKP	PKPdf	00 45 26.9	+0.3
	comp=Z,0.3nm,0.8s,baz=3.8,slow=3.8,SNR=3.5					
TXAR	Lajitas Array	122.61 13	PKP	PKPdf	00 45 26.9	+0.3
TXAR	Lajitas Array	122.61 13	PKIKP	PKPdf	00 45 26.9	+0.4
SAML	Samuel	147.81 299	*e*PKPdf	PKPdf	00 46 14.2	+1.0
CPUP	Villa Florida	149.66 264	PKPbc	PKPbc	00 46 20.2	-0.3
	comp=Z,4.7nm,0.7s,baz=54,slow=3.8,SNR=13					
CPUP			PKPab	PKPab	00 46 28.2	+2.4
	comp=Z,2.4nm,0.6s,baz=63,slow=3.4,SNR=10.0					
CPUP	Villa Florida	149.66 264	PKPbc	PKPbc	00 46 20.2	-0.3
CPUP			PKPab	PKPab	00 46 28.2	+2.4
OTAV	Otavalo	150.07 333	*e*PKPbc	PKPbc	00 46 23.7	+1.7

MEX 25 00:28:22.3±0.6, 17°.41N×101°.70W, h11km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.30	48	*i* P	Pg	00 28 27.7	-0.7
ZIIG				*i* S	Sg	00 28 32.8	+0.3
CAIG	El Cayaco	1.42	104	*i* P	Pn	00 28 44.7	-3.3
CAIG				*i* S	Sn	00 29 01.0	-5.7
ACX	Acapulco	1.84	107	*e*P	Pn	00 28 50.0	-3.9
ACX				*i* S	Sn	00 29 11.0	-6.2
MEIG	Mezcala	2.05	75	*i* P	Pn	00 28 54.0	-2.7
MEIG				*i* S	Sn	00 29 18.1	-4.3
MOIG	Morelia	2.31	12	*e*P	Pn	00 28 58.2	-2.1
MOIG				*i* S	Sn	00 29 24.1	-4.7

IDC 25 00:37:23.3±1.2, 6°.82S×148°.17E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.3/17, mbtmp4.2/13, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx3.1/24, Error ellipse: s-maj=40.8km s-min=18.3km az=103.0

ISCJB 25 00:37:30.6±2.1, 6°.84S±0°.08×147°.9E±0°.2, h63km±19km, mb4.1/13, Error ellipse: s-maj=25.3km s-min=13.3km az=1.7

NEIC 25 00:37:32.6±1.9, 6°.88S×147°.95E, h67km±19km, mb4.0/5, Error ellipse: s-maj=24.9km s-min=14.2km az=108.0

ISC 25 00:37:32.6±1.9, 6°.89S±0°.09×147°.9E±0°.2, h68km±18km, n44, σ0°89/42, mb4.0/13, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.62	197	Pn	Pn	00 38 12.6	0.0
	40nm,0.3s,baz=16,slow=5.4,SNR=72						
PMG				LR	LR	00 38 46.6	
	comp=Z,543nm,20.8s,baz=93,slow=30						
PMG				Sn	Sn	00 38 47.3	+4.0
	96nm,0.3s,baz=29,slow=16,SNR=15						
PMG	Port Moresby	2.62	197	*e*Pn	Pn	00 38 12.1	-0.5
PMG				*e*Sn	Sn	00 38 48.3	+5.0
COEN	Coen	8.44	213	*e*P	Pn	00 39 31.6	-0.6
MTSU	Mount Surprise	11.72	197	*e*P	Pn	00 40 17.9	+0.9
	9.8nm,0.3s						
CTA	Charters Tower	13.22	187	Pn	Pn	00 40 39.1	+1.7
	1.1nm,0.3s,baz=346,slow=14,SNR=21						
CTA	Charters Tower	13.22	187	*e*P	Pn	00 40 39.1	+1.6
CTA	Charters Tower	13.22	187	Pn	Pn	00 40 39.1	+1.7
WRAB	Tennant Creek	18.49	224	*e*P	Pn	00 41 43.2	-1.0
	9.1nm,0.9s						
WRA	Warramunga Arr	18.51	224	P	Pn	00 41 43.3	-1.1
	0.8nm,0.3s,baz=48,slow=11,SNR=43						
WRA	Warramunga Arr	18.51	224	P	Pn	00 41 43.3	-1.1
RMQ	Roma	19.51	178	*e*P	Pn	00 41 56.2	0.0
	4.5nm,0.5s						
QLP	Quilpie	19.90	190	*e*P	Pn	00 41 59.8	-1.0
AS31	Alice Springs	21.45	217	*e*P	P	00 42 15.4	0.0
FITZ	Fitzroy Crossi	24.42	241	P	P	00 42 45.0	0.0
	11nm,0.4s,mb4.5,baz=51,slow=8.1,SNR=107						
FITZ	Fitzroy Crossi	24.42	241	*e*P	P	00 42 45.2	+0.2
	12nm,0.4s,mb4.6						
CMSA	Cobar Meteorol	24.61	185	*e*P	P	00 42 46.4	-0.2
STKA	Stephens Creek	25.56	193	P	P	00 42 55.4	+0.2
	2.5nm,0.4s,mb4.0,baz=12,slow=7.3,SNR=24						
STKA	Stephens Creek	25.56	193	*e*P	P	00 42 55.5	+0.4
STKA	Stephens Creek	25.56	193	*e*P	P	00 42 55.2	+0.1
	0.5nm,0.5s,mb3.2						
MEEK	Meekatharra	34.11	231	*e*P	P	00 44 11.4	+0.4
MJAR	Matsushiro Arr	44.15	349	P	P	00 45 31.8	-2.7
	1.7nm,0.7s,mb3.9,baz=162,slow=8.8,SNR=3.9						
MJAR	Matsushiro Arr	44.15	349	P	P	00 45 31.8	-2.7
KSRS	Korea Array	47.91	338	P	P	00 46 03.8	-0.2
	2.1nm,0.7s,mb4.1,baz=149,slow=9.9,SNR=5.4						
KSAR	Wonju Array Be	47.91	338	P	P	00 46 03.8	-0.2
USRK	Ussuriysk Arra	52.85	346	P	P	00 46 42.1	+0.9
	1.6nm,0.6s,mb4.3,baz=132,slow=6.2,SNR=3.8						
CMAR	Chiang Mai Arr	54.48	298	P	P	00 46 55.2	+1.6
	2.3nm,0.6s,mb4.4,baz=124,slow=5.4,SNR=11						
CMAR	Chiang Mai Arr	54.48	298	P	P	00 46 55.2	+1.6
ULN	Ulaanbaatar	65.33	331	*e*P	P	00 48 07.9	+0.4
	1.8nm,0.7s,mb4.0						
SONM	Songino Array	65.63	331	P	P	00 48 10.6	+1.2
	0.9nm,1.0s,mb3.6,baz=132,slow=6.0,SNR=3.5						
SONM	Songino Array	65.63	331	P	P	00 48 10.6	+1.2
MKAR	Makanchi Array	78.77	320	P	P	00 49 28.7	+0.9
	2.2nm,0.6s,mb4.1,baz=102,slow=6.9,SNR=9.7						
MKAR	Makanchi Array	78.77	320	P	P	00 49 28.7	+0.9
ZALV	Zalesovo Beam	80.25	328	P	P	00 49 35.2	-0.6

*DDA **25** 01:00:16.4, 39.50N×28.08E, h7km±4km, Md3.0*
ISC 25 01:00:17.0±0.5, 39.50N±0.02×28.05E±0.03, h5km±5km, n42, σ0.93/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.35**	**72**	*i* P	**Pg**	**01 00 23.6**	**-0.1**
DURS				*i* S	**Sg**	**01 00 28.7**	**+0.5**
DURS	**Dursunbey**	**0.35**	**72**	*i* P	**Pg**	**01 00 23.6**	**-0.1**
DURS				*i* S	**Sg**	**01 00 28.7**	**+0.5**
GONE	**Gonen-Balikesi**	**0.61**	**333**	*e*PG	**Pg**	**01 00 28.1**	**-0.7**
GONE				*e*SG	**Sg**	**01 00 36.0**	**-0.9**
GONE	**Gonen-Balikesi**	**0.61**	**333**	*e*Pg	**Pg**	**01 00 28.1**	**-0.7**
GONE				*e*Sg	**Sg**	**01 00 36.0**	**-0.8**
AKS	**Akhisar**	**0.64**	**196**	*e*PG	**Pg**	**01 00 28.7**	**-0.6**
AKS				*e*SG	**Sg**	**01 00 39.3**	**+1.6**
AKS	**Akhisar**	**0.64**	**196**	*e*Pg	**Pg**	**01 00 28.7**	**-0.7**
AKS				*e*Sg	**Sg**	**01 00 39.3**	**+1.6**
KCTX	**Karacabey (Bur**	**0.80**	**17**	*e*PG	**Pg**	**01 00 33.5**	**+1.1**
KCTX				*e*SG	**Sg**	**01 00 44.1**	**+1.2**
KCTX	**Karacabey (Bur**	**0.80**	**17**	*e*Pg	**Pg**	**01 00 33.5**	**+1.1**
KCTX				*e*Sg	**Sg**	**01 00 44.1**	**+1.2**
EDC	**Edincik**	**0.86**	**351**	*e*PG	**Pg**	**01 00 33.1**	**-0.4**
EDC				*e*SG	**Sg**	**01 00 44.6**	**-0.1**
EDC	**Edincik**	**0.86**	**351**	*e*Pg	**Pg**	**01 00 33.1**	**-0.4**
EDC				*e*Sg	**Sg**	**01 00 44.6**	**-0.1**
BNT	**Bandirma**	**0.86**	**354**	*e*PG	**Pg**	**01 00 33.9**	**+0.4**
BNT	**Bandirma**	**0.86**	**354**	*e*Pg	**Pg**	**01 00 33.9**	**+0.3**
ULDT	**Uludag**	**1.06**	**52**	*i* P	**Pg**	**01 00 35.8**	**-1.5**
ULDT				*i* S	**Sg**	**01 00 50.2**	**-0.8**
ULDT	**Uludag**	**1.06**	**52**	*i* P	**Pg**	**01 00 35.8**	**-1.5**
ULDT				*i* S	**Sg**	**01 00 50.2**	**-0.8**
KRBG	**Karabiga-Canak**	**1.06**	**327**	*e*PG	**Pg**	**01 00 37.2**	**-0.2**
KRBG	**Karabiga-Canak**	**1.06**	**327**	*e*Pg	**Pg**	**01 00 37.2**	**-0.2**
AYVA	**Ayvalik**	**1.07**	**260**	*i* P	**Pg**	**01 00 37.4**	**-0.1**
AYVA				*i* S	**Sg**	**01 00 52.5**	**+1.1**
AYVA	**Ayvalik**	**1.07**	**260**	*i* P	**Pg**	**01 00 37.4**	**-0.1**
AYVA				*i* S	**Sg**	**01 00 52.5**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.08**	**36**	*e*PN	**Pg**	**01 00 39.2**	**+1.5**
MDNY	**Mudanya-Bursa**	**1.08**	**36**	*e*Pn	**Pg**	**01 00 39.3**	**+1.5**
KULA	**Kula-Manisa**	**1.09**	**154**	*e*PN	**Pg**	**01 00 38.0**	**+0.1**
KULA	**Kula-Manisa**	**1.09**	**154**	*e*Pn	**Pg**	**01 00 38.0**	**+0.1**
GDZ	**Gediz**	**1.19**	**110**	*i* P	**Pg**	**01 00 37.8**	**-1.9**
GDZ				*i* S	**Sg**	**01 00 54.7**	**-0.4**
GDZ	**Gediz**	**1.19**	**110**	*i* P	**Pg**	**01 00 37.8**	**-1.9**
GDZ				*i* S	**Sg**	**01 00 54.7**	**-0.4**
ARMT	**Armutlu**	**1.24**	**30**	*e*PN	**Pn**	**01 00 42.2**	**+1.3**
ARMT	**Armutlu**	**1.24**	**30**	*e*Pn	**Pn**	**01 00 42.2**	**+1.3**
LPK	**Lapseki**	**1.32**	**312**	*e*PN	**Pn**	**01 00 41.9**	**-0.2**
LPK	**Lapseki**	**1.32**	**312**	*e*Pn	**Pn**	**01 00 41.9**	**-0.1**
BLCB	**Balcova**	**1.36**	**216**	*e*PN	**Pn**	**01 00 41.6**	**-0.9**
BLCB	**Balcova**	**1.36**	**216**	*e*Pn	**Pn**	**01 00 41.6**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.36**	**331**	*e*PN	**Pn**	**01 00 41.6**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.36**	**331**	*e*Pn	**Pn**	**01 00 41.6**	**-1.0**
MFT	**Murefte**	**1.42**	**336**	*e*PN	**Pn**	**01 00 43.9**	**+0.5**
MFT	**Murefte**	**1.42**	**336**	*e*Pn	**Pn**	**01 00 43.9**	**+0.6**
YLV	**Yalova**	**1.48**	**43**	*e*PN	**Pn**	**01 00 45.1**	**+0.9**
YLV	**Yalova**	**1.48**	**43**	*e*Pn	**Pn**	**01 00 45.1**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.51**	**307**	*e*PN	**Pn**	**01 00 44.3**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.51**	**307**	*e*Pn	**Pn**	**01 00 44.3**	**-0.3**
ADVT	**Abdulvahap**	**1.60**	**54**	*e*PN	**Pn**	**01 00 47.1**	**+1.2**
ADVT	**Abdulvahap**	**1.60**	**54**	*e*Pn	**Pn**	**01 00 47.1**	**+1.2**
ERIK	**Erikli-Kesan**	**1.66**	**315**	*e*PN	**Pn**	**01 00 45.3**	**-1.4**
ERIK	**Erikli-Kesan**	**1.66**	**315**	*e*Pn	**Pn**	**01 00 45.3**	**-1.4**

MAN 25 01:29:51, 8.67N×126.91E, h117km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.30**	**283**	*e*P	Pn	01 30 17.7	+1.7
BUTP				*e*S	Sn	01 30 34.4	-0.6
MATI	**Mati**	**1.83**	**201**	*e*P	Pn	01 30 23.1	+0.9
BUKP	**Musuan**	**1.99**	**247**	*e*P	Pn	01 30 26.6	+2.4
BUKP				*e*S	Sn	01 30 50.9	+1.4
KCP	**Kidapawan**	**2.44**	**228⇑**	*e*P	Pn	01 30 30.3	+0.4

*ISK **25** 01:38:50.5, 39.98N×39.83E, h5km, MD2.9*
*ISCJB **25** 01:38:51.7±0.4, 39.97N±0.03×39.86E±0.03, h10km, Error ellipse: s-maj=4.0km s-min=3.1km az=143.3*
*DDA **25** 01:38:51.6, 40.01N×39.96E, h20km±3km, Md3.0*
*CSEM **25** 01:38:51.5±0.2, 39.97N×39.87E, h2km, MD3.0, Error ellipse: s-maj=5.6km s-min=4.4km az=150.0*
ISC 25 01:38:52.1±0.5, 39.97N±0.03×39.88E±0.04, h5km±5km, n31, σ0.99/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.40**	**197**	*e*PG	**Pg**	**01 38 59.5**	**-0.3**
ERZN				*e*SG	**Sg**	**01 39 06.2**	**+1.2**
EZC	**Erzincan**	**0.46**	**242**	*e*Pg	**Pg**	**01 38 59.5**	**-1.3**
EZC				*e*Sg	**Sg**	**01 39 06.2**	**-0.6**
BAYT	**Ayd¯–ntepe-Bay**	**0.47**	**25**	*e*PG	**Pg**	**01 39 00.5**	**-0.6**
BAYT	**Ayd¯–ntepe-Bay**	**0.47**	**25**	*e*Pg	**Pg**	**01 39 00.5**	**-0.6**
KOPT	**Kop Dagi**	**0.48**	**84**	*i* P	**Pg**	**01 39 00.4**	**-0.9**
KOPT				*i* S	**Sg**	**01 39 09.1**	**+1.6**
KOPT	**Kop Dagi**	**0.48**	**84**	*i* P	**Pg**	**01 39 00.4**	**-0.9**
KOPT				*i* S	**Sg**	**01 39 09.1**	**+1.6**
KELT	**Kelkit**	**0.51**	**291**	*i* P	**Pg**	**01 39 01.8**	**-0.1**
KELT				*i* S	**Sg**	**01 39 10.5**	**+2.0**
KELT	**Kelkit**	**0.51**	**291**	*i* P	**Pg**	**01 39 01.8**	**-0.1**
GUMT	**Gumushane**	**0.58**	**328**	*e*PG	**Pg**	**01 39 02.7**	**-0.4**
GUMT				*e*SG	**Sg**	**01 39 11.6**	**+0.9**
GUMT	**Gumushane**	**0.58**	**328**	*e*Pg	**Pg**	**01 39 02.7**	**-0.5**
GUMT				*e*Sg	**Sg**	**01 39 11.6**	**+0.9**
MACK	**Trabzon**	**0.98**	**355**	*i* P	**Pg**	**01 39 10.5**	**-0.3**
MACK				*i* S	**Sg**	**01 39 24.0**	**+0.5**
MACK	**Trabzon**	**0.98**	**355**	*i* P	**Pg**	**01 39 10.5**	**-0.3**
MACK				*i* S	**Sg**	**01 39 24.0**	**+0.5**
KTUT	**Trabzon**	**1.02**	**355**	*e*PG	**Pg**	**01 39 10.2**	**-1.4**
KTUT	**Trabzon**	**1.02**	**355**	*e*Pg	**Pg**	**01 39 10.2**	**-1.4**
PTK	**Pertek**	**1.14**	**199**	*e*PN	**Pg**	**01 39 13.5**	**-0.4**
PTK	**Pertek**	**1.14**	**199**	*e*Pn	**Pg**	**01 39 13.5**	**-0.4**
EZM	**Erzurum**	**1.14**	**93**	*e*PN	**Pg**	**01 39 14.5**	**+0.5**
KEMA	**Kemaliye**	**1.28**	**237**	*i* P	**Pg**	**01 39 17.1**	**+0.5**
KEMA				*i* S	**Sg**	**01 39 37.6**	**+4.5**
KEMA	**Kemaliye**	**1.28**	**237**	*i* P	**Pg**	**01 39 17.1**	**+0.6**
PZAR	**Pazar-Rize**	**1.44**	**32**	*e*PN	**Pn**	**01 39 19.3**	**+0.5**
PZAR	**Pazar-Rize**	**1.44**	**32**	*e*Pn	**Pn**	**01 39 19.3**	**+0.5**
VRTB	**Varto-Mus**	**1.46**	**123**	*e*PN	**Pn**	**01 39 20.1**	**+1.0**
VRTB	**Varto-Mus**	**1.46**	**123**	*e*Pn	**Pn**	**01 39 20.1**	**+1.0**
DDEM	**Demirkent**	**1.70**	**57**	*i* P	**Pn**	**01 39 20.5**	**-1.9**
DDEM				*i* S	**Sn**	**01 39 44.9**	**+0.3**
DAGI	**Agillar**	**1.91**	**54**	*i* P	**Pn**	**01 39 23.3**	**-1.9**
DAGI				*i* S	**Sn**	**01 39 50.4**	**+0.8**
DBOC	**Borcka**	**1.94**	**44**	*i* P	**Pn**	**01 39 25.4**	**-0.2**
DBOC				*i* S	**Sn**	**01 39 50.4**	**+0.1**
DBOC	**Borcka**	**1.94**	**44**	*i* P	**Pn**	**01 39 25.4**	**-0.2**
DBOC				*i* S	**Sn**	**01 39 50.4**	**+0.1**
ARTV	**Artvin**	**1.98**	**51**	*i* P	**Pn**	**01 39 24.7**	**-1.5**
ARTV				*i* S	**Sn**	**01 39 52.2**	**+0.8**
ARTV	**Artvin**	**1.98**	**51**	*i* P	**Pn**	**01 39 24.7**	**-1.5**
ARTV				*i* S	**Sn**	**01 39 52.2**	**+0.8**
BCA	**Borcka**	**1.98**	**41**	*e*PN	**Pn**	**01 39 27.2**	**+0.9**
BCA	**Borcka**	**1.98**	**41**	*e*Pn	**Pn**	**01 39 27.2**	**+0.9**

IDC 25 01:47:21.9±3.2, 6.54S×103.46E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=145.0km s-min=21.2km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.24**	**350**	P	P	01 52 49.7	+0.1
	1.5nm,0.5s,baz=179,slow=8.5,SNR=6.4						
WRA	**Warramunga Arr**	**32.79**	**117**	P	P	01 53 57.0	-0.1
	0.4nm,0.6s,baz=288,slow=12,SNR=5.8						
STKA	**Stephens Creek**	**43.58**	**130**	P	P	01 55 27.6	-0.3
	0.9nm,0.6s,baz=305,slow=8.5,SNR=4.5						
SONM	**Songino Array**	**54.20**	**2**	P	P	01 56 49.1	0.0
	0.6nm,0.6s,baz=182,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**56.33**	**343**	P	P	01 57 04.4	-0.1
	0.7nm,0.6s,baz=153,slow=8.7,SNR=14						
ZALV	**Zalesovo Beam**	**62.27**	**348**	P	P	01 57 45.5	0.0
	0.6nm,0.3s,baz=153,slow=7.7,SNR=4.9						
TXAR	**Lajitas Array**	**145.82**	**45**	PKPbc	PKPbc	02 07 03.7	-0.1
	0.7nm,0.6s,baz=291,slow=0.8,SNR=12						

*NEIC **25** 02:06:31.6, 38.75S×175.73E, h143km, MG4.4(WEL), After WEL.*
WEL 25 02:06:31.9±0.2, 38.75S×175.74E, h140km±2km, ML4.4/21, 3C-1D, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.04**	**348**	PN	Pn	02 06 50.9	+0.2
WATZ				SN	Sn	02 07 04.8	-0.2
WATZ	**Wairara**	**0.04**	**348**	Pn	Pn	02 06 50.9	+0.2
RATZ	**Rangitukua**	**0.12**	**170**	⇑PN	Pn	02 06 50.8	0.0
RATZ	**Rangitukua**	**0.12**	**170**	Pn	Pn	02 06 50.8	0.0
WHTZ	**Whakaora**	**0.19**	**64**	Pn	Pn	02 06 52.5	+1.6
KATZ	**Kakaramea**	**0.23**	**190**	PN	Pn	02 06 51.1	+0.1
KATZ	**Kakaramea**	**0.23**	**190**	Pn	Pn	02 06 51.1	+0.1
RITZ	**Rihia Road**	**0.24**	**159**	PN	Pn	02 06 51.4	+0.3
RITZ	**Rihia Road**	**0.24**	**159**	Pn	Pn	02 06 51.4	+0.3
HATZ	**Hinemaiaia**	**0.31**	**117**	PN	Pn	02 06 51.3	0.0
HATZ				SN	Sn	02 07 05.3	-0.6
HATZ	**Hinemaiaia**	**0.31**	**117**	Pn	Pn	02 06 51.3	0.0
HATZ				Sn	Sn	02 07 05.3	-0.6
KRVZ	**Karewarewa**	**0.35**	**193**	PN	Pn	02 06 51.4	0.0
KRVZ				SN	Sn	02 07 06.0	-0.3
KRVZ	**Karewarewa**	**0.35**	**193**	Pn	Pn	02 06 51.4	0.0
WTVZ	**West Tongariro**	**0.39**	**198**	PN	Pn	02 06 51.6	0.0
WTVZ	**West Tongariro**	**0.39**	**198**	Pn	Pn	02 06 51.6	0.0
TWVZ	**Taurewa**	**0.40**	**217**	PN	Pn	02 06 51.7	+0.1
TWVZ	**Taurewa**	**0.40**	**217**	Pn	Pn	02 06 51.7	+0.1
OTVZ	**Oturere**	**0.42**	**188**	PN	Pn	02 06 51.8	+0.1
OTVZ	**Oturere**	**0.42**	**188**	Pn	Pn	02 06 51.8	+0.1
NGZ	**Ngauruhoe**	**0.44**	**195**	PN	Pn	02 06 51.7	-0.1
NGZ	**Ngauruhoe**	**0.44**	**195**	Pn	Pn	02 06 51.7	-0.1
WPVZ	**Whakapapa**	**0.48**	**199**	PN	Pn	02 06 52.0	0.0
WPVZ	**Whakapapa**	**0.48**	**199**	Pn	Pn	02 06 52.0	+0.1
ALRZ	**Allen Road**	**0.51**	**68**	PN	Pn	02 06 52.0	-0.2
ALRZ	**Allen Road**	**0.51**	**68**	Pn	Pn	02 06 52.0	-0.2
TUVZ	**Tukino**	**0.52**	**188**	PN	Pn	02 06 52.5	+0.3
TUVZ	**Tukino**	**0.52**	**188**	Pn	Pn	02 06 52.5	+0.3
FWVZ	**Far West T-bar**	**0.53**	**196**	PN	Pn	02 06 52.4	+0.2
FWVZ	**Far West T-bar**	**0.53**	**196**	Pn	Pn	02 06 52.4	+0.2
DRZ	**Dome Shelter**	**0.54**	**195**	PN	Pn	02 06 52.8	+0.5
DRZ	**Dome Shelter**	**0.54**	**195**	Pn	Pn	02 06 52.8	+0.5
HRRZ	**Handcock Road**	**0.56**	**50**	PN	Pn	02 06 52.6	+0.2
HRRZ	**Handcock Road**	**0.56**	**50**	Pn	Pn	02 06 52.6	+0.2
PRRZ	**Plateau Road**	**0.57**	**64**	PN	Pn	02 06 52.3	-0.1
PRRZ	**Plateau Road**	**0.57**	**64**	Pn	Pn	02 06 52.3	-0.1
TRVZ	**Turoa**	**0.57**	**195**	PN	Pn	02 06 52.8	+0.4
TRVZ	**Turoa**	**0.57**	**195**	Pn	Pn	02 06 52.9	+0.4
WNVZ	**Wahianoa**	**0.59**	**191**	PN	Pn	02 06 52.9	+0.3
WNVZ	**Wahianoa**	**0.59**	**191**	Pn	Pn	02 06 52.9	+0.3
PKVZ	**Pokaka**	**0.62**	**210**	PN	Pn	02 06 52.9	+0.1
PKVZ	**Pokaka**	**0.62**	**210**	Pn	Pn	02 06 52.9	+0.1
MOVZ	**Moawhango**	**0.66**	**179**	PN	Pn	02 06 52.9	-0.1
MOVZ	**Moawhango**	**0.66**	**179**	Pn	Pn	02 06 52.9	-0.1
MTVZ	**Mangateitei**	**0.67**	**198**	PN	Pn	02 06 53.1	0.0
MTVZ	**Mangateitei**	**0.67**	**198**	Pn	Pn	02 06 53.1	0.0
UTU	**Utuhina**	**0.67**	**32**	PN	Pn	02 06 53.5	+0.3
UTU	**Utuhina**	**0.67**	**32**	Pn	Pn	02 06 53.5	+0.3
BKZ	**Black Stump Fm**	**0.72**	**126**	PN	Pn	02 06 53.5	+0.1
BKZ	**Black Stump Fm**	**0.72**	**126**	Pn	Pn	02 06 53.5	+0.1
RRRZ	**Republican Roa**	**0.73**	**56**	PN	Pn	02 06 53.5	0.0
RRRZ	**Republican Roa**	**0.73**	**56**	Pn	Pn	02 06 53.5	0.0
HIZ	**Hauiti**	**0.73**	**288**	PN	Pn	02 06 53.2	-0.3
HIZ	**Hauiti**	**0.73**	**288**	Pn	Pn	02 06 53.2	-0.3
BHHZ	**Black Hill Sta**	**0.78**	**161**	PN	Pn	02 06 53.8	0.0
BHHZ				SN	Sn	02 07 09.2	-1.5
BHHZ	**Black Hill Sta**	**0.78**	**161**	Pn	Pn	02 06 53.8	0.0
TARZ	**Mount Tarawera**	**0.79**	**50**	PN	Pn	02 06 54.1	+0.2
TARZ	**Mount Tarawera**	**0.79**	**50**	Pn	Pn	02 06 54.1	+0.2
KARZ	**Kaharoa**	**0.83**	**29**	PN	Pn	02 06 54.4	+0.1
KARZ	**Kaharoa**	**0.83**	**29**	Pn	Pn	02 06 54.4	+0.1
VRZ	**Vera Road**	**0.85**	**244**	PN	Pn	02 06 54.3	-0.1
VRZ	**Vera Road**	**0.85**	**244**	Pn	Pn	02 06 54.0	-0.4
NMHZ	**Naumai**	**0.90**	**113**	PN	Pn	02 06 55.8	+1.0
NMHZ	**Naumai**	**0.90**	**113**	Pn	Pn	02 06 55.8	+1.0
EDRZ	**Edgecumbe**	**1.01**	**51**	PN	Pn	02 06 55.6	-0.2
EDRZ	**Edgecumbe**	**1.01**	**51**	Pn	Pn	02 06 55.6	-0.2
MCHZ	**McNeill Hill**	**1.01**	**133**	PN	Pn	02 06 56.8	+1.0
MCHZ	**McNeill Hill**	**1.01**	**133**	Pn	Pn	02 06 56.9	+1.0
TOZ	**Tahuroa Road**	**1.04**	**349**	PN	Pn	02 06 56.0	0.0
TOZ	**Tahuroa Road**	**1.04**	**349**	Pn	Pn	02 06 56.0	0.0
RAHZ	**Arahi**	**1.06**	**99**	PN	Pn	02 06 56.9	+0.7
RAHZ	**Arahi**	**1.06**	**99**	Pn	Pn	02 06 56.9	+0.7
TGRZ	**Tauranga**	**1.10**	**22**	PN	Pn	02 06 56.7	+0.1
TGRZ	**Tauranga**	**1.10**	**22**	Pn	Pn	02 06 56.7	+0.1
OPRZ	**Ohinepanea**	**1.11**	**35**	PN	Pn	02 06 56.3	-0.4
OPRZ	**Ohinepanea**	**1.11**	**35**	Pn	Pn	02 06 56.3	-0.4
MHEZ	**Mangahewa**	**1.16**	**253**	PN	Pn	02 06 57.3	+0.2
MHEZ	**Mangahewa**	**1.16**	**253**	Pn	Pn	02 06 57.3	+0.2
WAZ	**Wanganui**	**1.16**	**210**	PN	Pn	02 06 57.0	-0.2
WAZ	**Wanganui**	**1.16**	**210**	Pn	Pn	02 06 57.0	-0.2
URZ	**Urewera**	**1.18**	**66**	PN	Pn	02 06 56.5	-0.9
URZ	**Urewera**	**1.18**	**66**	*e*Pn	Pn	02 06 56.8	-0.6
URZ				*e*S	Sn	02 07 15.1	-1.6
RAEZ	**Rainy Point**	**1.18**	**243**	PN	Pn	02 06 57.5	+0.1
RAEZ	**Rainy Point**	**1.18**	**243**	Pn	Pn	02 06 57.5	+0.1
PNHZ	**Pukenui**	**1.22**	**163**	PN	Pn	02 06 57.6	-0.1
PNHZ	**Pukenui**	**1.22**	**163**	Pn	Pn	02 06 57.6	-0.1
DREZ	**Durham Road**	**1.28**	**249**	PN	Pn	02 06 58.4	0.0
DREZ	**Durham Road**	**1.28**	**249**	Pn	Pn	02 06 58.4	0.0
TSZ	**Takapari Road**	**1.32**	**173**	PN	Pn	02 06 58.5	-0.2
TSZ	**Takapari Road**	**1.32**	**173**	Pn	Pn	02 06 58.5	-0.2
KAHZ	**Kahuranaki**	**1.36**	**140**	PN	Pn	02 06 59.6	+0.4
KAHZ	**Kahuranaki**	**1.36**	**140**	Pn	Pn	02 06 59.6	+0.4
CKHZ	**Cape Kidnapper**	**1.38**	**132**	PN	Pn	02 06 59.9	+0.6
CKHZ	**Cape Kidnapper**	**1.38**	**132**	Pn	Pn	02 06 59.9	+0.6
NEZ	**North Egmont**	**1.39**	**247**	PN	Pn	02 06 59.7	+0.3
NEZ	**North Egmont**	**1.39**	**247**	Pn	Pn	02 06 59.7	+0.3
DFE	**Dawson Falls**	**1.40**	**245**	PN	Pn	02 06 59.7	+0.1
DFE	**Dawson Falls**	**1.40**	**245**	Pn	Pn	02 06 59.7	+0.1
WPHZ	**Waipukurau**	**1.42**	**158**	PN	Pn	02 06 59.7	-0.1
WPHZ				SN	Sn	02 07 19.7	-1.5
WPHZ	**Waipukurau**	**1.42**	**158**	Pn	Pn	02 06 59.7	-0.1
PKE	**Pukeiti**	**1.44**	**251**	PN	Pn	02 06 59.9	-0.2
PKE	**Pukeiti**	**1.44**	**251**	Pn	Pn	02 06 59.9	-0.2
MWZ	**Matawai**	**1.46**	**74**	PN	Pn	02 06 59.6	-0.7
MWZ	**Matawai**	**1.46**	**74**	Pn	Pn	02 06 59.6	-0.7
NRZ	**Ngariki Road**	**1.53**	**247**	PN	Pn	02 07 00.7	-0.3
NRZ	**Ngariki Road**	**1.53**	**247**	Pn	Pn	02 07 00.7	-0.3
KNZ	**Kokohu**	**1.53**	**101**	PN	Pn	02 07 00.9	-0.1
KNZ	**Kokohu**	**1.53**	**101**	Pn	Pn	02 07 00.9	-0.1
PXZ	**Pawanui**	**1.54**	**146**	PN	Pn	02 07 01.0	-0.1
PXZ	**Pawanui**	**1.54**	**146**	Pn	Pn	02 07 01.0	-0.1
NWEZ	**Newall Road**	**1.55**	**250**	PN	Pn	02 07 01.0	-0.3
NWEZ	**Newall Road**	**1.55**	**250**	Pn	Pn	02 07 01.0	-0.3
DVHZ	**Dannevirke**	**1.58**	**168**	PN	Pn	02 07 00.9	-0.6
DVHZ	**Dannevirke**	**1.58**	**168**	Pn	Pn	02 07 00.9	-0.6
POWZ	**Post Office Ro**	**1.64**	**179**	PN	Pn	02 07 01.5	-0.8
POWZ	**Post Office Ro**	**1.64**	**179**	Pn	Pn	02 07 01.5	-0.8
PRHZ	**Porangahau**	**1.66**	**156**	PN	Pn	02 07 02.2	-0.3
PRHZ	**Porangahau**	**1.66**	**156**	Pn	Pn	02 07 02.2	-0.3
PRGZ	**Paritu Road**	**1.68**	**97**	PN	Pn	02 07 02.6	-0.1
PRGZ	**Paritu Road**	**1.68**	**97**	Pn	Pn	02 07 02.6	-0.1
MKAZ	**Moumakai**	**1.70**	**344**	PN	Pn	02 07 03.1	+0.1
MKAZ	**Moumakai**	**1.70**	**344**	Pn	Pn	02 07 03.1	+0.1
MHGZ	**Mahia Peninsul**	**1.73**	**104**	PN	Pn	02 07 03.4	+0.1
MHGZ	**Mahia Peninsul**	**1.73**	**104**	Pn	Pn	02 07 03.4	+0.1
MRZ	**Mangatainoka R**	**1.91**	**184**	⇑PN	Pn	02 07 04.2	-1.2
MRZ	**Mangatainoka R**	**1.91**	**184**	Pn	Pn	02 07 03.8	-1.6
CNGZ	**Carnagh Statio**	**1.95**	**83**	PN	Pn	02 07 05.8	+0.1
CNGZ	**Carnagh Statio**	**1.95**	**83**	Pn	Pn	02 07 05.8	+0.1
BFZ	**Birch Farm**	**1.97**	**169**	⇓PN	Pn	02 07 04.9	-1.1
BFZ	**Birch Farm**	**1.97**	**169**	Pn	Pn	02 07 05.0	-1.0
TIWZ	**Tintock**	**2.03**	**177**	PN	Pn	02 07 05.5	-1.2
TIWZ	**Tintock**	**2.03**	**177**	Pn	Pn	02 07 05.5	-1.2
PUZ	**Puketiti**	**2.09**	**72**	PN	Pn	02 07 06.6	-0.9
PUZ	**Puketiti**	**2.09**	**72**	Pn	Pn	02 07 06.6	-0.9
OGWZ	**Otaki Gorge**	**2.11**	**192**	PN	Pn	02 07 06.4	-1.3
OGWZ	**Otaki Gorge**	**2.11**	**192**	Pn	Pn	02 07 06.4	-1.3
HOWZ	**Holdsworth Sta**	**2.15**	**185**	PN	Pn	02 07 06.6	-1.6
HOWZ	**Holdsworth Sta**	**2.15**	**185**	Pn	Pn	02 07 06.6	-1.6
KIW	**Kapiti Island**	**2.21**	**197**	PN	Pn	02 07 07.1	-1.7
KIW	**Kapiti Island**	**2.21**	**197**	Pn	Pn	02 07 07.1	-1.7
MXZ	**Matakaoa Point**	**2.34**	**60**	PN	Pn	02 07 10.2	-0.4
MXZ	**Matakaoa Point**	**2.34**	**60**	Pn	Pn	02 07 10.2	-0.4
TMWZ	**Te Maipa**	**2.36**	**177**	PN	Pn	02 07 09.1	-1.7
TMWZ	**Te Maipa**	**2.36**	**177**	Pn	Pn	02 07 09.1	-1.7
CAW	**Cannon Point**	**2.41**	**192**	PN	Pn	02 07 09.5	-1.9
CAW	**Cannon Point**	**2.41**	**192**	Pn	Pn	02 07 09.5	-1.9
MTW	**Mount Morrison**	**2.41**	**184**	PN	Pn	02 07 09.4	-2.0
MTW	**Mount Morrison**	**2.41**	**184**	Pn	Pn	02 07 09.4	-2.0
DUWZ	**D'Urville Isla**	**2.48**	**214**	PN	Pn	02 07 10.2	-2.1
DUWZ	**D'Urville Isla**	**2.48**	**214**	Pn	Pn	02 07 10.2	-2.1
PAWZ	**Paruwai Farm**	**2.64**	**185**	PN	Pn	02 07 12.0	-2.2
PAWZ	**Paruwai Farm**	**2.64**	**185**	Pn	Pn	02 07 12.0	-2.2
WEL	**Wellington**	**2.64**	**196**	PN	Pn	02 07 12.0	-2.3
WEL	**Wellington**	**2.64**	**196**	Pn	Pn	02 07 12.0	-2.3
TRWZ	**Traveller**	**2.65**	**181**	PN	Pn	02 07 12.3	-2.0
TRWZ	**Traveller**	**2.65**	**181**	Pn	Pn	02 07 12.3	-2.0
SNZO	**South Karori**	**2.68**	**197**	⇑PN	Pn	02 07 12.3	-2.4
SNZO	**South Karori**	**2.68**	**197**	Pn	Pn	02 07 12.3	-2.4
MSWZ	**Moikau Station**	**2.69**	**188**	PN	Pn	02 07 12.6	-2.3
MSWZ	**Moikau Station**	**2.69**	**188**	Pn	Pn	02 07 12.6	-2.3
TCW	**Tory Channel**	**2.71**	**204**	PN	Pn	02 07 12.8	-2.3
TCW	**Tory Channel**	**2.71**	**204**	Pn	Pn	02 07 12.8	-2.3
BHW	**Baring Head**	**2.74**

CMAR	Chiang Mai Arr	28.05 119	P	P	02 35 23.6 +2.6
FINES	FINESS Array B	39.90 327	P	P	02 37 03.7 +0.5
	comp=N,1.0nm,0.8s,mb3.6,baz=116,slow=9.4,SNR=3.3				
FINES	FINESS Array B	39.90 327	P	P	02 37 03.7 +0.5
ARCES	ARCESS Array B	43.41 338	P	P	02 37 32.0 +0.3
	comp=N,0.6nm,0.4s,mb3.6,baz=113,slow=9.1,SNR=6.3				
ARCES	ARCESS Array B	43.41 338	P	P	02 37 32.0 +0.3
NOA	NORSAR Array B	46.83 324	P	P	02 37 58.7 -0.3
	comp=N,0.2nm,0.5s,mb3.3,baz=105,slow=8.3,SNR=2.5				
NOA	NORSAR Array B	46.83 324	P	P	02 37 58.7 -0.3
TORD	Torodi Ar. Bea	67.52 271	P	P	02 40 24.7 -1.4
	comp=N,0.3nm,0.4s,mb3.7,baz=50,slow=6.4,SNR=11				
TORD	Torodi Ar. Bea	67.52 271	P	P	02 40 24.7 -1.4
WRA	Warramunga Arr	79.55 123	P	P	02 41 36.2 -0.5
	comp=N,0.3nm,0.7s,mb3.4,baz=323,slow=4.9,SNR=8.9				
WRA	Warramunga Arr	79.55 123	P	P	02 41 36.2 -0.5
YKA	Yellowknife Ar	82.84 4	P	P	02 41 53.4 -0.2
	comp=N,0.2nm,0.5s,mb3.5,baz=349,slow=5.4,SNR=5.9				
YKA	Yellowknife Ar	82.84 4	P	P	02 41 53.5 -0.2

*ISCJB **25** 02:29:36.9±0.6, 37°.91N±0°.03×29°.22E±0°.06, h12km±9km, Error ellipse: s-maj=8.6km s-min=4.8km az=10.5*
*ISK **25** 02:29:36.7, 37°.92N×29°.23E, h9km, MD2.6*
*DDA **25** 02:29:36.7, 37°.91N×29°.24E, h7km±1km, Md2.5*
*CSEM **25** 02:29:37.2±0.2, 37°.91N×29°.21E, h15km, MD2.6, Error ellipse: s-maj=5.6km s-min=4.0km az=100.0*

ISC 25 02:29:37.3±0.6, 37°.91N±0°.03×29°.24E±0°.07, h13km±8km, n17, σ0§58/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.22	228	*e*PG	Pg	02 29 42.7	+0.6
DENT				*e*SG	Sg	02 29 46.0	+0.6
DENT	Denizli	0.22	228	*e*Pg	Pg	02 29 42.7	+0.6
DENT				*e*Sg	Sg	02 29 46.0	+0.6
KHAL	Karahalli	0.51	23	*i* P	Pg	02 29 46.7	-0.6
KHAL				*i* S	Sg	02 29 54.2	+0.2
KHAL	Karahalli	0.51	23	*i* P	Pg	02 29 46.7	-0.6
KHAL				*i* S	Sg	02 29 54.2	+0.2
KULA	Kula-Manisa	0.76	323	*e*PG	Pg	02 29 51.4	-0.7
KULA				*e*SG	Sg	02 30 02.1	+0.1
KULA	Kula-Manisa	0.76	323	*e*Pg	Pg	02 29 51.4	-0.7
KULA				*e*Sg	Sg	02 30 02.1	0.0
GLHS	Glhisar (BURDU	0.78	165	*e*PG	Pg	02 29 52.2	-0.2
GLHS	Glhisar (BURDU	0.78	165	*e*Pg	Pg	02 29 52.2	-0.1
MANT	Manisa	0.80	318	*i* P	Pg	02 29 52.2	-0.6
MANT				*i* S	Sg	02 30 03.6	+0.4
MANT	Manisa	0.80	318	*i* P	Pg	02 29 52.2	-0.5
MANT				*i* S	Sg	02 30 03.6	+0.4
YER	Yerkesik	1.08	225	*e*PN	Pg	02 29 57.0	-1.2
YER				*e*SN	Sg	02 30 12.6	+0.4
YER	Yerkesik	1.08	225	*e*Pn	Pg	02 29 57.0	-1.2
YER				*e*Sn	Sg	02 30 12.6	+0.3
SHUT	Suhut-Afyon	1.22	58	*e*PN	Pn	02 30 00.8	+0.7
SHUT	Suhut-Afyon	1.22	58	*e*Pn	Pn	02 30 00.8	+0.7
ELL	Elmali	1.27	155	*e*PN	Pn	02 30 00.4	-0.4
ALT	Altintas	1.34	30	*e*PN	Pn	02 30 02.3	+0.6
ALT	Altintas	1.34	30	*e*Pn	Pn	02 30 02.3	+0.6

*BJI **25** 03:08:24.0, 44°.39N×10°.34E, h12km, mB4.9/4, mb4.7/6*
*CSEM **25** 03:08:28.6±0.1, 44°.61N×10°.42E, h10km, mb4.0/4, ML4.6/11, Error ellipse: s-maj=1.7km s-min=1.4km az=9.0*
*STR **25** 03:08:28.6±0.5, 44°.63N×10°.39E, h5km, Ml4.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **25** 03:08:28.3, 44°.71N×10°.38E, h0km, M4.0*
*MOS **25** 03:08:28.7±0.9, 44°.60N×10°.41E, h28km, mb4.4/5, Error ellipse: s-maj=4.0km s-min=3.2km az=82.7*
*ZUR **25** 03:08:28.4, 44°.55N×10°.35E, h11km±1km, ML4.2/9*
*GEN **25** 03:08:29.1, 44°.59N×10°.42E, h16km, ML3.9*
*NEIC **25** 03:08:29.0, 44°.56N×10°.33E, h29km, mb4.0/3, ML4.3(LDG), ML3.9(ROM), ML4.2(ZUR), ML4.0(VIE), After ROM.*
NEIC Felt [IV] at Langhirano, Parma and Reggio nell'Emilia. Also felt at Busana, Felino, Montichiari, Montecchio Emilia, Padova, Sala Baganza and San Polo d'Enza in Caviano.
*ROM **25** 03:08:29.8±0.1, 44°.56N×10°.31E, h22km±1km, Ml3.9/59, Error ellipse: s-maj=1.9km s-min=1.5km az=61.0*
*PDG **25** 03:08:30.3±0.8, 44°.68N×10°.42E, h29km±1km, ML4.2/9, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*IDC **25** 03:08:30.2±3.1, 44°.57N×10°.38E, h25km±21km, mb3.9/15, mb1 4.0/21, mb1mx3.9/31, mbtmp3.9/21, ML4.3/6, MS3.4/4, Ms1 3.4/4, ms1mx3.0/61, Error ellipse: s-maj=14.6km s-min=9.1km az=114.0*
*LDG **25** 03:08:31.0±0.1, 44°.67N×10°.53E, h30km, Ml4.3/43, Error ellipse: s-maj=2.6km s-min=1.7km az=34.0*

ISC 25 03:08:30.4±0.2, 44°.609N±0°.010×10°.39E±0°.01, h26km±2km, n808, σ§10/1034, mb4.1/21, 48C-127D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	PARMA	0.16	342	⇓*i*Pg	Pb	03 08 35.0	-0.7
PRMA				Sg	Sb	03 08 40.2	+0.9
	23μm,0.5s						
ERBM	Eremo	0.19	174	Pg	Pb	03 08 34.7	-1.3
ERBM				Sg	Sb	03 08 38.9	-0.9
	161μm,1.1s						
ERBM	Eremo	0.19	174	Pg	Pb	03 08 34.7	-1.3
GRAM	Graiana	0.26	243	P	Pb	03 08 35.1	-1.8
GRAM				S	Sb	03 08 38.9	-2.3
NOVE	Novellara	0.30	51	⇓*i*Pg	Pb	03 08 36.9	-0.6
NOVE				Sg	Sb	03 08 44.3	+1.9
	47μm,0.7s						
CODM	Codolo	0.44	240	P	Pb	03 08 38.0	-1.7
CODM				S	Sb	03 08 44.1	-1.8
ZCCA	Zocca	0.50	121	⇓*e*Pg	Pb	03 08 40.1	-0.5
	6μm,0.6s						
ZCCA	Zocca	0.50	121	⇓*e*Pg	Pb	03 08 40.1	-0.5
	6μm,0.6s						
RAVA	Ravarino	0.54	74	⇓*e*Pg	Pb	03 08 41.8	+0.4
	32μm,0.8s						
BDI	Bagni Di Lucca	0.57	164	⇓*e*Pg	Pb	03 08 39.3	-2.5
BDI				Sg	Sb	03 08 48.5	-1.0
	16μm,0.6s						
BDI	Bagni Di Lucca	0.57	164	⇓*e*Pg	Pb	03 08 39.3	-2.5
BDI				Sg	Sb	03 08 48.5	-1.0
	16μm,0.6s						
SBPO	S.Benedetto Po	0.58	41	⇓*e*Pg	Pb	03 08 42.2	+0.1
SC2M	Scurtabo	0.64	252	⇓*e*Pg	Pb	03 08 41.2	-1.8
	12μm,0.4s						
SC2M	Scurtabo	0.64	252	⇓*e*Pg	Pb	03 08 41.2	-1.8
	12μm,0.4s						
SC2M	Scurtabo	0.64	252	P	Pb	03 08 41.5	-1.5
SC2M				S	Sb	03 08 50.0	-1.6
BOB	Bobbio (Coli)	0.69	284	Pg	Pb	03 08 43.1	-0.7
	7μm,0.5s						
BOB	Bobbio (Coli)	0.69	284	Pg	Pb	03 08 43.1	-0.7
	7μm,0.5s						
FNVD	Fontana Vidola	0.69	130	⇑*e*Pg	Pb	03 08 43.1	-0.7
FNVD	Fontana Vidola	0.69	130	⇑*e*Pg	Pb	03 08 43.1	-0.7
MAIM	Mastiano	0.70	174	Pg	Pb	03 08 41.4	-2.6
	5μm,0.6s						
MAIM	Mastiano	0.70	174	Pg	Pb	03 08 41.4	-2.6
	5μm,0.6s						
MAIM	Mastiano	0.70	174	P	Pb	03 08 42.2	-1.8
MAIM				S	Sb	03 08 50.8	-2.4
FIU	Minerbio Fiu	0.79	87	Pg	Pb	03 08 46.2	+0.7
	18μm,0.5s						
MTRZ	Monterenzio	0.81	106	Pg	Pb	03 08 46.8	+1.0
	7μm,0.6s						
SEI	Scarperia	0.89	128	Pg	Pb	03 08 45.7	-1.5
	716nm,0.2s						
SEI	Scarperia	0.89	128	Pg	Pb	03 08 45.7	-1.5
	716nm,0.2s						
CRMI	Carmignano	0.92	153	Pg	Pn	03 08 46.8	-0.9
	2μm,0.8s						
CRMI	Carmignano	0.92	153	Pg	Pn	03 08 46.8	-0.9
	2μm,0.8s						
SALO	Salr	1.01	6	Pg	Pn	03 08 49.7	+0.7
SALO				Sg	Sb	03 09 05.3	+3.1
	30μm,0.7s						
SALO	Salr	1.01	6	Pg	Pn	03 08 49.7	+0.7
CMPO	Campotto Po	1.01	91	Pg	Pn	03 08 50.4	+1.4
	12μm,1.3s						
GENL	Genova Univers	1.03	259	P	Pn	03 08 48.9	-0.3
GENL				S	Sb	03 08 58.6	-4.1
VMG	Vicchio	1.05	127	Pg	Pn	03 08 48.6	-0.9
	6μm,1.2s						
VMG	Vicchio	1.05	127	Pg	Pn	03 08 48.6	-0.9
	6μm,1.2s						
FAEN	Faenza	1.11	106	Pg	Pn	03 08 52.6	+2.2
BALD	Monte Baldo	1.12	16	⇓*e*Pg	Pn	03 08 50.8	+0.3
BALD				*e*Sg	Sn	03 09 06.8	+1.9
BALD	Monte Baldo	1.12	16	*e*Pg	Pn	03 08 50.8	+0.4
BALD				*e*Sg	Sn	03 09 06.8	+1.8
GROG	Isola di Gorgo	1.23	197	Pg	Pn	03 08 50.7	-1.3
GROG	Isola di Gorgo	1.23	197	Pg	Pn	03 08 50.7	-1.3
ADRI	Adria, Italy	1.24	69	⇓*e*Pg	Pn	03 08 52.6	+0.5
ADRI				*e*Sg	Sn	03 09 13.8	+5.9
ADRI	Adria, Italy	1.24	69	*e*Pg	Pn	03 08 52.6	+0.5
BRSN	Barisano	1.25	104	Pg	Pn	03 08 54.6	+2.3
MDI	Monti di Nese	1.26	338	⇓*e*Pg	Pn	03 08 53.1	+0.7
MDI				Sg	Sn	03 09 10.6	+2.1
	8μm,0.6s						
MDI	Monti di Nese	1.26	338	⇓*e*Pg	Pn	03 08 53.1	+0.7
MDI				Sg	Sn	03 09 10.6	+2.1
	8μm,0.6s						
SFI	Santa Sofia	1.27	123	Pg	Pn	03 08 54.1	+1.7
	2μm,0.7s						
SFI	Santa Sofia	1.27	123	Pg	Pn	03 08 54.1	+1.7
	2μm,0.7s						
ASQU	Asqua	1.30	128	Pg	Pn	03 08 53.6	+0.7
ASQU	Asqua	1.30	128	Pg	Pn	03 08 53.6	+0.7
CSNT	Castellina Chi	1.31	150	⇓*i*Pg	Pn	03 08 52.7	-0.4
	2μm,0.6s						
CSNT	Castellina Chi	1.31	150	⇓*i*Pg	Pn	03 08 52.7	-0.4
	2μm,0.6s						
PCP	Piancastagn	1.32	268	⇓*e*Pg	Pn	03 08 53.4	+0.2
	3μm,0.9s						
PCP	Piancastagn	1.32	268	P	Pn	03 08 53.4	+0.2
RNI	Roncone	1.39	8	*e*Pg	Pn	03 08 54.5	+0.4
RNI	Roncone	1.39	8	*e*Pg	Pn	03 08 54.5	+0.4
DDS	Dosso del Somm	1.39	24	*e*Pg	Pn	03 08 54.4	+0.2
DDS	Dosso del Somm	1.39	24	*e*Pg	Pn	03 08 54.4	+0.2
MABI	Malga Bissina	1.45	4	⇓*e*Pg	Pn	03 08 55.6	+0.6
MABI	Malga Bissina	1.45	4	⇓*e*Pg	Pn	03 08 55.6	+0.6
CRE	Caprese Michel	1.50	131	Pg	Pn	03 08 56.7	+1.0
	753nm,0.6s						
CRE	Caprese Michel	1.50	131	Pg	Pn	03 08 56.7	+1.0
	753nm,0.6s						
PANI	Panarotta	1.58	24	*e*Pg	Pn	03 08 57.2	+0.5
PANI	Panarotta	1.58	24	*e*Pg	Pn	03 08 57.2	+0.4
RSM	Repubblica di	1.63	114	⇑*e*Pg	Pn	03 08 59.3	+1.8
	1μm,1.6s						
RSM	Repubblica di	1.63	114	⇑*e*Pg	Pn	03 08 59.3	+1.8
	1μm,1.6s						
PARC	Parchiule	1.64	125	Pg	Pn	03 08 59.1	+1.4
PARC	Parchiule	1.64	125	Pg	Pn	03 08 59.1	+1.4
CTI	Castel Tesino	1.69	31	⇓*e*Pg	Pn	03 08 58.5	+0.2
	5μm,0.2s						
CTI	Castel Tesino	1.69	31	⇓*e*Pg	Pn	03 08 58.5	+0.2
	5μm,0.2s						
MTLO	Montello	1.71	45	⇓*e*Pg	Pn	03 08 58.6	+0.1
MTLO	Montello	1.71	45	*e*Pg	Pn	03 08 58.6	+0.1
CAFI	Castiglion Fio	1.71	138	Pg	Pn	03 08 58.7	+0.1
CAFI	Castiglion Fio	1.71	138	Pg	Pn	03 08 58.7	+0.1
BADI	Badiali	1.73	129	Pg	Pn	03 09 00.0	+1.1
	1μm,0.8s						
BADI	Badiali	1.73	129	Pg	Pn	03 09 00.0	+1.1
	1μm,0.8s						
RORO	Rocca Rossa	1.74	254	⇑*e*Pg	Pn	03 08 58.3	-0.6
	803nm,0.5s						
CDCA	Citt' di Caste	1.76	130	Pg	Pn	03 09 00.1	+0.8
	988nm,0.7s						
CDCA	Citt' di Caste	1.76	130	Pg	Pn	03 09 00.1	+0.8
	988nm,0.7s						
MONC	Moncucco Torin	1.81	286	Pg	Pn	03 09 02.0	+2.1
	3μm,0.5s						
MONC	Moncucco Torin	1.81	286	Pg	Pn	03 09 02.0	+2.1
	3μm,0.5s						
BERNI	Berninapass	1.82	352	⇓*i*P	Pn	03 09 01.3	+1.2
	4μm,0.4s						
BERNI	Berninapass	1.82	352	⇓*i*P	Pn	03 09 01.3	+1.2
BERNI	Berninapass	1.82	352	⇓*e*Pg	Pn	03 09 01.3	+1.2
BERNI	Berninapass	1.82	352	⇓*i*P	Pn	03 09 01.3	+1.2
	4μm,0.4s						
VARN	Col Varnada, M	1.84	41	⇓*e*Pn	Pn	03 08 59.6	-0.8
VARN				*e*Sn	Sn	03 09 23.4	+0.6
VARN	Col Varnada, M	1.84	41	*e*Pn	Pn	03 08 59.6	-0.8
VARN				*e*Sn	Sn	03 09 23.4	+0.6
BRMO	Bormio	1.87	360	Pg	Pn	03 09 01.9	+1.2
	929nm,0.7s						
BRMO	Bormio	1.87	360	Pg	Pn	03 09 01.9	+1.2
	929nm,0.7s						
PIEI	Pieia	1.89	124	Pg	Pn	03 09 03.0	+2.0
	479nm,0.6s						
PIEI	Pieia	1.89	124	Pg	Pn	03 09 03.0	+2.0
	479nm,0.6s						
ARCI	Arcidosso	1.93	155	⇓*e*Pg	Pn	03 09 01.1	-0.4
	482nm,1.0s						
FSSB	Fossombrone	1.95	117	Pg	Pn	03 09 02.2	+0.3
	230nm,0.4s						
APPI	Appiano	1.96	17	⇓*e*Pg	Pn	03 09 03.0	+1.0
ORO	Oropa	1.98	302	Pg	Pn	03 09 01.3	-1.0
VDL	Val di Lei	1.99	341	⇓*i*P	Pn	03 09 02.5	+0.1
	4μm,0.6s						
VDL	Val di Lei	1.99	341	⇓*i*P	Pn	03 09 02.5	+0.1
VDL	Val di Lei	1.99	341	⇓*i*P	Pn	03 09 02.5	+0.1
VDL	Val di Lei	1.99	341	⇓*i*P	Pn	03 09 02.5	+0.1
	4μm,0.6s						
TUE	Stuetta	2.00	339	*e*Pg	Pn	03 09 04.0	+1.4
TUE				*e*Sn	Sn	03 09 27.6	+0.9
TUE	Stuetta	2.00	339	⇓*i*Pg	Pn	03 09 04.0	+1.4
	1μm,0.7s						
CAE	Caneva	2.01	45	⇓*e*Pn	Pn	03 09 02.4	-0.3
CAE	Caneva	2.01	45	*e*Pn	Pn	03 09 02.4	-0.3
FUORN	Ofenpass-Fuorn	2.01	358	⇓*i*P	Pn	03 09 04.1	+1.4
	3μm,0.5s						
FUORN	Ofenpass-Fuorn	2.01	358	*e*Pg	Pn	03 09 04.2	+1.4
FUORN				*e*Sn	Sn	03 09 27.6	+0.5
FUORN	Ofenpass-Fuorn	2.01	358	Pg	Pn	03 09 04.3	+1.6
FUORN	Ofenpass-Fuorn	2.01	358	⇓*i*P	Pn	03 09 04.1	+1.4
	3μm,0.5s						
FUORN				*e*Sn	Sn	03 09 27.6	+0.5
AGOR	Agordo	2.04	34	⇓*e*Pn	Pn	03 09 03.5	+0.4
AGOR	Agordo	2.04	34	Pg	Pn	03 09 03.5	+0.4
	2μm,0.5s						
MURB	Monte Urbino	2.05	130	Pg	Pn	03 09 04.6	+1.4
	2μm,0.3s						
POLC	Polcenigo	2.06	46	*e*Pn	Pn	03 09 03.3	-0.1
TRAV	Traversella	2.08	297	⇑*i*Pg	Pn	03 09 03.1	-0.5
	1μm,0.4s						
SACS	San Casciano d	2.08	147	Pg	Pn	03 09 03.7	+0.1
	624nm,0.9s						
SAOF	Saorge	2.12	254	P	Pn	03 09 04.4	+0.1
SAOF				S	Sn	03 09 32.7	+2.9
SAOF	Saorge	2.12	254	P	Pn	03 09 04.4	+0.1
SAOF				S	Sn	03 09 32.7	+2.9
MLNI	Malnisio	2.20	45	⇓*e*Pn	Pn	03 09 05.0	-0.2
MLNI	Malnisio	2.20	45	*e*Pn	Pn	03 09 05.0	-0.3
DAVOX	Davos/Dischmat	2.20	351	Pn	Pn	03 09 07.7	+2.4
	227nm,0.3s,baz=167,slow=8.4,SNR=4325						
DAVOX				Sn	Sn	03 09 34.7	+3.1
	178nm,0.3s,baz=335,slow=19,SNR=8.4						
DAVOX	Davos/Dischmat	2.20	351	⇓*i*P	Pn	03 09 07.4	+2.1
	4μm,0.5s						
DAVOX	Davos/Dischmat	2.20	351	⇓*i*P	Pn	03 09 07.4	+2.1
DAVOX				Sn	Sn	03 09 34.7	+3.1
DAVOX	Davos/Dischmat	2.20	351	⇓*i*P	Pn	03 09 07.4	+2.1
DAVOX						03 09 34.7	
DAVOX	Davos/Dischmat	2.20	351	⇓*e*Pg	Pn	03 09 07.5	+2.2
DAVOX	Davos/Dischmat	2.20	351	⇓*i*P	Pn	03 09 07.4	+2.1
	4μm,0.5s						
DAVOX				S	Sn	03 09 34.7	+3.0
FUSIO	Fusio	2.21	327	⇑*i*P	Pn	03 09 05.0	-0.4
	4μm,0.5s						
FUSIO	Fusio	2.21	327	⇑*i*P	Pn	03 09 05.0	-0.4
FUSIO	Fusio	2.21	327	⇑*i*Pg	Pn	03 09 06.2	+0.8
FUSIO	Fusio	2.21	327	⇑*i*P	Pn	03 09 05.0	-0.4
	4μm,0.5s						
AUTN	L'Aution	2.21	255	P	Pn	03 09 06.3	+0.9
AUTN				S	Sn	03 09 35.4	+3.5
AUTN	L'Aution	2.21	255	P	Pn	03 09 06.3	+0.9
AUTN				S	Sn	03 09 35.4	+3.5
STV	Sant Anna di V	2.22	262	⇓*e*Pg	Pn	03 09 06.1	+0.5
	1μm,0.5s						
CIMO	Cimolais	2.23	40	⇓*e*Pn	Pn	03 09 05.5	-0.3
CIMO	Cimolais	2.23	40	*e*Pn	Pn	03 09 05.4	-0.3
MMK	Mattmark	2.23	311	⇑*i*P	Pn	03 09 06.2	+0.4
	2μm,0.4s						
MMK	Mattmark	2.23	311	⇑*i*P	Pn	03 09 06.2	+0.4
MMK	Mattmark	2.23	311	⇑*i*P	Pn	03 09 06.2	+0.4
MMK	Mattmark	2.23	311	⇑*i*P	Pn	03 09 06.2	+0.4
	2μm,0.4s						
LATE	Laterza	2.25	152	Pg	Pn	03 09 06.1	+0.2
	32nm,0.5s						
DOI	San Damiano	2.25	268	Pg	Pn	03 09 06.8	+0.9
	2μm,0.6s						
MAON	Monte Argentar	2.25	166	Pg	Pn	03 09 05.6	-0.3
	507nm,0.9s						
SBF	Sospel	2.25	252	*e*Pn	Pn	03 09 05.8	-0.1
	SNR=1.0						
SBF				*e*Sn	Sn	03 09 33.3	+0.5
	2μm,0.5s,SNR=1.0						
SBF	Sospel	2.25	252	*e*Pn	Pn	03 09 05.8	-0.1
SBF				*e*Sn	Sn	03 09 33.3	+0.5
SBF	Sospel	2.25	252	*e*P	Pn	03 09 05.8	-0.1
SBF				*e*		03 09 33.3	
SBF	Sospel	2.25	252	*e*Pn	Pn	03 09 05.8	-0.1
	SNR=1.0						
SBF				*e*Sn	Sn	03 09 33.3	+0.5
	796nm,0.5s,SNR=1.0						
ASS	Assisi	2.25	133	Pg	Pn	03 09 05.6	-0.4
	136nm,0.4s						
RSP	Reno Superiore	2.28	285	Pg	Pn	03 09 05.2	-1.2
	547nm,0.6s						
PGF	Pioggiola	2.29	207	*e*Pn	Pn	03 09 05.2	-1.4
	SNR=1.0						
PGF				*e*Sn	Sn	03 09 32.4	-1.6
	346nm,0.4s,SNR=1.0						
PGF	Pioggiola	2.29	207	*e*Pn	Pn	03 09 05.2	-1.4
PGF				*e*Sn	Sn	03 09 32.4	-1.6
PGF	Pioggiola	2.29	207	*e*P	Pn	03 09 05.2	-1.4
PGF				*e*		03 09 32.4	
PGF	Pioggiola	2.29	207	*e*Pn	Pn	03 09 05.2	-1.4
	SNR=1.0						
PGF				*e*Sn	Sn	03 09 32.4	-1.6
	173nm,0.4s,SNR=1.0						
TLI	Talmassons	2.33	55	⇓*i*Pn	Pn	03 09 06.7	-0.3
TLI	Talmassons	2.33	55	*i* Pn	Pn	03 09 06.7	-0.3
TOUF	Mont Tournerai	2.33	256	P	Pn	03 09 08.1	+1.0
TOUF				S	Sn	03 09 38.8	+4.0
TOUF	Mont Tournerai	2.33	256	P	Pn	03 09 08.1	+1.0
TOUF				S	Sn	03 09 38.8	+4.0
REVF	Revere	2.34	249	P	Pn	03 09 06.8	-0.4
REVF	Revere	2.34	249	P	Pn	03 09 06.8	-0.4
PZZ	Stroppo	2.34	269	Pg	Pn	03 09 07.6	+0.4
	1μm,0.7s						
CING	Cingoli	2.37	120	⇑*e*Pg	Pn	03 09 09.0	+1.3
	468nm,0.8s						
FETA	Feichten	2.42	6	⇓*e*Pn	Pn	03 09 10.1	+1.7
	SNR=325						
FETA	Feichten	2.42	6	⇓*e*Pn	Pn	03 09 10.1	+1.7
FETA	Feichten	2.42	6	⇓*e*Pn	Pn	03 09 10.1	+1.7
CESI	CESI - Serrava	2.43	130	Pg	Pn	03 09 09.7	+1.3
	313nm,1.0s						
MVIF	Mont Vial	2.43	254	P	Pn	03 09 09.0	+0.5
MVIF				S	Sn	03 09 42.2	+4.9
MVIF	Mont Vial	2.43	254	P	Pn	03 09 09.0	+0.5
MVIF				S	Sn	03 09 42.2	+4.9
LLS	Linth-Limmern	2.44	337	⇓*i*P	Pn	03 09 09.9	+1.3
	2μm,0.5s						
LLS	Linth-Limmern	2.44	337	⇓*i*P	Pn	03 09 09.9	+1.3
LLS	Linth-Limmern	2.44	337	⇓*i*P	Pn	03 09 09.9	+1.3
LSD	Lago del Serru	2.46	291	Pg	Pn	03 09 07.9	-0.9
	277nm,0.4s						
CSMI	Casera Mimoias	2.48	39	⇓*e*Pn	Pn	03 09 09.4	+0.3
CSMI	Casera Mimoias	2.48	39	*e*Pn	Pn	03 09 09.4	+0.2
FDMO	Fiordimonte	2.51	128	Pg	Pn	03 09 11.1	+1.6
	526nm,0.9s						
PLONS	Plons/SG	2.54	344	⇓*i*P	Pn	03 09 11.8	+1.8
	2μm,0.6s						
PLONS	Plons/SG	2.54	344	⇓*i*P	Pn	03 09 11.8	+1.8
PLONS	Plons/SG	2.54	344	⇓*i*P	Pn	03 09 11.8	+1.8
SURF	Saint Ours	2.56	268	P	Pn	03 09 11.7	+1.5
SURF	Saint Ours	2.56	268	P	Pn	03 09 11.7	+1.5
DIX	Grande Dixence	2.56	306	*e*P	Pn	03 09 11.0	+0.7
	2μm,0.8s						
DIX	Grande Dixence	2.56	306	*e*P	Pn	03 09 11.0	+0.7
DIX	Grande Dixence	2.56	306	*e*P	Pn	03 09 11.0	+0.7
DIX	Grande Dixence	2.56	306	*e*P	Pn	03 09 11.0	+0.7
	2μm,0.8s						
BOO	Bordano	2.56	47	⇓*i*Pn	Pn	03 09 10.0	-0.3
BOO	Bordano	2.56	47	*i* Pn	Pn	03 09 10.0	-0.3
FUSE	Fusea	2.58	45	⇓*e*Pn	Pn	03 09 10.1	-0.4
FUSE	Fusea	2.58	45	*e*Pn	Pn	03 09 10.1	-0.4
MBDF	Montbardon	2.58	274	*e*Pn	Pn	03 09 10.6	+0.1
	SNR=1.0						
MBDF				*e*

354nm,0.4s
LPL La Plagne 2.74 291 *e*Pn **Pn 03 09 13.2 +0.4**
LPL *e*Sn **Sn 03 09 44.1 -0.9**
LPL La Plagne 2.74 291 *e*P **Pn 03 09 13.2 +0.4**
LPL *e* 03 09 44.1
LPL La Plagne 2.74 291 *e*Pn **Pn 03 09 13.2 +0.4**
SNR=1.0
LPL *e*Sn **Sn 03 09 44.1 -0.9**
177nm,0.4s
PLRO Paularo 2.74 44⇓*e*Pn **Pn 03 09 12.8 0.0**
PLRO Paularo 2.74 44 *e*Pn **Pn 03 09 12.8 0.0**
LIENZ Kamor/St.Gall 2.76 347⇓*i*P **Pn 03 09 15.0 +2.0**
LIENZ Kamor/St.Gall 2.76 347⇓*i*P **Pn 03 09 15.0 +2.0**
LIENZ Kamor/St.Gall 2.76 347⇓*i*P **Pn 03 09 15.0 +2.0**
DRE Drenchia 2.78 55⇓*e*Pn **Pn 03 09 13.0 -0.2**
DRE Drenchia 2.78 55 *e*Pn **Pn 03 09 13.0 -0.2**
MNS Montasola 2.78 142 Pg **Pn 03 09 14.0 +0.7**
379nm,0.9s
MOTA Moosalm 2.78 10 *e*Pn **Pn 03 09 15.9 +2.6**
SNR=312
MOTA Moosalm 2.78 10 *e*Pn **Pn 03 09 15.9 +2.6**
MOTA Moosalm 2.78 10 *e*P **Pn 03 09 15.9 +2.6**
MOTA Moosalm 2.78 10 *e*P **Pn 03 09 15.9 +2.6**
SENIN Lac Senin/Sane 2.79 310⇓*i*P **Pn 03 09 14.8 +1.4**
SENIN Lac Senin/Sane 2.79 310 *e*Pn **Pn 03 09 14.2 +0.8**
SENIN Lac Senin/Sane 2.79 310 *e*Pn **Pn 03 09 14.2 +0.8**
SENIN Lac Senin/Sane 2.79 310⇓*i*P **Pn 03 09 14.8 +1.4**
WTTA Wattenberg 2.79 18 *e*Pn **Pn 03 09 15.4 +1.9**
SNR=1094
WTTA Wattenberg 2.79 18 *e*Pn **Pn 03 09 15.4 +1.9**
WTTA Wattenberg 2.79 18 *e*P **Pn 03 09 15.4 +1.9**
WTTA Wattenberg 2.79 18 *e*P **Pn 03 09 15.4 +1.9**
TOLF Tolfa 2.80 155 Pg **Pn 03 09 13.8 +0.2**
112nm,0.5s
WATA Walderalm 2.85 17 *e*Pn **Pn 03 09 15.9 +1.7**
SNR=3231
WATA Walderalm 2.85 17 *e*Pn **Pn 03 09 15.9 +1.7**
WATA Walderalm 2.85 17 *e*P **Pn 03 09 16.0 +1.8**
WATA Walderalm 2.85 17 *e*Pn **Pn 03 09 15.9 +1.7**
VOY Vojsko 2.85 59⇓*i*Pn **Pn 03 09 14.0 -0.3**
VOY *e*Sn **Sn 03 09 47.3 -0.5**
VOY Vojsko 2.85 59⇓*i*Pn **Pn 03 09 14.0 -0.3**
VOY *e*Sn **Sn 03 09 47.3 -0.5**
CADS Cadrg 2.86 54 *i* Pn **Pn 03 09 14.1 -0.3**
CADS *e*Sn **Sn 03 09 47.8 -0.2**
CADS Cadrg 2.86 54 *i* Pn **Pn 03 09 14.1 -0.3**
CADS *e*Sn **Sn 03 09 47.8 -0.2**
FRF La Foret Royal 2.89 250 *e*Pn **Pn 03 09 14.5 -0.3**
SNR=1.0
FRF *e*Sn **Sn 03 09 48.7 0.0**
1µm,0.5s,SNR=1.0
FRF La Foret Royal 2.89 250 *e*Pn **Pn 03 09 14.5 -0.3**
FRF *e*Sn **Sn 03 09 48.7 0.0**
FRF La Foret Royal 2.89 250 *e*P **Pn 03 09 14.5 -0.3**
FRF *e* 03 09 48.7
FRF La Foret Royal 2.89 250 *e*Pn **Pn 03 09 14.5 -0.3**
SNR=1.0
FRF *e*Sn **Sn 03 09 48.7 0.0**
671nm,0.5s,SNR=1.0
RETA Reutte 2.89 5 *e*Pn **Pn 03 09 16.9 +2.2**
SNR=302
RETA Reutte 2.89 5 *e*Pn **Pn 03 09 16.9 +2.2**
RETA Reutte 2.89 5 *e*Pn **Pn 03 09 17.0 +2.2**
LSR Lussari 2.89 49⇓*e*Pn **Pn 03 09 14.6 -0.2**
LSR Lussari 2.89 49 *e*Pn **Pn 03 09 14.6 -0.2**
ACOM Acomizza, Ital 2.93 47⇑*e*Pn **Pn 03 09 15.4 +0.1**
ACOM Acomizza, Ital 2.93 47 *e*Pn **Pn 03 09 15.4 +0.1**
AIGLE Aigle 2.97 307⇑*i*P **Pn 03 09 17.5 +1.6**
AIGLE Aigle 2.97 307⇑*i*P **Pn 03 09 17.5 +1.6**
AIGLE Aigle 2.97 307⇑*i*P **Pn 03 09 17.5 +1.6**
WILA Wila 2.99 340⇓*i*P **Pn 03 09 17.9 +1.8**
WILA Wila 2.99 340⇓*i*P **Pn 03 09 17.9 +1.8**
WILA Wila 2.99 340⇓*i*P **Pn 03 09 17.9 +1.8**
ZUR Degenried 3.03 336⇓*i*P **Pn 03 09 18.1 +1.4**
ZUR Degenried 3.03 336⇓*i*P **Pn 03 09 18.1 +1.4**
ZUR Degenried 3.03 336⇓*i*P **Pn 03 09 18.1 +1.4**
ZUR Degenried 3.03 336⇓*i*P **Pn 03 09 18.1 +1.4**
TERO Teramo 3.07 129 Pg **Pn 03 09 18.9 +1.7**
330nm,0.8s
FIAM Fiamignano 3.07 139 Pg **Pn 03 09 18.7 +1.4**
356nm,0.8s
LMR La Mourre 3.08 247 *e*Pn **Pn 03 09 16.6 -0.7**
SNR=1.0
LMR *e*Sn **Sn 03 09 52.4 -0.8**
1µm,0.4s,SNR=1.0
LMR La Mourre 3.08 247 *e*Pn **Pn 03 09 16.6 -0.7**
LMR *e*Sn **Sn 03 09 52.4 -0.8**
LMR La Mourre 3.08 247 *e*P **Pn 03 09 16.6 -0.7**
LMR *e* 03 09 52.4
LMR La Mourre 3.08 247 *e*Pn **Pn 03 09 16.6 -0.7**
SNR=1.0
LMR *e*Sn **Sn 03 09 52.4 -0.8**
737nm,0.4s,SNR=1.0
WEIN Weingarten 3.08 342⇓*i*P **Pn 03 09 18.5 +1.1**
WEIN Weingarten 3.08 342⇓*i*P **Pn 03 09 18.5 +1.1**
WEIN Weingarten 3.08 342⇓*i*P **Pn 03 09 18.5 +1.1**
AQU L'Aquila 3.15 135 *e*Pn **Pn 03 09 20.3 +2.0**
AQU *e*Sn **Sn 03 09 56.1 +1.1**
AQU L'Aquila 3.15 135 *e*P **Pn 03 09 20.3 +2.0**
AQU *e* 03 09 56.1
AQU L'Aquila 3.15 135 *e*P **Pn 03 09 20.3 +2.0**
AQU *e*S **Sn 03 09 56.1 +1.1**
NVLJ Novalja 3.21 89 *i* Pn **Pn 03 09 19.1 0.0**
NVLJ Sn **Sn 03 09 54.9 -1.6**
NVLJ Novalja 3.21 89 *i* Pn **Pn 03 09 19.1 0.0**
NVLJ Sn **Sn 03 09 54.9 -1.6**
KBA Koelnbreinsper 3.22 39 *i* Pn **Pn 03 09 20.7 +1.3**
SNR=20
KBA Koelnbreinsper 3.22 39 *i* Pn **Pn 03 09 20.7 +1.3**
KBA Koelnbreinsper 3.22 39 *i* P **Pn 03 09 20.7 +1.4**
KBA Koelnbreinsper 3.22 39 *i* P **Pn 03 09 20.7 +1.4**
FLACH Flaach 3.22 338⇓*i*P **Pn 03 09 20.2 +0.9**
FLACH Flaach 3.22 338⇓*i*P **Pn 03 09 20.2 +0.9**
FLACH Flaach 3.22 338⇓*i*P **Pn 03 09 20.2 +0.9**
ORIF Oris-en-Rattie 3.22 277 *e*Pn **Pn 03 09 21.1 +1.7**
SNR=1.0
ORIF *e*Sn **Sn 03 09 55.3 -1.6**
346nm,0.5s
ORIF Oris-en-Rattie 3.22 277 *e*Pn **Pn 03 09 21.1 +1.7**
ORIF *e*Sn **Sn 03 09 55.3 -1.6**
ORIF Oris-en-Rattie 3.22 277 *e*P **Pn 03 09 21.1 +1.7**
ORIF *e* 03 09 55.3
ORIF Oris-en-Rattie 3.22 277 *e*Pn **Pn 03 09 21.1 +1.7**
SNR=1.0
ORIF *e*Sn **Sn 03 09 55.3 -1.6**
173nm,0.5s
STEIN Stein am Rhein 3.24 342⇓*i*P **Pn 03 09 20.5 +0.9**
STEIN Stein am Rhein 3.24 342⇓*i*P **Pn 03 09 20.5 +0.9**
STEIN Stein am Rhein 3.24 342⇓*i*P **Pn 03 09 20.5 +0.9**
LJU Ljubljana 3.25 62 *i* Pn **Pn 03 09 20.0 +0.2**
LJU *e*Sn **Sn 03 09 57.8 +0.1**
LJU Ljubljana 3.25 62 *i* Pn **Pn 03 09 20.0 +0.2**
LJU *e*Sn **Sn 03 09 57.8 +0.1**
TRULL Truellikon 3.26 339⇓*i*P **Pn 03 09 20.7 +0.8**
TRULL Truellikon 3.26 339⇓*i*P **Pn 03 09 20.7 +0.8**
TRULL Truellikon 3.26 339⇓*i*P **Pn 03 09 20.7 +0.8**
BALST Balsthal 3.31 326 *e*P **Pn 03 09 21.2 +0.7**
BALST Balsthal 3.31 326 *e*P **Pn 03 09 21.2 +0.7**
BALST Balsthal 3.31 326 *e*P **Pn 03 09 21.2 +0.7**
SULZ Cheisacher 3.32 332⇓*i*P **Pn 03 09 21.3 +0.6**
SULZ Cheisacher 3.32 332⇓*i*P **Pn 03 09 21.3 +0.6**
SULZ Cheisacher 3.32 332⇓*i*P **Pn 03 09 21.3 +0.6**
GRN Grenoble 3.36 283 P **Pn 03 09 23.0 +1.8**
GRN Grenoble 3.36 283 P **Pn 03 09 23.0 +1.8**
SLE Schleitheim 3.42 338⇓*i*P **Pn 03 09 22.3 +0.3**
SLE Schleitheim 3.42 338⇓*i*P **Pn 03 09 22.3 +0.3**
SLE Schleitheim 3.42 338⇓*i*P **Pn 03 09 22.3 +0.3**
SLE Schleitheim 3.42 338⇓*i*P **Pn 03 09 22.3 +0.3**
BBS Basel-Blauen 3.49 326 P **Pn 03 09 22.7 -0.3**
OBKA Obir 3.49 56 Pn **Pn 03 09 23.0 0.0**
SNR=50
SMRF Simiane la Rot 3.51 261 *e*Pn **Pn 03 09 24.7 +1.4**
SNR=1.0
SMRF *e*Sn **Sn 03 10 02.9 -1.1**
241nm,0.4s
SMRF Simiane la Rot 3.51 261 *e*Pn **Pn 03 09 24.7 +1.4**
SMRF *e*Sn **Sn 03 10 02.9 -1.1**
SMRF Simiane la Rot 3.51 261 *e*Pn **Pn 03 09 24.7 +1.4**
SNR=1.0
SMRF *e*Sn **Sn 03 10 02.9 -1.1**
121nm,0.4s
GUAR Guarcino 3.54 142 Pg **Pn 03 09 25.1 +1.5**
126nm,0.8s
BOURR Bourrignon 3.55 323⇑*i*P **Pn 03 09 24.6 +0.8**
BOURR Bourrignon 3.55 323⇑*i*P **Pn 03 09 24.6 +0.8**
BOURR Bourrignon 3.55 323⇑*i*P **Pn 03 09 24.6 +0.8**
BOJS Bojanci 3.56 74 *i* Pn **Pn 03 09 24.0 0.0**
BOJS *e*Sn **Sn 03 10 04.5 -0.7**
BOJS
comp=Z,112nm,0.3s
BOJS Bojanci 3.56 74 *i* Pn **Pn 03 09 24.0 0.0**
BOJS *e*Sn **Sn 03 10 04.6 -0.7**
comp=Z,112nm,0.3s
CABF La Chapelle 3.62 305 *e*Pn **Pn 03 09 26.1 +1.3**
SNR=1.0
CABF *e*Sn **Sn 03 10 01.8 -4.9**
comp=Z,172nm,0.5s,SNR=1.0
CABF La Chapelle 3.62 305 *e*Pn **Pn 03 09 26.1 +1.3**
CABF *e*Sn **Sn 03 10 01.8 -4.9**
CABF La Chapelle 3.62 305 *e*P **Pn 03 09 26.1 +1.3**
CABF *e* 03 10 01.8
CABF La Chapelle 3.62 305 *e*Pn **Pn 03 09 26.1 +1.3**
SNR=1.0
FELD Feldberg im Sc 3.66 334 P **Pn 03 09 25.6 +0.2**
SPAK Spaichingen-Ko 3.67 343 P **Pn 03 09 24.6 -0.8**
LOMF Lomont 3.70 319 P **Pn 03 09 26.8 +0.9**
LOMF Lomont 3.70 319 P **Pn 03 09 26.8 +0.9**
POFI Posta Fibreno 3.78 139 Pg **Pn 03 09 28.6 +1.6**
comp=Z,244nm,1.7s
MOF Molkenrain 3.95 326 P **Pn 03 09 29.9 +0.6**
MOF Molkenrain 3.95 326 P **Pn 03 09 29.9 +0.6**
BFO Black Forest 3.98 340 *e*Pn **Pn 03 09 29.6 -0.2**
BFO *e*Sn **Sn 03 10 15.4 -0.2**
BFO Black Forest 3.98 340 *e*P **Pn 03 09 29.6 -0.2**
BFO *e* 03 10 15.4
BFO Black Forest 3.98 340 *e*P **Pn 03 09 29.6 -0.2**
BFO *e*S **Sn 03 10 15.4 -0.2**
LIBD Limburg 4.03 332 P **Pn 03 09 30.0 -0.5**
HINF Hinteralfeld 4.04 324 *e*Pn **Pn 03 09 30.8 +0.3**
SNR=1.0
HINF *e*Sn **Sn 03 10 15.4 -1.6**
comp=Z,124nm,0.3s
HINF Hinteralfeld 4.04 324 *e*Pn **Pn 03 09 30.8 +0.3**
HINF *e*Sn **Sn 03 10 15.4 -1.6**
HINF Hinteralfeld 4.04 324 *e*P **Pn 03 09 30.8 +0.3**
HINF *e* 03 10 15.4
HINF Hinteralfeld 4.04 324 *e*Pn **Pn 03 09 30.8 +0.3**
SNR=1.0
HINF *e*Sn **Sn 03 10 15.4 -1.6**
comp=Z,62nm,0.3s
VIVF Saint-Julien-I 4.08 275 *e*Pn **Pn 03 09 31.6 +0.5**
SNR=1.0
VIVF *e*Sn **Sn 03 10 15.3 -2.7**
comp=Z,62nm,0.3s
VIVF Saint-Julien-I 4.08 275 *e*Pn **Pn 03 09 31.6 +0.5**
VIVF *e*Sn **Sn 03 10 15.3 -2.7**
VIVF Saint-Julien-I 4.08 275 *e*P **Pn 03 09 31.6 +0.5**
VIVF *e* 03 10 15.3
VIVF Saint-Julien-I 4.08 275 *e*Pn **Pn 03 09 31.6 +0.5**
SNR=1.0
VIVF *e*Sn **Sn 03 10 15.3 -2.7**
comp=Z,31nm,0.3s
SSB Saint Sauveur 4.20 281 *e*Pn **Pn 03 09 32.6 -0.2**
SSB *e*Sn **Sn 03 10 20.1 -0.9**
SSB Saint Sauveur 4.20 281 *e*P **Pn 03 09 32.6 -0.2**
SSB *e* 03 10 20.1
SSB Saint Sauveur 4.20 281 *e*P **Pn 03 09 32.6 -0.2**
SSB *e*S **Sn 03 10 20.1 -0.9**
MOA Molln 4.21 38 *i* Pn **Pn 03 09 34.0 +1.0**
SNR=338
MOA Molln 4.21 38 *i* Pn **Pn 03 09 34.0 +1.0**
MOA Molln 4.21 38 *i* Pn **Pn 03 09 34.0 +1.0**
ECH Echery 4.24 329 *e*Pn **Pn 03 09 33.5 +0.1**
ECH *e*Sn **Sn 03 10 21.8 -0.2**
ECH Echery 4.24 329 *e*P **Pn 03 09 33.5 +0.2**
ECH *e* 03 10 21.8
ECH Echery 4.24 329 *e*P **Pn 03 09 33.5 +0.2**
ECH *e*S **Sn 03 10 21.8 -0.2**
ECH Echery 4.24 329 P **Pn 03 09 33.6 +0.3**
STU Stuttgart 4.24 349 *e*Pn **Pn 03 09 33.3 -0.1**
STU *e*Sn **Sn 03 10 19.8 -2.3**
STU Stuttgart 4.24 349 *e*P **Pn 03 09 33.3 -0.1**
STU *e* 03 10 19.8
STU Stuttgart 4.24 349 *e*P **Pn 03 09 33.3 -0.1**
STU *e*S **Sn 03 10 19.8 -2.2**
DGI Dorgali Grotta 4.33 188 Pg **Pn 03 09 34.4 -0.1**
comp=Z,59nm,0.8s
SISC Sisak 4.33 76 *e*Pn **Pn 03 09 34.6 0.0**
SISC Sisak 4.33 76 *e*Pn **Pn 03 09 34.5 -0.1**
CDF Champ du Feu 4.37 332 *e*Pn **Pn 03 09 35.3 +0.2**
SNR=1.0
CDF *e*Sn **Sn 03 10 20.2 -4.9**
comp=Z,276nm,0.4s
CDF Champ du Feu 4.37 332 *e*Pn **Pn 03 09 35.3 +0.2**
CDF *e*Sn **Sn 03 10 20.2 -4.9**
CDF Champ du Feu 4.37 332 *e*P **Pn 03 09 35.3 +0.2**
CDF *e* 03 10 20.2
CDF Champ du Feu 4.37 332 *e*Pn **Pn 03 09 35.3 +0.2**
SNR=1.0
STR Strasbourg 4.37 337 P **Pn 03 09 35.8 +0.7**
STR Strasbourg 4.37 337 P **Pn 03 09 35.8 +0.7**
HAU Haudompre 4.40 322 *e*Pn **Pn 03 09 36.1 +0.6**
SNR=1.0
HAU *e*Sn **Sn 03 10 23.8 -2.1**
comp=Z,350nm,0.4s
HAU Haudompre 4.40 322 *e*Pn **Pn 03 09 36.1 +0.6**
HAU *e*Sn **Sn 03 10 23.8 -2.1**
HAU Haudompre 4.40 322 *e*P **Pn 03 09 36.1 +0.6**
HAU *e* 03 10 23.8
HAU Haudompre 4.40 322 *e*Pn **Pn 03 09 36.1 +0.6**
SNR=1.0
HAU *e*Sn **Sn 03 10 23.8 -2.1**
comp=Z,175nm,0.4s
PTRJ Pietraroja 4.45 135 Pg **Pn 03 09 37.3 +1.1**
comp=Z,154nm,0.7s
ARSA Arzberg 4.45 52 *i* Pn **Pn 03 09 36.1 -0.1**
SNR=228
ARSA Arzberg 4.45 52 *i* Pn **Pn 03 09 36.1 -0.1**
ARSA Arzberg 4.45 52 *i* Pn **Pn 03 09 36.1 -0.1**
LASF Ste Croix 4.71 266 *e*Pn **Pn 03 09 40.1 +0.3**
SNR=1.0
LASF *e*Sn **Sn 03 10 31.6 -2.0**
comp=Z,63nm,0.4s,SNR=1.0
LASF Ste Croix 4.71 266 *e*Pn **Pn 03 09 40.1 +0.3**
LASF *e*Sn **Sn 03 10 31.6 -2.0**
LASF Ste Croix 4.71 266 *e*Pn **Pn 03 09 40.1 +0.3**
SNR=1.0
LASF *e*Sn **Sn 03 10 31.6 -2.0**
comp=Z,31nm,0.4s,SNR=1.0
LANF Langenberg 4.72 339 P **Pn 03 09 40.1 +0.2**
LANF Langenberg 4.72 339 P **Pn 03 09 40.1 +0.2**
THEF They Montfort 4.73 322 P **Pn 03 09 40.7 +0.7**
THEF They Montfort 4.73 322 P **Pn 03 09 40.7 +0.7**
GERES GERESS Array B 4.81 27 Pn **Pn 03 09 41.5 +0.3**
comp=Z,26nm,0.3s,baz=204,slow=14,SNR=3238
GERES Sn **Sn 03 10 36.3 +0.3**
comp=Z,87nm,0.3s,baz=210,slow=23,SNR=20
GERES Lg 03 11 04.5
comp=Z,20nm,0.3s,baz=209,slow=31,SNR=4.0
GERES LR LR 03 11 55.1
comp=Z,389nm,19.3s,baz=240,slow=42
GERES GERESS Array B 4.81 27 Pn **Pn 03 09 41.5 +0.3**
GERES Sn **Sn 03 10 36.3 +0.3**
GERES Lg 03 11 04.5
GERES GERESS Array B 4.81 27 P **Pn 03 09 41.5 +0.3**
GERES 03 10 36.3
GERES GERESS Array B 4.81 27 P **Pn 03 09 41.5 +0.3**
GERES S **Sn 03 10 36.3 +0.3**
SGRT San Giovanni R 4.85 124 Pg **Pn 03 09 41.4 -0.3**
comp=Z,82nm,0.4s
BEHE Becsehely 4.86 65⇓*e*Pn **Pn 03 09 41.3 -0.5**
PLDF La Plantade 4.96 288 P **Pn 03 09 43.2 -0.1**
PLDF La Plantade 4.96 288 P **Pn 03 09 43.2 -0.1**
KTD Kalmit 4.97 342 P **Pn 03 09 43.7 +0.4**
MSAG Monte S. Angel 4.97 124 Pg **Pn 03 09 42.9 -0.5**
comp=Z,132nm,0.7s
MS1 Monte Sant'Ang 4.99 124 *e*Pn **Pn 03 09 43.2 -0.5**
SMF Signal de Mont 5.02 296 *e*Pn **Pn 03 09 44.0 -0.1**
SNR=1.0
SMF *e*Sn **Sn 03 10 36.2 -5.0**
comp=Z,135nm,0.4s
SMF Signal de Mont 5.02 296 *e*Pn **Pn 03 09 44.0 -0.1**
SMF *e*Sn **Sn 03 10 36.2 -5.0**
SMF Signal de Mont 5.02 296 *e*P **Pn 03 09 44.0 -0.1**
SMF *e* 03 10 36.2
SMF Signal de Mont 5.02 296 *e*Pn **Pn 03 09 44.0 -0.1**
SNR=1.0
KHC Kasperske Hory 5.03 25 *e*Pn **Pn 03 09 44.2 +0.1**
KHC *e*Sn **Sn 03 10 40.0 -1.3**
KHC Kasperske Hory 5.03 25 *e*P **Pn 03 09 44.3 +0.2**
KHC *e* 03 10 39.7
KHC Kasperske Hory 5.03 25 *e*PN **Pn 03 09 44.3 +0.2**
KHC *ex* x 03 10 00.0
KHC *e*SN **Sn 03 10 39.7 -1.6**
KHC Kasperske Hory 5.03 25 *e*Pn **Pn 03 09 44.2 +0.1**
KHC *e*Sn **Sn 03 10 40.0 -1.3**
CONA Conrad Observa 5.04 47 *i* Pn **Pn 03 09 44.6 +0.3**
SNR=234
CONA Conrad Observa 5.04 47 *i* Pn **Pn 03 09 44.6 +0.3**
CONA Conrad Observa 5.04 47 *i* Pn **Pn 03 09 44.6 +0.2**
LBL Lubilhac 5.11 280 P **Pn 03 09 45.5 +0.3**
LBL Lubilhac 5.11 280 P **Pn 03 09 45.5 +0.3**
TOD Tromm 5.11 348 P **Pn 03 09 44.2 -1.1**
GRFO Grafenberg 5.12 6 *e*Pn **Pn 03 09 44.2 -1.1**
GRFO *e*Sg Sn 03 11 14.0 +31
GRFO Grafenberg 5.12 6 *e*P **Pn 03 09 44.3 -1.0**
GRFO Grafenberg 5.12 6 *e*P **Pn 03 09 44.3 -1.0**
GRFO *e*Sg Sn 03 11 14.0 +30
VSL Villasalto 5.16 189 *e*Pn **Pn 03 09 45.8 -0.3**
VSL *e*Sn **Sn 03 10 46.8 +2.0**
VSL Villasalto 5.16 189 *e*Pn **Pn 03 09 45.8 -0.2**
VSL *e*Sn **Sn 03 10 46.8 +2.0**
LOR Lormes 5.27 303 *e*Pn **Pn 03 09 47.8 +0.3**
SNR=1.0
LOR *e*Sn **Sn 03 10 47.4 0.0**
comp=Z,220nm,0.4s
LOR Lormes 5.27 303 *e*Pn **Pn 03 09 47.8 +0.3**
LOR *e*Sn **Sn 03 10 47.4 0.0**
LOR Lormes 5.27 303 *e*P **Pn 03 09 47.8 +0.3**
LOR *e* 03 10 47.4
LOR Lormes 5.27 303 *e*Pn **Pn 03 09 47.8 +0.3**
SNR=1.0
LOR *e*Sn **Sn 03 10 47.4 0.0**
comp=Z,110nm,0.4s
SOP Sopron 5.28 52⇓*e*Pn **Pn 03 09 48.2 +0.6**
SOP *e*Sn **Sn 03 10 45.9 -1.6**
SOP Sopron 5.28 52⇓*e*Pn **Pn 03 09 48.2 +0.6**
SOP *e*Sn **Sn 03 10 45.9 -1.6**
MEZF Maizieres J'vi 5.36 319 *e*Pn **Pn 03 09 49.4 +0.8**
SNR=1.0
MEZF *e*Sn **Sn 03 10 45.4 -4.0**
comp=Z,170nm,0.7s
MEZF Maizieres J'vi 5.36 319 *e*Pn **Pn 03 09 49.4 +0.8**
MEZF *e*Sn **Sn 03 10 45.4 -4.0**
MEZF Maizieres J'vi 5.36 319 *e*Pn **Pn 03 09 49.4 +0.8**
SNR=1.0
AVF Avril sur Loir 5.39 296 *e*Pn **Pn 03 09 48.7 -0.4**
SNR=1.0
AVF *e*Sn **Sn 03 10 48.3 -1.9**
comp=Z,84nm,0.8s
AVF Avril sur Loir 5.39 296 *e*Pn **Pn 03 09 48.7 -0.4**
AVF *e*Sn **Sn 03 10 48.3 -1.9**
AVF Avril sur Loir 5.39 296 *e*P **Pn 03 09 48.7 -0.4**
AVF *e* 03 10 48.3
AVF Avril sur Loir 5.39 296 *e*Pn **Pn 03 09 48.7 -0.4**
SNR=1.0
SSF Saint Saulge 5.40 299 *e*Pn **Pn 03 09 49.1 -0.1**
SNR=1.0
SSF *e*Sn **Sn 03 10 48.0 -2.4**
comp=Z,91nm,0.5s
SSF Saint Saulge 5.40 299 *e*Pn **Pn 03 09 49.1 -0.1**
SSF *e*Sn **Sn 03 10 48.0 -2.4**
SSF Saint Saulge 5.40 299 *e*P **Pn 03 09 49.1 -0.1**
SSF *e* 03 10 48.0
SSF Saint Saulge 5.40 299 *e*Pn **Pn 03 09 49.1 -0.1**
SNR=1.0
RUP Ruppelstein 5.58 337 P **Pn 03 09 51.4 -0.3**
STON Ston 5.58 106 *i* Pn **Pn 03 09 50.9 -0.8**
STON Sn **Sn 03 10 51.4 -3.5**
STON Ston 5.58 106 *i* Pn **Pn 03 09 50.9 -0.8**
CDT Castel del Mon 5.58 127 *e*Pn **Pn 03 09 50.6 -1.2**
CDT *e*Sn **Sn 03 10 52.8 -2.3**
ABH Alteburg 5.62 341 P **Pn 03 09 51.6 -0.6**
BGF Bois d'Agland 5.64 293 *e*Pn **Pn 03 09 52.7 +0.2**
SNR=1.0
BGF *e*Sn **Sn 03 10 53.7 -2.7**
comp=Z,194nm,0.5s,SNR=1.0
BGF Bois d'Agland 5.64 293 *e*Pn **Pn 03 09 52.7 +0.2**
BGF *e*Sn **Sn 03 10 53.7 -2.7**
BGF Bois d'Agland 5.64 293 *e*P **Pn 03 09 52.7 +0.2**
BGF *e* 03 10 53.7
BGF Bois d'Agland 5.64 293 *e*Pn **Pn 03 09 52.7 +0.2**
SNR=1.0
RHK3 Tenkes 5.70 74 *e*Pn **Pn 03 09 52.0 -1.4**
RHK3 *e*Sn **Sn 03 10 55.6 -2.3**
NKC Novy Kostel 5.80 13 *e*P **Pn 03 09 53.6 -1.1**
NKC *e* 03 10 57.2
NKC Novy Kostel 5.80 13 *e*PN **Pn 03 09 53.6 -1.1**
NKC *e*SN **Sn 03 10 57.2 -3.1**
NKC Novy Kostel 5.80 13 Pn **Pn 03 09 53.6 -1.1**
WLF Walferdange 5.82 332 PN **Pn 03 09 56.5 +1.4**
WLF SN **Sn 03 11 02.4 +1.5**
comp=E,50nm,0.7s
WLF Walferdange 5.82 332 *e*Pn **Pn 03 09 56.8 +1.8**
WLF *e*Sn **Sn 03 11 01.5 +0.6**
WLF Walferdange 5.82 332 *e*P **Pn 03 09 56.8 +1.8**
WLF *e* 03 11 01.5
WLF Walferdange 5.82 332 *e*P **Pn 03 09 56.8 +1.8**
WLF *e*S **Sn 03 11 01.5 +0.6**
TREC Trest 5.84 35 *e*P **Pn 03 09 55.2 -0.1**
TREC *e* 03 10 58.4
TREC Trest 5.84 35 *e*PN **Pn 03 09 55.2 -0.1**
TREC *e*SN **Sn 03 10 58.4 -3.1**
TREC Trest 5.84 35 Pn **Pn 03 09 55.2 -0.1**
SJAF Saint Jean de 5.85 251 P **Pn 03 09 55.3 -0.2**
SJAF Saint Jean de 5.85 251 P **Pn 03 09 55.3 -0.2**
BAI Bari 5.92 124 *e*Pn **Pn 03 09 56.0 -0.4**
LRDF Laroque-de-Fa 5.92 256 P **Pn 03 09 56.6 +0.2**
LRDF Laroque-de-Fa 5.92 256 P **Pn 03 09 56.6 +0.2**
CAF Calviac 5.93 276 *e*Pn **Pn 03 09 57.0 +0.4**
SNR=1.0
CAF *e*Sn **Sn 03 11 03.4 -0.3**
comp=E,28nm,0.5s
CAF Calviac 5.93 276 *e*Pn **Pn 03 09 57.0 +0.4**
CAF *e*Sn **Sn 03 11 03.4 -0.3**
CAF Calviac 5.93 276 *e*P **Pn 03 09 57.0 +0.4**
CAF *e* 03 11 03.4
CAF Calviac 5.93 276 *e*Pn **Pn 03 09 57.0 +0.4**
SNR=1.0
CAF *e*Sn **Sn 03 11 03.4 -0.3**
comp=E,14nm,0.5s
TCF Toulx Ste Croi 5.99 289 *e*Pn **Pn 03 09 57.0 -0.4**
SNR=1.0
TCF *e*Sn **Sn 03 11 02.6 -2.5**
comp=E,34nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 5.99 289 *e*Pn **Pn 03 09 57.0 -0.4**
TCF *e*Sn **Sn 03 11 02.6 -2.5**
TCF Toulx Ste Croi 5.99 289 *e*P **Pn 03 09 57.0 -0.4**
TCF *e* 03 11 02.6
TCF Toulx Ste Croi 5.99 289 *e*Pn **Pn 03 09 57.0 -0.4**
SNR=1.0
HYF Humbligny 6.02 299 *e*Pn **Pn 03 09 57.8 0.0**
HYF *e*Sn **Sn 03 11 00.6 -5.2**
HYF Humbligny 6.02 299 *e*Pn **Pn 03 09 57.8 0.0**
HYF *e*Sn **Sn 03 11 00.6 -5.2**
HYF Humbligny 6.02 299 *e*Pn **Pn 03 09 57.8 0.0**
MTLF Montolieu 6.03 261 *e*Pn **Pn 03 09 58.5 +0.6**
SNR=1.0
MTLF *e*Sn **Sn 03 11 03.5 -2.5**
comp=E,72nm,0.6s,SNR=1.0
MTLF Montolieu 6.03 261 *e*Pn **Pn 03 09 58.5 +0.6**
MTLF *e*Sn **Sn 03 11 03.5 -2.5**
MTLF Montolieu 6.03 261 *e*P **Pn 03 09 58.5 +0.6**
MTLF *e* 03 11 03.5
MTLF Montolieu 6.03 261 *e*Pn **Pn 03 09 58.5 +0.6**
SNR=1.0
PKSM Moragy 6.03 72⇓P **Pn 03 09 57.6 -0.3**
PKSM Moragy 6.03 72⇓*i*P **Pn 03 09 57.6 -0.3**
PKSM Moragy 6.03 72 P **Pn 03 09 57.6 -0.3**
FILF Fillols 6.04 253 P **Pn 03 09 59.3 +1.2**
FILF Fillols 6.04 253 P **Pn 03 09 59.3 +1.2**
PRU Pruhonice 6.08 26 *e*P **Pn 03 09 58.4 -0.2**
PRU *e* 03 11 05.0
PRU Pruhonice 6.08 26 *e*PN **Pn 03 09 58.4 -0.2**
PRU *e*SN **Sn 03 11 05.0 -2.2**
PRU Pruhonice 6.08 26 Pn **Pn 03 09 58.4 -0.2**
PRU Sn **Sn 03 11 05.0 -2.2**

BRY Bratogost 6.15 103⇓iPn Pn 03 10 00.3 +0.8
BRY eSn Sn 03 11 08.4 -0.6
BRY Bratogost 6.15 103⇓iPn Pn 03 10 00.3 +0.8
BRY eSn Sn 03 11 08.4 -0.6
SMOL Smolenice 6.23 49 eP Pn 03 10 00.8 +0.1
SMOL e 03 11 08.9
SMOL Smolenice 6.23 49 ePN Pn 03 10 00.8 +0.1
SMOL eSN Sn 03 11 08.9 -2.1
SMOL Smolenice 6.23 49 eP Pn 03 10 00.8 +0.1
SMOL eS Sn 03 11 08.9 -2.1
PKSG 6.23 61⇓ePn Pn 03 10 00.0 -0.7
HCY Herceg Novi 6.28 107⇑iPn Pn 03 10 02.2 +0.9
HCY eSn Sn 03 11 12.0 -0.2
HCY Herceg Novi 6.28 107⇑iPn Pn 03 10 02.2 +0.9
HCY eSn Sn 03 11 12.0 -0.2
CARF Carcanieres 6.30 255 P Pn 03 10 01.9 +0.3
CARF Carcanieres 6.30 255 P Pn 03 10 01.9 +0.3
UPM Unac-Piva 6.31 100⇓iPn Pn 03 10 03.2 +1.4
UPM eSn Sn 03 11 12.3 -0.8
UPM Unac-Piva 6.31 100⇓iPn Pn 03 10 03.2 +1.4
UPM eSn Sn 03 11 12.3 -0.8
RJF Les Rejaudoux 6.33 279 ePn Pn 03 10 03.1 +1.0
SNR=1.0
RJF eSn Sn 03 11 10.6 -2.9
comp=E,21nm,0.5s
RJF Les Rejaudoux 6.33 279 ePn Pn 03 10 03.1 +1.0
RJF eSn Sn 03 11 10.6 -2.9
RJF Les Rejaudoux 6.33 279 eP Pn 03 10 03.1 +1.0
RJF e 03 11 10.6
RJF Les Rejaudoux 6.33 279 ePn Pn 03 10 03.1 +1.0
SNR=1.0
VRAC Vranov 6.33 40 Pn Pn 03 10 01.1 -1.0
comp=E,3.1nm,0.3s,baz=233,slow=14,SNR=58
VRAC Sn Sn 03 11 11.3 -2.2
comp=E,7.7nm,0.3s,baz=141,slow=20,SNR=5.9
VRAC Lg 03 11 54.1
comp=E,4.6nm,0.3s,baz=131,slow=22,SNR=7.8
VRAC LR LR 03 13 10.0
comp=E,316nm,18.5s,baz=269,slow=44
VRAC Vranov 6.33 40 Pn Pn 03 10 01.1 -1.0
VRAC Sn Sn 03 11 11.3 -2.2
VRAC Lg 03 11 54.1
VRAC Vranov 6.33 40 P Pn 03 10 01.1 -1.0
VRAC 03 11 11.3
VRAC Vranov 6.33 40⇑iP Pn 03 10 01.1 -1.0
VRAC Vranov 6.33 40 P Pn 03 10 01.1 -1.0
VRAC S Sn 03 11 11.3 -2.2
PE1 Pezze di Greco 6.43 124 ePn Pn 03 10 03.6 +0.2
VALF Valcebollere 6.47 253 P Pn 03 10 05.0 +1.0
VALF Valcebollere 6.47 253 P Pn 03 10 05.0 +1.0
PKS2 Kecel 6.48 70 ePn Pn 03 10 03.0 -1.1
NKY Niksic 6.49 103⇑iPn Pn 03 10 11.5 +7.2
NKY eSn Sn 03 11 17.1 -0.4
TAR1 Taranto 6.53 126 ePn Pn 03 10 03.5 -1.2
PVCC Panska Ves 6.56 24 eP Pn 03 10 04.8 -0.4
PVCC Panska Ves 6.56 24 ePN Pn 03 10 04.8 -0.4
PVCC Panska Ves 6.56 24 Pn Pn 03 10 04.8 -0.4
BUM Brajici-Budva 6.61 107⇓iPn Pn 03 10 06.2 +0.3
BUM eSn Sn 03 11 19.7 -0.6
BUM Brajici-Budva 6.61 107⇓iPn Pn 03 10 06.2 +0.3
BUM eSn Sn 03 11 19.7 -0.6
PLE Pljevlja 6.62 98⇑iPn Pn 03 10 06.9 +0.8
PLE eSn Sn 03 11 20.1 -0.6
PLE Pljevlja 6.62 98⇑iPn Pn 03 10 06.9 +0.8
PLE eSn Sn 03 11 20.1 -0.6
BUD Budapest 6.66 61 ePn Pn 03 10 06.1 -0.5
BUD eSn Sn 03 11 18.5 -3.1
BUD Budapest 6.66 61⇓ePn Pn 03 10 06.1 -0.5
GIVF Givet 6.67 327 ePn Pn 03 10 06.9 +0.3
SNR=1.0
GIVF eSn Sn 03 11 18.6 -3.1
comp=E,84nm,0.7s
GIVF Givet 6.67 327 ePn Pn 03 10 06.9 +0.3
GIVF eSn Sn 03 11 18.6 -3.1
GIVF Givet 6.67 327 eP Pn 03 10 06.9 +0.3
GIVF e 03 11 18.6
GIVF Givet 6.67 327 ePn Pn 03 10 06.9 +0.3
SNR=1.0
MEM Membach 6.69 335 PN Pn 03 10 07.6 +0.6
MEM SN Sn 03 11 20.2 -2.1
comp=N,38nm,0.0s
MEM Membach 6.69 335 Pn Pn 03 10 07.5 +0.5
BRG Berggiesshubel 6.71 20 iPN Pn 03 10 06.7 -0.5
comp=N,22nm,0.2s
BRG SN Sn 03 11 18.9 -3.9
BRG SG Sn 03 11 57.8 +35
comp=N,63nm,0.8s
BRG Berggiesshubel 6.71 20 iP Pn 03 10 06.7 -0.5
BRG 03 11 18.9
BRG pmax pmax
comp=Z,22nm,0.2s
BRG smax
comp=N,63nm,0.8s
BRG Berggiesshubel 6.71 20 iP Pn 03 10 06.7 -0.5
comp=N,22nm,0.2s
DOU Dourbes 6.75 326 PN Pn 03 10 08.3 +0.5
DOU SN Sn 03 11 25.8 +2.0
comp=N,20nm,0.0s
DOU Dourbes 6.75 326 Pn Pn 03 10 08.3 +0.5
DOU Sn Sn 03 11 25.7 +1.9
BCLA Clavier 6.75 331 PN Pn 03 10 09.1 +1.3
BCLA SN Sn 03 11 21.7 -2.2
comp=N,24nm,0.6s
BCLA Clavier 6.75 331 Pn Pn 03 10 09.1 +1.3
KOLL Kolacno 6.80 51 eP Pn 03 10 07.4 -1.1
KOLL e 03 11 20.7
KOLL Kolacno 6.80 51 ePN Pn 03 10 07.4 -1.1
KOLL eSN Sn 03 11 20.7 -4.3
KOLL Kolacno 6.80 51 eP Pn 03 10 07.4 -1.1
PDG Podgorica 6.81 106⇑iPn Pn 03 10 09.2 +0.6
PDG eSn Sn 03 11 24.4 -0.8
TTG Podgorica 6.81 106⇑iPn Pn 03 10 09.2 +0.6
TTG eSn Sn 03 11 24.4 -0.9
LFF La Frestale 6.87 276 ePn Pn 03 10 10.3 +0.8
LFF eSn Sn 03 11 21.6 -5.2
comp=N,83nm,0.8s
LFF La Frestale 6.87 276 ePn Pn 03 10 10.3 +0.8
LFF eSn Sn 03 11 21.6 -5.2
LFF La Frestale 6.87 276 eP Pn 03 10 10.3 +0.8
LFF e 03 11 21.6
LFF La Frestale 6.87 276 ePn Pn 03 10 10.3 +0.8
BAIF Baives 6.88 325 ePn Pn 03 10 09.2 -0.3
SNR=1.0
BAIF eSn Sn 03 11 22.4 -4.5
comp=N,48nm,0.7s
BAIF Baives 6.88 325 ePn Pn 03 10 09.2 -0.3
BAIF eSn Sn 03 11 22.4 -4.5
BAIF Baives 6.88 325 eP Pn 03 10 09.2 -0.3
BAIF e 03 11 22.4
BAIF Baives 6.88 325 ePn Pn 03 10 09.2 -0.3
SNR=1.0
DIVS Divibare 6.91 91 ePn Pn 03 10 09.5 -0.5
SALF Salau 6.92 258 P Pn 03 10 10.9 +0.8
SALF Salau 6.92 258 P Pn 03 10 10.9 +0.8
CLL Collm 6.93 14 iP Pn 03 10 09.0 -1.2
CLL e 03 11 26.0
CLL Collm 6.93 14 iPn Pn 03 10 09.0 -1.2
CLL ePg Pn 03 10 40.0 +30
CLL eSn Sn 03 11 26.0 -2.1
CLL e 03 12 07.0
CLL eSg Sn 03 12 12.0 +44
CLL Collm 6.93 14 iP Pn 03 10 09.0 -1.2
CLL eS Sn 03 11 26.0 -2.1
BEBN Eben Emael 6.96 335 PN Pn 03 10 12.3 +1.7
BEBN SN Sn 03 11 28.5 -0.3
comp=N,30nm,0.4s
BEBN Eben Emael 6.96 335 Pn Pn 03 10 12.3 +1.7
BEBN Sn Sn 03 11 28.5 -0.3
comp=N,30nm,0.4s
ULC Ulcinj 6.98 109⇓iPn Pn 03 10 10.9 -0.1
ULC eSn Sn 03 11 28.4 -1.2
ULC Ulcinj 6.98 109⇓iPn Pn 03 10 10.9 -0.1
ULC eSn Sn 03 11 28.4 -1.2
VYHS Vyhne 7.00 53 eP Pn 03 10 09.9 -1.3
VYHS e 03 11 25.1
VYHS Vyhne 7.00 53 ePN Pn 03 10 09.9 -1.3
VYHS eSN Sn 03 11 25.1 -4.9
VYHS Vyhne 7.00 53 eP Pn 03 10 09.9 -1.3
DPC Dobruska-Polom 7.01 33 ePn Pn 03 10 10.2 -1.2
DPC Dobruska-Polom 7.01 33 eP Pn 03 10 10.5 -0.8
DPC e 03 11 25.0
DPC Dobruska-Polom 7.01 33 ePN Pn 03 10 10.5 -0.8
DPC eSN Sn 03 11 25.0 -5.2
DPC Dobruska-Polom 7.01 33 Pn Pn 03 10 10.5 -0.8
BEY Berane 7.10 101⇓iPn Pn 03 10 13.7 +1.1
BEY eSn Sn 03 11 31.5 -1.0
MORC Moravsky Berou 7.10 41 ePn Pn 03 10 12.0 -0.7
MORC eSn Sn 03 11 28.6 -3.9
MORC Moravsky Berou 7.10 41 ⇓P Pn 03 10 11.8 -0.8
MORC Moravsky Berou 7.10 41⇓iP Pn 03 10 11.8 -0.8
MORC Moravsky Berou 7.10 41 ePn Pn 03 10 12.0 -0.6
IVA Berane 7.11 101⇓iPn Pn 03 10 13.7 +1.0
IVA eSn Sn 03 11 31.5 -1.1
TRUS Trudelj 7.19 90 ePn Pn 03 10 11.9 -1.9
SNF Seneffe 7.20 327 PN Pn 03 10 14.6 +0.7
SNF Seneffe 7.20 327 Pn Pn 03 10 14.6 +0.7
PVY Plav 7.24 103⇓iPn Pn 03 10 15.9 +1.4
PVY eSn Sn 03 11 34.9 -0.9
PVY Plav 7.24 103⇓iPn Pn 03 10 15.9 +1.4
PVY eSn Sn 03 11 34.9 -0.9
PSZ Piszkesteto 7.37 60 ePn Pn 03 10 16.1 -0.3
PSZ eSn Sn 03 11 35.2 -3.9
PSZ Piszkesteto 7.37 60 eP Pn 03 10 16.1 -0.2
PSZ e 03 11 35.3
PSZ Piszkesteto 7.37 60⇓ePn Pn 03 10 16.2 -0.1
PSZ eSn Sn 03 11 35.9 -3.2
PSZ Piszkesteto 7.37 60 eP Pn 03 10 16.1 -0.2
BCI Bajram Curri 7.39 104 ePN Pn 03 10 17.8 +1.2
BCI Bajram Curri 7.39 104 ePn Pn 03 10 17.0 +0.4
PUK Puka 7.39 107 ePN Pn 03 10 17.1 +0.5
PUK Puka 7.39 107 ePn Pn 03 10 17.1 +0.5
KSP Ksiaz 7.40 30 ePn Pn 03 10 15.8 -0.9
KSP e 03 10 16.4
KSP eSn Sn 03 11 37.2 -2.5
KSP Ksiaz 7.40 30 eP Pn 03 10 16.4 -0.3
KSP e 03 11 37.2
KSP Ksiaz 7.40 30 ePn Pn 03 10 16.1 -0.6
KSP ePg Pn 03 10 48.7 +32
KSP Sn Sn 03 11 37.2 -2.5
KSP eSg Sn 03 12 21.9 +42
KSP Ksiaz 7.40 30 ePn Pn 03 10 15.8 -0.9
KSP Ksiaz 7.40 30 eP Pn 03 10 16.4 -0.3
EPF Esparros 7.43 261 ePn Pn 03 10 17.3 +0.1
SNR=1.0
EPF eSn Sn 03 11 36.5 -4.2
comp=N,31nm,0.6s
EPF Esparros 7.43 261 ePn Pn 03 10 17.3 +0.1
EPF eSn Sn 03 11 36.5 -4.2
EPF Esparros 7.43 261 eP Pn 03 10 17.3 +0.1
EPF e 03 11 36.5
EPF Esparros 7.43 261 ePn Pn 03 10 17.3 +0.1
SNR=1.0
GRUS Gruza 7.45 92 ePn Pn 03 10 17.3 -0.2
RAC Raciborz 7.62 41 eP Pn 03 10 19.4 -0.3
RAC Raciborz 7.62 41 eP Pn 03 10 19.4 -0.3
RAC Raciborz 7.62 41 ePg Px 03 10 55.0
RAC eSg Sx 03 12 32.1
MFF Saint Martin d 7.65 289 ePn Pn 03 10 19.7 -0.4
SNR=1.0
MFF eSn Sn 03 11 38.9 -7.0
comp=N,47nm,0.8s,SNR=1.0
MFF Saint Martin d 7.65 289 ePn Pn 03 10 19.7 -0.4
MFF eSn Sn 03 11 38.9 -7.0
MFF Saint Martin d 7.65 289 eP Pn 03 10 19.7 -0.4
MFF e 03 11 38.9
MFF Saint Martin d 7.65 289 ePn Pn 03 10 19.7 -0.4
SNR=1.0
TIR Tirane 7.68 112 ePN Pn 03 10 19.8 -0.7
TIR Tirane 7.68 112 ePn Pn 03 10 19.9 -0.6
TIR Tirane 7.68 112 eP Pn 03 10 19.9 -0.6
TIR Tirane 7.68 112 eP Pn 03 10 19.9 -0.6
PHP Peshkopia 7.91 108 ePN Pn 03 10 24.7 +0.9
PHP Peshkopia 7.91 108 ePn Pn 03 10 24.7 +0.9
KECS Kecovo 7.97 57 eP Pn 03 10 24.5 0.0
KECS e 03 11 48.6
KECS Kecovo 7.97 57 ePN Pn 03 10 24.5 0.0
KECS eSN Sn 03 11 48.6 -5.1
KECS Kecovo 7.97 57 eP Pn 03 10 24.5 0.0
BZS Buzias 8.01 79 ⇓P Pn 03 10 26.0 +0.9
BZS Buzias 8.01 79⇓iP Pn 03 10 26.0 +0.9
BZS Buzias 8.01 79 P Pn 03 10 26.0 +0.9
ETSF Etsaut 8.11 262 ePn Pn 03 10 27.7 +1.3
ETSF eSn Sn 03 11 57.2 0.0
comp=N,40nm,0.6s
ETSF Etsaut 8.11 262 ePn Pn 03 10 27.7 +1.3
ETSF eSn Sn 03 11 57.2 0.0
ETSF Etsaut 8.11 262 eP Pn 03 10 27.7 +1.3
ETSF e 03 11 57.2
ETSF Etsaut 8.11 262 ePn Pn 03 10 27.7 +1.3
ETSF eSn Sn 03 11 57.2 0.0
comp=N,20nm,0.6s
LDF La Druitiere 8.26 303 ePn Pn 03 10 27.4 -1.1
SNR=1.0
LDF eSn Sn 03 11 53.6 -7.3
comp=N,35nm,0.7s
LDF La Druitiere 8.26 303 ePn Pn 03 10 27.4 -1.1
LDF eSn Sn 03 11 53.6 -7.3
LDF La Druitiere 8.26 303 eP Pn 03 10 27.4 -1.1
LDF e 03 11 53.6
LDF La Druitiere 8.26 303 ePn Pn 03 10 27.4 -1.1
SNR=1.0
NIE Niedzica 8.31 51 eP Pn 03 10 30.2 +1.0
NIE eSn Sn 03 11 59.7 -2.5
NIE Niedzica 8.31 51 eP Pn 03 10 30.2 +1.0
NIE e 03 11 59.7
NIE Niedzica 8.31 51 eP Pn 03 10 30.2 +1.0
NIE eS Sn 03 11 59.7 -2.5
BOLS Boljevac 8.35 91 ePn Pn 03 10 28.1 -1.6
BARS Barje 8.47 98 ePn Pn 03 10 31.0 -0.4
OJC Ojcow 8.50 45 eP Pn 03 10 31.0 -0.7
OJC e 03 12 04.8
OJC Ojcow 8.50 45 ePn Pn 03 10 30.8 -0.9
OJC Ojcow 8.50 45 eP Pn 03 10 31.0 -0.7
OJC e 03 12 04.8
OJC Ojcow 8.50 45 eP Pn 03 10 31.0 -0.7
OJC eS Sn 03 12 04.8 -1.9
SJPF Ste Jean 8.52 264 ePn Pn 03 10 31.9 -0.2
SNR=1.0
SJPF eSn Sn 03 12 10.6 +3.2
comp=N,28nm,1.0s
SJPF Ste Jean 8.52 264 ePn Pn 03 10 31.9 -0.2
SJPF eSn Sn 03 12 10.6 +3.2
SJPF Ste Jean 8.52 264 eP Pn 03 10 31.9 -0.2
SJPF e 03 12 10.6
SJPF Ste Jean 8.52 264 ePn Pn 03 10 31.9 -0.2
SNR=1.0
SJPF eSn Sn 03 12 10.6 +3.2
comp=N,14nm,1.0s
FLN La Foliniere 8.55 303 ePn Pn 03 10 31.1 -1.3
SNR=1.0
FLN eSn Sn 03 12 02.0 -5.9
comp=N,21nm,0.5s
FLN La Foliniere 8.55 303 ePn Pn 03 10 31.1 -1.3
FLN eSn Sn 03 12 02.0 -5.9
FLN La Foliniere 8.55 303 eP Pn 03 10 31.1 -1.3
FLN e 03 12 02.0
FLN La Foliniere 8.55 303 ePn Pn 03 10 31.1 -1.3
SNR=1.0
SRN Sarande 8.55 120 ePN Pn 03 10 33.2 +0.6
SRN Sarande 8.55 120 ePn Pn 03 10 33.2 +0.6
KRUS Krusevo 8.60 108 ePn Pn 03 10 32.8 -0.4
KRUS Krusevo 8.60 108 ePn Pn 03 10 32.7 -0.4
GRR Gorron 8.63 300 ePn Pn 03 10 32.3 -1.2
SNR=1.0
GRR eSn Sn 03 12 03.8 -6.1
comp=N,33nm,0.7s
GRR Gorron 8.63 300 ePn Pn 03 10 32.3 -1.2
GRR eSn Sn 03 12 03.8 -6.1
GRR Gorron 8.63 300 eP Pn 03 10 32.3 -1.2
GRR e 03 12 03.8
GRR Gorron 8.63 300 ePn Pn 03 10 32.3 -1.2
SNR=1.0
CRVS Cervenica-Dubn 8.73 57 eP Pn 03 10 35.5 +0.6
CRVS e 03 12 07.1
CRVS Cervenica-Dubn 8.73 57 ePN Pn 03 10 35.5 +0.6
CRVS eSN Sn 03 12 07.1 -5.4
CRVS Cervenica-Dubn 8.73 57 eP Pn 03 10 35.5 +0.6
BIA Bitola 8.80 110 ePn Pn 03 10 35.7 -0.3
BIA Bitola 8.80 110 ePn Pn 03 10 35.7 -0.3
GZR Gura Zlata 8.82 81⇓iP Pn 03 10 37.0 +0.8
GZR Gura Zlata 8.82 81⇓iP Pn 03 10 37.0 +0.8
STHS Stebnicka Huta 8.84 53 eP Pn 03 10 37.1 +0.7
STHS e 03 12 11.8
STHS Stebnicka Huta 8.84 53 ePN Pn 03 10 37.1 +0.7
STHS eSN Sn 03 12 11.8 -3.3
STHS Stebnicka Huta 8.84 53 eP Pn 03 10 37.1 +0.7
DRGR 8.90 71 ⇑P Pn 03 10 38.5 +1.2
DRGR 8.90 71⇑iP Pn 03 10 38.5 +1.2
DRGR 8.90 71 P Pn 03 10 38.5 +1.2
KEST Kesra 8.90 185 Pn Pn 03 10 40.7 +3.3
comp=N,0.7nm,0.3s,baz=267,slow=2.0,SNR=24
KEST Sn Sn 03 12 18.2 +1.5
comp=N,0.1nm,0.3s,baz=69,slow=1.3,SNR=1.9
KEST LR LR 03 14 13.9
comp=N,92nm,19.6s,baz=191,slow=39
KEST Kesra 8.90 185 ePn Pn 03 10 40.7 +3.3
KEST Sn Sn 03 12 18.2 +1.5
UZH Uzhgorod 9.13 60 eP Pn 03 10 41.1 +0.7
UZH e 03 12 25.1
UZH Uzhgorod 9.13 60 eP Pn 03 10 41.1 +0.7
VAY Valandovo 9.52 106 ePn Pn 03 10 44.6 -1.1
VAY Valandovo 9.52 106 ePn Pn 03 10 44.6 -1.2
VTS Vitosha 9.52 98 ⇑P Pn 03 10 45.4 -0.4
VTS Vitosha 9.52 98⇑iP Pn 03 10 45.3 -0.5
VTS Vitosha 9.52 98 P Pn 03 10 45.4 -0.4
SGMF Saint Gilles 9.65 297 ePn Pn 03 10 46.5 -1.0
SNR=1.0
SGMF eSn Sn 03 12 27.7 -7.3
comp=N,12nm,0.5s
SGMF Saint Gilles 9.65 297 ePn Pn 03 10 46.5 -1.0
SGMF eSn Sn 03 12 27.7 -7.3
SGMF Saint Gilles 9.65 297 eP Pn 03 10 46.5 -1.0
SGMF Saint Gilles 9.65 297 ePn Pn 03 10 46.5 -1.0
SNR=1.0
KWP Kalwaria Pacla 9.78 55 Pn Pn 03 10 49.1 -0.2
comp=N,5.9nm,0.6s
KWP eSn Sn 03 12 37.5 -0.8
KWP Kalwaria Pacla 9.78 55 ⇑P Pn 03 10 49.7 +0.3
KWP Kalwaria Pacla 9.78 55⇑iP Pn 03 10 49.7 +0.3
KWP Kalwaria Pacla 9.78 55 Pn Pn 03 10 49.1 -0.3
comp=N,5.9nm,0.6s
KWP Kalwaria Pacla 9.78 55 P Pn 03 10 49.7 +0.3
KWP eSn Sn 03 12 37.5 -0.8
QUIF Quistinic 9.95 294 ePn Pn 03 10 50.3 -1.4
SNR=1.0
QUIF eSn Sn 03 12 35.8 -6.6
comp=N,6.6nm,0.4s
QUIF Quistinic 9.95 294 ePn Pn 03 10 50.3 -1.4
QUIF eSn Sn 03 12 35.8 -6.6
QUIF Quistinic 9.95 294 eP Pn 03 10 50.3 -1.4
QUIF e 03 12 35.8
QUIF Quistinic 9.95 294 ePn Pn 03 10 50.3 -1.4
SNR=1.0
ROSF Rostrenen 10.13 296 ePn Pn 03 10 52.9 -1.2
SNR=1.0
ROSF eSn Sn 03 12 39.3 -7.5
comp=N,50nm,1.0s
ROSF Rostrenen 10.13 296 ePn Pn 03 10 52.9 -1.2
ROSF eSn Sn 03 12 39.3 -7.5
ROSF Rostrenen 10.13 296 eP Pn 03 10 52.9 -1.2
ROSF Rostrenen 10.13 296 ePn Pn 03 10 52.9 -1.2
SNR=1.0
BUR08 Bucovina Ar. S 10.72 68 ePn Pn 03 11 03.2 +1.0
BUR08 eSn Sn 03 12 59.6 -1.7
BUR08 Bucovina Ar. S 10.72 68 ePn Pn 03 11 03.2 +1.0
BUR08 eSn Sn 03 12 59.6 -1.7
BURAR Bucovina Array 10.73 68 ⇑P Pn 03 11 04.0 +1.7
BURAR Bucovina Array 10.73 68⇑iP Pn 03 11 04.0 +1.7
BURAR Bucovina Array 10.73 68⇑iP Pn 03 11 04.0 +1.7
BSD Bornholm Skovb 10.91 14 iP Pn 03 11 04.3 -0.5
BSD Bornholm Skovb 10.91 14 eP Pn 03 11 04.3 -0.5
ESDC Sonseca Array 11.73 250 Pn Pn 03 11 16.5 +0.4
comp=N,1.5nm,0.3s,baz=63,slow=14,SNR=41
ESDC Sonseca Array 11.73 250 Pn Pn 03 11 16.5 +0.4
ESDC Sonseca Array 11.73 250 Pn Pn 03 11 16.5 +0.4
ESLA Sonseca Array 11.73 250 ePn Pn 03 11 16.2 +0.1
comp=N,1.6nm,0.8s
ESLA Sonseca Array 11.73 250 ePn Pn 03 11 16.2 +0.1
comp=N,1.5nm,0.8s
MUD Monsted U'grnd 11.89 357 iP Pn 03 11 22.4 +4.3
SNART Snartemo 13.89 353 eP Pn 03 11 44.3 -1.1
SNR=28
PCBR Castelo Branco 14.06 256 eP Pn 03 11 48.0 +0.1
PCBR Castelo Branco 14.06 256 eP Pn 03 11 48.0 +0.1
DLF Lyons Farm 14.08 314 eP Pn 03 11 46.4 -1.6
PMRV Marv??o 14.19 255 eP Pn 03 11 50.4 +0.8
comp=N,13nm,1.0s
PBAR Barrancos 14.56 250 eP Pn 03 11 55.0 +0.3
PESTR Estremoz 14.59 253 eP Pn 03 11 55.1 +0.1
EVO Evora 15.04 253 eP Pn 03 12 01.1 0.0
PBDV Barranco-do-Ve 15.66 248 eP Pn 03 12 06.7 -2.5
HFS Hagfors 15.68 6 Pn Pn 03 12 12.9 +3.6
comp=N,0.1nm,0.3s,baz=191,slow=22,SNR=5.1
HFS LR LR 03 18 49.7
comp=N,255nm,19.7s,baz=262,slow=39
HFS Hagfors 15.68 6 Pn Pn 03 12 12.9 +3.6
HFS Hagfors 15.68 6 P Pn 03 12 12.9 +3.6
HFS Hagfors 15.68 6 P Pn 03 12 12.9 +3.6
NB2 NORSAR Subarra 16.47 1 P Pn 03 12 18.3 -1.1
comp=Z,2.5nm,0.8s,baz=182,slow=12
NOA NORSAR Array B 16.47 1 Pn Pn 03 12 18.4 -1.1
comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=2.8
NOA NORSAR Array B 16.47 1 Pn Pn 03 12 18.4 -1.1
NOA NORSAR Array B 16.47 1 P Pn 03 12 18.4 -1.0
NOA NORSAR Array B 16.47 1 Pn Pn 03 12 18.4 -1.0
BRTR Keskin Array B 17.89 98 P Pn 03 12 36.6 -0.8
comp=Z,0.1nm,0.3s,baz=351,slow=7.3,SNR=2.9
BRTR Keskin Array B 17.89 98 P Pn 03 12 36.6 -0.8
BRTR Keskin Array B 17.89 98 P Pn 03 12 36.6 -0.8
BRTR Keskin Array B 17.89 98 P Pn 03 12 36.6 -0.8
FINES FINESS Array B 19.23 23 P Pn 03 12 52.1 -1.4
comp=Z,0.6nm,0.3s,baz=206,slow=10.0,SNR=22
FINES FINESS Array B 19.23 23 P Pn 03 12 52.1 -1.4
FINES FINESS Array B 19.23 23 P Pn 03 12 52.1 -1.4
FINES FINESS Array B 19.23 23 P Pn 03 12 52.1 -1.4
VSR Storozhevoye 20.31 61 eP P 03 13 03.8 -0.4
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 20.31 61 eP P 03 13 03.8 -0.4
JOF Joensuu 21.93 26 eP P 03 13 20.8 -0.8
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
JOF Joensuu 21.93 26 ep P 03 13 20.8 -0.8
comp=Z,4.6nm,0.8s,mb4.0
JOF Joensuu 21.93 26 eP P 03 13 20.8 -0.8
comp=Z,5.0nm,0.8s,mb4.0
TAM Tamanrasset 22.13 192 eP P 03 13 24.9 +0.9
comp=Z,5.4nm,1.1s,mb3.9
TAM Tamanrasset 22.13 192 eP P 03 13 24.9 +0.9
TAM pmax pmax
comp=Z,5.0nm,1.1s,mb3.9
TAM Tamanrasset 22.13 192 eP P 03 13 24.9 +0.9
comp=Z,5.4nm,1.1s,mb3.9
MMAI Mount Meron Ar 22.58 112 P P 03 13 30.1 +1.4
comp=Z,6.3nm,0.8s,mb4.1,baz=301,slow=11,SNR=4.1
MMAI Mount Meron Ar 22.58 112 P P 03 13 30.1 +1.4
MMAI Mount Meron Ar 22.58 112 P P 03 13 30.1 +1.3
ASF Jabal al Asfar 24.09 112 P P 03 13 45.4 +1.6
comp=Z,2.8nm,0.6s,mb3.9,baz=304,slow=7.3,SNR=6.7
ASF Jabal al Asfar 24.09 112 P P 03 13 45.4 +1.6
ASF Jabal al Asfar 24.09 112 P P 03 13 45.4 +1.6
GNI Garni 25.65 88 P P 03 13 59.5 +1.6
comp=Z,4.4nm,0.7s,mb4.1,baz=217,slow=11,SNR=4.3
GNI Garni 25.65 88 P P 03 13 59.5 +1.6
GNI Garni 25.65 88 P P 03 13 59.5 +1.6
GNI Garni 25.65 88 P P 03 13 59.5 +1.6
ARCES ARCESS Array B 26.15 12 P P 03 14 00.9 -1.2
comp=Z,5.1nm,1.0s,mb4.0,baz=206,slow=9.0,SNR=6.8
ARCES ARCESS Array B 26.15 12 P P 03 14 00.9 -1.2
ARCES ARCESS Array B 26.15 12 P P 03 14 00.9 -1.2
ARCES ARCESS Array B 26.15 12 P P 03 14 00.9 -1.2
ARU Arti 32.16 51 eP P 03 14 55.2 -0.5
comp=Z,14nm,0.3s,mb5.3
ARU Arti 32.16 51 eP P 03 14 55.2 -0.5
ARU Arti 32.16 51 eP P 03 14 55.2 -0.5
comp=Z,14nm,0.3s,mb5.3
TORD Torodi Ar. Bea 32.22 196 P P 03 14 55.4 -1.2
comp=Z,1.7nm,0.4s,mb4.2,baz=13,slow=8.8,SNR=64
TORD Torodi Ar. Bea 32.22 196 P P 03 14 55.4 -1.2
TORD Torodi Ar. Bea 32.22 196 P P 03 14 55.4 -1.2
DBIC Dimbokro 40.07 204 P P 03 16 02.3 -1.3
comp=Z,2.2nm,0.7s,mb4.0,baz=345,slow=7.5,SNR=4.9
DBIC Dimbokro 40.07 204 P P 03 16 02.3 -1.3

DBIC	Dimbokro	40.07	204	P	P	03 16 02.3	-1.3
DBIC	Dimbokro	40.07	204	P	P	03 16 02.3	-1.3
KKAR	Karatay Array	42.52	70	eP	P	03 16 23.7	+0.2
	comp=Z,2.2nm,0.8s,mb3.9						
KKAR	Karatay Array	42.52	70	eP	P	03 16 23.7	+0.2
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KKAR	Karatay Array	42.52	70	eP	P	03 16 23.7	+0.2
	comp=Z,2.2nm,0.8s,mb3.9						
EKS2	Erkin-Say	44.88	69	eP	P	03 16 42.0	-0.6
	comp=Z,3.3nm,0.8s,mb4.2						
EKS2	Erkin-Say	44.88	69	eP	P	03 16 42.0	-0.6
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
EKS2	Erkin-Say	44.88	69	eP	P	03 16 42.0	-0.6
	comp=Z,3.3nm,0.8s,mb4.2						
ZALV	Zalesovo Beam	47.33	51	P	P	03 17 01.4	-0.2
	comp=Z,0.5nm,0.5s,mb3.7,baz=285,slow=5.7,SNR=3.0						
ZALV	Zalesovo Beam	47.33	51	P	P	03 17 01.4	-0.2
ZALV	Zalesovo Beam	47.33	51	P	P	03 17 01.4	-0.2
ZALV	Zalesovo Beam	47.33	51	P	P	03 17 01.4	-0.2
MKAR	Makanchi Array	48.63	60	P	P	03 17 11.9	+0.1
	comp=Z,2.1nm,0.8s,mb4.2,baz=278,slow=6.8,SNR=13						
MKAR	Makanchi Array	48.63	60	P	P	03 17 11.9	+0.1
MKAR	Makanchi Array	48.63	60	P	P	03 17 11.9	+0.1
MKAR	Makanchi Array	48.63	60	P	P	03 17 11.9	+0.1
WMQ	Urumqi	53.38	62	eP	P	03 17 49.4	+1.8
SONM	Songino Array	62.17	49	P	P	03 18 50.1	+0.9
	comp=Z,0.8nm,0.8s,mb3.9,baz=281,slow=12,SNR=5.7						
SONM	Songino Array	62.17	49	P	P	03 18 50.1	+0.9
SONM	Songino Array	62.17	49	P	P	03 18 50.1	+0.8
SONM	Songino Array	62.17	49	P	P	03 18 50.1	+0.8
YKA	Yellowknife Ar	64.55	335	P	P	03 19 05.0	+0.3
	comp=Z,2.5nm,0.7s,mb4.3,baz=43,slow=6.3,SNR=57						
YKA	Yellowknife Ar	64.55	335	P	P	03 19 05.0	+0.3
YKA	Yellowknife Ar	64.55	335	P	P	03 19 05.0	+0.2
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	Yellowknife Ar	64.55	335	P	P	03 19 05.1	+0.3
ULM	Lac du Bonnet	65.91	318	P	P	03 19 13.8	+0.1
	comp=Z,1.2nm,0.5s,mb4.2,baz=46,slow=6.4,SNR=3.2						
ULM	Lac du Bonnet	65.91	318	P	P	03 19 13.8	+0.1
ULM	Lac du Bonnet	65.91	318	P	P	03 19 13.8	+0.1
ULM	Lac du Bonnet	65.91	318	P	P	03 19 13.8	+0.1
HHC	Hu-ho-hao-te	69.45	53	eP	P	03 19 35.6	-0.7
HHC				sP	sP	03 19 41.8	-5.6
HHC				PcP	PcP	03 19 59.5	0.0
HHC				PP	PP	03 22 11.5	+2.0
HHC				S	S	03 28 40.3	-1.6
HHC				ScS	ScS	03 29 32.0	-3.8
HHC				SS	SS	03 33 07.8	-0.9
HHC				pmax	pmax		
	comp=Z,100nm,7.1s						
ILAR	Eielson Array	69.52	350	P	P	03 19 36.6	+0.4
	comp=Z,0.6nm,0.7s,mb3.7,baz=9.1,slow=6.1,SNR=11						
ILAR	Eielson Array	69.52	350	P	P	03 19 36.6	+0.4
ILAR	Eielson Array	69.52	350	P	P	03 19 36.6	+0.4
ILAR	Eielson Array	69.52	350	P	P	03 19 36.6	+0.4
BOSA	Boshof	74.12	166	P	P	03 20 02.9	-1.4
	comp=Z,3.4nm,0.9s,mb4.3,baz=338,slow=5.4,SNR=3.7						
BOSA	Boshof	74.12	166	P	P	03 20 02.9	-1.3
BOSA	Boshof	74.12	166	P	P	03 20 02.9	-1.3
BOSA	Boshof	74.12	166	P	P	03 20 02.9	-1.3
CN2	Changchun	74.72	43	eP	P	03 20 06.3	-1.4
GYA	Guiyang	76.11	67	eP	P	03 20 16.8	+0.8
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
CMAR	Chiang Mai Arr	76.27	78	P	P	03 20 17.4	+0.4
	comp=Z,0.7nm,0.4s,mb4.0,baz=302,slow=7.2,SNR=4.1						
CMAR	Chiang Mai Arr	76.27	78	P	P	03 20 17.4	+0.4
CMAR	Chiang Mai Arr	76.27	78	P	P	03 20 17.4	+0.4
CMAR	Chiang Mai Arr	76.27	78	P	P	03 20 17.4	+0.4
TXAR	Lajitas Array	85.01	307	P	P	03 21 04.0	+0.2
	comp=Z,0.9nm,0.9s,mb3.9,baz=52,slow=3.5,SNR=4.8						
TXAR	Lajitas Array	85.01	307	P	P	03 21 04.0	+0.2
TXAR	Lajitas Array	85.01	307	P	P	03 21 04.0	+0.3
TXAR	Lajitas Array	85.01	307	P	P	03 21 04.0	+0.3

BJI ***25*** *03:20:25.6, 5.50N×125.68E, h207km, mB6.2/49, mb6.0/74*

ISCJB ***25*** *03:20:27.8±0.1, 5.77N±0.01×125.52E±0.02, h207km, mb5.9/248, Error ellipse: s-maj=2.6km s-min=1.7km az=169.2*

NEIC ***25*** *03:20:29.4±0.1, 5.75N×125.38E, h206km, mb6.1/130, ME5.9, MW6.3, MW6.3, Error ellipse: s-maj=4.4km s-min=3.4km az=64.0 Broadband fault plane solution: P waves. NP1:φs=5.00000°, δ70.00000°, λ90.00000°. NP2: φs185.00000°, δ20.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm275.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm95.0000°; Moment Tensor Solution. s88 Moment tensor: Scale 10^18 Nm; Mrr1.66; Mθθ0.04; Mφφ-1.71; Mrθ-0.21; Mθφ-0.19; Mφr2.52; Best double couple: Ms3.00000×10^18 NP1:φs357.00000°, δ73.00000°, λ84.00000°. NP2:φs196.00000°, δ18.00000°, λ108.00000°. Principal axes: T 3.0300, Plg61.0000°, Azm258.0000°; N 0.0200, Plg5.0000°, Azm358.0000°; P -3.0600, Plg28.0000°, Azm91.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V PIVS] at General Santos; [IV PIVS] at Banga, Davao, Koronadal, Malita, Surallah and Tagum; [III PIVS] at Alabel, Bislig, Cotabato, Digos, Kidapawan, Makilala and Matalam; [II PIVS] at Kabacan, Nabunturan, Perez, Pikit and Tarragona. Also felt at Mati and Santa Cruz. Felt [III] on Pulau Ternate and at Naha and Tahuna, Pulau Sangihe, Indonesia.

IDC ***25*** *03:20:29.5±0.3, 5.72N×125.46E, h206km±2km, mb5.5/37, mb1 5.6/39, mb1mx5.6/39, mbtmp5.5/39 Error ellipse: s-maj=6.6km s-min=4.0km az=69.0*

MAN ***25*** *03:20:29, 5.72N×125.63E, h196km, mb6.4, ML5.5, MS6.3*

MAN Intensity V - General Santos City Intensity IV - Davao City; Marbel City(Koronadal City); Banga.

DJA ***25*** *03:20:30, 5.74N×125.66E, h211km, Mw6.4/108*

GCMT ***25*** *03:20:30.2±0.1, 5.74N×125.66E, h198km, MW6.3, Moment Tensor Solution. s122, c309; s99, c181; Moment tensor: Scale 10^18 Nm; Mrr1.45±.02; Mθθ-0.33±.02; Mφφ-1.12±.02; Mrθ-0.38±.01; Mθφ-0.71±.02; Mφr3.12±.02; Best double couple: M0 3.50000×10^18 NP1:φs228.00000°, δ17.00000°, λ139.00000°. NP2: φs358.00000°, δ79.00000°, λ77.00000°. Principal axes: T 3.6700, Plg54.0000°, Azm252.0000°; N -0.4000, Plg13.0000°, Azm1.0000°; P -3.2600, Plg33.0000°, Azm99.0000°; Data Used: II IU CN IC G. Mantle waves from 106 sta. Surface waves: sta=127, comp=312, per=50.*

MOS ***25*** *03:20:30.4±0.9, 5.72N×125.46E, h233km, mb6.0/72 Error ellipse: s-maj=10.8km s-min=6.2km az=106.5*

ISC 25 03:20:29.6±0.1, 5.78N±0.01×125.52E±0.02, h209km, h209km±1.1km:pP-P, n1598, σ1.26/1051, mb5.9/244, 261C-202D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.65	298	↓eP	Pn	03 20 57.8	-0.6
GSPH				eS	Sn	03 21 31.6	+11
DAV	Davao City (W)	1.29	2	P	Pn	03 21 03.2	+0.8
	baz=98,slow=2.2,SNR=1305						
DAV				S	Sn	03 21 27.7	-0.3
	18μm,0.3s,baz=97,slow=23,SNR=49						
DAV	Davao City (W)	1.29	2	ePn	Pn	03 21 02.5	+0.2
DAV				eS	Sn	03 21 27.2	-0.8
DAV	Davao City (W)	1.29	2	P	Pn	03 21 02.1	-0.3
DAV	Davao City (W)	1.29	2	⇑eP	Pn	03 21 02.8	+0.4
DAV	Davao City (W)	1.29	2	P	Pn	03 21 02.5	+0.1
	SNR=3058						
KCP	Kidapawan	1.30	341	⇑iP	Pn	03 21 06.3	+3.8
KCP				i S	Sn	03 21 31.6	+3.5
DMPH	Davao City--Mi	1.30	359	⇑iP	Pn	03 21 03.0	+0.6
DMPH				i S	Sn	03 21 30.8	+2.6
MATI	Mati	1.37	32	eP	Pn	03 21 01.9	-1.1
MATI				eS	Sn	03 21 27.8	-1.3
CTBH	Cotabato--PC H	1.92	319	↓eP	Pn	03 21 08.7	+0.7
SGSI	Sangihe	2.08	180	P	Pn	03 21 07.9	-1.7
BUKP	Musuan	2.14	348	eP	Pn	03 21 10.7	+0.5
BUKP				eS	Sn	03 21 44.1	+2.0
CGP	Cagayan de Oro	2.79	343	⇑iP	Pn	03 21 18.8	+1.6
CGP				i S	Sn	03 21 55.3	+0.6
PAGZ	Pagadian	2.96	314	eP	Pn	03 21 20.4	+1.1
BUTP	Butuan	3.17	2	eP	Pn	03 21 23.1	+1.4
BUTP				eS	Sn	03 22 06.6	+3.8
IPIL	Ipil	3.55	304	↓iP	Pn	03 21 27.0	+0.8
ZMPH	Zamboanga City	3.63	289	↓iP	Pn	03 21 28.3	+1.1
ZMPH				i S	Sn	03 21 56.0	-17
SNPH	Sibulan	4.21	328	⇑iP	Pn	03 21 36.8	+2.5
TBP	Tagbilaran	4.22	337	eP	Pn	03 21 35.5	+1.0
MNI	Manado	4.36	189	P	Pn	03 21 35.6	-0.6
MSLP	Maasin	4.38	351	eP	Pn	03 21 37.2	+0.8
LLP	Lapu-Lapu	4.77	341	↓eP	Pn	03 21 42.7	+1.4
LLP				i S	Sn	03 22 40.5	+2.5
TNTI	Ternate	5.30	160	P	Pn	03 21 45.5	-2.6
OCLP	Ormoc	5.32	350	eP	Pn	03 21 49.6	+1.4
PLP	Palo	5.38	354	↓eP	Pn	03 21 50.8	+1.7
PLP				i S	Sn	03 22 55.7	+3.6
KMSI	Cibinong	5.39	197	P	Pn	03 21 49.1	-0.1
GUIM	Jordan	5.63	329	eP	Pn	03 21 53.9	+1.7
GTOI	Gorontalo	5.69	206	P	Pn	03 21 52.5	-0.5
	30nm10μm,1.1s						
MRSI	Marisa	6.36	214	P	Pn	03 22 02.7	+1.0
	3μm,1.1s						
RCP	Roxas	6.37	335	↓iP	Pn	03 22 04.4	+2.7
LBMI	Labuha	6.67	163	P	Pn	03 22 02.9	-2.8
	205nm7μm,1.0s						
CUYO	Cuyo Island	6.73	319	eP	Pn	03 22 07.7	+1.3
MYLDM	Lahad Datu	7.02	265	P	Pn	03 22 15.1	+5.0
MYLDM	Lahad Datu	7.02	265	P	Pn	03 22 14.1	+4.0
	21nm3μm,1.6s						
LUWI	Luwuk	7.31	202	P	Pn	03 22 14.9	+1.0
	47nm4μm,0.8s						
TSM	Tawau	7.76	259	P	Pn	03 22 22.7	+2.9
PVCP	Virac	7.89	350	⇑eP	Pn	03 22 22.3	+0.9
AUQP	San Andres	8.01	340	eP	Pn	03 22 27.8	+4.9
ENPP	El Nido	8.09	312	eP	Pn	03 22 26.0	+1.9
BUSP	Coron	8.12	320	eP	Pn	03 22 26.4	+2.0
BATP	Bataraza	8.23	292	eP	Pn	03 22 28.3	+2.5
SDKM	Sandakan	8.29	269	P	Pn	03 22 29.1	+2.5
BOAC	Boac	8.45	335	eP	Pn	03 22 31.8	+3.1
GQP	Guinayangan	8.63	340	⇑eP	Pn	03 22 35.0	+4.0
NLAI	Namlea	9.09	170	P	ScS	03 35 19.7	-5.9
	239nm,1.2s,5μm						
NLAI	Namlea	9.09	170	P	Pn	03 22 33.8	-3.2
	5μm,0.7s						
LQP	Lukban	9.16	335	⇑eP	Pn	03 22 43.1	+5.2
KKM	Kota Kinabalu	9.26	272	ePn	Pn	03 22 41.7	+2.4
KKM				eS	Sn	03 24 27.2	+3.8
KKM				eScP	ScP	03 31 50.8	-0.4
KKM	Kota Kinabalu	9.26	272	P	Pn	03 22 41.5	+2.2
	2μm,1.3s						
TGY	Tagaytay City	9.43	332	P	Pn	03 22 43.3	+2.0
	15nm,0.3s,baz=269,slow=3.4,SNR=30						
TGY	Tagaytay City	9.43	332	P	Pn	03 22 43.3	+2.0
TGY	Tagaytay City	9.43	332	P	Pn	03 22 43.3	+2.0
MSAI	Masohi	9.68	159	P	ScS	03 35 28.2	+1.7
	73nm,1.1s						
MSAI	Masohi	9.68	159	P	Pn	03 22 43.3	-1.3
	962nm,0.8s						
AAI	Ambon	9.77	164	P	ScS	03 35 26.5	-0.2
	628nm,1.3s						
AAI	Ambon	9.77	164	P	Pn	03 22 43.5	-2.3
	7μm,1.2s						
KDI	Kendari	10.09	197	P	Pn	03 22 47.1	-2.9
	307nm,0.7s						
SMKI	Samarinda	10.35	234	P	Pn	03 22 57.3	+4.0
	6μm,1.4s						
TTSI	Tana Toraja	10.45	213	P	ScS	03 35 47.7	+20
TTSI	Tana Toraja	10.45	213	P	Pn	03 22 56.3	+1.7
	4μm,1.7s						
BALP	Baler	10.63	339	eP	Pn	03 23 00.8	+3.9
FAKI	Fak Fak	10.94	142	P	ScS	03 35 32.0	+3.2
	86nm,2.1s						
FAKI	Fak Fak	10.94	142	P	Pn	03 22 59.9	-0.9
	7μm,1.0s						
SPSI	Sidrap Palu	11.25	211	P	Pn	03 23 05.4	+0.6
	2μm,1.1s						
MJSI	Majene	11.34	215	P	Pn	03 23 07.0	+1.1
	2μm,1.4s						
SCZP	Santa Cruz	11.36	331	eP	Pn	03 23 06.7	+0.6
BBSI	Bau Bau	11.57	195	P	Pn	03 23 08.0	-0.8
	2μm,1.2s						
BCPH	Baguio City Da	11.60	336	↓iP	Pn	03 23 09.9	+0.7
BCPH				eS	S	03 25 16.9	-1.9
CAUP	Cauayan	11.68	342	eP	Pn	03 23 12.3	+2.2
BOLP	Bolinao	11.89	333	eP	Pn	03 23 15.0	+2.2
KAPI	Kappang	12.17	208	P	Pn	03 23 16.4	0.0
	28nm,0.3s,baz=35,slow=5.7,SNR=203						
KAPI				S	S	03 25 33.2	+0.9
	baz=221,slow=22,SNR=2.9						
KAPI				ScP	ScP	03 31 54.1	-0.9
	5.3nm,0.3s,baz=246,slow=1.5,SNR=19						
KAPI	Kappang	12.17	208	ePn	Pn	03 23 15.5	-0.9
KAPI				S	S	03 25 33.2	+0.9
KAPI				eScP	ScP	03 31 54.1	-0.9
KAPI	Kappang	12.17	208	P	Pn	03 23 15.5	-0.9
	1μm,1.3s						
KAPI	Kappang	12.17	208	P	Pn	03 23 16.0	-0.4
	SNR=183						
BKSI	Bulukumba	12.27	206	P	Pn	03 23 17.6	-0.1
	972nm,1.2s						
BAKI	Biak	12.63	123	P	Pn	03 23 21.8	-0.5
	9μm,0.9s						
BTM	Bintulu	12.66	259	P	Pn	03 23 26.1	+3.4
KBKI	Kotabaru	12.98	226	P	Pn	03 23 28.0	+1.3
	6μm,1.3s						
TLE	Tual	13.43	147	P	ScS	03 36 04.2	+30
	708nm,1.5s						
TLE	Tual	13.43	147	P	Pn	03 23 31.6	-0.6
	10μm,1.1s						
SBUM	Sibu	13.67	257	P	Pn	03 23 39.3	+4.1
SBUM	Sibu	13.67	257	P	Pn	03 23 38.3	+3.1
PLKI	Palangkaraya	14.03	236	P	Pn	03 23 42.2	+2.5
BBKI	Banjar Baru	14.07	230	P	Pn	03 23 42.4	+2.2
	7μm,1.2s						
MMRI	Maumere	14.69	193	P	Pn	03 23 47.4	-0.3
	5μm,1.4s						
STKI	Sintang	15.13	248	P	Pn	03 23 56.2	+3.1
	5μm,1.4s						
SMPI	Sarmi	15.26	120	P	Pn	03 23 53.9	-0.8
	5μm,1.4s						
KSM	Kuching	15.77	255	P	Pn	03 24 04.1	+3.2
KSM	Kuching	15.77	255	ePn	Pn	03 24 03.6	+2.7
	8μm,1.2s						
KSM				ePcP	PcP	03 28 47.6	+1.0
KSM				eScP	ScP	03 32 01.5	+0.3
KSM	Kuching	15.77	255	P	Pn	03 24 03.3	+2.4
	7μm,1.2s						
PBKI	Pangkalan Bun	16.20	239	P	P	03 24 07.3	+2.1
	8μm,1.2s						
WSI	Waingapu	16.20	199	P	P	03 24 05.7	+0.5
	3μm,0.7s						
MTNI	Mataram	17.09	213	P	P	03 24 15.4	+0.5
	5μm,1.1s						
KHKI	Kahang-Kahang	17.18	215	P	P	03 24 16.4	+0.5
	4μm,1.2s						
KMMI	Kalianget	17.18	222	P	P	03 24 18.2	+2.2
	9μm,1.2s						
JAY	Jayapura	17.25	118	P	P	03 24 17.1	+0.3
	5μm,1.1s						
TWG	Pinlang	17.48	346	eP	P	03 24 18.4	-0.7
	415nm,0.4s						
TWG				eS	S	03 27 24.0	-6.0
TWG				eScP	ScP	03 32 04.1	-0.2
NBBI	Negara	17.77	218	P	P	03 24 23.5	+1.1
	4μm,1.2s						
BYJI	Banyuwangi	17.81	219	P	P	03 24 25.2	+2.4
	6μm,1.5s						
IGBI	Denpasar	17.81	216	P	P	03 24 23.5	+0.7
	5μm,1.1s						
BLJI	Banyuglugur	17.94	222	P	P	03 24 25.0	+0.7
	5μm,1.2s						
YULB	Yu-li	17.98	347	eP	P	03 24 22.5	-2.1
	293nm,0.7s						
YULB				eS	S	03 27 33.9	-6.1
YULB				eScP	ScP	03 32 03.7	-1.7
TPUB	Ta-pu	18.05	345	eP	P	03 24 24.7	-0.6
	774nm,0.7s						
TPUB				eS	S	03 27 37.7	-3.7
TPUB				eScP	ScP	03 32 05.3	-0.2
JAGI	Jajag, Banyuwa	18.13	219	P	P	03 24 26.9	+0.5
	5μm,1.2s						
GMJI	Gumukmas	18.44	221	P	P	03 24 30.4	+0.8
	3μm,1.1s						
SSLB	Suanglung	18.44	347	eP	P	03 24 28.4	-1.2
	574nm,0.6s						
SSLB				eS	S	03 27 45.2	-3.9
SSLB				eScP	ScP	03 32 05.9	-0.5
NACB	Ninganchiao	18.68	349	eP	P	03 24 31.1	-1.1
	166nm,0.9s						
NACB				eS	S	03 27 49.4	-4.4
NACB				eScP	ScP	03 32 06.0	-0.9
KRKI	Karangkates	19.01	223	P	P	03 24 36.3	+0.4
	7μm,1.1s						
SJI	Sawahan	19.20	226	P	P	03 24 38.3	+0.5
	3μm,1.2s						
YHNB	Yeheng	19.20	348	eP	P	03 24 37.9	+0.1
	2μm,1.7s						
YHNB				eS	S	03 27 59.6	-4.5
YHNB				eScP	ScP	03 32 08.8	+0.8
PWJI	Pagerwojo	19.37	225	P	P	03 24 39.3	-0.4
	2μm,1.3s						
TATO	Taipei	19.48	349	eP	P	03 24 40.6	-0.2
	187nm,0.7s						
SMRI	Semarang	19.72	230	P	P	03 24 45.4	+1.9
	4μm,1.3s						
HKC	Hong Kong Obse	19.75	327	⇑iP	P	03 24 46.0	+2.2
HKC				i S	S	03 28 18.0	+3.1
TPI	Tanjungpandan	19.76	245	P	P	03 24 45.5	+1.6
	996nm,1.3s						
PCJI	Pacitan	19.93	226	P	P	03 24 46.6	+0.9
	2μm,1.1s						
QIZ	Qiongzhong	20.17	312	P	P	03 24 48.8	+0.5
QIZ				sP	sP	03 25 47.4	-2.1
QIZ				S	S	03 28 22.8	-0.3
QIZ				pmax	pmax		
	comp=Z,280nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,10μm,8.7s						
QIZ	Qiongzhong	20.17	312	eP	P	03 24 48.8	+0.5
	comp=Z,911nm,1.4s						
QIZ				eScP	ScP	03 32 10.8	+0.3
QZH	Quanzhou	20.18	341	⇑iP	P	03 24 46.6	-1.7
QZH				S	S	03 28 20.0	-3.2
QZH				pmax	pmax		
	comp=Z,510nm,0.8s						
QZH				pmax	pmax		
	comp=Z,9μm,8.8s						
QZH				LR	LR		
	comp=N,10μm,10.6s						
QZH				LR	LR		
	comp=E,9μm,12.7s						
QZH				LR	LR		
	comp=Z,21μm,22.6s						
UGM	Wanagama	20.22	228	eP	P	03 24 49.1	+0.3
	comp=Z,11μm,1.4s						
UGM	Wanagama	20.22	228	P	P	03 24 50.2	+1.4
	comp=Z,6μm,1.3s						
YOGI	Yogyakarta	20.32	229	P	P	03 24 51.7	+1.8
	comp=Z,6μm,1.3s						
BJII	Banjamegara	20.46	231	P	P	03 24 52.7	+1.4
	comp=Z,8μm,1.5s						
GUMO	Guam	20.58	66	P	P	03 24 53.7	+1.1
	comp=Z,989nm,0.8s,baz=204,slow=2.2,SNR=27						
GUMO	Guam	20.58	66	eP	P	03 24 53.2	+0.6
	comp=Z,9μm,1.9s						
GUMO	Guam	20.58	66	P	P	03 24 53.7	+1.1
GUMO				pmax	pmax		
	comp=Z,989nm,0.8s						
GUMO	Guam	20.58	66	P	P	03 24 54.0	+1.4
	comp=Z,3μm,1.4s						
GZH	Guangzhou	20.84	327	P	P	03 24 58.6	+3.4
GZH				S	S	03 28 39.3	+3.7
GZH				pmax	pmax		
	comp=Z,12μm,5.4s						
PPBI	Pangkal Pinang	20.91	248	P	P	03 24 57.0	+0.9
	comp=Z,3μm,1.2s						
JOW	Kunigami	21.10	7	P	P	03 24 59.6	+1.6
	comp=Z,263nm,0.6s,mb5.9,baz=191,slow=8.6,SNR=59						
JOW				S	S	03 28 40.2	+0.3
	comp=Z,87nm,1.1s,baz=66,slow=28,SNR=8.4						
JOW				ScP	ScP	03 32 12.8	+0.3
	comp=Z,69nm,0.9s,baz=208,slow=4.7,SNR=4.0						
JOW	Kunigami	21.10	7	eP	P	03 24 59.3	+1.3
	comp=Z,166nm,0.9s,mb5.6						
JOW				eS	S	03 28 38.6	-1.3
JOW				ScP	ScP	03 32 12.8	+0.3
CLJI	Cilicap	21.23	231	P	P	03 25 01.1	+1.6
	comp=Z,3μm,1.6s,mb6.6						
LEM	Lembang	21.82	235	P	P	03 25 06.4	+0.9
MYKOM	Kota Tinggi	21.98	260	P	P	03 25 08.9	+1.9
MYKOM	Kota Tinggi	21.98	260	P	P	03 25 08.3	+1.3
	comp=Z,4μm,1.4s,mb6.8						
CISI	Cisompet, Garu	22.08	233	P	P	03 25 06.7	-1.2
	comp=Z,5μm,1.2s,mb6.9						
CBJI	Citeko	22.23	237	P	P	03 25 11.1	+1.8
TNG	Tangerang	22.27	238	P	P	03 25 12.1	+2.5
	comp=Z,10μm,1.5s,mb7.1						
TNG				P		03 25 12.1	
	comp=Z,6μm,1.5s						
KGM	Kluang	22.46	261	P	P	03 25 13.6	+2.2
SBJI	Serang	22.68	239	P	P	03 25 15.3	+1.9
SKJI	Sukabumi	22.79	236	P	P	03 25 14.9	+0.5
	comp=Z,8μm,1.2s,mb7.1						
RBSI	Rajabasa	22.87	240	P	P	03 25 16.9	+1.7
	comp=Z,4μm,1.2s,mb6.8						
BLSI	Bandar Lampung	23.07	242	P	P	03 25 18.6	+1.6
	comp=Z,4μm,1.0s,mb6.9						
KLI	Kotabumi	23.18	243	P	P	03 25 18.7	+0.7
	comp=Z,4μm,1.1s,mb6.9						
CGJI	Cibinong	23.31	238	P	P	03 25 18.8	-0.3
	comp=Z,6μm,1.1s,mb7.0						
FITZ	Fitzroy Crossi	23.73	180	P	P	03 25 23.0	+0.2
	comp=Z,591nm,0.5s,mb6.5,baz=8.6,slow=8.6,SNR=1660						
FITZ				S	S	03 29 19.9	-2.6
	comp=Z,312nm,1.1s,baz=166,slow=16,SNR=8.1						
FITZ				ScP	ScP	03 32 20.0	+0.5
	comp=Z,89nm,0.6s,baz=2.5,slow=4.4,SNR=6.3						
FITZ	Fitzroy Crossi	23.73	180	⇑iP	P	03 25 23.1	+0.3
FITZ				eS	S	03 29 19.3	-3.2
FITZ				eSCP	ScP	03 32 19.1	-0.4
FITZ				eSCS	ScS	03 36 03.6	-3.1
FITZ	Fitzroy Crossi	23.73	180	eP	P	03 25 23.0	+0.2
	comp=Z,454nm,1.1s,mb6.0						
FITZ				S	S	03 29 19.9	-2.6
FITZ				eS	S	03 29 21.2	-1.3
FITZ				ScP	ScP	03 32 20.0	+0.5
FITZ	Fitzroy Crossi	23.73	180	P	P	03 25 22.6	-0.2
	comp=Z,2μm,1.2s,mb6.6						
RGRI

XMIS	**Christmas Isla**	**25.54**	**231**	P	**P**	**03 25 38.4**	**-0.9**
	comp=Z,4μm,1.4s,mb6.8						
PPI	**Padang Panjang**	**25.84**	**257**	P	**P**	**03 25 42.6**	**+0.5**
	comp=Z,3μm,1.1s,mb6.9						
COEN	**Coen**	**26.29**	**138**	*e*P	**P**	**03 25 45.4**	**-0.6**
	comp=Z,2μm,0.8s,mb6.8						
COEN				*e*ScP	ScP	03 32 28.7	+1.9
COEN	**Coen**	**26.29**	**138**	P	**P**	**03 25 45.0**	**-1.0**
	comp=Z,9μmcomp=Z,529nm,1.5s,mb6.0						
PMG	**Port Moresby**	**26.31**	**125**	P	**P**	**03 25 45.5**	**-0.8**
	comp=Z,605nm,1.0s,mb6.2,baz=322,slow=7.2,SNR=166						
PMG				S	**S**	**03 30 03.0**	**-0.5**
	comp=Z,23nm,0.9s,baz=73,slow=23,SNR=5.7						
PMG				ScP	ScP	03 32 28.8	+1.8
	comp=Z,119nm,1.0s,baz=340,slow=5.0,SNR=6.9						
PMG	**Port Moresby**	**26.31**	**125**	P	**P**	**03 25 45.5**	**-0.8**
PMG				S	**S**	**03 30 03.0**	**-0.5**
PMG				*e*ScP	ScP	03 32 29.6	+2.7
PMG	**Port Moresby**	**26.31**	**125**	P	**P**	**03 25 45.5**	**-0.8**
PMG				S	**S**	**03 30 03.0**	**-0.6**
PMG	**Port Moresby**	**26.31**	**125**	P	**P**	**03 25 45.5**	**-0.8**
	comp=Z,1μm,1.2s,mb6.4						
MNSI	**Mandailing Nat**	**26.36**	**260**	P	**P**	**03 25 46.6**	**-0.1**
	comp=Z,540nm,1.4s,mb6.0						
CBIJ	**Chichi jima**	**26.48**	**35**	P	**P**	**03 25 47.1**	**-0.5**
	baz=257,slow=2.9,SNR=46						
CBIJ				S	**S**	**03 30 00.9**	**-5.1**
	comp=Z,180nm,0.7s,baz=294,slow=21,SNR=6.9						
CBIJ	**Chichi jima**	**26.48**	**35**	P	**P**	**03 25 47.1**	**-0.5**
CBIJ				S	**S**	**03 30 00.9**	**-5.1**
PSI	**Prapat**	**26.69**	**265**	P	**P**	**03 25 50.2**	**+0.6**
	comp=Z,2μm,1.3s,mb6.5						
NST	**Nakhon Sawan**	**26.78**	**294**	⇓P	**P**	**03 25 52.0**	**+1.6**
	comp=Z,758nm,1.2s,mb6.2						
WHN	**Wuhan**	**26.79**	**338**	P	**P**	**03 25 51.5**	**+1.2**
WHN				pP	pP	03 26 33.3	+1.0
WHN				sP	sP	03 26 56.0	-0.6
WHN				PcP	PcP	03 29 08.0	+0.3
WHN				S	**S**	**03 30 11.3**	**+0.6**
WHN				ScP	ScP	03 32 27.8	-0.2
WHN				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.4						
WHN				pmax	pmax		
	comp=Z,6μm,11.0s						
WHN				LR	LR		
	comp=N,12μm,6.2s						
WHN				LR	LR		
	comp=E,18μm,7.2s						
WHN				LR	LR		
	comp=Z,18μm,20.8s						
NJ2	**Nanjing**	**26.88**	**347**	*e*P	**P**	**03 25 52.0**	**+1.0**
NJ2				pP	pP	03 26 33.1	+0.1
NJ2				PP	PP	03 26 51.4	-4.9
NJ2				sP	sP	03 26 58.5	+1.1
NJ2				S	**S**	**03 30 12.5**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,350nm,1.2s,mb5.9						
NJ2				pmax	pmax		
	comp=Z,2μm,9.8s						
NJ2				LR	LR		
	comp=N,8μm,15.0s						
NJ2				LR	LR		
	comp=E,5μm,21.9s						
NJ2				LR	LR		
	comp=Z,12μm,16.8s						
TSI	**Tuntungan**	**26.96**	**266**	P	**P**	**03 25 53.6**	**+1.5**
	comp=Z,2μm,1.0s,mb6.6						
WRAB	**Tennant Creek**	**26.98**	**161**	*e*P	**P**	**03 25 51.3**	**-0.8**
	comp=Z,348nm,0.7s,mb6.1						
WRAB	**Tennant Creek**	**26.98**	**161**	*e*P	**P**	**03 25 51.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,348nm,0.7s,mb6.1						
WRAB	**Tennant Creek**	**26.98**	**161**	P	**P**	**03 25 51.0**	**-1.1**
	comp=Z,551nm,1.1s,mb6.1						
WRAB	**Tennant Creek**	**26.98**	**161**	P	**P**	**03 25 51.0**	**-1.1**
	comp=Z,2μm,0.5s,mb6.9						
WRA	**Warramunga Arr**	**26.99**	**161**	P	**P**	**03 25 52.0**	**-0.2**
	comp=Z,200nm,0.9s,mb5.7,baz=339,slow=9.6,SNR=294						
WRA				PcP	PcP	03 29 09.1	+0.7
	comp=Z,94nm,1.0s,baz=326,slow=3.2,SNR=5.1						
WRA				S	**S**	**03 30 10.1**	**-3.9**
	comp=Z,398nm,1.2s,baz=336,slow=15,SNR=20						
WRA				ScP	ScP	03 32 29.5	+0.7
	comp=Z,66nm,0.7s,baz=338,slow=3.1,SNR=6.3						
WRA				ScS	ScS	03 36 17.4	-2.9
	comp=Z,21nm,1.0s,baz=297,slow=4.4,SNR=5.6						
WRA				P3KPbc		03 58 19.0	
	comp=Z,3.6nm,1.0s,baz=160,slow=3.3,SNR=8.2						
WRA	**Warramunga Arr**	**26.99**	**161**	P	**P**	**03 25 52.0**	**-0.2**
WRA				PcP	PcP	03 29 09.1	+0.7
WRA				S	**S**	**03 30 10.1**	**-3.9**
WRA				ScP	ScP	03 32 29.5	+0.7
WRA				ScS	ScS	03 36 17.4	-2.9
WRA				*e*		03 58 19.0	
WRA	**Warramunga Arr**	**26.99**	**161**	P	**P**	**03 25 52.0**	**-0.2**
WRA						03 29 09.1	
WRA				S	**S**	**03 30 10.1**	**-3.9**
WRA						03 36 17.5	
WB2	**Warramunga Arr**	**26.99**	**161**	*e*P	**P**	**03 25 51.4**	**-0.8**
WB2				*e*S	**S**	**03 30 10.0**	**-4.0**
GYA	**Guiyang**	**27.33**	**321**	⇑*i*P	**P**	**03 25 57.9**	**+2.7**
GYA				pP	pP	03 26 39.4	+2.1
GYA				PP	PP	03 26 55.6	-5.8
GYA				sP	sP	03 27 05.0	+3.4
GYA				PcP	PcP	03 29 11.5	+2.4
GYA				S	**S**	**03 30 21.8**	**+2.5**
GYA				sS	sS	03 31 35.6	+0.7
GYA				SS	SS	03 31 58.0	-26
GYA				ScP	ScP	03 32 31.5	+1.7
GYA				PcS	PcS	03 32 51.8	+0.7
GYA				ScS	ScS	03 36 21.0	-0.7
GYA				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.5						
GYA				pmax	pmax		
	comp=Z,11μm,4.9s						
GYA				LR	LR		
	comp=N,22μm,14.9s						
GYA				LR	LR		
	comp=E,16μm,15.0s						
GYA				LR	LR		
	comp=Z,19μm,15.7s						
MBWA	**Marble Bar**	**27.36**	**192**	*e*P	**P**	**03 25 55.1**	**-0.3**
	comp=Z,1μm,1.2s,mb6.5						
MBWA				*e*PcP	PcP	03 29 10.1	+0.9
MBWA				*e*ScP	ScP	03 32 30.4	+0.5
MBWA	**Marble Bar**	**27.36**	**192**	P	**P**	**03 25 55.0**	**-0.5**
	comp=Z,1μm,1.2s,mb6.3						
MBWA	**Marble Bar**	**27.36**	**192**	P	**P**	**03 25 55.7**	**+0.2**
	SNR=39						
JNU	**Nakatsue**	**27.66**	**10**	*e*P	**P**	**03 25 58.7**	**+0.7**
JNU				*e*ScP	ScP	03 32 30.5	-0.1
BDT	**Bhumibol Dam**	**28.33**	**296**	⇓P	**P**	**03 26 05.0**	**+0.8**
	comp=Z,58nm,0.9s,mb5.2						
TPTI		**28.36**	**266**	P	**P**	**03 26 05.5**	**+1.0**
	comp=Z,321nm,0.9s,mb6.0						
LHMI	**Lhok Sumawe**	**28.45**	**270**	P	**P**	**03 26 07.6**	**+2.3**
	comp=Z,824nm,1.0s,mb6.3						
ENH	**Enshi**	**28.67**	**330**	*e*P	**P**	**03 26 07.7**	**+0.7**
	comp=Z,2μm,1.2s,mb6.6						
ENH				*e*PcP	PcP	03 29 13.5	+1.2
ENH				*e*ScP	ScP	03 32 33.9	+0.1
CHRT	**Chiangrai**	**28.68**	**302**	⇑P	**P**	**03 26 07.0**	**-0.2**
	comp=Z,2μm,0.9s,mb6.6						
CM31	**Chiang Mai Arr**	**28.83**	**298**	*e*P	**P**	**03 26 10.1**	**+1.5**
	comp=Z,48nm,0.7s,mb5.2						
CM31				*e*ScP	ScP	03 32 35.8	+1.3
CMAR	**Chiang Mai Arr**	**28.83**	**298**	P	**P**	**03 26 09.8**	**+1.2**
	comp=Z,133nm,1.1s,mb5.5,baz=123,slow=7.4,SNR=196						
CMAR				PcP	PcP	03 29 13.6	+0.6
	comp=Z,56nm,1.1s,baz=130,slow=0.7,SNR=5.2						
CMAR				S	**S**	**03 30 44.5**	**+1.5**
	comp=Z,11nm,1.1s,baz=128,slow=10,SNR=3.0						
CMAR				ScP	ScP	03 32 35.9	+1.3
	comp=Z,138nm,1.0s,baz=127,slow=1.4,SNR=39						
CMAR				PKiKP	PKiKP	03 36 47.4	+0.1
	comp=Z,4.8nm,0.8s,baz=291,slow=1.7,SNR=4.2						
CMAR				P3KPbc		03 58 20.8	
	comp=Z,0.8nm,0.4s,baz=294,slow=4.7,SNR=6.2						
CMAR				P3KP		03 59 15.5	
	comp=Z,0.7nm,0.3s,baz=272,slow=4.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**28.83**	**298**	P	**P**	**03 26 09.8**	**+1.2**
CMAR				PcP	PcP	03 29 13.6	+0.6
CMAR				S	**S**	**03 30 44.5**	**+1.5**
CMAR				ScP	ScP	03 32 35.9	+1.3
CMAR				PKiKP	PKiKP	03 36 47.4	+0.1
CMAR				*e*		03 58 20.8	
CMAR				PKKKP		03 59 15.5	
CMAR	**Chiang Mai Arr**	**28.83**	**298**	P	**P**	**03 26 09.8**	**+1.2**
CMAR						03 29 13.6	
CMAR				S	**S**	**03 30 44.5**	**+1.5**
CHG	**Chiang Mai**	**28.96**	**299**	⇑P	**P**	**03 26 10.9**	**+1.1**
	comp=Z,206nm,1.1s,mb5.7						
CHTO	**Chiang Mai**	**28.96**	**299**	*e*P	**P**	**03 26 10.6**	**+0.8**
CHTO				*e*ScP	ScP	03 32 35.3	+0.3
CHTO	**Chiang Mai**	**28.96**	**299**	*e*P	**P**	**03 26 10.6**	**+0.8**
CHTO	**Chiang Mai**	**28.96**	**299**	P	**P**	**03 26 10.3**	**+0.5**
	comp=Z,8μmcomp=Z,259nm,1.4s,mb5.7						
CHTO	**Chiang Mai**	**28.96**	**299**	P	**P**	**03 26 10.9**	**+1.1**
	SNR=78						
KMI	**Kunming**	**29.10**	**314**	⇑P	**P**	**03 26 12.8**	**+1.9**
KMI				pP	pP	03 26 55.6	+2.3
KMI				PP	PP	03 27 16.9	-4.2
KMI				sP	sP	03 27 20.1	+2.6
KMI				PcP	PcP	03 29 14.8	+1.3
KMI				S	**S**	**03 30 48.1**	**+0.9**
KMI				sS	sS	03 32 03.8	+0.9
KMI				ScP	ScP	03 32 35.9	+0.6
KMI				SS	SS	03 32 38.0	-22
KMI				PcS	PcS	03 32 56.8	+0.1
KMI				ScS	ScS	03 36 30.8	+0.9
KMI				pmax	pmax		
	comp=Z,390nm,1.4s,mb5.8						
KMI				pmax	pmax		
	comp=Z,4μm,6.7s						
KMI				LR	LR		
	comp=N,6μm,13.7s						
KMI				LR	LR		
	comp=E,8μm,15.9s						
KMI				LR	LR		
	comp=Z,10μm,15.7s						
BSI	**Banda Aceh**	**30.08**	**271**	P	**P**	**03 26 19.3**	**-0.4**
	comp=Z,4μmcomp=Z,246nm,1.5s,mb5.6						
AS31	**Alice Springs**	**30.38**	**165**	*e*P	**P**	**03 26 22.0**	**-0.2**
AS31				*e*S	**S**	**03 31 07.1**	**-0.1**
TIA	**Tai'an**	**31.26**	**347**	⇑P	**P**	**03 26 29.9**	**+0.2**
TIA				S	**S**	**03 31 17.8**	**-2.8**
TIA				pmax	pmax		
	comp=Z,440nm,1.2s,mb6.0						
TIA				pmax	pmax		
	comp=Z,2μm,9.8s						
TIA				LR	LR		
	comp=N,6μm,13.0s						
TIA				LR	LR		
	comp=E,7μm,17.2s						
TIA				LR	LR		
	comp=Z,6μm,12.5s						
INCN	**Inchon**	**31.57**	**2**	*e*P	**P**	**03 26 33.4**	**+0.9**
	comp=Z,153nm,0.8s,mb5.6						
KSAR	**Wonju Array Be**	**31.59**	**4**	P	**P**	**03 26 34.1**	**+1.5**
KSAR				PcP	PcP	03 29 20.1	+0.3
KSAR				ScP	ScP	03 32 44.0	+0.8
KSAR				*e*		03 58 05.2	
KSAR	**Wonju Array Be**	**31.59**	**4**	P	**P**	**03 26 34.2**	**+1.6**
KSAR						03 29 20.2	
KSRS	**Korea Array**	**31.61**	**4**	P	**P**	**03 26 34.1**	**+1.4**
	comp=Z,137nm,0.6s,mb5.6,baz=184,slow=9.8,SNR=230						
KSRS				PcP	PcP	03 29 20.1	+0.3
	comp=Z,21nm,0.7s,baz=181,slow=2.6,SNR=6.1						
KSRS				ScP	ScP	03 32 44.0	+0.7
	comp=Z,53nm,0.9s,baz=189,slow=3.3,SNR=15						
KSRS				P3KPbc		03 58 05.2	
	comp=Z,4.6nm,0.9s,baz=345,slow=5.7,SNR=6.8						
KSRS	**Korea Array**	**31.61**	**4**	P	**P**	**03 26 34.2**	**+1.4**
KSRS						03 29 20.2	
KSRS				pmax	pmax		
	comp=Z,137nm,0.6s,mb5.7						
XAN	**Xi'an**	**32.06**	**333**	P	**P**	**03 26 36.9**	**+0.1**
XAN				pP	pP	03 27 19.8	+0.3
XAN				sP	sP	03 27 43.5	-0.1
XAN				S	**S**	**03 31 30.9**	**-2.2**
XAN				pmax	pmax		
	comp=Z,540nm,1.1s,mb6.0						
XAN				LR	LR		
	comp=N,3μm,10.4s						
XAN				LR	LR		
	comp=E,3μm,17.8s						
XAN				LR	LR		
	comp=Z,2μm,14.1s						
CD2	**Chengdu**	**32.29**	**323**	⇑*i*P	**P**	**03 26 39.8**	**+0.9**
CD2				pP	pP	03 27 22.1	+0.5
CD2				sP	sP	03 27 45.6	-0.1
CD2				PP	PP	03 27 55.4	-1.0
CD2				PcP	PcP	03 29 22.1	+0.2
CD2				S	**S**	**03 31 37.9**	**+1.0**
CD2				sS	sS	03 32 52.6	-0.4
CD2				SS	SS	03 33 50.5	-7.0
CD2				ScS	ScS	03 36 43.5	-1.9
CD2				pmax	pmax		
	comp=Z,1μm,1.3s,mb6.3						
CD2				pmax	pmax		
	comp=Z,5μm,9.5s						
MJAR	**Matsushiro Arr**	**32.75**	**19**	P	**P**	**03 26 42.8**	**+0.1**
	comp=Z,56nm,0.5s,mb5.3,baz=195,slow=9.8,SNR=165						
MJAR				PcP	PcP	03 29 22.9	-0.2
	comp=Z,29nm,1.1s,baz=212,slow=4.1,SNR=4.1						
MJAR				S	**S**	**03 31 41.7**	**-2.1**
	comp=Z,40nm,1.3s,baz=196,slow=13,SNR=4.6						
MJAR				ScP	ScP	03 32 48.1	+0.8
	comp=Z,22nm,0.7s,baz=196,slow=4.5,SNR=12						
MJAR				P3KPbc		03 58 00.5	
	comp=Z,17nm,1.1s,baz=346,slow=4.9,SNR=14						
MJAR	**Matsushiro Arr**	**32.75**	**19**	P	**P**	**03 26 42.8**	**0.0**
MJAR				PcP	PcP	03 29 22.9	-0.2
MJAR				S	**S**	**03 31 41.7**	**-2.1**
MJAR				ScP	ScP	03 32 48.1	+0.8
MJAR				*e*		03 58 00.5	
MJAR	**Matsushiro Arr**	**32.75**	**19**	P	**P**	**03 26 42.8**	**0.0**
MJAR						03 29 22.9	
MJAR				S	**S**	**03 31 41.7**	**-2.1**
MAJO	**Matsushiro**	**32.75**	**19**	*e*P	**P**	**03 26 42.8**	**0.0**
	comp=Z,63nm,0.5s,mb5.4						
MAJO				*e*ScP	ScP	03 32 47.0	-0.2
MAJO	**Matsushiro**	**32.75**	**19**	*e*P	**P**	**03 26 42.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,63nm,0.5s,mb5.4						
MAT	**Matsushiro**	**32.75**	**19**	P	**P**	**03 26 42.8**	**0.0**
MAT				S	**S**	**03 31 43.0**	**-0.8**
CTA	**Charters Tower**	**32.80**	**142**	P	**P**	**03 26 44.1**	**+0.7**
	comp=Z,163nm,0.7s,mb5.7,baz=321,slow=10,SNR=164						
CTA				S	**S**	**03 31 46.1**	**+1.1**
	comp=Z,34nm,1.0s,baz=209,slow=22,SNR=5.0						
CTA				ScP	ScP	03 32 49.6	+1.9
	comp=Z,123nm,0.9s,baz=329,slow=4.2,SNR=8.1						
CTA	**Charters Tower**	**32.80**	**142**	⇓*i*P	**P**	**03 26 44.0**	**+0.6**
CTA				*e*S	**S**	**03 31 44.9**	**-0.1**
CTA				*e*SCP	ScP	03 32 48.6	+0.9
CTA				*e*SCS	ScS	03 36 49.9	+1.6
CTA	**Charters Tower**	**32.80**	**142**	P	**P**	**03 26 44.1**	**+0.7**
CTA				S	**S**	**03 31 46.1**	**+1.1**
CTA				ScP	ScP	03 32 49.6	+1.9
CTA	**Charters Tower**	**32.80**	**142**	P	**P**	**03 26 44.1**	**+0.7**
CTA				S	**S**	**03 31 46.1**	**+1.1**
CTAO	**Charters Tower**	**32.80**	**142**	*e*P	**P**	**03 26 44.1**	**+0.7**
	comp=Z,1μm,1.5s,mb6.2						
CTAO				*e*		03 28 03.9	
CTAO				*e*ScP	ScP	03 32 49.9	+2.2
CTAO	**Charters Tower**	**32.80**	**142**	*e*P	**P**	**03 26 44.1**	**+0.7**
CTAO				*e*		03 28 03.9	
CTAO				pmax	pmax		
	comp=Z,1μm,1.5s,mb6.2						
CTAO	**Charters Tower**	**32.80**	**142**	P	**P**	**03 26 43.7**	**+0.3**
	comp=Z,10μmcomp=Z,552nm,2.1s,mb5.7						
DL2	**Dalian**	**33.17**	**354**	⇑*i*P	**P**	**03 26 47.5**	**+1.2**
DL2				pP	pP	03 27 27.3	-1.9
DL2				sP	sP	03 27 51.1	-2.2
DL2				PcP	PcP	03 29 25.0	+0.9
DL2				S	**S**	**03 31 49.3**	**-0.8**
DL2				ScP	ScP	03 32 49.0	+0.4
DL2				sS	sS	03 33 03.9	-2.5
DL2				PcS	PcS	03 33 10.3	+0.4
DL2				ScS	ScS	03 36 49.9	+0.3
DL2				pmax	pmax		
	comp=Z,580nm,0.7s,mb6.2						
DL2				pmax	pmax		
	comp=Z,900nm,5.6s						
COCO	**West Island**	**33.65**	**238**	*e*P	**P**	**03 26 49.1**	**-1.7**
	comp=Z,599nm,1.0s,mb6.1						
COCO				*e*ScP	ScP	03 32 51.5	+0.8
COCO	**West Island**	**33.65**	**238**	*i* P	**P**	**03 26 50.6**	**-0.2**
COCO	**West Island**	**33.65**	**238**	P	**P**	**03 26 50.3**	**-0.5**
	comp=Z,10μmcomp=Z,671nm,1.2s,mb6.0						
COCO	**West Island**	**33.65**	**238**	P	**P**	**03 26 49.6**	**-1.2**
	comp=Z,3μm,1.1s,mb6.8,SNR=12						
COCO	**West Island**	**33.65**	**238**	P	**P**	**03 26 50.2**	**-0.6**
	SNR=12						
TIY	**Taiyuan**	**33.95**	**341**	*e*P	**P**	**03 26 53.4**	**+0.3**
TIY				pP	pP	03 27 36.8	+0.7
TIY				sP	sP	03 27 57.3	-2.9
TIY				PP	PP	03 28 10.3	-4.4
TIY				S	**S**	**03 32 00.0**	**-2.3**
TIY				sS	sS	03 33 17.3	-1.4
TIY				pmax	pmax		
	comp=Z,1μm,6.5s						
TIY				LR	LR		
	comp=N,3μm,7.6s						
TIY				LR	LR		
	comp=E,3μm,12.3s						
TIY				LR	LR		
	comp=Z,4μm,14.4s						
BJT	**Baijiatuau**	**35.12**	**347**	*e*P	**P**	**03 27 03.5**	**+0.4**
	comp=Z,1μm,0.9s,mb6.5						
BJT				*e*PcP	PcP	03 29 31.4	+1.7
BJT				*e*ScP	ScP	03 32 56.7	+1.2
BJT	**Baijiatuau**	**35.12**	**347**	*e*P	**P**	**03 27 03.5**	**+0.5**
BJT				*e*		03 29 31.4	
BJT				pmax	pmax		
	comp=Z,1μm,0.9s						
BJI	**Beijing**	**35.14**	**347**	P	**P**	**03 27 03.8**	**+0.6**
BJI				pP	pP	03 27 45.0	-1.4
BJI				sP	sP	03 28 09.4	-1.1
BJI				PcP	PcP	03 29 31.6	+1.8
BJI				S	**S**	**03 32 19.0**	**-1.3**
BJI				ScP	ScP	03 32 56.6	+1.0
BJI				sS	sS	03 33 37.0	-0.1
BJI				pmax	pmax		
	comp=Z,1μm,1.1s,mb6.3						
BJI				pmax	pmax		
	comp=Z,4.0nm,2.8s						
IMP	**Imphal**	**35.70**	**305**	*e*PKP	pP	03 27 52.0	+0.4
IMP				*e*S	ScP	03 32 58.0	0.0
SNY	**Shenyang**	**35.94**	**358**	⇑P	**P**	**03 27 11.1**	**+1.1**
SNY				pP	pP	03 27 54.0	+0.6
SNY				S	**S**	**03 32 33.0**	**+0.5**
SNY				pmax	pmax		
	comp=Z,840nm,0.8s,mb6.3						
SNY				LR	LR		
	comp=N,6μm,21.3s						
SNY				LR	LR		
	comp=E,3μm,21.0s						
SNY				LR	LR		
	comp=Z,6μm,19.6s						
LZH	**Lanzhou**	**36.14**	**330**	⇑P	**P**	**03 27 13.9**	**+2.1**
LZH				pP	pP	03 27 56.5	+1.3
LZH				sP	sP	03 28 16.0	-3.2
LZH				S	**S**	**03 32 36.0**	**+0.2**
LZH				sS	sS	03 33 54.0	+1.3
LZH				SS	SS	03 35 18.0	-5.1
LZH				pmax	pmax		
	comp=Z,4μm,1.2s,mb6.8						
LZH				pmax	pmax		
	comp=Z,8μm,4.8s						
LZH				LR	LR		
	comp=N,12μm,11.1s						
LZH				LR	LR		
	comp=E,10μm,10.2s						
LZH				LR	LR		
	comp=Z,7μm,18.6s						
FORT	**Forrest**	**36.43**	**176**	*e*P	**P**	**03 27 14.7**	**+0.4**
FORT				*e*S	**S**	**03 32 38.5**	**-1.7**
FORT	**Forrest**	**36.43**	**176**	*e*P	**P**	**03 27 14.8**	**+0.6**
	comp=Z,1μm,0.8s,mb6.5						
FORT				*e*S	**S**	**03 32 38.6**	**-1.5**
HHC	**Hu-ho-hao-te**	**37.09**	**342**	⇑P	**P**	**03 27 20.6**	**+0.8**
HHC				pP	pP	03 28 04.8	+1.4
HHC				sP	sP	03 28 26.3	-1.0
HHC				PP	PP	03 28 55.0	+5.9
HHC				PcP	PcP	03 29 35.9	+0.2
HHC				ScP	ScP	03 33 03.3	+0.5
HHC				PcS	PcS	03 33 24.1	0.0
HHC				sS	sS	03 34 09.5	+2.2
HHC				SS	SS	03 35 36.1	-6.0
HHC				ScS	ScS	03 37 10.4	-0.4
HHC				pmax	pmax		
	comp=Z,460nm,1.2s,mb5.9						
HHC				pmax	pmax		
	comp=Z,4μm,5.7s						
BTO	**Baotou**	**37.36**	**340**	*e*P	**P**	**03 27 21.6**	**-0.5**
HNR	**Honiara**	**37.48**	**114**	P	**P**	**03 27 23.5**	**+0.1**
	comp=Z,693nm,0.5s,mb6.4,baz=201,slow=3.6,SNR=31						
HNR				S	**S**	**03 32 55.3**	**-1.4**
	comp=Z,54nm,0.5s,baz=158,slow=22,SNR=13						
HNR	**Honiara**	**37.48**	**114**	*e*P	**P**	**03 27 22.6**	**-0.8**
	comp=Z,418nm,0.6s,mb6.1						
HNR				*e*		03 32 52.4	
HNR	**Honiara**	**37.48**	**114**	*e*P	**P**	**03 27 22.6**	**-0.9**
HNR				*e*		03 32 52.4	
HNR				pmax	pmax		
	comp=Z,418nm,0.6s,mb6.1						
AGT	**Agartala**	**37.54**	**302**	*ex*	**P**	**03 27 20.0**	**-3.9**
AGT				*ex*	x	03 28 26.0	
VLA	**Vladivostok**	**37.61**	**8**	*i* P	**P**	**03 27 25.2**	**+1.1**
VLA				pmax	pmax		
	comp=Z,461nm,1.5s,mb5.8						
SHL	**Shillong**	**37.71**	**305**	*i* P	**P**	**03 27 24.0**	**-1.2**
SHL				*e*S	**S**	**03 32 59.0**	**-0.9**
CN2	**Changchun**	**37.87**	**360**	⇑P	**P**	**03 27 26.4**	**+0.1**
CN2				*e*pP	pP	03 28 09.8	-0.2
CN2				*e*sP	sP	03 28 33.0	-0.9
CN2				PcP	PcP	03 29 38.8	+0.8
CN2				*e*S	**S**	**03 32 59.9**	**-1.8**
CN2				sS	sS	03 34 18.3	-0.8
CN2				SS	SS	03 35 53.6	-4.0
CN2				ScS	ScS	03 37 12.1	-3.1
CN2				pmax	pmax		
	comp=Z,130nm,0.7s,mb5.6						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
KLBR	**Kellerberrin**	**37.89**	**191**	⇑*i*P	**P**	**03 27 26.7**	**+0.1**
	comp=Z,2μm,1.2s,mb6.6						
KLBR				*e*PCP	PcP	03 29 39.0	+0.8
KLBR				*e*S	**S**	**03 32 56.3**	**-6.0**
USRK	**Ussuriysk Arra**	**38.69**	**7**	P	**P**	**03 27 34.6**	**+1.5**
	comp=Z,122nm,0.8s,mb5.5,baz=193,slow=6.1,SNR=153						
USRK				pP	pP	03 28 17.6	+0.6
	comp=Z,58nm,0.7s,baz=185,slow=7.4,SNR=3.2						
USRK				sP	sP	03 28 40.6	-0.2
	comp=Z,38nm,0.7s,baz=195,slow=8.7,SNR=1.8						
USRK				ScP	ScP	03 33 10.5	+1.6
	comp=Z,7.7nm,0.6s,baz=184,slow=1.8,SNR=4.9						
USRK				S	**S**	**03 33 18.7**	**+4.8**
	comp=Z,21nm,1

NWAO S **S** **03 33 22.7 -0.4**
comp=Z,95nm,1.1s,baz=249,slow=18,SNR=6.8
NWAO Narrogin (SRO) 39.29 191 *e*P **P** **03 27 38.8 +0.6**
comp=Z,2μm,1.3s,mb6.6
NWAO *e*ScP ScP 03 33 11.5 +0.2
NWAO S **S** **03 33 22.7 -0.4**
NWAO Narrogin (SRO) 39.29 191 P **P** **03 27 38.9 +0.7**
NWAO smax
comp=N,95nm,1.1s
NWAO Narrogin (SRO) 39.29 191 P **P** **03 27 39.2 +1.0**
SNR=99
ERM Erimo 39.35 21 *e*P **P** **03 27 40.8 +2.3**
ERM Erimo 39.35 21 *e*P **P** **03 27 40.8 +2.2**
ERM Erimo 39.35 21 P **P** **03 27 41.9 +3.3**
comp=N,815nm,0.9s,mb6.3,SNR=20
CAL Calcutta 39.57 299 *e*PKP **P** **03 27 43.5 +2.8**
CAL AMb AMB 03 27 46.3
comp=Z,1μm,0.6s,mb6.4
CAL *e*S **S** **03 33 30.1 +2.4**
BBOO Buckleboo 39.66 166 *e*P **P** **03 27 41.9 +0.6**
comp=Z,9μm,0.7s,mb7.3
BBOO *e*ScP ScP 03 33 12.9 +0.2
BBOO *e*S **S** **03 33 28.6 -0.1**
EIDS Eidsvold 39.69 142 *e*P **P** **03 27 41.0 -0.7**
comp=Z,782nm,1.3s,mb6.0
EIDS *e* 03 29 18.1
EIDS *e*ScP ScP 03 33 14.7 +1.7
LSA Lhasa 40.20 310 P **P** **03 27 47.9 +2.1**
LSA pP pP 03 28 34.9 +5.0
LSA sP sP 03 28 50.1 -3.6
LSA S **S** **03 33 31.5 -5.4**
LSA pmax pmax
comp=Z,270nm,1.3s,mb5.5
LSA pmax pmax
comp=Z,5μm,10.0s
LSA LR LR
comp=N,2μm,19.0s
LSA LR LR
comp=E,3μm,18.0s
LSA LR LR
comp=Z,3μm,19.0s
LSA Lhasa 40.20 310 *e*P **P** **03 27 47.6 +1.8**
comp=Z,996nm,1.4s,mb6.0
LSA *e* pP 03 28 33.1 +3.2
LSA *e*ScP ScP 03 33 16.2 +1.2
LSA *e*S **S** **03 33 40.3 +3.4**
LSA Lhasa 40.20 310 *e*P **P** **03 27 47.6 +1.8**
LSA *e* pP 03 28 33.1 +3.2
LSA *e*S **S** **03 33 40.3 +3.4**
LSA pmax pmax
comp=Z,995nm,1.4s,mb6.0
STKA Stephens Creek 40.46 159 P **P** **03 27 48.4 +0.6**
comp=Z,302nm,0.7s,mb5.9,baz=332,slow=8.0,SNR=468
STKA ScP ScP 03 33 16.6 +0.6
comp=Z,168nm,0.8s,baz=341,slow=5.8,SNR=8.8
STKA S **S** **03 33 39.8 -0.8**
comp=Z,292nm,1.1s,baz=200,slow=18,SNR=10
STKA Stephens Creek 40.46 159⇓ *i*P **P** **03 27 48.3 +0.5**
STKA *e*SCP ScP 03 33 16.4 +0.5
STKA *e*S **S** **03 33 37.2 -3.4**
STKA Stephens Creek 40.46 159 *e*P **P** **03 27 48.4 +0.6**
comp=Z,15nm,1.3s
STKA *e*ScP ScP 03 33 16.4 +0.5
STKA ScP ScP 03 33 16.6 +0.6
STKA S **S** **03 33 39.8 -0.8**
STKA *e*S **S** **03 33 40.2 -0.3**
GTA Gaotai 40.73 329⇑P **P** **03 27 51.3 +1.3**
GTA pP pP 03 28 38.8 +4.5
GTA sP sP 03 28 59.8 +1.8
GTA PcP PcP 03 29 48.8 +1.6
GTA ScP ScP 03 33 17.6 +0.7
GTA S **S** **03 33 46.9 +2.3**
GTA sS sS 03 35 03.1 +0.4
GTA SS SS 03 36 50.5 -3.9
GTA ScS ScS 03 37 32.0 -0.2
GTA pmax pmax
comp=Z,540nm,1.3s,mb5.8
GTA pmax pmax
comp=Z,4μm,5.5s
GTA LR LR
comp=N,9μm,20.0s
GTA LR LR
comp=E,8μm,19.5s
GTA LR LR
comp=Z,8μm,18.1s
ASAJ Asahikawa 41.02 19 *e*Pn **P** **03 27 54.0 +1.7**
ASAJ *e*ScP ScP 03 33 19.5 +1.5
BWNR Bhubaneshwar 41.16 294 *ex* **P** **03 27 51.0 -2.8**
TAPN Taplejung 41.85 305 *e*P **P** **03 28 00.3 +1.0**
comp=Z,897nm,1.0s,mb6.2
TAPN Taplejung 41.85 305 *e*P **P** **03 28 00.3 +1.0**
comp=Z,897nm,1.0s,mb6.2
ODAN Odare 41.92 304 *e*P **P** **03 28 00.5 +0.6**
comp=Z,727nm,0.8s,mb6.2
ODAN Odare 41.92 304 *e*P **P** **03 28 00.5 +0.6**
comp=Z,727nm,0.8s,mb6.2
YUK Yuzh-Kuril'sk 42.09 22*c* *i*P **P** **03 27 54.0 -6.9**
YUK *i* 03 29 41.3
YUK *i*S **S** **03 33 55.8 -8.5**
YUK *i*SS SS 03 37 15.9 -4.7
YUK pmax pmax
comp=Z,1μm,1.3s,mb6.1
YUK pmax pmax
comp=N,416nm,1.1s
YUK pmax pmax
comp=E,173nm,1.1s
YUK pmax pmax
comp=Z,536nm,1.1s,mb5.9
WAKE Wake Island 42.21 68 P **P** **03 28 02.9 +0.6**
comp=Z,241nm,1.1s,mb5.5
RAMN Ramite 42.60 304 *e*P **P** **03 28 06.3 +0.9**
comp=Z,2μm,1.3s,mb6.5
RAMN Ramite 42.60 304 *e*P **P** **03 28 06.3 +0.9**
comp=Z,2μm,1.3s,mb6.5
JIRN Jiri 43.22 305 *e*P **P** **03 28 11.3 +1.0**
comp=Z,1μm,0.9s,mb6.3
JIRN Jiri 43.22 305 *e*P **P** **03 28 11.3 +1.0**
comp=Z,1μm,0.9s,mb6.4
HABR Khabarovsk 43.31 9*c* *i*P **P** **03 28 12.5 +1.8**
HABR *e* 03 29 55.6
HABR 03 29 57.8
HABR *e*PPP 03 30 36.7
HABR *i*S **S** **03 34 24.1 +2.1**
HABR *e*SS SS 03 37 43.1 -1.1
HABR pmax pmax
comp=Z,798nm,1.5s,mb5.9
HABR pmax pmax
comp=N,268nm,1.9s
HABR pmax pmax
comp=Z,894nm,1.9s,mb5.9
HABR pmax pmax
comp=E,310nm,1.4s
HABR MLR MLR
comp=Z,3μm,17.0s
GUN Gumba 43.56 305 *e*P **P** **03 28 14.1 +1.0**
GUN Gumba 43.56 305 *e*P **P** **03 28 14.1 +1.0**
HIA Hailar 43.61 355 *e*P **P** **03 28 13.9 +0.8**
comp=Z,2μm,1.3s,mb6.2
HIA *e* 03 29 58.2
HIA *e*ScP ScP 03 33 30.0 +1.7
HIA Hailar 43.61 355 *e*P **P** **03 28 13.9 +0.8**
HIA *e* 03 29 58.2
HIA pmax pmax
comp=Z,2μm,1.3s
KLR Kul'dur 43.62 6κ *i*P **P** **03 28 10.1 -3.0**
KLR *i*S **S** **03 34 22.5 -4.0**
KLR *e*SS SS 03 37 41.5 -8.3
KLR pmax pmax
comp=N,120nm,1.6s
KLR pmax pmax
comp=Z,650nm,1.6s,mb5.7
KLR pmax pmax
comp=N,2μm,8.5s
KLR pmax pmax
comp=Z,3μm,8.5s
KLR MLR MLR
comp=N,3μm,13.0s
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,7μm,13.0s
YSS Yuzh-Sakhalins 43.63 17 *e*P **P** **03 28 14.8 +1.6**
YSS *e* 03 29 56.6
YSS Yuzh-Sakhalins 43.63 17⇑ *i*P **P** **03 28 14.0 +0.8**
YSS *i*S **S** **03 34 27.0 +0.3**

YSS *e* 03 37 47.0
YSS smax
comp=N,8μm,14.0s
YSS smax
comp=E,3μm,14.0s
YSS MLR MLR
comp=N,3μm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s
PKI Pulchoki 43.82 304 *e*P **P** **03 28 15.6 +0.5**
comp=Z,1μm,1.4s,mb6.1
PKI Pulchoki 43.82 304 *e*P **P** **03 28 15.6 +0.5**
comp=Z,1μm,1.4s,mb6.1
PKI Pulchoki 43.82 304 *e*P **P** **03 28 15.6 +0.5**
PKI pmax pmax
comp=Z,1μm,1.4s,mb6.1
ARMA Armidale 43.83 147 *e*P **P** **03 28 15.5 +0.5**
ARMA *e*SCP ScP 03 33 31.8 +2.3
ARMA *e*S **S** **03 34 30.5 +0.5**
ARMA *e*SCS ScS 03 37 52.9 +1.3
ARMA Armidale 43.83 147 *e*P **P** **03 28 15.7 +0.7**
comp=Z,284nm,0.8s,mb5.7
ARMA *e*ScP ScP 03 33 31.9 +2.4
KUR Kuril'sk 43.86 23⇑ *i*P **P** **03 28 16.7 +1.6**
KUR *i*S **S** **03 34 32.0 +1.9**
KUR pmax pmax
comp=N,80nm,0.9s
KUR pmax pmax
comp=E,110nm,0.9s
KUR pmax pmax
comp=Z,250nm,0.9s,mb5.5
KUR pmax pmax
comp=N,4μm,5.0s
KUR pmax pmax
comp=Z,5μm,5.0s
KUR pmax pmax
comp=E,3μm,4.0s
KUR smax
comp=N,15nm,6.0s
KUR smax
comp=E,12μm,6.0s
KKN Kakani 44.01 305 *e*P **P** **03 28 16.9 +0.3**
KKN Kakani 44.01 305 *e*P **P** **03 28 16.9 +0.3**
KKN Kakani 44.01 305 *e*P **P** **03 28 16.9 +0.3**
DMN Daman 44.08 304 *e*P **P** **03 28 17.6 +0.4**
comp=E,1μm,1.3s,mb6.1
DMN Daman 44.08 304 *e*P **P** **03 28 17.6 +0.4**
comp=E,1μm,1.3s,mb6.1
GKN Gorkha 44.62 305 *e*P **P** **03 28 21.6 +0.2**
GKN Gorkha 44.62 305 *e*P **P** **03 28 21.6 +0.2**
ULN Ulaanbaatar 44.81 342 *e*P **P** **03 28 23.0 +0.4**
comp=E,2μm,1.7s,mb6.1
ULN *e*PcP PcP 03 30 01.6 +0.8
ULN *e*ScP ScP 03 33 34.2 +1.0
ULN Ulaanbaatar 44.81 342 *e*P **P** **03 28 23.0 +0.4**
ULN *e* 03 30 01.6
ULN pmax pmax
comp=Z,2μm,1.7s,mb6.1
ULN Ulaanbaatar 44.81 342 P **P** **03 28 22.8 +0.2**
comp=Z,6μmcomp=Z,478nm,1.5s,mb5.6
ULN Ulaanbaatar 44.81 342 P **P** **03 28 23.5 +0.9**
SNR=234
SONM Songino Array 44.99 342 P **P** **03 28 24.3 +0.4**
comp=Z,154nm,0.9s,mb5.3,baz=157,slow=5.2,SNR=319
SONM pP pP 03 29 09.4 +0.4
comp=Z,25nm,0.8s,baz=160,slow=14,SNR=1.7
SONM PcP PcP 03 30 00.8 -0.5
comp=Z,37nm,0.6s,baz=162,slow=3.7,SNR=8.5
SONM ScP ScP 03 33 34.5 +0.5
comp=Z,38nm,0.8s,baz=165,slow=4.4,SNR=8.5
SONM Songino Array 44.99 342 P **P** **03 28 24.3 +0.4**
SONM pP pP 03 29 09.4 +0.4
SONM PcP PcP 03 30 00.8 -0.5
SONM ScP ScP 03 33 34.5 +0.5
SONM Songino Array 44.99 342 P **P** **03 28 24.3 +0.3**
SONM *PP pP 03 29 09.4 +0.3
SONM 03 30 00.8
MDRS Chennai 45.19 283⇑ *i*P pP 03 29 15.4 +4.1
MDRS AMb AMB 03 29 17.3
comp=Z,367nm,0.4s,mb6.0
MDRS *e*S x 03 35 41.2
KOLN Koldanda 45.38 304 *e*P **P** **03 28 28.2 +0.7**
KOLN Koldanda 45.38 304 *e*P **P** **03 28 28.2 +0.7**
DANN Dangsing 45.46 305 *e*P **P** **03 28 28.6 +0.5**
comp=Z,1μm,0.7s,mb6.3
DANN Dangsing 45.46 305 *e*P **P** **03 28 28.6 +0.5**
comp=Z,1μm,0.7s,mb6.4
PYUN Piuthan 46.01 304 *e*P **P** **03 28 33.2 +0.9**
PYUN Piuthan 46.01 304 *e*P **P** **03 28 33.2 +0.9**
ALBI Allahabad 46.10 300 *e*PKP **P** **03 28 31.5 -1.6**
RIV Riverview 46.26 150⇓ *i*P **P** **03 28 35.9 +1.7**
RIV *e*PCP PP 03 30 23.8 -2.2
RIV *e*SCP ScP 03 33 41.7 +2.2
CAN Canberra 46.47 153 *e*P **P** **03 28 37.3 +1.6**
comp=Z,545nm,1.1s,mb5.8
CAN *e*ScP ScP 03 33 42.2 +1.9
CAN Canberra 46.47 153 *e*P **P** **03 28 37.3 +1.6**
CAN pmax pmax
comp=Z,545nm,1.1s,mb5.8
CNB Canberra Magne 46.62 153⇓ *i*P **P** **03 28 38.3 +1.4**
CNB *e*SCP ScP 03 33 42.0 +1.0
TOO Toolangi 46.97 158⇓ *i*P **P** **03 28 41.4 +1.8**
TOO *e*SCP ScP 03 33 43.5 +1.1
TOO *e*S **S** **03 35 18.5 +3.7**
JBP Jabalpur 47.12 296 *e*PKP **P** **03 28 40.8 -0.2**
JBP *ex* x 03 35 18.0
HYB Hyderabad 47.32 288 *i* P **P** **03 28 41.0 -1.6**
comp=Z,210nm,1.0s,mb5.4
HYB *e*pP pP 03 29 26.0 -2.1
HYB *e*sP sP 03 29 50.0 -1.5
HYB *e*PP PP 03 30 36.0 +0.2
HYB *e*PPP 03 31 36.0
HYB *e*ScP ScP 03 33 44.0 -0.3
HYB *e*S **S** **03 35 20.0 -0.3**
HYB *e*sS sS 03 36 40.0 -0.3
HYB *e*ScS ScS 03 38 12.0 -2.8
HYB *e*SS SS 03 39 06.0 +15
NGP Nagpur 47.51 293 *i* P **P** **03 28 42.4 -1.6**
NGP *e*S **S** **03 35 22.4 -0.6**
ZAK Zakamensk 48.21 341 *e*P **P** **03 28 48.6 -0.3**
ZAK pmax pmax
comp=Z,87nm,1.4s,mb4.9
TRD Trivandrum 48.24 276⇑ *e*PKP **P** **03 28 48.7 -1.1**
TRD *ex* x 03 35 22.7
NOUC Port Laguerre 48.60 126 *e*P **P** **03 28 51.2 -1.1**
DZM Mont Dzumac 48.70 126 *e*P **P** **03 28 53.8 +0.7**
comp=Z,915nm,1.2s,mb6.0
DZM *e*S **S** **03 35 35.9 -3.7**
comp=Z,16μm,28.1s
DZM Mont Dzumac 48.70 126 P **P** **03 28 53.7 +0.6**
comp=Z,224nm,0.7s,mb5.6,baz=319,slow=6.2,SNR=80
DZM sP sP 03 30 03.8 +1.6
comp=Z,176nm,1.0s,baz=291,slow=6.6,SNR=3.0
DZM ScP ScP 03 33 53.1 +3.0
comp=Z,37nm,0.9s,baz=22,slow=5.4,SNR=5.8
DZM S **S** **03 35 41.3 +1.8**
comp=Z,20nm,1.1s,baz=77,slow=21,SNR=4.0
DZM Mont Dzumac 48.70 126 *e*P **P** **03 28 53.7 +0.6**
comp=Z,585nm,1.2s,mb5.8
DZM sP sP 03 30 03.8 +1.6
DZM ScP ScP 03 33 53.1 +3.0
DZM *e*ScP ScP 03 33 53.5 +3.5
DZM S **S** **03 35 41.3 +1.8**
DZM *e*S **S** **03 35 41.7 +2.1**
PTH Pithoragarh 48.79 305 *e*PKP **P** **03 28 54.1 +0.4**
PTH *ex* x 03 33 50.0
TLY Talaya 49.22 342 *e*P **P** **03 28 57.3 +0.7**
comp=Z,1μm,1.7s,mb6.0
TLY *e*ScP ScP 03 33 52.3 +0.7
TLY Talaya 49.22 342*c* *i*P **P** **03 28 57.2 +0.6**
TLY *e* pP 03 29 44.5 +2.0
TLY *e* 03 30 55.4
TLY *e* 03 31 55.2
TLY *e*S **S** **03 35 44.5 -1.5**
TLY *e* 03 38 24.7
TLY pmax pmax
comp=Z,313nm,1.0s,mb5.6
TLY Talaya 49.22 342 P **P** **03 28 57.9 +1.2**
SNR=81
TLY Talaya 49.22 342 P **P** **03 28 57.1 +0.5**
comp=Z,2μm,0.9s,mb6.4,SNR=53
AKL Akola 49.29 292⇓ *i*P **P** **03 28 56.2 -1.4**
AKL *i*S **S** **03 35 47.5 -0.4**
LATR Latur 49.34 289 *e*PKP **P** **03 28 58.0 -0.1**

BHPL Bhopal 49.42 296⇑ *i*P **P** **03 28 58.5 -0.2**
BHPL *i* pP pP 03 29 41.9 -2.7
BHPL *e*S **S** **03 35 48.1 -1.7**
IRK Irkutsk 49.53 343 *e*P **P** **03 28 58.6 -0.3**
IRK *e* 03 30 17.7
IRK *e* 03 31 59.0
IRK *e*S **S** **03 35 53.3 +3.0**
IRK pmax pmax
comp=Z,816nm,1.6s,mb5.8
MOY Mondy 50.06 340⇑ *i*P **P** **03 29 03.2 +0.3**
MOY pmax pmax
comp=Z,884nm,1.7s,mb5.8
WMQ Urumqi 50.37 325 P **P** **03 29 06.0 +0.6**
WMQ pP pP 03 29 51.3 -0.2
WMQ sP sP 03 30 14.3 -0.4
WMQ PP PP 03 31 06.0 +2.9
WMQ S **S** **03 36 02.0 -0.2**
WMQ sS sS 03 37 21.8 -1.2
WMQ pmax pmax
comp=Z,610nm,1.2s,mb5.8
WMQ pmax pmax
comp=Z,5μm,4.9s
DDI Dehra Dun 50.82 305 *e*PKP **P** **03 29 04.5 -4.5**
DDI *e*S **S** **03 36 04.5 -4.3**
CLNS Chul'man 50.92 360 *e*P **P** **03 29 10.8 +1.5**
CLNS *e* 03 31 07.3
CLNS *e*S **S** **03 36 10.6 +1.3**
CLNS *e* 03 38 38.8
CLNS *e*SS SS 03 39 52.1 +5.0
CLNS pmax pmax
comp=Z,756nm,1.3s,mb6.0
CLNS pmax pmax
comp=E,150nm,1.1s
CLNS pmax pmax
comp=N,745nm,1.5s
CLNS pmax pmax
comp=N,98nm,1.3s
CLNS pmax pmax
comp=E,98nm,1.4s
CLNS pmax pmax
comp=Z,57nm,1.5s,mb4.8
CLNS smax
comp=E,2μm,12.3s
CLNS smax
comp=N,3μm,13.5s
NDI New Delhi 51.01 302 *e*PKP **P** **03 29 07.8 -2.6**
NDI *e*PKP 03 29 08.8
NDI AMb AMB 03 29 11.1
comp=Z,404nm,1.3s,mb5.7
NDI *ex* x 03 36 08.0
KAD Karad 51.44 287 *e*PKP **P** **03 29 13.1 -0.7**
SKR Severo-Kuril's 51.54 24 *e*P **P** **03 29 14.9 +1.0**
SKR *e* 03 31 20.0
SKR *e*S **S** **03 36 18.0 +0.1**
SKR pmax pmax
comp=Z,90nm,0.5s,mb5.5
SKR pmax pmax
comp=N,2μm,6.0s
SKR pmax pmax
comp=E,2μm,6.0s
SKR pmax pmax
comp=Z,2μm,6.0s
SKR smax
comp=N,10μm,10.0s
SKR smax
comp=E,5μm,10.0s
SKR MLR MLR
comp=N,3μm,16.0s
SKR MLR MLR
comp=E,3μm,16.0s
SKR MLR MLR
comp=Z,3μm,16.0s
GOA Goa 51.60 285⇓ *i*P **P** **03 29 14.2 -0.9**
GOA *i*S **S** **03 36 19.0 -0.9**
SMLA Simla 51.80 305 *i* P **P** **03 29 16.4 +0.1**
SMLA *i*S **S** **03 36 22.2 0.0**
MOO Moorlands 51.88 160 *e*P **P** **03 29 18.0 +1.4**
MOO *e*SCP ScP 03 34 04.0 +0.8
MOO *e*S **S** **03 36 25.2 +2.4**
POO Poona 51.90 289⇑ *i*P **P** **03 29 16.9 -0.3**
POO *i* pP pP 03 30 03.0 -0.5
POO *e*S **S** **03 36 21.8 -2.1**
HMDM Hanimaadhoo 52.02 274 P **P** **03 29 19.7 +1.5**
comp=Z,530nm,1.4s,mb5.8
SDNR Sundarnagar 52.08 306 *e*PKP **P** **03 29 19.0 +0.7**
SDNR *e*S **S** **03 36 26.4 +0.4**
TAU Tasmania Unive 52.34 160 *e*P **P** **03 29 21.3 +1.4**
comp=Z,605nm,1.6s,mb5.8
TAU *e*ScP ScP 03 34 05.9 +0.7
TAU Tasmania Unive 52.34 160 *e*P **P** **03 29 21.3 +1.3**
TAU pmax pmax
comp=Z,605nm,1.6s,mb5.8
TAU Tasmania Unive 52.34 160 P **P** **03 29 21.4 +1.4**
comp=Z,823nm,1.0s,mb6.1,SNR=5.4
BHK Bhakra 52.50 305 *e*PKP **P** **03 29 21.0 -0.4**
BHK *ex* x 03 30 10.0
AJM Ajmer 52.63 299 *e*PKP **P** **03 29 21.0 -1.4**
BOD Bodaibo 52.68 352⇓ *i*P **P** **03 29 22.8 +0.6**
BOD *e* 03 38 48.0
BOD pmax pmax
comp=Z,673nm,1.3s,mb5.9
THN Thein Dam 53.39 306 *e*PKP **P** **03 29 26.0 -1.9**
THN *ex* x 03 34 08.0
PEA0B Petropavlovsk- 54.02 23 *e*P **P** **03 29 34.0 +2.0**
PETK Petropavlovsk- 54.02 23 P **P** **03 29 34.0 +1.9**
comp=Z,108nm,0.5s,mb5.6,baz=190,slow=3.2,SNR=238
PETK pP pP 03 30 18.5 -0.3
comp=Z,46nm,0.7s,baz=202,slow=6.2,SNR=2.8
PETK ScP ScP 03 34 15.2 +2.8
comp=Z,7.9nm,0.8s,baz=228,slow=3.7,SNR=3.0
PETK S **S** **03 36 57.9 +6.5**
comp=Z,7.8nm,1.0s,baz=225,slow=16,SNR=3.8
PETK Petropavlovsk- 54.02 23 P **P** **03 29 34.0 +1.9**
PETK pP pP 03 30 18.5 -0.3
PETK ScP ScP 03 34 15.2 +2.8
PETK S **S** **03 36 57.9 +6.5**
PETK Petropavlovsk- 54.02 23 P **P** **03 29 34.0 +1.9**
PETK S **S** **03 36 57.9 +6.4**
PET Petropavlovsk 54.34 24 *e*P **P** **03 29 36.0 +1.7**
comp=Z,121nm,0.7s,mb5.5
PET *e* pP 03 30 20.5 -0.6
PET Petropavlovsk 54.34 24⇑ *i*P **P** **03 29 36.1 +1.7**
PET *e**SP sP 03 30 42.3 -1.9
PET *e*S **S** **03 36 57.3 +1.6**
PET pmax pmax
comp=Z,225nm,0.8s,mb5.8
PET pmax pmax
comp=Z,300nm,8.0s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,3μm,18.0s
DGAR Diego Garcia 54.54 257 *e*P **P** **03 29 34.1 -2.4**
comp=Z,525nm,1.3s,mb5.9
DGAR Diego Garcia 54.54 257*c* *i*P **P** **03 29 34.6 -1.9**
MK31 Makanchi Array 55.20 325 *e*P **P** **03 29 40.8 +0.1**
MK31 *e* pP 03 30 29.3 +1.7
MK31 *e*ScP ScP 03 34 17.2 -0.5
MK31 Makanchi Array 55.20 325 *i*P **P** **03 29 41.0 +0.3**
MK31 pmax pmax
comp=Z,1μm,1.3s,mb6.3
MKAR Makanchi Array 55.20 325 P **P** **03 29 40.9 +0.2**
comp=Z,116nm,0.4s,mb5.7,baz=119,slow=7.3,SNR=750
MKAR pP pP 03 30 27.8 +0.2
comp=Z,71nm,0.8s,baz=120,slow=8.6,SNR=2.2
MKAR ScP ScP 03 34 17.1 -0.6
comp=Z,57nm,0.7s,baz=120,slow=4.5,SNR=11
MKAR S **S** **03 37 09.3 +1.9**
comp=Z,7.7nm,1.0s,baz=116,slow=9.6,SNR=2.8
MKAR PKPPKP 03 59 37.1
comp=Z,22nm,1.2s,baz=300,slow=2.8,SNR=15
MKAR PKP2bc 03 59 55.9
comp=Z,5.0nm,1.0s,baz=299,slow=2.2,SNR=3.7
MKAR P4KPbc 04 06 54.8
comp=Z,4.0nm,1.1s,baz=125,slow=4.0,SNR=10
MKAR Makanchi Array 55.20 325 P **P** **03 29 40.9 +0.2**
MKAR pP pP 03 30 27.8 +0.2
MKAR ScP ScP 03 34 17.1 -0.6
MKAR S **S** **03 37 09.3 +1.9**
MKAR P'P' 03 59 37.1
MKAR ⇑*e* 03 59 55.9
MKAR *e* 04 06 54.8
MKAR Makanchi Array 55.20 325 P **P** **03 29 40.9 +0.2**
MKAR S **S** **03 37 09.3 +1.9**

FUNA	**Funafuti**	**55.37 104**	*e*P	**P**	**03 29 43.5 +1.1**
	comp=Z,3μm,1.8s,mb6.5				
KSH	**Kashi**	**55.76 315**	P	**P**	**03 29 46.8 +2.0**
KSH			pP	pP	03 30 33.1 +1.3
KSH			PcP	PcP	03 30 43.1 +1.8
KSH			sP	sP	03 30 55.3 +0.5
KSH			PP	PP	03 31 55.9 +4.3
KSH			ScP	ScP	03 34 20.9 +0.5
KSH			PcS	PcS	03 34 40.8 -1.0
KSH			S	**S**	**03 37 15.5 +0.4**
KSH			sS	sS	03 38 36.3 -1.0
KSH			ScS	ScS	03 39 11.5 -1.2
KSH			SS	SS	03 41 04.4 +0.5
KSH			pmax	pmax	
	comp=Z,660nm,1.3s,mb6.0				
KSH			pmax	pmax	
	comp=Z,3μm,5.9s				
KSH			LR	LR	
	comp=N,1μm,11.1s				
KSH			LR	LR	
	comp=E,1μm,10.2s				
KSH			LR	LR	
	comp=Z,3μm,16.3s				
YAK	**Yakutsk**	**56.22 2**	*e*P	**P**	**03 29 48.5 +0.9**
	comp=Z,1μm,0.8s,mb6.5				
YAK			*e*S	**S**	**03 37 21.5 +1.1**
YAK	**Yakutsk**	**56.22 2**	*i* P	**P**	**03 29 48.6 +1.0**
YAK			*e*		03 30 42.7
YAK			*e*		03 31 56.0
YAK			*e*S	**S**	**03 37 20.8 +0.4**
YAK			*e*		03 39 11.8
YAK			*e*SS	SS	03 41 10.4 +0.1
YAK			*e*SSS		03 43 37.6
YAK			pmax	pmax	
	comp=N,889nm,1.6s				
YAK			pmax	pmax	
	comp=Z,1μm,1.1s,mb6.3				
YAK			pmax	pmax	
	comp=E,135nm,1.4s				
YAK			pmax	pmax	
	comp=Z,374nm,1.5s,mb5.7				
YAK			pmax	pmax	
	comp=N,270nm,1.6s				
YAK			pmax	pmax	
	comp=E,245nm,2.5s				
YAK			smax		
	comp=N,11μm,4.1s				
YAK			smax		
	comp=E,5μm,2.8s				
BHJ	**Bhuj**	**56.45 294⇑**	*i*P	PcP	03 30 49.8 +5.4
BHJ			AMb	AMB	03 30 53.9
	comp=Z,757nm,0.7s,mb6.4				
BHJ			*e*S	x	03 38 25.8
AAA	**Alma-Ata**	**56.69 319**	*e*P	**P**	**03 29 52.3 +1.0**
AAA			*e*S	**S**	**03 37 30.4 +3.1**
AAA			pmax	pmax	
	comp=Z,6μm,5.6s				
AAA			smax		
	comp=E,6μm,11.8s				
ULHL	**Ulahol**	**56.71 318**	P	**P**	**03 29 52.4 +0.9**
	SNR=7.0				
ULHL			P		03 29 52.4
	SNR=7.0				
MSVF	**Nonsavu**	**56.86 115**	*e*P	**P**	**03 29 54.5 +1.5**
	comp=E,615nm,1.2s,mb6.1				
MSVF			*e*ScP	ScP	03 34 29.6 +4.0
MSVF	**Nonsavu**	**56.86 115**	*e*P	**P**	**03 29 54.5 +1.6**
MSVF			pmax	pmax	
	comp=Z,615nm,1.2s,mb6.1				
MSVF	**Nonsavu**	**56.86 115**	P	**P**	**03 29 54.0 +1.1**
	comp=Z,3μm,1.2s,mb6.8,SNR=51				
KZA	**Kyzart**	**57.30 317**	P	**P**	**03 29 57.2 +1.6**
	SNR=364				
KZA			P		03 29 57.2
	SNR=364				
TKM2	**Tokmak 2**	**57.43 318**	P	**P**	**03 29 57.2 +0.7**
	SNR=387				
TKM2			P		03 29 57.2
	SNR=387				
TKM2	**Tokmak 2**	**57.43 318**	*e*P	**P**	**03 29 56.9 +0.4**
	comp=Z,11nm,1.4s				
TKM2	**Tokmak 2**	**57.43 318**	*i* P	**P**	**03 29 57.1 +0.6**
KBK	**Karagaybulak**	**57.75 318**	P	**P**	**03 29 59.8 +1.1**
	SNR=218				
KBK			P		03 29 59.8
	SNR=218				
UCH	**Uchtor**	**57.87 317**	P	**P**	**03 30 01.0 +1.5**
	SNR=106				
UCH			P		03 30 01.0
	SNR=106				
CHMS	**Chumysh**	**58.02 318**	P	**P**	**03 30 00.8 +0.2**
	SNR=143				
CHMS			P		03 30 00.8
	SNR=143				
AAK	**Ala-Archa**	**58.04 317**	P	**P**	**03 30 03.0 +2.2**
	SNR=182				
AAK			P		03 30 03.0
	SNR=182				
AAK	**Ala-Archa**	**58.04 317**	*e*P	**P**	**03 30 01.5 +0.8**
	comp=Z,867nm,1.6s,mb6.1				
AAK			*e*ScP	ScP	03 34 30.1 -0.2
AAK	**Ala-Archa**	**58.04 317**	*c i*P	**P**	**03 30 01.2 +0.4**
AAK			pmax	pmax	
	comp=Z,636nm,1.6s,mb6.0				
AAK	**Ala-Archa**	**58.04 317**	P	**P**	**03 30 01.2 +0.4**
	comp=Z,2μm,1.1s,mb6.7				
AAK	**Ala-Archa**	**58.04 317**	P	**P**	**03 30 01.0 +0.2**
	comp=Z,1μm,1.5s,mb6.3				
AAK	**Ala-Archa**	**58.04 317**	P	**P**	**03 30 01.9 +1.1**
	SNR=257				
FRU	**Bishkek**	**58.04 318**	*i* P	**P**	**03 30 01.0 +0.2**
FRU			*e*		03 37 44.0
FRU			pmax	pmax	
	comp=Z,700nm,1.8s,mb6.0				
ZAA0	**Zalesovo Array**	**58.23 333**	*e*P	**P**	**03 30 00.8 -1.1**
ZAA0			*e*	pP	03 30 50.0 +0.8
ZALV	**Zalesovo Beam**	**58.23 333**	P	**P**	**03 30 00.9 -0.9**
	comp=Z,66nm,0.5s,mb5.5,baz=131,slow=7.2,SNR=179				
ZALV			PcP	PcP	03 30 49.4 -1.3
	comp=Z,42nm,0.8s,baz=128,slow=6.1,SNR=5.4				
ZALV			PP	PP	03 32 15.2 +1.9
	comp=Z,53nm,1.0s,baz=121,slow=11,SNR=3.5				
ZALV			ScP	ScP	03 34 30.1 -0.9
	comp=Z,15nm,0.9s,baz=141,slow=2.4,SNR=2.8				
ZALV			S	**S**	**03 37 46.7 -0.2**
	comp=Z,3.5nm,0.8s,baz=130,slow=13,SNR=4.9				
ZALV			PKPPKP		03 59 37.9
	comp=Z,20nm,1.1s,baz=275,slow=3.6,SNR=6.8				
ZALV			PKP2bc		03 59 54.7
	comp=Z,16nm,0.8s,baz=289,slow=6.3,SNR=3.8				
ZALV	**Zalesovo Beam**	**58.23 333**	P	**P**	**03 30 00.9 -0.9**
ZALV			PcP	PcP	03 30 49.4 -1.3
ZALV			PP	PP	03 32 15.2 +1.9
ZALV			ScP	ScP	03 34 30.1 -0.9
ZALV			S	**S**	**03 37 46.7 -0.2**
ZALV			P'P'		03 59 37.9
ZALV			⇑*e*		03 59 54.7
ZALV	**Zalesovo Beam**	**58.23 333**	P	**P**	**03 30 00.9 -0.9**
ZALV				pP	03 30 49.4 +0.2
ZALV					03 32 15.2
ZALV			S	**S**	**03 37 46.7 -0.2**
USP	**Ospenovka**	**58.30 318**	P	**P**	**03 30 02.9 +0.3**
	SNR=489				
USP			P		03 30 02.9
	SNR=489				
AML	**Almayashu**	**58.38 317**	P	**P**	**03 30 04.4 +1.3**
	SNR=476				
AML			P		03 30 04.4
	SNR=476				
MIDW	**Midway**	**58.41 60**	*e*P	**P**	**03 30 04.7 +1.2**
	comp=Z,697nm,1.7s,mb6.0				
EKS2	**Erkin-Say**	**58.54 317**	P	**P**	**03 30 05.0 +0.8**
	SNR=362				
EKS2			P		03 30 05.0
	SNR=362				
EKS2	**Erkin-Say**	**58.54 317**	*e*P	**P**	**03 30 05.1 +0.9**
	comp=Z,217nm,1.3s,mb5.6				
EKS2			*e*	pP	03 30 53.5 +1.8
EKS2	**Erkin-Say**	**58.54 317**	*e*P	**P**	**03 30 05.1 +0.9**
EKS2			*e*	pP	03 30 53.5 +1.8
EKS2			pmax	pmax	
	comp=Z,217nm,1.3s,mb5.6				
KBL	**Kabul**	**59.34 307**	*e*P	**P**	**03 30 09.7 -0.1**
	comp=Z,154nm,0.8s,mb5.7				
KBL	**Kabul**	**59.34 307**	*e*P	**P**	**03 30 09.7 -0.1**
KBL			pmax	pmax	
	comp=Z,154nm,0.8s,mb5.7				
KURK	**Kurchatov**	**59.38 327**	P	**P**	**03 30 08.9 -0.9**
	comp=Z,502nm,1.0s,mb6.1,baz=130,slow=5.7,SNR=14				
KURK			PcP	PcP	03 30 57.4 +2.0
	comp=Z,59nm,0.7s,baz=127,slow=6.1,SNR=4.6				
KURK			PP	PP	03 32 24.5 +1.0
	comp=Z,56nm,0.9s,baz=122,slow=6.9,SNR=4.2				
KURK			S	**S**	**03 37 59.7 -2.1**
	comp=Z,3.7nm,1.1s,baz=94,slow=12,SNR=3.5				
KURK			PKPPKP		03 59 28.1
	comp=Z,28nm,1.1s,baz=272,slow=2.9,SNR=21				
KURK			PKP2bc		03 59 51.1
	comp=Z,16nm,1.2s,baz=291,slow=3.4,SNR=6.1				
KURK			P4KPbc		04 07 13.2
	comp=Z,0.2nm,0.2s,baz=115,slow=3.7,SNR=4.4				
KURK	**Kurchatov**	**59.38 327**	*e*P	**P**	**03 30 09.8 0.0**
	comp=Z,2μm,1.3s,mb6.5				
KURK			PcP	PcP	03 30 57.4 +2.0
KURK			PP	PP	03 32 24.5 +1.0
KURK			S	**S**	**03 37 59.7 -2.1**
KURK			P'P'		03 59 28.1
KURK			⇑*e*		03 59 51.1
KURK			*e*		04 07 13.2
KURK	**Kurchatov**	**59.38 327**	P	**P**	**03 30 08.9 -0.9**
KURK				pP	03 30 57.4 0.0
KURK					03 32 24.5
KURK			S	**S**	**03 37 59.7 -2.1**
KURK			pmax	pmax	
	comp=Z,502nm,1.0s,mb6.1				
KURK			smax		
	comp=N,4.0nm,1.1s				
KURK	**Kurchatov**	**59.38 327**	P	**P**	**03 30 10.0 +0.2**
	SNR=522				
KURK	**Kurchatov**	**59.38 327**	P	**P**	**03 30 09.1 -0.7**
	comp=N,5μm,1.4s,mb7.0				
NVS	**Novosibirsk**	**59.51 333⇑**	*i*P	**P**	**03 30 09.7 -0.9**
NVS			*e**PP	pP	03 30 54.8 -3.5
NVS			*i* S	**S**	**03 38 00.5 -2.9**
NVS			*e*		03 38 21.6
NVS			pmax	pmax	
	comp=Z,955nm,1.7s,mb6.2				
NVS			pmax	pmax	
	comp=N,490nm,1.6s				
NVS			pmax	pmax	
	comp=E,445nm,1.6s				
NVS			smax		
	comp=N,75nm,1.5s				
NVS			smax		
	comp=E,242nm,1.6s				
SEY	**Seymchan**	**60.33 14**	*c i*P	**P**	**03 30 18.2 +2.2**
OUZ	**Omahuta**	**60.86 136**	*e*P	**P**	**03 30 21.4 +1.3**
	comp=E,291nm,1.4s,mb5.7				
KK31	**Karatay Array**	**60.93 317**	*i* P	**P**	**03 30 20.2 -0.3**
KK31			pmax	pmax	
	comp=Z,846nm,1.4s,mb6.2				
KKAR	**Karatay Array**	**60.93 317**	*e*P	**P**	**03 30 20.2 -0.3**
	comp=Z,637nm,1.3s,mb6.1				
KKAR	**Karatay Array**	**60.93 317**	*e*P	**P**	**03 30 20.2 -0.3**
KKAR			pmax	pmax	
	comp=Z,637nm,1.3s,mb6.1				
SMY	**Shemya**	**61.33 31**	*e*P	**P**	**03 30 24.5 +1.5**
SMY			LR	LR	
	comp=Z,2μm,21.0s				
SMY	**Shemya**	**61.33 31**	*e*P	**P**	**03 30 24.5 +1.5**
SMY			MLR	MLR	
	comp=Z,2μm,21.0s				
JCZ	**Jackson Bay**	**63.05 146**	⇓PN	**P**	**03 30 36.0 +1.5**
DCZ	**Deep Cove**	**63.11 148**	⇓PN	**P**	**03 30 35.7 +0.8**
QRZ	**Quartz Range**	**63.27 142**	PN	**P**	**03 30 37.0 +1.0**
DSZ	**Denniston Nort**	**63.37 143**	PN	**P**	**03 30 37.5 +0.8**
AMKA	**Amchitka**	**63.49 34**	*e*P	**P**	**03 30 38.4 +1.1**
	comp=Z,109nm,0.6s,mb5.7				
WVZ	**Waitaha Valley**	**63.54 144**	PN	**P**	**03 30 38.0 +0.2**
WHZ	**Wether Hill Ro**	**63.81 148**	⇓PN	**P**	**03 30 39.5 0.0**
NNZ	**Nelson**	**64.02 142**	PN	**P**	**03 30 40.8 -0.1**
LBZ	**Lake Benmore**	**64.04 146**	PN	**P**	**03 30 41.7 +0.7**
THZ	**Tophouse**	**64.04 142**	PN	**P**	**03 30 40.8 -0.2**
RPZ	**Rata Peaks**	**64.11 145**	P	**P**	**03 30 41.7 +0.3**
	comp=Z,339nm,0.8s,mb6.0,baz=338,slow=3.4,SNR=45				
RPZ	**Rata Peaks**	**64.11 145**	*e*P	**P**	**03 30 41.9 +0.4**
	comp=Z,404nm,0.9s,mb6.0				
RPZ	**Rata Peaks**	**64.11 145**	PN	**P**	**03 30 41.8 +0.4**
LTZ	**Lake Taylor**	**64.26 143**	PN	**P**	**03 30 43.0 +0.6**
JOHN	**Johnston Islan**	**64.39 74**	*e*P	**P**	**03 30 43.9 +0.2**
	comp=Z,1μm,1.4s,mb6.4				
ODZ	**Otahua Downs**	**64.71 146**	*e*P	**P**	**03 30 45.8 +0.5**
	comp=Z,111nm,0.9s,mb5.5				
KHZ	**Kahutara**	**64.81 143**	*e*P	**P**	**03 30 45.6 -0.4**
	comp=Z,249nm,1.1s,mb5.8				
KHZ	**Kahutara**	**64.81 143**	PN	**P**	**03 30 45.5 -0.5**
URZ	**Urewera**	**64.85 137**	P	**P**	**03 30 46.2 -0.1**
	comp=Z,193nm,0.8s,mb5.8,baz=326,slow=3.4,SNR=32				
URZ			S	**S**	**03 39 14.0 +3.4**
	comp=Z,29nm,1.1s,baz=188,slow=22,SNR=6.2				
URZ	**Urewera**	**64.85 137**	*e*P	**P**	**03 30 46.0 -0.3**
	comp=Z,219nm,0.8s,mb5.8				
URZ			S	**S**	**03 39 14.0 +3.4**
SNZO	**South Karori**	**64.90 141**	*e*P	**P**	**03 30 46.0 -0.6**
	comp=Z,282nm,0.9s,mb5.9				
BKZ	**Black Stump Fm**	**64.90 138**	PN	**P**	**03 30 47.0 +0.4**
BVA0	**Borovoye Array**	**64.96 327**	*i* P	**P**	**03 30 46.4 -0.4**
BVA0			pmax	pmax	
	comp=Z,120nm,1.3s,mb5.4				
BVAR	**Borovoye Array**	**64.96 327**	PKPPKP		03 59 26.2
	comp=Z,2.9nm,0.7s,baz=275,slow=2.4,SNR=8.2				
BVAR			PKP2bc		03 59 34.3
	comp=Z,19nm,1.2s,baz=264,slow=2.9,SNR=11				
BVAR			P4KPbc		04 07 39.3
	comp=Z,1.9nm,1.0s,baz=90,slow=7.4,SNR=5.8				
BRVK	**Borovoye**	**65.03 327**	*e*P	**P**	**03 30 47.0 -0.2**
	comp=Z,934nm,1.3s,mb6.3				
BRVK	**Borovoye**	**65.03 327**	*c i*P	**P**	**03 30 46.9 -0.4**
BRVK			pmax	pmax	
	comp=Z,673nm,1.3s,mb6.1				
BRVK	**Borovoye**	**65.03 327**	P	**P**	**03 30 47.7 +0.4**
	comp=Z,3μm,1.2s,mb6.8				
BRVK	**Borovoye**	**65.03 327**	P	**P**	**03 30 47.3 0.0**
	SNR=250				
RAHZ	**Arahi**	**65.17 138**	*e*PN	**P**	**03 30 49.0 +0.7**
MXZ	**Matakaoa Point**	**65.32 136**	PN	**P**	**03 30 50.0 +0.6**
WBK	**Wadi Bani Khal**	**66.17 292**	P	**P**	**03 30 54.5 -0.6**
	SNR=57				
MCQ	**Macquarie Isla**	**66.22 159⇑**	*i*P	**P**	**03 30 56.6 +1.8**
MCQ	**Macquarie Isla**	**66.22 159**	*e*P	**P**	**03 30 56.5 +1.7**
	comp=Z,58μm,1.1s				
MCQ	**Macquarie Isla**	**66.22 159**	*e*P	**P**	**03 30 56.5 +1.7**
JMDO	**Jabal Madar**	**66.95 292**	P	**P**	**03 30 59.3 -0.8**
	SNR=89				
SMDO	**Samad**	**67.04 292**	P	**P**	**03 31 00.0 -0.7**
	SNR=40				
HOQ	**Hoqain**	**67.75 293**	P	**P**	**03 31 04.3 -0.8**
	SNR=76				
BSY	**Bisya**	**67.81 292**	P	**P**	**03 31 04.7 -0.8**
	SNR=54				
BILL	**Bilibino**	**67.90 15**	*e*P	**P**	**03 31 05.6 +0.4**
	comp=Z,199nm,1.2s,mb5.6				
BILL	**Bilibino**	**67.90 15**	*e*P	**P**	**03 31 05.6 +0.4**
BILL			pmax	pmax	
	comp=Z,199nm,1.2s,mb5.6				
ARQ	**Araqi**	**68.46 293**	P	**P**	**03 31 08.9 -0.6**
	SNR=29				
ABKT	**Ailbek**	**68.69 308**	P	**P**	**03 31 11.6 +1.0**
	comp=Z,1μm,1.3s,mb6.4,SNR=46				
BANOM	**Banah**	**68.82 295**	P	**P**	**03 31 12.1 +0.4**
	SNR=13				
HATD	**Hatta, Dubai**	**68.90 294**	P	**P**	**03 31 11.8 -0.4**
	SNR=36				
ASHO	**Ashiyiah**	**68.96 294**	P	**P**	**03 31 12.2 -0.4**
	SNR=35				
NAZ	**Nazwa, Dubai**	**69.34 294**	P	**P**	**03 31 14.1 -0.8**
	SNR=24				
ASUD	**Al Ashush, Dub**	**69.62 294**	P	**P**	**03 31 16.7 +0.1**
	SNR=29				
AB31	**Akbulak array**	**69.82 321**	*i* P	**P**	**03 31 16.5 -0.8**
AB31			pmax	pmax	
	comp=Z,334nm,1.0s,mb5.9				
ABKAR	**Akbulak array**	**69.82 321**	*e*P	**P**	**03 31 16.7 -0.6**
	comp=Z,0.6nm,1.6s				
RBK	**Rabkut**	**70.49 286**	P	**P**	**03 31 20.8 -1.2**
	SNR=108				
MSEY	**Mahe Island**	**70.71 263**	*e*P	**P**	**03 31 22.8 -0.7**
	comp=Z,230nm,1.3s,mb5.7				
MSEY	**Mahe Island**	**70.71 263**	*e*P	**P**	**03 31 22.8 -0.6**
MSEY			pmax	pmax	
	comp=Z,230nm,1.3s,mb5.7				
MSEY	**Mahe Island**	**70.71 263**	P	**P**	**03 31 23.3 -0.2**
	SNR=6.8				
MSEY	**Mahe Island**	**70.71 263**	P	**P**	**03 31 22.1 -1.3**
	comp=Z,694nm,1.2s,mb6.2,SNR=6.9				
NIKO	**Nikolski**	**70.85 36**	*e*P	**P**	**03 31 24.1 +0.5**
	comp=Z,204nm,0.7s,mb5.9				
AKTO	**Aktyubinsk**	**71.32 321**	P	**P**	**03 31 25.9 -0.5**
AKTO			pmax	pmax	
	comp=Z,117nm,1.5s,mb5.3				
ABTO	**Aybut**	**71.36 286**	P	**P**	**03 31 26.6 -0.6**
	SNR=95				
SVE	**Sverdlovsk**	**71.60 328**	*d i*P	**P**	**03 31 27.6 -0.3**
SVE			*e*PPP		03 35 54.9
SVE			*i* S	S	03 40 26.5 -3.3
SVE			*e*		03 41 06.7
SVE			*e*SS	SS	03 45 13.5 +4.0
SVE			pmax	pmax	
	comp=Z,544nm,1.0s,mb6.1				
SVE			pmax	pmax	
	comp=Z,1μm,8.7s				
MRIV	**Mauritius Mete**	**71.64 247**	*e*P	**P**	**03 31 27.5 -1.4**
UNV	**Unalaska Valle**	**72.44 35**	*e*P	**P**	**03 31 33.7 +0.7**
	comp=Z,390nm,1.1s,mb6.0				
UNV			*e*	pP	03 32 22.3 -0.2
ARU	**Arti**	**72.58 328**	*e*P	**P**	**03 31 32.7 -1.1**
	comp=Z,503nm,1.1s,mb6.1				
ARU			*e*S	S	03 40 38.2 -2.7
ARU	**Arti**	**72.58 328**	*c i*P	**P**	**03 31 32.6 -1.1**
ARU			*e*		03 31 47.2
ARU			*e*		03 34 16.1
ARU			PPP		03 36 01.0
ARU			*e*S	S	03 40 38.8 -2.1
ARU			pmax	pmax	
	comp=Z,365nm,1.0s,mb6.0				
ARU	**Arti**	**72.58 328**	P	**P**	**03 31 32.6 -1.1**
	comp=Z,2μm,0.9s,mb6.8				
CASY	**Casey**	**72.70 186⇑**	*i*P	**P**	**03 31 34.8 +0.6**
CASY	**Casey**	**72.70 186**	*e*P	**P**	**03 31 34.6 +0.4**
	comp=Z,410nm,0.9s,mb6.1				
AKUT	**Akutan**	**72.93 35**	*e*P	**P**	**03 31 37.0 +1.1**
	comp=Z,690nm,1.1s,mb6.2				
AKUT			LR	LR	
	comp=Z,3μm,20.0s				
DRV	**Dumont d'Urvil**	**73.02 174**	P	**P**	**03 31 36.0 0.0**
DRV			S	S	03 40 45.0 -0.4
DRV			SS	SS	03 45 22.0 -9.0
DRV			R		03 55 00.0
GAMB	**Gambell**	**73.03 24**	*e*P	**P**	**03 31 37.5 +1.2**
	comp=Z,162nm,1.2s,mb5.5				
GAMB			*e*	pP	03 32 29.1 +3.2
RER	**Riviere de l'E**	**73.43 246**	*e*P	**P**	**03 31 39.2 -0.2**
	comp=Z,168nm,0.8s,mb5.7				
SOKR	**Solikamsk**	**74.35 330**	*c i*P	**P**	**03 31 43.1 -0.9**
SOKR			S	S	03 40 55.5 -5.2
SOKR			pmax	pmax	
	comp=Z,220nm,1.1s,mb5.7				
SOKR			MLR	MLR	
	comp=Z,3μm,16.0s				
FALS	**False Pass**	**74.44 35**	*e*P	**P**	**03 31 45.4 +0.8**
	comp=Z,371nm,0.6s,mb6.2				
FALS			*e*	pP	03 32 32.3 -2.0
TNA	**Tin City**	**75.19 23**	*e*P	**P**	**03 31 49.8 +1.1**
	comp=Z,314nm,1.4s,mb5.8				
KIP	**Kipapa**	**75.33 69**	*e*P	**P**	**03 31 51.5 +1.1**
	comp=Z,415nm,1.3s,mb5.9				
KIP	**Kipapa**	**75.33 69**	*e*P	**P**	**03 31 51.9 +1.5**
KIP			pmax	pmax	
	comp=Z,395nm,1.7s,mb5.8				
HON	**Honolulu**	**75.34 70**	*e*P	**P**	**03 31 52.7 +2.2**
HON	**Honolulu**	**75.34 70**	*e*P	**P**	**03 31 52.7 +2.2**
MUKL	**Al Mukalla**	**75.52 283⇑**	*e*P	**P**	**03 31 50.7 -0.9**
MIR	**Mirnyy**	**75.87 193⇑**	*i*P	**P**	**03 31 52.8 +0.4**
MIR			*i*		03 31 59.0
MIR			*e*S	S	03 41 17.0 0.0
MIR			*e*PS		03 41 42.0
MIR			pmax	pmax	
	comp=Z,3μm,5.0s				
MIR			pmax	pmax	
	comp=N,1μm,4.0s				
MIR			pmax	pmax	
	comp=Z,505nm,4.0s				
MIR			pmax	pmax	
	comp=Z,1μm,1.2s,mb6.3				
MIR			smax		
	comp=N,2μm,7.0s				
MIR			smax		
	comp=E,3μm,7.0s				
SDPT	**Sand Point**	**76.19 34**	*e*P	**P**	**03 31 55.2 +0.6**
	comp=E,263nm,0.6s,mb6.0				
QRN	**Al-Qurain**	**76.39 298**	*e*P	**P**	**03 31 54.9 -1.3**
QRN			AMb	AMB	03 31 56.8
	comp=Z,1μm,1.4s,mb6.3				
UMR	**Umm Al-Rimmam**	**76.58 299**	*e*P	**P**	**03 31 56.4 -0.9**
UMR			AMb	AMB	03 31 58.7
	comp=Z,1μm,1.5s,mb6.2				
KBD	**Kabd**	**76.59 298**	*e*P	**P**	**03 31 56.1 -1.3**
KBD			AMb	AMB	03 31 58.8
	comp=Z,536nm,1.4s,mb6.0				
XMAS	**Kiritimati**	**76.90 89**	*e*P	**P**	**03 32 01.3 +1.9**
	comp=Z,2μm,1.9s,mb6.4				
MIB	**Mutribah**	**76.91 299**	*e*P	**P**	**03 31 57.7 -1.5**
MIB			AMb	AMB	03 32 00.3
	comp=Z,816nm,1.2s,mb6.2				
NAY	**Al-Naaiem**	**76.98 299**	*e*P	**P**	**03 31 58.1 -1.5**
NAY			AMb	AMB	03 32 00.1
	comp=Z,464nm,1.3s,mb6.0				
RST	**Umm Al-Ruwaisa**	**77.20 299**	*e*P	**P**	**03 32 00.0 -0.8**
RST			AMb	AMB	03 32 02.7
	comp=Z,215nm,1.2s,mb5.7				
MAK	**Makhachkala**	**77.32 313**	*e*P	**P**	**03 31 59.1 -2.1**
MAK			*e*		03 34 55.4
MAK			*e*PPP		03 36 47.1
MAK			*e*S	S	03 41 30.9 -2.9
MAK			*e*		03 41 57.5
MAK			*e*S		03 42 30.4
MAK			*e*SS	SS	03 46 41.3 +4.5
MAK			pmax	pmax	
	comp=Z,753nm,2.3s,mb5.9				
MAK			MLR	MLR	
	comp=Z,2μm,18.0s				
CHGN	**Chignik**	**77.49 34**	*e*P	**P**	**03 32 02.7 +0.9**
RAR	**Rarotonga**	**77.94 113**	*e*P	**P**	**03 32 05.7 +0.7**
	comp=Z,807nm,2.0s,mb6.0				
RAR	**Rarotonga**	**77.94 113**	*e*P	**P**	**03 32 05.7 +0.7**
RAR			pmax	pmax	
	comp=Z,807nm,2.0s				
PUH	**Pauahi**	**77.99 71**	*e*P	**P**	**03 32 07.4 +2.1**
LBOS		**79.22 283⇑**	*e*P	**P**	**03 32 12.2 +0.1**
GNI	**Garni**	**79.26 310**	P	**P**	**03 32 12.4 +0.5**
	comp=Z,53nm,1.1s,mb5.1,baz=190,slow=2.0,SNR=47				
GNI			S	S	03 41 55.7 +1.2
	comp=Z,1.9nm,0.5s,baz=250,slow=16,SNR=2.5				
GNI	**Garni**	**79.26 310**	*e*P	**P**	**03 32 12.1 +0.2**
	comp=Z,761nm,1.7s,mb6.0				
GNI			*e*S	S	03 42 04.2 +10
GNI	**Garni**	**79.26 310**	*c i*P	**P**	**03 32 12.2 +0.3**
GNI			pmax	pmax	
	comp=Z,202nm,1.6s				
GNI	**Garni**	**79.26 310**	P	**P**	**03 32 12.7 +0.8**
	SNR=54				
MTA	**Mtatsminda**	**79.27 311**	P	**P**	**03 32 11.7 -0.2**
MTA			S	S	03 41 54.6 0.0
TBLG	**Delisi**	**79.31 311**	P	**P**	**03 32 12.1 0.0**
TBLG			S	S	03 41 56.5 +1.5
TBLG	**Delisi**	**79.31 311**	P	**P**	**03 32 12.1 +0.1**
TBLG			S	S	03 41 56.5 +1.5
BHD	**Baghdad**	**79.46 303**	*i* x	x	03 32 05.7
BHD			*i* x	x	03 32 18.8
BHD			*i* x	x	03 32 59.5
BHD			*i* x	x	03 33 21.8
BHD			*i* x	x	03 41 44.5
BHD			*i* x	x	03 43 29.8
SVW2	**Sparrevohn**	**79.60 29**	*e*P	**P**	**03 32 15.5 +2.3**
	comp=Z,173nm,1.4s,mb5.5				
SVW2			LR	LR	
	comp=Z,1μm,19.0s				
GOR	**Gori**	**79.78 311**	P	**P**	**03 32 14.8 +0.2**
GOR			S	S	03 42 01.8 +1.8
ZEI	**Tsey**	**79.96 312**	*e*P	**P**	**03 32 15.3 -0.3**
ZEI			pmax	pmax	
	comp=Z,337nm,1.7s,mb5.7				
DYDN	**Diyadin**	**80.06 309**	*i* P	**P**	**03 32 16.9 +0.7**
AKH	**Akhalkalaki**	**80.23 311**	P	**P**	**03 32 17.7 +0.

ONI S S 03 42 02.8 -2.4
DIGO Kars 80.31 310 *i* P **P 03 32 16.9 -0.6**
OHAK Old Harbor 80.40 33 *eP* **P 03 32 19.2 +1.6**
comp=Z,226nm,0.9s,mb5.8
OHAK LR LR
comp=Z,4μm,21.0s
GEVA Gevas 80.54 308 *i* P **P 03 32 19.1 +0.4**
KDAK Kodiak Island 80.82 32 PKKPbc PKKPbc 03 50 58.5 -1.1
comp=Z,10nm,0.9s,baz=90,slow=3.0,SNR=5.1
KDAK Kodiak Island 80.82 32 *eP* **P 03 32 21.3 +1.5**
comp=Z,158nm,0.8s,mb5.7
KDAK PKKPbc PKKPbc 03 50 58.5 -1.1
KDAK Kodiak Island 80.82 32 *i* P **P 03 32 20.9 +1.1**
KDAK Kodiak Island 80.82 32 P **P 03 32 21.0 +1.2**
comp=Z,1μm,0.7s,mb6.6,SNR=54
OPO Ambohidratompo 80.84 250 P **P 03 32 19.8 -0.9**
comp=Z,148nm,1.2s,mb5.5,baz=70,slow=4.8,SNR=50
OPO S S 03 42 10.8 -1.0
comp=Z,0.8nm,0.8s,baz=184,slow=21,SNR=4.7
OPO Ambohidratompo 80.84 250 P **P 03 32 19.8 -0.9**
OPO S S 03 42 10.8 -1.0
KIV Kislovodsk 80.87 313 *eP* **P 03 32 19.6 -0.7**
comp=Z,261nm,1.4s,mb5.7
KIV Kislovodsk 80.87 313*c* *i*P **P 03 32 19.9 -0.5**
KIV *e* 03 35 27.0
KIV *eS* S 03 42 09.3 -1.9
KIV pmax pmax
comp=Z,985nm,4.6s
KIV pmax pmax
comp=Z,146nm,1.1s,mb5.5
KIV Kislovodsk 80.87 313 P **P 03 32 19.9 -0.5**
SNR=26
KIV Kislovodsk 80.87 313 P **P 03 32 19.3 -1.1**
comp=Z,704nm,1.3s,mb6.1,SNR=16
ABPO Ambohimpanom 80.88 250 *eP* **P 03 32 19.7 -1.2**
comp=Z,57nm,0.9s,mb5.2
ABPO Ambohimpanom 80.88 250 *eP* **P 03 32 19.7 -1.2**
ABPO pmax pmax
comp=Z,57nm,0.9s,mb5.2
RSO Redoubt South 80.92 30 *eP* **P 03 32 21.4 +1.1**
comp=Z,131nm,0.7s,mb5.7
SIRN S~rnak 81.05 307 *i* P **P 03 32 21.3 -0.2**
PPLA Purkeypile 81.37 27 *eP* **P 03 32 24.2 +1.6**
comp=Z,505nm,1.5s,mb5.9
ARTV Artvin 81.41 311 *i* P **P 03 32 22.5 -0.8**
DAGI Agillar 81.42 311 *i* P **P 03 32 22.6 -0.8**
HOMI Horasan 81.43 310 *i* P **P 03 32 23.9 +0.4**
DDEM Demirkent 81.55 310 *i* P **P 03 32 24.2 +0.2**
DBOC Borcka 81.61 311 *i* P **P 03 32 24.3 0.0**
ATD Arta Tunnel 81.71 281 P **P 03 32 27.1 +1.7**
comp=Z,222nm,1.1s,mb5.7,baz=73,slow=2.8,SNR=36
ATD Arta Tunnel 81.71 281 P **P 03 32 27.1 +1.7**
ERZM Erzurum 81.85 309 *i* P **P 03 32 25.1 -0.5**
BEST Besiri 81.95 307 *i* P **P 03 32 26.0 -0.2**
BNGL BINGOL 82.03 308 *i* P **P 03 32 26.5 -0.1**
SLKM Skilak Lake 82.17 30 *eP* **P 03 32 27.5 +0.7**
SLKM Skilak Lake 82.17 30 *eP* **P 03 32 27.5 +0.7**
TRF Thorofare Moun 82.27 27 *eP* **P 03 32 28.2 +0.9**
comp=Z,778nm,1.6s,mb6.1
MARD Mardin 82.36 307 *i* P **P 03 32 27.0 -1.3**
RC01 Rabbit Creek A 82.43 29 *eP* **P 03 32 28.9 +0.8**
comp=Z,275nm,1.0s,mb5.8
COLD Coldfoot 82.49 23 *eP* **P 03 32 30.4 +2.0**
comp=Z,316nm,1.1s,mb5.9
COLD *epP* pP 03 33 22.5 +3.4
KOPT Kop Dagi 82.51 309 *i* P **P 03 32 29.6 +0.5**
SEW Seward 82.55 30 *eP* **P 03 32 29.8 +1.0**
comp=Z,364nm,1.1s,mb6.0
PMR Palmer 82.74 29 *eP* **P 03 32 30.5 +0.8**
comp=Z,510nm,1.4s,mb6.1
PMR LR LR
comp=Z,2μm,20.0s
PMR Palmer 82.74 29 *eP* **P 03 32 30.5 +0.8**
PMR pmax pmax
comp=Z,510nm,1.4s,mb6.1
PMR MLR MLR
comp=Z,2μm,20.0s
MCK McKinley 82.88 27 *eP* **P 03 32 31.1 +0.7**
comp=Z,44nm,1.9s,mb4.9
MCK *epP* pP 03 33 20.6 -0.6
MCK McKinley 82.88 27 *eP* **P 03 32 31.2 +0.8**
MCK pmax pmax
comp=Z,47nm,1.9s,mb4.9
SOC Sochi 83.02 313*c* *i*P **P 03 32 29.8 -1.8**
SOC *e**PP pP 03 33 22.3 -0.1
SOC *e* 03 35 44.3
SOC *eS* S 03 42 28.8 -4.4
SOC *e**SS sS 03 43 52.5 -9.4
SOC *eSS* SS 03 47 56.4 -5.3
SOC pmax pmax
comp=Z,120nm,1.1s,mb5.5
KLMR Klimovskoe 83.04 331*c* *i*P **P 03 32 30.6 -0.7**
KLMR *e* 03 35 41.7
KLMR *eS* S 03 42 25.6 -7.1
KLMR *i* *SS sS 03 43 52.7 -8.8
KLMR pmax pmax
comp=Z,2μm,1.5s,mb6.5
KLMR pmax pmax
comp=Z,1μm,6.7s
MACK Trabzon 83.05 310 *i* P **P 03 32 28.9 -2.9**
SML Sawmill 83.12 29 *eP* **P 03 32 32.6 +0.9**
comp=Z,195nm,1.4s,mb5.6
SML *epP* pP 03 33 22.1 -0.4
SML Sawmill 83.12 29 *eP* **P 03 32 32.6 +0.9**
SML pmax pmax
comp=Z,195nm,1.4s,mb5.6
VOR Voronezh 83.22 321⇑ *i*P **P 03 32 31.0 -1.4**
VOR pmax pmax
comp=Z,500nm,2.0s,mb5.9
VSR Storozhevoye 83.25 321*c* *i*P **P 03 32 31.2 -1.4**
VSR *e**PP pP 03 33 23.0 -0.4
VSR *e* 03 42 28.3
VSR *eS* S 03 42 31.8 -3.4
VSR pmax pmax
comp=Z,150nm,1.1s,mb5.6
VSR pmax pmax
comp=E,70nm,1.1s
VSR smax
comp=N,380nm,1.9s
VSR smax
comp=E,220nm,1.9s
VSR smax
comp=Z,40nm,1.9s
COLA College 83.37 25 *eP* **P 03 32 33.0 +0.1**
comp=Z,57nm,0.8s,mb5.3
COLA College 83.37 25 *eP* **P 03 32 33.0 +0.1**
COLA pmax pmax
comp=Z,57nm,0.8s,mb5.3
KELT Kelkit 83.46 310 *i* P **P 03 32 33.3 -0.6**
ELZG Elazig 83.74 308 *i* P **P 03 32 36.0 +0.7**
ILAR Eielson Array 83.78 26 P **P 03 32 35.2 +0.2**
comp=Z,46nm,0.8s,mb5.3,baz=257,slow=4.8,SNR=273
ILAR pP pP 03 33 24.2 -1.7
comp=Z,30nm,0.8s,baz=223,slow=6.1,SNR=3.4
ILAR sP sP 03 33 46.5 -1.4
comp=Z,24nm,0.9s,baz=258,slow=5.4,SNR=2.3
ILAR S S 03 42 36.9 -3.1
comp=Z,0.9nm,0.9s,baz=279,slow=6.2,SNR=4.7
ILAR PKKPbc PKKPbc 03 50 50.4 -2.6
comp=Z,8.2nm,0.8s,baz=110,slow=1.4,SNR=6.8
ILAR PKPPKP 03 58 47.2
comp=Z,4.8nm,1.1s,baz=13,slow=0.6,SNR=10.0
ILAR Eielson Array 83.78 26 P **P 03 32 35.2 +0.2**
ILAR pP pP 03 33 24.2 -1.7
ILAR sP sP 03 33 46.5 -1.4
ILAR S S 03 42 36.9 -3.1
ILAR PKKPbc PKKPbc 03 50 50.4 -2.6
ILAR P'P' 03 58 47.2
ILAR Eielson Array 83.78 26 P **P 03 32 35.3 +0.3**
ILAR S S 03 42 36.9 -3.1
MOS Moscow 84.08 325α *i*P **P 03 32 35.7 -1.0**
MOS *e* 03 35 51.1
MOS *i* S S 03 42 36.9 -6.4
MOS *e**SS sS 03 44 05.3 -7.0
MOS pmax pmax
comp=Z,2μm,2.5s,mb6.5
MOS pmax pmax
comp=Z,735nm,1.5s,mb6.2
MOS pmax pmax
comp=N,174nm,1.1s
MOS pmax pmax
comp=E,183nm,1.1s
MOS MLR MLR
comp=Z,2μm,17.0s
KEMA Kemaliye 84.09 309 *i* P **P 03 32 37.1 0.0**

ATAB Bozova 84.33 307 *i* P **P 03 32 37.4 -0.9**
DIV Divide 84.36 29 *eP* **P 03 32 39.3 +1.4**
comp=Z,631nm,1.4s,mb6.2
DIV *epP* pP 03 33 28.1 -0.8
PAX Paxson 84.44 27 *eP* **P 03 32 39.5 +1.2**
comp=Z,303nm,1.4s,mb5.8
PAX Paxson 84.44 27 *eP* **P 03 32 39.5 +1.1**
PAX pmax pmax
comp=Z,303nm,1.4s,mb5.8
AKCD Akcadag 84.58 308 *i* P **P 03 32 40.3 +0.7**
ANN Anapa 84.62 314*c* *i*P **P 03 32 38.1 -1.5**
ANN *i* 03 36 00.6
ANN *e*PPP 03 37 51.1
ANN *i* S S 03 42 42.1 -7.0
ANN *e**SS sS 03 44 10.8 -7.3
ANN pmax pmax
comp=N,117nm,1.4s
ANN pmax pmax
comp=E,102nm,1.4s
ANN pmax pmax
comp=Z,481nm,1.4s,mb6.0
ANN pmax pmax
comp=N,621nm,8.9s
ANN pmax pmax
comp=Z,1μm,8.9s
ANN pmax pmax
comp=E,119nm,4.5s
ANN smax
comp=N,2μm,11.0s
OBN Obninsk 84.71 325 *eP* **P 03 32 38.9 -1.0**
comp=N,1μm,1.4s,mb6.4
OBN Obninsk 84.71 325*c* *i*P **P 03 32 38.7 -1.1**
OBN *i* 03 35 58.4
OBN *i* S S 03 42 39.4 -10
OBN *i* SS SS 03 48 19.4 -6.5
OBN pmax pmax
comp=Z,584nm,1.3s,mb6.2
OBN Obninsk 84.71 325 P **P 03 32 39.0 -0.8**
comp=Z,3μm,1.5s,mb6.8,SNR=36
GZT Gaziantep 84.92 307 *i* P **P 03 32 39.9 -1.4**
BMRM Bremner River 84.93 29 *eP* **P 03 32 42.4 +1.5**
comp=Z,318nm,1.4s,mb5.9
LVZ Lovozero 85.02 338 *eP* **P 03 32 40.0 -1.2**
comp=Z,392nm,1.4s,mb6.0
LVZ Lovozero 85.02 338 *eP* **P 03 32 40.0 -1.2**
LVZ pmax pmax
comp=Z,392nm,1.4s,mb6.0
LVZ Lovozero 85.02 338 P **P 03 32 40.2 -1.0**
comp=Z,1μm,1.3s,mb6.4,SNR=11
DOT Dot Lake 85.05 27 *eP* **P 03 32 41.2 -0.2**
comp=Z,88nm,1.1s,mb5.4
SCER sogukcermik 85.11 309 *i* P **P 03 32 42.5 +0.3**
MENT Mentasta 85.25 27 *eP* **P 03 32 43.9 +1.5**
MAW Mawson 85.25 200 P **P 03 32 42.6 +0.4**
comp=Z,249nm,1.0s,mb5.9,baz=60,slow=6.0,SNR=67
MAW S S 03 42 46.6 -7.6
comp=Z,18nm,1.3s,baz=25,slow=14,SNR=2.7
MAW Mawson 85.25 200⇑ *i*P **P 03 32 42.3 +0.1**
MAW Mawson 85.25 200 *eP* **P 03 32 42.3 +0.1**
comp=Z,104nm,1.2s,mb5.4
MAW S S 03 42 46.6 -7.6
MAW Mawson 85.25 200 P **P 03 32 42.6 +0.4**
MAW S S 03 42 46.6 -7.7
MAW pmax pmax
comp=Z,249nm,1.0s
MAW smax
comp=N,19nm,1.3s
KUZU Kuzuini 85.34 306 *i* P **P 03 32 43.2 -0.2**
APA Apatity 85.52 337⇓ *i*P **P 03 32 42.3 -1.3**
APA *i* *PP pP 03 33 39.4 +4.7
APA *i* S S 03 42 53.0 -4.0
APA *SS sS 03 44 22.0 -4.2
APA *i* SS SS 03 48 40.0 +2.9
APA pmax pmax
comp=Z,250nm,1.2s,mb5.8
APA pmax pmax
comp=Z,2μm,6.6s
APA MLR MLR
comp=Z,13μm,16.0s
TOKA Tokat 85.58 310 *i* P **P 03 32 44.5 -0.1**
VNDA Vanda 85.59 173 *eP* **P 03 32 44.2 +0.4**
comp=Z,152nm,1.1s,mb5.6
VNDA Vanda 85.59 173 *eP* **P 03 32 44.2 +0.4**
VNDA pmax pmax
comp=Z,152nm,1.1s
ASF Jabal al Asfar 85.80 302 P **P 03 32 46.2 +0.4**
comp=Z,92nm,1.1s,mb5.4,baz=330,slow=2.5,SNR=28
ASF pP pP 03 33 37.4 +0.5
comp=Z,22nm,0.7s,baz=348,slow=3.8,SNR=3.2
ASF Jabal al Asfar 85.80 302 P **P 03 32 46.2 +0.4**
ASF pP pP 03 33 37.4 +0.5
ASF Jabal al Asfar 85.80 302 P **P 03 32 46.2 +0.4**
HAVZ Havza 86.10 311 *i* P **P 03 32 46.8 -0.3**
YAYL Yayladag 86.17 306 *i* P **P 03 32 47.2 -0.3**
EGAK Eagle 86.24 25 *eP* **P 03 32 47.5 +0.3**
comp=Z,69nm,1.0s,mb5.3
SBA Scott Base 86.51 172 *eP* **P 03 32 49.6 +1.4**
comp=Z,235nm,1.3s,mb5.8
SBA Scott Base 86.51 172 *eP* **P 03 32 49.6 +1.3**
SBA pmax pmax
comp=Z,235nm,1.3s,mb5.8
BHL Bhannes 86.71 304 *eP* **P 03 32 49.5 -0.7**
JOF Joensuu 86.82 333 *eP* **P 03 32 47.2 -2.9**
JOF pmax pmax
comp=Z,64nm,0.5s,mb5.6
JOF Joensuu 86.82 333 *ep* **P 03 32 47.2 -2.9**
comp=Z,64nm,0.5s,mb5.6
CTKT Corum 86.84 310 *i* P **P 03 32 41.8 -8.8**
HOPEN Hopen 86.87 347 *eP* **P 03 32 50.5 +0.3**
PPT2 Papeete2 86.89 108 *eP* **P 03 32 52.0 +0.7**
comp=Z,95nm,1.2s,mb5.4
PPT2 *eS* S 03 43 09.0 -3.1
comp=Z,5μm,27.0s
PAE Paea 86.89 108 *eP* **P 03 32 52.1 +0.8**
comp=Z,21nm,1.2s,mb4.8
AVNT Avonos 86.94 308 *i* P **P 03 32 50.4 -0.8**
SIM Simferopol' 86.96 315*c* *i*P **P 03 32 49.1 -2.0**
SIM *eS* S 03 43 11.0 -0.8
SIM *SS sS 03 44 36.0 -5.4
SIM pmax pmax
comp=Z,34nm,1.1s,mb5.0
SIM MLR MLR
comp=Z,4μm,23.0s
MMAI Mount Meron Ar 86.99 303 P **P 03 32 51.9 +0.3**
comp=Z,93nm,1.1s,mb5.4,baz=79,slow=8.7,SNR=14
MMAI pP pP 03 33 42.6 -0.2
comp=Z,14nm,0.8s,baz=94,slow=13,SNR=2.6
MMAI Mount Meron Ar 86.99 303 P **P 03 32 51.9 +0.3**
MMAI pP pP 03 33 42.6 -0.2
CDAG Cicekdag 87.25 309 *i* P **P 03 32 51.4 -1.2**
KAST KASTAMONU 87.41 311 *i* P **P 03 32 52.4 -1.0**
KEV Kevo 87.57 340 *eP* **P 03 32 52.0 -1.6**
comp=Z,251nm,1.5s,mb5.8
KEV Kevo 87.57 340 *eP* **P 03 32 52.3 -1.2**
KEV pmax pmax
comp=Z,16nm,0.6s,mb5.0
KEV Kevo 87.57 340 *ep* **P 03 32 52.3 -1.2**
comp=Z,16nm,0.6s,mb5.0
EIL Elat 87.67 299 P **P 03 32 54.5 -0.4**
comp=Z,27nm,0.8s,mb5.1,baz=18,slow=2.0,SNR=22
EIL pP pP 03 33 46.6 +0.3
comp=Z,34nm,1.0s,baz=215,slow=3.2,SNR=2.2
EIL Elat 87.67 299 P **P 03 32 54.5 -0.4**
EIL pP pP 03 33 46.6 +0.3
PUL Pulkovo 87.68 330 *eP* **P 03 32 53.5 -0.7**
PUL pmax pmax
comp=Z,441nm,1.2s,mb6.2
TBI Tubuai 87.70 114 *eP* **P 03 32 55.6 +0.5**
comp=Z,259nm,1.3s,mb5.9
TBI *epP* pP 03 33 46.2 -0.3
comp=Z,147nm,0.9s
TBI *eS* S 03 43 19.2 -0.5
comp=Z,3μm,31.2s
TBI *eSS* SS 03 49 04.6 -7.0
comp=Z,3μm,30.5s
BR131 Keskin Array S 87.80 310 *eP* **P 03 32 53.8 -1.5**
comp=Z,57nm,0.9s,mb5.4
BRTR Keskin Array B 87.80 310 P **P 03 32 54.2 -1.0**
comp=Z,61nm,1.0s,mb5.4,baz=131,slow=3.6,SNR=85
BRTR pP pP 03 33 46.5 -0.1
comp=Z,15nm,0.9s,baz=101,slow=6.5,SNR=2.4
BRTR S SKSac 03 43 01.9 -1.7
comp=Z,5.2nm,1.1s,baz=145,slow=4.5,SNR=4.1
BRTR PKKPbc PKKPbc 03 50 43.1 +0.7
comp=Z,1.7nm,0.8s,baz=231,slow=2.6,SNR=6.9

BRTR Keskin Array B 87.80 310 P **P 03 32 54.2 -1.0**
BRTR pP pP 03 33 46.5 -0.1
BRTR S SKSac 03 43 01.9 -1.7
BRTR PKKPbc PKKPbc 03 50 43.1 +0.7
BRTR Keskin Array B 87.80 310*c* *i*P **P 03 32 53.7 -1.6**
BRTR pmax pmax
comp=Z,61nm,1.0s
BALT Daday 87.81 311 *i* P **P 03 32 52.8 -2.5**
ELDT Eldivan 87.89 310 *i* P **P 03 32 54.5 -1.2**
ARCES ARCESS Array B 88.13 340 P **P 03 32 55.1 -1.1**
comp=Z,227nm,1.1s,mb5.9,baz=81,slow=2.6,SNR=95
ARCES PKiKP PKiKP 03 37 56.9 +0.4
comp=Z,3.8nm,0.8s,baz=31,slow=0.5,SNR=8.3
ARCES PKKPbc PKKPbc 03 50 39.8 -3.0
comp=Z,1.7nm,0.5s,baz=253,slow=3.9,SNR=25
ARCES ARCESS Array B 88.13 340 P **P 03 32 55.1 -1.1**
ARCES PKiKP PKiKP 03 37 56.9 +0.4
ARCES PKKPbc PKKPbc 03 50 39.8 -3.0
ARCES ARCESS Array B 88.13 340 P **P 03 32 55.1 -1.0**
ARE0 ARCESS Array S 88.13 340 *eP* **P 03 32 55.1 -1.0**
ARE0 *e*SKS 03 43 03.1
ARE0 ARCESS Array S 88.13 340 *eP* **P 03 32 55.1 -1.0**
PMOR Pomariorio Ree 88.19 105 *eP* **P 03 32 58.4 +0.9**
comp=Z,231nm,1.1s,mb5.9
SPA0 Spitsbergen Ar 88.25 349 *eP* **P 03 32 56.2 -0.4**
SPB4 Spitsbergen Ar 88.26 349 *eP* **P 03 32 56.7 +0.1**
MEH Mehetia 88.35 108 *eP* **P 03 32 59.3 +1.1**
comp=Z,212nm,1.3s,mb5.8
KMBO Kilima Mbogo 88.39 269 *eP* **P 03 32 58.4 -0.2**
comp=Z,228nm,1.4s,mb5.8
KMBO Kilima Mbogo 88.39 269 *eP* **P 03 32 58.4 -0.2**
KMBO pmax pmax
comp=Z,228nm,1.4s
KMBO Kilima Mbogo 88.39 269 P **P 03 32 58.5 -0.1**
SNR=62
INK Inuvik 88.71 21 PKKP PKKPbc 03 50 33.3 -8.1
baz=88,slow=2.1
INK PKKPbc PKKPbc 03 50 38.2 -3.2
baz=108,slow=2.2
INK Inuvik 88.71 21 PKKPbc PKKPbc 03 50 38.2 -3.2
KBS Kingsbay 88.79 350 *eP* **P 03 32 59.7 +0.6**
KBS Kingsbay 88.79 350 *eP* **P 03 32 58.4 -0.8**
comp=Z,122nm,1.1s,mb5.7
KBS Kingsbay 88.79 350 *eP* **P 03 32 58.4 -0.7**
KBS pmax pmax
comp=Z,122nm,1.1s,mb5.6
KTK1 Kautokeino 89.03 339 *eP* **P 03 32 58.0 -2.4**
KDHN Kadinhani 89.11 308 *i* P **P 03 33 00.2 -1.3**
FINES FINESS Array B 89.47 332 P **P 03 33 01.8 -0.8**
comp=Z,98nm,0.9s,mb5.6,baz=76,slow=3.0,SNR=168
FINES PKiKP PKiKP 03 38 00.8 +1.8
comp=Z,5.0nm,0.6s,baz=91,slow=2.6,SNR=9.3
FINES S SKSac 03 43 11.0 -1.6
comp=Z,6.3nm,1.0s,baz=52,slow=9.9,SNR=3.4
FINES PKKPbc PKKPbc 03 50 37.3 -1.9
comp=Z,2.5nm,0.5s,baz=186,slow=2.3,SNR=12
FINES FINESS Array B 89.47 332 P **P 03 33 01.8 -0.8**
FINES PKiKP PKiKP 03 38 00.8 +1.8
FINES S SKSac 03 43 11.0 -1.6
FINES PKKPbc PKKPbc 03 50 37.3 -1.9
FINES FINESS Array B 89.47 332 P **P 03 33 01.8 -0.8**
FINES S SKSac 03 43 11.0 -1.6
AKASG Malin Array Be 89.56 321 P **P 03 33 01.7 -1.5**
comp=Z,7.4nm,0.5s,mb4.8,baz=68,slow=4.7,SNR=63
AKASG pP pP 03 33 53.0 -1.8
comp=Z,10nm,0.8s,baz=76,slow=4.1,SNR=2.3
AKASG PKiKP PKiKP 03 37 59.9 +0.4
comp=Z,2.2nm,0.4s,baz=74,slow=2.3,SNR=6.7
AKASG S SKSac 03 43 10.7 -2.8
comp=Z,1.9nm,0.8s,baz=85,slow=6.0,SNR=4.4
AKASG Malin Array Be 89.56 321 P **P 03 33 01.7 -1.5**
AKASG pP pP 03 33 53.0 -1.8
AKASG PKiKP PKiKP 03 37 59.9 +0.4
AKASG S SKSac 03 43 10.7 -2.8
AKASG Malin Array Be 89.56 321 P **P 03 33 01.7 -1.5**
AKASG S SKSac 03 43 10.7 -2.8
AKBB Malin Array Si 89.56 321 *eP* **P 03 33 01.4 -1.8**
AKBB Malin Array Si 89.56 321 *eP* **P 03 33 01.4 -1.8**
KIEV Kiev 89.57 321 *eP* **P 03 33 01.4 -1.9**
comp=Z,53nm,1.2s,mb5.2
KIEV Kiev 89.57 321*c* *i*P **P 03 33 01.3 -2.0**
SKAG Skagway 89.70 30 *eP* **P 03 33 05.2 +1.5**
SKAG *epP* pP 03 33 54.7 -0.5
SKAG LR LR
comp=Z,2μm,20.0s
VSU Vasula 89.71 329*c* *i*P **P 03 33 02.2 -1.6**
VSU pmax pmax
comp=Z,182nm,1.2s,mb5.8
MICGM Minsk 89.77 325⇑ *i*P **P 03 33 02.0 -2.1**
MNK Minsk 89.80 325⇑ *i*P **P 03 33 02.0 -2.3**
MNK *e* 03 43 15.0
MNK *eS* S 03 43 36.0 -2.1
MNK pmax pmax
comp=Z,760nm,1.0s,mb6.5
ESKT Eskisehir 89.96 310 *i* P **P 03 33 02.5 -2.9**
BOLV Bolvadin 89.99 309 *i* P **P 03 33 04.2 -1.4**
NACGM Naroch 90.33 325 *eP* **P 03 33 01.0 -5.7**
TRO Tromso 90.33 340 *eP* **P 03 33 04.6 -1.9**
KIS Kishinev 90.38 317 *eP* **P 03 33 04.0 -3.2**
comp=Z,300nm,2.8s,mb5.6
KIS *epP* pP 03 33 58.0 -0.7
KIS Kishinev 90.38 317 *i* PP PP 03 36 45.0 +0.7
KIS Kishinev 90.38 317 *e*PS PS 03 45 17.0 -1.5
KIS *eSS* SS 03 49 45.0 -3.8
KIS *e*SSS 03 53 14.0
KIS *e*LQ 04 06 17.0
KIS LRM 04 18 16.0
comp=Z,2μm,18.0s
KIS Kishinev 90.38 317 *eP* **P 03 33 04.0 -3.2**
KIS *e**PP pP 03 33 58.0 -0.7
KIS *e* 03 34 30.0
KIS *e* 03 36 45.0
KIS *e*PPP 03 38 45.0
KIS *e* 03 43 12.0
KIS *eS* S 03 43 34.0 -10
KIS *e*PS PS 03 45 17.0 -1.5
KIS *eSS* SS 03 49 45.0 -3.8
KIS pmax pmax
comp=Z,270nm,2.8s,mb5.6
KIS pmax pmax
comp=Z,1μm,12.0s
IZAR Zarasai 90.47 326 *eP* **P 03 33 06.3 -1.0**
IZAR AMB AMB 03 33 08.5
comp=Z,35nm,1.3s,mb5.0
IIGN Ignalina 90.56 326 *eP* **P 03 33 06.9 -0.9**
IIGN AMB AMB 03 33 07.6
comp=Z,34nm,1.4s,mb5.1
ISAL Salakas 90.57 326 *eP* **P 03 33 06.8 -1.0**
ISAL AMB AMB 03 33 07.6
comp=Z,29nm,1.5s,mb5.0
TLCR 90.66 315 ⇓ P **P 03 33 07.4 -1.1**
TLCR 90.66 315 ⇓ *i*P **P 03 33 07.4 -1.1**
KORT Korkueli 90.68 307 *i* P **P 03 33 06.8 -2.0**
LEOM Leova 90.85 317 ⇑ P **P 03 33 08.0 -1.4**
LEOM Leova 90.85 317 ⇑ *i*P **P 03 33 08.0 -1.4**
ULDT Uludag 91.18 310 *i* P **P 03 33 08.4 -2.6**
IAS Iasi 91.20 318 P **P 03 33 09.6 -1.3**
PETR 91.67 316 ⇑ *i*P **P 03 33 12.1 -1.1**
CRAG Craig 91.68 34 *eP* **P 03 33 14.8 +1.8**
comp=Z,336nm,1.8s,mb6.0
ALE Alert 91.74 1 P **P 03 33 13.5 +0.7**
comp=Z,169nm,1.4s,mb5.8,SNR=9.7
MANT Manisa 91.88 309 *i* P **P 03 33 12.8 -1.5**
GRER 91.91 316 ⇑ *i*P **P 03 33 14.3 0.0**
TESR 91.93 317 ⇓ *i*P **P 03 33 13.3 -1.1**
VRI Vrincioaia 91.99 316 P **P 03 33 14.4 -0.3**
VRI Vrincioaia 91.99 316 ⇑ *i*P **P 03 33 14.0 -0.7**
PLOR Plostina 92.05 316 P **P 03 33 14.3 -0.6**
PLOR Plostina 92.05 316 ⇑ *i*P **P 03 33 14.1 -0.8**
STEI Steigen 92.17 339 *eP* **P 03 33 12.8 -2.1**
SULR 92.54 315 ⇓ *i*P **P 03 33 14.6 -2.6**
SUW Suwalki 92.57 325 *eP* **P 03 33 15.8 -1.4**
SUW *eS* SKSac 03 43 30.3 -0.2
SUW *e*SKS 03 44 00.2
SUW Suwalki 92.57 325 *eP* **P 03 33 15.8 -1.3**
comp=Z,507nm,1.2s,mb6.4
SUW Suwalki 92.57 325⇑ *eP* **P 03 33 15.8 -1.3**
SUW *eS* SKSac 03 43 30.3 -0.2
SUW *e* 03 44 00.2
MLR Muntele Rosu 92.60 316 PKKPbc PKKPbc 03 50 32.1 +1.5
comp=Z,0.9nm,0.6s,baz=297,slow=2.2,SNR=8.2
MLR Muntele Rosu 92.60 316 PKKPbc PKKPbc 03 50 32.1 +1.5
MLR Muntele Rosu 92.60 316 P **P 03 33 16.9 -0.6**

MLR	**Muntele Rosu**	**92.60 316**	⇑*i*P	**P**	**03 33 16.6**	**-0.9**
BURAR	**Bucovina Array**	**92.68 318**	⇑P	**P**	**03 33 17.1**	**-0.7**
BURAR	**Bucovina Array**	**92.68 318**	⇑*i*P	**P**	**03 33 17.1**	**-0.7**
BUR08	**Bucovina Ar. S**	**92.69 318**	*e*P	**P**	**03 33 17.1**	**-0.7**
JMB	**Yambol**	**92.70 313**	P	**P**	**03 33 16.7**	**-1.3**
JMB	**Yambol**	**92.70 313**	P	**P**	**03 33 16.7**	**-1.3**
JMB	**Yambol**	**92.70 313**	P	**P**	**03 33 16.7**	**-1.3**
LVV	**L'vov**	**93.00 321**	*e*P	**P**	**03 33 17.3**	**-1.9**
LVV			*i*		03 37 07.3	
LVV			*e*PPP		03 39 07.3	
LVV			*e*		03 43 27.9	
LVV			*e*S	S	03 44 01.5	-5.5
LVV			MLR	MLR		
	comp=N,200nm,19.0s					
LVV			MLR	MLR		
	comp=Z,1μm,19.0s					
LVV			MLR	MLR		
	comp=E,1μm,18.0s					
MOR8	**Moi Rana**	**93.10 338**	*e*P	**P**	**03 33 17.1**	**-2.2**
MOR8			AMB	AMB	03 33 18.1	
	comp=Z,71nm,1.5s,mb5.5					
AYVA	**Ayvalik**	**93.18 310**	*i* P	**P**	**03 33 18.0**	**-2.3**
ALN	**Alexandroupoli**	**93.38 311**	P	**P**	**03 33 19.2**	**-2.0**
ALN	**Alexandroupoli**	**93.38 311**	P	**P**	**03 33 19.2**	**-2.0**
ALN	**Alexandroupoli**	**93.38 311**	P	**P**	**03 33 19.2**	**-2.0**
FLOS	**Flostrand**	**93.44 338**	*e*P	**P**	**03 33 20.2**	**-0.7**
KARP	**Karpathos**	**93.45 306**	P	**P**	**03 33 20.9**	**-0.7**
KARP	**Karpathos**	**93.45 306**	P	**P**	**03 33 20.9**	**-0.7**
PRK	**Paraskevi**	**93.51 310**	P	**P**	**03 33 20.6**	**-1.2**
PRK	**Paraskevi**	**93.51 310**	P	**P**	**03 33 20.6**	**-1.2**
PRK	**Paraskevi**	**93.51 310**	P	**P**	**03 33 20.6**	**-1.2**
DIM	**Dimitrovgrad**	**93.55 313**	P	**P**	**03 33 20.2**	**-1.7**
STOK	**Stokkvaagen**	**93.57 338**	*e*P	**P**	**03 33 20.9**	**-0.5**
KDZ	**Kurdzhali**	**93.71 312**	P	**P**	**03 33 21.5**	**-1.2**
RDO	**Rodhopi**	**93.71 312**	P	**P**	**03 33 20.9**	**-1.8**
RDO	**Rodhopi**	**93.71 312**	P	**P**	**03 33 20.9**	**-1.8**
BMR	**Baia Mare**	**93.81 319**	P	**P**	**03 33 22.6**	**-0.4**
BMR	**Baia Mare**	**93.81 319**	⇑*i*P	**P**	**03 33 22.4**	**-0.6**
KWP	**Kalwaria Pacla**	**93.87 321**	*e*P	**P**	**03 33 22.4**	**-0.8**
KWP			*e*S	SKSac	03 43 45.6	+7.8
KWP	**Kalwaria Pacla**	**93.87 321**	⇑*e*P	**P**	**03 33 22.4**	**-0.8**
KWP	**Kalwaria Pacla**	**93.87 321**	⇑*i*P	**P**	**03 33 22.4**	**-0.8**
SYO	**Syowa Base**	**93.89 201**	⇓*i*P	**P**	**03 33 21.6**	**-1.2**
PLD	**Plovdiv**	**94.14 313**	P	**P**	**03 33 23.6**	**-1.0**
PLD	**Plovdiv**	**94.14 313**	P	**P**	**03 33 23.6**	**-1.0**
PLD	**Plovdiv**	**94.14 313**	P	**P**	**03 33 23.6**	**-1.0**
PLD	**Plovdiv**	**94.14 313**	P	**P**	**03 33 23.1**	**-1.5**
RZN	**Rozhen**	**94.22 312**	P	**P**	**03 33 22.8**	**-2.2**
LIA	**Limnos Island**	**94.22 311**	P	**P**	**03 33 23.1**	**-1.9**
LIA	**Limnos Island**	**94.22 311**	P	**P**	**03 33 23.1**	**-1.9**
KOLS	**Kolonicke sedl**	**94.31 320**	*e*P	**P**	**03 33 25.8**	**+0.5**
KOLS	**Kolonicke sedl**	**94.31 320**	*e*P	**P**	**03 33 25.8**	**+0.5**
CRAR	**CRAIOVA**	**94.33 315**	P	**P**	**03 33 25.4**	**0.0**
TRPA	**Tarpa**	**94.33 319**	⇑*i*P	**P**	**03 33 24.1**	**-1.3**
UZH	**Uzhgorod**	**94.37 320**	*e*P	**P**	**03 33 24.3**	**-1.2**
UZH			*e*		03 43 35.0	
UZH			*i* S	S	03 44 11.9	-7.2
UZH			*e*PS		03 45 27.5	
UZH			MLR	MLR		
	comp=N,2μm,21.0s					
UZH			MLR	MLR		
	comp=E,2μm,21.0s					
UZH			MLR	MLR		
	comp=Z,1μm,21.0s					
KAVA	**Kavala**	**94.50 312**	P	**P**	**03 33 25.8**	**-0.5**
KAVA	**Kavala**	**94.50 312**	P	**P**	**03 33 25.8**	**-0.5**
BEL	**Belsk**	**94.51 323**	*e*P	**P**	**03 33 25.5**	**-0.6**
BEL			*e*S	SKSac	03 43 39.8	-1.3
BEL	**Belsk**	**94.51 323**	⇑*e*P	**P**	**03 33 25.5**	**-0.6**
BEL			*e*S	SKSac	03 43 39.8	-1.4
DRGR		**94.53 318**	P	**P**	**03 33 25.5**	**-0.8**
DRGR		**94.53 318**	⇑*i*P	**P**	**03 33 25.3**	**-1.0**
MPEP	**Malo Peshtene**	**94.58 314**	P	**P**	**03 33 25.2**	**-1.4**
NSS	**Namsos**	**94.69 337**	*e*P	**P**	**03 33 24.1**	**-2.6**
GZR	**Gura Zlata**	**94.81 316**	⇑P	**P**	**03 33 26.5**	**-1.1**
GZR	**Gura Zlata**	**94.81 316**	⇑*i*P	**P**	**03 33 26.5**	**-1.1**
CRVS	**Cervenica-Dubn**	**94.84 320**	*e*P	**P**	**03 33 27.1**	**-0.6**
CRVS			pmax	pmax		
	comp=Z,85nm,1.3s,mb5.7					
CRVS	**Cervenica-Dubn**	**94.84 320**	*e*P	**P**	**03 33 27.1**	**-0.6**
STHS	**Stebnicka Huta**	**94.85 321**	*e*P	**P**	**03 33 28.0**	**+0.3**
STHS			pmax	pmax		
	comp=Z,26nm,1.6s,mb5.1					
STHS	**Stebnicka Huta**	**94.85 321**	*e*P	**P**	**03 33 28.0**	**+0.3**
NVR	**Nevrokopi**	**94.91 312**	P	**P**	**03 33 25.5**	**-2.7**
NVR	**Nevrokopi**	**94.91 312**	P	**P**	**03 33 25.5**	**-2.7**
MMB	**Musomiste**	**94.96 318**	P	**P**	**03 33 26.5**	**-1.9**
OUR	**Ouranopolis**	**95.03 311**	P	**P**	**03 33 27.2**	**-1.6**
OUR	**Ouranopolis**	**95.03 311**	P	**P**	**03 33 27.2**	**-1.6**
OUR	**Ouranopolis**	**95.03 311**	P	**P**	**03 33 27.2**	**-1.6**
DAG	**Danmarks Havn**	**95.08 352**	⇑*i*P	**P**	**03 33 27.5**	**-0.7**
	comp=Z,313nm,1.1s,mb6.3					
VTS	**Vitosha**	**95.12 314**	P	**P**	**03 33 27.4**	**-1.7**
VTS	**Vitosha**	**95.12 314**	P	**P**	**03 33 27.4**	**-1.7**
VTS	**Vitosha**	**95.12 314**	⇑P	**P**	**03 33 27.6**	**-1.5**
VTS	**Vitosha**	**95.12 314**	P	**P**	**03 33 28.3**	**-0.8**
VTS	**Vitosha**	**95.12 314**	⇑*i*P	**P**	**03 33 27.6**	**-1.5**
TAOE	**Nuku Hiva Isla**	**95.14 98**	*e*S	S	03 44 22.8	-4.2
	comp=Z,3μm,26.4s					
TAOE			*e*LR	LR	04 04 22.8	
	comp=Z,4μm,22.9s					
SRS	**Serrai**	**95.16 312**	P	**P**	**03 33 26.4**	**-2.9**
SRS	**Serrai**	**95.16 312**	P	**P**	**03 33 26.4**	**-2.9**
SRS	**Serrai**	**95.16 312**	P	**P**	**03 33 26.4**	**-2.9**
PAIG	**Paliouri**	**95.34 311**	P	**P**	**03 33 27.7**	**-2.5**
PAIG	**Paliouri**	**95.34 311**	P	**P**	**03 33 27.7**	**-2.5**
PAIG	**Paliouri**	**95.34 311**	P	**P**	**03 33 27.7**	**-2.5**
KKB	**Krupnik**	**95.37 313**	P	**P**	**03 33 28.8**	**-1.5**
SOH	**Sokhos**	**95.40 312**	P	**P**	**03 33 28.3**	**-2.1**
SOH	**Sokhos**	**95.40 312**	P	**P**	**03 33 28.3**	**-2.1**
SOH	**Sokhos**	**95.40 312**	P	**P**	**03 33 28.3**	**-2.1**
PLG	**Polygyros**	**95.42 311**	P	**P**	**03 33 27.7**	**-2.8**
PLG	**Polygyros**	**95.42 311**	P	**P**	**03 33 27.7**	**-2.8**
PLG	**Polygyros**	**95.42 311**	P	**P**	**03 33 27.7**	**-2.8**
SIVA	**Sivas**	**95.44 306**	P	**P**	**03 33 29.6**	**-1.1**
SIVA	**Sivas**	**95.44 306**	P	**P**	**03 33 29.6**	**-1.1**
NIE	**Niedzica**	**95.44 321**	*i* P	**P**	**03 33 30.0**	**-0.4**
NIE	**Niedzica**	**95.44 321**	⇑*i*P	**P**	**03 33 30.0**	**-0.4**
OJC	**Ojcow**	**95.54 322**	*i* P	**P**	**03 33 29.7**	**-1.1**
OJC			*e*pP	pP	03 34 22.0	-0.5
OJC			*e*PP	PP	03 37 23.8	-0.7
OJC			*e*S	S	03 44 28.5	-0.7
OJC			*e*SS	SS	03 51 02.4	+0.3
OJC			L		04 20 44.3	
	comp=Z,1.8nm,19.5s					
OJC	**Ojcow**	**95.54 322**	⇑*i*P	**P**	**03 33 29.7**	**-1.1**
OJC			*e**PP	pP	03 34 22.0	-0.5
OJC			*e*		03 37 23.8	
OJC			*e*S	S	03 44 28.5	-0.7
OJC			*e*SS	SS	03 51 02.4	+0.3
OJC			MLR	MLR		
	comp=Z,2μm,19.5s					
BZS	**Buzias**	**95.55 317**	P	**P**	**03 33 29.8**	**-1.2**
BZS	**Buzias**	**95.55 317**	⇑*i*P	**P**	**03 33 29.3**	**-1.7**
KECS	**Kecovo**	**95.57 320**	*e*P	**P**	**03 33 30.1**	**-0.9**
KECS			pmax	pmax		
	comp=Z,23nm,1.4s,mb5.2					
KECS	**Kecovo**	**95.57 320**	*e*P	**P**	**03 33 30.1**	**-0.9**
KECS			*e*PP	PP	03 37 26.0	+1.2
PTL	**Penteli**	**95.59 309**	P	**P**	**03 33 29.4**	**-1.9**
PTL	**Penteli**	**95.59 309**	P	**P**	**03 33 29.4**	**-1.9**
HORT	**Hortiatis**	**95.64 312**	P	**P**	**03 33 28.8**	**-2.7**
HORT	**Hortiatis**	**95.64 312**	P	**P**	**03 33 28.8**	**-2.7**
HFS	**Hagfors**	**95.66 332**	PKKPbc	PKKPbc	03 50 20.7	-2.6
	comp=Z,3.4nm,0.4s,baz=205,slow=3.1,SNR=28					
HFS	**Hagfors**	**95.66 332**	PKKPbc	PKKPbc	03 50 20.7	-2.6
KNT	**Kendrikon**	**95.66 312**	P	**P**	**03 33 28.6**	**-3.0**
KNT	**Kendrikon**	**95.66 312**	P	**P**	**03 33 28.6**	**-3.0**
KNT	**Kendrikon**	**95.66 312**	P	**P**	**03 33 28.6**	**-3.0**
ATHU	**Athens Univers**	**95.67 309**	P	**P**	**03 33 32.7**	**+1.0**
ATHU	**Athens Univers**	**95.67 309**	P	**P**	**03 33 32.7**	**+1.0**
QSPA	**South Pole Qui**	**95.67 180**	P	**P**	**03 33 31.4**	**+0.6**
	comp=Z,129nm,1.1s,mb6.1,baz=325,slow=1.5,SNR=118					
QSPA			PP	PP	03 37 24.2	-0.8
	comp=Z,91nm,1.1s,baz=304,slow=3.7,SNR=7.2					
QSPA	**South Pole Qui**	**95.67 180**	*e*P	**P**	**03 33 31.2**	**+0.4**
	comp=Z,184nm,1.1s,mb6.2					
QSPA			PP	PP	03 37 24.2	-0.8
VLY	**Voula,Athens**	**95.68 309**	P	**P**	**03 33 29.6**	**-2.2**
VLY	**Voula,Athens**	**95.68 309**	P	**P**	**03 33 29.6**	**-2.2**
ATH	**Athens Observa**	**95.72 309**	P	**P**	**03 33 28.6**	**-3.3**
ATH	**Athens Observa**	**95.72 309**	P	**P**	**03 33 28.6**	**-3.3**
THE	**Thessaloniki**	**95.73 312**	P	**P**	**03 33 29.9**	**-2.0**
THE	**Thessaloniki**	**95.73 312**	P	**P**	**03 33 29.9**	**-2.0**
THE	**Thessaloniki**	**95.73 312**	P	**P**	**03 33 29.9**	**-2.0**
XOR	**Xorichti**	**95.83 310**	P	**P**	**03 33 29.9**	**-2.5**
XOR	**Xorichti**	**95.83 310**	P	**P**	**03 33 29.9**	**-2.5**
VAM	**Vamos**	**95.85 306**	P	**P**	**03 33 29.4**	**-3.2**
VAM	**Vamos**	**95.85 306**	P	**P**	**03 33 29.4**	**-3.2**
VAM	**Vamos**	**95.85 306**	P	**P**	**03 33 29.4**	**-3.2**
VAY	**Valandovo**	**95.87 312**	*e*P	**P**	**03 33 30.1**	**-2.4**
GRG	**Griva**	**96.07 312**	P	**P**	**03 33 27.4**	**-6.1**
GRG	**Griva**	**96.07 312**	P	**P**	**03 33 27.4**	**-6.1**
GRG	**Griva**	**96.07 312**	P	**P**	**03 33 27.4**	**-6.1**
PSZ	**Piszkesteto**	**96.11 319**	*e*P	**P**	**03 33 32.0**	**-1.4**
	comp=Z,38nm,1.4s,mb5.4					
PSZ	**Piszkesteto**	**96.11 319**	⇑P	**P**	**03 33 32.3**	**-1.1**
PSZ	**Piszkesteto**	**96.11 319**	⇑*e*P	**P**	**03 33 32.0**	**-1.4**
PSZ	**Piszkesteto**	**96.11 319**	⇑*i*P	**P**	**03 33 32.3**	**-1.1**
GKP	**Gorka Klasztor**	**96.18 325**	*e*P	**P**	**03 33 32.4**	**-1.2**
GKP			*e*S	SKSac	03 43 51.0	+1.1
GKP	**Gorka Klasztor**	**96.18 325**	⇑*e*P	**P**	**03 33 32.4**	**-1.2**
GKP			*e*S	SKSac	03 43 51.0	+1.1
LIT	**Litokhoron**	**96.20 311**	P	**P**	**03 33 30.5**	**-3.6**
LIT	**Litokhoron**	**96.20 311**	P	**P**	**03 33 30.5**	**-3.6**
LIT	**Litokhoron**	**96.20 311**	P	**P**	**03 33 30.5**	**-3.6**
DIDY	**Didyma**	**96.21 309**	P	**P**	**03 33 27.7**	**-6.5**
PKSN	**Nyarlorinc**	**96.39 318**	*e*P	**P**	**03 33 33.9**	**-0.9**
NC602	**NORSAR Array S**	**96.41 333**	*e*P	**P**	**03 33 33.0**	**-1.5**
NB2	**NORSAR Subarra**	**96.43 333**	P	**P**	**03 33 32.9**	**-1.7**
	comp=Z,107nm,1.0s,mb6.0,baz=66,slow=4.6					
NOA	**NORSAR Array B**	**96.43 333**	P	**P**	**03 33 33.1**	**-1.5**
	comp=Z,59nm,1.0s,mb5.8,baz=67,slow=4.6,SNR=63					
NOA			pP	pP	03 34 25.5	-0.8
	comp=Z,6.7nm,0.7s,baz=66,slow=4.6,SNR=1.9					
NOA			PP	PP	03 37 28.7	-2.2
	comp=Z,6.3nm,0.9s,baz=68,slow=7.3,SNR=4.2					
NOA			PKKPbc	PKKPbc	03 50 19.7	-1.5
	comp=Z,4.6nm,1.0s,baz=250,slow=2.2,SNR=6.8					
NOA	**NORSAR Array B**	**96.43 333**	P	**P**	**03 33 33.1**	**-1.5**
NOA			pP	pP	03 34 25.5	-0.9
NOA			PP	PP	03 37 28.7	-2.2
NOA			PKKPbc	PKKPbc	03 50 19.7	-1.5
NOA	**NORSAR Array B**	**96.43 333**	P	**P**	**03 33 33.2**	**-1.4**
NOA			*PP	pP	03 34 25.5	-0.8
NOA					03 37 28.7	
DESF	**Desfina**	**96.54 310**	P	**P**	**03 33 27.2**	**-8.4**
SKO	**Skopje**	**96.54 313**	*e*P	**P**	**03 33 32.7**	**-2.9**
AGG	**Agios Georgios**	**96.56 310**	P	**P**	**03 33 31.9**	**-3.8**
AGG	**Agios Georgios**	**96.56 310**	P	**P**	**03 33 31.9**	**-3.8**
AGG	**Agios Georgios**	**96.56 310**	P	**P**	**03 33 31.9**	**-3.8**
RAC	**Raciborz**	**96.57 322**	*e*P	**P**	**03 33 34.1**	**-1.4**
VLI	**Veliai**	**96.59 308**	P	**P**	**03 33 31.9**	**-4.0**
VLI	**Veliai**	**96.59 308**	P	**P**	**03 33 31.9**	**-4.0**
VYHS	**Vyhne**	**96.63 320**	*e*P	**P**	**03 33 34.5**	**-1.3**
VYHS			pmax	pmax		
	comp=Z,20nm,1.7s,mb5.1					
VYHS	**Vyhne**	**96.63 320**	*e*P	**P**	**03 33 34.5**	**-1.3**
VYHS			*e*PP	PP	03 37 35.4	+2.5
VYHS			*e*		03 38 22.2	
VYHS			*e*		03 50 13.1	
VYHS			*e*		03 50 19.3	
VYHS	**Vyhne**	**96.63 320**	*e*P	**P**	**03 33 34.5**	**-1.3**
	comp=Z,20nm,1.7s,mb5.1					
NAO01	**NORSAR Array S**	**96.66 333**	*e*P	**P**	**03 33 34.3**	**-1.4**
	comp=Z,113nm,1.2s,mb6.0					
OKC	**Ostrava-Krasne**	**96.67 322**	*e*P	**P**	**03 33 35.2**	**-0.8**
OKC			*e*		03 37 33.4	
OKC			*e*		03 44 34.2	
OKC			*e*		03 45 59.9	
OKC	**Ostrava-Krasne**	**96.67 322**	*e*PDIFF	**P**	**03 33 35.2**	**-0.8**
OKC			*e*PP	PP	03 37 33.4	+0.2
OKC			*e*S	S	03 44 34.2	-4.7
OKC			*e*SP	SP	03 45 59.9	-0.5
THL	**Klokotos Trika**	**96.68 311**	P	**P**	**03 33 32.7**	**-3.5**
KZN	**Kozani**	**96.69 312**	P	**P**	**03 33 31.0**	**-5.3**
KZN	**Kozani**	**96.69 312**	P	**P**	**03 33 31.0**	**-5.3**
KZN	**Kozani**	**96.69 312**	P	**P**	**03 33 31.0**	**-5.3**
BUD	**Budapest**	**96.79 319**	⇑*e*P	**P**	**03 33 35.6**	**-0.9**
KRUS	**Krusevo**	**96.83 313**	*e*P	**P**	**03 33 34.1**	**-2.7**
KALE	**Kalithea**	**96.84 310**	P	**P**	**03 33 34.6**	**-2.4**
KALE	**Kalithea**	**96.84 310**	P	**P**	**03 33 34.6**	**-2.4**
BIA	**Bitola**	**96.85 312**	*e*P	**P**	**03 33 34.3**	**-2.7**
BSD	**Bornholm Skovb**	**96.86 327**	⇓*i*P	**P**	**03 33 34.6**	**-2.1**
	comp=Z,42nm,1.1s,mb5.6					
FNA	**Florina**	**96.87 312**	P	**P**	**03 33 35.1**	**-2.0**
FNA	**Florina**	**96.87 312**	P	**P**	**03 33 35.1**	**-2.0**
FNA	**Florina**	**96.87 312**	P	**P**	**03 33 35.1**	**-2.0**
KOLL	**Kolacno**	**96.88 320**	*e*P	**P**	**03 33 36.2**	**-0.7**
KOLL			*e*		03 37 37.2	
KOLL	**Kolacno**	**96.88 320**	*e*P	**P**	**03 33 36.2**	**-0.7**
KOLL			*e*PP	PP	03 37 37.2	+2.4
KOLL			*e*		03 50 18.7	
TRIZ	**Trizonia**	**96.90 310**	P	**P**	**03 33 33.5**	**-3.8**
EVR	**Evrytania**	**96.98 310**	P	**P**	**03 33 28.8**	**-8.8**
EVR	**Evrytania**	**96.98 310**	P	**P**	**03 33 28.8**	**-8.8**
LAKA	**Lakka**	**97.00 310**	P	**P**	**03 33 33.2**	**-4.5**
LAKA	**Lakka**	**97.00 310**	P	**P**	**03 33 33.2**	**-4.5**
DIVS	**Divibare**	**97.04 316**	P	**P**	**03 33 36.0**	**-1.8**
DIVS	**Divibare**	**97.04 316**	P	**P**	**03 33 36.0**	**-1.8**
MORC	**Moravsky Berou**	**97.07 322**	*e*P	**P**	**03 33 36.7**	**-1.0**
	comp=Z,36nm,1.4s,mb5.4					
MORC	**Moravsky Berou**	**97.07 322**	*e*P	**P**	**03 33 36.7**	**-1.0**
MORC			pmax	pmax		
	comp=Z,36nm,1.4s,mb5.4					
MORC	**Moravsky Berou**	**97.07 322**	*e*P	**P**	**03 33 36.9**	**-0.8**
OSL	**Oslo**	**97.11 333**	*e*P	**P**	**03 33 36.6**	**-1.1**
ITM	**Ithomi**	**97.28 308**	P	**P**	**03 33 37.1**	**-1.9**
ITM	**Ithomi**	**97.28 308**	P	**P**	**03 33 37.1**	**-1.9**
PKSM	**Moragy**	**97.39 318**	⇑P	**P**	**03 33 37.9**	**-1.4**
PKSM	**Moragy**	**97.39 318**	⇑*i*P	**P**	**03 33 37.9**	**-1.4**
RLS	**Riolos of Patr**	**97.44 309**	P	**P**	**03 33 38.7**	**-1.0**
RLS	**Riolos of Patr**	**97.44 309**	P	**P**	**03 33 38.7**	**-1.0**
KSP	**Ksiaz**	**97.50 323**	*e*P	**P**	**03 33 39.3**	**-0.4**
KSP			*e*S	SKSac	03 43 54.2	-2.6
KSP	**Ksiaz**	**97.50 323**	*e*P	**P**	**03 33 39.0**	**-0.7**
KSP			*e*pP	pP	03 34 26.2	-5.2
KSP			*e*PP	PP	03 37 38.0	-1.4
KSP			*e*PKiKP	PKiKP	03 38 11.3	-1.9
KSP			*e*S	S	03 44 43.4	-2.5
KSP			*e*SP	SP	03 46 05.5	-3.7
KSP	**Ksiaz**	**97.50 323**	⇑*e*P	**P**	**03 33 39.0**	**-0.7**
KSP			*e*		03 37 38.0	
KSP			*e*S	S	03 44 43.4	-2.5
KSP			*e*SP	SP	03 46 05.5	-3.7
KSP	**Ksiaz**	**97.50 323**	⇑*e*P	**P**	**03 33 39.0**	**-0.7**
JAN	**Janina**	**97.53 311**	P	**P**	**03 33 38.7**	**-1.4**
JAN	**Janina**	**97.53 311**	P	**P**	**03 33 38.7**	**-1.4**
JAN	**Janina**	**97.53 311**	P	**P**	**03 33 38.7**	**-1.4**
DPC	**Dobruska-Polom**	**97.64 322**	*e*P	**P**	**03 33 39.8**	**-0.5**
DPC			*e*	pP	03 34 32.9	+0.9
DPC			*e*		03 44 44.6	
DPC			*e*		03 46 06.0	
DPC	**Dobruska-Polom**	**97.64 322**	*e*PDIFF	**P**	**03 33 39.8**	**-0.5**
DPC			*e*pP	pP	03 34 32.9	+0.9
DPC			*e*S	S	03 44 44.6	-2.5
DPC			*e*SP	SP	03 46 06.0	-4.7
KONO	**Kongsberg**	**97.75 333**	*e*P	**P**	**03 33 39.0**	**-1.5**
KONO	**Kongsberg**	**97.75 333**	*e*P	**P**	**03 33 39.4**	**-1.2**
	comp=Z,52nm,1.4s,mb5.7					
KONO	**Kongsberg**	**97.75 333**	*e*P	**P**	**03 33 39.4**	**-1.2**
KONO			pmax	pmax		
	comp=Z,51nm,1.4s,mb5.7					
UPC	**Upice**	**97.77 323**	*e*P	**P**	**03 33 40.4**	**-0.5**
UPC	**Upice**	**97.77 323**	*e*PDIFF	**P**	**03 33 40.4**	**-0.5**
UPC			*e*pP	pP	03 34 31.8	-0.9
VRAC	**Vranov**	**97.80 321**	P	**P**	**03 33 40.9**	**-0.1**
VRAC	**Vranov**	**97.80 321**	⇑*i*P	**P**	**03 33 40.5**	**-0.5**
IGT	**Igoumenitsa**	**97.95 311**	P	**P**	**03 33 38.7**	**-3.3**
IGT	**Igoumenitsa**	**97.95 311**	P	**P**	**03 33 38.7**	**-3.3**
IGT	**Igoumenitsa**	**97.95 311**	P	**P**	**03 33 38.7**	**-3.3**
YKA	**Yellowknife Ar**	**98.14 24**	P	**P**	**03 33 42.6**	**+0.4**
	comp=Z,24nm,1.0s,mb5.5,baz=297,slow=4.6,SNR=137					
YKA			pP	pP	03 34 33.3	-0.7
	comp=Z,10nm,0.8s,baz=300,slow=4.8,SNR=3.7					
YKA			PP	PP	03 37 49.7	+5.8
	comp=Z,3.0nm,1.0s,baz=308,slow=7.7,SNR=4.0					
YKA			PKiKP	PKiKP	03 38 15.4	+1.4
	comp=Z,0.9nm,0.4s,baz=309,slow=1.2,SNR=15					
YKA			PKKPbc	PKKPbc	03 50 12.9	-3.7
	comp=Z,8.5nm,0.4s,baz=120,slow=3.1,SNR=17					
YKA			SKKPbc		03 53 32.2	
	comp=Z,2.2nm,0.7s,baz=121,slow=2.4,SNR=7.3					
YKA			PKPPKP		03 58 22.1	
	comp=Z,2.9nm,1.1s,baz=112,slow=1.2,SNR=6.7					
YKA	**Yellowknife Ar**	**98.14 24**	P	**P**	**03 33 42.6**	**+0.4**
YKA			pP	pP	03 34 33.4	-0.7
YKA			PP	PP	03 37 49.7	+5.8
YKA			PKiKP	PKiKP	03 38 15.4	+1.4
YKA			PKKPbc	PKKPbc	03 50 12.9	-3.7
YKA			SKKPbc		03 53 32.2	
YKA			P'P'		03 58 22.1	
YKA	**Yellowknife Ar**	**98.14 24**	P	**P**	**03 33 42.7**	**+0.4**
YKA					03 37 49.7	
KEK	**Kerkira**	**98.30 311**	P	**P**	**03 33 40.6**	**-2.9**
KEK	**Kerkira**	**98.30 311**	P	**P**	**03 33 40.6**	**-2.9**
SOP	**Sopron**	**98.33 320**	⇑*e*P	**P**	**03 33 42.2**	**-1.2**
TREC	**Trest**	**98.49 322**	*e*P	**P**	**03 33 43.4**	**-0.7**
TREC			*e*		03 37 47.0	
TREC	**Trest**	**98.49 322**	*e*PDIFF	**P**	**03 33 43.4**	**-0.7**
TREC			*e*pP	pP	03 34 35.3	-0.6
TREC			*e*PP	PP	03 37 47.0	0.0
PVCC	**Panska Ves**	**98.64 323**	*e*P	**P**	**03 33 44.3**	**-0.5**
PVCC			*e*		03 37 48.6	
PVCC	**Panska Ves**	**98.64 323**	*e*PDIFF	**P**	**03 33 44.3**	**-0.5**
PVCC			*e*PP	PP	03 37 48.6	+0.5
PVCC			*e*x	x	03 38 36.9	
PRU	**Pruhonice**	**98.84 322**	*e*P	**P**	**03 33 44.9**	**-0.8**
PRU			*e*		03 44 54.1	
PRU	**Pruhonice**	**98.84 322**	*e*PDIFF	**P**	**03 33 44.9**	**-0.8**
PRU			*e*pP	pP	03 34 36.5	-1.0
PRU			*e*x	x	03 38 38.3	
PRU			*e*S	S	03 44 54.1	-3.1
PRA	**Prague**	**98.87 323**	PDIFF	**P**	**03 33 45.0**	**-0.8**
PRA			PP	PP	03 37 51.0	+1.1
PRA			*e*x	x	03 38 41.0	
BRG	**Berggiesshubel**	**98.89 323**	⇑*i*P	**P**	**03 33 45.3**	**-0.6**
	comp=Z,67nm,1.2s,mb5.8					
BRG			*e*		03 33 57.7	
	comp=Z,19nm,1.1s					
BRG			pP	pP	03 34 37.4	-0.3
	comp=Z,26nm,1.2s					
BRG			PP	PP	03 37 51.6	+1.6
	comp=Z,88nm,1.7s					
BRG			S	S	03 44 59.0	+1.4
BRG			PS	SP	03 46 21.0	-3.2
BRG			PKKP	PKKPbc	03 50 14.0	-0.1
	comp=Z,8.7nm,1.3s					
BRG			SS		03 53 08.0	
BRG						
	comp=Z,2μm,18.7s					
BRG						
	comp=N,2μm,19.7s					
BRG						
	comp=E,1μm,19.7s					
BRG	**Berggiesshubel**	**98.89 323**	⇑*i*P	**P**	**03 33 45.3**	**-0.6**
BRG					03 37 51.7	
BRG			S	S	03 44 59.0	+1.4
BRG			PS	SP	03 46 21.0	-3.2
BRG			pmax	pmax		
	comp=Z,67nm,1.3s,mb5.8					
BRG			MLR	MLR		
	comp=Z,2μm,18.7s					
BRG			MLR	MLR		
	comp=N,2μm,19.7s					
BRG			MLR	MLR		
	comp=E,1μm,19.7s					
KOGS	**Kog**	**98.91 319**	*e*Pdiff	**P**	**03 33 44.7**	**-1.4**
KOGS			*e*		03 37 52.7	
KOGS			*e*		03 38 38.7	
KOGS			*e*		03 47 56.2	
KOGS			*e*		03 53 16.9	
ODD1

LBTB PP PP 03 38 04.9 -5.1
comp=Z,24nm,1.2s,baz=95,slow=7.8,SNR=9.4
LBTB PKiKP PKiKP 03 38 21.7 +0.8
comp=Z,6.7nm,0.7s,baz=105,slow=1.3,SNR=7.4
LBTB Lobatse 101.40 246 P Pdif 03 33 56.7 -0.3
LBTB PP PP 03 38 04.9 -5.1
LBTB PKiKP PKiKP 03 38 21.7 +0.8
LBTB Lobatse 101.40 246 P Pdif 03 33 56.7 -0.3
LBTB 03 38 04.9
ETW Entiat 101.64 39 P Pdif 03 34 00.1 +2.0
NAC Naches 101.65 40 P Pdif 03 34 00.5 +2.4
BOSA Boshof 101.75 242 P Pdif 03 33 59.1 +0.6
comp=Z,13nm,1.2s,baz=124,slow=3.6,SNR=3.7
BOSA PP PP 03 38 08.6 -3.9
comp=Z,33nm,1.2s,baz=83,slow=5.9,SNR=4.0
BOSA PKiKP PKiKP 03 38 22.1 +0.7
comp=Z,29nm,1.2s,baz=113,slow=1.7,SNR=7.8
BOSA PKKPbc PKKPbc 03 50 07.3 +2.1
comp=Z,4.9nm,0.8s,baz=195,slow=6.5,SNR=5.4
BOSA Boshof 101.75 242 P Pdif 03 33 59.1 +0.6
BOSA PP PP 03 38 08.6 -3.9
BOSA PKiKP PKiKP 03 38 22.1 +0.7
BOSA PKKPbc PKKPbc 03 50 07.3 +2.1
BOSA Boshof 101.75 242 P Pdif 03 33 59.1 +0.6
BOSA 03 38 08.6
G06A Carlson Farm, 102.32 41 ⇓Pdiff Pdif 03 34 03.6 +2.5
baz=102
REDWA Red Mountain 102.70 40 P Pdif 03 34 05.2 +2.5
OD2 Odessa Site #2 102.74 39 P Pdif 03 34 04.9 +2.0
DAVOX Davos/Dischmat 102.90 321 PKKPbc PKKPbc 03 50 01.7 -0.8
comp=Z,2.8nm,0.7s,baz=135,slow=1.4,SNR=5.2
DAVOX PKKP PKKPbc 03 50 08.8 +6.4
comp=Z,2.9nm,0.9s,baz=180,slow=3.0,SNR=4.4
DAVOX Davos/Dischmat 102.90 321 PKKPbc PKKPbc 03 50 01.7 -0.8
DAVOX PKKP PKKPbc 03 50 08.8 +6.4
MAIT Maitri 103.14 198 *e*P Pdif 03 34 05.3 +0.6
MAIT *e* 03 34 17.8
E09A Wood Farm, Sta 103.44 40 ⇓Pdiff Pdif 03 34 07.7 +1.6
baz=103
MEM Membach 103.61 325 P Pdif 03 34 07.0 +0.2
comp=Z,26nm,1.7s
MEM PP PP 03 38 25.2 -0.1
BEBN Eben Emael 103.71 325 P Pdif 03 34 07.3 0.0
BEBN PP PP 03 38 25.8 -0.3
CDF Champ du Feu 103.84 323 *e*P Pdif 03 34 07.4 -0.4
comp=Z,40nm,1.4s
CDF Champ du Feu 103.84 323 *e*P Pdif 03 34 07.4 -0.4
comp=Z,40nm,1.4s
CDF Champ du Feu 103.84 323 *e*P Pdif 03 34 07.4 -0.4
CDF pmax pmax
comp=Z,40nm,1.4s
WLF Walferdange 103.95 324 P Pdif 03 34 08.7 +0.4
comp=Z,24nm,1.9s
WLF PP PP 03 38 26.1 -1.8
A12A Yaak River Ran 103.96 37 ⇑Pdiff Pdif 03 34 09.8 +1.5
baz=104
BCLA Clavier 104.09 325 P Pdif 03 34 09.2 +0.3
comp=Z,25nm,1.8s
BCLA PP PP 03 38 25.9 -3.1
HINF Hinteralfeld 104.35 322 *e*P Pdif 03 34 10.6 +0.5
comp=Z,22nm,1.3s
HINF Hinteralfeld 104.35 322 *e*P Pdif 03 34 10.6 +0.5
comp=Z,22nm,1.3s
HINF Hinteralfeld 104.35 322 *e*P Pdif 03 34 10.6 +0.5
HINF pmax pmax
comp=Z,22nm,1.3s
GIVF Givet 104.52 325 *e*P Pdif 03 34 10.9 +0.1
comp=Z,62nm,1.3s
GIVF Givet 104.52 325 *e*P Pdif 03 34 10.9 +0.1
comp=Z,62nm,1.3s
GIVF Givet 104.52 325 *e*P Pdif 03 34 10.9 +0.1
GIVF pmax pmax
comp=Z,62nm,1.3s
HAU Haudompre 104.58 323 *e*P Pdif 03 34 11.7 +0.6
HAU Haudompre 104.58 323 *e*P Pdif 03 34 11.7 +0.6
HAU Haudompre 104.58 323 *e*P Pdif 03 34 11.7 +0.6
C12B Naegeli Ranch, 104.60 38 ⇓Pdiff Pdif 03 34 12.5 +1.3
baz=105
SNF Seneffe 104.63 326 P Pdif 03 34 11.2 -0.1
comp=Z,18nm,1.7s
SNF PP PP 03 38 27.1 -5.8
DOU Dourbes 104.65 325 P Pdif 03 34 11.1 -0.3
comp=Z,16nm,1.7s
DOU PP PP 03 38 26.9 -6.2
A13A Flathead Natio 104.69 36 ⇑Pdiff Pdif 03 34 12.8 +1.2
baz=105
PAGF Fort de Pagny 104.70 323 *e*P Pdif 03 34 12.6 +1.0
comp=Z,18nm,1.5s
PAGF Fort de Pagny 104.70 323 *e*P Pdif 03 34 12.6 +1.0
comp=Z,18nm,1.5s
BAIF Baives 104.89 325 *e*P Pdif 03 34 12.6 +0.1
comp=Z,54nm,1.4s
BAIF Baives 104.89 325 *e*P Pdif 03 34 12.6 +0.1
comp=Z,54nm,1.4s
BAIF Baives 104.89 325 *e*P Pdif 03 34 12.6 +0.1
BAIF pmax pmax
comp=Z,54nm,1.4s
BSMT Bassoo Peak 104.95 37 P Pdif 03 34 15.1 +2.3
WCN Washoe City 105.06 47 ⇓PKiKP PKiKP 03 38 28.5 +1.3
baz=105
MEZF Maizieres J'vi 105.13 324 *e*P Pdif 03 34 14.6 +1.1
comp=Z,60nm,1.4s
MEZF Maizieres J'vi 105.13 324 *e*P Pdif 03 34 14.6 +1.1
comp=Z,60nm,1.4s
SFTF Sexfontaines 105.27 323 *e*P Pdif 03 34 14.9 +0.7
comp=Z,58nm,1.5s
SFTF Sexfontaines 105.27 323 *e*P Pdif 03 34 14.9 +0.7
comp=Z,58nm,1.5s
LPG La Plagne 105.41 320 *e*P Pdif 03 34 14.8 0.0
LPG La Plagne 105.41 320 *e*P Pdif 03 34 14.8 0.0
LPG La Plagne 105.41 320 *e*P Pdif 03 34 14.8 0.0
LPL La Plagne 105.42 320 *e*P Pdif 03 34 14.7 -0.1
LPL La Plagne 105.42 320 *e*P Pdif 03 34 14.7 -0.1
LPL La Plagne 105.42 320 *e*P Pdif 03 34 14.7 -0.1
SUR Sutherland 105.49 238 PP PP 03 38 42.4 +2.2
comp=Z,38nm,1.2s,baz=115,slow=6.6,SNR=3.5
SUR Sutherland 105.49 238 PP PP 03 38 42.4 +2.2
MSO Missoula 105.93 38 ⇓PKiKP PKiKP 03 38 30.1 +1.5
baz=106
VSL Villasalto 106.02 314 *e*PKPdf PKiKP 03 38 29.0 0.0
A16A West Butte Ran 106.32 35 ⇓PKiKP PKiKP 03 38 30.8 +1.5
baz=106
E14A Clinton 106.39 38 ⇑PKiKP PKiKP 03 38 30.7 +1.2
baz=106
LOR Lormes 106.41 323 *e*P Pdif 03 34 19.9 +0.7
LOR Lormes 106.41 323 *e*P Pdif 03 34 19.9 +0.7
LOR Lormes 106.41 323 *e*P Pdif 03 34 19.9 +0.7
NVAR Mina Array Bea 106.43 47 Pdiff Pdif 03 34 22.1 +2.8
comp=Z,3.0nm,0.7s,baz=276,slow=5.7,SNR=10.0
NVAR *p*Pdiff 03 35 13.2
comp=Z,3.8nm,0.8s,baz=282,slow=4.5,SNR=3.1
NVAR PKiKP PKiKP 03 38 32.0 +2.2
comp=Z,6.3nm,0.8s,baz=262,slow=2.0,SNR=7.9
NVAR PP PP 03 38 46.0 -0.7
comp=Z,1.6nm,0.5s,baz=269,slow=7.4,SNR=5.4
NVAR SKiKP 03 41 46.7
comp=Z,3.5nm,0.7s,baz=248,slow=1.7,SNR=4.7
NVAR PKKPbc PKKPbc 03 49 51.5 -0.1
comp=Z,6.5nm,0.7s,baz=157,slow=3.7,SNR=18
NVAR PKKPab PKKPab 03 50 07.1 -0.9
comp=Z,10.0nm,0.8s,baz=116,slow=3.1,SNR=12
NVAR Mina Array Bea 106.43 47 Pdif Pdif 03 34 22.1 +2.8
NVAR *e* 03 35 13.2
NVAR PKiKP PKiKP 03 38 32.0 +2.2
NVAR PP PP 03 38 46.0 -0.7
NVAR *e* 03 41 46.7
NVAR PKKPbc PKKPbc 03 49 51.5 -0.1
NVAR PKKPab PKKPab 03 50 07.1 -0.9
D15A Lincoln 106.69 37 ⇑PKiKP PKiKP 03 38 31.0 +1.0
baz=107
SMF Signal de Mont 106.71 322 *e*P Pdif 03 34 21.4 +0.8
comp=Z,48nm,1.4s
SMF Signal de Mont 106.71 322 *e*P Pdif 03 34 21.4 +0.8
comp=Z,48nm,1.4s
SMF Signal de Mont 106.71 322 *e*P Pdif 03 34 21.4 +0.8
SMF pmax pmax
comp=Z,48nm,1.4s
SSF Saint Saulge 106.72 323 *e*P Pdif 03 34 21.7 +1.1
comp=Z,41nm,1.5s
SSF Saint Saulge 106.72 323 *e*P Pdif 03 34 21.7 +1.1
comp=Z,41nm,1.5s
SSF Saint Saulge 106.72 323 *e*P Pdif 03 34 21.7 +1.1
SSF pmax pmax
comp=Z,41nm,1.5s
H13A Challis 106.74 40 ⇓PKiKP PKiKP 03 38 31.4 +1.2
baz=107
SMRF Simiane la Rot 106.83 319 *e*P Pdif 03 34 20.9 -0.2
comp=Z,39nm,1.5s
SMRF Simiane la Rot 106.83 319 *e*P Pdif 03 34 20.9 -0.2
comp=Z,39nm,1.5s
A17A Triple J Farms 106.83 35 ⇓PKiKP PKiKP 03 38 31.3 +1.1
baz=107
SNAA Sanae 106.87 195 *e* Pdif 03 34 24.1 +2.8
SNAA *e* 03 39 02.0
SNAA *e* 03 49 48.5
SNAA *e* 03 50 05.2
SNAA Sanae 106.87 195 Pdiff Pdif 03 34 21.8 +0.5
comp=Z,5.6nm,1.0s,baz=104,slow=4.8,SNR=18
SNAA PKiKP PKiKP 03 38 31.1 +1.5
comp=Z,3.2nm,0.9s,baz=136,slow=3.8,SNR=3.2
SNAA PP PP 03 38 48.5 -0.5
comp=Z,15nm,1.2s,baz=126,slow=9.6,SNR=6.0
SNAA PKKPbc PKKPbc 03 49 49.2 -2.2
comp=Z,2.1nm,0.8s,baz=329,slow=3.8,SNR=9.1
SNAA PKKPab PKKPab 03 50 04.6 0.0
comp=Z,5.2nm,1.1s,baz=349,slow=5.9,SNR=8.9
SNAA Sanae 106.87 195 Pdif Pdif 03 34 21.8 +0.5
SNAA PKiKP PKiKP 03 38 31.1 +1.5
SNAA PP PP 03 38 48.5 -0.5
SNAA PKKPbc PKKPbc 03 49 49.2 -2.2
SNAA PKKPab PKKPab 03 50 04.6 0.0
SNAA Sanae 106.87 195 P Pdif 03 34 21.8 +0.5
SNAA 03 38 48.5
TIN Tinemaha 106.98 49 ⇓PKiKP PKiKP 03 38 32.6 +1.7
baz=107
ISA Isabella 107.29 50 ⇑PKiKP PKiKP 03 38 32.6 +1.1
baz=107
J13A Cove Ranch, Pi 107.31 41 ⇑PKiKP PKiKP 03 38 32.3 +1.1
baz=107
A18A Metzger Ranch, 107.33 35 ⇓PKiKP PKiKP 03 38 32.4 +1.3
baz=107
SFJD Kangerlussuaq 107.35 358 *i* P PKKPdf 03 49 59.5 -1.8
comp=Z,9.5nm,1.0s
KEST Kesra 107.40 310 PKiKP PKiKP 03 38 32.9 +1.2
comp=Z,4.3nm,0.9s,baz=44,slow=1.8,SNR=23
KEST PP PP 03 38 53.5 -0.3
comp=Z,6.6nm,1.0s,baz=70,slow=7.9,SNR=7.6
KEST PKKPbc PKKPbc 03 49 49.9 +1.4
comp=Z,1.4nm,0.8s,baz=344,slow=1.9,SNR=7.2
KEST Kesra 107.40 310 *e*PKPdf PKiKP 03 38 32.4 +0.8
KEST PP PP 03 38 53.5 -0.3
KEST PKKPbc PKKPbc 03 49 49.9 +1.4
G15A Dillon 107.59 39 ⇓PKiKP PKiKP 03 38 32.6 +0.9
baz=108
B18A Beardsley Farm 107.64 35 ⇑PKiKP PKiKP 03 38 32.4 +0.7
baz=108
EGMT Eagleton 107.84 35 ⇑PKiKP PKiKP 03 38 33.7 +1.6
baz=108
EGMT Eagleton 107.84 35 *e*PKPdf PKiKP 03 38 33.2 +1.0
TCF Toulx Ste Croi 107.87 322 *e*P Pdif 03 34 25.6 -0.1
comp=Z,23nm,1.3s
TCF Toulx Ste Croi 107.87 322 *e*P Pdif 03 34 25.6 -0.1
comp=Z,23nm,1.3s
TCF Toulx Ste Croi 107.87 322 *e*P Pdif 03 34 25.6 -0.1
TCF pmax pmax
comp=Z,23nm,1.3s
MPMC Manual Prospec 107.89 49 ⇑PKiKP PKiKP 03 38 34.3 +1.7
baz=108
BOZ Bozeman (W) 107.90 38 ⇑PKiKP PKiKP 03 38 33.4 +1.1
baz=108
EDW2 Edwards Air Fo 107.93 51 ⇑PKiKP PKiKP 03 38 34.3 +1.6
baz=108
LRMC Laurel Mountai 107.95 50 ⇓PKiKP PKiKP 03 38 34.8 +2.1
baz=108
G16A Moss Hill, Enn 107.99 39 ⇑PKiKP PKiKP 03 38 34.7 +2.2
baz=108
B19A Brinkman Farms 108.08 35 ⇑PKiKP PKiKP 03 38 32.8 +0.3
baz=108
FURC Furnace Creek, 108.22 49 ⇓PKiKP PKiKP 03 38 34.6 +1.4
baz=108
D18A Linhart Farms, 108.23 36 ⇓PKiKP PKiKP 03 38 34.6 +1.7
baz=108
K14A Jones Ranch, D 108.34 42 ⇑PKiKP PKiKP 03 38 34.7 +1.4
baz=108
F17A Fitzpatrick Pl 108.37 38 ⇑PKiKP PKiKP 03 38 35.0 +1.8
baz=108
C19A Slack Wire Ran 108.40 35 ⇓PKiKP PKiKP 03 38 34.7 +1.5
baz=108
BFSC Mount Baldy Ra 108.42 51 ⇑PKiKP PKiKP 03 38 35.0 +1.4
baz=108
R11A Troy Canyon, C 108.43 47 ⇓PKiKP PKiKP 03 38 35.3 +1.7
baz=108
VNA2 Neumayer--Watz 108.49 195 *e* Pdif 03 34 29.5 +1.0
baz=87,slow=3.0
VNA2 *e* 03 38 34.2
VNA2 *e* 03 39 01.4
VNA2 *e* 03 41 49.0
VNA2 *e* 03 49 43.7
VNA2 *e* 03 49 58.0
CMAH Djebel Manchou 108.52 312 P PKiKP 03 38 33.0 -0.7
B20A Solberg Farm, 108.61 34 ⇓PKiKP PKiKP 03 38 34.6 +1.1
baz=109
ABSA Djebel Ababsia 108.61 311 P PKiKP 03 38 22.0 -12
DLF Lyons Farm 108.67 332 *e*P PKiKP 03 38 33.0 -0.5
GSC Goldstone 108.69 50 ⇑PKiKP PKiKP 03 38 35.6 +1.5
baz=109
K15A Arbon 108.70 41 ⇑PKiKP PKiKP 03 38 35.5 +1.6
baz=109
D19A Cripps Ranch, 108.79 36 ⇓PKiKP PKiKP 03 38 34.9 +1.0
baz=109
I16A Newdale 108.83 40 ⇓PKiKP PKiKP 03 38 35.1 +1.0
baz=109
VNA3 Neumayer Olymp 108.84 194 *e* Pdif 03 34 31.4 +1.3
VNA3 *e* 03 38 36.4
VNA3 *e* 03 39 03.8
VNA3 *e* 03 41 49.4
SHOC Shoshone 108.87 49 ⇑PKiKP PKiKP 03 38 35.5 +1.1
baz=109
CAEH Ain El Ouahch 108.89 312 P PKiKP 03 38 34.0 -0.4
VNA1 Neumayer--Stat 108.89 195 *e* PP 03 39 05.3 +1.6
VNA1 *e* 03 41 49.7
VNA1 *e* 03 50 05.3
A21A Bergtoll Ranch 108.92 34 ⇓PKiKP PKiKP 03 38 35.5 +1.4
baz=109
F18A Big Timber 108.94 37 ⇓PKiKP PKiKP 03 38 35.5 +1.3
baz=109
MURC Murrieta 109.00 52 ⇓PKiKP PKiKP 03 38 35.7 +0.9
baz=109
C20A Veseth Ranch, 109.01 35 ⇓PKiKP PKiKP 03 38 35.7 +1.4
baz=109
CKFL Kef-Lekhel 109.13 312 P PKiKP 03 38 35.0 +0.1
B21A Ellsworth Farm 109.18 34 ⇓PKiKP PKiKP 03 38 35.7 +1.0
baz=109
HEC Hector,Ludlow 109.23 50 ⇑PKiKP PKiKP 03 38 36.8 +1.7
baz=109
TUQ Turquoise Moun 109.31 49 ⇑PKiKP PKiKP 03 38 36.4 +1.2
baz=109
CASM Ain Smara 109.36 311 P PKiKP 03 38 35.0 -0.3
I17A Pilgrim Ck. 109.39 39 ⇑PKiKP PKiKP 03 38 36.6 +1.5
baz=109
A22A Carney Farms, 109.47 33 ⇑PKiKP PKiKP 03 38 36.6 +1.5
baz=109
REDW Red Top Meadow 109.48 40 *e*PKPdf PKiKP 03 38 37.2 +1.9
SNOW Snow King Moun 109.49 40 *e*PKPdf PKiKP 03 38 37.2 +1.8
CTEI Djebel Teioual 109.49 311 P PKiKP 03 38 36.0 +0.4
LOHW Long Hollow 109.52 40 *e*PKPdf PKiKP 03 38 36.4 +1.0
J17A Brown Place, J 109.57 40 ⇑PKiKP PKiKP 03 38 36.7 +1.2
baz=110
E20A Meyer Farm, Mu 109.58 36 ⇑PKiKP PKiKP 03 38 36.9 +1.5
baz=110
PFO Pinyon Flat Ob 109.58 51 ⇑PKiKP PKiKP 03 38 37.1 +1.3
baz=110
PFO Pinyon Flat Ob 109.58 51 *e*PKPdf PKiKP 03 38 38.2 +2.4
DUG Dugway 109.62 44 ⇑PKiKP PKiKP 03 38 37.2 +1.5
baz=110
BELC Belle Mtn. Jos 109.79 51 ⇓PKiKP PKiKP 03 38 37.2 +1.0
baz=110
MONP Monument Peak 109.86 52 ⇑PKiKP PKiKP 03 38 38.2 +1.8
baz=110
M16A Huntsville 109.92 42 ⇓PKiKP PKiKP 03 38 37.4 +1.2
baz=110
F20A Billings 109.93 37 ⇑PKiKP PKiKP 03 38 37.2 +1.1
baz=110
D21A La Casta Ranch 109.94 35 ⇑PKiKP PKiKP 03 38 37.5 +1.4
baz=110
I18A Diamond G Ranc 109.97 39 ⇑PKiKP PKiKP 03 38 37.5 +1.2
baz=110
H19A Powell 110.01 38 ⇑PKiKP PKiKP 03 38 37.6 +1.4
baz=110
A23A Redstone 110.05 33 ⇓PKiKP PKiKP 03 38 37.8 +1.6
baz=110
L17A Cokeville 110.06 41 ⇑PKiKP PKiKP 03 38 37.7 +1.2
baz=110
E21A Keefer Ranch, 110.17 36 ⇓PKiKP PKiKP 03 38 37.7 +1.2
baz=110
C22A Vida 110.19 34 ⇓PKiKP PKiKP 03 38 37.7 +1.2
baz=110
SET Setif 110.19 312 P PKiKP 03 38 39.0 +2.1
DVTC Desert V Tower 110.19 52 ⇑PKiKP PKiKP 03 38 37.5 +0.5
baz=110
G20A Bridger 110.20 37 ⇑PKiKP PKiKP 03 38 38.3 +1.7
baz=110
B23A Brockton 110.27 33 ⇓PKiKP PKiKP 03 38 37.9 +1.2
baz=110
SWSC Sam W. Stewart 110.33 52 ⇓PKiKP PKiKP 03 38 38.9 +1.6
baz=110
BC3 Big Chuckawall 110.33 51 ⇓PKiKP PKiKP 03 38 38.7 +1.4
baz=110
K18A Toltan Ranch, 110.35 40 ⇑PKiKP PKiKP 03 38 38.3 +1.3
baz=110
D22A Cohagen 110.35 35 ⇑PKiKP PKiKP 03 38 38.2 +1.4
baz=110
IRM Iron Mountain 110.38 50 ⇓PKiKP PKiKP 03 38 39.0 +1.7
baz=110
M17A Scullys Gap (B 110.49 42 ⇓PKiKP PKiKP 03 38 38.7 +1.4
baz=110
A24A Westby 110.54 32 ⇓PKiKP PKiKP 03 38 38.7 +1.5
baz=110
C23A Lambert 110.55 34 ⇓PKiKP PKiKP 03 38 38.7 +1.5
baz=110
NEE2 Needles Airpor 110.55 50 ⇑PKiKP PKiKP 03 38 38.8 +1.1
baz=111
LAO LASA Array 110.58 35 ⇑PKiKP PKiKP 03 38 38.6 +1.3
baz=110
LAO LASA Array 110.58 35 *e*PKPdf PKiKP 03 38 38.8 +1.5
BW06 Boulder Array 110.60 40 ⇓PKiKP PKiKP 03 38 38.6 +1.1
baz=111
PDAR Pinedale Array 110.60 40 Pdiff Pdif 03 34 40.9 +3.0
comp=Z,0.4nm,0.7s,baz=324,slow=4.5,SNR=3.6
PDAR PKiKP PKiKP 03 38 39.0 +1.5
comp=Z,7.0nm,1.2s,baz=207,slow=1.0,SNR=8.2
PDAR PKKPbc PKKPbc 03 49 36.1 -2.5
comp=Z,32nm,1.1s,baz=126,slow=4.0,SNR=22
PDAR PKKPab PKKPab 03 49 48.5 -1.1
comp=Z,11nm,0.8s,baz=118,slow=5.5,SNR=25
PDAR PKKP PKKPdf 03 49 57.6 +2.7
comp=Z,4.0nm,0.6s,baz=98,slow=6.1,SNR=5.8
PDAR Pinedale Array 110.60 40 Pdif Pdif 03 34 40.9 +3.0
PDAR PKiKP PKiKP 03 38 39.0 +1.5
PDAR PKKPbc PKKPbc 03 49 36.1 -2.5
PDAR PKKPab PKKPab 03 49 48.5 -1.1
PDAR PKKP PKKPdf 03 49 57.6 +2.7
N17A Moffit Pass 110.63 42 ⇑PKiKP PKiKP 03 38 38.8 +1.2
baz=111
J19A Crowheart 110.67 40 ⇓PKiKP PKiKP 03 38 38.5 +0.9
baz=111
L18A Fontenelle, Gr 110.69 41 ⇓PKiKP PKiKP 03 38 38.9 +1.2
baz=111
DGMT Dagmar 110.70 33 ⇑PKiKP PKiKP 03 38 38.4 +0.9
baz=111
DGMT Dagmar 110.70 33 *e*PKPdf PKiKP 03 38 38.6 +1.2
DGMT *e*PP PP 03 39 16.7 -0.3
H20A Greybull 110.71 38 ⇓PKiKP PKiKP 03 38 38.8 +1.1
baz=111
E22A Miles City 110.88 35 ⇓PKiKP PKiKP 03 38 38.8 +0.9
baz=111
D23A Lindsay 110.89 34 ⇓PKiKP PKiKP 03 38 39.1 +1.2
baz=111
I20A Worland 110.90 39 ⇑PKiKP PKiKP 03 38 39.2 +1.2
baz=111
M18A Lyman 110.91 42 ⇑PKiKP PKiKP 03 38 39.0 +0.9
baz=111
W13A Hualapai Mount 110.98 49 ⇓PKiKP PKiKP 03 38 39.6 +1.2
baz=111
Y12C Blythe 111.02 51 ⇓PKiKP PKiKP 03 38 40.1 +1.5
baz=111
K19A Absolon Red Bu 111.02 40 ⇑PKiKP PKiKP 03 38 39.3 +1.1
baz=111
O17A Robinson Place 111.04 43 ⇓PKiKP PKiKP 03 38 39.8 +1.5
baz=111
GLA Glamis 111.05 51 ⇓PKiKP PKiKP 03 38 40.0 +1.4
baz=111
L19A Farson 111.05 41 ⇑PKiKP PKiKP 03 38 39.0 +0.6
baz=111
F22A Rosebud 111.06 36 ⇓PKiKP PKiKP 03 38 39.6 +1.4
baz=111
PDMCI Parker Dam,Lak 111.10 50 ⇓PKiKP PKiKP 03 38 39.8 +1.1
baz=111
C24A Savage 111.12 34 ⇓PKiKP PKiKP 03 38 39.4 +1.1
baz=111
E23A Ismay 111.22 35 ⇑PKiKP PKiKP 03 38 39.7 +1.2
baz=111
J20A Shoshoni 111.24 39 ⇓PKiKP PKiKP 03 38 39.6 +0.9
baz=111
G22A Birney 111.35 37 ⇓PKiKP PKiKP 03 38 40.0 +1.2
baz=111
P17A Butcher Ranch, 111.37 44 ⇑PKiKP PKiKP 03 38 40.2 +1.1
baz=111
D24A Glendive 111.42 34 ⇓PKiKP PKiKP 03 38 40.6 +1.7
baz=111
K20A Yellowstone Ra 111.43 40 ⇑PKiKP PKiKP 03 38 40.1 +1.1
baz=111
M19A Rock Springs 111.47 41 ⇑PKiKP PKiKP 03 38 40.1 +0.9
baz=111
I21A Big Trails, Te 111.49 38 ⇓PKiKP PKiKP 03 38 40.4 +1.2
baz=112
O18A Roosevelt 111.50 43 ⇓PKiKP PKiKP 03 38 40.6 +1.4
baz=112
S16A Weppner Ranch, 111.56 46 ⇓PKiKP PKiKP 03 38 40.5 +1.1
baz=112
F23A Volborg 111.59 36 ⇓PKiKP PKiKP 03 38 40.1 +0.8
baz=112
J21A Lysite 111.64 39 ⇓PKiKP PKiKP 03 38 40.1 +0.7
baz=112
P18A Preston Nutter 111.64 43 ⇑PKiKP PKiKP 03 38 40.6 +1.0
baz=112
H22A Clearmont 111.65 37 ⇑PKiKP PKiKP 03 38 40.5 +1.1
baz=112
SRU San Rafael 111.69 44 *e*PKPdf PKiKP 03 38 40.3 +0.7
SRU San Rafael 111.69 44 *e*PKIKP PKiKP 03 38 40.3 +0.7
E24A Baker 111.75 35 ⇓PKiKP PKiKP 03 38 40.4 +0.9
baz=112
L20A Wamsutter 111.76 40 ⇓PKiKP PKiKP 03 38 40.7 +1.0
baz=112
N19A John Jarvie Ra 111.76 42 ⇓PKiKP PKiKP 03 38 40.8 +1.1
baz=112
R17A Hanksville Air 111.87 45 ⇑PKiKP PKiKP 03 38 41.0 +1.0
baz=112
G23A Biddle 111.89 36 ⇑PKiKP PKiKP 03 38 41.0 +1.2
baz=112
Z13A Yuma Proving G 111.90 51 ⇑PKiKP PKiKP 03 38 41.5 +1.3
baz=112
Q18A Rafter H Ranch 111.96 44 ⇓PKiKP PKiKP 03 38 41.0 +0.8
baz=112
MSKU Masuku 111.96 271 PKiKP PKiKP 03 38 40.9 0.0
comp=Z,21nm,0.4s,baz=324,slow=1.4,SNR=20
MSKU SKiKP 03 41 55.5
comp=Z,15nm,0.6s,baz=180,slow=2.0,SNR=3.9
MSKU PKKPbc PKKPbc 03 49 31.4 -1.7
comp=Z,8.8nm,0.6s,baz=208,slow=21,SNR=3.0
MSKU PKKPab PKKPab 03 49 41.4 -1.6
comp=Z,10nm,0.6s,baz=254,slow=18,SNR=3.1
MSKU Masuku 111.96 271 PKiKP PKiKP 03 38 40.9 0.0
MSKU *e* 03 41 55.5
MSKU PKKPbc PKKPbc 03 49 31.4 -1.7
MSKU PKKPab PKKPab 03 49 41.4 -1.6
113A Mohawk Valley, 111.98 51 ⇑PKiKP PKiKP 03 38 41.4 +1.0
baz=112
F24A Ekalaka 112.08 35 ⇓PKiKP PKiKP 03 38 41.2 +1.1
baz=112
O19A Miners Draw (B 112.08 42 ⇓PKiKP PKiKP 03 38 41.3 +0.9
baz=112
Y14A Wickenburg 112.11 50 ⇑PKiKP PKiKP 03 38 41.4 +0.8
baz=112
M20A Sweetwater, Wa 112.11 41 ⇑PKiKP PKiKP 03 38 40.9 +0.6
baz=112
K21A Alcova 112.13 39 ⇑PKiKP PKiKP 03 38 41.1 +0.7
baz=112
J22A Midwest 112.20 38 ⇓PKiKP PKiKP 03 38 41.0 +0.5
baz=112
Z14A Wintersburg 112.38 50 ⇑PKiKP PKiKP 03 38 42.1 +1.0
baz=112
G24A Alzada 112.39 36 ⇓PKiKP PKiKP 03 38 41.4 +0.6
baz=112
N20A Spence Gulch, 112.39 41 ⇑PKiKP PKiKP 03 38 42.3 +1.3
baz=112
L21A Rawlins 112.40 40 ⇓PKiKP PKiKP 03 38 41.9 +1.0
baz=112
T17A Navajo Res., N 112.44 46 ⇑PKiKP PKiKP 03 38 42.4 +1.3

baz=112
R18A Canyonlands Na 112.46 44 ⇑PKiKP PKiKP 03 38 42.1 +1.0
baz=112
K22A Casper 112.58 39 ⇓PKiKP PKiKP 03 38 41.6 +0.4
baz=112
U16A Tuba City 112.58 47 ⇓PKiKP PKiKP 03 38 42.2 +0.8
baz=113
M21A Separation Pea 112.59 40 ⇓PKiKP PKiKP 03 38 42.0 +0.7
baz=113
Q19A Hogan Spring (112.63 44 ⇑PKiKP PKiKP 03 38 42.4 +0.9
baz=113
H24A Dirks Ranch, A 112.64 36 ⇓PKiKP PKiKP 03 38 41.5 +0.2
baz=113
114A Black Gap (USA 112.67 51 ⇓PKiKP PKiKP 03 38 42.6 +0.9
baz=113
WUAZ Wupatki 112.67 48 ⇓PKiKP PKiKP 03 38 42.3 +0.6
baz=113
S18A Hurst Farm, Bl 112.71 45 ⇑PKiKP PKiKP 03 38 42.5 +0.9
baz=113
U17A Shonto 112.72 46 ⇓PKiKP PKiKP 03 38 43.2 +1.5
baz=113
O20A White River Ci 112.75 42 ⇑PKiKP PKiKP 03 38 42.6 +1.0
baz=113
J23A Dilts Ranch, B 112.78 38 ⇓PKiKP PKiKP 03 38 42.8 +1.2
baz=113
N21A Black Mountain 112.92 41 ⇑PKiKP PKiKP 03 38 42.5 +0.5
baz=113
R19A Curley Farm, L 112.94 44 ⇓PKiKP PKiKP 03 38 42.9 +0.8
baz=113
P20A De Beque 112.96 43 ⇑PKiKP PKiKP 03 38 43.2 +1.1
baz=113
214A Organ Pipe Nat 113.04 52 ⇓PKiKP PKiKP 03 38 43.4 +1.0
baz=113
T18A Mexican Hat 113.05 46 ⇑PKiKP PKiKP 03 38 43.3 +1.0
baz=113
V17A Tonalea, Kykot 113.06 47 ⇓PKiKP PKiKP 03 38 43.4 +1.0
baz=113
X16A Lo Mia Camp, P 113.09 49 ⇑PKiKP PKiKP 03 38 43.8 +1.3
baz=113
M22A Cedar Creek Ra 113.19 40 ⇓PKiKP PKiKP 03 38 43.6 +1.2
baz=113
O21A Pagoda 113.22 42 ⇑PKiKP PKiKP 03 38 43.5 +0.9
baz=113
S19A Harvey Farm, M 113.28 45 ⇓PKiKP PKiKP 03 38 43.6 +0.9
baz=113
Q20A Ridgley Place, 113.29 43 ⇓PKiKP PKiKP 03 38 43.1 +0.4
baz=113
RSSD Black Hills 113.30 37 *e*PKPdf PKiKP 03 38 42.5 -0.1
RSSD Black Hills 113.30 37 *e*PKIKP PKiKP 03 38 42.5 -0.1
W17A Winslow 113.35 48 ⇑PKiKP PKiKP 03 38 44.4 +1.4
baz=113
J24A Dixon Ranch, L 113.36 38 ⇑PKiKP PKiKP 03 38 43.2 +0.5
baz=113
L23A Garrett 113.38 39 ⇑PKiKP PKiKP 03 38 43.4 +0.7
baz=113
MDND Maddock 113.51 31 ⇑PKiKP PKiKP 03 38 43.3 +0.5
baz=113
P21A Newcastle 113.58 42 ⇑PKiKP PKiKP 03 38 44.0 +0.7
baz=114
N22A Wattenberg Ran 113.59 41 ⇑PKiKP PKiKP 03 38 43.9 +0.6
baz=114
X17A Forest Lakes 113.60 49 ⇑PKiKP PKiKP 03 38 44.5 +1.0
baz=114
R20A Redvale 113.60 44 ⇑PKiKP PKiKP 03 38 44.4 +1.1
baz=114
V18A Ganado 113.64 47 ⇓PKiKP PKiKP 03 38 44.5 +1.0
baz=114
ULM Lac du Bonnet 113.74 28 PKiKP PKiKP 03 38 43.0 -0.2
comp=Z,5.8nm,0.4s,baz=324,slow=3.1,SNR=14
ULM PP PP 03 39 38.2 -0.2
comp=Z,7.2nm,0.8s,baz=302,slow=8.0,SNR=4.4
ULM SKIKP 03 41 57.8
comp=Z,6.7nm,0.8s,baz=342,slow=2.6,SNR=3.0
ULM PKKPbc PKKPbc 03 49 25.6 -2.9
comp=Z,18nm,0.9s,baz=133,slow=3.6,SNR=13
ULM SKKP 03 53 04.5
comp=Z,15nm,1.2s,baz=63,slow=2.3,SNR=3.9
ULM Lac du Bonnet 113.74 28 *e*PKPdf PKiKP 03 38 43.0 -0.2
ULM PP PP 03 39 38.2 -0.2
ULM *e* 03 41 57.8
ULM PKKPbc PKKPbc 03 49 25.6 -2.9
ULM SKKP 03 53 04.5
ULM Lac du Bonnet 113.74 28 *i* PKIKP PKiKP 03 38 43.1 -0.1
ULM 03 39 38.3
ULM 03 49 25.7
ULM pmax pmax
comp=Z,6.0nm,0.4s
ULM pmax pmax
comp=Z,7.0nm,0.8s
S20A Disappointment 113.79 44 ⇓PKiKP PKiKP 03 38 45.0 +1.3
baz=114
T19A Beclabito 113.79 46 ⇓PKiKP PKiKP 03 38 44.5 +0.8
baz=114
Q21A Lamborn Mesa, 113.84 43 ⇑PKiKP PKiKP 03 38 44.6 +0.8
baz=114
Y17A Roosevelt 113.84 49 ⇑PKiKP PKiKP 03 38 44.9 +1.0
baz=114
O22A Kremmling 113.86 41 ⇓PKiKP PKiKP 03 38 44.2 +0.4
baz=114
N23A Red Feather La 113.87 40 ⇓PKiKP PKiKP 03 38 44.2 +0.4
baz=114
U19A Dine' College, 113.91 46 ⇓PKiKP PKiKP 03 38 44.9 +1.0
baz=114
MVCO Mesa Verde 113.98 45 ⇑PKiKP PKiKP 03 38 45.3 +1.2
baz=114
MVCO Mesa Verde 113.98 45 *e*PKPdf PKiKP 03 38 47.1 +3.0
P22A Eagle 114.01 42 ⇓PKiKP PKiKP 03 38 45.3 +1.2
baz=114
W18A Petrified Fore 114.05 48 ⇓PKiKP PKiKP 03 38 45.4 +1.1
baz=114
X18A Snowflake 114.16 48 ⇓PKiKP PKiKP 03 38 46.2 +1.7
baz=114
O23A Lake Granby, G 114.25 41 ⇓PKiKP PKiKP 03 38 45.4 +0.9
baz=114
S21A Coal Bank Pass 114.26 44 ⇓PKiKP PKiKP 03 38 45.8 +1.2
baz=114
Q22A Crested Butte, 114.28 43 ⇑PKiKP PKiKP 03 38 45.8 +1.2
baz=114
M24A Cheyenne 114.28 39 ⇓PKiKP PKiKP 03 38 45.4 +0.8
baz=114
V19A Window Rock 114.29 47 ⇓PKiKP PKiKP 03 38 46.0 +1.2
baz=114
Z17A San Carlos Hig 114.29 50 ⇑PKiKP PKiKP 03 38 45.9 +1.1
baz=114
W19A Sanders 114.31 47 ⇑PKiKP PKiKP 03 38 45.8 +1.0
baz=114
U20A Newcomb 114.36 46 ⇓PKiKP PKiKP 03 38 46.2 +1.4
baz=114
Y18A Canyon Day Jun 114.42 49 ⇑PKiKP PKiKP 03 38 46.2 +1.2
baz=114
K26A Motz Farm, Whi 114.62 38 ⇑PKiKP PKiKP 03 38 45.2 +0.1
baz=115
ISCO Idaho Springs 114.66 41 ⇑PKiKP PKiKP 03 38 46.5 +1.2
baz=115
ISCO Idaho Springs 114.66 41 *e*PKPdf PKiKP 03 38 45.3 0.0
ISCO Idaho Springs 114.66 41 *e*PKIKP PKiKP 03 38 45.3 0.0
V20A Brimhall 114.67 46 ⇓PKiKP PKiKP 03 38 46.8 +1.3
baz=115
X19A St. Johns 114.69 48 ⇑PKiKP PKiKP 03 38 46.2 +0.7
baz=115
R22A Saguache, Gunn 114.70 43 ⇓PKiKP PKiKP 03 38 46.4 +1.0
baz=115
Z18A Geronimo 114.72 50 ⇓PKiKP PKiKP 03 38 46.4 +0.8
baz=115
P23A Jefferson 114.73 42 ⇓PKiKP PKiKP 03 38 46.4 +0.9
baz=115
T21A Navajo Lake 114.77 45 ⇑PKiKP PKiKP 03 38 46.7 +1.1
baz=115
O24A Longmont 114.84 41 ⇓PKiKP PKiKP 03 38 46.8 +1.1
baz=115
TAM Tamanrasset 114.87 298 *e*PKPdf PKiKP 03 38 47.2 +1.0
TAM *e*PP PP 03 39 46.7 -1.1
TAM Tamanrasset 114.87 298 *e*PKIKP PKiKP 03 38 47.2 +1.0
TAM *e* 03 39 46.7
Y19A Nutrioso 114.92 48 ⇓PKiKP PKiKP 03 38 47.2 +1.2
baz=115
U21A Nageezi 114.95 45 ⇓PKiKP PKiKP 03 38 47.6 +1.7
baz=115
W20A Ramah 114.95 47 ⇑PKiKP PKiKP 03 38 47.3 +1.3
baz=115
118A Homack Ranch, 114.96 50 ⇑PKiKP PKiKP 03 38 47.4 +1.3
baz=115
Q23A Hartsel 114.98 42 ⇑PKiKP PKiKP 03 38 47.1 +1.2
baz=115
L26A Underwood Farm 115.05 38 ⇓PKiKP PKiKP 03 38 46.8 +0.8
baz=115
AGMN Agassiz Nation 115.09 29 *e*PKPdf PKPdf 03 38 46.3 +0.5

ESDC Sonseca Array 115.14 319 PKP PKPdf 03 38 46.1 -0.2
comp=Z,9.5nm,1.0s,baz=13,slow=3.9,SNR=29
ESDC PP PP 03 39 49.2 +0.5
comp=Z,10nm,1.0s,baz=48,slow=6.8,SNR=7.4
ESDC SKP 03 42 02.4
comp=Z,3.0nm,0.6s,baz=22,slow=2.2,SNR=7.8
ESDC PKKPbc PKKPbc 03 49 22.9 -0.5
comp=Z,1.7nm,0.7s,baz=257,slow=3.3,SNR=8.0
ESDC PKKPab PKKPab 03 49 30.0 +0.6
comp=Z,1.0nm,0.7s,baz=266,slow=4.4,SNR=6.0
ESDC Sonseca Array 115.14 319 PKP PKPdf 03 38 46.1 -0.1
ESDC PP PP 03 39 49.2 +0.5
ESDC SKP 03 42 02.4
ESDC PKKPbc PKKPbc 03 49 22.9 -0.5
ESDC PKKPab PKKPab 03 49 30.0 +0.6
ESLA Sonseca Array 115.14 319 *e*PKPdf PKPdf 03 38 46.0 -0.2
218A Dragoon 115.18 51 ⇓PKiKP PKiKP 03 38 47.2 +0.6
baz=115
K27A Flueckinger Fa 115.18 37 ⇓PKiKP PKiKP 03 38 47.4 +1.2
baz=115
T22A Edith 115.20 45 ⇓PKiKP PKiKP 03 38 48.0 +1.6
baz=115
Z19A T-Link Ranch, 115.21 49 ⇓PKiKP PKiKP 03 38 47.8 +1.3
baz=115
X20A Quemado 115.22 48 ⇑PKiKP PKiKP 03 38 47.2 +0.7
baz=115
V21A Milan 115.26 46 ⇓PKiKP PKiKP 03 38 47.9 +1.3
baz=115
P24A Kohler Place, 115.27 41 ⇑PKiKP PKiKP 03 38 47.5 +1.0
baz=115
M26A McRoberts Ranc 115.34 39 ⇑PKiKP PKiKP 03 38 47.2 +0.6
baz=115
R23A Moffat 115.35 43 ⇑PKiKP PKiKP 03 38 47.5 +0.9
baz=115
Q24A Divide 115.40 42 ⇓PKiKP PKiKP 03 38 47.2 +0.5
baz=115
119A Ashpeak Ranch, 115.41 50 ⇑PKiKP PKiKP 03 38 48.3 +1.4
baz=115
318A Bisbee 115.45 51 ⇓PKiKP PKiKP 03 38 48.3 +1.2
baz=116
O25A Wiggins 115.47 40 ⇓PKiKP PKiKP 03 38 47.0 +0.2
baz=115
S23A Nye Farm, Mont 115.47 43 ⇓PKiKP PKiKP 03 38 47.2 +0.2
baz=116
L27A T5 Ranch, Ells 115.49 38 ⇑PKiKP PKiKP 03 38 47.2 +0.3
baz=115
U22A Llaves 115.54 45 ⇓PKiKP PKiKP 03 38 48.4 +1.3
baz=116
W21A San Fidel 115.58 47 ⇑PKiKP PKiKP 03 38 48.7 +1.5
baz=116
Y20A Horse Springs, 115.60 48 ⇑PKiKP PKiKP 03 38 47.5 +0.2
baz=116
N26A Koester Ranch, 115.64 39 ⇓PKiKP PKiKP 03 38 47.6 +0.4
baz=116
PBRG Braganca 115.72 322 *e*PKPdf PKPdf 03 38 47.6 +0.3
P25A Willow Gulch B 115.76 41 ⇓PKiKP PKiKP 03 38 48.6 +1.2
baz=116
M27A Reverse DX Ran 115.77 38 ⇑PKiKP PKiKP 03 38 47.8 +0.4
baz=116
T23A Casias Ranch, 115.79 44 ⇑PKiKP PKiKP 03 38 49.1 +1.5
baz=116
X21A Alamocita Cree 115.79 47 ⇑PKiKP PKiKP 03 38 49.3 +1.7
baz=116
Z20A Nine Sixteen R 115.79 49 ⇑PKiKP PKiKP 03 38 49.6 +1.9
baz=116
SDCO Great Sand Dun 115.80 43 ⇓PKiKP PKiKP 03 38 48.7 +1.2
baz=116
SDCO Great Sand Dun 115.80 43 *e*PKPdf PKPdf 03 38 48.8 +1.2
R24A Sanders Place, 115.81 43 ⇓PKiKP PKiKP 03 38 48.3 +0.8
baz=116
O26A Horse Wrangler 115.91 40 ⇓PKiKP PKiKP 03 38 48.4 +0.7
baz=116
120A U Bar Ranch, L 116.01 50 ⇓PKiKP PKiKP 03 38 49.9 +1.8
baz=116
319A Douglas 116.02 51 ⇓PKiKP PKiKP 03 38 49.5 +1.3
baz=116
BRSD Miller 116.03 34 ⇓PKiKP PKiKP 03 38 47.8 0.0
baz=116
Q25A Bedland, Calha 116.03 42 ⇑PKiKP PKiKP 03 38 48.8 +0.9
baz=116
U23A El Rito 116.03 45 ⇑PKiKP PKiKP 03 38 49.0 +0.9
baz=116
S24A Houchin Ranch, 116.05 43 ⇓PKiKP PKiKP 03 38 48.8 +0.7
baz=116
Y21A Point of Rocks 116.07 48 ⇓PKiKP PKiKP 03 38 49.4 +1.2
baz=116
N27A Anderson Farm, 116.09 39 ⇓PKiKP PKiKP 03 38 48.0 0.0
baz=116
W22A Albuquerque 116.16 46 ⇑PKiKP PKiKP 03 38 49.0 +0.7
baz=116
MVO Moncorvo 116.26 322 *i* PKPdf PKPdf 03 38 49.0 +0.6
MVO *e*SKPdf SKPdf 03 42 04.4 +0.4
P26A Davis Ranch, A 116.27 40 ⇑PKiKP PKiKP 03 38 48.9 +0.5
baz=116
LAZ Ladron 116.28 47 *e*PKPdf PKPdf 03 38 49.5 +0.9
OGNE Ogallala 116.32 39 ⇓PKiKP PKiKP 03 38 48.7 +0.2
baz=116
OGNE Ogallala 116.32 39 *e*PKPdf PKPdf 03 38 48.7 +0.2
V23A Ortiz Mt. (NFS 116.32 45 ⇓PKiKP PKiKP 03 38 49.9 +1.3
baz=116
X22A Bernardo 116.33 47 ⇓PKiKP PKiKP 03 38 49.8 +1.1
baz=116
220A Playas Peak, P 116.38 50 ⇑PKiKP PKiKP 03 38 49.7 +0.8
baz=116
Z21A St. Cloud Mine 116.39 48 ⇓PKiKP PKiKP 03 38 50.3 +1.5
baz=116
R25A Fountain Ranch 116.41 42 ⇓PKiKP PKiKP 03 38 49.5 +0.7
baz=116
T24A Torres, Weston 116.45 44 ⇓PKiKP PKiKP 03 38 49.2 +0.4
baz=116
O27A Beecher Island 116.47 39 ⇓PKiKP PKiKP 03 38 49.0 +0.3
baz=116
Q26A Hugo 116.50 41 ⇑PKiKP PKiKP 03 38 49.4 +0.5
baz=116
ANMO Albuquerque 116.51 46 SKP 03 42 05.6
comp=Z,15nm,0.9s,baz=229,slow=1.5,SNR=9.3
ANMO PKKPbc PKKPbc 03 49 22.1 +3.6
comp=Z,20nm,1.3s,baz=142,slow=5.2,SNR=3.5
ANMO Albuquerque 116.51 46 *e*PKPdf PKPdf 03 38 50.3 +1.3
ANMO SKP 03 42 05.6
ANMO PKKPbc PKKPbc 03 49 22.1 +3.6
ANMO Albuquerque 116.51 46 *e*PKIKP PKPdf 03 38 50.3 +1.3
ANMO 03 49 22.1
LENM Lemitar 116.51 47 *e*PKPdf PKPdf 03 38 50.7 +1.7
PGAV Gavieira, Arco 116.55 323 *e*PKPdf PKPdf 03 38 49.3 +0.4
PGAV Gavieira, Arco 116.55 323 *e*PP PP 03 40 00.0 +1.5
PGAV *e*SKPdf SKPdf 03 42 05.0 +0.5
PCAB Cabril 116.55 323 *i* PKPdf PKPdf 03 38 49.2 +0.3
PCAB *e*SKPdf SKPdf 03 42 05.6 +1.0
S25A Robets Cordova 116.56 43 ⇓PKiKP PKiKP 03 38 49.6 +0.5
baz=116
Y22D IRIS PASSCAL I 116.59 47 ⇓PKiKP PKiKP 03 38 50.3 +1.1
baz=117
POLO Lamas de Olo 116.61 322 *i* PKPdf PKPdf 03 38 49.7 +0.7
POLO *e*SKPdf SKPdf 03 42 05.3 +0.6
320A Kipp Ranch, An 116.62 51 ⇑PKiKP PKiKP 03 38 50.4 +1.0
baz=117
PVRL Vila Real 116.62 322 *i* PKPdf PKPdf 03 38 49.6 +0.6
PVRL *e*SKPdf SKPdf 03 42 05.2 +0.5
Y22A Socorro 116.63 48 ⇓PKiKP PKiKP 03 38 50.5 +1.3
baz=117
W23A Werner Place, 116.63 46 ⇓PKiKP PKiKP 03 38 50.4 +1.2
baz=117
121A Cookes Peak, D 116.66 49 ⇓PKiKP PKiKP 03 38 50.8 +1.4
baz=117
LPM Los Pinos Moun 116.69 47 *e*PKPdf PKPdf 03 38 50.7 +1.3
BNM Barren Site 116.77 47 *e*PKPdf PKPdf 03 38 51.1 +1.6
T25A Trinidad 116.85 43 ⇑PKiKP PKiKP 03 38 50.4 +0.8
baz=117
R26A Arlington 116.89 42 ⇑PKiKP PKiKP 03 38 50.4 +0.7
baz=117
X23A Hourglass Bar 116.89 47 ⇓PKiKP PKiKP 03 38 50.7 +1.0
baz=117
221A Mesquite Ranch 116.90 50 ⇑PKiKP PKiKP 03 38 51.1 +1.2
baz=117
Z22A Elephant Butte 116.94 48 ⇓PKiKP PKiKP 03 38 51.7 +1.7
baz=117
V24A Rampart Ranch, 116.98 45 ⇑PKiKP PKiKP 03 38 51.6 +1.7
baz=117
MTE Manteigas 117.02 321 *e*PKPdf PKPdf 03 38 50.5 +0.7
MTE *e*SKPdf SKPdf 03 42 06.1 +0.6
MTE Manteigas 117.02 321 *e*PKPdf PKPdf 03 38 50.6 +0.7
KSCO Kaye Shedlock' 117.03 41 ⇓PKiKP PKiKP 03 38 50.4 +0.5
baz=117
PVIS Viseu 117.06 322 *e*PKPdf PKPdf 03 38 50.7 +0.8
PVIS Viseu 117.06 322 *e*PP PP 03 40 02.5 +0.4

PVIS *e*SKPdf SKPdf 03 42 05.7 +0.1
W24A Lazy 6 Ranch, 117.14 46 ⇓PKiKP PKiKP 03 38 52.0 +1.8
baz=117
122A Conniff Cattle 117.17 49 ⇑PKiKP PKiKP 03 38 51.9 +1.5
baz=117
U25A Circle Dot Ran 117.24 44 ⇑PKiKP PKiKP 03 38 51.7 +1.3
baz=117
PTO Porto 117.24 322 *e*PKPdf PKPdf 03 38 50.9 +0.7
PTO *e*SKPdf SKPdf 03 42 06.6 +0.7
Y23A Lovelace Mesa, 117.30 47 ⇑PKiKP PKiKP 03 38 51.7 +1.1
baz=117
PCBR Castelo Branco 117.30 321 *i* PKPdf PKPdf 03 38 51.0 +0.6
PCBR *e*SKPdf SKPdf 03 42 06.5 +0.4
R27A Eads 117.32 41 ⇓PKiKP PKiKP 03 38 51.6 +1.1
baz=117
222A Williams Famil 117.37 49 ⇓PKiKP PKiKP 03 38 52.3 +1.5
baz=117
V25A Rancho No Teng 117.38 45 ⇓PKiKP PKiKP 03 38 52.2 +1.5
baz=117
EYMN Ely 117.39 27 *e*PKPdf PKPdf 03 38 50.9 +0.5
X24A Lazy VL Ranch, 117.44 46 ⇑PKiKP PKiKP 03 38 51.8 +0.9
baz=117
Z23A Rita Site, Whi 117.48 48 ⇑PKiKP PKiKP 03 38 52.4 +1.4
baz=118
PMRV Marv??o 117.48 320 *i* PKPdf PKPdf 03 38 51.3 +0.5
PMRV *e*SKPdf SKPdf 03 42 06.7 +0.3
U26A Atchley Ranch, 117.70 44 ⇓PKiKP PKiKP 03 38 52.7 +1.4
baz=118
Y24A Capitan 117.75 47 ⇑PKiKP PKiKP 03 38 52.7 +1.2
baz=118
123A Bell Site, Whi 117.75 49 ⇓PKiKP PKiKP 03 38 52.9 +1.4
baz=118
ECSD EROS Data Cent 117.77 33 *e*PKPdf PKPdf 03 38 51.0 -0.2
W25A X Bar L Ranch, 117.81 45 ⇑PKiKP PKiKP 03 38 52.8 +1.2
baz=118
223A Chaparral, Ant 117.92 49 ⇓PKiKP PKiKP 03 38 52.5 +0.7
baz=118
PESTR Estremoz 117.93 320 *i* PKPdf PKPdf 03 38 51.9 +0.3
PBAR Barrancos 117.96 319 *i* PKPdf PKPdf 03 38 52.2 +0.5
PBAR Barrancos 117.96 319 *e*PP PP 03 40 07.2 -1.2
PBAR *e*SKPdf SKPdf 03 42 07.3 -0.1
X25A Clemmons Ranch 118.01 46 ⇓PKiKP PKiKP 03 38 52.2 +0.2
baz=118
PTOM Tomar 118.02 321 *i* PKPdf PKPdf 03 38 52.3 +0.5
PTOM *e*SKPdf SKPdf 03 42 07.9 +0.5
Z24A Sheeppen Canyo 118.09 47 ⇑PKiKP PKiKP 03 38 53.1 +1.0
baz=118
PMTG Montargil 118.22 320 *i* PKPdf PKPdf 03 38 52.1 -0.1
Y25A Mesa, Roswell 118.29 47 ⇓PKiKP PKiKP 03 38 53.1 +0.6
baz=118
W26A Owens Ranch, T 118.36 45 ⇑PKiKP PKiKP 03 38 53.2 +0.6
baz=118
BGNE Belgrade 118.39 36 ⇓PKiKP PKiKP 03 38 52.3 -0.2
baz=118
EVO Evora 118.39 320 ⇑*i*PKIKP PKPdf 03 38 53.1 +0.6
comp=Z,295nm,1.3s
EVO Evora 118.39 320 *i* PKPdf PKPdf 03 38 53.1 +0.6
EVO *e*SKPdf SKPdf 03 42 08.6 +0.4
EVOP Sao Brissos 118.47 320 ⇑*i*PKPdf PKPdf 03 38 53.1 +0.4
EVOP Sao Brissos 118.47 320 ⇑*i*PKIKP PKPdf 03 38 53.1 +0.4
224A Cornudas Mount 118.57 49 ⇓PKiKP PKiKP 03 38 53.1 0.0
baz=119
PBEJ Beja 118.59 319 *i* PKPdf PKPdf 03 38 53.5 +0.6
PBEJ Beja 118.59 319 *e*PP PP 03 40 13.3 +0.6
PBEJ *e*SKPdf SKPdf 03 42 09.2 +0.6
Z25A Roswell 118.59 47 ⇓PKiKP PKiKP 03 38 53.7 +0.6
baz=119
X26A CR and CF Fran 118.60 45 ⇓PKiKP PKiKP 03 38 53.6 +0.5
baz=119
SCHQ Schefferville 118.74 8 PKP PKPdf 03 38 53.3 +0.6
comp=Z,13nm,0.3s,baz=13,slow=3.4,SNR=83
SCHQ SKP 03 42 08.8
comp=Z,9.7nm,0.8s,baz=16,slow=1.5,SNR=5.2
SCHQ PKKPbc PKKPbc 03 49 08.3 -3.0
comp=Z,42nm,1.2s,baz=156,slow=3.3,SNR=8.1
SCHQ SKKPbc 03 52 34.7
comp=Z,9.0nm,0.8s,baz=96,slow=1.1,SNR=5.5
SCHQ Schefferville 118.74 8 *e*PKPdf PKPdf 03 38 53.3 +0.6
SCHQ SKP 03 42 08.8
SCHQ PKKPbc PKKPbc 03 49 08.3 -3.0
SCHQ SKKPbc 03 52 34.7
SPMN St. Paul 118.75 30 ⇓PKiKP PKiKP 03 38 53.1 +0.1
baz=119
PVAQ Vaqueiros 118.84 319 *i* PKPdf PKPdf 03 38 54.0 +0.6
PVAQ Vaqueiros 118.84 319 *e*PP PP 03 40 14.0 -0.5
PVAQ *e*SKPdf SKPdf 03 42 10.0 +0.9
MNTX Cornudas Mount 118.85 49 ⇓PKiKP PKiKP 03 38 54.5 +0.8
baz=119
MNTX Cornudas Mount 118.85 49 *e*PKPdf PKPdf 03 38 54.5 +0.8
W27A Bowe Ranch, En 118.86 45 ⇑PKiKP PKiKP 03 38 54.2 +0.6
baz=119
324A Moseley Ranch, 118.90 49 ⇓PKiKP PKiKP 03 38 54.8 +1.0
baz=119
Y26A Elida 118.91 46 ⇑PKiKP PKiKP 03 38 54.5 +0.8
baz=119
PCVE Castro Verde 118.92 319 *i* PKPdf PKPdf 03 38 54.2 +0.6
PCVE *e*SKPdf SKPdf 03 42 10.0 +0.8
125A Gardner Draw, 118.93 48 ⇓PKiKP PKiKP 03 38 54.4 +0.6
baz=119
PMAFR Mafra 118.95 321 *i* PKPdf PKPdf 03 38 54.0 +0.4
PNCL Nicolau / Gran 118.97 320 *i* PKPdf PKPdf 03 38 54.3 +0.6
PNCL *e*SKPdf SKPdf 03 42 10.0 +0.7
CBKS Cedar Bluff 119.00 39 ⇑PKiKP PKiKP 03 38 54.2 +0.4
baz=119
LIS Lisbon 119.01 320 *e*P PKPdf 03 38 52.1 -1.6
LIS AMS AMS 04 35 02.3
comp=E,2μm,22.2s
LIS Lisbon 119.01 320 *e*PKIKP PKPdf 03 38 52.1 -1.6
X27A F and S Farms, 119.06 45 ⇑PKiKP PKiKP 03 38 54.8 +0.8
baz=119
PBDV Barranco-do-Ve 119.07 318 *i* PKPdf PKPdf 03 38 54.9 +1.0
PBDV Barranco-do-Ve 119.07 318 *e*PP PP 03 40 15.7 -0.4
225A Deer Hill, Car 119.08 48 ⇑PKiKP PKiKP 03 38 54.9 +0.8
baz=119
Z26A Caprock 119.13 47 ⇑PKiKP PKiKP 03 38 54.5 +0.3
baz=119
325A Bean Ranch, Si 119.32 49 ⇓PKiKP PKiKP 03 38 55.3 +0.7
baz=119
GDL2 Guadalupe Moun 119.37 48 *e*PKPdf PKPdf 03 38 55.7 +1.1
Y27A Causey 119.41 46 ⇓PKiKP PKiKP 03 38 55.1 +0.4
baz=119
126A Clayton Basin, 119.41 47 ⇑PKiKP PKiKP 03 38 55.0 +0.3
baz=119
PTEO Sao Teotonio 119.42 319 *i* PKPdf PKPdf 03 38 55.3 +0.8
MORF Marmelete 119.51 319 *i* PKPdf PKPdf 03 38 55.4 +0.7
MORF *e*SKPdf SKPdf 03 42 11.2 +0.8
MORF Marmelete 119.51 319 *e*PKIKP PKPdf 03 38 54.8 +0.1
MORF *e* 03 40 19.2
425A Indio Mountain 119.58 50 ⇑PKiKP PKiKP 03 38 55.7 +0.6
baz=120
226A Malaga, Loving 119.63 48 ⇓PKiKP PKiKP 03 38 56.0 +0.8
baz=120
MSTX Muleshoe 119.64 46 ⇑PKiKP PKiKP 03 38 55.5 +0.3
baz=120
Z27A Tatum 119.66 46 ⇑PKiKP PKiKP 03 38 55.5 +0.3
baz=120
PFVI Vila Bisbo 119.72 319 *i* PKPdf PKPdf 03 38 55.8 +0.7
PFVI Vila Bisbo 119.72 319 *e*PP PP 03 40 20.9 +0.4
PFVI *e*SKPdf SKPdf 03 42 11.3 +0.5
127A Arkansas Junct 119.88 47 ⇑PKiKP PKiKP 03 38 56.1 +0.5
baz=120
AMTX Amarillo 119.92 44 ⇑PKiKP PKiKP 03 38 56.4 +0.7
baz=120
AMTX Amarillo 119.92 44 *e*PKPdf PKPdf 03 38 56.8 +1.2
326A Caldwell Ranch 120.09 49 ⇓PKiKP PKiKP 03 38 56.5 +0.4
baz=120
227A Bennet, Jal 120.26 48 ⇑PKiKP PKiKP 03 38 57.1 +0.7
baz=120
426A McDonald Obser 120.36 49 ⇓PKiKP PKiKP 03 38 57.4 +0.7
baz=120
327A Balmorhea Ranc 120.42 48 ⇓PKiKP PKiKP 03 38 57.3 +0.5
baz=120
526A Mary Lane Ranc 120.60 50 ⇓PKiKP PKiKP 03 38 58.0 +0.8
baz=121
427A Hayter Ranch, 120.75 49 ⇓PKiKP PKiKP 03 38 58.1 +0.7
baz=121
KSU1 Kansas State U 120.75 37 *e*PKPdf PKPdf 03 38 57.4 +0.4
626A Big Bend Ranch 120.81 51 ⇑PKiKP PKiKP 03 38 58.2 +0.6
baz=121
SCIA State Center 120.85 33 *e*PKPdf PKPdf 03 38 57.8 +0.7
328A Wristen Ranch, 120.93 48 ⇓PKiKP PKiKP 03 38 58.4 +0.6
baz=121
527A Woodward Ranch 120.93 50 ⇓PKiKP PKiKP 03 38 58.7 +0.9
baz=121
TORD Torodi Ar. Bea 121.13 289 PKP PKPdf 03 38 57.8 -0.6

comp=E,100nm,0.9s,baz=52,slow=1.4,SNR=166
TORD pPKP pPKPdf 03 39 52.0 -0.5
comp=E,15nm,0.7s,baz=57,slow=1.2,SNR=2.6
TORD SKP 03 42 13.4
comp=E,29nm,0.9s,baz=53,slow=1.4,SNR=6.8
TORD PKKPab PKKPab 03 49 03.1 +0.2
comp=E,10nm,1.0s,baz=266,slow=2.5,SNR=14
TORD Torodi Ar. Bea 121.13 289 PKP PKPdf 03 38 57.8 -0.6
TORD pPKP pPKPdf 03 39 52.0 -0.5
TORD SKP 03 42 13.4
TORD PKKPab PKKPab 03 49 03.1 +0.2
TXAR Lajitas Array 121.27 51 Pdiff Pdif 03 35 38.1 +13
comp=E,0.3nm,0.7s,baz=339,slow=3.1,SNR=3.6
TXAR PKP PKPdf 03 38 59.5 +1.1
comp=E,13nm,0.8s,baz=246,slow=1.3,SNR=46
TXAR SKP 03 42 14.8
comp=E,6.2nm,0.7s,baz=332,slow=2.2,SNR=5.3
TXAR PKKPab PKKPab 03 49 00.2 -2.2
comp=E,18nm,1.1s,baz=126,slow=6.4,SNR=16
TXAR PKPPKP 03 57 44.6
comp=E,1.5nm,1.1s,baz=128,slow=3.8,SNR=3.8
TXAR Lajitas Array 121.27 51 Pdif Pdif 03 35 38.1 +13
TXAR PKP PKPdf 03 38 59.5 +1.1
TXAR SKP 03 42 14.8
TXAR PKKPab PKKPab 03 49 00.2 -2.2
TXAR P'P' 03 57 44.6
TXAR Lajitas Array 121.27 51 P Pdif 03 35 38.2 +13
TXAR 03 38 59.5
428A Kincaid Ranch, 121.34 49 ⇑PKiKP PKiKP 03 38 59.7 +1.1
baz=121
627A Terlingua Ranc 121.43 50 ⇑PKiKP PKiKP 03 38 59.4 +0.7
baz=121
528A Cox Ranch, San 121.54 49 ⇓PKiKP PKiKP 03 38 59.6 +0.7
baz=122
JFWS Jewell Farm 121.69 30 *e*PKPdf PKPdf 03 38 58.5 -0.3
JFWS Jewell Farm 121.69 30 *e*PKIKP PKPdf 03 38 58.5 -0.2
628A Black Gap, Mar 121.80 50 ⇑PKiKP PKiKP 03 39 00.3 +0.8
baz=122
WMOK Wichita Mounta 121.99 43 *e*PKPdf PKPdf 03 38 59.8 +0.2
WMOK Wichita Mounta 121.99 43 *e*PKIKP PKPdf 03 38 59.8 +0.2
TUL1 Tulsa 123.25 40 ⇑PKiKP PKiKP 03 39 02.6 +0.4
baz=123
JCT Junction City 123.61 47 ⇑PKiKP PKiKP 03 39 03.5 +0.4
baz=124
JCT Junction City 123.61 47 *e*PKPdf PKPdf 03 39 03.5 +0.7
JCT Junction City 123.61 47 *e*PKIKP PKPdf 03 39 03.5 +0.7
RPN Rapa Nui 123.77 119 PKP PKPdf 03 39 04.9 +1.7
baz=303,slow=2.4
RPN Rapa Nui 123.77 119 PKP PKPdf 03 39 04.9 +1.7
RPN Rapa Nui 123.77 119 PKIKP PKPdf 03 39 04.9 +1.7
HDIL Hopedale 123.89 32 *e*PKPdf PKPdf 03 39 02.9 -0.2
RFTA Plano 124.40 43 *e*PKPdf PKPdf 03 39 05.5 +1.3
CCM Cathedral Cave 124.60 35 *e*PKPdf PKPdf 03 39 04.5 +0.1
CCM Cathedral Cave 124.60 35 *e*PKIKP PKPdf 03 39 04.6 +0.1
SFIN Scholer Farm 125.15 30 ⇓PKiKP PKiKP 03 39 05.7 -0.1
baz=125
MIAR Mount Ida 125.52 40 *e*PKPdf PKPdf 03 39 07.5 +1.2
MIAR Mount Ida 125.52 40 *e*PKIKP PKPdf 03 39 07.5 +1.2
OLIL Olney 125.85 32 *e*PKPdf PKPdf 03 39 07.8 +0.9
SIUC Southern Illin 125.98 34 *e*PKPdf PKPdf 03 39 07.9 +0.8
UALR University of 126.15 39 *e*PKPdf PKPdf 03 39 07.5 0.0
BLO Bloomington 126.35 31 *e*PKPdf PKPdf 03 39 08.5 +0.7
BLO Bloomington 126.35 31 *e*PKIKP PKPdf 03 39 08.5 +0.7
PQI Presque Isle 126.42 12 *e*PKPdf PKPdf 03 39 08.0 +0.3
PARMO Parma 126.42 35 *e*PKPdf PKPdf 03 39 08.7 +0.7
NATX Nacogdoches 126.52 43 *e*PKPdf PKPdf 03 39 09.7 +1.3
KVTX Kingsville 126.57 49 *e*PKPdf PKPdf 03 39 10.5 +2.0
USIN University of 126.65 33 *e*PKPdf PKPdf 03 39 09.1 +0.7
HBAR Harrisburg 126.66 37 *e*PKPdf PKPdf 03 39 09.5 +1.0
GNAR Gosnell 126.75 36 *e*PKPdf PKPdf 03 39 09.7 +1.0
HKT Hockley 126.77 46 *e*PKPdf PKPdf 03 39 10.5 +1.7
HKT Hockley 126.77 46 *e*PKIKP PKPdf 03 39 10.5 +1.6
GLAT Glass 126.96 35 *e*PKPdf PKPdf 03 39 10.4 +1.3
PMPST Porto Santo, M 127.06 319 *e*PKPdf PKPdf 03 39 10.6 +1.3
PMPS Porto Santo 127.08 319 *e*PKPdf PKPdf 03 39 10.0 +0.6
UTMT University of 127.16 35 *e*PKPdf PKPdf 03 39 09.9 +0.4
WCI Wyandotte Cave 127.18 31 *e*PKPdf PKPdf 03 39 10.3 +0.9
WCI Wyandotte Cave 127.18 31 *e*PKIKP PKPdf 03 39 10.3 +0.9
HALT Halls 127.19 36 *e*PKPdf PKPdf 03 39 10.6 +1.1
ACSO Alum Creek Sta 127.23 27 *e*PKPdf PKPdf 03 39 09.5 +0.1
NCB Newcomb 127.37 18 *e*PKPdf PKPdf 03 39 10.6 +1.0
PKME Peaks-Kenny Pk 127.48 13 *e*PKPdf PKPdf 03 39 10.4 +0.6
PMAR Madeira 127.67 320 *e*PKPdf PKPdf 03 39 12.2 +1.7
PMOZ Porto Moniz, M 127.78 320 *e*PKPdf PKPdf 03 39 12.3 +1.6
LBNH Lisbon 127.79 16 *e*PKPdf PKPdf 03 39 11.3 +0.9
LBNH Lisbon 127.79 16 *e*PKIKP PKPdf 03 39 11.3 +0.9
WVT Waverly 127.89 34 *e*PKPdf PKPdf 03 39 10.8 0.0
WVT Waverly 127.89 34 *e*PKIKP PKPdf 03 39 10.9 +0.1
WVL Waterville 128.06 14 *e*PKPdf PKPdf 03 39 10.6 -0.3
ACCN Adirondack Com 128.07 18 *e*PKPdf PKPdf 03 39 11.1 +0.2
OXF Oxford 128.11 37 *e*PKPdf PKPdf 03 39 11.6 +0.3
OXF Oxford 128.11 37 *e*PKIKP PKPdf 03 39 11.6 +0.3
HNH Hanover 128.18 16 *e*PKPdf PKPdf 03 39 11.1 -0.1
BINY Binghamton 128.38 20 *e*PKPdf PKPdf 03 39 12.7 +1.1
EMMW East Machias 128.41 12 *e*PKPdf PKPdf 03 39 11.2 -0.3
PLAL Pickwick Lake 128.57 36 *e*PKPdf PKPdf 03 39 12.1 0.0
TRY Troy 128.67 18 *e*PKPdf PKPdf 03 39 11.9 -0.2
DBIC Dimbokro 128.96 283 PKP PKPdf 03 39 13.3 -0.2
comp=E,193nm,1.1s,baz=61,slow=1.9,SNR=69
DBIC SKPbc 03 42 14.8
comp=E,178nm,0.8s,baz=62,slow=4.3,SNR=36
DBIC Dimbokro 128.96 283 *e*PKPdf PKPdf 03 39 13.3 -0.2
DBIC SKPbc 03 42 14.8
DBIC Dimbokro 128.96 283 *e*PKIKP PKPdf 03 39 13.3 -0.2
SSPA Standing Stone 129.05 23 *e*PKPdf PKPdf 03 39 13.1 +0.2
PDA Ponta Delgada 129.06 331 *e*PKP PKPdf 03 39 14.8 +1.8
ADH Angra Heroismo 129.08 333 *e*PKPdf PKPdf 03 39 14.8 +1.8
LIC Lamto 129.22 283 ⇑*i*PKIKP PKPdf 03 39 13.6 -0.4
comp=E,946nm,1.3s
LIC Lamto 129.22 283 ⇑*i*PKPdf PKPdf 03 39 13.6 -0.4
PSMN Pico do Norte, 129.34 329 *e*PKP PKPdf 03 39 14.5 +0.9
PSMA Santa Maria 129.38 329 *e*PKP PKPdf 03 39 14.9 +1.3
SWET Sewanee 129.61 34 *e*PKPdf PKPdf 03 39 13.5 -0.7
USHA Ushuaia 129.81 170 SKPbc 03 42 17.7
comp=E,151nm,0.9s,baz=219,slow=2.5,SNR=21
PAL Palisades 130.15 19 *e*PKPdf PKPdf 03 39 16.1 +1.2
PAL Palisades 130.15 19 *e*PKIKP PKPdf 03 39 16.2 +1.2
TKL Tuckaleechee C 130.44 32 PKP PKPdf 03 39 16.6 +0.9
comp=E,25nm,0.4s,baz=316,slow=3.8
TKL pPKP pPKPdf 03 40 09.7 -0.1
comp=E,30nm,0.9s,baz=249,slow=3.0,SNR=2.8
TKL SKPbc SKPbc 03 42 20.4 +0.8
comp=E,144nm,1.1s,baz=270,slow=0.7,SNR=27
TKL Tuckaleechee C 130.44 32 PKP PKPdf 03 39 16.6 +0.9
TKL pPKP pPKPdf 03 40 09.7 -0.1
TKL SKPbc SKPbc 03 42 20.4 +0.8
TKL Tuckaleechee C 130.44 32 PKIKP PKPdf 03 39 16.6 +0.9
LRAL Lakeview Retre 130.58 36 *e*PKPdf PKPdf 03 39 16.9 +0.8
BLA Blacksburg 130.85 28 *e*PKPdf PKPdf 03 39 17.2 +0.8
BLA Blacksburg 130.85 28 *e*PKIKP PKPdf 03 39 17.2 +0.8
SHEL Horse Pasture 131.20 254 *e*PKPdf PKPdf 03 39 18.4 +0.8
SHEL Horse Pasture 131.20 254 *e*PKIKP PKPdf 03 39 18.4 +0.8
CBN Corbin 131.34 24 *e*PKPdf PKPdf 03 39 19.4 +2.1
KMSC Kings Mountain 132.08 30 ⇑PKiKP PKiKP 03 39 19.3 -0.6
baz=132
CMIG Matias Romero 134.06 60 PKhKP PKPpre 03 39 13.1
comp=E,1.3nm,0.4s,baz=297,slow=3.0,SNR=5.8
CMIG PKP PKPdf 03 39 22.0 -1.0
comp=E,12nm,0.9s,baz=280,slow=2.9,SNR=12
CMIG SKPbc SKPbc 03 42 33.6 +1.0
comp=E,29nm,0.7s,baz=309,slow=3.0,SNR=26
CMIG Matias Romero 134.06 60 PKPpre PKPpre 03 39 13.1
CMIG PKP PKPdf 03 39 22.0 -1.0
CMIG SKPbc SKPbc 03 42 33.6 +1.0
EFI East Falkland 134.15 177 *e*PKPdf PKPdf 03 39 22.9 +0.7
EFI East Falkland 134.15 177 *e*PKIKP PKPdf 03 39 22.9 +0.8
BBTS Babate 137.25 299 SKPbc SKPbc 03 42 43.0 +0.5
comp=E,228nm,0.7s,baz=102,slow=0.4,SNR=32
BBTS Babate 137.25 299 SKPbc SKPbc 03 42 43.0 +0.5
TEIG Tepich 137.91 51 PKP PKPdf 03 39 30.6 +0.6
comp=E,18nm,0.9s,baz=299,slow=7.3,SNR=4.7
TEIG SKPbc SKPbc 03 42 44.5 +0.1
comp=E,17nm,0.8s,baz=338,slow=17,SNR=5.6
TEIG PKPPKP 03 57 12.0
comp=E,8.3nm,0.5s,baz=60,slow=4.1,SNR=6.5
TEIG Tepich 137.91 51 PKP PKPdf 03 39 30.6 +0.6
TEIG SKPbc SKPbc 03 42 44.5 +0.1
TEIG P'P' 03 57 12.0
TGUH Tegucigalpa,Un 141.96 59 *e*PKPdf PKPdf 03 39 35.9 -1.6
PLCA Paso Flores 142.33 160 PKhKP PKPpre 03 39 34.1
comp=E,39nm,0.8s,baz=220,slow=3.5,SNR=52
PLCA SKPbc SKPbc 03 42 56.9 +1.4
comp=E,66nm,0.9s,baz=195,slow=3.8,SNR=13
PLCA Paso Flores 142.33 160 *e*PKPdf PKPpre 03 39 34.1
PLCA SKPbc SKPbc 03 42 56.9 +1.4
PLCA Paso Flores 142.33 160 *e*PKIKP PKPpre 03 39 34.1
SACV Santiago Islan 143.11 304 *e*PKPdf PKPdf 03 39 40.3 +0.7
CCHI Chillan 145.34 155 *e*P PKPdf 03 39 40.6 -2.3
JTS JuntasAbangare 145.71 62 PKPbc PKPbc 03 39 45.5 +0.6
comp=E,41nm,0.4s,baz=345,slow=3.7,SNR=44
JTS pPKPbc pPKPbc 03 40 35.7 -2.4
comp=E,136nm,1.0s,baz=301,slow=5.3,SNR=4.0
JTS JuntasAbangare 145.71 62 *e*PKPdf PKPdf 03 39 44.6 +0.5
JTS PKPbc PKPbc 03 39 45.5 +0.6
JTS pPKPbc pPKPbc 03 40 35.7 -2.4
JTS JuntasAbangare 145.71 62 PKP2 PKPab 03 39 45.5 0.0
JTS pmax pmax
comp=Z,41nm,0.4s
MTDJ Mount Denham 147.04 43 *e*PKPdf PKPdf 03 39 46.5 +0.3
NICH Los Niches 147.06 154⇑*e*P PKPdf 03 39 46.5 +0.7
TRQA Tornquist 147.15 169 *e*PKPdf PKPdf 03 39 46.6 +0.7
GTBY Guantanamo Bay 147.38 38 *e*PKPdf PKPbc 03 39 49.2 -0.3
TACH Talagante 148.33 153 *e*P PKPdf 03 39 49.0 +1.0
LMEL Las Melosas 148.49 154 *e*P PKPdf 03 39 49.5 +1.3
PCH Pirque 148.54 154 *e*P PKPdf 03 39 49.5 +1.2
CLCH Cerro Calan 148.72 154 *e*P PKPdf 03 39 48.7 0.0
ROCH El Roble 148.87 152 *e*P PKPdf 03 39 45.5 -3.3
PEL Peldehue 148.87 153⇓*e*P PKPdf 03 39 49.3 +0.5
FCH Farellones 148.89 154 *e*P PKPdf 03 39 50.2 +1.3
JACH Jahuel 149.30 153 *e*P PKPbc 03 39 55.4 +1.3
SDDR Presa de Saban 150.34 34 *e*PKPbc PKPbc 03 39 57.9 +0.9
BCIP Isla Barro Col 150.69 60 *e*PKPdf PKPdf 03 39 51.5 -0.7
CFAA Coronel Fontan 151.25 155 PKP PKPdf 03 39 53.8 +1.1
comp=Z,9.1nm,1.2s,baz=244,slow=1.9,SNR=61
CFAA PKPbc PKPbc 03 39 59.7 +0.9
comp=Z,46nm,0.8s,baz=232,slow=1.9,SNR=201
CFAA Coronel Fontan 151.25 155 PKP PKPdf 03 39 53.8 +1.1
CFAA PKPbc PKPbc 03 39 59.7 +0.9
TLL Tololo Astrono 151.27 150 *e*P PKPdf 03 39 51.4 -1.3
LCO Las Campanas 152.26 148 *e*PKPdf PKPdf 03 39 55.6 +1.4
LRS Lares 153.15 27 *e*PKPbc PKPbc 03 40 03.8 +0.4
CRPR Cabo Rojo, PR 153.28 28 *e*PKPbc PKPbc 03 40 04.5 +0.8
CELP Cerrillos 153.46 27 *e*PKPdf PKPdf 03 39 56.8 +0.6
CELP *e*PKPbc PKPbc 03 40 04.8 +0.8
OBIP Obispado Ponce 153.48 27 *e*PKPdf PKPdf 03 39 57.1 +0.8
OBIP *e*PKPbc PKPbc 03 40 04.7 +0.6
OBIP *e*PKPab PKPab 03 40 17.8 +0.7
SJG San Juan 153.62 26 PKP PKPdf 03 39 57.8 +1.3
comp=Z,28nm,0.9s,baz=270,slow=1.0,SNR=5.1
SJG PKPbc PKPbc 03 40 04.9 +0.5
comp=Z,78nm,1.1s,baz=270,slow=3.0,SNR=12
SJG PKPab PKPab 03 40 18.4 +0.8
comp=Z,57nm,0.7s,baz=102,slow=0.2,SNR=6.0
SJG San Juan 153.62 26 *e*PKPdf PKPdf 03 39 56.8 +0.4
SJG PKP PKPdf 03 39 57.8 +1.3
SJG *e*PKPbc PKPbc 03 40 04.5 +0.2
SJG PKPbc PKPbc 03 40 04.9 +0.5
SJG *e*PKPab PKPab 03 40 18.1 +0.5
SJG PKPab PKPab 03 40 18.4 +0.8
SJG San Juan 153.62 26 *e*PKIKP PKPdf 03 39 56.8 +0.3
SJG 03 39 57.8
SJG *e* 03 40 18.1
ICM Isla Caja Muer 153.65 27 *e*PKPdf PKPdf 03 39 55.9 -0.7
ICM *e*PKPbc PKPbc 03 40 04.3 -0.1
ICM *e*PKPab PKPab 03 40 18.7 +1.0
MTP Monte Pirata 153.88 25 *e*PKPdf PKPdf 03 39 57.3 +0.5
MTP *e*PKPbc PKPbc 03 40 05.5 +0.5
STVI Saint Thomas 153.89 23 *e*PKPdf PKPdf 03 39 56.8 0.0
STVI *e*PKPbc PKPbc 03 40 05.3 +0.4
CDVI St. Croix 154.51 23 *e*PKPdf PKPdf 03 39 58.2 +0.5
CDVI *e*PKPdf PKPbc 03 40 06.0 -0.3
CDVI *e*PKPab PKPab 03 40 22.4 +1.0
OTAV Otavalo 155.33 77 *e*PKPdf PKPdf 03 40 00.3 +1.3
ATAH Atahualpa 156.20 95 PKP PKPdf 03 40 03.0 +2.9
comp=Z,87nm,1.2s,baz=281,slow=2.0,SNR=42
ATAH PKPab PKPab 03 40 32.9 +3.8
comp=Z,39nm,1.0s,baz=317,slow=3.9,SNR=6.8
ATAH Atahualpa 156.20 95 PKP PKPdf 03 40 03.0 +2.9
ATAH PKPab PKPab 03 40 32.9 +3.8
LZG Guadaloupe-1 157.06 18 *e*P PKPab 03 40 32.6 +0.3
NNA Nana 157.07 107 PKP PKPdf 03 40 03.2 +2.0
comp=Z,96nm,1.2s,baz=269,slow=3.3,SNR=12
NNA PKPab PKPab 03 40 34.1 +1.4
comp=Z,16nm,0.6s,baz=269,slow=7.7,SNR=7.7
NNA Nana 157.07 107 *e*PKPdf PKPdf 03 40 01.4 +0.2
NNA PKP PKPdf 03 40 03.2 +2.0
NNA PKPab PKPab 03 40 34.1 +1.4
NNA Nana 157.07 107 *e*PKIKP PKPdf 03 40 01.4 +0.2
PHG Guadaloupe-2 157.22 18 *e*P PKPab 03 40 34.6 +1.6
ROSC El Rosal 157.54 62 PKP PKPdf 03 40 03.6 +1.7
comp=Z,33nm,0.7s,baz=261,slow=13,SNR=13
ROSC El Rosal 157.54 62 PKP PKPdf 03 40 03.6 +1.7
LVC Limon Verde 158.22 142 *e*PKPdf PKPdf 03 40 04.6 +2.2
SDV Santo Domingo 158.28 48 *e*PKPdf PKPdf 03 40 03.4 +0.7
FDF Fort de France 158.58 18 *e*PKPdf PKPdf 03 40 04.3 +1.3
FDF Fort de France 158.58 18 *e*PKIKP PKPdf 03 40 04.3 +1.3
CPUP Villa Florida 159.38 173 PKP PKPdf 03 40 04.8 +1.1
comp=Z,31nm,0.8s,baz=62,slow=0.5,SNR=63
CPUP PKPab PKPab 03 40 43.2 +1.1
comp=Z,71nm,0.8s,baz=167,slow=4.2,SNR=12
CPUP Villa Florida 159.38 173 PKP PKPdf 03 40 04.8 +1.1
CPUP PKPab PKPab 03 40 43.2 +1.1
CPUP Villa Florida 159.38 173 PKIKP PKPdf 03 40 04.8 +1.1
CAM4 Nova Friburgo 159.90 214⇑*i*P PKPdf 03 40 07.7 +3.3
CAM4 *i* 03 40 20.3
CAM4 *i* 03 40 32.7
CAM4 *i* 03 40 47.2
CAM4 *i* 03 40 55.5
CAM4 *i* 03 41 03.9
SPB Sao Paulo 161.03 200 *e*PKPdf PKPdf 03 40 06.8 +1.2
RCBR Riachuelo 161.52 269 PKP PKPdf 03 40 06.9 +0.5
comp=Z,178nm,1.2s,baz=89,slow=0.9,SNR=33
RCBR Riachuelo 161.52 269 *e*PKPdf PKPdf 03 40 06.7 +0.3
RCBR PKP PKPdf 03 40 06.9 +0.5
LPAZ La Paz 163.02 129 PKP PKPdf 03 40 09.8 +2.1
comp=Z,82nm,1.1s,baz=14,slow=1.0,SNR=115
LPAZ PKPab PKPab 03 41 01.2 +2.7
comp=Z,57nm,1.0s,baz=251,slow=1.4,SNR=11
LPAZ La Paz 163.02 129 *e*PKPdf PKPdf 03 40 09.7 +2.0
LPAZ PKP PKPdf 03 40 09.8 +2.1
LPAZ PKPab PKPab 03 41 01.2 +2.7
LPAZ La Paz 163.02 129 *e*PKIKP PKPdf 03 40 09.7 +1.9
SIV San Ignacio 167.96 148 PKP PKPdf 03 40 12.6 +0.8
comp=Z,72nm,1.0s,baz=203,slow=1.2,SNR=124
SIV pPKP pPKPdf 03 41 04.3 -2.1
comp=Z,15nm,1.0s,baz=245,slow=2.8,SNR=2.3
SIV PKPab PKPab 03 41 21.7 +1.6
comp=Z,86nm,1.2s,baz=227,slow=5.1,SNR=10
SIV San Ignacio 167.96 148 PKP PKPdf 03 40 12.6 +0.8
SIV pPKP pPKPdf 03 41 04.3 -2.1
SIV PKPab PKPab 03 41 21.7 +1.6
SAML Samuel 170.81 111 *e*PKPdf PKPdf 03 40 13.7 0.0
SAML *e*PKPab PKPab 03 41 33.9 +0.8

JMA 25 03:30:34.6±0.1, 28°.69N×129°.55E, h19km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.28**	**170**	P	Pg	03 30 40.8	-0.1
JAM				S	Sg	03 30 44.7	-0.5
JZK	**Kikaishima**	**0.53**	**135**	P	Pg	03 30 44.7	-0.5
JZK				S	Sg	03 30 52.4	+0.1
JTK	**Tokunoshima**	**1.04**	**211**	P	Pb	03 30 53.7	-0.4
JTK				S	Sb	03 31 07.7	+0.3
JNN	**Nakanoshima**	**1.18**	**14**	P	Pn	03 30 55.3	-0.8
JKC	**Kuchinoerabu**	**1.85**	**18**	P	Pn	03 31 04.9	-0.5
JKC				*e*S	Sn	03 31 26.3	-2.0
JIH	**Iheya**	**2.16**	**221**	P	Pn	03 31 10.2	+0.6
JOW	**Kunigami**	**2.17**	**212**	P	Pn	03 31 10.6	+0.9

*CSEM **25** 03:31:54.2±0.2, 44°.59N×10°.36E, h30km, ML2.1/5, Error ellipse: s-maj=5.0km s-min=4.0km az=97.0*
*GEN **25** 03:31:55.0, 44°.56N×10°.39E, h21km, ML1.7*
ROM 25 03:31:55.2±0.1, 44°.55N×10°.37E, h26km±2km, Md2.3/11, Ml2.2/7, Error ellipse: s-maj=3.8km s-min=1.5km az=83.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.14**	**168**	Pg	Pb	03 31 59.9	-0.3
ERBM				Sg	Sb	03 32 04.6	+1.0
	220nm,0.4s						
PRMA	**PARMA**	**0.21**	**349**	Pg	Pb	03 32 00.6	-0.5
PRMA				Sg	Sb	03 32 06.0	+0.9
	184nm,0.4s						
PRMA	**PARMA**	**0.21**	**349**	Pg	Pb	03 32 00.6	-0.5
PRMA				Sg	Sb	03 32 06.0	+0.9
	184nm,0.4s						
GRAM	**Graiana**	**0.23**	**254**	P	Pb	03 32 00.7	-0.6
GRAM				S	Sb	03 32 04.6	-0.8
GSCL	**Gusciola**	**0.25**	**143**	Pg	Pb	03 32 01.5	-0.1
GSCL				Sg	Sb	03 32 06.5	+0.6
	94nm,0.6s						
GSCL	**Gusciola**	**0.25**	**143**	Pg	Pb	03 32 01.5	-0.1
GSCL				Sg	Sb	03 32 06.5	+0.6
	94nm,0.6s						
NOVE	**Novellara**	**0.35**	**45**	Pg	Pb	03 32 02.5	-0.4
NOVE				Sg	Sb	03 32 09.9	+1.7
	252nm,0.8s						
NOVE	**Novellara**	**0.35**	**45**	Pg	Pb	03 32 02.5	-0.4
NOVE				Sg	Sb	03 32 09.9	+1.7
	252nm,0.8s						
CODM	**Codolo**	**0.41**	**247**	P	Pb	03 32 03.4	-0.5
CODM				S	Sb	03 32 09.2	-0.6
ZCCA	**Zocca**	**0.48**	**115**	Pg	Pb	03 32 06.3	+1.3
ZCCA	**Zocca**	**0.48**	**115**	Pg	Pb	03 32 06.3	+1.3
BDI	**Bagni Di Lucca**	**0.52**	**162**	Pg	Pb	03 32 05.8	+0.1
BDI				Sg	Sb	03 32 13.7	+0.9
	80nm,0.7s						
BDI	**Bagni Di Lucca**	**0.52**	**162**	Pg	Pb	03 32 05.8	+0.1
BDI				Sg	Sb	03 32 13.7	+0.9
	80nm,0.7s						
SC2M	**Scurtabo**	**0.62**	**256**	Pg	Pb	03 32 07.5	+0.1
SC2M	**Scurtabo**	**0.62**	**256**	P	Pb	03 32 07.1	-0.3
SC2M	**Scurtabo**	**0.62**	**256**	Pg	Pb	03 32 07.5	+0.1
SC2M				S	Sb	03 32 15.3	-0.4
MAIM	**Mastiano**	**0.64**	**172**	Pg	Pb	03 32 08.2	+0.4
MAIM				Sg	Sb	03 32 17.3	+0.9
MAIM	**Mastiano**	**0.64**	**172**	P	Pb	03 32 07.7	-0.1
MAIM	**Mastiano**	**0.64**	**172**	Pg	Pb	03 32 08.2	+0.4
MAIM				S	Sb	03 32 16.0	-0.4
MAIM				Sg	Sb	03 32 17.3	+0.9
BOB	**Bobbio (Coli)**	**0.69**	**288**	Pg	Pb	03 32 09.7	+1.0
BOB	**Bobbio (Coli)**	**0.69**	**288**	Pg	Pb	03 32 09.7	+1.0
SALO	**Salr**	**1.07**	**6**	Pg	Pn	03 32 15.4	+0.9
SALO				Sg	Sn	03 32 29.6	+1.1
	168nm,0.5s						
SALO	**Salr**	**1.07**	**6**	Pg	Pn	03 32 15.4	+0.9
SALO				Sg	Sn	03 32 29.6	+1.1
	168nm,0.5s						
MDI	**Monti di Nese**	**1.31**	**339**	Pg	Pn	03 32 18.5	+0.7
	40nm,0.5s						
MDI	**Monti di Nese**	**1.31**	**339**	Pg	Pn	03 32 18.5	+0.7
	40nm,0.5s						
MABI	**Malga Bissina**	**1.50**	**4**	Pg	Pn	03 32 21.4	+0.9
MABI	**Malga Bissina**	**1.50**	**4**	Pg	Pn	03 32 21.4	+0.9
CTI	**Castel Tesino**	**1.75**	**31**	Pg	Pn	03 32 24.3	+0.5
	36nm,0.2s						

*IDC **25** 03:50:20.5±3.4, 51°.02N×179°.30W, h0km, mb3.2/3, mb1 3.7/5, mb1mx3.4/27, mbtmp3.4/5, ML2.4/1, Error ellipse: s-maj=78.0km s-min=14.6km az=6.0*
*ISCJB **25** 03:50:21.9±1.8, 51°.0N±0°.1×179°.33W±0°.09, h24km±10km, mb3.3/3, Error ellipse: s-maj=23.5km s-min=8.8km az=10.4*
*NEIC **25** 03:50:24.1, 51°.08N×179°.52W, h11km, ML2.8(AEIC), After AEIC.*
ISC 25 03:50:21.5±1.8, 51°.0N±0°.1×179°.36W±0°.08, h9km±7km, n17, σ0.071/22, mb3.3/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.91**	**293**	*e*Pg	**Pg**	**03 50 39.1**	**+0.1**
AMKA				*e*S	**Sg**	**03 50 50.7**	**-0.1**
CERAA	**Semis' Rag'd T**	**1.06**	**326**	P	**Pg**	**03 50 42.3**	**+0.4**
CERB	**Semis' Cerberu**	**1.10**	**325**	P	**Pg**	**03 50 42.9**	**+0.2**
CERB				S	**Sg**	**03 50 56.7**	**-0.2**
CESW	**Semis' Southwe**	**1.10**	**323**	P	**Pg**	**03 50 42.6**	**0.0**
LSSE	**Little Sitkin**	**1.58**	**306**	P	**Pn**	**03 50 50.1**	**+0.5**
LSPA	**Little Sitkin**	**1.59**	**306**	P	**Pn**	**03 50 50.0**	**+0.2**
LSPA				S	**Sn**	**03 51 10.7**	**+0.3**
LSNW	**Little Sitkin**	**1.63**	**306**	P	**Pn**	**03 50 50.3**	**0.0**
FX1	**Attu Island--F**	**4.98**	**295**	Pn	**Pn**	**03 51 34.1**	**-2.2**
	0.5nm,0.3s,baz=138,slow=12,SNR=2.0						
FX1				Sn	**Sn**	**03 52 34.1**	**+0.2**
	0.8nm,0.3s,baz=156,slow=20,SNR=1.6						
FX1	**Attu Island--F**	**4.98**	**295**	Pn	**Pn**	**03 51 34.1**	**-2.2**
FX1				Sn	**Sn**	**03 52 34.1**	**+0.2**
KDAK	**Kodiak Island**	**16.91**	**56**	Pn	**Pn**	**03 54 17.4**	**-0.6**
	0.4nm,0.3s,baz=260,slow=6.1,SNR=7.3						
KDAK	**Kodiak Island**	**16.91**	**56**	Pn	**Pn**	**03 54 17.4**	**-0.6**
ILAR	**Eielson Array**	**21.73**	**38**	P	**P**	**03 55 12.2**	**-0.4**
	0.2nm,0.5s,mb2.8,baz=242,slow=8.5,SNR=4.5						
ILAR	**Eielson Array**	**21.73**	**38**	P	**P**	**03 55 12.2**	**-0.4**
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**03 57 19.4**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=282,slow=7.2,SNR=6.8						
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**03 57 19.4**	**-0.5**
PDAR	**Pinedale Array**	**46.75**	**72**	P	**P**	**03 58 52.5**	**+1.7**
	0.6nm,0.8s,mb3.6,baz=324,slow=2.8,SNR=7.4						
PDAR	**Pinedale Array**	**46.75**	**72**	P	**P**	**03 58 52.5**	**+1.7**

*CSEM **25** 04:14:19.6±0.2, 71°.52N×3°.06W, h2km, mb4.3/25, Error ellipse: s-maj=5.9km s-min=4.8km az=90.0*
*IDC **25** 04:14:19.5±0.6, 71°.48N×3°.51W, h0km, mb3.8/15, mb1 4.0/18, mb1mx3.9/33, mbtmp3.9/18, ML3.7/3, Error ellipse: s-maj=19.0km s-min=11.8km az=41.0*
*ISCJB **25** 04:14:20.2±0.4, 71°.53N±0°.04×2°.5W±0°.1, h10km, mb4.0/42, Error ellipse: s-maj=6.6km s-min=5.1km az=14.7*
*NEIC **25** 04:14:21.1±0.3, 71°.52N×3°.11W, h10km, mb4.6/24, Error ellipse: s-maj=6.4km s-min=4.8km az=94.0*
*NAO **25** 04:14:22.1±5.0, 71°.44N×2°.11W, ML2.8*
*BER **25** 04:14:25.2±3.0, 71°.57N×2°.90W, h10km, ML3.0, ML2.8(NAO)*
ISC 25 04:14:21.3±0.3, 71°.54N±0°.03×3°.0W±0°.1, h10km, n239, σ1.01/244, mb4.0/42, 5C-2D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**6.64**	**113**	*e*P	**Pn**	**04 15 41.0**	**-18**
STEI	**Steigen**	**7.27**	**111**	*e*P	**Pn**	**04 16 07.1**	**-0.3**

NSS	Namsos	8.96	134	eP	Pn	04 16 28.7	-1.8
	SNR=47						
KTK1	Kautokeino	9.17	93	eP	Pn	04 16 31.2	-2.2
KTK1	Kautokeino	9.17	93	eP	Pn	04 16 31.2	-2.2
	SNR=47						
ARA0	ARCESS Array S	9.66	88	Pn	Pn	04 16 39.3	-0.8
	baz=287,slow=11						
ARA0	ARCESS Array S	9.66	88	P	Pn	04 16 39.3	-0.8
	baz=287,slow=10,SNR=47						
ARCES	ARCESS Array B	9.66	88	Pn	Pn	04 16 39.6	-0.5
	comp=Z,2.6nm,0.3s,baz=288,slow=11,SNR=113						
ARCES	ARCESS Array B	9.66	88	Pn	Pn	04 16 39.6	-0.5
ARCES	ARCESS Array B	9.66	88	Pn	Pn	04 16 39.6	-0.5
ARE0	ARCESS Array S	9.66	88	eP	Pn	04 16 39.8	-0.4
ARE0	ARCESS Array S	9.66	88	ePn	Pn	04 16 39.7	-0.4
ARE0	ARCESS Array S	9.66	88	eP	Pn	04 16 39.8	-0.3
	SNR=47						
TBLU	Trondheim	9.72	142	eP	Pn	04 16 37.9	-3.1
TBLU	Trondheim	9.72	142	eP	Pn	04 16 37.9	-3.1
	SNR=47						
KEV	Kevo	10.05	86	ePn	Pn	04 16 45.1	-0.3
KEV	Kevo	10.05	86	ep	Pn	04 16 44.1	-1.3
	comp=Z,8.6nm,0.5s						
KEV	Kevo	10.05	86	eP	Pn	04 16 44.1	-1.3
	comp=Z,8.6nm,0.5s						
KEV	Kevo	10.05	86	ePn	Pn	04 16 45.1	-0.3
SUMG	Summit	10.88	292	i P	Pn	04 16 55.4	-1.4
SUMG	Summit	10.88	292	i P	Pn	04 16 55.5	-1.3
	SNR=46						
RUND	Rundenannen	11.66	159	eP	Pn	04 17 06.6	-0.8
BER	Bergen	11.68	159	eP	Pn	04 17 06.7	-1.1
BER	Bergen	11.68	159	eP	Pn	04 17 06.7	-1.1
	SNR=47						
NB2	NORSAR Subarra	11.94	145	Pn	Pn	04 17 10.1	-1.2
	baz=329,slow=14						
NB2	NORSAR Subarra	11.94	145	P	Pn	04 17 10.1	-1.1
	baz=329,slow=14,SNR=47						
NOA	NORSAR Array B	11.94	145	Pn	Pn	04 17 09.8	-1.4
	comp=Z,0.3nm,0.3s,baz=336,slow=13,SNR=4.6						
NOA				Sn	Sn	04 19 24.6	+0.4
	comp=Z,0.4nm,0.3s,baz=103,slow=19,SNR=4.1						
NOA	NORSAR Array B	11.94	145	Pn	Pn	04 17 09.8	-1.5
NOA				Sn	Sn	04 19 24.6	+0.4
NOA	NORSAR Array B	11.94	145	Pn	Pn	04 17 09.8	-1.4
NOA				Sn	Sn	04 19 24.6	+0.4
NAO01	NORSAR Array S	12.06	146	ePn	Pn	04 17 12.2	-0.7
NAO01	NORSAR Array S	12.06	146	ePn	Pn	04 17 12.1	-0.8
ODD1	Odda	12.30	157	eP	Pn	04 17 15.6	-0.6
ODD1	Odda	12.30	157	eP	Pn	04 17 15.6	-0.6
	SNR=47						
HFS	Hagfors	13.25	141	Pn	Pn	04 17 28.4	-0.7
	baz=347,slow=12						
HFS	Hagfors	13.25	141	Pn	Pn	04 17 28.4	-0.8
	comp=Z,1.0nm,0.3s,baz=346,slow=11,SNR=26						
HFS				Sn	Sn	04 19 48.1	-8.2
	comp=Z,0.5nm,0.3s,baz=334,slow=20,SNR=5.1						
HFS	Hagfors	13.25	141	Pn	Pn	04 17 28.4	-0.8
HFS				Sn	Sn	04 19 48.1	-8.2
HFS	Hagfors	13.25	141	P	Pn	04 17 28.4	-0.8
	baz=347,slow=12,SNR=47						
LVZ	Lovozero	13.38	87	ePn	Pn	04 17 29.9	-0.9
LVZ	Lovozero	13.38	87	ePn	Pn	04 17 29.9	-0.9
FIA0	FINESS Array S	15.18	117	P	Pn	04 17 54.0	-1.4
	baz=334,slow=14						
FINES	FINESS Array B	15.18	117	Pn	Pn	04 17 54.1	-1.2
	comp=Z,0.5nm,0.3s,baz=324,slow=9.2,SNR=20						
FINES	FINESS Array B	15.18	117	Pn	Pn	04 17 54.1	-1.2
FINES	FINESS Array B	15.18	117	Pn	Pn	04 17 54.2	-1.1
JOF	Joensuu	15.58	106	ep	Pn	04 17 56.6	-4.0
	comp=Z,7.3nm,0.6s						
IZAR	Zarasai	20.11	127	eP	P	04 18 55.0	+0.2
IZAR				AMB	AMB	04 18 59.7	
	comp=Z,6.3nm,1.4s						
ISAL	Salakas	20.24	127	eP	P	04 18 56.4	+0.2
ISAL				AMB	AMB	04 18 59.8	
	comp=Z,8.6nm,1.2s						
GKP	Gorka Klasztor	20.38	143	eP	P	04 18 58.7	+1.0
GKP	Gorka Klasztor	20.38	143	eP	P	04 18 58.7	+1.0
IIGN	Ignalina	20.46	127	eP	P	04 18 58.7	+0.2
IIGN				AMB	AMB	04 18 59.1	
	comp=Z,6.1nm,1.5s						
SUW	Suwalki	20.94	133	eP	P	04 19 03.4	-0.4
SUW	Suwalki	20.94	133	eP	P	04 19 03.6	-0.2
	comp=Z,48nm,1.0s						
SUW	Suwalki	20.94	133	eP	P	04 19 03.4	-0.3
CLL	Collm	21.54	152	eP	P	04 19 11.0	+0.7
	comp=Z,4.0nm,1.0s,mb3.8						
CLL				i (sP)	sP	04 19 14.4	0.0
	comp=Z,9.0nm,1.0s						
BAIF	Baives	21.80	167	eP	P	04 19 13.0	-0.1
	comp=Z,34nm,1.3s,mb4.3						
BAIF	Baives	21.80	167	eP	P	04 19 13.0	-0.1
	comp=Z,34nm,1.3s,mb4.6						
BAIF	Baives	21.80	167	eP	P	04 19 13.0	-0.1
	comp=Z,17nm,1.3s,mb4.3						
GIVF	Givet	21.80	166	eP	P	04 19 14.4	+1.3
	comp=Z,34nm,1.2s,mb4.4						
GIVF	Givet	21.80	166	eP	P	04 19 14.4	+1.3
	comp=Z,34nm,1.2s,mb4.7						
GIVF	Givet	21.80	166	eP	P	04 19 14.4	+1.3
	comp=Z,17nm,1.2s,mb4.4						
BRG	Berggiesshubel	22.11	151	eP	P	04 19 16.8	+0.4
	comp=Z,7.7nm,1.1s,mb4.0						
BRG				e		04 19 23.2	
	comp=Z,9.7nm,1.1s						
BEL	Belsk	22.44	139	eP	P	04 19 20.6	+0.7
BEL	Belsk	22.44	139	eP	P	04 19 20.6	+0.7
NKC	Novy Kostel	22.51	153	eP	P	04 19 21.2	+0.6
NKC				epP		04 19 25.5	
NKC	Novy Kostel	22.51	153	P	P	04 19 21.2	+0.6
KSP	Ksiaz	22.53	147	eP	P	04 19 21.4	+0.6
KSP	Ksiaz	22.53	147	eP	P	04 19 21.2	+0.4
KSP	Ksiaz	22.53	147	eP	P	04 19 21.2	+0.4
PVCC	Panska Ves	22.54	150	eP	P	04 19 22.4	+1.5
PVCC				epP		04 19 26.6	
PVCC	Panska Ves	22.54	150	P	P	04 19 22.4	+1.5
UPC	Upice	22.80	148	eP	P	04 19 24.4	+0.7
UPC				epP		04 19 28.1	
UPC	Upice	22.80	148	P	P	04 19 24.4	+0.7
FLN	La Foliniere	22.88	176	eP	P	04 19 24.2	-0.3
FLN	La Foliniere	22.88	176	eP	P	04 19 24.2	-0.3
FLN	La Foliniere	22.88	176	eP	P	04 19 24.2	-0.3
DPC	Dobruska-Polom	23.00	147	eP	P	04 19 26.1	+0.3
DPC	Dobruska-Polom	23.00	147	P	P	04 19 26.1	+0.3
LDF	La Druitiere	23.06	175	eP	P	04 19 26.0	-0.4
	comp=Z,7.8nm,0.8s,mb3.9						
LDF	La Druitiere	23.06	175	eP	P	04 19 26.0	-0.4
	comp=Z,7.8nm,0.8s,mb4.2						
LDF	La Druitiere	23.06	175	eP	P	04 19 26.0	-0.4
	comp=Z,3.9nm,0.8s,mb3.9						
PRU	Pruhonice	23.06	150	eP	P	04 19 27.2	+0.8
PRU	Pruhonice	23.06	150	P	P	04 19 27.2	+0.8
MEZF	Maizieres J'vi	23.41	166	eP	P	04 19 28.6	-1.5
MEZF	Maizieres J'vi	23.41	166	eP	P	04 19 28.6	-1.5
MEZF	Maizieres J'vi	23.41	166	eP	P	04 19 28.6	-1.5
QUIF	Quistinic	23.70	180	eP	P	04 19 32.2	-0.7
	comp=Z,106nm,1.6s,mb4.7						
QUIF	Quistinic	23.70	180	eP	P	04 19 32.2	-0.7
	comp=Z,106nm,1.6s,mb5.0						
QUIF	Quistinic	23.70	180	eP	P	04 19 32.2	-0.7
	comp=Z,53nm,1.6s,mb4.7						
KHC	Kasperske Hory	23.75	152	eP	P	04 19 34.7	+1.3
KHC				ex	x	04 19 41.0	
KHC	Kasperske Hory	23.75	152	P	P	04 19 34.7	+1.3
MORC	Moravsky Berou	23.77	146	eP	P	04 19 33.4	-0.2
	comp=Z,3.1nm,0.7s,mb3.9						
MORC	Moravsky Berou	23.77	146	eP	P	04 19 33.4	-0.2
	comp=Z,3.1nm,0.7s,mb3.9						
OJC	Ojcow	23.77	142	eP	P	04 19 34.3	+0.7
OJC	Ojcow	23.77	142	eP	P	04 19 34.3	+0.7
OKC	Ostrava-Krasne	23.82	145	eP	P	04 19 35.6	+1.5
OKC				epP		04 19 38.7	
OKC	Ostrava-Krasne	23.82	145	P	P	04 19 35.6	+1.5
HAU	Haudompre	24.01	164	eP	P	04 19 35.4	-0.4
	comp=Z,11nm,1.1s,mb3.9						
HAU	Haudompre	24.01	164	eP	P	04 19 35.4	-0.4
	comp=Z,11nm,1.1s,mb4.2						
HAU	Haudompre	24.01	164	eP	P	04 19 35.4	-0.4
	comp=Z,5.4nm,1.1s,mb3.9						
GERES	GERESS Array B	24.05	152	P	P	04 19 37.8	+1.8
	comp=Z,3.6nm,0.9s,mb3.8,baz=346,slow=9.6,SNR=11						
GERES	GERESS Array B	24.05	152	P	P	04 19 37.8	+1.8
GERES	GERESS Array B	24.05	152	P	P	04 19 37.8	+1.7
VRAC	Vranov	24.06	147	P	P	04 19 37.5	+1.3
	comp=Z,4.5nm,0.8s,mb3.9,baz=347,slow=11,SNR=8.1						
VRAC	Vranov	24.06	147	P	P	04 19 37.5	+1.3
VRAC	Vranov	24.06	147	↑iP	P	04 19 37.3	+1.1
VRAC	Vranov	24.06	147	P	P	04 19 37.5	+1.3
RES	Resolute Bay	24.36	320	P	P	04 19 39.2	+0.4
	comp=Z,0.5nm,0.3s,mb3.4,baz=70,slow=7.6,SNR=3.1						
RES	Resolute Bay	24.36	320	P	P	04 19 39.2	+0.4
RES	Resolute Bay	24.36	320	P	P	04 19 39.2	+0.4
LOR	Lormes	24.56	169	eP	P	04 19 40.2	-0.6
	comp=Z,8.9nm,0.8s,mb4.0						
LOR	Lormes	24.56	169	eP	P	04 19 40.2	-0.6
	comp=Z,8.9nm,0.8s,mb4.3						
LOR	Lormes	24.56	169	eP	P	04 19 40.2	-0.6
	comp=Z,4.4nm,0.8s,mb4.0						
SSF	Saint Saulge	24.74	169	eP	P	04 19 42.3	-0.2
	comp=Z,10nm,0.9s,mb4.0						
SSF	Saint Saulge	24.74	169	eP	P	04 19 42.3	-0.2
	comp=Z,10nm,0.9s,mb4.4						
SSF	Saint Saulge	24.74	169	eP	P	04 19 42.3	-0.2
	comp=Z,5.2nm,0.9s,mb4.0						
FRB	Frobisher Bay	24.82	285	P	P	04 19 41.5	-1.6
	comp=Z,2.5nm,1.1s,mb3.7,baz=35,slow=10,SNR=5.1						
FRB	Frobisher Bay	24.82	285	P	P	04 19 41.5	-1.6
FRB	Frobisher Bay	24.82	285	P	P	04 19 41.5	-1.6
KWP	Kalwaria Pacla	24.93	138	eP	P	04 19 46.8	+2.6
KWP	Kalwaria Pacla	24.93	138	‖iP	P	04 19 46.3	+2.2
KWP	Kalwaria Pacla	24.93	138	‖iP	P	04 19 46.3	+2.2
AVF	Avril sur Loir	25.00	170	eP	P	04 19 44.8	0.0
	comp=Z,15nm,1.1s,mb4.1						
AVF	Avril sur Loir	25.00	170	eP	P	04 19 44.8	0.0
	comp=Z,15nm,1.1s,mb4.4						
AVF	Avril sur Loir	25.00	170	eP	P	04 19 44.8	0.0
	comp=Z,7.4nm,1.1s,mb4.1						
MFF	Saint Martin d	25.05	175	eP	P	04 19 44.9	-0.3
	comp=Z,16nm,0.9s,mb4.2						
MFF	Saint Martin d	25.05	175	eP	P	04 19 44.9	-0.3
	comp=Z,16nm,0.9s,mb4.6						
MFF	Saint Martin d	25.05	175	eP	P	04 19 44.9	-0.3
	comp=Z,8.1nm,0.9s,mb4.2						
KOLL	Kolacno	25.08	145	eP	P	04 19 47.2	+1.7
KOLL	Kolacno	25.08	145	eP	P	04 19 47.2	+1.7
SMF	Signal de Mont	25.18	169	eP	P	04 19 46.3	-0.1
	comp=Z,13nm,1.0s,mb4.1						
SMF	Signal de Mont	25.18	169	eP	P	04 19 46.3	-0.1
	comp=Z,13nm,1.0s,mb4.4						
SMF	Signal de Mont	25.18	169	eP	P	04 19 46.3	-0.1
	comp=Z,6.7nm,1.0s,mb4.1						
BGF	Bois d'Agland	25.21	171	eP	P	04 19 46.2	-0.5
	comp=Z,13nm,0.8s,mb4.2						
BGF	Bois d'Agland	25.21	171	eP	P	04 19 46.2	-0.5
	comp=Z,13nm,0.8s,mb4.5						
BGF	Bois d'Agland	25.21	171	eP	P	04 19 46.2	-0.5
	comp=Z,6.6nm,0.8s,mb4.2						
VYHS	Vyhne	25.24	145	eP	P	04 19 47.6	+0.6
VYHS	Vyhne	25.24	145	eP	P	04 19 47.6	+0.6
	comp=Z,7.7nm,1.6s,mb4.0						
CRVS	Cervenica-Dubn	25.36	140	eP	P	04 19 50.9	+2.8
CABF	La Chapelle	25.37	165	eP	P	04 19 47.7	-0.5
	comp=Z,42nm,1.5s,mb4.5						
CABF	La Chapelle	25.37	165	eP	P	04 19 47.7	-0.5
	comp=Z,42nm,1.5s,mb4.7						
CABF	La Chapelle	25.37	165	eP	P	04 19 47.7	-0.5
	comp=Z,21nm,1.5s,mb4.5						
TCF	Toulx Ste Croi	25.45	172	eP	P	04 19 48.0	-0.9
	comp=Z,13nm,0.9s,mb4.1						
TCF	Toulx Ste Croi	25.45	172	eP	P	04 19 48.0	-0.9
	comp=Z,13nm,0.9s,mb4.5						
TCF	Toulx Ste Croi	25.45	172	eP	P	04 19 48.0	-0.9
	comp=Z,6.6nm,0.9s,mb4.2						
AKASG	Malin Array Be	25.45	128	P	P	04 19 48.6	-0.2
	comp=Z,3.3nm,0.6s,mb4.1,baz=336,slow=9.6,SNR=9.1						
AKASG	Malin Array Be	25.45	128	P	P	04 19 48.6	-0.2
AKASG	Malin Array Be	25.45	128	P	P	04 19 48.6	-0.2
AKBB	Malin Array Si	25.45	128	eP	P	04 19 48.8	0.0
AKBB	Malin Array Si	25.45	128	eP	P	04 19 48.8	0.0
KIEV	Kiev	25.45	128	eP	P	04 19 48.5	-0.4
	comp=Z,9.6nm,0.9s,mb4.3						
KIEV	Kiev	25.45	128	eP	P	04 19 48.5	-0.4
	comp=Z,9.6nm,0.9s,mb4.3						
KECS	Kecovo	25.57	142	eP	P	04 19 50.9	+1.0
KECS	Kecovo	25.57	142	eP	P	04 19 50.9	+1.0
	comp=Z,3.2nm,1.2s,mb3.7						
RJF	Les Rejaudoux	26.40	173	eP	P	04 19 57.2	-0.3
	comp=Z,14nm,0.8s,mb4.2						
RJF	Les Rejaudoux	26.40	173	eP	P	04 19 57.2	-0.3
	comp=Z,14nm,0.8s,mb4.6						
RJF	Les Rejaudoux	26.40	173	eP	P	04 19 57.2	-0.3
	comp=Z,7.2nm,0.8s,mb4.2						
LPL	La Plagne	26.51	165	eP	P	04 19 59.2	+0.7
	comp=Z,8.9nm,1.1s,mb3.9						
LPL	La Plagne	26.51	165	eP	P	04 19 59.2	+0.7
	comp=Z,8.9nm,1.1s,mb4.2						
LPL	La Plagne	26.51	165	eP	P	04 19 59.2	+0.7
	comp=Z,4.4nm,1.1s,mb3.9						
LPG	La Plagne	26.53	165	eP	P	04 20 00.0	+1.3
	comp=Z,18nm,1.2s,mb4.2						
LPG	La Plagne	26.53	165	eP	P	04 20 00.0	+1.3
	comp=Z,18nm,1.2s,mb4.5						
LPG	La Plagne	26.53	165	eP	P	04 20 00.0	+1.3
	comp=Z,9.0nm,1.2s,mb4.2						
LFF	La Frestale	26.73	174	eP	P	04 20 00.1	-0.4
	comp=Z,88nm,1.7s,mb4.7						
LFF	La Frestale	26.73	174	eP	P	04 20 00.1	-0.4
	comp=Z,88nm,1.7s,mb5.0						
LFF	La Frestale	26.73	174	eP	P	04 20 00.1	-0.4
	comp=Z,44nm,1.7s,mb4.7						
CAF	Calviac	26.80	172	eP	P	04 20 02.1	+1.0
	comp=Z,6.0nm,0.9s,mb3.8						
CAF	Calviac	26.80	172	eP	P	04 20 02.1	+1.0
	comp=Z,6.0nm,0.9s,mb4.1						
CAF	Calviac	26.80	172	eP	P	04 20 02.1	+1.0
	comp=Z,3.0nm,0.9s,mb3.8						
ORIF	Oris-en-Rattie	27.04	166	eP	P	04 20 05.1	+1.9
	comp=Z,18nm,1.3s,mb4.1						
ORIF	Oris-en-Rattie	27.04	166	eP	P	04 20 05.1	+1.9
	comp=Z,18nm,1.3s,mb4.4						
ORIF	Oris-en-Rattie	27.04	166	eP	P	04 20 05.1	+1.9
	comp=Z,8.8nm,1.3s,mb4.1						
MBDF	Montbardon	27.30	165	eP	P	04 20 05.0	-0.6
	comp=Z,8.3nm,0.8s,mb4.0						
MBDF	Montbardon	27.30	165	eP	P	04 20 05.0	-0.6
	comp=Z,8.3nm,0.8s,mb4.3						
MBDF	Montbardon	27.30	165	eP	P	04 20 05.0	-0.6
	comp=Z,4.2nm,0.8s,mb4.0						
BURAR	Bucovina Array	27.38	136	↑iP	P	04 19 59.3	-7.0
PKSM	Moragy	27.41	146	↑iP	P	04 20 11.3	+4.7
DRGR		27.63	140	↑iP	Px	04 20 21.1	
SJPF	Ste Jean	28.51	177	eP	P	04 20 17.0	+0.6
SJPF	Ste Jean	28.51	177	eP	P	04 20 17.0	+0.6
SJPF	Ste Jean	28.51	177	eP	P	04 20 17.0	+0.6
EPF	Esparros	28.63	175	eP	P	04 20 17.2	-0.3
	comp=Z,8.5nm,0.8s,mb4.2						
EPF	Esparros	28.63	175	eP	P	04 20 17.2	-0.3
	comp=Z,8.5nm,0.8s,mb4.5						
EPF	Esparros	28.63	175	eP	P	04 20 17.2	-0.3
	comp=Z,4.2nm,0.8s,mb4.2						
ETSF	Etsaut	28.74	176	eP	P	04 20 18.4	-0.1
ETSF	Etsaut	28.74	176	eP	P	04 20 18.4	-0.1
ETSF	Etsaut	28.74	176	eP	P	04 20 18.4	-0.1
ESDC	Sonseca Array	31.94	181	P	P	04 20 45.6	-1.1
	comp=Z,0.4nm,0.6s,mb3.4,baz=358,slow=8.0,SNR=3.8						
ESDC	Sonseca Array	31.94	181	P	P	04 20 45.6	-1.1
ESDC	Sonseca Array	31.94	181	P	P	04 20 45.6	-1.1
AKTO	Aktyubinsk	34.16	95	P	P	04 21 06.3	+0.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=340,slow=5.7,SNR=3.7						
AKTO	Aktyubinsk	34.16	95	P	P	04 21 06.3	+0.3
AKTO	Aktyubinsk	34.16	95	P	P	04 21 06.3	+0.3
BVAR	Borovoye Array	35.86	81	P	P	04 21 21.7	+1.1
	comp=Z,1.0nm,0.8s,mb3.8,baz=340,slow=12,SNR=4.4						
BVAR	Borovoye Array	35.86	81	P	P	04 21 21.7	+1.1
BVAR	Borovoye Array	35.86	81	P	P	04 21 21.7	+1.1
INK	Inuvik	36.59	332	PcP	PcP	04 23 49.0	-0.4
	comp=Z,1.6nm,0.9s,baz=18,slow=4.2,SNR=6.4						
INK	Inuvik	36.59	332	PcP	PcP	04 23 49.0	-0.4
INK	Inuvik	36.59	332	PcP	PcP	04 23 49.0	-0.5
BRTR	Keskin Array B	36.81	130	P	P	04 21 31.1	+2.1
	comp=Z,1.7nm,0.8s,mb3.9,baz=328,slow=4.4,SNR=5.3						
BRTR	Keskin Array B	36.81	130	P	P	04 21 31.1	+2.1
BRTR	Keskin Array B	36.81	130	P	P	04 21 31.0	+2.1
YKA	Yellowknife Ar	38.28	316	P	P	04 21 39.5	-1.5
	comp=Z,0.8nm,0.8s,mb3.5,baz=29,slow=8.6,SNR=12						
YKA				PcP	PcP	04 23 54.6	-0.1
	comp=Z,1.9nm,0.8s,baz=23,slow=2.8,SNR=31						
YKA	Yellowknife Ar	38.28	316	P	P	04 21 39.5	-1.6
YKA				PcP	PcP	04 23 54.6	-0.1
YKA	Yellowknife Ar	38.28	316	P	P	04 21 39.5	-1.6
KURK	Kurchatov	40.42	76	P	P	04 22 00.9	+1.8
	comp=Z,0.7nm,0.7s,mb3.5,baz=331,slow=7.6,SNR=7.5						
KURK	Kurchatov	40.42	76	P	P	04 22 00.9	+1.8
KURK	Kurchatov	40.42	76	P	P	04 22 00.9	+1.8
ILAR	Eielson Array	41.75	338	P	P	04 22 10.0	+0.2
	comp=Z,0.8nm,0.9s,mb3.3,baz=13,slow=7.5,SNR=5.2						
ILAR				PcP	PcP	04 24 06.0	+0.2
	comp=Z,0.7nm,0.8s,baz=336,slow=2.0,SNR=8.2						
ILAR	Eielson Array	41.75	338	P	P	04 22 10.0	+0.2
ILAR				PcP	PcP	04 24 06.0	+0.2
ILAR	Eielson Array	41.75	338	P	P	04 22 10.0	+0.2
ILAR	Eielson Array	41.75	338	PcP	PcP	04 24 06.0	+0.2
MKAR	Makanchi Array	45.03	75	P	P	04 22 35.8	-0.7
	comp=Z,0.5nm,0.7s,mb3.5,baz=347,slow=6.4,SNR=6.3						
MKAR	Makanchi Array	45.03	75	P	P	04 22 35.8	-0.7
MKAR	Makanchi Array	45.03	75	P	P	04 22 35.8	-0.7
TORD	Torodi Ar. Bea	58.43	175	P	P	04 24 16.0	-0.9
	comp=Z,0.9nm,0.7s,mb3.9,baz=353,slow=7.1,SNR=6.1						
TORD	Torodi Ar. Bea	58.43	175	P	P	04 24 16.0	-0.9
TORD	Torodi Ar. Bea	58.43	175	P	P	04 24 16.0	-0.8
TXAR	Lajitas Array	65.77	290	P	P	04 25 03.1	-2.9
	comp=Z,0.5nm,0.7s,mb3.6,baz=45,slow=5.7,SNR=6.3						
TXAR				PcP	PcP	04 25 37.0	-0.1
	comp=Z,0.9nm,1.0s,baz=37,slow=3.1,SNR=3.8						
TXAR	Lajitas Array	65.77	290	P	P	04 25 03.1	-2.9
TXAR				PcP	PcP	04 25 37.0	-0.1
TXAR	Lajitas Array	65.77	290	PcP	PcP	04 25 37.0	-0.1

*ISCJB **25** 04:17:29.0±0.4, 36°.77N±0°.03×28°.53E±0°.03, h8km±3km,*
Error ellipse: s-maj=4.3km s-min=3.4km az=166.0
*ISK **25** 04:17:28.8, 36°.79N×28°.53E, h11km, MD3.4*
*CSEM **25** 04:17:29.5±0.3, 36°.74N×28°.55E, h10km, MD3.3, Error ellipse: s-maj=8.1km s-min=6.4km az=168.0*
*ATH **25** 04:17:29.1, 36°.81N×28°.44E, h18km±2km, MD3.4/4*
*DDA **25** 04:17:29.7, 36°.70N×28°.52E, h8km±3km, Md3.3*

ISC 25 04:17:29.7±0.4, 36°.78N±0°.03×28°.53E±0°.03, h9km±3km, n44, σ0°86/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.11	32	i P	Pg	04 17 33.9	+1.5
TURN				i S	Sg	04 17 38.2	+4.0
TURN	Turunc	0.11	32	i P	Pg	04 17 33.9	+1.5
TURN				i S	Sg	04 17 38.2	+4.0
YER	Yerkesik	0.41	331	ePG	Pg	04 17 36.9	-0.8
YER				eSG	Sg	04 17 44.2	+1.1
ARG	Arkhangelos	0.65	210	ePB	Pg	04 17 41.4	-0.8
ARG				eSN	Sg	04 17 51.4	+0.7
ARG	Arkhangelos	0.65	210	ePb	Pg	04 17 40.8	-1.4
ARG				eSn	Sg	04 17 51.4	+0.7
DAT	Datca	0.77	267	ePG	Pg	04 17 44.4	-0.1
DAT				eSG	Sg	04 17 55.4	+1.0
GLHS	Glhisar (BURDU	0.86	64	ePG	Pg	04 17 45.9	-0.5
GOLH	Golhisar	0.95	61	i P	Pg	04 17 45.8	-2.1
GOLH				i S	Sg	04 18 00.5	+0.3
GOLH	Golhisar	0.95	61	i P	Pg	04 17 45.8	-2.1
GOLH				i S	Sg	04 18 00.5	+0.3
BODT	Bodrum	1.02	287	ePG	Pg	04 17 48.4	-0.9
AKAS	Kas	1.02	122	i P	Pg	04 17 47.7	-1.7
AKAS				i S	Sg	04 18 03.6	+0.9
AKAS	Kas	1.02	122	i P	Pg	04 17 47.7	-1.7
AKAS				i S	Sg	04 18 03.6	+0.9
DENT	Denizli	1.05	22	ePG	Pg	04 17 49.6	-0.4
KSL	Kastellorizon	1.06	126	ePN	Pg	04 17 50.7	+0.7
ELL	Elmali	1.11	91	ePN	Pg	04 17 49.9	-1.2
GCAM	G?zelcaml?	1.39	312	i P	Pn	04 17 55.8	+0.5

MFT	Murefte	0.39	339	*e*PG		Pg	04 48 20.5 -0.1
MFT	Murefte	0.39	339	*e*Pg		Pg	04 48 20.5 0.0
GONE	Gonen-Balikesi	0.41	156	*e*PG		Pg	04 48 20.4 -0.4
GONE	Gonen-Balikesi	0.41	156	*e*Pg		Pg	04 48 20.5 -0.4
LPK	Lapseki	0.54	265	*e*PG		Pg	04 48 23.4 0.0
LPK	Lapseki	0.54	265	*e*Pg		Pg	04 48 23.4 0.0
BALY	Balya	0.69	170	⇓*i*P		Pg	04 48 26.1 -0.1
BALY				*i* S		Sg	04 48 35.5 +0.3
BALY	Balya	0.69	170	*i* P		Pg	04 48 26.1 -0.1
BALY				*i* S		Sg	04 48 35.5 +0.3
KCTX	Karacabey (Bur	0.70	103	*e*PG		Pg	04 48 26.3 0.0
KCTX	Karacabey (Bur	0.70	103	*e*Pg		Pg	04 48 26.3 0.0
CRLT	Corlu	0.73	16	*e*PG		Pg	04 48 26.8 -0.2
CRLT	Corlu	0.73	16	*e*Pg		Pg	04 48 26.8 -0.2
GELI	Tayfur-Gelibol	0.76	268	*e*PG		Pg	04 48 27.7 +0.2
GELI	Tayfur-Gelibol	0.76	268	*e*Pg		Pg	04 48 27.7 +0.2
ERIK	Erikli-Kesan	0.77	289	*e*PG		Pg	04 48 27.6 0.0
ERIK	Erikli-Kesan	0.77	289	*e*Pg		Pg	04 48 27.6 -0.1
SLVT	Silivri	0.98	35	*e*PG		Pg	04 48 31.7 -0.1
SLVT	Silivri	0.98	35	*e*Pg		Pg	04 48 31.7 -0.1
ELBA	Catalca	1.03	45	*e*P		Pg	04 48 32.1 -0.5
ELBA				*e*S		Sg	04 48 45.3 -0.7
ELBA	Catalca	1.03	45	*e*P		Pg	04 48 32.1 -0.5
ELBA				*e*S		Sg	04 48 45.3 -0.7
ENEZ	Enez	1.05	288	*e*PG		Pg	04 48 32.8 -0.2
ENEZ	Enez	1.05	288	*e*Pg		Pg	04 48 32.8 -0.2
EZN	Ezine	1.06	236	*e*PG		Pg	04 48 33.3 +0.1
EZN				*e*SG		Sg	04 48 47.6 +0.6
EZN	Ezine	1.06	236	*e*Pg		Pg	04 48 33.3 +0.1
EZN				*e*Sg		Sg	04 48 47.6 +0.6
ARMT	Armutlu	1.07	82	*e*PN		Pg	04 48 33.9 +0.4
ARMT	Armutlu	1.07	82	*e*Pn		Pg	04 48 33.9 +0.4
MDNY	Mudanya-Bursa	1.08	92	*e*PN		Pg	04 48 34.0 +0.4
MDNY	Mudanya-Bursa	1.08	92	*e*Pn		Pg	04 48 34.0 +0.3
CTKS	Kestanelik-??a	1.13	44	*e*PN		Pg	04 48 34.6 0.0
CTKS	Kestanelik-??a	1.13	44	*e*Pn		Pg	04 48 34.6 0.0
CTYL	Yal??k??y-??at	1.22	30	*e*PN		Pn	04 48 36.3 +0.2
CTYL	Yal??k??y-??at	1.22	30	*e*Pn		Pn	04 48 36.3 +0.2
BOZC	Bozcaada	1.23	242	*e*P		Pn	04 48 35.8 -0.3
BOZC				*e*S		Sb	04 48 52.4 +0.2
AYVA	Ayvalik	1.26	209	*e*P		Pn	04 48 36.4 -0.3
AYVA				*e*S		Sb	04 48 53.0 -0.1
AYVA	Ayvalik	1.26	209	*e*P		Pn	04 48 36.3 -0.3
AYVA				*e*S		Sb	04 48 53.0 -0.1
YLV	Yalova	1.46	84	*e*PN		Pn	04 48 40.1 +0.8
YLV	Yalova	1.46	84	*e*Pn		Pn	04 48 40.1 +0.8
EDRB	Edirne	1.52	339	*e*PN		Pn	04 48 40.9 +0.7
EDRB	Edirne	1.52	339	*e*Pn		Pn	04 48 40.9 +0.7
AKHS	Akhisar	1.56	170	*e*P		Pn	04 48 41.3 +0.5
AKHS				*e*S		Sn	04 48 59.7 -1.4
AKHS	Akhisar	1.56	170	*e*P		Pn	04 48 41.3 +0.5
AKHS				*e*S		Sn	04 48 59.7 -1.4

*IDC **25** 05:02:35.6±3.3,25°.80S×178°.62W,h308km±30km, mb3.7/13,mb1 3.9/16,mb1mx3.9/19,mbtmp3.8/16,Error ellipse: s-maj=18.9km s-min=14.9km az=85.0*
*NEIC **25** 05:02:37.1±1.4,25°.94S×178°.61W,h326km±13km,mb4.4/6, Error ellipse: s-maj=14.7km s-min=10.7km az=119.0*
ISC 25 05:02:37.7±0.9,**26°.17S**±0°.04×**178°.8W**±0°.1,**h324**km±9km, **n107**,σ1$**25**/89,**mb4.0**/17,**4C-2D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.90	340	*e*Pn	Pn	05 04 41.5	-1.0
	96nm,1.0s						
MXZ	Matakaoa Point	11.63	192	*e*PN	Pn	05 05 17.2	+2.0
MXZ				SN	S	05 07 23.5	-1.3
PUZ	Puketiti	12.13	191	PN	Pn	05 05 20.4	-0.9
PUZ				SN	S	05 07 34.2	-1.9
MWZ	Matawai	12.53	194	PN	Pn	05 05 25.5	-0.5
MWZ				*e*SN	S	05 07 45.0	+0.2
CNGZ	Carnagh Statio	12.54	191	*e*PN	Pn	05 05 25.9	-0.3
URZ	Urewera	12.55	195	P	Pn	05 05 28.0	+1.7
	14nm,0.3s,baz=26,slow=2.0,SNR=63						
URZ				S	S	05 07 46.9	+1.6
	9.8nm,0.3s,baz=312,slow=23,SNR=14						
URZ	Urewera	12.55	195	*e*Pn	Pn	05 05 28.0	+1.7
URZ				S	S	05 07 46.9	+1.6
URZ	Urewera	12.55	195	PN	Pn	05 05 26.2	0.0
URZ				*e*SN	S	05 07 45.3	+0.1
KNZ	Kokohu	13.16	192	PN	Pn	05 05 35.3	+1.8
RAHZ	Arahi	13.18	194	PN	Pn	05 05 34.6	+0.8
MHGZ	Mahia Peninsul	13.25	191	PN	Pn	05 05 34.8	+0.2
BKZ	Black Stump Fm	13.56	196	PN	Pn	05 05 36.4	-1.9
BKZ				*e*SN	S	05 08 05.7	-1.0
MCHZ	McNeill Hill	13.78	195	PN	Pn	05 05 42.4	+1.6
AFI	Afiamalu	13.84	30	P	Pn	05 05 35.1	-6.8
	18nm,0.3s,baz=32,slow=1.0,SNR=21						
AFI				S	S	05 07 55.1	-18
	3.3nm,0.3s,baz=120,slow=20,SNR=2.1						
AFI	Afiamalu	13.84	30	P	Pn	05 05 35.1	-6.8
AFI				S	S	05 07 55.1	-18
WNVZ	Wahianoa	13.95	198	PN	Pn	05 05 44.4	+1.5
KAHZ	Kahuranaki	14.07	194	PN	Pn	05 05 44.6	+0.3
DZM	Mont Dzumac	14.11	284	P	P	05 05 49.9	+6.1
	0.5nm,0.3s,baz=119,slow=14,SNR=8.4						
DZM	Mont Dzumac	14.11	284	P	P	05 05 49.9	+6.1
PNHZ	Pukenui	14.34	196	PN	Pn	05 05 47.6	+0.1
DVHZ	Dannevirke	14.71	195	*e*PN	Pn	05 05 51.4	-0.5
BFZ	Birch Farm	15.06	195	PN	Pn	05 05 54.8	-1.0
BFZ				SN	S	05 08 35.7	-1.2
MRZ	Mangatainoka R	15.20	197	*e*PN	Pn	05 05 55.1	-2.4
MRZ				*e*SN	S	05 08 35.4	-4.4
TIWZ	Tintock	15.23	196	PN	Pn	05 05 57.6	-0.3
HOWZ	Holdsworth Sta	15.44	196	PN	Pn	05 05 58.0	-2.3
OGWZ	Otaki Gorge	15.46	198	PN	Pn	05 05 58.5	-2.0
KIW	Kapiti Island	15.57	198	PN	Pn	05 06 00.6	-1.2
CAW	Cannon Point	15.75	197	PN	Pn	05 06 03.6	-0.3
TCW	Tory Channel	16.07	199	PN	P	05 06 05.1	0.0
PLWZ	Palliser	16.14	196	PN	P	05 06 07.2	+1.4
QRZ	Quartz Range	16.31	204	PN	P	05 06 11.0	+3.3
NNZ	Nelson	16.36	201	PN	P	05 06 08.9	+0.7
NNZ				*e*SN	S	05 09 00.6	-2.3
TUWZ	Tuamarina	16.38	200	PN	P	05 06 08.5	+0.1
THZ	Tophouse	17.01	202	PN	P	05 06 16.4	+1.2
DSZ	Denniston Nort	17.38	204	PN	P	05 06 20.3	+1.2
LTZ	Lake Taylor	18.13	202	PN	P	05 06 28.1	+0.9
RPZ	Rata Peaks	19.37	203	P	P	05 06 42.1	+1.8
	1.3nm,0.3s,baz=98,slow=19,SNR=4.5						
RPZ	Rata Peaks	19.37	203	P	P	05 06 42.1	+1.8
EIDS	Eidsvold	27.14	265	*e*P	P	05 07 54.0	+1.9
EIDS	Eidsvold	27.14	265	*e*P	P	05 07 53.5	+1.4
	16nm,0.6s,mb4.4						
CTA	Charters Tower	32.67	273	*e*P	P	05 08 41.6	+1.0
CTAO	Charters Tower	32.67	273	*e*P	P	05 08 41.5	+0.9
	11nm,0.8s,mb4.1						
CTAO				*ep*P	pP	05 09 40.2	-2.4
STKA	Stephens Creek	34.99	251	P	P	05 09 02.0	+1.8
	2.4nm,0.5s,mb3.7,baz=96,slow=10,SNR=21						
STKA				PcP	PcP	05 11 25.4	+1.0
	2.2nm,0.5s,baz=109,slow=3.5,SNR=12						
STKA	Stephens Creek	34.99	251	*e*P	P	05 09 02.0	+1.7
STKA	Stephens Creek	34.99	251	*e*P	P	05 09 01.8	+1.6
	0.4nm,0.5s						
STKA				*ep*P	pP	05 09 54.4	-8.6
STKA				PcP	PcP	05 11 25.4	+1.0
STKA				*e*PcP	PcP	05 11 25.6	+1.1
PMG	Port Moresby	36.32	291	P	P	05 09 11.6	-0.1
	7.6nm,0.6s,mb4.1,baz=77,slow=8.0,SNR=5.4						
PMG	Port Moresby	36.32	291	P	P	05 09 11.6	-0.1
COEN	Coen	37.62	281	*e*P	P	05 09 22.7	+0.2
	24nm,0.6s,mb4.6						
AS31	Alice Springs	42.82	263	*e*P	P	05 10 05.0	+0.2
WB2	Warramunga Arr	43.40	268	*e*P	P	05 10 09.0	-0.5
WRAB	Tennant Creek	43.41	268	*e*P	P	05 10 09.0	-0.5
	6.2nm,0.8s,mb3.8						
WRA	Warramunga Arr	43.41	268	P	P	05 10 09.1	-0.4
	3.6nm,0.4s,mb3.9,baz=103,slow=7.8,SNR=108						
WRA				PcP	PcP	05 11 51.6	+0.1
	0.7nm,0.6s,baz=103,slow=3.0,SNR=4.4						
WRA	Warramunga Arr	43.41	268	P	P	05 10 09.1	-0.4
WRA				PcP	PcP	05 11 51.6	+0.1
FORT	Forrest	46.62	251	*e*P	P	05 10 33.2	-1.2
FITZ	Fitzroy Crossi	51.80	267	*e*P	P	05 11 13.7	+0.2
FITZ	Fitzroy Crossi	51.80	267	*e*P	P	05 11 14.0	+0.5
	3.4nm,0.7s,mb3.8						
QSPA	South Pole Qui	63.93	180	P	P	05 12 39.7	+3.5
	1.7nm,0.6s,mb3.9,baz=0.5,slow=1.4,SNR=9.7						
QSPA	South Pole Qui	63.93	180	P	P	05 12 39.7	+3.5
MJAR	Matsushiro Arr	74.39	325	P	P	05 13 37.7	-2.9
	1.8nm,0.6s,mb4.0,baz=174,slow=5.7,SNR=5.1						
MJAR	Matsushiro Arr	74.39	325	P	P	05 13 37.6	-2.9
KSRS	Korea Array	80.69	320	P	P	05 14 14.6	-0.6
	1.6nm,0.7s,mb3.9,baz=129,slow=5.5,SNR=4.4						
KSAR	Wonju Array Be	80.71	320	P	P	05 14 14.6	-0.6
PETK	Petropavlovsk-	81.56	346	P	P	05 14 18.0	-1.2
	7.0nm,0.6s,mb4.7,baz=158,slow=9.3,SNR=8.2						
PETK	Petropavlovsk-	81.56	346	P	P	05 14 18.0	-1.2
SNAA	Sanae	82.39	179	*e*P	P	05 14 25.4	+1.9
VNA3	Neumayer Olymp	82.58	176	*e*P	P	05 14 26.1	+1.8
VNA2	Neumayer--Watz	82.99	177	*e*P	P	05 14 28.6	+2.1
	baz=315,slow=15						
USRK	Ussuriysk Arra	83.26	327	P	P	05 14 27.9	-0.4
	1.8nm,0.5s,mb4.2,baz=154,slow=2.4,SNR=7.5						
NVAR	Mina Array Bea	85.61	43	P	P	05 14 39.8	-0.3
	0.6nm,0.5s,mb3.7,baz=209,slow=9.2,SNR=3.1						
NVAR	Mina Array Bea	85.61	43	P	P	05 14 39.8	-0.3
RSO	Redoubt South	88.90	13	*e*P	P	05 14 56.0	+0.9
	74nm,0.4s						
RSO				*ep*P	pP	05 16 12.3	+0.7
CMAR	Chiang Mai Arr	91.35	290	P	P	05 15 08.6	+1.1
	3.1nm,0.3s,mb4.7,baz=104,slow=3.8,SNR=3.6						
CMAR	Chiang Mai Arr	91.35	290	P	P	05 15 08.6	+1.1
PDAR	Pinedale Array	93.54	44	P	P	05 15 16.1	-1.0
	0.5nm,0.7s,mb3.6,baz=172,slow=3.0,SNR=4.4						
PDAR	Pinedale Array	93.54	44	P	P	05 15 16.1	-1.0
ILAR	Eielson Array	93.97	13	P	P	05 15 15.8	-2.7
	0.3nm,0.7s,mb3.4,baz=227,slow=4.3,SNR=6.2						
ILAR	Eielson Array	93.97	13	P	P	05 15 15.8	-2.7
SONM	Songino Array	99.54	319	P	Pdif	05 15 43.9	-0.3
	0.2nm,0.6s,baz=98,slow=6.0,SNR=3.4						
SONM	Songino Array	99.54	319	P	Pdif	05 15 44.0	-0.3
ZALV	Zalesovo Beam	114.40	320	PKP	PKiKP	05 20 36.5	-2.2
	0.3nm,0.4s,baz=86,slow=1.9,SNR=2.5						
ZALV	Zalesovo Beam	114.40	320	PKP	PKiKP	05 20 36.5	-2.2
MKAR	Makanchi Array	114.50	312	PKP	PKiKP	05 20 37.2	-1.9
	0.3nm,0.5s,baz=158,slow=0.9,SNR=5.9						
MKAR	Makanchi Array	114.50	312	PKP	PKiKP	05 20 37.2	-1.9
ARCES	ARCESS Array B	134.32	348	PKP	PKPdf	05 21 15.1	-1.2
	6.1nm,1.0s,baz=59,slow=1.5,SNR=9.6						
ARCES	ARCESS Array B	134.32	348	PKP	PKPdf	05 21 15.1	-1.2
FINES	FINESS Array B	140.94	341	PKhKP	PKPpre	05 21 19.9	
	1.1nm,0.5s,baz=68,slow=4.9,SNR=9.4						
FINES	FINESS Array B	140.94	341	PKPpre	PKPpre	05 21 19.9	
NB2	NORSAR Subarra	144.48	352	PKP	PKPdf	05 21 32.2	-2.8
	comp=Z,3.5nm,0.6s,baz=11,slow=3.6						
NOA	NORSAR Array B	144.48	352	PKP	PKPdf	05 21 32.0	-3.0
	comp=Z,4.2nm,0.7s,baz=20,slow=2.5,SNR=30						
NOA	NORSAR Array B	144.48	352	PKP	PKPdf	05 21 32.0	-3.0
AKASG	Malin Array Be	147.47	326	PKPbc	PKPbc	05 21 40.5	-3.0
	comp=Z,2.5nm,0.5s,baz=45,slow=4.4,SNR=11						
AKASG	Malin Array Be	147.47	326	PKPbc	PKPbc	05 21 40.5	-3.0
BRTR	Keskin Array B	149.81	305	PKPbc	PKPbc	05 21 48.6	-1.0
	comp=Z,1.2nm,0.5s,baz=135,slow=4.0,SNR=9.5						
BRTR				PKPab	PKPab	05 21 55.4	-1.0
	comp=Z,3.9nm,0.6s,baz=101,slow=2.6,SNR=14						
BRTR	Keskin Array B	149.81	305	PKPbc	PKPbc	05 21 48.6	-1.0
BRTR				PKPab	PKPab	05 21 55.4	-0.9
TLCR		150.86	318	⇑*i*P	PKPbc	05 21 51.3	-0.6
KWP	Kalwaria Pacla	151.28	330	⇓*i*P	PKPbc	05 21 52.1	-0.7
BUR08	Bucovina Ar. S	151.46	325	*e*PKPbc	PKPbc	05 21 53.6	+0.4
BURAR	Bucovina Array	151.47	325	⇑*i*P	PKPbc	05 21 54.1	+0.9
OJC	Ojcow	152.06	334	*e*PX	PKPbc	05 21 53.5	-1.0
CLL	Collm	153.34	343	*e*PKPbc	PKPbc	05 21 56.0	-1.2
CLL				*e*PKPab	PKPab	05 22 09.0	-1.7
VRAC	Vranov	154.00	337	⇓*i*P	PKPab	05 22 13.0	-0.6
PKSM	Moragy	155.66	330	⇑*i*P	PKPdf	05 21 49.9	-2.9
VTS	Vitosha	155.67	318	⇑*i*P	PKPab	05 22 21.2	+0.2
DBIC	Dimbokro	159.76	162	PKPab	PKPab	05 22 39.5	+0.1
	comp=Z,0.7nm,0.5s,baz=193,slow=14,SNR=3.0						
DBIC	Dimbokro	159.76	162	PKPab	PKPab	05 22 39.5	+0.1
TORD	Torodi Ar. Bea	167.04	182	PKP	PKPdf	05 22 04.5	-1.0
	comp=Z,0.5nm,0.7s,baz=348,slow=1.3,SNR=3.4						
TORD				PKPab	PKPab	05 23 12.1	+0.9
	comp=Z,0.7nm,0.5s,baz=175,slow=3.8,SNR=9.5						
TORD	Torodi Ar. Bea	167.04	182	PKP	PKPdf	05 22 04.5	-1.0
TORD				PKPab	PKPab	05 23 12.1	+0.9

*DDA **25** 05:15:26.0,37°.90N×29°.25E,h8km±3km,Md3.4,Ml3.5*
*ISK **25** 05:15:25.4,37°.87N×29°.20E,h3km,MD3.3*
*ISCJB **25** 05:15:26.8±0.3,37°.88N±0°.02×29°.18E±0°.04,h10km,Error ellipse: s-maj=4.2km s-min=2.7km az=160.8*
*CSEM **25** 05:15:26.3±0.1,37°.87N×29°.20E,h2km,MD3.3,Error ellipse: s-maj=3.8km s-min=2.8km az=72.0*
ISC 25 05:15:26.7±0.5,**37°.89N**±0°.02×**29°.20E**±0°.04,**h3**km±4km, **n93**,σ0$**87**/123,**4C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.18	225	*e*PG	Pg	05 15 30.1	-0.2
DENT	Denizli	0.18	225	*e*Pg	Pg	05 15 30.1	-0.2
KHAL	Karahalli	0.54	26	⇑*i*P	Pg	05 15 36.3	-0.7
KHAL				*i* S	Sg	05 15 43.0	-0.9
KHAL	Karahalli	0.54	26	⇑*i*P	Pg	05 15 36.3	-0.7
KHAL				*i* S	Sg	05 15 43.0	-0.9
KHAL	Karahalli	0.54	26	*i* P	Pg	05 15 36.2	-0.8
KHAL				*i* S	Sg	05 15 44.2	+0.3
KHAL	Karahalli	0.54	26	*i* P	Pg	05 15 36.3	-0.7
KHAL				*i* S	Sg	05 15 44.2	+0.2
GOLH	Golhisar	0.71	156	⇑*i*P	Pg	05 15 38.9	-1.4
GOLH				*i* S	Sg	05 15 50.3	+0.8
GOLH	Golhisar	0.71	156	⇑*i*P	Pg	05 15 38.9	-1.4
GOLH				*i* S	Sg	05 15 50.3	+0.8
GOLH	Golhisar	0.71	156	*i* P	Pg	05 15 38.9	-1.4
GOLH				*i* S	Sg	05 15 50.7	+1.2
GOLH	Golhisar	0.71	156	*i* P	Pg	05 15 38.9	-1.4
GOLH				*i* S	Sg	05 15 50.3	+0.8
KULA	Kula-Manisa	0.76	326	*e*PG	Pg	05 15 41.4	+0.2
KULA				*e*SG	Sg	05 15 51.5	+0.5
KULA	Kula-Manisa	0.76	326	*e*Pg	Pg	05 15 41.4	+0.2
KULA				*e*Sg	Sg	05 15 51.5	+0.5
GLHS	Glhisar (BURDU	0.77	162	*e*PG	Pg	05 15 39.9	-1.5
GLHS				*e*SG	Sg	05 15 52.5	+1.1
GLHS	Glhisar (BURDU	0.77	162	*e*Pg	Pg	05 15 39.9	-1.5
GLHS				*e*Sg	Sg	05 15 52.5	+1.2
MANT	Manisa	0.79	320	*e*P	Pg	05 15 41.8	0.0
MANT				*e*S	Sg	05 15 52.5	+0.5
MANT	Manisa	0.79	320	*e*P	Pg	05 15 41.8	0.0
MANT				*e*S	Sg	05 15 52.5	+0.5
MANT	Manisa	0.79	320	*i* P	Pg	05 15 41.9	+0.2
MANT				*i* S	Sg	05 15 53.2	+1.2
MANT	Manisa	0.79	320	*i* P	Pg	05 15 41.9	+0.1
MANT				*e*S	Sg	05 15 52.5	+0.5
YER	Yerkesik	1.04	224	*e*PG	Pg	05 15 45.7	-1.0
YER	Yerkesik	1.04	224	*e*Pg	Pg	05 15 45.7	-1.0
TURN	Turunc	1.12	205	*e*P	Pg	05 15 51.5	+3.4
TURN				*e*S	Sg	05 16 12.3	+10
TURN	Turunc	1.12	205	*e*P	Pg	05 15 51.5	+3.4
TURN				*e*S	Sg	05 16 12.3	+10
TURN	Turunc	1.12	205	*i* P	Pg	05 15 51.5	+3.4
TURN	Turunc	1.12	205	*e*P	Pg	05 15 51.5	+3.4
BCK	Bucak	1.18	111	*e*PN	Pn	05 15 48.6	-1.5
BCK	Bucak	1.18	111	*e*Pn	Pn	05 15 48.6	-1.6
GDZ	Gediz	1.22	10	*e*P	Pg	05 15 48.5	-1.7
GDZ				*e*S	Sg	05 16 05.5	-0.5
GDZ	Gediz	1.22	10	*e*P	Pg	05 15 48.5	-1.7
GDZ				*e*S	Sg	05 16 05.5	-0.5
GDZ	Gediz	1.22	10	*i* P	Pg	05 15 48.4	-1.7
GDZ				*i* S	Sg	05 16 06.1	+0.1
GDZ	Gediz	1.22	10	*e*P	Pg	05 15 48.5	-1.6
GDZ				*i* S	Sg	05 16 06.1	+0.1
SHUT	Suhut-Afyon	1.26	58	*e*PN	Pn	05 15 50.2	-1.1
SHUT	Suhut-Afyon	1.26	58	*e*Pn	Pn	05 15 50.2	-1.0
ELL	Elmali	1.27	153	*e*PN	Pn	05 15 49.3	-2.1
ELL	Elmali	1.27	153	*e*Pn	Pn	05 15 49.3	-2.1
KORT	Korkueli	1.27	134	*i* P	Pg	05 15 52.2	+1.1
KORT				*i* S	Sg	05 16 09.6	+2.0
KORT	Korkueli	1.27	134	*i* P	Pg	05 15 52.2	+1.1
KORT				*i* S	Sg	05 16 09.6	+2.0
ALT	Altintas	1.37	31	*e*PN	Pn	05 15 52.0	-0.8
ALT	Altintas	1.37	31	*e*Pn	Pn	05 15 52.0	-0.8
AKS	Akhisar	1.47	313	*e*PN	Pn	05 15 53.4	-0.8
AKS	Akhisar	1.47	313	*e*Pn	Pn	05 15 53.4	-0.7
SUTC	Sutluce-Ispart	1.49	105	*e*PN	Pn	05 15 54.1	-0.3
SUTC	Sutluce-Ispart	1.49	105	*e*Pn	Pn	05 15 54.1	-0.3
ANTB	Antalya	1.52	130	*e*PN	Pn	05 15 53.7	-1.1
ANTB	Antalya	1.52	130	*e*Pn	Pn	05 15 53.7	-1.1
IZM	Izmir	1.61	289	*e*PN	Pn	05 15 56.1	+0.1
IZM	Izmir	1.61	289	*e*Pn	Pn	05 15 56.2	+0.2
BOLV	Bolvadin	1.61	58	*e*P	Pn	05 15 56.0	-0.1
BOLV				*e*S	Sn	05 16 21.4	+4.0
BOLV	Bolvadin	1.61	58	*e*P	Pn	05 15 56.0	-0.1
BOLV				*e*S	Sn	05 16 21.4	+4.0
BOLV	Bolvadin	1.61	58	*i* P	Pn	05 15 56.1	0.0
BOLV				*i* S	Sn	05 16 21.1	+3.8
BOLV	Bolvadin	1.61	58	*i* P	Pn	05 15 56.1	0.0
BOLV				*i* S	Sn	05 16 21.1	+3.7
AKAS	Kas	1.68	169	*e*P	Pn	05 15 58.1	+1.1
AKAS				*e*S	Sn	05 16 25.2	+6.1
AKAS	Kas	1.68	169	*e*P	Pn	05 15 58.1	+1.1
AKAS				*e*S	Sn	05 16 25.2	+6.1
AKAS	Kas	1.68	169	*e*P	Pn	05 15 58.1	+1.1
BODT	Bodrum	1.71	242	*e*PN	Pn	05 15 57.1	-0.3
BODT	Bodrum	1.71	242	*e*Pn	Pn	05 15 57.1	-0.3
DAT	Datca	1.73	229	*e*PN	Pn	05 15 57.2	-0.5
DAT	Datca	1.73	229	*e*Pn	Pn	05 15 57.2	-0.5
BLCB	Balcova	1.77	287	*e*PN	Pn	05 15 58.5	+0.2
BLCB	Balcova	1.77	287	*e*Pn	Pn	05 15 58.5	+0.2
ESKT	Eskisehir	2.08	38	*e*PN	Pn	05 16 03.1	+0.5
ESKT	Eskisehir	2.08	38	*e*Pn	Pn	05 16 03.1	+0.6
CAVI	Cavuskoy	2.37	12	*e*PN	Pn	05 16 06.8	+0.3
CAVI	Cavuskoy	2.37	12	*e*Pn	Pn	05 16 06.8	+0.3
SVRH	Sivrihisar-ESK	2.40	49	*e*PN	Pn	05 16 07.2	+0.3
SVRH	Sivrihisar-ESK	2.40	49	*e*Pn	Pn	05 16 07.2	+0.3
GONE	Gonen-Balikesi	2.46	332	*e*PN	Pn	05 16 07.2	-0.5
GONE	Gonen-Balikesi	2.46	332	*e*Pn	Pn	05 16 07.2	-0.5
KCTX	Karacabey (Bur	2.46	345	*e*PN	Pn	05 16 08.6	+0.8
KCTX	Karacabey (Bur	2.46	345	*e*Pn	Pn	05 16 08.6	+0.8
MDNY	Mudanya-Bursa	2.49	355	*e*PN	Pn	05 16 09.1	+0.9
MDNY	Mudanya-Bursa	2.49	355	*e*Pn	Pn	05 16 09.1	+0.9
KONT	Konya--Tatoy	2.50	88	*e*PN	Pn	05 16 08.1	-0.2
KONT	Konya--Tatoy	2.50	88	*e*Pn	Pn	05 16 08.1	-0.2
LADK	Ladik-KONYA	2.52	82	*e*PN	Pn	05 16 08.6	0.0
LADK	Ladik-KONYA	2.52	82	*e*Pn	Pn	05 16 08.6	0.0
GEMT	Gemlik	2.55	360	*e*PN	Pn	05 16 09.5	+0.6
GEMT	Gemlik	2.55	360	*e*Pn	Pn	05 16 09.5	+0.6
ADVT	Abdulvahap	2.58	9	*e*PN	Pn	05 16 10.0	+0.6
ADVT	Abdulvahap	2.58	9	*e*Pn	Pn	05 16 10.0	+0.6
BNT	Bandirma	2.66	338	*e*PN	Pn	05 16 10.4	0.0
BNT	Bandirma	2.66	338	*e*Pn	Pn	05 16 10.4	-0.1
EDC	Edincik	2.67	338	*e*PN	Pn	05 16 10.9	+0.3
EDC	Edincik	2.67	338

GOLH			*i* S	Sg	06 13 31.7	+0.8
MANT	**Manisa**	**0.76 319**	⇑*i*P	Pg	06 13 22.3	+0.6
MANT	**Manisa**	**0.76 319**	*i* P	Pg	06 13 22.3	+0.6
GLHS	**Glhisar (BURDU**	**0.80 162**	*e*PG	Pg	06 13 22.4	-0.1
GLHS			*e*SG	Sg	06 13 33.7	+0.9
GLHS	**Glhisar (BURDU**	**0.80 162**	*e*Pg	Pg	06 13 22.4	-0.1
GLHS			*e*Sg	Sg	06 13 33.7	+0.9
YER	**Yerkesik**	**1.07 223**	*e*PG	Pg	06 13 26.9	-0.6
YER			*e*SG	Sg	06 13 41.8	+0.4
YER	**Yerkesik**	**1.07 223**	*e*Pg	Pg	06 13 26.9	-0.7
YER			*e*Sg	Sg	06 13 41.8	+0.4
GDZ	**Gediz**	**1.19 11**	*i* P	Pg	06 13 29.1	-0.8
GDZ			*i* S	Sg	06 13 45.8	+0.4
GDZ	**Gediz**	**1.19 11**	*i* P	Pg	06 13 29.1	-0.8
GDZ			*i* S	Sg	06 13 45.8	+0.4
SHUT	**Suhut-Afyon**	**1.24 59**	*e*PN	Pn	06 13 31.9	+0.5
SHUT	**Suhut-Afyon**	**1.24 59**	*e*Pn	Pn	06 13 31.9	+0.5
ELL	**Elmali**	**1.30 154**	*e*PN	Pn	06 13 31.5	-0.7
ELL	**Elmali**	**1.30 154**	*e*Pn	Pn	06 13 31.5	-0.7
ALT	**Altintas**	**1.34 32**	*e*PN	Pn	06 13 33.0	+0.2
ALT	**Altintas**	**1.34 32**	*e*Pn	Pn	06 13 33.0	+0.2

DJA 25 06:14:14, 3°.53S×138°.65E, h51km, mb4.8/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.53**	**2**	P	Pn	06 14 37.1	-1.9
JAY	**Jayapura**	**2.29**	**64**	P	Pn	06 14 49.3	0.0
BAKI	**Biak**	**3.44**	**312**	P	Pn	06 15 03.4	-1.8
TLE	**Tual**	**6.25**	**250**	P	Px	06 16 02.4	
FAKI	**Fak Fak**	**6.42**	**275**	P	Pn	06 15 48.0	+2.0
	0.3nm45nm,0.7s						
PMG	**Port Moresby**	**10.27**	**125**	P	Pn	06 16 41.0	+2.2
	59nm,1.1s						
COEN	**Coen**	**11.28**	**157**	P	Pn	06 16 49.6	-3.0
	17nm,0.8s						
GTOI	**Gorontalo**	**16.17**	**285**	P	Pn	06 17 59.6	+1.6
	22nm,0.6s						
WRAB	**Tennant Creek**	**16.84**	**194**	P	Pn	06 18 04.4	-1.9
	83nm,0.8s						
CTA	**Charters Tower**	**18.05**	**156**	*e*P	Pn	06 18 20.6	-0.7
PCI	**Palu**	**18.98**	**277**	P	Pn	06 18 34.2	+1.7
FITZ	**Fitzroy Crossi**	**19.29**	**220**	P	Pn	06 18 32.7	-3.5

MOS ***25*** *06:38:24.8±1.8, 52°.72N×101°.29E, h14km, mb4.4/1, Error ellipse: s-maj=18.0km s-min=13.9km az=114.0*

BYKL 25 06:38:22.7±0.4, 52°.69N×100°.95E, h17km±9km, 4C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**0.71**	**258**	*e*PG	Pg	06 38 35.2	-1.4
ORL				*e*		06 38 44.3	
ORL				pmax	pmax		
	comp=Z,791nm,0.2s						
ORL	**Orlik**	**0.71**	**258**	⇓*i*Pg	Pg	06 38 35.3	-1.3
ORL				Pmax		06 38 35.9	
	comp=Z,522nm,0.2s						
ORL				*e*Sg	Sg	06 38 44.2	-1.8
ORL				Smax		06 38 46.2	
	comp=Z,1μm,0.4s						
MOY	**Mondy**	**1.02**	**179**	⇑*i*PG	Pg	06 38 41.6	-0.9
MOY				*e*		06 38 54.6	
MOY				pmax	pmax		
	comp=Z,676nm,0.3s						
MOY				smax			
	comp=E,2μm,0.4s						
MOY	**Mondy**	**1.02**	**179**	⇑*i*Pg	Pg	06 38 41.6	-0.9
MOY				*e*Pb	Pb	06 38 44.6	+2.7
MOY				max		06 38 45.0	
	comp=E,609nm,0.3s						
MOY				*e*Sg	Sg	06 38 55.1	-0.9
MOY				Smax		06 38 55.7	
	comp=E,2μm,0.4s						
ARS	**Arshan**	**1.19**	**130**	*e*PG	Pg	06 38 44.7	-0.9
ARS				*e*		06 39 00.6	
ARS				pmax	pmax		
	comp=Z,1μm,0.2s						
ARS				smax			
	comp=N,4μm,0.2s						
ARS	**Arshan**	**1.19**	**130**	⇑*i*Pg	Pg	06 38 44.6	-1.0
	comp=N,297nm,0.4s						
ARS				⇓*i*Pg	Pg	06 38 44.6	-1.0
	comp=N,280nm,0.4s						
ARS				⇓*i*Pg	Pg	06 38 44.6	-1.0
	comp=N,1μm,0.4s						
ARS				Pmax		06 38 44.8	
	comp=N,1μm,0.2s						
ARS				*e*Sg	Sg	06 39 00.7	-0.4
ARS				Smax		06 39 03.1	
	comp=N,4μm,0.4s						
TLY	**Talaya**	**1.94**	**120**	*e*PN	Pn	06 38 57.3	+2.5
TLY				*e*		06 38 58.3	
TLY				*e*		06 39 21.8	
TLY				pmax	pmax		
	comp=Z,140nm,0.1s						
TLY				smax			
	comp=E,1μm,0.2s						
TLY	**Talaya**	**1.94**	**120**	*e*Pg	Pg	06 38 57.2	-2.8
TLY				Pmax		06 38 58.8	
	comp=E,132nm,0.1s						
TLY				*e*Sg	Sg	06 39 21.9	-3.3
TLY				Smax		06 39 28.5	
	comp=E,1μm,0.2s						
IRK	**Irkutsk**	**2.08**	**101**	*e*PN	Pn	06 38 59.2	+2.5
IRK				*e*		06 39 26.1	
IRK				pmax	pmax		
	comp=Z,285nm,0.2s						
IRK				smax			
	comp=N,2μm,0.5s						
IRK	**Irkutsk**	**2.08**	**101**	*e*Sg	Sg	06 39 26.7	-2.9
IRK				Smax		06 39 29.6	
	comp=N,2μm,0.3s						
LSTR	**Listvyanka**	**2.52**	**108**	*e*PN	Pn	06 39 03.6	+0.8
LSTR				*e*		06 39 08.1	
LSTR				*e*S	Sn	06 39 35.3	+2.2
LSTR				*e*		06 39 39.4	
LSTR				pmax	pmax		
	comp=Z,55nm,0.2s						
LSTR				smax			
	comp=N,1μm,0.6s						
LSTR	**Listvyanka**	**2.52**	**108**	*e*Pn	Pn	06 39 03.7	+0.9
LSTR				*e*Pg	Pg	06 39 07.6	-3.4
LSTR				Pmax		06 39 10.7	
	comp=N,62nm,0.3s						
LSTR				*e*Sn	Sn	06 39 35.3	+2.2
LSTR				*e*Sg	Sg	06 39 40.5	-3.2
LSTR				Smax		06 39 44.4	
	comp=N,1μm,0.4s						
ZAK	**Zakamensk**	**2.73**	**147**	*e*PN	Pn	06 39 10.5	+4.8
ZAK				*e*		06 39 47.3	
ZAK				pmax	pmax		
	comp=Z,75nm,0.4s						
ZAK				smax			
	comp=E,158nm,0.5s						
ZAK	**Zakamensk**	**2.73**	**147**	*e*Pg	Pg	06 39 10.7	-4.3
ZAK				Pmax		06 39 21.6	
	comp=E,74nm,0.5s						
ZAK				*e*Sg	Sg	06 39 47.9	-2.5
ZAK				Smax		06 39 53.6	
	comp=E,150nm,0.3s						
TRG	**Tyrgan**	**3.28**	**87**	*e*PN	Pn	06 39 13.7	+0.4
TRG				*e*		06 39 21.1	
TRG				*e*S	Sn	06 39 53.0	+1.1
TRG				*e*		06 40 03.7	
TRG				pmax	pmax		
	comp=Z,89nm,0.3s						
TRG				smax			
	comp=E,418nm,0.3s						
TRG	**Tyrgan**	**3.28**	**87**	⇓*i*Pn	Pn	06 39 13.6	+0.3
TRG				*e*		06 39 15.7	
TRG				*e*Pg	Pg	06 39 21.4	-4.2
TRG				Pmax		06 39 23.9	
	comp=E,66nm,0.2s						
TRG				*e*Sn	Sn	06 39 53.0	+1.1
TRG				*e*Sg	Sg	06 40 04.0	-4.1
TRG				Smax		06 40 08.4	
	comp=E,416nm,0.4s						
KAB	**Kabansk**	**3.56**	**98**	*e*PN	Pn	06 39 26.9	+10
KAB				*e*		06 40 14.8	
KAB				pmax	pmax		
	comp=Z,160nm,0.3s						
KAB				smax			
	comp=N,2μm,2.0s						
KAB	**Kabansk**	**3.56**	**98**	*e*Sg	Sg	06 40 12.4	-4.4
KAB				Smax		06 40 22.3	
	comp=N,2μm,0.8s						
FFNB	**Fofonovo**	**3.62**	**98**	*e*Pn	Pn	06 39 18.7	+0.8
FFNB				*e*Pg	Pg	06 39 27.7	-4.3
FFNB				Pmax		06 39 35.0	
	comp=N,83nm,0.3s						
FFNB				*e*Sn	Sn	06 40 02.0	+1.8
FFNB				*e*Sg	Sg	06 40 14.7	-4.2
FFNB				Smax		06 40 17.1	
	comp=N,448nm,0.5s						
HRMR	**Khuramsha**	**3.85**	**104**	⇑*i*Pn	Pn	06 39 21.9	+0.9
HRMR				*e*Pg	Pg	06 39 30.5	-5.9
HRMR				*e*PgPg		06 39 33.3	
HRMR				*e*		06 39 39.3	
HRMR				max		06 39 39.8	
	comp=N,166nm,0.4s						
HRMR				*e*Sn	Sn	06 40 07.7	+1.9
HRMR				*e*Sg	Sg	06 40 21.3	-4.9
HRMR				Smax		06 40 24.2	
	comp=N,2μm,0.7s						
OGRR	**Ongureny**	**4.11**	**74**	*e*Pn	Pn	06 39 26.3	+1.6
OGRR				*e*Pg	Pg	06 39 36.4	-5.0
OGRR				*e*PgPg		06 39 38.5	
OGRR				max		06 39 38.8	
	comp=N,96nm,0.3s						
OGRR				*e*Sn	Sn	06 40 10.9	-1.4
OGRR				*e*Sg	Sg	06 40 29.6	-5.0
OGRR				Smax		06 40 31.1	
	comp=N,369nm,0.5s						
KZLR	**Kyzyl**	**4.12**	**259**	*i* PN	Pn	06 39 33.7	+9.0
KZLR				*i*		06 40 25.9	
UUDB	**Ulan-Yde**	**4.20**	**99**	*e*Pn	Pn	06 39 26.6	+0.7
UUDB				*e*Pg	Pg	06 39 38.2	-5.0
UUDB				Pmax		06 39 38.9	
	comp=N,24nm,0.2s						
UUDB				*e*Sn	Sn	06 40 15.4	+0.8
UUDB				*e*Sg	Sg	06 40 32.3	-5.3
UUDB				Smax		06 40 36.6	
	comp=N,497nm,0.8s						
MXMB	**Maximikha**	**4.75**	**80**	*e*Pn	Pn	06 39 35.2	+1.8
MXMB				*e*Pg	Pg	06 39 48.8	-4.7
MXMB				Pmax		06 39 50.2	
	comp=N,50nm,0.4s						
MXMB				*e*Sn	Sn	06 40 27.0	-0.9
MXMB				*e*Sg	Sg	06 40 50.3	-4.6
MXMB				Smax		06 40 57.7	
	comp=N,453nm,0.8s						
HVS	**Khovu-Aksy**	**4.75**	**254**	*i* PN	Pn	06 39 44.3	+11
SYVR	**Suvo**	**5.53**	**76**	*e*Pn	Pn	06 39 45.0	+0.9
SYVR				*e*		06 39 46.2	
SYVR				max		06 39 55.3	
	comp=N,8.0nm,0.3s						
SYVR				*e*Sn	Sn	06 40 45.9	-1.3
SYVR				*e*Sg	Sg	06 41 12.8	-7.2
SYVR				Smax		06 41 18.8	
	comp=N,52nm,0.7s						
NIZ	**Nizh Angarsk**	**5.91**	**55**	*e*PN	Pn	06 39 50.2	+0.9
NIZ				*e*		06 40 09.4	
NIZ				*e*		06 41 27.9	
NIZ				pmax	pmax		
	comp=Z,19nm,0.4s						
NIZ				smax			
	comp=N,144nm,0.7s						
NIZ	**Nizh Angarsk**	**5.91**	**55**	*e*Pn	Pn	06 39 50.4	+1.1
NIZ				max		06 39 51.1	
	comp=N,28nm,0.1s						
NIZ				*e*Sn	Sn	06 40 55.9	-0.7
NIZ				*e*Sg	Sg	06 41 26.8	-5.4
NIZ				Smax		06 41 29.5	
	comp=N,182nm,0.8s						
ULN	**Ulaanbaatar**	**6.21**	**139**	*e*Pg	Pg	06 40 14.5	-7.1
ULN				*e*Sg	Sg	06 41 35.9	-6.1
YLYR	**Ulyunkhan**	**6.44**	**66**	*e*Pn	Pn	06 39 57.4	+0.8
YLYR				max		06 39 59.7	
	comp=N,9.0nm,0.1s						
YLYR				*e*Sn	Sn	06 41 07.5	-2.0
YLYR				*e*Sg	Sn	06 41 41.0	+31
YLYR				Smax		06 41 58.5	
	comp=N,104nm,1.1s						
KMO	**Kumora**	**6.80**	**58**	*e*Pn	Pn	06 40 02.6	+1.0
KMO				max		06 40 04.5	
	comp=N,56nm,0.3s						
KMO				*e*Sn	Sn	06 41 17.3	-1.2
KMO				*e*Sg	Sn	06 41 53.5	+35
KMO				Smax		06 42 08.9	
	comp=N,155nm,1.4s						
KPC	**Khapcheranga**	**7.78**	**108**	*e*Pn	Pn	06 40 16.4	+1.4
KPC				max		06 40 53.1	
	comp=N,5.0nm,0.7s						
KPC				*e*Sg	Sn	06 42 23.6	+41
KPC				Smax		06 42 29.7	
	comp=N,58nm,0.7s						
UKT	**Uakit**	**7.96**	**64**	*e*PG	Pn	06 40 45.0	+28
UKT				*e*		06 42 28.7	
UKT				pmax	pmax		
	comp=Z,2.0nm,0.4s						
UKT				smax			
	comp=N,48nm,0.9s						
UKT	**Uakit**	**7.96**	**64**	*e*Pn	Pn	06 40 18.0	+0.5
UKT				max		06 40 26.6	
	comp=N,4.0nm,0.2s						
UKT				*e*Sn	Sn	06 41 45.5	-1.6
UKT				*e*Sg	Sn	06 42 28.9	+42
UKT				Smax		06 42 40.3	
	comp=N,51nm,1.1s						
BOD	**Bodaibo**	**9.05**	**50**	*e*	Pn	06 40 31.4	-0.9
BOD				max		06 40 43.3	
	comp=N,5.0nm,0.2s						
BOD				*e*Sn	Sn	06 42 10.8	-2.9
BOD				*e*Sg	Sn	06 43 03.6	+50
BOD				Smax		06 43 10.5	
	comp=N,57nm,1.4s						
NLYR	**Nelyaty**	**9.37**	**60**	*e*Pn	Pn	06 40 38.1	+1.4
NLYR				max		06 41 13.0	
	comp=N,4.0nm,0.3s						
NLYR				*e*Sg	Sn	06 43 13.7	+52
NLYR				Smax		06 43 40.0	
	comp=N,71nm,1.2s						

GUC 25 06:40:56.1±0.7, 32°.59S×71°.84W, h6km±5km, MD3.8, ML3.1, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.46**	**159**	⇓*i*P	Pg	06 41 05.5	+0.5
IHA				*i* S	Sg	06 41 11.3	+0.2
CHNG	**Los Chungos**	**0.76**	**22**	*e*P	Pg	06 41 11.0	+0.3
CHNG				*e*S	Sg	06 41 22.1	+1.5
ROCH	**El Roble**	**0.79**	**119**	⇓*i*P	Pg	06 41 11.8	+0.5
ROCH				*e*S	Sg	06 41 23.4	+1.8
JACH	**Jahuel**	**1.05**	**95**	⇑*i*P	Pg	06 41 15.9	-0.4
JACH				*i* S	Sg	06 41 30.8	+0.9
PEL	**Peldehue**	**1.11**	**120**	⇑*e*P	Pg	06 41 17.1	-0.4
PEL				*e*S	Sg	06 41 32.9	+1.0
PEL				AML	AML	06 41 35.6	
	comp=E,2μm,0.2s						
TACH	**Talagante**	**1.30**	**145**	*e*P	Pn	06 41 19.4	-1.4
SAN	**Santiago**	**1.31**	**131**	*e*P	Pn	06 41 19.9	-1.1
STL	**Santa Lucia**	**1.31**	**130**	⇓*e*P	Pn	06 41 19.6	-1.4
STL				*e*S	Sb	06 41 37.8	-0.5
CLCH	**Cerro Calan**	**1.35**	**127**	⇓*i*P	Pn	06 41 20.6	-1.0
CLCH				*i* S	Sb	06 41 39.4	-0.1
CLCH				AML	AML	06 41 50.0	
	comp=E,356nm,0.6s						
LNV	**Longovilo**	**1.41**	**165**	*e*P	Pn	06 41 19.7	-2.6
FCH	**Farellones**	**1.49**	**120**	⇓*e*P	Pn	06 41 22.8	-0.7
FCH				*e*S	Sn	06 41 43.4	+0.1
FCH				AML	AML	06 41 45.2	
	comp=E,318nm,0.3s						
PCH	**Pirque**	**1.51**	**133**	⇓*e*P	Pn	06 41 23.1	-0.6
PCH				*e*S	Sn	06 41 43.6	-0.1
CHCH	**Chadas Angostu**	**1.67**	**144**	⇓*e*P	Pn	06 41 25.4	-0.5
CACH	**El Canelo**	**1.84**	**146**	*e*P	Pn	06 41 28.1	-0.2
LMEL	**Las Melosas**	**1.85**	**133**	*e*P	Pn	06 41 28.7	+0.2
LMEL				*e*S	Sn	06 41 53.9	+1.7
LMEL				AML	AML	06 41 57.9	
	comp=N,301nm,0.1s						
TLL	**Tololo Astrono**	**2.57**	**20**	*e*P	Pn	06 41 37.8	-0.5

IDC ***25*** *06:40:56.9±2.0, 17°.14S×178°.98W, h532km±25km, mb3.2/8, mb1 3.6/10, mb1mx3.4/18, mbtmp3.3/10, Error ellipse: s-maj=51.3km s-min=14.2km az=150.0*
ISCJB ***25*** *06:40:57.8±0.9, 17°.6S±0°.2×178°.7W±0°.2, h572km±11km, mb3.8/9, Error ellipse: s-maj=41.5km s-min=12.0km az=148.2*
NEIC ***25*** *06:40:58.4±1.0, 17°.51S×178°.72W, h564km±10km, mb4.9/1, Error ellipse: s-maj=53.8km s-min=13.0km az=154.0*

ISC 25 06:40:58.2±1.0, 17°.5S±0°.2×178°.7W±0°.2, h561km±12km, n33, σ0s96/28, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.08**	**266**	*e*P	**P**	**06 42 17.4**	**+2.8**
AFI	**Afiamalu**	**7.60**	**63**	P	**P**	**06 42 50.9**	**-1.4**
	5.2nm,0.3s,baz=189,slow=6.7,SNR=7.7						
AFI	**Afiamalu**	**7.60**	**63**	P	**P**	**06 42 50.9**	**-1.4**
DZM	**Mont Dzumac**	**14.67**	**250**	P	**P**	**06 44 03.1**	**-1.0**
	0.9nm,0.3s,baz=106,slow=16,SNR=8.6						
DZM	**Mont Dzumac**	**14.67**	**250**	P	**P**	**06 44 03.1**	**-1.0**
ARMA	**Armidale**	**29.87**	**239**	*e*P	**P**	**06 46 21.1**	**+0.2**
CTA	**Charters Tower**	**33.21**	**260**	*e*P	**P**	**06 46 49.8**	**+0.3**
CNB	**Canberra Magne**	**33.42**	**232**	*e*P	**P**	**06 46 50.8**	**-0.2**
COEN	**Coen**	**36.80**	**270**	*e*P	**P**	**06 47 20.7**	**+1.2**
	20nm,0.6s,mb4.8						
TOO	**Toolangi**	**37.17**	**230**	*e*P	**P**	**06 47 21.6**	**-0.5**
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**06 47 33.5**	**+0.1**
	5.9nm,0.5s,mb4.4,baz=96,slow=9.7,SNR=46						
STKA	**Stephens Creek**	**38.55**	**241**	*e*P	**P**	**06 47 33.5**	**+0.1**
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**06 47 33.5**	**+0.1**
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**06 48 19.0**	**-0.9**
	1.8nm,0.5s,mb3.9,baz=91,slow=6.9,SNR=68						
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**06 48 19.0**	**-0.9**
AS31	**Alice Springs**	**44.60**	**254**	*e*P	**P**	**06 48 21.0**	**-0.3**
PETK	**Petropavlovsk-**	**73.25**	**345**	P	**P**	**06 51 30.8**	**-1.6**
	0.9nm,0.5s,mb3.5,baz=120,slow=8.8,SNR=4.5						
PETK	**Petropavlovsk-**	**73.25**	**345**	P	**P**	**06 51 30.8**	**-1.6**
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**06 52 07.1**	**+0.7**
	0.4nm,0.3s,mb3.2,baz=228,slow=11,SNR=3.2						
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**06 52 07.1**	**+0.7**
ILAR	**Eielson Array**	**85.59**	**13**	P	**P**	**06 52 36.9**	**-0.2**
	0.5nm,0.4s,mb3.5,baz=222,slow=5.2,SNR=18						
ILAR	**Eielson Array**	**85.59**	**13**	P	**P**	**06 52 36.9**	**-0.2**
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**06 52 41.6**	**+1.4**
	0.9nm,0.7s,mb3.5,baz=215,slow=5.7,SNR=13						
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**06 52 41.6**	**+1.4**
PDAR	**Pinedale Array**	**87.29**	**44**	P	**P**	**06 52 46.3**	**+0.6**
	0.7nm,0.5s,mb3.5,baz=213,slow=4.3,SNR=7.9						
PDAR	**Pinedale Array**	**87.29**	**44**	P	**P**	**06 52 46.3**	**+0.6**
YKA	**Yellowknife Ar**	**94.12**	**25**	P	**P**	**06 53 16.7**	**0.0**
	0.1nm,0.4s,mb3.3,baz=236,slow=4.2,SNR=4.7						
YKA	**Yellowknife Ar**	**94.12**	**25**	P	**P**	**06 53 16.7**	**0.0**
CLL	**Collm**	**145.04**	**347**	*e*PKPbc	PKPbc	06 59 33.0	+0.4
GERES	**GERESS Array B**	**147.18**	**345**	PKPbc	PKPbc	06 59 39.3	+0.6
	0.6nm,0.5s,baz=32,slow=3.8,SNR=8.5						
GERES	**GERESS Array B**	**147.18**	**345**	PKPbc	PKPbc	06 59 39.3	+0.6
DAVOX	**Davos/Dischmat**	**149.98**	**348**	PKPbc	PKPbc	06 59 46.4	+0.8
	1.8nm,0.6s,baz=159,slow=23,SNR=4.5						
DAVOX	**Davos/Dischmat**	**149.98**	**348**	PKPbc	PKPbc	06 59 46.4	+0.8

DJA 25 07:06:02, 4°.31S×130°.78E, h63km, MLv3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.01**	**47**	P	Pn	07 06 35.1	+1.4
FAKI				S	Sn	07 06 59.6	+1.7
MSAI	**Masohi**	**2.08**	**297**	P	Pn	07 06 35.6	+1.0
TLE	**Tual**	**2.35**	**124**	P	Pn	07 06 38.9	+0.6
TLE				S	Sn	07 07 08.0	+1.8
AAI	**Ambon**	**2.65**	**283**	P	Pn	07 06 42.9	+0.5
NLAI	**Namlea**	**3.82**	**286**	P	Pn	07 07 00.6	+2.2

GUC 25 07:18:24.1±0.5, 32°.49S×71°.85W, h15km±3km, MD3.9, ML3.3, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.57**	**162**	*e*P	Pg	07 18 34.7	-0.5
CHNG	**Los Chungos**	**0.67**	**26**	*e*P	Pg	07 18 36.3	-0.9
CHNG				*e*S	Sg	07 18 45.6	-0.4
PTCH	**Petorca**	**0.81**	**74**	*e*P	Pg	07 18 39.2	-0.6
PTCH				*e*S	Sg	07 18 50.1	-0.3
PTCH				AML	AML	07 18 50.7	
	comp=N,3μm,0.5s						
ROCH	**El Roble**	**0.86**	**125**	⇑*i*P	Pb	07 18 39.9	-0.7
ROCH				*e*S	Sb	07 18 51.4	-0.6
JACH	**Jahuel**	**1.08**	**101**	*e*P	Pb	07 18 43.3	-1.1
JACH				*i* S	Sb	07 18 57.7	-0.6
PEL	**Peldehue**	**1.18**	**124**	⇓*e*P	Pn	07 18 45.3	-0.8
PEL				*e*S	Sb	07 19 00.5	-0.7
PEL				AML	AML	07 19 05.7	
	comp=E,1μm,0.3s						
SAN	**Santiago**	**1.39**	**134**	*e*P	Pn	07 18 48.1	-0.8
STL	**Santa Lucia**	**1.39**	**133**	*e*P	Pn	07 18 48.0	-0.9
STL				*e*S	Sn	07 19 06.2	-0.8
TACH	**Talagante**	**1.39**	**147**	*e*P	Pn	07 18 48.3	-0.7
CLCH	**Cerro Calan**	**1.43**	**130**	⇑*i*P	Pn	07 18 49.1	-0.4
CLCH				*e*S	Sn	07 19 07.4	-0.6
CLCH				AML	AML	07 19 14.5	
	comp=N,628nm,1.0s						
ANTU	**Antumapu**	**1.49**	**137**	*e*P	Pn	07 18 49.6	-0.7
ANTU				*e*S	Sn	07 19 09.1	-0.3
ANTU				AML	AML	07 19 14.0	
	comp=E,495nm,0.6s						
LNV	**Longovilo**	**1.51**	**166**	*e*P	Pn	07 18 49.9	-0.7
LNV				*i* S	Sn	07 19 09.3	-0.8
FCH	**Farellones**	**1.56**	**123**	⇑*e*P	Pn	07 18 51.3	+0.1
FCH				*e*S	Sn	07 19 11.9	+0.8
FCH				AML	AML	07 19 12.5	
	comp=E,511nm,0.2s						
PCH	**Pirque**	**1.59**	**136**	*e*P	Pn	07 18 51.6	-0.2
SJCH	**San Jose de Ma**	**1.70**	**133**	*e*P	Pn	07 18 53.1	-0.2
SJCH				*e*S	Sn	07 19 15.1	+0.3
CHCH	**Chadas Angostu**	**1.76**	**146**	*e*P	Pn	07 18 55.4	+1.4
CACH	**El Canelo**	**1.93**	**148**	*e*P	Pn	07 18 57.7	+1.3
CACH				*e*S	Sn	07 19 22.9	+2.5
LMEL	**Las Melosas**	**1.94**	**135**	*e*P	Pn	07 18 57.1	+0.7
LMEL				*i* S	Sn	07 19 22.2	+1.7
LMEL				AML	AML	07 19 28.4	
	comp=N,358nm,0.5s						
TLL	**Tololo Astrono**	**2.48**	**21**	*e*P	Pn	07 19 04.6	+0.7
TLL				AML	AML	07 19 45.3	
	comp=E,269nm,0.6s						
LCO	**Las Campanas**	**3.60**	**16**	*e*P	Pn	07 19 19.3	0.0

ISK ***25*** *07:50:47.6, 37°.85N×29°.21E, h5km, MD3.4*
ISCJB ***25*** *07:50:48.3±0.3, 37°.89N±0°.02×29°.19E±0°.04, h10km, Error ellipse: s-maj=4.6km s-min=3.2km az=167.9*
DDA ***25*** *07:50:48.7, 37°.90N×29°

KORT	Korkueli	1.27	136	*i* P	Pg	07 51 14.0	+1.4
KORT	Korkueli	1.27	136	*i* P	Pg	07 51 14.0	+1.3
ELL	Elmali	1.28	155	*e*PN	Pn	07 51 12.9	-0.3
ELL	Elmali	1.28	155	*e*Pn	Pn	07 51 12.9	-0.3
ALT	Altintas	1.33	31	*e*PN	Pn	07 51 14.5	+0.7
ALT	Altintas	1.33	31	*e*Pn	Pn	07 51 14.5	+0.7
SUTC	Sutluce-Ispart	1.47	107	*e*PN	Pn	07 51 15.8	+0.2
SUTC	Sutluce-Ispart	1.47	107	*e*Pn	Pn	07 51 15.9	+0.2
AKHS	Akhisar	1.47	311	*e*P	Pg	07 51 17.3	+0.9
AKHS	Akhisar	1.47	311	*e*P	Pg	07 51 17.3	+0.8
AKS	Akhisar	1.47	311	*e*PN	Pg	07 51 17.2	+0.7
AKS	Akhisar	1.47	311	*e*Pn	Pg	07 51 17.2	+0.7
ANTB	Antalya	1.52	132	*e*PN	Pn	07 51 16.9	+0.5
ANTB	Antalya	1.52	132	*e*Pn	Pn	07 51 16.9	+0.5
BOLV	Bolvadin	1.57	59	*i* P	Pg	07 51 19.3	+1.0
BOLV				*i* S	Sg	07 51 45.1	+6.4
BOLV	Bolvadin	1.57	59	*i* P	Pg	07 51 19.3	+1.0
BOLV				*i* S	Sg	07 51 45.1	+6.5
GCAM	G?zelcaml?	1.60	263	*i* P	Pg	07 51 19.8	+0.9
GCAM	G?zelcaml?	1.60	263	*i* P	Pg	07 51 19.8	+0.9
IZM	Izmir	1.63	288	*e*PN	Pn	07 51 18.2	+0.3
IZM	Izmir	1.63	288	*e*Pn	Pn	07 51 18.2	+0.3
AKAS	Kas	1.71	170	*i* P	Pg	07 51 20.8	-0.2
AKAS				*i* S	Sg	07 51 46.2	+3.1
AKAS	Kas	1.71	170	*i* P	Pg	07 51 20.8	-0.1
BODT	Bodrum	1.75	241	*e*PN	Pn	07 51 19.3	-0.3
BODT	Bodrum	1.75	241	*e*Pn	Pn	07 51 19.3	-0.3
DAT	Datca	1.78	229	*e*PN	Pn	07 51 19.8	-0.1
DAT	Datca	1.78	229	*e*Pn	Pn	07 51 19.8	-0.1
BLCB	Balcova	1.79	286	*e*PN	Pn	07 51 20.5	+0.4
BLCB	Balcova	1.79	286	*e*Pn	Pn	07 51 20.5	+0.4
CAVI	Cavuskoy	2.33	12	*e*PN	Pb	07 51 29.9	-1.0
CAVI	Cavuskoy	2.33	12	*e*Pn	Pb	07 51 29.9	-1.0
KCTX	Karacabey (Bur	2.44	344	*e*PN	Pb	07 51 30.9	-1.9
KCTX	Karacabey (Bur	2.44	344	*e*Pn	Pb	07 51 31.0	-1.9
GONE	Gonen-Balikesi	2.45	331	*e*PN	Pn	07 51 29.9	+0.8
GONE	Gonen-Balikesi	2.45	331	*e*Pn	Pn	07 51 29.9	+0.8
ADVT	Abdulvahap	2.54	9	*e*PN	Pb	07 51 33.0	-1.6
ADVT	Abdulvahap	2.54	9	*e*Pn	Pb	07 51 33.0	-1.6
YLV	Yalova	2.65	2	*e*PN	Pb	07 51 34.7	-1.7
YLV	Yalova	2.65	2	*e*Pn	Pb	07 51 34.7	-1.7
ARMT	Armutlu	2.66	354	*e*PN	Pb	07 51 34.4	-2.2
ARMT	Armutlu	2.66	354	*e*Pn	Pn	07 51 34.4	+2.3
GULT	Gulveren	2.70	21	*e*PN	Pn	07 51 35.1	+2.4
GULT	Gulveren	2.70	21	*e*Pn	Pn	07 51 35.1	+2.4

ISCJB ***25*** *07:51:31.1±0.6, 57°.7N±0°.1×32°.7W±0°.2, h10km, mb3.5/9, MS3.5/2, Error ellipse: s-maj=23.0km s-min=10.6km az=36.1*
IDC ***25*** *07:51:31.5±0.7, 57°.69N×32°.75W, h0km, mb3.5/9, mb1 3.8/11, mb1mx3.6/31, mbtmp3.6/11, ML2.8/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/47, Error ellipse: s-maj=32.2km s-min=15.7km az=35.0*
NEIC ***25*** *07:51:33.0±0.6, 57°.72N×32°.69W, h10km, Error ellipse: s-maj=21.1km s-min=9.7km az=218.0*

ISC 25 07:51:33.1±0.6, 57°.7N±0°.1×32°.7W±0°.2, h10km, n25, σ0**73**/23**, mb3.5**/9**, MS3.5**/2**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.43**	**326**	*e*Pn	**Pn**	**07 54 28.9**	**-0.8**
FRB	**Frobisher Bay**	**18.33**	**304**	P	**Pn**	**07 55 48.4**	**+1.3**
	0.1nm,0.3s,baz=130,slow=10,SNR=4.0						
FRB	**Frobisher Bay**	**18.33**	**304**	P	**Pn**	**07 55 48.4**	**+1.3**
SCHQ	**Schefferville**	**19.04**	**276**	P	**Pn**	**07 55 55.9**	**+0.2**
	0.2nm,0.3s,baz=64,slow=12,SNR=5.2						
SCHQ	**Schefferville**	**19.04**	**276**	P	**Pn**	**07 55 55.9**	**+0.2**
ESDC	**Sonseca Array**	**25.88**	**122**	P	**P**	**07 57 04.7**	**-0.1**
	0.7nm,0.6s,mb3.3,baz=321,slow=8.9,SNR=7.3						
ESDC	**Sonseca Array**	**25.88**	**122**	P	**P**	**07 57 04.7**	**-0.1**
DAVOX	**Davos/Dischmat**	**27.82**	**95**	LR	LR	08 08 22.5	
	comp=Z,139nm,18.4s,MS3.6,baz=269,slow=36						
GERES	**GERESS Array B**	**28.62**	**88**	LR	LR	08 08 56.4	
	comp=Z,126nm,21.4s,MS3.5,baz=94,slow=36						
YKA	**Yellowknife Ar**	**38.52**	**312**	P	**P**	**07 58 54.9**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=57,slow=8.7,SNR=5.4						
YKA				PcP	PcP	08 01 06.8	-0.6
	0.5nm,0.8s,baz=51,slow=3.2,SNR=5.9						
YKA	**Yellowknife Ar**	**38.52**	**312**	P	**P**	**07 58 54.9**	**-0.1**
YKA				PcP	PcP	08 01 06.8	-0.6
INK	**Inuvik**	**41.77**	**327**	P	**P**	**07 59 21.6**	**-0.3**
	1.8nm,1.1s,mb3.6,baz=44,slow=6.3,SNR=3.2						
INK	**Inuvik**	**41.77**	**327**	P	**P**	**07 59 21.6**	**-0.3**
ILAR	**Eielson Array**	**48.08**	**328**	P	**P**	**08 00 12.8**	**+0.7**
	0.4nm,0.8s,mb3.5,baz=28,slow=6.7,SNR=7.0						
ILAR				PcP	PcP	08 01 39.2	-0.4
	0.9nm,0.7s,baz=1.3,slow=2.5,SNR=11						
ILAR	**Eielson Array**	**48.08**	**328**	P	**P**	**08 00 12.8**	**+0.7**
ILAR				PcP	PcP	08 01 39.2	-0.4
PDAR	**Pinedale Array**	**48.63**	**287**	P	**P**	**08 00 16.0**	**-0.7**
	0.7nm,0.8s,mb3.8,baz=64,slow=7.0,SNR=5.7						
PDAR	**Pinedale Array**	**48.63**	**287**	P	**P**	**08 00 16.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**51.53**	**135**	P	**P**	**08 00 37.9**	**-1.0**
	0.5nm,0.7s,mb3.6,baz=342,slow=8.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**51.53**	**135**	P	**P**	**08 00 37.9**	**-1.0**
DBIC	**Dimbokro**	**55.34**	**146**	P	**P**	**08 01 08.2**	**+1.2**
	0.8nm,0.4s,mb4.1,baz=320,slow=7.9,SNR=2.5						
DBIC	**Dimbokro**	**55.34**	**146**	P	**P**	**08 01 08.2**	**+1.2**
TXAR	**Lajitas Array**	**55.65**	**271**	P	**P**	**08 01 08.5**	**-0.5**
	0.2nm,0.8s,mb3.2,baz=58,slow=5.4,SNR=3.0						
TXAR	**Lajitas Array**	**55.65**	**271**	P	**P**	**08 01 08.6**	**-0.5**
MKAR	**Makanchi Array**	**62.80**	**44**	P	**P**	**08 01 58.6**	**+0.3**
	0.4nm,0.7s,mb3.7,baz=335,slow=5.7,SNR=5.2						
MKAR	**Makanchi Array**	**62.80**	**44**	P	**P**	**08 01 58.6**	**+0.3**

ISK ***25*** *08:03:54.7, 37°.90N×29°.24E, h5km, MD2.5*
ISCJB ***25*** *08:03:55.6±0.7, 37°.90N±0°.04×29°.24E±0°.08, h13km±8km, Error ellipse: s-maj=11.0km s-min=4.6km az=158.4*
DDA ***25*** *08:03:55.4, 37°.90N×29°.25E, h7km±3km, Md2.6*
CSEM ***25*** *08:03:55.2±0.2, 37°.88N×29°.25E, h20km, MD2.5, Error ellipse: s-maj=6.1km s-min=3.7km az=76.0*

ISC 25 08:03:56.0±0.7, 37°.90N±0°.03×29°.24E±0°.07, h12km±12km, n12, σ0**75**/23**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.22**	**228**	*e*PG	**Pg**	**08 04 00.4**	**-0.2**
DENT				*e*SG	**Sg**	**08 04 03.5**	**-0.2**
DENT	**Denizli**	**0.22**	**228**	*e*Pg	**Pg**	**08 04 00.4**	**-0.2**
DENT				*e*Sg	**Sg**	**08 04 03.5**	**-0.2**
KHAL	**Karahalli**	**0.51**	**23**	*i* P	**Pg**	**08 04 05.7**	**-0.3**
KHAL				*i* S	**Sg**	**08 04 12.8**	**+0.1**
KHAL	**Karahalli**	**0.51**	**23**	*i* P	**Pg**	**08 04 05.7**	**-0.3**
KHAL				*i* S	**Sg**	**08 04 12.8**	**0.0**
GOLH	**Golhisar**	**0.71**	**159**	*i* P	**Pg**	**08 04 08.4**	**-1.3**
GOLH				*i* S	**Sg**	**08 04 19.5**	**+0.5**
GOLH	**Golhisar**	**0.71**	**159**	*i* P	**Pg**	**08 04 08.4**	**-1.3**
GOLH				*i* S	**Sg**	**08 04 19.5**	**+0.5**
KULA	**Kula-Manisa**	**0.76**	**324**	*e*PG	**Pg**	**08 04 11.1**	**+0.3**
KULA				*e*SG	**Sg**	**08 04 22.2**	**+1.4**
KULA	**Kula-Manisa**	**0.76**	**324**	*e*Pg	**Pg**	**08 04 11.1**	**+0.4**
KULA				*e*Sg	**Sg**	**08 04 22.2**	**+1.4**
GLHS	**Glhisar (BURDU**	**0.77**	**164**	*e*PG	**Pg**	**08 04 10.1**	**-0.8**
GLHS				*e*SG	**Sg**	**08 04 22.4**	**+1.4**
MANT	**Manisa**	**0.80**	**318**	*i* P	**Pg**	**08 04 10.9**	**-0.5**
MANT				*i* S	**Sg**	**08 04 21.2**	**-0.6**
MANT	**Manisa**	**0.80**	**318**	*i* P	**Pg**	**08 04 10.9**	**-0.5**
MANT				*i* S	**Sg**	**08 04 21.2**	**-0.6**
ALT	**Altintas**	**1.34**	**30**	*e*PN	**Pn**	**08 04 20.6**	**+0.1**

NEIC ***25*** *08:06:36.3, 34°.44S×72°.39W, h34km, ML2.9(GUC), After GUC.*

GUC 25 08:06:36.3±0.7, 34°.44S×72°.39W, h34km±2km, MD3.8, ML2.9, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.94**	**59**	⇑*i*P	Pn	08 06 53.3	+0.2
LNV				*i* S	Sn	08 07 06.5	+1.2
LNV	**Longovilo**	**0.94**	**59**	⇑*i*P	Pn	08 06 53.3	+0.2
LNV				*i* S	Sn	08 07 06.5	+1.2
NICH	**Los Niches**	**1.11**	**121**	*e*P	Pn	08 06 56.1	+0.8
NICH				*e*S	Sn	08 07 10.7	+1.3
NICH	**Los Niches**	**1.11**	**121**	*e*P	Pn	08 06 56.1	+0.8
NICH				*e*S	Sn	08 07 10.7	+1.3
TALC	**Talca**	**1.14**	**147**	*e*P	Pn	08 06 56.9	+1.1
TALC				*e*S	Sn	08 07 11.4	+1.3
TALC	**Talca**	**1.14**	**147**	*e*P	Pn	08 06 56.9	+1.1
TALC				*e*S	Sn	08 07 11.4	+1.3
TALC				AML	AML	08 07 14.2	
	comp=E,859nm,0.4s						
TACH	**Talagante**	**1.44**	**57**	P	Pn	08 07 00.2	+0.3
TACH				*i* S	Sn	08 07 20.0	+2.4
TACH	**Talagante**	**1.44**	**57**	*e*P	Pn	08 07 00.2	+0.3
TACH				*i* S	Sn	08 07 20.0	+2.4
CACH	**El Canelo**	**1.52**	**78**	⇑*e*P	Pn	08 07 02.7	+1.8
CACH				*i* S	Sn	08 07 23.3	+3.8
CACH	**El Canelo**	**1.52**	**78**	⇑*e*P	Pn	08 07 02.7	+1.8
CACH				*i* S	Sn	08 07 23.3	+3.8
CHCH	**Chadas Angostu**	**1.53**	**71**	⇓*i*P	Pn	08 07 02.3	+1.2
CHCH				*e*S	Sn	08 07 22.7	+3.0
CHCH	**Chadas Angostu**	**1.53**	**71**	⇓*i*P	Pn	08 07 02.3	+1.2
CHCH				*e*S	Sn	08 07 22.7	+3.0
PCH	**Pirque**	**1.76**	**63**	*e*P	Pn	08 07 05.7	+1.4
PCH				*i* S	Sn	08 07 28.7	+3.2
PCH	**Pirque**	**1.76**	**63**	*e*P	Pn	08 07 05.7	+1.4
PCH				*i* S	Sn	08 07 28.7	+3.2
CLCH	**Cerro Calan**	**1.86**	**56**	*e*P	Pn	08 07 07.0	+1.3
CLCH				*e*S	Sn	08 07 31.2	+3.2
CLCH				AML	AML	08 07 38.7	
	comp=N,167nm,0.4s						
ROCH	**El Roble**	**1.86**	**38**	*e*P	Pn	08 07 07.1	+1.4
ROCH				*e*S	Sn	08 07 30.9	+2.8
ROCH				AML	AML	08 07 40.8	
	comp=N,109nm,0.5s						
LMEL	**Las Melosas**	**1.91**	**72**	*e*P	Pn	08 07 08.2	+1.8
LMEL				*e*S	Sn	08 07 32.3	+3.2
LMEL	**Las Melosas**	**1.91**	**72**	*e*P	Pn	08 07 08.2	+1.8
LMEL				*e*S	Sn	08 07 32.3	+3.2
LMEL				AML	AML	08 07 36.8	
	comp=N,186nm,0.3s						
PEL	**Peldehue**	**1.92**	**48**	*e*P	Pn	08 07 08.3	+1.8
PEL				*e*S	Sn	08 07 32.0	+2.5
PEL				AML	AML	08 07 40.2	
	comp=N,179nm,0.7s						
FCH	**Farellones**	**2.07**	**58**	*e*P	Pn	08 07 12.3	+3.7
FCH				*i* S	Sn	08 07 38.6	+5.5
LCO	**Las Campanas**	**5.60**	**15**	*e*Pn	Pn	08 07 57.4	+0.3
LCO				Sn	Sn	08 09 00.8	+0.5

IDC ***25*** *08:11:21.1±2.1, 27°.93N×52°.53E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML3.8/1, Error ellipse: s-maj=45.2km s-min=23.2km az=156.0*
ISCJB ***25*** *08:11:22.9±0.5, 28°.15N±0°.05×52°.33E±0°.07, h10km, mb3.7/11, Error ellipse: s-maj=10.3km s-min=4.3km az=34.3*
SGS ***25*** *08:11:23.5, 28°.54N×52°.55E, h28km*
NEIC ***25*** *08:11:27.0, 28°.21N×52°.25E, h31km, mb3.5/1, MN3.6(TEH), After TEH.*
CSEM ***25*** *08:11:27.3±0.4, 28°.23N×52°.36E, h30km, ML3.6, Error ellipse: s-maj=14.0km s-min=7.2km az=140.0*
TEH ***25*** *08:11:27.1, 28°.21N×52°.25E, h31km*

ISC 25 08:11:24.8±0.5, 28°.19N±0°.05×52°.29E±0°.06, h10km, n71, σ1**19**/77**, mb3.7**/11**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.39**	**31**	Pn	**Pn**	**08 11 50.5**	**+0.2**
ISRV				Sg	**Sg**	**08 12 12.1**	**+2.5**
ISRV	**Sarvestan**	**1.39**	**31**	*e*Pn	**Pn**	**08 11 50.5**	**+0.2**
ISRV				*e*		08 12 06.2	
	comp=Z,7μm,0.2s						
ISRV				*e*Sg	**Sg**	**08 12 12.1**	**+2.5**
ISRV	**Sarvestan**	**1.39**	**31**	*e*Pn	**Pn**	**08 11 50.5**	**+0.2**
ISRV				*e*Sg	**Sg**	**08 12 12.1**	**+2.5**
IPAR	**Pars**	**1.77**	**22**	Pn	**Pn**	**08 11 55.8**	**+0.2**
IPAR				Sg	**Sg**	**08 12 22.6**	**+0.7**
IPAR	**Pars**	**1.77**	**22**	*e*Pn	**Pn**	**08 11 55.9**	**+0.3**
IPAR				*e*Sg	**Sg**	**08 12 22.6**	**+0.7**
IPAR				*e*		08 12 29.0	
	comp=Z,9μm,0.4s						
IPAR	**Pars**	**1.77**	**22**	Pn	**Pn**	**08 11 55.8**	**+0.2**
IPAR				*e*Sg	**Sg**	**08 12 22.6**	**+0.7**
SLWS		**3.69**	**204**	S	**Sg**	**08 13 32.1**	**+8.8**
IMEH	**Mehriz**	**3.77**	**32**	Pn	**Pn**	**08 12 23.0**	**-0.1**
IMEH	**Mehriz**	**3.77**	**32**	*e*Pn	**Pn**	**08 12 23.1**	**0.0**
IMEH				*e*		08 12 29.3	
	comp=Z,712nm,0.1s						
IMEH	**Mehriz**	**3.77**	**32**	Pn	**Pn**	**08 12 23.0**	**-0.1**
IGAR	**Gharneh**	**4.20**	**357**	*e*Pn	**Pn**	**08 12 28.7**	**-0.3**
IGAR				*e*		08 13 59.7	
	comp=Z,272nm,0.2s						
BTHS		**4.33**	**198**	P	**Pn**	**08 12 32.6**	**+1.9**
BTHS		**4.33**	**198**	P	**Pn**	**08 12 32.6**	**+1.9**
IBAF	**Bafgh**	**4.42**	**39**	Pn	**Pn**	**08 12 31.3**	**-0.7**
IBAF	**Bafgh**	**4.42**	**39**	*e*Pn	**Pn**	**08 12 31.3**	**-0.7**
IBAF				*e*		08 12 49.5	
	comp=Z,338nm,0.3s						
IBAF	**Bafgh**	**4.42**	**39**	*e*Pn	**Pn**	**08 12 31.3**	**-0.7**
ICHK	**Chekchek**	**4.43**	**24**	Pn	**Pn**	**08 12 32.2**	**0.0**
ICHK	**Chekchek**	**4.43**	**24**	*e*Pn	**Pn**	**08 12 32.2**	**0.0**
ICHK				*e*		08 12 34.0	
	comp=Z,573nm,0.2s						
ICHK	**Chekchek**	**4.43**	**24**	*e*Pn	**Pn**	**08 12 32.2**	**0.0**
NAY	**Al-Naaiem**	**4.56**	**285**	*e*P	**Pn**	**08 12 35.4**	**+1.6**
NAY	**Al-Naaiem**	**4.56**	**285**	*e*P	**Pn**	**08 12 35.4**	**+1.6**
MIB	**Mutribah**	**4.62**	**291**	*e*P	**Pn**	**08 12 36.1**	**+1.4**
MIB	**Mutribah**	**4.62**	**291**	*e*P	**Pn**	**08 12 36.1**	**+1.3**
IZEF	**Zefreh**	**4.69**	**0**	Pn	**Pn**	**08 12 35.4**	**-0.2**
IZEF	**Zefreh**	**4.69**	**0**	*e*Pn	**Pn**	**08 12 35.5**	**-0.1**
IZEF	**Zefreh**	**4.69**	**0**	*e*Pn	**Pn**	**08 12 35.5**	**-0.1**
RST	**Umm Al-Ruwaisa**	**4.82**	**287**	*e*P	**Pn**	**08 12 39.5**	**+2.0**
RST	**Umm Al-Ruwaisa**	**4.82**	**287**	*e*P	**Pn**	**08 12 39.5**	**+2.0**
HRDDS		**5.83**	**207**	S	**Sn**	**08 13 58.5**	**+0.2**
HRDDS		**5.83**	**207**	P	**Pn**	**08 12 51.9**	**+0.5**
ASYS		**7.07**	**266**	S	**Sn**	**08 14 26.4**	**-2.4**
ASYS		**7.07**	**266**	P	**Pn**	**08 13 07.9**	**-0.5**
ASYS		**7.07**	**266**	P	**Pn**	**08 13 07.9**	**-0.5**
IDHR	**Dehrash**	**8.21**	**324**	Pn	**Pn**	**08 13 22.4**	**-1.7**
IDHR	**Dehrash**	**8.21**	**324**	*e*Pn	**Pn**	**08 13 22.4**	**-1.7**
IDHR				*e*		08 15 00.1	
	comp=Z,287nm,0.2s						
IDHR	**Dehrash**	**8.21**	**324**	*e*Pn	**Pn**	**08 13 22.4**	**-1.7**
BRTR	**Keskin Array B**	**19.24**	**312**	P	**Pn**	**08 15 49.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=135,slow=13,SNR=8.4						
BRTR	**Keskin Array B**	**19.24**	**312**	P	**Pn**	**08 15 49.8**	**-0.3**
BRTR	**Keskin Array B**	**19.24**	**312**	P	**Pn**	**08 15 49.8**	**-0.3**
ABKAR	**Akbulak array**	**21.84**	**14**	*e*P	**P**	**08 16 15.6**	**-1.7**
	comp=Z,1.0nm,0.5s,mb3.5						
ABKAR	**Akbulak array**	**21.84**	**14**	*e*P	**P**	**08 16 15.6**	**-1.7**
	comp=Z,1.0nm,0.5s,mb3.5						
AKTO	**Aktyubinsk**	**22.64**	**10**	P	**P**	**08 16 26.4**	**+0.7**
	comp=Z,0.6nm,0.4s,mb3.4,baz=162,slow=9.7,SNR=3.3						
AKTO	**Aktyubinsk**	**22.64**	**10**	P	**P**	**08 16 26.5**	**+0.7**
BVAR	**Borovoye Array**	**28.20**	**23**	P	**P**	**08 17 16.3**	**-1.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=210,slow=6.4,SNR=3.1						
BVAR	**Borovoye Array**	**28.20**	**23**	P	**P**	**08 17 16.3**	**-1.1**
BVAR	**Borovoye Array**	**28.20**	**23**	P	**P**	**08 17 16.3**	**-1.1**
AKASG	**Malin Array Be**	**28.46**	**328**	P	**P**	**08 17 21.1**	**+1.3**
	comp=Z,0.2nm,0.3s,mb3.2,baz=131,slow=7.3,SNR=2.8						
AKASG	**Malin Array Be**	**28.46**	**328**	P	**P**	**08 17 21.1**	**+1.3**
AKASG	**Malin Array Be**	**28.46**	**328**	P	**P**	**08 17 21.1**	**+1.3**
MKAR	**Makanchi Array**	**29.93**	**44**	P	**P**	**08 17 31.7**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.3,baz=232,slow=7.5,SNR=5.1						
MKAR	**Makanchi Array**	**29.93**	**44**	P	**P**	**08 17 31.7**	**-1.2**
MKAR	**Makanchi Array**	**29.93**	**44**	P	**P**	**08 17 31.7**	**-1.2**
ZALV	**Zalesovo Beam**	**35.02**	**34**	P	**P**	**08 18 15.3**	**-2.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=238,slow=9.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**35.02**	**34**	P	**P**	**08 18 15.3**	**-2.0**
ZALV	**Zalesovo Beam**	**35.02**	**34**	P	**P**	**08 18 15.3**	**-2.1**
FINES	**FINESS Array B**	**37.56**	**340**	P	**P**	**08 18 37.8**	**-1.2**
	comp=Z,2.3nm,0.9s,mb3.9,baz=156,slow=10.0,SNR=7.3						
FINES	**FINESS Array B**	**37.56**	**340**	P	**P**	**08 18 37.8**	**-1.2**
FINES	**FINESS Array B**	**37.56**	**340**	P	**P**	**08 18 37.8**	**-1.2**
NOA	**NORSAR Array B**	**42.74**	**332**	P	**P**	**08 19 23.6**	**+1.7**
	comp=Z,0.8nm,0.9s,mb3.5,baz=131,slow=8.3,SNR=2.5						
NOA	**NORSAR Array B**	**42.74**	**332**	P	**P**	**08 19 23.6**	**+1.7**
NOA	**NORSAR Array B**	**42.74**	**332**	P	**P**	**08 19 23.6**	**+1.6**
ARCES	**ARCESS Array B**	**44.19**	**347**	P	**P**	**08 19 34.1**	**+0.6**
	comp=Z,8.6nm,1.1s,mb4.4,baz=134,slow=8.7,SNR=4.2						
ARCES	**ARCESS Array B**	**44.19**	**347**	P	**P**	**08 19 34.1**	**+0.6**
ARCES	**ARCESS Array B**	**44.19**	**347**	P	**P**	**08 19 34.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**49.30**	**263**	P	**P**	**08 20 13.5**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.1,baz=60,slow=8.6,SNR=11						
TORD	**Torodi Ar. Bea**	**49.30**	**263**	P	**P**	**08 20 13.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**49.30**	**263**	P	**P**	**08 20 13.5**	**-0.8**
YKA	**Yellowknife Ar**	**89.02**	**354**	P	**P**	**08 24 18.6**	**-1.1**
	comp=Z,0.4nm,0.7s,mb3.9,baz=10,slow=5.3,SNR=4.6						
YKA	**Yellowknife Ar**	**89.02**	**354**	P	**P**	**08 24 18.6**	**-1.1**
YKA	**Yellowknife Ar**	**89.02**	**354**	P	**P**	**08 24 18.6**	**-1.1**

PGC ***25*** *08:11:53.4±2.5, 48°.84N×129°.07W, h10km, ML4.8/12, Mw5.8, 232km west of Tofino, Bc Vancouver Island Region*
BJI ***25*** *08:11:53.6, 49°.10N×128°.60W, h10km, mB5.5/43, mb5.1/47, Ms5.8/56, Ms7 5.5/56*
IDC ***25*** *08:11:56.2±0.5, 49°.00N×128°.89W, h0km, mb4.6/29, mb1 4.8/37, mb1mx4.8/39, mbtmp4.7/37, ML4.3/7, MS5.4/30, Ms1 5.4/30, ms1mx5.2/43, Error ellipse: s-maj=13.0km s-min=8.6km az=52.0*
MOS ***25*** *08:11:56.7±1.0, 49°.12N×128°.62W, h10km, mb5.6/72, MS5.5/51, Error ellipse: s-maj=10.3km s-min=4.3km az=122.7*
ISCJB ***25*** *08:11:57.1±0.1, 49°.09N±0°.02×128°.62W±0°.02, h10km, mb5.2/189, MS5.5/210, Error ellipse: s-maj=2.8km s-min=1.6km az=44.5*
NEIC ***25*** *08:11:58.8±0.2, 49°.13N×128°.62W, h10km, mb5.5/158, MS5.5/148, MW5.8, MW5.8, MW5.8(PGC), Error ellipse: s-maj=4.3km s-min=1.9km az=46.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^{17}Nm; M_{rr}0.35; $M_{\theta\theta}$-4.51; $M_{\phi\phi}$4.16; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.92; $M_{\phi r}$-4.00; Best double couple: $M_0$6.00000×10^{17} NP1:φ_s225.00000°, δ64.00000°, λ20.00000°. NP2:φ_s125.00000°, δ72.00000°, λ152.00000°. Principal axes: T 6.8000, Plg32.0000°, Azm83.0000°; N -2.1700, Plg57.0000°, Azm274.0000°; P -4.6300, Plg5.0000°, Azm176.0000°;*
NEIC Felt [II] at Vancouver, British Columbia. Also felt at Sechelt and Victoria. Felt at Bremerton, Carnation, Maple Valley and Seattle, Washington.
SZGRF ***25*** *08:11:58.8, 49°.96N×131°.74W, h33km, mb5.4, Vancouver Island, Canada, region*
GCMT ***25*** *08:11:59.8±0.1, 48°.78N×129°.06W, h12km, MW5.8, Moment Tensor Solution. s102, c192; s65, c82; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.77±.05; $M_{\theta\theta}$-6.28±.06; $M_{\phi\phi}$7.05±.06; $M_{r\theta}$-0.34±.15; $M_{\theta\phi}$-0.57±.06; $M_{\phi r}$0.31±.15; Best double couple: $M_0$6.70000×10^{17} NP1:φ_s43.00000°, δ86.00000°, λ-1.00000°. NP2:φ_s133.00000°, δ89.00000°, λ-176.00000°. Principal axes: T 7.0900, Plg2.0000°, Azm267.0000°; N -0.7700, Plg86.0000°, Azm143.0000°; P -6.3200, Plg3.0000°, Azm358.0000°; Data Used: II IU IC G CN. Surface waves: sta=116, comp=251, per= 50.*

ISC 25 08:11:59.0±0.1, 49°.14N±0°.02×128°.61W±0°.02, h10km, (h14km±1.0km**:pP-P), n767,** σ1**18**/711**, mb5.2**/189**, MS5.5**/210**, 20C-37D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.15**	**28**	⇓Pn	**Pn**	**08 12 19.0**	**-2.2**
BPBC				Sn	**Sn**	**08 12 37.8**	**+0.8**
BPBC	**Brooks Peninsu**	**1.15**	**28**	⇓Pn	**Pn**	**08 12 19.0**	**-2.2**
BPBC				⇑Sn	**Sn**	**08 12 37.8**	**+0.8**
EDB	**Eliza Dome**	**1.22**	**52**	Pn	**Pn**	**08 12 19.9**	**-2.1**
EDB				Sn	**Sn**	**08 12 38.0**	**-0.5**
EDB	**Eliza Dome

YBMT	Yellow Bay	9.78	92	ePn	Pn	08 14 18.5	-1.0
SWMT	Swartz Lake	9.87	94	ePn	Pn	08 14 20.2	-0.6
MSO	Missoula	10.10	98	ePn	Pn	08 14 22.2	-1.8
KCPM	Cahto Peak	10.11	157	ePn	Pn	08 14 23.8	-0.4
KCPM				eSn	Sn	08 16 27.7	+10
SLMT	Seeley Lake	10.27	95	ePn	Pn	08 14 25.1	-1.1
CHMT	Chamberlain Mo	10.53	96	ePn	Pn	08 14 29.0	-0.8
MFID	Camas Ranch	10.53	118	ePn	Pn	08 14 30.0	+0.1
	comp=Z,538nm,2.0s						
HOPS	Hopland	10.89	157	ePn	Pn	08 14 34.6	-0.3
SKAG	Skagway	11.05	342	eP	Pn	08 14 39.3	+2.4
	comp=Z,637nm,2.2s						
LRM	Limekiln Ridge	11.42	101	ePn	Pn	08 14 42.3	+0.2
DLMT	Dillon	11.52	103	ePn	Pn	08 14 42.4	-1.0
DLMT				eSn	Sn	08 16 58.6	+6.7
HRY	Holter Researc	11.52	96	ePn	Pn	08 14 43.7	+0.4
MCMT	McKenzie Canyo	11.59	106	ePn	Pn	08 14 44.2	-0.2
	comp=Z,14nm,0.8s						
WCN	Washoe City	11.70	144	ePn	Pn	08 14 46.5	+0.6
WCN				eSn	Sn	08 17 01.1	+4.7
WCN	Washoe City	11.70	144	eP	Pn	08 14 46.5	+0.7
WCN				e		08 17 01.1	
BMN	Battle Mountai	11.87	133	ePn	Pn	08 14 50.3	+2.1
BMN	Battle Mountai	11.87	133	eP	Pn	08 14 50.3	+2.1
BOZ	Bozeman (W)	12.02	100	ePn	Pn	08 14 50.6	+0.4
BOZ	Bozeman (W)	12.02	100	eP	Pn	08 14 50.6	+0.3
PNL	Peninsula	12.26	333	ePn	Pn	08 14 53.6	+0.2
	comp=Z,263nm,1.2s						
QLMT	Earthquake Lak	12.49	104	ePn	Pn	08 14 57.1	+0.4
EGMT	Eagleton	12.54	88	ePn	Pn	08 14 56.3	-0.9
CMB	Columbia Colle	12.59	149	ePn	Pn	08 14 57.9	-0.2
CMB				eSn	Sn	08 17 20.2	+2.0
CMB	Columbia Colle	12.59	149	eP	Pn	08 14 57.9	-0.1
CMB				e		08 17 20.2	
ELK	Elko	12.64	127	ePn	Pn	08 15 01.1	+2.4
ELK	Elko	12.64	127	eP	Pn	08 15 01.1	+2.4
YMR	Madison River	12.86	104	ePn	Pn	08 15 02.6	+0.9
	comp=Z,572nm,1.6s						
YNR	Norris Junctio	13.02	103	ePn	Pn	08 15 06.4	+2.5
NVAR	Mina Array Bea	13.02	141	Pn	Pn	08 15 04.7	+0.7
	comp=Z,0.8nm,0.3s,baz=316,slow=12,SNR=53						
NVAR				LR	LR	08 19 29.5	
	comp=Z,8μm,20.6s,baz=39,slow=35						
NVAR	Mina Array Bea	13.02	141	Pn	Pn	08 15 04.7	+0.7
YFT	Old Faithful	13.04	104	ePn	Pn	08 15 05.9	+1.8
DCID1	Drake Creek	13.24	108	ePn	Pn	08 15 07.9	+1.0
GCMT	Greycliff	13.24	97	ePn	Pn	08 15 07.1	+0.2
	comp=Z,27μm,1.6s						
RRI2	Red Ridge	13.28	109	ePn	Pn	08 15 08.0	+0.5
HVU	Hansel Valley	13.31	118	ePn	Pn	08 15 10.2	+2.3
	comp=Z,674nm,1.8s						
HVU	Hansel Valley	13.31	118	eP	Pn	08 15 10.2	+2.3
HVU				pmax	pmax		
	comp=Z,674nm,1.8s						
SAO	San Andreas Ge	13.43	154	ePn	Pn	08 15 08.3	-1.1
	comp=Z,791nm,2.0s						
SAO				eSn	Sn	08 17 41.6	+3.0
SAO	San Andreas Ge	13.43	154	eP	Pn	08 15 08.3	-1.1
SAO				e		08 17 41.6	
SAO				pmax	pmax		
	comp=Z,791nm,2.0s						
TPAW	Teton Pass	13.44	108	ePn	Pn	08 15 09.9	+0.4
	comp=Z,156nm,0.9s						
REDW	Red Top Meadow	13.56	109	ePn	Pn	08 15 11.4	+0.1
	comp=Z,883nm,2.0s						
SNOW	Snow King Moun	13.57	108	ePn	Pn	08 15 12.4	+0.9
	comp=Z,1μm,2.5s						
RLMT	Red Lodge	13.76	100	ePn	Pn	08 15 14.6	+0.6
	comp=Z,1μm,1.8s						
MTUM	Tungsten Hills	13.85	145	ePn	Pn	08 15 16.2	+0.9
DUG	Dugway	14.34	123	ePn	Pn	08 15 21.6	-0.3
	comp=Z,257nm,1.2s						
DUG				eSn	Sn	08 18 09.9	+9.0
DUG	Dugway	14.34	123	eP	Pn	08 15 21.6	-0.3
DUG				e		08 18 09.9	
DUG				pmax	pmax		
	comp=Z,257nm,1.2s						
CTU	Camp Tracy	14.60	119	ePn	Pn	08 15 25.8	+0.3
	comp=Z,342nm,1.7s						
PD01	Pinedale Array	14.66	109	ePn	Pn	08 15 27.6	+1.3
PD02	Pinedale Array	14.67	109	ePn	Pn	08 15 28.1	+1.7
BW06	Boulder Array	14.68	109	ePn	Pn	08 15 27.6	+1.1
	comp=Z,331nm,1.6s						
PDAR	Pinedale Array	14.68	109	Pn	Pn	08 15 28.4	+1.9
	comp=Z,0.3nm,0.3s,baz=307,slow=9.9,SNR=64						
PDAR				LR	LR	08 21 33.3	
	comp=Z,40μm,18.1s,baz=304,slow=39						
PDAR	Pinedale Array	14.68	109	Pn	Pn	08 15 28.4	+1.9
JLU	Jordanelle	14.83	119	ePn	Pn	08 15 29.4	+0.8
	comp=Z,396nm,1.6s						
BMRM	Bremner River	14.93	329	ePn	Pn	08 15 30.5	+0.8
	comp=Z,306nm,1.4s						
DAU	Daniels Canyon	15.07	119	ePn	Pn	08 15 33.1	+1.2
DAU	Daniels Canyon	15.07	119	eP	Pn	08 15 33.1	+1.3
MPU	Maple Canyon	15.12	121	ePn	Pn	08 15 32.7	+0.2
	comp=Z,383nm,1.7s						
LAO	LASA Array	15.20	91	ePn	Pn	08 15 32.4	-1.1
	comp=Z,700nm,1.6s						
ISA	Isabella	15.39	147	ePn	Pn	08 15 36.0	0.0
	comp=Z,280nm,1.4s						
ISA	Isabella	15.39	147	eP	Pn	08 15 36.0	0.0
ISA				pmax	pmax		
	comp=Z,280nm,1.4s						
DIV	Divide	15.45	327	ePn	Pn	08 15 37.4	+0.7
	comp=Z,204nm,1.3s						
YKA	Yellowknife Ar	15.47	25	Pn	Pn	08 15 35.8	-1.2
	comp=Z,1.4nm,0.3s,baz=213,slow=12,SNR=146						
YKA				Sn	Sn	08 18 23.8	-4.3
	comp=Z,0.7nm,0.3s,baz=294,slow=29,SNR=5.6						
YKA	Yellowknife Ar	15.47	25	Pn	Pn	08 15 35.8	-1.2
YKA				Sn	Sn	08 18 23.8	-4.3
YKA	Yellowknife Ar	15.47	25	P	Pn	08 15 35.8	-1.1
YKA						08 18 23.8	
ARUT	Antelope Range	15.78	130	ePn	Pn	08 15 41.4	+0.3
	comp=Z,203nm,0.9s						
ARUT	Antelope Range	15.78	130	eP	Pn	08 15 41.4	+0.3
ARUT				pmax	pmax		
	comp=Z,203nm,0.9s						
TMUT	Trail Mountain	15.85	122	ePn	Pn	08 15 42.6	+0.6
	comp=Z,284nm,1.3s						
MSU	Marysvale	15.88	126	ePn	Pn	08 15 43.4	+0.9
MSU	Marysvale	15.88	126	eP	Pn	08 15 43.4	+0.9
CCUT	Cedar City	16.00	131	ePn	Pn	08 15 43.0	-1.0
	comp=Z,419nm,1.6s						
CCUT				eSn	Sn	08 18 46.3	+5.0
DGMT	Dagmar	16.08	83	ePn	Pn	08 15 44.2	-0.8
	comp=Z,190nm,1.1s						
MENT	Mentasta	16.14	335	eP	Pn	08 15 47.6	+2.0
SEW	Seward	16.23	320	ePn	Pn	08 15 46.8	0.0
	comp=Z,617nm,1.9s						
GSC	Goldstone	16.33	143	ePn	Pn	08 15 48.7	+0.5
	comp=Z,470nm,1.8s						
GSC				eSn	Sn	08 18 55.0	+5.6
GSC	Goldstone	16.33	143	eP	Pn	08 15 48.7	+0.5
GSC				e		08 18 55.0	
GSC				pmax	pmax		
	comp=Z,470nm,1.8s						
SRU	San Rafael	16.36	121	ePn	Pn	08 15 49.1	+0.5
	comp=Z,2μm,2.1s						
SRU	San Rafael	16.36	121	eP	Pn	08 15 49.1	+0.4
SRU				pmax	pmax		
	comp=Z,2μm,2.1s						
KDAK	Kodiak Island	16.62	310	Pn	Pn	08 15 49.4	-2.4
	comp=Z,0.6nm,0.3s,baz=114,slow=6.4,SNR=9.7						
KDAK				LR	LR	08 20 58.5	
	comp=Z,4μm,18.8s,baz=121,slow=33						
KDAK	Kodiak Island	16.62	310	ePn	Pn	08 15 49.8	-2.0
	comp=Z,314nm,1.4s						
KDAK	Kodiak Island	16.62	310	cePn	Pn	08 15 50.0	-1.7
PAX	Paxson	16.67	332	eP	Pn	08 15 52.6	+0.2
	comp=Z,2μm,2.5s						
PAX	Paxson	16.67	332	eP	Pn	08 15 52.6	+0.2
PAX				pmax	pmax		
	comp=Z,2μm,2.5s						
RWWY	Rawlins	16.73	108	eP	Pn	08 15 54.8	+1.5
	comp=Z,97nm,1.0s						
SLKM	Skilak Lake	16.78	321	ePn	Pn	08 15 54.4	+0.7
SLKM	Skilak Lake	16.78	321	eP	Pn	08 15 54.4	+0.7
OHAK	Old Harbor	16.79	308	eP	Pn	08 15 51.3	-2.6
	comp=Z,3μm,2.9s						
DOT	Dot Lake	16.80	336	ePn	Pn	08 15 53.9	-0.1
	comp=Z,226nm,1.6s						
SML	Sawmill	16.82	326	ePn	Pn	08 15 54.0	-0.2
	comp=Z,179nm,1.9s						
SML	Sawmill	16.82	326	eP	Pn	08 15 54.0	-0.2
SML				pmax	pmax		
	comp=Z,179nm,1.9s						
MWC	Mount Wilson	16.83	148	ePn	Pn	08 15 52.7	-2.0
	comp=Z,278nm,1.4s						
MWC	Mount Wilson	16.83	148	eP	Pn	08 15 52.7	-1.9
MWC				pmax	pmax		
	comp=Z,278nm,1.4s						
PASC	Pasadena Art C	16.84	149	ePn	Pn	08 15 54.1	-0.5
	comp=Z,426nm,1.8s						
PASC				eS	Sn	08 19 08.9	+7.3
PASC				ePcP	PcP	08 20 45.7	+3.6
RC01	Rabbit Creek A	16.91	323	ePn	Pn	08 15 56.0	+0.6
	comp=Z,187nm,1.5s						
PMR	Palmer	16.98	325	ePn	Pn	08 15 56.2	-0.1
	comp=Z,230nm,1.4s						
PMR	Palmer	16.98	325	eP	Pn	08 15 56.2	-0.1
PMR				pmax	pmax		
	comp=Z,230nm,1.4s						
EGAK	Eagle	17.05	341	eP	Pn	08 15 57.9	+0.7
	comp=Z,961nm,2.0s						
EGAK				eS	Sn	08 19 08.6	+2.2
LDFC	Landfair	17.21	140	eP	Pn	08 15 58.1	-1.3
	comp=Z,297nm,1.2s						
LDFC				eS	Sn	08 19 10.8	0.0
FFC	Flin Flon	17.29	61	eP	Pn	08 16 01.1	+0.9
	comp=Z,2μm,1.3s						
FFC	Flin Flon	17.29	61	cePn	Pn	08 15 57.6	-2.6
FFC	Flin Flon	17.29	61	Pn	Pn	08 16 00.6	+0.4
	comp=Z,6μm,0.9s,SNR=34						
RSSD	Black Hills	17.57	97	eP	Pn	08 16 01.5	-2.3
	comp=Z,399nm,1.6s						
RSSD				eS	Sn	08 19 29.0	+10
RSSD	Black Hills	17.57	97	eP	Pn	08 16 01.5	-2.3
RSSD				pmax	pmax		
	comp=Z,399nm,1.6s						
PV04	Paradox Valley	17.77	120	eP	Pn	08 16 06.5	+0.1
PV04				eS	Sn	08 19 30.5	+6.2
RSO	Redoubt South	17.83	319	eP	Pn	08 16 07.4	+0.6
	comp=Z,116nm,0.4s						
PFO	Pinyon Flat Ob	17.96	145	eP	Pn	08 16 06.7	-1.9
	comp=Z,69nm,1.2s						
PFO				eS	Sn	08 19 36.1	+7.2
PFO	Pinyon Flat Ob	17.96	145	eP	Pn	08 16 06.7	-2.0
PFO				pmax	pmax		
	comp=Z,69nm,1.2s						
PFO	Pinyon Flat Ob	17.96	145	Pn	Pn	08 16 07.0	-1.7
	comp=Z,222nm,1.0s,SNR=18						
PHWY	Pilot Hill	18.04	107	eP	Pn	08 16 08.8	-0.9
	comp=Z,824nm,1.8s						
PHWY				eS	Sn	08 19 37.2	+6.3
PV01	Paradox Valley	18.14	120	eP	Pn	08 16 11.2	+0.3
	comp=Z,79μm,1.6s						
MCK	McKinley	18.31	331	eP	Pn	08 16 13.6	+0.9
	comp=Z,805nm,2.0s						
MCK				eS	Sn	08 19 49.4	+12
MCK	McKinley	18.31	331	eP	Pn	08 16 13.6	+0.9
MCK				pmax	pmax		
	comp=Z,805nm,2.0s						
SMCO	Snowmass	18.38	115	eP	Pn	08 16 13.0	-0.8
	comp=Z,215nm,1.4s						
SMCO				eS	Sn	08 19 43.2	+4.2
ILAR	Eielson Array	18.45	335	P	Pn	08 16 14.8	+0.4
	comp=Z,0.3nm,0.3s,baz=146,slow=9.5,SNR=64						
ILAR				PcP	PcP	08 20 43.2	-1.0
	comp=Z,0.0nm,0.3s,baz=191,slow=1.8,SNR=4.7						
ILAR				LR	LR	08 22 44.2	
	comp=Z,10μm,18.4s,baz=149,slow=35						
ILAR	Eielson Array	18.45	335	P	Pn	08 16 14.8	+0.4
ILAR				PcP	PcP	08 20 43.2	-1.0
ILAR	Eielson Array	18.45	335	P	Pn	08 16 14.8	+0.4
TRF	Thorofare Moun	18.57	329	eP	Pn	08 16 17.1	+1.2
	comp=Z,526nm,1.6s						
TRF				eS	Sn	08 19 38.2	-5.0
WUAZ	Wupatki	18.58	131	eP	Pn	08 16 16.8	+0.5
	comp=Z,190nm,1.2s						
WUAZ				eS	Sn	08 19 52.4	+8.4
BAR	Barrett	18.71	147	eP	Pn	08 16 13.9	-4.0
	comp=Z,183nm,1.5s						
BAR				eS	Sn	08 19 48.6	+1.5
COLA	College	18.80	334	eP	Pn	08 16 18.9	+0.3
	comp=Z,229nm,1.4s						
COLA				eS	Sn	08 20 00.1	+11
COLA	College	18.80	334	eP	Pn	08 16 18.9	+0.2
COLA				pmax	pmax		
	comp=Z,229nm,1.4s						
ISCO	Idaho Springs	18.82	111	eP	Pn	08 16 19.1	0.0
	comp=Z,84nm,1.2s						
ISCO				eS	Sn	08 19 59.4	+10
ISCO	Idaho Springs	18.82	111	eP	Pn	08 16 19.1	0.0
ISCO				pmax	pmax		
	comp=Z,84nm,1.2s						
MVCO	Mesa Verde	18.83	122	eP	Pn	08 16 16.9	-2.4
	comp=Z,304nm,1.2s						
MVCO				eS	Sn	08 19 58.5	+8.5
PPLA	Purkeypile	18.91	326	eP	Pn	08 16 21.2	+1.2
	comp=Z,432nm,1.6s						
PPLA				eS	Sn	08 20 02.4	+11
GLA	Glamis	19.08	142	eP	Pn	08 16 21.2	-1.2
	comp=Z,110nm,1.4s						
GLA				eS	Sn	08 20 00.9	+4.9
GLA	Glamis	19.08	142	eP	Pn	08 16 21.2	-1.2
GLA				eS	Sn	08 20 01.0	+4.9
GLA				pmax	pmax		
	comp=Z,111nm,1.4s						
CHGN	Chignik	19.31	303	eP	Pn	08 16 22.7	-2.2
SVW2	Sparrevohn	19.35	318	eP	Pn	08 16 24.6	-0.8
	comp=Z,375nm,2.3s						
INK	Inuvik	19.38	354	P	Pn	08 16 25.6	-0.1
	comp=Z,0.3nm,0.3s,baz=171,slow=11,SNR=32						
INK				LR	LR	08 23 52.2	
	comp=Z,19μm,21.4s,baz=170,slow=37						
INK	Inuvik	19.38	354	P	Pn	08 16 25.6	-0.1
INK	Inuvik	19.38	354	P	Pn	08 16 25.6	-0.1
SDCO	Great Sand Dun	20.19	116	eP	P	08 16 33.6	0.0
	comp=Z,101nm,1.4s						
SDCO				eS	S	08 20 23.7	+3.6
SDCO				LR	LR		
	comp=Z,21μm,19.0s,MS5.5						
SDPT	Sand Point	20.35	300	eP	P	08 16 35.8	+0.5
	comp=Z,961nm,1.7s						
OGNE	Ogallala	20.41	104	eP	P	08 16 36.5	+0.5
	comp=Z,1μm,1.7s						
OGNE				LR	LR		
	comp=Z,12μm,19.0s,MS5.3						
ULM	Lac du Bonnet	21.11	74	P	P	08 16 43.4	-0.2
	comp=Z,147nm,0.8s,mb5.3,baz=286,slow=9.9,SNR=62						
ULM				LR	LR	08 25 12.6	
	comp=Z,46μm,18.3s,MS5.9,baz=281,slow=37						
ULM	Lac du Bonnet	21.11	74	P	P	08 16 43.4	-0.2
	comp=Z,103nm,1.1s,mb5.1						
ULM				eS	S	08 20 37.4	-0.8
ULM	Lac du Bonnet	21.11	74	P	P	08 16 43.4	-0.1
ULM				eS	S	08 20 37.4	-0.8
ULM				pmax	pmax		
	comp=Z,103nm,1.1s						
COLD	Coldfoot	21.20	337	eP	P	08 16 45.0	+0.7
	comp=Z,858nm,2.1s,mb5.7						
TUC	Tucson	21.48	135	eP	P	08 16 47.5	0.0
	comp=Z,113nm,1.1s,mb5.1						
TUC				eS	S	08 20 58.5	+13
TUC				LR	LR		
	comp=Z,4μm,19.0s,MS4.8						
TUC	Tucson	21.48	135	eP	P	08 16 47.5	-0.1
TUC				pmax	pmax		
	comp=Z,113nm,1.1s,mb5.1						
TUC				MLR	MLR		
	comp=Z,4μm,19.0s,MS4.8						
AGMN	Agassiz Nation	21.53	80	eP	P	08 16 46.5	-1.6
	comp=Z,188nm,1.0s,mb5.5						
AGMN				LR	LR		
	comp=Z,30μm,22.0s,MS5.7						
ANMO	Albuquerque	21.61	123	P	P	08 16 50.3	+1.4
	comp=Z,69nm,1.3s,mb4.9,baz=319,slow=11,SNR=56						
ANMO				LR	LR	08 25 15.5	
	comp=Z,3μm,20.3s,MS4.7,baz=316,slow=37						
ANMO	Albuquerque	21.61	123	eP	P	08 16 49.0	+0.1
	comp=Z,400nm,1.5s,mb5.6						
ANMO				eS	S	08 21 00.2	+12
ANMO	Albuquerque	21.61	123	eP	P	08 16 49.0	0.0
ANMO				pmax	pmax		
	comp=Z,400nm,1.5s						
LAZ	Ladron	21.65	125	eP	P	08 16 50.3	+0.9
	comp=Z,304nm,1.8s,mb5.4						
LENM	Lemitar	21.91	125	eP	P	08 16 54.2	+2.0
	comp=Z,524nm,1.4s,mb5.8						
LPM	Los Pinos Moun	21.99	124	eP	P	08 16 53.9	+0.9
	comp=Z,443nm,1.4s,mb5.7						
BNM	Barren Site	22.11	124	eP	P	08 16 56.4	+2.0
	comp=Z,695nm,1.5s,mb5.9						
ECSD	EROS Data Cent	22.59	92	eP	P	08 16 58.2	-1.2
	comp=Z,210nm,1.2s,mb5.4						
ECSD				eS	S	08 21 10.9	+3.7
ECSD				LR	LR		
	comp=Z,24μm,20.0s,MS5.6						
CBKS	Cedar Bluff	23.07	106	eP	P	08 17 03.5	-1.0
	comp=Z,1μm,1.8s,mb6.0						
CBKS				LR	LR		
	comp=Z,14μm,19.0s,MS5.4						
CBKS	Cedar Bluff	23.07	106	eP	P	08 17 03.5	-1.0
CBKS				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.0						
CBKS				MLR	MLR		
	comp=Z,14μm,19.0s,MS5.4						
UNV	Unalaska Valle	23.86	296	eP	P	08 17 09.7	-2.5
	comp=Z,129nm,1.3s,mb5.2						
AMTX	Amarillo	24.39	116	eP	P	08 17 17.2	-0.1
	comp=Z,764nm,1.8s,mb5.8						
AMTX				LR	LR		
	comp=Z,22μm,19.0s,MS5.7						
EYMN	Ely	24.45	79	eP	P	08 17 17.5	-0.1
	comp=Z,320nm,1.0s,mb5.7						
EYMN				eS	S	08 21 47.8	+10
EYMN				LR	LR		
	comp=Z,33μm,21.0s,MS5.8						
CPRX	Cap Rock	24.47	122	eP	P	08 17 18.8	+0.8
	comp=Z,477nm,1.8s,mb5.6						
MNTX	Cornudas Mount	24.66	126	eP	P	08 17 19.6	-0.2
	comp=Z,374nm,1.7s,mb5.6						
MNTX				LR	LR		
	comp=Z,794nm,19.0s,MS4.2						
GDL2	Guadalupe Moun	24.82	124	eP	P	08 17 21.2	0.0
	comp=Z,209nm,1.7s,mb5.4						
KSU1	Kansas State U	24.90	102	eP	P	08 17 22.0	+0.1
	comp=Z,291nm,1.1s,mb5.7						
KSU1				LR	LR		
	comp=Z,10μm,20.0s,MS5.3						
CLNB	Carlsbad	25.04	123	eP	P	08 17 23.3	+0.1
	comp=Z,130nm,2.0s,mb5.1						
SCIA	State Center	25.65	93	eP	P	08 17 29.8	+1.1
	comp=Z,229nm,1.1s,mb5.6						
SCIA				eS	S	08 22 04.3	+7.5
SCIA				LR	LR		
	comp=Z,23μm,19.0s,MS5.7						
TNA	Tin City	26.22	323	eP	P	08 17 34.8	+1.3
	comp=Z,65nm,1.3s,mb5.0						
WMOK	Wichita Mounta	26.24	112	eP	P	08 17 30.7	-3.3
	comp=Z,53nm,1.1s,mb5.0						
WMOK				LR	LR		
	comp=Z,25μm,19.0s,MS5.8						
WMOK	Wichita Mounta	26.24	112	eP	P	08 17 30.7	-3.3
WMOK				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.0						
WMOK				MLR	MLR		
	comp=Z,25μm,19.0s,MS5.8						
JFWS	Jewell Farm	27.13	89	eP	P	08 17 42.2	+0.2
	comp=Z,219nm,1.1s,mb5.6						
JFWS				LR	LR		
	comp=Z,21μm,21.0s,MS5.7						
JFWS	Jewell Farm	27.13	89	eP	P	08 17 42.3	+0.3
JFWS				pmax	pmax		
	comp=Z,219nm,1.1s,mb5.6						
JFWS				MLR	MLR		
	comp=Z,21μm,21.0s,MS5.7						
GAMB	Gambell	27.29	319	eP	P	08 17 43.0	-0.3
	comp=Z,107nm,1.5s,mb5.2						
TXAR	Lajitas Array	27.43	127	P	P	08 17 45.2	+0.4
	comp=Z,5.7nm,1.0s,mb4.0,baz=314,slow=5.8,SNR=23						
TXAR				PcP	PcP	08 21 02.0	-1.3
	comp=Z,0.8nm,0.8s,baz=235,slow=1.1,SNR=3.5						
TXAR				LR	LR	08 28 42.8	
	comp=Z,5μm,19.5s,MS5.1,baz=25,slow=37						
TXAR	Lajitas Array	27.43	127	P	P	08 17 45.2	+0.4
TXAR				PcP	PcP	08 21 02.0	-1.3
TXAR	Lajitas Array	27.43	127	P	P	08 17 45.2	+0.4
TXAR						08 21 02.0	
JCT	Junction City	28.67	120	eP	P	08 17 55.1	-0.8
	comp=Z,130nm,1.4s,mb5.5						
JCT				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
JCT	Junction City	28.67	120	eP	P	08 17 55.1	-0.7
JCT				pmax	pmax		
	comp=Z,130nm,1.4s,mb5.5						
JCT				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.7						
RFTA	Plano	28.68	112	eP	P	08 17 54.0	-1.9
HDIL	Hopedale	28.89	92	eP	P	08 17 57.7	0.0
	comp=Z,390nm,1.1s,mb6.0						
HDIL				LR	LR		
	comp=Z,23μm,19.0s,MS5.8						
CCM	Cathedral Cave	28.96	98	eP	P	08 17 56.6	-1.7
	comp=Z,148nm,1.4s,mb5.5						
CCM				eScP	ScP	08 24 41.3	-6.9
CCM	Cathedral Cave	28.96	98	eP	P	08 17 56.6	-1.8
CCM				e		08 24 41.3	
CCM				pmax	pmax		
	comp=Z,148nm,1.4s,mb5.5						
RES	Resolute Bay	29.29	18	P	P	08 18 01.0	+0.1
	comp=Z,9.2nm,0.8s,mb4.6,baz=230,slow=9.0,SNR=15						
RES				LR	LR	08 29 23.4	
	comp=Z,4μm,20.6s,MS5.1,baz=230,slow=36						
RES	Resolute Bay	29.29	18	P	P	08 18 01.0	+0.1
RES	Resolute Bay	29.29	18	P	P	08 18 01.0	+0.1
SLM	Saint Louis	29.29	96	eP	P	08 18 01.1	-0.1
	comp=Z,144nm,1.2s,mb5.6						
SLM	Saint Louis	29.29	96	eP	P	08 18 01.2	-0.1
SLM				pmax	pmax		
	comp=Z,144nm,1.2s,mb5.6						
MIAR	Mount Ida	29.59	106	eP	P	08 18 04.2	+0.2
	comp=Z,177nm,1.6s,mb5.5						
MIAR				eS	S	08 23 14.6	+16
MIAR				LR	LR		
	comp=Z,12μm,21.0s,MS5.5						
MIAR	Mount Ida	29.59	106	eP	P	08 18 04.2	+0.2
MIAR				pmax	pmax		
	comp=Z,177nm,1.6s,mb5.5						
MIAR				MLR	MLR		
	comp=Z,12μm,21.0s,MS5.5						
GLMI	Grayling	30.00	81	PFAKE		08 18 20.0	+12
GLMI				LR	LR		
	comp=Z,24μm,21.0s,

WCI	**Wyandotte Cave**	**32.09**	**94**	*e*P	**P**	**08 18 25.9**	**-0.1**
WCI				pmax	pmax		
comp=Z,308nm,1.9s,mb5.8							
OXF	**Oxford**	**32.26**	**102**	*e*P	**P**	**08 18 27.2**	**-0.3**
comp=Z,270nm,1.1s,mb6.0							
OXF				LR	LR		
comp=Z,6μm,19.0s,MS5.3							
OXF	**Oxford**	**32.26**	**102**	*e*P	**P**	**08 18 27.2**	**-0.4**
OXF				pmax	pmax		
comp=Z,270nm,1.1s,mb6.0							
OXF				MLR	MLR		
comp=Z,6μm,19.0s,MS5.3							
WVT	**Waverly**	**32.30**	**98**	*e*P	**P**	**08 18 27.1**	**-0.7**
comp=Z,155nm,1.7s,mb5.6							
WVT	**Waverly**	**32.30**	**98**	*e*P	**P**	**08 18 27.2**	**-0.6**
WVT				pmax	pmax		
comp=Z,155nm,1.7s,mb5.6							
PLAL	**Pickwick Lake**	**32.83**	**100**	*e*P	**P**	**08 18 32.7**	**+0.1**
comp=Z,47nm,1.1s,mb5.3							
PLAL				LR	LR		
comp=Z,5μm,19.0s,MS5.3							
VBMS	**Vicksburg**	**33.04**	**106**	*e*P	**P**	**08 18 34.6**	**+0.2**
comp=Z,68nm,0.9s,mb5.6							
VBMS				LR	LR		
comp=Z,8μm,20.0s,MS5.4							
ACSO	**Alum Creek Sta**	**33.20**	**88**	*e*P	**P**	**08 18 35.4**	**-0.3**
comp=Z,69nm,1.1s,mb5.5							
ACSO				LR	LR		
comp=Z,21μm,21.0s,MS5.8							
SADO	**Sadowa**	**33.56**	**78**	P	**P**	**08 18 38.5**	**-0.2**
comp=Z,32nm,0.7s,mb5.3,baz=306,slow=9.4,SNR=17							
SADO	**Sadowa**	**33.56**	**78**	P	**P**	**08 18 38.5**	**-0.2**
ERPA	**Erie**	**34.22**	**83**	PFAKE		08 19 00.0	+15
ERPA				LR	LR		
comp=Z,21μm,20.0s,MS5.9							
ALLY	**Alegheny Colle**	**34.34**	**84**	*e*P	**P**	**08 18 45.9**	**+0.3**
comp=Z,88nm,1.1s,mb5.6							
LRAL	**Lakeview Retre**	**34.75**	**102**	*e*P	**P**	**08 18 48.8**	**-0.5**
comp=Z,197nm,2.0s,mb5.7							
LRAL				LR	LR		
comp=Z,7μm,20.0s,MS5.4							
TZTN	**Tazewell**	**34.85**	**94**	*e*P	**P**	**08 18 50.3**	**+0.2**
comp=Z,418nm,2.1s,mb6.0							
TKL	**Tuckaleechee C**	**35.22**	**95**	P	**P**	**08 18 53.6**	**+0.3**
comp=Z,5.3nm,0.8s,mb4.5,baz=304,slow=5.3,SNR=5.3							
TKL	**Tuckaleechee C**	**35.22**	**95**	*e*P	**P**	**08 18 53.3**	**0.0**
TKL	**Tuckaleechee C**	**35.22**	**95**	*e*P	**P**	**08 18 53.3**	**0.0**
BRAL	**Brewton**	**36.04**	**105**	PFAKE		08 19 10.0	+10
BRAL				LR	LR		
comp=Z,8μm,21.0s,MS5.5							
SSPA	**Standing Stone**	**36.33**	**84**	*e*P	**P**	**08 19 05.4**	**+2.7**
comp=Z,54nm,1.4s,mb5.3							
BLA	**Blacksburg**	**36.52**	**91**	*e*P	**P**	**08 19 04.5**	**+0.1**
comp=Z,89nm,1.1s,mb5.5							
BLA				LR	LR		
comp=Z,14μm,19.0s,MS5.8							
BLA	**Blacksburg**	**36.52**	**91**	*e*P	**P**	**08 19 04.5**	**+0.1**
BLA				pmax	pmax		
comp=Z,89nm,1.1s,mb5.5							
BLA				MLR	MLR		
comp=Z,14μm,19.0s,MS5.8							
LONY	**Lake Ozonia**	**36.54**	**76**	PFAKE		08 19 20.0	+15
LONY				LR	LR		
comp=Z,18μm,20.0s,MS5.8							
BILL	**Bilibino**	**36.62**	**325**	*e*P	**P**	**08 19 04.7**	**-0.2**
comp=Z,78nm,1.4s,mb5.3							
BILL				LR	LR		
comp=Z,5μm,20.0s,MS5.3							
BILL	**Bilibino**	**36.62**	**325**	*e*P	**P**	**08 19 04.7**	**-0.2**
BILL				pmax	pmax		
comp=Z,78nm,1.4s,mb5.3							
BILL				MLR	MLR		
comp=Z,5μm,20.0s,MS5.3							
BINY	**Binghamton**	**36.78**	**80**	*e*P	**P**	**08 19 06.5**	**0.0**
comp=Z,173nm,1.8s,mb5.6							
BINY				*e*PP	PP	08 20 31.5	+1.4
BINY				*e*PcP	PcP	08 21 28.9	+0.4
BINY				LR	LR		
comp=Z,15μm,22.0s,MS5.7							
GOGA	**Godfrey**	**36.80**	**98**	*e*P	**P**	**08 19 06.3**	**-0.5**
comp=Z,113nm,1.4s,mb5.5							
GOGA				*e*PP	PP	08 20 33.2	+2.8
GOGA				LR	LR		
comp=Z,5μm,21.0s,MS5.3							
GOGA	**Godfrey**	**36.80**	**98**	*e*P	**P**	**08 19 06.3**	**-0.5**
GOGA				*e*		08 20 33.2	
GOGA				pmax	pmax		
comp=Z,113nm,1.4s,mb5.5							
GOGA				MLR	MLR		
comp=Z,5μm,21.0s,MS5.3							
NCB	**Newcomb**	**37.07**	**77**	PFAKE		08 19 20.0	+11
NCB				LR	LR		
comp=Z,22μm,19.0s,MS6.0							
FRNY	**Flat Rock**	**37.08**	**75**	*e*P	**P**	**08 19 08.8**	**-0.3**
comp=Z,52nm,0.9s,mb5.4							
SCHQ	**Schefferville**	**37.36**	**57**	P	**P**	**08 19 12.1**	**+0.7**
comp=Z,55nm,1.0s,mb5.4,baz=300,slow=8.3,SNR=24							
SCHQ				LR	LR	08 35 16.4	
comp=Z,17μm,19.6s,MS5.8,baz=290,slow=37							
SCHQ	**Schefferville**	**37.36**	**57**	*e*P	**P**	**08 19 11.9**	**+0.6**
comp=Z,92nm,1.1s,mb5.5							
JSC	**Jenkinsville**	**37.70**	**95**	*e*P	**P**	**08 19 14.1**	**-0.3**
JSC	**Jenkinsville**	**37.70**	**95**	*e*P	**P**	**08 19 14.1**	**-0.3**
MDV	**Middlebury**	**37.72**	**76**	P	**P**	**08 19 14.8**	**+0.2**
CBN	**Corbin**	**37.96**	**87**	*e*P	**P**	**08 19 16.8**	**+0.1**
comp=Z,109nm,0.9s,mb5.6							
CBN				LR	LR		
comp=Z,18μm,22.0s,MS5.8							
LBNH	**Lisbon**	**38.41**	**75**	PFAKE		08 19 30.0	+10
LBNH				LR	LR		
comp=Z,14μm,21.0s,MS5.7							
NHSC	**New Hope**	**39.13**	**96**	*e*P	**P**	**08 19 26.8**	**+0.3**
comp=Z,96nm,1.0s,mb5.5							
NHSC				LR	LR		
comp=Z,18μm,20.0s,MS5.9							
CNNC	**Cliffs of the**	**39.33**	**91**	PFAKE		08 19 40.0	+12
CNNC				LR	LR		
comp=Z,10μm,19.0s,MS5.7							
PKME	**Peaks-Kenny Pk**	**39.59**	**72**	PFAKE		08 19 40.0	+10
PKME				LR	LR		
comp=Z,20μm,19.0s,MS6.0							
SFJD	**Kangerlussuaq**	**41.66**	**35**	PFAKE		08 20 00.0	+13
SFJD				LR	LR		
comp=Z,6μm,19.0s,MS5.5							
SFJD	**Kangerlussuaq**	**41.66**	**35**	*i* P	**P**	**08 19 49.3**	**+2.3**
comp=Z,15nm,1.0s,mb4.6							
SFJD							
comp=Z,5μm,10.0s							
CMIG	**Matias Romero**	**42.04**	**128**	P	**P**	**08 19 50.5**	**-0.2**
comp=Z,3.7nm,0.8s,mb4.1,baz=304,slow=7.9,SNR=5.0							
CMIG	**Matias Romero**	**42.04**	**128**	P	**P**	**08 19 50.5**	**-0.2**
MIDW	**Midway**	**42.55**	**259**	PFAKE		08 20 10.0	+15
MIDW				LR	LR		
comp=Z,7μm,20.0s,MS5.5							
TEIG	**Tepich**	**43.17**	**117**	P	**P**	**08 19 59.6**	**-0.3**
comp=Z,23nm,1.0s,mb4.9,baz=19,slow=23,SNR=4.0							
TEIG	**Tepich**	**43.17**	**117**	P	**P**	**08 19 59.6**	**-0.3**
TEIG				LR	LR		
comp=Z,3μm,22.0s,MS5.2							
SEY	**Seymchan**	**43.29**	**319⇑**	*e*P	**P**	**08 19 59.9**	**-0.5**
PET	**Petropavlovsk**	**44.05**	**304**	*e*P	**P**	**08 20 04.3**	**-2.3**
comp=Z,76nm,1.2s,mb5.3							
PET				LR	LR		
comp=Z,5μm,22.0s,MS5.3							
PET	**Petropavlovsk**	**44.05**	**304**	*e*P	**P**	**08 20 04.6**	**-2.0**
PET				*e*S	**S**	**08 26 34.1**	**-4.5**
PET				pmax	pmax		
comp=Z,56nm,1.5s,mb5.1							
PET				pmax	pmax		
comp=Z,300nm,17.9s							
PET				MLR	MLR		
comp=Z,2μm,16.0s,MS5.0							
PET				MLR	MLR		
comp=Z,2μm,15.0s							
SUMG	**Summit**	**44.06**	**26**	*e*P	**P**	**08 20 07.0**	**+0.5**
comp=Z,38nm,1.0s,mb5.1							
SUMG	**Summit**	**44.06**	**26**	*e*P	**P**	**08 20 07.0**	**+0.5**
SUMG				pmax	pmax		
comp=Z,38nm,1.0s							
SUMG	**Summit**	**44.06**	**26**	*i* P	**P**	**08 20 07.4**	**+0.9**
comp=Z,14nm,0.9s,mb4.7							
SUMG							
comp=Z,7μm,11.0s							
PEA0B	**Petropavlovsk-**	**44.54**	**304**	*e*P	**P**	**08 20 08.2**	**-2.2**
PETK	**Petropavlovsk-**	**44.54**	**304**	P	**P**	**08 20 08.8**	**-1.7**
comp=Z,15nm,0.8s,mb4.9,baz=83,slow=10,SNR=15							
PETK				LR	LR	08 35 51.9	
comp=Z,2μm,20.9s,MS5.0,baz=263,slow=32							
PETK	**Petropavlovsk-**	**44.54**	**304**	P	**P**	**08 20 08.8**	**-1.7**
PETK	**Petropavlovsk-**	**44.54**	**304**	P	**P**	**08 20 08.8**	**-1.7**
SKR	**Severo-Kuril's**	**46.53**	**302**	*e*P	**P**	**08 20 24.0**	**-2.2**
SKR				*e*		08 22 08.0	
SKR				*e*S	**S**	**08 27 12.0**	**-2.4**
SKR				pmax	pmax		
comp=Z,2μm,6.0s							
SKR				smax			
comp=E,3μm,12.0s							
SKR				MLR	MLR		
comp=N,2μm,18.0s,MS5.3							
SKR				MLR	MLR		
comp=E,2μm,18.0s,MS5.3							
SKR				MLR	MLR		
comp=Z,3μm,18.0s,MS5.3							
DAG	**Danmarks Havn**	**46.98**	**17**	*i* P	**P**	**08 20 28.8**	**-0.7**
comp=Z,3.5nm,0.9s,mb4.3							
DAG							
comp=Z,7μm,11.0s							
TGUH	**Tegucigalpa,Un**	**48.66**	**121**	*e*P	**P**	**08 20 44.5**	**+1.4**
comp=Z,148nm,1.5s,mb5.8							
TGUH				LR	LR		
comp=Z,5μm,20.0s,MS5.5							
SCO	**Scoresbysund**	**49.69**	**25**	*i* P	**P**	**08 20 44.6**	**-5.8**
comp=Z,11nm,0.7s,mb5.0							
SCO							
comp=Z,6μm,16.0s							
BBSR	**BB Station**	**49.74**	**85**	*e*P	**P**	**08 20 51.1**	**-0.3**
comp=Z,54nm,0.8s,mb5.6							
BBSR				LR	LR		
comp=Z,6μm,19.0s,MS5.6							
KBS	**Kingsbay**	**50.07**	**9**	PFAKE		08 21 10.0	+17
KBS				LR	LR		
comp=Z,4μm,20.0s,MS5.4							
MTDJ	**Mount Denham**	**51.20**	**108**	PFAKE		08 21 10.0	+7.5
MTDJ				LR	LR		
comp=Z,2μm,19.0s,MS5.2							
GTBY	**Guantanamo Bay**	**51.46**	**105**	PFAKE		08 21 20.0	+16
GTBY				LR	LR		
comp=Z,6μm,19.0s,MS5.6							
YAK	**Yakutsk**	**52.97**	**325**	PFAKE		08 21 30.0	+15
YAK				LR	LR		
comp=Z,4μm,19.0s,MS5.4							
YAK	**Yakutsk**	**52.97**	**325**	*e*P	**P**	**08 21 17.4**	**+2.3**
YAK				*e**PP	pP	08 21 22.3	+4.0
YAK				*e*		08 22 26.8	
YAK				*e*		08 23 13.3	
YAK				*e*S	**S**	**08 28 43.4**	**-0.8**
YAK				*e**SS	sS	08 28 49.7	+0.3
YAK				*e*		08 31 00.8	
YAK				*e*SSS		08 34 01.9	
YAK				pmax	pmax		
comp=N,5.0nm,0.9s							
YAK				pmax	pmax		
comp=Z,21nm,1.3s,mb4.9							
YAK				pmax	pmax		
comp=E,12nm,1.3s							
YAK				pmax	pmax		
comp=N,138nm,5.2s							
YAK				pmax	pmax		
comp=E,295nm,6.2s							
YAK				pmax	pmax		
comp=Z,206nm,4.7s							
YAK				smax			
comp=E,507nm,10.8s							
YAK				smax			
comp=N,1μm,13.9s							
YAK				MLR	MLR		
comp=N,3μm,18.0s							
YAK				MLR	MLR		
comp=Z,4μm,20.0s,MS5.4							
YAK				MLR	MLR		
comp=N,2μm,13.0s							
JTS	**JuntasAbangare**	**53.02**	**122**	PFAKE		08 21 30.0	+14
JTS				LR	LR		
comp=Z,3μm,21.0s,MS5.4							
SDDR	**Presa de Saban**	**54.59**	**102**	PFAKE		08 21 40.0	+12
SDDR				LR	LR		
comp=Z,6μm,19.0s,MS5.7							
YSS	**Yuzh-Sakhalins**	**55.94**	**304**	PFAKE		08 21 50.0	+13
YSS				LR	LR		
comp=Z,569nm,22.0s,MS4.6							
YSS	**Yuzh-Sakhalins**	**55.94**	**304**	*e*P	**P**	**08 21 33.6**	**-3.3**
YSS				*e*		08 29 29.0	
YSS				MLR	MLR		
comp=E,2μm,17.0s,MS5.5							
YSS				MLR	MLR		
comp=Z,2μm,17.0s,MS5.2							
YSS				MLR	MLR		
comp=N,2μm,18.0s,MS5.5							
YUK	**Yuzh-Kuril'sk**	**56.00**	**300***c*	*i*P	**P**	**08 21 41.0**	**+3.6**
YUK				*i* S	**S**	**08 29 22.4**	**-2.9**
YUK				*i* SS	SS	08 33 06.4	-4.4
YUK				pmax	pmax		
comp=Z,163nm,5.5s							
YUK				MLR	MLR		
comp=N,892nm,22.0s,MS5.1							
YUK				MLR	MLR		
comp=E,1μm,22.0s,MS5.1							
YUK				MLR	MLR		
comp=Z,2μm,22.0s,MS5.2							
BCIP	**Isla Barro Col**	**56.86**	**118**	PFAKE		08 22 00.0	+16
BCIP				LR	LR		
comp=Z,2μm,21.0s,MS5.2							
ASAJ	**Asahikawa**	**57.79**	**302**	P	**P**	**08 21 48.5**	**-1.6**
comp=Z,17nm,0.9s,mb5.1,baz=22,slow=4.3,SNR=6.0							
ASAJ	**Asahikawa**	**57.79**	**302**	P	**P**	**08 21 48.5**	**-1.6**
CELP	**Cerrillos**	**58.29**	**99**	*e*P	**P**	**08 21 55.0**	**+1.1**
SJG	**San Juan**	**58.54**	**99**	PFAKE		08 22 10.0	+14
SJG				LR	LR		
comp=Z,4μm,19.0s,MS5.5							
TAOE	**Nuku Hiva Isla**	**58.63**	**193**	*e*S	**S**	**08 29 59.3**	**-1.1**
comp=Z,4μm,25.9s							
TAOE				*e*LQ		08 36 36.5	
comp=Z,3μm,27.2s							
TAOE				*e*LR	LR	08 39 04.9	
comp=Z,11μm,25.6s							
ERM	**Erimo**	**58.81**	**299**	PFAKE		08 22 10.0	+13
ERM				LR	LR		
comp=Z,2μm,20.0s,MS5.2							
HABR	**Khabarovsk**	**59.03**	**310**	*e*P	**P**	**08 21 55.7**	**-3.0**
HABR				*e**PP	pP	08 21 58.8	-3.1
HABR						08 22 44.6	
HABR				*e*S	**S**	**08 30 03.3**	**-1.7**
HABR				*e*		08 31 45.6	
HABR				*e*SS	SS	08 33 57.8	-0.4
HABR				pmax	pmax		
comp=E,49nm,1.6s							
HABR				pmax	pmax		
comp=N,78nm,3.2s							
HABR				pmax	pmax		
comp=Z,84nm,1.6s,mb5.5							
HABR				MLR	MLR		
comp=Z,1μm,18.0s,MS5.2							
WAKE	**Wake Island**	**59.19**	**264**	PFAKE		08 22 10.0	+10
WAKE				LR	LR		
comp=Z,5μm,19.0s,MS5.6							
KEV	**Kevo**	**60.08**	**10**	PFAKE		08 22 20.0	+14
KEV				LR	LR		
comp=Z,2μm,21.0s,MS5.3							
ARCES	**ARCESS Array B**	**60.12**	**10**	LR	LR	08 49 29.3	
comp=Z,3μm,19.3s,MS5.5,baz=340,slow=37							
BOD	**Bodaibo**	**61.62**	**327**	*e*P	**P**	**08 22 23.4**	**+7.2**
BOD				pmax	pmax		
comp=Z,18nm,1.4s,mb5.0							
ANWB	**Willy Bob**	**61.71**	**96**	PFAKE		08 22 30.0	+13
ANWB				LR	LR		
comp=Z,4μm,21.0s,MS5.6							
LVZ	**Lovozero**	**62.61**	**7**	PFAKE		08 22 40.0	+17
LVZ				LR	LR		
comp=Z,5μm,19.0s,MS5.7							
SDV	**Santo Domingo**	**62.62**	**109**	*e*P	**P**	**08 22 22.9**	**-0.6**
comp=Z,26nm,1.1s,mb5.3							
SDV				LR	LR		
comp=Z,988nm,20.0s,MS5.0							
APA	**Apatity**	**62.83**	**8⇓**	*e*P	**P**	**08 22 11.6**	**-13**
APA				MLR	MLR		
comp=Z,5μm,15.0s,MS5.8							
USRK	**Ussuriysk Arra**	**63.46**	**308**	P	**P**	**08 22 26.1**	**-2.7**
comp=Z,17nm,0.9s,mb5.2,baz=46,slow=6.8,SNR=18							
USRK				LR	LR	08 50 54.8	
comp=Z,2μm,18.5s,MS5.2,baz=14,slow=37							
ROSC	**El Rosal**	**63.54**	**115**	P	**P**	**08 22 31.2**	**+1.6**
comp=Z,6.3nm,1.0s,mb4.6,baz=267,slow=24,SNR=6.6							
ROSC				LR	LR	08 52 03.7	
comp=Z,1μm,21.9s,MS5.0,baz=355,slow=38							
ROSC	**El Rosal**	**63.54**	**115**	*e*P	**P**	**08 22 29.8**	**+0.1**
FDF	**Fort de France**	**64.27**	**97**	PFAKE		08 22 50.0	+16
FDF				LR	LR		
comp=Z,6μm,22.0s,MS5.7							
MDJ	**Mudanjiang**	**64.41**	**309**	P	**P**	**08 22 33.8**	**-1.2**
MDJ				pP	pP	08 22 37.0	-1.2
MDJ				sP	sP	08 22 38.0	-1.5
MDJ				PcP	PcP	08 23 08.8	-0.6
MDJ				PP	PP	08 24 52.5	-3.7
MDJ				S	**S**	**08 31 11.3**	**-2.0**
MDJ				ScS	ScS	08 32 27.0	-2.1
MDJ				SS	SS	08 35 20.8	-1.7
MDJ				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.7							
MDJ				pmax	pmax		
comp=Z,110nm,4.9s							
MDJ				LR	LR		
comp=N,2μm,16.9s,MS5.5							
MDJ				LR	LR		
comp=E,2μm,18.1s,MS5.5							
MDJ				LR	LR		
comp=Z,2μm,21.2s,MS5.2							
MDJ	**Mudanjiang**	**64.41**	**309**	PFAKE		08 22 50.0	+15
MDJ				LR	LR		
comp=Z,2μm,20.0s,MS5.2							
OTAV	**Otavalo**	**64.92**	**122**	*e*P	**P**	**08 22 39.2**	**+0.5**
comp=Z,131nm,1.8s,mb5.7							
OTAV				LR	LR		
comp=Z,1μm,19.0s,MS5.1							
MAJO	**Matsushiro**	**65.31**	**298**	PFAKE		08 22 50.0	+9.0
MAJO				LR	LR		
comp=Z,2μm,21.0s,MS5.4							
MJAR	**Matsushiro Arr**	**65.31**	**298**	P	**P**	**08 22 39.2**	**-1.8**
comp=Z,5.9nm,1.0s,mb4.6,baz=23,slow=7.0,SNR=5.7							
MJAR				LR	LR	08 45 55.7	
comp=Z,2μm,21.4s,MS5.2,baz=70,slow=31							
MJAR	**Matsushiro Arr**	**65.31**	**298**	P	**P**	**08 22 39.2**	**-1.8**
MJAR	**Matsushiro Arr**	**65.31**	**298**	P	**P**	**08 22 39.2**	**-1.8**
NB2	**NORSAR Subarra**	**65.51**	**20**	P	**P**	**08 22 41.5**	**-0.4**
comp=Z,32nm,1.4s,mb5.2,baz=333,slow=6.5							
NOA	**NORSAR Array B**	**65.51**	**20**	P	**P**	**08 22 42.4**	**+0.5**
comp=Z,3.3nm,0.9s,mb4.4,baz=332,slow=6.6,SNR=5.4							
NOA				LR	LR	08 49 51.4	
comp=Z,3μm,21.9s,MS5.4,baz=330,slow=35							
NOA	**NORSAR Array B**	**65.51**	**20**	P	**P**	**08 22 42.4**	**+0.5**
NOA	**NORSAR Array B**	**65.51**	**20**	P	**P**	**08 22 42.4**	**+0.5**
HIA	**Hailar**	**65.73**	**318**	*e*P	**P**	**08 22 41.2**	**-2.3**
comp=Z,44nm,1.5s,mb5.3							
HIA				LR	LR		
comp=Z,4μm,19.0s,MS5.7							
HIA	**Hailar**	**65.73**	**318**	*e*P	**P**	**08 22 41.2**	**-2.3**
HIA				pmax	pmax		
comp=Z,44nm,1.5s							
HIA				MLR	MLR		
comp=Z,4μm,19.0s							
GRGR	**Grenville**	**65.86**	**100**	PFAKE		08 23 00.0	+15
GRGR				LR	LR		
comp=Z,2μm,21.0s,MS5.3							
ESK	**Eskdalemuir**	**66.34**	**31**	PFAKE		08 23 00.0	+13
ESK				LR	LR		
comp=Z,4μm,19.0s,MS5.7							
KONO	**Kongsberg**	**66.36**	**22**	PFAKE		08 23 00.0	+13
KONO				LR	LR		
comp=Z,3μm,22.0s,MS5.5							
BBGH	**Gun Hill**	**66.47**	**97**	PFAKE		08 23 00.0	+11
BBGH				LR	LR		
comp=Z,10μm,22.0s,MS6.0							
CN2	**Changchun**	**67.08**	**311**	*e*P	**P**	**08 22 49.0**	**-3.2**
CN2				*e*pP	pP	08 22 53.8	-1.7
CN2				*e*S	S	08 31 38.5	-7.4
CN2				pmax	pmax		
comp=Z,30nm,1.3s,mb5.2							
CN2				pmax	pmax		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=N,2μm,19.0s,MS5.5							
CN2				LR	LR		
comp=E,2μm,19.0s,MS5.5							
CN2				LR	LR		
comp=Z,2μm,19.0s,MS5.4							
JOF	**Joensuu**	**67.16**	**10**	*e*P	**P**	**08 22 58.9**	**+6.5**
JOF	**Joensuu**	**67.16**	**10**	*e*p	**P**	**08 22 58.9**	**+6.5**
comp=Z,4.1nm,0.8s,mb4.5							
FINES	**FINESS Array B**	**67.91**	**13**	P	**P**	**08 22 56.4**	**-0.8**
comp=Z,5.6nm,0.8s,mb4.7,baz=354,slow=9.6,SNR=6.0							
FINES				LR	LR	08 53 35.7	
comp=Z,5μm,19.3s,MS5.7,baz=343,slow=37							
FINES	**FINESS Array B**	**67.91**	**13**	P	**P**	**08 22 56.4**	**-0.8**
FINES	**FINESS Array B**	**67.91**	**13**	P	**P**	**08 22 56.4**	**-0.8**
PPT2	**Papeete2**	**69.00**	**201**	*e*S	S	08 32 09.2	+0.1
comp=Z,4μm,27.0s							
PPT2				*e*LQ		08 40 26.8	
comp=Z,7μm,28.0s							
PPT2				*e*LR	LR	08 43 54.7	
comp=Z,6μm,27.5s,baz=10							
SNY	**Shenyang**	**69.46**	**311**	⇑P	**P**	**08 23 04.5**	**-2.7**
SNY				S	S	08 32 14.0	-0.4
SNY				pmax	pmax		
comp=Z,240nm,4.8s							
SNY				LR	LR		
comp=N,2μm,17.4s,MS5.7							
SNY				LR	LR		
comp=E,2μm,15.0s,MS5.7							
SNY				LR	LR		
comp=Z,2μm,15.9s,MS5.5							
KLMR	**Klimovskoe**	**69.94**	**6**	*e*P	**P**	**08 23 08.5**	**-1.3**
KLMR				S	S	08 32 26.8	+7.4
KLMR				pmax	pmax		
comp=Z,248nm,6.0s							
KLMR				pmax	pmax		
comp=Z,53nm,1.4s,mb5.3							
KLMR				MLR	MLR		
comp=Z,5μm,20.0s,MS5.7							
TLY	**Talaya**	**70.14**	**328**	*e*P	**P**	**08 23 10.6**	**-0.6**
comp=Z,105nm,1.9s,mb5.4							
TLY				LR	LR		
comp=Z,3μm,19.0s,MS5.6							
TLY	**Talaya**	**70.14**	**328**	*e*P	**P**	**08 23 10.6**	**-0.6**
TLY				*e*S	S	08 32 26.3	+4.3
TLY				*e*		08 36 48.9	
TLY				pmax	pmax		
comp=Z,100nm,1.1s,mb5.7							
TLY				MLR	MLR		
comp=Z,3μm,19.1s,MS5.5							
KSRS	**Korea Array**	**70.43**	**305**	P	**P**	**08 23 11.4**	**-1.9**
comp=Z,4.5nm,0.9s,mb4.4,baz=65,slow=5.0,SNR=6.5							
KSRS				LR	LR	08 53 52.5	
comp=Z,933nm,21.1s,MS5.0,baz=55,slow=36							
KSAR	**Wonju Array Be**	**70.46**	**305**	P	**P**	**08 23 11.4**	**-2.0**
KSAR	**Wonju Array Be**	**70.46**	**305**	P	**P**	**08 23 11.4**	**-2.0**
MOY	**Mondy**	**71.04**	**330**	*e*P	**P**	**08 23 18.3**	**+1.6**
MOY				pmax	pmax		
comp=Z,47nm,2.2s,mb5.0							
INCN	**Inchon**	**71.11**	**306**	PFAKE		08 23 30.0	+13
INCN				LR	LR		
comp=Z,1μm,22.0s,MS5.1							
ZAK	**Zakamensk**	**71.35**	**328**	*e*P	**P**	**08 23 19.5**	**+0.9**
SOKR	**Solikamsk**	**71.56**	**357⇑**	*i*P	**P**	**08 23 19.2**	**-0.5**
SOKR				SS	SS	08 37 09.0	-3.0
SOKR				pmax	pmax		
comp=Z,50nm,1.5s,mb5.2							
SOKR				MLR	MLR		
comp=Z,3μm,21

comp=Z,79nm,1.4s,mb5.5
SGMF Saint Gilles 72.38 35 *e*P **P 08 23 25.8 +1.0**
SGMF pmax pmax
comp=Z,79nm,1.4s,mb5.5
QUIF Quistinic 72.43 35 *e*P **P 08 23 25.8 +0.7**
QUIF Quistinic 72.43 35 *e*P **P 08 23 25.8 +0.7**
QUIF Quistinic 72.43 35 *e*P **P 08 23 25.8 +0.7**
DL2 Dalian 72.64 310 P **P 08 23 28.5 +2.0**
DL2 S S 08 32 52.5 +1.2
DL2 pmax pmax
comp=Z,20nm,1.4s,mb4.8
DL2 pmax pmax
comp=Z,230nm,5.6s
DL2 LR LR
comp=N,1μm,24.7s,MS5.2
DL2 LR LR
comp=E,1μm,24.7s,MS5.2
DL2 LR LR
comp=Z,1μm,23.9s,MS5.2
FLN La Foliniere 72.72 33 *e*P **P 08 23 27.4 +0.6**
comp=Z,81nm,1.4s,mb5.2
FLN *e*R
comp=Z,5μm,20.2s
FLN La Foliniere 72.72 33 *e*P **P 08 23 27.4 +0.6**
comp=Z,81nm,1.4s,mb5.5
FLN La Foliniere 72.72 33 *e*P **P 08 23 27.4 +0.6**
FLN pmax pmax
comp=Z,81nm,1.4s,mb5.5
GRR Gorron 72.89 33 *e*P **P 08 23 28.9 +1.0**
comp=Z,86nm,1.4s,mb5.2
GRR Gorron 72.89 33 *e*P **P 08 23 28.9 +1.0**
comp=Z,86nm,1.4s,mb5.5
GRR Gorron 72.89 33 *e*P **P 08 23 28.9 +1.0**
GRR pmax pmax
comp=Z,86nm,1.4s,mb5.5
LDF La Druitiere 72.99 33 *e*P **P 08 23 29.0 +0.6**
comp=Z,25nm,1.2s,mb4.7
LDF La Druitiere 72.99 33 *e*P **P 08 23 29.0 +0.6**
comp=Z,25nm,1.2s,mb5.0
LDF La Druitiere 72.99 33 *e*P **P 08 23 29.0 +0.6**
LDF pmax pmax
comp=Z,25nm,1.2s,mb5.0
NVS Novosibirsk 73.00 341 *e*P **P 08 23 26.1 -2.3**
NVS *e* 08 23 52.8
NVS pmax pmax
comp=N,29nm,1.8s
NVS pmax pmax
comp=E,47nm,1.9s
BAIF Baives 73.21 30 *e*P **P 08 23 30.5 +0.8**
comp=E,90nm,1.6s,mb5.2
BAIF Baives 73.21 30 *e*P **P 08 23 30.5 +0.8**
comp=E,90nm,1.6s,mb5.5
BAIF Baives 73.21 30 *e*P **P 08 23 30.5 +0.8**
BAIF pmax pmax
comp=Z,91nm,1.6s,mb5.5
BCLA Clavier 73.25 29 P **P 08 23 30.7 +0.8**
comp=Z,19nm,2.0s,mb4.7
MEM Membach 73.30 28 P **P 08 23 31.3 +1.1**
comp=Z,19nm,2.0s,mb4.7
FUNA Funafuti 73.32 235 PFAKE 08 23 40.0 +9.3
FUNA LR LR
comp=Z,3μm,19.0s,MS5.7
GIVF Givet 73.37 29 *e*P **P 08 23 31.7 +1.1**
GIVF Givet 73.37 29 *e*P **P 08 23 31.7 +1.1**
GIVF Givet 73.37 29 *e*P **P 08 23 31.7 +1.1**
ZAA0 Zalesovo Array 73.48 340 *e*P **P 08 23 29.7 -1.6**
ZAA0 *e*PcP PcP 08 23 45.8 -1.5
ZALV Zalesovo Beam 73.48 340 P **P 08 23 29.9 -1.4**
comp=Z,4.2nm,0.6s,mb4.5,baz=29,slow=6.8,SNR=14
ZALV LR LR 08 56 23.7
comp=Z,2μm,21.9s,MS5.3,baz=19,slow=36
ZALV Zalesovo Beam 73.48 340 P **P 08 23 29.9 -1.4**
ZALV Zalesovo Beam 73.48 340 P **P 08 23 29.9 -1.4**
SVE Sverdlovsk 74.12 355 *e*P **P 08 23 34.4 -0.5**
SVE *e* 08 33 49.9
SVE *e* 08 37 56.3
SVE *e* 08 41 06.6
SVE pmax pmax
comp=Z,42nm,1.5s,mb5.2
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.4
WLF Walferdange 74.17 29 PFAKE 08 23 50.0 +15
WLF LR LR
comp=Z,2μm,21.0s,MS5.5
BJI Beijing 74.43 314 P **P 08 23 35.0 -2.0**
BJI S S 08 33 09.0 -2.6
BJI sS sS 08 33 16.3 -0.7
BJI SS SS 08 37 57.5 +0.7
BJI pmax pmax
comp=Z,13nm,2.0s,mb4.5
BJI LR LR
comp=N,3μm,19.6s,MS5.7
BJI LR LR
comp=E,2μm,21.5s,MS5.7
BJI LR LR
comp=Z,1μm,18.1s,MS5.2
BJT Baijiatuau 74.45 314 *e*P **P 08 23 34.2 -3.0**
comp=Z,31nm,1.7s,mb5.0
BJT LR LR
comp=Z,2μm,19.0s,MS5.4
BJT Baijiatuau 74.45 314 *e*P **P 08 23 34.2 -3.0**
BJT pmax pmax
comp=Z,31nm,1.7s
BJT MLR MLR
comp=Z,2μm,19.0s
SUW Suwalki 74.50 17 *e*P **P 08 23 37.8 +0.6**
comp=Z,77nm,1.2s,mb5.5
SUW Suwalki 74.50 17 *e*P **P 08 23 37.8 +0.6**
SUW pmax pmax
comp=Z,77nm,1.2s,mb5.5
TBI Tubuai 74.52 200 *e*S S 08 33 10.8 -1.8
comp=Z,575nm,24.8s
TBI *e*SS SS 08 38 00.4 +0.4
comp=Z,389nm,29.8s
TBI *e*LQ 08 43 21.1
comp=Z,2μm,28.5s
TBI *e*LR LR 08 46 23.6
comp=Z,4μm,27.8s,baz=11
ARU Arti 74.63 356 *e*P **P 08 23 36.9 -1.0**
comp=Z,80nm,1.5s,mb5.4
ARU LR LR
comp=Z,2μm,21.0s,MS5.4
ARU Arti 74.63 356 *d i*P **P 08 23 37.0 -0.9**
ARU 08 26 25.4
ARU PPP 08 28 06.7
ARU S S 08 33 14.7 +1.5
ARU SS SS 08 37 55.2 -3.7
ARU SSS 08 41 21.4
ARU pmax pmax
comp=Z,45nm,2.5s,mb5.0
MFF Saint Martin d 74.66 34 *e*P **P 08 23 39.4 +1.1**
comp=Z,88nm,1.5s,mb5.2
MFF Saint Martin d 74.66 34 *e*P **P 08 23 39.4 +1.1**
comp=Z,88nm,1.5s,mb5.5
MFF Saint Martin d 74.66 34 *e*P **P 08 23 39.4 +1.1**
MFF pmax pmax
comp=Z,88nm,1.5s,mb5.5
CLL Collm 74.70 24 *e*P **P 08 23 38.0 -0.4**
CLL *i* 08 23 53.2
CLL *e*S S 08 33 21.0 +6.9
CLL MLR MLR
comp=Z,2μm,20.0s,MS5.5
CLL Collm 74.70 24 *e*P **P 08 23 38.0 -0.4**
CLL *i* PcP PcP 08 23 53.2 +0.6
CLL *i* 08 23 56.8
comp=Z,46nm,1.5s
CLL *e*S S 08 33 21.0 +6.9
CLL *e*SS SS 08 38 08.0 +7.8
CLL *e* 08 38 57.0
CLL *e* 08 39 19.0
CLL *e* 08 42 12.0
CLL LmH 08 55 00.0
comp=N,3μm,21.0s
CLL LmH 08 55 00.0
comp=E,2μm,18.3s
CLL LmV 08 58 00.0
comp=Z,2μm,20.0s
MEZF Maizieres J'vi 74.83 30 *e*P **P 08 23 40.2 +1.0**
comp=Z,95nm,1.6s,mb5.2
MEZF Maizieres J'vi 74.83 30 *e*P **P 08 23 40.2 +1.0**
comp=Z,95nm,1.6s,mb5.5
MNK Minsk 74.85 14 *e*P **P 08 23 36.0 -3.2**
MICGM Minsk 74.86 14 *e* **P 08 23 36.0 -3.2**
MOS Moscow 74.86 8 *e*P PcP 08 23 51.4 -1.8
MOS MLR MLR
comp=Z,3μm,17.0s,MS5.6

PAGF Fort de Pagny 75.01 29 *e*P **P 08 23 41.3 +1.1**
comp=Z,32nm,1.6s,mb4.7
PAGF Fort de Pagny 75.01 29 *e*P **P 08 23 41.3 +1.1**
comp=Z,32nm,1.6s,mb5.0
SFTF Sexfontaines 75.09 30 *e*P **P 08 23 41.4 +0.7**
comp=Z,68nm,1.4s,mb5.1
SFTF Sexfontaines 75.09 30 *e*P **P 08 23 41.4 +0.7**
comp=Z,68nm,1.4s,mb5.4
PGAV Gavieira, Arco 75.23 42 *e*S S 08 33 26.4 +6.0
PGAV *e*LQ 08 43 04.2
PGAV *e*LR LR 08 49 11.9
comp=Z,2μm,20.0s
BRG Berggiesshubel 75.34 23 *e*P **P 08 23 43.0 +0.9**
comp=Z,26nm,1.6s,mb4.9
BRG *i* pP 08 23 47.8 +2.4
comp=Z,16nm,1.3s
BRG *e* 08 24 01.6
comp=Z,40nm,1.3s
BRG S S 08 33 25.0 +3.7
BRG SS SS 08 38 18.0 +8.1
BRG
comp=Z,3μm,16.7s
BRG
comp=N,2μm,20.2s
BRG
comp=E,2μm,20.2s
BRG Berggiesshubel 75.34 23 *e*P **P 08 23 43.0 +0.9**
BRG *i* pP 08 23 47.8 +2.4
BRG *e* 08 24 01.6
BRG S S 08 33 25.0 +3.7
BRG SS SS 08 38 18.0 +8.1
BRG pmax pmax
comp=Z,26nm,1.6s,mb4.9
BRG MLR MLR
comp=Z,3μm,16.7s,MS5.6
BRG MLR MLR
comp=N,2μm,20.2s,MS5.6
BRG MLR MLR
comp=E,2μm,20.2s,MS5.6
OBN Obninsk 75.38 9 *e*P **P 08 23 42.2 0.0**
OBN LR LR
comp=Z,4μm,20.0s,MS5.7
OBN Obninsk 75.38 9 *i*P **P 08 23 41.9 -0.3**
OBN *i* 08 23 53.2
OBN *i*S S 08 33 25.5 +3.9
OBN *i*SS SS 08 38 13.5 +3.2
OBN pmax pmax
comp=Z,36nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,4μm,21.0s,MS5.7
LOR Lormes 75.51 31 *e*P **P 08 23 44.1 +1.0**
LOR *e*R
comp=Z,7μm,19.8s
LOR Lormes 75.51 31 *e*P **P 08 23 44.1 +1.0**
LOR Lormes 75.51 31 *e*P **P 08 23 44.1 +1.0**
NKC Novy Kostel 75.52 25 *e*P **P 08 23 43.9 +0.7**
NKC *e* 08 23 52.8
NKC MLR MLR
comp=Z,4μm,19.4s,MS5.7
NKC Novy Kostel 75.52 25 *e*P **P 08 23 43.9 +0.7**
NKC *e*PCP PcP 08 23 52.8 -3.3
NKC AMS AMS 08 57 40.0
comp=Z,4μm,19.4s
SSF Saint Saulge 75.57 32 *e*P **P 08 23 44.5 +1.0**
comp=Z,75nm,1.5s,mb5.1
SSF Saint Saulge 75.57 32 *e*P **P 08 23 44.5 +1.0**
comp=Z,75nm,1.5s,mb5.4
SSF Saint Saulge 75.57 32 *e*P **P 08 23 44.5 +1.0**
SSF pmax pmax
comp=Z,75nm,1.5s,mb5.4
CDF Champ du Feu 75.63 29 *e*P **P 08 23 44.9 +1.1**
comp=Z,96nm,1.6s,mb5.2
CDF Champ du Feu 75.63 29 *e*P **P 08 23 44.9 +1.1**
comp=Z,96nm,1.6s,mb5.5
CDF Champ du Feu 75.63 29 *e*P **P 08 23 44.9 +1.1**
CDF pmax pmax
comp=Z,96nm,1.6s,mb5.5
GRF Grafenberg Arr 75.67 26 *e*P **P 08 23 44.3 +0.3**
comp=Z,47nm,1.5s,mb5.2
HAU Haudompre 75.69 29 *e*P **P 08 23 44.9 +0.7**
HAU *e*R
comp=Z,5μm,17.0s
HAU Haudompre 75.69 29 *e*P **P 08 23 44.9 +0.7**
HAU Haudompre 75.69 29 *e*P **P 08 23 44.9 +0.7**
AVF Avril sur Loir 75.75 32 *e*P **P 08 23 45.2 +0.7**
comp=Z,88nm,1.6s,mb5.1
AVF Avril sur Loir 75.75 32 *e*P **P 08 23 45.2 +0.7**
comp=Z,88nm,1.6s,mb5.4
AVF Avril sur Loir 75.75 32 *e*P **P 08 23 45.2 +0.7**
AVF pmax pmax
comp=Z,88nm,1.6s,mb5.4
ECH Echery 75.76 29 PFAKE 08 24 00.0 +15
ECH LR LR
comp=Z,3μm,19.0s,MS5.7
BGF Bois d'Agland 75.77 32 *e*P **P 08 23 45.5 +0.8**
comp=Z,110nm,1.7s,mb5.2
BGF Bois d'Agland 75.77 32 *e*P **P 08 23 45.5 +0.8**
comp=Z,110nm,1.7s,mb5.5
BGF Bois d'Agland 75.77 32 *e*P **P 08 23 45.5 +0.8**
BGF pmax pmax
comp=Z,110nm,1.7s,mb5.5
TCF Toulx Ste Croi 75.78 33 *e*P **P 08 23 45.5 +0.8**
comp=Z,59nm,1.2s,mb5.1
TCF Toulx Ste Croi 75.78 33 *e*P **P 08 23 45.5 +0.8**
comp=Z,59nm,1.3s,mb5.3
TCF Toulx Ste Croi 75.78 33 *e*P **P 08 23 45.5 +0.8**
TCF pmax pmax
comp=Z,59nm,1.3s,mb5.4
PVCC Panska Ves 75.82 23 *e*P **P 08 23 47.7 +2.9**
PVCC MLR MLR
comp=Z,2μm,17.6s,MS5.6
PVCC Panska Ves 75.82 23 *e*P **P 08 23 47.7 +2.9**
PVCC AMS AMS 09 00 30.0
comp=Z,2μm,17.6s
HHC Hu-ho-hao-te 75.91 317 *e*P **P 08 23 44.3 -1.2**
HHC sP sP 08 23 50.8 +0.8
HHC PcP PcP 08 23 57.0 -1.0
HHC PP PP 08 26 36.0 +0.8
HHC S S 08 33 24.0 -3.9
HHC sS sS 08 33 31.0 -2.3
HHC SKS 08 33 48.3
HHC ScS ScS 08 33 53.3 -6.5
HHC SS SS 08 38 18.3 -0.8
HHC pmax pmax
comp=Z,21nm,0.7s,mb5.2
HHC pmax pmax
comp=Z,270nm,6.9s
HHC LR LR
comp=N,3μm,17.2s,MS6.0
HHC LR LR
comp=E,6μm,16.8s,MS6.0
HHC LR LR
comp=Z,2μm,17.3s,MS5.4
POLO Lamas de Olo 75.91 42 *e*P **P 08 23 46.5 +0.9**
comp=Z,27nm,1.6s,mb4.9
POLO *e*S S 08 33 29.8 +1.8
POLO *e*LQ 08 43 16.7
POLO *e*LR LR 08 49 23.5
comp=Z,1μm,18.0s
KSP Ksiaz 75.97 22 *e*P **P 08 23 46.3 +0.6**
KSP Ksiaz 75.97 22 *e*P **P 08 23 45.7 0.0**
KSP *e*S S 08 33 29.0 +0.8
KSP LM 09 00 33.0
comp=Z,5.6nm,17.8s
KSP Ksiaz 75.97 22 *e*P **P 08 23 45.7 0.0**
KSP *e*S S 08 33 29.0 +0.8
KSP MLR MLR
comp=Z,6μm,17.8s,MS5.9
NNA Nana 75.99 128 PFAKE 08 24 00.0 +14
NNA LR LR
comp=Z,2μm,20.0s,MS5.4
HINF Hinteralfeld 76.02 29 *e*P **P 08 23 47.1 +1.1**
comp=Z,63nm,1.5s,mb5.0
HINF Hinteralfeld 76.02 29 *e*P **P 08 23 47.1 +1.1**
comp=Z,63nm,1.5s,mb5.3
HINF Hinteralfeld 76.02 29 *e*P **P 08 23 47.1 +1.1**
HINF pmax pmax
comp=Z,63nm,1.5s,mb5.3
PVRL Vila Real 76.03 42 *e*P **P 08 23 47.2 +1.0**
comp=Z,66nm,1.4s,mb5.4
BFO Black Forest 76.03 28 *e*P **P 08 23 46.6 +0.5**
comp=Z,29nm,1.3s,mb5.0
BFO LR LR
comp=Z,3μm,20.0s,MS5.6
BFO Black Forest 76.03 28 *e*P **P 08 23 46.6 +0.5**

BFO pmax pmax
comp=Z,29nm,1.3s,mb5.0
BFO MLR MLR
comp=Z,3μm,20.0s,MS5.6
SMF Signal de Mont 76.04 32 *e*P **P 08 23 46.7 +0.5**
comp=Z,52nm,1.4s,mb5.0
SMF Signal de Mont 76.04 32 *e*P **P 08 23 46.7 +0.5**
comp=Z,52nm,1.4s,mb5.3
SMF Signal de Mont 76.04 32 *e*P **P 08 23 46.7 +0.5**
SMF pmax pmax
comp=Z,52nm,1.4s,mb5.3
PRA Prague 76.20 24 P **P 08 23 50.0 +3.0**
PRA AMS AMS 08 55 00.0
UPC Upice 76.20 22 *e*P **P 08 23 47.0 0.0**
UPC *e* 08 23 56.8
UPC Upice 76.20 22 *e*P **P 08 23 47.0 0.0**
UPC *e*PCP PcP 08 23 56.8 -2.3
PRU Pruhonice 76.31 23 *e*P **P 08 23 47.5 -0.1**
PRU *e* 08 23 57.4
PRU *e*S S 08 33 38.6 +6.6
PRU MLR MLR
comp=Z,3μm,22.5s,MS5.5
PRU Pruhonice 76.31 23 *e*P **P 08 23 47.5 -0.1**
PRU *e*PCP PcP 08 23 57.4 -2.1
PRU *e*S S 08 33 38.6 +6.6
PRU AMS AMS 08 55 30.0
comp=Z,3μm,22.5s
RJF Les Rejaudoux 76.37 34 *e*P **P 08 23 48.9 +0.8**
comp=Z,114nm,1.4s,mb5.3
RJF *e*R
comp=Z,4μm,20.5s
RJF Les Rejaudoux 76.37 34 *e*P **P 08 23 48.9 +0.8**
comp=Z,114nm,1.4s,mb5.6
RJF Les Rejaudoux 76.37 34 *e*P **P 08 23 48.9 +0.8**
RJF pmax pmax
comp=Z,114nm,1.4s,mb5.6
LFF La Frestale 76.40 34 *e*P **P 08 23 49.2 +0.9**
comp=Z,70nm,1.2s,mb5.2
LFF La Frestale 76.40 34 *e*P **P 08 23 49.2 +0.9**
comp=Z,70nm,1.2s,mb5.5
LFF La Frestale 76.40 34 *e*P **P 08 23 49.2 +0.9**
LFF pmax pmax
comp=Z,70nm,1.2s,mb5.5
PVIS Viseu 76.41 42 *e*P **P 08 23 48.8 +0.4**
comp=Z,32nm,2.1s,mb4.9
MVO Moncorvo 76.42 41 *e*P **P 08 23 49.4 +1.0**
comp=Z,43nm,1.5s,mb5.2
MVO *e*LQ 08 44 02.8
MVO *e*LR LR 08 49 41.2
comp=Z,2μm,18.0s
DPC Dobruska-Polom 76.43 22 *e*P **P 08 23 48.3 0.0**
DPC *e*S S 08 33 36.0 +2.7
DPC MLR MLR
comp=Z,3μm,16.4s,MS5.6
DPC Dobruska-Polom 76.43 22 *e*P **P 08 23 48.3 0.0**
DPC *e*S S 08 33 36.0 +2.7
DPC AMS AMS 08 59 40.0
comp=Z,3μm,16.4s
MTE Manteigas 76.82 42 *e*P **P 08 23 54.2 +3.5**
comp=Z,55nm,1.6s,mb5.2
MTE *e*S S 08 33 43.9 +6.0
MTE *e*LQ 08 43 31.8
MTE *e*LR LR 08 49 31.7
comp=Z,2μm,20.0s
MTE Manteigas 76.82 42 *e*P **P 08 23 49.6 -1.1**
comp=Z,33nm,1.3s,mb5.1
MTE LR LR
comp=Z,3μm,19.0s,MS5.6
CABF La Chapelle 76.83 30 *e*P **P 08 23 51.8 +1.1**
comp=Z,110nm,1.5s,mb5.3
CABF La Chapelle 76.83 30 *e*P **P 08 23 51.8 +1.1**
comp=Z,110nm,1.5s,mb5.6
CABF La Chapelle 76.83 30 *e*P **P 08 23 51.8 +1.1**
CABF pmax pmax
comp=Z,110nm,1.5s,mb5.6
KHC Kasperske Hory 76.83 24 *e*P **P 08 23 50.7 +0.1**
comp=Z,37nm,1.4s,mb5.1
KHC Kasperske Hory 76.83 24 *e*P **P 08 23 51.3 +0.7**
KHC *e* 08 23 57.0
KHC *e*S S 08 33 45.7 +7.9
KHC MLR MLR
comp=Z,4μm,18.1s,MS5.7
KHC Kasperske Hory 76.83 24 *e*P **P 08 23 51.3 +0.7**
KHC *e*x x 08 23 57.0
KHC *e*S S 08 33 45.7 +7.9
KHC AMS AMS 08 58 30.0
comp=Z,4μm,18.1s
CAF Calviac 76.90 34 *e*P **P 08 23 51.9 +0.8**
comp=Z,39nm,1.2s,mb4.9
CAF Calviac 76.90 34 *e*P **P 08 23 51.9 +0.8**
comp=Z,39nm,1.2s,mb5.2
CAF Calviac 76.90 34 *e*P **P 08 23 51.9 +0.8**
CAF pmax pmax
comp=Z,39nm,1.2s,mb5.2
BRVK Borovoye 76.93 348 *e*P **P 08 23 50.0 -1.1**
comp=Z,21nm,1.1s,mb5.0
BRVK LR LR
comp=Z,4μm,22.0s,MS5.7
BRVK Borovoye 76.93 348 *e*P **P 08 23 50.0 -1.1**
BRVK pmax pmax
comp=Z,21nm,1.1s,mb5.0
BRVK MLR MLR
comp=Z,4μm,22.0s,MS5.7
BRVK Borovoye 76.93 348⇓ *e*P **P 08 23 50.2 -0.9**
BRVK pmax pmax
comp=Z,36nm,2.4s,mb4.9
BRVK MLR MLR
comp=Z,4μm,22.0s,MS5.7
BRVK Borovoye 76.93 348 P **P 08 23 50.8 -0.3**
comp=Z,71nm,1.5s,mb5.4,SNR=5.9
BVA0 Borovoye Array 76.95 348 *i*P **P 08 23 49.4 -1.8**
BVA0 pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
BVAR Borovoye Array 76.95 348 P **P 08 23 50.6 -0.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=26,slow=4.1,SNR=14
BVAR Borovoye Array 76.95 348 P **P 08 23 50.6 -0.6**
BVAR Borovoye Array 76.95 348 P **P 08 23 50.6 -0.6**
GERES GERESS Array B 77.12 24 P **P 08 23 52.6 +0.3**
comp=Z,3.0nm,1.0s,mb4.2,baz=345,slow=4.6,SNR=9.2
GERES LR LR 09 01 25.9
comp=Z,3μm,19.8s,MS5.6,baz=331,slow=38
GERES GERESS Array B 77.12 24 P **P 08 23 52.6 +0.3**
GERES GERESS Array B 77.12 24 P **P 08 23 52.6 +0.3**
TREC Trest 77.19 23 *e*P **P 08 23 54.9 +2.3**
TREC MLR MLR
comp=Z,2μm,16.7s,MS5.6
TREC Trest 77.19 23 *e*P **P 08 23 54.9 +2.3**
TREC AMS AMS 08 59 10.0
comp=Z,2μm,16.7s
SJPF Ste Jean 77.20 37 *e*P **P 08 23 54.1 +1.3**
SJPF Ste Jean 77.20 37 *e*P **P 08 23 54.1 +1.3**
SJPF Ste Jean 77.20 37 *e*P **P 08 23 54.1 +1.3**
PMAFR Mafra 77.21 44 *e*S S 08 33 44.4 +2.1
PMAFR *e*LQ 08 43 24.9
PMAFR *e*LR LR 08 49 35.5
comp=Z,2μm,18.0s
MORC Moravsky Berou 77.26 22 *e*P **P 08 23 53.8 +0.7**
comp=Z,13nm,1.3s,mb4.7
MORC Moravsky Berou 77.26 22 *e*P **P 08 23 53.8 +0.8**
MORC pmax pmax
comp=Z,13nm,1.3s,mb4.7
PCBR Castelo Branco 77.30 43 *e*P **P 08 23 54.3 +0.8**
comp=Z,26nm,1.4s,mb5.0
OKC Ostrava-Krasne 77.35 21 *e*P **P 08 23 53.5 0.0**
OKC *e* 08 24 03.4
OKC *e*S S 08 33 56.3 +13
OKC MLR MLR
comp=Z,2μm,23.1s,MS5.3
OKC Ostrava-Krasne 77.35 21 *e*P **P 08 23 53.5 0.0**
OKC *e*PCP PcP 08 24 03.4 -0.6
OKC *e*x x 08 33 56.3
OKC AMS AMS 08 56 00.0
comp=Z,2μm,23.1s
OJC Ojcow 77.37 20 *e*P **P 08 23 53.6 -0.1**
OJC *e*S S 08 33 49.0 +5.3
OJC L 08 58 20.2
comp=Z,2.0nm,19.7s
OJC Ojcow 77.37 20 *e*P **P 08 23 53.6 -0.1**
OJC *e*S S 08 33 49.0 +5.3
OJC MLR MLR
comp=Z,2μm,19.7s,MS5.4
VRAC Vranov 77.46 22 ⇓ P **P 08 23 55.0 +0.9**
VRAC Vranov 77.46 22 ⇓ *i*P **P 08 23 55.0 +0.9**
SSB Saint Sauveur 77.47 32 PFAKE 08 24 10.0 +16
SSB LR LR

comp=Z,5μm,20.0s,MS5.8
PMTG Montargil 77.60 43 *e*LQ 08 43 57.5
PMTG *e*LR LR 08 51 43.6
comp=Z,5μm,18.0s
GUMO Guam 77.60 276 PFAKE 08 24 10.0 +15
GUMO LR LR
comp=Z,1μm,20.0s,MS5.2
ETSF Etsaut 77.64 36 *e*P **P 08 23 55.4 +0.1**
comp=Z,22nm,0.9s,mb4.8
ETSF Etsaut 77.64 36 *e*P **P 08 23 55.4 +0.1**
comp=Z,22nm,0.9s,mb5.1
ETSF Etsaut 77.64 36 *e*P **P 08 23 55.4 +0.1**
ETSF pmax pmax
comp=Z,22nm,0.9s,mb5.1
PMRV Marv??o 77.68 43 *e*P **P 08 23 56.2 +0.6**
comp=Z,33nm,1.6s,mb5.0
PMRV *e*S S 08 33 53.8 +6.5
PMRV *e*LQ 08 44 05.7
PMRV *e*LR LR 08 50 43.1
comp=Z,2μm,20.0s
KURK Kurchatov 77.83 343 P **P 08 23 55.3 -0.9**
comp=Z,6.7nm,0.9s,mb4.6,baz=18,slow=5.4,SNR=35
KURK Kurchatov 77.83 343 P **P 08 23 55.3 -0.9**
comp=Z,2.7nm,1.5s,mb4.0
KURK LR LR
comp=Z,2μm,19.0s,MS5.5
KURK Kurchatov 77.83 343⇓*e*P **P 08 23 53.8 -2.4**
KURK pmax pmax
comp=Z,38nm,3.0s
KURK MLR MLR
comp=Z,2μm,17.0s,MS5.4
KURK Kurchatov 77.83 343 P **P 08 23 54.0 -2.2**
comp=Z,52nm,0.8s,mb5.5,SNR=5.5
RPN Rapa Nui 77.85 162 PFAKE 08 24 10.0 +14
RPN LR LR
comp=Z,1μm,19.0s,MS5.3
EPF Esparros 77.88 36 *e*P **P 08 23 57.1 +0.5**
comp=Z,25nm,1.2s,mb4.7
EPF Esparros 77.88 36 *e*P **P 08 23 57.1 +0.5**
comp=Z,25nm,1.2s,mb5.0
EPF Esparros 77.88 36 *e*P **P 08 23 57.1 +0.5**
EPF pmax pmax
comp=Z,25nm,1.2s,mb5.0
VIVF Saint-Julien-l 77.89 32 *e*P **P 08 23 57.6 +1.0**
comp=Z,48nm,1.5s,mb4.9
VIVF Saint-Julien-l 77.89 32 *e*P **P 08 23 57.6 +1.0**
comp=Z,48nm,1.5s,mb5.2
VIVF Saint-Julien-l 77.89 32 *e*P **P 08 23 57.6 +1.0**
VIVF pmax pmax
comp=Z,48nm,1.5s,mb5.2
TUE Stuetta 78.00 28 PFAKE 08 24 10.0 +13
TUE LR LR
comp=Z,5μm,20.0s,MS5.9
LPL La Plagne 78.01 30 *e*P **P 08 23 57.9 +0.6**
comp=Z,27nm,1.0s,mb4.8
LPL La Plagne 78.01 30 *e*P **P 08 23 57.9 +0.6**
comp=Z,27nm,1.0s,mb5.1
LPL La Plagne 78.01 30 *e*P **P 08 23 57.9 +0.6**
LPL pmax pmax
comp=Z,27nm,1.0s,mb5.1
LPG La Plagne 78.03 30 *e*P **P 08 23 58.2 +0.8**
comp=Z,86nm,1.4s,mb5.2
LPG La Plagne 78.03 30 *e*P **P 08 23 58.2 +0.8**
comp=Z,86nm,1.4s,mb5.5
LPG La Plagne 78.03 30 *e*P **P 08 23 58.2 +0.8**
LPG pmax pmax
comp=Z,86nm,1.4s,mb5.5
PESTR Estremoz 78.05 43 *e*P **P 08 23 57.5 -0.1**
comp=Z,51nm,1.6s,mb5.2
PESTR *e*S S 08 33 56.7 +5.4
PESTR *e*LQ 08 44 02.8
PESTR *e*LR LR 08 50 48.6
comp=Z,4μm,18.0s
EVOP Sao Brissos 78.08 44 *e*P **P 08 23 57.6 -0.2**
comp=Z,152nm,1.7s,mb5.7
EVOP Sao Brissos 78.08 44 *e*P **P 08 23 57.6 -0.2**
EVOP pmax pmax
comp=Z,152nm,1.7s,mb5.7
EVO Evora 78.13 44 *e*P **P 08 23 57.6 -0.5**
comp=Z,152nm,1.7s,mb5.3
EVO *e*R
comp=Z,5μm,22.8s
EVO Evora 78.13 44 *e*P **P 08 24 01.6 +3.5**
comp=Z,50nm,1.6s,mb5.2
PNCL Nicolau / Gran 78.24 44 *e*P **P 08 23 59.2 +0.5**
comp=Z,60nm,1.6s,mb5.3
PNCL *e*LQ 08 44 03.2
PNCL *e*LR LR 08 49 40.3
comp=Z,3μm,18.0s
NIE Niedzica 78.24 20 *e*P **P 08 23 59.1 +0.6**
NIE Niedzica 78.24 20 *e*P **P 08 23 59.1 +0.6**
ORIF Oris-en-Rattie 78.25 31 *e*P **P 08 23 59.5 +0.9**
ORIF *e*R
comp=Z,5μm,19.2s
ORIF Oris-en-Rattie 78.25 31 *e*P **P 08 23 59.5 +0.9**
ORIF Oris-en-Rattie 78.25 31 *e*P **P 08 23 59.5 +0.9**
LASF Ste Croix 78.28 33 *e*P **P 08 23 59.1 +0.3**
comp=Z,131nm,1.6s,mb5.3
LASF Ste Croix 78.28 33 *e*P **P 08 23 59.1 +0.3**
comp=Z,131nm,1.6s,mb5.6
MTLF Montolieu 78.32 34 *e*P **P 08 23 59.8 +0.8**
comp=Z,128nm,1.8s,mb5.2
MTLF Montolieu 78.32 34 *e*P **P 08 23 59.8 +0.8**
comp=Z,128nm,1.8s,mb5.5
MTLF Montolieu 78.32 34 *e*P **P 08 23 59.8 +0.8**
MTLF pmax pmax
comp=Z,128nm,1.8s,mb5.5
BNI Bardonecchia 78.40 31 PFAKE 08 24 10.0 +11
BNI LR LR
comp=Z,5μm,20.0s,MS5.9
STHS Stebnicka Huta 78.45 20 *e*P **P 08 23 58.4 -1.3**
STHS Stebnicka Huta 78.45 20 *e*P **P 08 23 58.4 -1.3**
KWP Kalwaria Pacla 78.56 19 PFAKE 08 24 10.0 +10
KWP LR LR
comp=Z,3μm,19.0s,MS5.6
KOLL Kolacno 78.58 22 *e*P **P 08 24 00.8 +0.4**
KOLL Kolacno 78.58 22 *e*P **P 08 24 00.8 +0.4**
MBDF Montbardon 78.72 31 *e*P **P 08 24 03.0 +1.8**
comp=Z,66nm,1.2s,mb5.1
MBDF Montbardon 78.72 31 *e*P **P 08 24 03.0 +1.8**
comp=Z,66nm,1.3s,mb5.4
MBDF Montbardon 78.72 31 *e*P **P 08 24 03.0 +1.8**
MBDF pmax pmax
comp=Z,66nm,1.3s,mb5.4
AKASG Malin Array Be 78.74 14 P **P 08 24 00.3 -0.9**
comp=Z,1.9nm,0.7s,mb4.1,baz=350,slow=4.8,SNR=5.2
AKASG LR LR 08 59 18.9
comp=Z,3μm,20.6s,MS5.6,baz=330,slow=36
AKASG Malin Array Be 78.74 14 P **P 08 24 00.3 -0.9**
AKASG Malin Array Be 78.74 14 P **P 08 24 00.4 -0.8**
AKBB Malin Array Si 78.74 14 *e*P **P 08 24 01.4 +0.1**
AKBB Malin Array Si 78.74 14 *e*P **P 08 24 01.4 +0.2**
KIEV Kiev 78.75 14 *e*P **P 08 24 01.0 -0.3**
comp=Z,31nm,1.4s,mb5.0
KIEV LR LR
comp=Z,3μm,20.0s,MS5.6
KIEV Kiev 78.75 14 *i*P **P 08 24 02.0 +0.7**
VYHS Vyhne 78.76 21 *e*P **P 08 24 01.8 +0.4**
VYHS pmax pmax
comp=Z,46nm,2.6s,mb5.0
VYHS Vyhne 78.76 21 *e*P **P 08 24 01.8 +0.4**
MORF Marmelete 78.84 45 *e*P **P 08 24 00.7 -1.3**
comp=Z,98nm,1.5s,mb5.5
MORF *e*S S 08 34 07.1 +7.3
MORF *e*LQ 08 44 24.9
MORF *e*LR LR 08 52 18.5
comp=Z,2μm,22.0s
PCVE Castro Verde 78.85 44 *e*LR LR 08 49 59.0
comp=Z,3μm,18.0s
PBAR Barrancos 78.86 43 *e*P **P 08 24 02.0 -0.1**
comp=Z,33nm,1.9s,mb4.9
SSE Sheshan 78.88 305 *e*P **P 08 24 01.0 -1.3**
SSE sP sP 08 24 05.5 -1.3
SSE S S 08 33 58.3 -2.2
SSE sS sS 08 34 04.0 -1.9
SSE ScS ScS 08 34 22.8 -1.4
SSE pmax pmax
comp=Z,27nm,0.9s,mb5.2
SSE pmax pmax
comp=Z,210nm,6.9s
SSE LR LR
comp=N,420nm,18.1s,MS5.3
SSE LR LR
comp=E,1μm,18.1s,MS5.3
SSE LR LR
comp=Z,1μm,15.6s,MS5.3

PFVI Vila Bisbo 78.89 45 *e*S S 08 34 00.2 -0.3
PFVI *e*LQ 08 44 12.7
PFVI *e*LR LR 08 52 16.1
comp=Z,2μm,20.0s
SOP Sopron 78.95 23⇓*e*P **P 08 24 04.9 +2.5**
ESDC Sonseca Array 78.97 40 P **P 08 24 03.0 +0.3**
comp=Z,3.6nm,0.8s,mb4.4,baz=317,slow=4.7,SNR=22
ESDC Sonseca Array 78.97 40 P **P 08 24 03.0 +0.3**
ESLA Sonseca Array 78.97 40 PFAKE 08 24 10.0 +7.3
ESLA LR LR
comp=Z,10μm,21.0s,MS6.1
SMRF Simiane la Rot 78.97 32 *e*P **P 08 24 03.2 +0.6**
comp=Z,196nm,1.9s,mb5.4
SMRF Simiane la Rot 78.97 32 *e*P **P 08 24 03.2 +0.6**
comp=Z,196nm,1.9s,mb5.7
CRVS Cervenica-Dubn 78.98 20 *e*P **P 08 24 05.5 +2.9**
CRVS pmax pmax
comp=Z,63nm,2.4s,mb5.1
CRVS Cervenica-Dubn 78.98 20 *e*P **P 08 24 05.5 +2.9**
KECS Kecovo 79.16 20 *e*P **P 08 24 02.4 -1.2**
KECS Kecovo 79.16 20 *e*P **P 08 24 02.4 -1.2**
PVAQ Vaqueiros 79.19 44 *e*S S 08 34 08.6 +5.0
PVAQ *e*LQ 08 44 28.3
PVAQ *e*LR LR 08 50 18.5
comp=Z,2μm,18.0s
PBDV Barranco-do-Ve 79.22 44 *e*LR LR 08 50 17.3
comp=Z,2μm,20.0s
NJ2 Nanjing 79.37 307 *e*P **P 08 24 03.8 -1.2**
NJ2 pP pP 08 24 08.3 0.0
NJ2 sP sP 08 24 10.3 +0.8
NJ2 S S 08 34 05.0 -0.7
NJ2 sS sS 08 34 11.5 +0.4
NJ2 pmax pmax
comp=Z,30nm,1.1s,mb5.1
NJ2 LR LR
comp=N,2μm,26.6s,MS5.6
NJ2 LR LR
comp=E,3μm,24.6s,MS5.6
NJ2 LR LR
comp=Z,7μm,24.4s,MS5.9
UZH Uzhgorod 79.42 19 *e*P **P 08 24 07.0 +2.0**
UZH *e* 08 27 09.1
UZH *e*S S 08 34 11.1 +5.4
UZH MLR MLR
comp=N,2μm,19.0s,MS5.5
UZH MLR MLR
comp=E,1μm,19.0s,MS5.5
UZH MLR MLR
comp=Z,1μm,19.0s,MS5.3
VSR Storozhevoye 79.48 8 *e*P **P 08 24 05.8 +0.5**
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.6s
VSR pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
VSR MLR MLR
comp=N,3μm,18.0s
VSR MLR MLR
comp=Z,4μm,18.0s,MS5.8
VSR MLR MLR
comp=E,280nm,9.0s
PSZ Piszkesteto 79.55 21 *e*P **P 08 24 06.3 +0.6**
comp=E,80nm,1.5s,mb5.4
PSZ LR LR
comp=Z,3μm,20.0s,MS5.6
PSZ Piszkesteto 79.55 21⇑*i*P **P 08 24 07.2 +1.5**
PSZ Piszkesteto 79.55 21⇓*e*P **P 08 24 06.6 +0.9**
PSZ Piszkesteto 79.55 21⇑*i*P **P 08 24 07.2 +1.5**
FRF La Foret Royal 79.70 31 *e*P **P 08 24 07.2 +0.6**
comp=Z,40nm,1.1s,mb5.0
FRF La Foret Royal 79.70 31 *e*P **P 08 24 07.2 +0.6**
comp=Z,40nm,1.1s,mb5.3
FRF La Foret Royal 79.70 31 *e*P **P 08 24 07.2 +0.6**
FRF pmax pmax
comp=Z,41nm,1.1s,mb5.3
BUD Budapest 79.75 22⇓*e*P **P 08 24 09.2 +2.4**
LMR La Mourre 79.86 32 *e*P **P 08 24 07.3 -0.2**
comp=Z,47nm,1.2s,mb5.0
LMR La Mourre 79.86 32 *e*P **P 08 24 07.3 -0.2**
comp=Z,47nm,1.2s,mb5.3
LMR La Mourre 79.86 32 *e*P **P 08 24 07.3 -0.2**
LMR pmax pmax
comp=Z,47nm,1.2s,mb5.3
TRPA Tarpa 79.95 19⇑*i*P **P 08 24 08.3 +0.4**
TRI Trieste 80.00 26 PFAKE 08 24 20.0 +12
TRI LR LR
comp=Z,4μm,19.0s,MS5.8
AKTO Aktyubinsk 80.64 356 P **P 08 24 10.2 -1.4**
comp=Z,5.7nm,1.0s,mb4.5,baz=3.9,slow=3.5,SNR=8.1
AKTO Aktyubinsk 80.64 356 P **P 08 24 10.2 -1.4**
AKTO Aktyubinsk 80.64 356 P **P 08 24 10.1 -1.5**
SFS San Fernando 80.64 44 PFAKE 08 24 20.0 +8.2
SFS LR LR
comp=Z,3μm,20.0s,MS5.7
MK31 Makanchi Array 80.75 339 *e*P **P 08 24 10.6 -1.6**
MK31 Makanchi Array 80.75 339 *i*P **P 08 24 10.3 -1.9**
MK31 pmax pmax
comp=Z,22nm,1.1s,mb5.0
MKAR Makanchi Array 80.75 339 P **P 08 24 10.7 -1.5**
comp=Z,4.0nm,0.6s,mb4.5,baz=20,slow=4.8,SNR=31
MKAR LR LR 09 01 24.2
comp=Z,2μm,21.6s,MS5.5,baz=17,slow=37
MKAR Makanchi Array 80.75 339 P **P 08 24 10.7 -1.5**
MKAR Makanchi Array 80.75 339 P **P 08 24 10.7 -1.5**
PKSM Moragy 80.85 22⇓*i*P **P 08 24 13.4 +0.7**
PKSM Moragy 80.85 22⇓*i*P **P 08 24 13.4 +0.7**
BUR08 Bucovina Ar. S 80.96 18 *e*P **P 08 24 16.0 +2.6**
BURAR Bucovina Array 80.99 18⇑*i*P **P 08 24 17.0 +3.5**
BURAR Bucovina Array 80.99 18⇑*i*P **P 08 24 17.0 +3.5**
SAML Samuel 81.18 115 *e*P **P 08 24 12.1 -2.8**
comp=Z,10nm,1.1s,mb4.7
SAML LR LR
comp=Z,2μm,19.0s,MS5.5
DRGR 81.25 19⇓*i*P **P 08 24 15.4 +0.5**
DRGR 81.25 19⇓*i*P **P 08 24 15.4 +0.5**
MSVF Nonsavu 81.64 231 PFAKE 08 24 30.0 +13
MSVF LR LR
comp=Z,3μm,20.0s,MS5.7
AB31 Akbulak array 81.71 354 *i*P **P 08 24 15.6 -1.7**
AB31 pmax pmax
comp=Z,29nm,1.4s,mb5.0
ABKAR Akbulak array 81.71 354 *e*P **P 08 24 16.8 -0.5**
comp=Z,27nm,1.2s,mb5.0
GTA Gaotai 82.00 324⇓P **P 08 24 19.8 +0.8**
GTA pP pP 08 24 24.5 +2.2
GTA sP sP 08 24 27.0 +3.5
GTA S S 08 34 30.5 -2.5
GTA SKS 08 34 34.8
GTA sS sS 08 34 38.5 +0.1
GTA SS SS 08 39 50.3 -0.1
GTA pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=N,3μm,20.9s,MS5.8
GTA LR LR
comp=E,3μm,21.4s,MS5.8
GTA LR LR
comp=Z,1μm,21.4s,MS5.2
WMQ Urumqi 82.11 334 P **P 08 24 18.0 -1.5**
WMQ pP pP 08 24 22.8 0.0
WMQ sP sP 08 24 25.0 +1.0
WMQ PP PP 08 27 28.0 +1.3
WMQ S S 08 34 31.0 -3.0
WMQ SS SS 08 39 53.0 +1.2
WMQ pmax pmax
comp=Z,29nm,1.5s,mb5.0
WMQ pmax pmax
comp=Z,340nm,5.8s
WMQ LR LR
comp=N,2μm,20.0s,MS5.6
WMQ LR LR
comp=E,2μm,23.0s,MS5.6
WMQ LR LR
comp=Z,2μm,23.0s,MS5.5
BZS Buzias 82.12 21⇓P **P 08 24 19.3 -0.2**
BZS Buzias 82.12 21⇓*i*P **P 08 24 19.3 -0.2**
KIS Kishinev 82.26 15 *e*P **P 08 24 21.0 +0.8**
KIS *e*S S 08 34 38.0 +2.6
KIS Kishinev 82.26 15 *e*P **P 08 24 21.0 +0.8**
KIS *e*S S 08 34 32.0 -3.4
KIS *e*PS 08 35 22.0
KIS MLR MLR

comp=N,2μm,18.0s
KIS MLR MLR
comp=Z,2μm,18.0s,MS5.5
KIS MLR MLR
comp=Z,2μm,18.0s
RTC Rabat Centre 82.39 45 PFAKE 08 24 30.0 +8.9
RTC LR LR
comp=Z,2μm,19.0s,MS5.5
GZR Gura Zlata 82.60 20⇓P **P 08 24 22.3 +0.3**
GZR Gura Zlata 82.60 20⇓*i*P **P 08 24 22.3 +0.3**
XAN Xi'an 82.68 315 P **P 08 24 21.0 -1.6**
XAN S S 08 34 35.0 -5.1
XAN pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
XAN pmax pmax
comp=Z,60nm,5.5s
XAN LR LR
comp=N,2μm,19.1s,MS5.5
XAN LR LR
comp=E,1μm,19.1s,MS5.5
XAN LR LR
comp=Z,570nm,19.1s,MS5.0
WHN Wuhan 82.89 309 P **P 08 24 26.0 +2.2**
WHN S S 08 34 38.0 -4.4
WHN LR LR
comp=N,3μm,21.8s,MS5.8
WHN LR LR
comp=E,3μm,22.1s,MS5.8
WHN LR LR
comp=Z,5μm,32.2s
AQU L'Aquila 82.96 27 PFAKE 08 24 40.0 +16
AQU LR LR
comp=Z,4μm,22.0s,MS5.8
PLOR Plostina 82.97 17⇑P **P 08 24 26.5 +2.6**
PLOR Plostina 82.97 17⇑*i*P **P 08 24 26.5 +2.6**
VRI Vrincioaia 82.97 17⇑P **P 08 24 23.4 -0.5**
VRI Vrincioaia 82.97 17⇑*i*P **P 08 24 23.4 -0.5**
LZH Lanzhou 83.22 320 *e*P **P 08 24 24.0 -1.4**
LZH pP pP 08 24 27.0 -1.7
LZH sP sP 08 24 29.5 -0.4
LZH *e*S S 08 34 46.0 +0.4
LZH sS sS 08 34 51.0 0.0
LZH SS SS 08 40 07.0 -1.8
LZH pmax pmax
comp=Z,43nm,1.0s,mb5.4
LZH pmax pmax
comp=Z,170nm,4.1s
LZH LR LR
comp=N,3μm,15.6s,MS6.0
LZH LR LR
comp=E,5μm,18.2s,MS6.0
LZH LR LR
comp=Z,2μm,20.0s,MS5.6
TATO Taipei 83.47 301 PFAKE 08 24 40.0 +13
TATO LR LR
comp=Z,2μm,21.0s,MS5.5
YHNB Yeheng 83.77 301 PFAKE 08 24 40.0 +12
YHNB LR LR
comp=Z,2μm,20.0s,MS5.4
LPAZ La Paz 84.22 123 P **P 08 24 29.4 -1.2**
comp=Z,4.8nm,0.7s,mb4.7,baz=351,slow=4.6,SNR=13
LPAZ LR LR 09 04 10.9
comp=Z,2μm,21.9s,MS5.4,baz=324,slow=37
LPAZ La Paz 84.22 123 *e*P **P 08 24 29.4 -1.2**
comp=Z,17nm,1.0s,mb5.1
LPAZ La Paz 84.22 123 *e*P **P 08 24 29.4 -1.2**
LPAZ pmax pmax
comp=Z,17nm,1.0s
VSL Villasalto 84.25 31 *e*P **P 08 24 30.4 -0.2**
comp=Z,31nm,1.4s,mb5.2
VSL LR LR
comp=Z,2μm,19.0s,MS5.5
HNR Honiara 85.22 250 PFAKE 08 24 50.0 +14
HNR LR LR
comp=Z,4μm,21.0s,MS5.7
ENH Enshi 85.53 313 PFAKE 08 24 50.0 +13
ENH LR LR
comp=Z,2μm,20.0s,MS5.5
TIR Tirane 85.71 23 PFAKE 08 24 50.0 +12
TIR LR LR
comp=Z,2μm,19.0s,MS5.6
CUC Castrocucco 85.85 27 PFAKE 08 24 50.0 +11
CUC LR LR
comp=Z,2μm,19.0s,MS5.6
TKM2 Tokmak 2 85.89 342 *e*P **P 08 24 38.2 -0.5**
comp=Z,54nm,1.5s,mb5.5
TKM2 LR LR
comp=Z,2μm,22.0s,MS5.4
TKM2 Tokmak 2 85.89 342 *e*P **P 08 24 38.3 -0.5**
TKM2 pmax pmax
comp=Z,54nm,1.5s,mb5.6
TKM2 MLR MLR
comp=Z,2μm,22.0s,MS5.4
FRU Bishkek 86.17 343 *e*P **P 08 24 40.0 -0.1**
FRU *i* pP 08 24 42.0 -1.5
AAK Ala-Archa 86.38 343 *e*P **P 08 24 40.3 -0.9**
comp=Z,119nm,1.4s,mb5.9
AAK LR LR
comp=Z,2μm,19.0s,MS5.6
AAK Ala-Archa 86.38 343 *i*P **P 08 24 40.0 -1.2**
AAK pmax pmax
comp=Z,29nm,2.3s,mb5.1
AAK MLR MLR
comp=Z,4μm,20.0s,MS5.8
EKS2 Erkin-Say 86.49 344 *e*P **P 08 24 41.7 -0.1**
comp=Z,43nm,1.4s,mb5.5
EKS2 LR LR
comp=Z,2μm,19.0s,MS5.5
EKS2 Erkin-Say 86.49 344 *e*P **P 08 24 41.7 0.0**
EKS2 pmax pmax
comp=Z,43nm,1.4s,mb5.5
EKS2 MLR MLR
comp=Z,2μm,19.0s,MS5.5
KKAR Karatay Array 86.62 346 *e*P **P 08 24 41.6 -0.7**
comp=Z,3.2nm,0.7s,mb4.7
KKAR Karatay Array 86.62 346 *e*P **P 08 24 41.6 -0.8**
KIV Kislovodsk 86.98 6 PFAKE 08 25 00.0 +16
KIV LR LR
comp=Z,3μm,20.0s,MS5.6
KIV Kislovodsk 86.98 6 *e*P **P 08 24 42.4 -1.7**
KIV *e* 08 35 08.3
KIV *e*SS SS 08 41 06.1 +2.8
KIV pmax pmax
comp=Z,16nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,2μm,19.0s,MS5.6
KEST Kesra 87.61 33 P **P 08 24 48.0 +0.7**
comp=Z,3.4nm,1.0s,mb4.5,baz=274,slow=3.3,SNR=6.8
KEST LR LR 09 00 48.1
comp=Z,1μm,20.3s,MS5.2,baz=173,slow=33
KEST Kesra 87.61 33 *e*P **P 08 24 47.2 -0.1**
CD2 Chengdu 87.66 317 *e*P **P 08 24 47.5 -0.2**
CD2 pP pP 08 24 52.3 +1.3
CD2 PP PP 08 28 14.5 +2.3
CD2 SKS 08 35 12.0
CD2 S S 08 35 25.8 -3.7
CD2 sS sS 08 35 33.8 -1.2
CD2 SS SS 08 41 14.0 -0.3
CD2 pmax pmax
comp=Z,50nm,1.2s,mb5.6
CD2 pmax pmax
comp=Z,390nm,7.1s
CD2 LR LR
comp=N,3μm,19.0s,MS6.0
CD2 LR LR
comp=E,5μm,15.5s,MS6.0
CD2 LR LR
comp=Z,2μm,19.0s,MS5.6
LVC Limon Verde 88.97 127 PFAKE 08 25 10.0 +16
LVC LR LR
comp=Z,1μm,21.0s,MS5.4
KSH Kashi 89.09 341 P **P 08 24 56.3 +2.1**
KSH pP pP 08 25 01.0 +3.4
KSH sP sP 08 25 03.0 +4.2
KSH PP PP 08 28 28.3 +5.1
KSH SKS 08 35 23.5
KSH S S 08 35 42.8 +0.1
KSH sS sS 08 35 51.0 +2.7
KSH SS SS 08 41 38.8 +4.5
KSH pmax pmax
comp=Z,12nm,1.3s,mb5.1
KSH pmax pmax
comp=Z,300nm,3.9s
KSH LR LR
comp=N,1μm,16.0s,MS5.9

KSH LR LR
comp=E,3μm,14.3s,MS5.9
KSH LR LR
comp=Z,2μm,19.9s
WDD Wield Dalam 89.25 29 PFAKE 08 25 10.0 +15
WDD LR LR
comp=Z,2μm,21.0s,MS5.5
GYA Guiyang 90.07 313⇑ *i*P **P 08 25 01.0 +1.9**
GYA PP PP 08 28 34.5 +2.9
GYA SKS 08 35 29.0
GYA S S 08 35 50.5 -1.8
GYA SS SS 08 41 51.3 +1.8
GYA pmax pmax
comp=Z,60nm,1.0s,mb5.9
GYA pmax pmax
comp=Z,180nm,7.4s
GYA LR LR
comp=N,3μm,21.9s,MS5.7
GYA LR LR
comp=E,2μm,22.0s,MS5.7
GYA LR LR
comp=Z,3μm,21.7s,MS5.7
BR131 Keskin Array S 90.13 14 PFAKE 08 25 10.0 +11
BR131 LR LR
comp=Z,1μm,20.0s,MS5.3
BRTR Keskin Array B 90.13 14 P **P 08 24 60.0 +0.8**
comp=Z,0.8nm,0.8s,mb4.1,baz=355,slow=6.4,SNR=2.7
BRTR LR LR 09 08 38.6
comp=Z,1μm,18.2s,MS5.4,baz=147,slow=38
BRTR Keskin Array B 90.13 14 P **P 08 24 60.0 +0.8**
BRTR Keskin Array B 90.13 14 P **P 08 25 00.0 +0.9**
GNI Garni 90.90 5 LR LR 09 08 56.9
comp=Z,3μm,20.3s,MS5.7,baz=3.8,slow=38
DZM Mont Dzumac 91.36 237 *e*S S 08 36 00.1 -3.8
comp=Z,637nm,25.5s
DZM *e*LQ 08 49 27.6
comp=Z,3μm,31.2s
DZM *e*LR LR 08 54 09.7
comp=Z,4μm,23.4s
KMI Kunming 93.06 315 P **P 08 25 15.0 +2.0**
KMI SKS 08 35 46.5
KMI S S 08 36 15.5 -3.9
KMI SS SS 08 42 29.3 -3.3
KMI pmax pmax
comp=Z,190nm,4.4s
KMI LR LR
comp=N,2μm,19.5s,MS5.8
KMI LR LR
comp=E,2μm,17.9s,MS5.8
KMI LR LR
comp=Z,1μm,17.9s,MS5.4
PMG Port Moresby 93.29 260 PFAKE 08 25 20.0 +6.0
PMG LR LR
comp=Z,2μm,21.0s,MS5.4
LCO Las Campanas 93.34 132 PFAKE 08 25 30.0 +16
LCO LR LR
comp=Z,1μm,20.0s,MS5.4
LSA Lhasa 93.87 326 PFAKE 08 25 30.0 +13
LSA LR LR
comp=Z,2μm,20.0s,MS5.5
QIZ Qiongzhong 94.63 306 P **P 08 25 20.5 +0.3**
QIZ S S 08 36 32.5 -0.8
QIZ SS SS 08 42 55.0 -0.3
QIZ LR LR
comp=N,930nm,22.4s
QIZ LR LR
comp=Z,740nm,19.4s,MS5.2
QIZ Qiongzhong 94.63 306 PFAKE 08 25 30.0 +10
QIZ LR LR
comp=Z,1μm,20.0s,MS5.3
DAV Davao City (W) 94.90 287 PFAKE 08 25 30.0 +8.5
DAV LR LR
comp=Z,4μm,22.0s,MS5.8
NIL Nilore 95.31 342 PFAKE 08 25 30.0 +6.9
NIL LR LR
comp=Z,87nm,20.0s,MS4.2
RCBR Riachuelo 96.14 92 PFAKE 08 25 40.0 +13
RCBR LR LR
comp=Z,2μm,19.0s,MS5.7
TAM Tamanrasset 97.56 42 PFAKE 08 25 40.0 +6.5
TAM LR LR
comp=Z,1μm,19.0s,MS5.4
CPUP Villa Florida 98.25 121 LR LR 09 15 38.9
comp=Z,1μm,19.4s,MS5.4,baz=316,slow=39
CHTO Chiang Mai 100.26 315 PFAKE 08 26 00.0 +14
CHTO LR LR
comp=Z,999nm,20.0s,MS5.3
CM31 Chiang Mai Arr 100.57 315 PFAKE 08 26 00.0 +13
CM31 LR LR
comp=Z,929nm,20.0s,MS5.3
CMAR Chiang Mai Arr 100.57 315 P Pdif 08 25 46.8 -0.2
comp=Z,1.5nm,0.3s,baz=9.9,slow=5.8,SNR=6.6
CMAR Chiang Mai Arr 100.57 315 P Pdif 08 25 46.8 -0.2
CMAR Chiang Mai Arr 100.57 315 P Pdif 08 25 46.8 -0.1
KKM Kota Kinabalu 101.48 293 PFAKE 08 26 00.0 +9.1
KKM LR LR
comp=Z,1μm,21.0s,MS5.4
CTAO Charters Tower 101.84 253 PFAKE 08 26 00.0 +7.5
CTAO LR LR
comp=Z,1μm,19.0s,MS5.5
SPB Sao Paulo 101.99 112 PFAKE 08 26 00.0 +6.8
SPB LR LR
comp=Z,2μm,21.0s,MS5.6
SNZO South Karori 102.96 220 PFAKE 08 26 10.0 +12
SNZO LR LR
comp=Z,1μm,22.0s,MS5.3
PLCA Paso Flores 103.07 139 PFAKE 08 26 10.0 +12
PLCA LR LR
comp=Z,637nm,20.0s,MS5.1
TORD Torodi Ar. Bea 104.08 50 PKiKP PKiKP 08 30 19.6 -0.3
comp=Z,0.8nm,0.9s,baz=328,slow=4.3,SNR=2.8
TORD Torodi Ar. Bea 104.08 50 PKiKP PKiKP 08 30 19.6 -0.3
TRQA Tornquist 104.91 131 PFAKE 08 26 20.0 +14
TRQA LR LR
comp=Z,959nm,20.0s,MS5.3
DBIC Dimbokro 105.99 59 PFAKE 08 30 30.0 +6.6
DBIC LR LR
comp=Z,4μm,20.0s,MS5.9
KAPI Kappang 107.86 283 PFAKE 08 30 40.0 +13
KAPI LR LR
comp=Z,1μm,20.0s,MS5.5
KSM Kuching 108.65 295 PFAKE 08 30 40.0 +12
KSM LR LR
comp=Z,891nm,22.0s,MS5.3
WRAB Tennant Creek 109.35 262 PFAKE 08 30 40.0 +11
WRAB LR LR
comp=Z,1μm,21.0s,MS5.5
WRA Warramunga Arr 109.36 262 PKiKP PKiKP 08 30 26.3 -3.1
comp=Z,0.4nm,0.8s,baz=24,slow=1.7,SNR=4.5
WRA Warramunga Arr 109.36 262 PKiKP PKiKP 08 30 26.3 -3.1
KULM Kulim 110.96 306 PFAKE 08 30 40.0 +7.3
KULM LR LR
comp=Z,820nm,20.0s,MS5.3
CAN Canberra 111.28 240 PFAKE 08 30 40.0 +7.4
CAN LR LR
comp=Z,983nm,20.0s,MS5.4
EFI East Falkland 116.99 139 PFAKE 08 30 50.0 +7.1
EFI LR LR
comp=Z,936nm,19.0s,MS5.4
TAU Tasmania Unive 117.50 235 PFAKE 08 31 00.0 +16
TAU LR LR
comp=Z,2μm,20.0s,MS5.6
MBWA Marble Bar 119.80 272 PFAKE 08 31 00.0 +11
MBWA LR LR
comp=Z,2μm,21.0s,MS5.8
SHEL Horse Pasture 123.29 75 PFAKE 08 31 10.0 +14
SHEL LR LR
comp=Z,2μm,19.0s,MS5.7
COCO West Island 127.50 299 PFAKE 08 31 20.0 +16
COCO LR LR
comp=Z,805nm,21.0s,MS5.4
NWAO Narrogin (SRO) 129.35 263 PFAKE 08 31 20.0 +13
NWAO LR LR
comp=Z,1μm,19.0s,MS5.7
KMBO Kilima Mbogo 130.65 19 PFAKE 08 31 20.0 +10
KMBO LR LR
comp=Z,1μm,20.0s,MS5.6
SBA Scott Base 132.64 195 PFAKE 08 31 20.0 +7.8
SBA LR LR
comp=Z,1μm,19.0s,MS5.7
VNDA Vanda 133.32 196 PFAKE 08 31 20.0 +6.5
VNDA LR LR
comp=Z,2μm,19.0s,MS5.8
DGAR Diego Garcia 134.79 330 PFAKE 08 31 30.0 +12
DGAR LR LR
comp=Z,1μm,20.0s,MS5.7
MSEY Mahe Island 135.56 354 PFAKE 08 31 30.0 +10
MSEY LR LR
comp=Z,1μm,21.0s,MS5.5
QSPA South Pole Qui 138.94 180 *e*PKPdf PKPdf 08 31 23.0 -0.9
QSPA LR LR
comp=Z,2μm,19.0s,MS5.9
VNA3 Neumayer Olymp 144.72 151 *e* PKPdf 08 31 31.7 -2.7
VNA1 Neumayer--Stat 145.24 150 *e* PKPdf 08 31 32.6 -2.7
VNA2 Neumayer--Watz 145.50 150 *e* PKPdf 08 31 34.1 -1.6
baz=307,slow=2.5
VNA2 *e* 08 31 38.4
CASY Casey 145.68 218 PFAKE 08 31 50.0 +14
CASY LR LR
comp=Z,944nm,20.0s,MS5.6
SNAA Sanae 146.81 152 *e* PKPdf 08 31 38.1 +0.2
SNAA *e* 08 31 42.8
SNAA Sanae 146.81 152 *e*PKPdf PKPdf 08 31 36.6 -1.3
SNAA Sanae 146.81 152 *e*PKIKP PKPdf 08 31 36.6 -1.3
LBTB Lobatse 148.60 49 PKPbc PKPbc 08 31 46.6 +0.5
comp=Z,7.6nm,0.9s,baz=229,slow=3.1,SNR=6.0
LBTB Lobatse 148.60 49 *e*PKPbc PKPbc 08 31 46.3 +0.2
LBTB LR LR
comp=Z,2μm,19.0s,MS5.9
ABPO Ambohimpanom 149.76 8 *e*PKPdf PKPdf 08 31 43.5 -0.9
ABPO LR LR
comp=Z,1μm,20.0s,MS5.7
BOSA Boshof 151.36 54 PKPbc PKPbc 08 31 52.5 -0.1
comp=Z,9.7nm,1.0s,baz=208,slow=4.2,SNR=5.5
BOSA Boshof 151.36 54 PKPbc PKPbc 08 31 52.5 -0.1
BOSA LR LR
comp=Z,2μm,19.0s,MS5.8
NVL N'lazarevskaya 151.56 154 *e*PKP2 PKPab 08 32 12.1 +12
SUR Sutherland 151.68 65 PFAKE 08 32 00.0 +13
SUR LR LR
comp=Z,2μm,21.0s,MS5.9
RER Riviere de l'E 151.87 351 PFAKE 08 32 00.0 +12
RER LR LR
comp=Z,1μm,19.0s,MS5.7
SYO Syowa Base 159.25 168⇑ *e*X PKPab 08 32 29.6 -3.7

PGC 25 08:16:45.6±1.6, 48°.92N×128°.89W, h10km, ML3.8/3, Mw4.4, 11D, 218km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.44**	**30**	⇓Pn	Pn	08 17 08.9	-2.7
BPBC				⇑Sn	Sn	08 17 26.1	-4.5
EDB	**Eliza Dome**	**1.50**	**50**	⇑Pn	Pn	08 17 09.9	-2.6
EDB				⇑Sn	Sn	08 17 26.7	-5.4
HOLB	**Holberg**	**1.79**	**16**	⇑Pn	Pn	08 17 14.3	-2.2
MAYB	**Maynard**	**1.86**	**36**	⇓Pn	Pn	08 17 15.7	-1.7
WOSB	**Woss**	**1.96**	**50**	⇑Pn	Pn	08 17 16.9	-1.9
WOSB				⇓Sn	Sn	08 17 39.7	-3.7
PHC	**Port Hardy**	**2.02**	**27**	⇑Sn	Sn	08 17 39.6	-5.4
GDR	**Gold River**	**2.06**	**64**	⇓Pn	Pn	08 17 17.9	-2.3
OZB	**Mount Ozzard**	**2.24**	**88**	⇑Pn	Pn	08 17 20.1	-2.6
OZB				⇑Sn	Sn	08 17 45.6	-4.7
BTB	**Buttle Lake**	**2.28**	**75**	⇓Pn	Pn	08 17 22.4	-0.8
BTB				⇓Sn	Sn	08 17 47.5	-3.8
NCRB	**Newcastle Ridg**	**2.37**	**50**	⇓Pn	Pn	08 17 23.0	-1.4
NCRB				⇑Sn	Sn	08 17 50.4	-3.1
BMSB	**Bamfield Mari**	**2.48**	**91**	⇑Sn	Sn	08 17 51.9	-4.4
CBB	**Campbell River**	**2.56**	**63**	⇓Pn	Pn	08 17 26.1	-0.9
CBB				⇑Sn	Sn	08 17 55.4	-2.8
ALB	**Alberni**	**2.69**	**81**	⇓Sn	Sn	08 17 56.9	-4.6
MGB	**Mount Grey**	**2.77**	**87**	⇓Pn	Pn	08 17 29.0	-1.0
MGB				⇑Sn	Sn	08 17 59.4	-4.0
BBB	**Bella Bella**	**3.31**	**8**	⇓Pn	Pn	08 17 36.5	-0.9
BBB				⇑Sn	Sn	08 18 12.4	-4.2

*NEIC **25** 08:18:38.1, 48°.85N×128°.93W, h10km, MW4.6(PGC), After PGC.*
*PGC **25** 08:18:38.1±2.5, 48°.85N×128°.94W, h10km, ML3.8/1, Mw4.6, 222km west of Tofino, Bc Vancouver Island Region*
ISC 25 08:18:39.2±1.3, 49°.02N±0°.06×128°.71W±0°.10, h10km, n28, σ0972/48, 14D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.29**	**28**	Pn	**Pn**	**08 19 02.8**	**-0.5**
BPBC				Sn	**Sn**	**08 19 20.2**	**-0.4**
BPBC	**Brooks Peninsu**	**1.29**	**28**	⇓Pn	**Pn**	**08 19 02.8**	**-0.5**
BPBC				⇓Sn	**Sn**	**08 19 20.1**	**-0.5**
EDB	**Eliza Dome**	**1.34**	**50**	Pn	**Pn**	**08 19 03.9**	**-0.1**
EDB				Sn	**Sn**	**08 19 21.6**	**-0.2**
EDB	**Eliza Dome**	**1.34**	**50**	⇑Pn	**Pn**	**08 19 03.9**	**-0.1**
EDB				⇓Sn	**Sn**	**08 19 21.6**	**-0.2**
HOLB	**Holberg**	**1.67**	**13**	Pn	**Pn**	**08 19 08.0**	**-0.4**
HOLB	**Holberg**	**1.67**	**13**	⇓Pn	**Pn**	**08 19 08.0**	**-0.4**
MAYB	**Maynard**	**1.71**	**35**	Pn	**Pn**	**08 19 09.1**	**+0.2**
MAYB	**Maynard**	**1.71**	**35**	⇓Pn	**Pn**	**08 19 09.1**	**+0.2**
WOSB	**Woss**	**1.80**	**50**	Pn	**Pn**	**08 19 10.9**	**+0.7**
WOSB	**Woss**	**1.80**	**50**	⇑Pn	**Pn**	**08 19 10.9**	**+0.7**
PHC	**Port Hardy**	**1.88**	**25**	Pn	**Pn**	**08 19 11.7**	**+0.3**
PHC				Sn	**Sn**	**08 19 34.4**	**-0.7**
PHC	**Port Hardy**	**1.88**	**25**	⇓Pn	**Pn**	**08 19 11.7**	**+0.3**
PHC				⇓Sn	**Sn**	**08 19 34.4**	**-0.7**
GDR	**Gold River**	**1.91**	**65**	Pn	**Pn**	**08 19 11.9**	**+0.2**
GDR				Sn	**Sn**	**08 19 36.6**	**+0.9**
GDR	**Gold River**	**1.91**	**65**	⇑Pn	**Pn**	**08 19 11.9**	**+0.2**
GDR				⇓Sn	**Sn**	**08 19 36.6**	**+0.9**
OZB	**Mount Ozzard**	**2.12**	**90**	Pn	**Pn**	**08 19 13.9**	**-0.7**
OZB				Sn	**Sn**	**08 19 39.6**	**-1.3**
OZB	**Mount Ozzard**	**2.12**	**90**	⇑Pn	**Pn**	**08 19 13.9**	**-0.7**
OZB				⇓Sn	**Sn**	**08 19 39.6**	**-1.3**
BTB	**Buttle Lake**	**2.14**	**77**	Pn	**Pn**	**08 19 15.2**	**+0.4**
BTB				Sn	**Sn**	**08 19 41.7**	**+0.3**
BTB	**Buttle Lake**	**2.14**	**77**	⇓Pn	**Pn**	**08 19 15.2**	**+0.4**
BTB				⇑Sn	**Sn**	**08 19 41.7**	**+0.3**
NCRB	**Newcastle Ridg**	**2.21**	**50**	Pn	**Pn**	**08 19 16.6**	**+0.7**
NCRB				Sn	**Sn**	**08 19 45.1**	**+1.9**
NCRB	**Newcastle Ridg**	**2.21**	**50**	⇓Pn	**Pn**	**08 19 16.6**	**+0.7**
NCRB				⇓Sn	**Sn**	**08 19 45.1**	**+1.9**
CBB	**Campbell River**	**2.40**	**64**	Pn	**Pn**	**08 19 19.0**	**+0.5**
CBB	**Campbell River**	**2.40**	**64**	⇑Pn	**Pn**	**08 19 19.0**	**+0.5**
ALB	**Alberni**	**2.56**	**83**	Pn	**Pn**	**08 19 21.3**	**+0.6**
ALB				Sn	**Sn**	**08 19 51.8**	**0.0**
ALB	**Alberni**	**2.56**	**83**	⇑Pn	**Pn**	**08 19 21.3**	**+0.6**
ALB				⇑Sn	**Sn**	**08 19 51.8**	**0.0**
MGB	**Mount Grey**	**2.64**	**89**	Pn	**Pn**	**08 19 21.4**	**-0.3**
MGB				Sn	**Sn**	**08 19 52.7**	**-1.2**
MGB	**Mount Grey**	**2.64**	**89**	⇓Pn	**Pn**	**08 19 21.4**	**-0.3**
MGB				⇑Sn	**Sn**	**08 19 52.7**	**-1.2**
BBB	**Bella Bella**	**3.19**	**7**	Pn	**Pn**	**08 19 29.9**	**+0.5**
BBB				Sn	**Sn**	**08 20 06.4**	**-1.1**
BBB	**Bella Bella**	**3.19**	**7**	⇑Pn	**Pn**	**08 19 29.9**	**+0.5**
BBB				⇓Sn	**Sn**	**08 20 06.4**	**-1.1**

*DDA **25** 08:19:23.5, 37°.90N×29°.23E, h3km±2km, Md2.6*
*CSEM **25** 08:19:23.9±0.2, 37°.90N×29°.23E, h8km, MD2.6, Error ellipse: s-maj=7.2km s-min=4.3km az=99.0*
*ISCJB **25** 08:19:24.0±0.6, 37°.91N±0°.03×29°.23E±0°.06, h4km±9km, Error ellipse: s-maj=7.4km s-min=4.8km az=2.8*
*ISK **25** 08:19:24.4, 37°.96N×29°.18E, h10km, MD2.6*
ISC 25 08:19:24.4±0.5, 37°.91N±0°.03×29°.21E±0°.06, h11km±7km, n20, σ0979/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**222**	*e*PG	**Pg**	**08 19 29.6**	**+0.8**
DENT				*e*SG	**Sg**	**08 19 33.4**	**+1.5**
DENT	**Denizli**	**0.21**	**222**	*e*Pg	**Pg**	**08 19 29.6**	**+0.8**
DENT				*e*Sg	**Sg**	**08 19 33.4**	**+1.6**
DNZL	**Cakiroluk**	**0.25**	**211**	*i* P	**Pg**	**08 19 28.8**	**-0.8**
DNZL				*i* S	**Sg**	**08 19 32.5**	**-0.6**
DNZL	**Cakiroluk**	**0.25**	**211**	*i* P	**Pg**	**08 19 28.8**	**-0.8**
DNZL				*i* S	**Sg**	**08 19 32.5**	**-0.6**
KHAL	**Karahalli**	**0.51**	**26**	*i* P	**Pg**	**08 19 34.1**	**-0.3**
KHAL				*i* S	**Sg**	**08 19 41.6**	**+0.4**
KHAL	**Karahalli**	**0.51**	**26**	*i* P	**Pg**	**08 19 34.2**	**-0.3**
KHAL				*i* S	**Sg**	**08 19 41.7**	**+0.4**
GOLH	**Golhisar**	**0.72**	**157**	*i* P	**Pg**	**08 19 36.6**	**-1.8**
GOLH				*i* S	**Sg**	**08 19 48.4**	**+0.4**
GOLH	**Golhisar**	**0.72**	**157**	*i* P	**Pg**	**08 19 36.6**	**-1.9**
GOLH				*i* S	**Sg**	**08 19 48.4**	**+0.4**
KULA	**Kula-Manisa**	**0.74**	**325**	*e*PG	**Pg**	**08 19 38.2**	**-0.6**
KULA				*e*SG	**Sg**	**08 19 48.3**	**-0.3**
KULA	**Kula-Manisa**	**0.74**	**325**	*e*Pg	**Pg**	**08 19 38.2**	**-0.6**
KULA				*e*Sg	**Sg**	**08 19 48.3**	**-0.3**
YER	**Yerkesik**	**1.07**	**224**	*e*PN	**Pg**	**08 19 45.3**	**+0.3**
YER	**Yerkesik**	**1.07**	**224**	*e*Pn	**Pg**	**08 19 45.3**	**+0.4**
DEMI	**Demirci**	**1.20**	**341**	*i* P	**Pn**	**08 19 46.8**	**-0.3**
DEMI				*i* S	**Sb**	**08 20 02.5**	**0.0**
DEMI	**Demirci**	**1.20**	**341**	*i* P	**Pn**	**08 19 46.8**	**-0.3**
DEMI				*i* S	**Sb**	**08 20 02.5**	**-0.1**
GDZ	**Gediz**	**1.20**	**10**	*i* P	**Pn**	**08 19 42.9**	**-4.1**
GDZ				*i* S	**Sb**	**08 20 03.0**	**+0.4**
GDZ	**Gediz**	**1.20**	**10**	*i* P	**Pn**	**08 19 42.9**	**-4.2**
GDZ				*i* S	**Sb**	**08 20 03.0**	**+0.4**
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*PN	**Pn**	**08 19 48.7**	**+1.1**
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*Pn	**Pn**	**08 19 48.7**	**+1.1**
ALT	**Altintas**	**1.35**	**31**	*e*PN	**Pn**	**08 19 49.0**	**-0.1**
ALT	**Altintas**	**1.35**	**31**	*e*Pn	**Pn**	**08 19 49.0**	**-0.1**

PGC 25 08:20:10.8±2.5, 48°.92N×128°.87W, h10km, ML3.2/4, Mw3.9, 6D, 216km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.49**	**49**	⇑Pn	Pn	08 20 34.6	-2.9
EDB				⇓Sn	Sn	08 20 52.8	-4.3
HOLB	**Holberg**	**1.79**	**15**	⇑Sn	Sn	08 20 59.9	-4.6
WOSB	**Woss**	**1.94**	**49**	⇑Pn	Pn	08 20 41.9	-1.9
WOSB				⇓Sn	Sn	08 21 06.3	-2.0
PHC	**Port Hardy**	**2.02**	**27**	⇑Sn	Sn	08 21 06.4	-3.7
GDR	**Gold River**	**2.04**	**64**	⇑Pn	Pn	08 20 43.0	-2.2
OZB	**Mount Ozzard**	**2.23**	**88**	⇓Pn	Pn	08 20 45.2	-2.5
OZB				⇑Sn	Sn	08 21 10.7	-4.5
BTB	**Buttle Lake**	**2.26**	**75**	⇑Pn	Pn	08 20 46.3	-2.0
BTB				⇑Sn	Sn	08 21 13.8	-2.3
NCRB	**Newcastle Ridg**	**2.35**	**50**	⇑Pn	Pn	08 20 49.2	-0.3
CBB	**Campbell River**	**2.54**	**63**	⇑Pn	Pn	08 20 49.9	-2.1
ALB	**Alberni**	**2.68**	**81**	⇓Pn	Pn	08 20 52.8	-1.1
MGB	**Mount Grey**	**2.75**	**87**	⇓Pn	Pn	08 20 53.4	-1.6
BBB	**Bella Bella**	**3.30**	**8**	⇓Pn	Pn	08 21 01.8	-0.7
BBB				⇑Sn	Sn	08 21 37.3	-4.5

NNC 25 08:21:05.0±1.0, 42°.78N×70°.15E, h0km, mb3.6, mpv2.6, 12C-8D, Error ellipse: s-maj=15.5km s-min=4.7km az=123.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK07	**Karatay Array**	**0.40**	**39**	⇓P	Pg	08 21 13.0	+0.2
KK07				⇑S	Sg	08 21 18.7	+0.7
KK08	**Karatay Array**	**0.41**	**37**	⇑P	Pg	08 21 13.2	+0.3
KK08				⇓S	Sg	08 21 19.2	+1.0
KK03	**Karatay Array**	**0.41**	**38**	⇓P	Pg	08 21 13.1	+0.1
KK03				⇑S	Sg	08 21 19.3	+0.9
KK01	**Karatay Array**	**0.42**	**38**	⇑P	Pg	08 21 13.1	0.0
KK01				⇑S	Sg	08 21 19.2	+0.7
KK02	**Karatay Array**	**0.42**	**39**	⇓P	Pg	08 21 13.1	0.0
KK02				⇓S	Sg	08 21 19.1	+0.6
KK06	**Karatay Array**	**0.42**	**41**	⇑P	Pg	08 21 12.9	-0.2
KK06				⇑S	Sg	08 21 18.8	+0.3
KK31	**Karatay Array**	**0.42**	**39**	⇑P	Pg	08 21 13.3	+0.2
	1.7nm,0.2s,baz=166,slow=18,SNR=181						
KK31				⇑S	Sg	08 21 19.4	+0.8
	2.2nm,0.2s,baz=155,slow=31,SNR=114						
KK04	**Karatay Array**	**0.42**	**38**	⇑P	Pg	08 21 13.2	0.0
KK04				⇑S	Sg	08 21 19.5	+0.9
KK09	**Karatay Array**	**0.43**	**36**	⇓P	Pg	08 21 13.4	+0.1
KK09				⇓S	Sg	08 21 19.8	+0.9
TKM2	**Tokmak 2**	**4.01**	**86**	⇑Pn	Pn	08 22 12.0	+4.4
	2.4nm,0.5s						
TKM2				⇓Sn	Sn	08 22 55.0	-0.2
	0.7nm,0.4s						

*ISCJB **25** 08:29:02.8±1.0, 49°.02N±0°.05×128°.59W±0°.08, h10km, Error ellipse: s-maj=9.4km s-min=5.3km az=41.1*
*PGC **25** 08:29:02.9±1.1, 48°.94N×128°.84W, h10km, ML3.1/10, Mw3.7, 214km west of Tofino, Bc Vancouver Island Region*
*IDC **25** 08:29:06.7±3.7, 49°.28N×128°.73W, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=51.5km s-min=28.8km az=71.0*
ISC 25 08:29:03.5±1.1, 49°.05N±0°.05×128°.60W±0°.08, h10km, n22, σ0991/36, 17D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.23**	**26**	⇓Pn	**Pn**	**08 29 25.7**	**-1.1**
BPBC				⇓Sn	**Sn**	**08 29 43.4**	**0.0**
EDB	**Eliza Dome**	**1.27**	**49**	⇓Pn	**Pn**	**08 29 26.8**	**-0.5**
EDB				⇑Sn	**Sn**	**08 29 44.3**	**-0.1**
MAYB	**Maynard**	**1.64**	**34**	⇓Pn	**Pn**	**08 29 31.9**	**-0.4**
WOSB	**Woss**	**1.73**	**49**	⇓Pn	**Pn**	**08 29 34.0**	**+0.4**
PHC	**Port Hardy**	**1.82**	**24**	⇑Pn	**Pn**	**08 29 34.3**	**-0.5**
PHC				⇑Sn	**Sn**	**08 29 57.4**	**-0.6**
GDR	**Gold River**	**1.83**	**65**	⇓Pn	**Pn**	**08 29 34.7**	**-0.2**
OZB	**Mount Ozzard**	**2.05**	**91**	⇑Pn	**Pn**	**08 29 36.9**	**-1.1**
OZB				⇑Sn	**Sn**	**08 30 02.4**	**-1.2**
BTB	**Buttle Lake**	**2.06**	**77**	⇑Pn	**Pn**	**08 29 38.3**	**+0.1**
BTB				⇓Sn	**Sn**	**08 30 05.0**	**+1.2**
NCRB	**Newcastle Ridg**	**2.14**	**50**	⇑Pn	**Pn**	**08 29 40.2**	**+1.0**
NCRB				⇑Sn	**Sn**	**08 30 07.0**	**+1.3**
BMSB	**Bamfield Mari**	**2.30**	**94**	⇑Pn	**Pn**	**08 29 40.4**	**-0.9**
BMSB				⇓Sn	**Sn**	**08 30 08.4**	**-1.2**
CBB	**Campbell River**	**2.33**	**64**	⇑Pn	**Pn**	**08 29 42.6**	**+0.8**
ALB	**Alberni**	**2.49**	**83**	⇓Pn	**Pn**	**08 29 44.2**	**+0.2**
ALB				⇓Sn	**Sn**	**08 30 14.7**	**+0.4**
MGB	**Mount Grey**	**2.58**	**90**	⇓Pn	**Pn**	**08 29 44.4**	**-0.8**
MGB				⇑Sn	**Sn**	**08 30 15.9**	**-0.6**
GHNB	**Nanoose**	**2.88**	**83**	⇑Pn	**Pn**	**08 29 49.8**	**+0.4**
GHNB				⇓Sn	**Sn**	**08 30 24.6**	**+0.6**
NLLB	**Nanaimo Lost L**	**3.04**	**85**	⇓Pn	**Pn**	**08 29 52.0**	**+0.5**
NLLB				⇓Sn	**Sn**	**08 30 29.6**	**+1.7**
SHB	**Sechelt**	**3.14**	**78**	⇑Pn	**Pn**	**08 29 54.1**	**+1.2**
BBB	**Bella Bella**	**3.15**	**5**	Pn	**Pn**	**08 29 53.4**	**+0.2**
	13nm,0.3s,baz=209,slow=11,SNR=48						
BBB				Sn	**Sn**	**08 30 29.1**	**-1.6**
	14nm,0.3s,baz=96,slow=22,SNR=15						
BBB	**Bella Bella**	**3.15**	**5**	⇓Pn	**Pn**	**08 29 53.2**	**0.0**
BBB				⇓Sn	**Sn**	**08 30 28.6**	**-2.2**
LZB	**Mount Lazard**	**3.19**	**96**	⇓Pn	**Pn**	**08 29 53.0**	**-0.6**
LZB				⇑Sn	**Sn**	**08 30 31.0**	**-0.7**
YKA	**Yellowknife Ar**	**15.55**	**25**	Pn	**Pn**	**08 32 42.8**	**+0.3**
	0.0nm,0.3s,baz=212,slow=13,SNR=3.5						
ILAR	**Eielson Array**	**18.53**	**335**	P	**Pn**	**08 33 22.3**	**+2.3**
	baz=137,slow=14,SNR=2.9						
ULM	**Lac du Bonnet**	**21.14**	**74**	P	**P**	**08 33 52.2**	**+3.9**
	1.6nm,0.7s,baz=280,slow=12,SNR=2.9						

GUC 25 08:33:22.4±0.5, 32°.61S×72°.13W, h9km±6km, MD3.7, ML2.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**135**	*e*P	Pg	08 33 34.0	+0.2
CHNG	**Los Chungos**	**0.90**	**37**	*e*P	Pg	08 33 38.9	-0.8
CHNG				*e*S	Sg	08 33 51.6	+0.2
ROCH	**El Roble**	**1.01**	**111**	*e*P	Pg	08 33 41.1	-0.8
ROCH				*e*S	Sg	08 33 55.0	0.0
ROCH				AML	AML	08 33 56.4	
	comp=N,628nm,0.6s						
PTCH	**Petorca**	**1.07**	**72**	*e*P	Pg	08 33 41.9	-1.1
PTCH				*e*S	Sg	08 33 57.1	+0.1
JACH	**Jahuel**	**1.30**	**94**	*e*P	Pn	08 33 45.4	-1.2
JACH				*i* S	Sb	08 34 03.1	-0.7
PEL	**Peldehue**	**1.33**	**114**	*e*P	Pn	08 33 46.2	-0.9
PEL				*e*S

FCH				*e*S	Sn	08 34 19.2	+5.1
FCH				AML	AML	08 34 21.7	
	comp=E,361nm,0.3s						
CHCH	**Chadas Angostu**	**1.81**	**137**	*e*P	Pn	08 33 53.7	0.0
CACH	**El Canelo**	**1.98**	**140**	*e*P	Pn	08 33 56.8	+0.8
LMEL	**Las Melosas**	**2.03**	**128**	*e*P	Pn	08 33 57.7	+0.9
LMEL				*e*S	Sn	08 34 22.8	+0.5
LMEL				AML	AML	08 34 27.4	
	comp=N,157nm,0.5s						

PGC 25 08:41:55.3±2.5, 48°89N×128°97W, h10km, ML3.5/10, Mw4.2, 12D, 224km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.49**	**31**	⇓Pn	Pn	08 42 19.3	-2.8
EDB	**Eliza Dome**	**1.56**	**50**	⇓Pn	Pn	08 42 19.4	-3.7
EDB				⇓Sn	Sn	08 42 37.9	-5.4
HOLB	**Holberg**	**1.84**	**17**	⇑Pn	Pn	08 42 24.6	-2.2
MAYB	**Maynard**	**1.92**	**37**	⇓Pn	Pn	08 42 25.7	-2.3
WOSB	**Woss**	**2.02**	**50**	⇓Pn	Pn	08 42 27.9	-1.4
WOSB				⇑Sn	Sn	08 42 51.1	-3.4
PHC	**Port Hardy**	**2.08**	**28**	⇑Pn	Pn	08 42 28.3	-1.8
GDR	**Gold River**	**2.12**	**64**	⇓Pn	Pn	08 42 28.5	-2.2
OZB	**Mount Ozzard**	**2.30**	**87**	⇓Sn	Sn	08 42 57.1	-4.4
BTB	**Buttle Lake**	**2.34**	**74**	⇓Pn	Pn	08 42 32.5	-1.2
BTB				⇓Sn	Sn	08 42 58.5	-4.0
NCRB	**Newcastle Ridg**	**2.43**	**50**	⇓Pn	Pn	08 42 33.8	-1.2
NCRB				⇓Sn	Sn	08 43 01.6	-3.1
BMSB	**Bamfield Mari**	**2.53**	**90**	⇑Sn	Sn	08 43 03.3	-4.0
CBB	**Campbell River**	**2.62**	**63**	⇑Pn	Pn	08 42 36.2	-1.4
CBB				⇑Sn	Sn	08 43 06.4	-3.0
MGB	**Mount Grey**	**2.82**	**86**	⇑Pn	Pn	08 42 39.4	-1.1
MGB				⇑Sn	Sn	08 43 10.7	-3.8
BBB	**Bella Bella**	**3.34**	**9**	⇓Pn	Pn	08 42 47.3	-0.2

PGC ***25*** *08:42:36.1±3.7, 48°89N×128°92W, h10km, ML3.6/14, Mw4.6, 220km west of Tofino, Bc Vancouver Island Region*
IDC ***25*** *08:42:36.8±1.6, 48°88N×128°89W, h0km, mb3.8/4, mb1 4.0/11, mb1mx3.8/29, mbtmp3.8/11, ML3.5/5, MS4.4/1, Ms1 4.3/1, ms1mx3.2/40, Error ellipse: s-maj=32.9km s-min=11.8km az=64.0*
ISCJB ***25*** *08:42:38.9±0.4, 49°10N±0°02×128°51W±0°04, h10km, mb4.1/14, Error ellipse: s-maj=4.2km s-min=3.1km az=151.9*
BJI ***25*** *08:42:38.1, 49°30N×128°50W, h10km, mB5.0/6, mb4.8/7, Ms4.8/3, Ms7 4.4/3*
NEIC ***25*** *08:42:41.9±0.7, 49°21N×128°36W, h10km, mb4.2/18, MW4.7(PGC), Error ellipse: s-maj=11.6km s-min=5.2km az=60.0*

ISC 25 08:42:41.0±0.4, 49°18N±0°02×128°47W±0°04, h10km, n86, σ1§31/108, mb4.1/14, 16D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.08**	**25**	⇓Pn	**Pn**	**08 43 00.4**	**-1.7**
BPBC				⇑Sn	**Sn**	**08 43 18.3**	**+1.2**
EDB	**Eliza Dome**	**1.12**	**51**	⇑Pn	**Pn**	**08 43 01.3**	**-1.4**
EDB				⇓Sn	**Sn**	**08 43 18.4**	**+0.3**
ETB	**Estevan Point**	**1.28**	**80**	⇑Pn	**Pn**	**08 43 03.2**	**-1.7**
HOLB	**Holberg**	**1.48**	**8**	⇑Sn	**Sn**	**08 43 26.4**	**-0.6**
MAYB	**Maynard**	**1.49**	**34**	⇑Pn	**Pn**	**08 43 06.4**	**-1.2**
MAYB				⇓Sn	**Sn**	**08 43 28.7**	**+1.5**
WOSB	**Woss**	**1.58**	**51**	⇑Pn	**Pn**	**08 43 08.6**	**-0.3**
WOSB				⇑Sn	**Sn**	**08 43 32.1**	**+2.7**
PHC	**Port Hardy**	**1.67**	**23**	⇓Pn	**Pn**	**08 43 08.9**	**-1.3**
PHC				⇑Sn	**Sn**	**08 43 32.4**	**+0.7**
GDR	**Gold River**	**1.70**	**68**	⇓Pn	**Pn**	**08 43 09.0**	**-1.6**
BTB	**Buttle Lake**	**1.95**	**80**	⇓Pn	**Pn**	**08 43 12.7**	**-1.4**
BTB				⇑Sn	**Sn**	**08 43 39.7**	**+1.1**
OZB	**Mount Ozzard**	**1.97**	**95**	⇑Pn	**Pn**	**08 43 11.3**	**-3.0**
OZB				⇑Sn	**Sn**	**08 43 37.0**	**-2.1**
NCRB	**Newcastle Ridg**	**1.99**	**51**	⇑Pn	**Pn**	**08 43 14.7**	**+0.2**
NCRB				⇓Sn	**Sn**	**08 43 42.5**	**+3.0**
CBB	**Campbell River**	**2.19**	**66**	⇑Pn	**Pn**	**08 43 16.7**	**-0.7**
CBB				⇓Sn	**Sn**	**08 43 46.6**	**+2.1**
BMSB	**Bamfield Mari**	**2.22**	**98**	⇓Pn	**Pn**	**08 43 14.3**	**-3.5**
BMSB				⇓Sn	**Sn**	**08 43 43.4**	**-1.9**
ALB	**Alberni**	**2.39**	**86**	⇓Pn	**Pn**	**08 43 18.4**	**-1.6**
MGB	**Mount Grey**	**2.49**	**93**	⇓Pn	**Pn**	**08 43 19.1**	**-2.4**
MGB				⇑Sn	**Sn**	**08 43 50.3**	**-1.6**
GHNB	**Nanoose**	**2.78**	**86**	⇓Sn	**Sn**	**08 44 00.6**	**+1.7**
NLLB	**Nanaimo Lost L**	**2.94**	**87**	⇑Pn	**Pn**	**08 43 26.6**	**-1.1**
NLLB				⇓Sn	**Sn**	**08 44 04.2**	**+1.2**
BBB	**Bella Bella**	**3.02**	**4**	Pn	**Pn**	**08 43 27.6**	**-1.1**
	92nm,0.3s,baz=201,slow=13,SNR=90						
BBB				Sn	**Sn**	**08 44 04.8**	**-0.1**
	66nm,0.3s,baz=286,slow=21,SNR=15						
BBB	**Bella Bella**	**3.02**	**4**	Pn	**Pn**	**08 43 27.6**	**-1.1**
BBB				Sn	**Sn**	**08 44 04.8**	**-0.1**
BBB	**Bella Bella**	**3.02**	**4**	⇓Pn	**Pn**	**08 43 27.6**	**-1.1**
BBB				⇑Sn	**Sn**	**08 44 03.7**	**-1.2**
SHB	**Sechelt**	**3.03**	**80**	⇑Pn	**Pn**	**08 43 28.1**	**-0.8**
SHB				⇓Sn	**Sn**	**08 44 07.7**	**+2.4**
JCW	**Jim Creek**	**4.44**	**100**	*e*Pn	**Pn**	**08 43 48.1**	**-0.3**
JCW				*e*Sn	**Sn**	**08 44 39.5**	**-0.5**
RPW	**Rockport**	**4.65**	**96**	*e*Pn	**Pn**	**08 43 50.0**	**-1.2**
RPW				*e*Sn	**Sn**	**08 44 45.2**	**0.0**
ETW	**Entiat**	**5.65**	**103**	*e*Pn	**Pn**	**08 44 04.8**	**0.0**
ETW				*e*Sn	**Sn**	**08 45 09.1**	**-0.6**
OD2	**Odessa Site #2**	**6.75**	**102**	*e*Pn	**Pn**	**08 44 18.2**	**-1.8**
OD2				*e*Sn	**Sn**	**08 45 35.3**	**-1.7**
LNOR	**Lincton Mounta**	**7.65**	**112**	*e*Pn	**Pn**	**08 44 33.4**	**+1.1**
YBH	**Yreka Blue Hor**	**8.47**	**149**	*e*Pn	**Pn**	**08 44 44.2**	**+0.5**
BMO	**Blue Mountains**	**8.77**	**115**	*e*Pn	**Pn**	**08 44 46.6**	**-1.1**
DLBC	**Dease Lake**	**9.32**	**355**	Pn	**Pn**	**08 44 56.9**	**+1.7**
	0.3nm,0.3s,baz=183,slow=12,SNR=7.8						
DLBC				Sn	**Sn**	**08 46 44.8**	**+4.8**
	0.2nm,0.3s,baz=34,slow=27,SNR=2.9						
DLBC	**Dease Lake**	**9.32**	**355**	Pn	**Pn**	**08 44 56.9**	**+1.7**
DLBC				Sn	**Sn**	**08 46 44.8**	**+4.8**
WDC	**Whiskeytown Da**	**9.57**	**152**	*e*Pn	**Pn**	**08 44 58.5**	**-0.1**
WVOR	**Wild Horse Val**	**9.62**	**131**	*e*Pn	**Pn**	**08 45 00.7**	**+1.4**
	6.2nm,0.9s						
SWMT	**Swartz Lake**	**9.78**	**94**	*e*Pn	**Pn**	**08 45 00.9**	**-0.7**
	4.6nm,1.1s						
SLMT	**Seeley Lake**	**10.19**	**95**	*e*Pn	**Pn**	**08 45 06.0**	**-1.1**
	18nm,1.5s						
CHMT	**Chamberlain Mo**	**10.44**	**97**	*e*Pn	**Pn**	**08 45 11.0**	**+0.4**
LRM	**Limekiln Ridge**	**11.34**	**101**	*e*Pn	**Pn**	**08 45 23.7**	**+0.7**
NVAR	**Mina Array Bea**	**13.00**	**142**	Pn	**Pn**	**08 45 45.4**	**-0.2**
	0.2nm,0.3s,baz=317,slow=12,SNR=8.3						
NVAR	**Mina Array Bea**	**13.00**	**142**	Pn	**Pn**	**08 45 45.4**	**-0.2**
TPAW	**Teton Pass**	**13.36**	**109**	*e*Pn	**Pn**	**08 45 51.5**	**+0.9**
SNOW	**Snow King Moun**	**13.50**	**108**	*e*Pn	**Pn**	**08 45 53.4**	**+0.9**
RLMT	**Red Lodge**	**13.68**	**100**	Pn	**Pn**	**08 45 51.3**	**-3.5**
	18nm,1.4s						
DUG	**Dugway**	**14.28**	**123**	*e*Pn	**Pn**	**08 46 04.0**	**+0.9**
PD01	**Pinedale Array**	**14.59**	**109**	*e*Pn	**Pn**	**08 46 09.5**	**+2.2**
PD02	**Pinedale Array**	**14.60**	**109**	*e*Pn	**Pn**	**08 46 08.8**	**+1.3**
PDAR	**Pinedale Array**	**14.61**	**109**	Pn	**Pn**	**08 46 09.5**	**+2.0**
	0.0nm,0.3s,baz=312,slow=12,SNR=9.1						
PDAR	**Pinedale Array**	**14.61**	**109**	Pn	**Pn**	**08 46 09.5**	**+2.0**
YKA	**Yellowknife Ar**	**15.40**	**25**	Pn	**Pn**	**08 46 17.8**	**-0.1**
	0.1nm,0.3s,baz=213,slow=12,SNR=12						
YKA	**Yellowknife Ar**	**15.40**	**25**	Pn	**Pn**	**08 46 17.8**	**-0.1**
ARUT	**Antelope Range**	**15.73**	**131**	*e*P	**Pn**	**08 46 26.0**	**+3.5**
	11nm,0.9s						
CCUT	**Cedar City**	**15.96**	**131**	*e*Pn	**Pn**	**08 46 25.9**	**+0.5**
	18nm,1.6s						
SRU	**San Rafael**	**16.31**	**121**	*e*P	**Pn**	**08 46 33.1**	**+3.2**
	6.9nm,1.0s						
DOT	**Dot Lake**	**16.80**	**335**	*e*P	**Pn**	**08 46 38.2**	**+2.3**
	60nm,2.8s						
LDFC	**Landfair**	**17.19**	**140**	*e*Pn	**Pn**	**08 46 42.1**	**+1.0**
	20nm,1.1s						
FFC	**Flin Flon**	**17.19**	**61**	*e*Pn	**Pn**	**08 46 39.9**	**-1.1**
	45nm,1.0s						
RSSD	**Black Hills**	**17.49**	**98**	*e*P	**Pn**	**08 46 46.6**	**+1.8**
	5.7nm,0.9s						
PV04	**Paradox Valley**	**17.72**	**120**	*e*P	**Pn**	**08 46 49.7**	**+2.1**
PHWY	**Pilot Hill**	**17.97**	**107**	*e*Pn	**Pn**	**08 46 50.8**	**+0.1**
	9.3nm,1.0s						
PV01	**Paradox Valley**	**18.09**	**120**	*e*P	**Pn**	**08 46 53.5**	**+1.4**
	2μm,1.4s						
ILAR	**Eielson Array**	**18.45**	**335**	P	**Pn**	**08 46 57.1**	**+0.7**
	baz=138,slow=10,SNR=7.2						
ILAR	**Eielson Array**	**18.45**	**335**	P	**Pn**	**08 46 57.1**	**+0.7**
MVCO	**Mesa Verde**	**18.78**	**122**	*e*P	**Pn**	**08 47 00.5**	**-0.1**
	21nm,1.3s						
INK	**Inuvik**	**19.35**	**354**	P	**Pn**	**08 47 06.2**	**-1.1**
	0.1nm,0.3s,baz=188,slow=16,SNR=4.4						
INK	**Inuvik**	**19.35**	**354**	P	**Pn**	**08 47 06.2**	**-1.1**
ULM	**Lac du Bonnet**	**21.02**	**75**	P	**P**	**08 47 24.5**	**0.0**
	7.7nm,0.5s,mb4.3,baz=289,slow=10,SNR=14						
ULM				LR	LR	08 55 53.0	
	comp=Z,995nm,20.2s,baz=265,slow=37						
ULM	**Lac du Bonnet**	**21.02**	**75**	P	**P**	**08 47 24.5**	**0.0**
AGMN	**Agassiz Nation**	**21.44**	**80**	*e*P	**P**	**08 47 28.9**	**-0.1**
	18nm,0.9s,mb4.4						
TUC	**Tucson**	**21.44**	**135**	*e*P	**P**	**08 47 28.0**	**-1.1**
	8.3nm,1.2s,mb3.9						
ANMO	**Albuquerque**	**21.55**	**123**	P	**P**	**08 47 31.5**	**+1.2**
	2.1nm,1.0s,mb3.5,baz=309,slow=11,SNR=7.4						
ANMO	**Albuquerque**	**21.55**	**123**	P	**P**	**08 47 31.5**	**+1.2**
LAZ	**Ladron**	**21.60**	**125**	*e*P	**P**	**08 47 30.3**	**-0.5**
	5.3nm,1.4s,mb3.8						
LPM	**Los Pinos Moun**	**21.94**	**124**	*e*P	**P**	**08 47 35.9**	**+1.5**
	7.1nm,1.0s,mb4.0						
BNM	**Barren Site**	**22.06**	**125**	*e*P	**P**	**08 47 36.6**	**+0.8**
	16nm,1.3s,mb4.3						
ECSD	**EROS Data Cent**	**22.51**	**92**	*e*P	**P**	**08 47 39.2**	**-1.2**
	43nm,1.9s,mb4.5						
EYMN	**Ely**	**24.35**	**79**	*e*P	**P**	**08 47 59.0**	**+0.3**
	17nm,0.8s,mb4.5						
KSU1	**Kansas State U**	**24.82**	**102**	*e*P	**P**	**08 48 03.4**	**+0.4**
	35nm,1.5s,mb4.7						
TXAR	**Lajitas Array**	**27.39**	**127**	P	**P**	**08 48 25.7**	**-0.7**
	0.9nm,0.9s,mb3.3,baz=319,slow=5.1,SNR=5.3						
TXAR	**Lajitas Array**	**27.39**	**127**	P	**P**	**08 48 25.7**	**-0.7**
HDIL	**Hopedale**	**28.80**	**92**	*e*P	**P**	**08 48 38.5**	**-0.4**
	16nm,0.9s,mb4.8						
RES	**Resolute Bay**	**29.22**	**18**	P	**P**	**08 48 44.7**	**+2.4**
	0.9nm,0.8s,mb3.5,baz=255,slow=12,SNR=2.7						
RES	**Resolute Bay**	**29.22**	**18**	P	**P**	**08 48 44.7**	**+2.4**
CN2	**Changchun**	**67.12**	**311**	*e*P	**P**	**08 53 34.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**75.94**	**317**	*e*P	**P**	**08 54 27.0**	**-0.7**
HHC				sP	sP	08 54 33.0	+0.9
HHC				PcP	PcP	08 54 39.8	-0.3
HHC				PP	PP	08 57 18.5	+1.1
HHC				S	S	09 04 07.3	-2.9
HHC				SKS		09 04 31.3	
HHC				ScS	ScS	09 04 36.8	-5.2
HHC				SS	SS	09 09 01.3	-0.2
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,660nm,7.0s						
HHC				LR	LR		
	comp=N,170nm,17.0s						
HHC				LR	LR		
	comp=E,160nm,16.8s						
HHC				LR	LR		
	comp=Z,94nm,17.0s						
MKAR	**Makanchi Array**	**80.75**	**339**	P	**P**	**08 54 51.3**	**-2.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=5.7,slow=2.9,SNR=3.6						
MKAR	**Makanchi Array**	**80.75**	**339**	P	**P**	**08 54 51.3**	**-2.9**
LZH	**Lanzhou**	**83.25**	**320**	*e*P	**P**	**08 55 08.5**	**+1.0**
LZH				pP	pP	08 55 12.0	+1.2
LZH				sP	sP	08 55 13.5	+1.5
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
GYA	**Guiyang**	**90.11**	**313**	*e*P	**P**	**08 55 39.0**	**-2.2**

CASC 25 08:43:48.9±3.0, 11°92N×84°73W, h0km±12km, MD3.6, 5C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESS	**Mesas**	**1.25**	**201**	*i*P	Pg	08 44 13.4	+0.4
GBS2	**Las Lilas**	**1.28**	**213**	⇑*i*P	Pg	08 44 12.1	-1.4
GBS2				*i*S	Sg	08 44 31.4	+1.2
GUAB	**Guayabo de Bag**	**1.29**	**202**	*i*P	Pg	08 44 13.4	-0.4
LIM1	**Limonal**	**1.31**	**203**	⇑*i*P	Pg	08 44 13.3	-0.7
LIM1				*i*S	Sg	08 44 32.7	+1.6
CUI	**Cuipilapa**	**1.32**	**199**	*i*P	Pg	08 44 14.0	-0.2
CUI				*i*S	Sg	08 44 34.2	+2.9
COLC	**Colonia**	**1.32**	**200**	*i*P	Pg	08 44 13.6	-0.8
COLC				*i*S	Sg	08 44 34.5	+2.9
GBS3	**Finca Las Im¯¡**	**1.33**	**212**	⇑*i*P	Pg	08 44 12.2	-2.2
GBS3				*i*S	Sg	08 44 31.9	+0.3
LAPC	**Finca la Perla**	**1.33**	**211**	⇑*i*P	Pg	08 44 12.2	-2.3
LAPC				*i*S	Sg	08 44 32.0	+0.3
TICN	**Ticuantepe**	**1.47**	**275**	*i*P	Pn	08 44 17.4	+0.7
TICN				*e*S	Sg	08 44 41.8	+5.5
TISN	**Laguna Tiscapa**	**1.52**	**279**	*e*P	Pn	08 44 18.0	+0.6
XAVN	**Gruta Xavier**	**1.58**	**279**	*i*P	Pn	08 44 18.0	-0.1
JTS	**JuntasAbangare**	**1.63**	**188**	*i*P	Pn	08 44 17.4	-1.4
A495	**El Viejo**	**1.67**	**205**	*i*P	Pn	08 44 14.5	-5.0
A495				*i*S	Sn	08 44 33.9	-7.6
CSAN		**1.67**	**279**	*e*P	Pn	08 44 17.5	-2.0
CSAN				*e*S	Sn	08 44 42.6	+1.0
CGA2	**Cerro Gallo 2**	**1.91**	**172**	⇑*e*P	Pn	08 44 22.8	+0.2
JCR	**Jicaral**	**2.09**	**190**	*e*P	Pn	08 44 20.5	-4.7
JCR				*e*S	Sn	08 44 44.6	-7.3
URSC	**Urasca**	**2.27**	**156**	*e*P	Pn	08 44 29.6	+2.0
QCR	**Quepos**	**2.54**	**167**	*e*P	Pn	08 44 30.2	-1.2

DDA ***25*** *08:46:11.5, 37°91N×29°24E, h5km±2km, Md2.9*
ISCJB ***25*** *08:46:12.1±0.6, 37°92N±0°03×29°23E±0°05, h2km±9km, Error ellipse: s-maj=6.8km s-min=4.3km az=175.5*
ISK ***25*** *08:46:12.6, 37°94N×29°18E, h10km, MD2.6*
CSEM ***25*** *08:46:12.0±0.2, 37°91N×29°27E, h2km, MD2.6, Error ellipse: s-maj=5.8km s-min=3.2km az=95.0*

ISC 25 08:46:12.5±0.5, 37°91N±0°02×29°24E±0°05, h5km±11km, n20, σ0§65/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.23**	**225**	*e*PG	**Pg**	**08 46 17.7**	**+0.8**
DENT				*e*SG	**Sg**	**08 46 21.1**	**+1.2**
DENT	**Denizli**	**0.23**	**225**	*e*Pg	**Pg**	**08 46 17.7**	**+0.8**
DENT				*e*Sg	**Sg**	**08 46 21.1**	**+1.2**
DNZL	**Cakiroluk**	**0.27**	**214**	*i*P	**Pg**	**08 46 17.0**	**-0.7**
DNZL				*i*S	**Sg**	**08 46 20.8**	**-0.4**
DNZL	**Cakiroluk**	**0.27**	**214**	*i*P	**Pg**	**08 46 17.0**	**-0.7**
DNZL				*i*S	**Sg**	**08 46 20.8**	**-0.5**
KHAL	**Karahalli**	**0.50**	**24**	*i*P	**Pg**	**08 46 22.2**	**+0.1**
KHAL				*i*S	**Sg**	**08 46 29.5**	**+0.9**
KHAL	**Karahalli**	**0.50**	**24**	*i*P	**Pg**	**08 46 22.2**	**+0.1**
KHAL				*i*S	**Sg**	**08 46 29.5**	**+0.9**
GOLH	**Golhisar**	**0.72**	**159**	*i*P	**Pg**	**08 46 24.9**	**-1.5**
GOLH				*i*S	**Sg**	**08 46 36.5**	**+0.7**
GOLH	**Golhisar**	**0.72**	**159**	*i*P	**Pg**	**08 46 24.9**	**-1.5**
GOLH				*i*S	**Sg**	**08 46 36.5**	**+0.7**
KULA	**Kula-Manisa**	**0.75**	**323**	*e*PG	**Pg**	**08 46 26.8**	**-0.1**
KULA				*e*SG	**Sg**	**08 46 36.9**	**+0.2**
KULA	**Kula-Manisa**	**0.75**	**323**	*e*Pg	**Pg**	**08 46 26.8**	**-0.1**
KULA				*e*Sg	**Sg**	**08 46 36.9**	**+0.2**
MANT	**Manisa**	**0.79**	**317**	*i*P	**Pg**	**08 46 27.4**	**-0.2**
MANT				*i*S	**Sg**	**08 46 37.7**	**-0.1**
MANT	**Manisa**	**0.79**	**317**	*i*P	**Pg**	**08 46 27.4**	**-0.2**
MANT				*i*S	**Sg**	**08 46 37.7**	**-0.1**
YER	**Yerkesik**	**1.09**	**225**	*e*PG	**Pg**	**08 46 32.9**	**-0.5**
YER	**Yerkesik**	**1.09**	**225**	*e*Pg	**Pg**	**08 46 32.9**	**-0.4**
GDZ	**Gediz**	**1.19**	**9**	*i*P	**Pg**	**08 46 34.5**	**-0.8**
GDZ				*i*S	**Sg**	**08 46 50.5**	**-0.2**
GDZ	**Gediz**	**1.19**	**9**	*i*P	**Pg**	**08 46 34.5**	**-0.8**
GDZ				*i*S	**Sg**	**08 46 50.5**	**-0.2**
DEMI	**Demirci**	**1.20**	**340**	*i*P	**Pg**	**08 46 36.1**	**+0.6**
DEMI				*i*S	**Sg**	**08 46 50.5**	**-0.5**
DEMI	**Demirci**	**1.20**	**340**	*i*P	**Pg**	**08 46 36.1**	**+0.6**
DEMI				*i*S	**Sg**	**08 46 50.5**	**-0.5**
SHUT	**Suhut-Afyon**	**1.22**	**58**	*e*PN	**Pn**	**08 46 36.2**	**+0.1**
ALT	**Altintas**	**1.33**	**31**	*e*PN	**Pn**	**08 46 38.1**	**+0.4**

ISCJB ***25*** *09:00:07.0±1.3, 31°53S±0°04×177°9W±0°1, h2km±10km, mb4.7/10, Error ellipse: s-maj=21.3km s-min=5.6km az=6.9*
IDC ***25*** *09:00:09.4±0.8, 30°93S×178°04W, h0km, mb4.7/6, mb1 4.8/8, mb1mx4.4/19, mbtmp4.7/8, ML3.7/2, MS4.4/4, Ms1 4.4/4, ms1mx4.0/25, Error ellipse: s-maj=29.7km s-min=21.4km az=165.0*
NEIC ***25*** *09:00:17.9±1.2, 30.95S×178.08W, h64km±10km, mb4.9/5, Error ellipse: s-maj=14.2km s-min=9.3km az=128.0*

ISC 25 09:00:08.5±1.5, 31°45S±0°04×177°9W±0°1, h0km±12km, n115, σ1§60/98, mb4.7/10, 9C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.19**	**359**	*e*Pn	**Pn**	**09 00 45.4**	**-0.7**
MXZ	**Matakaoa Point**	**6.86**	**206**	*e*PN	**Pn**	**09 01 52.2**	**+1.9**
MXZ				SN	**Sn**	**09 03 11.5**	**+2.4**
PUZ	**Puketiti**	**7.33**	**205**	*e*PN	**Pn**	**09 01 57.7**	**+0.9**
PUZ				SN	**Sn**	**09 03 19.8**	**-0.9**
KUZ	**Kuaotunu**	**7.49**	**223**	*e*PN	**Pn**	**09 02 05.9**	**+7.0**
CNGZ	**Carnagh Statio**	**7.72**	**203**	*e*PN	**Pn**	**09 02 03.8**	**+1.7**
MWZ	**Matawai**	**7.83**	**207**	PN	**Pn**	**09 02 05.1**	**+1.4**
MWZ				SN	**Sn**	**09 03 35.7**	**+2.6**
OPRZ	**Ohinepanea**	**7.85**	**214**	*e*PN	**Pn**	**09 02 07.0**	**+3.0**
OPRZ				SN	**Sn**	**09 03 39.0**	**+5.4**
WCZ	**Waipu Caves**	**7.87**	**233**	PN	**Pn**	**09 02 12.4**	**+8.1**
URZ	**Urewera**	**7.94**	**210**	Pn	**Pn**	**09 02 07.1**	**+1.9**
	2.3nm,0.3s,baz=146,slow=1.2,SNR=21						
URZ				Sn	**Sn**	**09 03 38.6**	**+2.9**
	18nm,0.3s,baz=176,slow=22,SNR=14						
URZ	**Urewera**	**7.94**	**210**	Pn	**Pn**	**09 02 07.1**	**+1.9**
URZ				Sn	**Sn**	**09 03 38.6**	**+2.9**
URZ	**Urewera**	**7.94**	**210**	PN	**Pn**	**09 02 06.6**	**+1.4**
OUZ	**Omahuta**	**8.06**	**240**	*e*Pn	**Pn**	**09 02 14.2**	**+7.5**
	41nm,0.3s						
OUZ	**Omahuta**	**8.06**	**240**	PN	**Pn**	**09 02 14.1**	**+7.3**
TOZ	**Tahuroa Road**	**8.30**	**219**	PN	**Pn**	**09 02 16.2**	**+6.1**
KNZ	**Kokohu**	**8.38**	**204**	*e*PN	**Pn**	**09 02 12.7**	**+1.5**
MHGZ	**Mahia Peninsul**	**8.42**	**203**	*e*PN	**Pn**	**09 02 13.1**	**+1.3**
RAHZ	**Arahi**	**8.51**	**207**	PN	**Pn**	**09 02 15.1**	**+2.1**
RAHZ				SN	**Sn**	**09 03 50.8**	**+1.1**
NMHZ	**Naumai**	**8.78**	**208**	PN	**Pn**	**09 02 17.6**	**+1.0**
NMHZ				SN	**Sn**	**09 03 58.1**	**+1.8**
BKZ	**Black Stump Fm**	**8.97**	**209**	PN	**Pn**	**09 02 19.7**	**+0.5**
BKZ				SN	**Sn**	**09 04 00.7**	**-0.2**
MCHZ	**McNeill Hill**	**9.12**	**207**	*e*PN	**Pn**	**09 02 21.9**	**+0.6**
MCHZ				SN	**Sn**	**09 04 06.4**	**+1.8**
KAHZ	**Kahuranaki**	**9.36**	**206**	PN	**Pn**	**09 02 25.0**	**+0.4**
KAHZ				SN	**Sn**	**09 04 11.7**	**+1.2**
BHHZ	**Black Hill Sta**	**9.42**	**210**	SN	**Sn**	**09 04 13.3**	**+1.4**
PXZ	**Pawanui**	**9.57**	**205**	PN	**Pn**	**09 02 26.6**	**-0.9**
PXZ				SN	**Sn**	**09 04 12.0**	**-3.7**
PNHZ	**Pukenui**	**9.72**	**208**	SN	**Sn**	**09 04 17.4**	**-2.0**
WPHZ	**Waipukurau**	**9.75**	**207**	SN	**Sn**	**09 04 19.1**	**-1.1**
PRHZ	**Porangahau**	**9.86**	**205**	*e*PN	**Pn**	**09 02 30.7**	**-0.8**
PRHZ				SN	**Sn**	**09 04 20.9**	**-1.9**
DVHZ	**Dannevirke**	**10.06**	**207**	SN	**Sn**	**09 04 24.5**	**-3.3**
POWZ	**Post Office Ro**	**10.30**	**208**	SN	**Sn**	**09 04 30.9**	**-2.8**
BFZ	**Birch Farm**	**10.36**	**206**	*e*PN	**Pn**	**09 02 37.6**	**-0.8**
MRZ	**Mangatainoka R**	**10.60**	**208**	*e*PN	**Pn**	**09 02 38.9**	**-2.8**
MRZ				SN	**Sn**	**09 04 36.6**	**-4.5**
TMWZ	**Te Maipa**	**10.87**	**206**	SN	**Sn**	**09 04 42.0**	**-5.5**
KIW	**Kapiti Island**	**11.05**	**210**	*e*PN	**Pn**	**09 02 44.8**	**-2.9**
MTW	**Mount Morrison**	**11.06**	**207**	PN	**Pn**	**09 02 45.0**	**-2.9**
CAW	**Cannon Point**	**11.19**	**209**	PN	**Pn**	**09 02 47.5**	**-2.1**
TRWZ	**

GERES	GERESS Array B	160.53	337	PKPab	PKPab	09 20 48.3	-2.8
BAIF	Baives	161.34	356⇑	*i*PKP2	PKPab	09 20 58.2	+3.7
TORD	Torodi Ar. Bea	161.78	179	PKP	PKPdf	09 20 18.0	+5.8
	comp=Z,1.3nm,1.0s,baz=289,slow=1.1,SNR=4.8						
TORD				PKPab	PKPab	09 20 59.9	+2.5
	comp=Z,1.1nm,0.4s,baz=178,slow=3.7,SNR=14						
TORD	Torodi Ar. Bea	161.78	179	PKP	PKPdf	09 20 18.0	+5.8
TORD				PKPab	PKPab	09 20 59.9	+2.5
CDF	Champ du Feu	162.61	348	*e*PKP2	PKPab	09 21 02.3	+2.2
	comp=Z,3.2nm,0.7s						
MEZF	Maizieres J'vi	162.82	353⇑	*i*PKP2	PKPab	09 21 03.8	+2.7
	comp=Z,28nm,1.2s						
SFTF	Sexfontaines	163.11	353	*e*PKP2	PKPab	09 21 04.9	+2.5
SSF	Saint Saulge	164.37	356⇑	*i*PKP2	PKPab	09 21 10.7	+2.8
	comp=Z,12nm,0.9s						
AVF	Avril sur Loir	164.65	357⇑	*i*PKP2	PKPab	09 21 11.8	+2.7
	comp=Z,14nm,1.2s						
SMF	Signal de Mont	164.76	355⇑	*i*PKP2	PKPab	09 21 12.3	+2.6
	comp=Z,16nm,1.0s						
TCF	Toulx Ste Croi	165.18	360⇑	*i*PKP2	PKPab	09 21 13.5	+2.0
LPL	La Plagne	165.50	347⇑	*i*PKP2	PKPab	09 21 15.3	+2.4
ORIF	Oris-en-Rattie	166.23	349⇑	*i*PKP2	PKPab	09 21 18.7	+2.5
	comp=Z,15nm,1.1s						
MBDF	Montbardon	166.25	346	*e*PKP2	PKPab	09 21 19.0	+2.7

IDC ***25*** *09:08:13.9±1.3, 36°.38N×142°.61E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.5/24, mbtmp3.5/7, ML3.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/32, Error ellipse: s-maj=26.1km s-min=23.4km az=94.0*

NEIC ***25*** *09:08:14.4, 36°.44N×142°.68E, h41km, MG3.4(JMA), After JMA.*

JMA ***25*** *09:08:14.4±0.3, 36°.44N×142°.68E, h41km, M3.4*

ISC 25 09:08:16.0±2.0, 36°.51N±0°.06×142°.48E±0°.07, h11km±15km, n25, σ0°93/37, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.47	294	P	Pn	09 08 41.5	-0.9
ONAJ				*e*S	Sn	09 09 01.9	+0.2
JHO	Hitachi	1.54	274	P	Pn	09 08 42.2	-1.2
JHO				*e*S	Sn	09 09 02.7	-0.6
JFK	Kawauchi	1.55	304	*e*S	Sn	09 09 03.0	-0.5
JMM	Marumori	1.91	316	P	Pn	09 08 47.7	-0.8
JMM				*e*S	Sn	09 09 12.1	-0.4
JFT	Otama	1.99	301	P	Pn	09 08 49.8	+0.3
JFT				*e*S	Sn	09 09 15.6	+1.2
JIO	Ouri	2.14	336	P	Pn	09 08 50.6	-1.1
JIO				*e*S	Sn	09 09 17.1	-1.1
JAG	Ashikaga	2.44	269	P	Pn	09 08 55.4	-0.3
JMK	Ichinoseki	2.64	338	P	Pn	09 08 58.2	-0.3
JMK				*e*S	Sn	09 09 30.5	+0.1
JRY	Ryogami san	2.93	261	P	Pn	09 09 01.9	-0.6
JRY				*e*S	Sn	09 09 36.0	-1.7
MJAR	Matsushiro Arr	3.44	272	Pn	Pn	09 09 10.0	+0.5
	2.2nm,0.3s,baz=91,slow=8.8,SNR=14						
MJAR				Sn	Sn	09 09 54.8	+4.6
	1.9nm,0.3s,baz=50,slow=27,SNR=4.6						
MJAR				LR	LR	09 10 43.1	
	comp=Z,543nm,19.2s,baz=340,slow=42						
MJAR	Matsushiro Arr	3.44	272	Pn	Pn	09 09 10.0	+0.5
MJAR				Sn	Sn	09 09 54.8	+4.6
MAJO	Matsushiro	3.44	272	*e*Pn	Pn	09 09 10.7	+1.2
MAT	Matsushiro	3.44	272	P	Pn	09 09 09.9	+0.4
MAT				S	Sn	09 09 51.9	+1.7
ASAJ	Asahikawa	7.60	1	Pn	Pn	09 10 06.5	-0.1
	0.4nm,0.3s,baz=127,slow=29,SNR=4.0						
ASAJ				Sn	Sn	09 11 38.2	+5.5
	0.3nm,0.3s,baz=285,slow=30,SNR=1.3						
ASAJ	Asahikawa	7.60	1	Pn	Pn	09 10 06.5	-0.1
ASAJ				Sn	Sn	09 11 38.2	+5.5
USRK	Ussuriysk Arra	11.08	317	Pn	Pn	09 10 56.4	+2.1
	0.2nm,0.3s,baz=129,slow=15,SNR=3.2						
ULN	Ulaanbaatar	28.36	305	*e*P	P	09 14 10.8	+1.0
	3.3nm,0.7s,mb4.1						
SONM	Songino Array	28.79	305	P	P	09 14 14.8	+1.1
	1.5nm,0.8s,mb3.8,baz=102,slow=8.3,SNR=11						
SONM	Songino Array	28.79	305	P	P	09 14 14.8	+1.1
MKAR	Makanchi Array	45.12	303	P	P	09 16 33.0	+0.8
	0.7nm,0.7s,mb3.6,baz=86,slow=9.8,SNR=8.1						
MKAR	Makanchi Array	45.12	303	P	P	09 16 33.0	+0.8
ILAR	Eielson Array	49.48	32	P	P	09 17 06.3	+0.4
	0.2nm,0.7s,mb3.3,baz=261,slow=6.0,SNR=4.0						
ILAR	Eielson Array	49.48	32	P	P	09 17 06.3	+0.4
WRA	Warramunga Arr	56.66	189	P	P	09 17 58.2	-1.1
	0.2nm,0.7s,mb3.3,baz=8.8,slow=7.4,SNR=3.4						
WRA	Warramunga Arr	56.66	189	P	P	09 17 58.2	-1.1

NEIC ***25*** *09:27:14.9, 36°.57N×142°.41E, h24km, MG3.8(JMA), After JMA.*

JMA ***25*** *09:27:14.9±0.2, 36°.57N×142°.41E, h24km, M3.8*

ISCJB ***25*** *09:27:15.9±2.0, 36°.58N±0°.04×142°.36E±0°.08, h28km±16km, mb3.6/7, Error ellipse: s-maj=10.5km s-min=6.3km az=19.9*

IDC ***25*** *09:27:17.1±0.9, 37°.28N×142°.35E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/22, mbtmp3.6/7, Error ellipse: s-maj=27.7km s-min=22.3km az=97.0*

ISC 25 09:27:16.0±2.1, 36°.58N±0°.04×142°.34E±0°.07, h16km±14km, n34, σ0°62/38, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.41	304	P	Pn	09 27 40.1	-0.8
JHO	Hitachi	1.42	272	P	Pn	09 27 40.3	-0.8
CHOJ	Chosi	1.48	234	P	Pn	09 27 41.7	-0.2
JMM	Marumori	1.78	317	P	Pn	09 27 45.3	-0.7
JFT	Otama	1.85	301	P	Pn	09 27 47.4	+0.3
BSO1	Boso 1	2.22	210	P	Pn	09 27 51.2	-0.9
BSO1				*e*S	Sn	09 28 19.0	-0.1
JAG	Ashikaga	2.33	267	P	Pn	09 27 53.7	+0.1
JAG				*e*S	Sn	09 28 21.7	-0.1
JMK	Ichinoseki	2.53	340	P	Pn	09 27 56.4	+0.1
JMK				*e*S	Sn	09 28 26.6	-0.2
JYK	Kaneyama	2.81	327	P	Pn	09 28 00.6	+0.4
JRY	Ryogami san	2.83	260	P	Pn	09 28 00.2	-0.3
JOD2	Odawara 2	2.94	244	P	Pn	09 28 01.9	-0.2
JOM	Ohasama	3.00	344	P	Pn	09 28 02.9	0.0
JOM				*e*S	Sn	09 28 38.8	+0.3
JYN	Shimob	3.26	252	P	Pn	09 28 07.1	+0.8
MJAR	Matsushiro Arr	3.32	271	Pn	Pn	09 28 07.8	+0.6
	9.3nm,0.3s,baz=85,slow=8.4,SNR=82						
MJAR	Matsushiro Arr	3.32	271	Pn	Pn	09 28 07.8	+0.6
MAJO	Matsushiro	3.32	271	*e*Pn	Pn	09 28 08.3	+1.0
MAT	Matsushiro	3.32	271	P	Pn	09 28 08.3	+1.0
MAT				*e*S	Sn	09 28 45.5	-0.9
MAT	Matsushiro	3.32	271	P	Pn	09 28 08.6	+1.3
ASAJ	Asahikawa	7.53	1	Pn	Pn	09 29 03.9	-1.2
	2.6nm,0.3s,baz=238,slow=6.7,SNR=20						
ASAJ	Asahikawa	7.53	1	Pn	Pn	09 29 03.9	-1.2
CBIJ	Chichi jima	9.46	181	Pn	Px	09 29 42.3	
SONM	Songino Array	28.65	304	P	P	09 33 11.5	-0.2
	0.7nm,0.7s,mb3.5,baz=107,slow=7.8,SNR=4.8						
SONM	Songino Array	28.65	304	P	P	09 33 11.5	-0.2
MKAR	Makanchi Array	44.99	303	P	P	09 35 31.0	+0.6
	0.1nm,0.4s,mb3.0,baz=133,slow=45,SNR=2.9						
MKAR	Makanchi Array	44.99	303	P	P	09 35 30.9	+0.6
KURK	Kurchatov	46.80	309	P	P	09 35 45.7	+1.2
	0.4nm,0.5s,mb3.6,baz=84,slow=7.7,SNR=5.7						
KURK	Kurchatov	46.80	309	P	P	09 35 45.7	+1.2
ILAR	Eielson Array	49.48	32	P	P	09 36 04.8	-0.2
	0.7nm,0.7s,mb3.8,baz=261,slow=6.5,SNR=14						
ILAR	Eielson Array	49.48	32	P	P	09 36 04.8	-0.2
WRA	Warramunga Arr	56.72	189	P	P	09 37 08.2	+9.4
	0.7nm,0.3s,mb4.1,baz=1.1,slow=7.7,SNR=24						
YKA	Yellowknife Ar	63.83	30	P	P	09 37 46.9	-0.1
	0.3nm,0.7s,mb3.5,baz=301,slow=6.6,SNR=5.8						
YKA	Yellowknife Ar	63.83	30	P	P	09 37 47.0	-0.1
TXAR	Lajitas Array	89.81	53	P	P	09 40 14.3	+0.3
	0.2nm,0.8s,mb3.5,baz=331,slow=4.9,SNR=4.2						
TXAR	Lajitas Array	89.81	53	P	P	09 40 14.3	+0.3

ISCJB ***25*** *09:57:42.3±0.5, 37°.90N±0°.02×29°.18E±0°.04, h4km±6km, Error ellipse: s-maj=5.3km s-min=3.8km az=14.6*

ISK ***25*** *09:57:42.2, 37°.89N×29°.13E, h8km, MD2.9*

DDA ***25*** *09:57:42.0, 37°.90N×29°.23E, h9km±3km, Md3.0, Ml3.3*

CSEM ***25*** *09:57:42.2±0.1, 37°.89N×29°.21E, h5km, MD2.9, Error ellipse: s-maj=3.8km s-min=2.4km az=111.0*

ISC 25 09:57:42.7±0.5, 37°.90N±0°.02×29°.19E±0°.04, h6km±6km, n29, σ0°61/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.19	219	*e*PG	Pg	09 57 46.2	-0.3
DENT	Denizli	0.19	219	*e*Pg	Pg	09 57 46.2	-0.3
DNZL	Cakiroluk	0.24	207	*i*P	Pg	09 57 47.5	+0.2
DNZL				*i*S	Sg	09 57 51.4	+0.9
DNZL	Cakiroluk	0.24	207	*i*P	Pg	09 57 47.5	+0.1
DNZL				*i*S	Sg	09 57 51.4	+0.8
KHAL	Karahalli	0.53	27	*i*P	Pg	09 57 52.6	-0.2
KHAL				*i*S	Sg	09 58 00.2	+0.5
KHAL	Karahalli	0.53	27	*i*P	Pg	09 57 52.6	-0.2
KHAL				*i*S	Sg	09 58 00.2	+0.5
GOLH	Golhisar	0.73	156	*i*P	Pg	09 57 55.1	-1.6
GOLH				*i*S	Sg	09 58 06.9	+0.7
GOLH	Golhisar	0.73	156	*i*P	Pg	09 57 55.1	-1.6
GOLH				*i*S	Sg	09 58 06.9	+0.8
MANT	Manisa	0.77	320	*i*P	Pg	09 57 58.2	+0.8
MANT				*i*S	Sg	09 58 08.1	+0.7
MANT	Manisa	0.77	320	*i*P	Pg	09 57 58.2	+0.8
MANT				*i*S	Sg	09 58 08.1	+0.7
YER	Yerkesik	1.05	223	*e*PG	Pg	09 58 02.1	-0.7
YER				*e*SG	Sg	09 58 16.2	-0.3
YER	Yerkesik	1.05	223	*e*Pg	Pg	09 58 02.1	-0.7
YER				*e*Sg	Sg	09 58 16.2	-0.2
AYDN	Tasoluk	1.06	257	*i*P	Pg	09 58 03.8	+0.7
AYDN				*i*S	Sg	09 58 16.7	-0.1
AYDN	Tasoluk	1.06	257	*i*P	Pg	09 58 03.8	+0.7
AYDN				*i*S	Sg	09 58 16.7	-0.1
DEMI	Demirci	1.20	342	*i*P	Pg	09 58 05.7	+0.1
DEMI				*i*S	Sg	09 58 20.6	-0.5
DEMI	Demirci	1.20	342	*i*P	Pg	09 58 05.7	+0.1
DEMI				*i*S	Sg	09 58 20.6	-0.5
BCK	Bucak	1.20	111	*e*PN	Pn	09 58 06.3	+0.3
GDZ	Gediz	1.21	11	*i*P	Pg	09 58 04.8	-1.0
GDZ				*i*S	Sg	09 58 21.1	-0.4
GDZ	Gediz	1.21	11	*i*P	Pg	09 58 04.8	-1.0
GDZ				*i*S	Sg	09 58 21.1	-0.4
SHUT	Suhut-Afyon	1.26	58	*e*PN	Pn	09 58 06.7	-0.1
SHUT	Suhut-Afyon	1.26	58	*e*Pn	Pn	09 58 06.7	0.0
ELL	Elmali	1.29	153	*e*PN	Pn	09 58 07.2	+0.1
ALT	Altintas	1.36	32	*e*PN	Pn	09 58 08.6	+0.5
ALT	Altintas	1.36	32	*e*Pn	Pn	09 58 08.6	+0.4
SUTC	Sutluce-Ispart	1.50	106	*e*PN	Pn	09 58 10.7	+0.6
BODT	Bodrum	1.71	241	*e*PN	Pn	09 58 12.7	-0.3
BODT	Bodrum	1.71	241	*e*Pn	Pn	09 58 12.7	-0.3
DAT	Datca	1.74	228	*e*PN	Pn	09 58 12.7	-0.7
DAT	Datca	1.74	228	*e*Pn	Pn	09 58 12.7	-0.6

ISCJB ***25*** *09:09:02.8±0.5, 37°.90N±0°.02×29°.22E±0°.04, h5km±6km, Error ellipse: s-maj=5.5km s-min=4.1km az=4.8*

ISK ***25*** *09:09:02.8, 37°.90N×29°.24E, h11km, MD2.6*

DDA ***25*** *09:09:02.3, 37°.90N×29°.22E, h5km±2km, Md2.8*

CSEM ***25*** *09:09:02.6±0.2, 37°.90N×29°.23E, h5km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.5km az=93.0*

ISC 25 10:09:03.2±0.4, 37°.90N±0°.02×29°.21E±0°.04, h11km±8km, n28, σ0°90/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.20	224	*e*PG	Pg	10 09 07.8	+0.4
DENT	Denizli	0.20	224	*e*Pg	Pg	10 09 07.8	+0.4
DNZL	Cakiroluk	0.24	212	*i*P	Pg	10 09 07.6	-0.6
DNZL				*i*S	Sg	10 09 11.0	-0.6
DNZL	Cakiroluk	0.24	212	*i*P	Pg	10 09 07.6	-0.6
DNZL				*i*S	Sg	10 09 11.0	-0.6
KHAL	Karahalli	0.52	25	*i*P	Pg	10 09 13.0	-0.3
KHAL				*i*S	Sg	10 09 20.1	-0.2
KHAL	Karahalli	0.52	25	*i*P	Pg	10 09 13.0	-0.4
KHAL				*i*S	Sg	10 09 20.1	-0.2
GOLH	Golhisar	0.72	157	*i*P	Pg	10 09 14.7	-2.4
GOLH				*i*S	Sg	10 09 28.0	+1.6
GOLH	Golhisar	0.72	157	*i*P	Pg	10 09 14.7	-2.4
GOLH				*i*S	Sg	10 09 28.0	+1.6
KULA	Kula-Manisa	0.75	325	*e*PG	Pg	10 09 17.7	0.0
KULA				*e*SG	Sg	10 09 29.1	+1.5
KULA	Kula-Manisa	0.75	325	*e*Pg	Pg	10 09 17.7	0.0
KULA				*e*Sg	Sg	10 09 29.1	+1.6
GLHS	Glhisar (BURDU	0.78	163	*e*PG	Pg	10 09 18.0	-0.2
GLHS				*e*SG	Sg	10 09 29.5	+1.2
GLHS	Glhisar (BURDU	0.78	163	*e*Pg	Pg	10 09 18.0	-0.2
GLHS				*e*Sg	Sg	10 09 29.5	+1.2
MANT	Manisa	0.78	319	*i*P	Pg	10 09 17.6	-0.7
MANT				*i*S	Sg	10 09 30.1	+1.6
MANT	Manisa	0.78	319	*i*P	Pg	10 09 17.6	-0.7
MANT				*i*S	Sg	10 09 30.1	+1.6
YER	Yerkesik	1.06	224	*e*PG	Pg	10 09 23.0	-0.6
YER	Yerkesik	1.06	224	*e*Pg	Pg	10 09 23.0	-0.5
AYDN	Tasoluk	1.08	258	*i*P	Pg	10 09 23.4	-0.5
AYDN				*i*S	Sg	10 09 38.0	+0.1
AYDN	Tasoluk	1.08	258	*i*P	Pg	10 09 23.5	-0.4
AYDN				*i*S	Sg	10 09 38.0	0.0
DEMI	Demirci	1.21	342	*i*P	Pb	10 09 25.5	-0.5
DEMI				*i*S	Sg	10 09 41.8	-0.3
DEMI	Demirci	1.21	342	*i*P	Pb	10 09 25.5	-0.5
DEMI				*i*S	Sg	10 09 41.8	-0.3
GDZ	Gediz	1.21	10	*i*P	Pb	10 09 25.1	-1.0
GDZ				*i*S	Sg	10 09 41.8	-0.4
GDZ	Gediz	1.21	10	*i*P	Pb	10 09 25.1	-1.0
GDZ				*i*S	Sg	10 09 41.8	-0.3
SHUT	Suhut-Afyon	1.24	58	*e*PN	Pn	10 09 26.4	-0.2
SHUT	Suhut-Afyon	1.24	58	*e*Pn	Pn	10 09 26.4	-0.1
ALT	Altintas	1.36	31	*e*PN	Pn	10 09 27.9	-0.2
ALT	Altintas	1.36	31	*e*Pn	Pn	10 09 27.9	-0.2
BOLV	Bolvadin	1.60	59	*i*P	Pn	10 09 33.0	+1.6
BOLV				*i*S	Sn	10 10 00.1	+8.1
BOLV	Bolvadin	1.60	59	*i*P	Pn	10 09 33.0	+1.6
BOLV				*i*S	Sn	10 10 00.1	+8.1

ISCJB ***25*** *10:15:59.0±5.1, 5°.84S±0°.07×147°.2E±0°.2, h0km±31km, mb3.9/5, Error ellipse: s-maj=30.1km s-min=12.4km az=179.1*

IDC ***25*** *10:16:00.6±1.2, 5°.81S×147°.23E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.9/16, mbtmp3.8/7, ML3.2/2, Error ellipse: s-maj=44.8km s-min=19.2km az=97.0*

NEIC ***25*** *10:16:05.7±1.0, 5°.87S×147°.24E, h35km, mb4.0/2, Error ellipse: s-maj=29.9km s-min=12.2km az=102.0*

ISC 25 10:16:01.5±6.0, 5°.84S±0°.08×147°.2E±0°.2, h5km±37km, n24, σ1°05/26, mb3.8/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.55	181	Pn	Pn	10 16 58.1	+0.8
	3.1nm,0.3s,baz=21,slow=7.8,SNR=25						
PMG				Sn	Sn	10 17 39.8	+0.2
	24nm,0.3s,baz=277,slow=5.8,SNR=7.3						
PMG	Port Moresby	3.55	181	*e*Pn	Pn	10 16 57.5	+0.3
PMG				Sn	Sn	10 17 39.8	+0.2
PMG				*e*Sn	Sn	10 17 43.9	+4.3
COEN	Coen	9.01	206	*e*Pn	Pn	10 18 12.6	+0.3
	67nm,0.6s						
COEN				*e*Sn	Sn	10 19 47.6	-6.6
WRAB	Tennant Creek	18.80	221	*e*P	Pn	10 20 22.1	-0.3
	4.5nm,0.8s						
WB2	Warramunga Arr	18.80	221	*e*P	Pn	10 20 22.6	+0.2
WRA	Warramunga Arr	18.81	221	P	Pn	10 20 20.7	-1.8
	0.2nm,0.3s,baz=47,slow=12,SNR=13						
WRA	Warramunga Arr	18.81	221	P	Pn	10 20 20.8	-1.8
QLP	Quilpie	20.83	188	*e*P	P	10 20 44.0	-0.1
AS31	Alice Springs	21.89	215	*e*P	P	10 20 56.9	+1.4
FITZ	Fitzroy Crossi	24.36	238	P	P	10 21 19.9	-0.7
	7.0nm,0.6s,mb4.3,baz=86,slow=9.4,SNR=12						
FITZ	Fitzroy Crossi	24.36	238	*e*P	P	10 21 19.5	-1.1
FITZ	Fitzroy Crossi	24.36	238	*e*P	P	10 21 20.0	-0.6
	5.6nm,0.6s,mb4.2						
CMSA	Cobar Meteorol	25.61	183	*e*P	P	10 21 30.0	-1.8
STKA	Stephens Creek	26.44	191	P	P	10 21 40.9	+1.5
	1.7nm,0.7s,mb3.7,baz=345,slow=13,SNR=7.2						
STKA	Stephens Creek	26.44	191	*e*P	P	10 21 40.7	+1.3
STKA	Stephens Creek	26.44	191	P	P	10 21 40.9	+1.5
SONM	Songino Array	64.38	331	P	P	10 26 39.6	+1.2
	0.4nm,0.6s,mb3.6,baz=141,slow=4.3,SNR=4.0						
SONM	Songino Array	64.38	331	P	P	10 26 39.6	+1.2
MKAR	Makanchi Array	77.52	320	P	P	10 27 58.9	+0.5
	0.2nm,0.4s,mb3.4,baz=96,slow=6.5,SNR=2.5						
MKAR	Makanchi Array	77.52	320	P	P	10 27 58.9	+0.5
ILAR	Eielson Array	85.24	23	P	P	10 28 37.6	-1.3
	0.5nm,0.6s,mb3.8,baz=252,slow=5.2,SNR=9.4						
ILAR	Eielson Array	85.24	23	P	P	10 28 37.6	-1.3
TORD	Torodi Ar. Bea	145.28	285	PKPbc	PKPbc	10 35 39.5	-1.7
	0.8nm,0.6s,baz=71,slow=4.0,SNR=7.0						
TORD	Torodi Ar. Bea	145.28	285	PKPbc	PKPbc	10 35 39.5	-1.7

MAN 25 10:25:59.9±58N×122°.23E, h13km, mb4.1, ML2.9, MS2.6, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	1.02	103⇑	*i*P	Pb	10 26 17.8	-0.8
SNPH				*i*S	Sb	10 26 30.3	-1.5
GUIM	Jordan	1.09	19	*e*P	Pb	10 26 18.7	-1.1
GUIM				*e*S	Sb	10 26 32.8	-1.2
IPIL	Ipil	1.81	169	*e*P	Pn	10 26 29.6	-0.3
IPIL				*e*S	Sn	10 26 50.2	-2.7
RCP	Roxas	2.03	14⇑	*e*P	Pn	10 26 34.9	+2.0
RCP				*e*S	Sn	10 26 59.6	+1.5
PAGZ	Pagadian	2.07	146	*e*P	Pn	10 26 35.8	+2.4
MSLP	Maasin	2.65	78	*e*P	Pn	10 26 42.1	+0.7

IDC 25 10:33:06.1±1.2, 5°.08N×127°.70E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=71.6km s-min=23.1km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.71	165	P	P	10 38 38.4	+0.2
	1.4nm,0.6s,baz=343,slow=10,SNR=12						
STKA	Stephens Creek	39.06	161	P	P	10 40 34.9	0.0
	1.7nm,0.9s,baz=355,slow=8.9,SNR=5.5						
MKAR	Makanchi Array	57.02	324	P	P	10 42 54.3	+0.6
	0.8nm,0.5s,baz=118,slow=7.6,SNR=16						
ILAR	Eielson Array	83.48	25	P	P	10 45 34.5	-0.9
	0.1nm,0.6s,baz=257,slow=6.8,SNR=4.3						

NIED ***25*** *10:43:00, 36°.50N×142°.50E, h5km, Mw5.3 Best double couple: M0 1.04000×10^17 NP1:φs44.00000°, δ47.00000°, λ87.00000°. NP2:φs228.00000°, δ43.00000°, λ93.00000°.*

SZGRF ***25*** *10:43:04.8, 34°.52N×141°.39E, h33km, mb5.4, Off east coast of Honshu, Japan*

BJI ***25*** *10:43:06.0, 36°.52N×142°.88E, h10km, mB5.2/33, mb4.9/58, Ms5.3/64, Ms7 5.1/58*

IDC ***25*** *10:43:09.0±0.5, 36°.38N×142°.47E, h0km, mb4.8/20, mb1 4.9/25, mb1mx4.9/27, mbtmp4.8/25, ML4.6/4, MS4.7/39, Ms1 4.8/39, ms1mx4.7/48, Error ellipse: s-maj=14.7km s-min=13.3km az=159.0*

ISCJB ***25*** *10:43:09.2±0.7, 36°.45N±0°.02×142°.43E±0°.02, h8km±4km, mb5.1/187, MS5.0/70, Error ellipse: s-maj=3.9km s-min=2.0km az=171.5*

JMA ***25*** *10:43:11.5±0.2, 36°.48N×142°.46E, h69km, M5.4*

JMA Felt I J1.

NEIC ***25*** *10:43:12.8±1.5, 36°.40N×142°.36E, h22km±10km, mb5.2/94, MW5.3(NIED), Error ellipse: s-maj=4.9km s-min=3.2km az=154.0*

NEIC Felt at Ayase. Recorded [1 JMA] in Fukushima and Miyagi.

DJA ***25*** *10:43:13, 36°.81N×143°.15E, h36km, mb5.3/14*

MOS ***25*** *10:43:15.2±0.8, 36°.87N×142°.25E, h33km, mb5.5/73, MS5.3/25, Error ellipse: s-maj=6.6km s-min=4.0km az=107.4*

GCMT ***25*** *10:43:16.0±0.1, 36°.47N×142°.54E, h12km, MW5.3, Moment Tensor Solution. s59,c97; s99,c210; Moment tensor: Scale 10^17Nm; Mrr1.24±.01; Mθθ-0.50±.01; Mφφ-0.75±.02; Mrθ0.28±.04; Mrφ-0.44±.01; Mθφ0.61±.04; Best double couple: M0 1.30000×10^17 NP1:φs221.00000°, δ30.00000°, λ98.00000°. NP2:φs32.00000°, δ60.00000°, λ85.00000°. Principal axes: T 1.4200, Plg75.0000°, Azm288.0000°; N -0.1800, Plg4.0000°, Azm34.0000°; P -1.2500, Plg15.0000°, Azm125.0000°; Data Used: II IU G CN IC. Surface waves from 110 sta.*

ISC 25 10:43:10.8±0.8, 36°.46N±0°.02×142°.42E±0°.02, h9km±5km, h13km±1.4km: pP-P, n983, σ0°76/992, mb5.1/187, MS5.0/70, 198C-169D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.45	297	P	Pn	10 43 36.2	-1.0
CHOJ	Chosi	1.48	240	P	Pn	10 43 36.8	-0.7
CHOJ				*e*S	Sn	10 43 56.3	-0.6
JHO	Hitachi	1.50	276	P	Pn	10 43 36.9	-1.0
JHO				*e*S	Sn	10 43 56.1	-1.5
JFK	Kawauchi	1.54	307	P	Pn	10 43 37.2	-1.2
JFK				*e*S	Sn	10 43 57.3	-1.2
JMM	Marumori	1.92	318	⇑P	Pn	10 43 42.5	-1.1
JFT	Otama	1.98	303	⇑P	Pn	10 43 44.2	-0.2
JFT				*e*S	Sn	10 44 09.6	+0.3
JSB	Shiboa	2.08	285	P

KUR	**Kuril'sk**	**9.68 23**	*e*P	**Pn**	**10 45 29.0 -1.2**
KUR			S	**Sn**	**10 47 10.9 -8.2**
KUR			pmax	pmax	
	comp=N,80nm,0.7s				
KUR			pmax	pmax	
	comp=E,100nm,0.7s				
KUR			pmax	pmax	
	comp=Z,130nm,0.7s				
KUR			smax		
	comp=N,140nm,0.6s				
KUR			smax		
	comp=E,150nm,0.6s				
JNU	**Nakatsue**	**10.06 254**	*e*Pn	**Pn**	**10 45 35.8 +0.3**
VLA	**Vladivostok**	**10.48 313**	⇓*i*P	**Pn**	**10 45 44.0 +2.9**
VLA			pmax	pmax	
	comp=Z,62nm,0.7s				
YSS	**Yuzh-Sakhalins**	**10.49 1**	*e*Pn	**Pn**	**10 45 40.1 -1.2**
YSS	**Yuzh-Sakhalins**	**10.49 1**	*e*P	**Pn**	**10 45 39.0 -2.3**
YSS			*e*S	**Sn**	**10 47 34.0 -4.9**
YSS			MLR	MLR	
	comp=Z,5μm,15.0s				
YSS			MLR	MLR	
	comp=N,3μm,18.0s				
YSS			MLR	MLR	
	comp=E,6μm,16.0s				
USRK	**Ussuriysk Arra**	**11.09 317**	Pn	**Pn**	**10 45 51.6 +2.2**
	comp=E,1.6nm,0.3s,baz=124,slow=13,SNR=33				
USRK			LR	LR	10 49 57.7
	comp=E,7μm,19.0s,baz=289,slow=37				
KSRS	**Korea Array**	**11.65 279**	Pn	**Pn**	**10 45 58.3 +1.2**
	comp=E,0.1nm,0.3s,baz=98,slow=14,SNR=7.8				
KSRS			LR	LR	10 50 31.0
	comp=E,2μm,20.9s,baz=88,slow=38				
KSRS	**Korea Array**	**11.65 279**	P	**Pn**	**10 45 58.3 +1.2**
KSRS			MLR	MLR	
	comp=Z,2μm,20.9s				
KSAR	**Wonju Array Be**	**11.68 279**	Pn	**Pn**	**10 45 58.3 +0.8**
KSAR	**Wonju Array Be**	**11.68 279**	P	**Pn**	**10 45 58.3 +0.7**
MDJ	**Mudanjiang**	**12.70 314**	P	**Pn**	**10 46 15.0 +3.5**
MDJ			S	**Sn**	**10 48 35.5 +2.4**
MDJ			PcP	PcP	10 51 47.8 -0.6
MDJ			ScP	ScP	10 55 22.5 +0.8
MDJ			pmax	pmax	
	comp=Z,8.0nm,0.8s				
MDJ			pmax	pmax	
	comp=Z,670nm,9.7s				
MDJ			LR	LR	
	comp=N,4μm,15.8s				
MDJ			LR	LR	
	comp=E,3μm,18.0s				
MDJ			LR	LR	
	comp=Z,6μm,18.2s				
MDJ	**Mudanjiang**	**12.70 314**	*e*Pn	**Pn**	**10 46 11.3 -0.3**
	comp=Z,41nm,0.9s				
HABR	**Khabarovsk**	**13.17 338**	*e*P	**Pn**	**10 46 15.1 -2.8**
HABR			*e*		10 48 41.2
HABR			MLR	MLR	
	comp=N,4μm,15.0s				
HABR			MLR	MLR	
	comp=Z,7μm,15.0s				
HABR			MLR	MLR	
	comp=E,6μm,15.0s				
CN2	**Changchun**	**14.90 305**	*e*P	**Pn**	**10 46 47.3 +5.8**
CN2			*e*sP	sP	10 46 54.3 +3.4
CN2			*e*S	**Sn**	**10 49 36.8 +10**
CN2			pmax	pmax	
	comp=Z,20nm,1.3s				
CN2			pmax	pmax	
	comp=Z,200nm,6.0s				
CN2			LR	LR	
	comp=N,7μm,13.0s				
CN2			LR	LR	
	comp=E,5μm,13.0s				
CN2			LR	LR	
	comp=Z,6μm,15.0s				
KLR	**Kul'dur**	**14.95 332**	*e*P	**Pn**	**10 46 34.2 -8.0**
KLR			*e*		10 49 30.0
KLR			MLR	MLR	
	comp=N,6μm,13.0s				
KLR			MLR	MLR	
	comp=Z,42μm,13.0s				
SNY	**Shenyang**	**15.57 296**	⇓P	**Pn**	**10 46 55.3 +5.0**
SNY			S	**Sn**	**10 49 52.0 +9.1**
SNY			pmax	pmax	
	comp=Z,30nm,1.0s				
SNY			LR	LR	
	comp=N,4μm,12.9s				
SNY			LR	LR	
	comp=E,8μm,14.4s				
SNY			LR	LR	
	comp=Z,8μm,13.8s				
DL2	**Dalian**	**16.64 285**	⇓P	**Pn**	**10 47 07.3 +3.1**
DL2			S	**Sn**	**10 50 14.8 +5.7**
DL2			pmax	pmax	
	comp=Z,40nm,1.1s				
DL2			pmax	pmax	
	comp=Z,360nm,8.5s				
DL2			LR	LR	
	comp=N,2μm,11.3s				
DL2			LR	LR	
	comp=E,1μm,12.9s				
DL2			LR	LR	
	comp=Z,3μm,13.3s				
OKH	**Okha**	**17.09 1**	*e*P	**Pn**	**10 47 08.0 -1.8**
OKH			*e*S	**Sn**	**10 50 08.0 -12**
OKH			smax		
	comp=Z,4μm,15.0s				
SKR	**Severo-Kuril's**	**17.30 30**	*e*P	**Pn**	**10 47 14.0 +1.7**
SKR			pmax	pmax	
	comp=N,220nm,1.0s				
SKR			pmax	pmax	
	comp=Z,220nm,1.0s				
SKR			MLR	MLR	
	comp=N,4μm,16.0s				
SKR			MLR	MLR	
	comp=E,6μm,16.0s				
SKR			MLR	MLR	
	comp=Z,6μm,16.0s				
SSE	**Sheshan**	**18.43 259**	*e*P	**Pn**	**10 47 25.3 -1.3**
SSE			pP	pP	10 47 28.5 -0.5
SSE			S	**Sn**	**10 50 50.0 -2.6**
SSE			pmax	pmax	
	comp=Z,33nm,0.7s				
SSE			pmax	pmax	
	comp=Z,80nm,3.5s				
SSE			LR	LR	
	comp=N,4μm,16.4s				
SSE			LR	LR	
	comp=E,3μm,16.4s				
SSE			LR	LR	
	comp=Z,4μm,16.0s				
PEA0B	**Petropavlovsk-**	**19.80 28**	*e*P	**Pn**	**10 47 41.4 -1.4**
PETK	**Petropavlovsk-**	**19.80 28**	P	**Pn**	**10 47 41.4 -1.4**
	comp=Z,0.3nm,0.3s,baz=201,slow=12,SNR=11				
PETK			LR	LR	10 54 47.8
	comp=Z,1μm,19.1s,baz=212,slow=35				
PETK	**Petropavlovsk-**	**19.80 28**	P	**Pn**	**10 47 41.4 -1.4**
PETK	**Petropavlovsk-**	**19.80 28**	P	**Pn**	**10 47 41.4 -1.4**
NJ2	**Nanjing**	**19.96 264**	*e*P	**Pn**	**10 47 44.8 -0.1**
NJ2			pP	pP	10 47 48.8 +3.1
NJ2			sP	sP	10 47 52.5 +5.7
NJ2			PP		10 48 03.3
NJ2			S	**Sn**	**10 51 22.5 -6.9**
NJ2			sS	sS	10 51 33.5 +1.8
NJ2			pmax	pmax	
	comp=Z,20nm,1.2s				
NJ2			pmax	pmax	
	comp=Z,430nm,9.0s				
NJ2			LR	LR	
	comp=N,3μm,16.2s				
NJ2			LR	LR	
	comp=E,4μm,15.1s				
NJ2			LR	LR	
	comp=Z,4μm,13.5s				
PET	**Petropavlovsk**	**20.10 29**	*e*Pn	**P**	**10 47 47.1 +2.5**
	comp=Z,45nm,1.0s				
PET	**Petropavlovsk**	**20.10 29**κ	*i*P	**P**	**10 47 46.7 +2.1**
PET			*e*S	**S**	**10 51 22.8 -7.5**
PET			pmax	pmax	
	comp=Z,900nm,16.9s				
PET			pmax	pmax	
	comp=Z,55nm,1.0s				
PET			MLR	MLR	
	comp=Z,2μm,15.0s,MS4.6				
PET			MLR	MLR	
	comp=Z,2μm,17.0s				
TIA	**Tai'an**	**20.37 277**	P	**P**	**10 47 52.8 +5.1**
TIA			S	**S**	**10 51 45.5 +10**
TIA			pmax	pmax	
	comp=Z,30nm,1.1s				
TIA			pmax	pmax	
	comp=Z,720nm,9.8s				
TIA			LR	LR	
	comp=N,5μm,13.7s,MS5.1				
TIA			LR	LR	
	comp=E,3μm,15.7s,MS5.1				
TIA			LR	LR	
	comp=Z,3μm,16.7s,MS4.8				
HIA	**Hailar**	**20.89 315**	*e*P	**P**	**10 47 52.0 -1.1**
HIA					
	comp=Z,57nm,1.1s				
HIA	**Hailar**	**20.89 315**	*e*P	**P**	**10 47 52.0 -1.1**
HIA			pmax	pmax	
	comp=Z,57nm,1.1s				
BJI	**Beijing**	**20.90 288**	P	**P**	**10 47 52.5 -0.8**
BJI			S	**S**	**10 51 41.0 -5.3**
BJI			sS	sS	10 51 50.5 +0.2
BJI			pmax	pmax	
	comp=Z,17nm,0.8s				
BJI			pmax	pmax	
	comp=Z,160nm,3.0s				
BJI			LR	LR	
	comp=N,5μm,14.3s,MS5.1				
BJI			LR	LR	
	comp=E,3μm,13.9s,MS5.1				
BJI			LR	LR	
	comp=Z,2μm,26.7s				
BJT	**Baijiatuau**	**20.90 288**	*e*P	**P**	**10 47 54.1 +0.8**
	comp=Z,58nm,0.9s				
BJT	**Baijiatuau**	**20.90 288**	*e*P	**P**	**10 47 54.2 +0.8**
BJT			pmax	pmax	
	comp=Z,58nm,0.9s				
SSLB	**Suanglung**	**22.40 242**	*e*P	**P**	**10 48 08.0 -1.6**
	comp=Z,18nm,0.7s,mb4.6				
YULB	**Yu-li**	**22.41 240**	*e*P	**P**	**10 48 08.1 -1.6**
GUMO	**Guam**	**22.88 174**	LR	LR	10 56 10.5
	comp=Z,526nm,19.5s,MS4.0,baz=1.6,slow=34				
TPUB	**Ta-pu**	**22.93 241**	*e*P	**P**	**10 48 12.6 -2.7**
	comp=Z,39nm,0.8s,mb4.9				
QZH	**Quanzhou**	**23.42 247**	P	**P**	**10 48 27.5 +7.1**
QZH			S	**S**	**10 52 33.0 -0.5**
QZH			LR	LR	
	comp=N,9μm,19.4s				
QZH			LR	LR	
	comp=E,4μm,13.6s				
QZH			LR	LR	
	comp=Z,4μm,19.0s,MS4.9				
CLNS	**Chul'man**	**23.54 336**	*e*P	**P**	**10 48 20.6 -0.7**
CLNS			*e*		10 48 50.2
CLNS			pmax	pmax	
	comp=Z,131nm,1.5s,mb5.1				
CLNS			pmax	pmax	
	comp=N,143nm,1.6s				
CLNS			pmax	pmax	
	comp=E,65nm,1.1s				
CLNS			pmax	pmax	
	comp=N,57nm,1.1s				
CLNS			pmax	pmax	
	comp=Z,45nm,1.1s,mb4.8				
CLNS			pmax	pmax	
	comp=E,34nm,1.0s				
CLNS			MLR	MLR	
	comp=E,3μm,14.0s,MS5.1				
CLNS			MLR	MLR	
	comp=Z,5μm,18.0s,MS5.0				
CLNS			MLR	MLR	
	comp=N,4μm,16.0s,MS5.1				
WHN	**Wuhan**	**24.09 264**	P	**P**	**10 48 24.0 -2.7**
WHN			S	**S**	**10 52 44.8 +0.4**
WHN			pmax	pmax	
	comp=Z,840nm,12.4s				
WHN			LR	LR	
	comp=N,11μm,16.5s,MS5.5				
WHN			LR	LR	
	comp=E,4μm,13.1s,MS5.5				
WHN			LR	LR	
	comp=Z,11μm,14.0s,MS5.5				
HHC	**Hu-ho-hao-te**	**24.43 290**	*e*P	**P**	**10 48 28.8 -0.8**
HHC			sP	sP	10 48 35.0 +1.6
HHC			PP		10 49 03.8
HHC			PcP	PcP	10 52 09.8 +1.3
HHC			S	**S**	**10 52 44.3 -5.3**
HHC			ScP	ScP	10 55 46.0 -1.3
HHC			PcS	PcS	10 55 48.5 +0.2
HHC			pmax	pmax	
	comp=Z,19nm,0.7s,mb4.6				
HHC			pmax	pmax	
	comp=Z,280nm,6.0s				
HHC			LR	LR	
	comp=N,4μm,13.6s,MS5.2				
HHC			LR	LR	
	comp=E,3μm,12.7s,MS5.2				
HHC			LR	LR	
	comp=Z,3μm,12.5s,MS5.0				
BTO	**Baotou**	**25.60 289**	*e*P	**P**	**10 48 40.0 -0.3**
CIT	**Chita**	**25.65 316**	*e*P	**P**	**10 48 42.7 +2.1**
CIT			*e*		10 48 53.2
CIT			*e*		10 49 19.7
CIT			pmax	pmax	
	comp=Z,417nm,2.0s,mb5.6				
YAK	**Yakutsk**	**26.81 347**	*e*P	**P**	**10 48 49.3 -1.7**
	comp=Z,211nm,1.0s,mb5.6				
YAK	**Yakutsk**	**26.81 347**	*e*P	**P**	**10 48 50.3 -0.7**
YAK			*e**PP	pP	10 48 55.3 +1.6
YAK			*e*		10 49 30.2
YAK			*e*PPP		10 49 39.9
YAK			*e*		10 52 11.1
YAK			*e*		11 59 41.8
YAK			pmax	pmax	
	comp=Z,195nm,1.3s,mb5.5				
YAK			pmax	pmax	
	comp=E,79nm,1.7s				
YAK			pmax	pmax	
	comp=N,123nm,1.3s				
YAK			pmax	pmax	
	comp=N,325nm,2.8s				
YAK			pmax	pmax	
	comp=Z,236nm,2.7s,mb5.2				
YAK			pmax	pmax	
	comp=E,157nm,1.9s				
YAK			MLR	MLR	
	comp=Z,4μm,12.0s,MS5.2				
YAK			MLR	MLR	
	comp=N,3μm,14.0s,MS5.1				
YAK			MLR	MLR	
	comp=E,1μm,12.0s,MS5.1				
FX1	**Attu Island--F**	**27.06 43**	P	**P**	**10 48 54.3 +1.0**
	comp=E,18nm,0.8s,mb4.7,baz=126,slow=22,SNR=4.1				
FX1			LR	LR	11 00 27.1
	comp=E,572nm,18.2s,MS4.2,baz=258,slow=38				
FX1	**Attu Island--F**	**27.06 43**	P	**P**	**10 48 54.3 +1.0**
FX1	**Attu Island--F**	**27.06 43**	P	**P**	**10 48 54.3 +1.0**
SEY	**Seymchan**	**27.21 10**⇑	*e*P	**P**	**10 48 55.0 +0.5**
XAN	**Xi'an**	**27.39 275**	P	**P**	**10 48 56.0 -0.5**
XAN			S	**S**	**10 53 36.5 -0.2**
XAN			pmax	pmax	
	comp=Z,6.0nm,0.9s,mb4.1				
XAN			LR	LR	
	comp=N,1μm,21.3s,MS4.6				
XAN			LR	LR	
	comp=E,730nm,17.5s,MS4.6				
XAN			LR	LR	
	comp=Z,780nm,13.6s,MS4.4				
ENH	**Enshi**	**28.10 267**	*e*P	**P**	**10 49 02.1 -0.9**
	comp=Z,214nm,1.2s,mb5.7				
ULN	**Ulaanbaatar**	**28.35 305**	*e*P	**P**	**10 49 05.4 +0.4**
	comp=Z,68nm,1.2s,mb5.2				
ULN	**Ulaanbaatar**	**28.35 305**	*e*P	**P**	**10 49 05.4 +0.5**
ULN			pmax	pmax	
	comp=Z,68nm,1.2s,mb5.2				
ULN	**Ulaanbaatar**	**28.35 305**	P	**P**	**10 49 05.7 +0.8**
	comp=Z,924nmcomp=Z,56nm,1.2s,mb5.0				
ULN	**Ulaanbaatar**	**28.35 305**	P	**P**	**10 49 06.2 +1.3**
	SNR=28				
SONM	**Songino Array**	**28.78 305**	P	**P**	**10 49 09.6 +0.9**
	comp=Z,40nm,0.8s,mb5.2,baz=103,slow=8.7,SNR=130				
SONM			LR	LR	11 01 07.1
	comp=Z,1μm,19.7s,MS4.5,baz=173,slow=37				
SONM	**Songino Array**	**28.78 305**	P	**P**	**10 49 09.6 +0.9**
SONM	**Songino Array**	**28.78 305**	P	**P**	**10 49 09.6 +0.8**
LZH	**Lanzhou**	**30.97 281**	*e*P	**P**	**10 49 28.5 +0.2**
LZH			pP	pP	10 49 31.5 +0.5
LZH			sP	sP	10 49 34.0 +1.9
LZH			*e*S	**S**	**10 54 32.0 -0.9**
LZH			sS	sS	10 54 40.0 +2.7
LZH			pmax	pmax	
	comp=Z,21nm,1.0s,mb4.9				
LZH			pmax	pmax	
	comp=Z,230nm,4.2s				
LZH			LR	LR	
	comp=N,760nm,12.2s,MS4.7				
LZH			LR	LR	
	comp=E,610nm,12.0s,MS4.7				
LZH			LR	LR	
	comp=Z,2μm,17.0s,MS4.8				
IRK	**Irkutsk**	**31.09 313**	*e*P	**P**	**10 49 34.5 +5.4**
IRK			pmax	pmax	
	comp=Z,59nm,1.6s,mb5.2				
ZAK	**Zakamensk**	**31.26 309**⇑	*i*P	**P**	**10 49 31.2 +0.5**
ZAK			*e*		10 52 24.8
ZAK			pmax	pmax	
	comp=Z,28nm,1.2s,mb5.0				
TLY	**Talaya**	**31.32 311**	*e*P	**P**	**10 49 31.5 +0.3**
	comp=Z,122nm,2.1s,mb5.4				
TLY	**Talaya**	**31.32 311**	*e*P	**P**	**10 49 31.8 +0.6**
TLY			*e*S	**S**	**10 54 37.9 -0.2**
TLY			*e*SS	SS	10 56 10.5 -41
TLY			pmax	pmax	
	comp=Z,23nm,1.1s,mb4.9				
TLY			MLR	MLR	
	comp=Z,2μm,15.0s,MS5.0				
GYA	**Guiyang**	**31.93 262**	P	**P**	**10 49 39.0 +2.1**
GYA			PP	PP	10 50 44.3 -4.6
GYA			S	**S**	**10 54 47.8 -0.4**
GYA			ScP	ScP	10 56 11.5 +0.7
GYA			SS	SS	10 56 39.0 -26
GYA			pmax	pmax	
	comp=Z,20nm,0.8s,mb5.0				
GYA			pmax	pmax	
	comp=Z,140nm,4.9s				
GYA			LR	LR	
	comp=N,760nm,16.9s,MS4.6				
GYA			LR	LR	
	comp=E,680nm,17.0s,MS4.6				
GYA			LR	LR	
	comp=Z,830nm,16.7s,MS4.5				
CD2	**Chengdu**	**32.49 272**	*e*P	**P**	**10 49 42.8 +1.1**
CD2			pP	pP	10 49 47.3 +2.9
CD2			sP	sP	10 49 50.3 +4.8
CD2			PP	PP	10 50 50.5 -4.6
CD2			PcP	PcP	10 52 30.0 +1.4
CD2			S	**S**	**10 54 55.5 -1.3**
CD2			ScS	ScS	11 00 10.0 -2.0
CD2			pmax	pmax	
	comp=Z,50nm,1.3s,mb5.2				
CD2			pmax	pmax	
	comp=Z,360nm,9.5s				
CD2			LR	LR	
	comp=N,5μm,17.8s				
CD2			LR	LR	
	comp=E,4μm,11.9s				
CD2			pmax	pmax	
	comp=Z,4μm,13.2s				
MOY	**Mondy**	**32.93 311**	*e*P	**P**	**10 49 47.2 +1.9**
MOY			pmax	pmax	
	comp=Z,45nm,2.6s,mb4.9				
QIZ	**Qiongzhong**	**33.45 248**	P	**P**	**10 49 49.0 -1.2**
QIZ			S	**S**	**10 55 07.0 -4.8**
QIZ			LR	LR	
	comp=N,2μm,16.9s				
QIZ			LR	LR	
	comp=Z,1μm,15.2s,MS4.8				
GTA	**Gaotai**	**33.51 288**	P	**P**	**10 49 51.5 +1.0**
GTA			pP	pP	10 49 56.3 +3.1
GTA			sP	sP	10 49 58.5 +4.2
GTA			S	**S**	**10 55 11.3 -1.2**
GTA			SS	SS	10 57 14.0 -23
GTA			pmax	pmax	
	comp=Z,11nm,1.1s,mb4.7				
GTA			pmax	pmax	
	comp=Z,180nm,4.0s				
GTA			LR	LR	
	comp=N,2μm,14.7s,MS5.2				
GTA			LR	LR	
	comp=E,2μm,13.3s,MS5.2				
GTA			LR	LR	
	comp=Z,2μm,13.3s,MS5.0				
BILL	**Bilibino**	**34.35 16**	*e*P	**P**	**10 49 57.1 -0.4**
	comp=Z,33nm,1.2s,mb5.1				
BILL	**Bilibino**	**34.35 16**	*e*P	**P**	**10 49 57.1 -0.4**
BILL			pmax	pmax	
	comp=Z,33nm,1.2s,mb5.1				
KMI	**Kunming**	**35.69 263**	P	**P**	**10 50 11.5 +2.0**
KMI			pP	pP	10 50 14.5 +2.3
KMI			sP	sP	10 50 16.0 +2.7
KMI			PP	PP	10 51 31.0 +0.5
KMI			S	**S**	**10 55 45.3 -1.0**
KMI			pmax	pmax	
	comp=Z,35nm,1.1s,mb5.2				
KMI			pmax	pmax	
	comp=Z,170nm,3.6s				
KMI			LR	LR	
	comp=N,3μm,14.7s,MS5.2				
KMI			LR	LR	
	comp=E,2μm,16.8s,MS5.2				
KMI			LR	LR	
	comp=Z,2μm,16.8s,MS5.0				
MYLDM	**Lahad Datu**	**38.09 221**	P	**P**	**10 50 31.7 +1.7**
	comp=Z,1μmcomp=Z,83nm,1.3s,mb5.3				
TNTI	**Ternate**	**38.15 205**	P	**P**	**10 50 34.7 +4.2**
	comp=Z,2μmcomp=Z,67nm,2.0s,mb5.0				
LBMI	**Labuha**	**39.43 204**	P	**P**	**10 50 44.4 +3.2**
	comp=Z,1μmcomp=Z,59nm,2.3s,mb4.9				
KMSI	**Cibinong**	**39.59 210**	P	**P**	**10 50 48.7 +6.1**
	comp=Z,3μmcomp=Z,228nm,1.0s,mb5.9				
GTOI	**Gorontalo**	**39.93 211**	P	**P**	**10 50 48.9 +3.5**
	comp=Z,1μmcomp=Z,80nm,1.4s,mb5.2				
FAKI	**Fak Fak**	**40.31 196**	P	**P**	**10 50 50.4 +1.9**
	comp=Z,27nm,1.2s,mb4.8				
MRSI	**Marisa**	**40.53 213**	P	**P**	**10 50 53.2 +2.8**
	comp=Z,1μmcomp=Z,66nm,1.4s,mb5.1				
CHRT	**Chiangrai**	**40.70 258**	P	**P**	**10 50 51.5 -0.4**
	comp=Z,105nm,1.0s,mb5.4				
CHG	**Chiang Mai**	**41.95 257**	⇓P	**P**	**10 51 10.9 +8.8**
	comp=Z,15nm,1.0s,mb4.6				
CHTO	**Chiang Mai**	**41.95 257**	*e*P	**P**	**10 51 02.5 +0.5**
	comp=Z,11nm,0.9s,mb4.5				
CHTO	**Chiang Mai**	**41.95 257**	*e*P	**P**	**10 51 02.6 +0.5**
CHTO			pmax	pmax	
	comp=Z,11nm,0.9s,mb4.5				
CHTO	**Chiang Mai**	**41.95 257**	P	**P**	**10 51 06.3 +4.2**
	comp=Z,16nm,1.0s,mb4.6				
NLAI	**Namlea**	**42.00 203**	P	**P**	**10 51 06.2 +3.7**
	comp=Z,43nm,1.2s,mb5.0				
CMAR	**Chiang Mai Arr**	**42.15 257**	P	**P**	**10 51 03.9 +0.2**
	comp=Z,3.8nm,0.7s,mb4.2,baz=44,slow=7.4,SNR=12				
CMAR			LR	LR	11 11 03.6
	comp=Z,1μm,18.2s,MS4.9,baz=61,slow=40				
CMAR	**Chiang Mai Arr**	**42.15 257**	P	**P**	**10 51 03.9 +0.2**
CMAR	**Chiang Mai Arr**	**42.15 257**	P	**P**	**10 51 03.9 +0.2**
NST	**Nakhon Sawan**	**42.84 252**	P	**P**	**10 51 13.0 +3.7**
ZAA0	**Zalesovo Array**	**42.90 313**	*e*P	**P**	**10 51 09.8 +0.3**
ZALV	**Zalesovo Beam**	**42.90 313**	P	**P**	**10 51 09.7 +0.2**
	comp=Z,16nm,0.6s,mb4.9,baz=95,slow=7.4,SNR=66				
ZALV			PcP	PcP	10 52 59.6 -0.5
	comp=Z,14nm,0.9s,baz=112,slow=2.9,SNR=3.4				
ZALV			LR	LR	11 08 52.1
	comp=Z,809nm,20.7s,MS4.6,baz=86,slow=36				
ZALV	**Zalesovo Beam**	**42.90 313**	P	**P**	**10 51 09.7 +0.2**
ZALV			PcP	PcP	10 52 59.6 -0.5
ZALV	**Zalesovo Beam**	**42.90 313**	P	**P**	**10 51 09.7 +0.3**
ZALV					10 52 59.6
LSA	**Lhasa**	**43.07 276**	P	**P**	**10 51 13.8 +2.6**
LSA			S	**S**	**10 57 35.0 -2.2**
LSA			pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.5				
LSA			pmax	pmax	
	comp=Z,320nm,11.0s				
LSA			LR	LR	
	comp=N,440nm,13.0s,MS4.9				
LSA			LR	LR	
	comp=E,1μm,17.0s,MS4.9				
LSA			LR	LR	
	comp=Z,1μm,16.0s,MS4.9				
LSA	**Lhasa**	**43.07 276**	*e*P	**P**	**10 51 12.5 +1.3**
	comp=Z,26nm,1.0s,mb4.9				
LSA	**Lhasa**	**43.07 276**	*e*P	**P**	**10 51 12.5 +1.3**
LSA			pmax	pmax	
	comp=Z,26nm,1.0s,mb4.9				

NVS	**Novosibirsk**	43.82	314	*i* P	**P**	**10 51 17.0 +0.2**
NVS				pmax	pmax	
comp=N,15nm,1.2s						
NVS				pmax	pmax	
comp=Z,56nm,1.2s,mb5.2						
NVS				pmax	pmax	
comp=E,54nm,1.4s						
SBUM	**Sibu**	43.84	227	P	**P**	**10 51 26.2 +8.7**
SHL	**Shillong**	44.22	271	*e*PKP	**P**	**10 51 21.0 +0.6**
SHL				*ex*	x	10 58 08.0
MK31	**Makanchi Array**	45.11	303	*e*P	**P**	**10 51 27.3 0.0**
MK31	**Makanchi Array**	45.11	303	*e*P	**P**	**10 51 27.3 0.0**
MKAR	**Makanchi Array**	45.11	303	P	**P**	**10 51 27.3 0.0**
comp=E,17nm,0.7s,mb5.0,baz=85,slow=9.2,SNR=43						
MKAR				LR	LR	11 10 32.8
comp=E,1μm,19.4s,MS4.8,baz=90,slow=36						
MKAR	**Makanchi Array**	45.11	303	*e*P	**P**	**10 51 27.4 +0.1**
MKAR	**Makanchi Array**	45.11	303	*e*P	**P**	**10 51 27.4 +0.1**
KSM	**Kuching**	45.76	228	*e*P	**P**	**10 51 33.5 +0.8**
comp=E,33nm,1.0s,mb5.2						
KSM	**Kuching**	45.76	228	P	**P**	**10 51 37.9 +5.2**
comp=E,750nmcomp=E,51nm,1.1s,mb5.4						
PMG	**Port Moresby**	45.84	173	*e*P	**P**	**10 51 32.9 -0.4**
comp=E,46nm,1.1s,mb5.3						
PMG	**Port Moresby**	45.84	173*c*	*i*P	**P**	**10 51 33.0 -0.2**
PMG				pmax	pmax	
comp=Z,52nm,2.5s						
PMG	**Port Moresby**	45.84	173	P	**P**	**10 51 34.1 +0.9**
comp=Z,33nm,1.1s,mb5.2						
KAPI	**Kappang**	46.39	212	*e*P	**P**	**10 51 36.2 -1.5**
comp=Z,117nm,1.4s,mb5.6						
KAPI	**Kappang**	46.39	212	P	**P**	**10 51 38.3 +0.6**
comp=Z,1μmcomp=Z,49nm,1.5s,mb5.2						
TAPN	**Taplejung**	46.80	275	*e*P	**P**	**10 51 41.3 +0.5**
comp=Z,18nm,0.5s,mb5.2						
TAPN	**Taplejung**	46.80	275	*e*P	**P**	**10 51 41.3 +0.5**
comp=Z,18nm,0.5s,mb5.3						
RSO	**Redoubt South**	46.85	38	*e*P	**P**	**10 51 40.2 -0.6**
KURK	**Kurchatov**	46.92	309	LR	LR	11 12 19.2
comp=Z,2μm,19.4s,MS5.0,baz=75,slow=37						
KURK	**Kurchatov**	46.92	309	*e*P	**P**	**10 51 41.6 +0.1**
KURK	**Kurchatov**	46.92	309*c*	*i*P	**P**	**10 51 41.2 -0.3**
KURK				pmax	pmax	
comp=Z,72nm,1.0s,mb5.6						
KURK				MLR	MLR	
comp=Z,2μm,19.0s,MS5.1						
KURK	**Kurchatov**	46.92	309	P	**P**	**10 51 41.7 +0.2**
SNR=34						
KDAK	**Kodiak Island**	46.99	42	*e*P	**P**	**10 51 41.7 -0.2**
comp=Z,193nm,1.9s,mb5.7						
KDAK	**Kodiak Island**	46.99	42	*i* P	**P**	**10 51 41.2 -0.7**
PPLA	**Purkeypile**	47.18	35	*e*P	**P**	**10 51 44.8 +1.5**
comp=Z,62nm,1.4s,mb5.3						
ODAN	**Odare**	47.26	275	*e*P	**P**	**10 51 44.4 -0.1**
comp=Z,97nm,1.0s,mb5.7						
ODAN	**Odare**	47.26	275	*e*P	**P**	**10 51 44.4 -0.1**
comp=Z,97nm,1.0s,mb5.7						
RAMN	**Ramite**	47.86	275	*e*P	**P**	**10 51 49.5 +0.4**
comp=Z,110nm,0.9s,mb5.9						
RAMN	**Ramite**	47.86	275	*e*P	**P**	**10 51 49.5 +0.4**
comp=Z,110nm,0.9s,mb5.9						
JIRN	**Jiri**	47.88	276	*e*P	**P**	**10 51 50.2 +0.9**
comp=Z,60nm,0.9s,mb5.6						
JIRN	**Jiri**	47.88	276	*e*P	**P**	**10 51 50.2 +0.9**
comp=Z,60nm,0.9s,mb5.6						
GUN	**Gumba**	48.02	277	*e*P	**P**	**10 51 50.9 +0.5**
comp=Z,135nm,1.0s,mb6.0						
GUN	**Gumba**	48.02	277	*e*P	**P**	**10 51 50.9 +0.5**
comp=Z,135nm,1.0s,mb5.9						
TRF	**Thorofare Moun**	48.06	34	*e*P	**P**	**10 51 51.6 +1.5**
comp=Z,18nm,1.2s,mb5.0						
RC01	**Rabbit Creek A**	48.33	37	*e*P	**P**	**10 51 52.1 -0.2**
comp=Z,88nm,1.8s,mb5.5						
PKI	**Pulchoki**	48.55	277	*e*P	**P**	**10 51 54.5 +0.1**
PKI	**Pulchoki**	48.55	277	*e*P	**P**	**10 51 54.5 +0.1**
PKI	**Pulchoki**	48.55	277	*e*P	**P**	**10 51 54.5 +0.1**
KKN	**Kakani**	48.55	277	*e*P	**P**	**10 51 54.4 -0.1**
KKN	**Kakani**	48.55	277	*e*P	**P**	**10 51 54.4 -0.1**
KKN	**Kakani**	48.55	277	*e*P	**P**	**10 51 54.4 -0.1**
PMR	**Palmer**	48.60	36	*e*P	**P**	**10 51 54.1 -0.2**
PMR	**Palmer**	48.60	36	*e*P	**P**	**10 51 54.1 -0.3**
MCK	**McKinley**	48.66	34	*e*P	**P**	**10 51 55.0 +0.2**
comp=Z,24nm,1.2s,mb5.1						
MCK	**McKinley**	48.66	34	*e*P	**P**	**10 51 55.0 +0.2**
MCK				pmax	pmax	
comp=Z,24nm,1.2s,mb5.1						
DMN	**Daman**	48.77	277	*e*P	**P**	**10 51 56.6 +0.4**
DMN	**Daman**	48.77	277	*e*P	**P**	**10 51 56.6 +0.4**
SML	**Sawmill**	48.98	36	*e*P	**P**	**10 51 57.5 +0.3**
comp=Z,5.8nm,1.0s,mb4.6						
SML	**Sawmill**	48.98	36	*e*P	**P**	**10 51 57.5 +0.3**
GKN	**Gorkha**	48.98	277	*e*P	**P**	**10 51 57.9 +0.2**
GKN	**Gorkha**	48.98	277	*e*P	**P**	**10 51 57.9 +0.2**
COLA	**College**	49.13	32	*e*P	**P**	**10 51 58.9 +0.5**
comp=Z,13nm,0.9s,mb5.0						
COLA	**College**	49.13	32	*e*P	**P**	**10 51 58.9 +0.5**
COLA				pmax	pmax	
comp=Z,13nm,0.9s,mb5.0						
DANN	**Dangsing**	49.53	278	*e*P	**P**	**10 52 02.7 +0.7**
comp=Z,84nm,0.6s,mb5.9						
DANN	**Dangsing**	49.53	278	*e*P	**P**	**10 52 02.7 +0.7**
comp=Z,84nm,0.6s,mb6.0						
ILAR	**Eielson Array**	49.55	32	P	**P**	**10 52 00.9 -0.6**
comp=Z,7.8nm,0.8s,mb4.8,baz=263,slow=5.8,SNR=106						
ILAR				LR	LR	11 11 45.9
comp=Z,444nm,18.7s,MS4.5,baz=50,slow=35						
ILAR	**Eielson Array**	49.55	32	P	**P**	**10 52 00.9 -0.6**
ILAR	**Eielson Array**	49.55	32	P	**P**	**10 52 01.0 -0.6**
KOLN	**Koldanda**	49.91	278	*e*P	**P**	**10 52 05.4 +0.6**
KOLN	**Koldanda**	49.91	278	*e*P	**P**	**10 52 05.4 +0.6**
COEN	**Coen**	50.15	179	*e*P	**P**	**10 52 06.1 -0.5**
DIV	**Divide**	50.25	37	*e*P	**P**	**10 52 07.0 +0.1**
comp=Z,54nm,1.2s,mb5.5						
PAX	**Paxson**	50.25	34	*e*P	**P**	**10 52 10.1 +3.2**
comp=Z,22nm,1.5s,mb5.0						
PAX	**Paxson**	50.25	34	*e*P	**P**	**10 52 10.1 +3.2**
PAX				pmax	pmax	
comp=Z,22nm,1.5s,mb5.0						
ULHL	**Ulahol**	50.35	298	P	**P**	**10 52 12.1 +4.0**
SNR=7.7						
ULHL				P		10 52 12.1
SNR=7.7						
TKM2	**Tokmak 2**	50.62	299	P	**P**	**10 52 11.1 +1.1**
SNR=51						
TKM2				P		10 52 11.1
SNR=51						
TKM2	**Tokmak 2**	50.62	299	*e*P	**P**	**10 52 11.1 +1.1**
comp=Z,137nm,1.5s,mb5.7						
TKM2	**Tokmak 2**	50.62	299	*e*P	**P**	**10 52 11.1 +1.1**
TKM2				pmax	pmax	
comp=Z,137nm,1.5s,mb5.7						
BMRM	**Bremner River**	50.83	37	*e*P	**P**	**10 52 14.4 +3.1**
comp=Z,49nm,1.2s,mb5.3						
DOT	**Dot Lake**	50.84	34	*e*P	**P**	**10 52 11.2 -0.1**
comp=Z,3.8nm,0.8s,mb4.4						
MENT	**Mentasta**	51.05	34	*e*P	**P**	**10 52 14.1 +1.2**
KZA	**Kyzart**	51.11	298	P	**P**	**10 52 15.7 +2.0**
SNR=12						
KZA				P		10 52 15.7
SNR=12						
KBK	**Karagaybulak**	51.15	299	P	**P**	**10 52 14.8 +0.8**
SNR=23						
KBK				P		10 52 14.8
SNR=23						
USP	**Ospenovka**	51.29	300	P	**P**	**10 52 15.3 +0.3**
SNR=25						
USP				P		10 52 15.3
SNR=25						
FRU	**Bishkek**	51.33	299	*i* P	**P**	**10 52 16.0 +0.6**
FRU				pmax	pmax	
comp=Z,60nm,1.8s,mb5.2						
KSH	**Kashi**	51.38	295	P	**P**	**10 52 20.3 +4.5**
KSH				pP	pP	10 52 24.5 +5.9
KSH				sP	sP	10 52 27.3 +7.6
KSH				PcP	PcP	10 53 33.0 +2.6
KSH				PP	PP	10 54 18.0 +5.3
KSH				ScP	ScP	10 57 28.8 +1.6
KSH				PcS	PcS	10 57 30.5 +2.4
KSH				S	**S**	**10 59 39.5 +4.1**
KSH				sS	sS	10 59 47.8 +7.8
KSH				ScS	ScS	11 02 06.8 +0.3
KSH				SS	SS	11 03 14.8 +4.0
KSH				pmax	pmax	
comp=Z,20nm,1.2s,mb4.9						
KSH				pmax	pmax	
comp=Z,190nm,4.1s						
KSH				LR	LR	
comp=N,2μm,14.9s,MS5.4						
KSH				LR	LR	
comp=E,1μm,12.4s,MS5.4						
KSH				LR	LR	
comp=Z,3μm,16.0s,MS5.4						
AAK	**Ala-Archa**	51.48	299	P	**P**	**10 52 17.0 +0.5**
SNR=9.7						
AAK				P		10 52 17.0
SNR=9.7						
AAK	**Ala-Archa**	51.48	299	*e*P	**P**	**10 52 16.8 +0.3**
comp=Z,93nm,1.0s,mb5.7						
AAK	**Ala-Archa**	51.48	299	*e*P	**P**	**10 52 16.8 +0.3**
AAK				pmax	pmax	
comp=Z,93nm,1.0s,mb5.7						
AAK	**Ala-Archa**	51.48	299	P	**P**	**10 52 17.3 +0.8**
AAK	**Ala-Archa**	51.48	299	P	**P**	**10 52 17.3 +0.8**
SNR=15						
BVA0	**Borovoye Array**	51.56	313	*i* P	**P**	**10 52 16.6 -0.3**
BVAR	**Borovoye Array**	51.56	313	LR	LR	11 15 24.6
comp=Z,2μm,18.6s,MS5.2,baz=80,slow=38						
BRVK	**Borovoye**	51.61	313	*e*P	**P**	**10 52 16.0 -1.3**
comp=Z,26nm,1.2s,mb5.0						
BRVK	**Borovoye**	51.61	313⇑	*e*P	**P**	**10 52 17.2 -0.1**
BRVK				pmax	pmax	
comp=Z,20nm,1.2s,mb4.9						
BRVK				MLR	MLR	
comp=Z,2μm,17.0s,MS5.2						
BRVK	**Borovoye**	51.61	313	P	**P**	**10 52 18.2 +0.9**
SNR=12						
EKS2	**Erkin-Say**	51.97	299	P	**P**	**10 52 20.6 +0.4**
SNR=14						
EKS2				P		10 52 20.6
SNR=14						
EKS2	**Erkin-Say**	51.97	299	*e*P	**P**	**10 52 21.0 +0.8**
comp=Z,15nm,0.8s,mb5.0						
EKS2	**Erkin-Say**	51.97	299	*e*P	**P**	**10 52 21.0 +0.8**
EKS2				pmax	pmax	
comp=Z,15nm,0.8s,mb5.0						
EGAK	**Eagle**	52.00	32	*e*P	**P**	**10 52 19.9 -0.1**
comp=Z,20nm,1.4s,mb4.8						
AML	**Almayashu**	52.20	299	P	**P**	**10 52 23.3 +1.4**
SNR=53						
AML				P		10 52 23.3
SNR=53						
ASOR	**Ausora**	54.11	282	*e*PKP	**P**	**10 52 36.1 0.0**
KK31	**Karatay Array**	54.12	301	P	**P**	**10 52 35.9 -0.1**
KK31				pmax	pmax	
comp=Z,83nm,1.2s,mb5.5						
KKAR	**Karatay Array**	54.12	301	*e*P	**P**	**10 52 36.7 +0.7**
KKAR	**Karatay Array**	54.12	301	*e*P	**P**	**10 52 36.7 +0.7**
MTSU	**Mount Surprise**	54.32	178	*e*P	**P**	**10 52 36.8 -0.8**
KKR	**Kurukshetra**	54.34	283	*e*PKP	**P**	**10 52 37.9 +0.1**
NDI	**New Delhi**	54.58	282	*e*PKP	**P**	**10 52 40.0 +0.4**
AGRA	**Agra**	54.65	280	*e*PKP	**P**	**10 52 40.5 +0.4**
AGRA				AMb	AMB	10 52 43.1
comp=Z,60nm,0.2s,mb6.3						
AYAN	**Aya Nagar**	54.74	282	*e*PKP	**P**	**10 52 40.2 -0.5**
AYAN				AMb	AMB	10 52 44.3
comp=Z,16nm,0.8s,mb5.1						
SKAG	**Skagway**	55.65	38	*e*P	**P**	**10 52 49.9 +3.1**
comp=Z,41nm,1.4s,mb5.3						
KHET	**Khetri**	55.96	282	*e*PKP	**P**	**10 52 49.2 -0.3**
KHET				AMb	AMB	10 53 07.5
comp=Z,25nm,1.0s,mb5.2						
SVE	**Sverdlovsk**	56.12	319⇑	*i*P	**P**	**10 52 51.0 +0.8**
SVE				*e*S	**S**	**11 00 39.1 +0.1**
SVE				pmax	pmax	
comp=Z,58nm,1.2s,mb5.5						
SVE				MLR	MLR	
comp=Z,3μm,16.0s,MS5.5						
CTA	**Charters Tower**	56.35	176	LR	LR	11 14 34.2
comp=Z,417nm,20.5s,MS4.5,baz=351,slow=34						
CTA	**Charters Tower**	56.35	176	*e*P	**P**	**10 52 51.2 -1.0**
FITZ	**Fitzroy Crossi**	56.54	199	LR	LR	11 17 40.8
comp=Z,240nm,19.0s,MS4.3,baz=12,slow=37						
FITZ	**Fitzroy Crossi**	56.54	199	*e*P	**P**	**10 52 52.3 -1.2**
FITZ	**Fitzroy Crossi**	56.54	199	*e*P	**P**	**10 52 53.0 -0.6**
comp=Z,48nm,1.4s,mb5.3						
WRAB	**Tennant Creek**	56.60	189	*e*P	**P**	**10 52 51.9 -2.1**
comp=Z,35nm,1.1s,mb5.3						
WRAB	**Tennant Creek**	56.60	189	*e*P	**P**	**10 52 51.9 -2.1**
WRAB				pmax	pmax	
comp=Z,35nm,1.1s,mb5.3						
WB2	**Warramunga Arr**	56.61	189	*e*P	**P**	**10 52 52.7 -1.4**
WRA	**Warramunga Arr**	56.61	189	P	**P**	**10 52 52.6 -1.4**
comp=Z,10nm,0.7s,mb5.0,baz=8.9,slow=7.2,SNR=96						
WRA				LR	LR	11 17 03.9
comp=Z,222nm,19.4s,MS4.3,baz=10.0,slow=36						
WRA	**Warramunga Arr**	56.61	189	P	**P**	**10 52 52.6 -1.4**
WRA	**Warramunga Arr**	56.61	189	P	**P**	**10 52 52.6 -1.4**
BHPL	**Bhopal**	56.94	276	*e*PKP	**P**	**10 52 54.6 -1.9**
BHPL				AMb	AMB	10 53 13.3
comp=Z,25nm,0.8s,mb5.3						
BHPL				*ex*	x	11 00 45.9
BHPL				*ex*	x	11 05 17.8
SOKR	**Solikamsk**	57.28	323*c*	*i*P	**P**	**10 53 01.3 +2.9**
SOKR				pmax	pmax	
comp=Z,40nm,1.2s,mb5.3						
SOKR				MLR	MLR	
comp=Z,1μm,18.0s,MS5.0						
ARU	**Arti**	57.33	319	*e*P	**P**	**10 52 58.8 0.0**
comp=Z,40nm,0.9s,mb5.4						
ARU	**Arti**	57.33	319*c*	*i*P	**P**	**10 52 58.7 -0.1**
ARU						10 53 53.7
ARU				*e*		10 55 01.8
ARU				PPP		10 56 20.3
ARU				S	**S**	**11 00 56.6 +1.6**
ARU						11 02 42.1
ARU				SS	SS	11 04 39.1 -4.7
ARU				pmax	pmax	
comp=Z,53nm,1.0s,mb5.5						
ARU				MLR	MLR	
comp=Z,2μm,17.0s,MS5.4						
ARU	**Arti**	57.33	319	P	**P**	**10 52 58.4 -0.4**
comp=Z,272nm,1.3s,mb6.1,SNR=13						
AB31	**Akbulak array**	58.93	311	P	**P**	**10 53 09.6 -0.5**
AB31				pmax	pmax	
comp=Z,14nm,0.7s,mb5.1						
HYB	**Hyderabad**	59.00	269	*i* P	**P**	**10 53 09.5 -1.6**
HYB				*e*S	**S**	**11 01 18.0 0.0**
MDRS	**Chennai**	60.03	264	*ex*	**P**	**10 53 17.2 -1.0**
MDRS				*ex*	x	10 59 49.2
AS31	**Alice Springs**	60.34	189	*e*P	**P**	**10 53 19.1 -0.9**
ALE	**Alert**	60.63	4	P	**P**	**10 53 21.0 -0.4**
comp=Z,62nm,1.3s,mb5.6,SNR=5.2						
MBWA	**Marble Bar**	61.19	204	*e*P	**P**	**10 53 24.9 -0.9**
MBWA	**Marble Bar**	61.19	204	*e*P	**P**	**10 53 25.1 -0.7**
comp=Z,3.9nm,0.5s,mb4.8						
POO	**Poona**	62.20	273	*e*PKP	**P**	**10 53 33.3 +0.3**
POO				AMb	AMB	10 53 39.4
comp=Z,48nm,1.5s,mb5.4						
DZM	**Mont Dzumac**	62.48	155	*e*P	**P**	**10 53 35.8 +1.3**
comp=Z,78nm,1.4s,mb5.7						
DZM				*e*S	**S**	**11 01 59.1 -2.9**
comp=Z,2μm,28.1s						
DZM				*e*LR	LR	11 12 11.3
comp=Z,2μm,21.6s						
DZM	**Mont Dzumac**	62.48	155	LR	LR	11 17 56.4
comp=Z,2μm,20.2s,MS5.2,baz=8.0,slow=34						
KAD	**Karad**	62.58	272	*e*PKP	**P**	**10 53 34.8 -0.7**
APA	**Apatity**	63.54	336⇑	*i*P	**P**	**10 53 41.2 +0.1**
APA				pmax	pmax	
comp=Z,39nm,1.2s,mb5.3						
APA				MLR	MLR	
comp=Z,3μm,22.0s,MS5.4						
YKA	**Yellowknife Ar**	63.90	30	P	**P**	**10 53 42.9 -0.6**
comp=Z,3.7nm,0.7s,mb4.5,baz=301,slow=6.4,SNR=66						
YKA	**Yellowknife Ar**	63.90	30	P	**P**	**10 53 43.0 -0.6**
YKA	**Yellowknife Ar**	63.90	30	P	**P**	**10 53 43.0 -0.5**
KEV	**Kevo**	64.27	340	*e*P	**P**	**10 53 44.4 -1.4**
KEV				pmax	pmax	
comp=Z,8.0nm,0.8s,mb4.8						
KEV	**Kevo**	64.27	340	*e*p	**P**	**10 53 44.4 -1.4**
comp=Z,7.7nm,0.8s,mb4.8						
KLMR	**Klimovskoe**	64.67	328	*e*P	**P**	**10 53 47.4 -1.2**
KLMR				*e*		10 56 06.3
KLMR				pmax	pmax	
comp=Z,61nm,1.3s,mb5.5						
KLMR				pmax	pmax	
comp=Z,493nm,8.2s						
KLMR				MLR	MLR	
comp=Z,2μm,19.0s,MS5.3						
ARCES	**ARCESS Array B**	64.82	340	P	**P**	**10 53 49.4 -0.1**
comp=Z,12nm,1.1s,mb4.8,baz=76,slow=10,SNR=3.9						
ARCES				LR	LR	11 26 12.1
comp=Z,822nm,19.2s,MS4.9,baz=36,slow=40						
ARCES	**ARCESS Array B**	64.82	340	P	**P**	**10 53 49.4 -0.1**
ARCES	**ARCESS Array B**	64.82	340	P	**P**	**10 53 49.4 0.0**
DAG	**Danmarks Havn**	66.42	355	*i* P	**P**	**10 53 58.6 -1.1**
comp=Z,6.5nm,1.0s,mb4.6						
JOF	**Joensuu**	66.85	332	*e*P	**P**	**10 54 01.6 -1.0**
JOF				pmax	pmax	
comp=Z,11nm,0.5s,mb5.1						
JOF	**Joensuu**	66.85	332	*e*p	**P**	**10 54 01.6 -1.0**
comp=Z,11nm,0.5s,mb5.2						
CMSA	**Cobar Meteorol**	67.71	177	*e*P	**P**	**10 54 08.0 -0.3**
STKA	**Stephens Creek**	67.98	181	P	**P**	**10 54 09.3 -0.7**
comp=Z,2.8nm,0.7s,mb4.4,baz=311,slow=7.9,SNR=11						
STKA				LR	LR	11 21 27.9
comp=Z,489nm,20.7s,MS4.7,baz=6.7,slow=34						
STKA	**Stephens Creek**	67.98	181	*e*P	**P**	**10 54 09.1 -0.9**
STKA	**Stephens Creek**	67.98	181	*e*P	**P**	**10 54 09.5 -0.5**
comp=Z,17nm,2.2s,mb4.7						
STKA	**Stephens Creek**	67.98	181	*e*P	**P**	**10 54 09.5 -0.5**
MOS	**Moscow**	68.19	324	*e*P	**P**	**10 54 10.9 -0.3**
MOS				pmax	pmax	
comp=Z,100nm,1.2s,mb5.7						
MOS				MLR	MLR	
comp=Z,2μm,14.0s,MS5.5						
FORT	**Forrest**	68.23	193	*e*P	**P**	**10 54 11.0 -0.6**
FORT	**Forrest**	68.23	193	*e*P	**P**	**10 54 11.1 -0.5**
comp=Z,39nm,0.7s,mb5.5						
ETW	**Entiat**	68.48	46	*e*P	**P**	**10 54 13.7 +0.5**
comp=Z,56nm,1.7s,mb5.3						
OBN	**Obninsk**	69.04	324	*e*P	**P**	**10 54 16.3 -0.2**
OBN				*i*		10 54 37.6
OBN				*i*		10 56 57.6
OBN				pmax	pmax	
comp=Z,59nm,1.2s,mb5.4						
MAK	**Makhachkala**	69.45	309	*e*P	**P**	**10 54 20.4 +1.1**
G06A	**Carlson Farm,**	69.52	48	⇓P	**P**	**10 54 19.2 -0.5**
baz=69						
FINES	**FINESS Array B**	69.70	333	P	**P**	**10 54 20.4 -0.1**
comp=Z,19nm,0.7s,mb5.2,baz=46,slow=8.3,SNR=44						
FINES				LR	LR	11 27 58.0
comp=Z,915nm,19.2s,MS5.0,baz=51,slow=38						
FINES	**FINESS Array B**	69.70	333	P	**P**	**10 54 20.4 -0.1**
FINES	**FINESS Array B**	69.70	333	P	**P**	**10 54 20.4 -0.1**
VSR	**Storozhevoye**	69.90	319	*e*P	**P**	**10 54 21.8 -0.1**
VSR				pmax	pmax	
comp=E,8.0nm,0.6s						
VSR				pmax	pmax	
comp=Z,10.0nm,0.6s,mb4.9						
VSR				pmax	pmax	
comp=N,1.0nm,0.3s						
VSR				MLR	MLR	
comp=N,2μm,17.0s,MS5.5						
VSR				MLR	MLR	
comp=E,2μm,17.0s,MS5.5						
VSR				MLR	MLR	
comp=Z,3μm,17.0s,MS5.7						
E09A	**Wood Farm, Sta**	70.33	46	⇑P	**P**	**10 54 25.0 +0.3**
baz=70						
A12A	**Yaak River Ran**	70.43	43	⇑P	**P**	**10 54 25.2 -0.1**
baz=70						
YNG	**Young**	70.61	175	*e*P	**P**	**10 54 25.7 -0.6**
K05A	**Summer Lake**	70.68	51	⇑P	**P**	**10 54 27.1 +0.2**
baz=70						
I07A	**Izee**	70.82	49	⇑P	**P**	**10 54 27.9 +0.2**
baz=71						
A13A	**Flathead Natio**	71.11	43	⇓P	**P**	**10 54 29.8 +0.4**
baz=71						
F10A	**Beach Ranch, E**	71.16	46	⇑P	**P**	**10 54 29.6 0.0**
baz=71						
C12B	**Naegeli Ranch,**	71.21	44	⇑P	**P**	**10 54 29.8 -0.2**
baz=71						
SUMG	**Summit**	71.26	0	*e*P	**P**	**10 54 31.2 +1.4**
comp=Z,50nm,1.2s,mb5.3						
SUMG	**Summit**	71.26	0	*e*P	**P**	**10 54 31.2 +1.3**
SUMG				pmax	pmax	
comp=Z,50nm,1.2s						
SUMG	**Summit**	71.26	0	*i* P	**P**	**10 54 30.2 +0.3**
comp=Z,22nm,1.0s,mb5.0						
VSU	**Vasula**	71.36	330*c*	*i*P	**P**	**10 54 30.7 0.0**
VSU				pmax	pmax	
comp=Z,75nm,1.6s,mb5.4						
VSU				MLR	MLR	
comp=Z,1μm,17.0s,MS5.2						
A14A	**Double T Ranch**	71.63	42	⇑P	**P**	**10 54 32.9 +0.4**
baz=71						
BMO	**Blue Mountains**	71.72	47	*e*P	**P**	**10 54 33.7 +0.6**
comp=Z,14nm,1.4s,mb4.7						
C13A	**Hot Springs**	71.73	44	⇑P	**P**	**10 54 33.2 +0.1**
baz=72						
ZEI	**Tsey**	71.80	310	*e*P	**P**	**10 54 26.9 -6.8**
ZEI				pmax	pmax	
comp=Z,21nm,1.4s,mb4.9						
J08A	**Circle Bar Ran**	71.84	49	⇓P	**P**	**10 54 34.0 +0.1**
baz=72						
JTMT	**Jette**	71.85	44	*e*P	**P**	**10 54 34.6 +0.7**
KIV	**Kislovodsk**	71.90	312	*e*P	**P**	**10 54 35.9 +1.7**
KIV	**Kislovodsk**	71.90	312	*e*P	**P**	**10 54 35.4 +1.2**
KIV				*e*S	S	11 03 56.3 +1.1
KIV				*e*SS	SS	11 08 33.0 +2.2
KIV				pmax	pmax	
comp=Z,84nm,0.9s,mb5.7						
KIV	**Kislovodsk**	71.90	312	P	**P**	**10 54 35.8 +1.6**
SNR=8.6						
KIV	**Kislovodsk**	71.90	312	P	**P**	**10 54 35.6 +1.4**
comp=Z,493nm,0.8s,SNR=6.5						
YBMT	**Yellow Bay**	71.94	44	*e*P	**P**	**10 54 37.4 +3.1**
A15A	**Johnson Ranch,**	72.00	42	⇓P	**P**	**10 54 34.3 -0.4**

baz=73
MNK Minsk 73.45 326 eP P 10 54 43.0 -0.2
F14A Wisdom 73.47 45 ⇓P P 10 54 43.5 -0.1
baz=73
ISAL Salakas 73.50 328 eP P 10 54 44.0 +0.6
ISAL AMB AMB 10 54 52.5
comp=Z,28nm,1.1s,mb5.1
E15A Deer Lodge 73.53 44 ⇓P P 10 54 43.7 -0.2
baz=73
A18A Metzger Ranch, 73.58 41 ⇑P P 10 54 43.1 -1.0
baz=73,SNR=6.7
IIGN Ignalina 73.60 328 eP P 10 54 44.6 +0.5
IIGN AMB AMB 10 54 53.0
comp=Z,17nm,1.0s,mb4.9
NACGM Naroch 73.65 327 e P 10 54 42.0 -2.4
H13A Challis 73.68 46 ⇓P P 10 54 44.8 -0.1
baz=74
FFC Flin Flon 73.75 33 eP P 10 54 44.5 -0.5
comp=Z,21nm,1.1s,mb5.0
FFC Flin Flon 73.75 33 i P P 10 54 44.9 -0.1
D16A Dana Ranch, Ca 73.78 43 ⇓P P 10 54 45.3 -0.1
baz=74
HRY Holter Researc 73.81 44 eP P 10 54 46.2 +0.6
C17A Wharram Farm, 73.86 42 ⇓P P 10 54 45.1 -0.7
baz=74
B18A Beardsley Farm 73.93 41 ⇓P P 10 54 45.7 -0.5
baz=74
LRM Limekiln Ridge 73.99 45 eP P 10 54 47.4 +0.8
E16A East Helena 74.00 44 ⇑P P 10 54 46.3 -0.3
baz=74
I13A Wildhorse Cree 74.14 47 ⇑P P 10 54 47.1 -0.4
baz=74
EGMT Eagleton 74.17 42 ⇓P P 10 54 47.2 -0.3
baz=74
EGMT Eagleton 74.17 42 eP P 10 54 47.9 +0.3
comp=Z,26nm,1.3s,mb5.0
H14A Leadore 74.17 46 ⇑P P 10 54 47.2 -0.4
baz=74
DLMT Dillon 74.18 45 eP P 10 54 48.5 +0.8
comp=Z,20nm,1.0s,mb5.0
D17A Six Diamond Ra 74.18 43 ⇑P P 10 54 47.1 -0.6
baz=74
B19A Brinkman Farms 74.33 41 ⇓P P 10 54 48.4 -0.1
baz=74,SNR=12
G15A Dillon 74.35 45 ⇓P P 10 54 48.6 -0.1
baz=74
J13A Cove Ranch, Pi 74.41 47 ⇑P P 10 54 49.0 0.0
baz=74
F16A Kennard Place, 74.48 44 ⇑P P 10 54 49.5 +0.1
baz=74
E17A Martinsdale 74.50 43 ⇓P P 10 54 49.2 -0.3
baz=74
I14A Mackay 74.52 47 ⇑P P 10 54 49.4 -0.3
baz=74
A20A Cobblestone Ra 74.61 40 ⇓P P 10 54 49.8 -0.3
baz=74
D18A Linhart Farms, 74.64 42 ⇑P P 10 54 50.2 -0.1
baz=74
NVAR Mina Array Bea 74.68 53 P P 10 54 51.7 +0.9
comp=Z,4.9nm,0.9s,mb4.5,baz=277,slow=6.0,SNR=7.3
NVAR LR LR 11 27 06.8
comp=Z,412nm,18.6s,MS4.8,baz=50,slow=35
NVAR Mina Array Bea 74.68 53 P P 10 54 51.7 +1.0
C19A Slack Wire Ran 74.72 42 ⇑P P 10 54 50.8 0.0
baz=74,SNR=18
B20A Solberg Farm, 74.83 41 ⇓P P 10 54 50.9 -0.5
baz=75,SNR=7.5
J14A Carey 74.84 47 ⇓P P 10 54 51.9 +0.3
baz=75
HFS Hagfors 74.94 336 LR LR 11 30 34.2
comp=Z,2μm,18.7s,MS5.5,baz=37,slow=38
F17A Fitzpatrick Pl 74.95 44 ⇓P P 10 54 52.1 -0.1
baz=75
E18A Harlowton 74.96 43 ⇓P P 10 54 52.2 0.0
baz=75
NB2 NORSAR Subarra 75.03 338 P P 10 54 52.0 -0.3
comp=Z,16nm,0.8s,mb5.0,baz=38,slow=5.9
NOA NORSAR Array B 75.03 338 P P 10 54 52.3 0.0
comp=Z,35nm,1.2s,mb5.2,baz=39,slow=5.8,SNR=21
NOA LR LR 11 31 27.5
comp=Z,985nm,19.0s,MS5.1,baz=35,slow=39
NOA NORSAR Array B 75.03 338 P P 10 54 52.3 0.0
NOA NORSAR Array B 75.03 338 P P 10 54 52.3 0.0
I15A Monteview 75.05 46 ⇑P P 10 54 52.4 -0.3
baz=75
A21A Bergtoll Ranch 75.06 40 ⇓P P 10 54 52.5 -0.2
baz=75
QLMT Earthquake Lak 75.16 45 eP P 10 54 54.0 +0.6
D19A Cripps Ranch, 75.16 42 ⇑P P 10 54 53.5 +0.2
baz=75,SNR=12
AKASG Malin Array Be 75.25 323 P P 10 54 53.4 -0.4
comp=Z,15nm,0.6s,mb5.1,baz=46,slow=6.0,SNR=41
AKASG LR LR 11 30 23.9
comp=Z,1μm,18.6s,MS5.2,baz=45,slow=38
AKASG Malin Array Be 75.25 323 P P 10 54 53.4 -0.4
AKASG Malin Array Be 75.25 323 P P 10 54 53.4 -0.4
AKBB Malin Array Si 75.25 323 eP P 10 54 53.5 -0.3
AKBB Malin Array Si 75.25 323 eP P 10 54 53.5 -0.3
G17A Pierce Place, 75.25 44 ⇑P P 10 54 53.8 -0.1
baz=75
KIEV Kiev 75.26 323 eP P 10 54 53.4 -0.4
comp=Z,31nm,0.8s,mb5.3
KIEV Kiev 75.26 323 eP P 10 54 53.4 -0.4
KIEV pmax pmax
comp=Z,31nm,0.8s,mb5.3
NAO01 NORSAR Array S 75.28 338 eP P 10 54 53.8 0.0
comp=Z,10nm,0.8s,mb4.8
C20A Veseth Ranch, 75.29 41 ⇑P P 10 54 54.2 +0.2
baz=75,SNR=13
B21A Ellsworth Farm 75.36 40 ⇑P P 10 54 54.3 -0.2
baz=75
F18A Big Timber 75.47 43 ⇓P P 10 54 55.2 0.0
baz=75,SNR=8.6
GCMT Greycliff 75.57 43 eP P 10 54 56.6 +0.9
comp=Z,12nm,1.2s,mb4.7
A22A Carney Farms, 75.57 39 ⇑P P 10 54 55.4 -0.2
baz=75,SNR=14
D20A Manuel Ranch, 75.60 42 ⇑P P 10 54 56.0 +0.2
baz=75,SNR=13
VES Vestal, Richgr 75.63 56 ⇓P P 10 54 56.2 -0.1
baz=76
E19A Rath Farm, Rou 75.64 42 ⇑P P 10 54 56.3 +0.2
baz=75,SNR=17
YNR Norris Junctio 75.65 45 eP P 10 55 02.8 +6.6
comp=Z,15nm,1.2s,mb4.8
YFT Old Faithful 75.72 45 eP P 10 55 04.4 +7.7
comp=Z,12nm,1.0s,mb4.8
SUW Suwalki 75.81 328 eP P 10 54 57.6 +0.7
SUW Suwalki 75.81 328 eP P 10 54 56.9 0.0
comp=Z,88nm,1.2s,mb5.6
SUW Suwalki 75.81 328 eP P 10 54 56.9 0.0
SUW pmax pmax
comp=Z,88nm,1.2s,mb5.6
F19A Roth Farm, Mol 75.93 43 ⇑P P 10 54 57.3 -0.5
baz=76
B22A Reddig Ranch S 75.97 40 ⇓P P 10 54 57.4 -0.6
baz=76
E20A Meyer Farm, Mu 75.97 42 ⇑P P 10 54 58.3 +0.3
baz=76,SNR=13
I17A Pilgrim Ck. 76.19 45 ⇑P P 10 54 59.4 +0.1
baz=76
RLMT Red Lodge 76.20 44 eP P 10 54 59.9 +0.5
comp=Z,20nm,1.4s,mb4.9
D21A La Casta Ranch 76.23 41 ⇓P P 10 54 59.1 -0.3
baz=76
TPAW Teton Pass 76.24 46 eP P 10 55 02.8 +3.2
comp=Z,20nm,1.3s,mb4.9
H18A Shoshone NF, C 76.25 44 ⇑P P 10 54 59.4 -0.2
baz=76
SIM Simferopol' 76.31 316 eP P 10 54 54.9 -5.0
SIM eS S 11 04 35.0 -10
LOHW Long Hollow 76.37 46 eP P 10 55 06.4 +6.0
REDW Red Top Meadow 76.38 46 eP P 10 55 03.9 +3.5
comp=Z,22nm,1.3s,mb4.9
B23A Brockton 76.38 39 ⇑P P 10 55 00.6 +0.3
baz=76,SNR=13
SFJD Kangerlussuaq 76.39 5 i P P 10 55 00.4 +0.4
comp=Z,12nm,0.8s,mb4.9
R11A Troy Canyon, C 76.48 52 ⇑P P 10 55 01.0 0.0
baz=76
E21A Keefer Ranch, 76.52 42 ⇑P P 10 55 00.8 -0.3
baz=76
MPMC Manual Prospec 76.57 55 ⇓P P 10 55 01.6 +0.1
baz=76
D22A Cohagen 76.61 41 ⇓P P 10 55 01.8 +0.1
baz=76,SNR=14
H19A Powell 76.64 44 ⇓P P 10 55 02.0 +0.2
baz=76
C23A Lambert 76.71 40 ⇑P P 10 55 02.1 -0.1
baz=76
FURC Furnace Creek, 76.74 54 ⇓P P 10 55 02.4 -0.2
baz=77
I18A Diamond G Ranc 76.76 45 ⇑P P 10 55 02.2 -0.3
baz=76
DGMT Dagmar 76.78 39 ⇑P P 10 55 02.2 -0.4
baz=76
DGMT Dagmar 76.78 39 eP P 10 55 05.0 +2.4
comp=Z,20nm,1.1s,mb5.0
BHD Baghdad 76.79 302 ex P 10 55 03.8 +0.9
BHD ex x 10 55 14.8
BHD ex x 11 04 51.7
LAO LASA Array 76.88 41 ⇓P P 10 55 01.9 -1.2
baz=77
LAO LASA Array 76.88 41 eP P 10 55 03.7 +0.6
comp=Z,20nm,1.1s,mb5.0
EDW2 Edwards Air Fo 76.91 56 ⇓P P 10 55 02.6 -0.9
baz=77
I19A Meeteetse 77.03 45 ⇑P P 10 55 03.7 -0.3
baz=77
D23A Lindsay 77.10 40 ⇑P P 10 55 04.2 -0.2
baz=77
DUG Dugway 77.12 49 ⇑P P 10 55 04.7 +0.1
baz=77
DUG Dugway 77.12 49 eP P 10 55 05.3 +0.7
comp=Z,26nm,1.4s,mb5.0
DUG Dugway 77.12 49 eP P 10 55 05.3 +0.7
DUG pmax pmax
comp=Z,26nm,1.4s,mb5.0
L17A Cokeville 77.13 47 ⇑P P 10 55 04.1 -0.5
baz=77
M16A Huntsville 77.16 48 ⇓P P 10 55 05.0 +0.2
baz=77
E22A Miles City 77.18 41 ⇓P P 10 55 04.3 -0.6
baz=77
C24A Savage 77.28 40 ⇓P P 10 55 05.3 -0.1
baz=77
G21A Lodge Grass 77.28 43 ⇑P P 10 55 05.1 -0.3
baz=77
K18A Toltan Ranch, 77.29 46 ⇑P P 10 55 04.7 -0.8
baz=77
H20A Greybull 77.30 44 ⇓P P 10 55 04.9 -0.7
baz=77
F22A Rosebud 77.44 42 ⇓P P 10 55 05.7 -0.6
baz=77
SHOC Shoshone 77.46 55 ⇑P P 10 55 06.5 -0.1
baz=77
PD01 Pinedale Array 77.47 46 eP P 10 55 07.0 +0.5
J19A Crowheart 77.47 45 ⇓P P 10 55 06.8 +0.3
baz=77
PD02 Pinedale Array 77.48 46 eP P 10 55 06.7 +0.1
E23A Ismay 77.48 41 ⇓P P 10 55 06.3 -0.2
baz=77
BW06 Boulder Array 77.49 46 ⇓P P 10 55 06.6 -0.1
baz=77
BW06 Boulder Array 77.49 46 eP P 10 55 07.0 +0.3
PDAR Pinedale Array 77.49 46 P P 10 55 06.8 +0.1
comp=Z,1.9nm,0.8s,mb4.0,baz=315,slow=1.1,SNR=15
PDAR LR LR 11 30 24.0
comp=Z,267nm,18.5s,MS4.6,baz=115,slow=37
PDAR Pinedale Array 77.49 46 P P 10 55 06.8 +0.1
I20A Worland 77.57 44 ⇑P P 10 55 07.4 +0.3
baz=77
RRX Edison Barstow 77.58 56 ⇓P P 10 55 07.1 -0.2
baz=77
D24A Glendive 77.60 40 ⇑P P 10 55 06.9 -0.2
baz=77
R13A O'Grain Ranch, 77.60 52 ⇓P P 10 55 06.9 -0.5
baz=77
M17A Scullys Gap (B 77.64 47 ⇓P P 10 55 07.5 0.0
baz=77
JLU Jordanelle 77.70 48 eP P 10 55 14.5 +6.7
L18A Fontenelle, Gr 77.73 47 ⇓P P 10 55 07.7 -0.3
baz=78
H21A Big Horn, Sher 77.74 43 ⇓P P 10 55 07.5 -0.6
baz=78
G22A Birney 77.78 42 ⇑P P 10 55 07.8 -0.5
baz=78
P15A Leamington 77.82 50 ⇑P P 10 55 08.2 -0.4
baz=78
KIS Kishinev 77.86 320 eP P 10 55 10.0 +1.4
KIS eL 11 21 36.0
KIS LRM 11 32 28.0
comp=Z,2μm,16.0s
KIS Kishinev 77.86 320 eP P 10 55 10.0 +1.4
KIS e 10 55 26.0
KIS MLR MLR
comp=N,2μm,16.0s,MS5.6
KIS MLR MLR
comp=E,1μm,16.0s,MS5.6
KIS MLR MLR
comp=Z,2μm,16.0s,MS5.6
KIS MLR MLR
comp=Z,2μm,16.0s
N17A Moffit Pass 77.86 48 ⇓P P 10 55 08.1 -0.7
baz=78
K19A Absolon Red Bu 77.86 45 ⇓P P 10 55 08.4 -0.3
baz=78
O16A Springville 77.91 49 ⇑P P 10 55 09.4 +0.3
baz=78
F23A Volborg 77.93 42 ⇓P P 10 55 09.0 -0.1
baz=78,SNR=12
J20A Shoshoni 77.97 45 ⇑P P 10 55 09.2 -0.1
baz=78
E24A Baker 77.97 40 ⇓P P 10 55 09.3 0.0
baz=78
L19A Farson 78.02 46 ⇑P P 10 55 09.6 -0.1
baz=78
M18A Lyman 78.02 47 ⇑P P 10 55 10.0 +0.3
baz=78
HEC Hector,Ludlow 78.05 56 ⇓P P 10 55 10.0 0.0
baz=78
I21A Big Trails, Te 78.12 44 ⇑P P 10 55 10.0 -0.2
baz=78
H22A Clearmont 78.14 43 ⇓P P 10 55 10.3 0.0
baz=78
ARUT Antelope Range 78.17 52 eP P 10 55 11.9 +1.4
comp=Z,34nm,1.6s,mb5.0
ARUT Antelope Range 78.17 52 eP P 10 55 12.0 +1.4
ARUT pmax pmax
comp=Z,34nm,1.6s,mb5.0
P16A Fountain Green 78.18 49 ⇑P P 10 55 10.9 +0.3
baz=78
K20A Yellowstone Ra 78.26 45 ⇑P P 10 55 10.6 -0.3
baz=78
G23A Biddle 78.28 42 ⇓P P 10 55 10.5 -0.5
baz=78
LVV L'vov 78.32 324 eP P 10 55 11.1 0.0
J21A Lysite 78.33 44 ⇓P P 10 55 11.3 -0.1
baz=78
CCUT Cedar City 78.36 52 eP P 10 55 13.2 +1.6
F24A Ekalaka 78.36 41 ⇑P P 10 55 11.1 -0.4
baz=78
BEL Belsk 78.37 327 eP P 10 55 12.1 +0.8
BEL Belsk 78.37 327 eP P 10 55 12.1 +0.7
O17A Robinson Place 78.38 48 ⇓P P 10 55 11.9 +0.2
baz=78
L20A Wamsutter 78.67 46 ⇓P P 10 55 13.0 -0.2
baz=78
LDFC Landfair 78.71 55 eP P 10 55 20.7 +7.1
O18A Roosevelt 78.77 48 ⇑P P 10 55 13.5 -0.3
baz=79
P17A Butcher Ranch, 78.82 49 ⇓P P 10 55 14.4 +0.3
baz=79,SNR=15
J22A Midwest 78.83 44 ⇓P P 10 55 14.3 +0.2
baz=79,SNR=5.5
N19A John Jarvie Ra 78.88 47 ⇓P P 10 55 14.3 -0.1
baz=79
K21A Alcova 78.90 45 ⇑P P 10 55 14.3 -0.2
baz=79
Q16A Castle Valley 78.90 50 ⇑P P 10 55 14.4 -0.2
baz=79
H24A Dirks Ranch, A 79.02 42 ⇓P P 10 55 15.1 0.0
baz=79
P18A Preston Nutter 79.03 49 ⇑P P 10 55 15.1 -0.2
baz=79
KWP Kalwaria Pacla 79.07 325 eP P 10 55 16.0 +0.7
KWP Kalwaria Pacla 79.07 325 eP P 10 55 16.1 +0.8
comp=Z,83nm,1.0s,mb5.6
KWP Kalwaria Pacla 79.07 325 eP P 10 55 16.0 +0.7
KWP Kalwaria Pacla 79.07 325 ⇑i P P 10 55 15.9 +0.6
M20A Sweetwater, Wa 79.08 46 ⇑P P 10 55 15.3 -0.2
baz=79
SRU San Rafael 79.18 49 eP P 10 55 16.4 +0.4
comp=Z,13nm,0.9s,mb4.9
SRU San Rafael 79.18 49 eP P 10 55 16.4 +0.3
SRU pmax pmax
comp=Z,13nm,0.9s,mb4.9
IRM Iron Mountain 79.23 56 ⇓P P 10 55 16.3 -0.2
baz=79
BUR08 Bucovina Ar. S 79.25 322 eP P 10 55 16.9 +0.6
L21A Rawlins 79.25 45 ⇓P P 10 55 16.5 0.0
baz=79
BURAR Bucovina Array 79.26 322 ⇑P P 10 55 16.9 +0.5
BURAR Bucovina Array 79.26 322 ⇑i P P 10 55 16.9 +0.5
O19A Miners Draw (B 79.28 48 ⇑P P 10 55 16.7 +0.1
baz=79
TESR 79.30 321 ⇑i P P 10 55 17.1 +0.5
K22A Casper 79.30 44 ⇑P P 10 55 16.6 -0.1
baz=79
MUD Monsted U'grnd 79.31 336 i P P 10 55 17.6 +1.1
BC3 Big Chuckawall 79.33 56 ⇓P P 10 55 17.2 +0.2
baz=79
S16A Weppner Ranch, 79.37 51 ⇓P P 10 55 17.9 +0.7
baz=79
Q18A Rafter H Ranch 79.42 49 ⇓P P 10 55 17.4 0.0
baz=79
N20A Spence Gulch, 79.45 47 ⇓P P 10 55 17.2 -0.3
baz=79
MDND Maddock 79.48 37 ⇓P P 10 55 17.2 -0.4
baz=79
R17A Hanksville Air 79.49 50 ⇑P P 10 55 17.6 -0.2
baz=79
W13A Hualapai Mount 79.50 54 ⇓P P 10 55 17.5 -0.5
baz=79
ULM Lac du Bonnet 79.53 34 P P 10 55 19.8 +2.0
comp=Z,2.6nm,0.8s,mb4.2,baz=310,slow=6.1,SNR=3.6
ULM Lac du Bonnet 79.53 34 P P 10 55 19.8 +2.0
ULM Lac du Bonnet 79.53 34 P P 10 55 19.8 +2.0
VRI Vrincioaia 79.69 320 ⇓P P 10 55 19.9 +1.2
VRI Vrincioaia 79.69 320 ⇓i P P 10 55 19.9 +1.2
RSSD Black Hills 79.72 42 eP P 10 55 20.6 +1.7
comp=Z,10nm,1.3s,mb4.6
RSSD Black Hills 79.72 42 eP P 10 55 20.6 +1.7
RSSD pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
TIRR Tirgusor 79.75 318 ⇓P P 10 55 22.3 +3.2
TIRR Tirgusor 79.75 318 ⇓i P P 10 55 22.3 +3.2
L22A Ellis Ranch, M 79.75 45 ⇑P P 10 55 19.2 0.0
baz=80
BR131 Keskin Array S 79.84 312 eP P 10 55 20.7 +1.1
comp=Z,8.6nm,0.9s,mb4.7
BRTR Keskin Array B 79.84 312 P P 10 55 20.7 +1.0
comp=Z,13nm,1.1s,mb4.8,baz=88,slow=2.5,SNR=16
BRTR LR LR 11 35 22.4
comp=Z,486nm,18.6s,MS4.9,baz=220,slow=39
BRTR Keskin Array B 79.84 312 P P 10 55 20.7 +1.0
BRTR Keskin Array B 79.84 312 P P 10 55 20.7 +1.0
Y12C Blythe 79.89 56 ⇑P P 10 55 19.9 -0.2
baz=80
STHS Stebnicka Huta 79.89 325 eP P 10 55 21.2 +1.4
STHS pmax pmax
comp=Z,23nm,1.4s,mb4.9
STHS Stebnicka Huta 79.89 325 eP P 10 55 21.2 +1.4
O20A White River Ci 79.91 47 ⇓P P 10 55 20.0 -0.1
baz=80
S17A Black Ridge (B 79.92 51 ⇓P P 10 55 20.1 0.0
baz=80
N21A Black Mountain 79.94 46 ⇑P P 10 55 19.8 -0.3
baz=80
UZH Uzhgorod 79.97 324 eP P 10 55 18.1 -2.1
UZH eS S 11 05 18.9 -5.1
UZH MLR MLR
comp=N,1μm,15.0s,MS5.6
UZH MLR MLR
comp=E,2μm,15.0s,MS5.6
UZH MLR MLR
comp=Z,1μm,15.0s,MS5.4
OJC Ojcow 79.97 327 eP P 10 55 20.5 +0.4
OJC Ojcow 79.97 327 eP P 10 55 20.5 +0.4
comp=Z,55nm,1.2s,mb5.4
OJC Ojcow 79.97 327 eP P 10 55 20.5 +0.4
OJC pmax pmax
comp=Z,55nm,1.2s,mb5.4
R18A Canyonlands Na 80.01 49 ⇓P P 10 55 20.3 -0.3
baz=80
Q19A Hogan Spring (80.04 49 ⇑P P 10 55 20.5 -0.3
baz=80
M22A Cedar Creek Ra 80.06 45 ⇓P P 10 55 21.0 +0.2
baz=80
L23A Garrett 80.11 44 ⇓P P 10 55 20.4 -0.7
baz=80
GLA Glamis 80.11 56 ⇓P P 10 55 21.6 +0.3
baz=80
GLA Glamis 80.11 56 eP P 10 55 21.9 +0.6
GLA Glamis 80.11 56 eP P 10 55 21.9 +0.6
CRVS Cervenica-Dubn 80.16 325 eP P 10 55 21.7 +0.5
CRVS pmax pmax
comp=Z,24nm,1.6s,mb4.9
CRVS Cervenica-Dubn 80.16 325 eP P 10 55 21.7 +0.5
TRPA Tarpa 80.20 324 ⇓i P P 10 55 22.2 +0.7
P20A De Beque 80.22 48 ⇑P P 10 55 21.6 -0.2
baz=80
T17A Navajo Res., N 80.31 51 ⇓P P 10 55 21.9 -0.4
baz=80
NIE Niedzica 80.32 326 eP P 10 55 22.9 +0.9
NIE Niedzica 80.32 326 eP P 10 55 22.9 +0.9
MLR Muntele Rosu 80.35 320 LR LR 11 33 15.0
comp=Z,392nm,21.9s,MS4.7,baz=52,slow=37
S18A Hurst Farm, Bl 80.39 50 ⇓P P 10 55 22.6 0.0
baz=80,SNR=9.5
R19A Curley Farm, L 80.46 49 ⇑P P 10 55 22.8 -0.3
baz=80
M23A Laramie 80.52 45 ⇓P P 10 55 22.8 -0.5
baz=80
N22A Wattenberg Ran 80.53 46 ⇑P P 10 55 23.0 -0.3
baz=80
PV04 Paradox Valley 80.61 49 eP P 10 55 24.6 +0.8
Q20A Ridgley Place, 80.63 48 ⇑P P 10 55 24.2 +0.3
baz=80,SNR=5.2
U16A Tuba City 80.64 52 ⇑P P 10 55 24.5 +0.5
baz=80,SNR=15
U17A Shonto 80.65 51 ⇑P P 10 55 24.6 +0.5
baz=80,SNR=12
N23A Red Feather La 80.76 46 ⇑P P 10 55 24.8 +0.2
baz=80
P21A Newcastle 80.77 47 ⇑P P 10 55 25.0 +0.3
baz=81
PHWY Pilot Hill 80.78 45 eP P 10 55 26.9 +2.2
comp=Z,21nm,1.5s,mb4.8
Y14A Wickenburg 80.78 55 ⇓P P 10 55 24.3 -0.6
baz=81
Z13A Yuma Proving G 80.80 56 ⇓P P 10 55 24.5 -0.5
baz=81
T18A Mexican Hat 80.81 50 ⇓P P 10 55 24.3 -0.7
baz=81
WUAZ Wupatki 80.87 53 ⇑P P 10 55 25.0 -0.3
baz=81
WUAZ Wupatki 80.87 53 eP P 10 55 26.3 +1.0
comp=Z,22nm,1.3s,mb4.9
S19A Harvey Farm, M 80.88 50 ⇓P P 10 55 25.5 +0.2
baz=81,SNR=9.5
O22A Kremmling 80.89 46 ⇑P P 10 55 24.9 -0.5
baz=81
KECS Kecovo 80.91 325 eP P 10 55 25.8 +0.5
KECS Kecovo 80.91 325 eP P 10 55 25.8 +0.5
AGMN Agassiz Nation 80.94 35 eP P 10 55 26.2 +0.8
comp=Z,16nm,1.4s,mb4.8
OKC Ostrava-Krasne 80.97 327 eP P 10 55 25.4 -0.2
OKC MLR MLR
comp=Z,2μm,21.1s,MS5.4
OKC Ostrava-Krasne 80.97 327 eP P 10 55 25.4 -0.2
OKC AMS AMS 11 34 10.0
comp=Z,2μm,21.1s
PV01 Paradox Valley 80.98 49 eP P 10 55 26.8 +1.0
113A Mohawk Valley, 80.99 56 ⇑P P 10 55 26.2 +0.2
baz=81
KSP Ksiaz 81.02 329 eP P 10 55 26.3 +0.5
KSP Ksiaz 81.02 329 eP P 10 55 26.1 +0.3
KSP epP pP 10 55 28.7 0.0
KSP LM 11 34 34.0
comp=Z,2.5nm,17.9s
KSP Ksiaz 81.02 329 ⇑eP P 10 55 26.1 +0.3
KSP MLR MLR
comp=Z,2μm,17.9s,MS5.6
M24A Cheyenne 81.03 45 ⇑P P 10 55 25.4 -0.6
baz=81
R20A Redvale 81.06 49 ⇓P P 10 55 26.2 -0.1
baz=81
DRGR 81.07 323 ⇑P P 10 55 26.5 +0.4
DRGR 81.07 323 ⇑i P P 10 55 26.5 +0.4

K26A **Motz Farm, Whi** 81.12 43 ⇑P P 10 55 25.9 -0.6
baz=81
P22A **Eagle** 81.13 47 ⇑P P 10 55 26.9 +0.3
baz=81,SNR=9.0
Q21A **Lamborn Mesa,** 81.14 48 ⇑P P 10 55 27.1 +0.4
baz=81,SNR=9.3
V17A **Tonalea, Kykot** 81.18 52 ⇑P P 10 55 26.9 0.0
baz=81,SNR=14
O23A **Lake Granby, G** 81.22 46 ⇓P P 10 55 27.5 +0.4
baz=81,SNR=7.0
SMCO **Snowmass** 81.27 47 *e*P P 10 55 28.2 +0.8
comp=Z,42nm,2.0s,mb5.0
MORC **Moravsky Berou** 81.28 327 *e*P P 10 55 27.7 +0.5
MORC **Moravsky Berou** 81.28 327 *e*P P 10 55 27.7 +0.5
MORC **Moravsky Berou** 81.28 327 ⇓*i*P P 10 55 27.9 +0.7
S20A **Disappointment** 81.30 49 ⇓P P 10 55 27.4 -0.2
baz=81
DPC **Dobruska-Polom** 81.38 328 *e*P P 10 55 28.4 +0.7
DPC **Dobruska-Polom** 81.38 328 *e*P P 10 55 28.4 +0.7
DPC **Dobruska-Polom** 81.38 328 *e*P P 10 55 28.3 +0.6
DPC AMS AMS 11 35 50.0
comp=Z,1µm,12.6s
UPC **Upice** 81.39 329 *e*P P 10 55 28.3 +0.6
UPC **Upice** 81.39 329 *e*P P 10 55 28.3 +0.6
N24A **Carr** 81.42 45 ⇓P P 10 55 28.0 -0.1
baz=81
R21A **Cimarron** 81.45 48 ⇑P P 10 55 28.6 +0.3
baz=81,SNR=8.6
M25A **Palm-Egli Farm** 81.48 44 ⇑P P 10 55 28.1 -0.4
baz=81
X16A **Lo Mia Camp, P** 81.51 53 ⇑P P 10 55 29.0 +0.3
baz=81
Q22A **Crested Butte,** 81.51 48 ⇓P P 10 55 28.8 +0.2
baz=81,SNR=10
T19A **Beclabito** 81.53 50 ⇓P P 10 55 28.6 -0.2
baz=81
PSZ **Piszkesteto** 81.59 325 *e*P P 10 55 29.2 +0.3
comp=Z,26nm,1.1s,mb5.1
PSZ **Piszkesteto** 81.59 325 *e*P P 10 55 29.2 +0.3
PSZ pmax pmax
comp=Z,26nm,1.1s,mb5.1
PSZ **Piszkesteto** 81.59 325⇑*e*P P 10 55 29.5 +0.6
PSZ **Piszkesteto** 81.59 325⇓*i*P P 10 55 29.5 +0.6
MVCO **Mesa Verde** 81.61 50 ⇑P P 10 55 28.7 -0.5
baz=81
MVCO **Mesa Verde** 81.61 50 *e*P P 10 55 30.1 +0.9
comp=Z,11nm,1.0s,mb4.7
K27A **Flueckinger Fa** 81.64 42 ⇓P P 10 55 28.7 -0.5
baz=81
VYHS **Vyhne** 81.66 326 *e*P P 10 55 29.8 +0.6
VYHS pmax pmax
comp=Z,14nm,1.4s,mb4.7
VYHS **Vyhne** 81.66 326 *e*P P 10 55 29.8 +0.6
V18A **Ganado** 81.67 52 ⇑P P 10 55 29.9 +0.4
baz=82,SNR=6.4
ISCO **Idaho Springs** 81.67 46 ⇑P P 10 55 29.5 0.0
baz=82
ISCO **Idaho Springs** 81.67 46 *e*P P 10 55 30.3 +0.8
comp=Z,12nm,1.4s,mb4.6
ISCO **Idaho Springs** 81.67 46 *e*P P 10 55 30.3 +0.8
ISCO pmax pmax
comp=Z,12nm,1.4s,mb4.6
U19A **Dine' College,** 81.75 51 ⇑P P 10 55 29.8 -0.2
baz=82,SNR=15
S21A **Coal Bank Pass** 81.76 49 ⇓P P 10 55 29.8 -0.2
baz=82,SNR=9.1
O24A **Longmont** 81.77 46 ⇑P P 10 55 29.8 -0.2
baz=82
KOLL **Kolacno** 81.79 326 *e*P P 10 55 31.0 +1.1
KOLL **Kolacno** 81.79 326 *e*P P 10 55 31.0 +1.1
P23A **Jefferson** 81.81 47 ⇓P P 10 55 30.2 -0.1
baz=82
SZH **Strazhica** 81.87 319 *i*P P 10 55 30.7 +0.2
BRG **Berggiesshubel** 81.96 330 *i*P P 10 55 30.6 -0.1
comp=Z,19nm,1.4s,mb4.8
BRG
comp=Z,2µm,19.0s
BRG
comp=N,2µm,20.6s
BRG
comp=E,1µm,20.6s
BRG **Berggiesshubel** 81.96 330 *i*P P 10 55 30.6 -0.2
BRG pmax pmax
comp=Z,19nm,1.4s,mb4.8
BRG MLR MLR
comp=Z,2µm,19.0s,MS5.5
PVCC **Panska Ves** 81.97 329 *e*P P 10 55 31.2 +0.4
PVCC MLR MLR
comp=Z,2µm,12.1s,MS5.7
PVCC **Panska Ves** 81.97 329 *e*P P 10 55 31.2 +0.4
PVCC AMS AMS 11 37 00.0
comp=Z,2µm,12.1s
X17A **Forest Lakes** 81.97 53 ⇑P P 10 55 31.4 +0.2
baz=82
CLL **Collm** 82.00 331⇑*i*P P 10 55 30.8 -0.2
CLL pmax pmax
comp=Z,15nm,0.8s,mb5.0
CLL MLR MLR
comp=Z,1µm,18.1s,MS5.2
CLL **Collm** 82.00 331⇑*i*P P 10 55 30.8 -0.2
comp=Z,15nm,0.8s,mb5.0
CLL *i* pP 10 55 33.2 -0.7
comp=Z,22nm,0.9s
CLL *e*SS SS 11 11 24.0 +21
CLL *e* 11 12 12.0
CLL *e*SSS 11 16 00.0
CLL LV 11 39 00.0
comp=Z,1µm,18.1s
L27A **T5 Ranch, Ells** 82.01 43 ⇓P P 10 55 31.1 -0.1
baz=82
R22A **Saguache, Gunn** 82.02 48 ⇑P P 10 55 31.4 +0.1
baz=82
GZR **Gura Zlata** 82.02 322 ⇓P P 10 55 31.6 +0.4
GZR **Gura Zlata** 82.02 322 ⇓*i*P P 10 55 31.6 +0.4
VRAC **Vranov** 82.04 328 LR LR 11 36 05.2
comp=Z,1µm,18.9s,MS5.2,baz=10.0,slow=39
VRAC **Vranov** 82.04 328 ⇑P P 10 55 31.8 +0.6
VRAC **Vranov** 82.04 328⇑*i*P P 10 55 31.8 +0.6
U20A **Newcomb** 82.13 50 ⇑P P 10 55 31.9 0.0
baz=82
V19A **Window Rock** 82.22 51 ⇓P P 10 55 32.8 +0.3
baz=82,SNR=10
P24A **Kohler Place,** 82.27 46 ⇑P P 10 55 32.5 -0.1
baz=82
SMOL **Smolenice** 82.27 327 *e*P P 10 55 33.8 +1.3
SMOL **Smolenice** 82.27 327 *e*P P 10 55 33.8 +1.3
S22A **4UR Ranch, Cre** 82.28 48 ⇑P P 10 55 33.3 +0.6
baz=82,SNR=11
BUD **Budapest** 82.31 325⇑*e*P P 10 55 32.2 -0.5
O25A **Wiggins** 82.32 45 ⇑P P 10 55 32.7 -0.2
baz=82
T21A **Navajo Lake** 82.34 49 ⇑P P 10 55 33.1 +0.1
baz=82
Y17A **Roosevelt** 82.35 54 ⇓P P 10 55 32.9 -0.2
baz=82
PRU **Pruhonice** 82.39 329 *e*P P 10 55 33.3 +0.2
PRU MLR MLR
comp=Z,1µm,19.4s,MS5.3
PRU **Pruhonice** 82.39 329 *e*P P 10 55 33.3 +0.2
PRU *e*PCP PcP 10 55 35.3 -3.0
PRU AMS AMS 11 35 00.0
comp=Z,1µm,19.4s
X18A **Snowflake** 82.40 53 ⇑P P 10 55 33.1 -0.3
baz=82
BZS **Buzias** 82.44 323 ⇓P P 10 55 33.3 -0.1
BZS **Buzias** 82.44 323⇓*i*P P 10 55 33.3 -0.1
Q24A **Divide** 82.49 47 ⇑P P 10 55 34.1 +0.3
baz=82
ASF **Jabal al Asfar** 82.50 304 LR LR 11 36 21.7
comp=Z,378nm,19.7s,MS4.8,baz=284,slow=39
TREC **Trest** 82.53 328 *e*P P 10 55 33.8 0.0
TREC MLR MLR
comp=Z,1µm,18.6s,MS5.3
TREC **Trest** 82.53 328 *e*P P 10 55 33.8 0.0
TREC *e*x x 10 55 36.2
TREC AMS AMS 11 40 20.0
comp=Z,1µm,18.6s
V20A **Brimhall** 82.53 51 ⇑P P 10 55 33.9 -0.2
baz=82,SNR=5.1
R23A **Moffat** 82.60 48 ⇓P P 10 55 34.5 +0.2
baz=82,SNR=12
U21A **Nageezi** 82.63 50 ⇑P P 10 55 34.4 -0.2
baz=82
P25A **Willow Gulch B** 82.69 46 ⇑P P 10 55 35.2 +0.4
baz=82
O26A **Horse Wrangler** 82.70 45 ⇓P P 10 55 34.6 -0.2
baz=82
T22A **Edith** 82.71 49 ⇑P P 10 55 35.3 +0.3
baz=82,SNR=7.5
N27A **Anderson Farm,** 82.75 44 ⇓P P 10 55 35.0 -0.1
baz=82
Y18A **Canyon Day Jun** 82.82 53 ⇓P P 10 55 35.6 0.0
baz=83,SNR=9.0
Z17A **San Carlos Hig** 82.84 54 ⇓P P 10 55 35.5 -0.2
baz=83
X19A **St. Johns** 82.89 52 ⇑P P 10 55 36.4 +0.5
baz=83,SNR=13
OGNE **Ogallala** 82.94 44 ⇑P P 10 55 35.7 -0.4
baz=83
W20A **Ramah** 82.94 51 ⇓P P 10 55 36.2 0.0
baz=83
R24A **Sanders Place,** 83.00 47 ⇑P P 10 55 36.5 0.0
baz=83
V21A **Milan** 83.04 50 ⇑P P 10 55 36.6 -0.2
baz=83,SNR=6.2
Q25A **Bedland, Calha** 83.05 46 ⇑P P 10 55 36.7 0.0
baz=83
NKC **Novy Kostel** 83.06 330 *e*P P 10 55 36.7 +0.2
NKC MLR MLR
comp=Z,1µm,14.4s,MS5.5
NKC **Novy Kostel** 83.06 330 *e*P P 10 55 36.7 +0.2
NKC *e*PCP PcP 10 55 39.3 -1.9
NKC AMS AMS 11 35 30.0
comp=Z,1µm,14.4s
SDCO **Great Sand Dun** 83.08 48 ⇓P P 10 55 37.1 +0.2
baz=83
P26A **Davis Ranch, A** 83.14 45 ⇓P P 10 55 37.0 -0.1
baz=83
U22A **Llaves** 83.16 49 ⇓P P 10 55 37.2 -0.1
baz=83
O27A **Beecher Island** 83.20 44 ⇑P P 10 55 37.1 -0.4
baz=83
Y19A **Nutrioso** 83.21 53 ⇓P P 10 55 38.2 +0.6
baz=83
T23A **Casias Ranch,** 83.22 49 ⇑P P 10 55 37.8 +0.2
baz=83
TUC **Tucson** 83.25 55 *e*P P 10 55 38.4 +0.5
TUC **Tucson** 83.25 55 *e*P P 10 55 38.4 +0.5
Z18A **Geronimo** 83.25 54 ⇓P P 10 55 37.6 -0.2
baz=83
KDZ **Kurdzhali** 83.26 318 *i*P P 10 55 38.1 +0.4
SOP **Sopron** 83.28 327⇑*e*P P 10 55 38.2 +0.5
X20A **Quemado** 83.32 52 ⇑P P 10 55 38.4 +0.2
baz=83
S24A **Houchin Ranch,** 83.32 48 ⇑P P 10 55 38.3 +0.2
baz=83
CONA **Conrad Observa** 83.40 327 *i*P P 10 55 39.0 +0.7
comp=Z,24nm,1.2s,mb5.1,SNR=14
CONA **Conrad Observa** 83.40 327 *i*P P 10 55 39.0 +0.7
comp=Z,24nm,1.2s,mb5.1
PKSM **Moragy** 83.43 324 ⇓P P 10 55 37.8 -0.7
PKSM **Moragy** 83.43 324⇓*i*P P 10 55 37.8 -0.7
KHC **Kasperske Hory** 83.46 329 *e*P P 10 55 38.2 -0.3
KHC **Kasperske Hory** 83.46 329 *e*P P 10 55 38.2 -0.4
KHC **Kasperske Hory** 83.46 329 *e*P P 10 55 38.7 +0.1
KHC *e*x x 10 55 41.2
KHC AMS AMS 11 39 40.0
comp=Z,1µm,11.7s
Q26A **Hugo** 83.46 46 ⇓P P 10 55 38.7 -0.1
baz=83
W21A **San Fidel** 83.48 51 ⇑P P 10 55 39.3 +0.3
baz=83
R25A **Fountain Ranch** 83.54 47 ⇑P P 10 55 38.9 -0.3
baz=83
RDO **Rodhopi** 83.54 317 *e*P P 10 55 39.0 -0.2
118A **Homack Ranch,** 83.58 54 ⇑P P 10 55 39.5 0.0
baz=83
U23A **El Rito** 83.59 49 ⇑P P 10 55 39.7 +0.2
baz=83,SNR=20
RZN **Rozhen** 83.61 318 *i*P P 10 55 38.6 -0.9
Z19A **T-Link Ranch,** 83.62 53 ⇑P P 10 55 39.6 -0.1
baz=83
GERES **GERESS Array B** 83.63 329 P P 10 55 39.5 +0.1
comp=Z,4.3nm,0.7s,mb4.7,baz=37,slow=5.5,SNR=16
GERES LR LR 11 35 42.0
comp=Z,800nm,18.3s,MS5.1,baz=59,slow=38
GERES **GERESS Array B** 83.63 329 P P 10 55 39.5 +0.1
GERES **GERESS Array B** 83.63 329 P P 10 55 39.5 0.0
PPT2 **Papeete2** 83.66 117 *e*S S 11 05 55.7 -7.2
comp=Z,775nm,31.2s
PPT2 *e*LR LR 11 21 28.3
comp=Z,2µm,28.8s,baz=314
VTS **Vitosha** 83.78 320 ⇓P P 10 55 41.2 +0.8
VTS **Vitosha** 83.78 320 *i*P P 10 55 40.5 +0.1
VTS **Vitosha** 83.78 320⇓*i*P P 10 55 41.2 +0.8
T24A **Torres, Weston** 83.79 48 ⇓P P 10 55 40.9 +0.3
baz=84
Y20A **Horse Springs,** 83.80 52 ⇑P P 10 55 41.0 +0.3
baz=84
X21A **Alamocita Cree** 83.83 51 ⇑P P 10 55 41.2 +0.5
baz=84,SNR=8.8
ECSD **EROS Data Cent** 83.86 39 *e*P P 10 55 40.3 -0.5
comp=Z,78nm,2.3s,mb5.4
KSCO **Kaye Shedlock'** 83.92 45 ⇑P P 10 55 40.9 -0.2
baz=84
119A **Ashpeak Ranch,** 83.93 54 ⇑P P 10 55 41.5 +0.1
baz=84
RPZ **Rata Peaks** 83.94 160 LR LR 11 32 32.3
comp=Z,500nm,18.6s,MS4.9,baz=342,slow=35
218A **Dragoon** 83.95 55 ⇑P P 10 55 41.7 +0.3
baz=84
GRF **Grafenberg Arr** 83.97 331 *e*P P 10 55 41.6 +0.4
comp=Z,30nm,1.1s,mb5.3
GRFO **Grafenberg** 83.97 331 *e*P P 10 55 41.6 +0.4
comp=Z,42nm,1.1s,mb5.5
GRFO **Grafenberg** 83.97 331 *e*P P 10 55 41.7 +0.5
GRFO pmax pmax
comp=Z,42nm,1.1s,mb5.5
V23A **Ortiz Mt. (NFS** 83.98 50 ⇓P P 10 55 42.1 +0.6
baz=84
W22A **Albuquerque** 84.00 50 ⇓P P 10 55 41.6 0.0
baz=84
U24A **Moreno Valley** 84.10 49 ⇓P P 10 55 42.2 +0.1
baz=84
T25A **Trinidad** 84.13 48 ⇑P P 10 55 42.7 +0.4
baz=84
Z20A **Nine Sixteen R** 84.17 53 ⇓P P 10 55 43.2 +0.6
baz=84,SNR=15
Y21A **Point of Rocks** 84.18 52 ⇑P P 10 55 42.2 -0.4
baz=84
MMB **Musomiste** 84.21 319 *i*P P 10 55 41.8 -0.8
LAZ **Ladron** 84.26 51 *e*P P 10 55 42.7 -0.3
comp=Z,5.7nm,1.4s,mb4.5
NVR **Nevrokopi** 84.31 318 *e*P P 10 55 43.2 +0.1
R27A **Eads** 84.31 46 ⇓P P 10 55 43.2 0.0
baz=84
318A **Bisbee** 84.33 55 ⇑P P 10 55 43.9 +0.5
baz=84
ANMO **Albuquerque** 84.33 50 *e*P P 10 55 43.8 +0.5
comp=Z,7.6nm,1.0s,mb4.8
ANMO **Albuquerque** 84.33 50 *e*P P 10 55 43.8 +0.5
ANMO pmax pmax
comp=Z,8.0nm,1.0s
KKB **Krupnik** 84.36 319 *i*P P 10 55 43.5 +0.2
W23A **Werner Place,** 84.38 50 ⇑P P 10 55 43.7 +0.1
baz=84
120A **U Bar Ranch, L** 84.51 53 ⇑P P 10 55 44.1 -0.1
baz=84
V24A **Rampart Ranch,** 84.55 49 ⇑P P 10 55 45.1 +0.7
baz=84
SPMN **St. Paul** 84.63 36 ⇓P P 10 55 44.2 -0.4
baz=84
U25A **Circle Dot Ran** 84.63 48 ⇓P P 10 55 44.1 -0.7
baz=84
Z21A **St. Cloud Mine** 84.63 52 ⇓P P 10 55 45.3 +0.3
baz=84,SNR=11
Y22A **Socorro** 84.67 51 ⇓P P 10 55 45.2 +0.1
baz=84
SOKA **Soboth** 84.72 327⇑*i*P P 10 55 45.2 +0.1
comp=Z,25nm,1.2s,mb5.2
SOKA **Soboth** 84.72 327⇑*i*P P 10 55 45.2 +0.1
comp=Z,25nm,1.2s,mb5.2
BNM **Barren Site** 84.75 51 *e*P P 10 55 46.2 +0.8
comp=Z,9.8nm,1.3s,mb4.8
W24A **Lazy 6 Ranch,** 84.81 50 ⇑P P 10 55 45.4 -0.3
baz=85
319A **Douglas** 84.83 55 ⇑P P 10 55 45.8 -0.1
baz=85
V25A **Rancho No Teng** 84.88 49 ⇓P P 10 55 45.7 -0.3
baz=85
220A **Playas Peak, P** 84.99 54 ⇓P P 10 55 46.7 0.0
baz=85
VAY **Valandovo** 85.02 319 *e*P P 10 55 46.4 -0.3
U26A **Atchley Ranch,** 85.03 48 ⇑P P 10 55 46.7 -0.1
baz=85
121A **Cookes Peak, D** 85.06 53 ⇓P P 10 55 47.4 +0.4
baz=85
Z22A **Elephant Butte** 85.12 52 ⇓P P 10 55 47.2 -0.2
baz=85
X24A **Lazy VL Ranch,** 85.22 50 ⇓P P 10 55 47.6 -0.2
baz=85
PLG **Polygyros** 85.22 318 *e*P P 10 55 46.7 -1.0
TAOE **Nuku Hiva Isla** 85.24 105 *e*LR LR 11 22 35.0
comp=Z,2µm,24.9s
Y23A **Lovelace Mesa,** 85.25 51 ⇓P P 10 55 47.9 -0.1
baz=85
320A **Kipp Ranch, An** 85.35 54 ⇑P P 10 55 48.3 -0.2
baz=85
EIL **Elat** 85.37 304 LR LR 11 37 33.6
comp=Z,328nm,20.3s,MS4.7,baz=222,slow=38
W25A **X Bar L Ranch,** 85.38 49 ⇑P P 10 55 48.9 +0.3
baz=85
122A **Conniff Cattle** 85.46 52 ⇓P P 10 55 49.1 +0.1
baz=85
STU **Stuttgart** 85.51 331 *e*P P 10 55 49.3 +0.3
comp=Z,27nm,0.9s,mb5.5
STU **Stuttgart** 85.51 331 *e*P P 10 55 49.3 +0.3
STU pmax pmax
comp=Z,27nm,0.9s,mb5.5
Z23A **Rita Site, Whi** 85.58 52 ⇓P P 10 55 49.6 0.0
baz=85
Y24A **Capitan** 85.64 51 ⇑P P 10 55 49.6 -0.3
baz=85
SCHQ **Schefferville** 85.66 16 P P 10 55 49.4 -0.2
comp=Z,9.3nm,1.1s,mb4.9,baz=340,slow=9.9,SNR=4.4
SCHQ LR LR 11 34 05.0
comp=Z,363nm,19.7s,MS4.8,baz=299,slow=36
SCHQ **Schefferville** 85.66 16 P P 10 55 49.4 -0.2
KRUS **Krusevo** 85.67 320 *e*P P 10 55 49.1 -0.8
CBKS **Cedar Bluff** 85.69 44 ⇓P P 10 55 49.7 -0.4
baz=86
222A **Williams Famil** 85.78 53 ⇑P P 10 55 50.5 -0.1
baz=86
MOTA **Moosalm** 85.88 329⇑*i*P P 10 55 50.2 -0.6
comp=Z,12nm,1.0s,mb5.1,SNR=5.4
MOTA **Moosalm** 85.88 329⇑*i*P P 10 55 50.2 -0.6
comp=Z,12nm,1.0s,mb5.1
MOTA **Moosalm** 85.88 329⇑*i*P P 10 55 50.2 -0.7
MOTA pmax pmax
comp=Z,12nm,1.0s,mb5.1
RETA **Reutte** 85.91 329⇑*i*P P 10 55 50.8 -0.2
comp=Z,21nm,1.2s,mb5.3,SNR=13
RETA **Reutte** 85.91 329⇑*i*P P 10 55 50.8 -0.2
comp=Z,21nm,1.2s,mb5.2
WLF **Walferdange** 85.92 333 *e*P P 10 55 54.5 +3.5
WLF **Walferdange** 85.92 333 *e*P P 10 55 54.5 +3.5
GIVF **Givet** 86.03 334 *e*P P 10 55 51.1 -0.4
comp=Z,65nm,1.5s,mb5.3
GIVF **Givet** 86.03 334 *e*P P 10 55 51.1 -0.4
comp=Z,65nm,1.5s,mb5.6
GIVF **Givet** 86.03 334 *e*P P 10 55 51.1 -0.4
GIVF pmax pmax
comp=Z,65nm,1.5s,mb5.6
Z24A **Sheeppen Canyo** 86.08 51 ⇑P P 10 55 51.7 -0.4
baz=86
Y25A **Mesa, Roswell** 86.10 50 ⇑P P 10 55 52.2 -0.1
baz=86
BFO **Black Forest** 86.20 331 *e*P P 10 55 52.2 -0.2
BFO **Black Forest** 86.20 331 *e*P P 10 55 52.2 -0.2
X26A **CR and CF Fran** 86.23 49 ⇑P P 10 55 52.8 -0.1
baz=86
BAIF **Baives** 86.28 335 *e*P P 10 55 52.4 -0.4
comp=Z,38nm,1.3s,mb5.2
BAIF **Baives** 86.28 335 *e*P P 10 55 52.4 -0.4
comp=Z,38nm,1.3s,mb5.5
BAIF **Baives** 86.28 335 *e*P P 10 55 52.4 -0.4
BAIF pmax pmax
comp=Z,38nm,1.3s,mb5.5
FETA **Feichten** 86.30 329⇑*i*P P 10 55 52.6 -0.3
comp=Z,10.0nm,1.2s,mb4.9
FETA **Feichten** 86.30 329⇑*i*P P 10 55 52.6 -0.3
comp=Z,10.0nm,1.2s,mb4.9
W27A **Bowe Ranch, En** 86.33 48 ⇓P P 10 55 53.6 +0.3
baz=86
DAVA **Damuels** 86.43 330⇑*i*P P 10 55 52.4 -1.1
comp=Z,21nm,1.1s,mb5.3
DAVA **Damuels** 86.43 330⇑*i*P P 10 55 52.4 -1.1
comp=Z,21nm,1.1s,mb5.3
Z25A **Roswell** 86.52 51 ⇓P P 10 55 54.0 -0.3
baz=86
CDF **Champ du Feu** 86.54 332 *e*P P 10 55 53.9 -0.2
comp=Z,44nm,1.1s,mb5.3
CDF **Champ du Feu** 86.54 332 *e*P P 10 55 53.9 -0.2
comp=Z,44nm,1.1s,mb5.6
CDF **Champ du Feu** 86.54 332 *e*P P 10 55 53.9 -0.2
CDF pmax pmax
comp=Z,44nm,1.1s,mb5.6
X27A **F and S Farms,** 86.59 49 ⇓P P 10 55 54.4 -0.2
baz=86
LKR **Lokris** 86.68 317 *e*P P 10 55 54.2 -0.8
ECH **Echery** 86.74 332 *e*P P 10 55 54.6 -0.4
comp=Z,21nm,1.3s,mb5.2
ECH **Echery** 86.74 332 *e*P P 10 55 54.7 -0.4
ECH pmax pmax
comp=Z,21nm,1.3s,mb5.2
ECH **Echery** 86.74 332 *e*P P 10 55 54.7 -0.4
224A **Cornudas Mount** 86.81 52 ⇓P P 10 55 56.1 +0.3
baz=87
FUORN **Ofenpass-Fuorn** 86.81 329 *e*P P 10 55 55.9 +0.5
DAVOX **Davos/Dischmat** 86.84 330 LR LR 11 37 03.0
comp=Z,402nm,21.0s,MS4.8,baz=22,slow=37
125A **Gardner Draw,** 86.97 51 ⇑P P 10 55 56.3 -0.2
baz=87
Z26A **Caprock** 86.98 50 ⇑P P 10 55 56.1 -0.4
baz=87
PAGF **Fort de Pagny** 87.00 333 *e*P P 10 55 56.4 +0.1
comp=Z,24nm,1.3s,mb5.0
PAGF **Fort de Pagny** 87.00 333 *e*P P 10 55 56.4 +0.1
comp=Z,24nm,1.3s,mb5.3
MOF **Molkenrain** 87.05 332 *e*P P 10 55 56.0 -0.6
Y27A **Causey** 87.07 49 ⇑P P 10 55 56.5 -0.5
baz=87
MNTX **Cornudas Mount** 87.15 52 ⇓P P 10 55 56.9 -0.5
baz=87
HINF **Hinteralfeld** 87.19 332 *e*P P 10 55 56.6 -0.7
HINF **Hinteralfeld** 87.19 332 *e*P P 10 55 56.6 -0.7
HINF **Hinteralfeld** 87.19 332 *e*P P 10 55 56.6 -0.7
KSU1 **Kansas State U** 87.20 42 *e*P P 10 55 57.0 -0.6
comp=Z,21nm,1.1s,mb5.3
HAU **Haudompre** 87.22 332 *e*P P 10 55 56.8 -0.6
HAU *e*R
comp=Z,1µm,18.0s
HAU **Haudompre** 87.22 332 *e*P P 10 55 56.8 -0.6
HAU **Haudompre** 87.22 332 *e*P P 10 55 56.8 -0.6
324A **Moseley Ranch,** 87.25 52 ⇓P P 10 55 57.8 -0.2
baz=87
AMTX **Amarillo** 87.28 48 ⇑P P 10 55 57.5 -0.5
baz=87
AMTX **Amarillo** 87.28 48 *e*P P 10 55 58.6 +0.6
MEZF **Maizieres J'vi** 87.29 333 *e*P P 10 55 57.6 -0.1
comp=Z,48nm,1.2s,mb5.3
MEZF **Maizieres J'vi** 87.29 333 *e*P P 10 55 57.6 -0.1
comp=Z,48nm,1.2s,mb5.6
TUE **Stuetta** 87.30 330 *e*P P 10 55 57.8 -0.1
Z27A **Tatum** 87.42 50 ⇑P P 10 55 58.8 +0.1
baz=87
GDL2 **Guadalupe Moun** 87.46 51 *e*P P 10 56 00.8 +1.9
TBI **Tubuai** 87.53 121 *e*S S 11 06 38.0 -2.8
comp=Z,351nm,33.5s
TBI *e*LR LR 11 23 22.8
comp=Z,2µm,26.8s,baz=313
SFTF **Sexfontaines** 87.54 333 *e*P P 10 55 58.8 -0.2
comp=Z,55nm,1.1s,mb5.4
SFTF **Sexfontaines** 87.54 333 *e*P P 10 55 58.8 -0.2
comp=Z,55nm,1.1s,mb5.7
325A **Bean Ranch, Si** 87.63 52 ⇓P P 10 55 59.4 -0.3
baz=87
226A **Malaga, Loving** 87.72 51 ⇓P P 10 55 59.8 -0.3
baz=88
425A **Indio Mountain** 88.01 53 ⇓P P 10 56 02.2 +0.7
baz=88
326A **Caldwell Ranch** 88.29 52 ⇑P P 10 56 02.6 -0.3
baz=88
CABF **La Chapelle** 88.48 332 *e*P P 10 56 03.3 -0.2
comp=Z,24nm,1.1s,mb5.0
CABF **La Chapelle** 88.48 332 *e*P P 10 56 03.3 -0.2
comp=Z,24nm,1.1s,mb5.3
CABF **La Chapelle** 88.48 332 *e*P P 10 56 03.3 -0.2
CABF pmax pmax
comp=Z,24nm,1.1s,mb5.3

426A	McDonald Obser	88.70	52	⇑P	P	10 56 04.6	-0.2
	baz=88						
LOR	Lormes	88.76	333	eP	P	10 56 04.3	-0.5
	comp=Z,64nm,1.6s,mb5.4						
LOR				eR			
	comp=Z,843nm,18.2s						
LOR	Lormes	88.76	333	eP	P	10 56 04.3	-0.5
	comp=Z,64nm,1.6s,mb5.7						
LOR	Lormes	88.76	333	eP	P	10 56 04.3	-0.5
LOR				pmax	pmax		
	comp=Z,64nm,1.6s,mb5.7						
AQU	L'Aquila	88.80	325	eP	P	10 56 05.4	+0.3
	comp=Z,17nm,0.8s,mb5.4						
AQU	L'Aquila	88.80	325	eP	P	10 56 05.4	+0.3
AQU				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.4						
FLN	La Foliniere	88.96	336	eP	P	10 56 05.4	-0.3
	comp=Z,96nm,1.5s,mb5.6						
FLN				eR			
	comp=Z,2μm,19.5s						
FLN	La Foliniere	88.96	336	eP	P	10 56 05.4	-0.3
	comp=Z,96nm,1.5s,mb5.9						
FLN	La Foliniere	88.96	336	eP	P	10 56 05.4	-0.3
FLN				pmax	pmax		
	comp=Z,97nm,1.5s,mb5.9						
427A	Hayter Ranch,	88.97	52	⇓P	P	10 56 06.0	-0.1
	baz=89						
328A	Wristen Ranch,	88.98	51	⇓P	P	10 56 06.2	+0.1
	baz=89						
LDF	La Druitiere	88.99	336	eP	P	10 56 05.4	-0.4
LDF	La Druitiere	88.99	336	eP	P	10 56 05.4	-0.4
LDF	La Druitiere	88.99	336	eP	P	10 56 05.4	-0.4
526A	Mary Lane Ranc	89.06	53	⇓P	P	10 56 06.6	+0.1
	baz=89						
SSF	Saint Saulge	89.06	333	eP	P	10 56 06.1	-0.1
	comp=Z,25nm,1.2s,mb5.1						
SSF	Saint Saulge	89.06	333	eP	P	10 56 06.1	-0.1
	comp=Z,25nm,1.2s,mb5.4						
SSF	Saint Saulge	89.06	333	eP	P	10 56 06.1	-0.1
SSF				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.4						
WMOK	Wichita Mounta	89.10	46	eP	P	10 56 14.9	+8.3
WMOK	Wichita Mounta	89.10	46	eP	P	10 56 14.9	+8.3
LPL	La Plagne	89.14	331	eP	P	10 56 06.4	-0.2
LPL	La Plagne	89.14	331	eP	P	10 56 06.4	-0.2
LPL	La Plagne	89.14	331	eP	P	10 56 06.4	-0.2
LPG	La Plagne	89.14	331	eP	P	10 56 06.6	0.0
LPG	La Plagne	89.14	331	eP	P	10 56 06.6	0.0
LPG	La Plagne	89.14	331	eP	P	10 56 06.6	0.0
SMF	Signal de Mont	89.30	333	eP	P	10 56 07.0	-0.3
	comp=Z,82nm,1.8s,mb5.5						
SMF	Signal de Mont	89.30	333	eP	P	10 56 07.0	-0.3
	comp=Z,82nm,1.8s,mb5.8						
SMF	Signal de Mont	89.30	333	eP	P	10 56 07.0	-0.3
SMF				pmax	pmax		
	comp=Z,82nm,1.8s,mb5.8						
527A	Woodward Ranch	89.31	52	⇑P	P	10 56 07.5	-0.2
	baz=89						
AVF	Avril sur Loir	89.35	333	eP	P	10 56 07.5	-0.1
	comp=Z,28nm,1.1s,mb5.2						
AVF	Avril sur Loir	89.35	333	eP	P	10 56 07.5	-0.1
	comp=Z,28nm,1.1s,mb5.5						
AVF	Avril sur Loir	89.35	333	eP	P	10 56 07.5	-0.1
AVF				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.5						
626A	Big Bend Ranch	89.38	53	⇑P	P	10 56 08.0	0.0
	baz=89						
GRR	Gorron	89.41	337	eP	P	10 56 07.7	-0.1
GRR	Gorron	89.41	337	eP	P	10 56 07.7	-0.1
GRR	Gorron	89.41	337	eP	P	10 56 07.7	-0.1
428A	Kincaid Ranch,	89.51	51	⇓P	P	10 56 08.6	-0.1
	baz=89						
BGF	Bois d'Agland	89.73	333	eP	P	10 56 09.2	-0.1
BGF	Bois d'Agland	89.73	333	eP	P	10 56 09.2	-0.1
BGF	Bois d'Agland	89.73	333	eP	P	10 56 09.2	-0.1
MBDF	Montbardon	89.77	330	eP	P	10 56 08.7	-0.9
MBDF	Montbardon	89.77	330	eP	P	10 56 08.7	-0.9
MBDF	Montbardon	89.77	330	eP	P	10 56 08.7	-0.9
TXAR	Lajitas Array	89.83	53	P	P	10 56 10.1	-0.1
	comp=Z,3.3nm,0.7s,mb4.8,baz=299,slow=3.5,SNR=52						
TXAR				LR	LR	11 31 16.4	
	comp=Z,304nm,19.5s,MS4.7,baz=230,slow=32						
TXAR	Lajitas Array	89.83	53	P	P	10 56 10.1	-0.1
TXAR	Lajitas Array	89.83	53	P	P	10 56 10.1	0.0
528A	Cox Ranch, San	89.83	52	⇓P	P	10 56 09.9	-0.2
	baz=90						
627A	Terlingua Ranc	89.92	53	⇑P	P	10 56 10.5	0.0
	baz=90						
TUL1	Tulsa	89.96	44	⇓P	P	10 56 10.3	-0.3
	baz=90						
ORIF	Oris-en-Rattie	89.97	331	eP	P	10 56 10.1	-0.4
	comp=Z,9.8nm,0.8s,mb4.9						
ORIF				eR			
	comp=Z,1μm,17.2s						
ORIF	Oris-en-Rattie	89.97	331	eP	P	10 56 10.1	-0.4
	comp=Z,9.8nm,0.8s,mb5.2						
ORIF	Oris-en-Rattie	89.97	331	eP	P	10 56 10.1	-0.4
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.2						
SGMF	Saint Gilles	90.07	337	eP	P	10 56 11.4	+0.5
SGMF	Saint Gilles	90.07	337	eP	P	10 56 11.4	+0.5
SGMF	Saint Gilles	90.07	337	eP	P	10 56 11.4	+0.5
TCF	Toulx Ste Croi	90.19	334	eP	P	10 56 11.5	0.0
	comp=Z,36nm,1.4s,mb5.2						
TCF	Toulx Ste Croi	90.19	334	eP	P	10 56 11.5	0.0
	comp=Z,36nm,1.4s,mb5.5						
TCF	Toulx Ste Croi	90.19	334	eP	P	10 56 11.5	0.0
TCF				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.5						
ROSF	Rostrenen	90.21	338	eP	P	10 56 11.5	-0.1
ROSF	Rostrenen	90.21	338	eP	P	10 56 11.5	-0.1
ROSF	Rostrenen	90.21	338	eP	P	10 56 11.5	-0.1
SBF	Sospel	90.21	329	eP	P	10 56 10.3	-1.4
SBF	Sospel	90.21	329	eP	P	10 56 10.3	-1.4
SBF	Sospel	90.21	329	eP	P	10 56 10.3	-1.4
628A	Black Gap, Mar	90.22	52	⇑P	P	10 56 11.9	-0.1
	baz=90						
VIVF	Saint-Julien-l	90.49	331	eP	P	10 56 12.7	-0.2
	comp=Z,18nm,1.1s,mb5.0						
VIVF	Saint-Julien-l	90.49	331	eP	P	10 56 12.7	-0.2
	comp=Z,18nm,1.1s,mb5.3						
VIVF	Saint-Julien-l	90.49	331	eP	P	10 56 12.7	-0.2
VIVF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.3						
QUIF	Quistinic	90.55	338	eP	P	10 56 13.7	+0.5
QUIF	Quistinic	90.55	338	eP	P	10 56 13.7	+0.5
QUIF	Quistinic	90.55	338	eP	P	10 56 13.7	+0.5
PGF	Pioggiola	90.62	328	eP	P	10 56 12.7	-0.9
PGF	Pioggiola	90.62	328	eP	P	10 56 12.7	-0.9
PGF	Pioggiola	90.62	328	eP	P	10 56 12.7	-0.9
MFF	Saint Martin d	90.74	335	eP	P	10 56 14.1	+0.1
	comp=Z,44nm,1.2s,mb5.4						
MFF	Saint Martin d	90.74	335	eP	P	10 56 14.1	+0.1
	comp=Z,44nm,1.2s,mb5.7						
MFF	Saint Martin d	90.74	335	eP	P	10 56 14.1	+0.1
MFF				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.7						
CCM	Cathedral Cave	90.80	39	eP	P	10 56 17.0	+2.5
CCM	Cathedral Cave	90.80	39	eP	P	10 56 17.0	+2.5
SMRF	Simiane la Rot	90.87	330	eP	P	10 56 14.6	-0.1
SMRF	Simiane la Rot	90.87	330	eP	P	10 56 14.6	-0.1
LMR	La Mourre	91.03	329	eP	P	10 56 14.6	-0.9
	comp=Z,249nm,1.8s,mb5.9						
LMR	La Mourre	91.03	329	eP	P	10 56 14.6	-0.9
	comp=Z,249nm,1.8s,mb6.2						
LMR	La Mourre	91.03	329	eP	P	10 56 14.6	-0.9
LMR				pmax	pmax		
	comp=Z,249nm,1.8s,mb6.2						
SFIN	Scholer Farm	91.03	36	⇓P	P	10 56 14.8	-0.8
	baz=91						
RJF	Les Rejaudoux	91.28	334	eP	P	10 56 16.6	0.0
	comp=Z,32nm,1.1s,mb5.3						
RJF				eR			
	comp=Z,1μm,17.2s						
RJF	Les Rejaudoux	91.28	334	eP	P	10 56 16.6	0.0
	comp=Z,32nm,1.1s,mb5.6						
RJF	Les Rejaudoux	91.28	334	eP	P	10 56 16.6	0.0
RJF				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.6						
CAF	Calviac	91.41	333	eP	P	10 56 17.6	+0.4
	comp=Z,23nm,1.0s,mb5.2						
CAF	Calviac	91.41	333	eP	P	10 56 17.6	+0.4
	comp=Z,23nm,1.0s,mb5.5						
CAF	Calviac	91.41	333	eP	P	10 56 17.6	+0.4
CAF				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.5						
LASF	Ste Croix	91.46	332	eP	P	10 56 17.3	-0.2
	comp=Z,41nm,1.3s,mb5.3						
LASF	Ste Croix	91.46	332	eP	P	10 56 17.3	-0.2
	comp=Z,41nm,1.3s,mb5.6						
JCT	Junction City	91.47	50	⇓P	P	10 56 17.2	-0.6
	baz=91						
LFF	La Frestale	91.88	334	eP	P	10 56 19.6	+0.2
LFF	La Frestale	91.88	334	eP	P	10 56 19.6	+0.2
LFF	La Frestale	91.88	334	eP	P	10 56 19.6	+0.2
MIAR	Mount Ida	92.19	43	eP	P	10 56 21.1	+0.1
MIAR	Mount Ida	92.19	43	eP	P	10 56 21.1	+0.1
MTLF	Montolieu	92.71	332	eP	P	10 56 23.3	+0.1
	comp=Z,67nm,1.7s,mb5.5						
MTLF	Montolieu	92.71	332	eP	P	10 56 23.3	+0.1
	comp=Z,67nm,1.7s,mb5.8						
MTLF	Montolieu	92.71	332	eP	P	10 56 23.3	+0.1
MTLF				pmax	pmax		
	comp=Z,67nm,1.7s,mb5.8						
EPF	Esparros	93.67	333	eP	P	10 56 27.3	-0.4
EPF	Esparros	93.67	333	eP	P	10 56 27.3	-0.4
EPF	Esparros	93.67	333	eP	P	10 56 27.3	-0.4
ETSF	Etsaut	94.11	334	eP	P	10 56 30.0	+0.3
	comp=Z,16nm,1.2s,mb5.0						
ETSF	Etsaut	94.11	334	eP	P	10 56 30.0	+0.3
	comp=Z,16nm,1.2s,mb5.3						
ETSF	Etsaut	94.11	334	eP	P	10 56 30.0	+0.3
ETSF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.3						
KEST	Kesra	95.97	323	LR	LR	11 45 29.2	
	comp=Z,417nm,19.2s,MS4.9,baz=168,slow=39						
RKT	Rikitea	97.78	113	eLR	LR	11 28 21.5	
	comp=Z,2μm,26.0s,baz=307						
ESDC	Sonseca Array	98.16	334	LR	LR	11 45 55.2	
	comp=Z,974nm,20.4s,MS5.3,baz=40,slow=38						
TORD	Torodi Ar. Bea	118.31	316	PKP	PKPdf	11 01 58.0	-1.2
	comp=Z,3.0nm,1.2s,baz=11,slow=1.2,SNR=5.2						
TORD	Torodi Ar. Bea	118.31	316	PKP	PKPdf	11 01 58.0	-1.2
SDV	Santo Domingo	125.23	41	ePKPdf	PKPdf	11 02 12.1	-0.4
DBIC	Dimbokro	127.26	318	PKP	PKPdf	11 02 16.2	-0.1
	comp=Z,4.2nm,1.0s,baz=36,slow=10.0,SNR=3.1						
DBIC	Dimbokro	127.26	318	PKP	PKPdf	11 02 16.2	-0.1
DBIC	Dimbokro	127.26	318	PKIKP	PKPdf	11 02 16.3	-0.1
SNAA	Sanae	140.43	196	e	PKPdf	11 02 31.5	-7.7
VNA2	Neumayer--Watz	141.99	196	e	PKPdf	11 02 34.9	-7.1
	baz=112,slow=1.0						
SAML	Samuel	144.07	47	ePKPdf	PKPdf	11 02 44.4	-3.0
LPAZ	La Paz	146.27	62	PKPbc	PKPbc	11 02 52.3	+0.1
	comp=Z,10nm,0.7s,baz=332,slow=2.8,SNR=51						
LPAZ	La Paz	146.27	62	PKPbc	PKPbc	11 02 52.3	+0.1
LVC	Limon Verde	149.60	72	ePKPbc	PKPbc	11 03 01.9	+0.9
LCO	Las Campanas	151.26	85	ePKPdf	PKPdf	11 02 58.7	-0.1
LCO				ePKPbc	PKPbc	11 03 05.1	+0.3
LCO				ePKPab	PKPab	11 03 13.3	+0.5
PLCA	Paso Flores	153.97	110	PKPbc	PKPbc	11 03 11.2	+0.7
	comp=Z,2.5nm,1.1s,baz=173,slow=6.4,SNR=2.9						
PLCA	Paso Flores	153.97	110	PKPbc	PKPbc	11 03 11.2	+0.7
CPUP	Villa Florida	160.38	65	PKPab	PKPab	11 03 51.5	-0.4
	comp=Z,1.3nm,0.6s,baz=260,slow=4.2,SNR=4.0						
CPUP	Villa Florida	160.38	65	PKPab	PKPab	11 03 51.5	-0.4
CPUP	Villa Florida	160.38	65	PKP2	PKPab	11 03 51.5	-0.4

GUC 25 10:44:59.6±0.6, 32°.62S×71°.97W, h14km±6km, MD3.7, ML2.8, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.49	146	⇓iP	Pg	10 45 09.1	-0.2
CHNG	Los Chungos	0.83	28	eP	Pg	10 45 14.7	-1.1
CHNG				eS	Sg	10 45 25.8	-0.9
ROCH	El Roble	0.88	114	⇓iP	Pb	10 45 15.4	-1.1
ROCH				eS	Sg	10 45 26.9	-1.1
ROCH				AML	AML	10 45 29.7	
	comp=N,399nm,0.2s						
PTCH	Petorca	0.94	68	⇑iP	Pb	10 45 16.6	-1.1
PTCH				eS	Sb	10 45 29.6	-0.4
PTCH				AML	AML	10 45 33.7	
	comp=N,342nm,0.1s						
JACH	Jahuel	1.16	93	eP	Pn	10 45 19.6	-1.8
JACH				iS	Sb	10 45 35.7	-0.5
PEL	Peldehue	1.20	116	⇑iP	Pn	10 45 20.7	-1.1
PEL				eS	Sb	10 45 36.6	-0.7
PEL				AML	AML	10 45 39.2	
	comp=E,954nm,0.2s						
TACH	Talagante	1.34	140	eP	Pn	10 45 22.6	-1.2
LNV	Longovilo	1.41	161	eP	Pn	10 45 23.6	-1.2
CLCH	Cerro Calan	1.43	123	⇓iP	Pn	10 45 24.2	-0.8
CLCH				eS	Sn	10 45 42.9	-0.7
FCH	Farellones	1.57	117	⇓iP	Pn	10 45 24.4	-2.6
FCH				eS	Sn	10 45 44.9	-2.2
FCH				AML	AML	10 45 46.8	
	comp=E,200nm,0.2s						
PCH	Pirque	1.57	130	eP	Pn	10 45 26.7	-0.3
PCH				iS	Sn	10 45 47.3	+0.1
CHCH	Chadas Angostu	1.71	140	eP	Pn	10 45 28.8	-0.1
CACH	El Canelo	1.88	143	eP	Pn	10 45 31.6	+0.4
LMEL	Las Melosas	1.92	130	eP	Pn	10 45 32.1	+0.3
LMEL				eS	Sn	10 45 57.2	+1.6
LMEL				AML	AML	10 46 00.5	
	comp=N,154nm,0.1s						

DDA ***25*** *11:27:25.7, 40°.41N×27°.44E, h7km±4km, Md2.9*
ISK ***25*** *11:27:26.2, 40°.42N×27°.42E, h5km, MD3.1*
CSEM ***25*** *11:27:26.6±0.1, 40°.42N×27°.42E, h5km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.7km az=6.0*
ISCJB ***25*** *11:27:26.3±0.3, 40°.42N±0°.02×27°.42E±0°.02, h4km±3km, Error ellipse: s-maj=3.2km s-min=2.4km az=7.4*
SOF ***25*** *11:27:27.5, 40°.59N×27°.30E, h9km, MD3.0*
THE ***25*** *11:27:28.3, 40°.36N×27°.29E, h0km±1km, ML2.8/5, Error ellipse: s-maj=2.6km s-min=1.0km az=85.0*

ISC 25 11:27:26.7±0.3, 40°.43N±0°.02×27°.42E±0°.02, h4km±3km, n93, σ0°71/125, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	Karabiga-Canak	0.10	252	PG	Pg	11 27 28.8	0.0
KRBG				eSG	Sg	11 27 30.8	+0.6
KRBG	Karabiga-Canak	0.10	252	iPg	Pg	11 27 28.8	0.0
KRBG				eSg	Sg	11 27 30.8	+0.6
RKY	Sarkoy-Tekirda	0.32	325	ePG	Pg	11 27 33.6	+0.6
RKY				eSG	Sg	11 27 38.3	+1.1
RKY	Sarkoy-Tekirda	0.32	325	ePg	Pg	11 27 33.6	+0.7
RKY				eSg	Sg	11 27 38.3	+1.1
SART	Tekirdag	0.32	325	iP	Pg	11 27 32.1	-0.8
SART				iS	Sg	11 27 38.3	+1.1
EDC	Edincik	0.34	103	ePG	Pg	11 27 33.5	+0.1
EDC				eSG	Sg	11 27 39.0	+1.2
EDC	Edincik	0.34	103	ePg	Pg	11 27 33.5	+0.2
EDC				eSg	Sg	11 27 39.1	+1.3
BNT	Bandirma	0.39	100	ePG	Pg	11 27 33.9	-0.2
BNT				eSG	Sg	11 27 38.9	-0.3
BNT	Bandirma	0.39	100	ePg	Pg	11 27 33.9	-0.2
BNT				eSg	Sg	11 27 38.9	-0.2
GONE	Gonen-Balikesi	0.43	152	ePG	Pg	11 27 35.1	+0.2
GONE	Gonen-Balikesi	0.43	152	ePg	Pg	11 27 35.1	+0.2
LPK	Lapseki	0.51	264	ePG	Pg	11 27 35.8	-0.7
LPK	Lapseki	0.51	264	ePg	Pg	11 27 35.8	-0.7
BALY	Balya	0.70	168	iP	Pg	11 27 39.3	-0.8
BALY				iS	Sg	11 27 49.0	-0.2
BALY	Balya	0.70	168	iP	Pg	11 27 39.3	-0.8
BALY				iS	Sg	11 27 49.0	-0.2
GELI	Tayfur-Gelibol	0.73	268	ePG	Pg	11 27 40.8	+0.2
GELI	Tayfur-Gelibol	0.73	268	ePg	Pg	11 27 40.8	+0.2
KCTX	Karacabey (Bur	0.73	102	ePG	Pg	11 27 40.2	-0.5
KCTX	Karacabey (Bur	0.73	102	ePg	Pg	11 27 40.2	-0.5
ERIK	Erikli-Kesan	0.74	290	ePG	Pg	11 27 40.8	0.0
ERIK	Erikli-Kesan	0.74	290	ePg	Pg	11 27 40.8	0.0
SLVT	Silivri	1.00	36	ePG	Pg	11 27 46.2	+0.3
SLVT	Silivri	1.00	36	ePg	Pg	11 27 46.2	+0.3
ENEZ	Enez	1.02	288	ePG	Pg	11 27 46.4	+0.2
ENEZ	Enez	1.02	288	ePg	Pg	11 27 46.4	+0.2
EZN	Ezine	1.03	235	ePG	Pg	11 27 46.6	+0.1
EZN	Ezine	1.03	235	ePg	Pg	11 27 46.6	+0.1
ELBA	Catalca	1.05	46	iP	Pg	11 27 45.5	-1.3
ELBA				iS	Sg	11 27 60.0	-0.5
ELBA	Catalca	1.05	46	iS	Sg	11 28 00.0	-0.5
ARMT	Armutlu	1.10	82	ePN	Pg	11 27 48.5	+0.7
ARMT	Armutlu	1.10	82	ePn	Pg	11 27 48.5	+0.6
MDNY	Mudanya-Bursa	1.12	92	ePN	Pg	11 27 48.6	+0.5
MDNY	Mudanya-Bursa	1.12	92	ePn	Pg	11 27 48.6	+0.5
ALN	Alexandroupoli	1.15	295	P	Pg	11 27 48.7	0.0
ALN				S	Sg	11 28 04.2	+0.5
ALN	Alexandroupoli	1.15	295	P	Pg	11 27 48.7	0.0
ALN				S	Sg	11 28 04.2	+0.5
DURS	Dursunbey	1.15	135	iP	Pg	11 27 53.8	+5.0
DURS				iS	Sg	11 28 05.1	+1.4
CTKS	Kestanelik-??a	1.15	45	ePN	Pn	11 27 48.5	-1.1
CTKS	Kestanelik-??a	1.15	45	ePn	Pn	11 27 48.5	-1.1
BOZC	Bozcaada	1.20	241	iP	Pg	11 27 48.3	-1.4
BOZC				iS	Sg	11 28 05.1	-0.2
CTYL	Yal??k??y-??at	1.24	32	ePN	Pn	11 27 50.0	-0.7
CTYL	Yal??k??y-??at	1.24	32	ePn	Pn	11 27 50.0	-0.7
AYVA	Ayvalik	1.25	207	iP	Pg	11 27 49.3	-1.3
AYVA				iS	Sg	11 28 07.5	+0.7
AYVA	Ayvalik	1.25	207	iP	Pg	11 27 49.3	-1.3
AYVA				iS	Sg	11 28 07.6	+0.8
BGKT	Bogazkoy	1.27	53	ePN	Pn	11 27 50.6	-0.6
BGKT	Bogazkoy	1.27	53	ePn	Pn	11 27 50.6	-0.6
GEMT	Gemlik	1.35	89	ePN	Pn	11 27 52.7	+0.5
GEMT	Gemlik	1.35	89	ePn	Pn	11 27 52.7	+0.5
BUY	Buyukada	1.36	71	iP	Pn	11 27 51.0	-1.3
BUY				iS	Sb	11 28 10.0	-0.4
BUY	Buyukada	1.36	71	iS	Sb	11 28 10.0	-0.3
ISK	Istanbul-Kandi	1.40	62	ePN	Pn	11 27 52.4	-0.5
ISK	Istanbul-Kandi	1.40	62	ePn	Pn	11 27 52.4	-0.5
PRK	Paraskevi	1.47	217	P	Pn	11 27 53.2	-0.7
PRK				S	Sn	11 28 13.0	-0.6
PRK	Paraskevi	1.47	217	P	Pn	11 27 53.2	-0.7
PRK				S	Sn	11 28 13.0	-0.6
KLYT	Kilyos	1.48	55	ePN	Pn	11 27 54.6	+0.6
KLYT	Kilyos	1.48	55	ePn	Pn	11 27 54.6	+0.6
YLV	Yalova	1.49	84	ePN	Pn	11 27 54.3	+0.1
YLV	Yalova	1.49	84	ePn	Pn	11 27 54.3	+0.1
EDRB	Edirne	1.51	340	ePN	Pn	11 27 54.7	+0.2
EDRB	Edirne	1.51	340	ePn	Pn	11 27 54.7	+0.2
RDO	Rodhopi	1.60	297	P	Pn	11 27 55.7	0.0
RDO				S	Sn	11 28 17.7	+0.9
RDO	Rodhopi	1.60	297	P	Pn	11 27 55.7	0.0
RDO				S	Sn	11 28 17.7	+0.9
DEMI	Demirci	1.70	144	iP	Pn	11 27 56.5	-0.5
DEMI				iS	Sn	11 28 20.3	+1.0
HRT	Hereke	1.75	76	ePN	Pn	11 27 58.8	+1.0
HRT	Hereke	1.75	76	ePn	Pn	11 27 58.8	+1.0
ADVT	Abdulvahap	1.77	89	ePN	Pn	11 27 58.2	+0.3
ADVT	Abdulvahap	1.77	89	ePn	Pn	11 27 58.2	+0.2
LIA	Limnos Island	1.80	254	P	Pn	11 27 58.4	0.0
LIA				S	Sn	11 28 22.1	+0.5
LIA	Limnos Island	1.80	254	P	Pn	11 27 58.4	0.0
LIA				S	Sn	11 28 22.1	+0.5
CAVI	Cavuskoy	1.86	96	ePN	Pn	11 27 59.6	+0.3
CAVI	Cavuskoy	1.86	96	ePn	Pn	11 27 59.6	+0.3
KDZ	Kurdzhali	1.95	310	iP	Pn	11 28 00.3	-0.2
KDZ	Kurdzhali	1.95	310	iP	Pn	11 28 00.3	-0.2
IZM	Izmir	2.03	184	ePN	Pn	11 28 02.4	+0.8
IZM	Izmir	2.03	184	ePn	Pn	11 28 02.4	+0.8
JMB	Yambol	2.14	343	P	Pn	11 28 05.0	+2.0
JMB				S	Sn	11 28 34.0	+4.0
JMB	Yambol	2.14	343	iP	Pn	11 28 06.7	+3.7
JMB	Yambol	2.14	343	P	Pn	11 28 05.0	+2.0
JMB				S	Sn	11 28 34.0	+4.0
DIM	Dimitrovgrad	2.16	319	iPg	Pg	11 28 06.4	-1.7
DIM	Dimitrovgrad	2.16	319	iPg	Pg	11 28 06.4	-1.7
KAVA	Kavala	2.29	285	P	Pn	11 28 05.0	-0.1
KAVA				S	Sn	11 28 34.0	+0.4
KAVA	Kavala	2.29	285	P	Pn	11 28 05.0	-0.1
KAVA				S	Sn	11 28 34.0	+0.4
CHOS	Chios island	2.29	208	P	Pn	11 28 04.5	-0.7
CHOS				S	Sn	11 28 34.1	+0.2
CHOS	Chios island	2.29	208	P	Pn	11 28 04.5	-0.7
CHOS				S	Sn	11 28 34.1	+0.2
RZN	Rozhen	2.41	303	iP	Pn	11 28 06.4	-0.3
RZN	Rozhen	2.41	303	iP	Pn	11 28 06.4	-0.3
ROIA	ROIAK	2.67	359	iP	Pn	11 28 10.2	-0.1
SRS	Serrai	2.99	285	P	Pn	11 28 14.8	0.0
SRS	Serrai	2.99	285	P	Pn	11 28 14.8	0.0
KNT	Kendrikon	3.51	284	P	Pn	11 28 22.1	+0.1
KNT	Kendrikon	3.51	284	P	Pn	11 28 22.1	+0.1
KKB	Krupnik	3.58	295	iP	Pn	11 28 22.4	-0.5
KKB	Krupnik	3.58	295	iP	Pn	11 28 22.4	-0.5
MPEP	Malo Peshtene	4.02	318	iP	Pn	11 28 28.7	-0.2

BJI ***25*** *11:44:58.6, 48°.53N×154°.09E, h137km, mB5.0/6, mb4.6/15*
ISCJB ***25*** *11:45:05.7±0.4, 48°.46N±

comp=Z,6.4nm,0.3s,baz=144,slow=22,SNR=9.2
FX1 Attu Island--F 13.43 63 P **Pn 11 48 11.4 -0.5**
FX1 S **Sn 11 50 31.1 -9.3**
FX1 Attu Island--F 13.43 63 PN **Pn 11 48 11.4 -0.5**
KLR Kul'dur 14.11 281 *eP* **Pn 11 48 19.0 -1.4**
USRK Ussuriysk Arra 15.20 262 P **Pn 11 48 35.2 +1.0**
comp=Z,1.9nm,0.3s,baz=60,slow=13,SNR=26
MJA0 Matsu Arr-Jizo 16.17 228 *eP* **Pn 11 48 46.1 +0.1**
MJAR Matsushiro Arr 16.19 228 P **Pn 11 48 46.1 -0.1**
comp=Z,0.4nm,0.3s,baz=22,slow=12,SNR=7.6
MJAR Matsushiro Arr 16.19 228 P **Pn 11 48 46.1 -0.1**
MJAR Matsushiro Arr 16.19 228 P **Pn 11 48 46.1 -0.2**
YAK Yakutsk 18.92 325 *eP* **P 11 49 17.2 +1.0**
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,27nm,0.9s
CLNS Chul'man 18.97 307 *eP* **P 11 49 20.5 +3.7**
CLNS pmax pmax
comp=Z,29nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,28nm,1.1s
KSRS Korea Array 21.39 248 P **P 11 49 42.5 -0.4**
comp=E,9.6nm,0.6s,mb4.3,baz=47,slow=10,SNR=30
KSRS Korea Array 21.39 248 *eP* **P 11 49 42.5 -0.4**
KSRS pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
KSAR Wonju Array Be 21.42 248 P **P 11 49 42.5 -0.7**
KSAR Wonju Array Be 21.42 248 P **P 11 49 42.6 -0.7**
SONM Songino Array 30.82 287 P **P 11 51 08.7 0.0**
comp=Z,0.3nm,0.4s,mb3.3,baz=39,slow=9.6,SNR=4.0
SONM pP pP 11 51 40.3 -0.5
comp=Z,0.7nm,0.8s,baz=84,slow=9.7,SNR=3.3
SONM Songino Array 30.82 287 P **P 11 51 08.7 0.0**
SONM pP pP 11 51 40.3 -0.5
SONM Songino Array 30.82 287 P **P 11 51 08.7 -0.1**
SONM *PP pP 11 51 40.3 -0.5
KDAK Kodiak Island 33.03 53 P **P 11 51 28.1 +0.2**
comp=Z,3.7nm,0.8s,mb4.2,baz=318,slow=21,SNR=1.4
KDAK Kodiak Island 33.03 53 P **P 11 51 28.1 +0.2**
KDAK Kodiak Island 33.03 53 P **P 11 51 28.1 +0.2**
SML Sawmill 34.73 45 *eP* **P 11 51 42.8 +0.3**
SML Sawmill 34.73 45 *eP* **P 11 51 42.8 +0.2**
COLA College 34.80 40 *eP* **P 11 51 43.5 +0.5**
comp=Z,4.8nm,0.6s,mb4.3
COLA College 34.80 40 *eP* **P 11 51 43.5 +0.4**
COLA pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ILAR Eielson Array 35.21 40 P **P 11 51 46.9 +0.3**
comp=Z,2.0nm,0.6s,mb4.0,baz=260,slow=5.4,SNR=67
ILAR Eielson Array 35.21 40 P **P 11 51 46.9 +0.3**
ILAR Eielson Array 35.21 40 P **P 11 51 46.9 +0.3**
DOT Dot Lake 36.52 42 *eP* **P 11 51 56.7 -1.0**
comp=Z,0.8nm,0.6s,mb3.5
LZH Lanzhou 37.89 270 *eP* **P 11 52 10.0 +0.4**
LZH pmax pmax
comp=Z,18nm,1.4s,mb4.5
GTA Gaotai 38.75 277 *eP* **P 11 52 17.0 +0.2**
GTA pmax pmax
comp=Z,3.0nm,1.2s,mb3.8
INK Inuvik 40.21 33 P **P 11 52 29.6 +1.1**
comp=Z,2.0nm,0.5s,mb4.0,baz=291,slow=7.6,SNR=27
INK Inuvik 40.21 33 P **P 11 52 29.6 +1.1**
INK Inuvik 40.21 33 P **P 11 52 29.6 +1.1**
ZALV Zalesovo Beam 41.65 304 P **P 11 52 39.7 -0.8**
comp=Z,1.8nm,0.4s,mb4.0,baz=58,slow=7.9,SNR=9.3
ZALV PcP PcP 11 54 34.9 +0.7
comp=Z,2.6nm,0.6s,baz=72,slow=3.5,SNR=14
ZALV Zalesovo Beam 41.65 304 P **P 11 52 39.7 -0.8**
ZALV PcP PcP 11 54 34.9 +0.7
ZALV Zalesovo Beam 41.65 304 *eP* **P 11 52 39.6 -0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
DLBC Dease Lake 44.40 47 PcP PcP 11 54 43.0 -0.4
comp=Z,4.3nm,0.8s,baz=274,slow=16,SNR=8.1
DLBC Dease Lake 44.40 47 PcP PcP 11 54 43.0 -0.4
MK31 Makanchi Array 46.19 296 *eP* **P 11 53 16.1 -0.7**
MK31 Makanchi Array 46.19 296 *eP* **P 11 53 16.1 -0.7**
MKAR Makanchi Array 46.19 296 P **P 11 53 16.5 -0.2**
comp=Z,2.7nm,0.6s,mb4.1,baz=70,slow=7.7,SNR=38
MKAR pP pP 11 53 50.7 +0.1
comp=Z,2.5nm,0.9s,baz=64,slow=11,SNR=6.3
MKAR PcP PcP 11 54 50.1 +0.2
comp=Z,1.3nm,0.6s,baz=73,slow=2.5,SNR=7.7
MKAR Makanchi Array 46.19 296 P **P 11 53 16.5 -0.2**
MKAR pP pP 11 53 50.7 +0.1
MKAR PcP PcP 11 54 50.1 +0.2
MKAR Makanchi Array 46.19 296 P **P 11 53 16.5 -0.3**
MKAR *PP pP 11 53 50.7 0.0
MKAR 11 54 50.1
KURK Kurchatov 46.45 302 P **P 11 53 18.8 0.0**
comp=Z,2.9nm,0.4s,mb4.3,baz=66,slow=8.2,SNR=17
KURK pP pP 11 53 52.9 +0.2
comp=Z,4.7nm,0.9s,baz=66,slow=8.5,SNR=4.9
KURK PcP PcP 11 54 51.4 +0.7
comp=Z,1.7nm,0.8s,baz=64,slow=3.6,SNR=4.8
KURK Kurchatov 46.45 302 P **P 11 53 18.8 0.0**
KURK pP pP 11 53 52.9 +0.2
KURK PcP PcP 11 54 51.4 +0.7
KURK Kurchatov 46.45 302⇑ *eP* **P 11 53 18.2 -0.5**
KURK pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
RES Resolute Bay 49.21 19 P **P 11 53 40.5 +0.9**
comp=Z,1.3nm,0.4s,mb3.9,baz=270,slow=7.1,SNR=5.1
RES Resolute Bay 49.21 19 P **P 11 53 40.5 +0.9**
RES Resolute Bay 49.21 19 P **P 11 53 40.5 +0.9**
YKA Yellowknife Ar 49.55 38 P **P 11 53 43.1 +0.8**
comp=Z,2.1nm,0.6s,mb3.9,baz=298,slow=7.0,SNR=38
YKA pP pP 11 54 15.8 -0.8
comp=Z,0.4nm,0.7s,baz=299,slow=7.2,SNR=1.7
YKA PcP PcP 11 55 02.2 +0.5
comp=Z,0.3nm,0.6s,baz=308,slow=3.8,SNR=5.6
YKA Yellowknife Ar 49.55 38 P **P 11 53 43.1 +0.8**
YKA pP pP 11 54 15.8 -0.8
YKA PcP PcP 11 55 02.2 +0.5
YKA Yellowknife Ar 49.55 38 P **P 11 53 43.2 +0.9**
YKA *PP pP 11 54 15.9 -0.7
YKA 11 55 02.2
BVAR Borovoye Array 49.80 308 P **P 11 53 43.8 -0.6**
comp=Z,2.1nm,0.3s,mb4.2,baz=58,slow=8.4,SNR=18
BVAR pP pP 11 54 18.3 -0.4
comp=Z,1.6nm,0.5s,baz=60,slow=8.8,SNR=3.4
BVAR sP sP 11 54 34.0 -1.6
comp=Z,1.2nm,0.5s,baz=219,slow=40,SNR=1.4
BVAR PcP PcP 11 55 03.0 +0.2
comp=Z,1.4nm,0.3s,baz=84,slow=4.5,SNR=7.9
BVAR Borovoye Array 49.80 308 P **P 11 53 43.8 -0.6**
BVAR pP pP 11 54 18.3 -0.4
BVAR sP sP 11 54 34.0 -1.6
BVAR PcP PcP 11 55 03.0 +0.2
BVAR Borovoye Array 49.80 308 P **P 11 53 43.8 -0.6**
BVAR *PP pP 11 54 18.3 -0.4
BVAR *SP sP 11 54 34.0 -1.6
BVAR 11 55 03.0
BRVK Borovoye 49.84 308⇑ *eP* **P 11 53 44.1 -0.6**
BRVK pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
CHTO Chiang Mai 52.55 255 *eP* **P 11 54 04.8 -0.5**
comp=Z,3.7nm,0.6s,mb4.3
CHTO Chiang Mai 52.55 255 *eP* **P 11 54 04.8 -0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
CMAR Chiang Mai Arr 52.81 255 P **P 11 54 07.3 +0.1**
comp=Z,1.1nm,0.4s,mb3.9,baz=30,slow=7.2,SNR=13
CMAR Chiang Mai Arr 52.81 255 P **P 11 54 07.3 +0.1**
CMAR Chiang Mai Arr 52.81 255 P **P 11 54 07.4 +0.2**
AAK Ala-Archa 53.11 295⇑ *eP* **P 11 54 09.5 +0.4**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
TAPN Taplejung 54.04 272 *eP* **P 11 54 17.4 +1.3**
comp=Z,3.8nm,0.3s,mb4.6
TAPN Taplejung 54.04 272 *eP* **P 11 54 17.4 +1.3**
comp=Z,3.8nm,0.3s,mb4.6
ODAN Odare 54.58 272 *eP* **P 11 54 20.6 +0.6**
ODAN Odare 54.58 272 *eP* **P 11 54 20.6 +0.6**
JIRN Jiri 54.85 273 *eP* **P 11 54 21.8 -0.1**
comp=Z,4.8nm,0.3s,mb4.7
JIRN Jiri 54.85 273 *eP* **P 11 54 21.8 -0.1**
comp=Z,4.8nm,0.3s,mb4.7
GUN Gumba 54.89 274 *eP* **P 11 54 22.2 0.0**
comp=Z,6.4nm,0.3s,mb4.9
GUN Gumba 54.89 274 *eP* **P 11 54 22.2 0.0**
comp=Z,6.4nm,0.3s,mb4.8
RAMN Ramite 55.05 272 *eP* **P 11 54 24.2 +0.9**
comp=Z,10nm,0.3s,mb5.0
RAMN Ramite 55.05 272 *eP* **P 11 54 24.2 +0.9**
comp=Z,10nm,0.3s,mb5.0
PKI Pulchoki 55.43 274 *eP* **P 11 54 25.9 -0.2**
PKI Pulchoki 55.43 274 *eP* **P 11 54 25.9 -0.2**
PKI Pulchoki 55.43 274 *eP* **P 11 54 25.9 -0.2**
DMN Daman 55.60 274 *eP* **P 11 54 27.8 +0.5**
DMN Daman 55.60 274 *eP* **P 11 54 27.8 +0.5**
GKN Gorkha 55.65 275 *eP* **P 11 54 28.0 +0.3**
comp=Z,11nm,0.3s,mb5.1
GKN Gorkha 55.65 275 *eP* **P 11 54 28.0 +0.3**
comp=Z,11nm,0.3s,mb5.2
DANN Dangsing 56.01 276 *eP* **P 11 54 30.3 +0.1**
comp=Z,9.8nm,0.4s,mb5.0
DANN Dangsing 56.01 276 *eP* **P 11 54 30.3 +0.1**
comp=Z,9.8nm,0.4s,mb5.0
ARCES ARCESS Array B 56.25 340 P **P 11 54 31.4 +0.1**
comp=Z,8.1nm,1.0s,mb4.5,baz=41,slow=8.6,SNR=3.8
ARCES ARCESS Array B 56.25 340 P **P 11 54 31.4 +0.1**
ARCES ARCESS Array B 56.25 340 P **P 11 54 31.4 +0.1**
KOLN Koldanda 56.50 275 *eP* **P 11 54 33.1 -0.5**
comp=Z,3.6nm,0.3s,mb4.7
KOLN Koldanda 56.50 275 *eP* **P 11 54 33.1 -0.5**
comp=Z,3.6nm,0.3s,mb4.7
ABKAR Akbulak array 57.36 309 *eP* **P 11 54 38.6 -0.8**
comp=Z,2.0nm,0.4s,mb4.3
AKTO Aktyubinsk 57.61 311 P **P 11 54 41.5 +0.4**
comp=Z,0.4nm,0.3s,mb3.7,baz=52,slow=12,SNR=3.5
AKTO Aktyubinsk 57.61 311 P **P 11 54 41.5 +0.4**
AKTO Aktyubinsk 57.61 311 P **P 11 54 41.5 +0.4**
FFC Flin Flon 59.42 41 *i* P **P 11 54 55.2 +1.6**
JOF Joensuu 59.81 333 *eP* **P 11 54 54.9 -1.3**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
JOF Joensuu 59.81 333 *ep* **P 11 54 54.9 -1.3**
comp=Z,1.3nm,0.4s,mb4.1
NVAR Mina Array Bea 61.63 63 P **P 11 55 09.7 +0.8**
comp=Z,0.6nm,0.4s,mb3.7,baz=303,slow=8.3,SNR=2.9
NVAR Mina Array Bea 61.63 63 P **P 11 55 09.7 +0.8**
FINES FINESS Array B 62.51 334 P **P 11 55 13.3 -0.9**
comp=Z,1.4nm,0.3s,mb4.2,baz=36,slow=7.4,SNR=32
FINES FINESS Array B 62.51 334 P **P 11 55 13.3 -0.9**
FINES FINESS Array B 62.51 334 P **P 11 55 13.4 -0.9**
PDAR Pinedale Array 63.73 55 P **P 11 55 22.9 +0.2**
comp=Z,0.7nm,0.8s,mb3.5,baz=277,slow=1.7,SNR=6.2
PDAR pP pP 11 55 59.2 +0.5
comp=Z,0.8nm,0.9s,baz=281,slow=2.4,SNR=3.2
PDAR Pinedale Array 63.73 55 P **P 11 55 22.9 +0.2**
PDAR pP pP 11 55 59.2 +0.5
ULM Lac du Bonnet 65.22 41 P **P 11 55 33.0 +0.8**
comp=Z,1.8nm,0.8s,mb4.0,baz=312,slow=5.4,SNR=4.3
ULM Lac du Bonnet 65.22 41 P **P 11 55 33.0 +0.8**
ULM Lac du Bonnet 65.22 41 P **P 11 55 33.0 +0.8**
NB2 NORSAR Subarra 66.62 341 P **P 11 55 40.8 -0.2**
comp=Z,1.0nm,0.5s,mb3.9,baz=30,slow=6.5
NOA NORSAR Array B 66.62 341 P **P 11 55 40.8 -0.1**
comp=Z,1.1nm,0.6s,mb3.9,baz=25,slow=6.3,SNR=15
NOA NORSAR Array B 66.62 341 P **P 11 55 40.8 -0.1**
NOA NORSAR Array B 66.62 341 P **P 11 55 40.8 -0.2**
WRA Warramunga Arr 70.14 199 P **P 11 56 02.3 -0.9**
comp=Z,1.1nm,0.7s,mb3.7,baz=16,slow=6.5,SNR=11
WRA Warramunga Arr 70.14 199 P **P 11 56 02.3 -0.9**
WRA Warramunga Arr 70.14 199 P **P 11 56 02.3 -0.9**
AKASG Malin Array Be 70.14 326 P **P 11 56 01.2 -1.8**
comp=Z,0.4nm,0.3s,mb3.6,baz=32,slow=6.5,SNR=2.8
AKASG Malin Array Be 70.14 326 P **P 11 56 01.2 -1.8**
AKASG Malin Array Be 70.14 326 P **P 11 56 01.2 -1.8**
SCHQ Schefferville 71.73 23 P **P 11 56 13.1 +0.6**
comp=Z,2.4nm,0.4s,mb4.3,baz=351,slow=9.1,SNR=19
SCHQ Schefferville 71.73 23 P **P 11 56 13.1 +0.6**
BUR08 Bucovina Ar. S 74.16 326 *eP* **P 11 56 27.1 +0.2**
CLL Collm 74.92 335⇑ *iP* **P 11 56 31.3 0.0**
CLL Collm 74.92 335⇑ *iP* **P 11 56 31.3 0.0**
TXAR Lajitas Array 76.64 61 P **P 11 56 42.0 +0.6**
comp=Z,0.7nm,0.6s,mb3.5,baz=301,slow=5.0,SNR=22
TXAR Lajitas Array 76.64 61 P **P 11 56 42.0 +0.6**
TXAR Lajitas Array 76.64 61 P **P 11 56 42.1 +0.7**
KHC Kasperske Hory 76.71 334 *eP* **P 11 56 41.5 0.0**
KHC Kasperske Hory 76.71 334 *eP* **P 11 56 41.5 0.0**
GERES GERESS Array B 76.93 334 P **P 11 56 43.0 +0.3**
comp=Z,0.6nm,0.4s,mb3.6,baz=7.8,slow=3.5,SNR=9.5
GERES GERESS Array B 76.93 334 P **P 11 56 43.0 +0.3**
GERES GERESS Array B 76.93 334 P **P 11 56 43.0 +0.3**
BRTR Keskin Array B 77.16 316 P **P 11 56 45.7 +1.5**
comp=Z,1.0nm,0.7s,mb3.6,baz=43,slow=1.9,SNR=2.9
BRTR Keskin Array B 77.16 316 P **P 11 56 45.6 +1.5**
BRTR Keskin Array B 77.16 316 P **P 11 56 45.7 +1.5**
BAIF Baives 78.28 340 *eP* **P 11 56 50.0 -0.2**
comp=Z,4.3nm,0.5s,mb4.0
BAIF Baives 78.28 340 *eP* **P 11 56 50.0 -0.2**
comp=Z,4.3nm,0.5s,mb4.3
BAIF Baives 78.28 340 *eP* **P 11 56 50.0 -0.2**
BAIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
ACSO Alum Creek Sta 78.69 40 P **P 11 56 53.1 +0.5**
CDF Champ du Feu 79.08 338 *eP* **P 11 56 54.6 0.0**
comp=Z,12nm,1.0s,mb4.2
CDF Champ du Feu 79.08 338 *eP* **P 11 56 54.6 0.0**
comp=Z,12nm,1.0s,mb4.5
CDF Champ du Feu 79.08 338 *eP* **P 11 56 54.6 0.0**
CDF pmax pmax
comp=Z,12nm,1.0s,mb4.5
PAGF Fort de Pagny 79.34 339 *eP* **P 11 56 56.4 +0.5**
comp=Z,4.0nm,0.6s,mb3.9
PAGF Fort de Pagny 79.34 339 *eP* **P 11 56 56.4 +0.5**
comp=Z,4.0nm,0.6s,mb4.2
MEZF Maizieres J'vi 79.55 339 *eP* **P 11 56 57.3 +0.2**
comp=Z,10nm,0.8s,mb4.2
MEZF Maizieres J'vi 79.55 339 *eP* **P 11 56 57.3 +0.2**
comp=Z,10nm,0.8s,mb4.5
HAU Haudompre 79.69 338 *eP* **P 11 56 57.8 -0.1**
comp=Z,6.1nm,0.7s,mb4.0
HAU Haudompre 79.69 338 *eP* **P 11 56 57.8 -0.1**
comp=Z,6.1nm,0.7s,mb4.3
HAU Haudompre 79.69 338 *eP* **P 11 56 57.8 -0.1**
HAU pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
HINF Hinteralfeld 79.74 338 *eP* **P 11 56 57.7 -0.5**
comp=Z,12nm,1.1s,mb4.1
HINF Hinteralfeld 79.74 338 *eP* **P 11 56 57.7 -0.5**
comp=Z,12nm,1.1s,mb4.4
HINF Hinteralfeld 79.74 338 *eP* **P 11 56 57.7 -0.5**
HINF pmax pmax
comp=Z,12nm,1.1s,mb4.4
SFTF Sexfontaines 79.83 339 *eP* **P 11 56 58.7 +0.1**
comp=Z,12nm,0.5s,mb4.5
SFTF Sexfontaines 79.83 339 *eP* **P 11 56 58.7 +0.1**
comp=Z,12nm,0.5s,mb4.8
TUE Stuetta 80.32 336 *eP* **P 11 57 01.8 +0.5**
comp=Z,4.5nm,0.7s,mb4.2
LOR Lormes 80.98 339 *eP* **P 11 57 04.7 -0.1**
comp=Z,6.1nm,0.5s,mb4.2
LOR Lormes 80.98 339 *eP* **P 11 57 04.7 -0.1**
comp=Z,6.1nm,0.5s,mb4.5
LOR Lormes 80.98 339 *eP* **P 11 57 04.7 -0.1**
LOR pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
SSF Saint Saulge 81.26 340 *eP* **P 11 57 06.2 -0.1**
comp=Z,8.6nm,0.8s,mb4.1
SSF Saint Saulge 81.26 340 *eP* **P 11 57 06.2 -0.1**
comp=Z,8.6nm,0.8s,mb4.4
SSF Saint Saulge 81.26 340 *eP* **P 11 57 06.2 -0.1**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SWET Sewanee 81.47 45 *eP* **P 11 57 07.6 0.0**
AVF Avril sur Loir 81.55 340 *eP* **P 11 57 07.9 +0.1**
comp=Z,6.8nm,0.6s,mb4.2
AVF Avril sur Loir 81.55 340 *eP* **P 11 57 07.9 +0.1**
comp=Z,6.8nm,0.6s,mb4.5
AVF Avril sur Loir 81.55 340 *eP* **P 11 57 07.9 +0.1**
AVF pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
SMF Signal de Mont 81.57 339 *eP* **P 11 57 08.0 +0.1**
comp=Z,26nm,1.1s,mb4.5
SMF Signal de Mont 81.57 339 *eP* **P 11 57 08.0 +0.1**
comp=Z,26nm,1.1s,mb4.8
SMF Signal de Mont 81.57 339 *eP* **P 11 57 08.0 +0.1**
SMF pmax pmax
comp=Z,26nm,1.1s,mb4.8
LPL La Plagne 81.91 337 *eP* **P 11 57 10.6 +0.9**
LPL La Plagne 81.91 337 *eP* **P 11 57 10.6 +0.9**
LPL La Plagne 81.91 337 *eP* **P 11 57 10.6 +0.9**
LPG La Plagne 81.92 337 *eP* **P 11 57 10.8 +1.0**
comp=Z,11nm,0.6s,mb4.3
LPG La Plagne 81.92 337 *eP* **P 11 57 10.8 +1.0**
comp=Z,11nm,0.6s,mb4.7
LPG La Plagne 81.92 337 *eP* **P 11 57 10.8 +1.0**
LPG pmax pmax
comp=Z,11nm,0.6s,mb4.7
TCF Toulx Ste Croi 82.29 340 *eP* **P 11 57 11.9 +0.2**
comp=Z,23nm,1.2s,mb4.4
TCF Toulx Ste Croi 82.29 340 *eP* **P 11 57 11.9 +0.2**
comp=Z,23nm,1.2s,mb4.7
TCF Toulx Ste Croi 82.29 340 *eP* **P 11 57 11.9 +0.2**
TCF pmax pmax
comp=Z,23nm,1.2s,mb4.7
MBDF Montbardon 82.63 337 *eP* **P 11 57 13.6 +0.1**
comp=Z,6.5nm,0.8s,mb4.1
MBDF Montbardon 82.63 337 *eP* **P 11 57 13.6 +0.1**
comp=Z,6.5nm,0.8s,mb4.4
MBDF Montbardon 82.63 337 *eP* **P 11 57 13.6 +0.1**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
ORIF Oris-en-Rattie 82.69 337 *eP* **P 11 57 14.5 +0.8**
comp=Z,17nm,0.9s,mb4.5
ORIF Oris-en-Rattie 82.69 337 *eP* **P 11 57 14.5 +0.8**
comp=Z,17nm,0.9s,mb4.8
ORIF Oris-en-Rattie 82.69 337 *eP* **P 11 57 14.5 +0.8**
ORIF pmax pmax
comp=Z,17nm,0.9s,mb4.8
VIVF Saint-Julien-l 83.05 338 *eP* **P 11 57 16.2 +0.6**
VIVF Saint-Julien-l 83.05 338 *eP* **P 11 57 16.2 +0.6**
VIVF Saint-Julien-l 83.05 338 *eP* **P 11 57 16.2 +0.6**
LFF La Frestale 83.89 341 *eP* **P 11 57 20.4 +0.5**
comp=Z,7.8nm,0.6s,mb4.3
LFF La Frestale 83.89 341 *eP* **P 11 57 20.4 +0.5**
comp=Z,7.8nm,0.6s,mb4.6
LFF La Frestale 83.89 341 *eP* **P 11 57 20.4 +0.5**
LFF pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
CPUP Villa Florida 147.57 58 PKPbc PKPbc 12 04 33.2 -0.4
comp=Z,0.5nm,0.5s,baz=345,slow=8.9,SNR=2.8
CPUP Villa Florida 147.57 58 PKPbc PKPbc 12 04 33.2 -0.4
PLCA Paso Flores 148.30 92 PKPbc PKPbc 12 04 35.6 +0.5
comp=Z,2.5nm,1.1s,baz=254,slow=16,SNR=3.1
PLCA Paso Flores 148.30 92 PKPbc PKPbc 12 04 35.6 +0.5

ISCJB ***25*** *11:55:56.3±0.4, 37°.10N±0°.05×72°.0E±0°.1, h192km±7km, mb3.2/7, Error ellipse: s-maj=14.4km s-min=6.1km az=22.8*
NEIC ***25*** *11:55:57.1±0.9, 37°.05N×72°.04E, h191km±12km, Error ellipse: s-maj=22.7km s-min=11.1km az=143.0*
IDC ***25*** *11:55:59.2±12.0, 37°.19N×72°.02E, h203km±75km, mb3.0/7, mb1 3.2/10, mb1mx3.0/27, mbtmp3.0/10, Error ellipse: s-maj=119.7km s-min=24.5km az=174.0*
NNC ***25*** *11:55:59.7±10.0, 37°.37N×71°.48E, h126km±173km, mb2.9, mpv3.8, Error ellipse: s-maj=94.5km s-min=60.0km az=2.0*
ISC 25 11:55:57.2±0.4, 37°.10N±0°.05×72°.0E±0°.1, h186km±7km, n36, σ0=79/40, mb3.4/7, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.27**	**181**	⇓P	**Pn**	**11 56 50.3**	**+0.8**
CEP				S	**Sn**	**11 57 28.0**	**-2.2**
KBL	**Kabul**	**3.48**	**224**	*e*Pn	**Pn**	**11 56 52.5**	**+0.5**
KBL				*e*Sn	**Sn**	**11 57 34.0**	**-0.8**
CHCP	**Chirah Chowk**	**3.60**	**162**	P	**Pn**	**11 56 55.7**	**+2.2**
THW	**Thamme Wali**	**4.30**	**182**	P	**Pn**	**11 57 02.7**	**+0.3**
AML	**Almayashu**	**5.20**	**14**	P	**Pn**	**11 57 14.0**	**+0.3**
	SNR=190						
AML				P		11 57 14.0	
	SNR=190						
KZA	**Kyzart**	**5.58**	**26**	P	**Pn**	**11 57 18.4**	**-0.3**
	SNR=8.1						
KZA				P		11 57 18.4	
	SNR=8.1						
EKS2	**Erkin-Say**	**5.73**	**14**	P	**Pn**	**11 57 21.5**	**+1.0**
	SNR=32						
EKS2				P		11 57 21.5	
	SNR=32						
AAK	**Ala-Archa**	**5.86**	**19**	P	**Pn**	**11 57 22.9**	**+0.6**
	SNR=28						
AAK				P		11 57 22.9	
	SNR=28						
KK31	**Karatay Array**	**6.09**	**350**	⇑P	**Pn**	**11 57 24.8**	**-0.5**
	1.8nm,0.3s,baz=175,slow=13						
KK31				⇓S	**Sn**	**11 58 29.4**	**-5.6**
	14nm,0.5s,baz=179,slow=23,SNR=8.7						
ULHL	**Ulahol**	**6.11**	**31**	P	**Pn**	**11 57 25.5**	**-0.1**
	SNR=6.7						
ULHL				P		11 57 25.5	
	SNR=6.7						
CHMS	**Chumysh**	**6.27**	**19**	P	**Pn**	**11 57 27.5**	**-0.1**
	SNR=9.4						
CHMS				P		11 57 27.5	
	SNR=9.4						
TKM2	**Tokmak 2**	**6.45**	**25**	P	**Pn**	**11 57 30.2**	**+0.2**
	SNR=16						
TKM2				P		11 57 30.2	
	SNR=16						
TKM2	**Tokmak 2**	**6.45**	**25**	⇓P	**Pn**	**11 57 30.3**	**+0.3**
	11nm,0.8s						
TKM2				⇑S	**Sn**	**11 58 42.1**	**-1.1**
	5.3nm,0.9s						
DDI	**Dehra Dun**	**8.46**	**141**	*ex*	**Sn**	**11 59 21.0**	**-10**
MKAR	**Makanchi Array**	**12.36**	**35**	P	**Pn**	**11 58 46.4**	**-0.4**
	0.1nm,0.3s,baz=220,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**12.36**	**35**	P	**Pn**	**11 58 46.4**	**-0.4**
AB31	**Akbulak array**	**14.95**	**328**	⇑P	**Pn**	**11 59 20.4**	**+1.2**
	0.4nm,0.6s,baz=144,slow=12,SNR=11						
AKTO	**Aktyubinsk**	**16.66**	**328**	P	**Pn**	**11 59 39.8**	**-0.1**
	0.4nm,0.3s,baz=125,slow=9.9,SNR=9.6						
AKTO	**Aktyubinsk**	**16.66**	**328**	⇑P	**Pn**	**11 59 39.3**	**-0.6**
	0.5nm,0.8s						
AKTO	**Aktyubinsk**	**16.66**	**328**	P	**Pn**	**11 59 39.8**	**-0.1**
ZALV	**Zalesovo Beam**	**19.05**	**24**	P	**P**	**12 00 05.1**	**0.0**
	0.8nm,0.3s,baz=204,slow=10.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**19.05**	**24**	P	**P**	**12 00 05.1**	**+0.1**
FINES	**FINESS Array B**	**37.42**	**325**	P	**P**	**12 02 51.5**	**-0.4**
	1.6nm,1.0s,mb3.6,baz=191,slow=5.8,SNR=3.8						
FINES	**FINESS Array B**	**37.42**	**325**	P	**P**	**12 02 51.5**	**-0.4**
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**12 03 20.6**	**+0.1**
	3.6nm,0.9s,mb4.0,baz=114,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**12 03 20.6**	**+0.1**
GERES	**GERESS Array B**	**43.21**	**305**	P	**P**	**12 03 40.3**	**+0.6**
	0.4nm,0.6s,mb3.2,baz=72,slow=27,SNR=2.3						
GERES	**GERESS Array B**	**43.21**	**305**	P	**P**	**12 03 40.3**	**+0.6**
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**12 03 48.3**	**-0.4**
	0.7nm,0.9s,mb3.3,baz=91,slow=7.2,SNR=2.9						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**12 03 48.3**	**-0.4**
INK	**Inuvik**	**73.19**	**10**	P	**P**	**12 07 06.5**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=42,slow=1.2,SNR=4.3						
INK	**Inuvik**	**73.19**	**10**	P	**P**	**12 07 06.5**	**-0.5**
ILAR	**Eielson Array**	**73.99**	**16**	P	**P**	**12 07 11.8**	**0.0**
	0.1nm,0.4s,mb2.9,baz=311,slow=5.9,SNR=2.9						
ILAR	**Eielson Array**	**73.99**	**16**	P	**P**	**12 07 11.8**	**0.0**
YKA	**Yellowknife Ar**	**80.61**	**3**	P	**P**	**12 07 47.8**	**-0.7**
	0.3nm,0.5s,mb3.2,baz=350,slow=5.3,SNR=11						
YKA	**Yellowknife Ar**	**80.61**	**3**	P	**P**	**12 07 47.9**	**-0.7**

ISCJB ***25*** *11:58:52.6±0.5, 37°.88N±0°.02×29°.24E±0°.04, h1km±9km, Error ellipse: s-maj=5.7km s-min=4.0km az=11.5*
ISK ***25*** *11:58:52.0, 37°.89N×29°.18E, h5km, MD2.8*
DDA ***25*** *11:58:52.7, 37°.89N×29°.24E, h7km±3km, Md2.8*
CSEM ***25*** *11:58:52.7±0.2, 37°.88N×29°.24E, h2km, MD2.8, Error ellipse: s-maj=5.6km s-min=3.7km az=115.0*
ISC 25 11:58:53.2±0.5, 37°.88N±0°.02×29°.25E±0°.04, h7km±10km, n24, σ0=94/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**235**	*e*PG	**Pg**	**11 58 56.4**	**-1.0**
DENT	**Denizli**	**0.21**	**235**	*e*Pg	**Pg**	**11 58 56.4**	**-0.9**
DNZL	**Cakiroluk**	**0.24**	**221**	*i* P	**Pg**	**11 58 57.1**	**-0.9**
DNZL				*i* S	**Sg**	**11 59 00.9**	**-0.3**
KHAL	**Karahalli**	**0.53**	**21**	*i* P	**Pg**	**11 59 02.8**	**-0.6**
KHAL				*i* S	**Sg**	**11 59 10.8**	**+0.5**
KHAL	**Karahalli**	**0.53**	**21**	*i* P	**Pg**	**11 59 02.8**	**-0.6**
KH

KULA				*e*Sg	**Sg**	**11 59 19.1**	**+0.5**
MANT	**Manisa**	**0.82**	**319**	*i* P	**Pg**	**11 59 07.9**	**-1.0**
MANT				*i* S	**Sg**	**11 59 20.9**	**+1.3**
MANT	**Manisa**	**0.82**	**319**	*i* P	**Pg**	**11 59 07.9**	**-1.0**
MANT				*i* S	**Sg**	**11 59 20.9**	**+1.3**
YER	**Yerkesik**	**1.07**	**226**	*e*PG	**Pg**	**11 59 12.4**	**-1.2**
YER				*e*SG	**Sg**	**11 59 28.4**	**+1.0**
YER	**Yerkesik**	**1.07**	**226**	*e*Pg	**Pg**	**11 59 12.4**	**-1.2**
YER				*e*Sg	**Sg**	**11 59 28.4**	**+1.0**
AYDN	**Tasoluk**	**1.11**	**259**	*i* P	**Pg**	**11 59 13.9**	**-0.5**
AYDN				*i* S	**Sg**	**11 59 29.9**	**+1.2**
AYDN	**Tasoluk**	**1.11**	**259**	*i* P	**Pg**	**11 59 13.9**	**-0.5**
AYDN				*i* S	**Sg**	**11 59 29.9**	**+1.2**
GDZ	**Gediz**	**1.23**	**9**	*i* P	**Pg**	**11 59 15.2**	**-1.5**
GDZ				*i* S	**Sg**	**11 59 33.5**	**+0.9**
GDZ	**Gediz**	**1.23**	**9**	*i* P	**Pg**	**11 59 15.2**	**-1.5**
GDZ				*i* S	**Sg**	**11 59 33.5**	**+0.9**
SHUT	**Suhut-Afyon**	**1.23**	**56**	*e*PN	**Pn**	**11 59 16.6**	**-0.2**
SHUT	**Suhut-Afyon**	**1.23**	**56**	*e*Pn	**Pn**	**11 59 16.6**	**-0.2**
ELL	**Elmali**	**1.24**	**155**	*e*PN	**Pg**	**11 59 17.8**	**+0.8**
ELL	**Elmali**	**1.24**	**155**	*e*Pn	**Pg**	**11 59 17.8**	**+0.8**
ALT	**Altintas**	**1.36**	**30**	*e*PN	**Pg**	**11 59 19.5**	**+0.3**
ALT	**Altintas**	**1.36**	**30**	*e*Pn	**Pg**	**11 59 19.5**	**+0.3**
DAT	**Datca**	**1.76**	**230**	*e*PN	**Pn**	**11 59 24.1**	**0.0**
DAT	**Datca**	**1.76**	**230**	*e*Pn	**Pn**	**11 59 24.1**	**+0.1**

*IDC **25** 12:08:29.3±0.8, 8.°16S×118.°44E, h0km, mb4.0/7, mb1 4.2/10, mb1mx4.0/22, mbtmp4.1/10, ML4.3/3, MS3.3/6, Ms1 3.3/6, ms1mx3.1/29, Error ellipse: s-maj=40.1km s-min=15.4km az=66.0*
*DJA **25** 12:08:33, 8.°16S×118.°79E, h10km, MLv4.6/8*
*NEIC **25** 12:08:34.3±0.4, 8.°19S×118.°53E, h35km, mb3.9/1, Error ellipse: s-maj=13.1km s-min=5.9km az=67.0*
*ISCJB **25** 12:08:35.2±0.7, 8.°11S±0.°04×118.°72E±0.°05, h60km±9km, mb4.2/8, Error ellipse: s-maj=8.6km s-min=6.9km az=30.8*
ISC 25 12:08:36.2±0.6, 8.°17S±0.°04×118.°77E±0.°05, h51km±8km, n41, σ1°15/48, mb4.2/8, MS3.3/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**2.62**	**260**	P	**Pn**	**12 09 14.9**	**-1.1**
BKSI	**Bulukumba**	**3.13**	**25**	P	**Pn**	**12 09 23.0**	**-0.1**
BKSI				S	**Sn**	**12 10 00.6**	**+1.4**
KHKI	**Kahang-Kahang**	**3.14**	**266**	P	**Pn**	**12 09 25.3**	**+2.1**
KAPI	**Kappang**	**3.28**	**17**	Pn	**Pn**	**12 09 23.9**	**-1.2**
	22nm,0.3s,baz=193,slow=6.7,SNR=48						
KAPI				Sn	**Sn**	**12 10 01.6**	**-1.4**
	49nm,0.3s,baz=173,slow=21,SNR=13						
KAPI				LR	LR	12 10 59.2	
	comp=Z,349nm,19.7s,baz=199,slow=44						
KAPI	**Kappang**	**3.28**	**17**	*e*Pn	**Pn**	**12 09 23.7**	**-1.4**
KAPI				Sn	**Sn**	**12 10 01.6**	**-1.4**
KAPI	**Kappang**	**3.28**	**17**	P	**Pn**	**12 09 23.6**	**-1.5**
IGBI	**Denpasar**	**3.65**	**260**	P	**Pn**	**12 09 31.0**	**+0.9**
SPSI	**Sidrap Palu**	**4.29**	**13**	P	**Pn**	**12 09 39.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.58**	**266**	P	**Pn**	**12 09 42.0**	**-1.0**
BLJI	**Banyuglugur**	**5.15**	**274**	P	**Pn**	**12 09 51.6**	**+0.9**
	0.7nm3µm160nm,0.5s						
TTSI	**Tana Toraja**	**5.19**	**12**	P	**Pn**	**12 09 52.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.92**	**147**	Pn	**Pn**	**12 11 23.7**	**+0.2**
	2.3nm,0.3s,baz=336,slow=7.6,SNR=53						
FITZ				Sn	**Sn**	**12 13 34.4**	**-0.7**
	1.5nm,0.3s,baz=200,slow=22,SNR=7.6						
FITZ				LR	LR	12 16 25.4	
	comp=Z,101nm,19.2s,baz=324,slow=39						
FITZ	**Fitzroy Crossi**	**11.92**	**147**	*e*P	**Pn**	**12 11 23.6**	**+0.1**
FITZ				*e*S	**Sn**	**12 13 33.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.92**	**147**	*e*Pn	**Pn**	**12 11 23.3**	**-0.3**
	14nm,0.7s						
FITZ				Sn	**Sn**	**12 13 34.4**	**-0.7**
MBWA	**Marble Bar**	**12.95**	**176**	*e*Pn	**Pn**	**12 11 34.5**	**-3.0**
WRA	**Warramunga Arr**	**19.08**	**129**	P	**Pn**	**12 12 55.8**	**-0.2**
	1.0nm,0.3s,baz=303,slow=12,SNR=73						
WRA				S	**S**	**12 16 27.1**	**-1.6**
	0.2nm,0.3s,baz=305,slow=24,SNR=4.2						
WRA				LR	LR	12 20 45.0	
	comp=Z,88nm,18.2s,baz=270,slow=38						
WRA	**Warramunga Arr**	**19.08**	**129**	P	**Pn**	**12 12 55.8**	**-0.2**
WRA				S	**S**	**12 16 27.1**	**-1.6**
WRAB	**Tennant Creek**	**19.09**	**129**	*e*P	**Pn**	**12 12 55.9**	**-0.1**
	6.1nm,0.8s						
WB2	**Warramunga Arr**	**19.09**	**129**	*e*P	**Pn**	**12 12 55.7**	**-0.3**
AS31	**Alice Springs**	**21.16**	**138**	*e*P	**P**	**12 13 18.6**	**+1.4**
ASAR	**Alice Springs**	**21.16**	**138**	P	**P**	**12 13 18.8**	**+1.5**
	8.2nm,0.5s,mb4.3,baz=314,slow=9.5,SNR=63						
ASAR				S	**S**	**12 17 10.8**	**+0.9**
	0.9nm,0.9s,baz=318,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**21.16**	**138**	P	**P**	**12 13 18.8**	**+1.5**
ASAR				S	**S**	**12 17 10.8**	**+0.9**
COEN	**Coen**	**24.62**	**106**	*e*P	**P**	**12 13 53.9**	**+1.8**
	98nm,0.9s,mb5.3						
NWAO	**Narrogin (SRO)**	**24.68**	**183**	P	**P**	**12 13 51.9**	**-0.5**
	7.1nm,0.9s,mb4.2,baz=355,slow=12,SNR=7.0						
NWAO				LR	LR	12 22 30.6	
	comp=Z,73nm,18.2s,MS3.2,baz=153,slow=34						
NWAO	**Narrogin (SRO)**	**24.68**	**183**	P	**P**	**12 13 51.9**	**-0.5**
STKA	**Stephens Creek**	**31.73**	**141**	P	**P**	**12 14 56.9**	**+1.4**
	4.4nm,0.5s,mb4.6,baz=322,slow=8.8,SNR=52						
STKA				LR	LR	12 28 51.6	
	comp=Z,115nm,19.1s,MS3.6,baz=209,slow=38						
STKA	**Stephens Creek**	**31.73**	**141**	*e*P	**P**	**12 14 56.9**	**+1.5**
STKA	**Stephens Creek**	**31.73**	**141**	P	**P**	**12 14 56.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**32.91**	**324**	LR	LR	12 29 48.3	
	comp=Z,41nm,20.4s,MS3.1,baz=35,slow=39						
ARMA	**Armidale**	**37.86**	**130**	*e*P	**P**	**12 15 51.9**	**+3.6**
SONM	**Songino Array**	**56.82**	**350**	P	**P**	**12 18 15.9**	**+0.6**
	1.3nm,0.8s,mb4.0,baz=170,slow=8.1,SNR=3.7						
SONM	**Songino Array**	**56.82**	**350**	P	**P**	**12 18 15.9**	**+0.6**
MK31	**Makanchi Array**	**63.62**	**333**	*e*P	**P**	**12 19 01.3**	**-0.5**
MKAR	**Makanchi Array**	**63.62**	**333**	P	**P**	**12 19 00.5**	**-1.3**
	0.6nm,0.7s,mb3.8,baz=146,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**63.62**	**333**	P	**P**	**12 19 00.5**	**-1.3**
ZALV	**Zalesovo Beam**	**68.19**	**339**	P	**P**	**12 19 30.0**	**-1.1**
	0.9nm,0.4s,mb4.1,baz=145,slow=3.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**68.19**	**339**	P	**P**	**12 19 30.0**	**-1.1**
BVAR	**Borovoye Array**	**73.46**	**332**	P	**P**	**12 20 02.8**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=132,slow=2.1,SNR=3.5						
BVAR	**Borovoye Array**	**73.46**	**332**	P	**P**	**12 20 02.8**	**-0.4**
CPUP	**Vila Florida**	**145.50**	**186**	PKPbc	PKPbc	12 28 10.1	+0.6
	1.3nm,0.5s,baz=178,slow=2.8,SNR=9.3						
CPUP	**Villa Florida**	**145.50**	**186**	PKPbc	PKPbc	12 28 10.1	+0.6

*NEIC **25** 12:09:38.0, 28.°27S×70.°78W, h56km, MD3.4(GUC), After GUC.*
GUC 25 12:09:38.0±0.8, 28.°27S×70.°78W, h56km±6km, MD3.4, ML4.1, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.31**	**176**	⇑*e*P	Pn	12 09 48.4	+0.6
VACH	**Vallenar**	**0.31**	**176**	⇑*e*P	Pn	12 09 48.4	+0.6
VACH				*e*S	Sn	12 09 55.4	+0.5
VACH				AML	AML	12 09 55.9	
	comp=E,24µm,0.1s						
LCO	**Las Campanas**	**0.74**	**175**	*e*Pn	Pn	12 09 53.3	+0.7
LCO				*e*Sn	Sn	12 10 03.3	0.0
CPCH	**Copiapo**	**0.98**	**23**	*e*P	Pn	12 09 55.8	+0.1
CPCH				*i* S	Sn	12 10 09.7	+1.0
CPCH	**Copiapo**	**0.98**	**23**	*e*P	Pn	12 09 55.8	+0.1
CPCH				*i* S	Sn	12 10 09.7	+1.0
CDCH	**Caldera**	**1.20**	**358**	*e*P	Pn	12 09 59.0	+0.5
CDCH				*e*S	Sn	12 10 14.3	+0.5
CDCH	**Caldera**	**1.20**	**358**	*e*P	Pn	12 09 59.0	+0.5
CDCH				*e*S	Sn	12 10 14.3	+0.5
LSCH	**La Serena**	**1.69**	**194**	*e*P	Pn	12 10 05.7	+0.6
LSCH				*e*S	Sn	12 10 26.0	+0.4
LSCH	**La Serena**	**1.69**	**194**	*e*P	Pn	12 10 05.7	+0.6
LSCH				*e*S	Sn	12 10 26.0	+0.4
FCH	**Farellones**	**5.06**	**175**	*e*P	Pn	12 10 53.3	+2.0
FCH				*e*S	Sn	12 11 50.2	+1.7
LVC	**Limon Verde**	**5.88**	**17**	*e*Pn	Pn	12 11 04.7	+2.2
CPUP	**Villa Florida**	**12.12**	**84**	Pn	Pn	12 12 28.9	+1.0

*ISK **25** 12:12:26.1, 39.°36N×33.°13E, h8km, MD2.7*
*ISCJB **25** 12:12:27.2±0.7, 39.°34N±0.°04×33.°17E±0.°04, h3km±7km, Error ellipse: s-maj=6.2km s-min=5.2km az=173.3*
*DDA **25** 12:12:27.5, 39.°36N×33.°27E, h7km±4km, Md2.7*
*CSEM **25** 12:12:27.0±0.3, 39.°37N×33.°16E, h8km, MD2.7, Error ellipse: s-maj=7.8km s-min=5.6km az=167.0*
ISC 25 12:12:27.5±0.6, 39.°35N±0.°03×33.°17E±0.°04, h7km±12km, n18, σ0°99/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¨ar-Bala (A**	**0.12**	**322**	*e*PG	**Pg**	**12 12 28.6**	**-1.6**
AFSR				*e*SG	**Sg**	**12 12 31.2**	**-0.8**
AFSR	**Af¨ar-Bala (A**	**0.12**	**322**	*e*Pg	**Pg**	**12 12 28.6**	**-1.5**
AFSR				*e*Sg	**Sg**	**12 12 31.2**	**-0.8**
BBAL	**Bala**	**0.20**	**350**	*i* P	**Pg**	**12 12 32.5**	**+1.1**
BBAL				*i* S	**Sg**	**12 12 35.4**	**+1.2**
BBAL	**Bala**	**0.20**	**350**	*i* P	**Pg**	**12 12 32.5**	**+1.1**
BBAL				*i* S	**Sg**	**12 12 35.4**	**+1.3**
KAMT	**Kaman**	**0.42**	**87**	*e*PG	**Pg**	**12 12 35.8**	**+0.2**
KAMT				*e*SG	**Sg**	**12 12 41.8**	**+0.6**
KAMT	**Kaman**	**0.42**	**87**	*e*Pg	**Pg**	**12 12 35.8**	**+0.2**
KAMT				*e*Sg	**Sg**	**12 12 41.8**	**+0.6**
CDAG	**Cicekdag**	**0.97**	**73**	*i* P	**Pg**	**12 12 43.9**	**-2.2**
CDAG				*i* S	**Sg**	**12 12 57.5**	**-1.2**
CDAG	**Cicekdag**	**0.97**	**73**	*i* P	**Pg**	**12 12 43.9**	**-2.2**
CDAG				*i* S	**Sg**	**12 12 57.5**	**-1.2**
KIZT	**Kizilcal**	**1.11**	**245**	*e*PG	**Pg**	**12 12 47.3**	**-1.4**
KIZT	**Kizilcal**	**1.11**	**245**	*e*Pg	**Pg**	**12 12 47.3**	**-1.4**
ELDT	**Eldivan**	**1.16**	**10**	*i* P	**Pg**	**12 12 49.8**	**+0.2**
ELDT				*e*S	**Sg**	**12 13 05.1**	**+0.4**
ELDT	**Eldivan**	**1.16**	**10**	*i* P	**Pg**	**12 12 49.8**	**+0.1**
ELDT				*e*S	**Sg**	**12 13 05.1**	**+0.4**
KDHN	**Kadinhani**	**1.16**	**225**	*i* P	**Pg**	**12 12 50.5**	**+0.8**
KDHN				*i* S	**Sg**	**12 13 05.5**	**+0.6**
KDHN	**Kadinhani**	**1.16**	**225**	*i* P	**Pg**	**12 12 50.5**	**+0.7**
KDHN				*i* S	**Sg**	**12 13 05.4**	**+0.5**
AVNT	**Avonos**	**1.43**	**113**	*i* P	**Pn**	**12 12 54.1**	**+0.3**
AVNT				*i* S	**Sg**	**12 13 14.3**	**+0.9**
AVNT	**Avonos**	**1.43**	**113**	*i* P	**Pn**	**12 12 54.1**	**+0.3**
AVNT				*i* S	**Sg**	**12 13 14.3**	**+0.9**
YOZ	**Yozgat**	**1.69**	**79**	*e*PN	**Pn**	**12 12 57.1**	**-0.3**
YOZ	**Yozgat**	**1.69**	**79**	*e*Pn	**Pn**	**12 12 57.1**	**-0.2**

*ISCJB **25** 12:15:34.7±0.4, 37.°89N±0.°02×29.°21E±0.°04, h7km±7km, Error ellipse: s-maj=5.6km s-min=4.0km az=169.9*
*ISK **25** 12:15:34.7, 37.°90N×29.°20E, h8km, MD2.6*
*DDA **25** 12:15:34.1, 37.°90N×29.°22E, h4km±2km, Md2.8*
*CSEM **25** 12:15:34.7±0.2, 37.°90N×29.°23E, h2km, MD2.6, Error ellipse: s-maj=5.4km s-min=3.4km az=90.0*
ISC 25 12:15:35.0±0.5, 37.°91N±0.°02×29.°24E±0.°05, h3km±15km, n24, σ0°80/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.22**	**227**	*e*PG	**Pg**	**12 15 39.4**	**+0.1**
DENT				*e*SG	**Sg**	**12 15 42.6**	**+0.4**
DENT	**Denizli**	**0.22**	**227**	*e*Pg	**Pg**	**12 15 39.4**	**+0.1**
DENT				*e*Sg	**Sg**	**12 15 42.6**	**+0.4**
DNZL	**Cakiroluk**	**0.26**	**215**	*i* P	**Pg**	**12 15 39.1**	**-1.0**
DNZL				*i* S	**Sg**	**12 15 43.0**	**-0.5**
DNZL	**Cakiroluk**	**0.26**	**215**	*i* P	**Pg**	**12 15 39.1**	**-1.0**
DNZL				*i* S	**Sg**	**12 15 43.0**	**-0.5**
KHAL	**Karahalli**	**0.51**	**23**	*i* P	**Pg**	**12 15 44.5**	**-0.2**
KHAL				*i* S	**Sg**	**12 15 51.6**	**+0.3**
KHAL	**Karahalli**	**0.51**	**23**	*i* P	**Pg**	**12 15 44.5**	**-0.2**
KHAL				*i* S	**Sg**	**12 15 51.7**	**+0.4**
GOLH	**Golhisar**	**0.72**	**159**	*i* P	**Pg**	**12 15 47.1**	**-1.6**
GOLH				*i* S	**Sg**	**12 15 59.1**	**+1.1**
GOLH	**Golhisar**	**0.72**	**159**	*i* P	**Pg**	**12 15 47.1**	**-1.6**
GOLH				*i* S	**Sg**	**12 15 59.1**	**+1.1**
KULA	**Kula-Manisa**	**0.76**	**323**	*e*PG	**Pg**	**12 15 50.0**	**+0.5**
KULA				*e*SG	**Sg**	**12 16 00.2**	**+0.8**
KULA	**Kula-Manisa**	**0.76**	**323**	*e*Pg	**Pg**	**12 15 50.0**	**+0.4**
KULA				*e*Sg	**Sg**	**12 16 00.2**	**+0.8**
GLHS	**Glhisar (BURDU**	**0.78**	**164**	*e*PG	**Pg**	**12 15 49.8**	**-0.1**
GLHS				*e*SG	**Sg**	**12 16 01.5**	**+1.5**
GLHS	**Glhisar (BURDU**	**0.78**	**164**	*e*Pg	**Pg**	**12 15 49.8**	**-0.1**
GLHS				*e*Sg	**Sg**	**12 16 01.5**	**+1.5**
MANT	**Manisa**	**0.79**	**318**	*i* P	**Pg**	**12 15 50.1**	**-0.1**
MANT				*i* S	**Sg**	**12 16 01.9**	**+1.4**
MANT	**Manisa**	**0.79**	**318**	*i* P	**Pg**	**12 15 50.1**	**-0.1**
MANT				*i* S	**Sg**	**12 16 01.9**	**+1.4**
YER	**Yerkesik**	**1.08**	**225**	*e*PG	**Pg**	**12 15 54.6**	**-1.1**
YER	**Yerkesik**	**1.08**	**225**	*e*Pg	**Pg**	**12 15 54.6**	**-1.1**
GDZ	**Gediz**	**1.20**	**9**	*i* P	**Pg**	**12 15 57.2**	**-0.8**
GDZ				*i* S	**Sg**	**12 16 12.7**	**-0.8**
GDZ	**Gediz**	**1.20**	**9**	*i* P	**Pg**	**12 15 57.2**	**-0.8**
GDZ				*i* S	**Sg**	**12 16 12.7**	**-0.8**
DEMI	**Demirci**	**1.21**	**340**	*i* P	**Pg**	**12 15 58.2**	**0.0**
DEMI				*i* S	**Sg**	**12 16 13.2**	**-0.6**
DEMI	**Demirci**	**1.21**	**340**	*i* P	**Pg**	**12 15 58.2**	**0.0**
DEMI				*i* S	**Sg**	**12 16 13.2**	**-0.6**
SHUT	**Suhut-Afyon**	**1.22**	**58**	*e*PN	**Pn**	**12 15 59.1**	**+0.1**
SHUT	**Suhut-Afyon**	**1.22**	**58**	*e*Pn	**Pn**	**12 15 59.1**	**+0.1**
BOLV	**Bolvadin**	**1.57**	**58**	*i* P	**Pg**	**12 16 05.6**	**+0.4**
BOLV				*i* S	**Sg**	**12 16 30.3**	**+4.8**
BOLV	**Bolvadin**	**1.57**	**58**	*i* P	**Pg**	**12 16 05.6**	**+0.4**
BOLV				*i* S	**Sg**	**12 16 30.3**	**+4.7**

IDC 25 12:34:04.6±5.7, 7.°04S×147.°65E, h97km±38km, mb3.1/3, mb1 3.2/5, mb1mx3.1/17, mbtmp3.1/5, Error ellipse: s-maj=58.5km s-min=50.7km az=61.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.40**	**192**	P	Pn	12 34 42.5	+0.2
	6.3nm,0.3s,baz=349,slow=12,SNR=11						
PMG				S	Sn	12 35 19.4	+8.2
	5.7nm,0.3s,baz=65,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**18.20**	**224**	P	Pn	12 38 10.3	-0.7
	0.1nm,0.3s,baz=51,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**21.15**	**217**	P	P	12 38 41.1	-0.8
	0.6nm,0.6s,baz=51,slow=9.1,SNR=8.5						
FITZ	**Fitzroy Crossi**	**24.10**	**241**	P	P	12 39 11.4	+0.1
	1.7nm,0.8s,baz=48,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**25.35**	**192**	P	P	12 39 23.1	+0.5
	0.3nm,0.3s,baz=20,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**145.96**	**283**	PKPbc	PKPbc	12 53 33.1	-1.0
	0.2nm,0.4s,baz=74,slow=2.4,SNR=2.2						

*ISCJB **25** 12:36:55.3±1.0, 52.°2N±0.°2×173.°7W±0.°1, h96km±5km, mb3.5/4, Error ellipse: s-maj=40.1km s-min=11.2km az=0.8*
*NEIC **25** 12:36:56.7, 51.°82N×173.°25W, h26km, ML2.9(AEIC), After AEIC.*
*IDC **25** 12:36:57.9±3.5, 52.°33N×173.°69W, h98km±33km, mb3.2/4, mb1 3.5/7, mb1mx3.2/29, mbtmp3.3/7, Error ellipse: s-maj=50.7km s-min=19.0km az=4.0*
ISC 25 12:36:56.5±0.9, 52.°3N±0.°2×173.°6W±0.°1, h86km±5km, n23, σ0°97/27, mb3.5/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**0.29**	**288**	P	**Pn**	**12 37 09.6**	**+0.3**
KOFP	**Flat Point**	**0.31**	**274**	P	**Pn**	**12 37 09.4**	**0.0**
KOKV	**Korovin Volcan**	**0.36**	**287**	P	**Pn**	**12 37 10.3**	**+0.6**
KOKV				S	**Sn**	**12 37 20.9**	**+1.4**
ATKA	**Atka Island**	**0.37**	**262**	P	**Pn**	**12 37 08.2**	**-1.6**
ATKA				S	**Sn**	**12 37 18.3**	**-1.4**
KOWE	**Korovin West**	**0.41**	**286**	P	**Pn**	**12 37 10.6**	**+0.5**
FX1	**Attu Island--F**	**8.09**	**280**	P	**Pn**	**12 38 51.6**	**+0.6**
	0.5nm,0.3s,baz=94,slow=18,SNR=3.0						
FX1				S	**Sn**	**12 40 19.8**	**-0.9**
	0.8nm,0.3s,baz=250,slow=17,SNR=3.6						
FX1	**Attu Island--F**	**8.09**	**280**	P	**Pn**	**12 38 51.6**	**+0.6**
FX1				S	**Sn**	**12 40 19.8**	**-0.9**
KDAK	**Kodiak Island**	**13.24**	**57**	P	**Pn**	**12 39 57.0**	**-3.6**
	0.5nm,0.3s,baz=304,slow=11,SNR=13						
KDAK				S	**Sn**	**12 42 38.0**	**+12**
	0.1nm,0.3s,baz=190,slow=17,SNR=5.0						
KDAK	**Kodiak Island**	**13.24**	**57**	P	**Pn**	**12 39 57.0**	**-3.6**
KDAK				S	**Sn**	**12 42 38.0**	**+12**
PETK	**Petropavlovsk-**	**17.38**	**284**	P	**Pn**	**12 40 54.9**	**+1.8**
	0.1nm,0.3s,baz=91,slow=15,SNR=4.3						
PETK	**Petropavlovsk-**	**17.38**	**284**	P	**Pn**	**12 40 54.9**	**+1.8**
ILAR	**Eielson Array**	**18.56**	**37**	P	**Pn**	**12 41 06.8**	**-0.4**
	0.4nm,0.3s,baz=230,slow=9.7,SNR=37						
ILAR	**Eielson Array**	**18.56**	**37**	P	**Pn**	**12 41 06.8**	**-0.4**
PDAR	**Pinedale Array**	**42.97**	**76**	P	**P**	**12 44 47.5**	**+0.8**
	1.0nm,0.7s,mb3.6,baz=310,slow=3.7,SNR=7.0						
PDAR	**Pinedale Array**	**42.97**	**76**	P	**P**	**12 44 47.5**	**+0.8**
TXAR	**Lajitas Array**	**55.35**	**86**	P	**P**	**12 46 21.5**	**+0.2**
	0.1nm,0.6s,mb3.0,baz=310,slow=7.7,SNR=2.6						
TXAR	**Lajitas Array**	**55.35**	**86**	P	**P**	**12 46 21.5**	**+0.2**
MKAR	**Makanchi Array**	**61.96**	**311**	P	**P**	**12 47 06.2**	**-0.7**
	0.3nm,0.5s,mb3.6,baz=46,slow=6.1,SNR=4.8						
MKAR	**Makanchi Array**	**61.96**	**311**	P	**P**	**12 47 06.2**	**-0.7**
HFS	**Hagfors**	**67.81**	**356**	P	**P**	**12 47 43.9**	**-0.7**
	1.7nm,0.9s,mb3.9,baz=29,slow=3.3,SNR=4.6						
HFS	**Hagfors**	**67.81**	**356**	P	**P**	**12 47 43.9**	**-0.7**
BOSA	**Boshof**	**152.53**	**322**	PKPbc	PKPbc	12 56 42.6	+0.2
	1.9nm,0.8s,baz=18,slow=1.8,SNR=5.9						
BOSA	**Boshof**	**152.53**	**322**	PKPbc	PKPbc	12 56 42.6	+0.2

*NIED **25** 12:39:00, 41.°90N×144.°50E, h8km, Mw4.5 Best double couple: M0:5.36000×10^15 NP1:φ0:167.00000°, δ77.00000°, λ52.00000°. NP2:φ0:61.00000°, δ40.00000°, λ160.00000°.*
*IDC **25** 12:39:27.0±0.4, 41.°86N×144.°46E, h0km, mb4.6/36, mb1 4.7/40, mb1mx4.7/42, mbtmp4.6/40, ML4.0/4, MS3.7/7, Ms1 3.7/7, ms1mx3.3/45, Error ellipse: s-maj=12.4km s-min=10.7km az=128.0*
*BJI **25** 12:39:30.2, 41.°98N×144.°31E, h25km, mB5.0/34, mb5.0/52, Ms4.4/40, Ms7 4.1/37*
*ISCJB **25** 12:39:30.3±0.7, 41.°92N±0.°03×144.°35E±0.°02, h28km±4km, mb4.9/175, MS4.1/19, Error ellipse: s-maj=4.7km s-min=2.6km az=161.2*
*JMA **25** 12:39:30.3, 41.°90N×144.°51E, h22km±1km, M4.7*
JMA Felt II J1.
*MOS **25** 12:39:31.4±0.9, 41.°88N×144.°34E, h39km, mb5.3/73, Error ellipse: s-maj=6.8km s-min=4.4km az=107.8*
*NEIC **25** 12:39:32.1±1.1, 41.°88N×144.°39E, h32km±7km, mb5.1/86, MW4.4(NIED), Error ellipse: s-maj=3.8km s-min=2.5km az=154.0*
NEIC Recorded [2 JMA] in southeastern Hokkaido.
*BGS **25** 12:39:32.2±2.1, 41.°35N×142.°27E, h33km, mb5.2*
*SZGRF **25** 12:39:35.7, 42.°83N×143.°38E, h33km, mb5.1, Hokkaido, Japan, region*
ISC 25 12:39:32.0±1.0, 41.°96N±0.°03×144.°36E±0.°02, h27km±7km, h33km±2.6km: pP-P, n769, σ0°68/777, mb4.9/175, MS4.1/19, 235C-110D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.90**	**274**	*e*Pg	**Pn**	**12 39 49.0**	**+0.1**
ERM				*e*Sg	**Sn**	**12 40 03.4**	**+2.4**
ERM	**Erimo**	**0.90**	**274**	*c i*P	**Pn**	**12 39 48.7**	**-0.2**
ERM				pmax	pmax		
	comp=Z,3µm,0.7s						
ERM	**Erimo**	**0.90**	**274**	Pn	**Pn**	**12 39 48.1**	**-0.8**
	comp=Z,45µm,0.4s						
JEM	**Erimo**	**0.90**	**274**	P	**Pn**	**12 39 48.7**	**-0.2**
JCH	**Churui**	**0.99**	**312**	⇑P	**Pn**	**12 39 50.4**	**+0.2**
JCH				*e*S	**Sn**	**12 40 06.1**	**+2.8**
JOB	**Onbets**	**1.03**	**338**	⇑P	**Pn**	**12 39 50.8**	**+0.2**
JOB				*e*S	**Sn**	**12 40 06.5**	**+2.4**
JAK	**Akkeshi**	**1.07**	**13**	⇑P	**Pn**	**12 39 50.0**	**-1.2**
JAK				*e*S	**Sn**	**12 40 05.2**	**0.0**
YUK	**Yuzh-Kuril'sk**	**2.35**	**27**	*i* P	**Pn**	**12 40 07.2**	**-1.6**
YUK				*i* S	**Sn**	**12 40 36.0**	**-0.8**
YUK				pmax	pmax		
	comp=N,266nm,0.4s						
YUK				pmax	pmax		
	comp=Z,719nm,0.4s						
YUK				pmax	pmax		
	comp=E,146nm,0.2s						
YUK				smax			
	comp=E,3µm,0.6s						
YUK				smax			
	comp=N,4µm,0.6s						
YUK				MLR	MLR		
	comp=E,2µm,10.0s						
Y

comp=Z,0.6nm,0.3s,baz=66,slow=13,SNR=16
KSRS LR LR 12 47 26.0
comp=Z,251nm,18.8s,baz=338,slow=36
KSRS Korea Array 13.43 256 P **Pn 12 42 41.1 +0.4**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSAR Wonju Array Be 13.46 256 Pn **Pn 12 42 41.0 -0.1**
KSAR Wonju Array Be 13.46 256 P **Pn 12 42 41.1 -0.1**
CN2 Changchun 14.00 284 *e*P **Pn 12 42 48.3 -0.1**
CN2 *es*P 12 42 59.3
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,13.0s
CN2 LR LR
comp=E,700nm,13.0s
CN2 LR LR
comp=Z,900nm,16.0s
PETK Petropavlovsk- 14.31 34 Pn **Pn 12 42 48.1 -4.5**
comp=Z,0.3nm,0.3s,baz=204,slow=11,SNR=11
PETK Petropavlovsk- 14.31 34 Pn **Pn 12 42 48.1 -4.5**
PETK Petropavlovsk- 14.31 34 P **Pn 12 42 48.1 -4.5**
SNY Shenyang 15.48 276 ⇑P **Pn 12 43 08.8 +0.4**
SNY pmax pmax
comp=Z,17nm,3.2s
SNY LR LR
comp=N,310nm,4.2s
SNY LR LR
comp=E,200nm,4.8s
SNY LR LR
comp=Z,270nm,3.6s
HIA Hailar 18.66 301 *e*P **Pn 12 43 46.5 -1.6**
comp=Z,71nm,0.6s
HIA Hailar 18.66 301 *e*P **Pn 12 43 46.5 -1.6**
HIA pmax pmax
comp=Z,71nm,0.6s
CLNS Chul'man 19.45 327 *e*P **Pn 12 43 55.0 -2.5**
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.7s
BJI Beijing 21.33 274 P **P 12 44 14.8 -1.9**
BJI S **S 12 48 12.0 -0.1**
BJI pmax pmax
comp=Z,23nm,0.5s,mb4.8
BJI pmax pmax
comp=Z,110nm,4.4s
BJI LR LR
comp=N,520nm,14.2s,MS4.2
BJI LR LR
comp=E,400nm,14.8s,MS4.2
BJI LR LR
comp=Z,190nm,15.6s,MS3.6
BJT Baijiatuau 21.34 274 *e*P **P 12 44 15.3 -1.6**
comp=Z,20nm,0.4s,mb4.8
BJT Baijiatuau 21.34 274 *e*P **P 12 44 15.3 -1.6**
BJT pmax pmax
comp=Z,20nm,0.4s
SEY Seymchan 21.54 10 *i* P **P 12 44 19.0 +0.2**
YAK Yakutsk 21.94 341 *e*P **P 12 44 18.7 -4.4**
comp=Z,67nm,0.9s,mb5.1
YAK Yakutsk 21.94 341 *c e*P **P 12 44 18.2 -4.9**
YAK *e**PP 12 44 25.9
YAK *e*PPP 12 44 49.0
YAK *e*S **S 12 48 15.9 -7.8**
YAK *e**SS sS 12 48 31.0 -4.5
YAK *e*SSS 12 49 02.6
YAK *e* 12 55 39.2
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,43nm,0.9s,mb4.9
YAK pmax pmax
comp=N,21nm,1.5s
YAK smax
comp=E,151nm,2.8s
YAK smax
comp=N,157nm,1.8s
YAK MLR MLR
comp=Z,364nm,14.0s,MS3.9
YAK MLR MLR
comp=N,194nm,13.0s,MS3.8
YAK MLR MLR
comp=E,162nm,13.0s,MS3.8
FX1 Attu Island--F 22.19 51 P **P 12 44 26.2 +0.3**
comp=E,34nm,0.7s,mb4.9,baz=272,slow=3.5,SNR=11
FX1 Attu Island--F 22.19 51 P **P 12 44 26.2 +0.3**
FX1 *e*P 12 44 26.5
FX1 Attu Island--F 22.19 51 P **P 12 44 26.2 +0.3**
NJ2 Nanjing 22.57 252 *e*P **P 12 44 26.3 -3.8**
NJ2 S **S 12 48 24.5 -12**
NJ2 LR LR
comp=N,340nm,9.0s
NJ2 LR LR
comp=E,380nm,10.0s
CIT Chita 23.14 306 *e*P **P 12 44 36.0 +0.1**
CIT *e* 12 44 44.1
CIT pmax pmax
comp=Z,173nm,1.6s,mb5.2
HHC Hu-ho-hao-te 24.55 278 *e*P **P 12 44 49.0 -0.3**
HHC sP sP 12 45 02.0 +1.5
HHC PP 12 45 26.0
HHC PcP PcP 12 48 28.3 +1.4
HHC S **S 12 49 04.5 -3.9**
HHC sS sS 12 49 19.8 -1.5
HHC SS 12 50 00.8
HHC ScP ScP 12 52 02.0 -1.7
HHC PcS PcS 12 52 06.0 -0.8
HHC pmax pmax
comp=Z,19nm,0.5s,mb4.9
HHC pmax pmax
comp=Z,100nm,5.5s
HHC LR LR
comp=N,240nm,10.6s,MS4.2
HHC LR LR
comp=E,300nm,10.8s,MS4.2
HHC LR LR
comp=Z,230nm,11.2s,MS3.9
BOD Bodaibo 24.89 320 *e*P **P 12 44 48.9 -3.4**
WHN Wuhan 26.62 254 P **P 12 45 08.0 -0.2**
WHN pmax pmax
comp=Z,95nm,0.8s,mb5.4
WHN LR LR
comp=N,670nm,14.6s
WHN LR LR
comp=E,880nm,6.4s
WHN LR LR
comp=Z,710nm,12.8s,MS4.4
ULN Ulaanbaatar 26.89 296 *e*P **P 12 45 10.4 0.0**
comp=Z,93nm,1.6s,mb5.1
ULN Ulaanbaatar 26.89 296 *e*P **P 12 45 10.4 0.0**
ULN pmax pmax
comp=Z,93nm,1.6s,mb5.1
SONM Songino Array 27.33 295 P **P 12 45 14.7 +0.3**
comp=Z,16nm,0.7s,mb4.7,baz=84,slow=6.8,SNR=64
SONM LR LR 12 56 44.5
comp=Z,64nm,18.2s,MS3.2,baz=163,slow=38
SONM Songino Array 27.33 295 P **P 12 45 14.7 +0.3**
SONM Songino Array 27.33 295 P **P 12 45 14.7 +0.3**
BILL Bilibino 28.66 17 *e*P **P 12 45 25.4 -0.7**
BILL *e* 12 46 14.2
BILL *i* 12 48 32.3
XAN Xi'an 28.87 266 P **P 12 45 28.5 +0.2**
XAN pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
XAN pmax pmax
comp=Z,170nm,10.7s
TLY Talaya 29.17 304 *e*P **P 12 45 31.2 +0.5**
comp=Z,15nm,0.7s,mb4.8
TLY Talaya 29.17 304 *e*P **P 12 45 29.6 -1.1**
TLY *e* 12 50 10.7
TLY pmax pmax
comp=Z,14nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,120nm,14.0s,MS3.7
ZAK Zakamensk 29.36 301 *e*P **P 12 45 31.5 -0.9**
ZAK pmax pmax
comp=Z,13nm,1.1s,mb4.6
ENH Enshi 30.29 259 *e*P **P 12 45 40.7 -0.2**
comp=Z,22nm,0.7s,mb5.0
MOY Mondy 30.82 303 *e*P **P 12 45 46.0 +0.7**
MOY pmax pmax
comp=Z,22nm,1.7s,mb4.7
LZH Lanzhou 31.80 273 ⇑P **P 12 45 55.5 +1.3**
LZH pP pP 12 46 04.0 +1.9
LZH sP sP 12 46 08.3 +2.9
LZH PP PP 12 47 02.0 -4.1
LZH *e*S **S 12 51 02.0 -0.7**
LZH sS sS 12 51 17.0 +1.2
LZH pmax pmax
comp=Z,72nm,1.3s,mb5.3
LZH pmax pmax
comp=Z,150nm,4.7s
LZH LR LR
comp=N,350nm,12.6s,MS4.5
LZH LR LR
comp=E,550nm,14.0s,MS4.5
LZH LR LR
comp=Z,590nm,15.0s,MS4.4
GTA Gaotai 33.60 281 ⇑P **P 12 46 10.5 +0.7**
GTA pP pP 12 46 20.3 +2.5
GTA sP sP 12 46 24.3 +3.2
GTA PcP PcP 12 48 51.3 +1.6
GTA S **S 12 51 28.3 -2.3**
GTA sS sS 12 51 44.0 +0.3
GTA SS SS 12 53 32.5 -23
GTA pmax pmax
comp=Z,17nm,0.8s,mb5.0
GTA pmax pmax
comp=Z,180nm,6.7s
GTA LR LR
comp=N,190nm,15.2s,MS4.2
GTA LR LR
comp=E,310nm,15.4s,MS4.2
GTA LR LR
comp=Z,390nm,15.9s,MS4.2
CD2 Chengdu 34.19 265 ⇓ *i* P **P 12 46 15.5 +0.4**
CD2 pP pP 12 46 25.3 +2.3
CD2 sP sP 12 46 29.3 +3.0
CD2 PP PP 12 47 29.8 -2.8
CD2 S **S 12 51 37.5 -2.4**
CD2 sS sS 12 51 53.5 +0.5
CD2 pmax pmax
comp=Z,40nm,1.0s,mb5.3
CD2 pmax pmax
comp=Z,110nm,7.0s
CD2 LR LR
comp=N,310nm,9.5s
CD2 LR LR
comp=E,450nm,14.3s
CD2 LR LR
comp=Z,250nm,13.2s,MS4.1
GYA Guiyang 34.49 255 P **P 12 46 18.0 +0.3**
GYA pP pP 12 46 29.0 +3.3
GYA PP PP 12 47 34.5 -1.5
GYA S **S 12 51 42.3 -2.3**
GYA sS sS 12 52 01.0 +3.3
GYA ScP ScP 12 52 33.8 -1.9
GYA SS SS 12 53 53.5 -21
GYA pmax pmax
comp=Z,20nm,0.8s,mb5.1
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,720nm,16.8s,MS4.6
GYA LR LR
comp=E,650nm,17.2s,MS4.6
GYA LR LR
comp=Z,810nm,16.9s,MS4.5
TNA Tin City 35.46 32 *e*P **P 12 46 25.2 -0.4**
comp=Z,23nm,1.5s,mb4.9
KMI Kunming 38.12 257 P **P 12 46 49.5 +0.7**
KMI S **S 12 52 43.5 +3.3**
KMI pmax pmax
comp=Z,24nm,0.9s,mb4.9
KMI LR LR
comp=N,200nm,10.1s,MS4.3
KMI LR LR
comp=E,170nm,10.1s,MS4.3
KMI LR LR
comp=Z,160nm,9.7s
ZAA0 Zalesovo Array 40.47 308 *e*P **P 12 47 07.3 -0.7**
ZALV Zalesovo Beam 40.47 308 P **P 12 47 07.5 -0.6**
comp=Z,13nm,0.7s,mb4.8,baz=92,slow=7.8,SNR=81
ZALV PcP PcP 12 49 10.5 +0.2
comp=Z,8.2nm,0.5s,baz=86,slow=3.4,SNR=12
ZALV Zalesovo Beam 40.47 308 P **P 12 47 07.5 -0.6**
ZALV PcP PcP 12 49 10.5 +0.2
ZALV Zalesovo Beam 40.47 308 P **P 12 47 07.5 -0.5**
ZALV 12 49 10.5
WMQ Urumqi 40.87 292 P **P 12 47 12.0 +0.6**
WMQ pmax pmax
comp=Z,17nm,1.0s,mb4.6
WMQ pmax pmax
comp=Z,230nm,5.3s
WMQ LR LR
comp=N,140nm,16.0s,MS4.0
WMQ LR LR
comp=E,85nm,15.0s,MS4.0
WMQ LR LR
comp=Z,150nm,16.0s,MS4.0
NVS Novosibirsk 41.27 310 *e*P **P 12 47 13.1 -1.5**
NVS *e* 12 48 51.9
NVS pmax pmax
comp=Z,38nm,1.8s,mb4.7
NVS pmax pmax
comp=E,16nm,1.6s
RSO Redoubt South 41.67 42 *e*P **P 12 47 18.0 +0.2**
PPLA Purkeypile 41.86 38 *e*P **P 12 47 20.2 +0.9**
comp=E,72nm,1.8s,mb5.0
KDAK Kodiak Island 41.97 46 P **P 12 47 19.4 -0.8**
comp=E,11nm,0.9s,mb4.5,baz=286,slow=7.9,SNR=8.4
KDAK Kodiak Island 41.97 46 P **P 12 47 19.4 -0.8**
KDAK Kodiak Island 41.97 46 *i* P **P 12 47 27.9 +7.6**
TRF Thorofare Moun 42.71 37 *e*P **P 12 47 29.1 +2.9**
comp=E,74nm,2.2s,mb5.0
COLD Coldfoot 42.76 31 *e*P **P 12 47 25.9 -0.6**
comp=E,47nm,2.4s,mb4.8
RC01 Rabbit Creek A 43.10 40 *e*P **P 12 47 29.0 -0.4**
comp=E,17nm,0.8s,mb4.8
MCK McKinley 43.30 37 *e*P **P 12 47 30.8 -0.2**
comp=E,14nm,0.8s,mb4.8
MCK McKinley 43.30 37 *e*P **P 12 47 30.8 -0.2**
MCK pmax pmax
comp=Z,14nm,0.8s,mb4.7
SEW Seward 43.34 42 *e*P **P 12 47 30.7 -0.7**
comp=Z,319nm,2.8s,mb5.6
PMR Palmer 43.35 40 *e*P **P 12 47 31.8 +0.4**
PMR Palmer 43.35 40 *e*P **P 12 47 31.8 +0.4**
MK31 Makanchi Array 43.62 298 *e*P **P 12 47 33.4 -0.3**
MK31 Makanchi Array 43.62 298 *i* P **P 12 47 33.5 -0.3**
MK31 pmax pmax
comp=Z,21nm,0.7s,mb5.0
MKAR Makanchi Array 43.62 298 P **P 12 47 33.4 -0.4**
comp=Z,8.3nm,0.8s,mb4.5,baz=79,slow=9.3,SNR=52
MKAR PcP PcP 12 49 21.2 +0.4
comp=Z,3.7nm,0.8s,baz=96,slow=2.1,SNR=4.5
MKAR Makanchi Array 43.62 298 P **P 12 47 33.4 -0.4**
MKAR *e*P 12 47 33.7
MKAR PcP PcP 12 49 21.2 +0.4
MKAR Makanchi Array 43.62 298 P **P 12 47 33.4 -0.4**
MKAR 12 49 21.2
SML Sawmill 43.71 39 *e*P **P 12 47 34.3 0.0**
comp=Z,9.0nm,1.0s,mb4.5
SML Sawmill 43.71 39 *e*P **P 12 47 34.3 0.0**
SML pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
COLA College 43.72 35 *e*P **P 12 47 34.5 +0.1**
comp=Z,14nm,0.8s,mb4.7
COLA College 43.72 35 *e*P **P 12 47 34.5 +0.1**
COLA pmax pmax
comp=Z,14nm,0.8s,mb4.7
ILAR Eielson Array 44.14 35 P **P 12 47 36.8 -0.9**
comp=Z,4.1nm,0.6s,mb4.3,baz=254,slow=5.4,SNR=123
ILAR Eielson Array 44.14 35 P **P 12 47 36.8 -0.9**
ILAR Eielson Array 44.14 35 P **P 12 47 36.8 -0.9**
LSA Lhasa 44.20 272 *e*P **P 12 47 39.3 +0.6**
LSA Lhasa 44.20 272 *e*P **P 12 47 40.2 +1.6**
comp=Z,7.1nm,0.6s,mb4.6
LSA Lhasa 44.20 272 *e*P **P 12 47 40.2 +1.5**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
CHTO Chiang Mai 44.81 253 *e*P **P 12 47 44.3 +0.7**
comp=Z,14nm,0.8s,mb4.8
CHTO Chiang Mai 44.81 253 *e*P **P 12 47 44.3 +0.6**
CHTO pmax pmax
comp=Z,14nm,0.8s,mb4.8
KURK Kurchatov 44.85 305 *e*P **P 12 47 43.1 -0.5**
KURK Kurchatov 44.85 305 *e*P **P 12 47 43.1 -0.5**
KURK Kurchatov 44.85 305 P **P 12 47 43.9 +0.3**
comp=Z,202nm,0.8s,mb6.0,SNR=34
PAX Paxson 44.92 37 *e*P **P 12 47 44.3 +0.3**
comp=Z,64nm,2.0s,mb5.1
PAX Paxson 44.92 37 *e*P **P 12 47 44.3 +0.3**
PAX pmax pmax
comp=Z,64nm,2.0s,mb5.1
DIV Divide 45.01 40 *e*P **P 12 47 46.1 +1.4**
CMAR Chiang Mai Arr 45.05 253 P **P 12 47 46.1 +0.6**
comp=Z,4.8nm,0.6s,mb4.5,baz=44,slow=7.7,SNR=37
CMAR Chiang Mai Arr 45.05 253 P **P 12 47 46.1 +0.6**
CMAR Chiang Mai Arr 45.05 253 P **P 12 47 46.1 +0.6**
DOT Dot Lake 45.47 36 *e*P **P 12 47 47.8 -0.6**
comp=Z,3.7nm,0.6s,mb4.4
BMRM Bremner River 45.60 40 *e*P **P 12 47 49.2 -0.2**
comp=Z,21nm,1.0s,mb5.0
MENT Mentasta 45.72 37 *e*P **P 12 47 50.8 +0.5**
EGAK Eagle 46.58 35 *e*P **P 12 47 56.3 -0.8**
comp=Z,14nm,1.0s,mb4.8
TAPN Taplejung 48.00 271 *e*P **P 12 48 08.9 +0.2**
TAPN Taplejung 48.00 271 *e*P **P 12 48 08.9 +0.2**
ODAN Odare 48.51 271 *e*P **P 12 48 13.3 +0.7**
comp=Z,27nm,0.7s,mb5.4
ODAN Odare 48.51 271 *e*P **P 12 48 13.3 +0.7**
comp=Z,27nm,0.7s,mb5.4
JIRN Jiri 48.97 272 *e*P **P 12 48 16.9 +0.8**
comp=Z,16nm,0.4s,mb5.4
INK Inuvik 48.98 29 P **P 12 48 15.5 -0.1**
comp=Z,7.4nm,0.5s,mb5.0,baz=287,slow=6.7,SNR=52
INK Inuvik 48.98 29 P **P 12 48 15.5 -0.1**
INK Inuvik 48.98 29 P **P 12 48 15.5 -0.1**
RAMN Ramite 49.05 271 *e*P **P 12 48 17.1 +0.4**
comp=Z,30nm,0.7s,mb5.5
RAMN Ramite 49.05 271 *e*P **P 12 48 17.1 +0.4**
comp=Z,30nm,0.6s,mb5.5
GUN Gumba 49.07 273 *e*P **P 12 48 17.5 +0.7**
comp=Z,62nm,0.5s,mb5.9
GUN Gumba 49.07 273 *e*P **P 12 48 17.5 +0.7**
comp=Z,62nm,0.5s,mb5.9
BVA0 Borovoye Array 49.07 310 *i* P **P 12 48 16.1 -0.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BRVK Borovoye 49.12 310 *e*P **P 12 48 16.8 -0.1**
comp=Z,15nm,0.9s,mb5.0
BRVK Borovoye 49.12 310 *c i*P **P 12 48 16.6 -0.3**
BRVK pmax pmax
comp=Z,30nm,1.7s,mb5.0
BRVK MLR MLR
comp=Z,134nm,16.0s,MS4.0
BRVK Borovoye 49.12 310 P **P 12 48 16.1 -0.8**
comp=Z,106nm,1.0s,mb5.8,SNR=10
TKM2 Tokmak 2 49.43 296 P **P 12 48 20.1 +0.7**
SNR=55
TKM2 P 12 48 20.1
SNR=55
TKM2 Tokmak 2 49.43 296 *e*P **P 12 48 20.0 +0.6**
comp=Z,37nm,0.7s,mb5.5
TKM2 Tokmak 2 49.43 296 *i* P **P 12 48 20.1 +0.7**
KKN Kakani 49.58 273 *e*P **P 12 48 21.1 +0.4**
comp=Z,36nm,0.8s,mb5.5
KKN Kakani 49.58 273 *e*P **P 12 48 21.1 +0.4**
comp=Z,36nm,0.8s,mb5.5
KKN Kakani 49.58 273 *e*P **P 12 48 21.1 +0.4**
KKN pmax pmax
comp=Z,36nm,0.8s,mb5.5
PKI Pulchoki 49.60 273 *e*P **P 12 48 20.9 0.0**
PKI Pulchoki 49.60 273 *e*P **P 12 48 20.9 0.0**
PKI Pulchoki 49.60 273 *e*P **P 12 48 20.9 0.0**
DMN Daman 49.80 273 *e*P **P 12 48 23.0 +0.5**
comp=Z,21nm,0.5s,mb5.4
DMN Daman 49.80 273 *e*P **P 12 48 23.0 +0.5**
comp=Z,21nm,0.5s,mb5.4
ZRNK Zerenda 49.88 310 P **P 12 48 22.7 0.0**
ZRNK pmax pmax
comp=Z,27nm,0.9s,mb5.3
GKN Gorkha 49.94 274 *e*P **P 12 48 23.4 -0.1**
comp=Z,14nm,0.4s,mb5.3
CHMS Chumysh 49.97 296 P **P 12 48 23.5 0.0**
SNR=5.0
CHMS P 12 48 23.5
SNR=5.0
KBK Karagaybulak 49.98 296 P **P 12 48 24.1 +0.5**
SNR=32
KBK P 12 48 24.1
SNR=32
KZA Kyzart 50.01 295 P **P 12 48 25.4 +1.5**
SNR=17
KZA P 12 48 25.4
SNR=17
USP Ospenovka 50.03 296 P **P 12 48 23.9 0.0**
SNR=18
USP P 12 48 23.9
SNR=18
FRU Bishkek 50.12 296 *i* P **P 12 48 25.0 +0.3**
FRU pmax pmax
comp=Z,30nm,1.0s,mb5.3
AAK Ala-Archa 50.29 296 P **P 12 48 26.1 +0.2**
SNR=11
AAK P 12 48 26.1
SNR=11
AAK Ala-Archa 50.29 296 *e*P **P 12 48 26.1 +0.1**
comp=Z,160nm,1.6s,mb5.8
AAK Ala-Archa 50.29 296 *d i*P **P 12 48 25.6 -0.3**
AAK pmax pmax
comp=Z,54nm,1.7s,mb5.3
AAK Ala-Archa 50.29 296 P **P 12 48 26.0 +0.1**
comp=Z,81nm,0.6s,mb5.9,SNR=9.6
DANN Dangsing 50.41 275 *e*P **P 12 48 27.8 +0.8**
comp=Z,153nm,0.6s,mb6.2
DANN Dangsing 50.41 275 *e*P **P 12 48 27.8 +0.8**
comp=Z,153nm,0.6s,mb6.2
KSH Kashi 50.61 291 P **P 12 48 32.5 +4.1**
KSH pP pP 12 48 42.0 +5.4
KSH sP sP 12 48 45.8 +5.9
KSH PcP PcP 12 49 48.8 +3.0
KSH PP PP 12 50 29.5 +5.3
KSH ScP ScP 12 53 40.5 +0.6
KSH PcS PcS 12 53 44.3 +1.3
KSH S **S 12 55 44.8 +3.5**
KSH sS sS 12 56 06.5 +12
KSH ScS ScS 12 58 17.8 +0.4
KSH SS SS 12 59 16.5 +1.2
KSH pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KSH pmax pmax
comp=Z,200nm,9.6s
KSH LR LR
comp=N,190nm,6.5s
KSH LR LR
comp=E,140nm,5.4s
KSH LR LR
comp=Z,190nm,10.8s,MS4.4
EKS2 Erkin-Say 50.76 296 P **P 12 48 29.7 +0.2**
SNR=28
EKS2 P 12 48 29.7
SNR=28
EKS2 Erkin-Say 50.76 296 *e*P **P 12 48 29.7 +0.2**
comp=Z,15nm,0.6s,mb5.1
EKS2 Erkin-Say 50.76 296 *e*P **P 12 48 29.7 +0.2**
EKS2 pmax pmax
comp=Z,15nm,0.6s,mb5.1
KOLN Koldanda 50.84 274 *e*P **P 12 48 30.2 -0.1**
comp=Z,19nm,0.4s,mb5.3
AML Almayashu 51.04 295 P **P 12 48 32.6 +1.0**
SNR=20
AML P 12 48 32.6
SNR=20
KAPI Kappang 51.85 212 P **P 12 48 35.8 -2.1**
comp=Z,7.1nm,0.7s,mb4.7,baz=285,slow=3.6,SNR=6.3
KAPI Kappang 51.85 212 P **P 12 48 35.8 -2.1**
KK31 Karatay Array 52.74 298 *i* P **P 12 48 43.9 -0.4**
KK31 pmax pmax
comp=Z,18nm,0.6s,mb5.2
KKAR Karatay Array 52.74 298 *e*P **P 12 48 44.0 -0.3**
KKAR Karatay Array 52.74 298 *e*P **P 12 48 44.0 -0.3**
SVE Sverdlovsk 53.05 317 ⇓ *i*P **P 12 48 46.3 0.0**
SVE pmax pmax
comp=Z,32nm,0.9s,mb5.2
ARU Arti 54.26 317 *e*P **P 12 48 54.8 -0.4**
ARU Arti 54.26 317 *c i*P **P 12 48 54.6 -0.6**
ARU 12 49 58.6
ARU 12 50 54.7
ARU S **S 12 56 32.3 +1.6**
ARU SS SS 13 00 09.3 -2.9

ARU pmax pmax
comp=Z,51nm,1.7s,mb5.2
ARU Arti 54.26 317 P P 12 48 54.4 -0.8
comp=Z,196nm,0.5s,SNR=5.5
NDI New Delhi 55.07 279 *e*PKP **P 12 49 00.5 -1.0**
SPITS Spitsbergen Ar 56.15 349 P **P 12 49 07.5 -1.1**
comp=Z,25nm,1.0s,mb5.2,baz=92,slow=11,SNR=4.9
SPITS LR LR 13 13 02.3
comp=Z,151nm,19.6s,MS4.1,baz=205,slow=36
SPITS Spitsbergen Ar 56.15 349 P **P 12 49 07.5 -1.1**
SPITS Spitsbergen Ar 56.15 349 P **P 12 49 07.5 -1.0**
AB31 Akbulak array 56.59 309 *i* P **P 12 49 11.9 -0.2**
AB31 pmax pmax
comp=Z,11nm,0.6s,mb5.1
ABKAR Akbulak array 56.59 309 *e*P **P 12 49 12.1 0.0**
AKTO Aktyubinsk 57.15 311 P **P 12 49 16.2 +0.2**
comp=Z,7.3nm,0.8s,mb4.8,baz=72,slow=3.2,SNR=9.2
AKTO Aktyubinsk 57.15 311 P **P 12 49 16.2 +0.2**
AKTO Aktyubinsk 57.15 311 P **P 12 49 16.3 +0.3**
KBL Kabul 57.86 289 *e*P **P 12 49 20.2 -1.1**
comp=Z,11nm,0.8s,mb5.0
KBL Kabul 57.86 289 *e*P **P 12 49 20.2 -1.1**
KBL pmax pmax
comp=Z,11nm,0.8s,mb4.9
YKA Yellowknife Ar 58.42 32 P **P 12 49 24.3 -0.4**
comp=Z,2.8nm,0.6s,mb4.4,baz=310,slow=6.9,SNR=33
YKA PcP PcP 12 50 15.0 -0.2
comp=Z,1.2nm,0.5s,baz=305,slow=3.7,SNR=7.2
YKA Yellowknife Ar 58.42 32 P **P 12 49 24.3 -0.4**
YKA PcP PcP 12 50 15.1 -0.2
YKA Yellowknife Ar 58.42 32 P **P 12 49 24.3 -0.5**
YKA 12 50 15.1
KEV Kevo 59.66 339 *e*P **P 12 49 31.7 -1.6**
KEV pmax pmax
comp=Z,14nm,0.6s,mb5.2
KEV Kevo 59.66 339 *e*p **P 12 49 31.7 -1.6**
comp=Z,14nm,0.6s,mb5.2
ARCES ARCESS Array B 60.21 339 P **P 12 49 36.2 -0.8**
comp=Z,3.0nm,0.5s,mb4.5,baz=46,slow=6.9,SNR=15
ARCES ARCESS Array B 60.21 339 P **P 12 49 36.2 -0.8**
ARCES ARCESS Array B 60.21 339 P **P 12 49 36.3 -0.7**
ARE0 ARCESS Array S 60.21 339 *e*P **P 12 49 36.9 -0.1**
HYB Hyderabad 60.66 267 *i* P **P 12 49 39.5 -1.4**
DAG Danmarks Havn 61.06 356 *i* P **P 12 49 40.9 -1.9**
comp=Z,7.8nm,0.9s,mb4.8
KTK1 Kautokeino 61.16 339 *e*P **P 12 49 42.1 -1.4**
CTA Charters Tower 61.75 178 P **P 12 49 46.5 -1.4**
comp=Z,2.4nm,0.6s,mb4.5,baz=329,slow=5.9,SNR=5.5
CTA Charters Tower 61.75 178 *e*P **P 12 49 46.6 -1.4**
CTA Charters Tower 61.75 178 P **P 12 49 46.5 -1.4**
CTA Charters Tower 61.75 178 P **P 12 49 46.6 -1.4**
TRO Tromso 61.80 341 *e*P **P 12 49 47.4 -0.4**
FITZ Fitzroy Crossi 62.21 200 P **P 12 49 50.4 -0.7**
comp=Z,4.3nm,0.8s,mb4.6,baz=360,slow=8.8,SNR=11
FITZ Fitzroy Crossi 62.21 200 *e*P **P 12 49 50.5 -0.6**
FITZ Fitzroy Crossi 62.21 200 P **P 12 49 50.4 -0.7**
WRAB Tennant Creek 62.27 191 *e*P **P 12 49 49.7 -1.8**
comp=Z,6.8nm,0.8s,mb4.8
WRAB Tennant Creek 62.27 191 *e*P **P 12 49 49.7 -1.8**
WRAB pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
WB2 Warramunga Arr 62.28 191 *e*P **P 12 49 49.7 -1.8**
WRA Warramunga Arr 62.28 191 P **P 12 49 49.7 -1.9**
comp=Z,6.5nm,0.6s,mb5.0,baz=8.0,slow=6.7,SNR=110
WRA Warramunga Arr 62.28 191 P **P 12 49 49.7 -1.9**
WRA Warramunga Arr 62.28 191 P **P 12 49 49.7 -1.8**
JOF Joensuu 62.71 332 *e*P **P 12 49 52.7 -1.3**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
JOF Joensuu 62.71 332 *e*p **P 12 49 52.7 -1.3**
comp=Z,7.5nm,0.6s,mb5.0
ABKT Ailbek 63.49 298 P **P 12 49 59.1 -0.5**
comp=Z,256nm,0.6s,SNR=5.3
KAF Kangasniemi 64.98 333 *e*P **P 12 50 07.2 -1.8**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KAF Kangasniemi 64.98 333 *e*p **P 12 50 07.2 -1.8**
comp=Z,4.4nm,0.5s,mb4.7
A12A Yaak River Ran 65.45 46 ⇓P **P 12 50 12.1 -0.1**
baz=65
E09A Wood Farm, Sta 65.51 49 ⇓P **P 12 50 13.0 +0.4**
baz=65
FINES FINESS Array B 65.53 332 P **P 12 50 11.7 -0.9**
comp=Z,11nm,0.5s,mb5.1,baz=47,slow=7.5,SNR=109
FINES FINESS Array B 65.53 332 P **P 12 50 11.7 -0.9**
FINES FINESS Array B 65.53 332 P **P 12 50 11.7 -0.8**
OBN Obninsk 65.53 323 *e*P **P 12 50 12.1 -0.5**
OBN *e* 12 50 48.5
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
MOR8 Moi Rana 65.54 340 *e*P **P 12 50 10.7 -1.8**
SUMG Summit 65.75 1 *e*P **P 12 50 14.3 +0.5**
comp=Z,18nm,0.7s,mb5.2
SUMG Summit 65.75 1 *e*P **P 12 50 14.3 +0.5**
SUMG pmax pmax
comp=Z,18nm,0.7s
SUMG Summit 65.75 1 *i* P **P 12 50 14.2 +0.4**
comp=Z,17nm,0.9s,mb5.1
AS31 Alice Springs 66.00 190 *e*P **P 12 50 15.0 -0.9**
A13A Flathead Natio 66.11 45 ⇑P **P 12 50 16.7 +0.2**
baz=66
K05A Summer Lake 66.12 53 ⇓P **P 12 50 17.0 +0.4**
baz=66
C12B Naegeli Ranch, 66.28 47 ⇑P **P 12 50 17.6 0.0**
baz=66
F10A Beach Ranch, E 66.34 49 ⇓P **P 12 50 17.9 -0.1**
baz=66
BSMT Bassoo Peak 66.56 46 *e*P **P 12 50 20.1 +0.7**
A14A Double T Ranch 66.61 45 ⇑P **P 12 50 19.7 0.0**
baz=66
VSR Storozhevoye 66.75 319 *e*P **P 12 50 19.8 -0.7**
VSR pmax pmax
comp=N,9.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
C13A Hot Springs 66.78 46 ⇑P **P 12 50 20.9 +0.1**
baz=67
JTMT Jette 66.90 46 *e*P **P 12 50 21.8 +0.2**
A15A Johnson Ranch, 66.97 44 ⇓P **P 12 50 21.2 -0.8**
baz=67
B14A Marquette Ranc 67.06 45 ⇑P **P 12 50 22.4 -0.1**
baz=67
J08A Circle Bar Ran 67.18 52 ⇓P **P 12 50 23.0 -0.4**
baz=67
SWMT Swartz Lake 67.19 46 *e*P **P 12 50 23.9 +0.4**
D13A Huson 67.20 47 ⇑P **P 12 50 23.2 -0.3**
baz=67
B15A Bradely Ranch, 67.46 45 ⇓P **P 12 50 25.0 -0.1**
baz=67
SLMT Seeley Lake 67.63 46 *e*P **P 12 50 26.4 +0.2**
MSO Missoula 67.64 47 ⇑P **P 12 50 26.1 -0.1**
baz=67
MSO Missoula 67.64 47 *e*P **P 12 50 26.3 +0.1**
D14A Greenough 67.72 46 ⇓P **P 12 50 26.4 -0.4**
baz=68
C15A Salmond Ranch, 67.77 45 ⇑P **P 12 50 27.7 +0.6**
baz=68,SNR=6.7
B16A M & M Farms, S 67.85 44 ⇑P **P 12 50 26.9 -0.7**
baz=68,SNR=9.4
A17A Triple J Farms 68.03 43 ⇓P **P 12 50 28.4 -0.3**
baz=68
F13A Darby 68.07 48 ⇓P **P 12 50 28.7 -0.3**
baz=68
E14A Clinton 68.14 47 ⇓P **P 12 50 29.4 0.0**
baz=68
C16A Fuhringer Ranc 68.21 45 ⇓P **P 12 50 29.8 0.0**
baz=68,SNR=6.7
D15A Lincoln 68.28 46 ⇓P **P 12 50 30.0 -0.3**
baz=68
FFC Flin Flon 68.35 35 *e*P **P 12 50 30.4 -0.2**
FFC Flin Flon 68.35 35 *i* P **P 12 50 32.3 +1.7**
B17A L&G Farms, Che 68.40 44 ⇑P **P 12 50 30.6 -0.4**
baz=68
A18A Metzger Ranch, 68.49 43 ⇑P **P 12 50 31.3 -0.3**
baz=68
H12A Diamond D Ranc 68.54 49 ⇑P **P 12 50 31.6 -0.3**
baz=68
E15A Deer Lodge 68.59 46 ⇓P **P 12 50 33.0 +0.7**
baz=68,SNR=5.2
MFID Camas Ranch 68.68 50 ⇑P **P 12 50 32.6 -0.3**
baz=68
D16A Dana Ranch, Ca 68.80 45 ⇓P **P 12 50 33.1 -0.4**
baz=69
C17A Wharram Farm, 68.83 45 ⇓P **P 12 50 33.4 -0.3**
baz=69
HRY Holter Researc 68.85 46 *e*P **P 12 50 33.8 0.0**
B18A Beardsley Farm 68.86 43 ⇓P **P 12 50 33.3 -0.5**
baz=69
H13A Challis 68.87 49 ⇓P **P 12 50 33.8 -0.2**
baz=69
E16A East Helena 69.05 46 ⇑P **P 12 50 34.5 -0.5**
baz=69
LRM Limekiln Ridge 69.08 47 *e*P **P 12 50 35.8 +0.5**
EGMT Eagleton 69.11 44 ⇑P **P 12 50 35.0 -0.4**
baz=69
D17A Six Diamond Ra 69.18 45 ⇓P **P 12 50 34.6 -1.3**
baz=69
DLMT Dillon 69.29 47 *e*P **P 12 50 37.2 +0.6**
H14A Leadore 69.33 48 ⇑P **P 12 50 36.6 -0.3**
baz=69
I13A Wildhorse Cree 69.35 49 ⇓P **P 12 50 36.7 -0.3**
baz=69
KIV Kislovodsk 69.41 311 *e*P **P 12 50 37.8 +0.5**
KIV Kislovodsk 69.41 311 *e*P **P 12 50 38.0 +0.6**
KIV pmax pmax
comp=Z,40nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,107nm,18.0s,MS4.1
G15A Dillon 69.47 47 ⇓P **P 12 50 37.9 +0.2**
baz=69,SNR=6.7
IZAR Zarasai 69.48 328 *e*P **P 12 50 38.0 +0.4**
IZAR AMB AMB 12 50 38.1
comp=Z,5.0nm,0.6s,mb4.6
A20A Cobblestone Ra 69.48 42 ⇑P **P 12 50 37.7 0.0**
baz=69
E17A Martinsdale 69.53 46 ⇑P **P 12 50 38.5 +0.5**
baz=69
F16A Kennard Place, 69.55 46 ⇓P **P 12 50 38.3 +0.1**
baz=69
D18A Linhart Farms, 69.61 44 ⇑P **P 12 50 38.6 +0.1**
baz=69
BOZ Bozeman (W) 69.63 47 ⇑P **P 12 50 39.0 +0.3**
baz=69
BOZ Bozeman (W) 69.63 47 *e*P **P 12 50 32.9 -5.8**
BOZ Bozeman (W) 69.63 47 *e*P **P 12 50 32.9 -5.8**
J13A Cove Ranch, Pi 69.64 50 ⇑P **P 12 50 39.2 +0.5**
baz=69
ISAL Salakas 69.65 328 *e*P **P 12 50 39.1 +0.5**
ISAL AMB AMB 12 50 40.3
comp=Z,9.0nm,1.2s,mb4.6
C19A Slack Wire Ran 69.66 44 ⇑P **P 12 50 38.6 -0.2**
baz=69
I14A Mackay 69.71 49 ⇑P **P 12 50 39.4 +0.2**
baz=70
B20A Solberg Farm, 69.72 43 ⇓P **P 12 50 38.7 -0.5**
baz=70
IIGN Ignalina 69.77 328 *e*P **P 12 50 39.8 +0.4**
IIGN AMB AMB 12 50 41.0
comp=Z,11nm,1.4s,mb4.6
G16A Moss Hill, Enn 69.80 47 ⇓P **P 12 50 38.8 -0.9**
baz=69
A21A Bergtoll Ranch 69.91 42 ⇓P **P 12 50 40.2 -0.2**
baz=70
E18A Harlowton 69.96 45 ⇓P **P 12 50 40.7 0.0**
baz=70
F17A Fitzpatrick Pl 69.99 46 ⇑P **P 12 50 40.7 -0.2**
baz=70
J14A Carey 70.06 49 ⇑P **P 12 50 41.3 0.0**
baz=70
D19A Cripps Ranch, 70.11 44 ⇓P **P 12 50 41.6 0.0**
baz=70
C20A Veseth Ranch, 70.20 43 ⇑P **P 12 50 42.1 0.0**
baz=70
B21A Ellsworth Farm 70.23 42 ⇓P **P 12 50 42.3 0.0**
baz=70
NVAR Mina Array Bea 70.28 56 P **P 12 50 43.7 +0.9**
comp=Z,1.8nm,0.7s,mb4.1,baz=297,slow=6.6,SNR=6.1
NVAR Mina Array Bea 70.28 56 P **P 12 50 43.7 +1.0**
A22A Carney Farms, 70.41 41 ⇑P **P 12 50 43.0 -0.4**
baz=70
F18A Big Timber 70.49 45 ⇓P **P 12 50 44.2 +0.2**
baz=70
NB2 NORSAR Subarra 70.52 338 P **P 12 50 43.1 -0.7**
comp=Z,4.2nm,0.6s,mb4.5,baz=34,slow=6.2
NOA NORSAR Array B 70.52 338 P **P 12 50 43.1 -0.7**
comp=Z,5.6nm,0.7s,mb4.6,baz=36,slow=6.1,SNR=31
NOA NORSAR Array B 70.52 338 P **P 12 50 43.1 -0.7**
NOA NORSAR Array B 70.52 338 P **P 12 50 43.2 -0.6**
HFS Hagfors 70.53 336 P **P 12 50 43.3 -0.7**
comp=Z,6.6nm,0.4s,mb4.9,baz=62,slow=6.9,SNR=54
HFS Hagfors 70.53 336 P **P 12 50 43.3 -0.7**
HFS Hagfors 70.53 336 P **P 12 50 43.3 -0.6**
D20A Manuel Ranch, 70.55 44 ⇓P **P 12 50 44.3 +0.1**
baz=70
GCMT Greycliff 70.59 45 *e*P **P 12 50 44.8 +0.2**
comp=Z,3.5nm,0.7s,mb4.4
E19A Rath Farm, Rou 70.62 45 ⇓P **P 12 50 45.2 +0.4**
baz=70
NC602 NORSAR Array S 70.67 338 *e*P **P 12 50 43.7 -1.1**
K14A Jones Ranch, D 70.75 50 ⇑P **P 12 50 45.2 -0.4**
baz=70
I16A Newdale 70.84 48 ⇓P **P 12 50 46.5 +0.3**
baz=71
A23A Redstone 70.93 41 ⇓P **P 12 50 46.8 +0.2**
baz=71
E20A Meyer Farm, Mu 70.94 44 ⇑P **P 12 50 47.0 +0.3**
baz=71
F19A Roth Farm, Mol 70.94 45 ⇓P **P 12 50 46.5 -0.2**
baz=71
D21A La Casta Ranch 71.15 43 ⇑P **P 12 50 48.0 +0.1**
baz=71
C22A Vida 71.25 42 ⇓P **P 12 50 48.3 -0.3**
baz=71
H18A Shoshone NF, C 71.32 46 ⇓P **P 12 50 49.2 +0.2**
baz=71
FRB Frobisher Bay 71.45 15 LR LR 13 22 54.0
comp=Z,172nm,20.3s,MS4.3,baz=331,slow=36
D22A Cohagen 71.51 43 ⇑P **P 12 50 49.7 -0.4**
baz=71
PKM Peak Mountain 71.51 60 ⇑P **P 12 50 49.8 -0.6**
baz=71
C23A Lambert 71.57 42 ⇑P **P 12 50 50.0 -0.4**
baz=71
DGMT Dagmar 71.60 41 ⇓P **P 12 50 50.3 -0.3**
baz=71
AKASG Malin Array Be 71.79 323 P **P 12 50 51.1 -0.6**
comp=Z,6.4nm,0.4s,mb4.9,baz=42,slow=5.8,SNR=40
AKASG Malin Array Be 71.79 323 P **P 12 50 51.1 -0.6**
AKASG Malin Array Be 71.79 323 P **P 12 50 51.1 -0.6**
AKBB Malin Array Si 71.79 323 *e*P **P 12 50 50.9 -0.8**
AKBB Malin Array Si 71.79 323 *e*P **P 12 50 50.9 -0.8**
KIEV Kiev 71.80 323 *i* P **P 12 50 50.7 -1.1**
R11A Troy Canyon, C 71.99 54 ⇓P **P 12 50 53.0 -0.2**
baz=72
C24A Savage 72.13 42 ⇓P **P 12 50 53.9 +0.1**
baz=72
BSC Santa Cruz Isl 72.19 60 ⇑P **P 12 50 54.6 +0.1**
baz=72
MPMC Manual Prospec 72.26 57 ⇓P **P 12 50 55.2 +0.4**
baz=72
H20A Greybull 72.34 46 ⇑P **P 12 50 55.3 +0.2**
baz=72
E23A Ismay 72.39 43 ⇑P **P 12 50 55.7 +0.3**
baz=72
F22A Rosebud 72.39 44 ⇑P **P 12 50 55.0 -0.4**
baz=72
K18A Toltan Ranch, 72.45 48 ⇑P **P 12 50 56.3 +0.4**
baz=72
D24A Glendive 72.46 42 ⇑P **P 12 50 56.2 +0.4**
baz=72
DUG Dugway 72.46 52 ⇑P **P 12 50 56.3 +0.3**
baz=72
DUG Dugway 72.46 52 *e*P **P 12 50 56.3 +0.3**
DUG Dugway 72.46 52 *e*P **P 12 50 56.3 +0.4**
J19A Crowheart 72.58 47 ⇑P **P 12 50 56.7 +0.1**
baz=72
ASK Askoy 72.59 340 *e*P **P 12 50 56.0 -0.3**
O15A The Old Anders 72.61 51 ⇓P **P 12 50 56.9 +0.1**
baz=72
RUND Rundenannen 72.61 340 *e*P **P 12 50 56.0 -0.4**
PD01 Pinedale Array 72.61 48 *e*P **P 12 50 56.5 -0.3**
PD02 Pinedale Array 72.62 48 *e*P **P 12 50 56.5 -0.4**
I20A Worland 72.63 46 ⇓P **P 12 50 56.8 -0.1**
baz=72
BW06 Boulder Array 72.63 48 ⇑P **P 12 50 57.1 +0.2**
baz=72
PDAR Pinedale Array 72.63 48 P **P 12 50 56.8 -0.2**
comp=Z,2.3nm,0.6s,mb4.3,baz=264,slow=0.5,SNR=36
PDAR Pinedale Array 72.63 48 P **P 12 50 56.8 -0.2**
ODD1 Odda 72.71 339 *e*P **P 12 50 56.7 -0.3**
G22A Birney 72.75 44 ⇑P **P 12 50 57.6 +0.1**
baz=72
H21A Big Horn, Sher 72.75 45 ⇓P **P 12 50 57.5 -0.1**
baz=72
E24A Baker 72.85 42 ⇑P **P 12 50 58.2 +0.1**
baz=73
F23A Volborg 72.87 43 ⇑P **P 12 50 58.4 +0.2**
baz=73
L18A Fontenelle, Gr 72.92 49 ⇓P **P 12 50 58.7 +0.1**
baz=73
J20A Shoshoni 73.05 47 ⇓P **P 12 50 59.4 +0.1**
baz=73
H22A Clearmont 73.14 45 ⇑P **P 12 50 59.3 -0.6**
baz=73
O16A Springville 73.22 51 ⇓P **P 12 51 00.4 -0.1**
baz=73
DAU Daniels Canyon 73.22 51 *e*P **P 12 51 05.9 +5.4**
DAU Daniels Canyon 73.22 51 *e*P **P 12 51 05.9 +5.4**
M18A Lyman 73.23 49 ⇓P **P 12 51 01.3 +0.8**
baz=73
STKA Stephens Creek 73.51 182 P **P 12 50 59.1 -2.8**
comp=Z,0.9nm,0.7s,mb3.8,baz=329,slow=22,SNR=4.8
STKA Stephens Creek 73.51 182 *e*P **P 12 51 01.2 -0.8**
STKA Stephens Creek 73.51 182 P **P 12 50 59.1 -2.8**
STKA Stephens Creek 73.51 182 P **P 12 50 59.2 -2.8**
SCI San Clemente I 73.53 60 ⇓P **P 12 51 02.7 +0.3**
baz=73
FORT Forrest 73.92 195 *e*P **P 12 51 04.7 +0.3**
MURC Murrieta 74.01 59 ⇑P **P 12 51 05.1 -0.1**
baz=74
R15A Junction 74.07 53 ⇑P **P 12 51 05.5 +0.1**
baz=74
P17A Butcher Ranch, 74.14 51 ⇑P **P 12 51 05.9 +0.1**
baz=74
ULM Lac du Bonnet 74.16 35 P **P 12 51 04.4 -1.4**
comp=Z,1.5nm,0.6s,mb4.1,baz=326,slow=3.2,SNR=3.0
ULM Lac du Bonnet 74.16 35 P **P 12 51 04.4 -1.4**
ULM Lac du Bonnet 74.16 35 P **P 12 51 04.4 -1.4**
SRU San Rafael 74.50 51 *e*P **P 12 51 08.4 +0.4**
SRU San Rafael 74.50 51 *e*P **P 12 51 08.4 +0.4**
BELC Belle Mtn. Jos 74.52 58 ⇑P **P 12 51 08.1 0.0**
baz=74
M21A Separation Pea 74.62 48 ⇑P **P 12 51 09.2 +0.5**
baz=74
N20A Spence Gulch, 74.64 49 ⇑P **P 12 51 09.2 +0.4**
baz=74
S16A Weppner Ranch, 74.79 53 ⇑P **P 12 51 10.0 +0.3**
baz=75
L22A Ellis Ranch, M 74.84 47 ⇓P **P 12 51 10.2 +0.3**
baz=75
R17A Hanksville Air 74.86 52 ⇑P **P 12 51 10.5 +0.4**
baz=75
MUD Monsted U'grnd 74.92 336 *i* P **P 12 51 09.5 -0.6**
comp=Z,4.9nm,0.7s,mb4.5
L23A Garrett 75.18 46 ⇓P **P 12 51 12.0 +0.2**
baz=75
S17A Black Ridge (B 75.32 52 ⇑P **P 12 51 12.1 -0.6**
baz=75,SNR=5.1
Q19A Hogan Spring (75.34 51 ⇓P **P 12 51 12.6 -0.2**
baz=75
KWP Kalwaria Pacla 75.44 325 *e*P **P 12 51 13.2 +0.1**
comp=Z,40nm,1.3s,mb5.2
KWP Kalwaria Pacla 75.44 325 *e*P **P 12 51 13.2 0.0**
KWP pmax pmax
comp=Z,40nm,1.3s,mb5.2
KWP Kalwaria Pacla 75.44 325 ⇑*i*P **P 12 51 13.8 +0.6**
MIB Mutribah 75.52 297 *e*P **P 12 51 13.3 -0.7**
MIB AMb AMB 12 51 15.0
comp=Z,51nm,1.0s,mb5.4
Y12C Blythe 75.61 58 ⇑P **P 12 51 14.8 +0.4**
baz=75
T17A Navajo Res., N 75.75 53 ⇑P **P 12 51 14.8 -0.4**
baz=76
S18A Hurst Farm, Bl 75.76 52 ⇑P **P 12 51 15.3 +0.1**
baz=76
QRN Al-Qurain 75.81 296 *e*P **P 12 51 15.3 -0.4**
QRN AMb AMB 12 51 22.2
comp=Z,98nm,1.4s,mb5.5
BUR08 Bucovina Ar. S 75.83 322 *e*P **P 12 51 15.7 +0.2**
BURAR Bucovina Array 75.84 322 ⇓*i*P **P 12 51 15.9 +0.4**
GLA Glamis 75.87 58 ⇑P **P 12 51 16.5 +0.5**
baz=76
Q20A Ridgley Place, 75.89 50 ⇑P **P 12 51 16.1 +0.1**
baz=76
TLCR 75.91 319 ⇑*i*P **P 12 51 15.9 -0.1**
NAY Al-Naaiem 75.94 297 *e*P **P 12 51 15.4 -1.0**
NAY AMb AMB 12 51 16.5
comp=Z,17nm,0.6s,mb5.1
TESR 75.99 321 ⇑*i*P **P 12 51 16.3 -0.1**
O22A Kremmling 76.06 48 ⇑P **P 12 51 17.2 +0.3**
baz=76
U17A Shonto 76.10 53 ⇑P **P 12 51 17.8 +0.6**
baz=76
M24A Cheyenne 76.10 46 ⇑P **P 12 51 17.5 +0.4**
baz=76
K26A Motz Farm, Whi 76.11 45 ⇑P **P 12 51 17.3 +0.2**
baz=76
U16A Tuba City 76.12 54 ⇑P **P 12 51 17.8 +0.5**
baz=76,SNR=6.0
OJC Ojcow 76.20 327 *e*P **P 12 51 17.8 +0.3**
OJC Ojcow 76.20 327 *e*P **P 12 51 17.8 +0.3**
T18A Mexican Hat 76.20 52 ⇓P **P 12 51 17.9 +0.1**
baz=76
STHS Stebnicka Huta 76.22 326 *e*P **P 12 51 18.8 +1.2**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 76.22 326 *e*P **P 12 51 18.8 +1.2**
S19A Harvey Farm, M 76.23 51 ⇓P **P 12 51 17.9 -0.1**
baz=76
PV01 Paradox Valley 76.29 51 *e*P **P 12 51 19.6 +1.3**
comp=Z,679nm,1.2s
P22A Eagle 76.33 49 ⇑P **P 12 51 18.9 +0.4**
baz=76
R20A Redvale 76.37 51 ⇑P **P 12 51 18.9 +0.2**
baz=76
O23A Lake Granby, G 76.37 48 ⇓P **P 12 51 19.4 +0.7**
baz=76
WUAZ Wupatki 76.39 54 ⇑P **P 12 51 19.2 +0.3**
baz=76
VRI Vrincioaia 76.43 320 ⇑*i*P **P 12 51 19.2 +0.3**
Y14A Wickenburg 76.44 57 ⇓P **P 12 51 19.4 +0.2**
baz=76
N24A Carr 76.52 47 ⇓P **P 12 51 19.9 +0.4**
baz=76
Z13A Yuma Proving G 76.52 58 ⇓P **P 12 51 20.5 +0.8**
baz=76
CRVS Cervenica-Dubn 76.52 325 *e*P **P 12 51 19.8 +0.4**
CRVS pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
CRVS Cervenica-Dubn 76.52 325 *e*P **P 12 51 19.8 +0.4**
NIE Niedzica 76.61 326 *e*P **P 12 51 20.6 +0.8**
NIE Niedzica 76.61 326 *e*P **P 12 51 20.6 +0.8**
S20A Disappointment 76.62 51 ⇑P **P 12 51 20.8 +0.7**
baz=76
TIRR Tirgusor 76.64 319 ⇓*i*P **P 12 51 20.4 +0.3**
TRPA Tarpa 76.64 324 ⇑*i*P **P 12 51 20.6 +0.5**
V17A Tonalea, Kykot 76.67 54 ⇑P **P 12 51 21.1 +0.6**
baz=76,SNR=5.6
R21A Cimarron 76.72 50 ⇑P **P 12 51 21.0 +0.3**
baz=76
113A Mohawk Valley, 76.73 58 ⇑P **P 12 51 21.5 +0.6**
baz=77
ISCO Idaho Springs 76.83 48 ⇓P **P 12 51 21.4 +0.2**
baz=77
ISCO Idaho Springs 76.83 48 *e*P **P 12 51 22.1 +0.8**
ISCO Idaho Springs 76.83 48 *e*P **P 12 51 22.1 +0.8**
O24A Longmont 76.90 47 ⇑P **P 12 51 22.1 +0.4**
baz=77
T19A Beclabito 76.91 52 ⇓P **P 12 51 22.1 +0.3**
baz=77
DOPR Dopca 76.98 321 ⇑*i*P **P 12 51 21.4 -0.6**
M26A McRoberts Ranc 77.00 45 ⇑P **P 12 51 22.5 +0.3**
baz=77
ISR Istrita 77.06 320 ⇑*i*P **P 12 51 22.8 +0.3**
S21A Coal Bank Pass 77.06 51 ⇓P **P 12 51 23.6 +0.9**
baz=77
MLR Muntele Rosu 77.07 321 P **P 12 51 21.5 -1.0**
comp=Z,0.3nm,0.4s,baz=160,slow=12,SNR=5.3
MLR Muntele Rosu 77.07 321 P **P 12 51 21.5 -1.0**
MLR Muntele Rosu 77.07 321 P **P 12 51 21.5 -1.1**
MLR Muntele Rosu 77.07 321 ⇓*i*P **P 12 51 23.4 +0.8**
X16A Lo Mia Camp, P 77.08 55 ⇓P **P 12 51 23.8 +1.0**
baz=77
KSP Ksiaz 77.09 329 *e*P **P 12 51 22.8 +0.3**
KSP Ksiaz 77.09 329 *e*P **P 12 51 22.7 +0.2**

KSP **Ksiaz** 77.09 329⇑ eP P 12 51 22.7 +0.2
V18A **Ganado** 77.13 53 ⇓P P 12 51 23.6 +0.6
baz=77
OKC **Ostrava-Krasne** 77.16 328 eP P 12 51 23.1 +0.1
OKC **Ostrava-Krasne** 77.16 328⇑ eP P 12 51 23.1 +0.1
U19A **Dine' College,** 77.17 53 ⇑P P 12 51 23.4 +0.2
baz=77
BRTR **Keskin Array B** 77.27 312 P P 12 51 24.1 +0.3
comp=Z,2.5nm,0.7s,mb4.3,baz=71,slow=3.8,SNR=11
BRTR **Keskin Array B** 77.27 312 P P 12 51 24.1 +0.3
BRTR **Keskin Array B** 77.27 312 P P 12 51 24.1 +0.3
R22A **Saguache, Gunn** 77.27 50 ⇓P P 12 51 23.7 -0.1
baz=77
P24A **Kohler Place,** 77.42 48 ⇓P P 12 51 24.9 +0.3
baz=77
O25A **Wiggins** 77.43 47 ⇓P P 12 51 24.8 +0.2
baz=77
MORC **Moravsky Berou** 77.45 328 eP P 12 51 24.8 +0.2
comp=Z,12nm,0.9s,mb4.8
MORC **Moravsky Berou** 77.45 328 eP P 12 51 24.8 +0.2
MORC pmax pmax
comp=Z,13nm,0.9s,mb4.9
MORC **Moravsky Berou** 77.45 328⇑ iP P 12 51 25.1 +0.5
UPC **Upice** 77.46 329 eP P 12 51 25.0 +0.4
UPC **Upice** 77.46 329⇑ eP P 12 51 25.0 +0.4
DPC **Dobruska-Polom** 77.47 329⇑ iP P 12 51 25.4 +0.7
DPC **Dobruska-Polom** 77.47 329⇑ iP P 12 51 25.4 +0.7
VOIR 77.54 321⇓ iP P 12 51 25.3 +0.2
S22A **4UR Ranch, Cre** 77.56 50 ⇑P P 12 51 25.9 +0.4
baz=77
DRGR 77.59 323⇓ iP P 12 51 25.6 +0.2
T21A **Navajo Lake** 77.67 51 ⇓P P 12 51 26.4 +0.3
baz=78
O26A **Horse Wrangler** 77.78 46 ⇓P P 12 51 26.7 +0.2
baz=78
P25A **Willow Gulch B** 77.83 47 ⇑P P 12 51 27.3 +0.4
baz=78
R23A **Moffat** 77.83 49 ⇑P P 12 51 27.7 +0.8
baz=78
W19A **Sanders** 77.86 54 ⇑P P 12 51 27.7 +0.6
baz=78
X18A **Snowflake** 77.92 54 ⇑P P 12 51 27.9 +0.4
baz=78
KPL **Plockton** 77.92 344 eP P 12 51 26.9 -0.1
KPL AMB AMB 12 51 36.6
comp=Z,90nm,2.4s,mb5.3
CLL **Collm** 77.93 331⇑ iP P 12 51 26.8 -0.4
CLL e pP 12 51 34.0 -1.8
CLL pmax pmax
comp=Z,26nm,1.1s,mb5.1
CLL **Collm** 77.93 331⇑ iP P 12 51 26.8 -0.4
comp=Z,26nm,1.1s,mb5.1
CLL i 12 51 30.8
CLL e pP 12 51 34.0 -1.8
Y17A **Roosevelt** 77.94 56 ⇓P P 12 51 27.9 +0.3
baz=78
VYHS **Vyhne** 77.94 326 eP P 12 51 27.7 +0.4
VYHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
VYHS **Vyhne** 77.94 326 eP P 12 51 27.7 +0.4
V20A **Brimhall** 77.94 53 ⇓P P 12 51 27.8 +0.2
baz=78
BRG **Berggiesshubel** 77.94 330 i P P 12 51 27.1 -0.2
comp=Z,6.2nm,1.0s,mb4.5
BRG **Berggiesshubel** 77.94 330 i P P 12 51 27.1 -0.2
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PSZ **Piszkesteto** 77.94 325 eP P 12 51 27.7 +0.3
comp=Z,6.9nm,1.0s,mb4.5
PSZ **Piszkesteto** 77.94 325 eP P 12 51 27.7 +0.3
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PSZ **Piszkesteto** 77.94 325⇑ iP P 12 51 28.0 +0.6
OGNE **Ogallala** 77.96 45 ⇓P P 12 51 27.7 +0.1
baz=78
U21A **Nageezi** 77.99 52 ⇓P P 12 51 28.1 +0.3
baz=78
PVCC **Panska Ves** 77.99 330 eP P 12 51 27.9 +0.3
PVCC **Panska Ves** 77.99 330⇑ eP P 12 51 27.9 +0.3
T22A **Edith** 78.02 51 ⇑P P 12 51 28.3 +0.3
baz=78
DEV **Deva** 78.19 323⇑ iP P 12 51 28.6 -0.2
VRAC **Vranov** 78.20 328 P P 12 51 29.4 +0.6
comp=Z,6.1nm,0.6s,mb4.7,baz=41,slow=6.2,SNR=11
VRAC LR LR 13 28 22.8
comp=Z,158nm,18.5s,MS4.4,baz=351,slow=38
VRAC **Vranov** 78.20 328 P P 12 51 29.4 +0.6
VRAC **Vranov** 78.20 328 P P 12 51 29.4 +0.7
VRAC **Vranov** 78.20 328⇑ iP P 12 51 29.5 +0.8
Q25A **Bedland, Calha** 78.20 48 ⇑P P 12 51 29.0 0.0
baz=78
R24A **Sanders Place,** 78.20 49 ⇓P P 12 51 29.5 +0.5
baz=78
P26A **Davis Ranch, A** 78.24 47 ⇑P P 12 51 29.3 +0.2
baz=78
O27A **Beecher Island** 78.26 46 ⇓P P 12 51 29.2 -0.1
baz=78
ELO **Logie Almond** 78.30 343 eP P 12 51 29.0 -0.2
SDCO **Great Sand Dun** 78.32 49 ⇓P P 12 51 29.4 -0.2
baz=78
Y18A **Canyon Day Jun** 78.38 55 ⇓P P 12 51 30.6 +0.6
baz=78
W20A **Ramah** 78.38 53 ⇓P P 12 51 30.5 +0.4
baz=78
X19A **St. Johns** 78.39 54 ⇑P P 12 51 30.2 +0.2
baz=78,SNR=6.0
V21A **Milan** 78.43 52 ⇑P P 12 51 30.5 +0.2
baz=78
PRU **Pruhonice** 78.44 330⇑ iP P 12 51 30.3 +0.2
PRU **Pruhonice** 78.44 330⇑ iP P 12 51 30.3 +0.2
SMOL **Smolenice** 78.50 327 eP P 12 51 31.3 +0.9
SMOL **Smolenice** 78.50 327 eP P 12 51 31.3 +0.9
T23A **Casias Ranch,** 78.51 50 ⇓P P 12 51 31.1 +0.4
baz=78
ESY **Stoneypath** 78.56 342 eP P 12 51 30.1 -0.5
Q26A **Hugo** 78.60 47 ⇓P P 12 51 31.2 0.0
baz=78
GZR **Gura Zlata** 78.62 322⇓ iP P 12 51 30.9 -0.3
ECSD **EROS Data Cent** 78.67 40 eP P 12 51 30.5 -0.9
EAB **Aberfoyle** 78.70 343 eP P 12 51 31.7 +0.3
X20A **Quemado** 78.78 54 ⇑P P 12 51 32.7 +0.4
baz=79
EAU **Auchinoon** 78.82 342 eP P 12 51 32.2 +0.2
U23A **El Rito** 78.91 51 ⇓P P 12 51 33.6 +0.7
baz=79
BZS **Buzias** 78.97 323⇑ iP P 12 51 33.5 +0.4
NKC **Novy Kostel** 79.02 331⇑ iP P 12 51 33.3 +0.1
NKC **Novy Kostel** 79.02 331⇑ iP P 12 51 33.3 +0.1
R26A **Arlington** 79.08 48 ⇓P P 12 51 34.0 +0.1
baz=79
PGBU **Glenifferbraes** 79.08 343 eP P 12 51 33.7 +0.2
PGBU AMB AMB 12 51 35.4
comp=Z,79nm,2.6s,mb5.2
118A **Homack Ranch,** 79.19 56 ⇓P P 12 51 35.1 +0.6
baz=79
ESK **Eskdalemuir** 79.25 342 eP P 12 51 33.1 -1.3
ESK AMB AMB 12 51 36.0
comp=Z,87nm,2.9s,mb5.2
X21A **Alamocita Cree** 79.28 53 ⇑P P 12 51 35.5 +0.6
baz=79
Y20A **Horse Springs,** 79.29 54 ⇑P P 12 51 35.4 +0.3
baz=79
V23A **Ortiz Mt. (NFS** 79.32 51 ⇑P P 12 51 35.9 +0.7
baz=79
T25A **Trinidad** 79.36 49 ⇑P P 12 51 35.5 +0.2
baz=79
R27A **Eads** 79.45 48 ⇓P P 12 51 36.0 +0.1
baz=79
KHC **Kasperske Hory** 79.50 330 eP P 12 51 36.2 +0.3
comp=Z,15nm,0.7s,mb5.0
KHC **Kasperske Hory** 79.50 330⇑ iP P 12 51 36.3 +0.4
KHC e 12 51 40.0
KHC **Kasperske Hory** 79.50 330⇑ iP P 12 51 36.3 +0.4
KHC ePCP PcP 12 51 40.0 -3.9
119A **Ashpeak Ranch,** 79.51 55 ⇑P P 12 51 37.0 +0.7
baz=79
218A **Dragoon** 79.59 56 ⇑P P 12 51 37.3 +0.6
baz=79
CSNA **Conrad Observa** 79.60 328⇑ iP P 12 51 37.1 +0.6
comp=Z,8.9nm,1.0s,mb4.7
CSNA **Conrad Observa** 79.60 328⇑ iP P 12 51 37.1 +0.6
comp=Z,8.9nm,1.0s,mb4.7
GERES **GERESS Array B** 79.69 329 P P 12 51 36.9 0.0
comp=Z,4.3nm,0.6s,mb4.6,baz=35,slow=5.5,SNR=20
GERES **GERESS Array B** 79.69 329 P P 12 51 36.9 0.0
GERES **GERESS Array B** 79.69 329 P P 12 51 36.9 0.0

Z20A **Nine Sixteen R** 79.71 55 ⇓P P 12 51 37.7 +0.3
baz=80
W23A **Werner Place,** 79.75 52 ⇓P P 12 51 38.2 +0.7
baz=80
PKSM **Moragy** 79.81 325⇑ iP P 12 51 37.6 -0.1
U25A **Circle Dot Ran** 79.89 50 ⇑P P 12 51 38.1 -0.1
baz=80
KESW **Keswick, Cumbr** 79.89 341 eP P 12 51 37.5 -0.4
KESW AMB AMB 12 51 51.0
comp=Z,95nm,2.4s,mb5.3
GRF **Grafenberg Arr** 79.91 331 eP P 12 51 38.4 +0.3
comp=Z,22nm,1.2s,mb5.0
SCHQ **Schefferville** 79.97 18 P P 12 51 37.5 -0.9
comp=Z,4.1nm,0.7s,mb4.5,baz=292,slow=14,SNR=6.2
SCHQ **Schefferville** 79.97 18 P P 12 51 37.5 -0.9
318A **Bisbee** 79.99 57 ⇓P P 12 51 39.1 +0.2
baz=80
GAL1 **Galloway** 80.00 342 eP P 12 51 37.4 -1.1
GAL1 AMB AMB 12 51 49.4
comp=Z,82nm,2.3s,mb5.3
120A **U Bar Ranch, L** 80.07 55 ⇓P P 12 51 39.5 +0.2
baz=80
Y22A **Socorro** 80.12 53 ⇓P P 12 51 40.3 +0.8
baz=80
X23A **Hourglass Bar** 80.13 52 ⇓P P 12 51 39.4 -0.2
baz=80
Z21A **St. Cloud Mine** 80.13 54 ⇑P P 12 51 40.7 +1.1
baz=80
W24A **Lazy 6 Ranch,** 80.15 51 ⇓P P 12 51 40.5 +0.8
baz=80
V25A **Rancho No Teng** 80.16 50 ⇑P P 12 51 40.8 +1.0
baz=80
U26A **Atchley Ranch,** 80.27 49 ⇑P P 12 51 40.8 +0.5
baz=80
319A **Douglas** 80.48 56 ⇓P P 12 51 42.2 +0.7
baz=80
VTS **Vitosha** 80.55 320⇑ iP P 12 51 40.0 -1.7
220A **Playas Peak, P** 80.58 55 ⇓P P 12 51 42.8 +0.7
baz=80
X24A **Lazy VL Ranch,** 80.58 52 ⇑P P 12 51 42.6 +0.5
baz=80
Z22A **Elephant Butte** 80.59 54 ⇑P P 12 51 42.7 +0.5
baz=80
121A **Cookes Peak, D** 80.60 55 ⇑P P 12 51 43.0 +0.8
baz=80
ASF **Jabal al Asfar** 80.61 305 P P 12 51 42.8 +0.5
comp=Z,3.8nm,0.7s,mb4.4,baz=269,slow=4.7,SNR=4.7
ASF **Jabal al Asfar** 80.61 305 P P 12 51 42.8 +0.5
ASF **Jabal al Asfar** 80.61 305 P P 12 51 42.8 +0.6
Y23A **Lovelace Mesa,** 80.66 53 ⇓P P 12 51 43.3 +0.8
baz=80
W25A **X Bar L Ranch,** 80.69 51 ⇑P P 12 51 43.1 +0.5
baz=80
MEM **Membach** 80.90 335 P P 12 51 43.2 -0.2
GROS **Grobnik** 80.92 327 i P P 12 51 43.6 0.0
MMAI **Mount Meron Ar** 80.94 306 P P 12 51 44.9 +0.9
comp=Z,13nm,0.7s,mb5.0,baz=42,slow=6.7,SNR=8.6
MMAI **Mount Meron Ar** 80.94 306 P P 12 51 44.9 +0.9
SOKA **Soboth** 80.94 327⇑ iP P 12 51 43.9 +0.2
comp=Z,12nm,0.6s,mb5.0
SOKA **Soboth** 80.94 327⇑ iP P 12 51 43.9 +0.2
comp=Z,12nm,0.6s,mb5.0
PERS **Pernice** 80.94 327 i P P 12 51 43.9 +0.2
Y24A **Capitan** 81.03 52 ⇑P P 12 51 44.9 +0.4
baz=81
GOLS **Golise** 81.24 327 i P P 12 51 45.3 0.0
BCLA **Clavier** 81.29 335 P P 12 51 45.0 -0.5
comp=Z,23nm,3.5s
FOEL **Foel Wylfa** 81.47 341 eP P 12 51 45.4 -1.0
FOEL AMB AMB 12 51 52.8
comp=Z,69nm,2.8s,mb5.1
Y25A **Mesa, Roswell** 81.47 52 ⇓P P 12 51 46.8 0.0
baz=81
Z24A **Sheeppen Canyo** 81.50 53 ⇓P P 12 51 47.1 +0.2
baz=81
SNF **Seneffe** 81.53 336 P P 12 51 46.3 -0.4
comp=Z,13nm,2.0s,mb4.5
MYKA **Terra Mystica** 81.53 328⇑ iP P 12 51 46.4 -0.4
comp=Z,4.9nm,0.5s,mb4.7
MYKA **Terra Mystica** 81.53 328⇑ iP P 12 51 46.4 -0.4
comp=Z,4.9nm,0.5s,mb4.7
X26A **CR and CF Fran** 81.54 51 ⇑P P 12 51 47.0 -0.1
baz=81
GIVF **Givet** 81.72 335⇑ iP P 12 51 47.0 -0.8
comp=Z,13nm,0.8s,mb4.6
GIVF **Givet** 81.72 335⇑ iP P 12 51 47.0 -0.8
comp=Z,13nm,0.8s,mb4.9
GIVF **Givet** 81.72 335⇑ iP P 12 51 47.0 -0.8
GIVF pmax pmax
comp=Z,13nm,0.8s,mb4.9
WATA **Walderalm** 81.74 330⇑ iP P 12 51 48.2 +0.2
comp=Z,8.7nm,0.5s,mb4.9,SNR=12
WATA **Walderalm** 81.74 330⇑ iP P 12 51 48.2 +0.2
comp=Z,8.7nm,0.5s,mb4.9
WATA **Walderalm** 81.74 330⇑ iP P 12 51 48.2 +0.2
WATA pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
WTTA **Wattenberg** 81.78 330 i P P 12 51 48.6 +0.4
comp=Z,9.4nm,0.6s,mb4.9,SNR=17
WTTA **Wattenberg** 81.78 330 i P P 12 51 48.5 +0.4
comp=Z,9.4nm,0.6s,mb4.9
WTTA **Wattenberg** 81.78 330 i P P 12 51 48.6 +0.5
WTTA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
DOU **Dourbes** 81.79 335 P P 12 51 47.5 -0.6
DLF **Lyons Farm** 81.87 343 eP P 12 51 47.9 -0.6
MOTA **Moosalm** 81.91 330 i P P 12 51 49.1 +0.3
comp=Z,21nm,0.9s,mb5.0,SNR=16
MOTA **Moosalm** 81.91 330 i P P 12 51 49.1 +0.3
comp=Z,21nm,0.9s,mb5.1
MOTA **Moosalm** 81.91 330 i P P 12 51 49.1 +0.3
MOTA pmax pmax
comp=Z,21nm,0.9s,mb5.1
Z25A **Roswell** 81.91 52 ⇓P P 12 51 49.4 +0.3
baz=82
RETA **Reutte** 81.92 330⇑ iP P 12 51 49.1 +0.3
comp=Z,20nm,1.4s,mb4.8
RETA **Reutte** 81.92 330⇑ iP P 12 51 49.1 +0.2
comp=Z,20nm,1.4s,mb4.8
BAIF **Baives** 81.95 335⇑ iP P 12 51 48.3 -0.7
comp=Z,9.2nm,0.8s,mb4.5
BAIF **Baives** 81.95 335⇑ iP P 12 51 48.3 -0.7
comp=Z,9.2nm,0.8s,mb4.8
BAIF **Baives** 81.95 335⇑ iP P 12 51 48.3 -0.7
BAIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CEY **Cerknica** 81.95 327 i P P 12 51 48.5 -0.5
BFO **Black Forest** 82.08 332 eP P 12 51 48.9 -0.9
comp=Z,9.4nm,1.0s,mb4.7
BFO **Black Forest** 82.08 332 eP P 12 51 48.9 -0.8
BFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KSU1 **Kansas State U** 82.14 43 eP P 12 51 49.0 -1.2
comp=Z,14nm,0.5s,mb5.1
MCH1 **Michaelchurch** 82.23 340 eP P 12 51 50.1 -0.3
224A **Cornudas Mount** 82.29 54 ⇑P P 12 51 51.5 +0.4
baz=82
FETA **Feichten** 82.32 330 i P P 12 51 51.2 +0.2
comp=Z,9.1nm,1.0s,mb4.7,SNR=8.2
FETA **Feichten** 82.32 330 i P P 12 51 51.2 +0.2
comp=Z,9.1nm,1.0s,mb4.7
Z26A **Caprock** 82.35 52 ⇑P P 12 51 51.6 +0.1
baz=82
CDF **Champ du Feu** 82.38 333⇑ iP P 12 51 50.8 -0.4
comp=Z,20nm,1.0s,mb4.7
CDF **Champ du Feu** 82.38 333⇑ iP P 12 51 50.8 -0.4
comp=Z,20nm,1.0s,mb5.0
CDF **Champ du Feu** 82.38 333⇑ iP P 12 51 50.8 -0.4
CDF pmax pmax
comp=Z,20nm,1.0s,mb5.0
125A **Gardner Draw,** 82.39 53 ⇑P P 12 51 51.9 +0.3
baz=82
Y27A **Causey** 82.39 51 ⇓P P 12 51 51.6 0.0
baz=82
HGH **Gray Hill** 82.51 340 eP P 12 51 51.5 -0.4
AMTX **Amarillo** 82.52 49 ⇑P P 12 51 52.5 +0.2
baz=82
MNTX **Cornudas Mount** 82.64 54 ⇓P P 12 51 52.8 -0.1
baz=82
324A **Moseley Ranch,** 82.76 54 ⇑P P 12 51 53.7 +0.2
baz=83
PAGF **Fort de Pagny** 82.77 334⇑ iP P 12 51 53.2 -0.1
comp=Z,6.9nm,0.7s,mb4.5
PAGF **Fort de Pagny** 82.77 334⇑ iP P 12 51 53.2 -0.1
comp=Z,6.9nm,0.6s,mb4.9
126A **Clayton Basin,** 82.78 52 ⇑P P 12 51 53.9 +0.3
baz=83

DAVOX **Davos/Dischmat** 82.84 330 P P 12 51 54.0 +0.3
comp=Z,4.0nm,0.5s,mb4.7,baz=13,slow=4.4,SNR=12
DAVOX **Davos/Dischmat** 82.84 330 P P 12 51 54.0 +0.3
DAVOX **Davos/Dischmat** 82.84 330 P P 12 51 54.0 +0.3
GDL2 **Guadalupe Moun** 82.89 53 eP P 12 51 54.2 0.0
comp=Z,6.5nm,0.6s,mb4.8
HINF **Hinteralfeld** 83.03 333⇑ iP P 12 51 53.9 -0.8
comp=Z,5.8nm,0.7s,mb4.5
HINF **Hinteralfeld** 83.03 333⇑ iP P 12 51 53.9 -0.8
comp=Z,5.8nm,0.6s,mb4.8
HINF **Hinteralfeld** 83.03 333⇑ iP P 12 51 53.9 -0.8
HINF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
MEZF **Maizieres J'vi** 83.04 334 eP P 12 51 54.4 -0.3
comp=Z,13nm,0.8s,mb4.7
MEZF **Maizieres J'vi** 83.04 334 eP P 12 51 54.4 -0.3
comp=Z,13nm,0.8s,mb5.0
HAU **Haudompre** 83.04 333⇑ iP P 12 51 54.0 -0.7
comp=Z,19nm,1.0s,mb4.8
HAU **Haudompre** 83.04 333⇑ iP P 12 51 54.0 -0.7
comp=Z,19nm,1.0s,mb5.1
HAU **Haudompre** 83.04 333⇑ iP P 12 51 54.0 -0.7
HAU pmax pmax
comp=Z,19nm,1.0s,mb5.1
226A **Malaga, Loving** 83.14 53 ⇑P P 12 51 55.8 +0.3
baz=83
TUE **Stuetta** 83.30 331 eP P 12 51 56.1 0.0
comp=Z,5.1nm,0.6s,mb4.7
SFTF **Sexfontaines** 83.30 334⇑ iP P 12 51 55.6 -0.5
comp=Z,22nm,0.8s,mb4.9
SFTF **Sexfontaines** 83.30 334⇑ iP P 12 51 55.6 -0.5
comp=Z,22nm,0.8s,mb5.2
425A **Indio Mountain** 83.52 54 ⇑P P 12 51 57.8 +0.3
baz=83
EIL **Elat** 83.56 304 P P 12 51 58.7 +1.0
comp=Z,12nm,1.0s,mb5.0,baz=332,slow=4.0,SNR=6.0
EIL **Elat** 83.56 304 P P 12 51 58.7 +1.0
326A **Caldwell Ranch** 83.75 53 ⇓P P 12 51 58.9 +0.3
baz=84
426A **McDonald Obser** 84.18 54 ⇑P P 12 52 01.3 +0.4
baz=84
CABF **La Chapelle** 84.34 333 eP P 12 52 01.1 -0.3
comp=Z,7.7nm,0.8s,mb4.6
CABF **La Chapelle** 84.34 333 eP P 12 52 01.1 -0.3
comp=Z,7.7nm,0.8s,mb4.9
CABF **La Chapelle** 84.34 333 eP P 12 52 01.1 -0.3
CABF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
328A **Wristen Ranch,** 84.40 52 ⇓P P 12 52 02.4 +0.4
baz=84
427A **Hayter Ranch,** 84.43 53 ⇑P P 12 52 02.4 +0.3
baz=84
FLN **La Foliniere** 84.50 337 eP P 12 52 02.0 -0.2
comp=Z,14nm,0.7s,mb4.9
FLN **La Foliniere** 84.50 337 eP P 12 52 02.0 -0.2
comp=Z,14nm,0.7s,mb5.2
FLN **La Foliniere** 84.50 337 eP P 12 52 02.0 -0.2
FLN pmax pmax
comp=Z,14nm,0.7s,mb5.2
LOR **Lormes** 84.51 334⇑ iP P 12 52 01.7 -0.5
comp=Z,21nm,0.8s,mb5.0
LOR **Lormes** 84.51 334⇑ iP P 12 52 01.7 -0.5
comp=Z,21nm,0.8s,mb5.3
LOR **Lormes** 84.51 334⇑ iP P 12 52 01.7 -0.5
LOR pmax pmax
comp=Z,21nm,0.8s,mb5.3
LDF **La Druitiere** 84.55 337⇑ iP P 12 52 02.3 -0.1
comp=Z,7.9nm,0.6s,mb4.7
LDF **La Druitiere** 84.55 337⇑ iP P 12 52 02.3 -0.1
comp=Z,7.9nm,0.6s,mb5.0
LDF **La Druitiere** 84.55 337⇑ iP P 12 52 02.3 -0.1
LDF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
526A **Mary Lane Ranc** 84.58 54 ⇑P P 12 52 03.1 +0.1
baz=84
SSF **Saint Saulge** 84.80 334⇑ iP P 12 52 03.3 -0.4
comp=Z,9.7nm,0.7s,mb4.8
SSF **Saint Saulge** 84.80 334⇑ iP P 12 52 03.3 -0.4
comp=Z,9.7nm,0.7s,mb5.0
SSF **Saint Saulge** 84.80 334⇑ iP P 12 52 03.3 -0.4
SSF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
626A **Big Bend Ranch** 84.92 54 ⇑P P 12 52 04.6 0.0
baz=85
428A **Kincaid Ranch,** 84.94 53 ⇑P P 12 52 04.8 0.0
baz=85
GRR **Gorron** 84.95 338 eP P 12 52 04.0 -0.4
comp=Z,16nm,0.6s,mb5.0
GRR **Gorron** 84.95 338 eP P 12 52 04.0 -0.4
comp=Z,16nm,0.6s,mb5.3
GRR **Gorron** 84.95 338 eP P 12 52 04.0 -0.4
GRR pmax pmax
comp=Z,16nm,0.6s,mb5.3
TUL1 **Tulsa** 84.97 45 ⇓P P 12 52 04.8 -0.1
baz=85
LPL **La Plagne** 85.06 332⇑ iP P 12 52 05.3 +0.3
comp=Z,34nm,1.1s,mb5.1
LPL **La Plagne** 85.06 332⇑ iP P 12 52 05.3 +0.3
comp=Z,34nm,1.1s,mb5.4
LPL **La Plagne** 85.06 332⇑ iP P 12 52 05.3 +0.3
LPL pmax pmax
comp=Z,34nm,1.1s,mb5.4
SMF **Signal de Mont** 85.06 334⇑ iP P 12 52 04.7 -0.3
comp=Z,26nm,0.8s,mb5.1
SMF **Signal de Mont** 85.06 334⇑ iP P 12 52 04.7 -0.3
comp=Z,26nm,0.8s,mb5.4
SMF **Signal de Mont** 85.06 334⇑ iP P 12 52 04.7 -0.3
SMF pmax pmax
comp=Z,26nm,0.8s,mb5.4
LPG **La Plagne** 85.07 332⇑ iP P 12 52 05.6 +0.5
comp=Z,16nm,0.6s,mb5.0
LPG **La Plagne** 85.07 332⇑ iP P 12 52 05.6 +0.5
comp=Z,16nm,0.6s,mb5.3
LPG **La Plagne** 85.07 332⇑ iP P 12 52 05.6 +0.5
LPG pmax pmax
comp=Z,16nm,0.6s,mb5.3
AVF **Avril sur Loir** 85.09 334⇑ iP P 12 52 04.9 -0.3
comp=Z,22nm,0.6s,mb5.2
AVF **Avril sur Loir** 85.09 334⇑ iP P 12 52 04.9 -0.3
comp=Z,22nm,0.6s,mb5.5
AVF **Avril sur Loir** 85.09 334⇑ iP P 12 52 04.9 -0.3
AVF pmax pmax
comp=Z,22nm,0.6s,mb5.5
528A **Cox Ranch, San** 85.29 53 ⇑P P 12 52 06.4 -0.1
baz=85
TXAR **Lajitas Array** 85.36 54 P P 12 52 06.7 -0.1
comp=Z,2.1nm,0.5s,mb4.5,baz=298,slow=3.8,SNR=49
TXAR **Lajitas Array** 85.36 54 P P 12 52 06.7 -0.1
TXAR **Lajitas Array** 85.36 54 P P 12 52 06.7 -0.1
627A **Terlingua Ranc** 85.44 54 ⇑P P 12 52 07.1 -0.1
baz=85
BGF **Bois d'Agland** 85.46 334 eP P 12 52 07.3 +0.3
comp=Z,15nm,0.8s,mb4.9
BGF **Bois d'Agland** 85.46 334 eP P 12 52 07.3 +0.3
comp=Z,15nm,0.8s,mb5.2
BGF **Bois d'Agland** 85.46 334 eP P 12 52 07.3 +0.3
BGF pmax pmax
comp=Z,15nm,0.8s,mb5.2
SGMF **Saint Gilles** 85.54 339⇑ iP P 12 52 07.3 -0.1
comp=Z,35nm,1.0s,mb5.3
SGMF **Saint Gilles** 85.54 339⇑ iP P 12 52 07.3 -0.1
comp=Z,35nm,1.0s,mb5.5
SGMF **Saint Gilles** 85.54 339⇑ iP P 12 52 07.3 -0.1
SGMF pmax pmax
comp=Z,35nm,1.0s,mb5.5
CCM **Cathedral Cave** 85.63 41 eP P 12 52 07.5 -0.6
comp=Z,12nm,0.6s,mb5.3
CCM **Cathedral Cave** 85.63 41 eP P 12 52 07.5 -0.5
CCM pmax pmax
comp=Z,12nm,0.6s,mb5.3
SLM **Saint Louis** 85.66 40 P P 12 52 06.8 -1.3
comp=Z,12nm,0.7s,mb5.2
SLM **Saint Louis** 85.66 40 P P 12 52 06.8 -1.4
SLM pmax pmax
comp=Z,12nm,0.7s,mb5.2
ROSF **Rostrenen** 85.66 339 eP P 12 52 08.1 +0.1
comp=Z,40nm,0.8s,mb5.4
ROSF **Rostrenen** 85.66 339 eP P 12 52 08.1 +0.1
comp=Z,40nm,0.8s,mb5.7
ROSF **Rostrenen** 85.66 339 eP P 12 52 08.1 +0.1
ROSF pmax pmax
comp=Z,40nm,0.8s,mb5.7
SFIN **Scholer Farm** 85.71 37 ⇓P P 12 52 07.9 -0.5
baz=86
628A **Black Gap, Mar** 85.72 54 ⇑P P 12 52 08.9 +0.3
baz=86
MBDF **Montbardon** 85.73 331⇑ iP P 12 52 08.0 -0.4

comp=Z,13nm,0.5s,mb5.1
MBDF Montbardon 85.73 331⇑ *iP* **P 12 52 08.0 -0.4**
comp=Z,13nm,0.5s,mb5.4
MBDF Montbardon 85.73 331⇑ *iP* **P 12 52 08.0 -0.4**
MBDF pmax pmax
comp=Z,13nm,0.5s,mb5.4
ORIF Oris-en-Rattie 85.88 332⇑ *iP* **P 12 52 09.2 +0.1**
comp=Z,18nm,0.6s,mb5.1
ORIF Oris-en-Rattie 85.88 332⇑ *iP* **P 12 52 09.2 +0.1**
comp=Z,18nm,0.6s,mb5.5
ORIF Oris-en-Rattie 85.88 332⇑ *iP* **P 12 52 09.2 +0.1**
ORIF pmax pmax
comp=Z,18nm,0.6s,mb5.5
TCF Toulx Ste Croi 85.91 335⇑ *iP* **P 12 52 09.3 +0.1**
comp=Z,20nm,1.0s,mb5.0
TCF Toulx Ste Croi 85.91 335⇑ *iP* **P 12 52 09.3 +0.1**
comp=Z,20nm,1.0s,mb5.3
TCF Toulx Ste Croi 85.91 335⇑ *iP* **P 12 52 09.3 +0.1**
TCF pmax pmax
comp=Z,20nm,1.0s,mb5.3
QUIF Quistinic 86.02 339 *eP* **P 12 52 09.5 -0.3**
comp=Z,18nm,0.9s,mb5.0
QUIF Quistinic 86.02 339 *eP* **P 12 52 09.5 -0.3**
comp=Z,18nm,0.9s,mb5.3
QUIF Quistinic 86.02 339 *eP* **P 12 52 09.5 -0.3**
QUIF pmax pmax
comp=Z,18nm,0.9s,mb5.3
MFF Saint Martin d 86.35 336⇑ *iP* **P 12 52 11.5 +0.1**
comp=Z,28nm,0.7s,mb5.3
MFF Saint Martin d 86.35 336⇑ *iP* **P 12 52 11.5 +0.1**
comp=Z,28nm,0.7s,mb5.6
MFF Saint Martin d 86.35 336⇑ *iP* **P 12 52 11.5 +0.1**
MFF pmax pmax
comp=Z,28nm,0.7s,mb5.6
VIVF Saint-Julien-l 86.35 333⇑ *iP* **P 12 52 11.6 +0.1**
comp=Z,15nm,0.7s,mb5.1
VIVF Saint-Julien-l 86.35 333⇑ *iP* **P 12 52 11.6 +0.1**
comp=Z,15nm,0.7s,mb5.3
VIVF Saint-Julien-l 86.35 333⇑ *iP* **P 12 52 11.6 +0.1**
VIVF pmax pmax
comp=Z,15nm,0.7s,mb5.3
SIUC Southern Illin 86.87 40 *eP* **P 12 52 13.6 -0.5**
comp=Z,30nm,0.7s,mb5.6
RJF Les Rejaudoux 87.00 335 *eP* **P 12 52 14.8 +0.1**
RJF Les Rejaudoux 87.00 335 *eP* **P 12 52 14.8 +0.1**
RJF Les Rejaudoux 87.00 335 *eP* **P 12 52 14.8 +0.1**
LMR La Mourre 87.03 331 *eP* **P 12 52 14.3 -0.5**
LMR La Mourre 87.03 331 *eP* **P 12 52 14.3 -0.5**
LMR La Mourre 87.03 331 *eP* **P 12 52 14.3 -0.5**
CAF Calviac 87.16 334⇑ *iP* **P 12 52 16.1 +0.7**
comp=Z,20nm,0.8s,mb5.1
CAF Calviac 87.16 334⇑ *iP* **P 12 52 16.1 +0.7**
comp=Z,20nm,0.8s,mb5.4
CAF Calviac 87.16 334⇑ *iP* **P 12 52 16.1 +0.7**
CAF pmax pmax
comp=Z,20nm,0.8s,mb5.4
MIAR Mount Ida 87.19 44 *eP* **P 12 52 15.3 -0.4**
comp=Z,8.5nm,0.8s,mb5.0
MIAR Mount Ida 87.19 44 *eP* **P 12 52 15.4 -0.4**
MIAR pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LFF La Frestale 87.57 335⇑ *iP* **P 12 52 17.8 +0.4**
comp=Z,17nm,0.7s,mb5.1
LFF La Frestale 87.57 335⇑ *iP* **P 12 52 17.8 +0.4**
comp=Z,17nm,0.7s,mb5.4
LFF La Frestale 87.57 335⇑ *iP* **P 12 52 17.8 +0.4**
LFF pmax pmax
comp=Z,17nm,0.7s,mb5.4
WCI Wyandotte Cave 87.82 38 *eP* **P 12 52 18.2 -0.5**
comp=Z,12nm,0.7s,mb5.2
WCI Wyandotte Cave 87.82 38 *eP* **P 12 52 18.2 -0.5**
WCI pmax pmax
comp=Z,12nm,0.7s,mb5.2
EPF Esparros 89.41 334 *eP* **P 12 52 25.9 -0.3**
comp=Z,7.7nm,0.8s,mb4.8
EPF Esparros 89.41 334 *eP* **P 12 52 25.9 -0.3**
comp=Z,7.7nm,0.8s,mb5.1
EPF Esparros 89.41 334 *eP* **P 12 52 25.9 -0.3**
EPF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
ETSF Etsaut 89.82 335⇑ *iP* **P 12 52 28.6 +0.5**
comp=Z,8.1nm,0.6s,mb4.9
ETSF Etsaut 89.82 335⇑ *iP* **P 12 52 28.6 +0.5**
comp=Z,8.1nm,0.6s,mb5.2
ETSF Etsaut 89.82 335⇑ *iP* **P 12 52 28.6 +0.5**
ETSF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
TKL Tuckaleechee C 91.08 37 P **P 12 52 33.5 -0.5**
comp=Z,3.7nm,1.0s,mb4.7,baz=8.8,slow=14,SNR=5.7
TKL Tuckaleechee C 91.08 37 P **P 12 52 33.5 -0.5**
TKL Tuckaleechee C 91.08 37 P **P 12 52 33.6 -0.5**
ESDC Sonseca Array 93.81 336 P **P 12 52 45.3 -1.3**
comp=Z,0.3nm,0.5s,mb4.0,baz=12,slow=4.0,SNR=4.4
ESDC Sonseca Array 93.81 336 P **P 12 52 45.3 -1.3**
TORD Torodi Ar. Bea 115.29 319 PKP PKPdf 12 58 10.5 -0.9
comp=Z,0.5nm,0.5s,baz=315,slow=2.4,SNR=6.6
TORD PP PP 12 59 09.3 -2.0
comp=Z,1.6nm,0.9s,baz=26,slow=6.7,SNR=7.6
TORD Torodi Ar. Bea 115.29 319 PKP PKPdf 12 58 10.5 -0.9
TORD PP PP 12 59 09.3 -2.0
DBIC Dimbokro 124.04 322 PKP PKPdf 12 58 27.6 -0.7
comp=Z,2.0nm,0.5s,baz=21,slow=3.5,SNR=5.8
DBIC Dimbokro 124.04 322 PKP PKPdf 12 58 27.6 -0.7
DBIC Dimbokro 124.04 322 PKIKP PKPdf 12 58 27.6 -0.7
LPAZ La Paz 142.17 57 PKP PKPdf 12 59 02.0 0.0
comp=Z,0.8nm,0.5s,baz=260,slow=3.2,SNR=6.0
LPAZ La Paz 142.17 57 PKP PKPdf 12 59 02.0 0.0
LPAZ La Paz 142.17 57 PKIKP PKPdf 12 59 02.1 +0.1
SNAA Sanae 146.12 198 *e* PKPdf 12 59 07.8 +0.6
SNAA Sanae 146.12 198 *e*PKPdf PKPdf 12 59 06.9 -0.4
LVC Limon Verde 146.19 66 *e*PKPdf PKPdf 12 59 09.4 +0.5
VNA2 Neumayer--Watz 147.68 197 *e* PKPdf 12 59 12.3 +2.4
PLCA Paso Flores 153.86 99 PKPbc PKPbc 12 59 26.7 -1.6
comp=Z,1.1nm,0.7s,baz=216,slow=4.1,SNR=4.3
PLCA Paso Flores 153.86 99 PKPbc PKPbc 12 59 26.7 -1.6
CPUP Villa Florida 156.32 56 PKPab PKPab 12 59 52.6 +0.2
comp=Z,0.4nm,0.4s,baz=89,slow=6.1,SNR=3.4
CPUP Villa Florida 156.32 56 PKPab PKPab 12 59 52.6 +0.2
CPUP Villa Florida 156.32 56 PKP2 PKPab 12 59 52.6 +0.2

DDA ***25*** *12:43:47.8, 35°.70N×30°.26E, h10km±6km, Md3.8*
ISK ***25*** *12:43:49.6, 35°.80N×30°.35E, h17km, ML3.7*
ISCJB ***25*** *12:43:50.1±0.2, 35°.67N±0°.02×30°.30E±0°.02, h48km±5km, mb3.9/13, Error ellipse: s-maj=3.3km s-min=2.7km az=27.1*
CSEM ***25*** *12:43:50.5±0.1, 35°.74N×30°.32E, h20km, MD4.0, Error ellipse: s-maj=3.1km s-min=2.4km az=43.0*
NEIC ***25*** *12:43:51.0, 35°.82N×30°.36E, h41km, MG3.7(ISK), After ISK.*
THE ***25*** *12:43:52.4, 35°.78N×30°.09E, h2km±7km, ML3.9/3, Error ellipse: s-maj=14.8km s-min=1.5km az=108.0*
IDC ***25*** *12:43:52.5±1.5, 35°.74N×30°.41E, h49km±16km, mb3.8/13, mb1 3.9/19, mb1mx3.8/29, mbtmp3.8/19, ML3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/49, Error ellipse: s-maj=13.6km s-min=10.8km az=67.0*
ATH ***25*** *12:43:54.0, 35°.67N×29°.69E, h12km±8km, MD4.0/7*
HLW ***25*** *12:43:54.2, 35°.68N×30°.27E, h33km±17km, Md3.8, Ml3.4*
ISC 25 12:43:52.0±0.2, 35°.71N±0°.02×30°.31E±0°.02, h44km±5km, n230, σ0°93/261, mb3.9/13, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.74**	**307**	*ePB*	**Pn**	**12 44 03.4**	**-2.5**
AKAS	**Kas**	**0.78**	**313**	*iP*	**Pn**	**12 44 01.9**	**-4.6**
AKAS				*iS*	**Sn**	**12 44 14.5**	**-2.5**
AKAS	**Kas**	**0.78**	**313**	*iP*	**Pn**	**12 44 01.9**	**-4.6**
AKAS				*iS*	**Sn**	**12 44 14.5**	**-2.5**
ELL	**Elmali**	**1.09**	**343**	*ePG*	**Pn**	**12 44 09.7**	**-1.0**
ELL				*eSG*	**Sn**	**12 44 24.6**	**0.0**
ELL	**Elmali**	**1.09**	**343**	*ePg*	**Pn**	**12 44 09.7**	**-1.0**
ELL				*eSg*	**Sn**	**12 44 24.6**	**0.0**
ANTB	**Antalya**	**1.22**	**13**	*ePN*	**Pn**	**12 44 11.5**	**-1.0**
ANTB	**Antalya**	**1.22**	**13**	*ePn*	**Pn**	**12 44 11.5**	**-1.1**
KORT	**Korkueli**	**1.29**	**1**	*iP*	**Pn**	**12 44 12.3**	**-1.2**
KORT				*eS*	**Sn**	**12 44 30.4**	**+0.9**
KORT	**Korkueli**	**1.29**	**1**	*iP*	**Pn**	**12 44 12.3**	**-1.2**
KORT				*eS*	**Sn**	**12 44 30.5**	**+0.9**
GLHS	**Glhisar (BURDU**	**1.59**	**336**	*ePn*	**Pn**	**12 44 16.8**	**-0.7**
GLHS	**Glhisar (BURDU**	**1.59**	**336**	*ePn*	**Pn**	**12 44 16.8**	**-0.8**
GOLH	**Golhisar**	**1.64**	**339**	*iP*	**Pn**	**12 44 17.4**	**-0.9**
GOLH	**Golhisar**	**1.64**	**339**	*iP*	**Pn**	**12 44 17.4**	**-0.9**
GAZI	**Gazipasa**	**1.71**	**71**	*iP*	**Pn**	**12 44 24.3**	**+5.0**
GAZI				*iS*	**Sn**	**12 44 46.6**	**+6.7**
BCK	**Bucak**	**1.77**	**7**	*ePN*	**Pn**	**12 44 19.2**	**-0.8**
BCK	**Bucak**	**1.77**	**7**	*ePn*	**Pn**	**12 44 19.2**	**-0.8**
TURN	**Turunc**	**1.80**	**311**	*iP*	**Pn**	**12 44 19.2**	**-1.3**
TURN	**Turunc**	**1.80**	**311**	*iP*	**Pn**	**12 44 19.2**	**-1.3**
ARG	**Arkhangelos**	**1.84**	**287**	*ePB*	**Pn**	**12 44 20.0**	**-1.1**
ARG	**Arkhangelos**	**1.84**	**287**	P	**Pn**	**12 44 20.0**	**-1.1**
ARG				S	**Sn**	**12 44 43.7**	**+0.6**
ARG	**Arkhangelos**	**1.84**	**287**	*ePb*	**Pn**	**12 44 20.0**	**-1.1**
ARG				S	**Sn**	**12 44 43.7**	**+0.6**
SUTC	**Sutluce-Ispart**	**1.85**	**17**	*ePN*	**Pn**	**12 44 20.3**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.85**	**17**	*ePn*	**Pn**	**12 44 20.3**	**-0.9**
YER	**Yerkesik**	**2.17**	**312**	*ePN*	**Pn**	**12 44 25.6**	**+0.1**
YER				*eSN*	**Sn**	**12 44 51.4**	**+0.2**
YER	**Yerkesik**	**2.17**	**312**	*ePn*	**Pn**	**12 44 25.6**	**+0.1**
YER				*eSn*	**Sn**	**12 44 51.4**	**+0.2**
LEF	**Lefka**	**2.19**	**105**	*ePN*	**Pn**	**12 44 25.9**	**0.0**
LEF	**Lefka**	**2.19**	**105**	*ePn*	**Pn**	**12 44 25.9**	**+0.1**
DNZL	**Cakiroluk**	**2.22**	**333**	*iP*	**Pn**	**12 44 28.3**	**+2.0**
DNZL	**Cakiroluk**	**2.22**	**333**	*iP*	**Pn**	**12 44 28.3**	**+2.0**
DENT	**Denizli**	**2.29**	**334**	*ePN*	**Pn**	**12 44 26.6**	**-0.5**
DENT	**Denizli**	**2.29**	**334**	*ePn*	**Pn**	**12 44 26.6**	**-0.5**
ERMK	**Ermenek**	**2.30**	**65**	*iP*	**Pn**	**12 44 27.5**	**+0.1**
ERMK	**Ermenek**	**2.30**	**65**	*iP*	**Pn**	**12 44 27.5**	**+0.1**
DAT	**Datca**	**2.43**	**296**	*ePN*	**Pn**	**12 44 29.8**	**+0.7**
DAT	**Datca**	**2.43**	**296**	*ePn*	**Pn**	**12 44 29.8**	**+0.6**
KARP	**Karpathos**	**2.57**	**267**	*ePN*	**Pn**	**12 44 30.6**	**-0.4**
KARP	**Karpathos**	**2.57**	**267**	P	**Pn**	**12 44 30.6**	**-0.4**
KARP				S	**Sn**	**12 45 00.3**	**-0.7**
KARP	**Karpathos**	**2.57**	**267**	*ePn*	**Pn**	**12 44 30.6**	**-0.4**
KARP				S	**Sn**	**12 45 00.3**	**-0.7**
LFK	**Lefkose**	**2.67**	**98**	*ePN*	**Pn**	**12 44 33.3**	**+0.9**
LFK	**Lefkose**	**2.67**	**98**	*ePn*	**Pn**	**12 44 33.3**	**+0.9**
NIS1	**Nisyros Isl.**	**2.69**	**290**	P	**Pn**	**12 44 31.8**	**-0.8**
NIS1				S	**Sn**	**12 45 03.1**	**-0.8**
NIS1	**Nisyros Isl.**	**2.69**	**290**	P	**Pn**	**12 44 31.8**	**-0.8**
NIS1				S	**Sn**	**12 45 03.1**	**-0.8**
KONT	**Konya--Tatoy**	**2.77**	**36**	*ePN*	**Pn**	**12 44 33.3**	**-0.6**
KONT	**Konya--Tatoy**	**2.77**	**36**	*ePn*	**Pn**	**12 44 33.3**	**-0.6**
SHUT	**Suhut-Afyon**	**2.85**	**4**	*ePN*	**Pn**	**12 44 34.3**	**-0.5**
SHUT	**Suhut-Afyon**	**2.85**	**4**	*ePn*	**Pn**	**12 44 34.3**	**-0.6**
LADK	**Ladik-KONYA**	**2.98**	**33**	*ePN*	**Pn**	**12 44 36.5**	**-0.3**
LADK	**Ladik-KONYA**	**2.98**	**33**	*ePn*	**Pn**	**12 44 36.5**	**-0.2**
BOLV	**Bolvadin**	**3.05**	**9**	*iP*	**Pn**	**12 44 38.5**	**+0.8**
BOLV	**Bolvadin**	**3.05**	**9**	*iP*	**Pn**	**12 44 38.5**	**+0.9**
KULA	**Kula-Manisa**	**3.10**	**335**	*ePN*	**Pn**	**12 44 38.3**	**0.0**
KULA	**Kula-Manisa**	**3.10**	**335**	*ePn*	**Pn**	**12 44 38.3**	**0.0**
EREN	**Erenkoy**	**3.15**	**92**	*ePN*	**Pn**	**12 44 40.4**	**+1.4**
EREN	**Erenkoy**	**3.15**	**92**	*ePn*	**Pn**	**12 44 40.4**	**+1.4**
KDHN	**Kadinhani**	**3.16**	**27**	*iP*	**Pn**	**12 44 39.8**	**+0.7**
KDHN	**Kadinhani**	**3.16**	**27**	*iP*	**Pn**	**12 44 39.8**	**+0.7**
ALT	**Altintas**	**3.35**	**357**	*ePN*	**Pn**	**12 44 41.0**	**-0.7**
ALT	**Altintas**	**3.35**	**357**	*ePn*	**Pn**	**12 44 41.0**	**-0.7**
ZKR	**Zakros**	**3.39**	**261**	*ePN*	**Pn**	**12 44 42.4**	**0.0**
ZKR	**Zakros**	**3.39**	**261**	P	**Pn**	**12 44 42.5**	**+0.1**
ZKR	**Zakros**	**3.39**	**261**	P	**Pn**	**12 44 42.5**	**+0.1**
KIZT	**Kizilcal**	**3.41**	**21**	*ePN*	**Pn**	**12 44 42.5**	**0.0**
KIZT	**Kizilcal**	**3.41**	**21**	*ePn*	**Pn**	**12 44 42.5**	**0.0**
GDZ	**Gediz**	**3.44**	**349**	*iP*	**Pn**	**12 44 40.1**	**-2.9**
GDZ	**Gediz**	**3.44**	**349**	*iP*	**Pn**	**12 44 40.1**	**-2.9**
SULT	**Sultanhani-AKS**	**3.58**	**45**	*ePN*	**Pn**	**12 44 44.9**	**+0.1**
SULT	**Sultanhani-AKS**	**3.58**	**45**	*ePn*	**Pn**	**12 44 44.9**	**+0.1**
MERS	**Mersin**	**3.59**	**70**	*ePN*	**Pn**	**12 44 45.5**	**+0.3**
MERS	**Mersin**	**3.59**	**70**	*ePn*	**Pn**	**12 44 45.5**	**+0.4**
IZM	**Izmir**	**3.63**	**319**	*ePN*	**Pn**	**12 44 46.1**	**+0.6**
IZM	**Izmir**	**3.63**	**319**	*ePn*	**Pn**	**12 44 46.1**	**+0.6**
ESKT	**Eskisehir**	**3.83**	**6**	*ePN*	**Pn**	**12 44 47.9**	**-0.4**
ESKT	**Eskisehir**	**3.83**	**6**	*ePn*	**Pn**	**12 44 47.9**	**-0.4**
SVRH	**Sivrihisar-ESK**	**3.86**	**14**	*ePN*	**Pn**	**12 44 47.9**	**-0.8**
SVRH	**Sivrihisar-ESK**	**3.86**	**14**	*ePn*	**Pn**	**12 44 47.9**	**-0.8**
NPS	**Neapolis**	**3.86**	**265**	*ePN*	**Sn**	**12 45 31.8**	**-1.0**
NPS	**Neapolis**	**3.86**	**265**	P	**Pn**	**12 44 49.2**	**+0.5**
NPS	**Neapolis**	**3.86**	**265**	P	**Pn**	**12 44 49.2**	**+0.5**
NPS	**Neapolis**	**3.86**	**265**	*ePg*	**Sn**	**12 45 31.8**	**-1.0**
THR1	**Thera Island**	**3.98**	**281**	P	**Pn**	**12 44 50.1**	**-0.4**
THR1	**Thera Island**	**3.98**	**281**	P	**Pn**	**12 44 50.1**	**-0.4**
THR6	**Thira Island,**	**4.03**	**281**	P	**Pn**	**12 44 51.0**	**-0.1**
THR6	**Thira Island,**	**4.03**	**281**	P	**Pn**	**12 44 51.0**	**-0.1**
APE	**Apeiranthos**	**4.09**	**291**	P	**Pn**	**12 44 51.7**	**-0.2**
APE	**Apeiranthos**	**4.09**	**291**	P	**Pn**	**12 44 51.7**	**-0.2**
DST	**Dursunbey**	**4.11**	**341**	*ePN*	**Pn**	**12 44 52.6**	**+0.4**
DST	**Dursunbey**	**4.11**	**341**	*ePn*	**Pn**	**12 44 52.6**	**+0.4**
CHOS	**Chios island**	**4.33**	**309**	P	**Pn**	**12 44 54.0**	**-1.2**
CHOS				S	**Sn**	**12 45 43.6**	**-0.7**
CHOS	**Chios island**	**4.33**	**309**	P	**Pn**	**12 44 54.0**	**-1.2**
CHOS				S	**Sn**	**12 45 43.6**	**-0.7**
AFSR	**Af`ar-Bala (A**	**4.33**	**30**	*ePN*	**Pn**	**12 44 55.4**	**+0.2**
AFSR	**Af`ar-Bala (A**	**4.33**	**30**	*ePn*	**Pn**	**12 44 55.4**	**+0.2**
SIVA	**Sivas**	**4.55**	**263**	*ePN*	**Pn**	**12 44 58.3**	**+0.1**
SIVA	**Sivas**	**4.55**	**263**	P	**Pn**	**12 44 58.3**	**+0.1**
SIVA				S	**Sn**	**12 45 50.3**	**+0.6**
SIVA	**Sivas**	**4.55**	**263**	*ePn*	**Pn**	**12 44 58.3**	**+0.1**
SIVA				S	**Sn**	**12 45 50.3**	**+0.6**
KAMT	**Kaman**	**4.55**	**35**	*ePN*	**Pn**	**12 44 58.2**	**0.0**
KAMT	**Kaman**	**4.55**	**35**	*ePn*	**Pn**	**12 44 58.2**	**0.0**
HTY	**Hatay**	**4.75**	**83**	*ePN*	**Pn**	**12 45 01.6**	**+0.6**
HTY	**Hatay**	**4.75**	**83**	*ePn*	**Pn**	**12 45 01.6**	**+0.6**
KOZT	**Kozan**	**4.78**	**67**	*ePN*	**Pn**	**12 45 01.9**	**+0.5**
BRTR	**Keskin Array B**	**4.80**	**32**	P	**Pn**	**12 45 01.7**	**0.0**
1.6nm,0.3s,baz=197,slow=16,SNR=47
BRTR S **Sn** **12 45 55.9** **-0.1**
1.7nm,0.3s,baz=209,slow=27,SNR=8.6
BRTR Keskin Array B 4.80 32 P **Pn 12 45 01.7 0.0**
BRTR S **Sn 12 45 55.9 -0.1**
BRTR Keskin Array B 4.80 32 P **Pn 12 45 01.7 0.0**
BRTR S **Sn 12 45 55.9 -0.1**
GONE Gonen-Balikesi 4.80 335 *ePN* **Pn 12 45 02.1 +0.5**
GONE Gonen-Balikesi 4.80 335 *ePn* **Pn 12 45 02.2 +0.5**
VAM Vamos 4.99 268 *ePN* **Pn 12 45 05.1 +0.8**
VAM Vamos 4.99 268 *ePn* **Pn 12 45 05.7 +1.4**
MMAI Mount Meron Ar 5.00 121 P **Pn 12 45 04.7 +0.3**
7.5nm,0.3s,baz=312,slow=11,SNR=15
MMAI S **Sn** **12 46 00.5** **-0.3**
32nm,0.3s,baz=316,slow=28,SNR=18
MMAI Mount Meron Ar 5.00 121 P **Pn 12 45 04.7 +0.3**
MMAI S **Sn 12 46 00.5 -0.3**
MMAI Mount Meron Ar 5.00 121 P **Pn 12 45 04.7 +0.3**
MMAI S **Sn 12 46 00.5 -0.3**
GVD Gavdhos 5.16 262 *ePN* **Pn 12 45 07.4 +0.7**
GVD Gavdhos 5.16 262 *ePn* **Pn 12 45 07.4 +0.7**
HMAT Matruh 5.33 211 S **Sn 12 46 06.6 -2.4**
baz=211
HMAT Matruh 5.33 211 S **Sn 12 46 06.6 -2.4**
YOZ Yozgat 5.59 44 *ePN* **Pn 12 45 13.3 +0.9**
YOZ Yozgat 5.59 44 *ePn* **Pn 12 45 13.3 +0.9**
VLY Voula,Athens 5.65 294 *ePB* **Pn 12 45 13.7 +0.4**
VLY Voula,Athens 5.65 294 P **Pn 12 45 13.7 +0.4**
VLY Voula,Athens 5.65 294 P **Pn 12 45 13.7 +0.4**
VLY Voula,Athens 5.65 294 *ePb* **Pn 12 45 13.7 +0.4**
KOT Kottamia 5.90 167 P **Pn 12 45 17.2 +0.3**
baz=166
KOT AMP 12 46 00.0
comp=E,50μm,0.3s,logA/T=5.2,baz=166
KOT S **Sn** **12 46 20.6** **-2.6**
baz=166
KOT Kottamia 5.90 167 P **Pn 12 45 17.2 +0.3**
KYTH Kithira 5.92 278 *ePB* **Pn 12 45 17.3 +0.2**
KYTH Kithira 5.92 278 P **Pn 12 45 17.0 -0.1**
KYTH Kithira 5.92 278 P **Pn 12 45 17.0 -0.1**
KYTH Kithira 5.92 278 *ePb* **Pn 12 45 17.3 +0.2**
HHAG Hagoal 5.93 165 P **Pn 12 45 17.7 +0.5**
baz=164
HHAG S **Sn** **12 46 21.4** **-2.5**
baz=164
HHAG Hagoal 5.93 165 P **Pn 12 45 17.7 +0.5**
AYT Al 'Ayyat 6.03 173 P **Pn 12 45 19.1 +0.6**
baz=172
AYT Al 'Ayyat 6.03 173 P **Pn 12 45 19.1 +0.5**
VLI Veliai 6.04 282 P **Pn 12 45 18.9 +0.1**
VLI Veliai 6.04 282 P **Pn 12 45 18.9 +0.1**
HNAT Natroun 6.06 177 P **Pn 12 45 19.7 +0.7**
baz=177
HNAT Natroun 6.06 177 P **Pn 12 45 19.7 +0.7**
HSAF As Saff 6.16 170 P **Pn 12 45 20.7 +0.3**
baz=169
HSAF As Saff 6.16 170 P **Pn 12 45 20.7 +0.3**
ALN Alexandroupoli 6.17 328 P **Pn 12 45 21.5 +1.0**
ALN Alexandroupoli 6.17 328 P **Pn 12 45 21.5 +1.0**
SUZ 6.22 159 P **Pn 12 45 21.9 +0.6**
baz=158
SUZ 6.22 159 P **Pn 12 45 21.9 +0.7**
GLL Jalalah 6.22 169 P **Pn 12 45 21.5 +0.2**
baz=168
GLL Jalalah 6.22 169 P **Pn 12 45 21.5 +0.2**
LTK Loutraki 6.32 294 *ePB* **Pn 12 45 23.7 +1.1**
LTK Loutraki 6.32 294 *ePb* **Pn 12 45 23.7 +1.1**
ASF Jabal al Asfar 6.51 121 P **Pn 12 45 26.3 +1.2**
comp=E,1.3nm,0.3s,baz=129,slow=4.3,SNR=7.3
ASF S **Sn** **12 46 37.8** **-0.4**
comp=E,0.2nm,0.3s,baz=109,slow=21,SNR=1.8
ASF Jabal al Asfar 6.51 121 P **Pn 12 45 26.3 +1.2**
ASF S **Sn 12 46 37.8 -0.4**
HNKL Nakhl 6.54 151 P **Pn 12 45 26.5 +1.0**
baz=150
HNKL Nakhl 6.54 151 P **Pn 12 45 26.5 +1.0**
VLX Vlachokerasia 6.60 287 *ePB* **Pn 12 45 25.0 -1.3**
VLX Vlachokerasia 6.60 287 *ePb* **Pn 12 45 25.5 -0.8**
ZAF 6.68 163 P **Pn 12 45 27.7 +0.2**
baz=162
ZAF 6.68 163 P **Pn 12 45 27.7 +0.2**
GUR Goura 6.77 292 *ePN* **Pn 12 45 30.1 +1.5**
GUR Goura 6.77 292 *ePn* **Pn 12 45 30.2 +1.6**
DESF Desfina 6.78 296 P **Pn 12 45 29.5 +0.7**
DESF Desfina 6.78 296 P **Pn 12 45 29.5 +0.7**
ITM Ithomi 6.91 285 *ePN* **Pn 12 45 30.8 +0.1**
ITM Ithomi 6.91 285 P **Pn 12 45 31.1 +0.4**
ITM Ithomi 6.91 285 P **Pn 12 45 31.1 +0.4**
ITM Ithomi 6.91 285 *ePn* **Pn 12 45 31.8 +1.1**
PYL PYLOS 7.02 282 *ePG* **Pn 12 45 32.0 -0.1**
PYL PYLOS 7.02 282 *ePg* **Pn 12 45 32.0 -0.1**
AGG Agios Georgios 7.16 300 P **Pn 12 45 28.7 -5.4**
EIL Elat 7.18 146 P **Pn 12 45 34.9 +0.5**
comp=E,2.3nm,0.3s,baz=332,slow=8.3,SNR=15
EIL S **Sn** **12 46 52.6** **-2.0**
comp=E,3.9nm,0.3s,baz=311,slow=23,SNR=12
EIL Elat 7.18 146 P **Pn 12 45 34.9 +0.5**
EIL S **Sn 12 46 52.6 -2.0**
EIL Elat 7.18 146 P **Pn 12 45 34.9 +0.6**
EIL S **Sn 12 46 52.6 -2.0**
AWBH 7.46 190 P **Pn 12 45 38.0 -0.3**
baz=190
AWBH 7.46 190 P **Pn 12 45 38.0 -0.2**
RLS Riolos of Patr 7.46 291 P **Pn 12 45 39.8 +1.6**
RLS Riolos of Patr 7.46 291 P **Pn 12 45 39.8 +1.6**
TR2 7.85 157 P **Pn 12 45 43.5 -0.1**
baz=157
TR2 7.85 157 P **Pn 12 45 43.5 -0.1**
GRG Griva 8.13 313 P **Pn 12 45 47.9 +0.6**
GRG Griva 8.13 313 P **Pn 12 45 47.9 +0.6**
VLS Valsamata 8.16 290 P **Pn 12 45 47.5 -0.3**
VLS Valsamata 8.16 290 P **Pn 12 45 47.5 -0.3**
LKD2 Lefkada island 8.29 295 P **Pn 12 45 51.0 +1.5**
LKD2 Lefkada island 8.29 295 P **Pn 12 45 51.0 +1.5**
HFRF Wahat Farafira 8.70 192 P **Pn 12 45 54.9 -0.3**
baz=192
HFRF Wahat Farafira 8.70 192 P **Pn 12 45 54.9 -0.3**
IGT Igoumenitsa 8.79 299 P **Pn 12 45 58.0 +1.7**
IGT Igoumenitsa 8.79 299 P **Pn 12 45 58.0 +1.7**
KRUS Krusevo 9.07 311 *ePg* **Sn 12 47 34.3 -6.6**
KEK Kerkira 9.24 299 P **Pn 12 46 04.4 +1.9**
KEK Kerkira 9.24 299 P **Pn 12 46 04.4 +1.9**
GNI Garni 12.23 64 LR LR 12 51 54.8
comp=E,70nm,19.9s,baz=169,slow=40
AKASG Malin Array Be 15.01 357 P **Pn 12 47 23.5 +2.5**
comp=E,0.4nm,0.3s,baz=179,slow=9.5,SNR=4.0
AKASG Malin Array Be 15.01 357 P **Pn 12 47 23.5 +2.5**
AKASG Malin Array Be 15.01 357 P **Pn 12 47 23.5 +2.6**
KEST Kesra 17.03 276 P **Pn 12 47 49.8 +3.0**
comp=E,0.1nm,0.3s,baz=2.4,slow=3.4,SNR=6.8
KEST Kesra 17.03 276 P **Pn 12 47 49.8 +3.0**
KEST Kesra 17.03 276 P **Pn 12 47 49.8 +3.0**
GERES GERESS Array B 17.93 322 P **Pn 12 47 58.0 +0.2**
comp=E,0.2nm,0.3s,baz=146,slow=7.1,SNR=2.8
GERES GERESS Array B 17.93 322 P **Pn 12 47 58.0 +0.2**
GERES GERESS Array B 17.93 322 P **Pn 12 47 58.0 +0.2**
AKTO Aktyubinsk 24.84 45 P **P 12 49 09.2 -0.7**
comp=E,10nm,0.7s,mb4.5,baz=234,slow=8.3,SNR=30
AKTO Aktyubinsk 24.84 45 P **P 12 49 09.2 -0.7**
AKTO Aktyubinsk 24.84 45 P **P 12 49 09.2 -0.8**
FINES FINESS Array B 25.90 355 P **P 12 49 19.0 -0.5**
comp=E,1.7nm,0.7s,mb3.7,baz=153,slow=12,SNR=7.7
FINES FINESS Array B 25.90 355 P **P 12 49 19.0 -0.5**
FINES FINESS Array B 25.90 355 P **P 12 49 19.0 -0.4**
HFS Hagfors 26.70 341 P **P 12 49 26.5 -0.2**
comp=E,3.8nm,0.9s,mb3.9,baz=159,slow=17,SNR=5.4
HFS Hagfors 26.70 341 P **P 12 49 26.5 -0.2**
HFS Hagfors 26.70 341 P **P 12 49 26.5 -0.2**
ESDC Sonseca Array 27.31 289 P **P 12 49 33.3 +0.9**
comp=E,0.9nm,0.8s,mb3.4,baz=80,slow=11,SNR=5.0
ESDC Sonseca Array 27.31 289 P **P 12 49 33.3 +0.9**
ESDC Sonseca Array 27.31 289 P **P 12 49 33.3 +0.9**
NOA NORSAR Array B 28.13 340 P **P 12 49 38.3 -1.1**
comp=E,1.0nm,0.8s,mb3.5,baz=145,slow=9.4,SNR=3.3
NOA NORSAR Array B 28.13 340 P **P 12 49 38.3 -1.1**
TORD Torodi Ar. Bea 34.18 236 P **P 12 50 34.5 +1.3**
comp=E,2.8nm,0.8s,mb4.2,baz=36,slow=8.7,SNR=15
TORD Torodi Ar. Bea 34.18 236 P **P 12 50 34.5 +1.3**
TORD Torodi Ar. Bea 34.18 236 P **P 12 50 34

MJAR					Sn		Sn	13 17 12.2	+5.7
	0.9nm,0.3s,baz=129,slow=9.1,SNR=4.5								
MJAR	Matsushiro Arr	3.43	273		Pn		Pn	13 16 28.9	+1.8
MJAR					Sn		Sn	13 17 12.2	+5.7
MAT	Matsushiro	3.43	273		P		Pn	13 16 27.7	+0.6
MAT					S		Sn	13 17 08.7	+2.2
MAT	Matsushiro	3.43	273		P		Pn	13 16 28.7	+1.6
ASAJ	Asahikawa	7.65	1		Pn		Pn	13 17 25.0	-0.1
	0.9nm,0.3s,baz=183,slow=33,SNR=11								
ASAJ	Asahikawa	7.65	1		Pn		Pn	13 17 25.0	-0.1
SONM	Songino Array	28.80	305		P		P	13 21 32.6	+1.8
	0.4nm,0.6s,mb3.3,baz=108,slow=10,SNR=3.8								
SONM	Songino Array	28.80	305		P		P	13 21 32.6	+1.8
MKAR	Makanchi Array	45.14	303		P		P	13 23 50.5	+1.4
	0.3nm,0.7s,mb3.3,baz=81,slow=8.9,SNR=2.9								
MKAR	Makanchi Array	45.14	303		P		P	13 23 50.5	+1.4
KURK	Kurchatov	46.95	309		P		P	13 24 05.0	+1.6
	0.5nm,0.7s,mb3.5,baz=82,slow=7.5,SNR=4.9								
KURK	Kurchatov	46.95	309		P		P	13 24 05.0	+1.6
WRAB	Tennant Creek	56.60	189		eP		P	13 25 14.8	-0.8
WRA	Warramunga Arr	56.61	189		P		P	13 25 15.8	+0.2
	0.2nm,0.7s,mb3.2,baz=7.3,slow=7.4,SNR=5.0								
WRA	Warramunga Arr	56.61	189		P		P	13 25 15.8	+0.2
ASAR	Alice Springs	60.34	189		P		P	13 25 41.7	+0.1
	0.1nm,0.5s,mb3.1,baz=11,slow=6.6,SNR=5.5								
ASAR	Alice Springs	60.34	189		P		P	13 25 41.7	+0.1

PGC ***25*** *13:18:34.5±1.4, 48°.89N×128°.98W, h10km, ML2.9/14, Mw3.5, 225km west of Tofino, Bc Vancouver Island Region*
NEIC ***25*** *13:18:37.9±2.5, 49°.12N×128°.45W, h10km, mb3.8/1, MW3.5(PGC), Error ellipse: s-maj=31.7km s-min=12.2km az=217.0*
IDC ***25*** *13:18:39.7±3.9, 49°.28N×129°.02W, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=52.2km s-min=31.6km az=70.0*

ISC 25 13:18:35.2±1.8, 49°.0N±0°.1×128°.7W±0°.2, h9km±24km, n37, σ1§12/58, 5C-15D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.33	28	⇑Pn	Pn	13 19 59.0	-0.9
BPBC				Sn	Sn	13 19 17.1	-0.6
BPBC	Brooks Peninsu	1.33	28	⇑Pn	Pn	13 18 59.0	-0.9
BPBC				⇓Sn	Sn	13 19 17.1	-0.6
EDB	Eliza Dome	1.38	49	⇑Pn	Pn	13 18 59.7	-0.9
EDB				Sn	Sn	13 19 18.1	-0.8
EDB	Eliza Dome	1.38	49	⇑Pn	Pn	13 18 59.7	-0.9
EDB				⇑Sn	Sn	13 19 18.1	-0.8
HOLB	Holberg	1.70	13	Pn	Pn	13 19 03.9	-1.1
HOLB	Holberg	1.70	13	⇑Pn	Pn	13 19 03.9	-1.1
MAYB	Maynard	1.74	35	Pn	Pn	13 19 05.1	-0.4
MAYB	Maynard	1.74	35	⇓Pn	Pn	13 19 05.1	-0.4
WOSB	Woss	1.83	49	⇑Pn	Pn	13 19 07.0	+0.2
WOSB	Woss	1.83	49	⇑Pn	Pn	13 19 07.0	+0.2
PHC	Port Hardy	1.92	26	⇓Pn	Pn	13 19 07.5	-0.5
PHC				Sn	Sn	13 19 31.4	-0.8
PHC	Port Hardy	1.92	26	⇓Pn	Pn	13 19 07.5	-0.5
PHC				⇑Sn	Sn	13 19 31.4	-0.8
GDR	Gold River	1.94	65	⇑Pn	Pn	13 19 07.5	-0.7
GDR	Gold River	1.94	65	⇑Pn	Pn	13 19 07.5	-0.7
OZB	Mount Ozzard	2.14	90	⇓Pn	Pn	13 19 09.4	-1.6
OZB				Sn	Sn	13 19 35.2	-2.4
OZB	Mount Ozzard	2.14	90	⇓Pn	Pn	13 19 09.4	-1.6
OZB				⇓Sn	Sn	13 19 35.2	-2.4
BTB	Buttle Lake	2.16	76	⇑Pn	Pn	13 19 11.1	-0.3
BTB				⇑Sn	Sn	13 19 38.3	+0.1
NCRB	Newcastle Ridg	2.24	50	⇑Pn	Pn	13 19 13.2	+0.8
NCRB				⇓Sn	Sn	13 19 41.8	+1.6
BMSB	Bamfield Mari	2.38	92	⇑Sn	Sn	13 19 41.8	-1.7
CBB	Campbell River	2.43	63	⇓Pn	Pn	13 19 15.4	+0.4
CBB				⇑Sn	Sn	13 19 46.5	+1.6
ALB	Alberni	2.58	82	⇑Pn	Pn	13 19 16.2	-0.9
ALB				⇓Sn	Sn	13 19 47.5	-1.0
MGB	Mount Grey	2.66	88	⇓Pn	Pn	13 19 17.1	-1.1
MGB				⇑Sn	Sn	13 19 49.9	-0.7
TXB	Texada	2.90	74	⇑Pn	Pn	13 19 22.2	+0.7
TXB				⇓Sn	Sn	13 19 57.3	+0.9
GHNB	Nanoose	2.97	82	⇓Pn	Pn	13 19 22.7	+0.3
GHNB				⇓Sn	Sn	13 19 59.1	+1.0
NLLB	Nanaimo Lost L	3.13	84	⇑Pn	Pn	13 19 25.2	+0.6
NLLB				⇓Sn	Sn	13 20 03.2	+1.1
BBB	Bella Bella	3.23	7	Pn	Pn	13 19 26.6	+0.7
	19nm,0.3s,baz=205,slow=13,SNR=112						
BBB				Sn	Sn	13 20 03.0	-1.5
	9.2nm,0.3s,baz=50,slow=22,SNR=5.6						
BBB	Bella Bella	3.23	7	Pn	Pn	13 19 26.6	+0.7
BBB				Sn	Sn	13 20 03.0	-1.5
BBB	Bella Bella	3.23	7	⇑Pn	Pn	13 19 26.0	+0.1
BBB				⇑Sn	Sn	13 20 02.7	-1.7
SHB	Sechelt	3.24	77	⇑Pn	Pn	13 19 26.9	+0.7
SHB				Sn	Sn	13 20 06.8	+2.0
SHB	Sechelt	3.24	77	⇑Pn	Pn	13 19 26.9	+0.7
SHB				⇓Sn	Sn	13 20 06.8	+2.0
YKA	Yellowknife Ar	15.64	25	Pn	Pn	13 22 17.1	+1.6
	0.1nm,0.3s,baz=221,slow=12,SNR=14						
YKA	Yellowknife Ar	15.64	25	Pn	Pn	13 22 17.1	+1.6
FFC	Flin Flon	17.43	61	ePn	Pn	13 22 40.1	+1.7
	5.9nm,0.8s						
ILAR	Eielson Array	18.55	335	P	Pn	13 22 54.7	+2.7
	baz=149,slow=13,SNR=4.0						
ILAR	Eielson Array	18.55	335	P	Pn	13 22 54.7	+2.7
ULM	Lac du Bonnet	21.24	74	P	P	13 23 27.0	+5.8
	1.5nm,0.6s,baz=290,slow=10,SNR=3.2						
ULM	Lac du Bonnet	21.24	74	P	P	13 23 27.0	+5.8

GUC 25 13:21:57.0±0.5, 32°.61S×72°.15W, h16km±421km, MD3.7, ML3.1, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.60	134	eP	Pg	13 22 08.4	-0.4
IHA				i S	Sg	13 22 17.5	+0.8
CHNG	Los Chungos	0.91	37	eP	Pb	13 22 12.9	-1.5
CHNG				eS	Sb	13 22 25.4	-0.9
ROCH	El Roble	1.03	111	eP	Pb	13 22 15.2	-1.3
ROCH				eS	Sb	13 22 29.0	-0.6
ROCH				AML	AML	13 22 30.4	
	comp=N,1μm,0.5s						
PTCH	Petorca	1.09	72	eP	Pb	13 22 16.2	-1.2
PTCH				eS	Sb	13 22 31.0	-0.5
PTCH				AML	AML	13 22 37.0	
	comp=N,478nm,0.5s						
JACH	Jahuel	1.32	94	eP	Pn	13 22 18.4	-2.4
PEL	Peldehue	1.34	114	eP	Pn	13 22 20.2	-0.9
PEL				eS	Sn	13 22 37.8	-0.9
PEL				AML	AML	13 22 39.8	
	comp=E,1μm,0.3s						
TACH	Talagante	1.46	136	eP	Pn	13 22 22.0	-0.7
TACH				i S	Sn	13 22 40.6	-0.9
LNV	Longovilo	1.48	155	eP	Pn	13 22 21.2	-1.8
SAN	Santiago	1.51	124	eP	Pn	13 22 24.4	+1.0
CLCH	Cerro Calan	1.57	120	eP	Pn	13 22 23.9	-0.3
CLCH				eS	Sn	13 22 44.2	0.0
CLCH				AML	AML	13 22 48.9	
	comp=E,457nm,0.6s						
ANTU	Antumapu	1.59	127	eS	Sn	13 22 44.6	-0.2
ANTU				AML	AML	13 22 53.1	
	comp=N,305nm,0.5s						
PCH	Pirque	1.70	127	eP	Pn	13 22 26.1	0.0
PCH				i S	Sn	13 22 47.9	+0.3
FCH	Farellones	1.72	115	eP	Pn	13 22 26.9	+0.5
FCH				eS	Sn	13 22 49.6	+1.6
FCH				AML	AML	13 22 51.7	
	comp=E,527nm,0.4s						
CHCH	Chadas Angostu	1.82	137	eP	Pn	13 22 27.7	0.0
CHCH				i S	Sn	13 22 51.5	+1.0
CACH	El Canelo	1.99	140	eP	Pn	13 22 31.3	+1.4
LMEL	Las Melosas	2.05	128	eP	Pn	13 22 32.1	+1.3
LMEL				AML	AML	13 23 04.9	
	comp=N,234nm,0.2s						

PGC ***25*** *13:22:49.0±3.3, 48°.83N×129°.02W, h10km, ML3.1, ML3.1/14, 229km west of Tofino, Bc Vancouver Island Region*
ISCJB ***25*** *13:22:50.6±0.7, 48°.99N±0°.04×128°.65W±0°.06, h10km, mb3.5/5, Error ellipse: s-maj=6.5km s-min=4.5km az=36.4*
IDC ***25*** *13:22:54.0±1.6, 49°.15N×128°.28W, h0km, mb3.3/4, mb1 3.7/9, mb1mx3.5/27, mbtmp3.5/9, ML3.4/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/25, Error ellipse: s-maj=33.4km s-min=12.5km az=64.0*
NEIC ***25*** *13:22:54.2±0.9, 49°.20N×128°.41W, h10km, mb4.0/2, Error ellipse: s-maj=13.9km s-min=6.9km az=53.0*

ISC 25 13:22:52.2±0.7, 49°.06N±0°.04×128°.63W±0°.06, h10km, n54, σ1§33/72, mb3.5/5, 5C-12D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.23	27	⇑Pn	Pn	13 23 14.2	-1.2
BPBC	Brooks Peninsu	1.23	27	⇑Pn	Pn	13 23 14.2	-1.2
EDB	Eliza Dome	1.28	50	⇑Pn	Pn	13 23 14.9	-1.2
EDB				Sn	Sn	13 23 33.2	-0.1
EDB	Eliza Dome	1.28	50	⇑Pn	Pn	13 23 14.9	-1.2
EDB				⇑Sn	Sn	13 23 33.2	-0.1
HOLB	Holberg	1.62	11	⇑Pn	Pn	13 23 19.0	-1.7
HOLB	Holberg	1.62	11	⇑Pn	Pn	13 23 19.0	-1.7
MAYB	Maynard	1.65	35	⇑Pn	Pn	13 23 20.4	-0.7
MAYB	Maynard	1.65	35	⇑Pn	Pn	13 23 20.4	-0.7
WOSB	Woss	1.74	50	Pn	Pn	13 23 22.3	-0.1
WOSB	Woss	1.74	50	Pn	Pn	13 23 22.3	-0.1
PHC	Port Hardy	1.82	25	⇑Pn	Pn	13 23 22.6	-1.0
PHC				Sn	Sn	13 23 46.9	+0.2
PHC	Port Hardy	1.82	25	⇑Pn	Pn	13 23 22.6	-1.0
PHC				⇓Sn	Sn	13 23 46.9	+0.2
GDR	Gold River	1.85	66	⇑Pn	Pn	13 23 22.9	-1.0
OZB	Mount Ozzard	2.07	92	⇑Pn	Pn	13 23 24.5	-2.5
OZB				⇓Sn	Sn	13 23 51.0	-1.7
BTB	Buttle Lake	2.08	77	⇑Pn	Pn	13 23 26.2	-0.8
BTB				⇑Sn	Sn	13 23 53.9	+0.9
NCRB	Newcastle Ridg	2.15	50	⇑Pn	Pn	13 23 28.5	+0.4
NCRB				⇑Sn	Sn	13 23 57.3	+2.6
BMSB	Bamfield Mari	2.32	94	⇑Sn	Sn	13 23 57.3	-1.6
CBB	Campbell River	2.34	64	⇓Pn	Pn	13 23 30.4	-0.2
CBB				⇑Sn	Sn	13 24 01.9	+2.4
ALB	Alberni	2.51	84	⇑Pn	Pn	13 23 31.7	-1.2
ALB				⇓Sn	Sn	13 24 03.8	+0.3
MGB	Mount Grey	2.59	90	⇓Pn	Pn	13 23 32.4	-1.8
MGB				⇓Sn	Sn	13 24 04.6	-1.1
TXB	Texada	2.82	75	⇓Pn	Pn	13 23 37.5	+0.3
TXB				⇓Sn	Sn	13 24 13.6	+2.4
GHNB	Nanoose	2.90	83	⇑Pn	Pn	13 23 38.1	-0.2
GHNB				⇑Sn	Sn	13 24 14.0	+0.8
NLLB	Nanaimo Lost L	3.06	85	⇓Pn	Pn	13 23 40.0	-0.5
NLLB				⇓Sn	Sn	13 24 18.0	+1.0
BBB	Bella Bella	3.15	6	Pn	Pn	13 23 41.0	-0.7
	32nm,0.3s,baz=202,slow=14,SNR=97						
BBB				Sn	Sn	13 24 19.9	+0.6
	13nm,0.3s,baz=265,slow=23,SNR=4.3						
BBB	Bella Bella	3.15	6	Pn	Pn	13 23 41.0	-0.7
BBB				Sn	Sn	13 24 19.9	+0.6
BBB	Bella Bella	3.15	6	⇓Pn	Pn	13 23 40.9	-0.9
BBB				⇑Sn	Sn	13 24 17.8	-1.5
SHB	Sechelt	3.16	78	Pn	Pn	13 23 42.0	+0.1
SHB				Sn	Sn	13 24 22.1	+2.5
SHB	Sechelt	3.16	78	⇑Pn	Pn	13 23 42.0	+0.1
SHB				⇓Sn	Sn	13 24 22.1	+2.5
LZB	Mount Lazard	3.21	96	⇑Pn	Pn	13 23 41.0	-1.7
NLWA	Neilton Lookou	3.60	116	ePn	Pn	13 23 46.9	-1.0
NLWA				eSn	Sn	13 24 26.9	-3.5
RPW	Rockport	4.75	95	ePn	Pn	13 24 03.5	-0.3
ETW	Entiat	5.72	102	ePn	Pn	13 24 17.4	+0.2
	5.3nm,0.6s						
OD2	Odessa Site #2	6.84	100	ePn	Pn	13 24 31.6	-0.9
	7.9nm,0.8s						
LNOR	Lincton Mounta	7.70	111	ePn	Pn	13 24 45.7	+1.4
	8.1nm,1.2s						
BSMT	Bassoo Peak	9.28	92	ePn	Pn	13 25 06.8	+0.8
DLBC	Dease Lake	9.43	356	Pn	Pn	13 25 11.6	+3.6
	0.1nm,0.3s,baz=110,slow=9.7,SNR=4.2						
DLBC	Dease Lake	9.43	356	Pn	Pn	13 25 11.6	+3.6
PDAR	Pinedale Array	14.68	108	Pn	Pn	13 26 22.2	+2.6
	0.0nm,0.3s,baz=300,slow=12,SNR=4.6						
PDAR	Pinedale Array	14.68	108	Pn	Pn	13 26 22.2	+2.6
YKA	Yellowknife Ar	15.55	25	Pn	Pn	13 26 29.5	-1.6
	0.1nm,0.3s,baz=216,slow=12,SNR=10						
YKA	Yellowknife Ar	15.55	25	Pn	Pn	13 26 29.6	-1.6
FFC	Flin Flon	17.34	61	ePn	Pn	13 26 54.4	+0.3
	8.5nm,0.7s						
ILAR	Eielson Array	18.51	335	P	Pn	13 27 10.4	+1.9
	baz=149,slow=13,SNR=4.3						
ILAR	Eielson Array	18.51	335	P	Pn	13 27 10.4	+1.9
ULM	Lac du Bonnet	21.15	74	P	P	13 27 37.8	+0.7
	5.6nm,0.9s,mb3.9,baz=284,slow=11,SNR=4.7						
ULM	Lac du Bonnet	21.15	74	P	P	13 27 37.8	+0.7
AGMN	Agassiz Nation	21.57	80	eP	P	13 27 42.7	+1.1
	11nm,1.3s,mb4.1						
ANMO	Albuquerque	21.58	123	P	P	13 27 44.7	+2.9
	0.9nm,0.8s,mb3.2,baz=326,slow=12,SNR=4.6						
ANMO	Albuquerque	21.58	123	P	P	13 27 44.7	+2.9
AKUT	Akutan	23.43	297	eP	P	13 28 02.8	+1.5
TXAR	Lajitas Array	27.40	127	P	P	13 28 40.0	+2.3
	0.3nm,0.9s,mb2.8,baz=317,slow=4.9,SNR=3.0						
TXAR	Lajitas Array	27.40	127	P	P	13 28 40.0	+2.3
ASAJ	Asahikawa	57.81	302	LR	LR	13 58 25.3	
	comp=Z,42nm,19.2s,baz=202,slow=37						
MKAR	Makanchi Array	80.82	339	P	P	13 35 09.8	+4.0
	0.3nm,0.6s,mb3.4,baz=18,slow=5.2,SNR=3.7						

NIED ***25*** *13:30:00, 36°.50N×142°.40E, h5km, Mw3.9 Best double couple: M0 8.20000×10^14 NP1:φ0=242.00000°, δ73.00000°, λ138.00000°. NP2:φ0=347.00000°, δ50.00000°, λ22.00000°.*
IDC ***25*** *13:30:41.2±0.7, 36°.34N×142°.52E, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.9/27, mbtmp3.8/15, ML3.4/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/49, Error ellipse: s-maj=17.8km s-min=16.2km az=105.0*
NEIC ***25*** *13:30:41.6±4.8, 36°.28N×142°.56E, h4km±30km, MG3.7(JMA), Error ellipse: s-maj=13.1km s-min=8.4km az=62.0*
ISCJB ***25*** *13:30:43.2±1.8, 36°.46N±0°.04×142°.42E±0°.05, h23km±13km, mb3.8/13, Error ellipse: s-maj=7.1km s-min=6.2km az=159.1*
JMA ***25*** *13:30:43.8±0.2, 36°.47N×142°.42E, h39km, M3.7*

ISC 25 13:30:44.3±1.8, 36°.47N±0°.04×142°.36E±0°.05, h18km±12km, n50, σ1§12/62, mb3.8/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.41	297	P	Pn	13 31 08.4	-0.6
ONAJ				eS	Sn	13 31 25.9	-1.1
CHOJ	Chosi	1.44	238	P	Pn	13 31 09.0	-0.4
JHO	Hitachi	1.45	276	P	Pn	13 31 08.9	-0.7
JHO				eS	Sn	13 31 27.3	-0.8
JFK	Kawauchi	1.49	307	P	Pn	13 31 09.5	-0.6
JFK				eS	Sn	13 31 27.4	-1.7
JMM	Marumori	1.88	318	P	Pn	13 31 15.1	-0.3
JMM				S	Sn	13 31 39.3	+0.7
JFT	Otama	1.93	303	P	Pn	13 31 16.1	-0.1
JFT				S	Sn	13 31 41.1	+1.1
BSO1	Boso 1	2.14	212	P	Pn	13 31 18.3	-0.7
BSO1				eS	Sn	13 31 45.3	+0.3
JIO	Ouri	2.14	338	P	Pn	13 31 18.4	-0.6
JIO				S	Sn	13 31 44.5	-0.6
BSO3	Boso 3	2.25	223	P	Pn	13 31 20.2	-0.3
JAG	Ashikaga	2.35	270	P	Pn	13 31 21.6	-0.3
JAG				eS	Sn	13 31 51.0	+0.8
MJAR	Matsushiro Arr	3.35	272	Pn	Pn	13 31 36.2	+0.5
	4.0nm,0.3s,baz=249,slow=7.7,SNR=42						
MJAR				Sn	Sn	13 32 11.7	-3.2
	3.6nm,0.3s,baz=80,slow=15,SNR=5.4						
MJAR				LR	LR	13 33 03.2	
	comp=Z,233nm,21.6s,baz=175,slow=41						
MJAR	Matsushiro Arr	3.35	272	Pn	Pn	13 31 36.2	+0.5
MJAR				Sn	Sn	13 32 11.7	-3.2
MAJO	Matsushiro	3.35	272	ePn	Pn	13 31 37.1	+1.4
MAT	Matsushiro	3.35	272	P	Pn	13 31 35.7	0.0
MAT				eS	Sn	13 32 14.9	-0.1
ASAJ	Asahikawa	7.64	1	Pn	Pn	13 32 33.5	-1.0
	1.2nm,0.3s,baz=215,slow=14,SNR=9.4						
ASAJ				Sn	Sn	13 33 57.6	-3.0
	0.4nm,0.3s,baz=210,slow=30,SNR=2.0						
ASAJ				LR	LR	13 36 28.7	
	comp=Z,104nm,18.7s,baz=299,slow=45						
ASAJ	Asahikawa	7.64	1	Pn	Pn	13 32 33.5	-1.0
CBIJ	Chichi jima	9.35	181	Pn	Pn	13 32 54.4	-3.7
CBIJ				Sn	Sn	13 34 31.6	-11
CBIJ	Chichi jima	9.35	181	Pn	Pn	13 32 54.4	-3.7
CBIJ				Sn	Sn	13 34 31.6	-11
KSRS	Korea Array	11.60	279	Pn	Pn	13 33 32.3	+3.5
	0.1nm,0.3s,baz=99,slow=13,SNR=4.3						
KSRS				LR	LR	13 38 05.6	
	comp=Z,58nm,19.8s,baz=40,slow=38						
KSAR	Wonju Array Be	11.63	279	Pn	Pn	13 33 32.3	+3.1
SONM	Songino Array	28.73	305	P	P	13 36 41.8	+1.4
	4.0nm,0.8s,mb4.2,baz=106,slow=7.9,SNR=28						
SONM	Songino Array	28.73	305	P	P	13 36 41.8	+1.4
CMAR	Chiang Mai Arr	42.10	257	P	P	13 38 35.6	+0.3
	0.6nm,0.8s,mb3.3,baz=49,slow=6.3,SNR=5.4						
CMAR	Chiang Mai Arr	42.10	257	P	P	13 38 35.6	+0.3
ZALV	Zalesovo Beam	42.86	313	P	P	13 38 41.5	+0.5
	0.6nm,0.4s,mb3.6,baz=101,slow=8.2,SNR=5.0						
ZALV	Zalesovo Beam	42.86	313	P	P	13 38 41.5	+0.5
MK31	Makanchi Array	45.07	303	eP	P	13 39 00.8	+1.9
MKAR	Makanchi Array	45.07	303	P	P	13 39 00.5	+1.6
	1.6nm,0.7s,mb4.0,baz=82,slow=8.7,SNR=14						
MKAR				LR	LR	14 00 14.1	
	comp=Z,30nm,20.5s,baz=226,slow=39						
MKAR	Makanchi Array	45.07	303	P	P	13 39 00.5	+1.6
KURK	Kurchatov	46.88	309	P	P	13 39 14.2	+1.0
	1.7nm,0.7s,mb4.1,baz=84,slow=8.1,SNR=9.0						
KURK	Kurchatov	46.88	309	eP	P	13 39 14.7	+1.6
ILAR	Eielson Array	49.56	32	P	P	13 39 33.6	0.0
	1.1nm,0.8s,mb3.9,baz=265,slow=6.5,SNR=12						
ILAR	Eielson Array	49.56	32	P	P	13 39 33.6	0.0
BVAR	Borovoye Array	51.52	313	P	P	13 39 51.2	+2.6
	0.4nm,0.7s,mb3.5,baz=91,slow=7.5,SNR=2.6						
BVAR	Borovoye Array	51.52	313	P	P	13 39 51.2	+2.6
INK	Inuvik	54.54	27	P	P	13 40 11.3	+0.7
	0.6nm,0.7s,mb3.8,baz=306,slow=7.9,SNR=5.3						
INK	Inuvik	54.54	27	P	P	13 40 11.3	+0.7
WRA	Warramunga Arr	56.62	189	P	P	13 40 24.9	-1.1
	0.9nm,0.7s,mb3.9,baz=8.7,slow=7.0,SNR=14						
WRA	Warramunga Arr	56.62	189	P	P	13 40 24.9	-1.1
AS31	Alice Springs	60.34	189	eP	P	13 40 49.5	-2.5
ASAR	Alice Springs	60.34	189	P	P	13 40 51.2	-0.8
	0.4nm,0.6s,mb3.6,baz=9.1,slow=7.7,SNR=26						
ASAR	Alice Springs	60.34	189	P	P	13 40 51.2	-0.8
YKA	Yellowknife Ar	63.91	30	P	P	13 41 15.2	-0.4
	0.4nm,0.7s,mb3.6,baz=300,slow=6.6,SNR=7.9						
YKA	Yellowknife Ar	63.91	30	P	P	13 41 15.2	-0.4
FINES	FINESS Array B	69.67	333	P	P	13 41 52.9	+0.6
	2.3nm,0.8s,mb4.2,baz=46,slow=8.2,SNR=4.3						
FINES	FINESS Array B	69.67	333	P	P	13 41 52.9	+0.6
TXAR	Lajitas Array	89.86	53	P	P	13 43 42.9	+0.7
	0.5nm,0.7s,mb4.0,baz=306,slow=3.7,SNR=7.6						
TXAR	Lajitas Array	89.86	53	P	P	13 43 42.9	+0.7
LPAZ	La Paz	146.31	61	PKPbc	PKPbc	13 50 25.0	+0.8
	1.4nm,0.6s,baz=307,slow=1.3,SNR=6.6						
LPAZ	La Paz	146.31	61	PKPbc	PKPbc	13 50 25.0	+0.8

ISCJB ***25*** *13:53:15.3±0.2, 51°.40N±0°.01×6°.35E±0°.03, h0km, Error ellipse: s-maj=2.6km s-min=1.9km az=31.5*
LDG ***25*** *13:53:17.6±0.1, 51°.52N×6°.68E, h1km, Ml3.2/29, Error ellipse: s-maj=2.0km s-min=1.6km az=158.0, Suspected Mining induced.*
NEIC ***25*** *13:53:17.6, 51°.52N×6°.68E, h1km, ML3.2(LDG), After LDG.*
STR ***25*** *13:53:17.3±1.9, 51°.43N×7°.11E, h10km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
BUG ***25*** *13:53:17.9, 51°.50N×6°.59E, h1km, ML2.6*
CSEM ***25*** *13:53:17.4±0.2, 51°.46N×6°.51E, h1km, ML3.3/17, Error ellipse: s-maj=3.3km s-min=3.1km az=102.0*
PRU ***25*** *13:53:19.1, 51°.35N×6°.61E, h0km*
BNS ***25*** *13:53:19.3±0.9, 51°.47N×6°.58E, h1km, ML2.7*
BGR ***25*** *13:53:19.2±0.2, 51°.47N×6°.61E, h1km, ML2.8/6, Error ellipse: s-maj=3.3km s-min=2.2km az=116.0*

ISC 25 13:53:17.2±0.2, 51°.45N±0°.01×6°.51E±0°.02, h0km, n174, σ1§29/318, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	Rheinberg	0.08	27	Pg	Pg	13 53 18.6	-0.1
BRHE				Sg	Sg	13 53 19.3	-0.5
BRHE	Rheinberg	0.08	27	Pg	Pg	13 53 18.6	-0.1
BRHE				Sg	Sg	13 53 19.3	-0.5
LAUG	Laupendahl	0.29	109	ePg	Pg	13 53 23.8	+1.1
LAUG	Laupendahl	0.29	109	Pg	Pg	13 53 23.8	+1.1
RODG	Roetgen-Dahlhe	0.37	215	ePg	Pg	13 53 27.2	+3.0
RODG	Roet

DOU	Dourbes	1.82 223	P	Pn	13 53 50.9	+1.2
DOU	Dourbes	1.82 223	P	Pn	13 53 50.9	+1.2
BAIF	Baives	2.02 227	*e*Pn	Pn	13 53 52.7	+0.3
	SNR=1.0					
BAIF	Baives	2.02 227	*e*Pg	Pg	13 53 57.5	+1.7
BAIF			*e*Sn	Sn	13 54 18.4	+0.1
	46nm,0.4s,SNR=1.0					
BAIF	Baives	2.02 227	*e*Pn	Pn	13 53 52.7	+0.3
BAIF			*e*Pg	Pg	13 53 57.5	+1.7
BAIF			*e*Sn	Sn	13 54 18.4	+0.1
BAIF	Baives	2.02 227	*e*Pn	Pn	13 53 52.7	+0.3
	SNR=1.0					
BAIF	Baives	2.02 227	*e*Pg	Pg	13 53 57.5	+1.7
BAIF			*e*Sn	Sn	13 54 18.4	+0.1
	23nm,0.4s,SNR=1.0					
CLZ	Clausthal	2.44 79	*e*Pn	Pn	13 53 57.3	-0.9
CLZ			*e*Sg	Sg	13 54 33.6	-1.9
CLZ	Clausthal	2.44 79	Pn	Pn	13 53 57.3	-0.9
CLZ			Sg	Sg	13 54 33.6	-1.9
CDF	Champ du Feu	3.08 170	*e*Pn	Pn	13 54 07.6	+0.6
	SNR=1.0					
CDF	Champ du Feu	3.08 170	*e*Pg	Pg	13 54 17.1	+1.0
CDF			*e*Sg	Sg	13 54 55.8	-0.2
	16nm,0.4s,SNR=1.0					
CDF	Champ du Feu	3.08 170	*e*Pn	Pn	13 54 07.6	+0.6
CDF			*e*Pg	Pg	13 54 17.1	+1.0
CDF			*e*Sg	Sg	13 54 55.8	-0.2
CDF	Champ du Feu	3.08 170	*e*Pn	Pn	13 54 07.6	+0.6
	SNR=1.0					
CDF	Champ du Feu	3.08 170	*e*Pg	Pg	13 54 17.1	+1.0
CDF			*e*Sg	Sg	13 54 55.8	-0.2
	8.2nm,0.4s,SNR=1.0					
MEZF	Maizieres J'vi	3.09 198	*e*Pn	Pn	13 54 07.4	+0.2
	baz=16,SNR=1.0					
MEZF			*e*Sn	Sn	13 54 43.4	-1.5
	SNR=1.0					
MEZF			*e*Sg	Sg	13 54 58.3	+1.8
	56nm,0.6s					
MEZF	Maizieres J'vi	3.09 198	*e*Pn	Pn	13 54 07.4	+0.2
MEZF			*e*Sn	Sn	13 54 43.4	-1.5
MEZF			*e*Sg	Sg	13 54 58.3	+1.8
MEZF	Maizieres J'vi	3.09 198	*e*Pn	Pn	13 54 07.4	+0.2
	baz=16,SNR=1.0					
MEZF			*e*Sn	Sn	13 54 43.4	-1.5
	SNR=1.0					
MEZF			*e*Sg	Sg	13 54 58.3	+1.8
	28nm,0.6s					
ECH	Echery	3.26 172	*e*Pn	Pn	13 54 10.2	+0.7
ECH	Echery	3.26 172	*e*Pn	Pn	13 54 10.2	+0.7
BFO	Black Forest	3.33 159	*e*Pn	Pn	13 54 10.9	+0.4
BFO	Black Forest	3.33 159	*e*Pn	Pn	13 54 10.9	+0.4
HAU	Haudompre	3.44 182	*e*Pn	Pn	13 54 11.4	-0.7
HAU	Haudompre	3.44 182	*e*Pg	Pg	13 54 22.9	-0.3
HAU			*e*Sg	Sg	13 55 08.4	+0.6
	22nm,0.4s					
HAU	Haudompre	3.44 182	*e*Pn	Pn	13 54 11.4	-0.7
HAU			*e*Pg	Pg	13 54 22.9	-0.3
HAU			*e*Sg	Sg	13 55 08.4	+0.6
HAU	Haudompre	3.44 182	*e*Pn	Pn	13 54 11.4	-0.7
HAU	Haudompre	3.44 182	*e*Pg	Pg	13 54 22.9	-0.3
HAU			*e*Sg	Sg	13 55 08.4	+0.6
	11nm,0.4s					
GRFO	Grafenberg	3.48 119	*e*Pn	Pn	13 54 11.9	-0.6
GRFO	Grafenberg	3.48 119	*e*Pn	Pn	13 54 11.9	-0.6
HINF	Hinteralfeld	3.64 176	*e*Pn	Pn	13 54 14.0	-0.7
	SNR=1.0					
HINF			*e*Sn	Sn	13 54 55.5	-2.8
	SNR=1.0					
HINF			*e*Sg	Sg	13 55 14.1	+0.1
	6.9nm,0.3s,SNR=1.0					
HINF	Hinteralfeld	3.64 176	*e*Pn	Pn	13 54 14.0	-0.7
HINF			*e*Sn	Sn	13 54 55.5	-2.8
HINF			*e*Sg	Sg	13 55 14.1	+0.1
HINF	Hinteralfeld	3.64 176	*e*Pn	Pn	13 54 14.0	-0.7
	SNR=1.0					
HINF			*e*Sn	Sn	13 54 55.5	-2.8
	SNR=1.0					
HINF			*e*Sg	Sg	13 55 14.1	+0.1
	3.5nm,0.3s,SNR=1.0					
NKC	Novy Kostel	3.95 106	*e*SG	Sg	13 55 23.1	-1.0
	12nm,0.8s					
NKC	Novy Kostel	3.95 106	Sg	Sg	13 55 23.1	-1.0
	12nm,0.8s					
CLL	Collm	4.07 89	*e*Pg	Pg	13 54 33.0	-2.1
CLL			*e*Sg	Sg	13 55 25.0	-2.8
	comp=Z,8.0nm,0.8s					
LOR	Lormes	4.53 204	*e*Pn	Pn	13 54 27.2	+0.3
	baz=24,SNR=1.0					
LOR	Lormes	4.53 204	*e*Pg	Pg	13 54 43.5	-0.4
LOR			*e*Sn	Sn	13 55 18.0	-2.2
LOR			*e*Sg	Sg	13 55 43.0	+0.5
	comp=Z,18nm,0.3s,SNR=1.0					
LOR	Lormes	4.53 204	*e*Pn	Pn	13 54 27.2	+0.3
LOR			*e*Pg	Pg	13 54 43.5	-0.4
LOR			*e*Sn	Sn	13 55 18.0	-2.2
LOR			*e*Sg	Sg	13 55 43.0	+0.5
LOR	Lormes	4.53 204	*e*Pn	Pn	13 54 27.2	+0.3
	baz=24,SNR=1.0					
LOR	Lormes	4.53 204	*e*Pg	Pg	13 54 43.5	-0.4
LOR			*e*Sn	Sn	13 55 18.0	-2.2
LOR			*e*Sg	Sg	13 55 43.0	+0.5
	comp=Z,9.1nm,0.3s,SNR=1.0					
SSF	Saint Saulge	4.81 205	*e*Pn	Pn	13 54 30.6	-0.2
	SNR=1.0					
SSF			*e*Sn	Sn	13 55 24.5	-2.7
	SNR=1.0					
SSF			*e*Sg	Sg	13 55 52.0	+0.4
	comp=Z,16nm,0.4s,SNR=1.0					
SSF	Saint Saulge	4.81 205	*e*Pn	Pn	13 54 30.6	-0.2
SSF			*e*Sn	Sn	13 55 24.5	-2.7
SSF			*e*Sg	Sg	13 55 52.0	+0.4
SSF	Saint Saulge	4.81 205	*e*Pn	Pn	13 54 30.6	-0.2
	SNR=1.0					
SSF			*e*Sn	Sn	13 55 24.5	-2.7
	SNR=1.0					
SSF			*e*Sg	Sg	13 55 52.0	+0.4
	comp=Z,7.8nm,0.4s,SNR=1.0					
CABF	La Chapelle	4.85 183	*e*Pn	Pn	13 54 31.8	+0.5
	SNR=1.0					
CABF	La Chapelle	4.85 183	*e*Pg	Pg	13 54 49.0	-1.0
CABF			*e*Sg	Sg	13 55 52.4	-0.4
	comp=Z,22nm,0.8s					
CABF	La Chapelle	4.85 183	*e*Pn	Pn	13 54 31.8	+0.5
CABF			*e*Pg	Pg	13 54 49.0	-1.0
CABF			*e*Sg	Sg	13 55 52.4	-0.4
CABF	La Chapelle	4.85 183	*e*Pn	Pn	13 54 31.8	+0.5
	SNR=1.0					
CABF	La Chapelle	4.85 183	*e*Pg	Pg	13 54 49.0	-1.0
CABF			*e*Sg	Sg	13 55 52.4	-0.4
	comp=Z,11nm,0.8s					
HYF	Humbligny	4.89 213	*e*Pn	Pn	13 54 31.6	-0.3
HYF			*e*Sg	Sg	13 55 54.1	0.0
HYF	Humbligny	4.89 213	*e*Pn	Pn	13 54 31.6	-0.3
HYF			*e*Sg	Sg	13 55 54.1	0.0
HYF	Humbligny	4.89 213	*e*Pn	Pn	13 54 31.6	-0.3
HYF			*e*Sg	Sg	13 55 54.1	0.0
KHC	Kasperske Hory	5.09 114	*e*PN	Pn	13 54 34.8	+0.2
KHC			*e*PG	Pg	13 54 49.5	-5.1
KHC			ex	x	13 55 20.0	
KHC			*e*SG	Sg	13 55 59.0	-1.5
	comp=Z,5.5nm,0.8s					
KHC	Kasperske Hory	5.09 114	Pn	Pn	13 54 34.8	+0.2
KHC			Sg	Sg	13 55 59.0	-1.5
	comp=Z,5.5nm,0.8s					
AVF	Avril sur Loir	5.10 205	*e*Pn	Pn	13 54 34.5	-0.3
	SNR=1.0					
AVF			*e*Sn	Sn	13 55 31.7	-2.6
AVF			*e*Sg	Sg	13 56 01.0	+0.1
	comp=Z,14nm,0.7s					
AVF	Avril sur Loir	5.10 205	*e*Pn	Pn	13 54 34.5	-0.3
AVF			*e*Sn	Sn	13 55 31.7	-2.6
AVF			*e*Sg	Sg	13 56 01.0	+0.1
AVF	Avril sur Loir	5.10 205	*e*Pn	Pn	13 54 34.5	-0.3
	SNR=1.0					
AVF			*e*Sn	Sn	13 55 31.7	-2.6
AVF			*e*Sg	Sg	13 56 01.0	+0.1
	comp=Z,6.8nm,0.7s					
SMF	Signal de Mont	5.12 201	*e*Pn	Pn	13 54 35.0	0.0
	SNR=1.0					
SMF			*e*Sn	Sn	13 55 32.1	-2.6
SMF			*e*Sg	Sg	13 56 00.2	-1.2
	SNR=1.0					
SMF	Signal de Mont	5.12 201	*e*Pn	Pn	13 54 35.0	0.0
SMF			*e*Sn	Sn	13 55 32.1	-2.6
SMF			*e*Sg	Sg	13 56 00.2	-1.2
SMF	Signal de Mont	5.12 201	*e*Pn	Pn	13 54 35.0	0.0
	SNR=1.0					
SMF			*e*Sn	Sn	13 55 32.1	-2.6
SMF			*e*Sg	Sg	13 56 00.2	-1.2
	SNR=1.0					
LDF	La Druitiere	5.14 239	*e*Pn	Pn	13 54 35.3	-0.1
	SNR=1.0					
LDF			*e*Sn	Sn	13 55 32.8	-2.6
	SNR=1.0					
LDF			*e*Sg	Sg	13 56 02.6	+0.3
	comp=Z,9.3nm,0.5s					
LDF	La Druitiere	5.14 239	*e*Pn	Pn	13 54 35.3	-0.1
LDF			*e*Sn	Sn	13 55 32.8	-2.6
LDF			*e*Sg	Sg	13 56 02.6	+0.3
LDF	La Druitiere	5.14 239	*e*Pn	Pn	13 54 35.3	-0.1
	SNR=1.0					
LDF			*e*Sn	Sn	13 55 32.8	-2.6
	SNR=1.0					
LDF			*e*Sg	Sg	13 56 02.6	+0.3
	comp=Z,4.7nm,0.5s					
FLN	La Foliniere	5.24 242	*e*Pn	Pn	13 54 36.5	-0.2
	baz=58					
FLN			*e*Sn	Sn	13 55 35.3	-2.5
	SNR=1.0					
FLN			*e*Sg	Sg	13 56 05.7	+0.2
	comp=Z,4.9nm,0.3s					
FLN	La Foliniere	5.24 242	*e*Pn	Pn	13 54 36.5	-0.2
FLN			*e*Sn	Sn	13 55 35.3	-2.5
FLN			*e*Sg	Sg	13 56 05.7	+0.2
FLN	La Foliniere	5.24 242	*e*Pn	Pn	13 54 36.5	-0.2
	baz=58					
FLN			*e*Sn	Sn	13 55 35.3	-2.5
	SNR=1.0					
FLN			*e*Sg	Sg	13 56 05.7	+0.2
	comp=Z,2.5nm,0.3s					
PRU	Pruhonice	5.30 103	*e*SG	Sg	13 56 05.6	-1.9
	comp=Z,30nm,1.9s					
PRU	Pruhonice	5.30 103	Sg	Sg	13 56 05.6	-1.9
	comp=Z,30nm,1.9s					
TUE	Stuetta	5.32 158	*e*Pn	Pn	13 54 39.1	+1.4
	comp=Z,4.8nm,0.6s					
TUE	Stuetta	5.32 158	*e*Pn	Pn	13 54 39.2	+1.4
	comp=Z,4.8nm,0.6s					
BGF	Bois d'Agland	5.45 208	*e*Pn	Pn	13 54 39.7	+0.1
	SNR=1.0					
BGF			*e*Sn	Sn	13 55 40.1	-2.9
BGF			*e*Sg	Sg	13 56 12.2	-0.1
	comp=Z,35nm,0.6s					
BGF	Bois d'Agland	5.45 208	*e*Pn	Pn	13 54 39.7	+0.1
BGF			*e*Sn	Sn	13 55 40.1	-2.9
BGF			*e*Sg	Sg	13 56 12.2	-0.1
BGF	Bois d'Agland	5.45 208	*e*Pn	Pn	13 54 39.7	+0.1
	SNR=1.0					
BGF			*e*Sn	Sn	13 55 40.1	-2.9
BGF			*e*Sg	Sg	13 56 12.2	-0.1
	comp=Z,18nm,0.6s					
GRR	Gorron	5.66 240	*e*Pn	Pn	13 54 42.1	-0.4
GRR			*e*Sn	Sn	13 55 45.3	-2.8
	comp=Z,12nm,0.2s,SNR=1.0					
GRR	Gorron	5.66 240	*e*Pn	Pn	13 54 42.1	-0.4
GRR			*e*Sn	Sn	13 55 45.3	-2.8
GRR	Gorron	5.66 240	*e*Pn	Pn	13 54 42.1	-0.4
GRR			*e*Sn	Sn	13 55 45.3	-2.8
	comp=Z,6.1nm,0.2s,SNR=1.0					
TCF	Toulx Ste Croi	5.89 210	*e*Pn	Pn	13 54 45.0	-0.6
	SNR=1.0					
TCF			*e*Sn	Sn	13 55 50.7	-3.1
	comp=Z,2.5nm,0.3s					
TCF	Toulx Ste Croi	5.89 210	*e*Pn	Pn	13 54 45.0	-0.6
TCF			*e*Sn	Sn	13 55 50.7	-3.1
TCF	Toulx Ste Croi	5.89 210	*e*Pn	Pn	13 54 45.0	-0.6
	SNR=1.0					
TCF			*e*Sn	Sn	13 55 50.7	-3.1
	comp=Z,1.2nm,0.3s					
HLM1	Long Mynd	5.90 284	*e*P	Pn	13 54 45.5	-0.3
LPL	La Plagne	5.94 179	*e*Pn	Pn	13 54 45.6	-0.7
LPL			*e*Sn	Sn	13 55 51.0	-3.9
	comp=Z,3.7nm,0.4s					
LPL	La Plagne	5.94 179	*e*Pn	Pn	13 54 45.6	-0.7
LPL			*e*Sn	Sn	13 55 51.0	-3.9
LPL	La Plagne	5.94 179	*e*Pn	Pn	13 54 45.6	-0.7
LPL			*e*Sn	Sn	13 55 51.0	-3.9
	comp=Z,1.9nm,0.4s					
MCH1	Michaelchurch	5.94 279	*e*P	Pn	13 54 47.0	+0.7
LPG	La Plagne	5.95 178	*e*Pn	Pn	13 54 45.9	-0.6
LPG			*e*Sn	Sn	13 55 51.5	-3.9
	comp=Z,1.2nm,0.4s					
LPG	La Plagne	5.95 178	*e*Pn	Pn	13 54 45.9	-0.6
LPG			*e*Sn	Sn	13 55 51.5	-3.9
LPG	La Plagne	5.95 178	*e*Pn	Pn	13 54 45.9	-0.6
LPG			*e*Sn	Sn	13 55 51.5	-3.9
	comp=Z,0.6nm,0.4s					
XAL	Allendale	6.27 307	*e*P	Pn	13 54 52.1	+1.3
MFF	Saint Martin d	6.53 225	*e*Pn	Pn	13 54 54.5	+0.1
	SNR=1.0					
MFF			*e*Sn	Sn	13 56 06.0	-3.5
	comp=Z,2.5nm,0.2s,SNR=1.0					
MFF	Saint Martin d	6.53 225	*e*Pn	Pn	13 54 54.5	+0.1
MFF			*e*Sn	Sn	13 56 06.0	-3.5
MFF	Saint Martin d	6.53 225	*e*Pn	Pn	13 54 54.5	+0.1
	SNR=1.0					
MFF			*e*Sn	Sn	13 56 06.0	-3.5
	comp=Z,1.2nm,0.2s,SNR=1.0					
ORIF	Oris-en-Rattie	6.54 184	*e*Pn	Pn	13 54 53.3	-1.3
	SNR=1.0					
ORIF			*e*Sn	Sn	13 56 05.5	-4.4
	comp=Z,3.8nm,0.8s					
ORIF	Oris-en-Rattie	6.54 184	*e*Pn	Pn	13 54 53.3	-1.3
ORIF			*e*Sn	Sn	13 56 05.5	-4.4
ORIF	Oris-en-Rattie	6.54 184	*e*Pn	Pn	13 54 53.3	-1.3
	SNR=1.0					
ORIF			*e*Sn	Sn	13 56 05.5	-4.4
	comp=Z,1.9nm,0.8s					
KESW	Keswick, Cumbr	6.60 302	*e*P	Pn	13 54 55.3	-0.1
SGMF	Saint Gilles	6.68 245	*e*Pn	Pn	13 54 55.0	-1.4
	SNR=1.0					
SGMF			*e*Sn	Sn	13 56 09.8	-3.4
	comp=Z,1.5nm,0.3s,SNR=1.0					
SGMF	Saint Gilles	6.68 245	*e*Pn	Pn	13 54 55.0	-1.4
SGMF			*e*Sn	Sn	13 56 09.8	-3.4
SGMF	Saint Gilles	6.68 245	*e*Pn	Pn	13 54 55.0	-1.4
	SNR=1.0					
SGMF			*e*Sn	Sn	13 56 09.8	-3.4
	comp=Z,0.8nm,0.3s,SNR=1.0					
VIVF	Saint-Julien-l	6.71 191	*e*Pn	Pn	13 54 56.0	-0.9
VIVF			*e*Sn	Sn	13 56 09.7	-4.2
	comp=Z,0.9nm,0.3s					
VIVF	Saint-Julien-l	6.71 191	*e*Pn	Pn	13 54 56.0	-0.9
VIVF			*e*Sn	Sn	13 56 09.7	-4.2
VIVF	Saint-Julien-l	6.71 191	*e*Pn	Pn	13 54 56.0	-0.9
VIVF			*e*Sn	Sn	13 56 09.7	-4.2
	comp=Z,0.4nm,0.3s					
MBDF	Montbardon	6.72 178	*e*Pn	Pn	13 54 56.2	-0.9
MBDF			*e*Sn	Sn	13 56 09.7	-4.7
	comp=Z,0.9nm,0.3s					
MBDF	Montbardon	6.72 178	*e*Pn	Pn	13 54 56.2	-0.9
MBDF			*e*Sn	Sn	13 56 09.7	-4.7
MBDF	Montbardon	6.72 178	*e*Pn	Pn	13 54 56.2	-0.9
MBDF			*e*Sn	Sn	13 56 09.7	-4.7
	comp=Z,0.4nm,0.3s					
ESK	Eskdalemuir	6.99 308	*e*P	Pn	13 54 59.5	-1.2
RJF	Les Rejaudoux	6.99 210	*e*Pn	Pn	13 55 00.2	-0.5
RJF			*e*Sn	Sn	13 56 16.8	-4.0
	comp=Z,2.3nm,0.4s					
RJF	Les Rejaudoux	6.99 210	*e*Pn	Pn	13 55 00.2	-0.5
RJF			*e*Sn	Sn	13 56 16.8	-4.0
RJF	Les Rejaudoux	6.99 210	*e*Pn	Pn	13 55 00.2	-0.5
RJF			*e*Sn	Sn	13 56 16.8	-4.0
	comp=Z,1.1nm,0.4s					
ESY	Stoneypath	7.03 313	*e*P	Pn	13 55 02.0	+0.7
CAF	Calviac	7.17 206	*e*Pn	Pn	13 55 02.7	-0.5
CAF			*e*Sn	Sn	13 56 20.9	-4.3
	comp=Z,3.6nm,0.6s,SNR=1.0					
CAF	Calviac	7.17 206	*e*Pn	Pn	13 55 02.7	-0.5
CAF			*e*Sn	Sn	13 56 20.9	-4.3
CAF	Calviac	7.17 206	*e*Pn	Pn	13 55 02.7	-0.5
CAF			*e*Sn	Sn	13 56 20.9	-4.3
	comp=Z,1.8nm,0.6s,SNR=1.0					
QUIF	Quistinic	7.20 244	*e*Pn	Pn	13 55 03.5	-0.2
	SNR=1.0					
QUIF			*e*Sn	Sn	13 56 22.0	-4.1
	comp=Z,3.5nm,0.5s					
QUIF	Quistinic	7.20 244	*e*Pn	Pn	13 55 03.5	-0.2
QUIF			*e*Sn	Sn	13 56 22.0	-4.1
QUIF	Quistinic	7.20 244	*e*Pn	Pn	13 55 03.5	-0.2
	SNR=1.0					
EAU	Auchinoon	7.38 311	*e*P	Pn	13 55 05.7	-0.3
LFF	La Frestale	7.56 213	*e*Pn	Pn	13 55 08.0	-0.6
LFF			*e*Sn	Sn	13 56 30.7	-4.3
	comp=Z,5.4nm,0.6s,SNR=1.0					
LFF	La Frestale	7.56 213	*e*Pn	Pn	13 55 08.0	-0.6
LFF			*e*Sn	Sn	13 56 30.7	-4.3
LFF	La Frestale	7.56 213	*e*Pn	Pn	13 55 08.0	-0.6
LFF			*e*Sn	Sn	13 56 30.7	-4.3
	comp=Z,2.7nm,0.6s,SNR=1.0					
GAL1	Galloway	7.57 301	*e*P	Pn	13 55 08.1	-0.5

ISCJB ***25*** *13:58:03.1±1.1, 48°.99N±0°.05×128°.67W±0°.08, h10km, mb3.2/2, MS3.5/2, Error ellipse: s-maj=9.2km s-min=5.3km az=44.1*
PGC ***25*** *13:58:03.4±4.2, 48°.91N×128°.90W, h10km, ML3.0/11, Mw3.6, 219km west of Tofino, Bc Vancouver Island Region*
IDC ***25*** *13:58:09.6±2.6, 49°.32N×128°.25W, h0km, mb3.4/2, mb1 3.6/6, mb1mx3.4/25, mbtmp3.3/6, ML3.2/4, MS3.5/7, Ms1 3.5/7, ms1mx3.2/28, Error ellipse: s-maj=46.2km s-min=13.5km az=66.0*
NEIC ***25*** *13:58:12.7±1.6, 49°.54N×127°.92W, h10km, mb3.9/1, Error ellipse: s-maj=27.0km s-min=10.5km az=50.0*
ISC 25 13:58:04.0±1.1, 49°.01N±0°.05×128°.68W±0°.08, h10km, n37, σ1°.02/47, mb3.2/2, MS3.5/2, 15D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.29	27	⇑Pn	Pn	13 58 27.1	-1.0
EDB	Eliza Dome	1.34	49	⇑Pn	Pn	13 58 27.8	-0.9
EDB				⇓Sn	Sn	13 58 45.7	-0.8
MAYB	Maynard	1.70	35	⇑Pn	Pn	13 58 33.2	-0.6
WOSB	Woss	1.79	49	⇓Pn	Pn	13 58 35.1	+0.1
PHC	Port Hardy	1.88	25	⇑Pn	Pn	13 58 35.4	-0.8
PHC				⇓Sn	Sn	13 58 59.2	-0.7
GDR	Gold River	1.90	65	⇑Pn	Pn	13 58 35.9	-0.5
GDR				⇑Sn	Sn	13 59 00.3	+0.1
OZB	Mount Ozzard	2.10	90	⇑Pn	Pn	13 58 37.6	-1.6
OZB				⇓Sn	Sn	13 59 03.4	-2.0
BTB	Buttle Lake	2.12	76	⇑Pn	Pn	13 58 39.2	-0.3
BTB				⇓Sn	Sn	13 59 06.8	+0.9
NCRB	Newcastle Ridg	2.20	50	⇓Pn	Pn	13 58 41.3	+0.7
NCRB				⇓Sn	Sn	13 59 09.3	+1.4
BMSB	Bamfield Mari	2.35	93	⇓Sn	Sn	13 59 09.1	-2.3
CBB	Campbell River	2.39	63	⇓Pn	Pn	13 58 43.5	+0.3
CBB				⇓Sn	Sn	13 59 14.4	+1.9
ALB	Alberni	2.54	83	⇑Pn	Pn	13 58 45.3	0.0
ALB				⇑Sn	Sn	13 59 16.4	+0.2
MGB	Mount Grey	2.63	89	⇑Pn	Pn	13 58 45.8	-0.6
MGB				⇑Sn	Sn	13 59 17.4	-1.0
GHNB	Nanoose	2.93	83	⇑Pn	Pn	13 58 51.5	+0.9
GHNB				⇓Sn	Sn	13 59 26.5	+0.6
NLLB	Nanaimo Lost L	3.09	84	⇑Pn	Pn	13 58 54.0	+1.2
NLLB				⇑Sn	Sn	13 59 31.3	+1.5
BBB	Bella Bella	3.20	6	Pn	Pn	13 58 54.6	+0.4
	10nm,0.3s,baz=199,slow=13,SNR=33						
BBB				Sn	Sn	13 59 32.1	-0.3
	13nm,0.3s,baz=85,slow=22,SNR=9.2						
BBB				LR	LR	14 00 17.1	
	comp=Z,598nm,20.4s,baz=258,slow=44						
BBB	Bella Bella	3.20	6	Pn	Pn	13 58 54.6	+0.4
BBB				Sn	Sn	13 59 32.1	-0.3
BBB	Bella Bella	3.20	6	⇓Pn	Pn	13 58 54.8	+0.6
LZB	Mount Lazard	3.24	95	⇓Pn	Pn	13 58 55.0	+0.2
LZB				⇓Sn	Sn	13 59 33.0	-0.4
SOKB	Sooke	3.38	99	⇓Sn	Sn	13 59 35.5	-1.3
RPW	Rockport	4.78	94	*e*Pn	Pn	13 59 17.0	+1.0
DLBC	Dease Lake	9.48	356	LR	LR	14 03 52.9	
	comp=Z,346nm,19.6s,baz=222,slow=37						
CHMT	Chamberlain Mo	10.56	96	*e*Pn	Pn	14 00 37.6	+2.4
NVAR	Mina Array Bea	12.96	141	LR	LR	14 06 55.3	
	comp=Z,61nm,18.9s,baz=214,slow=40						
PDAR	Pinedale Array	14.69	108	Pn	Pn	14 01 37.5	+5.8
	0.0nm,0.3s,baz=298,slow=3.8,SNR=3.7						
PDAR	Pinedale Array	14.69	108	Pn	Pn	14 01 37.5	+5.8
YKA	Yellowknife Ar	15.61	25	Pn	Pn	14 01 43.7	-0.1
	0.0nm,0.3s,baz=212,slow=12,SNR=4.5						
YKA				LR	LR	14 07 02.8	
	comp=Z,12nm,21.1s,baz=110,slow=35						
YKA	Yellowknife Ar	15.61	25	Pn	Pn	14 01 43.7	-0.1
FFC	Flin Flon	17.39	61	*e*Pn	Pn	14 02 06.8	+0.3
	7.1nm,0.6s						
ILAR	Eielson Array	18.54	335	P	Pn	14 02 26.2	+5.5
	0.0nm,0.3s,baz=128,slow=7.4,SNR=3.7						
ILAR				LR	LR	14 08 30.1	
	comp=Z,182nm,20.1s,baz=122,slow=34						
ILAR	Eielson Array	18.54	335	P	Pn	14 02 26.1	+5.5
INK	Inuvik	19.50	355	LR	LR	14 10 35.4	
	comp=Z,185nm,19.2s,baz=149,slow=39						
ULM	Lac du Bonnet	21.20	74	P	P	14 02 53.0	+3.6
	2.3nm,0.8s,mb3.6,baz=281,slow=10,SNR=4.2						
ULM				LR	LR	14 11 25.3	
	comp=Z,201nm,18.1s,MS3.5,baz=115,slow=38						
ULM	Lac du Bonnet	21.20	74	P	P	14 02 53.0	+3.6
TXAR	Lajitas Array	27.40	127	P	P	14 03 58.1	+8.6
	0.3nm,1.0s,mb2.8,baz=317,slow=7.4,SNR=3.1						
TXAR	Lajitas Array	27.40	127	P	P	14 03 58.1	+8.6
SADO	Sadowa	33.63	78	LR	LR	14 18 31.0	
	comp=Z,111nm,21.5s,MS3.5,baz=56,slow=37						

ISCJB ***25*** *14:00:55.2±0.4, 8°.94S±0°.04×118°.89E±0°.03, h129km±5km, mb3.7/6, Error ellipse: s-maj=7.1km s-min=4.5km az=15.5*
NEIC ***25*** *14:00:56.6±1.9, 8°.88S×118°.92E, h118km±17km, mb3.5/1, Error ellipse: s-maj=38.7

0.5nm,0.5s,mb3.5,baz=315,slow=11,SNR=5.7
STKA Stephens Creek 31.09 140 P **P 14 07 04.7 +0.9**
CMAR Chiang Mai Arr 33.57 324 P **P 14 07 26.5 +1.0**
0.5nm,0.4s,mb3.7,baz=155,slow=7.1,SNR=4.9
CMAR Chiang Mai Arr 33.57 324 P **P 14 07 26.5 +1.0**
RPZ Rata Peaks 56.95 137 LR LR 14 36 31.5
comp=Z,296nm,19.7s,baz=103,slow=38
SONM Songino Array 57.58 350 P **P 14 10 33.8 0.0**
0.6nm,0.4s,mb4.0,baz=163,slow=9.3,SNR=8.9
SONM Songino Array 57.58 350 P **P 14 10 33.8 0.0**
MKAR Makanchi Array 64.33 333 P **P 14 11 19.4 -0.1**
1.2nm,0.6s,mb3.9,baz=146,slow=7.6,SNR=12
MKAR Makanchi Array 64.33 333 P **P 14 11 19.4 -0.1**
KURK Kurchatov 68.87 334 P **P 14 11 47.6 -0.6**
0.4nm,0.5s,mb3.5,baz=151,slow=4.7,SNR=6.2
KURK Kurchatov 68.87 334 P **P 14 11 47.6 -0.6**
ZALV Zalesovo Beam 68.92 339 P **P 14 11 47.5 -1.0**
1.4nm,0.4s,mb4.1,baz=159,slow=5.0,SNR=7.3
ZALV Zalesovo Beam 68.92 339 P **P 14 11 47.5 -1.0**

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*IDC **25** 14:01:12.5±1.5, 6°.23N×72°.27W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/21, mbtmp3.5/4, Error ellipse: s-maj=92.7km s-min=24.2km az=73.0*
*ISCJB **25** 14:01:14.5±2.0, 5°.78N±0°.10×72°.2W±0°.1, h46km±19km, mb3.4/4, Error ellipse: s-maj=20.6km s-min=13.3km az=140.0*
*FUNV **25** 14:01:15.1, 5°.93N×72°.38W, h4km, MW3.5*
ISC 25 14:01:15.3±2.9, 5°.83N±0°.08×72°.34W±0°.09, h28km±25km, n21, σ0°64/22, mb3.4/4, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**2.02**	**1**	*e*P	**Pn**	**14 01 48.4**	**+0.8**
CAPV				*e*S	**Sn**	**14 02 12.7**	**+0.7**
SOCV	**Socops**	**2.85**	**31**	*e*P	**Pn**	**14 01 59.3**	**+0.3**
SOCV				*e*S	**Sn**	**14 02 32.4**	**0.0**
ELOV	**Elorza**	**3.07**	**68**	*e*P	**Pn**	**14 02 03.7**	**+1.7**
VIGV	**El Vigia**	**3.15**	**18**	*e*P	**Pn**	**14 02 03.8**	**+0.8**
VIGV				*e*S	**Sn**	**14 02 39.3**	**-0.4**
SANV	**Sanarito**	**4.59**	**37**	*e*P	**Pn**	**14 02 23.1**	**+0.2**
VIRV	**Villa del Rosa**	**4.65**	**359**	*e*P	**Pn**	**14 02 22.9**	**-0.8**
TEPV	**Terepaima**	**5.16**	**37**	*e*P	**Pn**	**14 02 30.8**	**+0.1**
BAUV	**El Baul**	**5.27**	**54**	*e*P	**Pn**	**14 02 32.2**	**0.0**
DABV	**Dabajuro**	**5.33**	**18**	*e*P	**Pn**	**14 02 32.9**	**-0.3**
MAPV	**Macapo**	**5.53**	**44**	*e*P	**Pn**	**14 02 36.2**	**+0.3**
TURV	**Turiamo**	**6.40**	**44**	*e*P	**Pn**	**14 02 47.2**	**-0.5**
MONV	**Montecano**	**6.52**	**21**	*e*P	**Pn**	**14 02 48.3**	**-1.2**
MERV	**Las Mercedes**	**6.89**	**60**	*e*P	**Pn**	**14 02 54.4**	**-0.1**
BIRV	**Birongo**	**7.58**	**52**	*e*P	**Pn**	**14 03 03.2**	**-0.7**
CUPV	**Cœpira**	**7.73**	**57**	*e*P	**Pn**	**14 03 05.5**	**-0.6**
LPAZ	**La Paz**	**22.36**	**169**	P	**P**	**14 06 18.6**	**+7.2**
	0.6nm,0.5s,mb3.2,baz=315,slow=7.1,SNR=3.7						
TXAR	**Lajitas Array**	**37.70**	**312**	P	**P**	**14 08 29.0**	**+0.4**
	0.3nm,0.4s,mb3.3,baz=122,slow=8.7,SNR=12						
YKA	**Yellowknife Ar**	**64.46**	**340**	P	**P**	**14 11 48.5**	**-0.5**
	0.6nm,0.6s,mb3.8,baz=131,slow=6.7,SNR=19						
ILAR	**Eielson Array**	**78.19**	**335**	P	**P**	**14 13 11.8**	**-0.1**
	0.5nm,1.1s,mb3.4,baz=98,slow=4.3,SNR=4.6						
ASAR	**Alice Springs**	**149.14**	**232**	PKPbc	PKPbc	14 21 04.2	+2.2
	0.1nm,0.5s,baz=122,slow=3.7,SNR=8.0						
WRA	**Warramunga Arr**	**150.52**	**239**	PKPbc	PKPbc	14 21 05.3	-0.1
	0.1nm,0.4s,baz=109,slow=3.0,SNR=6.4						

DDA 25 14:05:14.0, 40°.99N×27°.22E, h7km±1km, Md2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.30**	**185**	*i* P	Pg	14 05 20.3	+0.5
BALY	**Balya**	**1.28**	**166**	*i* P	Pn	14 05 38.3	0.0
BALY				*i* S	Sb	14 05 56.7	+1.6

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*ISCJB **25** 14:19:27.9±0.8, 37°.90N±0°.04×29°.18E±0°.07, h12km±8km, Error ellipse: s-maj=10.2km s-min=5.0km az=30.0*
*DDA **25** 14:19:27.5, 37°.90N×29°.24E, h7km±2km, Md2.7*
*CSEM **25** 14:19:27.4±0.4, 37°.86N×29°.28E, h15km, MD2.7, Error ellipse: s-maj=11.0km s-min=4.1km az=119.0*
*ISK **25** 14:19:29.7, 37°.90N×29°.05E, h6km, MD2.3*
ISC 25 14:19:28.0±0.9, 37°.89N±0°.04×29°.22E±0°.07, h15km±7km, n14, σ0°64/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**227**	*e*PG	**Pg**	**14 19 33.3**	**+0.8**
DENT				*e*SG	**Sg**	**14 19 35.9**	**+0.3**
DENT	**Denizli**	**0.20**	**227**	*e*Pg	**Pg**	**14 19 33.3**	**+0.8**
DENT				*e*Sg	**Sg**	**14 19 35.9**	**+0.3**
DNZL	**Cakiroluk**	**0.24**	**214**	*i* P	**Pg**	**14 19 32.5**	**-0.6**
DNZL				*i* S	**Sg**	**14 19 36.1**	**-0.6**
DNZL	**Cakiroluk**	**0.24**	**214**	*i* P	**Pg**	**14 19 32.5**	**-0.7**
DNZL				*i* S	**Sg**	**14 19 36.1**	**-0.6**
KHAL	**Karahalli**	**0.53**	**24**	*i* P	**Pg**	**14 19 38.2**	**-0.2**
KHAL				*i* S	**Sg**	**14 19 45.1**	**-0.4**
KHAL	**Karahalli**	**0.53**	**24**	*i* P	**Pg**	**14 19 38.2**	**-0.2**
KHAL				*i* S	**Sg**	**14 19 45.1**	**-0.4**
KULA	**Kula-Manisa**	**0.76**	**325**	*e*PG	**Pg**	**14 19 43.8**	**+1.0**
KULA				*e*SG	**Sg**	**14 19 53.2**	**+0.3**
KULA	**Kula-Manisa**	**0.76**	**325**	*e*Pg	**Pg**	**14 19 43.8**	**+1.0**
KULA				*e*Sg	**Sg**	**14 19 53.2**	**+0.3**
YER	**Yerkesik**	**1.06**	**225**	*e*PG	**Pg**	**14 19 49.0**	**+0.6**
YER				*e*SG	**Sg**	**14 20 02.9**	**+0.8**
YER	**Yerkesik**	**1.06**	**225**	*e*Pg	**Pg**	**14 19 49.0**	**+0.7**
YER				*e*Sg	**Sg**	**14 20 02.9**	**+0.8**
AYDN	**Tasoluk**	**1.08**	**258**	*i* P	**Pg**	**14 19 48.6**	**-0.3**
AYDN				*i* S	**Sg**	**14 20 01.6**	**-1.4**
AYDN	**Tasoluk**	**1.08**	**258**	*i* P	**Pg**	**14 19 48.6**	**-0.3**
AYDN				*i* S	**Sg**	**14 20 01.6**	**-1.4**
GDZ	**Gediz**	**1.22**	**10**	*i* P	**Pn**	**14 19 50.2**	**-0.3**
GDZ				*i* S	**Sb**	**14 20 06.3**	**+0.1**
GDZ	**Gediz**	**1.22**	**10**	*i* P	**Pn**	**14 19 50.2**	**-0.3**
GDZ				*i* S	**Sb**	**14 20 06.3**	**0.0**

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*ISCJB **25** 14:30:43.5±1.4, 24°.3S±0°.1×180°.0E±0°.2, h487km±17km, mb3.6/5, Error ellipse: s-maj=24.2km s-min=18.1km az=179.2*
*NEIC **25** 14:30:44.0±1.1, 24°.32S×179°.93W, h488km±12km, mb4.2/2, Error ellipse: s-maj=17.4km s-min=13.4km az=104.0*
*IDC **25** 14:30:45.0±2.9, 24°.00S×179°.96E, h490km±24km, mb3.1/5, mb1 3.4/5, mb1mx3.2/15, mbtmp3.1/5, Error ellipse: s-maj=90.6km s-min=26.7km az=157.0*
ISC 25 14:30:44.0±1.3, 24°.3S±0°.1×179°.9W±0°.2, h485km±17km, n28, σ0°73/20, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.84**	**344**	*e*P	**P**	**14 32 28.1**	**-0.1**
URZ	**Urewera**	**14.10**	**190**	*e*P	**P**	**14 33 45.4**	**+0.6**
NNZ	**Nelson**	**17.73**	**197**	Pn	**P**	**14 34 21.6**	**-0.9**
CTA	**Charters Tower**	**31.54**	**271**	*e*P	**P**	**14 36 26.8**	**+1.1**
CTAO	**Charters Tower**	**31.54**	**271**	*e*P	**P**	**14 36 25.7**	**+0.1**
	5.9nm,0.4s						
TOO	**Toolangi**	**32.26**	**238**	*e*P	pP	14 38 02.4	+6.4
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**14 36 52.6**	**+1.0**
	1.9nm,0.9s,mb3.5,baz=111,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**34.61**	**249**	*e*P	**P**	**14 36 52.6**	**+0.9**
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**14 36 52.6**	**+1.0**
AS31	**Alice Springs**	**42.02**	**261**	*e*P	**P**	**14 37 52.3**	**+0.1**
ASAR	**Alice Springs**	**42.02**	**261**	P	**P**	**14 37 52.6**	**+0.4**
	1.8nm,0.8s,mb3.5,baz=98,slow=7.3,SNR=41						
ASAR	**Alice Springs**	**42.02**	**261**	P	**P**	**14 37 52.6**	**+0.4**
WB2	**Warramunga Arr**	**42.42**	**267**	*e*P	**P**	**14 37 54.2**	**-1.3**
WRAB	**Tennant Creek**	**42.43**	**267**	*e*P	**P**	**14 37 54.6**	**-0.9**
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**42.43**	**267**	P	**P**	**14 37 54.9**	**-0.6**
	3.3nm,0.5s,mb4.0,baz=104,slow=8.3,SNR=52						
WRA				ScP	ScP	14 42 42.0	0.0
	0.9nm,0.9s,baz=107,slow=3.6,SNR=6.0						
WRA	**Warramunga Arr**	**42.43**	**267**	P	**P**	**14 37 54.9**	**-0.6**
WRA				ScP	ScP	14 42 42.0	0.0
FITZ	**Fitzroy Crossi**	**50.85**	**266**	*e*P	**P**	**14 38 59.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**89.73**	**290**	P	**P**	**14 42 51.5**	**+1.1**
	0.7nm,0.9s,mb3.5,baz=127,slow=3.0,SNR=4.9						
CMAR	**Chiang Mai Arr**	**89.73**	**290**	P	**P**	**14 42 51.5**	**+1.1**
TXAR	**Lajitas Array**	**90.62**	**58**	P	**P**	**14 42 54.0**	**-0.2**
	0.3nm,0.7s,mb3.3,baz=207,slow=4.6,SNR=4.0						
TXAR	**Lajitas Array**	**90.62**	**58**	P	**P**	**14 42 54.0**	**-0.2**
FINES	**FINESS Array B**	**138.88**	**341**	PKP	PKPdf	14 49 14.1	+0.1
	2.8nm,0.9s,baz=98,slow=2.8,SNR=3.8						
FINES				SKPbc	SKPbc	14 52 00.3	-2.7
	1.9nm,0.9s,baz=7.6,slow=5.8,SNR=5.6						
FINES	**FINESS Array B**	**138.88**	**341**	PKP	PKPdf	14 49 14.1	+0.1
FINES				SKPbc	SKPbc	14 52 00.3	-2.7
AKASG	**Malin Array Be**	**145.37**	**327**	PKPbc	PKPbc	14 49 25.1	-1.7
	0.8nm,0.4s,baz=45,slow=4.0,SNR=4.9						
AKASG	**Malin Array Be**	**145.37**	**327**	PKPbc	PKPbc	14 49 25.1	-1.7
MMAI	**Mount Meron Ar**	**147.93**	**294**	PKPbc	PKPbc	14 49 34.5	+0.1
	1.3nm,0.4s,baz=76,slow=7.8,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.93**	**294**	PKPbc	PKPbc	14 49 34.5	+0.1
CLL	**Collm**	**151.29**	**343**	*i* PKPbc	PKPbc	14 49 40.1	-1.8

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*NEIC **25** 14:33:54.1, 45°.37S×166°.82E, h12km, ML4.3(WEL), After WEL.*
WEL 25 14:33:53.0±0.4, 45°.30S×166°.78E, h12km, ML4.3/15, 1D, Error ellipse: s-maj=4.0km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.32**	**124**	P*	Pg	14 34 00.6	+1.1
DCZ				S*	Sg	14 34 04.3	+0.6
DCZ	**Deep Cove**	**0.32**	**124**	P*	Pg	14 34 00.6	+1.1
PYZ	**Puysegur Point**	**0.87**	**185**	P*	Pb	14 34 08.8	-1.2
PYZ	**Puysegur Point**	**0.87**	**185**	P*	Pb	14 34 08.8	-1.2
PYZ				S*	Sb	14 34 20.9	-0.7
MLZ	**Mavora Lakes**	**0.98**	**93**	P*	Pb	14 34 10.6	-1.3
MLZ	**Mavora Lakes**	**0.98**	**93**	P*	Pb	14 34 10.3	-1.6
WHZ	**Wether Hill Ro**	**1.01**	**126**	⇓P*	Pb	14 34 11.4	-1.0
WHZ				S*	Sb	14 34 23.6	-2.0
WHZ	**Wether Hill Ro**	**1.01**	**126**	P*	Pb	14 34 11.1	-1.3
WHZ				S*	Sb	14 34 24.2	-1.4
MSZ	**Milford Sound**	**1.03**	**53**	P*	Pb	14 34 11.0	-1.7
MSZ	**Milford Sound**	**1.03**	**53**	P*	Pb	14 34 11.0	-1.6
WKZ	**Wanaka**	**1.65**	**74**	PN	Pn	14 34 22.1	+0.3
WKZ	**Wanaka**	**1.65**	**74**	Pn	Pn	14 34 22.1	+0.3
APZ	**The Paps**	**1.75**	**152**	PN	Pn	14 34 23.2	+0.1
APZ	**The Paps**	**1.75**	**152**	Pn	Pn	14 34 23.9	+0.8
EAZ	**Earnscleugh**	**1.79**	**89**	PN	Pn	14 34 23.7	+0.1
EAZ	**Earnscleugh**	**1.79**	**89**	Pn	Pn	14 34 24.0	+0.4
JCZ	**Jackson Bay**	**1.87**	**50**	*e*PN	Pn	14 34 26.0	+1.3
JCZ	**Jackson Bay**	**1.87**	**50**	Pn	Pn	14 34 26.0	+1.3
SYZ	**Scrubby Hill**	**2.06**	**128**	PN	Pn	14 34 27.1	-0.3
SYZ	**Scrubby Hill**	**2.06**	**128**	Pn	Pn	14 34 27.1	-0.3
TUZ	**Tuapeka**	**2.10**	**109**	PN	Pn	14 34 27.8	-0.2
TUZ	**Tuapeka**	**2.10**	**109**	Pn	Pn	14 34 27.8	-0.2
LBZ	**Lake Benmore**	**2.59**	**71**	PN	Pn	14 34 34.4	-0.2
LBZ	**Lake Benmore**	**2.59**	**71**	Pn	Pn	14 34 34.4	-0.2
FOZ	**Fox Glacier**	**2.71**	**51**	PN	Pn	14 34 37.9	+1.6
FOZ	**Fox Glacier**	**2.71**	**51**	Pn	Pn	14 34 37.9	+1.6
ODZ	**Otahua Downs**	**2.75**	**86**	PN	Pn	14 34 36.1	-0.7
ODZ	**Otahua Downs**	**2.75**	**86**	*e*Pn	Pn	14 34 36.2	-0.6
RPZ	**Rata Peaks**	**3.44**	**64**	*e*PN	Pn	14 34 45.4	-1.0
RPZ	**Rata Peaks**	**3.44**	**64**	*e*Pn	Pn	14 34 45.6	-0.8
WVZ	**Waitaha Valley**	**3.61**	**53**	*e*PN	Pn	14 34 48.8	+0.1
WVZ	**Waitaha Valley**	**3.61**	**53**	Pn	Pn	14 34 49.3	+0.6
MQZ	**McQueen's Vall**	**4.49**	**71**	*e*PN	Pn	14 35 00.5	-0.3
MQZ	**McQueen's Vall**	**4.49**	**71**	Pn	Pn	14 35 00.7	-0.1
CRLZ	**Canterbury Las**	**4.52**	**70**	*e*PN	Pn	14 34 60.0	-1.2
CRLZ	**Canterbury Las**	**4.52**	**70**	Pn	Pn	14 35 00.2	-1.0
LTZ	**Lake Taylor**	**4.69**	**59**	*e*PN	Pn	14 35 02.4	-1.1
LTZ	**Lake Taylor**	**4.69**	**59**	Pn	Pn	14 35 02.5	-1.0
DSZ	**Denniston Nort**	**5.09**	**48**	*e*PN	Pn	14 35 08.7	-0.4
DSZ	**Denniston Nort**	**5.09**	**48**	Pn	Pn	14 35 08.9	-0.2
KHZ	**Kahutara**	**5.67**	**62**	*e*PN	Pn	14 35 17.6	+0.5
THZ	**Tophouse**	**5.68**	**54**	*e*PN	Pn	14 35 17.3	+0.1
THZ	**Tophouse**	**5.68**	**54**	Pn	Pn	14 35 17.8	+0.6
NWEZ	**Newall Road**	**7.99**	**44**	Pn	Pn	14 35 50.0	+1.2
WCZ	**Waipu Caves**	**10.97**	**34**	Pn	Pn	14 36 30.2	+0.5

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*NIED **25** 14:44:00, 23°.30N×121°.70E, h47km, Mw4.1 Best double couple: M0=1.58000×10^15 NP1:φs=203.00000°, δ73.00000°, λ126.00000°. NP2:φs=315.00000°, δ39.00000°, λ27.00000°.*
*NEIC **25** 14:44:39.1±0.6, 23°.19N×121°.69E, h38km±5km, mb4.4/1, Error ellipse: s-maj=7.4km s-min=6.5km az=112.0*
NEIC Recorded [3 TAP] in T'ai-tung; [2 TAP] in Hua-lien; [1 TAP] in Chia-i, Kao-hsiung, Nan-t'ou, T'ai-chung and Yun-lin.
*ISCJB **25** 14:44:39.4±0.2, 23°.22N±0°.02×121°.65E±0°.02, h49km±2km, mb4.0/19, Error ellipse: s-maj=3.1km s-min=2.2km az=43.1*
*IDC **25** 14:44:40.9±3.4, 23°.24N×121°.77E, h55km±32km, mb3.7/16, mb1 3.9/17, mb1mx3.8/26, mbtmp3.7/17, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/30, Error ellipse: s-maj=19.2km s-min=14.6km az=58.0*
*TAP **25** 14:44:40.1, 23°.25N×121°.56E, h38km, ML4.5, B*
*JMA **25** 14:44:40.3±0.2, 23°.29N×121°.67E, h91km, M3.9*
*BJI **25** 14:44:43.0, 23°.72N×121°.13E, h8km, mB4.1/3, mb3.7/5, ML3.5/3*
ISC 25 14:44:40.2±0.2, 23°.22N±0°.02×121°.64E±0°.02, h41km±3km, n124, σ1°01/191, mb4.0/19, 19C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.28**	**244**	⇓*i*P	**Pn**	**14 44 47.4**	**-0.9**
	baz=221						
CHKT				*e*S	**Sn**	**14 44 52.6**	**-1.3**
	baz=221						
TWF1	**Yuli**	**0.34**	**293**	⇑*i*P	**Pn**	**14 44 48.2**	**-0.8**
	baz=293						
TWF1				*e*S	**Sn**	**14 44 54.1**	**-1.0**
	baz=293						
YULB	**Yu-li**	**0.36**	**299**	*e*Pn	**Pn**	**14 44 48.1**	**-1.1**
YULB				*e*Sn	**Sn**	**14 44 55.9**	**+0.4**
EHY	**Hungye**	**0.41**	**314**	⇓*i*P	**Pn**	**14 44 48.8**	**-1.0**
	baz=308						
EHY				*i* S	**Sn**	**14 44 54.7**	**-1.8**
	baz=308						
TEGC	**Jichi Village**	**0.49**	**350**	P	**Pn**	**14 44 50.0**	**-0.9**
	baz=6.0						
TEGC				S	**Sn**	**14 44 57.8**	**-0.6**
	baz=6.0						
ELDTW	**Lidau**	**0.57**	**267**	⇑*i*P	**Pn**	**14 44 50.7**	**-1.2**
	baz=256						
ELDTW				S	**Sn**	**14 44 57.6**	**-2.6**
	baz=256						
ESL	**Shilin**	**0.62**	**342**	⇓P	**Pn**	**14 44 51.2**	**-1.3**
	baz=340						
ESL				S	**Sn**	**14 44 59.2**	**-2.2**
	baz=340						
TTN	**Taitung**	**0.65**	**224**	*e*P	**Pn**	**14 44 52.7**	**-0.2**
	baz=227						
TTN				*e*S	**Sn**	**14 45 03.6**	**+1.5**
	baz=227						
TWG	**Pinlang**	**0.66**	**233**	⇑*i*P	**Pn**	**14 44 51.9**	**-1.1**
	baz=234						
TWG				*e*S	**Sn**	**14 45 00.7**	**-1.5**
	baz=234						
TWG	**Pinlang**	**0.66**	**233**	*e*Pn	**Pn**	**14 44 51.6**	**-1.4**
TWG				*e*		14 45 00.6	
ESF	**Shoufeng Towns**	**0.66**	**350**	*e*P	**Pn**	**14 44 53.0**	**-0.1**
	baz=346						
ESF				*e*S	**Sn**	**14 45 01.7**	**-0.6**
	baz=346						
YUS	**Yu-Shan**	**0.69**	**293**	⇑*i*P	**Pn**	**14 44 53.2**	**-0.2**
	baz=293						
YUS				*e*S	**Sn**	**14 45 01.7**	**-1.2**
	baz=293						
HWA	**Hwalien**	**0.75**	**358**	⇓*i*P	**Pn**	**14 44 53.7**	**-0.7**
	baz=13						
HWA				S	**Sn**	**14 45 04.8**	**+0.2**
	baz=13						
STYT	**Tauyuan**	**0.81**	**266**	⇑*i*P	**Pn**	**14 44 54.7**	**-0.5**
	baz=262						
STYT				S	**Sn**	**14 45 04.8**	**-1.3**
	baz=262						
ALS	**Alishan**	**0.82**	**291**	⇑*i*P	**Pn**	**14 44 55.3**	**+0.1**
	baz=290						
ALS				*e*S	**Sn**	**14 45 05.8**	**-0.4**
	baz=290						
SSLB	**Suanglung**	**0.84**	**312**	*e*Pn	**Pn**	**14 44 54.7**	**-0.9**
TWD	**Chiawan**	**0.86**	**357**	⇓*i*P	**Pn**	**14 44 55.0**	**-0.8**
	baz=350						
TWD				*i* S	**Sn**	**14 45 06.1**	**-1.0**
	baz=350						
ECL	**Taimali**	**0.89**	**226**	*e*P	**Pn**	**14 44 54.7**	**-1.5**
	baz=226						
TPUB	**Ta-pu**	**0.93**	**275**	*e*Pn	**Pn**	**14 44 56.7**	**-0.1**
TPUB				*e*Sn	**Sn**	**14 45 08.8**	**-0.2**
WTP	**Ta-pu**	**0.94**	**272**	⇑*i*P	**Pn**	**14 44 56.9**	**0.0**
	baz=269						
WTP				S	**Sn**	**14 45 09.5**	**+0.3**
	baz=269						
SMLT	**Sun Moon Lake**	**0.94**	**314**	⇓*i*P	**Pn**	**14 44 57.0**	**0.0**
	baz=321						
SMLT				S	**Sn**	**14 45 08.1**	**-1.2**
	baz=321						
NACB	**Ninganchiao**	**0.95**	**358**	*e*Pn	**Pn**	**14 44 55.9**	**-1.2**
NACB				*e*Sn	**Sn**	**14 45 07.8**	**-1.6**
CHN5	**Tsauling**	**0.96**	**293**	⇑*i*P	**Pn**	**14 44 57.6**	**+0.5**
	baz=293						
CHN5				*e*S	**Sn**	**14 45 08.2**	**-1.4**
	baz=293						
CHN4	**Tsaushan**	**0.97**	**278**	⇑*i*P	**Pn**	**14 44 57.7**	**+0.4**
	baz=276						
CHN4				S	**Sn**	**14 45 10.4**	**+0.5**
	baz=276						
SGST	**Jiashian**	**0.98**	**262**	⇑*i*P	**Pn**	**14 44 58.0**	**+0.6**
	baz=251						
SGST				*e*S	**Sn**	**14 45 11.1**	**+1.0**
	baz=251						
WHF	**Hehuan Shan**	**0.98**	**340**	*e*P	**Pn**	**14 44 56.8**	**-0.7**
	baz=345						
WHF				*e*S	**Sn**	**14 45 09.6**	**-0.6**
	baz=345						
TYC	**Yuchr**	**0.99**	**314**	⇓*i*P	**Pn**	**14 44 57.6**	**0.0**
	baz=324						
TYC				*i* S	**Sn**	**14 45 10.6**	**+0.2**
	baz=324						
CHN1	**Nanshi**	**1.02**	**268**	⇑*i*P	**Pn**	**14 44 58.6**	**+0.6**
	baz=265						
CHN1				S	**Sn**	**14 45 12.3**	**+1.1**
	baz=265						
SSD	**Sandimen**	**1.04**	**243**	⇑*e*P	**Pn**	**14 44 57.7**	**-0.5**
	baz=237						
SSD				*e*S	**Sn**	**14 45 12.1**	**+0.5**
	baz=237						
WGK	**Gukeng**	**1.09**	**295**	*e*P	**Pn**	**14 44 59.5**	**+0.5**
	baz=296						
WGK				S	**Sn**	**14 45 14.1**	**+1.2**
	baz=296						
WNT	**Mingjian**	**1.09**	**307**	⇑*i*P	**Pn**	**14 44 59.6**	**+0.6**
	baz=309						
WNT				S	**Sn**	**14 45 13.6**	**+0.7**
	baz=309						
TAW	**Tawu**	**1.10**	**219**	*e*P	**Pn**	**14 44 57.8**	**-1.3**
	baz=212						
EAST	**Anshuo**	**1.11**	**221**	*e*P	**Pn**	**14 44 58.1**	**-1.1**
	baz=208						
TWT	**Tachien**	**1.11**	**338**	⇓*i*P	**Pn**	**14 44 59.5**	**+0.2**
	baz=348						
TWT				S	**Sn**	**14 45 12.2**	**-1.2**
	baz=348						
CHY	**Chiayi**	**1.15**	**284**	*i* P	**Pn**	**14 45 00.3**	**+0.6**
	baz=283						
CHY				*i* S	**Sn**	**14 45 15.0**	**+0.7**
	baz=283						
SGLT	**Jiouru**	**1.17**	**245**	*e*P	**Pn**	**14 45 01.6**	**+1.6**
	baz=229						
SGLT				*e*S	**Sn**	**14 45 18.4**	**+3.6**
	baz=229						
LAY	**Lan-yu**	**1.18**	**184**	*e*P	**Pn**	**14 44 59.5**	**-0.7**
	baz=173						
LAY				*e*S	**Sn**	**14 45 13.9**	**-1.2**
	baz=173						
CHN3	**Shinhua**	**1.18**	**263**	P	**Pn**	**14 45 01.7**	**+1.5**
	baz=272						
CHN3				*e*S	**Sn**	**14 45 19.1**	**+4.0**
	baz=272						
TWM1	**Shoushan**	**1.19**	**251**	⇑*i*P	**Pn**	**14 45 02.4**	**+2.1**
	baz=246						
TWM1				*e*S	**Sn**	**14 45 18.8**	**+3.5**
	baz=246						
ENA	**Nanau**	**1.21**	**4**	⇓*i*P	**Pn**	**14 45 00.1**	**-0.4**
	baz=20						
ENA				*e*S	**Sn**	**14 45 15.0**	**-0.7**
	baz=20						
NNS	**Nan Shan**	**1.24**	**349**	*e*P	**Pn**	**14 45 00.8**	**-0.2**
	baz=4.0						
SCZT	**Fangliau**	**1.26**	**228**	*e*P	**Pn**	**14 45 01.6**	**+0.2**
	baz=213						
SCZT				*e*S	**Sn**	**14 45 18.1**	**+1.0**
	baz=213						
TCU	**Taichung**	**1.28**	**316**	*i* P	**Pn**	**14 45 02.6**	**+1.1**
	baz=306						
TCU				*e*S	**Sn**	**14 45 18.7**	**+1.2**
	baz=306						
TAI1	**Yung-k'ang**	**1.31**	**262**	*e*P	**Pn**	**14 45 03.1**	**+1.1**
	baz=259						
CHN8	**Yiju**	**1.32**	**276**	⇑*i*P	**Pn**	**14 45 02.5**	**+0.4**
	baz=274						
CHN8				S	**Sn**	**14 45 19.3**	**+0.8**
	baz=274						
SCLT	**Jiali**	**1.33**	**268**	*e*P	**Pn**	**14 45 02.8**	**+0.6**
	baz=265						
SCLT				*e*S	**Sn**	**14 45 20.2**	**+1.5**
	baz=265						
WSF	**Szhu**	**1.36**	**288**	P	**Pn**	**14 45 02.8**	**0.0**
	baz=287						
WSF				*e*S	**Sn**	**14 45 19.8**	**+0.2**
	baz=287						
TWQ1

NWF	Wu-fen Shan	1.85	4	eP		Pn	14 45 10.3 +0.9
	baz=354						
NWF				eS		Sn	14 45 34.5 +3.0
	baz=354						
TWS1	Kuangyinshan	1.88	354	eP		Pn	14 45 11.4 +1.6
	baz=14						
PNG	Penghu	1.94	281	⇑iP		Pn	14 45 10.4 -0.3
	baz=266						
PNG				eS		Sn	14 45 32.1 -1.8
	baz=266						
HATJ	Hateruma jima	2.15	67	P		Pn	14 45 14.3 +0.7
HATJ				eS		Sn	14 45 40.1 +1.0
IRIF	Iriomote-Funau	2.21	60	P		Pn	14 45 15.4 +1.0
IRIF				eS		Sn	14 45 42.2 +1.6
JKRS	Kuro-shima	2.40	65	P		Pn	14 45 18.0 +1.1
JKRS				eS		Sn	14 45 46.4 +1.3
JIJ	Ishigaki jima	2.56	63	P		Pn	14 45 19.6 +0.4
JIJ				eS		Sn	14 45 49.1 0.0
JTJ	Tarama	3.14	63	P		Pn	14 45 27.7 +0.6
JTJ				eS		Sn	14 46 03.8 +0.4
KNM	Kinmen	3.17	293	eP		Pn	14 45 27.9 +0.4
	baz=291						
QZH	Quanzhou	3.27	302	⇓iPn		Pn	14 45 26.3 -2.6
QZH				Sn		Sn	14 46 01.5 -5.1
QZH				smax			
	comp=N,360nm,0.6s						
QZH				smax			
	comp=E,300nm,0.6s						
JMJ	Miyako jima 2	3.70	64	eP		Pn	14 45 35.5 +0.6
	baz=66						
JMJ				eS		Sn	14 46 17.4 +0.2
	baz=66						
JMJ	Miyako jima 2	3.70	64	P		Pn	14 45 36.0 +1.2
JMJ				eS		Sn	14 46 17.4 +0.2
JOGS	Gusukube	3.77	65	P		Pn	14 45 36.3 +0.5
JOW	Kunigami	7.01	58	P		Pn	14 46 19.4 -0.9
	comp=E,4.2nm,0.3s,baz=206,slow=9.5,SNR=7.4						
JOW				S		Sn	14 47 36.9 -1.9
	comp=E,2.0nm,0.3s,baz=264,slow=28,SNR=2.2						
JOW	Kunigami	7.01	58	P		Pn	14 46 19.4 -0.9
JOW				S		Sn	14 47 36.9 -1.9
WHN	Wuhan	9.77	320	P		Pn	14 46 57.3 -0.8
KSAR	Wonju Array Be	15.16	19	P		Pn	14 48 16.2 +4.9
KSRS	Korea Array	15.18	19	P		Pn	14 48 16.2 +4.6
	comp=E,0.1nm,0.3s,baz=201,slow=11,SNR=4.0						
KSRS				LR		LR	14 55 00.3
	comp=E,36nm,19.1s,baz=175,slow=41						
CMAR	Chiang Mai Arr	21.73	262	P		P	14 49 29.8 +1.7
	comp=E,0.7nm,0.6s,mb3.2,baz=66,slow=8.9,SNR=7.1						
CMAR	Chiang Mai Arr	21.73	262	P		P	14 49 29.8 +1.7
SONM	Songino Array	27.41	337	P		P	14 50 21.9 +0.2
	comp=E,0.9nm,0.7s,mb3.4,baz=154,slow=10,SNR=9.4						
SONM				LR		LR	15 02 26.1
	comp=E,121nm,18.4s,baz=76,slow=39						
SONM	Songino Array	27.41	337	P		P	14 50 21.9 +0.2
MK31	Makanchi Array	39.32	317	eP		P	14 52 05.2 +0.1
MKAR	Makanchi Array	39.32	317	P		P	14 52 05.5 +0.4
	comp=E,2.0nm,0.6s,mb4.0,baz=100,slow=9.4,SNR=28						
MKAR	Makanchi Array	39.32	317	P		P	14 52 05.5 +0.4
ZALV	Zalesovo Beam	41.28	328	P		P	14 52 20.9 -0.4
	comp=E,2.1nm,0.5s,mb4.0,baz=117,slow=8.5,SNR=14						
ZALV	Zalesovo Beam	41.28	328	P		P	14 52 20.9 -0.4
KURK	Kurchatov	43.10	321	P		P	14 52 35.6 -0.5
	comp=E,0.9nm,0.3s,mb3.9,baz=86,slow=5.4,SNR=9.8						
KURK	Kurchatov	43.10	321	P		P	14 52 35.6 -0.5
WRA	Warramunga Arr	44.65	163	P		P	14 52 48.0 -1.0
	comp=E,0.8nm,0.5s,mb3.8,baz=345,slow=8.5,SNR=15						
WRA	Warramunga Arr	44.65	163	P		P	14 52 48.0 -1.0
AS31	Alice Springs	48.10	165	eP		P	14 53 14.8 -1.1
BVAR	Borovoye Array	48.68	321	P		P	14 53 20.0 -0.1
	comp=E,1.5nm,0.6s,mb4.2,baz=114,slow=8.7,SNR=12						
BVAR	Borovoye Array	48.68	321	P		P	14 53 20.0 -0.1
ABKAR	Akbulak array	54.41	315	eP		P	14 54 02.8 -0.2
	comp=E,2.7nm,0.7s,mb4.3						
AKTO	Aktyubinsk	55.75	316	P		P	14 54 12.1 -0.6
	comp=E,0.7nm,0.4s,mb4.1,baz=80,slow=7.9,SNR=4.3						
AKTO	Aktyubinsk	55.75	316	P		P	14 54 12.1 -0.6
STKA	Stephens Creek	58.02	160	P		P	14 54 27.8 -1.1
	comp=E,3.6nm,0.8s,mb4.5,baz=341,slow=6.4,SNR=15						
STKA	Stephens Creek	58.02	160	P		P	14 54 27.8 -1.1
JOF	Joensuu	69.75	331	ep		P	14 55 44.3 -1.3
	comp=E,2.6nm,0.6s,mb4.3						
ILAR	Eielson Array	69.88	27	P		P	14 55 46.5 +0.1
	comp=E,0.2nm,0.6s,mb3.2,baz=301,slow=6.9,SNR=6.4						
ILAR	Eielson Array	69.88	27	P		P	14 55 46.5 +0.1
KEV	Kevo	70.02	338	ep		P	14 55 45.9 -1.3
	comp=E,0.6nm,0.3s,mb4.0						
ARCES	ARCESS Array B	70.58	338	P		P	14 55 49.3 -1.4
	comp=E,9.3nm,1.1s,mb4.6,baz=21,slow=7.8,SNR=4.4						
ARCES	ARCESS Array B	70.58	338	P		P	14 55 49.3 -1.4
FINES	FINESS Array B	72.48	330	P		P	14 56 01.4 -0.9
	comp=E,2.0nm,0.6s,mb4.2,baz=50,slow=6.9,SNR=17						
FINES	FINESS Array B	72.48	330	P		P	14 56 01.4 -0.9
BRTR	Keskin Array B	74.08	307	P		P	14 56 11.9 -0.2
	comp=E,1.0nm,0.5s,mb4.0,baz=123,slow=3.3,SNR=6.6						
BRTR	Keskin Array B	74.08	307	P		P	14 56 11.9 -0.2
NOA	NORSAR Array B	79.27	332	P		P	14 56 40.5 -0.4
	comp=E,0.5nm,0.6s,mb3.6,baz=54,slow=5.5,SNR=3.3						
NOA	NORSAR Array B	79.27	332	P		P	14 56 40.5 -0.4
YKA	Yellowknife Ar	83.69	23	P		P	14 57 03.2 -1.1
	comp=E,0.3nm,0.6s,mb3.6,baz=309,slow=4.9,SNR=11						
YKA	Yellowknife Ar	83.69	23	P		P	14 57 03.2 -1.1
GERES	GERESS Array B	83.85	321	P		P	14 57 05.1 -0.3
	comp=E,0.9nm,0.6s,mb4.1,baz=48,slow=2.2,SNR=3.7						
GERES	GERESS Array B	83.85	321	P		P	14 57 05.1 -0.3

*MAN **25** 15:01:04, 13.37N×120.38E, h8km, mb4.8, ML3.7, MS3.7*
MAN INTENSITY IV - PALUAN OCCIDENTAL MINDORO.
*ISCJB **25** 15:01:06.8±0.5, 13.39N±0.03×120.45E±0.04, h46km±5km, mb4.4/35, Error ellipse: s-maj=6.9km s-min=4.6km az=179.8*
*IDC **25** 15:01:08.0±1.4, 13.55N×120.75E, h41km±14km, mb3.9/16, mb1 4.1/16, mb1mx3.9/25, mbtmp3.9/16, MS2.9/2, Ms1 2.9/2, ms1mx2.5/28, Error ellipse: s-maj=29.2km s-min=11.6km az=70.0*
*NEIC **25** 15:01:08.2±0.9, 13.52N×120.68E, h46km±9km, mb4.6/19, Error ellipse: s-maj=9.5km s-min=4.9km az=56.0*
NEIC Felt [IV PIVS] at Paluan.

ISC 25 15:01:08.0±0.5, 13.38N±0.03×120.47E±0.04, h40km±6km, n92, σ1°04/97, mb4.4/35, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.85	32	P		Pn	15 01 20.6 -2.9
	1μm,0.3s,baz=198,slow=2.1,SNR=90						
TGY				S		Sn	15 01 35.2 +0.5
	2μm,0.3s,baz=152,slow=22,SNR=38						
TGY	Tagaytay City	0.85	32	P		Pn	15 01 20.6 -2.9
TGY				S		Sn	15 01 35.2 +0.5
TGY	Tagaytay City	0.85	32	⇑eP		Pn	15 01 21.3 -2.2
TGY				eS		Sn	15 01 33.6 -1.1
BOAC	Boac	1.34	87	eP		Pn	15 01 28.3 -1.9
BUSP	Coron	1.40	191	eP		Pn	15 01 29.4 -1.6
BUSP				eS		Sn	15 01 48.3 0.0
OTRP	Odiongan	1.82	124	eP		Pn	15 01 36.7 -0.2
GQP	Guinayangan	1.99	75	⇓eP		Pn	15 01 39.0 -0.2
GQP				eS		Sn	15 02 05.5 +2.6
AUQP	San Andres	2.15	91	eP		Pn	15 01 44.1 +2.8
ENPP	El Nido	2.39	205	eP		Pn	15 01 43.2 -1.6
ENPP				eS		Sn	15 02 12.2 -0.7
SCZP	Santa Cruz	2.44	347	eP		Pn	15 01 44.7 -0.7
BALP	Baler	2.58	24	eP		Pn	15 01 47.8 +0.5
CUYO	Cuyo Island	2.58	168	eP		Pn	15 01 45.6 -1.6
RCP	Roxas	2.87	129	⇓eP		Pn	15 01 51.9 +0.6
BOLP	Bolinao	3.03	350	eP		Pn	15 01 53.1 -0.3
GUIM	Jordan	3.44	143	eP		Pn	15 01 59.8 +0.7
GUIM				eS		Sn	15 02 42.3 +3.6
PVCP	Virac	3.59	86	eP		Pn	15 02 00.3 -0.9
CAUP	Cauayan	3.77	20	eP		Pn	15 02 04.1 +0.4
MSLP	Maasin	5.38	126	eP		Pn	15 02 27.8 +2.0
PAGZ	Pagadian	6.20	152	eP		Pn	15 02 38.6 +1.5
DAV	Davao City (W)	8.04	141	LR		LR	15 07 29.5
	comp=Z,77nm,18.4s,baz=217,slow=48						
CM31	Chiang Mai Arr	21.30	286	eP		P	15 05 52.5 +1.1
	4.8nm,0.8s,mb3.9						
CMAR	Chiang Mai Arr	21.30	286	P		P	15 05 53.6 +2.2
	5.3nm,0.8s,mb3.9,baz=97,slow=9.0,SNR=21						
CMAR	Chiang Mai Arr	21.30	286	P		P	15 05 53.6 +2.2
CHTO	Chiang Mai	21.36	287	eP		P	15 05 55.7 +3.5
	4.3nm,1.1s,mb3.7						
KSRS	Korea Array	24.88	14	LR		LR	15 16 30.7
	comp=Z,25nm,19.3s,baz=185,slow=38						
LSA	Lhasa	31.61	306	P		P	15 07 28.6 +1.4
FITZ	Fitzroy Crossi	31.70	171	P		P	15 07 30.5 +2.5
	2.1nm,0.9s,mb4.0,baz=352,slow=7.1,SNR=4.5						
FITZ	Fitzroy Crossi	31.70	171	P		P	15 07 30.5 +2.5
TAPN	Taplejung	33.59	300	eP		P	15 07 45.1 +0.6
TAPN	Taplejung	33.59	300	eP		P	15 07 45.1 +0.6
ODAN	Odare	33.71	299	eP		P	15 07 46.5 +0.8
	8.1nm,0.6s,mb4.8						
ODAN	Odare	33.71	299	eP		P	15 07 46.5 +0.8
	8.1nm,0.6s,mb4.8						
RAMN	Ramite	34.41	298	eP		P	15 07 52.8 +1.1
RAMN	Ramite	34.41	298	eP		P	15 07 52.8 +1.1
JIRN	Jiri	34.97	299	eP		P	15 07 57.2 +0.7
	12nm,0.6s,mb5.0						
JIRN	Jiri	34.97	299	eP		P	15 07 57.2 +0.7
	12nm,0.6s,mb5.0						
GUN	Gumba	35.30	300	eP		P	15 08 00.1 +0.7
	8.3nm,0.3s,mb5.1						
GUN	Gumba	35.30	300	eP		P	15 08 00.1 +0.7
	8.3nm,0.3s,mb5.1						
PKI	Pulchoki	35.60	299	eP		P	15 08 02.0 0.0
	9.6nm,0.6s,mb4.9						
PKI	Pulchoki	35.60	299	eP		P	15 08 02.0 0.0
	9.6nm,0.6s,mb4.9						
KKN	Kakani	35.77	299	eP		P	15 08 03.7 +0.2
KKN	Kakani	35.77	299	eP		P	15 08 03.7 +0.2
WRAB	Tennant Creek	35.81	157	eP		P	15 08 03.3 -0.5
	5.4nm,0.6s,mb4.7						
WRA	Warramunga Arr	35.82	157	P		P	15 08 03.5 -0.3
	4.2nm,0.5s,mb4.6,baz=336,slow=9.6,SNR=44						
WRA	Warramunga Arr	35.82	157	P		P	15 08 03.5 -0.3
WB2	Warramunga Arr	35.82	157	eP		P	15 08 02.8 -1.0
DMN	Daman	35.87	299	eP		P	15 08 04.6 +0.3
DMN	Daman	35.87	299	eP		P	15 08 04.6 +0.3
ULN	Ulaanbaatar	36.15	345	eP		P	15 08 06.3 -0.1
	2.7nm,0.6s,mb4.3						
SONM	Songino Array	36.30	344	P		P	15 08 07.7 +0.1
	3.8nm,0.5s,mb4.5,baz=164,slow=9.9,SNR=52						
SONM	Songino Array	36.30	344	P		P	15 08 07.7 +0.1
GKN	Gorkha	36.38	299	eP		P	15 08 08.7 +0.1
	11nm,0.7s,mb4.9						
GKN	Gorkha	36.38	299	eP		P	15 08 08.7 +0.1
	11nm,0.7s,mb4.9						
DANN	Dangsing	37.22	299	eP		P	15 08 15.9 +0.1
	16nm,0.7s,mb5.0						
DANN	Dangsing	37.22	299	eP		P	15 08 15.9 +0.1
	16nm,0.7s,mb5.0						
AS31	Alice Springs	39.10	160	eP		P	15 08 31.7 +0.2
ASAR	Alice Springs	39.10	160	P		P	15 08 31.7 +0.1
	4.7nm,0.6s,mb4.4,baz=341,slow=7.6,SNR=130						
ASAR	Alice Springs	39.10	160	P		P	15 08 31.7 +0.1
MK31	Makanchi Array	46.15	324	eP		P	15 09 28.8 +0.3
MKAR	Makanchi Array	46.15	324	P		P	15 09 29.3 +0.7
	1.1nm,0.5s,mb4.0,baz=119,slow=7.9,SNR=23						
MKAR	Makanchi Array	46.15	324	P		P	15 09 29.3 +0.7
NWAO	Narrogin (SRO)	46.15	184	P		P	15 09 29.9 +1.2
	6.8nm,0.8s,mb4.6,baz=93,slow=10,SNR=5.4						
NWAO	Narrogin (SRO)	46.15	184	P		P	15 09 29.9 +1.2
TKM2	Tokmak 2	48.49	316	eP		P	15 09 47.5 +0.6
	2.3nm,0.6s,mb4.4						
AAK	Ala-Archa	49.13	315	eP		P	15 09 52.6 +0.8
	8.2nm,0.8s,mb4.8						
ZALV	Zalesovo Beam	49.23	333	P		P	15 09 51.6 -0.7
	1.5nm,0.3s,mb4.4,baz=124,slow=6.8,SNR=10						
ZALV	Zalesovo Beam	49.23	333	P		P	15 09 51.6 -0.7
STKA	Stephens Creek	49.35	156	P		P	15 09 53.0 -0.5
	0.6nm,0.4s,mb4.0,baz=300,slow=5.8,SNR=6.2						
STKA	Stephens Creek	49.35	156	eP		P	15 09 52.8 -0.7
	2.7nm,1.5s,mb4.1						
EKS2	Erkin-Say	49.63	315	eP		P	15 09 56.0 +0.5
	1.8nm,0.6s,mb4.3						
KURK	Kurchatov	50.33	327	eP		P	15 10 00.7 0.0
	11nm,0.6s,mb5.1						
KKAR	Karatay Array	52.03	315	eP		P	15 10 13.4 -0.2
	1.8nm,0.6s,mb4.2						
BVAR	Borovoye Array	55.91	326	P		P	15 10 41.9 +0.1
	3.8nm,0.6s,mb4.6,baz=114,slow=9.4,SNR=18						
BVAR	Borovoye Array	55.91	326	P		P	15 10 41.9 +0.1
BRVK	Borovoye	55.98	326	eP		P	15 10 41.9 -0.4
	8.2nm,0.8s,mb4.8						
ABKAR	Akbulak array	60.82	319	eP		P	15 11 15.8 -0.3
	1.7nm,0.4s,mb4.5						
AKTO	Aktyubinsk	62.31	320	P		P	15 11 26.1 -0.1
	1.6nm,0.6s,mb4.3,baz=93,slow=11,SNR=8.6						
AKTO	Aktyubinsk	62.31	320	P		P	15 11 26.1 -0.1
ARU	Artí	63.52	327	eP		P	15 11 32.3 -1.8
	3.2nm,0.6s,mb4.5						
JOF	Joensuu	77.81	332	ep		P	15 12 59.4 -1.6
	1.7nm,0.5s,mb4.2						
ILAR	Eielson Array	79.13	26	P		P	15 13 07.0 -1.2
	0.2nm,0.6s,baz=313,slow=3.9,SNR=6.4						
ILAR	Eielson Array	79.13	26	P		P	15 13 07.0 -1.2
ARCES	ARCESS Array B	79.30	339	P		P	15 13 08.2 -0.9
	2.7nm,0.8s,mb4.2,baz=86,slow=7.9,SNR=7.6						
ARCES	ARCESS Array B	79.30	339	P		P	15 13 08.2 -0.9
KAF	Kangasniemi	80.22	332	ep		P	15 13 12.6 -1.6
	2.7nm,0.8s,mb4.2						
FINES	FINESS Array B	80.45	331	P		P	15 13 15.0 -0.4
	1.6nm,0.7s,mb4.1,baz=72,slow=6.2,SNR=7.6						
FINES	FINESS Array B	80.45	331	P		P	15 13 15.0 -0.4
BUR08	Bucovina Ar. S	83.74	317	eP		P	15 13 32.5 -0.4
NOA	NORSAR Array B	87.44	333	P		P	15 13 49.8 -1.2
	0.8nm,0.7s,mb4.0,baz=64,slow=1.9,SNR=2.6						
NOA	NORSAR Array B	87.44	333	P		P	15 13 49.8 -1.2
YKA	Yellowknife Ar	93.15	22	P		P	15 14 16.8 -0.9
	0.3nm,0.6s,mb3.9,baz=307,slow=4.3,SNR=8.3						
YKA	Yellowknife Ar	93.15	22	P		P	15 14 16.8 -0.9

WEL 25 15:14:57.4±0.6, 38.16S×175.73E, h189km±5km, ML3.5/16, Error ellipse: s-maj=4.5km s-min=4.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	Whakapapa	1.05	188	PN		Pn	15 15 26.8 +0.5
URZ	Urewera	1.09	96	PN		Pn	15 15 26.7 +0.1
URZ				SN		Sn	15 15 48.7 -0.5
TUVZ	Tukino	1.11	183	PN		Pn	15 15 27.2 +0.4
BKZ	Black Stump Fm	1.17	149	PN		Pn	15 15 27.2 0.0
BKZ				SN		Sn	15 15 49.4 -1.0
WNVZ	Wahianoa	1.17	185	PN		Pn	15 15 27.6 +0.4
MTVZ	Mangateitei	1.24	189	PN		Pn	15 15 27.9 +0.2
MOVZ	Moawhango	1.25	179	PN		Pn	15 15 27.6 -0.2
NMHZ	Naumai	1.26	138	PN		Pn	15 15 29.0 +1.1
RAHZ	Arahi	1.31	126	SN		Sn	15 15 52.6 +0.3
BHHZ	Black Hill Sta	1.35	169	PN		Pn	15 15 28.4 -0.3
MWZ	Matawai	1.43	98	PN		Pn	15 15 29.5 +0.1
MWZ				SN		Sn	15 15 53.1 -1.1
MCHZ	McNeill Hill	1.49	150	PN		Pn	15 15 30.4 +0.5
MCHZ				SN		Sn	15 15 55.3 -0.1
WAZ	Wanganui	1.69	200	PN		Pn	15 15 31.4 -0.5
PKE	Pukeiti	1.71	232	PN		Pn	15 15 32.6 +0.6
PNHZ	Pukenui	1.79	168	PN		Pn	15 15 32.2 -0.7
NWEZ	Newall Road	1.83	232	PN		Pn	15 15 34.1 +0.8
KAHZ	Kahuranaki	1.86	152	PN		Pn	15 15 33.4 -0.1
CNGZ	Carnagh Statio	1.98	100	PN		Pn	15 15 35.2 +0.5
WPHZ	Waipukurau	1.98	164	PN		Pn	15 15 33.9 -0.9
PUZ	Puketiti	2.00	88	PN		Pn	15 15 34.8 -0.2
PXZ	Pawanui	2.07	155	PN		Pn	15 15 34.7 -1.0
MXZ	Matakaoa Point	2.13	75	PN		Pn	15 15 36.5 +0.1
DVHZ	Dannevirke	2.16	171	PN		Pn	15 15 35.3 -1.5
PRHZ	Porangahau	2.22	162	PN		Pn	15 15 36.1 -1.2
POWZ	Post Office Ro	2.23	179	PN		Pn	15 15 35.8 -1.7
MRZ	Mangatainoka R	2.50	183	PN		Pn	15 15 38.4 -2.1
BFZ	Birch Farm	2.55	171	PN		Pn	15 15 39.0 -2.0
TIWZ	Tintock	2.62	177	PN		Pn	15 15 39.8 -2.1
OGWZ	Otaki Gorge	2.69	189	PN		Pn	15 15 40.7 -1.9
HOWZ	Holdsworth Sta	2.74	183	PN		Pn	15 15 40.8 -2.4
KIW	Kapiti Island	2.77	193	PN		Pn	15 15 41.2 -2.4
TMWZ	Te Maipa	2.95	178	PN		Pn	15 15 43.2 -2.5
DUWZ	D'Urville Isla	2.99	207	PN		Pn	15 15 44.0 -2.2
CAW	Cannon Point	2.99	190	PN		Pn	15 15 43.7 -2.5
MTW	Mount Morrison	3.00	183	PN		Pn	15 15 43.4 -2.9
WEL	Wellington	3.21	193	PN		Pn	15 15 46.0 -2.9
TRWZ	Traveller	3.23	181	PN		Pn	15 15 46.3 -2.9
SNZO	South Karori	3.24	194	PN		Pn	15 15 46.3 -2.9
TCW	Tory Channel	3.25	200	PN		Pn	15 15 46.7 -2.6
MSWZ	Moikau Station	3.27	186	PN		Pn	15 15 46.5 -3.2
PLWZ	Palliser	3.42	186	PN		Pn	15 15 48.1 -3.4
TUWZ	Tuamarina	3.54	202	PN		Pn	15 15 50.0 -3.0
NNZ	Nelson	3.55	210	PN		Pn	15 15 50.0 -3.1
QRZ	Quartz Range	3.63	222	PN		Pn	15 15 50.6 -3.5
BSWZ	Blackbirch Sta	3.83	201	PN		Pn	15 15 53.7 -2.7
THZ	Tophouse	4.20	210	PN		Pn	15 15 57.4 -3.8
KHZ	Kahutara	4.57	201	PN		Pn	15 16 02.3 -3.5
DSZ	Denniston Nort	4.68	219	PN		Pn	15 16 02.8 -4.5
LTZ	Lake Taylor	5.32	209	PN		Pn	15 16 10.5 -4.9
CRLZ	Canterbury Las	5.90	203	SN		Sn	15 17 21.6 -9.1
MQZ	McQueen's Vall	6.01	202	PN		Pn	15 16 19.0 -5.4
MQZ				SN		Sn	15 17 23.0 -10
ODZ	Otahua Downs	7.86	207	PN		Pn	15 16 43.8 -4.8

*ISCJB **25** 15:16:08.3±0.4, 32.54N±0.02×115.45W±0.02, h23km±4km, Error ellipse: s-maj=4.2km s-min=2.9km az=167.2*
*NEIC **25** 15:16:10.1, 32.56N×115.52W, h10km, ML3.6(ECX), ML3.4(PAS), After ECX.*
*ECX **25** 15:16:10.1±0.8, 32.56N×115.52W, h10km, MD3.4, ML3.6*

ISC 25 15:16:08.1±0.4, 32.54N±0.02×115.46W±0.02, h16km±2km, n50, σ0°99/81, 21C-19D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	Mount Signal	0.25	297	⇑iP		Pg	15 16 13.6 0.0
SNR	Schaffner Ranc	0.33	3	⇓iP		Pg	15 16 16.2 +1.3
COK	Cook Ranch	0.39	324	⇓iP		Pg	15 16 16.5 +0.5
YUH	Yuha Desert	0.41	286	⇑iP		Pg	15 16 16.1 -0.2
COA	Coachella	0.43	41	⇓iP		Pg	15 16 18.5 +1.6
SWSC	Sam W. Stewart	0.49	325	⇑P		Pg	15 16 17.7 -0.3
	baz=0.5,SNR=146						
SWSC				⇓S		Sg	15 16 23.9 -0.7
	baz=0.5						
RMX	La Rumorosa	0.53	277	eP		Pg	15 16 18.4 -0.1
RMX				eS		Sg	15 16 25.4 -0.2
CRR	Carrizo Plain	0.56	309	⇑iP		Pg	15 16 19.1 0.0
DVTC	Desert V Tower	0.56	283	P		Pg	15 16 19.0 -0.1
	baz=0.5,SNR=244						
DVTC				⇑S		Sg	15 16 25.9 -0.6
	baz=0.5						
RDX	Rancho Dawling	0.73	214	eP		Pg	15 16 22.7 +0.3
RDX				eS		Sg	15 16 32.2 +0.2
RDX				⇓e			15 16 35.0
	comp=N,2μm,0.3s						
GLA	Glamis	0.74	46	P		Pg	15 16 22.9 +0.3
	baz=0.8,SNR=92						
GLA				⇑S		Sg	15 16 32.8 +0.4
	baz=0.8						
GLA	Glamis	0.74	46	ePg		Pg	15 16 22.8 +0.2
GLA				eSg		Sg	15 16 32.7 +0.3
MONP	Monument Peak	0.89	294	⇓P		Pb	15 16 24.8 -0.3
	baz=0.8,SNR=125						
MONP				⇓S		Sb	15 16 35.9 -0.8
	baz=0.8						
BAR	Barrett	1.03	278	ePg		Pg	15 16 27.1 -1.0
BAR				eSg		Sg	15 16 39.7 -1.9
CBX	Cerro Bola	1.04	258	⇑eP		Pb	15 16 27.8 0.0
CBX				eS		Sb	15 16 40.9 -0.3
BC3	Big Chuckawall	1.12	0	P		Pb	15 16 28.1 -1.0
	baz=1.1,SNR=24						
BC3				⇑S		Sb	15 16 41.7 -1.7
	baz=1.1						
ECNX	Esteban Cantu	1.30	228	eP		Pn	15 16 32.8 +1.1
ECNX				eP			15 16 31.2
ECNX				eS		Sb	15 16 46.9 -1.8
ECNX				eS		Sb	15 16 49.8 +1.1
PBX	Punta Banda	1.33	234	eP		Pn	15 16 33.0 +0.9
PBX				eS		Sn	15 16 50.5 +1.0
PFO	Pinyon Flat Ob	1.36	322	P		Pn	15 16 31.2 -1.2
	baz=1.3,SNR=130						
PFO				⇓S		Sn	15 16 47.9 -2.3
	baz=1.3						
PFO	Pinyon Flat Ob	1.36	322	ePn		Pn	15 16 30.7 -1.8
PFO				eSn		Sn	15 16 47.4 -2.8
109C	Camp Elliot, M	1.43	285	⇓P		Pn	15 16 32.8 -0.6
	baz=1.4,SNR=93						
109C				⇓S		Sn	15 16 51.3 -0.7
	baz=1.4						
Y12C	Blythe	1.44	33	⇑P		Pn	15 16 33.0 -0.6
	baz=1.5,SNR=87						
113A	Mohawk Valley,	1.45	80	⇑P		Pn	15 16 33.8 +0

n14,σ0°84/18, mb3.5/4, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.28**	**134**	*eP*	**Pg**	**15 57 47.2**	**+0.5**
TGY	**Tagaytay City**	**0.82**	**303⇑**	*eP*	**Pg**	**15 57 56.4**	**-0.6**
GQP	**Guinayangan**	**0.82**	**72⇑**	*eP*	**Pg**	**15 57 56.0**	**-1.2**
GQP				*eS*	**Sg**	**15 58 07.5**	**-0.4**
AUQP	**San Andres**	**1.06**	**108**	*eP*	**Pg**	**15 58 02.8**	**+1.1**
AUQP				*eS*	**Sg**	**15 58 22.2**	**+6.8**
OTRP	**Odiongan**	**1.33**	**164**	*eP*	**Pn**	**15 58 05.8**	**-0.4**
OTRP				*eS*	**Sb**	**15 58 23.9**	**+0.1**
BUSP	**Coron**	**2.16**	**221**	*eP*	**Pn**	**15 58 17.4**	**-0.2**
PVCP	**Virac**	**2.45**	**91**	*eP*	**Pn**	**15 58 22.6**	**+1.0**
PVCP				*eS*	**Sn**	**15 58 58.4**	**+6.8**
SCZP	**Santa Cruz**	**2.69**	**322**	*eP*	**Pn**	**15 58 25.3**	**+0.3**
ENPP	**El Nido**	**3.25**	**222**	*eP*	**Pn**	**15 58 33.2**	**+0.6**
CAUP	**Cauayan**	**3.28**	**3**	*eP*	**Pn**	**15 58 33.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**22.32**	**285**	P	**P**	**16 02 40.0**	**+0.5**
	1.2nm,0.7s,mb3.5,baz=102,slow=7.8,SNR=15						
WRA	**Warramunga Arr**	**35.64**	**159**	P	**P**	**16 04 37.6**	**-2.3**
	0.3nm,0.3s,mb3.6,baz=330,slow=11,SNR=9.4						
SONM	**Songino Array**	**36.37**	**343**	P	**P**	**16 04 50.2**	**+4.3**
	0.7nm,0.7s,mb3.7,baz=155,slow=9.4,SNR=6.4						
ASAR	**Alice Springs**	**38.98**	**162**	P	**P**	**16 05 07.6**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=341,slow=6.9,SNR=6.2						

*IDC **25** 16:31:02.3±6.0, 38°.02N×74°.13E, h92km±51km, mb3.2/7, mb1 3.3/11, mb1mx3.2/30, mbtmp3.2/11, Error ellipse: s-maj=41.2km s-min=20.8km az=21.0*
*ISCJB **25** 16:31:06.9±0.4, 38°.25N±0°.03×74°.39E±0°.07, h156km±7km, mb3.3/7, Error ellipse: s-maj=8.6km s-min=4.5km az=167.0*
*NEIC **25** 16:31:06.7±0.5, 38°.19N×74°.37E, h138km±7km, mb4.5/15, Error ellipse: s-maj=8.4km s-min=3.9km az=63.0*
*NNC **25** 16:31:07.7±5.6, 38°.61N×74°.06E, h0km, mb3.9, mpv4.2, Error ellipse: s-maj=46.3km s-min=31.9km az=171.0*

ISC 25 16:31:07.8±0.4, 38°.24N±0°.03×74°.41E±0°.07, h152km±6km, n75, σ1°01/78, mb3.3/7, 2C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.89**	**9**	P	**Pn**	**16 32 07.3**	**+0.7**
	SNR=108						
KZA				P		16 32 07.3	
	SNR=108						
AML	**Almayashu**	**3.93**	**352**	P	**Pn**	**16 32 07.3**	**+0.2**
	SNR=248						
AML				P		16 32 07.3	
	SNR=248						
UCH	**Uchtor**	**3.99**	**1**	P	**Pn**	**16 32 08.8**	**+1.0**
	SNR=9.1						
UCH				P		16 32 08.8	
	SNR=9.1						
ULHL	**Ulahol**	**4.24**	**19**	P	**Pn**	**16 32 12.2**	**+1.0**
	SNR=26						
ULHL				P		16 32 12.2	
	SNR=26						
AAK	**Ala-Archa**	**4.39**	**1**	P	**Pn**	**16 32 14.0**	**+0.9**
	SNR=25						
AAK				P		16 32 14.0	
	SNR=25						
AAK	**Ala-Archa**	**4.39**	**1**	*e*Pn	**Pn**	**16 32 13.4**	**+0.3**
KBK	**Karagaybulak**	**4.43**	**5**	P	**Pn**	**16 32 14.8**	**+1.1**
	SNR=25						
KBK				P		16 32 14.8	
	SNR=25						
EKS2	**Erkin-Say**	**4.45**	**354**	P	**Pn**	**16 32 14.3**	**+0.4**
	SNR=27						
EKS2				P		16 32 14.3	
	SNR=27						
EKS2	**Erkin-Say**	**4.45**	**354**	*e*Pn	**Pn**	**16 32 13.9**	**+0.1**
CHCP	**Chirah Chowk**	**4.66**	**192**	P	**Pn**	**16 32 19.1**	**+2.3**
CHMS	**Chumysh**	**4.76**	**3**	P	**Pn**	**16 32 18.9**	**+0.9**
	SNR=43						
CHMS				P		16 32 18.9	
	SNR=43						
TKM2	**Tokmak 2**	**4.76**	**11**	P	**Pn**	**16 32 19.0**	**+1.0**
	SNR=74						
TKM2				P		16 32 19.0	
	SNR=74						
TKM2	**Tokmak 2**	**4.76**	**11**	⇓Pn	**Pn**	**16 32 19.1**	**+1.1**
	19nm,0.3s						
TKM2				⇓Sn	**Sn**	**16 33 11.6**	**-1.3**
	32nm,0.8s						
TKM2	**Tokmak 2**	**4.76**	**11**	*e*Pn	**Pn**	**16 32 18.8**	**+0.8**
CEP	**Cherat**	**4.85**	**205**	P	**Pn**	**16 32 20.2**	**+1.0**
CEP				S	**Sn**	**16 33 09.0**	**-5.9**
USP	**Ospenovka**	**5.02**	**1**	P	**Pn**	**16 32 22.2**	**+0.7**
	SNR=10						
USP				P		16 32 22.2	
	SNR=10						
KBL	**Kabul**	**5.69**	**231**	*e*Pn	**Pn**	**16 32 29.6**	**-0.8**
	7.8nm,0.4s						
KK31	**Karatay Array**	**5.69**	**330**	⇓Pn	**Pn**	**16 32 29.2**	**-1.1**
	4.0nm,0.2s,baz=144,slow=12,SNR=254						
KK31				⇓Sn	**Sn**	**16 33 28.6**	**-6.3**
	48nm,0.6s,baz=142,slow=22,SNR=5.8						
KKAR	**Karatay Array**	**5.69**	**330**	*e*Pn	**Pn**	**16 32 29.0**	**-1.3**
	22nm,0.3s						
THW	**Thamme Wali**	**5.85**	**203**	P	**Pn**	**16 32 32.9**	**+0.4**
SARP	**Sargodha**	**6.46**	**193**	P	**Pn**	**16 32 40.7**	**0.0**
MK31	**Makanchi Array**	**10.34**	**32**	⇑P	**Pn**	**16 33 30.9**	**-1.2**
	1.9nm,1.0s,baz=213,slow=15,SNR=6.1						
MK31	**Makanchi Array**	**10.34**	**32**	*e*Pn	**Pn**	**16 33 30.4**	**-1.6**
MKAR	**Makanchi Array**	**10.34**	**32**	P	**Pn**	**16 33 32.8**	**+0.8**
	0.1nm,0.3s,baz=215,slow=16,SNR=8.1						
MKAR	**Makanchi Array**	**10.34**	**32**	P	**Pn**	**16 33 32.8**	**+0.8**
DANN	**Dangsing**	**12.58**	**139**	*e*P	**Pn**	**16 34 00.8**	**-0.7**
	25nm,0.3s						
DANN	**Dangsing**	**12.58**	**139**	*e*P	**Pn**	**16 34 00.8**	**-0.7**
	25nm,0.3s						
KURBB	**Kurchatov Arra**	**12.72**	**12**	⇑P	**Pn**	**16 34 07.7**	**+4.5**
	0.4nm,0.8s						
KURK	**Kurchatov**	**12.83**	**12**	P	**Pn**	**16 34 01.3**	**-3.2**
	0.0nm,0.3s,baz=203,slow=12,SNR=7.9						
KURK	**Kurchatov**	**12.83**	**12**	⇓P	**Pn**	**16 34 05.4**	**+0.9**
	1.2nm,0.6s						
KURK	**Kurchatov**	**12.83**	**12**	*e*Pn	**Pn**	**16 34 00.9**	**-3.6**
	3.0nm,0.9s						
KOLN	**Koldanda**	**12.97**	**141**	*e*P	**Pn**	**16 34 06.1**	**-0.4**
	13nm,0.3s						
KOLN	**Koldanda**	**12.97**	**141**	*e*P	**Pn**	**16 34 06.1**	**-0.4**
	13nm,0.3s						
GKN	**Gorkha**	**13.32**	**137**	*e*P	**Pn**	**16 34 10.5**	**-0.5**
	31nm,0.4s						
GKN	**Gorkha**	**13.32**	**137**	*e*P	**Pn**	**16 34 10.5**	**-0.5**
	31nm,0.4s						
KKN	**Kakani**	**13.84**	**136**	*e*P	**Pn**	**16 34 16.6**	**-0.9**
	13nm,0.4s						
KKN	**Kakani**	**13.84**	**136**	*e*P	**Pn**	**16 34 16.6**	**-0.9**
	13nm,0.4s						
DMN	**Daman**	**13.88**	**137**	*e*P	**Pn**	**16 34 17.8**	**-0.3**
	8.7nm,0.3s						
DMN	**Daman**	**13.88**	**137**	*e*P	**Pn**	**16 34 17.8**	**-0.3**
	8.7nm,0.3s						
PKI	**Pulchoki**	**14.08**	**136**	*e*P	**Pn**	**16 34 20.1**	**-0.5**
	6.9nm,0.2s						
PKI	**Pulchoki**	**14.08**	**136**	*e*P	**Pn**	**16 34 20.1**	**-0.5**
	6.9nm,0.2s						
GUN	**Gumba**	**14.08**	**134**	*e*P	**Pn**	**16 34 20.3**	**-0.3**
	7.6nm,0.4s						
GUN	**Gumba**	**14.08**	**134**	*e*P	**Pn**	**16 34 20.3**	**-0.3**
	7.6nm,0.4s						
JIRN	**Jiri**	**14.45**	**133**	*e*P	**Pn**	**16 34 25.4**	**+0.2**
	12nm,0.3s						
JIRN	**Jiri**	**14.45**	**133**	*e*P	**Pn**	**16 34 25.4**	**+0.2**
	12nm,0.3s						
BVA0	**Borovoye Array**	**15.05**	**351**	⇓P	**Pn**	**16 34 32.8**	**+0.3**
	0.4nm,0.6s,baz=166,slow=10,SNR=18						
BVAR	**Borovoye Array**	**15.05**	**351**	P	**Pn**	**16 34 31.5**	**-1.0**
	0.6nm,0.3s,baz=153,slow=13,SNR=12						
BVAR	**Borovoye Array**	**15.05**	**351**	P	**Pn**	**16 34 31.4**	**-1.0**
BRVK	**Borovoye**	**15.10**	**350**	*e*Pn	**Pn**	**16 34 31.8**	**-1.3**
	4.5nm,0.8s						
AB31	**Akbulak array**	**15.15**	**321**	P	**Pn**	**16 34 32.3**	**-1.6**
	0.8nm,0.5s,baz=129,slow=14,SNR=19						
ABKAR	**Akbulak array**	**15.15**	**321**	*e*Pn	**Pn**	**16 34 32.2**	**-1.6**
	1.1nm,0.5s						
ZRNK	**Zerenda**	**15.19**	**347**	⇓P	**Pn**	**16 34 32.3**	**-1.9**
	1.8nm,0.8s						
RAMN	**Ramite**	**15.22**	**134**	*e*P	**Pn**	**16 34 34.1**	**-0.8**
	7.6nm,0.3s						
RAMN	**Ramite**	**15.22**	**134**	*e*P	**Pn**	**16 34 34.1**	**-0.8**
	7.6nm,0.3s						
TAPN	**Taplejung**	**15.57**	**130**	*e*P	**Pn**	**16 34 39.2**	**0.0**
	3.5nm,0.3s						
TAPN	**Taplejung**	**15.57**	**130**	*e*P	**Pn**	**16 34 39.2**	**0.0**
	3.5nm,0.3s						
ODAN	**Odare**	**15.74**	**132**	*e*P	**Pn**	**16 34 40.5**	**-0.8**
	12nm,0.6s						
ODAN	**Odare**	**15.74**	**132**	*e*P	**Pn**	**16 34 40.5**	**-0.8**
	12nm,0.6s						
ZAA0	**Zalesovo Array**	**17.26**	**21**	*e*P	**Pn**	**16 34 59.3**	**-0.1**
ZALV	**Zalesovo Beam**	**17.26**	**21**	P	**Pn**	**16 34 59.4**	**0.0**
	0.5nm,0.3s,baz=212,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**17.26**	**21**	P	**Pn**	**16 34 59.4**	**0.0**
SONM	**Songino Array**	**25.11**	**57**	P	**P**	**16 36 21.8**	**+3.5**
	0.3nm,0.6s,mb3.0,baz=253,slow=9.9,SNR=2.7						
SONM	**Songino Array**	**25.11**	**57**	P	**P**	**16 36 21.8**	**+3.5**
FINES	**FINESS Array B**	**37.62**	**324**	P	**P**	**16 38 08.2**	**+0.8**
	2.3nm,1.0s,mb3.7,baz=127,slow=13,SNR=4.3						
FINES	**FINESS Array B**	**37.62**	**324**	P	**P**	**16 38 08.2**	**+0.8**
HFS	**Hagfors**	**43.41**	**321**	P	**P**	**16 38 56.1**	**+1.1**
	1.1nm,0.5s,mb3.7,baz=103,slow=6.4,SNR=8.3						
HFS	**Hagfors**	**43.41**	**321**	P	**P**	**16 38 56.1**	**+1.1**
NOA	**NORSAR Array B**	**44.66**	**322**	P	**P**	**16 39 05.7**	**+0.8**
	0.4nm,0.7s,mb3.2,baz=94,slow=7.6,SNR=2.9						
NOA	**NORSAR Array B**	**44.66**	**322**	P	**P**	**16 39 05.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**68.45**	**270**	P	**P**	**16 41 53.4**	**-0.3**
	0.2nm,0.3s,mb3.3,baz=44,slow=6.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**68.45**	**270**	P	**P**	**16 41 53.4**	**-0.3**
YKA	**Yellowknife Ar**	**79.35**	**4**	P	**P**	**16 42 58.4**	**+2.2**
	0.1nm,0.3s,mb2.9,baz=346,slow=5.7,SNR=4.1						
YKA	**Yellowknife Ar**	**79.35**	**4**	P	**P**	**16 42 58.5**	**+2.2**
WRA	**Warramunga Arr**	**80.67**	**124**	P	**P**	**16 43 05.4**	**+1.5**
	0.2nm,0.7s,mb2.9,baz=317,slow=5.7,SNR=4.5						
WRA	**Warramunga Arr**	**80.67**	**124**	P	**P**	**16 43 05.4**	**+1.5**

*DDA **25** 16:34:51.1, 36°.10N×31°.54E, h8km±6km, Md3.3*
*ISCJB **25** 16:34:52.7±0.4, 35°.91N±0°.03×31°.83E±0°.04, h10km, Error ellipse: s-maj=5.3km s-min=3.5km az=37.3*
*ISK **25** 16:34:52.2, 35°.89N×31°.86E, h10km, MD3.4*
*CSEM **25** 16:34:53.1±0.2, 35°.90N×31°.83E, h10km, Mw3.3, Error ellipse: s-maj=5.1km s-min=3.2km az=35.0*
*NIC **25** 16:34:55.6±0.3, 36°.00N×32°.16E, h11km, ML3.0, MW3.3*

ISC 25 16:34:53.3±0.4, 35°.91N±0°.03×31°.83E±0°.04, h10km, n52, σ0°96/73, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.51**	**50**	*i*P	**Pg**	**16 35 12.5**	**+9.2**
GAZI				*i*S	**Sg**	**16 35 21.1**	**+11**
ALFC	**Alevga**	**0.98**	**140**	P	**Pg**	**16 35 12.6**	**+0.5**
	37nm,0.1s						
ALFC				S	**Sg**	**16 35 26.2**	**+1.4**
ALFC	**Alevga**	**0.98**	**140**	P	**Pg**	**16 35 12.6**	**+0.5**
	37nm,0.1s						
ALFC				S	**Sg**	**16 35 26.2**	**+1.4**
PPCY	**Paphos**	**1.10**	**157**	P	**Pb**	**16 35 17.1**	**+2.6**
PPCY	**Paphos**	**1.10**	**157**	P	**Pb**	**16 35 17.1**	**+2.6**
ERMK	**Ermenek**	**1.14**	**50**	*i*P	**Pb**	**16 35 15.1**	**-0.1**
ERMK				*i*S	**Sb**	**16 35 31.0**	**+0.9**
ERMK	**Ermenek**	**1.14**	**50**	*i*P	**Pb**	**16 35 15.1**	**-0.1**
ERMK				*i*S	**Sb**	**16 35 31.0**	**+0.9**
LEF	**Lefka**	**1.17**	**132**	*e*PN	**Pn**	**16 35 14.8**	**-1.0**
LEF				*e*SN	**Sn**	**16 35 29.0**	**-2.7**
LEF	**Lefka**	**1.17**	**132**	*e*Pn	**Pn**	**16 35 14.8**	**-0.9**
LEF				*e*Sn	**Sn**	**16 35 29.0**	**-2.7**
HDMB	**Hadim**	**1.18**	**27**	*e*PN	**Pg**	**16 35 15.4**	**-0.6**
HDMB	**Hadim**	**1.18**	**27**	*e*Pn	**Pg**	**16 35 15.4**	**-0.6**
MAMC	**Mammari**	**1.35**	**123**	P	**Pn**	**16 35 17.9**	**-0.3**
MAMC	**Mammari**	**1.35**	**123**	P	**Pn**	**16 35 17.9**	**-0.3**
SZAC	**Souni-Zanaja**	**1.44**	**143**	P	**Pg**	**16 35 21.7**	**+0.8**
SZAC				S	**Sn**	**16 35 37.1**	**-1.2**
SZAC	**Souni-Zanaja**	**1.44**	**143**	P	**Pg**	**16 35 21.7**	**+0.8**
SZAC				S	**Sn**	**16 35 37.1**	**-1.2**
LFK	**Lefkose**	**1.52**	**114**	*e*PN	**Pn**	**16 35 20.5**	**-0.1**
LFK				*e*SN	**Sn**	**16 35 39.6**	**-0.9**
LFK	**Lefkose**	**1.52**	**114**	*e*Pn	**Pn**	**16 35 20.5**	**-0.1**
LFK				*e*Sn	**Sn**	**16 35 39.6**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.70**	**337**	*e*PN	**Pn**	**16 35 23.0**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.70**	**337**	*e*Pn	**Pn**	**16 35 23.0**	**-0.1**
ELL	**Elmali**	**1.76**	**299**	*e*PN	**Pn**	**16 35 23.8**	**-0.1**
ELL	**Elmali**	**1.76**	**299**	*e*Pn	**Pn**	**16 35 23.8**	**-0.1**
AKAS	**Kas**	**1.83**	**281**	*i*P	**Pn**	**16 35 25.2**	**+0.3**
AKAS				*i*S	**Sn**	**16 35 42.4**	**-5.7**
AKAS	**Kas**	**1.83**	**281**	*i*P	**Pn**	**16 35 25.2**	**+0.4**
BCK	**Bucak**	**1.84**	**328**	*e*PN	**Pn**	**16 35 24.9**	**-0.1**
BCK	**Bucak**	**1.84**	**328**	*e*Pn	**Pn**	**16 35 24.9**	**-0.1**
EREN	**Erenkoy**	**1.94**	**100**	*e*PN	**Pn**	**16 35 26.6**	**+0.2**
EREN	**Erenkoy**	**1.94**	**100**	*e*Pn	**Pn**	**16 35 26.6**	**+0.2**
PHNC	**Paralimni**	**2.01**	**116**	P	**Pb**	**16 35 32.8**	**+2.8**
	1.4nm,0.5s						
PHNC				S	**Sb**	**16 36 00.1**	**+5.0**
KONT	**Konya--Tatoy**	**2.08**	**12**	*e*PN	**Pn**	**16 35 28.3**	**+0.1**
KONT	**Konya--Tatoy**	**2.08**	**12**	*e*Pn	**Pn**	**16 35 28.3**	**0.0**
GLHS	**Glhisar (BURDU**	**2.25**	**304**	*e*PN	**Pn**	**16 35 30.8**	**+0.2**
GLHS	**Glhisar (BURDU**	**2.25**	**304**	*e*Pn	**Pn**	**16 35 30.8**	**+0.2**
LADK	**Ladik-KONYA**	**2.33**	**10**	*e*PN	**Pn**	**16 35 31.9**	**+0.2**
LADK	**Ladik-KONYA**	**2.33**	**10**	*e*Pn	**Pn**	**16 35 31.9**	**+0.2**
MERS	**Mersin**	**2.38**	**65**	*e*PN	**Pn**	**16 35 32.1**	**-0.2**
MERS	**Mersin**	**2.38**	**65**	*e*Pn	**Pn**	**16 35 32.1**	**-0.2**
SULT	**Sultanhani-AKS**	**2.66**	**30**	*e*PN	**Pn**	**16 35 36.6**	**+0.4**
SULT	**Sultanhani-AKS**	**2.66**	**30**	*e*Pn	**Pn**	**16 35 36.6**	**+0.4**
GULE	**Gulek**	**2.74**	**59**	*i*P	**Pn**	**16 35 38.5**	**+1.1**
GULE				*i*S	**Sn**	**16 36 11.8**	**+1.2**
GULE	**Gulek**	**2.74**	**59**	*i*P	**Pn**	**16 35 38.5**	**+1.1**
GULE				*i*S	**Sn**	**16 36 11.8**	**+1.3**
TURN	**Turunc**	**2.77**	**291**	*i*P	**Pn**	**16 35 38.0**	**+0.2**
TURN				*i*S	**Sn**	**16 36 10.6**	**-0.8**
KRTS	**Karatas**	**2.94**	**76**	*e*PN	**Pn**	**16 35 39.7**	**-0.4**
KRTS	**Karatas**	**2.94**	**76**	*e*Pn	**Pn**	**16 35 39.7**	**-0.4**
YAYL	**Yayladag**	**3.47**	**87**	*i*P	**Pn**	**16 35 46.7**	**-0.7**
YAYL				*i*S	**Sn**	**16 36 28.1**	**-0.5**
YAYL	**Yayladag**	**3.47**	**87**	*i*P	**Pn**	**16 35 46.7**	**-0.7**
YAYL				*i*S	**Sn**	**16 36 28.1**	**-0.5**
HTY	**Hatay**	**3.50**	**85**	*e*PN	**Pn**	**16 35 48.9**	**+1.1**
HTY	**Hatay**	**3.50**	**85**	*e*Pn	**Pn**	**16 35 48.9**	**+1.1**
KOZT	**Kozan**	**3.58**	**63**	*e*PN	**Pn**	**16 35 48.3**	**-0.5**
COBT	**Iskenderun**	**3.63**	**79**	*i*P	**Pn**	**16 35 49.2**	**-0.4**
COBT				*i*S	**Sn**	**16 36 29.0**	**-3.5**
COBT	**Iskenderun**	**3.63**	**79**	*i*P	**Pn**	**16 35 49.2**	**-0.4**
COBT				*i*S	**Sn**	**16 36 29.0**	**-3.5**
KUZU	**Kuzuini**	**4.32**	**77**	*i*P	**Pn**	**16 35 57.5**	**-1.6**
KUZU				*i*S	**Sn**	**16 36 45.0**	**-4.5**
KUZU	**Kuzuini**	**4.32**	**77**	*i*P	**Pn**	**16 35 57.5**	**-1.6**

*IDC **25** 16:49:19.5±1.7, 7°.35S×120°.33E, h422km±18km, mb3.0/5, mb1 3.0/8, mb1mx2.9/22, mbtmp2.9/8, Error ellipse: s-maj=94.7km s-min=17.8km az=58.0*
*NEIC **25** 16:49:19.4±0.8, 7°.34S×120°.36E, h423km±8km, mb3.7/2, Error ellipse: s-maj=44.9km s-min=8.5km az=61.0*

ISC 25 16:49:19.4±1.1, 7°.4S±0°.2×120°.3E±0°.4, h423km±12km, n20, σ0°49/20, mb3.3/6, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.40**	**346**	P	**P**	**16 50 19.9**	**-0.2**
	1.1nm,0.3s,baz=169,slow=6.8,SNR=4.5						
KAPI	**Kappang**	**2.40**	**346**	P	**P**	**16 50 19.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.86**	**155**	P	**P**	**16 51 57.6**	**+0.5**
	0.3nm,0.3s,baz=341,slow=9.6,SNR=18						
FITZ	**Fitzroy Crossi**	**11.86**	**155**	P	**P**	**16 51 57.6**	**+0.5**
WRA	**Warramunga Arr**	**18.46**	**134**	P	**P**	**16 53 07.9**	**0.0**
	0.3nm,0.3s,baz=313,slow=11,SNR=25						
WRA	**Warramunga Arr**	**18.46**	**134**	P	**P**	**16 53 07.9**	**0.0**
WRAB	**Tennant Creek**	**18.46**	**134**	*e*P	**P**	**16 53 07.7**	**-0.2**
	1.8nm,0.6s						
SONM	**Songino Array**	**56.32**	**349**	P	**P**	**16 58 19.0**	**+0.8**
	0.3nm,0.6s,mb2.8,baz=160,slow=7.7,SNR=2.7						
SONM	**Songino Array**	**56.32**	**349**	P	**P**	**16 58 19.0**	**+0.8**
MK31	**Makanchi Array**	**63.62**	**332**	P	**P**	**16 59 07.5**	**+0.2**
MKAR	**Makanchi Array**	**63.62**	**332**	P	**P**	**16 59 07.7**	**+0.5**
	0.5nm,0.4s,mb3.4,baz=148,slow=7.5,SNR=9.8						
MKAR	**Makanchi Array**	**63.62**	**332**	P	**P**	**16 59 07.7**	**+0.5**
ZAA0	**Zalesovo Array**	**68.00**	**338**	P	**P**	**16 59 33.7**	**-0.9**
ZALV	**Zalesovo Beam**	**68.00**	**338**	P	**P**	**16 59 34.1**	**-0.4**
	0.8nm,0.3s,mb3.8,baz=141,slow=4.8,SNR=5.6						
ZALV	**Zalesovo Beam**	**68.00**	**338**	P	**P**	**16 59 34.1**	**-0.4**
KURK	**Kurchatov**	**68.13**	**333**	P	**P**	**16 59 35.0**	**-0.4**
	0.3nm,0.4s,mb3.3,baz=140,slow=6.0,SNR=3.7						
KURK	**Kurchatov**	**68.13**	**333**	P	**P**	**16 59 35.0**	**-0.4**
VNDA	**Vanda**	**73.40**	**171**	*e*P	**P**	**17 00 06.0**	**-0.4**
	1.4nm,0.7s,mb3.6						
BVAR	**Borovoye Array**	**73.49**	**331**	P	**P**	**17 00 07.8**	**+0.5**
	0.4nm,0.6s,mb3.1,baz=126,slow=7.3,SNR=4.4						
BVAR	**Borovoye Array**	**73.49**	**331**	P	**P**	**17 00 07.8**	**+0.5**

*ISCJB **25** 16:50:12.3±0.6, 49°.81S±0°.08×125°.9E±0°.3, h10km, mb4.1/7, MS3.8/11, Error ellipse: s-maj=27.8km s-min=11.1km az=178.3*
*IDC **25** 16:50:12.6±1.0, 49°.81S×125°.83E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.9/14, mbtmp4.0/6, ML2.0/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/21, Error ellipse: s-maj=48.3km s-min=19.4km az=100.0*
*NEIC **25** 16:50:14.2±0.5, 49°.81S×125°.86E, h10km, mb4.8/2, Error ellipse: s-maj=22.3km s-min=9.1km az=89.0*

ISC 25 16:50:14.3±0.6, 49°.81S±0°.08×125°.9E±0°.3, h10km, n26, σ0°63/16, mb4.1/7, MS3.8/11, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.04**	**336**	P	**Pn**	**16 54 25.5**	**+0.5**
	0.3nm,0.3s,baz=155,slow=13,SNR=3.1						
NWAO				LR	LR	16 59 20.2	
	comp=Z,480nm,21.0s,baz=146,slow=30						
NWAO	**Narrogin (SRO)**	**18.04**	**336**	P	**Pn**	**16 54 25.5**	**+0.5**
STKA	**Stephens Creek**	**21.43**	**39**	P	**P**	**16 55 02.1**	**-0.2**
	2.2nm,0.9s,mb3.5,baz=184,slow=9.7,SNR=9.1						
STKA				LR	LR	17 01 42.1	
	comp=Z,233nm,18.9s,MS3.6,baz=201,slow=32						
STKA	**Stephens Creek**	**21.43**	**39**	P	**P**	**16 55 02.1**	**-0.2**
WRA	**Warramunga Arr**	**30.55**	**16**	P	**P**	**16 56 27.7**	**-0.2**
	2.6nm,1.2s,mb3.9,baz=196,slow=9.4,SNR=4.6						
WRA				LR	LR	17 09 03.0	
	comp=Z,153nm,19.0s,MS3.7,baz=185,slow=37						
WRA	**Warramunga Arr**	**30.55**	**16**	P	**P**	**16 56 27.7**	**-0.2**
WRAB	**Tennant Creek**	**30.57**	**16**	P	**P**	**16 56 28.7**	**+0.7**
VNDA	**Vanda**	**30.96**	**166**	*e*P	**P**	**16 56 30.1**	**-0.9**
	12nm,1.1s,mb4.6						
RPZ	**Rata Peaks**	**31.17**	**96**	LR	LR	17 06 18.2	
	comp=Z,89nm,21.6s,MS3.4,baz=312,slow=31						
FITZ	**Fitzroy Crossi**	**31.63**	**360**	LR	LR	17 08 10.7	
	comp=Z,271nm,19.2s,MS3.9,baz=181,slow=34						
SBA	**Scott Base**	**31.99**	**165**	P	**P**	**16 56 41.4**	**+1.4**
	16nm,1.2s,mb4.7						
CTA	**Charters Tower**	**33.81**	**36**	LR	LR	17 09 22.4	
	comp=Z,155nm,19.9s,MS3.7,baz=228,slow=34						
URZ	**Urewera**	**37.91**	**92**	LR	LR	17 08 43.3	
	comp=Z,651nm,21.1s,MS4.4,baz=186,slow=29						
QSPA	**South Pole Qui**	**40.32**	**180**	P	**P**	**16 57 51.1**	**-0.1**
	9.9nm,1.0s,mb4.5,baz=341,slow=6.4,SNR=14						
QSPA	**South Pole Qui**	**40.32**	**180**	P	**P**	**16 57 51.1**	**-0.1**
KAPI	**Kappang**	**44.93**	**351**	LR	LR	17 15 24.7	
	comp=Z,77nm,19.3s,MS3.6,baz=8.7,slow=34						
SNAA	**Sanae**	**53.53**	**198**	P	**P**	**16 59 34.4**	**0.0**
	2.0nm,0.9s,mb4.1,baz=118,slow=11,SNR=12						
SNAA	**Sanae**	**53.53**	**198**	P	**P**	**16 59 34.4**	**0.0**
CMAR	**Chiang Mai Arr**	**72.02**	**333**	P	**P**	**17 01 37.7**	**-0.5**
	0.6nm,0.9s,mb3.5,baz=190,slow=6.0,SNR=4.4						
CMAR				LR	LR	17 30 09.0	
	comp=Z,41nm,20.6s,MS3.7,baz=134,slow=33						
CMAR	**Chiang Mai Arr**	**72.02**	**333**	P	**P**	**17 01 37.7**	**-0.5**
KSRS	**Kor

SUTC	Sutluce-Ispart	1.44	104	*e*Pn	Pn	18 02 36.6	-0.7
ANTB	Antalya	1.46	129	*e*PN	Pn	18 02 36.9	-0.6
ANTB	Antalya	1.46	129	*e*Pn	Pn	18 02 36.9	-0.6
AKHS	Akhisar	1.53	314	*i* P	Pn	18 02 36.0	-2.5
AKHS				*i* S	Sg	18 02 59.9	+0.6
GCAM	G?zelcaml?	1.59	266	*i* P	Pn	18 02 37.1	-2.2
GCAM				*i* S	Sg	18 03 02.6	+1.4
GCAM	G?zelcaml?	1.59	266	*i* P	Pn	18 02 37.1	-2.3
BOLV	Bolvadin	1.61	56	*i* P	Pn	18 02 38.6	-1.0
BOLV				*i* S	Sg	18 03 02.0	+0.1
BOLV	Bolvadin	1.61	56	*i* P	Pn	18 02 38.6	-1.0
AKAS	Kas	1.62	169	*i* P	Pn	18 02 40.2	+0.5
AKAS				*i* S	Sg	18 03 08.9	+6.9
AKAS	Kas	1.62	169	*i* P	Pn	18 02 40.2	+0.5
IZM	Izmir	1.66	291	*e*PN	Pn	18 02 40.2	0.0
IZM	Izmir	1.66	291	*e*Pn	Pn	18 02 40.2	0.0
KSL	Kastellorizon	1.70	171	*e*PN	Pg	18 02 43.0	+0.5
BODT	Bodrum	1.71	244	*e*PN	Pn	18 02 40.3	-0.7
BODT				*e*SN	Sn	18 03 03.2	-0.4
BODT	Bodrum	1.71	244	*e*Pn	Pn	18 02 40.3	-0.7
BODT				*e*Sn	Sn	18 03 03.2	-0.4
DAT	Datca	1.72	231	*e*PN	Pn	18 02 40.4	-0.7
DAT	Datca	1.72	231	*e*Pn	Pn	18 02 40.4	-0.7
BLCB	Balcova	1.82	288	*e*PN	Pn	18 02 42.6	+0.1
BLCB				*e*SN	Sb	18 03 07.2	-0.2
BLCB	Balcova	1.82	288	*e*Pn	Pn	18 02 42.6	+0.1
BLCB				*e*Sn	Sb	18 03 07.2	-0.2
DST	Dursunbey	1.84	345	*e*PN	Pb	18 02 43.3	-1.1
DST	Dursunbey	1.84	345	*e*Pn	Pb	18 02 43.3	-1.1
ARG	Arkhangelos	1.84	209	*e*PN	Pb	18 02 44.0	-0.4
ARG				*e*SN	Sb	18 03 08.8	+0.8
ARG	Arkhangelos	1.84	209	*e*P	Pb	18 02 44.3	-0.1
ARG				*e*S	Sb	18 03 08.8	+0.8
DURS	Dursunbey	1.87	342	*i* P	Pb	18 02 40.8	-2.4
DURS				*i* S	Sb	18 03 08.3	-0.5
SMG	Samos	1.91	267	⇑*i*PN	Pn	18 02 41.6	-2.1
SMG	Samos	1.91	267	*e*P	Pn	18 02 41.6	-2.1
ESKT	Eskisehir	2.11	36	*e*PN	Pb	18 02 47.0	-2.0
ESKT	Eskisehir	2.11	36	*i* P	Pn	18 02 45.4	-1.1
ESKT	Eskisehir	2.11	36	*e*Pn	Pb	18 02 47.0	-2.0
SEYT	Eskypehyr	2.11	36	*i* P	Pn	18 02 45.3	-1.1
BALY	Balya	2.29	327	*i* P	Pn	18 02 47.0	-1.9
BALY				*i* S	Sg	18 03 23.4	-0.1
KIZT	Kizilcal	2.33	62	*e*PN	Pn	18 02 49.4	-0.1
KIZT	Kizilcal	2.33	62	*e*Pn	Pn	18 02 49.4	-0.1
SVRH	Sivrihisar-ESK	2.41	47	*e*PN	Pn	18 02 51.4	+0.8
SVRH	Sivrihisar-ESK	2.41	47	*e*Pn	Pn	18 02 51.4	+0.8
CAVI	Cavuskoy	2.42	11	*e*PN	Pn	18 02 51.7	+1.0
CAVI	Cavuskoy	2.42	11	*e*Pn	Pn	18 02 51.7	+1.0
KONT	Konya--Tatoy	2.47	86	*e*PN	Pn	18 02 51.7	+0.2
KONT	Konya--Tatoy	2.47	86	*e*Pn	Pn	18 02 51.7	+0.2
LADK	Ladik-KONYA	2.50	81	*e*PN	Pn	18 02 52.1	+0.3
LADK				*e*SN	Sn	18 03 22.0	-0.9
LADK	Ladik-KONYA	2.50	81	*e*Pn	Pn	18 02 52.1	+0.3
LADK				*e*Sn	Sn	18 03 22.0	-0.9
GONE	Gonen-Balikesi	2.52	332	*e*PN	Pn	18 02 52.9	+0.7
GONE	Gonen-Balikesi	2.52	332	*e*Pn	Pn	18 02 52.9	+0.8
KCTX	Karacabey (Bur	2.53	345	*e*PN	Pn	18 02 53.3	+1.1
KCTX	Karacabey (Bur	2.53	345	*e*Pn	Pn	18 02 53.3	+1.1
MDNY	Mudanya-Bursa	2.55	354	*e*PN	Pn	18 02 53.5	+1.0
MDNY	Mudanya-Bursa	2.55	354	*e*Pn	Pn	18 02 53.5	+1.0
CHOS	Chios island	2.57	283	*e*PN	Pn	18 02 51.9	-0.9
GEMT	Gemlik	2.60	359	*e*PN	Pn	18 02 54.3	+1.0
GEMT	Gemlik	2.60	359	*e*Pn	Pn	18 02 54.3	+1.1
ADVT	Abdulvahap	2.63	8	*e*PN	Pn	18 02 54.7	+1.1
ADVT	Abdulvahap	2.63	8	*e*Pn	Pn	18 02 54.7	+1.1
BNT	Bandirma	2.72	338	*e*PN	Pn	18 02 55.8	+0.9
BNT	Bandirma	2.72	338	*e*Pn	Pn	18 02 55.8	+0.9
EDC	Edincik	2.73	337	*e*PN	Pn	18 02 55.8	+0.8
EDC	Edincik	2.73	337	*e*Pn	Pn	18 02 55.8	+0.8
YLV	Yalova	2.74	2	*e*PN	Pn	18 02 56.6	+1.6
YLV	Yalova	2.74	2	*e*Pn	Pn	18 02 56.6	+1.5
ARMT	Armutlu	2.75	354	*e*PN	Pn	18 02 56.2	+0.9
ARMT	Armutlu	2.75	354	*e*Pn	Pn	18 02 56.2	+1.0
GULT	Gulveren	2.78	21	*e*PN	Pn	18 02 56.9	+1.1
GULT	Gulveren	2.78	21	*e*Pn	Pn	18 02 56.9	+1.2
KARP	Karpathos	2.82	217	*e*PN	Pn	18 02 56.8	+0.5
KARP	Karpathos	2.82	217	*e*P	Pn	18 02 56.4	+0.1
HRT	Hereke	3.01	6	*e*PN	Pn	18 03 00.1	+1.3
HRT	Hereke	3.01	6	*e*Pn	Pn	18 03 00.0	+1.2
APE	Apeiranthos	3.05	257	*e*PN	Pn	18 03 00.0	+0.7
APE	Apeiranthos	3.05	257	*e*PN	Pn	18 02 58.6	-0.7
APE	Apeiranthos	3.05	257	*e*Pn	Pn	18 03 00.0	+0.7
MDUB	Mudurnu	3.05	29	*e*PN	Pn	18 03 00.5	+1.2
MDUB	Mudurnu	3.05	29	*e*Pn	Pn	18 03 00.5	+1.2
ISK	Istanbul-Kandi	3.23	358	*e*PN	Pn	18 03 03.3	+1.4
ISK	Istanbul-Kandi	3.23	358	*e*Pn	Pn	18 03 03.3	+1.4
GELI	Tayfur-Gelibol	3.35	321	*e*PN	Pn	18 03 04.8	+1.4
GELI	Tayfur-Gelibol	3.35	321	*e*Pn	Pn	18 03 04.8	+1.3
CTKS	Kestanelik-??a	3.45	351	*e*PN	Pn	18 03 06.5	+1.6
CTKS	Kestanelik-??a	3.45	351	*e*Pn	Pn	18 03 06.5	+1.6

SZGRF ***25*** *18:11:36.5, 7°.73N×122°.55E, h33km, mb5.9, Mindanao, Philippine Islands*
BJI ***25*** *18:12:02.3, 4°.84N×124°.55E, h434km, mB4.9/29, mb5.3/65*
MOS ***25*** *18:12:05.8±0.9, 5°.35N×124°.22E, h425km, mb5.6/47, Error ellipse: s-maj=8.9km s-min=4.3km az=120.4*
MAN ***25*** *18:12:05, 5°.23N×124°.41E, h433km, mb5.9, ML4.9, MS5.4*
ISCJB ***25*** *18:12:06.3±0.1, 5°.33N±0°.01×124°.31E±0°.02, h435km±1km, mb5.5/206, Error ellipse: s-maj=3.6km s-min=2.3km az=178.8*
DJA ***25*** *18:12:06, 5°.40N×124°.32E, h434km, Mw5.4/78*
NEIC ***25*** *18:12:07.4±0.4, 5°.32N×124°.26E, h432km±4km, mb5.6/104, Error ellipse: s-maj=5.0km s-min=3.3km az=61.0*
GCMT ***25*** *18:12:07.5±0.3, 5°.39N×124°.27E, h421km±2km, MW5.4, Moment Tensor Solution. s65,c95; s14,c14; Moment tensor: Scale 10^17^Nm; M_{rr}-0.35±.04; $M_{\theta\theta}$0.05±.06; $M_{\phi\phi}$0.30±.06; $M_{r\theta}$0.06±.07; $M_{\theta\phi}$0.42±.05; $M_{\phi r}$-1.33±.05; Best double couple: $M_0$1.40000×10^17^ NP1:ϕ_s249.00000°, δ18.00000°, λ-23.00000°. NP2:ϕ_s1.00000°, δ83.00000°, λ-107.00000°. Principal axes: T 1.4100, Plg36.0000°, Azm105.0000°; N 0.0500, Plg17.0000°, Azm3.0000°; P -1.4600, Plg49.0000°, Azm252.0000°; Data Used: II IU IC G.*
IDC ***25*** *18:12:07.5±0.5, 5°.28N×124°.27E, h430km±4km, mb5.0/36, mb1 5.0/39, mb1mx5.0/40, mbtmp5.0/39 Error ellipse: s-maj=9.1km s-min=5.6km az=67.0*
ISC 25 18:12:07.3±0.1, 5°.35N±0°.01×124°.30E±0°.02, h431km±1km**, h430**km±4.3km**; pP-P, n1005,** σ1**°06/**746**, mb5.5/**198**, 143C-123D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.97**	**41**	*e*P	**P**	**18 13 00.9**	**-0.6**
GSPH				*e*S	**S**	**18 13 44.5**	**-0.8**
KCP	**Kidapawan**	**1.82**	**25**	⇓*i*P	**P**	**18 13 04.9**	**-0.2**
KCP				*i* S	**S**	**18 13 51.5**	**-0.4**
CTBH	**Cotabato--PC H**	**1.86**	**358**	⇑*e*P	**P**	**18 13 05.3**	**0.0**
SGSI	**Sangihe**	**2.06**	**143**	P	**P**	**18 13 04.0**	**-2.5**
DMPH	**Davao City--Mi**	**2.10**	**35**	⇓*i*P	**P**	**18 13 06.3**	**-0.3**
DMPH				*i* S	**S**	**18 13 53.0**	**-1.7**
DAV	**Davao City (W)**	**2.13**	**37**	P	**P**	**18 13 06.4**	**-0.5**
	2μm,0.3s,baz=250,slow=3.3,SNR=463						
DAV				S	**S**	**18 13 56.2**	**+1.2**
	2μm,0.3s,baz=299,slow=24,SNR=14						
DAV	**Davao City (W)**	**2.13**	**37**	*e*P	**P**	**18 13 06.2**	**-0.6**
DAV				S	**S**	**18 13 56.2**	**+1.2**
DAV	**Davao City (W)**	**2.13**	**37**	P	**P**	**18 13 06.8**	**-0.8**
DAV	**Davao City (W)**	**2.13**	**37**	⇓*e*P	**P**	**18 13 06.5**	**-0.4**
DAV	**Davao City (W)**	**2.13**	**37**	P	**P**	**18 13 06.1**	**-0.7**
	SNR=333						
MATI	**Mati**	**2.51**	**51**	*e*P	**P**	**18 13 07.1**	**-2.1**
MATI				*e*S	**S**	**18 13 57.1**	**-2.4**
BUKP	**Musuan**	**2.62**	**17**	*e*P	**P**	**18 13 10.4**	**+0.4**
BUKP				*e*S	**S**	**18 14 01.1**	**+0.2**
PAGZ	**Pagadian**	**2.64**	**340**	*e*P	**P**	**18 13 10.4**	**+0.2**
ZMPH	**Zamboanga City**	**2.73**	**306**	⇑*i*P	**P**	**18 13 11.0**	**+0.1**
IPIL	**Ipil**	**2.97**	**325**	*e*P	**P**	**18 13 12.7**	**+0.1**
CGP	**Cagayan de Oro**	**3.11**	**7**	⇓*e*P	**P**	**18 13 13.5**	**-0.2**
CGP				*i* S	**S**	**18 14 07.8**	**+0.3**
BUTP	**Butuan**	**3.83**	**20**	*e*P	**P**	**18 13 19.6**	**-0.2**
MNI	**Manado**	**3.92**	**172**	P	**P**	**18 13 19.0**	**-1.6**
SNPH	**Sibulan**	**4.10**	**345**	⇓*e*P	**P**	**18 13 21.9**	**-0.3**
TBP	**Tagbilaran**	**4.33**	**354**	⇑*e*P	**P**	**18 13 25.0**	**+0.7**
TBP				*e*S	**S**	**18 14 26.1**	**-0.8**
KMSI	**Cibinong**	**4.76**	**184**	P	**P**	**18 13 27.8**	**-0.6**
MSLP	**Maasin**	**4.78**	**7**	*e*P	**P**	**18 13 28.9**	**+0.3**
GTOI	**Gorontalo**	**4.86**	**195**	P	**P**	**18 13 27.4**	**-2.0**
LLP	**Lapu-Lapu**	**4.94**	**356**	⇑*e*P	**P**	**18 13 30.0**	**-0.2**
LLP				*e*S	**S**	**18 14 35.0**	**-2.7**
MRSI	**Marisa**	**5.38**	**206**	P	**P**	**18 13 34.7**	**0.0**
	2.8nm8μm837nm,0.7s						
TNTI	**Ternate**	**5.48**	**146**	P	**P**	**18 13 33.7**	**-2.0**
	42nm3μm,1.2s						
GUIM	**Jordan**	**5.51**	**342**	*e*P	**P**	**18 13 34.5**	**-1.4**
GUIM				*e*S	**S**	**18 14 44.6**	**-3.4**
OCLP	**Ormoc**	**5.67**	**3**	*e*P	**P**	**18 13 37.6**	**+0.1**
MYLDM	**Lahad Datu**	**5.78**	**269**	P	**P**	**18 13 40.1**	**+1.4**
	20nm6μm,1.1s						
PLP	**Palo**	**5.81**	**7**	⇑*e*P	**P**	**18 13 39.7**	**+0.6**
PLP				*i* S	**S**	**18 14 54.0**	**+0.2**
BESP	**Borongan**	**6.31**	**10**	*e*P	**P**	**18 13 44.5**	**+0.3**
BESP				*e*S	**S**	**18 15 00.3**	**-3.1**
CUYO	**Cuyo Island**	**6.36**	**329**	*e*P	**P**	**18 13 44.8**	**+0.1**
RCP	**Roxas**	**6.36**	**346**	⇑*e*P	**P**	**18 13 43.3**	**-1.4**
LUWI	**Luwuk**	**6.53**	**194**	P	**P**	**18 13 45.9**	**-0.8**
	10.0nm1μm,0.6s						
LBMI	**Labuha**	**6.75**	**152**	P	**P**	**18 13 47.6**	**-1.4**
	60nm1μm,0.8s						
MMPH	**Masbate**	**6.99**	**355**	*i* P	**P**	**18 13 52.3**	**+0.8**
CNP	**Catarman**	**7.12**	**3**	*e*P	**P**	**18 13 54.8**	**+1.8**
CNP				*e*S	**S**	**18 15 17.9**	**-1.4**
BATP	**Bataraza**	**7.30**	**298**	*e*P	**P**	**18 13 54.4**	**-0.5**
OTRP	**Odiongan**	**7.32**	**342**	*e*P	**P**	**18 13 54.8**	**-0.3**
ENPP	**El Nido**	**7.55**	**321**	*e*P	**P**	**18 13 58.1**	**+0.4**
BUSP	**Coron**	**7.75**	**329**	*e*P	**P**	**18 14 00.3**	**+0.5**
KKM	**Kota Kinabalu**	**8.07**	**275**	*e*P	**P**	**18 14 03.6**	**+0.3**
	501nm,0.6s						
KKM	**Kota Kinabalu**	**8.07**	**275**	P	**P**	**18 14 03.6**	**+0.2**
	2.9nm8μm839nm,0.7s						
AUQP	**San Andres**	**8.08**	**349**	*e*P	**P**	**18 14 05.6**	**+2.2**
PVCP	**Virac**	**8.19**	**359**	⇓*e*P	**P**	**18 14 05.5**	**+0.8**
PVCP				*e*S	**S**	**18 15 42.0**	**+1.2**
PVCP	**Virac**	**8.19**	**359**	*e*P	**P**	**18 14 05.9**	**+1.3**
PVCP				*e*S	**S**	**18 15 39.8**	**-1.1**
BOAC	**Boac**	**8.41**	**343**	*e*P	**P**	**18 14 07.8**	**+0.8**
GQP	**Guinayangan**	**8.69**	**348**	⇑*e*P	**P**	**18 14 10.3**	**+0.2**
SMKI	**Samarinda**	**9.13**	**231**	P	**P**	**18 14 17.3**	**+2.3**
	2μm,1.0s						
TGY	**Tagaytay City**	**9.30**	**339**	P	**P**	**18 14 17.8**	**+1.0**
	58nm,0.3s,baz=173,slow=3.3,SNR=26						
TGY	**Tagaytay City**	**9.30**	**339**	P	**P**	**18 14 17.8**	**+1.0**
TGY	**Tagaytay City**	**9.30**	**339**	P	**P**	**18 14 17.8**	**+1.0**
KDI	**Kendari**	**9.40**	**190**	P		18 14 17.6	
	1μm220nm,1.0s						
TTSI	**Tana Toraja**	**9.47**	**208**	P		18 14 19.3	
	9μm1000nm,1.0s						
AAI	**Ambon**	**9.79**	**156**	P		18 14 23.1	
	2μm,0.9s						
MSAI	**Masohi**	**9.80**	**152**	P		18 14 23.7	
	4μm,0.7s						
SPSI	**Sidrap Palu**	**10.30**	**206**	P		18 14 28.6	
	2μm,0.8s						
MJSI	**Majene**	**10.32**	**211**	P		18 14 28.5	
	6μm612nm,0.7s						
BBSI	**Bau Bau**	**10.90**	**189**	P	**P**	**18 14 36.7**	**+2.2**
	2μm184nm,0.9s						
SCZP	**Santa Cruz**	**11.22**	**338**	*e*P	**P**	**18 14 37.4**	**-0.5**
KAPI	**Kappang**	**11.25**	**204**	P	**P**	**18 14 37.9**	**-0.5**
	46nm,0.3s,baz=37,slow=5.6,SNR=95						
KAPI				ScP	ScP	18 22 43.5	-1.1
	0.9nm,0.3s,baz=288,slow=1.3,SNR=5.4						
KAPI	**Kappang**	**11.25**	**204**	*e*P	**P**	**18 14 37.3**	**-1.1**
	1μm,1.1s						
KAPI				ScP	ScP	18 22 43.5	-1.2
KAPI	**Kappang**	**11.25**	**204**	P	**P**	**18 14 38.0**	**-0.3**
	6μm828nm,1.4s						
KAPI	**Kappang**	**11.25**	**204**	P	**P**	**18 14 37.9**	**-0.4**
	SNR=94						
BKSI	**Bulukumba**	**11.39**	**202**	P	**P**	**18 14 39.8**	**0.0**
	6μm823nm,0.7s						
FAKI	**Fak Fak**	**11.43**	**136**	P	**P**	**18 14 40.9**	**+0.7**
	1μm,1.0s						
CAUP	**Cauayan**	**11.77**	**348**	*e*P	**P**	**18 14 45.0**	**+1.1**
CAUP				*e*S	**S**	**18 16 59.3**	**+6.1**
KBKI	**Kotabaru**	**11.83**	**224**	P	**P**	**18 14 44.9**	**+0.3**
	10μm1μm,0.8s						
SBUM	**Sibu**	**12.39**	**257**	P	**P**	**18 14 52.4**	**+1.6**
	8μm1μm,0.9s						
ABRA	**Dolores**	**12.71**	**344**	*e*P	**P**	**18 14 54.1**	**-0.1**
BBKI	**Banjar Baru**	**12.88**	**227**	P	**P**	**18 14 56.6**	**+0.5**
	1μm,0.9s						
BAKI	**Biak**	**13.47**	**119**	P	**P**	**18 15 02.5**	**0.0**
	5μm635nm,0.8s						
TLE	**Tual**	**13.79**	**142**	P	**P**	**18 15 07.9**	**+1.9**
	2μm,1.0s						
STKI	**Sintang**	**13.84**	**248**	P	**P**	**18 15 07.8**	**+1.3**
	1μm,1.1s						
MMRI	**Maumere**	**14.05**	**188**	P	**P**	**18 15 10.3**	**+1.6**
	8μm792nm,0.8s						
KSM	**Kuching**	**14.49**	**255**	*e*P	**P**	**18 15 14.3**	**+0.8**
	1μm,0.7s						
KSM	**Kuching**	**14.49**	**255**	P	**P**	**18 15 14.3**	**+0.8**
	2μm,0.8s						
PBKI	**Pangkalan Bun**	**14.94**	**238**	P	**P**	**18 15 18.5**	**+0.1**
	3μm,1.0s						
WSI	**Waingapu**	**15.45**	**195**	P	**P**	**18 15 23.0**	**-0.8**
	10μm784nm,0.6s						
KMMI	**Kalianget**	**16.07**	**220**	P	**P**	**18 15 30.7**	**+0.3**
	2μm,0.7s						
MTNI	**Mataram**	**16.09**	**210**	P	**P**	**18 15 30.8**	**+0.2**
	7μm763nm,0.9s						
SMPI	**Sarmi**	**16.14**	**117**	P	**P**	**18 15 32.0**	**+0.8**
	1μm,1.5s						
KHKI	**Kahang-Kahang**	**16.15**	**213**	P	**P**	**18 15 30.9**	**-0.4**
	6μm665nm,1.1s						
NBBI	**Negara**	**16.70**	**215**	P	**P**	**18 15 37.9**	**+0.7**
	8μm960nm,0.8s						
BYJI	**Banyuwangi**	**16.73**	**216**	P	**P**	**18 15 38.1**	**+0.6**
	3μm,0.8s						
IGBI	**Denpasar**	**16.78**	**213**	P	**P**	**18 15 38.3**	**+0.4**
	319nm,0.6s						
BLJI	**Banyuglugur**	**16.83**	**219**	P	**P**	**18 15 38.3**	**-0.2**
	6μm646nm,0.6s						
JAGI	**Jajag, Banyuwa**	**17.06**	**216**	P	**P**	**18 15 41.2**	**+0.3**
	7μm992nm,0.9s						
GMJI	**Gumukmas**	**17.33**	**219**	P	**P**	**18 15 43.9**	**+0.1**
	1μm,0.7s						
TWG	**Pinlang**	**17.64**	**350**	*e*P	**P**	**18 15 45.8**	**-1.2**
	210nm,0.7s						
KRKI	**Karangkates**	**17.88**	**221**	P	**P**	**18 15 49.1**	**-0.5**
	3μm,0.8s						
SJI	**Sawahan**	**18.04**	**224**	P	**P**	**18 15 50.5**	**-0.7**
	7μm606nm,0.7s						
JAY	**Jayapura**	**18.16**	**115**	P	**P**	**18 15 52.1**	**-0.3**
	274nm,1.1s						
YULB	**Yu-li**	**18.17**	**351**	*e*P	**P**	**18 15 50.8**	**-1.6**
	61nm,0.6s						
YULB				*e*S	**S**	**18 18 57.1**	**-0.7**
TPUB	**Ta-pu**	**18.19**	**349**	*e*P	**P**	**18 15 52.4**	**-0.3**
	519nm,0.8s						
TPUB				*e*S	**S**	**18 18 56.4**	**-1.7**
PWJI	**Pagerwojo**	**18.22**	**223**	P	**P**	**18 15 52.0**	**-1.1**
	5μm418nm,1.4s						
TPI	**Tanjungpandan**	**18.48**	**245**	P	**P**	**18 15 55.4**	**-0.4**
	4μm590nm,0.8s						
SMRI	**Semarang**	**18.52**	**228**	P	**P**	**18 15 56.6**	**+0.4**
	8μm557nm,1.1s						
SSLB	**Suanglung**	**18.61**	**350**	*e*P	**P**	**18 15 55.9**	**-1.1**
	202nm,0.8s						
SSLB				*e*S	**S**	**18 19 02.7**	**-2.3**
PCJI	**Pacitan**	**18.77**	**224**	P	**P**	**18 15 57.9**	**-0.8**
	769nm,0.9s						
NACB	**Ninganchiao**	**18.89**	**352**	*e*P	**P**	**18 15 58.5**	**-1.3**
	65nm,0.9s						
UGM	**Wanagama**	**19.04**	**226**	P	**P**	**18 16 00.4**	**-0.8**
	7μm867nm,1.0s						
YOGI	**Yogyakarta**	**19.14**	**227**	P	**P**	**18 16 02.0**	**-0.1**
	9μm1μm,0.9s						
BJII	**Banjamegara**	**19.25**	**229**	P	**P**	**18 16 03.7**	**+0.5**
	2μm,1.2s						
YHNB	**Yeheng**	**19.41**	**352**	*e*P	**P**	**18 16 04.5**	**0.0**
	109nm,0.8s						
QIZ	**Qiongzhong**	**19.58**	**315**	P	**P**	**18 16 06.8**	**+0.7**
QIZ				sP	sP	18 17 58.0	-3.5
QIZ				S	**S**	**18 19 21.5**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,190nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,400nm,4.0s						
QIZ	**Qiongzhong**	**19.58**	**315**	*e*P	**P**	**18 16 06.1**	**0.0**
	comp=Z,211nm,1.1s						
PPBI	**Pangkal Pinang**	**19.62**	**248**	P	**P**	**18 16 06.4**	**-0.1**
	comp=Z,9μmcomp=Z,1μm,0.9s						
CLJI	**Cilicap**	**20.03**	**230**	P	**P**	**18 16 11.4**	**+1.2**
	comp=Z,3μm,1.0s						
QZH	**Quanzhou**	**20.23**	**345**	⇑*i*P	**P**	**18 16 12.3**	**+0.3**
QZH				sP	sP	18 18 06.5	-2.2
QZH				S	**S**	**18 19 37.0**	**+5.5**
QZH				pmax	pmax		
	comp=Z,560nm,0.8s						
LEM	**Lembang**	**20.58**	**234**	P	**P**	**18 16 15.9**	**+0.6**
	comp=Z,2μm,0.8s						
MYKOM	**Kota Tinggi**	**20.71**	**261**	P	**P**	**18 16 17.2**	**+0.7**
	comp=Z,7μmcomp=Z,816nm,0.9s						
CISI	**Cisompet, Garu**	**20.86**	**232**	P	**P**	**18 16 16.4**	**-1.4**
	comp=Z,7μmcomp=Z,925nm,0.7s						
CBJI	**Citeko**	**20.98**	**236**	P	**P**	**18 16 20.0**	**+1.1**
	comp=Z,3μm,0.8s						
UBT	**Ubonrachathani**	**21.34**	**299**	⇓P	**P**	**18 16 23.0**	**+0.8**
	comp=Z,660nm,0.5s,mb6.3						
SBJI	**Serang**	**21.42**	**238**	P	**P**	**18 16 23.3**	**+0.3**
	comp=Z,9μmcomp=Z,1μm,0.8s,mb6.3						
SKJI	**Sukabumi**	**21.55**	**235**	P	**P**	**18 16 23.9**	**-0.2**
	comp=Z,5μmcomp=Z,545nm,1.1s,mb5.9						
BLSI	**Bandar Lampung**	**21.80**	**241**	P	**P**	**18 16 26.8**	**+0.4**
	comp=Z,2μm,0.6s,mb6.7						
GUMO	**Guam**	**21.86**	**67**	P	**P**	**18 16 27.2**	**+0.3**
	comp=Z,190nm,0.6s,mb5.7,baz=183,slow=3.6,SNR=7.9						
GUMO	**Guam**	**21.86**	**67**	*e*P	**P**	**18 16 26.6**	**-0.3**
	comp=Z,281nm,0.9s,mb5.7						
GUMO	**Guam**	**21.86**	**67**	P	**P**	**18 16 27.2**	**+0.3**
GUMO				pmax	pmax		
	comp=Z,190nm,0.6s,mb5.7						
GUMO	**Guam**	**21.86**	**67**	P	**P**	**18 16 26.6**	**-0.3**
	comp=Z,400nm,1.1s,mb5.8						
KLI	**Kotabumi**	**21.91**	**243**	P	**P**	**18 16 26.8**	**-0.6**
	comp=Z,6μmcomp=Z,641nm,0.9s,mb6.0						
CGJI	**Cibinong**	**22.05**	**238**	P	**P**	**18 16 27.9**	**-0.8**
	comp=Z,7μmcomp=Z,943nm,0.7s,mb6.4						
RGRI	**Rengat**	**22.66**	**256**	P	**P**	**18 16 34.5**	**+0.3**
	comp=Z,531nm,1.0s,mb5.9						
LWLI	**Liwa**	**22.69**	**243**	P	**P**	**18 16 34.5**	**+0.1**
	comp=Z,6μmcomp=Z,625nm,0.7s,mb6.1						
IPM	**Ipoh**	**23.20**	**269**	*e*P	**P**	**18 16 39.0**	**-0.2**
	comp=Z,405nm,0.7s,mb6.0						
IPM	**Ipoh**	**23.20**	**269**	P	**P**	**18 16 39.0**	**-0.1**
	comp=Z,5μmcomp=Z,675nm,0.9s,mb6.1						
FITZ	**Fitzroy Crossi**	**23.34**	**177**	P	**P**	**18 16 40.2**	**0.0**
	comp=Z,43nm,0.5s,mb5.2,baz=9.4,slow=7.5,SNR=316						
FITZ	**Fitzroy Crossi**	**23.34**	**177**	⇑*i*P	**P**	**18 16 40.2**	**0.0**
FITZ				*e*S	**S**	**18 20 32.2**	**+11**
FITZ				*e*SCP	ScP	18 23 09.4	-0.2
FITZ				*e*SCS	ScS	18 26 54.2	-2.6
FITZ	**Fitzroy Crossi**	**23.34**	**177**	P	**P**	**18 16 40.2**	**0.0**
KSI	**Kapahiang**	**23.45**	**248**	P	**P**	**18 16 41.2**	**-0.2**
	comp=Z,7μmcomp=Z,945nm,0.7s,mb6.3						
KULM	**Kulim**	**23.55**	**271**	*e*P	**P**	**18 16 42.1**	**-0.1**
	comp=Z,368nm,0.8s,mb5.9						
KULM	**Kulim**	**23.55**	**271**	P	**P**	**18 16 42.2**	**0.0**
	comp=Z,4μmcomp=Z,513nm,1.2s,mb5.8						
SNG	**Songkhla**	**23.61**	**276**	P	**P**	**18 16 44.0**	**+1.2**
	comp=Z,780nm,1.0s,mb6.1						
KKTK	**Khon Kaen**	**23.72**	**299**	P	**P**	**18 16 44.0**	**+0.3**
	comp=Z,741nm,0.5s,

CMAR 18 20 24.8
CHG Chiang Mai 28.12 301 ⇑P **P 18 17 23.7 +1.1**
comp=Z,701nm,0.7s,mb6.1
CHTO Chiang Mai 28.12 301 *e*P **P 18 17 23.5 +0.8**
comp=Z,496nm,0.6s,mb6.0
CHTO Chiang Mai 28.12 301 *e*P **P 18 17 23.5 +0.9**
CHTO pmax pmax
comp=Z,496nm,0.6s,mb6.0
CHTO Chiang Mai 28.12 301 P **P 18 17 23.4 +0.8**
comp=Z,8μmcomp=Z,943nm,0.7s,mb6.2
CHTO Chiang Mai 28.12 301 P **P 18 17 24.2 +1.6**
SNR=87
ENH Enshi 28.45 332 *e*P **P 18 17 26.1 +0.7**
comp=Z,109nm,0.8s,mb5.2
KMI Kunming 28.53 316 P **P 18 17 28.5 +2.3**
KMI pP 18 18 46.8
KMI PP PP 18 18 48.5 +5.8
KMI pmax pmax
comp=Z,160nm,0.8s,mb5.4
KMI pmax pmax
comp=Z,290nm,3.1s
BSI Banda Aceh 28.87 272 P **P 18 17 28.1 -1.3**
comp=Z,2μmcomp=Z,222nm,0.9s,mb5.5
AS31 Alice Springs 30.32 162 *e*P **P 18 17 41.6 -0.3**
TIA Tai'an 31.41 349 P **P 18 17 52.0 +0.9**
XAN Xi'an 31.91 335 P **P 18 17 56.0 +0.5**
XAN S **S 18 22 31.3 -3.5**
XAN pmax pmax
comp=Z,32nm,0.7s,mb4.8
XAN pmax pmax
comp=Z,55nm,4.3s
CD2 Chengdu 31.93 325⇓*i*P **P 18 17 56.3 +0.7**
CD2 PP PP 18 19 24.0 +4.1
CD2 sP sP 18 19 59.8 -3.5
CD2 S **S 18 22 38.0 +3.0**
CD2 pmax pmax
comp=Z,120nm,0.7s,mb5.3
CD2 pmax pmax
comp=Z,310nm,8.2s
KSAR Wonju Array Be 32.11 5 P **P 18 17 58.9 +1.8**
KSAR PcP PcP 18 20 36.4 +2.1
KSAR ScP ScP 18 23 36.7 +0.3
KSAR Wonju Array Be 32.11 5 P **P 18 17 58.9 +1.8**
KSAR 18 20 36.4
KSRS Korea Array 32.12 5 P **P 18 17 58.9 +1.7**
comp=Z,23nm,0.8s,mb4.6,baz=184,slow=9.4,SNR=45
KSRS PcP PcP 18 20 36.4 +2.1
comp=Z,2.8nm,0.6s,baz=190,slow=3.6,SNR=6.8
KSRS ScP ScP 18 23 36.7 +0.2
comp=Z,9.9nm,1.0s,baz=187,slow=4.2,SNR=8.8
KSRS Korea Array 32.12 5 P **P 18 17 58.9 +1.7**
KSRS 18 20 36.4
CTA Charters Tower 33.24 140 *e*P **P 18 18 07.7 +0.7**
CTA *e*PP PP 18 19 33.5 -0.9
CTA *e*SCP ScP 18 23 42.2 +1.5
CTA *e*SCS ScS 18 27 40.9 -1.9
CTAO Charters Tower 33.24 140 *e*P **P 18 18 07.7 +0.6**
comp=Z,174nm,0.8s,mb5.4
CTAO Charters Tower 33.24 140 *e*P **P 18 18 07.7 +0.7**
CTAO pmax pmax
comp=Z,174nm,0.8s,mb5.4
CTAO Charters Tower 33.24 140 P **P 18 18 07.5 +0.5**
comp=Z,2μmcomp=Z,260nm,0.9s,mb5.5
DL2 Dalian 33.49 356 P **P 18 18 09.8 +0.9**
DL2 S **S 18 23 00.0 +1.3**
DL2 sS sS 18 25 23.5 +1.0
DL2 pmax pmax
comp=Z,170nm,0.6s,mb5.5
MAT Matsushiro 33.56 20 P **P 18 18 09.0 -0.6**
MJAR Matsushiro Arr 33.56 20 P **P 18 18 09.4 -0.1**
comp=Z,5.6nm,0.7s,baz=196,slow=9.9,SNR=20
MJAR ScP ScP 18 23 41.5 0.0
comp=Z,3.9nm,0.8s,baz=187,slow=4.3,SNR=4.1
MJAR Matsushiro Arr 33.56 20 P **P 18 18 09.4 -0.1**
MJAR ScP ScP 18 23 41.5 0.0
MJAR Matsushiro Arr 33.56 20 P **P 18 18 09.4 -0.1**
IMP Imphal 34.96 307 *e*PKP **P 18 18 22.0 +0.4**
IMP *ex* x 18 23 47.0
BJT Baijiatuau 35.28 349 *e*P **P 18 18 25.1 +1.1**
comp=Z,298nm,0.9s,mb5.6
BJT Baijiatuau 35.28 349 *e*P **P 18 18 25.2 +1.2**
BJT pmax pmax
comp=Z,298nm,0.9s
BJI Beijing 35.30 349 P **P 18 18 24.8 +0.6**
BJI pP pP 18 19 45.3 +2.2
BJI sP sP 18 20 34.8 +2.0
BJI S **S 18 23 24.3 -1.9**
BJI ScP ScP 18 23 48.3 +0.6
BJI sS sS 18 25 58.3 +7.4
BJI ScS ScS 18 27 54.8 +1.6
BJI pmax pmax
comp=Z,270nm,1.0s,mb5.5
LZH Lanzhou 35.90 331 ⇓P **P 18 18 31.0 +1.7**
LZH pP pP 18 19 51.0 +2.5
LZH sP sP 18 20 36.3 -1.8
LZH S **S 18 23 33.0 -2.4**
LZH sS sS 18 26 05.0 +4.6
LZH SS SS 18 26 34.0 -1.4
LZH pmax pmax
comp=Z,110nm,1.0s,mb5.1
LZH pmax pmax
comp=Z,600nm,4.0s
FORT Forrest 36.11 175 *e*P **P 18 18 31.5 +0.5**
FORT *e*S **S 18 23 37.7 -0.9**
FORT Forrest 36.11 175 *e*P **P 18 18 31.3 +0.3**
comp=Z,360nm,0.7s,mb5.8
SNY Shenyang 36.33 359 ⇓P **P 18 18 33.8 +1.1**
SNY S **S 18 23 41.0 -0.6**
SNY pmax pmax
comp=Z,90nm,0.6s,mb5.3
SHL Shillong 36.97 306 *i* P **P 18 18 39.0 +0.6**
SHL *i* S **S 18 23 51.0 -0.8**
HHC Hu-ho-hao-te 37.14 344 ⇓P **P 18 18 40.8 +1.3**
HHC pP pP 18 19 59.0 -0.2
HHC PP PP 18 20 19.8 +3.6
HHC sP sP 18 20 48.5 -0.3
HHC PcP PcP 18 20 50.3 +1.3
HHC ScP ScP 18 23 54.5 0.0
HHC S **S 18 23 56.5 +2.6**
HHC PcS PcS 18 24 37.5 -0.4
HHC sS sS 18 26 21.3 +1.7
HHC SS SS 18 26 55.8 -3.7
HHC ScS ScS 18 28 01.5 -2.0
HHC pmax pmax
comp=Z,98nm,0.9s,mb5.1
HHC pmax pmax
comp=Z,240nm,5.8s
KLBR Kellerberrin 37.26 189 *e*P **P 18 18 40.6 0.0**
comp=Z,25nm,0.2s,mb5.2
KLBR *e*S **S 18 23 54.5 -1.4**
BTO Baotou 37.37 342 *e*P **P 18 18 41.8 +0.4**
CN2 Changchun 38.30 1 *e*P **P 18 18 49.5 +0.4**
CN2 *ep*P pP 18 20 15.0 +5.7
CN2 *es*P sP 18 21 01.8 +3.1
CN2 *e*S **S 18 24 21.0 +10**
CN2 SS SS 18 27 20.5 -1.6
CN2 pmax pmax
comp=Z,20nm,0.9s,mb4.5
CN2 pmax pmax
comp=Z,200nm,4.0s
HNR Honiara 38.44 112 P **P 18 18 50.2 -0.4**
comp=Z,102nm,0.5s,mb5.4,baz=221,slow=2.3,SNR=12
HNR ScP ScP 18 24 01.4 +1.4
comp=Z,54nm,0.9s,baz=250,slow=4.1,SNR=5.6
HNR Honiara 38.44 112 *e*P **P 18 18 50.1 -0.5**
comp=Z,113nm,0.8s,mb5.2
HNR ScP ScP 18 24 01.4 +1.4
HNR Honiara 38.44 112 *e*P **P 18 18 50.1 -0.6**
HNR pmax pmax
comp=Z,113nm,0.8s,mb5.2
NWAO Narrogin (SRO) 38.66 190 *e*P **P 18 18 52.5 +0.4**
comp=Z,54nm,0.6s,mb5.0
NWAO Narrogin (SRO) 38.66 190 *e*P **P 18 18 52.5 +0.4**
NWAO pmax pmax
comp=Z,54nm,0.6s
USRK Ussuriysk Arra 39.28 9 P **P 18 18 57.9 +0.9**
comp=Z,13nm,0.7s,mb4.4,baz=207,slow=5.2,SNR=24
USRK PcP PcP 18 20 56.3 +0.7
comp=Z,4.2nm,0.8s,baz=190,slow=4.8,SNR=4.0
MDJ Mudanjiang 39.38 6 P **P 18 18 58.8 +1.0**
MDJ pP pP 18 20 16.5 -2.0
MDJ sP sP 18 21 06.3 -1.5
MDJ S **S 18 24 27.5 +0.5**
MDJ PcS PcS 18 24 45.8 -0.6
MDJ ScS ScS 18 28 14.0 -2.5
MDJ pmax pmax
comp=Z,23nm,0.8s,mb4.6
MDJ pmax pmax
comp=Z,130nm,4.1s
MDJ Mudanjiang 39.38 6 *e*P **P 18 18 58.8 +1.0**
comp=Z,18nm,0.7s,mb4.5
LSA Lhasa 39.56 312 *e*P **P 18 19 01.6 +2.1**
comp=Z,208nm,0.6s,mb5.6
LSA Lhasa 39.56 312 *e*P **P 18 19 01.7 +2.2**
LSA pmax pmax
comp=Z,208nm,0.6s,mb5.6
BBOO Buckleboo 39.56 164 *e*P **P 18 18 59.9 +0.5**
comp=Z,4μm,0.8s,mb6.8
BBOO *e*ScP ScP 18 24 03.8 -0.2
EIDS Eidsvold 40.12 141 *e*P **P 18 19 04.0 -0.2**
comp=Z,244nm,0.8s,mb5.6
EIDS *e*PP PP 18 20 46.8 -1.3
GTA Gaotai 40.48 330⇓*i*P **P 18 19 08.3 +1.4**
GTA pP pP 18 20 31.5 +3.4
GTA PcP PcP 18 21 01.5 +1.8
GTA ScP ScP 18 24 08.5 +1.0
GTA S **S 18 24 46.3 +3.0**
GTA sS sS 18 27 15.3 +4.3
GTA SS SS 18 27 58.8 -5.4
GTA ScS ScS 18 28 22.5 -0.8
GTA pmax pmax
comp=Z,64nm,1.0s,mb4.9
GTA pmax pmax
comp=Z,250nm,5.5s
STKA Stephens Creek 40.52 157 P **P 18 19 08.3 +1.0**
comp=Z,232nm,0.7s,mb5.7,baz=332,slow=7.7,SNR=1227
STKA ScP ScP 18 24 07.9 +0.1
comp=Z,49nm,0.7s,baz=334,slow=5.6,SNR=12
STKA S **S 18 24 44.7 +0.6**
comp=Z,38nm,1.1s,baz=44,slow=24,SNR=6.7
STKA Stephens Creek 40.52 157⇑*i*P **P 18 19 08.3 +1.0**
STKA *e*SCP ScP 18 24 07.8 0.0
STKA *e*S **S 18 24 44.7 +0.6**
STKA *e*SCS ScS 18 28 20.0 -3.8
STKA Stephens Creek 40.52 157 *e*P **P 18 19 08.1 +0.8**
comp=Z,50nm,0.7s,mb5.0
STKA ScP ScP 18 24 07.9 +0.1
STKA S **S 18 24 44.7 +0.6**
STKA Stephens Creek 40.52 157 P **P 18 19 08.3 +1.0**
STKA S **S 18 24 44.7 +0.6**
STKA pmax pmax
comp=Z,232nm,0.7s
STKA pmax pmax
comp=N,49nm,0.7s
STKA smax
comp=N,38nm,1.1s
TAPN Taplejung 41.11 306 *e*P **P 18 19 13.3 +1.2**
comp=N,331nm,0.7s,mb5.8
TAPN Taplejung 41.11 306 *e*P ScP 18 24 09.8 -0.5
comp=N,53nm,1.1s
TAPN Taplejung 41.11 306 *e*P **P 18 19 13.3 +1.2**
comp=N,331nm,0.7s,mb5.8
TAPN *e*P ScP 18 24 09.8 -0.5
ODAN Odare 41.16 305 *e*P **P 18 19 13.6 +1.1**
comp=N,487nm,0.7s,mb5.9
ODAN Odare 41.16 305 *e*P **P 18 19 13.6 +1.1**
comp=N,487nm,0.7s,mb5.9
ASAJ Asahikawa 41.83 20 P **P 18 19 18.9 +1.3**
comp=N,34nm,0.7s,mb4.8,baz=243,slow=16,SNR=16
ASAJ Asahikawa 41.83 20 *e*P **P 18 19 18.6 +1.1**
comp=N,11nm,0.7s,mb4.3
ASAJ Asahikawa 41.83 20 P **P 18 19 18.9 +1.4**
ASAJ pmax pmax
comp=Z,34nm,0.7s
RAMN Ramite 41.84 305 *e*P **P 18 19 19.2 +1.2**
comp=Z,387nm,0.7s,mb5.9
RAMN Ramite 41.84 305 *e*P ScP 18 24 13.3 +0.1
comp=Z,73nm,0.8s
RAMN Ramite 41.84 305 *e*P **P 18 19 19.2 +1.2**
comp=Z,387nm,0.7s,mb5.8
RAMN *e*P ScP 18 24 13.3 +0.1
JIRN Jiri 42.46 306 *e*P **P 18 19 24.2 +1.3**
comp=Z,295nm,0.6s,mb5.8
JIRN Jiri 42.46 306 *e*P ScP 18 24 15.2 -0.5
comp=Z,34nm,0.9s
JIRN Jiri 42.46 306 *e*P **P 18 19 24.2 +1.3**
comp=Z,295nm,0.6s,mb5.8
JIRN *e*P ScP 18 24 15.2 -0.5
GUN Gumba 42.82 306 *e*P **P 18 19 26.9 +1.2**
comp=Z,572nm,0.7s,mb6.0
GUN Gumba 42.82 306 *e*P ScP 18 24 16.3 -0.9
comp=Z,55nm,0.9s
GUN Gumba 42.82 306 *e*P **P 18 19 26.9 +1.2**
comp=Z,572nm,0.7s,mb6.0
GUN *e*P ScP 18 24 16.3 -0.9
PKI Pulchoki 43.06 305 *e*P **P 18 19 28.3 +0.7**
comp=Z,113nm,0.5s,mb5.4
PKI Pulchoki 43.06 305 *e*P ScP 18 24 17.9 -0.3
comp=Z,85nm,0.8s
PKI Pulchoki 43.06 305 *e*P **P 18 19 28.3 +0.7**
comp=Z,113nm,0.5s,mb5.5
PKI *e*P ScP 18 24 17.9 -0.3
PKI Pulchoki 43.06 305 *e*P **P 18 19 28.3 +0.7**
PKI pmax pmax
comp=Z,113nm,0.5s,mb5.5
KKN Kakani 43.25 306 *e*P **P 18 19 29.8 +0.7**
comp=Z,93nm,0.3s,mb5.5
KKN Kakani 43.25 306 *e*P ScP 18 24 18.3 -0.6
comp=Z,70nm,0.7s
KKN Kakani 43.25 306 *e*P **P 18 19 29.8 +0.7**
comp=Z,93nm,0.3s,mb5.6
KKN *e*P ScP 18 24 18.3 -0.6
KKN Kakani 43.25 306 *e*P **P 18 19 29.8 +0.7**
KKN pmax pmax
comp=Z,93nm,0.3s,mb5.6
DMN Daman 43.32 305 *e*P **P 18 19 30.4 +0.7**
comp=Z,407nm,1.0s,mb5.7
DMN Daman 43.32 305 *e*P ScP 18 24 19.4 +0.2
comp=Z,121nm,1.0s
DMN Daman 43.32 305 *e*P **P 18 19 30.4 +0.7**
comp=Z,407nm,1.0s,mb5.7
DMN *e*P ScP 18 24 19.4 +0.2
GKN Gorkha 43.86 305 *e*P **P 18 19 34.3 +0.4**
comp=Z,303nm,0.7s,mb5.7
GKN Gorkha 43.86 305 *e*P ScP 18 24 20.6 -0.8
comp=Z,52nm,0.7s
GKN Gorkha 43.86 305 *e*P **P 18 19 34.3 +0.4**
comp=Z,303nm,0.7s,mb5.7
GKN *e*P ScP 18 24 20.6 -0.8
HABR Khabarovsk 43.93 10 *e*P **P 18 19 34.1 0.0**
HABR *e**PP pP 18 20 58.9 +2.0
HABR *e* 18 21 09.4
HABR *e* 18 21 25.3
HABR *e*S **S 18 25 33.0 +0.1**
HABR *e* 18 28 41.1
HABR *e*SS SS 18 29 02.1 +1.5
ARMA Armidale 44.16 145 *e*P **P 18 19 38.1 +2.0**
ARMA Armidale 44.16 145 *e*P **P 18 19 38.0 +1.9**
comp=Z,288nm,0.8s,mb5.7
KLR Kul'dur 44.18 7 *e*P **P 18 19 32.2 -3.8**
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s
KOLN Koldanda 44.62 305 *e*P **P 18 19 41.0 +1.2**
comp=Z,843nm,0.5s,mb6.3
KOLN Koldanda 44.62 305 *e*P ScP 18 24 25.3 +0.8
comp=Z,26nm,0.7s
KOLN Koldanda 44.62 305 *e*P **P 18 19 41.0 +1.2**
comp=Z,843nm,0.5s,mb6.3
KOLN *e*P ScP 18 24 25.3 +0.8
DANN Dangsing 44.71 305 *e*P **P 18 19 41.5 +1.0**
comp=Z,872nm,0.5s,mb6.3
DANN Dangsing 44.71 305 *e*P ScP 18 24 23.8 -1.1
comp=Z,31nm,0.7s
DANN Dangsing 44.71 305 *e*P **P 18 19 41.5 +1.0**
comp=Z,872nm,0.5s,mb6.3
DANN *e*P ScP 18 24 23.8 -1.1
ULN Ulaanbaatar 44.86 344 *e*P **P 18 19 42.2 +0.9**
comp=Z,196nm,1.0s,mb5.4
ULN Ulaanbaatar 44.86 344 *e*P **P 18 19 42.2 +0.9**
ULN pmax pmax
comp=Z,196nm,1.0s,mb5.4
ULN Ulaanbaatar 44.86 344 P **P 18 19 42.8 +1.5**
SNR=54
SONM Songino Array 45.02 343 P **P 18 19 43.6 +1.1**
comp=Z,108nm,0.9s,mb5.2,baz=156,slow=6.8,SNR=430
SONM PcP PcP 18 21 15.9 +1.0
comp=Z,12nm,0.5s,baz=163,slow=3.7,SNR=10
SONM ScP ScP 18 24 25.3 -0.4
comp=Z,10nm,0.9s,baz=159,slow=5.4,SNR=6.3
SONM Songino Array 45.02 343 P **P 18 19 43.6 +1.1**
SONM PcP PcP 18 21 15.9 +1.0
SONM ScP ScP 18 24 25.3 -0.4
SONM Songino Array 45.02 343 P **P 18 19 43.6 +1.0**
SONM 18 21 15.9
PYUN Piuthan 45.24 305 *e*P **P 18 19 45.9 +1.3**
comp=Z,1μm,1.0s,mb6.1
PYUN Piuthan 45.24 305 *e*P **P 18 19 45.9 +1.3**
comp=Z,1μm,1.0s,mb6.1
HYB Hyderabad 46.30 289 *i* P **P 18 19 52.0 -0.9**
comp=Z,165nm,1.0s,mb5.3
HYB *ep*P pP 18 21 19.0 +2.2
RIV Riverview 46.52 149 *e*P **P 18 19 56.5 +2.2**
CAN Canberra 46.65 152 *e*P **P 18 19 57.0 +1.7**
comp=Z,201nm,0.7s,mb5.6
CAN Canberra 46.65 152 *e*P **P 18 19 57.0 +1.7**
CAN pmax pmax
comp=Z,201nm,0.7s,mb5.6
CNB Canberra Magne 46.82 152 *e*P **P 18 19 58.1 +1.5**
CNB *e*SCP ScP 18 24 34.2 +0.7
CNB *e*S **S 18 26 20.2 +6.1**
TOO Toolangi 47.05 157⇑*i*P **P 18 20 00.0 +1.8**
TOO *e*SCP ScP 18 24 35.2 +0.8
TOO *e*S **S 18 26 21.1 +3.9**
TRD Trivandrum 47.08 277⇓*ex* x 18 19 53.7
CIT Chita 47.36 351 *e*P **P 18 20 02.3 +1.9**
CIT pmax pmax
comp=Z,265nm,1.7s,mb5.3
ZAK Zakamensk 48.22 342⇓*i*P **P 18 20 07.8 +0.9**
ZAK *e* 18 21 27.1
ZAK *e* 18 26 33.3
AKL Akola 48.32 293⇓*i*P **P 18 20 08.6 +0.4**
AKL AMb AMB 18 20 09.3
comp=Z,254nm,0.6s,mb5.8
AKL *i* x x 18 21 38.0
BHPL Bhopal 48.52 296 *e*PKP **P 18 20 09.8 +0.2**
TLY Talaya 49.26 343 *e*P **P 18 20 16.1 +1.4**
comp=Z,146nm,0.8s,mb5.4
TLY Talaya 49.26 343 *d i*P **P 18 20 15.8 +1.1**
TLY *e* 18 22 22.7
TLY *e*S **S 18 26 46.2 -1.3**
TLY pmax pmax
comp=Z,145nm,0.8s,mb5.4
TLY Talaya 49.26 343 P **P 18 20 16.7 +2.0**
SNR=21
TLY Talaya 49.26 343 P **P 18 20 16.3 +1.6**
comp=Z,1μm,0.7s,mb6.3,SNR=35
TNG Tangerang 49.26 343 P 18 16 20.2
comp=Z,2μm,0.9s
TNG P 18 16 20.1
comp=Z,1μm,0.9s
NOUC Port Laguerre 49.34 125 *e*P **P 18 20 15.1 -0.7**
DZM Mont Dzumac 49.44 125 *e*P **P 18 20 17.9 +1.3**
comp=Z,561nm,1.2s,mb5.8
DZM Mont Dzumac 49.44 125 *e*P **P 18 20 16.2 -0.4**
IRK Irkutsk 49.59 344 *e*P **P 18 20 17.0 -0.1**
IRK *e* 18 27 06.2
IRK pmax pmax
comp=Z,139nm,1.8s,mb5.0
PLUM Mont Dore 49.70 125 *e*P **P 18 20 18.6 +0.1**
WMQ Urumqi 50.02 326 P **P 18 20 21.8 +1.3**
WMQ PcP PcP 18 21 34.0 +1.0
WMQ sP sP 18 22 33.0 -0.9
WMQ ScP ScP 18 24 47.0 0.0
WMQ PcS PcS 18 25 29.3 -1.3
WMQ S **S 18 26 59.5 +1.4**
WMQ ScS ScS 18 29 22.3 -2.9
WMQ pmax pmax
comp=Z,67nm,1.2s,mb4.8
DDI Dehra Dun 50.06 305⇑*i*P **P 18 20 19.8 -1.2**
DDI *ex* x 18 23 35.0
KAD Karad 50.41 288 *e*PKP **P 18 20 23.1 -0.7**
POO Poona 50.89 289 *e*PKP **P 18 20 26.4 -0.9**
SMLA Simla 51.06 306 *i* P **P 18 20 28.2 -0.1**
SMLA *i* S **S 18 27 12.4 -0.3**
SDNR Sundarnagar 51.34 306 *e*PKP **P 18 20 31.0 +0.5**
CLNS Chul'man 51.34 0 *e*P **P 18 20 31.3 +1.3**
CLNS pmax pmax
comp=Z,44nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,22nm,0.9s
CLNS pmax pmax
comp=E,17nm,0.9s
BHK Bhakra 51.76 306 *e*PKP **P 18 20 34.0 +0.5**
AJM Ajmer 51.77 300 *e*PKP **P 18 20 32.0 -1.7**
TAU Tasmania Unive 52.38 159 *e*P **P 18 20 38.7 +1.0**
comp=E,153nm,1.5s,mb5.0
TAU Tasmania Unive 52.38 159 *e*P **P 18 20 38.7 +1.0**
TAU pmax pmax
comp=Z,153nm,1.5s,mb5.0
TAU Tasmania Unive 52.38 159 P **P 18 20 39.2 +1.5**
comp=Z,347nm,0.7s,mb5.7,SNR=8.5
THN Thein Dam 52.66 307 *e*PKP **P 18 20 38.7 -1.3**
BOD Bodaibo 52.95 353 *e*P **P 18 20 42.1 +0.6**
BOD pmax pmax
comp=Z,72nm,0.7s,mb5.0
MK31 Makanchi Array 54.85 326 *e*P **P 18 20 55.5 +0.1**
MK31 *e*PcP PcP 18 21 51.2 -0.1
MK31 *e*ScP ScP 18 25 07.3 -0.7
MK31 Makanchi Array 54.85 326 P **P 18 20 56.0 +0.6**
MK31 pmax pmax
comp=Z,44nm,0.4s,mb5.0
MKAR Makanchi Array 54.85 326 P **P 18 20 56.1 +0.7**
comp=Z,53nm,0.4s,mb4.5,baz=118,slow=7.4,SNR=1775
MKAR PcP PcP 18 21 51.5 +0.2
comp=Z,55nm,0.5s,baz=119,slow=4.5,SNR=19
MKAR ScP ScP 18 25 07.2 -0.8
comp=Z,24nm,0.8s,baz=118,slow=4.8,SNR=11
MKAR S **S 18 28 02.8 0.0**
comp=Z,3.0nm,0.9s,baz=119,slow=14,SNR=3.8
MKAR PKPPKP 18 51 01.5
comp=Z,1.9nm,0.8s,baz=297,slow=3.8,SNR=15
MKAR P4KPbc 18 58 09.9
comp=Z,3.4nm,0.8s,baz=116,slow=5.0,SNR=32
MKAR Makanchi Array 54.85 326 P **P 18 20 56.1 +0.7**
MKAR PcP PcP 18 21 51.5 +0.2
MKAR ScP ScP 18 25 07.2 -0.8
MKAR S **S 18 28 02.8 0.0**
MKAR P'P' 18 51 01.5
MKAR *e* 18 58 09.9
MKAR Makanchi Array 54.85 326 *i* P **P 18 20 56.0 +0.6**
MKAR pmax pmax
comp=Z,53nm,0.4s
PEA0B Petropavlovsk- 54.89 24 *e*P **P 18 20 57.1 +1.6**
PETK Petropavlovsk- 54.89 24 P **P 18 20 57.0 +1.5**
comp=Z,10nm,0.4s,mb4.4,baz=189,slow=4.7,SNR=69
PETK ScP ScP 18 25 09.1 +1.1
comp=Z,9.7nm,0.7s,baz=185,slow=6.9,SNR=6.4
PETK Petropavlovsk- 54.89 24 P **P 18 20 57.0 +1.5**
PETK ScP ScP 18 25 09.1 +1.1
PETK Petropavlovsk- 54.89 24 P **P 18 20 57.0 +1.5**
KSH Kashi 55.19 315 P **P 18 21 00.0 +2.1**
KSH PcP PcP 18 21 54.3 +1.5
KSH pP pP 18 22 30.5 +4.9
KSH PP PP 18 23 11.5 +4.4
KSH sP sP 18 23 17.3 +4.5
KSH ScP ScP 18 25 09.3 -0.4
KSH PcS PcS 18 25 53.5 +0.1
KSH S **S 18 28 07.5 0.0**
KSH ScS ScS 18 29 58.5 -3.5
KSH sS sS 18 30 47.8 +3.3
KSH SS SS 18 32 01.0 +1.4
KSH pmax pmax
comp=Z,67nm,0.9s,mb4.9
KSH pmax pmax
comp=Z,230nm,2.9s,mb4.9
PET Petropavlovsk 55.22 25 *e*P **P 18 20 58.6 +0.8**
comp=Z,17nm,0.5s,mb4.5
PET Petropavlovsk 55.22 25 *e*P **P 18 20 59.2 +1.4**
PET *e**PP pP 18 22 30.8 +5.3
PET *e*S **S 18 28 10.4 +3.0**
PET pmax pmax
comp=Z,33nm,0.6s,mb4.7
BHJ Bhuj 55.51 294 *ex* x 18 22 00.1
BHJ AMb AMB 18 22 02.7
comp=Z,229nm,0.9s,mb5.5
ULHL Ulahol 56.21 318 P **P 18 21 06.5 +1.6**
SNR=9.8
ULHL P 18 21 06.5
SNR=9.8
FUNA Funafuti 56.45 104 *e*P **P 18 21 08.6 +1.4**
comp=Z,202nm,1.0s,mb5.4
YAK Yakutsk 56.70 3 *e*P **P 18 21 08.3 +0.3**

comp=Z,97nm,0.8s,mb5.2
YAK Yakutsk 56.70 3*d* iP **P 18 21 08.0 +0.1**
YAK *e* 18 21 59.2
YAK *e**PP pP 18 22 36.9 +0.7
YAK *e* 18 23 18.2
YAK *e*S **S 18 28 24.6 -1.7**
YAK *e* 18 30 09.1
YAK *e*SS SS 18 32 27.6 +5.3
YAK pmax pmax
comp=Z,97nm,1.1s,mb5.0
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK pmax pmax
comp=N,55nm,1.8s
YAK pmax pmax
comp=Z,150nm,3.8s
YAK pmax pmax
comp=N,184nm,4.8s
YAK pmax pmax
comp=E,62nm,2.5s
YAK smax
comp=E,499nm,4.6s
YAK smax
comp=N,175nm,2.5s
KZA Kyzart 56.79 318 P **P 18 21 11.0 +2.0**
SNR=85
KZA P 18 21 11.0
SNR=85
TKM2 Tokmak 2 56.94 319 P **P 18 21 11.1 +1.1**
SNR=121
TKM2 P 18 21 11.1
SNR=121
TKM2 Tokmak 2 56.94 319 *e*P **P 18 21 11.0 +1.0**
comp=N,70nm,0.6s,mb5.2
TKM2 *e*PcP PcP 18 22 00.2 +0.6
TKM2 Tokmak 2 56.94 319 *i* P **P 18 21 11.1 +1.1**
KBK Karagaybulak 57.25 318 P **P 18 21 13.5 +1.4**
SNR=56
KBK P 18 21 13.5
SNR=56
UCH Uchtor 57.35 318 P **P 18 21 14.9 +2.0**
SNR=18
UCH P 18 21 14.9
SNR=18
CHMS Chumysh 57.53 319 P **P 18 21 14.5 +0.5**
SNR=42
CHMS P 18 21 14.5
SNR=42
AAK Ala-Archa 57.54 318 P **P 18 21 15.3 +1.2**
SNR=44
AAK P 18 21 15.3
SNR=44
AAK Ala-Archa 57.54 318 *e*P **P 18 21 15.1 +1.0**
comp=N,139nm,0.6s,mb5.5
AAK *e*PcP PcP 18 22 02.5 +0.5
AAK Ala-Archa 57.54 318 *e*P **P 18 21 15.1 +1.0**
AAK *e* 18 22 02.5
AAK pmax pmax
comp=Z,139nm,0.6s,mb5.5
AAK Ala-Archa 57.54 318 P **P 18 21 15.0 +0.9**
comp=Z,323nm,0.7s,mb5.8,SNR=37
AAK Ala-Archa 57.54 318 P **P 18 21 15.6 +1.4**
SNR=34
FRU Bishkek 57.54 318||| *i* P **P 18 21 14.0 -0.2**
FRU *i* 18 28 42.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb4.7
MSVF Nonsavu 57.79 115 *e*P **P 18 21 18.3 +2.0**
comp=Z,84nm,0.8s,mb5.1
MSVF Nonsavu 57.79 115 *e*P **P 18 21 18.3 +2.0**
MSVF pmax pmax
comp=Z,84nm,0.8s,mb5.1
MSVF Nonsavu 57.79 115 P **P 18 21 18.0 +1.7**
comp=Z,665nm,0.9s,mb6.0,SNR=12
USP Ospenovka 57.81 319 P **P 18 21 16.9 +0.9**
SNR=117
USP P 18 21 16.9
SNR=117
AML Almayashu 57.86 317 P **P 18 21 18.1 +1.8**
SNR=129
AML P 18 21 18.1
SNR=129
EKS2 Erkin-Say 58.03 318 P **P 18 21 18.6 +1.1**
SNR=101
EKS2 P 18 21 18.6
SNR=101
ZAA0 Zalesovo Array 58.06 334 *e*P **P 18 21 16.9 -0.6**
ZALV Zalesovo Beam 58.06 334 P **P 18 21 17.1 -0.3**
comp=Z,117nm,0.8s,mb5.2,baz=122,slow=6.2,SNR=457
ZALV PcP PcP 18 22 02.7 -1.1
comp=Z,8.5nm,0.3s,baz=131,slow=3.7,SNR=10
ZALV ScP ScP 18 25 21.5 -0.5
comp=Z,5.2nm,0.7s,baz=132,slow=2.1,SNR=3.9
ZALV S **S 18 28 43.5 -0.6**
comp=Z,5.0nm,0.9s,baz=124,slow=14,SNR=5.9
ZALV PKPPKP 18 50 46.5
comp=Z,3.9nm,0.9s,baz=305,slow=5.2,SNR=18
ZALV Zalesovo Beam 58.06 334 P **P 18 21 17.1 -0.3**
ZALV PcP PcP 18 22 02.7 -1.1
ZALV ScP ScP 18 25 21.5 -0.5
ZALV S **S 18 28 43.5 -0.6**
ZALV P'P' 18 50 46.5
ZALV Zalesovo Beam 58.06 334 P **P 18 21 17.2 -0.3**
ZALV 18 22 02.7
ZALV S **S 18 28 43.5 -0.6**
KBL Kabul 58.62 307 *e*P **P 18 21 22.0 +0.3**
comp=Z,148nm,0.6s,mb5.5
KBL Kabul 58.62 307 *e*P **P 18 21 22.0 +0.3**
KBL pmax pmax
comp=Z,148nm,0.6s,mb5.5
KURK Kurchatov 59.08 328 P **P 18 21 24.9 +0.4**
comp=Z,238nm,0.7s,mb5.6,baz=132,slow=6.5,SNR=2278
KURK pP pP 18 22 54.2 +0.5
comp=Z,17nm,0.8s,baz=135,slow=6.3,SNR=2.3
KURK S **S 18 29 00.1 +2.8**
comp=Z,1.6nm,1.0s,baz=93,slow=18,SNR=4.9
KURK Kurchatov 59.08 328 *e*P **P 18 21 25.0 +0.5**
comp=Z,426nm,0.7s,mb5.9
KURK pP pP 18 22 54.2 +0.5
KURK S **S 18 29 00.1 +2.8**
KURK Kurchatov 59.08 328*d i*P **P 18 21 24.8 +0.3**
KURK pmax pmax
comp=Z,519nm,0.8s,mb5.9
KURK Kurchatov 59.08 328 P **P 18 21 25.2 +0.7**
SNR=110
KURK Kurchatov 59.08 328 P **P 18 21 25.4 +0.9**
comp=Z,4μm,0.6s,mb6.9
NVS Novosibirsk 59.35 334||| *i* P **P 18 21 25.9 -0.3**
NVS *e**PP pP 18 22 54.9 -0.6
NVS *i* S **S 18 28 59.7 -0.7**
NVS *e* 18 30 24.1
NVS pmax pmax
comp=Z,251nm,0.9s,mb5.5
NVS pmax pmax
comp=N,107nm,0.8s
NVS pmax pmax
comp=E,165nm,1.1s
NVS smax
comp=N,77nm,1.6s
NVS smax
comp=E,163nm,1.6s
KK31 Karatay Array 60.40 317 *i* P **P 18 21 33.4 -0.1**
KK31 pmax pmax
comp=Z,89nm,0.9s,mb5.2
KKAR Karatay Array 60.40 317 *e*P **P 18 21 33.6 +0.1**
comp=Z,46nm,0.6s,mb5.1
KKAR Karatay Array 60.40 317 *e*P **P 18 21 33.6 +0.1**
KKAR pmax pmax
comp=Z,46nm,0.6s,mb5.1
SEY Seymchan 61.03 14 *i* P **P 18 21 38.5 +1.2**
OUZ Omahuta 61.41 135 *e*P **P 18 21 42.0 +1.7**
comp=Z,58nm,0.9s,mb5.0
OUZ *e*PP PP 18 24 00.9 -1.2
FX1 Attu Island--F 61.92 31 P **P 18 21 45.0 +1.7**
comp=Z,19nm,0.4s,mb4.9,baz=276,slow=3.8,SNR=15
FX1 Attu Island--F 61.92 31 P **P 18 21 45.0 +1.7**
FX1 Attu Island--F 61.92 31 P **P 18 21 45.0 +1.6**
RPZ Rata Peaks 64.48 144 *e*P **P 18 22 00.7 +0.6**
comp=Z,67nm,0.6s,mb5.3
BVA0 Borovoye Array 64.65 327 *i* P **P 18 22 01.0 0.0**
BVAR Borovoye Array 64.65 327 P **P 18 22 01.2 +0.2**
comp=Z,119nm,0.8s,mb5.5,baz=126,slow=7.5,SNR=575
BVAR S **S 18 30 07.4 +1.3**
comp=Z,1.6nm,0.9s,baz=125,slow=15,SNR=5.7
BVAR Borovoye Array 64.65 327 P **P 18 22 01.2 +0.2**
BVAR S **S 18 30 07.4 +1.3**
BVAR Borovoye Array 64.65 327 P **P 18 22 01.2 +0.2**
BVAR S **S 18 30 07.4 +1.3**
BRVK Borovoye 64.72 327 *e*P **P 18 22 01.6 +0.1**
comp=Z,235nm,0.9s,mb5.8
BRVK *e*S **S 18 30 07.6 +0.6**
BRVK Borovoye 64.72 327 *e*P **P 18 22 01.6 +0.1**
BRVK *e*S **S 18 30 07.6 +0.6**
BRVK pmax pmax
comp=Z,235nm,0.9s,mb5.8
BRVK Borovoye 64.72 327 P **P 18 22 01.5 0.0**
comp=Z,2μm,0.9s,mb6.7
BRVK Borovoye 64.72 327 P **P 18 22 02.1 +0.7**
SNR=92
WBK Wadi Bani Khal 65.20 292 P **P 18 22 05.0 -0.1**
SNR=11
KHZ Kahutara 65.22 142 *e*P **P 18 22 04.5 -0.3**
comp=Z,48nm,0.6s,mb5.3
SNZO South Karori 65.34 140 *e*P **P 18 22 05.0 -0.7**
comp=Z,50nm,0.4s,mb5.5
URZ Urewera 65.38 136 *e*P **P 18 22 05.7 -0.2**
comp=Z,30nm,0.5s,mb5.2
JMDO Jabal Madar 65.98 292 P **P 18 22 09.5 -0.6**
SNR=20
SMDO Samad 66.08 293 P **P 18 22 10.1 -0.5**
SNR=13
HOQ Hoqain 66.80 293 P **P 18 22 15.2 0.0**
SNR=12
BSY Bisya 66.84 292 P **P 18 22 15.0 -0.4**
SNR=10
ARQ Araqi 67.50 293 P **P 18 22 19.6 +0.1**
SNR=10
HATD Hatta, Dubai 67.97 295 P **P 18 22 22.4 +0.1**
SNR=8.5
ABKT Ailbek 68.00 309 P **P 18 22 23.5 +1.3**
comp=Z,604nm,0.8s,mb6.3,SNR=60
ASHO Ashiyiah 68.02 294 P **P 18 22 22.6 -0.1**
SNR=7.6
BILL Bilibino 68.64 16 *e*P **P 18 22 26.1 +0.6**
comp=Z,5.6nm,0.4s,mb4.5
BILL Bilibino 68.64 16 *e*P **P 18 22 25.0 -0.5**
BILL *e* 18 22 42.1
ASUD Al Ashush, Dub 68.68 294 P **P 18 22 27.5 +0.8**
SNR=6.7
AB31 Akbulak array 69.37 321 *i* P **P 18 22 30.5 +0.1**
AB31 pmax pmax
comp=Z,237nm,0.8s,mb5.9
ABKAR Akbulak array 69.37 321 *e*P **P 18 22 30.2 -0.2**
comp=Z,127nm,0.6s,mb5.7
RBK Rabkut 69.44 287 P **P 18 22 31.4 0.0**
SNR=16
MSEY Mahe Island 69.45 263 *e*P **P 18 22 30.2 -1.4**
comp=Z,28nm,0.6s,mb5.1
MSEY Mahe Island 69.45 263 *e*P **P 18 22 30.2 -1.4**
MSEY pmax pmax
comp=Z,28nm,0.6s,mb5.1
MSEY Mahe Island 69.45 263 P **P 18 22 30.6 -1.0**
comp=Z,325nm,0.6s,mb6.1,SNR=11
ABTO Aybut 70.31 286 P **P 18 22 36.4 -0.2**
SNR=23
AKTO Aktyubinsk 70.89 322 P **P 18 22 39.7 +0.3**
comp=Z,222nm,0.8s,mb5.7,baz=102,slow=7.6,SNR=602
AKTO S S 18 31 19.8 +0.4
comp=Z,2.9nm,0.9s,baz=222,slow=18,SNR=10
AKTO Aktyubinsk 70.89 322 P **P 18 22 39.7 +0.3**
AKTO S S 18 31 19.8 +0.4
AKTO Aktyubinsk 70.89 322 P **P 18 22 39.7 +0.2**
AKTO S S 18 31 19.8 +0.4
SVE Sverdlovsk 71.32 329*c i* P **P 18 22 41.9 0.0**
SVE *e* 18 25 32.7
SVE *e*S S 18 31 21.8 -2.2
SVE pmax pmax
comp=Z,322nm,1.0s,mb5.8
ARU Arti 72.28 328 *e*P **P 18 22 46.8 -0.7**
comp=Z,169nm,0.7s,mb5.7
ARU Arti 72.28 328*c i*P **P 18 22 45.1 -2.4**
ARU 18 25 34.2
ARU S S 18 31 30.4 -4.4
ARU pmax pmax
comp=Z,251nm,1.0s,mb5.7
ARU Arti 72.28 328 P **P 18 22 47.4 -0.1**
comp=Z,2μm,0.7s,mb6.7,SNR=74
GAMB Gambell 73.92 25 *e*P **P 18 22 59.6 +2.8**
SOKR Solikamsk 74.12 331*d i*P **P 18 22 57.7 -0.3**
SOKR pmax pmax
comp=Z,90nm,0.8s,mb5.5
MUKL Al Mukalla 74.43 283||| *e*P **P 18 23 00.9 +0.2**
MUKL AMb AMB 18 23 01.3
comp=Z,67nm,0.4s,mb5.6
QRN Al-Qurain 75.51 298 *e*P **P 18 23 06.1 -0.5**
QRN AMb AMB 18 23 07.2
comp=Z,1μm,0.9s,mb6.5
UMR Umm Al-Rimmam 75.71 299 *e*P **P 18 23 07.3 -0.4**
UMR AMb AMB 18 23 08.5
comp=Z,627nm,0.9s,mb6.2
KBD Kabd 75.72 299 *e*P **P 18 23 07.2 -0.5**
KBD AMb AMB 18 23 08.6
comp=Z,286nm,0.8s,mb6.0
RDF Al-Radifah 75.84 298 *e*P **P 18 23 07.6 -0.8**
RDF AMb AMB 18 23 08.8
comp=Z,470nm,0.6s,mb6.3
MIB Mutribah 76.05 299 *e*P **P 18 23 08.9 -0.6**
MIB AMb AMB 18 23 10.7
comp=Z,889nm,0.7s,mb6.5
NAY Al-Naaiem 76.12 299 *e*P **P 18 23 09.2 -0.8**
NAY AMb AMB 18 23 10.5
comp=Z,368nm,0.8s,mb6.0
LBOS 78.13 283 *e*P **P 18 23 21.8 +0.6**
LBOS AMb AMB 18 23 23.2
comp=Z,375nm,0.8s,mb6.1
GNI Garni 78.59 310 P **P 18 23 24.8 +1.5**
comp=Z,37nm,0.8s,mb5.1,baz=357,slow=4.4,SNR=10
GNI Garni 78.59 310 *e*P **P 18 23 24.1 +0.9**
comp=Z,115nm,0.9s,mb5.5
GNI Garni 78.59 310*d i*P **P 18 23 24.3 +1.1**
GNI pmax pmax
comp=Z,106nm,1.5s
GNI Garni 78.59 310 P **P 18 23 25.3 +2.1**
SNR=8.4
MTA Mtatsminda 78.63 311 P **P 18 23 24.0 +0.6**
BHD Baghdad 78.66 303 *ex* x 18 23 21.0
BHD *ex* x 18 32 33.0
TBLG Delisi 78.67 311 *e*P **P 18 23 24.2 +0.6**
TBLG Delisi 78.67 311 P **P 18 23 24.2 +0.6**
DHBB Dhamar BB 78.93 284||| *e*P **P 18 23 26.1 +0.6**
DHBB AMb AMB 18 23 27.1
comp=Z,146nm,1.0s,mb5.6
GOR Gori 79.15 312 P **P 18 23 27.4 +1.2**
TRBA At Turbah 79.26 282||| *e*P **P 18 23 27.8 +0.5**
ZEI Tsey 79.34 312 *e*P **P 18 23 27.8 +0.6**
ZEI pmax pmax
comp=Z,171nm,0.8s,mb5.7
OPO Ambohidratompo 79.55 250 P **P 18 23 29.0 +0.2**
comp=Z,67nm,0.6s,mb5.5,baz=75,slow=5.3,SNR=19
OPO Ambohidratompo 79.55 250 P **P 18 23 29.0 +0.2**
ABPO Ambohimpanom 79.59 250 *e*P **P 18 23 28.4 -0.5**
comp=Z,114nm,0.7s,mb5.6
ABPO Ambohimpanom 79.59 250 *e*P **P 18 23 28.4 -0.6**
ABPO pmax pmax
comp=Z,114nm,0.7s,mb5.6
ABPO Ambohimpanom 79.59 250 P **P 18 23 29.8 +0.8**
comp=Z,190nm,0.7s,mb5.8,SNR=6.6
AKH Akhalkalaki 79.59 311 P **P 18 23 30.0 +1.4**
HAJJ Hajjah 79.64 285||| *e*P **P 18 23 29.8 +0.5**
ONI Oni 79.66 312 P **P 18 23 29.9 +1.0**
KIV Kislovodsk 80.27 314 *e*P **P 18 23 32.4 +0.3**
comp=Z,71nm,0.8s,mb5.3
KIV Kislovodsk 80.27 314 *e*P **P 18 23 31.9 -0.2**
KIV *e*S S 18 32 59.8 -1.4
KIV pmax pmax
comp=Z,95nm,0.9s,mb5.4
KIV Kislovodsk 80.27 314 P **P 18 23 33.0 +0.9**
SNR=6.3
KIV Kislovodsk 80.27 314 P **P 18 23 32.9 +0.8**
comp=Z,607nm,0.8s,mb6.3,SNR=15
ATD Arta Tunnel 80.59 281 P **P 18 23 36.0 +1.7**
comp=Z,125nm,0.8s,mb5.7,baz=64,slow=4.1,SNR=51
ATD Arta Tunnel 80.59 281 P **P 18 23 36.0 +1.7**
KDAK Kodiak Island 81.83 32 *e*P **P 18 23 40.7 +0.9**
comp=Z,34nm,1.0s,mb5.0
KDAK Kodiak Island 81.83 32 *i* P **P 18 23 40.9 +1.0**
KDAK Kodiak Island 81.83 32 P **P 18 23 41.0 +1.1**
comp=Z,208nm,0.7s,mb6.0,SNR=9.5
PPLA Purkeypile 82.31 27 *e*P **P 18 23 42.1 -0.1**
comp=Z,49nm,1.4s,mb5.0
SOC Sochi 82.42 313 *e*P **P 18 23 42.6 -0.6**
SOC *e*S S 18 33 22.3 -0.7
SOC pmax pmax
comp=Z,75nm,0.4s,mb5.8
VOR Voronezh 82.79 321 *e*P **P 18 23 44.0 -0.9**
VOR pmax pmax
comp=Z,500nm,1.4s,mb6.0
VSR Storozhevoye 82.81 321*d i*P **P 18 23 44.4 -0.6**
VSR *e* 18 33 20.2
VSR *e*S S 18 33 23.8 -2.8
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,180nm,1.0s
VSR pmax pmax
comp=Z,250nm,1.0s,mb5.9
VSR smax
comp=N,100nm,1.2s
VSR smax
comp=E,100nm,1.2s
VSR smax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 82.81 331*d i*P **P 18 23 44.5 -0.3**
KLMR *e*S S 18 33 18.9 -7.3
KLMR pmax pmax
comp=Z,568nm,1.0s,mb6.2
KLMR pmax pmax
comp=Z,363nm,7.3s
RC01 Rabbit Creek A 83.39 29 *e*P **P 18 23 47.5 -0.3**
comp=Z,17nm,0.9s,mb4.8
MOS Moscow 83.74 325 *e*P **P 18 23 48.5 -1.1**
MOS *e*S S 18 33 27.7 -7.9
MOS pmax pmax
comp=Z,600nm,1.1s,mb6.2
MOS pmax pmax
comp=Z,536nm,1.0s,mb6.2
MCK McKinley 83.80 27 *e*P **P 18 23 50.9 +1.2**
comp=Z,11nm,0.9s,mb4.6
MCK McKinley 83.80 27 *e*P **P 18 23 50.9 +1.2**
ANN Anapa 84.04 314*c i*P **P 18 23 50.3 -1.1**
ANN *e**PP pP 18 25 30.5 +2.2
ANN *e*S S 18 33 28.7 -10
ANN pmax pmax
comp=N,148nm,1.0s
ANN pmax pmax
comp=E,97nm,1.0s
ANN pmax pmax
comp=Z,654nm,1.0s,mb6.3
OBN Obninsk 84.35 325 *e*P **P 18 23 52.1 -0.5**
comp=Z,1μm,1.2s,mb6.4
OBN Obninsk 84.35 325*d i*P **P 18 23 52.1 -0.5**
OBN pmax pmax
comp=Z,715nm,1.2s,mb6.3
OBN Obninsk 84.35 325 P **P 18 23 52.2 -0.4**
comp=Z,3μm,0.7s,SNR=31
MAW Mawson 84.44 200 P **P 18 23 53.1 +0.3**
comp=Z,9.2nm,0.5s,mb4.8,baz=90,slow=8.3,SNR=9.3
MAW Mawson 84.44 200 *e*P **P 18 23 52.6 -0.1**
MAW Mawson 84.44 200 P **P 18 23 53.1 +0.3**
ILAR Eielson Array 84.69 25 P **P 18 23 55.7 +1.5**
comp=Z,1.5nm,0.6s,baz=250,slow=4.7,SNR=2.6
ILAR pP pP 18 25 30.7 -0.6
comp=Z,2.1nm,0.9s,baz=232,slow=5.4,SNR=3.5
ILAR PKKPbc PKKPbc 18 42 00.5 -3.4
comp=Z,0.5nm,0.5s,baz=76,slow=1.1,SNR=6.6
ILAR Eielson Array 84.69 25 P **P 18 23 55.6 +1.5**
ILAR pP pP 18 25 30.6 -0.6
ILAR PKKPbc PKKPbc 18 42 00.5 -3.4
ILAR Eielson Array 84.69 25 P **P 18 23 55.7 +1.6**
ILAR *PP pP 18 25 30.7 -0.6
LVZ Lovozero 84.95 338 P **P 18 23 54.6 -0.7**
comp=Z,417nm,0.8s,mb6.2,SNR=5.5
ASF Jabal al Asfar 84.99 302 P **P 18 23 57.5 +1.1**
comp=Z,192nm,0.7s,mb5.9,baz=324,slow=3.2,SNR=237
ASF Jabal al Asfar 84.99 302 P **P 18 23 57.5 +1.1**
ASF Jabal al Asfar 84.99 302 P **P 18 23 57.5 +1.2**
FKH Fakeheh 85.28 304 *e*P **P 18 23 58.7 +1.0**
VNDA Vanda 85.34 172 *e*P **P 18 23 56.8 -0.2**
comp=Z,6.7nm,0.9s,mb4.4
VNDA Vanda 85.34 172 *e*P **P 18 23 56.8 -0.2**
APA Apatity 85.44 337||| *i*P **P 18 23 57.4 -0.3**
APA pmax pmax
comp=Z,55nm,0.9s,mb5.3
RCY Rachaya 85.80 303 *e*P **P 18 24 01.0 +0.7**
BHL Bhannes 85.93 304 *e*P **P 18 24 01.2 +0.3**
MMAI Mount Meron Ar 86.20 303 P **P 18 24 03.0 +0.9**
comp=Z,67nm,0.7s,mb5.5,baz=81,slow=7.7,SNR=118
MMAI Mount Meron Ar 86.20 303 P **P 18 24 03.0 +0.9**
SIM Simferopol' 86.39 315*d i*P **P 18 24 02.3 -0.5**
SIM *PP pP 18 25 36.0 -4.4
SIM pmax pmax
comp=Z,70nm,0.9s,mb5.4
JOF Joensuu 86.64 333 *e*P **P 18 24 02.0 -1.6**
JOF pmax pmax
comp=Z,126nm,0.5s,mb5.9
JOF Joensuu 86.64 333 *e*p **P 18 24 02.0 -1.6**
comp=Z,126nm,0.5s,mb5.9
EIL Elat 86.82 299 P **P 18 24 05.7 +0.5**
comp=Z,154nm,0.7s,mb5.8,baz=63,slow=1.3,SNR=128
EIL Elat 86.82 299 P **P 18 24 05.7 +0.5**
BR131 Keskin Array S 87.13 309 *e*P **P 18 24 05.3 -1.1**
comp=Z,76nm,0.8s,mb5.5
BRTR Keskin Array B 87.13 309 P **P 18 24 05.6 -0.8**
comp=Z,98nm,0.8s,mb5.6,baz=123,slow=5.0,SNR=280
BRTR PKKP PKKPbc 18 41 47.8 -9.2
comp=Z,1.0nm,1.0s,baz=15,slow=10,SNR=3.5
BRTR Keskin Array B 87.13 309 P **P 18 24 05.6 -0.8**
BRTR PKKP PKKPbc 18 41 47.8 -9.2
BRTR Keskin Array B 87.13 309 P **P 18 24 05.6 -0.8**
KMBO Kilima Mbogo 87.17 269 *e*P **P 18 24 07.8 +0.6**
comp=Z,121nm,0.9s,mb5.6
KMBO Kilima Mbogo 87.17 269 *e*P **P 18 24 07.8 +0.6**
KMBO pmax pmax
comp=Z,121nm,0.9s
KMBO Kilima Mbogo 87.17 269 P **P 18 24 08.3 +1.1**
SNR=50
PUL Pulkovo 87.43 330||| *e*P **P 18 24 07.2 -0.2**
PUL pmax pmax
comp=Z,216nm,1.1s,mb5.8
KEV Kevo 87.54 340 *e*P **P 18 24 05.7 -2.0**
KEV pmax pmax
comp=Z,13nm,0.6s,mb4.8
KEV Kevo 87.54 340 *e*p **P 18 24 05.7 -2.0**
comp=Z,13nm,0.6s,mb4.8
PPT2 Papeete2 87.92 108 *e*P **P 18 24 14.5 +4.0**
comp=Z,92nm,1.2s,mb5.4
ARCES ARCESS Array B 88.10 340 P **P 18 24 10.1 -0.3**
comp=Z,36nm,0.7s,mb5.2,baz=83,slow=6.7,SNR=56
ARCES ARCESS Array B 88.10 340 P **P 18 24 10.1 -0.3**
ARCES ARCESS Array B 88.10 340 P **P 18 24 10.1 -0.2**
ARE0 ARCESS Array S 88.10 340 *e*P **P 18 24 10.1 -0.2**
ARE0 ARCESS Array S 88.10 340 *e*P **P 18 24 09.9 -0.4**
TIAR Tiarei 88.13 108 *e*P **P 18 24 13.8 +2.2**
comp=Z,105nm,0.9s,mb5.6
SPA0 Spitsbergen Ar 88.43 349 *e*P **P 18 24 11.9 +0.2**
SPITS Spitsbergen Ar 88.43 349 P **P 18 24 12.2 +0.5**
comp=Z,21nm,0.4s,mb5.2,baz=100,slow=18,SNR=114
SPITS Spitsbergen Ar 88.43 349 P **P 18 24 12.2 +0.5**
SPITS Spitsbergen Ar 88.43 349 P **P 18 24 12.2 +0.5**
SPB4 Spitsbergen Ar 88.43 349 *e*P **P 18 24 11.9 +0.1**
TBI Tubuai 88.65 113 *e*P **P 18 24 17.3 +3.4**
comp=Z,254nm,0.9s,mb5.9
KBS Kingsbay 88.99 350 *e*P **P 18 24 14.8 +0.4**
KTK1 Kautokeino 88.99 339 *e*P **P 18 24 12.8 -1.7**
KAF Kangasniemi 89.05 332 *e*P **P 18 24 12.5 -2.4**
KAF pmax pmax
comp=Z,54nm,0.5s,mb5.5
KAF Kangasniemi 89.05 332 *e*p **P 18 24 12.5 -2.4**
comp=Z,54nm,0.5s,mb5.5
AKASG Malin Array Be 89.11 321 P **P 18 24 14.2 -1.3**
comp=Z,41nm,0.7s,mb5.3,baz=71,slow=4.7,SNR=136
AKASG Malin Array Be 89.11 321 P **P 18 24 14.2 -1.3**
AKASG Malin Array Be 89.11 321 P **P 18 24 14.2 -1.3**
AKBB Malin Array Si 89.11 321 *e*P **P 18 24 14.1 -1.4**
AKBB Malin Array Si 89.11 321 *e*P **P 18 24 14.1 -1.4**
KIEV Kiev 89.12 321 *e*P **P 18 24 14.0 -1.5**
comp=Z,79nm,1.2s,mb5.3
KIEV Kiev 89.12 321*d i*P **P 18 24 14.1 -1.4**
PMOR Pomariorio Ree 89.25 105 *e*P **P 18 24 20.7 +3.9**
comp=Z,192nm,1.1s,mb5.7
FINES FINESS Array B 89.27 332 P **P 18 24 15.1 -0.9**
comp=Z,43nm,0.5s,mb5.4,baz=56,slow=4.9,SNR=382
FINES FINESS Array B 89.27 332 P **P 18 24 15.1 -0.9**
FINES FINESS Array B 89.27 332 P **P 18 24 15.1 -0.8**
MICGM Minsk 89.41 325 *e* **P 18 24 16.0 -0.7**
VSU Vasula 89.43 329*d i*P **P 18 24 15.9 -0.9**
VSU pmax pmax

comp=Z,103nm,0.7s,mb5.7
MNK Minsk 89.44 325 eP P 18 24 16.0 -0.9
KIS Kishinev 89.86 317⇓iUNK P 18 24 17.0 -2.0
KIS XM 18 24 18.0
comp=Z,100nm,1.0s
KIS Kishinev 89.86 317⇓iP P 18 24 17.0 -2.0
KIS pmax pmax
comp=Z,110nm,1.0s,mb5.6
NACGM Naroch 89.98 325 eP P 18 24 17.0 -2.4
TLCR 90.10 315 ⇑iP P 18 24 19.8 -0.4
TLCR 90.10 315 ⇑iP P 18 24 19.8 -0.4
IZAR Zarasai 90.14 326 eP P 18 24 20.2 +0.1
IZAR AMB AMB 18 24 20.8
comp=Z,26nm,0.8s,mb5.1
IIGN Ignalina 90.22 326 eP P 18 24 20.6 +0.1
IIGN AMB AMB 18 24 21.2
comp=Z,26nm,0.9s,mb5.1
ISAL Salakas 90.24 326 eP P 18 24 20.6 +0.1
ISAL AMB AMB 18 24 21.2
comp=Z,20nm,0.9s,mb5.0
LEOM Leova 90.32 317 P P 18 24 20.9 -0.3
LEOM Leova 90.32 317 ⇑iP P 18 24 20.8 -0.4
TRO Tromso 90.32 340 eP P 18 24 20.4 -0.3
TIRR Tirgusor 90.48 315 eP P 18 24 21.2 -0.8
comp=Z,42nm,0.8s,mb5.3
TIRR Tirgusor 90.48 315 ⇑P P 18 24 21.7 -0.3
TIRR Tirgusor 90.48 315 ⇑iP P 18 24 21.6 -0.4
CFR Carcaliu 90.58 315 P P 18 24 22.1 -0.3
CFR Carcaliu 90.58 315 ⇑iP P 18 24 22.0 -0.4
IAS Iasi 90.68 317 P P 18 24 22.5 -0.3
GRER 91.36 316 ⇑iP P 18 24 27.5 +1.5
PRD Provadia 91.39 313 eP P 18 24 25.0 -1.2
TESR 91.41 317 ⇑iP P 18 24 26.2 0.0
VRI Vrincioaia 91.45 316 P P 18 24 26.8 +0.4
VRI Vrincioaia 91.45 316 ⇑iP P 18 24 26.7 +0.3
PLOR Plostina 91.51 316 ⇑P P 18 24 26.8 +0.1
PLOR Plostina 91.51 316 ⇑iP P 18 24 26.8 +0.1
ISR Istrita 91.70 315 ⇑P P 18 24 28.1 +0.5
ISR Istrita 91.70 315 ⇑iP P 18 24 28.1 +0.5
SULR 91.98 315 ⇑iP P 18 24 26.8 -2.1
MLR Muntele Rosu 92.06 316 P P 18 24 28.9 -0.3
comp=Z,12nm,0.7s,mb5.0,baz=334,slow=2.4,SNR=139
MLR Muntele Rosu 92.06 316 P P 18 24 28.9 -0.3
MLR Muntele Rosu 92.06 316 ⇑P P 18 24 29.3 +0.1
MLR Muntele Rosu 92.06 316 ⇑iP P 18 24 29.3 +0.1
JMB Yambol 92.10 313 eP P 18 24 29.1 -0.4
BURAR Bucovina Array 92.19 318 ⇑P P 18 24 30.2 +0.5
BURAR Bucovina Array 92.19 318 ⇑iP P 18 24 30.2 +0.5
BUR08 Bucovina Ar. S 92.19 318 eP P 18 24 29.4 -0.3
SUW Suwalki 92.21 325 eP P 18 24 28.9 -0.8
SUW Suwalki 92.21 325 eP P 18 24 28.8 -0.9
comp=Z,308nm,0.9s,mb6.2
SUW Suwalki 92.21 325 eP P 18 24 28.9 -0.8
DOPR Dopca 92.36 316 ⇑iP P 18 24 30.9 +0.3
SZH Strazhica 92.44 314 eP P 18 24 29.6 -1.4
LVV L'vov 92.54 320 ⇑iP P 18 24 30.7 -0.6
LVV e pP 18 26 05.1 -4.8
SMG Samos 92.64 308 eP P 18 24 30.7 -1.4
VOIR 92.69 316 ⇑P P 18 24 31.5 -0.6
VOIR 92.69 316 ⇑iP P 18 24 31.5 -0.6
KARP Karpathos 92.71 306 eP P 18 24 31.6 -0.9
PRK Paraskevi 92.84 310 eP P 18 24 32.0 -1.0
HUMR Humele 92.90 315 ⇑iP P 18 24 32.4 -0.7
DIM Dimitrovgrad 92.94 313 eP P 18 24 32.7 -0.6
MOR8 Moi Rana 93.02 338 ⇑iP P 18 24 31.3 -1.9
SYO Syowa Base 93.06 201 ⇑eP P 18 24 31.8 -1.4
SYO Syowa Base 93.06 201⇓ePcP PcP 18 24 33.9 +0.3
RDO Rodhopi 93.08 312 eP P 18 24 32.0 -2.0
KDZ Kurdzhali 93.09 312 eP P 18 24 32.4 -1.6
BMR Baia Mare 93.32 318 ⇑P P 18 24 35.5 +0.6
BMR Baia Mare 93.32 318 ⇑iP P 18 24 35.5 +0.6
KWP Kalwaria Pacla 93.42 320 eP P 18 24 35.6 +0.2
KWP Kalwaria Pacla 93.42 320 eP P 18 24 34.9 -0.5
comp=Z,85nm,0.9s,mb5.7
KWP Kalwaria Pacla 93.42 320 eP P 18 24 35.6 +0.2
KWP Kalwaria Pacla 93.42 320 ⇑iP P 18 24 35.6 +0.2
LOT Lotru 93.57 316 ⇑iP P 18 24 36.2 0.0
CRAR CRAIOVA 93.77 315 P P 18 24 37.5 +0.4
APE Apeiranthos 93.77 308 eP P 18 24 34.8 -2.5
APE Apeiranthos 93.77 308 ⇑P P 18 24 35.2 -2.1
APE Apeiranthos 93.77 308 ⇑iP P 18 24 35.2 -2.1
PGB Panagyurishte 93.84 313 eP P 18 24 36.0 -1.5
TRPA Tarpa 93.85 319 ⇑iP P 18 24 37.1 -0.3
UZH Uzhgorod 93.90 319 eP P 18 24 37.5 -0.1
UZH e pP 18 26 13.0 -3.2
MPEP Malo Peshtene 94.00 314 eP P 18 24 37.1 -1.1
NPS Neapolis 94.00 306 eP P 18 24 37.5 -0.9
DRGR 94.02 318 ⇑P P 18 24 38.3 +0.1
DRGR 94.02 318 ⇑iP P 18 24 38.3 +0.1
BEL Belsk 94.11 323 eP P 18 24 38.8 +0.3
BEL Belsk 94.11 323 eP P 18 24 38.7 +0.2
GZR Gura Zlata 94.27 316 P P 18 24 39.3 0.0
GZR Gura Zlata 94.27 316⇓iP P 18 24 39.1 -0.2
NVR Nevrokopi 94.29 312 eP P 18 24 37.7 -1.9
MMB Musomiste 94.34 312 eP P 18 24 37.8 -2.0
CRVS Cervenica-Dubn 94.38 320 eP P 18 24 39.9 +0.1
CRVS pmax pmax
comp=Z,77nm,1.0s,mb5.7
CRVS Cervenica-Dubn 94.38 320 eP P 18 24 39.9 +0.1
STHS Stebnicka Huta 94.40 320 eP P 18 24 40.3 +0.4
STHS pmax pmax
comp=Z,28nm,0.7s,mb5.4
STHS Stebnicka Huta 94.40 320 eP P 18 24 40.3 +0.4
VTS Vitosha 94.53 313 ⇑P P 18 24 40.1 -0.5
VTS Vitosha 94.53 313 eP P 18 24 39.3 -1.3
VTS Vitosha 94.53 313 ⇑iP P 18 24 40.1 -0.5
NSS Namsos 94.59 336 eP P 18 24 37.7 -2.7
KKB Krupnik 94.76 313 eP P 18 24 39.9 -1.8
PLG Polygyros 94.79 311 eP P 18 24 39.5 -2.3
PTL Penteli 94.91 309 eP P 18 24 39.8 -2.6
NIE Niedzica 94.99 320 eP P 18 24 43.2 +0.7
NIE Niedzica 94.99 320 eP P 18 24 43.2 +0.7
VLY Voula,Athens 95.00 309 eP P 18 24 36.7 -6.1
BZS Buzias 95.02 317 P P 18 24 42.2 -0.5
BZS Buzias 95.02 317 ⇑iP P 18 24 42.0 -0.7
ATH Athens Observa 95.03 309 eP P 18 24 40.9 -2.1
KECS Kecovo 95.11 320 eP P 18 24 43.0 -0.1
KECS pmax pmax
comp=Z,26nm,1.0s,mb5.2
KECS Kecovo 95.11 320 eP P 18 24 43.0 -0.1
OJC Ojcow 95.11 321 eP P 18 24 42.8 -0.3
OJC Ojcow 95.11 321 eP P 18 24 42.8 -0.3
VAM Vamos 95.12 306 eP P 18 24 43.0 -0.5
NEO Neokhori 95.16 310 eP P 18 24 40.5 -3.1
QSPA South Pole Qui 95.25 180 eP P 18 24 43.6 +0.5
comp=Z,6.1nm,1.0s,mb4.6
VAY Valandovo 95.25 312 eP P 18 24 41.5 -2.4
NAIG Nisos Aigina 95.25 309 eP P 18 24 41.0 -3.0
VIL1 Vilia, Western 95.30 309 eP P 18 24 41.2 -3.0
GVD Gavdhos 95.31 306 eP P 18 24 43.0 -1.4
comp=Z,41nm,0.6s,mb5.6
DAG Danmarks Havn 95.33 352 iP P 18 24 42.9 -0.6
comp=Z,21nm,0.7s,mb5.3
LKR Lokris 95.46 310 eP P 18 24 42.1 -2.8
HFS Hagfors 95.46 332 P P 18 24 43.4 -1.0
comp=Z,15nm,0.6s,mb5.2,baz=120,slow=5.3,SNR=89
HFS Hagfors 95.46 332 P P 18 24 43.4 -1.0
HFS Hagfors 95.46 332 P P 18 24 43.4 -1.0
DID Didima 95.50 308 eP P 18 24 42.3 -2.8
LTK Loutraki 95.61 309 eP P 18 24 42.3 -3.3
PSZ Piszkesteto 95.63 319 eP P 18 24 44.9 -0.6
comp=Z,34nm,1.0s,mb5.4
PSZ Piszkesteto 95.63 319 ⇑P P 18 24 45.3 -0.2
PSZ Piszkesteto 95.63 319⇓eP P 18 24 45.0 -0.5
PSZ Piszkesteto 95.63 319 ⇑iP P 18 24 45.3 -0.2
GKP Gorka Klasztor 95.82 325 eP P 18 24 45.7 -0.5
GKP Gorka Klasztor 95.82 325 eP P 18 24 45.7 -0.5
LIKS Likavka 95.85 320 eP P 18 24 46.8 +0.4
LIKS pmax pmax
comp=Z,35nm,0.7s,mb5.6
LIKS Likavka 95.85 320 eP P 18 24 46.8 +0.4
VLI Veliai 95.88 308 eP P 18 24 42.8 -4.1
KYTH Kithira 95.89 307 eP P 18 24 45.4 -1.5
SELS Selova 95.90 314 ⇑iP P 18 24 46.2 -0.6
SKO Skopje 95.94 313 eP P 18 24 45.8 -1.3
SKO Skopje 95.94 313 eP P 18 24 45.7 -1.3
GRUS Gruza 96.03 315⇓iP P 18 24 47.0 -0.4
KZN Kozani 96.06 311 eP P 18 24 41.3 -6.3
GUR Goura 96.11 309 eP P 18 24 45.5 -2.4
VYHS Vyhne 96.17 320 eP P 18 24 47.5 -0.4
VYHS pmax pmax
comp=Z,13nm,1.4s,mb4.9
VYHS Vyhne 96.17 320 eP P 18 24 47.5 -0.4
VLX Vlachokerasia 96.19 308 eP P 18 24 46.2 -2.1
KRUS Krusevo 96.21 312 eP P 18 24 45.5 -2.7
KRUS Krusevo 96.21 312 eP P 18 24 45.5 -2.8
NC602 NORSAR Array S 96.23 333 eP P 18 24 46.6 -1.3
BIA Bitola 96.23 312 eP P 18 24 45.3 -3.0
BIA Bitola 96.23 312 eP P 18 24 45.3 -3.1
OKC Ostrava-Krasne 96.24 321 eP P 18 24 48.0 -0.2
OKC Ostrava-Krasne 96.24 321 eP P 18 24 48.0 -0.2
NB2 NORSAR Subarra 96.26 333 P P 18 24 46.4 -1.6
comp=Z,18nm,0.7s,mb5.3,baz=68,slow=4.6
NOA NORSAR Array B 96.26 333 P P 18 24 46.7 -1.3
comp=Z,16nm,0.7s,mb5.2,baz=70,slow=4.5,SNR=53
NOA PP PP 18 28 50.5 +2.7
comp=Z,3.2nm,1.0s,baz=60,slow=7.5,SNR=3.3
NOA NORSAR Array B 96.26 333 P P 18 24 46.7 -1.3
NOA PP PP 18 28 50.5 +2.7
NOA NORSAR Array B 96.26 333 P P 18 24 46.7 -1.3
NOA 18 28 50.5
BUD Budapest 96.31 319⇓eP P 18 24 48.0 -0.5
BUD Budapest 96.31 319⇓eP P 18 24 48.0 -0.5
EVR Evrytania 96.32 310 eP P 18 24 47.1 -1.7
EFP Efpalio 96.34 309 eP P 18 24 47.2 -1.7
KOLL Kolacno 96.42 320 eP P 18 24 48.5 -0.5
KOLL Kolacno 96.42 320 eP P 18 24 48.5 -0.5
KOLL Kolacno 96.42 320 eP P 18 24 48.5 -0.5
NAO01 NORSAR Array S 96.49 333 eP P 18 24 48.0 -1.0
comp=Z,14nm,0.8s,mb5.1
BSD Bornholm Skovb 96.55 327 iP P 18 24 49.2 -0.2
comp=Z,31nm,0.8s,mb5.5
ITM Ithomi 96.58 308 eP P 18 24 47.5 -2.5
MORC Moravsky Berou 96.64 321 eP P 18 24 50.1 +0.2
comp=Z,38nm,1.2s,mb5.4
MORC Moravsky Berou 96.64 321 ⇑P P 18 24 50.3 +0.3
MORC Moravsky Berou 96.64 321 ⇑iP P 18 24 50.3 +0.3
MORC Moravsky Berou 96.64 321 eP P 18 24 50.2 +0.2
RES Resolute Bay 96.65 10 P P 18 24 50.4 +0.9
comp=Z,3.0nm,0.7s,mb4.6,baz=290,slow=5.5
RES Resolute Bay 96.65 10 P P 18 24 50.4 +0.9
RES Resolute Bay 96.65 10 P P 18 24 50.4 +0.9
RLS Riolos of Patr 96.76 309 eP P 18 24 49.8 -1.0
PKSM Moragy 96.89 318 ⇑P P 18 24 50.9 -0.3
PKSM Moragy 96.89 318 ⇑iP P 18 24 50.9 -0.3
KRLC Kraliky 97.02 322 eP P 18 24 51.7 0.0
KSP Ksiaz 97.09 323 eP P 18 24 52.1 +0.1
KSP Ksiaz 97.09 323 eP P 18 24 52.0 0.0
KSP Ksiaz 97.09 323⇓eP P 18 24 52.0 0.0
KSP Ksiaz 97.09 323⇓eP P 18 24 52.0 0.0
DPC Dobruska-Polom 97.22 322 eP P 18 24 52.7 +0.1
DPC Dobruska-Polom 97.22 322 eP P 18 24 52.7 +0.1
VRAC Vranov 97.36 321 P P 18 24 53.5 +0.3
comp=Z,23nm,0.8s,mb5.3,baz=96,slow=3.6,SNR=37
VRAC Vranov 97.36 321 P P 18 24 53.5 +0.3
VRAC Vranov 97.36 321 ⇑P P 18 24 53.9 +0.7
VRAC Vranov 97.36 321 ⇑iP P 18 24 53.9 +0.7
UPC Upice 97.36 322 eP P 18 24 53.1 -0.1
UPC Upice 97.36 322 eP P 18 24 53.1 -0.1
UPC ex x 18 24 55.9
VLS Valsamata 97.41 309 eP P 18 24 51.8 -1.9
SOP Sopron 97.86 319⇓eP P 18 24 54.9 -0.6
TREC Trest 98.06 321 eP P 18 24 56.2 -0.1
TREC Trest 98.06 321 eP P 18 24 56.2 -0.1
PVCC Panska Ves 98.23 323 eP Pdif 18 24 57.5 +0.5
PVCC Panska Ves 98.23 323 eP Pdif 18 24 57.5 +0.5
CONA Conrad Observa 98.23 320 iPdiff Pdif 18 24 57.2 +0.2
comp=Z,9.4nm,1.1s,SNR=9.1
CONA Conrad Observa 98.23 320 iP Pdif 18 24 57.2 +0.2
comp=Z,9.4nm,1.1s
KOGS Kog 98.42 318 ePdiff Pdif 18 24 57.5 -0.4
PRU Pruhonice 98.42 322 eP Pdif 18 24 57.8 -0.1
PRU Pruhonice 98.42 322 eP Pdif 18 24 57.8 -0.1
PRA Prague 98.46 322 P Pdif 18 24 58.0 -0.1
BRG Berggiesshubel 98.50 323 iP Pdif 18 24 58.1 -0.1
comp=Z,46nm,0.9s
BRG Berggiesshubel 98.50 323 iP Pdif 18 24 58.1 -0.1
BRG pmax pmax
comp=Z,46nm,0.9s,mb5.7
ARSA Arzberg 98.66 319 iPdiff Pdif 18 24 58.9 -0.1
comp=Z,8.2nm,0.8s,SNR=11
ARSA Arzberg 98.66 319 iP Pdif 18 24 58.9 -0.1
comp=Z,8.2nm,0.8s
CLL Collm 98.91 324⇓iPdif Pdif 18 24 59.6 -0.4
comp=Z,24nm,1.0s
CLL ePdif 18 26 40.0
CLL ePP PP 18 29 11.0 +2.9
YKA Yellowknife Ar 99.02 24 P Pdif 18 25 00.6 +0.1
comp=Z,0.5nm,0.7s,baz=303,slow=4.2,SNR=14
YKA pP pP 18 26 39.8 +0.5
comp=Z,2.1nm,0.8s,baz=301,slow=4.7,SNR=8.0
YKA PKiKP PKiKP 18 29 29.6 +1.4
comp=Z,0.3nm,0.6s,baz=309,slow=2.0,SNR=5.8
YKA Yellowknife Ar 99.02 24 P Pdif 18 25 00.7 +0.1
YKA pP pP 18 26 39.9 +0.5
YKA PKiKP PKiKP 18 29 29.6 +1.4
YKA Yellowknife Ar 99.02 24 P Pdif 18 25 00.7 +0.2
YKA *PP pP 18 26 39.9 +0.6
MUD Monsted U'grnd 99.07 329 iP Pdif 18 24 59.5 -1.3
comp=Z,13nm,0.9s
MOA Molln 99.28 320 iPdiff Pdif 18 25 02.0 +0.3
comp=Z,34nm,0.8s,SNR=31
MOA Molln 99.28 320 iP Pdif 18 25 02.0 +0.3
comp=Z,34nm,0.8s
KHC Kasperske Hory 99.30 321 eP Pdif 18 25 01.8 0.0
comp=Z,11nm,0.8s
KHC Kasperske Hory 99.30 321 eP Pdif 18 25 01.9 +0.1
KHC Kasperske Hory 99.30 321 eP Pdif 18 25 01.9 +0.1
KHC ex x 18 25 06.8
GERES GERESS Array B 99.31 321 P Pdif 18 25 02.1 +0.3
comp=Z,14nm,0.9s,baz=73,slow=4.6,SNR=43
GERES PP PP 18 29 16.4 +5.1
comp=Z,1.8nm,0.9s,baz=106,slow=8.5,SNR=3.8
GERES PKiKP PKiKP 18 29 29.5 +0.4
comp=Z,0.5nm,0.4s,baz=90,slow=3.2,SNR=4.0
GERES GERESS Array B 99.31 321 P Pdif 18 25 02.1 +0.3
GERES PP PP 18 29 16.4 +5.1
GERES PKiKP PKiKP 18 29 29.5 +0.4
GERES GERESS Array B 99.31 321 P Pdif 18 25 02.2 +0.4
GERES 18 29 16.4
LJU Ljubljana 99.68 318 ePdiff Pdif 18 25 03.5 +0.1
LBTB Lobatse 100.12 246 P Pdif 18 25 06.0 +0.6
baz=119,slow=4.2,SNR=18
LBTB PKiKP PKiKP 18 29 32.5 +1.3
comp=Z,1.3nm,0.7s,baz=244,slow=1.4,SNR=4.9
LBTB Lobatse 100.12 246 ePdif Pdif 18 25 04.2 -1.2
comp=Z,8.9nm,0.8s
LBTB PKiKP PKiKP 18 29 32.5 +1.3
LBTB Lobatse 100.12 246 P Pdif 18 25 06.1 +0.7
LBTB pmax pmax
comp=Z,1.0nm,0.7s
CADS Cadrg 100.14 319 ePdiff Pdif 18 25 04.7 -0.8
ROBS Robic 100.29 319 ePdiff Pdif 18 25 05.5 -0.7
BOSA Boshof 100.47 242 P Pdif 18 25 07.4 +0.4
comp=Z,2.2nm,0.5s,baz=119,slow=11,SNR=13
BOSA Boshof 100.47 242 P Pdif 18 25 07.4 +0.4
BOSA Boshof 100.47 242 P Pdif 18 25 07.4 +0.4
GRF Grafenberg Arr 100.55 323 eP Pdif 18 25 07.3 0.0
comp=Z,23nm,1.0s
ABTA Abfaltersbach 100.77 319 ⇑iPdiff Pdif 18 25 07.5 -0.8
comp=Z,17nm,1.0s
ABTA Abfaltersbach 100.77 319 ⇑iP Pdif 18 25 07.5 -0.8
comp=Z,17nm,1.0s
WTTA Wattenberg 101.16 320⇓iPdiff Pdif 18 25 09.9 -0.1
comp=Z,35nm,0.8s
WTTA Wattenberg 101.16 320⇓iP Pdif 18 25 09.9 -0.1
comp=Z,35nm,0.8s
WTTA Wattenberg 101.16 320⇓iP Pdif 18 25 09.9 -0.1
WTTA pmax pmax
comp=Z,35nm,0.8s
WATA Walderalm 101.17 320 ⇑iPdiff Pdif 18 25 09.7 -0.4
comp=Z,16nm,0.9s
WATA Walderalm 101.17 320 ⇑iP Pdif 18 25 09.7 -0.4
comp=Z,16nm,0.9s
WATA Walderalm 101.17 320 ⇑iP Pdif 18 25 09.7 -0.4
WATA pmax pmax
comp=Z,16nm,0.9s
MOTA Moosalm 101.47 320 ⇑iPdiff Pdif 18 25 11.1 -0.3
comp=Z,23nm,0.8s,SNR=22
MOTA Moosalm 101.47 320 ⇑iP Pdif 18 25 11.1 -0.3
comp=Z,23nm,0.8s
MOTA Moosalm 101.47 320 ⇑iP Pdif 18 25 11.1 -0.3
MOTA pmax pmax
comp=Z,23nm,0.8s
FETA Feichten 101.82 320 iPdiff Pdif 18 25 13.1 +0.2
comp=Z,23nm,1.0s,SNR=13
FETA Feichten 101.82 320 iP Pdif 18 25 13.1 +0.2
comp=Z,23nm,1.0s
DAVOX Davos/Dischmat 102.45 320 P Pdif 18 25 15.8 0.0
comp=Z,13nm,0.8s,baz=123,slow=3.9,SNR=27
DAVOX PP PP 18 29 37.6 +3.0
comp=Z,1.7nm,0.6s,baz=101,slow=5.2,SNR=3.2
DAVOX Davos/Dischmat 102.45 320 P Pdif 18 25 15.8 0.0
DAVOX PP PP 18 29 37.6 +2.9
DAVOX Davos/Dischmat 102.45 320 P Pdif 18 25 15.8 0.0
DAVOX 18 29 37.6
CDF Champ du Feu 103.43 322 eP Pdif 18 25 19.7 -0.5
comp=Z,23nm,1.0s
CDF Champ du Feu 103.43 322 eP Pdif 18 25 19.7 -0.5
comp=Z,23nm,1.0s
CDF Champ du Feu 103.43 322 eP Pdif 18 25 19.7 -0.5
CDF pmax pmax
comp=Z,23nm,1.0s
HINF Hinteralfeld 103.94 322 eP Pdif 18 25 21.5 -0.9
HINF Hinteralfeld 103.94 322 eP Pdif 18 25 21.5 -0.9
HINF Hinteralfeld 103.94 322 eP Pdif 18 25 21.5 -0.9
PAGF Fort de Pagny 104.31 323 eP Pdif 18 25 24.6 +0.5
comp=Z,4.2nm,0.9s
PAGF Fort de Pagny 104.31 323 eP Pdif 18 25 24.6 +0.5
comp=Z,4.2nm,0.9s
BAIF Baives 104.53 325 eP Pdif 18 25 25.5 +0.5
BAIF Baives 104.53 325 eP Pdif 18 25 25.5 +0.5
BAIF Baives 104.53 325 eP Pdif 18 25 25.5 +0.5
PGF Pioggiola 104.60 316 eP Pdif 18 25 24.8 -0.5
comp=Z,57nm,1.1s
PGF Pioggiola 104.60 316 eP Pdif 18 25 24.8 -0.5
comp=Z,57nm,1.1s
PGF Pioggiola 104.60 316 eP Pdif 18 25 24.8 -0.5
PGF pmax pmax
comp=Z,57nm,1.1s
MEZF Maizieres J'vi 104.74 323 eP Pdif 18 25 25.9 0.0
comp=Z,16nm,1.0s
MEZF Maizieres J'vi 104.74 323 eP Pdif 18 25 25.9 0.0
comp=Z,16nm,1.0s
SFTF Sexfontaines 104.88 323 eP Pdif 18 25 26.1 -0.5
comp=Z,21nm,1.0s
SFTF Sexfontaines 104.88 323 eP Pdif 18 25 26.1 -0.5
comp=Z,21nm,1.0s
LPG La Plagne 104.95 320 eP Pdif 18 25 26.9 0.0
comp=Z,19nm,1.0s
LPG La Plagne 104.95 320 eP Pdif 18 25 26.9 0.0
comp=Z,19nm,1.0s
LPG La Plagne 104.95 320 eP Pdif 18 25 26.9 0.0
LPG pmax pmax
comp=Z,19nm,1.0s
LPL La Plagne 104.96 320 eP Pdif 18 25 26.9 0.0
comp=Z,20nm,1.1s
LPL La Plagne 104.96 320 eP Pdif 18 25 26.9 0.0
comp=Z,20nm,1.1s
LPL La Plagne 104.96 320 eP Pdif 18 25 26.9 0.0
LPL pmax pmax
comp=Z,20nm,1.1s
ORIF Oris-en-Rattie 105.75 320 eP Pdif 18 25 30.1 -0.4
comp=Z,13nm,0.8s
ORIF Oris-en-Rattie 105.75 320 eP Pdif 18 25 30.1 -0.4
comp=Z,13nm,0.8s
ORIF Oris-en-Rattie 105.75 320 eP Pdif 18 25 30.1 -0.4
ORIF pmax pmax
comp=Z,13nm,0.8s
LOR Lormes 106.00 322 eP Pdif 18 25 31.1 -0.5
comp=Z,17nm,1.2s
LOR Lormes 106.00 322 eP Pdif 18 25 31.1 -0.5
comp=Z,17nm,1.2s
LOR Lormes 106.00 322 eP Pdif 18 25 31.1 -0.5
LOR pmax pmax
comp=Z,17nm,1.2s
SMF Signal de Mont 106.30 322 eP Pdif 18 25 33.0 +0.1
SMF Signal de Mont 106.30 322 eP Pdif 18 25 33.0 +0.1
SMF Signal de Mont 106.30 322 eP Pdif 18 25 33.0 +0.1
SSF Saint Saulge 106.31 322 eP Pdif 18 25 32.6 -0.4
comp=Z,5.7nm,0.9s
SSF Saint Saulge 106.31 322 eP Pdif 18 25 32.6 -0.4
comp=Z,5.7nm,0.9s
SSF Saint Saulge 106.31 322 eP Pdif 18 25 32.6 -0.4
SSF pmax pmax
comp=Z,6.0nm,0.9s
AVF Avril sur Loir 106.53 322 eP Pdif 18 25 33.3 -0.6
comp=Z,13nm,1.1s
AVF Avril sur Loir 106.53 322 eP Pdif 18 25 33.3 -0.6
comp=Z,13nm,1.1s
AVF Avril sur Loir 106.53 322 eP Pdif 18 25 33.3 -0.6
AVF pmax pmax
comp=Z,13nm,1.1s
VIVF Saint-Julien-l 106.56 320 eP Pdif 18 25 33.5 -0.5
comp=Z,18nm,1.1s
VIVF Saint-Julien-l 106.56 320 eP Pdif 18 25 33.5 -0.5
comp=Z,18nm,1.1s
VIVF Saint-Julien-l 106.56 320 eP Pdif 18 25 33.5 -0.5
VIVF pmax pmax
comp=Z,18nm,1.1s
BGF Bois d'Agland 106.95 322 eP Pdif 18 25 35.3 -0.5
comp=Z,9.9nm,0.9s
BGF Bois d'Agland 106.95 322 eP Pdif 18 25 35.3 -0.5
comp=Z,9.9nm,0.9s
BGF Bois d'Agland 106.95 322 eP Pdif 18 25 35.3 -0.5
BGF pmax pmax
comp=Z,10.0nm,0.9s
F13A Darby 107.25 39 ⇑P PKKPdf 18 41 15.6 +1.7
baz=107
C15A Salmond Ranch, 107.36 36 ⇓P PKKPdf 18 41 15.8 +2.1
baz=107
NVAR Mina Array Bea 107.61 47 Pdiff Pdif 18 25 40.5 +1.8
comp=Z,1.0nm,0.7s,baz=275,slow=5.3,SNR=6.2
NVAR PP PP 18 30 12.9 +0.3
comp=Z,2.1nm,0.9s,baz=269,slow=8.6,SNR=6.9
NVAR PKKPbc PKKPbc 18 41 01.1 -0.2
comp=Z,2.0nm,0.6s,baz=132,slow=3.8,SNR=14
NVAR PKKP PKKPab 18 41 15.4 -1.6
comp=Z,2.1nm,0.6s,baz=132,slow=4.5,SNR=8.9
NVAR Mina Array Bea 107.61 47 Pdif Pdif 18 25 40.5 +1.8
NVAR PP PP 18 30 12.9 +0.3
NVAR PKKPbc PKKPbc 18 41 01.1 -0.2
NVAR PKKP PKKPab 18 41 15.4 -1.6
D15A Lincoln 107.76 37 ⇑P PKKPdf 18 41 14.5 +1.5
baz=108
F14A Wisdom 107.83 38 ⇑P PKKPdf 18 41 15.3 +2.5
baz=108
C16A Fuhringer Ranc 107.85 36 ⇓P PKKPdf 18 41 15.3 +2.5
baz=108
A17A Triple J Farms 107.87 35 ⇑P PKKPdf 18 41 15.0 +2.3
baz=108
HLID Hailey 108.19 41 ⇑P PKKPdf 18 41 13.2 +1.1
baz=108
I13A Wildhorse Cree 108.23 40 ⇓P PKKPdf 18 41 12.9 +0.9
baz=108
J13A Cove Ranch, Pi 108.42 41 ⇑P PKKPdf 18 41 12.6 +0.9
baz=108
E16A East Helena 108.52 37 ⇓P PKKPdf 18 41 11.3 -0.2
baz=108
B18A Beardsley Farm 108.68 35 ⇓P PKKPdf 18 41 11.3 0.0
baz=109
D17A Six Diamond Ra 108.80 36 ⇑P PKKPdf 18 41 10.1 -0.9
baz=109
J14A Carey 108.89 41 ⇓P PKKPdf 18 41 09.6 -1.2
baz=109
B19A Brinkman Farms 109.12 34 ⇓P PKKPdf 18 41 08.9 -1.5
baz=109
C19A Slack Wire Ran 109.44 35 ⇑P PKKPdf 18 41 08.5 -1.3
baz=109
A20A Cobblestone Ra 109.45 34 ⇓P PKKPdf 18 41 07.1 -2.7
baz=109
I16A Newdale 109.93 40 ⇓P PKKPdf 18 41 04.9 -4.0
baz=110
F18A Big Timber 110.01 37 ⇑P PKKPdf 18 41 04.3 -4.4
baz=110
E19A Rath Farm, Rou 110.27 36 ⇑P PKKPdf 18 41 04.4 -3.8
baz=110
D20A Manuel Ranch, 110.31 35 ⇑P PKKPdf 18 41 03.8 -4.4
baz=110
G18A Lazy EL Ranch, 110.40 37 ⇑P PKKPdf 18 41 04.0 -4.0
baz=110
HEC Hector,Ludlow 110.43 50 ⇓P PKKPdf 18 41 04.1 -3.7
baz=110
I17A Pilgrim Ck. 110.48 39 ⇑P PKKPdf 18 41 02.7 -5.1
baz=110
A22A Carney Farms, 110.48 33 ⇑P PKKPdf 18 41 03.4 -4.4
baz=110
E20A Meyer Farm, Mu 110.63 36 ⇓P PKKPdf 18 41 01.3 -6.3
baz=111
H18A Shoshone NF, C 110.67 38 ⇑P PKKPdf 18 41 00.6 -6.8
baz=111
J17A Brown Place, J 110.67 40 ⇑P PKKPdf 18 41 02.4 -5.1

	baz=111								
RLMT	Red Lodge	110.68	38	⇑P		PKKPdf	18 41 01.4	-6.1	
	baz=111								
DUG	Dugway	110.77	43	⇓P		PKKPdf	18 41 01.9	-5.3	
	baz=111								
H19A	Powell	111.09	38	⇑P		PKKPdf	18 40 59.3	-7.4	
	baz=111								
P15A	Leamington	111.41	44	⇓P		PKKPdf	18 40 58.6	-7.5	
	baz=111								
K18A	Toltan Ranch,	111.46	40	⇓P		PKKPdf	18 40 59.0	-7.0	
	baz=111								
PDAR	Pinedale Array	111.70	40	PKKPbc		PKKPbc	18 40 45.8	-2.6	
	comp=Z,1.0nm,0.5s,baz=122,slow=4.6,SNR=11								
PDAR	Pinedale Array	111.70	40	PKKPbc		PKKPbc	18 40 45.8	-2.6	
J19A	Crowheart	111.77	39	⇑P		PKKPab	18 40 55.7	-2.8	
	baz=112								
H20A	Greybull	111.79	38	⇓P		PKKPab	18 40 56.4	-2.0	
	baz=112								
L18A	Fontenelle, Gr	111.81	41	⇓P		PKKPab	18 40 56.8	-1.5	
	baz=112								
G21A	Lodge Grass	111.86	37	⇑P		PKKPab	18 40 56.2	-1.9	
	baz=112								
I20A	Worland	111.99	38	⇑P		PKKPab	18 40 55.4	-2.1	
	baz=112								
R15A	Junction	112.02	45	⇑P		PKKPab	18 40 56.6	-0.8	
	baz=112								
M18A	Lyman	112.03	41	⇓P		PKKPab	18 40 55.5	-1.8	
	baz=112								
K19A	Absolon Red Bu	112.12	39	⇑P		PKKPab	18 40 55.0	-2.0	
	baz=112								
L19A	Farson	112.16	40	⇓P		PKKPab	18 40 55.1	-1.7	
	baz=112								
Y12C	Blythe	112.22	50	⇓P		PKKPab	18 40 55.6	-0.8	
	baz=112								
GLA	Glamis	112.26	51	⇓P		PKKPab	18 40 54.9	-1.3	
	baz=112								
H21A	Big Horn, Sher	112.29	37	⇑P		PKKPab	18 40 54.6	-1.6	
	baz=112								
J20A	Shoshoni	112.33	39	⇑P		PKKPab	18 40 54.3	-1.7	
	baz=112								
G22A	Birney	112.41	36	⇑P		PKKPab	18 40 54.1	-1.6	
	baz=112								
P17A	Butcher Ranch,	112.52	43	⇑P		PKKPab	18 40 53.3	-1.9	
	baz=112								
I21A	Big Trails, Te	112.58	38	⇑P		PKKPab	18 40 52.0	-3.0	
	baz=112								
S16A	Weppner Ranch,	112.72	45	⇑P		PKKPab	18 40 52.6	-1.6	
	baz=113								
I22A	9 Mile Ranch,	113.02	37	⇓P		PKKPab	18 40 51.4	-1.5	
	baz=113								
R17A	Hanksville Air	113.03	44	⇓P		PKKPab	18 40 51.1	-1.8	
	baz=113								
Q18A	Rafter H Ranch	113.11	43	⇑P		PKKPab	18 40 51.3	-1.3	
	baz=113								
S17A	Black Ridge (B	113.32	45	⇑P		PKKPab	18 40 50.3	-1.3	
	baz=113								
N20A	Spence Gulch,	113.51	41	⇑P		PKKPab	18 40 49.2	-1.5	
	baz=114								
R18A	Canyonlands Na	113.61	44	⇓P		PKKPab	18 40 49.8	-0.5	
	baz=114								
U16A	Tuba City	113.76	47	⇓P		PKKPab	18 40 49.4	-0.2	
	baz=114								
Q19A	Hogan Spring (	113.77	43	⇑P		PKKPab	18 40 49.4	-0.2	
	baz=114								
S18A	Hurst Farm, Bl	113.86	45	⇓P		PKKPab	18 40 48.5	-0.7	
	baz=114								
U17A	Shonto	113.89	46	⇓P		PKKPab	18 40 49.3	+0.2	
	baz=114								
TAM	Tamanrasset	114.00	298	*e*PKiKP		PKiKP	18 29 57.0	-0.2	
TAM	Tamanrasset	114.00	298	*e*PKIKP		PKiKP	18 29 57.0	-0.2	
T18A	Mexican Hat	114.21	45	⇓P		PKKPab	18 40 45.7	-2.0	
	baz=114								
V17A	Tonalea, Kykot	114.23	47	⇑P		PKKPab	18 40 47.1	-0.4	
	baz=114								
S19A	Harvey Farm, M	114.44	44	⇓P		PKKPab	18 40 45.0	-1.6	
	baz=114								
ESDC	Sonseca Array	114.64	318	PKP		PKiKP	18 29 58.8	+0.8	
	comp=Z,0.4nm,0.5s,baz=31,slow=1.9,SNR=8.3								
ESDC				PKKPbc		PKKPbc	18 40 38.9	+0.3	
	comp=Z,0.3nm,0.6s,baz=270,slow=2.5,SNR=4.2								
ESDC	Sonseca Array	114.64	318	PKP		PKiKP	18 29 58.8	+0.8	
ESDC				PKKPbc		PKKPbc	18 40 38.9	+0.3	
ULM	Lac du Bonnet	114.67	27	PKP		PKiKP	18 29 58.4	+0.8	
	comp=Z,1.7nm,0.8s,baz=348,slow=3.9,SNR=3.2								
ULM				PKKPbc		PKKPbc	18 40 42.4	+3.5	
	comp=Z,1.2nm,0.5s,baz=182,slow=3.3,SNR=2.9								
ULM	Lac du Bonnet	114.67	27	PKP		PKiKP	18 29 58.4	+0.8	
ULM				PKKPbc		PKKPbc	18 40 42.4	+3.5	
ULM	Lac du Bonnet	114.67	27	PKIKP		PKiKP	18 29 58.4	+0.8	
ULM							18 40 42.4		
S20A	Disappointment	114.94	44	⇓P		PKKPab	18 40 44.6	+0.2	
	baz=115								
T19A	Beclabito	114.95	45	⇓P		PKKPab	18 40 43.6	-0.8	
	baz=115								
O22A	Kremmling	114.98	41	⇓P		PKKPbc	18 40 36.6	-0.8	
	baz=115								
Y17A	Roosevelt	115.04	49	⇓P		PKKPab	18 40 44.5	+0.5	
	baz=115								
P22A	Eagle	115.13	42	⇓P		PKKPab	18 40 42.1	-1.4	
	baz=115								
MVCO	Mesa Verde	115.14	45	⇓P		PKKPab	18 40 42.9	-0.6	
	baz=115,SNR=11								
K25A	Mack Ranch, Ha	115.32	37	⇓P		PKKPab	18 40 43.2	+0.4	
	baz=115								
M24A	Cheyenne	115.38	39	⇓P		PKKPab	18 40 42.3	-0.2	
	baz=115								
Q22A	Crested Butte,	115.41	42	⇑P		PKKPab	18 40 42.0	-0.4	
	baz=115								
S21A	Coal Bank Pass	115.41	44	⇑P		PKKPab	18 40 42.0	-0.3	
	baz=115								
V19A	Window Rock	115.46	46	⇓P		PKKPab	18 40 41.0	-1.0	
	baz=115								
W19A	Sanders	115.49	47	⇓P		PKKPab	18 40 40.8	-1.2	
	baz=116								
U20A	Newcomb	115.53	45	⇑P		PKKPab	18 40 40.5	-1.3	
	baz=116								
Y18A	Canyon Day Jun	115.61	49	⇓P		PKKPab	18 40 40.3	-1.1	
	baz=116								
MVO	Moncorvo	115.83	321	*e*PKPdf		PKPdf	18 30 00.6	+0.4	
R22A	Saguache, Gunn	115.84	43	⇓P		PKKPab	18 40 40.0	-0.5	
	baz=116								
T21A	Navajo Lake	115.92	44	⇑P		PKKPab	18 40 38.1	-2.0	
	baz=116								
S22A	4UR Ranch, Cre	116.03	43	⇑P		PKKPab	18 40 39.7	+0.1	
	baz=116								
U21A	Nageezi	116.11	45	⇓P		PKKPab	18 40 38.0	-1.2	
	baz=116,SNR=7.4								
Y19A	Nutrioso	116.11	48	⇓P		PKKPab	18 40 37.4	-1.8	
	baz=116								
PGAV	Gavieira, Arco	116.14	322	*e*PKPdf		PKPdf	18 30 01.2	+0.4	
118A	Homack Ranch,	116.16	50	⇑P		PKKPab	18 40 36.4	-2.5	
	baz=116								
POLO	Lamas de Olo	116.19	322	*e*PKPdf		PKPdf	18 30 01.2	+0.3	
POLO				*e*SKPdf		SKPdf	18 32 55.1	+0.2	
PVRL	Vila Real	116.20	321	*e*PKPdf		PKPdf	18 30 01.6	+0.7	
PVRL				*e*SKPdf		SKPdf	18 32 55.5	+0.6	
T22A	Edith	116.35	44	⇑P		PKKPab	18 40 37.1	-1.1	
	baz=116								
218A	Dragoon	116.39	50	⇓P		PKKPab	18 40 36.9	-1.1	
	baz=116								
Z19A	T-Link Ranch,	116.40	49	⇑P		PKKPab	18 40 35.1	-2.8	
	baz=116								
V21A	Milan	116.42	46	⇓P		PKKPab	18 40 37.0	-0.8	
	baz=116,SNR=7.4								
MTE	Manteigas	116.58	320	*e*PKPdf		PKPdf	18 30 02.1	+0.5	
MTE	Manteigas	116.58	320	*e*PP		PP	18 31 16.3	+0.6	
PVIS	Viseu	116.62	321	*e*PKPdf		PKPdf	18 30 02.1	+0.4	
318A	Bisbee	116.66	51	⇑P		PKKPab	18 40 34.9	-1.8	
	baz=117								
U22A	Llaves	116.70	45	⇓P		PKKPab	18 40 35.3	-1.3	
	baz=117								
PCBR	Castelo Branco	116.85	320	*e*PKPdf		PKPdf	18 30 02.4	+0.2	
PCBR				*e*SKPdf		SKPdf	18 32 56.4	+0.2	
P25A	Willow Gulch B	116.87	40	⇓P		PKKPab	18 40 33.9	-2.0	
	baz=117								
SDCO	Great Sand Dun	116.94	43	⇑P		PKKPab	18 40 33.7	-1.9	
	baz=117								
T23A	Casias Ranch,	116.94	44	⇓P		PKKPab	18 40 34.0	-1.6	
	baz=117								
R24A	Sanders Place,	116.94	42	⇓P		PKKPab	18 40 34.4	-1.2	
	baz=117								
X21A	Alamocita Cree	116.97	47	⇑P		PKKPab	18 40 35.1	-0.3	
	baz=117,Snr=5.9								
Z20A	Nine Sixteen R	116.99	49	⇑P		PKKPab	18 40 34.9	-0.5	
	baz=117								
PMRV	Marv??o	117.02	320	*e*PKPdf		PKPdf	18 30 02.9	+0.4	
PMRV				*e*SKPdf		SKPdf	18 32 56.3	-0.3	
S24A	Houchin Ranch,	117.19	43	⇓P		PKKPab	18 40 34.5	0.0	
	baz=117								
U23A	El Rito	117.19	44	⇑P		PKKPab	18 40 33.8	-0.7	
	baz=117								
120A	U Bar Ranch, L	117.21	49	⇓P		PKKPab	18 40 31.1	-3.2	
	baz=117								
319A	Douglas	117.23	51	⇑P		PKKPab	18 40 32.5	-1.7	
	baz=117								
PESTR	Estremoz	117.46	319	*e*PKPdf		PKPdf	18 30 03.9	+0.5	
PBAR	Barrancos	117.47	318	*e*PKPdf		PKPdf	18 30 03.7	+0.3	
V23A	Ortiz Mt. (NFS	117.48	45	⇑P		PKKPab	18 40 33.3	+0.2	
	baz=117								
PTOM	Tomar	117.57	320	*e*PKPdf		PKPdf	18 30 04.6	+1.0	
220A	Playas Peak, P	117.58	50	⇑P		PKKPab	18 40 32.1	-0.6	
	baz=118								
Z21A	St. Cloud Mine	117.58	48	⇓P		PKKPab	18 40 32.1	-0.6	
	baz=118								
S25A	Robets Cordova	117.70	42	⇑P		PKKPab	18 40 32.0	-0.3	
	baz=118								
PMTG	Montargil	117.76	320	*e*PKPdf		PKPdf	18 30 04.5	+0.5	
W23A	Werner Place,	117.80	46	⇑P		PKKPab	18 40 30.8	-1.0	
	baz=118								
Y22A	Socorro	117.81	47	⇓P		PKKPab	18 40 31.5	-0.2	
	baz=118								
320A	Kipp Ranch, An	117.83	50	⇓P		PKKPab	18 40 31.6	0.0	
	baz=118								
121A	Cookes Peak, D	117.86	49	⇓P		PKKPab	18 40 30.9	-0.6	
	baz=118								
EVO	Evora	117.92	319	*e*PKIKP		PKPdf	18 30 04.6	+0.3	
	comp=Z,6.2nm,0.6s								
EVO	Evora	117.92	319	*e*PKPdf		PKPdf	18 30 04.8	+0.5	
T25A	Trinidad	117.99	43	⇑P		PKKPab	18 40 30.8	-0.1	
	baz=118								
EVOP	Sao Brissos	117.99	319	*e*PKPdf		PKPdf	18 30 04.6	+0.2	
EVOP	Sao Brissos	117.99	319	*e*PKIKP		PKPdf	18 30 04.6	+0.2	
PBEJ	Beja	118.10	318	*e*PKPdf		PKPdf	18 30 05.2	+0.6	
Z22A	Elephant Butte	118.13	48	⇓P		PKKPab	18 40 29.7	-0.6	
	baz=118								
W24A	Lazy 6 Ranch,	118.30	45	⇓P		PKKPab	18 40 29.3	-0.3	
	baz=118								
PVAQ	Vaqueiros	118.34	318	*e*PKPdf		PKPdf	18 30 05.5	+0.4	
PCVE	Castro Verde	118.43	318	*e*PKPdf		PKPdf	18 30 05.9	+0.6	
Y23A	Lovelace Mesa,	118.47	47	⇓P		PKKPab	18 40 28.6	-0.2	
	baz=118								
PNCL	Nicolau / Gran	118.49	319	*e*PKPdf		PKPdf	18 30 05.6	+0.2	
W25A	X Bar L Ranch,	118.96	45	⇓P		PKKPab	18 40 26.0	-0.7	
	baz=119								
MORF	Marmelete	119.02	318	*e*PKPdf		PKPdf	18 30 07.2	+0.8	
PFVI	Vila Bisbo	119.23	318	*e*PKPdf		PKPdf	18 30 07.8	+1.0	
SCHQ	Schefferville	119.32	7	PKP		PKPdf	18 30 05.2	-1.3	
	comp=Z,4.1nm,0.6s,baz=223,slow=9.2,SNR=11								
SCHQ	Schefferville	119.32	7	PKP		PKPdf	18 30 05.2	-1.3	
Y25A	Mesa, Roswell	119.46	46	⇓P		PKKPab	18 40 23.4	-1.0	
	baz=119								
W26A	Owens Ranch, T	119.52	45	⇓P		PKKPab	18 40 22.1	-2.1	
	baz=120								
SPMN	St. Paul	119.71	29	⇓P		PKKPbc	18 40 18.9	-2.1	
	baz=120								
224A	Cornudas Mount	119.76	48	⇓P		PKKPab	18 40 21.6	-1.6	
	baz=120								
X26A	CR and CF Fran	119.77	45	⇑P		PKKPab	18 40 21.2	-1.9	
	baz=120								
W27A	Bowe Ranch, En	120.02	44	⇑P		PKKPab	18 40 20.6	-1.4	
	baz=120								
MNTX	Cornudas Mount	120.05	49	⇑P		PKKPbc	18 40 18.3	-1.0	
	baz=120,SNR=10.0								
324A	Moseley Ranch,	120.09	49	⇓P		PKKPab	18 40 19.2	-2.5	
	baz=120,SNR=8.8								
TORD	Torodi Ar. Bea	120.11	288	PKP		PKPdf	18 30 08.5	-0.6	
	comp=Z,24nm,0.5s,baz=64,slow=1.7,SNR=131								
TORD				SKP			18 33 01.0		
	comp=Z,4.7nm,0.8s,baz=57,slow=1.9,SNR=4.2								
TORD				PKKPbc		PKKPbc	18 40 20.8	+2.2	
	comp=Z,2.8nm,0.8s,baz=274,slow=3.9,SNR=10								
TORD	Torodi Ar. Bea	120.11	288	PKP		PKPdf	18 30 08.5	-0.6	
TORD				SKP			18 33 01.0		
TORD				PKKPbc		PKKPbc	18 40 20.8	+2.2	
125A	Gardner Draw,	120.12	47	⇓P		PKKPbc	18 40 19.8	+0.7	
	baz=120								
Z26A	Caprock	120.30	46	⇑P		PKKPbc	18 40 20.5	+2.0	
	baz=120								
Y27A	Causey	120.57	45	⇓P		PKKPbc	18 40 18.2	+0.7	
	baz=120								
126A	Clayton Basin,	120.59	47	⇑P		PKKPbc	18 40 18.5	+1.1	
	baz=120								
425A	Indio Mountain	120.78	49	⇓P		PKKPbc	18 40 17.5	+0.9	
	baz=121								
MSTX	Muleshoe	120.80	45	⇓P		PKKPbc	18 40 18.6	+2.0	
	baz=121								
226A	Malaga, Loving	120.82	48	⇓P		PKKPbc	18 40 17.2	+0.7	
	baz=121,SNR=7.9								
Z27A	Tatum	120.83	46	⇑P		PKKPbc	18 40 16.2	-0.4	
	baz=121								
127A	Arkansas Junct	121.05	47	⇑P		PKKPbc	18 40 16.7	+1.0	
	baz=121								
AMTX	Amarillo	121.07	44	⇓P		PKKPbc	18 40 14.6	-1.1	
	baz=121								
326A	Caldwell Ranch	121.28	48	⇑P		PKKPbc	18 40 16.0	+1.2	
	baz=121								
426A	McDonald Obser	121.56	49	⇓P		PKKPbc	18 40 15.0	+1.2	
	baz=122,SNR=9.0								
526A	Mary Lane Ranc	121.81	50	⇑P		PKKPbc	18 40 13.5	+0.7	
	baz=122								
427A	Hayter Ranch,	121.94	49	⇑P		PKKPbc	18 40 12.5	+0.2	
	baz=122,SNR=8.4								
626A	Big Bend Ranch	122.02	50	⇑P		PKKPbc	18 40 11.9	-0.1	
	baz=122,SNR=6.3								
328A	Wristen Ranch,	122.11	48	⇓P		PKKPbc	18 40 12.4	+0.7	
	baz=122								
527A	Woodward Ranch	122.13	49	⇓P		PKKPbc	18 40 12.0	+0.4	
	baz=122,SNR=7.9								
TXAR	Lajitas Array	122.48	50	PKP		PKPdf	18 30 14.2	+0.9	
	comp=Z,0.4nm,0.6s,baz=292,slow=1.1,SNR=7.4								
TXAR				SKP			18 33 06.3		
	comp=Z,1.6nm,0.8s,baz=158,slow=1.9,SNR=4.0								
TXAR				PKKPbc		PKKPbc	18 40 09.2	-1.1	
	comp=Z,2.6nm,0.7s,baz=138,slow=4.7,SNR=26								
TXAR	Lajitas Array	122.48	50	PKP		PKPdf	18 30 14.2	+0.9	
TXAR				SKP			18 33 06.3		
TXAR				PKKPbc		PKKPbc	18 40 09.2	-1.1	
TXAR	Lajitas Array	122.48	50	PKIKP		PKPdf	18 30 14.2	+0.9	
428A	Kincaid Ranch,	122.53	48	⇓P		PKKPbc	18 40 10.3	+0.2	
	baz=122,SNR=19								
627A	Terlingua Ranc	122.63	50	⇑P		PKKPbc	18 40 09.2	-0.5	
	baz=123								
528A	Cox Ranch, San	122.74	49	⇑P		PKKPbc	18 40 09.0	-0.3	
	baz=123								
628A	Black Gap, Mar	123.00	50	⇓P		PKKPbc	18 40 08.0	-0.3	
	baz=123,SNR=18								
TUL1	Tulsa	124.35	39	⇓P		PKKPbc	18 40 01.9	-1.5	
	baz=124								
JCT	Junction City	124.79	47	⇑P		PKKPbc	18 39 59.6	-1.9	
	baz=125								
JCT	Junction City	124.79	47	*e*PKPdf		PKPdf	18 30 19.0	+1.3	
JCT	Junction City	124.79	47	*e*PKIKP		PKPdf	18 30 19.0	+1.3	
DBIC	Dimbokro	127.87	283	PKP		PKPdf	18 30 24.3	+0.3	
	comp=Z,17nm,0.6s,baz=65,slow=2.6,SNR=29								
DBIC	Dimbokro	127.87	283	*e*PKPdf		PKPdf	18 30 22.6	-1.4	
DBIC				PKP		PKPdf	18 30 24.3	+0.3	
DBIC	Dimbokro	127.87	283	PKIKP		PKPdf	18 30 24.3	+0.3	
DBIC				pmax		pmax			
	comp=Z,17nm,0.6s								
LIC	Lamto	128.12	282	*e*PKIKP		PKPdf	18 30 24.3	-0.2	
	comp=Z,49nm,0.4s								
LIC	Lamto	128.12	282	*e*PKPdf		PKPdf	18 30 24.3	-0.2	
TKL	Tuckaleechee C	131.43	31	SKPbc		SKPbc	18 33 15.2	+0.6	
	comp=Z,54nm,1.0s,baz=176,slow=5.8,SNR=24								
TKL	Tuckaleechee C	131.43	31	SKPbc		SKPbc	18 33 15.2	+0.6	
BBTS	Babate	136.37	298	SKPbc		SKPbc	18 33 31.9	+0.7	
	comp=Z,73nm,0.7s,baz=270,slow=1.1,SNR=12								
BBTS	Babate	136.37	298	SKPbc		SKPbc	18 33 31.9	+0.7	
TEIG	Tepich	139.12	51	SKPbc		SKPbc	18 33 39.2	+0.2	
	comp=Z,15nm,0.9s,baz=328,slow=23,SNR=4.8								
TEIG	Tepich	139.12	51	SKPbc		SKPbc	18 33 39.2	+0.2	
PLCA	Paso Flores	142.34	161	PKP		PKPdf	18 30 47.8	-2.3	
	comp=Z,4.2nm,0.7s,baz=271,slow=2.2,SNR=6.9								
PLCA				SKPbc		SKPbc	18 33 47.5	+0.8	
	comp=Z,17nm,0.8s,baz=214,slow=2.9,SNR=13								
PLCA	Paso Flores	142.34	161	PKP		PKPdf	18 30 47.8	-2.3	
PLCA				SKPbc		SKPbc	18 33 47.5	+0.8	
PLCA	Paso Flores	142.34	161	PKIKP		PKPdf	18 30 47.8	-2.3	
TRQA	Tornquist	146.95	171	*e*PKPbc		PKPbc	18 31 00.9	+0.1	
JTS	JuntasAbangare	146.98	62	*e*PKPbc		PKPbc	18 31 01.5	-0.1	
LCO	Las Campanas	152.51	151	*e*PKPdf		PKPdf	18 31 06.2	-1.0	
CPUP	Villa Florida	159.08	176	PKP		PKPdf	18 31 16.8	+0.9	
	comp=Z,1.0nm,0.6s,baz=295,slow=2.2,SNR=4.1								
CPUP	Villa Florida	159.08	176	PKP		PKPdf	18 31 16.8	+0.9	
CPUP	Villa Florida	159.08	176	PKIKP		PKPdf	18 31 16.8	+1.0	
LPAZ	La Paz	163.67	133	PKP		PKPdf	18 31 22.7	+1.9	
	comp=Z,3.1nm,1.0s,baz=112,slow=1.3,SNR=9.1								
LPAZ				PKPab		PKPab	18 32 17.9	+2.5	
	comp=Z,9.0nm,0.8s,baz=219,slow=4.2,SNR=15								
LPAZ	La Paz	163.67	133	*e*PKPdf		PKPdf	18 31 22.2	+1.4	
LPAZ				PKP		PKPdf	18 31 22.7	+1.9	
LPAZ				PKPab		PKPab	18 32 17.9	+2.5	
LPAZ	La Paz	163.67	133	*e*PKIKP		PKPdf	18 31 22.2	+1.4	
SAML	Samuel	171.76	116	*e*PKPdf		PKPdf	18 31 26.4	0.0	

ISCJB ***25*** *18:12:18.4±1.3, 46.°5N±0.°2×152.°5E±0.°2, h47km±12km, mb3.7/7, MS4.0/2, Error ellipse: s-maj=37.3km s-min=6.6km az=139.8*

MOS ***25*** *18:12:19.6±0.7, 46.°68N×152.°29E, h55km, mb4.2/1, Error ellipse: s-maj=37.3km s-min=13.1km az=61.5*

IDC ***25*** *18:12:20.7±3.8, 46.°48N×152.°50E, h54km±31km, mb3.4/6, mb1 3.7/8, mb1mx3.4/26, mbtmp3.5/8, ML3.5/2, MS4.0/2, Ms1 4.0/2, ms1mx2.9/36, Error ellipse: s-maj=55.2km s-min=26.1km az=157.0*

NEIC ***25*** *18:12:21.8±1.5, 46.°57N×152.°57E, h58km±12km, mb4.1/1, Error ellipse: s-maj=35.6km s-min=9.4km az=139.0*

ISC 25 18:12:20.6±1.2, 46.°5N±0.°2×152.°6E±0.°2, h52km±11km, n45, σ0°99/48, mb3.7/7, MS4.0/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.83	27	*e*PN	Pn	18 13 30.2	-0.4
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
NEM2	Nemuro 2	5.78	240	P	Pn	18 13 42.0	-1.7
NEM2				*e*S	Sn	18 14 44.4	-4.2
JRA	Rausu	5.87	247	P	Pn	18 13 46.4	+1.5
JNK	Nakash	6.29	246	P	Pn	18 13 51.3	+0.6
JNK				*e*S	Sn	18 15 01.1	-0.1
JAK	Akkeshi	6.62	241	P	Pn	18 13 53.7	-1.5
JAK				*e*S	Sn	18 15 05.4	-3.8
JTKR	Abashiri--Toko	6.64	251	P	Pn	18 13 57.1	+1.6
JAR	Ashorobuto	7.04	247	P	Pn	18 14 01.7	+0.8
JAR				*e*S	Sn	18 15 20.0	+0.5
JOB	Onbets	7.20	244	P	Pn	18 14 02.9	-0.2
PEA0B	Petropavlovsk-	7.43	24	*e*Pn	Pn	18 14 06.2	0.0
PETK	Petropavlovsk-	7.43	24	P	Pn	18 14 05.7	-0.6
	comp=Z,0.7nm,0.3s,baz=172,slow=12,SNR=24						
PETK	Petropavlovsk-	7.43	24	P	Pn	18 14 05.7	-0.6
PETK	Petropavlovsk-	7.43	24	PN	Pn	18 14 05.7	-0.5
ASAJ	Asahikawa	7.45	255	P	Pn	18 14 06.1	-0.5
	comp=Z,0.9nm,0.3s,baz=135,slow=29,SNR=5.6						
ASAJ	Asahikawa	7.45	255	*e*P	Pn	18 14 08.8	+2.2
ASAJ	Asahikawa	7.45	255	PN	Pn	18 14 06.1	-0.5
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	Churui	7.65	243	P	Pn	18 14 08.9	-0.4
JCH				*e*S	Sn	18 15 30.7	-3.8
JFR	Furan	7.85	249	P	Pn	18 14 13.8	+1.7
ERM	Erimo	8.11	240	*e*P	Pn	18 14 16.3	+0.6
ERM	Erimo	8.11	240	*i* PN	Pn	18 14 16.1	+0.4
JNBK	Urakawa-nobuka	8.21	243	P	Pn	18 14 15.6	-1.4
JNB	Noboribetsu	9.19	249	P	Pn	18 14 30.8	+0.4
JANG	Nango	10.11	237	*e*S	Sn	18 16 25.0	-10
OFUJ	Ofunato	10.91	231	*e*S	Sn	18 16 43.1	-11

EQUE	**Quentar**	**2.04**	**10**	P	Pn	18 20 36.2	-0.8
	0.2nm,0.1s,SNR=7.9						
EQUE				S	Sn	18 20 59.7	-2.4
	1.3nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**2.04**	**10**	P	Pn	18 20 36.2	-0.8
	0.2nm,0.1s,SNR=7.9						
EQUE				S	Sn	18 20 59.7	-2.4
	1.3nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.68**	**14**	P	Pn	18 20 47.0	+1.1
	0.4nm,0.1s,SNR=7.9						
EQES				S	Sn	18 21 18.6	+0.5
	1.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.68**	**14**	P	Pn	18 20 47.0	+1.1
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.01**	**350**	P	Pn	18 20 50.5	0.0
	0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.01**	**350**	P	Pn	18 20 50.5	0.0
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.41**	**320**	P	Pn	18 20 54.4	-1.5
	0.3nm,0.2s,SNR=7.9						
EMIN				S	Sn	18 21 32.5	-3.4
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.41**	**320**	P	Pn	18 20 54.4	-1.4
	0.3nm,0.2s,SNR=7.9						
EMIN				S	Sn	18 21 32.5	-3.5
	0.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.72**	**310**	P	Pn	18 20 59.4	-0.8
	0.8nm,0.3s,SNR=7.9						
EGRO				S	Sn	18 21 38.9	-4.8
	0.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.72**	**310**	P	Pn	18 20 59.4	-0.8
	0.8nm,0.3s,SNR=7.9						
EGRO				S	Sn	18 21 38.9	-4.8
	0.7nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.79**	**307**	*e*Pn	Pn	18 21 00.9	-0.3
PVAQ				*e*Sn	Sn	18 21 42.8	-2.7
PVAQ	**Vaqueiros**	**3.79**	**307**	P	Pn	18 21 00.9	-0.3
PVAQ				S	Sn	18 21 42.8	-2.7
PVAQ	**Vaqueiros**	**3.79**	**307**	*e*Pn	Pn	18 21 00.9	-0.3
PVAQ				*e*Sn	Sn	18 21 42.8	-2.7
PBDV	**Barranco-do-Ve**	**3.85**	**303**	*e*Pn	Pn	18 21 01.8	-0.2
PBDV				*e*Sn	Sn	18 21 44.5	-2.5
PBDV	**Barranco-do-Ve**	**3.85**	**303**	P	Pn	18 21 01.8	-0.2
PBDV				S	Sn	18 21 44.5	-2.5
PBDV	**Barranco-do-Ve**	**3.85**	**303**	*e*Pn	Pn	18 21 01.8	-0.2
PBDV				*e*Sn	Sn	18 21 44.5	-2.5
PBAR	**Barrancos**	**3.90**	**320**	*e*Pn	Pn	18 21 02.0	-0.7
PBAR				*e*Sn	Sn	18 21 45.7	-2.5
PBAR	**Barrancos**	**3.90**	**320**	P	Pn	18 21 02.0	-0.7
PBAR				S	Sn	18 21 45.7	-2.5
PBAR	**Barrancos**	**3.90**	**320**	*e*Pn	Pn	18 21 02.0	-0.7
PBAR				*e*Sn	Sn	18 21 45.7	-2.5
EBAD	**Badajoz**	**4.34**	**326**	P	Pn	18 21 07.8	-0.9
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	18 21 55.0	-4.1
	0.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.34**	**326**	P	Pn	18 21 07.8	-0.9
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	18 21 55.0	-4.0
	0.8nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.44**	**297**	*e*Sn	Sn	18 22 00.1	-1.3
PFVI	**Vila Bisbo**	**4.44**	**297**	*e*Sn	Sn	18 22 00.1	-1.3
PESTR	**Estremoz**	**4.71**	**322**	*e*Sn	Sn	18 22 04.8	-3.3
PESTR	**Estremoz**	**4.71**	**322**	S	Sn	18 22 04.8	-3.3
PESTR	**Estremoz**	**4.71**	**322**	*e*Sn	Sn	18 22 04.8	-3.3
PNCL	**Nicolau / Gran**	**4.73**	**309**	*e*Pn	Pn	18 21 13.9	-0.1
PNCL				*e*Sn	Sn	18 22 05.1	-3.5
PNCL	**Nicolau / Gran**	**4.73**	**309**	*e*Pn	Pn	18 21 13.9	-0.1
PNCL				*e*Sn	Sn	18 22 05.1	-3.5

IDC 25 19:15:26.9±1.3,25.°41N×104.°01E,h0km,mb3.3/5, mb1 3.4/6,mb1mx3.2/26,mbtmp3.2/6,ML3.1/1,Error ellipse: s-maj=45.2km s-min=21.6km az=73.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.37**	**215**	Pn	Pn	19 17 30.2	+0.7
	0.1nm,0.3s,baz=35,slow=16,SNR=3.3						
SONM	**Songino Array**	**22.46**	**4**	P	P	19 20 28.9	+1.4
	0.2nm,0.5s,baz=189,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**27.46**	**327**	P	P	19 21 15.3	+0.8
	0.3nm,0.7s,baz=121,slow=7.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**31.88**	**338**	P	P	19 21 53.7	0.0
	0.2nm,0.3s,baz=148,slow=8.8,SNR=3.6						
KURK	**Kurchatov**	**31.91**	**329**	P	P	19 21 51.9	-2.1
	0.3nm,0.5s,baz=145,slow=8.0,SNR=6.1						
WRA	**Warramunga Arr**	**53.87**	**144**	P	P	19 24 52.0	0.0
	0.9nm,1.0s,baz=331,slow=8.2,SNR=6.9						

*IDC **25** 19:27:24.9±1.3,31.°24N×141.°86E,h0km,mb3.8/7, mb1 3.9/8,mb1mx3.7/23,mbtmp3.7/8,ML3.6/1,Error ellipse: s-maj=49.4km s-min=23.6km az=68.0*
*ISCJB **25** 19:27:28.1±1.4,31.°58N±0.°09×142.°5E±0.°2,h55km±14km, mb3.8/8,Error ellipse: s-maj=31.9km s-min=10.8km az=160.5*
*NEIC **25** 19:27:30.6±1.6,31.°23N×141.°80E,h36km±14km,mb3.8/1, Error ellipse: s-maj=26.6km s-min=10.6km az=73.0*
*JMA **25** 19:27:32.0±0.7,31.°88N×142.°70E,h80km,M3.7*
ISC 25 19:27:29.7±1.4,31.°60N±0.°08×142.°7E±0.°2,h53km±13km, n30,σ0°93/35,mb3.8/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.35**	**336**	P	**Pn**	**19 28 19.2**	**-0.4**
BSO4	**Boso 4**	**3.90**	**331**	P	**Pn**	**19 28 28.5**	**+1.5**
JOD2	**Odawara 2**	**4.71**	**322**	P	**Pn**	**19 28 37.5**	**-0.7**
JHU	**Hanno**	**5.09**	**327**	P	**Pn**	**19 28 43.7**	**+0.4**
JHU				*e*S	**Sn**	**19 29 41.2**	**+0.5**
JHO	**Hitachi**	**5.29**	**341**	P	**Pn**	**19 28 47.0**	**+0.9**
JHO				*e*S	**Sn**	**19 29 45.0**	**-0.6**
JRY	**Ryogami san**	**5.40**	**326**	P	**Pn**	**19 28 47.9**	**+0.3**
JRY				*e*S	**Sn**	**19 29 47.4**	**-1.0**
JAG	**Ashikaga**	**5.50**	**332**	P	**Pn**	**19 28 49.1**	**+0.2**
JAG				*e*S	**Sn**	**19 29 50.5**	**-0.3**
JFK	**Kawauchi**	**5.94**	**346**	*e*S	**Sn**	**19 30 00.3**	**-1.3**
MJAR	**Matsushiro Arr**	**6.16**	**324**	Pn	**Pn**	**19 28 57.3**	**-0.7**
	1.5nm,0.3s,baz=144,slow=12,SNR=14						
MJAR	**Matsushiro Arr**	**6.16**	**324**	Pn	**Pn**	**19 28 57.3**	**-0.7**
MAJO	**Matsushiro**	**6.16**	**324**	*e*Pn	**Pn**	**19 28 58.7**	**+0.7**
JMK	**Ichinoseki**	**7.43**	**351**	P	**Pn**	**19 29 17.2**	**+1.8**
JMK				*e*S	**Sn**	**19 30 36.4**	**-1.8**
SONM	**Songino Array**	**31.91**	**311**	P	**P**	**19 33 50.9**	**+1.0**
	0.9nm,1.0s,mb3.5,baz=122,slow=7.0,SNR=3.7						
SONM	**Songino Array**	**31.91**	**311**	P	**P**	**19 33 50.9**	**+1.0**
ZALV	**Zalesovo Beam**	**46.44**	**316**	P	**P**	**19 35 51.4**	**+0.5**
	0.3nm,0.4s,mb3.6,baz=101,slow=7.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**46.44**	**316**	P	**P**	**19 35 51.4**	**+0.5**
MK31	**Makanchi Array**	**48.03**	**307**	*e*P	**P**	**19 36 03.8**	**+0.4**
MKAR	**Makanchi Array**	**48.03**	**307**	P	**P**	**19 36 03.4**	**0.0**
	0.3nm,0.4s,mb3.6,baz=86,slow=8.7,SNR=9.2						
MKAR	**Makanchi Array**	**48.03**	**307**	P	**P**	**19 36 03.4**	**0.0**
KURK	**Kurchatov**	**50.21**	**312**	P	**P**	**19 36 20.2**	**+0.2**
	0.4nm,0.4s,mb3.8,baz=89,slow=7.2,SNR=9.4						
KURK	**Kurchatov**	**50.21**	**312**	P	**P**	**19 36 20.2**	**+0.2**
WRAB	**Tennant Creek**	**51.86**	**190**	*e*P	**P**	**19 36 31.9**	**-0.7**
	0.4nm,0.4s,mb3.7						
WB2	**Warramunga Arr**	**51.87**	**190**	*e*P	**P**	**19 36 31.3**	**-1.4**
WRA	**Warramunga Arr**	**51.87**	**190**	P	**P**	**19 36 31.6**	**-1.1**
	0.4nm,0.3s,mb3.8,baz=6.3,slow=7.7,SNR=18						
WRA	**Warramunga Arr**	**51.87**	**190**	P	**P**	**19 36 31.6**	**-1.1**
AS31	**Alice Springs**	**55.59**	**190**	*e*P	**P**	**19 36 59.6**	**-0.3**
FINES	**FINESS Array B**	**74.11**	**333**	P	**P**	**19 39 01.7**	**+1.8**
	3.6nm,1.1s,mb4.2,baz=46,slow=6.0,SNR=3.0						
FINES	**FINESS Array B**	**74.11**	**333**	P	**P**	**19 39 01.7**	**+1.8**
TXAR	**Lajitas Array**	**92.58**	**53**	P	**P**	**19 40 43.0**	**+7.3**
	0.5nm,0.8s,mb4.0,baz=295,slow=2.6,SNR=4.3						
TXAR	**Lajitas Array**	**92.58**	**53**	P	**P**	**19 40 43.0**	**+7.3**

*NIED **25** 19:42:00.36.°50N×142.°40E,h11km,Mw4.5 Best double couple: M0:5.65000×10^15 NP1:φs=346.00000°,δ77.00000°, λ65.00000°. NP2:φs=231.00000°,δ28.00000°,λ152.00000°.*
*IDC **25** 19:42:39.9±0.8,36.°34N×142.°45E,h0km,mb4.0/14, mb1 4.1/18,mb1mx4.0/26,mbtmp4.0/18,ML3.9/3,MS3.5/7, Ms1 3.5/7,ms1mx3.2/33,Error ellipse: s-maj=21.3km s-min=16.5km az=161.0*
*NEIC **25** 19:42:39.8±3.2,36.°39N×142.°47E,h1km±19km,mb4.7/7, MW4.4(NIED),Error ellipse: s-maj=10.5km s-min=6.6km az=136.0*

*ISCJB **25** 19:42:41.3±1.3,36.°46N±0.°03×142.°38E±0.°04,h21km±9km, mb4.2/27,MS3.3/2,Error ellipse: s-maj=5.6km s-min=4.0km az=29.3*
*JMA **25** 19:42:41.9±0.1,36.°46N×142.°39E,h30km,M4.3*
*MOS **25** 19:42:42.8±1.2,36.°48N×142.°43E,h33km,mb4.7/11,Error ellipse: s-maj=11.4km s-min=8.0km az=118.0*
ISC 25 19:42:43.1±1.4,36.°47N±0.°03×142.°32E±0.°04,h19km±9km, n107,σ0°96/123,mb4.2/27,MS3.3/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.38**	**298**	P	**Pn**	**19 43 06.9**	**-0.4**
ONAJ				*e*S	**Sn**	**19 43 24.4**	**-0.6**
CHOJ	**Chosi**	**1.41**	**238**	P	**Pn**	**19 43 07.1**	**-0.6**
CHOJ				*e*S	**Sn**	**19 43 24.6**	**-1.1**
JHO	**Hitachi**	**1.42**	**276**	P	**Pn**	**19 43 07.0**	**-0.8**
JHO				*e*S	**Sn**	**19 43 25.9**	**-0.1**
JFK	**Kawauchi**	**1.47**	**308**	P	**Pn**	**19 43 07.5**	**-1.0**
JFK				*e*S	**Sn**	**19 43 26.3**	**-0.9**
JMM	**Marumori**	**1.86**	**319**	P	**Pn**	**19 43 13.2**	**-0.6**
JFT	**Otama**	**1.91**	**304**	P	**Pn**	**19 43 14.6**	**+0.1**
JFT				*e*S	**Sn**	**19 43 39.2**	**+1.2**
BSO1	**Boso 1**	**2.12**	**212**	P	**Pn**	**19 43 16.1**	**-1.3**
BSO1				*e*S	**Sn**	**19 43 43.3**	**+0.1**
JIO	**Ouri**	**2.13**	**339**	P	**Pn**	**19 43 17.0**	**-0.6**
JIO				*e*S	**Sn**	**19 43 42.9**	**-0.6**
BSO3	**Boso 3**	**2.22**	**222**	P	**Pn**	**19 43 17.9**	**-1.0**
BSO3				*e*S	**Sn**	**19 43 46.7**	**+0.9**
JAG	**Ashikaga**	**2.31**	**270**	P	**Pn**	**19 43 19.8**	**-0.3**
JAG				*e*S	**Sn**	**19 43 48.1**	**0.0**
JMK	**Ichinoseki**	**2.63**	**341**	P	**Pn**	**19 43 24.1**	**-0.4**
JMK				*e*S	**Sn**	**19 43 56.2**	**+0.4**
JRY	**Ryogami san**	**2.80**	**262**	P	**Pn**	**19 43 26.4**	**-0.4**
JRY				*e*S	**Sn**	**19 43 59.4**	**-0.7**
JOD2	**Odawara 2**	**2.89**	**246**	P	**Pn**	**19 43 27.7**	**-0.3**
JOD2				*e*S	**Sn**	**19 44 02.0**	**-0.2**
JYK	**Kaneyama**	**2.90**	**328**	P	**Pn**	**19 43 27.8**	**-0.4**
JYK				*e*S	**Sn**	**19 44 02.7**	**+0.2**
JOM	**Ohasama**	**3.11**	**345**	P	**Pn**	**19 43 30.6**	**-0.5**
JOM				*e*S	**Sn**	**19 44 07.6**	**-0.1**
JYN	**Shimob**	**3.21**	**254**	P	**Pn**	**19 43 32.9**	**+0.4**
JYN				*e*S	**Sn**	**19 44 11.6**	**+1.4**
MJAR	**Matsushiro Arr**	**3.32**	**272**	Pn	**Pn**	**19 43 34.6**	**+0.7**
	14nm,0.3s,baz=250,slow=7.9,SNR=105						
MJAR				Sn	**Sn**	**19 44 10.8**	**-2.0**
	9.5nm,0.3s,baz=57,slow=18,SNR=5.1						
MJAR				LR	LR	19 45 08.5	
	comp=Z,1μm,19.9s,baz=85,slow=44						
MJAR	**Matsushiro Arr**	**3.32**	**272**	Pn	**Pn**	**19 43 34.6**	**+0.7**
MJAR				Sn	**Sn**	**19 44 10.8**	**-2.0**
MJAR	**Matsushiro Arr**	**3.32**	**272**	P	**Pn**	**19 43 34.6**	**+0.7**
MJAR						19 44 10.8	
MAJO	**Matsushiro**	**3.32**	**273**	*e*P	**Pn**	**19 43 35.3**	**+1.4**
MAJO	**Matsushiro**	**3.32**	**273**	*e*P	**Pn**	**19 43 35.3**	**+1.4**
MAT	**Matsushiro**	**3.32**	**273**	P	**Pn**	**19 43 34.6**	**+0.7**
MAT				*e*S	**Sn**	**19 44 12.2**	**-0.6**
MAT	**Matsushiro**	**3.32**	**273**	P	**Pn**	**19 43 34.9**	**+1.0**
ERM	**Erimo**	**5.58**	**6**	*e*P	**Pn**	**19 44 04.0**	**-1.0**
ERM	**Erimo**	**5.58**	**6**	*e*P	**Pn**	**19 44 04.0**	**-1.0**
ASAJ	**Asahikawa**	**7.64**	**1**	Pn	**Pn**	**19 44 32.6**	**-0.7**
	2.7nm,0.3s,baz=225,slow=12,SNR=3.5						
ASAJ				Sn	**Sn**	**19 45 56.8**	**-2.6**
	1.4nm,0.3s,baz=318,slow=16,SNR=3.6						
ASAJ				LR	LR	19 48 33.3	
	comp=Z,765nm,18.1s,baz=159,slow=46						
ASAJ	**Asahikawa**	**7.64**	**1**	*e*P	**Pn**	**19 44 32.9**	**-0.4**
ASAJ				Sn	**Sn**	**19 45 56.8**	**-2.6**
ASAJ	**Asahikawa**	**7.64**	**1**	P	**Pn**	**19 44 32.7**	**-0.6**
ASAJ						19 45 56.8	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,765nm,18.1s						
YSS	**Yuzh-Sakhalins**	**10.48**	**2**	Pn	**Pn**	**19 45 11.6**	**-0.6**
YSS	**Yuzh-Sakhalins**	**10.48**	**2**	P	**Pn**	**19 45 11.6**	**-0.6**
USRK	**Ussuriysk Arra**	**11.03**	**318**	Pn	**Pn**	**19 45 21.2**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=127,slow=14,SNR=3.8						
USRK				LR	LR	19 49 31.9	
	comp=Z,151nm,19.9s,baz=323,slow=37						
KSRS	**Korea Array**	**11.56**	**279**	Pn	**Pn**	**19 45 29.8**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=104,slow=14,SNR=4.7						
KSRS				LR	LR	19 49 56.8	
	comp=Z,313nm,18.2s,baz=118,slow=37						
KSRS	**Korea Array**	**11.56**	**279**	P	**Pn**	**19 45 29.8**	**+2.7**
KSRS				MLR	MLR		
	comp=Z,313nm,18.2s						
KSAR	**Wonju Array Be**	**11.60**	**279**	Pn	**Pn**	**19 45 29.8**	**+2.3**
KSAR	**Wonju Array Be**	**11.60**	**279**	P	**Pn**	**19 45 29.8**	**+2.3**
PETK	**Petropavlovsk-**	**19.82**	**28**	LR	LR	19 54 27.9	
	comp=Z,37nm,21.3s,baz=39,slow=36						
YAK	**Yakutsk**	**26.78**	**347**	*e*P	**P**	**19 48 20.1**	**-1.4**
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
FX1	**Attu Island--F**	**27.11**	**43**	LR	LR	19 58 44.5	
	comp=Z,58nm,18.4s,MS3.2,baz=242,slow=36						
ENH	**Enshi**	**28.02**	**267**	*e*P	**P**	**19 48 32.1**	**-0.9**
	comp=Z,37nm,1.3s,mb4.8						
ULN	**Ulaanbaatar**	**28.28**	**305**	*e*P	**P**	**19 48 36.1**	**+1.1**
	comp=Z,10nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**28.28**	**305**	*e*P	**P**	**19 48 36.1**	**+1.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
BOD	**Bodaibo**	**28.40**	**328**	*e*P	**P**	**19 48 38.6**	**+2.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.0						
SONM	**Songino Array**	**28.71**	**305**	P	**P**	**19 48 40.6**	**+1.7**
	comp=Z,6.6nm,0.8s,mb4.4,baz=106,slow=9.1,SNR=35						
SONM				LR	LR	20 00 54.5	
	comp=Z,107nm,19.0s,MS3.5,baz=178,slow=38						
SONM	**Songino Array**	**28.71**	**305**	P	**P**	**19 48 40.6**	**+1.7**
SONM	**Songino Array**	**28.71**	**305**	P	**P**	**19 48 40.6**	**+1.8**
ZAK	**Zakamensk**	**31.19**	**309**	*e*P	**P**	**19 49 01.8**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
CMAR	**Chiang Mai Arr**	**42.07**	**257**	P	**P**	**19 50 34.3**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.4,baz=47,slow=7.8,SNR=8.4						
CMAR	**Chiang Mai Arr**	**42.07**	**257**	P	**P**	**19 50 34.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**42.07**	**257**	P	**P**	**19 50 34.3**	**+0.5**
ZAA0	**Zalesovo Array**	**42.84**	**313**	*e*P	**P**	**19 50 40.2**	**+0.6**
ZALV	**Zalesovo Beam**	**42.84**	**313**	P	**P**	**19 50 40.6**	**+1.0**
	comp=Z,2.0nm,0.4s,mb4.2,baz=96,slow=7.0,SNR=16						
ZALV	**Zalesovo Beam**	**42.84**	**313**	P	**P**	**19 50 40.6**	**+1.0**
ZALV	**Zalesovo Beam**	**42.84**	**313**	P	**P**	**19 50 40.6**	**+1.0**
NVS	**Novosibirsk**	**43.76**	**314**	*e*P	**P**	**19 50 45.5**	**-1.5**
MK31	**Makanchi Array**	**45.04**	**303**	*e*P	**P**	**19 50 57.9**	**+0.5**
MK31	**Makanchi Array**	**45.04**	**303**	*e*P	**P**	**19 50 57.9**	**+0.5**
MKAR	**Makanchi Array**	**45.04**	**303**	P	**P**	**19 50 58.2**	**+0.9**
	comp=Z,4.7nm,0.8s,mb4.4,baz=87,slow=9.6,SNR=29						
MKAR	**Makanchi Array**	**45.04**	**303**	P	**P**	**19 50 58.2**	**+0.9**
MKAR	**Makanchi Array**	**45.04**	**303**	P	**P**	**19 50 58.2**	**+0.8**
KURK	**Kurchatov**	**46.86**	**309**	*e*P	**P**	**19 51 10.7**	**-0.9**
	comp=Z,7.9nm,0.9s,mb4.6						
KURK	**Kurchatov**	**46.86**	**309**	*e*P	**P**	**19 51 10.7**	**-0.9**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ILAR	**Eielson Array**	**49.58**	**32**	P	**P**	**19 51 33.2**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=263,slow=6.0,SNR=12						
ILAR	**Eielson Array**	**49.58**	**32**	P	**P**	**19 51 33.2**	**+0.7**
ILAR	**Eielson Array**	**49.58**	**32**	P	**P**	**19 51 33.2**	**+0.7**
TKM2	**Tokmak 2**	**50.54**	**299**	*e*P	**P**	**19 51 41.4**	**+1.3**
	comp=Z,5.5nm,0.6s,mb4.7						
TKM2	**Tokmak 2**	**50.54**	**299**	*e*P	**P**	**19 51 41.4**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
KKAR	**Karatay Array**	**54.04**	**301**	*e*P	**P**	**19 52 06.4**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0						
KKAR	**Karatay Array**	**54.04**	**301**	*e*P	**P**	**19 52 06.4**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
INK	**Inuvik**	**54.56**	**27**	P	**P**	**19 52 10.2**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=324,slow=7.8,SNR=6.6						
INK	**Inuvik**	**54.56**	**27**	P	**P**	**19 52 10.2**	**+0.8**
INK	**Inuvik**	**54.56**	**27**	P	**P**	**19 52 10.2**	**+0.7**
WRAB	**Tennant Creek**	**56.60**	**189**	*e*P	**P**	**19 52 23.2**	**-1.4**
	comp=Z,16nm,1.6s,mb4.8						
WRAB	**Tennant Creek**	**56.60**	**189**	*e*P	**P**	**19 52 23.2**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.8						
WB2	**Warramunga Arr**	**56.61**	**189**	*e*P	**P**	**19 52 23.7**	**-0.9**
WRA	**Warramunga Arr**	**56.61**	**189**	P	**P**	**19 52 23.2**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.1,baz=7.3,slow=7.0,SNR=19						
WRA	**Warramunga Arr**	**56.61**	**189**	P	**P**	**19 52 23.2**	**-1.4**
WRA	**Warramunga Arr**	**56.61**	**189**	P	**P**	**19 52 23.2**	**-1.5**
ABKAR	**Akbulak array**	**58.86**	**311**	*e*P	**P**	**19 52 40.6**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.2						
YKA	**Yellowknife Ar**	**63.93**	**30**	P	**P**	**19 53 14.3**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.8,baz=300,slow=6.5,SNR=12						
YKA	**Yellowknife Ar**	**63.93**	**30**	P	**P**	**19 53 14.3**	**0.0**
YKA	**Yellowknife Ar**	**63.93**	**30**	P	**P**	**19 53 14.3**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KEV	**Kevo**	**64.23**	**340**	*e*P	**P**	**19 53 11.1**	**-5.1**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KEV	**Kevo**	**64.23**	**340**	*e*p	**P**	**19 53 11.1**	**-5.1**
	comp=Z,6.8nm,0.8s,mb4.7						
JOF	**Joensuu**	**66.81**	**332**	*e*P	**P**	**19 53 32.8**	**-0.2**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
JOF	**Joensuu**	**66.81**	**332**	*e*p	**P**	**19 53 32.8**	**-0.2**
	comp=Z,2.3nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**69.14**	**333**	*e*P	**P**	**19 53 47.0**	**-0.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KAF	**Kangasniemi**	**69.14**	**333**	*e*p	**P**	**19 53 47.0**	**-0.7**
	comp=Z,2.4nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**69.66**	**333**	P	**P**	**19 53 51.1**	**+0.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=72,slow=8.6,SNR=6.6						
FINES	**FINESS Array B**	**69.66**	**333**	P	**P**	**19 53 51.1**	**+0.3**
FINES	**FINESS Array B**	**69.66**	**333**	P	**P**	**19 53 51.2**	**+0.4**
NOA	**NORSAR Array B**	**74.99**	**338**	P	**P**	**19 54 23.2**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=37,slow=5.9,SNR=3.1						
NOA	**NORSAR Array B**	**74.99**	**338**	P	**P**	**19 54 23.2**	**+0.5**
NOA	**NORSAR Array B**	**74.99**	**338**	P	**P**	**19 54 23.2**	**+0.5**
AKASG	**Malin Array Be**	**75.19**	**323**	P	**P**	**19 54 24.6**	**+0.6**
	comp=Z,1.6nm,0.5s,mb4.2,baz=45,slow=6.0,SNR=11						
AKASG	**Malin Array Be**	**75.19**	**323**	P	**P**	**19 54 24.6**	**+0.6**
AKASG	**Malin Array Be**	**75.19**	**323**	P	**P**	**19 54 24.7**	**+0.6**
PDAR	**Pinedale Array**	**77.54**	**46**	P	**P**	**19 54 37.9**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.4,baz=284,slow=3.6,SNR=2.7						
PDAR	**Pinedale Array**	**77.54**	**46**	P	**P**	**19 54 37.9**	**+0.4**
BRTR	**Keskin Array B**	**79.77**	**312**	P	**P**	**19 54 50.9**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=60,slow=5.8,SNR=2.7						
BRTR	**Keskin Array B**	**79.77**	**312**	P	**P**	**19 54 50.9**	**+1.0**
BRTR	**Keskin Array B**	**79.77**	**312**	P	**P**	**19 54 50.9**	**+1.0**
CLL	**Collm**	**81.95**	**331**	*e*P	**P**	**19 55 01.0**	**-0.3**
TXAR	**Lajitas Array**	**89.88**	**53**	P	**P**	**19 55 42.0**	**+1.1**
	comp=Z,0.6nm,0.7s,mb4.0,baz=292,slow=2.2,SNR=8.9						
TXAR	**Lajitas Array**	**89.88**	**53**	P	**P**	**19 55 42.0**	**+1.1**
TXAR	**Lajitas Array**	**89.88**	**53**	P	**P**	**19 55 42.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**118.25**	**315**	PKP	PKPdf	20 01 30.2	+0.6
	comp=Z,0.1nm,0.5s,baz=277,slow=0.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**118.25**	**315**	PKP	PKPdf	20 01 30.2	+0.6

*ISCJB **25** 20:13:31.4±0.7,1.°6N±0.°1×66.°9E±0.°1,h10km,mb3.9/10, Error ellipse: s-maj=17.4km

CHTO Chiang Mai 5.24 166 *e*P **Pn 20 22 07.5 +1.2**
CHTO pmax pmax
comp=Z,247nm,0.6s
CHTO Chiang Mai 5.24 166 P **Pn 20 22 08.0 +1.7**
comp=Z,7.8nmcomp=Z,4μmcomp=Z,22nm,0.5s
CM31 Chiang Mai Arr 5.58 167 *e*Pn **Pn 20 22 12.8 +1.8**
comp=Z,227nm,0.5s
CM31 *e*Pg **Pg 20 22 34.3 +0.1**
CMAR Chiang Mai Arr 5.58 167 Pn **Pn 20 22 12.9 +1.9**
comp=Z,4.5nm,0.3s,baz=342,slow=12,SNR=121
CMAR Pg **Pg 20 22 33.7 -0.5**
comp=Z,31nm,0.3s,baz=348,slow=17,SNR=52
CMAR Lg 20 23 45.0
comp=Z,30nm,0.3s,baz=343,slow=33,SNR=4.3
CMAR LR LR 20 24 27.8
comp=Z,1μm,19.5s,baz=172,slow=39
CMAR Chiang Mai Arr 5.58 167 Pn **Pn 20 22 12.9 +1.9**
CMAR Pg **Pg 20 22 33.7 -0.5**
CMAR Lg 20 23 45.0
CMAR Chiang Mai Arr 5.58 167 P **Pn 20 22 12.9 +1.9**
LSA Lhasa 8.15 316 P **Pn 20 22 48.3 +2.0**
LSA pmax pmax
comp=Z,90nm,0.7s
LSA LR LR
comp=N,670nm,11.0s
LSA LR LR
comp=E,690nm,11.0s
LSA LR LR
comp=Z,970nm,11.0s
NST Nakhon Sawan 8.55 164 PN **Pn 20 22 54.0 +2.3**
NST ⇑P 20 23 27.9
NST SG **Sn 20 24 20.0 -8.7**
GYA Guiyang 8.56 71 P **Pn 20 22 51.8 -0.1**
GYA S **Sn 20 24 28.8 -0.1**
GYA smax
comp=N,160nm,0.8s
GYA smax
comp=E,180nm,0.8s
CD2 Chengdu 8.83 37 *e*P **Pn 20 22 56.0 +0.5**
CD2 pP 20 23 03.0
CD2 sP 20 23 08.3
CD2 S **Sn 20 24 33.5 -1.9**
CD2 sS 20 24 44.0
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,90nm,4.2s
CD2 LR LR
comp=N,3μm,7.2s
CD2 LR LR
comp=E,3μm,10.2s
CD2 LR LR
comp=Z,2μm,11.2s
TAPN Taplejung 9.58 293 *e*P **Pn 20 23 06.7 +0.9**
comp=Z,69nm,0.5s
TAPN Taplejung 9.58 293 *e*P **Pn 20 23 06.7 +0.9**
comp=Z,69nm,0.5s
ODAN Odare 9.71 290 *e*P **Pn 20 23 07.9 +0.3**
comp=Z,140nm,0.6s
ODAN Odare 9.71 290 *e*P **Pn 20 23 07.9 +0.3**
comp=Z,140nm,0.6s
RAMN Ramite 10.41 289 *e*P **Pn 20 23 17.9 +0.6**
comp=Z,82nm,0.5s
RAMN Ramite 10.41 289 *e*P **Pn 20 23 17.9 +0.6**
comp=Z,82nm,0.5s
JIRN Jiri 10.96 292 *e*P **Pn 20 23 24.7 -0.1**
comp=Z,56nm,0.7s
JIRN Jiri 10.96 292 *e*P **Pn 20 23 24.7 -0.1**
comp=Z,56nm,0.7s
GUN Gumba 11.29 293 *e*P **Pn 20 23 29.4 0.0**
comp=Z,48nm,0.4s
GUN Gumba 11.29 293 *e*P **Pn 20 23 29.4 0.0**
comp=Z,48nm,0.4s
PKI Pulchoki 11.60 291 *e*P **Pn 20 23 32.5 -1.0**
comp=Z,46nm,0.6s
PKI Pulchoki 11.60 291 *e*P **Pn 20 23 32.5 -1.0**
comp=Z,46nm,0.6s
PKI Pulchoki 11.60 291 *e*P **Pn 20 23 32.5 -1.0**
PKI pmax pmax
comp=Z,46nm,0.6s
KKN Kakani 11.77 292 *e*P **Pn 20 23 34.9 -0.9**
comp=Z,40nm,0.5s
KKN Kakani 11.77 292 *e*P **Pn 20 23 34.9 -0.9**
comp=Z,40nm,0.5s
KKN Kakani 11.77 292 *e*P **Pn 20 23 34.9 -0.9**
KKN pmax pmax
comp=Z,40nm,0.5s
DMN Daman 11.87 291 *e*P **Pn 20 23 36.0 -1.2**
comp=Z,33nm,0.6s
DMN Daman 11.87 291 *e*P **Pn 20 23 36.0 -1.2**
comp=Z,33nm,0.6s
ENH Enshi 12.30 57 *e*P **Pn 20 23 42.2 -0.9**
comp=Z,59nm,1.0s
QIZ Qiongzhong 12.37 111 P **Pn 20 23 43.0 -1.1**
QIZ S **Sn 20 26 00.8 -1.6**
QIZ LR LR
comp=N,3μm,13.2s
QIZ LR LR
comp=Z,1μm,11.1s
GKN Gorkha 12.37 292 *e*P **Pn 20 23 43.1 -1.0**
comp=Z,75nm,0.6s
GKN Gorkha 12.37 292 *e*P **Pn 20 23 43.1 -1.0**
comp=Z,75nm,0.6s
KOLN Koldanda 13.20 290 *e*P **Pn 20 23 53.4 -2.0**
comp=Z,28nm,0.7s
KOLN Koldanda 13.20 290 *e*P **Pn 20 23 53.4 -2.0**
comp=Z,28nm,0.7s
DANN Dangsing 13.21 292 *e*P **Pn 20 23 53.1 -2.5**
comp=Z,22nm,0.5s
DANN Dangsing 13.21 292 *e*P **Pn 20 23 53.1 -2.5**
comp=Z,22nm,0.5s
LZH Lanzhou 13.25 22 *e*P **Pn 20 23 59.0 +2.9**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,82nm,4.0s
LZH LR LR
comp=N,3μm,7.1s
LZH LR LR
comp=E,6μm,9.2s
LZH LR LR
comp=Z,2μm,8.1s
XAN Xi'an 14.10 42 P **Pn 20 24 05.0 -2.6**
XAN LR LR
comp=N,480nm,8.8s
XAN LR LR
comp=E,140nm,5.9s
XAN LR LR
comp=Z,180nm,6.3s
VIS Vishakhapatnam 14.73 248 *ex* x 20 24 09.0
VIS AMb AMB 20 24 15.7
comp=Z,34nm,0.8s
GTA Gaotai 15.54 6 P **Pn 20 24 29.3 +2.2**
GTA pP pP 20 24 36.5 +3.8
GTA S **Sn 20 27 21.0 +1.3**
GTA sS sS 20 27 33.0 -4.5
GTA SS 20 27 39.5
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,110nm,5.2s
GTA LR LR
comp=N,960nm,10.5s
GTA LR LR
comp=E,4μm,13.3s
GTA LR LR
comp=Z,1μm,9.7s
WHN Wuhan 16.25 62 P **Pn 20 24 36.0 -0.4**
WHN S **Sn 20 27 33.0 -4.1**
WHN LR LR
comp=N,7μm,11.7s
WHN LR LR
comp=E,3μm,9.5s
WHN LR LR
comp=Z,4μm,8.9s
AGRA Agra 18.06 285 *e*PKP **Pn 20 24 57.4 -1.7**
ASOR Ausora 18.43 289 *e*PKP **Pn 20 25 04.9 +1.2**
ASOR AMb AMB 20 25 09.2
comp=Z,118nm,0.7s
BHPL Bhopal 18.54 272 *e*PKP **Pn 20 25 05.1 +0.1**
BHPL AMb AMB 20 25 14.8
comp=Z,39nm,2.2s
DDI Dehra Dun 18.54 294 *e*PKP **Pn 20 25 03.0 -1.9**
DDI *ex* x 20 28 23.5
KULM Kulim 18.76 171 *e*P **Pn 20 25 11.1 +3.4**
comp=Z,57nm,1.1s
KULM Kulim 18.76 171 P **Pn 20 25 13.3 +5.6**
comp=Z,51nm,1.2s
NDI New Delhi 18.90 289 *e*PKP **Pn 20 25 08.0 -1.3**
AYAN Aya Nagar 18.94 288 *e*PKP **Pn 20 25 09.7 -0.2**
AYAN AMb AMB 20 25 18.7
comp=Z,34nm,0.8s
SONA Sohna 18.95 287 *e*PKP **Pn 20 25 10.7 +0.8**
SONA AMb AMB 20 25 20.5
comp=Z,20nm,1.5s
HYB Hyderabad 18.98 254 *i* P **Pn 20 25 10.0 -0.4**
QZH Quanzhou 19.11 83 *e*P **Pn 20 25 13.0 +1.1**
QZH S **Sn 20 28 45.3 -1.2**
QZH LR LR
comp=N,12μm,9.6s
QZH LR LR
comp=E,3μm,13.1s
QZH LR LR
comp=Z,2μm,9.5s
KUDL Kundal 19.45 287 *e*PKP **Pn 20 25 15.3 -0.7**
KUDL AMb AMB 20 25 20.2
comp=Z,28nm,0.4s
KKR Kurukshetra 19.49 292 *e*PKP **Pn 20 25 15.3 -1.1**
KKR AMb AMB 20 25 21.3
comp=Z,86nm,0.5s
BTO Baotou 19.61 29 *e*P **Pn 20 25 16.5 -1.3**
RTK Rohtak 19.65 290 *e*PKP **Pn 20 25 17.4 -1.0**
RTK AMb AMB 20 25 23.0
comp=Z,48nm,1.2s
KHET Khetri 20.04 287 *e*PKP **P 20 25 21.6 +0.4**
KHET AMb AMB 20 25 27.5
comp=Z,147nm,1.2s
BHK Bhakra 20.20 296 *e*PKP **P 20 25 24.0 +1.1**
NJ2 Nanjing 20.39 62 *e*P **P 20 25 26.0 +1.0**
NJ2 PP 20 25 50.0
NJ2 S **S 20 29 09.5 -4.4**
NJ2 sS sS 20 29 20.0 +4.1
NJ2 pmax pmax
comp=Z,40nm,1.4s
NJ2 pmax pmax
comp=Z,400nm,4.0s
NJ2 LR LR
comp=N,2μm,15.0s,MS4.7
NJ2 LR LR
comp=E,540nm,15.0s,MS4.7
NJ2 LR LR
comp=Z,1μm,9.0s
HHC Hu-ho-hao-te 20.52 31 *e*P **P 20 25 26.0 -0.4**
HHC sP sP 20 25 39.5 +11
HHC PP 20 25 46.0
HHC S **S 20 29 07.0 -9.4**
HHC sS sS 20 29 21.5 +3.1
HHC SS 20 29 37.5
HHC ScS ScS 20 36 51.5 -6.7
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,150nm,5.2s
HHC LR LR
comp=N,1μm,10.4s,MS4.6
HHC LR LR
comp=E,1μm,11.9s,MS4.6
HHC LR LR
comp=Z,940nm,10.9s,MS4.4
THN Thein Dam 21.06 299 *e*PKP **P 20 25 32.0 -0.4**
WMQ Urumqi 21.45 340 P **P 20 25 37.0 +0.6**
WMQ pP 20 25 47.0
WMQ S **S 20 29 26.3 -8.5**
WMQ sS sS 20 29 41.0 +4.2
WMQ SS 20 30 00.5
WMQ pmax pmax
comp=Z,30nm,1.5s,mb4.4
WMQ LR LR
comp=N,780nm,9.6s
WMQ LR LR
comp=E,1μm,9.5s
WMQ LR LR
comp=Z,330nm,19.5s,MS3.7
SSE Sheshan 22.05 66 *e*P **P 20 25 42.0 -1.0**
SSE pP 20 25 50.3
SSE S **S 20 29 44.5 -2.2**
SSE pmax pmax
comp=Z,39nm,0.6s,mb5.0
SSE pmax pmax
comp=Z,150nm,7.1s
SSE LR LR
comp=N,3μm,14.9s,MS4.8
SSE LR LR
comp=E,540nm,14.8s,MS4.8
SSE LR LR
comp=Z,680nm,9.8s
BJI Beijing 22.41 40 P **P 20 25 48.0 +1.3**
BJI S **S 20 29 50.0 -3.5**
BJI pmax pmax
comp=Z,25nm,0.9s,mb4.6
BJI pmax pmax
comp=Z,150nm,3.4s
BJI LR LR
comp=N,700nm,9.1s
BJI LR LR
comp=E,610nm,12.1s
BJI LR LR
comp=Z,330nm,18.7s
POO Poona 22.80 261 *e*PKP **P 20 25 49.9 -1.1**
KSH Kashi 24.01 315 P **P 20 26 04.0 +1.0**
KSH pP 20 26 13.8
KSH sP sP 20 26 17.3 +12
KSH PP 20 26 38.8
KSH PcP PcP 20 29 46.0 +1.0
KSH S **S 20 30 16.8 -3.7**
KSH sS sS 20 30 32.8 +10
KSH SS 20 31 09.3
KSH ScP ScP 20 33 21.8 -2.4
KSH PcS PcS 20 33 25.0 +0.5
KSH pmax pmax
comp=Z,64nm,1.1s,mb5.0
KSH LR LR
comp=N,150nm,6.3s
KSH LR LR
comp=E,210nm,5.8s
KSH LR LR
comp=Z,280nm,6.6s
RGRI Rengat 24.56 169 P **P 20 26 12.3 +4.1**
comp=Z,282nm,0.5s
SONM Songino Array 24.85 14 P **P 20 26 11.2 +0.6**
comp=Z,9.5nm,1.0s,mb4.3,baz=192,slow=8.4,SNR=26
SONM LR LR 20 37 02.5
comp=Z,337nm,18.1s,MS3.9,baz=198,slow=39
SONM Songino Array 24.85 14 P **P 20 26 11.2 +0.6**
SONM Songino Array 24.85 14 P **P 20 26 11.2 +0.6**
ULN Ulaanbaatar 25.03 15 *e*P **P 20 26 10.6 -1.6**
comp=Z,32nm,1.4s,mb4.7
ULN Ulaanbaatar 25.03 15 *e*P **P 20 26 10.6 -1.6**
ULN pmax pmax
comp=Z,32nm,1.4s,mb4.7
ULN Ulaanbaatar 25.03 15 P **P 20 26 15.4 +3.2**
comp=Z,18nm,1.8s,mb4.3
DL2 Dalian 25.24 48 P **P 20 26 13.0 -1.2**
DL2 S **S 20 30 35.5 -4.8**
DL2 sS sS 20 30 46.5 +4.0
DL2 pmax pmax
comp=Z,40nm,0.8s,mb5.0
DL2 LR LR
comp=N,350nm,12.2s,MS4.3
DL2 LR LR
comp=E,510nm,12.3s,MS4.3
DL2 LR LR
comp=Z,250nm,12.5s,MS3.9
KSM Kuching 25.48 149 P **P 20 26 21.6 +5.0**
comp=Z,34nm,1.0s,mb4.8
MK31 Makanchi Array 25.92 335 *e*P **P 20 26 20.5 +0.2**
MK31 Makanchi Array 25.92 335 *e*P **P 20 26 20.5 +0.2**
MKAR Makanchi Array 25.92 335 P **P 20 26 20.8 +0.4**
comp=Z,8.2nm,0.6s,mb4.4,baz=141,slow=8.9,SNR=110
MKAR Makanchi Array 25.92 335 P **P 20 26 20.8 +0.4**
MKAR Makanchi Array 25.92 335 *i* P **P 20 26 20.7 +0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 26.26 321 *e*P **P 20 26 24.1 +0.6**
comp=Z,16nm,1.0s,mb4.5
TKM2 Tokmak 2 26.26 321 *e*P **P 20 26 24.1 +0.6**
TKM2 pmax pmax
comp=Z,16nm,1.0s,mb4.5
AAK Ala-Archa 26.73 320 *e*P **P 20 26 28.6 +1.0**
comp=Z,59nm,1.0s,mb5.1
AAK Ala-Archa 26.73 320⇑*e*P **P 20 26 29.2 +1.6**
AAK pmax pmax
comp=Z,43nm,1.7s,mb4.7
AAK MLR MLR
comp=Z,733nm,15.0s,MS4.4
AAK Ala-Archa 26.73 320 P **P 20 26 30.8 +3.2**
comp=Z,50nm,0.9s,mb5.0
ZAK Zakamensk 26.77 8 *e*P **P 20 26 30.7 +2.8**
ZAK *e* 20 26 44.4
FRU Bishkek 26.77 320 *e*P **P 20 26 21.0 -7.1**
FRU *i* 20 26 28.0
KBL Kabul 27.01 300 *e*P **P 20 26 29.9 -0.4**
comp=Z,25nm,1.1s,mb4.7
KBL Kabul 27.01 300 *e*P **P 20 26 29.9 -0.4**
KBL pmax pmax
comp=Z,25nm,1.1s,mb4.7
EKS2 Erkin-Say 27.17 319 *e*P **P 20 26 32.4 +0.8**
comp=Z,16nm,0.9s,mb4.5
EKS2 Erkin-Say 27.17 319 *e*P **P 20 26 32.4 +0.8**
EKS2 pmax pmax
comp=Z,16nm,0.9s,mb4.5
KSRS Korea Array 29.19 55 LR LR 20 37 59.9
comp=Z,179nm,21.3s,MS3.7,baz=84,slow=36
CN2 Changchun 30.21 42 *e*P **P 20 27 00.3 +1.6**
CN2 *e*S **S 20 31 59.0 +0.5**
CN2 pmax pmax
comp=Z,20nm,0.6s,mb5.0
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,700nm,12.0s,MS4.6
CN2 LR LR
comp=E,600nm,12.0s,MS4.6
CN2 LR LR
comp=Z,700nm,14.0s,MS4.5
KURK Kurchatov 30.53 336 P **P 20 27 01.3 -0.1**
comp=Z,2.6nm,0.6s,mb4.2,baz=148,slow=8.9,SNR=22
KURK Kurchatov 30.53 336 *e*P **P 20 27 01.4 -0.1**
comp=Z,7.0nm,1.0s,mb4.5
KURK Kurchatov 30.53 336*c i*P **P 20 27 01.3 -0.1**
KURK pmax pmax
comp=Z,12nm,1.7s,mb4.5
KURK MLR MLR
comp=Z,483nm,22.0s,MS4.1
ZALV Zalesovo Beam 31.48 345 P **P 20 27 09.8 +0.1**
comp=Z,3.3nm,0.6s,mb4.3,baz=167,slow=9.2,SNR=25
ZALV Zalesovo Beam 31.48 345 P **P 20 27 09.8 +0.1**
ZALV Zalesovo Beam 31.48 345 P **P 20 27 09.9 +0.1**
DAV Davao City (W) 31.62 117 LR LR 20 39 18.7
comp=Z,201nm,18.2s,MS3.8,baz=321,slow=35
NVS Novosibirsk 32.68 345 *e*P **P 20 27 19.2 -1.1**
NVS *e* 20 32 37.9
NVS pmax pmax
comp=Z,44nm,2.1s,mb5.0
NVS pmax pmax
comp=N,8.0nm,1.6s
USRK Ussuriysk Arra 34.56 46 P **P 20 27 35.3 -1.5**
comp=N,17nm,0.8s,mb5.0,baz=244,slow=8.8,SNR=22
USRK LR LR 20 43 19.2
comp=N,138nm,18.7s,MS3.7,baz=161,slow=39
BVAR Borovoye Array 35.62 332 P **P 20 27 45.9 0.0**
comp=N,1.5nm,0.7s,mb4.0,baz=136,slow=11,SNR=9.6
BVAR Borovoye Array 35.62 332 P **P 20 27 45.9 0.0**
BVAR Borovoye Array 35.62 332 P **P 20 27 45.9 +0.1**
BRVK Borovoye 35.69 332*ce*P **P 20 27 46.4 0.0**
BRVK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BRVK MLR MLR
comp=Z,328nm,18.0s,MS4.1
KAPI Kappang 35.96 140 P **P 20 27 50.2 +1.1**
comp=Z,4.2nm,0.2s,mb4.9,baz=157,slow=18,SNR=4.4
KAPI Kappang 35.96 140 P **P 20 27 50.2 +1.1**
KLR Kul'dur 36.75 38 *e*P **P 20 27 54.2 -1.4**
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.0
MJAR Matsushiro Arr 36.98 61 P **P 20 27 58.5 +0.8**
comp=Z,3.4nm,0.9s,mb4.2,baz=266,slow=10,SNR=5.4
MJAR LR LR 20 44 00.3
comp=Z,304nm,18.2s,MS4.1,baz=250,slow=38
MJAR Matsushiro Arr 36.98 61 P **P 20 27 58.5 +0.8**
MJAR Matsushiro Arr 36.98 61 P **P 20 27 58.5 +0.8**
ABKAR Akbulak array 38.81 320 *e*P **P 20 28 12.5 -0.5**
comp=Z,2.7nm,0.6s,mb4.2
SVE Sverdlovsk 42.38 331⇑*i*P **P 20 28 43.3 +1.0**
SVE pmax pmax
comp=Z,21nm,0.9s,mb4.8
ARU Arti 43.11 329*c i*P **P 20 28 48.2 -0.1**
ARU 20 30 28.3
ARU PPP 20 31 04.1
ARU S **S 20 35 14.2 -0.6**
ARU pmax pmax
comp=Z,20nm,1.7s,mb4.6
YAK Yakutsk 43.83 21 *e*P **P 20 28 55.2 +1.2**
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.6
MIB Mutribah 44.96 289 *e*P **P 20 29 03.9 +0.3**
MIB AMb AMB 20 29 13.7
comp=Z,38nm,0.9s,mb5.2
NAY Al-Naaiem 45.10 288 *e*P **P 20 29 04.5 -0.2**
NAY AMb AMB 20 29 09.6
comp=Z,33nm,1.9s,mb4.8
RST Umm Al-Ruwaisa 45.29 288 *e*P **P 20 29 06.5 +0.3**
RST AMb AMB 20 29 14.6
comp=Z,6.7nm,1.1s,mb4.4
GNI Garni 46.98 303 P **P 20 29 23.4 +4.0**
comp=Z,7.4nm,0.8s,mb4.7,baz=23,slow=23,SNR=4.8
GNI Garni 46.98 303 P **P 20 29 23.4 +4.0**
GNI Garni 46.98 303 P **P 20 29 23.4 +4.0**
ZEI Tsey 47.82 307 *e*P **P 20 29 25.5 -0.3**
ZEI pmax pmax
comp=Z,17nm,0.9s,mb5.1
KIV Kislovodsk 48.81 308 *e*P **P 20 29 33.2 -0.3**
comp=Z,33nm,1.1s,mb5.3
KIV Kislovodsk 48.81 308 *e*P **P 20 29 33.2 -0.3**
KIV pmax pmax
comp=Z,33nm,1.1s,mb5.3
FITZ Fitzroy Crossi 49.92 144 *e*P **P 20 29 41.8 -0.4**
VSR Storozhevoye 52.08 317 *e*P **P 20 30 00.5 +2.4**
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VSR pmax pmax
comp=N,2.0nm,0.5s
ANN Anapa 52.62 309 *e*P **P 20 30 01.4 -0.9**
ANN *e**PP pP 20 30 11.5 +7.9
ANN *e* 20 31 10.1
ANN *e* 20 32 00.7
ANN *e*S **S 20 37 28.4 -1.8**
ANN pmax pmax
comp=Z,58nm,1.0s,mb5.5
PETK Petropavlovsk- 53.34 41 LR LR 20 52 35.0
comp=Z,112nm,19.9s,MS3.9,baz=345,slow=36
ASF Jabal al Asfar 53.62 293 P **P 20 30 13.1 +3.2**
comp=Z,4.9nm,0.8s,mb4.5,baz=123,slow=2.2,SNR=6.0
ASF Jabal al Asfar 53.62 293 P **P 20 30 13.1 +3.2**
ASF Jabal al Asfar 53.62 293 P **P 20 30 13.1 +3.3**
KLMR Klimovskoe 53.96 329 *e*P **P 20 30 09.2 -2.6**
KLMR pmax pmax
comp=Z,42nm,1.6s,mb5.1
OBN Obninsk 54.23 322 *e*P **P 20 30 15.8 +1.9**
OBN pmax pmax
comp=Z,13nm,1.4s,mb4.7
BR131 Keskin Array S 55.51 303 *e*P **P 20 30 23.2 -0.3**
comp=Z,1.7nm,0.6s,mb4.2
BRTR Keskin Array B 55.51 303 P **P 20 30 22.8 -0.7**
comp=Z,3.0nm,0.9s,mb4.3,baz=114,slow=9.5,SNR=8.5
BRTR Keskin Array B 55.51 303 P **P 20 30 22.8 -0.7**
BRTR Keskin Array B 55.51 303 *i* P **P 20 30 25.8 +2.3**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 56.40 138 P **P 20 30 29.5 -0.4**
comp=Z,17nm,0.9s,mb5.1,baz=326,slow=7.5,SNR=32
WRA Warramunga Arr 56.40 138 P **P 20 30 29.5 -0.4**
WRA Warramunga Arr 56.40 138 P **P 20 30 29.5 -0.4**
WRAB Tennant Creek 56.40 138 *e*P **P 20 30 29.2 -0.7**
comp=Z,24nm,1.0s,mb5.2
WRAB Tennant Creek 56.40 138 *e*P **P 20 30 29.3 -0.6**
WRAB pmax pmax
comp=Z,24nm,1.0s,mb5.2
WRAB Tennant Creek 56.40 138 P **P 20 30 32.7 +2.8**
WB2 Warramunga Arr 56.41 138 *e*P **P 20 30 29.2 -0.8**
JOF Joensuu 58.21 330 *e*P **P 20 30 41.7 -0.5**
JOF pmax pmax

comp=Z,11nm,0.8s,mb4.9
JOF Joensuu 58.21 330 *ep* **P 20 30 41.7 -0.5**
comp=Z,11nm,0.8s,mb4.9
AKASG Malin Array Be 58.30 316 P **P 20 30 41.8 -1.3**
comp=Z,3.0nm,0.6s,mb4.5,baz=81,slow=6.4,SNR=10
AKASG LR LR 20 58 15.7
comp=Z,166nm,21.2s,MS4.1,baz=315,slow=39
AKASG Malin Array Be 58.30 316 P **P 20 30 41.8 -1.3**
AKASG Malin Array Be 58.30 316 *i* P **P 20 30 45.5 +2.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 58.30 316 P **P 20 30 41.2 -1.8**
AKBB Malin Array Si 58.30 316 P **P 20 30 41.2 -1.8**
KIEV Kiev 58.31 316 *i* P **P 20 30 44.5 +1.4**
APA Apatity 58.32 336⇑*ep* **P 20 30 40.0 -2.9**
APA MLR MLR
comp=Z,1μm,16.0s,MS5.1
AS31 Alice Springs 58.98 141 *ep* **P 20 30 46.0 -2.0**
TIRR Tirgusor 59.07 309 ⇓P **P 20 30 49.8 +1.3**
TIRR Tirgusor 59.07 309 ⇓*i* P **P 20 30 49.8 +1.3**
BILL Biiibino 60.06 24 *ep* **P 20 30 55.8 +0.9**
BILL pmax pmax
comp=Z,9.0nm,1.7s,mb4.5
VRI Vrincioaia 60.15 310 ⇑P **P 20 30 56.7 +0.8**
VRI Vrincioaia 60.15 310 ⇑*i* P **P 20 30 56.7 +0.8**
PLOR Plostina 60.21 310 ⇑P **P 20 30 57.2 +0.9**
PLOR Plostina 60.21 310 ⇑*i* P **P 20 30 57.2 +0.9**
QIS Mount Isa 60.22 134 *ep* **P 20 30 56.6 -0.1**
KAF Kangasniemi 60.41 329 *ep* **P 20 30 58.1 +0.7**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KAF Kangasniemi 60.41 329 *ep* **P 20 30 58.1 +0.7**
comp=Z,3.9nm,0.8s,mb4.5
FINES FINESS Array B 60.47 328 P **P 20 30 57.0 -0.8**
comp=Z,4.8nm,0.8s,mb4.6,baz=89,slow=6.0,SNR=20
FINES LR LR 20 58 11.6
comp=Z,178nm,20.1s,MS4.2,baz=141,slow=37
FINES FINESS Array B 60.47 328 P **P 20 30 57.0 -0.8**
FINES FINESS Array B 60.47 328 P **P 20 30 57.1 -0.7**
MLR Muntele Rosu 60.73 310 ⇑P **P 20 31 00.8 +0.9**
MLR Muntele Rosu 60.73 310 ⇑*i* P **P 20 31 00.8 +0.9**
BURAR Bucovina Array 61.05 313 ⇑P **P 20 31 01.6 -0.4**
BURAR Bucovina Array 61.05 313 ⇑*i* P **P 20 31 01.5 -0.5**
KEV Kevo 61.06 338 *ep* **P 20 31 00.5 -1.3**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
KEV Kevo 61.06 338 *ep* **P 20 31 00.5 -1.3**
comp=Z,8.2nm,0.7s,mb5.0
ARCES ARCESS Array B 61.55 338 P **P 20 31 05.0 -0.1**
comp=Z,5.5nm,0.8s,mb4.8,baz=86,slow=7.5,SNR=15
ARCES LR LR 21 00 22.8
comp=Z,177nm,18.0s,MS4.3,baz=105,slow=39
ARCES ARCESS Array B 61.55 338 P **P 20 31 05.0 -0.1**
ARCES ARCESS Array B 61.55 338 P **P 20 31 05.0 -0.1**
KWP Kalwaria Pacla 62.53 315 *ep* **P 20 31 11.8 -0.3**
comp=Z,22nm,1.0s,mb5.2
KWP Kalwaria Pacla 62.53 315 *ep* **P 20 31 11.8 -0.2**
KWP pmax pmax
comp=Z,22nm,1.0s,mb5.2
DRGR 62.83 312 ⇑P **P 20 31 13.9 -0.1**
DRGR 62.83 312 ⇑*i* P **P 20 31 13.9 -0.1**
VTS Vitosha 63.04 307 ⇑P **P 20 31 15.4 -0.1**
VTS Vitosha 63.04 307 ⇑*i* P **P 20 31 15.4 -0.1**
CRVS Cervenica-Dubn 63.42 314 *ep* **P 20 31 22.6 +4.7**
CRVS Cervenica-Dubn 63.42 314 *ep* **P 20 31 22.6 +4.7**
BZS Buzias 63.73 311 ⇑P **P 20 31 18.9 -1.1**
BZS Buzias 63.73 311 ⇑*i* P **P 20 31 18.9 -1.1**
KECS Kecovo 64.11 314 *ep* **P 20 31 26.1 +3.6**
KECS pmax pmax
comp=Z,6.0nm,2.0s,mb4.3
KECS Kecovo 64.11 314 *ep* **P 20 31 26.1 +3.6**
OPO Ambohidratompo 64.84 234 P **P 20 31 29.3 +1.6**
comp=Z,2.8nm,0.9s,mb4.3,baz=102,slow=9.3,SNR=3.0
OPO Ambohidratompo 64.84 234 P **P 20 31 29.3 +1.6**
VYHS Vyhne 65.20 314 *ep* **P 20 31 33.1 +3.5**
VYHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
VYHS Vyhne 65.20 314 *ep* **P 20 31 33.1 +3.5**
OKC Ostrava-Krasne 65.45 316 *ep* **P 20 31 34.9 +3.7**
OKC Ostrava-Krasne 65.45 316 *ep* **P 20 31 34.9 +3.7**
DPC Dobruska-Polom 66.53 316 *ep* **P 20 31 40.7 +2.6**
DPC Dobruska-Polom 66.53 316 *ep* **P 20 31 40.7 +2.6**
QLP Quilpie 67.45 135 *ep* **P 20 31 45.3 +1.0**
NB2 NORSAR Subarra 67.65 328 P **P 20 31 44.1 -1.0**
comp=Z,2.6nm,0.7s,mb4.4,baz=82,slow=6.5
NOA NORSAR Array B 67.65 328 P **P 20 31 44.2 -0.8**
comp=Z,3.3nm,0.8s,mb4.4,baz=82,slow=6.3,SNR=8.8
NOA LR LR 21 01 41.0
comp=Z,111nm,18.2s,MS4.1,baz=235,slow=36
NOA NORSAR Array B 67.65 328 P **P 20 31 44.2 -0.8**
NOA NORSAR Array B 67.65 328 P **P 20 31 44.3 -0.8**
PRU Pruhonice 67.72 316 *ep* **P 20 31 49.0 +3.3**
PRU Pruhonice 67.72 316 *ep* **P 20 31 49.0 +3.3**
BRG Berggiesshubel 67.93 317 *ep* **P 20 31 48.8 +1.8**
comp=Z,7.3nm,1.2s,mb4.6
BRG *e* 20 32 08.6
comp=Z,53nm,2.2s
BRG Berggiesshubel 67.93 317 *ep* **P 20 31 48.8 +1.8**
BRG *e* 20 32 08.6
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
CLL Collm 68.42 318 *ep* **P 20 31 55.0 +4.9**
GERES GERESS Array B 68.48 315 P **P 20 31 49.5 -1.0**
comp=Z,0.8nm,0.6s,mb3.9,baz=72,slow=4.3,SNR=3.5
GERES LR LR 21 06 35.5
comp=Z,190nm,21.2s,MS4.3,baz=88,slow=40
GERES GERESS Array B 68.48 315 P **P 20 31 49.5 -1.0**
GERES GERESS Array B 68.48 315 P **P 20 31 49.5 -1.0**
STKA Stephens Creek 69.61 141 P **P 20 31 58.2 +0.6**
comp=Z,11nm,0.8s,mb4.9,baz=318,slow=6.6,SNR=11
STKA LR LR 21 05 02.9
comp=Z,147nm,18.1s,MS4.3,baz=23,slow=38
STKA Stephens Creek 69.61 141 *ep* **P 20 31 57.0 -0.7**
STKA Stephens Creek 69.61 141 *ep* **P 20 31 56.4 -1.3**
comp=Z,2.3nm,0.8s,mb4.2
STKA Stephens Creek 69.61 141 *ep* **P 20 31 56.4 -1.2**
STKA pmax pmax
comp=Z,2.0nm,0.8s
CMSA Cobar Meteorol 71.81 138 *ep* **P 20 32 11.6 +0.6**
CDF Champ du Feu 72.72 316 *ep* **P 20 32 16.5 +0.1**
comp=Z,5.5nm,0.9s,mb4.2
CDF Champ du Feu 72.72 316 *ep* **P 20 32 16.5 +0.1**
comp=Z,5.5nm,0.9s,mb4.5
CDF Champ du Feu 72.72 316 *ep* **P 20 32 16.5 +0.1**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LPG La Plagne 73.93 313 *ep* **P 20 32 23.4 -0.2**
comp=Z,23nm,1.2s,mb4.7
LPG La Plagne 73.93 313 *ep* **P 20 32 23.4 -0.2**
comp=Z,23nm,1.2s,mb5.0
LPG La Plagne 73.93 313 *ep* **P 20 32 23.4 -0.2**
LPG pmax pmax
comp=Z,23nm,1.2s,mb5.0
LPL La Plagne 73.94 313 *ep* **P 20 32 23.4 -0.2**
comp=Z,11nm,0.8s,mb4.5
LPL La Plagne 73.94 313 *ep* **P 20 32 23.4 -0.2**
comp=Z,11nm,0.8s,mb4.8
LPL La Plagne 73.94 313 *ep* **P 20 32 23.4 -0.2**
LPL pmax pmax
comp=Z,11nm,0.8s,mb4.8
MEZF Maizieres J'vi 74.11 316 *ep* **P 20 32 23.9 -0.7**
MEZF Maizieres J'vi 74.11 316 *ep* **P 20 32 23.9 -0.7**
BAIF Baives 74.15 318 *ep* **P 20 32 24.3 -0.4**
BAIF Baives 74.15 318 *ep* **P 20 32 24.3 -0.4**
BAIF Baives 74.15 318 *ep* **P 20 32 24.3 -0.4**
KEST Kesra 75.12 303 P **P 20 32 31.9 +1.3**
comp=Z,2.7nm,1.1s,mb4.1,baz=333,slow=8.0,SNR=4.8
KEST Kesra 75.12 303 P **P 20 32 31.9 +1.3**
LOR Lormes 75.26 315 *ep* **P 20 32 30.1 -1.2**
LOR Lormes 75.26 315 *ep* **P 20 32 30.1 -1.2**
LOR Lormes 75.26 315 *ep* **P 20 32 30.1 -1.2**
SSF Saint Saulge 75.56 315 *ep* **P 20 32 32.2 -0.8**
comp=Z,26nm,1.3s,mb4.7
SSF Saint Saulge 75.56 315 *ep* **P 20 32 32.2 -0.8**
comp=Z,26nm,1.3s,mb5.0
SSF Saint Saulge 75.56 315 *ep* **P 20 32 32.2 -0.8**
SSF pmax pmax
comp=Z,26nm,1.3s,mb5.0
RJF Les Rejaudoux 77.47 314 *ep* **P 20 32 43.8 0.0**
RJF Les Rejaudoux 77.47 314 *ep* **P 20 32 43.8 0.0**
RJF Les Rejaudoux 77.47 314 *ep* **P 20 32 43.8 0.0**
MCK McKinley 78.50 25 *ep* **P 20 32 50.3 +1.0**
comp=Z,12nm,1.1s,mb4.7
MCK McKinley 78.50 25 *ep* **P 20 32 50.3 +1.1**
MCK pmax pmax
comp=Z,12nm,1.1s,mb4.7
ILAR Eielson Array 78.71 23 P **P 20 32 50.2 -0.2**
comp=Z,0.7nm,0.7s,mb3.7,baz=291,slow=4.9,SNR=14
ILAR PP PP 20 35 47.9 0.0
comp=Z,0.5nm,0.8s,baz=284,slow=5.2,SNR=4.1
ILAR Eielson Array 78.71 23 P **P 20 32 50.2 -0.2**
ILAR PP PP 20 35 47.9 0.0
ILAR Eielson Array 78.71 23 P **P 20 32 50.2 -0.2**
ILAR 20 35 47.9
ETSF Etsaut 79.76 312 *ep* **P 20 32 56.3 -0.2**
comp=Z,7.5nm,0.9s,mb4.3
ETSF Etsaut 79.76 312 *ep* **P 20 32 56.3 -0.2**
comp=Z,7.5nm,0.9s,mb4.6
ETSF Etsaut 79.76 312 *ep* **P 20 32 56.3 -0.2**
ETSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
OHAK Old Harbor 79.88 31 *ep* **P 20 32 58.1 +1.3**
KDAK Kodiak Island 79.94 31 *i* P **P 20 32 58.4 +1.2**
INK Inuvik 80.73 17 LR LR 21 09 23.2
comp=Z,251nm,20.6s,MS4.5,baz=151,slow=36
RES Resolute Bay 81.29 3 LR LR 21 09 05.7
comp=Z,121nm,20.9s,MS4.2,baz=16,slow=36
TAM Tamanrasset 82.86 292 *ep* **P 20 33 14.1 +0.7**
comp=Z,3.0nm,1.0s,mb4.3
TAM Tamanrasset 82.86 292 *ep* **P 20 33 14.1 +0.7**
TAM pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ESDC Sonseca Array 83.42 310 P **P 20 33 17.1 +1.1**
comp=Z,1.2nm,0.9s,mb3.9,baz=47,slow=5.2,SNR=6.0
ESDC Sonseca Array 83.42 310 P **P 20 33 17.1 +1.1**
BOSA Boshof 87.05 237 P **P 20 33 33.6 -0.6**
comp=Z,3.1nm,0.7s,mb4.7,baz=94,slow=4.0,SNR=11
BOSA Boshof 87.05 237 P **P 20 33 33.6 -0.6**
BOSA Boshof 87.05 237 P **P 20 33 33.7 -0.5**
TORD Torodi Ar. Bea 90.06 284 P **P 20 33 49.3 +0.5**
comp=Z,1.1nm,0.8s,mb4.2,baz=81,slow=4.4,SNR=6.9
TORD PP PP 20 37 22.6 +0.7
comp=Z,1.0nm,0.8s,baz=57,slow=7.7,SNR=5.6
TORD Torodi Ar. Bea 90.06 284 P **P 20 33 49.3 +0.5**
TORD PP PP 20 37 22.6 +0.7
YKA Yellowknife Ar 90.12 14 P **P 20 33 46.8 -1.4**
comp=Z,0.9nm,0.8s,mb4.2,baz=326,slow=4.4,SNR=16
YKA Yellowknife Ar 90.12 14 P **P 20 33 46.8 -1.4**
YKA Yellowknife Ar 90.12 14 P **P 20 33 46.8 -1.4**
FRB Frobisher Bay 91.94 354 LR LR 21 18 06.3
comp=Z,172nm,20.2s,MS4.5,baz=317,slow=37
TXAR Lajitas Array 123.22 22 PKP PKPdf 20 39 44.2 -1.6
comp=Z,0.4nm,0.7s,baz=167,slow=0.8,SNR=8.2
TXAR Lajitas Array 123.22 22 PKIKP PKPdf 20 39 44.2 -1.6
TXAR Lajitas Array 123.22 22 PKIKP PKPdf 20 39 44.2 -1.6
SDV Santo Domingo 145.43 339 *e*PKPdf PKPdf 20 40 25.8 -1.6
CPUP Villa Florida 157.21 259 PKPab PKPab 20 41 17.1 +1.4
comp=Z,1.5nm,0.7s,baz=69,slow=4.5,SNR=4.7
CPUP Villa Florida 157.21 259 PKPab PKPab 20 41 17.1 +1.4
CPUP Villa Florida 157.21 259 PKP2 PKPab 20 41 17.1 +1.4
LPAZ La Paz 164.62 297 PKP PKPdf 20 40 52.4 -0.7
comp=Z,0.3nm,0.4s,baz=94,slow=2.8,SNR=3.6
LPAZ La Paz 164.62 297 PKP PKPdf 20 40 52.4 -0.7
LPAZ La Paz 164.62 297 PKIKP PKPdf 20 40 52.4 -0.7

GUC 25 20:21:57.5±0.5, 32°.47S×71°.86W, h15km±999km, MD3.7, ML3.0, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.66**	**27**	*i* P	Pg	20 22 09.7	-0.7
CHNG				*e*S	Sg	20 22 18.8	-0.4
ROCH	**El Roble**	**0.87**	**125**	⇓*e*P	Pb	20 22 13.4	-0.9
ROCH				*e*S	Sb	20 22 25.0	-0.7
JACH	**Jahuel**	**1.09**	**101**	*e*P	Pb	20 22 16.8	-1.2
JACH				*i* S	Sb	20 22 31.6	-0.4
PEL	**Peldehue**	**1.19**	**124**	*e*P	Pn	20 22 18.7	-0.9
PEL				*e*S	Sb	20 22 34.3	-0.7
PEL				AML	AML	20 22 38.1	
	comp=E,2μm,0.2s						
TACH	**Talagante**	**1.41**	**147**	*e*P	Pn	20 22 21.8	-0.8
CLCH	**Cerro Calan**	**1.44**	**130**	*e*P	Pn	20 22 22.4	-0.6
CLCH				*e*S	Sn	20 22 41.2	-0.5
CLCH				AML	AML	20 22 45.6	
	comp=N,465nm,0.4s						
FCH	**Farellones**	**1.57**	**123**	*e*P	Pn	20 22 23.8	-1.0
FCH				*e*S	Sn	20 22 44.3	-0.5
FCH				AML	AML	20 22 48.5	
	comp=E,204nm,0.1s						
PCH	**Pirque**	**1.61**	**136**	*e*P	Pn	20 22 25.6	+0.3
LMEL	**Las Melosas**	**1.95**	**135**	*e*P	Pn	20 22 30.5	+0.5
LMEL				*e*S	Sn	20 22 55.7	+1.4
LMEL				AML	AML	20 23 02.3	
	comp=N,112nm,0.1s						

*PGC **25** 20:40:01.3±2.6, 48°.87N×128°.94W, h10km, ML3.0/15, Mw3.6, 222km west of Tofino, Bc Vancouver Island Region*
*ISCJB **25** 20:40:02.2±1.8, 48°.97N±0°.08×128°.7W±0°.1, h18km±24km, Error ellipse: s-maj=16.3km s-min=6.1km az=42.7*
*IDC **25** 20:40:06.2±2.8, 49°.27N×128°.94W, h0km, mb3.4/2, mb1 3.4/6, mb1mx3.3/26, mbtmp3.3/6, ML2.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=46.9km s-min=20.0km az=71.0*

ISC 25 20:40:02.6±1.8, 49°.00N±0°.09×128°.7W±0°.1, h9km±20km, n26, σ1§02/37, 11D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.29**	**26**	⇑Pn	**Pn**	**20 40 25.8**	**-1.0**
EDB	**Eliza Dome**	**1.33**	**48**	⇑Pn	**Pn**	**20 40 26.6**	**-0.6**
EDB				⇑Sn	**Sn**	**20 40 44.5**	**-0.4**
HOLB	**Holberg**	**1.68**	**11**	⇑Pn	**Pn**	**20 40 31.1**	**-1.0**
MAYB	**Maynard**	**1.70**	**34**	⇑Pn	**Pn**	**20 40 32.0**	**-0.3**
WOSB	**Woss**	**1.78**	**49**	⇓Pn	**Pn**	**20 40 33.9**	**+0.4**
GDR	**Gold River**	**1.88**	**64**	⇑Pn	**Pn**	**20 40 34.8**	**0.0**
PHC	**Port Hardy**	**1.88**	**24**	⇑Pn	**Pn**	**20 40 34.3**	**-0.6**
PHC				⇓Sn	**Sn**	**20 40 57.7**	**-1.0**
OZB	**Mount Ozzard**	**2.08**	**90**	⇓Pn	**Pn**	**20 40 36.2**	**-1.4**
OZB				⇑Sn	**Sn**	**20 41 02.1**	**-1.5**
BTB	**Buttle Lake**	**2.10**	**76**	⇓Pn	**Pn**	**20 40 38.2**	**+0.3**
BTB				⇑Sn	**Sn**	**20 41 05.1**	**+1.0**
NCRB	**Newcastle Ridg**	**2.19**	**49**	⇑Pn	**Pn**	**20 40 40.2**	**+1.1**
BMSB	**Bamfield Mari**	**2.32**	**93**	⇓Pn	**Pn**	**20 40 39.8**	**-1.1**
BMSB				⇑Sn	**Sn**	**20 41 08.5**	**-1.1**
CBB	**Campbell River**	**2.38**	**63**	⇑Pn	**Pn**	**20 40 42.2**	**+0.5**
CBB				⇓Sn	**Sn**	**20 41 11.6**	**+0.8**
ALB	**Alberni**	**2.52**	**82**	⇑Pn	**Pn**	**20 40 44.1**	**+0.4**
ALB				⇑Sn	**Sn**	**20 41 16.1**	**+1.6**
MGB	**Mount Grey**	**2.60**	**89**	⇓Pn	**Pn**	**20 40 44.0**	**-0.8**
MGB				⇓Sn	**Sn**	**20 41 15.6**	**-0.9**
PFB	**Port Renfrew**	**2.82**	**97**	⇑Sn	**Sn**	**20 41 20.1**	**-1.6**
YOUB	**Youbou, Lake C**	**2.89**	**90**	⇓Pn	**Pn**	**20 40 48.4**	**-0.4**
YOUB				⇑Sn	**Sn**	**20 41 23.3**	**-0.3**
GHNB	**Nanoose**	**2.91**	**82**	⇓Pn	**Pn**	**20 40 50.6**	**+1.6**
GHNB				⇑Sn	**Sn**	**20 41 25.8**	**+1.7**
NLLB	**Nanaimo Lost L**	**3.07**	**84**	⇓Pn	**Pn**	**20 40 52.1**	**+0.9**
NLLB				⇑Sn	**Sn**	**20 41 30.1**	**+2.1**
BBB	**Bella Bella**	**3.21**	**6**	Pn	**Pn**	**20 40 52.9**	**-0.2**
	9.8nm,0.3s,baz=200,slow=14,SNR=136						
BBB				Sn	**Sn**	**20 41 31.1**	**-0.3**
	6.5nm,0.3s,baz=296,slow=21,SNR=6.6						
BBB	**Bella Bella**	**3.21**	**6**	⇑Pn	**Pn**	**20 40 52.9**	**-0.2**
BBB				⇑Sn	**Sn**	**20 41 30.4**	**-1.0**
DLBC	**Dease Lake**	**9.49**	**356**	LR	LR	20 45 41.4	
	comp=Z,146nm,21.8s,baz=229,slow=36						
YKA	**Yellowknife Ar**	**15.61**	**25**	Pn	**Pn**	**20 43 42.3**	**-0.1**
	0.0nm,0.3s,baz=215,slow=13,SNR=3.8						
ILAR	**Eielson Array**	**18.56**	**335**	P	**Pn**	**20 44 20.4**	**+0.9**
	0.0nm,0.3s,baz=152,slow=11,SNR=3.3						
INK	**Inuvik**	**19.52**	**355**	P	**Pn**	**20 44 33.1**	**+2.1**
	0.0nm,0.3s,baz=163,slow=11,SNR=2.5						
ULM	**Lac du Bonnet**	**21.18**	**74**	P	**P**	**20 44 52.5**	**+4.6**
	2.5nm,0.6s,baz=291,slow=12,SNR=4.8						
ANMO	**Albuquerque**	**21.55**	**122**	P	Px	20 45 02.0	
	0.7nm,0.7s,baz=314,slow=14,SNR=3.6						

*PGC **25** 20:41:49.5±5.5, 48°.82N×128°.90W, h10km, ML3.0/12, Mw3.6, 220km west of Tofino, Bc Vancouver Island Region*
*ISCJB **25** 20:41:50.2±1.3, 48°.99N±0°.07×128°.60W±0°.09, h10km, Error ellipse: s-maj=11.9km s-min=5.5km az=38.5*
*IDC **25** 20:41:53.1±4.0, 49°.19N×128°.99W, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.3/24, mbtmp3.5/4, ML2.5/2, Error ellipse: s-maj=52.6km s-min=31.8km az=68.0*

ISC 25 20:41:51.4±1.3, 49°.01N±0°.07×128°.58W±0°.09, h10km, n18, σ1§10/25, 8D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.27**	**24**	⇓Pn	**Pn**	**20 42 14.2**	**-0.9**
MAYB	**Maynard**	**1.67**	**33**	⇑Pn	**Pn**	**20 42 20.8**	**+0.1**
WOSB	**Woss**	**1.75**	**48**	⇑Pn	**Pn**	**20 42 21.7**	**0.0**
GDR	**Gold River**	**1.84**	**64**	⇓Sn	**Sn**	**20 42 45.4**	**-0.8**
PHC	**Port Hardy**	**1.86**	**23**	⇓Sn	**Sn**	**20 42 45.2**	**-1.5**
OZB	**Mount Ozzard**	**2.03**	**90**	⇑Pn	**Pn**	**20 42 25.0**	**-0.6**
OZB				⇑Sn	**Sn**	**20 42 50.2**	**-0.8**
NCRB	**Newcastle Ridg**	**2.15**	**49**	⇑Pn	**Pn**	**20 42 28.8**	**+1.5**
NCRB				⇓Sn	**Sn**	**20 42 56.8**	**+2.7**
BMSB	**Bamfield Mari**	**2.28**	**93**	⇓Sn	**Sn**	**20 42 56.2**	**-0.9**
CBB	**Campbell River**	**2.33**	**63**	⇑Sn	**Sn**	**20 43 00.9**	**+2.4**
MGB	**Mount Grey**	**2.56**	**89**	⇑Pn	**Pn**	**20 42 32.6**	**-0.3**
MGB				⇑Sn	**Sn**	**20 43 03.4**	**-0.7**
PFB	**Port Renfrew**	**2.77**	**97**	⇑Sn	**Sn**	**20 43 07.9**	**-1.4**
YOUB	**Youbou, Lake C**	**2.85**	**90**	⇑Pn	**Pn**	**20 42 37.6**	**+0.8**
YOUB				⇑Sn	**Sn**	**20 43 11.2**	**+0.1**
NLLB	**Nanaimo Lost L**	**3.02**	**84**	⇓Pn	**Pn**	**20 42 40.4**	**+1.1**
NLLB				⇓Sn	**Sn**	**20 43 17.7**	**+2.2**
BBB	**Bella Bella**	**3.20**	**5**	Pn	**Pn**	**20 42 41.0**	**-0.6**
	14nm,0.3s,baz=202,slow=12,SNR=19						
BBB				Sn	**Sn**	**20 43 19.5**	**-0.2**
	6.3nm,0.3s,baz=299,slow=19,SNR=5.5						
BBB	**Bella Bella**	**3.20**	**5**	⇑Pn	**Pn**	**20 42 41.5**	**-0.1**
BBB				⇓Sn	**Sn**	**20 43 18.9**	**-0.8**
YKA	**Yellowknife Ar**	**15.58**	**25**	Pn	**Pn**	**20 45 30.5**	**-0.3**
	0.0nm,0.3s,baz=212,slow=13,SNR=3.7						
ILAR	**Eielson Array**	**18.58**	**335**	P	**Pn**	**20 46 09.1**	**+0.7**
	0.0nm,0.3s,baz=152,slow=9.8,SNR=3.3						
ULM	**Lac du Bonnet**	**21.13**	**74**	P	**P**	**20 46 42.3**	**+6.2**
	2.4nm,0.8s,baz=289,slow=11,SNR=3.6						

*IDC **25** 21:04:07.3±1.3, 48°.96N×129°.03W, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.6/27, mbtmp3.6/10, ML2.8/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/32, Error ellipse: s-maj=25.7km s-min=15.3km az=68.0*
*ISCJB **25** 21:04:08.6±1.3, 48°.98N±0°.04×128°.71W±0°.05, h21km±12km, mb3.4/5, MS3.8/2, Error ellipse: s-maj=7.7km s-min=4.8km az=35.6*
*PGC **25** 21:04:08.2±1.1, 48°.91N×128°.90W, h10km, ML3.1/21, Mw3.8, 219km west of Tofino, Bc Vancouver Island Region*
*NEIC **25** 21:04:09.9±1.1, 49°.11N×128°.87W, h10km, mb4.1/1, Error ellipse: s-maj=20.6km s-min=10.4km az=221.0*

ISC 25 21:04:09.4±1.3, 49°.02N±0°.05×128°.68W±0°.07, h14km±11km, n51, σ0§87/70, mb3.4/5, MS3.8/2, 22D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.28**	**27**	⇓Pn	**Pn**	**21 04 31.9**	**-1.0**
BPBC				⇑Sn	**Sn**	**21 04 49.0**	**-0.8**
EDB	**Eliza Dome**	**1.33**	**49**	⇑Pn	**Pn**	**21 04 32.7**	**-0.8**
EDB				⇓Sn	**Sn**	**21 04 50.3**	**-0.6**
ETB	**Estevan Point**	**1.45**	**75**	⇑Pn	**Pn**	**21 04 35.0**	**-0.1**
HOLB	**Holberg**	**1.66**	**12**	⇓Pn	**Pn**	**21 04 36.9**	**-1.1**
MAYB	**Maynard**	**1.70**	**35**	⇓Pn	**Pn**	**21 04 38.1**	**-0.4**
WOSB	**Woss**	**1.79**	**49**	⇑Pn	**Pn**	**21 04 40.0**	**+0.3**
WOSB				⇑Sn	**Sn**	**21 05 02.4**	**+0.1**
PHC	**Port Hardy**	**1.87**	**25**	⇓Pn	**Pn**	**21 04 40.4**	**-0.6**
PHC				⇑Sn	**Sn**	**21 05 03.9**	**-0.4**
GDR	**Gold River**	**1.89**	**65**	⇑Pn	**Pn**	**21 04 40.9**	**-0.3**
OZB	**Mount Ozzard**	**2.10**	**90**	⇑Pn	**Pn**	**21 04 43.2**	**-0.9**
OZB				⇓Sn	**Sn**	**21 05 08.4**	**-1.6**
BTB	**Buttle Lake**	**2.12**	**77**	⇑Pn	**Pn**	**21 04 44.5**	**+0.2**
BTB				⇓Sn	**Sn**	**21 05 11.3**	**+0.9**
NCRB	**Newcastle Ridg**	**2.20**	**50**	⇑Pn	**Pn**	**21 04 46.3**	**+0.9**
NCRB				⇑Sn	**Sn**	**21 05 13.3**	**+1.0**
BMSB	**Bamfield Mari**	**2.35**	**93**	⇑Pn	**Pn**	**21 04 46.6**	**-0.8**
BMSB				⇓Sn	**Sn**	**21 05 14.8**	**-1.2**
CBB	**Campbell River**	**2.39**	**64**	⇑Pn	**Pn**	**21 04 48.7**	**+0.6**
CBB				⇑Sn	**Sn**	**21 05 18.8**	**+1.8**
ALB	**Alberni**	**2.54**	**83**	⇑Pn	**Pn**	**21 04 50.1**	**-0.1**
ALB				⇓Sn	**Sn**	**21 05 20.9**	**0.0**
MGB	**Mount Grey**	**2.63**	**89**	⇓Pn	**Pn**	**21 04 50.5**	**-0.8**
MGB				⇑Sn	**Sn**	**21 05 22.3**	**-0.7**
PFB	**Port Renfrew**	**2.84**	**97**	⇓Pn	**Pn**	**21 04 53.5**	**-0.7**
PFB				⇑Sn	**Sn**	**21 05 26.7**	**-1.5**
TXB	**Texada**	**2.86**	**75**	⇓Pn	**Pn**	**21 04 55.2**	**+0.7**
TXB				⇑Sn	**Sn**	**21 05 30.7**	**+2.1**
YOUB	**Youbou, Lake C**	**2.92**	**91**	⇓Pn	**Pn**	**21 04 54.9**	**-0.3**
YOUB				⇓Sn	**Sn**	**21 05 30.6**	**+0.5**
GHNB	**Nanoose**	**2.93**	**83**	⇑Pn	**Pn**	**21 04 56.4**	**+0.9**
GHNB				⇓Sn	**Sn**	**21 05 31.2**	**+0.8**
NLLB	**Nanaimo Lost L**	**3.09**	**84**	⇓Pn	**Pn**	**21 04 58.7**	**+1.0**
NLLB				⇓Sn	**Sn**	**21 05 35.5**	**+1.1**
BBB	**Bella Bella**	**3.19**	**6**	Pn	**Pn**	**21 04 59.0**	**0.0**
	23nm,0.3s,baz=201,slow=13,SNR=157						
BBB				Sn	**Sn**	**21 05 37.1**	**+0.3**
	18nm,0.3s,baz=290,slow=22,SNR=9.6						
BBB				LR	LR	21 06 15.4	
	comp=Z,334nm,21.0s,baz=63,slow=39						
BBB	**Bella Bella**	**3.19**	**6**	Pn	**Pn**	**21 04 59.0**	**0.0**
BBB				Sn	**Sn**	**21 05 37.1**	**+0.3**
BBB	**Bella Bella**	**3.19**	**6**	⇓Pn	**Pn**	**21 04 59.0**	**-0.1**
BBB				⇓Sn	**Sn**	**21 05 35.7**	**-1.1**
SHB	**Sechelt**	**3.20**	**78**	⇑Pn	**Pn**	**21 05 00.0**	**+0.8**
LZB	**Mount Lazard**	**3.24**	**95**	⇑Pn	**Pn**	**21 04 59.4**	**-0.3**
LZB				⇑Sn	**Sn**	**21 05 37.5**	**-0.5**
GOBB	**Galiano Island**	**3.41**	**89**	⇑Pn	**Pn**	**21 05 02.4**	**+0.3**
PGC	**Sidney**	**3.48**	**94**	⇑Pn	**Pn**	**21 05 02.8**	**-0.2**
PGC				⇓Sn	**

KHAL				*i* S	Sg	21 06 49.0	-0.2
KHAL	**Karahalli**	**0.55**	**28**	*i* P	Pg	21 06 41.6	-0.5
KHAL				*i* S	Sg	21 06 49.0	-0.2
GOLH	**Golhisar**	**0.73**	**154**	*i* P	Pg	21 06 44.1	-1.4
GOLH				*i* S	Sg	21 06 56.9	+2.0
GOLH	**Golhisar**	**0.73**	**154**	*i* P	Pg	21 06 44.2	-1.3
GOLH				*i* S	Sg	21 06 56.9	+2.0
KULA	**Kula-Manisa**	**0.74**	**328**	*e*PG	Pg	21 06 46.2	+0.4
KULA				*e*SG	Sg	21 06 56.0	+0.6
KULA	**Kula-Manisa**	**0.74**	**328**	*e*Pg	Pg	21 06 46.2	+0.4
KULA				*e*Sg	Sg	21 06 56.0	+0.7
MANT	**Manisa**	**0.77**	**322**	*i* P	Pg	21 06 46.1	-0.2
MANT				*i* S	Sg	21 06 57.5	+1.2
MANT	**Manisa**	**0.77**	**322**	*i* P	Pg	21 06 46.1	-0.2
MANT				*i* S	Sg	21 06 57.5	+1.3
GLHS	**Glhisar (BURDU**	**0.78**	**160**	*e*PG	Pg	21 06 47.0	+0.5
GLHS	**Glhisar (BURDU**	**0.78**	**160**	Pg	Pg	21 06 47.0	+0.5
GLHS	**Glhisar (BURDU**	**0.78**	**160**	*e*Pg	Pg	21 06 47.0	+0.4
YER	**Yerkesik**	**1.03**	**223**	*e*PG	Pg	21 06 51.8	+0.5
YER	**Yerkesik**	**1.03**	**223**	Pg	Pg	21 06 51.8	+0.5
YER	**Yerkesik**	**1.03**	**223**	*e*Pg	Pg	21 06 51.8	+0.5
BCK	**Bucak**	**1.21**	**110**	*e*PN	Pn	21 06 55.0	-0.1
BCK	**Bucak**	**1.21**	**110**	Pn	Pn	21 06 55.0	-0.1
BCK	**Bucak**	**1.21**	**110**	*e*Pn	Pn	21 06 55.1	-0.1
SHUT	**Suhut-Afyon**	**1.28**	**58**	*e*PN	Pn	21 06 56.3	+0.2
SHUT	**Suhut-Afyon**	**1.28**	**58**	*e*Pn	Pn	21 06 56.3	+0.2
ELL	**Elmali**	**1.29**	**152**	*e*PN	Pn	21 06 56.6	+0.4
ELL	**Elmali**	**1.29**	**152**	Pn	Pn	21 06 56.6	+0.4
ELL	**Elmali**	**1.29**	**152**	*e*Pn	Pn	21 06 56.6	+0.4
ALT	**Altintas**	**1.38**	**32**	*e*PN	Pn	21 06 57.9	+0.4
ALT	**Altintas**	**1.38**	**32**	Pn	Pn	21 06 57.9	+0.4
ALT	**Altintas**	**1.38**	**32**	*e*Pn	Pn	21 06 57.9	+0.4
SUTC	**Sutluce-Ispart**	**1.52**	**105**	*e*PN	Pn	21 07 00.0	+0.7
SUTC	**Sutluce-Ispart**	**1.52**	**105**	*e*Pn	Pn	21 07 00.0	+0.6
ANTB	**Antalya**	**1.55**	**129**	*e*PN	Pn	21 07 00.4	+0.6
ANTB	**Antalya**	**1.55**	**129**	*e*Pn	Pn	21 07 00.4	+0.6
IZM	**Izmir**	**1.58**	**289**	*e*PN	Pn	21 07 01.1	+0.9
IZM	**Izmir**	**1.58**	**289**	Pn	Pn	21 07 01.1	+0.9
IZM	**Izmir**	**1.58**	**289**	*e*Pn	Pn	21 07 01.1	+0.8
BOLV	**Bolvadin**	**1.63**	**59**	*i* P	Pn	21 07 01.6	+0.7
BOLV				*i* S	Sn	21 07 27.0	+4.7
BOLV	**Bolvadin**	**1.63**	**59**	*i* P	Pn	21 07 01.6	+0.6
BOLV				*i* S	Sn	21 07 27.0	+4.7
BODT	**Bodrum**	**1.69**	**241**	*e*PN	Pn	21 07 02.7	+0.9
BODT	**Bodrum**	**1.69**	**241**	Pn	Pn	21 07 02.7	+0.9
BODT	**Bodrum**	**1.69**	**241**	*e*Pn	Pn	21 07 02.7	+1.0
DAT	**Datca**	**1.71**	**228**	*e*PN	Pn	21 07 03.0	+0.9
DAT	**Datca**	**1.71**	**228**	*e*Pn	Pn	21 07 03.0	+0.9
BLCB	**Balcova**	**1.74**	**287**	*e*PN	Pn	21 07 03.3	+0.8
BLCB	**Balcova**	**1.74**	**287**	Pn	Pn	21 07 03.3	+0.8
BLCB	**Balcova**	**1.74**	**287**	*e*Pn	Pn	21 07 03.3	+0.8
DST	**Dursunbey**	**1.76**	**346**	*e*PN	Pn	21 07 03.7	+0.9
DST	**Dursunbey**	**1.76**	**346**	Pn	Pn	21 07 03.7	+0.9
DST	**Dursunbey**	**1.76**	**346**	*e*Pn	Pn	21 07 03.7	+0.9
DURS	**Dursunbey**	**1.79**	**343**	*i* P	Pn	21 07 05.3	+2.1
DURS				*i* S	Sn	21 07 28.5	+2.3
DURS	**Dursunbey**	**1.79**	**343**	*i* P	Pn	21 07 05.3	+2.2
DURS				*i* S	Sn	21 07 28.5	+2.2
ESKT	**Eskisehir**	**2.10**	**39**	*e*PN	Pn	21 07 08.3	+1.0
ESKT	**Eskisehir**	**2.10**	**39**	Pn	Pn	21 07 08.3	+1.0
ESKT	**Eskisehir**	**2.10**	**39**	*e*Pn	Pn	21 07 08.3	+1.0
BALY	**Balya**	**2.21**	**327**	*i* P	Pn	21 07 14.6	+5.7
BALY	**Balya**	**2.21**	**327**	*i* P	Pn	21 07 14.6	+5.8
KIZT	**Kizilcal**	**2.35**	**64**	*e*PN	Pn	21 07 11.9	+1.0
KIZT	**Kizilcal**	**2.35**	**64**	Pn	Pn	21 07 11.9	+1.0
KIZT	**Kizilcal**	**2.35**	**64**	*e*Pn	Pn	21 07 11.9	+1.0
GONE	**Gonen-Balikesi**	**2.44**	**332**	*e*PN	Pn	21 07 13.4	+1.3
GONE	**Gonen-Balikesi**	**2.44**	**332**	Pn	Pn	21 07 13.4	+1.3
GONE	**Gonen-Balikesi**	**2.44**	**332**	*e*Pn	Pn	21 07 13.4	+1.3
KCTX	**Karacabey (Bur**	**2.45**	**345**	*e*PN	Pn	21 07 13.4	+1.2
KCTX	**Karacabey (Bur**	**2.45**	**345**	*e*Pn	Pn	21 07 13.5	+1.3

BUC 25 21:09:57.3±1.4, 45°39N×24°07E, h15km±9km, MD2.6/2, 8C-2D, Error ellipse: s-maj=38.8km s-min=6.5km az=6.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOT	**Lotru**	**0.22**	**285**	⇓*i* P	Pg	21 10 02.8	+0.5
LOT				S	Sg	21 10 05.8	+0.2
LOT	**Lotru**	**0.22**	**285**	⇓*i* P	Pg	21 10 02.8	+0.5
LOT				*i* S	Sg	21 10 05.8	+0.2
VOIR		**0.69**	**86**	S	Sg	21 10 21.6	+1.7
VOIR		**0.69**	**86**	*i* S	Sg	21 10 21.6	+1.7
GZR	**Gura Zlata**	**0.91**	**271**	⇑*i* P	Pb	21 10 15.1	+0.3
GZR	**Gura Zlata**	**0.91**	**271**	S	Sb	21 10 26.9	+0.2
GZR	**Gura Zlata**	**0.91**	**271**	⇑*i* P	Pb	21 10 15.1	+0.3
GZR				*i* S	Sb	21 10 26.9	+0.2
DEV	**Deva**	**0.96**	**301**	⇑*i* P	Pb	21 10 15.7	+0.2
DEV	**Deva**	**0.96**	**301**	S	Sb	21 10 28.1	+0.1
DEV	**Deva**	**0.96**	**301**	⇑*i* P	Pb	21 10 15.7	+0.2
DEV				*i* S	Sb	21 10 28.1	+0.1
DRGR		**1.69**	**326**	⇑*i* P	Pn	21 10 26.7	+0.5
DRGR		**1.69**	**326**	S	Sn	21 10 49.8	+2.2
DRGR		**1.69**	**326**	⇑*i* P	Pn	21 10 26.7	+0.5
DRGR				*i* S	Sn	21 10 49.8	+2.2
DRGR		**1.69**	**326**	S	Sn	21 10 49.8	+2.2
BZS	**Buzias**	**1.74**	**278**	⇑*i* P	Pn	21 10 28.5	+1.6
BZS	**Buzias**	**1.74**	**278**	S	Sn	21 10 50.7	+1.9
BZS	**Buzias**	**1.74**	**278**	⇑*i* P	Pn	21 10 28.5	+1.6
BZS				*i* S	Sn	21 10 50.7	+1.9

DDA ***25*** *21:13:00.7, 37°.91N×29°.24E, h7km±2km, Md2.9*
CSEM ***25*** *21:13:00.9±0.2, 37°.89N×29°.13E, h12km, MD2.8, Error ellipse: s-maj=6.2km s-min=4.1km az=89.0*
ISCJB ***25*** *21:13:01.1±0.5, 37°.90N±0°.04×29°.13E±0°.06, h13km±7km, Error ellipse: s-maj=9.2km s-min=5.2km az=154.3*
ISK ***25*** *21:13:01.1, 37°.87N×29°.03E, h18km, MD2.8*
NEIC ***25*** *21:13:01.3, 37°.87N×28°.98E, h17km, MD2.8(ISK), After ISK.*

ISC 25 21:13:01.3±0.5, 37°.90N±0°.03×29°.14E±0°.06, h14km±6km, n30, σ0°.96/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.17**	**210**	*e*PG	**Pg**	**21 13 05.0**	**-0.4**
DENT				*e*SG	**Sg**	**21 13 08.3**	**+0.1**
DENT	**Denizli**	**0.17**	**210**	Pg	**Pg**	**21 13 05.1**	**-0.3**
DENT				Sg	**Sg**	**21 13 08.1**	**-0.1**
DENT	**Denizli**	**0.17**	**210**	Pg	**Pg**	**21 13 05.1**	**-0.3**
DENT				Sg	**Sg**	**21 13 08.1**	**-0.1**
KHAL	**Karahalli**	**0.54**	**30**	*i* P	**Pg**	**21 13 11.1**	**-0.8**
KHAL				*i* S	**Sg**	**21 13 18.2**	**-1.0**
KHAL	**Karahalli**	**0.54**	**30**	*i* P	**Pg**	**21 13 11.1**	**-0.9**
KHAL				*i* S	**Sg**	**21 13 18.2**	**-1.0**
KULA	**Kula-Manisa**	**0.72**	**328**	*e*PG	**Pg**	**21 13 15.5**	**+0.2**
KULA				*e*SG	**Sg**	**21 13 25.6**	**+0.8**
KULA	**Kula-Manisa**	**0.72**	**328**	*e*Pg	**Pg**	**21 13 15.5**	**+0.2**
KULA				*e*Sg	**Sg**	**21 13 25.6**	**+0.8**
GOLH	**Golhisar**	**0.74**	**153**	*i* P	**Pg**	**21 13 15.1**	**-0.7**
GOLH	**Golhisar**	**0.74**	**153**	*i* P	**Pg**	**21 13 15.1**	**-0.7**
MANT	**Manisa**	**0.75**	**322**	*i* P	**Pg**	**21 13 15.8**	**0.0**
MANT				*i* S	**Sg**	**21 13 27.1**	**+1.5**
MANT	**Manisa**	**0.75**	**322**	*i* P	**Pg**	**21 13 15.8**	**0.0**
MANT				*i* S	**Sg**	**21 13 27.1**	**+1.5**
GLHS	**Glhisar (BURDU**	**0.80**	**159**	*e*PG	**Pg**	**21 13 16.7**	**-0.1**
GLHS				*e*SG	**Sg**	**21 13 29.1**	**+1.9**
GLHS	**Glhisar (BURDU**	**0.80**	**159**	Pg	**Pg**	**21 13 17.7**	**+0.9**
GLHS	**Glhisar (BURDU**	**0.80**	**159**	*e*Pg	**Pg**	**21 13 16.7**	**-0.1**
YER	**Yerkesik**	**1.03**	**222**	*e*PG	**Pg**	**21 13 19.5**	**-1.7**
YER	**Yerkesik**	**1.03**	**222**	Pg	**Pg**	**21 13 19.5**	**-1.7**
YER	**Yerkesik**	**1.03**	**222**	*e*Pg	**Pg**	**21 13 19.5**	**-1.7**
GDZ	**Gediz**	**1.21**	**13**	*i* P	**Pn**	**21 13 23.2**	**-0.7**
GDZ				*i* S	**Sb**	**21 13 39.0**	**-0.6**
GDZ	**Gediz**	**1.21**	**13**	*i* P	**Pn**	**21 13 23.2**	**-0.7**
GDZ				*i* S	**Sb**	**21 13 39.0**	**-0.6**
SHUT	**Suhut-Afyon**	**1.28**	**59**	*e*PN	**Pn**	**21 13 25.9**	**+1.0**
SHUT	**Suhut-Afyon**	**1.28**	**59**	*e*Pn	**Pn**	**21 13 25.9**	**+1.0**
ALT	**Altintas**	**1.38**	**33**	*e*PN	**Pn**	**21 13 27.4**	**+1.2**
ALT	**Altintas**	**1.38**	**33**	Pn	**Pn**	**21 13 27.6**	**+1.4**
ALT	**Altintas**	**1.38**	**33**	*e*Pn	**Pn**	**21 13 27.4**	**+1.2**
BLCB	**Balcova**	**1.73**	**287**	*e*PN	**Pn**	**21 13 29.7**	**-1.2**
BLCB	**Balcova**	**1.73**	**287**	Pn	**Pn**	**21 13 29.7**	**-1.2**
BLCB	**Balcova**	**1.73**	**287**	*e*Pn	**Pn**	**21 13 29.7**	**-1.3**
DST	**Dursunbey**	**1.75**	**347**	*e*PN	**Pn**	**21 13 31.8**	**+0.5**
DST	**Dursunbey**	**1.75**	**347**	Pn	**Pn**	**21 13 31.8**	**+0.5**
DST	**Dursunbey**	**1.75**	**347**	*e*Pn	**Pn**	**21 13 31.8**	**+0.5**

DDA ***25*** *21:49:00.7, 36°.97N×28°.11E, h7km±3km, Md2.6*
ISCJB ***25*** *21:49:01.0±0.7, 37°.00N±0°.05×28°.33E±0°.04, h10km, Error ellipse: s-maj=7.5km s-min=4.9km az=15.1*
ISK ***25*** *21:49:01.3, 37°.16N×28°.21E, h17km, MD2.2*
CSEM ***25*** *21:49:01.6±0.5, 37°.00N×28°.32E, h2km, MD2.2, Error ellipse: s-maj=13.5km s-min=9.6km az=19.0*

ISC 25 21:49:01.8±1.6, 37°.2N±0°.1×28°.24E±0°.05, h17km±6km, n10, σ0°.35/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.05**	**135**	*e*PG	**Pg**	**21 49 04.7**	**-0.2**
YER				*e*SG	**Sg**	**21 49 07.4**	**+0.4**
YER	**Yerkesik**	**0.05**	**135**	*e*Pg	**Pg**	**21 49 04.7**	**-0.2**
YER				*e*Sg	**Sg**	**21 49 07.4**	**+0.4**
TURN	**Turunc**	**0.41**	**135**	*i* P	**Pg**	**21 49 05.2**	**-5.1**
TURN				*i* S	**Sg**	**21 49 08.7**	**-7.2**
TURN	**Turunc**	**0.41**	**135**	*i* P	**Pg**	**21 49 05.2**	**-5.1**
TURN				*i* S	**Sg**	**21 49 08.7**	**-7.2**
DAT	**Datca**	**0.69**	**231**	*e*PG	**Pg**	**21 49 14.9**	**-0.4**
DAT				*e*SG	**Sg**	**21 49 24.7**	**+0.2**
DAT	**Datca**	**0.69**	**231**	*e*Pg	**Pg**	**21 49 15.0**	**-0.3**
DAT				*e*Sg	**Sg**	**21 49 24.7**	**+0.2**
BODT	**Bodrum**	**0.75**	**262**	*e*PG	**Pg**	**21 49 16.0**	**-0.5**
BODT				*e*SG	**Sg**	**21 49 26.7**	**+0.2**
BODT	**Bodrum**	**0.75**	**262**	*e*Pg	**Pg**	**21 49 16.0**	**-0.5**
BODT				*e*Sg	**Sg**	**21 49 26.7**	**+0.3**
AKAS	**Kas**	**1.44**	**130**	*i* P	**Pn**	**21 49 27.5**	**+0.5**
AKAS				*i* S	**Sg**	**21 49 48.0**	**-0.3**
AKAS	**Kas**	**1.44**	**130**	*i* P	**Pn**	**21 49 27.5**	**+0.5**

ISCJB ***25*** *22:36:07.5±0.9, 32°.50N±0°.04×105°.31E±0°.05, h1km±7km, mb3.6/5, Error ellipse: s-maj=6.9km s-min=5.7km az=26.1*
IDC ***25*** *22:36:10.0±1.2, 32°.30N×105°.34E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.4/4, Error ellipse: s-maj=190.9km s-min=21.3km az=56.0*
NEIC ***25*** *22:36:11.8±0.8, 31°.76N×104°.39E, h10km, mb4.2/1, Error ellipse: s-maj=36.0km s-min=12.3km az=224.0*
BJI ***25*** *22:36:12.5, 32°.47N×105°.22E, h13km, ML3.1/11*

ISC 25 22:36:10.6±0.8, 32°.48N±0°.03×105°.25E±0°.05, h5km±7km, n13, σ1°.33/21, mb3.5/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.02**	**220**	Pn	**Pn**	**22 36 46.5**	**+1.3**
CD2				Pg	**Pg**	**22 36 49.8**	**+0.6**
CD2				Sn	**Sn**	**22 37 10.5**	**-0.3**
CD2				Sg	**Sg**	**22 37 14.0**	**-1.3**
CD2				smax			
	comp=N,1μm,0.7s						
CD2				smax			
	comp=E,1μm,0.5s						
XAN	**Xi'an**	**3.45**	**62**	Pn	**Pn**	**22 37 07.0**	**+2.1**
XAN				Pg	**Pg**	**22 37 17.5**	**+0.8**
XAN				Sg	**Sg**	**22 37 59.5**	**-1.8**
XAN				smax			
	comp=N,72nm,0.5s						
XAN				smax			
	comp=E,34nm,0.7s						
LZH	**Lanzhou**	**3.79**	**342**	Pn	**Pn**	**22 37 14.0**	**+4.4**
LZH				Sn	**Sn**	**22 37 52.7**	**-1.8**
LZH				Sg	**Sg**	**22 38 11.8**	**-0.4**
LZH				smax			
	comp=N,86nm,0.6s						
LZH				smax			
	comp=E,90nm,0.5s						
ENH	**Enshi**	**4.24**	**120**	*e*Pn	**Pn**	**22 37 21.9**	**+6.2**
ENH				*e*Sg	**Sg**	**22 38 27.2**	**+0.5**
MKAR	**Makanchi Array**	**22.63**	**316**	P	**P**	**22 41 14.0**	**+1.8**
	comp=E,0.3nm,0.5s,mb3.0,baz=114,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**22.63**	**316**	P	**P**	**22 41 14.0**	**+1.8**
ZALV	**Zalesovo Beam**	**25.94**	**332**	P	**P**	**22 41 45.9**	**+2.2**
	comp=E,0.4nm,0.6s,mb3.1,baz=135,slow=11,SNR=3.5						
ZALV	**Zalesovo Beam**	**25.94**	**332**	P	**P**	**22 41 45.9**	**+2.2**
WRAB	**Tennant Creek**	**59.09**	**148**	P	**P**	**22 46 10.5**	**-1.4**
	comp=E,2.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**59.09**	**148**	P	**P**	**22 46 10.8**	**-1.2**
	comp=E,0.4nm,0.5s,mb3.7,baz=332,slow=8.5,SNR=8.1						
WRA	**Warramunga Arr**	**59.09**	**148**	P	**P**	**22 46 10.8**	**-1.2**
ASAR	**Alice Springs**	**62.17**	**150**	P	**P**	**22 46 32.1**	**-0.8**
	comp=E,0.3nm,0.7s,mb3.5,baz=337,slow=7.1,SNR=2.9						
ASAR	**Alice Springs**	**62.17**	**150**	P	**P**	**22 46 32.1**	**-0.8**

IDC 25 22:36:46.2±2.0, 15°.55S×173°.33W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/20, mbtmp3.9/5, Error ellipse: s-maj=60.3km s-min=33.3km az=121.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.14**	**199**	P	P	22 42 04.2	+0.3
	9.0nm,0.9s,baz=236,slow=8.2,SNR=5.8						
STKA	**Stephens Creek**	**44.02**	**240**	P	P	22 44 55.1	-0.7
	1.5nm,0.8s,baz=100,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**49.88**	**257**	P	P	22 45 41.8	0.0
	0.3nm,0.5s,baz=93,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**50.13**	**252**	P	P	22 45 44.1	+0.4
	2.3nm,0.5s,baz=91,slow=7.4,SNR=87						
ILAR	**Eielson Array**	**82.58**	**11**	P	P	22 49 10.8	+0.1
	0.3nm,0.8s,baz=208,slow=5.4,SNR=4.1						

BGS ***25*** *22:40:17.9±1.8, 23°.29N×65°.48E, h10km, mb5.9, MS5.6*
BJI ***25*** *22:40:18.1, 23°.32N×64°.03E, h11km, mB5.8/59, mb5.3/62, Ms6.0/76, Ms7 5.8/64*
CSEM ***25*** *22:40:21.9±0.1, 23°.38N×64°.56E, h2km, mb5.6/99, Ms5.6, Mw5.8, Error ellipse: s-maj=6.7km s-min=3.8km az=4.0*
IDC ***25*** *22:40:21.2±0.4, 23°.34N×64°.58E, h0km, mb4.9/41, mb1 4.9/41, mb1mx4.9/43, mbtmp4.9/41, MS5.5/35, Ms1 5.5/35, ms1mx5.4/43, Error ellipse: s-maj=12.0km s-min=9.4km az=7.0*
ISCJB ***25*** *22:40:21.3±0.1, 23°.35N±0°.02×64°.55E±0°.01, h10km, mb5.5/264, MS5.6/267, Error ellipse: s-maj=3.3km s-min=1.8km az=7.8*
OMAN ***25*** *22:40:22.0±2.0, 23°.20N×64°.50E, h10km, Error ellipse: s-maj=3.3km s-min=1.5km az=337.0*
SFS ***25*** *22:40:23.0, 23°.39N×64°.50E, h10km, ML6.0*
NEIC ***25*** *22:40:23.6±0.2, 23°.42N×64°.50E, h13km, mb5.8/137, ME5.7, MS5.6/184, MW5.8, MWS.8, Error ellipse: s-maj=6.3km s-min=3.5km az=190.0, Moment Tensor Solution. s72 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.94; $M_{\theta\theta}$3.95; $M_{\phi\phi}$-1.01; $M_{r\theta}$-4.73; $M_{\theta\phi}$3.23; $M_{r\phi}$1.97; Best double couple: $M_0$7.00000×10^{17} NP1:ϕ_s99.00000°, δ75.00000°, λ-55.00000°. NP2:ϕ_s210.00000°, δ38.00000°, λ-154.00000°. Principal axes: T 6.9100, Plg21.0000°, Azm163.0000°; N 0.2100, Plg33.0000°, Azm268.0000°; P -7.1300, Plg48.0000°, Azm46.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
VIE ***25*** *22:40:23.0, 23°.36N×64°.49E, h10km, mb5.9 309 km WSW of Karachi*
DJA ***25*** *22:40:24, 23°.40N×64°.55E, h10km, mb5.6/19*
MOS ***25*** *22:40:25.9±1.6, 23°.42N×64°.55E, h42km, mb5.9/82, MS5.5/72, Error ellipse: s-maj=5.3km s-min=3.0km az=123.9*
GCMT ***25*** *22:40:26.5±0.1, 23°.22N×64°.36E, h12km, MW5.8, Moment Tensor Solution. s105,c212; s63,c78; Moment tensor: Scale 10^{17}Nm; M_{rr}-4.15±.06; $M_{\theta\theta}$5.99±.06; $M_{\phi\phi}$-1.85±.07; $M_{r\theta}$-2.76±.15; $M_{\theta\phi}$3.59±.05; $M_{r\phi}$2.36±.16; Best double couple: $M_0$7.40000×10^{17} NP1:ϕ_s215.00000°, δ50.00000°, λ-146.00000°. NP2:ϕ_s101.00000°, δ65.00000°, λ-46.00000°. Principal axes: T 7.6600, Plg9.0000°, Azm161.0000°; N -0.6200, Plg39.0000°, Azm259.0000°; P -7.0500, Plg50.0000°, Azm61.0000°; Data Used: II IU IC G CN. Surface waves: sta=104, comp=226, per= 50.*
SZGRF ***25*** *22:40:44.8, 25°.76N×62°.65E, h33km, mb5.8, MS5.1, Southwestern Pakistan*

ISC 25 22:40:23.2±0.1, 23°.35N±0°.02×64°.54E±0°.01, h10km, (h19km±2.2km: pP-P), n1597, σ1°.29/1519, mb5.5/264, MS5.6/267, 72C-40D, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**4.70**	**90**	*ex*	**Sn**	**22 42 36.1**	**+7.2**
WBK	**Wadi Bani Khal**	**5.18**	**263**	P	**Pn**	**22 41 37.6**	**-3.2**
	SNR=378						
WBK				P		22 41 37.8	
	SNR=450						
WBK				P		22 41 38.0	
	SNR=293						
WBK	**Wadi Bani Khal**	**5.18**	**263**	P	**Pn**	**22 41 38.0**	**-2.9**
	SNR=293						
SMDO	**Samad**	**5.98**	**268**	P	**Pn**	**22 41 48.4**	**-3.3**
	SNR=564						
SMDO				P		22 41 48.5	
	SNR=261						
SMDO				P		22 41 49.2	
	SNR=167						
SMDO	**Samad**	**5.98**	**268**	P	**Pn**	**22 41 49.2**	**-2.6**
	SNR=167						
JMDO	**Jabal Madar**	**6.02**	**262**	P	**Pn**	**22 41 50.0**	**-2.3**
	SNR=648						
JMDO				P		22 41 50.1	
	SNR=754						
JMDO				P		22 41 50.5	
	SNR=160						
JMDO	**Jabal Madar**	**6.02**	**262**	P	**Pn**	**22 41 50.5**	**-1.8**
	SNR=160						
HOQ	**Hoqain**	**6.64**	**273**	P	**Pn**	**22 41 57.3**	**-3.5**
	SNR=95						
HOQ				P		22 41 57.7	
	SNR=84						
HOQ				P		22 41 58.5	
	SNR=21						
HOQ	**Hoqain**	**6.64**	**273**	P	**Pn**	**22 41 58.5**	**-2.4**
	SNR=21						
BSYO	**Bisya**	**6.75**	**266**	P	**Pn**	**22 42 00.9**	**-1.5**
	SNR=105						
BSY	**Bisya**	**6.79**	**266**	P	**Pn**	**22 42 00.3**	**-2.6**
	SNR=641						
BSY				P		22 42 00.6	
	SNR=276						
BSY				P		22 42 00.9	
	SNR=105						
ARQ	**Araqi**	**7.37**	**271**	P	**Pn**	**22 42 09.4**	**-1.5**
	SNR=98						
ARQ				P		22 42 09.6	
	SNR=184						
ARQ	**Araqi**	**7.37**	**271**	P	**Pn**	**22 42 09.6**	**-1.3**
	SNR=184						
ASHO	**Ashiyiah**	**7.87**	**281**	P	**Pn**	**22 42 14.5**	**-3.2**
	SNR=343						
ASHO	**Ashiyiah**	**7.87**	**281**	P	**Pn**	**22 42 14.5**	**-3.2**
	SNR=343						
NAZ	**Nazwa, Dubai**	**8.27**	**283**	P	**Pn**	**22 42 22.2**	**-1.1**
	SNR=365						
NAZ				P		22 42 22.3	
	SNR=189						
NAZ	**Nazwa, Dubai**	**8.27**	**283**	P	**Pn**	**22 42 22.3**	**-0.9**
	SNR=189						
ASUD	**Al Ashush, Dub**	**8.52**	**280**	P	**Pn**	**22 42 25.9**	**-0.7**
	SNR=37						
ASUD				P		22 42 26.1	
	SNR=272						
ASUD				P		22 42 26.2	
	SNR=48						
ASUD	**Al Ashush, Dub**	**8.52**	**280**	P	**Pn**	**22 42 26.2**	**-0.5**
	SNR=48						
AJM	**Ajmer**	**9.69**	**69**	*e*PKP	**Pn**	**22 42 42.0**	**-0.7**
POO	**Poona**	**9.93**	**117**	*e*PKP	**Pn**	**22 42 46.5**	**+0.4**
POO				AMb	AMB	22 42 55.0	
	comp=Z,131nm,1.2s						
KAD	**Karad**	**10.86**	**122**	*e*PKP	**Pn**	**22 43 00.0**	**+1.2**
SARP	**Sargodha**	**11.17**	**38**	P	**Pn**	**22 43 01.6**	**-1.4**
SARR	**Saratov**	**11.17**	**38**	pmax	pmax		
	comp=Z,88nm,1.5s						
KHET	**Khetri**	**11.19**	**63**	*e*PKP	**Pn**	**22 43 02.7**	**-0.6**
KHET				AMb	AMB	22 43 07.3	
	comp=Z,251nm,1.2s						
RBK	**Rabkut**	**11.30**	**241**	P	**Pn**	**22 43 03.7**	**-1.1**
	SNR=109						
RBK	**Rabkut**	**11.30**	**241**	P	**Pn**	**22 43 03.7**	**-1.1**
	SNR=109						
THW	**Thamme Wali**	**11.35**	**32**	⇓P	**Pn**	**22 43 04.0**	**-1.5**
THW				S	**Sn**	**22 45 06.0**	**-6.4**

GOA	**Goa**	**11.74**	**130**	⇓*e*PKP	**Pn**	**22 43 10.2**	**-0.6**
GOA				AMb	AMB	22 43 13.7	
	comp=Z,90nm,0.4s						
GOA				*ex*	x	22 45 16.4	
KUDL	**Kundal**	**11.78**	**64**	*e*PKP	**Pn**	**22 43 10.9**	**-0.4**
KUDL				AMb	AMB	22 43 14.9	
	comp=Z,675nm,0.9s						
KBL	**Kabul**	**11.82**	**18**	*e*Pn	**Pn**	**22 43 10.9**	**-1.1**
KBL				*e*Sn	**Sn**	**22 45 16.2**	**-7.8**
KBL	**Kabul**	**11.82**	**18**	*e*P	**Pn**	**22 43 10.9**	**-1.0**
KBL				*e*		22 45 16.2	
KBL	**Kabul**	**11.82**	**18**	*e*P	**Pn**	**22 43 10.9**	**-1.0**
KBL				*e*Sn	**Sn**	**22 45 16.2**	**-7.7**
BHPL	**Bhopal**	**11.84**	**88**	*e*PKP	**Pn**	**22 43 12.1**	**-0.2**
BHPL				AMb	AMB	22 43 14.3	
	comp=Z,378nm,0.9s						
AKL	**Akola**	**11.87**	**100**	⇓*i*P	**Pn**	**22 43 13.0**	**+0.4**
AKL				*i* x	x	22 45 22.9	
RTK	**Rohtak**	**12.07**	**60**	*e*PKP	**Pn**	**22 43 14.1**	**-1.2**
ABTO	**Aybut**	**12.11**	**243**	P	**Pn**	**22 43 12.9**	**-3.0**
	SNR=50						
ABTO				P		22 43 13.8	
	SNR=24						
ABTO	**Aybut**	**12.11**	**243**	P	**Pn**	**22 43 13.9**	**-2.0**
	SNR=24						
LATR	**Latur**	**12.26**	**111**	*e*PKP	**Pn**	**22 43 17.8**	**-0.1**
LATR				*ex*	x	22 45 56.8	
CEP	**Cherat**	**12.27**	**30**	⇓P	**Pn**	**22 43 17.0**	**-1.1**
SONA	**Sohna**	**12.31**	**64**	*e*PKP	**Pn**	**22 43 17.6**	**-0.9**
AYAN	**Aya Nagar**	**12.43**	**63**	*e*PKP	**Pn**	**22 43 20.2**	**0.0**
NDI	**New Delhi**	**12.57**	**62**	*e*PKP	**Pn**	**22 43 19.5**	**-2.7**
AGRA	**Agra**	**12.73**	**70**	*e*PKP	**Pn**	**22 43 23.6**	**-0.7**
AGRA				AMb	AMB	22 43 31.1	
	comp=Z,379nm,1.2s						
NIL	**Nilore**	**12.80**	**35**	*e*Pn	**Pn**	**22 43 25.2**	**0.0**
	comp=Z,9.8nm,0.8s						
NIL	**Nilore**	**12.80**	**35**	*e*P	**Pn**	**22 43 25.2**	**0.0**
NIL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NIL	**Nilore**	**12.80**	**35**	*e*P	**Pn**	**22 43 25.2**	**0.0**
	comp=Z,10.0nm,0.8s						
KKR	**Kurukshetra**	**12.80**	**56**	*e*PKP	**Pn**	**22 43 23.2**	**-2.1**
CHCP	**Chirah Chowk**	**12.81**	**35**	P	**Pn**	**22 43 23.5**	**-1.9**
ASOR	**Ausora**	**13.05**	**63**	*e*PKP	**Pn**	**22 43 28.4**	**-0.3**
BHK	**Bhakra**	**13.25**	**50**	*e*PKP	**Pn**	**22 43 29.0**	**-2.5**
BHK				*ex*	x	22 45 51.0	
THN	**Thein Dam**	**13.39**	**45**	*e*PKP	**Pn**	**22 43 31.8**	**-1.5**
THN				*ex*	x	22 45 47.3	
NGP	**Nagpur**	**13.61**	**96**	*e*PKP	**Pn**	**22 43 36.6**	**+0.2**
NGP				*ex*	x	22 43 58.7	
	comp=Z,592nm,1.3s						
NGP				*ex*	x	22 46 27.4	
SMLA	**Simla**	**13.64**	**53**	*i* P	**Pn**	**22 43 36.0**	**-0.7**
SMLA				*i* x	x	22 46 00.7	
SDNR	**Sundarnagar**	**13.69**	**51**	*e*PKP	**Pn**	**22 43 35.4**	**-2.1**
SDNR				*ex*	x	22 46 06.0	
DDI	**Dehra Dun**	**13.91**	**57**	⇑*i*x	**Pn**	**22 43 36.5**	**-4.0**
DDI				*ex*	x	22 46 25.0	
JBP	**Jabalpur**	**14.20**	**88**	*ex*	**Pn**	**22 43 41.8**	**-2.6**
JBP				*ex*	x	22 47 16.2	
HYB	**Hyderabad**	**14.40**	**112**	*i* P	**Pn**	**22 43 44.5**	**-2.7**
	comp=Z,110nm,1.0s						
HYB				*e*S	**Sn**	**22 46 28.0**	**+0.9**
HYB				LR	LR	22 51 04.0	
	comp=Z,54nm,14.0s						
PTH	**Pithoragarh**	**15.33**	**63**	*e*PKP	**Pn**	**22 44 01.0**	**+1.3**
PTH				*ex*	x	22 46 46.0	
ABKT	**Ailbek**	**15.54**	**341**	Pn	**Pn**	**22 44 02.1**	**-0.3**
	comp=Z,986nm,1.0s,SNR=18						
ALBI	**Allahabad**	**15.86**	**79**	*ex*	**Pn**	**22 44 04.5**	**-2.2**
ALBI				*ex*	x	22 44 38.0	
QRN	**Al-Qurain**	**15.87**	**293**	*e*P	**Pn**	**22 44 02.5**	**-4.3**
QRN				AMb	AMB	22 44 05.7	
	comp=Z,520nm,1.1s						
KBD	**Kabd**	**16.18**	**295**	*e*P	**Pn**	**22 44 06.9**	**-3.8**
KBD				AMb	AMB	22 44 19.4	
	comp=Z,722nm,1.7s						
KBD	**Kabd**	**16.18**	**295**	*e*P	**Pn**	**22 44 06.9**	**-3.8**
	comp=Z,722nm,1.7s						
RDF	**Al-Radifah**	**16.23**	**294**	*e*P	**Pn**	**22 44 06.7**	**-4.7**
RDF				AMb	AMB	22 44 14.0	
	comp=Z,448nm,1.4s						
RDF	**Al-Radifah**	**16.23**	**294**	*e*P	**Pn**	**22 44 06.7**	**-4.7**
	comp=Z,448nm,1.4s						
UMR	**Umm Al-Rimmam**	**16.28**	**296**	*e*P	**Pn**	**22 44 07.9**	**-4.1**
UMR				AMb	AMB	22 44 14.8	
	comp=Z,511nm,1.2s						
UMR	**Umm Al-Rimmam**	**16.28**	**296**	*e*P	**Pn**	**22 44 07.9**	**-4.1**
	comp=Z,511nm,1.2s						
NAY	**Al-Naaiem**	**16.58**	**294**	*e*P	**Pn**	**22 44 11.8**	**-4.1**
NAY				AMb	AMB	22 44 18.8	
	comp=Z,458nm,0.9s						
NAY	**Al-Naaiem**	**16.58**	**294**	*e*P	**Pn**	**22 44 11.8**	**-4.0**
	comp=Z,458nm,0.9s						
MIB	**Mutribah**	**16.67**	**296**	*e*P	**Pn**	**22 44 13.1**	**-3.8**
MIB				AMb	AMB	22 44 16.2	
	comp=Z,556nm,0.9s						
MIB	**Mutribah**	**16.67**	**296**	*e*P	**Pn**	**22 44 13.1**	**-3.8**
	comp=Z,556nm,0.9s						
RST	**Umm Al-Ruwaisa**	**16.86**	**295**	*e*P	**Pn**	**22 44 15.5**	**-3.8**
RST				AMb	AMB	22 44 18.7	
	comp=Z,77nm,1.1s						
RST	**Umm Al-Ruwaisa**	**16.86**	**295**	*e*P	**Pn**	**22 44 15.5**	**-3.8**
	comp=Z,77nm,1.1s						
MUKL	**Al Mukalla**	**17.11**	**242**	*e*P	**Pn**	**22 44 23.4**	**+0.9**
PYUN	**Piuthan**	**17.28**	**70**	*e*P	**Pn**	**22 44 23.3**	**-1.4**
	comp=Z,349nm,0.9s						
PYUN	**Piuthan**	**17.28**	**70**	*e*P	**Pn**	**22 44 23.3**	**-1.4**
	comp=Z,349nm,0.9s						
PYUN	**Piuthan**	**17.28**	**70**	*e*P	**Pn**	**22 44 23.3**	**-1.4**
	comp=Z,349nm,0.9s						
KOLN	**Koldanda**	**17.75**	**72**	*e*P	**Pn**	**22 44 29.2**	**-1.3**
KOLN	**Koldanda**	**17.75**	**72**	*e*P	**Pn**	**22 44 29.2**	**-1.3**
KOLN	**Koldanda**	**17.75**	**72**	*e*P	**Pn**	**22 44 29.2**	**-1.3**
DANN	**Dangsing**	**18.00**	**70**	*e*P	**Pn**	**22 44 31.9**	**-1.7**
DANN	**Dangsing**	**18.00**	**70**	*e*P	**Pn**	**22 44 31.9**	**-1.7**
DANN	**Dangsing**	**18.00**	**70**	*e*P	**Pn**	**22 44 31.9**	**-1.7**
HMDM	**Hanimaadhoo**	**18.46**	**152**	P	Px	22 44 51.7	
GKN	**Gorkha**	**18.69**	**71**	*e*P	**Pn**	**22 44 40.8**	**-1.3**
GKN	**Gorkha**	**18.69**	**71**	*e*P	**Pn**	**22 44 40.8**	**-1.3**
GKN	**Gorkha**	**18.69**	**71**	*e*P	**Pn**	**22 44 40.8**	**-1.3**
KSH	**Kashi**	**18.81**	**28**	P	**Pn**	**22 44 36.5**	**-6.9**
KSH				PP		22 44 51.3	
KSH				S	**Sn**	**22 47 55.0**	**-19**
KSH				pmax	pmax		
	comp=Z,2μm,1.7s						
KSH				pmax	pmax		
	comp=Z,8μm,6.0s						
KSH				LR	LR		
	comp=N,12μm,10.5s						
KSH				LR	LR		
	comp=E,12μm,11.2s						
KSH				LR	LR		
	comp=Z,15μm,13.5s						
TRD	**Trivandrum**	**18.96**	**139**	⇑*i*P	**Pn**	**22 44 53.7**	**+8.3**
TRD				*i* S	**Sn**	**22 48 27.7**	**+10**
DMN	**Daman**	**19.04**	**73**	*e*P	**Pn**	**22 44 45.8**	**-0.5**
DMN	**Daman**	**19.04**	**73**	*e*P	**Pn**	**22 44 45.8**	**-0.5**
DMN	**Daman**	**19.04**	**73**	*e*P	**Pn**	**22 44 45.8**	**-0.5**
KKN	**Kakani**	**19.22**	**72**	*e*P	**Pn**	**22 44 47.9**	**-0.6**
	comp=Z,220nm,0.8s						
KKN	**Kakani**	**19.22**	**72**	*e*P	**Pn**	**22 44 47.9**	**-0.6**
	comp=Z,220nm,0.8s						
KKN	**Kakani**	**19.22**	**72**	*e*P	**Pn**	**22 44 47.9**	**-0.6**
KKN				pmax	pmax		
	comp=Z,220nm,0.8s						
KKN	**Kakani**	**19.22**	**72**	*e*P	**Pn**	**22 44 47.9**	**-0.6**
	comp=Z,220nm,0.8s						
PKI	**Pulchoki**	**19.30**	**73**	*e*P	**Pn**	**22 44 48.7**	**-0.8**
	comp=Z,701nm,1.1s						
PKI	**Pulchoki**	**19.30**	**73**	*e*P	**Pn**	**22 44 48.7**	**-0.8**
	comp=Z,701nm,1.1s						
PKI	**Pulchoki**	**19.30**	**73**	*e*P	**Pn**	**22 44 48.7**	**-0.8**
PKI				pmax	pmax		
	comp=Z,701nm,1.1s						
PKI	**Pulchoki**	**19.30**	**73**	*e*P	**Pn**	**22 44 48.7**	**-0.8**
	comp=Z,701nm,1.1s						
GUN	**Gumba**	**19.76**	**72**	*e*P	**Pn**	**22 44 55.1**	**+0.1**
	comp=Z,2μm,1.0s						
GUN	**Gumba**	**19.76**	**72**	*e*P	**Pn**	**22 44 55.1**	**+0.1**
	comp=Z,2μm,1.0s						
GUN	**Gumba**	**19.76**	**72**	*e*P	**Pn**	**22 44 55.1**	**+0.1**
	comp=Z,2μm,1.0s						
BWNR	**Bhubaneshwar**	**19.97**	**95**	*e*PKP	**Pn**	**22 44 57.0**	**-0.5**
JIRN	**Jiri**	**20.00**	**73**	*e*P	**Pn**	**22 44 57.8**	**0.0**
	comp=Z,334nm,0.7s						
JIRN	**Jiri**	**20.00**	**73**	*e*P	**Pn**	**22 44 57.8**	**0.0**
	comp=Z,334nm,0.7s						
JIRN	**Jiri**	**20.00**	**73**	*e*P	**Pn**	**22 44 57.8**	**0.0**
	comp=Z,334nm,0.7s						
AML	**Almayashu**	**20.23**	**20**	P	**P**	**22 44 59.5**	**+1.2**
	SNR=78						
AML				P		22 44 59.5	
	SNR=78						
BDHA	**Al Bayda'**	**20.23**	**246**	*e*P	**P**	**22 44 59.2**	**+0.6**
BHD	**Baghdad**	**20.28**	**304**	*i* x	**P**	**22 44 56.7**	**-2.4**
BHD				*i* x	x	22 48 45.7	
RAMN	**Ramite**	**20.29**	**75**	*e*P	**P**	**22 45 01.5**	**+2.3**
	comp=Z,327nm,0.7s						
RAMN	**Ramite**	**20.29**	**75**	*e*P	**P**	**22 45 01.5**	**+2.3**
	comp=Z,327nm,0.7s						
RAMN	**Ramite**	**20.29**	**75**	*e*P	**P**	**22 45 01.5**	**+2.3**
	comp=Z,327nm,0.7s						
KKAR	**Karatay Array**	**20.31**	**13**	*e*P	**P**	**22 44 59.1**	**-0.1**
	comp=Z,247nm,1.0s						
KKAR	**Karatay Array**	**20.31**	**13**	*e*P	**P**	**22 44 59.1**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,247nm,1.0s						
KKAR	**Karatay Array**	**20.31**	**13**	*e*P	**P**	**22 44 59.1**	**-0.2**
	comp=Z,247nm,1.0s						
LBOS		**20.55**	**246**	*e*P	**P**	**22 45 02.7**	**+0.6**
UCH	**Uchtor**	**20.58**	**21**	P	**P**	**22 45 07.0**	**+4.8**
	SNR=19						
UCH				P		22 45 07.0	
	SNR=19						
KZA	**Kyzart**	**20.70**	**23**	P	**P**	**22 45 04.4**	**+0.9**
	SNR=29						
KZA				P		22 45 04.4	
	SNR=29						
EKS2	**Erkin-Say**	**20.73**	**20**	P	**P**	**22 45 05.3**	**+1.4**
	SNR=68						
EKS2				P		22 45 05.3	
	SNR=68						
EKS2	**Erkin-Say**	**20.73**	**20**	PFAKE		22 45 20.0	+16
EKS2				LR	LR		
	comp=Z,9μm,20.0s,MS5.1						
AAK	**Ala-Archa**	**20.93**	**21**	P	**P**	**22 45 06.9**	**+0.9**
	SNR=55						
AAK				P		22 45 06.9	
	SNR=55						
AAK	**Ala-Archa**	**20.93**	**21**	*e*P	**P**	**22 45 06.5**	**+0.5**
	comp=Z,853nm,0.8s						
AAK				*e*S	**S**	**22 48 50.5**	**-8.8**
AAK				LR	LR		
	comp=Z,13μm,21.0s,MS5.3						
AAK	**Ala-Archa**	**20.93**	**21**	*d i*P	**P**	**22 45 06.9**	**+0.9**
AAK				pmax	pmax		
	comp=Z,672nm,1.7s						
AAK	**Ala-Archa**	**20.93**	**21**	P	**P**	**22 45 07.2**	**+1.2**
	comp=Z,2μm,2.0s						
AAK	**Ala-Archa**	**20.93**	**21**	P	**P**	**22 45 07.0**	**+1.0**
	comp=Z,1μm,1.3s,SNR=69						
AAK	**Ala-Archa**	**20.93**	**21**	P	**P**	**22 45 06.9**	**+0.9**
	SNR=106						
AAK	**Ala-Archa**	**20.93**	**21**	*e*P	**P**	**22 45 06.6**	**+0.6**
	comp=Z,853nm,0.8s						
AAK				*e*S	**S**	**22 48 50.5**	**-8.8**
DHBB	**Dhamar BB**	**20.94**	**249**	*e*P	**P**	**22 45 06.9**	**+0.6**
DHBB				AMb	AMB	22 45 08.5	
	comp=Z,885nm,1.8s						
ODAN	**Odare**	**20.98**	**76**	*e*P	**P**	**22 45 09.6**	**+2.9**
	comp=Z,2μm,1.2s						
ODAN	**Odare**	**20.98**	**76**	*e*P	**P**	**22 45 09.6**	**+2.9**
	comp=Z,2μm,1.2s						
KBK	**Karagaybulak**	**21.11**	**22**	P	**P**	**22 45 08.7**	**+0.8**
	SNR=102						
KBK				P		22 45 08.7	
	SNR=102						
FRU	**Bishkek**	**21.15**	**21**	⇓*i*P	**P**	**22 45 08.0**	**-0.4**
FRU				*i*		22 45 28.0	
FRU				*e*		22 45 48.0	
FRU				*e*S	**S**	**22 49 08.0**	**+4.4**
FRU				pmax	pmax		
	comp=Z,2μm,1.9s,mb6.1						
FRU				MLR	MLR		
	comp=E,21μm,16.0s						
FRU	**Bishkek**	**21.15**	**21**	*i* P	**P**	**22 45 08.0**	**-0.4**
	comp=E,2μm,1.9s,mb6.1						
ULHL	**Ulahol**	**21.22**	**25**	P	**P**	**22 45 10.2**	**+1.2**
	SNR=20						
ULHL				P		22 45 10.2	
	SNR=20						
TAPN	**Taplejung**	**21.31**	**74**	*e*P	**P**	**22 45 13.0**	**+2.8**
	comp=E,4μm,1.6s,mb6.5						
TAPN	**Taplejung**	**21.31**	**74**	*e*P	**P**	**22 45 13.0**	**+2.8**
	comp=E,4μm,1.6s,mb6.5						
TAPN	**Taplejung**	**21.31**	**74**	*e*P	**P**	**22 45 13.0**	**+2.8**
	comp=E,4μm,1.6s,mb6.5						
CHMS	**Chumysh**	**21.34**	**21**	P	**P**	**22 45 10.4**	**0.0**
	SNR=73						
CHMS				P		22 45 10.4	
	SNR=73						
USP	**Ospenovka**	**21.50**	**20**	P	**P**	**22 45 12.9**	**+0.8**
	SNR=97						
USP				P		22 45 12.9	
	SNR=97						
TKM2	**Tokmak 2**	**21.56**	**23**	P	**P**	**22 45 13.8**	**+1.0**
	SNR=47						
TKM2				P		22 45 13.8	
	SNR=47						
TKM2	**Tokmak 2**	**21.56**	**23**	*e*P	**P**	**22 45 12.7**	**-0.2**
	comp=E,250nm,1.1s,mb5.6						
TKM2				LR	LR		
	comp=Z,15μm,19.0s,MS5.4						
TKM2	**Tokmak 2**	**21.56**	**23**	*i* P	**P**	**22 45 13.8**	**+1.0**
TKM2	**Tokmak 2**	**21.56**	**23**	*e*P	**P**	**22 45 12.7**	**-0.1**
	comp=Z,250nm,1.1s,mb5.6						
TRBA	**At Turbah**	**21.82**	**246**	*e*P	**P**	**22 45 16.7**	**+0.9**
CAL	**Calcutta**	**21.92**	**87**	*e*PKP	**P**	**22 45 25.2**	**+8.3**
CAL				*e*S	**S**	**22 49 27.1**	**+8.1**
AAA	**Alma-Ata**	**22.36**	**24**	*e*P	**P**	**22 45 16.2**	**-5.2**
AAA				pmax	pmax		
	comp=Z,8μm,4.2s						
AAA				MLR	MLR		
	comp=Z,20μm,23.0s,MS5.5						
GNI	**Garni**	**23.66**	**320**	P	**P**	**22 45 36.3**	**+1.4**
	comp=Z,56nm,0.9s,mb5.0,baz=134,slow=1.1,SNR=36						
GNI	**Garni**	**23.66**	**320**	*e*P	**P**	**22 45 36.1**	**+1.2**
	comp=Z,574nm,1.2s,mb5.9						
GNI				LR	LR		
	comp=Z,5μm,20.0s,MS5.0						
GNI	**Garni**	**23.66**	**320**	*c i*P	**P**	**22 45 36.5**	**+1.6**
GNI				pmax	pmax		
	comp=Z,702nm,1.7s						
GNI				MLR	MLR		
	comp=Z,8μm,17.0s						
GNI	**Garni**	**23.66**	**320**	*i* P	**P**	**22 45 36.5**	**+1.6**
	comp=Z,8μm,17.0s						
ATD	**Arta Tunnel**	**23.76**	**244**	P	**P**	**22 45 36.6**	**+0.6**
	comp=Z,30nm,0.9s,mb4.7,baz=36,slow=8.6,SNR=7.6						
ATD				LR	LR	22 55 08.3	
	comp=Z,5μm,18.1s,MS5.0,baz=272,slow=37						
ATD	**Arta Tunnel**	**23.76**	**244**	P	**P**	**22 45 36.6**	**+0.6**
ATD	**Arta Tunnel**	**23.76**	**244**	P	**P**	**22 45 36.7**	**+0.6**
AGT	**Agartala**	**24.47**	**83**	*e*PKP	**P**	**22 45 42.0**	**-0.5**
AGT				*ex*	x	22 46 55.0	
LSA	**Lhasa**	**24.60**	**69**	P	**P**	**22 45 46.0**	**+2.3**
LSA				S	**S**	**22 50 12.5**	**+7.6**
LSA				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.6						
LSA				pmax	pmax		
	comp=Z,2μm,8.0s						
LSA				LR	LR		
	comp=N,10μm,14.0s,MS5.7						
LSA				LR	LR		
	comp=E,12μm,13.0s,MS5.7						
LSA				LR	LR		
	comp=Z,17μm,13.0s,MS5.7						
LSA	**Lhasa**	**24.60**	**69**	*e*P	**P**	**22 45 45.0**	**+1.3**
	comp=Z,80nm,0.8s,mb5.3						
LSA				*e*S	**S**	**22 50 03.1**	**-1.8**
LSA				LR	LR		
	comp=Z,15μm,22.0s,MS5.4						
LSA	**Lhasa**	**24.60**	**69**	*e*P	**P**	**22 45 45.0**	**+1.3**
LSA				*e*S	**S**	**22 50 03.1**	**-1.8**
LSA				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.3						
LSA				MLR	MLR		
	comp=Z,15μm,22.0s,MS5.4						
LSA	**Lhasa**	**24.60**	**69**	*e*P	**P**	**22 45 45.0**	**+1.3**
	comp=Z,80nm,0.8s,mb5.3						
LSA				*e*S	**S**	**22 50 03.1**	**-1.8**
	comp=Z,15μm,22.0s						
MTA	**Mtatsminda**	**24.63**	**323**	P	**P**	**22 45 44.2**	**+0.4**
TBLG	**Delisi**	**24.69**	**323**	P	**P**	**22 45 45.5**	**+1.2**
TBLG	**Delisi**	**24.69**	**323**	P	**P**	**22 45 45.5**	**+1.2**
TBLG	**Delisi**	**24.69**	**323**	P	**P**	**22 45 45.5**	**+1.2**
SHL	**Shillong**	**24.97**	**79**	*e*PKP	**P**	**22 45 48.0**	**+0.9**
SHL				*ex*	x	22 50 16.0	
AKH	**Akhalkalaki**	**25.19**	**321**	P	**P**	**22 45 52.6**	**+3.7**
GOR	**Gori**	**25.21**	**322**	P	**P**	**22 45 54.3**	**+5.3**
ZEI	**Tsey**	**25.84**	**323**	*e*P	**P**	**22 45 59.4**	**+4.6**
ZEI				pmax	pmax		
	comp=Z,232nm,1.7s,mb5.4						
ASF	**Jabal al Asfar**	**25.93**	**296**	P	**P**	**22 45 57.3**	**+1.6**
	comp=Z,29nm,1.0s,mb4.7,baz=306,slow=2.3,SNR=12						
ASF	**Jabal al Asfar**	**25.93**	**296**	P	**P**	**22 45 57.3**	**+1.6**
ASF	**Jabal al Asfar**	**25.93**	**296**	P	**P**	**22 45 57.3**	**+1.5**
ONI	**Oni**	**25.97**	**323**	P	**P**	**22 46 00.1**	**+4.2**
ABKAR	**Akbulak array**	**26.11**	**353**	*e*P	**P**	**22 45 57.5**	**+0.4**
	comp=Z,110nm,0.9s,mb5.4						
ABKAR	**Akbulak array**	**26.11**	**353**	*e*P	**P**	**22 45 57.5**	**+0.4**
	comp=Z,110nm,0.9s,mb5.4						
FKH	**Fakeheh**	**26.85**	**300**	*e*P	Px	22 46 14.4	
IMP	**Imphal**	**26.86**	**81**	*e*PKP	**P**	**22 46 06.0**	**+1.8**
IMP				*ex*	x	22 51 25.0	
RCY	**Rachaya**	**27.11**	**298**	*e*P	**P**	**22 46 08.4**	**+2.1**
RCY	**Rachaya**	**27.11**	**298**	*e*P	**P**	**22 46 08.4**	**+2.0**
EIL	**Elat**	**27.17**	**290**	P	**P**	**22 46 08.7**	**+1.7**
	comp=Z,15nm,0.9s,mb4.5,baz=80,slow=7.3,SNR=7.7						
EIL	**Elat**	**27.17**	**290**	P	**P**	**22 46 08.7**	**+1.7**
EIL	**Elat**	**27.17**	**290**	P	**P**	**22 46 08.6**	**+1.7**
KIV	**Kislovodsk**	**27.30**	**324**	*e*P	**P**	**22 46 09.4**	**+1.5**
	comp=Z,746nm,1.3s,mb6.1						
KIV				*e*PcP	PcP	22 49 20.7	-6.7
KIV				LR	LR		
	comp=Z,5μm,21.0s,MS5.1						
KIV	**Kislovodsk**	**27.30**	**324**	*e*P	**P**	**22 46 09.2**	**+1.3**
KIV				*e*		22 46 49.7	
KIV				*e*S	**S**	**22 50 49.8**	**+2.5**
KIV				pmax	pmax		
	comp=Z,598nm,5.8s						
KIV				pmax	pmax		
	comp=Z,456nm,1.0s,mb6.0						
KIV	**Kislovodsk**	**27.30**	**324**	P	**P**	**22 46 10.8**	**+2.9**
	comp=Z,2μm,1.5s,mb6.5,SNR=19						
KIV	**Kislovodsk**	**27.30**	**324**	*e*P	**P**	**22 46 09.2**	**+1.3**
	comp=Z,456nm,1.0s,mb6.0						
KIV	**Kislovodsk**	**27.30**	**324**	*e*PcP	PcP	22 49 20.7	-6.7
KIV				*e*S	**S**	**22 50 49.8**	**+2.5**
MMAI	**Mount Meron Ar**	**27.35**	**297**	P	**P**	**22 46 09.7**	**+1.2**
	comp=Z,28nm,1.1s,mb4.7,baz=103,slow=6.5,SNR=3.6						
MMAI	**Mount Meron Ar**	**27.35**	**297**	P	**P**	**22 46 09.7**	**+1.2**
MMAI	**Mount Meron Ar**	**27.35**	**297**	P	**P**	**22 46 09.7**	**+1.2**
BHL	**Bhannes**	**27.36**	**299**	*e*P	**P**	**22 46 14.2**	**+5.5**
MK31	**Makanchi Array**	**27.41**	**27**	*e*P	**P**	**22 46 08.7**	**-0.1**
MK31	**Makanchi Array**	**27.41**	**27**	*e*P	**P**	**22 46 08.7**	**-0.2**
MK31	**Makanchi Array**	**27.41**	**27**	*e*P	**P**	**22 46 08.7**	**-0.2**
MKAR	**Makanchi Array**	**27.41**	**27**	P	**P**	**22 46 08.6**	**-0.2**
	comp=Z,18nm,0.9s,mb4.6,baz=213,slow=8.9,SNR=120						
MKAR				LR	LR	22 58 50.7	
	comp=Z,12μm,20.2s,MS5.5,baz=223,slow=40						
MKAR	**Makanchi Array**	**27.41**	**27**	*e*P	**P**	**22 46 08.8**	**-0.1**
MKAR	**Makanchi Array**	**27.41**	**27**	*i* P	**P**	**22 46 08.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,18nm,0.9s						
MKAR	**Makanchi Array**	**27.41**	**27**	*i* P	**P**	**22 46 08.6**	**-0.3**
	comp=Z,18nm,0.9s,mb4.6						
AKTK	**Aktyubinsk**	**27.51**	**351**	P	**P**	**22 46 09.3**	**-0.4**
AKTO	**Aktyubinsk**	**27.51**	**351**	P	**P**	**22 46 09.2**	**-0.5**
	comp=Z,14nm,0.8s,mb4.7,baz=168,slow=8.5,SNR=30						
AKTO				LR	LR	22 59 19.7	
	comp=Z,11μm,20.6s,MS5.4,baz=155,slow=41						
AKTO	**Aktyubinsk**	**27.51**	**351**	P	**P**	**22 46 09.2**	**-0.5**
AKTO	**Aktyubinsk**	**27.51**	**351**	P	**P**	**22 46 09.3**	**-0.4**
AKTO	**Aktyubinsk**	**27.51**	**351**	P	**P**	**22 46 09.2**	**-0.5**
WMQ	**Urumqi**	**27.92**	**37**	P	**P**	**22 46 14.5**	**+1.0**
WMQ				sP	sP	22 46 20.5	+2.7
WMQ				PP		22 47 04.5	
WMQ				S	**S**	**22 50 57.8**	**+0.6**
WMQ				sS	sS	22 51 05.5	+3.3
WMQ				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.0						
WMQ				pmax	pmax		
	comp=Z,2μm,5.0s						
WMQ				LR	LR		
	comp=N,8μm,13.0s,MS5.8						
WMQ				LR	LR		
	comp=E,14μm,15.0s,MS5.8						
WMQ				LR	LR		
	comp=Z,13μm,20.0s,MS5.5						
SOC	**Sochi**	**28.73**	**321**	*e*P	**P**	**22 46 22.3**	**+1.6**
SOC				*e**SP	sP	22 46 35.6	+11
SOC				*e*PPP		22 47 19.0	
SOC				*e*S	**S**	**22 51 12.1**	**+2.2**
SOC				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.3						
SOC	**Sochi**	**28.73**	**321**	*e*P	**P**	**22 46 22.3**	**+1.6**
	comp=Z,53nm,0.9s,mb5.3			

BRTR	**Keskin Array B**	**30.79 309**	*i* P	**P**	**22 46 39.2 +0.2**
BRTR			pmax	pmax	
	comp=Z,9.0nm,0.8s				
BRTR	**Keskin Array B**	**30.79 309**	P	**P**	**22 46 39.2 +0.2**
BRTR	**Keskin Array B**	**30.79 309**	PcP	PcP	22 49 36.8 +0.5
DGAR	**Diego Garcia**	**31.54 165**	PFAKE		22 47 00.0 +14
DGAR			LR	LR	
	comp=Z,14μm,21.0s,MS5.6				
SARR	**Saratov**	**31.70 337**	*de*P	**P**	**22 46 52.6 +5.7**
SARR			*i* S	**S**	**22 52 01.3 +5.0**
SARR			pmax	pmax	
	comp=Z,88nm,1.5s,mb5.4				
CHTO	**Chiang Mai**	**32.37 91**	*e*P	**P**	**22 46 54.8 +1.6**
	comp=Z,106nm,1.0s,mb5.6				
CHTO			*e*PcP	PcP	22 49 40.0 -0.9
CHTO			LR	LR	
	comp=Z,9μm,19.0s,MS5.5				
CHTO	**Chiang Mai**	**32.37 91**	*e*P	**P**	**22 46 54.8 +1.7**
CHTO			*e*		22 49 40.0
CHTO			pmax	pmax	
	comp=Z,106nm,1.0s,mb5.6				
CHTO			MLR	MLR	
	comp=Z,9μm,19.0s,MS5.5				
CHTO	**Chiang Mai**	**32.37 91**	P	**P**	**22 46 55.0 +1.9**
	comp=Z,3μmcomp=Z,148nm,1.3s,mb5.7				
CHTO	**Chiang Mai**	**32.37 91**	*e*P	**P**	**22 46 54.8 +1.7**
	comp=Z,106nm,1.0s,mb5.6				
CM31	**Chiang Mai Arr**	**32.46 92**	*e*P	**P**	**22 46 55.5 +1.6**
	comp=Z,6.7nm,0.5s,mb4.7				
CM31			LR	LR	
	comp=Z,6μm,20.0s,MS5.3				
CM31	**Chiang Mai Arr**	**32.46 92**	*e*P	**P**	**22 46 55.5 +1.6**
	comp=Z,6.7nm,0.5s,mb4.7				
CMAR	**Chiang Mai Arr**	**32.46 92**	P	**P**	**22 46 55.0 +1.1**
	comp=Z,13nm,0.9s,mb4.7,baz=280,slow=9.3,SNR=95				
CMAR			PcP	PcP	22 49 41.4 +0.3
	comp=Z,3.2nm,0.8s,baz=281,slow=4.9,SNR=3.6				
CMAR			LR	LR	23 03 05.2
	comp=Z,5μm,19.3s,MS5.2,baz=262,slow=42				
CMAR	**Chiang Mai Arr**	**32.46 92**	P	**P**	**22 46 55.0 +1.1**
CMAR			PcP	PcP	22 49 41.4 +0.3
CMAR	**Chiang Mai Arr**	**32.46 92**	P	**P**	**22 46 55.0 +1.1**
CMAR					22 49 41.4
CMAR	**Chiang Mai Arr**	**32.46 92**	P	**P**	**22 46 55.0 +1.1**
CMAR	**Chiang Mai Arr**	**32.46 92**	PcP	PcP	22 49 41.4 +0.3
SIM	**Simferopol'**	**32.83 318**	*e*P	**P**	**22 46 58.6 +1.7**
SIM			pmax	pmax	
	comp=Z,60nm,1.2s,mb5.4				
BDT	**Bhumibol Dam**	**32.84 94**	P	**P**	**22 46 59.0 +1.8**
	comp=Z,24nm,0.9s,mb5.1				
ARU	**Arti**	**33.33 354**	*e*P	**P**	**22 47 01.2 +0.1**
	comp=Z,103nm,1.1s,mb5.7				
ARU			LR	LR	
	comp=Z,14μm,19.0s,MS5.7				
ARU	**Arti**	**33.33 354**	*d*P	**P**	**22 47 01.3 +0.2**
ARU			PPP		22 48 18.2
ARU					22 49 44.2
ARU			S	**S**	**22 52 24.1 +2.5**
ARU			SS	SS	22 54 22.1 -23
ARU			SSS		22 54 44.0
ARU			pmax	pmax	
	comp=Z,73nm,1.7s,mb5.3				
ARU	**Arti**	**33.33 354**	P	**P**	**22 47 01.7 +0.6**
	comp=Z,426nm,1.4s,mb6.2,SNR=14				
ARU	**Arti**	**33.33 354**	*e*P	**P**	**22 47 01.2 +0.1**
	comp=Z,103nm,1.1s,mb5.7				
SVE	**Sverdlovsk**	**33.56 356**	*ce*P	**P**	**22 47 03.1 0.0**
SVE			*e*		22 48 10.6
SVE			*e*S	**S**	**22 52 30.7 +5.6**
SVE			*e*		22 57 27.9
SVE			pmax	pmax	
	comp=Z,284nm,1.8s,mb5.9				
SVE			MLR	MLR	
	comp=Z,18μm,18.0s,MS5.8				
GTA	**Gaotai**	**33.85 53**	⇓P	**P**	**22 47 07.0 +1.1**
GTA			pP	pP	22 47 11.5 +2.5
GTA			sP	sP	22 47 14.0 +3.8
GTA			S	**S**	**22 52 32.0 +1.9**
GTA			sS	sS	22 52 39.5 +4.3
GTA			SS	SS	22 54 41.0 -15
GTA			pmax	pmax	
	comp=Z,54nm,1.2s,mb5.3				
GTA			pmax	pmax	
	comp=Z,950nm,6.2s				
GTA			LR	LR	
	comp=N,14μm,19.9s,MS5.9				
GTA			LR	LR	
	comp=E,13μm,16.2s,MS5.9				
GTA			LR	LR	
	comp=Z,14μm,15.2s,MS5.8				
ARG	**Arkhangelos**	**33.91 301**	P	**P**	**22 47 12.2 +5.8**
ARG	**Arkhangelos**	**33.91 301**	P	**P**	**22 47 07.1 +0.7**
ARG	**Arkhangelos**	**33.91 301**	P	**P**	**22 47 07.1 +0.7**
ARG	**Arkhangelos**	**33.91 301**	P	**P**	**22 47 07.1 +0.7**
ARG	**Arkhangelos**	**33.91 301**	P	**P**	**22 47 07.1 +0.7**
VSR	**Storozhevoye**	**34.04 331**	*e*P	**P**	**22 47 08.2 +0.9**
VSR			*e**SP	sP	22 47 16.8 +5.2
VSR			*e*S	**S**	**22 52 33.1 +0.5**
VSR			smax		
	comp=N,320nm,3.5s				
VSR			smax		
	comp=E,700nm,3.5s				
VSR			smax		
	comp=Z,540nm,3.5s				
ZAA0	**Zalesovo Array**	**34.16 21**	*e*P	**P**	**22 47 07.5 -0.9**
ZAA0			*e*PP	PP	22 48 21.8 -3.9
ZAA0	**Zalesovo Array**	**34.16 21**	*e*P	**P**	**22 47 07.5 -0.8**
ZALV	**Zalesovo Beam**	**34.16 21**	P	**P**	**22 47 07.7 -0.6**
	comp=Z,26nm,0.8s,mb5.2,baz=224,slow=9.4,SNR=128				
ZALV			LR	LR	23 03 46.4
	comp=Z,4μm,19.1s,MS5.1,baz=214,slow=41				
ZALV	**Zalesovo Beam**	**34.16 21**	P	**P**	**22 47 07.7 -0.6**
ZALV	**Zalesovo Beam**	**34.16 21**	P	**P**	**22 47 07.7 -0.6**
ZALV	**Zalesovo Beam**	**34.16 21**	P	**P**	**22 47 07.7 -0.6**
NST	**Nakhon Sawan**	**34.34 96**	P	**P**	**22 47 13.0 +2.6**
VOR	**Voronezh**	**34.39 332**	P	**P**	**22 47 14.0 +3.6**
VOR			pmax	pmax	
	comp=Z,250nm,1.0s,mb6.1				
NVS	**Novosibirsk**	**34.41 19**	⇓*i*P	**P**	**22 47 10.0 -0.5**
NVS			*e*		22 48 32.7
NVS			pmax	pmax	
	comp=Z,206nm,2.0s,mb5.7				
NVS			pmax	pmax	
	comp=N,119nm,1.7s				
KARP	**Karpathos**	**34.55 299**	*e*P	**P**	**22 47 14.1 +2.1**
KARP	**Karpathos**	**34.55 299**	P	**P**	**22 47 14.3 +2.3**
KARP	**Karpathos**	**34.55 299**	P	**P**	**22 47 15.9 +3.9**
KARP	**Karpathos**	**34.55 299**	P	**P**	**22 47 15.9 +3.9**
KARP	**Karpathos**	**34.55 299**	P	**P**	**22 47 14.3 +2.3**
KMI	**Kunming**	**34.80 79**	⇓P	**P**	**22 47 15.8 +1.5**
KMI			pP	pP	22 47 19.0 +1.6
KMI			S	**S**	**22 52 46.5 +1.4**
KMI			SS	SS	22 55 00.5 -16
KMI			pmax	pmax	
	comp=Z,65nm,0.9s,mb5.6				
KMI			pmax	pmax	
	comp=Z,2μm,3.9s				
KMI			LR	LR	
	comp=N,17μm,17.6s,MS5.8				
KMI			LR	LR	
	comp=E,8μm,21.6s,MS5.8				
KMI			LR	LR	
	comp=Z,10μm,20.1s,MS5.5				
NNT	**Nongplab**	**35.06 102**	P	**P**	**22 47 20.0 +3.4**
ZKR	**Zakros**	**35.23 298**	P	**P**	**22 47 20.7 +2.8**
ZKR	**Zakros**	**35.23 298**	P	**P**	**22 47 20.7 +2.8**
ZKR	**Zakros**	**35.23 298**	P	**P**	**22 47 20.7 +2.8**
ZKR	**Zakros**	**35.23 298**	P	**P**	**22 47 20.7 +2.8**
SMG	**Samos**	**35.24 303**	*e*P	**P**	**22 47 19.3 +1.4**
CD2	**Chengdu**	**35.57 69**	⇓*i*P	**P**	**22 47 20.8 0.0**
CD2			pP	pP	22 47 25.3 +1.4
CD2			sP	sP	22 47 28.3 +3.1
CD2			PP	PP	22 48 42.0 +0.4
CD2			PcP	PcP	22 49 49.8 0.0
CD2			S	**S**	**22 52 55.5 -1.2**
CD2			PcS	PcS	22 53 35.8 -1.2
CD2			ScS	ScS	22 57 37.5 -3.2
CD2			pmax	pmax	
	comp=Z,30nm,1.1s,mb5.1				
CD2			pmax	pmax	
	comp=Z,860nm,8.3s				
CD2			LR	LR	
	comp=N,17μm,19.0s,MS5.9				
CD2			LR	LR	
	comp=E,9μm,15.5s,MS5.9				
CD2			LR	LR	
	comp=Z,12μm,13.2s,MS5.8				
NPS	**Neapolis**	**35.75 298**	*e*P	**P**	**22 47 23.0 +0.7**
NPS	**Neapolis**	**35.75 298**	P	**P**	**22 47 22.9 +0.6**
NPS	**Neapolis**	**35.75 298**	P	**P**	**22 47 24.4 +2.1**
NPS	**Neapolis**	**35.75 298**	P	**P**	**22 47 24.4 +2.1**
NPS	**Neapolis**	**35.75 298**	P	**P**	**22 47 24.4 +2.1**
NPS	**Neapolis**	**35.75 298**	P	**P**	**22 47 22.9 +0.6**
CHOS	**Chios island**	**35.99 304**	*e*P	**P**	**22 47 25.7 +1.3**
CHOS	**Chios island**	**35.99 304**	P	**P**	**22 47 28.3 +3.9**
CHOS	**Chios island**	**35.99 304**	P	**P**	**22 47 27.7 +3.3**
CHOS	**Chios island**	**35.99 304**	P	**P**	**22 47 27.7 +3.3**
KMBO	**Kilima Mbogo**	**36.01 231**	*e*P	**P**	**22 47 24.4 -0.3**
KMBO	**Kilima Mbogo**	**36.01 231**	*e*P	**P**	**22 47 24.9 +0.1**
	comp=Z,20nm,1.2s,mb4.9				
KMBO			LR	LR	
	comp=Z,9μm,21.0s,MS5.5				
KMBO	**Kilima Mbogo**	**36.01 231**	*e*P	**P**	**22 47 24.9 +0.2**
KMBO			pmax	pmax	
	comp=Z,20nm,1.2s				
KMBO			MLR	MLR	
	comp=Z,9μm,21.0s				
KMBO	**Kilima Mbogo**	**36.01 231**	*e*P	**P**	**22 47 24.9 +0.2**
	comp=Z,20nm,1.2s,mb4.9				
PRK	**Paraskevi**	**36.04 305**	*e*P	**P**	**22 47 26.6 +1.9**
THR1	**Thera Island**	**36.05 300**	P	**P**	**22 47 28.3 +3.4**
THR1	**Thera Island**	**36.05 300**	P	**P**	**22 47 28.3 +3.4**
THR1	**Thera Island**	**36.05 300**	P	**P**	**22 47 28.3 +3.4**
APE	**Apeiranthos**	**36.12 301**	*e*P	**P**	**22 47 26.2 +0.7**
APE	**Apeiranthos**	**36.12 301**	P	**P**	**22 47 27.0 +1.5**
APE	**Apeiranthos**	**36.12 301**	P	**P**	**22 47 27.1 +1.6**
APE	**Apeiranthos**	**36.12 301**	P	**P**	**22 47 27.1 +1.6**
APE	**Apeiranthos**	**36.12 301**	⇑P	**P**	**22 47 27.2 +1.7**
APE	**Apeiranthos**	**36.12 301**	⇑*i*P	**P**	**22 47 27.2 +1.7**
APE	**Apeiranthos**	**36.12 301**	P	**P**	**22 47 27.0 +1.5**
LZH	**Lanzhou**	**36.18 60**	⇓P	**P**	**22 47 27.0 +1.0**
LZH			pP	pP	22 47 33.3 +4.2
LZH			sP	sP	22 47 37.0 +6.6
LZH			PP	PP	22 48 55.0 +6.8
LZH			S	**S**	**22 53 05.0 -1.0**
LZH			sS	sS	22 53 15.3 +4.2
LZH			pmax	pmax	
	comp=Z,84nm,1.3s,mb5.5				
LZH			pmax	pmax	
	comp=Z,2μm,5.0s				
LZH			LR	LR	
	comp=N,2μm,10.8s				
LZH			LR	LR	
	comp=E,2μm,8.9s				
TIRR	**Tirgusor**	**36.23 314**	*e*P	**P**	**22 47 25.1 -1.2**
	comp=E,177nm,1.9s,mb5.7				
TIRR	**Tirgusor**	**36.23 314**	*e*P	**P**	**22 47 25.1 -1.2**
TIRR			pmax	pmax	
	comp=Z,177nm,1.9s,mb5.7				
TIRR	**Tirgusor**	**36.23 314**	⇓*i*P	**P**	**22 47 22.6 -3.7**
TIRR	**Tirgusor**	**36.23 314**	*e*P	**P**	**22 47 25.1 -1.2**
	comp=Z,177nm,1.9s,mb5.7				
SIVA	**Sivas**	**36.36 298**	P	**P**	**22 47 29.9 +2.3**
SIVA	**Sivas**	**36.36 298**	P	**P**	**22 47 29.9 +2.3**
SIVA	**Sivas**	**36.36 298**	P	**P**	**22 47 29.9 +2.3**
SIVA	**Sivas**	**36.36 298**	P	**P**	**22 47 29.9 +2.3**
PRD	**Provadia**	**36.43 312**	*e*P	**P**	**22 47 30.6 +2.5**
PRD	**Provadia**	**36.43 312**	*e*P	**P**	**22 47 30.6 +2.5**
SOKR	**Solikamsk**	**36.60 353**	*d*P	**P**	**22 47 30.0 +0.7**
SOKR			pmax	pmax	
	comp=Z,130nm,1.7s,mb5.5				
JMB	**Yambol**	**36.74 310**	P	**P**	**22 47 34.5 +3.8**
JMB	**Yambol**	**36.74 310**	P	**P**	**22 47 34.4 +3.7**
JMB	**Yambol**	**36.74 310**	P	**P**	**22 47 34.4 +3.7**
JMB	**Yambol**	**36.74 310**	P	**P**	**22 47 34.4 +3.7**
JMB	**Yambol**	**36.74 310**	*e*P	**P**	**22 47 33.9 +3.2**
JMB	**Yambol**	**36.74 310**	*e*P	**P**	**22 47 33.9 +3.2**
VAM	**Vamos**	**36.91 298**	*e*P	**P**	**22 47 32.1 -0.2**
VAM	**Vamos**	**36.91 298**	P	**P**	**22 47 33.9 +1.6**
VAM	**Vamos**	**36.91 298**	P	**P**	**22 47 33.7 +1.4**
VAM	**Vamos**	**36.91 298**	P	**P**	**22 47 33.7 +1.4**
VAM	**Vamos**	**36.91 298**	P	**P**	**22 47 33.7 +1.4**
VAM	**Vamos**	**36.91 298**	P	**P**	**22 47 33.7 +1.4**
GVD	**Gavdhos**	**36.93 297**	*e*P	**P**	**22 47 31.5 -1.0**
	comp=Z,79nm,0.7s,mb5.7				
GVD	**Gavdhos**	**36.93 297**	*e*P	**P**	**22 47 31.5 -0.9**
	comp=Z,79nm,0.7s,mb5.7				
AMRR	**Amara**	**36.99 314**	P	**P**	**22 47 37.0 +4.2**
LIA	**Limnos Island**	**37.01 306**	*e*P	**P**	**22 47 34.3 +1.2**
LIA	**Limnos Island**	**37.01 306**	P	**P**	**22 47 37.0 +3.9**
LIA	**Limnos Island**	**37.01 306**	P	**P**	**22 47 38.2 +5.1**
LIA	**Limnos Island**	**37.01 306**	P	**P**	**22 47 38.2 +5.1**
KIS	**Kishinev**	**37.06 318**	*e*P	**P**	**22 47 34.0 +0.7**
	comp=Z,600nm,2.0s,mb6.1				
KIS	**Kishinev**	**37.06 318**	*e*PP	PP	22 49 02.0 +4.3
KIS	**Kishinev**	**37.06 318**	*e*PPP		22 49 25.0
KIS			*e*S	**S**	**22 53 19.0 -0.1**
	comp=Z,2μm,9.0s				
KIS			*e*SS	SS	22 56 08.0 +6.8
KIS			*e*SSS		22 56 40.0
KIS			*e*ScS	ScS	22 57 43.0 -5.3
KIS			*e*L		22 59 16.0
KIS			LRM		23 07 00.0
	comp=Z,2μm,20.0s				
KIS	**Kishinev**	**37.06 318**	*e*P	**P**	**22 47 34.0 +0.7**
KIS			*e*		22 47 52.0
KIS			*e*		22 49 02.0
KIS			*e*PPP		22 49 25.0
KIS			*e*S	**S**	**22 53 19.0 -0.1**
KIS			*e*		22 57 43.0
KIS			pmax	pmax	
	comp=Z,550nm,2.0s,mb6.0				
KIS			pmax	pmax	
	comp=Z,2μm,13.0s				
KIS			pmax	pmax	
	comp=Z,2μm,13.0s				
KIS			smax		
	comp=E,4μm,8.0s				
KIS			smax		
	comp=N,2μm,9.0s				
KIS	**Kishinev**	**37.06 318**	*e*P	**P**	**22 47 34.0 +0.7**
	comp=N,600nm,2.0s,mb6.1				
KIS			*e*S	**S**	**22 53 19.0 -0.1**
	comp=N,2μm,9.0s				
RDO	**Rodhopi**	**37.09 308**	*e*P	**P**	**22 47 31.4 -2.3**
RDO	**Rodhopi**	**37.09 308**	P	**P**	**22 47 33.8 +0.1**
RDO	**Rodhopi**	**37.09 308**	P	**P**	**22 47 34.4 +0.7**
RDO	**Rodhopi**	**37.09 308**	P	**P**	**22 47 34.4 +0.7**
RDO	**Rodhopi**	**37.09 308**	P	**P**	**22 47 33.8 +0.1**
LEOM	**Leova**	**37.17 317**	P	**P**	**22 47 37.6 +3.3**
MRMA	**Marmari**	**37.21 303**	P	**P**	**22 47 35.8 +1.0**
MRMA	**Marmari**	**37.21 303**	P	**P**	**22 47 38.6 +3.8**
MRMA	**Marmari**	**37.21 303**	P	**P**	**22 47 35.8 +1.0**
KDZ	**Kurdzhali**	**37.32 309**	*e*P	**P**	**22 47 37.7 +2.1**
KDZ	**Kurdzhali**	**37.32 309**	*e*P	**P**	**22 47 37.7 +2.1**
DIM	**Dimitrovgrad**	**37.35 309**	*e*P	**P**	**22 47 37.5 +1.6**
DIM	**Dimitrovgrad**	**37.35 309**	*e*P	**P**	**22 47 37.5 +1.6**
SZH	**Strazhica**	**37.46 311**	*e*P	**P**	**22 47 38.9 +2.1**
SZH	**Strazhica**	**37.46 311**	*e*P	**P**	**22 47 38.9 +2.1**
PTL	**Penteli**	**37.61 303**	*e*P	**P**	**22 47 40.1 +1.9**
PTL	**Penteli**	**37.61 303**	P	**P**	**22 47 38.9 +0.7**
PTL	**Penteli**	**37.61 303**	P	**P**	**22 47 39.0 +0.8**
PTL	**Penteli**	**37.61 303**	P	**P**	**22 47 39.0 +0.8**
PTL	**Penteli**	**37.61 303**	P	**P**	**22 47 38.9 +0.7**
ERET	**Eretria**	**37.73 303**	P	**P**	**22 47 41.2 +2.0**
ERET	**Eretria**	**37.73 303**	P	**P**	**22 47 41.9 +2.7**
ERET	**Eretria**	**37.73 303**	P	**P**	**22 47 41.2 +2.0**
LKFR	**Kufra**	**37.74 280**	*e*S	**S**	**22 53 31.1 +1.1**
	SNR=27				
KAVA	**Kavala**	**37.79 307**	P	**P**	**22 47 42.1 +2.5**
KAVA	**Kavala**	**37.79 307**	P	**P**	**22 47 42.4 +2.8**
KAVA	**Kavala**	**37.79 307**	P	**P**	**22 47 42.4 +2.8**
KAVA	**Kavala**	**37.79 307**	P	**P**	**22 47 42.1 +2.5**
AOS	**Alonnisos**	**37.83 304**	P	**P**	**22 47 41.6 +1.6**
AOS	**Alonnisos**	**37.83 304**	P	**P**	**22 47 40.9 +0.9**
AOS	**Alonnisos**	**37.83 304**	P	**P**	**22 47 40.9 +0.9**
AOS	**Alonnisos**	**37.83 304**	P	**P**	**22 47 40.9 +0.9**
RZN	**Rozhen**	**37.83 309**	*e*P	**P**	**22 47 42.5 +2.5**
RZN	**Rozhen**	**37.83 309**	*e*P	**P**	**22 47 42.5 +2.5**
VRI	**Vrincioaia**	**37.88 316**	⇑P	**P**	**22 47 41.7 +1.4**
VRI	**Vrincioaia**	**37.88 316**	⇑*i*P	**P**	**22 47 41.7 +1.4**
VRI	**Vrincioaia**	**37.88 316**	⇑*i*P	**P**	**22 47 41.7 +1.4**
IAS	**Iasi**	**37.91 318**	P	**P**	**22 47 43.8 +3.2**
OBN	**Obninsk**	**37.91 334**	*e*P	**P**	**22 47 40.0 -0.4**
	comp=N,101nm,1.2s,mb5.4				
OBN			*e*PcP	PcP	22 49 56.2 -0.1
OBN			LR	LR	
	comp=Z,5μm,19.0s,MS5.3				
OBN	**Obninsk**	**37.91 334**	*e*P	**P**	**22 47 40.4 -0.1**
OBN			*i*		22 49 14.9
OBN			*i*		22 49 58.7
OBN			*i* S	**S**	**22 53 23.0 -8.9**
OBN			*i* SS	SS	22 56 11.2 -7.1
OBN			pmax	pmax	
	comp=Z,56nm,1.2s,mb5.2				
OBN			MLR	MLR	
	comp=Z,3μm,14.0s,MS5.3				
OBN	**Obninsk**	**37.91 334**	P	**P**	**22 47 44.0 +3.5**
	comp=Z,356nm,1.3s,mb5.9,SNR=6.0				
OBN	**Obninsk**	**37.91 334**	*e*P	**P**	**22 47 40.0 -0.5**
	comp=Z,101nm,1.2s,mb5.4				
PLOR	**Plostina**	**37.92 316**	⇓P	**P**	**22 47 42.1 +1.4**
PLOR	**Plostina**	**37.92 316**	⇓*i*P	**P**	**22 47 42.1 +1.4**
PLOR	**Plostina**	**37.92 316**	⇓*i*P	**P**	**22 47 42.1 +1.4**
MRKA	**Markates**	**37.95 304**	P	**P**	**22 47 42.0 +1.0**
MRKA	**Markates**	**37.95 304**	P	**P**	**22 47 42.2 +1.2**
MRKA	**Markates**	**37.95 304**	P	**P**	**22 47 42.0 +1.0**
MOS	**Moscow**	**37.95 335**	*e*P	**P**	**22 47 39.4 -1.4**
MOS			*e*		22 49 06.6
MOS			*e*		22 49 49.2
MOS			*e*S	**S**	**22 53 36.5 +4.0**
MOS			pmax	pmax	
	comp=Z,137nm,1.9s,mb5.4				
PLD	**Plovdiv**	**37.96 309**	P	**P**	**22 47 43.6 +2.5**
PLD	**Plovdiv**	**37.96 309**	P	**P**	**22 47 44.0 +2.9**
PLD	**Plovdiv**	**37.96 309**	P	**P**	**22 47 44.0 +2.9**
PLD	**Plovdiv**	**37.96 309**	P	**P**	**22 47 44.0 +2.9**
PLD	**Plovdiv**	**37.96 309**	*e*P	**P**	**22 47 43.1 +2.0**
PLD	**Plovdiv**	**37.96 309**	*e*P	**P**	**22 47 43.1 +2.0**
KYTH	**Kithira**	**37.97 300**	*e*P	**P**	**22 47 40.0 -1.2**
DID	**Didima**	**38.00 302**	*e*P	**P**	**22 47 40.4 -1.1**
DIDY	**Didyma**	**38.01 301**	P	**P**	**22 47 41.0 -0.6**
DIDY	**Didyma**	**38.01 301**	P	**P**	**22 47 41.5 -0.1**
DIDY	**Didyma**	**38.01 301**	P	**P**	**22 47 41.5 -0.1**
OUR	**Ouranopolis**	**38.01 306**	P	**P**	**22 47 43.8 +2.3**
OUR	**Ouranopolis**	**38.01 306**	P	**P**	**22 47 44.3 +2.8**
OUR	**Ouranopolis**	**38.01 306**	P	**P**	**22 47 44.3 +2.8**
OUR	**Ouranopolis**	**38.01 306**	P	**P**	**22 47 44.3 +2.8**
OUR	**Ouranopolis**	**38.01 306**	P	**P**	**22 47 43.8 +2.3**
VIL1	**Vilia, Western**	**38.05 303**	*e*P	**P**	**22 47 41.0 -0.9**
VLI	**Veliai**	**38.11 300**	*e*P	**P**	**22 47 40.1 -2.3**
VLI	**Veliai**	**38.11 300**	P	**P**	**22 47 41.7 -0.7**
VLI	**Veliai**	**38.11 300**	P	**P**	**22 47 43.2 +0.8**
VLI	**Veliai**	**38.11 300**	P	**P**	**22 47 43.2 +0.8**
VLI	**Veliai**	**38.11 300**	P	**P**	**22 47 43.2 +0.8**
SKIA	**Skiathos**	**38.14 304**	P	**P**	**22 47 43.6 +1.0**
SKIA	**Skiathos**	**38.14 304**	P	**P**	**22 47 44.6 +2.0**
SKIA	**Skiathos**	**38.14 304**	P	**P**	**22 47 43.6 +1.0**
PAIG	**Paliouri**	**38.14 305**	P	**P**	**22 47 46.5 +3.9**
PAIG	**Paliouri**	**38.14 305**	P	**P**	**22 47 46.5 +3.9**
PAIG	**Paliouri**	**38.14 305**	P	**P**	**22 47 46.5 +3.9**
PAIG	**Paliouri**	**38.14 305**	P	**P**	**22 47 46.5 +3.9**
TESR		**38.19 317**	⇓*i*P	**P**	**22 47 43.8 +0.9**
TESR		**38.19 317**	⇓*i*P	**P**	**22 47 43.8 +0.9**
GYA	**Guiyang**	**38.21 76**	⇑*i*P	**P**	**22 47 45.0 +1.6**
GYA			PP	PP	22 49 15.8 +5.1
GYA			PcP	PcP	22 50 01.0 +3.1
GYA			S	**S**	**22 53 37.5 +0.3**
GYA			ScP	ScP	22 53 47.5 +1.6
GYA			SS	SS	22 56 16.0 -9.2
GYA			pmax	pmax	
	comp=Z,90nm,1.0s,mb5.5				
GYA			pmax	pmax	
	comp=Z,180nm,5.8s				
GYA			LR	LR	
	comp=N,13μm,16.7s,MS5.9				
GYA			LR	LR	
	comp=E,12μm,17.4s,MS5.9				
GYA			LR	LR	
	comp=Z,15μm,16.5s,MS5.9				
MLR	**Muntele Rosu**	**38.24 315**	P	**P**	**22 47 43.2 -0.2**
	comp=Z,7.2nm,1.2s,mb4.3,baz=135,slow=4.9,SNR=22				
MLR	**Muntele Rosu**	**38.24 315**	P	**P**	**22 47 43.2 -0.2**
MLR	**Muntele Rosu**	**38.24 315**	P	**P**	**22 47 43.2 -0.2**
MLR	**Muntele Rosu**	**38.24 315**	⇑*i*P	**P**	**22 47 44.6 +1.2**
MLR	**Muntele Rosu**	**38.24 315**	⇑*i*P	**P**	**22 47 44.6 +1.2**
LTK	**Loutraki**	**38.30 302**	*e*P	**P**	**22 47 43.2 -0.8**
NEO	**Neokhori**	**38.35 304**	*e*P	**P**	**22 47 44.7 +0.3**
NVR	**Nevrokopi**	**38.36 308**	*e*P	**P**	**22 47 45.1 +0.7**
NVR	**Nevrokopi**	**38.36 308**	P	**P**	**22 47 46.5 +2.1**
NVR	**Nevrokopi**	**38.36 308**	P	**P**	**22 47 46.8 +2.4**
NVR	**Nevrokopi**	**38.36 308**	P	**P**	**22 47 46.8 +2.4**
NVR	**Nevrokopi**	**38.36 308**	P	**P**	**22 47 46.5 +2.1**
ATAL	**Atalanti**	**38.38 303**	P	**P**	**22 47 44.8 +0.1**
ATAL	**Atalanti**	**38.38 303**	P	**P**	**22 47 45.0 +0.3**
ATAL	**Atalanti**	**38.38 303**	P	**P**	**22 47 45.0 +0.3**
ATAL	**Atalanti**	**38.38 303**	P	**P**	**22 47 45.0 +0.3**
XOR	**Xorichti**	**38.39 304**	P	**P**	**22 47 46.7 +2.0**
XOR	**Xorichti**	**38.39 304**	P	**P**	**22 47 46.8 +2.1**
XOR	**Xorichti**	**38.39 304**	P	**P**	**22 47 46.8 +2.1**
XOR	**Xorichti**	**38.39 304**	P	**P**	**22 47 46.7 +2.0**
LKR	**Lokris**	**38.39 303**	*e*P	**P**	**22 47 44.6 -0.2**
LKR	**Lokris**	**38.39 303**	P	**P**	**22 47 44.7 -0.1**
LKR	**Lokris**	**38.39 303**	P	**P**	**22 47 45.0 +0.2**
LKR	**Lokris**	**38.39 303**	P	**P**	**22 47 45.0 +0.2**
LKR	**Lokris**	**38.39 303**	P	**P**	**22 47 45.0 +0.2**
PLG	**Polygyros**	**38.42 306**	*e*P	**P**	**22 47 47.0 +2.0**
PLG	**Polygyros**	**38.42 306**	P	**P**	**22 47 45.7 +0.7**
PLG	**Polygyros**	**38.42 306**	P	**P**	**22 47 46.5 +1.5**
PLG	**Polygyros**	**38.42 306**	P	**P**	**22 47 46.5 +1.5**
PLG	**Polygyros**	**38.42 306**	P	**P**	**22 47 46.5 +1.5**
PLG	**Polygyros**	**38.42 306**	P	**P**	**22 47 45.7 +0.7**
PGB	**Panagyurishte**	**38.47 310**	*e*P	**P**	**22 47 47.4 +2.1**
PGB	**Panagyurishte**	**38.47 310**	*e*P	**P**	**22 47 47.4 +2.1**
SRS	**Serrai**	**38.49 307**

THE	**Thessaloniki**	**38.84 306**	P	**P**	**22 47 50.0 +1.5**
THE	**Thessaloniki**	**38.84 306**	P	**P**	**22 47 51.1 +2.6**
THE	**Thessaloniki**	**38.84 306**	P	**P**	**22 47 51.1 +2.6**
THE	**Thessaloniki**	**38.84 306**	P	**P**	**22 47 51.1 +2.6**
THE	**Thessaloniki**	**38.84 306**	P	**P**	**22 47 50.0 +1.5**
AGG	**Agios Georgios**	**38.98 304**	P	**P**	**22 47 54.3 +4.6**
AGG	**Agios Georgios**	**38.98 304**	P	**P**	**22 47 49.1 -0.6**
AGG	**Agios Georgios**	**38.98 304**	P	**P**	**22 47 49.1 -0.6**
AGG	**Agios Georgios**	**38.98 304**	P	**P**	**22 47 49.1 -0.6**
AGG	**Agios Georgios**	**38.98 304**	P	**P**	**22 47 49.1 -0.6**
ITM	**Ithomi**	**38.98 301**	*e*P	**P**	**22 47 48.5 -1.2**
ITM	**Ithomi**	**38.98 301**	P	**P**	**22 47 49.3 -0.4**
ITM	**Ithomi**	**38.98 301**	P	**P**	**22 47 51.2 +1.5**
ITM	**Ithomi**	**38.98 301**	P	**P**	**22 47 51.2 +1.5**
ITM	**Ithomi**	**38.98 301**	P	**P**	**22 47 49.3 -0.4**
MPEP	**Malo Peshtene**	**39.01 311**	*e*P	**P**	**22 47 50.8 +1.0**
KALE	**Kalithea**	**39.01 303**	P	**P**	**22 47 50.3 +0.4**
KALE	**Kalithea**	**39.01 303**	P	**P**	**22 47 50.5 +0.6**
KALE	**Kalithea**	**39.01 303**	P	**P**	**22 47 50.5 +0.6**
KALE	**Kalithea**	**39.01 303**	P	**P**	**22 47 50.3 +0.4**
KNT	**Kendrikon**	**39.01 307**	P	**P**	**22 47 51.6 +1.7**
KNT	**Kendrikon**	**39.01 307**	P	**P**	**22 47 53.1 +3.2**
KNT	**Kendrikon**	**39.01 307**	P	**P**	**22 47 53.1 +3.2**
KNT	**Kendrikon**	**39.01 307**	P	**P**	**22 47 53.1 +3.2**
KNT	**Kendrikon**	**39.01 307**	P	**P**	**22 47 51.6 +1.7**
PSI	**Prapat**	**39.04 116**	P	**P**	**22 47 53.0 +2.5**
	comp=Z,2μmcomp=Z,80nm,0.8s,mb5.5				
LUJL	**Ujela**	**39.04 288**	*i* P	**P**	**22 48 00.1 +10**
	comp=Z,697nm,1.8s,mb6.1,SNR=154				
TRIZ	**Trizonia**	**39.05 303**	P	**P**	**22 47 49.6 -0.7**
TRIZ	**Trizonia**	**39.05 303**	P	**P**	**22 47 49.7 -0.6**
TRIZ	**Trizonia**	**39.05 303**	P	**P**	**22 47 49.7 -0.6**
KKB	**Krupnik**	**39.06 308**	*e*P	**P**	**22 47 50.3 0.0**
KKB	**Krupnik**	**39.06 308**	*e*P	**P**	**22 47 50.3 0.0**
LIT	**Litokhoron**	**39.07 305**	*e*P	**P**	**22 47 52.7 +2.2**
LIT	**Litokhoron**	**39.07 305**	P	**P**	**22 47 53.1 +2.6**
LIT	**Litokhoron**	**39.07 305**	P	**P**	**22 47 54.8 +4.3**
LIT	**Litokhoron**	**39.07 305**	P	**P**	**22 47 54.8 +4.3**
LIT	**Litokhoron**	**39.07 305**	P	**P**	**22 47 54.8 +4.3**
LIT	**Litokhoron**	**39.07 305**	P	**P**	**22 47 53.1 +2.6**
PYL	**PYLOS**	**39.09 300**	*e*P	**P**	**22 47 51.2 +0.6**
LAKA	**Lakka**	**39.11 302**	P	**P**	**22 47 51.1 +0.3**
LAKA	**Lakka**	**39.11 302**	P	**P**	**22 47 52.5 +1.7**
LAKA	**Lakka**	**39.11 302**	P	**P**	**22 47 52.5 +1.7**
LAKA	**Lakka**	**39.11 302**	P	**P**	**22 47 51.1 +0.3**
KULM	**Kulim**	**39.15 112**	P	**P**	**22 47 53.4 +2.0**
KULM	**Kulim**	**39.15 112**	*e*P	**P**	**22 47 52.3 +0.9**
	comp=Z,62nm,0.9s,mb5.3				
KULM			*e*ScP	ScP	22 53 48.2 -1.5
KULM			LR	LR	
	comp=Z,8μm,21.0s,MS5.5				
KULM	**Kulim**	**39.15 112**	P	**P**	**22 47 54.5 +3.1**
	comp=Z,2μmcomp=Z,99nm,0.9s,mb5.5				
KULM	**Kulim**	**39.15 112**	*e*P	**P**	**22 47 52.3 +0.9**
VTS	**Vitosha**	**39.16 309**	P	**P**	**22 47 53.3 +2.2**
VTS	**Vitosha**	**39.16 309**	P	**P**	**22 47 54.0 +2.9**
VTS	**Vitosha**	**39.16 309**	P	**P**	**22 47 54.0 +2.9**
VTS	**Vitosha**	**39.16 309**	⇓P	**P**	**22 47 52.5 +1.4**
VTS	**Vitosha**	**39.16 309**	*i* P	**P**	**22 47 52.8 +1.7**
VTS	**Vitosha**	**39.16 309**	⇓*i*P	**P**	**22 47 52.5 +1.4**
VTS	**Vitosha**	**39.16 309**	⇓*i*P	**P**	**22 47 52.5 +1.4**
EFP	**Efpalio**	**39.19 303**	*e*P	**P**	**22 47 50.6 -0.9**
CRAR	**CRAIOVA**	**39.27 312**	P	**P**	**22 47 55.5 +3.5**
VAY	**Valandovo**	**39.29 307**	*e*P	**P**	**22 47 52.9 +0.6**
VAY			*e*S	**S**	**22 53 54.0 +0.9**
THL	**Klokotos Trika**	**39.32 304**	*e*P	**P**	**22 47 53.2 +0.7**
THL	**Klokotos Trika**	**39.32 304**	P	**P**	**22 47 57.2 +4.7**
THL	**Klokotos Trika**	**39.32 304**	P	**P**	**22 47 59.0 +6.5**
THL	**Klokotos Trika**	**39.32 304**	P	**P**	**22 47 59.0 +6.5**
GRG	**Griva**	**39.33 307**	P	**P**	**22 47 52.9 +0.3**
GRG	**Griva**	**39.33 307**	P	**P**	**22 47 55.3 +2.7**
GRG	**Griva**	**39.33 307**	P	**P**	**22 47 55.3 +2.7**
GRG	**Griva**	**39.33 307**	P	**P**	**22 47 55.3 +2.7**
GRG	**Griva**	**39.33 307**	P	**P**	**22 47 52.9 +0.3**
EVR	**Evrytania**	**39.35 303**	*e*P	**P**	**22 47 54.0 +1.2**
MARJ	**Al Marj**	**39.42 293**	*i* P	Px	22 48 03.5
	comp=Z,661nm,1.7s,SNR=26				
RLS	**Riolos of Patr**	**39.47 302**	*e*P	**P**	**22 47 53.3 -0.5**
RLS	**Riolos of Patr**	**39.47 302**	P	**P**	**22 47 56.7 +2.9**
RLS	**Riolos of Patr**	**39.47 302**	P	**P**	**22 47 56.3 +2.5**
RLS	**Riolos of Patr**	**39.47 302**	P	**P**	**22 47 56.3 +2.5**
RLS	**Riolos of Patr**	**39.47 302**	P	**P**	**22 47 56.3 +2.5**
BURAR	**Bucovina Array**	**39.53 318**	⇑P	**P**	**22 47 54.9 +0.7**
BURAR	**Bucovina Array**	**39.53 318**	⇑*i*P	**P**	**22 47 54.9 +0.7**
BURAR	**Bucovina Array**	**39.53 318**	⇑*i*P	**P**	**22 47 54.9 +0.7**
BUR08	**Bucovina Ar. S**	**39.56 318**	*e*P	**P**	**22 47 54.5 +0.1**
BUR08	**Bucovina Ar. S**	**39.56 318**	*e*P	**P**	**22 47 54.5 +0.1**
KZN	**Kozani**	**39.66 306**	*e*P	**P**	**22 47 54.4 -0.9**
KZN	**Kozani**	**39.66 306**	P	**P**	**22 47 56.9 +1.6**
KZN	**Kozani**	**39.66 306**	P	**P**	**22 47 57.0 +1.7**
KZN	**Kozani**	**39.66 306**	P	**P**	**22 47 57.0 +1.7**
KZN	**Kozani**	**39.66 306**	P	**P**	**22 47 57.0 +1.7**
KZN	**Kozani**	**39.66 306**	P	**P**	**22 47 56.9 +1.6**
MOY	**Mondy**	**39.76 35**	*e*P	**P**	**22 47 57.2 +1.2**
MOY			pmax	pmax	
	comp=Z,194nm,1.7s,mb5.6				
IPM	**Ipoh**	**39.89 112**	P	**P**	**22 47 59.0 +1.4**
IPM	**Ipoh**	**39.89 112**	*e*P	**P**	**22 47 58.5 +0.9**
	comp=Z,41nm,0.8s,mb5.2				
IPM	**Ipoh**	**39.89 112**	P	**P**	**22 47 59.6 +2.0**
	comp=Z,2μmcomp=Z,56nm,0.8s,mb5.3				
IPM	**Ipoh**	**39.89 112**	*e*P	**P**	**22 47 58.5 +0.9**
	comp=Z,41nm,0.8s,mb5.2				
FNA	**Florina**	**40.05 306**	P	**P**	**22 47 59.7 +1.1**
FNA	**Florina**	**40.05 306**	P	**P**	**22 47 59.7 +1.1**
FNA	**Florina**	**40.05 306**	P	**P**	**22 47 59.7 +1.1**
FNA	**Florina**	**40.05 306**	P	**P**	**22 47 59.7 +1.1**
FNA	**Florina**	**40.05 306**	P	**P**	**22 47 59.7 +1.1**
XAN	**Xi'an**	**40.09 64**	P	**P**	**22 47 59.3 +0.3**
XAN			PP	PP	22 49 36.0 +4.8
XAN			S	**S**	**22 54 01.5 -3.8**
XAN			pmax	pmax	
	comp=Z,19nm,1.2s,mb4.7				
XAN			pmax	pmax	
	comp=Z,200nm,4.9s				
XAN			LR	LR	
	comp=N,12μm,19.5s				
BIA	**Bitola**	**40.14 307**	*e*P	**P**	**22 47 59.0 -0.3**
VLS	**Valsamata**	**40.18 302**	*e*P	**P**	**22 47 58.5 -1.2**
VLS	**Valsamata**	**40.18 302**	P	**P**	**22 48 03.1 +3.4**
VLS	**Valsamata**	**40.18 302**	P	**P**	**22 48 03.1 +3.4**
VLS	**Valsamata**	**40.18 302**	P	**P**	**22 48 03.1 +3.4**
BARS	**Barje**	**40.21 309**	*e*P	**P**	**22 47 59.8 -0.1**
NEST	**Nestorio**	**40.22 306**	P	**P**	**22 47 59.6 -0.4**
NEST	**Nestorio**	**40.22 306**	P	**P**	**22 48 02.0 +2.0**
NEST	**Nestorio**	**40.22 306**	P	**P**	**22 47 59.6 -0.4**
LKD2	**Lefkada island**	**40.22 303**	P	**P**	**22 48 02.9 +2.9**
LKD2	**Lefkada island**	**40.22 303**	P	**P**	**22 48 02.9 +2.9**
LKD2	**Lefkada island**	**40.22 303**	P	**P**	**22 48 02.9 +2.9**
JAN	**Janina**	**40.22 304**	*e*P	**P**	**22 47 57.9 -2.1**
JAN	**Janina**	**40.22 304**	P	**P**	**22 48 01.1 +1.1**
JAN	**Janina**	**40.22 304**	P	**P**	**22 48 02.2 +2.2**
JAN	**Janina**	**40.22 304**	P	**P**	**22 48 02.2 +2.2**
JAN	**Janina**	**40.22 304**	P	**P**	**22 48 02.2 +2.2**
JAN	**Janina**	**40.22 304**	P	**P**	**22 48 01.1 +1.1**
SKO	**Skopje**	**40.27 308**	*e*P	**P**	**22 48 02.6 +2.2**
SKO			*e*S	**S**	**22 54 05.6 -2.2**
KRUS	**Krusevo**	**40.27 307**	*e*P	**P**	**22 48 00.2 -0.2**
GZR	**Gura Zlata**	**40.30 313**	P	**P**	**22 48 03.1 +2.5**
GZR	**Gura Zlata**	**40.30 313**	⇑*i*P	**P**	**22 48 02.9 +2.3**
GZR	**Gura Zlata**	**40.30 313**	⇑*i*P	**P**	**22 48 02.9 +2.3**
BOLS	**Boljevac**	**40.39 311**	*e*P	**P**	**22 48 00.8 -0.5**
ZAK	**Zakamensk**	**40.39 38**	⇓*i*P	**P**	**22 48 02.2 +1.0**
ZAK			*e*		22 49 37.7
ZAK			pmax	pmax	
	comp=Z,41nm,1.6s,mb4.9				
ENH	**Enshi**	**40.50 70**	*e*P	**P**	**22 48 02.2 -0.2**
	comp=Z,29nm,0.8s,mb5.0				
ENH			LR	LR	
	comp=Z,7μm,19.0s,MS5.5				
ENH	**Enshi**	**40.50 70**	*e*P	**P**	**22 48 02.2 -0.3**
	comp=Z,29nm,0.8s,mb5.0				
MBAR	**Mbarara**	**40.57 239**	*e*P	**P**	**22 48 04.6 +1.4**
IGT	**Igoumenitsa**	**40.59 304**	P	**P**	**22 48 04.7 +1.6**
IGT	**Igoumenitsa**	**40.59 304**	P	**P**	**22 48 04.5 +1.4**
IGT	**Igoumenitsa**	**40.59 304**	P	**P**	**22 48 04.5 +1.4**
IGT	**Igoumenitsa**	**40.59 304**	P	**P**	**22 48 04.5 +1.4**
IGT	**Igoumenitsa**	**40.59 304**	P	**P**	**22 48 04.5 +1.4**
BMR	**Baia Mare**	**40.63 317**	⇑P	**P**	**22 48 04.8 +1.5**
BMR	**Baia Mare**	**40.63 317**	⇑*i*P	**P**	**22 48 04.8 +1.5**
BMR	**Baia Mare**	**40.63 317**	⇑*i*P	**P**	**22 48 04.8 +1.5**
MNSI	**Mandailing Nat**	**40.73 118**	P	**P**	**22 48 06.2 +1.7**
	comp=Z,1μmcomp=Z,77nm,1.4s,mb5.2				
DRGR		**40.81 315**	⇑P	**P**	**22 48 05.3 +0.5**
DRGR		**40.81 315**	⇑*i*P	**P**	**22 48 05.3 +0.5**
DRGR		**40.81 315**	⇑*i*P	**P**	**22 48 05.3 +0.5**
KEK	**Kerkira**	**41.03 304**	*e*P	**P**	**22 48 04.6 -2.1**
KEK	**Kerkira**	**41.03 304**	P	**P**	**22 48 10.2 +3.5**
KEK	**Kerkira**	**41.03 304**	P	**P**	**22 48 10.7 +4.0**
KEK	**Kerkira**	**41.03 304**	P	**P**	**22 48 10.7 +4.0**
BZS	**Buzias**	**41.14 313**	⇓P	**P**	**22 48 07.9 +0.4**
BZS	**Buzias**	**41.14 313**	⇓*i*P	**P**	**22 48 07.9 +0.4**
BZS	**Buzias**	**41.14 313**	⇓*i*P	**P**	**22 48 07.9 +0.4**
LVV	**L'vov**	**41.16 320**	*e*P	**P**	**22 48 07.3 -0.3**
LVV			*e*		22 49 52.5
LVV			*i* PPP		22 50 15.3
LVV			*e*S	**S**	**22 54 20.3 -0.5**
LVV			*e*SS	SS	22 57 17.3 -6.2
LVV			*e*SSS		22 57 58.5
SONM	**Songino Array**	**41.20 43**	P	**P**	**22 48 08.4 +0.5**
	comp=Z,21nm,1.0s,mb4.7,baz=244,slow=8.2,SNR=107				
SONM			PP	PP	22 49 52.1 +9.1
	comp=Z,20nm,1.1s,baz=244,slow=9.7,SNR=3.7				
SONM			LR	LR	23 08 55.9
	comp=Z,9μm,18.9s,MS5.6,baz=250,slow=42				
SONM	**Songino Array**	**41.20 43**	P	**P**	**22 48 08.4 +0.5**
SONM			PP	PP	22 49 52.1 +9.1
SONM	**Songino Array**	**41.20 43**	P	**P**	**22 48 08.4 +0.4**
SONM					22 49 52.1
SONM	**Songino Array**	**41.20 43**	P	**P**	**22 48 08.4 +0.4**
SONM	**Songino Array**	**41.20 43**	PP	PP	22 49 52.1 +9.1
TLY	**Talaya**	**41.20 37**	*e*P	**P**	**22 48 07.9 0.0**
	comp=Z,172nm,1.6s,mb5.4				
TLY			LR	LR	
	comp=Z,8μm,20.0s,MS5.6				
TLY	**Talaya**	**41.20 37**	*e*P	**P**	**22 48 07.8 -0.1**
TLY			*e*		22 49 39.3
TLY			*e*PPP		22 50 03.4
TLY			*e*S	**S**	**22 54 20.2 -1.1**
TLY			*e*		22 57 59.9
TLY			pmax	pmax	
	comp=Z,89nm,1.5s,mb5.2				
TLY	**Talaya**	**41.20 37**	P	**P**	**22 48 09.4 +1.5**
	comp=Z,304nm,1.8s,mb5.6,SNR=9.1				
TLY	**Talaya**	**41.20 37**	*e*P	**P**	**22 48 07.9 0.0**
	comp=Z,172nm,1.6s,mb5.4				
GRUS	**Gruza**	**41.26 311**	*e*P	**P**	**22 48 09.1 +0.5**
TIR	**Tirane**	**41.28 307**	*e*P	**P**	**22 48 12.7 +3.9**
	comp=Z,373nm,1.2s,mb5.9				
TIR			LR	LR	
	comp=Z,7μm,20.0s,MS5.5				
TIR	**Tirane**	**41.28 307**	*e*P	**P**	**22 48 12.7 +3.9**
TIR			pmax	pmax	
	comp=Z,373nm,1.2s,mb5.9				
TIR			MLR	MLR	
	comp=Z,7μm,20.0s,MS5.5				
TIR	**Tirane**	**41.28 307**	*e*P	**P**	**22 48 12.7 +3.9**
	comp=Z,373nm,1.2s,mb5.9				
KLMR	**Klimovskoe**	**41.29 342**	*d i*P	**P**	**22 48 07.8 -0.7**
KLMR			*i*		22 49 52.9
KLMR			S	**S**	**22 54 23.0 +0.5**
KLMR			SS	SS	22 57 25.2 -0.6
KLMR			pmax	pmax	
	comp=Z,1μm,12.4s				
KLMR			pmax	pmax	
	comp=Z,278nm,1.4s,mb5.7				
KLMR			MLR	MLR	
	comp=Z,17μm,19.0s,MS5.9				
MICGM	**Minsk**	**41.40 328**	*e*P	**P**	**22 48 10.0 +0.5**
TRPA	**Tarpa**	**41.40 317**	⇑*i*P	**P**	**22 48 09.4 -0.2**
TRPA	**Tarpa**	**41.40 317**	⇑*i*P	**P**	**22 48 09.4 -0.2**
MNK	**Minsk**	**41.42 328**	*e*P	**P**	**22 48 10.0 +0.3**
MNK			*e*PPP		22 50 16.0
MNK			*e*S	**S**	**22 54 24.0 -0.5**
MNK			MLR	MLR	
	comp=Z,8μm,16.0s,MS5.7				
MNK			MLR	MLR	
	comp=E,7μm,16.0s,MS6.1				
MNK			MLR	MLR	
	comp=N,18μm,16.0s,MS6.1				
TIM	**Timisoara**	**41.44 313**	P	**P**	**22 48 13.4 +3.4**
PVY	**Plav**	**41.48 309**	⇑*i*P	**P**	**22 48 10.6 +0.2**
PVY	**Plav**	**41.48 309**	⇑*i*P	**P**	**22 48 10.6 +0.2**
TRUS	**Trudelj**	**41.57 311**	*e*P	**P**	**22 48 10.3 -0.8**
IVAS	**Ivanjica**	**41.58 310**	*e*P	**P**	**22 48 12.1 +0.9**
IVA	**Berane**	**41.59 309**	⇑*i*P	**P**	**22 48 12.0 +0.7**
BEY	**Berane**	**41.59 309**	⇑*i*P	**P**	**22 48 12.0 +0.7**
ULN	**Ulaanbaatar**	**41.62 43**	*e*P	**P**	**22 48 12.1 +0.7**
	comp=N,147nm,1.5s,mb5.4				
ULN			LR	LR	
	comp=Z,7μm,19.0s,MS5.6				
ULN	**Ulaanbaatar**	**41.62 43**	*e*P	**P**	**22 48 12.1 +0.7**
ULN			pmax	pmax	
	comp=Z,147nm,1.5s,mb5.4				
ULN			MLR	MLR	
	comp=Z,7μm,19.0s,MS5.6				
ULN	**Ulaanbaatar**	**41.62 43**	P	**P**	**22 48 12.9 +1.5**
	comp=Z,1μmcomp=Z,57nm,1.7s,mb4.9				
ULN	**Ulaanbaatar**	**41.62 43**	P	**P**	**22 48 12.9 +1.4**
SNR=12					
ULN	**Ulaanbaatar**	**41.62 43**	*e*P	**P**	**22 48 12.1 +0.7**
	comp=Z,147nm,1.5s,mb5.4				
UZH	**Uzhgorod**	**41.73 318**	*e*P	**P**	**22 48 17.3 +5.0**
UZH			*e*		22 48 37.9
BTO	**Baotou**	**41.74 55**	*e*P	**P**	**22 48 13.8 +1.2**
IRK	**Irkutsk**	**41.81 36**	*e*P	**P**	**22 48 12.8 -0.1**
IRK			*e*		22 49 55.2
IRK			pmax	pmax	
	comp=Z,244nm,1.9s,mb5.5				
DIVS	**Divibare**	**41.82 311**	P	**P**	**22 48 15.5 +2.3**
DIVS	**Divibare**	**41.82 311**	P	**P**	**22 48 16.7 +3.5**
DIVS	**Divibare**	**41.82 311**	*e*P	**P**	**22 48 13.8 +0.6**
ULC	**Ulcinj**	**41.87 307**	⇑*i*P	**P**	**22 48 13.9 +0.4**
ULC	**Ulcinj**	**41.87 307**	⇑*i*P	**P**	**22 48 14.0 +0.5**
KWP	**Kalwaria Pacla**	**41.87 319**	*e*P	**P**	**22 48 16.3 +2.9**
KWP			*e*S	**S**	**22 54 36.0 +4.7**
KWP			LMZ		23 06 57.3
	comp=Z,5μm,28.0s				
KWP	**Kalwaria Pacla**	**41.87 319**	*e*P	**P**	**22 48 13.5 +0.1**
	comp=Z,114nm,1.2s,mb5.4				
KWP			*e*S	**S**	**22 54 17.9 -13**
KWP			LR	LR	
	comp=Z,4μm,22.0s,MS5.2				
KWP	**Kalwaria Pacla**	**41.87 319**	*e*P	**P**	**22 48 13.5 +0.1**
KWP			*e*S	**S**	**22 54 17.9 -13**
KWP			pmax	pmax	
	comp=Z,114nm,1.2s,mb5.4				
KWP			MLR	MLR	
	comp=Z,4μm,22.0s,MS5.2				
KWP	**Kalwaria Pacla**	**41.87 319**	⇑*i*P	**P**	**22 48 14.1 +0.7**
KWP	**Kalwaria Pacla**	**41.87 319**	⇑*i*P	**P**	**22 48 14.1 +0.7**
KWP			*e*S	**S**	**22 54 17.9 -13**
TTG	**Podgorica**	**41.95 308**	⇑*i*P	**P**	**22 48 13.6 -0.6**
PDG	**Podgorica**	**41.95 308**	⇑*i*P	**P**	**22 48 13.7 -0.6**
NACGM	**Naroch**	**42.15 328**	*e*P	**P**	**22 48 07.0 -8.6**
BUM	**Brajici-Budva**	**42.19 308**	⇑*i*P	**P**	**22 48 14.5 -1.7**
BUM	**Brajici-Budva**	**42.19 308**	⇑*i*P	**P**	**22 48 14.5 -1.7**
NKY	**Niksic**	**42.23 309**	⇑*i*P	**P**	**22 48 14.8 -1.7**
NKY	**Niksic**	**42.23 309**	⇑*i*P	**P**	**22 48 14.8 -1.7**
QIZ	**Qiongzhong**	**42.33 87**	P	**P**	**22 48 17.0 -0.6**
QIZ			PP	PP	22 49 57.0 +1.3
QIZ			S	**S**	**22 54 35.3 -3.6**
QIZ			SS	SS	22 57 48.5 +0.9
QIZ			pmax	pmax	
	comp=Z,46nm,1.7s,mb4.8				
QIZ			pmax	pmax	
	comp=Z,790nm,5.4s				
QIZ			LR	LR	
	comp=N,10μm,22.0s				
QIZ			LR	LR	
	comp=Z,5μm,19.2s,MS5.4				
QIZ	**Qiongzhong**	**42.33 87**	PFAKE		22 48 30.0 +12
QIZ			LR	LR	
	comp=Z,6μm,19.0s,MS5.5				
CRVS	**Cervenica-Dubn**	**42.34 318**	*e*P	**P**	**22 48 20.1 +2.8**
CRVS			*e*		22 48 28.1
CRVS			*e*		22 50 30.3
CRVS	**Cervenica-Dubn**	**42.34 318**	*e*P	**P**	**22 48 20.1 +2.8**
CRVS			*e*		22 48 28.1
CRVS			*e*PP	PP	22 50 10.2 +15
CRVS	**Cervenica-Dubn**	**42.34 318**	*e*P	**P**	**22 48 20.1 +2.8**
UPM	**Unac-Piva**	**42.37 309**	⇑*i*P	**P**	**22 48 17.4 -0.3**
UPM	**Unac-Piva**	**42.37 309**	⇑*i*P	**P**	**22 48 17.4 -0.3**
HCY	**Herceg Novi**	**42.51 308**	⇑*i*P	**P**	**22 48 16.9 -1.9**
HCY	**Herceg Novi**	**42.51 308**	⇑*i*P	**P**	**22 48 16.9 -1.9**
BRY	**Bratogost**	**42.57 309**	⇑*i*P	**P**	**22 48 18.3 -1.0**
BRY	**Bratogost**	**42.57 309**	⇑*i*P	**P**	**22 48 18.4 -0.9**
IIGN	**Ignalina**	**42.66 328**	*e*P	**P**	**22 48 20.0 +0.2**
IIGN			AMB	AMB	22 48 33.2
	comp=Z,26nm,2.6s,mb4.5				
STHS	**Stebnicka Huta**	**42.67 319**	*e*P	**P**	**22 48 24.4 +4.5**
STHS			*e*		22 50 13.2
STHS	**Stebnicka Huta**	**42.67 319**	*e*P	**P**	**22 48 24.4 +4.5**
STHS			*e*PP	PP	22 50 13.2 +14
KECS	**Kecovo**	**42.80 317**	*e*P	**P**	**22 48 20.6 -0.5**
KECS			*e*		22 48 32.6
KECS	**Kecovo**	**42.80 317**	*e*P	**P**	**22 48 20.6 -0.5**
KECS			*e*		22 48 32.6
KECS			*e*PP	PP	22 50 21.3 +21
KECS	**Kecovo**	**42.80 317**	*e*P	**P**	**22 48 20.6 -0.5**
ISAL	**Salakas**	**42.83 329**	*e*P	**P**	**22 48 21.3 +0.1**
ISAL			AMB	AMB	22 48 32.0
	comp=Z,27nm,2.0s,mb4.6				
IZAR	**Zarasai**	**42.87 329**	*e*P	**P**	**22 48 21.6 +0.1**
IZAR			AMB	AMB	22 48 32.4
	comp=Z,34nm,1.8s,mb4.8				
HHC	**Hu-ho-hao-te**	**42.94 55**	⇓P	**P**	**22 48 23.8 +1.5**
HHC			sP	sP	22 48 29.8 +3.1
HHC			PP	PP	22 50 06.5 +4.6
HHC			PcP	PcP	22 50 16.3 +3.4
HHC			ScP	ScP	22 54 04.3 +0.1
HHC			PcS	PcS	22 54 06.5 +1.4
HHC			S	**S**	**22 54 47.0 -0.4**
HHC			SS	SS	22 57 53.0 -5.9
HHC			ScS	ScS	22 58 22.5 -0.9
HHC			pmax	pmax	
	comp=Z,54nm,1.0s,mb5.2				
HHC			pmax	pmax	
	comp=Z,1μm,6.2s				
HHC			LR	LR	
	comp=N,10μm,14.8s,MS6.0				
HHC			LR	LR	
	comp=E,9μm,15.8s,MS6.0				
HHC			LR	LR	
	comp=Z,10μm,15.8s,MS5.8				
PSZ	**Piszkesteto**	**42.99 316**	*e*P	**P**	**22 48 22.2 -0.4**
	comp=Z,809nm,2.9s,mb6.0				
PSZ			LR	LR	
	comp=Z,3μm,19.0s,MS5.1				
PSZ	**Piszkesteto**	**42.99 316**	*e*P	**P**	**22 48 22.2 -0.4**
PSZ			pmax	pmax	
	comp=Z,809nm,2.9s,mb6.0				
PSZ			MLR	MLR	
	comp=Z,3μm,19.0s,MS5.1				
PSZ	**Piszkesteto**	**42.99 316**	⇑*e*pP	pP	22 48 27.7 +2.0
PSZ	**Piszkesteto**	**42.99 316**	⇑*i*P	**P**	**22 48 24.4 +1.8**
PSZ	**Piszkesteto**	**42.99 316**	*e*P	**P**	**22 48 22.2 -0.4**
	comp=Z,809nm,2.9s,mb6.0				
KGM	**Kluang**	**43.13 114**	P	**P**	**22 48 26.1 +2.0**
NIE	**Niedzica**	**43.23 318**	*e*P	**P**	**22 48 27.6 +3.1**
NIE	**Niedzica**	**43.23 318**	*e*P	**P**	**22 48 27.6 +3.1**
NIE	**Niedzica**	**43.23 318**	*e*P	**P**	**22 48 27.6 +3.1**
TIP	**Timpagrande**	**43.28 303**	PFAKE		22 48 40.0 +15
TIP			LR	LR	
	comp=Z,3μm,19.0s,MS5.2				
PKSM	**Moragy**	**43.30 313**	⇑P	**P**	**22 48 25.2 +0.1**
PKSM	**Moragy**	**43.30 313**	⇑*i*P	**P**	**22 48 25.2 +0.1**
PKSM	**Moragy**	**43.30 313**	⇑*i*P	**P**	**22 48 25.2 +0.1**
BUD	**Budapest**	**43.41 315**	⇑*e*P	**P**	**22 48 28.7 +2.7**
SUW	**Suwalki**	**43.51 325**	*e*P	**P**	**22 48 26.2 -0.5**
SUW			*e*S	**S**	**22 54 56.3 +1.0**
SUW			LMZ		23 07 48.2
	comp=Z,5μm,26.8s				
SUW	**Suwalki**	**43.51 325**	*e*P	**P**	**22 48 25.8 -0.9**
	comp=Z,112nm,1.0s,mb5.5				
SUW			*e*PP	PP	22 50 07.7 0.0
SUW	**Suwalki**	**43.51 325**	*e*P	**P**	**22 48 25.8 -0.9**
SUW			*e*		22 50 07.7
SUW			pmax	pmax	
	comp=Z,112nm,1.0s,mb5.5				
SUW	**Suwalki**	**43.51 325**	*e*P	**P**	**22 48 25.8 -0.9**
	comp=Z,112nm,1.0s,mb5.5				
MYKOM	**Kota Tinggi**	**43.70 114**	P	**P**	**22 48 31.7 +2.9**
OJC	**Ojcow**	**43.83 319**	*e*P	**P**	**22 48 30.4 +1.1**
OJC			*e*pP	pP	22 48 33.5 +1.0
OJC			*e*S	**S**	**22 55 00.8 +0.7**
OJC			L		23 11 23.9
	comp=Z,5.3nm,19.8s				
OJC	**Ojcow**	**43.83 319**	*e*P	**P**	**22 48 29.1 -0.2**
	comp=Z,310nm,1.7s,mb5.8				
OJC	**Ojcow**	**43.83 319**	*e*P	**P**	**22 48 29.1 -0.2**
OJC			pmax	pmax	
	comp=Z,310nm,1.7s,mb5.8				
OJC	**Ojcow**	**43.83 319**	*e*P	**P**	**22 48 30.4 +1.1**

OPO	**Ambohidratompo**	**44.98 204**	P	**P**	**22 48 38.7**	**-0.1**
MORC	**Moravsky Berou**	**45.05 318**	*e*P	**P**	**22 48 38.7**	**-0.4**
	comp=Z,26nm,1.0s,mb5.0					
MORC			*e*PcP	PcP	22 50 20.2	+0.3
MORC	**Moravsky Berou**	**45.05 318**	⇑P	**P**	**22 48 39.1**	**0.0**
MORC	**Moravsky Berou**	**45.05 318**	⇑*i*P	**P**	**22 48 39.1**	**0.0**
MORC	**Moravsky Berou**	**45.05 318**	*e*P	**P**	**22 48 38.7**	**-0.4**
	comp=Z,26nm,1.0s,mb5.0					
RER	**Riviere de l'E**	**45.06 192**	PFAKE		22 48 50.0	+11
RER			LR	LR		
	comp=Z,4μm,19.0s,MS5.4					
SOP	**Sopron**	**45.07 315**	⇑*e*P	**P**	**22 48 40.7**	**+1.4**
ABPO	**Ambohimpanom**	**45.37 203**	*e*P	**P**	**22 48 41.5**	**-0.4**
	comp=Z,16nm,0.8s,mb4.9					
ABPO			LR	LR		
	comp=Z,9μm,20.0s,MS5.7					
ABPO	**Ambohimpanom**	**45.37 203**	*e*P	**P**	**22 48 41.5**	**-0.5**
ABPO			pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9					
ABPO			MLR	MLR		
	comp=Z,9μm,20.0s,MS5.7					
ABPO	**Ambohimpanom**	**45.37 203**	*e*P	**P**	**22 48 41.5**	**-0.5**
	comp=Z,16nm,0.8s,mb4.9					
JOF	**Joensuu**	**45.39 339**	*e*P	**P**	**22 48 40.9**	**-0.7**
JOF			pmax	pmax		
	comp=Z,19nm,0.7s,mb5.0					
JOF	**Joensuu**	**45.39 339**	*e*p	**P**	**22 48 40.9**	**-0.7**
	comp=Z,18nm,0.7s,mb5.0					
JOF	**Joensuu**	**45.39 339**	*e*P	**P**	**22 48 40.9**	**-0.7**
	comp=Z,18nm,0.7s,mb5.0					
BOJS	**Bojanci**	**45.43 312**	*i* P	**P**	**22 48 42.3**	**+0.1**
BOJS			*e*S	**S**	**22 55 28.0**	**+4.5**
BOJS	**Bojanci**	**45.43 312**	*i* P	**P**	**22 48 42.3**	**+0.1**
GROS	**Grobnik**	**45.47 313**	*e*P	**P**	**22 48 44.9**	**+2.4**
GROS	**Grobnik**	**45.47 313**	*e*P	**P**	**22 48 44.8**	**+2.3**
VRAC	**Vranov**	**45.50 317**	P	**P**	**22 48 42.4**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=114,slow=6.6,SNR=9.7					
VRAC	**Vranov**	**45.50 317**	P	**P**	**22 48 42.4**	**-0.3**
VRAC	**Vranov**	**45.50 317**	⇑P	**P**	**22 48 41.5**	**-1.2**
VRAC	**Vranov**	**45.50 317**	⇑*i*P	**P**	**22 48 41.5**	**-1.2**
VRAC	**Vranov**	**45.50 317**	P	**P**	**22 48 42.4**	**-0.3**
DPC	**Dobruska-Polom**	**45.98 318**	*e*P	**P**	**22 48 46.4**	**0.0**
DPC			*e*		22 48 55.3	
DPC			*e*		22 50 32.3	
DPC			*e*S	**S**	**22 55 34.2**	**+2.9**
DPC			MLR	MLR		
	comp=Z,3μm,18.7s,MS5.2					
DPC	**Dobruska-Polom**	**45.98 318**	*e*P	**P**	**22 48 46.4**	**0.0**
DPC			S	**S**	**22 55 34.2**	**+2.9**
LJU	**Ljubljana**	**46.04 312**	*e*P	**P**	**22 48 47.9**	**+0.9**
LJU			*e*S	**S**	**22 55 37.1**	**+4.8**
LJU	**Ljubljana**	**46.04 312**	*e*P	**P**	**22 48 47.9**	**+0.9**
KSP	**Ksiaz**	**46.15 319**	*e*P	**P**	**22 48 47.8**	**0.0**
KSP			*e*S	**S**	**22 55 38.4**	**+4.7**
KSP			LMZ		23 09 33.5	
	comp=Z,4μm,25.1s					
KSP	**Ksiaz**	**46.15 319**	*e*P	**P**	**22 48 47.3**	**-0.5**
KSP			*e*PP	PP	22 50 43.5	+7.6
KSP			*e*S	**S**	**22 55 35.5**	**+1.8**
KSP			*e*SS	SS	22 58 48.0	-11
KSP			LM		23 12 32.0	
	comp=Z,8.4nm,19.9s					
KSP	**Ksiaz**	**46.15 319**	*e*P	**P**	**22 48 47.3**	**-0.5**
KSP			*e*		22 50 43.5	
KSP			*e*S	**S**	**22 55 35.5**	**+1.8**
KSP			*e*SS	SS	22 58 48.0	-11
KSP			MLR	MLR		
	comp=Z,8μm,19.9s,MS5.7					
KSP	**Ksiaz**	**46.15 319**	*e*P	**P**	**22 48 47.3**	**-0.5**
KSP			*e*S	**S**	**22 55 35.5**	**+1.8**
TREC	**Trest**	**46.19 317**	*e*P	**P**	**22 48 48.1**	**0.0**
TREC			*e*		22 48 56.5	
TREC			*e*S	**S**	**22 55 40.0**	**+5.6**
TREC			MLR	MLR		
	comp=Z,4μm,22.4s,MS5.3					
TREC	**Trest**	**46.19 317**	*e*P	**P**	**22 48 48.1**	**0.0**
TREC			*e*x	x	22 48 56.5	
TREC			*e*S	**S**	**22 55 40.0**	**+5.6**
TREC			AMS	AMS	23 12 40.0	
	comp=Z,4μm,22.4s					
TREC	**Trest**	**46.19 317**	P	**P**	**22 48 48.1**	**0.0**
AQU	**L'Aquila**	**46.21 307**	*e*P	**P**	**22 48 49.1**	**+0.7**
	comp=Z,880nm,1.6s,mb6.4					
AQU			LR	LR		
	comp=Z,4μm,20.0s,MS5.4					
AQU	**L'Aquila**	**46.21 307**	*e*P	**P**	**22 48 49.1**	**+0.7**
AQU			pmax	pmax		
	comp=Z,880nm,1.6s,mb6.4					
AQU			MLR	MLR		
	comp=Z,4μm,20.0s,MS5.4					
AQU	**L'Aquila**	**46.21 307**	⇑*i*P	**P**	**22 48 49.9**	**+1.5**
AQU	**L'Aquila**	**46.21 307**	⇑*i*P	**P**	**22 48 49.9**	**+1.5**
UPC	**Upice**	**46.22 318**	*e*P	**P**	**22 48 49.3**	**+1.0**
UPC			*e*		22 48 57.0	
UPC			*e*		22 50 32.9	
UPC	**Upice**	**46.22 318**	*e*P	**P**	**22 48 49.3**	**+1.0**
UPC			*e*x	x	22 48 57.0	
UPC			*e*x	x	22 50 32.9	
UPC	**Upice**	**46.22 318**	P	**P**	**22 48 49.3**	**+1.0**
FINES	**FINESS Array B**	**46.26 336**	P	**P**	**22 48 47.5**	**-0.9**
	comp=Z,7.8nm,0.7s,mb4.8,baz=122,slow=7.8,SNR=28					
FINES			LR	LR	23 10 19.7	
	comp=Z,5μm,20.9s,MS5.4,baz=133,slow=39					
FINES	**FINESS Array B**	**46.26 336**	P	**P**	**22 48 47.5**	**-0.9**
FINES	**FINESS Array B**	**46.26 336**	P	**P**	**22 48 47.6**	**-0.9**
FINES	**FINESS Array B**	**46.26 336**	P	**P**	**22 48 47.5**	**-1.0**
BJT	**Baijiatuau**	**46.33 56**	*e*P	**P**	**22 48 50.3**	**+0.9**
	comp=Z,100nm,1.2s,mb5.6					
BJT			LR	LR		
	comp=Z,6μm,19.0s,MS5.5					
BJT	**Baijiatuau**	**46.33 56**	*e*P	**P**	**22 48 50.3**	**+0.9**
BJT			pmax	pmax		
	comp=Z,99nm,1.2s					
BJT			MLR	MLR		
	comp=Z,6μm,19.0s					
BJT	**Baijiatuau**	**46.33 56**	*e*P	**P**	**22 48 50.3**	**+0.9**
	comp=Z,99nm,1.2s,mb5.6					
BJI	**Beijing**	**46.33 56**	P	**P**	**22 48 50.5**	**+1.1**
BJI			PP	PP	22 50 36.5	-1.6
BJI			S	**S**	**22 55 43.3**	**+6.6**
BJI			pmax	pmax		
	comp=Z,35nm,1.5s,mb5.1					
BJI			pmax	pmax		
	comp=Z,1μm,8.5s					
BJI			LR	LR		
	comp=N,11μm,18.2s,MS5.9					
BJI			LR	LR		
	comp=E,6μm,14.1s,MS5.9					
BJI			LR	LR		
	comp=Z,5μm,16.9s,MS5.5					
GKP	**Gorka Klasztor**	**46.41 322**	*e*P	**P**	**22 48 52.9**	**+3.0**
GKP			*e*S	**S**	**22 55 50.6**	**+13**
GKP			LMZ		23 11 41.1	
	comp=Z,7μm,21.2s					
GKP	**Gorka Klasztor**	**46.41 322**	*e*P	**P**	**22 48 52.9**	**+3.1**
GKP			*e*S	**S**	**22 55 50.7**	**+13**
GKP			MLR	MLR		
	comp=Z,7μm,21.2s,MS5.6					
TRI	**Trieste**	**46.49 312**	PFAKE		22 49 00.0	+9.4
TRI			LR	LR		
	comp=Z,4μm,21.0s,MS5.3					
KAF	**Kangasniemi**	**46.59 336**	*e*P	**P**	**22 48 50.2**	**-0.8**
KAF			pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0					
KAF	**Kangasniemi**	**46.59 336**	*e*p	**P**	**22 48 50.2**	**-0.8**
	comp=Z,16nm,0.9s,mb5.0					
KAF	**Kangasniemi**	**46.59 336**	*e*P	**P**	**22 48 50.2**	**-0.8**
	comp=Z,16nm,0.9s,mb5.0					
MOA	**Molln**	**46.61 315**	*i* P	**P**	**22 48 51.1**	**-0.3**
	SNR=12					
MOA	**Molln**	**46.61 315**	*i* P	**P**	**22 48 51.1**	**-0.3**
	comp=Z,60nm,1.5s,mb5.3					
MOA	**Molln**	**46.61 315**	P	**P**	**22 48 51.1**	**-0.4**
	SNR=12					
TIA	**Tai'an**	**46.89 62**	⇓P	**P**	**22 48 53.8**	**0.0**
TIA			S	**S**	**22 55 44.5**	**-0.2**
TIA			pmax	pmax		
	comp=Z,70nm,1.2s,mb5.5					
TIA			pmax	pmax		
	comp=Z,1μm,8.8s					
TIA			LR	LR		
	comp=N,8μm,15.7s,MS6.1					
TIA			LR	LR		
	comp=E,14μm,16.7s,MS6.1					
TIA			LR	LR		
	comp=Z,11μm,17.6s,MS5.9					
CIT	**Chita**	**46.97 40**	*e*P	**P**	**22 48 54.3**	**+0.1**
CIT			*e*		22 49 04.2	
CIT			*e*		22 49 13.8	
PRU	**Pruhonice**	**46.97 317**	*e*P	**P**	**22 48 52.7**	**-1.6**
PRU			*e*		22 49 02.5	
PRU			*e*S	**S**	**22 55 47.4**	**+1.9**
PRU			MLR	MLR		
	comp=Z,4μm,15.7s,MS5.5					
PRU	**Pruhonice**	**46.97 317**	*e*P	**P**	**22 48 52.7**	**-1.6**
PRU			*e*pP	pP	22 49 02.5	+5.1
PRU			*e*x	x	22 50 35.6	
PRU			*e*S	**S**	**22 55 47.4**	**+1.9**
PRU			AMS	AMS	23 17 00.0	
	comp=Z,4μm,15.7s					
PRA	**Prague**	**47.06 318**	P	**P**	**22 48 57.0**	**+2.0**
PRA			PP	PP	22 50 35.0	-11
PRA			AMS	AMS	23 10 00.0	
PVCC	**Panska Ves**	**47.10 318**	*e*P	**P**	**22 48 56.8**	**+1.5**
PVCC			*e*S	**S**	**22 55 51.7**	**+4.3**
PVCC			MLR	MLR		
	comp=Z,4μm,22.4s,MS5.3					
PVCC	**Panska Ves**	**47.10 318**	*e*P	**P**	**22 48 56.8**	**+1.5**
PVCC			*e*x	x	22 50 35.0	
PVCC			*e*S	**S**	**22 55 51.7**	**+4.3**
PVCC			AMS	AMS	23 12 40.0	
	comp=Z,4μm,22.4s					
PVCC	**Panska Ves**	**47.10 318**	P	**P**	**22 48 56.8**	**+1.5**
GERES	**GERESS Array B**	**47.21 316**	P	**P**	**22 48 55.9**	**-0.2**
	comp=Z,4.8nm,0.8s,mb4.5,baz=101,slow=6.9,SNR=14					
GERES			PcP	PcP	22 50 27.4	0.0
	comp=Z,6.0nm,0.9s,baz=114,slow=4.7,SNR=3.1					
GERES			LR	LR	23 13 42.6	
	comp=Z,2μm,18.9s,MS5.1,baz=111,slow=42					
GERES	**GERESS Array B**	**47.21 316**	P	**P**	**22 48 55.9**	**-0.2**
GERES			PcP	PcP	22 50 27.4	0.0
GERES	**GERESS Array B**	**47.21 316**	P	**P**	**22 48 55.9**	**-0.2**
GERES					22 50 27.4	
GERES	**GERESS Array B**	**47.21 316**	P	**P**	**22 48 55.9**	**-0.2**
KHC	**Kasperske Hory**	**47.36 316**	*e*P	**P**	**22 48 56.8**	**-0.5**
	comp=Z,119nm,1.7s,mb5.5					
KHC	**Kasperske Hory**	**47.36 316**	*e*P	**P**	**22 48 58.4**	**+1.1**
KHC			*e*S	**S**	**22 55 52.7**	**+1.6**
KHC			MLR	MLR		
	comp=Z,2μm,19.7s,MS5.2					
KHC	**Kasperske Hory**	**47.36 316**	*e*P	**P**	**22 48 58.4**	**+1.1**
KHC			*e*pP	pP	22 49 04.4	+4.0
KHC			*e*x	x	22 49 34.0	
KHC			*e*x	x	22 50 36.6	
KHC			*e*S	**S**	**22 55 52.7**	**+1.6**
KHC			AMS	AMS	23 12 50.0	
	comp=Z,2μm,19.7s					
KHC	**Kasperske Hory**	**47.36 316**	*e*P	**P**	**22 48 56.8**	**-0.5**
	comp=Z,119nm,1.7s,mb5.5					
KHC			S	**S**	**22 55 52.7**	**+1.6**
COCO	**West Island**	**47.40 135**	PFAKE		22 49 10.0	+12
COCO			LR	LR		
	comp=Z,2μm,19.0s,MS5.2					
ABTA	**Abfaltersbach**	**47.55 313**	*i* P	**P**	**22 48 58.5**	**-0.3**
	SNR=9.9					
ABTA	**Abfaltersbach**	**47.55 313**	*i* P	**P**	**22 48 58.5**	**-0.3**
	comp=Z,119nm,1.2s,mb5.8					
ABTA	**Abfaltersbach**	**47.55 313**	P	**P**	**22 48 58.5**	**-0.3**
	SNR=9.9					
BRG	**Berggiesshubel**	**47.58 318**	*i* P	**P**	**22 49 00.2**	**+1.2**
	comp=Z,60nm,1.9s,mb5.3					
BRG			*e*		22 49 10.8	
	comp=Z,112nm,1.7s					
BRG			PP	PP	22 50 37.0	-13
BRG			SCP	ScP	22 54 29.4	+6.3
	comp=Z,59nm,2.1s					
BRG			S	**S**	**22 56 01.0**	**+6.8**
BRG			SS	SS	22 59 42.0	+20
BRG						
	comp=Z,6μm,13.4s					
BRG						
	comp=N,2μm,12.6s					
BRG						
	comp=E,4μm,12.6s					
BRG	**Berggiesshubel**	**47.58 318**	*i* P	**P**	**22 49 00.2**	**+1.2**
BRG			*e*		22 49 10.8	
BRG			S	**S**	**22 56 01.0**	**+6.8**
BRG			pmax	pmax		
	comp=Z,60nm,1.9s,mb5.3					
BRG			MLR	MLR		
	comp=Z,6μm,13.4s,MS5.7					
BRG			MLR	MLR		
	comp=N,2μm,12.6s,MS5.6					
BRG			MLR	MLR		
	comp=E,4μm,12.6s,MS5.6					
RUE	**Ruedersdorf**	**48.13 320**	*e*P	**P**	**22 49 03.1**	**-0.2**
RUE	**Ruedersdorf**	**48.13 320**	*e*P	**P**	**22 49 03.1**	**-0.2**
LVZ	**Lovozero**	**48.21 345**	PFAKE		22 49 10.0	+6.4
LVZ			LR	LR		
	comp=Z,14μm,21.0s,MS5.9					
WTTA	**Wattenberg**	**48.23 313**	*i* P	**P**	**22 49 03.3**	**-0.8**
	SNR=14					
WTTA	**Wattenberg**	**48.23 313**	*i* P	**P**	**22 49 03.3**	**-0.8**
	comp=Z,142nm,1.5s,mb5.8					
WTTA	**Wattenberg**	**48.23 313**	*i* P	**P**	**22 49 03.3**	**-0.8**
WTTA			pmax	pmax		
	comp=Z,142nm,1.5s,mb5.8					
WTTA	**Wattenberg**	**48.23 313**	P	**P**	**22 49 03.3**	**-0.8**
	SNR=14					
APA	**Apatity**	**48.25 345**	⇓*i*P	**P**	**22 49 04.0**	**+0.1**
APA			*i*		22 50 32.0	
APA			*i* S	**S**	**22 56 01.0**	**-2.2**
APA			*i*		22 58 52.0	
APA			pmax	pmax		
	comp=Z,39nm,0.8s,mb5.5					
CLL	**Collm**	**48.27 319**	*e*P	**P**	**22 49 04.0**	**-0.3**
CLL			*i*		22 49 13.0	
CLL			*e*S	**S**	**22 56 09.0**	**+5.1**
CLL			pmax	pmax		
	comp=Z,445nm,2.6s,mb6.0					
CLL			MLR	MLR		
	comp=Z,4μm,20.9s,MS5.4					
WATA	**Walderalm**	**48.28 313**	P	**P**	**22 49 04.9**	**+0.4**
	comp=Z,31nm,0.8s,mb5.4,SNR=11					
WATA	**Walderalm**	**48.28 313**	⇑*i*P	**P**	**22 49 04.9**	**+0.4**
	comp=Z,31nm,0.8s,mb5.4					
WATA	**Walderalm**	**48.28 313**	⇑*i*P	**P**	**22 49 04.9**	**+0.4**
WATA			pmax	pmax		
	comp=Z,31nm,0.8s,mb5.4					
WATA	**Walderalm**	**48.28 313**	P	**P**	**22 49 04.9**	**+0.4**
	comp=Z,31nm,0.8s,mb5.4,SNR=11					
NKC	**Novy Kostel**	**48.34 317**	*e*P	**P**	**22 49 04.9**	**0.0**
NKC			*e*		22 49 12.5	
NKC			*e*S	**S**	**22 56 09.4**	**+4.5**
NKC			MLR	MLR		
	comp=Z,4μm,13.9s,MS5.5					
NKC	**Novy Kostel**	**48.34 317**	*e*P	**P**	**22 49 04.9**	**0.0**
NKC			*e*x	x	22 49 12.5	
NKC			*e*S	**S**	**22 56 09.4**	**+4.5**
NKC			AMS	AMS	23 17 00.0	
	comp=Z,4μm,13.9s					
NKC	**Novy Kostel**	**48.34 317**	P	**P**	**22 49 04.9**	**0.0**
BSD	**Bornholm Skovb**	**48.35 324**	*i* P	**P**	**22 49 04.7**	**-0.1**
	comp=Z,30nm,1.1s,mb5.2					
BSD						
	comp=Z,6μm,13.0s					
BSD	**Bornholm Skovb**	**48.35 324**	*e*P	**P**	**22 49 04.8**	**0.0**
	comp=Z,30nm,1.1s,mb5.2,SNR=24					
NJ2	**Nanjing**	**48.44 67**	*e*P	**P**	**22 49 06.3**	**+0.3**
NJ2			pP	pP	22 49 10.8	+1.7
NJ2			sP	sP	22 49 14.0	+3.7
NJ2			PP	PP	22 50 55.0	-3.6
NJ2			S	**S**	**22 56 09.0**	**+2.1**
NJ2			sS	sS	22 56 18.0	+5.9
NJ2			pmax	pmax		
	comp=Z,130nm,1.2s,mb5.8					
NJ2			pmax	pmax		
	comp=Z,920nm,9.0s					
NJ2			LR	LR		
	comp=N,8μm,14.0s,MS5.8					
NJ2			LR	LR		
	comp=E,3μm,15.0s,MS5.8					
NJ2			LR	LR		
	comp=Z,3μm,13.0s,MS5.4					
MOTA	**Moosalm**	**48.60 313**	*i* P	**P**	**22 49 05.8**	**-1.2**
	SNR=8.7					
MOTA	**Moosalm**	**48.60 313**	⇑*i*P	**P**	**22 49 05.7**	**-1.3**
	comp=Z,19nm,0.9s,mb5.1					
MOTA	**Moosalm**	**48.60 313**	⇑*i*P	**P**	**22 49 05.7**	**-1.2**
MOTA			pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1					
MOTA	**Moosalm**	**48.60 313**	P	**P**	**22 49 05.8**	**-1.1**
	SNR=8.7					
FETA	**Feichten**	**48.80 313**	*i* P	**P**	**22 49 07.7**	**-0.7**
	SNR=29					
FETA	**Feichten**	**48.80 313**	*i* P	**P**	**22 49 07.7**	**-0.7**
	comp=Z,95nm,1.2s,mb5.7					
FETA	**Feichten**	**48.80 313**	P	**P**	**22 49 07.7**	**-0.8**
	SNR=29					
RETA	**Reutte**	**48.85 313**	*i* P	**P**	**22 49 07.6**	**-1.3**
	SNR=21					
RETA	**Reutte**	**48.85 313**	*i* P	**P**	**22 49 07.6**	**-1.3**
	comp=Z,22nm,1.0s,mb5.2					
RETA	**Reutte**	**48.85 313**	P	**P**	**22 49 07.6**	**-1.3**
	SNR=21					
GRF	**Grafenberg Arr**	**48.99 316**	*e*P	**P**	**22 49 09.7**	**-0.2**
	comp=Z,185nm,1.8s,mb5.8					
GRF			*e*L		23 14 08.5	
	comp=Z,2μm,20.8s					
GRFO	**Grafenberg**	**48.99 316**	*e*P	**P**	**22 49 10.2**	**+0.3**
	comp=Z,156nm,1.3s,mb5.9					
GRFO	**Grafenberg**	**48.99 316**	*e*P	**P**	**22 49 10.2**	**+0.3**
GRFO			pmax	pmax		
	comp=Z,156nm,1.3s,mb5.9					
GRFO	**Grafenberg**	**48.99 316**	*e*P	**P**	**22 49 10.2**	**+0.3**
	comp=Z,156nm,1.3s,mb5.9					
KEST	**Kesra**	**49.01 298**	P	**P**	**22 49 11.7**	**+1.4**
	comp=Z,15nm,1.2s,mb4.9,baz=72,slow=2.3,SNR=19					
KEST	**Kesra**	**49.01 298**	*e*P	**P**	**22 49 11.4**	**+1.1**
KEST			*e*PcP	PcP	22 50 30.3	-3.9
KEST	**Kesra**	**49.01 298**	*e*P	**P**	**22 49 11.4**	**+1.1**
VSL	**Villasalto**	**49.01 303**	*e*P	**P**	**22 49 09.5**	**-0.7**
	comp=Z,49nm,0.9s,mb5.5					
VSL			LR	LR		
	comp=Z,2μm,20.0s,MS5.0					
VSL	**Villasalto**	**49.01 303**	*e*P	**P**	**22 49 09.5**	**-0.7**
	comp=Z,49nm,0.9s,mb5.5					
FUORN	**Ofenpass-Fuorn**	**49.05 312**	*e*P	**P**	**22 49 10.7**	**+0.3**
	comp=Z,695nm,2.5s,mb6.2					
FUORN	**Ofenpass-Fuorn**	**49.05 312**	*e*P	**P**	**22 49 10.7**	**+0.3**
	comp=Z,695nm,2.5s,mb6.2					
QZH	**Quanzhou**	**49.08 77**	⇓*i*P	**P**	**22 49 11.0**	**+0.1**
QZH			S	**S**	**22 56 15.5**	**-0.5**
QZH			pmax	pmax		
	comp=Z,2μm,4.9s					
QZH			LR	LR		
	comp=N,26μm,19.3s,MS6.3					
QZH			LR	LR		
	comp=E,7μm,14.4s,MS6.3					
QZH			LR	LR		
	comp=Z,14μm,15.4s,MS6.1					
BOD	**Bodaibo**	**49.26 32**	*e*P	**P**	**22 49 09.7**	**-2.1**
BOD			pmax	pmax		
	comp=Z,51nm,2.0s,mb5.2					
OSPF	**L'Ospedale**	**49.27 306**	*e*P	**P**	**22 49 13.5**	**+1.4**
KSM	**Kuching**	**49.39 109**	P	**P**	**22 49 15.7**	**+2.3**
KSM	**Kuching**	**49.39 109**	*e*P	**P**	**22 49 14.7**	**+1.2**
	comp=Z,55nm,1.0s,mb5.5					
KSM			LR	LR		
	comp=Z,4μm,21.0s,MS5.3					
KSM	**Kuching**	**49.39 109**	P	**P**	**22 49 14.8**	**+1.4**
	comp=Z,1μmcomp=Z,66nm,1.3s,mb5.5					
KSM	**Kuching**	**49.39 109**	*e*P	**P**	**22 49 14.6**	**+1.2**
	comp=Z,55nm,1.0s,mb5.5					
DAVA	**Damuels**	**49.41 313**	*i* P	**P**	**22 49 12.3**	**-0.8**
	SNR=17					
DAVA	**Damuels**	**49.41 313**	*i* P	**P**	**22 49 12.3**	**-0.8**
	comp=Z,125nm,1.5s,mb5.7					
DAVA	**Damuels**	**49.41 313**	P	**P**	**22 49 12.3**	**-0.9**
	SNR=17					
TUE	**Stuetta**	**49.65 312**	*e*P	**P**	**22 49 13.7**	**-1.3**
	comp=Z,29nm,0.9s,mb5.3					
TUE			LR	LR		
	comp=Z,2μm,20.0s,MS5.2					
TUE	**Stuetta**	**49.65 312**	*e*P	**P**	**22 49 13.7**	**-1.3**
	comp=Z,29nm,0.9s,mb5.3					
COP	**Copenhagen**	**49.87 324**	*i* P	**P**	**22 49 20.9**	**+4.4**
	comp=Z,22nm,0.9s,mb5.2					
COP			*i* S	**S**	**22 56 32.9**	**+6.6**
COP						
	comp=Z,2μm,14.0s					
HIA	**Hailar**	**50.11 45**	*e*P	**P**	**22 49 18.7**	**+0.3**
	comp=Z,243nm,1.7s,mb6.0					
HIA			LR	LR		
	comp=Z,6μm,19.0s,MS5.6					
HIA	**Hailar**	**50.11 45**	*e*P	**P**	**22 49 18.7**	**+0.3**
HIA			pmax	pmax		
	comp=Z,243nm,1.7s					
HIA			MLR	MLR		
	comp=Z,6μm,19.0s					
HIA	**Hailar**	**50.11 45**	*e*P	**P**	**22 49 18.7**	**+0.3**
	comp=Z,243nm,1.7s,mb6.0					
STU	**Stuttgart**	**50.11 315**	*e*P	**P**	**22 49 17.7**	**-0.8**
	comp=Z,34nm,1.1s,mb5.3					
STU	**Stuttgart**	**50.11 315**	*e*P	**P**	**22 49 17.7**	**-0.8**
STU			pmax	pmax		
	comp=Z,34nm,1.1s,mb5.3					
STU	**Stuttgart**	**50.11 315**	*e*P	**P**	**22 49 17.7**	**-0.8**
	comp=Z,34nm,1.1s,mb5.3					
DL2	**Dalian**	**50.50 58**	⇓P	**P**	**22 49 22.0**	**+0.5**
DL2			S	**S**	**22 56 38.0**	**+2.5**
DL2			pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1					
DL2			pmax	pmax		
	comp=Z,480nm,7.8s					
DL2			LR	LR		
	comp=N,5μm,18.1s,MS5.6					
DL2			LR	LR		
	comp=E,1μm,15.9s,MS5.6					
DL2			LR	LR		
	comp=Z,4μm,14.0s,MS5.5					
SSE	**Sheshan**	**50.51 68**	*e*P	**P**	**22 49 18.0**	**-3.7**
SSE			S	**S**	**22 56 28.8**	**-7.1**
SSE			ScS	ScS	22 59 11.5	-1.8
SSE			pmax	pmax		
	comp=Z,36nm,0.7s,mb5.4					
SSE			pmax	pmax		
	comp=Z,150nm,4.2s					
SSE			LR	LR		
	comp=N,8μm,16.5s,MS5.9					
SSE			LR	LR		
	comp=E,3μm,16.4s,MS5.9					
SSE			LR	LR		
	comp=Z,6μm,14.4s,MS5.7					
CMAH	**Djebel Manchou**	**50.54 299**	P	**P**	**22 49 25.6**	**+3.7**
SBUM	**Sibu**	**50.58 107**	P	**P**	**22 49 23.9**	**+1.4**
SBUM	**Sibu**	**50.58 107**	P	**P**	**22 49 24.3**	**+1.8**
	comp=Z,1μmcomp=Z,62nm,0.8s,mb5.6					
BFO	**Black Forest**	**50.61 314**	*e*P	**P**	**22 49 21.5**	**-0.7**
	comp=Z,34nm,1.2s,mb5.2					
BFO			LR	LR		
	comp=Z,2μm,20.0s,MS5.2					
BFO	**Black Forest**	**50.61 314**	*e*P	**P**	**22 49 21.5**	**-0.7**
BFO			pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2					
BFO			MLR	MLR		
	comp=Z,2μm,20.0s,MS5.2					
BFO	**Black Forest**	**50.61 314**	*e*P	**P**	**22 49 21.5**	**-0.7**
	comp=Z,34nm,1.2s,mb5.2					
SAOF	**Saorge**	**50.64 308**	*e*P	**P**	**22 49 24.1**	**+1.6**
AUTN	**L'Aution**	**50.73 308**	*e*P	**P**	**22 49 22.8**	**-0.4**
REVF	**Revere**	**50.75 308**	*e*P	**P**	**22 49 24.5**	**+1.1**
HFS	**Hagfors**	**50.83 330**	P	**P**	**22 49 22.

SURF	**Saint Ours**	**51.21 309**	*e*P	**P**	**22 49 28.1**	**+1.3**
MBDF	**Montbardon**	**51.26 309**	*e*P	**P**	**22 49 24.5**	**-2.7**
	comp=Z,124nm,1.0s,mb5.5					
MBDF	**Montbardon**	**51.26 309**	*e*P	**P**	**22 49 24.5**	**-2.7**
	comp=Z,124nm,1.0s,mb5.8					
MBDF	**Montbardon**	**51.26 309**	*e*P	**P**	**22 49 24.5**	**-2.7**
MBDF			pmax	pmax		
	comp=Z,124nm,1.0s,mb5.8					
MBDF	**Montbardon**	**51.26 309**	*e*P	**P**	**22 49 24.5**	**-2.7**
	comp=Z,62nm,1.0s,mb5.5					
FRF	**La Foret Royal**	**51.26 308**	*e*P	**P**	**22 49 24.5**	**-2.7**
	comp=Z,212nm,1.3s,mb5.6					
FRF	**La Foret Royal**	**51.26 308**	*e*P	**P**	**22 49 24.5**	**-2.7**
	comp=Z,212nm,1.3s,mb5.9					
FRF	**La Foret Royal**	**51.26 308**	*e*P	**P**	**22 49 24.5**	**-2.7**
FRF			pmax	pmax		
	comp=Z,212nm,1.3s,mb5.9					
FRF	**La Foret Royal**	**51.26 308**	*e*P	**P**	**22 49 24.5**	**-2.7**
	comp=Z,106nm,1.3s,mb5.6					
CASM	**Ain Smara**	**51.30 299**	P	**P**	**22 49 29.1**	**+1.4**
CASM	**Ain Smara**	**51.30 299**	P	**P**	**22 49 29.1**	**+1.4**
CDF	**Champ du Feu**	**51.31 314**	*e*P	**P**	**22 49 24.9**	**-2.6**
	comp=Z,312nm,1.9s,mb5.6					
CDF	**Champ du Feu**	**51.31 314**	*e*P	**P**	**22 49 24.9**	**-2.6**
	comp=Z,312nm,1.9s,mb5.9					
CDF	**Champ du Feu**	**51.31 314**	*e*P	**P**	**22 49 24.9**	**-2.6**
CDF			pmax	pmax		
	comp=Z,312nm,1.9s,mb5.9					
CDF	**Champ du Feu**	**51.31 314**	*e*P	**P**	**22 49 24.9**	**-2.6**
	comp=Z,156nm,1.9s,mb5.6					
MOF	**Molkenrain**	**51.34 313**	*e*P	**P**	**22 49 28.3**	**+0.6**
LPG	**La Plagne**	**51.34 310**	*e*P	**P**	**22 49 25.4**	**-2.4**
	comp=Z,331nm,1.5s,mb5.7					
LPG	**La Plagne**	**51.34 310**	*e*P	**P**	**22 49 25.4**	**-2.4**
	comp=Z,331nm,1.5s,mb6.0					
LPG	**La Plagne**	**51.34 310**	*e*P	**P**	**22 49 25.4**	**-2.4**
LPG			pmax	pmax		
	comp=Z,331nm,1.5s,mb6.0					
LPG	**La Plagne**	**51.34 310**	*e*P	**P**	**22 49 25.4**	**-2.4**
	comp=Z,165nm,1.5s,mb5.7					
BNI	**Bardonecchia**	**51.35 310**	*e*P	**P**	**22 49 26.6**	**-1.3**
	comp=Z,185nm,1.3s,mb5.8					
BNI			LR	LR		
	comp=Z,4μm,20.0s,MS5.4					
BNI	**Bardonecchia**	**51.35 310**	*e*P	**P**	**22 49 26.6**	**-1.3**
BNI			pmax	pmax		
	comp=Z,185nm,1.3s,mb5.8					
BNI			MLR	MLR		
	comp=Z,4μm,20.0s,MS5.4					
BNI	**Bardonecchia**	**51.35 310**	*e*P	**P**	**22 49 26.5**	**-1.4**
	comp=Z,185nm,1.3s,mb5.8					
LMR	**La Mourre**	**51.35 308**	*e*P	**P**	**22 49 25.2**	**-2.7**
	comp=Z,117nm,1.2s,mb5.4					
LMR	**La Mourre**	**51.35 308**	*e*P	**P**	**22 49 25.2**	**-2.7**
	comp=Z,117nm,1.2s,mb5.7					
LMR	**La Mourre**	**51.35 308**	*e*P	**P**	**22 49 25.2**	**-2.7**
LMR			pmax	pmax		
	comp=Z,117nm,1.2s,mb5.7					
LMR	**La Mourre**	**51.35 308**	*e*P	**P**	**22 49 25.2**	**-2.7**
	comp=Z,58nm,1.2s,mb5.4					
LPL	**La Plagne**	**51.35 310**	*e*P	**P**	**22 49 25.3**	**-2.6**
	comp=Z,174nm,1.2s,mb5.5					
LPL	**La Plagne**	**51.35 310**	*e*P	**P**	**22 49 25.3**	**-2.6**
	comp=Z,174nm,1.2s,mb5.9					
LPL	**La Plagne**	**51.35 310**	*e*P	**P**	**22 49 25.3**	**-2.6**
LPL			pmax	pmax		
	comp=Z,174nm,1.2s,mb5.9					
LPL	**La Plagne**	**51.35 310**	*e*P	**P**	**22 49 25.3**	**-2.6**
	comp=Z,87nm,1.2s,mb5.5					
ECH	**Echery**	**51.37 314**	*e*P	**P**	**22 49 26.9**	**-1.1**
	comp=Z,48nm,1.1s,mb5.3					
ECH			LR	LR		
	comp=Z,3μm,19.0s,MS5.3					
ECH	**Echery**	**51.37 314**	*e*P	**P**	**22 49 26.9**	**-1.0**
ECH			pmax	pmax		
	comp=Z,48nm,1.1s,mb5.3					
ECH			MLR	MLR		
	comp=Z,3μm,19.0s,MS5.3					
ECH	**Echery**	**51.37 314**	*e*P	**P**	**22 49 26.9**	**-1.0**
	comp=Z,48nm,1.1s,mb5.3					
ECH	**Echery**	**51.37 314**	*e*P	**P**	**22 49 27.2**	**-0.7**
CTEI	**Djebel Teioual**	**51.38 298**	P	**P**	**22 49 31.3**	**+3.0**
RSL	**Roselend**	**51.44 311**	*e*P	**P**	**22 49 27.5**	**-1.1**
KEV	**Kevo**	**51.45 344**	*e*P	**P**	**22 49 27.7**	**-0.5**
	comp=Z,128nm,1.2s,mb5.7					
KEV			*e*PP	PP	22 51 27.2	+1.9
KEV			LR	LR		
	comp=Z,11μm,19.0s,MS5.9					
KEV	**Kevo**	**51.45 344**	*e*P	**P**	**22 49 27.4**	**-0.8**
KEV			pmax	pmax		
	comp=Z,21nm,0.7s,mb5.2					
KEV	**Kevo**	**51.45 344**	*e*p	**P**	**22 49 27.4**	**-0.8**
	comp=Z,21nm,0.7s,mb5.2					
KEV	**Kevo**	**51.45 344**	*e*P	**P**	**22 49 27.7**	**-0.5**
	comp=Z,128nm,1.2s,mb5.7					
OG01	**Vacheresse**	**51.47 311**	*e*P	**P**	**22 49 28.0**	**-0.7**
LOMF	**Lomont**	**51.48 313**	*e*P	**P**	**22 49 28.6**	**-0.2**
HINF	**Hinteralfeld**	**51.52 313**	*e*P	**P**	**22 49 26.6**	**-2.5**
	comp=Z,186nm,1.5s,mb5.5					
HINF	**Hinteralfeld**	**51.52 313**	*e*P	**P**	**22 49 26.6**	**-2.5**
	comp=Z,186nm,1.5s,mb5.8					
HINF	**Hinteralfeld**	**51.52 313**	*e*P	**P**	**22 49 26.6**	**-2.5**
HINF			pmax	pmax		
	comp=Z,186nm,1.5s,mb5.8					
HINF	**Hinteralfeld**	**51.52 313**	*e*P	**P**	**22 49 26.6**	**-2.5**
	comp=Z,93nm,1.5s,mb5.5					
YHNB	**Yeheng**	**51.61 76**	*e*P	**P**	**22 49 31.0**	**+0.9**
	comp=Z,114nm,0.8s,mb5.8					
YHNB			LR	LR		
	comp=Z,7μm,19.0s,MS5.7					
YHNB	**Yeheng**	**51.61 76**	*e*P	**P**	**22 49 31.0**	**+0.9**
	comp=Z,114nm,0.8s,mb5.8					
TATO	**Taipei**	**51.65 76**	PFAKE		22 49 40.0	+10
TATO			LR	LR		
	comp=Z,4μm,19.0s,MS5.5					
ARCES	**ARCESS Array B**	**51.68 344**	P	**P**	**22 49 29.2**	**-0.8**
	comp=Z,33nm,0.8s,mb5.3,baz=140,slow=9.2,SNR=39					
ARCES			LR	LR	23 15 19.8	
	comp=Z,9μm,18.9s,MS5.8,baz=131,slow=41					
ARCES	**ARCESS Array B**	**51.68 344**	P	**P**	**22 49 29.2**	**-0.8**
ARCES	**ARCESS Array B**	**51.68 344**	P	**P**	**22 49 29.2**	**-0.8**
ARCES	**ARCESS Array B**	**51.68 344**	P	**P**	**22 49 29.2**	**-0.8**
ARE0	**ARCESS Array S**	**51.68 344**	*e*P	**P**	**22 49 33.4**	**+3.5**
ARE0	**ARCESS Array S**	**51.68 344**	*e*P	**P**	**22 49 29.8**	**-0.2**
ARE0	**ARCESS Array S**	**51.68 344**	*e*P	**P**	**22 49 29.8**	**-0.2**
TWG	**Pinlang**	**51.71 79**	*e*P	**P**	**22 49 33.5**	**+2.6**
MUD	**Monsted U'grnd**	**51.84 324**	*i* P	**P**	**22 49 32.2**	**+0.8**
	comp=Z,22nm,1.0s,mb5.0					
MUD			*i* S	**S**	**22 56 59.0**	**+5.4**
MUD						
	comp=Z,5μm,14.0s					
MUD	**Monsted U'grnd**	**51.84 324**	*i* P	**P**	**22 49 32.3**	**+0.9**
	comp=Z,22nm,1.0s,mb5.1,SNR=23					
HAU	**Haudompre**	**51.88 313**	*e*P	**P**	**22 49 29.3**	**-2.5**
	comp=Z,329nm,1.8s,mb5.7					
HAU			*e*R			
	comp=Z,3μm,21.0s					
HAU	**Haudompre**	**51.88 313**	*e*P	**P**	**22 49 29.3**	**-2.5**
	comp=Z,329nm,1.8s,mb6.0					
HAU	**Haudompre**	**51.88 313**	*e*P	**P**	**22 49 29.3**	**-2.5**
HAU			pmax	pmax		
	comp=Z,329nm,1.8s,mb6.0					
HAU	**Haudompre**	**51.88 313**	*e*P	**P**	**22 49 29.3**	**-2.5**
	comp=Z,165nm,1.8s,mb5.7					
CABF	**La Chapelle**	**51.90 312**	*e*P	**P**	**22 49 30.1**	**-1.9**
	comp=Z,440nm,1.5s,mb5.9					
CABF	**La Chapelle**	**51.90 312**	*e*P	**P**	**22 49 30.1**	**-1.9**
	comp=Z,440nm,1.5s,mb6.2					
CABF	**La Chapelle**	**51.90 312**	*e*P	**P**	**22 49 30.1**	**-1.9**
CABF			pmax	pmax		
	comp=Z,440nm,1.5s,mb6.2					
CABF	**La Chapelle**	**51.90 312**	*e*P	**P**	**22 49 30.1**	**-1.9**
	comp=Z,220nm,1.5s,mb5.9					
NACB	**Ninganchiao**	**51.90 77**	*e*P	**P**	**22 49 32.8**	**+0.5**
	comp=Z,50nm,0.9s,mb5.5					
NACB	**Ninganchiao**	**51.90 77**	*e*P	**P**	**22 49 32.8**	**+0.5**
	comp=Z,50nm,0.9s,mb5.5					
ORIF	**Oris-en-Rattie**	**51.90 310**	*e*P	**P**	**22 49 30.2**	**-1.8**
	comp=Z,177nm,1.7s,mb5.4					
ORIF			*e*R			
	comp=Z,5μm,22.0s					
ORIF	**Oris-en-Rattie**	**51.90 310**	*e*P	**P**	**22 49 30.2**	**-1.8**
	comp=Z,177nm,1.7s,mb5.7					
ORIF	**Oris-en-Rattie**	**51.90 310**	*e*P	**P**	**22 49 30.2**	**-1.8**
ORIF			pmax	pmax		
	comp=Z,177nm,1.7s,mb5.7					
ORIF	**Oris-en-Rattie**	**51.90 310**	*e*P	**P**	**22 49 30.2**	**-1.8**
	comp=Z,88nm,1.7s,mb5.4					
KTK1	**Kautokeino**	**51.95 342**	*e*P	**P**	**22 49 30.6**	**-1.3**
KTK1			*e*S	**S**	**22 56 55.7**	**+1.0**
KTK1			AMS	AMS	23 15 13.1	
	comp=Z,15μm,16.4s,MS6.1					
KTK1	**Kautokeino**	**51.95 342**	*e*P	**P**	**22 49 30.6**	**-1.3**
	SNR=23					
KTK1			*e*S	**S**	**22 56 55.7**	**+1.0**
	SNR=25					
SNY	**Shenyang**	**52.03 54**	⇓P	**P**	**22 49 33.0**	**0.0**
SNY			S	**S**	**22 56 59.3**	**+2.6**
SNY			pmax	pmax		
	comp=Z,1μm,7.8s					
SNY			LR	LR		
	comp=N,5μm,14.4s,MS5.7					
SNY			LR	LR		
	comp=E,3μm,15.6s,MS5.7					
SNY			LR	LR		
	comp=Z,6μm,16.2s,MS5.7					
NC602	**NORSAR Array S**	**52.05 330**	*e*P	**P**	**22 49 31.0**	**-1.8**
NC602			*e*S	**S**	**22 57 02.1**	**+5.9**
NC602	**NORSAR Array S**	**52.05 330**	*e*P	**P**	**22 49 31.0**	**-1.8**
	SNR=23					
SMRF	**Simiane la Rot**	**52.06 308**	*e*P	**P**	**22 49 31.0**	**-2.2**
	comp=Z,219nm,1.4s,mb5.6					
SMRF	**Simiane la Rot**	**52.06 308**	*e*P	**P**	**22 49 31.0**	**-2.2**
	comp=Z,219nm,1.4s,mb5.9					
SMRF	**Simiane la Rot**	**52.06 308**	*e*P	**P**	**22 49 31.0**	**-2.2**
	comp=Z,110nm,1.4s,mb5.6					
CKHR	**Kef el Ahmar**	**52.11 298**	P	**P**	**22 49 37.8**	**+4.1**
CKHR	**Kef el Ahmar**	**52.11 298**	P	**P**	**22 49 37.8**	**+4.1**
THEF	**They Montfort**	**52.15 314**	*e*P	**P**	**22 49 34.0**	**+0.2**
SET	**Setif**	**52.19 298**	P	**P**	**22 49 38.0**	**+3.7**
SET	**Setif**	**52.19 298**	P	**P**	**22 49 38.0**	**+3.7**
OG35	**Corcelles**	**52.21 311**	*e*P	**P**	**22 49 33.3**	**-1.0**
WLF	**Walferdange**	**52.22 316**	P	**P**	**22 49 33.8**	**-0.5**
	comp=Z,137nm,2.1s,mb5.5					
WLF	**Walferdange**	**52.22 316**	*e*P	**P**	**22 49 32.7**	**-1.6**
	comp=Z,410nm,1.8s,mb6.1					
WLF			LR	LR		
	comp=Z,3μm,19.0s,MS5.4					
WLF	**Walferdange**	**52.22 316**	*e*P	**P**	**22 49 32.7**	**-1.6**
WLF			pmax	pmax		
	comp=Z,410nm,1.8s,mb6.1					
WLF			MLR	MLR		
	comp=Z,3μm,19.0s,MS5.4					
WLF	**Walferdange**	**52.22 316**	*e*P	**P**	**22 49 32.7**	**-1.6**
	comp=Z,410nm,1.8s,mb6.1					
NB2	**NORSAR Subarra**	**52.30 330**	P	**P**	**22 49 33.4**	**-1.3**
	comp=Z,20nm,0.6s,mb5.2,baz=110,slow=7.4					
NB2	**NORSAR Subarra**	**52.30 330**	P	**P**	**22 49 33.4**	**-1.3**
	SNR=23					
NOA	**NORSAR Array B**	**52.30 330**	P	**P**	**22 49 33.2**	**-1.5**
	comp=Z,5.4nm,0.7s,mb4.6,baz=110,slow=7.5,SNR=14					
NOA			LR	LR	23 17 01.5	
	comp=Z,4μm,21.9s,MS5.4,baz=105,slow=42					
NOA	**NORSAR Array B**	**52.30 330**	P	**P**	**22 49 33.2**	**-1.6**
NOA	**NORSAR Array B**	**52.30 330**	P	**P**	**22 49 33.2**	**-1.5**
NOA	**NORSAR Array B**	**52.30 330**	P	**P**	**22 49 33.2**	**-1.5**
PAGF	**Fort de Pagny**	**52.36 314**	*e*P	**P**	**22 49 33.5**	**-1.8**
	comp=Z,257nm,1.9s,mb5.5					
PAGF	**Fort de Pagny**	**52.36 314**	*e*P	**P**	**22 49 33.5**	**-1.8**
	comp=Z,257nm,1.9s,mb5.8					
PAGF	**Fort de Pagny**	**52.36 314**	*e*P	**P**	**22 49 33.5**	**-1.8**
	comp=Z,128nm,1.9s,mb5.5					
NAO01	**NORSAR Array S**	**52.38 330**	PFAKE		22 49 50.0	+15
NAO01			LR	LR		
	comp=Z,4μm,20.0s,MS5.5					
MEM	**Membach**	**52.45 317**	P	**P**	**22 49 36.1**	**+0.1**
MEM	**Membach**	**52.45 317**	P	**P**	**22 49 36.1**	**+0.1**
KKM	**Kota Kinabalu**	**52.55 101**	PFAKE		22 49 50.0	+13
KKM			LR	LR		
	comp=Z,5μm,20.0s,MS5.6					
KONO	**Kongsberg**	**52.58 328**	*e*S	**S**	**22 57 05.0**	**+1.3**
KONO			AMS	AMS	23 15 37.1	
	comp=Z,5μm,21.6s,MS5.5					
KONO	**Kongsberg**	**52.58 328**	*e*P	**P**	**22 49 36.2**	**-0.6**
	comp=Z,120nm,1.5s,mb5.6					
KONO			LR	LR		
	comp=Z,6μm,20.0s,MS5.6					
KONO	**Kongsberg**	**52.58 328**	*e*P	**P**	**22 49 36.2**	**-0.6**
KONO			pmax	pmax		
	comp=Z,120nm,1.5s,mb5.6					
KONO			MLR	MLR		
	comp=Z,6μm,20.0s,MS5.6					
KONO	**Kongsberg**	**52.58 328**	*e*P	**P**	**22 49 36.2**	**-0.6**
	comp=Z,120nm,1.5s,mb5.6					
KONO	**Kongsberg**	**52.58 328**	*e*S	**S**	**22 57 05.0**	**+1.3**
	SNR=24					
BEBN	**Eben Emael**	**52.69 317**	P	**P**	**22 49 40.6**	**+2.9**
	comp=Z,34nm,2.4s,mb4.9					
BEBN	**Eben Emael**	**52.69 317**	P	**P**	**22 49 40.5**	**+2.8**
	comp=Z,34nm,2.4s,mb4.9					
KDM	**Kudat**	**52.76 99**	P	**P**	**22 49 40.6**	**+1.9**
VIVF	**Saint-Julien-l**	**52.76 309**	*e*P	**P**	**22 49 35.8**	**-2.6**
	comp=Z,393nm,1.6s,mb5.8					
VIVF	**Saint-Julien-l**	**52.76 309**	*e*P	**P**	**22 49 35.8**	**-2.6**
	comp=Z,393nm,1.6s,mb6.1					
VIVF	**Saint-Julien-l**	**52.76 309**	*e*P	**P**	**22 49 35.8**	**-2.6**
VIVF			pmax	pmax		
	comp=Z,393nm,1.6s,mb6.1					
VIVF	**Saint-Julien-l**	**52.76 309**	*e*P	**P**	**22 49 35.8**	**-2.6**
	comp=Z,196nm,1.6s,mb5.8					
SFTF	**Sexfontaines**	**52.77 314**	*e*P	**P**	**22 49 36.3**	**-2.1**
	comp=Z,1μm,1.9s,mb6.2					
SFTF	**Sexfontaines**	**52.77 314**	*e*P	**P**	**22 49 36.3**	**-2.1**
	comp=Z,1μm,1.9s,mb6.5					
SFTF	**Sexfontaines**	**52.77 314**	*e*P	**P**	**22 49 36.3**	**-2.1**
	comp=Z,631nm,1.9s,mb6.2					
MEZF	**Maizieres J'vi**	**52.80 314**	*e*P	**P**	**22 49 36.8**	**-1.8**
	comp=Z,1μm,1.9s,mb6.1					
MEZF	**Maizieres J'vi**	**52.80 314**	*e*P	**P**	**22 49 36.8**	**-1.8**
	comp=Z,1μm,1.9s,mb6.5					
MEZF	**Maizieres J'vi**	**52.80 314**	*e*P	**P**	**22 49 36.8**	**-1.8**
	comp=Z,535nm,1.9s,mb6.1					
BCLA	**Clavier**	**52.87 316**	P	**P**	**22 49 37.5**	**-1.6**
	comp=Z,94nm,2.3s,mb5.3					
SSB	**Saint Sauveur**	**52.87 310**	*e*P	**P**	**22 49 37.7**	**-1.5**
	comp=Z,35nm,0.9s,mb5.3					
SSB			LR	LR		
	comp=Z,2μm,21.0s,MS5.2					
SSB	**Saint Sauveur**	**52.87 310**	*e*P	**P**	**22 49 37.7**	**-1.5**
SSB			pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3					
SSB			MLR	MLR		
	comp=Z,2μm,21.0s,MS5.2					
SSB	**Saint Sauveur**	**52.87 310**	*e*P	**P**	**22 49 37.7**	**-1.5**
	comp=Z,35nm,0.9s,mb5.3					
SSB	**Saint Sauveur**	**52.87 310**	*e*P	**P**	**22 49 38.3**	**-0.9**
GIVF	**Givet**	**53.13 316**	*e*P	**P**	**22 49 39.9**	**-1.1**
	comp=Z,566nm,1.6s,mb6.0					
GIVF	**Givet**	**53.13 316**	*e*P	**P**	**22 49 39.9**	**-1.1**
	comp=Z,566nm,1.6s,mb6.2					
GIVF	**Givet**	**53.13 316**	*e*P	**P**	**22 49 39.9**	**-1.1**
GIVF			pmax	pmax		
	comp=Z,566nm,1.6s,mb6.2					
GIVF	**Givet**	**53.13 316**	*e*P	**P**	**22 49 39.9**	**-1.1**
	comp=Z,283nm,1.6s,mb6.0					
MOR8	**Moi Rana**	**53.16 337**	*e*P	**P**	**22 49 40.1**	**-0.8**
MOR8	**Moi Rana**	**53.16 337**	*e*P	**P**	**22 49 40.1**	**-0.8**
	SNR=23					
DOU	**Dourbes**	**53.28 316**	P	**P**	**22 49 41.6**	**-0.5**
	comp=Z,106nm,2.3s,mb5.4					
DOU	**Dourbes**	**53.28 316**	P	**P**	**22 49 41.6**	**-0.5**
	comp=Z,106nm,2.3s,mb5.4					
LASF	**Ste Croix**	**53.30 308**	*e*P	**P**	**22 49 40.2**	**-2.2**
	comp=Z,364nm,1.4s,mb5.8					
LASF	**Ste Croix**	**53.30 308**	*e*P	**P**	**22 49 40.2**	**-2.2**
	comp=Z,364nm,1.4s,mb6.1					
LASF	**Ste Croix**	**53.30 308**	*e*P	**P**	**22 49 40.2**	**-2.2**
	comp=Z,182nm,1.4s,mb5.8					
NSS	**Namsos**	**53.35 335**	*e*	**P**	**22 49 50.7**	**+8.3**
NSS			*e*S	**S**	**22 57 14.5**	**+0.5**
NSS			AMS	AMS	23 16 21.0	
	comp=Z,7μm,18.1s,MS5.7					
SMF	**Signal de Mont**	**53.45 312**	*e*P	**P**	**22 49 41.0**	**-2.4**
	comp=Z,945nm,1.9s,mb6.1					
SMF	**Signal de Mont**	**53.45 312**	*e*P	**P**	**22 49 41.0**	**-2.4**
	comp=Z,945nm,1.9s,mb6.4					
SMF	**Signal de Mont**	**53.45 312**	*e*P	**P**	**22 49 41.0**	**-2.4**
SMF			pmax	pmax		
	comp=Z,945nm,1.9s,mb6.4					
SMF	**Signal de Mont**	**53.45 312**	*e*P	**P**	**22 49 41.0**	**-2.4**
	comp=Z,472nm,1.9s,mb6.1					
CN2	**Changchun**	**53.46 52**	⇓P	**P**	**22 49 43.8**	**+0.2**
CN2			PcP	PcP	22 50 51.5	+0.9
CN2			PP	PP	22 51 47.5	+3.6
CN2			*e*S	**S**	**22 57 18.0**	**+1.9**
CN2			ScS	ScS	22 59 34.3	+1.0
CN2			SS	SS	23 00 52.0	-4.1
CN2			pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2					
CN2			pmax	pmax		
	comp=Z,200nm,5.0s					
CN2			LR	LR		
	comp=N,5μm,14.0s,MS5.9					
CN2			LR	LR		
	comp=E,4μm,14.0s,MS5.9					
CN2			LR	LR		
	comp=Z,8μm,17.0s,MS5.8					
LOR	**Lormes**	**53.48 312**	*e*P	**P**	**22 49 41.2**	**-2.4**
	comp=Z,430nm,1.8s,mb5.8					
LOR			*e*R			
	comp=Z,3μm,22.0s					
LOR	**Lormes**	**53.48 312**	*e*P	**P**	**22 49 41.2**	**-2.4**
	comp=Z,430nm,1.8s,mb6.1					
LOR	**Lormes**	**53.48 312**	*e*P	**P**	**22 49 41.2**	**-2.4**
LOR			pmax	pmax		
	comp=Z,430nm,1.8s,mb6.1					
LOR	**Lormes**	**53.48 312**	*e*P	**P**	**22 49 41.2**	**-2.4**
	comp=Z,215nm,1.8s,mb5.8					
BAIF	**Baives**	**53.52 316**	*e*P	**P**	**22 49 42.8**	**-1.1**
	comp=Z,805nm,1.9s,mb6.0					
BAIF	**Baives**	**53.52 316**	*e*P	**P**	**22 49 42.8**	**-1.1**
	comp=Z,805nm,1.9s,mb6.3					
BAIF	**Baives**	**53.52 316**	*e*P	**P**	**22 49 42.8**	**-1.1**
BAIF			pmax	pmax		
	comp=Z,805nm,1.9s,mb6.3					
BAIF	**Baives**	**53.52 316**	*e*P	**P**	**22 49 42.8**	**-1.1**
	comp=Z,402nm,1.9s,mb6.0					
SNF	**Seneffe**	**53.53 316**	P	**P**	**22 49 44.9**	**+1.0**
	comp=Z,100nm,2.3s,mb5.3					
SNF	**Seneffe**	**53.53 316**	P	**P**	**22 49 44.9**	**+1.0**
	comp=Z,100nm,2.3s,mb5.3					
TRO	**Tromso**	**53.54 342**	*e*P	**P**	**22 49 44.3**	**+0.6**
TRO			*e*S	**S**	**22 57 18.6**	**+2.2**
TRO			AMS	AMS	23 16 35.5	
	comp=Z,8μm,16.1s,MS5.8					
TRO	**Tromso**	**53.54 342**	*e*P	**P**	**22 49 44.3**	**+0.6**
	SNR=22					
TRO			*e*S	**S**	**22 57 18.6**	**+2.2**
	SNR=24					
PLDF	**La Plantade**	**53.56 311**	*e*P	**P**	**22 49 42.7**	**-1.5**
SDKM	**Sandakan**	**53.61 101**	P	**P**	**22 49 45.9**	**+0.8**
SSF	**Saint Saulge**	**53.71 312**	*e*P	**P**	**22 49 43.0**	**-2.3**
	comp=Z,164nm,1.2s,mb5.5					
SSF	**Saint Saulge**	**53.71 312**	*e*P	**P**	**22 49 43.0**	**-2.3**
	comp=Z,164nm,1.2s,mb5.8					
SSF	**Saint Saulge**	**53.71 312**	*e*P	**P**	**22 49 43.0**	**-2.3**
SSF			pmax	pmax		
	comp=Z,165nm,1.2s,mb5.8					
SSF	**Saint Saulge**	**53.71 312**	*e*P	**P**	**22 49 43.0**	**-2.3**
	comp=Z,82nm,1.2s,mb5.5					
AVF	**Avril sur Loir**	**53.79 312**	*e*P	**P**	**22 49 43.4**	**-2.5**
	comp=Z,528nm,1.9s,mb5.8					
AVF	**Avril sur Loir**	**53.79 312**	*e*P	**P**	**22 49 43.4**	**-2.5**
	comp=Z,528nm,1.9s,mb6.1					
AVF	**Avril sur Loir**	**53.79 312**	*e*P	**P**	**22 49 43.4**	**-2.5**
AVF			pmax	pmax		
	comp=Z,528nm,1.9s,mb6.1					
AVF	**Avril sur Loir**	**53.79 312**	*e*P	**P**	**22 49 43.4**	**-2.5**
	comp=Z,264nm,1.9s,mb5.8					
TAM	**Tamanrasset**	**53.95 282**	*e*P	**P**	**22 49 47.2**	**-0.3**
	comp=Z,112nm,0.8s,mb5.8					
TAM			LR	LR		
	comp=Z,5μm,22.0s,MS5.5					
TAM	**Tamanrasset**	**53.95 282**	*e*P	**P**	**22 49 47.2**	**-0.3**
TAM			pmax	pmax		
	comp=Z,112nm,0.8s,mb5.8					
TAM			MLR	MLR		
	comp=Z,5μm,22.0s,MS5.5					
TAM	**Tamanrasset**	**53.95 282**	*e*P	**P**	**22 49 47.2**	**-0.3**
	comp=Z,112nm,0.8s,mb5.8					
BLS5	**Blasjo**	**54.05 328**	*e*P	**P**	**22 49 48.5**	**+0.9**
BLS5	**Blasjo**	**54.05 328**	*e*P	**P**	**22 49 48.5**	**+0.9**
	SNR=22					
BGF	**Bois d'Agland**	**54.13 311**	*e*P	**P**	**22 49 46.1**	**-2.3**
	comp=Z,381nm,1.6s,mb5.8					
BGF	**Bois d'Agland**	**54.13 311**	*e*P	**P**	**22 49 46.1**	**-2.3**
	comp=Z,381nm,1.6s,mb6.1					
BGF	**Bois d'Agland**	**54.13 311**	*e*P	**P**	**22 49 46.1**	**-2.3**
BGF			pmax	pmax		
	comp=Z,381nm,1.6s,mb6.1					
BGF	**Bois d'Agland**	**54.13 311**	*e*P	**P**	**22 49 46.1**	**-2.3**
	comp=Z,191nm,1.6s,mb5.8					
FILF	**Fillols**	**54.23 306**	*e*P	**P**	**22 49 50.6**	**+1.4**
LRDF	**Laroque-de-Fa**	**54.24 307**	*e*P	**P**	**22 49 49.1**	**-0.2**
HYF	**Humbligny**	**54.31 312**	*e*P	**P**	**22 49 47.9**	**-1.8**
HYF	**Humbligny**	**54.31 312**	*e*P	**P**	**22 49 47.9**	**-1.8**
HYF	**Humbligny**	**54.31 312**	*e*P	**P**	**22 49 47.9**	**-1.8**
VERF	**Verneugheol**	**54.34 310**	*e*P	**P**	**22 49 47.8**	**-2.2**
MOL	**Molde**	**54.47 331**	*e*S	**S**	**22 57 27

KSRS Korea Array 55.51 60 P **P** **22 49 57.5 -1.0**
comp=Z,19nm,0.9s,mb5.1,baz=271,slow=7.4,SNR=34
KSRS LR LR 23 16 20.7
comp=Z,5μm,19.4s,MS5.6,baz=268,slow=39
LFF La Frestale 55.55 309 *e*P **P** **22 49 56.9 -1.9**
comp=Z,1μm,1.6s,mb6.4
LFF La Frestale 55.55 309 *e*P **P** **22 49 56.9 -1.9**
comp=Z,1μm,1.6s,mb6.7
LFF La Frestale 55.55 309 *e*P **P** **22 49 56.9 -1.9**
LFF La Frestale 55.55 309 *e*P **P** **22 49 56.9 -1.9**
comp=Z,576nm,1.6s,mb6.4
ETRT Tiaret 55.57 298 P **P** **22 50 07.0 +7.9**
EANR 'Ain N'Sour 55.68 299 P **P** **22 50 04.0 +4.2**
EPF Esparros 55.85 307 *e*P **P** **22 49 57.8 -3.2**
comp=Z,106nm,1.4s,mb5.4
EPF Esparros 55.85 307 *e*P **P** **22 49 57.8 -3.2**
comp=Z,106nm,1.4s,mb5.7
EPF Esparros 55.85 307 *e*P **P** **22 49 57.8 -3.2**
EPF pmax pmax
comp=Z,106nm,1.4s,mb5.7
EPF Esparros 55.85 307 *e*P **P** **22 49 57.8 -3.2**
comp=Z,53nm,1.4s,mb5.4
RESF Ens 55.86 307 *e*P **P** **22 50 00.7 -0.3**
VIEF Viey 56.09 307 *e*P **P** **22 50 02.8 +0.2**
MFF Saint Martin d 56.19 311 *e*P **P** **22 50 00.8 -2.5**
comp=Z,598nm,1.7s,mb6.0
MFF Saint Martin d 56.19 311 *e*P **P** **22 50 00.8 -2.5**
comp=Z,598nm,1.7s,mb6.3
MFF Saint Martin d 56.19 311 *e*P **P** **22 50 00.8 -2.5**
MFF pmax pmax
comp=Z,598nm,1.7s,mb6.3
MFF Saint Martin d 56.19 311 *e*P **P** **22 50 00.8 -2.5**
comp=Z,299nm,1.7s,mb6.0
LDF La Druitiere 56.23 314 *e*P **P** **22 50 00.9 -2.6**
comp=Z,64nm,0.9s,mb5.3
LDF La Druitiere 56.23 314 *e*P **P** **22 50 00.9 -2.6**
comp=Z,64nm,0.9s,mb5.7
LDF La Druitiere 56.23 314 *e*P **P** **22 50 00.9 -2.6**
LDF pmax pmax
comp=Z,64nm,0.9s,mb5.7
LDF La Druitiere 56.23 314 *e*P **P** **22 50 00.9 -2.6**
comp=Z,32nm,0.9s,mb5.3
REYF Montagne du Re 56.39 307 *e*P **P** **22 50 04.5 -0.3**
BJO Bjornoya 56.41 347 AMS AMS 23 17 30.5
comp=Z,8μm,18.3s,MS5.8
MDJ Mudanjiang 56.45 51 P **P** **22 50 05.3 +0.1**
MDJ pP pP 22 50 08.5 +0.1
MDJ sP sP 22 50 09.8 +0.2
MDJ PP PP 22 52 11.8 +1.1
MDJ S **S** **22 57 55.8 -0.4**
MDJ ScS ScS 22 59 54.0 -0.6
MDJ SS SS 23 01 44.5 +1.4
MDJ pmax pmax
comp=Z,22nm,1.5s,mb5.0
MDJ pmax pmax
comp=Z,690nm,6.0s
MDJ LR LR
comp=N,5μm,18.6s,MS5.8
MDJ LR LR
comp=E,5μm,15.7s,MS5.8
MDJ LR LR
comp=Z,5μm,19.0s,MS5.6
MDJ Mudanjiang 56.45 51 PFAKE 22 50 20.0 +15
MDJ LR LR
comp=Z,5μm,20.0s,MS5.6
FLN La Foliniere 56.48 314 *e*P **P** **22 50 02.8 -2.5**
comp=Z,575nm,1.8s,mb6.0
FLN *e*R
comp=Z,4μm,20.8s
FLN La Foliniere 56.48 314 *e*P **P** **22 50 02.8 -2.5**
comp=Z,575nm,1.8s,mb6.3
FLN La Foliniere 56.48 314 *e*P **P** **22 50 02.8 -2.5**
FLN pmax pmax
comp=Z,575nm,1.8s,mb6.3
FLN La Foliniere 56.48 314 *e*P **P** **22 50 02.8 -2.5**
comp=Z,287nm,1.8s,mb6.0
MSNA Messina 56.49 219 *e*P **P** **22 50 02.8 -2.8**
MSNA AMB AMB 22 50 15.7
comp=Z,66nm,3.7s
ETSF Etsaut 56.52 307 *e*P **P** **22 50 04.0 -1.7**
comp=Z,334nm,1.2s,mb6.0
ETSF Etsaut 56.52 307 *e*P **P** **22 50 04.0 -1.7**
comp=Z,334nm,1.2s,mb6.2
ETSF Etsaut 56.52 307 *e*P **P** **22 50 04.0 -1.7**
ETSF pmax pmax
comp=Z,334nm,1.2s,mb6.2
ETSF Etsaut 56.52 307 *e*P **P** **22 50 04.0 -1.7**
comp=Z,167nm,1.2s,mb6.0
ATE Arette 56.62 307 *e*P **P** **22 50 07.2 +0.8**
HOPEN Hopen 56.67 350 *e*P **P** **22 50 10.6 +4.4**
HOPEN *e*S **S** **22 58 01.0 +2.8**
HOPEN AMS AMS 23 18 54.7
comp=Z,10μm,16.3s,MS6.0
HOPEN Hopen 56.67 350 *e*S **S** **22 58 01.0 +2.8**
SNR=24
GRR Gorron 56.71 314 *e*P **P** **22 50 04.5 -2.5**
comp=Z,252nm,1.6s,mb5.7
GRR Gorron 56.71 314 *e*P **P** **22 50 04.5 -2.5**
comp=Z,252nm,1.6s,mb6.0
GRR Gorron 56.71 314 *e*P **P** **22 50 04.5 -2.5**
GRR pmax pmax
comp=Z,252nm,1.6s,mb6.0
GRR Gorron 56.71 314 *e*P **P** **22 50 04.5 -2.5**
comp=Z,126nm,1.6s,mb5.7
SKP1 Kophill 56.84 318 *e*P **P** **22 50 07.2 -0.6**
SJPF Ste Jean 57.00 307 *e*P **P** **22 50 07.1 -2.0**
comp=Z,470nm,1.6s,mb6.0
SJPF Ste Jean 57.00 307 *e*P **P** **22 50 07.1 -2.0**
comp=Z,470nm,1.6s,mb6.3
SJPF Ste Jean 57.00 307 *e*P **P** **22 50 07.1 -2.0**
SJPF pmax pmax
comp=Z,470nm,1.6s,mb6.3
SJPF Ste Jean 57.00 307 *e*P **P** **22 50 07.1 -2.0**
comp=Z,235nm,1.6s,mb6.0
WOL Wolverton 57.07 317 *e*P **P** **22 50 07.8 -1.6**
WOL AMB AMB 22 50 19.8
comp=Z,283nm,1.8s,mb6.0
WOL AMS AMS 23 25 39.4
comp=Z,3μm,10.9s,MS5.7
CART Cartagena 57.20 301 *i*P **P** **22 50 16.5 +5.9**
CART *i*S **S** **22 58 11.7 +5.3**
JOW Kunigami 57.29 72 P **P** **22 50 10.8 -0.6**
comp=Z,27nm,0.7s,mb5.4,baz=313,slow=14,SNR=3.5
JOW Kunigami 57.29 72 P **P** **22 50 10.8 -0.6**
JOW Kunigami 57.29 72 P **P** **22 50 10.8 -0.7**
KBI1 Birley Grange 57.38 319 *e*P **P** **22 50 10.8 -0.9**
SWN1 Swindon 57.44 317 *e*P **P** **22 50 11.6 -0.5**
SWN1 AMB AMB 22 50 23.4
comp=Z,622nm,1.5s,mb6.4
SWN1 AMS AMS 23 26 16.3
comp=Z,4μm,9.5s
SGMF Saint Gilles 57.84 313 *e*P **P** **22 50 12.8 -2.2**
comp=Z,218nm,1.1s,mb5.8
SGMF Saint Gilles 57.84 313 *e*P **P** **22 50 12.8 -2.2**
comp=Z,218nm,1.1s,mb6.1
SGMF Saint Gilles 57.84 313 *e*P **P** **22 50 12.8 -2.2**
SGMF pmax pmax
comp=Z,218nm,1.1s,mb6.1
SGMF Saint Gilles 57.84 313 *e*P **P** **22 50 12.8 -2.2**
comp=Z,109nm,1.1s,mb5.8
XAL Allendale 57.91 321 *e*P **P** **22 50 14.4 -0.9**
KLR Kul'dur 57.93 45 *e*P **P** **22 50 11.4 -4.1**
KLR *e*S **S** **22 58 12.0 -3.5**
KLR *e*SS SS 23 01 59.0 -7.2
KLR pmax pmax
comp=E,80nm,2.0s
KLR pmax pmax
comp=Z,210nm,2.0s,mb5.8
KLR pmax pmax
comp=Z,2μm,14.0s
KLR smax
comp=N,2μm,8.5s
KLR smax
comp=E,1.0nm,8.5s
YAK Yakutsk 58.01 30 *e*P **P** **22 50 14.9 -1.0**
comp=E,105nm,1.0s,mb5.8
YAK LR LR
comp=Z,5μm,21.0s,MS5.6
YAK Yakutsk 58.01 30‖ *e*P **P** **22 50 14.5 -1.4**
YAK *e**PP pP 22 50 22.4 +3.3
YAK *e* 22 51 04.9
YAK *e* 22 52 24.9
YAK *e*PPP 22 53 45.5
YAK *e*S **S** **22 58 18.3 +2.0**
YAK *e**SS sS 22 58 25.8 +4.3
YAK *e* 22 59 56.1
YAK *e*SS SS 23 02 07.3 +0.3
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=Z,44nm,0.8s,mb5.5
YAK pmax pmax
comp=Z,722nm,8.6s
YAK smax
comp=E,581nm,4.6s
YAK smax
comp=N,184nm,3.2s
YAK MLR MLR
comp=N,3μm,18.0s,MS5.6
YAK MLR MLR
comp=Z,4μm,19.0s,MS5.6
YAK MLR MLR
comp=E,3μm,19.0s,MS5.6
YAK Yakutsk 58.01 30 *e*P **P** **22 50 14.9 -1.0**
comp=E,105nm,1.0s,mb5.8
HGH Gray Hill 58.07 317 *e*P **P** **22 50 15.5 -1.0**
HLM1 Long Mynd 58.16 318 *e*P **P** **22 50 16.0 -1.1**
HLM1 AMB AMB 22 50 26.3
comp=Z,208nm,1.7s,mb5.9
USRK Ussuriysk Arra 58.18 51 P **P** **22 50 16.9 -0.6**
comp=Z,5.7nm,1.0s,mb4.6,baz=249,slow=5.0,SNR=7.4
USRK LR LR 23 19 47.7
comp=Z,3μm,19.3s,MS5.5,baz=220,slow=41
MCH1 Michaelchurch 58.21 318 *e*P **P** **22 50 16.4 -1.0**
MCH1 AMB AMB 22 50 28.1
comp=Z,204nm,1.9s,mb5.8
MCH1 AMS AMS 23 25 21.0
comp=Z,3μm,17.0s,MS5.4
ESY Stoneypath 58.22 322 *e*P **P** **22 50 16.5 -1.0**
QUIF Quistinic 58.25 313 *e*P **P** **22 50 15.2 -2.7**
comp=Z,622nm,1.7s,mb6.0
QUIF Quistinic 58.25 313 *e*P **P** **22 50 15.2 -2.7**
comp=Z,622nm,1.7s,mb6.4
QUIF Quistinic 58.25 313 *e*P **P** **22 50 15.2 -2.7**
QUIF Quistinic 58.25 313 *e*P **P** **22 50 15.2 -2.7**
comp=Z,311nm,1.7s,mb6.0
ROSF Rostrenen 58.32 313 *e*P **P** **22 50 15.8 -2.5**
comp=Z,135nm,1.1s,mb5.6
ROSF Rostrenen 58.32 313 *e*P **P** **22 50 15.8 -2.5**
comp=Z,135nm,1.0s,mb5.9
ROSF Rostrenen 58.32 313 *e*P **P** **22 50 15.8 -2.5**
ROSF pmax pmax
comp=Z,135nm,1.0s,mb5.9
ROSF Rostrenen 58.32 313 *e*P **P** **22 50 15.8 -2.5**
comp=Z,68nm,1.1s,mb5.6
FOEL Foel Wylfa 58.37 319 *e*P **P** **22 50 17.1 -1.5**
FOEL AMB AMB 22 50 28.2
comp=Z,303nm,1.5s,mb6.1
JNU Nakatsue 58.41 64 *e*P **P** **22 50 18.7 -0.5**
comp=Z,68nm,1.0s,mb5.6
JNU Nakatsue 58.41 64 *e*P **P** **22 50 18.7 -0.5**
comp=Z,68nm,1.0s,mb5.6
EBL Broad Law 58.45 322 *e*P **P** **22 50 18.3 -0.8**
ESK Eskdalemuir 58.51 322 *e*P **P** **22 50 17.7 -1.8**
ESK AMB AMB 22 50 25.5
comp=Z,124nm,6.4s
ESK AMS AMS 23 22 50.9
comp=Z,4μm,21.3s,MS5.5
ESK Eskdalemuir 58.51 322 *e*P **P** **22 50 18.8 -0.7**
comp=Z,45nm,1.0s,mb5.5
ESK LR LR
comp=Z,4μm,20.0s,MS5.6
ESK Eskdalemuir 58.51 322 *e*P **P** **22 50 18.8 -0.7**
ESK pmax pmax
comp=Z,45nm,1.0s,mb5.5
ESK MLR MLR
comp=Z,4μm,20.0s,MS5.6
ESK Eskdalemuir 58.51 322 *e*P **P** **22 50 18.8 -0.7**
comp=Z,45nm,1.0s,mb5.5
XDE Dent Fell 58.62 321 *e*P **P** **22 50 18.3 -2.0**
DYA Yadsworthy 58.76 316 *e*P **P** **22 50 21.0 -0.3**
DYA AMS AMS 23 27 26.3
comp=Z,4μm,10.1s,MS5.8
SPA0 Spitsbergen Ar 59.20 350 *e*P **P** **22 50 23.9 -0.1**
SPA0 Spitsbergen Ar 59.20 350 *e*P **P** **22 50 23.9 -0.1**
SNR=21
SPITS Spitsbergen Ar 59.20 350 LR LR 23 19 27.6
comp=Z,5μm,19.2s,MS5.7,baz=115,slow=40
SPB4 Spitsbergen Ar 59.20 350 *e*P **P** **22 50 24.0 0.0**
SPB4 *e*PcP PcP 22 51 08.6 -3.7
SPB4 Spitsbergen Ar 59.20 350 *e*P **P** **22 50 24.0 0.0**
EAB Aberfoyle 59.21 323 *e*P **P** **22 50 23.5 -0.9**
PGBU Glenifferbraes 59.27 322 *e*P **P** **22 50 23.6 -1.2**
PGBU AMB AMB 22 50 35.2
comp=Z,233nm,1.7s,mb5.9
ESDC Sonseca Array 59.30 303 P **P** **22 50 24.3 -1.0**
comp=Z,1.5nm,0.5s,mb4.2,baz=69,slow=7.0,SNR=24
ESDC LR LR 23 18 49.7
comp=Z,1μm,21.3s,MS5.1,baz=80,slow=39
ESDC PKP2bc 23 20 13.8
comp=Z,1.1nm,0.9s,baz=272,slow=1.5,SNR=5.6
ESDC Sonseca Array 59.30 303 P **P** **22 50 24.3 -1.0**
ESDC ⇑*e* 23 20 13.8
ESDC Sonseca Array 59.30 303 P **P** **22 50 24.3 -1.0**
ESLA Sonseca Array 59.30 303 *e*P **P** **22 50 24.1 -1.2**
comp=Z,61nm,1.4s,mb5.4
ESLA LR LR
comp=Z,14μm,22.0s,MS6.0
ESLA Sonseca Array 59.30 303 *e*P **P** **22 50 24.1 -1.2**
comp=Z,61nm,1.4s,mb5.4
POGA Pongola 59.62 214 *e*P **P** **22 50 21.7 -5.8**
POGA AMB AMB 22 50 36.5
comp=Z,42nm,1.6s,mb5.2
KAC Achnashellach 59.82 324 *e*P **P** **22 50 27.1 -1.4**
KPL Plockton 60.00 324 *e*P **P** **22 50 28.0 -1.7**
KPL AMB AMB 22 50 29.1
comp=Z,137nm,7.8s
KPL AMS AMS 23 26 13.3
comp=Z,4μm,20.6s,MS5.5
EMAL Malaga-Limoner 60.02 300 *e*P **P** **22 50 28.6 -1.7**
EMAL *i*S **S** **22 58 40.6 -2.5**
SLR Silverton 60.12 218 *e*P **P** **22 50 29.9 -1.0**
SLR AMB AMB 22 50 53.6
comp=Z,125nm,2.1s,mb5.6
HABR Khabarovsk 60.12 46 *e*P **P** **22 50 29.1 -1.7**
HABR 22 52 41.4
HABR *e*S **S** **22 58 43.1 -0.9**
HABR *e* 23 00 19.3
HABR *e*SS SS 23 02 40.8 +0.2
HABR pmax pmax
comp=N,53nm,2.0s
HABR pmax pmax
comp=E,38nm,1.0s
HABR pmax pmax
comp=Z,60nm,1.4s,mb5.4
HABR MLR MLR
comp=Z,6μm,20.0s,MS5.7
TORD Torodi Ar. Bea 60.15 272 P **P** **22 50 30.2 -1.3**
comp=Z,23nm,1.0s,mb5.2,baz=72,slow=5.7,SNR=70
TORD LR LR 23 19 02.7
comp=Z,8μm,18.8s,MS5.9,baz=95,slow=39
TORD PKP2bc 23 20 05.0
comp=Z,0.9nm,1.0s,baz=259,slow=2.1,SNR=3.6
TORD Torodi Ar. Bea 60.15 272 P **P** **22 50 30.2 -1.3**
TORD ⇑*e* 23 20 05.0
TORD Torodi Ar. Bea 60.15 272 P **P** **22 50 30.2 -1.3**
KBS Kingsbay 60.36 350 *e*P **P** **22 50 31.9 0.0**
KBS *e*S **S** **22 58 48.4 +2.2**
KBS AMS AMS 23 23 02.8
comp=Z,7μm,13.2s,MS6.0
KBS Kingsbay 60.36 350 *e*P **P** **22 50 31.9 -0.1**
comp=Z,194nm,1.3s,mb6.0
KBS LR LR
comp=Z,5μm,22.0s,MS5.6
KBS Kingsbay 60.36 350 *e*P **P** **22 50 31.9 0.0**
KBS pmax pmax
comp=Z,194nm,1.3s,mb6.0
KBS MLR MLR
comp=Z,5μm,22.0s,MS5.6
KBS Kingsbay 60.36 350 *e*P **P** **22 50 31.9 0.0**
SNR=21
KBS *e*S **S** **22 58 48.4 +2.2**
SNR=23
ERPM east rand prop 60.61 218 *e*P **P** **22 50 33.7 -0.7**
ERPM AMB AMB 22 50 50.5
comp=Z,63nm,3.2s
DAV Davao City (W) 60.67 95 P **P** **22 50 33.5 -1.6**
comp=Z,88nm,0.3s,mb6.3,baz=242,slow=5.4,SNR=5.9
DAV Davao City (W) 60.67 95 *e*P **P** **22 50 33.8 -1.3**
DAV LR LR
comp=Z,3μm,21.0s,MS5.5
DAV Davao City (W) 60.67 95 *e*P **P** **22 50 33.8 -1.3**
KAPI Kappang 60.78 110 P **P** **22 50 34.0 -1.8**
comp=Z,59nm,1.3s,mb5.6,baz=285,slow=7.2,SNR=25
KAPI Kappang 60.78 110 *e*P **P** **22 50 34.8 -1.0**
comp=Z,176nm,1.4s,mb6.0
KAPI LR LR
comp=Z,3μm,19.0s,MS5.5
KAPI Kappang 60.78 110 P **P** **22 50 35.0 -0.8**
comp=Z,2μmcomp=Z,80nm,1.7s,mb5.6
KAPI Kappang 60.78 110 P **P** **22 50 34.9 -0.9**
SNR=17
KAPI Kappang 60.78 110 P **P** **22 50 34.9 -0.9**
SNR=17
KLOF Kloof 60.97 218 *e*P **P** **22 50 37.7 +0.9**
KLOF AMB AMB 22 51 00.3
comp=Z,50nm,3.2s
KSR Koster 61.00 219 *e*P **P** **22 50 33.6 -3.4**
KSR AMB AMB 22 50 40.6
comp=Z,33nm,3.4s
LBTB Lobatse 61.13 221⇑*i*P **P** **22 50 37.8 -0.1**
LBTB Lobatse 61.13 221 *e*P **P** **22 50 37.6 -0.3**
comp=Z,92nm,1.0s,mb5.9
LBTB LR LR
comp=Z,5μm,20.0s,MS5.7
LBTB Lobatse 61.13 221 *e*P **P** **22 50 37.6 -0.3**
LBTB pmax pmax
comp=Z,92nm,1.0s,mb5.9
LBTB MLR MLR
comp=Z,5μm,20.0s,MS5.7
LBTB Lobatse 61.13 221 *e*P **P** **22 50 37.6 -0.3**
comp=Z,92nm,1.0s,mb5.9
PBRG Braganca 61.17 306 *e*P **P** **22 50 39.8 +1.8**
comp=Z,166nm,1.6s,mb5.9
PBRG *e*S **S** **22 58 56.6 -1.0**
PBRG *e*LR LR 23 11 18.0
comp=Z,2μm,18.0s
MVO Moncorvo 61.46 305 *e*P **P** **22 50 39.3 -0.7**
comp=Z,176nm,1.5s,mb6.0
MVO *e*S **S** **22 59 04.5 +3.2**
MVO *e*LR LR 23 11 27.1
comp=Z,1μm,20.0s
SFS San Fernando 61.48 300 P **P** **22 50 39.9 -0.4**
comp=Z,394nm,1.2s,mb6.4
SFS LR LR
comp=Z,3μm,20.0s,MS5.4
SFS San Fernando 61.48 300 P **P** **22 50 39.9 -0.3**
SFS pmax pmax
comp=Z,394nm,1.2s,mb6.4
SFS MLR MLR
comp=Z,3μm,20.0s,MS5.4
SFS San Fernando 61.48 300 P **P** **22 50 39.9 -0.3**
comp=Z,394nm,1.2s,mb6.4
PRYS Parys 61.56 218 *e*P **P** **22 50 39.8 -0.9**
PRYS AMB AMB 22 51 03.8
comp=Z,83nm,3.6s
PBAR Barrancos 61.87 302 *e*P **P** **22 50 42.0 -0.9**
comp=Z,455nm,1.9s,mb6.3
PBAR *e*S **S** **22 59 11.6 +4.9**
PBAR *e*LR LR 23 11 25.4
comp=Z,1μm,20.0s
MTE Manteigas 61.94 305 *e*P **P** **22 50 42.8 -0.5**
comp=Z,268nm,1.6s,mb6.1
MTE *e*S **S** **22 59 10.2 +2.7**
MTE *e*LR LR 23 11 29.6
comp=Z,1μm,18.0s
MTE Manteigas 61.94 305 *e*P **P** **22 50 42.5 -0.9**
comp=Z,179nm,1.3s,mb6.0
MTE LR LR
comp=Z,2μm,19.0s,MS5.3
MTE Manteigas 61.94 305 *e*P **P** **22 50 42.5 -0.8**
comp=Z,179nm,1.3s,mb6.0
MTE *e*S **S** **22 59 10.2 +2.7**
PVRL Vila Real 61.96 306 *e*P **P** **22 50 45.0 +1.6**
comp=Z,288nm,1.6s,mb6.2
PMRV Marv??o 61.96 303 *e*P **P** **22 50 42.2 -1.2**
comp=Z,221nm,1.8s,mb6.0
PMRV *e*S **S** **22 59 10.3 +2.5**
PMRV *e*LR LR 23 14 26.5
comp=Z,1μm,18.0s
PCBR Castelo Branco 61.97 304 *e*P **P** **22 50 42.9 -0.6**
comp=Z,452nm,1.5s,mb6.4
POLO Lamas de Olo 62.00 306 *e*P **P** **22 50 44.7 +1.0**
comp=Z,124nm,1.7s,mb5.8
POLO *e*LR LR 23 11 31.2
comp=Z,740nm,20.0s
PCAB Cabril 62.13 306 *e*P **P** **22 50 47.3 +2.7**
comp=Z,262nm,1.8s,mb6.1
PVIS Viseu 62.16 305 *e*P **P** **22 50 44.7 -0.1**
comp=Z,309nm,1.6s,mb6.2
PESTR Estremoz 62.20 303 *e*P **P** **22 50 43.7 -1.3**
comp=Z,146nm,1.9s,mb5.8
PESTR *e*S **S** **22 59 11.9 +1.1**
PESTR *e*LR LR 23 14 23.2
comp=Z,1μm,20.0s
PGAV Gavieira, Arco 62.28 306 *e*P **P** **22 50 46.2 +0.6**
comp=Z,211nm,1.7s,mb6.0
PGAV *e*S **S** **22 59 13.1 +1.4**
PGAV *e*LR LR 23 11 41.1
comp=Z,1μm,18.0s
TSUM Tsumeb 62.35 231 PFAKE 22 51 00.0 +14
TSUM LR LR
comp=Z,6μm,21.0s,MS5.7
RTC Rabat Centre 62.42 297 P **P** **22 50 48.4 +1.7**
RTC LR LR
comp=Z,2μm,20.0s,MS5.2
RTC Rabat Centre 62.42 297 P **P** **22 50 48.4 +1.7**
PVAQ Vaqueiros 62.52 301 *e*P **P** **22 50 46.7 -0.5**
comp=Z,142nm,1.5s,mb5.9
PVAQ *e*S **S** **22 59 12.2 -2.7**
PVAQ *e*LR LR 23 13 50.2
comp=Z,1μm,18.0s
PBEJ Beja 62.54 302 *e*P **P** **22 50 48.0 +0.7**
comp=Z,241nm,1.8s,mb6.0
EVO Evora 62.57 303 *e*P **P** **22 50 46.6 -1.0**
comp=Z,585nm,1.5s,mb6.2
EVO *e*R
comp=Z,2μm,20.2s
EVO Evora 62.57 303 *e*P **P** **22 50 46.8 -0.8**
comp=Z,327nm,1.6s,mb6.2
JMIC Jan Mayen 62.60 339 LR LR 23 21 28.7
comp=Z,5μm,18.1s,MS5.7,baz=284,slow=39
PMTG Montargil 62.65 303 *e*P **P** **22 50 49.7 +1.6**
comp=Z,224nm,1.5s,mb6.1
PMTG *e*LR LR 23 14 43.1
comp=Z,984nm,16.0s
EVOP Sao Brissos 62.66 303 *e*P **P** **22 50 46.6 -1.5**
comp=Z,585nm,1.5s,mb6.5
EVOP Sao Brissos 62.66 303 *e*P **P** **22 50 46.6 -1.5**
EVOP Sao Brissos 62.66 303 *e*P **P** **22 50 46.6 -1.5**
comp=Z,293nm,1.5s,mb6.2
PTOM Tomar 62.71 304 *e*P **P** **22 50 48.3 -0.2**
comp=Z,522nm,0.8s,mb6.7
PBDV Barranco-do-Ve 62.72 301 *e*P **P** **22 50 48.7 +0.2**
comp=Z,129nm,1.2s,mb5.9
PBDV *e*S **S** **22 59 18.6 +1.2**
PBDV *e*LR LR 23 13 50.2
comp=Z,1μm,18.0s
PCVE Castro Verde 62.74 302 *e*P **P** **22 50 47.8 -0.9**
comp=Z,250nm,1.5s,mb6.1
PCVE *e*S **S** **22 59 21.5 +3.9**
PCVE *e*LR LR 23 13 40.2
comp=Z,914nm,22.0s
PNCL Nicolau / Gran 63.04 302 *e*P **P** **22 50 50.5 -0.2**
comp=Z,328nm,1.7s,mb6.2
PNCL *e*S **S** **22 59 22.8 +1.4**
PNCL *e*LR LR 23 11 57.7
comp=Z,1μm,20.0s
MORF Marmelete 63.27 301 *e*P **P** **22 50 53.5 +1.3**
comp=Z,175nm,1.6s,mb5.9
MORF *e*S **S** **22 59 26.3 +2.0**
MORF Marmelete 63.27 301 *e*P **P** **22 50 52.3 +0.1**
MORF *e*S **S** **22 59 25.1 +0.8**
PTEO Sao Teotonio 63.29 302 *e*P **P** **22 50 54.0 +1.7**
comp=Z,267nm,1.2s,mb6.2
LIS Lisbon 63.42 303 *e*P **P** **22 50 53.3 +0.1**
LIS AMb AMB 22 51 06.2
comp=Z,328nm,1.2s,mb6.3
LIS *e*S **S** **22 59 26.8 +0.6**
LIS Lisbon 63.42 303 *e*P **P** **22 50 53.3 +0.1**
comp=Z,328nm,1.2s,mb6.3
LIS *e*S **S** **22 59 26.8 +0.6**
LIS Lisbon 63.42 303 *e*P **P** **22 50 53.3 +0.1**
LIS *e*S **S** **22 59 26.8 +0.6**
PFVI Vila Bisbo 63.44 301 *e*P **P** **22 50 55.2 +1.8**
comp=Z,270nm,1.9s,mb6.0
PFVI *e*S **S** **22 59 26.4 0.0**
PFVI *e*LR LR 23 13 02.7
comp=Z,996nm,16.0s

PMAFR Mafra 63.48 303 *e*P **P 22 50 53.6 0.0**
comp=Z,470nm,1.7s,mb6.3
PMAFR *e*S **S 22 59 28.0 +1.1**
PMAFR *e*LR LR 23 15 02.9
comp=Z,2µm,16.0s
MAJO Matsushiro 63.78 59 PFAKE 22 51 10.0 +14
MAJO LR LR
comp=Z,3µm,20.0s,MS5.5
MJAR Matsushiro Arr 63.78 59 P **P 22 50 54.1 -1.6**
comp=Z,4.0nm,0.8s,mb4.5,baz=279,slow=5.7,SNR=5.8
MJAR LR LR 23 22 51.2
comp=Z,3µm,18.8s,MS5.5,baz=290,slow=40
MJAR Matsushiro Arr 63.78 59 P **P 22 50 54.1 -1.6**
MJAR Matsushiro Arr 63.78 59 P **P 22 50 54.1 -1.6**
MJAR Matsushiro Arr 63.78 59 P **P 22 50 54.1 -1.6**
BOSA Boshof 64.04 218 *e*P **P 22 50 55.4 -1.9**
BOSA AMB AMB 22 51 00.7
comp=Z,50nm,3.2s
BOSA Boshof 64.04 218 P **P 22 50 56.8 -0.5**
comp=Z,18nm,0.6s,mb5.3,baz=35,slow=6.3,SNR=73
BOSA LR LR 23 15 43.5
comp=Z,7µm,20.8s,MS5.8,baz=46,slow=33
BOSA Boshof 64.04 218 *e*P **P 22 50 56.4 -0.9**
comp=Z,52nm,0.9s,mb5.6
BOSA Boshof 64.04 218 *e*P **P 22 50 56.4 -0.9**
BOSA pmax pmax
comp=Z,52nm,0.9s,mb5.6
BOSA Boshof 64.04 218 *e*P **P 22 50 56.4 -0.9**
comp=Z,52nm,0.9s,mb5.6
HVD Garlep Dam 65.43 217 *e*P **P 22 51 04.9 -1.4**
HVD AMB AMB 22 51 28.3
comp=Z,95nm,2.1s,mb5.5
YSS Yuzh-Sakhalins 65.44 48 PFAKE 22 51 20.0 +14
YSS LR LR
comp=Z,1µm,19.0s,MS5.0
YSS Yuzh-Sakhalins 65.44 48 *e*P **P 22 51 06.0 -0.2**
YSS MLR MLR
comp=E,8µm,17.0s
YSS MLR MLR
comp=Z,7µm,17.0s,MS6.0
DAG Danmarks Havn 65.88 345 *i*P **P 22 51 07.4 -1.2**
comp=Z,51nm,0.9s,mb5.5
DAG *i*S S 22 59 56.0 +0.6
DAG
comp=Z,3µm,21.0s
PKA Prieska 66.27 219 *e*P **P 22 51 09.3 -2.5**
PKA AMB AMB 22 51 26.0
comp=Z,18nm,1.9s,mb4.8
ERM Erimo 66.55 53 PFAKE 22 51 30.0 +16
ERM LR LR
comp=Z,4µm,21.0s,MS5.6
SOE Somerset East 67.02 215 *e*P **P 22 51 08.4 -8.1**
SOE AMB AMB 22 51 23.5
comp=Z,82nm,2.9s,mb5.2
SCO Scoresbysund 67.04 339 *i*P **P 22 51 16.0 -0.1**
comp=Z,15nm,1.1s,mb4.9
SCO
comp=Z,5µm,20.0s
SCO Scoresbysund 67.04 339 *i*P **P 22 51 16.1 0.0**
comp=Z,15nm,1.1s,mb4.9,SNR=19
BORG Borgarnes 67.39 332 LR LR 23 25 54.0
comp=Z,3µm,18.9s,MS5.5,baz=356,slow=40
YUK Yuzh-Kuril'sk 68.10 50*c* *i*P **P 22 51 22.8 -0.5**
YUK *e* 22 54 00.1
YUK *e*PPP 22 55 33.0
YUK *e*S S 23 00 25.4 +2.3
YUK *e* 23 01 19.8
YUK *e*SS SS 23 04 40.9 -4.3
YUK pmax pmax
comp=Z,357nm,6.0s
YUK MLR MLR
comp=E,3µm,20.0s,MS5.7
YUK MLR MLR
comp=Z,4µm,20.0s,MS5.6
YUK MLR MLR
comp=N,3µm,20.0s,MS5.7
DBIC Dimbokro 68.48 268 *e*P **P 22 51 27.1 +0.9**
DBIC Dimbokro 68.48 268 P **P 22 51 25.1 -1.2**
comp=N,34nm,1.2s,mb5.3,baz=60,slow=8.3,SNR=8.3
DBIC Dimbokro 68.48 268 *e*P **P 22 51 27.2 +1.0**
comp=N,248nm,1.1s,mb6.2
DBIC LR LR
comp=Z,5µm,22.0s,MS5.7
DBIC Dimbokro 68.48 268 *e*P **P 22 51 27.2 +1.0**
DBIC pmax pmax
comp=Z,248nm,1.1s
DBIC MLR MLR
comp=Z,5µm,22.0s
DBIC Dimbokro 68.48 268 *e*P **P 22 51 27.2 +1.0**
comp=Z,248nm,1.1s,mb6.2
SEY Seymchan 68.51 29‖ *e*P **P 22 51 25.7 +0.2**
LIC Lamto 68.81 268 *e*P **P 22 51 26.9 -1.3**
comp=Z,490nm,1.1s,mb6.0
LIC *e*R
comp=Z,6µm,17.2s
LIC Lamto 68.81 268 *e*P **P 22 51 26.9 -1.3**
comp=Z,490nm,1.1s,mb6.3
LIC Lamto 68.81 268 *e*P **P 22 51 26.9 -1.3**
comp=Z,245nm,1.1s,mb6.0
SUR Sutherland 69.40 219 PFAKE 22 51 40.0 +8.6
SUR LR LR
comp=Z,6µm,20.0s,MS5.8
SUR Sutherland 69.40 219 P **P 22 51 31.0 -0.4**
comp=Z,120nm,2.0s,mb5.5,SNR=5.3
MBWA Marble Bar 69.62 125 *e*P **P 22 51 33.3 +0.3**
MBWA Marble Bar 69.62 125 *e*P **P 22 51 33.0 0.0**
comp=Z,21nm,0.7s,mb5.2
MBWA LR LR
comp=Z,6µm,20.0s,MS5.8
MBWA Marble Bar 69.62 125 *e*P **P 22 51 33.0 0.0**
comp=Z,21nm,0.7s,mb5.2
SUMG Summit 71.73 342 *e*P **P 22 51 45.3 +0.2**
comp=Z,82nm,1.1s,mb5.6
SUMG *e*PP PP 22 54 28.2 +4.3
SUMG Summit 71.73 342 *e*P **P 22 51 45.3 +0.2**
SUMG *e* 22 54 28.2
SUMG pmax pmax
comp=Z,82nm,1.1s
SUMG Summit 71.73 342 *i*P **P 22 51 45.1 0.0**
comp=Z,34nm,0.9s,mb5.3
SUMG Summit 71.73 342 *e*P **P 22 51 45.3 +0.2**
comp=Z,82nm,1.1s,mb5.6
FITZ Fitzroy Crossi 72.50 119 *e*P **P 22 51 50.5 0.0**
PAF Port-aux-Franc 72.55 176 PFAKE 22 52 00.0 +10
PAF LR LR
comp=Z,5µm,22.0s,MS5.7
BILL Bilibino 72.85 23 *e*P **P 22 51 51.5 -0.3**
comp=Z,9.6nm,0.6s,mb4.9
BILL LR LR
comp=Z,6µm,19.0s,MS5.9
BILL Bilibino 72.85 23 *i*P **P 22 51 51.8 -0.1**
BILL *i* 22 52 00.7
BILL *i* 22 52 09.8
BILL *i* 22 54 32.4
BILL *i*S S 23 01 18.3 +0.6
BILL *e*SS SS 23 05 49.0 -8.0
BILL pmax pmax
comp=Z,28nm,2.1s,mb4.8
BILL MLR MLR
comp=Z,5µm,16.0s,MS5.9
BILL Bilibino 72.85 23 *e*P **P 22 51 51.5 -0.4**
comp=Z,9.6nm,0.6s,mb4.9
SKR Severo-Kuril's 73.26 42 *e*P **P 22 51 56.0 +1.4**
SKR *e* 23 02 02.0
PETK Petropavlovsk- 73.51 39 P **P 22 51 54.6 -1.4**
comp=Z,4.5nm,0.8s,mb4.4,baz=233,slow=8.9,SNR=3.6
PETK LR LR 23 27 35.2
comp=Z,2µm,20.5s,MS5.5,baz=290,slow=39
PETK Petropavlovsk- 73.51 39 P **P 22 51 54.6 -1.4**
PETK Petropavlovsk- 73.51 39 P **P 22 51 54.7 -1.3**
PETK Petropavlovsk- 73.51 39 P **P 22 51 54.7 -1.3**
PET Petropavlovsk 74.08 39 PFAKE 22 52 10.0 +11
PET LR LR
comp=Z,3µm,21.0s,MS5.6
PET Petropavlovsk 74.08 39 *e*P **P 22 51 57.3 -2.1**
PET *e* 22 54 44.8
PET *e*S S 23 01 23.8 -8.4
PET *e*SS SS 23 06 14.6 -1.9
PET pmax pmax
comp=Z,700nm,12.1s
PET pmax pmax
comp=Z,300nm,12.8s
PET MLR MLR
comp=Z,3µm,19.0s,MS5.6
KLBR Kellerberrin 74.68 135 *e*P **P 22 52 01.1 -2.0**
comp=Z,21nm,0.8s,mb5.1

NWAO Narrogin (SRO) 75.21 136 *e*P **P 22 52 06.7 +0.5**
comp=Z,39nm,1.0s,mb5.3
NWAO LR LR
comp=Z,2µm,20.0s,MS5.4
NWAO Narrogin (SRO) 75.21 136 *e*P **P 22 52 06.7 +0.5**
NWAO pmax pmax
comp=Z,39nm,1.0s
NWAO MLR MLR
comp=Z,2µm,20.0s
NWAO Narrogin (SRO) 75.21 136 *e*P **P 22 52 06.7 +0.5**
comp=Z,39nm,1.0s,mb5.3
GUMO Guam 75.99 81 PFAKE 22 52 20.0 +8.9
GUMO LR LR
comp=Z,2µm,20.0s,MS5.4
BBTS Babate 76.28 280 P **P 22 52 12.2 -0.6**
comp=Z,9.6nm,0.5s,mb5.0,baz=9.2,slow=1.2,SNR=2.1
BBTS Babate 76.28 280 P **P 22 52 12.2 -0.6**
BBTS Babate 76.28 280 P **P 22 52 12.1 -0.6**
SFJD Kangerlussuaq 77.95 339 PFAKE 22 52 30.0 +8.8
SFJD LR LR
comp=Z,3µm,21.0s,MS5.6
SFJD Kangerlussuaq 77.95 339 *i*P **P 22 52 27.4 +6.2**
comp=Z,16nm,1.3s,mb4.8
SFJD
comp=Z,3µm,22.0s
SHEL Horse Pasture 79.02 247 PFAKE 22 52 40.0 +12
SHEL LR LR
comp=Z,2µm,20.0s,MS5.5
WRA Warramunga Arr 80.51 116 P **P 22 52 35.3 -0.6**
comp=Z,9.2nm,0.7s,mb4.8,baz=308,slow=4.3,SNR=38
WRA PKKPbc PKKPbc 23 11 23.7 +6.6
comp=Z,1.5nm,1.1s,baz=127,slow=1.5,SNR=5.6
WRA PKPPKP 23 19 29.1
comp=Z,2.1nm,1.3s,baz=142,slow=1.3,SNR=6.1
WRA LR LR 23 29 50.9
comp=Z,2µm,21.6s,MS5.5,baz=305,slow=37
WRA Warramunga Arr 80.51 116 P **P 22 52 35.3 -0.6**
WRA PKKPbc PKKPbc 23 11 23.7 +6.6
WRA P'P' 23 19 29.1
WRA Warramunga Arr 80.51 116 P **P 22 52 35.3 -0.6**
WRA Warramunga Arr 80.51 116 P **P 22 52 35.3 -0.6**
WRAB Tennant Creek 80.51 116 *e*P **P 22 52 35.8 -0.2**
comp=Z,20nm,0.7s,mb5.2
WRAB LR LR
comp=Z,2µm,21.0s,MS5.5
WRAB Tennant Creek 80.51 116 *e*P **P 22 52 35.8 -0.2**
WRAB pmax pmax
comp=Z,20nm,0.7s,mb5.2
WRAB MLR MLR
comp=Z,2µm,21.0s,MS5.5
WRAB Tennant Creek 80.51 116 P **P 22 52 36.7 +0.7**
comp=Z,65nm,1.4s,mb5.4
WRAB Tennant Creek 80.51 116 P **P 22 52 35.9 -0.1**
comp=Z,176nm,1.2s,mb5.9,SNR=19
WRAB Tennant Creek 80.51 116 *e*P **P 22 52 35.8 -0.2**
comp=Z,20nm,0.7s,mb5.2
WB2 Warramunga Arr 80.52 116 *e*P **P 22 52 35.7 -0.3**
WB2 Warramunga Arr 80.52 116 *e*P **P 22 52 35.7 -0.3**
FORT Forrest 81.26 129 *e*P **P 22 52 40.0 +0.3**
FORT Forrest 81.26 129 *e*P **P 22 52 40.0 +0.3**
comp=Z,27nm,0.6s,mb5.3
FORT Forrest 81.26 129 *e*P **P 22 52 40.0 +0.3**
comp=Z,27nm,0.6s,mb5.3
RES Resolute Bay 81.30 355 LR LR 23 33 57.7
comp=Z,4µm,18.7s,MS5.8,baz=26,slow=40
AS31 Alice Springs 81.97 120 *e*P **P 22 52 43.3 -0.4**
AS31 Alice Springs 81.97 120 *e*P **P 22 52 43.3 -0.3**
FX1 Attu Island--F 82.21 35 *e*P **P 22 52 43.7 -0.7**
FX1 Attu Island--F 82.21 35 *e*P **P 22 52 43.7 -0.7**
FX1 Attu Island--F 82.21 35 *e*P **P 22 52 43.7 -0.7**
GAMB Gambell 82.75 22 *e*P **P 22 52 46.4 -0.7**
comp=Z,17nm,0.9s,mb5.1
GAMB Gambell 82.75 22 *e*P **P 22 52 46.4 -0.7**
comp=Z,17nm,0.9s,mb5.1
TNA Tin City 82.80 19 *e*P **P 22 52 46.5 -0.8**
comp=Z,9.7nm,1.0s,mb4.8
TNA *e*PP PP 22 55 59.5 +2.8
TNA Tin City 82.80 19 *e*P **P 22 52 46.5 -0.8**
comp=Z,9.7nm,1.0s,mb4.8
FRB Frobisher Bay 85.77 341 P **P 22 53 01.8 -0.6**
comp=Z,19nm,1.0s,mb5.3,baz=23,slow=3.9,SNR=28
FRB Frobisher Bay 85.77 341 P **P 22 53 01.8 -0.6**
FRB Frobisher Bay 85.77 341 P **P 22 53 01.8 -0.6**
FRB Frobisher Bay 85.77 341 P **P 22 53 01.8 -0.6**
COLD Coldfoot 86.04 13 *e*P **P 22 53 03.1 -0.6**
comp=Z,42nm,1.2s,mb5.5
COLD Coldfoot 86.04 13 *e*P **P 22 53 03.1 -0.6**
comp=Z,42nm,1.2s,mb5.5
PMG Port Moresby 86.99 102 PFAKE 22 53 20.0 +11
PMG LR LR
comp=Z,1µm,22.0s,MS5.2
PMG Port Moresby 86.99 102 *i*P **P 22 53 10.4 +1.1**
PMG pmax pmax
comp=Z,46nm,1.5s
INK Inuvik 87.65 7 P **P 22 53 10.9 -0.6**
comp=Z,8.7nm,0.9s,mb5.0,baz=355,slow=6.8,SNR=32
INK Inuvik 87.65 7 P **P 22 53 10.9 -0.6**
INK Inuvik 87.65 7 P **P 22 53 10.9 -0.6**
INK Inuvik 87.65 7 P **P 22 53 10.9 -0.6**
MTSU Mount Surprise 88.10 111 *e*P **P 22 53 14.2 -0.3**
comp=Z,69nm,1.1s,mb5.8
BBOO Buckleboo 88.12 127 *e*P **P 22 53 14.8 +0.5**
BBOO Buckleboo 88.12 127 *e*P **P 22 53 14.8 +0.5**
COLA College 88.57 13 *e*P **P 22 53 15.1 -0.9**
comp=Z,36nm,1.3s,mb5.5
COLA LR LR
comp=Z,3µm,21.0s,MS5.7
COLA College 88.57 13 *e*P **P 22 53 15.1 -0.8**
COLA pmax pmax
comp=Z,36nm,1.3s,mb5.5
COLA MLR MLR
comp=Z,3µm,21.0s,MS5.7
COLA College 88.57 13 *e*P **P 22 53 15.1 -0.8**
comp=Z,36nm,1.3s,mb5.5
ILAR Eielson Array 88.86 13 P **P 22 53 15.7 -1.7**
comp=Z,2.4nm,0.7s,mb4.7,baz=323,slow=4.3,SNR=28
ILAR PP PP 22 56 43.1 -2.6
comp=Z,1.6nm,1.0s,baz=302,slow=5.8,SNR=4.4
ILAR PKKPbc PKKPbc 23 10 58.5 +0.4
comp=Z,0.4nm,0.8s,baz=201,slow=1.5,SNR=5.3
ILAR LR LR 23 37 29.3
comp=Z,4µm,21.3s,MS5.8,baz=182,slow=39
ILAR Eielson Array 88.86 13 P **P 22 53 15.7 -1.7**
ILAR PP PP 22 56 43.1 -2.6
ILAR PKKPbc PKKPbc 23 10 58.5 +0.4
ILAR Eielson Array 88.86 13 P **P 22 53 15.7 -1.6**
ILAR 22 56 43.2
ILAR Eielson Array 88.86 13 P **P 22 53 15.6 -1.7**
TRF Thorofare Moun 89.25 15 *e*P **P 22 53 22.7 +3.5**
comp=Z,100nm,1.8s,mb5.8
MCK McKinley 89.32 14 *e*P **P 22 53 19.0 -0.5**
comp=Z,64nm,1.2s,mb5.8
MCK McKinley 89.32 14 *e*P **P 22 53 19.0 -0.5**
MCK pmax pmax
comp=Z,64nm,1.2s,mb5.8
MCK McKinley 89.32 14 *e*P **P 22 53 19.0 -0.5**
comp=Z,64nm,1.2s,mb5.8
EGAK Eagle 89.93 11 *e*P **P 22 53 22.0 -0.4**
comp=Z,30nm,1.2s,mb5.5
EGAK LR LR
comp=Z,3µm,22.0s,MS5.6
EGAK Eagle 89.93 11 *e*P **P 22 53 22.0 -0.3**
comp=Z,30nm,1.2s,mb5.5
CTA Charters Tower 90.58 112 *e*P **P 22 53 25.2 -0.9**
CTAO Charters Tower 90.58 112 *e*P **P 22 53 24.9 -1.2**
comp=Z,24nm,1.2s,mb5.4
CTAO LR LR
comp=Z,2µm,21.0s,MS5.6
CTAO Charters Tower 90.58 112 *e*P **P 22 53 24.9 -1.2**
CTAO pmax pmax
comp=Z,24nm,1.2s,mb5.4
CTAO MLR MLR
comp=Z,2µm,21.0s,MS5.6
CTAO Charters Tower 90.58 112 P **P 22 53 28.5 +2.4**
CTAO Charters Tower 90.58 112 *e*P **P 22 53 24.9 -1.2**
comp=Z,24nm,1.2s,mb5.4
MAW Mawson 90.69 181 LR LR 23 25 47.5
comp=Z,3µm,20.4s,MS5.7,baz=357,slow=30
PAX Paxson 90.75 13 *e*P **P 22 53 25.7 -0.4**
comp=Z,9.5nm,1.0s,mb5.1
PAX Paxson 90.75 13 *e*P **P 22 53 25.7 -0.5**
PAX pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
PAX Paxson 90.75 13 *e*P **P 22 53 25.7 -0.5**
comp=Z,9.5nm,1.0s,mb5.1
PMR Palmer 91.13 15 *e*P **P 22 53 27.4 -0.6**

comp=Z,43nm,1.2s,mb5.7
PMR Palmer 91.13 15 *e*P **P 22 53 27.4 -0.6**
PMR pmax pmax
comp=Z,43nm,1.2s,mb5.7
PMR Palmer 91.13 15 *e*P **P 22 53 27.4 -0.6**
comp=Z,43nm,1.2s,mb5.7
SML Sawmill 91.13 15 *e*P **P 22 53 27.4 -0.5**
comp=Z,16nm,1.1s,mb5.2
SML Sawmill 91.13 15 *e*P **P 22 53 27.5 -0.5**
SML pmax pmax
comp=Z,16nm,1.1s,mb5.3
SML Sawmill 91.13 15 *e*P **P 22 53 27.5 -0.5**
comp=Z,16nm,1.1s,mb5.2
MENT Mentasta 91.13 13 *e*P **P 22 53 27.9 -0.1**
MENT Mentasta 91.13 13 *e*P **P 22 53 27.9 -0.1**
RC01 Rabbit Creek A 91.41 16 *e*P **P 22 53 37.5 +8.2**
comp=Z,115nm,1.9s,mb5.9
SCHQ Schefferville 91.72 334 P **P 22 53 30.6 -0.3**
comp=Z,6.3nm,0.7s,mb5.0,baz=40,slow=3.3,SNR=7.4
SCHQ LR LR 23 37 39.4
comp=Z,3µm,20.3s,MS5.7,baz=69,slow=38
SCHQ Schefferville 91.72 334 P **P 22 53 30.6 -0.3**
SCHQ Schefferville 91.72 334 P **P 22 53 30.6 -0.3**
STKA Stephens Creek 91.83 124 P **P 22 53 31.5 -0.2**
comp=Z,3.0nm,0.9s,mb4.6,baz=312,slow=6.4,SNR=5.4
STKA LR LR 23 32 03.4
comp=Z,5µm,21.9s,MS5.9,baz=289,slow=34
STKA Stephens Creek 91.83 124 *e*P **P 22 53 31.5 -0.2**
comp=Z,2.1nm,0.9s,mb4.5
STKA Stephens Creek 91.83 124 *e*P **P 22 53 31.5 -0.2**
STKA Stephens Creek 91.83 124 *e*P **P 22 53 31.5 -0.2**
comp=Z,2.1nm,0.9s,mb4.5
BMRM Bremner River 92.72 14 *e*P **P 22 53 35.6 +0.3**
comp=Z,59nm,1.2s,mb5.9
BMRM Bremner River 92.72 14 *e*P **P 22 53 35.6 +0.2**
comp=Z,59nm,1.2s,mb5.9
WAKE Wake Island 93.03 68 PFAKE 22 53 50.0 +12
WAKE LR LR
comp=Z,898nm,19.0s,MS5.2
KDAK Kodiak Island 93.43 19 LR LR 23 39 34.9
comp=Z,894nm,21.7s,MS5.2,baz=347,slow=38
KDAK Kodiak Island 93.43 19 *i*P **P 22 53 41.4 +2.7**
SYO Syowa Base 93.86 189‖ *e*P **P 22 53 39.9 -0.3**
SYO Syowa Base 93.86 189‖ *e*sP sP 22 53 48.0 +3.3
TRIS Tristan da Cun 93.98 231 PFAKE 22 53 50.0 +8.5
TRIS LR LR
comp=Z,2µm,19.0s,MS5.7
YKA Yellowknife Ar 94.45 360 P **P 22 53 42.5 -0.8**
comp=Z,2.9nm,0.9s,mb4.7,baz=350,slow=4.6,SNR=39
YKA PP PP 22 57 33.2 +3.4
comp=Z,3.0nm,1.0s,baz=3.3,slow=7.6,SNR=6.4
YKA LR LR 23 38 16.5
comp=Z,810nm,21.7s,MS5.2,baz=50,slow=37
YKA Yellowknife Ar 94.45 360 P **P 22 53 42.5 -0.8**
YKA PP PP 22 57 33.2 +3.5
YKA Yellowknife Ar 94.45 360 P **P 22 53 42.5 -0.8**
YKA 22 57 33.3
YKA Yellowknife Ar 94.45 360 P **P 22 53 42.5 -0.8**
YKA Yellowknife Ar 94.45 360 PP PP 22 57 33.2 +3.4
CASY Casey 95.86 163 PFAKE 22 54 00.0 +11
CASY LR LR
comp=Z,2µm,22.0s,MS5.5
TOO Toolangi 97.15 128 *e*P **P 22 53 57.5 +1.6**
DLBC Dease Lake 97.62 8 LR LR 23 43 42.6
comp=Z,2µm,21.6s,MS5.5,baz=335,slow=39
HNR Honiara 98.61 97 PFAKE 22 54 10.0 +7.0
HNR LR LR
comp=Z,1µm,20.0s,MS5.4
CAN Canberra 98.88 125 PFAKE 22 54 20.0 +16
CAN LR LR
comp=Z,3µm,20.0s,MS5.8
WRAK Wrangell Islan 99.27 9 PFAKE 22 54 20.0 +15
WRAK LR LR
comp=Z,2µm,20.0s,MS5.5
PKME Peaks-Kenny Pk 99.81 329 PFAKE 22 54 20.0 +12
PKME LR LR
comp=Z,2µm,22.0s,MS5.5
TAU Tasmania Unive 100.52 132 PFAKE 22 54 20.0 +9.1
TAU LR LR
comp=Z,2µm,20.0s,MS5.5
FFC Flin Flon 101.39 352 *e*Pdif Pdif 22 54 22.9 +8.2
FFC LR LR
comp=Z,3µm,20.0s,MS5.8
LBNH Lisbon 101.82 330 PFAKE 22 54 30.0 +13
LBNH LR LR
comp=Z,3µm,22.0s,MS5.8
RCBR Riachuelo 101.86 269 PFAKE 22 54 30.0 +13
RCBR LR LR
comp=Z,2µm,19.0s,MS5.7
LONY Lake Ozonia 102.73 331 PFAKE 22 54 30.0 +9.3
LONY LR LR
comp=Z,2µm,19.0s,MS5.8
NCB Newcomb 103.08 331 PFAKE 22 54 30.0 +7.7
NCB LR LR
comp=Z,2µm,22.0s,MS5.6
ULM Lac du Bonnet 104.70 347 Pdiff Pdif 22 54 35.2 +5.7
comp=Z,4.9nm,1.1s,baz=37,slow=5.8,SNR=4.1
ULM Lac du Bonnet 104.70 347 Pdif Pdif 22 54 35.2 +5.7
ULM LR LR
comp=Z,4µm,20.0s,MS5.9
ULM Lac du Bonnet 104.70 347 P Pdif 22 54 35.2 +5.7
ULM MLR MLR
comp=Z,4µm,20.0s
BINY Binghamton 105.27 331 PFAKE 22 59 00.0 +14
BINY LR LR
comp=Z,2µm,21.0s,MS5.6
DRV Dumont d'Urvil 105.64 156 SP SP 23 08 06.0 -3.9
DRV SS SS 23 14 06.0 +12
EYMN Ely 105.84 344 PFAKE 22 59 00.0 +13
EYMN LR LR
comp=Z,3µm,21.0s,MS5.8
TARA Tarawa 106.29 81 PFAKE 22 59 00.0 +11
TARA LR LR
comp=Z,234nm,20.0s,MS4.7
BBSR BB Station 106.38 317 PFAKE 22 59 00.0 +11
BBSR LR LR
comp=Z,878nm,20.0s,MS5.3
GLMI Grayling 106.54 338 PFAKE 22 59 00.0 +11
GLMI LR LR
comp=Z,3µm,19.0s,MS5.8
AGMN Agassiz Nation 106.55 346 PFAKE 22 59 00.0 +12
AGMN LR LR
comp=Z,3µm,20.0s,MS5.8
ERPA Erie 107.07 333 PFAKE 22 59 00.0 +10
ERPA LR LR
comp=Z,3µm,19.0s,MS5.8
DGMT Dagmar 107.80 352 PFAKE 22 59 00.0 +9.2
DGMT LR LR
comp=Z,3µm,22.0s,MS5.9
AAM Ann Arbor 108.37 336 PFAKE 22 59 00.0 +7.9
AAM LR LR
comp=Z,3µm,19.0s,MS5.8
NEW Newport 108.70 1 PFAKE 22 59 00.0 +7.5
NEW LR LR
comp=Z,941nm,20.0s,MS5.3
EGMT Eagleton 108.77 356 PFAKE 22 59 00.0 +7.4
EGMT LR LR
comp=Z,2µm,22.0s,MS5.7
DZM Mont Dzumac 108.85 106 *e*PP PP 22 59 19.3 -1.2
comp=Z,82nm,26.1s
DZM *e*LR LR 23 30 54.6
comp=Z,2µm,24.2s
CBN Corbin 109.10 329 PFAKE 22 59 00.0 +6.4
CBN LR LR
comp=Z,3µm,21.0s,MS5.8
NLWA Neilton Lookou 109.18 6 PFAKE 22 59 00.0 +6.6
NLWA LR LR
comp=Z,4µm,20.0s,MS5.9
LAO LASA Array 109.79 353 PFAKE 22 59 10.0 +15
LAO LR LR
comp=Z,3µm,20.0s,MS5.9
ACSO Alum Creek Sta 109.88 334 PFAKE 22 59 10.0 +15
ACSO LR LR
comp=Z,2µm,19.0s,MS5.7
JFWS Jewell Farm 110.09 341 PFAKE 22 59 10.0 +15
JFWS LR LR
comp=Z,2µm,19.0s,MS5.7
HAWA Hanford 110.49 3 PFAKE 22 59 10.0 +14
HAWA LR LR
comp=Z,2µm,19.0s,MS5.7
ECSD EROS Data Cent 111.04 345 PFAKE 22 59 10.0 +13
ECSD LR LR
comp=Z,3µm,20.0s,MS5.8
BOZ Bozeman (W) 111.25 357 PFAKE 22 59 10.0 +13
BOZ LR LR

comp=Z,2μm,21.0s,MS5.6
BLA Blacksburg 111.31 331 PFAKE 22 59 10.0 +12
BLA LR LR
comp=Z,2μm,22.0s,MS5.7
RLMT Red Lodge 111.63 355 PFAKE 22 59 10.0 +12
RLMT LR LR
comp=Z,2μm,20.0s,MS5.8
CNNC Cliffs of the 111.71 328 PFAKE 22 59 10.0 +11
CNNC LR LR
comp=Z,2μm,19.0s,MS5.7
SCIA State Center 111.88 342 PFAKE 22 59 10.0 +11
SCIA LR LR
comp=Z,3μm,22.0s,MS5.9
HDIL Hopedale 111.92 339 PFAKE 22 59 10.0 +11
HDIL LR LR
comp=Z,3μm,19.0s,MS5.8
BMO Blue Mountains 112.11 1 PFAKE 22 59 10.0 +11
BMO LR LR
comp=Z,2μm,20.0s,MS5.7
QSPA South Pole Qui 113.20 180 PFAKE 22 59 10.0 +10
QSPA LR LR
comp=Z,2μm,19.0s,MS5.8
HLID Hailey 113.41 359 PFAKE 22 59 10.0 +8.4
HLID LR LR
comp=Z,4μm,20.0s,MS6.0
ANWB Willy Bob 113.59 303 PFAKE 22 59 10.0 +7.4
ANWB LR LR
comp=Z,1μm,20.0s,MS5.5
JOHN Johnston Islan 113.83 58 PFAKE 22 59 10.0 +7.0
JOHN LR LR
comp=Z,8μm,19.0s,MS6.3
BW06 Boulder Array 113.99 355 PFAKE 22 59 10.0 +7.3
BW06 LR LR
comp=Z,3μm,19.0s,MS5.9
PDAR Pinedale Array 113.99 355 PKP PKiKP 22 59 03.8 +1.1
comp=Z,0.8nm,0.8s,baz=311,slow=3.0,SNR=3.0
PDAR PKKPbc PKKPbc 23 09 48.8 +3.8
comp=Z,0.7nm,0.8s,baz=158,slow=4.3,SNR=5.1
PDAR Pinedale Array 113.99 355 PKP PKiKP 22 59 03.8 +1.1
PDAR PKKPbc PKKPbc 23 09 48.8 +3.8
VNDA Vanda 114.21 166 PFAKE 22 59 10.0 +8.0
VNDA LR LR
comp=Z,2μm,22.0s,MS5.7
WVOR Wild Horse Val 114.48 3 PFAKE 22 59 20.0 +16
WVOR LR LR
comp=Z,3μm,21.0s,MS5.8
NHSC New Hope 114.55 328 PFAKE 22 59 20.0 +16
NHSC LR LR
comp=Z,2μm,20.0s,MS5.8
FDF Fort de France 114.78 300 PFAKE 22 59 20.0 +15
FDF LR LR
comp=Z,1μm,19.0s,MS5.5
OGNE Ogallala 114.83 349 PFAKE 22 59 20.0 +16
OGNE LR LR
comp=Z,3μm,22.0s,MS5.9
SBA Scott Base 115.24 167 PFAKE 22 59 20.0 +16
SBA LR LR
comp=Z,1μm,20.0s,MS5.6
KSU1 Kansas State U 115.42 344 PFAKE 22 59 20.0 +14
KSU1 LR LR
comp=Z,2μm,19.0s,MS5.8
GOGA Godfrey 115.85 330 PFAKE 22 59 20.0 +13
GOGA LR LR
comp=Z,2μm,22.0s,MS5.7
FUNA Funafuti 115.93 88 PFAKE 22 59 20.0 +13
FUNA LR LR
comp=Z,3μm,20.0s,MS5.9
CBKS Cedar Bluff 116.43 346 PFAKE 22 59 20.0 +12
CBKS LR LR
comp=Z,3μm,19.0s,MS5.9
PLAL Pickwick Lake 116.43 335 PFAKE 22 59 20.0 +12
PLAL LR LR
comp=Z,2μm,19.0s,MS5.7
ISCO Idaho Springs 116.51 352 PFAKE 22 59 20.0 +12
ISCO LR LR
comp=Z,4μm,20.0s,MS6.0
BMN Battle Mountai 116.53 2 PFAKE 22 59 20.0 +12
BMN LR LR
comp=Z,2μm,20.0s,MS5.6
SJG San Juan 116.62 306 PFAKE 22 59 20.0 +12
SJG LR LR
comp=Z,964nm,20.0s,MS5.4
GRGR Grenville 116.64 298 PFAKE 22 59 20.0 +11
GRGR LR LR
comp=Z,782nm,21.0s,MS5.3
DUG Dugway 116.74 358 PFAKE 22 59 20.0 +12
DUG LR LR
comp=Z,3μm,19.0s,MS5.9
SMCO Snowmass 117.30 353 *e*PKPdf PKPdf 22 59 10.7 +1.5
SMCO Snowmass 117.30 353 *e*PKIKP PKPdf 22 59 10.7 +1.5
OXF Oxford 117.36 336 PFAKE 22 59 20.0 +11
OXF LR LR
comp=Z,3μm,20.0s,MS5.9
LRAL Lakeview Retre 117.70 333 PFAKE 22 59 20.0 +10
LRAL LR LR
comp=Z,4μm,20.0s,MS6.0
MSVF Nonsavu 117.95 98 PFAKE 22 59 20.0 +9.1
MSVF LR LR
comp=Z,1μm,21.0s,MS5.5
SPB Sao Paulo 118.18 255 PFAKE 22 59 20.0 +8.8
SPB LR LR
comp=Z,2μm,20.0s,MS5.7
MVU Marysvale 118.40 357 PFAKE 22 59 20.0 +8.7
MVU LR LR
comp=Z,2μm,20.0s,MS5.7
NVAR Mina Array Bea 118.49 3 PKP PKPdf 22 59 11.7 +0.2
comp=Z,0.9nm,0.3s,baz=302,slow=5.2,SNR=3.7
NVAR Mina Array Bea 118.49 3 PKP PKPdf 22 59 11.7 +0.2
NVAR Mina Array Bea 118.49 3 PKIKP PKPdf 22 59 11.7 +0.2
SDCO Great Sand Dun 118.51 351 PFAKE 22 59 20.0 +8.4
SDCO LR LR
comp=Z,4μm,22.0s,MS6.0
MIAR Mount Ida 118.78 339 *e*PKPdf PKPdf 22 59 11.8 -0.4
MIAR LR LR
comp=Z,3μm,20.0s,MS5.9
MIAR Mount Ida 118.78 339 *e*PKIKP PKPdf 22 59 11.8 -0.4
MIAR MLR MLR
comp=Z,3μm,20.0s,MS5.9
MIAR Mount Ida 118.78 339 *e*PKIKP PKPdf 22 59 11.8 -0.4
MVCO Mesa Verde 119.41 354 PFAKE 22 59 20.0 +6.7
MVCO LR LR
comp=Z,2μm,20.0s,MS5.8
BRAL Brewton 119.48 332 PFAKE 22 59 20.0 +6.4
BRAL LR LR
comp=Z,3μm,22.0s,MS5.8
SDDR Presa de Saban 119.76 311 PFAKE 22 59 30.0 +16
SDDR LR LR
comp=Z,1μm,20.0s,MS5.5
VBMS Vicksburg 119.82 336 PFAKE 22 59 30.0 +16
VBMS LR LR
comp=Z,2μm,19.0s,MS5.8
SNZO South Karori 119.86 125 PFAKE 22 59 30.0 +16
SNZO LR LR
comp=Z,1μm,22.0s,MS5.5
WMOK Wichita Mounta 120.10 344 PFAKE 22 59 30.0 +15
WMOK LR LR
comp=Z,2μm,19.0s,MS5.7
AMTX Amarillo 120.63 347 PFAKE 22 59 30.0 +14
AMTX LR LR
comp=Z,3μm,20.0s,MS5.9
DAC Darwin (Calif) 120.66 2 PFAKE 22 59 30.0 +14
DAC LR LR
comp=Z,3μm,19.0s,MS6.0
WUAZ Wupatki 121.33 356 PFAKE 22 59 30.0 +13
WUAZ LR LR
comp=Z,2μm,21.0s,MS5.8
ANMO Albuquerque 121.39 351 PFAKE 22 59 30.0 +13
ANMO LR LR
comp=Z,3μm,22.0s,MS5.9
NATX Nacogdoches 121.70 339 PFAKE 22 59 30.0 +12
NATX LR LR
comp=Z,3μm,19.0s,MS5.9
GTBY Guantanamo Bay 121.70 314 PFAKE 22 59 30.0 +12
GTBY LR LR
comp=Z,1μm,19.0s,MS5.6
PFO Pinyon Flat Ob 123.35 1 PFAKE 22 59 30.0 +9.0
PFO LR LR
comp=Z,2μm,21.0s,MS5.8
HKT Hockley 123.75 339 *e*PKPdf PKPdf 22 59 18.4 -3.4
HKT Hockley 123.75 339 *e*PKIKP PKPdf 22 59 18.4 -3.4
RAO Raoul Island 124.26 110 PFAKE 22 59 30.0 +7.3
RAO LR LR
comp=Z,2μm,22.0s,MS5.8
JCT Junction City 124.41 344 *e*PKPdf PKPdf 22 59 22.1 -1.0
JCT LR LR
comp=Z,2μm,19.0s,MS5.8
JCT Junction City 124.41 344 *e*PKIKP PKPdf 22 59 22.1 -1.0
JCT MLR MLR
comp=Z,2μm,19.0s,MS5.8
JCT Junction City 124.41 344 *e*PKIKP PKPdf 22 59 22.1 -1.0
MNTX Cornudas Mount 124.42 350 *e*PKPdf PKPdf 22 59 22.4 -0.6
MNTX LR LR
comp=Z,2μm,19.0s,MS5.8
MNTX Cornudas Mount 124.42 350 *e*PKIKP PKPdf 22 59 22.4 -0.7
TUC Tucson 124.47 355 *e*PKPdf PKPdf 22 59 23.5 +0.3
TUC LR LR
comp=Z,2μm,20.0s,MS5.8
TUC Tucson 124.47 355 *e*PKIKP PKPdf 22 59 23.5 +0.3
TUC MLR MLR
comp=Z,2μm,20.0s,MS5.8
TUC Tucson 124.47 355 *e*PKIKP PKPdf 22 59 23.5 +0.3
MTDJ Mount Denham 124.51 315 PFAKE 22 59 30.0 +6.5
MTDJ LR LR
comp=Z,381nm,19.0s,MS5.1
SDV Santo Domingo 125.71 301 PFAKE 22 59 40.0 +14
SDV LR LR
comp=Z,267nm,20.0s,MS4.9
TXAR Lajitas Array 126.41 347 PKP PKPdf 22 59 27.0 +0.1
comp=Z,2.9nm,1.0s,baz=130,slow=0.9,SNR=19
TXAR Lajitas Array 126.41 347 PKP PKPdf 22 59 27.0 +0.1
TXAR Lajitas Array 126.41 347 PKIKP PKPdf 22 59 27.0 +0.1
TXAR Lajitas Array 126.41 347 PKIKP PKPdf 22 59 27.0 +0.1
KVTX Kingsville 126.63 340 PFAKE 22 59 40.0 +13
KVTX LR LR
comp=Z,4μm,19.0s,MS6.1
PMSA Palmer Station 127.00 205 PFAKE 22 59 40.0 +13
PMSA LR LR
comp=Z,2μm,20.0s,MS5.8
CPUP Villa Florida 127.54 254 PKP PKPdf 22 59 30.1 +1.1
comp=Z,1.9nm,0.7s,baz=8.5,slow=3.2,SNR=4.0
CPUP Villa Florida 127.54 254 PKP PKPdf 22 59 30.1 +1.1
CPUP LR LR
comp=Z,257nm,20.0s,MS4.9
CPUP Villa Florida 127.54 254 PKIKP PKPdf 22 59 30.1 +1.0
CPUP Villa Florida 127.54 254 PKIKP PKPdf 22 59 30.1 +1.0
SAML Samuel 128.06 277 *e*PKPdf PKPdf 22 59 31.1 +0.7
SAML LR LR
comp=Z,2μm,21.0s,MS5.9
SAML Samuel 128.06 277 *e*PKIKP PKPdf 22 59 31.1 +0.7
EFI East Falkland 128.08 222 PFAKE 22 59 40.0 +11
EFI LR LR
comp=Z,2μm,20.0s,MS5.8
SIV San Ignacio 128.51 268 PKP PKPdf 22 59 32.2 +1.0
comp=Z,2.0nm,1.0s,baz=173,slow=2.5,SNR=5.0
SIV PP PP 23 01 42.2 +5.6
comp=Z,3.6nm,1.0s,baz=85,slow=8.4,SNR=4.8
SIV San Ignacio 128.51 268 PKP PKPdf 22 59 32.2 +1.0
SIV PP PP 23 01 42.2 +5.6
SIV San Ignacio 128.51 268 PKIKP PKPdf 22 59 32.2 +1.0
TEIG Tepich 129.22 326 PFAKE 22 59 40.0 +7.5
TEIG LR LR
comp=Z,1μm,20.0s,MS5.7
ROSC El Rosal 131.04 300 PKP PKPdf 22 59 37.3 +1.1
comp=Z,3.1nm,0.3s,baz=107,slow=19,SNR=3.1
ROSC El Rosal 131.04 300 PKP PKPdf 22 59 37.3 +1.1
ROSC *e*PKPdf PKPdf 22 59 37.7 +1.6
ROSC *e*SKPbc SKPbc 23 03 02.5 +1.7
ROSC El Rosal 131.04 300 PKIKP PKPdf 22 59 37.3 +1.1
XMAS Kiritimati 131.97 64 PFAKE 22 59 50.0 +12
XMAS LR LR
comp=Z,2μm,19.0s,MS5.8
TRQA Tornquist 132.35 239 *e*PKPdf PKPdf 22 59 38.5 +0.6
TRQA LR LR
comp=Z,2μm,20.0s,MS5.8
TRQA Tornquist 132.35 239 *e*PKIKP PKPdf 22 59 38.5 +0.7
BCIP Isla Barro Col 132.48 309 PFAKE 22 59 50.0 +11
BCIP LR LR
comp=Z,1μm,20.0s,MS5.5
TGUH Tegucigalpa,Un 133.71 321 *e*PKPdf PKPdf 22 59 41.9 +0.8
TGUH LR LR
comp=Z,895nm,19.0s,MS5.5
TGUH Tegucigalpa,Un 133.71 321 *e*PKIKP PKPdf 22 59 41.9 +0.8
LPAZ La Paz 135.08 270 PKP PKPdf 22 59 44.2 +0.6
comp=Z,1.5nm,0.7s,baz=62,slow=1.3,SNR=6.6
LPAZ PP PP 23 02 24.2 +5.2
comp=Z,5.3nm,1.0s,baz=46,slow=4.7,SNR=6.4
LPAZ La Paz 135.08 270 *e*PKPdf PKPdf 22 59 43.7 +0.1
LPAZ PKP PKPdf 22 59 44.2 +0.6
LPAZ *e*PP PP 23 02 24.0 +5.0
LPAZ PP PP 23 02 24.2 +5.2
LPAZ LR LR
comp=Z,2μm,19.0s,MS5.9
LPAZ La Paz 135.08 270 *e*PKIKP PKPdf 22 59 43.7 +0.1
LPAZ *e* 23 02 24.0
LPAZ MLR MLR
comp=Z,2μm,19.0s
LPAZ La Paz 135.08 270 PKIKP PKPdf 22 59 44.2 +0.6
JTS JuntasAbangare 135.18 315 PFAKE 23 00 00.0 +16
JTS LR LR
comp=Z,1μm,21.0s,MS5.6
OTAV Otavalo 137.08 298 *e*PKPdf PKPdf 22 59 48.8 +1.4
OTAV LR LR
comp=Z,776nm,21.0s,MS5.4
OTAV Otavalo 137.08 298 *e*PKIKP PKPdf 22 59 48.8 +1.3
LVC Limon Verde 137.28 261 *e*PKPdf PKPdf 22 59 48.5 +1.0
LVC *e*PP PP 23 02 33.4 +0.6
LVC LR LR
comp=Z,1μm,19.0s,MS5.6
LVC Limon Verde 137.28 261 *e*PKIKP PKPdf 22 59 48.5 +1.0
PLCA Paso Flores 138.66 234 PKP PKPdf 22 59 50.7 +1.2
comp=Z,1.8nm,0.9s,baz=359,slow=0.3,SNR=3.3
PLCA Paso Flores 138.66 234 PKP PKPdf 22 59 50.7 +1.2
PLCA *e*PKPdf PKPdf 22 59 52.1 +2.5
PLCA LR LR
comp=Z,2μm,19.0s,MS5.8
PLCA Paso Flores 138.66 234 PKIKP PKPdf 22 59 50.7 +1.2
PLCA MLR MLR
comp=Z,2μm,19.0s
PLCA Paso Flores 138.66 234 PKIKP PKPdf 22 59 50.7 +1.2
LCO Las Campanas 139.62 252 PFAKE 23 00 00.0 +8.4
LCO LR LR
comp=Z,2μm,19.0s,MS6.0
ATAH Atahualpa 140.93 288 PKP PKPdf 22 59 55.6 +1.1
comp=Z,7.8nm,1.0s,baz=11,slow=4.0
ATAH PP PP 23 03 02.5 +7.4
comp=Z,9.9nm,1.0s,baz=136,slow=5.3,SNR=5.6
ATAH Atahualpa 140.93 288 PKP PKPdf 22 59 55.6 +1.1
ATAH PP PP 23 03 02.5 +7.4
NNA Nana 141.62 280 PFAKE 23 00 10.0 +14
NNA LR LR
comp=Z,2μm,20.0s,MS6.0
PPT2 Papeete2 147.58 86 *e*LR LR 23 48 07.4
comp=Z,2μm,27.2s
TBI Tubuai 148.82 97 *e*LR LR 23 49 31.8
comp=Z,2μm,29.5s
TAOE Nuku Hiva Isla 152.31 63 *e*LR LR 23 50 48.2
comp=Z,2μm,25.1s
RKT Rikitea 162.06 93 *e*LR LR 23 54 54.3
comp=Z,2μm,28.5s
RPN Rapa Nui 173.30 235 PFAKE 23 00 40.0 +6.7
RPN LR LR
comp=Z,1μm,20.0s

TRN 25 22:48:37.5, 12°.93N×59°.20W, h10km, MD3.5, M3.7(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCLT	**Moule a Chique**	**1.86**	**295**	*e*P	Pn	22 49 10.9	+1.4
SLB	**Belfond**	**2.00**	**297**	*e*P	Pn	22 49 11.9	+0.6
SLB				*e*S	Sn	22 49 35.2	-1.3
SVV	**Soufriere Volc**	**2.00**	**281**	*e*P	Pn	22 49 13.7	+2.3
SVV				*e*S	Sn	22 49 38.6	+2.1
SVB	**Belmont**	**2.03**	**280**	*e*P	Pn	22 49 13.1	+1.4
SVB				*e*S	Sn	22 49 39.3	+2.2
MVM	**Montagne Vaucl**	**2.31**	**315**	*e*P	Pn	22 49 17.2	+1.6
BIM	**Bigot**	**2.41**	**311**	*e*P	Pn	22 49 18.7	+1.8
FDF	**Fort de France**	**2.61**	**314**	*e*P	Pn	22 49 21.1	+1.3
FDF				*e*S	Sn	22 49 53.5	+2.1

DJA 25 22:56:37, 0°.57N×99°.18E, h12km, MLv3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.46**	**61**	P	Pg	22 56 49.1	+3.1
MNSI				S	Sg	22 56 53.3	+1.1
SBSI	**Sibolga**	**1.02**	**343**	P	Pb	22 56 50.7	-5.8
PPI	**Padang Panjang**	**1.59**	**130**	P	Pn	22 57 03.5	-1.5
PPI				S	Sn	22 57 14.3	-11
BKNI	**Bangkinang**	**1.88**	**97**	P	Pn	22 57 09.0	+0.1
BKNI				S	Sn	22 57 33.6	+1.1
PSI	**Prapat**	**2.23**	**353**	P	Pn	22 57 13.8	0.0

PGC 25 23:06:49.5±1.0, 48°.81N×128°.98W, h10km, ML3.0/20, Mw3.6, 27D, 227km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	**1.56**	**30**	⇓Pn	Pn	23 07 14.6	-2.6
BPBC				⇓Sn	Sn	23 07 33.0	-4.5
EDB	**Eliza Dome**	**1.61**	**48**	⇑Pn	Pn	23 07 15.3	-2.7
EDB				⇓Sn	Sn	23 07 33.6	-5.2
ETB	**Estevan Point**	**1.70**	**70**	⇑Pn	Pn	23 07 17.3	-1.9
HOLB	**Holberg**	**1.91**	**16**	⇑Pn	Pn	23 07 19.4	-2.6
MAYB	**Maynard**	**1.98**	**36**	⇑Pn	Pn	23 07 21.1	-1.8
MAYB				⇓Sn	Sn	23 07 45.5	-2.3
WOSB	**Woss**	**2.07**	**48**	⇑Pn	Pn	23 07 22.7	-1.6
WOSB				⇓Sn	Sn	23 07 46.8	-3.3
PHC	**Port Hardy**	**2.15**	**27**	⇑Pn	Pn	23 07 22.9	-2.4
PHC				⇓Sn	Sn	23 07 46.9	-5.0
GDR	**Gold River**	**2.16**	**62**	⇑Pn	Pn	23 07 22.6	-2.8
OZB	**Mount Ozzard**	**2.31**	**85**	⇑Pn	Pn	23 07 25.2	-2.3
OZB				⇓Sn	Sn	23 07 51.4	-4.5
BTB	**Buttle Lake**	**2.37**	**73**	⇓Pn	Pn	23 07 26.9	-1.4
BTB				⇓Sn	Sn	23 07 54.6	-2.7
NCRB	**Newcastle Ridg**	**2.48**	**49**	⇑Pn	Pn	23 07 28.9	-1.0
NCRB				⇓Sn	Sn	23 07 57.2	-3.0
BMSB	**Bamfield Mari**	**2.54**	**88**	⇑Pn	Pn	23 07 28.5	-2.2
BMSB				⇑Sn	Sn	23 07 57.8	-3.9
CBB	**Campbell River**	**2.66**	**61**	⇓Pn	Pn	23 07 30.9	-1.4
CBB				⇓Sn	Sn	23 08 02.1	-2.4
ALB	**Alberni**	**2.77**	**79**	⇓Pn	Pn	23 07 32.0	-1.8
ALB				⇓Sn	Sn	23 08 03.7	-3.6
MGB	**Mount Grey**	**2.84**	**85**	⇑Pn	Pn	23 07 32.7	-2.0
MGB				⇑Sn	Sn	23 08 04.9	-4.0
PFB	**Port Renfrew**	**3.02**	**93**	⇓Pn	Pn	23 07 35.7	-1.6
PFB				⇓Sn	Sn	23 08 10.2	-3.2
TXB	**Texada**	**3.11**	**72**	⇑Pn	Pn	23 07 37.5	-1.0
TXB				⇑Sn	Sn	23 08 13.9	-1.7
YOUB	**Youbou, Lake C**	**3.12**	**87**	⇑Pn	Pn	23 07 37.1	-1.5
YOUB				⇓Sn	Sn	23 08 12.7	-3.1
GHNB	**Nanoose**	**3.16**	**79**	⇓Pn	Pn	23 07 38.7	-0.5
GHNB				⇑Sn	Sn	23 08 14.6	-2.3
NLLB	**Nanaimo Lost L**	**3.31**	**81**	⇓Pn	Pn	23 07 41.1	-0.2
NLLB				⇑Sn	Sn	23 08 18.5	-2.2
BBB	**Bella Bella**	**3.42**	**9**	⇓Pn	Pn	23 07 41.4	-1.4
BBB				⇓Sn	Sn	23 08 19.0	-4.4
LZB	**Mount Lazard**	**3.42**	**91**	⇓Pn	Pn	23 07 41.6	-1.2
LZB				⇓Sn	Sn	23 08 19.1	-4.3
SHB	**Sechelt**	**3.44**	**75**	⇓Pn	Pn	23 07 42.5	-0.6
SHB				⇓Sn	Sn	23 08 22.1	-1.7
PGC	**Sidney**	**3.67**	**90**	⇓Pn	Pn	23 07 44.8	-1.3
PGC				⇑Sn	Sn	23 08 26.3	-3.1
VGZ	**Gonzales**	**3.77**	**94**	⇓Sn	Sn	23 08 27.8	-4.3

*NEIC **25** 23:16:56.0, 19°.50N×66°.34W, h10km, MD3.5(RSPR), After RSPR.*

RSPR 25 23:16:56.0, 19°.50N×66°.34W, h10km±12km, MD3.5/8, 6C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.21**	**199**	⇓*e*P	Pn	23 17 15.3	-3.6
AOPR	**Arecibo Observ**	**1.21**	**199**	⇓*e*P	Pn	23 17 15.3	-3.6
AOPR				*e*S	Sb	23 17 30.9	-3.7
LRS	**Lares**	**1.29**	**202**	⇑*e*P	Pn	23 17 17.1	-3.0
LRS	**Lares**	**1.29**	**202**	*e*Pn	Pn	23 17 16.4	-3.6
CBYP	**Canovanas**	**1.30**	**159**	⇓*e*P	Pn	23 17 17.3	-2.9
CBYP	**Canovanas**	**1.30**	**159**	*e*S	Sb	23 17 33.9	-3.4
CBYP	**Canovanas**	**1.30**	**159**	*e*Pn	Pn	23 17 17.0	-3.2
CBYP				*e*Sn	Sn	23 17 33.7	-3.9
SJG	**San Juan**	**1.39**	**173**	⇓*i*P	Pn	23 17 18.3	-3.1
SJG	**San Juan**	**1.39**	**173**	*e*Pn	Pn	23 17 17.9	-3.6
HUMP	**Col San Antoni**	**1.43**	**161**	⇑*e*P	Pn	23 17 18.4	-3.5
HUMP	**Col San Antoni**	**1.43**	**161**	⇑*e*P	Pn	23 17 18.4	-3.5
CELP	**Cerrillos**	**1.44**	**189**	⇓*i*P	Pn	23 17 19.0	-3.0
CELP	**Cerrillos**	**1.44**	**189**	*e*Pn	Pn	23 17 19.0	-3.0
CELP				*e*Sn	Sn	23 17 40.5	-0.4
OBIP	**Obispado Ponce**	**1.47**	**190**	⇑*e*P	Pn	23 17 19.6	-2.9
OBIP	**Obispado Ponce**	**1.47**	**190**	*e*Pn	Pn	23 17 19.2	-3.2
LSP	**Las Mesas**	**1.50**	**208**	⇓*e*P	Pn	23 17 20.1	-2.8
LSP	**Las Mesas**	**1.50**	**208**	*e*Pn	Pn	23 17 19.8	-3.0
LSP				*e*Sn	Sn	23 17 38.8	-3.5
MTP	**Monte Pirata**	**1.58**	**152**	⇑*e*P	Pn	23 17 20.7	-3.3
MTP	**Monte Pirata**	**1.58**	**152**	*e*Pn	Pn	23 17 20.7	-3.3
MTP				*e*Sn	Sn	23 17 41.0	-3.5
CRPR	**Cabo Rojo, PR**	**1.66**	**206**	⇑*e*P	Pn	23 17 22.9	-2.1
CRPR	**Cabo Rojo, PR**	**1.66**	**206**	*e*Pn	Pn	23 17 22.3	-2.8
STVI	**Saint Thomas**	**1.74**	**131**	*e*Pn	Pn	23 17 25.5	-0.7
STVI				*e*Sn	Sn	23 17 44.3	-4.1

PGC 25 23:23:20.7±0.6, 48°.90N×128°.91W, h10km, ML2.9/15, Mw3.5, 19D, 220km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	**1.47**	**30**	⇓Pn	Pn	23 23 44.4	-2.8
BPBC				⇑Sn	Sn	23 24 03.0	-3.4
EDB	**Eliza Dome**	**1.53**	**49**	Pn	Pn	23 23 45.4	-2.6
EDB				⇑Sn	Sn	23 24 03.4	-4.5
ETB	**Estevan Point**	**1.63**	**72**	⇓Pn	Pn	23 23 47.2	-2.2
HOLB	**Holberg**	**1.82**	**16**	⇑Pn	Pn	23 23 49.5	-2.6
HOLB				⇓Sn	Sn	23 24 14.3	-0.8
MAYB	**Maynard**	**1.89**	**36**	⇑Pn	Pn	23 23 50.5	-2.4
WOSB	**Woss**	**1.98**	**49**	Pn	Pn	23 23 52.5	-1.7
WOSB				⇓Sn	Sn	23 24 15.9	-3.3
PHC	**Port Hardy**	**2.05**	**27**	⇓Pn	Pn	23 23 52.6	-2.6
PHC				⇓Sn	Sn	23 24 16.5	-4.3
GDR	**Gold River**	**2.08**	**64**	⇑Pn	Pn	23 23 53.3	-2.3
OZB	**Mount Ozzard**	**2.26**	**87**	⇓Pn	Pn	23 23 55.3	-2.7
OZB				⇓Sn	Sn	23 24 21.5	-4.4
BTB	**Buttle Lake**	**2.30**	**74**	⇓Pn	Pn	23 23 57.0	-1.5
BTB				⇑Sn	Sn	23 24 24.3	-2.6
NCRB	**Newcastle Ridg**	**2.39**	**50**	⇑Pn	Pn	23 23 58.9	-1.0
NCRB				⇑Sn	Sn	23 24 27.8	-1.5
BMSB	**Bamfield Mari**	**2.49**	**90**	⇑Pn	Pn	23 23 58.7	-2.6
BMSB				⇑Sn	Sn	23 24 27.2	-4.6
CBB	**Campbell River**	**2.58**	**62**	⇓Pn	Pn	23 24 01.2	-1.3
CBB				⇓Sn	Sn	23 24 31.5	-2.3
ALB	**Alberni**	**2.71**	**80**	⇑Pn	Pn	23 24 02.7	-1.6
ALB				⇑Sn	Sn	23 24 34.6	-2.5
MGB	**Mount Grey**	**2.78**	**86**	⇑Pn	Pn	23 24 03.0	-2.3
MGB				⇓Sn	Sn	23 24 34.7	-4.2
TXB	**Texada**	**3.04**	**73**	⇓Pn	Pn	23 24 07.6	-1.2
YOUB	**Youbou, Lake C**	**3.07**	**88**	⇑Pn	Pn	23 24 07.2	-2.0
YOUB				⇓Sn	Sn	23 24 42.4	-3.5
GHNB	**Nanoose**	**3.10**	**81**	⇑Pn	Pn	23 24 08.8	-0.9
GHNB				⇓Sn	Sn	23 24 44.9	-1.8
NLLB	**Nanaimo Lost L**	**3.25**	**82**	⇑Pn	Pn	23 24 11.8	0.0
NLLB				⇓Sn	Sn	23 24 49.3	-1.2
BBB	**Bella Bella**	**3.33**	**8**	⇓Pn	Pn	23 24 11.5	-1.4
BBB				⇑Sn	Sn	23 24 48.9	-3.6
LZB	**Mount Lazard**	**3.38**	**93**	⇓Pn	Pn	23 24 12.0	-1.5
LZB				⇓Sn	Sn	23 24 50.0	-3.5

IDC 25 23:48:22.7±7.6, 17°.23S×177°.40W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.6/3, MS3.8/1, Ms1 3.8/1, ms1mx3.3/26, Error ellipse: s-maj=334.5km s-min=38.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.96**	**250**	LR	LR	23 56 04.8	
	comp=Z,329nm,19.4s,baz=197,slow=29						
WRA	**Warramunga Arr**	**45.70**	**259**	P	P	23 56 46.0	+0.2
	0.3nm,0.4s,baz=94,slow=7.3,SNR=8.8						
ASAR	**Alice Springs**	**45.90**	**254**	P	P	23 56 47.1	-0.3
	1.0nm,0.6s,baz=86,slow=8.6,SNR=14						
ILAR	**Eielson Array**	**85.02**	**13**	P	P	00 00 59.7	+0.1
	0.5nm,1.1s,baz=222,slow=4.8,SNR=4.2						

*BJI **26** 00:06:23.4, 18°.04N×145°.79E, h468km, mB4.9/16, mb4.4/24*
*ISCJB **26** 00:06:30.7±0.7, 18°.52N±0°.05×145°.07E±0°.04, h483km±8km, mb4.2/62, Error ellipse: s-maj=7.7km s-min=5.7km az=17.6*
*IDC **26** 00:06:31.0±1.1, 18°.49N×145°.16E, h481km±12km, mb3.7/25, mb1 3.8/27, mb1mx3.7/30, mbtmp3.7/27, Error ellipse: s-maj=12.7km s-min=7.9km az=89.0*
*NEIC **26** 00:06:32.2±0.7, 18°.49N×145°.16E, h494km±8km, mb4.4/33, Error ellipse: s-maj=5.7km s-min=5.6km az=169.0*
ISC 26 00:06:31.2±0.7, 18°.52N±0°.05×145°.16E±0°.04, h478km±8km, h487km±6.0km: pP-P, n267, σ0°.9 64/266, mb4.2/61, 75C-64D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.91**	**183**	P	**P**	**00 07 57.4**	**+1.1**
	25nm,0.3s,baz=89,slow=15,SNR=4.0						
GUMO				S	**S**	**00 09 02.2**	**-3.2**
	17nm,0.3s,baz=0.0,slow=20,SNR=2.9						
GUMO	**Guam**	**4.91**	**183**	*e*P	**P**	**00 07 57.6**	**+1.3**
GUMO				*e*S	**S**	**00 09 04.2**	**-1.2**
MJAR	**Matsushiro Arr**	**18.97**	**343**	P	**P**	**00 10 21.2**	**-0.3**
	0.7nm,0.3s,baz=172,slow=10,SNR=11						
MJAR	**Matsushiro Arr**	**18.97**	**343**	P	**P**	**00 10 21.2**	**-0.3**
MAJO	**Matsushiro**	**18.97**	**343**	*e*P	**P**	**00 10 21.7**	**+0.1**
	10nm,0.6s						
MAT	**Matsushiro**	**18.97**	**343**	P	**P**	**00 10 20.6**	**-0.9**
JNU	**Nakatsue**	**19.38**	**321**	*e*P	**P**	**00 10 25.6**	**+0.3**
	6.0nm,1.0s						
KSRS	**Korea Array**	**24.17**	**325**	P	**P**	**00 11 08.5**	**0.0**
	5.8nm,0.6s,mb4.2,baz=145,slow=8.6,SNR=14						
KSAR	**Wonju Array Be**	**24.18**	**325**	P	**P**	**00 11 08.5**	**-0.1**
ASAJ	**Asahikawa**	**25.61**	**356**	P	**P**	**00 11 21.8**	**+0.6**
	10nm,0.6s,mb4.5,baz=108,slow=13,SNR=5.5						
ASAJ	**Asahikawa**	**25.61**	**356**	P	**P**	**00 11 21.8**	**+0.6**
USRK	**Ussuriysk Arra**	**27.89**	**340**	P	**P**	**00 11 41.3**	**+0.1**
	1.5nm,0.7s,mb3.6,baz=145,slow=10,SNR=4.1						
CN2	**Changchun**	**30.17**	**331**	*e*P	**P**	**00 11 59.5**	**-1.7**
CN2				*e*pP	pP	00 13 23.0	-0.9
CN2				*e*S	**S**	**00 16 25.0**	**-0.8**
QIZ	**Qiongzhong**	**33.41**	**277**	P	**P**	**00 12 29.5**	**+0.2**
KAPI	**Kappang**	**34.26**	**229**	P	**P**	**00 12 35.5**	**-1.0**
	8.2nm,0.5s,mb4.4,baz=40,slow=13,SNR=7.4						
KAPI	**Kappang**	**34.26**	**229**	P	**P**	**00 12 35.5**	**-1.0**
GYA	**Guiyang**	**36.33**	**290**	*e*P	**P**	**00 12 54.0**	**+0.3**
GYA				pP	pP	00 14 22.5	+3.4
GYA				PcP	PcP	00 15 05.0	-0.9
GYA				S	**S**	**00 18 01.5**	**+1.5**
GYA				ScP	ScP	00 18 05.3	-1.4
GYA				PcS	PcS	00 18 53.0	-1.6
GYA				ScS	ScS	00 22 12.0	-2.6
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
HHC	**Hu-ho-hao-te**	**36.36**	**315**	*e*P	**P**	**00 12 52.8**	**-1.0**
HHC				pP	pP	00 14 23.8	+4.6
HHC				PP	PP	00 14 32.5	+1.7
HHC				S	**S**	**00 17 59.0**	**-1.1**
HHC				sS	sS	00 20 40.3	+3.4
HHC				SS	SS	00 20 59.8	-6.3
HHC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
HHC				pmax	pmax		
	comp=Z,240nm,6.5s						
WRAB	**Tennant Creek**	**39.65**	**196**	*e*P	**P**	**00 13 20.8**	**-0.1**
	comp=Z,3.3nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	**39.66**	**196**	*e*P	**P**	**00 13 20.5**	**-0.5**
WRA	**Warramunga Arr**	**39.66**	**196**	P	**P**	**00 13 20.9**	**-0.2**
	comp=Z,3.2nm,0.6s,mb4.0,baz=16,slow=8.6,SNR=52						
WRA				PcP	PcP	00 15 15.9	-0.4
	comp=Z,1.4nm,0.7s,baz=10.0,slow=3.5,SNR=7.3						
WRA				ScP	ScP	00 18 16.9	-2.5
	comp=Z,0.7nm,0.7s,baz=20,slow=4.4,SNR=6.2						
WRA				S	**S**	**00 18 48.6**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=18,slow=15,SNR=3.4						
WRA	**Warramunga Arr**	**39.66**	**196**	P	**P**	**00 13 20.9**	**-0.2**
WRA				PcP	PcP	00 15 15.9	-0.4
WRA				ScP	ScP	00 18 16.9	-2.5
WRA				S	**S**	**00 18 48.6**	**-0.8**
LZH	**Lanzhou**	**40.32**	**304**	*e*P	**P**	**00 13 27.8**	**+1.6**
LZH				PP	PP	00 15 14.0	+1.4
LZH				sP	sP	00 15 51.0	+3.0
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.4						
LZH				pmax	pmax		
	comp=Z,130nm,5.9s						
FX1	**Attu Island--F**	**40.64**	**26**	P	**P**	**00 13 29.7**	**+1.2**
	comp=Z,7.3nm,0.5s,mb4.3,baz=180,slow=7.1,SNR=6.8						
FX1	**Attu Island--F**	**40.64**	**26**	P	**P**	**00 13 29.7**	**+1.2**
ULN	**Ulaanbaatar**	**42.60**	**322**	*e*P	**P**	**00 13 44.5**	**+0.4**
	comp=Z,3.3nm,0.6s,mb3.9						
SONM	**Songino Array**	**42.97**	**322**	P	**P**	**00 13 47.6**	**+0.7**
	comp=Z,2.5nm,0.6s,mb3.8,baz=129,slow=8.2,SNR=20						
SONM				PcP	PcP	00 15 26.8	-0.2
	comp=Z,1.2nm,0.6s,baz=108,slow=3.2,SNR=6.4						
SONM	**Songino Array**	**42.97**	**322**	P	**P**	**00 13 47.6**	**+0.7**
SONM				PcP	PcP	00 15 26.8	-0.2
ASAR	**Alice Springs**	**43.34**	**195**	P	**P**	**00 13 49.5**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.4,baz=18,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**43.34**	**195**	P	**P**	**00 13 49.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**43.73**	**278**	P	**P**	**00 13 54.0**	**+0.5**
	comp=Z,1.7nm,0.6s,mb3.6,baz=66,slow=6.9,SNR=9.3						
CMAR				PcP	PcP	00 15 29.0	-1.2
	comp=Z,0.6nm,0.3s,baz=132,slow=1.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**43.73**	**278**	P	**P**	**00 13 54.0**	**+0.5**
CMAR				PcP	PcP	00 15 29.0	-1.2
LSA	**Lhasa**	**50.15**	**294**	*e*P	**P**	**00 14 44.3**	**+2.3**
	comp=Z,6.4nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**50.22**	**184**	P	**P**	**00 14 42.2**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.2,baz=0.0,slow=9.1,SNR=4.2						
STKA	**Stephens Creek**	**50.22**	**184**	P	**P**	**00 14 42.2**	**-0.1**
BILL	**Bilibino**	**51.29**	**10**	*e*P	**P**	**00 14 49.5**	**0.0**
	comp=Z,8.5nm,0.5s,mb4.3						
TAPN	**Taplejung**	**53.24**	**291**	*e*P	**P**	**00 15 05.3**	**+0.9**
	comp=Z,6.4nm,0.3s,mb4.4						
TAPN	**Taplejung**	**53.24**	**291**	*e*P	**P**	**00 15 05.3**	**+0.9**
	comp=Z,6.4nm,0.3s,mb4.4						
ODAN	**Odare**	**53.56**	**290**	*e*P	**P**	**00 15 07.3**	**+0.6**
	comp=Z,13nm,0.4s,mb4.6						
ODAN	**Odare**	**53.56**	**290**	*e*P	**P**	**00 15 07.3**	**+0.6**
	comp=Z,13nm,0.4s,mb4.6						
WMQ	**Urumqi**	**54.04**	**311**	*e*P	**P**	**00 15 11.0**	**+1.2**
JIRN	**Jiri**	**54.57**	**291**	*e*P	**P**	**00 15 14.7**	**+0.8**
	comp=Z,10nm,0.5s,mb4.4						
JIRN	**Jiri**	**54.57**	**291**	*e*P	**P**	**00 15 14.7**	**+0.8**
	comp=Z,10nm,0.5s,mb4.4						
GUN	**Gumba**	**54.83**	**291**	*e*P	**P**	**00 15 16.6**	**+0.9**
	comp=Z,13nm,0.4s,mb4.6						
GUN	**Gumba**	**54.83**	**291**	*e*P	**P**	**00 15 16.6**	**+0.9**
	comp=Z,13nm,0.4s,mb4.6						
PKI	**Pulchoki**	**55.27**	**291**	*e*P	**P**	**00 15 19.0**	**+0.2**
	comp=Z,11nm,0.4s,mb4.5						
PKI	**Pulchoki**	**55.27**	**291**	*e*P	**P**	**00 15 19.0**	**+0.2**
	comp=Z,11nm,0.4s,mb4.5						
KKN	**Kakani**	**55.37**	**291**	*e*P	**P**	**00 15 19.7**	**+0.2**
KKN	**Kakani**	**55.37**	**291**	*e*P	**P**	**00 15 19.7**	**+0.2**
DMN	**Daman**	**55.54**	**291**	*e*P	**P**	**00 15 21.1**	**+0.5**
	comp=Z,13nm,0.4s,mb4.6						
DMN	**Daman**	**55.54**	**291**	*e*P	**P**	**00 15 21.1**	**+0.5**
	comp=Z,13nm,0.4s,mb4.6						
GKN	**Gorkha**	**55.92**	**292**	*e*P	**P**	**00 15 23.7**	**+0.4**
	comp=Z,24nm,0.7s,mb4.6						
GKN	**Gorkha**	**55.92**	**292**	*e*P	**P**	**00 15 23.7**	**+0.4**
	comp=Z,24nm,0.7s,mb4.6						
DANN	**Dangsing**	**56.67**	**292**	*e*P	**P**	**00 15 29.3**	**+0.8**
	comp=Z,70nm,0.5s,mb5.2						
DANN	**Dangsing**	**56.67**	**292**	*e*P	**P**	**00 15 29.3**	**+0.8**
	comp=Z,70nm,0.5s,mb5.2						
KOLN	**Koldanda**	**56.85**	**291**	*e*P	**P**	**00 15 30.0**	**+0.2**
	comp=Z,13nm,0.7s,mb4.4						
KOLN	**Koldanda**	**56.85**	**291**	*e*P	**P**	**00 15 30.0**	**+0.2**
	comp=Z,13nm,0.7s,mb4.4						
ZAA0	**Zalesovo Array**	**57.85**	**323**	*e*P	**P**	**00 15 35.1**	**-1.0**
ZALV	**Zalesovo Beam**	**57.85**	**323**	P	**P**	**00 15 35.4**	**-0.7**
	comp=Z,1.6nm,0.4s,mb3.7,baz=108,slow=7.0,SNR=16						
ZALV				PcP	PcP	00 16 20.8	-1.4
	comp=Z,1.6nm,0.6s,baz=127,slow=3.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**57.85**	**323**	P	**P**	**00 15 35.4**	**-0.7**
ZALV				PcP	PcP	00 16 20.8	-1.4
MK31	**Makanchi Array**	**58.22**	**314**	*e*P	**P**	**00 15 38.9**	**+0.2**
MKAR	**Makanchi Array**	**58.22**	**314**	P	**P**	**00 15 39.1**	**+0.4**
	comp=Z,3.7nm,0.4s,mb4.0,baz=90,slow=8.3,SNR=146						
MKAR				PcP	PcP	00 16 23.1	-0.8
	comp=Z,1.1nm,0.6s,baz=88,slow=5.8,SNR=5.3						
MKAR	**Makanchi Array**	**58.22**	**314**	*e*P	**P**	**00 15 39.2**	**+0.5**
MKAR				PcP	PcP	00 16 23.1	-0.8
KURK	**Kurchatov**	**61.06**	**318**	P	**P**	**00 15 58.0**	**+0.3**
	comp=Z,23nm,0.6s,mb4.8,baz=96,slow=7.3,SNR=410						
KURK	**Kurchatov**	**61.06**	**318**	*e*P	**P**	**00 15 57.6**	**-0.1**
	comp=Z,8.9nm,0.5s,mb4.5						
RC01	**Rabbit Creek A**	**61.97**	**30**	*e*P	**P**	**00 16 02.9**	**-0.5**
	comp=Z,5.6nm,0.4s,mb4.3						
PMR	**Palmer**	**62.37**	**29**	*e*P	**P**	**00 16 05.0**	**-1.0**
	comp=Z,7.1nm,0.6s,mb4.3						
KSH	**Kashi**	**62.55**	**305**	P	**P**	**00 16 11.0**	**+3.3**
KSH				PcP	PcP	00 16 45.8	+4.2
KSH				pP	pP	00 17 50.3	+4.5
KSH				PP	PP	00 18 38.3	+5.6
KSH				sP	sP	00 18 40.5	+3.4
KSH				ScP	ScP	00 19 59.3	+2.0
KSH				PcS		00 20 46.8	
KSH				S	**S**	**00 24 01.3**	**+3.5**
KSH				ScS	ScS	00 25 13.5	+1.1
KSH				sS	sS	00 26 55.5	+2.3
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
KSH				pmax	pmax		
	comp=Z,220nm,7.4s						
TKM2	**Tokmak 2**	**62.77**	**309**	*e*P	**P**	**00 16 09.8**	**+0.8**
	comp=Z,3.9nm,0.5s,mb4.2						
SML	**Sawmill**	**62.78**	**29**	*e*P	**P**	**00 16 08.5**	**-0.2**
	comp=Z,3.3nm,0.8s,mb3.9						
COLD	**Coldfoot**	**63.33**	**23**	*e*P	**P**	**00 16 12.3**	**+0.2**
	comp=Z,5.3nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**64.04**	**26**	P	**P**	**00 16 15.2**	**-1.6**
	comp=Z,3.9nm,0.6s,mb4.1,baz=250,slow=5.7,SNR=84						
ILAR	**Eielson Array**	**64.04**	**26**	P	**P**	**00 16 15.2**	**-1.6**
PAX	**Paxson**	**64.31**	**28**	*e*P	**P**	**00 16 18.5**	**-0.1**
	comp=Z,6.4nm,0.6s,mb4.3						
BMRM	**Bremner River**	**64.41**	**31**	*e*P	**P**	**00 16 15.5**	**-3.6**
	comp=Z,6.0nm,0.4s,mb4.5						
DOT	**Dot Lake**	**65.05**	**28**	*e*P	**P**	**00 16 23.1**	**-0.1**
BVAR	**Borovoye Array**	**66.29**	**320**	P	**P**	**00 16 31.0**	**-0.2**
	comp=Z,13nm,0.6s,mb4.7,baz=102,slow=7.9,SNR=54						
BVAR	**Borovoye Array**	**66.29**	**320**	P	**P**	**00 16 31.0**	**-0.2**
BRVK	**Borovoye**	**66.35**	**320**	*e*P	**P**	**00 16 31.3**	**-0.3**
KKAR	**Karatay Array**	**66.49**	**310**	*e*P	**P**	**00 16 32.8**	**+0.2**
	comp=Z,6.1nm,0.6s,mb4.4						
KBL	**Kabul**	**68.52**	**301**	*e*P	**P**	**00 16 45.2**	**-0.1**
	comp=Z,6.0nm,0.4s,mb4.5						
ARU	**Arti**	**72.92**	**325**	*e*P	**P**	**00 17 10.4**	**-0.5**
	comp=Z,12nm,0.5s,mb4.7						
ABKAR	**Akbulak array**	**73.12**	**317**	*e*P	**P**	**00 17 11.6**	**-0.6**
	comp=Z,6.0nm,0.3s,mb4.6						
AKTO	**Aktyubinsk**	**74.16**	**318**	P	**P**	**00 17 17.4**	**-0.7**
	comp=Z,3.1nm,0.6s,mb4.0,baz=98,slow=9.2,SNR=15						
AKTO	**Aktyubinsk**	**74.16**	**318**	P	**P**	**00 17 17.4**	**-0.7**
JCW	**Jim Creek**	**78.33**	**43**	*e*P	**P**	**00 17 42.1**	**+0.9**
	comp=Z,13nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**78.39**	**28**	P	**P**	**00 17 40.6**	**-0.6**
	comp=Z,4.1nm,0.5s,mb4.2,baz=288,slow=4.9,SNR=111						
YKA	**Yellowknife Ar**	**78.39**	**28**	P	**P**	**00 17 40.6**	**-0.6**
RPW	**Rockport**	**78.53**	**43**	*e*P	**P**	**00 17 42.5**	**+0.2**
	comp=Z,2.2nm,0.5s,mb3.9						
K05A	**Summer Lake**	**80.49**	**48**	⇓P	**P**	**00 17 53.3**	**+0.5**
	baz=80						
E09A	**Wood Farm, Sta**	**81.27**	**44**	⇓P	**P**	**00 17 57.0**	**+0.2**
	baz=81						
KEV	**Kevo**	**81.95**	**342**	*e*p	**P**	**00 17 57.7**	**-2.1**
	comp=Z,7.2nm,0.9s,mb4.2						
J08A	**Circle Bar Ran**	**82.00**	**47**	⇓P	**P**	**00 18 00.8**	**+0.2**
	baz=82						
BMO	**Blue Mountains**	**82.34**	**45**	*e*P	**P**	**00 18 02.5**	**+0.2**
ARCES	**ARCESS Array B**	**82.51**	**342**	P	**P**	**00 18 01.7**	**-0.9**
	comp=Z,2.4nm,0.6s,mb3.9,baz=84,slow=8.3,SNR=11						
ARCES	**ARCESS Array B**	**82.51**	**342**	P	**P**	**00 18 01.7**	**-0.9**
C12B	**Naegeli Ranch,**	**82.62**	**42**	⇑P	**P**	**00 18 04.1**	**+0.5**
	baz=82						
A13A	**Flathead Natio**	**82.88**	**41**	⇑P	**P**	**00 18 05.3**	**+0.4**
	baz=83						
BSMT	**Bassoo Peak**	**83.01**	**42**	*e*P	**P**	**00 18 06.2**	**+0.6**
C13A	**Hot Springs**	**83.20**	**42**	⇓P	**P**	**00 18 06.7**	**+0.1**
	baz=83						
D13A	**Huson**	**83.48**	**43**	⇓P	**P**	**00 18 07.8**	**-0.2**
	baz=83						
A14A	**Double T Ranch**	**83.48**	**41**	⇓P	**P**	**00 18 08.5**	**+0.6**
	baz=83						
PKM	**Peak Mountain**	**83.60**	**55**	⇓P	**P**	**00 18 09.3**	**+0.5**
	baz=84						
SWMT	**Swartz Lake**	**83.63**	**42**	*e*P	**P**	**00 18 05.2**	**-3.5**
	comp=Z,4.2nm,1.1s,mb3.9						
NVAR	**Mina Array Bea**	**83.66**	**52**	P	**P**	**00 18 09.6**	**+0.5**
	comp=Z,6.0nm,0.6s,mb4.3,baz=270,slow=6.3,SNR=20						
NVAR	**Mina Array Bea**	**83.66**	**52**	P	**P**	**00 18 09.6**	**+0.5**
B14A	**Marquette Ranc**	**83.79**	**41**	⇑P	**P**	**00 18 09.8**	**+0.3**
	baz=84,SNR=13						
MFID	**Camas Ranch**	**83.81**	**46**	⇑P	**P**	**00 18 09.9**	**+0.2**
	baz=84,SNR=10						
VES	**Vestal, Richgr**	**83.88**	**54**	⇓P	**P**	**00 18 09.3**	**-0.9**
	baz=84						
A15A	**Johnson Ranch,**	**83.90**	**40**	⇑P	**P**	**00 18 09.9**	**-0.1**
	baz=84,SNR=5.4						
JOF	**Joensuu**	**83.97**	**335**	*e*p	**P**	**00 18 07.7**	**-2.4**
	comp=Z,2.2nm,0.5s,mb3.9						
F13A	**Darby**	**84.01**	**44**	⇓P	**P**	**00 18 09.8**	**-0.8**
	baz=84,SNR=6.0						
SLMT	**Seeley Lake**	**84.04**	**42**	*e*P	**P**	**00 18 10.8**	**0.0**
H12A	**Diamond D Ranc**	**84.09**	**45**	⇓P	**P**	**00 18 10.8**	**-0.2**
	baz=84						
D14A	**Greenough**	**84.09**	**42**	⇑P	**P**	**00 18 10.5**	**-0.6**
	baz=84						
I12A	**Atlanta**	**84.16**	**46**	⇓P	**P**	**00 18 11.2**	**-0.2**
	baz=84						
B15A	**Bradely Ranch,**	**84.25**	**41**	⇓P	**P**	**00 18 11.6**	**-0.2**
	baz=84,SNR=12						
CHMT	**Chamberlain Mo**	**84.31**	**42**	*e*P	**P**	**00 18 11.7**	**-0.4**
E14A	**Clinton**	**84.34**	**43**	⇑P	**P**	**00 18 11.4**	**-0.8**
	baz=84						
C15A	**Salmond Ranch,**	**84.41**	**41**	⇓P	**P**	**00 18 12.4**	**-0.2**
	baz=84,SNR=7.0						
H13A	**Challis**	**84.49**	**45**	⇓P	**P**	**00 18 13.3**	**+0.2**
	baz=84,SNR=6.7						
F14A	**Wisdom**	**84.63**	**44**	⇓P	**P**	**00 18 13.7**	**0.0**
	baz=84						
HLID	**Hailey**	**84.73**	**46**	⇑P	**P**	**00 18 14.2**	**0.0**
	baz=85,SNR=7.2						
HLID	**Hailey**	**84.73**	**46**	*e*P	**P**	**00 18 14.5**	**+0.3**
D15A	**Lincoln**	**84.73**	**42**	⇑P	**P**	**00 18 13.6**	**-0.6**
	baz=85						
B16A	**M & M Farms, S**	**84.74**	**41**	⇑P	**P**	**00 18 14.0**	**-0.1**
	baz=85,SNR=12						
G14A	**Jackson**	**84.78**	**44**	⇓P	**P**	**00 18 14.2**	**-0.2**
	baz=85						
I13A	**Wildhorse Cree**	**84.81**	**45**	⇓P	**P**	**00 18 14.9**	**+0.3**
	baz=85,SNR=8.1						
E15A	**Deer Lodge**	**84.88**	**43**	⇓P	**P**	**00 18 14.9**	**0.0**
	baz=85,SNR=15						
C16A	**Fuhringer Ranc**	**84.94**	**41**	⇓P	**P**	**00 18 15.0**	**-0.2**
	baz=85						
J13A	**Cove Ranch, Pi**	**84.95**	**46**	⇑P	**P**	**00 18 15.8**	**+0.4**
	baz=85,SNR=8.3						
MPMC	**Manual Prospec**	**85.03**	**54**	⇑P	**P**	**00 18 15.9**	**0.0**
	baz=85						
H14A	**Leadore**	**85.06**	**45**	⇑P	**P**	**00 18 16.0**	**+0.1**
	baz=85						
ELK	**Elko**	**85.13**	**49**	*e*P	**P**	**00 18 16.8**	**+0.5**
A17A	**Triple J Farms**	**85.16**	**40**	⇑P	**P**	**00 18 16.0**	**-0.2**
	baz=85						
SCI	**San Clemente I**	**85.21**	**57**	⇓P	**P**	**00 18 17.3**	**+0.5**
	baz=85						
LRM	**Limekiln Ridge**	**85.23**	**43**	*e*P	**P**	**00 18 16.9**	**+0.3**
I14A	**Mackay**	**85.25**	**45**	⇑P	**P**	**00 18 17.5**	**+0.7**
	baz=85						
HRY	**Holter Researc**	**85.30**	**42**	*e*P	**P**	**00 18 17.2**	**+0.3**
B17A	**L&G Farms, Che**	**85.35**	**41**	⇓P	**P**	**00 18 17.1**	**0.0**
	baz=85,SNR=8.2						
D16A	**Dana Ranch, Ca**	**85.36**	**42**	⇓P	**P**	**00 18 17.7**	**+0.5**
	baz=85						
J14A	**Carey**	**85.42**	**46**	⇓P	**P**	**00 18 18.4**	**+0.7**
	baz=85						
G15A	**Dillon**	**85.44**	**44**	⇓P	**P**	**00 18 17.8**	**+0.1**
	baz=85						
E16A	**East Helena**	**85.46**	**42**	⇓P	**P**	**00 18 17.8**	**0.0**
	baz=85						
H15A	**Lima**	**85.54**	**44**	⇑P	**P**	**00 18 18.7**	**+0.5**
	baz=85						
C17A	**Wharram Farm,**	**85.62**	**41**	⇑P	**P**	**00 18 18.5**	**0.0**
	baz=86						
A18A	**Metzger Ranch,**	**85.69**	**40**	⇓P	**P**	**00 18 18.8**	**0.0**
	baz=86						
R11A	**Troy Canyon, C**	**85.70**	**51**	⇓P	**P**	**00 18 19.2**	**+0.2**
	baz=86						
BOZ	**Bozeman (W)**	**85.83**	**43**	⇓P	**P**	**00 18 19.8**	**+0.2**
	baz=86						
D17A	**Six Diamond Ra**	**85.85**	**42**	⇑P	**P**	**00 18 19.9**	**+0.3**
	baz=86						
G16A	**Moss Hill, Enn**	**85.87**	**44**	⇓P	**P**	**00 18 19.7**	**0.0**
	baz=86						
B18A	**Beardsley Farm**	**85.93**	**40**	⇑P	**P**	**00 18 19.4**	**-0.6**
	baz=86						
E17A	**Martinsdale**	**86.01**	**42**	⇓P	**P**	**00 18 20.6**	**+0.3**
	baz=86						
L14A	**Malta**	**86.08**	**47**	⇓P	**P**	**00 18 21.3**	**+0.4**
	baz=86						
KAF	**Kangasniemi**	**86.37**	**336**	*e*p	**P**	**00 18 18.6**	**-3.2**
	comp=Z,1.6nm,0.7s,mb3.8						
B19A	**Brinkman Farms**	**86.42**	**40**	⇑P	**P**	**00 18 21.9**	**-0.4**
	baz=86						
E18A	**Harlowton**	**86.57**	**42**	⇑P	**P**	**00 18 23.2**	**+0.1**
	baz=86						
C19A	**Slack Wire Ran**	**86.65**	**41**	⇓P	**P**	**00 18 23.2**	**-0.1**
	baz=86						
L15A	**Malad City**	**86.68**	**47**	⇓P	**P**	**00 18 23.7**	**+0.1**
	baz=86						
FINES	**FINESS Array B**	**86.83**	**335**	P	**P**	**00 18 21.8**	**-2.2**
	comp=Z,1.6nm,0.3s,mb4.2,baz=69,slow=4.6,SNR=40						
FINES	**FINESS Array B**	**86.83**	**335**	P	**P**	**00 18 21.8**	**-2.2**
A20A	**Cobblestone Ra**	**86.86**	**39**	⇑P	**P**	**00 18 24.0**	**-0.4**
	baz=87						
F18A	**Big Timber**	**86.96**	**42**	⇓P	**P**	**00 18 25.2**	**+0.3**
	baz=87						
D19A	**Cripps Ranch,**	**86.98**	**41**	⇑P	**P**	**00 18 24.6**	**-0.4**
	baz=87						
B20A	**Solberg Farm,**	**86.98**	**40**	⇓P	**P**	**00 18 24.8**	**-0.1**
	baz=87						
DUG	**Dugway**	**87.05**	**49**	⇑P	**P**	**00 18 25.5**	**0.0**
	baz=87						
DUG	**Dugway**	**87.05**	**49**	*e*P	**P**	**00 18 25.9**	**+0.5**
C20A	**Veseth Ranch,**	**87.30**	**40**	⇓P	**P**	**00 18 26.2**	**-0.3**
	baz=87						
L16A	**Fish Haven**	**87.34**	**47**	⇓P	**P**	**00 18 26.7**	**-0.1**
	baz=87						
A21A	**Bergtoll Ranch**	**87.41**	**39**	⇑P	**P**	**00 18 26.7**	**-0.2**
	baz=87						
D20A	**Manuel Ranch,**	**87.47**	**41**	⇑P	**P**	**00 18 27.4**	**+0.1**
	baz=87						
FFC	**Flin Flon**	**87.52**	**32**	*e*P	**P**	**00 18 26.2**	**-1.1**
	comp=Z,6.2nm,0.8s,mb4.4						
RLMT	**Red Lodge**	**87.56**	**43**	⇑P	**P**	**00 18 28.2**	**+0.4**
	baz=87						
RLMT	**Red Lodge**	**87.56**	**43**	*e*P	**P**	**00 18 28.8**	**+1.1**
	comp=Z,2.5nm,0.5s,mb4.2						
P15A	**Leamington**	**87.67**	**49**	⇑P	**P**	**00 18 28.5**	**+0.1**
	baz=88						
A22A	**Carney Farms,**	**88.01**	**39**	⇑P	**P**	**00 18 29.0**	**-0.8**
	baz=88						
M17A	**Scullys Gap (B**	**88.08**	**47**	⇑P	**P**	**00 18 29.8**	**-0.5**
	baz=88						
D21A	**La Casta Ranch**	**88.19**	**41**	⇓P	**P**	**00 18 30.2**	**-0.4**
	baz=88						
PDAR	**Pinedale Array**	**88.32**	**45**	P	**P**	**00 18 30.7**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.5,baz=318,slow=1.2,SNR=7.8						
PDAR	**Pinedale Array**	**88.32**	**45**	P	**P**	**00 18 30.7**	**-0.6**
L18A	**Fontenelle, Gr**	**88.33**	**46**	⇑P	**P**	**00 18 31.6**	**+0.1**
	baz=88						
E21A	**Keefer Ranch,**	**88.37**	**41**	⇓P	**P**	**00 18 31.2**	**-0.3**
	baz=88						
J19A	**Crowheart**	**88.46**	**45**	⇑P	**P**	**00 18 32.1**	**+0.2**
	baz=88						
M18A	**Lyman**

Q22A	Crested Butte,	91.77	48	⇑P		P	00 18 48.1 +0.6
	baz=92						
O23A	Lake Granby, G	91.88	46	⇑P		P	00 18 48.5 +0.7
	baz=92						
118A	Homack Ranch,	92.07	55	⇓P		P	00 18 48.9 0.0
	baz=92						
W20A	Ramah	92.18	52	⇓P		P	00 18 49.4 0.0
	baz=92						
ISCO	Idaho Springs	92.27	47	⇓P		P	00 18 50.1 +0.4
	baz=92						
P23A	Jefferson	92.30	47	⇑P		P	00 18 50.5 +0.6
	baz=92						
N24A	Carr	92.31	46	⇑P		P	00 18 50.0 +0.1
	baz=92						
HFS	Hagfors	92.36	338	P		P	00 18 47.3 -2.4
	comp=Z,0.5nm,0.3s,mb3.9,baz=64,slow=3.4,SNR=12						
HFS	Hagfors	92.36	338	P		P	00 18 47.3 -2.4
V21A	Milan	92.54	51	⇓P		P	00 18 51.0 0.0
	baz=92						
NOA	NORSAR Array B	92.56	339	P		P	00 18 48.3 -2.2
	comp=Z,0.3nm,0.5s,mb3.5,baz=46,slow=4.2,SNR=2.7						
NOA	NORSAR Array B	92.56	339	P		P	00 18 48.3 -2.3
T22A	Edith	92.57	50	⇑P		P	00 18 51.4 +0.2
	baz=92						
K26A	Motz Farm, Whi	92.58	43	⇓P		P	00 18 51.4 +0.4
	baz=92						
Z20A	Nine Sixteen R	92.94	54	⇓P		P	00 18 53.1 +0.2
	baz=93						
O25A	Wiggins	93.15	46	⇓P		P	00 18 54.0 +0.2
	baz=93						
Y21A	Point of Rocks	93.27	53	⇓P		P	00 18 54.7 +0.3
	baz=93						
R24A	Sanders Place,	93.32	48	⇑P		P	00 18 55.6 +1.1
	baz=93						
BRTR	Keskin Array B	93.87	314	P		P	00 18 55.6 -1.4
	comp=Z,1.4nm,0.8s,mb4.0,baz=59,slow=2.6,SNR=8.4						
BRTR	Keskin Array B	93.87	314	P		P	00 18 55.6 -1.4
W24A	Lazy 6 Ranch,	94.44	51	⇓P		P	00 18 59.7 0.0
	baz=94						
X24A	Lazy VL Ranch,	94.70	51	⇓P		P	00 19 00.7 -0.2
	baz=95						
224A	Cornudas Mount	95.72	54	⇓P		P	00 19 05.3 -0.3
	baz=96						
MNTX	Cornudas Mount	96.00	54	⇓P		P	00 19 06.9 +0.1
	baz=96						
325A	Bean Ranch, Si	96.45	54	⇑P		P	00 19 09.4 +0.5
	baz=96						
TXAR	Lajitas Array	98.36	55	P		Pdif	00 19 17.4 +0.3
	comp=Z,0.2nm,0.5s,baz=319,slow=4.0,SNR=4.9						
TXAR	Lajitas Array	98.36	55	P		Pdif	00 19 17.4 +0.3
TORD	Torodi Ar. Bea	132.17	309	PKP		PKPdf	00 24 49.9 -1.1
	comp=Z,0.3nm,0.4s,baz=38,slow=1.0,SNR=14						
TORD	Torodi Ar. Bea	132.17	309	PKP		PKPdf	00 24 49.9 -1.1
LPAZ	La Paz	148.18	91	PKP		PKPdf	00 25 20.0 +0.5
	comp=Z,2.9nm,0.6s,baz=182,slow=1.0,SNR=5.4						
LPAZ				PKPbc		PKPbc	00 25 24.4 +0.8
	comp=Z,2.0nm,0.4s,baz=310,slow=1.5,SNR=13						
LPAZ	La Paz	148.18	91	PKP		PKPdf	00 25 20.0 +0.4
LPAZ				PKPbc		PKPbc	00 25 24.4 +0.8
SAML	Samuel	150.92	75	ePKPbc		PKPbc	00 25 28.7 -1.5
SAML				ePKPab		PKPab	00 25 37.8 -1.9
CPUP	Villa Florida	157.83	115	PKP		PKPdf	00 25 32.5 -0.6
	comp=Z,0.2nm,0.3s,baz=191,slow=10,SNR=2.8						
CPUP				PKPab		PKPab	00 26 09.1 +0.1
	comp=Z,0.5nm,0.4s,baz=236,slow=6.2,SNR=3.4						
CPUP	Villa Florida	157.83	115	PKP		PKPdf	00 25 32.5 -0.6
CPUP				PKPab		PKPab	00 26 09.1 +0.1

*CSEM **26** 00:25:34.2±0.2, 44°.69N×10°.39E, h10km, ML3.0/8, Error ellipse: s-maj=3.7km s-min=3.4km az=98.0*
*VIE **26** 00:25:35.1, 44°.30N×10°.60E, h33km, mb4.0 62 km WSW of Bologna*
*NEIC **26** 00:25:35.2, 44°.56N×10°.21E, h9km, ML2.7(ROM), After ROM.*
*ROM **26** 00:25:35.1±0.1, 44°.57N×10°.38E, h24km±2km, Md2.6/21, Ml2.8/12, Error ellipse: s-maj=2.9km s-min=1.7km az=85.0*
*ISCJB **26** 00:25:35.2±0.3, 44°.56N±0°.02×10°.36E±0°.03, h29km±3km, Error ellipse: s-maj=4.1km s-min=3.3km az=141.2*
*PRU **26** 00:25:35.5, 44°.62N×10°.62E, h12km*
*LDG **26** 00:25:36.1±0.2, 44°.56N×10°.50E, h25km, Ml3.1/15, Error ellipse: s-maj=5.4km s-min=4.3km az=179.0*
*STR **26** 00:25:36.2±0.5, 44°.56N×10°.23E, h5km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 26 00:25:35.7±0.3, **44°.58N**±0°.02×**10°.38E**±0°.03, **h25**km±3km, **n143**, σ1s**28**/211, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	Eremo	0.16	172	Pg	Pb	00 25 40.0	-1.0
ERBM				Sg	Sb	00 25 44.8	+0.3
	3μm,1.0s						
ERBM	Eremo	0.16	172	Pg	Pb	00 25 40.0	-1.0
ERBM				Sg	Sb	00 25 44.8	+0.3
	3μm,1.0s						
PRMA	PARMA	0.19	345	Pg	Pb	00 25 40.3	-1.0
PRMA				Sg	Sb	00 25 45.5	+0.5
	913nm,0.5s						
PRMA	PARMA	0.19	345	Pg	Pb	00 25 40.3	-1.0
PRMA				Sg	Sb	00 25 45.5	+0.5
	913nm,0.5s						
GSCL	Gusciola	0.27	147	Pg	Pb	00 25 41.5	-0.9
GSCL				Sg	Sb	00 25 45.9	-1.0
GSCL	Gusciola	0.27	147	Pg	Pb	00 25 41.5	-0.9
GSCL				Sg	Sb	00 25 45.9	-1.0
NOVE	Novellara	0.32	48	Pg	Pb	00 25 41.9	-1.2
NOVE				Sg	Sb	00 25 49.7	+1.6
NOVE	Novellara	0.32	48	Pg	Pb	00 25 41.9	-1.2
NOVE				Sg	Sb	00 25 49.7	+1.6
ZCCA	Zocca	0.48	118	Pg	Pb	00 25 46.2	+0.5
	252nm,0.5s						
ZCCA	Zocca	0.48	118	Pg	Pb	00 25 46.2	+0.5
	252nm,0.5s						
BDI	Bagni Di Lucca	0.54	163	Pg	Pb	00 25 45.9	-0.7
BDI				Sg	Sb	00 25 53.6	-0.4
	372nm,0.4s						
BDI	Bagni Di Lucca	0.54	163	Pg	Pb	00 25 45.9	-0.7
BDI				Sg	Sb	00 25 53.6	-0.4
	372nm,0.4s						
SC2M	Scurtabo	0.63	254	Pg	Pb	00 25 47.0	-1.1
	354nm,0.6s						
SC2M	Scurtabo	0.63	254	Pg	Pb	00 25 47.0	-1.1
	354nm,0.6s						
MAIM	Mastiano	0.67	173	Pg	Pb	00 25 48.1	-0.7
	110nm,0.4s						
MAIM	Mastiano	0.67	173	Pg	Pb	00 25 48.1	-0.7
	110nm,0.4s						
SEI	Scarperia	0.88	127	Pg	Pb	00 25 51.7	-0.6
	142nm,0.4s						
SEI	Scarperia	0.88	127	Pg	Pb	00 25 51.7	-0.6
	142nm,0.4s						
CRMI	Carmignano	0.90	152	Pg	Pb	00 25 52.4	-0.2
CRMI	Carmignano	0.90	152	Pg	Pb	00 25 52.4	-0.2
SALO	Salr	1.04	6	Pg	Pn	00 25 54.8	+0.1
	942nm,0.4s						
SALO	Salr	1.04	6	Pg	Pn	00 25 54.8	+0.1
	942nm,0.4s						
ROVR	Rover¯¤ Verone	1.17	24	Pg	Pn	00 25 56.4	-0.1
ROVR	Rover¯¤ Verone	1.17	24	Pg	Pn	00 25 56.4	-0.1
MDI	Monti di Nese	1.29	339	Pg	Pn	00 25 58.3	+0.2
	376nm,0.6s						
MDI	Monti di Nese	1.29	339	Pg	Pn	00 25 58.3	+0.2
	376nm,0.6s						
PCP	Piancastagn	1.31	269	Pg	Pn	00 25 59.3	+0.9
PCP	Piancastagn	1.31	269	Pg	Pn	00 25 59.3	+0.9
MABI	Malga Bissina	1.48	4	Pg	Pn	00 26 01.0	+0.3
	160nm,0.3s						
MABI	Malga Bissina	1.48	4	Pg	Pn	00 26 01.0	+0.3
	160nm,0.3s						
CTI	Castel Tesino	1.72	31	Pg	Pn	00 26 03.9	-0.1
CTI	Castel Tesino	1.72	31	Pg	Pn	00 26 03.9	-0.1
BERNI	Berninapass	1.85	352	Pg	Pn	00 26 06.9	+1.1
BERNI	Berninapass	1.85	352	Pg	Pn	00 26 06.9	+1.1
BRMO	Bormio	1.90	360	Pg	Pn	00 26 07.3	+0.9
	34nm,0.7s						
BRMO	Bormio	1.90	360	Pg	Pn	00 26 07.3	+0.9
	34nm,0.7s						
IMI	Imperia	1.91	250	Pg	Pn	00 26 06.9	+0.3
	60nm,0.2s						
IMI	Imperia	1.91	250	Pg	Pn	00 26 06.9	+0.3
	60nm,0.2s						
APPI	Appiano	1.99	17	Pg	Pn	00 26 08.4	+0.7
APPI	Appiano	1.99	17	Pg	Pn	00 26 08.4	+0.7
TUE	Stuetta	2.03	339	Pg	Pn	00 26 09.2	+1.0
	48nm,0.4s						
TUE	Stuetta	2.03	339	Pg	Pn	00 26 09.2	+1.0
	48nm,0.4s						
SAOF	Saorge	2.12	255	P	Pn	00 26 10.1	+0.7
SAOF				S	Sn	00 26 37.8	+2.9
SAOF	Saorge	2.12	255	P	Pn	00 26 10.1	+0.7
SAOF				S	Sn	00 26 37.8	+2.9
AUTN	L'Aution	2.20	256	P	Pn	00 26 11.9	+1.3
AUTN				S	Sn	00 26 39.2	+2.2
AUTN	L'Aution	2.20	256	P	Pn	00 26 11.9	+1.3
AUTN				S	Sn	00 26 39.2	+2.2
DAVOX	Davos/Dischmat	2.23	351	Pg	Pn	00 26 12.9	+1.9
DAVOX	Davos/Dischmat	2.23	351	Pg	Pn	00 26 12.9	+1.9
PGF	Pioggiola	2.27	207	ePn	Pn	00 26 11.4	-0.1
	SNR=1.0						
PGF				eSn	Sn	00 26 37.1	-1.5
	17nm,0.3s						
PGF	Pioggiola	2.27	207	ePn	Pn	00 26 11.4	-0.1
PGF				eSn	Sn	00 26 37.1	-1.5
PGF	Pioggiola	2.27	207	ePn	Pn	00 26 11.4	-0.1
	SNR=1.0						
PGF				eSn	Sn	00 26 37.1	-1.5
TOUF	Mont Tournerai	2.32	257	P	Pn	00 26 13.6	+1.3
TOUF				S	Sn	00 26 44.2	+4.3
TOUF	Mont Tournerai	2.32	257	P	Pn	00 26 13.6	+1.3
TOUF				S	Sn	00 26 44.2	+4.3
REVF	Revere	2.33	250	P	Pn	00 26 13.9	+1.5
REVF				S	Sn	00 26 43.4	+3.3
REVF	Revere	2.33	250	P	Pn	00 26 13.9	+1.5
REVF				S	Sn	00 26 43.4	+3.3
MVIF	Mont Vial	2.42	255	P	Pn	00 26 15.0	+1.4
MVIF				S	Sn	00 26 46.2	+3.8
MVIF	Mont Vial	2.42	255	P	Pn	00 26 15.0	+1.4
MVIF				S	Sn	00 26 46.2	+3.8
MBDF	Montbardon	2.58	274	ePn	Pn	00 26 16.4	+0.6
	SNR=1.0						
MBDF				eSn	Sn	00 26 45.9	-0.5
	29nm,0.6s						
MBDF	Montbardon	2.58	274	ePn	Pn	00 26 16.4	+0.6
MBDF				eSn	Sn	00 26 45.9	-0.5
MBDF	Montbardon	2.58	274	ePn	Pn	00 26 16.4	+0.6
	SNR=1.0						
MBDF				eSn	Sn	00 26 45.9	-0.5
	14nm,0.6s						
DAVA	Damuels	2.73	353	Pn	Pn	00 26 20.1	+2.2
	SNR=8.5						
LPG	La Plagne	2.73	291	ePn	Pn	00 26 17.9	0.0
	SNR=1.0						
LPG				eSn	Sn	00 26 49.5	-0.6
	12nm,0.4s						
LPG	La Plagne	2.73	291	ePn	Pn	00 26 17.9	0.0
LPG				eSn	Sn	00 26 49.5	-0.6
LPG	La Plagne	2.73	291	ePn	Pn	00 26 17.9	0.0
	SNR=1.0						
LPG				eSn	Sn	00 26 49.5	-0.6
	5.8nm,0.4s						
SKDS	Skadanscina	2.75	68	*i* Pn	Pn	00 26 17.3	-0.8
SKDS	Skadanscina	2.75	68	*i* Pn	Pn	00 26 17.3	-0.9
LPL	La Plagne	2.75	291	ePn	Pn	00 26 18.9	+0.7
	SNR=1.0						
LPL				eSn	Sn	00 26 49.5	-1.1
	10nm,0.3s,SNR=1.0						
LPL	La Plagne	2.75	291	ePn	Pn	00 26 18.9	+0.7
LPL				eSn	Sn	00 26 49.5	-1.1
LPL	La Plagne	2.75	291	ePn	Pn	00 26 18.9	+0.7
	SNR=1.0						
LPL				eSn	Sn	00 26 49.5	-1.1
	5.1nm,0.3s,SNR=1.0						
MOTA	Moosalm	2.81	10	*i* Pn	Pn	00 26 21.4	+2.4
	SNR=16						
MOTA	Moosalm	2.81	10	*i* Pn	Pn	00 26 21.4	+2.4
	SNR=16						
MOTA	Moosalm	2.81	10	Pn	Pn	00 26 21.4	+2.4
	SNR=16						
WTTA	Wattenberg	2.82	18	*i* Pn	Pn	00 26 22.1	+3.0
	SNR=23						
WTTA	Wattenberg	2.82	18	*i* Pn	Pn	00 26 22.1	+3.0
	SNR=23						
WTTA	Wattenberg	2.82	18	Pn	Pn	00 26 22.1	+2.9
	SNR=23						
FRF	La Foret Royal	2.88	251	ePn	Pn	00 26 19.9	0.0
	SNR=1.0						
FRF				eSn	Sn	00 26 52.0	-1.7
	39nm,0.2s,SNR=1.0						
FRF	La Foret Royal	2.88	251	ePn	Pn	00 26 19.9	0.0
FRF				eSn	Sn	00 26 52.0	-1.7
FRF	La Foret Royal	2.88	251	ePn	Pn	00 26 19.9	0.0
	SNR=1.0						
FRF				eSn	Sn	00 26 52.0	-1.7
	20nm,0.2s,SNR=1.0						
WATA	Walderalm	2.88	16	*i* Pn	Pn	00 26 22.4	+2.5
	SNR=8.0						
WATA	Walderalm	2.88	16	*i* Pn	Pn	00 26 22.4	+2.5
	SNR=8.0						
WATA	Walderalm	2.88	16	Pn	Pn	00 26 22.4	+2.5
	SNR=8.0						
RSL	Roselend	2.88	294	P	Pn	00 26 21.4	+1.4
RSL	Roselend	2.88	294	P	Pn	00 26 21.4	+1.4
LMR	La Mourre	3.06	247	ePn	Pn	00 26 22.9	+0.4
	SNR=1.0						
LMR				eSn	Sn	00 26 56.7	-1.5
	59nm,0.3s,SNR=1.0						
LMR	La Mourre	3.06	247	ePn	Pn	00 26 22.9	+0.4
LMR				eSn	Sn	00 26 56.7	-1.5
LMR	La Mourre	3.06	247	ePn	Pn	00 26 22.9	+0.4
	SNR=1.0						
LMR				eSn	Sn	00 26 56.7	-1.5
	30nm,0.3s,SNR=1.0						
GORS	Gorjuse	3.08	54	*i* Pn	Pn	00 26 22.4	-0.3
GORS	Gorjuse	3.08	54	*i* Pn	Pn	00 26 22.4	-0.3
NVLJ	Novalja	3.21	89	ePn	Pn	00 26 25.1	+0.6
NVLJ				Sn	Sn	00 27 00.1	-1.8
NVLJ	Novalja	3.21	89	ePn	Pn	00 26 25.0	+0.5
NVLJ				Sn	Sn	00 27 00.1	-1.8
ORIF	Oris-en-Rattie	3.23	278	ePn	Pn	00 26 26.4	+1.7
	SNR=1.0						
ORIF				eSn	Sn	00 27 01.4	-0.9
	14nm,0.5s						
ORIF	Oris-en-Rattie	3.23	278	ePn	Pn	00 26 26.4	+1.7
ORIF				eSn	Sn	00 27 01.4	-0.9
ORIF	Oris-en-Rattie	3.23	278	ePn	Pn	00 26 26.4	+1.7
	SNR=1.0						
ORIF				eSn	Sn	00 27 01.4	-0.9
	7.2nm,0.5s						
VISS	Visnje	3.38	67	*i* Pn	Pn	00 26 26.8	-0.1
VISS	Visnje	3.38	67	*i* Pn	Pn	00 26 26.8	0.0
SMRF	Simiane la Rot	3.50	262	ePn	Pn	00 26 30.4	+1.9
	SNR=1.0						
SMRF				eSn	Sn	00 27 07.8	-1.4
	8.1nm,0.5s,SNR=1.0						
SMRF	Simiane la Rot	3.50	262	ePn	Pn	00 26 30.4	+1.9
SMRF				eSn	Sn	00 27 07.8	-1.4
SMRF	Simiane la Rot	3.50	262	ePn	Pn	00 26 30.4	+1.9
	SNR=1.0						
SMRF				eSn	Sn	00 27 07.8	-1.4
	4.1nm,0.5s,SNR=1.0						
CABF	La Chapelle	3.63	305	ePn	Pn	00 26 31.2	+0.9
	SNR=1.0						
CABF	La Chapelle	3.63	305	ePn	Pn	00 26 31.2	+0.9
CABF	La Chapelle	3.63	305	ePn	Pn	00 26 31.2	+0.9
	SNR=1.0						
HINF	Hinteralfeld	4.06	324	ePn	Pn	00 26 36.2	+0.1
	SNR=1.0						
HINF				eSn	Sn	00 27 19.6	-3.2
	SNR=1.0						
HINF				eSg	Sn	00 27 43.7	+21
	5.5nm,0.4s,SNR=1.0						
HINF	Hinteralfeld	4.06	324	ePn	Pn	00 26 36.2	+0.1
HINF				eSn	Sn	00 27 19.6	-3.2
HINF				eSg	Sn	00 27 43.7	+21
HINF	Hinteralfeld	4.06	324	ePn	Pn	00 26 36.2	+0.1
	SNR=1.0						
HINF				eSn	Sn	00 27 19.6	-3.2
	SNR=1.0						
HINF				eSg	Sn	00 27 43.7	+21
	2.8nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	4.08	276	ePn	Pn	00 26 37.5	+1.1
	SNR=1.0						
VIVF				eSn	Sn	00 27 21.4	-1.9
	5.3nm,0.6s,SNR=1.0						
VIVF	Saint-Julien-l	4.08	276	ePn	Pn	00 26 37.5	+1.1
VIVF				eSn	Sn	00 27 21.4	-1.9
VIVF	Saint-Julien-l	4.08	276	ePn	Pn	00 26 37.5	+1.1
	SNR=1.0						
VIVF				eSn	Sn	00 27 21.4	-1.9
	2.7nm,0.6s,SNR=1.0						
MOA	Molln	4.24	38	*i* Pn	Pn	00 26 39.6	+1.0
	SNR=10						
MOA	Molln	4.24	38	*i* Pn	Pn	00 26 39.6	+1.0
	SNR=10						
MOA	Molln	4.24	38	Pn	Pn	00 26 39.6	+1.0
	SNR=10						
CDF	Champ du Feu	4.39	332	ePn	Pn	00 26 40.0	-0.7
	SNR=1.0						
CDF				eSn	Sn	00 27 28.6	-2.4
	6.4nm,0.2s,SNR=1.0						
CDF	Champ du Feu	4.39	332	ePn	Pn	00 26 40.0	-0.7
CDF				eSn	Sn	00 27 28.6	-2.4
CDF	Champ du Feu	4.39	332	ePn	Pn	00 26 40.0	-0.7
	SNR=1.0						
CDF				eSn	Sn	00 27 28.6	-2.4
	3.2nm,0.2s,SNR=1.0						
HAU	Haudompre	4.42	322	ePn	Pn	00 26 40.0	-1.1
	SNR=1.0						
HAU				eSn	Sn	00 27 29.1	-2.6
	9.5nm,0.2s,SNR=1.0						
HAU	Haudompre	4.42	322	ePn	Pn	00 26 40.0	-1.1
HAU				eSn	Sn	00 27 29.1	-2.6
HAU	Haudompre	4.42	322	ePn	Pn	00 26 40.0	-1.1
	SNR=1.0						
HAU				eSn	Sn	00 27 29.1	-2.6
	4.8nm,0.2s,SNR=1.0						
LASF	Ste Croix	4.71	266	ePn	Pn	00 26 45.7	+0.6
	SNR=1.0						
LASF	Ste Croix	4.71	266	ePn	Pn	00 26 45.7	+0.6
LASF	Ste Croix	4.71	266	ePn	Pn	00 26 45.7	+0.6
	SNR=1.0						
SMF	Signal de Mont	5.03	297	ePn	Pn	00 26 49.0	-0.5
	SNR=1.0						
SMF				eSn	Sn	00 27 43.7	-3.1
	SNR=1.0						
SMF				eSg	Sn	00 28 14.8	+28
	3.8nm,0.6s,SNR=1.0						
SMF	Signal de Mont	5.03	297	ePn	Pn	00 26 49.0	-0.5
SMF				eSn	Sn	00 27 43.7	-3.1
SMF				eSg	Sn	00 28 14.8	+28
SMF	Signal de Mont	5.03	297	ePn	Pn	00 26 49.0	-0.5
	SNR=1.0						
SMF				eSn	Sn	00 27 43.7	-3.1
	SNR=1.0						
SMF				eSg	Sn	00 28 14.8	+28
	1.9nm,0.6s,SNR=1.0						
KHC	Kasperske Hory	5.05	25	ePN	Pn	00 26 49.6	-0.2
KHC				ePG	Pn	00 27 11.0	+21
KHC				eSN	Sn	00 27 44.8	-2.5
KHC				eSG	Sn	00 28 12.6	+25
	4.6nm,0.6s						
KHC	Kasperske Hory	5.05	25	Pn	Pn	00 26 49.6	-0.2
KHC				Sn	Sn	00 27 44.8	-2.5
KHC				Sg	Sn	00 28 12.6	+25
	4.6nm,0.6s						
LOR	Lormes	5.28	303	ePn	Pn	00 26 52.0	-1.0
	SNR=1.0						
LOR				eSn	Sn	00 27 50.3	-2.7
	5.9nm,0.3s,SNR=1.0						
LOR	Lormes	5.28	303	ePn	Pn	00 26 52.0	-1.0
LOR				eSn	Sn	00 27 50.3	-2.7
LOR	Lormes	5.28	303	ePn	Pn	00 26 52.0	-1.0
	SNR=1.0						
LOR				eSn	Sn	00 27 50.3	-2.7
	3.0nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	5.40	297	ePn	Pn	00 26 55.0	+0.5
	SNR=1.0						
AVF	Avril sur Loir	5.40	297	ePn	Pn	00 26 55.0	+0.5
AVF	Avril sur Loir	5.40	297	ePn	Pn	00 26 55.0	+0.5
	SNR=1.0						
SSF	Saint Saulge	5.41	300	ePn	Pn	00 26 54.6	-0.1
SSF	Saint Saulge	5.41	300	ePn	Pn	00 26 54.6	-0.1
SSF	Saint Saulge	5.41	300	ePn	Pn	00 26 54.6	-0.1
BGF	Bois d'Agland	5.65	293	ePn	Pn	00 26 57.0	-1.0
	SNR=1.0						
BGF				eSn	Sn	00 27 59.7	-2.2
	7.2nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	5.65	293	ePn	Pn	00 26 57.0	-1.0
BGF				eSn	Sn	00 27 59.7	-2.2
BGF	Bois d'Agland	5.65	293	ePn	Pn	00 26 57.0	-1.0
BGF				eSn	Sn	00 27 59.7	-2.2
NKC	Novy Kostel	5.83	13	eSN	Sn	00 28 03.6	-2.7
MTLF	Montolieu	6.02	261	ePn	Pn	00 27 04.4	+1.3
	SNR=1.0						
MTLF	Montolieu	6.02	261	ePn	Pn	00 27 04.4	+1.3
MTLF	Montolieu	6.02	261	ePn	Pn	00 27 04.4	+1.3
PRU	Pruhonice	6.10	26	eSN	Sn	00 28 10.1	-3.1
BRG	Berggiesshubel	6.74	20	SN	Sn	00 28 24.2	-4.6
BRG				SG	Sn	00 29 17.0	+48
	3.2nm,1.0s						
CLL	Collm	6.96	14	eSg	Sx	00 29 18.0	

*ISCJB **26** 00:30:36.2±0.4, 23°.32N±0°.06×64°.40E±0°.03, h10km, mb4.2/38, Error ellipse: s-maj=8.5km s-min=4.0km az=176.4*
*IDC **26** 00:30:36.1±0.7, 23°.20N×64°.40E, h0km, mb4.0/25, mb1 4.1/25, mb1mx4.1/31, mbtmp4.0/25, Error ellipse: s-maj=17.1km s-min=14.2km az=13.0*
*NEIC **26** 00:30:37.9±0.4, 23°.23N×64°.42E, h10km, mb4.6/14, Error ellipse: s-maj=9.7km s-min=6.4km az=174.0*
*OMAN **26** 00:30:54.4±99.0, 23°.63N×63°.06E, h10km, Error ellipse: s-maj=57.4km s-min=7.6km az=262.0*

ISC 26 00:30:38.0±0.3, **23°.29N**±0°.05×**64°.41E**±0°.03, **h10**km, **n121**, σ1s**11**/122, **mb4.2**/38, **3C**, **Off coast of Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMDO	Samad	5.85	269	P	Pn	00 32 03.8	-1.1
	SNR=22						
SMDO				P		00 32 05.2	
	SNR=11						
JMDO	Jabal Madar	5.88	262	P	Pn	00 32 05.0	-0.2
	SNR=72						
JMDO				P		00 32 05.2	
	SNR=24						
BSY	Bisya	6.66	267	P	Pn	00 32 15.4	-0.5
	SNR=39						
ASHO	Ashiyiah	7.76	282	P	Pn	00 32 30.6	-0.4
	SNR=49						
BANOM	Banah	7.83	291	P	Pn	00 32 30.0	-1.9
	SNR=7.2						
BANOM				P		00 32 30.7	
	SNR=37						
POO	Poona	10.02	116	ePKP	Pn	00 32 59.5	-2.5
POO				AMb	AMB	00 33 08.6	
	comp=Z,13nm,0.9s						
POO				eS	Sn	00 34 44.6	-10
THW	Thamme Wali	11.47	33	P	Pn	00 33

comp=Z,37nm,0.9s
GKN Gorkha 18.83 71 *e*P **Pn 00 34 58.7 +0.2**
comp=Z,8.3nm,0.5s
GKN Gorkha 18.83 71 *e*P **Pn 00 34 58.7 +0.2**
comp=Z,8.3nm,0.5s
DMN Daman 19.18 73 *e*P **Pn 00 35 03.2 +0.4**
KKN Kakani 19.36 72 *e*P **Pn 00 35 05.3 +0.4**
PKI Pulchoki 19.44 73 *e*P **Pn 00 35 06.2 +0.3**
comp=Z,12nm,0.6s
GUN Gumba 19.90 72 *e*P **Pn 00 35 11.7 +0.3**
comp=Z,42nm,0.5s
JIRN Jiri 20.14 73 *e*P **P 00 35 14.0 +1.7**
comp=Z,20nm,0.7s
KKAR Karatay Array 20.40 13 *e*P **P 00 35 15.1 0.0**
comp=Z,8.2nm,0.8s
RAMN Ramite 20.42 75 *e*P **P 00 35 17.6 +2.2**
comp=Z,35nm,0.8s
EKS2 Erkin-Say 20.83 20 *e*P **P 00 35 19.8 +0.1**
comp=Z,162nm,1.0s
AAK Ala-Archa 21.03 21 *e*P **P 00 35 22.8 +0.9**
comp=Z,42nm,0.9s,mb4.8
ODAN Odare 21.11 76 *e*P **P 00 35 24.8 +1.8**
comp=Z,39nm,0.8s,mb4.8
TAPN Taplejung 21.44 74 *e*P **P 00 35 28.2 +1.7**
comp=Z,29nm,0.8s,mb4.6
TKM2 Tokmak 2 21.67 23 *e*P **P 00 35 30.2 +1.5**
comp=Z,8.1nm,1.0s,mb4.1
GNI Garni 23.63 320 P **P 00 35 51.5 +2.1**
comp=Z,5.9nm,0.8s,mb4.1,baz=174,slow=16,SNR=4.3
GNI Garni 23.63 320 *e*P **P 00 35 52.9 +3.4**
comp=Z,25nm,1.0s,mb4.6
ABKAR Akbulak array 26.15 353 *e*P **P 00 36 13.0 +0.7**
comp=Z,2.4nm,0.7s,mb3.8
KIV Kislovodsk 27.27 324 *e*P **P 00 36 25.3 +2.9**
comp=Z,24nm,1.0s,mb4.7
MK31 Makanchi Array 27.52 27 *e*P **P 00 36 24.0 -0.6**
MKAR Makanchi Array 27.52 27 P **P 00 36 24.6 0.0**
comp=Z,1.3nm,0.7s,mb3.7,baz=213,slow=8.6,SNR=15
MKAR Makanchi Array 27.52 27 P **P 00 36 24.6 0.0**
AKTO Aktyubinsk 27.55 351 P **P 00 36 25.9 +1.0**
comp=Z,2.9nm,0.9s,mb3.9,baz=175,slow=10,SNR=6.5
AKTO Aktyubinsk 27.55 351 P **P 00 36 25.9 +1.0**
KURK Kurchatov 29.53 18 P **P 00 36 41.9 -0.6**
comp=Z,1.7nm,0.8s,mb3.9,baz=214,slow=8.6,SNR=16
KURK Kurchatov 29.53 18 P **P 00 36 41.9 -0.6**
BVAR Borovoye Array 30.04 7 P **P 00 36 49.1 +2.1**
comp=Z,0.6nm,0.7s,mb3.5,baz=185,slow=10,SNR=3.4
BVAR Borovoye Array 30.04 7 P **P 00 36 49.1 +2.1**
BRTR Keskin Array B 30.73 309 P **P 00 36 54.5 +1.2**
comp=Z,1.2nm,0.8s,mb3.8,baz=116,slow=7.5,SNR=7.6
BRTR PcP PcP 00 39 51.6 +0.6
comp=Z,1.3nm,0.9s,baz=117,slow=4.9,SNR=4.2
BRTR Keskin Array B 30.73 309 P **P 00 36 54.5 +1.2**
BRTR PcP PcP 00 39 51.6 +0.6
CMAR Chiang Mai Arr 32.58 92 P **P 00 37 11.3 +1.5**
comp=Z,0.9nm,0.4s,mb4.1,baz=276,slow=9.9,SNR=6.6
CMAR Chiang Mai Arr 32.58 92 P **P 00 37 11.3 +1.5**
ZAA0 Zalesovo Array 34.26 21 *e*P **P 00 37 23.0 -1.0**
ZALV Zalesovo Beam 34.26 21 P **P 00 37 23.6 -0.4**
comp=Z,3.9nm,0.5s,mb4.6,baz=230,slow=9.6,SNR=21
ZALV Zalesovo Beam 34.26 21 P **P 00 37 23.6 -0.4**
MLR Muntele Rosu 38.20 315 P **P 00 38 00.5 +2.7**
comp=Z,0.3nm,0.4s,mb3.3,baz=127,slow=10,SNR=3.7
MLR Muntele Rosu 38.20 315 P **P 00 38 00.5 +2.7**
AKASG Malin Array Be 38.62 324 P **P 00 38 00.9 -0.4**
comp=Z,3.6nm,0.7s,mb4.2,baz=120,slow=7.6,SNR=8.9
AKASG Malin Array Be 38.62 324 P **P 00 38 00.9 -0.4**
BURAR Bucovina Array 39.49 318 ⇑/P **P 00 38 10.3 +1.6**
BUR08 Bucovina Ar. S 39.52 318 *e*P **P 00 38 07.7 -1.2**
DRGR 40.76 316 ⇑/P **P 00 38 20.8 +1.6**
BZS Buzias 41.09 314 ⇑/P **P 00 38 23.3 +1.4**
SONM Songino Array 41.33 43 P **P 00 38 24.9 +1.1**
comp=Z,1.4nm,0.9s,mb3.6,baz=236,slow=8.9,SNR=9.1
SONM Songino Array 41.33 43 P **P 00 38 24.9 +1.1**
OJC Ojcow 43.79 319 *e*PX **P 00 38 44.9 +1.0**
FINES FINESS Array B 46.26 336 P **P 00 39 03.4 +0.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=134,slow=9.9,SNR=8.8
FINES FINESS Array B 46.26 336 P **P 00 39 03.4 +0.1**
GERES GERESS Array B 47.17 316 P **P 00 39 11.0 +0.4**
comp=Z,0.5nm,0.6s,mb3.6,baz=90,slow=9.8,SNR=2.1
GERES GERESS Array B 47.17 316 P **P 00 39 11.0 +0.4**
CLL Collm 48.23 319 *e*P **P 00 39 20.0 +1.2**
comp=Z,5.0nm,1.0s,mb4.5
CLL *i* (pP) pP 00 39 28.8 +6.8
comp=Z,7.0nm,1.0s
KEST Kesra 48.92 298 P **P 00 39 23.2 -1.2**
comp=Z,1.4nm,0.9s,mb4.0,baz=344,slow=7.4,SNR=2.6
KEST Kesra 48.92 298 P **P 00 39 23.2 -1.2**
PGF Pioggiola 49.41 307 *e*P **P 00 39 28.6 +0.6**
PGF Pioggiola 49.41 307 *e*P **P 00 39 28.6 +0.6**
HFS Hagfors 50.82 330 P **P 00 39 38.8 +0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=116,slow=9.8,SNR=4.5
HFS Hagfors 50.82 330 P **P 00 39 38.8 +0.4**
MBDF Montbardon 51.20 309 *e*P **P 00 39 42.3 +0.8**
comp=Z,15nm,1.0s,mb4.6
MBDF Montbardon 51.20 309 *e*P **P 00 39 42.3 +0.8**
comp=Z,15nm,1.0s,mb4.9
ARCES ARCESS Array B 51.70 344 P **P 00 39 45.0 +0.1**
comp=Z,5.2nm,0.8s,mb4.5,baz=138,slow=9.6,SNR=14
ARCES ARCESS Array B 51.70 344 P **P 00 39 45.0 +0.1**
NOA NORSAR Array B 52.30 330 P **P 00 39 48.9 -0.5**
comp=Z,1.0nm,0.8s,mb3.8,baz=110,slow=7.4,SNR=3.5
NOA NORSAR Array B 52.30 330 P **P 00 39 48.9 -0.5**
SMF Signal de Mont 53.40 312 *e*P **P 00 39 57.8 0.0**
SMF Signal de Mont 53.40 312 *e*P **P 00 39 57.8 0.0**
SMF Signal de Mont 53.40 312 *e*P **P 00 39 57.8 0.0**
SSF Saint Saulge 53.65 312 *e*P **P 00 39 59.8 +0.1**
comp=Z,14nm,1.1s,mb4.5
SSF Saint Saulge 53.65 312 *e*P **P 00 39 59.8 +0.1**
comp=Z,14nm,1.1s,mb4.8
SSF Saint Saulge 53.65 312 *e*P **P 00 39 59.8 +0.1**
comp=Z,13nm,1.1s,mb4.8
KSAR Wonju Array Be 55.61 60 P **P 00 40 13.5 -0.6**
KSRS Korea Array 55.64 60 P **P 00 40 13.5 -0.8**
comp=Z,1.8nm,0.6s,mb4.3,baz=267,slow=7.2,SNR=4.7
LDF La Druitiere 56.18 314 *e*P **P 00 40 18.1 +0.1**
LDF La Druitiere 56.18 314 *e*P **P 00 40 18.1 +0.1**
ETSF Etsaut 56.45 307 *e*P **P 00 40 20.6 +0.5**
comp=Z,22nm,1.1s,mb4.8
ETSF Etsaut 56.45 307 *e*P **P 00 40 20.6 +0.5**
comp=Z,22nm,1.1s,mb5.1
SJPF Ste Jean 56.94 307 *e*P **P 00 40 23.8 +0.3**
SJPF Ste Jean 56.94 307 *e*P **P 00 40 23.8 +0.3**
ESDC Sonseca Array 59.23 303 P **P 00 40 39.5 -0.1**
comp=Z,0.5nm,0.6s,mb3.7,baz=67,slow=8.1,SNR=5.3
ESDC Sonseca Array 59.23 303 P **P 00 40 39.5 -0.1**
TORD Torodi Ar. Bea 60.03 272 P **P 00 40 45.5 0.0**
comp=Z,3.0nm,0.8s,mb4.4,baz=64,slow=6.4,SNR=23
TORD Torodi Ar. Bea 60.03 272 P **P 00 40 45.5 0.0**
EVO Evora 62.50 303 *e*P **P 00 41 02.8 +0.9**
comp=Z,13nm,1.0s,mb4.7
EVOP Sao Brissos 62.59 303 *e*P **P 00 41 02.8 +0.3**
comp=Z,13nm,1.0s,mb5.0
BOSA Boshof 63.92 218 P **P 00 41 11.1 -0.2**
comp=Z,7.4nm,1.2s,mb4.6,baz=20,slow=8.6,SNR=3.9
BOSA Boshof 63.92 218 P **P 00 41 11.1 -0.2**
DBIC Dimbokro 68.36 268 P **P 00 41 39.5 -0.8**
comp=Z,3.0nm,0.9s,mb4.3,baz=70,slow=7.2,SNR=3.1
DBIC Dimbokro 68.36 268 P **P 00 41 39.5 -0.8**
WRA Warramunga Arr 80.59 116 P **P 00 42 50.5 -0.7**
comp=Z,0.9nm,0.5s,mb4.0,baz=316,slow=4.7,SNR=28
WRA Warramunga Arr 80.59 116 P **P 00 42 50.5 -0.7**
ASAR Alice Springs 82.05 120 P **P 00 42 58.1 -0.8**
comp=Z,0.7nm,0.8s,mb3.6,baz=302,slow=4.9,SNR=9.6
ASAR Alice Springs 82.05 120 P **P 00 42 58.1 -0.8**
ILAR Eielson Array 88.94 13 P **P 00 43 31.5 -1.0**
comp=Z,0.2nm,0.6s,mb3.6,baz=322,slow=4.8,SNR=5.3
ILAR Eielson Array 88.94 13 P **P 00 43 31.5 -1.0**
YKA Yellowknife Ar 94.51 360 P **P 00 43 57.7 -0.7**
comp=Z,0.2nm,0.7s,mb3.6,baz=350,slow=4.7,SNR=4.4
YKA Yellowknife Ar 94.51 360 P **P 00 43 57.7 -0.7**
SMCO Snowmass 117.34 352 *e*PKPdf PKPdf 00 49 25.1 +1.0
TXAR Lajitas Array 126.44 347 PKP PKPdf 00 49 42.1 +0.3
comp=Z,0.3nm,0.6s,baz=190,slow=2.5,SNR=4.4
TXAR Lajitas Array 126.44 347 PKP PKPdf 00 49 42.1 +0.3

*CSEM **26** 00:38:44.9±0.2, 42°.95N×0°.21W, h2km, ML1.1/4, Error ellipse: s-maj=5.2km s-min=2.6km az=9.0*
*STR **26** 00:38:44.5±0.1, 43°.04N×0°.17W, h5km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **26** 00:38:45.2±0.2, 43°.03N×0°.22W, h2km, Md1.7/2, Ml1.4/1, Error ellipse: s-maj=5.7km s-min=2.1km az=15.0*
MDD 26 00:38:45.3±0.3, 43°.02N×0°.20W, h0km, mbLg1.0/9, Error ellipse: s-maj=3.9km s-min=1.8km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.15**	**288**	Pg	Pg	00 38 47.9	-0.3
REYF				*i* Lg		00 38 50.3	
REYF	**Montagne du Re**	**0.15**	**288**	Pg	Pg	00 38 47.8	-0.4
REYF				Sg	Sg	00 38 50.4	+0.3
REYF	**Montagne du Re**	**0.15**	**288**	Pg	Pg	00 38 47.8	-0.4
REYF				Sg	Sg	00 38 50.4	+0.3
LABF	**Labassere**	**0.20**	**83**	Pg	Pg	00 38 48.6	-0.5
LABF				Lg		00 38 51.4	
VIEF	**Viey**	**0.21**	**130**	Pg	Pg	00 38 48.9	-0.5
VIEF				Lg		00 38 51.5	
VIEF	**Viey**	**0.21**	**130**	Pg	Pg	00 38 48.8	-0.6
VIEF				Sg	Sg	00 38 51.5	-0.6
VIEF	**Viey**	**0.21**	**130**	Pg	Pg	00 38 48.8	-0.6
VIEF				Sg	Sg	00 38 51.5	-0.6
ETSF	**Etsaut**	**0.29**	**245**	*e*Pg	Pg	00 38 50.4	-0.5
ETSF				*e*Sg	Sg	00 38 54.0	-0.7
	10.0nm,0.2s						
ETSF	**Etsaut**	**0.29**	**245**	Pg	Pg	00 38 50.4	-0.5
ETSF				Lg		00 38 54.0	
	5.0nm,0.2s						
ETSF	**Etsaut**	**0.29**	**245**	*e*Pg	Pg	00 38 50.4	-0.5
ETSF				*e*Sg	Sg	00 38 54.0	-0.7
	5.0nm,0.2s						
ATE	**Arette**	**0.37**	**280**	Pg	Pg	00 38 52.3	-0.1
ATE				Sg	Sg	00 38 57.3	0.0
ATE	**Arette**	**0.37**	**280**	Pg	Pg	00 38 52.3	-0.1
ATE				Sg	Sg	00 38 57.3	0.0
EPF	**Esparros**	**0.39**	**89**	*e*Pg	Pg	00 38 52.0	-0.8
EPF				*e*Sg	Sg	00 38 57.8	-0.1
	3.2nm,0.2s						
EPF	**Esparros**	**0.39**	**89**	Pg	Pg	00 38 52.0	-0.8
EPF				Lg		00 38 57.8	
	1.6nm,0.2s						
EPF	**Esparros**	**0.39**	**89**	*e*Pg	Pg	00 38 52.0	-0.8
EPF				*e*Sg	Sg	00 38 57.8	-0.1
	1.6nm,0.2s						
EBIE	**Bielsa**	**0.42**	**143**	Pg	Pg	00 38 52.5	-0.7
	0.2nm,0.1s,SNR=12						
EBIE				Lg		00 38 58.1	
	2.4nm,0.1s,SNR=29						
EBIE	**Bielsa**	**0.42**	**143**	Pg	Pg	00 38 52.5	-0.8
	0.2nm,0.1s,SNR=12						
EBIE				Lg		00 38 58.1	
	2.4nm,0.1s,SNR=29						
SJPF	**Ste Jean**	**0.76**	**277**	*e*Pg	Pg	00 38 59.4	-0.4
SJPF				*e*Sg	Sg	00 39 09.3	-0.3
	1.3nm,0.2s						
SJPF	**Ste Jean**	**0.76**	**277**	Pg	Pg	00 38 59.4	-0.4
SJPF				Lg		00 39 09.3	
	0.6nm,0.2s						
SJPF	**Ste Jean**	**0.76**	**277**	*e*Pg	Pg	00 38 59.4	-0.4
SJPF				*e*Sg	Sg	00 39 09.3	-0.3
	0.6nm,0.2s						
IELO	**Elcoad**	**0.78**	**257**	Pg	Pg	00 38 58.8	-1.5
	0.0nm,0.0s,SNR=7.9						
IELO				Lg		00 39 11.1	
	1.0nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.78**	**257**	Pg	Pg	00 38 58.8	-1.5
	SNR=7.9						
IELO				Lg		00 39 11.1	
	1.0nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.82**	**253**	Pg	Pg	00 39 01.0	0.0
	0.0nm,0.0s,SNR=7.9						
IEPA				Lg		00 39 12.6	
	1.3nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.82**	**253**	Pg	Pg	00 39 01.0	0.0
	SNR=7.9						
IEPA				Lg		00 39 12.6	
	1.3nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.98**	**282**	Lg		00 39 17.2	
	0.7nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.98**	**282**	Lg		00 39 17.2	
	0.7nm,0.1s,SNR=7.9						
CTRE	**Tremp**	**1.00**	**134**	Pg	Pg	00 39 05.4	+1.0
CTRE				Lg		00 39 18.4	
	1.8nm,0.7s						
CEST	**Esterri de Car**	**1.15**	**111**	Pg	Pg	00 39 08.0	+0.7
CEST				Lg		00 39 23.6	
CSOR	**Sort**	**1.18**	**123**	Pg	Pg	00 39 07.8	0.0
	0.1nm,0.1s,SNR=7.9						
CSOR				Lg		00 39 22.9	
	0.7nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.18**	**123**	Pg	Pg	00 39 07.8	0.0
	0.1nm,0.1s,SNR=7.9						
CSOR				Lg		00 39 22.9	
	0.7nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.31**	**189**	Lg		00 39 28.2	
	8.1nm,0.2s,SNR=5.2						
ESAC	**San Caprasio**	**1.31**	**189**	Lg		00 39 28.2	
	8.1nm,0.2s,SNR=5.2						
CAVN	**Les Avellanes**	**1.34**	**148**	Pg	Pg	00 39 10.8	-0.1
CAVN				Lg		00 39 28.8	
	2.3nm,0.5s						
CORG	**Organya**	**1.37**	**125**	Pg	Pg	00 39 12.0	+0.5
CORG				Lg		00 39 30.1	
CLLI	**Llivia**	**1.69**	**108**	Pg	Pg	00 39 18.3	+0.7
	0.0nm,0.1s,SNR=4.0						
CLLI				Lg		00 39 40.4	
	0.3nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**1.69**	**108**	Pg	Pg	00 39 18.3	+0.7
	SNR=4.0						
CLLI				Lg		00 39 40.4	
	0.3nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.79**	**79**	*e*Pg	Pg	00 39 18.3	-1.4
MTLF				*e*Sg	Sg	00 39 41.3	-1.6
	0.3nm,0.2s						
MTLF	**Montolieu**	**1.79**	**79**	Pg	Pg	00 39 18.3	-1.4
MTLF				Lg		00 39 41.3	
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.79**	**79**	*e*Pg	Pg	00 39 18.3	-1.4
MTLF				*e*Sg	Sg	00 39 41.3	-1.6
	0.2nm,0.2s						
EPOB	**Poblet**	**1.92**	**150**	Lg		00 39 45.1	
	0.2nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.92**	**150**	Lg		00 39 45.1	
	0.2nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.10**	**169**	Pg	Pg	00 39 22.5	-3.0
	0.1nm,0.1s,SNR=7.9						
ERTA				Lg		00 39 51.5	
	0.1nm,0.0s,SNR=7.9						
ERTA	**Horta de San J**	**2.10**	**169**	Pg	Pg	00 39 22.5	-3.1
	0.1nm,0.1s,SNR=7.9						
ERTA				Lg		00 39 51.5	
	0.1nm,0.0s,SNR=7.9						

*ISK **26** 00:40:25.7, 38°.73N×43°.19E, h26km, MD2.5*
*CSEM **26** 00:40:25.7±0.2, 38°.72N×43°.24E, h30km, MD2.5, Error ellipse: s-maj=8.6km s-min=5.2km az=94.0*
*ISCJB **26** 00:40:27.0±0.6, 38°.75N±0°.03×43°.17E±0°.05, h10km, Error ellipse: s-maj=5.2km s-min=4.3km az=12.4*
*DDA **26** 00:40:27.1, 38°.73N×43°.18E, h7km±5km, Md2.8*
ISC 26 00:40:27.7±0.6, 38°.75N±0°.03×43°.20E±0°.05, h10km, n13, σ1°.21/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**136**	*e*PG	**Pg**	**00 40 31.8**	**-0.4**
VANB				*e*SG	**Sg**	**00 40 36.7**	**+1.6**
VANB	**Van**	**0.21**	**136**	*e*Pg	**Pg**	**00 40 31.8**	**-0.3**
VANB				*e*Sg	**Sg**	**00 40 36.7**	**+1.6**
VANT	**Van**	**0.33**	**171**	*e*PG	**Pg**	**00 40 33.3**	**-1.0**
VANT	**Van**	**0.33**	**171**	*e*Pg	**Pg**	**00 40 33.3**	**-1.0**
GEVA	**Gevas**	**0.45**	**194**	*i* P	**Pg**	**00 40 34.8**	**-1.7**
GEVA				*i* S	**Sg**	**00 40 43.2**	**+0.7**
GEVA	**Gevas**	**0.45**	**194**	*i* P	**Pg**	**00 40 34.8**	**-1.7**
GEVA				*i* S	**Sg**	**00 40 43.2**	**+0.7**
CLDR	**Caldiran**	**0.68**	**55**	*e*PG	**Pg**	**00 40 39.5**	**-1.4**
CLDR				*e*SG	**Sg**	**00 40 50.8**	**+0.9**
CLDR	**Caldiran**	**0.68**	**55**	*e*Pg	**Pg**	**00 40 39.5**	**-1.4**
CLDR				*e*Sg	**Sg**	**00 40 50.8**	**+1.0**
TUTA	**Tutak**	**0.72**	**335**	*i* P	**Pg**	**00 40 40.9**	**-0.6**
TUTA				*i* S	**Sg**	**00 40 52.3**	**+1.4**
TUTA	**Tutak**	**0.72**	**335**	*i* P	**Pg**	**00 40 40.9**	**-0.6**
TUTA				*i* S	**Sg**	**00 40 52.3**	**+1.4**
AGRB	**Hanur-Agry**	**0.84**	**349**	*e*PG	**Pg**	**00 40 42.9**	**-1.0**
AGRB	**Hanur-Agry**	**0.84**	**349**	*e*Pg	**Pg**	**00 40 42.9**	**-1.0**
BEST	**Besiri**	**1.74**	**241**	*i* P	**Pg**	**00 41 03.4**	**+2.2**
BEST				*i* S	**Sg**	**00 41 23.4**	**-0.3**

PGC 26 00:47:40.1±2.0, 48°.84N×128°.98W, h10km, ML2.9/15, Mw3.5, 25D, 226km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.54**	**30**	⇓Pn	Pn	00 48 05.0	-2.6
BPBC				⇓Sn	Sn	00 48 23.7	-3.8
EDB	**Eliza Dome**	**1.60**	**49**	⇓Pn	Pn	00 48 05.8	-2.6
EDB				⇓Sn	Sn	00 48 24.2	-4.8
HOLB	**Holberg**	**1.88**	**17**	⇑Pn	Pn	00 48 09.9	-2.4
HOLB				⇓Sn	Sn	00 48 31.3	-4.8
MAYB	**Maynard**	**1.96**	**36**	⇑Pn	Pn	00 48 11.2	-2.1
WOSB	**Woss**	**2.05**	**49**	⇓Pn	Pn	00 48 13.2	-1.5
WOSB				⇓Sn	Sn	00 48 37.4	-2.9
PHC	**Port Hardy**	**2.12**	**28**	⇓Pn	Pn	00 48 13.7	-1.9
PHC				⇑Sn	Sn	00 48 38.0	-4.0
GDR	**Gold River**	**2.15**	**63**	⇓Pn	Pn	00 48 13.9	-2.1
GDR				⇓Sn	Sn	00 48 38.7	-3.9
OZB	**Mount Ozzard**	**2.30**	**86**	⇓Pn	Pn	00 48 14.7	-3.4
OZB				⇑Sn	Sn	00 48 40.8	-5.7
BTB	**Buttle Lake**	**2.36**	**73**	⇓Pn	Pn	00 48 17.4	-1.4
BTB				⇓Sn	Sn	00 48 44.7	-3.1
NCRB	**Newcastle Ridg**	**2.46**	**49**	⇑Pn	Pn	00 48 19.3	-1.0
NCRB				⇓Sn	Sn	00 48 47.9	-2.5
BMSB	**Bamfield Mari**	**2.54**	**89**	⇓Pn	Pn	00 48 19.1	-2.2
BMSB				⇓Sn	Sn	00 48 48.0	-4.3
CBB	**Campbell River**	**2.64**	**62**	⇓Pn	Pn	00 48 21.7	-1.1
CBB				⇑Sn	Sn	00 48 52.4	-2.5
ALB	**Alberni**	**2.76**	**79**	⇑Pn	Pn	00 48 23.1	-1.3
ALB				⇓Sn	Sn	00 48 55.4	-2.4
MGB	**Mount Grey**	**2.83**	**85**	⇓Pn	Pn	00 48 23.1	-2.3
MGB				⇓Sn	Sn	00 48 55.3	-4.2
PFB	**Port Renfrew**	**3.02**	**93**	⇓Sn	Sn	00 48 58.6	-5.5
TXB	**Texada**	**3.10**	**72**	⇑Pn	Pn	00 48 28.2	-0.8
TXB				⇓Sn	Sn	00 49 03.0	-3.0
YOUB	**Youbou, Lake C**	**3.12**	**87**	⇑Pn	Pn	00 48 27.6	-1.6
YOUB				⇑Sn	Sn	00 49 03.0	-3.5
GHNB	**Nanoose**	**3.15**	**80**	⇓Sn	Sn	00 49 06.2	-1.2
NLLB	**Nanaimo Lost L**	**3.31**	**81**	⇓Pn	Pn	00 48 31.5	-0.4
NLLB				⇑Sn	Sn	00 49 10.0	-1.2
BBB	**Bella Bella**	**3.39**	**9**	⇓Pn	Pn	00 48 31.9	-1.1
BBB				⇑Sn	Sn	00 49 10.0	-3.3

*ISCJB **26** 01:03:47.7±0.3, 39°.92N±0°.02×27°.71E±0°.02, h2km±3km, Error ellipse: s-maj=2.9km s-min=2.5km az=148.4*
*ISK **26** 01:03:47.9, 39°.92N×27°.71E, h7km, MD3.2*
*ATH **26** 01:03:47.0, 39°.83N×27°.78E, h22km±3km, MD3.4/4*
*DDA **26** 01:03:48.1, 39°.89N×27°.73E, h10km±2km, Md3.2*
*CSEM **26** 01:03:48.3±0.1, 39°.92N×27°.70E, h5km, MD3.2, Error ellipse: s-maj=1.8km s-min=1.7km az=162.0*
ISC 26 01:03:48.5±0.3, 39°.92N±0°.02×27°.70E±0°.02, h6km±2km, n101, σ0°.64/144, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.13**	**354**	PG	**Pg**	**01 03 51.8**	**+0.5**
GONE	**Gonen-Balikesi**	**0.13**	**354**	*i* Pg	**Pg**	**01 03 51.8**	**+0.5**
BALY	**Balya**	**0.19**	**201**	*i* P	**Pg**	**01 03 52.5**	**+0.3**
BALY				*i* S	**Sg**	**01 03 55.5**	**+0.8**
BALY	**Balya**	**0.19**	**201**	*i* P	**Pg**	**01 03 52.5**	**+0.3**
BALY				*i* S	**Sg**	**01 03 55.5**	**+0.8**
EDC	**Edincik**	**0.45**	**16**	PG	**Pg**	**01 03 57.2**	**0.0**
EDC	**Edincik**	**0.45**	**16**	*i* Pg	**Pg**	**01 03 57.2**	**0.0**
BNT	**Bandirma**	**0.47**	**20**	*e*PG	**Pg**	**01 03 57.6**	**0.0**
BNT	**Bandirma**	**0.47**	**20**	*e*Pg	**Pg**	**01 03 57.6**	**0.0**
KRBG	**Karabiga-Canak**	**0.57**	**327**	*e*PG	**Pg**	**01 03 59.8**	**+0.3**
KRBG				*e*SG	**Sg**	**01 04 08.0**	**+1.1**
KRBG	**Karabiga-Canak**	**0.57**	**327**	*e*Pg	**Pg**	**01 03 59.8**	**+0.3**
KRBG				*e*Sg	**Sg**	**01 04 08.0**	**+1.1**
KCTX	**Karacabey (Bur**	**0.61**	**55**	*e*PG	**Pg**	**01 03 59.9**	**-0.4**
KCTX	**Karacabey (Bur**	**0.61**	**55**	*e*Pg	**Pg**	**01 03 59.9**	**-0.4**
LPK	**Lapseki**	**0.86**	**303**	*e*PG	**Pg**	**01 04 04.0**	**-1.0**
LPK	**Lapseki**	**0.86**	**303**	*e*Pg	**Pg**	**01 04 04.0**	**-0.9**
RKY	**Sarkoy-Tekirda**	**0.87**	**333**	*e*PG	**Pg**	**01 04 05.4**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.87**	**333**	*e*Pg	**Pg**	**01 04 05.4**	**+0.2**
SART	**Tekirdag**	**0.87**	**333**	*i* P	**Pg**	**01 04 04.8**	**-0.4**
SART				*i* S	**Sg**	**01 04 17.4**	**+0.8**
SART	**Tekirdag**	**0.87**	**333**	*i* P	**Pg**	**01 04 04.8**	**-0.4**
SART				*i* S	**Sg**	**01 04 17.4**	**+0.8**
AYVA	**Ayvalik**	**0.99**	**233**	*i* P	**Pg**	**01 04 07.0**	**-0.5**
AYVA				*i* S	**Sg**	**01 04 21.0**	**+0.7**
AYVA	**Ayvalik**	**0.99**	**233**	*i* P	**Pg**	**01 04 07.0**	**-0.5**
AYVA				*i* S	**Sg**	**01 04 21.0**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.01**	**63**	*e*PG	**Pg**	**01 04 07.4**	**-0.5**
MDNY				*e*SG	**Sg**	**01 04 21.5**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.01**	**63**	*e*Pg	**Pg**	**01 04 07.4**	**-0.5**
MDNY				*e*Sg	**Sg**	**01 04 21.5**	**+0.4**
AKHS	**Akhisar**	**1.04**	**175**	*i* P	**Pg**	**01 04 07.7**	**-0.7**
AKHS				*i* S	**Sg**	**01 04 21.9**	**0.0**
AKHS	**Akhisar**	**1.04**	**175**	*i* P	**Pg**	**01 04 07.7**	**-0.7**
AKHS				*i* S	**Sg**	**01 04 21.9**	**0.0**
GELI	**Tayfur-Gelibol**	**1.06**	**298**	*e*PG	**Pg**	**01 04 08.6**	**-0.3**
GELI				*e*SG	**Sg**	**01 04 23.8**	**+1.3**
GELI	**Tayfur-Gelibol**	**1.06**	**298**	*e*Pg	**Pg**	**01 04 08.6**	**-0.2**
GELI				*e*Sg	**Sg**	**01 04 23.8**	**+1.2**
EZN	**Ez

GDZ				*i* S	Sn	01 04 39.4	+1.1
GDZ	**Gediz**	**1.60**	**120**	*i* P	Pn	01 04 16.9	-0.4
GDZ				*i* S	Sn	01 04 39.4	+1.1
BLCB	**Balcova**	**1.61**	**199**	*e*PN	Pn	01 04 17.5	+0.1
BLCB	**Balcova**	**1.61**	**199**	*e*Pn	Pn	01 04 17.5	+0.1
CTYL	**Yal??k??y-??at**	**1.62**	**16**	*e*PN	Pn	01 04 16.8	-0.8
CTYL				*e*SN	Sn	01 04 38.8	0.0
CTYL	**Yal??k??y-??at**	**1.62**	**16**	*e*Pn	Pn	01 04 16.8	-0.8
CTYL				*e*Sn	Sn	01 04 38.8	0.0
ADVT	**Abdulvahap**	**1.64**	**71**	*e*PN	Pn	01 04 18.3	+0.4
ADVT	**Abdulvahap**	**1.64**	**71**	*e*Pn	Pn	01 04 18.3	+0.4
CAVI	**Cavuskoy**	**1.67**	**79**	*e*PN	Pn	01 04 18.4	+0.2
CAVI	**Cavuskoy**	**1.67**	**79**	*e*Pn	Pn	01 04 18.4	+0.2
KLYT	**Kilyos**	**1.68**	**37**	*e*PN	Pn	01 04 18.5	+0.1
KLYT	**Kilyos**	**1.68**	**37**	*e*Pn	Pn	01 04 18.5	+0.1
HRT	**Hereke**	**1.75**	**58**	*e*PN	Pn	01 04 19.6	+0.2
HRT	**Hereke**	**1.75**	**58**	*e*Pn	Pn	01 04 19.6	+0.2
SILT	**Sile**	**1.93**	**49**	*e*PN	Pn	01 04 21.3	-0.5
SILT	**Sile**	**1.93**	**49**	*e*Pn	Pn	01 04 21.3	-0.5
LIA	**Limnos Island**	**1.94**	**270**	*e*PN	Pn	01 04 22.0	0.0
LIA	**Limnos Island**	**1.94**	**270**	*e*P	Pn	01 04 22.2	+0.2
CHOS	**Chios island**	**1.99**	**221**	*e*PN	Pn	01 04 21.1	-1.6
ALT	**Altintas**	**2.05**	**114**	*e*PN	Pn	01 04 23.9	+0.4
ALT	**Altintas**	**2.05**	**114**	*e*Pn	Pn	01 04 23.9	+0.4
RDO	**Rodhopi**	**2.06**	**307**	*e*PB	Pn	01 04 23.7	+0.1
EDRB	**Edirne**	**2.06**	**340**	*e*PN	Pn	01 04 23.4	-0.3
EDRB	**Edirne**	**2.06**	**340**	*e*Pn	Pn	01 04 23.4	-0.3
BORA	**Eskisehir**	**2.12**	**90**	*i* P	Pg	01 04 28.5	-0.6
BORA	**Eskisehir**	**2.12**	**90**	*i* P	Pg	01 04 28.5	-0.5
GULT	**Gulveren**	**2.21**	**76**	*e*PN	Pn	01 04 26.5	+0.7
GULT	**Gulveren**	**2.21**	**76**	*e*Pn	Pn	01 04 26.5	+0.8
KDZ	**Kurdzhali**	**2.45**	**316**	*i* P	Pn	01 04 28.7	-0.3
KDZ	**Kurdzhali**	**2.45**	**316**	*i* P	Pn	01 04 28.7	-0.3
ESKT	**Eskisehir**	**2.46**	**98**	*e*PN	Pn	01 04 30.3	+1.3
ESKT	**Eskisehir**	**2.46**	**98**	*e*Pn	Pn	01 04 30.3	+1.2
SHUT	**Suhut-Afyon**	**2.59**	**121**	*e*PN	Pn	01 04 31.1	+0.2
SHUT	**Suhut-Afyon**	**2.59**	**121**	*e*Pn	Pn	01 04 31.1	+0.1
JMB	**Yambol**	**2.69**	**342**	*i* P	Pg	01 04 40.4	+0.4
DIM	**Dimitrovgrad**	**2.69**	**323**	*i* P	Pg	01 04 38.5	-1.6
RZN	**Rozhen**	**2.88**	**309**	*i* P	Pn	01 04 34.8	-0.1
RZN	**Rozhen**	**2.88**	**309**	*i* P	Pn	01 04 34.8	-0.1
SVRH	**Sivrihisar-ESK**	**2.98**	**98**	*e*PN	Pn	01 04 37.5	+1.2
SVRH	**Sivrihisar-ESK**	**2.98**	**98**	*e*Pn	Pn	01 04 37.6	+1.3

IDC 26 01:10:18.9±1.2, 2°09.S×125°28.E, h0km, mb3.4/4, mb1 3.4/5, mb1mx3.3/18, mbtmp3.3/5, Error ellipse: s-maj=199.5km s-min=21.3km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.84**	**154**	P	Pn	01 14 51.5	-1.4
	0.1nm,0.3s,baz=331,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**23.02**	**159**	P	P	01 15 25.8	+0.1
	0.4nm,0.7s,baz=346,slow=13,SNR=6.1						
SONM	**Songino Array**	**52.38**	**344**	P	P	01 19 33.3	+0.5
	0.3nm,0.8s,baz=152,slow=9.8,SNR=2.6						
MKAR	**Makanchi Array**	**61.57**	**328**	P	P	01 20 38.1	+0.1
	0.9nm,1.2s,baz=123,slow=5.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**65.14**	**335**	P	P	01 21 01.2	-0.3
	0.5nm,0.6s,baz=134,slow=8.2,SNR=2.4						

IDC 26 01:10:28.5±1.8, 21°90S×174°75E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.7/15, mbtmp3.6/4, Error ellipse: s-maj=77.6km s-min=33.7km az=147.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.09**	**244**	P	P	01 16 49.3	+0.7
	0.8nm,0.9s,baz=98,slow=17,SNR=2.4						
ASAR	**Alice Springs**	**37.62**	**259**	P	P	01 17 45.2	0.0
	0.9nm,0.8s,baz=86,slow=8.8,SNR=8.7						
ASAR				PcP	PcP	01 20 02.1	-1.0
	0.2nm,0.8s,baz=108,slow=3.0,SNR=2.6						
WRA	**Warramunga Arr**	**37.73**	**265**	P	P	01 17 46.0	-0.2
	0.3nm,0.7s,baz=95,slow=8.4,SNR=4.6						
ILAR	**Eielson Array**	**91.31**	**15**	P	P	01 23 36.0	+0.6
	0.5nm,0.8s,baz=230,slow=4.6,SNR=7.7						
TORD	**Torodi Ar. Bea**	**169.07**	**218**	PKPab	PKPab	01 31 49.0	-0.8
	0.5nm,0.9s,baz=139,slow=3.5,SNR=3.4						

*ISCJB **26** 01:19:34.5±0.9, 11°00N±0°06×62°13W±0°04, h110km±8km, Error ellipse: s-maj=10.3km s-min=6.8km az=176.3*
*FUNV **26** 01:19:37.4, 10°99N×62°18W, h102km, MW2.9*
ISC 26 01:19:35.4±1.0, 11°01N±0°06×62°13W±0°04, h106km±8km, n14, σ0°87/21, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.37**	**195**	*e*P	Pn	01 19 52.2	+1.2
GUIV				*e*S	Sn	01 20 03.1	+0.4
TRN	**Trinidad (W)**	**0.79**	**117**	⇑*i*P	Pn	01 19 55.1	+1.0
TRN				*e*S	Sn	01 20 08.1	-0.2
ITEV	**Isla Los Testi**	**1.05**	**289**	*e*S	Sn	01 20 12.3	-0.6
CRUV	**Carupano**	**1.14**	**253**	*e*P	Pn	01 19 58.6	+0.8
CRUV				*e*S	Sn	01 20 14.4	-0.3
GUNV	**Guanoco**	**1.16**	**224**	*e*P	Pn	01 19 59.5	+1.5
GUNV				*e*S	Sn	01 20 14.2	-0.9
TOSP	**Speyside**	**1.59**	**79**	*e*P	Pn	01 20 02.5	-0.5
TOSP				*e*S	Sn	01 20 22.7	-1.3
ORIV	**Oritupano**	**2.30**	**213**	*e*P	Pn	01 20 12.4	+0.3
ORIV				*e*S	Sn	01 20 38.8	-1.4
PCRV	**Puerto La Cruz**	**2.60**	**252**	*e*P	Pn	01 20 16.2	+0.2
RIOV	**Rio Grande**	**2.93**	**174**	*e*P	Pn	01 20 21.9	+1.4
RIOV				*e*S	Sn	01 20 54.7	-0.4
GURV	**El Guri**	**3.36**	**196**	*e*P	Pn	01 20 26.6	+0.5
CUPV	**Cœpira**	**3.72**	**256**	*e*P	Pn	01 20 31.8	+0.8
MERV	**Las Mercedes**	**4.46**	**247**	*e*P	Pn	01 20 40.5	-0.4
LUEV	**Luepa**	**5.17**	**173**	*e*P	Pn	01 20 49.8	-0.7
BAUV	**El Baul**	**6.18**	**251**	*e*P	Pn	01 21 02.9	-1.3

*ISCJB **26** 01:23:26.6±1.3, 33°88S±0°06×178°56W±0°09, h71km±13km, mb4.8/14, Error ellipse: s-maj=13.3km s-min=9.3km az=31.9*
*IDC **26** 01:23:27.6±3.1, 33°49S×178°64W, h53km±26km, mb4.4/9, mb1 4.5/11, mb1mx4.3/20, mbtmp4.4/11, ML4.1/2, MS3.8/3, Ms1 3.8/3, ms1mx3.3/26, Error ellipse: s-maj=19.4km s-min=18.2km az=129.0*
*NEIC **26** 01:23:27.9±1.3, 33°62S×178°61W, h59km±11km, mb4.9/8, Error ellipse: s-maj=12.2km s-min=10.4km az=188.0*
ISC 26 01:23:27.2±1.2, 33°75S±0°06×178°61W±0°08, h52km±11km, n98, σ1°23/63, mb4.8/14, MS3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.56**	**213**	PN	Pn	01 24 33.8	+0.1
MXZ				SN	Sn	01 25 29.5	+4.2
MXZ				T		01 29 27.1	
PUZ	**Puketiti**	**5.01**	**210**	PN	Pn	01 24 39.4	-0.3
PUZ				SN	Sn	01 25 42.9	+6.6
URZ	**Urewera**	**5.69**	**216**	P	Pn	01 24 50.9	+1.9
	11nm,0.3s,baz=30,slow=4.6,SNR=31						
URZ				S	Sn	01 25 57.4	+4.5
	31nm,0.3s,baz=162,slow=20,SNR=11						
URZ	**Urewera**	**5.69**	**216**	P	Pn	01 24 50.9	+1.9
URZ				S	Sn	01 25 57.4	+4.5
KNZ	**Kokohu**	**6.06**	**209**	*e*PN	Pn	01 24 53.4	-0.7
OUZ	**Omahuta**	**6.61**	**255**	*e*Pn	Pn	01 25 03.6	+2.0
	70nm,0.7s						
TSZ	**Takapari Road**	**7.66**	**213**	*e*SN	Sn	01 26 42.6	+1.3
BFZ	**Birch Farm**	**8.05**	**209**	*e*PN	Pn	01 25 20.6	-0.7
BFZ				SN	Sn	01 26 51.8	+0.9
MRZ	**Mangatainoka R**	**8.32**	**212**	PN	Pn	01 25 23.5	-1.5
MRZ				SN	Sn	01 26 56.2	-1.3
HOWZ	**Holdsworth Sta**	**8.54**	**212**	SN	Sn	01 27 01.7	-1.2
CTZ	**Chatham Island**	**10.10**	**172**	PN	Pn	01 25 48.7	-0.7
CTZ				*e*SN	Sn	01 27 32.9	-8.2
THZ	**Tophouse**	**10.45**	**218**	*e*PN	Pn	01 25 57.1	+3.0
THZ				SN	Sn	01 27 47.9	-1.8
RPZ	**Rata Peaks**	**12.81**	**216**	P	Pn	01 26 25.8	-0.5
	2.3nm,0.3s,baz=69,slow=6.1,SNR=7.3						
RPZ				S	Sn	01 28 40.0	-7.3
	2.6nm,0.3s,baz=347,slow=19,SNR=7.5						
RPZ	**Rata Peaks**	**12.81**	**216**	*e*Pn	Pn	01 26 26.5	+0.1
RPZ				S	Sn	01 28 40.0	-7.3
DZM	**Mont Dzumac**	**17.58**	**308**	P	Pn	01 27 28.4	0.0
	0.4nm,0.3s,baz=129,slow=18,SNR=6.1						
DZM	**Mont Dzumac**	**17.58**	**308**	*e*P	Pn	01 27 28.7	+0.2
	35nm,1.1s						
RAR	**Rarotonga**	**20.82**	**58**	P	P	01 28 04.4	+0.1
	12nm,0.4s,baz=185,slow=9.4,SNR=5.5						
RAR	**Rarotonga**	**20.82**	**58**	P	P	01 28 04.4	+0.1
ARMA	**Armidale**	**25.40**	**269**	*e*P	P	01 28 54.4	+4.7
CNB	**Canberra Magne**	**26.38**	**257**	*e*P	P	01 29 01.5	+3.0
EIDS	**Eidsvold**	**27.58**	**280**	*e*P	P	01 29 10.3	+0.9
	30nm,1.2s,mb4.8						
HNR	**Honiara**	**31.22**	**316**	P	P	01 29 42.3	+0.5
	106nm,0.6s,mb5.8,baz=146,slow=3.6,SNR=2.6						
HNR	**Honiara**	**31.22**	**316**	P	P	01 29 42.3	+0.5
STKA	**Stephens Creek**	**33.36**	**262**	P	P	01 30 01.5	+1.1
	1.8nm,0.6s,mb4.2,baz=111,slow=11,SNR=6.2						
STKA				PcP	PcP	01 32 41.6	+0.5
	2.0nm,0.7s,baz=153,slow=2.3,SNR=4.5						
STKA				LR	LR	01 43 27.9	
	comp=Z,221nm,18.0s,MS3.9,baz=25,slow=36						
STKA	**Stephens Creek**	**33.36**	**262**	*e*P	P	01 30 01.3	+0.9
STKA	**Stephens Creek**	**33.36**	**262**	P	P	01 30 01.5	+1.1
STKA				PcP	PcP	01 32 41.6	+0.5
CTA	**Charters Tower**	**33.98**	**285**	P	P	01 30 06.4	+0.5
	12nm,0.5s,mb5.1,baz=118,slow=11,SNR=29						
CTA				LR	LR	01 40 35.0	
	comp=Z,91nm,18.7s,MS3.5,baz=230,slow=30						
CTA	**Charters Tower**	**33.98**	**285**	*e*P	P	01 30 06.0	+0.1
CTA	**Charters Tower**	**33.98**	**285**	P	P	01 30 06.4	+0.5
CTAO	**Charters Tower**	**33.98**	**285**	*e*P	P	01 30 06.4	+0.5
	15nm,0.7s,mb5.0						
COEN	**Coen**	**39.82**	**290**	*e*P	P	01 30 55.1	-0.5
	168nm,1.1s,mb5.7						
AS31	**Alice Springs**	**42.53**	**271**	*e*P	P	01 31 17.5	-0.2
ASAR	**Alice Springs**	**42.53**	**271**	P	P	01 31 17.0	-0.7
	17nm,0.6s,mb4.9,baz=111,slow=7.4,SNR=373						
ASAR				PcP	PcP	01 33 09.6	-0.1
	2.7nm,0.7s,baz=124,slow=4.3,SNR=5.2						
ASAR	**Alice Springs**	**42.53**	**271**	P	P	01 31 17.0	-0.7
ASAR				PcP	PcP	01 33 09.6	-0.1
WB2	**Warramunga Arr**	**43.81**	**276**	*e*P	P	01 31 27.1	-1.0
WRAB	**Tennant Creek**	**43.81**	**276**	*e*P	P	01 31 27.2	-0.9
	15nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**43.82**	**276**	P	P	01 31 27.5	-0.7
	16nm,0.6s,mb4.9,baz=116,slow=7.6,SNR=278						
WRA				LR	LR	01 50 52.3	
	comp=Z,114nm,18.2s,MS3.8,baz=70,slow=38						
WRA	**Warramunga Arr**	**43.82**	**276**	P	P	01 31 27.5	-0.7
FORT	**Forrest**	**44.78**	**259**	*e*P	P	01 31 35.4	-0.4
FORT	**Forrest**	**44.78**	**259**	*e*P	P	01 31 35.5	-0.3
	13nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**51.92**	**273**	*e*P	P	01 32 29.8	-1.1
QSPA	**South Pole Qui**	**56.38**	**180**	P	P	01 33 06.7	+4.3
	7.3nm,0.9s,mb4.7,baz=36,slow=5.2,SNR=13						
QSPA	**South Pole Qui**	**56.38**	**180**	*e*P	P	01 33 06.6	+4.2
	11nm,0.7s,mb5.0						
SNAA	**Sanae**	**74.84**	**179**	*e*	P	01 35 04.3	+2.8
SNAA				*e*	pP	01 35 15.3	-1.0
SNAA	**Sanae**	**74.84**	**179**	*e*P	P	01 35 03.8	+2.2
	5.6nm,0.8s,mb4.5						
VNA3	**Neumayer Olymp**	**75.01**	**176**	*e*	P	01 35 04.8	+2.2
VNA3				*e*		01 35 14.1	
VNA2	**Neumayer--Watz**	**75.44**	**177**	*e*	P	01 35 07.7	+2.7
	baz=178,slow=3.8						
VNA2				*e*	pP	01 35 18.2	-1.5
PETK	**Petropavlovsk-**	**88.92**	**346**	P	P	01 36 14.2	-1.1
	6.3nm,0.9s,mb5.0,baz=163,slow=7.1,SNR=3.8						
PETK	**Petropavlovsk-**	**88.92**	**346**	P	P	01 36 14.2	-1.1
NVAR	**Mina Array Bea**	**91.03**	**43**	P	P	01 36 24.6	-1.0
	0.5nm,0.5s,mb4.1,baz=208,slow=5.6,SNR=3.4						
NVAR	**Mina Array Bea**	**91.03**	**43**	P	P	01 36 24.6	-1.0
TXAR	**Lajitas Array**	**94.61**	**58**	P	P	01 36 41.4	-1.0
	0.7nm,1.0s,mb4.0,baz=309,slow=1.9,SNR=4.8						
TXAR	**Lajitas Array**	**94.61**	**58**	P	P	01 36 41.4	-1.0
YKA	**Yellowknife Ar**	**108.67**	**26**	PKKPbc	PKKPbc	01 53 00.2	+0.1
	0.2nm,0.7s,baz=43,slow=3.3,SNR=3.7						
MK31	**Makanchi Array**	**119.49**	**309**	*e*PKPdf	PKPdf	01 42 09.9	-0.6
MKAR	**Makanchi Array**	**119.49**	**309**	PKP	PKPdf	01 42 10.2	-0.3
	0.7nm,0.7s,baz=104,slow=0.6,SNR=7.2						
MKAR	**Makanchi Array**	**119.49**	**309**	PKP	PKPdf	01 42 10.2	-0.3
ZALV	**Zalesovo Beam**	**120.16**	**317**	PKP	PKPdf	01 42 11.7	+0.1
	0.4nm,0.4s,baz=107,slow=3.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**120.16**	**317**	PKP	PKPdf	01 42 11.7	+0.1
TKM2	**Tokmak 2**	**122.81**	**303**	*e*PKPdf	PKPdf	01 42 17.2	+0.2
KURK	**Kurchatov**	**122.95**	**312**	PKP	PKPdf	01 42 15.9	-1.2
	1.6nm,0.7s,baz=114,slow=1.9,SNR=14						
KURK	**Kurchatov**	**122.95**	**312**	PKP	PKPdf	01 42 15.9	-1.2
AAK	**Ala-Archa**	**123.50**	**302**	*e*PKPdf	PKPdf	01 42 19.0	+0.6
EKS2	**Erkin-Say**	**124.01**	**302**	*e*PKPdf	PKPdf	01 42 17.5	-1.8
KBL	**Kabul**	**125.00**	**291**	*e*PKPdf	PKPdf	01 42 21.3	-0.2
BVAR	**Borovoye Array**	**128.39**	**314**	PKP	PKPdf	01 42 27.4	0.0
	1.2nm,0.8s,baz=90,slow=1.4,SNR=4.5						
BVAR	**Borovoye Array**	**128.39**	**314**	PKP	PKPdf	01 42 27.4	0.0
BRVK	**Borovoye**	**128.46**	**314**	*e*PKPdf	PKPdf	01 42 27.7	+0.2
ARCES	**ARCESS Array B**	**141.73**	**347**	PKP	PKPdf	01 42 50.0	-1.7
	8.7nm,1.0s,baz=90,slow=2.7,SNR=3.6						
ARCES	**ARCESS Array B**	**141.73**	**347**	PKP	PKPdf	01 42 50.0	-1.7
JOF	**Joensuu**	**145.30**	**336**	*e*pkp	PKPdf	01 42 56.1	-2.1
KAF	**Kangasniemi**	**147.49**	**338**	*e*pkp	PKPdf	01 43 02.5	+0.6
FINES	**FINESS Array B**	**148.07**	**338**	PKPbc	PKPbc	01 43 04.5	-1.6
	12nm,0.8s,baz=40,slow=5.3,SNR=30						
FINES				PKKPbc		01 50 23.1	
	2.5nm,1.0s,baz=189,slow=3.7,SNR=4.6						
FINES	**FINESS Array B**	**148.07**	**338**	PKPbc	PKPbc	01 43 04.5	-1.6
FINES				PKKPbc		01 50 23.1	
ASF	**Jabal al Asfar**	**150.25**	**277**	PKPbc	PKPbc	01 43 12.5	0.0
	5.7nm,0.9s,baz=43,slow=1.5,SNR=7.4						
ASF	**Jabal al Asfar**	**150.25**	**277**	PKPbc	PKPbc	01 43 12.5	0.0
EIL	**Elat**	**151.24**	**271**	PKPbc	PKPbc	01 43 15.3	+0.4
	11nm,0.8s,baz=5.8,slow=3.5,SNR=5.3						
EIL	**Elat**	**151.24**	**271**	PKPbc	PKPbc	01 43 15.3	+0.4
MMAI	**Mount Meron Ar**	**151.66**	**278**	PKPbc	PKPbc	01 43 16.8	+1.0
	6.4nm,0.5s,baz=82,slow=5.0,SNR=24						
MMAI	**Mount Meron Ar**	**151.66**	**278**	PKPbc	PKPbc	01 43 16.8	+1.0
NB2	**NORSAR Subarra**	**151.96**	**350**	PKP	PKPbc	01 43 15.9	+0.3
	comp=Z,7.3nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.96**	**350**	PKPbc	PKPbc	01 43 15.7	+0.1
	comp=Z,1.0nm,0.8s,baz=14,slow=4.1,SNR=8.2						
NOA	**NORSAR Array B**	**151.96**	**350**	PKPbc	PKPbc	01 43 15.7	+0.1
LIC	**Lamto**	**151.98**	**166**	*e*PKIKP	PKPbc	01 43 18.6	+1.5
HFS	**Hagfors**	**152.39**	**347**	PKPbc	PKPbc	01 43 14.9	-1.6
	comp=Z,1.7nm,0.4s,baz=87,slow=3.2,SNR=14						
HFS	**Hagfors**	**152.39**	**347**	PKPbc	PKPbc	01 43 14.9	-1.6
NACGM	**Naroch**	**152.39**	**328**	*e*	PKPbc	01 43 18.0	+1.3
AKASG	**Malin Array Be**	**153.55**	**318**	PKPbc	PKPbc	01 43 19.3	-0.1
	comp=Z,1.1nm,0.5s,baz=47,slow=2.7,SNR=6.7						
AKASG	**Malin Array Be**	**153.55**	**318**	PKPbc	PKPbc	01 43 19.3	-0.1
BR131	**Keskin Array S**	**153.57**	**292**	*e*PKPbc	PKPbc	01 43 19.6	-0.2
BR131				*e*PKPab	PKPab	01 43 30.4	-2.2
BRTR	**Keskin Array B**	**153.57**	**292**	PKPbc	PKPbc	01 43 19.7	-0.1
	comp=Z,2.3nm,0.8s,baz=130,slow=2.5,SNR=12						
BRTR	**Keskin Array B**	**153.57**	**292**	PKPbc	PKPbc	01 43 19.7	-0.1
TORD	**Torodi Ar. Bea**	**159.49**	**181**	PKPab	PKPab	01 43 59.6	+1.3
	comp=Z,4.1nm,1.0s,baz=172,slow=3.0,SNR=4.4						
LDF	**La Druitiere**	**165.12**	**4**	*e*PKP2	PKPab	01 44 19.7	-2.5
LOR	**Lormes**	**166.36**	**353**	*e*PKP2	PKPab	01 44 25.3	-2.4
SSF	**Saint Saulge**	**166.60**	**354**	*e*PKP2	PKPab	01 44 27.5	-1.3
	comp=Z,8.5nm,0.9s						
SMF	**Signal de Mont**	**166.98**	**352**	*e*PKP2	PKPab	01 44 28.8	-1.7
	comp=Z,62nm,1.6s						
MFF	**Saint Martin d**	**167.10**	**5**	*e*PKP2	PKPab	01 44 28.2	-2.8
	comp=Z,39nm,1.4s						

*IDC **26** 01:30:26.3±1.8, 44°55N×10°79E, h0km, mb1 3.3/5, mb1mx3.1/27, mbtmp3.1/5, ML3.2/3, Error ellipse: s-maj=21.2km s-min=15.0km az=114.0*
*CSEM **26** 01:30:27.6±0.1, 44°59N×10°48E, h15km, MD2.8/34, ML3.4/6, Error ellipse: s-maj=2.9km s-min=2.7km az=5.0*
*ZUR **26** 01:30:27.2, 44°46N×10°41E, h25km±4km, ML3.3/4*
*NEIC **26** 01:30:28.0, 44°50N×10°40E, h14km, mb3.6/1, ML3.3(LDG), ML3.2(ROM), ML3.3(ZUR), After ROM.*
NEIC Felt at Parma.
*LDG **26** 01:30:28.8±0.1, 44°59N×10°55E, h20km, Ml3.3/18, Error ellipse: s-maj=4.3km s-min=3.2km az=16.0*
*PRU **26** 01:30:28.7, 44°60N×10°65E, h14km, M3.6*
*VIE **26** 01:30:28.0, 44°60N×10°50E, h8km, ML3.0 67 km W of Bologna*
*ROM **26** 01:30:28.1±0.1, 44°53N×10°43E, h25km±2km, Md2.8/34, Ml3.2/25, Error ellipse: s-maj=2.9km s-min=1.8km az=56.0*
*STR **26** 01:30:29.8±0.6, 44°70N×10°18E, h5km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 26 01:30:28.7±0.3, 44°56N±0°02×10°46E±0°02, h27km±2km, n244, σ1°23/340, 11C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.14**	**193**	Pg	Pb	01 30 32.3	-1.6
ERBM				Sg	Sb	01 30 36.4	-1.1
	10μm,0.7s						
ERBM	**Eremo**	**0.14**	**193**	Pg	Pb	01 30 32.3	-1.6
ERBM				Sg	Sb	01 30 36.4	-1.1
	10μm,0.7s						
PRMA	**PARMA**	**0.23**	**333**	Pg	Pb	01 30 33.8	-1.2
PRMA				Sg	Sb	01 30 39.8	+0.6
	3μm,0.5s						
PRMA	**PARMA**	**0.23**	**333**	Pg	Pb	01 30 33.8	-1.2
PRMA				Sg	Sb	01 30 39.8	+0.6
	3μm,0.5s						
NOVE	**Novellara**	**0.30**	**37**	Pg	Pb	01 30 35.1	-0.8
NOVE				Sg	Sb	01 30 42.5	+1.7
	3μm,0.7s						
NOVE	**Novellara**	**0.30**	**37**	Pg	Pb	01 30 35.1	-0.8
NOVE				Sg	Sb	01 30 42.5	+1.7
	3μm,0.7s						
ZCCA	**Zocca**	**0.42**	**119**	Pg	Pb	01 30 37.2	-0.6
	886nm,0.4s						
ZCCA	**Zocca**	**0.42**	**119**	Pg	Pb	01 30 37.2	-0.6
	886nm,0.4s						
BDI	**Bagni Di Lucca**	**0.51**	**169**	Pg	Pb	01 30 37.8	-1.3
BDI				Sg	Sb	01 30 45.5	-0.6
	1μm,0.8s						
BDI	**Bagni Di Lucca**	**0.51**	**169**	Pg	Pb	01 30 37.8	-1.3
BDI				Sg	Sb	01 30 45.5	-0.6
	1μm,0.8s						
RAVA	**Ravarino**	**0.51**	**67**	Pg	Pb	01 30 39.8	+0.6
	3μm,0.7s						
RAVA	**Ravarino**	**0.51**	**67**	P	Pb	01 30 39.8	+0.6
	3μm,0.7s						
MAIM	**Mastiano**	**0.64**	**178**	Pg	Pb	01 30 40.1	-1.3
MAIM				Sg	Sb	01 30 48.9	-1.1
	263nm,0.6s						
MAIM	**Mastiano**	**0.64**	**178**	Pg	Pb	01 30 40.1	-1.3
MAIM				Sg	Sb	01 30 48.9	-1.1
	263nm,0.6s						
SC2M	**Scurtabo**	**0.68**	**257**	Pg	Pb	01 30 41.2	-0.8
	920nm,0.4s						
SC2M	**Scurtabo**	**0.68**	**257**	Pg	Pb	01 30 41.2	-0.8
	920nm,0.4s						
FIU	**Minerbio Fiu**	**0.74**	**83**	Pg	Pb	01 30 45.0	+2.0
	3μm,0.4s						
FIU	**Minerbio Fiu**	**0.74**	**83**	Pg	Pb	01 30 45.0	+2.0
	3μm,0.4s						
MTRZ	**Monterenzio**	**0.74**	**104**	Pg	Pb	01 30 44.4	+1.3
MTRZ	**Monterenzio**	**0.74**	**104**	Pg	Pb	01 30 44.4	+1.3
BOB	**Bobbio (Coli)**	**0.75**	**287**	Pg	Pb	01 30 43.3	+0.1
	708nm,0.7s						
BOB	**Bobbio (Coli)**	**0.75**	**287**	Pg	Pb	01 30 43.3	+0.1
	708nm,0.7s						
SEI	**Scarperia**	**0.82**	**128**	Pg	Pb	01 30 43.0	-1.3
	528nm,0.3s						
SEI	**Scarperia**	**0.82**	**128**	Pg	Pb	01 30 43.0	-1.3
	528nm,0.3s						
CRMI	**Carmignano**	**0.85**	**154**	Pg	Pb

PGF	Pioggiola	2.27 208	*e*Pn	Pn	01 31 04.4	-0.1
	SNR=1.0					
PGF			*e*Sn	Sn	01 31 30.1	-1.4
	22nm,0.4s,SNR=1.0					
PGF	Pioggiola	2.27 208	*e*Pn	Pn	01 31 04.4	-0.1
PGF			*e*Sn	Sn	01 31 30.1	-1.4
PGF	Pioggiola	2.27 208	*e*Pn	Pn	01 31 04.4	-0.1
	SNR=1.0					
PGF			*e*Sn	Sn	01 31 30.1	-1.4
	11nm,0.4s,SNR=1.0					
FUSIO	Fusio	2.28 327⇑	*i*P	Pn	01 31 04.9	+0.3
	428nm,0.4s					
FUSIO	Fusio	2.28 327⇑	*i*P	Pn	01 31 04.9	+0.3
FUSIO	Fusio	2.28 327	Pg	Pn	01 31 04.9	+0.3
FUSIO	Fusio	2.28 327⇑	*i*P	Pn	01 31 04.9	+0.3
	428nm,0.4s					
TOUF	Mont Tournerai	2.37 258	P	Pn	01 31 06.6	+0.8
TOUF			S	Sn	01 31 37.2	+3.3
TOUF	Mont Tournerai	2.37 258	P	Pn	01 31 06.6	+0.8
TOUF			S	Sn	01 31 37.2	+3.3
REVF	Revere	2.37 251	P	Pn	01 31 08.0	+2.2
REVF			S	Sn	01 31 37.1	+3.1
REVF	Revere	2.37 251	P	Pn	01 31 08.0	+2.2
REVF			S	Sn	01 31 37.1	+3.1
PZZ	Stroppo	2.39 270	Pg	Pn	01 31 06.8	+0.7
MVIF	Mont Vial	2.47 256	P	Pn	01 31 08.5	+1.4
MVIF	Mont Vial	2.47 256	P	Pn	01 31 08.5	+1.4
GEPF	Gemona	2.55 47	P	Pn	01 31 07.8	-0.5
FVI	Forni Avoltri	2.61 38	Pg	Pn	01 31 09.3	+0.2
	83nm,0.8s					
FVI	Forni Avoltri	2.61 38	P	Pn	01 31 09.3	+0.2
	83nm,0.8s					
ABTA	Abfaltersbach	2.62 33	Pn	Pn	01 31 10.3	+1.1
	SNR=11					
MBDF	Montbardon	2.64 275	*e*Pn	Pn	01 31 09.4	-0.1
	SNR=1.0					
MBDF	Montbardon	2.64 275	*e*Pg	Pn	01 31 16.9	+7.4
	SNR=1.0					
MBDF			*e*Sn	Sn	01 31 40.0	-0.6
	25nm,0.4s,SNR=1.0					
MBDF	Montbardon	2.64 275	*e*Pn	Pn	01 31 09.4	-0.1
MBDF			*e*Pg	Pn	01 31 16.9	+7.4
MBDF			*e*Sn	Sn	01 31 40.0	-0.6
MBDF	Montbardon	2.64 275	*e*Pn	Pn	01 31 09.4	-0.1
	SNR=1.0					
MBDF	Montbardon	2.64 275	*e*Pg	Pn	01 31 16.9	+7.4
	SNR=1.0					
MBDF			*e*Sn	Sn	01 31 40.0	-0.6
	13nm,0.4s,SNR=1.0					
CALN	Calern	2.69 254	P	Pn	01 31 12.3	+2.1
CALN			S	Sn	01 31 46.0	+4.1
CALN	Calern	2.69 254	P	Pn	01 31 12.3	+2.1
CALN			S	Sn	01 31 46.0	+4.1
SKDS	Skadanscina	2.71 67⇓	*i*Pn	Pn	01 31 09.5	-0.9
SKDS			*i* Sn	Sn	01 31 40.4	-1.9
SKDS						
	comp=Z,31nm,0.2s					
SKDS	Skadanscina	2.71 67	Pn	Pn	01 31 09.5	-0.9
SKDS			*i* Sn	Sn	01 31 40.4	-1.9
	comp=Z,31nm,0.2s					
BNI	Bardonecchia	2.74 282	*e*Pn	Pn	01 31 14.0	+3.1
BNI	Bardonecchia	2.74 282	*e*Pn	Pn	01 31 14.0	+3.2
DAVA	Damuels	2.76 352	Pn	Pn	01 31 13.4	+2.2
	SNR=24					
LPG	La Plagne	2.79 291	*e*Pn	Pn	01 31 11.0	-0.6
	SNR=1.0					
LPG			*e*Sn	Sn	01 31 43.4	-1.0
	comp=Z,26nm,0.5s					
LPG	La Plagne	2.79 291	*e*Pn	Pn	01 31 11.0	-0.6
LPG			*e*Sn	Sn	01 31 43.4	-1.0
LPG	La Plagne	2.79 291	*e*Pn	Pn	01 31 11.0	-0.6
	SNR=1.0					
LPG			*e*Sn	Sn	01 31 43.4	-1.0
	comp=Z,13nm,0.5s					
LPL	La Plagne	2.81 291	*e*Pn	Pn	01 31 12.1	+0.3
	SNR=1.0					
LPL			*e*Sn	Sn	01 31 44.1	-0.7
	comp=Z,35nm,0.4s,SNR=1.0					
LPL	La Plagne	2.81 291	*e*Pn	Pn	01 31 12.1	+0.3
LPL			*e*Sn	Sn	01 31 44.1	-0.7
LPL	La Plagne	2.81 291	*e*Pn	Pn	01 31 12.1	+0.3
	SNR=1.0					
LPL			*e*Sn	Sn	01 31 44.1	-0.7
	comp=Z,18nm,0.4s,SNR=1.0					
MOTA	Moosalm	2.82 9	*e*Pn	Pn	01 31 14.5	+2.5
	SNR=26					
MOTA	Moosalm	2.82 9	*e*P	Pn	01 31 14.5	+2.5
MOTA	Moosalm	2.82 9	Pn	Pn	01 31 14.5	+2.5
	SNR=26					
WTTA	Wattenberg	2.83 16	*e*P	Pn	01 31 15.5	+3.4
	SNR=30					
WTTA	Wattenberg	2.83 16	*e*P	Pn	01 31 15.5	+3.4
WTTA	Wattenberg	2.83 16	P	Pn	01 31 15.5	+3.4
	SNR=30					
WATA	Walderalm	2.89 15	*e*Pn	Pn	01 31 15.9	+3.0
	SNR=15					
WATA	Walderalm	2.89 15	*e*P	Pn	01 31 15.9	+3.0
WATA	Walderalm	2.89 15	Pn	Pn	01 31 15.9	+3.0
	SNR=15					
FRF	La Foret Royal	2.92 251	*e*Pn	Pn	01 31 13.4	0.0
	SNR=1.0					
FRF			*e*Sn	Sn	01 31 46.5	-1.1
	comp=Z,45nm,0.2s,SNR=1.0					
FRF	La Foret Royal	2.92 251	*e*Pn	Pn	01 31 13.4	0.0
FRF			*e*Sn	Sn	01 31 46.5	-1.1
FRF	La Foret Royal	2.92 251	*e*Pn	Pn	01 31 13.4	0.0
	SNR=1.0					
FRF			*e*Sn	Sn	01 31 46.5	-1.1
	comp=Z,22nm,0.2s,SNR=1.0					
ACOM	Acomizza, Ital	2.93 46	Pg	Pn	01 31 13.8	+0.3
	comp=Z,87nm,0.6s					
ACOM	Acomizza, Ital	2.93 46	P	Pn	01 31 13.8	+0.3
	comp=Z,87nm,0.6s					
RETA	Reutte	2.94 4	*e*Pn	Pn	01 31 15.4	+1.8
	SNR=21					
RETA	Reutte	2.94 4	*e*P	Pn	01 31 15.4	+1.8
RETA	Reutte	2.94 4	Pn	Pn	01 31 15.4	+1.8
	SNR=21					
RSL	Roselend	2.94 294	P	Pn	01 31 14.6	+1.0
RSL	Roselend	2.94 294	P	Pn	01 31 14.6	+1.0
LMR	La Mourre	3.10 248	*e*Pn	Pn	01 31 15.4	-0.5
	SNR=1.0					
LMR			*e*Sn	Sn	01 31 49.5	-2.6
	comp=Z,35nm,0.3s,SNR=1.0					
LMR	La Mourre	3.10 248	*e*Pn	Pn	01 31 15.4	-0.5
LMR			*e*Sn	Sn	01 31 49.5	-2.6
LMR	La Mourre	3.10 248	*e*Pn	Pn	01 31 15.4	-0.5
	SNR=1.0					
NVLJ	Novalja	3.15 88	*e*Pn	Pn	01 31 16.4	-0.1
NVLJ			Sn	Sn	01 31 52.1	-1.2
NVLJ	Novalja	3.15 88	*e*Pn	Pn	01 31 16.4	-0.2
NVLJ			Sn	Sn	01 31 52.1	-1.2
KBA	Koelnbreinsper	3.23 38	*i* Pn	Pn	01 31 19.0	+1.4
	SNR=9.7					
KBA	Koelnbreinsper	3.23 38	*i* P	Pn	01 31 19.0	+1.4
KBA	Koelnbreinsper	3.23 38	Pn	Pn	01 31 19.0	+1.4
	SNR=9.7					
GBRS	Gornja Briga	3.23 71	*i* Pn	Pn	01 31 17.3	-0.4
ORIF	Oris-en-Rattie	3.28 278	*e*Pn	Pn	01 31 19.9	+1.6
	SNR=1.0					
ORIF			*e*Sn	Sn	01 31 54.3	-2.2
	comp=Z,38nm,0.5s					
ORIF	Oris-en-Rattie	3.28 278	*e*Pn	Pn	01 31 19.9	+1.6
ORIF			*e*Sn	Sn	01 31 54.3	-2.2
ORIF	Oris-en-Rattie	3.28 278	*e*Pn	Pn	01 31 19.9	+1.6
	SNR=1.0					
ORIF			*e*Sn	Sn	01 31 54.3	-2.2
	comp=Z,19nm,0.5s					
BOJS	Bojanci	3.53 73	*i* Pn	Pn	01 31 21.4	-0.3
BOJS	Bojanci	3.53 73	*i* Pn	Pn	01 31 21.4	-0.3
SMRF	Simiane la Rot	3.56 262	*e*Pn	Pn	01 31 22.9	+0.8
	SNR=1.0					
SMRF			*e*Sn	Sn	01 32 01.9	-1.3
	comp=Z,16nm,0.5s					
SMRF	Simiane la Rot	3.56 262	*e*Pn	Pn	01 31 22.9	+0.8
SMRF			*e*Sn	Sn	01 32 01.9	-1.3
SMRF	Simiane la Rot	3.56 262	*e*Pn	Pn	01 31 22.9	+0.8
	SNR=1.0					
SMRF			*e*Sn	Sn	01 32 01.9	-1.3
	comp=Z,8.2nm,0.5s					
BBS	Basel-Blauen	3.56 326	P	Pn	01 31 21.4	-0.7
CABF	La Chapelle	3.69 305	*e*Pn	Pn	01 31 23.2	-0.8
	SNR=1.0					
CABF	La Chapelle	3.69 305	*e*Pn	Pn	01 31 23.2	-0.8
CABF	La Chapelle	3.69 305	*e*Pn	Pn	01 31 23.2	-0.8
	SNR=1.0					
LOMF	Lomont	3.77 319	P	Pn	01 31 25.6	+0.6
LOMF	Lomont	3.77 319	P	Pn	01 31 25.6	+0.6
MOF	Molkenrain	4.02 326	P	Pn	01 31 28.7	+0.2
MOF	Molkenrain	4.02 326	P	Pn	01 31 28.7	+0.2
BFO	Black Forest	4.05 339	*e*Pn	Pn	01 31 28.6	-0.3
BFO			*e*Pg	Pn	01 31 43.3	+14
BFO			*e*Sn	Sn	01 32 14.3	-1.0
BFO			*e*Sg	Sn	01 32 35.2	+20
BFO	Black Forest	4.05 339	*e*Pn	Pn	01 31 28.5	-0.4
HINF	Hinteralfeld	4.11 324	*e*Pn	Pn	01 31 29.5	-0.2
	SNR=1.0					
HINF			*e*Sn	Sn	01 32 14.1	-2.8
	comp=Z,28nm,0.4s					
HINF	Hinteralfeld	4.11 324	*e*Pn	Pn	01 31 29.5	-0.2
HINF			*e*Sn	Sn	01 32 14.1	-2.8
HINF	Hinteralfeld	4.11 324	*e*Pn	Pn	01 31 29.5	-0.2
	SNR=1.0					
HINF			*e*Sn	Sn	01 32 14.1	-2.8
	comp=Z,14nm,0.4s					
VIVF	Saint-Julien-l	4.13 276	*e*Pn	Pn	01 31 30.0	-0.1
	SNR=1.0					
VIVF			*e*Sn	Sn	01 32 15.7	-1.8
	comp=Z,4.9nm,0.4s,SNR=1.0					
VIVF	Saint-Julien-l	4.13 276	*e*Pn	Pn	01 31 30.0	-0.1
VIVF			*e*Sn	Sn	01 32 15.7	-1.8
VIVF	Saint-Julien-l	4.13 276	*e*Pn	Pn	01 31 30.0	-0.1
	SNR=1.0					
VIVF			*e*Sn	Sn	01 32 15.7	-1.8
	comp=Z,2.5nm,0.4s,SNR=1.0					
MOA	Molln	4.22 37	*i* Pn	Pn	01 31 32.1	+0.9
	SNR=15					
MOA	Molln	4.22 37	*i* P	Pn	01 31 32.1	+0.9
MOA	Molln	4.22 37	Pn	Pn	01 31 32.1	+0.9
	SNR=15					
ECH	Echery	4.31 329	*e*Pn	Pn	01 31 32.1	-0.4
ECH			*e*Sn	Sn	01 32 20.6	-1.2
ECH	Echery	4.31 329	*e*Pn	Pn	01 31 32.1	-0.4
ECH	Echery	4.31 329	P	Pn	01 31 32.4	-0.1
ECH			*e*Sn	Sn	01 32 20.6	-1.2
ECH	Echery	4.31 329	P	Pn	01 31 32.4	-0.1
CDF	Champ du Feu	4.44 331	*e*Pn	Pn	01 31 34.0	-0.2
	SNR=1.0					
CDF			*e*Sn	Sn	01 32 20.7	-4.2
	comp=Z,18nm,0.3s					
CDF	Champ du Feu	4.44 331	*e*Pn	Pn	01 31 34.0	-0.2
CDF			*e*Sn	Sn	01 32 20.7	-4.2
CDF	Champ du Feu	4.44 331	*e*Pn	Pn	01 31 34.0	-0.2
	SNR=1.0					
CDF			*e*Sn	Sn	01 32 20.7	-4.2
	comp=Z,8.9nm,0.3s					
HAU	Haudompre	4.47 322	*e*Pn	Pn	01 31 34.6	-0.1
	SNR=1.0					
HAU			*e*Sn	Sn	01 32 22.5	-3.3
	comp=Z,77nm,0.6s					
HAU	Haudompre	4.47 322	*e*Pn	Pn	01 31 34.6	-0.1
HAU			*e*Sn	Sn	01 32 22.5	-3.3
HAU	Haudompre	4.47 322	*e*Pn	Pn	01 31 34.6	-0.1
	SNR=1.0					
HAU			*e*Sn	Sn	01 32 22.5	-3.3
	comp=Z,38nm,0.6s					
LASF	Ste Croix	4.76 267	*e*Pn	Pn	01 31 37.0	-1.7
	SNR=1.0					
LASF	Ste Croix	4.76 267	*e*Pn	Pn	01 31 37.0	-1.7
LASF	Ste Croix	4.76 267	*e*Pn	Pn	01 31 37.0	-1.7
	SNR=1.0					
GERES	GERESS Array B	4.83 26	Pn	Pn	01 31 39.4	-0.3
	comp=Z,0.8nm,0.3s,baz=203,slow=14,SNR=35					
GERES			Sn	Sn	01 32 34.0	-0.7
	comp=Z,4.6nm,0.3s,baz=200,slow=22,SNR=19					
GERES			Lg		01 33 00.5	
	comp=Z,1.0nm,0.3s,baz=213,slow=29,SNR=3.5					
GERES	GERESS Array B	4.83 26	Pn	Pn	01 31 39.4	-0.3
GERES			Sn	Sn	01 32 34.0	-0.7
GERES			Lg		01 33 00.5	
GERES	GERESS Array B	4.83 26	Pn	Pn	01 31 39.4	-0.2
GERES			Sn	Sn	01 32 34.0	-0.7
CONA	Conrad Observa	5.04 46	Pn	Pn	01 31 42.7	+0.2
	SNR=20					
KHC	Kasperske Hory	5.05 24	*e*Pn	Pn	01 31 42.2	-0.4
	comp=Z,13nm,0.8s					
KHC			*e*Sn	Sn	01 32 38.4	-1.6
KHC	Kasperske Hory	5.05 24	*e*PN	Pn	01 31 42.5	-0.1
KHC			*e*PG	Pn	01 32 04.0	+21
KHC			*e*SN	Sn	01 32 37.7	-2.3
KHC			*e*SG	Sn	01 33 06.0	+26
	comp=Z,20nm,1.0s					
KHC	Kasperske Hory	5.05 24	*e*Pn	Pn	01 31 42.2	-0.4
	comp=Z,13nm,0.8s					
KHC			*e*Sn	Sn	01 32 38.4	-1.6
KHC			Sg	Sn	01 33 06.0	+26
	comp=Z,20nm,1.0s					
SMF	Signal de Mont	5.09 297	*e*Pn	Pn	01 31 43.0	-0.2
	SNR=1.0					
SMF			*e*Sn	Sn	01 32 37.9	-3.1
	comp=Z,12nm,0.5s,SNR=1.0					
SMF	Signal de Mont	5.09 297	*e*Pn	Pn	01 31 43.0	-0.2
SMF			*e*Sn	Sn	01 32 37.9	-3.1
SMF	Signal de Mont	5.09 297	*e*Pn	Pn	01 31 43.0	-0.2
	SNR=1.0					
SMF			*e*Sn	Sn	01 32 37.9	-3.1
	comp=Z,6.2nm,0.5s,SNR=1.0					
LOR	Lormes	5.34 303	*e*Pn	Pn	01 31 46.0	-0.6
	SNR=1.0					
LOR			*e*Sn	Sn	01 32 43.7	-3.5
	comp=Z,21nm,0.3s,SNR=1.0					
LOR	Lormes	5.34 303	*e*Pn	Pn	01 31 46.0	-0.6
LOR			*e*Sn	Sn	01 32 43.7	-3.5
LOR	Lormes	5.34 303	*e*Pn	Pn	01 31 46.0	-0.6
	SNR=1.0					
LOR			*e*Sn	Sn	01 32 43.7	-3.5
	comp=Z,11nm,0.3s,SNR=1.0					
MEZF	Maizieres J'vi	5.43 319	*e*Pn	Pn	01 31 48.1	+0.3
MEZF			*e*Sn	Sn	01 32 45.3	-4.0
	comp=Z,6.6nm,0.4s,SNR=1.0					
MEZF	Maizieres J'vi	5.43 319	*e*Pn	Pn	01 31 48.1	+0.3
MEZF			*e*Sn	Sn	01 32 45.3	-4.0
MEZF	Maizieres J'vi	5.43 319	*e*Pn	Pn	01 31 48.1	+0.3
AVF	Avril sur Loir	5.46 297	*e*Pn	Pn	01 31 48.5	+0.3
	SNR=1.0					
AVF			*e*Sn	Sn	01 32 48.2	-1.9
	comp=Z,3.2nm,0.5s,SNR=1.0					
AVF	Avril sur Loir	5.46 297	*e*Pn	Pn	01 31 48.5	+0.3
AVF			*e*Sn	Sn	01 32 48.2	-1.9
AVF	Avril sur Loir	5.46 297	*e*Pn	Pn	01 31 48.5	+0.3
	SNR=1.0					
SSF	Saint Saulge	5.47 300	*e*Pn	Pn	01 31 48.0	-0.3
	SNR=1.0					
SSF	Saint Saulge	5.47 300	*e*Pn	Pn	01 31 48.0	-0.3
SSF	Saint Saulge	5.47 300	*e*Pn	Pn	01 31 48.0	-0.3
	SNR=1.0					
BGF	Bois d'Agland	5.71 293	*e*Pn	Pn	01 31 51.0	-0.6
	SNR=1.0					
BGF			*e*Sn	Sn	01 32 52.9	-3.3
	comp=Z,12nm,0.4s,SNR=1.0					
BGF	Bois d'Agland	5.71 293	*e*Pn	Pn	01 31 51.0	-0.6
BGF			*e*Sn	Sn	01 32 52.9	-3.3
BGF	Bois d'Agland	5.71 293	*e*Pn	Pn	01 31 51.0	-0.6
	SNR=1.0					
NKC	Novy Kostel	5.84 13	*e*SN	Sn	01 32 56.3	-3.1
TREC	Trest	5.86 34	*e*SN	Sn	01 32 57.4	-2.5
TREC	Trest	5.86 34	Sn	Sn	01 32 57.4	-2.5
CAF	Calviac	5.99 276	*e*Pn	Pn	01 31 56.1	+0.6
	SNR=1.0					
CAF	Calviac	5.99 276	*e*Pn	Pn	01 31 56.1	+0.6
CAF	Calviac	5.99 276	*e*Pn	Pn	01 31 56.1	+0.6
	SNR=1.0					
PRU	Pruhonice	6.10 26	*e*PN	Pn	01 31 56.7	-0.3
PRU			*e*SN	Sn	01 33 02.5	-3.4
PRU	Pruhonice	6.10 26	Pn	Pn	01 31 56.7	-0.3
VRAC	Vranov	6.34 39	Pn	Pn	01 31 59.2	-1.1
	comp=Z,0.2nm,0.3s,baz=228,slow=14,SNR=5.5					
VRAC			Sn	Sn	01 33 08.8	-3.0
	comp=Z,0.4nm,0.3s,baz=333,slow=18,SNR=6.0					
VRAC			Lg		01 33 49.9	
	comp=Z,0.3nm,0.3s,baz=135,slow=19,SNR=2.4					
VRAC	Vranov	6.34 39	Pn	Pn	01 31 59.2	-1.1
VRAC			Sn	Sn	01 33 08.8	-3.0
VRAC			Lg		01 33 49.9	
VRAC	Vranov	6.34 39	Pn	Pn	01 31 59.2	-1.1
VRAC			Sn	Sn	01 33 08.8	-3.0
RJF	Les Rejaudoux	6.39 280	*e*Pn	Pn	01 32 02.1	+1.0
	SNR=1.0					
RJF			*e*Sg	Sn	01 33 46.9	+34
	comp=Z,6.4nm,0.9s,SNR=1.0					
RJF	Les Rejaudoux	6.39 280	*e*Pn	Pn	01 32 02.1	+1.0
RJF			*e*Sg	Sn	01 33 46.9	+34
RJF	Les Rejaudoux	6.39 280	*e*Pn	Pn	01 32 02.1	+1.0
	SNR=1.0					
PVCC	Panska Ves	6.59 24	*e*PN	Pn	01 32 03.7	0.0
PVCC	Panska Ves	6.59 24	Pn	Pn	01 32 03.7	0.0
BRG	Berggiesshubel	6.74 19	PN	Pn	01 32 06.3	+0.5
BRG			SN	Sn	01 33 19.5	-2.1
BRG			SG	Sn	01 33 58.9	+37
	comp=Z,5.5nm,1.0s					
BAIF	Baives	6.95 325	*e*Pn	Pn	01 32 08.3	-0.4
	SNR=1.0					
BAIF	Baives	6.95 325	*e*Pn	Pn	01 32 08.3	-0.4
BAIF	Baives	6.95 325	*e*Pn	Pn	01 32 08.3	-0.4
	SNR=1.0					
CLL	Collm	6.97 13	*e*Pn	Pn	01 32 08.0	-0.9
CLL			*e*Pg	Pn	01 32 43.0	+34
CLL			*e*Sn	Sn	01 33 17.0	-10
CLL			*e*Sg	Sn	01 34 09.0	+42
DPC	Dobruska-Polom	7.03 32	*e*SN	Sn	01 33 24.6	-4.0
MORC	Moravsky Berou	7.11 40	*e*Pn	Pn	01 32 10.4	-0.4
MORC	Moravsky Berou	7.11 40	*e*Pn	Pn	01 32 10.4	-0.5
LDF	La Druitiere	8.33 303	*e*Pn	Pn	01 32 28.6	+1.0
	SNR=1.0					
LDF	La Druitiere	8.33 303	*e*Pn	Pn	01 32 28.6	+1.0
LDF	La Druitiere	8.33 303	*e*Pn	Pn	01 32 28.6	+1.0
	SNR=1.0					
KEST	Kesra	8.86 186	Pn	Pn	01 32 37.5	+2.6
	comp=Z,0.1nm,0.3s,baz=353,slow=3.9,SNR=5.2					
KEST	Kesra	8.86 186	Pn	Pn	01 32 37.5	+2.6
KEST	Kesra	8.86 186	Pn	Pn	01 32 37.5	+2.6
ESDC	Sonseca Array	11.77 250	Pn	Pn	01 33 16.6	+1.8
	comp=Z,0.2nm,0.3s,baz=55,slow=13,SNR=5.5					
ESDC	Sonseca Array	11.77 250	Pn	Pn	01 33 16.6	+1.8
ESDC	Sonseca Array	11.77 250	Pn	Pn	01 33 16.5	+1.8
BRVK	Borovoye	39.25 56	*e*P	P	01 37 53.8	-0.8
	comp=Z,0.5nm,0.4s					
BRVK	Borovoye	39.25 56	*e*P	P	01 37 53.8	-0.8
	comp=Z,0.5nm,0.4s					

DJA 26 01:46:17, 9°.79S×116°.22E, h10km, MLv3.7/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	Mataram	1.15	358	P	Pb	01 46 37.2	-1.8
MTNI				S	Sb	01 46 53.5	-0.4
IGBI	Denpasar	1.43	312	P	Pn	01 46 42.9	-0.2
KHKI	Kahang-Kahang	1.54	337	P	Pn	01 46 44.4	-0.1
KHKI				S	Sn	01 47 06.5	+1.9
NBBI	Negara	2.12	312	P	Pn	01 46 55.0	+2.5
BYJI	Banyuwangi	2.42	310	P	Pn	01 46 58.1	+1.5
JAGI	Jajag, Banyuwa	2.43	303	P	Pn	01 46 57.3	+0.6
JAGI				S	Sn	01 47 27.3	+0.8
GMJI	Gumukmas	3.13	299	P	Pn	01 47 06.6	+0.2

ISCJB ***26*** *01:46:53.2±1.0, 17°.90S±0°.08×66°.20W±0°.06, h55km±15km, mb3.5/2, Error ellipse: s-maj=13.6km s-min=9.2km az=13.0*
IDC ***26*** *01:46:54.4±2.4, 17°.88S×66°.26W, h44km±19km, mb3.3/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.4/4, ML4.4/3, Error ellipse: s-maj=35.4km s-min=10.8km az=18.0*
NEIC ***26*** *01:46:54.2±0.9, 17°.80S×66°.24W, h44km±12km, Error ellipse: s-maj=13.5km s-min=12.3km az=83.0*

ISC 26 01:46:54.9±0.8, 17°.85S±0°.08×66°.23W±0°.06, h54km±14km, n14, σ0.97/16, mb3.5/2, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	2.39	310	P	Pn	01 47 31.2	-0.4
	202nm,0.3s,baz=130,slow=15,SNR=1379						
LPAZ				S	Sn	01 48 00.6	+0.9
	133nm,0.3s,baz=224,slow=24,SNR=20						
LPAZ	La Paz	2.39	310	P	Pn	01 47 31.2	-0.5
LPAZ				S	Sn	01 48 00.6	+0.9
SIV	San Ignacio	5.27	70	P	Pn	01 48 11.7	+0.6
	4.2nm,0.3s,baz=277,slow=10.0,SNR=134						
SIV				S	Sn	01 49 11.5	+0.9
	3.8nm,0.3s,baz=210,slow=20,SNR=3.8						
SIV				Lg		01 49 37.5	
	12nm,0.3s,baz=210,slow=20,SNR=6.1						
SIV	San Ignacio	5.27	70	P	Pn	01 48 11.7	+0.6
SIV				S	Sn	01 49 11.5	+0.9
SIV				Lg		01 49 37.5	
LVC	Limon Verde	5.36	208	*e*Pn	Pn	01 48 12.9	+0.6
SAML	Samuel	9.33	19	*e*Pn	Pn	01 49 04.4	-2.4
	3.6nm,0.5s						
CPUP	Villa Florida	11.80	137	P	Pn	01 49 39.4	-1.0
	0.3nm,0.3s,baz=311,slow=14,SNR=4.0						
CPUP	Villa Florida	11.80	137	P	Pn	01 49 39.4	-1.0
TORD	Torodi Ar. Bea	73.75	70	P	P	01 58 24.5	+0.7
	0.5nm,0.7s,mb3.6,baz=260,slow=5.5,SNR=5.9						
TORD	Torodi Ar. Bea	73.75	70	P	P	01 58 24.5	+0.7
YKA	Yellowknife Ar	88.63	340	P	P	01 59 41.2	-0.4
	0.1nm,0.6s,mb3.4,baz=128,slow=4.4,SNR=3.0						
YKA	Yellowknife Ar	88.63	340	P	P	01 59 41.2	-0.4
SONM	Songino Array	149.49	10	PKPbc	PKPbc	02 06 39.5	+1.5
	0.2nm,0.4s,baz=342,slow=0.5,SNR=3.4						
SONM	Songino Array	149.49	10	PKPbc	PKPbc	02 06 39.5	+1.5

MEX 26 01:54:01.4±0.4, 27°.62N×111°.61W, h8km±10km, MD4.1, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	Santa Rosalia	0.63	242	*i* P	Pg	01 54 12.4	-1.2
SRIG				*i* S	Sg	01 54 21.4	-0.4
HSIG		1.52	23	*i* P	Pn	01 54 25.4	-3.5
HSIG				*e*S	Sn	01 54 43.8	-5.0
CGIG		4.20	48	*i* P	Pn	01 55 03.9	-1.9
CGIG				*i* S	Sn	01 55 51.6	-3.4

FUNV 26 02:17:30.9, 5°.56N×72°.77W, h134km, MW3.6, Colombia

| Code | Station Name | Δ° | AZ° | Phase | ID | Time |

WRA	Warramunga Arr	44.55	271	P	P	02 31 56.0	-0.1
	0.7nm,0.6s,baz=111,slow=8.1,SNR=8.9						
FINES	FINESS Array B	144.66	341	PKP	PKPdf	02 43 19.7	-0.4
	3.0nm,0.9s,baz=51,slow=2.7,SNR=4.0						

*ISCJB **26** 02:28:53.7±0.3, 59°.68N±0°.03×153°.72W±0°.07, h164km±3km, mb3.9/3, Error ellipse: s-maj=7.1km s-min=3.6km az=35.8*
*IDC **26** 02:28:53.3±1.4, 59°.80N×153°.98W, h126km±23km, mb3.7/3, mb1 3.6/8, mb1mx3.3/28, mbtmp3.5/8, Error ellipse: s-maj=28.0km s-min=12.2km az=112.0*
*NEIC **26** 02:28:55.7, 59°.67N×153°.81W, h159km, MG3.4(AEIC), After AEIC.*

ISC 26 02:28:54.8±0.3, 59°.67N±0°.03×153°.74W±0°.07, h158km±3km, n80, σ0.82/95, mb3.9/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.26	95	P	Pn	02 29 16.7	+0.7
AUW	Augustine West	0.33	156	P	Pn	02 29 17.0	+0.7
ILW	Iliamna West	0.49	38	P	Pn	02 29 17.3	+0.5
ILW				S	Sn	02 29 34.7	+0.8
INE	Iliamna NE	0.52	41	P	Pn	02 29 17.6	+0.6
RED	Redoubt Volcan	0.89	32	P	Pn	02 29 20.0	+0.7
RED				S	Sn	02 29 38.5	+0.3
FOPK	Fourpeaked Vol	0.93	172	P	Pn	02 29 19.9	+0.2
RSO	Redoubt South	0.93	31	P	Pn	02 29 20.8	+1.2
KAPH	Katmai Pasha	1.13	197	P	Pn	02 29 21.5	+0.2
KAPH				S	Sn	02 29 41.6	+0.1
BRLK	Bradley Lake	1.45	85	P	Pn	02 29 24.9	+0.6
BRLK				S	Sn	02 29 46.9	0.0
KAKN	Katmai Knife C	1.54	207	P	Pn	02 29 25.2	-0.1
BKG	Blockade Glaci	1.58	27	P	Pn	02 29 26.3	+0.7
KELA	Mount Kelaz	1.61	221	P	Pn	02 29 25.9	-0.2
KCE	Katmai Mt Cerb	1.62	208	P	Pn	02 29 26.5	+0.4
CKL	Chakachamna La	1.68	24	P	Pn	02 29 27.4	+0.7
SVW2	Sparrevohn	1.70	328	eP	Pn	02 29 26.8	-0.1
MGLS	Mageik Landsli	1.71	206	P	Pn	02 29 27.2	+0.1
CAHL	Cahill	1.82	207	P	Pn	02 29 28.4	+0.1
SLKM	Skilak Lake	1.95	63	P	Pn	02 29 30.6	+0.9
SLKM				S	Sn	02 29 56.2	-0.4
KDAK	Kodiak Island	1.99	162	P	Pn	02 29 29.8	-0.4
	12nm,0.3s,baz=20,slow=7.5,SNR=68						
KDAK				S	Sn	02 29 56.3	-1.1
	126nm,0.3s,baz=167,slow=19,SNR=48						
KDAK	Kodiak Island	1.99	162	P	Pn	02 29 29.6	-0.6
KDAK				S	Sn	02 29 55.6	-1.8
STLK	Strandline Lak	2.06	26	P	Pn	02 29 31.5	+0.6
SEW	Seward	2.20	77	P	Pn	02 29 33.2	+0.6
SEW				S	Sn	02 30 00.6	-1.2
FIB	Fire Island	2.31	48	P	Pn	02 29 35.0	+1.1
SUA	Susitna One	2.33	38	P	Pn	02 29 34.4	+0.4
SUA				S	Sn	02 30 04.7	+0.3
PLK2	Peulik 2	2.34	216	P	Pn	02 29 34.7	+0.4
RC01	Rabbit Creek A	2.44	53	P	Pn	02 29 35.6	+0.2
RC01				S	Sn	02 30 05.6	-1.3
PLK4	Peulik 4	2.46	215	P	Pn	02 29 36.0	+0.2
OHAK	Old Harbor	2.47	174	P	Pn	02 29 35.0	-0.9
OHAK				S	Sn	02 30 05.8	-1.7
SKT	Skwentna	2.55	24	P	Pn	02 29 37.0	+0.2
SKT				S	Sn	02 30 09.0	-0.3
PMR	Palmer	2.98	48	P	Pn	02 29 41.9	-0.1
PMR				S	Sn	02 30 16.2	-2.4
GHO	Glory Hole Cre	3.17	46	P	Pn	02 29 43.8	-0.5
TRAP	Trapper Creek	3.17	31	P	Pn	02 29 44.0	-0.4
PPLA	Purkeypile	3.32	12	P	Pn	02 29 47.4	+1.1
SML	Sawmill	3.41	49	P	Pn	02 29 46.7	-0.7
TT01	Tatalina	3.43	342	P	Pn	02 29 47.0	-0.6
GLI	Glacier Island	3.52	67	P	Pn	02 29 48.7	-0.2
FID	Port Fidalgo	3.78	70	P	Pn	02 29 52.2	0.0
SCM	Sheep Creek Mo	3.82	53	P	Pn	02 29 52.2	-0.5
VLZ	Valdez	3.95	65	P	Pn	02 29 55.2	+0.8
EYAK	Cordova Ski Ar	4.09	74	P	Pn	02 29 56.6	+0.3
TRF	Thorofare Moun	4.13	22	P	Pn	02 29 56.8	0.0
DIV	Divide	4.21	66	P	Pn	02 29 58.8	+1.0
KLU	Klutina	4.26	61	P	Pn	02 29 58.8	+0.3
CHUM	Lake Minchumin	4.28	8	P	Pn	02 29 58.7	0.0
RND	Reindeer	4.41	30	P	Pn	02 29 59.6	-0.8
DHY	Denali Highway	4.58	39	P	Pn	02 30 02.1	-0.6
MCK	McKinley	4.67	27	P	Pn	02 30 03.2	-0.6
BMRM	Bremner River	4.72	70	P	Pn	02 30 05.3	+0.9
PAX	Paxson	5.17	47	P	Pn	02 30 10.8	+0.4
DDM	Donnelly Dome	5.57	39	P	Pn	02 30 16.0	+0.4
CCB	Clear Creek Bu	5.71	27	P	Pn	02 30 16.2	-1.3
BALM	Baldy	5.82	72	P	Pn	02 30 19.1	+0.2
MENT	Mentasta	5.83	52	eP	Pn	02 30 20.1	+1.0
MDM	Murphy Dome	5.89	23	P	Pn	02 30 18.6	-1.2
COLA	College	5.89	25	P	Pn	02 30 18.8	-1.1
IL1	Eielson Array	6.03	29	P	Pn	02 30 20.5	-1.2
ILAR	Eielson Array	6.03	29	P	Pn	02 30 20.2	-1.5
	8.5nm,0.3s,baz=219,slow=13,SNR=344						
ILAR				S	Sn	02 31 25.4	-4.6
	2.9nm,0.3s,baz=218,slow=19,SNR=12						
ILAR	Eielson Array	6.03	29	P	Pn	02 30 20.2	-1.5
ILAR				S	Sn	02 31 25.4	-4.6
DOT	Dot Lake	6.09	45	ePn	Pn	02 30 23.8	+1.3
	3.2nm,0.5s						
IM3	Indian Mountai	6.33	360	P	Pn	02 30 25.6	-0.2
DT1	Dutton Round H	6.50	229	P	Pn	02 30 27.5	-0.6
DRIA	Deer Island	6.60	228	P	Pn	02 30 28.1	-1.2
BCA3	Beaver Creek A	6.67	54	P	Pn	02 30 31.1	+0.9
PRP	Porcupine Dome	6.98	29	P	Pn	02 30 33.6	-0.7
COLD	Coldfoot	7.75	10	P	Pn	02 30 43.3	-1.1
EGAK	Eagle	7.78	44	ePn	Pn	02 30 44.3	-0.7
	5.6nm,0.5s						
DAWY	Dawson	8.07	51	P	Pn	02 30 49.6	+0.7
BM3	Burnt Mountain	8.77	24	P	Pn	02 30 55.8	-2.2
DLBC	Dease Lake	12.25	86	P	Pn	02 31 46.7	+3.0
	0.1nm,0.3s,baz=301,slow=12,SNR=2.3						
DLBC	Dease Lake	12.25	86	P	Pn	02 31 46.7	+3.0
INK	Inuvik	12.32	37	P	Pn	02 31 45.1	+0.5
	0.5nm,0.3s,baz=234,slow=11,SNR=16						
INK	Inuvik	12.32	37	P	Pn	02 31 44.8	+0.2
YKA	Yellowknife Ar	18.93	65	P	P	02 33 04.3	+1.2
	0.2nm,0.3s,baz=275,slow=10,SNR=36						
YKA	Yellowknife Ar	18.93	65	P	P	02 33 04.3	+1.2
KSRS	Korea Array	52.89	282	P	P	02 37 54.6	+0.5
	1.4nm,0.5s,mb4.0,baz=39,slow=7.5,SNR=4.1						
KSAR	Wonju Array Be	52.92	282	P	P	02 37 54.6	+0.3
SONM	Songino Array	54.68	306	P	P	02 38 07.9	+1.0
	1.9nm,0.6s,mb4.0,baz=44,slow=6.4,SNR=14						
SONM	Songino Array	54.68	306	P	P	02 38 07.9	+1.0
ZALV	Zalesovo Beam	57.42	323	P	P	02 38 26.1	-0.2
	0.5nm,0.3s,mb3.8,baz=30,slow=6.1,SNR=3.7						
ZALV	Zalesovo Beam	57.42	323	P	P	02 38 26.1	-0.2

*ISCJB **26** 02:43:40.4±0.6, 4°.70S±0°.05×127°.21E±0°.03, h48km±9km, mb3.8/5, MS3.6/6, Error ellipse: s-maj=8.6km s-min=5.4km az=176.7*
*DJA **26** 02:43:41, 4°.62S×127°.32E, h17km, MLv4.1/11*
*IDC **26** 02:43:45.6±4.7, 4°.89S×127°.02E, h81km±49km, mb3.5/5, mb1 3.7/7, mb1mx3.5/19, mbtmp3.6/7, ML3.8/2, MS3.6/8, Ms1 3.6/8, ms1mx3.2/40, Error ellipse: s-maj=42.9km s-min=17.1km az=41.0*
*NEIC **26** 02:43:45.8±1.9, 4°.94S×126°.94E, h84km±21km, mb4.1/3, Error ellipse: s-maj=22.3km s-min=7.8km az=224.0*

ISC 26 02:43:42.0±0.6, 4.73S±0°.05×127°.26E±0°.04, h46km±9km, n40, σ1.45/40, mb3.8/5, MS3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.40	42	P	Pn	02 44 03.8	-1.3
AAI				S	Sn	02 44 20.0	-2.3
NLAI	Namlea	1.49	354	P	Pn	02 44 04.2	-2.1
MSAI	Masohi	2.16	51	P	Pn	02 44 14.5	-1.1
MSAI				S	Sn	02 44 39.8	-1.3
LBMI	Labuha	4.07	3	P	Pn	02 44 44.1	+2.3
KDI	Kendari	4.69	279	P	Pn	02 44 49.7	-0.6
KDI				S	Sn	02 45 41.0	-2.4
FAKI	Fak Fak	5.30	70	P	Pn	02 44 59.1	+0.5
	0.3nm60nm,0.7s						
TLE	Tual	5.53	100	P	Pn	02 45 03.5	+1.6
	0.5nm118nm,0.8s						
APSI	Ampana	6.76	304	P	Pn	02 45 20.5	+1.7
GTOI	Gorontalo	6.81	321	P	Pn	02 45 22.1	+2.7
	0.1nm1μm40nm,1.1s						
BKSI	Bulukumba	7.13	265	P	Pn	02 45 26.8	+3.0
	0.1nm25nm,0.8s						

MRSI	Marisa	7.41	314	P	Pn	02 45 29.0	+1.3
	49nm,0.9s						
KAPI	Kappang	7.48	268	P	Pn	02 45 28.2	-0.5
	1.0nm,0.3s,baz=103,slow=11,SNR=7.8						
KAPI				S	Sn	02 46 50.8	-1.5
	0.1nm,0.3s,baz=53,slow=20,SNR=2.4						
KAPI				LR	LR	02 48 22.7	
	comp=Z,506nm,20.1s,baz=237,slow=38						
KAPI	Kappang	7.48	268	P	Pn	02 45 28.2	-0.5
KAPI				S	Sn	02 46 50.8	-1.5
SPSI	Sidrap Palu	7.50	276	P	Pn	02 45 28.6	-0.3
	24nm,0.8s						
KHKI	Kahang-Kahang	12.12	252	P	Pn	02 46 34.8	+2.6
WRAB	Tennant Creek	16.62	156	eP	Pn	02 47 32.2	+0.4
	12nm,0.9s						
WRA	Warramunga Arr	16.62	156	P	Pn	02 47 27.1	-4.7
	0.2nm,0.3s,baz=346,slow=13,SNR=18						
WRA				S	S	02 50 22.6	-22
	baz=332,slow=23,SNR=3.3						
WRA				LR	LR	02 54 08.4	
	comp=Z,111nm,19.5s,baz=355,slow=38						
WRA	Warramunga Arr	16.62	156	P	Pn	02 47 27.1	-4.7
WRA				S	S	02 50 22.6	-22
WB2	Warramunga Arr	16.63	156	eP	Pn	02 47 32.0	+0.1
COEN	Coen	18.17	121	eP	Pn	02 47 54.3	+3.2
AS31	Alice Springs	19.89	162	eP	Pn	02 48 10.4	-1.1
ASAR	Alice Springs	19.89	162	P	Pn	02 48 10.3	-1.2
	0.4nm,0.3s,baz=341,slow=11,SNR=74						
ASAR	Alice Springs	19.89	162	P	Pn	02 48 10.3	-1.2
PMG	Port Moresby	20.29	104	P	P	02 48 17.2	+3.1
	21nm,1.0s,baz=226,slow=6.4,SNR=4.7						
PMG	Port Moresby	20.29	104	eP	P	02 48 17.9	+3.9
	13nm,0.7s						
CTA	Charters Tower	23.98	131	LR	LR	02 58 34.1	
	comp=Z,88nm,21.1s,MS3.2,baz=255,slow=37						
STKA	Stephens Creek	30.17	155	P	P	02 49 47.2	-0.6
	2.2nm,1.0s,mb3.8,baz=326,slow=7.3,SNR=3.3						
STKA				LR	LR	03 03 47.2	
	comp=Z,67nm,18.4s,MS3.3,baz=216,slow=40						
STKA	Stephens Creek	30.17	155	P	P	02 49 47.2	-0.6
HNR	Honiara	32.76	100	LR	LR	03 03 36.0	
	comp=Z,68nm,19.5s,MS3.4,baz=89,slow=36						
KSRS	Korea Array	41.97	1	LR	LR	03 07 53.8	
	comp=Z,42nm,18.8s,MS3.3,baz=326,slow=34						
RPZ	Rata Peaks	54.69	142	LR	LR	03 15 02.1	
	comp=Z,122nm,19.1s,MS4.0,baz=233,slow=34						
SONM	Songino Array	55.46	343	P	P	02 53 12.8	+0.9
	0.3nm,0.7s,mb3.5,baz=165,slow=7.4,SNR=2.5						
SONM	Songino Array	55.46	343	P	P	02 53 12.8	+0.9
MK31	Makanchi Array	64.85	328	eP	P	02 54 15.5	-0.8
MKAR	Makanchi Array	64.85	328	P	P	02 54 16.8	+0.5
	0.6nm,0.7s,mb3.7,baz=118,slow=8.4,SNR=8.6						
MKAR	Makanchi Array	64.85	328	P	P	02 54 16.8	+0.5
ZALV	Zalesovo Beam	68.36	335	P	P	02 54 37.5	-1.1
	0.3nm,0.3s,mb3.8,baz=120,slow=5.2,SNR=3.8						
ZALV	Zalesovo Beam	68.36	335	P	P	02 54 37.5	-1.1
KURK	Kurchatov	69.18	329	eP	P	02 54 44.0	+0.3
	1.4nm,0.6s,mb4.1						
BVAR	Borovoye Array	74.70	328	LR	LR	03 28 51.8	
	comp=Z,114nm,19.4s,MS4.2,baz=85,slow=36						

IDC 26 02:58:33.5±4.9, 21°.90S×68°.51W, h0km, mb3.4/1, mb1 3.3/2, mb1mx3.2/15, mbtmp3.2/2, ML3.2/1, Error ellipse: s-maj=148.8km s-min=56.4km az=71.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.59	4	Pn	Pn	02 59 58.6	+0.6
	0.4nm,0.3s,baz=191,slow=6.4,SNR=7.4						
TORD	Torodi Ar. Bea	77.14	70	P	P	03 10 29.6	+0.1
	0.3nm,0.8s,baz=256,slow=5.8,SNR=7.0						
MKAR	Makanchi Array	145.73	37	PKPbc	PKPbc	03 18 13.6	-0.8
	0.5nm,0.9s,baz=322,slow=4.9,SNR=3.6						

*NEIC **26** 03:01:28.0, 15°.77N×98°.63W, h16km, MD3.8(MEX), After MEX.*

MEX 26 03:01:28.0±0.7, 15°.79N×98°.63W, h17km±75km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.77	39	i P	Pb	03 01 40.6	-2.4
PNIG				eS	Sb	03 01 49.5	-3.8
PNIG	Pinotepa	0.77	39	i P	Pb	03 01 40.6	-2.4
PNIG				eS	Sb	03 01 49.5	-3.8
CAIG	El Cayaco	2.01	309	i P	Pn	03 01 57.8	-3.4
CAIG				eS	Sn	03 02 21.2	-4.7
CAIG	El Cayaco	2.01	309	i P	Pn	03 01 57.8	-3.4
CAIG				eS	Sn	03 02 21.2	-4.7
VHO	Vista Hermosa	2.23	55	i P	Pn	03 02 01.2	-2.9
VHO				eS	Sn	03 02 27.8	-3.5
VHO	Vista Hermosa	2.23	55	i P	Pn	03 02 01.2	-2.9
VHO				eS	Sn	03 02 27.8	-3.5
MEIG	Mezcala	2.33	336	i P	Pn	03 02 03.4	-2.2
MEIG				eS	Sn	03 02 30.5	-3.3
MEIG	Mezcala	2.33	336	i P	Pn	03 02 03.4	-2.2
MEIG				eS	Sn	03 02 30.5	-3.3
PLIG	Platanillo	2.72	342	i P	Pn	03 02 09.2	-1.8
PLIG				eS	Sn	03 02 39.6	-3.9
PLIG	Platanillo	2.72	342	i P	Pn	03 02 09.2	-1.8
PLIG				eS	Sn	03 02 39.6	-3.9
CMIG	Matias Romero	3.82	70	i P	Pn	03 02 24.5	-1.6
CMIG				eS	Sn	03 03 06.7	-4.1
CMIG	Matias Romero	3.82	70	i P	Pn	03 02 24.5	-1.6
CMIG				eS	Sn	03 03 06.7	-4.1

*ISCJB **26** 03:04:17.5±2.2, 21°.3S±0°.2×178°.0W±0°.2, h419km±18km, mb4.0/15, Error ellipse: s-maj=38.7km s-min=14.3km az=144.1*
*IDC **26** 03:04:17.9±4.7, 20°.75S×178°.19W, h400km±46km, mb3.5/11, mb1 3.8/11, mb1mx3.6/19, mbtmp3.5/11, Error ellipse: s-maj=23.2km s-min=20.3km az=160.0*
*NEIC **26** 03:04:20.8±1.6, 20°.94S×178°.20W, h436km±13km, mb4.5/8, Error ellipse: s-maj=25.6km s-min=12.0km az=147.0*

ISC 26 03:04:18.6±2.2, 21°.3S±0°.2×178°.0W±0°.2, h418km±19km, n90, σ0.67/39, mb4.0/15, 7C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.11	313	ePn	P	03 05 42.3	-0.3
DZM	Mont Dzumac	14.48	264	eP	P	03 07 25.8	+0.9
	26nm,1.3s						
ARMA	Armidale	28.74	245	eP	P	03 09 41.1	+1.0
CNB	Canberra Magne	31.81	237	eP	P	03 10 07.1	+0.4
CTA	Charters Tower	33.42	265	P	P	03 10 20.4	-0.3
	6.8nm,0.8s,mb4.0,baz=105,slow=12,SNR=10.0						
CTA	Charters Tower	33.42	265	eP	P	03 10 21.1	+0.4
CTA	Charters Tower	33.42	265	P	P	03 10 20.4	-0.3
CTAO	Charters Tower	33.42	265	eP	P	03 10 20.5	-0.2
	6.2nm,0.8s,mb4.0						
TOO	Toolangi	35.46	235	eP	P	03 10 37.2	-0.5
PMG	Port Moresby	35.51	284	P	P	03 10 38.5	0.0
	8.9nm,0.6s,mb4.3,baz=142,slow=22,SNR=3.8						
PMG	Port Moresby	35.51	284	eP	P	03 10 38.1	-0.3
	12nm,0.8s,mb4.3						
STKA	Stephens Creek	37.46	245	P	P	03 10 54.7	+0.2
	6.3nm,0.6s,mb4.2,baz=89,slow=9.3,SNR=53						
STKA	Stephens Creek	37.46	245	eP	P	03 10 54.8	+0.3
STKA	Stephens Creek	37.46	245	eP	P	03 10 54.4	-0.1
	1.4nm,0.6s,mb3.5						
COEN	Coen	37.63	275	eP	P	03 10 56.9	+0.8
	24nm,0.6s,mb4.7						
AS31	Alice Springs	44.35	257	eP	P	03 11 49.7	-0.2
ASAR	Alice Springs	44.35	257	P	P	03 11 49.4	-0.5
	8.2nm,0.7s,mb4.2,baz=98,slow=8.0,SNR=146						
ASAR	Alice Springs	44.35	257	P	P	03 11 49.4	-0.5
WB2	Warramunga Arr	44.48	263	eP	P	03 11 50.3	-0.8
WRA	Warramunga Arr	44.50	263	P	P	03 11 50.4	-0.8
	3.6nm,0.6s,mb3.9,baz=96,slow=5.2,SNR=76						
WRA	Warramunga Arr	44.50	263	P	P	03 11 50.4	-0.8
FORT	Forrest	49.00	247	eP	P	03 12 24.6	-0.8
FORT	Forrest	49.00	247	eP	P	03 12 24.2	-1.1
	27nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	52.93	263	eP	P	03 12 54.9	+0.5
MBWA	Marble Bar	57.69	258	eP	P	03 13 27.2	-0.7
	9.1nm,0.7s,mb4.2						
KLBR	Kellerberrin	57.74	245	eP	P	03 13 27.7	-0.3
QSPA	South Pole Qui	68.82	180	P	P	03 14 44.4	+5.5
	4.0nm,0.8s,mb4.1,baz=26,slow=2.1,SNR=13						
QSPA	South Pole Qui	68.82	180	P	P	03 14 44.4	+5.5

NVAR	Mina Array Bea	81.57	43	P	P	03 15 50.4	-0.8
	0.5nm,0.7s,mb3.4,baz=218,slow=9.9,SNR=2.8						
NVAR	Mina Array Bea	81.57	43	P	P	03 15 50.4	-0.8
IPM	Ipoh	83.22	277	eP	P	03 16 01.0	+0.8
	12nm,0.6s,mb4.8						
TXAR	Lajitas Array	87.46	57	P	P	03 16 21.8	+1.3
	0.2nm,0.7s,mb3.0,baz=291,slow=5.6,SNR=3.4						
TXAR	Lajitas Array	87.46	57	P	P	03 16 21.8	+1.3
ILAR	Eielson Array	89.04	13	P	P	03 16 26.6	-0.4
	0.3nm,0.5s,mb3.3,baz=213,slow=5.9,SNR=12						
ILAR	Eielson Array	89.04	13	P	P	03 16 26.6	-0.4
PDAR	Pinedale Array	89.51	43	P	P	03 16 29.5	-0.2
	0.3nm,0.7s,mb3.2,baz=267,slow=3.3,SNR=3.0						
PDAR	Pinedale Array	89.51	43	P	P	03 16 29.5	-0.2
CMAR	Chiang Mai Arr	90.36	290	P	P	03 16 35.1	+0.9
	1.2nm,0.3s,mb4.2,baz=146,slow=2.8,SNR=5.3						
CMAR	Chiang Mai Arr	90.36	290	P	P	03 16 35.1	+0.9
MKAR	Makanchi Array	111.70	313	PKiKP	PKiKP	03 22 03.4	-1.0
	0.1nm,0.3s,baz=151,slow=0.9,SNR=4.0						
MKAR	Makanchi Array	111.70	313	PKiKP	PKiKP	03 22 03.4	-1.0
KURK	Kurchatov	114.54	317	PKP	PKiKP	03 22 08.8	-0.9
	0.4nm,0.3s,baz=104,slow=1.9,SNR=4.7						
KURK	Kurchatov	114.54	317	PKP	PKiKP	03 22 08.8	-0.9
TKM2	Tokmak 2	115.97	308	ePKPdf	PKPdf	03 22 13.2	+0.5
BVAR	Borovoye Array	119.64	320	PKP	PKPdf	03 22 19.0	-0.4
	0.9nm,0.4s,baz=120,slow=2.5,SNR=11						
BVAR	Borovoye Array	119.64	320	PKP	PKPdf	03 22 19.0	-0.4
KBL	Kabul	120.24	298	ePKPdf	PKPdf	03 22 21.9	+0.7
ABKAR	Akbulak array	126.62	316	ePKPdf	PKPdf	03 22 31.6	-1.4
AKTO	Aktyubinsk	127.62	318	PKP	PKPdf	03 22 35.4	+0.5
	0.8nm,0.8s,baz=48,slow=4.0,SNR=5.5						
AKTO	Aktyubinsk	127.62	318	PKP	PKPdf	03 22 35.4	+0.5
ARCES	ARCESS Array B	129.65	350	PKP	PKPdf	03 22 38.2	+0.1
	7.4nm,1.0s,baz=350,slow=6.4,SNR=4.0						
ARCES	ARCESS Array B	129.65	350	PKP	PKPdf	03 22 38.2	+0.1
FINES	FINESS Array B	136.49	343	PKP	PKPdf	03 22 52.0	+0.9
	3.2nm,1.0s,baz=37,slow=4.8,SNR=4.6						
FINES	FINESS Array B	136.49	343	PKP	PKPdf	03 22 52.0	+0.9
HFS	Hagfors	140.27	351	PKhKP	PKPpre	03 22 52.0	
	2.7nm,0.9s,baz=64,slow=3.4,SNR=9.8						
HFS	Hagfors	140.27	351	PKPpre	PKPpre	03 22 52.0	
AKASG	Malin Array Be	143.66	331	PKhKP	PKPpre	03 23 02.4	
	4.7nm,0.5s,baz=42,slow=4.2,SNR=22						
AKASG	Malin Array Be	143.66	331	PKPpre	PKPpre	03 23 02.4	
AKBB	Malin Array Si	143.66	331	ePKPdf	PKPdf	03 23 03.3	-1.2
KIEV	Kiev	143.67	331	ePKPdf	PKPdf	03 23 03.1	-1.4
ASF	Jabal al Asfar	147.11	297	PKPbc	PKPbc	03 23 13.3	-0.5
	2.3nm,0.7s,baz=310,slow=14,SNR=3.9						
ASF	Jabal al Asfar	147.11	297	PKPbc	PKPbc	03 23 13.3	-0.5
KWP	Kalwaria Pacla	147.25	335 ⇑	iP	PKPdf	03 23 15.4	+4.8
BR131	Keskin Array S	147.33	311	ePKPbc	PKPbc	03 23 14.1	0.0
BRTR	Keskin Array B	147.33	311	PKPbc	PKPbc	03 23 14.2	0.0
	2.9nm,0.6s,baz=133,slow=4.0,SNR=20						
BRTR	Keskin Array B	147.33	311	PKPbc	PKPbc	03 23 14.2	0.0
BUR08	Bucovina Ar. S	147.69	330	ePKPbc	PKPbc	03 23 16.5	+1.7
BURAR	Bucovina Array	147.71	330 ⇑	iP	PKPbc	03 23 16.8	+2.0
MMAI	Mount Meron Ar	148.17	299	PKPbc	PKPbc	03 23 16.8	+0.2
	4.8nm,0.4s,baz=75,slow=6.5,SNR=40						
MMAI	Mount Meron Ar	148.17	299	PKPbc	PKPbc	03 23 16.8	+0.2
VRI	Vrincioaia	148.19	326 ⇓	iP	PKPab	03 23 22.3	+1.8
CLL	Collm	148.79	347	ePKPbc	PKPbc	03 23 18.0	+0.6
CLL				i PKPab	PKPab	03 23 24.2	+1.4
MLR	Muntele Rosu	148.84	326	PKPbc	PKPbc	03 23 17.7	-0.1
	0.4nm,0.6s,baz=131,slow=10,SNR=6.9						
MLR	Muntele Rosu	148.84	326	PKPbc	PKPbc	03 23 17.7	-0.1
MLR	Muntele Rosu	148.84	326 ⇓	iP	PKPbc	03 23 17.8	0.0
EIL	Elat	149.17	293	PKPbc	PKPbc	03 23 19.2	+0.1
	4.2nm,0.8s,baz=271,slow=9.7,SNR=5.2						
EIL	Elat	149.17	293	PKPbc	PKPbc	03 23 19.2	+0.1
VRAC	Vranov	149.68	341 ⇑	iP	PKPab	03 23 28.7	+2.2
PSZ	Piszkesteto	149.74	336 ⇓	iP	PKPbc	03 23 22.4	+2.5
GZR	Gura Zlata	150.48	330 ⇑	iP	PKPbc	03 23 21.7	0.0
KHC	K

MKAR Makanchi Array 27.54 27 P **P** 03 14 01.4 +0.6
AKTO Aktyubinsk 27.64 351 P **P** 03 14 02.3 +0.6
comp=E,1.5nm,0.9s,mb3.6,baz=175,slow=16,SNR=4.5
AKTO Aktyubinsk 27.64 351 P **P** 03 14 02.3 +0.6
KURK Kurchatov 29.57 18 P **P** 03 14 18.6 -0.2
comp=E,0.8nm,0.8s,mb3.5,baz=212,slow=8.9,SNR=4.0
KURK Kurchatov 29.57 18 P **P** 03 14 18.6 -0.2
BRTR Keskin Array B 30.86 310 P **P** 03 14 31.0 +0.6
comp=E,0.4nm,0.8s,mb3.3,baz=126,slow=7.6,SNR=3.0
BRTR Keskin Array B 30.86 310 P **P** 03 14 31.0 +0.6
ZALV Zalesovo Beam 34.30 21 P **P** 03 14 59.5 -0.8
comp=E,0.8nm,0.5s,mb3.9,baz=224,slow=10,SNR=5.7
ZALV Zalesovo Beam 34.30 21 P **P** 03 14 59.5 -0.8
AKASG Malin Array Be 38.74 324 P **P** 03 15 37.6 -0.6
comp=E,0.3nm,0.3s,mb3.4,baz=137,slow=8.6,SNR=3.1
AKASG Malin Array Be 38.74 324 P **P** 03 15 37.6 -0.6
KIEV Kiev 38.75 324 *eP* **P** 03 15 37.2 -1.1
comp=E,2.5nm,0.6s,mb4.1
BUR08 Bucovina Ar. S 39.64 318 *eP* **P** 03 15 46.0 +0.1
SONM Songino Array 41.32 43 P **P** 03 16 01.0 +1.3
comp=E,0.7nm,0.9s,mb3.3,baz=239,slow=12,SNR=3.8
SONM Songino Array 41.32 43 P **P** 03 16 01.0 +1.3
OPO Ambohidratompo 44.84 204 P **P** 03 16 26.8 -1.6
comp=E,0.8nm,0.3s,mb4.0,baz=80,slow=6.8,SNR=3.2
OPO Ambohidratompo 44.84 204 P **P** 03 16 26.8 -1.6
FINES FINESS Array B 46.37 336 P **P** 03 16 38.3 -1.8
comp=E,3.2nm,1.0s,mb4.2,baz=64,slow=4.4,SNR=4.2
FINES FINESS Array B 46.37 336 P **P** 03 16 38.3 -1.8
ARCES ARCESS Array B 51.81 344 P **P** 03 17 19.8 -1.8
comp=E,6.4nm,1.1s,mb4.5,baz=140,slow=10,SNR=2.8
ARCES ARCESS Array B 51.81 344 P **P** 03 17 19.8 -1.9
TAM Tamanrasset 53.96 282 *eP* **P** 03 17 39.5 +1.2
comp=E,1.2nm,0.8s,mb3.9
TORD Torodi Ar. Bea 60.13 272 P **P** 03 18 22.7 +0.6
comp=E,1.5nm,0.9s,mb4.0,baz=67,slow=5.9,SNR=8.5
TORD Torodi Ar. Bea 60.13 272 P **P** 03 18 22.7 +0.6
WRA Warramunga Arr 80.47 116 P **P** 03 20 26.9 +0.4
comp=E,0.2nm,0.7s,mb3.2,baz=314,slow=4.5,SNR=3.9
WRA Warramunga Arr 80.47 116 P **P** 03 20 26.9 +0.4
ASAR Alice Springs 81.92 120 P **P** 03 20 35.5 +1.3
comp=E,0.2nm,0.8s,mb3.1,baz=300,slow=6.1,SNR=4.0
ASAR Alice Springs 81.92 120 P **P** 03 20 35.5 +1.3

IDC 26 03:09:01.4±19.0, 16°.27S×174°.98W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/18, mbtmp4.2/4, Error ellipse: s-maj=383.4km s-min=56.3km az=56.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**29.82**	**201**	P	P	03 15 10.3	+0.1
9.5nm,0.5s,baz=28,slow=18,SNR=5.7							
STKA	**Stephens Creek**	**42.29**	**240**	P	P	03 16 57.2	+0.3
1.0nm,0.7s,baz=86,slow=9.2,SNR=4.3							
WRA	**Warramunga Arr**	**48.17**	**258**	P	P	03 17 43.5	-0.3
0.7nm,0.4s,baz=95,slow=7.0,SNR=27							
ASAR	**Alice Springs**	**48.40**	**253**	P	P	03 17 45.4	-0.2
1.9nm,0.6s,baz=88,slow=8.4,SNR=34							

PGC 26 03:15:31.6±1.5, 48°.88N×128°.95W, h10km, ML2.9/16, Mw3.5, 12D, 223km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.49**	**31**	⇓Pn	Pn	03 15 56.0	-2.4
BPBC				⇑Sn	Sn	03 16 13.8	-4.1
EDB	**Eliza Dome**	**1.56**	**50**	⇑Pn	Pn	03 15 57.0	-2.3
EDB				⇓Sn	Sn	03 16 14.3	-5.2
HOLB	**Holberg**	**1.84**	**17**	⇑Pn	Pn	03 16 01.1	-2.1
HOLB				⇑Sn	Sn	03 16 25.5	-1.0
MAYB	**Maynard**	**1.91**	**37**	⇑Pn	Pn	03 16 02.2	-2.0
WOSB	**Woss**	**2.01**	**50**	⇑Pn	Pn	03 16 04.2	-1.4
PHC	**Port Hardy**	**2.08**	**28**	Pn	Pn	03 16 04.6	-1.8
PHC				⇑Sn	Sn	03 16 27.8	-4.6
GDR	**Gold River**	**2.11**	**64**	⇓Pn	Pn	03 16 04.9	-2.0
OZB	**Mount Ozzard**	**2.28**	**87**	⇓Pn	Pn	03 16 06.8	-2.5
OZB				⇑Sn	Sn	03 16 32.8	-4.7
BTB	**Buttle Lake**	**2.33**	**74**	⇑Pn	Pn	03 16 08.6	-1.3
BTB				⇓Sn	Sn	03 16 35.1	-3.4
NCRB	**Newcastle Ridg**	**2.42**	**50**	⇑Pn	Pn	03 16 10.4	-0.8
NCRB				⇓Sn	Sn	03 16 38.6	-2.3
BMSB	**Bamfield Mari**	**2.52**	**90**	⇑Sn	Sn	03 16 38.8	-4.5
CBB	**Campbell River**	**2.61**	**62**	⇓Pn	Pn	03 16 12.8	-1.0
CBB				⇑Sn	Sn	03 16 43.5	-2.0
ALB	**Alberni**	**2.74**	**80**	⇑Pn	Pn	03 16 14.6	-1.0
ALB				⇓Sn	Sn	03 16 44.9	-3.8
MGB	**Mount Grey**	**2.81**	**86**	⇑Pn	Pn	03 16 14.6	-1.9
MGB				⇑Sn	Sn	03 16 46.0	-4.4
TXB	**Texada**	**3.07**	**73**	⇑Pn	Pn	03 16 19.1	-0.9
YOUB	**Youbou, Lake C**	**3.10**	**88**	⇑Pn	Pn	03 16 19.5	-1.0
YOUB				⇑Sn	Sn	03 16 54.0	-3.5
NLLB	**Nanaimo Lost L**	**3.28**	**82**	⇓Pn	Pn	03 16 22.6	-0.4
NLLB				⇑Sn	Sn	03 16 59.9	-2.2
BBB	**Bella Bella**	**3.35**	**9**	⇓Pn	Pn	03 16 23.1	-0.9
BBB				⇓Sn	Sn	03 16 60.0	-3.8
SHB	**Sechelt**	**3.40**	**76**	⇑Pn	Pn	03 16 24.6	-0.1
LZB	**Mount Lazard**	**3.41**	**93**	⇑Pn	Pn	03 16 23.5	-1.2
LZB				⇑Sn	Sn	03 17 01.3	-3.8
PGC	**Sidney**	**3.65**	**92**	⇓Pn	Pn	03 16 26.8	-1.2
PGC				⇑Sn	Sn	03 17 08.0	-3.1

*ISCJB **26** 03:15:43.2±0.4, 24°.03S±0°.03×66°.72W±0°.04, h182km±3km, mb4.7/95, Error ellipse: s-maj=6.6km s-min=4.7km az=140.8*
*NEIC **26** 03:15:44.4±0.4, 24°.03S×66°.71W, h186km±4km, mb4.8/75, Error ellipse: s-maj=6.6km s-min=4.5km az=65.0*
*IDC **26** 03:15:45.3±1.3, 23°.97S×66°.70W, h190km±11km, mb4.2/22, mb1 4.3/27, mb1mx4.3/27, mbtmp4.2/27, Error ellipse: s-maj=12.9km s-min=7.9km az=65.0*
*BJI **26** 03:15:45.2, 24°.00S×66°.70W, h165km, mB5.0/6*
*GUC **26** 03:15:45.3±0.9, 23°.89S×67°.39W, h242km±8km, ML5.3*

ISC 26 03:15:43.8±0.4, 24°.00S±0°.03×66°.65W±0°.04, h171km±3km, n563, d678/548, mb4.7/95, 189C-167D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.79**	**307**	*eP*	**Pn**	**03 16 22.4**	**+4.3**
SPCH				*eS*	**Sn**	**03 16 51.2**	**+14**
SPCH	**San Pedro de A**	**1.79**	**307**	*eP*	**Pn**	**03 16 22.4**	**+4.3**
SPCH				*eS*	**Sn**	**03 16 51.2**	**+14**
LVC	**Limon Verde**	**2.50**	**303**	*eP*	**Pn**	**03 16 28.0**	**+2.0**
LVC				*i* S	**Sn**	**03 17 00.4**	**+6.0**
LVC	**Limon Verde**	**2.50**	**303**	*eP*	**Pn**	**03 16 28.0**	**+2.0**
LVC				*i* S	**Sn**	**03 17 00.4**	**+6.0**
LVC				AML	AML	03 17 03.2	
comp=E,3μm,0.8s							
PB04	**Plate Boundary**	**3.13**	**303**	⇑*eP*	**Pn**	**03 16 39.4**	**+5.8**
PB04				*eS*	**Sn**	**03 17 21.2**	**+12**
PB04				AML	AML	03 17 24.5	
comp=N,3μm,0.4s							
PB09	**Plate Boundary**	**3.25**	**312**	⇑*eP*	**Pn**	**03 16 36.9**	**+1.8**
PB09				*eS*	**Sn**	**03 17 15.4**	**+2.9**
PB09				AML	AML	03 17 17.6	
comp=N,9μm,0.5s							
CEN1	**Los Morros**	**3.31**	**280**	⇓*iP*	**Pn**	**03 16 37.6**	**+1.8**
CEN1				*eS*	**Sn**	**03 17 15.0**	**+1.0**
CEN1				AML	AML	03 17 19.8	
comp=E,2μm,0.9s							
MACH	**Maria Elena**	**3.38**	**302**	*eP*	**Pn**	**03 16 37.3**	**+0.5**
MACH				*i* S	**Sn**	**03 17 16.4**	**+0.8**
MACH	**Maria Elena**	**3.38**	**302**	*eP*	**Pn**	**03 16 37.3**	**+0.5**
MACH				*i* S	**Sn**	**03 17 16.4**	**+0.8**
MECH	**Mejillones**	**3.60**	**284**	⇑*iP*	**Pn**	**03 16 40.3**	**+0.8**
MECH				*eS*	**Sn**	**03 17 20.2**	**-0.6**
MECH	**Mejillones**	**3.60**	**284**	⇑*iP*	**Pn**	**03 16 40.3**	**+0.8**
MECH				*eS*	**Sn**	**03 17 20.2**	**-0.6**
MECH				AML	AML	03 17 29.7	
comp=E,5μm,0.4s							
PB07	**Plate Boundary**	**3.75**	**307**	⇑*iP*	**Pn**	**03 16 42.2**	**+0.8**
PB07				*eS*	**Sn**	**03 17 23.9**	**-0.5**
PB01	**Plate Boundary**	**3.94**	**318**	⇑*iP*	**Pn**	**03 16 44.7**	**+0.7**
PB01				*eS*	**Sn**	**03 17 29.6**	**+0.3**
HMBC	**Humberston**	**4.77**	**320**	⇑*eP*	**Pn**	**03 16 53.7**	**-0.9**
HMBC				*eS*	**Sn**	**03 17 46.2**	**-2.8**
HMBC				AML	AML	03 17 51.8	
comp=N,3μm,0.6s							
CDCH	**Caldera**	**4.85**	**230**	P	**Pn**	**03 16 53.7**	**-1.8**
CDCH	**Caldera**	**4.85**	**230**	*eP*	**Pn**	**03 16 53.7**	**-1.8**
LCO	**Las Campanas**	**6.17**	**215**	*e*Pn	**Pn**	**03 17 11.1**	**-1.8**
ARCH	**Arica**	**6.45**	**328**	*eP*	**Pn**	**03 17 16.2**	**-0.4**
CFAA	**Coronel Fontan**	**7.70**	**190**	P	**Pn**	**03 17 33.0**	**-0.1**
comp=N,0.4nm,0.3s,baz=18,slow=14,SNR=96							
CFAA				S	**Sn**	**03 18 53.1**	**-6.3**
comp=N,1.9nm,0.3s,baz=218,slow=14,SNR=15							
CFAA	**Coronel Fontan**	**7.70**	**190**	P	**Pn**	**03 17 33.0**	**-0.1**
CFAA				S	**Sn**	**03 18 53.1**	**-6.3**
LPAZ	**La Paz**	**7.80**	**349**	P	**Pn**	**03 17 36.7**	**+2.2**
comp=N,3.7nm,0.3s,baz=167,slow=8.3,SNR=116							
LPAZ				S	**Sn**	**03 19 02.8**	**+1.0**
comp=N,3.3nm,0.3s,baz=24,slow=17,SNR=8.0							
LPAZ	**La Paz**	**7.80**	**349**	⇑*iP*n	**Pn**	**03 17 36.5**	**+2.1**
LPAZ				S	**Sn**	**03 19 02.8**	**+1.0**
LPAZ				*e*Sn	**Sn**	**03 19 03.0**	**+1.2**
CPUP	**Villa Florida**	**8.76**	**107**	P	**Pn**	**03 17 49.5**	**+2.5**
comp=N,1.7nm,0.3s,baz=275,slow=12,SNR=78							
CPUP	**Villa Florida**	**8.76**	**107**	*e*Pn	**Pn**	**03 17 49.1**	**+2.1**
SIV	**San Ignacio**	**9.54**	**34**	P	**Pn**	**03 17 58.6**	**+1.2**
comp=N,5.7nm,0.3s,baz=228,slow=13,SNR=117							
SIV				S	**Sn**	**03 19 36.4**	**-7.1**
comp=N,0.6nm,0.3s,baz=285,slow=15,SNR=3.6							
SIV	**San Ignacio**	**9.54**	**34**	P	**Pn**	**03 17 58.6**	**+1.2**
SIV				S	**Sn**	**03 19 36.4**	**-7.1**
TRQA	**Tornquist**	**14.57**	**165**	*e*Pn	**Pn**	**03 18 59.8**	**-2.0**
SAML	**Samuel**	**15.33**	**13**	*eP*	**Pn**	**03 19 11.7**	**+0.3**
comp=N,15nm,0.7s							
SAML				*eS*	**S**	**03 22 00.5**	**-1.7**
NNA	**Nana**	**15.38**	**319**	P	**Pn**	**03 19 12.6**	**+0.6**
comp=N,0.9nm,0.3s,baz=165,slow=13,SNR=14							
NNA				S	**S**	**03 22 00.2**	**-3.0**
comp=N,1.0nm,0.3s,baz=230,slow=16,SNR=4.1							
NNA	**Nana**	**15.38**	**319**	*eP*	**Pn**	**03 19 11.4**	**-0.6**
comp=N,19nm,0.8s							
NNA				S	**S**	**03 22 00.2**	**-3.0**
PLCA	**Paso Flores**	**17.00**	**190**	P	**Pn**	**03 19 30.4**	**-1.0**
comp=N,0.3nm,0.3s,baz=0.7,slow=11,SNR=19							
PLCA				PcP	PcP	03 24 06.1	-0.5
comp=N,0.2nm,0.3s,baz=292,slow=2.7,SNR=5.8							
PLCA	**Paso Flores**	**17.00**	**190**	*eP*	**Pn**	**03 19 29.7**	**-1.7**
comp=N,15nm,0.9s							
PLCA				PcP	PcP	03 24 06.1	-0.5
SPB	**Sao Paulo**	**17.59**	**93**	*eP*	**Pn**	**03 19 38.2**	**-0.4**
comp=N,69nm,0.8s							
ATAH	**Atahualpa**	**20.20**	**324**	P	**P**	**03 20 07.2**	**+1.7**
comp=N,5.7nm,0.6s,baz=158,slow=4.3,SNR=6.4							
ATAH	**Atahualpa**	**20.20**	**324**	P	**P**	**03 20 07.2**	**+1.7**
CAM4	**Nova Friburgo**	**22.20**	**91**	⇑*iP*	**P**	**03 20 28.3**	**+1.9**
CAM4				*i*		03 20 29.7	
CAM4				*i*		03 20 31.2	
CAM4				*i*		03 20 34.5	
CAM4				*i*		03 20 41.3	
CAM4				*i*		03 20 54.5	
CAM4				*i*		03 21 12.0	
CAM4				*i*		03 21 38.8	
OTAV	**Otavalo**	**26.68**	**333**	*eP*	**P**	**03 21 08.4**	**+1.4**
comp=N,31nm,1.8s,mb4.6							
OTAV				*e*PcP	PcP	03 24 26.4	+0.1
ROSC	**El Rosal**	**29.64**	**344**	P	**P**	**03 21 33.5**	**+0.2**
comp=N,4.7nm,0.6s,mb4.4,baz=87,slow=11,SNR=11							
ROSC	**El Rosal**	**29.64**	**344**	*eP*	**P**	**03 21 33.1**	**-0.2**
USHA	**Ushuaia**	**30.82**	**182**	P	**P**	**03 21 44.7**	**+1.4**
comp=N,10nm,0.8s,mb4.6,baz=46,slow=5.1,SNR=3.1							
USHA	**Ushuaia**	**30.82**	**182**	P	**P**	**03 21 44.7**	**+1.4**
SDV	**Santo Domingo**	**32.92**	**353**	*eP*	**P**	**03 22 00.3**	**-1.6**
comp=N,12nm,0.8s,mb4.7							
RCBR	**Riachuelo**	**34.64**	**64**	P	**P**	**03 22 17.3**	**+0.4**
comp=N,29nm,0.9s,mb4.9,baz=225,slow=9.8,SNR=16							
RCBR	**Riachuelo**	**34.64**	**64**	*eP*	**P**	**03 22 17.8**	**+0.9**
comp=N,23nm,0.7s,mb4.9							
CRPR	**Cabo Rojo, PR**	**41.75**	**359**	*eP*	**P**	**03 23 14.2**	**-2.1**
comp=N,16nm,0.8s,mb4.7							
CELP	**Cerrillos**	**41.82**	**0**	*eP*	**P**	**03 23 14.2**	**-2.6**
TGUH	**Tegucigalpa,Un**	**42.86**	**330**	*eP*	**P**	**03 23 25.4**	**+0.2**
comp=N,34nm,0.8s,mb5.0							
TEIG	**Tepich**	**48.75**	**333**	*eP*	**P**	**03 24 09.8**	**-1.5**
comp=N,51nm,1.3s,mb5.0							
CMIG	**Matias Romero**	**49.27**	**323**	P	**P**	**03 24 14.6**	**-0.8**
comp=N,5.7nm,0.8s,mb4.3,baz=95,slow=6.5							
CMIG	**Matias Romero**	**49.27**	**323**	P	**P**	**03 24 14.6**	**-0.8**
NHSC	**New Hope**	**58.23**	**347**	*eP*	**P**	**03 25 19.8**	**-0.3**
comp=N,223nm,1.5s,mb5.8							
COW	**Cow Castle Cre**	**58.61**	**346**	*eP*	**P**	**03 25 22.2**	**-0.5**
SNAA	**Sanae**	**59.24**	**161**	P	**P**	**03 25 26.6**	**0.0**
comp=N,2.6nm,0.7s,mb4.2,baz=291,slow=6.6,SNR=38							
SNAA	**Sanae**	**59.24**	**161**	*eP*	**P**	**03 25 26.4**	**-0.2**
comp=N,6.3nm,0.7s,mb4.5							
GOGA	**Godfrey**	**59.30**	**344**	*eP*	**P**	**03 25 25.7**	**-1.7**
comp=N,15nm,0.9s,mb4.8							
LRAL	**Lakeview Retre**	**59.94**	**340**	*eP*	**P**	**03 25 30.0**	**-1.9**
comp=N,18nm,0.9s,mb4.9							
KMSC	**Kings Mountain**	**60.44**	**346**	⇓*eP*	**P**	**03 25 34.8**	**-0.4**
baz=61							
HKT	**Hockley**	**60.52**	**331**	*eP*	**P**	**03 25 34.6**	**-1.2**
comp=N,8.2nm,1.0s,mb4.5							
TKL	**Tuckaleechee C**	**61.51**	**344**	P	**P**	**03 25 41.1**	**-1.3**
comp=N,12nm,0.8s,mb4.8,baz=165,slow=8.4,SNR=20							
TKL	**Tuckaleechee C**	**61.51**	**344**	*eP*	**P**	**03 25 40.6**	**-1.7**
SWET	**Sewanee**	**61.66**	**342**	*eP*	**P**	**03 25 41.8**	**-1.6**
comp=N,37nm,0.7s,mb5.3							
OXF	**Oxford**	**62.08**	**339**	*eP*	**P**	**03 25 43.9**	**-2.3**
comp=N,53nm,0.9s,mb5.4							
PLAL	**Pickwick Lake**	**62.08**	**340**	*eP*	**P**	**03 25 43.9**	**-2.3**
comp=N,21nm,0.9s,mb5.0							
JCT	**Junction City**	**62.81**	**328**	⇑P	**P**	**03 25 50.2**	**-1.0**
baz=63,SNR=26							
JCT	**Junction City**	**62.81**	**328**	*eP*	**P**	**03 25 50.1**	**-1.0**
comp=N,35nm,0.7s,mb5.3							
WVT	**Waverly**	**63.07**	**341**	*eP*	**P**	**03 25 50.7**	**-2.0**
comp=N,42nm,0.6s,mb5.5							
628A	**Black Gap, Mar**	**63.57**	**325**	⇑P	**P**	**03 25 56.0**	**-0.2**
baz=64,SNR=24							
UTMT	**University of**	**63.58**	**340**	*eP*	**P**	**03 25 53.7**	**-2.4**
comp=N,94nm,0.9s,mb5.6							
MIAR	**Mount Ida**	**63.59**	**335**	*eP*	**P**	**03 25 55.0**	**-1.2**
comp=N,22nm,1.1s,mb4.9							
GLAT	**Glass**	**63.65**	**340**	*eP*	**P**	**03 25 55.4**	**-1.1**
627A	**Terlingua Ranc**	**63.81**	**324**	⇓P	**P**	**03 25 57.4**	**-0.4**
baz=64,SNR=24							
TXAR	**Lajitas Array**	**63.87**	**324**	P	**P**	**03 25 57.3**	**-0.8**
comp=N,5.1nm,0.7s,mb4.4,baz=152,slow=8.3,SNR=79							
TXAR	**Lajitas Array**	**63.87**	**324**	P	**P**	**03 25 57.3**	**-0.8**
528A	**Cox Ranch, San**	**64.06**	**325**	⇑P	**P**	**03 25 58.6**	**-0.7**
baz=64,SNR=15							
PARMO	**Parma**	**64.16**	**339**	*eP*	**P**	**03 25 58.9**	**-0.9**
626A	**Big Bend Ranch**	**64.29**	**324**	⇑P	**P**	**03 26 01.2**	**+0.3**
baz=64,SNR=63							
428A	**Kincaid Ranch,**	**64.45**	**326**	⇑P	**P**	**03 26 01.4**	**-0.6**
baz=65,SNR=9.3							
527A	**Woodward Ranch**	**64.48**	**325**	⇓P	**P**	**03 26 01.6**	**-0.5**
baz=65,SNR=23							
WCI	**Wyandotte Cave**	**64.59**	**343**	*eP*	**P**	**03 26 00.6**	**-2.0**
comp=N,18nm,0.6s,mb5.1							
526A	**Mary Lane Ranc**	**64.66**	**324**	⇑P	**P**	**03 26 02.9**	**-0.4**
baz=65,SNR=37							
427A	**Hayter Ranch,**	**64.92**	**325**	⇑P	**P**	**03 26 04.3**	**-0.7**
baz=65,SNR=18							
SIUC	**Southern Illin**	**64.95**	**340**	*eP*	**P**	**03 26 03.0**	**-2.0**
comp=N,16nm,0.8s,mb4.9							
328A	**Wristen Ranch,**	**65.04**	**326**	⇓P	**P**	**03 26 05.3**	**-0.4**
baz=65,SNR=26							
426A	**McDonald Obser**	**65.11**	**325**	⇑P	**P**	**03 26 06.0**	**-0.1**
baz=65,SNR=30							
BLO	**Bloomington**	**65.54**	**343**	*eP*	**P**	**03 26 06.5**	**-2.2**
comp=N,16nm,0.5s,mb5.1							
326A	**Caldwell Ranch**	**65.59**	**325**	⇑P	**P**	**03 26 08.7**	**-0.6**
baz=66,SNR=16							
TUL1	**Tulsa**	**65.65**	**334**	⇓P	**P**	**03 26 09.0**	**-0.6**
baz=66,SNR=6.5							
425A	**Indio Mountain**	**65.71**	**324**	⇓P	**P**	**03 26 09.3**	**-0.8**
baz=66,SNR=32							
227A	**Bennet, Jal**	**65.79**	**326**	⇓P	**P**	**03 26 10.1**	**-0.4**
baz=66,SNR=20							
CCM	**Cathedral Cave**	**65.91**	**339**	*eP*	**P**	**03 26 09.2**	**-1.9**
comp=N,40nm,0.6s,mb5.4							
325A	**Bean Ranch, Si**	**66.16**	**325**	⇓P	**P**	**03 26 12.3**	**-0.6**
baz=66,SNR=51							
QSPA	**South Pole Qui**	**66.20**	**180**	P	**P**	**03 26 12.9**	**+0.4**
comp=N,19nm,0.6s,mb5.1,baz=158,slow=1.5,SNR=57							
QSPA	**South Pole Qui**	**66.20**	**180**	*eP*	**P**	**03 26 12.6**	**+0.1**
comp=N,18nm,0.6s,mb5.1							
226A	**Malaga, Loving**	**66.25**	**326**	⇑P	**P**	**03 26 13.0**	**-0.4**
baz=66,SNR=13							
CLNB	**Carlsbad**	**66.29**	**326**	*eP*	**P**	**03 26 13.2**	**-0.5**
comp=N,3.1nm,0.6s,mb4.3							
127A	**Arkansas Junct**	**66.36**	**327**	⇑P	**P**	**03 26 13.0**	**-1.1**
baz=67,SNR=8.0							
324A	**Moseley Ranch,**	**66.49**	**324**	⇓P	**P**	**03 26 14.0**	**-1.0**
baz=67,SNR=28							
GDL2	**Guadalupe Moun**	**66.49**	**326**	*eP*	**P**	**03 26 14.6**	**-0.3**
comp=N,14nm,0.8s,mb4.9							
MNTX	**Cornudas Mount**	**66.63**	**324**	⇑P	**P**	**03 26 14.9**	**-1.0**
baz=67,SNR=21							
MNTX	**Cornudas Mount**	**66.63**	**324**	*eP*	**P**	**03 26 14.1**	**-1.8**
comp=N,12nm,0.9s,mb4.7							
225A	**Deer Hill, Car**	**66.66**	**325**	⇓P	**P**	**03 26 15.5**	**-0.6**
baz=67,SNR=14							
126A	**Clayton Basin,**	**66.67**	**326**	⇑P	**P**	**03 26 15.4**	**-0.7**
baz=67,SNR=15							
Z27A	**Tatum**	**66.80**	**327**	⇑P	**P**	**03 26 15.5**	**-1.4**
baz=67,SNR=14							
SFIN	**Scholer Farm**	**66.82**	**343**	⇑P	**P**	**03 26 14.6**	**-2.2**
baz=67,SNR=6.7							
CPRX	**Cap Rock**	**66.90**	**326**	*eP*	**P**	**03 26 17.2**	**-0.3**
comp=N,12nm,0.7s,mb4.8							
224A	**Cornudas Mount**	**67.00**	**325**	⇓P	**P**	**03 26 17.6**	**-0.6**
baz=67,SNR=35							
125A	**Gardner Draw,**	**67.01**	**326**	⇓P	**P**	**03 26 17.4**	**-0.8**
baz=67							
MSTX	**Muleshoe**	**67.11**	**328**	⇑P	**P**	**03 26 18.0**	**-0.8**
baz=67,SNR=27							
LIC	**Lamto**	**67.13**	**72**	*eP*	**P**	**03 26 20.4**	**+0.9**
LIC	**Lamto**	**67.13**	**72**	*eP*	**P**	**03 26 20.4**	**+0.9**
Z26A	**Caprock**	**67.15**	**327**	⇑P	**P**	**03 26 18.4**	**-0.6**
baz=67,SNR=21							
Y27A	**Causey**	**67.23**	**328**	⇑P	**P**	**03 26 18.4**	**-1.2**
baz=68,SNR=16							
AMTX	**Amarillo**	**67.33**	**329**	⇓P	**P**	**03 26 19.3**	**-0.9**
baz=68							
DBIC	**Dimbokro**	**67.50**	**71**	P	**P**	**03 26 21.2**	**-0.5**
comp=N,5.4nm,0.7s,mb4.5,baz=208,slow=6.7,SNR=11							
DBIC	**Dimbokro**	**67.50**	**71**	*eP*	**P**	**03 26 21.1**	**-0.7**
comp=N,4.4nm,0.6s,mb4.5							
Z25A	**Roswell**	**67.53**	**326**	⇑P	**P**	**03 26 20.4**	**-1.0**
baz=68,SNR=14							
Y26A	**Elida**	**67.59**	**327**	⇑P	**P**	**03 26 22.1**	**+0.3**
baz=68							
HDIL	**Hopedale**	**67.59**	**342**	*eP*	**P**	**03 26 19.3**	**-2.4**
comp=N,73nm,1.2s,mb5.3							
X27A	**F and S Farms,**	**67.81**	**328**	⇓P	**P**	**03 26 22.9**	**-0.3**
baz=68							
Z24A	**Sheeppen Canyo**	**67.90**	**326**	⇓P	**P**	**03 26 23.5**	**-0.3**
baz=68,SNR=20							
Y25A	**Mesa, Roswell**	**68.02**	**326**	⇓P	**P**	**03 26 23.7**	**-0.9**
baz=68,SNR=15							
320A	**Kipp Ranch, An**	**68.08**	**322**	⇓P	**P**	**03 26 24.7**	**-0.2**
baz=68,SNR=8.7							
X26A	**CR and CF Fran**	**68.08**	**327**	⇓P	**P**	**03 26 24.3**	**-0.6**
baz=68,SNR=16							
W27A	**Bowe Ranch, En**	**68.13**	**328**	⇑P	**P**	**03 26 24.3**	**-0.9**
baz=68,SNR=11							
122A	**Conniff Cattle**	**68.27**	**324**	⇓P	**P**	**03 26 26.9**	**+0.7**
baz=68,SNR=5.8							
Z23A	**Rita Site, Whi**	**68.30**	**325**	⇓P	**P**	**03 26 26.6**	**+0.3**
baz=69,SNR=9.6							
X25A	**Clemmons Ranch**	**68.49**	**327**	⇑P	**P**	**03 26 26.4**	**-1.0**
baz=69,SNR=10							
W26A	**Owens Ranch, T**	**68.49**	**328**	⇑P	**P**	**03 26 27.4**	**-0.1**
baz=69,SNR=10							
220A	**Playas Peak, P**	**68.50**	**322**	⇑P	**P**	**03 26 27.5**	**-0.1**
baz=69,SNR=11							
319A	**Douglas**	**68.53**	**322**	⇑P	**P**	**03 26 28.0**	**+0.2**
baz=69,SNR=12							
121A	**Cookes Peak, D**	**68.57**	**323**	⇑P	**P**	**03 26 28

U22A **Llaves** 71.04 327 ⇓P P 03 26 43.9 +0.8
baz=71,SNR=6.6
Y17A **Roosevelt** 71.14 322 ⇓P P 03 26 44.2 +0.5
baz=71,SNR=17
KSCO **Kaye Shedlock'** 71.15 331 ⇑P P 03 26 43.7 +0.1
baz=71,SNR=6.8
T23A **Casias Ranch,** 71.15 328 ⇓P P 03 26 44.1 +0.4
baz=71
R25A **Fountain Ranch** 71.20 329 ⇓P P 03 26 43.8 -0.1
baz=72,SNR=7.7
S24A **Houchin Ranch,** 71.23 328 ⇑P P 03 26 44.9 +0.8
baz=72,SNR=10
BGNE **Belgrade** 71.33 335 ⇓P P 03 26 44.1 -0.5
baz=72,SNR=14
W19A **Sanders** 71.39 324 ⇑P P 03 26 45.9 +0.7
baz=72
V20A **Brimhall** 71.42 325 ⇓P P 03 26 45.6 +0.3
baz=72,SNR=7.8
SDCO **Great Sand Dun** 71.45 328 ⇓P P 03 26 46.1 +0.7
baz=72,SNR=7.6
Q26A **Hugo** 71.48 330 ⇓P P 03 26 46.0 +0.4
baz=72,SNR=8.9
U21A **Nageezi** 71.49 326 ⇑P P 03 26 45.9 +0.2
baz=72,SNR=7.3
T22A **Edith** 71.56 327 ⇑P P 03 26 46.7 +0.6
baz=72,SNR=6.3
W18A **Petrified Fore** 71.58 324 ⇓P P 03 26 46.9 +0.6
baz=72
X17A **Forest Lakes** 71.59 323 ⇑P P 03 26 47.2 +0.9
baz=72
114A **Black Gap (USA** 71.62 320 ⇑P P 03 26 47.0 +0.4
baz=72
R24A **Sanders Place,** 71.66 329 ⇑P P 03 26 47.1 +0.5
baz=72,SNR=9.6
S23A **Nye Farm, Mont** 71.67 328 ⇓P P 03 26 47.1 +0.4
baz=72
V19A **Window Rock** 71.67 325 ⇑P P 03 26 47.4 +0.6
baz=72,SNR=17
Q25A **Bedland, Calha** 71.80 330 ⇓P P 03 26 48.0 +0.5
baz=72
T21A **Navajo Lake** 71.86 327 ⇓P P 03 26 48.4 +0.5
baz=72,SNR=7.2
U20A **Newcomb** 71.89 325 ⇓P P 03 26 48.4 +0.3
baz=72,SNR=11
P26A **Davis Ranch, A** 71.92 331 ⇑P P 03 26 48.5 +0.3
baz=72
R23A **Moffat** 71.96 328 ⇑P P 03 26 48.9 +0.4
baz=72
X16A **Lo Mia Camp, P** 72.00 322 ⇓P P 03 26 49.6 +0.8
baz=72
O27A **Beecher Island** 72.06 332 ⇓P P 03 26 49.3 +0.3
baz=72,SNR=9.1
W17A **Winslow** 72.09 323 ⇓P P 03 26 49.6 +0.3
baz=72
S22A **4UR Ranch, Cre** 72.10 327 ⇓P P 03 26 49.7 +0.4
baz=72,SNR=5.0
113A **Mohawk Valley,** 72.15 320 ⇓P P 03 26 49.8 0.0
baz=72
U19A **Dine' College,** 72.19 325 ⇓P P 03 26 50.0 +0.1
baz=72
P25A **Willow Gulch B** 72.25 330 ⇓P P 03 26 50.9 +0.8
baz=72,SNR=5.5
Q24A **Divide** 72.26 329 ⇑P P 03 26 50.7 +0.5
baz=72,SNR=10
Z13A **Yuma Proving G** 72.39 320 ⇑P P 03 26 51.4 +0.3
baz=73
R22A **Saguache, Gunn** 72.44 328 ⇓P P 03 26 51.7 +0.4
baz=73,SNR=5.5
O26A **Horse Wrangler** 72.47 331 ⇑P P 03 26 52.1 +0.7
baz=73
OGNE **Ogallala** 72.50 333 ⇓P P 03 26 51.8 +0.2
baz=73
T19A **Beclabito** 72.50 325 ⇓P P 03 26 52.0 +0.3
baz=73,SNR=11
S21A **Coal Bank Pass** 72.51 327 ⇓P P 03 26 52.2 +0.5
baz=73,SNR=6.5
MVCO **Mesa Verde** 72.52 326 ⇓P P 03 26 52.3 +0.4
baz=73,SNR=8.2
V17A **Tonalea, Kykot** 72.53 323 ⇓P P 03 26 52.3 +0.3
baz=73,SNR=6.6
Y14A **Wickenburg** 72.54 321 ⇓P P 03 26 52.1 +0.1
baz=73,SNR=5.1
P24A **Kohler Place,** 72.59 330 ⇑P P 03 26 52.8 +0.6
baz=73
N27A **Anderson Farm,** 72.59 332 ⇓P P 03 26 53.0 +0.8
baz=73
O25A **Wiggins** 72.72 331 ⇓P P 03 26 53.7 +0.8
baz=73
WUAZ **Wupatki** 72.77 323 ⇓P P 03 26 54.1 +0.8
baz=73
ECSD **EROS Data Cent** 72.80 338 eP P 03 26 51.9 -1.4
comp=N,38nm,1.1s,mb5.0
SPMN **St. Paul** 72.90 341 ⇓P P 03 26 52.3 -1.6
baz=73,SNR=7.8
P23A **Jefferson** 72.91 329 ⇑P P 03 26 54.8 +0.7
baz=73
S20A **Disappointment** 72.93 327 ⇓P P 03 26 55.2 +1.0
baz=73
R21A **Cimarron** 72.94 327 ⇓P P 03 26 54.8 +0.5
baz=73,SNR=9.4
U16A **Tuba City** 73.10 324 ⇓P P 03 26 55.8 +0.6
baz=73,SNR=6.8
ISCO **Idaho Springs** 73.14 330 ⇑P P 03 26 55.9 +0.5
baz=73,SNR=9.4
O24A **Longmont** 73.16 330 ⇓P P 03 26 56.1 +0.6
baz=73
T18A **Mexican Hat** 73.18 325 ⇓P P 03 26 56.1 +0.4
baz=73,SNR=11
U17A **Shonto** 73.19 324 ⇑P P 03 26 56.3 +0.5
baz=73,SNR=8.1
R20A **Redvale** 73.21 327 ⇑P P 03 26 56.6 +0.7
baz=74,SNR=8.1
S19A **Harvey Farm, M** 73.26 326 ⇓P P 03 26 56.6 +0.4
baz=74
Y12C **Blythe** 73.30 320 ⇑P P 03 26 57.2 +0.8
baz=74
Q21A **Lamborn Mesa,** 73.32 328 ⇓P P 03 26 57.3 +0.9
baz=74
SYO **Syowa Base** 73.43 159 ⇑P P 03 26 55.3 -1.5
P22A **Eagle** 73.52 329 ⇓P P 03 26 57.9 +0.3
baz=74,SNR=9.0
L27A **T5 Ranch, Ells** 73.56 333 ⇑P P 03 26 58.2 +0.4
baz=74,SNR=7.0
T17A **Navajo Res., N** 73.56 324 ⇓P P 03 26 58.9 +1.0
baz=74
O23A **Lake Granby, G** 73.61 330 ⇑P P 03 26 58.5 +0.3
baz=74,SNR=9.0
N24A **Carr** 73.64 331 ⇑P P 03 26 59.2 +0.9
baz=74
S18A **Hurst Farm, Bl** 73.66 325 ⇑P P 03 26 59.1 +0.7
baz=74,SNR=9.1
R19A **Curley Farm, L** 73.74 326 ⇑P P 03 26 59.4 +0.4
baz=74
M25A **Palm-Egli Farm** 73.76 332 ⇑P P 03 26 59.9 +0.9
baz=74
BC3 **Big Chuckawall** 73.78 319 ⇓P P 03 26 59.8 +0.5
baz=74,SNR=5.6
P21A **Newcastle** 73.79 328 ⇑P P 03 27 00.0 +0.8
baz=74,SNR=7.5
L26A **Underwood Farm** 73.84 333 ⇑P P 03 27 00.1 +0.7
baz=74
O22A **Kremmling** 73.87 329 ⇓P P 03 26 59.8 +0.2
baz=74,SNR=7.6
W13A **Hualapai Mount** 73.88 321 ⇑P P 03 27 00.0 +0.2
baz=74
K27A **Flueckinger Fa** 74.04 334 ⇓P P 03 27 01.1 +0.5
baz=74,SNR=16
M24A **Cheyenne** 74.13 331 ⇓P P 03 27 01.9 +0.8
baz=74,SNR=15
N23A **Red Feather La** 74.17 330 ⇓P P 03 27 02.4 +1.0
baz=74,SNR=6.4
P20A **De Beque** 74.23 328 ⇓P P 03 27 02.5 +0.8
baz=74
Q19A **Hogan Spring (** 74.25 327 ⇑P P 03 27 02.2 +0.3
baz=74,SNR=7.1
109C **Camp Elliot, M** 74.26 318 ⇓P P 03 27 02.5 +0.4
baz=74
N22A **Wattenberg Ran** 74.33 330 ⇑P P 03 27 03.3 +1.0
baz=75,SNR=11
K26A **Motz Farm, Whi** 74.43 333 ⇑P P 03 27 03.5 +0.7
baz=75
S16A **Weppner Ranch,** 74.52 324 ⇑P P 03 27 04.2 +0.7
baz=75
M23A **Laramie** 74.53 331 ⇓P P 03 27 03.8 +0.4
baz=75,SNR=10
R17A **Hanksville Air** 74.58 325 ⇑P P 03 27 03.9 +0.2
baz=75,SNR=12
P19A **Cripple Cowboy** 74.62 327 ⇓P P 03 27 04.9 +0.9
baz=75,SNR=12
O20A **White River Ci** 74.65 328 ⇑P P 03 27 04.8 +0.6
baz=75,SNR=8.3
VNDA **Vanda** 74.75 190 eP P 03 27 04.7 +0.3
comp=N,4.2nm,0.9s,mb4.1
N21A **Black Mountain** 74.79 329 ⇑P P 03 27 06.4 +1.4
baz=75
Q18A **Rafter H Ranch** 74.80 326 ⇑P P 03 27 05.5 +0.4
baz=75
MURC **Murrieta** 74.80 318 ⇓P P 03 27 05.3 +0.2
baz=75
M22A **Cedar Creek Ra** 74.87 330 ⇑P P 03 27 06.3 +0.8
baz=75
SRU **San Rafael** 75.00 326 eP P 03 27 06.4 +0.2
comp=N,16nm,0.9s,mb4.6
L23A **Garrett** 75.04 331 ⇑P P 03 27 06.8 +0.5
baz=75
HEC **Hector,Ludlow** 75.12 320 ⇓P P 03 27 07.4 +0.4
baz=75
Q16A **Castle Valley** 75.19 326 ⇑P P 03 27 07.6 +0.3
baz=75,SNR=5.8
O19A **Miners Draw (B** 75.21 328 ⇑P P 03 27 07.4 0.0
baz=76,SNR=10
R15A **Junction** 75.25 324 ⇑P P 03 27 08.4 +0.7
baz=76
P18A **Preston Nutter** 75.25 327 ⇓P P 03 27 07.9 +0.3
baz=76,SNR=6.6
L22A **Ellis Ranch, M** 75.30 330 ⇓P P 03 27 09.6 +1.7
baz=76
CCUT **Cedar City** 75.35 323 eP P 03 27 09.3 +1.1
comp=N,22nm,0.9s,mb4.8
P17A **Butcher Ranch,** 75.38 326 ⇑P P 03 27 08.9 +0.6
baz=76,SNR=10.0
M21A **Separation Pea** 75.39 330 ⇑P P 03 27 08.8 +0.5
baz=76,SNR=9.0
K23A **Bowen Ranch, D** 75.52 331 ⇑P P 03 27 09.8 +0.8
baz=76
ARUT **Antelope Range** 75.56 323 eP P 03 27 10.2 +0.7
comp=N,22nm,1.0s,mb4.7
J24A **Dixon Ranch, L** 75.57 332 ⇑P P 03 27 09.8 +0.4
baz=76,SNR=7.6
O18A **Roosevelt** 75.62 327 ⇓P P 03 27 10.3 +0.6
baz=76
L21A **Rawlins** 75.67 330 ⇑P P 03 27 10.0 +0.1
baz=76,SNR=19
M20A **Sweetwater, Wa** 75.68 329 ⇑P P 03 27 10.2 +0.2
baz=76,SNR=8.4
N19A **John Jarvie Ra** 75.69 328 ⇑P P 03 27 10.0 -0.1
baz=76,SNR=14
GSC **Goldstone** 75.72 320 ⇓P P 03 27 10.7 +0.2
baz=76
K22A **Casper** 75.83 331 ⇑P P 03 27 11.7 +0.9
baz=76
O17A **Robinson Place** 75.93 327 ⇓P P 03 27 12.0 +0.6
baz=76,SNR=20
RSSD **Black Hills** 75.95 333 eP P 03 27 11.4 -0.1
comp=N,5.1nm,0.8s,mb4.2
R13A **O'Grain Ranch,** 76.14 323 ⇓P P 03 27 14.0 +1.3
baz=76,SNR=7.2
K21A **Alcova** 76.14 330 ⇑P P 03 27 13.0 +0.4
baz=76,SNR=15
EDW2 **Edwards Air Fo** 76.15 319 ⇑P P 03 27 12.9 +0.1
baz=76
M19A **Rock Springs** 76.15 328 ⇓P P 03 27 13.2 +0.5
baz=76
L20A **Wamsutter** 76.15 329 ⇓P P 03 27 12.9 +0.2
baz=76,SNR=10.0
P15A **Leamington** 76.25 325 ⇓P P 03 27 13.9 +0.6
baz=76
TORD **Torodi Ar. Bea** 76.27 69 P P 03 27 13.1 -0.9
comp=N,5.4nm,0.6s,mb4.3,baz=254,slow=5.6,SNR=91
TORD pP pP 03 28 02.9 +7.3
comp=N,6.7nm,0.9s,baz=248,slow=5.8,SNR=5.9
TORD **Torodi Ar. Bea** 76.27 69 P P 03 27 13.1 -0.9
TORD pP pP 03 28 02.9 +7.3
O16A **Springville** 76.32 326 ⇓P P 03 27 14.2 +0.5
baz=77
J22A **Midwest** 76.42 331 ⇓P P 03 27 14.2 0.0
baz=77,SNR=11
M18A **Lyman** 76.53 328 ⇑P P 03 27 14.7 -0.1
baz=77,SNR=7.6
N17A **Moffit Pass** 76.54 327 ⇑P P 03 27 15.6 +0.7
baz=77,SNR=11
FURC **Furnace Creek,** 76.56 320 ⇑P P 03 27 15.3 +0.2
baz=77,SNR=5.8
AGMN **Agassiz Nation** 76.59 340 eP P 03 27 13.6 -1.4
comp=N,20nm,0.9s,mb4.7
MPMC **Manual Prospec** 76.65 320 ⇑P P 03 27 15.9 +0.2
baz=77
K20A **Yellowstone Ra** 76.66 330 ⇓P P 03 27 15.4 -0.2
baz=77,SNR=7.2
H24A **Dirks Ranch, A** 76.68 333 ⇑P P 03 27 15.4 -0.2
baz=77,SNR=17
L19A **Farson** 76.70 329 ⇓P P 03 27 15.9 +0.2
baz=77,SNR=9.0
J21A **Lysite** 76.79 331 ⇓P P 03 27 16.6 +0.4
baz=77,SNR=8.9
N16A **Rees Ranch, Co** 76.80 327 ⇑P P 03 27 17.2 +0.8
baz=77
I22A **9 Mile Ranch,** 76.80 332 ⇑P P 03 27 15.9 -0.3
baz=77,SNR=18
M17A **Scullys Gap (B** 76.86 328 ⇓P P 03 27 16.8 +0.1
baz=77
H23A **Clabaugh Cattl** 76.88 333 ⇓P P 03 27 16.9 +0.2
baz=77
L18A **Fontenelle, Gr** 76.89 328 ⇑P P 03 27 17.0 +0.1
baz=77,SNR=18
SBC **Santa Barbara** 76.91 317 ⇑P P 03 27 15.9 -1.2
baz=77
ISA **Isabella** 76.97 319 ⇑P P 03 27 17.5 +0.1
baz=77,SNR=6.0
DUG **Dugway** 76.99 325 ⇑P P 03 27 17.7 +0.3
baz=77,SNR=6.3
DUG **Dugway** 76.99 325 eP P 03 27 17.3 -0.2
comp=N,8.9nm,1.1s,mb4.3
K19A **Absolon Red Bu** 77.03 330 ⇓P P 03 27 17.4 -0.2
baz=77,SNR=11
J20A **Shoshoni** 77.09 330 ⇓P P 03 27 18.0 +0.1
baz=77,SNR=7.7
I21A **Big Trails, Te** 77.09 331 ⇓P P 03 27 17.9 0.0
baz=77,SNR=25
G24A **Alzada** 77.09 334 ⇑P P 03 27 17.9 0.0
baz=77,SNR=12
R11A **Troy Canyon, C** 77.15 323 ⇑P P 03 27 18.8 +0.5
baz=77,SNR=14
PKM **Peak Mountain** 77.27 318 ⇓P P 03 27 19.6 +0.5
baz=78
H22A **Clearmont** 77.31 332 ⇓P P 03 27 18.9 -0.2
baz=78,SNR=5.9
BW06 **Boulder Array** 77.31 329 ⇓P P 03 27 18.8 -0.3
baz=78,SNR=5.5
PDAR **Pinedale Array** 77.31 329 P P 03 27 18.8 -0.4
comp=N,4.2nm,0.8s,mb4.2,baz=134,slow=7.9,SNR=34
PDAR **Pinedale Array** 77.31 329 P P 03 27 18.8 -0.4
PD02 **Pinedale Array** 77.33 329 eP P 03 27 18.6 -0.6
PD01 **Pinedale Array** 77.33 329 eP P 03 27 18.9 -0.4
G23A **Biddle** 77.39 333 ⇑P P 03 27 19.6 +0.1
baz=78,SNR=13
MDND **Maddock** 77.41 338 ⇑P P 03 27 19.7 +0.1
baz=78,SNR=5.6
L17A **Cokeville** 77.43 328 ⇑P P 03 27 20.0 +0.1
baz=78
K18A **Toltan Ranch,** 77.44 329 ⇓P P 03 27 20.6 +0.8
baz=78,SNR=12
VES **Vestal, Richgr** 77.45 319 ⇓P P 03 27 20.4 +0.3
baz=78,SNR=6.2
J19A **Crowheart** 77.46 330 ⇓P P 03 27 20.3 +0.3
baz=78,SNR=12
F24A **Ekalaka** 77.53 334 ⇑P P 03 27 20.2 -0.1
baz=78,SNR=14
I20A **Worland** 77.58 331 ⇓P P 03 27 21.1 +0.5
baz=78,SNR=11
H21A **Big Horn, Sher** 77.63 332 ⇓P P 03 27 20.8 -0.1
baz=78,SNR=14
SMMC **Simmler** 77.66 318 ⇑P P 03 27 21.7 +0.4
baz=78
M15A **Larsen Ranch,** 77.74 327 ⇓P P 03 27 22.0 +0.4
baz=78
TIN **Tinemaha** 77.76 320 ⇓P P 03 27 21.7 -0.1
baz=78
G22A **Birney** 77.78 333 ⇑P P 03 27 21.5 -0.2
baz=78,SNR=5.5
F23A **Volborg** 77.82 333 ⇓P P 03 27 21.8 0.0
baz=78,SNR=21
H20A **Greybull** 77.94 331 ⇓P P 03 27 22.3 -0.3
baz=78,SNR=19
K17A **Gardner Place,** 77.95 328 ⇓P P 03 27 23.3 +0.6
baz=78,SNR=16
I19A **Meeteetse** 78.03 330 ⇑P P 03 27 23.7 +0.6
baz=78,SNR=9.2
E24A **Baker** 78.06 334 ⇑P P 03 27 23.7 +0.5
baz=78,SNR=11
L15A **Malad City** 78.11 327 ⇓P P 03 27 23.5 -0.1
baz=78,SNR=12
I18A **Diamond G Ranc** 78.15 330 ⇑P P 03 27 24.2 +0.4
baz=78,SNR=15
G21A **Lodge Grass** 78.18 332 ⇑P P 03 27 23.9 0.0
baz=78,SNR=15
F22A **Rosebud** 78.22 333 ⇓P P 03 27 23.9 -0.2
baz=78,SNR=23
ULM **Lac du Bonnet** 78.33 341 P P 03 27 23.6 -1.0
comp=N,17nm,0.6s,mb4.9,baz=155,slow=6.2,SNR=39
ULM **Lac du Bonnet** 78.33 341 eP P 03 27 23.1 -1.5
comp=N,8.3nm,0.5s,mb4.6
REDW **Red Top Meadow** 78.38 329 eP P 03 27 25.0 -0.1
comp=N,8.1nm,0.8s,mb4.4
SNOW **Snow King Moun** 78.41 329 eP P 03 27 25.5 +0.3
comp=N,14nm,0.8s,mb4.6
LOHW **Long Hollow** 78.45 329 eP P 03 27 25.4 0.0
comp=N,6.8nm,0.6s,mb4.5
SCHQ **Schefferville** 78.51 360 P P 03 27 25.1 -0.3
comp=N,4.8nm,0.5s,mb4.3,baz=201,slow=2.8,SNR=10.0
SCHQ **Schefferville** 78.51 360 P P 03 27 25.1 -0.3
H19A **Powell** 78.52 331 ⇑P P 03 27 25.9 +0.1
baz=79,SNR=7.4
TPAW **Teton Pass** 78.52 329 eP P 03 27 26.2 +0.3
comp=N,9.4nm,0.8s,mb4.5
D24A **Glendive** 78.53 335 ⇓P P 03 27 26.0 +0.2
baz=79,SNR=10
L14A **Malta** 78.56 326 ⇑P P 03 27 26.3 +0.3
baz=79
RRI2 **Red Ridge** 78.59 328 eP P 03 27 26.0 -0.2
comp=N,15nm,1.0s,mb4.6
G20A **Bridger** 78.61 331 ⇑P P 03 27 26.0 -0.3
baz=79,SNR=22
F21A **Absaloka Mine,** 78.62 332 ⇑P P 03 27 26.6 +0.3
baz=79
E22A **Miles City** 78.62 333 ⇑P P 03 27 25.9 -0.4
baz=79,SNR=5.6
I17A **Pilgrim Ck.** 78.67 329 ⇑P P 03 27 27.6 +1.0
baz=79,SNR=14
K15A **Arbon** 78.68 327 ⇑P P 03 27 27.2 +0.4
baz=79,SNR=7.7
NVAR **Mina Array Bea** 78.74 321 P P 03 27 27.3 +0.2
comp=N,3.0nm,0.7s,mb4.1,baz=153,slow=6.4,SNR=15
NVAR **Mina Array Bea** 78.74 321 P P 03 27 27.3 +0.2
H18A **Shoshone NF, C** 78.83 330 ⇓P P 03 27 27.7 +0.2
baz=79,SNR=22
K14A **Jones Ranch, D** 78.90 327 ⇑P P 03 27 28.0 0.0
baz=79
C24A **Savage** 78.91 335 ⇑P P 03 27 28.2 +0.4
baz=79,SNR=13
D23A **Lindsay** 78.92 334 ⇓P P 03 27 28.2 +0.3
baz=79,SNR=16
LAO **LASA Array** 78.94 333 ⇓P P 03 27 28.1 +0.1
baz=79,SNR=14
RLMT **Red Lodge** 79.00 331 ⇑P P 03 27 28.8 +0.4
baz=79,SNR=14
RLMT **Red Lodge** 79.00 331 eP P 03 27 28.1 -0.3
comp=N,12nm,0.6s,mb4.7
H17A **Grant Village** 79.03 330 ⇓P P 03 27 30.0 +1.4
baz=79
F20A **Billings** 79.04 332 ⇓P P 03 27 28.9 +0.4
baz=79
I16A **Newdale** 79.07 329 ⇑P P 03 27 29.2 +0.4
baz=79,SNR=8.4
E21A **Keefer Ranch,** 79.17 333 ⇓P P 03 27 29.4 +0.2
baz=80,SNR=15
G18A **Lazy EL Ranch,** 79.28 331 ⇓P P 03 27 29.7 -0.2
baz=80,SNR=11
D22A **Cohagen** 79.29 334 ⇓P P 03 27 30.0 +0.1
baz=80,SNR=20
C23A **Lambert** 79.42 335 ⇑P P 03 27 30.7 +0.1
baz=80,SNR=7.6
YMR **Madison River** 79.42 330 eP P 03 27 31.6 +0.9
comp=N,16nm,0.8s,mb4.7
F19A **Roth Farm, Mol** 79.42 331 ⇓P P 03 27 30.5 -0.2
baz=80,SNR=12
D21A **La Casta Ranch** 79.55 333 ⇓P P 03 27 31.4 0.0
baz=80,SNR=20
E20A **Meyer Farm, Mu** 79.58 332 ⇓P P 03 27 31.5 0.0
baz=80,SNR=24
DGMT **Dagmar** 79.59 336 ⇑P P 03 27 31.9 +0.4
baz=80,SNR=17
DGMT **Dagmar** 79.59 336 eP P 03 27 31.4 -0.1
comp=N,90nm,1.1s,mb5.3
I15A **Monteview** 79.64 328 ⇓P P 03 27 32.6 +0.7
baz=80,SNR=5.6
J14A **Carey** 79.64 327 ⇓P P 03 27 32.7 +0.8
baz=80
C22A **Vida** 79.65 334 ⇑P P 03 27 31.6 -0.3
baz=80,SNR=8.6
GCMT **Greycliff** 79.69 331 eP P 03 27 31.7 -0.5
comp=N,20nm,1.1s,mb4.7
QLMT **Earthquake Lak** 79.76 329 eP P 03 27 33.2 +0.6
comp=N,0.8nm,0.8s
F18A **Big Timber** 79.81 331 ⇑P P 03 27 33.0 +0.3
baz=80,SNR=19
G17A **Pierce Place,** 79.82 330 ⇓P P 03 27 33.5 +0.7
baz=80
E19A **Rath Farm, Rou** 79.83 332 ⇑P P 03 27 33.1 +0.2
baz=80,SNR=27
B23A **Brockton** 79.89 335 ⇓P P 03 27 33.1 0.0
baz=80,SNR=11
A24A **Westby** 79.89 336 ⇑P P 03 27 33.4 +0.2
baz=80,SNR=7.6
J13A **Cove Ranch, Pi** 80.02 327 ⇑P P 03 27 34.6 +0.6
baz=80,SNR=8.4
D20A **Manuel Ranch,** 80.05 333 ⇓P P 03 27 33.5 -0.5
baz=80,SNR=18
I14A **Mackay** 80.06 328 ⇑P P 03 27 34.8 +0.7
baz=80,SNR=14
B22A **Reddig Ranch S** 80.15 335 ⇑P P 03 27 34.4 -0.1
baz=80,SNR=5.7
H15A **Lima** 80.17 329 ⇑P P 03 27 34.9 +0.2
baz=80,SNR=5.6
F17A **Fitzpatrick Pl** 80.23 331 ⇓P P 03 27 35.3 +0.3
baz=80,SNR=9.5
G16A **Moss Hill, Enn** 80.24 329 ⇑P P 03 27 35.4 +0.4
baz=80,SNR=5.5
A23A **Redstone** 80.25 336 ⇑P P 03 27 35.3 +0.2
baz=80
HLID **Hailey** 80.26 327 ⇑P P 03 27 35.7 +0.5
baz=80,SNR=31
HLID **Hailey** 80.26 327 eP P 03 27 35.7 +0.5
comp=N,23nm,0.8s,mb4.9
I13A **Wildhorse Cree** 80.37 327 ⇑P P 03 27 36.5 +0.6
baz=81,SNR=14
E18A **Harlowton** 80.40 331 ⇑P P 03 27 36.0 +0.1
baz=81,SNR=5.3
D19A **Cripps Ranch,** 80.42 332 ⇓P P 03 27 35.6 -0.4
baz=81,SNR=13
MCMT **McKenzie Canyo** 80.43 329 eP P 03 27 36.3 +0.2
comp=N,15nm,1.0s,mb4.6
BOSA **Boshof** 80.45 117 P P 03 27 36.2 -0.5
comp=N,5.5nm,0.8s,mb4.2,baz=231,slow=8.9,SNR=9.1
BOSA **Boshof** 80.45 117 eP P 03 27 36.0 -0.7
comp=N,4.3nm,0.6s,mb4.3
BOZ **Bozeman (W)** 80.47 330 ⇓P P 03 27 36.2 -0.1
baz=81
C20A **Veseth Ranch,** 80.49 333 ⇑P P 03 27 35.6 -0.7
baz=81,SNR=12
G15A **Dillon** 80.51 329 ⇑P P 03 27 37.0 +0.5
baz=81,SNR=15
H14A **Leadore** 80.52 328 ⇓P P 03 27 37.1 +0.6
baz=81
F16A **Kennard Place,** 80.57 330 ⇑P P 03 27 36.6 -0.2
baz=81
B21A **Ellsworth Farm** 80.65 334 ⇑P P 03 27 37.5 +0.3
baz=81
A22A **Carney Farms,** 80.67 335 ⇓P P 03 27 37.2 -0.1
baz=81,SNR=25
DLMT **Dillon** 80.71 329 eP P 03 27 37.5 -0.1
comp=N,31nm,1.4s,mb4.7
E17A **Martinsdale** 80.74 331 ⇓P P 03 27 38.0 +0.3
baz=81,SNR=14
I12A **Atlanta** 80.79 327 ⇓P P 03 27 38.5 +0.5
baz=81
D18A **Linhart Farms,** 80.84 332 ⇑P P 03 27 38.5 +0.3
baz=81,SNR=7.1
MFID **Camas Ranch** 80.87 326 ⇑P P 03 27 38.6 +0.1
baz=81,SNR=5.6
MFID **Camas Ranch** 80.87 326 eP P 03 27 38.2 -0.3
comp=N,16nm,1.4s,mb4.5
H13A **Challis** 80.91 328 ⇑P P 03 27 39.1 +0.4
baz=81,SNR=24

C19A	Slack Wire Ran	80.94	333	⇑P		P	03 27 38.5 -0.3
	baz=81,SNR=10						
LRM	Limekiln Ridge	80.98	329	eP		P	03 27 39.1 +0.1
	comp=N,116nm,1.0s,mb5.5						
G14A	Jackson	81.03	329	⇑P		P	03 27 39.5 +0.2
	baz=81						
B20A	Solberg Farm,	81.07	334	⇓P		P	03 27 39.1 -0.2
	baz=81,SNR=14						
A21A	Bergtoll Ranch	81.07	334	⇑P		P	03 27 38.9 -0.5
	baz=81,SNR=6.7						
E16A	East Helena	81.16	330	⇓P		P	03 27 40.0 0.0
	baz=81,SNR=7.1						
D17A	Six Diamond Ra	81.19	331	⇑P		P	03 27 40.3 +0.2
	baz=82,SNR=29						
H12A	Diamond D Ranc	81.20	327	⇓P		P	03 27 40.2 0.0
	baz=82,SNR=10.0						
MAW	Mawson	81.34	163	P		P	03 27 40.4 -0.3
	comp=N,9.0nm,0.9s,mb4.4,baz=220,slow=4.9,SNR=6.2						
MAW	Mawson	81.34	163	P		P	03 27 40.4 -0.3
A20A	Cobblestone Ra	81.38	334	⇓P		P	03 27 40.8 -0.2
	baz=82,SNR=34						
F14A	Wisdom	81.41	329	⇑P		P	03 27 41.7 +0.4
	baz=82,SNR=15						
B19A	Brinkman Farms	81.46	333	⇓P		P	03 27 40.8 -0.6
	baz=82,SNR=16						
EGMT	Eagleton	81.46	332	⇑P		P	03 27 40.8 -0.7
	baz=82,SNR=6.7						
EGMT	Eagleton	81.46	332	eP		P	03 27 40.6 -0.9
	comp=N,19nm,0.9s,mb4.7						
D16A	Dana Ranch, Ca	81.48	331	⇓P		P	03 27 42.0 +0.4
	baz=82,SNR=23						
E15A	Deer Lodge	81.52	330	⇑P		P	03 27 42.1 +0.2
	baz=82,SNR=9.4						
C17A	Wharram Farm,	81.59	332	⇑P		P	03 27 41.7 -0.5
	baz=82,SNR=14						
B18A	Beardsley Farm	81.76	333	⇓P		P	03 27 43.0 0.0
	baz=82,SNR=23						
F13A	Darby	81.84	328	⇓P		P	03 27 43.7 +0.2
	baz=82,SNR=42						
E14A	Clinton	81.91	329	⇓P		P	03 27 44.3 +0.4
	baz=82,SNR=11						
D15A	Lincoln	81.93	330	⇑P		P	03 27 44.3 +0.4
	baz=82,SNR=11						
LBTB	Lobatse	82.09	114	eP		P	03 27 44.7 -0.8
	comp=N,5.1nm,0.6s,mb4.3						
B17A	L&G Farms, Che	82.11	332	⇓P		P	03 27 44.1 -0.8
	baz=82,SNR=7.5						
C16A	Fuhringer Ranc	82.15	331	⇑P		P	03 27 44.7 -0.4
	baz=82,SNR=6.1						
A18A	Metzger Ranch,	82.20	333	⇑P		P	03 27 44.4 -0.9
	baz=82,SNR=10						
J08A	Circle Bar Ran	82.21	325	⇑P		P	03 27 45.5 0.0
	baz=82,SNR=14						
PCVE	Castro Verde	82.40	43	eP		P	03 27 47.6 +1.0
D14A	Greenough	82.41	330	⇑P		P	03 27 46.0 -0.4
	baz=83,SNR=6.6						
C15A	Salmond Ranch,	82.52	331	⇓P		P	03 27 47.1 +0.1
	baz=83,SNR=20						
SLMT	Seeley Lake	82.52	330	eP		P	03 27 46.5 -0.5
	comp=N,15nm,1.0s,mb4.7						
A17A	Triple J Farms	82.57	332	⇑P		P	03 27 47.1 -0.2
	baz=83						
B16A	M & M Farms, S	82.60	332	⇑P		P	03 27 46.7 -0.7
	baz=83,SNR=6.1						
PBEJ	Beja	82.75	43	eP		P	03 27 49.2 +0.8
D13A	Huson	82.86	329	⇑P		P	03 27 48.7 -0.1
	baz=83,SNR=9.8						
B15A	Bradely Ranch,	82.90	331	⇓P		P	03 27 47.9 -1.0
	baz=83,SNR=7.1						
EVOP	Sao Brissos	82.90	42	eP		P	03 27 48.9 -0.3
	comp=N,5.6nm,0.8s,mb4.3						
SWMT	Swartz Lake	82.95	330	eP		P	03 27 49.0 -0.2
	comp=N,4.9nm,0.9s,mb4.2						
A16A	West Butte Ran	82.96	332	⇓P		P	03 27 49.0 -0.2
	baz=83,SNR=15						
EVO	Evora	82.97	42	eP		P	03 27 48.9 -0.7
	comp=N,5.6nm,0.8s,mb4.0						
K05A	Summer Lake	83.09	323	⇑P		P	03 27 50.2 +0.1
	baz=83						
PMTG	Montargil	83.17	42	eP		P	03 27 51.2 +0.6
I07A	Izee	83.25	325	⇑P		P	03 27 50.9 +0.1
	baz=84						
B14A	Marquette Ranc	83.25	331	⇓P		P	03 27 49.8 -0.9
	baz=84						
JTMT	Jette	83.25	330	eP		P	03 27 50.4 -0.4
	comp=N,9.5nm,0.8s,mb4.6						
C13A	Hot Springs	83.34	330	⇑P		P	03 27 51.0 -0.2
	baz=84,SNR=8.2						
PBAR	Barrancos	83.36	43	eP		P	03 27 51.0 -0.6
F10A	Beach Ranch, E	83.39	327	⇑P		P	03 27 51.6 +0.1
	baz=84,SNR=10						
PTOM	Tomar	83.40	41	eP		P	03 27 52.4 +0.7
	comp=N,23nm,2.0s,mb4.6						
PESTR	Estremoz	83.44	42	eP		P	03 27 54.0 +2.1
A15A	Johnson Ranch,	83.47	331	⇓P		P	03 27 50.9 -1.0
	baz=84						
BSMT	Bassoo Peak	83.56	330	eP		P	03 27 52.0 -0.4
	comp=N,9.9nm,0.9s,mb4.5						
A14A	Double T Ranch	83.77	331	⇑P		P	03 27 53.0 -0.4
	baz=84						
C12B	Naegeli Ranch,	83.78	329	⇑P		P	03 27 53.0 -0.5
	baz=84,SNR=6.6						
PMRV	Marv??o	83.90	42	eP		P	03 27 54.9 +0.6
FFC	Flin Flon	84.07	340	eP		P	03 27 53.1 -1.6
	comp=N,6.4nm,1.0s,mb4.3						
PCBR	Castelo Branco	84.10	42	eP		P	03 27 54.3 -1.0
TAM	Tamanrasset	84.11	62	eP		P	03 27 56.2 +0.5
	comp=N,1.1nm,0.6s,mb3.8						
E09A	Wood Farm, Sta	84.22	327	⇓P		P	03 27 55.1 -0.6
	baz=84						
MTE	Manteigas	84.41	41	eP		P	03 27 57.5 +0.7
A12A	Yaak River Ran	84.75	330	⇓P		P	03 27 57.6 -0.7
	baz=85,SNR=11						
PVRL	Vila Real	84.84	40	eP		P	03 27 59.7 +0.7
	comp=N,16nm,1.6s,mb4.5						
POLO	Lamas de Olo	84.86	40	eP		P	03 27 56.6 -2.4
RSW	Rattlesnake Hi	84.86	326	eP		P	03 27 58.4 -0.5
	comp=N,14nm,1.0s,mb4.6						
MVO	Moncorvo	85.18	41	eP		P	03 28 00.9 +0.2
	comp=N,27nm,1.7s,mb4.7						
ETW	Entiat	86.06	327	eP		P	03 28 04.3 -0.5
	comp=N,36nm,1.1s,mb5.0						
ESDC	Sonseca Array	86.18	43	P		P	03 28 06.2 +0.6
	comp=N,1.3nm,0.6s,mb3.8,baz=248,slow=4.8,SNR=13						
ESDC	Sonseca Array	86.18	43	P		P	03 28 06.2 +0.6
RPW	Rockport	87.21	327	eP		P	03 28 08.8 -1.6
	comp=N,2.7nm,0.6s,mb4.2						
FRB	Frobisher Bay	87.46	359	P		P	03 28 09.9 -1.4
	comp=N,1.4nm,0.3s,mb4.3,baz=191,slow=6.5,SNR=4.4						
FRB	Frobisher Bay	87.46	359	P		P	03 28 09.9 -1.4
A05A	Maple Falls	87.86	327	⇓P		P	03 28 12.8 -0.7
	baz=88						
ETSF	Etsaut	90.11	42	eP		P	03 28 23.8 -0.4
	comp=N,37nm,1.3s,mb4.8						
ETSF	Etsaut	90.11	42	eP		P	03 28 23.8 -0.4
	comp=N,37nm,1.3s,mb5.2						
MFF	Saint Martin d	92.38	39	eP		P	03 28 33.4 -1.2
	comp=N,5.2nm,0.6s,mb4.4						
MFF	Saint Martin d	92.38	39	eP		P	03 28 33.4 -1.2
	comp=N,5.2nm,0.6s,mb4.7						
GRR	Gorron	92.95	38	eP		P	03 28 35.1 -2.1
	comp=N,18nm,0.8s,mb4.9						
GRR	Gorron	92.95	38	eP		P	03 28 35.1 -2.1
	comp=N,18nm,0.8s,mb5.2						
KEST	Kesra	93.16	52	P		P	03 28 39.0 +0.5
	comp=N,1.3nm,1.0s,mb4.0,baz=305,slow=16,SNR=3.5						
KEST	Kesra	93.16	52	eP		P	03 28 39.2 +0.7
LDF	La Druitiere	93.48	38	eP		P	03 28 37.6 -2.0
	comp=N,4.2nm,0.6s,mb4.4						
LDF	La Druitiere	93.48	38	eP		P	03 28 37.6 -2.0
	comp=N,4.2nm,0.6s,mb4.8						
YKA	Yellowknife Ar	94.23	340	P		P	03 28 41.6 -1.1
	comp=N,7.3nm,0.6s,mb5.0,baz=132,slow=4.4,SNR=152						
YKA	Yellowknife Ar	94.23	340	P		P	03 28 41.6 -1.1
SSF	Saint Saulge	94.76	40	eP		P	03 28 44.2 -1.3
SSF	Saint Saulge	94.76	40	eP		P	03 28 44.2 -1.3
BAIF	Baives	96.66	38	eP		P	03 28 50.6 -3.5
	comp=N,19nm,1.1s,mb5.0						
BAIF	Baives	96.66	38	eP		P	03 28 50.6 -3.5
	comp=N,19nm,1.1s,mb5.3						
ILAR	Eielson Array	107.40	334	Pdiff		Pdif	03 29 40.0 -2.2
	comp=N,0.3nm,0.9s,baz=148,slow=1.7,SNR=4.3						
ILAR	Eielson Array	107.40	334	Pdiff		Pdif	03 29 40.0 -2.2
BILL	Bilibino	125.60	338	ePKPdf		PKPdf	03 34 22.7 -1.1
AS31	Alice Springs	128.59	204	ePKPdf		PKPdf	03 34 29.6 -1.4
ARU	Arti	129.00	36	ePKPdf		PKPdf	03 34 30.3 -0.4
AKTO	Aktyubinsk	130.06	43	PKP		PKPdf	03 34 32.4 -0.5
	comp=N,2.4nm,0.7s,baz=231,slow=1.8,SNR=10						
AKTO	Aktyubinsk	130.06	43	PKP		PKPdf	03 34 32.4 -0.5
ABKAR	Akbulak array	131.51	45	ePKPdf		PKPdf	03 34 35.3 -0.4
ABKAR				eSKPbc		SKPbc	03 37 43.2 -1.9
ABKAR				eSKPdf		SKPdf	03 37 51.3 -3.4
WRA	Warramunga Arr	131.77	207	PKP		PKPdf	03 34 36.0 -1.2
	comp=N,4.1nm,0.6s,baz=164,slow=1.5,SNR=42						
WRA				SKPbc		SKPbc	03 37 42.7 -4.3
	comp=N,6.7nm,1.0s,baz=154,slow=3.4,SNR=18						
WRA	Warramunga Arr	131.77	207	PKP		PKPdf	03 34 36.0 -1.2
WRA				SKPbc		SKPbc	03 37 42.7 -4.3
BVAR	Borovoye Array	136.60	37	PKP		PKPdf	03 34 44.8 -0.3
	comp=N,1.7nm,0.6s,baz=289,slow=4.5,SNR=8.7						
BVAR	Borovoye Array	136.60	37	PKP		PKPdf	03 34 44.8 -0.3
KURK	Kurchatov	142.19	36	PKhKP		PKPpre	03 34 50.4
	comp=N,1.8nm,0.5s,baz=300,slow=3.2,SNR=6.2						
KURK	Kurchatov	142.19	36	PKPpre		PKPpre	03 34 50.4
KURK				ePKPdf		PKPdf	03 34 55.0 -0.3
AAK	Ala-Archa	142.99	50	ePKPdf		PKPdf	03 34 54.5 -2.6
ZAA0	Zalesovo Array	143.24	28	ePKPdf		PKPdf	03 34 54.0 -3.1
ZALV	Zalesovo Beam	143.24	28	PKP		PKPdf	03 34 54.4 -2.7
	comp=N,12nm,0.6s,baz=299,slow=4.3,SNR=68						
ZALV	Zalesovo Beam	143.24	28	PKP		PKPdf	03 34 54.4 -2.7
TKM2	Tokmak 2	143.67	49	ePKPdf		PKPdf	03 34 56.2 -2.1
KSH	Kashi	144.94	55	ePKP		PKPdf	03 34 59.3 -1.2
KSH				pPKP		pPKPdf	03 35 40.0 -5.5
KSH				sPKP			03 35 58.0
KSH				PKS			03 38 34.0
KSH				SKS		SKSdf	03 41 50.5 -3.1
KSH				AMB		AMB	
	comp=Z,150nm,5.9s						
KSH				LR		LR	
	comp=N,120nm,5.2s						
KSH				LR		LR	
	comp=E,110nm,5.2s						
KSH				LR		LR	
	comp=Z,250nm,8.8s						
MK31	Makanchi Array	146.32	40	ePKPbc		PKPbc	03 35 02.4 -1.7
MKAR	Makanchi Array	146.32	40	PKPbc		PKPbc	03 35 02.6 -1.5
	comp=Z,23nm,0.8s,baz=315,slow=2.1,SNR=106						
MKAR	Makanchi Array	146.32	40	PKPbc		PKPbc	03 35 02.6 -1.5
HYB	Hyderabad	146.86	95	i PKP		PKPdf	03 35 03.0 -1.4
KAPI	Kappang	150.49	193	ePKPbc		PKPbc	03 35 14.1 -1.9
WMQ	Urumqi	151.14	40	PKPbc		PKPbc	03 35 16.5 -0.1
USRK	Ussuriysk Arra	154.72	327	PKPbc		PKPbc	03 35 23.5 -0.9
	comp=Z,1.4nm,0.6s,baz=351,slow=1.8,SNR=4.3						
MJAR	Matsushiro Arr	155.24	306	PKPbc		PKPdf	03 35 24.9 +8.2
	comp=Z,1.6nm,0.7s,baz=80,slow=2.5,SNR=3.7						
MJAR				PKPab		PKPab	03 35 40.9 -1.6
	comp=Z,7.3nm,1.1s,baz=92,slow=0.5,SNR=6.9						
MJAR	Matsushiro Arr	155.24	306	PKPbc		PKPdf	03 35 24.9 +8.2
MJAR				PKPab		PKPab	03 35 40.9 -1.6
SONM	Songino Array	155.58	11	PKP		PKPdf	03 35 16.8 0.0
	comp=Z,1.9nm,1.0s,baz=293,slow=2.2,SNR=10.0						
SONM				PKPab		PKPab	03 35 42.7 -0.8
	comp=Z,3.3nm,0.7s,baz=324,slow=4.4,SNR=16						
SONM	Songino Array	155.58	11	PKP		PKPdf	03 35 16.8 0.0
SONM				PKPab		PKPab	03 35 42.7 -0.8
ULN	Ulaanbaatar	155.66	10	ePKPdf		PKPdf	03 35 16.4 -0.5
ULN				ePKPab		PKPab	03 35 43.5 -0.3
KSRS	Korea Array	161.68	320	PKPab		PKPab	03 36 09.6 -0.8
	comp=Z,1.5nm,0.7s,baz=50,slow=4.0,SNR=4.2						
KSAR	Wonju Array Be	161.71	320	PKPab		PKPab	03 36 09.6 -1.0
HHC	Hu-ho-hao-te	163.13	5	ePKP		PKPdf	03 35 26.5 +0.8
HHC				pPKP		pPKPdf	03 36 09.0 -1.9
HHC				sPKP			03 36 26.0
HHC				PKS			03 38 58.5
HHC				PP		PP	03 40 05.5 +4.5
HHC				SKS		SKSdf	03 42 12.3 -1.9
HHC				SKKS		SKKSac	03 46 35.3 +2.2
HHC				SS		SS	04 00 14.3 +3.4
HHC				AMB		AMB	
	comp=Z,140nm,5.6s						
LZH	Lanzhou	165.42	32	ePKP		PKPdf	03 35 28.5 +0.6
LZH				pPKP		pPKPdf	03 36 10.0 -3.1
LZH				sPKP			03 36 29.0
CMAR	Chiang Mai Arr	165.48	110	PKP		PKPdf	03 35 28.0 -0.4
	comp=Z,1.1nm,0.3s,baz=258,slow=2.2,SNR=6.3						
CMAR				PKPab		PKPab	03 36 27.6 -0.1
	comp=Z,1.3nm,0.3s,baz=267,slow=6.3,SNR=2.8						
CMAR	Chiang Mai Arr	165.48	110	PKP		PKPdf	03 35 28.0 -0.4
CMAR				PKPab		PKPab	03 36 27.6 -0.1
GYA	Guiyang	173.47	67	ePKP		PKPdf	03 35 30.0 -3.0
GYA				pPKP		pPKPdf	03 36 20.3 +2.0
GYA				sPKP			03 36 37.5
GYA				PKPab		PKPab	03 37 02.5 -0.5
GYA				PKS			03 39 02.0
GYA				PP		PP	03 40 55.3 +0.1
GYA				AMB		AMB	
	comp=Z,90nm,8.2s						

*IDC **26** 03:30:29.6±1.6, 36°.41S×178°.79W, h0km, mb4.2/2, mb1 4.4/3, mb1mx4.0/15, mbtmp4.2/3, ML3.8/1, Error ellipse: s-maj=54.1km s-min=38.4km az=172.0*
*NEIC **26** 03:30:37.2±1.4, 36°.23S×179°.22W, h35km, mb4.0/1, Error ellipse: s-maj=25.6km s-min=19.7km az=133.0*
*ISCJB **26** 03:30:38.7±1.3, 36°.24S±0°.08×179°.5W±0°.1, h49km±15km, mb3.9/2, Error ellipse: s-maj=15.5km s-min=11.6km az=35.7*
*WEL **26** 03:30:39.3±0.5, 36°.22S×179°.35W, h33km, ML3.9/8, Error ellipse: s-maj=7.1km s-min=6.7km az=0.0*

ISC 26 03:30:40.6±1.2, 36°.24S±0°.08×179°.6W±0°.1, h48km±15km, n35, σ0=92/37, mb3.9/2, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.16	232	PN	Pn	03 31 13.7	-0.4
MXZ				SN	Sn	03 31 40.6	+0.9
PUZ	Puketiti	2.53	223	PN	Pn	03 31 19.5	+0.4
PUZ				SN	Sn	03 31 50.3	+1.6
MWZ	Matawai	3.13	227	PN	Pn	03 31 27.3	-0.1
MWZ				SN	Sn	03 32 03.8	+0.4
URZ	Urewera	3.34	232	PN	Pn	03 31 29.7	-0.5
URZ				SN	Sn	03 32 09.2	+0.7
URZ	Urewera	3.34	232	Pn	Pn	03 31 30.5	+0.3
	6.8nm,0.3s,baz=62,slow=4.5,SNR=39						
URZ				Sn	Sn	03 32 09.3	+0.8
	10.0nm,0.3s,baz=123,slow=23,SNR=12						
URZ	Urewera	3.34	232	Pn	Pn	03 31 30.5	+0.3
URZ				Sn	Sn	03 32 09.3	+0.8
MHGZ	Mahia Peninsul	3.54	214	PN	Pn	03 31 32.8	-0.1
KNZ	Kokonu	3.54	218	PN	Pn	03 31 32.9	0.0
TARZ	Mount Tarawera	3.72	236	ePN	Pn	03 31 36.3	+0.9
RAHZ	Arahi	3.77	224	ePN	Pn	03 31 36.6	+0.5
NMHZ	Naumai	4.06	224	PN	Pn	03 31 40.1	0.0
BKZ	Black Stump Fm	4.28	226	PN	Pn	03 31 42.3	-0.9
BKZ				SN	Sn	03 32 32.3	+0.5
CKHZ	Cape Kidnapper	4.33	217	SN	Sn	03 32 32.5	-0.4
MKAZ	Moumakai	4.33	257	PN	Pn	03 31 43.8	0.0
MCHZ	McNeill Hill	4.36	222	PN	Pn	03 31 44.3	+0.1
KAHZ	Kahuranaki	4.53	217	PN	Pn	03 31 45.5	-1.0
BHHZ	Black Hill Sta	4.75	226	PN	Pn	03 31 50.4	+0.9
BFZ	Birch Farm	5.52	215	SN	Sn	03 32 59.8	-2.5
OUZ	Omahuta	5.66	278	ePn	Pn	03 32 01.5	-0.6
MRZ	Mangatainoka R	5.83	219	ePN	Pn	03 32 01.5	-2.9
MRZ				SN	Sn	03 33 06.6	-3.4
TCW	Tory Channel	6.92	222	SN	Sn	03 33 32.1	-4.6
QRZ	Quartz Range	7.71	231	ePN	Pn	03 32 28.6	-1.5
CTZ	Chatham Island	7.82	164	ePN	Pn	03 32 33.0	+1.4
DZM	Mont Dzumac	18.65	315	eP	Pn	03 34 55.3	+0.2
	6.9nm,0.7s						
AS31	Alice Springs	41.86	274	eP	P	03 38 26.3	+0.3
ASAR	Alice Springs	41.86	274	P	P	03 38 26.2	+0.2
	1.0nm,0.6s,mb3.6,baz=119,slow=7.6,SNR=24						
ASAR	Alice Springs	41.86	274	P	P	03 38 26.2	+0.2
WRA	Warramunga Arr	43.37	279	P	P	03 38 38.3	-0.1
	1.9nm,0.5s,mb4.1,baz=119,slow=7.8,SNR=18						
WRA	Warramunga Arr	43.37	279	P	P	03 38 38.3	-0.1
	1.8nm,0.7s,baz=90,slow=6.3,SNR=7.9						
FINES	FINESS Array B	150.04	335	PKPbc	PKPbc	03 50 22.5	-2.4
	0.4nm,0.7s,baz=152,slow=4.6,SNR=2.8						
FINES	FINESS Array B	150.04	335	PKPbc	PKPbc	03 50 22.4	-2.4
BRTR	Keskin Array B	153.69	288	PKPbc	PKPbc	03 50 33.3	-0.6
	0.1nm,0.4s,baz=178,slow=1.9,SNR=4.1						
BRTR	Keskin Array B	153.69	288	PKPbc	PKPbc	03 50 33.3	-0.6
TORD	Torodi Ar. Bea	156.98	183	PKPab	PKPab	03 50 54.7	-6.5
	0.1nm,0.4s,baz=178,slow=1.9,SNR=4.1						
TORD	Torodi Ar. Bea	156.98	183	PKPab	PKPab	03 50 54.7	-6.6

*ISCJB **26** 03:55:11.0±0.5, 32°.75N±0°.07×138°.3E±0°.1, h322km±5km, mb3.2/10, Error ellipse: s-maj=14.2km s-min=10.6km az=152.9*
*IDC **26** 03:55:10.8±1.4, 32°.64N×138°.23E, h302km±15km, mb3.0/6, mb1 3.2/9, mb1mx3.0/26, mbtmp3.0/9, Error ellipse: s-maj=23.2km s-min=16.0km az=76.0*
*JMA **26** 03:55:10.7±0.2, 32°.79N×138°.29E, h327km, M3.4*
*NEIC **26** 03:55:11.6±0.9, 32°.68N×138°.17E, h311km±9km, mb3.9/5, Error ellipse: s-maj=15.2km s-min=11.0km az=49.0*

ISC 26 03:55:12.2±0.5, 32°.77N±0°.07×138°.25E±0°.10, h315km±4km, n37, σ0=68/42, mb3.4/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	1.24	341	P	Pn	03 55 55.3	+0.1
JHJ2	Mitsune	1.36	75	P	Pn	03 55 56.6	+0.6
JHJ2				eS	S	03 56 31.5	+0.6
TTO1	TONANKAI O.B.S	1.49	305	P	Pn	03 55 56.8	+0.1
JIE	Ise	2.06	322	P	Pn	03 56 00.8	+0.1
JAA	Atsumi	2.07	334	P	Pn	03 56 00.9	+0.2
HMMJ	Hamamatsu 2	2.12	348	P	Pn	03 56 01.1	0.0
JKN2	Miekihoku	2.20	312	P	Pn	03 56 01.6	-0.2
TSUJ	Tsu 2	2.46	322	P	Pn	03 56 04.2	+0.3
JOD2	Odawara 2	2.58	16	P	Pn	03 56 04.4	-0.6
JOD2				eS	S	03 56 46.1	-1.1
JNY	Yasuok	2.60	353	P	Pn	03 56 05.4	+0.3
MJAR	Matsushiro Arr	3.76	360	P	Pn	03 56 16.4	0.0
	2.2nm,0.3s,baz=187,slow=7.3,SNR=20						
MJAR				S	S	03 57 07.6	-0.6
	0.6nm,0.3s,baz=190,slow=21,SNR=4.8						
MJAR	Matsushiro Arr	3.76	360	P	Pn	03 56 16.4	0.0
MJAR				S	S	03 57 07.6	-0.6
MAJO	Matsushiro	3.76	360	ePn	Pn	03 56 16.5	0.0
MAT	Matsushiro	3.76	360	P	Pn	03 56 16.5	0.0
MAT				S	S	03 57 07.7	-0.5
KSRS	Korea Array	9.66	302	P	Pn	03 57 27.1	+1.1
	0.8nm,0.3s,baz=113,slow=12,SNR=12						
KSAR	Wonju Array Be	9.68	302	P	Pn	03 57 27.1	+0.9
USRK	Ussuriysk Arra	12.41	339	P	Pn	03 57 59.6	+0.5
	0.4nm,0.3s,baz=162,slow=9.9,SNR=7.4						
BJT	Baijiatuau	19.16	298	eP	P	03 59 11.3	-1.9
	9.1nm,0.4s						
ULN	Ulaanbaatar	27.92	312	eP	P	04 00 34.5	+0.6
	1.5nm,0.4s,mb3.8						
SONM	Songino Array	28.33	311	P	P	04 00 38.0	+0.6
	1.2nm,0.7s,mb3.5,baz=114,slow=8.8,SNR=8.7						
SONM	Songino Array	28.33	311	P	P	04 00 38.0	+0.6
MK31	Makanchi Array	44.32	305	eP	P	04 02 50.9	-0.6
MKAR	Makanchi Array	44.32	305	P	P	04 02 51.5	0.0
	0.5nm,0.4s,mb3.1,baz=87,slow=9.6,SNR=21						
MKAR	Makanchi Array	44.32	305	P	P	04 02 51.5	0.0
KURK	Kurchatov	46.63	311	eP	P	04 03 08.7	-0.7
	1.7nm,0.7s,mb3.5						
TKM2	Tokmak 2	49.47	301	eP	P	04 03 31.6	+0.5
	5.7nm,1.3s,mb3.7						
AAK	Ala-Archa	50.32	301	eP	P	04 03 37.2	-0.2
	11nm,0.9s,mb4.2						
WRA	Warramunga Arr	52.55	185	P	P	04 03 52.3	-1.7
	0.2nm,0.4s,mb2.8,baz=1.6,slow=7.7,SNR=9.1						
WRA	Warramunga Arr	52.55	185	P	P	04 03 52.3	-1.7
ILAR	Eielson Array	54.48	31	P	P	04 04 07.9	+0.5
	0.5nm,1.0s,mb2.8,baz=264,slow=6.5,SNR=4.4						
ILAR	Eielson Array	54.48	31	P	P	04 04 07.9	+0.5
AS31	Alice Springs	56.27	185	eP	P	04 04 20.6	+0.1
ASAR	Alice Springs	56.28	185	P	P	04 04 19.9	-0.7
	0.1nm,0.4s,mb2.6,baz=1.1,slow=6.0,SNR=7.9						
ASAR	Alice Springs	56.28	185	P	P	04 04 19.9	-0.7
ABKAR	Akbulak array	58.74	311	eP	P	04 04 37.3	-0.2
TXAR	Lajitas Array	94.81	51	P	P	04 08 00.1	+1.5
	0.3nm,0.6s,mb3.6,baz=292,slow=2.7,SNR=4.3						
TXAR	Lajitas Array	94.81	51	P	P	04 08 00.1	+1.5

DJA 26 04:09:47, 0°.56S×122°.55E, h10km, MLv3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.53	155	P	Pg	04 09 57.2	-0.1
LUWI				S	Sg	04 10 04.3	+0.1
MRSI	Marisa	1.20	329	P	Pb	04 10 09.5	-0.3
MRSI				S	Sb	04 10 25.4	+0.1

ERMK				*i* S	**Sn**	**04 31 53.5**	**-0.4**
ERMK	**Ermenek**	**2.15**	**346**	*i* P	**Pn**	**04 31 27.1**	**+0.2**
ERMK				*i* S	**Sn**	**04 31 53.5**	**-0.4**
MERS	**Mersin**	**2.44**	**19**	*e*PN	**Pn**	**04 31 30.3**	**-0.7**
MERS	**Mersin**	**2.44**	**19**	*e*Pn	**Pn**	**04 31 30.3**	**-0.7**
YAYL	**Yayladag**	**2.56**	**54**	*i* P	**Pn**	**04 31 34.2**	**+1.6**
YAYL				*i* S	**Sn**	**04 32 03.5**	**-0.6**
YAYL	**Yayladag**	**2.56**	**54**	*i* P	**Pn**	**04 31 34.2**	**+1.6**
YAYL				*i* S	**Sn**	**04 32 03.5**	**-0.6**
GULE	**Gulek**	**2.90**	**20**	*i* P	**Pn**	**04 31 40.8**	**+3.5**
GULE				*i* S	**Sn**	**04 32 10.2**	**-2.3**
GULE	**Gulek**	**2.90**	**20**	*i* P	**Pn**	**04 31 40.8**	**+3.5**
GULE				*i* S	**Sn**	**04 32 10.2**	**-2.3**

*ISCJB **26** 04:36:36.4±0.5, 5°.71S±0°.09×152°.2E±0°.1, h33km, mb4.3/23, MS3.7/4, Error ellipse: s-maj=19.0km s-min=7.1km az=36.3*
*NEIC **26** 04:36:37.9±0.6, 5°.63S×152°.17E, mb4.5/11, Error ellipse: s-maj=25.1km s-min=8.7km az=123.0*
*IDC **26** 04:36:43.8±4.5, 5°.77S×152°.02E, h85km±40km, mb3.9/13, mb1 4.1/14, mb1mx4.0/20, mbtmp3.9/14, MS3.5/5, Ms1 3.5/5, ms1mx3.2/28, Error ellipse: s-maj=33.8km s-min=22.6km az=118.0*

ISC 26 04:36:38.1±0.5, 5°.72S±0°.09×152°.3E±0°.1, h35km, n50, σ1°.03/46, mb4.3/23, MS3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.26**	**234**	P	**Pn**	**04 38 10.4**	**+2.4**
	12nm,0.3s,baz=51,slow=9.1,SNR=26						
PMG				S	**Sn**	**04 39 18.8**	**+0.5**
	15nm,0.3s,baz=164,slow=24,SNR=8.9						
PMG	**Port Moresby**	**6.26**	**234**	P	**Pn**	**04 38 10.4**	**+2.4**
PMG				S	**Sn**	**04 39 18.8**	**+0.5**
HNR	**Honiara**	**8.45**	**116**	LR	LR	04 41 03.8	
	comp=Z,97nm,19.2s,baz=143,slow=30						
WRAB	**Tennant Creek**	**22.44**	**229**	*e*P	**P**	**04 41 34.4**	**+0.3**
	11nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**22.44**	**229**	*e*P	**P**	**04 41 33.8**	**-0.3**
WRA	**Warramunga Arr**	**22.45**	**229**	P	**P**	**04 41 33.0**	**-1.2**
	5.1nm,0.9s,mb4.0,baz=55,slow=10,SNR=24						
WRA	**Warramunga Arr**	**22.45**	**229**	P	**P**	**04 41 33.0**	**-1.2**
ARMA	**Armidale**	**24.57**	**181**	*e*P	**P**	**04 41 53.3**	**-1.6**
AS31	**Alice Springs**	**25.12**	**223**	*e*P	**P**	**04 42 01.1**	**+1.1**
ASAR	**Alice Springs**	**25.12**	**223**	P	**P**	**04 41 59.7**	**-0.2**
	12nm,1.0s,mb4.4,baz=55,slow=9.4,SNR=73						
ASAR	**Alice Springs**	**25.12**	**223**	P	**P**	**04 41 59.7**	**-0.2**
STKA	**Stephens Creek**	**27.88**	**200**	P	**P**	**04 42 23.9**	**-0.7**
	4.3nm,0.9s,mb4.1,baz=71,slow=4.5,SNR=3.5						
STKA				LR	LR	04 52 33.1	
	comp=Z,46nm,19.2s,MS3.1,baz=26,slow=34						
STKA	**Stephens Creek**	**27.88**	**200**	*e*P	**P**	**04 42 23.4**	**-1.3**
STKA	**Stephens Creek**	**27.88**	**200**	P	**P**	**04 42 23.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**28.77**	**242**	P	**P**	**04 42 32.4**	**-0.5**
	2.9nm,0.7s,mb4.1,baz=65,slow=6.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**28.77**	**242**	*e*P	**P**	**04 42 32.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**28.77**	**242**	P	**P**	**04 42 32.4**	**-0.5**
FORT	**Forrest**	**33.75**	**219**	*e*P	**P**	**04 43 17.4**	**+0.9**
	8.5nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**44.06**	**344**	LR	LR	05 02 24.9	
	comp=Z,73nm,18.3s,MS3.6,baz=330,slow=35						
CHTO	**Chiang Mai**	**57.92**	**296**	*e*P	**P**	**04 46 22.9**	**-4.4**
	2.5nm,0.4s,mb4.6						
FX1	**Attu Island--F**	**61.01**	**14**	LR	LR	05 12 19.6	
	comp=Z,40nm,18.7s,MS3.6,baz=65,slow=35						
ULN	**Ulaanbaatar**	**66.50**	**329**	*e*P	**P**	**04 47 24.7**	**+0.5**
	1.4nm,0.5s,mb4.2						
SONM	**Songino Array**	**66.82**	**328**	P	**P**	**04 47 26.5**	**+0.2**
	1.2nm,0.6s,mb4.1,baz=154,slow=4.3,SNR=7.8						
SONM	**Songino Array**	**66.82**	**328**	P	**P**	**04 47 26.5**	**+0.2**
BILL	**Bilibino**	**74.25**	**5**	*e*P	**P**	**04 48 11.8**	**+0.6**
	1.8nm,0.6s,mb4.2						
MK31	**Makanchi Array**	**80.67**	**319**	*e*P	**P**	**04 48 46.0**	**-1.5**
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**04 48 47.2**	**-0.4**
	0.5nm,0.6s,mb3.6,baz=102,slow=6.8,SNR=6.2						
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**04 48 47.2**	**-0.4**
ZALV	**Zalesovo Beam**	**81.63**	**327**	P	**P**	**04 48 52.1**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=114,slow=6.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**81.63**	**327**	P	**P**	**04 48 52.1**	**-0.3**
MCK	**McKinley**	**81.91**	**23**	*e*P	**P**	**04 48 54.0**	**+0.3**
	16nm,1.0s,mb4.9						
MCK				*e*pP	pP	04 49 03.9	-0.8
COLA	**College**	**82.89**	**22**	*e*P	**P**	**04 48 58.7**	**-0.2**
	12nm,0.9s,mb4.9						
COLA				*e*pP	pP	04 49 08.8	-1.1
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**04 49 00.1**	**-0.3**
	4.1nm,0.8s,mb4.5,baz=250,slow=5.0,SNR=45						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**04 49 00.1**	**-0.3**
KURK	**Kurchatov**	**84.17**	**322**	P	**P**	**04 49 05.5**	**-0.3**
	1.7nm,0.9s,mb4.2,baz=110,slow=4.2,SNR=12						
KURK	**Kurchatov**	**84.17**	**322**	*e*P	**P**	**04 49 05.5**	**-0.2**
	2.5nm,1.0s,mb4.3						
TKM2	**Tokmak 2**	**84.19**	**314**	*e*P	**P**	**04 49 06.1**	**+0.1**
	1.5nm,0.7s,mb4.2						
EGAK	**Eagle**	**85.40**	**23**	*e*P	**P**	**04 49 12.4**	**+0.8**
	4.6nm,0.8s,mb4.7						
DLBC	**Dease Lake**	**88.43**	**31**	LR	LR	05 27 27.1	
	comp=Z,126nm,18.7s,MS4.4,baz=27,slow=34						
INK	**Inuvik**	**89.50**	**21**	P	**P**	**04 49 30.4**	**-0.8**
	2.3nm,1.0s,mb4.5,baz=246,slow=8.6,SNR=4.3						
INK	**Inuvik**	**89.50**	**21**	P	**P**	**04 49 30.4**	**-0.8**
BVAR	**Borovoye Array**	**89.66**	**323**	P	**P**	**04 49 30.1**	**-2.3**
	1.5nm,0.7s,mb4.4,baz=98,slow=6.1,SNR=7.3						
BVAR	**Borovoye Array**	**89.66**	**323**	P	**P**	**04 49 30.1**	**-2.3**
BRVK	**Borovoye**	**89.73**	**323**	*e*P	**P**	**04 49 32.3**	**-0.4**
	1.3nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**93.06**	**52**	P	**P**	**04 49 50.6**	**+2.1**
	0.5nm,0.7s,mb4.0,baz=280,slow=6.2,SNR=3.3						
NVAR	**Mina Array Bea**	**93.06**	**52**	P	**P**	**04 49 50.6**	**+2.1**
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**04 50 05.8**	**+2.2**
	0.6nm,0.8s,mb4.1,baz=272,slow=4.7,SNR=10						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**04 50 05.8**	**+2.2**
TORD	**Torodi Ar. Bea**	**150.08**	**286**	PKPbc	PKPbc	04 56 24.2	-2.0
	1.0nm,0.8s,baz=58,slow=0.9,SNR=7.9						
TORD	**Torodi Ar. Bea**	**150.08**	**286**	PKPbc	PKPbc	04 56 24.2	-2.0

IDC 26 04:41:46.9±5.7, 5°.23S×151°.49E, h95km±45km, mb2.9/3, mb1 3.2/4, mb1mx3.1/16, mbtmp3.0/4, Error ellipse: s-maj=138.1km s-min=32.6km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.98**	**226**	P	Pn	04 43 12.1	-0.7
	0.7nm,0.3s,baz=72,slow=6.4,SNR=2.4						
PMG				S	Sn	04 44 20.0	+0.1
	1.3nm,0.3s,baz=317,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**22.19**	**227**	P	P	04 46 36.2	+0.7
	0.3nm,0.7s,baz=56,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**24.97**	**221**	P	P	04 47 02.6	+1.0
	0.6nm,0.8s,baz=55,slow=8.5,SNR=6.5						
ILAR	**Eielson Array**	**83.04**	**22**	P	P	04 54 01.9	+0.5
	0.3nm,0.7s,baz=242,slow=5.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**149.19**	**287**	PKPbc	PKPbc	05 01 23.7	-1.7
	0.2nm,0.8s,baz=57,slow=2.0,SNR=2.6						

IDC 26 04:43:34.9±1.3, 27°.10S×177°.64W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/15, mbtmp3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.8/11, Error ellipse: s-maj=59.5km s-min=40.0km az=170.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**18.94**	**206**	LR	LR	04 53 01.9	
	comp=Z,70nm,21.9s,baz=301,slow=30						
ASAR	**Alice Springs**	**43.70**	**263**	P	P	04 51 41.4	-0.5
	0.2nm,0.5s,baz=96,slow=7.7,SNR=6.9						
WRA	**Warramunga Arr**	**44.39**	**269**	P	P	04 51 47.9	+0.4
	0.6nm,0.6s,baz=107,slow=7.8,SNR=4.6						
BVAR	**Borovoye Array**	**124.23**	**317**	PKP	PKPdf	05 02 34.5	-0.6
	0.4nm,0.5s,baz=130,slow=4.3,SNR=2.5						
FINES	**FINESS Array B**	**142.14**	**342**	PKhKP	PKPpre	05 03 03.5	
	1.8nm,0.8s,baz=59,slow=4.1,SNR=6.4						
NOA	**NORSAR Array B**	**145.54**	**352**	PKPbc	PKPbc	05 03 14.1	-0.5
	0.8nm,0.7s,baz=46,slow=6.9,SNR=4.1						
AKASG	**Malin Array Be**	**148.80**	**326**	PKPbc	PKPbc	05 03 23.3	-0.7
	0.8nm,0.4s,baz=44,slow=3.4,SNR=7.7						
BRTR	**Keskin Array B**	**151.16**	**304**	PKPbc	PKPbc	05 03 30.5	+0.3
	1.8nm,1.1s,baz=68,slow=0.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**166.11**	**177**	PKPab	PKPab	05 04 42.6	-0.2
	0.4nm,0.9s,baz=184,slow=2.8,SNR=2.9						

*ISCJB **26** 04:52:27.2±0.6, 13°.45N±0°.05×90°.47W±0°.04, h66km±5km, mb3.7/14, Error ellipse: s-maj=10.7km s-min=3.9km az=34.1*
*CASC **26** 04:52:27.9±1.7, 13°.47N×90°.45W, h32km±4km, MD3.8, ML4.3, mb3.8(NEIC)*
*NEIC **26** 04:52:29.2±1.0, 13°.53N×90°.38W, h66km±10km, mb3.8/7, Error ellipse: s-maj=17.1km s-min=8.4km az=222.0*
*IDC **26** 04:52:33.5±2.8, 13°.82N×89°.88W, h103km±26km, mb3.3/9, mb1 3.7/11, mb1mx3.5/24, mbtmp3.4/11, MS3.1/3, Ms1 3.1/3, ms1mx2.8/22, Error ellipse: s-maj=37.7km s-min=13.6km az=57.0*

ISC 26 04:52:28.5±0.5, 13°.52N±0°.06×90°.44W±0°.04, h66km±5km, n66, σ1°.03/80, mb3.7/14, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.86**	**68**	*e*P	**Pn**	**04 52 44.0**	**-1.1**
RTR	**El Retiro**	**0.86**	**64**	*e*P	**Pn**	**04 52 44.3**	**-0.8**
SNJE	**San Jose**	**0.89**	**67**	*e*P	**Pn**	**04 52 44.4**	**-1.0**
PCG	**Pacaya**	**0.89**	**350**	‖*e*P	**Pn**	**04 52 45.7**	**+0.3**
RBDL	**Robledal**	**0.94**	**51**	*e*P	**Pn**	**04 52 45.4**	**-0.7**
FUG	**Fuego 3**	**1.00**	**337**	*e*P	**Pn**	**04 52 46.7**	**-0.2**
NBG	**Las Nubes**	**1.07**	**5**	*e*P	**Pn**	**04 52 48.6**	**+0.9**
NBG				*e*S	**Sn**	**04 53 03.3**	**+1.3**
FG6		**1.12**	**338**	*e*P	**Pn**	**04 52 48.7**	**+0.3**
FG6				*e*S	**Sn**	**04 53 03.0**	**-0.2**
BOQS	**Boqueron**	**1.15**	**79**	*e*P	**Pn**	**04 52 48.0**	**-0.8**
BOQS				*e*S	**Sn**	**04 53 04.7**	**+0.8**
SNET	**Serv Nac Est T**	**1.19**	**82**	*e*P	**Pn**	**04 52 48.7**	**-0.6**
SNET				AML	AML	04 53 05.5	
	comp=Z,8μm,0.2s						
LFRS	**El Faro**	**1.35**	**85**	*e*P	**Pn**	**04 52 50.8**	**-0.5**
LFRS				*e*S	**Sn**	**04 53 08.9**	**+0.4**
MTO2	**Montecristo 2**	**1.37**	**50**	*e*P	**Pn**	**04 52 50.9**	**-0.8**
LBRS	**Las Brisas**	**1.38**	**81**	*e*P	**Pn**	**04 52 51.1**	**-0.7**
TP2	**Tecpan 2**	**1.38**	**336**	‖*e*P	**Pn**	**04 52 48.6**	**-3.2**
JAT	**Jato**	**1.41**	**305**	*e*P	**Pn**	**04 52 52.6**	**+0.5**
SNVI	**San Vicente**	**1.56**	**86**	*e*P	**Pn**	**04 52 53.9**	**-0.3**
SNVI				*e*S	**Sn**	**04 53 13.7**	**+0.1**
VSM	**San Miguel**	**2.11**	**92**	*e*P	**Pn**	**04 53 02.1**	**+0.5**
BLLM	**Bellamira**	**2.15**	**92**	*e*P	**Pn**	**04 53 01.4**	**-0.7**
BLLM				*e*S	**Sn**	**04 53 28.3**	**+0.6**
CAHU	**Cacacuatique**	**2.18**	**83**	*e*P	**Pn**	**04 53 01.9**	**-0.7**
CNCH	**Conchagua**	**2.55**	**95**	*e*P	**Pn**	**04 53 07.4**	**-0.2**
CNCH				*e*S	**Sn**	**04 53 39.0**	**+1.5**
TGUH	**Tegucigalpa,Un**	**3.13**	**80**	*e*Pn	**Pn**	**04 53 14.7**	**-0.7**
TGUH	**Tegucigalpa,Un**	**3.13**	**80**	*e*P	**Pn**	**04 53 14.8**	**-0.7**
CRIN	**San Cristobal**	**3.40**	**103**	*e*P	**Pn**	**04 53 19.7**	**+0.5**
CRIN				*e*S	**Sn**	**04 54 00.0**	**+1.6**
CRIN				AML	AML	04 54 16.0	
	comp=N,1μm,0.1s						
PCIG		**3.46**	**309**	P	**Pn**	**04 53 20.4**	**+0.5**
LEON	**Leon**	**3.63**	**107**	*e*P	**Pn**	**04 53 21.6**	**-0.7**
CNGN	**Cerro Negro**	**3.79**	**105**	*e*P	**Pn**	**04 53 24.0**	**-0.5**
TGIG		**4.15**	**322**	P	**Pn**	**04 53 29.8**	**+0.4**
XAVN	**Gruta Xavier**	**4.24**	**108**	*e*P	**Pn**	**04 53 31.3**	**+0.7**
TISN	**Laguna Tiscapa**	**4.29**	**108**	*e*P	**Pn**	**04 53 31.1**	**-0.3**
HUEN		**4.33**	**105**	*e*P	**Pn**	**04 53 31.4**	**-0.4**
TICN	**Ticuantepe**	**4.36**	**109**	*e*P	**Pn**	**04 53 33.6**	**+1.3**
CMIG	**Matias Romero**	**5.57**	**310**	P	**Pn**	**04 53 49.5**	**+0.6**
	comp=N,2.8nm,0.3s,baz=94,slow=9.2,SNR=42						
CMIG				S	**Sn**	**04 54 57.8**	**+6.3**
	comp=N,3.3nm,0.3s,baz=34,slow=22,SNR=6.4						
CMIG	**Matias Romero**	**5.57**	**310**	P	**Pn**	**04 53 49.5**	**+0.7**
CMIG				S	**Sn**	**04 54 57.8**	**+6.3**
HUIG	**Huatulco**	**5.92**	**293**	P	**Pn**	**04 54 00.0**	**+6.3**
JTS	**JuntasAbangare**	**6.26**	**120**	P	**Pn**	**04 53 59.6**	**+1.3**
	comp=N,3.7nm,0.3s,baz=309,slow=22,SNR=32						
JTS				S	**Sn**	**04 55 05.5**	**-2.9**
	comp=N,0.6nm,0.3s,baz=298,slow=22,SNR=2.5						
JTS	**JuntasAbangare**	**6.26**	**120**	*e*Pn	**Pn**	**04 53 59.8**	**+1.5**
	comp=N,28nm,0.6s						
JTS				S	**Sn**	**04 55 05.5**	**-2.9**
JTS				*e*Sn	**Sn**	**04 55 09.6**	**+1.2**
TEIG	**Tepich**	**6.99**	**17**	P	**Pn**	**04 54 08.9**	**+0.6**
	comp=N,8.1nm,0.3s,baz=190,slow=2.4,SNR=66						
TEIG				S	**Sn**	**04 55 32.8**	**+6.5**
	baz=45,slow=16,SNR=1.8						
TEIG				LR	LR	04 57 14.4	
	comp=N,74nm,18.6s,baz=163,slow=43						
TEIG	**Tepich**	**6.99**	**17**	P	**Pn**	**04 54 08.9**	**+0.6**
TEIG				S	**Sn**	**04 55 32.8**	**+6.5**
VHO	**Vista Hermosa**	**7.02**	**301**	P	**Pn**	**04 54 15.1**	**+6.3**
PNIG	**Pinotepa**	**7.96**	**292**	P	**Pn**	**04 54 19.5**	**-2.1**
ROSC	**El Rosal**	**18.07**	**117**	LR	LR	05 04 41.8	
	comp=N,44nm,18.3s,baz=193,slow=41						
LRAL	**Lakeview Retre**	**19.68**	**9**	*e*P	**Pn**	**04 56 54.5**	**+0.2**
	comp=N,5.8nm,0.9s						
TXAR	**Lajitas Array**	**19.95**	**324**	P	**Pn**	**04 56 58.0**	**+0.4**
	comp=N,0.5nm,0.5s,baz=146,slow=11,SNR=24						
TXAR				PcP	PcP	05 01 11.4	+1.7
	comp=N,0.4nm,0.9s,baz=128,slow=3.2,SNR=5.7						
TXAR	**Lajitas Array**	**19.95**	**324**	P	**Pn**	**04 56 58.0**	**+0.4**
TXAR				PcP	PcP	05 01 11.4	+1.7
WMOK	**Wichita Mounta**	**22.44**	**342**	*e*P	**P**	**04 57 23.3**	**+1.5**
	comp=N,2.1nm,0.7s,mb3.6						
WVT	**Waverly**	**22.64**	**6**	*e*P	**P**	**04 57 24.6**	**+0.6**
	comp=N,2.4nm,0.6s,mb3.7						
MNTX	**Cornudas Mount**	**22.70**	**325**	*e*P	**P**	**04 57 25.9**	**+1.1**
	comp=N,0.8nm,0.6s,mb3.2						
TKL	**Tuckaleechee C**	**22.85**	**14**	P	**P**	**04 57 25.4**	**-0.9**
	comp=N,2.6nm,0.6s,mb3.7,baz=198,slow=14,SNR=7.9						
TKL				LR	LR	05 06 49.0	
	comp=N,102nm,21.7s,baz=269,slow=38						
TKL	**Tuckaleechee C**	**22.85**	**14**	P	**P**	**04 57 25.4**	**-0.9**
WCI	**Wyandotte Cave**	**24.89**	**8**	*e*P	**P**	**04 57 44.4**	**-0.7**
	comp=N,16nm,0.7s,mb4.6						
PDAR	**Pinedale Array**	**33.50**	**334**	P	**P**	**04 59 04.5**	**+2.9**
	comp=N,0.2nm,0.5s,mb3.2,baz=148,slow=14,SNR=2.3						
PDAR	**Pinedale Array**	**33.50**	**334**	P	**P**	**04 59 04.5**	**+2.9**
NVAR	**Mina Array Bea**	**35.00**	**320**	P	**P**	**04 59 17.7**	**+3.0**
	comp=N,1.5nm,0.7s,mb3.9,baz=129,slow=8.3,SNR=9.2						
NVAR				PcP	PcP	05 01 47.5	+1.8
	comp=N,0.7nm,0.6s,baz=129,slow=3.0,SNR=4.5						
NVAR	**Mina Array Bea**	**35.00**	**320**	P	**P**	**04 59 17.7**	**+3.0**
NVAR				PcP	PcP	05 01 47.5	+1.8
SAML	**Samuel**	**35.08**	**128**	*e*P	**P**	**04 59 14.5**	**-1.1**
	comp=N,1.8nm,0.6s,mb4.1						
ULM	**Lac du Bonnet**	**36.90**	**354**	P	**P**	**04 59 28.1**	**-2.6**
	comp=N,1.1nm,0.5s,mb4.1,baz=171,slow=12,SNR=3.0						
ULM	**Lac du Bonnet**	**36.90**	**354**	P	**P**	**04 59 28.1**	**-2.6**
LPAZ	**La Paz**	**36.92**	**143**	*e*P	**P**	**04 59 32.8**	**+1.5**
	comp=N,0.9nm,0.7s,mb3.8						
SIV	**San Ignacio**	**41.26**	**134**	P	**P**	**05 00 07.7**	**+0.2**
	comp=N,1.1nm,0.7s,mb3.8,baz=322,slow=8.1,SNR=7.6						
SIV	**San Ignacio**	**41.26**	**134**	P	**P**	**05 00 07.7**	**+0.2**
SCHQ	**Schefferville**	**45.16**	**19**	P	**P**	**05 00 36.1**	**-2.4**
	comp=N,0.8nm,0.4s,mb3.9,baz=8,3,slow=19,SNR=5.2						
SCHQ	**Schefferville**	**45.16**	**19**	P	**P**	**05 00 36.1**	**-2.4**
YKA	**Yellowknife Ar**	**51.85**	**346**	P	**P**	**05 01 28.4**	**-1.4**
	comp=N,0.4nm,0.5s,mb3.7,baz=139,slow=6.8,SNR=8.4						
YKA	**Yellowknife Ar**	**51.85**	**346**	P	**P**	**05 01 28.4**	**-1.4**
ILAR	**Eielson Array**	**63.88**	**337**	P	**P**	**05 02 53.3**	**-0.7**
	comp=N,0.2nm,0.7s,mb3.1,baz=118,slow=5.3,SNR=8.0						
ILAR	**Eielson Array**	**63.88**	**337**	P	**P**	**05 02 53.3**	**-0.7**

DJA 26 05:03:26, 2°.94S×140°.09E, h10km, MLv3.7/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.74**	**55**	P	Pg	05 03 39.9	-0.5
JAY				S	Sg	05 03 51.4	+1.2
WAMI	**Wamena**	**1.67**	**236**	P	Pn	05 03 54.3	-1.0
WAMI				S	Sn	05 04 15.3	-1.4
SMPI	**Sarmi**	**1.67**	**304**	P	Pn	05 03 53.8	-1.5
SMPI				S	Sn	05 04 17.8	+1.0

*ISCJB **26** 05:06:42.3±0.7, 51°.6N±0°.1×179°.45W±0°.06, h87km±6km, mb3.4/7, Error ellipse: s-maj=23.6km s-min=6.5km az=0.1*
*IDC **26** 05:06:45.0±3.3, 51°.86N×179°.48W, h87km±29km, mb3.1/7, mb1 3.4/9, mb1mx3.3/28, mbtmp3.1/9, Error ellipse: s-maj=53.7km s-min=14.8km az=1.0*
*NEIC **26** 05:06:44.3, 51°.50N×179°.44W, h66km, ML3.3(AEIC), After AEIC.*

ISC 26 05:06:43.4±0.7, 51°.6N±0°.1×179°.44W±0°.06, h78km±6km, n28, σ0°.63/33, mb3.4/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**0.62**	**299**	P	**Pn**	**05 06 58.2**	**+0.1**
CESW	**Semis' Southwe**	**0.68**	**295**	P	**Pn**	**05 06 58.6**	**-0.1**
CEAP	**Semis' Anvil P**	**0.72**	**303**	P	**Pn**	**05 06 59.5**	**+0.3**
CETU	**Semis' Tuman**	**0.75**	**299**	P	**Pn**	**05 06 59.5**	**+0.1**
AMKA	**Amchitka**	**0.82**	**254**	P	**Pn**	**05 06 59.4**	**-0.8**
AMKA				S	**Sn**	**05 07 11.9**	**-0.8**
LSSE	**Little Sitkin**	**1.27**	**285**	P	**Pn**	**05 07 06.1**	**+0.4**
LSSA	**Little Sitkin**	**1.31**	**286**	P	**Pn**	**05 07 06.5**	**+0.3**
LSSA				S	**Sn**	**05 07 23.7**	**+0.3**
LSNW	**Little Sitkin**	**1.32**	**287**	P	**Pn**	**05 07 06.4**	**+0.2**
KOWE	**Korovin West**	**3.30**	**75**	P	**Pn**	**05 07 33.5**	**+0.9**
ATKA	**Atka Island**	**3.30**	**78**	P	**Pn**	**05 07 33.0**	**+0.2**
ATKA				S	**Sn**	**05 08 10.5**	**-0.4**
FX1	**Attu Island--F**	**4.72**	**289**	P	**Pn**	**05 07 52.8**	**+0.8**
	1.3nm,0.3s,baz=277,slow=17,SNR=3.5						
FX1				S	**Sn**	**05 08 44.9**	**-0.5**
	1.3nm,0.3s,baz=294,slow=20,SNR=2.2						
FX1	**Attu Island--F**	**4.72**	**289**	P	**Pn**	**05 07 52.8**	**+0.8**
FX1				S	**Sn**	**05 08 44.9**	**-0.4**
KDAK	**Kodiak Island**	**16.64**	**58**	P	**Pn**	**05 10 30.1**	**-1.3**
	0.7nm,0.3s,baz=116,slow=8.2,SNR=9.5						
KDAK	**Kodiak Island**	**16.64**	**58**	P	**Pn**	**05 10 30.1**	**-1.3**
ILAR	**Eielson Array**	**21.32**	**39**	P	**P**	**05 11 22.9**	**-0.5**
	0.1nm,0.5s,mb2.4,baz=240,slow=8.5,SNR=5.9						
ILAR	**Eielson Array**	**21.32**	**39**	P	**P**	**05 11 22.9**	**-0.5**
YKA	**Yellowknife Ar**	**35.36**	**47**	P	**P**	**05 13 30.3**	**-0.5**
	0.2nm,0.5s,mb3.2,baz=280,slow=7.5,SNR=3.5						
YKA	**Yellowknife Ar**	**35.36**	**47**	P	**P**	**05 13 30.3**	**-0.5**
NVAR	**Mina Array Bea**	**43.92**	**83**	P	**P**	**05 14 43.7**	**+1.5**
	0.5nm,0.6s,mb3.4,baz=285,slow=10,SNR=3.0						
NVAR	**Mina Array Bea**	**43.92**	**83**	P	**P**	**05 14 43.7**	**+1.5**
SONM	**Songino Array**	**46.18**	**296**	P	**P**	**05 15 00.5**	**+0.5**
	0.8nm,0.5s,mb3.7,baz=60,slow=7.9,SNR=6.7						
SONM	**Songino Array**	**46.18**	**296**	P	**P**	**05 15 00.5**	**+0.5**
PDAR	**Pinedale Array**	**46.62**	**72**	P	**P**	**05 15 03.7**	**+0.2**
	0.8nm,0.5s,mb3.7,baz=340,slow=3.0,SNR=8.9						
PDAR	**Pinedale Array**	**46.62**	**72**	P	**P**	**05 15 03.7**	**+0.2**
TXAR	**Lajitas Array**	**59.02**	**81**	P	**P**	**05 16 34.9**	**0.0**
	0.3nm,0.6s,mb3.5,baz=306,slow=5.6,SNR=8.3						
TXAR	**Lajitas Array**	**59.02**	**81**	P	**P**	**05 16 34.9**	**0.0**
MKAR	**Makanchi Array**	**59.57**	**308**	P	**P**	**05 16 37.5**	**-1.0**
	0.2nm,0.3s,mb3.6,baz=40,slow=6.1,SNR=9.5						
MKAR	**Makanchi Array**	**59.57**	**308**	P	**P**	**05 16 37.5**	**-1.0**

IDC 26 05:25:36.5±2.1, 54°.11N×86°.41E, h0km, mb1 3.1/2, mb1mx2.9/28, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=18.0km s-min=7.0km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.95**	**

mb1 3.8/11, mb1mx3.7/21, mbtmp3.7/11, Error ellipse: s-maj=57.6km s-min=10.8km az=69.0
*DJA **26** 06:19:30, 2°.10N×126°.13E, h69km, MLv4.4/10*
ISC 26 06:19:30.4±0.5, 2°.11N±0.04×126°.14E±0.05, h79km±5km, n47, σ0.67/51, mb4.1/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.45**	**243**	P	**Pn**	**06 19 54.7**	**-0.3**
MNI				S	**Sn**	**06 20 14.1**	**+0.4**
SGSI	**Sangihe**	**1.68**	**339**	P	**Pn**	**06 19 58.7**	**+0.7**
SGSI				S	**Sn**	**06 20 19.2**	**+0.3**
TNTI	**Ternate**	**1.81**	**137**	P	**Pn**	**06 19 59.8**	**+0.1**
TNTI				S	**Sn**	**06 20 22.2**	**+0.2**
KMSI	**Cibinong**	**2.64**	**235**	P	**Pn**	**06 20 09.3**	**-1.5**
LBMI	**Labuha**	**3.05**	**153**	P	**Pn**	**06 20 16.7**	**+0.3**
LBMI				S	**Sn**	**06 20 51.9**	**0.0**
GTOI	**Gorontalo**	**3.45**	**245**	P	**Pn**	**06 20 22.3**	**+0.5**
GTOI				S	**Sn**	**06 21 01.9**	**+0.3**
MRSI	**Marisa**	**4.50**	**249**	P	**Pn**	**06 20 36.6**	**+0.5**
LUWI	**Luwuk**	**4.59**	**227**	P	**Pn**	**06 20 38.3**	**+0.9**
NLAI	**Namlea**	**5.40**	**170**	P	**Pn**	**06 20 47.6**	**-0.8**
	0.4nm2μm46nm,0.6s						
NLAI				S	**Sn**	**06 21 44.5**	**-4.7**
	0.4nm2μm46nm,0.6s						
KDI	**Kendari**	**6.98**	**210**	P	**Pn**	**06 21 10.0**	**+0.1**
	0.1nm22nm,0.7s						
MYLDM	**Lahad Datu**	**8.21**	**292**	P	**Pn**	**06 21 24.9**	**-1.8**
FITZ	**Fitzroy Crossi**	**20.09**	**181**	P	**P**	**06 23 57.0**	**-0.7**
	1.2nm,0.3s,baz=18,slow=8.2,SNR=9.0						
FITZ	**Fitzroy Crossi**	**20.09**	**181**	*e*P	**P**	**06 23 57.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.09**	**181**	P	**P**	**06 23 57.0**	**-0.7**
WRAB	**Tennant Creek**	**23.34**	**160**	*e*P	**P**	**06 24 31.3**	**-0.6**
	4.4nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**23.35**	**160**	P	**P**	**06 24 31.5**	**-0.4**
	4.0nm,0.3s,mb4.2,baz=339,slow=10,SNR=34						
WRA				S	**S**	**06 28 39.9**	**+1.1**
	2.5nm,0.8s,baz=331,slow=20,SNR=14						
WRA	**Warramunga Arr**	**23.35**	**160**	P	**P**	**06 24 31.5**	**-0.4**
WRA				S	**S**	**06 28 39.9**	**+1.1**
WB2	**Warramunga Arr**	**23.35**	**160**	*e*P	**P**	**06 24 31.1**	**-0.8**
AS31	**Alice Springs**	**26.71**	**164**	*e*P	**P**	**06 25 02.4**	**0.0**
ASAR	**Alice Springs**	**26.71**	**164**	P	**P**	**06 25 03.0**	**+0.5**
	1.1nm,0.4s,mb3.8,baz=348,slow=13,SNR=38						
ASAR	**Alice Springs**	**26.71**	**164**	P	**P**	**06 25 03.0**	**+0.5**
FORT	**Forrest**	**32.76**	**177**	*e*P	**P**	**06 25 55.9**	**+0.1**
FORT	**Forrest**	**32.76**	**177**	*e*P	**P**	**06 25 55.9**	**0.0**
	7.0nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**36.85**	**158**	P	**P**	**06 26 31.6**	**+0.5**
	1.2nm,0.4s,mb4.2,baz=333,slow=6.7,SNR=9.1						
STKA	**Stephens Creek**	**36.85**	**158**	*e*P	**P**	**06 26 32.0**	**+0.9**
STKA	**Stephens Creek**	**36.85**	**158**	*e*P	**P**	**06 26 31.7**	**+0.6**
	0.3nm,0.4s,mb3.6						
SONM	**Songino Array**	**48.64**	**342**	P	**P**	**06 28 06.6**	**+0.3**
	0.4nm,0.7s,mb3.5,baz=165,slow=8.7,SNR=4.4						
SONM	**Songino Array**	**48.64**	**342**	P	**P**	**06 28 06.6**	**+0.3**
MK31	**Makanchi Array**	**58.55**	**326**	*e*P	**P**	**06 29 18.3**	**-0.4**
MKAR	**Makanchi Array**	**58.55**	**326**	P	**P**	**06 29 18.8**	**0.0**
	2.5nm,0.5s,mb4.5,baz=121,slow=7.7,SNR=62						
MKAR	**Makanchi Array**	**58.55**	**326**	P	**P**	**06 29 18.8**	**0.0**
ZALV	**Zalesovo Beam**	**61.76**	**334**	P	**P**	**06 29 39.9**	**-0.6**
	0.7nm,0.3s,mb4.1,baz=133,slow=10.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**61.76**	**334**	P	**P**	**06 29 39.9**	**-0.6**
KURK	**Kurchatov**	**62.79**	**328**	P	**P**	**06 29 47.3**	**-0.1**
	4.0nm,0.8s,mb4.4,baz=125,slow=6.3,SNR=27						
KURK	**Kurchatov**	**62.79**	**328**	*e*P	**P**	**06 29 47.1**	**-0.3**
	7.7nm,0.8s,mb4.7						
AKTO	**Aktyubinsk**	**74.56**	**322**	P	**P**	**06 30 59.8**	**-0.9**
	0.8nm,0.5s,mb3.8,baz=124,slow=6.9,SNR=5.1						
AKTO	**Aktyubinsk**	**74.56**	**322**	P	**P**	**06 30 59.8**	**-0.9**
ABPO	**Ambohimpanom**	**80.21**	**250**	*e*P	**P**	**06 31 34.0**	**+1.1**
	3.6nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**86.81**	**25**	P	**P**	**06 32 06.3**	**+0.6**
	0.2nm,0.8s,mb3.1,baz=245,slow=5.8,SNR=3.0						
ILAR	**Eielson Array**	**86.81**	**25**	P	**P**	**06 32 06.3**	**+0.6**
FINES	**FINESS Array B**	**92.97**	**332**	P	**P**	**06 32 34.4**	**-0.2**
	4.3nm,1.1s,mb4.7,baz=186,slow=5.7,SNR=4.0						
FINES	**FINESS Array B**	**92.97**	**332**	P	**P**	**06 32 34.5**	**-0.2**
BUR08	**Bucovina Ar. S**	**95.81**	**318**	*e*P	**P**	**06 32 49.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**122.84**	**287**	PKP	PKPdf	06 38 18.6	+0.3
	0.6nm,0.8s,baz=58,slow=1.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.84**	**287**	PKP	PKPdf	06 38 18.6	+0.3
CFAA	**Coronel Fontan**	**147.68**	**157**	PKPbc	PKPbc	06 39 07.7	+1.2
	0.1nm,0.7s,baz=205,slow=6.1,SNR=3.7						
CFAA	**Coronel Fontan**	**147.68**	**157**	PKPbc	PKPbc	06 39 07.7	+1.2

*ISCJB **26** 06:24:51.3±0.5, 15°.46S±0°.06×70°.10W±0°.06, h237km±6km, mb3.7/7, Error ellipse: s-maj=11.9km s-min=7.2km az=135.6*
*NEIC **26** 06:24:51.8±0.7, 15°.44S×70°.11W, h224km±8km, mb4.3/5, Error ellipse: s-maj=13.8km s-min=8.9km az=47.0*
*IDC **26** 06:24:52.0±0.8, 15°.32S×70°.02W, h222km±8km, mb3.5/6, mb1 3.6/12, mb1mx3.5/23, mbtmp3.5/12, Error ellipse: s-maj=31.7km s-min=10.9km az=29.0*
ISC 26 06:24:52.0±0.6, 15°.45S±0°.08×70°.13W±0°.07, h227km±6km, n34, σ1.03/34, mb3.7/7, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.09**	**114**	P	**Pn**	**06 25 35.2**	**+1.8**
	29nm,0.3s,baz=308,slow=7.4,SNR=432						
LPAZ				S	**S**	**06 26 06.2**	**+0.2**
	44nm,0.3s,baz=178,slow=23,SNR=47						
LPAZ	**La Paz**	**2.09**	**114**	*e*Pn	**Pn**	**06 25 35.1**	**+1.6**
LPAZ				*e*Sn	**S**	**06 26 06.0**	**0.0**
LVC	**Limon Verde**	**7.22**	**171**	*e*Pn	**Pn**	**06 26 33.9**	**-1.4**
	34nm,0.5s						
NNA	**Nana**	**7.38**	**297**	P	**Pn**	**06 26 37.0**	**-0.4**
	3.3nm,0.3s,baz=132,slow=11,SNR=13						
NNA				S	**S**	**06 28 00.7**	**-0.9**
	2.0nm,0.3s,baz=27,slow=15,SNR=6.7						
NNA	**Nana**	**7.38**	**297**	*e*Pn	**Pn**	**06 26 36.3**	**-1.1**
NNA				S	**S**	**06 28 00.7**	**-0.9**
SIV	**San Ignacio**	**8.73**	**95**	P	**Pn**	**06 26 53.9**	**-0.8**
	0.9nm,0.3s,baz=285,slow=10,SNR=19						
SIV	**San Ignacio**	**8.73**	**95**	P	**Pn**	**06 26 53.9**	**-0.8**
SAML	**Samuel**	**9.37**	**47**	*e*Pn	**Pn**	**06 27 02.4**	**-0.4**
	12nm,0.8s						
ATAH	**Atahualpa**	**11.57**	**315**	P	**Pn**	**06 27 31.2**	**+0.3**
	0.4nm,0.3s,baz=300,slow=23,SNR=5.5						
ATAH	**Atahualpa**	**11.57**	**315**	P	**Pn**	**06 27 31.2**	**+0.3**
CPUP	**Villa Florida**	**16.12**	**134**	P	**P**	**06 28 25.8**	**+0.3**
	1.7nm,0.3s,baz=293,slow=10,SNR=20						
CPUP	**Villa Florida**	**16.12**	**134**	*e*P	**P**	**06 28 26.1**	**+0.6**
	28nm,0.6s						
CFAA	**Coronel Fontan**	**16.18**	**174**	P	**P**	**06 28 27.3**	**+1.2**
	0.2nm,0.3s,baz=346,slow=12,SNR=14						
CFAA				S	**S**	**06 31 19.6**	**-4.5**
	0.0nm,0.3s,baz=239,slow=19,SNR=3.7						
CFAA	**Coronel Fontan**	**16.18**	**174**	P	**P**	**06 28 27.3**	**+1.2**
CFAA				S	**S**	**06 31 19.6**	**-4.5**
OTAV	**Otavalo**	**17.62**	**331**	*e*P	**P**	**06 28 45.0**	**+2.9**
	8.7nm,0.9s						
JCT	**Junction City**	**53.86**	**328**	*e*P	**P**	**06 33 52.5**	**+0.6**
	4.2nm,0.8s,mb4.0						
TXAR	**Lajitas Array**	**55.05**	**324**	P	**P**	**06 34 01.0**	**+0.5**
	3.4nm,0.9s,mb3.9,baz=138,slow=9.7,SNR=25						
TXAR	**Lajitas Array**	**55.05**	**324**	P	**P**	**06 34 01.0**	**+0.5**
DBIC	**Dimbokro**	**68.27**	**76**	P	**P**	**06 35 27.8**	**-1.2**
	1.1nm,0.3s,mb3.9,baz=151,slow=19,SNR=4.6						
DBIC	**Dimbokro**	**68.27**	**76**	P	**P**	**06 35 27.8**	**-1.2**
PDAR	**Pinedale Array**	**68.32**	**330**	P	**P**	**06 35 29.9**	**+1.1**
	0.4nm,0.4s,mb3.4,baz=119,slow=9.6,SNR=9.7						
PDAR	**Pinedale Array**	**68.32**	**330**	P	**P**	**06 35 29.9**	**+1.1**
ULM	**Lac du Bonnet**	**69.23**	**343**	P	**P**	**06 35 33.2**	**-0.9**
	2.2nm,0.6s,mb4.0,baz=177,slow=9.9,SNR=4.1						
ULM	**Lac du Bonnet**	**69.23**	**343**	P	**P**	**06 35 33.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**76.51**	**72**	P	**P**	**06 36 16.4**	**-1.2**
	0.5nm,0.6s,mb3.4,baz=245,slow=5.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**76.51**	**72**	P	**P**	**06 36 16.4**	**-1.2**
YKA	**Yellowknife Ar**	**85.12**	**341**	P	**P**	**06 37 02.4**	**+0.3**
	0.8nm,0.6s,mb3.6,baz=134,slow=5.0,SNR=18						
YKA	**Yellowknife Ar**	**85.12**	**341**	P	**P**	**06 37 02.4**	**+0.3**
ASAR	**Alice Springs**	**134.58**	**212**	PKP	PKPdf	06 43 44.5	+0.4
	0.3nm,0.6s,baz=129,slow=2.0,SNR=6.8						
ASAR	**Alice Springs**	**134.58**	**212**	PKP	PKPdf	06 43 44.5	+0.4
WRA	**Warramunga Arr**	**137.39**	**215**	PKP	PKPdf	06 43 49.9	+0.4
	0.3nm,0.4s,baz=134,slow=1.6,SNR=8.0						
WRA	**Warramunga Arr**	**137.39**	**215**	PKP	PKPdf	06 43 49.9	+0.4
SONM	**Songino Array**	**147.58**	**4**	PKPbc	PKPbc	06 44 10.4	+1.0
	0.2nm,0.4s,baz=304,slow=1.5,SNR=3.4						
SONM	**Songino Array**	**147.58**	**4**	PKPbc	PKPbc	06 44 10.4	+1.0

*ISCJB **26** 06:26:45.9±0.6, 36°.94N±0°.03×28°.19E±0°.04, h2km±6km, Error ellipse: s-maj=4.9km s-min=4.7km az=38.1*
*ATH **26** 06:26:45.4, 37°.01N×28°.41E, h32km±20km, MD3.3/3*
*ISK **26** 06:26:46.4, 37°.10N×28°.10E, h5km, MD3.0*
*DDA **26** 06:26:46.2, 36°.97N×28°.19E, h7km±1km, Md3.1*
*CSEM **26** 06:26:46.2±0.3, 36°.95N×28°.21E, h2km, MD3.0, Error ellipse: s-maj=7.6km s-min=5.4km az=6.0*
ISC 26 06:26:47.3±0.5, 37°.00N±0°.03×28°.15E±0°.03, h5km±5km, n32, σ1.10/46, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**37**	PG	**Pg**	**06 26 49.9**	**-0.8**
YER				*e*SG	**Sg**	**06 26 53.0**	**0.0**
YER	**Yerkesik**	**0.17**	**37**	*i* Pg	**Pg**	**06 26 49.9**	**-0.8**
YER				*e*Sg	**Sg**	**06 26 53.0**	**0.0**
TURN	**Turunc**	**0.38**	**109**	*i* P	**Pg**	**06 26 50.5**	**-4.1**
TURN				*i* S	**Sg**	**06 26 53.9**	**-5.7**
TURN	**Turunc**	**0.38**	**109**	*i* P	**Pg**	**06 26 50.5**	**-4.1**
TURN				*i* S	**Sg**	**06 26 53.9**	**-5.7**
DAT	**Datca**	**0.53**	**240**	*e*PG	**Pg**	**06 26 58.5**	**+1.0**
DAT	**Datca**	**0.53**	**240**	*e*Pg	**Pg**	**06 26 58.5**	**+1.0**
BODT	**Bodrum**	**0.68**	**276**	*e*PG	**Pg**	**06 26 59.8**	**-0.5**
BODT	**Bodrum**	**0.68**	**276**	*e*Pg	**Pg**	**06 26 59.8**	**-0.5**
ARG	**Arkhangelos**	**0.78**	**182**	*e*PN	**Pn**	**06 27 01.4**	**-3.5**
ARG				*e*SN	**Sg**	**06 27 13.4**	**+1.0**
GCAM	**G?zelcaml?**	**1.01**	**314**	*i* P	**Pg**	**06 27 06.3**	**-0.4**
GCAM				*i* S	**Sg**	**06 27 21.6**	**+1.7**
GCAM	**G?zelcaml?**	**1.01**	**314**	*i* P	**Pg**	**06 27 06.3**	**-0.4**
GCAM				*i* S	**Sg**	**06 27 21.6**	**+1.7**
DENT	**Denizli**	**1.03**	**43**	*e*PG	**Pg**	**06 27 07.2**	**+0.1**
DENT	**Denizli**	**1.03**	**43**	*e*Pg	**Pg**	**06 27 07.2**	**+0.2**
GLHS	**Glhisar (BURDU**	**1.09**	**81**	*e*PN	**Pg**	**06 27 09.1**	**+1.0**
GLHS	**Glhisar (BURDU**	**1.09**	**81**	*e*Pn	**Pg**	**06 27 09.1**	**+1.0**
GOLH	**Golhisar**	**1.15**	**78**	*i* P	**Pg**	**06 27 07.8**	**-1.5**
GOLH				*i* S	**Sg**	**06 27 23.9**	**-0.4**
GOLH	**Golhisar**	**1.15**	**78**	*i* P	**Pg**	**06 27 07.8**	**-1.5**
GOLH				*i* S	**Sg**	**06 27 23.9**	**-0.3**
SMG	**Samos**	**1.27**	**304**	*e*PN	**Pn**	**06 27 11.1**	**-0.4**
SMG				*e*SN	**Sn**	**06 27 29.6**	**+0.7**
AKAS	**Kas**	**1.40**	**123**	*i* P	**Pn**	**06 27 11.4**	**-1.9**
AKAS				*i* S	**Sb**	**06 27 34.1**	**+2.3**
AKAS	**Kas**	**1.40**	**123**	*i* P	**Pn**	**06 27 11.4**	**-1.9**
ELL	**Elmali**	**1.43**	**100**	*e*PN	**Pn**	**06 27 15.6**	**+1.8**
MANT	**Manisa**	**1.52**	**12**	*i* P	**Pn**	**06 27 15.5**	**+0.4**
MANT				*i* S	**Sn**	**06 27 35.1**	**-0.2**
MANT	**Manisa**	**1.52**	**12**	*i* P	**Pn**	**06 27 15.5**	**+0.4**
MANT				*i* S	**Sn**	**06 27 35.1**	**-0.2**
IZM	**Izmir**	**1.56**	**333**	*e*PN	**Pn**	**06 27 15.0**	**-0.7**
IZM	**Izmir**	**1.56**	**333**	*e*Pn	**Pn**	**06 27 15.0**	**-0.7**
KULA	**Kula-Manisa**	**1.56**	**15**	*e*PN	**Pn**	**06 27 15.4**	**-0.3**
KULA	**Kula-Manisa**	**1.56**	**15**	*e*Pn	**Pn**	**06 27 15.4**	**-0.3**
BLCB	**Balcova**	**1.64**	**328**	*e*PN	**Pn**	**06 27 16.2**	**-0.5**
BLCB	**Balcova**	**1.64**	**328**	*e*Pn	**Pn**	**06 27 16.3**	**-0.4**
KARP	**Karpathos**	**1.66**	**209**	*e*PB	**Pb**	**06 27 16.2**	**-2.0**
KARP				*e*SN	**Sn**	**06 27 38.4**	**-0.1**
SUTC	**Sutluce-Ispart**	**2.32**	**77**	*e*PN	**Pn**	**06 27 27.8**	**+1.7**
NPS	**Neapolis**	**2.69**	**231**	*e*PN	**Pn**	**06 27 31.1**	**0.0**

CASC 26 06:29:04.6±2.8, 12°.16N×87°.85W, h35km±999km, MD3.9, ML3.6, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.95**	**56**	*e*P	Pn	06 29 21.9	+0.5
CRIN				*e*S	Sn	06 29 36.4	+2.6
CRIN				AML	AML	06 29 41.4	
	comp=N,2μm,0.3s						
LEON	**Leon**	**0.97**	**75**	*e*P	Pn	06 29 21.1	-0.6
TEL3	**Telica 3**	**1.06**	**67**	*e*P	Pn	06 29 22.6	-0.5
CNCH	**Conchagua**	**1.11**	**1**	*e*P	Pn	06 29 24.4	+0.8
CNGN	**Cerro Negro**	**1.18**	**73**	*e*P	Pn	06 29 23.8	-0.8
VSM	**San Miguel**	**1.32**	**342**	*e*P	Pn	06 29 28.0	+1.4
BLLM	**Bellamira**	**1.33**	**344**	*e*P	Pn	06 29 26.9	+0.3
XAVN	**Gruta Xavier**	**1.49**	**90**	*e*P	Pn	06 29 28.5	-0.4
TISN	**Laguna Tiscapa**	**1.55**	**91**	*e*P	Pn	06 29 30.1	+0.4
MGAN	**Managua**	**1.57**	**90**	*e*P	Pn	06 29 29.8	-0.2
TICN	**Ticuantepe**	**1.59**	**94**	*e*P	Pn	06 29 29.9	-0.3
CAHU	**Cacacuatique**	**1.64**	**348**	*e*P	Pn	06 29 32.5	+1.6
CAHU				*e*S	Sn	06 29 50.9	+0.1
HUEN		**1.65**	**84**	*e*P	Pn	06 29 30.9	-0.2
LFRS	**El Faro**	**1.87**	**321**	*e*P	Pn	06 29 35.9	+1.8
LFRS				*e*S	Sn	06 29 56.4	-0.2
LBRS	**Las Brisas**	**1.95**	**324**	*e*P	Pn	06 29 36.7	+1.5
LBRS				*e*S	Sn	06 29 57.5	-1.0
TGUH	**Tegucigalpa,Un**	**1.97**	**17**	*e*P	Pn	06 29 36.8	+1.4
QCR	**Quepos**	**4.53**	**127**	*e*P	Pn	06 30 10.3	-0.5
URSC	**Urasca**	**4.62**	**120**	*e*P	Pn	06 30 14.5	+2.5
URSC				*e*S	Sn	06 31 07.6	+3.1
BUS	**Buena Vista**	**4.78**	**122**	*e*P	Pn	06 30 14.9	+0.7

IDC 26 06:47:48.0±2.4, 53°.45N×87°.57E, h0km, mb1 2.6/2, mb1mx2.6/28, mbtmp2.6/2, ML2.7/2, Error ellipse: s-maj=20.5km s-min=12.3km az=90.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.71**	**288**	Pg	Pg	06 48 18.4	-2.3
	0.6nm,0.3s,baz=105,slow=17,SNR=12						
ZALV				Lg		06 48 42.6	
	1.1nm,0.3s,baz=109,slow=26,SNR=8.3						
KURK	**Kurchatov**	**6.16**	**247**	Pn	Pn	06 49 22.1	+2.0
	0.1nm,0.3s,baz=60,slow=13,SNR=4.6						
KURK				Lg		06 51 05.7	
	0.0nm,0.3s,baz=68,slow=32,SNR=3.7						
MKAR	**Makanchi Array**	**7.47**	**209**	Pn	Pn	06 49 39.4	+1.3
	0.1nm,0.3s,baz=30,slow=14,SNR=5.4						

IDC 26 06:56:04.4±2.1, 5°.59S×152°.40E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=143.2km s-min=24.8km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.43**	**234**	Pn	Pn	06 57 40.8	+0.4
	1.1nm,0.3s,baz=42,slow=16,SNR=3.8						
PMG				Sn	Sn	06 58 51.1	-3.4
	3.0nm,0.3s,baz=242,slow=22,SNR=8.9						
WRA	**Warramunga Arr**	**22.62**	**229**	P	P	07 01 05.8	-1.2
	0.7nm,0.9s,baz=54,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**25.30**	**223**	P	P	07 01 33.2	+0.5
	0.9nm,0.9s,baz=58,slow=8.9,SNR=8.9						
ILAR	**Eielson Array**	**83.04**	**22**	P	P	07 08 31.1	-0.3
	0.5nm,0.6s,baz=247,slow=5.4,SNR=13						
TORD	**Torodi Ar. Bea**	**150.16**	**287**	PKPbc	PKPbc	07 15 58.9	+0.6
	0.1nm,0.3s,baz=78,slow=4.4,SNR=2.9						

DJA 26 07:14:44, 7°.91S×106°.52E, h24km, MLv3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.90**	**2**	P	Pb	07 15 01.6	+0.6
SKJI				S	Sb	07 15 12.3	-0.2
CISI	**Cisompet, Garu**	**1.33**	**75**	P	Pn	07 15 08.4	+1.3
CISI				S	Sn	07 15 24.0	-0.1
CGJI	**Cibinong**	**1.53**	**327**	P	Pn	07 15 10.8	+1.0
LEM	**Lembang**	**1.53**	**45**	P	Pn	07 15 11.8	+1.9
XMIS	**Christmas Isla**	**2.69**	**198**	P	Pn	07 15 26.2	+0.3

IDC 26 07:16:15.2±1.8, 14°.70S×173°.94W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.6/5, MS3.5/4, Ms1 3.5/4, ms1mx3.1/32, Error ellipse: s-maj=113.3km s-min=25.0km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.95**	**118**	LR	LR	07 23 39.3	
	comp=Z,153nm,20.5s,baz=70,slow=30						
DZM	**Mont Dzumac**	**20.00**	**246**	*e*LR	LR	07 25 20.8	
	60nm,23.1s						
PPT2	**Papeete2**	**23.58**	**100**	*e*S	S	07 25 39.9	-3.1
	203nm,26.5s						
PPT2				*e*LR	LR	07 26 56.6	
	150nm,26.0s						
TBI	**Tubuai**	**24.66**	**114**	*e*LR	LR	07 27 18.4	
	172nm,28.2s						
HNR	**Honiara**	**26.05**	**279**	LR	LR	07 29 58.8	
	comp=Z,127nm,18.2s,baz=193,slow=32						
TAOE	**Nuku Hiva Isla**	**33.56**	**84**	*e*LR	LR	07 31 44.4	
	125nm,29.2s						
STKA	**Stephens Creek**	**43.94**	**239**	LR	LR	07 40 04.6	
	comp=Z,60nm,20.2s,baz=25,slow=32						
WRA	**Warramunga Arr**	**49.50**	**256**	P	P	07 25 08.5	+0.7
	0.7nm,1.0s,baz=91,slow=8.2,SNR=5.1						
WRA				LR	LR	07 43 56.1	
	comp=Z,40nm,19.3s,baz=340,slow=34						
ASAR	**Alice Springs**	**49.84**	**251**	P	P	07 25 09.8	-0.6
	2.4nm,0.9s,baz=84,slow=8.4,SNR=12						
TXAR	**Lajitas Array**	**80.66**	**56**	P	P	07 28 30.4	+0.1
	0.4nm,1.0s,baz=357,slow=5.4,SNR=3.3						
ILAR	**Eielson Array**	**81.86**	**11**	P	P	07 28 35.8	-0.1
	0.6nm,1.1s,baz=198,slow=5.7,SNR=3.2						
PDAR	**Pinedale Array**	**82.09**	**42**	P	P	07 28 38.3	+0.7
	0.1nm,0.6s,baz=265,slow=11,SNR=2.3						

*ISCJB **26** 07:27:43.0±0.5, 24°.73N±0°.04×97°.78E±0°.07, h10km, mb3.6/8, Error ellipse: s-maj=9.4km s-min=3.6km az=152.5*
*IDC **26** 07:27:44.6±1.1, 24°.92N×98°.08E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/27, mbtmp3.7/7, ML4.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/37, Error ellipse: s-maj=57.1km s-min=15.8km az=73.0*
*BJI **26** 07:27:44.2, 24°.80N×98°.11E, h9km, mB3.8/1, ML3.9/7, Ms3.7/2, Ms7 3.7/2*
*NEIC **26** 07:27:46.0±0.4, 24°.85N×97°.79E, h10km, mb3.8/2, Error ellipse: s-maj=9.2km s-min=5.1km az=46.0*
ISC 26 07:27:45.2±0.3, 24°.89N±0°.03×97°.92E±0°.03, h10km, n47, σ1.09/58, mb3.6/8, 1C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.38**	**86**	Pg	**Pg**	**07 29 07.0**	**-2.1**
KMI				Sg	**Sg**	**07 30 05.0**	**-0.9**
KMI				smax			
	comp=N,94nm,0.9s						
KMI				smax			
	comp=E,100nm,1.0s						
KMI				LR	LR		
	comp=N,1μm,5.6s						
KMI				LR	LR		
	comp=E,460nm,6.4s						
KMI				LR	LR		
	comp=Z,620nm,10.9s						
CHRT	**Chiangrai**	**5.28**	**161**	⇑PN	**Pn**	**07 29 04.0**	**-0.2**
CHRT				PG	**Pg**	**07 29 26.0**	**-0.4**
CHRT				SG	**Sg**	**07 30 35.0**	**+0.2**
CHG	**Chiang Mai**	**6.12**	**171**	PG	**Pg**	**07 29 39.9**	**-2.5**
CHG				SG	**Sg**	**07 31 02.5**	**+0.8**
CHTO	**Chiang Mai**	**6.12**	**171**	*e*Pn	**Pn**	**07 29 17.4**	**+1.8**
	comp=Z,19nm,0.6s						
CHTO				*e*Pg	**Pg**	**07 29 38.1**	**-4.3**
CHTO				*e*Sg	**Sg**	**07 31 02.1**	**+0.4**
CM31	**Chiang Mai Arr**	**6.47**	**171**	*e*Pn	**Pn**	**07 29 21.9**	**+1.4**
	comp=Z,5.5nm,0.4s						
CM31				*e*Pg	**Pg**	**07 29 47.3**	**-1.8**
CM31				*e*Sg	**Sg**	**07 31 13.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**6.47**	**171**	Pn	**Pn**	**07 29 19.9**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=344,slow=14,SNR=9.1						
CMAR				Pg	**Pg**	**07 29 45.2**	**-3.9**
	comp=Z,1.2nm,0.3s,baz=348,slow=19,SNR=15						
CMAR				Lg		07 31 11.2	
	comp=Z,1.8nm,0.3s,baz=356,slow=29,SNR=25						
CMAR	**Chiang Mai Arr**	**6.47**	**171**	Pn	**Pn**	**07 29 19.9**	**-0.5**
CMAR				Pg	**Pg**	**07 29 45.2**	**-3.9**
CMAR				Lg		07 31 11.2	
CD2	**Chengdu**	**

*ISCJB **26** 07:33:39.0±1.4, 41.°30N×0.°07×20.°44E±0.°07, h10km, Error ellipse: s-maj=10.1km s-min=7.8km az=168.8*
*TIR **26** 07:33:40.6±1.0, 41.°47N×20.°24E, h2km, 69km, ML3.0*
ISC 26 07:33:39.4±1.5, 41.°29N±0.°07×20.°45E±0.°07, h10km, n4, σ0.°43/6, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.39**	**359**	*i* PG	**Pg**	**07 33 46.7**	**-0.4**
PHP				*i* SG	**Sg**	**07 33 52.3**	**0.0**
TIR	**Tirane**	**0.44**	**277**	*i* PG	**Pg**	**07 33 47.6**	**-0.4**
TIR				*i* SG	**Sg**	**07 33 54.2**	**+0.3**
KRUS	**Krusevo**	**0.61**	**83**	*e*Pg	**Pg**	**07 33 51.5**	**+0.3**
PUK	**Puka**	**0.85**	**331**	*i* SG	**Sg**	**07 34 07.3**	**+0.2**

*HLW **26** 07:35:35.5, 35.°40N×33.°02E, h31km±18km, Md3.3, Ml3.1*
*ISCJB **26** 07:35:39.4±0.6, 34.°67N±0.°02×33.°09E±0.°04, h5km±4km, Error ellipse: s-maj=5.1km s-min=3.5km az=16.3*
*ISK **26** 07:35:39.2, 34.°70N×33.°06E, h7km, MD3.4*
*DDA **26** 07:35:40.5, 34.°81N×33.°31E, h8km±3km, Md3.3*
*CSEM **26** 07:35:40.2±0.1, 34.°69N×33.°08E, h2km, Mw3.3, Error ellipse: s-maj=4.2km s-min=2.9km az=80.0*
*NIC **26** 07:35:41.5±0.3, 34.°74N×33.°07E, h30km, ML3.7, MW3.3*
NIC Felt earthquake; Maximum Intensity 3; Felt I = III MM at Limassol.
ISC 26 07:35:40.3±0.6, 34.°69N±0.°02×33.°09E±0.°04, h2km±4km, n73, σ1.°02/97, 2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.18**	**292**	P	**Pg**	**07 35 45.3**	**+1.4**
SZAC	**Souni-Zanaja**	**0.18**	**292**	P	**Pg**	**07 35 45.3**	**+1.4**
CSS	**Prodhromos**	**0.34**	**36**	P	**Pg**	**07 35 47.8**	**+0.9**
CSS				S	**Sg**	**07 35 52.4**	**+1.1**
CSS	**Prodhromos**	**0.34**	**36**	P	**Pg**	**07 35 47.8**	**+0.9**
CSS				S	**Sg**	**07 35 52.4**	**+1.1**
LEF	**Lefka**	**0.46**	**339**	*e*PG	**Pg**	**07 35 48.0**	**-1.2**
LEF				*e*SG	**Sg**	**07 35 55.4**	**+0.2**
LEF	**Lefka**	**0.46**	**339**	*e*Pg	**Pg**	**07 35 48.0**	**-1.2**
LEF				*e*Sg	**Sg**	**07 35 55.4**	**+0.2**
MAMC	**Mammari**	**0.50**	**12**	||P	**Pg**	**07 35 49.7**	**-0.1**
MAMC	**Mammari**	**0.50**	**12**	||*i*P	**Pg**	**07 35 49.7**	**-0.1**
ALFC	**Alevga**	**0.62**	**319**	P	**Pg**	**07 35 50.8**	**-1.4**
	61nm,0.1s						
ALFC				S	**Sg**	**07 35 59.2**	**-1.1**
ALFC	**Alevga**	**0.62**	**319**	P	**Pg**	**07 35 50.8**	**-1.4**
	61nm,0.1s						
ALFC				S	**Sg**	**07 35 59.2**	**-1.1**
PPCY	**Paphos**	**0.65**	**288**	P	**Pg**	**07 35 52.2**	**-0.5**
PPCY	**Paphos**	**0.65**	**288**	P	**Pg**	**07 35 52.2**	**-0.5**
LFK	**Lefkose**	**0.69**	**31**	*e*PG	**Pg**	**07 35 53.4**	**-0.2**
LFK				*e*SG	**Sg**	**07 36 03.2**	**+0.6**
LFK	**Lefkose**	**0.69**	**31**	*e*Pg	**Pg**	**07 35 53.4**	**-0.3**
LFK				*e*Sg	**Sg**	**07 36 03.3**	**+0.6**
PHNC	**Paralimni**	**0.84**	**67**	P	**Pg**	**07 35 59.5**	**+3.1**
GAZI	**Gazipasa**	**1.67**	**338**	*i* P	**Pn**	**07 36 12.6**	**+2.0**
GAZI				*i* S	**Sn**	**07 36 34.0**	**+1.4**
GAZI	**Gazipasa**	**1.67**	**338**	*i* P	**Pn**	**07 36 12.6**	**+2.0**
GAZI				*i* S	**Sn**	**07 36 34.0**	**+1.4**
BHL	**Bhannes**	**2.26**	**109**	*e*P	**Pn**	**07 36 19.8**	**+1.1**
BHL	**Bhannes**	**2.26**	**109**	*e*P	**Pn**	**07 36 19.8**	**+1.1**
HWQ	**Hawqa**	**2.39**	**99**	*e*P	**Pn**	**07 36 20.4**	**-0.1**
HWQ	**Hawqa**	**2.39**	**99**	*e*P	**Pn**	**07 36 20.4**	**-0.1**
MERS	**Mersin**	**2.47**	**28**	*e*PN	**Pn**	**07 36 20.8**	**-0.7**
MERS	**Mersin**	**2.47**	**28**	*e*Pn	**Pn**	**07 36 20.8**	**-0.8**
RCY	**Rachaya**	**2.57**	**117**	*e*P	**Pn**	**07 36 22.7**	**-0.2**
RCY	**Rachaya**	**2.57**	**117**	*e*P	**Pn**	**07 36 22.7**	**-0.2**
KRTS	**Karatas**	**2.65**	**44**	*e*PN	**Pn**	**07 36 24.3**	**+0.3**
YAYL	**Yayladag**	**2.81**	**61**	*i* P	**Pn**	**07 36 25.6**	**-0.6**
YAYL				*i* S	**Sn**	**07 36 59.3**	**-1.3**
YAYL	**Yayladag**	**2.81**	**61**	*i* P	**Pn**	**07 36 25.6**	**-0.6**
YAYL				*i* S	**Sn**	**07 36 59.3**	**-1.4**
HTY	**Hatay**	**2.87**	**59**	*e*PN	**Pn**	**07 36 26.8**	**-0.3**
HTY	**Hatay**	**2.87**	**59**	*e*Pn	**Pn**	**07 36 26.8**	**-0.3**
GULE	**Gulek**	**2.93**	**27**	*i* P	**Pn**	**07 36 28.0**	**+0.1**
GULE				*i* S	**Sn**	**07 37 03.1**	**-0.6**
GULE	**Gulek**	**2.93**	**27**	*i* P	**Pn**	**07 36 28.0**	**+0.1**
GULE				*i* S	**Sn**	**07 37 03.1**	**-0.6**
COBT	**Iskenderun**	**3.16**	**54**	*i* P	**Pn**	**07 36 29.9**	**-1.2**
COBT				*i* S	**Sn**	**07 37 07.8**	**-1.6**
COBT	**Iskenderun**	**3.16**	**54**	*i* P	**Pn**	**07 36 29.9**	**-1.2**
COBT				*i* S	**Sn**	**07 37 07.8**	**-1.6**
CEYT	**Ceyhan**	**3.17**	**42**	*e*PN	**Pn**	**07 36 31.2**	**+0.1**
CEYT	**Ceyhan**	**3.17**	**42**	*e*Pn	**Pn**	**07 36 31.2**	**0.0**
KORT	**Korkueli**	**3.21**	**317**	*i* P	**Pn**	**07 36 33.4**	**+1.6**
KORT				*i* S	**Sn**	**07 37 17.9**	**+7.4**
KORT	**Korkueli**	**3.21**	**317**	*i* P	**Pn**	**07 36 33.4**	**+1.7**
SUTC	**Sutluce-Ispart**	**3.26**	**329**	*e*PN	**Pn**	**07 36 32.5**	**+0.1**
SUTC	**Sutluce-Ispart**	**3.26**	**329**	*e*Pn	**Pn**	**07 36 32.5**	**+0.1**
KONT	**Konya--Tatoy**	**3.31**	**350**	*e*PN	**Pn**	**07 36 32.2**	**-0.9**
KONT	**Konya--Tatoy**	**3.31**	**350**	*e*Pn	**Pn**	**07 36 32.2**	**-0.9**
ELL	**Elmali**	**3.31**	**309**	*e*PN	**Pn**	**07 36 32.8**	**-0.3**
ELL	**Elmali**	**3.31**	**309**	*e*Pn	**Pn**	**07 36 32.8**	**-0.3**
LADK	**Ladik-KONYA**	**3.56**	**351**	*e*PN	**Pn**	**07 36 35.5**	**-1.0**
LADK	**Ladik-KONYA**	**3.56**	**351**	*e*Pn	**Pn**	**07 36 35.5**	**-1.0**
KOZT	**Kozan**	**3.56**	**38**	*e*PN	**Pn**	**07 36 37.0**	**+0.5**
KDHN	**Kadinhani**	**3.91**	**349**	*i* P	**Pn**	**07 36 40.9**	**-0.4**
KDHN	**Kadinhani**	**3.91**	**349**	*i* P	**Pn**	**07 36 40.9**	**-0.4**
AVNT	**Avonos**	**4.33**	**19**	*i* P	**Pn**	**07 36 47.3**	**+0.3**
AVNT				*i* S	**Sn**	**07 37 39.4**	**+1.3**
AVNT	**Avonos**	**4.33**	**19**	*i* P	**Pn**	**07 36 47.3**	**+0.2**
AVNT				*i* S	**Sn**	**07 37 39.4**	**+1.3**
HNKL	**Nakhl**	**4.80**	**171**	P	**Pn**	**07 36 53.9**	**+0.3**
	baz=171						
HNKL				S	**Sn**	**07 37 53.0**	**+3.1**
HNKL	**Nakhl**	**4.80**	**171**	P	**Pn**	**07 36 53.9**	**+0.3**
HNKL				S	**Sn**	**07 37 52.9**	**+3.1**
SUZ		**4.84**	**183**	P	**Pn**	**07 36 54.2**	**+0.1**
	baz=182						
SUZ				S	**Sn**	**07 37 54.5**	**+3.8**
	baz=182						
SUZ		**4.84**	**183**	S	**Sn**	**07 37 54.5**	**+3.8**
KOT	**Kottamia**	**4.86**	**193**	P	**Pn**	**07 36 54.4**	**-0.1**
	baz=191						
KOT				S	**Sn**	**07 37 53.9**	**+2.6**
	baz=191						
KOT				AMP		07 38 00.0	
	comp=E,30μm,0.3s,logA/T=5.0,baz=191						
KOT	**Kottamia**	**4.86**	**193**	P	**Pn**	**07 36 54.3**	**-0.2**
KOT				S	**Sn**	**07 37 53.9**	**+2.6**
HSAF	**As Saff**	**5.22**	**195**	P	**Pn**	**07 36 58.6**	**-0.8**
	baz=193						
HSAF	**As Saff**	**5.22**	**195**	P	**Pn**	**07 36 58.6**	**-0.8**
GLL	**Jalalah**	**5.23**	**193**	P	**Pn**	**07 36 58.8**	**-0.6**
	baz=192						
GLL	**Jalalah**	**5.23**	**193**	P	**Pn**	**07 36 58.8**	**-0.7**
ZNM		**5.30**	**182**	P	**Pn**	**07 37 00.5**	**+0.1**
	baz=182						
ZNM		**5.30**	**182**	P	**Pn**	**07 37 00.5**	**+0.1**
HNAT	**Natroun**	**5.46**	**203**	P	**Pn**	**07 37 01.4**	**-1.3**
	baz=201						
HNAT	**Natroun**	**5.46**	**203**	P	**Pn**	**07 37 01.4**	**-1.2**
BORA	**Eskisehir**	**5.59**	**339**	*i* P	**Pn**	**07 37 07.7**	**+3.2**
HMAT	**Matruh**	**6.18**	**236**	S	**Sn**	**07 38 18.0**	**-5.9**
	baz=231						
HKAT	**Jabal Katrina**	**6.19**	**173**	P	**Pn**	**07 37 12.2**	**-0.5**
	baz=172						
TR2		**6.30**	**175**	P	**Pn**	**07 37 14.0**	**-0.3**
	baz=174						
TR2		**6.30**	**175**	P	**Pn**	**07 37 14.0**	**-0.3**
TR1		**6.70**	**173**	P	**Pn**	**07 37 19.1**	**-0.7**
	baz=173						
TR1		**6.70**	**173**	P	**Pn**	**07 37 19.1**	**-0.6**
SWA2		**8.45**	**232**	P	**Pn**	**07 37 39.3**	**-4.5**
	baz=229						

*ISCJB **26** 07:45:26.8±1.1, 13.°2N±0.°1×144.°9E±0.°2, h77km±7km, mb3.5/9, Error ellipse: s-maj=36.4km s-min=19.7km az=6.0*
*IDC **26** 07:45:27.3±1.1, 13.°20N×144.°95E, h65km±7km, mb3.3/9, mb1 3.6/9, mb1mx3.4/23, mbtmp3.3/9, Error ellipse: s-maj=32.3km s-min=18.2km az=96.0*
*NEIC **26** 07:45:27.6±1.1, 13.°17N×144.°92E, h68km±9km, mb3.7/1, Error ellipse: s-maj=25.8km s-min=15.2km az=95.0*
ISC 26 07:45:27.7±1.2, 13.°2N±0.°1×145.°0E±0.°2, h70km±8km, n22, σ0.°65/22, mb3.5/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.46**	**345**	P	**Pn**	**07 45 40.0**	**-0.1**
	281nm,0.3s,baz=158,slow=11,SNR=223						
GUMO				S	**Sn**	**07 45 49.3**	**+0.1**
GUMO	**Guam**	**0.46**	**345**	*e*Pn	**Pn**	**07 45 39.6**	**-0.5**
GUMO				*e*Sn	**Sn**	**07 45 49.5**	**+0.3**
WRA	**Warramunga Arr**	**34.51**	**198**	P	**P**	**07 52 09.0**	**-0.3**
	0.6nm,0.8s,mb3.5,baz=23,slow=9.6,SNR=4.6						
WRA	**Warramunga Arr**	**34.51**	**198**	P	**P**	**07 52 09.0**	**-0.3**
ASAR	**Alice Springs**	**38.16**	**197**	P	**P**	**07 52 40.6**	**+0.3**
	0.3nm,0.5s,mb3.4,baz=18,slow=11,SNR=11						
ASAR	**Alice Springs**	**38.16**	**197**	P	**P**	**07 52 40.6**	**+0.3**
SONM	**Songino Array**	**47.16**	**325**	P	**P**	**07 53 53.8**	**+0.8**
	0.3nm,0.6s,mb3.2,baz=136,slow=9.2,SNR=3.3						
SONM	**Songino Array**	**47.16**	**325**	P	**P**	**07 53 53.8**	**+0.8**
MKAR	**Makanchi Array**	**61.89**	**316**	P	**P**	**07 55 40.2**	**+0.4**
	0.2nm,0.6s,mb3.3,baz=92,slow=8.5,SNR=3.8						
MKAR	**Makanchi Array**	**61.89**	**316**	P	**P**	**07 55 40.2**	**+0.4**
KURK	**Kurchatov**	**65.00**	**320**	P	**P**	**07 56 00.2**	**0.0**
	0.3nm,0.3s,mb3.5,baz=102,slow=6.5,SNR=5.4						
KURK	**Kurchatov**	**65.00**	**320**	*e*P	**P**	**07 55 59.7**	**-0.5**
	0.7nm,0.7s,mb3.6						
ILAR	**Eielson Array**	**68.91**	**25**	P	**P**	**07 56 23.8**	**-1.0**
	0.5nm,0.6s,mb3.5,baz=247,slow=5.9,SNR=16						
ILAR	**Eielson Array**	**68.91**	**25**	P	**P**	**07 56 23.8**	**-1.0**
YKA	**Yellowknife Ar**	**83.19**	**27**	P	**P**	**07 57 46.1**	**+0.1**
	0.2nm,0.3s,mb3.4,baz=285,slow=5.4,SNR=4.9						
YKA	**Yellowknife Ar**	**83.19**	**27**	P	**P**	**07 57 46.1**	**+0.1**
NVAR	**Mina Array Bea**	**87.10**	**51**	P	**P**	**07 58 07.3**	**+1.2**
	0.4nm,0.6s,mb3.5,baz=261,slow=3.4,SNR=3.5						
NVAR	**Mina Array Bea**	**87.10**	**51**	P	**P**	**07 58 07.3**	**+1.2**
FINES	**FINESS Array B**	**91.61**	**335**	P	**P**	**07 58 25.7**	**-1.0**
	0.8nm,0.5s,mb4.2,baz=64,slow=4.4,SNR=7.9						
FINES	**FINESS Array B**	**91.61**	**335**	P	**P**	**07 58 25.7**	**-1.0**
LPAZ	**La Paz**	**147.83**	**100**	PKPbc	PKPbc	08 05 08.4	+2.8
	0.7nm,0.6s,baz=299,slow=4.0,SNR=4.2						
LPAZ	**La Paz**	**147.83**	**100**	PKPbc	PKPbc	08 05 08.4	+2.8

*IDC **26** 07:51:57.5±0.9, 30.°91S×176.°70W, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.1/18, mbtmp4.1/7, Error ellipse: s-maj=30.7km s-min=25.5km az=178.0*
*ISCJB **26** 07:51:58.9±1.0, 31.°44S±0.°07×176.°6W±0.°2, h33km, mb4.1/8, Error ellipse: s-maj=22.1km s-min=7.2km az=20.7*
*NEIC **26** 07:52:02.4±0.8, 31.°10S×176.°72W, h35km, mb4.4/4, Error ellipse: s-maj=18.7km s-min=14.7km az=116.0*
ISC 26 07:52:00.8±1.0, 31.°34S±0.°07×176.°5W±0.°2, h35km, n40, σ1.°37/37, mb4.1/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.40**	**330**	*e*Pn	**Pn**	**07 52 34.5**	**-3.1**
PUZ	**Puketiti**	**7.96**	**211**	*e*PN	**Pn**	**07 53 53.2**	**-0.8**
PUZ				*e*SN	**Sn**	**07 55 23.9**	**+1.1**
CNGZ	**Carnagh Statio**	**8.33**	**210**	*e*PN	**Pn**	**07 53 58.5**	**-0.5**
MWZ	**Matawai**	**8.51**	**213**	*e*PN	**Pn**	**07 54 02.9**	**+1.4**
MWZ				*e*SN	**Sn**	**07 55 37.2**	**+0.9**
URZ	**Urewera**	**8.65**	**215**	Pn	**Pn**	**07 54 03.2**	**-0.3**
	1.2nm,0.3s,baz=219,slow=23,SNR=12						
URZ				Sn	**Sn**	**07 55 40.2**	**+0.5**
	2.6nm,0.3s,baz=189,slow=17,SNR=8.2						
URZ	**Urewera**	**8.65**	**215**	*e*Pn	**Pn**	**07 54 04.1**	**+0.7**
URZ				Sn	**Sn**	**07 55 40.2**	**+0.5**
URZ	**Urewera**	**8.65**	**215**	*e*PN	**Pn**	**07 54 02.9**	**-0.5**
OUZ	**Omahuta**	**9.12**	**242**	*e*Pn	**Pn**	**07 54 11.9**	**+2.0**
BFZ	**Birch Farm**	**11.00**	**210**	*e*PN	**Pn**	**07 54 34.1**	**-1.4**
BFZ				*e*SN	**Sn**	**07 56 33.5**	**-3.7**
THZ	**Tophouse**	**13.41**	**216**	PN	**Pn**	**07 55 04.1**	**-4.4**
THZ				*e*SN	**Sn**	**07 57 29.3**	**-7.0**
DSZ	**Denniston Nort**	**13.97**	**219**	PN	**Pn**	**07 55 13.8**	**-2.3**
MQZ	**McQueen's Vall**	**15.01**	**212**	SN	**Sn**	**07 58 04.6**	**-11**
RPZ	**Rata Peaks**	**15.77**	**215**	Pn	**Pn**	**07 55 38.1**	**-2.0**
	2.1nm,0.3s,baz=10,slow=2.2,SNR=7.6						
RPZ	**Rata Peaks**	**15.77**	**215**	*e*P	**Pn**	**07 55 37.3**	**-2.8**
	10.0nm,0.5s						
CTA	**Charters Tower**	**35.19**	**280**	P	**P**	**07 58 53.2**	**+1.6**
	4.7nm,0.6s,mb4.6,baz=105,slow=11,SNR=8.5						
CTA	**Charters Tower**	**35.19**	**280**	P	**P**	**07 58 53.2**	**+1.5**
CTAO	**Charters Tower**	**35.19**	**280**	*e*P	**P**	**07 58 53.1**	**+1.5**
	5.1nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**35.50**	**258**	P	**P**	**07 58 57.5**	**+3.3**
	0.4nm,0.3s,mb3.9,baz=149,slow=4.2,SNR=3.5						
STKA	**Stephens Creek**	**35.50**	**258**	P	**P**	**07 58 57.5**	**+3.3**
AS31	**Alice Springs**	**44.31**	**267**	*e*P	**P**	**08 00 06.9**	**-0.5**
ASAR	**Alice Springs**	**44.32**	**267**	P	**P**	**08 00 07.0**	**-0.4**
	1.3nm,0.7s,mb3.8,baz=103,slow=7.1,SNR=31						
ASAR	**Alice Springs**	**44.32**	**267**	P	**P**	**08 00 07.0**	**-0.4**
WRAB	**Tennant Creek**	**45.38**	**272**	*e*P	**P**	**08 00 15.8**	**-0.2**
	1.9nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**45.39**	**272**	P	**P**	**08 00 15.7**	**-0.4**
	1.5nm,0.4s,mb4.2,baz=111,slow=7.9,SNR=43						
WRA	**Warramunga Arr**	**45.39**	**272**	P	**P**	**08 00 15.7**	**-0.4**
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**08 02 00.6**	**+5.9**
	4.7nm,0.6s,mb4.7,baz=31,slow=1.3,SNR=13						
QSPA	**South Pole Qui**	**58.77**	**180**	*e*P	**P**	**08 02 00.3**	**+5.6**
	5.8nm,1.2s,mb4.5						
NVAR	**Mina Array Bea**	**88.08**	**42**	P	**P**	**08 04 49.7**	**+2.2**
	0.3nm,0.7s,mb3.7,baz=219,slow=8.1,SNR=3.7						
NVAR	**Mina Array Bea**	**88.08**	**42**	P	**P**	**08 04 49.7**	**+2.2**
ILAR	**Eielson Array**	**98.56**	**12**	P	**P**	**08 05 35.1**	**+0.1**
	0.3nm,0.8s,mb3.9,baz=220,slow=6.7,SNR=3.9						
ILAR	**Eielson Array**	**98.56**	**12**	P	**P**	**08 05 35.1**	**+0.1**
JOF	**Joensuu**	**143.75**	**339**	*e*pkp	PKPdf	08 11 28.7	-2.5
KAF	**Kangasniemi**	**145.85**	**341**	*e*pkp	PKPdf	08 11 35.1	+0.2
FINES	**FINESS Array B**	**146.45**	**340**	PKPbc	PKPbc	08 11 37.8	+0.4
	7.7nm,0.5s,baz=48,slow=3.5,SNR=82						
FINES	**FINESS Array B**	**146.45**	**340**	PKPbc	PKPbc	08 11 37.8	+0.4
NB2	**NORSAR Subarra**	**149.86**	**352**	PKP	PKPbc	08 11 47.0	+0.6
	comp=Z,1.2nm,0.6s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**149.86**	**352**	PKPbc	PKPbc	08 11 47.2	+0.9
	comp=Z,1.6nm,0.6s,baz=12,slow=4.1,SNR=6.1						
NOA	**NORSAR Array B**	**149.86**	**352**	PKPbc	PKPbc	08 11 47.2	+0.9
TORD	**Torodi Ar. Bea**	**161.82**	**174**	PKPab	PKPab	08 12 47.1	+2.9
	comp=Z,0.5nm,0.8s,baz=194,slow=3.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**161.82**	**174**	PKPab	PKPab	08 12 47.1	+2.9

IDC 26 07:52:11.8±1.9, 17.°88S×177.°31W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.0/18, mbtmp4.1/5, Error ellipse: s-maj=140.9km s-min=32.0km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.56**	**241**	P	P	07 59 45.4	+0.5
	2.3nm,0.6s,baz=96,slow=9.5,SNR=9.1						
WRA	**Warramunga Arr**	**45.67**	**259**	P	P	08 00 35.2	+0.5
	1.5nm,0.3s,baz=97,slow=7.6,SNR=34						
ASAR	**Alice Springs**	**45.81**	**254**	P	P	08 00 35.4	-0.4
	3.4nm,0.7s,baz=88,slow=8.0,SNR=26						
FITZ	**Fitzroy Crossi**	**54.07**	**260**	P	P	08 01 37.7	-0.9
	1.5nm,0.4s,baz=108,slow=2.7,SNR=10						
TXAR	**Lajitas Array**	**85.09**	**57**	P	P	08 04 50.2	+0.2
	0.3nm,0.8s,baz=231,slow=6.0,SNR=3.6						

*ROM **26** 07:54:06.8±0.1, 44.°55N×10.°37E, h26km±2km, Md2.3/7, Ml2.6/5, Error ellipse: s-maj=3.0km s-min=2.9km az=2.0*
*ISCJB **26** 07:54:07.1±0.5, 44.°54N±0.°05×10.°42E±0.°05, h27km±5km, Error ellipse: s-maj=8.9km s-min=6.4km az=13.3*
*CSEM **26** 07:54:07.2±0.3, 44.°62N×10.°44E, h10km, MD2.3/7, Error ellipse: s-maj=7.7km s-min=5.6km az=106.0*
ISC 26 07:54:07.7±0.5, 44.°55N±0.°05×10.°39E±0.°05, h24km±5km, n41, σ0.°96/57, 5C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.13**	**174**	Pg	**Pb**	**07 54 11.8**	**-0.5**
ERBM				Sg	**Sb**	**07 54 16.4**	**+0.9**
	500nm,0.9s						
ERBM	**Eremo**	**0.13**	**174**	Pg	**Pb**	**07 54 11.8**	**-0.5**
ERBM				Sg	**Sb**	**07 54 16.4**	**+0.9**
	500nm,0.9s						
PRMA	**PARMA**	**0.23**	**345**	Pg	**Pb**	**07 54 12.2**	**-1.3**
PRMA				Sg	**Sb**	**07 54 17.8**	**+0.4**
	687nm,0.3s						
PRMA	**PARMA**	**0.23**	**345**	Pg	**Pb**	**07 54 12.2**	**-1.3**
GSCL	**Gusciola**	**0.24**	**144**	Pg	**Pb**	**07 54 13.0**	**-0.7**
GSCL				Sg	**Sb**	**07 54 18.3**	**+0.6**
GSCL	**Gusciola**	**0.24**	**144**	Pg	**Pb**	**07 54 13.0**	**-0.7**
GSCL				Sg	**Sb**	**07 54 18.3**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.63**	**257**	Pg	**Pb**	**07 54 19.2**	**-0.8**
SC2M				Sg	**Sb**	**07 54 28.1**	**-0.3**
SC2M	**Scurtabo**	**0.63**	**257**	Pg	**Pb**	**07 54 19.2**	**-0.8**
SC2M				Sg	**Sb**	**07 54 28.1**	**-0.3**
SALO	**Salr**	**1.08**	**5**	Pg	**Pn**	**07 54 27.3**	**0.0**
SALO	**Salr**	**1.08**	**5**	Pg	**Pn**	**07 54 27.3**	**0.0**
ROVR	**Rover~¤ Verone**	**1.20**	**23**	Pg	**Pn**	**07 54 28.7**	**-0.3**
	260nm,0.3s						
ROVR	**Rover~¤ Verone**	**1.20**	**23**	Pg	**Pn**	**07 54 28.7**	**-0.3**
	260nm,0.3s						
MDI	**Monti di Nese**	**1.32**	**339**	Pg	**Pn**	**07 54 30.2**	**-0.4**
	54nm,0.2s						
MDI	**Monti di Nese**	**1.32**	**339**	Pg	**Pn**	**07 54 30.2**	**-0.4**
	54nm,0.2s						
MABI	**Malga Bissina**	**1.51**	**3**	Pg	**Pn**	**07 54 33.0**	**-0.2**
MABI	**Malga Bissina**	**1.51**	**3**	Pg	**Pn**	**07 54 33.0**	**-0.2**
CTI	**Castel Tesino**	**1.75**	**30**	Pg	**Pn**	**07 54 36.3**	**-0.1**
	69nm,0.2s						
APPI	**Appiano**	**2.02**	**17**	Pg	**Pn**	**07 54 40.7**	**+0.5**
POLC	**Polcenigo**	**2.10**	**44**	*e*Pn	**Pn**	**07 54 39.3**	**-2.0**
POLC				*e*Sn	**Sn**	**07 55 06.2**	**-0.4**
TRI	**Trieste**	**2.65**	**63**	||*e*Pn	**Pn**	**07 54 48.5**	**-0.4**
TRI				*e*Sn	**Sn**	**07 55 19.9**	**-0.5**
TRI	**Trieste**	**2.65**	**63**	*e*Pn	**Pn**	**07 54 48.5**	**-0.4**
TRI				*e*Sn	**Sn**	**07 55 19.9**	**-0.4**
VINO	**Villanova**	**2.66**	**49**	||*e*Pn	**Pn**	**07 54 48.4**	**-0.6**
VINO				*e*Sn	**Sn**	**07 55 19.8**	**-0.7**
VINO	**Villanova**	**2.66**	**49**	*e*Pn	**Pn**	**07 54 48.4**	**-0.6**
VINO				*e*Sn	**Sn**	**07 55 19.8**	**-0.6**
SABO	**M.te Sabotino**	**2.68**	**57**	*e*Pn	**Pn**	**07 54 49.7**	**+0.4**
SABO				*e*Sn	**Sn**	**07 55 22.2**	**+1.2**
SABO	**M.te Sabotino**	**2.68**	**57**	*e*Pn	**Pn**	**07 54 49.7**	**+0.4**
SABO				*e*Sn	**Sn**	**07 55 22.2**	**+1.2**
SKDS	**Skadanscina**	**2.75**	**67**	*i* Pn	**Pn**	**07 54 50.0**	**-0.3**
SKDS	**Skadanscina**	**2.75**	**67**	Pn	**Pn**	**07 54 50.0**	**-0.3**
DAVA	**Damuels**	**2.77**	**353**	||*i*Pn	**Pn**	**07 54 52.2**	**+1.8**
DAVA	**Damuels**	**2.77**	**353**	Pn	**Pn**	**07 54 52.2**	**+1.8**
MOTA	**Moosalm**	**2.84**	**10**	||*i*Pn	**Pn**	**07 54 53.6**	**+2.1**
MOTA	**Moosalm**	**2.84**	**10**	Pn	**Pn**	**07 54 53.6**	**+2.1**
WTTA	**Wattenberg**	**2.85**	**17**	||*i*Pn	**Pn**	**07 54 53.4**	**+1.8**
WTTA	**Wattenberg**	**2.85**	**17**	Pn	**Pn**	**07 54 53.4**	**+1.7**
WATA	**Walderalm**	**2.91**	**16**	||*i*Pn	**Pn**	**07 54 54.4**	**+2.0**
WATA	**Walderalm**	**2.91**	**16**	Pn	**Pn**	**07 54 54.4**	**+2.0**
RETA	**Reutte**	**2.95**	**5**	||*i*Pn	**Pn**	**07 54 52.9**	**-0.1**
RETA	**Reutte**	**2.95**	**5**	Pn	**Pn**	**07 54 52.9**	**-0.1**
MOA	**Molln**	**4.26**	**38**	||*i*Pn	**Pn**	**07 55 11.9**	**+0.9**
MOA	**Molln**	**4.26**	**38**	Pn	**Pn**	**07 55 11.9**	**+0.9**
KHC	**Kasperske Hory**	**5.08**	**24**	*e*PN	**Pn**	**07 55 21.5**	**-0.7**
KHC				*e*SN	**Sn**	**07 56 18.5**	**-1.6**
KHC				*e*SG	Sn	07 56 48.5	+28
KHC	**Kasperske Hory**	**5.08**	**24**	Pn	**Pn**	**07 55 21.5**	**-0.7**
KHC				Sn

comp=Z,976nm,0.6s
NOUC Port Laguerre 3.16 236 *e*P **Pn 08 25 05.7 +0.4**
NOUC *e*S **Sn 08 25 40.7 -1.1**
NOUC AMP 08 25 56.3
comp=Z,42nm,0.8s
CTA Charters Tower 21.46 267 P **P 08 29 03.9 +1.4**
comp=Z,6.9nm,1.1s,mb3.9,baz=92,slow=13,SNR=6.0
WRA Warramunga Arr 32.63 265 P **P 08 30 44.5 -1.0**
comp=Z,0.8nm,0.6s,mb3.8,baz=100,slow=8.1,SNR=5.0
ASAR Alice Springs 32.77 258 P **P 08 30 47.1 +0.5**
comp=Z,5.5nm,0.7s,mb4.6,baz=87,slow=8.9,SNR=86
SONM Songino Array 88.03 323 P **P 08 37 03.9 +1.0**
comp=Z,1.0nm,1.0s,mb4.0,baz=129,slow=6.1,SNR=3.6
ILAR Eielson Array 91.31 17 P **P 08 37 16.4 -1.5**
comp=Z,0.7nm,1.1s,mb3.9,baz=210,slow=7.1,SNR=2.7
GERES GERESS Array B 145.41 331 PKPbc PKPbc 08 43 51.4 +0.9
comp=Z,0.6nm,0.6s,baz=58,slow=2.4,SNR=3.7

NNC 26 08:28:52.9±3.1, 53°.19N×87°.38E, h0km, mb3.7, mpv3.3, 3C-7D, Error ellipse: s-maj=25.5km s-min=18.2km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.96**	**249**			⇑Pn	Pn	08 30 23.3	+1.1
KURK	3.6nm,0.8s								
						⇓Sn	Sn	08 31 32.3	+1.2
KURK	4.9nm,1.1s								
						⇓Lg		08 32 04.4	
KURK	30nm,0.8s								
KURBB	**Kurchatov Arra**	**6.05**	**248**			⇓Pn	Pn	08 30 25.0	+1.4
KURBB	0.8nm,0.4s								
						⇑Lg		08 32 07.8	
KURBB	4.0nm,0.7s								
MK31	**Makanchi Array**	**7.20**	**209**			⇓Pn	Pn	08 30 41.6	+2.4
MK31	1.3nm,0.8s,baz=28,slow=13,SNR=44								
						⇓Sn	Sn	08 32 08.0	+6.3
MK31	1.7nm,0.6s,baz=39,slow=24,SNR=6.0								
						⇓Lg		08 32 41.6	
MK31	5.3nm,0.7s,baz=34,slow=33,SNR=5.7								
ZRNK	**Zerenda**	**11.06**	**276**			⇓Pn	Pn	08 31 32.9	+0.7
ZRNK	2.2nm,1.1s								
						⇑Sn	Sn	08 33 32.9	-3.6
ZRNK	3.5nm,0.9s								

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*IDC **26** 08:33:12.9±1.2, 11°.08S×162°.11E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.9/19, mbtmp3.8/8, ML3.9/2, MS3.6/1, Ms1 3.5/1, ms1mx2.4/34, Error ellipse: s-maj=31.4km s-min=21.9km az=137.0*
*NEIC **26** 08:33:14.9±1.0, 11°.06S×162°.52E, h35km, mb4.0/4, Error ellipse: s-maj=22.6km s-min=14.8km az=198.0*
ISC 26 08:33:15.2±6.5, 11°.1S±0°.1×162°.2E±0°.1, h14km±40km, n20, σ1.9 08/21, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.78**	**307**				**Pn**	**08 33 58.9**	**-0.6**
HNR	54nm,0.3s,baz=162,slow=4.0,SNR=11								
							Sn	**08 34 33.2**	**+0.6**
HNR	143nm,0.3s,baz=161,slow=22,SNR=8.1								
HNR	**Honiara**	**2.78**	**307**	*e*P			**Pn**	**08 33 59.4**	**+0.1**
HNR							Sn	**08 34 33.2**	**+0.6**
MSVF	**Nonsavu**	**16.70**	**115**	*e*P			**Pn**	**08 37 02.4**	**-6.5**
	8.3nm,0.4s								
CTA	**Charters Tower**	**17.73**	**238**	P			**Pn**	**08 37 22.8**	**+1.0**
	0.2nm,0.3s,baz=53,slow=10,SNR=3.9								
CTA	**Charters Tower**	**17.73**	**238**	P			**Pn**	**08 37 22.8**	**+1.0**
STKA	**Stephens Creek**	**28.06**	**220**	P			**P**	**08 39 07.2**	**+0.8**
	1.4nm,0.8s,mb3.6,baz=55,slow=13,SNR=4.8								
STKA						LR	LR	08 49 11.0	
	comp=Z,116nm,19.0s,baz=22,slow=34								
STKA	**Stephens Creek**	**28.06**	**220**	*e*P			**P**	**08 39 06.9**	**+0.6**
	0.3nm,0.8s,mb3.0								
WRAB	**Tennant Creek**	**28.18**	**249**	*e*P			**P**	**08 39 09.1**	**+1.7**
	2.0nm,0.9s,mb3.8								
WRA	**Warramunga Arr**	**28.19**	**248**	P			**P**	**08 39 06.3**	**-1.2**
	0.8nm,0.6s,mb3.5,baz=79,slow=9.5,SNR=13								
WRA	**Warramunga Arr**	**28.19**	**248**	P			**P**	**08 39 06.3**	**-1.2**
ASAR	**Alice Springs**	**29.66**	**241**	P			**P**	**08 39 19.4**	**-1.2**
	0.7nm,0.9s,mb3.4,baz=67,slow=9.2,SNR=8.4								
ASAR	**Alice Springs**	**29.66**	**241**	P			**P**	**08 39 19.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**35.99**	**255**	*e*P			**P**	**08 40 14.8**	**-1.2**
	2.4nm,0.7s,mb4.2								
SONM	**Songino Array**	**76.70**	**325**	P			**P**	**08 45 04.5**	**-1.3**
	0.4nm,0.6s,mb3.5,baz=138,slow=4.9,SNR=3.9								
SONM	**Songino Array**	**76.70**	**325**	P			**P**	**08 45 04.5**	**-1.3**
DIB	**Dawson Inlet,**	**84.65**	**33**	T				10 18 56.2	
	SNR=9.1								
ILAR	**Eielson Array**	**84.73**	**20**	P			**P**	**08 45 48.2**	**-0.2**
	0.3nm,0.5s,mb3.7,baz=234,slow=5.4,SNR=7.8								
ILAR	**Eielson Array**	**84.73**	**20**	P			**P**	**08 45 48.2**	**-0.2**
NVAR	**Mina Array Bea**	**88.76**	**51**	P			**P**	**08 46 10.1**	**+1.4**
	0.4nm,0.7s,mb3.9,baz=229,slow=6.8,SNR=3.8								
NVAR	**Mina Array Bea**	**88.76**	**51**	P			**P**	**08 46 10.1**	**+1.4**

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*TRN **26** 09:04:20.9, 18°.62N×64°.95W, h35km, MD3.2(RSPR)*
*NEIC **26** 09:04:23.0, 18°.70N×64°.94W, h16km, MD3.2(RSPR), After RSPR.*
RSPR 26 09:04:23.0, 18°.70N×64°.94W, h16km±1km, MD3.2/10, 11C-21D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.34**	**182**			⇓*e*P	Pg	09 04 30.1	0.0
STVI	**Saint Thomas**	**0.34**	**182**			⇓*e*P	Pg	09 04 30.1	0.0
STVI						*e*S	Sg	09 04 35.7	+0.7
STVI	**Saint Thomas**	**0.34**	**182**			⇓*e*P	Pg	09 04 30.1	0.0
STVI						*e*S	Sg	09 04 35.7	+0.7
TBVI	**Tortola**	**0.42**	**132**			⇓*i*P	Pg	09 04 30.8	-0.7
TBVI						*e*S	Sg	09 04 36.8	-0.3
TBVI	**Tortola**	**0.42**	**132**			⇓*i*P	Pg	09 04 30.8	-0.7
TBVI						*e*S	Sg	09 04 36.8	-0.3
TBVI	**Tortola**	**0.42**	**132**			⇓*i*P	Pg	09 04 30.8	-0.7
TBVI						*e*S	Sg	09 04 36.8	-0.3
ABV	**Anegada**	**0.58**	**87**			⇑*e*P	Pg	09 04 33.6	-0.8
ABV						*e*S	Sg	09 04 41.5	-0.7
ABV	**Anegada**	**0.58**	**87**			⇑*e*P	Pg	09 04 33.6	-0.8
ABV						*e*S	Sg	09 04 41.5	-0.7
MTP	**Monte Pirata**	**0.83**	**224**			⇑*e*P	Pb	09 04 36.9	-2.2
MTP	**Monte Pirata**	**0.83**	**224**			⇑*e*P	Pb	09 04 36.9	-2.2
MTP						*e*S	Sb	09 04 47.6	-2.5
MTP	**Monte Pirata**	**0.83**	**224**			⇑*e*P	Pb	09 04 36.9	-2.2
MTP						*e*S	Sb	09 04 47.6	-2.5
CDVI	**St. Croix**	**0.95**	**170**			⇑*e*P	Pb	09 04 39.0	-2.2
CDVI	**St. Croix**	**0.95**	**170**			⇑*e*P	Pb	09 04 39.0	-2.2
CDVI						*e*S	Sb	09 04 51.5	-2.2
CDVI	**St. Croix**	**0.95**	**170**			⇑*e*P	Pb	09 04 39.0	-2.2
CDVI						*e*S	Sb	09 04 51.5	-2.2
CBYP	**Canovanas**	**0.97**	**244**			⇑*e*P	Pb	09 04 39.6	-1.8
CBYP	**Canovanas**	**0.97**	**244**			⇑*e*P	Pb	09 04 39.6	-1.8
CBYP						*e*S	Sb	09 04 51.5	-2.5
CBYP	**Canovanas**	**0.97**	**244**			⇑*e*P	Pb	09 04 39.6	-1.8
CBYP						*e*S	Sb	09 04 51.5	-2.5
HUMP	**Col San Antoni**	**1.02**	**238**			⇓*e*P	Pb	09 04 39.6	-2.8
HUMP	**Col San Antoni**	**1.02**	**238**			⇓*e*P	Pb	09 04 39.6	-2.8
HUMP						*e*S	Sb	09 04 52.2	-3.4
HUMP	**Col San Antoni**	**1.02**	**238**			⇓*e*P	Pb	09 04 39.6	-2.8
HUMP						*e*S	Sb	09 04 52.2	-3.4
CPD	**Cerro la Pandu**	**1.14**	**235**			⇓*e*P	Pn	09 04 41.6	-2.7
CPD	**Cerro la Pandu**	**1.14**	**235**			⇓*e*P	Pn	09 04 41.6	-2.7
CPD						*e*S	Sb	09 04 55.5	-3.3
CPD	**Cerro la Pandu**	**1.14**	**235**			⇓*e*P	Pn	09 04 41.6	-2.7
CPD						*e*S	Sb	09 04 55.5	-3.3
CELP	**Cerrillos**	**1.68**	**249**	*e*Pn			Pn	09 04 49.4	-2.3
CELP						*e*Sn	Sn	09 05 09.6	-3.2
AOPR	**Arecibo Observ**	**1.75**	**259**			⇓*e*P	Pn	09 04 50.3	-2.5
AOPR	**Arecibo Observ**	**1.75**	**259**			⇓*e*P	Pn	09 04 50.3	-2.5
AOPR	**Arecibo Observ**	**1.75**	**259**			⇓*e*P	Pn	09 04 50.3	-2.5
AGPR	**Aguadilla, PR**	**2.07**	**264**			⇓*e*P	Pn	09 04 54.5	-2.7
AGPR	**Aguadilla, PR**	**2.07**	**264**			⇓*e*P	Pn	09 04 54.5	-2.7
AGPR	**Aguadilla, PR**	**2.07**	**264**			⇓*e*P	Pn	09 04 54.5	-2.7
CRPR	**Cabo Rojo, PR**	**2.17**	**252**			⇓*e*P	Pn	09 04 56.6	-1.9
CRPR	**Cabo Rojo, PR**	**2.17**	**252**			⇓*e*P	Pn	09 04 56.6	-1.9
CRPR						*e*S	Sn	09 05 21.6	-3.5
CRPR	**Cabo Rojo, PR**	**2.17**	**252**			⇓*e*P	Pn	09 04 56.6	-1.9
CRPR						*e*S	Sn	09 05 21.6	-3.5

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*ISCJB **26** 09:04:25.1±0.4, 21°.48S±0°.03×68°.46W±0°.04, h91km±3km, mb4.6/44, Error ellipse: s-maj=6.8km s-min=5.3km az=171.4*
*NEIC **26** 09:04:26.3±0.5, 21°.53S×68°.56W, h91km±4km, mb4.8/36, Error ellipse: s-maj=7.4km s-min=6.0km az=95.0*
*GUC **26** 09:04:26.2±0.7, 21°.59S×68°.76W, h108km±4km, ML4.6*
*IDC **26** 09:04:28.6±0.7, 21°.52S×68°.52W, h111km±5km, mb4.1/10, mb1 4.2/14, mb1mx4.1/18, mbtmp4.0/14, MS3.2/2, Ms1 3.1/2, ms1mx2.6/20, Error ellipse: s-maj=20.0km s-min=14.4km az=31.0*
*BJI **26** 09:04:28.1, 21°.50S×68°.40W, h99km, mB4.9/6*
ISC 26 09:04:26.2±0.4, 21°.50S±0°.03×68°.47W±0°.04, h84km±3km, h112km±1.7km: pP-P, n395, σ0.9 69/381, mb4.6/44, 140C-143D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.78**	**248**			⇑*i*P	**Pn**	**09 04 43.9**	**+0.9**
PB09						*i* S	**Sn**	**09 04 56.5**	**+1.0**
PB09						AML	AML	09 04 59.3	
	comp=E,79μm,0.6s								
PB01	**Plate Boundary**	**1.06**	**295**			⇓*i*P	**Pn**	**09 04 46.4**	**+0.2**
PB01						*i* S	**Sn**	**09 05 01.7**	**+0.6**
LVC	**Limon Verde**	**1.18**	**200**			⇑*i*P	**Pn**	**09 04 48.2**	**+0.5**
LVC						*i* S	**Sn**	**09 05 05.1**	**+1.3**
LVC	**Limon Verde**	**1.18**	**200**			⇑*i*P	**Pn**	**09 04 48.2**	**+0.5**
LVC						*i* S	**Sn**	**09 05 05.1**	**+1.3**
PB04	**Plate Boundary**	**1.22**	**231**			⇑*i*P	**Pn**	**09 04 53.5**	**+5.4**
PB04						*i* S	**Sn**	**09 05 14.4**	**+10**
PB04						AML	AML	09 05 18.4	
	comp=N,6μm,0.7s								
MACH	**Maria Elena**	**1.39**	**240**			⇑*i*P	**Pn**	**09 04 49.3**	**-0.9**
MACH						*i* S	**Sn**	**09 05 06.9**	**-1.5**
MACH	**Maria Elena**	**1.39**	**240**			⇑*i*P	**Pn**	**09 04 49.3**	**-0.9**
MACH						*i* S	**Sn**	**09 05 06.9**	**-1.5**
SPCH	**San Pedro de A**	**1.42**	**170**	P			**Pn**	**09 05 00.0**	**+9.3**
SPCH				*e*S			**Sn**	**09 05 13.3**	**+4.2**
HMBC	**Humberston**	**1.80**	**312**			⇑*i*P	**Pn**	**09 04 55.8**	**+0.2**
HMBC						*i* S	**Sn**	**09 05 18.4**	**+0.4**
HMBC						AML	AML	09 05 19.7	
	comp=E,7μm,0.4s								
MECH	**Mejillones**	**2.43**	**229**	*e*P			**Pn**	**09 05 02.5**	**-1.5**
MECH	**Mejillones**	**2.43**	**229**	*e*P			**Pn**	**09 05 02.5**	**-1.5**
MECH						AML	AML	09 05 40.4	
	comp=N,3μm,0.6s								
PSGC	**Pisagua**	**2.45**	**320**			⇑*i*P	**Pn**	**09 05 03.5**	**-0.7**
PSGC						*i* S	**Sn**	**09 05 32.6**	**-0.7**
PSGC						AML	AML	09 05 39.1	
	comp=N,1μm,0.5s								
ANCH	**Antofagasta**	**2.82**	**219**	*e*P			**Pn**	**09 05 07.3**	**-1.8**
ANCH						*i* S	**Sn**	**09 05 38.7**	**-3.5**
ANCH	**Antofagasta**	**2.82**	**219**	*e*P			**Pn**	**09 05 07.3**	**-1.8**
ANCH						*i* S	**Sn**	**09 05 38.7**	**-3.5**
ANCH						AML	AML	09 05 46.4	
	comp=N,5μm,0.8s								
LPAZ	**La Paz**	**5.20**	**4**	P			**Pn**	**09 05 46.4**	**+4.9**
	comp=N,4.6nm,0.3s,baz=201,slow=5.9,SNR=62								
LPAZ	**La Paz**	**5.20**	**4**	*e*Pn			**Pn**	**09 05 45.5**	**+4.0**
LPAZ				*e*Sn			**Sn**	**09 06 40.5**	**+0.3**
LCO	**Las Campanas**	**7.75**	**195**	*e*Pn			**Pn**	**09 06 11.0**	**-5.2**
LCO				*e*Sn			**Sn**	**09 07 52.6**	**+10**
SIV	**San Ignacio**	**8.89**	**53**	P			**Pn**	**09 06 32.9**	**+1.0**
	comp=N,10nm,0.3s,baz=248,slow=13,SNR=246								
SIV				S			**Sn**	**09 08 09.5**	**-0.9**
	comp=N,0.4nm,0.3s,baz=312,slow=21,SNR=3.5								
SIV	**San Ignacio**	**8.89**	**53**	P			**Pn**	**09 06 32.9**	**+1.0**
SIV				S			**Sn**	**09 08 09.5**	**-0.9**
CFAA	**Coronel Fontan**	**10.06**	**179**	S			**Sn**	**09 08 31.7**	**-7.1**
	comp=N,0.2nm,0.3s,baz=63,slow=23,SNR=1.4								
CPUP	**Villa Florida**	**11.26**	**117**	P			**Pn**	**09 07 05.4**	**+1.3**
	comp=N,1.1nm,0.3s,baz=286,slow=12,SNR=12								
CPUP						LR	LR	09 12 22.5	
	comp=N,68nm,18.6s,baz=185,slow=42								
CPUP	**Villa Florida**	**11.26**	**117**	P			**Pn**	**09 07 05.4**	**+1.3**
NNA	**Nana**	**12.40**	**318**	P			**Pn**	**09 07 25.6**	**+6.0**
	comp=N,0.4nm,0.3s,baz=167,slow=14,SNR=5.0								
NNA	**Nana**	**12.40**	**318**	P			**Pn**	**09 07 25.6**	**+6.0**
SAML	**Samuel**	**13.48**	**23**	*e*Pn			**Pn**	**09 07 34.3**	**+0.4**
PLCA	**Paso Flores**	**19.25**	**185**	P			**Pn**	**09 08 43.5**	**-2.1**
	comp=N,0.2nm,0.3s,baz=349,slow=14,SNR=8.5								
PLCA	**Paso Flores**	**19.25**	**185**	P			**Pn**	**09 08 43.5**	**-2.1**
ROSC	**El Rosal**	**26.82**	**347**	LR			LR	09 21 30.3	
	comp=N,64nm,18.4s,baz=202,slow=38								
RCBR	**Riachuelo**	**35.16**	**68**	P			**P**	**09 11 12.9**	**+0.8**
	comp=N,4.5nm,0.6s,mb4.5,baz=248,slow=6.9,SNR=5.9								
RCBR	**Riachuelo**	**35.16**	**68**	P			**P**	**09 11 12.9**	**+0.8**
LRAL	**Lakeview Retre**	**57.05**	**341**	*e*P			**P**	**09 14 01.7**	**-1.7**
	comp=N,2.3nm,0.7s,mb4.3								
KMSC	**Kings Mountain**	**57.64**	**348**			⇑P	**P**	**09 14 06.9**	**-0.7**
	baz=58								
TKL	**Tuckaleechee C**	**58.67**	**345**	*e*P			**P**	**09 14 13.4**	**-1.3**
SWET	**Sewanee**	**58.79**	**343**	*e*P			**P**	**09 14 14.3**	**-1.3**
	comp=N,16nm,0.8s,mb5.1								
PLAL	**Pickwick Lake**	**59.18**	**341**	*e*P			**P**	**09 14 16.4**	**-1.9**
	comp=N,15nm,1.2s,mb4.9								
JCT	**Junction City**	**59.82**	**329**			⇓P	**P**	**09 14 21.4**	**-1.4**
	baz=60,SNR=6.9								
JCT	**Junction City**	**59.82**	**329**	*e*P			**P**	**09 14 21.7**	**-1.1**
	comp=N,10nm,0.8s,mb4.9								
WVT	**Waverly**	**60.18**	**342**	*e*P			**P**	**09 14 23.1**	**-2.0**
	comp=N,18nm,0.7s,mb5.2								
UALR	**University of**	**60.39**	**337**	*e*P			**P**	**09 14 24.3**	**-2.3**
	comp=N,7.9nm,0.8s,mb4.8								
628A	**Black Gap, Mar**	**60.57**	**326**			⇓P	**P**	**09 14 27.3**	**-0.7**
	baz=61,SNR=8.7								
MIAR	**Mount Ida**	**60.63**	**336**	*e*P			**P**	**09 14 27.1**	**-1.2**
	comp=N,13nm,0.8s,mb5.0								
627A	**Terlingua Ranc**	**60.81**	**325**			⇓P	**P**	**09 14 28.6**	**-1.1**
	baz=61								
TXAR	**Lajitas Array**	**60.87**	**325**	P			**P**	**09 14 28.8**	**-1.2**
	comp=N,1.3nm,0.5s,mb4.2,baz=157,slow=8.8,SNR=34								
TXAR				pP			pP	09 14 56.6	+5.3
	comp=N,1.2nm,1.0s,baz=150,slow=11,SNR=2.6								
TXAR	**Lajitas Array**	**60.87**	**325**	P			**P**	**09 14 28.8**	**-1.2**
TXAR				pP			pP	09 14 56.6	+5.3
528A	**Cox Ranch, San**	**61.06**	**326**			⇑P	**P**	**09 14 30.4**	**-0.9**
	baz=61,SNR=5.5								
PARMO	**Parma**	**61.24**	**341**	*e*P			**P**	**09 14 31.3**	**-1.1**
626A	**Big Bend Ranch**	**61.29**	**325**			⇑P	**P**	**09 14 32.0**	**-0.8**
	baz=62,SNR=8.4								
527A	**Woodward Ranch**	**61.48**	**325**			⇑P	**P**	**09 14 33.1**	**-1.1**
	baz=62								
526A	**Mary Lane Ranc**	**61.66**	**325**			⇑P	**P**	**09 14 35.1**	**-0.3**
	baz=62,SNR=10								
WCI	**Wyandotte Cave**	**61.73**	**344**	*e*P			**P**	**09 14 33.7**	**-1.9**
	comp=N,12nm,0.7s,mb5.0								
USIN	**University of**	**61.84**	**343**	*e*P			**P**	**09 14 34.7**	**-1.7**
	comp=N,45nm,1.4s,mb5.3								
427A	**Hayter Ranch,**	**61.92**	**326**			⇑P	**P**	**09 14 36.2**	**-0.9**
	baz=62								
328A	**Wristen Ranch,**	**62.05**	**327**			⇑P	**P**	**09 14 37.0**	**-0.9**
	baz=62,SNR=7.7								
SIUC	**Southern Illin**	**62.05**	**341**	*e*P			**P**	**09 14 36.3**	**-1.5**
	comp=N,18nm,0.7s,mb5.2								
426A	**McDonald Obser**	**62.11**	**325**			⇓P	**P**	**09 14 37.6**	**-0.8**
	baz=62								
SNAA	**Sanae**	**62.14**	**161**	*e*P			**P**	**09 14 38.1**	**+0.1**
	comp=N,5.2nm,0.7s,mb4.7								
326A	**Caldwell Ranch**	**62.59**	**326**			⇓P	**P**	**09 14 40.7**	**-0.9**
	baz=63,SNR=6.4								
BLO	**Bloomington**	**62.68**	**344**	*e*P			**P**	**09 14 38.7**	**-3.3**
	comp=N,17nm,0.8s,mb5.0								
TUL1	**Tulsa**	**62.69**	**335**			⇓P	**P**	**09 14 41.1**	**-1.0**
	baz=63								
425A	**Indio Mountain**	**62.71**	**325**			⇑P	**P**	**09 14 41.5**	**-0.8**
	baz=63,SNR=18								
227A	**Bennet, Jal**	**62.80**	**327**			⇑P	**P**	**09 14 42.4**	**-0.5**
	baz=63								
ACSO	**Alum Creek Sta**	**62.89**	**348**	*e*P			**P**	**09 14 42.0**	**-1.3**
	comp=N,18nm,1.0s,mb5.0								
CCM	**Cathedral Cave**	**62.99**	**340**	*e*P			**P**	**09 14 42.6**	**-1.5**
325A	**Bean Ranch, Si**	**63.16**	**325**			⇓P	**P**	**09 14 44.6**	**-0.7**
	baz=63,SNR=20								
226A	**Malaga, Loving**	**63.25**	**326**			⇑P	**P**	**09 14 45.6**	**-0.3**
	baz=64								
127A	**Arkansas Junct**	**63.36**	**327**			⇑P	**P**	**09 14 45.5**	**-1.1**
	baz=64								
324A	**Moseley Ranch,**	**63.49**	**325**			⇓P	**P**	**09 14 46.3**	**-1.2**
	baz=64,SNR=14								
GDL2	**Guadalupe Moun**	**63.49**	**326**	*e*P			**P**	**09 14 47.0**	**-0.5**
	comp=N,6.3nm,0.8s,mb4.6								
MNTX	**Cornudas Mount**	**63.63**	**325**			⇓P	**P**	**09 14 46.8**	**-1.7**
	baz=64,SNR=7.9								
225A	**Deer Hill, Car**	**63.66**	**326**			⇑P	**P**	**09 14 48.3**	**-0.3**
	baz=64								
126A	**Clayton Basin,**	**63.67**	**327**			⇑P	**P**	**09 14 48.0**	**-0.6**
	baz=64								
ALLY	**Alegheny Colle**	**63.76**	**350**	*e*P			**P**	**09 14 48.4**	**-0.6**
	comp=N,417nm,2.5s								
Z27A	**Tatum**	**63.80**	**328**			⇓P	**P**	**09 14 47.9**	**-1.6**
	baz=64,SNR=6.1								
SFIN	**Scholer Farm**	**63.96**	**344**			⇑P	**P**	**09 14 48.3**	**-2.1**
	baz=64								
224A	**Cornudas Mount**	**64.00**	**325**			⇑P	**P**	**09 14 49.6**	**-1.3**
	baz=64,SNR=10								
MSTX	**Muleshoe**	**64.11**	**329**			⇓P	**P**	**09 14 50.4**	**-1.2**
	baz=64,SNR=9.3								
Z26A	**Caprock**	**64.15**	**327**			⇓P	**P**	**09 14 50.6**	**-1.2**
	baz=64								
Y27A	**Causey**	**64.23**	**328**			⇓P	**P**	**09 14 51.0**	**-1.3**
	baz=64,SNR=6.7								
AMTX	**Amarillo**	**64.34**	**330**			⇑P	**P**	**09 14 51.9**	**-1.1**
	baz=65								
Z25A	**Roswell**	**64.53**	**327**			⇓P	**P**	**09 14 53.0**	**-1.2**
	baz=65								
X27A	**F and S Farms,**	**64.82**	**329**			⇑P	**P**	**09 14 55.3**	**-0.8**
	baz=65								
222A	**Williams Famil**	**64.87**	**324**			⇓P	**P**	**09 14 56.6**	**0.0**
	baz=65								
Y25A	**Mesa, Roswell**	**65.03**	**327**			⇓P	**P**	**09 14 56.3**	**-1.2**
	baz=65								
X26A	**CR and CF Fran**	**65.09**	**328**			⇓P	**P**	**09 14 56.8**	**-1.1**
	baz=65,SNR=5.1								
W27A	**Bowe Ranch, En**	**65.14**	**329**			⇑P	**P**	**09 14 57.2**	**-1.0**
	baz=65								
122A	**Conniff Cattle**	**65.28**	**325**			⇑P	**P**	**09 14 59.5**	**+0.4**
	baz=66								
Z23A	**Rita Site, Whi**	**65.30**	**326**			⇑P	**P**	**09 14 59.2**	**0.0**
	baz=66								
X25A	**Clemmons Ranch**	**65.49**	**328**			⇑P	**P**	**09 14 59.3**	**-1.2**
	baz=66								
W26A	**Owens Ranch, T**	**65.50**	**329**			⇓P	**P**	**09 15 00.2**	**-0.3**
	baz=66,SNR=5.4								
220A	**Playas Peak, P**	**65.51**	**323**			⇑P	**P**	**09 15 00.3**	**-0.4**
	baz=66								
319A	**Douglas**	**65.54**	**322**			⇓P	**P**	**09 15 01.1**	**+0.2**
	baz=66								
121A	**Cookes Peak, D**	**65.57**	**324**			⇓P	**P**	**09 15 01.3**	**+0.3**
	baz=66								
Z22A	**Elephant Butte**	**65.68**	**325**			⇑P	**P**	**09 15 02.2**	**+0.4**
	baz=66								
Y23A	**Lovelace Mesa,**	**65.73**	**326**			⇓P	**P**	**09 15 01.8**	**-0.3**
	baz=66								
KSU1	**Kansas State U**	**65.79**	**336**	*e*P			**P**	**09 15 00.9**	**-1.4**
	comp=N,17nm,1.0s,mb4.8								
W25A	**X Bar L Ranch,**	**65.94**	**328**			⇓P	**P**	**09 15 02.8**	**-0.6**
	baz=66								
318A	**Bisbee**	**66.00**	**322**			⇑P	**P**	**09 15 04.0**	**+0.2**
	baz=66,SNR=5.1								
120A	**U Bar Ranch, L**	**66.05**	**323**			⇓P	**P**	**09 15 04.6**	**+0.5**
	baz=66								
Z21A	**St. Cloud Mine**	**66.10**	**325**			⇑P	**P**	**09 15 04.9**	**+0.4**
	baz=66								
Y22A	**Socorro**	**66.21**	**326**			⇓P	**P**	**09 15 05.2**	**+0.1**
	baz=66								
W24A	**Lazy 6 Ranch,**	**66.40**	**328**			⇑P	**P**	**09 15 07.1**	**+0.8**
	ba

V17A **Tonalea, Kykot** 69.54 324 ⇓P P 09 15 26.5 +0.5
baz=70
Q23A **Hartsel** 69.54 330 ⇓P P 09 15 26.1 +0.2
baz=70
P24A **Kohler Place,** 69.60 331 ⇑P P 09 15 26.6 +0.4
baz=70
WUAZ **Wupatki** 69.78 324 ⇓P P 09 15 27.8 +0.4
baz=70
P23A **Jefferson** 69.92 330 ⇑P P 09 15 29.1 +0.8
baz=70
N26A **Koester Ranch,** 69.92 333 ⇓P P 09 15 28.5 +0.3
baz=70
R21A **Cimarron** 69.94 328 ⇓P P 09 15 29.2 +0.8
baz=70
U16A **Tuba City** 70.11 324 ⇓P P 09 15 30.2 +0.8
baz=70
ISCO **Idaho Springs** 70.15 330 ⇑P P 09 15 29.8 +0.1
baz=70,SNR=5.4
ISCO **Idaho Springs** 70.15 330 eP P 09 15 29.9 +0.2
comp=N,4.0nm,0.8s,mb4.3
M27A **Reverse DX Ran** 70.15 334 ⇑P P 09 15 30.1 +0.5
baz=70
O24A **Longmont** 70.17 331 ⇓P P 09 15 30.3 +0.6
baz=70
T18A **Mexican Hat** 70.18 326 ⇑P P 09 15 30.1 +0.2
baz=70,SNR=9.3
U17A **Shonto** 70.19 325 ⇑P P 09 15 30.6 +0.7
baz=70
R20A **Redvale** 70.22 327 ⇓P P 09 15 30.3 +0.3
baz=70
S19A **Harvey Farm, M** 70.26 327 ⇓P P 09 15 30.7 +0.3
baz=70,SNR=6.5
Y12C **Blythe** 70.31 320 ⇑P P 09 15 31.2 +0.5
baz=71
P22A **Eagle** 70.53 329 ⇑P P 09 15 32.2 +0.3
baz=71
O23A **Lake Granby, G** 70.62 330 ⇓P P 09 15 33.1 +0.6
baz=71,SNR=7.4
N24A **Carr** 70.65 331 ⇑P P 09 15 33.0 +0.4
baz=71
S18A **Hurst Farm, Bl** 70.66 326 ⇑P P 09 15 33.6 +0.8
baz=71,SNR=8.7
R19A **Curley Farm, L** 70.74 327 ⇓P P 09 15 33.4 +0.1
baz=71
Q20A **Ridgley Place,** 70.77 328 ⇓P P 09 15 33.7 +0.3
baz=71
BC3 **Big Chuckawall** 70.80 320 ⇓P P 09 15 34.1 +0.3
baz=71
O22A **Kremmling** 70.87 330 ⇑P P 09 15 34.0 0.0
baz=71,SNR=6.4
W13A **Hualapai Mount** 70.89 322 ⇓P P 09 15 34.9 +0.7
baz=71
IRM **Iron Mountain** 70.97 320 ⇓P P 09 15 35.1 +0.3
baz=71
K27A **Flueckinger Fa** 71.07 334 ⇑P P 09 15 35.3 +0.1
baz=71,SNR=5.0
R18A **Canyonlands Na** 71.13 327 ⇑P P 09 15 36.1 +0.5
baz=71
M24A **Cheyenne** 71.14 332 ⇑P P 09 15 36.3 +0.6
baz=72
N23A **Red Feather La** 71.18 331 ⇑P P 09 15 36.4 +0.5
baz=72
Q19A **Hogan Spring (** 71.25 327 ⇑P P 09 15 37.1 +0.7
baz=72,SNR=6.0
PHWY **Pilot Hill** 71.29 331 eP P 09 15 36.6 +0.1
comp=N,9.7nm,1.3s,mb4.5
N22A **Wattenberg Ran** 71.34 330 ⇓P P 09 15 37.7 +0.8
baz=72
S16A **Weppner Ranch,** 71.52 325 ⇓P P 09 15 38.5 +0.5
baz=72
M23A **Laramie** 71.54 331 ⇓P P 09 15 38.3 +0.3
baz=72,SNR=5.6
R17A **Hanksville Air** 71.58 326 ⇑P P 09 15 38.6 +0.3
baz=72,SNR=8.4
P19A **Cripple Cowboy** 71.63 328 ⇓P P 09 15 39.2 +0.6
baz=72,SNR=9.0
O20A **White River Ci** 71.66 329 ⇑P P 09 15 39.2 +0.4
baz=72,SNR=5.7
Q18A **Rafter H Ranch** 71.80 327 ⇓P P 09 15 39.8 +0.2
baz=72
SRU **San Rafael** 72.00 327 eP P 09 15 41.1 +0.2
comp=N,11nm,0.8s,mb4.7
HEC **Hector,Ludlow** 72.14 320 ⇓P P 09 15 42.0 +0.2
baz=72
K24A **Anderson Ranch** 72.16 333 ⇑P P 09 15 42.4 +0.7
baz=72
Q16A **Castle Valley** 72.19 326 ⇓P P 09 15 42.5 +0.6
baz=72,SNR=5.7
O19A **Miners Draw (B** 72.21 328 ⇑P P 09 15 42.8 +0.8
baz=72,SNR=9.4
R15A **Junction** 72.25 325 ⇓P P 09 15 43.2 +0.9
baz=72
P18A **Preston Nutter** 72.25 327 ⇓P P 09 15 43.3 +1.0
baz=72,SNR=9.9
TUQ **Turquoise Moun** 72.31 321 ⇓P P 09 15 43.1 +0.3
baz=73
CCUT **Cedar City** 72.35 324 eP P 09 15 44.4 +1.4
comp=N,14nm,1.0s,mb4.7
P17A **Butcher Ranch,** 72.39 327 ⇑P P 09 15 43.7 +0.6
baz=73,SNR=10
M21A **Separation Pea** 72.39 330 ⇓P P 09 15 43.3 +0.2
baz=73
MSU **Marysvale** 72.42 325 eP P 09 15 44.0 +0.7
K23A **Bowen Ranch, D** 72.53 332 ⇑P P 09 15 44.6 +0.6
baz=73
ARUT **Antelope Range** 72.57 324 eP P 09 15 45.2 +1.0
comp=N,13nm,1.0s,mb4.7
J24A **Dixon Ranch, L** 72.59 333 ⇓P P 09 15 44.9 +0.7
baz=73
O18A **Roosevelt** 72.62 328 ⇑P P 09 15 45.1 +0.6
baz=73
L21A **Rawlins** 72.68 331 ⇑P P 09 15 44.9 +0.1
baz=73,SNR=8.1
M20A **Sweetwater, Wa** 72.69 330 ⇓P P 09 15 45.2 +0.3
baz=73
N19A **John Jarvie Ra** 72.69 329 ⇑P P 09 15 45.1 +0.2
baz=73,SNR=7.8
K22A **Casper** 72.84 332 ⇓P P 09 15 46.0 +0.2
baz=73
O17A **Robinson Place** 72.93 327 ⇑P P 09 15 47.0 +0.7
baz=73,SNR=12
RSSD **Black Hills** 72.98 334 eP P 09 15 46.2 -0.4
comp=N,4.2nm,0.7s,mb4.4
N18A **Larsen Ranch,** 73.00 329 ⇓P P 09 15 47.5 +0.8
baz=73
R13A **O'Grain Ranch,** 73.14 324 ⇓P P 09 15 48.5 +0.8
baz=73
K21A **Alcova** 73.16 331 ⇑P P 09 15 47.8 +0.2
baz=74,SNR=16
L20A **Wamsutter** 73.16 330 ⇓P P 09 15 47.6 -0.1
baz=74,SNR=6.7
O16A **Springville** 73.32 327 ⇓P P 09 15 49.0 +0.3
baz=74
J22A **Midwest** 73.43 332 ⇑P P 09 15 49.4 +0.1
baz=74,SNR=5.0
N17A **Moffit Pass** 73.54 328 ⇓P P 09 15 50.6 +0.7
baz=74,SNR=16
FURC **Furnace Creek,** 73.57 321 ⇓P P 09 15 50.7 +0.5
baz=74
MPMC **Manual Prospec** 73.67 320 ⇑P P 09 15 50.8 +0.1
baz=74
K20A **Yellowstone Ra** 73.67 330 ⇓P P 09 15 50.3 -0.3
baz=74,SNR=8.2
H24A **Dirks Ranch, A** 73.70 334 ⇑P P 09 15 50.1 -0.7
baz=74,SNR=6.3
L19A **Farson** 73.71 329 ⇓P P 09 15 51.0 +0.2
baz=74
N16A **Rees Ranch, Co** 73.80 327 ⇑P P 09 15 51.8 +0.3
baz=74
J21A **Lysite** 73.81 331 ⇓P P 09 15 51.6 +0.2
baz=74
I22A **9 Mile Ranch,** 73.82 332 ⇑P P 09 15 51.4 -0.1
baz=74,SNR=6.8
M17A **Scullys Gap (B** 73.86 328 ⇑P P 09 15 51.8 0.0
baz=74
L18A **Fontenelle, Gr** 73.90 329 ⇓P P 09 15 52.1 +0.1
baz=74,SNR=12
SBC **Santa Barbara** 73.94 318 ⇓P P 09 15 52.4 0.0
baz=74
DUG **Dugway** 73.99 326 ⇑P P 09 15 52.7 +0.2
baz=74,SNR=6.2
DUG **Dugway** 73.99 326 eP P 09 15 53.0 +0.5
comp=N,7.4nm,1.0s,mb4.4
ISA **Isabella** 73.99 320 ⇑P P 09 15 53.1 +0.4
baz=74
K19A **Absolon Red Bu** 74.03 330 ⇑P P 09 15 52.6 -0.2
baz=74,SNR=8.2
J20A **Shoshoni** 74.10 331 ⇓P P 09 15 53.5 +0.3
baz=74
I21A **Big Trails, Te** 74.11 332 ⇓P P 09 15 52.9 -0.3
baz=74,SNR=11
R11A **Troy Canyon, C** 74.15 323 ⇑P P 09 15 54.1 +0.5
baz=74
PDAR **Pinedale Array** 74.32 330 P P 09 15 53.7 -0.7
comp=N,1.3nm,0.8s,mb3.7,baz=130,slow=7.7,SNR=11
PDAR pP pP 09 16 21.5 +5.2
comp=N,0.7nm,0.8s,baz=158,slow=4.3,SNR=2.8
PDAR **Pinedale Array** 74.32 330 P P 09 15 53.8 -0.7
PDAR pP pP 09 16 21.6 +5.2
BW06 **Boulder Array** 74.32 330 ⇓P P 09 15 54.1 -0.3
baz=75
BW06 **Boulder Array** 74.32 330 eP P 09 15 54.0 -0.4
H22A **Clearmont** 74.33 333 ⇑P P 09 15 54.4 0.0
baz=75
G23A **Biddle** 74.42 334 ⇓P P 09 15 54.7 -0.2
baz=75,SNR=5.4
L17A **Cokeville** 74.44 329 ⇓P P 09 15 55.1 0.0
baz=75
K18A **Toltan Ranch,** 74.45 329 ⇑P P 09 15 55.7 +0.5
baz=75,SNR=6.9
J19A **Crowheart** 74.47 330 ⇑P P 09 15 55.3 +0.1
baz=75,SNR=5.6
VES **Vestal, Richgr** 74.48 319 ⇑P P 09 15 55.1 -0.4
baz=75
MDND **Maddock** 74.48 339 ⇓P P 09 15 54.9 -0.3
baz=75,SNR=5.9
F24A **Ekalaka** 74.56 335 ⇑P P 09 15 55.8 +0.1
baz=75
H21A **Big Horn, Sher** 74.65 333 ⇓P P 09 15 55.7 -0.6
baz=75,SNR=7.2
M15A **Larsen Ranch,** 74.74 327 ⇑P P 09 15 56.9 +0.1
baz=75,SNR=5.7
G22A **Birney** 74.81 333 ⇑P P 09 15 56.8 -0.3
baz=75
F23A **Volborg** 74.85 334 ⇓P P 09 15 57.4 +0.1
baz=75
K17A **Gardner Place,** 74.95 329 ⇑P P 09 15 58.1 0.0
baz=75,SNR=9.0
H20A **Greybull** 74.95 332 ⇓P P 09 15 57.8 -0.3
baz=75
I19A **Meeteetse** 75.04 331 ⇑P P 09 15 58.9 +0.3
baz=75,SNR=5.4
E24A **Baker** 75.10 335 ⇑P P 09 15 58.5 -0.3
baz=75
L15A **Malad City** 75.11 328 ⇓P P 09 15 59.1 +0.1
baz=75,SNR=9.8
HVU **Hansel Valley** 75.14 327 eP P 09 15 59.2 +0.1
comp=N,6.1nm,0.9s,mb4.3
I18A **Diamond G Ranc** 75.16 330 ⇑P P 09 15 59.7 +0.4
baz=76,SNR=7.7
G21A **Lodge Grass** 75.20 333 ⇓P P 09 15 59.2 -0.2
baz=76
F22A **Rosebud** 75.24 334 ⇓P P 09 15 59.6 -0.1
baz=76
REDW **Red Top Meadow** 75.38 329 eP P 09 16 00.8 +0.2
comp=N,32nm,1.6s,mb4.8
SNOW **Snow King Moun** 75.41 330 eP P 09 16 00.7 0.0
comp=N,92nm,2.5s,mb5.1
ULM **Lac du Bonnet** 75.44 342 P P 09 15 58.7 -2.0
comp=N,2.8nm,0.5s,mb4.3,baz=163,slow=8.1,SNR=6.5
ULM **Lac du Bonnet** 75.44 342 P P 09 15 58.7 -2.0
LOHW **Long Hollow** 75.46 330 eP P 09 16 01.0 +0.1
H19A **Powell** 75.53 331 ⇑P P 09 16 01.3 0.0
baz=76
L14A **Malta** 75.56 327 ⇑P P 09 16 01.8 +0.2
baz=76,SNR=6.7
D24A **Glendive** 75.56 336 ⇓P P 09 16 01.6 +0.1
baz=76
RRI2 **Red Ridge** 75.59 329 eP P 09 16 02.2 +0.4
comp=N,10nm,0.9s,mb4.5
G20A **Bridger** 75.63 332 ⇓P P 09 16 01.2 -0.6
baz=76
F21A **Absaloka Mine,** 75.64 333 ⇑P P 09 16 02.2 +0.3
baz=76
E22A **Miles City** 75.65 334 ⇑P P 09 16 01.9 -0.1
baz=76
ELK **Elko** 75.66 325 eP P 09 16 02.5 +0.3
comp=N,57nm,2.8s,mb4.8
I17A **Pilgrim Ck.** 75.68 330 ⇓P P 09 16 02.6 +0.4
baz=76
K15A **Arbon** 75.69 328 ⇓P P 09 16 02.6 +0.3
baz=76
NVAR **Mina Array Bea** 75.75 322 P P 09 16 02.8 +0.1
comp=N,2.2nm,0.9s,mb3.9,baz=153,slow=6.6,SNR=7.8
NVAR **Mina Array Bea** 75.75 322 P P 09 16 02.8 +0.1
H18A **Shoshone NF, C** 75.84 331 ⇑P P 09 16 03.3 +0.2
baz=76,SNR=11
K14A **Jones Ranch, D** 75.90 328 ⇓P P 09 16 03.5 -0.1
baz=76
C24A **Savage** 75.94 336 ⇑P P 09 16 04.0 +0.3
baz=76
D23A **Lindsay** 75.95 335 ⇑P P 09 16 04.4 +0.7
baz=76
RLMT **Red Lodge** 76.01 332 ⇑P P 09 16 04.7 +0.6
baz=76
RLMT **Red Lodge** 76.01 332 eP P 09 16 04.3 +0.2
comp=N,9.9nm,1.3s,mb4.4
I16A **Newdale** 76.07 329 ⇓P P 09 16 05.0 +0.5
baz=76
E21A **Keefer Ranch,** 76.19 334 ⇓P P 09 16 05.3 +0.3
baz=76
G18A **Lazy EL Ranch,** 76.30 331 ⇓P P 09 16 05.6 -0.1
baz=77,SNR=6.3
D22A **Cohagen** 76.32 335 ⇓P P 09 16 06.2 +0.4
baz=77
SYO **Syowa Base** 76.36 159 ⇑eP P 09 16 03.7 -2.1
F19A **Roth Farm, Mol** 76.44 332 ⇓P P 09 16 06.3 -0.2
baz=77,SNR=6.0
C23A **Lambert** 76.46 336 ⇓P P 09 16 07.1 +0.6
baz=77
D21A **La Casta Ranch** 76.58 334 ⇓P P 09 16 07.6 +0.4
baz=77
E20A **Meyer Farm, Mu** 76.61 333 ⇓P P 09 16 07.3 -0.1
baz=77,SNR=7.3
DGMT **Dagmar** 76.64 336 ⇓P P 09 16 07.9 +0.3
baz=77
DGMT **Dagmar** 76.64 336 eP P 09 16 07.7 +0.1
comp=N,13nm,1.0s,mb4.6
I15A **Monteview** 76.64 329 ⇓P P 09 16 08.4 +0.7
baz=77
GCMT **Greycliff** 76.71 332 eP P 09 16 08.1 +0.1
comp=N,6.0nm,1.0s,mb4.3
F18A **Big Timber** 76.82 332 ⇓P P 09 16 08.9 +0.3
baz=77,SNR=8.5
E19A **Rath Farm, Rou** 76.85 333 ⇓P P 09 16 08.9 +0.1
baz=77,SNR=10
VNDA **Vanda** 76.92 190 eP P 09 16 09.1 +0.2
B23A **Brockton** 76.93 336 ⇑P P 09 16 09.6 +0.4
baz=77
A24A **Westby** 76.94 337 ⇓P P 09 16 09.8 +0.6
baz=77
TORD **Torodi Ar. Bea** 76.97 70 P P 09 16 09.2 -0.9
comp=N,7.7nm,0.8s,mb4.5,baz=253,slow=5.8,SNR=37
TORD pP pP 09 16 37.5 +5.2
comp=N,6.7nm,0.9s,baz=249,slow=5.5,SNR=5.9
TORD **Torodi Ar. Bea** 76.97 70 P P 09 16 09.2 -0.9
TORD pP pP 09 16 37.5 +5.2
J13A **Cove Ranch, Pi** 77.03 328 ⇑P P 09 16 10.6 +0.8
baz=77
I14A **Mackay** 77.06 328 ⇑P P 09 16 11.0 +0.9
baz=77
D20A **Manuel Ranch,** 77.07 333 ⇑P P 09 16 09.5 -0.5
baz=77
B22A **Reddig Ranch S** 77.18 335 ⇓P P 09 16 11.1 +0.5
baz=78
F17A **Fitzpatrick Pl** 77.24 331 ⇓P P 09 16 11.5 +0.5
baz=78
G16A **Moss Hill, Enn** 77.25 330 ⇑P P 09 16 11.5 +0.5
baz=78
HLID **Hailey** 77.26 328 ⇓P P 09 16 11.8 +0.7
baz=78,SNR=14
HLID **Hailey** 77.26 328 eP P 09 16 11.5 +0.3
I13A **Wildhorse Cree** 77.37 328 ⇑P P 09 16 12.5 +0.7
baz=78,SNR=6.1
E18A **Harlowton** 77.42 332 ⇑P P 09 16 12.3 +0.3
baz=78
D19A **Cripps Ranch,** 77.44 333 ⇑P P 09 16 11.9 -0.2
baz=78
BOZ **Bozeman (W)** 77.48 331 ⇑P P 09 16 12.9 +0.5
baz=78
G15A **Dillon** 77.52 330 ⇓P P 09 16 12.9 +0.4
baz=78
B21A **Ellsworth Farm** 77.69 335 ⇓P P 09 16 13.6 +0.1
baz=78
DLMT **Dillon** 77.71 330 eP P 09 16 14.0 +0.4
A22A **Carney Farms,** 77.72 336 ⇑P P 09 16 13.7 +0.2
baz=78
E17A **Martinsdale** 77.75 332 ⇓P P 09 16 14.0 +0.2
baz=78
I12A **Atlanta** 77.79 327 ⇑P P 09 16 14.6 +0.5
baz=78,SNR=6.0
D18A **Linhart Farms,** 77.86 333 ⇑P P 09 16 14.7 +0.3
baz=78
MFID **Camas Ranch** 77.87 327 ⇓P P 09 16 15.1 +0.5
baz=78,SNR=5.8
H13A **Challis** 77.92 328 ⇑P P 09 16 15.5 +0.7
baz=78,SNR=12
C19A **Slack Wire Ran** 77.96 333 ⇑P P 09 16 14.9 0.0
baz=78
D17A **Six Diamond Ra** 78.21 332 ⇑P P 09 16 16.5 +0.2
baz=78
A20A **Cobblestone Ra** 78.41 335 ⇑P P 09 16 17.3 -0.1
baz=79
F14A **Wisdom** 78.41 330 ⇓P P 09 16 18.0 +0.5
baz=79
EGMT **Eagleton** 78.48 333 ⇓P P 09 16 17.9 +0.1
baz=79
B19A **Brinkman Farms** 78.48 334 ⇓P P 09 16 17.6 -0.3
baz=79
D16A **Dana Ranch, Ca** 78.50 332 ⇓P P 09 16 18.2 +0.3
baz=79,SNR=7.7
E15A **Deer Lodge** 78.53 331 ⇑P P 09 16 18.2 +0.1
baz=79
C17A **Wharram Farm,** 78.61 332 ⇑P P 09 16 18.5 -0.1
baz=79
B18A **Beardsley Farm** 78.78 333 ⇓P P 09 16 19.7 +0.2
baz=79
F13A **Darby** 78.85 329 ⇑P P 09 16 20.2 +0.3
baz=79,SNR=14
E14A **Clinton** 78.92 330 ⇓P P 09 16 21.0 +0.7
baz=79
D15A **Lincoln** 78.94 331 ⇑P P 09 16 20.8 +0.5
baz=79
C16A **Fuhringer Ranc** 79.17 332 ⇓P P 09 16 21.6 0.0
baz=80
J08A **Circle Bar Ran** 79.21 325 ⇓P P 09 16 21.8 -0.1
baz=80
C15A **Salmond Ranch,** 79.53 331 ⇑P P 09 16 24.2 +0.6
baz=80,SNR=7.4
A17A **Triple J Farms** 79.59 333 ⇑P P 09 16 23.8 -0.1
baz=80
D13A **Huson** 79.86 330 ⇓P P 09 16 25.6 +0.2
baz=80
B15A **Bradely Ranch,** 79.91 332 ⇑P P 09 16 24.9 -0.7
baz=80
A16A **West Butte Ran** 79.98 333 ⇑P P 09 16 26.1 +0.1
baz=80
K05A **Summer Lake** 80.09 324 ⇓P P 09 16 26.9 +0.2
baz=80
I07A **Izee** 80.25 325 ⇓P P 09 16 27.2 -0.4
baz=80
B14A **Marquette Ranc** 80.26 332 ⇑P P 09 16 27.2 -0.3
baz=81
F10A **Beach Ranch, E** 80.39 328 ⇑P P 09 16 28.2 0.0
baz=81
A14A **Double T Ranch** 80.79 332 ⇑P P 09 16 29.5 -0.8
baz=81
C12B **Naegeli Ranch,** 80.79 330 ⇑P P 09 16 30.2 -0.1
baz=81
A12A **Yaak River Ran** 81.75 331 ⇑P P 09 16 35.3 -0.1
baz=82
ETW **Entiat** 83.06 328 eP P 09 16 42.2 -0.1
comp=N,13nm,1.0s,mb4.7
BOSA **Boshof** 83.08 118 P P 09 16 42.3 -0.7
comp=N,4.1nm,0.8s,mb4.3,baz=229,slow=7.7,SNR=4.9
BOSA **Boshof** 83.08 118 P P 09 16 42.3 -0.7
A05A **Maple Falls** 84.86 328 ⇓P P 09 16 50.6 -0.8
baz=85
ESDC **Sonseca Array** 85.54 44 P P 09 16 55.1 +0.1
comp=N,0.3nm,0.4s,mb3.6,baz=244,slow=4.5,SNR=5.6
ESDC **Sonseca Array** 85.54 44 P P 09 16 55.1 +0.1
YKA **Yellowknife Ar** 91.33 340 P P 09 17 20.7 -1.3
comp=N,5.6nm,0.6s,mb4.9,baz=134,slow=4.5,SNR=107
YKA **Yellowknife Ar** 91.33 340 P P 09 17 20.7 -1.3
INK **Inuvik** 101.08 340 P Pdif 09 18 04.3 -2.4
comp=N,0.7nm,0.8s,baz=162,slow=3.2,SNR=2.9
INK **Inuvik** 101.08 340 P Pdif 09 18 04.3 -2.4
PAX **Paxson** 103.21 333 ePdif Pdif 09 18 16.0 -0.1
comp=N,2.3nm,0.6s
ASAR **Alice Springs** 130.10 207 PKP PKPdf 09 23 25.6 -1.5
comp=N,2.4nm,0.7s,baz=126,slow=1.8,SNR=29
ASAR **Alice Springs** 130.10 207 PKP PKPdf 09 23 25.6 -1.5
ABKAR **Akbulak array** 130.87 43 ePKPdf PKPdf 09 23 26.4 -1.3
WRA **Warramunga Arr** 133.16 210 PKP PKPdf 09 23 31.8 -1.1
comp=N,2.2nm,0.6s,baz=160,slow=1.7,SNR=22
WRA **Warramunga Arr** 133.16 210 PKP PKPdf 09 23 31.8 -1.1
FITZ **Fitzroy Crossi** 138.29 200 PKP PKPdf 09 23 43.0 +0.4
comp=N,3.2nm,0.8s,baz=217,slow=5.1,SNR=4.5
FITZ **Fitzroy Crossi** 138.29 200 PKP PKPdf 09 23 43.0 +0.4
KURK **Kurchatov** 141.10 33 PKhKP PKPpre 09 23 41.6
comp=N,0.5nm,0.5s,baz=290,slow=2.5,SNR=6.0
KURK PKP PKPdf 09 23 46.7 +0.1
comp=N,0.6nm,0.5s,baz=291,slow=2.4,SNR=6.3
KURK **Kurchatov** 141.10 33 PKPpre PKPpre 09 23 41.5
KURK PKP PKPdf 09 23 46.7 +0.1
ZALV **Zalesovo Beam** 141.78 25 PKhKP PKPpre 09 23 42.1
comp=N,1.4nm,0.8s,baz=318,slow=1.9,SNR=5.0
ZALV PKP PKPdf 09 23 46.5 -1.2
comp=N,2.2nm,0.7s,baz=302,slow=2.8,SNR=5.2
ZALV pPKP pPKPdf 09 24 17.5 +6.2
comp=N,1.3nm,0.6s,baz=280,slow=3.7,SNR=2.5
ZALV **Zalesovo Beam** 141.78 25 PKPpre PKPpre 09 23 42.1
ZALV PKP PKPdf 09 23 46.5 -1.2
ZALV pPKP pPKPdf 09 24 17.5 +6.2
KSH **Kashi** 144.78 51 ePKP PKPdf 09 23 52.3 -1.2
KSH pPKP pPKPdf 09 24 18.5 +1.5
KSH sPKP 09 24 29.5
KSH PP PP 09 27 14.0 +2.5
KSH PKS 09 27 26.8
KSH SKS SKSdf 09 30 49.3 -6.0
KSH SKKS SKKSac 09 33 51.3 -4.9
KSH SS SS 09 45 51.0 -2.6
KSH AMB AMB
comp=Z,130nm,5.2s
KSH LR LR
comp=N,140nm,6.5s
KSH LR LR
comp=E,120nm,6.2s
KSH LR LR
comp=Z,240nm,9.0s
MK31 **Makanchi Array** 145.39 36 ePKPdf PKPdf 09 23 54.4 +0.1
MKAR **Makanchi Array** 145.39 36 PKPbc PKPbc 09 23 54.2 -0.1
comp=Z,6.8nm,0.6s,baz=318,slow=4.7,SNR=34
MKAR pPKPbc pPKPbc 09 24 23.4 +5.9
comp=Z,2.2nm,0.8s,baz=320,slow=3.2,SNR=2.5
MKAR **Makanchi Array** 145.39 36 PKPbc PKPbc 09 23 54.2 -0.1
MKAR pPKPbc pPKPbc 09 24 23.4 +5.9
WMQ **Urumqi** 150.22 36 ePKPbc PKPbc 09 24 07.5 0.0
USRK **Ussuriysk Arra** 151.73 328 PKPbc PKPbc 09 24 10.0 -1.1
comp=Z,1.8nm,0.6s,baz=342,slow=1.5,SNR=7.1
MJAR **Matsushiro Arr** 152.40 309 PKPbc PKPbc 09 24 11.4 -1.3
comp=Z,2.2nm,0.9s,baz=132,slow=1.1,SNR=5.3
MJAR **Matsushiro Arr** 152.40 309 PKPbc PKPbc 09 24 11.4 -1.3
SONM **Songino Array** 153.40 8 PKP PKPdf 09 24 07.0 +0.1
comp=Z,1.2nm,0.9s,baz=233,slow=1.6,SNR=6.8
SONM PKPbc PKPbc 09 24 14.0 -0.6
comp=Z,0.7nm,0.4s,baz=294,slow=1.2,SNR=6.8
SONM PKPab PKPab 09 24 27.2 +0.2
comp=Z,1.3nm,0.8s,baz=314,slow=3.5,SNR=6.2
SONM pPKP pPKPdf 09 24 36.4 +5.8
comp=Z,0.5nm,0.6s,baz=330,slow=1.6,SNR=2.3
SONM **Songino Array** 153.40 8 PKP PKPdf 09 24 07.0 +0.1
SONM PKPbc PKPbc 09 24 14.0 -0.6
SONM PKPab PKPab 09 24 27.1 +0.2
SONM pPKP pPKPdf 09 24 36.4 +5.8
HHC **Hu-ho-hao-te** 160.71 360 ePKP PKPdf 09 24 15.0 -1.5
HHC pPKP pPKPdf 09 24 41.8 +1.7
HHC sPKP 09 24 52.3
HHC PKS 09 27 47.0
HHC PP PP 09 28 42.3 +1.9
HHC SKS SKSdf 09 31 08.8 -5.3
HHC SKKS SKKSac 09 35 19.5 -2.6
HHC SS SS 09 48 44.5 -1.2
HHC AMB AMB
comp=Z,69nm,4.7s
LZH **Lanzhou** 163.99 23 ePKP PKPdf 09 24 19.0 -0.9
LZH pPKP pPKPdf 09 24 45.3 +1.7
LZH sPKP 09 24 53.5
LZH LR LR
comp=N,140nm,18.0s
LZH LR LR
comp=E,140nm,17.6s

LZH LR LR
comp=Z,180nm,20.1s
CMAR Chiang Mai Arr 167.78 102 PKP PKPdf 09 24 22.8 -0.6
comp=Z,0.7nm,0.4s,baz=293,slow=2.5,SNR=5.6
CMAR Chiang Mai Arr 167.78 102 PKP PKPdf 09 24 22.8 -0.6
GYA Guiyang 173.35 41 *e*PKP PKPdf 09 24 23.3 -3.0
GYA pPKP pPKPdf 09 24 51.0 +1.0
GYA sPKP 09 25 03.0
GYA PKPab PKPab 09 25 54.8 -0.1
GYA PKS 09 27 55.0
GYA PP PP 09 29 47.0 +0.7
GYA AMB AMB
comp=Z,90nm,8.0s

ISCJB ***26*** *09:08:02.9±0.8, 13°.93N±0°.08×145°.4E±0°.1, h113km±6km, mb4.0/19, Error ellipse: s-maj=22.3km s-min=12.1km az=10.9*
IDC ***26*** *09:08:03.1±0.7, 13°.95N×145°.38E, h99km±5km, mb3.8/17, mb1 3.9/17, mb1mx3.8/30, mbtmp3.8/17, Error ellipse: s-maj=20.3km s-min=12.6km az=106.0*
NEIC ***26*** *09:08:04.0±0.9, 13°.92N×145°.41E, h110km±8km, mb4.1/2, Error ellipse: s-maj=15.0km s-min=8.5km az=101.0*
ISC 26 09:08:03.9±0.9, 13°.93N±0°.08×145°.4E±0°.1, h107km±7km, n49, σ0s90/44, mb4.0/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.60**	**236**	P	**Pn**	**09 08 21.9**	**+0.8**
	400nm,0.3s,baz=111,slow=4.5,SNR=369						
GUMO				S	**Sn**	**09 08 33.5**	**-0.5**
	2μm,0.3s,baz=91,slow=23,SNR=36						
GUMO	**Guam**	**0.60**	**236**	*e*Pn	**Pn**	**09 08 21.3**	**+0.2**
GUMO				S	**Sn**	**09 08 33.5**	**-0.5**
GUMO				*e*Sn	**Sn**	**09 08 33.6**	**-0.5**
WRAB	**Tennant Creek**	**35.35**	**198**	*e*P	**P**	**09 14 49.5**	**+0.3**
	1.5nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**35.36**	**198**	*e*P	**P**	**09 14 49.1**	**-0.1**
WRA	**Warramunga Arr**	**35.37**	**198**	P	**P**	**09 14 49.6**	**+0.3**
	1.2nm,0.7s,mb3.8,baz=21,slow=9.7,SNR=12						
WRA				PcP	PcP	09 17 18.5	+1.2
	0.5nm,0.6s,baz=15,slow=3.5,SNR=5.3						
WRA	**Warramunga Arr**	**35.37**	**198**	P	**P**	**09 14 49.6**	**+0.3**
WRA				PcP	PcP	09 17 18.5	+1.2
FITZ	**Fitzroy Crossi**	**37.31**	**212**	P	**P**	**09 15 04.6**	**-1.3**
	1.9nm,0.5s,mb4.2,baz=19,slow=9.7,SNR=3.0						
FITZ	**Fitzroy Crossi**	**37.31**	**212**	*e*P	**P**	**09 15 06.3**	**+0.5**
	1.6nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**39.01**	**197**	P	**P**	**09 15 19.8**	**-0.3**
	0.2nm,0.5s,mb3.2,baz=19,slow=8.9,SNR=13						
ASAR				PcP	PcP	09 17 29.2	+0.9
	0.3nm,0.8s,baz=27,slow=4.3,SNR=3.0						
ASAR	**Alice Springs**	**39.01**	**197**	P	**P**	**09 15 19.8**	**-0.3**
ASAR				PcP	PcP	09 17 29.2	+0.9
FX1	**Attu Island--F**	**44.70**	**24**	P	**P**	**09 16 06.3**	**+0.3**
	6.9nm,0.6s,mb4.6,baz=249,slow=5.4,SNR=6.3						
FX1	**Attu Island--F**	**44.70**	**24**	P	**P**	**09 16 06.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**44.73**	**282**	P	**P**	**09 16 08.0**	**+1.2**
	0.7nm,0.3s,mb3.8,baz=85,slow=6.1,SNR=3.5						
CMAR				PcP	PcP	09 17 48.2	+0.7
	0.7nm,0.3s,baz=96,slow=1.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**44.73**	**282**	P	**P**	**09 16 08.0**	**+1.2**
CMAR				PcP	PcP	09 17 48.2	+0.7
STKA	**Stephens Creek**	**45.69**	**184**	P	**P**	**09 16 14.3**	**+0.3**
	0.4nm,0.5s,mb3.4,baz=9.8,slow=9.7,SNR=2.9						
STKA	**Stephens Creek**	**45.69**	**184**	P	**P**	**09 16 14.3**	**+0.3**
SONM	**Songino Array**	**46.74**	**324**	P	**P**	**09 16 23.7**	**+1.6**
	0.4nm,0.7s,mb3.3,baz=120,slow=8.5,SNR=3.3						
SONM				PcP	PcP	09 17 54.6	+0.7
	0.3nm,0.5s,baz=147,slow=4.7,SNR=3.4						
SONM	**Songino Array**	**46.74**	**324**	P	**P**	**09 16 23.8**	**+1.6**
SONM				PcP	PcP	09 17 54.6	+0.7
MK31	**Makanchi Array**	**61.59**	**316**	*e*P	**P**	**09 18 10.7**	**+0.7**
MKAR	**Makanchi Array**	**61.59**	**316**	P	**P**	**09 18 10.2**	**+0.2**
	0.6nm,0.3s,mb4.1,baz=90,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**61.59**	**316**	P	**P**	**09 18 10.2**	**+0.2**
KDAK	**Kodiak Island**	**63.52**	**32**	P	**P**	**09 18 23.4**	**+0.8**
	18nm,1.1s,mb4.8,baz=320,slow=7.9,SNR=5.7						
KDAK	**Kodiak Island**	**63.52**	**32**	P	**P**	**09 18 23.4**	**+0.8**
KURK	**Kurchatov**	**64.64**	**320**	P	**P**	**09 18 30.3**	**+0.2**
	1.1nm,0.5s,mb3.9,baz=101,slow=6.7,SNR=7.4						
KURK	**Kurchatov**	**64.64**	**320**	P	**P**	**09 18 30.3**	**+0.2**
ILAR	**Eielson Array**	**68.05**	**25**	P	**P**	**09 18 50.3**	**-1.2**
	1.4nm,0.5s,mb4.0,baz=250,slow=5.8,SNR=39						
ILAR	**Eielson Array**	**68.05**	**25**	P	**P**	**09 18 50.3**	**-1.2**
BVAR	**Borovoye Array**	**69.97**	**322**	P	**P**	**09 19 02.9**	**-0.7**
	0.6nm,0.3s,mb3.9,baz=101,slow=8.3,SNR=7.0						
BVAR	**Borovoye Array**	**69.97**	**322**	P	**P**	**09 19 02.9**	**-0.7**
INK	**Inuvik**	**73.87**	**22**	P	**P**	**09 19 26.4**	**-0.3**
	1.3nm,0.7s,mb3.7,baz=254,slow=10.0,SNR=8.0						
INK	**Inuvik**	**73.87**	**22**	P	**P**	**09 19 26.4**	**-0.3**
DLBC	**Dease Lake**	**75.43**	**33**	P	**P**	**09 19 36.4**	**+0.5**
	7.6nm,1.1s,mb4.3,baz=281,slow=6.4,SNR=5.8						
DLBC	**Dease Lake**	**75.43**	**33**	P	**P**	**09 19 36.4**	**+0.5**
YKA	**Yellowknife Ar**	**82.33**	**27**	P	**P**	**09 20 13.1**	**-0.3**
	1.0nm,0.4s,mb4.0,baz=286,slow=5.1,SNR=15						
YKA	**Yellowknife Ar**	**82.33**	**27**	P	**P**	**09 20 13.2**	**-0.3**
NVAR	**Mina Array Bea**	**86.32**	**51**	P	**P**	**09 20 35.7**	**+1.5**
	0.4nm,0.4s,mb3.8,baz=268,slow=6.0,SNR=3.0						
NVAR	**Mina Array Bea**	**86.32**	**51**	P	**P**	**09 20 35.7**	**+1.5**
JOF	**Joensuu**	**88.20**	**335**	*e*p	**P**	**09 20 41.2**	**-1.5**
	0.4nm,0.3s,mb3.9						
KAF	**Kangasniemi**	**90.61**	**336**	*e*p	**P**	**09 20 51.6**	**-2.4**
FINES	**FINESS Array B**	**91.06**	**335**	P	**P**	**09 20 54.8**	**-1.2**
	0.8nm,0.4s,mb4.2,baz=71,slow=4.9,SNR=11						
FINES	**FINESS Array B**	**91.06**	**335**	P	**P**	**09 20 54.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**135.08**	**305**	PKP	PKPdf	09 27 10.6	-1.0
	0.5nm,0.7s,baz=22,slow=2.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**135.08**	**305**	PKP	PKPdf	09 27 10.6	-1.0
DBIC	**Dimbokro**	**144.06**	**303**	PKP	PKPdf	09 27 26.1	-1.9
	2.6nm,0.5s,baz=46,slow=4.5,SNR=7.4						
DBIC	**Dimbokro**	**144.06**	**303**	PKP	PKPdf	09 27 26.1	-1.9
CFAA	**Coronel Fontan**	**144.56**	**125**	PKP	PKPdf	09 27 27.7	-0.6
	0.1nm,0.3s,baz=226,slow=4.9,SNR=3.8						
CFAA	**Coronel Fontan**	**144.56**	**125**	PKP	PKPdf	09 27 27.8	-0.6
LPAZ	**La Paz**	**147.59**	**98**	PKPbc	PKPbc	09 27 37.0	+0.3
	1.4nm,0.8s,baz=307,slow=5.1,SNR=3.7						
LPAZ	**La Paz**	**147.59**	**98**	PKPbc	PKPbc	09 27 37.0	+0.3

IDC ***26*** *09:12:30.3±2.0, 20°.11S×168°.72E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/16, mbtmp3.9/5, Error ellipse: s-maj=107.4km s-min=27.9km az=154.0*
NEIC ***26*** *09:12:31.7±1.1, 19°.94S×168°.65E, h10km, mb3.8/1, Error ellipse: s-maj=38.8km s-min=16.7km az=142.0*
ISCJB ***26*** *09:12:32.7±4.7, 19°.9S±0°.1×168°.5E±0°.2, h21km±34km, mb3.8/6, Error ellipse: s-maj=39.8km s-min=12.1km az=31.2*
NOU ***26*** *09:12:32.5±0.9, 19°.66S×168°.57E, h30km, MD2.9, ML3.0*
ISC 26 09:12:33.0±4.7, 20°.0S±0°.1×168°.6E±0°.2, h13km±30km, n17, σ0s48/18, mb3.8/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.68**	**216**	*e*S	**Sn**	**09 13 48.0**	**-0.3**
DZM	**Mont Dzumac**	**2.88**	**223**	*e*P	**Pn**	**09 13 19.1**	**+0.4**
DZM				*e*S	**Sn**	**09 13 53.2**	**-0.1**
DZM				AMP		09 13 58.2	
	comp=Z,598nm,0.0s						
DZM	**Mont Dzumac**	**2.88**	**223**	*e*Pn	**Pn**	**09 13 18.5**	**-0.2**
DZM				*e*Sn	**Sn**	**09 13 56.7**	**+3.4**
NOUC	**Port Laguerre**	**3.00**	**225**	*e*P	**Pn**	**09 13 20.0**	**-0.2**
NOUC				*e*S	**Sn**	**09 13 56.0**	**-0.1**
NOUC				AMP		09 14 16.8	
	comp=Z,23nm,1.7s						
STKA	**Stephens Creek**	**26.93**	**238**	P	**P**	**09 18 14.7**	**+0.6**
	comp=Z,1.4nm,1.1s,mb3.4,baz=65,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**26.93**	**238**	P	**P**	**09 18 14.7**	**+0.6**
WRAB	**Tennant Creek**	**32.13**	**264**	*e*P	**P**	**09 18 59.8**	**-0.7**
	comp=Z,0.6nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**32.14**	**264**	P	**P**	**09 19 00.3**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=101,slow=8.2,SNR=5.5						
WRA	**Warramunga Arr**	**32.14**	**264**	P	**P**	**09 19 00.3**	**-0.2**
ASAR	**Alice Springs**	**32.34**	**257**	P	**P**	**09 19 02.5**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.4,baz=84,slow=8.8,SNR=100						
ASAR	**Alice Springs**	**32.34**	**257**	P	**P**	**09 19 02.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**40.55**	**265**	P	**P**	**09 20 12.6**	**+0.3**
	comp=Z,2.7nm,0.9s,mb3.9,baz=132,slow=6.1,SNR=4.1						
FITZ	**Fitzroy Crossi**	**40.55**	**265**	P	**P**	**09 20 12.6**	**+0.3**
NVAR	**Mina Array Bea**	**89.75**	**49**	P	**P**	**09 25 31.2**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.8,baz=235,slow=6.3,SNR=3.0						
NVAR	**Mina Array Bea**	**89.75**	**49**	P	**P**	**09 25 31.2**	**-0.1**
GERES	**GERESS Array B**	**144.83**	**331**	PKPbc	PKPdf	09 32 07.6	-2.1
	comp=Z,0.6nm,0.6s,baz=60,slow=3.2,SNR=5.2						
GERES	**GERESS Array B**	**144.83**	**331**	PKPbc	PKPdf	09 32 07.6	-2.1

RSPR 26 09:22:18.9, 18°.74N×64°.92W, h22km±27km, 4C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.39**	**184**	⇓*e*P	Pb	09 22 27.1	0.0
STVI	**Saint Thomas**	**0.39**	**184**	⇑*e*P	Pb	09 22 27.8	+0.7
STVI				*e*S	Sb	09 22 32.2	-0.4
TBVI	**Tortola**	**0.43**	**138**	*e*S	Sb	09 22 33.2	-0.7
TBVI	**Tortola**	**0.43**	**138**	*e*S	Sb	09 22 33.2	-0.7
MTP	**Monte Pirata**	**0.87**	**223**	⇓*e*P	Pb	09 22 32.9	-2.5
MTP	**Monte Pirata**	**0.87**	**223**	⇑*e*P	Pb	09 22 32.9	-2.5
MTP				*e*S	Sb	09 22 44.4	-2.2

IDC ***26*** *09:43:42.6±2.2, 6°.52S×129°.58E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=93.5km s-min=28.4km az=76.0*
NEIC ***26*** *09:43:44.8±1.5, 6°.61S×129°.31E, h10km, Error ellipse: s-maj=40.8km s-min=16.5km az=68.0*
ISCJB ***26*** *09:43:46.5±1.4, 6°.8S±0°.1×129°.2E±0°.3, h33km, Error ellipse: s-maj=39.3km s-min=13.7km az=159.4*
ISC 26 09:43:48.3±1.4, 6°.7S±0°.1×129°.3E±0°.3, h35km, n11, σ1s01/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.90**	**197**	Pn	**Pn**	**09 46 35.3**	**-0.3**
	0.4nm,0.3s,baz=32,slow=11,SNR=7.3						
FITZ				Sn	Sx	09 48 33.4	
	0.7nm,0.3s,baz=253,slow=20,SNR=6.2						
FITZ	**Fitzroy Crossi**	**11.90**	**197**	Pn	**Pn**	**09 46 35.3**	**-0.3**
FITZ				*e*Pn	**Pn**	**09 46 35.5**	**-0.2**
FITZ				Sn	Sx	09 48 33.4	
WRAB	**Tennant Creek**	**14.06**	**160**	*e*Pn	**Pn**	**09 47 03.1**	**-1.9**
WRAB				*e*Sn	**Sn**	**09 49 31.2**	**-8.8**
WRA	**Warramunga Arr**	**14.06**	**160**	Pn	**Pn**	**09 47 05.0**	**-0.2**
	0.4nm,0.3s,baz=347,slow=13,SNR=17						
WRA				Sn	Sx	09 49 27.3	
	1.0nm,0.3s,baz=336,slow=22,SNR=7.7						
WRA	**Warramunga Arr**	**14.06**	**160**	Pn	**Pn**	**09 47 05.0**	**-0.2**
WRA				Sn	Sx	09 49 27.3	
WB2	**Warramunga Arr**	**14.07**	**160**	*e*Pn	**Pn**	**09 47 05.6**	**+0.4**
AS31	**Alice Springs**	**17.46**	**166**	*e*P	**Pn**	**09 47 51.1**	**+1.9**
AS31				*e*Sn	**Sn**	**09 50 56.1**	**-6.5**
ASAR	**Alice Springs**	**17.46**	**166**	P	**Pn**	**09 47 49.5**	**+0.3**
	0.1nm,0.3s,baz=343,slow=10,SNR=4.7						
ASAR				S	Sx	09 50 46.4	
	0.1nm,0.3s,baz=342,slow=18,SNR=3.6						
ASAR	**Alice Springs**	**17.46**	**166**	P	**Pn**	**09 47 49.5**	**+0.3**
ASAR				S	Sx	09 50 46.4	
MKAR	**Makanchi Array**	**67.58**	**327**	P	**P**	**09 54 41.2**	**-0.1**
	0.1nm,0.3s,baz=110,slow=8.1,SNR=6.0						
MKAR	**Makanchi Array**	**67.58**	**327**	P	**P**	**09 54 41.2**	**-0.1**

IDC ***26*** *09:59:00.3±0.6, 52°.77N×160°.77E, h0km, mb3.8/18, mb1 4.1/20, mb1mx4.0/28, mbtmp3.9/20, ML4.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/48, Error ellipse: s-maj=18.5km s-min=10.7km az=166.0*
MOS ***26*** *09:59:00.4±1.4, 52°.65N×161°.01E, h17km, mb4.5/4, Error ellipse: s-maj=11.9km s-min=8.7km az=95.6*
KRSC ***26*** *09:59:01.7±0.7, 52°.63N×161°.02E, h16km±16km, ML4.4*
NEIC ***26*** *09:59:03.0±3.7, 52°.74N×160°.88E, h18km±24km, mb4.1/1, Error ellipse: s-maj=14.2km s-min=8.4km az=167.0*
ISC 26 09:59:03.7±1.3, 52°.67N±0°.06×160°.94E±0°.06, h23km±9km, n97, σ1s23/109, mb3.9/21, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.70**	**308**	*e*P	**Pb**	**09 59 16.1**	**-1.2**
SPN				*e*S	**Sb**	**09 59 26.1**	**-0.5**
SPN	**Mys Shipunski**	**0.70**	**308**	PN	**Pb**	**09 59 16.1**	**-1.2**
SPN				S	**Sb**	**09 59 26.1**	**-0.5**
SDLR	**Sedlovina**	**1.39**	**297**	*e*P	**Pn**	**09 59 26.9**	**-0.7**
UGLR	**Uglovaya**	**1.39**	**294**	*e*P	**Pn**	**09 59 28.1**	**+0.4**
PET	**Petropavlovsk**	**1.44**	**285**	*e*Pn	**Pn**	**09 59 28.2**	**0.0**
PET				*e*S	**Sn**	**09 59 47.5**	**+1.2**
PET	**Petropavlovsk**	**1.44**	**285**	*e*Pn	**Pn**	**09 59 26.6**	**-1.6**
PET	**Petropavlovsk**	**1.44**	**285**	⇑*i*PN	**Pn**	**09 59 27.7**	**-0.5**
PET				*e*S	**Sn**	**09 59 45.4**	**-0.9**
PET				pmax	pmax		
	comp=Z,496nm,0.6s						
PET				smax			
	comp=E,2μm,0.9s						
PET				smax			
	comp=N,709nm,0.6s						
AVH	**Avacha**	**1.46**	**295**	*e*P	**Pn**	**09 59 28.3**	**-0.3**
RUS	**Russkaya**	**1.50**	**262**	*e*P	**Pn**	**09 59 29.1**	**-0.1**
RUS				*e*S	**Sn**	**09 59 48.7**	**+0.7**
RUS	**Russkaya**	**1.50**	**262**	PN	**Pn**	**09 59 29.1**	**-0.1**
RUS				S	**Sn**	**09 59 48.7**	**+0.7**
KOK	**Koryaka**	**1.53**	**295**	*e*P	**Pn**	**09 59 29.7**	**+0.2**
MTVR	**Mutnovka**	**1.69**	**265**	*e*P	**Pn**	**09 59 32.1**	**+0.3**
MTVR				*e*S	**Sn**	**09 59 54.7**	**+1.9**
MKZ	**Mys Kozlova**	**1.95**	**14**	*e*P	**Pn**	**09 59 34.5**	**-0.8**
MKZ	**Mys Kozlova**	**1.95**	**14**	PN	**Pn**	**09 59 34.5**	**-0.8**
PEA0B	**Petropavlovsk-**	**2.02**	**284**	*e*Pn	**Pn**	**09 59 36.9**	**+0.6**
PEA0B				*e*Sn	**Sn**	**09 59 59.0**	**-1.6**
PETK	**Petropavlovsk-**	**2.02**	**284**	Pn	**Pn**	**09 59 36.5**	**+0.2**
	comp=N,83nm,0.3s,baz=103,slow=20,SNR=186						
PETK				Sn	**Sn**	**10 00 02.5**	**+1.8**
	comp=N,20nm,0.3s,baz=120,slow=14,SNR=1.6						
PETK	**Petropavlovsk-**	**2.02**	**284**	Pn	**Pn**	**09 59 36.5**	**+0.2**
PETK				Sn	**Sn**	**10 00 02.5**	**+1.8**
PETK	**Petropavlovsk-**	**2.02**	**284**	PN	**Pn**	**09 59 36.5**	**+0.3**
PETK						10 00 02.5	
MIPR	**Malaya Ipel'ka**	**2.59**	**263**	*e*P	**Pn**	**09 59 46.2**	**+2.1**
TUMR	**Tumrok**	**2.66**	**350**	*e*P	**Pn**	**09 59 46.3**	**+1.2**
KMNR	**Kamenistaya**	**3.12**	**353**	*e*P	**Pn**	**09 59 54.1**	**+2.7**
ESO	**Esso**	**3.52**	**339**	P	**Pn**	**09 59 59.2**	**+2.3**
ESO	**Esso**	**3.52**	**339**	PN	**Pn**	**09 59 59.2**	**+2.3**
SKR	**Severo-Kuril's**	**3.60**	**238**	*e*PN	**Pn**	**10 00 05.0**	**+7.0**
KBTR	**Krutoberegovo**	**3.71**	**16**	P	**Pn**	**10 00 01.2**	**+1.7**
KBTR	**Krutoberegovo**	**3.71**	**16**	PN	**Pn**	**10 00 01.2**	**+1.7**
SRDR	**Sredinnyy**	**3.73**	**349**	*e*P	**Pn**	**10 00 04.5**	**+4.8**
BKI	**Bering**	**3.91**	**47**	*e*S	**Sn**	**10 00 42.5**	**-4.8**
SMKR	**Semkarok**	**3.93**	**4**	P	**Pn**	**10 00 04.0**	**+1.4**
FX1	**Attu Island--F**	**7.42**	**83**	Pn	**Pn**	**10 00 49.7**	**-0.7**
	comp=N,20nm,0.3s,baz=285,slow=6.8,SNR=141						
FX1				Sn	**Sn**	**10 02 06.8**	**-6.9**
	comp=N,18nm,0.3s,baz=116,slow=17,SNR=11						
FX1				LR	LR	10 03 30.1	
	comp=N,110nm,20.4s,baz=250,slow=36						
FX1	**Attu Island--F**	**7.42**	**83**	Pn	**Pn**	**10 00 49.7**	**-0.7**
FX1				Sn	**Sn**	**10 02 06.8**	**-6.9**
FX1	**Attu Island--F**	**7.42**	**83**	PN	**Pn**	**10 00 49.7**	**-0.7**
ASAJ	**Asahikawa**	**14.86**	**242**	Pn	**Pn**	**10 02 30.8**	**-1.3**
	comp=N,0.7nm,0.3s,baz=74,slow=29,SNR=6.2						
ASAJ	**Asahikawa**	**14.86**	**242**	Pn	**Pn**	**10 02 30.8**	**-1.3**
ASAJ	**Asahikawa**	**14.86**	**242**	P	**Pn**	**10 02 30.8**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
USRK	**Ussuriysk Arra**	**20.87**	**258**	P	**P**	**10 03 42.2**	**-1.6**
	comp=Z,4.6nm,0.8s,baz=64,slow=12,SNR=8.0						
MJAR	**Matsushiro Arr**	**22.70**	**234**	P	**P**	**10 04 04.2**	**+0.7**
	comp=Z,4.5nm,0.6s,mb4.0,baz=20,slow=6.8,SNR=10						
MJAR	**Matsushiro Arr**	**22.70**	**234**	P	**P**	**10 04 04.2**	**+0.7**
MJAR	**Matsushiro Arr**	**22.70**	**234**	P	**P**	**10 04 04.2**	**+0.7**
BOD	**Bodaibo**	**26.80**	**300**	*e*P	**P**	**10 04 39.6**	**-2.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
KSRS	**Korea Array**	**27.54**	**250**	P	**P**	**10 04 49.9**	**+1.4**
	comp=Z,1.1nm,0.9s,mb3.5,baz=40,slow=9.9,SNR=4.1						
KSRS	**Korea Array**	**27.54**	**250**	P	**P**	**10 04 49.9**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
KSAR	**Wonju Array Be**	**27.57**	**250**	P	**P**	**10 04 49.9**	**+1.1**
KSAR	**Wonju Array Be**	**27.57**	**250**	P	**P**	**10 04 49.9**	**+1.1**
ILAR	**Eielson Array**	**28.75**	**45**	P	**P**	**10 04 58.6**	**-0.4**
	comp=Z,0.5nm,1.1s,mb3.2,baz=235,slow=6.4,SNR=3.6						
ILAR	**Eielson Array**	**28.75**	**45**	P	**P**	**10 04 58.6**	**-0.4**
ILAR	**Eielson Array**	**28.75**	**45**	P	**P**	**10 04 58.6**	**-0.4**
INK	**Inuvik**	**33.89**	**37**	P	**P**	**10 05 44.3**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=270,slow=3.0,SNR=2.4						
INK	**Inuvik**	**33.89**	**37**	P	**P**	**10 05 44.3**	**+0.1**
INK	**Inuvik**	**33.89**	**37**	P	**P**	**10 05 44.3**	**+0.1**
SONM	**Songino Array**	**34.50**	**284**	P	**P**	**10 05 48.7**	**-1.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=58,slow=8.0,SNR=7.7						
SONM				PcP	PcP	10 08 24.1	-0.1
	comp=Z,0.2nm,0.5s,baz=34,slow=5.4,SNR=2.0						
SONM				LR	LR	10 20 08.8	
	comp=Z,89nm,19.4s,baz=195,slow=37						
SONM	**Songino Array**	**34.50**	**284**	P	**P**	**10 05 48.7**	**-1.0**
SONM				PcP	PcP	10 08 24.1	-0.1
SONM	**Songino Array**	**34.50**	**284**	P	**P**	**10 05 48.7**	**-1.0**
SONM						10 08 24.1	
ZALV	**Zalesovo Beam**	**43.44**	**303**	P	**P**	**10 07 02.0**	**-2.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=39,slow=3.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.44**	**303**	P	**P**	**10 07 02.0**	**-2.3**
ZALV	**Zalesovo Beam**	**43.44**	**303**	P	**P**	**10 07 02.0**	**-2.3**
NVS	**Novosibirsk**	**43.78**	**305**	*e*P	**P**	**10 07 03.8**	**-3.3**
KURK	**Kurchatov**	**48.40**	**303**	*e*P	**P**	**10 07 41.1**	**-2.4**
	comp=Z,1.0nm,0.5s,mb4.1						
KURK	**Kurchatov**	**48.40**	**303**	*e*P	**P**	**10 07 41.1**	**-2.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**48.80**	**296**	P	**P**	**10 07 44.0**	**-2.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=58,slow=7.0,SNR=7.7						
MKAR	**Makanchi Array**	**48.80**	**296**	P	**P**	**10 07 44.0**	**-2.7**
MKAR	**Makanchi Array**	**48.80**	**296**	P	**P**	**10 07 44.0**	**-2.6**
PDAR	**Pinedale Array**	**57.28**	**61**	P	**P**	**10 08 50.6**	**+1.5**
	comp=Z,0.4nm,0.8s,mb3.5,baz=345,slow=2.1,SNR=3.0						
PDAR	**Pinedale Array**	**57.28**	**61**	P	**P**	**10 08 50.6**	**+1.5**
JOF	**Joensuu**	**58.17**	**335**	*e*P	**P**	**10 08 53.7**	**-1.4**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
JOF	**Joensuu**	**58.17**	**335**	*e*p	**P**	**10 08 53.7**	**-1.4**
	comp=Z,5.8nm,0.7s,mb4.7						
CMAR	**Chiang Mai Arr**	**58.60**	**259**	P	**P**	**10 08 59.2**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.2,baz=21,slow=7.1,SNR=12						
CMAR	**Chiang Mai Arr**	**58.60**	**259**	P	**P**	**10 08 59.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**58.60**	**259**	P	**P**	**10 08 59.2**	**+0.5**
KAF	**Kangasniemi**	**60.08**	**337**	*e*P	**P**	**10 09 07.3**	**-1.0**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**60.08**	**337**	*e*p	**P**	**10 09 07.3**	**-1.0**
	comp=Z,3.8nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**60.72**	**337**	P	**P**	**10 09 12.6**	**-0.1**
	comp=Z,3.9nm,0.6s,mb4.7,baz=26,slow=8.9,SNR=21						
FINES	**FINESS Array B**	**60.72**	**337**	P	**P**	**10 09 12.6**	**-0.1**
FINES	**FINESS Array B**	**60.72**	**337**	P	**P**	**10 09 12.6**	**-0.1**
NB2	**NORSAR Subarra**	**64.09**	**344**	P	**P**	**10 09 34.3**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**64.09**	**344**	P	**P**	**10 09 34.7**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.2,baz=22,slow=6.6,SNR=5.2						
NOA	**NORSAR Array B**	**64.09**	**344**	P	**P**	**10 09 34.7**	**-0.6**
NOA	**NORSAR Array B**	**64.09**	**344**	P	**P**	**10 09 34.7**	**-0.6**
AKASG	**Malin Array Be**	**69.24**	**329**	P	**P**	**10 10 07.2**	**-1.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=30,slow

ms1mx3.1/26, Error ellipse: s-maj=170.2km s-min=33.9km az=158.0
*ISCJB **26** 10:50:11.7±1.4, 19°.1S±0°.2×177°.3E±0°.3, h33km, mb3.7/5, MS3.4/2, Error ellipse: s-maj=46.6km s-min=8.7km az=43.4*
*NEIC **26** 10:50:13.5±1.4, 18°.86S×177°.20E, h35km, mb3.7/1, Error ellipse: s-maj=66.5km s-min=13.8km az=145.0*

ISC 26 10:50:13.5±1.4, 19°.05±0°.2×177°.3E±0°.3, h35km, n17, σ1°01/12, mb3.7/5, MS3.4/2, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.48**	**31**	*e*Pn	**Pn**	**10 50 35.7**	**-1.9**
MSVF				*e*Sn	**Sn**	**10 50 56.4**	**+0.6**
DZM	**Mont Dzumac** 296nm,25.9s	**10.57**	**251**	*e*LR	LR	10 55 01.6	
URZ	**Urewera** comp=Z,133nm,18.5s,baz=295,slow=31	**19.18**	**180**	LR	LR	10 59 55.9	
RPZ	**Rata Peaks** comp=Z,109nm,19.5s,MS3.4,baz=348,slow=31	**25.18**	**191**	LR	LR	11 03 09.9	
CTA	**Charters Tower** comp=Z,92nm,18.2s,MS3.4,baz=52,slow=33	**29.21**	**263**	LR	LR	11 06 25.3	
TBI	**Tubuai** 103nm,28.8s	**31.30**	**104**	*e*LR	LR	11 04 33.8	
PPT2	**Papeete2** 156nm,29.5s	**31.50**	**93**	*e*LR	LR	11 04 39.3	
STKA	**Stephens Creek** 0.9nm,0.2s,mb4.3,baz=149,slow=12,SNR=2.9	**34.49**	**241**	P	**P**	**10 56 56.9**	**-1.4**
STKA	**Stephens Creek**	**34.49**	**241**	P	**P**	**10 56 56.9**	**-1.4**
WB2	**Warramunga Arr**	**40.38**	**261**	*e*P	**P**	**10 57 49.2**	**+0.9**
WRAB	**Tennant Creek** 2.1nm,1.3s,mb3.7	**40.38**	**261**	*e*P	**P**	**10 57 48.9**	**+0.6**
WRA	**Warramunga Arr** 0.4nm,0.9s,mb3.1,baz=98,slow=8.3,SNR=2.9	**40.39**	**261**	P	**P**	**10 57 48.0**	**-0.4**
WRA	**Warramunga Arr**	**40.39**	**261**	P	**P**	**10 57 48.0**	**-0.4**
ASAR	**Alice Springs** 0.9nm,0.8s,mb3.5,baz=83,slow=8.5,SNR=13	**40.53**	**256**	P	**P**	**10 57 49.7**	**+0.2**
ASAR	**Alice Springs**	**40.53**	**256**	P	**P**	**10 57 49.7**	**+0.2**
TXAR	**Lajitas Array** 0.4nm,0.8s,mb3.8,baz=224,slow=5.2,SNR=3.8	**90.08**	**59**	P	**P**	**11 03 11.1**	**+1.1**
TXAR	**Lajitas Array**	**90.08**	**59**	P	**P**	**11 03 11.1**	**+1.1**

IDC 26 11:17:29.7±1.5, 19°.41S×177°.60E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/17, mbtmp3.8/5, ML4.2/1, MS3.5/5, Ms1 3.5/5, ms1mx3.3/21, Error ellipse: s-maj=47.8km s-min=30.8km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 491nm,25.8s	**10.77**	**254**	*e*LR	LR	11 22 36.4	
URZ	**Urewera** 0.7nm,0.3s,baz=87,slow=3.1,SNR=7.8	**18.79**	**181**	P	Pn	11 21 49.5	-1.5
URZ	comp=Z,217nm,18.8s,baz=23,slow=30			LR	LR	11 26 55.7	
HNR	**Honiara** comp=Z,54nm,19.5s,baz=312,slow=34	**19.75**	**298**	LR	LR	11 28 31.5	
RAR	**Rarotonga** comp=Z,204nm,18.2s,baz=357,slow=30	**21.29**	**99**	LR	LR	11 28 16.4	
RPZ	**Rata Peaks** comp=Z,135nm,18.1s,baz=185,slow=32	**24.85**	**191**	LR	LR	11 30 34.9	
CTA	**Charters Tower** comp=Z,81nm,21.1s,baz=54,slow=33	**29.49**	**263**	LR	LR	11 33 38.2	
TBI	**Tubuai** 197nm,25.5s	**30.88**	**103**	*e*LQ		11 30 30.3	
TBI	134nm,28.5s			*e*LR	LR	11 31 57.7	
PPT2	**Papeete2** 241nm,25.8s	**31.16**	**92**	*e*LQ		11 30 36.6	
PPT2	176nm,26.5s			*e*LR	LR	11 32 15.7	
STKA	**Stephens Creek** 2.0nm,1.0s,baz=69,slow=9.0,SNR=3.2	**34.59**	**242**	P	P	11 24 21.7	+1.2
WRA	**Warramunga Arr** 0.9nm,1.0s,baz=93,slow=9.1,SNR=4.3	**40.66**	**262**	P	P	11 25 11.4	-0.5
ASAR	**Alice Springs** 1.0nm,0.8s,baz=85,slow=8.8,SNR=23	**40.75**	**256**	P	P	11 25 12.5	-0.2
TAOE	**Nuku Hiva Isla** 145nm,26.3s	**42.19**	**82**	*e*LR	LR	11 37 05.4	
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=206,slow=5.9,SNR=6.8	**90.00**	**59**	P	P	11 30 31.8	+0.3

IDC 26 11:21:30.8±5.6, 22°.77N×144°.84E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=210.3km s-min=31.7km az=72.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=17,slow=8.9,SNR=10	**43.67**	**194**	P	P	11 29 37.2	-0.2
ASAR	**Alice Springs** 0.1nm,0.3s,baz=12,slow=7.0,SNR=8.0	**47.36**	**194**	P	P	11 30 06.2	-0.4
STKA	**Stephens Creek** 0.8nm,0.8s,baz=0.0,slow=7.1,SNR=3.4	**54.42**	**183**	P	P	11 31 00.4	+0.7
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=92,slow=6.8,SNR=4.1	**55.12**	**312**	P	P	11 31 04.7	0.0
KURK	**Kurchatov** 0.4nm,0.6s,baz=94,slow=7.7,SNR=4.5	**57.75**	**317**	P	P	11 31 29.1	+5.7

*CSEM **26** 11:29:25.5, 37°.79N×25°.43W, h1km, ML2.4, After PDA*

PDA 26 11:29:25.5±0.7, 37°.79N×25°.43W, h1km±1km, MD3.6, ML2.4, Error ellipse: s-maj=2.7km s-min=0.9km az=21.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRON	**Grota Negra**	**0.08**	**255**	*i* P	Pg	11 29 26.9	-0.2
GRON				*e*S	Sg	11 29 28.3	+0.1
PDA	**Ponta Delgada**	**0.19**	**257**	*e*P	Pg	11 29 30.0	+0.9
PDA				*e*S	Sg	11 29 33.5	+2.0
PDA	423nm,0.2s			A		11 29 34.4	
PDA	**Ponta Delgada**	**0.19**	**257**	*e*P	Pg	11 29 30.0	+0.9
PDA				*e*S	Sg	11 29 33.5	+2.0
BART	**Pico Bartolome**	**0.21**	**93**	*e*P	Pg	11 29 31.1	+1.6
BART				*e*S	Sg	11 29 34.5	+2.3
BART	**Pico Bartolome**	**0.21**	**93**	*e*P	Pg	11 29 31.1	+1.6
BART				*e*S	Sg	11 29 34.5	+2.3
PSET	**Sete Cidades**	**0.23**	**278**	*e*P	Pg	11 29 30.8	+0.9
PSET				*e*S	Sg	11 29 35.0	+2.1
PSET	766nm,0.3s			A		11 29 40.0	
PSET	**Sete Cidades**	**0.23**	**278**	*e*P	Pg	11 29 30.8	+0.9
PSET				*e*S	Sg	11 29 35.0	+2.1
PSMA	**Santa Maria**	**0.83**	**163**	*e*S	Sg	11 29 50.9	-1.2
PSMA				A		11 29 51.7	
	27nm,0.1s						
PSMN	**Pico do Norte,**	**0.84**	**159**	*e*S	Sg	11 29 51.1	-1.3
PSMN	**Pico do Norte,**	**0.84**	**159**	*e*S	Sg	11 29 51.1	-1.3

*ISK **26** 11:41:54.6, 37°.25N×37°.08E, h5km, MD2.8*
*DDA **26** 11:41:56.2, 37°.31N×37°.27E, h7km±6km, Md2.8*
*CSEM **26** 11:41:56.0±0.4, 37°.33N×37°.08E, h7km±6km, MD2.8, Error ellipse: s-maj=13.7km s-min=11.1km az=63.0*
*ISCJB **26** 11:41:57.5±0.6, 37°.34N±0°.05×36°.92E±0°.06, h20km±9km, Error ellipse: s-maj=8.7km s-min=8.3km az=41.1*

ISC 26 11:41:57.3±0.7, 37°.33N±0°.05×36°.90E±0°.06, h19km±7km, n19, σ0°80/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.18**	**1**	*e*PG	**Pg**	**11 42 00.9**	**-1.2**
KMRS	**Kahramanmaras**	**0.18**	**1**	*e*Pg	**Pg**	**11 42 00.9**	**-1.1**
GAZ	**Gaziantep**	**0.29**	**121**	*e*PG	**Pg**	**11 41 57.9**	**-5.8**
GAZ				*e*SG	**Sg**	**11 42 00.1**	**-8.1**
GAZ	**Gaziantep**	**0.29**	**121**	*e*Pg	**Pg**	**11 41 57.9**	**-5.9**
GAZ				*e*Sg	**Sg**	**11 42 00.1**	**-8.1**
GZT	**Gaziantep**	**0.53**	**87**	*i* P	**Pg**	**11 42 01.0**	**-7.0**
GZT				*i* S	**Sg**	**11 42 15.8**	**+0.6**
KUZU	**Kuzuini**	**0.57**	**165**	*i* P	**Pg**	**11 42 08.6**	**0.0**
KUZU				*i* S	**Sg**	**11 42 16.0**	**-0.3**
KUZU	**Kuzuini**	**0.57**	**165**	*i* P	**Pg**	**11 42 08.6**	**0.0**
KUZU				*i* S	**Sg**	**11 42 16.0**	**-0.3**
KOZT	**Kozan**	**0.87**	**281**	*e*PG	**Pg**	**11 42 15.5**	**+1.3**
KOZT	**Kozan**	**0.87**	**281**	*e*Pg	**Pg**	**11 42 15.5**	**+1.3**
COBT	**Iskenderun**	**0.95**	**213**	*i* P	**Pg**	**11 42 16.3**	**+0.4**
COBT				*i* S	**Sg**	**11 42 34.3**	**+5.8**
COBT	**Iskenderun**	**0.95**	**213**	*i* P	**Pg**	**11 42 16.3**	**+0.4**
COBT				*i* S	**Sg**	**11 42 34.3**	**+5.9**
AKCD	**Akcadag**	**1.26**	**40**	*i* P	**Pn**	**11 42 19.8**	**-0.1**
AKCD				*i* S	**Sb**	**11 42 37.6**	**+1.2**
AKCD	**Akcadag**	**1.26**	**40**	*i* P	**Pn**	**11 42 19.8**	**-0.1**
AKCD				*i* S	**Sb**	**11 42 37.6**	**+1.2**
SARI	**SarD1z-Kayseri**	**1.36**	**353**	*e*Pn	**Pn**	**11 42 19.8**	**-1.5**
SARI				*e*SN	**Sn**	**11 42 39.2**	**+0.4**
SARI	**SarD1z-Kayseri**	**1.36**	**353**	*e*Pn	**Pn**	**11 42 19.8**	**-1.5**
SARI				*e*Sn	**Sn**	**11 42 39.2**	**+0.4**
MALT	**Malatya**	**1.56**	**50**	*e*PN	**Pn**	**11 42 23.9**	**-0.1**
MALT	**Malatya**	**1.56**	**50**	*e*Pn	**Pn**	**11 42 23.9**	**-0.1**
MYA	**Malataya**	**1.57**	**50**	*e*PN	**Pn**	**11 42 23.4**	**-0.7**
MYA	**Malataya**	**1.57**	**50**	*e*Pn	**Pn**	**11 42 23.4**	**-0.7**

*IDC **26** 11:43:50.5±0.7, 29°.78N×82°.03E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/27, mbtmp3.8/15, ML4.1/2, Error ellipse: s-maj=21.1km s-min=16.2km az=46.0*
*DMN **26** 11:43:53.2±0.3, 30°.09N×81°.90E, h10km, Ml4.5/9, Error ellipse: s-maj=8.3km s-min=5.4km az=27.0*
*ISCJB **26** 11:43:54.1±0.5, 29°.85N±0°.04×81°.94E±0°.03, h36km±7km, mb3.8/16, Error ellipse: s-maj=6.8km s-min=3.2km az=20.3*
*NEIC **26** 11:43:55.4±2.2, 29°.89N×81°.98E, h28km±18km, mb4.1/3, ML4.5(DMN), Error ellipse: s-maj=11.4km s-min=6.4km az=52.0*
*NDI **26** 11:43:55.6±3.4, 29°.90N×81°.96E, h23km±28km, ML4.0, mb4.1(NEIC)*

ISC 26 11:43:56.1±0.4, 29°.88N±0°.04×81°.95E±0°.03, h35km±6km, n83, σ1°12/108, mb3.8/16, 2D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.54**	**254**	*e*PKP	**Pn**	**11 44 26.1**	**+5.1**
LGTI				*e*x	x	11 44 53.6	
PTH	**Pithoragarh**	**1.54**	**258**	*e*PKP	**Pn**	**11 44 24.3**	**+3.3**
PTH				*e*x	x	11 44 47.3	
PYUN	**Piuthan**	**1.99**	**152**	*e*Pn	**Pn**	**11 44 28.3**	**+1.0**
PYUN	**Piuthan**	**1.99**	**152**	*e*Pn	**Pn**	**11 44 28.3**	**+1.0**
DANN	**Dangsing**	**2.20**	**133**	*e*Pn	**Pn**	**11 44 30.7**	**+0.6**
DANN				*e*Sn	**Sn**	**11 44 57.8**	**+1.7**
	1μm,0.5s						
DANN	**Dangsing**	**2.20**	**133**	*e*Pn	**Pn**	**11 44 30.7**	**+0.6**
DANN				*e*Sn	**Sn**	**11 44 57.8**	**+1.7**
KOLN	**Koldanda**	**2.55**	**145**	*e*Pn	**Pn**	**11 44 36.3**	**+1.3**
KOLN				*e*Sn	**Sn**	**11 45 06.5**	**+1.7**
	751nm,0.5s						
KOLN	**Koldanda**	**2.55**	**145**	*e*Pn	**Pn**	**11 44 36.3**	**+1.3**
KOLN				*e*Sn	**Sn**	**11 45 06.5**	**+1.7**
GKN	**Gorkha**	**3.01**	**128**	*e*Pn	**Pn**	**11 44 41.7**	**+0.5**
GKN				*e*Sn	**Sn**	**11 45 17.2**	**+1.1**
	579nm,0.3s						
GKN	**Gorkha**	**3.01**	**128**	*e*Pn	**Pn**	**11 44 41.7**	**+0.5**
GKN				*e*Sn	**Sn**	**11 45 17.2**	**+1.1**
DDI	**Dehra Dun**	**3.40**	**278**	*e*PKP	**Pn**	**11 44 46.3**	**-0.3**
DDI				*e*S	**Sn**	**11 45 25.7**	**-0.1**
DMN	**Daman**	**3.58**	**128**	*e*Pn	**Pn**	**11 44 49.4**	**+0.3**
DMN	**Daman**	**3.58**	**128**	*e*Pn	**Pn**	**11 44 49.4**	**+0.3**
KKN	**Kakani**	**3.59**	**125**	*e*Pn	**Pn**	**11 44 49.1**	**-0.1**
KKN				*e*Sn	**Sn**	**11 45 30.7**	**+0.3**
KKN	**Kakani**	**3.59**	**125**	*e*Pn	**Pn**	**11 44 49.1**	**-0.1**
KKN				*e*Sn	**Sn**	**11 45 30.7**	**+0.3**
PKI	**Pulchoki**	**3.81**	**126**	*e*Pn	**Pn**	**11 44 52.2**	**-0.1**
PKI				*e*Sn	**Sn**	**11 45 35.8**	**-0.1**
	272nm,0.5s						
PKI	**Pulchoki**	**3.81**	**126**	*e*Pn	**Pn**	**11 44 52.2**	**-0.1**
PKI				*e*Sn	**Sn**	**11 45 35.8**	**-0.1**
GUN	**Gumba**	**3.97**	**119**	*e*Pn	**Pn**	**11 44 53.8**	**-0.6**
GUN				*e*Sn	**Sn**	**11 45 39.5**	**-0.2**
	573nm,0.8s						
GUN	**Gumba**	**3.97**	**119**	*e*Pn	**Pn**	**11 44 53.8**	**-0.6**
GUN				*e*Sn	**Sn**	**11 45 39.5**	**-0.2**
NDI	**New Delhi**	**4.30**	**255**	*e*PKP	**Pn**	**11 44 59.0**	**0.0**
NDI				*e*PKP		11 45 01.0	
NDI				*e*S	**Sn**	**11 45 45.7**	**-2.3**
SMLA	**Simla**	**4.31**	**288**	*e*PKP	**Pn**	**11 44 59.9**	**+0.8**
SMLA				*e*S	**Sn**	**11 45 46.2**	**-1.9**
SMLA				||AML	AML	11 45 54.6	
	comp=N,2μm,0.3s						
SMLA				||AML	AML	11 45 54.6	
	comp=E,2μm,0.3s						
JIRN	**Jiri**	**4.33**	**120**	*e*Pn	**Pn**	**11 44 59.3**	**-0.1**
JIRN				*e*Sn	**Sn**	**11 45 48.1**	**-0.6**
	comp=E,51nm,0.2s						
JIRN	**Jiri**	**4.33**	**120**	*e*Pn	**Pn**	**11 44 59.3**	**-0.1**
JIRN				*e*Sn	**Sn**	**11 45 48.1**	**-0.6**
AYAN	**Aya Nagar**	**4.44**	**253**	*e*PKP	**Pn**	**11 45 01.7**	**+0.8**
ALBI	**Allahabad**	**4.55**	**182**	*e*x	**Pn**	**11 45 00.0**	**-2.5**
SDNR	**Sundarnagar**	**4.58**	**292**	*e*x	**Pn**	**11 45 08.0**	**+5.1**
SDNR				*e*x	x	11 46 18.0	
BHK	**Bhakra**	**5.01**	**289**	*e*x	x	11 45 27.0	
RAMN	**Ramite**	**5.03**	**124**	*e*Pn	**Pn**	**11 45 08.2**	**-0.8**
RAMN				*e*Sn	**Sn**	**11 46 05.0**	**-0.9**
	comp=E,234nm,0.2s						
RAMN	**Ramite**	**5.03**	**124**	*e*Pn	**Pn**	**11 45 08.2**	**-0.8**
RAMN				*e*Sn	**Sn**	**11 46 05.0**	**-0.9**
TAPN	**Taplejung**	**5.66**	**115**	*e*Pn	**Pn**	**11 45 17.2**	**-0.5**
TAPN				*e*Sn	**Sn**	**11 46 20.2**	**-1.2**
	comp=E,156nm,0.7s						
TAPN	**Taplejung**	**5.66**	**115**	*e*Pn	**Pn**	**11 45 17.2**	**-0.5**
TAPN				*e*Sn	**Sn**	**11 46 20.2**	**-1.2**
ODAN	**Odare**	**5.66**	**121**	*e*Pn	**Pn**	**11 45 17.7**	**0.0**
ODAN				*e*Sn	**Sn**	**11 46 20.2**	**-1.3**
	comp=E,139nm,0.4s						
ODAN	**Odare**	**5.66**	**121**	*e*Pn	**Pn**	**11 45 17.7**	**0.0**
ODAN				*e*Sn	**Sn**	**11 46 20.2**	**-1.3**
KHET	**Khetri**	**5.67**	**253**	*e*PKP	**Pn**	**11 45 18.1**	**+0.2**
KHET				*e*S	**Sn**	**11 46 19.4**	**-2.4**
KHET				AML	AML	11 47 04.6	
	comp=N,58nm,0.5s						
KHET				AML	AML	11 47 09.9	
	comp=E,85nm,1.1s						
THN	**Thein Dam**	**5.92**	**297**	*e*x	x	11 45 41.8	
JBP	**Jabalpur**	**6.91**	**195**	*e*PKP	**Pn**	**11 45 34.6**	**-0.3**
JBP				*e*x	x	11 46 53.0	
AJM	**Ajmer**	**7.28**	**244**	*e*PKP	**Pn**	**11 45 40.0**	**0.0**
AJM				*e*x	x	11 47 00.0	
BHPL	**Bhopal**	**7.75**	**213**	*e*PKP	**Pn**	**11 45 46.5**	**+0.1**
BHPL				*e*x	x	11 47 10.3	
LSA	**Lhasa**	**8.00**	**89**	*e*Pn	**Pn**	**11 45 50.5**	**+0.7**
	comp=E,12nm,0.5s						
LSA				*e*Sn	**Sn**	**11 47 19.1**	**0.0**
CHCP	**Chirah Chowk**	**8.30**	**299**	P	**Pn**	**11 45 56.5**	**+2.6**
THW	**Thamme Wali**	**9.20**	**291**	P	**Pn**	**11 46 07.7**	**+1.5**
CEP	**Cherat**	**9.40**	**297**	P	**Pn**	**11 46 09.3**	**+0.3**
SHL	**Shillong**	**9.79**	**114**	*e*PKP	**Pn**	**11 46 13.4**	**-1.0**
SHL				*e*S	**Sn**	**11 47 55.8**	**-7.4**
KBL	**Kabul**	**11.87**	**296**	*e*Pn	**Pn**	**11 46 41.5**	**-1.3**
	comp=E,7.9nm,0.8s						
KBL				*e*Sn	**Sn**	**11 48 53.5**	**-0.5**
HYB	**Hyderabad**	**12.79**	**195**	*i* P	**Pn**	**11 46 51.0**	**-4.4**
HYB				*e*S	**Sn**	**11 49 18.0**	**+1.4**
MK31	**Makanchi Array**	**16.89**	**1**	*e*P	**Pn**	**11 47 51.3**	**+1.7**
MKAR	**Makanchi Array**	**16.89**	**1**	Pn	**Pn**	**11 47 48.9**	**-0.7**
	comp=E,0.3nm,0.3s,baz=179,slow=11,SNR=15						
MKAR	**Makanchi Array**	**16.89**	**1**	Pn	**Pn**	**11 47 48.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**19.20**	**122**	P	**Pn**	**11 48 15.7**	**-2.5**
	comp=E,0.4nm,0.3s,baz=312,slow=9.6,SNR=30						
CMAR	**Chiang Mai Arr**	**19.20**	**122**	P	**Pn**	**11 48 15.7**	**-2.5**
KURK	**Kurchatov**	**20.96**	**354**	P	**P**	**11 48 34.4**	**-1.5**
	comp=E,4.5nm,0.7s,baz=179,slow=10,SNR=32						
KURK	**Kurchatov**	**20.96**	**354**	P	**P**	**11 48 34.4**	**-1.5**
KURK				*e*P		11 48 35.6	
ENH	**Enshi**	**23.82**	**82**	*e*P	**P**	**11 49 06.6**	**+0.7**
	comp=E,11nm,0.4s,mb4.7						
ZAA0	**Zalesovo Array**	**24.14**	**4**	P	**P**	**11 49 06.4**	**-2.1**
ZALV	**Zalesovo Beam**	**24.14**	**4**	P	**P**	**11 49 08.5**	**0.0**
	comp=E,1.1nm,0.4s,mb3.6,baz=198,slow=11,SNR=5.4						
ZALV	**Zalesovo Beam**	**24.14**	**4**	P	**P**	**11 49 08.5**	**0.0**
BVAR	**Borovoye Array**	**24.63**	**343**	P	**P**	**11 49 13.7**	**+0.7**
	comp=E,0.7nm,0.4s,mb3.5,baz=140,slow=10,SNR=6.0						
BVAR	**Borovoye Array**	**24.63**	**343**	P	**P**	**11 49 13.7**	**+0.7**
ABKAR	**Akbulak array**	**25.57**	**325**	*e*P	**P**	**11 49 23.2**	**+1.6**
	comp=E,1.8nm,0.6s,mb3.8						
SONM	**Songino Array**	**25.98**	**40**	P	**P**	**11 49 26.1**	**+0.8**
	comp=E,3.0nm,0.8s,mb3.9,baz=225,slow=9.1,SNR=21						
SONM	**Songino Array**	**25.98**	**40**	P	**P**	**11 49 26.1**	**+0.8**
ULN	**Ulaanbaatar**	**26.36**	**40**	*e*P	**P**	**11 49 30.2**	**+1.5**
	comp=E,4.4nm,1.0s,mb3.9						
KSAR	**Wonju Array Be**	**38.66**	**66**	P	**P**	**11 51 15.2**	**-1.1**
KSRS	**Korea Array**	**38.70**	**66**	P	**P**	**11 51 15.2**	**-1.4**
	comp=E,2.1nm,0.7s,mb4.0,baz=279,slow=9.8,SNR=6.1						
BRTR	**Keskin Array B**	**40.45**	**297**	P	**P**	**11 51 33.1**	**+2.0**
	comp=E,0.8nm,0.6s,mb3.6,baz=131,slow=13,SNR=4.4						
BRTR	**Keskin Array B**	**40.45**	**297**	P	**P**	**11 51 33.1**	**+2.0**
FINES	**FINESS Array B**	**48.02**	**328**	P	**P**	**11 52 31.7**	**+0.3**
	comp=E,2.3nm,0.8s,mb4.2,baz=126,slow=9.8,SNR=5.7						
FINES	**FINESS Array B**	**48.02**	**328**	P	**P**	**11 52 31.7**	**+0.3**
NOA	**NORSAR Array B**	**55.08**	**326**	P	**P**	**11 53 27.4**	**+3.2**
	comp=E,0.7nm,0.9s,mb3.7,baz=90,slow=8.2,SNR=2.9						
NOA	**NORSAR Array B**	**55.08**	**326**	P	**P**	**11 53 27.4**	**+3.2**
ESDC	**Sonseca Array**	**68.72**	**304**	P	**P**	**11 54 56.8**	**+0.6**
	comp=E,0.3nm,0.4s,mb3.6,baz=56,slow=6.0,SNR=3.6						
ESDC	**Sonseca Array**	**68.72**	**304**	P	**P**	**11 54 56.8**	**+0.6**
WRA	**Warramunga Arr**	**70.70**	**128**	P	**P**	**11 55 07.8**	**-0.8**
	comp=E,0.2nm,0.6s,mb3.2,baz=317,slow=7.2,SNR=3.6						
WRA	**Warramunga Arr**	**70.70**	**128**	P	**P**	**11 55 07.8**	**-0.8**
ASAR	**Alice Springs**	**72.97**	**131**	P	**P**	**11 55 21.3**	**-0.8**
	comp=E,0.5nm,1.1s,mb3.4,baz=299,slow=8.0,SNR=3.9						
ASAR	**Alice Springs**	**72.97**	**131**	P	**P**	**11 55 21.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**75.21**	**277**	P	**P**	**11 55 35.6**	**+0.1**
	comp=E,0.7nm,0.6s,mb3.8,baz=50,slow=4.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**75.21**	**277**	P	**P**	**11 55 35.6**	**+0.1**
BOSA	**Boshof**	**79.44**	**228**	P	**P**	**11 55 58.8**	**0.0**
	comp=E,2.1nm,0.9s,mb4.1,baz=18,slow=6.4,SNR=4.3						
BOSA	**Boshof**	**79.44**	**228**	P	**P**	**11 55 58.8**	**0.0**
YKA	**Yellowknife Ar**	**86.99**	**8**	P	**P**	**11 56 37.0**	**-0.3**
	comp=E,0.1nm,0.5s,mb3.3,baz=341,slow=5.3,SNR=4.0						
YKA	**Yellowknife Ar**	**86.99**	**8**	P	**P**	**11 56 37.0**	**-0.3**
DAU	**Daniels Canyon**	**109.00**	**11**	*e*PKPdf	PKiKP	12 02 24.7	+2.7

*DDA **26** 11:50:10.9, 37°.89N×29°.24E, h8km±4km, Md2.9*
*ISCJB **26** 11:50:11.4±0.5, 37°.90N±0°.02×29°.21E±0°.04, h2km±6km, Error ellipse: s-maj=5.0km s-min=3.6km az=170.2*
*ISK **26** 11:50:11.0, 37°.90N×29°.19E, h4km, MD2.9*
*CSEM **26** 11:50:11.3±0.2, 37°.90N×29°.24E, h2km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.0km az=89.0*

ISC 26 11:50:11.9±0.4, 37°.90N±0°.02×29°.21E±0°.04, h4km±7km, n32, σ0°91/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**224**	*e*PG	**Pg**	**11 50 15.5**	**-0.3**
DENT	**Denizli**	**0.20**	**224**	*e*Pg	**Pg**	**11 50 15.5**	**-0.3**
DNZL	**Cakiroluk**	**0.24**	**212**	*i* P	**Pg**	**11 50 15.8**	**-0.9**
DNZL				*i* S	**Sg**	**11 50 19.4**	**-0.4**
DNZL	**Cakiroluk**	**0.24**	**212**	*i* P	**Pg**	**11 50 15.8**	**-0.8**
DNZL				*i* S	**Sg**	**11 50 19.4**	**-0.4**
KHAL	**Karahalli**	**0.52**	**25**	*i* P	**Pg**	**11 50 21.3**	**-0.6**
KHAL				*i* S	**Sg**	**11 50 29.2**	**+0.5**
KHAL	**Karahalli**	**0.52**	**25**	*i* P	**Pg**	**11 50 21.3**	**-0.6**
KHAL				*i* S	**Sg**	**11 50 29.2**	**+0.5**
GOLH	**Golhisar**	**0.72**	**157**	*i* P	**Pg**	**11 50 23.9**	**-1.7**
GOLH				*i* S	**Sg**	**11 50 36.0**	**+1.1**
GOLH	**Golhisar**	**0.72**	**157**	*i* P	**Pg**	**11 50 23.9**	**-1.7**
GOLH				*i* S	**Sg**	**11 50 36.0**	**+1.1**
KULA	**Kula-Manisa**	**0.75**	**325**	*e*PG	**Pg**	**11 50 26.2**	**-0.1**
KULA				*e*SG	**Sg**	**11 50 36.7**	**+0.6**
KULA	**Kula-Manisa**	**0.75**	**325**	*e*Pg	**Pg**	**11 50 26.3**	**0.0**
KULA				*e*Sg	**Sg**	**11 50 36.7**	**+0.6**
GLHS	**Glhisar (BURDU**	**0.78**	**163**	*e*PG	**Pg**	**11 50 26.8**	**0.0**
GLHS				*e*SG	**Sg**	**11 50 38.3**	**+1.5**
GLHS	**Glhisar (BURDU**	**0.78**	**163**	*e*Pg	**Pg**	**11 50 26.8**	**0.0**
GLHS				*e*Sg	**Sg**	**11 50 38.3**	**+1.5**
MANT	**Manisa**	**0.78**	**319**	*i* P	**Pg**	**11 50 26.9**	**0.0**
MANT				*i* S	**Sg**	**11 50 39.3**	**+2.3**
MANT	**Manisa**	**0.78**	**319**	*i* P	**Pg**	**11 50 26.9**	**0.0**
MANT				*i* S	**Sg**	**11 50 39.3**	**+2.2**
ISP	**Isparta**	**1.04**	**94**	*e*PG	**Pg**	**11 50 31.1**	**-0.8**
ISP				*e*SG	**Sg**	**11 50 47.2**	**+1.8**
ISP	**Isparta**	**1.04**	**94**	*e*Pg	**Pg**	**11 50 31.1**	**-0.8**
YER	**Yerkesik**	**1.06**	**224**	*e*PG	**Pg**	**11 50 31.6**	**-0.5**
YER	**Yerkesik**	**1.06**	**224**	*e*Pg	**Pg**	**11 50 31.7**	**-0.5**
DEMI	**Demirci**	**1.21**	**342**	*i* P	**Pg**	**11 50 35.1**	**0.0**
DEMI				*i* S	**Sg**	**11 50 51.1**

XAN				LR	LR		
	comp=E,150nm,6.8s						
XAN				LR	LR		
	comp=Z,200nm,7.8s						
CMAR	**Chiang Mai Arr**	**10.14**	**228**	Pn	**Pn**	**12 08 12.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=37,slow=12,SNR=6.4						
CMAR				Pg	Pn	12 08 57.6	+46
	comp=Z,0.2nm,0.3s,baz=42,slow=16,SNR=23						
CMAR				Lg		12 11 06.5	
	comp=Z,0.0nm,0.3s,baz=219,slow=31,SNR=3.1						
CMAR	**Chiang Mai Arr**	**10.14**	**228**	Pn	**Pn**	**12 08 12.1**	**+0.4**
CMAR				Pg	Pn	12 08 57.6	+46
CMAR				Lg		12 11 06.5	
LZH	**Lanzhou**	**10.81**	**347**	*e*P	**Pn**	**12 08 21.5**	**+0.8**
LZH				pP		12 08 23.3	
LZH				sP		12 08 25.0	
LZH				S	**Sn**	**12 10 24.0**	**+2.0**
LZH				sS		12 10 30.0	
LZH				SS		12 10 38.0	
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,81nm,4.0s						
LZH				LR	LR		
	comp=N,420nm,10.7s						
LZH				LR	LR		
	comp=E,340nm,9.6s						
LZH				LR	LR		
	comp=Z,350nm,11.8s						
LSA	**Lhasa**	**14.48**	**290**	*e*P	**Pn**	**12 09 12.0**	**+1.1**
LSA	**Lhasa**	**14.48**	**290**	*e*Pn	**Pn**	**12 09 12.8**	**+1.9**
	comp=Z,5.8nm,0.6s						
GTA	**Gaotai**	**15.03**	**339**	*e*P	**Pn**	**12 09 17.3**	**-1.0**
GTA				pP	pP	12 09 21.3	-4.4
GTA				sP	sP	12 09 23.5	-3.1
GTA				S	**Sn**	**12 12 06.0**	**+1.0**
GTA				sS	sS	12 12 10.5	-15
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,220nm,5.2s						
GTA				LR	LR		
	comp=N,310nm,10.2s						
GTA				LR	LR		
	comp=E,390nm,11.6s						
GTA				LR	LR		
	comp=Z,280nm,10.5s						
HHC	**Hu-ho-hao-te**	**15.77**	**13**	*e*P	**Pn**	**12 09 29.0**	**+1.0**
HHC				PP		12 09 42.8	
HHC				S	**Sn**	**12 12 25.5**	**+2.5**
HHC				sS	sS	12 12 31.0	-10
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,3.9s						
HHC				LR	LR		
	comp=N,370nm,7.1s						
HHC				LR	LR		
	comp=E,320nm,7.1s						
HHC				LR	LR		
	comp=Z,320nm,7.3s						
TAPN	**Taplejung**	**17.20**	**280**	*e*P	**Pn**	**12 09 46.8**	**+0.4**
	comp=Z,13nm,0.7s						
TAPN	**Taplejung**	**17.20**	**280**	*e*P	**Pn**	**12 09 46.8**	**+0.4**
	comp=Z,13nm,0.7s						
RAMN	**Ramite**	**18.18**	**279**	*e*P	**Pn**	**12 09 59.1**	**+0.5**
RAMN	**Ramite**	**18.18**	**279**	*e*P	**Pn**	**12 09 59.1**	**+0.5**
JIRN	**Jiri**	**18.56**	**281**	*e*P	**Pn**	**12 10 03.2**	**+0.1**
JIRN	**Jiri**	**18.56**	**281**	*e*P	**Pn**	**12 10 03.2**	**+0.1**
GUN	**Gumba**	**18.84**	**282**	*e*P	**Pn**	**12 10 06.2**	**-0.4**
	comp=Z,23nm,0.7s						
GUN	**Gumba**	**18.84**	**282**	*e*P	**Pn**	**12 10 06.2**	**-0.4**
	comp=Z,23nm,0.7s						
PKI	**Pulchoki**	**19.25**	**281**	*e*P	**Pn**	**12 10 10.4**	**-1.1**
	comp=Z,17nm,0.7s						
PKI	**Pulchoki**	**19.25**	**281**	*e*P	**Pn**	**12 10 10.4**	**-1.1**
	comp=Z,17nm,0.7s						
DMN	**Daman**	**19.52**	**281**	*e*P	**Pn**	**12 10 14.2**	**-0.5**
	comp=Z,19nm,0.8s						
DMN	**Daman**	**19.52**	**281**	*e*P	**Pn**	**12 10 14.2**	**-0.5**
	comp=Z,19nm,0.8s						
GKN	**Gorkha**	**19.95**	**282**	*e*P	**Pn**	**12 10 18.4**	**-1.4**
GKN	**Gorkha**	**19.95**	**282**	*e*P	**Pn**	**12 10 18.4**	**-1.4**
DANN	**Dangsing**	**20.73**	**283**	*e*P	**P**	**12 10 25.8**	**-0.9**
	comp=Z,52nm,0.8s						
DANN	**Dangsing**	**20.73**	**283**	*e*P	**P**	**12 10 25.8**	**-0.9**
	comp=Z,52nm,0.8s						
KOLN	**Koldanda**	**20.86**	**281**	*e*P	**P**	**12 10 28.5**	**+0.4**
KOLN	**Koldanda**	**20.86**	**281**	*e*P	**P**	**12 10 28.5**	**+0.4**
KSAR	**Wonju Array Be**	**21.48**	**51**	P	**P**	**12 10 34.9**	**+0.2**
KSRS	**Korea Array**	**21.51**	**51**	P	**P**	**12 10 34.9**	**-0.2**
	comp=Z,3.9nm,0.8s,mb3.9,baz=242,slow=9.9,SNR=12						
SONM	**Songino Array**	**22.25**	**359**	P	**P**	**12 10 43.1**	**+0.2**
	comp=Z,8.2nm,0.6s,mb4.4,baz=178,slow=11,SNR=55						
SONM	**Songino Array**	**22.25**	**359**	P	**P**	**12 10 43.1**	**+0.2**
ULN	**Ulaanbaatar**	**22.28**	**0**	*e*P	**P**	**12 10 43.7**	**+0.5**
	comp=Z,11nm,0.8s,mb4.3						
CN2	**Changchun**	**23.71**	**35**	*e*P	**P**	**12 10 58.8**	**+0.7**
CN2				*ep*P		12 11 02.8	
CN2				*e*S	**S**	**12 15 10.8**	**-2.4**
CN2				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.7						
CN2				pmax	pmax		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,9.0s						
CN2				LR	LR		
	comp=E,300nm,9.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
USRK	**Ussuriysk Arra**	**27.64**	**41**	P	**P**	**12 11 33.5**	**-0.2**
	comp=Z,11nm,0.7s,mb4.6,baz=240,slow=7.3,SNR=19						
MK31	**Makanchi Array**	**28.80**	**324**	*e*P	**P**	**12 11 45.0**	**+0.9**
MKAR	**Makanchi Array**	**28.80**	**324**	P	**P**	**12 11 44.1**	**+0.1**
	comp=Z,1.6nm,0.6s,mb3.9,baz=129,slow=9.0,SNR=13						
MKAR	**Makanchi Array**	**28.80**	**324**	P	**P**	**12 11 44.1**	**+0.1**
ZAA0	**Zalesovo Array**	**32.75**	**336**	*e*P	**P**	**12 12 18.3**	**-0.5**
ZALV	**Zalesovo Beam**	**32.75**	**336**	P	**P**	**12 12 18.4**	**-0.4**
	comp=Z,9.3nm,0.7s,mb4.8,baz=133,slow=8.1,SNR=27						
ZALV	**Zalesovo Beam**	**32.75**	**336**	P	**P**	**12 12 18.4**	**-0.4**
KURK	**Kurchatov**	**33.15**	**327**	*e*P	**P**	**12 12 22.6**	**+0.2**
	comp=Z,10nm,0.8s,mb4.8						
AKTO	**Aktyubinsk**	**44.74**	**317**	P	**P**	**12 13 60.0**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.7,baz=63,slow=6.8,SNR=3.0						
AKTO	**Aktyubinsk**	**44.74**	**317**	P	**P**	**12 13 60.0**	**+0.6**
WRA	**Warramunga Arr**	**52.54**	**147**	P	**P**	**12 14 59.9**	**+0.2**
	comp=Z,1.2nm,1.0s,mb3.8,baz=332,slow=8.5,SNR=5.3						
WRA	**Warramunga Arr**	**52.54**	**147**	P	**P**	**12 14 59.9**	**+0.2**
WB2	**Warramunga Arr**	**52.54**	**147**	P	**P**	**12 15 00.3**	**+0.5**
ASAR	**Alice Springs**	**55.51**	**150**	P	**P**	**12 15 21.9**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=333,slow=6.6,SNR=12						
ASAR	**Alice Springs**	**55.51**	**150**	P	**P**	**12 15 21.9**	**+0.5**
AKASG	**Malin Array Be**	**62.97**	**316**	P	**P**	**12 16 10.9**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.3,baz=69,slow=6.8,SNR=4.5						
AKASG	**Malin Array Be**	**62.97**	**316**	P	**P**	**12 16 10.9**	**-1.8**
ARCES	**ARCESS Array B**	**63.29**	**337**	P	**P**	**12 16 13.9**	**-0.7**
	comp=Z,9.3nm,1.0s,mb4.9,baz=69,slow=6.8,SNR=4.0						
ARCES	**ARCESS Array B**	**63.29**	**337**	P	**P**	**12 16 13.9**	**-0.7**
FINES	**FINESS Array B**	**63.51**	**328**	P	**P**	**12 16 15.3**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.2,baz=77,slow=8.6,SNR=6.7						
FINES	**FINESS Array B**	**63.51**	**328**	P	**P**	**12 16 15.3**	**-0.8**
NB2	**NORSAR Subarra**	**70.62**	**329**	P	**P**	**12 17 00.0**	**-1.4**
	comp=Z,0.2nm,0.5s,mb3.3,baz=67,slow=5.6						
NOA	**NORSAR Array B**	**70.62**	**329**	P	**P**	**12 17 00.4**	**-0.9**
	comp=Z,1.1nm,0.8s,mb3.8,baz=74,slow=6.4,SNR=3.2						
NOA	**NORSAR Array B**	**70.62**	**329**	P	**P**	**12 17 00.4**	**-0.9**
GERES	**GERESS Array B**	**73.17**	**316**	P	**P**	**12 17 16.9**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=64,slow=5.8,SNR=9.4						
GERES	**GERESS Array B**	**73.17**	**316**	P	**P**	**12 17 16.9**	**0.0**
ILAR	**Eielson Array**	**73.81**	**25**	P	**P**	**12 17 19.4**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=282,slow=4.4,SNR=4.7						
ILAR	**Eielson Array**	**73.81**	**25**	P	**P**	**12 17 19.4**	**-1.0**
INK	**Inuvik**	**76.60**	**19**	P	**P**	**12 17 35.8**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=300,slow=2.7,SNR=4.6						
INK	**Inuvik**	**76.60**	**19**	P	**P**	**12 17 35.8**	**-0.6**
YKA	**Yellowknife Ar**	**86.26**	**18**	P	**P**	**12 18 27.3**	**-0.3**
	comp=Z,0.9nm,0.6s,mb4.2,baz=326,slow=4.9,SNR=17						
YKA	**Yellowknife Ar**	**86.26**	**18**	P	**P**	**12 18 27.3**	**-0.3**

JMA 26 12:06:06.2±0.4, 43°.95N×147°.84E, h0km, M4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.63**	**250**	P	Pn	12 06 36.2	+0.1
NEM2				*e*S	Sn	12 06 58.2	+0.4
JRA	**Rausu**	**1.96**	**271**	P	Pn	12 06 41.2	+0.5
JAK	**Akkeshi**	**2.48**	**248**	P	Pn	12 06 48.4	+0.6
JTKR	**Abashiri--Toko**	**2.84**	**272**	P	Pn	12 06 54.6	+1.9
JAR	**Ashorobuto**	**3.03**	**259**	P	Pn	12 06 56.6	+1.3
JOB	**Onbets**	**3.10**	**252**	P	Pn	12 06 57.6	+1.3
JMP	**Maruseppu**	**3.23**	**273**	P	Pn	12 07 00.1	+1.9
JCH	**Churui**	**3.53**	**249**	P	Pn	12 07 03.1	+0.8
JNBK	**Urakawa-nobuka**	**4.08**	**248**	P	Pn	12 07 11.7	+1.9

*ISCJB **26** 12:10:56.9±1.3, 55°.92N±0°.05×151°.33W±0°.06, h25km±13km, mb3.6/4, Error ellipse: s-maj=7.9km s-min=5.1km az=6.6*
*IDC **26** 12:10:56.7±1.6, 55°.89N×150°.92W, h0km, mb3.7/4, mb1 4.0/8, mb1mx3.7/27, mbtmp3.7/8, ML3.5/4, Error ellipse: s-maj=38.3km s-min=20.7km az=38.0*
*NEIC **26** 12:10:59.8, 55°.91N×151°.57W, h15km, ML3.5(AEIC), After AEIC.*
ISC 26 12:10:57.6±1.4, 55°.84N±0°.05×151°.46W±0°.06, h21km±14km, n56, σ0s94/72, mb3.6/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.72**	**325**	*e*Pn	**Pn**	**12 11 25.4**	**-0.8**
OHAK				*e*Sn	**Sn**	**12 11 43.8**	**-3.8**
KDAK	**Kodiak Island**	**2.04**	**343**	Pn	**Pn**	**12 11 30.6**	**-0.2**
	14nm,0.3s,baz=180,slow=8.4,SNR=208						
KDAK				Sn	**Sn**	**12 11 55.0**	**-0.6**
	12nm,0.3s,baz=180,slow=6.2,SNR=7.7						
KDAK	**Kodiak Island**	**2.04**	**343**	P	**Pn**	**12 11 30.6**	**-0.2**
KDAK				S	**Sn**	**12 11 53.9**	**-1.8**
KDAK				Sn	**Sn**	**12 11 55.0**	**-0.6**
CAHL	**Cahill**	**3.06**	**318**	P	**Pn**	**12 11 44.8**	**+0.1**
MGLS	**Mageik Landsli**	**3.07**	**320**	P	**Pn**	**12 11 45.0**	**+0.2**
FOPK	**Fourpeaked Vol**	**3.12**	**340**	P	**Pn**	**12 11 46.5**	**+0.8**
KAKN	**Katmai Knife C**	**3.15**	**323**	P	**Pn**	**12 11 46.6**	**+0.6**
KAKN				S	**Sn**	**12 12 23.1**	**+0.1**
KCE	**Katmai Mt Cerb**	**3.15**	**321**	P	**Pn**	**12 11 47.3**	**+1.2**
KAPH	**Katmai Pasha**	**3.18**	**332**	P	**Pn**	**12 11 47.4**	**+1.0**
KAPH				S	**Sn**	**12 12 24.7**	**+1.1**
ACHA	**Angle Creek He**	**3.18**	**320**	P	**Pn**	**12 11 46.7**	**+0.3**
ACHA				S	**Sn**	**12 12 22.9**	**-0.8**
FOSS	**Fourpeaked Sta**	**3.21**	**339**	P	**Pn**	**12 11 47.2**	**+0.4**
PLK3	**Peulik 3**	**3.23**	**307**	P	**Pn**	**12 11 46.7**	**-0.4**
PLK3				S	**Sn**	**12 12 23.6**	**-1.3**
PLK2	**Peulik 2**	**3.30**	**308**	P	**Pn**	**12 11 48.3**	**+0.3**
KELA	**Mount Kelaz**	**3.50**	**320**	P	**Pn**	**12 11 51.0**	**+0.2**
ANPK	**Aniakchak Peak**	**3.84**	**288**	P	**Pn**	**12 11 55.0**	**-0.5**
OPT	**Oil Point**	**3.94**	**347**	P	**Pn**	**12 11 58.0**	**+1.2**
BRLK	**Bradley Lake**	**3.95**	**4**	P	**Pn**	**12 11 56.6**	**-0.3**
INE	**Iliamna NE**	**4.32**	**349**	P	**Pn**	**12 12 03.1**	**+1.0**
ILW	**Iliamna West**	**4.33**	**349**	P	**Pn**	**12 12 03.1**	**+1.0**
SEW	**Seward**	**4.41**	**13**	P	**Pn**	**12 12 02.0**	**-1.2**
RSO	**Redoubt South**	**4.69**	**352**	P	**Pn**	**12 12 08.2**	**+1.1**
SLKM	**Skilak Lake**	**4.73**	**7**	*e*Pn	**Pn**	**12 12 08.5**	**+0.9**
SLKM				*e*Sn	**Sn**	**12 13 02.6**	**+0.9**
RC01	**Rabbit Creek A**	**5.34**	**9**	*e*Pn	**Pn**	**12 12 15.6**	**-0.5**
	14nm,0.4s						
RC01				*e*Sn	**Sn**	**12 13 16.5**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.61**	**30**	P	**Pn**	**12 12 19.1**	**-0.5**
STLK	**Strandline Lak**	**5.68**	**358**	P	**Pn**	**12 12 21.2**	**+0.5**
VLZ	**Valdez**	**5.95**	**25**	P	**Pn**	**12 12 24.0**	**-0.4**
DIV	**Divide**	**6.08**	**27**	*e*Pn	**Pn**	**12 12 25.9**	**-0.4**
DIV				*e*Sn	**Sn**	**12 13 33.6**	**-1.6**
DT1	**Dutton Round H**	**6.20**	**268**	P	**Pn**	**12 12 25.4**	**-2.5**
SML	**Sawmill**	**6.20**	**14**	*e*Pn	**Pn**	**12 12 27.7**	**-0.1**
	2.8nm,0.5s						
SML				*e*Sn	**Sn**	**12 13 36.5**	**-1.5**
BMRM	**Bremner River**	**6.28**	**32**	P	**Pn**	**12 12 28.5**	**-0.4**
KHIT	**Khitrov Hills**	**6.34**	**40**	P	**Pn**	**12 12 29.4**	**-0.3**
KLU	**Klutina**	**6.36**	**25**	P	**Pn**	**12 12 29.6**	**-0.4**
SCM	**Sheep Creek Mo**	**6.38**	**18**	P	**Pn**	**12 12 30.4**	**+0.1**
BAGL	**Bagley Icefiel**	**6.80**	**43**	P	**Pn**	**12 12 37.0**	**+1.0**
BALM	**Baldy**	**7.07**	**39**	P	**Pn**	**12 12 39.6**	**-0.2**
PNL	**Peninsula**	**7.51**	**54**	*e*Pn	**Pn**	**12 12 45.5**	**-0.3**
PNL				*e*Sn	**Sn**	**12 14 12.0**	**+1.9**
PAX	**Paxson**	**7.78**	**21**	P	**Pn**	**12 12 49.7**	**+0.3**
MCK	**McKinley**	**8.02**	**8**	*e*Pn	**Pn**	**12 12 51.7**	**-1.1**
MCK				*e*Sn	**Sn**	**12 14 24.8**	**+2.1**
IL1	**Eielson Array**	**9.24**	**12**	P	**Pn**	**12 13 08.8**	**-0.7**
ILAR	**Eielson Array**	**9.24**	**12**	Pn	**Pn**	**12 13 09.2**	**-0.3**
	0.3nm,0.3s,baz=193,slow=13,SNR=23						
ILAR				Sn	**Sn**	**12 14 51.8**	**-0.9**
	0.3nm,0.3s,baz=212,slow=19,SNR=4.7						
ILAR	**Eielson Array**	**9.24**	**12**	Pn	**Pn**	**12 13 09.2**	**-0.3**
ILAR				Sn	**Sn**	**12 14 51.8**	**-0.9**
MDM	**Murphy Dome**	**9.29**	**9**	P	**Pn**	**12 13 09.2**	**-0.9**
DLBC	**Dease Lake**	**11.92**	**69**	Pn	**Pn**	**12 13 42.7**	**-3.4**
	0.1nm,0.3s,baz=151,slow=19,SNR=2.8						
DLBC	**Dease Lake**	**11.92**	**69**	Pn	**Pn**	**12 13 42.7**	**-3.4**
INK	**Inuvik**	**14.97**	**26**	Pn	**Pn**	**12 14 28.7**	**+1.0**
	0.5nm,0.3s,baz=213,slow=12,SNR=13						
INK	**Inuvik**	**14.97**	**26**	Pn	**Pn**	**12 14 28.7**	**+1.0**
YKA	**Yellowknife Ar**	**19.80**	**55**	P	**Pn**	**12 15 26.9**	**-1.0**
	0.1nm,0.3s,baz=265,slow=10,SNR=14						
YKA	**Yellowknife Ar**	**19.80**	**55**	P	**Pn**	**12 15 26.9**	**-1.0**
NVAR	**Mina Array Bea**	**28.11**	**114**	P	**P**	**12 16 48.0**	**+0.2**
	1.1nm,0.7s,mb3.6,baz=294,slow=8.9,SNR=4.1						
NVAR	**Mina Array Bea**	**28.11**	**114**	P	**P**	**12 16 48.0**	**+0.2**
TXAR	**Lajitas Array**	**42.83**	**108**	P	**P**	**12 18 53.8**	**-0.1**
	0.7nm,0.8s,mb3.4,baz=309,slow=5.2,SNR=7.8						
TXAR	**Lajitas Array**	**42.83**	**108**	P	**P**	**12 18 53.8**	**-0.1**
FINES	**FINESS Array B**	**63.04**	**1**	P	**P**	**12 21 24.2**	**+1.7**
	1.6nm,0.8s,mb4.2,baz=331,slow=7.4,SNR=3.9						
FINES	**FINESS Array B**	**63.04**	**1**	P	**P**	**12 21 24.2**	**+1.7**
MKAR	**Makanchi Array**	**68.24**	**323**	P	**P**	**12 21 60.0**	**+3.7**
	0.2nm,0.5s,mb3.4,baz=32,slow=6.0,SNR=3.5						
MKAR	**Makanchi Array**	**68.24**	**323**	P	**P**	**12 21 60.0**	**+3.7**

*IDC **26** 12:19:39.8±1.2, 40°.08N×120°.79W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/26, mbtmp4.2/13, ML4.2/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/41, Error ellipse: s-maj=35.6km s-min=13.7km az=51.0*
*ISCJB **26** 12:19:40.3±0.2, 39°.91N±0°.02×120°.88W±0°.03, h10km, mb4.2/15, MS3.9/6, Error ellipse: s-maj=3.1km s-min=2.6km az=141.6*
*NEIC **26** 12:19:40.0, 39°.96N×120°.87W, h0km, mb4.5/6, MW4.5(BRK), After NCEDC.*
NEIC Felt [III] at Blairsden-Graeagle, Camptonville, Greenville, Janesville, Meadow Valley, Quincy and Taylorsville; [II] at Alta, Auburn, Beckwourth, Berry Creek, Brownsville, Camino, Chester, Chico, Clio, Colfax, Folsom, Forest Ranch, Foresthill, Grass Valley, Magalia, Marysville, Meadow Vista, Milford, Mineral, Nevada City, North San Juan, Oregon House, Oroville, Paradise, Penn Valley, Pollock Pines, Portola, Rancho Cordova, Rough and Ready, Sacramento, Soda Springs, Standish, Strawberry Valley, Susanville, Truckee, Westwood and Yuba City. Felt widely in Butte, El Dorado, Lassen, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Tehama and Yuba Counties. Also felt [II] at Reno and Sparks, Nevada.
*BJI **26** 12:19:40.0, 40°.00N×120°.90W, h13km, mB5.2/6, mb4.7/4, Ms5.0/5, Ms7 4.7/5*
ISC 26 12:19:41.8±0.2, 39°.88N±0°.02×120°.93W±0°.02, h10km, n119, σ1s59/147, mb4.2/15, MS3.9/6, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCN	**Washoe City**	**1.08**	**122**	*e*Pg	**Pg**	**12 20 00.1**	**-2.4**
WCN				*e*Sg	**Sg**	**12 20 14.3**	**-2.2**
WDC	**Whiskeytown Da**	**1.42**	**300**	*e*Pn	**Pn**	**12 20 04.5**	**-3.1**
WDC				*e*Sg	**Sg**	**12 20 24.8**	**-2.6**
HOPS	**Hopland**	**1.88**	**243**	*e*Pn	**Pn**	**12 20 13.6**	**-0.3**
HOPS				*e*Sg	**Sg**	**12 20 40.8**	**-1.3**
CMB	**Columbia Colle**	**1.89**	**167**	*e*Pn	**Pn**	**12 20 13.7**	**-0.4**
CMB				*e*Sg	**Sg**	**12 20 40.4**	**-2.1**
KCPM	**Cahto Peak**	**2.05**	**265**	*e*Pn	**Pn**	**12 20 16.2**	**-0.1**
KCPM				*e*Sn	**Sn**	**12 20 38.1**	**-3.7**
MOD	**Modoc**	**2.08**	**13**	*e*Pn	**Pn**	**12 20 14.0**	**-2.7**
MOD				*e*Sg	**Sg**	**12 20 43.8**	**-4.8**
YBH	**Yreka Blue Hor**	**2.29**	**325**	*e*Pn	**Pn**	**12 20 18.4**	**-1.2**
YBH				*e*Sn	**Sn**	**12 20 49.1**	**+1.3**
MCCM	**Marconi Confer**	**2.30**	**222**	*e*Pn	**Pn**	**12 20 19.7**	**0.0**
MCCM				*e*Sn	**Sn**	**12 20 49.8**	**+1.8**
KHMM	**Horse Mountain**	**2.36**	**296**	*e*Pn	**Pn**	**12 20 20.4**	**-0.1**
KHMM				*e*Sg	**Sg**	**12 20 55.9**	**-1.7**
NVAR	**Mina Array Bea**	**2.50**	**124**	Pn	**Pn**	**12 20 22.4**	**-0.2**
	45nm,0.3s,baz=300,slow=14,SNR=453						
NVAR				Sn	**Sn**	**12 21 01.2**	**+8.1**
	190nm,0.3s,baz=303,slow=24,SNR=13						
NVAR				LR	LR	12 21 44.0	
	comp=Z,1μm,20.9s,baz=53,slow=47						
NVAR	**Mina Array Bea**	**2.50**	**124**	Pn	**Pn**	**12 20 22.4**	**-0.2**
NVAR				Sn	**Sn**	**12 21 01.2**	**+8.1**
SAC	**San Andreas**	**2.57**	**207**	*e*Pn	**Pn**	**12 20 23.7**	**+0.3**
SAC				*e*Sn	**Sn**	**12 20 54.9**	**+0.2**
KRMB	**Red Mountain**	**2.79**	**307**	*e*Pn	**Pn**	**12 20 27.3**	**+0.8**
KRMB				*e*Sg	**Sg**	**12 21 11.4**	**-0.1**
BMN	**Battle Mountai**	**2.90**	**78**	*e*Pn	**Pn**	**12 20 24.3**	**-3.6**
BMN				*e*Sn	**Sn**	**12 21 01.5**	**-1.3**
WVOR	**Wild Horse Val**	**3.09**	**33**	*e*Pn	**Pn**	**12 20 27.9**	**-2.6**
WVOR				*e*Sg	**Sg**	**12 21 16.2**	**-4.7**
MTUM	**Tungsten Hills**	**3.13**	**143**	*e*Pn	**Pn**	**12 20 31.9**	**+0.7**
SAO	**San Andreas Ge**	**3.13**	**188**	*e*Pn	**Pn**	**12 20 31.5**	**+0.3**
KEBM	**Edson Butte**	**3.94**	**321**	*e*Pn	**Pn**	**12 20 42.2**	**0.0**
KEBM				*e*Sg	**Sg**	**12 21 54.1**	**+5.9**
ELK	**Elko**	**4.44**	**77**	*e*Pn	**Pn**	**12 20 46.7**	**-2.4**
ISA	**Isabella**	**4.64**	**154**	*e*Pn	**Pn**	**12 20 52.9**	**+1.1**
ISA				*e*Sn	**Sn**	**12 21 46.8**	**+1.1**
COR	**Corvallis**	**5.02**	**340**	*e*Pn	**Pn**	**12 20 58.0**	**+0.9**
MFID	**Camas Ranch**	**5.21**	**46**	*e*Pn	**Pn**	**12 20 56.8**	**-2.9**
	188nm,0.8s						
MFID				*e*Sg	**Sg**	**12 22 24.4**	**-4.5**
OSI	**Osito Adit**	**5.54**	**161**	*e*Sg	**Sg**	**12 22 40.9**	**+1.3**
OSI				*e*Sg	**Sg**	**12 22 40.9**	**+1.3**
GSC	**Goldstone**	**5.62**	**143**	*e*Pn	**Pn**	**12 21 06.6**	**+1.2**
GSC				*e*Sg	**Sg**	**12 22 41.5**	**-0.7**
BMO	**Blue Mountains**	**5.65**	**27**	*e*Pn	**Pn**	**12 21 05.4**	**-0.4**
BMO				*e*Sg	**Sg**	**12 22 35.2**	**-7.9**
PASC	**Pasadena Art C**	**6.11**	**158**	*e*Pn	**Pn**	**12 21 13.4**	**+1.4**
PASC				*e*Sn	**Sn**	**12 22 19.8**	**-2.1**
HLID	**Hailey**	**6.11**	**51**	*e*Pn	**Pn**	**12 21 13.0**	**+0.9**
HLID				*e*Sg	**Sg**	**12 22 47.2**	**-11**
ARUT	**Antelope Range**	**6.21**	**107**	*e*Pn	**Pn**	**12 21 12.8**	**-0.7**
	64nm,0.7s						
ARUT				*e*Sg	**Sg**	**12 22 59.9**	**-1.2**
DUG	**Dugway**	**6.24**	**84**	*e*Pn	**Pn**	**12 21 12.9**	**-1.0**
DUG				*e*Sg	**Sg**	**12 22 59.6**	**-2.5**
LNOR	**Lincton Mounta**	**6.30**	**17**	*e*Pn	**Pn**	**12 21 16.5**	**+1.9**
LNOR				*e*Sg	**Sg**	**12 23 03.5**	**-0.3**
CCUT	**Cedar City**	**6.36**	**109**	*e*Pn	**Pn**	**12 21 15.6**	**+0.1**
CCUT				*e*Sg	**Sg**	**12 22 59.4**	**-6.5**
HVU	**Hansel Valley**	**6.47**	**70**	*e*Pn	**Pn**	**12 21 14.5**	**-2.6**
HVU				*e*Sg	**Sg**	**12 23 05.4**	**-4.2**
RSW	**Rattlesnake Hi**	**6.59**	**8**	*e*Pn	**Pn**	**12 21 20.3**	**+1.7**
HAWA	**Hanford**	**6.59**	**8**	*e*Pn	**Pn**	**12 21 20.1**	**+1.5**
LON	**Longmire**	**6.90**	**355**	*e*Pn	**Pn**	**12 21 24.8**	**+1.9**
MSU	**Marysvale**	**6.94**	**99**	*e*Pn	**Pn**	**12 21 23.6**	**+0.1**
MSU				*e*Sg	**Sg**	**12 23 22.9**	**-1.5**
MPU	**Maple Canyon**	**7.15**	**86**	*e*Pn	**Pn**	**12 21 25.3**	**-1.0**
MPU				*e*Sg	**Sg**	**12 23 31.0**	**-0.1**
PFO	**Pinyon Flat Ob**	**7.21**	**149**	*e*Pn	**Pn**	**12 21 29.8**	**+2.5**
DAU	**Daniels Canyon**	**7.43**	**83**	*e*Pn	**Pn**	**12 21 31.2**	**+1.0**
DAU				*e*Sg	**Sg**	**12 23 33.4**	**-6.9**
TMUT	**Trail Mountain**	**7.54**	**91**	*e*Pn	**Pn**	**12 21 33.5**	**+1.9**
TMUT				*e*Sg	**Sg**	**12 23 38.6**	**-4.9**
OD2	**Odessa Site #2**	**7.68**	**11**	*e*Pn	**Pn**	**12 21 33.9**	**+0.3**
ETW	**Entiat**	**7.74**	**3**	*e*P

comp=Z,427nm,21.1s,MS4.7,baz=128,slow=31
NOA NORSAR Array B 72.15 22 P **P 12 31 03.9 -2.3**
2.2nm,1.0s,mb4.0,baz=353,slow=7.6,SNR=2.9
NOA NORSAR Array B 72.15 22 P **P 12 31 03.9 -2.3**
MDJ Mudanjiang 74.71 316 P **P 12 31 19.5 -2.0**
MDJ pmax pmax
comp=Z,9.0nm,2.0s,mb4.3
MDJ pmax pmax
comp=Z,220nm,4.8s
FINES FINESS Array B 75.53 16 P **P 12 31 23.7 -2.3**
comp=Z,4.4nm,0.9s,mb4.4,baz=350,slow=6.8,SNR=8.6
FINES FINESS Array B 75.53 16 P **P 12 31 23.7 -2.3**
CN2 Changchun 77.45 317 *e*P **P 12 31 35.0 -2.2**
ESDC Sonseca Array 82.14 44 P **P 12 32 01.5 -1.2**
comp=Z,1.1nm,0.7s,mb3.9,baz=313,slow=5.0,SNR=5.2
ESDC Sonseca Array 82.14 44 P **P 12 32 01.5 -1.2**
SONM Songino Array 83.08 330 P **P 12 32 06.8 -0.7**
comp=Z,0.7nm,0.7s,mb3.8,baz=53,slow=3.2,SNR=5.5
SONM Songino Array 83.08 330 P **P 12 32 06.8 -0.7**
ZALV Zalesovo Beam 83.95 345 P **P 12 32 08.9 -2.9**
comp=Z,0.3nm,0.3s,mb3.8,baz=64,slow=3.4,SNR=3.8
ZALV Zalesovo Beam 83.95 345 P **P 12 32 08.9 -2.9**
AKASG Malin Array Be 86.08 18 P **P 12 32 20.4 -2.1**
comp=Z,1.1nm,0.6s,mb4.3,baz=337,slow=4.0,SNR=4.3
AKASG Malin Array Be 86.08 18 P **P 12 32 20.4 -2.2**
HHC Hu-ho-hao-te 86.52 323 *e*P **P 12 32 21.8 -3.1**
HHC pP pP 12 32 26.5 -1.7
HHC sP sP 12 32 29.3 -0.1
HHC PP PP 12 35 44.0 -1.7
HHC S S 12 42 54.0 -7.3
HHC SS SS 12 48 37.3 -3.0
HHC pmax pmax
comp=Z,170nm,5.1s
HHC LR LR
comp=N,260nm,14.3s
HHC LR LR
comp=E,190nm,13.1s
HHC LR LR
comp=Z,160nm,11.9s
CPUP Villa Florida 88.55 126 LR LR 13 13 21.8
comp=Z,48nm,18.1s,MS4.0,baz=300,slow=36
WMQ Urumqi 92.77 340 *e*P **P 12 32 54.5 +0.3**
LZH Lanzhou 93.90 325 *e*P **P 12 33 01.5 +1.9**
LZH pP pP 12 33 04.8 +1.9
LZH sP sP 12 33 06.3 +2.2
LZH *e*PP PP 12 36 49.5 +5.1
LZH pmax pmax
comp=Z,52nm,8.6s
LZH LR LR
comp=E,200nm,18.2s
LZH LR LR
comp=Z,260nm,19.9s

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*ISCJB **26** 12:26:13.9±0.4, 37°.91N×0°.02×29°.14E±0°.05, h10km, Error ellipse: s-maj=5.2km s-min=2.9km az=4.5*
*ISK **26** 12:26:13.6, 37°.91N×29°.14E, h6km, MD2.7*
*DDA **26** 12:26:13.1, 37°.91N×29°.24E, h8km±4km, Md2.8*
*CSEM **26** 12:26:13.6±0.2, 37°.91N×29°.17E, h2km, MD2.7, Error ellipse: s-maj=5.2km s-min=3.2km az=95.0*
ISC 26 12:26:14.1±0.5, 37°.92N±0°.02×29°.17E±0°.05, h3km±7km, n32, σ0s84/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.20**	**213**	*e*PG	**Pg**	**12 26 17.9**	**0.0**
DENT	**Denizli**	**0.20**	**213**	*e*Pg	**Pg**	**12 26 18.0**	**0.0**
DNZL	**Cakiroluk**	**0.25**	**203**	*i* P	**Pg**	**12 26 18.3**	**-0.7**
DNZL				*i* S	**Sg**	**12 26 22.4**	**+0.1**
DNZL	**Cakiroluk**	**0.25**	**203**	*i* P	**Pg**	**12 26 18.3**	**-0.7**
DNZL				*i* S	**Sg**	**12 26 22.4**	**+0.1**
KHAL	**Karahalli**	**0.51**	**29**	*i* P	**Pg**	**12 26 23.8**	**-0.1**
KHAL				*i* S	**Sg**	**12 26 31.7**	**+1.1**
KHAL	**Karahalli**	**0.51**	**29**	*i* P	**Pg**	**12 26 23.8**	**-0.2**
KHAL				*i* S	**Sg**	**12 26 31.7**	**+1.1**
KULA	**Kula-Manisa**	**0.71**	**326**	*e*PG	**Pg**	**12 26 27.9**	**+0.1**
KULA				*e*SG	**Sg**	**12 26 38.0**	**+0.9**
KULA	**Kula-Manisa**	**0.71**	**326**	*e*Pg	**Pg**	**12 26 27.9**	**+0.1**
KULA				*e*Sg	**Sg**	**12 26 38.0**	**+0.9**
GOLH	**Golhisar**	**0.75**	**156**	*i* P	**Pg**	**12 26 25.9**	**-2.7**
GOLH				*i* S	**Sg**	**12 26 38.1**	**-0.1**
GOLH	**Golhisar**	**0.75**	**156**	*i* P	**Pg**	**12 26 25.9**	**-2.6**
GOLH				*i* S	**Sg**	**12 26 38.2**	**0.0**
GLHS	**Glhisar (BURDU**	**0.81**	**161**	*e*PG	**Pg**	**12 26 29.6**	**0.0**
GLHS				*e*SG	**Sg**	**12 26 41.2**	**+1.1**
GLHS	**Glhisar (BURDU**	**0.81**	**161**	*e*Pg	**Pg**	**12 26 29.6**	**0.0**
GLHS				*e*Sg	**Sg**	**12 26 41.2**	**+1.1**
YER	**Yerkesik**	**1.06**	**222**	*e*PG	**Pg**	**12 26 33.9**	**-0.5**
YER				*e*SG	**Sg**	**12 26 48.4**	**+0.3**
YER	**Yerkesik**	**1.06**	**222**	*e*Pg	**Pg**	**12 26 33.9**	**-0.5**
YER				*e*Sg	**Sg**	**12 26 48.4**	**+0.3**
TURN	**Turunc**	**1.14**	**204**	*i* P	**Pg**	**12 26 38.9**	**+2.9**
TURN				*i* S	**Sg**	**12 26 59.2**	**+8.4**
TURN	**Turunc**	**1.14**	**204**	*i* P	**Pg**	**12 26 38.9**	**+2.9**
TURN				*i* S	**Sg**	**12 26 59.2**	**+8.4**
DEMI	**Demirci**	**1.17**	**342**	*i* P	**Pg**	**12 26 35.8**	**-0.8**
DEMI				*i* S	**Sg**	**12 26 51.9**	**0.0**
DEMI	**Demirci**	**1.17**	**342**	*i* P	**Pg**	**12 26 35.8**	**-0.8**
DEMI				*i* S	**Sg**	**12 26 51.9**	**0.0**
GDZ	**Gediz**	**1.19**	**12**	*i* P	**Pg**	**12 26 36.1**	**-0.8**
GDZ				*i* S	**Sg**	**12 26 52.0**	**-0.3**
GDZ	**Gediz**	**1.19**	**12**	*i* P	**Pg**	**12 26 36.1**	**-0.8**
GDZ				*i* S	**Sg**	**12 26 52.0**	**-0.3**
SHUT	**Suhut-Afyon**	**1.25**	**60**	*e*PN	**Pn**	**12 26 37.9**	**-0.7**
SHUT	**Suhut-Afyon**	**1.25**	**60**	*e*Pn	**Pn**	**12 26 37.9**	**-0.7**
ELL	**Elmali**	**1.31**	**153**	*e*PN	**Pn**	**12 26 39.2**	**-0.1**
ELL	**Elmali**	**1.31**	**153**	*e*Pn	**Pn**	**12 26 39.2**	**-0.1**
ALT	**Altintas**	**1.35**	**33**	*e*PN	**Pn**	**12 26 39.7**	**-0.2**
ALT	**Altintas**	**1.35**	**33**	*e*Pn	**Pn**	**12 26 39.7**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.52**	**107**	*e*PN	**Pn**	**12 26 42.4**	**+0.2**
SUTC	**Sutluce-Ispart**	**1.52**	**107**	*e*Pn	**Pn**	**12 26 42.4**	**+0.2**
BOLV	**Bolvadin**	**1.61**	**60**	*i* P	**Pn**	**12 26 44.7**	**+1.2**
BOLV				*i* S	**Sn**	**12 27 10.2**	**+5.5**
BOLV	**Bolvadin**	**1.61**	**60**	*i* P	**Pn**	**12 26 44.7**	**+1.3**
BOLV				*i* S	**Sn**	**12 27 10.2**	**+5.5**
DAT	**Datca**	**1.74**	**227**	*e*PN	**Pn**	**12 26 44.8**	**-0.5**
DAT	**Datca**	**1.74**	**227**	*e*Pn	**Pn**	**12 26 44.8**	**-0.5**

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*ISCJB **26** 12:42:48.6±0.5, 24°.88N±0°.04×109°.39W±0°.04, h10km, mb3.8/5, MS3.4/2, Error ellipse: s-maj=5.6km s-min=5.2km az=143.8*
*IDC **26** 12:42:52.6±1.0, 25°.39N×109°.41W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/22, mbtmp3.6/7, ML3.8/2, MS3.3/4, Ms1 3.3/4, ms1mx3.1/32, Error ellipse: s-maj=25.9km s-min=20.4km az=67.0*
*MEX **26** 12:42:53.3±0.6, 24°.80N×109°.37W, h14km±10km, MD4.3*
*NEIC **26** 12:42:54.4±0.9, 25°.30N×109°.26W, h10km, Error ellipse: s-maj=23.3km s-min=13.5km az=63.0*
ISC 26 12:42:49.7±0.5, 24°.80N±0°.04×109°.41W±0°.04, h10km, n34, σ1s25/35, mb3.8/5, MS3.4/2, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.08**	**230**	*e*P	**Pg**	**12 43 10.8**	**+0.4**
LPIG				*i* S	**Sg**	**12 43 24.2**	**-0.3**
MAIG	**Mazatlaan**	**3.16**	**120**	*i* P	**Pn**	**12 43 38.7**	**-0.9**
MAIG				*i* S	**Sn**	**12 44 15.1**	**-2.3**
SRIG	**Santa Rosalia**	**3.58**	**315**	*i* P	**Pn**	**12 43 45.2**	**0.0**
SRIG				*i* S	**Sn**	**12 44 26.9**	**-0.6**
HPIG		**3.98**	**57**	*i* P	**Pn**	**12 43 51.5**	**+0.7**
HPIG				*i* S	**Sn**	**12 44 37.0**	**-0.5**
HSIG		**4.42**	**342**	*i* P	**Pn**	**12 43 57.0**	**+0.2**
HSIG				*i* S	**Sn**	**12 44 47.8**	**-0.6**
CGIG		**5.68**	**13**	*i* P	**Pn**	**12 44 15.7**	**+1.5**
CGIG				*i* S	**Sn**	**12 45 20.2**	**+0.7**
ZAIG	**Zacatecas**	**6.58**	**107**	*i* P	**Pn**	**12 44 29.6**	**+3.0**
TXAR	**Lajitas Array**	**6.82**	**47**	**Pn**	**Pn**	**12 44 28.9**	**-0.9**
	1.1nm,0.3s,baz=227,slow=12,SNR=79						
TXAR				Sn	**Sn**	**12 45 44.8**	**-2.7**
	1.5nm,0.3s,baz=228,slow=22,SNR=5.9						
TXAR				Lg		12 46 19.2	
	1.0nm,0.3s,baz=218,slow=20,SNR=3.0						
TXAR	**Lajitas Array**	**6.82**	**47**	Pn	**Pn**	**12 44 28.9**	**-0.9**
TXAR				Sn	**Sn**	**12 45 44.8**	**-2.7**
TXAR				Lg		12 46 19.2	
TUC	**Tucson**	**7.58**	**351**	*e*Pn	**Pn**	**12 44 39.2**	**-1.0**
LNIG	**Linares**	**9.03**	**87**	*i* P	**Pn**	**12 45 02.9**	**+2.8**
ANMO	**Albuquerque**	**10.43**	**13**	Pn	**Pn**	**12 45 21.8**	**+2.5**
	0.1nm,0.3s,baz=195,slow=18,SNR=3.4						
ANMO				LR	LR	12 49 26.1	
	comp=Z,167nm,19.6s,baz=276,slow=40						
ANMO	**Albuquerque**	**10.43**	**13**	Pn	**Pn**	**12 45 21.8**	**+2.5**
CCUT	**Cedar City**	**13.15**	**346**	*e*Pn	**Pn**	**12 45 55.2**	**-1.3**
	0.3nm,0.5s						
ARUT	**Antelope Range**	**13.39**	**346**	*e*Pn	**Pn**	**12 45 59.3**	**-0.5**
NVAR	**Mina Array Bea**	**15.54**	**333**	Pn	**Pn**	**12 46 31.0**	**+2.1**
	0.1nm,0.3s,baz=167,slow=13,SNR=2.8						
NVAR	**Mina Array Bea**	**15.54**	**333**	Pn	**Pn**	**12 46 31.0**	**+2.1**
CMIG	**Matias Romero**	**15.57**	**117**	LR	LR	12 53 29.3	
	comp=Z,56nm,21.4s,baz=62,slow=40						
TEIG	**Tepich**	**20.04**	**99**	LR	LR	12 58 08.3	
	comp=Z,86nm,18.6s,MS3.1,baz=120,slow=46						
TKL	**Tuckaleechee C**	**24.58**	**58**	LR	LR	12 58 52.6	
	comp=Z,190nm,19.1s,MS3.6,baz=95,slow=40						
YKA	**Yellowknife Ar**	**37.84**	**356**	P	**P**	**12 50 05.1**	**-1.1**
	0.2nm,0.3s,mb3.3,baz=179,slow=7.9,SNR=4.8						
YKA	**Yellowknife Ar**	**37.84**	**356**	P	**P**	**12 50 05.1**	**-1.1**
SCHQ	**Schefferville**	**43.32**	**35**	P	**P**	**12 50 51.9**	**+0.2**
	3.0nm,0.7s,mb4.2,baz=294,slow=10.0,SNR=4.8						
SCHQ	**Schefferville**	**43.32**	**35**	P	**P**	**12 50 51.9**	**+0.2**
ILAR	**Eielson Array**	**46.69**	**339**	P	**P**	**12 51 17.9**	**-0.4**
	0.8nm,0.6s,mb3.8,baz=134,slow=7.7,SNR=11						
ILAR	**Eielson Array**	**46.69**	**339**	P	**P**	**12 51 17.9**	**-0.4**
SIV	**San Ignacio**	**62.17**	**126**	P	**P**	**12 53 18.9**	**+7.4**
	0.5nm,0.4s,mb4.0,baz=315,slow=16,SNR=2.7						
SIV	**San Ignacio**	**62.17**	**126**	P	**P**	**12 53 18.9**	**+7.4**
CPUP	**Villa Florida**	**71.50**	**132**	P	**P**	**12 54 17.6**	**+6.7**
	0.3nm,0.3s,mb3.7,baz=326,slow=11,SNR=3.4						
CPUP	**Villa Florida**	**71.50**	**132**	P	**P**	**12 54 17.6**	**+6.7**
WRA	**Warramunga Arr**	**121.31**	**261**	PKP	PKPdf	13 01 47.1	+3.4
	0.3nm,0.7s,baz=68,slow=2.2,SNR=3.8						
WRA	**Warramunga Arr**	**121.31**	**261**	PKP	PKPdf	13 01 47.1	+3.4
ASAR	**Alice Springs**	**122.74**	**257**	PKP	PKPdf	13 01 52.5	+6.1
	0.2nm,0.7s,baz=85,slow=1.7,SNR=5.3						
ASAR	**Alice Springs**	**122.74**	**257**	PKP	PKPdf	13 01 52.5	+6.1

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*IDC **26** 13:21:18.0±1.0, 11°.84N×144°.27E, h0km, mb3.4/7, mb1 3.6/7, mb1mx3.5/21, mbtmp3.4/7, Error ellipse: s-maj=38.5km s-min=18.1km az=103.0*
*NEIC **26** 13:21:22.9±0.7, 11°.81N×144°.28E, h35km, mb4.0/1, Error ellipse: s-maj=31.2km s-min=11.5km az=102.0*
ISC 26 13:21:20.9±6.7, 11°.78N±0°.10×144°.2E±0°.2, h18km±42km, n17, σ0s83/19, mb3.5/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.91**	**20**	Pn	**Pn**	**13 21 52.9**	**+0.4**
	12nm,0.3s,baz=167,slow=15,SNR=4.2						
GUMO				Sn	**Sn**	**13 22 16.5**	**+0.5**
	11nm,0.3s,baz=41,slow=20,SNR=5.3						
GUMO	**Guam**	**1.91**	**20**	*e*Pn	**Pn**	**13 21 52.5**	**-0.1**
GUMO				Sn	**Sn**	**13 22 16.5**	**+0.5**
WRAB	**Tennant Creek**	**32.98**	**197**	*e*P	**P**	**13 27 53.8**	**-1.0**
	2.4nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**32.99**	**197**	P	**P**	**13 27 55.1**	**+0.2**
	0.3nm,0.7s,mb3.3,baz=19,slow=9.7,SNR=4.7						
WRA	**Warramunga Arr**	**32.99**	**197**	P	**P**	**13 27 55.1**	**+0.2**
ASAR	**Alice Springs**	**36.64**	**196**	P	**P**	**13 28 27.9**	**+1.5**
	0.3nm,0.9s,mb3.1,baz=19,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**36.64**	**196**	P	**P**	**13 28 27.9**	**+1.5**
SONM	**Songino Array**	**47.85**	**326**	P	**P**	**13 29 56.8**	**-0.7**
	0.3nm,1.0s,mb3.3,baz=115,slow=8.6,SNR=2.5						
SONM	**Songino Array**	**47.85**	**326**	P	**P**	**13 29 56.8**	**-0.7**
MKAR	**Makanchi Array**	**62.35**	**317**	P	**P**	**13 31 42.6**	**+0.2**
	0.4nm,0.8s,mb3.6,baz=106,slow=4.7,SNR=3.7						
MKAR	**Makanchi Array**	**62.35**	**317**	P	**P**	**13 31 42.6**	**+0.2**
ZALV	**Zalesovo Beam**	**62.72**	**325**	P	**P**	**13 31 45.2**	**+0.5**
	0.3nm,0.5s,mb3.6,baz=97,slow=5.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**62.72**	**325**	P	**P**	**13 31 45.2**	**+0.5**
ILAR	**Eielson Array**	**70.47**	**25**	P	**P**	**13 32 32.3**	**-1.6**
	0.6nm,1.0s,mb3.5,baz=238,slow=5.0,SNR=2.9						
ILAR	**Eielson Array**	**70.47**	**25**	P	**P**	**13 32 32.3**	**-1.6**
YKA	**Yellowknife Ar**	**84.75**	**27**	P	**P**	**13 33 53.9**	**+0.2**
	0.5nm,0.8s,mb3.7,baz=289,slow=5.3,SNR=7.5						
YKA	**Yellowknife Ar**	**84.75**	**27**	P	**P**	**13 33 53.9**	**+0.2**

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*BJI **26** 13:38:12.5, 12°.50N×121°.10E, h60km, mB4.9/5, mb4.4/12, Ms4.4/3, Ms7 3.9/4*
*IDC **26** 13:38:13.8±0.6, 13°.49N×120°.73E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/24, mbtmp4.2/17, MS3.8/13, Ms1 3.8/13, ms1mx3.6/35, Error ellipse: s-maj=21.8km s-min=10.9km az=89.0*
*MAN **26** 13:38:14, 13°.51N×121°.07E, h4km, mb5.2, ML4.2, MS4.5*
MAN Intensity IV - Calapan City; Naujan.
*ISCJB **26** 13:38:15.6±0.8, 13°.55N±0°.03×120°.97E±0°.04, h22km±6km, mb4.5/42, MS3.7/11, Error ellipse: s-maj=6.5km s-min=4.4km az=145.3*
*NEIC **26** 13:38:16.4±1.3, 13°.58N×121°.04E, h18km±8km, mb4.9/21, Error ellipse: s-maj=9.9km s-min=6.1km az=55.0*
NEIC Felt [IV PIVS] at Calapan and Naujan and [III PIVS] at Puerto Galera. Felt [II PIVS] at Batangas and San Pascual and [I PIVS] at Bauan and Tagaytay, Luzon.
ISC 26 13:38:15.0±0.9, 13°.54N±0°.03×121°.00E±0°.03, h6km±6km, n107, σ1s09/108, mb4.5/42, MS3.7/11, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.57**	**354**	Pg	**Pg**	**13 38 26.8**	**+0.8**
	2μm,0.3s,baz=175,slow=3.4,SNR=158						
TGY	**Tagaytay City**	**0.57**	**354**	Pg	**Pg**	**13 38 26.8**	**+0.8**
TGY	**Tagaytay City**	**0.57**	**354**	⇑*i* P	**Pg**	**13 38 26.6**	**+0.6**
LQP	**Lukban**	**0.78**	**43**	*e*P	**Pg**	**13 38 28.9**	**-1.2**
BOAC	**Boac**	**0.83**	**95**	*e*P	**Pg**	**13 38 29.7**	**-1.3**
BOAC				*e*S	**Sg**	**13 38 42.2**	**+0.4**
GQP	**Guinayangan**	**1.46**	**75**	⇓*e*P	**Pn**	**13 38 40.5**	**-1.4**
GQP				*e*S	**Sn**	**13 39 01.0**	**-0.3**
OTRP	**Odiongan**	**1.54**	**139**	*e*P	**Pn**	**13 38 39.8**	**-3.2**
AUQP	**San Andres**	**1.65**	**97**	*e*P	**Pn**	**13 38 45.5**	**+0.9**
BUSP	**Coron**	**1.71**	**207**	*e*P	**Pn**	**13 38 45.1**	**-0.3**
BALP	**Baler**	**2.26**	**14**	*e*P	**Pn**	**13 38 54.0**	**+1.0**
SCZP	**Santa Cruz**	**2.46**	**335**	*e*P	**Pn**	**13 38 56.6**	**+0.8**
RCP	**Roxas**	**2.60**	**139**	⇓*e*P	**Pn**	**13 38 58.4**	**+0.7**
RCP				*e*S	**Sn**	**13 39 30.6**	**+1.0**
CUYO	**Cuyo Island**	**2.67**	**180**	*e*P	**Pn**	**13 38 58.5**	**-0.1**
ENPP	**El Nido**	**2.78**	**214**	*e*P	**Pn**	**13 39 00.3**	**+0.2**
BCPH	**Baguio City Da**	**2.86**	**352**	⇑*i* P	**Pn**	**13 39 00.7**	**-0.5**
BCPH				*i* S	**Sn**	**13 39 23.1**	**-13**
BOLP	**Bolinao**	**3.02**	**340**	*e*P	**Pn**	**13 39 04.9**	**+1.6**
PVCP	**Virac**	**3.07**	**89**	*e*P	**Pn**	**13 39 03.3**	**-0.8**
GUIM	**Jordan**	**3.29**	**152**	*e*P	**Pn**	**13 39 08.6**	**+1.5**
CAUP	**Cauayan**	**3.48**	**13**	*e*P	**Pn**	**13 39 10.8**	**+1.1**
ABRA	**Dolores**	**4.10**	**356**	*e*P	**Pn**	**13 39 18.3**	**0.0**
MSLP	**Maasin**	**5.07**	**131**	*e*P	**Pn**	**13 39 34.0**	**+2.4**
PAGZ	**Pagadian**	**6.12**	**157**	*e*P	**Pn**	**13 39 49.8**	**+3.7**
DAV	**Davao City (W)**	**7.85**	**144**	LR	LR	13 43 48.7	
	comp=Z,1μm,18.9s,baz=343,slow=42						
QIZ	**Qiongzhong**	**12.02**	**298**	P	**Pn**	**13 41 15.5**	**+8.5**
QIZ				S	**Sn**	**13 43 29.8**	**+8.4**
QIZ				pmax	pmax		
	comp=Z,48nm,2.1s						
QIZ				pmax	pmax		
	comp=Z,330nm,2.9s						
QIZ				LR	LR		
	comp=N,630nm,14.1s						
QIZ				LR	LR		
	comp=Z,480nm,4.9s						
JOW	**Kunigami**	**14.88**	**26**	LR	LR	13 47 21.7	
	comp=Z,208nm,18.2s,baz=310,slow=36						
KAPI	**Kappang**	**18.47**	**184**	LR	LR	13 49 48.9	
	comp=Z,130nm,21.5s,baz=203,slow=38						
NJ2	**Nanjing**	**18.53**	**354**	*e*P	**Pn**	**13 42 40.3**	**+7.8**
NJ2				S	**Sn**	**13 46 02.5**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,240nm,4.4s						
NJ2				LR	LR		
	comp=N,440nm,21.9s						
NJ2				LR	LR		
	comp=E,470nm,23.5s						
NJ2				LR	LR		
	comp=Z,410nm,22.5s						
ENH	**Enshi**	**19.76**	**329**	*e*P	**Pn**	**13 42 44.8**	**-2.4**
	comp=Z,14nm,1.0s						
CM31	**Chiang Mai Arr**	**21.75**	**286**	*e*P	**P**	**13 43 08.6**	**+1.2**
	comp=Z,14nm,1.0s,mb4.3						
CMAR	**Chiang Mai Arr**	**21.75**	**286**	P	**P**	**13 43 09.4**	**+2.0**
	comp=Z,10nm,1.0s,mb4.2,baz=96,slow=8.3,SNR=58						
CMAR				LR	LR	13 51 49.9	
	comp=Z,99nm,19.2s,MS3.2,baz=90,slow=38						
CMAR	**Chiang Mai Arr**	**21.75**	**286**	P	**P**	**13 43 09.4**	**+2.0**
CHTO	**Chiang Mai**	**21.81**	**287**	*e*P	**P**	**13 43 07.4**	**-0.7**
	comp=Z,7.6nm,1.0s,mb4.1						
GUMO	**Guam**	**23.21**	**87**	LR	LR	13 51 03.4	
	comp=Z,166nm,18.2s,MS3.5,baz=242,slow=33						
KSAR	**Wonju Array Be**	**24.59**	**13**	P	**P**	**13 43 37.0**	**+1.0**
KSRS	**Korea Array**	**24.61**	**13**	P	**P**	**13 43 37.0**	**+0.9**
	comp=Z,4.3nm,0.9s,mb4.0,baz=200,slow=10,SNR=8.3						
KSRS				LR	LR	13 52 44.0	
	comp=Z,166nm,19.1s,MS3.5,baz=190,slow=35						
BJI	**Beijing**	**26.74**	**352**	P	**P**	**13 43 58.5**	**+3.1**
BJI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
BJI				LR	LR		
	comp=Z,170nm,20.8s,MS3.6						
LZH	**Lanzhou**	**27.23**	**329**	*e*P	**P**	**13 44 05.3**	**+5.4**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
GTA	**Gaotai**	**31.83**	**328**	*e*P	**P**	**13 44 41.0**	**+0.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
LSA	**Lhasa**	**31.94**	**305**	P	**P**	**13 44 42.0**	**+0.3**
LSA	**Lhasa**	**31.94**	**305**	*e*P	**P**	**13 44 42.5**	**+0.7**
	comp=Z,7.4nm,0.9s,mb4.5						
USRK	**Ussuriysk Arra**	**31.98**	**15**	P	**P**	**13 44 43.2**	**+1.3**
	comp=Z,3.1nm,0.8s,mb4.2,baz=209,slow=12,SNR=4.3						
USRK				LR	LR	13 59 15.9	
	comp=Z,73nm,18.4s,MS3.4,baz=112,slow=39						
TAPN	**Taplejung**	**33.96**	**299**	*e*P	**P**	**13 44 59.8**	**+0.4**
	comp=Z,31nm,1.0s,mb5.2						
TAPN	**Taplejung**	**33.96**	**299**	*e*P	**P**	**13 44 59.8**	**+0.4**
	comp=Z,31nm,1.0s,mb5.2						
ODAN	**Odare**	**34.09**	**298**	*e*P	**P**	**13 45 00.8**	**+0.2**
	comp=Z,49nm,0.8s,mb5.5						
ODAN	**Odare**	**34.09**	**298**	*e*P	**P**	**13 45 00.8**	**+0.2**
	comp=Z,49nm,0.8s,mb5.5						
RAMN	**Ramite**	**34.80**	**298**	*e*P	**P**	**13 45 07.4**	**+0.7**
	comp=Z,50nm,0.9s,mb5.4						
RAMN	**Ramite**	**34.80**	**298**	*e*P	**P**	**13 45 07.4**	**+0.7**
	comp=Z,50nm,0.9s,mb5.4						
JIRN	**Jiri**	**35.34**	**299**	*e*P	**P**	**13 45 11.9**	**+0.5**
	comp=Z,17nm,1.0s,mb4.9						
JIRN	**Jiri**	**35.34**	**299**	*e*P	**P**	**13 45 11.9**	**+0.5**
	comp=Z,17nm,1.0s,mb4.9						
GUN	**Gumba**	**35.67**	**299**	*e*P	**P**	**13 45 14.7**	**+0.4**
	comp=Z,68nm,0.9s,mb5.6						
GUN	**Gumba**	**35.67**	**299**	*e*P	**P**	**13 45 14.7**	**+0.4**
	comp=Z,68nm,0.9s,mb5.6						
WRAB	**Tennant Creek**	**35.76**	**158**	*e*P	**P**	**13 45 14.0**	**-1.0**
	comp=Z,21nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**35.77**	**158**	P	**P**	**13 45 14.7**	**-0.4**
	comp=Z,7.5nm,0.5s,mb4.9,baz=332,slow=10,SNR=126						
WRA	**Warramunga Arr**	**35.77**	**158**	P	**P**	**13 45 14.7**	**-0.4**
WB2	**Warramunga Arr**	**35.77**	**158**	*e*P	**P**	**13 45 13.6**	**-1.4**
PKI	**Pulchoki**	**35.98**	**298**	*e*P	**P**	**13 45 17.0**	**+0.1**
	comp=Z,34nm,0.9s,mb5.3						
PKI	**Pulchoki**	**35.98**	**298**	*e*P	**P**	**13 45 17.0**	**+0.1**
	comp=Z,34nm,0.9s,mb5.3						
ULN	**Ulaanbaatar**	**36.14**	**344**	*e*P	**P**	**13 45 16.5**	**-1.5**
	comp=Z,9.1nm,1.1s,mb4.6						
KKN	**Kakani**	**36.15**	**299**	*e*P	**P**	**13 45 18.3**	**-0.1**
	comp=Z,30nm,0.9s,mb5.2						
KKN	**Kakani**	**36.15**	**299**	*e*P	**P**	**13 45 18.3**	**-0.1**
	comp=Z,30nm,0.9s,mb5.2						
DMN	**Daman**	**36.25**	**298**	*e*P	**P**	**13 45 19.2**	**0.0**
DMN	**Daman**	**36.25**	**298**	*e*P	**P**	**13 45 19.2**	**0.0**
SONM	**Songino Array**	**36.30**	**343**	P	**P**	**13 45 18.9**	**-0.4**
	comp=Z,4.4nm,0.6s,mb4.6,baz=162,slow=9.7,SNR=46						
SONM				LR	LR	14 01 37.2	
	comp=Z,241nm,19.9s,MS4.0,baz=171,slow=39						
SONM	**Songino Array**	**36.30**	**343**	P	**P**	**13 45 18.9**	**-0.4**
GKN	**Gorkha**	**36.76**	**299**	*e*P	**P**	**13 45 22.9**	**-0.6**
	comp=Z,30nm,1.0s,mb5.1						
GKN	**Gorkha**	**36.76**	**299**	*e*P	**P**	**13 45 22.9**	**-0.6**
	comp=Z,30nm,1.0s,mb5.1						
KOLN	**Koldanda**	**37.58**	**298**	*e*P	**P**	**13 45 30.8**	**+0.2**
	comp=Z,17nm,1.0s,mb4.7						
KOLN	**Koldanda**	**37.58**	**298**	*e*P	**P**	**13 45 30.8**	**+0.2**
	comp=Z,17nm

HNR	Honiara	4.55	118	Pn	Pn	13 50 32.3	+0.3
	4.3nm,0.3s,baz=222,slow=12,SNR=3.7						
HNR				Sn	Sn	13 51 24.3	+0.6
	11nm,0.3s,baz=301,slow=5.9,SNR=2.6						
HNR				LR	LR	13 52 17.5	
	comp=Z,379nm,18.5s,baz=296,slow=38						
HNR	Honiara	4.55	118	Pn	Pn	13 50 31.0	-1.0
HNR				Sn	Sn	13 51 24.3	+0.6
PMG	Port Moresby	8.89	256	Pn	Pn	13 51 38.0	+6.5
	1.4nm,0.3s,baz=64,slow=9.8,SNR=7.7						
PMG				Sn	Sn	13 53 16.2	+5.8
	0.4nm,0.3s,baz=54,slow=19,SNR=2.5						
PMG	Port Moresby	8.89	256	Pn	Pn	13 51 35.0	+3.4
PMG				Sn	Sn	13 53 16.2	+5.8
WRAB	Tennant Creek	24.37	237	eP	P	13 54 40.2	+0.2
	6.4nm,0.6s,mb4.2						
WB2	Warramunga Arr	24.38	237	eP	P	13 54 40.0	0.0
WRA	Warramunga Arr	24.39	237	P	P	13 54 40.5	+0.4
	5.1nm,0.5s,mb4.2,baz=61,slow=9.7,SNR=123						
WRA	Warramunga Arr	24.39	237	P	P	13 54 40.5	+0.4
AS31	Alice Springs	26.65	230	eP	P	13 54 59.9	-0.7
ASAR	Alice Springs	26.65	230	P	P	13 54 59.9	-0.7
	0.7nm,0.7s,mb3.3,baz=59,slow=9.7,SNR=31						
ASAR	Alice Springs	26.65	230	P	P	13 54 59.9	-0.7
FITZ	Fitzroy Crossi	31.35	247	P	P	13 55 42.2	-0.3
	3.1nm,0.5s,mb4.4,baz=91,slow=7.8,SNR=14						
FITZ	Fitzroy Crossi	31.35	247	eP	P	13 55 41.8	-0.6
	3.7nm,0.6s,mb4.4						
KSRS	Korea Array	51.61	332	P	P	13 58 27.9	+0.1
	1.4nm,0.8s,mb3.9,baz=153,slow=8.0,SNR=4.1						
KSAR	Wonju Array Be	51.62	332	P	P	13 58 27.9	0.0
CMAR	Chiang Mai Arr	61.70	295	P	P	13 59 40.5	+0.5
	0.9nm,0.6s,mb4.1,baz=121,slow=5.4,SNR=7.9						
CMAR				pP	pP	13 59 52.6	+0.3
	1.0nm,0.7s,baz=114,slow=5.2,SNR=5.1						
CMAR	Chiang Mai Arr	61.70	295	P	P	13 59 40.5	+0.5
CMAR				pP	pP	13 59 52.6	+0.3
SONM	Songino Array	70.06	327	P	P	14 00 34.3	+1.1
	2.8nm,0.6s,mb4.4,baz=148,slow=6.1,SNR=26						
SONM	Songino Array	70.06	327	P	P	14 00 34.3	+1.1
TAPN	Taplejung	74.31	301	eP	P	14 00 59.6	+0.6
	9.3nm,0.8s,mb4.7						
TAPN	Taplejung	74.31	301	eP	P	14 00 59.6	+0.6
	9.3nm,0.8s,mb4.8						
ODAN	Odare	74.44	300	eP	P	14 01 00.4	+0.6
	13nm,0.8s,mb4.9						
ODAN	Odare	74.44	300	eP	P	14 01 00.4	+0.6
	13nm,0.8s,mb4.9						
JIRN	Jiri	75.69	301	eP	P	14 01 07.5	+0.5
JIRN	Jiri	75.69	301	eP	P	14 01 07.5	+0.5
GUN	Gumba	76.02	301	eP	P	14 01 09.3	+0.4
GUN	Gumba	76.02	301	eP	P	14 01 09.3	+0.4
KKN	Kakani	76.50	301	eP	P	14 01 11.7	+0.1
KKN	Kakani	76.50	301	eP	P	14 01 11.7	+0.1
DMN	Daman	76.60	301	eP	P	14 01 12.5	+0.3
DMN	Daman	76.60	301	eP	P	14 01 12.5	+0.3
GKN	Gorkha	77.11	301	eP	P	14 01 15.0	0.0
GKN	Gorkha	77.11	301	eP	P	14 01 15.0	0.0
KOLN	Koldanda	77.93	300	eP	P	14 01 19.5	-0.1
KOLN	Koldanda	77.93	300	eP	P	14 01 19.5	-0.1
DANN	Dangsing	77.94	301	eP	P	14 01 19.4	-0.3
DANN	Dangsing	77.94	301	eP	P	14 01 19.4	-0.3
ILAR	Eielson Array	83.32	21	P	P	14 01 47.0	-0.6
	0.6nm,1.1s,mb3.5,baz=248,slow=8.5,SNR=3.2						
ILAR	Eielson Array	83.32	21	P	P	14 01 47.0	-0.6
MK31	Makanchi Array	84.20	319	eP	P	14 01 52.6	0.0
MK31				e	pP	14 02 05.3	-0.1
MKAR	Makanchi Array	84.20	319	P	P	14 01 53.0	+0.4
	6.7nm,0.7s,mb4.9,baz=101,slow=6.1,SNR=58						
MKAR				pP	pP	14 02 05.3	-0.1
	3.0nm,0.6s,baz=100,slow=5.6,SNR=9.4						
MKAR	Makanchi Array	84.20	319	P	P	14 01 53.0	+0.4
MKAR				pP	pP	14 02 05.3	-0.1
ZAA0	Zalesovo Array	84.91	326	eP	P	14 01 55.0	-1.0
ZAA0				e	pP	14 02 07.4	-1.4
ZALV	Zalesovo Beam	84.91	326	P	P	14 01 55.2	-0.8
	3.5nm,0.4s,mb4.8,baz=114,slow=5.6,SNR=20						
ZALV				pP	pP	14 02 07.0	-1.8
	2.0nm,0.6s,baz=109,slow=5.6,SNR=5.9						
ZALV	Zalesovo Beam	84.91	326	P	P	14 01 55.2	-0.8
ZALV				pP	pP	14 02 07.0	-1.8
KURK	Kurchatov	87.60	322	P	P	14 02 08.7	-0.6
	1.5nm,0.5s,mb4.5,baz=98,slow=4.9,SNR=34						
KURK				pP	pP	14 02 20.8	-1.4
	0.7nm,0.5s,baz=98,slow=4.8,SNR=4.9						
KURK	Kurchatov	87.60	322	P	P	14 02 08.7	-0.6
KURK				pP	pP	14 02 20.8	-1.4
BVAR	Borovoye Array	93.06	323	P	P	14 02 33.9	-0.9
	1.6nm,0.6s,mb4.7,baz=108,slow=5.8,SNR=12						
BVAR				pP	pP	14 02 46.4	-1.2
	0.6nm,0.5s,baz=87,slow=5.4,SNR=3.9						
BVAR	Borovoye Array	93.06	323	P	P	14 02 33.9	-0.9
BVAR				pP	pP	14 02 46.4	-1.2
VNA3	Neumayer Olymp	101.05	185	e	PKiKP	14 07 33.6	-1.8
VNA2	Neumayer--Watz	101.15	186	e	PKiKP	14 07 30.0	-5.6
TORD	Torodi Ar. Bea	153.95	285	PKPbc	PKPbc	14 09 20.1	-1.5
	0.3nm,0.5s,baz=98,slow=2.4,SNR=3.5						
TORD	Torodi Ar. Bea	153.95	285	PKPbc	PKPbc	14 09 20.1	-1.5

*NEIC **26** 13:55:46.5,40°.21S×174°.78E,h33km,ML3.8(WEL),After WEL.*

WEL 26 13:55:45.3±0.2,40°.17S×174°.68E,h29km±2km,ML3.8/47,
2C-2D,Error ellipse: s-maj=1.6km s-min=0.6km az=90.0,
Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.47	30	↑↑P*	Pb	13 55 56.0	+0.8
WAZ				eS*	Sb	13 56 03.1	+1.2
WAZ				eS*	Sb	13 56 03.3	+1.3
WAZ	Wanganui	0.47	30	↑↑Pn	Pn	13 55 56.0	-0.1
KIW	Kapiti Island	0.72	166	PN	Pn	13 55 58.4	-1.0
KIW				S*	Sb	13 56 07.1	-1.6
KIW	Kapiti Island	0.72	166	Pn	Pn	13 55 58.4	-1.0
KIW				Sn	Sn	13 56 07.1	-2.4
OGWZ	Otaki Gorge	0.75	150	PN	Pn	13 55 58.8	-1.1
OGWZ				SN	Sn	13 56 07.9	-2.4
OGWZ	Otaki Gorge	0.75	150	Pn	Pn	13 55 58.8	-1.1
MRZ	Mangatainoka R	0.85	126	||PN	Pn	13 56 00.2	-1.0
MRZ	Mangatainoka R	0.85	126	||Pn	Pn	13 56 00.2	-1.0
DUWZ	D'Urville Isla	0.86	222	PN	Pn	13 56 01.0	-0.4
DUWZ				SN	Sn	13 56 13.6	+0.6
DUWZ	D'Urville Isla	0.86	222	Pn	Pn	13 56 01.1	-0.4
POWZ	Post Office Ro	0.86	106	PN	Pn	13 56 00.5	-0.9
POWZ	Post Office Ro	0.86	106	Pn	Pn	13 56 00.5	-0.9
RAEZ	Rainy Point	0.91	346	PN	Pn	13 56 03.6	+1.6
RAEZ	Rainy Point	0.91	346	Pn	Pn	13 56 03.6	+1.6
DFE	Dawson Falls	0.95	332	PN	Pn	13 56 04.6	+1.9
DFE	Dawson Falls	0.95	332	Pn	Pn	13 56 04.6	+1.9
HOWZ	Holdsworth Sta	0.97	139	PN	Pn	13 56 02.2	-0.8
HOWZ	Holdsworth Sta	0.97	139	Pn	Pn	13 56 02.2	-0.8
CAW	Cannon Point	0.99	163	PN	Pn	13 56 02.3	-0.8
CAW	Cannon Point	0.99	163	Pn	Pn	13 56 02.3	-0.8
TSZ	Takapari Road	0.99	84	PN	Pn	13 56 02.2	-1.0
TSZ	Takapari Road	0.99	84	Pn	Pn	13 56 02.2	-1.0
MTVZ	Mangateitei	0.99	38	PN	Pn	13 56 02.5	-0.7
MTVZ	Mangateitei	0.99	38	Pn	Pn	13 56 02.5	-0.7
NEZ	North Egmont	1.00	333	PN	Pn	13 56 05.2	+1.8
NEZ	North Egmont	1.00	333	Pn	Pn	13 56 05.2	+1.8
NRZ	Ngariki Road	1.01	325	PN	Pn	13 56 05.4	+1.9
NRZ	Ngariki Road	1.01	325	Pn	Pn	13 56 05.4	+1.9
PKVZ	Pokaka	1.01	31	PN	Pn	13 56 02.9	-0.7
PKVZ	Pokaka	1.01	31	Pn	Pn	13 56 02.9	-0.7
VRZ	Vera Road	1.04	3	PN	Pn	13 56 04.6	+0.7
VRZ	Vera Road	1.04	3	Pn	Pn	13 56 04.6	+0.7
DREZ	Durham Road	1.04	339	PN	Pn	13 56 05.7	+1.7
DREZ	Durham Road	1.04	339	Pn	Pn	13 56 05.7	+1.7
NWEZ	Newall Road	1.09	325	PN	Pn	13 56 06.5	+1.9
NWEZ	Newall Road	1.09	325	Pn	Pn	13 56 06.5	+2.0
TCW	Tory Channel	1.09	196	PN	Pn	13 56 04.0	-0.6
TCW	Tory Channel	1.09	196	Pn	Pn	13 56 04.0	-0.6
TRVZ	Turoa	1.09	38	PN	Pn	13 56 04.2	-0.5
TRVZ	Turoa	1.09	38	Pn	Pn	13 56 04.2	-0.5
WNVZ	Wahianoa	1.10	41	PN	Pn	13 56 04.2	-0.5
WNVZ	Wahianoa	1.10	41	Pn	Pn	13 56 04.2	-0.5
TIWZ	Tintock	1.10	124	PN	Pn	13 56 04.4	-0.4
TIWZ	Tintock	1.10	124	Pn	Pn	13 56 04.4	-0.4
PKE	Pukeiti	1.11	331	PN	Pn	13 56 06.6	+1.8
PKE	Pukeiti	1.11	331	Pn	Pn	13 56 06.6	+1.8
WEL	Wellington	1.12	177	PN	Pn	13 56 04.5	-0.5
WEL	Wellington	1.12	177	Pn	Pn	13 56 04.5	-0.5
MHEZ	Mangahewa	1.12	346	PN	Pn	13 56 07.0	+2.0
MHEZ	Mangahewa	1.12	346	Pn	Pn	13 56 07.0	+2.0
MOVZ	Moawhango	1.12	48	PN	Pn	13 56 04.0	-1.0
MOVZ	Moawhango	1.12	48	Pn	Pn	13 56 04.0	-1.0
FWVZ	Far West T-bar	1.13	37	PN	Pn	13 56 04.6	-0.6
FWVZ	Far West T-bar	1.13	37	Pn	Pn	13 56 04.6	-0.5
SNZO	South Karori	1.14	179	PN	Pn	13 56 04.8	-0.5
SNZO	South Karori	1.14	179	Pn	Pn	13 56 04.8	-0.5
DVHZ	Dannevirke	1.15	97	PN	Pn	13 56 05.0	-0.4
DVHZ	Dannevirke	1.15	97	Pn	Pn	13 56 05.0	-0.4
TUVZ	Tukino	1.17	40	PN	Pn	13 56 05.3	-0.4
TUVZ	Tukino	1.17	40	Pn	Pn	13 56 05.3	-0.3
WPVZ	Whakapapa	1.17	35	PN	Pn	13 56 04.8	-0.9
WPVZ	Whakapapa	1.17	35	Pn	Pn	13 56 05.1	-0.6
MTW	Mount Morrison	1.17	148	PN	Pn	13 56 05.6	-0.1
MTW	Mount Morrison	1.17	148	Pn	Pn	13 56 05.6	-0.1
PNHZ	Pukenui	1.19	78	PN	Pn	13 56 05.3	-0.7
PNHZ	Pukenui	1.19	78	Pn	Pn	13 56 05.3	-0.7
NGZ	Ngauruhoe	1.22	36	PN	Pn	13 56 05.8	-0.5
NGZ	Ngauruhoe	1.22	36	Pn	Pn	13 56 05.8	-0.5
TWVZ	Taurewa	1.24	28	PN	Pn	13 56 05.9	-0.8
TWVZ	Taurewa	1.24	28	Pn	Pn	13 56 05.9	-0.8
BHW	Baring Head	1.25	173	PN	Pn	13 56 06.5	-0.3
BHW	Baring Head	1.25	173	Pn	Pn	13 56 06.5	-0.3
OTVZ	Oturere	1.26	38	PN	Pn	13 56 06.6	-0.3
OTVZ	Oturere	1.26	38	Pn	Pn	13 56 06.6	-0.3
WTVZ	West Tongariro	1.26	34	PN	Pn	13 56 06.5	-0.5
WTVZ	West Tongariro	1.26	34	Pn	Pn	13 56 06.5	-0.5
BFZ	Birch Farm	1.30	114	PN	Pn	13 56 07.7	+0.2
BFZ	Birch Farm	1.30	114	Pn	Pn	13 56 07.1	-0.4
KRVZ	Karewarewa	1.30	35	PN	Pn	13 56 06.6	-0.9
KRVZ	Karewarewa	1.30	35	Pn	Pn	13 56 07.1	-0.4
TMWZ	Te Maipa	1.32	136	PN	Pn	13 56 07.8	+0.1
TMWZ	Te Maipa	1.32	136	Pn	Pn	13 56 07.8	+0.1
MSWZ	Moikau Station	1.32	161	PN	Pn	13 56 08.1	+0.4
MSWZ	Moikau Station	1.32	161	Pn	Pn	13 56 08.1	+0.4
PAWZ	Paruwai Farm	1.34	155	PN	Pn	13 56 08.1	0.0
PAWZ	Paruwai Farm	1.34	155	Pn	Pn	13 56 08.3	+0.2
WPHZ	Waipukurau	1.35	86	PN	Pn	13 56 08.0	-0.2
WPHZ	Waipukurau	1.35	86	Pn	Pn	13 56 08.1	-0.1
TUWZ	Tuamarina	1.38	204	PN	Pn	13 56 07.9	-0.7
TUWZ	Tuamarina	1.38	204	Pn	Pn	13 56 07.9	-0.7
KATZ	Kakaramea	1.43	34	PN	Pn	13 56 09.1	-0.1
KATZ	Kakaramea	1.43	34	Pn	Pn	13 56 09.1	-0.1
NNZ	Nelson	1.44	223	PN	Pn	13 56 09.5	+0.1
NNZ	Nelson	1.44	223	Pn	Pn	13 56 09.5	+0.1
TRWZ	Traveller	1.45	148	PN	Pn	13 56 09.9	+0.4
TRWZ	Traveller	1.45	148	Pn	Pn	13 56 10.1	+0.6
PLWZ	Palliser	1.47	163	ePN	Pn	13 56 09.5	-0.3
PLWZ	Palliser	1.47	163	Pn	Pn	13 56 09.9	+0.2
RITZ	Rihia Road	1.50	38	PN	Pn	13 56 10.8	+0.7
RITZ	Rihia Road	1.50	38	Pn	Pn	13 56 10.9	+0.8
PRHZ	Porangahau	1.50	94	PN	Pn	13 56 10.3	0.0
PRHZ	Porangahau	1.50	94	Pn	Pn	13 56 11.2	+0.9
RATZ	Rangitukua	1.55	33	PN	Pn	13 56 10.9	+0.1
RATZ	Rangitukua	1.55	33	Pn	Pn	13 56 11.3	+0.5
HIZ	Hauiti	1.66	5	PN	Pn	13 56 13.3	+0.9
HIZ	Hauiti	1.66	5	Pn	Pn	13 56 13.3	+0.9
BSWZ	Blackbirch Sta	1.66	201	PN	Pn	13 56 12.8	+0.4
BSWZ	Blackbirch Sta	1.66	201	Pn	Pn	13 56 12.8	+0.4
WATZ	Wairara	1.67	30	ePN	Pn	13 56 12.9	+0.4
WATZ	Wairara	1.67	30	Pn	Pn	13 56 13.3	+0.8
PXZ	Pawanui	1.68	86	PN	Pn	13 56 11.7	-1.0
PXZ	Pawanui	1.68	86	Pn	Pn	13 56 11.8	-0.9
MCHZ	McNeill Hill	1.71	66	ePN	Pn	13 56 14.4	+1.2
MCHZ	McNeill Hill	1.71	66	Pn	Pn	13 56 13.8	+0.6
BKZ	Black Stump Fm	1.72	55	PN	Pn	13 56 13.4	+0.2
BKZ	Black Stump Fm	1.72	55	Pn	Pn	13 56 13.6	+0.4
KAHZ	Kahuranaki	1.73	78	PN	Pn	13 56 13.1	-0.2
KAHZ	Kahuranaki	1.73	78	Pn	Pn	13 56 13.1	-0.2
QRZ	Quartz Range	1.77	247	PN	Pn	13 56 14.6	+0.7
QRZ	Quartz Range	1.77	247	Pn	Pn	13 56 14.6	+0.7
NMHZ	Naumai	1.96	58	PN	Pn	13 56 17.1	+0.6
NMHZ	Naumai	1.96	58	Pn	Pn	13 56 17.2	+0.7
ALRZ	Allen Road	2.06	39	PN	Pn	13 56 17.8	-0.1
ALRZ	Allen Road	2.06	39	Pn	Pn	13 56 18.1	+0.2
THZ	Tophouse	2.09	220	PN	Pn	13 56 18.5	+0.2
THZ	Tophouse	2.09	220	Pn	Pn	13 56 18.6	+0.3
RRRZ	Republican Roa	2.31	39	ePN	Pn	13 56 21.6	+0.2
RRRZ	Republican Roa	2.31	39	Pn	Pn	13 56 21.8	+0.4
KHZ	Kahutara	2.41	201	PN	Pn	13 56 22.7	0.0
KHZ	Kahutara	2.41	201	ePn	Pn	13 56 22.7	0.0
TOZ	Tahuroa Road	2.52	15	PN	Pn	13 56 23.7	-0.5
TOZ	Tahuroa Road	2.52	15	Pn	Pn	13 56 23.7	-0.5
URZ	Urewera	2.68	46	PN	Pn	13 56 25.8	-0.6
URZ	Urewera	2.68	46	Pn	Pn	13 56 25.8	-0.6
DSZ	Denniston Nort	2.69	233	PN	Pn	13 56 27.0	+0.4
DSZ	Denniston Nort	2.69	233	Pn	Pn	13 56 27.5	+0.9
PRGZ	Paritu Road	2.77	64	Pn	Pn	13 56 27.3	-0.4
MWZ	Matawai	2.87	51	PN	Pn	13 56 28.4	-0.6
MWZ	Matawai	2.87	51	Pn	Pn	13 56 28.4	-0.6
MKAZ	Moumakai	3.08	7	PN	Pn	13 56 32.3	+0.5
MKAZ	Moumakai	3.08	7	Pn	Pn	13 56 32.3	+0.5
LTZ	Lake Taylor	3.18	214	PN	Pn	13 56 33.3	0.0
LTZ	Lake Taylor	3.18	214	Pn	Pn	13 56 33.3	0.0
OTAZ	Otara	3.22	4	Pn	Pn	13 56 35.2	+1.3
WTAZ	Waiatarua	3.23	358	PN	Pn	13 56 35.7	+1.7
WTAZ	Waiatarua	3.23	358	Pn	Pn	13 56 35.7	+1.7
PUZ	Puketiti	3.48	54	PN	Pn	13 56 36.0	-1.4
PUZ	Puketiti	3.48	54	Pn	Pn	13 56 36.0	-1.4
KUZ	Kuaotunu	3.51	14	Pn	Pn	13 56 38.1	+0.3
CRLZ	Canterbury Las	3.74	204	ePN	Pn	13 56 38.5	-2.5
CRLZ	Canterbury Las	3.74	204	Pn	Pn	13 56 39.5	-1.5
MQZ	McQueen's Vall	3.85	202	ePN	Pn	13 56 40.1	-2.4
MQZ	McQueen's Vall	3.85	202	Pn	Pn	13 56 40.2	-2.3
WVZ	Waitaha Valley	4.14	224	ePN	Pn	13 56 46.0	-0.5
WVZ	Waitaha Valley	4.14	224	Pn	Pn	13 56 46.9	+0.4
WCZ	Waipu Caves	4.23	356	ePN	Pn	13 56 48.2	+0.5
WCZ	Waipu Caves	4.23	356	Pn	Pn	13 56 48.9	+1.2
RPZ	Rata Peaks	4.46	216	PN	Pn	13 56 49.8	-1.1
RPZ	Rata Peaks	4.46	216	Pn	Pn	13 56 49.8	-1.1
OUZ	Omahuta	5.01	350	Pn	Pn	13 56 59.6	+1.1
FOZ	Fox Glacier	5.04	226	PN	Pn	13 56 57.1	-1.8
FOZ	Fox Glacier	5.04	226	Pn	Pn	13 56 57.1	-1.8
LBZ	Lake Benmore	5.38	217	Pn	Pn	13 57 02.0	-1.5
ODZ	Otahua Downs	5.71	210	PN	Pn	13 57 05.8	-2.3
ODZ	Otahua Downs	5.71	210	ePn	Pn	13 57 06.4	-1.7
ODZ				eSn	Sn	13 58 06.4	-6.2
JCZ	Jackson Bay	5.88	226	PN	Pn	13 57 09.3	-1.1
JCZ	Jackson Bay	5.88	226	Pn	Pn	13 57 09.3	-1.1

*ISCJB **26** 14:08:31.2±0.3,6°.49S±0°.05×155°.17E±0°.05,h33km,*
mb4.5/30,MS3.6/4,Error ellipse: s-maj=7.9km
s-min=6.2km az=38.1
*IDC **26** 14:08:31.5±4.0,6°.51S×155°.17E,h22km±26km,mb4.2/16,*
mb1 4.4/19,mb1mx4.3/21,mbtmp4.3/19,ML4.2/3,MS3.5/6,
Ms1 3.5/6,ms1mx3.3/18,Error ellipse: s-maj=17.3km
s-min=12.4km az=110.0
*NEIC **26** 14:08:34.5±1.1,6°.53S×155°.19E,h49km±10km,mb4.9/15,*
Error ellipse: s-maj=7.9km s-min=7.4km az=182.0

ISC 26 14:08:31.3±2.4,6°.47S±0°.06×155°.18E±0°.06,h20km±18km,
n85,σ0°77/79,mb4.5/30,MS3.6/4,Bougainville -
Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.56	122	Pn	Pn	14 09 53.7	+0.7
	14nm,0.3s,baz=17,slow=23,SNR=7.2						
HNR				Sn	Sb	14 11 13.2	-0.9
	7.1nm,0.3s,baz=53,slow=20,SNR=3.0						
HNR				LR	LR	14 11 54.4	
	comp=Z,168nm,20.1s,baz=185,slow=37						
HNR	Honiara	5.56	122	Pn	Pn	14 09 53.7	+0.7
HNR				Sn	Sb	14 11 13.2	-0.9
PMG	Port Moresby	8.46	249	Pn	Pn	14 10 33.3	+0.5
	15nm,0.3s,baz=71,slow=6.9,SNR=41						
PMG				Sn	Sn	14 12 07.1	-0.6
	2.2nm,0.3s,baz=71,slow=19,SNR=5.0						
PMG	Port Moresby	8.46	249	ePn	Pn	14 10 33.5	+0.7
PMG				eSn	Sn	14 12 04.8	-2.9
COEN	Coen	13.95	237	eP	Px	14 11 58.0	
CTA	Charters Tower	16.07	212	Pn	Pn	14 12 17.5	+1.3
	0.3nm,0.3s,baz=26,slow=14,SNR=4.0						
CTA				LR	LR	14 16 17.8	
	comp=Z,85nm,19.5s,baz=51,slow=29						
CTA	Charters Tower	16.07	212	Pn	Pn	14 12 17.5	+1.3
CTAO	Charters Tower	16.07	212	eP	Pn	14 12 17.9	+1.7
	8.7nm,0.8s						
EIDS	Eidsvold	19.19	191	eP	Pn	14 12 58.0	+3.1
ARMA	Armidale	24.05	188	eP	P	14 13 46.6	+1.4
ARMA	Armidale	24.05	188	eP	P	14 13 46.5	+1.3
	3.9nm,0.7s,mb4.0						
WRAB	Tennant Creek	24.25	235	eP	P	14 13 46.8	-0.4
	9.9nm,0.8s,mb4.3						
WRAB				ePcP	PcP	14 17 27.6	+0.2
WB2	Warramunga Arr	24.25	235	eP	P	14 13 46.9	-0.3
WB2				ePcP	PcP	14 17 27.4	0.0
WRA	Warramunga Arr	24.26	235	P	P	14 13 46.9	-0.3
	5.9nm,0.7s,mb4.1,baz=56,slow=9.7,SNR=46						
WRA				PcP	PcP	14 17 27.8	+0.4
	2.6nm,0.6s,baz=60,slow=2.2,SNR=18						
WRA				S	S	14 18 05.8	+0.6
	1.9nm,1.2s,baz=59,slow=17,SNR=4.6						
WRA	Warramunga Arr	24.26	235	P	P	14 13 46.9	-0.3
WRA				PcP	PcP	14 17 27.8	+0.4
WRA				S	S	14 18 05.8	+0.6
CMSA	Cobar Meteorol	26.47	198	eP	P	14 14 07.5	+0.3
AS31	Alice Springs	26.65	228	eP	P	14 14 08.6	-0.3
AS31				e		14 14 19.8	
AS31				ePcP	PcP	14 17 33.0	+0.2
ASAR	Alice Springs	26.65	228	P	P	14 14 08.5	-0.4
	0.9nm,0.4s,mb3.6,baz=58,slow=9.3,SNR=48						
ASAR				PcP	PcP	14 17 33.0	+0.3
	2.2nm,0.7s,baz=62,slow=2.4,SNR=14						
ASAR	Alice Springs	26.65	228	P	P	14 14 08.5	-0.4
ASAR				PcP	PcP	14 17 33.0	+0.3
STKA	Stephens Creek	28.28	205	P	P	14 14 23.4	0.0
	1.4nm,0.6s,mb3.8,baz=44,slow=11,SNR=7.2						
STKA				PcP	PcP	14 17 36.4	-0.1
	1.7nm,0.6s,baz=41,slow=4.1,SNR=5.2						
STKA				LR	LR	14 25 07.7	
	comp=Z,110nm,18.1s,MS3.5,baz=28,slow=35						
STKA	Stephens Creek	28.28	205	eP	P	14 14 23.5	+0.1
STKA	Stephens Creek	28.28	205	P	P	14 14 23.4	0.0
STKA				PcP	PcP	14 17 36.4	-0.1
FITZ	Fitzroy Crossi	31.03	245	P	P	14 14 48.1	+0.1
	3.1nm,0.8s,mb4.2,baz=120,slow=5.3,SNR=5.0						
FITZ				PcP	PcP	14 17 44.2	+0.4
	2.4nm,0.7s,baz=180,slow=1.0,SNR=3.9						
FITZ				LR	LR	14 26 25.7	
	comp=Z,71nm,19.1s,MS3.3,baz=84,slow=35						
FITZ	Fitzroy Crossi	31.03	245	eP	P	14 14 47.8	-0.2
FITZ	Fitzroy Crossi	31.03	245	P	P	14 14 48.1	+0.1
FITZ				PcP	PcP	14 17 44.2	+0.4
BBOO	Buckleboo	31.67	212	eP	P	14 15 02.3	+8.9
URZ	Urewera	37.37	151	P	P	14 15 40.4	-2.3
	2.8nm,0.6s,mb4.3,baz=0.0,slow=6.1,SNR=3.6						
URZ	Urewera	37.37	151	P	P	14 15 40.4	-2.3
RPZ	Rata Peaks	39.63	162	P	P	14 16 01.1	-0.5
	8.0nm,0.7s,mb4.5,baz=346,slow=4.2,SNR=3.5						
R

SDLR				*i* S	Sb	14 15 07.6	-0.1
PET	**Petropavlovsk**	**1.39**	**284**	*e*P	Pn	14 14 50.9	+0.1
PET				*i* S	Sn	14 15 09.7	+0.5
AVH	**Avacha**	**1.42**	**294**	*e*P	Pn	14 14 51.6	+0.5
KOK	**Koryaka**	**1.48**	**294**	*e*P	Pn	14 14 53.2	+1.1
KOK				*i* S	Sn	14 15 13.5	+2.0
MTVR	**Mutnovka**	**1.67**	**263**	*e*P	Pn	14 14 55.3	+0.7
MTVR				*i* S	Sn	14 15 17.0	+1.0
GRL	**Gorelyy**	**1.72**	**266**	*e*P	Pn	14 14 56.4	+1.0
GRL				*i* S	Sn	14 15 19.0	+1.6
ASAK	**Asacha**	**1.85**	**261**	*e*P	Pn	14 14 57.9	+0.7
MKZ	**Mys Kozlova**	**1.92**	**15**	*e*P	Pn	14 14 58.1	+0.1
MKZ				*i* S	Sn	14 15 21.8	-0.4
TUMR	**Tumrok**	**2.62**	**351**	*e*P	Pn	14 15 10.7	+3.1

CSEM ***26*** *14:36:37.3±0.1, 40°.34N×27°.84E, h5km, MD2.6, Error ellipse: s-maj=3.7km s-min=2.7km az=177.0*

ISK 26 14:36:37.0, 40°.32N×27°.82E, h5km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.04**	**51**	*e*PG	Pg	14 36 38.3	+0.1
EDC				*e*SG	Sg	14 36 39.6	+0.6
EDC	**Edincik**	**0.04**	**51**	*e*Pg	Pg	14 36 38.3	+0.1
EDC				*e*Sg	Sg	14 36 39.6	+0.5
BNT	**Bandirma**	**0.09**	**65**	*e*PG	Pg	14 36 38.8	0.0
BNT				*e*SG	Sg	14 36 40.8	+0.7
BNT	**Bandirma**	**0.09**	**65**	*e*Pg	Pg	14 36 38.8	0.0
BNT				*e*Sg	Sg	14 36 40.8	+0.7
GONE	**Gonen-Balikesi**	**0.29**	**201**	*e*PG	Pg	14 36 43.9	+1.2
GONE	**Gonen-Balikesi**	**0.29**	**201**	*e*Pg	Pg	14 36 43.9	+1.3
KRBG	**Karabiga-Canak**	**0.41**	**281**	*e*PG	Pg	14 36 45.1	+0.3
KRBG	**Karabiga-Canak**	**0.41**	**281**	*e*Pg	Pg	14 36 45.1	+0.3
KCTX	**Karacabey (Bur**	**0.41**	**97**	*e*PG	Pg	14 36 45.1	+0.2
KCTX	**Karacabey (Bur**	**0.41**	**97**	*e*Pg	Pg	14 36 45.1	+0.1
DST	**Dursunbey**	**0.94**	**139**	*e*PG	Pg	14 36 55.5	+0.4
DST	**Dursunbey**	**0.94**	**139**	*e*Pg	Pg	14 36 55.5	+0.4
GELI	**Tayfur-Gelibol**	**1.03**	**275**	*e*PG	Pg	14 36 57.1	+0.3
GELI	**Tayfur-Gelibol**	**1.03**	**275**	*e*Pg	Pg	14 36 57.1	+0.3
CTKS	**Kestanelik-??a**	**1.05**	**29**	*e*PG	Pg	14 36 57.9	+0.7
CTKS	**Kestanelik-??a**	**1.05**	**29**	*e*Pg	Pg	14 36 57.9	+0.7
ERIK	**Erikli-Kesan**	**1.06**	**290**	*e*PG	Pg	14 36 57.9	+0.7
ERIK	**Erikli-Kesan**	**1.06**	**290**	*e*Pg	Pg	14 36 57.9	+0.6
BGKT	**Bogazkoy**	**1.12**	**40**	*e*PN	Pn	14 36 59.1	-0.3
BGKT	**Bogazkoy**	**1.12**	**40**	*e*Pn	Pn	14 36 59.1	-0.3
ISK	**Istanbul-Kandi**	**1.20**	**51**	*e*PN	Pn	14 37 00.2	-0.2
ISK	**Istanbul-Kandi**	**1.20**	**51**	*e*Pn	Pn	14 37 00.3	-0.1
YLV	**Yalova**	**1.21**	**78**	*e*PN	Pn	14 37 00.1	-0.4
YLV	**Yalova**	**1.21**	**78**	*e*Pn	Pn	14 37 00.1	-0.5

ISK ***26*** *14:37:49.8, 37°.92N×29°.05E, h10km, MD2.7*
DDA ***26*** *14:37:49.5, 37°.91N×29°.20E, h7km±3km, Md3.0*
ISCJB ***26*** *14:37:50.2±0.4, 37°.91N±0°.02×29°.13E±0°.04, h10km, Error ellipse: s-maj=5.0km s-min=3.1km az=14.2*
CSEM ***26*** *14:37:50.1±0.2, 37°.93N×29°.13E, h5km, MD2.7, Error ellipse: s-maj=4.5km s-min=3.3km az=98.0*

ISC 26 14:37:50.3±0.5, 37°.92N±0°.02×29°.15E±0°.05, h4km±8km, n30, σ0°.70/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**210**	*e*PG	Pg	**14 37 53.8**	**-0.2**
DENT	**Denizli**	**0.19**	**210**	*e*Pg	Pg	**14 37 53.8**	**-0.2**
DNZL	**Cakiroluk**	**0.24**	**200**	*i* P	Pg	**14 37 54.8**	**-0.2**
DNZL				*i* S	Sg	**14 37 58.5**	**+0.4**
DNZL	**Cakiroluk**	**0.24**	**200**	*i* P	Pg	**14 37 54.8**	**-0.2**
KHAL	**Karahalli**	**0.52**	**31**	*i* P	Pg	**14 38 00.0**	**-0.3**
KHAL				*i* S	Sg	**14 38 06.9**	**-0.2**
KHAL	**Karahalli**	**0.52**	**31**	*i* P	Pg	**14 38 00.0**	**-0.3**
KHAL				*i* S	Sg	**14 38 06.9**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**327**	*e*PG	Pg	**14 38 02.6**	**-1.2**
KULA				*e*SG	Sg	**14 38 13.6**	**+0.5**
KULA	**Kula-Manisa**	**0.71**	**327**	*e*Pg	Pg	**14 38 02.6**	**-1.3**
KULA				*e*Sg	Sg	**14 38 13.6**	**+0.5**
MANT	**Manisa**	**0.74**	**321**	*i* P	Pg	**14 38 05.1**	**+0.7**
MANT				*i* S	Sg	**14 38 14.5**	**+0.5**
MANT	**Manisa**	**0.74**	**321**	*i* P	Pg	**14 38 05.1**	**+0.7**
MANT				*i* S	Sg	**14 38 14.5**	**+0.5**
GLHS	**Glhisar (BURDU**	**0.81**	**160**	*e*PG	Pg	**14 38 07.2**	**+1.4**
GLHS	**Glhisar (BURDU**	**0.81**	**160**	*e*Pg	Pg	**14 38 07.2**	**+1.4**
AYDN	**Tasoluk**	**1.04**	**256**	*i* P	Pg	**14 38 10.3**	**+0.1**
AYDN				*i* S	Sg	**14 38 24.5**	**+0.7**
AYDN	**Tasoluk**	**1.04**	**256**	*i* P	Pg	**14 38 10.3**	**+0.1**
AYDN				*i* S	Sg	**14 38 24.5**	**+0.8**
YER	**Yerkesik**	**1.04**	**222**	*e*PG	Pg	**14 38 08.9**	**-1.4**
YER				*e*SG	Sg	**14 38 23.1**	**-0.8**
YER	**Yerkesik**	**1.04**	**222**	*e*Pg	Pg	**14 38 08.9**	**-1.4**
DEMI	**Demirci**	**1.17**	**343**	*i* P	Pg	**14 38 13.0**	**+0.3**
DEMI				*i* S	Sg	**14 38 28.8**	**+0.8**
DEMI	**Demirci**	**1.17**	**343**	*i* P	Pg	**14 38 13.0**	**+0.2**
DEMI				*i* S	Sg	**14 38 28.8**	**+0.8**
GDZ	**Gediz**	**1.20**	**12**	*i* P	Pg	**14 38 12.7**	**-0.5**
GDZ				*i* S	Sg	**14 38 28.2**	**-0.5**
GDZ	**Gediz**	**1.20**	**12**	*i* P	Pg	**14 38 12.7**	**-0.5**
GDZ				*i* S	Sg	**14 38 28.2**	**-0.5**
SHUT	**Suhut-Afyon**	**1.27**	**60**	*e*PN	Pn	**14 38 14.4**	**-0.4**
SHUT	**Suhut-Afyon**	**1.27**	**60**	*e*Pn	Pn	**14 38 14.4**	**-0.3**
ELL	**Elmali**	**1.31**	**153**	*e*PN	Pn	**14 38 16.1**	**+0.8**
ELL	**Elmali**	**1.31**	**153**	*e*Pn	Pn	**14 38 16.1**	**+0.8**
ALT	**Altintas**	**1.36**	**33**	*e*PN	Pn	**14 38 15.7**	**-0.3**
ALT	**Altintas**	**1.36**	**33**	*e*Pn	Pn	**14 38 15.7**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.53**	**106**	*e*PN	Pn	**14 38 19.1**	**+0.8**
SUTC	**Sutluce-Ispart**	**1.53**	**106**	*e*Pn	Pn	**14 38 19.1**	**+0.8**
DAT	**Datca**	**1.73**	**227**	*e*PN	Pn	**14 38 20.1**	**-0.9**
DAT	**Datca**	**1.73**	**227**	*e*Pn	Pn	**14 38 20.2**	**-0.8**

MDD ***26*** *15:11:47.6±2.7, 37°.34N×14°.02W, h0km, mb3.8/7, Error ellipse: s-maj=30.1km s-min=22.4km az=8.0, PRXIMO*
INMG ***26*** *15:11:47.7±1.0, 37°.01N×14°.44W, h0km, ML2.0, Error ellipse: s-maj=12.6km s-min=7.7km az=171.0*
CSEM ***26*** *15:11:49.4±0.6, 37°.28N×13°.83W, h10km, mb3.8/7, Error ellipse: s-maj=13.6km s-min=10.4km az=178.0*

ISC 26 15:11:50.2±1.3, 37°.3N±0°.1×13°.76W±0°.08, h10km, n40, σ0°.92/77, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.90**	**64**	*e*Pn	Pn	**15 12 50.5**	**+0.3**
PMAFR				*e*Sn	Sn	**15 13 39.9**	**+3.9**
PMAFR	**Mafra**	**3.90**	**64**	P	Pn	**15 12 50.3**	**+0.1**
	2.0nm,0.1s,SNR=7.9						
PMAFR				S	Sn	**15 13 35.1**	**-0.8**
	3.4nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.90**	**64**	P	Pn	**15 12 50.3**	**+0.1**
	2.0nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.90**	**64**	*e*Pn	Pn	**15 12 50.5**	**+0.3**
PMAFR				S	Sn	**15 13 35.1**	**-0.9**
	3.4nm,0.3s,SNR=7.9						
PMAFR				*e*Sn	Sn	**15 13 39.9**	**+3.9**
PFVI	**Vila Bisbo**	**3.94**	**91**	*e*Pn	Pn	**15 12 50.3**	**-0.5**
PFVI				*e*Sn	Sn	**15 13 37.6**	**+0.5**
PFVI	**Vila Bisbo**	**3.94**	**91**	P	Pn	**15 12 49.8**	**-1.0**
	0.5nm,0.1s,SNR=7.9						
PFVI				S	Sn	**15 13 36.2**	**-0.9**
	1.2nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.94**	**91**	P	Pn	**15 12 49.8**	**-1.0**
	0.5nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.94**	**91**	*e*Pn	Pn	**15 12 50.3**	**-0.5**
PFVI				S	Sn	**15 13 36.2**	**-0.9**
	1.2nm,0.2s,SNR=7.9						
PFVI				*e*Sn	Sn	**15 13 37.6**	**+0.5**
PTEO	**Sao Teotonio**	**4.02**	**85**	*e*Pn	Pn	**15 12 51.5**	**-0.3**
PTEO				*e*Sn	Sn	**15 13 39.5**	**+0.6**
PTEO	**Sao Teotonio**	**4.02**	**85**	P	Pn	**15 12 51.5**	**-0.3**
PTEO				S	Sn	**15 13 39.5**	**+0.6**
PTEO	**Sao Teotonio**	**4.02**	**85**	*e*Pn	Pn	**15 12 51.5**	**-0.3**
PTEO				*e*Sn	Sn	**15 13 39.5**	**+0.6**
PNCL	**Nicolau / Gran**	**4.23**	**77**	*e*Pn	Pn	**15 12 54.4**	**-0.3**
PNCL				*e*Sn	Sn	**15 13 44.3**	**+0.2**
PNCL	**Nicolau / Gran**	**4.23**	**77**	*e*Pn	Pn	**15 12 54.4**	**-0.3**
PNCL				*e*Sn	Sn	**15 13 44.3**	**+0.2**
PCVE	**Castro Verde**	**4.57**	**84**	*e*Pn	Pn	**15 12 59.6**	**+0.3**
PCVE				*e*Sn	Sn	**15 13 52.5**	**+0.1**
PCVE	**Castro Verde**	**4.57**	**84**	P	Pn	**15 12 59.6**	**+0.3**
PCVE				S	Sn	**15 13 52.5**	**+0.1**
PCVE	**Castro Verde**	**4.57**	**84**	*e*Pn	Pn	**15 12 59.6**	**+0.3**
PCVE				*e*Sn	Sn	**15 13 52.5**	**+0.1**
PBDV	**Barranco-do-Ve**	**4.65**	**89**	*e*Pn	Pn	**15 13 01.1**	**+0.6**
PBDV				*e*Sn	Sn	**15 13 55.0**	**+0.5**
PBDV	**Barranco-do-Ve**	**4.65**	**89**	P	Pn	**15 13 01.1**	**+0.6**
PBDV				S	Sn	**15 13 55.0**	**+0.5**
PBDV	**Barranco-do-Ve**	**4.65**	**89**	*e*Pn	Pn	**15 13 01.1**	**+0.6**
PBDV				*e*Sn	Sn	**15 13 55.0**	**+0.5**
PMTG	**Montargil**	**4.71**	**66**	*e*Pn	Pn	**15 13 02.1**	**+0.9**
PMTG				*e*Sn	Sn	**15 13 57.9**	**+2.0**
PMTG	**Montargil**	**4.71**	**66**	*e*Pn	Pn	**15 13 02.1**	**+0.9**
PMTG				*e*Sn	Sn	**15 13 57.9**	**+2.0**
PVAQ	**Vaqueiros**	**4.82**	**87**	*e*Pn	Pn	**15 13 03.5**	**+0.7**
PVAQ				*e*Sn	Sn	**15 13 59.2**	**+0.6**
PVAQ	**Vaqueiros**	**4.82**	**87**	P	Pn	**15 13 03.5**	**+0.7**
PVAQ				S	Sn	**15 13 59.2**	**+0.6**
PVAQ	**Vaqueiros**	**4.82**	**87**	*e*Pn	Pn	**15 13 03.5**	**+0.7**
PVAQ				*e*Sn	Sn	**15 13 59.2**	**+0.6**
EGRO	**El Granado**	**5.00**	**85**	P	Pn	**15 13 05.0**	**-0.3**
	0.3nm,0.1s,SNR=4.0						
EGRO				S	Sn	**15 14 02.9**	**-0.3**
	0.4nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.00**	**85**	P	Pn	**15 13 05.0**	**-0.3**
	0.3nm,0.1s,SNR=4.0						
EGRO				S	Sn	**15 14 02.9**	**-0.3**
	0.4nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**5.40**	**79**	*e*Pn	Pn	**15 13 11.3**	**+0.5**
PBAR				*e*Sn	Sn	**15 14 13.6**	**+0.6**
PBAR	**Barrancos**	**5.40**	**79**	P	Pn	**15 13 11.3**	**+0.5**
PBAR				S	Sn	**15 14 13.6**	**+0.6**
PBAR	**Barrancos**	**5.40**	**79**	*e*Pn	Pn	**15 13 11.3**	**+0.5**
PBAR				*e*Sn	Sn	**15 14 13.6**	**+0.6**
PMRV	**Marv??o**	**5.44**	**65**	*e*Pn	Pn	**15 13 11.7**	**+0.4**
PMRV				*e*Sn	Sn	**15 14 15.0**	**+1.1**
PMRV	**Marv??o**	**5.44**	**65**	P	Pn	**15 13 11.7**	**+0.4**
PMRV				S	Sn	**15 14 15.0**	**+1.1**
PMRV	**Marv??o**	**5.44**	**65**	*e*Pn	Pn	**15 13 11.7**	**+0.4**
PMRV				*e*Sn	Sn	**15 14 15.0**	**+1.1**
EBAD	**Badajoz**	**5.52**	**73**	P	Pn	**15 13 12.5**	**0.0**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	**15 14 14.5**	**-1.5**
	1.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.52**	**73**	P	Pn	**15 13 12.5**	**0.0**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	**15 14 14.5**	**-1.5**
	1.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.66**	**83**	P	Pn	**15 13 14.0**	**-0.3**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	**15 14 16.7**	**-2.6**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.66**	**83**	P	Pn	**15 13 14.0**	**-0.3**
	0.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.34**	**42**	P	Pn	**15 13 22.1**	**-1.5**
	0.3nm,0.1s,SNR=4.0						
ELOB				S	Sn	**15 14 31.5**	**-4.5**
	0.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.34**	**42**	P	Pn	**15 13 22.1**	**-1.5**
	0.3nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**7.33**	**80**	P	Pn	**15 13 37.3**	**0.0**
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	**15 14 57.6**	**-2.9**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.33**	**80**	P	Pn	**15 13 37.3**	**0.0**
	0.4nm,0.1s,SNR=7.9						

IDC ***26*** *15:21:44.9±0.5, 52°.83N×160°.72E, h0km, mb4.3/30, mb1 4.5/32, mb1mx4.4/34, mbtmp4.3/32, ML4.5/2, MS3.8/5, Ms1 3.9/5, ms1mx3.4/36, Error ellipse: s-maj=15.2km s-min=9.7km az=165.0*
MOS ***26*** *15:21:44.4±1.5, 52°.58N×160°.91E, h15km, mb5.0/31, Error ellipse: s-maj=8.2km s-min=5.1km az=97.2*
KRSC ***26*** *15:21:45.9±0.5, 52°.50N×161°.10E, h21km±20km, ML4.9*
NEIC ***26*** *15:21:49.3±1.9, 52°.78N×160°.78E, h32km±14km, mb4.9/29, Error ellipse: s-maj=7.9km s-min=5.1km az=154.0*
ISCJB ***26*** *15:21:50.6±0.6, 52°.68N±0°.04×160°.75E±0°.07, h59km±3km, mb4.7/83, MS4.1/13, Error ellipse: s-maj=8.2km s-min=4.3km az=44.2*
BJI ***26*** *15:21:53.4, 52°.84N×160°.28E, h76km, mB5.1/25, mb4.6/31, Ms4.7/17, Ms7 4.3/19*

ISC 26 15:21:51.7±0.6, 52°.66N±0°.04×160°.75E±0°.07, h52km±4km, h75km±2.0km: pP-P, n277, σ1°.13/296, mb4.7/83, MS4.1/13, 16C-18D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**1.29**	**299**	*e*P	Pn	**15 22 11.9**	**-1.3**
UGLR	**Uglovaya**	**1.29**	**296**	*e*P	Pn	**15 22 12.3**	**-1.0**
PET	**Petropavlovsk**	**1.32**	**287**	*e*P	Pn	**15 22 12.6**	**-1.1**
PET				*i* S	Sn	**15 22 32.6**	**+2.5**
PET	**Petropavlovsk**	**1.32**	**287**	*e*Pn	Pn	**15 22 12.5**	**-1.3**
PET				*e*Sn	Sn	**15 22 36.2**	**+6.1**
PET	**Petropavlovsk**	**1.32**	**287**	↓*i*PN	Pn	**15 22 12.4**	**-1.3**
PET				*e*S	Sn	**15 22 30.0**	**-0.1**
PET				pmax	pmax		
	comp=Z,2μm,0.7s						
PET				smax			
	comp=E,5μm,0.8s						
RUS	**Russkaya**	**1.39**	**261**	*e*P	Pn	**15 22 14.0**	**-0.6**
RUS				*i* S	Sn	**15 22 34.8**	**+3.1**
RUS	**Russkaya**	**1.39**	**261**	PN	Pn	**15 22 14.0**	**-0.6**
RUS				S	Sn	**15 22 34.8**	**+3.1**
KOK	**Koryaka**	**1.43**	**297**	*e*P	Pn	**15 22 14.7**	**-0.4**
MTVR	**Mutnovka**	**1.58**	**264**	*e*P	Pn	**15 22 17.1**	**-0.1**
MTVR				*i* S	Sn	**15 22 39.3**	**+2.9**
ASAK	**Asacha**	**1.77**	**262**	*e*P	Pn	**15 22 20.1**	**+0.4**
PEA0B	**Petropavlovsk-**	**1.90**	**285**	*e*Pn	Pn	**15 22 21.7**	**0.0**
PEA0B				*e*Sn	Sn	**15 22 50.5**	**+6.2**
PETK	**Petropavlovsk-**	**1.90**	**285**	Pn	Pn	**15 22 21.4**	**-0.2**
	comp=E,318nm,0.3s,baz=106,slow=21,SNR=668						
PETK				Sn	Sn	**15 22 51.0**	**+6.6**
	comp=E,176nm,0.3s,baz=74,slow=22,SNR=7.3						
PETK	**Petropavlovsk-**	**1.90**	**285**	Pn	Pn	**15 22 21.4**	**-0.2**
PETK				Sn	Sn	**15 22 51.0**	**+6.6**
PETK	**Petropavlovsk-**	**1.90**	**285**	PN	Pn	**15 22 21.4**	**-0.2**
PETK						15 22 51.0	
MKZ	**Mys Kozlova**	**1.98**	**17**	*e*P	Pn	**15 22 19.5**	**-3.2**
MKZ	**Mys Kozlova**	**1.98**	**17**	PN	Pn	**15 22 19.5**	**-3.2**
MIPR	**Malaya Ipel'ka**	**2.47**	**263**	*e*P	Pn	**15 22 30.8**	**+1.4**
TUMR	**Tumrok**	**2.65**	**352**	*e*P	Pn	**15 22 31.4**	**-0.4**
KMNR	**Kamenistaya**	**3.12**	**355**	*e*P	Pn	**15 22 39.8**	**+1.6**
KMNR				*i* S	Sn	**15 23 18.4**	**+4.3**
KPT	**Kopyto**	**3.33**	**355**	*e*P	Pn	**15 22 43.1**	**+2.0**
KOZ	**Kozyrevsk**	**3.44**	**352**	*e*P	Pn	**15 22 44.3**	**+1.6**
KOZR	**Kozyr**	**3.45**	**352**	PN	Pn	**15 22 44.3**	**+1.5**
ESO	**Esso**	**3.48**	**341**	*e*P	Pn	**15 22 43.4**	**+0.2**
ESO	**Esso**	**3.48**	**341**	PN	Pn	**15 22 43.4**	**+0.2**
SKR	**Severo-Kuril's**	**3.50**	**237**	*e*PN	Pn	**15 22 41.9**	**-1.6**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
KLY	**Klyuchi**	**3.66**	**359**	*e*P	Pn	**15 22 47.2**	**+1.6**
KLY	**Klyuchi**	**3.66**	**359**	PN	Pn	**15 22 47.2**	**+1.6**
SRDR	**Sredinnyy**	**3.71**	**351**	*e*P	Pn	**15 22 47.6**	**+1.2**
KBTR	**Krutoberegovo**	**3.75**	**18**	*e*P	Pn	**15 22 45.6**	**-1.3**
KBTR	**Krutoberegovo**	**3.75**	**18**	PN	Pn	**15 22 45.6**	**-1.3**
BDR	**Baidarnaya**	**3.92**	**4**	*e*P	Pn	**15 22 49.2**	**-0.1**
SMKR	**Semkarok**	**3.95**	**6**	*e*P	Pn	**15 22 48.6**	**-1.0**
BKI	**Bering**	**4.00**	**48**	*e*P	Pn	**15 22 46.5**	**-3.8**
BKI	**Bering**	**4.00**	**48**	PN	Pn	**15 22 46.5**	**-3.8**
SRKR	**Sorokina**	**4.01**	**3**	*e*P	Pn	**15 22 51.3**	**+0.9**
FX1	**Attu Island--F**	**7.54**	**83**	Pn	Pn	**15 23 34.8**	**-4.0**
	comp=Z,37nm,0.3s,baz=280,slow=6.4,SNR=76						
FX1				Sn	Sn	**15 24 51.4**	**-11**
	comp=Z,9.5nm,0.3s,baz=250,slow=23,SNR=3.1						
FX1	**Attu Island--F**	**7.54**	**83**	Pn	Pn	**15 23 34.8**	**-4.0**
FX1				Sn	Sn	**15 24 51.4**	**-11**
FX1	**Attu Island--F**	**7.54**	**83**	PN	Pn	**15 23 34.8**	**-3.9**
ASAJ	**Asahikawa**	**14.75**	**242**	Pn	Pn	**15 25 15.1**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=94,slow=9.7,SNR=10						
ASAJ	**Asahikawa**	**14.75**	**242**	Pn	Pn	**15 25 15.1**	**-1.9**
ASAJ	**Asahikawa**	**14.75**	**242**	P	Pn	**15 25 15.1**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BILL	**Bilibino**	**15.66**	**8°**	*e*P	Pn	**15 25 27.1**	**-1.4**
BILL				*e*S	S	**15 28 18.8**	**-15**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,1μm,24.0s						
ERM	**Erimo**	**15.94**	**235**	*e*Pn	Pn	**15 25 26.8**	**-5.5**
ERM	**Erimo**	**15.94**	**235**	*e*P	Pn	**15 25 28.6**	**-3.7**
HABR	**Khabarovsk**	**16.82**	**266**	*e*P	Pn	**15 25 39.5**	**-3.8**
HABR				*e*		15 28 43.8	
HABR				pmax	pmax		
	comp=N,54nm,2.0s						
HABR				MLR	MLR		
	comp=Z,345nm,17.0s						
KLR	**Kul'dur**	**18.54**	**271**	*e*P	Pn	**15 26 06.1**	**+1.8**
YAK	**Yakutsk**	**19.02**	**312**	*e*Pn	Pn	**15 26 06.6**	**-3.5**
	comp=Z,48nm,0.6s						
YAK	**Yakutsk**	**19.02**	**312**	*c i*P	Pn	**15 26 07.4**	**-2.7**
YAK				*e*S	S	**15 29 36.0**	**-5.8**
YAK				pmax	pmax		
	comp=Z,28nm,0.8s						
YAK				pmax	pmax		
	comp=E,11nm,0.9s						
YAK				smax			
	comp=E,250nm,3.8s						
YAK				smax			
	comp=N,217nm,3.6s						
USRK	**Ussurisk Arra**	**20.76**	**257**	P	P	**15 26 26.5**	**-1.4**
	comp=N,12nm,0.8s,baz=58,slow=9.9,SNR=17						
USRK				LR	LR	15 35 25.2	
	comp=N,199nm,18.7s,MS3.5,baz=239,slow=40						
CLNS	**Chul'man**	**20.95**	**296**	*e*P	P	**15 26 31.6**	**+1.7**
CLNS				pmax	pmax		
	comp=N,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,15nm,0.9s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
MDJ	**Mudanjiang**	**21.97**	**261**	P	P	**15 26 39.0**	**-1.9**
MDJ				pP		15 26 53.3	
MDJ				sP	sP	15 27 02.8	+3.5
MDJ				S	S	**15 30 33.3**	**-6.9**
MDJ				PcP	PcP	15 30 38.3	+0.8
MDJ				ScP	ScP	15 34 08.5	-1.7
MDJ				PcS	PcS	15 34 16.5	+0.6
MDJ				ScS	ScS	15 37 53.3	-1.4
MDJ				pmax	pmax		
	comp=Z,14nm,2.4s,mb4.0						
MDJ				pmax	pmax		
	comp=Z,460nm,4.6s						
MDJ				LR	LR		
	comp=Z,110nm,17.7s,MS3.3						
MDJ	**Mudanjiang**	**21.97**	**261**	*e*P	P	**15 26 39.1**	**-1.7**
MAJO	**Matsushiro**	**22.60**	**233**	*e*P	P	**15 26 47.4**	**-0.2**
	comp=Z,18nm,0.6s,mb4.7						
MAJO	**Matsushiro**	**22.60**	**233**	*e*P	P	**15 26 47.4**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.7						
MAT	**Matsushiro**	**22.60**	**233**	P	P	**15 26 48.4**	**+0.8**
MJAR	**Matsushiro Arr**	**22.60**	**233**	P	P	**15 26 49.0**	**+1.4**
	comp=Z,12nm,0.6s,mb4.5,baz=20,slow=7.4,SNR=36						
MJAR	**Matsushiro Arr**	**22.60**	**233**	P	P	**15 26 49.0**	**+1.4**
MJAR	**Matsushiro Arr**	**22.60**	**233**	P	P	**15 26 49.0**	**+1.4**
CN2	**Changchun**	**24.91**	**263**	*e*P	P	**15 27 08.5**	**-1.0**
CN2				*e*sP	sP	15 27 34.8	+6.0
CN2				*e*S	S	**15 31 21.3**	**-7.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,400nm,12.0s,MS4.4						
CN2				LR	LR		
	comp=E,600nm,12.0s,MS4.4						
CN2				LR	LR		
	comp=Z,300nm,13.0s,MS4.0						
HIA	**Hailar**	**25.80**	**279**	*e*P	P	**15 27 15.8**	**-1.7**
	comp=Z,13nm,0.9s,mb4.5						
HIA	**Hailar**	**25.80**	**279**	*e*P	P	**15 27 15.8**	**-1.7**
HIA				pmax	pmax		
	comp=Z,13nm,0.9s						
BOD	**Bodaibo**	**26.71**	**300**	*e*P	P	**15 27 24.2**	**-1.4**
BOD				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
KSRS	**Korea Array**	**27.43**	**249**	P	P	**15 27 33.1**	**

ZALV PcP PcP 15 31 36.9 +0.9
comp=Z,0.6nm,0.3s,baz=39,slow=5.7,SNR=4.3
ZALV Zalesovo Beam 43.35 303 P **P** **15 29 46.4 -1.8**
ZALV PcP PcP 15 31 36.9 +0.9
ZALV Zalesovo Beam 43.35 303 P **P** **15 29 46.4 -1.8**
ZALV 15 31 36.9
RES Resolute Bay 43.58 22 P **P** **15 29 48.4 -1.5**
comp=Z,2.0nm,0.6s,mb4.0,baz=323,slow=9.7,SNR=5.5
RES Resolute Bay 43.58 22 P **P** **15 29 48.4 -1.4**
RES Resolute Bay 43.58 22 P **P** **15 29 48.4 -1.4**
NVS Novosibirsk 43.69 305 *eP* **P** **15 29 48.7 -2.3**
NVS *e* 15 31 34.9
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,15nm,1.3s
NVS pmax pmax
comp=Z,24nm,1.3s,mb4.8
CD2 Chengdu 46.33 265 *eP* **P** **15 30 11.5 -0.7**
CD2 pP pP 15 30 30.0 +4.0
CD2 sP sP 15 30 39.3 +7.3
CD2 S **S** **15 36 50.3 -5.2**
CD2 SS SS 15 40 08.3 -13
CD2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CD2 pmax pmax
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,360nm,14.3s,MS4.6
CD2 LR LR
comp=E,340nm,15.5s,MS4.6
CD2 LR LR
comp=Z,220nm,13.2s,MS4.3
WMQ Urumqi 47.49 290 P **P** **15 30 21.3 +0.2**
WMQ pP pP 15 30 39.8 +4.8
WMQ sP sP 15 30 48.8 +7.8
WMQ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WMQ pmax pmax
comp=Z,240nm,5.0s
SPITS Spitsbergen Ar 47.63 351 P **P** **15 30 22.1 +0.4**
comp=Z,13nm,0.5s,mb5.2,baz=64,slow=11,SNR=34
SPITS Spitsbergen Ar 47.63 351 P **P** **15 30 22.1 +0.4**
SPITS Spitsbergen Ar 47.63 351 P **P** **15 30 22.2 +0.4**
GYA Guiyang 47.80 259 P **P** **15 30 24.0 +0.3**
GYA pP pP 15 30 41.5 +3.9
GYA sP sP 15 30 50.0 +6.4
GYA PcP PcP 15 31 53.0 +1.1
GYA PP PP 15 32 15.5 -0.2
GYA ScP ScP 15 35 39.0 -2.6
GYA SS SS 15 40 33.5 -12
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=N,510nm,17.0s,MS4.7
GYA LR LR
comp=E,480nm,18.4s,MS4.7
GYA LR LR
comp=Z,430nm,17.7s,MS4.5
KURK Kurchatov 48.30 302 P **P** **15 30 26.1 -1.2**
comp=Z,8.3nm,0.4s,mb5.1,baz=59,slow=7.5,SNR=19
KURK PcP PcP 15 31 53.6 +0.2
comp=Z,1.0nm,0.3s,baz=49,slow=3.4,SNR=5.1
KURK Kurchatov 48.30 302 *eP* **P** **15 30 25.6 -1.7**
comp=Z,12nm,0.4s,mb5.3
KURK P 15 30 26.1
KURK PcP PcP 15 31 53.6 +0.2
KURK Kurchatov 48.30 302 *c iP* **P** **15 30 25.6 -1.7**
KURK pmax pmax
comp=Z,22nm,1.2s,mb5.1
MK31 Makanchi Array 48.70 296 *eP* **P** **15 30 28.6 -1.8**
MK31 Makanchi Array 48.70 296 *eP* **P** **15 30 28.6 -1.8**
MKAR Makanchi Array 48.70 296 P **P** **15 30 28.9 -1.5**
comp=Z,1.6nm,0.5s,mb4.3,baz=59,slow=6.4,SNR=54
MKAR Makanchi Array 48.70 296 P **P** **15 30 28.9 -1.5**
MKAR Makanchi Array 48.70 296 *ceP* **P** **15 30 29.0 -1.4**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 50.97 309 P **P** **15 30 46.2 -1.4**
comp=Z,2.8nm,0.5s,mb4.5,baz=64,slow=8.0,SNR=19
BVAR Borovoye Array 50.97 309 P **P** **15 30 46.2 -1.4**
BVAR Borovoye Array 50.97 309 P **P** **15 30 46.2 -1.4**
BRVK Borovoye 51.00 309 ⇓ *iP* **P** **15 30 46.0 -1.8**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KMI Kunming 51.15 261 P **P** **15 30 47.0 -2.2**
KMI pmax pmax
comp=Z,11nm,0.9s,mb4.8
BSMT Bassoo Peak 51.26 59 *eP* **P** **15 30 50.2 +0.4**
comp=Z,3.8nm,0.9s,mb4.3
APA Apatity 53.80 338⇑ *eP* sP 15 31 28.6 +0.2
APA MLR MLR
comp=Z,2μm,15.0s,MS5.2
ARCES ARCESS Array B 53.82 342 P **P** **15 31 06.4 -2.0**
comp=Z,11nm,0.9s,mb4.8,baz=329,slow=12,SNR=7.5
ARCES ARCESS Array B 53.82 342 P **P** **15 31 06.4 -2.0**
ARCES ARCESS Array B 53.82 342 P **P** **15 31 06.4 -2.0**
ARU Arti 53.98 318 *eP* **P** **15 31 08.6 -1.2**
comp=Z,9.6nm,0.7s,mb4.8
ARU Arti 53.98 318 *c iP* **P** **15 31 09.5 -0.3**
ARU *e* 15 33 08.7
ARU S **S** **15 38 41.8 +0.4**
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SUMG Summit 54.34 7 *eP* **P** **15 31 12.8 +0.7**
comp=Z,9.9nm,0.6s,mb4.9
SUMG Summit 54.34 7 *eP* **P** **15 31 12.9 +0.7**
SUMG pmax pmax
comp=Z,10.0nm,0.6s
SUMG Summit 54.34 7 *i* P **P** **15 31 12.9 +0.7**
comp=Z,12nm,0.8s,mb4.9
LSA Lhasa 54.85 274 *eP* **P** **15 31 17.3 +0.8**
comp=Z,4.9nm,0.8s,mb4.6
LSA Lhasa 54.85 274 *eP* **P** **15 31 17.3 +0.8**
LSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
NVAR Mina Array Bea 55.51 70 P **P** **15 31 21.6 +0.4**
comp=Z,0.9nm,0.5s,mb4.1,baz=282,slow=7.7,SNR=5.1
NVAR LR LR 15 53 08.8
comp=Z,182nm,20.4s,MS4.2,baz=200,slow=34
NVAR Mina Array Bea 55.51 70 P **P** **15 31 21.6 +0.4**
AAK Ala-Archa 55.63 297 *eP* **P** **15 31 21.6 -0.3**
AAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
KKAR Karatay Array 57.45 300 *eP* **P** **15 31 33.4 -1.4**
comp=Z,3.3nm,0.6s,mb4.5
KKAR *e* 15 31 39.8
KKAR Karatay Array 57.45 300 *eP* **P** **15 31 33.4 -1.4**
KKAR *e* 15 31 39.8
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KLMR Klimovskoe 57.52 330 *eP* **P** **15 31 34.9 -0.2**
KLMR pmax pmax
comp=Z,31nm,1.0s,mb5.3
FRB Frobisher Bay 57.74 23 P **P** **15 31 35.7 -0.8**
comp=Z,3.5nm,0.9s,mb4.4,baz=324,slow=9.5,SNR=4.3
FRB Frobisher Bay 57.74 23 P **P** **15 31 35.7 -0.8**
FRB Frobisher Bay 57.74 23 P **P** **15 31 35.7 -0.9**
JOF Joensuu 58.13 335 *eP* **P** **15 31 38.4 -0.9**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
JOF Joensuu 58.13 335 *ep* **P** **15 31 38.4 -0.9**
comp=Z,2.5nm,0.5s,mb4.5
CHTO Chiang Mai 58.21 259 *eP* **P** **15 31 41.3 +0.8**
comp=Z,10nm,0.9s,mb4.9
CHTO Chiang Mai 58.21 259 *eP* **P** **15 31 41.3 +0.9**
CHTO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ABKAR Akbulak array 58.38 311 *eP* **P** **15 31 40.2 -1.0**
comp=Z,1.0nm,0.3s,mb4.3
CM31 Chiang Mai Arr 58.49 259 *eP* **P** **15 31 44.0 +1.6**
comp=Z,4.7nm,0.6s,mb4.7
CMAR Chiang Mai Arr 58.49 259 P **P** **15 31 44.1 +1.7**
comp=Z,5.9nm,0.8s,mb4.7,baz=24,slow=6.9,SNR=41
CMAR LR LR 15 59 06.0
comp=Z,64nm,18.8s,MS3.8,baz=164,slow=38
CMAR Chiang Mai Arr 58.49 259 P **P** **15 31 44.1 +1.7**
CMAR Chiang Mai Arr 58.49 259 P **P** **15 31 44.1 +1.7**
TAPN Taplejung 58.64 275 *eP* **P** **15 31 43.7 +0.4**
comp=Z,22nm,0.7s,mb5.3
TAPN Taplejung 58.64 275 *eP* **P** **15 31 43.7 +0.4**
comp=Z,22nm,0.7s,mb5.3
ODAN Odare 59.19 275 *eP* **P** **15 31 48.3 +1.1**
comp=Z,9.6nm,0.7s,mb5.0
ODAN Odare 59.19 275 *eP* **P** **15 31 48.3 +1.1**
comp=Z,9.6nm,0.7s,mb4.9
JIRN Jiri 59.33 276 *eP* **P** **15 31 48.7 +0.5**
JIRN Jiri 59.33 276 *eP* **P** **15 31 48.7 +0.5**
GUN Gumba 59.34 277 *eP* **P** **15 31 48.4 +0.2**
comp=Z,13nm,0.4s,mb5.3
GUN Gumba 59.34 277 *eP* **P** **15 31 48.4 +0.2**
comp=Z,13nm,0.4s,mb5.3
RAMN Ramite 59.60 275 *eP* **P** **15 31 50.2 +0.2**
comp=Z,45nm,0.7s,mb5.6
RAMN Ramite 59.60 275 *eP* **P** **15 31 50.2 +0.2**
comp=Z,45nm,0.7s,mb5.6
KKN Kakani 59.79 277 *eP* **P** **15 31 51.6 +0.3**
comp=Z,18nm,0.6s,mb5.3
KKN Kakani 59.79 277 *eP* **P** **15 31 51.6 +0.3**
comp=Z,18nm,0.6s,mb5.3
KKN Kakani 59.79 277 *eP* **P** **15 31 51.6 +0.3**
KKN pmax pmax
comp=Z,18nm,0.6s,mb5.3
PKI Pulchoki 59.87 277 *eP* **P** **15 31 52.1 +0.2**
comp=Z,21nm,0.7s,mb5.3
PKI Pulchoki 59.87 277 *eP* **P** **15 31 52.1 +0.2**
comp=Z,21nm,0.7s,mb5.3
PKI Pulchoki 59.87 277 *eP* **P** **15 31 52.1 +0.2**
PKI pmax pmax
comp=Z,21nm,0.7s,mb5.3
GKN Gorkha 60.02 278 *eP* **P** **15 31 52.9 0.0**
comp=Z,19nm,0.7s,mb5.2
GKN Gorkha 60.02 278 *eP* **P** **15 31 52.9 0.0**
comp=Z,19nm,0.7s,mb5.2
DMN Daman 60.03 277 *eP* **P** **15 31 53.5 +0.6**
comp=Z,23nm,0.6s,mb5.3
DMN Daman 60.03 277 *eP* **P** **15 31 53.5 +0.6**
comp=Z,23nm,0.6s,mb5.4
KAF Kangasniemi 60.04 337 *eP* **P** **15 31 51.9 -0.6**
KAF pmax pmax
comp=Z,11nm,0.6s,mb5.1
KAF Kangasniemi 60.04 337 *ep* **P** **15 31 51.9 -0.6**
comp=Z,11nm,0.6s,mb5.1
DANN Dangsing 60.30 279 *eP* **P** **15 31 55.2 +0.4**
comp=Z,23nm,0.7s,mb5.3
DANN Dangsing 60.30 279 *eP* **P** **15 31 55.2 +0.4**
comp=Z,23nm,0.7s,mb5.3
FINES FINESS Array B 60.68 337 P **P** **15 31 57.4 +0.6**
comp=Z,12nm,0.6s,mb5.2,baz=30,slow=8.6,SNR=69
FINES FINESS Array B 60.68 337 P **P** **15 31 57.4 +0.6**
FINES FINESS Array B 60.68 337 P **P** **15 31 57.4 +0.6**
KOLN Koldanda 60.82 278 *eP* **P** **15 31 58.3 0.0**
comp=Z,16nm,0.6s,mb5.3
KOLN Koldanda 60.82 278 *eP* **P** **15 31 58.3 0.0**
comp=Z,16nm,0.6s,mb5.3
OBN Obninsk 63.10 328⇑ *eP* **P** **15 32 13.2 0.0**
OBN *eS* **S** **15 40 38.9 -0.9**
OBN pmax pmax
comp=Z,41nm,2.5s,mb5.1
NB2 NORSAR Subarra 64.07 344 P **P** **15 32 19.4 -0.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=24,slow=6.9
NOA NORSAR Array B 64.07 344 P **P** **15 32 18.9 -0.6**
comp=Z,3.4nm,0.7s,mb4.5,baz=22,slow=6.7,SNR=16
NOA NORSAR Array B 64.07 344 P **P** **15 32 18.9 -0.6**
NOA NORSAR Array B 64.07 344 P **P** **15 32 18.9 -0.6**
NAO01 NORSAR Array S 64.31 344 *eP* **P** **15 32 20.9 -0.2**
comp=Z,5.7nm,0.8s,mb4.7
KBL Kabul 64.37 294 *eP* **P** **15 32 20.7 -1.2**
comp=Z,4.7nm,0.8s,mb4.6
KBL Kabul 64.37 294 *eP* **P** **15 32 20.7 -1.2**
KBL pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
HFS Hagfors 64.48 342 P **P** **15 32 22.1 -0.1**
comp=Z,3.2nm,0.5s,mb4.6,baz=41,slow=5.9,SNR=21
HFS Hagfors 64.48 342 P **P** **15 32 22.1 -0.1**
HFS Hagfors 64.48 342 P **P** **15 32 22.1 -0.1**
VRHR Novokhopersk 64.62 322 *eP* **P** **15 32 21.4 -1.9**
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=N,1.0nm,0.3s
VSR Storozhevoye 65.42 324 *eP* **P** **15 32 27.8 -0.7**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
SCHQ Schefferville 65.85 28 P **P** **15 32 30.8 -0.3**
comp=Z,4.1nm,0.7s,mb4.5,baz=348,slow=18,SNR=3.5
SCHQ Schefferville 65.85 28 P **P** **15 32 30.8 -0.3**
AKASG Malin Array Be 69.19 329 P **P** **15 32 52.1 -0.2**
comp=Z,6.8nm,0.4s,mb4.9,baz=29,slow=6.2,SNR=19
AKASG Malin Array Be 69.19 329 P **P** **15 32 52.1 -0.2**
AKASG Malin Array Be 69.19 329 *i* P **P** **15 32 52.0 -0.3**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
KIEV Kiev 69.20 329 *eP* **P** **15 32 51.7 -0.7**
comp=Z,13nm,0.8s,mb4.9
KIEV *e* pP 15 33 01.3 -5.6
KIEV Kiev 69.20 329 *c iP* **P** **15 32 52.5 +0.1**
KIV Kislovodsk 70.03 317⇑ *eP* **P** **15 32 57.0 -0.6**
KIV *e* 15 35 28.6
KIV *eS* S 15 41 59.4 -4.5
KIV *eSS* SS 15 46 36.3 +3.3
KIV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
TXAR Lajitas Array 70.44 67 P **P** **15 33 00.8 +0.5**
comp=Z,0.8nm,0.5s,mb3.9,baz=305,slow=4.4,SNR=13
TXAR Lajitas Array 70.44 67 P **P** **15 33 00.8 +0.5**
TXAR Lajitas Array 70.44 67 P **P** **15 33 00.9 +0.6**
ZEI Tsey 70.49 316 *eP* **P** **15 33 00.0 -0.4**
ZEI pmax pmax
comp=Z,12nm,1.0s,mb4.8
HYB Hyderabad 71.65 275 *i* P **P** **15 33 07.0 -0.8**
GNI Garni 72.27 314 *eP* **P** **15 33 11.0 -0.2**
GNI pmax pmax
comp=Z,11nm,1.2s
OJC Ojcow 72.31 335 *eP* **P** **15 33 12.6 +1.4**
OJC Ojcow 72.31 335 *eP* **P** **15 33 12.6 +1.4**
STHS Stebnicka Huta 72.66 334 *eP* **P** **15 33 16.0 +2.7**
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
STHS Stebnicka Huta 72.66 334 *eP* **P** **15 33 16.0 +2.7**
CLL Collm 72.90 339 *eP* **P** **15 33 15.0 +0.3**
CLL *e* 15 33 24.0
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CLL Collm 72.90 339 *eP* **P** **15 33 15.0 +0.3**
comp=Z,10.0nm,1.1s,mb4.7
CLL *ep*P pP 15 33 24.0 -5.4
DPC Dobruska-Polom 73.05 337 *eP* **P** **15 33 16.8 +1.2**
DPC Dobruska-Polom 73.05 337 *eP* **P** **15 33 16.8 +1.2**
CRVS Cervenica-Dubn 73.07 333 *eP* **P** **15 33 17.7 +1.9**
CRVS pmax pmax
comp=Z,23nm,2.2s,mb4.7
CRVS Cervenica-Dubn 73.07 333 *eP* **P** **15 33 17.7 +1.9**
OKC Ostrava-Krasne 73.08 336 *eP* **P** **15 33 16.4 +0.6**
OKC Ostrava-Krasne 73.08 336 *eP* **P** **15 33 16.4 +0.6**
BUR08 Bucovina Ar. S 73.13 330 *eP* **P** **15 33 16.5 +0.3**
BURAR Bucovina Array 73.15 330 ⇓ *P* **P** **15 33 17.2 +0.9**
BURAR Bucovina Array 73.15 330 ⇓ *iP* **P** **15 33 17.2 +0.9**
MORC Moravsky Berou 73.28 336 ⇓ *P* **P** **15 33 18.4 +1.4**
MORC Moravsky Berou 73.28 336 ⇓ *iP* **P** **15 33 18.4 +1.4**
TRPA Tarpa 73.47 332⇑ *iP* **P** **15 33 18.2 0.0**
KECS Kecovo 73.72 334 *eP* **P** **15 33 14.3 -5.3**
PRU Pruhonice 73.80 338 *eP* **P** **15 33 23.9 +3.8**
PRU Pruhonice 73.80 338 *eP* **P** **15 33 23.9 +3.8**
VRAC Vranov 73.95 336 P **P** **15 33 19.7 -1.3**
comp=Z,3.7nm,0.8s,mb4.3,baz=69,slow=5.5,SNR=6.0
VRAC Vranov 73.95 336 P **P** **15 33 19.7 -1.3**
VRAC Vranov 73.95 336 ⇓ *P* **P** **15 33 22.4 +1.4**
VRAC Vranov 73.95 336 ⇓ *iP* **P** **15 33 22.4 +1.4**
NKC Novy Kostel 74.03 339 *eP* **P** **15 33 22.2 +0.8**
NKC Novy Kostel 74.03 339 *eP* **P** **15 33 22.2 +0.8**
VYHS Vyhne 74.14 335 *eP* **P** **15 33 23.7 +1.6**
VYHS pmax pmax
comp=Z,39nm,2.9s,mb4.8
VYHS Vyhne 74.14 335 *eP* **P** **15 33 23.7 +1.6**
VRI Vrincioaia 74.24 329 ⇓ *P* **P** **15 33 24.0 +1.3**
VRI Vrincioaia 74.24 329 ⇓ *iP* **P** **15 33 24.0 +1.3**
PSZ Piszkesteto 74.39 334 ⇓ *P* **P** **15 33 25.8 +2.2**
PSZ Piszkesteto 74.39 334 ⇓ *iP* **P** **15 33 25.8 +2.2**
CFR Carcaliu 74.40 327⇑ *P* **P** **15 33 26.5 +2.9**
CFR Carcaliu 74.40 327⇑ *iP* **P** **15 33 26.5 +2.9**
DRGR 74.63 332 ⇓ *P* **P** **15 33 25.8 +0.8**
DRGR 74.63 332 ⇓ *iP* **P** **15 33 25.8 +0.8**
KHC Kasperske Hory 74.82 338 *eP* **P** **15 33 25.9 -0.2**
comp=Z,4.5nm,1.0s,mb4.3
KHC Kasperske Hory 74.82 338 *eP* **P** **15 33 27.1 +1.1**
KHC Kasperske Hory 74.82 338 *eP* **P** **15 33 27.1 +1.1**
MLR Muntele Rosu 74.83 329⇑ *P* **P** **15 33 28.3 +2.2**
MLR Muntele Rosu 74.83 329⇑ *iP* **P** **15 33 28.3 +2.2**
MEM Membach 74.91 344 P **P** **15 33 28.0 +1.5**
GERES GERESS Array B 75.06 338 P **P** **15 33 27.1 -0.3**
comp=Z,0.7nm,0.4s,mb4.0,baz=38,slow=6.8,SNR=9.5
GERES GERESS Array B 75.06 338 P **P** **15 33 27.1 -0.3**
GERES GERESS Array B 75.06 338 P **P** **15 33 27.1 -0.3**
WRAB Tennant Creek 75.85 206 *eP* **P** **15 33 32.4 +0.3**
comp=Z,1.4nm,0.8s,mb3.9
WRAB Tennant Creek 75.85 206 *eP* **P** **15 33 32.4 +0.3**
WRAB pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
WB2 Warramunga Arr 75.86 206 *eP* **P** **15 33 32.6 +0.4**
WRA Warramunga Arr 75.86 206 P **P** **15 33 32.9 +0.7**
comp=Z,0.7nm,0.6s,mb3.8,baz=20,slow=6.1,SNR=5.9
WRA Warramunga Arr 75.86 206 P **P** **15 33 32.9 +0.7**
WRA Warramunga Arr 75.86 206 P **P** **15 33 32.9 +0.7**
GZR Gura Zlata 75.88 331 ⇓ *P* **P** **15 33 32.9 +0.7**
GZR Gura Zlata 75.88 331 ⇓ *iP* **P** **15 33 32.9 +0.7**
BZS Buzias 76.02 332 ⇓ *P* **P** **15 33 33.6 +0.7**
BZS Buzias 76.02 332 ⇓ *iP* **P** **15 33 33.6 +0.7**
PKSM Moragy 76.30 334⇑ *P* **P** **15 33 35.3 +0.8**
PKSM Moragy 76.30 334⇑ *iP* **P** **15 33 35.3 +0.8**
BRTR Keskin Array B 77.21 321 P **P** **15 33 40.1 +0.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=44,slow=3.6,SNR=6.8
BRTR Keskin Array B 77.21 321 P **P** **15 33 40.1 +0.4**
BRTR Keskin Array B 77.21 321 P **P** **15 33 40.2 +0.4**
MIB Mutribah 79.53 306 *eP* **P** **15 33 52.7 0.0**
MIB AMb AMB 15 33 53.9
comp=Z,37nm,0.6s,mb5.5
AS31 Alice Springs 79.53 205 *eP* **P** **15 33 52.9 +0.4**
AS31 *e* pP 15 34 04.1 -3.3
ASAR Alice Springs 79.53 205 P **P** **15 33 53.6 +1.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=16,slow=5.3,SNR=30
ASAR Alice Springs 79.53 205 P **P** **15 33 53.6 +1.1**
ASAR Alice Springs 79.53 205 P **P** **15 33 53.7 +1.2**
LPL La Plagne 79.69 342 *eP* **P** **15 33 53.4 +0.1**
LPL La Plagne 79.69 342 *eP* **P** **15 33 53.4 +0.1**
LPL La Plagne 79.69 342 *eP* **P** **15 33 53.4 +0.1**
LPG La Plagne 79.70 342 *eP* **P** **15 33 53.3 -0.1**
comp=Z,9.2nm,0.6s,mb4.6
LPG La Plagne 79.70 342 *eP* **P** **15 33 53.3 -0.1**
comp=Z,9.2nm,0.6s,mb4.9
LPG La Plagne 79.70 342 *eP* **P** **15 33 53.3 -0.1**
LPG pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
RST Umm Al-Ruwaisa 79.94 306 *eP* **P** **15 33 55.3 +0.3**
RST AMb AMB 15 34 02.6
comp=Z,4.9nm,0.8s,mb4.5
NAY Al-Naaiem 80.03 306 *eP* **P** **15 33 55.0 -0.4**
NAY AMb AMB 15 34 01.1
comp=Z,9.0nm,0.7s,mb4.8
ESDC Sonseca Array 87.09 348 P **P** **15 34 31.8 +0.3**
comp=Z,2.1nm,0.8s,mb4.4,baz=356,slow=5.4,SNR=8.3
ESDC Sonseca Array 87.09 348 P **P** **15 34 31.8 +0.3**
KEST Kesra 88.51 337 P **P** **15 34 38.6 +0.3**
comp=Z,1.3nm,0.8s,mb4.3,baz=335,slow=8.9,SNR=4.1
KEST Kesra 88.51 337 P **P** **15 34 38.6 +0.3**
TORD Torodi Ar. Bea 112.02 338 PP PP 15 41 03.6 -0.8
comp=Z,0.7nm,0.7s,baz=18,slow=9.3,SNR=4.2
TORD Torodi Ar. Bea 112.02 338 PP PP 15 41 03.6 -0.8

IDC ***26*** *15:28:12.8±1.4, 13°.77N×90°.41W, h0km, mb4.1/8, mb1 4.1/11, mb1mx3.9/24, mbtmp3.9/11, ML3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/32, Error ellipse: s-maj=58.5km s-min=17.7km az=45.0*
CASC ***26*** *15:28:12.6±1.1, 13°.11N×90°.99W, h0km±9km, MD3.8, mb4.0(NEIC)*
ISCJB ***26*** *15:28:14.3±1.3, 13°.1N±0°.1×91°.05W±0°.08, h52km±9km, mb4.0/10, Error ellipse: s-maj=20.1km s-min=7.9km az=32.3*
NEIC ***26*** *15:28:15.4±3.5, 13°.50N×90°.68W, h24km±26km, mb4.0/1, Error ellipse: s-maj=24.7km s-min=10.1km az=218.0*
ISC 26 15:28:15.3±1.3, 13°.09N±0°.09×91°.08W±0°.08, h42km±10km, n45, σ0s95/46, mb4.0/10, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.33**	**336**	*eP*	**Pn**	**15 28 37.5**	**+0.1**
FUG	**Fuego 3**	**1.37**	**10**	*eP*	**Pn**	**15 28 37.5**	**-0.4**
PCG	**Pacaya**	**1.38**	**20**	*eP*	**Pn**	**15 28 38.1**	**+0.1**
FG6		**1.47**	**8**	*eP*	**Pn**	**15 28 39.5**	**+0.1**
SBLS	**San Blas**	**1.60**	**62**	*eP*	**Pn**	**15 28 40.3**	**-0.8**
RTR	**El Retiro**	**1.61**	**60**	*eP*	**Pn**	**15 28 40.6**	**-0.6**
SNJE	**San Jose**	**1.63**	**62**	*eP*	**Pn**	**15 28 40.6**	**-0.9**
NBG	**Las Nubes**	**1.65**	**26**	*eP*	**Pn**	**15 28 42.9**	**+1.0**
RBDL	**Robledal**	**1.70**	**53**	*eP*	**Pn**	**15 28 42.1**	**-0.3**
RBDL				*eS*	**Sn**	**15 29 05.4**	**+2.5**
BOQS	**Boqueron**	**1.87**	**70**	*eP*	**Pn**	**15 28 44.5**	**-0.2**
LFRS	**El Faro**	**2.04**	**75**	*eP*	**Pn**	**15 28 47.3**	**+0.2**
MTO2	**Montecristo 2**	**2.12**	**52**	*eP*	**Pn**	**15 28 48.6**	**+0.4**
BLLM	**Bellamira**	**2.79**	**82**	*eP*	**Pn**	**15 28 57.2**	**-0.3**
CAHU	**Cacacuatique**	**2.88**	**76**	*eP*	**Pn**	**15 28 59.0**	**+0.4**
CNCH	**Conchagua**	**3.17**	**86**	*eP*	**Pn**	**15 29 02.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**3.83**	**75**	Pn	**Pn**	**15 29 05.9**	**-5.8**
CMIG	**Matias Romero**	**5.41**	**318**	Pn	**Pn**	**15 29 33.6**	**+0.1**
	1.4nm,0.3s,baz=128,slow=12,SNR=10						
CMIG				Sn	**Sn**	**15 30 40.5**	**+5.9**
	1.8nm,0.3s,baz=75,slow=22,SNR=3.7						
CMIG	**Matias Romero**	**5.41**	**318**	Pn	**Pn**	**15 29 33.6**	**+0.1**
CMIG				Sn	**Sn**	**15 30 40.5**	**+5.9**
JTS	**JuntasAbangare**	**6.62**	**114**	Pn	**Pn**	**15 29 49.5**	**-0.6**
	0.7nm,0.3s,baz=308,slow=21,SNR=6.3						
JTS	**JuntasAbangare**	**6.62**	**114**	Pn	**Pn**	**15 29 49.5**	**-0.6**
TEIG	**Tepich**	**7.59**	**20**	Pn	**Pn**	**15 30 04.7**	**+1.3**
	7.4nm,0.3s,baz=192,slow=9.6,SNR=18						
TEIG	**Tepich**	**7.59**	**20**	*ePn*	**Pn**	**15 30 03.9**	**+0.5**
TXAR	**Lajitas Array**	**19.94**	**326**	P	**Pn**	**15 32 46.5**	**+0.9**
	0.1nm,0.3s,baz=151,slow=15,SNR=13						
TXAR	**Lajitas Array**	**19.94**	**326**	P	**Pn**	**15 32 46.5**	**+0.8**
TKL	**Tuckaleechee C**	**23.42**	**15**	P	**P**	**15 33 19.3**	**-1.4**
	3.2nm,0.7s,mb3.9,baz=189,slow=11,SNR=6.1						
TKL		LR	LR	LR		15 43 01.4	
	comp=Z,389nm,19.9s,baz=17,slow=39						
TKL	**Tuckaleechee C**	**23.42**	**15**	P	**P**	**15 33 19.3**	**-1.4**
CCM	**Cathedral Cave**	**24.86**	**360**	P	**P**	**15 33 32.9**	**-1.0**
	3.8nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**34.93**	**321**	P	**P**	**15 35 06.6**	**+3.5**
	3.3nm,0.7s,mb4.3,baz=140,slow=8.1,SNR=13						
NVAR	**Mina Array Bea**	**34.93**	**321**	P	**P**	**15 35 06.6**	**+3.5**
ULM	**Lac du Bonnet**	**37.26**	**355**	P	**P**	**15 35 20.2**	**-2.6**
	5.4nm,0.9s,mb4.4,baz=168,slow=7.1,SNR=6.7						
ULM	**Lac du Bonnet**	**37.26**	**355**	P	**P**	**15 35 20.2**	**-2.6**
SIV	**San Ignacio**	**41.42**	**133**	P	**P**	**15 35 60.0**	**+2.0**
	1.0nm,0.7s,mb3.6,baz=314,slow=11,SNR=3.8						
SIV	**San Ignacio**	**41.42**	**133**	P	**P**	**15 35 60.0**	**+2.0**
YKA	**Yellowknife Ar**	**52.11**	**346**	P	**P**	**15 37 20.7**	**-0.2**
	1.1nm,0.9s,mb3.8,baz=147,slow=7.7,SNR=12						
YKA	**Yellowknife Ar**	**52.11**	**346**	P	**P**	**15 37 20.8**	**-0.2**
INK	**Inuvik**	**61.56**	**343**	P	**P**	**15 38 27.9**	**0.0**
	1.0nm,0.7s,mb4.0,baz=124,slow=7.5,SNR=6.9						
INK	**Inuvik**	**61.56**	**343**	P	**P**	**15 38 27.9**	**0.0**
RES	**Resolute Bay**	**61.62**	**359**	P	**P**	**15 38 27.3**	**-0.8**
	2.0nm,0.7s,mb4.4,baz=184,slow=7.7,SNR=5.2						
RES	**Resolute Bay**	**61.62**	**359**	P	**P**	**15 38 27.3**	**-0.8**
ILAR	**Eielson Array**	**64.02**	**337**	P	**P**	**15 38 44.6**	**+0.4**
	0.9nm,0.9s,mb3.8,baz=150,slow=3.5,SNR=7.6						
ILAR	**Eielson Array**	**64.02**	**337**	P	**P**	**15 38 44.6**	**+0.4**
DBIC	**Dimbokro**	**84.86**	**84**	P	**P**	**15 40 47.5**	**+1.2**
	1.7nm,0.7s,mb4.3,baz=280,slow=6.4,SNR=3.3						
DBIC	**Dimbokro**	**84.86**	**84**	P	**P**	**15 40 47.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**147.13**	**342**	PKPbc	PKPbc	15 47 57.2	+2.6
	1.2nm,0.7s,baz=340,slow=4.0,SNR=10						
CMAR	**Chiang Mai Arr**	**147.13**	**342**	PKPbc	PKPbc	15 47 57.2	+2.6

NEIC ***26*** *15:37:28.9±0.9, 31°.54S×179°.87E, h389km±12km, mb4.7/3, Error ellipse: s-maj=25.9km s-min=14.3km az=118.0*
IDC ***26*** *15:37:28.6±2.5, 31°.55S×179°.80E, h382km±22km, mb2.6/2, mb1 3.2/4, mb1mx3.1/15, mbtmp3.1/4, Error ellipse: s-maj=34.2km s-min=29.6km az=128.0*
ISC 26 15:37:30.5±0.8, 31°.5S±0°.1×179°.2E±0°.4, h352km±30km, n62, σ0s97/55, mb3.1/5, Kermadec Islands region

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

RAO	Raoul Island	3.34	50	Pn	Pn	15 38 31.5	-1.7
MXZ	Matakaoa Point	6.14	186	ePN	Pn	15 39 04.7	+1.9
MXZ				SN	Sx	15 40 16.3	
PUZ	Puketiti	6.65	186	PN	Pn	15 39 09.6	+0.9
PUZ				SN	Sx	15 40 25.7	
MWZ	Matawai	7.00	191	ePN	Pn	15 39 12.5	-0.2
MWZ				SN	S	15 40 36.0	+0.1
URZ	Urewera	7.00	193	P	Pn	15 39 12.1	-0.7
12nm,0.3s,baz=335,slow=3.4,SNR=116							
URZ				S	S	15 40 36.7	+0.7
24nm,0.3s,baz=252,slow=23,SNR=23							
URZ	Urewera	7.00	193	ePn	Pn	15 39 12.3	-0.4
36nm,0.4s							
URZ				eS	S	15 40 35.6	-0.4
URZ	Urewera	7.00	193	ePN	Pn	15 39 12.0	-0.7
URZ				SN	S	15 40 35.4	-0.5
CNGZ	Carnagh Statio	7.06	186	ePN	Pn	15 39 13.4	-0.1
RAHZ	Arahi	7.64	192	PN	Pn	15 39 21.7	+1.4
RAHZ				SN	S	15 40 49.7	0.0
KNZ	Kokohu	7.65	189	PN	Pn	15 39 22.0	+1.7
KNZ				SN	S	15 40 48.6	-1.3
MHGZ	Mahia Peninsul	7.75	187	PN	Pn	15 39 23.0	+1.4
NMHZ	Naumai	7.87	194	ePN	Pn	15 39 24.6	+1.6
BKZ	Black Stump Fm	8.00	195	PN	Pn	15 39 24.5	0.0
MCHZ	McNeill Hill	8.22	193	PN	Pn	15 39 29.2	+2.1
MCHZ				SN	S	15 41 02.3	-0.1
CKHZ	Cape Kidnapper	8.37	191	SN	S	15 41 04.2	-1.2
BHHZ	Black Hill Sta	8.41	197	PN	Pn	15 39 29.8	+0.4
KAHZ	Kahuranaki	8.53	192	ePN	Pn	15 39 32.0	+1.2
PXZ	Pawanui	8.77	192	PN	Pn	15 39 32.9	-0.7
PXZ				SN	Sx	15 41 09.5	
PNHZ	Pukenui	8.78	195	PN	Pn	15 39 33.5	-0.2
WPHZ	Waipukurau	8.88	194	PN	Pn	15 39 35.2	+0.3
WAZ	Wanganui	8.96	201	ePN	Pn	15 39 36.8	+1.0
WAZ				SN	Sx	15 41 16.0	
TSZ	Takapari Road	8.98	196	ePN	Pn	15 39 36.5	+0.5
TSZ				SN	Sx	15 41 14.3	
PRHZ	Porangahau	9.03	192	PN	Pn	15 39 37.1	+0.3
DVHZ	Dannevirke	9.16	195	PN	Pn	15 39 38.3	+0.1
MRZ	Mangatainoka R	9.64	196	PN	Pn	15 39 42.8	-1.2
MRZ				SN	Sx	15 41 27.9	
HOWZ	Holdsworth Sta	9.88	196	PN	Pn	15 39 46.0	-0.8
OGWZ	Otaki Gorge	9.89	198	PN	Pn	15 39 46.1	-0.8
TMWZ	Te Maipa	9.99	194	SN	Sx	15 41 36.2	
KIW	Kapiti Island	10.00	199	PN	Pn	15 39 48.1	-0.2
MTW	Mount Morrison	10.13	196	PN	Pn	15 39 49.4	-0.4
CAW	Cannon Point	10.19	198	PN	Pn	15 39 50.3	-0.2
TCW	Tory Channel	10.51	201	PN	Pn	15 39 53.0	-1.3
QRZ	Quartz Range	10.78	208	PN	Pn	15 39 57.4	-0.2
NNZ	Nelson	10.80	204	PN	Pn	15 39 57.2	-0.6
NNZ				SN	Sx	15 41 54.1	
TUWZ	Tuamarina	10.81	201	PN	Pn	15 39 56.6	-1.3
THZ	Tophouse	11.45	204	PN	Pn	15 40 04.7	-0.8
KHZ	Kahutara	11.83	201	ePn	Pn	15 40 09.1	-1.0
52nm,0.6s							
KHZ				eS	Sx	15 42 17.2	
KHZ	Kahutara	11.83	201	PN	Pn	15 40 09.0	-1.0
KHZ				SN	Sx	15 42 15.5	
MQZ	McQueen's Vall	13.27	201	SN	Sx	15 42 45.2	
RPZ	Rata Peaks	13.82	205	P	P	15 40 31.8	-0.1
0.6nm,0.3s,baz=131,slow=1.5,SNR=4.2							
RPZ				S	Sx	15 42 58.3	
1.2nm,0.3s,baz=56,slow=20,SNR=7.4							
RPZ	Rata Peaks	13.82	205	P	P	15 40 31.8	-0.1
RPZ				S	Sx	15 42 58.3	
CTAO	Charters Tower	31.61	283	eP	P	15 43 22.3	+0.4
8.3nm,1.0s,mb3.9							
STKA	Stephens Creek	31.88	259	P	P	15 43 27.4	+3.2
0.8nm,0.4s,mb3.3,baz=115,slow=8.1,SNR=3.7							
STKA	Stephens Creek	31.88	259	P	P	15 43 27.4	+3.2
ASAR	Alice Springs	40.64	269	P	P	15 44 38.8	+1.1
0.2nm,0.7s,mb2.5,baz=108,slow=7.4,SNR=8.9							
ASAR				ScP	ScP	15 49 40.5	-6.6
0.5nm,0.6s,baz=113,slow=3.6,SNR=12							
ASAR	Alice Springs	40.64	269	P	P	15 44 38.8	+1.1
ASAR				ScP	ScP	15 49 40.5	-6.6
WB2	Warramunga Arr	41.72	275	eP	P	15 44 46.9	+0.5
WRAB	Tennant Creek	41.72	275	eP	P	15 44 45.6	-0.9
0.6nm,0.5s,mb3.0							
WRA	Warramunga Arr	41.73	275	P	P	15 44 45.0	-1.5
0.4nm,0.3s,mb3.1,baz=111,slow=8.1,SNR=5.1							
WRA				ScP	ScP	15 49 45.5	-6.0
0.3nm,0.3s,baz=118,slow=3.2,SNR=4.7							
WRA	Warramunga Arr	41.73	275	P	P	15 44 45.0	-1.5
WRA				ScP	ScP	15 49 45.5	-6.0
KEV	Kevo	138.57	346	epkp	PKPpre	15 56 01.4	
JOF	Joensuu	142.45	336	epkp	PKPdf	15 56 12.1	-8.8
KAF	Kangasniemi	144.67	338	epkp	PKPdf	15 56 19.0	-5.8
FINES	FINESS Array B	145.24	338	PKPbc	PKPbc	15 56 21.9	-4.5
6.4nm,0.5s,baz=67,slow=3.3,SNR=58							
FINES	FINESS Array B	145.24	338	PKPbc	PKPbc	15 56 21.9	-4.5
NB2	NORSAR Subarra	149.35	348	PKP	PKPdf	15 56 32.4	-0.2
comp=Z,0.8nm,0.5s,baz=18,slow=2.6							
NOA	NORSAR Array B	149.35	348	PKPbc	PKPbc	15 56 32.6	-4.8
comp=Z,1.0nm,0.5s,baz=17,slow=4.2,SNR=5.8							
NOA	NORSAR Array B	149.35	348	PKPbc	PKPbc	15 56 32.6	-4.8
AKASG	Malin Array Be	150.58	320	PKPbc	PKPbc	15 56 35.3	-5.4
comp=Z,0.9nm,0.6s,baz=54,slow=2.9,SNR=3.5							
AKASG	Malin Array Be	150.58	320	PKPbc	PKPbc	15 56 35.3	-5.4
BRTR	Keskin Array B	150.91	296	PKPbc	PKPbc	15 56 37.8	-4.0
comp=Z,0.8nm,1.0s,baz=164,slow=3.9,SNR=3.0							
BRTR	Keskin Array B	150.91	296	PKPbc	PKPbc	15 56 37.8	-4.0

*NEIC **26** 15:44:11.2, 16°.37N×98°.11W, h4km, MD3.9(MEX), After MEX.*

MEX 26 15:44:06.5±1.0, 16°.14N×98°.22W, h6km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.27	19	iP	Pg	15 44 11.2	-0.7
PNIG				iS	Sg	15 44 13.4	-2.0
PNIG	Pinotepa	0.27	19	iP	Pg	15 44 11.2	-0.7
PNIG				iS	Sg	15 44 15.6	+0.1
VHO	Vista Hermosa	1.70	57	iP	Pn	15 44 34.3	-2.5
VHO				eS	Sn	15 44 54.3	-4.5
VHO	Vista Hermosa	1.70	57	iP	Pn	15 44 34.3	-2.5
VHO				eS	Sn	15 44 54.3	-4.5
OXX	Oaxaca	1.72	57	iP	Pn	15 44 35.3	-1.6
OXX				eS	Sn	15 44 54.0	-5.1
OXX	Oaxaca	1.72	57	iP	Pn	15 44 34.1	-2.8
OXX				eS	Sn	15 44 54.0	-5.1
ACX	Acapulco	1.73	295	iP	Pn	15 44 40.1	+3.0
ACX				eS	Sn	15 45 01.4	+1.9
ACX	Acapulco	1.73	295	iP	Pn	15 44 34.3	-2.8
ACX				iS	Sn	15 44 56.2	-3.3
HUIG	Huatulco	2.06	100	iP	Pn	15 44 42.4	+0.8
HUIG				eS	Sn	15 45 07.2	-0.5
HUIG	Huatulco	2.06	100	iP	Pn	15 44 39.0	-2.7
HUIG				iS	Sn	15 45 01.4	-6.3
CAIG	El Cayaco	2.16	295	iP	Pn	15 44 45.4	+2.4
CAIG				eS	Sn	15 45 11.0	+0.9
CAIG	El Cayaco	2.16	295	iP	Pn	15 44 40.1	-2.9
CAIG				iS	Sn	15 45 02.9	-7.2
TPIG	Tehuac#an	2.42	20	iP	Pn	15 44 45.8	-0.7
TPIG				eS	Sn	15 45 11.0	-5.4
TPIG	Tehuac#an	2.42	20	iP	Pn	15 44 43.8	-2.7
TPIG				iS	Sn	15 45 13.2	-3.2
PLIG	Platanillo	2.56	332	iP	Pn	15 44 49.0	+0.5
PLIG				iS	Sn	15 45 17.7	-2.1
PLIG	Platanillo	2.56	332	iP	Pn	15 44 45.7	-2.8
PLIG				iS	Sn	15 45 15.7	-4.2
CMIG	Matias Romero	3.34	73	iP	Pn	15 44 60.0	+0.8
CMIG				eS	Sn	15 45 36.9	-2.2
CMIG	Matias Romero	3.34	73	iP	Pn	15 44 56.4	-2.8
CMIG				iS	Sn	15 45 33.5	-5.7
ZIIG	Zihuatanejo	3.43	296	iP	Pn	15 45 02.3	+1.8
ZIIG				eS	Sn	15 45 41.3	-0.2
ZIIG	Zihuatanejo	3.43	296	iP	Pn	15 45 02.3	+1.8
ZIIG				eS	Sn	15 45 41.3	-0.2
TGIG		4.93	82	iP	Pn	15 45 15.5	-5.7
TGIG				eS	Sn	15 46 26.7	+8.1
TGIG		4.93	82	iP	Pn	15 45 22.3	+1.1
TGIG				iS	Sn	15 46 15.8	-2.8

*DDA **26** 15:47:19.9, 37°.89N×29°.20E, h7km±4km, Md2.9*
*ISCJB **26** 15:47:20.4±0.5, 37°.90N±0°.02×29°.21E±0°.04, h6km±5km, Error ellipse: s-maj=5.2km s-min=3.7km az=12.3*
*ISK **26** 15:47:20.4, 37°.90N×29°.22E, h8km, MD2.8*
*CSEM **26** 15:47:20.3±0.2, 37°.90N×29°.22E, h2km, MD2.8, Error ellipse: s-maj=5.2km s-min=3.2km az=106.0*

ISC 26 15:47:20.7±0.5, 37°.91N±0°.02×29°.22E±0°.04, h3km±7km, n25,σ0§90/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.22	224	ePG	Pg	15 47 24.3	-0.5
DENT				eSG	Sg	15 47 29.6	+1.9
DENT	Denizli	0.22	224	ePg	Pg	15 47 24.3	-0.5
DENT				eSg	Sg	15 47 29.6	+2.0
DNZL	Cakiroluk	0.26	212	iP	Pg	15 47 25.1	-0.6
DNZL				iS	Sg	15 47 28.0	-1.1
DNZL	Cakiroluk	0.26	212	iP	Pg	15 47 25.1	-0.6
DNZL				iS	Sg	15 47 28.0	-1.0
KHAL	Karahalli	0.51	25	iP	Pg	15 47 30.6	+0.2
KHAL				iS	Sg	15 47 37.3	+0.3
KHAL	Karahalli	0.51	25	iP	Pg	15 47 30.6	+0.2
KHAL				iS	Sg	15 47 37.3	+0.3
KULA	Kula-Manisa	0.75	324	ePG	Pg	15 47 35.8	+0.8
KULA				eSG	Sg	15 47 46.3	+1.6
KULA	Kula-Manisa	0.75	324	ePg	Pg	15 47 35.8	+0.8
KULA				eSg	Sg	15 47 46.3	+1.6
MANT	Manisa	0.78	318	iP	Pg	15 47 35.8	+0.2
MANT				iS	Sg	15 47 45.8	+0.1
MANT	Manisa	0.78	318	iP	Pg	15 47 35.8	+0.2
MANT				iS	Sg	15 47 45.8	+0.1
GLHS	Glhisar (BURDU	0.79	164	ePG	Pg	15 47 34.9	-0.8
GLHS				eSG	Sg	15 47 47.0	+1.1
GLHS	Glhisar (BURDU	0.79	164	ePg	Pg	15 47 34.9	-0.8
GLHS				eSg	Sg	15 47 47.0	+1.1
YER	Yerkesik	1.07	224	ePG	Pg	15 47 41.2	-0.1
YER				eSG	Sg	15 47 56.9	+1.7
YER	Yerkesik	1.07	224	ePg	Pg	15 47 41.2	-0.1
YER				eSg	Sg	15 47 56.9	+1.7
AYDN	Tasoluk	1.09	257	eP	Pg	15 47 39.9	-1.6
AYDN				iS	Sg	15 47 54.7	-1.0
AYDN	Tasoluk	1.09	257	eP	Pg	15 47 39.9	-1.7
AYDN				iS	Sg	15 47 54.7	-1.0
GDZ	Gediz	1.19	10	iP	Pg	15 47 43.0	-0.5
GDZ				iS	Sg	15 47 57.9	-1.1
GDZ	Gediz	1.19	10	iP	Pg	15 47 43.0	-0.6
GDZ				iS	Sg	15 47 57.9	-1.1
DEMI	Demirci	1.20	341	iP	Pg	15 47 44.2	+0.6
DEMI				iS	Sg	15 47 58.7	-0.4
DEMI	Demirci	1.20	341	iP	Pg	15 47 44.2	+0.6
DEMI				iS	Sg	15 47 58.7	-0.5
SHUT	Suhut-Afyon	1.23	58	ePN	Pn	15 47 44.3	-0.4
SHUT				eSN	Sn	15 48 02.9	+1.1
ALT	Altintas	1.34	31	ePN	Pn	15 47 46.1	-0.1
ALT	Altintas	1.34	31	ePn	Pn	15 47 46.2	0.0
SUTC	Sutluce-Ispart	1.48	107	ePN	Pn	15 47 47.7	-0.4
DAT	Datca	1.76	228	ePN	Pn	15 47 51.6	-0.4

*ISCJB **26** 15:56:27.4±0.3, 37°.28N±0°.02×71°.96E±0°.05, h202km±5km, mb3.5/15, Error ellipse: s-maj=6.4km s-min=3.8km az=167.8*
*NEIC **26** 15:56:28.4±0.5, 37°.25N×71°.94E, h198km±6km, mb4.9/9, Error ellipse: s-maj=6.5km s-min=4.0km az=56.0*
*IDC **26** 15:56:30.0±4.5, 37°.19N×72°.00E, h217km±41km, mb3.2/13, mb1 3.4/18, mb1mx3.3/30, mbtmp3.3/18, Error ellipse: s-maj=28.6km s-min=13.7km az=1.0*
*NNC **26** 15:56:35.6±4.1, 37°.89N×71°.78E, h215km±33km, mb2.8, mpv4.2, Error ellipse: s-maj=38.0km s-min=20.0km az=17.0*

ISC 26 15:56:28.3±0.3, 37°.27N±0°.02×71°.97E±0°.05, h193km±4km, n97,σ0§95/117, mb3.5/15, 3C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.44	181	⇓P	Pn	15 57 23.9	+1.0
CEP				S	Sn	15 57 58.0	-7.6
KBL	Kabul	3.62	222	ePn	Pn	15 57 26.2	+1.2
KBL				eS	Sn	15 58 09.1	-0.2
CHCP	Chirah Chowk	3.76	163	⇓P	Pn	15 57 28.6	+1.8
KSH	Kashi	3.86	53	Pn	Pn	15 57 24.3	-3.7
KSH				Sn	Sn	15 58 05.0	-10
KSH				smax			
comp=N,220nm,0.5s							
KSH				smax			
comp=E,150nm,0.8s							
THW	Thamme Wali	4.47	182	P	Pn	15 57 36.1	+0.3
AML	Almayashu	5.03	15	P	Pn	15 57 43.4	+0.6
SNR=431							
AML				P		15 57 43.4	
SNR=431							
UCH	Uchtor	5.32	21	P	Pn	15 57 47.4	+0.9
SNR=8.2							
UCH				P		15 57 47.4	
SNR=8.2							
SARP	Sargodha	5.37	174	P	Pn	15 57 39.6	-7.7
KZA	Kyzart	5.42	27	P	Pn	15 57 47.9	+0.1
SNR=14							
KZA				P		15 57 47.9	
SNR=14							
EKS2	Erkin-Say	5.56	14	P	Pn	15 57 50.1	+0.6
SNR=31							
EKS2				P		15 57 50.1	
SNR=31							
EKS2	Erkin-Say	5.56	14	ePn	Pn	15 57 49.9	+0.3
EKS2				eS	Sn	15 58 51.4	-2.4
AAK	Ala-Archa	5.69	19	P	Pn	15 57 52.2	+0.9
SNR=40							
AAK				P		15 57 52.2	
SNR=40							
AAK	Ala-Archa	5.69	19	ePn	Pn	15 57 51.9	+0.6
AAK				eSn	Sn	15 58 56.0	-1.0
THN	Thein Dam	5.73	146	ePKP	Pn	15 57 50.6	-1.3
THN				ex	Sn	15 58 55.8	-2.0
KBK	Karagaybulak	5.84	22	P	Pn	15 57 54.4	+1.2
SNR=13							
KBK				P		15 57 54.4	
SNR=13							
KK31	Karatay Array	5.93	350	P	Pn	15 57 54.2	-0.2
comp=E,13nm,0.6s,baz=161,slow=10,SNR=341							
KK31				S	Sn	15 58 57.7	-4.8
comp=E,13nm,0.2s,baz=171,slow=26,SNR=19							
KKAR	Karatay Array	5.93	350	⇑iPn	Pn	15 57 54.3	-0.1
KKAR				eSn	Sn	15 58 57.4	-5.1
ULHL	Ulahol	5.96	32	P	Pn	15 57 54.9	+0.2
SNR=18							
ULHL				P		15 57 54.9	
SNR=18							
CHMS	Chumysh	6.10	20	P	Pn	15 57 57.4	+0.8
SNR=19							
CHMS				P		15 57 57.4	
SNR=19							
TKM2	Tokmak 2	6.29	25	P	Pn	15 58 00.0	+1.0
SNR=12							
TKM2				P		15 58 00.0	
SNR=12							
TKM2	Tokmak 2	6.29	25	⇓P	Pn	15 57 59.5	+0.5
comp=E,30nm,0.9s							
TKM2				⇑S	Sn	15 59 08.5	-2.4
comp=E,14nm,0.8s							
TKM2	Tokmak 2	6.29	25	ePn	Pn	15 57 59.6	+0.6
BHK	Bhakra	6.90	147	eS	Sn	15 59 19.8	-5.7
SDNR	Sundarnagar	7.09	143	ePKP	Pn	15 58 09.0	-0.6
SDNR				ex	x	15 59 04.0	
SMLA	Simla	7.49	143	iP	Pn	15 58 13.6	-1.3
SMLA				iS	Sn	15 59 33.1	-6.2
SMLA				iS	Sn	15 59 33.3	-6.0
SMLA				⇓AML	AML	15 59 36.3	
comp=E,1μm,0.5s							
SMLA				⇓AML	AML	15 59 36.6	
comp=N,1μm,0.3s							
DDI	Dehra Dun	8.58	142	ex	x	15 59 47.0	
KHET	Khetri	9.72	160	eS	Sn	16 00 23.0	-10
KUDL	Kundal	9.87	156	ePKP	Pn	15 58 45.7	-0.1
KUDL				eS	Sn	16 00 25.5	-11
MK31	Makanchi Array	12.21	36	⇓P	Pn	15 59 19.3	+3.5
comp=N,0.5nm,0.6s,baz=0.0,slow=0.1,SNR=6.5							
MK31	Makanchi Array	12.21	36	ePn	Pn	15 59 17.7	+1.8
MKAR	Makanchi Array	12.21	36	P	Pn	15 59 16.8	+1.0
comp=N,0.1nm,0.3s,baz=217,slow=12,SNR=5.4							
MKAR	Makanchi Array	12.21	36	P	Pn	15 59 16.8	+1.0
DANN	Dangsing	13.31	129	eP	Pn	15 59 29.6	-0.3
comp=N,14nm,0.2s							
DANN	Dangsing	13.31	129	eP	Pn	15 59 29.6	-0.3
comp=N,14nm,0.2s							
KOLN	Koldanda	13.63	131	eP	Pn	15 59 33.4	-0.5
KOLN	Koldanda	13.63	131	eP	Pn	15 59 33.4	-0.5
GKN	Gorkha	14.11	127	eP	Pn	15 59 39.6	-0.2
GKN				eS	Sn	16 02 04.8	-12
GKN	Gorkha	14.11	127	eP	Pn	15 59 39.6	-0.2
GKN				eS	Sn	16 02 04.8	-12
KURBB	Kurchatov Arra	14.15	17	⇑P	Pn	15 59 41.5	+1.5
comp=N,0.4nm,0.5s							
KURK	Kurchatov	14.26	17	P	Pn	15 59 42.4	+1.0
comp=N,0.2nm,0.3s,baz=206,slow=11,SNR=17							
KURK	Kurchatov	14.26	17	P	Pn	15 59 42.4	+1.0
KKN	Kakani	14.66	126	eP	Pn	15 59 46.3	-0.4
comp=N,7.3nm,0.2s							
KKN	Kakani	14.66	126	eP	Pn	15 59 46.3	-0.4
comp=N,7.3nm,0.2s							
DMN	Daman	14.68	127	eP	Pn	15 59 47.1	+0.3
comp=N,20nm,0.3s							
DMN				eS	Sn	16 02 19.0	-12
DMN	Daman	14.68	127	eP	Pn	15 59 47.1	+0.3
comp=N,20nm,0.3s							
DMN				eS	Sn	16 02 19.0	-12
AB31	Akbulak array	14.81	328	P	Pn	15 59 46.5	-1.7
comp=N,0.9nm,0.4s,baz=135,slow=13,SNR=62							
AB31				⇓S	Sn	16 02 21.6	-12
comp=N,4.4nm,0.6s,baz=148,slow=23,SNR=9.8							
ABKAR	Akbulak array	14.81	328	eP	Pn	15 59 46.9	-1.3
ABKAR				eS	Sn	16 02 20.2	-13
PKI	Pulchoki	14.90	127	eP	Pn	15 59 50.0	+0.5
comp=N,16nm,0.3s							
PKI	Pulchoki	14.90	127	eP	Pn	15 59 50.0	+0.5
comp=N,16nm,0.3s							
GUN	Gumba	14.97	125	eP	Pn	15 59 50.7	+0.3
comp=N,37nm,0.5s							
GUN	Gumba	14.97	125	eP	Pn	15 59 50.7	+0.3
comp=N,37nm,0.5s							
JIRN	Jiri	15.34	125	eP	Pn	15 59 55.2	+0.2
comp=N,8.0nm,0.4s							
JIRN	Jiri	15.34	125	eP	Pn	15 59 55.2	+0.2
comp=N,8.0nm,0.4s							
BVA0	Borovoye Array	15.79	356	P	Pn	16 00 00.8	+0.7
comp=N,0.7nm,0.8s,baz=0.0,slow=0.1,SNR=22							
BVAR	Borovoye Array	15.79	356	P	Pn	16 00 00.5	+0.4
comp=N,1.0nm,0.3s,baz=164,slow=10,SNR=30							
BVAR	Borovoye Array	15.79	356	P	Pn	16 00 00.5	+0.4
ZRNK	Zerenda	15.81	353	P	Pn	15 59 57.4	-3.0
RAMN	Ramite	16.09	126	eP	Pn	16 00 04.2	+0.2
comp=N,23nm,0.5s							
RAMN	Ramite	16.09	126	eP	Pn	16 00 04.2	+0.2
comp=N,23nm,0.5s							
AKTO	Aktyubinsk	16.52	327	P	Pn	16 00 08.8	-0.1
baz=129,slow=12							
AKTO				S	S	16 03 05.9	-5.1
comp=N,0.2nm,0.3s,baz=128,slow=22,SNR=8.0							
AKTO	Aktyubinsk	16.52	327	P	Pn	16 00 08.7	-0.2
comp=N,2.8nm,0.5s							
AKTO				S	S	16 03 04.6	-6.3
comp=N,1.3nm,1.0s							
AKTO	Aktyubinsk	16.52	327	P	Pn	16 00 08.8	-0.1
AKTO				S	S	16 03 05.9	-5.1
TAPN	Taplejung	16.56	122	eP	Pn	16 00 10.0	+0.3
comp=N,12nm,0.4s							
TAPN	Taplejung	16.56	122	eP	Pn	16 00 10.0	+0.3
comp=N,12nm,0.4s							
ODAN	Odare	16.67	124	eP	Pn	16 00 11.7	+0.7
comp=N,35nm,0.5s							
ODAN	Odare	16.67	124	eP	Pn	16 00 11.7	+0.7
comp=N,35nm,0.5s							
ZAA0	Zalesovo Array	18.89	24	eP	P	16 00 33.8	-0.1
ZALV	Zalesovo Beam	18.89	24	P	P	16 00 34.0	+0.1
comp=N,2.4nm,0.3s,baz=221,slow=11,SNR=48							
ZALV	Zalesovo Beam	18.89	24	P	P	16 00 34.0	+0.1
SONM	Songino Array	27.26	56	P	P	16 01 55.0	+0.6
comp=N,0.4nm,0.6s,mb3.2,baz=257,slow=8.6,SNR=4.1							
SONM	Songino Array	27.26	56	P	P	16 01 55.0	+0.6
ULN	Ulaanbaatar	27.70	56	eP	P	16 01 59.2	+0.9
comp=N,0.6nm,0.6s,mb3.4							
BRTR	Keskin Array B	29.95	287	P	P	16 02 19.6	+1.3
comp=N,1.3nm,0.5s,mb3.8,baz=98,slow=7.1,SNR=13							
BRTR	Keskin Array B	29.95	287	P	P	16 02 19.6	+1.3
AKASG	Malin Array Be	33.08	308	P	P	16 02 45.4	-0.1
comp=N,1.3nm,0.4s,mb3.8,baz=112,slow=8.6,SNR=7.4							
AKASG	Malin Array Be	33.08	308	P	P	16 02 45.4	-0.1
JOF	Joensuu	35.60	329	ep	P	16 03 06.5	-0.4
comp=N,3.5nm,0.5s,mb4.2							
FINES	FINESS Array B	37.28	325	P	P	16 03 21.4	+0.2
comp=N,1.5nm,0.5s,mb3.8,baz=118,slow=9.7,SNR=14							
FINES	FINESS Array B	37.28	325	P	P	16 03 21.4	+0.2
ARCES	ARCESS Array B	40.73	337	P	P	16 03 50.0	+0.3
comp=N,2.6nm,0.4s,mb4.0,baz=113,slow=8.0,SNR=15							
ARCES	ARCESS Array B	40.73	337	P	P	16 03 50.0	+0.3
GERES	GERESS Array B	43.12	305	P	P	16 04 09.8	+0.5
comp=N,0.4nm,0.8s,mb2.9,baz=86,slow=5.0,SNR=2.3							
GERES	GERESS Array B	43.12	305	P	P	16 04 09.8	+0.5
KSAR	Wonju Array Be	43.87	72	P	P	16 04 15.8	+0.3
KSRS	Korea Array	43.90	72	P	P	16 04 15.8	+0.1
comp=N,0.8nm,0.7s,mb3.2,baz=268,slow=5.8,SNR=3.7							
NOA	NORSAR Array B	44.24	323	P	P	16 04 17.6	-0.4
comp=N,2.4nm,0.6s,mb3.7,baz=95,slow=7.7,SNR=11							
NOA	NORSAR Array B	44.24	323	P	P	16 04 17.6	-0.4
ESDC	Sonseca Array	57.78	298	P	P	16 05 58.6	-0.6
comp=N,0.4nm,0.5s,mb3.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ				*i* S	**Sb**	**16 06 16.7**	**-0.2**
GDZ	**Gediz**	**1.26**	**9**	*i* P	**Pn**	**16 05 59.9**	**-0.7**
GDZ				*i* S	**Sb**	**16 06 16.7**	**-0.2**
SHUT	**Suhut-Afyon**	**1.27**	**56**	*e*PN	**Pn**	**16 06 01.1**	**+0.4**
SHUT	**Suhut-Afyon**	**1.27**	**56**	*e*Pn	**Pn**	**16 06 01.1**	**+0.4**
ALT	**Altintas**	**1.40**	**30**	*e*PN	**Pn**	**16 06 03.9**	**+1.5**
ALT	**Altintas**	**1.40**	**30**	*e*Pn	**Pn**	**16 06 03.9**	**+1.4**
SUTC	**Sutluce-Ispart**	**1.46**	**104**	*e*PN	**Pn**	**16 06 03.0**	**-0.4**
SUTC	**Sutluce-Ispart**	**1.46**	**104**	*e*Pn	**Pn**	**16 06 03.0**	**-0.4**
BODT	**Bodrum**	**1.71**	**243**	*e*PN	**Pn**	**16 06 06.0**	**-0.8**
BODT	**Bodrum**	**1.71**	**243**	*e*Pn	**Pn**	**16 06 06.0**	**-0.7**
DAT	**Datca**	**1.72**	**230**	*e*PN	**Pn**	**16 06 07.0**	**+0.1**
DAT	**Datca**	**1.72**	**230**	*e*Pn	**Pn**	**16 06 07.0**	**+0.1**

*IDC **26** 16:18:09.9±1.1, 14°.87N×144°.65E, h0km, mb3.5/9, mb1 3.7/9, mb1mx3.6/20, mbtmp3.5/9, MS3.4/4, Ms1 3.4/4, ms1mx3.0/28, Error ellipse: s-maj=40.8km s-min=15.1km az=79.0*

*ISCJB **26** 16:18:11.3±5.5, 14°.86N±0°.07×144°.6E±0°.2, h20km±42km, mb3.6/10, MS3.2/3, Error ellipse: s-maj=37.4km s-min=9.7km az=167.5*

*NEIC **26** 16:18:11.3±0.8, 14°.88N×144°.67E, h10km, mb4.1/1, Error ellipse: s-maj=29.2km s-min=9.1km az=81.0*

ISC 26 16:18:11.9±6.3, 14°.84N±0°.07×144°.7E±0°.2, h14km±40km**, n23,** σ0**.89**/24**, mb3.6**/10**, MS3.2**/3**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.25**	**173**	Pn	**Pn**	**16 18 34.7**	**-0.2**
	318nm,0.3s,baz=280,slow=2.6,SNR=218						
GUMO				Sn	**Sn**	**16 18 50.5**	**-1.0**
	242nm,0.3s,baz=352,slow=22,SNR=42						
GUMO	**Guam**	**1.25**	**173**	Pn	**Pn**	**16 18 34.7**	**-0.2**
GUMO				Sn	**Sn**	**16 18 50.5**	**-1.0**
JOW	**Kunigami**	**19.43**	**311**	LR	LR	16 28 31.3	
	comp=Z,179nm,18.7s,baz=97,slow=32						
MJAR	**Matsushiro Arr**	**22.38**	**346**	P	**P**	**16 23 07.8**	**-2.0**
	4.2nm,0.9s,mb3.9,baz=177,slow=8.3,SNR=5.7						
MJAR				LR	LR	16 30 11.4	
	comp=Z,136nm,21.8s,MS3.3,baz=30,slow=32						
MJAR	**Matsushiro Arr**	**22.38**	**346**	P	**P**	**16 23 07.8**	**-2.0**
KSRS	**Korea Array**	**27.02**	**330**	P	**P**	**16 23 54.3**	**+0.8**
	0.8nm,0.8s,mb3.3,baz=140,slow=8.2,SNR=2.9						
KSRS				LR	LR	16 34 13.3	
	comp=Z,33nm,19.6s,MS2.9,baz=110,slow=36						
KSAR	**Wonju Array Be**	**27.02**	**330**	P	**P**	**16 23 54.3**	**+0.7**
WRAB	**Tennant Creek**	**36.02**	**197**	*e*P	**P**	**16 25 13.4**	**+0.6**
	2.9nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**36.03**	**197**	*e*P	**P**	**16 25 13.6**	**+0.7**
WRA	**Warramunga Arr**	**36.03**	**197**	P	**P**	**16 25 12.9**	**0.0**
	1.9nm,0.9s,mb4.0,baz=16,slow=9.5,SNR=9.4						
WRA	**Warramunga Arr**	**36.03**	**197**	P	**P**	**16 25 12.9**	**0.0**
ASAR	**Alice Springs**	**39.70**	**196**	P	**P**	**16 25 44.6**	**+0.7**
	0.2nm,0.7s,mb3.0,baz=18,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**39.70**	**196**	P	**P**	**16 25 44.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**43.92**	**281**	P	**P**	**16 26 18.6**	**+0.1**
	1.6nm,1.0s,mb3.7,baz=82,slow=6.5,SNR=8.3						
CMAR				LR	LR	16 42 33.0	
	comp=Z,44nm,20.1s,MS3.4,baz=192,slow=33						
CMAR	**Chiang Mai Arr**	**43.92**	**281**	P	**P**	**16 26 18.6**	**+0.1**
SONM	**Songino Array**	**45.63**	**324**	P	**P**	**16 26 30.4**	**-1.5**
	0.4nm,0.9s,mb3.4,baz=134,slow=8.1,SNR=2.8						
SONM	**Songino Array**	**45.63**	**324**	P	**P**	**16 26 30.4**	**-1.5**
MKAR	**Makanchi Array**	**60.50**	**316**	P	**P**	**16 28 20.8**	**-0.7**
	0.4nm,0.8s,mb3.5,baz=94,slow=9.6,SNR=3.6						
MKAR	**Makanchi Array**	**60.50**	**316**	P	**P**	**16 28 20.8**	**-0.7**
ZALV	**Zalesovo Beam**	**60.53**	**324**	P	**P**	**16 28 22.0**	**+0.5**
	0.2nm,0.3s,mb3.7,baz=81,slow=8.9,SNR=2.0						
ZALV	**Zalesovo Beam**	**60.53**	**324**	P	**P**	**16 28 22.0**	**+0.5**
YKA	**Yellowknife Ar**	**81.83**	**27**	P	**P**	**16 30 31.4**	**+1.1**
	0.3nm,0.8s,mb3.3,baz=282,slow=5.4,SNR=4.6						
YKA	**Yellowknife Ar**	**81.83**	**27**	P	**P**	**16 30 31.4**	**+1.1**

*NEIC **26** 16:25:13.9, 17°.10N×99°.69W, h42km, MD3.4(MEX), After MEX.*

MEX 26 16:25:14.6±0.6, 17°.12N×99°.71W, h35km±13km**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.28**	**210**	*i* P	Pn	16 25 22.6	+0.2
ACX				*e*S	Sn	16 25 26.2	-1.5
ACX	**Acapulco**	**0.28**	**210**	*i* P	Pn	16 25 21.6	-0.8
ACX				*e*S	Sn	16 25 26.2	-1.5
CAIG	**El Cayaco**	**0.54**	**263**	*i* P	Pn	16 25 23.9	-1.8
CAIG				*e*S	Sn	16 25 31.1	-2.5
CAIG	**El Cayaco**	**0.54**	**263**	*i* P	Pn	16 25 23.9	-1.8
CAIG				*e*S	Sn	16 25 31.1	-2.5
MEIG	**Mezcala**	**0.81**	**6**	*i* P	Pn	16 25 28.1	-1.4
MEIG				*e*S	Sn	16 25 39.2	-1.1
MEIG	**Mezcala**	**0.81**	**6**	*i* P	Pn	16 25 28.1	-1.4
MEIG				*e*S	Sn	16 25 38.2	-2.1
ZIIG	**Zihuatanejo**	**1.75**	**286**	*i* P	Pn	16 25 40.8	-1.6
ZIIG				*i* S	Sn	16 26 01.4	-2.0
YAIG	**Yautepec**	**1.84**	**19**	*i* P	Pn	16 25 41.8	-1.9
YAIG				*e*S	Sn	16 26 02.5	-3.3
YAIG	**Yautepec**	**1.84**	**19**	*i* P	Pn	16 25 41.8	-1.9
YAIG				*e*S	Sn	16 26 02.5	-3.3
UTMO	**Huajuapan**	**1.95**	**68**	*i* P	Pn	16 25 42.2	-3.0
UTMO				*e*S	Sn	16 26 05.8	-2.8
UTMO	**Huajuapan**	**1.95**	**68**	*i* P	Pn	16 25 42.2	-3.0
UTMO				*e*S	Sn	16 26 05.8	-2.8

*BJI **26** 16:30:01.6, 32°.50S×179°.10W, h193km, mB5.3/15, mb5.1/17*

*ISCJB **26** 16:30:03.2±0.7, 32°.58S±0°.05×179°.4W±0°.1, h195km±7km, mb4.7/27, Error ellipse: s-maj=15.0km s-min=7.1km az=14.8*

*NEIC **26** 16:30:03.8±0.6, 32°.33S×179°.60W, h169km±5km, mb4.9/16, Error ellipse: s-maj=9.5km s-min=6.2km az=105.0*

*IDC **26** 16:30:10.9±2.3, 32°.19S×179°.89W, h221km±20km, mb4.3/14, mb1 4.4/14, mb1mx4.4/16, mbtmp4.3/14, Error ellipse: s-maj=14.6km s-min=10.7km az=14.0*

ISC 26 16:30:03.4±0.7, 32°.61S±0°.05×179°.3W±0°.1, h192km±7km**, h194**km±1.6km**: pP-P, n355,** σ1**50**/262**, mb4.7**/27**, 4C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.54**	**19**	P	**Pn**	**16 30 56.5**	**-2.7**
RAO				*e*S	**Sn**	**16 31 36.0**	**-6.8**
MXZ	**Matakaoa Point**	**5.33**	**201**	P*	**Pn**	**16 31 23.3**	**+1.5**
MXZ	**Matakaoa Point**	**5.33**	**201**	PN	**Pn**	**16 31 23.0**	**+1.2**
MXZ				*e*SN	**Sn**	**16 32 25.4**	**+1.7**
WIZ	**White Island**	**5.71**	**210**	P*	**Pn**	**16 31 32.6**	**+5.9**
PUZ	**Puketiti**	**5.82**	**200**	Pn	**Pn**	**16 31 29.6**	**+1.4**
PUZ	**Puketiti**	**5.82**	**200**	PN	**Pn**	**16 31 29.5**	**+1.4**
PUZ				SN	**Sn**	**16 32 36.2**	**+1.2**
MYRZ	**Mayor Island**	**5.95**	**217**	PN	**Pn**	**16 31 35.3**	**+5.5**
CNGZ	**Carnagh Statio**	**6.22**	**199**	Pn	**Pn**	**16 31 35.1**	**+1.8**
CNGZ	**Carnagh Statio**	**6.22**	**199**	PN	**Pn**	**16 31 34.7**	**+1.4**
OPRZ	**Ohinepanea**	**6.25**	**212**	Pn	**Pn**	**16 31 35.7**	**+2.0**
OPRZ	**Ohinepanea**	**6.25**	**212**	PN	**Pn**	**16 31 35.7**	**+2.0**
WCZ	**Waipu Caves**	**6.25**	**236**	Pn	**Pn**	**16 31 37.2**	**+3.5**
WCZ	**Waipu Caves**	**6.25**	**236**	PN	**Pn**	**16 31 37.2**	**+3.5**
MWZ	**Matawai**	**6.29**	**204**	P*	**Pn**	**16 31 35.4**	**+1.2**
MWZ	**Matawai**	**6.29**	**204**	PN	**Pn**	**16 31 35.0**	**+0.8**
MWZ				SN	**Sn**	**16 32 47.6**	**+1.5**
TGRZ	**Tauranga**	**6.29**	**214**	Pn	**Pn**	**16 31 38.3**	**+4.0**
TGRZ	**Tauranga**	**6.29**	**214**	PN	**Pn**	**16 31 38.0**	**+3.7**
MARZ	**Manawahe**	**6.31**	**211**	Pn	**Pn**	**16 31 39.3**	**+4.8**
MARZ	**Manawahe**	**6.31**	**211**	PN	**Pn**	**16 31 38.2**	**+3.6**
URZ	**Urewera**	**6.37**	**207**	P	**Pn**	**16 31 36.3**	**+1.0**
	9.4nm,0.3s,baz=23,slow=4.0,SNR=67						
URZ				S	**Sn**	**16 32 47.9**	**-0.1**
	46nm,0.3s,baz=94,slow=17,SNR=12						
URZ	**Urewera**	**6.37**	**207**	*e*Pn	**Pn**	**16 31 36.1**	**+0.8**
	124nm,0.4s						
URZ				S	**Sn**	**16 32 47.9**	**-0.1**
URZ	**Urewera**	**6.37**	**207**	PN	**Pn**	**16 31 35.8**	**+0.6**
URZ				*e*SN	**Sn**	**16 32 48.1**	**+0.1**
EDRZ	**Edgecumbe**	**6.39**	**210**	Pn	**Pn**	**16 31 39.3**	**+3.8**
EDRZ	**Edgecumbe**	**6.39**	**210**	PN	**Pn**	**16 31 37.5**	**+2.0**
MKAZ	**Moumakai**	**6.42**	**224**	*e*PN	**Pn**	**16 31 38.5**	**+2.6**
OUZ	**Omahuta**	**6.48**	**244**	*e*Pn	**Pn**	**16 31 36.5**	**-0.3**
	17nm,0.5s						
MKRZ	**Makatiti**	**6.53**	**211**	Pn	**Pn**	**16 31 43.1**	**+5.7**
MKRZ	**Makatiti**	**6.53**	**211**	PN	**Pn**	**16 31 41.9**	**+4.5**
KARZ	**Kaharoa**	**6.53**	**213**	Pn	**Pn**	**16 31 39.7**	**+2.3**
KARZ	**Kaharoa**	**6.53**	**213**	PN	**Pn**	**16 31 39.0**	**+1.6**
TARZ	**Mount Tarawera**	**6.59**	**210**	Pn	**Pn**	**16 31 42.8**	**+4.6**
TARZ	**Mount Tarawera**	**6.59**	**210**	PN	**Pn**	**16 31 41.3**	**+3.1**
TOZ	**Tahuroa Road**	**6.67**	**219**	Pn	**Pn**	**16 31 45.0**	**+5.7**
TOZ	**Tahuroa Road**	**6.67**	**219**	PN	**Pn**	**16 31 44.0**	**+4.8**
RRRZ	**Republican Roa**	**6.68**	**210**	Pn	**Pn**	**16 31 44.2**	**+4.9**
RRRZ	**Republican Roa**	**6.68**	**210**	PN	**Pn**	**16 31 43.7**	**+4.4**
PRGZ	**Paritu Road**	**6.72**	**199**	Pn	**Pn**	**16 31 40.5**	**+0.7**
PRGZ	**Paritu Road**	**6.72**	**199**	PN	**Pn**	**16 31 40.3**	**+0.5**
HRRZ	**Handcock Road**	**6.82**	**211**	Pn	**Pn**	**16 31 46.4**	**+5.3**
HRRZ	**Handcock Road**	**6.82**	**211**	PN	**Pn**	**16 31 46.3**	**+5.2**
PRRZ	**Plateau Road**	**6.86**	**210**	Pn	**Pn**	**16 31 45.2**	**+3.5**
PRRZ	**Plateau Road**	**6.86**	**210**	PN	**Pn**	**16 31 45.1**	**+3.4**
KNZ	**Kokohu**	**6.87**	**200**	Pn	**Pn**	**16 31 41.7**	**0.0**
KNZ	**Kokohu**	**6.87**	**200**	PN	**Pn**	**16 31 41.6**	**-0.1**
MHGZ	**Mahia Peninsul**	**6.93**	**199**	Pn	**Pn**	**16 31 43.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**6.93**	**199**	PN	**Pn**	**16 31 43.2**	**+0.7**
ALRZ	**Allen Road**	**6.94**	**210**	Pn	**Pn**	**16 31 45.8**	**+3.1**
ALRZ	**Allen Road**	**6.94**	**210**	PN	**Pn**	**16 31 44.8**	**+2.1**
RAHZ	**Arahi**	**6.96**	**204**	Pn	**Pn**	**16 31 43.5**	**+0.5**
RAHZ	**Arahi**	**6.96**	**204**	PN	**Pn**	**16 31 43.2**	**+0.2**
NMHZ	**Naumai**	**7.22**	**205**	Pn	**Pn**	**16 31 47.2**	**+0.9**
NMHZ	**Naumai**	**7.22**	**205**	PN	**Pn**	**16 31 46.5**	**+0.1**
BKZ	**Black Stump Fm**	**7.40**	**207**	Pn	**Pn**	**16 31 49.3**	**+0.6**
BKZ	**Black Stump Fm**	**7.40**	**207**	PN	**Pn**	**16 31 48.3**	**-0.3**
RATZ	**Rangitukua**	**7.44**	**211**	Pn	**Pn**	**16 31 54.1**	**+4.9**
RATZ	**Rangitukua**	**7.44**	**211**	PN	**Pn**	**16 31 53.5**	**+4.3**
KATZ	**Kakaramea**	**7.56**	**211**	Pn	**Pn**	**16 31 54.9**	**+4.1**
KATZ	**Kakaramea**	**7.56**	**211**	PN	**Pn**	**16 31 54.5**	**+3.7**
MCHZ	**McNeill Hill**	**7.57**	**204**	Pn	**Pn**	**16 31 50.9**	**0.0**
MCHZ	**McNeill Hill**	**7.57**	**204**	PN	**Pn**	**16 31 50.8**	**-0.1**
HIZ	**Hauiti**	**7.60**	**217**	Pn	**Pn**	**16 31 54.7**	**+3.4**
HIZ	**Hauiti**	**7.60**	**217**	PN	**Pn**	**16 31 54.5**	**+3.2**
CKHZ	**Cape Kidnapper**	**7.63**	**202**	Pn	**Pn**	**16 31 52.1**	**+0.4**
CKHZ	**Cape Kidnapper**	**7.63**	**202**	PN	**Pn**	**16 31 51.0**	**-0.7**
CKHZ				SN	**Sn**	**16 33 17.2**	**-0.6**
KRVZ	**Karewarewa**	**7.68**	**211**	Pn	**Pn**	**16 31 56.1**	**+3.7**
KRVZ	**Karewarewa**	**7.68**	**211**	*e*PN	**Pn**	**16 31 55.9**	**+3.5**
WTVZ	**West Tongariro**	**7.72**	**211**	Pn	**Pn**	**16 31 56.3**	**+3.4**
WTVZ	**West Tongariro**	**7.72**	**211**	PN	**Pn**	**16 31 56.2**	**+3.3**
OTVZ	**Oturere**	**7.73**	**211**	Pn	**Pn**	**16 31 54.5**	**+1.5**
OTVZ	**Oturere**	**7.73**	**211**	PN	**Pn**	**16 31 54.3**	**+1.3**
TWVZ	**Taurewa**	**7.75**	**212**	Pn	**Pn**	**16 31 57.3**	**+4.0**
TWVZ	**Taurewa**	**7.75**	**212**	PN	**Pn**	**16 31 57.3**	**+4.0**
NGZ	**Ngauruhoe**	**7.77**	**211**	Pn	**Pn**	**16 31 56.4**	**+2.9**
NGZ	**Ngauruhoe**	**7.77**	**211**	PN	**Pn**	**16 31 56.1**	**+2.6**
WPVZ	**Whakapapa**	**7.81**	**211**	Pn	**Pn**	**16 31 58.1**	**+4.0**
WPVZ	**Whakapapa**	**7.81**	**211**	PN	**Pn**	**16 31 57.0**	**+2.9**
TUVZ	**Tukino**	**7.82**	**210**	Pn	**Pn**	**16 31 57.4**	**+3.1**
TUVZ	**Tukino**	**7.82**	**210**	PN	**Pn**	**16 31 57.3**	**+3.0**
KAHZ	**Kahuranaki**	**7.82**	**202**	Pn	**Pn**	**16 31 54.0**	**-0.3**
KAHZ	**Kahuranaki**	**7.82**	**202**	PN	**Pn**	**16 31 53.4**	**-0.9**
BHHZ	**Black Hill Sta**	**7.84**	**208**	Pn	**Pn**	**16 31 57.0**	**+2.5**
BHHZ	**Black Hill Sta**	**7.84**	**208**	*e*PN	**Pn**	**16 31 53.8**	**-0.7**
FWVZ	**Far West T-bar**	**7.85**	**211**	Pn	**Pn**	**16 31 58.1**	**+3.4**
FWVZ	**Far West T-bar**	**7.85**	**211**	*e*PN	**Pn**	**16 31 55.3**	**+0.6**
WNVZ	**Wahianoa**	**7.89**	**210**	Pn	**Pn**	**16 31 58.6**	**+3.4**
WNVZ	**Wahianoa**	**7.89**	**210**	PN	**Pn**	**16 31 55.8**	**+0.6**
MOVZ	**Moawhango**	**7.90**	**209**	Pn	**Pn**	**16 31 56.7**	**+1.5**
MOVZ	**Moawhango**	**7.90**	**209**	PN	**Pn**	**16 31 55.8**	**+0.6**
PKVZ	**Pokaka**	**7.97**	**212**	Pn	**Pn**	**16 31 56.2**	**0.0**
MTVZ	**Mangateitei**	**8.00**	**211**	Pn	**Pn**	**16 31 59.9**	**+3.4**
MTVZ	**Mangateitei**	**8.00**	**211**	*e*PN	**Pn**	**16 31 58.8**	**+2.3**
PXZ	**Pawanui**	**8.04**	**202**	Pn	**Pn**	**16 31 55.7**	**-1.4**
PXZ	**Pawanui**	**8.04**	**202**	*e*PN	**Pn**	**16 31 55.3**	**-1.8**
PXZ				SN	**Sn**	**16 33 24.3**	**-3.2**
VRZ	**Vera Road**	**8.11**	**215**	Pn	**Pn**	**16 32 01.9**	**+3.8**
VRZ	**Vera Road**	**8.11**	**215**	*e*PN	**Pn**	**16 32 00.2**	**+2.1**
PNHZ	**Pukenui**	**8.16**	**205**	Pn	**Pn**	**16 31 57.2**	**-1.4**
PNHZ	**Pukenui**	**8.16**	**205**	*e*PN	**Pn**	**16 31 57.0**	**-1.6**
WPHZ	**Waipukurau**	**8.21**	**204**	Pn	**Pn**	**16 32 00.2**	**+0.9**
WPHZ	**Waipukurau**	**8.21**	**204**	*e*PN	**Pn**	**16 31 58.6**	**-0.7**
PRHZ	**Porangahau**	**8.33**	**202**	Pn	**Pn**	**16 31 59.6**	**-1.2**
PRHZ	**Porangahau**	**8.33**	**202**	PN	**Pn**	**16 31 59.5**	**-1.3**
TSZ	**Takapari Road**	**8.38**	**206**	Pn	**Pn**	**16 32 03.0**	**+1.6**
RAEZ	**Rainy Point**	**8.42**	**216**	Pn	**Pn**	**16 32 06.9**	**+4.9**
DVHZ	**Dannevirke**	**8.51**	**204**	Pn	**Pn**	**16 32 02.7**	**-0.6**
WAZ	**Wanganui**	**8.51**	**211**	Pn	**Pn**	**16 32 05.7**	**+2.4**
WAZ	**Wanganui**	**8.51**	**211**	*e*PN	**Pn**	**16 32 05.2**	**+1.9**
PKE	**Pukeiti**	**8.55**	**218**	Pn	**Pn**	**16 32 08.0**	**+4.2**
NEZ	**North Egmont**	**8.55**	**217**	Pn	**Pn**	**16 32 08.3**	**+4.5**
NEZ	**North Egmont**	**8.55**	**217**	PN	**Pn**	**16 32 07.9**	**+4.1**
DFE	**Dawson Falls**	**8.59**	**217**	Pn	**Pn**	**16 32 09.4**	**+5.1**
DFE	**Dawson Falls**	**8.59**	**217**	PN	**Pn**	**16 32 09.2**	**+4.9**
NWEZ	**Newall Road**	**8.68**	**218**	Pn	**Pn**	**16 32 10.5**	**+5.1**
NWEZ	**Newall Road**	**8.68**	**218**	PN	**Pn**	**16 32 10.3**	**+4.9**
NRZ	**Ngariki Road**	**8.69**	**217**	Pn	**Pn**	**16 32 10.4**	**+4.8**
NRZ	**Ngariki Road**	**8.69**	**217**	PN	**Pn**	**16 32 10.4**	**+4.8**
POWZ	**Post Office Ro**	**8.74**	**206**	Pn	**Pn**	**16 32 07.6**	**+1.4**
POWZ	**Post Office Ro**	**8.74**	**206**	*e*PN	**Pn**	**16 32 06.5**	**+0.3**
BFZ	**Birch Farm**	**8.83**	**203**	Pn	**Pn**	**16 32 06.3**	**-1.1**
TIWZ	**Tintock**	**9.04**	**204**	Pn	**Pn**	**16 32 10.0**	**0.0**
MRZ	**Mangatainoka R**	**9.04**	**206**	Pn	**Pn**	**16 32 09.4**	**-0.8**
MRZ	**Mangatainoka R**	**9.04**	**206**	PN	**Pn**	**16 32 07.3**	**-2.9**
MRZ				*e*SN	**Sn**	**16 33 46.2**	**-5.1**
HOWZ	**Holdsworth Sta**	**9.27**	**205**	Pn	**Pn**	**16 32 10.8**	**-2.4**
HOWZ	**Holdsworth Sta**	**9.27**	**205**	PN	**Pn**	**16 32 10.3**	**-2.9**
TMWZ	**Te Maipa**	**9.33**	**203**	Pn	**Pn**	**16 32 12.5**	**-1.4**
TMWZ	**Te Maipa**	**9.33**	**203**	*e*PN	**Pn**	**16 32 12.3**	**-1.6**
OGWZ	**Otaki Gorge**	**9.33**	**207**	Pn	**Pn**	**16 32 11.5**	**-2.4**
OGWZ	**Otaki Gorge**	**9.33**	**207**	*e*PN	**Pn**	**16 32 11.4**	**-2.5**
KIW	**Kapiti Island**	**9.47**	**208**	Pn	**Pn**	**16 32 13.9**	**-1.9**
KIW	**Kapiti Island**	**9.47**	**208**	*e*PN	**Pn**	**16 32 13.1**	**-2.7**
MTW	**Mount Morrison**	**9.51**	**205**	Pn	**Pn**	**16 32 13.6**	**-2.7**
MTW	**Mount Morrison**	**9.51**	**205**	*e*PN	**Pn**	**16 32 13.0**	**-3.3**
CAW	**Cannon Point**	**9.62**	**207**	Pn	**Pn**	**16 32 14.9**	**-2.8**
CAW	**Cannon Point**	**9.62**	**207**	PN	**Pn**	**16 32 14.2**	**-3.5**
TRWZ	**Traveller**	**9.66**	**203**	Pn	**Pn**	**16 32 16.8**	**-1.4**
TRWZ	**Traveller**	**9.66**	**203**	PN	**Pn**	**16 32 16.4**	**-1.7**
PAWZ	**Paruwai Farm**	**9.73**	**204**	Pn	**Pn**	**16 32 19.4**	**+0.2**
PAWZ	**Paruwai Farm**	**9.73**	**204**	PN	**Pn**	**16 32 19.2**	**0.0**
MSWZ	**Moikau Station**	**9.82**	**205**	Pn	**Pn**	**16 32 12.8**	**-7.6**
DUWZ	**D'Urville Isla**	**9.84**	**212**	Pn	**Pn**	**16 32 20.5**	**0.0**
DUWZ	**D'Urville Isla**	**9.84**	**212**	PN	**Pn**	**16 32 20.3**	**-0.2**
WEL	**Wellington**	**9.89**	**207**	Pn	**Pn**	**16 32 20.7**	**-0.5**
SNZO	**South Karori**	**9.94**	**207**	*e*Pn	**Pn**	**16 32 21.2**	**-0.6**
	102nm,0.3s						
SNZO				*e*Sn	**Sn**	**16 34 08.1**	**-4.4**
SNZO	**South Karori**	**9.94**	**207**	*e*PN	**Pn**	**16 32 18.4**	**-3.4**
BHW	**Baring Head**	**9.96**	**206**	Pn	**Pn**	**16 32 20.8**	**-1.2**
BHW	**Baring Head**	**9.96**	**206**	*e*PN	**Pn**	**16 32 20.7**	**-1.3**
PLWZ	**Palliser**	**9.96**	**204**	Pn	**Pn**	**16 32 21.2**	**-0.9**
PLWZ	**Palliser**	**9.96**	**204**	*e*PN	**Pn**	**16 32 19.7**	**-2.4**
TCW	**Tory Channel**	**10.02**	**209**	Pn	**Pn**	**16 32 22.4**	**-0.5**
TCW	**Tory Channel**	**10.02**	**209**	*e*PN	**Pn**	**16 32 20.7**	**-2.2**
TUWZ	**Tuamarina**	**10.34**	**210**	Pn	**Pn**	**16 32 25.4**	**-1.7**
TUWZ	**Tuamarina**	**10.34**	**210**	*e*PN	**Pn**	**16 32 24.3**	**-2.8**
NNZ	**Nelson**	**10.41**	**212**	Pn	**Pn**	**16 32 25.5**	**-2.5**
NNZ	**Nelson**	**10.41**	**212**	*e*PN	**Pn**	**16 32 24.4**	**-3.6**
QRZ	**Quartz Range**	**10.52**	**216**	Pn	**Pn**	**16 32 27.7**	**-1.6**
QRZ	**Quartz Range**	**10.52**	**216**	*e*PN	**Pn**	**16 32 26.5**	**-2.8**
BSWZ	**Blackbirch Sta**	**10.61**	**209**	Pn	**Pn**	**16 32 29.3**	**-1.2**
BSWZ	**Blackbirch Sta**	**10.61**	**209**	PN	**Pn**	**16 32 27.8**	**-2.7**
THZ	**Tophouse**	**11.06**	**212**	Pn	**Pn**	**16 32 34.4**	**-2.0**
THZ	**Tophouse**	**11.06**	**212**	*e*PN	**Pn**	**16 32 33.3**	**-3.1**
CTZ	**Chatham Island**	**11.30**	**170**	PN	Px	16 32 48.9	
KHZ	**Kahutara**	**11.33**	**208**	*e*Pn	**Pn**	**16 32 38.4**	**-1.5**
	94nm,0.4s						
KHZ	**Kahutara**	**11.33**	**208**	*e*PN	**Pn**	**16 32 37.6**	**-2.3**
DSZ	**Denniston Nort**	**11.57**	**215**	*e*PN	**Pn**	**16 32 40.5**	**-2.4**
LTZ	**Lake Taylor**	**12.16**	**211**	Pn	**Pn**	**16 32 47.1**	**-3.4**
LTZ	**Lake Taylor**	**12.16**	**211**	*e*PN	**Pn**	**16 32 47.9**	**-2.6**
CRLZ	**Canterbury Las**	**12.67**	**208**	Pn	**Pn**	**16 32 55.6**	**-1.2**
CRLZ	**Canterbury Las**	**12.67**	**208**	*e*PN	**Pn**	**16 32 53.2**	**-3.7**
MQZ	**McQueen's Vall**	**12.77**	**207**	Pn	**Pn**	**16 32 55.6**	**-2.5**
MQZ	**McQueen's Vall**	**12.77**	**207**	*e*PN	**Pn**	**16 32 54.0**	**-4.1**
WVZ	**Waitaha Valley**	**13.09**	**214**	Pn	**Pn**	**16 33 00.8**	**-1.3**
WVZ	**Waitaha Valley**	**13.09**	**214**	*e*PN	**Pn**	**16 32 59.1**	**-3.0**
WVZ				SN	**Sn**	**16 35 18.9**	**-9.0**
RPZ	**Rata Peaks**	**13.44**	**212**	P	**Pn**	**16 33 05.4**	**-1.2**
	5.2nm,0.3s,baz=6.6,slow=1.8,SNR=22						
RPZ				S	**Sn**	**16 35 28.4**	**-8.0**
	4.6nm,0.3s,baz=82,slow=20,SNR=9.0						
RPZ	**Rata Peaks**	**13.44**	**212**	*e*Pn	**Pn**	**16 33 04.9**	**-1.7**
	16nm,0.6s						
RPZ				S	**Sn**	**16 35 28.4**	**-8.0**
RPZ	**Rata Peaks**	**13.44**	**212**	*e*PN	**Pn**	**16 33 02.5**	**-4.1**
FOZ	**Fox Glacier**	**13.96**	**215**	PN	**Pn**	**16 33 08.8**	**-4.2**
LBZ	**Lake Benmore**	**14.36**	**212**	*e*PN	**Pn**	**16 33 16.4**	**-1.5**
ODZ	**Otahua Downs**	**14.69**	**209**	*e*Pn	**Pn**	**16 33 21.4**	**-0.5**
	56nm,0.4s						
ODZ	**Otahua Downs**	**14.69**	**209**	PN	**Pn**	**16 33 19.7**	**-2.2**
JCZ	**Jackson Bay**	**14.79**	**216**	*e*PN	**Pn**	**16 33 20.7**	**-2.6**
MSVF	**Nonsavu**	**15.01**	**350**	*e*Pn	**Pn**	**16 33 24.0**	**-2.1**
	36nm,0.7s						
WKZ	**Wanaka**	**15.23**	**213**	PN	**Pn**	**16 33 26.6**	**-2.0**
MSZ	**Milford Sound**	**15.64**	**216**	PN	**Pn**	**16 33 32.7**	**-0.8**
TUZ	**Tuapeka**	**15.84**	**209**	PN	**Pn**	**16 33 36.5**	**+0.5**
DZM	**Mont Dzumac**	**16.46**	**306**	*e*P	**Pn**	**16 33 41.3**	**-2.3**
DZM	**Mont Dzumac**	**16.

SONM	**Songino Array**	**104.05 318**	PKKPbc	PKKPbc	16 59 40.0	+6.5
WMQ	**Urumqi**	**113.73 308**	*e*PKP	PKiKP	16 48 16.3	-2.4
BOSA	**Boshof**	**114.81 204**	*e*PKP	PKiKP	16 48 24.6	+3.2
comp=Z,1.6nm,0.6s,baz=168,slow=7.7,SNR=5.2						
BOSA	**Boshof**	**114.81 204**	PKP	PKiKP	16 48 24.6	+3.2
MK31	**Makanchi Array**	**118.35 309**	*e*PKPdf	PKPdf	16 48 28.0	+0.6
MKAR	**Makanchi Array**	**118.35 309**	PKP	PKPdf	16 48 29.0	+1.5
comp=Z,1.3nm,0.6s,baz=183,slow=0.7,SNR=22						
MKAR			PKKPbc	PKKPbc	16 58 52.9	+6.5
comp=Z,0.3nm,0.5s,baz=268,slow=3.9,SNR=9.3						
MKAR	**Makanchi Array**	**118.35 309**	PKP	PKPdf	16 48 29.0	+1.5
MKAR			PKKPbc	PKKPbc	16 58 52.9	+6.5
ZAA0	**Zalesovo Array**	**118.95 318**	*e*PKPdf	PKPdf	16 48 22.1	-6.3
TKM2	**Tokmak 2**	**121.72 304**	*e*PKPdf	PKPdf	16 48 35.6	+1.6
KURK	**Kurchatov**	**121.78 313**	PKP	PKPdf	16 48 35.0	+1.1
comp=Z,4.1nm,0.6s,baz=116,slow=2.0,SNR=46						
KURK	**Kurchatov**	**121.78 313**	PKP	PKPdf	16 48 35.0	+1.1
KKAR	**Karatay Array**	**125.37 303**	*e*PKPdf	PKPdf	16 48 42.4	+1.3
BVAR	**Borovoye Array**	**127.20 315**	PKP	PKPdf	16 48 46.6	+2.3
comp=Z,3.4nm,0.4s,baz=142,slow=1.8,SNR=18						
BVAR	**Borovoye Array**	**127.20 315**	PKP	PKPdf	16 48 46.6	+2.3
SPITS	**Spitsbergen Ar**	**133.82 356**	PKP	PKPdf	16 48 59.1	+3.0
comp=Z,2.3nm,0.5s,baz=105,slow=9.7,SNR=8.3						
SPITS	**Spitsbergen Ar**	**133.82 356**	PKP	PKPdf	16 48 59.1	+3.0
AKTO	**Aktyubinsk**	**134.75 311**	PKP	PKPdf	16 49 01.2	+2.6
comp=Z,1.6nm,0.4s,baz=82,slow=5.8,SNR=6.8						
AKTO	**Aktyubinsk**	**134.75 311**	PKP	PKPdf	16 49 01.2	+2.6
ARCES	**ARCESS Array B**	**140.50 347**	PKhKP	PKPpre	16 49 04.4	
comp=Z,3.8nm,0.8s,baz=31,slow=2.8,SNR=5.7						
ARCES	**ARCESS Array B**	**140.50 347**	PKPpre	PKPpre	16 49 04.4	
JOF	**Joensuu**	**144.04 337**	*e*p	PKPdf	16 49 14.0	-1.1
KONS	**Konsvik**	**145.27 351** ⇑	*i*P	PKPdf	16 49 19.3	+2.1
FLOS	**Flostrand**	**145.40 351**	*e*P	PKPdf	16 49 19.6	+2.2
STOK	**Stokkvaagen**	**145.44 351** ⇑	*i*P	PKPdf	16 49 19.8	+2.3
KAF	**Kangasniemi**	**146.23 339**	*e*p	PKPdf	16 49 20.4	+1.5
comp=Z,16nm,0.5s						
FINES	**FINESS Array B**	**146.81 338**	PKPbc	PKPbc	16 49 23.6	+1.6
comp=Z,26nm,0.5s,baz=43,slow=4.2,SNR=163						
FINES	**FINESS Array B**	**146.81 338**	PKPbc	PKPbc	16 49 23.6	+1.6
NB2	**NORSAR Subarra**	**150.74 350**	PKP	PKPbc	16 49 34.4	+2.4
comp=Z,10nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.74 350**	PKPbc	PKPbc	16 49 34.3	+2.3
comp=Z,6.3nm,0.6s,baz=15,slow=4.2,SNR=28						
NOA			PKPab	PKPab	16 49 41.4	+1.6
comp=Z,2.7nm,0.7s,baz=27,slow=4.0,SNR=9.7						
NOA	**NORSAR Array B**	**150.74 350**	PKPbc	PKPbc	16 49 34.3	+2.3
NOA			PKPab	PKPab	16 49 41.4	+1.6
IZAR	**Zarasai**	**150.81 330**	*e*P	PKPdf	16 49 34.4	+7.9
IZAR			AMB	AMB	16 49 35.7	
comp=Z,10nm,1.2s						
FOO	**Floro**	**150.86 356**	*e*P	PKPdf	16 49 34.0	+7.6
MMAI	**Mount Meron Ar**	**150.94 280**	PKPbc	PKPbc	16 49 35.5	+2.2
comp=Z,5.4nm,0.5s,baz=81,slow=6.8,SNR=23						
MMAI			PKPab	PKPab	16 49 43.8	+2.2
comp=Z,7.5nm,1.1s,baz=90,slow=6.7,SNR=4.2						
MMAI	**Mount Meron Ar**	**150.94 280**	PKPbc	PKPbc	16 49 35.5	+2.2
MMAI			PKPab	PKPab	16 49 43.8	+2.2
NC602	**NORSAR Array S**	**150.98 349**	*e*P	PKPbc	16 49 34.3	+1.8
ISAL	**Salakas**	**150.98 330**	*e*P	PKPdf	16 49 34.3	+7.6
ISAL			AMB	AMB	16 49 37.2	
comp=Z,7.5nm,1.3s						
IIGN	**Ignalina**	**151.09 329**	*e*P	PKPdf	16 49 35.2	+8.2
IIGN			AMB	AMB	16 49 36.3	
comp=Z,9.1nm,1.1s						
NACGM	**Naroch**	**151.14 328**	*e*	PKPdf	16 49 31.0	+4.0
ASK	**Askoy**	**151.96 355**	*e*P	PKPbc	16 49 36.6	+1.8
RUND	**Rundenannen**	**152.02 355**	*e*P	PKPbc	16 49 37.0	+2.1
BER	**Bergen**	**152.05 355**	*e*P	PKPbc	16 49 36.9	+1.9
KONO	**Kongsberg**	**152.31 350**	*e*P	PKPbc	16 49 38.4	+2.8
AKASG	**Malin Array Be**	**152.33 319**	PKPbc	PKPbc	16 49 37.9	+2.0
comp=Z,2.7nm,0.3s,baz=48,slow=2.8,SNR=20						
AKASG			PKPab	PKPab	16 49 47.5	+0.8
comp=Z,1.0nm,0.4s,baz=48,slow=4.5,SNR=5.6						
AKASG	**Malin Array Be**	**152.33 319**	PKPbc	PKPbc	16 49 37.9	+2.0
AKASG			PKPab	PKPab	16 49 47.5	+0.8
ODD1	**Odda**	**152.41 354**	*e*P	PKPbc	16 49 36.6	+0.8
BR131	**Keskin Array S**	**152.61 294**	*e*PKPbc	PKPbc	16 49 38.6	+1.7
BRTR	**Keskin Array B**	**152.61 294**	PKPbc	PKPbc	16 49 38.5	+1.5
comp=Z,3.9nm,0.5s,baz=146,slow=3.9,SNR=28						
BRTR			PKPab	PKPab	16 49 49.2	+0.9
comp=Z,2.9nm,0.8s,baz=101,slow=4.2,SNR=6.6						
BRTR	**Keskin Array B**	**152.61 294**	PKPbc	PKPbc	16 49 38.5	+1.5
BRTR			PKPab	PKPab	16 49 49.2	+0.9
LIC	**Lamto**	**153.21 167**	*e*PKIKP	PKPbc	16 49 43.8	+4.8
comp=Z,27nm,0.6s						
LIC	**Lamto**	**153.21 167**	*e*PKPdf	PKPbc	16 49 43.8	+4.8
DBIC	**Dimbokro**	**153.67 167**	PKP	PKPdf	16 49 36.9	+4.7
comp=Z,5.2nm,0.7s,baz=232,slow=0.8,SNR=9.8						
DBIC			PKPbc	PKPbc	16 49 44.8	+4.8
comp=Z,5.2nm,0.4s,baz=156,slow=3.6,SNR=19						
DBIC			PKPab	PKPab	16 49 59.0	+5.7
comp=Z,11nm,0.7s,baz=174,slow=4.1,SNR=3.6						
DBIC	**Dimbokro**	**153.67 167**	*e*PKPdf	PKPdf	16 49 36.7	+4.6
DBIC			PKP	PKPdf	16 49 36.9	+4.7
DBIC			PKPbc	PKPbc	16 49 44.8	+4.8
DBIC			PKPab	PKPab	16 49 59.0	+5.7
SNART	**Snartemo**	**153.89 352**	*e*P	PKPbc	16 49 41.8	+2.7
CRVS	**Cervenica-Dubn**	**157.50 322**	*e*PKP	PKPab	16 50 10.8	+1.9
KECS	**Kecovo**	**158.26 323**	*e*PKP	PKPab	16 50 13.9	+1.7
KSP	**Ksiaz**	**158.47 332**	*e*PKP	PKPab	16 50 14.6	+1.6
VYHS	**Vyhne**	**159.08 325**	*e*PKP	PKPab	16 50 17.5	+1.7
CLL	**Collm**	**159.26 338**	*e*P	PKPab	16 50 18.2	+1.8
comp=Z,10.0nm,0.6s						
CLL	**Collm**	**159.26 338** ⇑	*i*PKPab	PKPab	16 50 18.1	+1.7
comp=Z,15nm,0.7s						
BRG	**Berggiesshubel**	**159.32 336**	*i* P	PKPab	16 50 18.2	+1.5
comp=Z,14nm,0.9s						
BRG			*e*		16 50 35.9	
comp=Z,9.2nm,1.3s						
BRG	**Berggiesshubel**	**159.32 336**	*e*P	PKPab	16 50 18.7	+2.0
comp=Z,5.0nm,0.7s						
CLZ	**Clausthal**	**159.53 343**	*e*P	PKPab	16 50 19.8	+2.2
comp=Z,18nm,1.4s						
IBBN	**Ibbenburen**	**159.66 348**	*e*P	PKPab	16 50 20.2	+2.1
comp=Z,10.0nm,0.7s						
TANN	**Tannenbergstha**	**160.20 337**	*e*P	PKPab	16 50 22.8	+2.2
comp=Z,2.0nm,0.8s						
MOX	**Moxa**	**160.27 339**	*e*P	PKPab	16 50 22.8	+2.0
comp=Z,3.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**160.61 183**	PKPab	PKPab	16 50 28.6	+5.5
comp=Z,6.1nm,0.6s,baz=179,slow=3.5,SNR=21						
TORD	**Torodi Ar. Bea**	**160.61 183**	PKPab	PKPab	16 50 28.6	+5.5
ROTZ	**Rotzenmuhle**	**160.84 337**	*e*P	PKPab	16 50 26.1	+2.7
comp=Z,5.0nm,1.0s						
GEC2	**GERESS Array S**	**161.08 333**	*e*P	PKPab	16 50 26.6	+2.2
comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**161.08 333**	PKPab	PKPab	16 50 26.2	+1.8
comp=Z,2.7nm,0.8s,baz=35,slow=4.9,SNR=10						
GERES	**GERESS Array B**	**161.08 333**	PKPab	PKPab	16 50 26.2	+1.8
WET	**Wettzell**	**161.14 335**	*e*P	PKPab	16 50 27.0	+2.3
comp=Z,3.0nm,1.0s						
GRF	**Grafenberg Arr**	**161.23 338**	*e*P	PKPab	16 50 27.6	+2.6
comp=Z,5.0nm,1.1s						
TNS	**Taunus Mts**	**161.49 344**	*e*P	PKPab	16 50 28.1	+1.9
comp=Z,3.0nm,0.7s						
GIVF	**Givet**	**162.26 351**	*e*PKP2	PKPab	16 50 31.4	+1.9
GIVF	**Givet**	**162.26 351**	*e*PKPab	PKPab	16 50 31.4	+1.9
RJOB	**Jochberg**	**162.33 332**	*e*P	PKPab	16 50 32.5	+2.5
comp=Z,2.0nm,0.8s						
BAIF	**Baives**	**162.37 353**	*e*PKP2	PKPab	16 50 31.3	+1.3
comp=Z,6.4nm,0.7s						
BAIF	**Baives**	**162.37 353**	*e*PKPab	PKPab	16 50 31.3	+1.3
BFO	**Black Forest**	**163.28 342**	*e*P	PKPab	16 50 36.0	+1.9
comp=Z,3.0nm,0.7s						
CDF	**Champ du Feu**	**163.46 345**	*e*PKP2	PKPab	16 50 35.9	+1.1
comp=Z,11nm,0.8s						
CDF	**Champ du Feu**	**163.46 345**	*e*PKPab	PKPab	16 50 35.9	+1.1
MEZF	**Maizieres J'vi**	**163.79 350**	*e*PKP2	PKPab	16 50 37.6	+1.3
MEZF	**Maizieres J'vi**	**163.79 350**	*e*PKPab	PKPab	16 50 37.6	+1.3
HAU	**Haudompre**	**164.04 346**	*e*PKP2	PKPab	16 50 38.4	+1.0
comp=Z,8.5nm,0.5s						
HAU	**Haudompre**	**164.04 346**	*e*PKPab	PKPab	16 50 38.4	+1.0
LOR	**Lormes**	**165.16 352**	*e*PKP2	PKPab	16 50 44.2	+1.8
LOR	**Lormes**	**165.16 352**	*e*PKPab	PKPab	16 50 44.2	+1.8
SSF	**Saint Saulge**	**165.41 352**	*e*PKP2	PKPab	16 50 44.7	+1.3
comp=Z,22nm,0.8s						
SSF	**Saint Saulge**	**165.41 352**	*e*PKPab	PKPab	16 50 44.7	+1.3
CABF	**La Chapelle**	**165.42 345**	*e*PKP2	PKPab	16 50 44.8	+1.3
comp=Z,22nm,1.0s						
CABF	**La Chapelle**	**165.42 345**	*e*PKPab	PKPab	16 50 44.8	+1.3
AVF	**Avril sur Loir**	**165.69 353**	*e*PKP2	PKPab	16 50 45.8	+1.1
comp=Z,11nm,0.8s						
AVF	**Avril sur Loir**	**165.69 353**	*e*PKPab	PKPab	16 50 45.8	+1.1
SMF	**Signal de Mont**	**165.78 351**	*e*PKP2	PKPab	16 50 46.3	+1.2
comp=Z,19nm,0.7s						
SMF	**Signal de Mont**	**165.78 351**	*e*PKPab	PKPab	16 50 46.3	+1.2
TCF	**Toulx Ste Croi**	**166.29 356**	*e*PKP2	PKPab	16 50 48.6	+1.2
comp=Z,6.6nm,0.8s						
TCF	**Toulx Ste Croi**	**166.29 356**	*e*PKPab	PKPab	16 50 48.6	+1.2
LPL	**La Plagne**	**166.30 342**	*e*PKP2	PKPab	16 50 49.4	+2.0
comp=Z,16nm,0.8s						
LPL	**La Plagne**	**166.30 342**	*e*PKPab	PKPab	16 50 49.4	+2.0
LPG	**La Plagne**	**166.31 342**	*e*PKP2	PKPab	16 50 49.7	+2.2
comp=Z,16nm,0.8s						
LPG	**La Plagne**	**166.31 342**	*e*PKPab	PKPab	16 50 49.7	+2.2
ORIF	**Oris-en-Rattie**	**167.07 343**	*e*PKP2	PKPab	16 50 52.6	+1.7
comp=Z,13nm,0.7s						
ORIF	**Oris-en-Rattie**	**167.07 343**	*e*PKPab	PKPab	16 50 52.6	+1.7
ESDC	**Sonseca Array**	**171.99 27**	PKPab	PKPab	16 51 17.2	+4.4
comp=Z,0.1nm,0.3s,baz=332,slow=4.7,SNR=4.1						
ESDC	**Sonseca Array**	**171.99 27**	PKPab	PKPab	16 51 17.2	+4.4

*IDC **26** 16:34:41.4±0.9, 35°.90N×70°.98E, h0km, mb3.9/10, mb1 4.0/14, mb1mx3.8/29, mbtmp3.9/14, ML3.8/4, Error ellipse: s-maj=21.0km s-min=18.4km az=27.0*
*MOS **26** 16:34:47.8±2.8, 36°.22N×71°.17E, h33km, mb4.2/4, Error ellipse: s-maj=12.0km s-min=6.2km az=88.0*
*BJI **26** 16:34:50.2, 36°.46N×70°.71E, h77km, mB4.5/2, mb3.9/5*
*NEIC **26** 16:34:53.4±0.8, 36°.25N×71°.31E, h99km±9km, mb4.1/5, Error ellipse: s-maj=9.6km s-min=5.9km az=55.0*
*ISCJB **26** 16:34:53.5±0.4, 36°.36N±0°.02×71°.31E±0°.05, h111km±6km, mb3.8/14, Error ellipse: s-maj=6.3km s-min=4.0km az=170.0*
*NNC **26** 16:35:00.3±4.4, 36°.88N×70°.74E, h124km±47km, mb3.3, mpv4.2, Error ellipse: s-maj=33.9km s-min=20.7km az=18.0*

ISC 26 16:34:54.7±0.4, **36°32N**±0°.02×**71°36E**±0°.05, **h108**km±5km, **n120**, σ1$39/138, **mb3.8**/14, **10C-10D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.53**	**169**	⇓P	**Pn**	**16 35 36.3**	**+1.9**
CEP				S	**Sn**	**16 36 08.0**	**+3.1**
KBL	**Kabul**	**2.59**	**228**	*e*Pn	**Pn**	**16 35 34.3**	**-0.8**
KBL				*e*Sn	**Sn**	**16 36 06.2**	**-0.1**
KBL	**Kabul**	**2.59**	**228**	*e*PN	**Pn**	**16 35 34.3**	**-0.9**
KBL				*e*		16 36 06.2	
CHCP	**Chirah Chowk**	**3.08**	**149**	P	**Pn**	**16 35 44.7**	**+3.0**
THW	**Thamme Wali**	**3.53**	**175**	P	**Pn**	**16 35 49.0**	**+1.3**
KSH	**Kashi**	**4.85**	**47**	P	**Pn**	**16 36 03.8**	**-1.6**
KSH				S	**Sn**	**16 36 52.5**	**-7.9**
KSH				smax			
comp=N,290nm,0.6s							
KSH				smax			
comp=E,250nm,0.7s							
THN	**Thein Dam**	**5.29**	**136**	*e*PKP	**Pn**	**16 36 13.7**	**+2.3**
THN				*e*S	**Sn**	**16 37 11.8**	**+0.7**
AML	**Almayashu**	**6.08**	**17**	P	**Pn**	**16 36 23.3**	**+1.2**
SNR=21							
AML				P		16 36 23.3	
SNR=21							
UCH	**Uchtor**	**6.39**	**22**	P	**Sn**	**16 37 37.0**	**-0.7**
SNR=7.8							
UCH				P		16 37 37.0	
SNR=7.8							
EKS2	**Erkin-Say**	**6.61**	**16**	P	**Pn**	**16 36 31.0**	**+1.8**
SNR=23							
EKS2				P		16 36 31.0	
SNR=23							
EKS2	**Erkin-Say**	**6.61**	**16**	*e*Pn	**Pn**	**16 36 30.0**	**+0.8**
comp=E,6.7nm,0.5s							
EKS2				*e*S	**Sn**	**16 37 40.4**	**-2.6**
EKS2	**Erkin-Say**	**6.61**	**16**	*e*PN	**Pn**	**16 36 30.0**	**+0.8**
EKS2				pmax	pmax		
comp=Z,7.0nm,0.5s							
SDNR	**Sundarnagar**	**6.70**	**134**	*e*S	**Sn**	**16 37 42.6**	**-2.7**
AAK	**Ala-Archa**	**6.76**	**20**	P	**Pn**	**16 36 32.4**	**+1.2**
SNR=18							
AAK				P		16 36 32.4	
SNR=18							
AAK	**Ala-Archa**	**6.76**	**20**	*e*Pn	**Pn**	**16 36 32.2**	**+1.0**
comp=Z,82nm,0.3s							
AAK	**Ala-Archa**	**6.76**	**20**	*c i*PN	**Pn**	**16 36 32.5**	**+1.3**
KK31	**Karatay Array**	**6.81**	**355**	⇓P	**Pn**	**16 36 30.5**	**-1.4**
comp=Z,7.4nm,0.3s,baz=175,slow=12,SNR=363							
KK31				⇑S	**Sn**	**16 37 40.8**	**-7.0**
comp=Z,28nm,0.6s,baz=188,slow=25,SNR=4.1							
KK31	**Karatay Array**	**6.81**	**355**	*ce*PN	**Pn**	**16 36 30.5**	**-1.4**
KK31				pmax	pmax		
comp=Z,19nm,0.2s							
KKAR	**Karatay Array**	**6.81**	**355**	*e*Pn	**Pn**	**16 36 30.4**	**-1.4**
comp=Z,25nm,0.3s							
KKAR				*e*Sn	**Sn**	**16 37 40.5**	**-7.3**
KKAR	**Karatay Array**	**6.81**	**355**	*e*PN	**Pn**	**16 36 30.5**	**-1.4**
KKAR				pmax	pmax		
comp=Z,25nm,0.3s							
SMLA	**Simla**	**7.08**	**135**	*i* P	**Pn**	**16 36 36.0**	**+0.2**
SMLA				*i* S	**Sn**	**16 37 52.7**	**-2.0**
SMLA				⇓AML	AML	16 37 56.8	
comp=E,1μm,0.3s							
SMLA				⇓AML	AML	16 37 58.6	
comp=N,1μm,0.2s							
CHMS	**Chumysh**	**7.17**	**20**	P	**Pn**	**16 36 37.8**	**+1.0**
SNR=10.0							
CHMS				P		16 36 37.8	
SNR=10.0							
USP	**Ospenovka**	**7.35**	**18**	P	**Pn**	**16 36 40.6**	**+1.4**
SNR=5.0							
USP				P		16 36 40.6	
SNR=5.0							
TKM2	**Tokmak 2**	**7.36**	**25**	P	**Pn**	**16 36 40.6**	**+1.2**
SNR=6.9							
TKM2				P		16 36 40.6	
SNR=6.9							
TKM2	**Tokmak 2**	**7.36**	**25**	⇑P	**Pn**	**16 36 40.4**	**+1.0**
comp=N,12nm,0.7s							
TKM2				⇓S	**Sn**	**16 38 01.6**	**+0.3**
comp=N,7.3nm,0.7s							
TKM2	**Tokmak 2**	**7.36**	**25**	*e*Pn	**Pn**	**16 36 40.4**	**+1.0**
comp=N,14nm,0.5s							
TKM2	**Tokmak 2**	**7.36**	**25**	*e*P	**Pn**	**16 36 40.4**	**+1.0**
TKM2				pmax	pmax		
comp=Z,14nm,0.5s							
DDI	**Dehra Dun**	**8.19**	**135**	*ex*	**Sn**	**16 38 26.0**	**+4.4**
KHET	**Khetri**	**9.04**	**154**	*e*S	**Sn**	**16 38 35.6**	**-6.7**
KHET				AML	AML	16 38 39.3	
comp=N,25nm,0.4s							
KHET				AML	AML	16 38 40.5	
comp=E,24nm,0.5s							
KUDL	**Kundal**	**9.23**	**150**	*e*S	**Sn**	**16 38 39.6**	**-7.3**
KUDL				AML	AML	16 38 45.9	
comp=N,16nm,0.4s							
KUDL				AML	AML	16 38 46.0	
comp=E,19nm,0.3s							
AGRA	**Agra**	**10.65**	**146**	*e*S	**Sn**	**16 39 12.5**	**-8.8**
AGRA				AML	AML	16 39 37.8	
comp=N,83nm,0.4s							
AGRA				AML	AML	16 39 45.4	
comp=E,50nm,0.6s							
DANN	**Dangsing**	**13.15**	**124**	*e*P	**Pn**	**16 37 56.0**	**-1.2**
comp=E,9.2nm,0.4s							
DANN				*e*S	**Sn**	**16 40 14.0**	**-7.9**
DANN	**Dangsing**	**13.15**	**124**	*e*P	**Pn**	**16 37 56.0**	**-1.2**
comp=E,9.2nm,0.4s							
DANN				*e*S	**Sn**	**16 40 14.0**	**-7.9**
MK31	**Makanchi Array**	**13.28**	**35**	⇓P	**Pn**	**16 37 59.5**	**+0.8**
comp=E,1.8nm,0.8s,baz=216,slow=13,SNR=6.0							
MK31	**Makanchi Array**	**13.28**	**35**	*e*Pn	**Pn**	**16 37 59.1**	**+0.4**
MK31	**Makanchi Array**	**13.28**	**35**	*e*P	**Pn**	**16 37 59.1**	**+0.4**
MKAR	**Makanchi Array**	**13.28**	**35**	Pn	**Pn**	**16 37 59.6**	**+1.0**
comp=E,0.1nm,0.3s,baz=218,slow=13,SNR=7.5							
MKAR	**Makanchi Array**	**13.28**	**35**	Pn	**Pn**	**16 37 59.6**	**+1.0**
MKAR	**Makanchi Array**	**13.28**	**35**	P	**Pn**	**16 37 59.7**	**+1.0**
KOLN	**Koldanda**	**13.42**	**126**	*e*P	**Pn**	**16 37 57.9**	**-2.9**
KOLN	**Koldanda**	**13.42**	**126**	*e*P	**Pn**	**16 37 57.9**	**-2.9**
GKN	**Gorkha**	**13.96**	**123**	*e*P	**Pn**	**16 38 06.2**	**-1.6**
comp=E,14nm,0.5s							
GKN	**Gorkha**	**13.96**	**123**	*e*P	**Pn**	**16 38 06.2**	**-1.6**
comp=E,14nm,0.5s							
KKN	**Kakani**	**14.54**	**122**	*e*P	**Pn**	**16 38 14.0**	**-1.1**
KKN	**Kakani**	**14.54**	**122**	*e*P	**Pn**	**16 38 14.0**	**-1.1**
KKN	**Kakani**	**14.54**	**122**	*e*P	**Pn**	**16 38 14.0**	**-1.1**
WMQ	**Urumqi**	**14.57**	**54**	*e*P	**Pn**	**16 38 17.0**	**+1.6**
PKI	**Pulchoki**	**14.76**	**122**	*e*P	**Pn**	**16 38 17.5**	**-0.5**
PKI	**Pulchoki**	**14.76**	**122**	*e*P	**Pn**	**16 38 17.5**	**-0.5**
PKI	**Pulchoki**	**14.76**	**122**	*e*P	**Pn**	**16 38 17.5**	**-0.5**
GUN	**Gumba**	**14.88**	**120**	*e*P	**Pn**	**16 38 19.2**	**-0.2**
comp=E,7.7nm,0.3s							
GUN	**Gumba**	**14.88**	**120**	*e*P	**Pn**	**16 38 19.2**	**-0.2**
comp=E,7.7nm,0.3s							
KURBB	**Kurchatov Arra**	**15.21**	**18**	⇓P	**Pn**	**16 38 24.4**	**+1.0**
comp=E,0.7nm,0.8s							
JIRN	**Jiri**	**15.25**	**120**	*e*P	**Pn**	**16 38 23.4**	**-0.7**
comp=E,3.0nm,0.3s							
JIRN	**Jiri**	**15.25**	**120**	*e*P	**Pn**	**16 38 23.4**	**-0.7**
comp=E,3.0nm,0.3s							
KURK	**Kurchatov**	**15.32**	**18**	Pn	**Pn**	**16 38 22.5**	**-2.2**
comp=E,0.1nm,0.3s,baz=203,slow=11,SNR=16							
KURK	**Kurchatov**	**15.32**	**18**	⇑P	**Pn**	**16 38 23.8**	**-0.9**
comp=E,14nm,2.9s							
KURK	**Kurchatov**	**15.32**	**18**	Pn	**Pn**	**16 38 22.5**	**-2.2**
KURK	**Kurchatov**	**15.32**	**18**	*e*P	**Pn**	**16 38 26.0**	**+1.3**
KURK				pmax	pmax		
comp=Z,2.0nm,0.8s							
AB31	**Akbulak array**	**15.38**	**331**	⇑P	**Pn**	**16 38 21.7**	**-4.0**
comp=Z,1.4nm,0.3s,baz=146,slow=12,SNR=124							
AB31				⇓S	S	16 40 59.8	-25
comp=Z,4.7nm,0.6s,baz=155,slow=23,SNR=11							
AB31	**Akbulak array**	**15.38**	**331**	*i* P	**Pn**	**16 38 21.7**	**-3.9**
AB31				pmax	pmax		
comp=Z,1.0nm,0.3s							
ABKAR	**Akbulak array**	**15.38**	**331**	*e*Pn	**Pn**	**16 38 21.1**	**-4.5**
comp=Z,3.9nm,0.3s							
ABKAR				*e*Sn	**Sn**	**16 40 57.2**	**-18**
RAMN	**Ramite**	**15.97**	**121**	*e*P	**Pn**	**16 38 32.1**	**-1.1**
comp=Z,8.2nm,0.5s							
RAMN	**Ramite**	**15.97**	**121**	*e*P	**Pn**	**16 38 32.1**	**-1.1**
comp=Z,8.2nm,0.5s							
TAPN	**Taplejung**	**16.51**	**118**	*e*P	**Pn**	**16 38 40.2**	**+0.5**
comp=Z,13nm,0.7s							
TAPN	**Taplejung**	**16.51**	**118**	*e*P	**Pn**	**16 38 40.2**	**+0.5**
comp=Z,13nm,0.7s							
ODAN	**Odare**	**16.58**	**120**	*e*P	**Pn**	**16 38 40.7**	**+0.1**
ODAN	**Odare**	**16.58**	**120**	*e*P	**Pn**	**16 38 40.7**	**+0.1**
ZRNK	**Zerenda**	**16.71**	**355**	⇓P	**Pn**	**16 38 40.2**	**-1.9**
comp=Z,2.6nm,0.8s							
BVA0	**Borovoye Array**	**16.72**	**358**	P	**Pn**	**16 38 40.8**	**-1.3**
comp=Z,0.4nm,0.8s,baz=166,slow=11,SNR=14							
BVA0	**Borovoye Array**	**16.72**	**358**	*e*P	**Pn**	**16 38 40.7**	**-1.4**
BVAR	**Borovoye Array**	**16.72**	**358**	P	**Pn**	**16 38 40.9**	**-1.2**
comp=Z,0.5nm,0.3s,baz=161,slow=8.5,SNR=8.4							
BVAR				S	**S**	**16 41 38.7**	**-10**
comp=Z,0.3nm,0.3s,baz=168,slow=21,SNR=4.9							
BVAR	**Borovoye Array**	**16.72**	**358**	P	**Pn**	**16 38 40.9**	**-1.2**
BVAR				S	**S**	**16 41 38.7**	**-10**
BVAR	**Borovoye Array**	**16.72**	**358**	P	**Pn**	**16 38 40.9**	**-1.2**
BVAR				S	**S**	**16 41 38.7**	**-10**
BRVK	**Borovoye**	**16.76**	**358**	⇑P	**Pn**	**16 38 41.8**	**-0.8**
comp=Z,2.0nm,0.7s							
AKTO	**Aktyubinsk**	**17.08**	**330**	P	**Pn**	**16 38 44.1**	**-2.4**
comp=Z,1.1nm,0.3s,baz=135,slow=13,SNR=26							
AKTO				S	**S**	**16 41 42.2**	**-15**
comp=Z,0.3nm,0.3s,baz=17,slow=19,SNR=8.1							
AKTO	**Aktyubinsk**

JAG	**Ashikaga**	2.27 271	P	Pn	16 38 50.4	-1.1
JAG			eS	Sn	16 39 18.8	-0.7
JFY	**Yanaizu**	2.27 296	eS	Sn	16 39 19.8	+0.1
JMK	**Ichinoseki**	2.66 342	eS	Sn	16 39 29.5	+0.4
JRY	**Ryogami san**	2.75 262	P	Pn	16 38 57.7	-0.5
JRY			eS	Sn	16 39 31.7	+0.3
MJAR	**Matsushiro Arr**	3.27 273	Pn	Pn	16 39 06.3	+0.9
	0.6nm,0.3s,baz=92,slow=8.5,SNR=9.1					
MJAR	**Matsushiro Arr**	3.27 273	Pn	Pn	16 39 06.3	+0.9
MAJO	**Matsushiro**	3.27 273	ePn	Pn	16 39 06.4	+1.0
MAT	**Matsushiro**	3.27 273	P	Pn	16 39 06.2	+0.8
MAT			eS	Sn	16 39 47.5	+3.2
SONM	**Songino Array**	28.69 305	P	P	16 44 10.8	-0.2
	0.4nm,0.6s,mb3.3,baz=110,slow=7.4,SNR=3.9					
SONM	**Songino Array**	28.69 305	P	P	16 44 10.8	-0.2
ZALV	**Zalesovo Beam**	42.83 313	P	P	16 46 11.0	-0.9
	0.3nm,0.3s,mb3.5,baz=76,slow=6.5,SNR=2.5					
ZALV	**Zalesovo Beam**	42.83 313	P	P	16 46 11.0	-0.9
MKAR	**Makanchi Array**	45.02 303	P	P	16 46 27.6	-2.1
	0.4nm,0.8s,mb3.3,baz=88,slow=10,SNR=2.5					
MKAR	**Makanchi Array**	45.02 303	P	P	16 46 27.6	-2.1
KURK	**Kurchatov**	46.84 309	P	P	16 46 42.6	-1.4
	0.4nm,0.7s,mb3.4,baz=81,slow=7.6,SNR=4.3					
KURK	**Kurchatov**	46.84 309	P	P	16 46 42.6	-1.4
ASAR	**Alice Springs**	60.28 189	P	P	16 48 33.0	+10
	0.2nm,0.7s,mb3.3,baz=13,slow=8.9,SNR=4.6					
ASAR	**Alice Springs**	60.28 189	P	P	16 48 33.0	+10

SZGRF ***26*** *16:38:45.1,69.°14N×60.°41W,h10km,mb4.3,Baffin Bay*
BJI ***26*** *16:38:46.7,68.°10N×58.°90W,h10km,mB5.3/21,mb4.9/31,Ms4.9/13,Ms7 4.7/13*
IDC ***26*** *16:38:47.9±0.4,68.°14N×58.°98W,h0km,mb4.4/28,mb1 4.6/30,mb1mx4.5/36,mbtmp4.4/30,ML3.7/2,MS4.0/20,Ms1 4.0/20,ms1mx3.7/55,Error ellipse: s-maj=13.6km s-min=8.9km az=164.0*
OTT ***26*** *16:38:48.4±0.4,68.°12N×59.°06W,h18km,mb5.1/4,Davis Strait. 221km east from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*
ISCJB ***26*** *16:38:48.2±0.1,68.°21N±0.°03×58.°95W±0.°05,h10km, mb4.7/117,MS4.1/23,Error ellipse: s-maj=5.2km s-min=2.1km az=162.6*
NEIC ***26*** *16:38:49.6±0.1,68.°18N×59.°01W,h10km,mb4.9/64,Error ellipse: s-maj=5.2km s-min=3.1km az=170.0*
ISC 26 16:38:50.0±0.1,68.°20N±0.°03×58.°93W±0.°05,h10km, (h17km±2.1km:pP-P),n435,σ0°69/456,mb4.7/117, MS4.1/23,96C-83D,Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	3.40	107	⇓eP	n	P	16 39 41.3	-1.7
SFJD				eS	n	S	16 40 19.0	-4.4
SFJD	**Kangerlussuaq**	3.40	107	PN	n	P	16 39 41.4	-1.6
SFJD				SN	n	S	16 40 18.9	-4.4
SFJD				Trac			16 40 23.9	
	comp=Z,6μm,0.3s							
SFJD	**Kangerlussuaq**	3.40	107	i P	n	P	16 39 41.3	-1.7
SFJD				i S	n	S	16 40 18.8	-4.6
FRB	**Frobisher Bay**	5.94	226	Pn	n	P	16 40 15.1	-2.8
	6.0nm,0.3s,baz=20,slow=11,SNR=51							
FRB				Sn	n	S	16 41 16.6	-9.3
	70nm,0.3s,baz=288,slow=21,SNR=12							
FRB	**Frobisher Bay**	5.94	226	Pn	n	P	16 40 15.1	-2.8
FRB				Sn	n	S	16 41 16.6	-9.3
FRB	**Frobisher Bay**	5.94	226	PN	n	P	16 40 14.8	-3.1
FRB				SN	n	S	16 41 17.1	-8.8
FRB				Trac			16 41 33.9	
	comp=Z,593nm,0.4s							
SUMG	**Summit**	8.13	48	ePn	n	P	16 40 43.8	-4.1
SUMG				eSn	n	S	16 42 13.3	-6.4
SUMG	**Summit**	8.13	48	i P	n	P	16 40 44.3	-3.6
SUMG				i S	n	S	16 42 11.3	-8.4
RES	**Resolute Bay**	12.94	316	Pn	n	P	16 41 48.1	-5.5
	0.6nm,0.3s,baz=104,slow=9.3,SNR=22							
RES				LR	LR	LR	16 47 20.2	
	comp=Z,264nm,19.6s,baz=154,slow=40							
RES	**Resolute Bay**	12.94	316	Pn	n	P	16 41 48.1	-5.5
RES	**Resolute Bay**	12.94	316	PN	n	P	16 41 49.7	-3.9
RES				SN	n	S	16 44 05.3	-12
RES				Trac			16 44 48.6	
	comp=Z,182nm,1.7s							
INUQ	**Inukjuak**	12.96	230	PN	n	P	16 41 47.9	-5.9
INUQ				SN	n	S	16 43 59.2	-19
INUQ				Trac			16 44 21.4	
	comp=Z,126nm,1.1s							
SCO	**Scoresbysund**	13.11	63	i P	n	P	16 41 49.9	-6.0
SCO				i S	n	S	16 44 02.8	-19
SCHQ	**Schefferville**	13.91	199	Pn	n	P	16 42 01.5	-5.4
	2.1nm,0.3s,baz=16,slow=8.6,SNR=23							
SCHQ				Sn	n	S	16 44 31.6	-10
	2.9nm,0.3s,baz=163,slow=15,SNR=4.2							
SCHQ	**Schefferville**	13.91	199	ePn	n	P	16 42 02.1	-4.8
	8.5nm,0.4s							
SCHQ				Sn	n	S	16 44 31.6	-10
SCHQ	**Schefferville**	13.91	199	PN	n	P	16 42 02.4	-4.6
SCHQ				mb			16 42 08.8	
	comp=Z,62nm,0.6s							
SCHQ				SN	n	S	16 44 30.1	-11
DAG	**Danmarks Havn**	14.46	37	i P	n	P	16 42 08.7	-5.6
DAG				eS	n	S	16 44 40.1	-14
DAG				i S	n	S	16 44 46.6	-7.8
LG4Q	**La Grande 4**	16.29	214	Pn	n	P	16 42 29.9	-8.6
LG4Q				Sn	n	S	16 45 20.6	-18
LG4Q	**La Grande 4**	16.29	214	PN	n	P	16 42 29.9	-8.6
LG4Q				SN	n	S	16 45 19.9	-19
LG4Q				Trac			16 45 25.1	
	comp=Z,106nm,0.5s							
ARVN	**Arviat, NU**	16.43	261	eP	n	P	16 42 34.1	-6.2
ARVN				Sn	n	S	16 45 24.5	-18
ARVN	**Arviat, NU**	16.43	261	PN	n	P	16 42 33.1	-7.1
ARVN				SN	n	S	16 45 23.8	-18
ARVN				Trac			16 45 38.6	
	comp=Z,528nm,1.9s							
YOSQ	**Ashton Mining**	16.64	209	PN	n	P	16 42 34.7	-8.2
YOSQ				SN	n	S	16 45 28.0	-19
YOSQ				Trac			16 45 35.8	
	comp=Z,123nm,0.8s							
JMIC	**Jan Mayen**	17.38	58	LR	LR		16 48 60.0	
	comp=Z,533nm,19.3s,baz=279,slow=35							
WEMQ	**Wemindji, Queb**	17.69	220	PN	n	P	16 42 48.4	-7.8
WEMQ				SN	n	S	16 45 50.9	-22
FCC	**Fort Churchill**	18.04	256	PN	n	P	16 42 55.1	-5.3
FCC				mb			16 43 06.6	
	comp=Z,70nm,0.8s							
FCC				SN	n	S	16 46 02.0	-19
FCC				Trac			16 46 17.2	
	comp=Z,136nm,0.8s							
NATG	**Natashquan Que**	18.07	188	PN	n	P	16 42 59.2	-1.6
SILO	**Sutton Inlier**	18.33	234	PN	n	P	16 42 57.8	-6.2
SILO				SN	n	S	16 46 05.0	-23
SILO				Trac			16 46 29.1	
	comp=Z,273nm,1.4s							
MNQ	**Manicouagan**	18.37	200	PN	n	P	16 43 00.8	-3.6
MNQ				mb			16 43 10.1	
	comp=Z,23nm,0.4s							
MNQ				SN	n	S	16 46 11.7	-18
MNQ				Trac			16 47 27.8	
	comp=Z,33nm,0.6s							
SMQ	**Clarke City**	18.43	196	PN	n	P	16 43 01.4	-3.9
SMQ				mb			16 43 11.2	
	comp=Z,102nm,0.9s							
SMQ				SN	n	S	16 46 14.8	-16
SMQ				Trac			16 46 44.5	
	comp=Z,18nm,0.6s							
ICQ	**Pointe Anglais**	19.19	197	PN	n	P	16 43 10.3	-4.1
ICQ				SN	n	S	16 46 30.7	-18
VIMO	**Victor Mine**	19.44	230	PN	n	P	16 43 12.1	-5.3
VIMO				SN	n	S	16 46 31.7	-23
VIMO				Trac			16 46 43.8	
	comp=Z,102nm,0.6s							
CHGQ	**Chibougamau**	19.87	210	PN	n	P	16 43 20.1	-2.4
CHGQ				SN	n	S	16 46 46.5	-19
SPITS	**Spitsbergen Ar**	22.00	32	P	n	P	16 43 45.0	+1.3
	30nm,1.1s,mb4.7,baz=178,slow=5.8,SNR=5.8							
SPITS	**Spitsbergen Ar**	22.00	32	P	n	P	16 43 45.0	+1.3
PQI	**Presque Isle**	22.08	197	eP	n	P	16 43 44.5	-0.3
	58nm,0.8s,mb5.1							
YKA	**Yellowknife Ar**	23.17	283	P	n	P	16 43 54.0	-2.1
	12nm,0.8s,mb4.4,baz=49,slow=10,SNR=157							
YKA				S	n	S	16 48 10.3	+3.1
	5.2nm,0.6s,baz=63,slow=21,SNR=5.1							
YKA				LR	LR	LR	16 52 57.7	
	comp=Z,49nm,19.5s,MS3.0,baz=175,slow=37							
YKA	**Yellowknife Ar**	23.17	283	P	n	P	16 43 54.0	-2.1
YKA				S	n	S	16 48 10.3	+3.1
PKME	**Peaks-Kenny Pk**	23.62	198	eP	n	P	16 44 00.4	-0.5
	26nm,0.8s,mb4.7							
FFC	**Flin Flon**	23.94	257	ePn	n	P	16 44 01.5	-2.4
	41nm,0.7s,mb5.0							
FFC				eSn	n	S	16 48 36.7	+17
ULM	**Lac du Bonnet**	25.46	244	P	n	P	16 44 16.1	-1.6
	30nm,0.8s,mb4.9,baz=33,slow=8.9,SNR=36							
ULM				S	n	S	16 48 49.9	+5.5
	5.9nm,0.5s,baz=299,slow=19,SNR=2.8							
ULM				LR	LR	LR	16 53 55.5	
	comp=Z,290nm,21.5s,MS3.8,baz=337,slow=36							
ULM	**Lac du Bonnet**	25.46	244	eP	n	P	16 44 15.4	-2.2
	25nm,0.8s,mb4.8							
ULM				S	n	S	16 48 49.9	+5.5
SADO	**Sadowa**	25.74	215	P	n	P	16 44 18.7	-1.5
	6.4nm,1.0s,mb4.1,baz=14,slow=9.9,SNR=3.0							
SADO				S	n	S	16 48 56.8	+7.9
	6.8nm,0.8s,baz=288,slow=18,SNR=2.4							
SADO				LR	LR	LR	16 54 11.9	
	comp=Z,162nm,21.5s,MS3.5,baz=17,slow=36							
SADO	**Sadowa**	25.74	215	P	n	P	16 44 18.7	-1.5
SADO				S	n	S	16 48 56.8	+7.9
INK	**Inuvik**	26.10	305	P	n	P	16 44 21.5	-1.8
	9.9nm,1.0s,mb4.3,baz=49,slow=11,SNR=25							
INK				LR	LR	LR	16 54 58.5	
	comp=Z,546nm,18.7s,MS4.1,baz=42,slow=37							
INK	**Inuvik**	26.10	305	P	n	P	16 44 21.5	-1.8
AGMN	**Agassiz Nation**	27.14	242	eP	n	P	16 44 31.7	-1.2
	22nm,0.6s,mb4.9							
ARCES	**ARCESS Array B**	28.23	48	P	n	P	16 44 42.3	-0.1
	3.6nm,0.6s,mb4.2,baz=312,slow=8.0,SNR=4.1							
ARCES				LR	LR	LR	16 56 24.0	
	comp=Z,432nm,18.7s,MS4.1,baz=352,slow=37							
ARCES	**ARCESS Array B**	28.23	48	P	n	P	16 44 42.3	-0.1
DLF	**Lyons Farm**	28.51	95	eP	n	P	16 44 43.5	-1.6
MDND	**Maddock**	28.78	246	⇑P	n	P	16 44 47.2	-0.3
	baz=29							
SPMN	**St. Paul**	28.90	235	⇑P	n	P	16 44 48.0	-0.6
	baz=29							
NOA	**NORSAR Array B**	29.30	69	P	n	P	16 44 51.1	-0.9
	2.4nm,0.8s,mb4.0,baz=308,slow=7.9,SNR=4.8							
NOA				LR	LR	LR	16 54 14.2	
	comp=Z,143nm,20.9s,MS3.6,baz=275,slow=32							
NOA	**NORSAR Array B**	29.30	69	P	n	P	16 44 51.1	-0.9
B23A	**Brockton**	30.14	253	⇑P	n	P	16 44 59.3	-0.2
	baz=30							
A21A	**Bergtoll Ranch**	30.39	255	⇑P	n	P	16 45 01.8	+0.1
	baz=30							
C23A	**Lambert**	30.77	252	⇓P	n	P	16 45 05.1	+0.1
	baz=31							
A20A	**Cobblestone Ra**	30.84	256	⇑P	n	P	16 45 06.3	+0.6
	baz=31							
C22A	**Vida**	31.07	253	⇑P	n	P	16 45 07.9	+0.2
	baz=31							
B20A	**Solberg Farm,**	31.25	256	⇑P	n	P	16 45 09.4	+0.1
	baz=31,SNR=6.6							
A18A	**Metzger Ranch,**	31.51	258	⇑P	n	P	16 45 11.4	-0.2
	baz=31							
COLD	**Coldfoot**	31.66	312	eP	n	P	16 45 12.8	+0.1
	17nm,0.9s,mb4.9							
SFIN	**Scholer Farm**	31.77	223	⇓P	n	P	16 45 14.4	+0.4
	baz=32							
C20A	**Veseth Ranch,**	31.85	255	⇓P	n	P	16 45 14.6	-0.1
	baz=32							
B18A	**Beardsley Farm**	31.92	258	⇓P	n	P	16 45 15.1	-0.2
	baz=32							
A16A	**West Butte Ran**	32.13	260	⇓P	n	P	16 45 16.3	-0.7
	baz=32,SNR=8.6							
B17A	**L&G Farms, Che**	32.38	259	⇑P	n	P	16 45 19.3	0.0
	baz=32							
D20A	**Manuel Ranch,**	32.43	255	⇓P	n	P	16 45 19.5	-0.2
	baz=32							
ILAR	**Eielson Array**	32.46	307	P	n	P	16 45 20.4	+0.6
	12nm,0.9s,mb4.7,baz=38,slow=7.7,SNR=91							
ILAR				PcP	PcP	PcP	16 48 06.0	-0.4
	3.4nm,0.8s,baz=11,slow=2.8,SNR=9.7							
ILAR				LR	LR	LR	16 58 59.1	
	comp=Z,299nm,18.9s,MS4.0,baz=41,slow=37							
ILAR	**Eielson Array**	32.46	307	P	n	P	16 45 20.4	+0.6
ILAR				PcP	PcP	PcP	16 48 06.0	-0.4
A15A	**Johnson Ranch,**	32.52	261	⇑P	n	P	16 45 20.7	+0.1
	baz=32							
B16A	**M & M Farms, S**	32.62	260	⇑P	n	P	16 45 21.3	0.0
	baz=32							
F23A	**Volborg**	32.63	250	⇑P	n	P	16 45 21.2	-0.2
	baz=32							
D19A	**Cripps Ranch,**	32.63	256	⇑P	n	P	16 45 21.8	+0.3
	baz=32,SNR=11							
COLA	**College**	32.67	308	eP	n	P	16 45 19.7	-1.9
	33nm,1.1s,mb5.2							
A14A	**Double T Ranch**	32.78	262	⇓P	n	P	16 45 22.6	-0.2
	baz=33							
F22A	**Rosebud**	32.88	251	⇑P	n	P	16 45 23.6	-0.1
	baz=33							
C17A	**Wharram Farm,**	32.92	258	⇓P	n	P	16 45 23.5	-0.5
	baz=33,SNR=7.6							
B15A	**Bradely Ranch,**	33.01	261	⇑P	n	P	16 45 24.3	-0.5
	baz=33							
C16A	**Fuhringer Ranc**	33.14	259	⇓P	n	P	16 45 25.4	-0.5
	baz=33,SNR=5.4							
H24A	**Dirks Ranch, A**	33.18	249	⇓P	n	P	16 45 26.7	+0.4
	baz=33							
E19A	**Rath Farm, Rou**	33.20	255	⇑P	n	P	16 45 26.7	+0.2
	baz=33							
B14A	**Marquette Ranc**	33.24	261	⇑P	n	P	16 45 26.5	-0.2
	baz=33							
D17A	**Six Diamond Ra**	33.30	257	⇓P	n	P	16 45 27.2	-0.1
	baz=33							
C15A	**Salmond Ranch,**	33.48	260	⇑P	n	P	16 45 28.6	-0.3
	baz=33							
E18A	**Harlowton**	33.52	256	⇑P	n	P	16 45 29.5	+0.2
	baz=33							
F20A	**Billings**	33.54	253	⇓P	n	P	16 45 29.3	-0.1
	baz=33							
RSSD	**Black Hills**	33.55	247	eP	n	P	16 45 29.4	0.0
	5.8nm,0.7s,mb4.6							
KAF	**Kangasniemi**	33.57	58	ep	n	P	16 45 27.3	-2.2
	4.0nm,0.6s,mb4.5							
A12A	**Yaak River Ran**	33.64	264	⇓P	n	P	16 45 30.1	-0.1
	baz=34							
G21A	**Lodge Grass**	33.70	252	⇓P	n	P	16 45 30.6	-0.1
	baz=34							
D16A	**Dana Ranch, Ca**	33.72	258	⇓P	n	P	16 45 31.0	0.0
	baz=34							
BLMT	**Blacktail Moun**	33.93	262	eP	n	P	16 45 32.7	-0.1
	15nm,0.7s,mb5.0							
E17A	**Martinsdale**	33.95	257	⇓P	n	P	16 45 33.0	0.0
	baz=34							
FINES	**FINESS Array B**	33.99	59	P	n	P	16 45 32.4	-0.8
	3.4nm,0.6s,mb4.4,baz=331,slow=11,SNR=22							
FINES				PcP	PcP	PcP	16 48 10.7	0.0
	3.3nm,0.8s,baz=335,slow=2.1,SNR=6.3							
FINES				LR	LR	LR	16 58 15.3	
	comp=Z,393nm,20.6s,MS4.1,baz=157,slow=34							
FINES	**FINESS Array B**	33.99	59	P	n	P	16 45 32.4	-0.8
FINES				PcP	PcP	PcP	16 48 10.7	0.0
F18A	**Big Timber**	34.01	255	⇓P	n	P	16 45 33.5	0.0
	baz=34,SNR=7.3							
BGNE	**Belgrade**	34.01	238	⇑P	n	P	16 45 33.7	+0.1
	baz=34							
G20A	**Bridger**	34.06	253	⇑P	n	P	16 45 34.4	+0.5
	baz=34							
D15A	**Lincoln**	34.07	259	⇑P	n	P	16 45 34.1	+0.1
	baz=34							
QUIF	**Quistinic**	34.13	98	eP	n	P	16 45 35.3	+0.7
QUIF	**Quistinic**	34.13	98	eP	n	P	16 45 35.3	+0.7
SWMT	**Swartz Lake**	34.22	261	eP	n	P	16 45 36.2	+0.9
	3.2nm,0.8s,mb4.3							
F17A	**Fitzpatrick Pl**	34.35	256	⇓P	n	P	16 45 36.9	+0.5
	baz=34							
FLN	**La Foliniere**	34.43	94	eP	n	P	16 45 36.9	-0.2
	28nm,0.9s,mb4.9							
FLN				eR				
	388nm,17.5s							
FLN	**La Foliniere**	34.43	94	eP	n	P	16 45 36.9	-0.2
	28nm,0.9s,mb5.2							
G18A	**Lazy EL Ranch,**	34.46	255	⇓P	n	P	16 45 37.4	0.0
	baz=34							
JOF	**Joensuu**	34.51	54	ep	n	P	16 45 37.0	-0.7
	2.8nm,0.6s,mb4.4							
RLMT	**Red Lodge**	34.52	254	⇓P	n	P	16 45 36.4	-1.5
	baz=34							
C12B	**Naegeli Ranch,**	34.59	263	⇑P	n	P	16 45 38.0	-0.5
	baz=34							
GRR	**Gorron**	34.60	95	eP	n	P	16 45 38.7	+0.1
	50nm,1.1s,mb5.1							
GRR	**Gorron**	34.60	95	eP	n	P	16 45 38.7	+0.1
	50nm,1.0s,mb5.4							
I22A	**9 Mile Ranch,**	34.60	250	⇑P	n	P	16 45 37.9	-0.8
	baz=34							
H20A	**Greybull**	34.62	252	⇑P	n	P	16 45 38.6	-0.2
	baz=34							
IBBN	**Ibbenburen**	34.62	83	eP	n	P	16 45 39.5	+0.8
	comp=Z,7.0nm,0.7s,mb4.7							
E15A	**Deer Lodge**	34.63	259	⇓P	n	P	16 45 38.2	-0.7
	baz=34							
LDF	**La Druitiere**	34.70	94	eP	n	P	16 45 39.3	-0.2
	comp=Z,18nm,0.6s,mb4.9							
LDF	**La Druitiere**	34.70	94	eP	n	P	16 45 39.3	-0.2
	comp=Z,18nm,0.6s,mb5.2							
D13A	**Huson**	34.73	261	⇑P	n	P	16 45 39.6	-0.2
	baz=35							
SNF	**Seneffe**	34.78	88	P	n	P	16 45 39.1	-1.0
F16A	**Kennard Place,**	34.81	257	⇓P	n	P	16 45 40.4	0.0
	baz=35							
H19A	**Powell**	34.81	253	⇓P	n	P	16 45 40.4	0.0
	baz=35							
K25A	**Mack Ranch, Ha**	34.82	246	⇑P	n	P	16 45 41.4	+0.9
	baz=35							
E14A	**Clinton**	34.95	260	⇑P	n	P	16 45 41.2	-0.4
	baz=35							
I21A	**Big Trails, Te**	34.95	251	⇑P	n	P	16 45 41.5	-0.2
	baz=35							
J22A	**Midwest**	35.02	250	⇑P	n	P	16 45 42.0	-0.3
	baz=35							
LRM	**Limekiln Ridge**	35.08	258	eP	n	P	16 45 43.4	+0.7
	comp=Z,84nm,0.8s,mb5.7							
BAIF	**Baives**	35.12	88	eP	n	P	16 45 42.7	-0.3
	comp=Z,28nm,1.1s,mb4.8							
BAIF	**Baives**	35.12	88	eP	n	P	16 45 42.7	-0.3
	comp=Z,28nm,1.1s,mb5.1							
I20A	**Worland**	35.13	252	⇑P	n	P	16 45 42.8	-0.4
	baz=35							
BUG	**Bochum--Univer**	35.14	84	eP	n	P	16 45 44.0	+0.8
	comp=Z,13nm,0.8s,mb4.9							
BCLA	**Clavier**	35.23	87	P	n	P	16 45 44.1	+0.1
GIVF	**Givet**	35.31	88	eP	n	P	16 45 43.9	-0.8
	comp=Z,7.0nm,0.5s,mb4.6							
GIVF	**Givet**	35.31	88	eP	n	P	16 45 43.9	-0.8
	comp=Z,7.0nm,0.4s,mb4.9							
G16A	**Moss Hill, Enn**	35.35	257	⇑P	n	P	16 45 45.1	+0.1
	baz=35							
I19A	**Meeteetse**	35.36	253	⇑P	n	P	16 45 44.9	-0.3
	baz=35							
J21A	**Lysite**	35.42	251	⇓P	n	P	16 45 45.8	+0.1
	baz=35							
DLMT	**Dillon**	35.52	258	eP	n	P	16 45 47.4	+0.8
	comp=Z,19nm,0.9s,mb5.0							
QLMT	**Earthquake Lak**	35.55	256	eP	n	P	16 45 47.9	+1.1
	comp=Z,0.8nm,0.8s,mb3.7							
G15A	**Dillon**	35.65	258	⇑P	n	P	16 45 47.9	+0.2
	baz=36,SNR=7.5							
L24A	**Wheatland**	35.69	247	⇓P	n	P	16 45 48.4	+0.3
	baz=36							
OGNE	**Ogallala**	35.69	243	⇑P	n	P	16 45 47.9	-0.1
	baz=36							
OGNE	**Ogallala**	35.69	243	eP	n	P	16 45 48.4	+0.3
	comp=Z,18nm,0.7s,mb5.1							
F13A	**Darby**	35.79	260	⇑P	n	P	16 45 48.7	-0.2
	baz=36							
L23A	**Garrett**	35.89	248	⇑P	n	P	16 45 49.7	0.0
	baz=36							
G14A	**Jackson**	35.94	259	⇓P	n	P	16 45 50.3	+0.2
	baz=36							
I18A	**Diamond G Ranc**	35.95	253	⇑P	n	P	16 45 50.1	-0.2
	baz=36							
CLZ	**Clausthal**	35.96	81	eP	n	P	16 45 50.5	+0.2
	comp=Z,2.0nm,0.6s,mb4.2							
K21A	**Alcova**	35.97	250	⇑P	n	P	16 45 50.2	-0.3
	baz=36							
A05A	**Maple Falls**	35.99	271	⇓P	n	P	16 45 49.8	-0.7
	baz=36							
I17A	**Pilgrim Ck.**	36.03	254	⇑P	n	P	16 45 50.6	-0.3
	baz=36							
J19A	**Crowheart**	36.05	252	⇑P	n	P	16 45 51.0	-0.2
	baz=36							
OD2	**Odessa Site #2**	36.06	266	eP	n	P	16 45 50.6	-0.5
	comp=Z,4.5nm,0.6s,mb4.6							
H15A	**Lima**	36.18	257	⇓P	n	P	16 45 52.4	+0.2
	baz=36							
RPW	**Rockport**	36.23	269	eP	n	P	16 45 51.3	-1.3
	comp=Z,2.8nm,0.6s,mb4.4							
K20A	**Yellowstone Ra**	36.34	251	⇑P	n	P	16 45 53.8	+0.2
	baz=36							
MFF	**Saint Martin d**	36.36	96	eP	n	P	16 45 53.5	-0.2
MFF	**Saint Martin d**	36.36	96	eP	n	P	16 45 53.5	-0.2
K19A	**Absolon Red Bu**	36.37	252	⇓P	n	P	16 45 53.5	-0.3
	baz=36							
SWET	**Sewanee**	36.38	219	eP	n	P	16 45 53.4	-0.6
	comp=Z,19nm,0.8s,mb5.1							
TNS	**Taunus Mts**	36.56	84	eP	n	P	16 45 56.4	+1.0
	comp=Z,8.0nm,0.8s,mb4.6							
E09A	**Wood Farm, Sta**	36.59	264	⇑P	n	P	16 45 55.0	-0.7
	baz=36							
L21A	**Rawlins**	36.60	249	⇑P	n	P	16 45 55.6	-0.3
	baz=36							
UBBA	**Un

comp=Z,11nm,0.8s,mb4.6
CDF Champ du Feu 37.62 87 *e*P P 16 46 04.9 +0.5
comp=Z,20nm,0.9s,mb4.5
CDF Champ du Feu 37.62 87 *e*P P 16 46 04.9 +0.5
comp=Z,20nm,0.9s,mb4.8
P25A Willow Gulch B 37.69 244 ⇑P P 16 46 05.1 0.0
baz=38
HLID Hailey 37.73 258 ⇑P P 16 46 05.5 +0.1
baz=38
ECH Echery 37.73 88 *e*P P 16 46 05.4 0.0
comp=Z,13nm,0.8s,mb4.7
J13A Cove Ranch, Pi 37.79 258 ⇓P P 16 46 05.9 +0.1
baz=38
I12A Atlanta 37.80 259 ⇓P P 16 46 06.0 0.0
baz=38
SMF Signal de Mont 37.81 92 *e*P P 16 46 05.7 -0.3
comp=Z,22nm,1.0s,mb4.5
SMF Signal de Mont 37.81 92 *e*P P 16 46 05.7 -0.3
comp=Z,22nm,1.0s,mb4.8
TANN Tannenbergstha 37.89 81 *e*P P 16 46 07.1 +0.4
comp=Z,2.0nm,0.7s,mb4.0
ISCO Idaho Springs 37.92 246 ⇓P P 16 46 07.1 +0.1
baz=38
P24A Kohler Place, 37.94 245 ⇓P P 16 46 07.7 +0.5
baz=38
HINF Hinteralfeld 37.95 88 *e*P P 16 46 07.5 +0.3
comp=Z,11nm,0.7s,mb4.4
HINF Hinteralfeld 37.95 88 *e*P P 16 46 07.5 +0.3
comp=Z,11nm,0.7s,mb4.7
STU Stuttgart 38.03 85 *e*P P 16 46 08.3 +0.5
comp=Z,16nm,0.8s,mb4.8
NKC Novy Kostel 38.04 81 *e*P P 16 46 08.3 +0.4
BRG Berggiesshubel 38.06 79 *i*P P 16 46 08.2 0.0
comp=Z,3.0nm,0.8s,mb4.1
BRG *e* 16 46 16.0
comp=Z,2.6nm,0.9s
BRG Berggiesshubel 38.06 79 *e*P P 16 46 08.2 +0.1
BFO Black Forest 38.08 86 *e*P P 16 46 08.8 +0.5
comp=Z,78nm,2.0s,mb5.1
BFO Black Forest 38.08 86 P P 16 46 06.1 -2.2
comp=Z,5.6nm,0.8s,mb4.3
M17A Scullys Gap (B 38.20 253 ⇓P P 16 46 09.6 +0.2
baz=38
ROTZ Rotzenmuhle 38.33 82 *e*P P 16 46 10.4 0.0
comp=Z,3.0nm,0.7s,mb4.1
R27A Eads 38.34 242 ⇓P P 16 46 10.4 -0.3
baz=38
L15A Malad City 38.35 255 ⇑P P 16 46 10.5 -0.2
baz=38
MFID Camas Ranch 38.38 259 ⇑P P 16 46 10.8 -0.1
baz=38
P23A Jefferson 38.38 246 ⇓P P 16 46 11.4 +0.5
baz=38
P22A Eagle 38.50 247 ⇑P P 16 46 12.2 +0.3
baz=38
Q24A Divide 38.52 245 ⇑P P 16 46 11.8 -0.3
baz=38
O20A White River Ci 38.53 249 ⇑P P 16 46 11.9 -0.3
baz=38
MVO Moncorvo 38.53 107 *e*P P 16 46 12.5 +0.3
R26A Arlington 38.55 242 ⇓P P 16 46 12.2 -0.1
baz=38
PVCC Panska Ves 38.57 79 *e*P P 16 46 12.7 +0.3
G06A Carlson Farm, 38.60 266 ⇓P P 16 46 12.2 -0.5
baz=38
CABF La Chapelle 38.67 90 *e*P P 16 46 13.6 +0.3
CABF La Chapelle 38.67 90 *e*P P 16 46 13.6 +0.3
O19A Miners Draw (B 38.69 250 ⇓P P 16 46 13.5 0.0
baz=38
N17A Moffit Pass 38.73 252 ⇑P P 16 46 14.1 +0.3
baz=39
P21A Newcastle 38.80 248 ⇓P P 16 46 14.8 +0.3
baz=39
Q23A Hartsel 38.80 245 ⇑P P 16 46 14.7 +0.2
baz=39
SUW Suwalki 38.83 69 *e*P P 16 46 15.5 +1.0
KSP Ksiaz 38.95 77 *e*P P 16 46 16.9 +1.4
PRU Pruhonice 39.01 79 *e*P P 16 46 16.6 +0.5
WET Wettzell 39.09 82 *e*P P 16 46 16.9 +0.1
comp=Z,2.0nm,0.7s,mb4.0
R24A Sanders Place, 39.16 244 ⇓P P 16 46 17.7 +0.2
baz=39
I07A Izee 39.16 264 ⇑P P 16 46 17.3 -0.1
baz=39
DPC Dobruska-Polom 39.36 78 *e*P P 16 46 19.5 +0.5
DPC *ep*P pP 16 46 26.6 +4.5
KHC Kasperske Hory 39.36 81 *e*P P 16 46 19.4 +0.4
comp=Z,12nm,0.8s,mb4.7
KHC Kasperske Hory 39.36 81 *e*P P 16 46 19.6 +0.6
KHC *ep*P pP 16 46 28.2 +6.1
ETSF Etsaut 39.37 99 *e*P P 16 46 19.8 +0.6
comp=Z,14nm,0.7s,mb4.5
ETSF Etsaut 39.37 99 *e*P P 16 46 19.8 +0.6
comp=Z,14nm,0.7s,mb4.8
J08A Circle Bar Ran 39.40 262 ⇑P P 16 46 19.4 -0.1
baz=39
S25A Robets Cordova 39.45 243 ⇑P P 16 46 20.4 +0.5
baz=39
EPF Esparros 39.59 98 *e*P P 16 46 20.5 -0.5
comp=Z,15nm,0.9s,mb4.4
EPF Esparros 39.59 98 *e*P P 16 46 20.5 -0.5
comp=Z,15nm,0.9s,mb4.7
VIVF Saint-Julien-I 39.63 93 *e*P P 16 46 21.8 +0.5
comp=Z,11nm,0.8s,mb4.3
VIVF Saint-Julien-I 39.63 93 *e*P P 16 46 21.8 +0.5
comp=Z,11nm,0.8s,mb4.7
GEC2 GERESS Array S 39.64 81 *e*P P 16 46 21.8 +0.4
comp=Z,4.0nm,0.7s,mb4.3
GERES GERESS Array B 39.64 81 P P 16 46 22.5 +1.1
comp=Z,4.4nm,0.7s,mb4.3,baz=324,slow=6.6,SNR=20
GERES LR LR 17 02 03.3
comp=Z,276nm,19.1s,MS4.1,baz=298,slow=35
GERES GERESS Array B 39.64 81 P P 16 46 22.5 +1.1
PMAFR Mafra 39.70 112 *e*P P 16 46 21.8 -0.2
BEL Belsk 39.75 73 *e*P P 16 46 23.1 +0.9
KRLC Kraliky 39.76 78 *e*P P 16 46 22.7 +0.4
LPL La Plagne 39.84 90 *e*P P 16 46 24.3 +1.2
comp=Z,13nm,0.6s,mb4.5
LPL La Plagne 39.84 90 *e*P P 16 46 24.3 +1.2
comp=Z,13nm,0.6s,mb4.8
LPG La Plagne 39.86 90 *e*P P 16 46 24.7 +1.4
comp=Z,22nm,0.9s,mb4.6
LPG La Plagne 39.86 90 *e*P P 16 46 24.7 +1.4
comp=Z,22nm,0.9s,mb4.9
R21A Cimarron 39.87 247 ⇓P P 16 46 24.0 +0.6
baz=40
O15A The Old Anders 39.90 254 ⇑P P 16 46 23.8 +0.2
baz=40
T25A Trinidad 39.92 243 ⇑P P 16 46 23.8 0.0
baz=40
Q19A Hogan Spring (39.94 249 ⇑P P 16 46 23.1 -0.8
baz=40
PMTG Montargil 39.97 110 *e*P P 16 46 22.8 -1.4
TUE Stuetta 40.01 87 *e*P P 16 46 26.2 +1.7
comp=Z,14nm,0.8s,mb4.7
DUG Dugway 40.09 254 ⇑P P 16 46 25.5 +0.3
baz=40
Q18A Rafter H Ranch 40.11 250 ⇓P P 16 46 25.1 -0.3
baz=40
BILL Bilibino 40.49 336 *e*P P 16 46 27.9 -0.3
comp=Z,7.7nm,0.8s,mb4.5
MBDF Montbardon 40.52 91 *e*P P 16 46 29.9 +1.2
comp=Z,22nm,0.9s,mb4.5
MBDF Montbardon 40.52 91 *e*P P 16 46 29.9 +1.2
comp=Z,22nm,0.9s,mb4.8
R19A Curley Farm, L 40.53 249 ⇓P P 16 46 28.7 -0.2
baz=40
S21A Coal Bank Pass 40.59 247 ⇓P P 16 46 29.4 +0.1
baz=40
Q16A Castle Valley 40.64 251 ⇑P P 16 46 29.7 0.0
baz=40
R18A Canyonlands Na 40.67 250 ⇑P P 16 46 30.3 +0.3
baz=40
T22A Edith 40.87 245 ⇓P P 16 46 32.4 +0.7
baz=41
R17A Hanksville Air 40.92 250 ⇓P P 16 46 32.2 +0.1
baz=41
ESDC Sonseca Array 40.95 105 P P 16 46 32.0 -0.2
comp=Z,2.8nm,0.6s,mb4.1,baz=331,slow=8.9,SNR=16
ESDC Sonseca Array 40.95 105 P P 16 46 32.0 -0.2
S19A Harvey Farm, M 40.98 248 ⇑P P 16 46 32.8 +0.2
baz=41,SNR=6.0
T21A Navajo Lake 41.10 246 ⇓P P 16 46 34.2 +0.6
baz=41
PBAR Barrancos 41.18 110 *e*P P 16 46 33.6 -0.6
comp=Z,29nm,1.6s,mb4.7
MVCO Mesa Verde 41.24 247 ⇓P P 16 46 35.2 +0.5
baz=41
U23A El Rito 41.25 244 ⇑P P 16 46 35.3 +0.5
baz=41
SMOL Smolenice 41.29 78 *e*P P 16 46 36.3 +1.3
PCVE Castro Verde 41.32 111 *e*P P 16 46 35.0 -0.4
MSU Marysvale 41.36 252 *e*P P 16 46 36.5 +0.8
comp=Z,8.0nm,1.4s,mb4.2
W27A Bowe Ranch, En 41.37 240 ⇑P P 16 46 36.5 +0.6
baz=41
W26A Owens Ranch, T 41.58 241 ⇓P P 16 46 37.5 0.0
baz=41
U21A Nageezi 41.66 246 ⇓P P 16 46 38.2 +0.1
baz=42
T19A Beclabito 41.76 248 ⇓P P 16 46 39.1 +0.1
baz=42
X27A F and S Farms, 41.77 240 ⇓P P 16 46 39.7 +0.7
baz=42
T18A Mexican Hat 41.78 249 ⇓P P 16 46 39.7 +0.6
baz=42
VYHS Vyhne 41.82 77 *e*P P 16 46 40.1 +0.8
S16A Weppner Ranch, 41.86 251 ⇓P P 16 46 40.7 +1.0
baz=42
V22A San Miguel Ran 41.87 245 ⇓P P 16 46 39.7 -0.1
baz=42
U20A Newcomb 42.00 247 ⇓P P 16 46 41.4 +0.5
baz=42
X26A CR and CF Fran 42.08 240 ⇓P P 16 46 42.2 +0.5
baz=42
MSTX Muleshoe 42.28 239 ⇓P P 16 46 44.2 +0.9
baz=42
R13A O'Grain Ranch, 42.29 254 ⇓P P 16 46 44.0 +0.7
baz=42
W23A Werner Place, 42.30 243 ⇑P P 16 46 44.4 +1.0
baz=42
KECS Kecovo 42.43 76 *e*P P 16 46 43.9 -0.4
ARUT Antelope Range 42.45 253 *e*P P 16 46 45.9 +1.2
comp=Z,9.7nm,1.1s,mb4.3
Y27A Causey 42.49 239 ⇑P P 16 46 45.4 +0.4
baz=42
V20A Brimhall 42.50 246 ⇓P P 16 46 45.5 +0.5
baz=42
U17A Shonto 42.54 249 ⇓P P 16 46 45.8 +0.5
baz=42
Y26A Elida 42.66 240 ⇑P P 16 46 47.7 +1.3
baz=42
R11A Troy Canyon, C 42.73 255 ⇓P P 16 46 47.7 +0.8
baz=43
Y25A Mesa, Roswell 42.95 241 ⇓P P 16 46 49.0 +0.3
baz=43
Z27A Tatum 43.03 239 ⇓P P 16 46 49.5 +0.2
baz=43
V18A Ganado 43.08 248 ⇑P P 16 46 50.0 +0.2
baz=43
Y24A Capitan 43.19 242 ⇓P P 16 46 50.8 +0.2
baz=43
Z26A Caprock 43.31 240 ⇓P P 16 46 51.8 +0.2
baz=43
WCN Washoe City 43.41 260 ⇓P P 16 46 52.5 +0.2
baz=43
V17A Tonalea, Kykot 43.46 249 ⇓P P 16 46 53.1 +0.2
baz=43
CPRX Cap Rock 43.50 240 *e*P P 16 46 53.1 -0.1
comp=Z,14nm,0.9s,mb4.7
NVAR Mina Array Bea 43.64 258 P P 16 46 54.1 -0.2
comp=Z,1.7nm,0.6s,mb3.9,baz=35,slow=3.9,SNR=7.4
NVAR LR LR 17 05 09.9
comp=Z,305nm,19.3s,MS4.2,baz=90,slow=36
NVAR Mina Array Bea 43.64 258 P P 16 46 54.1 -0.2
AKASG Malin Array Be 43.65 67 P P 16 46 52.9 -1.3
comp=Z,3.6nm,0.5s,mb4.3,baz=329,slow=8.6,SNR=16
AKASG Malin Array Be 43.65 67 P P 16 46 52.9 -1.3
KIEV Kiev 43.65 67 *e*P P 16 46 52.4 -1.8
comp=Z,5.8nm,0.8s,mb4.4
Y22A Socorro 43.69 244 ⇓P P 16 46 54.7 0.0
baz=44
WUAZ Wupatki 43.76 249 ⇑P P 16 46 55.7 +0.5
baz=44
126A Clayton Basin, 43.90 239 ⇑P P 16 46 57.0 +0.6
baz=44
X19A St. Johns 44.02 246 ⇓P P 16 46 57.9 +0.5
baz=44
226A Malaga, Loving 44.47 239 ⇑P P 16 47 01.3 +0.3
baz=44
JCT Junction City 44.60 234 ⇑P P 16 47 01.5 -0.5
baz=44
328A Wristen Ranch, 44.69 237 ⇑P P 16 47 02.4 -0.3
baz=45
X16A Lo Mia Camp, P 44.78 249 ⇑P P 16 47 03.6 +0.3
baz=45
BUR08 Bucovina Ar. S 44.83 73 *e*P P 16 47 03.7 +0.1
224A Cornudas Mount 44.91 241 ⇓P P 16 47 05.1 +0.6
baz=45
326A Caldwell Ranch 45.12 239 ⇑P P 16 47 07.5 +1.3
baz=45
SHOC Shoshone 45.16 255 ⇑P P 16 47 06.6 +0.2
baz=45
MNTX Cornudas Mount 45.22 241 ⇑P P 16 47 07.4 +0.5
baz=45
Y17A Roosevelt 45.22 248 ⇑P P 16 47 07.1 +0.2
baz=45
121A Cookes Peak, D 45.24 244 ⇑P P 16 47 06.8 -0.3
baz=45
427A Hayter Ranch, 45.37 238 ⇑P P 16 47 08.6 +0.5
baz=45
325A Bean Ranch, Si 45.38 240 ⇑P P 16 47 08.3 +0.1
baz=45
MPMC Manual Prospec 45.45 256 ⇑P P 16 47 09.2 +0.5
baz=45
324A Moseley Ranch, 45.48 240 ⇓P P 16 47 09.1 +0.1
baz=45
ISA Isabella 46.16 257 ⇑P P 16 47 15.1 +0.7
baz=46
526A Mary Lane Ranc 46.31 238 ⇑P P 16 47 16.3 +0.8
baz=46,SNR=8.1
628A Black Gap, Mar 46.47 237 ⇑P P 16 47 17.5 +0.6
baz=46
627A Terlingua Ranc 46.66 237 ⇑P P 16 47 19.1 +0.8
baz=46
EDW2 Edwards Air Fo 46.69 256 ⇑P P 16 47 18.6 +0.1
baz=46
ARVC Arvin 46.77 257 ⇑P P 16 47 19.0 -0.1
baz=47
626A Big Bend Ranch 46.80 238 ⇑P P 16 47 19.8 +0.4
baz=47,SNR=5.4
TXAR Lajitas Array 46.86 237 P P 16 47 20.1 +0.3
comp=Z,2.2nm,0.8s,mb4.1,baz=43,slow=6.8,SNR=15
TXAR PcP PcP 16 48 52.6 0.0
comp=Z,1.2nm,0.7s,baz=54,slow=4.6,SNR=2.8
TXAR LR LR 17 09 19.3
comp=Z,232nm,22.0s,MS4.1,baz=80,slow=39
TXAR Lajitas Array 46.86 237 P P 16 47 20.1 +0.3
TXAR PcP PcP 16 48 52.6 0.0
AKTO Aktyubinsk 52.78 46 P P 16 48 04.8 +0.2
comp=Z,2.4nm,0.7s,mb4.2,baz=324,slow=8.4,SNR=10
AKTO LR LR 17 11 29.3
comp=Z,140nm,19.3s,MS4.0,baz=158,slow=37
AKTO Aktyubinsk 52.78 46 P P 16 48 04.8 +0.2
FX1 Attu Island--F 53.22 323 P P 16 48 07.0 -0.8
comp=Z,37nm,0.8s,mb5.4,baz=277,slow=4.9,SNR=11
FX1 Attu Island--F 53.22 323 P P 16 48 07.0 -0.8
BVAR Borovoye Array 53.40 36 P P 16 48 09.4 +0.3
comp=Z,1.6nm,0.8s,mb4.0,baz=324,slow=7.3,SNR=7.4
BVAR LR LR 17 15 48.9
comp=Z,152nm,20.1s,MS4.0,baz=176,slow=42
BVAR Borovoye Array 53.40 36 P P 16 48 09.4 +0.3
ABKAR Akbulak array 54.37 45 *e*P P 16 48 16.1 -0.2
comp=Z,4.7nm,0.8s,mb4.5
BRTR Keskin Array B 54.72 71 P P 16 48 18.9 -0.1
comp=Z,1.4nm,0.8s,mb4.1,baz=331,slow=5.5,SNR=8.0
BRTR Keskin Array B 54.72 71 P P 16 48 18.9 -0.1
ZALV Zalesovo Beam 55.24 25 P P 16 48 22.4 -0.1
comp=Z,5.6nm,0.7s,mb4.7,baz=340,slow=7.6,SNR=21
ZALV Zalesovo Beam 55.24 25 P P 16 48 22.4 -0.1
CMIG Matias Romero 55.93 223 LR LR 17 13 02.7
comp=Z,104nm,19.3s,MS3.9,baz=190,slow=37
PETK Petropavlovsk- 55.99 334 P P 16 48 26.6 -1.4
comp=Z,8.1nm,0.7s,mb4.8,baz=76,slow=7.8,SNR=5.9
PETK Petropavlovsk- 55.99 334 P P 16 48 26.6 -1.4
GNI Garni 58.13 61 LR LR 17 14 17.7
comp=Z,145nm,18.1s,MS4.1,baz=159,slow=37
MMAI Mount Meron Ar 61.36 73 P P 16 49 05.8 +0.2
comp=Z,0.8nm,0.5s,mb4.1,baz=2.9,slow=5.8,SNR=3.6
MMAI Mount Meron Ar 61.36 73 P P 16 49 05.8 +0.2
MK31 Makanchi Array 61.71 29 *e*P P 16 49 07.4 -0.4
MKAR Makanchi Array 61.71 29 P P 16 49 07.7 0.0
comp=Z,3.4nm,0.8s,mb4.5,baz=359,slow=4.9,SNR=18
MKAR Makanchi Array 61.71 29 P P 16 49 07.7 0.0
ASF Jabal al Asfar 62.66 72 P P 16 49 14.3 0.0
comp=Z,4.0nm,0.7s,mb4.7,baz=241,slow=2.8,SNR=11
ASF Jabal al Asfar 62.66 72 P P 16 49 14.3 0.0
KKAR Karatay Array 62.76 40 *e*P P 16 49 15.1 +0.3
comp=Z,2.9nm,0.8s,mb4.5
SONM Songino Array 63.77 11 P P 16 49 22.3 +0.9
comp=Z,9.9nm,0.8s,mb4.9,baz=344,slow=6.7,SNR=62
SONM Songino Array 63.77 11 P P 16 49 22.3 +0.9
ULN Ulaanbaatar 63.79 10 *e*P P 16 49 22.1 +0.6
comp=Z,30nm,1.3s,mb5.2
TKM2 Tokmak 2 64.09 36 *e*P P 16 49 24.3 +0.7
comp=Z,8.0nm,0.9s,mb4.8
WMQ Urumqi 65.53 26 P P 16 49 33.8 +0.8
WMQ pP pP 16 49 38.5 +2.3
WMQ sP sP 16 49 40.8 +3.3
WMQ PP PP 16 52 00.5 +3.9
WMQ S S 16 58 17.3 -0.3
WMQ sS sS 16 58 25.0 +2.1
WMQ pmax pmax
comp=Z,12nm,0.8s,mb5.0
WMQ pmax pmax
comp=Z,320nm,5.8s
WMQ LR LR
comp=N,130nm,16.6s,MS4.3
WMQ LR LR
comp=E,120nm,17.4s,MS4.3
WMQ LR LR
comp=Z,140nm,16.6s,MS4.2
ASAJ Asahikawa 66.85 343 LR LR 17 19 57.0
comp=Z,121nm,18.9s,MS4.1,baz=60,slow=37
TORD Torodi Ar. Bea 67.16 113 P P 16 49 42.2 -1.6
comp=Z,3.5nm,0.7s,mb4.5,baz=335,slow=6.6,SNR=20
TORD Torodi Ar. Bea 67.16 113 P P 16 49 42.2 -1.6
MDJ Mudanjiang 67.33 353 P P 16 49 42.3 -2.2
MDJ pmax pmax
comp=Z,12nm,1.6s,mb4.7
MDJ pmax pmax
comp=Z,200nm,4.6s
KSH Kashi 67.43 36 P P 16 49 48.3 +3.1
KSH pP pP 16 49 52.3 +3.9
KSH sP sP 16 49 55.5 +5.8
KSH PcP PcP 16 50 15.5 +2.9
KSH PP PP 16 52 18.5 +5.3
KSH ScP 16 54 16.3
KSH PcS 16 54 18.3
KSH S S 16 58 43.8 +3.1
KSH sS sS 16 58 50.8 +4.8
KSH ScS ScS 16 59 43.0 +0.1
KSH pmax pmax
comp=Z,23nm,0.8s,mb5.3
KSH pmax pmax
comp=Z,250nm,5.2s
KSH LR LR
comp=N,280nm,6.2s
KSH LR LR
comp=E,380nm,6.5s
KSH LR LR
comp=Z,410nm,7.0s
USRK Ussuriysk Arra 67.63 352 P P 16 49 45.6 -0.8
comp=Z,2.7nm,0.6s,mb4.5,baz=4.3,slow=6.0,SNR=6.2
CN2 Changchun 68.28 357 *e*P P 16 49 49.3 -1.2
CN2 *e*PP PP 16 52 21.0 +0.6
HHC Hu-ho-hao-te 71.04 8 *e*P P 16 50 07.3 -0.3
HHC pP pP 16 50 11.5 +0.7
HHC sP sP 16 50 15.5 +3.5
HHC PP PP 16 52 45.8 +1.5
HHC S S 16 59 20.0 -3.3
HHC SS SS 17 03 55.0 -0.2
HHC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HHC pmax pmax
comp=Z,160nm,4.4s
HHC LR LR
comp=N,230nm,13.1s,MS4.9
HHC LR LR
comp=E,330nm,13.1s,MS4.9
HHC LR LR
comp=Z,97nm,10.7s,MS4.3
LIC Lamto 71.42 122 *e*P P 16 50 09.5 -0.6
LIC *e*R
comp=Z,164nm,21.2s
LIC Lamto 71.42 122 *e*P P 16 50 09.5 -0.6
GTA Gaotai 71.53 17 ⇑P P 16 50 11.0 +0.5
GTA pP pP 16 50 15.8 +2.0
GTA sP sP 16 50 18.3 +3.3
GTA S S 16 59 31.0 +2.0
GTA sS sS 16 59 38.3 +3.9
GTA pmax pmax
comp=Z,13nm,1.1s,mb4.8
GTA pmax pmax
comp=Z,280nm,5.5s
GTA LR LR
comp=N,290nm,15.7s,MS4.7
GTA LR LR
comp=E,220nm,15.9s,MS4.7
GTA LR LR
comp=Z,310nm,16.6s,MS4.7
BJI Beijing 72.02 4 P P 16 50 13.5 0.0
BJI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KSRS Korea Array 74.54 354 P P 16 50 27.6 -0.8
comp=Z,1.6nm,0.8s,mb4.0,baz=2.2,slow=4.3,SNR=5.7
KSRS LR LR 17 22 36.6
comp=Z,74nm,18.0s,MS4.0,baz=154,slow=35
KSAR Wonju Array Be 74.56 354 P P 16 50 27.6 -0.9
LZH Lanzhou 75.23 14 *e*P P 16 50 32.5 +0.1
LZH pP pP 16 50 35.8 +0.1
LZH sP sP 16 50 37.3 +0.4
LZH *e*PP PP 16 53 22.5 +2.4
LZH *e*S S 17 00 09.5 -1.5
LZH pmax pmax
comp=Z,23nm,1.5s,mb4.9
LZH pmax pmax
comp=Z,93nm,7.0s
LZH LR LR
comp=N,280nm,18.0s,MS4.8
LZH LR LR
comp=E,260nm,16.2s,MS4.8
LZH LR LR
comp=Z,330nm,18.0s,MS4.7
SAML Samuel 77.01 184 *e*P P 16 50 40.8 -1.8
comp=Z,7.9nm,0.9s,mb4.6
XAN Xi'an 77.67 10 P P 16 50 46.0 -0.3
XAN pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
XAN pmax pmax
comp=Z,20nm,4.6s
DANN Dangsing 79.85 33 *e*P P 16 50 58.2 -0.1
comp=Z,29nm,1.0s,mb5.2
DANN Dangsing 79.85 33 *e*P P 16 50 58.2 -0.1
comp=Z,29nm,1.0s,mb5.2
LSA Lhasa 79.89 26 *e*P P 16 50 58.9 +0.4
comp=Z,11nm,0.9s,mb4.8
CD2 Chengdu 80.35 15 *e*P P 16 51 01.8 +0.8
CD2 pP pP 16 51 06.5 +2.2
CD2 sP sP 16 51 10.3 +4.8
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CD2 pmax pmax
comp=Z,30nm,6.8s
GKN Gorkha 80.36 32 *e*P P 16 51 00.6 -0.5
comp=Z,15nm,0.8s,mb4.9
GKN Gorkha 80.36 32 *e*P P 16 51 00.6 -0.5
comp=Z,15nm,0.8s,mb5.0
KOLN Koldanda 80.38 33 *e*P P 16 51 00.6 -0.6
comp=Z,7.1nm,0.8s,mb4.7
KOLN Koldanda 80.38 33 *e*P P 16 51 00.6 -0.6
comp=Z,7.1nm,0.8s,mb4.7
GUN Gumba 80.69 31 *e*P P 16 51 02.5 -0.4
comp=Z,34nm,1.0s,mb5.2
GUN Gumba 80.69 31 *e*P P 16 51 02.5 -0.4
comp=Z,34nm,1.0s,mb5.2
KKN Kakani 80.69 32 *e*P P 16 51 03.0 +0.1
comp=Z,17nm,0.8s,mb5.0
KKN Kakani 80.69 32 *e*P P 16 51 03.0 +0.1
comp=Z,17nm,0.8s,mb5.0
DMN Daman 80.83 32 *e*P P 16 51 03.8 +0.2
comp=Z,16nm,1.0s,mb4.9
DMN Daman 80.83 32 *e*P P 16 51 03.8 +0.2
comp=Z,16nm,1.0s,mb4.9
PKI Pulchoki 80.93 32 *e*P P 16 51 03.8 -0.4
PKI Pulchoki 80.93 32 *e*P P 16 51 03.8 -0.4
JIRN Jiri 81.00 31 *e*P P 16 51 04.9 +0.4
comp=Z,8.6nm,0.7s,mb4.8
JIRN Jiri 81.00 31 *e*P P 16 51 04.9 +0.4
comp=Z,8.6nm,0.7s,mb4.8

ENH	Enshi	81.45	10	eP	P	16 51 05.4	-1.5
	comp=Z,25nm,1.5s,mb4.9						
TAPN	Taplejung	81.58	30	eP	P	16 51 07.4	-0.2
	comp=Z,13nm,0.7s,mb5.0						
TAPN	Taplejung	81.58	30	eP	P	16 51 07.4	-0.2
	comp=Z,13nm,0.7s,mb5.0						
RAMN	Ramite	81.77	31	eP	P	16 51 08.1	-0.5
	comp=Z,19nm,0.8s,mb5.1						
RAMN	Ramite	81.77	31	eP	P	16 51 08.1	-0.5
	comp=Z,19nm,0.8s,mb5.1						
ODAN	Odare	82.00	30	eP	P	16 51 09.4	-0.4
	comp=Z,9.4nm,0.8s,mb4.8						
ODAN	Odare	82.00	30	eP	P	16 51 09.4	-0.4
	comp=Z,9.4nm,0.8s,mb4.8						
GYA	Guiyang	85.03	13	P	P	16 51 25.5	+0.1
GYA				PP	PP	16 54 43.3	+1.8
GYA				SKS		17 01 45.8	
GYA				S	S	17 01 52.0	-2.3
GYA				SS	SS	17 07 26.0	0.0
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,510nm,18.8s,MS5.1						
GYA				LR	LR		
	comp=E,480nm,18.9s,MS5.1						
GYA				LR	LR		
	comp=Z,430nm,18.0s,MS4.9						
KMI	Kunming	85.97	17	P	P	16 51 29.5	-0.6
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.9						
CHTO	Chiang Mai	91.75	21	eP	P	16 51 56.5	-1.1
	comp=Z,7.6nm,1.1s,mb4.9						
CMAR	Chiang Mai Arr	92.10	21	P	P	16 51 59.0	-0.2
	comp=Z,4.8nm,0.9s,mb4.8,baz=330,slow=5.3,SNR=31						
CMAR				LR	LR	17 36 07.7	
	comp=Z,60nm,21.2s,MS4.0,baz=248,slow=37						
CMAR	Chiang Mai Arr	92.10	21	P	P	16 51 59.0	-0.2
WRA	Warramunga Arr	131.04	343	PKP	PKPdf	16 58 00.2	-1.1
	comp=Z,1.3nm,0.7s,baz=342,slow=2.2,SNR=20						
WRA	Warramunga Arr	131.04	343	PKP	PKPdf	16 58 00.2	-1.1
ASAR	Alice Springs	134.76	343	PKP	PKPdf	16 58 07.2	-1.1
	comp=Z,1.8nm,0.7s,baz=5.8,slow=2.0,SNR=31						
ASAR	Alice Springs	134.76	343	PKP	PKPdf	16 58 07.2	-1.1
STKA	Stephens Creek	141.73	331	PKP	PKPdf	16 58 20.8	0.0
	comp=Z,3.2nm,0.9s,baz=55,slow=2.2,SNR=6.9						
STKA	Stephens Creek	141.73	331	PKP	PKPdf	16 58 20.8	0.0
VNA3	Neumayer Olymp	143.02	156	e	PKPdf	16 58 22.3	+0.5
VNA2	Neumayer--Watz	143.10	155	e	PKPdf	16 58 20.6	-1.4

*IDC **26** 16:58:40.1±1.3, 30°.09N×108°.20E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=101.6km s-min=24.2km az=61.0*
*BJI **26** 16:58:41.9, 30°.14N×108°.17E, h10km, ML2.8/6*

ISC 26 16:58:41.9±1.0, 30°.19N±0°.06×108°.4E±0°.3, h10km, n6, σ0s94/8, mb3.4/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAN	Xi'an	3.86	7	Pg	Pb	16 59 49.8	-0.3
XAN				Sn	Sn	17 00 28.5	+1.8
XAN				Sg	Sg	17 00 44.5	-1.4
XAN				smax			
	comp=N,41nm,0.7s						
XAN				smax			
	comp=E,26nm,1.0s						
CMAR	Chiang Mai Arr	14.51	218	Pn	Pn	17 02 12.8	+5.5
	comp=E,0.0nm,0.3s,baz=30,slow=9.8,SNR=6.2						
SONM	Songino Array	17.68	356	P	Pn	17 02 49.0	+0.8
	comp=E,0.0nm,0.3s,baz=183,slow=8.7,SNR=3.2						
MKAR	Makanchi Array	26.13	317	P	P	17 04 15.4	-0.6
	comp=E,0.3nm,0.7s,mb2.9,baz=120,slow=12,SNR=4.3						
WRA	Warramunga Arr	55.75	150	P	P	17 08 18.4	-0.5
	comp=E,0.4nm,0.5s,mb3.7,baz=339,slow=8.0,SNR=9.8						
ASAR	Alice Springs	58.89	153	P	P	17 08 41.2	+0.2
	comp=E,0.3nm,0.5s,mb3.5,baz=333,slow=6.8,SNR=19						

*ISCJB **26** 17:05:27.7±0.2, 44°.74N±0°.02×10°.34E±0°.02, h10km, Error ellipse: s-maj=2.3km s-min=2.2km az=167.8*
*PRU **26** 17:05:29.9, 44°.68N×10°.62E, h4km*
*NEIC **26** 17:05:29.0, 44°.54N×10°.28E, h5km, ML3.5(LDG), ML3.0(ROM), ML3.2(VIE), After ROM.*
NEIC Felt at Quattro Castella.
*ROM **26** 17:05:29.5±0.2, 44°.58N×10°.28E, h22km±3km, Ml3.1/13, Error ellipse: s-maj=3.5km s-min=2.7km az=52.0*
*CSEM **26** 17:05:29.6±0.1, 44°.60N×10°.35E, h20km, ML3.4/11, Error ellipse: s-maj=3.4km s-min=2.9km az=11.0*
*LDG **26** 17:05:30.2±0.1, 44°.67N×10°.52E, h20km, Ml3.5/13, Error ellipse: s-maj=3.6km s-min=2.7km az=5.0*
*STR **26** 17:05:40.6±0.7, 45°.06N×8°.73E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 26 17:05:29.1±0.2, 44°.66N±0°.02×10°.31E±0°.02, h10km, n166, σ1s37/245, 19C-9D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	PARMA	0.10	2	Pg	Pg	17 05 34.2	+2.6
PRMA				Sg	Sg	17 05 39.3	+5.8
	1μm,0.3s						
PRMA	PARMA	0.10	2	Pg	Pg	17 05 34.2	+2.6
PRMA				Sg	Sg	17 05 39.3	+5.8
	1μm,0.3s						
ERBM	Eremo	0.26	163	Pg	Pg	17 05 34.5	+0.3
ERBM				Sg	Sg	17 05 39.5	+1.8
	3μm,1.0s						
ERBM	Eremo	0.26	163	Pg	Pg	17 05 34.5	+0.3
ERBM				Sg	Sg	17 05 39.5	+1.8
	3μm,1.0s						
GSCL	Gusciola	0.37	147	⇑iPg	Pg	17 05 36.3	-0.1
GSCL				Sg	Sg	17 05 41.2	-0.1
GSCL	Gusciola	0.37	147	⇑iPg	Pg	17 05 36.3	-0.1
GSCL				Sg	Sg	17 05 41.2	-0.1
ZCCA	Zocca	0.57	123	Pg	Pg	17 05 40.6	+0.5
	647nm,0.5s						
ZCCA	Zocca	0.57	123	Pg	Pg	17 05 40.6	+0.5
	647nm,0.5s						
RAVA	Ravarino	0.58	81	Pg	Pg	17 05 42.7	+2.3
	3μm,1.0s						
RAVA	Ravarino	0.58	81	Pg	Pg	17 05 42.7	+2.3
	3μm,1.0s						
SC2M	Scurtabo	0.61	245	Pg	Pg	17 05 40.6	-0.3
SC2M				Sg	Sg	17 05 50.3	+1.4
	1μm,0.3s						
SC2M	Scurtabo	0.61	245	Pg	Pg	17 05 40.6	-0.3
SC2M				Sg	Sg	17 05 50.3	+1.4
	1μm,0.3s						
BOB	Bobbio (Coli)	0.62	280	Pg	Pg	17 05 42.1	+1.0
	637nm,0.6s						
BOB	Bobbio (Coli)	0.62	280	Pg	Pg	17 05 42.1	+1.0
	637nm,0.6s						
BDI	Bagni Di Lucca	0.64	161	Pg	Pg	17 05 40.5	-0.9
BDI				Sg	Sg	17 05 48.8	-0.9
	1μm,0.8s						
BDI	Bagni Di Lucca	0.64	161	Pg	Pg	17 05 40.5	-0.9
BDI				Sg	Sg	17 05 48.8	-0.9
	1μm,0.8s						
MAIM	Mastiano	0.76	170	Pg	Pg	17 05 42.6	-1.1
	302nm,0.5s						
MAIM	Mastiano	0.76	170	Pg	Pg	17 05 42.6	-1.1
	302nm,0.5s						
FIU	Minerbio Fiu	0.84	91	Pg	Pg	17 05 47.2	+1.9
	2μm,0.5s						
FIU	Minerbio Fiu	0.84	91	Pg	Pg	17 05 47.2	+1.9
	2μm,0.5s						
MTRZ	Monterenzio	0.88	109	Pg	Pg	17 05 47.7	+1.8
	516nm,0.8s						
MTRZ	Monterenzio	0.88	109	Pg	Pg	17 05 47.7	+1.8
	516nm,0.8s						
SALO	Salr	0.97	9	Pg	Pg	17 05 48.6	+0.9
SALO				Sg	Sg	17 06 04.8	+4.6
	1μm,0.6s						
SALO	Salr	0.97	9	Pg	Pg	17 05 48.6	+0.9
SALO				Sg	Sg	17 06 04.8	+4.6
	1μm,0.6s						
CRMI	Carmignano	0.99	151	Pg	Pg	17 05 47.2	-1.0
CRMI	Carmignano	0.99	151	Pg	Pg	17 05 47.2	-1.0
ROVR	Rover¤ Verone	1.12	29	Pg	Pg	17 05 50.7	+0.1
ROVR				Sg	Sg	17 06 07.6	+2.4
	2μm,0.9s						
ROVR	Rover¤ Verone	1.12	29	Pg	Pg	17 05 50.7	+0.1
ROVR				Sg	Sg	17 06 07.6	+2.4
	2μm,0.9s						
MDI	Monti di Nese	1.19	339	Pg	Pn	17 05 52.2	+0.5
MDI	Monti di Nese	1.19	339	Pg	Pn	17 05 52.2	+0.5
PCP	Piancastagn	1.27	265	Pg	Pn	17 05 53.2	+0.4
PCP	Piancastagn	1.27	265	Pg	Pn	17 05 53.2	+0.4
SFI	Santa Sofia	1.34	124	Pg	Pn	17 05 54.5	+0.7
	164nm,0.8s						
SFI	Santa Sofia	1.34	124	Pg	Pn	17 05 54.5	+0.7
	164nm,0.8s						
CSNT	Castellina Chi	1.39	149	Pg	Pn	17 05 53.4	-1.0
CSNT	Castellina Chi	1.39	149	Pg	Pn	17 05 53.4	-1.0
MUGIO	Muggio	1.54	325	Pg	Pn	17 05 57.0	+0.4
CTI	Castel Tesino	1.68	34	Pg	Pg	17 05 58.3	-2.9
PARC	Parchiule	1.72	125	Pg	Pn	17 06 00.4	+1.4
PARC	Parchiule	1.72	125	Pg	Pn	17 06 00.4	+1.4
TUE	Stuetta	1.93	340	ePn	Pn	17 06 03.0	+1.1
TUE				eSn	Sn	17 06 23.3	-3.0
TUE	Stuetta	1.93	340	ePn	Pn	17 06 03.0	+1.1
TUE				eSn	Sn	17 06 23.3	-2.9
SAOF	Saorge	2.09	252	P	Pn	17 06 04.3	+0.2
SAOF				S	Sn	17 06 24.1	-6.0
SAOF	Saorge	2.09	252	P	Pn	17 06 04.3	+0.2
SAOF				S	Sn	17 06 24.1	-6.0
AUTN	L'Aution	2.17	253	P	Pn	17 06 06.4	+1.2
AUTN	L'Aution	2.17	253	P	Pn	17 06 06.4	+1.2
SBF	Sospel	2.21	250	ePn	Pn	17 06 05.3	-0.5
	SNR=1.0						
SBF				eSn	Sn	17 06 32.1	-1.1
SBF				eSg	Sg	17 06 44.4	+4.2
	308nm,0.6s,SNR=1.0						
SBF	Sospel	2.21	250	ePn	Pn	17 06 05.3	-0.5
SBF				eSn	Sn	17 06 32.1	-1.1
SBF				eSg	Sg	17 06 44.4	+4.2
SBF	Sospel	2.21	250	ePn	Pn	17 06 05.3	-0.5
	SNR=1.0						
SBF				eSn	Sn	17 06 32.1	-1.1
SBF				eSg	Sg	17 06 44.4	+4.2
	154nm,0.6s,SNR=1.0						
TOUF	Mont Tournerai	2.29	255	P	Pn	17 06 07.5	+0.6
TOUF	Mont Tournerai	2.29	255	P	Pn	17 06 07.5	+0.6
TOUF				S	Sn	17 06 27.4	-7.7
PGF	Pioggiola	2.32	205	ePn	Pn	17 06 05.9	-1.4
	SNR=1.0						
PGF				eSn	Sn	17 06 32.8	-3.0
	43nm,0.4s						
PGF	Pioggiola	2.32	205	ePn	Pn	17 06 05.9	-1.4
PGF				eSn	Sn	17 06 32.8	-3.0
PGF	Pioggiola	2.32	205	ePn	Pn	17 06 05.9	-1.4
	SNR=1.0						
PGF				eSn	Sn	17 06 32.8	-3.0
	22nm,0.4s						
FETA	Feichten	2.38	7	⇓iPn	Pn	17 06 10.2	+2.2
FETA	Feichten	2.38	7	⇓iPn	Pn	17 06 10.2	+2.2
FETA	Feichten	2.38	7	⇓iPn	Pn	17 06 10.2	+2.2
MVIF	Mont Vial	2.39	252	P	Pn	17 06 09.4	+1.1
MVIF	Mont Vial	2.39	252	P	Pn	17 06 09.4	+1.1
MBDF	Montbardon	2.52	273	ePn	Pn	17 06 09.4	-0.7
	SNR=1.0						
MBDF	Montbardon	2.52	273	ePn	Pn	17 06 09.4	-0.7
MBDF	Montbardon	2.52	273	ePn	Pn	17 06 09.4	-0.7
	SNR=1.0						
BNI	Bardonecchia	2.61	280	ePn	Pn	17 06 12.4	+1.1
BNI	Bardonecchia	2.61	280	ePn	Pn	17 06 12.4	+1.1
CALN	Calern	2.62	251	P	Pn	17 06 12.4	+1.0
CALN	Calern	2.62	251	P	Pn	17 06 12.4	+1.0
DAVA	Damuels	2.64	354	ePn	Pn	17 06 14.2	+2.5
	SNR=31						
DAVA	Damuels	2.64	354	ePn	Pn	17 06 14.2	+2.5
DAVA	Damuels	2.64	354	ePn	Pn	17 06 14.2	+2.5
LPG	La Plagne	2.65	290	ePn	Pn	17 06 11.9	0.0
	SNR=1.0						
LPG				eSn	Sn	17 06 43.2	-0.9
	70nm,0.7s						
LPG	La Plagne	2.65	290	ePn	Pn	17 06 11.9	0.0
LPG				eSn	Sn	17 06 43.2	-0.9
LPG	La Plagne	2.65	290	ePn	Pn	17 06 11.9	0.0
	SNR=1.0						
LPG				eSn	Sn	17 06 43.2	-0.9
	35nm,0.7s						
LPL	La Plagne	2.67	290	ePn	Pn	17 06 12.9	+0.8
	SNR=1.0						
LPL				eSn	Sn	17 06 44.2	-0.3
	46nm,0.4s						
LPL	La Plagne	2.67	290	ePn	Pn	17 06 12.9	+0.8
LPL				eSn	Sn	17 06 44.2	-0.3
LPL	La Plagne	2.67	290	ePn	Pn	17 06 12.9	+0.8
	SNR=1.0						
LPL				eSn	Sn	17 06 44.2	-0.3
	23nm,0.4s						
MOTA	Moosalm	2.74	11	⇑ePn	Pn	17 06 15.6	+2.6
	SNR=35						
MOTA	Moosalm	2.74	11	⇑ePn	Pn	17 06 15.6	+2.6
MOTA	Moosalm	2.74	11	⇑ePn	Pn	17 06 15.6	+2.6
WTTA	Wattenberg	2.76	19	ePn	Pn	17 06 15.2	+1.9
	SNR=36						
WTTA	Wattenberg	2.76	19	ePn	Pn	17 06 15.2	+1.9
WTTA	Wattenberg	2.76	19	ePn	Pn	17 06 15.2	+1.9
SKDS	Skadanscina	2.77	70	⇑iPn	Pn	17 06 11.9	-1.5
SKDS	Skadanscina	2.77	70	⇑iPn	Pn	17 06 11.9	-1.5
WATA	Walderalm	2.81	18	⇓ePn	Pn	17 06 16.2	+2.2
	SNR=35						
WATA	Walderalm	2.81	18	⇓ePn	Pn	17 06 16.2	+2.2
WATA	Walderalm	2.81	18	⇓ePn	Pn	17 06 16.2	+2.1
VOJS	Vojsko	2.87	60	⇑iPn	Pn	17 06 13.9	-0.9
VOJS	Vojsko	2.87	60	⇑iPn	Pn	17 06 13.9	-0.9
VOY	Vojsko	2.87	60	eSn	Sn	17 06 48.0	-1.5
VOY	Vojsko	2.87	60	eSn	Sn	17 06 48.0	-1.5
JAVS	Javornik	2.92	64	⇑iPn	Pn	17 06 14.5	-1.1
JAVS	Javornik	2.92	64	⇑iPn	Pn	17 06 14.5	-1.0
LMR	La Mourre	3.05	245	ePn	Pn	17 06 16.9	-0.4
	SNR=1.0						
LMR				eSn	Sn	17 06 52.3	-1.5
LMR				eSg	Sg	17 07 10.6	+3.7
	38nm,0.2s,SNR=1.0						
LMR	La Mourre	3.05	245	ePn	Pn	17 06 16.9	-0.4
LMR				eSn	Sn	17 06 52.3	-1.5
LMR				eSg	Sg	17 07 10.6	+3.7
LMR	La Mourre	3.05	245	ePn	Pn	17 06 16.9	-0.4
	SNR=1.0						
LMR				eSn	Sn	17 06 52.3	-1.5
LMR				eSg	Sg	17 07 10.6	+3.7
	19nm,0.2s,SNR=1.0						
ORIF	Oris-en-Rattie	3.16	276	ePn	Pn	17 06 19.9	+1.0
	SNR=1.0						
ORIF	Oris-en-Rattie	3.16	276	ePn	Pn	17 06 19.9	+1.0
ORIF	Oris-en-Rattie	3.16	276	ePn	Pn	17 06 19.9	+1.0
	SNR=1.0						
NVLJ	Novalja	3.26	90	ePn	Pn	17 06 18.8	-1.4
NVLJ				Sn	Sn	17 06 56.1	-2.9
NVLJ	Novalja	3.26	90	ePn	Pn	17 06 18.8	-1.4
NVLJ				Sn	Sn	17 06 56.0	-3.0
VISS	Visnje	3.40	69	⇑iPn	Pn	17 06 21.3	-0.7
VISS	Visnje	3.40	69	⇑iPn	Pn	17 06 21.3	-0.8
SMRF	Simiane la Rot	3.47	260	ePn	Pn	17 06 23.4	+0.4
	SNR=1.0						
SMRF				eSn	Sn	17 07 07.1	+3.0
	13nm,0.4s,SNR=1.0						
SMRF	Simiane la Rot	3.47	260	ePn	Pn	17 06 23.4	+0.4
SMRF				eSn	Sn	17 07 07.1	+3.0
SMRF	Simiane la Rot	3.47	260	ePn	Pn	17 06 23.4	+0.4
	SNR=1.0						
SMRF				eSn	Sn	17 07 07.1	+3.0
	6.7nm,0.4s,SNR=1.0						
CABF	La Chapelle	3.54	305	ePn	Pn	17 06 25.9	+1.8
	SNR=1.0						
CABF				eSn	Sn	17 07 03.8	-2.2
CABF				eSg	Sg	17 07 25.6	+2.8
	34nm,0.7s,SNR=1.0						
CABF	La Chapelle	3.54	305	ePn	Pn	17 06 25.9	+1.8
CABF				eSn	Sn	17 07 03.8	-2.2
CABF				eSg	Sg	17 07 25.6	+2.8
CABF	La Chapelle	3.54	305	ePn	Pn	17 06 25.9	+1.8
	SNR=1.0						
CABF				eSn	Sn	17 07 03.8	-2.2
CABF				eSg	Sg	17 07 25.6	+2.8
	17nm,0.7s,SNR=1.0						
SOKA	Soboth	3.88	57	⇑iPn	Pn	17 06 28.4	-0.2
SOKA	Soboth	3.88	57	⇑iPn	Pn	17 06 28.4	-0.2
SOKA	Soboth	3.88	57	⇑iPn	Pn	17 06 28.4	-0.2
BFO	Black Forest	3.91	340	ePn	Pn	17 06 28.1	-1.0
BFO	Black Forest	3.91	340	ePn	Pn	17 06 28.1	-1.1
HINF	Hinteralfeld	3.96	324	ePn	Pn	17 06 30.1	+0.3
	SNR=1.0						
HINF				eSn	Sn	17 07 14.6	-1.7
	SNR=1.0						
HINF				eSg	Sg	17 07 34.7	-1.5
	19nm,0.4s,SNR=1.0						
HINF	Hinteralfeld	3.96	324	ePn	Pn	17 06 30.1	+0.3
HINF				eSn	Sn	17 07 14.6	-1.7
HINF				eSg	Sg	17 07 34.7	-1.5
HINF	Hinteralfeld	3.96	324	ePn	Pn	17 06 30.1	+0.3
	SNR=1.0						
HINF				eSn	Sn	17 07 14.6	-1.7
	SNR=1.0						
HINF				eSg	Sg	17 07 34.7	-1.5
	9.6nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	4.02	275	ePn	Pn	17 06 31.5	+0.9
	SNR=1.0						
VIVF				eSn	Sn	17 07 16.6	-1.1
	18nm,0.6s,SNR=1.0						
VIVF	Saint-Julien-l	4.02	275	ePn	Pn	17 06 31.5	+0.9
VIVF				eSn	Sn	17 07 16.6	-1.1
VIVF	Saint-Julien-l	4.02	275	ePn	Pn	17 06 31.5	+0.9
	SNR=1.0						
VIVF				eSn	Sn	17 07 16.6	-1.1
	9.1nm,0.6s,SNR=1.0						
ECH	Echery	4.17	330	ePn	Pn	17 06 32.7	+0.1
ECH	Echery	4.17	330	ePn	Pn	17 06 32.7	+0.1
STU	Stuttgart	4.18	350	ePg	Pg	17 06 44.8	-4.3
MOA	Molln	4.21	39	⇓iPn	Pn	17 06 33.7	+0.5
	SNR=8.4						
MOA	Molln	4.21	39	⇓iPn	Pn	17 06 33.7	+0.5
MOA	Molln	4.21	39	⇓iPn	Pn	17 06 33.7	+0.5
CDF	Champ du Feu	4.29	332	ePn	Pn	17 06 34.5	+0.1
	SNR=1.0						
CDF				eSn	Sn	17 07 21.3	-3.2
	SNR=1.0						
CDF				eSg	Sg	17 07 44.2	-2.6
	15nm,0.4s,SNR=1.0						
CDF	Champ du Feu	4.29	332	ePn	Pn	17 06 34.5	+0.1
CDF				eSn	Sn	17 07 21.3	-3.2
CDF				eSg	Sg	17 07 44.2	-2.6
CDF	Champ du Feu	4.29	332	ePn	Pn	17 06 34.5	+0.1
	SNR=1.0						
CDF				eSn	Sn	17 07 21.3	-3.2
	SNR=1.0						
HAU	Haudompre	4.32	322	ePn	Pn	17 06 33.5	-1.3
	SNR=1.0						
HAU				eSn	Sn	17 07 21.1	-4.1
	30nm,0.3s,SNR=1.0						
HAU	Haudompre	4.32	322	ePn	Pn	17 06 33.5	-1.3
HAU				eSn	Sn	17 07 21.1	-4.1
HAU	Haudompre	4.32	322	ePn	Pn	17 06 33.5	-1.3
	SNR=1.0						
HAU				eSn	Sn	17 07 21.1	-4.1
	15nm,0.3s,SNR=1.0						
LASF	Ste Croix	4.66	265	ePn	Pn	17 06 40.0	+0.5
	SNR=1.0						
LASF	Ste Croix	4.66	265	ePn	Pn	17 06 40.0	+0.5
LASF	Ste Croix	4.66	265	ePn	Pn	17 06 40.0	+0.5
	SNR=1.0						
SMF	Signal de Mont	4.95	296	ePn	Pn	17 06 43.5	+0.1
	SNR=1.0						
SMF	Signal de Mont	4.95	296	ePn	Pn	17 06 43.5	+0.1
SMF	Signal de Mont	4.95	296	ePn	Pn	17 06 43.5	+0.1
	SNR=1.0						
KHC	Kasperske Hory	5.00	25	ePN	Pn	17 06 43.7	-0.4
KHC				eSN	Sn	17 07 39.0	-2.8
KHC	Kasperske Hory	5.00	25	Pn	Pn	17 06 43.7	-0.4
KHC	Kasperske Hory	5.00	25	Sn	Sn	17 07 39.0	-2.8
CONA	Conrad Observa	5.05	48	⇑iPn	Pn	17 06 44.9	+0.2
	SNR=7.4						
CONA	Conrad Observa	5.05	48	⇑iPn	Pn	17 06 44.9	+0.2
CONA	Conrad Observa	5.05	48	⇑iPn	Pn	17 06 44.9	+0.2
LOR	Lormes	5.20	302	ePn	Pn	17 06 46.0	-0.8
	SNR=1.0						
LOR				eSn	Sn	17 07 44.5	-2.2
	18nm,0.3s,SNR=1.0						
LOR	Lormes	5.20	302	ePn	Pn	17 06 46.0	-0.8
LOR				eSn	Sn	17 07 44.5	-2.2
LOR	Lormes	5.20	302	ePn	Pn	17 06 46.0	-0.8
	SNR=1.0						
LOR				eSn	Sn	17 07 44.5	-2.2
	8.8nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	5.31	296	ePn	Pn	17 06 49.0	+0.6
	SNR=1.0						
AVF	Avril sur Loir	5.31	296	ePn	Pn	17 06 49.0	+0.6
AVF	Avril sur Loir	5.31	296	ePn	Pn	17 06 49.0	+0.6
	SNR=1.0						
SSF	Saint Saulge	5.32	299	ePn	Pn	17 06 49.0	+0.5
	SNR=1.0						
SSF	Saint Saulge	5.32	299	ePn	Pn	17 06 49.0	+0.5
SSF	Saint Saulge	5.32	299	ePn	Pn	17 06 49.0	+0.5
	SNR=1.0						
BGF	Bois d'Agland	5.57	293	ePn	Pn	17 06 52.3	+0.4
	SNR=1.0						
BGF	Bois d'Agland	5.57	293	ePn	Pn	17 06 52.3	+0.4
BGF	Bois d'Agland	5.57	293	ePn	Pn	17 06 52.3	+0.4
	SNR=1.0						
STON	Ston	5.64	106	ePn	Pn	17 06 50.8	-2.1
STON				Sn	Sn	17 07 51.9	-5.9
STON	Ston	5.64	106	ePn	Pn	17 06 50.8	-2.1
NKC	Novy Kostel	5.76	14	eSN	Sn	17 07 58.0	-2.5
TREC	Trest	5.83	36	eSN	Sn	17 07 58.6	-3.7
TCF	Toulx Ste Croi	5.92	289	eSn	Sn	17 08 03.3	-1.3
	8.0nm,0.5s,SNR=1.0						
TCF	Toulx Ste Croi	5.92	289	eSn	Sn	17 08 03.3	-1.3
TCF	Toulx Ste Croi	5.92	289	eSn	Sn	17 08 03.3	-1.3
	4.0nm,0.5s,SNR=1.0						
PRU	Pruhonice	6.05	27	ePN	Pn	17 06 58.4	-0.1
PRU	Pruhonice	6.05	27	Pn	Pn	17 06 58.4	-0.1
BRG	Berggiesshubel	6.68	20	PN	Pn	17 07 05.7	-1.4
BRG				PG	Pg	17 07 27.1	-10
BRG				SN	Sn	17 08 20.0	-3.2
BRG				SG	Sg	17 09 05.9	+2.7
	9.5nm,1.0s						
CLL	Collm	6.89	14	ePn	Pn	17

0.6nm,0.5s,mb3.2,baz=108,slow=7.2,SNR=35
WRA Warramunga Arr 42.65 276 P **P 17 13 17.6 -0.3**
0.8nm,0.3s,mb3.5,baz=112,slow=8.0,SNR=20
FINES FINESS Array B 146.61 338 PKPbc PKPbc 17 24 54.6 +1.6
5.5nm,1.1s,baz=56,slow=0.5,SNR=3.8

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*DDA **26** 17:12:36.6, 37°.91N×29°.24E, h4km±3km, Md2.8*
*ISCJB **26** 17:12:37.1±0.5, 37°.91N±0°.02×29°.20E±0°.04, h4km±6km, Error ellipse: s-maj=5.4km s-min=4.0km az=7.0*
*ISK **26** 17:12:37.2, 37°.95N×29°.16E, h8km, MD2.7*
*CSEM **26** 17:12:37.0±0.2, 37°.91N×29°.23E, h2km, MD2.7, Error ellipse: s-maj=3.9km s-min=2.8km az=104.0*
ISC 26 17:12:37.5±0.5, 37°.91N±0°.02×29°.20E±0°.05, h7km±7km, n22, σ0s67/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**219**	*e*PG	**Pg**	**17 12 42.5**	**+0.9**
DENT				*e*SG	**Sg**	**17 12 45.6**	**+1.3**
DENT	**Denizli**	**0.20**	**219**	*e*Pg	**Pg**	**17 12 42.5**	**+0.9**
DENT				*e*Sg	**Sg**	**17 12 45.6**	**+1.3**
DNZL	**Cakiroluk**	**0.25**	**208**	*i* P	**Pg**	**17 12 42.0**	**-0.5**
DNZL				*i* S	**Sg**	**17 12 45.6**	**-0.3**
DNZL	**Cakiroluk**	**0.25**	**208**	*i* P	**Pg**	**17 12 42.0**	**-0.5**
DNZL				*i* S	**Sg**	**17 12 45.6**	**-0.2**
KHAL	**Karahalli**	**0.51**	**27**	*i* P	**Pg**	**17 12 47.1**	**-0.3**
KHAL				*i* S	**Sg**	**17 12 54.3**	**+0.2**
KHAL	**Karahalli**	**0.51**	**27**	*i* P	**Pg**	**17 12 47.1**	**-0.3**
KHAL				*i* S	**Sg**	**17 12 54.3**	**+0.2**
GOLH	**Golhisar**	**0.73**	**157**	*i* P	**Pg**	**17 12 50.1**	**-1.5**
GOLH				*i* S	**Sg**	**17 13 01.6**	**+0.4**
GOLH	**Golhisar**	**0.73**	**157**	*i* P	**Pg**	**17 12 50.1**	**-1.5**
GOLH				*i* S	**Sg**	**17 13 01.6**	**+0.5**
KULA	**Kula-Manisa**	**0.73**	**325**	*e*PG	**Pg**	**17 12 51.0**	**-0.6**
KULA				*e*SG	**Sg**	**17 13 00.9**	**-0.3**
KULA	**Kula-Manisa**	**0.73**	**325**	*e*Pg	**Pg**	**17 12 51.0**	**-0.6**
KULA				*e*Sg	**Sg**	**17 13 00.9**	**-0.3**
MANT	**Manisa**	**0.77**	**319**	*i* P	**Pg**	**17 12 52.3**	**+0.1**
MANT				*i* S	**Sg**	**17 13 03.3**	**+1.1**
MANT	**Manisa**	**0.77**	**319**	*i* P	**Pg**	**17 12 52.3**	**+0.1**
MANT				*i* S	**Sg**	**17 13 03.3**	**+1.1**
AYDN	**Tasoluk**	**1.07**	**257**	*i* P	**Pg**	**17 12 58.3**	**+0.2**
AYDN				*i* S	**Sg**	**17 13 11.0**	**-1.0**
AYDN	**Tasoluk**	**1.07**	**257**	*i* P	**Pg**	**17 12 58.3**	**+0.2**
AYDN				*i* S	**Sg**	**17 13 11.0**	**-1.1**
DEMI	**Demirci**	**1.19**	**342**	*i* P	**Pb**	**17 13 00.9**	**+0.5**
DEMI				*i* S	**Sg**	**17 13 15.6**	**-0.2**
DEMI	**Demirci**	**1.19**	**342**	*i* P	**Pb**	**17 13 00.9**	**+0.5**
DEMI				*i* S	**Sg**	**17 13 15.6**	**-0.2**
GDZ	**Gediz**	**1.20**	**11**	*i* P	**Pb**	**17 12 59.9**	**-0.6**
GDZ				*i* S	**Sg**	**17 13 15.9**	**-0.1**
GDZ	**Gediz**	**1.20**	**11**	*i* P	**Pb**	**17 12 59.9**	**-0.6**
GDZ				*i* S	**Sg**	**17 13 15.9**	**0.0**
SHUT	**Suhut-Afyon**	**1.24**	**59**	*e*PN	**Pn**	**17 13 01.4**	**+0.1**
SHUT				*e*SN	**Sn**	**17 13 19.1**	**+0.8**
SHUT	**Suhut-Afyon**	**1.24**	**59**	*e*Pn	**Pn**	**17 13 01.4**	**+0.1**
SHUT				*e*Sn	**Sn**	**17 13 19.2**	**+0.9**
ALT	**Altintas**	**1.35**	**32**	*e*PN	**Pn**	**17 13 02.4**	**-0.4**
ALT	**Altintas**	**1.35**	**32**	*e*Pn	**Pn**	**17 13 02.4**	**-0.3**

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*ISCJB **26** 17:15:34.8±0.6, 7°.1N±0°.1×34°.11W±0°.10, h10km, mb4.0/8, MS3.9/13, Error ellipse: s-maj=17.6km s-min=12.9km az=150.5*
*IDC **26** 17:15:35.5±0.9, 7°.32N×34°.14W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/23, mbtmp4.0/7, MS3.9/14, Ms1 3.9/14, ms1mx3.8/25, Error ellipse: s-maj=36.2km s-min=19.0km az=162.0*
*NEIC **26** 17:15:36.7±0.5, 7°.16N×34°.11W, h10km, mb4.1/2, Error ellipse: s-maj=14.3km s-min=10.5km az=150.0*
ISC 26 17:15:36.8±0.6, 7°.2N±0°.1×34°.12W±0°.10, h10km, n25, σ0s89/19, mb4.0/8, MS3.9/13, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.01**	**188**	*e*Pn	**Pn**	**17 18 41.6**	**-0.3**
RCBR	7.4nm,0.4s			*e*Sn	**Sn**	**17 20 56.5**	**-10**
BBTS	**Babate**	**18.80**	**65**	LR	LR	17 25 29.1	
	comp=Z,318nm,18.0s,baz=228,slow=32						
FDF	**Fort de France**	**27.57**	**288**	P	**P**	**17 21 24.4**	**+0.2**
DBIC	**Dimbokro**	**29.05**	**89**	P	**P**	**17 21 37.5**	**-0.1**
	3.4nm,0.8s,mb4.2,baz=277,slow=7.8,SNR=6.3						
DBIC				LR	LR	17 31 03.6	
	comp=Z,120nm,18.0s,MS3.5,baz=250,slow=32						
DBIC	**Dimbokro**	**29.05**	**89**	P	**P**	**17 21 37.5**	**-0.1**
SAML	**Samuel**	**33.09**	**242**	*e*P	**P**	**17 22 12.4**	**-0.7**
	3.1nm,1.1s,mb4.2						
SIV	**San Ignacio**	**35.23**	**229**	P	**P**	**17 22 32.9**	**+1.2**
	2.6nm,1.0s,mb4.1,baz=70,slow=10.0,SNR=7.6						
SIV				LR	LR	17 36 17.7	
	comp=Z,288nm,18.1s,MS4.1,slow=35						
SIV	**San Ignacio**	**35.23**	**229**	P	**P**	**17 22 32.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**35.73**	**77**	P	**P**	**17 22 35.9**	**-0.2**
	5.4nm,0.8s,mb4.5,baz=268,slow=9.3,SNR=28						
TORD				LR	LR	17 35 14.7	
	comp=Z,163nm,19.3s,MS3.8,baz=15,slow=33						
TORD	**Torodi Ar. Bea**	**35.73**	**77**	P	**P**	**17 22 35.9**	**-0.2**
ROSC	**El Rosal**	**40.05**	**269**	LR	LR	17 38 08.1	
	comp=Z,124nm,18.1s,MS3.8,baz=21,slow=34						
CPUP	**Villa Florida**	**40.19**	**213**	LR	LR	17 39 32.9	
	comp=Z,159nm,18.1s,MS3.9,baz=212,slow=36						
LPAZ	**La Paz**	**40.93**	**235**	P	**P**	**17 23 21.4**	**+1.6**
	1.3nm,0.6s,mb3.7,baz=55,slow=8.4,SNR=5.2						
LPAZ				LR	LR	17 39 19.7	
	comp=Z,110nm,18.3s,MS3.8,baz=243,slow=35						
LPAZ	**La Paz**	**40.93**	**235**	P	**P**	**17 23 20.7**	**+0.9**
	4.8nm,1.2s,mb4.0						
ESDC	**Sonseca Array**	**42.20**	**35**	LR	LR	17 36 22.7	
	comp=Z,99nm,20.1s,MS3.7,baz=205,slow=30						
LVC	**Limon Verde**	**45.11**	**228**	P	**P**	**17 23 50.3**	**-3.3**
GERES	**GERESS Array B**	**57.79**	**35**	LR	LR	17 47 38.7	
	comp=Z,149nm,21.4s,MS4.1,baz=279,slow=33						
PLCA	**Paso Flores**	**58.24**	**212**	LR	LR	17 50 53.2	
	comp=Z,251nm,18.1s,MS4.4,baz=170,slow=36						
NOA	**NORSAR Array B**	**63.41**	**23**	LR	LR	17 49 26.4	
	comp=Z,98nm,18.6s,MS4.0,baz=0.0,slow=32						
BRTR	**Keskin Array B**	**68.38**	**50**	P	**P**	**17 26 39.8**	**+0.9**
	1.3nm,0.8s,mb4.0,baz=282,slow=5.7,SNR=6.2						
BRTR				LR	LR	17 59 28.8	
	comp=Z,48nm,19.2s,MS3.7,baz=203,slow=39						
BRTR	**Keskin Array B**	**68.38**	**50**	P	**P**	**17 26 39.8**	**+0.9**
TXAR	**Lajitas Array**	**68.71**	**299**	P	**P**	**17 26 41.0**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=112,slow=7.2,SNR=5.7						
TXAR				LR	LR	17 57 21.4	
	comp=Z,168nm,19.6s,MS4.3,baz=345,slow=36						
TXAR	**Lajitas Array**	**68.71**	**299**	P	**P**	**17 26 41.0**	**-0.1**
YKA	**Yellowknife Ar**	**79.30**	**332**	P	**P**	**17 27 41.5**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=102,slow=5.8,SNR=9.6						
YKA				LR	LR	17 58 38.5	
	comp=Z,23nm,19.7s,MS3.5,baz=10.0,slow=33						
YKA	**Yellowknife Ar**	**79.30**	**332**	P	**P**	**17 27 41.5**	**-0.9**

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*ISCJB **26** 17:16:39.9±2.0, 36°.82N±0°.07×26°.63E±0°.05, h15km±16km, Error ellipse: s-maj=12.2km s-min=6.0km az=5.8*
*ATH **26** 17:16:39.2, 36°.80N×26°.66E, h27km±3km, MD3.2/5*
*HLW **26** 17:16:39.7, 36°.49N×27°.14E, h26km±11km, Md3.8*
*CSEM **26** 17:16:39.5±0.3, 36°.75N×26°.66E, h5km, ML2.5/1, Error ellipse: s-maj=7.2km s-min=5.1km az=12.0*
*THE **26** 17:16:41.3, 36°.81N×26°.70E, h13km±7km, ML2.5/1, Error ellipse: s-maj=8.2km s-min=2.0km az=1.0*
ISC 26 17:16:40.0±2.4, 36°.78N±0°.07×26°.67E±0°.05, h10km±19km, n28, σ0s67/49, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.29**	**162**	*e*PN	**Pn**	**17 17 03.6**	**-0.4**
KARP				*e*SN	**Sn**	**17 17 21.7**	**+0.3**
KARP	**Karpathos**	**1.29**	**162**	P	**Pn**	**17 17 03.6**	**-0.4**
KARP				S	**Sb**	**17 17 22.0**	**+1.1**
KARP	**Karpathos**	**1.29**	**162**	P	**Pn**	**17 17 03.6**	**-0.4**
KARP				*e*Sn	**Sn**	**17 17 21.7**	**+0.3**
KARP				S	**Sb**	**17 17 22.0**	**+1.1**
ARG	**Arkhangelos**	**1.30**	**115**	*e*PN	**Pn**	**17 17 03.5**	**-0.7**
ARG				*e*SN	**Sn**	**17 17 22.0**	**+0.4**
ARG	**Arkhangelos**	**1.30**	**115**	P	**Pn**	**17 17 03.9**	**-0.3**
ARG				S	**Sb**	**17 17 20.3**	**-0.9**
ARG	**Arkhangelos**	**1.30**	**115**	*e*Pn	**Pn**	**17 17 03.5**	**-0.7**
ARG	**Arkhangelos**	**1.30**	**115**	P	**Pn**	**17 17 03.9**	**-0.3**
ARG				*e*Sn	**Sn**	**17 17 22.0**	**+0.4**
ZKR	**Zakros**	**1.70**	**193**	*e*PN	**Pn**	**17 17 09.5**	**-0.2**
ZKR				*e*SN	**Sn**	**17 17 31.1**	**-0.3**
ZKR	**Zakros**	**1.70**	**193**	P	**Pn**	**17 17 09.6**	**-0.1**
ZKR				S	**Sn**	**17 17 33.3**	**+1.9**
ZKR	**Zakros**	**1.70**	**193**	P	**Pn**	**17 17 09.6**	**-0.1**
ZKR				*e*Sn	**Sn**	**17 17 31.1**	**-0.3**
ZKR				S	**Sn**	**17 17 33.3**	**+1.9**
NPS	**Neapolis**	**1.74**	**210**	*e*PN	**Pn**	**17 17 09.9**	**-0.3**
NPS				*e*SN	**Sn**	**17 17 32.0**	**-0.4**
NPS	**Neapolis**	**1.74**	**210**	*e*Pb	**Pn**	**17 17 09.9**	**-0.3**
NPS				*e*Sn	**Sn**	**17 17 32.0**	**-0.4**
SIVA	**Sivas**	**2.32**	**221**	*e*PN	**Pn**	**17 17 18.4**	**+0.3**
SIVA				*e*SN	**Sn**	**17 17 46.0**	**-0.7**
SIVA	**Sivas**	**2.32**	**221**	*e*Pn	**Pn**	**17 17 18.4**	**+0.3**
SIVA				*e*Sn	**Sn**	**17 17 46.0**	**-0.7**
VAM	**Vamos**	**2.42**	**236**	*e*PN	**Pn**	**17 17 19.8**	**+0.2**
VAM				*e*SN	**Sn**	**17 17 48.6**	**-0.7**
VAM	**Vamos**	**2.42**	**236**	P	**Pn**	**17 17 19.8**	**+0.2**
VAM				S	**Sn**	**17 17 49.3**	**0.0**
VAM	**Vamos**	**2.42**	**236**	P	**Pn**	**17 17 19.8**	**+0.2**
VAM				*e*Sn	**Sn**	**17 17 48.5**	**-0.8**
VAM				S	**Sn**	**17 17 49.3**	**0.0**
KYTH	**Kithira**	**2.97**	**261**	P	**Pn**	**17 17 26.6**	**-0.5**
KYTH	**Kithira**	**2.97**	**261**	P	**Pn**	**17 17 26.6**	**-0.5**
AGG	**Agios Georgios**	**4.10**	**304**	P	**Pn**	**17 17 43.9**	**+1.3**
AGG	**Agios Georgios**	**4.10**	**304**	P	**Pn**	**17 17 43.9**	**+1.3**
SLUM		**5.41**	**193**	S	**Sn**	**17 18 51.4**	**-12**
baz=199							
SLUM		**5.41**	**193**	S	**Sn**	**17 18 51.4**	**-12**
HMAT	**Matruh**	**5.68**	**176**	S	**Sn**	**17 18 54.9**	**-15**
baz=181							
HMAT	**Matruh**	**5.68**	**176**	S	**Sn**	**17 18 54.9**	**-15**
SWA2		**7.58**	**188**	P	**Pn**	**17 18 23.1**	**-7.4**
baz=192							
SWA2				S	**Sn**	**17 19 41.5**	**-15**
baz=192							
SWA2		**7.58**	**188**	P	**Pn**	**17 18 23.1**	**-7.4**
SWA2				S	**Sn**	**17 19 41.5**	**-15**
HFRF	**Wahat Farafira**	**9.70**	**171**	P	**Pn**	**17 18 49.8**	**-10**
baz=173							

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*IDC **26** 17:23:58.4±0.9, 31°.25N×103°.64E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.6/26, mbtmp3.7/9, ML3.4/2, Error ellipse: s-maj=32.8km s-min=16.7km az=61.0*
*NEIC **26** 17:23:59.6±0.5, 31°.20N×103°.45E, h10km, mb4.3/6, Error ellipse: s-maj=10.8km s-min=8.3km az=170.0*
*ISCJB **26** 17:24:00.7±0.8, 31°.19N±0°.05×103°.48E±0°.05, h31km±7km, mb3.7/7, Error ellipse: s-maj=9.4km s-min=6.2km az=151.8*
*BJI **26** 17:24:00.2, 31°.26N×103°.62E, h15km, ML3.6/17*
ISC 26 17:24:00.9±0.7, 31°.25N±0°.03×103°.51E±0°.04, h17km±5km, n44, σ1s27/53, mb3.7/7, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.40**	**148**	*i* Pg	**Pg**	**17 24 08.5**	**-0.7**
CD2				Sg	**Sg**	**17 24 14.8**	**+0.1**
CD2				smax			
	comp=N,11μm,1.0s						
CD2				smax			
	comp=E,26μm,0.5s						
LZH	**Lanzhou**	**4.83**	**3**	Pg	**Pg**	**17 25 33.0**	**-0.5**
LZH				Sg	**Sg**	**17 26 36.0**	**0.0**
LZH				smax			
	comp=N,86nm,1.2s						
LZH				smax			
	comp=E,67nm,1.1s						
LZH				LR	LR		
	comp=N,460nm,6.3s						
LZH				LR	LR		
	comp=E,740nm,11.4s						
LZH				LR	LR		
	comp=Z,470nm,7.0s						
ENH	**Enshi**	**5.24**	**99**	*e*Pn	**Pn**	**17 25 17.9**	**-0.5**
	comp=Z,28nm,0.3s						
ENH				*e*Sn	**Sn**	**17 26 14.6**	**-3.8**
XAN	**Xi'an**	**5.34**	**57**	Pn	**Pn**	**17 25 19.8**	**-0.1**
XAN				Sn	**Sn**	**17 26 17.5**	**-3.5**
XAN				Sg	**Sb**	**17 26 40.3**	**+2.6**
XAN				smax			
	comp=N,68nm,0.7s						
XAN				smax			
	comp=E,38nm,0.9s						
GYA	**Guiyang**	**5.52**	**149**	Pn	**Pn**	**17 25 29.3**	**+7.0**
GYA				Pg	**Pg**	**17 25 46.8**	**+0.2**
GYA				Sn	**Pg**	**17 25 56.0**	**+9.4**
GYA				Sg	**Sg**	**17 26 51.3**	**-6.8**
GYA				smax			
	comp=N,130nm,0.8s						
GYA				smax			
	comp=E,120nm,0.8s						
KMI	**Kunming**	**6.14**	**187**	Pn	**Pn**	**17 25 31.5**	**+0.6**
KMI				smax			
	comp=N,22nm,1.1s						
KMI				smax			
	comp=E,20nm,0.8s						
WHN	**Wuhan**	**9.34**	**92**	P	**Pn**	**17 26 17.8**	**+3.0**
WHN				S	**Sn**	**17 27 53.3**	**-6.1**
LSA	**Lhasa**	**10.78**	**265**	Pn	**Pn**	**17 26 36.9**	**+2.5**
	comp=E,2.6nm,0.8s						
CM31	**Chiang Mai Arr**	**13.39**	**199**	Pn	**Pn**	**17 27 12.9**	**+2.7**
	comp=E,2.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**13.39**	**199**	Pn	**Pn**	**17 27 11.8**	**+1.6**
	comp=E,0.1nm,0.3s,baz=13,slow=12,SNR=5.7						
CMAR	**Chiang Mai Arr**	**13.39**	**199**	Pn	**Pn**	**17 27 11.8**	**+1.6**
GUN	**Gumba**	**15.70**	**262**	*e*P	**Pn**	**17 27 40.9**	**-0.3**
	comp=E,20nm,0.8s						
GUN	**Gumba**	**15.70**	**262**	*e*P	**Pn**	**17 27 40.9**	**-0.3**
	comp=E,20nm,0.8s						
PKI	**Pulchoki**	**16.19**	**261**	*e*P	**Pn**	**17 27 47.3**	**-0.4**
	comp=E,11nm,0.5s						
PKI	**Pulchoki**	**16.19**	**261**	*e*P	**Pn**	**17 27 47.3**	**-0.4**
	comp=E,11nm,0.5s						
KKN	**Kakani**	**16.24**	**262**	*e*P	**Pn**	**17 27 47.5**	**-0.7**
	comp=E,20nm,0.9s						
KKN	**Kakani**	**16.24**	**262**	*e*P	**Pn**	**17 27 47.5**	**-0.7**
	comp=E,20nm,0.9s						
DMN	**Daman**	**16.44**	**262**	*e*P	**Pn**	**17 27 49.5**	**-1.3**
	comp=E,16nm,0.8s						
DMN	**Daman**	**16.44**	**262**	*e*P	**Pn**	**17 27 49.5**	**-1.3**
	comp=E,16nm,0.8s						
SONM	**Songino Array**	**16.71**	**7**	Pn	**Pn**	**17 27 55.6**	**+1.6**
	comp=E,0.1nm,0.3s,baz=186,slow=11,SNR=7.7						
SONM	**Songino Array**	**16.71**	**7**	Pn	**Pn**	**17 27 55.6**	**+1.6**
GKN	**Gorkha**	**16.73**	**264**	*e*P	**Pn**	**17 27 52.7**	**-1.7**
	comp=E,18nm,0.5s						
GKN	**Gorkha**	**16.73**	**264**	*e*P	**Pn**	**17 27 52.7**	**-1.7**
	comp=E,18nm,0.5s						
DANN	**Dangsing**	**17.38**	**265**	*e*P	**Pn**	**17 27 59.7**	**-3.0**
	comp=E,8.2nm,0.6s						
DANN	**Dangsing**	**17.38**	**265**	*e*P	**Pn**	**17 27 59.7**	**-3.0**
	comp=E,8.2nm,0.6s						
KOLN	**Koldanda**	**17.67**	**264**	*e*P	**Pn**	**17 28 03.6**	**-2.7**
KOLN	**Koldanda**	**17.67**	**264**	*e*P	**Pn**	**17 28 03.6**	**-2.7**
KSAR	**Wonju Array Be**	**21.02**	**66**	P	**P**	**17 28 43.1**	**-0.6**
KSRS	**Korea Array**	**21.06**	**66**	P	**P**	**17 28 43.1**	**-0.9**
	comp=E,3.5nm,0.7s,mb3.8,baz=251,slow=9.6,SNR=12						
CN2	**Changchun**	**21.36**	**48**	*e*P	**P**	**17 28 49.3**	**+2.0**
MK31	**Makanchi Array**	**22.54**	**320**	*e*P	**P**	**17 29 00.1**	**+0.3**
MKAR	**Makanchi Array**	**22.54**	**320**	P	**P**	**17 29 01.3**	**+1.5**
	comp=E,5.0nm,1.1s,mb3.9,baz=127,slow=9.1,SNR=13						
MKAR	**Makanchi Array**	**22.54**	**320**	P	**P**	**17 29 01.3**	**+1.5**
ZAA0	**Zalesovo Array**	**26.37**	**335**	*e*P	**P**	**17 29 36.1**	**+0.1**
ZALV	**Zalesovo Beam**	**26.37**	**335**	P	**P**	**17 29 36.0**	**0.0**
	comp=E,1.4nm,0.7s,mb3.6,baz=124,slow=9.2,SNR=6.3						
ZALV	**Zalesovo Beam**	**26.37**	**335**	P	**P**	**17 29 36.0**	**0.0**
KURK	**Kurchatov**	**26.83**	**324**	P	**P**	**17 29 40.8**	**+0.6**
	comp=E,1.8nm,0.6s,mb3.8,baz=128,slow=9.7,SNR=20						
KURK	**Kurchatov**	**26.83**	**324**	P	**P**	**17 29 40.8**	**+0.6**
WRA	**Warramunga Arr**	**58.88**	**146**	P	**P**	**17 33 58.8**	**-0.1**
	comp=E,1.9nm,0.8s,mb4.2,baz=337,slow=7.5,SNR=34						
WRA	**Warramunga Arr**	**58.88**	**146**	P	**P**	**17 33 58.8**	**-0.1**
ASAR	**Alice Springs**	**61.88**	**148**	P	**P**	**17 34 19.1**	**-0.3**
	comp=E,0.7nm,0.9s,mb3.8,baz=337,slow=6.8,SNR=23						
ASAR	**Alice Springs**	**61.88**	**148**	P	**P**	**17 34 19.1**	**-0.3**
YKA	**Yellowknife Ar**	**81.70**	**17**	P	**P**	**17 36 17.5**	**-0.5**
	comp=E,0.1nm,0.6s,mb2.9,baz=328,slow=5.1,SNR=3.5						
YKA	**Yellowknife Ar**	**81.70**	**17**	P	**P**	**17 36 17.6**	**-0.4**

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*IGIL **26** 17:46:51.4, 35°.30N×9°.38W, h31km, ML2.1*

*CSEM **26** 17:46:52.0±0.5, 35°.51N×9°.12W, h17km, ML2.1, Error ellipse: s-maj=9.9km s-min=8.4km az=95.0*
*MDD **26** 17:46:52.1±2.1, 35°.53N×9°.07W, h0km, mbLg2.0/7, Error ellipse: s-maj=21.3km s-min=15.9km az=93.0, PRXIMO*
INMG 26 17:46:51.4±1.2, 35°.30N×9°.36W, h31km, ML1.7, Error ellipse: s-maj=9.6km s-min=6.1km az=91.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.88**	**13**	*e*Pn	Pn	17 47 20.0	-1.4
PFVI				*e*Sn	Sn	17 47 41.1	-3.0
PFVI	**Vila Bisbo**	**1.88**	**13**	P	Pn	17 47 19.8	-1.7
	0.3nm,0.1s,SNR=4.0						
PFVI				S	Sn	17 47 39.7	-4.4
	6.0nm,0.2s,SNR=5.6						
PFVI	**Vila Bisbo**	**1.88**	**13**	P	Pn	17 47 19.8	-1.6
	0.3nm,0.1s,SNR=4.0						
PFVI	**Vila Bisbo**	**1.88**	**13**	*e*Pn	Pn	17 47 20.0	-1.4
PFVI				S	Sn	17 47 39.7	-4.4
	6.0nm,0.2s,SNR=5.6						
PFVI				*e*Sn	Sn	17 47 41.1	-3.0
MORF	**Marmelete**	**2.09**	**16**	*e*Sn	Sn	17 47 46.1	-3.0
MORF				A		17 47 46.6	
	4.2nm,0.1s						
MORF	**Marmelete**	**2.09**	**16**	S	Sn	17 47 46.1	-3.0
	4.2nm,0.1s						
MORF	**Marmelete**	**2.09**	**16**	*e*Sn	Sn	17 47 46.1	-3.0
	4.2nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.26**	**30**	*e*Sn	Sn	17 47 50.3	-3.1
PBDV	**Barranco-do-Ve**	**2.26**	**30**	S	Sn	17 47 50.3	-3.1
PBDV	**Barranco-do-Ve**	**2.26**	**30**	*e*Sn	Sn	17 47 50.3	-3.1
PTEO	**Sao Teotonio**	**2.30**	**13**	*e*Pn	Pn	17 47 26.8	-0.4
PTEO				*e*Sn	Sn	17 47 51.6	-2.9
PTEO				A		17 47 54.7	
	5.5nm,0.8s						
PTEO	**Sao Teotonio**	**2.30**	**13**	P	Pn	17 47 26.8	-0.4
PTEO				S	Sn	17 47 51.6	-2.9
	2.8nm,0.8s						
PTEO	**Sao Teotonio**	**2.30**	**13**	*e*Pn	Pn	17 47 26.8	-0.4
PTEO				*e*Sn	Sn	17 47 51.6	-2.9
	5.5nm,0.8s						
PVAQ	**Vaqueiros**	**2.49**	**32**	*e*Pn	Pn	17 47 28.2	-1.5
PVAQ				*e*Sn	Sn	17 47 55.9	-3.1
PVAQ	**Vaqueiros**	**2.49**	**32**	P	Pn	17 47 28.2	-1.5
PVAQ				S	Sn	17 47 55.9	-3.1
PVAQ	**Vaqueiros**	**2.49**	**32**	*e*Pn	Pn	17 47 28.2	-1.5
PVAQ				*e*Sn	Sn	17 47 55.9	-3.1
PCVE	**Castro Verde**	**2.56**	**24**	*e*Pn	Pn	17 47 30.0	-0.8
PCVE				*e*Sn	Sn	17 47 57.5	-3.4
PCVE	**Castro Verde**	**2.56**	**24**	P	Pn	17 47 30.0	-0.8
PCVE				S	Sn	17 47 57.5	-3.4
PCVE	**Castro Verde**	**2.56**	**24**	*e*Pn	Pn	17 47 30.0	-0.8
PCVE				*e*Sn	Sn	17 47 57.5	-3.4
EGRO	**El Granado**	**2.70**	**34**	P	Pn	17 47 30.7	-1.9
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	17 48 00.1	-4.1
	1.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.70**	**34**	P	Pn	17 47 30.7	-1.9
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	17 48 00.1	-4.1
	1.8nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**2.70**	**19**	*e*S	Sn	17 48 00.8	-3.4
MESJ	**Messejana**	**2.70**	**19**	S	Sn	17 48 00.8	-3.4
MESJ	**Messejana**	**2.70**	**19**	*e*Sn	Sn	17 48 00.8	-3.4
PNCL	**Nicolau / Gran**	**2.89**	**13**	*e*Pn	Pn	17 47 34.1	-1.1
PNCL				*e*Sn	Sn	17 48 05.0	-3.9
PNCL	**Nicolau / Gran**	**2.89**	**13**	*e*Pn	Pn	17 47 34.1	-1.1
PNCL				*e*Sn	Sn	17 48 05.0	-3.9
PBEJ	**Beja**	**2.98**	**23**	*e*Sn	Sn	17 48 07.5	-3.6
PBEJ	**Beja**	**2.98**	**23**	S	Sn	17 48 07.5	-3.6
PBEJ	**Beja**	**2.98**	**23**	*e*Sn	Sn	17 48 07.5	-3.6
EMIN	**Mina Concepcio**	**3.28**	**40**	P	Pn	17 47 38.2	-2.4
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	17 48 12.5	-6.1
	0.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.28**	**40**	P	Pn	17 47 38.2	-2.4
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	17 48 12.5	-6.1
	0.6nm,0.1s,SNR=7.9						
MOE	**Montemor**	**3.32**	**14**	*e*Sn	Sn	17 48 16.6	-3.0
MOE	**Montemor**	**3.32**	**14**	S	Sn	17 48 16.6	-3.0
MOE	**Montemor**	**3.32

YKA	Yellowknife Ar	82.96	27	P	P	18 19 34.9	-0.7
	0.1nm,0.6s,mb3.0,baz=279,slow=8.1,SNR=2.5						
YKA	Yellowknife Ar	82.96	27	P	P	18 19 34.9	-0.7
TORD	Torodi Ar. Bea	135.42	305	PKP	PKPdf	18 26 32.8	+1.1
	1.1nm,1.0s,baz=28,slow=4.3,SNR=2.9						
TORD	Torodi Ar. Bea	135.42	305	PKP	PKPdf	18 26 32.8	+1.1
DBIC	Dimbokro	144.38	302	PKP	PKPdf	18 26 45.8	-2.2
	1.6nm,0.5s,baz=54,slow=5.6,SNR=5.1						
DBIC	Dimbokro	144.38	302	PKP	PKPdf	18 26 45.8	-2.2

ISCJB ***26*** *18:11:54.0±0.4, 37°.91N±0°.02×29°.19E±0°.03, h3km±5km, Error ellipse: s-maj=4.2km s-min=2.8km az=176.3*
ISK ***26*** *18:11:53.8, 37°.89N×29°.15E, h7km, MD3.0*
DDA ***26*** *18:11:53.8, 37°.90N×29°.21E, h6km±3km, Md3.1*
CSEM ***26*** *18:11:54.1±0.2, 37°.90N×29°.19E, h2km, MD3.0, Error ellipse: s-maj=4.3km s-min=3.0km az=85.0*
ISC 26 18:11:54.4±0.4, 37°.90N±0°.02×29°.19E±0°.03, h4km±5km, n44, σ0°81/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.20	220	*e*PG	Pg	18 11 57.9	-0.4
DENT				*e*SG	Sg	18 12 00.5	-0.4
DENT	Denizli	0.20	220	*e*Pg	Pg	18 11 57.9	-0.3
DENT				*e*Sg	Sg	18 12 00.5	-0.3
DNZL	Cakiroluk	0.24	209	*i* P	Pg	18 11 58.9	-0.2
DNZL				*i* S	Sg	18 12 02.9	+0.6
DNZL	Cakiroluk	0.24	209	*i* P	Pg	18 11 58.9	-0.2
DNZL				*i* S	Sg	18 12 02.9	+0.6
KHAL	Karahalli	0.52	27	*i* P	Pg	18 12 04.0	-0.4
KHAL				*i* S	Sg	18 12 11.8	+0.6
KHAL	Karahalli	0.52	27	*i* P	Pg	18 12 04.0	-0.4
KHAL				*i* S	Sg	18 12 11.8	+0.6
GOLH	Golhisar	0.73	156	*i* P	Pg	18 12 06.3	-2.0
GOLH				*i* S	Sg	18 12 18.4	+0.7
GOLH	Golhisar	0.73	156	*i* P	Pg	18 12 06.3	-2.0
GOLH				*i* S	Sg	18 12 18.5	+0.7
KULA	Kula-Manisa	0.74	326	*e*PG	Pg	18 12 08.6	0.0
KULA				*e*SG	Sg	18 12 19.0	+0.8
KULA	Kula-Manisa	0.74	326	*e*Pg	Pg	18 12 08.6	0.0
KULA				*e*Sg	Sg	18 12 19.0	+0.8
MANT	Manisa	0.77	320	*i* P	Pg	18 12 09.6	+0.4
MANT				*i* S	Sg	18 12 20.0	+0.8
MANT	Manisa	0.77	320	*i* P	Pg	18 12 09.6	+0.4
MANT				*i* S	Sg	18 12 20.0	+0.8
GLHS	Glhisar (BURDU	0.79	162	*e*PG	Pg	18 12 09.5	0.0
GLHS				*e*SG	Sg	18 12 20.7	+1.1
GLHS	Glhisar (BURDU	0.79	162	*e*Pg	Pg	18 12 09.5	+0.1
GLHS				*e*Sg	Sg	18 12 20.7	+1.1
YER	Yerkesik	1.06	224	*e*PG	Pg	18 12 13.8	-0.8
YER				*e*SG	Sg	18 12 28.6	+0.2
YER	Yerkesik	1.06	224	*e*Pg	Pg	18 12 13.8	-0.8
YER				*e*Sg	Sg	18 12 28.6	+0.3
BCK	Bucak	1.19	111	*e*PN	Pn	18 12 17.5	-0.3
BCK	Bucak	1.19	111	*e*Pn	Pn	18 12 17.5	-0.3
DEMI	Demirci	1.20	342	*i* P	Pg	18 12 17.5	+0.1
DEMI				*i* S	Sg	18 12 32.2	-0.7
DEMI	Demirci	1.20	342	*i* P	Pg	18 12 17.5	+0.1
DEMI				*i* S	Sg	18 12 32.2	-0.7
GDZ	Gediz	1.20	11	*i* P	Pg	18 12 15.8	-1.7
GDZ				*i* S	Sg	18 12 30.8	-2.3
GDZ	Gediz	1.20	11	*i* P	Pg	18 12 15.8	-1.7
GDZ				*i* S	Sg	18 12 30.8	-2.3
SHUT	Suhut-Afyon	1.25	58	*e*PN	Pn	18 12 18.8	+0.2
SHUT	Suhut-Afyon	1.25	58	*e*Pn	Pn	18 12 18.8	+0.2
ELL	Elmali	1.29	154	*e*PN	Pn	18 12 19.1	0.0
ELL	Elmali	1.29	154	*e*Pn	Pn	18 12 19.1	0.0
ALT	Altintas	1.36	32	*e*PN	Pn	18 12 20.0	-0.1
ALT	Altintas	1.36	32	*e*Pn	Pn	18 12 20.0	0.0
AKHS	Akhisar	1.46	312	*i* P	Pb	18 12 22.2	+0.2
AKHS				*i* S	Sb	18 12 41.5	+0.6
AKHS	Akhisar	1.46	312	*i* P	Pb	18 12 22.2	+0.2
AKHS				*i* S	Sb	18 12 41.5	+0.6
SUTC	Sutluce-Ispart	1.50	106	*e*PN	Pb	18 12 22.2	-0.5
SUTC	Sutluce-Ispart	1.50	106	*e*Pn	Pb	18 12 22.2	-0.5
IZM	Izmir	1.60	289	*e*PN	Pn	18 12 22.9	-0.4
IZM	Izmir	1.60	289	*e*Pn	Pn	18 12 23.0	-0.4
BOLV	Bolvadin	1.60	59	*i* P	Pg	18 12 25.6	+0.5
BOLV				*i* S	Sg	18 12 49.2	+3.3
BOLV	Bolvadin	1.60	59	*i* P	Pg	18 12 25.6	+0.5
BOLV				*i* S	Sg	18 12 49.2	+3.3
AKAS	Kas	1.70	169	*e*P	Pb	18 12 26.4	+0.2
AKAS				*i* S	Sb	18 12 48.6	+0.8
AKAS	Kas	1.70	169	*e*P	Pb	18 12 26.4	+0.2
AKAS				*i* S	Sb	18 12 48.6	+0.8
BODT	Bodrum	1.72	241	*e*PN	Pn	18 12 24.2	-0.8
BODT	Bodrum	1.72	241	*e*Pn	Pn	18 12 24.2	-0.8
DAT	Datca	1.74	228	*e*PN	Pn	18 12 24.8	-0.5
DAT	Datca	1.74	228	*e*Pn	Pn	18 12 24.8	-0.5
DURS	Dursunbey	1.79	342	*i* P	Pn	18 12 26.6	+0.6
DURS				*i* S	Sg	18 12 52.9	+1.1
DURS	Dursunbey	1.79	342	*i* P	Pn	18 12 26.6	+0.7
DURS				*i* S	Sg	18 12 52.9	+1.1

ISCJB ***26*** *18:14:43.0±1.5, 2°.41S±0°.05×68°.10E±0°.05, h2km±9km, mb4.6/58, MS4.3/28, Error ellipse: s-maj=8.4km s-min=8.1km az=161.0*
BJI ***26*** *18:14:44.4, 2°.25S×67°.94E, h10km, mB5.1/20, mb4.6/26, Ms4.8/18, Ms7 4.5/19*
IDC ***26*** *18:14:44.3±0.5, 2°.35S×68°.15E, h0km, mb4.2/21, mb1 4.3/21, mb1mx4.3/27, mbtmp4.2/21, MS4.2/20, Ms1 4.2/20, ms1mx4.1/28, Error ellipse: s-maj=16.5km s-min=13.9km az=33.0*
NEIC ***26*** *18:14:45.8±0.3, 2°.43S×68°.14E, h10km, mb4.9/27, Error ellipse: s-maj=7.7km s-min=7.2km az=122.0*
GCMT ***26*** *18:14:48.1±0.2, 2°.50S×68°.13E, h12km, MW5.0, Moment Tensor Solution. s30,c40; s74,c120; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.93±.11; $M_{\theta\theta}$=2.47±.10; $M_{\phi\phi}$=3.40±.10; $M_{r\theta}$=0.14±.30; $M_{r\phi}$=-1.73±.09; $M_{\theta\phi}$=0.05±.27; Best double couple: M_0=3.40000×10^{16} NP1:ϕ_s=30.00000°, δ=87.00000°, λ=-2.00000°. NP2:ϕ_s=120.00000°, δ=88.00000°, λ=-177.00000°. Principal axes: T 3.8700, Plg1.0000°, Azm255.0000°; N -0.9200, Plg86.0000°, Azm149.0000°; P -2.9500, Plg4.0000°, Azm345.0000°; Data Used: II IC IU G CN.*
DJA ***26*** *18:14:49, 2°.35S×68°.30E, h10km, mb5.1/9*
ISC 26 18:14:47.0±1.6, 2°.44S±0°.04×68°.12E±0°.05, h15km±10km, h16km±1.1km: pP-P, n130, σ1§22/125, mb4.6/58, MS4.3/28, 1C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	6.56	139	*e*Pn	Pn	18 16 22.4	-0.5
DGAR				*e*Sn	Sn	18 17 35.2	-2.4
MSEY	Mahe Island	12.80	260	*e*Pn	Pn	18 17 49.3	+0.7
MSEY	39nm,0.8s						
MSEY				*e*Sn	Sn	18 20 00.2	-11
TRD	Trivandrum	14.00	39	*e*PKP	Pn	18 18 15.7	+11
TRD				*e*S	Sn	18 20 49.7	+10
HYB	Hyderabad	22.26	27	*i* P	P	18 19 42.5	-1.0
HYB				*e*S	S	18 23 48.0	-0.2
OPO	Ambohidratompo	26.03	231	P	P	18 20 20.6	+0.9
	1.7nm,0.8s,mb3.6,baz=60,slow=12,SNR=4.3						
OPO				LR	LR	18 28 17.2	
	comp=Z,1μm,20.0s,MS4.4,baz=48,slow=31						
OPO	Ambohidratompo	26.03	231	P	P	18 20 20.6	+0.9
ATD	Arta Tunnel	28.70	299	LR	LR	18 29 53.3	
	comp=Z,304nm,18.6s,MS3.9,baz=112,slow=32						
COCO	West Island	30.05	110	*e*P	P	18 20 50.0	-5.8
KMBO	Kilima Mbogo	30.88	272	*e*P	P	18 21 05.5	+2.4
	5.0nm,1.1s,mb4.3						
MNSI	Mandailing Nat	31.62	85	P	P	18 21 11.7	+2.0
	16nm,1.3s,mb4.7						
KULM	Kulim	33.40	77	*e*P	P	18 21 24.9	-0.3
	36nm,1.4s,mb5.1						
KULM	Kulim	33.40	77	P	P	18 21 26.9	+1.7
	22nm,1.2s,mb5.0						
KOLN	Koldanda	33.53	25	*e*P	P	18 21 27.0	+0.8
	9.6nm,0.8s,mb4.8						
KOLN	Koldanda	33.53	25	*e*P	P	18 21 27.0	+0.8
	9.6nm,0.8s,mb4.8						
DMN	Daman	34.06	28	*e*P	P	18 21 31.4	+0.6
	26nm,0.9s,mb5.2						
DMN	Daman	34.06	28	*e*P	P	18 21 31.4	+0.6
	26nm,0.9s,mb5.2						
DANN	Dangsing	34.11	25	*e*P	P	18 21 32.0	+0.8
	25nm,1.0s,mb5.1						
DANN	Dangsing	34.11	25	*e*P	P	18 21 32.0	+0.8
	25nm,1.0s,mb5.1						
PKI	Pulchoki	34.17	28	*e*P	P	18 21 32.2	+0.4
	30nm,1.2s,mb5.1						
PKI	Pulchoki	34.17	28	*e*P	P	18 21 32.2	+0.4
	30nm,1.2s,mb5.1						
GKN	Gorkha	34.19	27	*e*P	P	18 21 32.4	+0.5
	22nm,0.9s,mb5.1						
GKN	Gorkha	34.19	27	*e*P	P	18 21 32.4	+0.5
	22nm,0.9s,mb5.1						
RAMN	Ramite	34.23	30	*e*P	P	18 21 33.7	+1.4
RAMN	Ramite	34.23	30	*e*P	P	18 21 33.7	+1.4
KKN	Kakani	34.30	28	*e*P	P	18 21 33.5	+0.7
	19nm,0.9s,mb5.0						
KKN	Kakani	34.30	28	*e*P	P	18 21 33.5	+0.7
	19nm,0.9s,mb5.0						
ODAN	Odare	34.56	31	*e*P	P	18 21 36.4	+1.2
ODAN	Odare	34.56	31	*e*P	P	18 21 36.4	+1.2
GUN	Gumba	34.68	28	*e*P	P	18 21 36.9	+0.7
GUN	Gumba	34.68	28	*e*P	P	18 21 36.9	+0.7
TAPN	Taplejung	35.13	31	*e*P	P	18 21 41.3	+1.3
	39nm,1.2s,mb5.2						
TAPN	Taplejung	35.13	31	*e*P	P	18 21 41.3	+1.3
	39nm,1.2s,mb5.2						
CMAR	Chiang Mai Arr	36.77	54	LR	LR	18 35 13.6	
	comp=Z,298nm,19.8s,MS4.1,baz=240,slow=34						
KBL	Kabul	36.80	1	*e*P	P	18 21 55.0	+0.8
	15nm,1.2s,mb4.7						
RST	Umm Al-Ruwaisa	37.65	329	*e*P	P	18 22 02.0	+0.4
RST				AMb	AMB	18 22 02.8	
	comp=Z,11nm,0.9s,mb4.6						
MIB	Mutribah	37.72	330	*e*P	P	18 22 01.1	-1.0
MIB				AMb	AMB	18 22 05.6	
	comp=Z,26nm,1.1s,mb4.9						
LSA	Lhasa	38.82	33	P	P	18 22 12.5	+1.1
LSA	Lhasa	38.82	33	*e*P	P	18 22 12.4	+1.0
	comp=Z,15nm,1.4s,mb4.5						
BHD	Baghdad	42.00	330	*ex*	x	18 22 31.5	
BHD				*ex*	x	18 28 47.5	
KSM	Kuching	42.36	85	P	P	18 22 36.8	-4.2
KSH	Kashi	42.37	9	P	P	18 22 37.3	-3.3
KSH				pP	pP	18 22 42.0	-3.4
KSH				sP	sP	18 22 44.3	-3.0
KSH				PP	PP	18 24 17.3	-1.7
KSH				PcP	PcP	18 24 33.5	-0.4
KSH				ScP	ScP	18 28 22.3	-1.9
KSH				PcS	PcS	18 28 24.3	-1.4
KSH				S	S	18 28 54.5	-6.9
KSH				sS	sS	18 29 02.0	-7.3
KSH				SS	SS	18 31 54.5	-16
KSH				ScS	ScS	18 32 37.0	-5.2
KSH				pmax	pmax		
	comp=Z,39nm,1.6s,mb4.8						
KSH				pmax	pmax		
	comp=Z,390nm,5.4s						
KSH				LR	LR		
	comp=N,370nm,6.4s						
KSH				LR	LR		
	comp=E,320nm,6.3s						
KSH				LR	LR		
	comp=Z,450nm,6.6s						
KMI	Kunming	43.33	49	P	P	18 22 47.5	-1.1
KMI				pP	pP	18 22 54.0	+0.5
KMI				sP	sP	18 22 56.0	+0.6
KMI				S	S	18 29 17.0	+1.1
KMI				SS	SS	18 32 23.5	-6.4
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
KMI				pmax	pmax		
	comp=Z,110nm,3.5s						
KMI				LR	LR		
	comp=N,260nm,18.5s,MS4.2						
KMI				LR	LR		
	comp=E,160nm,20.8s,MS4.2						
KMI				LR	LR		
	comp=Z,200nm,20.2s,MS4.0						
EKS2	Erkin-Say	45.18	6	*e*P	P	18 23 00.6	-2.6
	comp=Z,116nm,0.9s,mb5.7						
AAK	Ala-Archa	45.23	7	*e*P	P	18 23 04.0	+0.4
	comp=Z,80nm,1.5s,mb5.3						
AAK	Ala-Archa	45.23	7	P	P	18 23 06.9	+3.3
	comp=Z,38nm,1.6s,mb5.0						
TKM2	Tokmak 2	45.66	8	*e*P	P	18 23 05.6	-1.3
	comp=Z,12nm,1.0s,mb4.8						
LBTB	Lobatse	46.69	237	P	P	18 23 16.3	+0.8
	comp=Z,6.2nm,0.9s,mb4.5,baz=65,slow=6.2,SNR=7.8						
LBTB	Lobatse	46.69	237	*e*P	P	18 23 15.9	+0.5
	comp=Z,12nm,1.1s,mb4.7						
GYA	Guiyang	47.02	50	P	P	18 23 18.5	+0.5
GYA				PcP	PcP	18 24 51.0	+0.8
GYA				PP	PP	18 25 08.5	-0.3
GYA				ScP	ScP	18 28 44.8	+1.1
GYA				S	S	18 30 08.5	-0.9
GYA				SS	SS	18 33 29.5	-7.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,510nm,17.0s,MS4.7						
GYA				LR	LR		
	comp=E,480nm,18.4s,MS4.7						
GYA				LR	LR		
	comp=Z,430nm,17.7s,MS4.5						
CD2	Chengdu	47.45	43	*e*P	P	18 23 22.0	+0.8
CD2				pP	pP	18 23 26.5	+0.4
CD2				sP	sP	18 23 29.3	+1.3
CD2				PP	PP	18 25 12.5	-0.2
CD2				S	S	18 30 14.8	-0.5
CD2				sS	sS	18 30 23.3	0.0
CD2				SS	SS	18 33 35.8	-7.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				pmax	pmax		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,360nm,19.0s,MS4.5						
CD2				LR	LR		
	comp=E,430nm,20.2s,MS4.5						
CD2				LR	LR		
	comp=Z,270nm,14.4s						
GNI	Garni	47.48	336	P	P	18 23 21.7	+0.4
	comp=Z,2.1nm,0.4s,mb4.4,baz=180,slow=8.1,SNR=5.1						
GNI	Garni	47.48	336	*e*P	P	18 23 20.9	-0.4
	comp=Z,4.1nm,0.8s,mb4.4						
BOSA	Boshof	48.39	233	P	P	18 23 28.6	0.0
	comp=Z,5.9nm,0.7s,mb4.7,baz=68,slow=8.0,SNR=16						
BOSA				LR	LR	18 40 15.6	
	comp=Z,224nm,21.8s,MS4.1,baz=69,slow=32						
BOSA	Boshof	48.39	233	*e*P	P	18 23 28.1	-0.5
	comp=Z,4.8nm,0.6s,mb4.7						
WMQ	Urumqi	49.29	19	*e*P	P	18 23 35.5	+0.3
WMQ				pP	pP	18 23 40.0	-0.1
WMQ				sP	sP	18 23 42.5	+0.5
WMQ				PP	PP	18 25 29.8	+0.5
WMQ				S	S	18 30 39.8	-1.1
WMQ				ScS	ScS	18 33 24.3	-2.5
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,440nm,7.0s						
WMQ				LR	LR		
	comp=N,250nm,19.2s,MS4.3						
WMQ				LR	LR		
	comp=E,180nm,20.8s,MS4.3						
WMQ				LR	LR		
	comp=Z,160nm,25.4s,MS3.9						
MK31	Makanchi Array	50.59	13	*e*P	P	18 23 43.3	-1.8
MKAR	Makanchi Array	50.59	13	P	P	18 23 43.4	-1.6
	comp=Z,1.5nm,0.8s,mb4.0,baz=203,slow=8.1,SNR=12						
MKAR				LR	LR	18 44 29.3	
	comp=Z,126nm,18.1s,MS4.0,baz=18,slow=35						
MKAR	Makanchi Array	50.59	13	P	P	18 23 43.4	-1.6
LZH	Lanzhou	50.79	38	*e*P	P	18 23 48.0	+1.3
LZH				pP	pP	18 23 51.3	-0.3
LZH				sP	sP	18 23 52.8	-0.7
LZH				*e*PP	PP	18 25 45.0	+1.9
LZH				*e*S	S	18 31 02.3	+0.2
LZH				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.9						
LZH				pmax	pmax		
	comp=Z,87nm,6.8s						
LZH				LR	LR		
	comp=N,170nm,14.5s,MS4.4						
LZH				LR	LR		
	comp=E,260nm,16.2s,MS4.4						
LZH				LR	LR		
	comp=Z,380nm,17.8s,MS4.5						
GTA	Gaotai	50.82	32	*e*P	P	18 23 49.3	+2.4
GTA				pP	pP	18 23 53.8	+2.0
GTA				sP	sP	18 23 56.3	+2.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.1						
ENH	Enshi	51.14	47	*e*P	P	18 23 48.7	-0.8
	comp=Z,25nm,1.4s,mb5.0						
ABKAR	Akbulak array	51.97	353	*e*P	P	18 23 54.3	-1.0
	comp=Z,3.4nm,0.9s,mb4.3						
BRTR	Keskin Array B	52.53	327	P	P	18 23 58.8	-0.9
	comp=Z,2.8nm,1.0s,mb4.2,baz=144,slow=11,SNR=12						
BRTR				LR	LR	18 46 13.6	
	comp=Z,122nm,18.6s,MS4.0,baz=292,slow=36						
BRTR	Keskin Array B	52.53	327	P	P	18 23 58.8	-0.9
XAN	Xi'an	52.81	43	P	P	18 24 01.0	-0.9
XAN				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
XAN				pmax	pmax		
	comp=Z,33nm,6.8s						
KURK	Kurchatov	53.71	8	*e*P	P	18 24 07.1	-1.0
	comp=Z,8.2nm,0.9s,mb4.7						
BRVK	Borovoye	55.33	2	*e*P	P	18 24 19.1	-0.7
	comp=Z,12nm,1.4s,mb4.7						
ZAA0	Zalesovo Array	57.89	12	*e*P	P	18 24 36.2	-1.9
ZALV	Zalesovo Beam	57.89	12	P	P	18 24 36.8	-1.3
	comp=Z,3.3nm,0.7s,mb4.5,baz=218,slow=6.9,SNR=14						
ZALV				LR	LR	18 49 13.7	
	comp=Z,122nm,18.1s,MS4.0,baz=241,slow=36						
ZALV	Zalesovo Beam	57.89	12	P	P	18 24 36.8	-1.3
FITZ	Fitzroy Crossi	58.45	110	P	P	18 24 43.1	+0.4
	comp=Z,2.4nm,0.8s,mb4.3,baz=247,slow=6.1,SNR=4.5						
FITZ	Fitzroy Crossi	58.45	110	P	P	18 24 43.1	+0.4
HHC	Hu-ho-hao-te	58.49	38	*e*P	P	18 24 44.5	+1.9
HHC				pP	pP	18 24 48.8	+1.3
HHC				sP	sP	18 24 51.8	+2.4
HHC				PP	PP	18 26 56.0	+3.9
HHC				S	S	18 32 46.3	+0.8
HHC				sS	sS	18 32 53.8	+0.1
HHC				SS	SS	18 36 41.0	+2.7
HHC				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
HHC				pmax	pmax		
	comp=Z,330nm,4.6s						
HHC				LR	LR		
	comp=N,220nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=E,430nm,13.1s,MS4.8						
HHC				LR	LR		
	comp=Z,210nm,11.9s,MS4.5						
NJ2	Nanjing	59.03	50	*e*P	P	18 24 50.5	+4.0
NJ2				pP	pP	18 24 54.8	+3.3
NJ2				sP	sP	18 24 57.3	+4.0
NJ2				S	S	18 32 56.0	+3.1
NJ2				sS	sS	18 33 04.5	+3.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				pmax	pmax		
	comp=Z,140nm,4.2s						
NJ2				LR	LR		
	comp=N,210nm,23.2s,MS4.3						
NJ2				LR	LR		
	comp=E,220nm,24.3s,MS4.3						
NJ2				LR	LR		
	comp=Z,190nm,15.8s						
SONM	Songino Array	60.19	29	P	P	18 24 54.5	+0.3
	comp=Z,2.8nm,1.0s,mb4.2,baz=223,slow=5.2,SNR=13						
SONM				LR	LR	18 50 29.8	
	comp=Z,256nm,21.2s,MS4.3,baz=164,slow=36						
SONM	Songino Array	60.19	29	P	P	18 24 54.5	+0.3
BJI	Beijing	60.95	41	P	P	18 25 02.3	+2.8
BJI				S	S	18 33 19.3	+1.9
BJI				SS	SS	18 37 17.8	+0.8
BJI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
BJI				LR	LR		
	comp=Z,83nm,33.1s,MS3.7						
AKASG	Malin Array Be	62.49	333	P	P	18 25 07.1	-2.6
	comp=Z,1.3nm,0.6s,mb4.3,baz=130,slow=5.6,SNR=5.4						
AKASG	Malin Array Be	62.49	333	P	P	18 25 07.1	-2.6
JOW	Kunigami	64.83	59	LR	LR	18 54 42.3	
	comp=Z,118nm,18.9s,MS4.1,baz=185,slow=37						
CRVS	Cervenica-Dubn	65.12	328	*e*P	P	18 25 25.1	-2.0
MAW	Mawson	65.14	182	LR	LR	18 46 36.3	
	comp=Z,195nm,21.9s,MS4.3,baz=113,slow=29						
VYHS	Vyhne	66.30	327	*e*P	P	18 25 33.3	-1.4
KEST	Kesra	66.62	311	P	P	18 25 36.0	-1.0
	comp=Z,2.5nm,1.1s,mb4.1,baz=11,slow=4.1,SNR=3.7						
KEST	Kesra	66.62	311	P	P	18 25 36.0	-1.0
WRA	Warramunga Arr	66.84	111	P	P	18 25 38.6	-0.2
	comp=Z,7.9nm,0.8s,mb4.8,baz=284,slow=6.3,SNR=38						
WRA				LR	LR	18 51 04.2	
	comp=Z,166nm,19.9s,MS4.2,baz=260,slow=33						
WRA	Warramunga Arr	66.84	111	P	P	18 25 38.6	-0.2
WRAB	Tennant Creek	66.85	111	*e*P	P	18 25 37.8	-1.0
	comp=Z,10nm,0.8s,mb4.9						
WRAB	Tennant Creek	66.85	111	P	P	18 25 40.2	+1.4
WB2	Warramunga Arr	66.85	111	*e*P	P	18 25 38.4	-0.4
ASAR	Alice Springs	66.89	115	P	P	18 25 38.7	-0.3
	comp=Z,3.7nm,0.8s,mb4.5,baz=283,slow=5.6,SNR=36						
ASAR	Alice Springs	66.89	115	P	P	18 25 38.7	-0.3
AS31	Alice Springs	66.89	115	*e*P	P	18 25 37.5	-1.5
TORD	Torodi Ar. Bea	67.68	285	P	P	18 25 44.3	+0.2
	comp=Z,0.8nm,0.9s,mb3.7,baz=91,slow=5.9,SNR=6.2						
TORD				LR	LR	18 54 36.1	
	comp=Z,206nm,19.1s,MS4.4,baz=100,slow=35						
TORD	Torodi Ar. Bea	67.68	285	P	P	18 25 44.3	+0.2
KSRS	Korea Array	68.02	48	LR	LR	18 56 32.9	
	comp=Z,220nm,18.6s,MS4.4,baz=52,slow=37						
CN2	Changchun	68.82	41	*e*P	P	18 25 50.0	-0.7
CN2				*e*PP	PP	18 28 24.3	+1.4
GERES	GERESS Array B	69.37	325	P	P	18 25 55.7	+1.6
	comp=Z,0.3nm,0.6s,baz=128,slow=7.6,SNR=3.8						
GERES	GERESS Array B	69.37	325	P	P	18 25 55.7	+1.6
BRG	Berggiesshubel	70.26	327	*e*P	P	18 25 58.6	-0.8
	comp=Z,4.1nm,1.0s,mb4.3						
CLL	Collm	70.99	327	*e*P	P	18 26 03.0

YKA	**Yellowknife Ar**	**120.06**	**1**	PKP	PKPdf	18 33 37.6	+0.8
	comp=Z,0.3nm,0.6s,baz=343,slow=2.3,SNR=8.0						
YKA				PP	PP	18 34 58.1	-2.6
	comp=Z,1.3nm,1.1s,baz=0.3,slow=7.0,SNR=10						
YKA	**Yellowknife Ar**	**120.06**	**1**	PKP	PKPdf	18 33 37.6	+0.8
YKA				PP	PP	18 34 58.1	-2.6
PPT2	**Papeete2**	**137.85**	**120**	eLR	LR	19 18 44.8	
	comp=Z,128nm,26.8s						
NVAR	**Mina Array Bea**	**143.70**	**9**	PKP	PKPdf	18 34 19.7	-2.1
	comp=Z,0.2nm,0.3s,baz=340,slow=4.8,SNR=3.0						
NVAR	**Mina Array Bea**	**143.70**	**9**	PKP	PKPdf	18 34 19.7	-2.1
OTAV	**Otavalo**	**146.51**	**267**	ePKPdf	PKPdf	18 34 27.2	-0.2
JCT	**Junction City**	**149.86**	**339**	ePKPbc	PKPbc	18 34 35.5	-1.8

*ISCJB **26** 18:20:25.2±0.4, 37°.88N±0°.02×29°.19E±0°.04, h11km±5km, Error ellipse: s-maj=5.3km s-min=3.7km az=170.3*
*ISK **26** 18:20:25.2, 37°.91N×29°.16E, h18km, MD2.9*
*DDA **26** 18:20:25.4, 37°.90N×29°.22E, h7km±5km, Md3.1*
*CSEM **26** 18:20:25.2±0.1, 37°.89N×29°.20E, h12km, MD2.9, Error ellipse: s-maj=4.1km s-min=3.3km az=87.0*

ISC 26 18:20:25.6±0.4, 37°.89N±0°.02×29°.20E±0°.04, h15km±4km, n40, σ0°58/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**225**	*e*PG	**Pg**	**18 20 30.7**	**+0.7**
DENT	**Denizli**	**0.19**	**225**	*e*Pg	**Pg**	**18 20 30.7**	**+0.7**
DNZL	**Cakiroluk**	**0.23**	**212**	*i P*	**Pg**	**18 20 30.7**	**0.0**
DNZL				*i* S	**Sg**	**18 20 34.6**	**+0.4**
DNZL	**Cakiroluk**	**0.23**	**212**	*i P*	**Pg**	**18 20 30.7**	**0.0**
DNZL				*i* S	**Sg**	**18 20 34.6**	**+0.4**
KHAL	**Karahalli**	**0.53**	**25**	*i P*	**Pg**	**18 20 35.7**	**-0.4**
KHAL				*i* S	**Sg**	**18 20 43.4**	**+0.1**
KHAL	**Karahalli**	**0.53**	**25**	*i P*	**Pg**	**18 20 35.7**	**-0.4**
KHAL				*i* S	**Sg**	**18 20 43.4**	**+0.2**
GOLH	**Golhisar**	**0.71**	**156**	*i P*	**Pg**	**18 20 38.4**	**-1.0**
GOLH				*i* S	**Sg**	**18 20 48.5**	**-0.2**
GOLH	**Golhisar**	**0.71**	**156**	*i P*	**Pg**	**18 20 38.4**	**-1.0**
GOLH				*i* S	**Sg**	**18 20 48.5**	**-0.3**
KULA	**Kula-Manisa**	**0.76**	**326**	*e*PG	**Pg**	**18 20 39.8**	**-0.6**
KULA				*e*SG	**Sg**	**18 20 50.1**	**-0.2**
KULA	**Kula-Manisa**	**0.76**	**326**	*e*Pg	**Pg**	**18 20 39.8**	**-0.5**
KULA				*e*Sg	**Sg**	**18 20 50.1**	**-0.2**
GLHS	**Glhisar (BURDU**	**0.77**	**162**	*e*PG	**Pg**	**18 20 40.6**	**+0.1**
GLHS	**Glhisar (BURDU**	**0.77**	**162**	*e*Pg	**Pg**	**18 20 40.6**	**+0.1**
MANT	**Manisa**	**0.79**	**320**	*i P*	**Pg**	**18 20 41.1**	**+0.2**
MANT				*i* S	**Sg**	**18 20 51.5**	**+0.3**
MANT	**Manisa**	**0.79**	**320**	*i P*	**Pg**	**18 20 41.1**	**+0.2**
MANT				*i* S	**Sg**	**18 20 51.5**	**+0.2**
YER	**Yerkesik**	**1.05**	**225**	*e*PG	**Pg**	**18 20 45.4**	**-0.5**
YER	**Yerkesik**	**1.05**	**225**	*e*Pg	**Pg**	**18 20 45.4**	**-0.4**
AYDN	**Tasoluk**	**1.07**	**258**	*i P*	**Pg**	**18 20 46.5**	**+0.2**
AYDN				*i* S	**Sg**	**18 21 00.6**	**+0.2**
AYDN	**Tasoluk**	**1.07**	**258**	*i P*	**Pg**	**18 20 46.5**	**+0.2**
AYDN				*i* S	**Sg**	**18 21 00.6**	**+0.3**
BCK	**Bucak**	**1.18**	**111**	*e*PN	**Pn**	**18 20 48.3**	**+0.7**
BCK	**Bucak**	**1.18**	**111**	*e*Pn	**Pn**	**18 20 48.3**	**+0.7**
DEMI	**Demirci**	**1.22**	**342**	*i P*	**Pn**	**18 20 49.4**	**+1.3**
DEMI				*i* S	**Sb**	**18 21 04.4**	**+0.6**
DEMI	**Demirci**	**1.22**	**342**	*i P*	**Pn**	**18 20 49.3**	**+1.2**
DEMI				*i* S	**Sb**	**18 21 04.4**	**+0.6**
GDZ	**Gediz**	**1.22**	**10**	*i P*	**Pn**	**18 20 47.0**	**-1.2**
GDZ				*i* S	**Sb**	**18 21 03.9**	**-0.1**
GDZ	**Gediz**	**1.22**	**10**	*i P*	**Pn**	**18 20 47.0**	**-1.1**
GDZ				*i* S	**Sb**	**18 21 03.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.25**	**58**	*e*PN	**Pn**	**18 20 48.8**	**+0.2**
SHUT	**Suhut-Afyon**	**1.25**	**58**	*e*Pn	**Pn**	**18 20 48.8**	**+0.2**
ELL	**Elmali**	**1.27**	**153**	*e*PN	**Pn**	**18 20 49.4**	**+0.6**
ELL	**Elmali**	**1.27**	**153**	*e*Pn	**Pn**	**18 20 49.4**	**+0.6**
ALT	**Altintas**	**1.37**	**31**	*e*PN	**Pn**	**18 20 49.6**	**-0.6**
ALT	**Altintas**	**1.37**	**31**	*e*Pn	**Pn**	**18 20 49.6**	**-0.6**
SUTC	**Sutluce-Ispart**	**1.48**	**106**	*e*PN	**Pn**	**18 20 52.5**	**+0.7**
SUTC	**Sutluce-Ispart**	**1.48**	**106**	*e*Pn	**Pn**	**18 20 52.5**	**+0.7**
BOLV	**Bolvadin**	**1.61**	**58**	*e*P	**Pn**	**18 20 57.9**	**+4.4**
BOLV				*i* S	**Sn**	**18 21 20.8**	**+6.8**
BOLV	**Bolvadin**	**1.61**	**58**	*e*P	**Pn**	**18 20 57.8**	**+4.3**
IZM	**Izmir**	**1.61**	**289**	*e*PN	**Pn**	**18 20 52.6**	**-0.9**
IZM	**Izmir**	**1.61**	**289**	*e*Pn	**Pn**	**18 20 52.7**	**-0.8**
BODT	**Bodrum**	**1.72**	**242**	*e*PN	**Pn**	**18 20 54.3**	**-0.6**
BODT	**Bodrum**	**1.72**	**242**	*e*Pn	**Pn**	**18 20 54.3**	**-0.7**
DAT	**Datca**	**1.74**	**229**	*e*PN	**Pn**	**18 20 55.1**	**-0.1**
DAT	**Datca**	**1.74**	**229**	*e*Pn	**Pn**	**18 20 55.1**	**-0.1**

*ISCJB **26** 18:24:23.3±0.7, 40°.68N±0°.04×27°.42E±0°.04, h2km±9km, Error ellipse: s-maj=7.4km s-min=4.4km az=33.3*
*ISK **26** 18:24:23.4, 40°.66N×27°.41E, h10km, MD2.5*
*DDA **26** 18:24:23.9, 40°.63N×27°.34E, h7km±2km, Md2.7*
*CSEM **26** 18:24:23.6±0.1, 40°.68N×27°.42E, h2km, MD2.7, Error ellipse: s-maj=2.9km s-min=1.9km az=25.0*

ISC 26 18:24:23.8±0.6, 40°.68N±0°.04×27°.41E±0°.05, h7km±8km, n28, σ0°44/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.18**	**273**	*i P*	**Pg**	**18 24 27.1**	**-0.3**
SART				*i* S	**Sg**	**18 24 29.4**	**-0.4**
SART	**Tekirdag**	**0.18**	**273**	*i P*	**Pg**	**18 24 27.1**	**-0.3**
SART				*i* S	**Sg**	**18 24 29.4**	**-0.4**
RKY	**Sarkoy-Tekirda**	**0.18**	**273**	*e*PG	**Pg**	**18 24 27.6**	**+0.2**
RKY				*e*SG	**Sg**	**18 24 30.6**	**+0.8**
RKY	**Sarkoy-Tekirda**	**0.18**	**273**	*e*Pg	**Pg**	**18 24 27.6**	**+0.2**
RKY				*e*Sg	**Sg**	**18 24 30.6**	**+0.8**
KRBG	**Karabiga-Canak**	**0.30**	**197**	*e*PG	**Pg**	**18 24 29.5**	**-0.1**
KRBG				*e*SG	**Sg**	**18 24 33.8**	**+0.2**
KRBG	**Karabiga-Canak**	**0.30**	**197**	*e*Pg	**Pg**	**18 24 29.5**	**-0.1**
KRBG				*e*Sg	**Sg**	**18 24 33.8**	**+0.2**
EDC	**Edincik**	**0.48**	**134**	*e*PG	**Pg**	**18 24 33.1**	**0.0**
EDC				*e*SG	**Sg**	**18 24 40.4**	**+1.1**
EDC	**Edincik**	**0.48**	**134**	*e*Pg	**Pg**	**18 24 33.1**	**0.0**
EDC				*e*Sg	**Sg**	**18 24 40.4**	**+1.1**
LPK	**Lapseki**	**0.58**	**239**	*e*PG	**Pg**	**18 24 34.3**	**-0.8**
LPK	**Lapseki**	**0.58**	**239**	*e*Pg	**Pg**	**18 24 34.3**	**-0.7**
GONE	**Gonen-Balikesi**	**0.67**	**161**	*e*PG	**Pg**	**18 24 36.3**	**-0.3**
GONE	**Gonen-Balikesi**	**0.67**	**161**	*e*Pg	**Pg**	**18 24 36.3**	**-0.3**
ERIK	**Erikli-Kesan**	**0.68**	**270**	*e*PG	**Pg**	**18 24 37.5**	**+0.6**
ERIK	**Erikli-Kesan**	**0.68**	**270**	*e*Pg	**Pg**	**18 24 37.5**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.77**	**249**	*e*PG	**Pg**	**18 24 38.6**	**0.0**
GELI	**Tayfur-Gelibol**	**0.77**	**249**	*e*Pg	**Pg**	**18 24 38.6**	**0.0**
KCTX	**Karacabey (Bur**	**0.83**	**119**	*e*PG	**Pg**	**18 24 39.4**	**-0.4**
KCTX	**Karacabey (Bur**	**0.83**	**119**	*e*Pg	**Pg**	**18 24 39.4**	**-0.4**
BALY	**Balya**	**0.95**	**170**	*i P*	**Pg**	**18 24 41.6**	**-0.5**
BALY				*i* S	**Sg**	**18 24 54.0**	**-0.4**
BALY	**Balya**	**0.95**	**170**	*i P*	**Pg**	**18 24 41.6**	**-0.5**
BALY				*i* S	**Sg**	**18 24 54.0**	**-0.4**
ENEZ	**Enez**	**0.96**	**274**	*e*PG	**Pg**	**18 24 42.4**	**+0.1**
ENEZ	**Enez**	**0.96**	**274**	*e*Pg	**Pg**	**18 24 42.4**	**+0.2**
CTKS	**Kestanelik-??a**	**1.00**	**56**	*e*PG	**Pg**	**18 24 42.7**	**-0.3**
CTKS	**Kestanelik-??a**	**1.00**	**56**	*e*Pg	**Pg**	**18 24 42.7**	**-0.3**
EDRB	**Edirne**	**1.27**	**337**	*e*PN	**Pn**	**18 24 48.0**	**0.0**
EDRB	**Edirne**	**1.27**	**337**	*e*Pn	**Pn**	**18 24 48.0**	**0.0**
DURS	**Dursunbey**	**1.35**	**143**	*i P*	**Pn**	**18 24 49.2**	**+0.1**
DURS				*i* S	**Sb**	**18 25 07.2**	**+0.2**
DURS	**Dursunbey**	**1.35**	**143**	*i P*	**Pn**	**18 24 49.2**	**+0.1**
DURS				*i* S	**Sb**	**18 25 07.2**	**+0.3**

MEX 26 18:27:55.0±0.4, 17°.01N×99°.37W, h14km±21km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.49**	**253**	*i P*	Pg	18 28 04.1	-0.5
ACX				*i* S	Sg	18 28 11.3	+0.1
CAIG	**El Cayaco**	**0.86**	**273**	*i P*	Pg	18 28 09.0	-2.6
CAIG				*i* S	Sg	18 28 19.2	-3.6
MEIG	**Mezcala**	**0.94**	**346**	*i P*	Pb	18 28 09.7	-3.4
MEIG				*e*S	Sb	18 28 22.1	-3.3

*IDC **26** 19:04:43.3±1.5, 7°.12S×127°.68E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.6/16, mbtmp3.6/6, ML3.8/2, Error ellipse: s-maj=100.3km s-min=27.3km az=64.0*
*ISCJB **26** 19:04:45.7±0.9, 7°.1S±0°.3×128°.0E±0°.5, h33km, mb3.3/4, Error ellipse: s-maj=84.5km s-min=10.3km az=154.0*
*NEIC **26** 19:04:48.0±0.9, 7°.19S×127°.79E, h35km, Error ellipse: s-maj=89.3km s-min=10.8km az=64.0*

ISC 26 19:04:48.1±0.9, 7°.2S±0°.3×127°.8E±0°.5, h35km, n14, σ1°08/14, mb3.3/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**14.17**	**154**	*e*Pn	**Pn**	**19 08 06.1**	**-0.3**
WRAB				*e*Sn	Sx	19 10 30.9	
WRA	**Warramunga Arr**	**14.18**	**154**	Pn	**Pn**	**19 08 07.2**	**+0.7**
	0.7nm,0.3s,baz=325,slow=14,SNR=31						
WRA				Sn	Sx	19 10 33.0	
	0.8nm,0.3s,baz=330,slow=24,SNR=9.0						
WRA	**Warramunga Arr**	**14.18**	**154**	Pn	**Pn**	**19 08 07.2**	**+0.7**
WRA				Sn	Sx	19 10 33.0	
AS31	**Alice Springs**	**17.40**	**161**	*e*Pn	**Pn**	**19 08 46.4**	**-1.8**
AS31				*e*Sn	Sx	19 11 42.2	
ASAR	**Alice Springs**	**17.40**	**161**	P	**Pn**	**19 08 49.6**	**+1.4**
	0.2nm,0.3s,baz=338,slow=11,SNR=24						
ASAR				S	Sx	19 11 52.1	
	0.4nm,0.3s,baz=316,slow=16,SNR=8.3						
ASAR	**Alice Springs**	**17.40**	**161**	P	**Pn**	**19 08 49.6**	**+1.4**
ASAR				S	Sx	19 11 52.1	
CMAR	**Chiang Mai Arr**	**38.20**	**312**	P	**P**	**19 12 05.6**	**+0.9**
	0.2nm,0.7s,mb3.0,baz=142,slow=7.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**38.20**	**312**	P	**P**	**19 12 05.6**	**+0.9**
SONM	**Songino Array**	**57.96**	**343**	P	**P**	**19 14 38.0**	**+1.0**
	0.2nm,0.5s,mb3.4,baz=164,slow=5.7,SNR=3.9						
SONM	**Songino Array**	**57.96**	**343**	P	**P**	**19 14 38.0**	**+1.0**
MKAR	**Makanchi Array**	**67.20**	**328**	P	**P**	**19 15 37.9**	**-0.8**
	0.4nm,0.7s,mb3.6,baz=129,slow=7.4,SNR=6.6						
MKAR	**Makanchi Array**	**67.20**	**328**	P	**P**	**19 15 37.9**	**-0.8**
KURK	**Kurchatov**	**71.55**	**330**	P	**P**	**19 16 04.3**	**-1.2**
	0.2nm,0.4s,mb3.4,baz=133,slow=4.9,SNR=12						
KURK	**Kurchatov**	**71.55**	**330**	P	**P**	**19 16 04.3**	**-1.2**

IDC 26 19:20:56.6±10.0, 6°.78S×130°.51E, h368km±125km, mb2.5/1, mb1 2.5/3, mb1mx2.4/14, mbtmp2.3/3, Error ellipse: s-maj=86.4km s-min=47.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.61**	**164**	P	P	19 23 54.6	-0.6
	0.1nm,0.3s,baz=346,slow=11,SNR=7.7						
WRA				S	S	19 26 21.4	-1.8
	0.1nm,0.3s,baz=335,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**17.11**	**169**	P	P	19 24 33.9	+0.6
	0.0nm,0.3s,baz=348,slow=9.6,SNR=8.3						
MKAR	**Makanchi Array**	**68.32**	**327**	P	P	19 31 19.2	0.0
	0.1nm,0.4s,baz=107,slow=9.2,SNR=4.8						

*NEIC **26** 19:29:11.9, 16°.30N×93°.40W, h150km, MD4.1(MEX), After MEX.*

MEX 26 19:29:12.1±0.9, 16°.36N×93°.39W, h150km±8km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.49**	**32**	*i P*	Pn	19 29 32.5	-0.8
TGIG				*e*S	Sn	19 29 47.2	-2.3
TGIG		**0.49**	**32**	*i P*	Pn	19 29 32.5	-0.8
TGIG				*e*S	Sn	19 29 47.2	-2.3
PCIG		**0.67**	**166**	*i P*	Pn	19 29 32.9	-1.5
PCIG				*e*S	Sn	19 29 49.7	-1.7
PCIG		**0.67**	**166**	*i P*	Pn	19 29 32.9	-1.5
PCIG				*e*S	Sn	19 29 49.7	-1.7
CCIG	**Comitan**	**1.20**	**94**	*i P*	Pn	19 29 37.0	-1.7
CCIG				*e*S	Sn	19 29 57.2	-1.7
CCIG	**Comitan**	**1.20**	**94**	*i P*	Pn	19 29 37.0	-1.7
CCIG				*e*S	Sn	19 29 57.2	-1.7
CMIG	**Matias Romero**	**1.61**	**297**	*i P*	Pn	19 29 42.1	-0.7
CMIG				*e*S	Sn	19 30 03.7	-2.6
CMIG	**Matias Romero**	**1.61**	**297**	*i P*	Pn	19 29 42.1	-0.7
CMIG				*e*S	Sn	19 30 03.7	-2.6
HUIG	**Huatulco**	**2.68**	**258**	*i P*	Pn	19 29 52.7	-2.7
HUIG				*e*S	Sn	19 30 25.7	-3.2
HUIG	**Huatulco**	**2.68**	**258**	*i P*	Pn	19 29 52.7	-2.7
HUIG				*e*S	Sn	19 30 25.7	-3.2
OXX	**Oaxaca**	**3.27**	**283**	*i P*	Pn	19 30 02.1	-0.8
OXX				*e*S	Sn	19 30 39.6	-2.7
OXX	**Oaxaca**	**3.27**	**283**	*i P*	Pn	19 30 02.1	-0.8
OXX				*e*S	Sn	19 30 39.6	-2.7
VHO	**Vista Hermosa**	**3.28**	**283**	*i P*	Pn	19 30 03.5	+0.5
VHO				*e*S	Sn	19 30 40.5	-1.9
VHO	**Vista Hermosa**	**3.28**	**283**	*i P*	Pn	19 30 03.5	+0.5
VHO				*e*S	Sn	19 30 40.5	-1.9
UTMO	**Huajuapan**	**4.47**	**290**	*i P*	Pn	19 30 18.9	+0.4
UTMO				*e*S	Sn	19 31 08.0	-2.1
UTMO	**Huajuapan**	**4.47**	**290**	*i P*	Pn	19 30 16.9	-1.6
UTMO				*e*S	Sn	19 31 08.0	-2.1
PNIG	**Pinotepa**	**4.55**	**271**	*i P*	Pn	19 30 18.0	-1.5
PNIG				*e*S	Sn	19 31 09.5	-2.6
PNIG	**Pinotepa**	**4.55**	**271**	*i P*	Pn	19 30 18.0	-1.5
PNIG				*e*S	Sn	19 31 09.5	-2.6

*ISCJB **26** 19:32:50.9±0.6, 31°.98N±0°.04×116°.16W±0°.04, h11km±6km, Error ellipse: s-maj=6.5km s-min=5.3km az=1.8*
*ECX **26** 19:32:52.2±0.4, 31°.96N×116°.14W, h8km, MD2.9, ML3.1*
*NEIC **26** 19:32:52.2, 31°.96N×116°.14W, h8km, ML3.1(ECX), After ECX.*

ISC 26 19:32:51.4±0.6, 31°.97N±0°.03×116°.15W±0°.04, h13km±5km, n10, σ0°75/21, 6C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dawling**	**0.18**	**104**	⇑*i P*	**Pg**	**19 32 55.6**	**+0.1**
RDX				*e*S	**Sg**	**19 32 58.4**	**+0.1**
RDX				⇑*e*		19 32 58.6	
	comp=E,4μm,0.2s						
RDX				⇑*e*		19 32 58.8	
	comp=N,4μm,0.4s						
ECNX	**Esteban Cantu**	**0.49**	**231**	⇑*e*P	**Pg**	**19 33 01.0**	**-0.1**
ECNX				⇑*e*P		19 33 00.3	
ECNX				*e*S	**Sg**	**19 33 06.5**	**-1.2**
ECNX				*e*S	**Sg**	**19 33 07.8**	**+0.1**
PBX	**Punta Banda**	**0.54**	**245**	*e*P	**Pg**	**19 33 01.8**	**-0.2**
PBX				*e*S	**Sg**	**19 33 09.5**	**+0.3**
PBX				⇓*e*		19 33 14.6	
	comp=N,606nm,0.8s						
CBX	**Cerro Bola**	**0.55**	**308**	⇑*e*P	**Pg**	**19 33 02.6**	**+0.3**
CBX				*e*S	**Sg**	**19 33 10.2**	**+0.6**
RMX	**La Rumorosa**	**0.63**	**5**	*e*P	**Pg**	**19 33 04.0**	**+0.2**
RMX				*e*S	**Sg**	**19 33 12.5**	**+0.5**
BAR	**Barrett**	**0.83**	**328**	*e*Pg	**Pg**	**19 33 06.7**	**-0.8**
BAR				*e*Sg	**Sg**	**19 33 17.4**	**-1.1**
GLA	**Glamis**	**1.55**	**46**	*e*Pn	**Pn**	**19 33 18.2**	**-0.5**
GLA				*e*Sn	**Sn**	**19 33 37.8**	**-0.9**
PFO	**Pinyon Flat Ob**	**1.65**	**351**	*e*Pn	**Pn**	**19 33 20.7**	**+0.6**
PFO				*e*Sn	**Sn**	**19 33 41.4**	**+0.1**
GSC	**Goldstone**	**3.37**	**351**	*e*Pn	**Pn**	**19 33 46.0**	**+2.4**
GSC				*e*Pg	**Pg**	**19 33 57.0**	**+1.1**
GSC				*e*Sg	**Sg**	**19 34 38.6**	**-0.9**
ISA	**Isabella**	**4.16**	**333**	Pn	**Pn**	**19 33 54.1**	**-0.4**

CASC 26 19:35:34.9±2.6, 12°.64N×88°.10W, h51km±44km, MD3.8, ML3.5, 4C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.68**	**23**	⇓*i P*	Pn	19 35 48.8	+0.3
CNCH				*e*S	Sn	19 36 00.2	+1.9
VSM	**San Miguel**	**0.80**	**348**	*e*P	Pn	19 35 50.7	+0.7
BLLM	**Bellamira**	**0.81**	**351**	⇑*e*P	Pn	19 35 50.3	+0.2
BLLM				*e*S	Sn	19 36 02.4	+1.2
CRIN	**San Cristobal**	**1.03**	**87**	*e*P	Pn	19 35 53.2	+0.2
CRIN				*e*S	Sn	19 36 07.3	+0.9
CAHU	**Cacacuatique**	**1.13**	**355**	⇑*e*P	Pn	19 35 55.2	+0.9
CAHU				*e*S	Sn	19 36 11.2	+2.4
SNVI	**San Vicente**	**1.20**	**323**	*e*P	Pn	19 35 55.5	+0.1
SNVI				*e*S	Sn	19 36 11.1	+0.4
TEL3	**Telica 3**	**1.23**	**93**	*e*P	Pn	19 35 55.5	-0.3
LFRS	**El Faro**	**1.35**	**316**	⇑*e*P	Pn	19 35 57.4	0.0
LFRS				*e*S	Sn	19 36 14.3	0.0
MIRN	**Miramar**	**1.37**	**98**	*e*P	Pn	19 35 57.1	-0.6
CNGN	**Cerro Negro**	**1.38**	**96**	*e*P	Pn	19 35 57.0	-0.7
CNGN				AML	AML	19 36 19.7	
	comp=N,1μm,0.2s						
LBRS	**Las Brisas**	**1.42**	**320**	*e*P	Pn	19 35 58.6	+0.2
SNET	**Serv Nac Est T**	**1.51**	**313**	*e*P	Pn	19 36 00.1	+0.5
SNET				*e*S	Sn	19 36 18.7	+0.5
SNET				AML	AML	19 36 24.1	
	comp=Z,921nm,0.2s						
COPN	**Copaltepe**	**1.55**	**107**	*e*P	Pn	19 35 59.2	-0.8
BOQS	**Boqueron**	**1.58**	**314**	*e*P	Pn	19 36 00.8	+0.3
BOQS				*e*S	Sn	19 36 21.0	+1.2
CSAN		**1.70**	**105**	*e*P	Pn	19 36 04.6	+2.4
APYN	**Apoyeque**	**1.76**	**103**	*e*P	Pn	19 36 02.6	-0.4
XAVN	**Gruta Xavier**	**1.80**	**106**	*e*P	Pn	19 36 03.1	-0.5
MGAN	**Managua**	**1.88**	**105**	*e*P	Pn	19 36 04.3	-0.3
MGAN				*e*S	Sn	19 36 26.4	-0.8
SBLS	**San Blas**	**1.90**	**309**	*e*P	Pn	19 36 05.3	+0.4
HUEN		**1.91**	**99**	*e*P	Pn	19 36 04.1	-0.9
TICN	**Ticuantepe**	**1.93**	**108**	*e*P	Pn	19 36 05.0	-0.2
MASN	**Masaya**	**2.02**	**109**	*e*P	Pn	19 36 09.2	+2.7
RBDL	**Robledal**	**2.12**	**314**	⇑*e*P	Pn	19 36 08.8	+0.8
BOAB	**BOACO BROADBAN**	**2.39**	**94**	*e*P	Pn	19 36 10.8	-0.8
BOAB				*e*S	Sn	19 36 37.5	-2.2
JCR	**Jicaral**	**4.04**	**133**	*e*P	Pn	19 36 34.4	+0.1
LAJ	**Bijagual**	**4.78**	**125**	*e*P	Pn	19 36 43.8	-0.7
QCR	**Quepos**	**5.02**	**129**	*e*P	Pn	19 36 47.9	+0.3
URSC	**Urasca**	**5.08**	**123**	*e*P	Pn	19 36 52.0	+3.5

IDC 26 19:39:15.9±58.0, 16°.79S×177°.49W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=1064.0km s-min=165.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.94**	**240**	P	P	19 46 52.8	+0.7
	0.8nm,0.7s,baz=96,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**45.70**	**258**	P	P	19 47 38.9	-0.2
	0.6nm,0.6s,baz=96,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**45.94**	**253**	P	P	19 47 40.5	-0.4
	5.7nm,0.6s,baz=89,slow=7.9,SNR=164						

*ISCJB **26** 19:49:57.5±0.2, 40°.59S±0°.02×174°.86E±0°.04, h70km±3km, mb4.6/19, Error ellipse: s-maj=4.8km s-min=2.8km az=25.9*
*NEIC **26** 19:49:59.6, 40°.55S×174°.86E, h50km, mb4.7/14, ML5.1(WEL), After WEL.*
NEIC Felt in the southern part of the North Island and the northern part of the South Island.
*WEL **26** 19:49:59.6±0.1, 40°.55S×174°.87E, h52km±1km, ML5.1/22, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0*
WEL Felt from Auckland to Canterbury, maximum reported intensity MM 5.
*IDC **26** 19:49:59.2±1.0, 40°.71S×174°.73E, h65km±6km, mb4.4/7, mb1 4.4/8, mb1mx4.2/16, mbtmp4.4/8, MS3.8/5, Ms1 3.8/5, ms1mx3.7/15, Error ellipse: s-maj=22.8km s-min=15.3km az=122.0*

ISC 26 19:49:58.4±0.2, 40°.60S±0°.02×174°.85E±0°.03, h62km±3km, n259, σ0°96/240, mb4.7/19, 6C-8D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.27**	**171**	⇑PN	**Pn**	**19 50 08.2**	**-0.3**
KIW				SN	**Sn**	**19 50 14.8**	**-1.1**
KIW	**Kapiti Island**	**0.27**	**171**	⇑Pn	**Pn**	**19 50 08.2**	**-0.3**
OGWZ	**Otaki Gorge**	**0.33**	**133**	PN	**Pn**	**19 50 09.1**	**+0.1**
OGWZ				SN	**Sn**	**19 50 16.9**	**+0.3**
OGWZ	**Otaki Gorge**	**0.33**	**133**	Pn	**Pn**	**19 50 09.1**	**+0.1**
CAW	**Cannon Point**	**0.54**	**162**	⇑PN	**Pn**	**19 50 11.7**	**+0.8**
CAW	**Cannon Point**	**0.54**	**162**	Pn	**Pn**	**19 50 11.7**	**+0.8**
MRZ	**Mangatainoka R**	**0.56**	**97**	⇓PN	**Pn**	**19 50 11.6**	**+0.5**
MRZ				SN	**Sn**	**19 50 20.9**	**+0.4**
MRZ	**Mangatainoka R**	**0.56**	**97**	⇓Pn	**Pn**	**19 50 11.6**	**+0.5**
HOWZ	**Holdsworth Sta**	**0.59**	**121**	⇓PN	**Pn**	**19 50 12.0**	**+0.6**
HOWZ	**Holdsworth Sta**	**0.59**	**121**	Pn	**Pn**	**19 50 12.0**	**+0.6**
WEL	**Wellington**	**0.69**	**185**	PN	**Pn**	**19 50 13.7**	**+1.0**
SNZO	**South Karori**	**0.72**	**189**	*e*Pn	**Pn**	**19 50 13.8**

KRVZ	Karewarewa	1.62	22	PN	Pn	19 50 25.1 +0.4
KRVZ	Karewarewa	1.62	22	Pn	Pn	19 50 25.1 +0.4
PXZ	Pawanui	1.64	70	PN	Pn	19 50 24.2 -0.8
PXZ	Pawanui	1.64	70	Pn	Pn	19 50 24.2 -0.7
KAHZ	Kahuranaki	1.74	63	PN	Pn	19 50 26.0 -0.4
KAHZ	Kahuranaki	1.74	63	Pn	Pn	19 50 26.0 -0.4
QRZ	Quartz Range	1.78	262	PN	Pn	19 50 26.9 0.0
RITZ	Rihia Road	1.79	26	PN	Pn	19 50 27.6 +0.5
RITZ	Rihia Road	1.79	26	Pn	Pn	19 50 27.7 +0.6
MCHZ	McNeill Hill	1.82	51	PN	Pn	19 50 27.3 -0.2
MCHZ	McNeill Hill	1.82	51	Pn	Pn	19 50 27.3 -0.2
RATZ	Rangitukua	1.87	23	PN	Pn	19 50 28.6 +0.5
RATZ	Rangitukua	1.87	23	Pn	Pn	19 50 28.6 +0.5
THZ	Tophouse	1.88	231	PN	Pn	19 50 28.9 +0.7
BKZ	Black Stump Fm	1.91	42	PN	Pn	19 50 28.0 -0.5
CKHZ	Cape Kidnapper	1.94	62	PN	Pn	19 50 28.6 -0.5
CKHZ	Cape Kidnapper	1.94	62	Pn	Pn	19 50 28.6 -0.5
HATZ	Hinemaiaia	1.95	30	PN	Pn	19 50 28.8 -0.4
HATZ	Hinemaiaia	1.95	30	Pn	Pn	19 50 28.8 -0.4
WATZ	Wairara	2.00	20	PN	Pn	19 50 30.4 +0.5
WATZ	Wairara	2.00	20	Pn	Pn	19 50 30.4 +0.5
KHZ	Kahutara	2.07	208	PN	Pn	19 50 31.5 +0.7
KHZ	Kahutara	2.07	208	Pn	Pn	19 50 31.1 +0.3
KHZ				eSn	Sn	19 50 51.5 -3.9
HIZ	Hauiti	2.08	0	PN	Pn	19 50 31.3 +0.3
HIZ	Hauiti	2.08	0	Pn	Pn	19 50 31.5 +0.5
WHTZ	Whakaora	2.11	24	Pn	Pn	19 50 32.2 +0.8
NMHZ	Naumai	2.12	46	PN	Pn	19 50 31.3 -0.2
NMHZ	Naumai	2.12	46	Pn	Pn	19 50 31.3 -0.2
ALRZ	Allen Road	2.33	30	PN	Pn	19 50 33.8 -0.6
ALRZ	Allen Road	2.33	30	Pn	Pn	19 50 33.8 -0.6
RAHZ	Arahi	2.40	46	PN	Pn	19 50 34.2 -1.1
RAHZ	Arahi	2.40	46	Pn	Pn	19 50 34.2 -1.1
PRRZ	Plateau Road	2.41	30	PN	Pn	19 50 34.8 -0.6
PRRZ	Plateau Road	2.41	30	Pn	Pn	19 50 34.8 -0.6
HRRZ	Handcock Road	2.46	27	PN	Pn	19 50 36.1 -0.1
HRRZ	Handcock Road	2.46	27	Pn	Pn	19 50 36.2 0.0
DSZ	Denniston Nort	2.57	243	PN	Pn	19 50 37.1 -0.6
DSZ	Denniston Nort	2.57	243	Pn	Pn	19 50 37.8 +0.2
RRRZ	Republican Roa	2.59	30	Pn	Pn	19 50 37.1 -0.9
KNZ	Kokohu	2.68	55	PN	Pn	19 50 37.0 -2.2
TARZ	Mount Tarawera	2.68	29	PN	Pn	19 50 38.7 -0.5
TARZ	Mount Tarawera	2.68	29	Pn	Pn	19 50 38.7 -0.5
MHGZ	Mahia Peninsul	2.76	59	PN	Pn	19 50 38.6 -1.6
MHGZ	Mahia Peninsul	2.76	59	Pn	Pn	19 50 38.6 -1.6
KARZ	Kaharoa	2.79	23	Pn	Pn	19 50 41.0 +0.3
PRGZ	Paritu Road	2.87	55	PN	Pn	19 50 39.8 -2.0
PRGZ	Paritu Road	2.87	55	Pn	Pn	19 50 39.9 -1.9
EDRZ	Edgecumbe	2.88	31	PN	Pn	19 50 40.7 -1.2
EDRZ	Edgecumbe	2.88	31	Pn	Pn	19 50 40.7 -1.2
TOZ	Tahuroa Road	2.91	10	PN	Pn	19 50 41.8 -0.4
URZ	Urewera	2.92	38	PN	Pn	19 50 40.5 -1.9
URZ	Urewera	2.92	38	P	Pn	19 50 40.5 -1.8
	12nm,0.3s,baz=256,slow=6.5,SNR=122					
URZ				S	Sn	19 51 17.9 +1.7
	71nm,0.3s,baz=281,slow=22,SNR=3.4					
URZ				LR	LR	19 51 31.0
	comp=Z,290nm,20.9s,baz=225,slow=30					
URZ	Urewera	2.92	38	ePn	Pn	19 50 40.1 -2.3
URZ				S	Sn	19 51 17.9 +1.7
URZ				eSn	Sn	19 51 19.1 +2.9
LTZ	Lake Taylor	2.92	221	⇓PN	Pn	19 50 42.1 -0.2
LTZ	Lake Taylor	2.92	221	Pn	Pn	19 50 42.2 -0.2
MARZ	Manawahe	2.97	29	Pn	Pn	19 50 46.3 +3.3
MWZ	Matawai	3.06	43	Pn	Pn	19 50 42.7 -1.7
CNGZ	Carnagh Statio	3.34	52	PN	Pn	19 50 46.2 -2.0
CNGZ	Carnagh Statio	3.34	52	Pn	Pn	19 50 46.2 -2.0
CRLZ	Canterbury Las	3.41	208	PN	Pn	19 50 47.5 -1.6
MKAZ	Moumakai	3.49	4	PN	Pn	19 50 50.3 +0.1
MKAZ	Moumakai	3.49	4	Pn	Pn	19 50 50.4 +0.2
MQZ	McQueen's Vall	3.51	207	PN	Pn	19 50 48.7 -1.8
OTAZ	Otara	3.64	1	Pn	Pn	19 50 53.1 +0.8
PUZ	Puketiti	3.65	47	PN	Pn	19 50 49.6 -2.8
WTAZ	Waiatarua	3.67	356	PN	Pn	19 50 53.3 +0.7
WTAZ	Waiatarua	3.67	356	Pn	Pn	19 50 53.3 +0.8
KAAZ	Kauri Point	3.77	358	PN	Pn	19 50 54.8 +0.8
KAAZ	Kauri Point	3.77	358	Pn	Pn	19 50 55.1 +1.1
MTAZ	Motutapu	3.80	1	PN	Pn	19 50 55.1 +0.6
MTAZ	Motutapu	3.80	1	Pn	Pn	19 50 55.1 +0.6
RVAZ	Riverhead Bore	3.83	357	PN	Pn	19 50 55.2 +0.4
KUZ	Kuaotunu	3.90	10	PN	Pn	19 50 55.5 -0.3
WVZ	Waitaha Valley	3.95	230	PN	Pn	19 50 55.3 -1.1
WVZ	Waitaha Valley	3.95	230	Pn	Pn	19 50 55.3 -1.1
ABAZ	Army Bay	3.99	360	PN	Pn	19 50 57.4 +0.4
MXZ	Matakaoa Point	4.05	43	PN	Pn	19 50 55.4 -2.4
MXZ	Matakaoa Point	4.05	43	Pn	Pn	19 50 55.8 -2.0
RPZ	Rata Peaks	4.21	221	PN	Pn	19 50 58.4 -1.6
RPZ	Rata Peaks	4.21	221	P	Pn	19 50 58.4 -1.6
	16nm,0.3s,baz=65,slow=0.5,SNR=54					
RPZ				S	Sn	19 51 44.5 -3.2
	127nm,0.3s,baz=330,slow=20,SNR=3.5					
RPZ	Rata Peaks	4.21	221	ePn	Pn	19 50 58.0 -2.0
RPZ				eSn	Sn	19 51 40.0 -7.7
RPZ				S	Sn	19 51 44.5 -3.2
WCZ	Waipu Caves	4.67	355	PN	Pn	19 51 06.1 -0.2
WCZ	Waipu Caves	4.67	355	Pn	Pn	19 51 06.1 -0.2
FOZ	Fox Glacier	4.85	231	PN	Pn	19 51 05.7 -3.1
LBZ	Lake Benmore	5.12	221	PN	Pn	19 51 10.4 -2.1
LBZ	Lake Benmore	5.12	221	Pn	Pn	19 51 10.4 -2.1
ODZ	Otahua Downs	5.42	213	PN	Pn	19 51 14.6 -1.9
ODZ	Otahua Downs	5.42	213	ePn	Pn	19 51 14.6 -1.9
	824nm,0.4s					
ODZ				eSn	Sn	19 52 12.1 -5.4
OUZ	Omahuta	5.46	349	PN	Pn	19 51 16.7 -0.4
OUZ	Omahuta	5.46	349	ePn	Pn	19 51 16.6 -0.6
	70nm,0.5s					
OUZ				eSn	Sn	19 52 14.3 -4.3
JCZ	Jackson Bay	5.70	230	PN	Pn	19 51 18.2 -2.2
WKZ	Wanaka	6.03	224	Pn	Pn	19 51 20.9 -4.0
EAZ	Earnscleugh	6.17	219	PN	Pn	19 51 24.7 -2.1
EAZ	Earnscleugh	6.17	219	Pn	Pn	19 51 24.7 -2.1
CTZ	Chatham Island	7.07	119	PN	Pn	19 51 39.3 +0.2
SYZ	Scrubby Hill	7.24	213	PN	Pn	19 51 40.4 -1.1
DZM	Mont Dzumac	19.80	336	eP	Pn	19 54 26.8 +1.1
	59nm,1.4s					
DZM				eLR	LR	19 59 00.7
	1µm,27.6s					
DZM	Mont Dzumac	19.80	336	ePn	Pn	19 54 25.5 -0.3
	37nm,1.4s					
MSVF	Nonsavu	22.95	8	eP	P	19 54 56.1 -1.3
	17nm,0.9s,mb4.5					
EIDS	Eidsvold	24.96	300	eP	P	19 55 16.9 +1.0
	9.5nm,0.8s,mb4.4					
STKA	Stephens Creek	28.07	277	P	P	19 55 45.0 +1.0
	3.3nm,0.9s,mb4.0,baz=114,slow=11,SNR=6.9					
STKA				ScP	ScP	20 02 30.3 -2.2
	1.3nm,0.8s,baz=108,slow=6.4,SNR=2.6					
STKA				LR	LR	20 05 22.9
	comp=Z,191nm,18.9s,baz=289,slow=33					
STKA	Stephens Creek	28.07	277	P	P	19 55 45.0 +1.0
STKA				ScP	ScP	20 02 30.3 -2.2
CTAO	Charters Tower	31.82	301	eP	P	19 56 18.1 +0.9
	39nm,1.4s,mb5.0					
HNR	Honiara	33.74	333	P	P	19 56 33.9 -0.1
	20nm,0.4s,mb5.4,baz=157,slow=22,SNR=2.1					
HNR	Honiara	33.74	333	P	P	19 56 33.9 -0.1
TBI	Tubuai	34.52	71	eLR	LR	20 05 59.1
	212nm,28.0s					
VNDA	Vanda	37.43	185	P	P	19 57 07.8 +2.8
	6.1nm,1.4s,mb4.2					
AS31	Alice Springs	38.18	284	eP	P	19 57 11.7 -0.2
ASAR	Alice Springs	38.18	284	P	P	19 57 12.1 +0.1
	5.3nm,0.5s,mb4.5,baz=134,slow=8.8,SNR=207					
ASAR				ScP	ScP	20 03 05.0 -2.7
	1.1nm,0.8s,baz=135,slow=3.7,SNR=8.0					
ASAR	Alice Springs	38.18	284	P	P	19 57 12.1 +0.1
ASAR				ScP	ScP	20 03 05.0 -2.7
PPT2	Papeete2	38.24	64	eLR	LR	20 07 36.3
	93nm,22.5s					
PMG	Port Moresby	39.60	314	P	P	19 57 26.0 +2.2
	3.6nm,0.5s,mb4.3,baz=124,slow=5.8,SNR=2.7					
PMG	Port Moresby	39.60	314	eP	P	19 57 22.7 -1.2
	13nm,0.9s,mb4.7					
WB2	Warramunga Arr	40.14	289	eP	P	19 57 27.9 -0.4
WRAB	Tennant Creek	40.15	289	eP	P	19 57 27.9 -0.4
	18nm,0.7s,mb4.9					
WRA	Warramunga Arr	40.15	289	P	P	19 57 28.4 +0.1
	12nm,0.6s,mb4.8,baz=127,slow=8.0,SNR=244					
WRA				ScP	ScP	20 03 12.7 -2.6
	2.1nm,1.0s,baz=128,slow=3.9,SNR=8.9					
WRA	Warramunga Arr	40.15	289	P	P	19 57 28.4 +0.1
WRA				ScP	ScP	20 03 12.7 -2.6

FITZ	Fitzroy Crossi	47.68	283	eP	P	19 58 28.2 -0.5
	24nm,1.3s,mb5.1					
QSPA	South Pole Qui	49.53	180	P	P	19 58 46.1 +3.9
	13nm,0.9s,mb5.0,baz=24,slow=3.1,SNR=31					
QSPA	South Pole Qui	49.53	180	eP	P	19 58 45.5 +3.4
	21nm,1.0s,mb5.1					
MBWA	Marble Bar	50.28	275	eP	P	19 58 47.6 -1.0
	18nm,1.0s,mb5.0					
MAW	Mawson	60.69	204	LR	LR	20 25 43.9
	comp=Z,196nm,20.4s,baz=292,slow=35					
SYO	Syowa Base	65.81	196⇓	eP	P	20 00 36.2 -0.3
SNAA	Sanae	68.03	181	P	P	20 00 51.9 +1.4
	7.5nm,1.4s,mb4.5					
KKM	Kota Kinabalu	70.95	296	eP	P	20 01 09.4 0.0
	7.4nm,0.6s,mb4.8					
KSM	Kuching	71.90	288	eP	P	20 01 14.9 -0.3
	9.4nm,0.8s,mb4.8					
COCO	West Island	73.11	268	eP	P	20 01 21.1 -1.2
PLCA	Paso Flores	79.60	135	pP	pP	20 02 14.1 -1.9
	2.4nm,0.7s,baz=211,slow=7.9,SNR=3.2					
PLCA				LR	LR	20 28 56.4
	comp=Z,106nm,20.1s,baz=212,slow=29					
PLCA	Paso Flores	79.60	135	pP	pP	20 02 14.1 -1.9
JOW	Kunigami	79.83	319	LR	LR	20 32 10.8
	comp=Z,89nm,20.0s,baz=112,slow=32					
KULM	Kulim	81.54	284	P	P	20 02 10.8 +1.3
	3.1nm,0.7s,mb4.3					
KSRS	Korea Array	88.78	324	P	P	20 02 46.5 +1.5
	1.9nm,0.7s,mb4.5,baz=138,slow=5.8,SNR=6.3					
KSRS				pP	pP	20 03 03.7 +1.2
	2.0nm,0.8s,baz=146,slow=6.0,SNR=4.5					
KSAR	Wonju Array Be	88.79	324	P	P	20 02 46.5 +1.4
KSAR				pP	pP	20 03 03.7 +1.2
CMAR	Chiang Mai Arr	91.61	293	P	P	20 02 59.7 +1.1
	1.8nm,0.7s,mb4.5,baz=151,slow=3.8,SNR=17					
CMAR	Chiang Mai Arr	91.61	293	P	P	20 02 59.7 +1.1
YKA	Yellowknife Ar	117.15	29	PKP	PKPdf	20 08 34.9 -0.3
	0.7nm,0.8s,baz=250,slow=1.6,SNR=13					
YKA				pPKP	pPKPdf	20 08 51.2 -2.2
	0.7nm,0.7s,baz=255,slow=1.5,SNR=7.3					
YKA				PKKPbc	PKKPbc	20 19 01.4 +0.6
	0.6nm,0.7s,baz=48,slow=4.1,SNR=15					
YKA	Yellowknife Ar	117.15	29	PKP	PKPdf	20 08 35.0 -0.3
YKA				pPKP	pPKPdf	20 08 51.2 -2.2
YKA				PKKPbc	PKKPbc	20 19 01.4 +0.6
MK31	Makanchi Array	119.63	308	ePKPdf	PKPdf	20 08 39.1 -1.4
MKAR	Makanchi Array	119.63	308	PKP	PKPdf	20 08 39.8 -0.7
	0.7nm,0.7s,baz=205,slow=1.8,SNR=9.9					
MKAR				pPKP	pPKPdf	20 08 59.0 +0.3
	0.5nm,0.6s,baz=201,slow=1.7,SNR=4.3					
MKAR	Makanchi Array	119.63	308	PKP	PKPdf	20 08 39.8 -0.7
MKAR				pPKP	pPKPdf	20 08 59.0 +0.3
KKAR	Karatay Array	125.42	299	ePKPdf	PKPdf	20 08 51.5 -0.2
DBIC	Dimbokro	146.22	181	PKPbc	PKPbc	20 09 33.5 +1.3
	7.4nm,0.9s,baz=139,slow=3.8,SNR=11					
DBIC	Dimbokro	146.22	181	ePKPbc	PKPbc	20 09 32.9 +0.7
KEV	Kevo	146.31	340	epkp	PKPdf	20 09 28.1 -1.4
ARCES	ARCESS Array B	146.84	341	PKPbc	PKPbc	20 09 32.0 -0.3
	15nm,0.8s,baz=66,slow=2.7,SNR=16					
ARCES	ARCESS Array B	146.84	341	PKPbc	PKPbc	20 09 32.0 -0.3
JOF	Joensuu	148.94	328	epkp	PKPdf	20 09 35.8 +1.8
BR131	Keskin Array S	150.50	281	ePKPbc	PKPbc	20 09 42.6 -0.1
BRTR	Keskin Array B	150.50	281	PKPbc	PKPbc	20 09 42.9 +0.3
	6.2nm,0.9s,baz=147,slow=4.5,SNR=25					
BRTR	Keskin Array B	150.50	281	PKPbc	PKPbc	20 09 42.9 +0.3
KAF	Kangasniemi	151.34	329	epkp	PKPdf	20 09 41.4 +3.6
FINES	FINESS Array B	151.81	328	PKPbc	PKPbc	20 09 44.7 -0.2
	3.7nm,0.7s,baz=64,slow=4.4,SNR=9.1					
FINES	FINESS Array B	151.81	328	PKPbc	PKPbc	20 09 44.7 -0.2
TORD	Torodi Ar. Bea	152.00	194	PKP	PKPdf	20 09 41.5 +1.3
	1.3nm,0.8s,baz=101,slow=1.8,SNR=8.3					
TORD				PKPbc	PKPbc	20 09 47.6 +0.8
	3.0nm,0.4s,baz=156,slow=3.7,SNR=48					
TORD				pPKP	pPKPdf	20 09 58.0 -0.5
	7.1nm,0.8s,baz=167,slow=4.0,SNR=14					
TORD	Torodi Ar. Bea	152.00	194	PKP	PKPdf	20 09 41.5 +1.3
TORD				PKPbc	PKPbc	20 09 47.6 +0.8
TORD				pPKP	pPKPdf	20 09 58.0 -0.5
AKASG	Malin Array Be	154.15	305	PKPbc	PKPbc	20 09 50.0 -0.5
	0.3nm,0.3s,baz=65,slow=2.3,SNR=4.5					
AKASG	Malin Array Be	154.15	305	PKPbc	PKPbc	20 09 50.0 -0.5
NOA	NORSAR Array B	157.20	339	PKPab	PKPab	20 10 16.7 -0.4
	0.8nm,0.7s,baz=30,slow=3.2,SNR=4.0					
NOA	NORSAR Array B	157.20	339	PKPab	PKPab	20 10 16.7 -0.4
GERES	GERESS Array B	164.30	308	PKPab	PKPab	20 10 49.6 +1.0
	0.3nm,0.5s,baz=27,slow=42,SNR=2.2					
GERES	GERESS Array B	164.30	308	PKPab	PKPab	20 10 49.6 +1.0

*NEIC **26** 20:05:39.6, 31.°43N×115.°84W, h10km, ML2.8(ECX), After ECX.*

ECX 26 20:05:39.6±0.5, 31.°43N×115.°84W, h10km, MD2.7, ML2.7, 1C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	Rancho Dawling	0.51	350⇓	eP	Pg	20 05 48.9	-0.5
RDX				eS	Sg	20 05 56.5	+0.4
RDX				⇓e		20 05 56.9	
	comp=N,406nm,0.2s						
RDX				⇓e		20 05 57.0	
	comp=E,688nm,0.2s						
ECNX	Esteban Cantu	0.69	289	eP	Pg	20 05 52.2	-0.7
ECNX				eP		20 05 54.0	
ECNX				eS	Sg	20 06 01.4	-0.6
ECNX				eS	Sg	20 06 05.4	+3.4
PBX	Punta Banda	0.82	292	eP	Pg	20 05 53.9	-1.5
PBX				eS	Sg	20 06 05.4	-0.7
PBX				⇑e		20 06 07.0	
	comp=N,270nm,0.3s						
CBX	Cerro Bola	1.13	322	eP	Pb	20 05 59.0	-2.2
CBX				eS	Sb	20 06 14.4	-1.6
CBX				e		20 06 16.5	
	comp=N,197nm,0.3s						
CBX				⇓e		20 06 17.9	
	comp=E,207nm,0.3s						
RMX	La Rumorosa	1.19	350	eP	Pb	20 06 00.6	-1.6
RMX				eS	Sb	20 06 16.6	-1.1
BAR	Barrett	1.44	331	ePn	Pn	20 06 04.1	-1.6
BAR				eSn	Sn	20 06 22.1	-2.5
GLA	Glamis	1.83	28	ePn	Pn	20 06 09.5	-1.5
GLA				eSn	Sn	20 06 31.7	-2.6
PFO	Pinyon Flat Ob	2.23	347	ePn	Pn	20 06 16.5	-0.2
PFO				eS	Sn	20 06 47.3	+3.0
GSC	Goldstone	3.95	348	ePn	Pn	20 06 40.0	-0.2
GSC				ePg	Pg	20 06 51.2	-4.0

*IDC **26** 20:23:55.3±0.7, 46.°56N×156.°16E, h0km, mb3.8/11, mb1 4.1/16, mb1mx3.9/28, mbtmp3.9/16, ML3.5/5, MS3.5/5, Ms1 3.5/5, ms1mx3.2/39, Error ellipse: s-maj=24.1km s-min=14.1km az=144.0*

*NEIC **26** 20:23:56.5±0.5, 46.°59N×156.°15E, h10km, mb4.3/4, Error ellipse: s-maj=13.1km s-min=7.6km az=143.0*

*ISCJB **26** 20:23:58.3±0.6, 46.°70N±0.°07×156.°1E±0.°1, h33km, mb3.9/15, MS3.5/4, Error ellipse: s-maj=13.8km s-min=8.0km az=34.4*

ISC 26 20:24:00.5±0.6, 46.°67N±0.°07×156.°0E±0.°1, h35km, n39, σ1§13/42, mb3.9/15, MS3.5/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.54	9	Pn	Pn	20 25 32.4	-1.6
	0.3nm,0.3s,baz=196,slow=14,SNR=1.4						
PETK				Sn	Sn	20 26 46.1	-1.2
	baz=108,slow=19,SNR=1.3						
PETK				LR	LR	20 27 47.0	
	comp=Z,240nm,18.0s,baz=31,slow=35						
PETK	Petropavlovsk-	6.54	9	Pn	Pn	20 25 32.4	-1.6
PETK				Sn	Sn	20 26 46.1	-1.2
ASAJ	Asahikawa	9.78	260	Pn	Pn	20 26 17.2	-1.3
	2.1nm,0.3s,baz=223,slow=5.3,SNR=2.5						
ASAJ				Sn	Sn	20 28 05.0	-2.0
	1.5nm,0.3s,baz=133,slow=16,SNR=1.7						
ASAJ	Asahikawa	9.78	260	Pn	Pn	20 26 17.2	-1.3
ASAJ				Sn	Sn	20 28 05.0	-2.0
FX1	Attu Island--F	12.69	54	Pn	Pn	20 26 54.9	-3.3
	0.9nm,0.3s,baz=336,slow=23,SNR=1.5						
FX1				Sn	Sn	20 29 06.8	-11
	2.4nm,0.3s,baz=270,slow=23,SNR=2.4						
FX1	Attu Island--F	12.69	54	Pn	Pn	20 26 54.9	-3.3
FX1				Sn	Sn	20 29 06.8	-11
MJAR	Matsushiro Arr	16.69	239	Pn	Pn	20 27 49.7	-1.7
	0.1nm,0.3s,baz=29,slow=12,SNR=4.9						
MJAR	Matsushiro Arr	16.69	239	Pn	Pn	20 27 49.7	-1.7
USRK	Ussuriysk Arra	17.02	270	P	Pn	20 27 55.8	+0.1
	0.2nm,0.3s,baz=72,slow=13,SNR=3.5						
KSRS	Korea Array	22.70	256	LR	LR	20 37 31.3	
	comp=Z,36nm,21.2s,MS2.8,baz=135,slow=36						
SONM	Songino Array	33.24	291	P	P	20 30 34.9	+0.9
	0.4nm,0.8s,mb3.4,baz=68,slow=6.9,SNR=3.0						
SONM	Songino Array	33.24	291	P	P	20 30 34.9	+0.9
ILAR	Eielson Array	35.37	38	P	P	20 30 51.6	-0.6
	0.3nm,0.6s,mb3.4,baz=252,slow=7.0,SNR=6.1						
ILAR				LR	LR	20 45 02.4	
	comp=Z,70nm,18.3s,MS3.5,baz=93,slow=36						
ILAR	Eielson Array	35.37	38	P	P	20 30 51.6	-0.6
INK	Inuvik	40.65	33	P	P	20 31 37.7	+1.1
	9.1nm,1.4s,mb4.2,baz=272,slow=6.3,SNR=6.0						
INK	Inuvik	40.65	33	P	P	20 31 37.7	+1.1
TGY	Tagaytay City	43.75	234	LR	LR	20 47 14.8	
	comp=Z,78nm,19.9s,MS3.6,slow=32						
MKAR	Makanchi Array	48.75	299	P	P	20 32 42.9	+1.5
	0.7nm,0.8s,mb3.7,baz=61,slow=6.0,SNR=5.8						
MKAR	Makanchi Array	48.75	299	P	P	20 32 42.9	+1.5
KURK	Kurchatov	49.06	305	eP	P	20 32 43.9	+0.2
	2.1nm,0.7s,mb4.3						
KURK				e	pP	20 32 56.4	+2.2
YKA	Yellowknife Ar	49.78	37	P	P	20 32 49.7	+0.6
	0.7nm,0.9s,mb3.7,baz=293,slow=7.5,SNR=6.8						
YKA	Yellowknife Ar	49.78	37	P	P	20 32 49.7	+0.6
BRVK	Borovoye	52.48	311	eP	P	20 33 10.7	+1.2
	3.8nm,0.9s,mb4.3						
CMAR	Chiang Mai Arr	54.31	259	P	P	20 33 24.7	+1.4
	1.1nm,0.9s,mb3.8,baz=39,slow=7.6,SNR=7.9						
CMAR	Chiang Mai Arr	54.31	259	P	P	20 33 24.7	+1.4
ARU	Arti	56.41	319	eP	P	20 33 39.0	+1.1
KBL	Kabul	63.95	293	eP	P	20 34 29.8	-0.1
	2.3nm,1.0s,mb4.2						
CTAO	Charters Tower	67.02	190	eP	P	20 34 48.8	-1.0
	2.6nm,0.5s,mb4.5						
WRA	Warramunga Arr	69.13	202	P	P	20 35 02.0	-0.9
	2.1nm,1.0s,mb4.0,baz=20,slow=6.9,SNR=9.8						
WRA	Warramunga Arr	69.13	202	P	P	20 35 02.0	-0.9
AKASG	Malin Array Be	72.71	328	P	P	20 35 25.1	+0.7
	0.2nm,0.3s,mb3.5,baz=29,slow=6.5,SNR=4.1						
AKASG	Malin Array Be	72.71	328	P	P	20 35 25.1	+0.7
ASAR	Alice Springs	72.81	201	P	P	20 35 25.6	+0.5
	1.9nm,1.0s,mb4.0,baz=9.0,slow=5.1,SNR=11						
ASAR	Alice Springs	72.81	201	P	P	20 35 25.6	+0.5
GNI	Garni	74.09	312	LR	LR	21 08 14.7	
	comp=Z,126nm,20.3s,MS4.2,baz=95,slow=36						
TXAR	Lajitas Array	75.78	62	P	P	20 35 43.2	+0.5
	2.6nm,0.8s,mb4.2,baz=293,slow=4.2,SNR=13						
TXAR	Lajitas Array	75.78	62	P	P	20 35 43.2	+0.5
BRTR	Keskin Array B	79.80	319	P	P	20 36 06.2	+1.3
	1.1nm,0.9s,mb3.8,baz=32,slow=7.3,SNR=4.0						
BRTR	Keskin Array B	79.80	319	P	P	20 36 06.2	+1.3

*ISCJB **26** 20:44:36.8±0.3, 7.°07S±0.°04×123.°52E±0.°05, h665km±4km, mb4.3/44, Error ellipse: s-maj=8.6km s-min=4.5km az=149.1*

*DJA **26** 20:44:37, 7.°14S×123.°50E, h650km, MLv4.9/13*

*IDC **26** 20:44:38.1±0.7, 7.°02S×123.°55E, h655km±10km, mb3.5/18, mb1 3.6/22, mb1mx3.6/26, mbtmp3.5/22, Error ellipse: s-maj=16.6km s-min=6.6km az=64.0*

*NEIC **26** 20:44:38.3±0.5, 7.°01S×123.°52E, h658km±6km, mb4.4/30, Error ellipse: s-maj=9.0km s-min=4.1km az=58.0*

ISC 26 20:44:37.7±0.3, 7.°05S±0.°04×123.°53E±0.°05, h650km±3km, n114, σ0§87/117, mb4.3/43, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	2.03	219	P	P	20 45 55.6	-1.1
KDI	Kendari	3.20	343	P	P	20 46 03.1	+0.9
BKSI	Bulukumba	3.80	297

CMAR PcP PcP 20 52 53.2 +1.2
1.0nm,0.6s,baz=174,slow=2.6,SNR=9.2
CMAR Chiang Mai Arr 35.08 317 P P 20 50 40.2 +0.6
CMAR PcP PcP 20 52 53.2 +1.2
ENH Enshi 39.48 341 *eP* **P 20 51 13.6 -1.5**
3.8nm,0.5s,mb4.1
XAN Xi'an 43.14 342 P P 20 51 42.8 -0.9
XAN pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
XAN pmax pmax
comp=Z,48nm,4.8s
KSAR Wonju Array Be 44.44 5 P P 20 51 53.5 0.0
KSAR PcP PcP 20 53 22.9 +0.7
KSRS Korea Array 44.46 5 P P 20 51 53.5 -0.1
comp=Z,2.4nm,0.6s,mb3.7,baz=184,slow=9.0,SNR=7.3
KSRS PcP PcP 20 53 23.0 +0.6
comp=Z,0.9nm,0.5s,baz=179,slow=3.2,SNR=4.4
MJAR Matsushiro Arr 45.49 17 P P 20 52 01.1 -0.5
comp=Z,3.3nm,0.6s,mb3.8,baz=190,slow=9.8,SNR=11
MJAR Matsushiro Arr 45.49 17 P P 20 52 01.1 -0.5
LSA Lhasa 47.99 321 *eP* **P 20 52 21.4 +1.0**
comp=Z,6.7nm,0.5s,mb4.2
ODAN Odare 48.60 315 *ePn* **P 20 52 25.5 +0.6**
comp=Z,33nm,0.5s,mb5.0
ODAN Odare 48.60 315 *ePn* **P 20 52 25.5 +0.6**
comp=Z,33nm,0.5s,mb4.9
TAPN Taplejung 48.69 316 *ePn* **P 20 52 26.3 +0.8**
comp=Z,33nm,0.3s,mb5.1
TAPN Taplejung 48.69 316 *ePn* **P 20 52 26.3 +0.8**
comp=Z,33nm,0.3s,mb5.1
RAMN Ramite 49.21 315 *ePn* **P 20 52 30.3 +0.9**
comp=Z,67nm,0.6s,mb5.2
RAMN Ramite 49.21 315 *ePn* **P 20 52 30.3 +0.9**
comp=Z,67nm,0.6s,mb5.2
JIRN Jiri 49.94 315 *ePn* **P 20 52 35.4 +0.8**
comp=Z,4.2nm,0.3s,mb4.2
JIRN Jiri 49.94 315 *ePn* **P 20 52 35.4 +0.8**
comp=Z,4.2nm,0.3s,mb4.2
GUN Gumba 50.31 315 *ePn* **P 20 52 38.1 +0.8**
comp=Z,41nm,0.4s,mb5.1
PKI Pulchoki 50.43 315 *ePn* **P 20 52 38.6 +0.4**
comp=Z,48nm,0.5s,mb5.1
PKI Pulchoki 50.43 315 *ePn* **P 20 52 38.6 +0.4**
comp=Z,48nm,0.5s,mb5.1
KKN Kakani 50.65 315 *ePn* **P 20 52 40.2 +0.4**
comp=Z,26nm,0.7s,mb4.6
KKN Kakani 50.65 315 *ePn* **P 20 52 40.2 +0.4**
comp=Z,26nm,0.7s,mb4.6
DMN Daman 50.67 315 *ePn* **P 20 52 40.4 +0.5**
DMN Daman 50.67 315 *ePn* **P 20 52 40.4 +0.5**
GKN Gorkha 51.23 315 *ePn* **P 20 52 44.4 +0.4**
comp=Z,52nm,0.3s,mb5.3
GKN Gorkha 51.23 315 *ePn* **P 20 52 44.4 +0.4**
comp=Z,52nm,0.3s,mb5.2
USRK Ussuriysk Arra 51.58 8 P P 20 52 46.2 +0.1
comp=Z,4.5nm,0.5s,mb4.0,baz=189,slow=7.2,SNR=16
KOLN Koldanda 51.84 314 *ePn* **P 20 52 48.9 +0.6**
comp=Z,29nm,0.2s,mb5.1
KOLN Koldanda 51.84 314 *ePn* **P 20 52 48.9 +0.6**
comp=Z,29nm,0.2s,mb5.2
DANN Dangsing 52.06 314 *ePn* **P 20 52 50.3 +0.4**
comp=Z,53nm,0.6s,mb5.0
DANN Dangsing 52.06 314 *ePn* **P 20 52 50.3 +0.4**
comp=Z,53nm,0.6s,mb4.9
RPZ Rata Peaks 55.25 139 P P 20 53 13.5 +1.5
comp=Z,6.0nm,0.9s,mb3.8,baz=213,slow=8.3,SNR=1.7
RPZ Rata Peaks 55.25 139 P P 20 53 13.5 +1.5
ULN Ulaanbaatar 56.58 347 *eP* **P 20 53 21.0 +0.1**
comp=Z,2.4nm,0.6s,mb3.5
SONM Songino Array 56.70 346 P P 20 53 22.0 +0.3
comp=Z,3.3nm,0.6s,mb3.7,baz=167,slow=8.9,SNR=16
SONM Songino Array 56.70 346 P P 20 53 22.0 +0.3
MK31 Makanchi Array 64.90 330 *eP* **P 20 54 14.8 -0.4**
MK31 *e*PcP PcP 20 54 40.8 -0.8
MKAR Makanchi Array 64.90 330 P P 20 54 15.5 +0.3
comp=Z,4.3nm,0.5s,mb4.0,baz=134,slow=7.3,SNR=45
MKAR PcP PcP 20 54 41.5 -0.1
comp=Z,0.3nm,0.4s,baz=127,slow=6.8,SNR=3.7
MKAR Makanchi Array 64.90 330 P P 20 54 15.5 +0.3
MKAR PcP PcP 20 54 41.5 -0.1
KBL Kabul 65.97 313 *eP* **P 20 54 22.2 0.0**
comp=Z,5.6nm,0.7s,mb4.0
TKM2 Tokmak 2 66.06 323 *eP* **P 20 54 22.5 0.0**
comp=Z,1.8nm,0.6s,mb3.6
AAK Ala-Archa 66.55 323 *eP* **P 20 54 25.6 +0.1**
comp=Z,22nm,0.6s,mb4.7
PETK Petropavlovsk- 66.56 22 P P 20 54 26.4 +1.1
comp=Z,10.0nm,1.0s,mb4.1,baz=178,slow=5.2,SNR=3.5
PETK Petropavlovsk- 66.56 22 P P 20 54 26.4 +1.1
EKS2 Erkin-Say 67.00 322 *eP* **P 20 54 28.6 +0.3**
comp=Z,3.4nm,0.7s,mb3.8
ZAA0 Zalesovo Array 68.93 337 *eP* **P 20 54 37.7 -1.9**
ZALV Zalesovo Beam 68.93 337 P P 20 54 38.8 -0.8
comp=Z,4.8nm,0.4s,mb4.2,baz=139,slow=4.2,SNR=17
ZALV Zalesovo Beam 68.93 337 P P 20 54 38.8 -0.8
YAK Yakutsk 69.04 3 *eP* **P 20 54 39.2 -0.9**
comp=Z,18nm,0.6s,mb4.6
KURK Kurchatov 69.34 331 P P 20 54 42.0 -0.1
comp=Z,2.0nm,0.3s,mb3.9,baz=124,slow=7.8,SNR=8.1
KURK Kurchatov 69.34 331 *eP* **P 20 54 41.9 -0.3**
comp=Z,24nm,1.1s,mb4.4
VNDA Vanda 73.24 172 *eP* **P 20 55 03.9 -0.4**
comp=Z,1.5nm,0.8s,mb3.5
SBA Scott Base 74.20 171 P P 20 55 07.4 -2.3
BVAR Borovoye Array 74.78 330 P P 20 55 13.4 0.0
comp=Z,2.5nm,0.6s,mb4.0,baz=127,slow=7.4,SNR=24
BVAR Borovoye Array 74.78 330 P P 20 55 13.4 0.0
BRVK Borovoye 74.86 330 *eP* **P 20 55 13.5 -0.3**
comp=Z,8.7nm,1.1s,mb4.2
ABKAR Akbulak array 75.63 323 *eP* **P 20 55 33.4 -0.9**
comp=Z,1.3nm,0.4s,mb3.8
AKTO Aktyubinsk 80.25 324 P P 20 55 42.8 0.0
comp=Z,4.0nm,0.6s,mb4.0,baz=104,slow=8.4,SNR=16
AKTO Aktyubinsk 80.25 324 P P 20 55 42.8 0.0
BRTR Keskin Array B 94.37 309 P P 20 56 49.0 -1.1
comp=Z,0.4nm,0.6s,mb3.6,baz=108,slow=5.3,SNR=2.6
BRTR Keskin Array B 94.37 309 P P 20 56 49.0 -1.1
ILAR Eielson Array 96.14 26 P P 20 56 55.9 -1.6
comp=Z,0.6nm,1.1s,mb3.6,baz=252,slow=8.4,SNR=4.8
ILAR Eielson Array 96.14 26 P P 20 56 55.9 -1.6
AKASG Malin Array Be 98.13 320 P Pdif 20 57 05.3 -1.4
comp=Z,0.7nm,0.5s,baz=78,slow=5.0,SNR=3.4
AKASG Malin Array Be 98.13 320 P Pdif 20 57 05.3 -1.4
YKA Yellowknife Ar 110.56 25 PKiKP PKiKP 21 01 57.2 -0.5
comp=Z,0.2nm,0.4s,baz=303,slow=1.9,SNR=9.5
YKA Yellowknife Ar 110.56 25 PKiKP PKiKP 21 01 57.2 -0.5
TORD Torodi Ar. Bea 122.52 281 PKP PKPdf 21 02 22.0 -0.1
comp=Z,1.1nm,0.5s,baz=59,slow=3.0,SNR=9.9
TORD Torodi Ar. Bea 122.52 281 PKP PKPdf 21 02 22.0 -0.1
GOGA Godfrey 143.76 40 *e*PKPdf PKPdf 21 03 00.5 -0.6
TEIG Tepich 146.51 64 PKPbc PKPbc 21 03 08.7 -0.2
comp=Z,6.1nm,0.6s,baz=251,slow=7.1,SNR=2.6
TEIG Tepich 146.51 64 PKPbc PKPbc 21 03 08.7 -0.2
CPUP Villa Florida 146.81 179 PKPbc PKPbc 21 03 10.1 +0.6
comp=Z,0.3nm,0.4s,baz=166,slow=4.2,SNR=3.0
CPUP Villa Florida 146.81 179 PKPbc PKPbc 21 03 10.1 +0.6

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*ISCJB **26** 20:45:44.7±0.5, 13°.81N±0°.03×119°.91E±0°.05, h54km±6km, mb4.4/24, MS3.5/4, Error ellipse: s-maj=8.8km s-min=5.1km az=179.3*
*MAN **26** 20:45:44, 13°.75N×119°.79E, h33km, mb5.0, ML4.0, MS4.1*
*NEIC **26** 20:45:46.6±0.8, 13°.89N×120°.07E, h58km±7km, mb4.6/12, Error ellipse: s-maj=8.2km s-min=5.4km az=73.0*
*IDC **26** 20:45:47.4±1.7, 13°.92N×120°.16E, h60km±15km, mb3.9/18, mb1 4.0/18, mb1mx3.9/25, mbtmp3.9/18, MS3.5/6, Ms1 3.5/6, ms1mx3.2/32, Error ellipse: s-maj=24.4km s-min=11.5km az=67.0*
ISC 26 20:45:46.0±0.5, 13°.81N±0°.03×119°.94E±0°.05, h51km±6km, n88, σ1°.17/79, mb4.4/24, MS3.5/4, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.31**	**105**	*eP*	**Pn**	**20 45 51.6**	**-3.6**
TGY	**Tagaytay City**	**1.01**	**73**	P	**Pn**	**20 46 03.5**	**-0.3**
TGY	**Tagaytay City**	**1.01**	**73**	P	**Pn**	**20 46 03.5**	**-0.3**
TGY	**Tagaytay City**	**1.01**	**73**	*pP*	**Pn**	**20 46 03.3**	**-0.6**
LQP	**Lukban**	**1.58**	**79**	*eP*	Px	20 46 21.5	
BUSP	**Coron**	**1.81**	**172**	*eP*	**Pn**	**20 46 13.5**	**-1.3**
BUSP				*e*S	**Sn**	**20 46 37.1**	**+0.5**
BOAC	**Boac**	**1.88**	**101**	*eP*	**Pn**	**20 46 16.3**	**+0.6**
SCZP	**Santa Cruz**	**1.95**	**359**	*eP*	**Pn**	**20 46 16.0**	**-0.7**
GQP	**Guinayangan**	**2.43**	**88**	*eP*	**Pn**	**20 46 25.1**	**+1.8**
BALP	**Baler**	**2.49**	**39**	*eP*	**Pn**	**20 46 24.4**	**+0.4**
OTRP	**Odiongan**	**2.49**	**125**	*eP*	**Pn**	**20 46 24.1**	**+0.1**
BOLP	**Bolinao**	**2.56**	**359**	*eP*	**Pn**	**20 46 21.9**	**-3.1**
ENPP	**El Nido**	**2.64**	**191**	*eP*	**Pn**	**20 46 24.3**	**-1.8**
ENPP				*e*S	**Sn**	**20 46 54.9**	**-2.0**
AUQP	**San Andres**	**2.70**	**100**	*eP*	**Pn**	**20 46 31.6**	**+4.6**
CUYO	**Cuyo Island**	**3.13**	**160**	*eP*	**Pn**	**20 46 31.6**	**-1.2**
CAUP	**Cauayan**	**3.60**	**30**	*eP*	**Pn**	**20 46 34.8**	**-4.5**
ABRA	**Dolores**	**3.89**	**11**	*eP*	**Pn**	**20 46 44.8**	**+1.6**
GUIM	**Jordan**	**4.09**	**140**	*eP*	**Pn**	**20 46 46.9**	**+0.9**
PVCP	**Virac**	**4.10**	**92**	*eP*	**Pn**	**20 46 48.6**	**+2.4**
PIP	**Pasuquin**	**4.54**	**8**	*eP*	**Sn**	**20 47 49.4**	**+5.8**
PAGZ	**Pagadian**	**6.82**	**150**	*eP*	**Pn**	**20 47 25.3**	**+1.7**
KKM	**Kota Kinabalu**	**8.55**	**206**	Pn	**Pn**	**20 47 50.9**	**+3.7**
DAV	**Davao City (W)**	**8.69**	**140**	LR	LR	20 51 59.5	
	comp=Z,639nm,18.7s,baz=297,slow=43						
NACB	**Ninganchiao**	**10.43**	**8**	*e*Pn	**Pn**	**20 48 11.5**	**-1.3**
JOW	**Kunigami**	**15.12**	**30**	LR	LR	20 55 52.1	
	comp=Z,101nm,18.8s,baz=244,slow=40						
KSM	**Kuching**	**15.53**	**219**	*eP*	**Pn**	**20 49 21.4**	**-0.4**
6.7nm,0.6s							
ENH	**Enshi**	**19.01**	**331**	*eP*	**Pn**	**20 50 01.5**	**-3.3**
5.0nm,0.4s							
CM31	**Chiang Mai Arr**	**20.69**	**286**	*eP*	**P**	**20 50 23.8**	**+1.8**
12nm,1.0s							
CM31				*e*		20 50 33.3	
CMAR	**Chiang Mai Arr**	**20.69**	**286**	P	**P**	**20 50 23.9**	**+1.9**
8.4nm,0.9s,baz=97,slow=8.7,SNR=47							
CMAR				PcP	PcP	20 54 33.2	+2.6
0.9nm,0.6s,baz=113,slow=0.7,SNR=9.1							
CMAR	**Chiang Mai Arr**	**20.69**	**286**	P	**P**	**20 50 23.9**	**+1.9**
CMAR				PcP	PcP	20 54 33.2	+2.6
CHTO	**Chiang Mai**	**20.75**	**287**	*eP*	**P**	**20 50 23.6**	**+0.9**
3.9nm,1.0s							
CHTO				*e*		20 50 37.7	
GUMO	**Guam**	**24.22**	**88**	LR	LR	21 00 02.3	
comp=Z,104nm,20.1s,MS3.3,baz=178,slow=36							
KSAR	**Wonju Array Be**	**24.58**	**15**	P	**P**	**20 51 00.3**	**-0.9**
KSRS	**Korea Array**	**24.60**	**15**	P	**P**	**20 51 00.3**	**-1.1**
1.9nm,0.8s,mb3.7,baz=197,slow=9.8,SNR=5.8							
USRK	**Ussuriysk Arra**	**31.99**	**16**	LR	LR	21 07 12.4	
comp=Z,63nm,18.5s,MS3.3,baz=316,slow=40							
MBWA	**Marble Bar**	**34.75**	**180**	*eP*	**P**	**20 52 33.4**	**+1.8**
16nm,0.9s,mb4.9							
ULN	**Ulaanbaatar**	**35.61**	**345**	P	**P**	**20 52 39.9**	**+1.3**
SONM	**Songino Array**	**35.75**	**344**	P	**P**	**20 52 40.9**	**+1.0**
0.8nm,0.6s,mb3.8,baz=160,slow=9.4,SNR=8.7							
SONM				PcP	PcP	20 55 07.7	+0.8
0.7nm,0.9s,baz=159,slow=3.6,SNR=3.4							
SONM	**Songino Array**	**35.75**	**344**	P	**P**	**20 52 40.9**	**+1.0**
SONM				PcP	PcP	20 55 07.7	+0.8
WRAB	**Tennant Creek**	**36.41**	**157**	*eP*	**P**	**20 52 45.6**	**-0.2**
24nm,0.9s,mb5.1							
WRA	**Warramunga Arr**	**36.41**	**157**	P	**P**	**20 52 45.5**	**-0.4**
19nm,0.7s,mb5.2,baz=336,slow=9.5,SNR=54							
WRA	**Warramunga Arr**	**36.41**	**157**	P	**P**	**20 52 45.5**	**-0.4**
WB2	**Warramunga Arr**	**36.41**	**157**	*eP*	**P**	**20 52 45.3**	**-0.6**
AS31	**Alice Springs**	**39.67**	**160**	*eP*	**P**	**20 53 13.2**	**-0.1**
ASAR	**Alice Springs**	**39.67**	**160**	P	**P**	**20 53 13.8**	**+0.5**
7.1nm,0.5s,mb4.6,baz=339,slow=6.9,SNR=41							
ASAR	**Alice Springs**	**39.67**	**160**	P	**P**	**20 53 13.8**	**+0.5**
CTA	**Charters Tower**	**42.48**	**142**	P	**P**	**20 53 36.9**	**+0.5**
6.9nm,1.0s,mb4.2,baz=339,slow=5.4,SNR=2.3							
CTA	**Charters Tower**	**42.48**	**142**	P	**P**	**20 53 36.9**	**+0.5**
CTAO	**Charters Tower**	**42.48**	**142**	*eP*	**P**	**20 53 36.6**	**+0.1**
MK31	**Makanchi Array**	**45.51**	**324**	*eP*	**P**	**20 54 00.7**	**+0.3**
MKAR	**Makanchi Array**	**45.51**	**324**	P	**P**	**20 54 01.4**	**+1.0**
1.5nm,0.8s,mb4.0,baz=131,slow=9.3,SNR=16							
MKAR				PcP	PcP	20 55 41.0	+2.4
0.6nm,0.6s,baz=123,slow=3.4,SNR=3.0							
MKAR	**Makanchi Array**	**45.51**	**324**	P	**P**	**20 54 01.4**	**+1.0**
MKAR				PcP	PcP	20 55 41.0	+2.4
HNR	**Honiara**	**45.93**	**118**	LR	LR	21 10 51.0	
comp=Z,95nm,19.6s,MS3.7,baz=269,slow=33							
NWAO	**Narrogin (SRO)**	**46.55**	**183**	P	**P**	**20 54 09.7**	**+1.1**
10nm,0.9s,mb4.7,baz=330,slow=13,SNR=2.5							
NWAO	**Narrogin (SRO)**	**46.55**	**183**	*eP*	**P**	**20 54 09.0**	**+0.3**
8.2nm,0.8s,mb4.7							
ZALV	**Zalesovo Beam**	**48.62**	**333**	P	**P**	**20 54 24.2**	**-0.4**
1.2nm,0.5s,mb4.2,baz=127,slow=7.5,SNR=6.2							
ZALV				LR	LR	21 15 52.8	
comp=Z,61nm,20.3s,MS3.6,baz=60,slow=37							
ZALV	**Zalesovo Beam**	**48.62**	**333**	P	**P**	**20 54 24.2**	**-0.4**
YAK	**Yakutsk**	**48.65**	**6**	*eP*	**P**	**20 54 23.1**	**-1.5**
17nm,0.8s,mb5.1							
KURK	**Kurchatov**	**49.69**	**327**	P	**P**	**20 54 33.5**	**+0.7**
2.0nm,0.3s,mb4.7,baz=115,slow=8.8,SNR=4.8							
KURK	**Kurchatov**	**49.69**	**327**	*eP*	**P**	**20 54 32.9**	**+0.1**
6.0nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**49.95**	**156**	P	**P**	**20 54 35.3**	**+0.4**
3.5nm,0.5s,mb4.7,baz=339,slow=7.1,SNR=8.0							
STKA	**Stephens Creek**	**49.95**	**156**	P	**P**	**20 54 35.3**	**+0.4**
KBL	**Kabul**	**50.23**	**304**	P	**P**	**20 54 37.5**	**+0.3**
2.7nm,0.8s,mb4.3							
AKTO	**Aktyubinsk**	**61.66**	**320**	P	**P**	**20 55 59.7**	**+1.1**
1.2nm,0.6s,mb4.2,baz=116,slow=7.7,SNR=4.9							
AKTO	**Aktyubinsk**	**61.66**	**320**	P	**P**	**20 55 59.7**	**+1.1**
ARU	**Arti**	**62.89**	**327**	P	**P**	**20 56 05.6**	**-1.1**
BHD	**Baghdad**	**70.58**	**301**	*ex*	x	20 57 07.0	
BHD				*ex*	x	21 06 43.0	
BHD				*ex*	x	21 07 30.7	
RPZ	**Rata Peaks**	**73.81**	**144**	P	**P**	**20 57 13.2**	**-2.0**
77nm,1.4s,mb5.4							
MCK	**McKinley**	**78.23**	**27**	*eP*	**P**	**20 57 39.0**	**-1.0**
5.1nm,0.9s,mb4.5							
BRTR	**Keskin Array B**	**78.50**	**308**	P	**P**	**20 57 43.2**	**+1.2**
0.5nm,0.7s,mb3.5,baz=116,slow=3.4,SNR=3.1							
BRTR	**Keskin Array B**	**78.50**	**308**	P	**P**	**20 57 43.2**	**+1.2**
ARCES	**ARCESS Array B**	**78.72**	**339**	P	**P**	**20 57 41.9**	**-0.8**
2.6nm,0.8s,mb4.2,baz=88,slow=9.4,SNR=3.2							
ARCES	**ARCESS Array B**	**78.72**	**339**	P	**P**	**20 57 41.9**	**-0.8**
ILAR	**Eielson Array**	**78.97**	**26**	P	**P**	**20 57 42.3**	**-1.8**
0.2nm,0.4s,mb3.4,baz=256,slow=4.5,SNR=7.7							
ILAR	**Eielson Array**	**78.97**	**26**	P	**P**	**20 57 42.3**	**-1.8**
FINES	**FINESS Array B**	**79.83**	**331**	P	**P**	**20 57 48.0**	**-0.8**
0.7nm,0.5s,mb3.8,baz=71,slow=6.5,SNR=6.3							
FINES	**FINESS Array B**	**79.83**	**331**	P	**P**	**20 57 48.0**	**-0.8**
BUR08	**Bucovina Ar. S**	**83.08**	**317**	*eP*	**P**	**20 58 07.0**	**+0.7**
NOA	**NORSAR Array B**	**86.82**	**333**	P	**P**	**20 58 24.1**	**-0.7**
0.6nm,0.6s,mb4.0,baz=66,slow=4.8,SNR=3.4							
NOA	**NORSAR Array B**	**86.82**	**333**	P	**P**	**20 58 24.1**	**-0.7**
RES	**Resolute Bay**	**89.04**	**9**	P	**P**	**20 58 35.0**	**-0.1**
1.6nm,0.8s,mb4.4,baz=284,slow=6.6,SNR=6.2							
RES	**Resolute Bay**	**89.04**	**9**	P	**P**	**20 58 35.0**	**-0.1**
YKA	**Yellowknife Ar**	**92.95**	**22**	P	**P**	**20 58 53.2**	**-0.3**
0.5nm,0.4s,mb4.3,baz=307,slow=4.5,SNR=22							
YKA	**Yellowknife Ar**	**92.95**	**22**	P	**P**	**20 58 53.2**	**-0.3**
VNA2	**Neumayer--Watz**	**114.69**	**197**	*e*	Pdif	21 00 30.9	0.0
VNA2				*e*		21 00 40.8	
VNA3	**Neumayer Olymp**	**115.14**	**196**	*e*	Pdif	21 00 33.9	+1.0
VNA3				*e*		21 00 42.6	
PLCA	**Paso Flores**	**151.65**	**163**	PKPbc	PKPbc	21 05 35.9	+0.8
1.4nm,0.7s,baz=38,slow=22,SNR=3.5							
PLCA	**Paso Flores**	**151.65**	**163**	PKPbc	PKPbc	21 05 35.9	+0.8

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*ISCJB **26** 20:52:20.4±1.8, 13°.58S±0°.05×76°.7W±0°.1, h2km±11km, mb4.1/13, MS4.1/3, Error ellipse: s-maj=19.7km s-min=6.9km az=160.7*
*NEIC **26** 20:52:22.8±3.2, 13°.57S×76°.70W, h9km±19km, mb4.3/4, ML4.2(ARE), Error ellipse: s-maj=15.4km s-min=6.5km az=66.0*
NEIC Felt [II] at Chincha Alta and Pisco.
*IDC **26** 20:52:25.5±3.1, 13°.47S×76°.66W, h21km±18km, mb4.0/11, mb1 4.1/13, mb1mx4.1/17, mbtmp3.9/13, ML3.7/2, MS3.8/5, Ms1 3.8/5, ms1mx3.4/22, Error ellipse: s-maj=30.9km s-min=14.2km az=60.0*
ISC 26 20:52:22.2±1.8, 13°.53S±0°.05×76°.7W±0°.1, h3km±11km, n51, σ0°.95/47, mb4.1/13, MS4.1/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.54**	**354**	Pg	**Pg**	**20 52 51.8**	**-0.1**
30nm,0.3s,baz=174,slow=13,SNR=65							
NNA				Lg		20 53 14.0	
701nm,0.3s,baz=172,slow=12,SNR=26							
NNA	**Nana**	**1.54**	**354**	*e*Pn	**Pn**	**20 52 51.4**	**+0.7**
NNA				Pg	**Pg**	**20 52 51.8**	**-0.1**
NNA				*e*Sn	**Sn**	**20 53 11.5**	**+0.2**
NNA				Lg		20 53 14.0	
ATAH	**Atahualpa**	**6.58**	**345**	Pn	**Pn**	**20 54 03.6**	**+3.7**
2.9nm,0.3s,baz=312,slow=2.6,SNR=10							
ATAH				Sn	**Sb**	**20 55 29.4**	**-7.1**
1.4nm,0.3s,baz=64,slow=21,SNR=1.7							
ATAH				Lg		20 55 43.9	
7.8nm,0.3s,baz=123,slow=23,SNR=4.5							
ATAH	**Atahualpa**	**6.58**	**345**	Pn	**Pn**	**20 54 03.6**	**+3.7**
ATAH				Sn	**Sb**	**20 55 29.4**	**-7.1**
ATAH				Lg		20 55 43.9	
LPAZ	**La Paz**	**8.71**	**109**	Pn	**Pn**	**20 54 34.5**	**+5.3**
3.0nm,0.3s,baz=287,slow=9.8,SNR=24							
LPAZ				Sn	**Sn**	**20 56 17.8**	**+10**
0.4nm,0.3s,baz=7.7,slow=23,SNR=2.5							
LPAZ				LR	LR	20 58 40.5	
comp=Z,285nm,21.0s,baz=78,slow=43							
LPAZ	**La Paz**	**8.71**	**109**	*e*Pn	**Pn**	**20 54 34.1**	**+4.8**
13nm,0.4s							
LPAZ				Sn	**Sn**	**20 56 17.8**	**+10**
LVC	**Limon Verde**	**11.67**	**142**	*e*Pn	**Pn**	**20 55 09.9**	**+0.2**
8.7nm,0.5s							
LVC				*e*Sn	**Sn**	**20 57 07.9**	**-13**
OTAV	**Otavalo**	**13.79**	**353**	Pn	**Pn**	**20 55 38.5**	**-0.4**
6.9nm,0.8s							
SAML	**Samuel**	**14.01**	**72**	*e*Pn	**Pn**	**20 55 40.2**	**-1.6**
10nm,0.7s							
SAML				*e*Sn	**Sn**	**20 58 09.6**	**-8.4**
SIV	**San Ignacio**	**15.30**	**101**	Pn	**Pn**	**20 56 00.8**	**+1.5**
0.4nm,0.3s,baz=290,slow=11,SNR=7.4							
SIV				Lg		21 00 31.3	
0.2nm,0.3s,baz=344,slow=19,SNR=2.2							
SIV				LR	LR	21 02 51.3	
comp=Z,145nm,19.9s,slow=41							
SIV	**San Ignacio**	**15.30**	**101**	Pn	**Pn**	**20 56 00.8**	**+1.5**
SIV				Lg		21 00 31.3	
LCO	**Las Campanas**	**16.37**	**161**	*e*Pn	**Pn**	**20 56 12.0**	**-1.2**
7.9nm,0.9s							
CFAA	**Coronel Fontan**	**19.59**	**158**	P	**Pn**	**20 56 54.4**	**+1.5**
0.1nm,0.3s,baz=342,slow=8.8,SNR=14							
CFAA	**Coronel Fontan**	**19.59**	**158**	P	**Pn**	**20 56 54.4**	**+1.5**
CPUP	**Villa Florida**	**22.17**	**128**	P	**P**	**20 57 20.4**	**+0.8**
0.8nm,0.7s,mb3.3,baz=304,slow=13,SNR=3.6							
CPUP				LR	LR	21 08 03.8	
comp=Z,134nm,18.8s,MS3.4,baz=300,slow=42							
CPUP	**Villa Florida**	**22.17**	**128**	P	**P**	**20 57 20.4**	**+0.8**
SDV	**Santo Domingo**	**23.07**	**15**	*eP*	**P**	**20 57 29.1**	**-0.1**
4.7nm,0.5s,mb4.2							
JTS	**JuntasAbangare**	**25.05**	**340**	P	**P**	**20 57 47.4**	**-0.6**
17nm,1.0s,mb4.5							
PLCA	**Paso Flores**	**27.62**	**170**	P	**P**	**20 58 11.6**	**+0.6**
3.6nm,1.1s,mb3.9,baz=322,slow=11,SNR=3.2							
PLCA	**Paso Flores**	**27.62**	**170**	P	**P**	**20 58 10.6**	**-0.4**
8.7nm,1.2s,mb4.3							
TRQA	**Tornquist**	**27.70**	**154**	*eP*	**P**	**20 58 09.2**	**-2.6**
NVAR	**Mina Array Bea**	**64.71**	**325**	P	**P**	**21 03 03.2**	**+1.4**
0.6nm,0.7s,mb3.8,baz=139,slow=5.8,SNR=3.5							
NVAR	**Mina Array Bea**	**64.71**	**325**	P	**P**	**21 03 03.2**	**+1.4**
ULM	**Lac du Bonnet**	**65.71**	**347**	P	**P**	**21 03 06.6**	**-1.4**
4.7nm,0.8s,mb4.6,baz=175,slow=10,SNR=6.0							
ULM	**Lac du Bonnet**	**65.71**	**347**	P	**P**	**21 03 06.6**	**-1.4**
SCHQ	**Schefferville**	**68.61**	**6**	P	**P**	**21 03 26.1**	**-0.2**
5.4nm,0.8s,mb4.5,baz=233,slow=5.1,SNR=3.0							
SCHQ				LR	LR	21 35 32.4	
comp=Z,292nm,19.4s,MS4.5,baz=289,slow=38							
SCHQ	**Schefferville**	**68.61**	**6**	P	**P**	**21 03 26.1**	**-0.2**
DBIC	**Dimbokro**	**74.07**	**79**	P	**P**	**21 04 00.2**	**-0.2**
3.4nm,0.7s,mb4.4,baz=206,slow=7.3,SNR=7.9							
DBIC	**Dimbokro**	**74.07**	**79**	P	**P**	**21 04 00.2**	**-0.2**
YKA	**Yellowknife Ar**	**81.36**	**343**	P	**P**	**21 04 39.6**	**-0.2**
0.9nm,0.8s,mb3.7,baz=142,slow=5.2,SNR=14							
YKA	**Yellowknife Ar**	**81.36**	**343**	P	**P**	**21 04 39.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.06**	**74**	P	**P**	**21 04 44.5**	**-0.2**
4.8nm,0.9s,mb4.5,baz=262,slow=5.3,SNR=23							
TORD	**Torodi Ar. Bea**	**82.06**	**74**	P	**P**	**21 04 44.5**	**-0.2**
ESDC	**Sonseca Array**	**85.70**	**48**	P	**P**	**21 05 03.5**	**+0.8**
0.2nm,0.4s,mb3.7,baz=256,slow=6.0,SNR=4.1							
ESDC	**Sonseca Array**	**85.70**	**48**	P	**P**	**21 05 03.5**	**+0.8**
INK	**Inuvik**	**91.03**	**342**	P	**P**	**21 05 27.6**	**+0.1**
0.6nm,0.6s,mb4.1,baz=141,slow=4.6,SNR=3.8							
INK	**Inuvik**	**91.03**	**342**	P	**P**	**21 05 27.6**	**+0.1**
BOSA	**Boshof**

ZALV	**Zalesovo Beam**	**54.22 322**	P	**P**	**21 03 26.9**	**+0.3**
	0.8nm,0.4s,mb3.4,baz=108,slow=7.8,SNR=6.3					
ZALV			PcP	PcP	21 04 25.4	-1.0
	1.0nm,0.4s,baz=116,slow=4.0,SNR=5.5					
ZALV	**Zalesovo Beam**	**54.22 322**	P	**P**	**21 03 26.9**	**+0.3**
ZALV			PcP	PcP	21 04 25.4	-1.0
MKAR	**Makanchi Array**	**54.69 313**	P	**P**	**21 03 30.6**	**+0.5**
	0.6nm,0.5s,mb3.2,baz=88,slow=9.1,SNR=14					
MKAR			PcP	PcP	21 04 28.4	+0.1
	0.4nm,0.4s,baz=82,slow=4.5,SNR=6.6					
MKAR	**Makanchi Array**	**54.69 313**	P	**P**	**21 03 30.6**	**+0.5**
MKAR			PcP	PcP	21 04 28.4	+0.1
KURK	**Kurchatov**	**57.48 317**	P	**P**	**21 03 50.1**	**+0.5**
	2.4nm,0.4s,mb3.9,baz=95,slow=7.5,SNR=13					
KURK	**Kurchatov**	**57.48 317**	P	**P**	**21 03 50.1**	**+0.5**
ILAR	**Eielson Array**	**62.11 27**	P	**P**	**21 04 20.1**	**-0.5**
	0.6nm,0.6s,mb3.3,baz=256,slow=5.9,SNR=13					
ILAR	**Eielson Array**	**62.11 27**	P	**P**	**21 04 20.1**	**-0.5**
BVAR	**Borovoye Array**	**62.68 320**	P	**P**	**21 04 25.0**	**+0.3**
	4.0nm,0.4s,mb4.3,baz=96,slow=7.6,SNR=91					
BVAR			PcP	PcP	21 04 60.0	-0.1
	0.6nm,0.5s,baz=92,slow=5.1,SNR=3.7					
BVAR	**Borovoye Array**	**62.68 320**	P	**P**	**21 04 25.0**	**+0.3**
BVAR			PcP	PcP	21 04 60.0	-0.1
INK	**Inuvik**	**67.64 24**	P	**P**	**21 04 56.4**	**+0.4**
	0.5nm,0.6s,mb3.4,baz=354,slow=2.3,SNR=1.5					
INK	**Inuvik**	**67.64 24**	P	**P**	**21 04 56.4**	**+0.4**
YKA	**Yellowknife Ar**	**76.53 28**	P	**P**	**21 05 48.7**	**+0.3**
	1.4nm,0.5s,mb3.9,baz=292,slow=5.8,SNR=34					
YKA	**Yellowknife Ar**	**76.53 28**	P	**P**	**21 05 48.7**	**+0.3**
ARCES	**ARCESS Array B**	**78.96 341**	P	**P**	**21 06 02.5**	**+0.9**
	1.8nm,0.4s,mb4.1,baz=72,slow=7.8,SNR=6.8					
ARCES	**ARCESS Array B**	**78.96 341**	P	**P**	**21 06 02.5**	**+0.9**
JOF	**Joensuu**	**80.34 334**	*ep*	**P**	**21 06 08.5**	**-0.6**
	3.2nm,0.6s,mb4.2					
KAF	**Kangasniemi**	**82.75 335**	*ep*	**P**	**21 06 20.1**	**-1.5**
	1.3nm,0.6s,mb3.9					
FINES	**FINESS Array B**	**83.21 334**	P	**P**	**21 06 23.1**	**-0.9**
	1.7nm,0.4s,mb4.2,baz=68,slow=4.8,SNR=27					
FINES	**FINESS Array B**	**83.21 334**	P	**P**	**21 06 23.1**	**-0.9**
NVAR	**Mina Array Bea**	**83.22 51**	P	**P**	**21 06 26.0**	**+1.4**
	0.7nm,0.7s,mb3.6,baz=292,slow=2.8,SNR=3.6					
NVAR	**Mina Array Bea**	**83.22 51**	P	**P**	**21 06 26.0**	**+1.4**
PLCA	**Paso Flores**	**145.76 132**	PKPbc	PKPbc	21 13 35.9	+0.8
	2.0nm,0.7s,baz=221,slow=3.3,SNR=7.0					
PLCA	**Paso Flores**	**145.76 132**	PKPbc	PKPbc	21 13 35.9	+0.8
LPAZ	**La Paz**	**150.00 85**	PKPbc	PKPbc	21 13 48.6	+1.7
	1.0nm,0.5s,baz=293,slow=5.0,SNR=5.4					
LPAZ	**La Paz**	**150.00 85**	PKPbc	PKPbc	21 13 48.6	+1.7

*NEIC **26** 20:55:17.4±3.0,2°.09N×125°.36E,h135km±29km,mb4.2/5, Error ellipse: s-maj=24.2km s-min=7.2km az=49.0*
*ISCJB **26** 20:55:26.6±0.5,1°.65N±0°.07×124°.80E±0°.06,h239km±4km, mb4.1/11, Error ellipse: s-maj=12.1km s-min=7.6km az=30.7*
*IDC **26** 20:55:26.2±6.1,1°.73N×124°.81E,h214km±59km,mb3.6/8, mb1 3.7/10,mb1mx3.4/24,mbtmp3.6/10,MS3.6/1, Ms1 3.5/1,ms1mx2.6/29, Error ellipse: s-maj=66.8km s-min=11.8km az=61.0*
*DJA **26** 20:55:29,1°.25N×124°.77E,h231km,MLv3.8/6*
ISC 26 20:55:27.7±0.5,1°.63N±0°.07×124°.80E±0°.06,h232km±4km, n36,σ0°.88/43,mb4.1/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**0.19**	**168**	P	**Pn**	**20 55 59.0**	**+1.1**
KMSI	**Cibinong**	**1.33**	**218**	P	**Pn**	**20 56 02.9**	**-0.2**
KMSI				S	**S**	**20 56 30.3**	**-0.5**
GTOI	**Gorontalo**	**2.04**	**241**	P	**Pn**	**20 56 09.4**	**+0.2**
GTOI				S	**S**	**20 56 41.3**	**-0.4**
TNTI	**Ternate**	**2.70**	**108**	P	**Pn**	**20 56 17.6**	**+1.7**
MRSI	**Marisa**	**3.08**	**248**	P	**Pn**	**20 56 21.2**	**+1.1**
MRSI				S	**S**	**20 57 01.3**	**0.0**
LUWI	**Luwuk**	**3.34**	**217**	P	**Pn**	**20 56 21.7**	**-1.3**
LUWI				S	**S**	**20 57 02.1**	**-4.6**
LBMI	**Labuha**	**3.52**	**130**	P	**Pn**	**20 56 25.1**	**0.0**
LBMI				S	**S**	**20 57 08.6**	**-1.8**
KAPI	**Kappang**	**8.31**	**217**	P	**Pn**	**20 57 24.3**	**-0.7**
	1.7nm,0.3s,baz=103,slow=1.9,SNR=7.0						
KAPI	**Kappang**	**8.31**	**217**	P	**Pn**	**20 57 24.3**	**-0.7**
KSM	**Kuching**	**14.49**	**270**	*e*Pn	**Pn**	**20 58 43.4**	**+0.9**
	3.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.62**	**178**	P	**P**	**20 59 40.1**	**+1.1**
	0.4nm,0.3s,baz=18,slow=5.2,SNR=7.9						
FITZ	**Fitzroy Crossi**	**19.62**	**178**	P	**P**	**20 59 40.1**	**+1.1**
WRAB	**Tennant Creek**	**23.39**	**157**	*e*P	**P**	**21 00 16.2**	**+0.2**
	19nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**23.39**	**157**	P	**P**	**21 00 16.2**	**+0.2**
	12nm,0.4s,mb4.8,baz=337,slow=10,SNR=164						
WRA				S	**S**	**21 04 08.3**	**-3.3**
	0.9nm,0.6s,baz=336,slow=16,SNR=5.3						
WRA	**Warramunga Arr**	**23.39**	**157**	P	**P**	**21 00 16.2**	**+0.2**
WRA				S	**S**	**21 04 08.3**	**-3.3**
WB2	**Warramunga Arr**	**23.40**	**157**	*e*P	**P**	**21 00 16.3**	**+0.2**
PMG	**Port Moresby**	**24.82**	**117**	*e*P	**P**	**21 00 23.0**	**-6.1**
	8.9nm,0.9s,mb4.4						
AS31	**Alice Springs**	**26.66**	**161**	*e*P	**P**	**21 00 46.0**	**+0.7**
ASAR	**Alice Springs**	**26.66**	**161**	P	**P**	**21 00 46.0**	**+0.6**
	1.2nm,0.4s,mb3.9,baz=334,slow=7.8,SNR=67						
ASAR				PcP	PcP	21 04 03.9	+0.9
	0.4nm,0.4s,baz=343,slow=2.1,SNR=6.0						
ASAR	**Alice Springs**	**26.66**	**161**	P	**P**	**21 00 46.0**	**+0.6**
ASAR				PcP	PcP	21 04 03.9	+0.9
HNR	**Honiara**	**36.69**	**108**	*e*P	**P**	**21 02 09.7**	**-3.2**
	55nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**36.94**	**156**	P	**P**	**21 02 15.8**	**+1.2**
	2.2nm,0.4s,mb4.0,baz=337,slow=7.3,SNR=15						
STKA				LR	LR	21 18 06.7	
	comp=Z,77nm,18.9s,baz=226,slow=37						
STKA	**Stephens Creek**	**36.94**	**156**	*e*P	**P**	**21 02 15.5**	**+0.8**
	0.9nm,0.8s,mb3.4						
SONM	**Songino Array**	**48.71**	**344**	P	**P**	**21 03 49.0**	**+0.4**
	0.6nm,0.8s,mb3.0,baz=159,slow=10,SNR=5.0						
SONM	**Songino Array**	**48.71**	**344**	P	**P**	**21 03 49.0**	**+0.4**
MK31	**Makanchi Array**	**58.21**	**327**	*e*P	**P**	**21 04 57.3**	**-0.3**
MKAR	**Makanchi Array**	**58.21**	**327**	P	**P**	**21 04 57.6**	**-0.1**
	1.1nm,0.4s,mb3.9,baz=122,slow=7.7,SNR=20						
MKAR	**Makanchi Array**	**58.21**	**327**	P	**P**	**21 04 57.6**	**-0.1**
KURK	**Kurchatov**	**62.50**	**329**	P	**P**	**21 05 26.6**	**+0.1**
	1.0nm,0.3s,mb4.0,baz=124,slow=6.2,SNR=8.2						
KURK	**Kurchatov**	**62.50**	**329**	*e*P	**P**	**21 05 26.1**	**-0.5**
	3.9nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**68.04**	**328**	P	**P**	**21 06 01.0**	**-1.1**
	0.3nm,0.4s,mb3.3,baz=126,slow=9.3,SNR=3.8						
BVAR	**Borovoye Array**	**68.04**	**328**	P	**P**	**21 06 01.0**	**-1.1**
BRVK	**Borovoye**	**68.11**	**328**	P	**P**	**21 06 02.3**	**-0.2**
ABKAR	**Akbulak array**	**72.56**	**322**	*e*P	**P**	**21 06 28.5**	**-1.0**
AKTO	**Aktyubinsk**	**74.11**	**322**	P	**P**	**21 06 38.4**	**-0.2**
	1.2nm,0.6s,mb3.7,baz=116,slow=9.3,SNR=4.8						
AKTO	**Aktyubinsk**	**74.11**	**322**	P	**P**	**21 06 38.4**	**-0.2**

*ISCJB **26** 21:16:04.8±0.5,39°.88N±0°.03×40°.81E±0°.03,h3km±5km, Error ellipse: s-maj=4.7km s-min=3.3km az=0.3*
*ISK **26** 21:16:04.4,39°.87N×40°.77E,h2km,MD3.0*
*CSEM **26** 21:16:04.5±0.2,39°.87N×40°.80E,h2km,MD3.2, Error ellipse: s-maj=5.8km s-min=4.9km az=7.0*
*DDA **26** 21:16:05.0,39°.96N×40°.82E,h7km±5km,Md3.2*
ISC 26 21:16:05.1±0.4,39°.90N±0°.03×40°.81E±0°.03,h1km±5km, n36,σ1°.11/58,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.27**	**296**	*i* P	**Pg**	**21 16 11.4**	**+1.1**
KOPT				*i* S	**Sg**	**21 16 15.5**	**+1.7**
KOPT	**Kop Dagi**	**0.27**	**296**	*i* P	**Pg**	**21 16 11.4**	**+1.1**
KOPT				*i* S	**Sg**	**21 16 15.5**	**+1.7**
EZM	**Erzurum**	**0.42**	**89**	*e*PG	**Pg**	**21 16 14.1**	**+0.9**
ERZM	**Erzurum**	**0.42**	**89**	*i* P	**Pg**	**21 16 12.9**	**-0.3**
ERZM				*i* S	**Sg**	**21 16 17.4**	**-1.4**
ERZM	**Erzurum**	**0.42**	**89**	*i* P	**Pg**	**21 16 12.9**	**-0.3**
ERZM				*i* S	**Sg**	**21 16 17.4**	**-1.3**
BAYT	**Ayd¨–ntepe-Bay**	**0.71**	**314**	*e*PG	**Pg**	**21 16 18.8**	**+0.1**
BAYT				*e*SG	**Sg**	**21 16 29.7**	**+1.7**
BAYT	**Ayd¨–ntepe-Bay**	**0.71**	**314**	*e*Pg	**Pg**	**21 16 18.8**	**0.0**
BAYT				*e*Sg	**Sg**	**21 16 29.7**	**+1.7**
HOMI	**Horasan**	**0.85**	**80**	*i* P	**Pg**	**21 16 22.0**	**+0.6**
HOMI				*i* S	**Sg**	**21 16 34.5**	**+2.1**
VRTB	**Varto-Mus**	**0.89**	**146**	*e*PG	**Pg**	**21 16 22.6**	**+0.4**
VRTB	**Varto-Mus**	**0.89**	**146**	*e*Pg	**Pg**	**21 16 22.6**	**+0.5**
ERZN	**Erzincan**	**0.90**	**250**	*e*PG	**Pg**	**21 16 21.6**	**-0.6**
ERZN				*e*SG	**Sg**	**21 16 34.0**	**+0.1**
BNGB	**Bing¨ll**	**0.91**	**187**	*e*PG	**Pg**	**21 16 22.1**	**-0.4**
BNGL	**BINGOL**	**0.98**	**165**	*e*P	**Pg**	**21 16 22.7**	**-1.2**
BNGL				*i* S	**Sg**	**21 16 40.1**	**+3.5**
BINT	**Bingol**	**1.05**	**194**	*e*Pg	**Pg**	**21 16 22.1**	**-3.2**
EZC	**Erzincan**	**1.13**	**263**	*e*Pg	**Pg**	**21 16 21.6**	**-5.2**
EZC				*e*Sg	**Sg**	**21 16 34.0**	**-7.5**
DDEM	**Demirkent**	**1.22**	**36**	*i* P	**Pg**	**21 16 29.6**	**+1.1**
DDEM				*i* S	**Sg**	**21 16 44.1**	**-0.3**
DDEM	**Demirkent**	**1.22**	**36**	*i* P	**Pg**	**21 16 29.6**	**+1.1**
DDEM				*i* S	**Sg**	**21 16 44.1**	**-0.3**
KELT	**Kelkit**	**1.22**	**282**	*i* P	**Pg**	**21 16 27.1**	**-1.4**
KELT				*i* S	**Sg**	**21 16 43.9**	**-0.4**
KELT	**Kelkit**	**1.22**	**282**	*i* P	**Pg**	**21 16 27.1**	**-1.4**
KELT				*i* S	**Sg**	**21 16 43.9**	**-0.4**
DBAD	**Bademkaya**	**1.30**	**31**	*i* P	**Pg**	**21 16 28.6**	**-1.5**
DBAD				*i* S	**Sg**	**21 16 45.3**	**-1.7**
DBAD	**Bademkaya**	**1.30**	**31**	*i* P	**Pg**	**21 16 28.6**	**-1.5**
DBAD				*i* S	**Sg**	**21 16 45.3**	**-1.7**
MACK	**Trabzon**	**1.31**	**323**	*i* P	**Pg**	**21 16 28.8**	**-1.4**
MACK				*i* S	**Sg**	**21 16 48.2**	**+1.0**
MACK	**Trabzon**	**1.31**	**323**	*i* P	**Pg**	**21 16 28.8**	**-1.4**
MACK				*i* S	**Sg**	**21 16 48.2**	**+1.0**
DAGI	**Agillar**	**1.45**	**35**	*i* P	**Pn**	**21 16 31.9**	**-0.5**
DAGI				*i* S	**Sb**	**21 16 51.1**	**-0.7**
PTK	**Pertek**	**1.49**	**228**	*e*PN	**Pn**	**21 16 32.5**	**-0.6**
PTK	**Pertek**	**1.49**	**228**	*e*Pn	**Pn**	**21 16 32.5**	**-0.5**
ARTV	**Artvin**	**1.54**	**33**	*e*P	**Pn**	**21 16 33.0**	**-0.7**
ARTV				*e*S	**Sn**	**21 16 54.0**	**-0.3**
ARTV	**Artvin**	**1.54**	**33**	*e*P	**Pn**	**21 16 33.0**	**-0.7**
ARTV				*e*S	**Sn**	**21 16 54.0**	**-0.4**
TUTA	**Tutak**	**1.62**	**107**	*i* P	**Pn**	**21 16 35.4**	**+0.6**
TUTA				*i* S	**Sn**	**21 16 58.9**	**+2.5**
TUTA	**Tutak**	**1.62**	**107**	*i* P	**Pn**	**21 16 35.4**	**+0.6**
BCA	**Borcka**	**1.66**	**21**	*e*PN	**Pn**	**21 16 35.8**	**+0.4**
BCA	**Borcka**	**1.66**	**21**	*e*Pn	**Pn**	**21 16 35.8**	**+0.4**
AGRB	**Hanur-Agry**	**1.71**	**100**	*e*PN	**Pn**	**21 16 36.6**	**+0.6**
AGRB	**Hanur-Agry**	**1.71**	**100**	*e*Pn	**Pn**	**21 16 36.7**	**+0.6**
ILIC	**ilic-Erzincan**	**1.79**	**256**	*e*PN	**Pn**	**21 16 36.8**	**-0.4**
ILIC	**ilic-Erzincan**	**1.79**	**256**	*e*Pn	**Pn**	**21 16 36.8**	**-0.3**

*ISK **26** 21:37:08.6,37°.90N×29°.27E,h12km,MD2.7*
*CSEM **26** 21:37:09.7±0.2,37°.88N×29°.20E,h15km,MD2.7, Error ellipse: s-maj=5.2km s-min=3.2km az=84.0*
*ISCJB **26** 21:37:10.2±0.5,37°.90N±0°.02×29°.21E±0°.05,h9km±8km, Error ellipse: s-maj=7.0km s-min=4.1km az=179.4*
*DDA **26** 21:37:10.3,37°.89N×29°.21E,h7km±5km,Md2.9*
ISC 26 21:37:10.5±0.5,37°.91N±0°.02×29°.22E±0°.06,h15km±6km, n21,σ1°.11/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**224**	*e*PG	**Pg**	**21 37 13.8**	**-1.5**
DENT				*e*SG	**Sg**	**21 37 18.7**	**+0.2**
DENT	**Denizli**	**0.21**	**224**	*e*Pg	**Pg**	**21 37 13.8**	**-1.5**
DENT				*e*Sg	**Sg**	**21 37 18.7**	**+0.2**
KHAL	**Karahalli**	**0.51**	**25**	*i* P	**Pg**	**21 37 20.8**	**+0.2**
KHAL				*i* S	**Sg**	**21 37 27.9**	**+0.4**
KHAL	**Karahalli**	**0.51**	**25**	*i* P	**Pg**	**21 37 20.8**	**+0.2**
KHAL				*i* S	**Sg**	**21 37 27.9**	**+0.4**
GOLH	**Golhisar**	**0.72**	**158**	*i* P	**Pg**	**21 37 23.2**	**-1.4**
GOLH				*i* S	**Sg**	**21 37 35.3**	**+1.2**
GOLH	**Golhisar**	**0.72**	**158**	*i* P	**Pg**	**21 37 23.2**	**-1.3**
GOLH				*i* S	**Sg**	**21 37 35.3**	**+1.3**
KULA	**Kula-Manisa**	**0.75**	**324**	*e*PG	**Pg**	**21 37 24.1**	**-0.9**
KULA				*e*SG	**Sg**	**21 37 35.3**	**+0.3**
KULA	**Kula-Manisa**	**0.75**	**324**	*e*Pg	**Pg**	**21 37 24.2**	**-0.9**
KULA				*e*Sg	**Sg**	**21 37 35.3**	**+0.3**
MANT	**Manisa**	**0.78**	**318**	*i* P	**Pg**	**21 37 25.7**	**0.0**
MANT				*i* S	**Sg**	**21 37 36.3**	**+0.3**
MANT	**Manisa**	**0.78**	**318**	*i* P	**Pg**	**21 37 25.7**	**0.0**
MANT				*i* S	**Sg**	**21 37 36.3**	**+0.3**
YER	**Yerkesik**	**1.07**	**224**	*e*PN	**Pg**	**21 37 29.7**	**-1.5**
YER				*e*SN	**Sg**	**21 37 45.3**	**+0.1**
YER	**Yerkesik**	**1.07**	**224**	*e*Pn	**Pg**	**21 37 29.7**	**-1.4**
YER				*e*Sn	**Sg**	**21 37 45.3**	**+0.2**
TURN	**Turunc**	**1.14**	**206**	*i* P	**Pg**	**21 37 34.9**	**+2.4**
TURN				*i* S	**Sg**	**21 37 54.3**	**+6.9**
TURN	**Turunc**	**1.14**	**206**	*i* P	**Pb**	**21 37 34.9**	**+3.0**
GDZ	**Gediz**	**1.20**	**10**	*i* P	**Pn**	**21 37 32.8**	**+0.1**
GDZ				*i* S	**Sb**	**21 37 48.7**	**+0.5**
GDZ	**Gediz**	**1.20**	**10**	*i* P	**Pn**	**21 37 32.8**	**+0.1**
GDZ				*i* S	**Sb**	**21 37 48.7**	**+0.5**
SHUT	**Suhut-Afyon**	**1.23**	**58**	*e*PN	**Pn**	**21 37 31.8**	**-1.3**
ELL	**Elmali**	**1.28**	**154**	*e*PN	**Pn**	**21 37 32.6**	**-1.2**
ELL	**Elmali**	**1.28**	**154**	*e*Pn	**Pn**	**21 37 32.6**	**-1.2**
BOLV	**Bolvadin**	**1.58**	**59**	*i* P	**Pn**	**21 37 41.8**	**+3.8**
BOLV				*i* S	**Sn**	**21 38 04.4**	**+6.2**
BOLV	**Bolvadin**	**1.58**	**59**	*i* P	**Pn**	**21 37 41.8**	**+3.8**

*ISCJB **26** 21:46:18.9±2.5,10°.3S±0°.2×161°.2E±0°.2,h119km±18km, mb3.7/9, Error ellipse: s-maj=41.0km s-min=20.4km az=39.5*
*IDC **26** 21:46:18.7±3.2,10°.28S×161°.31E,h107km±24km,mb3.6/8, mb1 3.8/8,mb1mx3.6/17,mbtmp3.6/8, Error ellipse: s-maj=35.7km s-min=20.4km az=122.0*
*NEIC **26** 21:46:19.1±1.9,10°.25S×161°.27E,h110km±14km,mb4.0/1, Error ellipse: s-maj=28.5km s-min=13.7km az=130.0*
ISC 26 21:46:19.3±2.6,10°.3S±0°.2×161°.3E±0°.2,h110km±20km, n19,σ0°.51/21,mb3.7/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.53**	**302**	P	**Pn**	**21 46 45.9**	**-0.6**
	53nm,0.3s,baz=153,slow=0.8,SNR=12						
HNR				S	**Sn**	**21 47 07.5**	**+0.3**
	196nm,0.3s,baz=170,slow=23,SNR=22						
HNR	**Honiara**	**1.53**	**302**	*e*Pn	**Pn**	**21 46 46.3**	**-0.2**
HNR				*e*Sn	**Sn**	**21 47 07.4**	**+0.3**
WRAB	**Tennant Creek**	**27.67**	**246**	*e*P	**P**	**21 51 57.1**	**0.0**
	2.7nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**27.69**	**246**	P	**P**	**21 51 57.4**	**+0.2**
	2.3nm,0.6s,mb3.9,baz=76,slow=9.2,SNR=34						
WRA	**Warramunga Arr**	**27.69**	**246**	P	**P**	**21 51 57.4**	**+0.2**
ASAR	**Alice Springs**	**29.30**	**239**	P	**P**	**21 52 11.0**	**-0.5**
	0.4nm,0.5s,mb3.3,baz=61,slow=10,SNR=12						
ASAR	**Alice Springs**	**29.30**	**239**	P	**P**	**21 52 11.0**	**-0.5**
SONM	**Songino Array**	**75.46**	**325**	P	**P**	**21 57 52.0**	**+0.8**
	1.2nm,0.6s,mb3.8,baz=138,slow=5.5,SNR=10						
SONM	**Songino Array**	**75.46**	**325**	P	**P**	**21 57 52.0**	**+0.8**
QSPA	**South Pole Qui**	**79.75**	**180**	P	**P**	**21 58 15.0**	**+0.4**
	0.9nm,0.5s,mb3.8,baz=107,slow=2.6,SNR=1.4						
QSPA	**South Pole Qui**	**79.75**	**180**	P	**P**	**21 58 15.0**	**+0.4**
ILAR	**Eielson Array**	**84.21**	**20**	P	**P**	**21 58 37.5**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=242,slow=5.0,SNR=19						
ILAR	**Eielson Array**	**84.21**	**20**	P	**P**	**21 58 37.5**	**-0.5**
NVAR	**Mina Array Bea**	**88.91**	**51**	P	**P**	**21 59 02.3**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=244,slow=5.9,SNR=3.1						
NVAR	**Mina Array Bea**	**88.91**	**51**	P	**P**	**21 59 02.3**	**+0.8**
MKAR	**Makanchi Array**	**89.95**	**318**	P	**P**	**21 59 05.7**	**-0.4**
	0.2nm,0.5s,mb3.5,baz=86,slow=6.8,SNR=5.4						
MKAR	**Makanchi Array**	**89.95**	**318**	P	**P**	**21 59 05.7**	**-0.4**
YKA	**Yellowknife Ar**	**96.30**	**28**	P	**P**	**21 59 34.4**	**-0.7**
	0.3nm,0.6s,mb3.9,baz=258,slow=4.9,SNR=6.4						
YKA	**Yellowknife Ar**	**96.30**	**28**	P	**P**	**21 59 34.4**	**-0.7**

*IDC **26** 21:48:40.0±1.6,17°.64S×178°.93W,h515km±16km, mb3.7/19,mb1 3.8/20,mb1mx3.8/23,mbtmp3.7/20, Error ellipse: s-maj=14.2km s-min=12.2km az=133.0*
*ISCJB **26** 21:48:41.3±0.6,17°.68S±0°.07×179°.05W±0°.07, h545km±6km,mb4.3/36, Error ellipse: s-maj=12.9km s-min=8.9km az=139.7*
*NEIC **26** 21:48:41.5±0.6,17°.63S×178°.96W,h538km±6km,mb4.5/22, Error ellipse: s-maj=8.9km s-min=6.4km az=134.0*
*BJI **26** 21:48:41.8,17°.60S×178°.80W,h543km,mB5.1/2,mb4.7/5*
ISC 26 21:48:41.6±0.7,17°.65S±0°.07×179°.00W±0°.08, h535km±6km,n193,σ0°.95/80,mb4.3/36,22C-8D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.82**	**268**	*e*P	**P**	**21 49 56.6**	**+2.4**
MSVF				*e*S	**S**	**21 50 53.3**	**0.0**
FUNA	**Funafuti**	**9.24**	**349**	*e*P	**P**	**21 50 49.2**	**-2.3**
DZM	**Mont Dzumac**	**14.39**	**250**	*e*P	**P**	**21 51 41.9**	**-3.0**
	7.6nm,0.6s						
RAR	**Rarotonga**	**18.47**	**104**	P	**P**	**21 52 24.4**	**-0.1**
	0.9nm,0.3s,baz=264,slow=5.1,SNR=3.5						
RAR	**Rarotonga**	**18.47**	**104**	*e*P	**P**	**21 52 23.8**	**-0.7**
	29nm,0.8s						
URZ	**Urewera**	**20.82**	**189**	P	**P**	**21 52 44.3**	**-1.3**
	1.7nm,0.3s,baz=266,slow=2.2,SNR=7.3						
URZ	**Urewera**	**20.82**	**189**	*e*P	**P**	**21 52 44.8**	**-0.8**
EIDS	**Eidsvold**	**28.83**	**249**	*e*P	**P**	**21 53 56.6**	**-0.2**
	6.7nm,0.4s,mb4.6						
CTA	**Charters Tower**	**32.94**	**260**	P	**P**	**21 54 32.4**	**+0.3**
	11nm,0.7s,mb4.5,baz=100,slow=9.4,SNR=9.0						
CTA	**Charters Tower**	**32.94**	**260**	P	**P**	**21 54 32.4**	**+0.3**
CTAO	**Charters Tower**	**32.94**	**260**	*e*P	**P**	**21 54 31.9**	**-0.2**
	11nm,0.7s,mb4.5						
PMG	**Port Moresby**	**33.87**	**280**	P	**P**	**21 54 40.4**	**+0.4**
	3.5nm,0.5s,mb4.2,baz=25,slow=3.8,SNR=4.3						
PMG	**Port Moresby**	**33.87**	**280**	*e*P	**P**	**21 54 40.3**	**+0.3**
	6.6nm,0.7s,mb4.3						
TAU	**Tasmania Unive**	**38.06**	**221**	*e*P	**P**	**21 55 15.4**	**+1.1**
STKA	**Stephens Creek**	**38.27**	**241**	P	**P**	**21 55 17.3**	**+1.2**
	13nm,0.5s,mb4.8,baz=92,slow=9.6,SNR=91						
STKA	**Stephens Creek**	**38.27**	**241**	*e*P	**P**	**21 55 17.0**	**+0.8**
	2.8nm,0.4s,mb4.2						
MCQ	**Macquarie Isla**	**40.51**	**200**	*e*P	**P**	**21 55 32.7**	**-1.1**
BBOO	**Buckleboo**	**43.04**	**241**	*e*P	**P**	**21 55 54.7**	**+0.5**
	402nm,0.9s						
WB2	**Warramunga Arr**	**44.12**	**259**	*e*P	**P**	**21 56 01.9**	**-0.9**
WB2				*e*PcP	PcP	21 57 35.4	-0.8
WRAB	**Tennant Creek**	**44.12**	**259**	*e*P	**P**	**21 56 01.9**	**-0.9**
	3.3nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.13**	**259**	P	**P**	**21 56 02.2**	**-0.6**
	4.8nm,0.6s,mb4.2,baz=95,slow=7.0,SNR=101						
WRA				PcP	PcP	21 57 36.5	+0.3
	2.6nm,0.8s,baz=89,slow=3.8,SNR=8.2						
WRA				ScP	ScP	22 00 39.5	+2.2
	1.2nm,0.8s,baz=89,slow=4.4,SNR=6.1						
WRA				S	**S**	**22 01 53.6**	**-3.4**
	0.8nm,0.9s,baz=91,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**44.13**	**259**	P	**P**	**21 56 02.2**	**-0.6**
WRA				PcP	PcP	21 57 36.5	+0.3
WRA				ScP	ScP	22 00 39.5	+2.2
WRA				S	**S**	**22 01 53.6**	**-3.4**
AS31	**Alice Springs**	**44.32**	**254**	*e*P	**P**	**21 56 04.2**	**-0.1**
AS31				*e*PcP	PcP	21 57 36.6	-0.2
ASAR	**Alice Springs**	**44.32**	**254**	P	**P**	**21 56 04.5**	**+0.2**
	52nm,0.5s,mb5.3,baz=89,slow=8.1,SNR=1248						
ASAR				PcP	PcP	21 57 37.2	+0.4
	2.5nm,0.4s,baz=105,slow=4.1,SNR=7.3						
ASAR				ScP	ScP	22 00 40.9	+2.9
	1.3nm,0.7s,baz=96,slow=4.6,SNR=7.9						
ASAR				S	**S**	**22 01 57.7**	**-2.0**
	2.6nm,1.0s,baz=85,slow=16,SNR=15						
ASAR	**Alice Springs**	**44.32**	**254**	P	**P**	**21 56 04.5**	**+0.2**
ASAR		

FINES				SKPbc	SKPbc	22 09 34.3	+1.5
NOA	**NORSAR Array B**	**136.05**	**353**	PKhKP	PKPpre	22 06 50.5	
comp=Z,0.9nm,0.9s,baz=357,slow=15,SNR=1.9							
NOA	**NORSAR Array B**	**136.05**	**353**	PKPpre	PKPpre	22 06 50.5	
HFS	**Hagfors**	**136.59**	**351**	PKhKP	PKPpre	22 06 51.1	
comp=Z,1.5nm,0.7s,baz=116,slow=3.4,SNR=5.8							
HFS	**Hagfors**	**136.59**	**351**	PKPpre	PKPpre	22 06 51.1	
AKASG	**Malin Array Be**	**140.07**	**332**	PKhKP	PKPpre	22 07 01.8	
comp=Z,0.4nm,0.4s,baz=39,slow=4.0,SNR=4.4							
AKASG	**Malin Array Be**	**140.07**	**332**	PKPpre	PKPpre	22 07 01.8	
KWP	**Kalwaria Pacla**	**143.61**	**336**	*e*PKPab	PKPdf	22 07 14.0	-1.4
KWP	**Kalwaria Pacla**	**143.61**	**336**	⇑*i*P	PKPdf	22 07 14.4	-1.0
BUR08	**Bucovina Ar. S**	**144.11**	**332**	*e*PKPbc	PKPdf	22 07 16.2	-0.1
BURAR	**Bucovina Array**	**144.12**	**332**	⇑*i*P	PKPdf	22 07 16.3	0.0
OJC	**Ojcow**	**144.18**	**339**	*e*PKP	PKPdf	22 07 15.8	-0.5
BR131	**Keskin Array S**	**144.21**	**315**	*e*PKPbc	PKPdf	22 07 16.3	-0.4
BRTR	**Keskin Array B**	**144.21**	**315**	PKP	PKPdf	22 07 16.4	-0.3
comp=Z,3.5nm,0.5s,baz=105,slow=2.8,SNR=42							
BRTR	**Keskin Array B**	**144.21**	**315**	PKP	PKPdf	22 07 16.4	-0.3
TESR		**144.25**	**329**	⇑*i*P	PKPdf	22 07 16.6	0.0
STHS	**Stebnicka Huta**	**144.34**	**337**	*e*PKP	PKPdf	22 07 16.6	0.0
KOLS	**Kolonicke sedl**	**144.34**	**336**	*e*PKP	PKPdf	22 07 18.2	+1.5
ASF	**Jabal al Asfar**	**144.57**	**301**	PKP	PKPdf	22 07 18.1	+0.5
comp=Z,7.1nm,0.9s,baz=354,slow=3.1,SNR=13							
ASF	**Jabal al Asfar**	**144.57**	**301**	PKP	PKPdf	22 07 18.1	+0.5
VRI	**Vrincioaia**	**144.67**	**328**	⇑*i*P	PKPdf	22 07 18.0	+0.7
NIE	**Niedzica**	**144.68**	**338**	*e*PKP	PKPdf	22 07 18.1	+0.9
CRVS	**Cervenica-Dubn**	**144.68**	**336**	*e*PKP	PKPdf	22 07 18.6	+1.4
KSP	**Ksiaz**	**144.70**	**343**	*e*PKP	PKPdf	22 07 17.9	+0.7
PLOR	**Plostina**	**144.72**	**328**	⇑*i*P	PKPdf	22 07 17.9	+0.5
BMR	**Baia Mare**	**144.84**	**333**	⇓*i*P	PKPdf	22 07 18.6	+1.1
TRPA	**Tarpa**	**144.88**	**335**	⇑*i*P	PKPdf	22 07 18.3	+0.7
OKC	**Ostrava-Krasne**	**145.05**	**341**	*e*PKP	PKPdf	22 07 18.4	+0.6
UPC	**Upice**	**145.09**	**343**	*e*PKP	PKPdf	22 07 19.0	+1.1
CLL	**Collm**	**145.09**	**347**	⇑*i*PKPbc	PKPbc	22 07 18.6	-0.1
comp=Z,17nm,0.7s							
CLL				*i* PKPab	PKPab	22 07 19.7	+0.1
DPC	**Dobruska-Polom**	**145.14**	**343**	*e*PKP	PKPbc	22 07 19.4	+0.5
BRG	**Berggiesshubel**	**145.28**	**346**	*i* PKP	PKPbc	22 07 19.2	-0.1
comp=Z,11nm,0.8s							
ISR	**Istrita**	**145.28**	**328**	⇓*i*P	PKPbc	22 07 20.8	+1.3
MORC	**Moravsky Berou**	**145.29**	**341**	⇓*i*P	PKPbc	22 07 19.9	+0.6
MLR	**Muntele Rosu**	**145.32**	**329**	PKPbc	PKPbc	22 07 19.7	+0.2
comp=Z,1.2nm,0.6s,baz=324,slow=5.0,SNR=14							
MLR	**Muntele Rosu**	**145.32**	**329**	PKPbc	PKPbc	22 07 19.7	+0.2
MLR	**Muntele Rosu**	**145.32**	**329**	⇓*i*P	PKPbc	22 07 20.4	+0.8
KECS	**Kecovo**	**145.39**	**337**	*e*PKP	PKPbc	22 07 19.8	+0.1
PVCC	**Panska Ves**	**145.45**	**345**	*e*PKP	PKPbc	22 07 20.1	+0.4
MMAI	**Mount Meron Ar**	**145.53**	**303**	PKPbc	PKPbc	22 07 21.2	+0.6
comp=Z,13nm,0.6s,baz=73,slow=6.2,SNR=39							
MMAI	**Mount Meron Ar**	**145.53**	**303**	PKPbc	PKPbc	22 07 21.2	+0.6
SULR		**145.73**	**327**	⇓*i*P	PKPdf	22 07 19.6	+0.4
DRGR		**145.86**	**333**	⇑*i*P	PKPbc	22 07 21.2	+0.1
PRU	**Pruhonice**	**145.95**	**344**	*e*PKP	PKPbc	22 07 21.2	0.0
VYHS	**Vyhne**	**145.98**	**339**	*e*PKP	PKPbc	22 07 21.7	+0.4
VRAC	**Vranov**	**145.99**	**342**	⇑*i*P	PKPbc	22 07 21.9	+0.6
KOLL	**Kolacno**	**146.05**	**339**	*e*PKP	PKPbc	22 07 21.9	+0.4
PSZ	**Piszkesteto**	**146.08**	**337**	*e*PKPbc	PKPbc	22 07 21.7	+0.1
PSZ	**Piszkesteto**	**146.08**	**337**	⇓*i*P	PKPbc	22 07 22.1	+0.5
NKC	**Novy Kostel**	**146.22**	**347**	*e*PKP	PKPbc	22 07 22.3	+0.3
TREC	**Trest**	**146.33**	**343**	*e*PKP	PKPbc	22 07 22.4	+0.1
SMOL	**Smolenice**	**146.43**	**340**	*e*PKP	PKPbc	22 07 23.2	+0.6
EIL	**Elat**	**146.81**	**297**	PKPbc	PKPbc	22 07 23.9	-0.3
comp=Z,4.2nm,0.7s,baz=0.0,slow=4.0,SNR=3.5							
EIL	**Elat**	**146.81**	**297**	PKPbc	PKPbc	22 07 23.9	-0.3
ZIMR		**146.90**	**327**	⇑*i*P	PKPdf	22 07 22.5	+1.3
GZR	**Gura Zlata**	**146.91**	**331**	⇑*i*P	PKPdf	22 07 22.2	+1.1
KHC	**Kasperske Hory**	**146.98**	**345**	*e*PKPbc	PKPbc	22 07 24.4	+0.3
KHC	**Kasperske Hory**	**146.98**	**345**	*e*PKP	PKPdf	22 07 21.0	-0.1
KHC				*ex*	x	22 07 24.3	
KHC				*ex*	x	22 07 27.0	
GERES	**GERESS Array B**	**147.22**	**344**	PKP	PKPdf	22 07 22.0	+0.5
comp=Z,1.1nm,0.7s,baz=349,slow=10.0,SNR=21							
GERES				PKPbc	PKPbc	22 07 24.8	+0.1
comp=Z,5.4nm,0.7s,baz=23,slow=3.4,SNR=22							
GERES	**GERESS Array B**	**147.22**	**344**	PKP	PKPdf	22 07 22.1	+0.5
GERES				PKPbc	PKPbc	22 07 24.8	+0.1
BZS	**Buzias**	**147.25**	**333**	⇓*i*P	PKPbc	22 07 25.0	+0.1
CONA	**Conrad Observa**	**147.44**	**341**	⇑*i*PKiKP	PKPbc	22 07 25.8	+0.5
comp=Z,10nm,0.8s,SNR=12							
BAIF	**Baives**	**147.57**	**356**	⇑*i*PKP1	PKPbc	22 07 25.7	+0.1
comp=Z,15nm,0.8s							
BAIF	**Baives**	**147.57**	**356**	*e*P	PKPbc	22 07 25.7	+0.1
PKSM	**Moragy**	**147.98**	**337**	⇑*i*P	PKPbc	22 07 26.5	-0.2
SOKA	**Soboth**	**148.81**	**341**	⇑*i*PKPbc	PKPbc	22 07 28.4	-0.4
comp=Z,15nm,1.5s							
CDF	**Champ du Feu**	**148.89**	**352**	*e*PKP1	PKPbc	22 07 29.1	+0.2
comp=Z,5.9nm,0.5s							
CDF	**Champ du Feu**	**148.89**	**352**	*e*P	PKPbc	22 07 29.1	+0.2
FLN	**La Foliniere**	**148.94**	**2**	*e*PKP1	PKPbc	22 07 28.8	-0.2
comp=Z,17nm,0.6s							
FLN	**La Foliniere**	**148.94**	**2**	*e*P	PKPbc	22 07 28.8	-0.2
MEZF	**Maizieres J'vi**	**149.05**	**355**	*e*PKP1	PKPbc	22 07 29.7	+0.4
MEZF	**Maizieres J'vi**	**149.05**	**355**	*e*P	PKPbc	22 07 29.7	+0.4
LDF	**La Druitiere**	**149.12**	**1**	⇑*i*PKP1	PKPbc	22 07 29.1	-0.4
comp=Z,4.5nm,0.3s							
LDF	**La Druitiere**	**149.12**	**1**	*e*P	PKPbc	22 07 29.1	-0.4
WATA	**Walderalm**	**149.14**	**346**	⇑*i*PKiKP	PKPbc	22 07 29.4	-0.2
comp=Z,4.1nm,0.5s							
WTTA	**Wattenberg**	**149.20**	**346**	⇓*i*PKiKP	PKPbc	22 07 30.0	+0.3
comp=Z,17nm,0.8s							
GRR	**Gorron**	**149.30**	**2**	⇑*i*PKP1	PKPbc	22 07 29.8	-0.1
comp=Z,6.3nm,0.4s							
GRR	**Gorron**	**149.30**	**2**	*e*P	PKPbc	22 07 29.8	-0.1
SGMF	**Saint Gilles**	**149.34**	**5**	*e*PKP1	PKPbc	22 07 29.6	-0.4
SGMF	**Saint Gilles**	**149.34**	**5**	*e*P	PKPbc	22 07 29.6	-0.4
HAU	**Haudompre**	**149.41**	**353**	⇑*i*PKP1	PKPbc	22 07 30.2	0.0
comp=Z,7.1nm,0.5s							
HAU	**Haudompre**	**149.41**	**353**	*e*P	PKPbc	22 07 30.2	0.0
ABTA	**Abfaltersbach**	**149.46**	**344**	*i* PKPbc	PKPbc	22 07 29.9	-0.4
comp=Z,9.5nm,0.6s,SNR=9.6							
HINF	**Hinteralfeld**	**149.53**	**352**	*e*PKP1	PKPbc	22 07 30.3	-0.2
comp=Z,9.3nm,0.9s							
HINF	**Hinteralfeld**	**149.53**	**352**	*e*P	PKPbc	22 07 30.3	-0.2
LOR	**Lormes**	**150.37**	**356**	⇑*i*PKP1	PKPbc	22 07 32.6	+0.1
comp=Z,11nm,0.5s							
LOR	**Lormes**	**150.37**	**356**	*e*P	PKPbc	22 07 32.6	+0.1
SSF	**Saint Saulge**	**150.60**	**357**	⇑*i*PKP1	PKPbc	22 07 33.1	+0.1
comp=Z,10nm,0.5s							
SSF	**Saint Saulge**	**150.60**	**357**	*e*P	PKPbc	22 07 33.1	+0.1
CABF	**La Chapelle**	**150.81**	**353**	*e*PKP1	PKPbc	22 07 34.2	+0.7
CABF	**La Chapelle**	**150.81**	**353**	*e*P	PKPbc	22 07 34.2	+0.7
AVF	**Avril sur Loir**	**150.88**	**357**	*e*PKP1	PKPbc	22 07 33.4	-0.2
AVF	**Avril sur Loir**	**150.88**	**357**	*e*P	PKPbc	22 07 33.4	-0.2
MFF	**Saint Martin d**	**151.11**	**2**	*e*PKP1	PKPbc	22 07 34.1	-0.1
comp=Z,28nm,0.9s							
MFF	**Saint Martin d**	**151.11**	**2**	*e*P	PKPbc	22 07 34.1	-0.1
BGF	**Bois d'Agland**	**151.13**	**357**	*e*PKP1	PKPbc	22 07 34.2	0.0
comp=Z,13nm,0.6s							
BGF	**Bois d'Agland**	**151.13**	**357**	*e*P	PKPbc	22 07 34.2	0.0
LPL	**La Plagne**	**151.81**	**351**	*e*PKP1	PKPbc	22 07 36.7	+0.9
LPL	**La Plagne**	**151.81**	**351**	*e*P	PKPbc	22 07 36.7	+0.9
LPG	**La Plagne**	**151.82**	**351**	*e*PKP1	PKPbc	22 07 36.8	+1.0
LPG	**La Plagne**	**151.82**	**351**	*e*P	PKPbc	22 07 36.8	+1.0
MBDF	**Montbardon**	**152.57**	**351**	⇑*i*PKP1	PKPbc	22 07 38.2	+0.7
comp=Z,13nm,0.7s							
MBDF	**Montbardon**	**152.57**	**351**	*e*P	PKPbc	22 07 38.2	+0.7
TORD	**Torodi Ar. Bea**	**175.47**	**189**	PKP	PKPdf	22 07 50.2	-0.8
comp=Z,0.5nm,0.8s,baz=347,slow=1.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**175.47**	**189**	PKP	PKPdf	22 07 50.2	-0.8

KRSC 26 21:57:13.9±1.4, 61°.34N×167°.85E, h19km±21km, ML4.8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**1.27**	**225**	*e*P	Pn	21 57 38.0	+1.5
TILR				*i* S	Sn	21 57 55.5	+2.6
KBTR	**Krutoberegovo**	**5.77**	**209**	*e*P	Pn	21 58 42.5	+4.1
BKI	**Bering**	**6.23**	**190**	*e*P	Pn	21 58 48.5	+3.8
BILL	**Bilibino**	**6.76**	**355**	*e*P	Pn	21 58 56.1	+4.2
BILL				*e*S	Sn	22 00 12.7	+4.5

IDC 26 22:02:37.6±0.8, 46°.47N×156°.07E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.6/27, mbtmp3.7/11, ML2.8/2, Error ellipse: s-maj=25.0km s-min=19.5km az=142.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.73**	**8**	Pn	Pn	22 04 16.4	-1.2
0.4nm,0.3s,baz=200,slow=13,SNR=3.2							
USRK	**Ussuriysk Arra**	**17.06**	**271**	P	Pn	22 06 36.5	-0.8
0.1nm,0.3s,baz=76,slow=11,SNR=4.3							
INK	**Inuvik**	**40.80**	**32**	P	P	22 10 19.6	-0.5
1.5nm,1.0s,baz=292,slow=5.4,SNR=3.2							
MKAR	**Makanchi Array**	**48.87**	**299**	P	P	22 11 25.2	+0.5
0.4nm,0.8s,baz=68,slow=8.7,SNR=3.9							
KURK	**Kurchatov**	**49.21**	**305**	P	P	22 11 28.2	+1.0
0.5nm,0.6s,baz=70,slow=8.2,SNR=6.1							
YKA	**Yellowknife Ar**	**49.92**	**37**	P	P	22 11 32.2	-0.3
0.1nm,0.6s,baz=290,slow=7.4,SNR=4.0							
BVAR	**Borovoye Array**	**52.60**	**311**	P	P	22 11 53.3	+0.6
0.9nm,0.7s,baz=64,slow=8.4,SNR=7.0							
CMAR	**Chiang Mai Arr**	**54.30**	**259**	P	P	22 12 04.7	-1.0
0.6nm,0.7s,baz=38,slow=7.2,SNR=5.7							
WRA	**Warramunga Arr**	**68.96**	**202**	P	P	22 13 43.7	-0.7
0.5nm,0.8s,baz=22,slow=6.7,SNR=5.3							
ASAR	**Alice Springs**	**72.63**	**201**	P	P	22 14 07.3	+0.7
0.5nm,0.9s,baz=1.3,slow=5.5,SNR=5.1							
TXAR	**Lajitas Array**	**75.84**	**62**	P	P	22 14 25.4	-0.2
1.1nm,0.6s,baz=310,slow=4.6,SNR=12							
PLCA	**Paso Flores**	**146.15**	**97**	PKPbc	PKPbc	22 22 20.4	+1.3
1.5nm,0.9s,baz=194,slow=6.9,SNR=3.3							

*IDC **26** 22:12:56.7±7.3, 36°.25N×70°.33E, h189km±66km, mb3.2/7, mb1 3.2/11, mb1mx3.0/29, mbtmp3.1/11, Error ellipse: s-maj=39.7km s-min=25.0km az=18.0*
*ISCJB **26** 22:12:57.8±0.5, 36°.56N±0°.04×70°.32E±0°.09, h197km±8km, mb3.2/6, Error ellipse: s-maj=11.4km s-min=6.0km az=171.9*
*NEIC **26** 22:12:58.3±0.9, 36°.45N×70°.37E, h198km±9km, Error ellipse: s-maj=17.8km s-min=11.1km az=122.0*
*NNC **26** 22:13:04.3±7.0, 37°.00N×70°.08E, h191km±62km, mb2.7, mpv3.9, Error ellipse: s-maj=59.3km s-min=31.5km az=18.0*

ISC 26 22:12:58.5±0.5, 36°.58N±0°.04×70°.21E±0°.09, h179km±8km, n43, σ1°.18/56, mb3.4/6, 8C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.24**	**205**	*e*Pn	**Pn**	**22 13 39.7**	**+1.5**
KBL				*e*Sn	**Sn**	**22 14 05.5**	**-3.4**
CEP	**Cherat**	**3.08**	**153**	⇑P	**Pn**	**22 13 48.7**	**+0.6**
CEP				S	**Sn**	**22 14 26.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.84**	**138**	⇑P	**Pn**	**22 13 57.9**	**+0.3**
THW	**Thamme Wali**	**3.98**	**161**	P	**Pn**	**22 13 59.2**	**-0.1**
SARP	**Sargodha**	**5.07**	**156**	P	**Pn**	**22 14 12.2**	**-1.2**
KSH	**Kashi**	**5.42**	**55**	*e*Pn	**Pn**	**22 14 13.0**	**-4.8**
KSH				Sn	**Sn**	**22 15 05.0**	**-15**
KSH				smax			
comp=N,34nm,0.5s							
KSH				smax			
comp=E,26nm,0.3s							
KK31	**Karatay Array**	**6.53**	**2**	P	**Pn**	**22 14 33.6**	**+1.3**
comp=E,2.3nm,0.3s,baz=179,slow=12,SNR=158							
KK31				⇓S	**Sn**	**22 15 44.5**	**-1.7**
comp=E,3.7nm,0.4s,baz=188,slow=27,SNR=7.6							
KKAR	**Karatay Array**	**6.53**	**2**	*e*Pn	**Pn**	**22 14 33.4**	**+1.2**
KKAR				*e*Sn	**Sn**	**22 15 40.0**	**-6.2**
EKS2	**Erkin-Say**	**6.67**	**23**	*e*Pn	**Pn**	**22 14 35.4**	**+1.2**
EKS2				*e*Sn	**Sn**	**22 15 45.7**	**-4.1**
AAK	**Ala-Archa**	**6.90**	**27**	*e*Pn	**Pn**	**22 14 36.4**	**-0.8**
AAK				*e*Sn	**Sn**	**22 15 45.3**	**-10**
TKM2	**Tokmak 2**	**7.58**	**32**	⇑P	**Pn**	**22 14 46.6**	**+0.5**
comp=E,6.1nm,0.5s							
TKM2				⇓S	**Sn**	**22 16 08.7**	**-2.5**
comp=E,7.8nm,1.0s							
TKM2	**Tokmak 2**	**7.58**	**32**	*e*Pn	**Pn**	**22 14 46.6**	**+0.6**
TKM2				*e*Sn	**Sn**	**22 16 03.5**	**-7.7**
MK31	**Makanchi Array**	**13.61**	**38**	⇓P	**Pn**	**22 16 06.9**	**+2.6**
comp=E,0.7nm,0.7s,baz=0.0,slow=0.1,SNR=7.0							
MKAR	**Makanchi Array**	**13.61**	**38**	P	**Pn**	**22 16 06.2**	**+1.9**
comp=E,0.1nm,0.3s,baz=206,slow=8.8,SNR=6.3							
MKAR	**Makanchi Array**	**13.61**	**38**	P	**Pn**	**22 16 06.2**	**+1.9**
AB31	**Akbulak array**	**14.72**	**333**	⇑P	**Pn**	**22 16 18.0**	**0.0**
comp=E,0.5nm,0.3s,baz=146,slow=13,SNR=45							
AB31				⇓S	**Sn**	**22 18 58.1**	**-3.8**
comp=E,0.4nm,0.4s							
ABKAR	**Akbulak array**	**14.72**	**333**	*e*Pn	**Pn**	**22 16 17.9**	**0.0**
ABKAR				*e*S	**Sn**	**22 18 55.7**	**-6.1**
KURBB	**Kurchatov Arra**	**15.27**	**21**	⇑P	**Pn**	**22 16 25.5**	**+0.8**
comp=E,0.2nm,0.8s							
KURK	**Kurchatov**	**15.38**	**21**	P	**Pn**	**22 16 23.9**	**-2.1**
comp=E,0.1nm,0.3s,baz=210,slow=9.7,SNR=7.2							
KURK	**Kurchatov**	**15.38**	**21**	P	**Pn**	**22 16 23.9**	**-2.1**
ZRNK	**Zerenda**	**16.40**	**357**	⇓P	**Pn**	**22 16 38.6**	**+0.2**
comp=E,4.5nm,1.1s							
AKTO	**Aktyubinsk**	**16.40**	**331**	P	**Pn**	**22 16 39.9**	**+1.4**
comp=E,0.5nm,0.3s,baz=148,slow=11,SNR=23							
AKTO	**Aktyubinsk**	**16.40**	**331**	⇑P	**Pn**	**22 16 39.6**	**+1.2**
comp=E,1.1nm,0.8s							
AKTO				⇑S	**S**	**22 19 32.9**	**-7.4**
AKTO	**Aktyubinsk**	**16.40**	**331**	P	**Pn**	**22 16 39.9**	**+1.4**
BVA0	**Borovoye Array**	**16.45**	**0**	P	**Pn**	**22 16 39.9**	**+0.9**
comp=E,0.1nm,0.3s,baz=163,slow=9.9,SNR=12							
BVAR	**Borovoye Array**	**16.45**	**0**	P	**Pn**	**22 16 39.8**	**+0.8**
comp=E,0.4nm,0.3s,baz=164,slow=9.4,SNR=17							
BVAR	**Borovoye Array**	**16.45**	**0**	P	**Pn**	**22 16 39.8**	**+0.8**
BRVK	**Borovoye**	**16.48**	**0**	⇑P	**Pn**	**22 16 39.8**	**+0.4**
comp=E,4.9nm,0.8s							
ZAA0	**Zalesovo Array**	**20.12**	**26**	*e*P	**P**	**22 17 17.6**	**-0.8**
ZAA0				*e*S	**S**	**22 20 55.4**	**+1.2**
ZALV	**Zalesovo Beam**	**20.12**	**26**	P	**P**	**22 17 18.0**	**-0.3**
comp=E,1.8nm,0.4s,baz=211,slow=10,SNR=15							
ZALV	**Zalesovo Beam**	**20.12**	**26**	P	**P**	**22 17 18.0**	**-0.3**
FINES	**FINESS Array B**	**37.07**	**326**	P	**P**	**22 19 50.8**	**-0.2**
comp=E,2.6nm,0.9s,mb3.9,baz=103,slow=9.2,SNR=7.9							
FINES	**FINESS Array B**	**37.07**	**326**	P	**P**	**22 19 50.8**	**-0.2**
ARCES	**ARCESS Array B**	**40.83**	**338**	P	**P**	**22 20 22.2**	**+0.1**
comp=E,3.9nm,0.8s,mb4.1,baz=116,slow=8.1,SNR=5.4							
ARCES	**ARCESS Array B**	**40.83**	**338**	P	**P**	**22 20 22.2**	**+0.1**
NOA	**NORSAR Array B**	**43.94**	**323**	P	**P**	**22 20 46.8**	**-0.4**
comp=E,0.4nm,0.7s,mb3.2,baz=113,slow=7.9,SNR=2.9							
NOA	**NORSAR Array B**	**43.94**	**323**	P	**P**	**22 20 46.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**65.08**	**268**	P	**P**	**22 23 17.6**	**-2.5**
comp=E,0.2nm,0.4s,mb3.3,baz=46,slow=5.8,SNR=5.5							
TORD	**Torodi Ar. Bea**	**65.08**	**268**	P	**P**	**22 23 17.6**	**-2.5**
YKA	**Yellowknife Ar**	**81.20**	**2**	P	**P**	**22 24 52.7**	**-1.1**
comp=E,0.1nm,0.5s,mb2.8,baz=354,slow=5.2,SNR=3.0							
YKA				pP	pP	22 25 42.9	+5.4
comp=E,0.1nm,0.6s,baz=353,slow=5.1,SNR=3.0							
YKA	**Yellowknife Ar**	**81.20**	**2**	P	**P**	**22 24 52.7**	**-1.1**
YKA				pP	pP	22 25 43.0	+5.4
WRA	**Warramunga Arr**	**82.57**	**121**	P	**P**	**22 24 57.5**	**-4.1**
comp=E,0.3nm,0.7s,mb3.1,baz=330,slow=5.1,SNR=3.0							
WRA	**Warramunga Arr**	**82.57**	**121**	P	**P**	**22 24 57.5**	**-4.1**

IDC 26 22:19:18.5±9.3, 21°.17S×68°.25W, h99km±70km, mb3.1/1, mb1 3.0/2, mb1mx2.9/13, mbtmp3.0/2, ML3.0/1, Error ellipse: s-maj=119.5km s-min=67.9km az=81.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.86**	**1**	P	Pn	22 20 31.7	+2.3
0.4nm,0.3s,baz=184,slow=9.7,SNR=5.1							
LPAZ				S	Sn	22 21 24.9	+0.5
0.3nm,0.3s,baz=181,slow=11,SNR=2.9							
TORD	**Torodi Ar. Bea**	**76.66**	**70**	P	P	22 30 58.8	-0.4
0.2nm,0.4s,baz=263,slow=5.9,SNR=5.4							
MKAR	**Makanchi Array**	**145.01**	**36**	PKPbc	PKPbc	22 38 43.8	+0.1
0.1nm,0.3s,baz=330,slow=3.0,SNR=5.0							

*NEIC **26** 22:35:29.6, 15°.72N×94°.10W, h83km, MD4.2(MEX), After MEX.*

MEX 26 22:35:30.1±0.6, 15°.78N×94°.09W, h78km±13km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.84**	**95**	P	Pn	22 35 45.6	-1.5
PCIG				S	Sn	22 35 58.2	-1.5
PCIG		**0.84**	**95**	*i* P	Pn	22 35 45.6	-1.5
PCIG				*e*S	Sn	22 35 58.2	-1.5
TGIG		**1.36**	**43**	P	Pn	22 35 52.3	-1.2
TGIG				S	Sn	22 36 09.1	-2.0
TGIG		**1.36**	**43**	*i* P	Pn	22 35 52.3	-1.2
TGIG				*e*S	Sn	22 36 09.1	-2.0
CMIG	**Matias Romero**	**1.51**	**330**	P	Pn	22 35 55.4	-0.1
CMIG				S	Sn	22 36 12.6	-2.1
CMIG	**Matias Romero**	**1.51**	**330**	*i* P	Pn	22 35 55.1	-0.4
CMIG				*e*S	Sn	22 36 12.6	-2.1
HUIG	**Huatulco**	**1.95**	**270**	P	Pn	22 35 59.6	-1.6
HUIG				S	Sn	22 36 21.8	-3.1
HUIG	**Huatulco**	**1.95**	**270**	*i* P	Pn	22 35 59.6	-1.6
HUIG				*i* S	Sn	22 36 23.1	-1.9
OXX	**Oaxaca**	**2.84**	**297**	P	Pn	22 36 09.1	-4.2
OXX				S	Sn	22 36 43.0	-3.5
OXX	**Oaxaca**	**2.84**	**297**	*i* P	Pn	22 36 11.7	-1.6
OXX				*i* S	Sn	22 36 45.0	-1.5
VHO	**Vista Hermosa**	**2.85**	**297**	P	Pn	22 36 11.8	-1.6
VHO				S	Sn	22 36 44.9	-1.8
VHO	**Vista Hermosa**	**2.85**	**297**	*i* P	Pn	22 36 11.8	-1.6
VHO				*e*S	Sn	22 36 44.9	-1.8
PNIG	**Pinotepa**	**3.93**	**279**	P	Pn	22 36 25.5	-2.6
PNIG				S	Sn	22 37 10.3	-2.8
PNIG	**Pinotepa**	**3.93**	**279**	*i* P	Pn	22 36 27.6	-0.5
PNIG				*i* S	Sn	22 37 11.8	-1.3
UTMO	**Huajuapan**	**4.10**	**300**	P	Pn	22 36 29.1	-1.3
UTMO				S	Sn	22 37 17.0	-0.2
UTMO	**Huajuapan**	**4.10**	**300**	*i* P	Pn	22 36 29.1	-1.3
UTMO				*e*S	Sn	22 37 17.0	-0.2

*ISCJB **26** 22:55:53.8±0.6, 38°.06N±0°.03×30°.15E±0°.04, h1km±6km, Error ellipse: s-maj=4.8km s-min=4.7km az=149.3*
*ISK **26** 22:55:53.7, 38°.06N×30°.16E, h8km, MD2.8*
*CSEM **26** 22:55:53.9±0.2, 38°.06N×30°.15E, h5km, MD2.8, Error ellipse: s-maj=4.4km s-min=4.2km az=82.0*
*DDA **26** 22:55:54.5, 38°.17N×30°.13E, h7km±6km, Md2.8*

ISC 26 22:55:54.2±0.6, 38°.06N±0°.03×30°.13E±0°.04, h4km±5km, n30, σ0°.98/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHAL	**Karahalli**	**0.59**	**302**	*i* P	**Pg**	**22 56 05.7**	**+0.2**
KHAL				*i* S	**Sg**	**22 56 15.8**	**+2.5**
KHAL	**Karahalli**	**0.59**	**302**	*i* P	**Pg**	**22 56 05.7**	**+0.1**
KHAL				*i* S	**Sg**	**22 56 15.8**	**+2.6**
SHUT	**Suhut-Afyon**	**0.59**	**34**	*e*PG	**Pg**	**22 56 04.4**	**-1.1**
SHUT

OGRR	Ongureny	0.48	284	⇑iPg	Pg	00 01 08.8	+0.3
	comp=E,203nm,0.4s						
OGRR				⇓iPg	Pg	00 01 08.8	+0.3
	comp=E,443nm,0.4s						
OGRR				⇑iPg	Pg	00 01 08.8	+0.3
	comp=E,395nm,0.4s						
OGRR				eSg	Sg	00 01 15.5	+0.8
OGRR				Pmax			
	comp=E,353nm,0.3s						
OGRR				Smax			
	comp=E,1μm,0.3s						
SYVR	Suvo	0.98	82	⇑iPg	Pg	00 01 16.7	-1.3
SYVR				e		00 01 22.6	
SYVR				eSg	Sg	00 01 29.8	-0.9
SYVR				eSb	Sb	00 01 33.6	+2.4
SYVR				max			
	comp=E,99nm,0.4s						
SYVR				max			
	comp=E,437nm,0.8s						
ZRHB	Zarechye	1.22	217	ePg	Pg	00 01 22.7	0.0
ZRHB				eSg	Sg	00 01 39.4	+0.9
ZRHB				Pmax			
	comp=E,233nm,0.5s						
ZRHB				Smax			
	comp=E,1μm,0.9s						
UUDB	Ulan-Yde	1.72	195	ePg	Pg	00 01 30.4	-1.8
UUDB				eSg	Sg	00 01 53.0	-1.4
UUDB				Pmax			
	comp=E,45nm,0.2s						
UUDB				Smax			
	comp=E,445nm,0.5s						
FFNB	Fofonovo	1.78	214	ePg	Pg	00 01 30.7	-2.5
FFNB				eSg	Sg	00 01 53.5	-2.8
FFNB				Pmax			
	comp=E,35nm,0.2s						
FFNB				Smax			
	comp=E,340nm,0.2s						
KAB	Kabansk	1.81	216	ePg	Pg	00 01 31.7	-2.2
KAB				eSg	Sg	00 01 55.8	-1.6
KAB				Pmax			
	comp=E,60nm,0.4s						
KAB				Smax			
	comp=E,717nm,1.3s						
HRMR	Khuramsha	2.09	205	ePn	Pn	00 01 34.8	+0.6
HRMR				ePg	Pg	00 01 36.9	-2.4
HRMR				e		00 02 02.2	
HRMR				eSg	Sg	00 02 04.6	-1.7
HRMR				Pmax			
	comp=E,127nm,0.3s						
HRMR				Smax			
	comp=E,2μm,0.2s						
YLYR	Ulyunkhan	2.12	49	ePN	Pn	00 01 37.2	+2.5
YLYR				e		00 02 04.7	
YLYR				pmax	pmax		
	comp=Z,13nm,0.2s						
YLYR				smax			
	comp=N,180nm,0.8s						
YLYR	Ulyunkhan	2.12	49	ePg	Pg	00 01 37.4	-2.5
YLYR				eSg	Sg	00 02 05.5	-1.9
YLYR				Pmax			
	comp=N,11nm,0.1s						
YLYR				Smax			
	comp=N,185nm,0.8s						
NIZ	Nizh Angarsk	2.35	16	ePN	Pn	00 01 40.4	+2.6
NIZ	Nizh Angarsk	2.35	16	e	Pn	00 01 38.9	+1.1
NIZ				ePg	Pg	00 01 40.2	-4.0
NIZ				eSg	Sg	00 02 10.5	-4.2
NIZ				Pmax			
	comp=N,15nm,0.3s						
NIZ				Smax			
	comp=N,253nm,0.5s						
LSTR	Listvyanka	2.72	234	ePg	Pg	00 01 47.8	-3.5
LSTR				eSg	Sg	00 02 22.6	-3.9
LSTR				Pmax			
	comp=N,13nm,0.4s						
LSTR				Smax			
	comp=N,146nm,1.5s						
IRK	Irkutsk	2.80	244	ePN	Pn	00 01 49.8	+5.9
IRK				e		00 02 23.2	
IRK				pmax	pmax		
	comp=Z,194nm,0.1s						
IRK				smax			
	comp=N,789nm,0.5s						
IRK	Irkutsk	2.80	244	eSg	Sg	00 02 24.6	-4.4
IRK				Smax			
	comp=N,829nm,0.9s						
KMO	Kumora	2.88	34	ePn	Pn	00 01 45.6	+0.6
KMO				ePg	Pg	00 01 50.5	-3.8
KMO				eSg	Sg	00 02 28.2	-3.3
KMO				Pmax			
	comp=N,43nm,1.2s						
KMO				Smax			
	comp=N,142nm,1.0s						
TLY	Talaya	3.42	239	ePN	Pn	00 01 53.2	+0.6
TLY				e		00 02 00.9	
TLY				eS	Sn	00 02 33.1	-0.1
TLY				e		00 02 43.6	
TLY				pmax	pmax		
	comp=Z,21nm,0.5s						
TLY				smax			
	comp=N,185nm,1.3s						
TLY	Talaya	3.42	239	ePn	Pn	00 01 53.0	+0.4
TLY				e		00 02 01.5	
TLY				e		00 02 34.6	
TLY				eSg	Sg	00 02 43.7	-5.4
TLY				max			
	comp=N,16nm,0.5s						
TLY				Smax			
	comp=N,184nm,1.0s						
CIT	Chita	3.49	114	ePg	Pg	00 02 01.5	-4.5
CIT				eSg	Sg	00 02 46.2	-5.0
CIT				Pmax			
	comp=N,93nm,0.7s						
CIT				Smax			
	comp=N,177nm,0.4s						
UKT	Uakit	3.64	55	ePN	Pn	00 02 04.8	+9.3
UKT				e		00 02 51.8	
UKT				pmax	pmax		
	comp=Z,10.0nm,0.3s						
UKT				smax			
	comp=N,99nm,0.8s						
UKT	Uakit	3.64	55	ePg	Pg	00 02 05.4	-3.5
UKT				eSg	Sg	00 02 52.6	-3.4
UKT				Pmax			
	comp=N,10.0nm,1.1s						
UKT				Smax			
	comp=N,74nm,0.8s						
ZAK	Zakamensk	4.46	227	e	Pn	00 02 13.8	+7.1
ZAK				ePg	Pg	00 02 20.1	-4.4
ZAK				eSg	Sg	00 03 18.4	-3.7
ZAK				Pmax			
	comp=N,4.0nm,0.5s						
ZAK				Smax			
	comp=N,28nm,0.6s						
KPC	Khapcheranga	4.57	145	ePn	Pn	00 02 07.3	-1.0
KPC				ePg	Pg	00 02 20.5	-6.2
KPC				eSn	Sn	00 02 58.7	-2.8
KPC				eSg	Sg	00 03 18.8	-7.1
KPC				Pmax			
	comp=N,16nm,0.5s						
KPC				Smax			
	comp=N,49nm,0.8s						
MOY	Mondy	4.87	250	ePN	Pn	00 02 28.3	+16
MOY				e		00 03 29.2	
MOY				pmax	pmax		
	comp=Z,24nm,0.7s						
MOY				smax			
	comp=E,257nm,1.3s						
MOY	Mondy	4.87	250	e	Pn	00 02 15.8	+3.4
MOY				ePg	Pg	00 02 25.8	-6.6
MOY				e		00 03 11.0	
MOY				eSg	Sg	00 03 28.1	-7.3
MOY				Pmax			
	comp=E,20nm,1.0s						
MOY				Smax			
	comp=E,256nm,1.1s						
NLYR	Nelyaty	5.16	52	e	Pn	00 02 28.0	+12
NLYR				e		00 02 42.4	
NLYR				eSg	Sg	00 03 41.0	-3.6
NLYR				Smax			
	comp=E,124nm,2.7s						
ORL	Orlik	5.26	263	ePN	Pn	00 02 20.2	+2.4
ORL				e		00 02 33.1	
ORL				e		00 03 39.4	
ORL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ORL				smax			
	comp=N,51nm,0.8s						
ORL	Orlik	5.26	263	⇑iPn	Pn	00 02 20.1	+2.3
ORL				eSn	Sn	00 03 19.5	+1.1
ORL				eSg	Sg	00 03 40.9	-7.0
ORL				max			
	comp=N,29nm,1.0s						
ORL				Smax			
	comp=N,77nm,0.9s						
BOD	Bodaibo	5.35	34	e	Pn	00 02 37.1	+18
BOD				eSg	Sg	00 03 43.7	-7.1
BOD				Smax			
	comp=N,19nm,1.0s						
ULN	Ulaanbaatar	5.73	189	e	Pn	00 02 43.2	+19
ULN				eSg	Sg	00 03 58.1	-5.0
TUP	Tupik	6.89	78	ePG	Pg	00 03 03.8	-7.3
TUP				e		00 04 31.5	
TUP				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TUP				smax			
	comp=N,77nm,0.9s						
TUP	Tupik	6.89	78	e	Pb	00 04 07.5	+69
TUP				eSg	Sg	00 04 31.5	-8.7
TUP				Smax			
	comp=N,48nm,0.8s						

*IDC **27** 00:06:11.8±23.0, 5°.50S×147°.34E, h170km±192km, mb3.1/1, mb1 3.5/2, mb1mx3.0/15, mbtmp3.2/2, MS3.6/1, Ms1 3.8/1, ms1mx2.9/5, Error ellipse: s-maj=140.8km s-min=112.5km az=85.0*

NEIC 27 00:06:00.7±4.6, 5°.11S×147°.60E, h93km±38km, Error ellipse: s-maj=95.3km s-min=39.0km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	Coen	9.81	206	ePn	Pn	00 08 18.9	-0.1
WRAB	Tennant Creek	19.58	220	eP	Pn	00 10 21.8	-1.9
WB2	Warramunga Arr	19.59	220	eP	Pn	00 10 21.9	-1.9
WRA	Warramunga Arr	19.60	220	P	Pn	00 10 22.0	-1.8
	0.7nm,0.3s,baz=45,slow=12,SNR=50						
WRA	Warramunga Arr	19.60	220	P	Pn	00 10 22.0	-1.8
AS31	Alice Springs	22.68	214	eP	P	00 10 54.0	-0.6
ASAR	Alice Springs	22.69	214	P	P	00 10 55.0	+0.3
	1.6nm,0.7s,baz=47,slow=8.6,SNR=26						
ASAR	Alice Springs	22.69	214	P	P	00 10 55.0	+0.3
FITZ	Fitzroy Crossi	25.05	237	eP	P	00 11 16.1	-0.4
CMAR	Chiang Mai Arr	53.37	297	LR	LR	00 36 08.2	
	comp=Z,56nm,21.9s,baz=120,slow=34						
GCMT	Greycliff	102.52	44	ePdif	Pdif	00 19 45.1	-1.4
TORD	Torodi Ar. Bea	145.44	286	PKPbc	PKPbc	00 25 29.6	+0.5
	0.1nm,0.5s,baz=90,slow=2.6,SNR=3.3						
TORD	Torodi Ar. Bea	145.44	286	PKPbc	PKPbc	00 25 29.6	+0.5

PGC 27 00:08:20.8±12.0, 48°.89N×128°.90W, h10km, ML3.2/3, Mw3.8, 3D, 219km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAYB	Maynard	1.88	36	⇓Pn	Pn	00 08 50.4	-2.6
MAYB				⇑Sn	Sn	00 09 12.9	-3.8
WOSB	Woss	1.98	49	⇑Pn	Pn	00 08 52.2	-2.0
WOSB				⇑Sn	Sn	00 09 15.3	-3.7
NCRB	Newcastle Ridg	2.39	50	⇓Pn	Pn	00 08 58.3	-1.5
NCRB				⇑Sn	Sn	00 09 26.8	-2.4
YOUB	Youbou, Lake C	3.06	88	⇓Sn	Sn	00 09 42.8	-2.9
BBB	Bella Bella	3.33	8	⇑Pn	Pn	00 09 12.1	-0.8

*ISCJB **27** 00:08:34.4±0.9, 23°.80N±0°.06×97°.7E±0°.2, h10km, mb3.4/4, Error ellipse: s-maj=30.3km s-min=5.9km az=166.3*
*IDC **27** 00:08:35.4±1.4, 24°.01N×97°.85E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/25, mbtmp3.4/5, ML4.0/1, Error ellipse: s-maj=55.8km s-min=17.7km az=76.0*
*NEIC **27** 00:08:40.4±0.7, 23°.97N×97°.84E, h35km, Error ellipse: s-maj=38.9km s-min=9.1km az=80.0*

ISC 27 00:08:37.0±0.8, 23°.94N±0°.06×97°.9E±0°.2, h10km, n14, σ1°10/22, mb3.4/4, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	Chiangrai	4.42	156	PG	Pg	00 10 00.0	-1.8
CHRT				SG	Sg	00 11 00.0	+0.9
CHG	Chiang Mai	5.20	169	PG	Pg	00 10 16.1	-0.5
CHG				SG	Sg	00 11 26.1	+2.1
CHTO	Chiang Mai	5.20	169	ePn	Pn	00 09 55.9	+1.1
	3.7nm,0.8s						
CHTO				ePg	Pg	00 10 12.8	-3.8
CHTO				eSg	Sg	00 11 22.2	-1.8
CM31	Chiang Mai Arr	5.55	169	ePn	Pn	00 10 00.6	+0.9
CM31				ePg	Pg	00 10 21.9	-1.4
CM31				eSg	Sg	00 11 35.3	+0.1
CMAR	Chiang Mai Arr	5.55	169	Pn	Pn	00 10 01.4	+1.8
	1.1nm,0.3s,baz=342,slow=12,SNR=13						
CMAR				Pg	Pg	00 10 22.1	-1.2
	1.9nm,0.3s,baz=345,slow=17,SNR=24						
CMAR				Lg		00 11 35.6	
	3.4nm,0.3s,baz=342,slow=32,SNR=9.7						
CMAR	Chiang Mai Arr	5.55	169	Pn	Pn	00 10 01.4	+1.8
CMAR				Pg	Pg	00 10 22.1	-1.2
CMAR				Lg		00 11 35.6	
SONM	Songino Array	24.80	14	P	P	00 13 58.9	-0.1
	0.2nm,0.6s,mb2.8,baz=193,slow=12,SNR=2.4						
SONM	Songino Array	24.80	14	P	P	00 13 58.9	-0.1
MKAR	Makanchi Array	26.00	335	P	P	00 14 09.7	-0.2
	0.5nm,0.8s,mb3.1,baz=152,slow=8.9,SNR=5.2						
MKAR	Makanchi Array	26.00	335	P	P	00 14 09.7	-0.2
WRA	Warramunga Arr	56.27	138	P	P	00 18 17.8	-0.1
	1.2nm,0.9s,mb3.9,baz=326,slow=7.4,SNR=7.5						
WRA	Warramunga Arr	56.27	138	P	P	00 18 17.8	-0.1
ASAR	Alice Springs	58.85	141	P	P	00 18 36.2	+0.3
	0.9nm,0.9s,mb3.8,baz=325,slow=7.1,SNR=9.0						
ASAR	Alice Springs	58.85	141	P	P	00 18 36.2	+0.3

*ATH **27** 00:30:37.3, 36°.97N×28°.91E, h45km, MD3.3/3*
*DDA **27** 00:30:41.9, 36°.99N×28°.19E, h7km±5km, Md2.9*
*ISCJB **27** 00:30:42.4±0.7, 36°.99N±0°.03×28°.17E±0°.03, h2km±6km, Error ellipse: s-maj=4.8km s-min=4.3km az=166.5*
*CSEM **27** 00:30:42.4±0.2, 36°.98N×28°.18E, h5km, MD2.8, Error ellipse: s-maj=5.7km s-min=4.7km az=178.0*
*ISK **27** 00:30:42.0, 37°.05N×28°.13E, h5km, MD2.8*

ISC 27 00:30:42.9±0.5, 37°.00N±0°.03×28°.18E±0°.03, h6km±5km, n30, σ1°11/51, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.16	31	PG	Pg	00 30 45.7	-0.3
YER				SG	Sg	00 30 48.7	+0.5
YER	Yerkesik	0.16	31	iPg	Pg	00 30 45.7	-0.4
YER				iSg	Sg	00 30 48.7	+0.5
TURN	Turunc	0.36	110	iP	Pg	00 30 45.9	-4.0
TURN				iS	Sg	00 30 49.5	-5.1
TURN	Turunc	0.36	110	iP	Pg	00 30 45.9	-3.9
TURN				iS	Sg	00 30 49.5	-5.1
DAT	Datca	0.56	241	ePG	Pg	00 30 53.7	+0.2
DAT				eSG	Sg	00 31 02.3	+1.6
DAT	Datca	0.56	241	ePg	Pg	00 30 53.7	+0.2
DAT				eSg	Sg	00 31 02.3	+1.5
BODT	Bodrum	0.70	275	ePG	Pg	00 30 55.7	-0.6
BODT				eSG	Sg	00 31 05.8	+0.4
BODT	Bodrum	0.70	275	ePg	Pg	00 30 55.7	-0.6
BODT				eSg	Sg	00 31 05.8	+0.4
ARG	Arkhangelos	0.78	183	eP	Pg	00 30 56.1	-1.8
ARG				eS	Sg	00 31 08.9	+0.8
ARG	Arkhangelos	0.78	183	eP	Pg	00 30 56.2	-1.7
ARG				eS	Sg	00 31 08.9	+0.8
GCAM	G?zelcaml?	1.03	313	iP	Pg	00 31 02.1	-0.5
GCAM				iS	Sg	00 31 17.2	+1.2
GCAM	G?zelcaml?	1.03	313	iP	Pg	00 31 02.1	-0.5
GCAM				iS	Sg	00 31 17.2	+1.2
GLHS	Glhisar (BURDU	1.06	81	ePN	Pn	00 31 04.0	-0.3
GLHS	Glhisar (BURDU	1.06	81	ePn	Pn	00 31 04.0	-0.3
GOLH	Golhisar	1.13	77	iP	Pg	00 31 03.7	-0.8
GOLH				iS	Sg	00 31 18.4	-0.7
GOLH	Golhisar	1.13	77	iP	Pg	00 31 03.7	-0.8
GOLH				iS	Sg	00 31 18.4	-0.7
SMG	Samos	1.28	304	eP	Pn	00 31 06.9	-0.4
SMG				eS	Sg	00 31 29.4	+5.2
SMG	Samos	1.28	304	eP	Pn	00 31 06.9	-0.4
AKAS	Kas	1.38	123	iP	Pn	00 31 07.6	-1.0
AKAS				iS	Sb	00 31 28.7	+1.9
AKAS	Kas	1.38	123	iP	Pn	00 31 07.6	-1.0
AKAS				iS	Sb	00 31 28.7	+1.9
ELL	Elmali	1.41	100	ePN	Pn	00 31 10.4	+1.4
ELL				eSN	Sn	00 31 31.4	+3.5
ELL	Elmali	1.41	100	ePn	Pn	00 31 10.4	+1.4
IZM	Izmir	1.57	333	ePN	Pn	00 31 10.9	-0.4
IZM	Izmir	1.57	333	ePn	Pn	00 31 10.9	-0.4
BLCB	Balcova	1.65	327	ePN	Pn	00 31 12.2	-0.2
BLCB	Balcova	1.65	327	ePn	Pn	00 31 12.2	-0.2
KARP	Karpathos	1.67	210	eP	Pn	00 31 10.3	-2.3
KARP				eS	Sn	00 31 33.8	-0.5
KARP	Karpathos	1.67	210	eP	Pn	00 31 10.3	-2.3
KARP				eS	Sn	00 31 33.8	-0.5
KORT	Korkueli	1.74	89	iP	Pn	00 31 15.6	+2.0
KORT				iS	Sn	00 31 41.9	+5.9
KORT	Korkueli	1.74	89	iP	Pn	00 31 15.6	+2.1

*NEIC **27** 00:32:01.2±5.7, 7°.84S×127°.83E, h187km±63km, Error ellipse: s-maj=56.4km s-min=24.6km az=210.0*
*IDC **27** 00:32:04.1±6.7, 7°.17S×129°.36E, h228km±74km, mb2.7/1, mb1 2.9/3, mb1mx2.8/15, mbtmp2.8/3, Error ellipse: s-maj=124.6km s-min=29.7km az=71.0*

ISC 27 00:32:01.7±2.6, 8°.0S±0°.1×128°.2E±0°.1, h113km±34km, n10, σ1°60/18, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.33	193	ePn	Pn	00 34 26.1	-0.8
FITZ				eS	Sn	00 36 21.2	+0.4
WRAB	Tennant Creek	13.30	154	ePn	Pn	00 35 06.3	+0.2
WRAB				eS	Sn	00 37 33.4	+0.7
WRA	Warramunga Arr	13.30	154	P	Pn	00 35 06.8	+0.7
	0.8nm,0.3s,baz=344,slow=13,SNR=41						
WRA				S	Sn	00 37 32.5	-0.2
	0.8nm,0.3s,baz=338,slow=22,SNR=9.9						
WRA	Warramunga Arr	13.30	154	P	Pn	00 35 06.8	+0.7
WRA				S	Sn	00 37 32.5	-0.2
WB2	Warramunga Arr	13.31	154	ePn	Pn	00 35 06.6	+0.4
WB2				eS	Sn	00 37 30.3	-2.6
AS31	Alice Springs	16.52	161	eP	Pn	00 35 44.7	-2.2
AS31				eS	S	00 38 51.1	-3.4
ASAR	Alice Springs	16.53	161	P	Pn	00 35 49.0	+2.1
	0.1nm,0.3s,baz=333,slow=10,SNR=7.9						
ASAR				S	S	00 38 51.6	-2.9
	0.2nm,0.3s,baz=348,slow=26,SNR=5.2						
ASAR	Alice Springs	16.53	161	P	Pn	00 35 49.0	+2.1
ASAR				S	S	00 38 51.6	-2.9
MKAR	Makanchi Array	68.07	328	P	P	00 42 38.8	-10
	0.2nm,0.6s,baz=126,slow=8.2,SNR=3.3						
MKAR	Makanchi Array	68.07	328	P	P	00 42 38.8	-10

*ISCJB **27** 00:32:03.5±0.5, 37°.6N±0°.1×31°.8W±0°.1, h10km, mb4.1/20, MS3.9/9, Error ellipse: s-maj=16.6km s-min=10.1km az=154.8*
*IDC **27** 00:32:04.0±0.7, 37°.58N×31°.78W, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.9/28, mbtmp3.9/14, MS3.9/9, Ms1 3.9/9, ms1mx3.6/41, Error ellipse: s-maj=20.8km s-min=16.4km az=168.0*
*NEIC **27** 00:32:05.4±0.3, 37°.55N×31°.81W, h10km, mb4.8/6, Error ellipse: s-maj=11.1km s-min=6.8km az=155.0*

ISC 27 00:32:05.6±0.5, 37°.6N±0°.1×31°.8W±0°.1, h10km, n58, σ0°61/47, mb4.1/20, MS3.9/9, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	21.83	76	P	P	00 36 59.0	+1.0
	2.3nm,0.9s,mb3.6,baz=277,slow=9.5,SNR=9.3						
ESDC				LR	LR	00 43 41.0	
	comp=Z,143nm,18.2s,MS3.4,baz=315,slow=32						
ESDC	Sonseca Array	21.83	76	P	P	00 36 59.0	+1.0
BBTS	Babate	26.54	145	LR	LR	00 45 24.0	
	comp=Z,187nm,20.4s,MS3.6,baz=350,slow=30						
BGF	Bois d'Agland	27.07	60	eP	P	00 37 48.9	+0.8
	30nm,1.2s,mb4.4						
BGF	Bois d'Agland	27.07	60	eP	P	00 37 48.9	+0.8
	30nm,1.2s,mb4.7						
SSF	Saint Saulge	27.58	59	eP	P	00 37 52.8	+0.1
SSF	Saint Saulge	27.58	59	eP	P	00 37 52.8	+0.1
SMF	Signal de Mont	27.76	60	eP	P	00 37 54.2	-0.1
SMF	Signal de Mont	27.76	60	eP	P	00 37 54.2	-0.1
LOR	Lormes	27.85	58	eP	P	00 37 55.4	+0.3
	14nm,1.0s,mb4.2						
LOR	Lormes	27.85	58	eP	P	00 37 55.4	+0.3
	14nm,1.0s,mb4.5						
BAIF	Baives	28.55	52	eP	P	00 38 00.7	-0.6
	32nm,1.2s,mb4.6						
BAIF	Baives	28.55	52	eP	P	00 38 00.7	-0.6
	32nm,1.2s,mb4.9						
MEZF	Maizieres J'vi	28.81	56	eP	P	00 38 04.4	+0.7
	27nm,1.1s,mb4.6						
MEZF	Maizieres J'vi	28.81	56	eP	P	00 38 04.4	+0.7
	27nm,1.1s,mb4.9						
SCHQ	Scheffarville	29.35	317	LR	LR	00 47 08.9	
	comp=Z,396nm,20.0s,MS4.0,baz=79,slow=31						
HAU	Haudompre	29.61	57	eP	P	00 38 10.3	-0.4
HAU	Haudompre	29.61	57	eP	P	00 38 10.3	-0.4
HINF	Hinteralfeld	29.92	58	eP	P	00 38 13.3	-0.3
HINF	Hinteralfeld	29.92	58	eP	P	00 38 13.3	-0.3
CDF	Champ du Feu	30.27	56	eP	P	00 38 16.3	-0.3
	18nm,1.0s,mb4.4						
CDF	Champ du Feu	30.27	56	eP	P	00 38 16.3	-0.3
	18nm,1.0s,mb4.8						
DAVOX	Davos/Dischmat	31.91	60	P	P	00 38 31.9	+0.8
	2.0nm,0.8s,mb4.0,baz=291,slow=11,SNR=3.8						
DAVOX	Davos/Dischmat	31.91	60	P	P	00 38 31.9	+0.8
TORD	Torodi Ar. Bea	38.49	120	P	P	00 39 26.9	-1.2
	5.0nm,1.1s,mb4.2,baz=314,slow=5.0,SNR=13						
TORD				LR	LR	00 53 11.0	
	comp=Z,138nm,18.6s,MS3.8,baz=320,slow=33						
TORD	Torodi Ar. Bea	38.49	120	P	P	00 39 26.9	-1.2
DBIC	Dimbokro	39.32	135	LR	LR	00 52 49.4	
	comp=Z,218nm,20.2s,MS4.0,baz=335,slow=32						
AKASG	Malin Array Be	44.50	53	P	P	00 40 15.7	-1.3
	2.3nm,0.9s,mb3.9,baz=275,slow=7.7,SNR=5.7						
AKASG	Malin Array Be	44.50	53	P	P	00 40 15.7	-1.3
ULM	Lac du Bonnet	46.48	307	LR	LR	00 59 58.7	
	comp=Z,196nm,19.1s,MS4.1,baz=147,slow=36						
RES	Resolute Bay	47.09	341	P	P	00 40 37.1	0.0
	0.5nm,0.5s,mb3.7,baz=90,slow=7.1,SNR=6.9						
RES	Resolute Bay	47.09	341	P	P	00 40 37.1	0.0
BRTR	Keskin Array B	50.12	66	P	P	00 41 01.1	+0.1
	0.8nm,1.0s,mb3.7,baz=323,slow=9.3,SNR=3.5						
BRTR	Keskin Array B	50.12	66	P	P	00 41 01.1	+0.1
YKA	Yellowknife Ar	54.27	325	P	P	00 41 31.1	-0.3
	0.5nm,0.8s,mb3.5,baz=79,slow=6.7,SNR=8.1						
YKA				PcP	PcP	00 42 35.2	-0.2
	0.3nm,0.7s,baz=73,slow=4.6,SNR=4.5						
YKA	Yellowknife Ar	54.27	325	P	P	00 41 31.1	-0.3
YKA				PcP	PcP	00 42 35.2	-0.2
SAML	Samuel	54.80	219	eP	P	00 41 35.1	-0.7
	2.8nm,0.7s,mb4.4						
CMIG	Matias Romero	58.57	268	LR	LR	01 03 48.6	
	comp=Z,84nm,19.2s,MS3.9,baz=319,slow=32						
ANMO	Albuquerque	58.74	292	LR	LR	01 04 28.3	
	comp=Z,166nm,20.2s,MS4.2,baz=44,slow=33						
TXAR	Lajitas Array	59.21	285	P	P	00 42 07.1	+0.1
	1.6nm,0.8s,mb4.1,baz=85,slow=7.0,SNR=17						
TXAR	Lajitas Array	59.21	285	P	P	00 42 07.1	+0.1
LPAZ	La Paz	63.54	219	P	P	00 42 37.8	+1.5
	5.9nm,0.8s,mb4.7,baz=20,slow=9.0,SNR=13						
LPAZ	La Paz	63.54	219	eP	P	00 42 37.6	+1.3
ILAR	Eielson Array	66.16	335	P	P	00 42 52.8	-0.1
	0.6nm,0.8s,mb3.7,baz=44,slow=4.9,SNR=6.6						
ILAR	Eielson Array	66.16	335	P	P	00 42 52.8	-0.1
CPUP	Villa Florida	67.93	205	P	P	00 43 04.5	+

1.5nm,1.1s,mb4.2,baz=337,slow=3.9,SNR=7.0
SONM Songino Array 87.16 27 P P 00 44 51.6 -0.2
WRA Warramunga Arr 158.69 38 PKPab PKPab 00 52 38.5 -0.7
0.7nm,0.9s,baz=329,slow=4.0,SNR=4.9
WRA Warramunga Arr 158.69 38 PKPab PKPab 00 52 38.5 -0.7
ASAR Alice Springs 161.51 46 PKPab PKPab 00 52 50.5 -0.9
0.5nm,0.8s,baz=328,slow=3.3,SNR=4.9
ASAR Alice Springs 161.51 46 PKPab PKPab 00 52 50.5 -0.9

IDC 27 00:43:58.8±43.0, 15°.89S×172°.02W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=839.8km s-min=183.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.95	241	P	P	00 52 15.9	0.0
1.1nm,0.6s,baz=60,slow=8.1,SNR=4.3							
WRA	Warramunga Arr	51.03	257	P	P	00 53 03.0	-0.1
0.4nm,0.5s,baz=94,slow=6.7,SNR=20							
ASAR	Alice Springs	51.23	252	P	P	00 53 04.5	0.0
2.7nm,0.5s,baz=89,slow=8.5,SNR=70							

ISCJB 27 00:54:01.4±0.7, 37°.6N±0°.1×31°.8W±0°.1, h10km, mb3.8/14, MS4.0/16, Error ellipse: s-maj=21.5km s-min=12.2km az=2.9
IDC 27 00:54:01.6±0.8, 37°.60N×31°.83W, h0km, mb3.7/14, mb1 3.9/14, mb1mx3.8/29, mbtmp3.7/14, MS4.0/16, Ms1 4.0/16, ms1mx3.8/34, Error ellipse: s-maj=26.1km s-min=17.9km az=178.0
NEIC 27 00:54:03.0±0.6, 37°.56N×31°.79W, h10km, Error ellipse: s-maj=17.6km s-min=9.9km az=182.0
ISC 27 00:54:03.4±0.7, 37°.6N±0°.1×31°.8W±0°.1, h10km, n44, σ0°.79/30, mb3.8/14, MS4.0/16, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	Cha da Macela	4.96	86	*e*Pn	Pn	00 55 16.7	-1.2
CMLA				*e*Sn	Sn	00 56 10.7	-4.6
ESDC	Sonseca Array	21.79	76	P	P	00 58 56.3	+1.0
1.4nm,0.7s,mb3.5,baz=277,slow=9.2,SNR=8.8							
ESDC				LR	LR	01 05 58.2	
comp=Z,180nm,20.5s,MS3.5,baz=305,slow=33							
ESDC	Sonseca Array	21.79	76	P	P	00 58 56.4	+1.0
BBTS	Babate	26.56	145	LR	LR	01 07 31.6	
comp=Z,217nm,19.2s,MS3.7,baz=335,slow=30							
SCHQ	Schefferville	29.34	317	LR	LR	01 09 58.8	
comp=Z,942nm,19.8s,MS4.4,baz=82,slow=33							
GERES	GERESS Array B	34.50	56	P	P	01 00 52.3	+0.8
0.2nm,0.3s,mb3.5,baz=289,slow=9.2,SNR=2.6							
GERES	GERESS Array B	34.50	56	P	P	01 00 52.3	+0.8
NOA	NORSAR Array B	35.55	35	LR	LR	01 13 25.6	
comp=Z,117nm,19.4s,MS3.6,baz=0.0,slow=33							
TORD	Torodi Ar. Bea	38.49	120	P	P	01 01 25.5	-0.4
6.5nm,1.2s,mb4.2,baz=315,slow=7.8,SNR=15							
TORD				LR	LR	01 16 23.9	
comp=Z,159nm,18.4s,MS3.9,baz=315,slow=35							
TORD	Torodi Ar. Bea	38.49	120	P	P	01 01 25.4	-0.4
DBIC	Dimbokro	39.33	135	LR	LR	01 15 37.4	
comp=Z,284nm,19.7s,MS4.1,baz=290,slow=33							
ULM	Lac du Bonnet	46.48	307	LR	LR	01 19 06.9	
comp=Z,230nm,20.1s,MS4.1,baz=119,slow=32							
RES	Resolute Bay	47.06	341	LR	LR	01 19 25.8	
comp=Z,157nm,19.5s,MS4.0,baz=59,slow=32							
BRTR	Keskin Array B	50.08	66	LR	LR	01 21 58.2	
comp=Z,73nm,18.4s,MS3.7,baz=177,slow=33							
YKA	Yellowknife Ar	54.26	325	P	P	01 03 28.3	-0.9
1.0nm,0.9s,mb3.7,baz=79,slow=6.8,SNR=6.9							
YKA				PcP	PcP	01 04 32.8	-0.5
0.2nm,0.8s,baz=78,slow=4.6,SNR=2.9							
YKA				LR	LR	01 24 41.7	
comp=Z,22nm,19.8s,MS3.2,baz=115,slow=34							
YKA	Yellowknife Ar	54.26	325	P	P	01 03 28.3	-0.9
YKA				PcP	PcP	01 04 32.8	-0.5
TXAR	Lajitas Array	59.23	285	P	P	01 04 05.1	+0.1
0.2nm,0.5s,mb3.5,baz=94,slow=7.2,SNR=7.8							
TXAR				LR	LR	01 25 56.3	
comp=Z,169nm,18.4s,MS4.2,baz=175,slow=32							
TXAR	Lajitas Array	59.23	285	P	P	01 04 05.1	+0.1
INK	Inuvik	59.74	335	P	P	01 04 08.3	+0.4
1.4nm,0.9s,mb4.0,baz=55,slow=7.9,SNR=3.8							
INK	Inuvik	59.74	335	P	P	01 04 08.3	+0.4
AKTO	Aktyubinsk	62.03	46	P	P	01 04 24.8	+1.0
2.0nm,0.7s,mb4.3,baz=295,slow=6.1,SNR=6.0							
AKTO	Aktyubinsk	62.03	46	P	P	01 04 24.8	+1.0
CPUP	Villa Florida	67.98	205	LR	LR	01 33 20.2	
comp=Z,53nm,18.6s,MS3.8,baz=155,slow=35							
KURK	Kurchatov	72.95	39	P	P	01 05 32.8	0.0
1.1nm,0.8s,mb3.8,baz=311,slow=6.1,SNR=5.2							
KURK	Kurchatov	72.95	39	P	P	01 05 32.8	0.0
ZALV	Zalesovo Beam	73.74	33	P	P	01 05 38.0	+0.7
0.2nm,0.3s,mb3.5,baz=306,slow=8.9,SNR=3.7							
ZALV	Zalesovo Beam	73.74	33	P	P	01 05 38.0	+0.7
MKAR	Makanchi Array	77.35	40	P	P	01 05 56.9	-1.3
1.6nm,1.2s,mb3.8,baz=318,slow=4.1,SNR=5.1							
MKAR	Makanchi Array	77.35	40	P	P	01 05 56.9	-1.3
BOSA	Boshof	84.80	132	LR	LR	01 44 00.5	
comp=Z,135nm,18.8s,MS4.4,baz=355,slow=35							
SONM	Songino Array	87.11	27	P	P	01 06 49.6	+0.2
0.7nm,1.0s,mb3.9,baz=344,slow=4.8,SNR=3.5							
SONM	Songino Array	87.11	27	P	P	01 06 49.6	+0.2
PETK	Petropavlovsk-	89.28	354	LR	LR	01 48 22.3	
comp=Z,180nm,20.2s,MS4.5,baz=314,slow=36							
WRA	Warramunga Arr	158.64	38	PKPab	PKPab	01 14 35.9	-0.9
0.8nm,1.1s,baz=311,slow=5.4,SNR=2.9							
WRA	Warramunga Arr	158.64	38	PKPab	PKPab	01 14 35.9	-0.9
ASAR	Alice Springs	161.46	46	PKPab	PKPab	01 14 48.6	-0.4
0.5nm,0.9s,baz=336,slow=4.2,SNR=3.1							
ASAR	Alice Springs	161.46	46	PKPab	PKPab	01 14 48.6	-0.4

DDA 27 00:58:18.7, 37°.91N×29°.23E, h7km±3km, Md3.1
NEIC 27 00:58:19.0, 37°.91N×29°.16E, h7km, MD3.1(ISK), After ISK.
ISK 27 00:58:18.7, 37°.91N×29°.17E, h5km, MD3.0
ISCJB 27 00:58:19.5±0.3, 37°.91N±0°.02×29°.19E±0°.03, h10km, Error ellipse: s-maj=4.0km s-min=3.0km az=164.9
CSEM 27 00:58:19.2±0.2, 37°.92N×29°.21E, h5km, MD3.0, Error ellipse: s-maj=4.3km s-min=3.5km az=72.0
ISC 27 00:58:19.4±0.5, 37°.91N±0°.02×29°.20E±0°.03, h4km±4km, n66, σ0°.94/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.21	220	*e*PG	Pg	00 58 23.2	-0.2
DENT	Denizli	0.21	220	Pg	Pg	00 58 23.2	-0.2
DENT	Denizli	0.21	220	*e*Pg	Pg	00 58 23.3	-0.1
KHAL	Karahalli	0.51	26	*i* P	Pg	00 58 29.0	-0.1
KHAL				*i* S	Sg	00 58 36.4	+0.6
KHAL	Karahalli	0.51	26	*i* P	Pg	00 58 29.0	-0.2
KHAL				*i* S	Sg	00 58 36.4	+0.6
GOLH	Golhisar	0.73	157	*i* P	Pg	00 58 31.6	-1.9
GOLH				*i* S	Sg	00 58 43.4	+0.5
GOLH	Golhisar	0.73	157	*i* P	Pg	00 58 31.6	-1.8
GOLH				*i* S	Sg	00 58 43.4	+0.5
KULA	Kula-Manisa	0.74	325	*e*PG	Pg	00 58 33.5	0.0
KULA				*e*SG	Sg	00 58 43.7	+0.6
KULA	Kula-Manisa	0.74	325	*e*Pg	Pg	00 58 33.5	0.0
KULA				*e*Sg	Sg	00 58 43.7	+0.6
MANT	Manisa	0.77	319	*i* P	Pg	00 58 34.3	+0.1
MANT				*i* S	Sg	00 58 44.9	+0.7
MANT	Manisa	0.77	319	*i* P	Pg	00 58 34.3	+0.2
MANT				*i* S	Sg	00 58 44.9	+0.8
GLHS	Glhisar (BURDU	0.79	163	*e*PG	Pg	00 58 33.5	-1.0
GLHS	Glhisar (BURDU	0.79	163	Pg	Pg	00 58 34.9	+0.3
GLHS	Glhisar (BURDU	0.79	163	Pg	Pg	00 58 34.9	+0.3
YER	Yerkesik	1.07	224	*e*PG	Pg	00 58 38.5	-1.3
YER				*e*SG	Sg	00 58 54.1	+0.4
YER	Yerkesik	1.07	224	Pg	Pg	00 58 39.4	-0.5
YER	Yerkesik	1.07	224	Pg	Pg	00 58 39.4	-0.5
YER				*e*Sg	Sg	00 58 54.1	+0.4
TURN	Turunc	1.14	205	*i* P	Pg	00 58 45.2	+3.9
TURN				*i* S	Sg	00 59 03.7	+7.6
TURN	Turunc	1.14	205	*i* P	Pg	00 58 45.2	+3.9
BCK	Bucak	1.19	112	*e*PN	Pn	00 58 42.7	0.0
BCK	Bucak	1.19	112	Pn	Pn	00 58 42.7	0.0
BCK	Bucak	1.19	112	*e*Pn	Pn	00 58 42.7	-0.1
GDZ	Gediz	1.19	10	*i* P	Pg	00 58 40.9	-1.4
GDZ				*i* S	Sg	00 58 57.3	-0.4
GDZ	Gediz	1.19	10	*i* P	Pg	00 58 40.9	-1.4
GDZ				*i* S	Sg	00 58 57.3	-0.4
SHUT	Suhut-Afyon	1.24	59	*e*PN	Pn	00 58 42.6	-0.8
SHUT	Suhut-Afyon	1.24	59	*e*Pn	Pn	00 58 42.7	-0.8
KORT	Korkueli	1.29	135	*i* P	Pg	00 58 44.2	+0.1
KORT				*i* S	Sg	00 59 03.2	+2.4
KORT	Korkueli	1.29	135	*i* P	Pg	00 58 44.2	+0.1
KORT				*i* S	Sg	00 59 03.2	+2.4
ELL	Elmali	1.29	154	*e*PN	Pn	00 58 44.3	+0.1
ELL	Elmali	1.29	154	Pn	Pn	00 58 44.3	+0.1
ELL	Elmali	1.29	154	*e*Pn	Pn	00 58 44.3	+0.1
ALT	Altintas	1.34	32	*e*PN	Pn	00 58 44.7	-0.3
ALT	Altintas	1.34	32	Pn	Pn	00 58 44.7	-0.3
ALT	Altintas	1.34	32	*e*Pn	Pn	00 58 44.7	-0.2
AKHS	Akhisar	1.46	312	*i* P	Pn	00 58 47.1	+0.7
AKHS				*i* S	Sb	00 59 06.2	+0.2
AKHS	Akhisar	1.46	312	*i* P	Pn	00 58 47.2	+0.7
AKHS				*i* S	Sb	00 59 06.2	+0.3
SUTC	Sutluce-Ispart	1.49	106	*e*PN	Pn	00 58 47.4	+0.5
SUTC	Sutluce-Ispart	1.49	106	*e*Pn	Pn	00 58 47.4	+0.5
ANTB	Antalya	1.54	131	*e*PN	Pn	00 58 47.9	+0.3
ANTB	Antalya	1.54	131	*e*Pn	Pn	00 58 47.9	+0.3
BOLV	Bolvadin	1.59	59	*i* P	Pn	00 58 48.0	-0.4
BOLV				*i* S	Sn	00 59 13.6	+4.3
BOLV	Bolvadin	1.59	59	*i* P	Pn	00 58 48.0	-0.3
BOLV				*i* S	Sn	00 59 13.6	+4.3
IZM	Izmir	1.60	288	*e*PN	Pn	00 58 47.9	-0.6
IZM	Izmir	1.60	288	Pn	Pn	00 58 47.9	-0.6
IZM	Izmir	1.60	288	*e*Pn	Pn	00 58 47.9	-0.6
AKAS	Kas	1.71	169	*e*P	Pn	00 58 52.1	+2.1
AKAS				*i* S	Sn	00 59 17.1	+4.9
AKAS	Kas	1.71	169	*e*P	Pn	00 58 52.1	+2.2
BODT	Bodrum	1.73	241	*e*PN	Pn	00 58 50.0	-0.2
BODT	Bodrum	1.73	241	Pn	Pn	00 58 50.0	-0.2
BODT	Bodrum	1.73	241	*e*Pn	Pn	00 58 50.0	-0.2
DAT	Datca	1.75	228	*e*PN	Pn	00 58 50.5	-0.1
DAT	Datca	1.75	228	*e*Pn	Pn	00 58 50.5	-0.1
BLCB	Balcova	1.77	286	*e*PN	Pn	00 58 50.2	-0.5
BLCB	Balcova	1.77	286	Pn	Pn	00 58 50.2	-0.5
BLCB	Balcova	1.77	286	*e*Pn	Pn	00 58 50.2	-0.6
DURS	Dursunbey	1.78	342	*i* P	Pn	00 58 51.9	+0.9
DURS				*i* S	Sn	00 59 17.1	+3.1
DURS	Dursunbey	1.78	342	*i* P	Pn	00 58 51.9	+1.0
DURS				*i* S	Sn	00 59 17.1	+3.1
GONE	Gonen-Balikesi	2.44	331	*e*PN	Pn	00 59 00.1	+0.1
GONE	Gonen-Balikesi	2.44	331	Pn	Pn	00 59 00.1	+0.1
GONE	Gonen-Balikesi	2.44	331	*e*Pn	Pn	00 59 00.1	+0.1
BR131	Keskin Array S	3.91	61	*e*Pn	Pn	00 59 19.9	-0.2
BR131	Keskin Array S	3.91	61	*e*PN	Pn	00 59 19.9	-0.3
GVD	Gavdhos	5.14	235	*e*Pn	Pn	00 59 34.9	-2.3
GVD	Gavdhos	5.14	235	*e*Pn	Pn	00 59 34.9	-2.3
GNI	Garni	12.29	75	*e*Pn	Pn	01 01 13.6	-1.5
GNI	Garni	12.29	75	*e*Pn	Pn	01 01 13.6	-1.5

MAN 27 01:06:47, 5°.58N×125°.94E, h160km, mb4.9, ML3.8, MS3.9
ISCJB 27 01:06:48.5±0.6, 5°.76N±0°.07×125°.9E±0°.1, h162km±4km, mb4.0/22, Error ellipse: s-maj=18.4km s-min=9.6km az=153.8
IDC 27 01:06:50.2±0.7, 5°.81N×125°.91E, h162km±6km, mb3.4/12, mb1 3.5/12, mb1mx3.4/24, mbtmp3.4/12, Error ellipse: s-maj=45.7km s-min=10.2km az=70.0
NEIC 27 01:06:50.1±0.6, 5°.87N×126°.05E, h164km±5km, mb4.0/4, Error ellipse: s-maj=14.6km s-min=5.0km az=60.0
ISC 27 01:06:49.6±0.6, 5°.75N±0°.07×125°.88E±0°.10, h154km±4km, n55, σ0°.74/57, mb4.0/22, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.98	290	*e*P	Pn	01 07 13.4	-1.2
GSPH				*e*S	Sn	01 07 32.2	-1.5
MATI	Mati	1.25	17	*e*P	Pn	01 07 17.0	0.0
DAV	Davao City (W)	1.35	347	P	Pn	01 07 18.5	+0.6
32nm,0.3s,baz=90,slow=17,SNR=3.8							
DAV				S	Sn	01 07 40.7	+1.0
83nm,0.3s,baz=342,slow=20,SNR=11							
DAV	Davao City (W)	1.35	347	P	Pn	01 07 18.6	+0.6
DAV				S	Sn	01 07 40.7	+1.0
DMPH	Davao City--Mi	1.38	345	↑*i*P	Pn	01 07 18.6	+0.4
DMPH				*i* S	Sn	01 07 40.1	-0.2
CTBH	Cotabato--PC H	2.19	312	↑*i*P	Pn	01 07 27.1	-0.1
BUKP	Musuan	2.27	339	*e*P	Pn	01 07 29.1	+0.9
FITZ	Fitzroy Crossi	23.70	181	P	P	01 11 48.3	+0.9
0.5nm,0.3s,mb3.5,baz=1.7,slow=9.8,SNR=3.4							
FITZ	Fitzroy Crossi	23.70	181	P	P	01 11 48.3	+0.9
COEN	Coen	26.04	139	*e*P	P	01 12 08.4	-0.3
WRA	Warramunga Arr	26.85	162	P	P	01 12 15.5	-0.3
0.6nm,0.5s,mb3.5,baz=338,slow=10,SNR=12							
WRA	Warramunga Arr	26.85	162	P	P	01 12 15.6	-0.3
ASAR	Alice Springs	30.27	165	P	P	01 12 46.6	+0.5
0.3nm,0.5s,mb3.3,baz=348,slow=7.4,SNR=11							
ASAR	Alice Springs	30.27	165	P	P	01 12 46.6	+0.5
STKA	Stephens Creek	40.30	159	P	P	01 14 12.3	+0.5
1.3nm,0.5s,mb3.8,baz=319,slow=13,SNR=6.9							
STKA	Stephens Creek	40.30	159	P	P	01 14 12.3	+0.5
TAPN	Taplejung	42.16	305	*e*P	P	01 14 28.1	+1.0
TAPN	Taplejung	42.16	305	*e*P	P	01 14 28.1	+1.0
RAMN	Ramite	42.91	304	*e*P	P	01 14 34.2	+1.0
10nm,0.6s,mb4.6							
RAMN	Ramite	42.91	304	*e*P	P	01 14 34.2	+1.0
10nm,0.6s,mb4.6							
JIRN	Jiri	43.52	305	*e*P	P	01 14 39.1	+1.0
4.4nm,0.6s,mb4.3							
JIRN	Jiri	43.52	305	*e*P	P	01 14 39.1	+1.0
4.4nm,0.6s,mb4.3							
GUN	Gumba	43.87	305	*e*P	P	01 14 41.8	+0.9
17nm,0.5s,mb4.9							
GUN	Gumba	43.87	305	*e*P	P	01 14 41.8	+0.9
17nm,0.5s,mb4.9							
KKN	Kakani	44.32	304	*e*P	P	01 14 44.8	+0.4
KKN	Kakani	44.32	304	*e*P	P	01 14 44.8	+0.4
GKN	Gorkha	44.92	304	*e*P	P	01 14 49.4	+0.2
4.2nm,0.3s,mb4.5							
GKN	Gorkha	44.92	304	*e*P	P	01 14 49.4	+0.2
4.2nm,0.3s,mb4.5							
SONM	Songino Array	45.13	342	P	P	01 14 50.5	0.0
0.4nm,0.7s,mb3.1,baz=144,slow=8.9,SNR=3.8							
SONM				PcP	PcP	01 16 28.4	+0.1
0.6nm,0.7s,baz=150,slow=3.3,SNR=4.9							
SONM	Songino Array	45.13	342	P	P	01 14 50.5	0.0
SONM				PcP	PcP	01 16 28.4	+0.1
KOLN	Koldanda	45.70	304	*e*P	P	01 14 56.2	+0.9
20nm,0.6s,mb4.9							
KOLN	Koldanda	45.70	304	*e*P	P	01 14 56.2	+0.9
20nm,0.6s,mb4.9							
DANN	Dangsing	45.77	304	*e*P	P	01 14 56.7	+0.8
24nm,0.6s,mb5.0							
DANN	Dangsing	45.77	304	*e*P	P	01 14 56.7	+0.8
24nm,0.6s,mb5.0							
MK31	Makanchi Array	55.43	325	*e*P	P	01 16 07.7	-0.2
MKAR	Makanchi Array	55.43	325	P	P	01 16 07.6	-0.3
2.0nm,0.6s,mb4.0,baz=117,slow=7.4,SNR=28							
MKAR				PcP	PcP	01 17 05.8	-0.5
0.6nm,0.5s,baz=121,slow=4.0,SNR=5.4							
MKAR	Makanchi Array	55.43	325	P	P	01 16 07.6	-0.3
MKAR				PcP	PcP	01 17 05.8	-0.5
ZALV	Zalesovo Beam	58.42	333	P	P	01 16 27.5	-1.3
1.1nm,0.5s,mb3.9,baz=134,slow=6.4,SNR=8.4							
ZALV	Zalesovo Beam	58.42	333	P	P	01 16 27.5	-1.3
EKS2	Erkin-Say	58.80	317	*e*P	P	01 16 31.2	-0.5
2.0nm,1.0s,mb3.9							
KURK	Kurchatov	59.59	327	P	P	01 16 36.3	-0.7
1.8nm,0.6s,mb4.1,baz=128,slow=6.6,SNR=29							
KURK	Kurchatov	59.59	327	P	P	01 16 36.3	-0.7
KKAR	Karatay Array	61.19	317	*e*P	P	01 16 47.8	-0.3
1.2nm,0.9s,mb3.7							
BVAR	Borovoye Array	65.18	327	P	P	01 17 13.7	-0.4
0.4nm,0.5s,mb3.5,baz=118,slow=8.6,SNR=5.7							
BVAR	Borovoye Array	65.18	327	P	P	01 17 13.7	-0.4
BRVK	Borovoye	65.25	327	*e*P	P	01 17 13.9	-0.7
2.5nm,0.9s,mb4.0							
ABKAR	Akbulak array	70.06	320	*e*P	P	01 17 44.0	-0.8
2.1nm,0.8s,mb3.9							
AKTO	Aktyubinsk	71.56	321	P	P	01 17 53.5	-0.4
2.2nm,0.7s,mb4.0,baz=97,slow=9.9,SNR=8.7							
AKTO	Aktyubinsk	71.56	321	P	P	01 17 53.5	-0.4
ILAR	Eielson Array	83.66	26	P	P	01 18 60.0	-0.6
0.2nm,0.6s,mb3.0,baz=261,slow=5.9,SNR=6.3							
ILAR	Eielson Array	83.66	26	P	P	01 19 00.0	-0.6
FINES	FINESS Array B	89.67	332	P	P	01 19 28.5	-1.3
4.0nm,1.0s,mb4.3,baz=35,slow=5.1,SNR=5.7							
FINES	FINESS Array B	89.67	332	P	P	01 19 28.5	-1.3
TORD	Torodi Ar. Bea	121.47	289	PKP	PKPdf	01 25 25.2	-0.6
1.0nm,0.6s,baz=56,slow=1.6,SNR=15							
TORD	Torodi Ar. Bea	121.47	289	PKP	PKPdf	01 25 25.2	-0.6

ISCJB 27 01:12:24.0±0.4, 37°.84N±0°.02×27°.58E±0°.03, h0km±5km, Error ellipse: s-maj=4.1km s-min=3.1km az=145.5
ISK 27 01:12:24.4, 37°.85N×27°.54E, h5km, MD3.1
DDA 27 01:12:24.4, 37°.86N×27°.58E, h7km±5km, Md3.0
CSEM 27 01:12:25.2±0.2, 37°.81N×27°.54E, h8km, MD3.0, Error ellipse: s-maj=4.8km s-min=3.7km az=58.0
ATH 27 01:12:27.5, 37°.76N×27°.36E, h28km±1km, MD3.2/4
ISC 27 01:12:24.8±0.4, 37°.84N±0°.02×27°.57E±0°.03, h3km±5km, n51, σ0°.93/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.30	242	*i* P	Pg	01 12 31.0	+0.5
GCAM				*i* S	Sg	01 12 34.3	-0.2
GCAM	G?zelcaml?	0.30	242	*i* P	Pg	01 12 31.0	+0.5
GCAM				*i* S	Sg	01 12 34.3	-0.1
SMG	Samos	0.59	257	*e*PB	Pg	01 12 36.6	+0.4
SMG				*e*SB	Sg	01 12 43.7	-0.2
SMG	Samos	0.59	257	*e*Pb	Pg	01 12 36.6	+0.4
SMG				*e*Sb	Sg	01 12 44.3	+0.4
IZM	Izmir	0.61	337	*e*PG	Pg	01 12 36.3	-0.2
IZM				*e*SG	Sg	01 12 44.6	+0.3
IZM	Izmir	0.61	337	*e*Pg	Pg	01 12 36.3	-0.2
IZM				*e*Sg	Sg	01 12 44.7	+0.4
BLCB	Balcova	0.68	323	*e*PG	Pg	01 12 38.1	+0.1
BLCB				*e*SG	Sg	01 12 47.6	+0.7
BLCB	Balcova	0.68	323	*e*Pg	Pg	01 12 38.1	+0.2
BLCB				*e*Sg	Sg	01 12 47.6	+0.8
BODT	Bodrum	0.80	195	*e*PG	Pg	01 12 39.5	-0.7
BODT	Bodrum	0.80	195	*e*Pg	Pg	01 12 39.5	-0.7
YER	Yerkesik	0.91	141	*e*PG	Pg	01 12 41.8	-0.4
YER				*e*SG	Sg	01 12 55.8	+1.9
YER	Yerkesik	0.91	141	*e*Pg	Pg	01 12 41.8	-0.4
YER				*e*Sg	Sg	01 12 55.8	+1.9
URLA	Izmir	0.93	304	*e*P	Pg	01 12 39.5	-3.1
URLA				*i* S	Sg	01 12 55.0	+0.4
URLA	Izmir	0.93	304	*i* S	Sg	01 12 55.0	+0.4
AKHS	Akhisar	1.05	11	*i* P	Pg	01 12 45.0	0.0
AKHS				*i* S	Sg	01 12 58.5	-0.3
AKHS	Akhisar	1.05	11	*i* P	Pg	01 12 45.0	-0.1
AKHS				*i* S	Sg	01 12 58.5	-0.2
KULA	Kula-Manisa	1.09	52	*e*PN	Pg	01 12 45.3	-0.5
KULA	Kula-Manisa	1.09	52	*e*Pn	Pg	01 12 45.3	-0.5
DAT	Datca	1.11	180	*e*PN	Pg	01 12 46.5	+0.5
DAT	Datca	1.11	180	*e*Pn	Pg	01 12 46.5	+0.4
DENT	Denizli	1.17	94	*e*PN	Pn	01 12 48.0	0.0
DENT	Denizli	1.17	94	*e*Pn	Pn	01 12 48.0	+0.1
TURN	Turunc	1.27	139	*i* P	Pg	01 12 47.1	-2.0
TURN				*i* S	Sg	01 13 02.4	-3.3
TURN	Turunc	1.27	139	*i* P	Pg	01 12 47.1	-2.1
CHOS	Chios island	1.31	295	*e*PN	Pn	01 12 49.7	-0.3
CHOS				*e*SN	Sn	01 13 06.3	-1.6
CHOS	Chios island	1.31	295	*e*Pb	Pb	01 12 49.4	-0.6
CHOS				*e*Sn	Sn	01 13 06.3	-1.6
KHAL	Karahalli	1.61	70	*i* P	Pn	01 12 53.9	-0.2
KHAL				*i* S	Sn	01 13 13.2	-2.1
KHAL	Karahalli	1.61	70	*i* P	Pn	01 12 53.8	-0.2
ARG	Arkhangelos	1.68	164	*e*PN	Pb	01 12 56.7	+0.4
ARG				*e*SN	Sg	01 13 18.4	-0.4
ARG	Arkhangelos	1.68	164	*e*Pb	Pb	01 12 56.7	+0.4
ARG				*e*Sn	Sg	01 13 19.6	+0.8
GLHS	Glhisar (BURDU	1.68	113	*e*PN	Pg	01 12 56.0	-1.0
GLHS	Glhisar (BURDU	1.68	113	*e*Pn	Pg	01 12 56.0	-1.0
PRK	Paraskevi	1.73	325	*e*PN	Pg	01 12 57.9	-0.1
PRK				*e*SN	Sg	01 13 19.5	-1.0
PRK	Paraskevi	1.73	325	*e*Pn	Pg	01 12 58.1	+0.1
PRK				*e*Sn	Sg	01 13 20.2	-0.3
APE	Apeiranthos	1.79	245	*e*PN	Pn	01 12 57.0	+0.4
APE	Apeiranthos	1.

PLWZ	Palliser	2.12	99	PN	Pn	01 20 23.4	-0.3
MTW	Mount Morrison	2.30	88	PN	Pn	01 20 25.1	-0.5
HOWZ	Holdsworth Sta	2.34	81	PN	Pn	01 20 25.5	-0.5
MRZ	Mangatainoka R	2.44	76	PN	Pn	01 20 26.3	-0.8
FOZ	Fox Glacier	3.06	221	PN	Pn	01 20 31.4	-2.7
LBZ	Lake Benmore	3.52	208	PN	Pn	01 20 37.8	-1.6

*ISCJB **27** 01:20:12.3±0.7, 37°.4N±0°.2×31°.9W±0°.1, h10km, mb3.8/10, MS3.6/3, Error ellipse: s-maj=24.1km s-min=15.1km az=2.0*
*IDC **27** 01:20:12.7±1.0, 37°.38N×31°.83W, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/27, mbtmp3.6/8, MS3.7/3, Ms1 3.6/3, ms1mx3.3/25, Error ellipse: s-maj=31.1km s-min=22.4km az=5.0*
*NEIC **27** 01:20:14.0±0.6, 37°.37N×31°.85W, h10km, mb4.2/1, Error ellipse: s-maj=21.7km s-min=13.3km az=180.0*
ISC 27 01:20:14.4±0.7, 37°.4N±0°.2×31°.9W±0°.1, h10km, n22, σ0s72/18, mb3.8/10, MS3.6/3, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	21.90	75	P	P	01 25 08.1	+0.5
	1.8nm,1.0s,mb3.5,baz=265,slow=12,SNR=4.0						
ESDC	Sonseca Array	21.90	75	P	P	01 25 08.1	+0.5
GERES	GERESS Array B	34.67	56	LR	LR	01 39 47.5	
	comp=Z,128nm,19.8s,MS3.7,baz=308,slow=34						
SADO	Sadowa	35.97	297	LR	LR	01 41 31.9	
	comp=Z,249nm,21.5s,MS4.0,baz=126,slow=36						
TORD	Torodi Ar. Bea	38.45	120	P	P	01 27 36.3	-0.2
	1.4nm,1.0s,mb3.6,baz=306,slow=5.2,SNR=4.2						
TORD	Torodi Ar. Bea	38.45	120	P	P	01 27 36.3	-0.2
YKA	Yellowknife Ar	54.38	325	P	P	01 29 40.7	-0.3
	0.2nm,0.7s,mb3.1,baz=71,slow=7.1,SNR=4.7						
YKA				LR	LR	01 53 16.8	
	comp=Z,21nm,18.2s,MS3.2,baz=65,slow=36						
YKA	Yellowknife Ar	54.38	325	P	P	01 29 40.7	-0.3
KIV	Kislovodsk	55.14	58	eP	P	01 29 46.2	-0.6
	7.5nm,1.1s,mb4.6						
TXAR	Lajitas Array	59.21	285	P	P	01 30 17.1	+1.3
	0.6nm,0.7s,mb3.7,baz=80,slow=7.4,SNR=6.0						
TXAR	Lajitas Array	59.21	285	P	P	01 30 17.1	+1.3
MNTX	Cornudas Mount	59.42	288	eP	P	01 30 16.2	-1.0
	1.0nm,0.6s,mb4.0						
AKTO	Aktyubinsk	62.22	46	P	P	01 30 37.0	+1.0
	1.3nm,0.8s,mb4.1,baz=297,slow=11,SNR=4.6						
AKTO	Aktyubinsk	62.22	46	P	P	01 30 37.0	+1.0
LPAZ	La Paz	63.38	219	P	P	01 30 44.1	0.0
	1.5nm,0.9s,mb4.1,baz=30,slow=8.1,SNR=3.1						
LPAZ	La Paz	63.38	219	P	P	01 30 44.1	0.0
ILAR	Eielson Array	66.29	335	P	P	01 31 02.8	+0.4
	0.4nm,1.0s,mb3.4,baz=58,slow=6.4,SNR=5.0						
ILAR	Eielson Array	66.29	335	P	P	01 31 02.8	+0.4
MKAR	Makanchi Array	77.55	40	P	P	01 32 09.3	-1.0
	0.4nm,0.8s,mb3.4,baz=322,slow=4.4,SNR=4.7						
MKAR	Makanchi Array	77.55	40	P	P	01 32 09.3	-1.0
WRA	Warramunga Arr	158.85	38	PKPab	PKPab	01 40 47.0	-1.6
	0.4nm,0.9s,baz=311,slow=3.4,SNR=2.9						
WRA	Warramunga Arr	158.85	38	PKPab	PKPab	01 40 47.0	-1.6

*ISCJB **27** 01:21:30.8±0.6, 37°.6N±0°.1×31°.77W±0°.07, h10km, mb4.2/34, MS3.9/3, Error ellipse: s-maj=16.7km s-min=8.0km az=177.9*
*IDC **27** 01:21:31.1±0.8, 37°.59N×31°.74W, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.1/27, mbtmp4.1/15, MS4.0/3, Ms1 4.0/3, ms1mx3.5/27, Error ellipse: s-maj=24.8km s-min=16.2km az=171.0*
*NEIC **27** 01:21:32.6±0.3, 37°.59N×31°.76W, h10km, mb4.7/16, Error ellipse: s-maj=9.1km s-min=4.5km az=178.0*
*CSEM **27** 01:21:32.7±0.1, 37°.64N×31°.78W, h10km, mb4.6/19, Error ellipse: s-maj=6.8km s-min=3.3km az=178.0*
ISC 27 01:21:32.9±0.6, 37°.6N±0°.1×31°.75W±0°.07, h10km, n112, σ0s45/103, mb4.2/34, MS3.9/3, 18C, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	21.77	76	P	P	01 26 24.9	+0.3
	4.6nm,0.9s,mb3.9,baz=276,slow=9.0,SNR=12						
ESDC				LR	LR	01 32 46.5	
	comp=Z,187nm,18.2s,MS3.5,baz=325,slow=31						
ESDC	Sonseca Array	21.77	76	P	P	01 26 24.9	+0.3
ESDC	Sonseca Array	21.77	76	P	P	01 26 24.9	+0.2
BGF	Bois d'Agland	27.00	60	↑iP	P	01 27 14.6	-0.2
	22nm,1.0s,mb4.4						
BGF	Bois d'Agland	27.00	60	↑iP	P	01 27 14.6	-0.2
	22nm,1.0s,mb4.7						
BGF	Bois d'Agland	27.00	60	↑iP	P	01 27 14.6	-0.2
	22nm,1.0s,mb4.7						
AVF	Avril sur Loir	27.37	59	eP	P	01 27 17.7	-0.4
AVF	Avril sur Loir	27.37	59	eP	P	01 27 17.7	-0.4
AVF	Avril sur Loir	27.37	59	eP	P	01 27 17.7	-0.4
SSF	Saint Saulge	27.51	59	eP	P	01 27 19.6	+0.2
	49nm,1.5s,mb4.6						
SSF	Saint Saulge	27.51	59	eP	P	01 27 19.6	+0.2
	49nm,1.5s,mb4.9						
SSF	Saint Saulge	27.51	59	eP	P	01 27 19.6	+0.2
	49nm,1.5s,mb4.9						
SMF	Signal de Mont	27.69	60	↑iP	P	01 27 21.0	0.0
	10.0nm,0.9s,mb4.2						
SMF	Signal de Mont	27.69	60	↑iP	P	01 27 21.0	0.0
	10.0nm,0.9s,mb4.5						
SMF	Signal de Mont	27.69	60	↑iP	P	01 27 21.0	0.0
	10.0nm,0.9s,mb4.5						
LOR	Lormes	27.77	58	eP	P	01 27 21.3	-0.4
LOR	Lormes	27.77	58	eP	P	01 27 21.3	-0.4
LOR	Lormes	27.77	58	eP	P	01 27 21.3	-0.4
BAIF	Baives	28.47	53	↑iP	P	01 27 27.5	-0.4
	38nm,1.1s,mb4.6						
BAIF	Baives	28.47	53	↑iP	P	01 27 27.5	-0.4
	38nm,1.1s,mb4.9						
BAIF	Baives	28.47	53	↑iP	P	01 27 27.5	-0.4
	38nm,1.1s,mb4.9						
MEZF	Maizieres J'vi	28.74	56	↑iP	P	01 27 31.3	+1.0
	20nm,0.9s,mb4.5						
MEZF	Maizieres J'vi	28.74	56	↑iP	P	01 27 31.3	+1.0
	20nm,0.9s,mb4.8						
MEZF	Maizieres J'vi	28.74	56	↑iP	P	01 27 31.3	+1.0
	20nm,0.9s,mb4.8						
SCHQ	Schefferville	29.33	317	LR	LR	01 37 51.7	
	comp=Z,583nm,19.3s,MS4.2,baz=95,slow=33						
HAU	Haudompre	29.53	57	↑iP	P	01 27 37.4	0.0
	14nm,0.8s,mb4.4						
HAU	Haudompre	29.53	57	↑iP	P	01 27 37.4	0.0
	14nm,0.8s,mb4.7						
HAU	Haudompre	29.53	57	↑iP	P	01 27 37.4	0.0
	14nm,0.8s,mb4.7						
WLF	Walferdange	29.63	54	eP	P	01 27 38.4	+0.1
	8.1nm,0.9s,mb4.5						
WLF	Walferdange	29.63	54	eP	P	01 27 38.4	+0.2
	8.1nm,0.9s,mb4.5						
HINF	Hinteralfeld	29.85	58	eP	P	01 27 40.0	-0.2
HINF	Hinteralfeld	29.85	58	eP	P	01 27 40.0	-0.2
HINF	Hinteralfeld	29.85	58	eP	P	01 27 40.0	-0.2
CDF	Champ du Feu	30.20	57	↑iP	P	01 27 43.4	+0.2
	20nm,0.9s,mb4.6						
CDF	Champ du Feu	30.20	57	↑iP	P	01 27 43.4	+0.2
	20nm,0.9s,mb4.9						
CDF	Champ du Feu	30.20	57	↑iP	P	01 27 43.4	+0.2
	20nm,0.9s,mb4.9						
FRB	Frobisher Bay	34.17	332	LR	LR	01 38 33.7	
	comp=Z,251nm,20.1s,MS3.9,baz=70,slow=30						
CLL	Collm	34.19	52	eP	P	01 28 18.0	-0.2
GERES	GERESS Array B	34.48	56	P	P	01 28 20.5	-0.2
	0.8nm,0.6s,mb3.9,baz=245,slow=12,SNR=5.6						
GERES	GERESS Array B	34.48	56	P	P	01 28 20.5	-0.2
GERES	GERESS Array B	34.48	56	P	P	01 28 20.5	-0.2
TAM	Tamanrasset	35.20	104	eP	P	01 28 27.8	+0.6
	2.2nm,0.9s,mb4.1						
TAM	Tamanrasset	35.20	104	eP	P	01 28 27.8	+0.6
	2.2nm,0.9s,mb4.1						
NOA	NORSAR Array B	35.52	35	P	P	01 28 30.1	+0.5
	2.3nm,1.0s,mb4.0,baz=250,slow=8.8,SNR=2.9						
NOA	NORSAR Array B	35.52	35	P	P	01 28 30.1	+0.5
NOA	NORSAR Array B	35.52	35	P	P	01 28 30.1	+0.5
VYHS	Vyhne	37.88	57	eP	P	01 28 49.4	-0.5
TORD	Torodi Ar. Bea	38.49	120	P	P	01 28 54.5	-0.8
	4.4nm,1.1s,mb4.1,baz=313,slow=6.9,SNR=8.8						
TORD	Torodi Ar. Bea	38.49	120	P	P	01 28 54.5	-0.8
TORD	Torodi Ar. Bea	38.49	120	P	P	01 28 54.5	-0.8
KECS	Kecovo	38.98	57	eP	P	01 28 59.5	+0.4
KECS	Kecovo	38.98	57	eP	P	01 28 59.6	+0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	FINESS Array B	42.58	37	P	P	01 29 28.7	+0.1
	2.0nm,0.9s,mb3.9,baz=307,slow=6.9,SNR=4.2						
FINES	FINESS Array B	42.58	37	P	P	01 29 28.7	+0.1
FINES	FINESS Array B	42.58	37	P	P	01 29 28.7	+0.1
AKASG	Malin Array Be	44.42	53	P	P	01 29 42.1	-1.6
	4.6nm,0.8s,mb4.3,baz=274,slow=7.7,SNR=12						
AKASG	Malin Array Be	44.42	53	P	P	01 29 42.1	-1.6
AKASG	Malin Array Be	44.42	53	P	P	01 29 42.1	-1.5
RES	Resolute Bay	47.04	341	eP	P	01 30 04.1	0.0
	2.7nm,1.0s,mb4.1						
RES	Resolute Bay	47.04	341	eP	P	01 30 04.1	+0.1
	2.7nm,1.0s,mb4.1						
FFC	Flin Flon	49.38	314	eP	P	01 30 22.6	+0.3
	1.8nm,0.5s,mb4.4						
FFC	Flin Flon	49.38	314	eP	P	01 30 22.6	+0.3
	1.8nm,0.5s,mb4.4						
YKA	Yellowknife Ar	54.24	325	P	P	01 30 58.4	0.0
	0.8nm,0.8s,mb3.7,baz=79,slow=7.0,SNR=7.7						
YKA				PcP	PcP	01 32 01.9	-0.8
	0.4nm,0.7s,baz=71,slow=4.7,SNR=6.7						
YKA	Yellowknife Ar	54.24	325	P	P	01 30 58.5	0.0
YKA				PcP	PcP	01 32 01.9	-0.8
YKA	Yellowknife Ar	54.24	325	P	P	01 30 58.5	0.0
YKA	Yellowknife Ar	54.24	325	PcP	PcP	01 32 01.9	-0.8
BW06	Boulder Array	57.67	302	eP	P	01 31 22.7	-0.7
	1.7nm,0.9s,mb4.1						
BW06	Boulder Array	57.67	302	eP	P	01 31 22.7	-0.6
	1.7nm,0.9s,mb4.1						
LOHW	Long Hollow	58.03	303	eP	P	01 31 25.6	-0.3
	1.1nm,0.6s,mb4.1						
LOHW	Long Hollow	58.03	303	eP	P	01 31 25.6	-0.3
	1.1nm,0.6s,mb4.1						
TXAR	Lajitas Array	59.23	285	P	P	01 31 34.5	0.0
	1.8nm,0.8s,mb4.1,baz=84,slow=7.0,SNR=12						
TXAR	Lajitas Array	59.23	285	P	P	01 31 34.5	0.0
TXAR	Lajitas Array	59.23	285	P	P	01 31 34.5	0.0
MNTX	Cornudas Mount	59.43	288	eP	P	01 31 35.5	-0.3
	1.1nm,0.7s,mb4.0						
MNTX	Cornudas Mount	59.43	288	eP	P	01 31 35.5	-0.3
	1.1nm,0.7s,mb4.0						
INK	Inuvik	59.72	335	eP	P	01 31 36.8	-0.4
	7.1nm,1.2s,mb4.6						
INK	Inuvik	59.72	335	eP	P	01 31 36.8	-0.4
	7.1nm,1.2s,mb4.6						
ARU	Arti	59.79	40	eP	P	01 31 38.6	+0.7
	5.3nm,1.0s,mb4.5						
ARU	Arti	59.79	40	eP	P	01 31 38.6	+0.7
	5.3nm,1.0s,mb4.5						
AKTO	Aktyubinsk	62.00	46	P	P	01 31 53.8	+0.8
	5.9nm,0.8s,mb4.8,baz=297,slow=7.6,SNR=19						
AKTO	Aktyubinsk	62.00	46	P	P	01 31 53.8	+0.8
AKTO	Aktyubinsk	62.00	46	P	P	01 31 53.8	+0.8
LPAZ	La Paz	63.62	219	P	P	01 32 04.6	+0.5
	3.1nm,0.8s,mb4.4,baz=27,slow=8.8,SNR=5.6						
LPAZ	La Paz	63.62	219	P	P	01 32 04.6	+0.5
LPAZ	La Paz	63.62	219	P	P	01 32 04.6	+0.5
NVAR	Mina Array Bea	65.55	301	P	P	01 32 16.9	+0.3
	0.3nm,0.7s,mb3.4,baz=79,slow=7.7,SNR=3.7						
NVAR	Mina Array Bea	65.55	301	P	P	01 32 16.9	+0.3
NVAR	Mina Array Bea	65.55	301	P	P	01 32 16.9	+0.3
ILAR	Eielson Array	66.12	335	P	P	01 32 20.0	+0.2
	0.7nm,0.8s,mb3.7,baz=49,slow=6.6,SNR=7.2						
ILAR	Eielson Array	66.12	335	P	P	01 32 20.0	+0.2
ILAR	Eielson Array	66.12	335	P	P	01 32 20.0	+0.2
MCK	McKinley	67.47	335	eP	P	01 32 28.6	+0.1
	7.4nm,1.0s,mb4.7						
MCK	McKinley	67.47	335	eP	P	01 32 28.6	+0.1
	7.4nm,1.0s,mb4.7						
KURK	Kurchatov	72.92	39	eP	P	01 33 01.9	-0.2
	3.8nm,1.0s,mb4.3						
KURK	Kurchatov	72.92	39	eP	P	01 33 01.9	-0.2
	3.8nm,1.0s,mb4.3						
ZALV	Zalesovo Beam	73.71	33	P	P	01 33 07.0	+0.3
	2.0nm,0.9s,mb4.0,baz=300,slow=6.0,SNR=7.1						
ZALV	Zalesovo Beam	73.71	33	P	P	01 33 07.0	+0.3
ZALV	Zalesovo Beam	73.71	33	P	P	01 33 07.0	+0.3
TKM2	Tokmak 2	76.19	46	eP	P	01 33 21.2	0.0
	2.1nm,0.9s,mb4.1						
TKM2	Tokmak 2	76.19	46	eP	P	01 33 21.2	0.0
	2.1nm,0.9s,mb4.1						
MKAR	Makanchi Array	77.32	40	P	P	01 33 27.5	0.0
	2.1nm,0.9s,mb4.0,baz=313,slow=4.9,SNR=14						
MKAR	Makanchi Array	77.32	40	P	P	01 33 27.5	0.0
MKAR	Makanchi Array	77.32	40	P	P	01 33 27.5	0.0
SONM	Songino Array	87.08	27	P	P	01 34 18.8	+0.1
	2.3nm,0.9s,mb4.4,baz=331,slow=3.3,SNR=13						
SONM	Songino Array	87.08	27	P	P	01 34 18.8	+0.1
SONM	Songino Array	87.08	27	P	P	01 34 18.8	+0.1
WRA	Warramunga Arr	158.62	38	PKPab	PKPab	01 42 06.1	0.0
	1.7nm,0.9s,baz=334,slow=4.5,SNR=8.2						
WRA	Warramunga Arr	158.62	38	PKPab	PKPab	01 42 06.1	0.0
WRA	Warramunga Arr	158.62	38	PKPab	PKPab	01 42 06.1	0.0
ASAR	Alice Springs	161.43	46	PKP	PKPdf	01 41 34.0	-0.1
	0.5nm,1.0s,baz=336,slow=2.7,SNR=4.1						
ASAR				PKPab	PKPab	01 42 17.9	-0.4
	1.1nm,0.9s,baz=325,slow=4.3,SNR=8.6						
ASAR	Alice Springs	161.43	46	PKP	PKPdf	01 41 34.0	-0.1
ASAR				PKPab	PKPab	01 42 17.9	-0.4
ASAR	Alice Springs	161.43	46	PKIKP	PKPdf	01 41 34.0	-0.1

*ISK **27** 01:38:48.8, 40°.72N×30°.58E, h2km, MD3.2*
*CSEM **27** 01:38:49.9±0.2, 40°.71N×30°.55E, h2km, MD3.2, Error ellipse: s-maj=4.5km s-min=2.8km az=22.0*
DDA 27 01:38:49.7, 40°.74N×30°.63E, h24km, Md3.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	Hendek	0.22	69	iP	Pb	01 38 55.0	-0.4
HENT				iS	Sb	01 38 59.4	0.0
HENT	Hendek	0.22	69	iP	Pb	01 38 55.0	-0.5
HENT				iS	Sb	01 38 59.4	0.0
SPNC	Sapanca-Adapaz	0.25	257	ePG	Pb	01 38 54.6	-1.4
SPNC				eSG	Sb	01 38 58.0	-2.1
SPNC	Sapanca-Adapaz	0.25	257	ePg	Pb	01 38 54.6	-1.3
SPNC				eSg	Sb	01 38 58.0	-2.1
GULT	Gulveren	0.32	196	ePG	Pb	01 38 55.5	-1.5
GULT				eSG	Sb	01 38 59.7	-2.2
GULT	Gulveren	0.32	196	ePg	Pb	01 38 55.5	-1.5
GULT				eSg	Sb	01 38 59.7	-2.2
MDUB	Mudurnu	0.51	122	ePG	Pb	01 39 00.1	0.0
MDUB				eSG	Sb	01 39 07.7	+0.7
MDUB	Mudurnu	0.51	122	ePg	Pb	01 39 00.0	0.0
MDUB				eSg	Sb	01 39 07.7	+0.7
HRT	Hereke	0.74	276	ePG	Pb	01 39 03.5	-0.3
HRT	Hereke	0.74	276	ePg	Pb	01 39 03.5	-0.3
ADVT	Abdulvahap	0.75	246	ePG	Pb	01 39 03.0	-1.0
ADVT	Abdulvahap	0.75	246	ePg	Pb	01 39 03.0	-1.0
CAVI	Cavuskoy	0.81	228	ePG	Pb	01 39 04.7	-0.4
CAVI	Cavuskoy	0.81	228	ePg	Pb	01 39 04.7	-0.4
SILT	Sile	0.85	299	ePG	Pb	01 39 05.1	-0.7
SILT	Sile	0.85	299	ePg	Pb	01 39 05.1	-0.7
BORA	Eskisehir	0.87	189	iP	Pb	01 39 06.1	-0.1
BORA				iS	Sb	01 39 15.5	-1.9
BORA	Eskisehir	0.87	189	iP	Pb	01 39 06.1	-0.1
BORA				iS	Sb	01 39 15.5	-1.9
YLV	Yalova	0.97	260	ePG	Pn	01 39 07.0	-0.9
YLV	Yalova	0.97	260	ePg	Pn	01 39 07.0	-0.9
GEMT	Gemlik	1.14	255	ePN	Pn	01 39 10.0	-0.1
GEMT	Gemlik	1.14	255	ePn	Pn	01 39 10.0	-0.1
BUY	Buyukada	1.15	276	iP	Pn	01 39 10.7	+0.4
BUY				iS	Sn	01 39 25.4	0.0
BUY	Buyukada	1.15	276	iP	Pn	01 39 10.7	+0.4
BUY				iS	Sn	01 39 25.4	+0.1
ESKT	Eskisehir	1.23	172	ePN	Pn	01 39 13.4	+2.0
ESKT	Eskisehir	1.23	172	iP	Pn	01 39 12.5	+1.1
ESKT				iS	Sn	01 39 25.4	-1.9
ESKT	Eskisehir	1.23	172	ePn	Pn	01 39 13.4	+2.0
SEYT	Eskypehyr	1.23	172	iP	Pn	01 39 12.5	+1.1
SEYT				iS	Sn	01 39 25.4	-1.9
ISK	Istanbul-Kandi	1.23	286	ePN	Pn	01 39 12.6	+1.1
ISK	Istanbul-Kandi	1.23	286	ePn	Pn	01 39 12.6	+1.2
ULDT	Uludag	1.29	243	iP	Pn	01 39 11.6	-0.6
ULDT				iS	Sn	01 39 26.8	-1.9
ULDT	Uludag	1.29	243	iP	Pn	01 39 11.6	-0.6
ULDT				iS	Sn	01 39 26.8	-1.9
KLYT	Kilyos	1.31	293	ePN	Pn	01 39 13.8	+1.4
KLYT	Kilyos	1.31	293	ePn	Pn	01 39 13.8	+1.4
ARMT	Armutlu	1.36	263	ePN	Pn	01 39 14.3	+1.2
ARMT	Armutlu	1.36	263	ePn	Pn	01 39 14.3	+1.2
MDNY	Mudanya-Bursa	1.38	255	ePN	Pn	01 39 15.4	+1.9
MDNY	Mudanya-Bursa	1.38	255	ePn	Pn	01 39 15.4	+1.9
SVRH	Sivrihisar-ESK	1.47	152	ePN	Pn	01 39 17.4	+2.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRH	Sivrihisar-ESK	1.47	152	ePn	Pn	01 39 17.4	+2.8
BGKT	Bogazkoy	1.47	288	ePN	Pn	01 39 16.7	+2.0
BGKT	Bogazkoy	1.47	288	ePn	Pn	01 39 16.7	+2.0
SAFT	Safranbolu	1.63	72	ePN	Pn	01 39 20.3	+3.3
SAFT	Safranbolu	1.63	72	ePn	Pn	01 39 20.3	+3.4
CTKS	Kestanelik-??a	1.68	288	ePN	Pn	01 39 19.6	+2.0
CTKS	Kestanelik-??a	1.68	288	ePn	Pn	01 39 19.6	+2.0
ELBA	Catalca	1.71	284	eP	Pn	01 39 18.4	+0.4
ELBA				iS	Sn	01 39 40.8	+1.6
ELBA	Catalca	1.71	284	eP	Pn	01 39 18.4	+0.4
ELBA				iS	Sn	01 39 40.8	+1.6
ALT	Altintas	1.73	194	ePN	Pn	01 39 20.2	+1.9
ALT	Altintas	1.73	194	ePn	Pn	01 39 20.2	+1.9
KCTX	Karacabey (Bur	1.80	255	ePN	Pn	01 39 21.7	+2.5
KCTX	Karacabey (Bur	1.80	255	ePn	Pn	01 39 21.7	+2.5
LOD	Lodumlu	1.84	117	ePN	Pn	01 39 23.1	+3.3
LOD	Lodumlu	1.84	117	ePn	Pn	01 39 23.1	+3.3
GDZ	Gediz	1.87	209	iP	Pn	01 39 21.2	+1.0
GDZ				iS	Sn	01 39 46.2	+3.1
GDZ	Gediz	1.87	209	iP	Pn	01 39 21.2	+1.0
GDZ				iS	Sn	01 39 46.2	+3.1
SLVT	Silivri	1.90	286	ePN	Pn	01 39 22.7	+2.2
SLVT	Silivri	1.90	286	ePn	Pn	01 39 22.7	+2.2
CTYL	Yal??k??y-??at	1.92	293	ePN	Pn	01 39 23.0	+2.2
CTYL	Yal??k??y-??at	1.92	293	ePn	Pn	01 39 23.0	+2.2
DST	Dursunbey	1.92	234	ePN	Pn	01 39 23.4	+2.6
DST	Dursunbey	1.92	234	ePn	Pn	01 39 23.5	+2.7
DURS	Dursunbey	2.01	236	iP	Pn	01 39 22.4	+0.3
DURS				iS	Sn	01 39 47.4	+1.0
DURS	Dursunbey	2.01	236	iP	Pn	01 39 22.4	+0.3
DURS				iS	Sn	01 39 47.4	+1.0
BOLV	Bolvadin	2.04	173	eP	Pn	01 39 26.3	+3.8
BOLV				iS	Sn	01 39 50.5	+3.3
BOLV	Bolvadin	2.04	173	eP	Pn	01 39 26.3	+3.8
BOLV				iS	Sn	01 39 50.5	+3.4
KIZT	Kizilcal	2.10	152	ePN	Pn	01 39 26.5	+3.2
KIZT	Kizilcal	2.10	152	ePn	Pn	01 39 26.5	+3.2
BNT	Bandirma	2.10	260	ePN	Pn	01 39 26.1	+2.7
BNT	Bandirma	2.10	260	ePn	Pn	01 39 26.1	+2.7
ELDT	Eldivan	2.14	96	eP	Pn	01 39 30.7	+6.8
ELDT				iS	Sn	01 40 01.0	+11
ELDT	Eldivan	2.14	96	eP	Pn	01 39 30.7	+6.8
EDC	Edincik	2.15	260	ePN	Pn	01 39 26.4	+2.4
EDC	Edincik	2.15	260	ePn	Pn	01 39 26.4	+2.4
SHUT	Suhut-Afyon	2.19	182	ePN	Pn	01 39 27.5	+3.0
SHUT	Suhut-Afyon	2.19	182	ePn	Pn	01 39 27.5	+2.9
BBAL	Bala	2.25	121	eP	Pn	01 39 30.9	+5.4
BBAL				iS	Sn	01 40 03.4	+11
BBAL	Bala	2.25	121	eP	Pn	01 39 30.9	+5.4
AFSR	Af¨ar-Bala (A	2.28	124	ePN	Pn	01 39 29.3	+3.5
AFSR	Af¨ar-Bala (A	2.28	124	ePn	Pn	01 39 29.3	+3.5
GONE	Gonen-Balikesi	2.35	254	ePN	Pn	01 39 29.4	+2.6
GONE	Gonen-Balikesi	2.35	254	ePn	Pn	01 39 29.5	+2.7
MFT	Murefte	2.54	272	ePN	Pn	01 39 32.0	+2.6
MFT	Murefte	2.54	272	ePn	Pn	01 39 32.0	+2.5
KRBG	Karabiga-Canak	2.56	263	ePN	Pn	01 39 32.2	+2.5
KRBG	Karabiga-Canak	2.56	263	ePn	Pn	01 39 32.2	+2.5
RKY	Sarkoy-Tekirda	2.62	270	ePN	Pn	01 39 33.1	+2.5
RKY	Sarkoy-Tekirda	2.62	270	ePn	Pn	01 39 33.1	+2.5
KULA	Kula-Manisa	2.70	215	ePN	Pn	01 39 34.4	+2.8
KULA	Kula-Manisa	2.70	215	ePn	Pn	01 39 34.4	+2.9
CORM	Corum	3.10	99	ePN	Pn	01 39 41.1	+

YER	Yerkesik	1.06	226	*e*Pg	Pg	01 50 14.2	-1.2
YER				*e*Sg	Sg	01 50 30.6	+1.4
SHUT	Suhut-Afyon	1.23	57	*e*PN	Pn	01 50 18.7	0.0
SHUT	Suhut-Afyon	1.23	57	*e*Pn	Pn	01 50 18.7	0.0

IDC 27 02:21:36.0±2.5, 24°44'S×115°94'W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.6/3, MS3.6/3, Ms1 3.6/3, ms1mx3.4/14, Error ellipse: s-maj=90.9km s-min=43.6km az=31.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**41.07**	**125**	LR	LR	02 41 55.0	
	comp=Z,96nm,20.1s,baz=318,slow=30						
LPAZ	**La Paz**	**45.37**	**89**	P	P	02 29 57.2	+0.7
	1.0nm,0.7s,baz=266,slow=13,SNR=3.8						
LPAZ				LR	LR	02 44 47.5	
	comp=Z,48nm,18.7s,baz=180,slow=31						
CPUP	**Villa Florida**	**52.59**	**105**	LR	LR	02 48 54.1	
	comp=Z,62nm,20.6s,baz=86,slow=31						
NVAR	**Mina Array Bea**	**62.58**	**358**	P	P	02 32 02.8	+1.0
	0.4nm,0.8s,baz=175,slow=12,SNR=2.8						
YKA	**Yellowknife Ar**	**86.64**	**1**	P	P	02 34 19.9	-1.0
	0.3nm,0.8s,baz=175,slow=5.6,SNR=7.7						
ZALV	**Zalesovo Beam**	**146.69**	**338**	PKPbc	PKPbc	02 41 18.5	-0.9
	0.6nm,0.6s,baz=357,slow=5.8,SNR=2.7						
MKAR	**Makanchi Array**	**153.35**	**331**	PKPbc	PKPbc	02 41 36.4	+0.3
	0.3nm,0.7s,baz=31,slow=3.4,SNR=3.7						

*ISCJB **27** 02:41:45.6±0.6, 37°90'N±0°03'×29°23'E±0°05, h6km±6km, Error ellipse: s-maj=7.3km s-min=4.3km az=169.9*
*ISK **27** 02:41:45.5, 37°89'N×29°24'E, h7km, MD2.9*
*DDA **27** 02:41:45.2, 37°92'N×29°25'E, h9km±3km, Md2.9*
*CSEM **27** 02:41:45.6±0.1, 37°90'N×29°26'E, h5km, MD2.9, Error ellipse: s-maj=3.7km s-min=2.4km az=91.0*

ISC 27 02:41:46.0±0.5, 37°90'N±0°02'×29°25'E±0°05, h5km±7km, n24, σ0°71/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.23**	**230**	*e*PG	Pg	02 41 50.3	-0.1
DENT	**Denizli**	**0.23**	**230**	*e*Pg	Pg	02 41 50.3	-0.1
KHAL	**Karahalli**	**0.51**	**22**	*i*P	Pg	02 41 55.9	+0.2
KHAL				*i*S	Sg	02 42 03.0	+0.7
KHAL	**Karahalli**	**0.51**	**22**	*i*P	Pg	02 41 55.9	+0.2
KHAL				*i*S	Sg	02 42 03.0	+0.7
GOLH	**Golhisar**	**0.71**	**160**	*i*P	Pg	02 41 58.8	-0.7
GOLH				*i*S	Sg	02 42 10.4	+1.7
GOLH	**Golhisar**	**0.71**	**160**	*i*P	Pg	02 41 58.8	-0.7
GOLH				*i*S	Sg	02 42 10.4	+1.7
GLHS	**Glhisar (BURDU**	**0.77**	**165**	*e*PG	Pg	02 42 00.5	-0.2
GLHS	**Glhisar (BURDU**	**0.77**	**165**	*e*Pg	Pg	02 42 00.5	-0.2
KULA	**Kula-Manisa**	**0.77**	**323**	*e*PG	Pg	02 42 00.8	0.0
KULA				*e*SG	Sg	02 42 12.0	+1.2
KULA	**Kula-Manisa**	**0.77**	**323**	*e*Pg	Pg	02 42 00.8	0.0
KULA				*e*Sg	Sg	02 42 12.0	+1.2
MANT	**Manisa**	**0.81**	**317**	*i*P	Pg	02 42 01.2	-0.3
MANT				*i*S	Sg	02 42 12.2	+0.3
MANT	**Manisa**	**0.81**	**317**	*i*P	Pg	02 42 01.2	-0.2
MANT				*i*S	Sg	02 42 12.2	+0.3
YER	**Yerkesik**	**1.09**	**226**	*e*PG	Pg	02 42 06.3	-0.5
YER	**Yerkesik**	**1.09**	**226**	*e*Pg	Pg	02 42 06.3	-0.5
GDZ	**Gediz**	**1.20**	**9**	*i*P	Pg	02 42 08.1	-0.9
GDZ				*i*S	Sg	02 42 23.3	-1.3
GDZ	**Gediz**	**1.20**	**9**	*i*P	Pg	02 42 08.1	-0.9
GDZ				*i*S	Sg	02 42 23.3	-1.3
SHUT	**Suhut-Afyon**	**1.21**	**57**	*e*PN	Pn	02 42 09.6	0.0
SHUT	**Suhut-Afyon**	**1.21**	**57**	*e*Pn	Pn	02 42 09.6	0.0
ELL	**Elmali**	**1.26**	**155**	*e*PN	Pn	02 42 09.8	-0.5
ELL	**Elmali**	**1.26**	**155**	*e*Pn	Pn	02 42 09.8	-0.5
ALT	**Altintas**	**1.33**	**30**	*e*PN	Pn	02 42 11.0	-0.3
ALT				*e*SN	Sn	02 42 30.2	+0.8
ALT	**Altintas**	**1.33**	**30**	*e*Pn	Pn	02 42 11.0	-0.3
ALT				*e*Sn	Sn	02 42 30.2	+0.8
DAT	**Datca**	**1.77**	**229**	*e*PN	Pn	02 42 17.2	-0.1
DAT	**Datca**	**1.77**	**229**	*e*Pn	Pn	02 42 17.2	-0.1

*DDA **27** 03:12:08.5, 39°28'N×36°35'E, h14km±2km, Md3.6, Ml3.8*
*ISK **27** 03:12:09.0, 39°27'N×36°34'E, h5km, MD3.6*
*ISCJB **27** 03:12:10.6±0.2, 39°28'N±0°02'×36°35'E±0°02, h10km, Error ellipse: s-maj=2.4km s-min=2.1km az=20.5*
*CSEM **27** 03:12:10.0±0.1, 39°28'N×36°37'E, h2km, MD3.6, Error ellipse: s-maj=2.8km s-min=2.6km az=10.0*

ISC 27 03:12:11.3±0.2, 39°29'N±0°02'×36°36'E±0°02, h10km, n113, σ1°14/163, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.59**	**223**	*e*PG	Pg	03 12 20.2	-2.6
BNN				*e*SG	Sg	03 12 29.9	-0.6
BNN	**Bunyan**	**0.59**	**223**	*e*Pg	Pg	03 12 20.2	-2.6
BNN				*e*Sg	Sg	03 12 29.9	-0.6
PINB	**Pinarbasi**	**0.61**	**177**	*i*P	Pg	03 12 20.6	-2.5
PINB				*i*S	Sg	03 12 29.7	-1.4
PINB	**Pinarbasi**	**0.61**	**177**	*i*P	Pg	03 12 20.6	-2.5
PINB				*i*S	Sg	03 12 29.7	-1.4
SARI	**SarD1z-Kayseri**	**0.66**	**157**	*e*PG	Pg	03 12 26.3	+2.3
SCER	**sogukcermik**	**0.82**	**46**	*i*P	Pg	03 12 24.2	-3.0
SCER				*i*S	Sg	03 12 36.4	-1.6
SCER	**sogukcermik**	**0.82**	**46**	*i*P	Pg	03 12 24.2	-3.0
SCER				*i*S	Sg	03 12 36.4	-1.6
YOZ	**Yozgat**	**0.88**	**294**	*e*PG	Pg	03 12 26.3	-2.0
YOZ				*e*SG	Sg	03 12 40.1	+0.3
YOZ	**Yozgat**	**0.88**	**294**	*e*Pg	Pg	03 12 26.3	-2.0
YOZ				*e*Sg	Sg	03 12 40.1	+0.3
TOKA	**Tokat**	**1.04**	**5**	*i*P	Pg	03 12 28.5	-2.8
TOKA				*i*S	Sg	03 12 42.9	-2.0
TOKA	**Tokat**	**1.04**	**5**	*i*P	Pg	03 12 28.5	-2.8
TOKA				*i*S	Sg	03 12 42.9	-2.0
AVNT	**Avonos**	**1.28**	**247**	*i*P	Pn	03 12 32.6	-2.6
AVNT				*i*S	Sb	03 12 49.1	-2.9
AVNT	**Avonos**	**1.28**	**247**	*i*P	Pn	03 12 32.7	-2.5
AVNT				*i*S	Sb	03 12 49.1	-2.9
RSDY	**Resadiye-TOKAT**	**1.33**	**33**	*e*PN	Pn	03 12 35.0	-1.1
RSDY				*e*SN	Sn	03 12 55.1	+1.3
RSDY	**Resadiye-TOKAT**	**1.33**	**33**	*e*Pn	Pn	03 12 35.0	-1.0
RSDY				*e*Sn	Sn	03 12 55.1	+1.3
ERBA	**Erbaa**	**1.43**	**12**	*i*P	Pn	03 12 35.9	-1.4
ERBA				*i*S	Sn	03 12 56.3	+0.3
ERBA	**Erbaa**	**1.43**	**12**	*i*P	Pn	03 12 35.9	-1.4
ERBA				*i*S	Sn	03 12 56.3	+0.2
AKCD	**Akcadag**	**1.57**	**129**	*i*P	Pn	03 12 38.5	-0.8
AKCD				*i*S	Sn	03 12 59.9	+0.3
AKCD	**Akcadag**	**1.57**	**129**	*i*P	Pn	03 12 38.5	-0.7
AKCD				*i*S	Sn	03 12 59.9	+0.3
CDAG	**Cicekdag**	**1.58**	**283**	*i*P	Pn	03 12 38.6	-0.8
CDAG				*i*S	Sn	03 13 00.3	+0.5
CDAG	**Cicekdag**	**1.58**	**283**	*i*P	Pn	03 12 38.6	-0.8
CDAG				*i*S	Sn	03 13 00.3	+0.5
CORM	**Corum**	**1.61**	**304**	*e*PN	Pn	03 12 38.7	-1.1
CORM				*e*SN	Sn	03 13 01.2	+0.7
CORM	**Corum**	**1.61**	**304**	*e*Pn	Pn	03 12 38.7	-1.1
CORM				*e*Sn	Sn	03 13 01.2	+0.7
KEMA	**Kemaliye**	**1.65**	**90**	*i*P	Pn	03 12 39.2	-1.2
KEMA				*i*S	Sn	03 13 02.5	+0.9
KEMA	**Kemaliye**	**1.65**	**90**	*i*P	Pn	03 12 39.2	-1.2
KEMA				*i*S	Sn	03 13 02.5	+0.9
SUSE	**Susehri**	**1.69**	**56**	*i*P	Pn	03 12 39.5	-1.4
SUSE				*i*S	Sn	03 13 02.7	+0.1
SUSE	**Susehri**	**1.69**	**56**	*i*P	Pn	03 12 39.5	-1.4
SUSE				*i*S	Sn	03 13 02.7	+0.1
ILIC	**ilic-Erzincan**	**1.72**	**84**	*e*PN	Pn	03 12 41.5	+0.2
ILIC	**ilic-Erzincan**	**1.72**	**84**	*e*Pn	Pn	03 12 41.5	+0.3
CTKT	**Corum**	**1.80**	**318**	*i*P	Pn	03 12 42.5	+0.1
CTKT				*i*S	Sn	03 13 07.1	+1.7
CTKT	**Corum**	**1.80**	**318**	*i*P	Pn	03 12 42.5	+0.1
CTKT				*i*S	Sn	03 13 07.1	+1.7
KVT	**Kavak**	**1.81**	**352**	*e*PN	Pn	03 12 42.5	0.0
KVT	**Kavak**	**1.81**	**352**	*e*Pn	Pn	03 12 42.5	0.0
KMRS	**Kahramanmaras**	**1.83**	**167**	*e*PN	Pn	03 12 42.3	-0.4
KMRS				*e*SN	Sn	03 13 06.7	+0.8
KMRS	**Kahramanmaras**	**1.83**	**167**	*e*Pn	Pn	03 12 42.3	-0.5
KMRS				*e*Sn	Sn	03 13 06.7	+0.8
KOZT	**Kozan**	**1.85**	**193**	*e*PN	Pn	03 12 42.9	-0.2
HAVZ	**Havza**	**1.85**	**345**	*i*P	Pn	03 12 43.1	0.0
HAVZ				*i*S	Sn	03 13 09.2	+2.6
HAVZ	**Havza**	**1.85**	**345**	*i*P	Pn	03 12 43.1	0.0
HAVZ				*i*S	Sn	03 13 09.2	+2.6
MYA	**Malataya**	**1.87**	**120**	*e*PN	Pn	03 12 43.4	0.0
MYA	**Malataya**	**1.87**	**120**	*e*Pn	Pn	03 12 43.4	0.0
MALT	**Malatya**	**1.88**	**120**	*e*PN	Pn	03 12 43.7	+0.2
MALT	**Malatya**	**1.88**	**120**	*e*Pn	Pn	03 12 43.7	+0.2
KAMT	**Kaman**	**2.06**	**273**	*e*PN	Pn	03 12 46.1	+0.1
KAMT	**Kaman**	**2.06**	**273**	*e*Pn	Pn	03 12 46.1	+0.2
GZT	**Gaziantep**	**2.15**	**154**	*i*P	Pn	03 12 46.0	-1.1
GZT				*i*S	Sn	03 13 15.8	+2.0
ELZG	**Elazig**	**2.19**	**110**	*i*P	Pn	03 12 47.7	-0.1
ELZG				*i*S	Sn	03 13 19.2	+4.3
ELZG	**Elazig**	**2.19**	**110**	*i*P	Pn	03 12 47.7	-0.1
ELZG				*i*S	Sn	03 13 19.2	+4.3
GRSN	**GIRESUNGRSN**	**2.19**	**41**	*i*P	Pn	03 12 45.9	-1.9
GRSN				*i*S	Sn	03 13 14.0	-1.0
GRSN	**GIRESUNGRSN**	**2.19**	**41**	*i*P	Pn	03 12 45.9	-1.9
GRSN				*i*S	Sn	03 13 14.0	-1.0
GAZ	**Gaziantep**	**2.21**	**162**	*e*PN	Pn	03 12 47.7	-0.3
GAZ	**Gaziantep**	**2.21**	**162**	*e*Pn	Pn	03 12 47.7	-0.4
CEYT	**Ceyhan**	**2.32**	**192**	*e*PN	Pn	03 12 49.4	-0.2
CEYT	**Ceyhan**	**2.32**	**192**	*e*Pn	Pn	03 12 49.4	-0.2
GULE	**Gulek**	**2.36**	**213**	*i*P	Pn	03 12 51.1	+1.1
GULE				*i*S	Sn	03 13 23.5	+4.5
GULE	**Gulek**	**2.36**	**213**	*i*P	Pn	03 12 51.1	+1.0
GULE				*i*S	Sn	03 13 23.5	+4.5
ATAB	**Bozova**	**2.36**	**139**	*i*P	Pn	03 12 49.2	-1.0
ATAB				*i*S	Sn	03 13 20.1	+0.9
ATAB	**Bozova**	**2.36**	**139**	*i*P	Pn	03 12 49.2	-1.0
ATAB				*i*S	Sn	03 13 20.1	+0.9
PTK	**Pertek**	**2.39**	**99**	*e*PN	Pn	03 12 51.0	+0.5
PTK	**Pertek**	**2.39**	**99**	*e*Pn	Pn	03 12 51.0	+0.5
KELT	**Kelkit**	**2.39**	**68**	*i*P	Pn	03 12 49.7	-0.8
KELT				*i*S	Sn	03 13 22.7	+2.9
KELT	**Kelkit**	**2.39**	**68**	*i*P	Pn	03 12 49.7	-0.8
KELT				*i*S	Sn	03 13 22.7	+2.8
SVRC	**Sivrice-ELAZID**	**2.47**	**111**	*e*PN	Pn	03 12 52.0	+0.4
SVRC	**Sivrice-ELAZID**	**2.47**	**111**	*e*Pn	Pn	03 12 52.0	+0.4
TOS	**Tosya**	**2.50**	**315**	*e*PN	Pn	03 12 52.4	+0.3
TOS	**Tosya**	**2.50**	**315**	*e*Pn	Pn	03 12 52.4	+0.3
DIKM	**Dikmen**	**2.51**	**341**	*e*PN	Pn	03 12 52.5	+0.3
DIKM	**Dikmen**	**2.51**	**341**	*e*Pn	Pn	03 12 52.5	+0.4
BBAL	**Bala**	**2.52**	**277**	*i*P	Pn	03 12 52.9	+0.5
BBAL				*i*S	Sn	03 13 25.2	+2.1
BBAL	**Bala**	**2.52**	**277**	*i*P	Pn	03 12 52.9	+0.6
BBAL				*i*S	Sn	03 13 25.2	+2.1
AFSR	**Af¯ar-Bala (A**	**2.56**	**275**	*e*PN	Pn	03 12 52.8	-0.1
AFSR	**Af¯ar-Bala (A**	**2.56**	**275**	*e*Pn	Pn	03 12 52.8	0.0
ELDT	**Eldivan**	**2.56**	**299**	*i*P	Pn	03 12 53.5	+0.6
ELDT				*i*S	Sn	03 13 25.3	+1.3
ELDT	**Eldivan**	**2.56**	**299**	*i*P	Pn	03 12 53.5	+0.7
ELDT				*i*S	Sn	03 13 25.3	+1.3
KUZU	**Kuzuini**	**2.57**	**167**	*i*P	Pn	03 12 52.8	-0.2
KUZU				*i*S	Sn	03 13 26.4	+2.1
KUZU	**Kuzuini**	**2.57**	**167**	*i*P	Pn	03 12 52.8	-0.2
KUZU				*i*S	Sn	03 13 26.4	+2.1
ERZN	**Erzincan**	**2.62**	**82**	*e*PN	Pn	03 12 54.4	+0.7
GUMT	**Gumushane**	**2.67**	**63**	*e*PN	Pn	03 12 55.2	+0.9
GUMT	**Gumushane**	**2.67**	**63**	*e*Pn	Pn	03 12 55.2	+0.8
URFA	**Urfa**	**2.67**	**133**	*e*PN	Pn	03 12 54.3	-0.1
URFA	**Urfa**	**2.67**	**133**	*e*Pn	Pn	03 12 54.3	0.0
COBT	**Iskenderun**	**2.76**	**182**	*i*P	Pn	03 12 53.3	-2.3
COBT	**Iskenderun**	**2.76**	**182**	*i*P	Pn	03 12 53.3	-2.3
MERS	**Mersin**	**2.82**	**212**	*e*PN	Pn	03 12 56.2	-0.2
MERS	**Mersin**	**2.82**	**212**	*e*Pn	Pn	03 12 56.2	-0.2
LOD	**Lodumlu**	**2.85**	**283**	*e*PN	Pn	03 12 56.7	-0.1
LOD	**Lodumlu**	**2.85**	**283**	*e*Pn	Pn	03 12 56.7	-0.1
KAST	**KASTAMONU**	**2.88**	**321**	*e*P	Pn	03 12 56.8	-0.5
KAST				*e*S	Sn	03 13 41.1	+9.1
KAST	**KASTAMONU**	**2.88**	**321**	*e*P	Pn	03 12 56.8	-0.5
BAYT	**Ayd¯–ntepe-Bay**	**3.11**	**68**	*e*PN	Pn	03 13 01.4	+1.0
BAYT	**Ayd¯–ntepe-Bay**	**3.11**	**68**	*e*Pn	Pn	03 13 01.5	+1.1
KTUT	**Trabzon**	**3.11**	**56**	*e*PN	Pn	03 13 01.4	+1.0
KTUT	**Trabzon**	**3.11**	**56**	*e*Pn	Pn	03 13 01.4	+0.9
LADK	**Ladik-KONYA**	**3.31**	**252**	*e*PN	Pn	03 13 03.3	+0.1
LADK	**Ladik-KONYA**	**3.31**	**252**	*e*Pn	Pn	03 13 03.3	+0.1
BNGB	**Bing¯¶l**	**3.37**	**94**	*e*PN	Pn	03 13 05.0	+1.0
KONT	**Konya--Tatoy**	**3.41**	**248**	*e*PN	Pn	03 13 04.7	+0.2
KONT	**Konya--Tatoy**	**3.41**	**248**	*e*Pn	Pn	03 13 04.7	+0.2
SAFT	**Safranbolu**	**3.42**	**306**	*e*PN	Pn	03 13 05.2	+0.5
SAFT	**Safranbolu**	**3.42**	**306**	*e*Pn	Pn	03 13 05.2	+0.5
KIZT	**Kizilcal**	**3.51**	**265**	*e*PN	Pn	03 13 06.2	+0.2
KIZT	**Kizilcal**	**3.51**	**265**	*e*Pn	Pn	03 13 06.2	+0.2
SVRH	**Sivrihisar-ESK**	**3.76**	**274**	*e*PN	Pn	03 13 09.8	+0.5
SVRH	**Sivrihisar-ESK**	**3.76**	**274**	*e*Pn	Pn	03 13 09.8	+0.5
HDMB	**Hadim**	**3.84**	**234**	*e*PN	Pn	03 13 10.6	+0.2
HDMB	**Hadim**	**3.84**	**234**	*e*Pn	Pn	03 13 10.6	+0.2
VRTB	**Varto-Mus**	**3.96**	**90**	*e*PN	Pn	03 13 13.4	+1.3
VRTB	**Varto-Mus**	**3.96**	**90**	*e*Pn	Pn	03 13 13.4	+1.4
MDUB	**Mudurnu**	**4.15**	**288**	*e*PN	Pn	03 13 15.3	+0.6
MDUB	**Mudurnu**	**4.15**	**288**	*e*Pn	Pn	03 13 15.3	+0.6
ESKT	**Eskisehir**	**4.28**	**275**	*e*PN	Pn	03 13 17.1	+0.7
ESKT	**Eskisehir**	**4.28**	**275**	*e*Pn	Pn	03 13 17.1	+0.6
GULT	**Gulveren**	**4.64**	**286**	*e*PN	Pn	03 13 22.4	+0.8
GULT	**Gulveren**	**4.64**	**286**	*e*Pn	Pn	03 13 22.4	+0.9

*NEIC **27** 03:27:36.0, 41°94'S×174°42'E, h33km, ML3.6(WEL), After WEL.*

WEL 27 03:27:36.1±0.1, 41°93'S×174°41'E, h33km, ML3.6/27, Error ellipse: s-maj=1.0km s-min=0.8km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.23**	**322**	P*	Pb	03 27 42.4	-0.6
CMWZ				S*	Sb	03 27 49.2	+1.5
CMWZ	**Cape Campbell**	**0.23**	**322**	P*	Pb	03 27 42.4	-0.6
CMWZ				S*	Sb	03 27 49.2	+1.5
BSWZ	**Blackbirch Sta**	**0.45**	**299**	P*	Pb	03 27 45.3	-0.6
BSWZ				S*	Sb	03 27 52.1	-0.6
BSWZ	**Blackbirch Sta**	**0.45**	**299**	P*	Pb	03 27 45.3	-0.6
TUWZ	**Tuamarina**	**0.61**	**325**	P*	Pb	03 27 47.7	-0.7
TUWZ				S*	Sb	03 27 56.3	-0.5
TUWZ	**Tuamarina**	**0.61**	**325**	P*	Pb	03 27 47.7	-0.7
BHW	**Baring Head**	**0.63**	**34**	P*	Pb	03 27 48.6	-0.1
BHW				S*	Sb	03 27 57.9	+0.6
BHW	**Baring Head**	**0.63**	**34**	P*	Pb	03 27 48.6	-0.1
BHW				S*	Sb	03 27 57.9	+0.6
SNZO	**South Karori**	**0.66**	**20**	P*	Pb	03 27 48.8	-0.4
SNZO				S*	Sb	03 27 58.5	+0.3
SNZO	**South Karori**	**0.66**	**20**	P*	Pb	03 27 48.8	-0.4
SNZO				P*	Pb	03 27 48.9	-0.4
WEL	**Wellington**	**0.70**	**23**	P*	Pb	03 27 49.6	-0.3
WEL	**Wellington**	**0.70**	**23**	P*	Pb	03 27 49.6	-0.3
TCW	**Tory Channel**	**0.73**	**352**	P*	Pb	03 27 49.5	-0.8
TCW	**Tory Channel**	**0.73**	**352**	P*	Pb	03 27 49.5	-0.8
PLWZ	**Palliser**	**0.73**	**61**	P*	Pb	03 27 50.1	-0.3
PLWZ	**Palliser**	**0.73**	**61**	P*	Pb	03 27 50.1	-0.3
KHZ	**Kahutara**	**0.81**	**233**	P*	Pb	03 27 51.1	-0.6
KHZ	**Kahutara**	**0.81**	**233**	P*	Pb	03 27 51.1	-0.6
MSWZ	**Moikau Station**	**0.81**	**51**	P*	Pb	03 27 51.2	-0.6
MSWZ	**Moikau Station**	**0.81**	**51**	P*	Pb	03 27 51.2	-0.6
PAWZ	**Paruwai Farm**	**0.94**	**55**	P*	Pb	03 27 52.7	-1.2
PAWZ	**Paruwai Farm**	**0.94**	**55**	P*	Pb	03 27 52.7	-1.2
CAW	**Cannon Point**	**0.96**	**31**	P*	Pb	03 27 53.3	-0.9
CAW	**Cannon Point**	**0.96**	**31**	P*	Pb	03 27 53.3	-0.9
NNZ	**Nelson**	**1.05**	**312**	PN	Pn	03 27 54.2	-0.3
NNZ	**Nelson**	**1.05**	**312**	Pn	Pn	03 27 54.2	-0.3
TRWZ	**Traveller**	**1.10**	**61**	P*	Pb	03 27 54.7	-1.9
TRWZ	**Traveller**	**1.10**	**61**	P*	Pb	03 27 54.7	-1.9
MTW	**Mount Morrison**	**1.13**	**47**	P*	Pb	03 27 55.1	-1.9
MTW	**Mount Morrison**	**1.13**	**47**	P*	Pb	03 27 55.1	-1.9
KIW	**Kapiti Island**	**1.13**	**20**	P*	Pb	03 27 55.8	-1.4
KIW	**Kapiti Island**	**1.13**	**20**	P*	Pb	03 27 55.8	-1.4
THZ	**Tophouse**	**1.14**	**278**	P*	Pb	03 27 55.5	-1.7
THZ	**Tophouse**	**1.14**	**278**	P*	Pb	03 27 55.5	-1.7
DUWZ	**D'Urville Isla**	**1.19**	**342**	P*	Pb	03 27 56.5	-1.5
DUWZ	**D'Urville Isla**	**1.19**	**342**	P*	Pb	03 27 56.5	-1.5
OGWZ	**Otaki Gorge**	**1.25**	**28**	P*	Pb	03 27 57.3	-1.9
OGWZ	**Otaki Gorge**	**1.25**	**28**	P*	Pb	03 27 57.3	-1.9
HOWZ	**Holdsworth Sta**	**1.33**	**39**	PN	Pn	03 27 58.0	-0.3
HOWZ	**Holdsworth Sta**	**1.33**	**39**	Pn	Pn	03 27 58.0	-0.3
TMWZ	**Te Maipa**	**1.39**	**54**	PN	Pn	03 27 58.4	-0.6
TMWZ	**Te Maipa**	**1.39**	**54**	Pn	Pn	03 27 58.4	-0.6
MRZ	**Mangatainoka R**	**1.55**	**35**	PN	Pn	03 28 01.0	-0.3
MRZ	**Mangatainoka R**	**1.55**	**35**	Pn	Pn	03 28 01.0	-0.3
TIWZ	**Tintock**	**1.60**	**44**	PN	Pn	03 28 01.3	-0.8
TIWZ	**Tintock**	**1.60**	**44**	Pn	Pn	03 28 01.3	-0.8
QRZ	**Quartz Range**	**1.79**	**307**	PN	Pn	03 28 05.6	+0.9
QRZ	**Quartz Range**	**1.79**	**307**	Pn	Pn	03 28 05.5	+0.9
LTZ	**Lake Taylor**	**1.80**	**241**	PN	Pn	03 28 04.8	0.0
LTZ	**Lake Taylor**	**1.80**	**241**	Pn	Pn	03 28 04.8	0.0
POWZ	**Post Office Ro**	**1.85**	**34**	PN	Pn	03 28 05.1	-0.4
POWZ	**Post Office Ro**	**1.85**	**34**	Pn	Pn	03 28 05.1	-0.4
BFZ	**Birch Farm**	**1.87**	**49**	PN	Pn	03 28 04.4	-1.2
BFZ	**Birch Farm**	**1.87**	**49**	Pn	Pn	03 28 04.4	-1.2
DSZ	**Denniston Nort**	**1.96**	**275**	PN	Pn	03 28 07.9	+1.0
DSZ	**Denniston Nort**	**1.96**	**275**	Pn	Pn	03 28 07.9	+1.0
DVHZ	**Dannevirke**	**2.10**	**40**	PN	Pn	03 28 07.8	-1.1
DVHZ	**Dannevirke**	**2.10**	**40**	Pn	Pn	03 28 07.8	-1.1
MQZ	**McQueen's Vall**	**2.19**	**215**	PN	Pn	03 28 08.9	-1.3
MQZ	**McQueen's Vall**	**2.19**	**215**	Pn	Pn	03 28 08.9	-1.3
TSZ	**Takapari Road**	**2.21**	**33**	PN	Pn	03 28 09.8	-0.6
TSZ	**Takapari Road**	**2.21**	**33**	Pn	Pn	03 28 09.8	-0.6
WAZ	**Wanganui**	**2.22**	**12**	PN	Pn	03 28 12.4	+1.9
WAZ	**Wanganui**	**2.22**	**12**	Pn	Pn	03 28 12.4	+1.9
WPHZ	**Waipukurau**	**2.42**	**40**	Pn	Pn	03 28 12.4	-0.9
PNHZ	**Pukenui**	**2.43**	**35**	PN	Pn	03 28 12.6	-0.9
PNHZ	**Pukenui**	**2.43**	**35**	Pn	Pn	03 28 12.6	-0.9
PXZ	**Pawanui**	**2.66**	**45**	PN	Pn	03 28 14.7	-1.9
PXZ	**Pawanui**	**2.66**	**45**	Pn	Pn	03 28 14.7	-1.9
MTVZ	**Mangateitei**	**2.67**	**18**	PN	Pn	03 28 17.8	+1.0
MTVZ	**Mangateitei**	**2.67**	**18**	Pn	Pn	03 28 17.8	+1.0
MOVZ	**Moawhango**	**2.72**	**23**	Pn	Pn	03 28 17.5	+0.1
PKVZ	**Pokaka**	**2.73**	**15**	PN	Pn	03 28 18.8	+1.2
PKVZ	**Pokaka**	**2.73**	**15**	Pn	Pn	03 28 18.8	+1.2
BHHZ	**Black Hill Sta**	**2.75**	**28**	PN	Pn	03 28 16.2	-1.6
BHHZ	**Black Hill Sta**	**2.75**	**28**	Pn	Pn	03 28 16.2	-1.6
WNVZ	**Wahianoa**	**2.75**	**20**	PN	Pn	03 28 18.8	+0.9
WNVZ	**Wahianoa**	**2.75**	**20**	Pn	Pn	03 28 18.8	+0.9
VRZ	**Vera Road**	**2.82**	**6**	PN	Pn	03 28 20.5	+1.7
VRZ	**Vera Road**	**2.82**	**6**	Pn	Pn	03 28 20.5	+1.7
**T

PUZ	**Puketiti**	**4.93**	**201**	PN	**Pn**	**03 52 41.4**	**-0.1**
PUZ				SN	**Sn**	**03 53 36.2**	**-1.0**
CNGZ	**Carnagh Statio**	**5.33**	**200**	PN	**Pn**	**03 52 46.5**	**-0.4**
MWZ	**Matawai**	**5.41**	**206**	PN	**Pn**	**03 52 47.7**	**-0.3**
MWZ				*e*SN	**Sn**	**03 53 49.8**	**+0.8**
URZ	**Urewera**	**5.51**	**209**	Pn	**Pn**	**03 52 48.7**	**-0.6**
3.1nm,0.3s,baz=37,slow=17,SNR=22							
URZ				Sn	**Sn**	**03 53 51.2**	**-0.2**
5.5nm,0.3s,baz=43,slow=19,SNR=10							
URZ	**Urewera**	**5.51**	**209**	PN	**Pn**	**03 52 49.4**	**+0.1**
URZ				*e*SN	**Sn**	**03 53 50.1**	**-1.2**
ASAR	**Alice Springs**	**41.78**	**271**	P	**P**	**03 59 15.2**	**-0.1**
0.4nm,0.8s,mb3.1,baz=112,slow=7.6,SNR=5.1							
WRA	**Warramunga Arr**	**43.06**	**276**	P	**P**	**03 59 25.9**	**+0.2**
0.3nm,0.5s,mb3.3,baz=117,slow=7.8,SNR=15							
FINES	**FINESS Array B**	**147.55**	**337**	PKPbc	PKPbc	04 11 06.0	-2.6
2.3nm,0.9s,baz=20,slow=4.4,SNR=3.4							

IDC 27 04:27:43.1±2.2, 16°.48S×178°.78W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=124.4km s-min=24.3km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.03**	**240**	P	P	04 35 12.0	+0.3
1.3nm,0.4s,baz=84,slow=8.5,SNR=9.2							
WRA	**Warramunga Arr**	**44.56**	**258**	P	P	04 35 57.0	-0.2
0.5nm,0.4s,baz=96,slow=7.0,SNR=23							
ASAR	**Alice Springs**	**44.86**	**253**	P	P	04 35 59.3	-0.2
9.2nm,0.5s,baz=89,slow=8.1,SNR=265							
NVAR	**Mina Array Bea**	**78.64**	**44**	P	P	04 39 48.3	+1.2
0.3nm,0.6s,baz=236,slow=9.7,SNR=3.7							
ILAR	**Eielson Array**	**84.58**	**13**	P	P	04 40 17.1	-0.8
0.1nm,0.4s,baz=225,slow=5.2,SNR=7.1							

IDC 27 04:34:39.3±2.2, 6°.14S×129°.43E, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.6/15, mbtmp3.8/3, ML3.9/2, Error ellipse: s-maj=155.8km s-min=29.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.53**	**161**	Pn	Pn	04 38 05.7	-0.6
0.5nm,0.3s,baz=343,slow=13,SNR=25							
WRA				Sn	Sn	04 40 35.5	-13
1.0nm,0.3s,baz=339,slow=24,SNR=12							
ASAR	**Alice Springs**	**17.95**	**167**	P	Pn	04 38 51.0	+0.5
0.5nm,0.3s,baz=350,slow=9.7,SNR=40							
ASAR				S	Sn	04 42 01.1	-10
0.3nm,0.3s,baz=357,slow=28,SNR=7.5							
MKAR	**Makanchi Array**	**67.20**	**327**	P	P	04 45 35.4	+0.1
0.8nm,0.5s,baz=116,slow=7.8,SNR=16							

*NNC **27** 04:40:12.3±4.3, 37°.79N×70°.88E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=32.8km s-min=29.2km az=15.0*

ISC 27 04:40:11.1±2.8, 37°.6N±0°.2×70°.9E±0°.1, h10km, n8, σ0°92/11, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.00**	**25**	P	**Pn**	**04 41 26.8**	**+0.7**
AML				P		04 41 26.8	
SNR=21							
KK31	**Karatay Array**	**5.49**	**357**	Pn	**Pn**	**04 41 36.3**	**+3.3**
5.9nm,0.3s,baz=177,slow=13,SNR=203							
KK31				Sn	**Sn**	**04 42 41.6**	**+5.4**
2.1nm,0.3s,baz=181,slow=26,SNR=7.4							
EKS2	**Erkin-Say**	**5.50**	**23**	P	**Pn**	**04 41 33.9**	**+0.8**
SNR=20							
EKS2				P		04 41 33.9	
SNR=20							
KZA	**Kyzart**	**5.57**	**35**	P	**Pn**	**04 41 32.7**	**-1.3**
SNR=5.8							
KZA				P		04 41 32.7	
SNR=5.8							
AAK	**Ala-Archa**	**5.72**	**28**	P	**Pn**	**04 41 35.9**	**-0.1**
SNR=8.1							
AAK				P		04 41 35.9	
SNR=8.1							
TKM2	**Tokmak 2**	**6.40**	**33**	P	**Pn**	**04 41 44.4**	**-0.9**
SNR=6.8							
TKM2				P		04 41 44.4	
SNR=6.8							
TKM2	**Tokmak 2**	**6.40**	**33**	⇓Pn	**Pn**	**04 41 44.5**	**-0.9**
2.9nm,0.6s							
TKM2				⇑Sn	**Sn**	**04 42 58.7**	**+0.3**
2.5nm,0.6s							
AB31	**Akbulak array**	**14.09**	**329**	Pn	**Pn**	**04 43 30.9**	**+0.3**
0.2nm,0.3s,baz=159,slow=10,SNR=13							
AB31				⇑Sn	**Sn**	**04 46 06.1**	**-0.7**
1.6nm,0.7s,baz=152,slow=24,SNR=6.8							

*NEIC **27** 04:52:17.2, 16°.41N×96°.10W, h70km, MD3.8(MEX), After MEX.*

MEX 27 04:52:17.2±0.6, 16°.40N×96°.11W, h71km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.63**	**180**	*i* P	Pn	04 52 30.3	-1.1
HUIG				*i* S	Sn	04 52 40.2	-1.6
HUIG	**Huatulco**	**0.63**	**180**	*i* P	Pn	04 52 30.3	-1.1
HUIG				*i* S	Sn	04 52 40.0	-1.8
OXX	**Oaxaca**	**0.90**	**319**	*i* P	Pn	04 52 34.0	-0.4
OXX				*e*S	Sn	04 52 45.4	-1.8
OXX	**Oaxaca**	**0.90**	**319**	*i* P	Pn	04 52 34.0	-0.4
OXX				*e*S	Sn	04 52 45.4	-1.8
VHO	**Vista Hermosa**	**0.90**	**318**	*i* P	Pn	04 52 33.5	-0.9
VHO				*e*S	Sn	04 52 45.7	-1.5
VHO	**Vista Hermosa**	**0.90**	**318**	*i* P	Pn	04 52 33.5	-0.9
VHO				*e*S	Sn	04 52 45.7	-1.5
CMIG	**Matias Romero**	**1.36**	**60**	*i* P	Pn	04 52 39.1	-1.2
CMIG				*e*S	Sn	04 52 55.1	-2.5
CMIG	**Matias Romero**	**1.36**	**60**	*i* P	Pn	04 52 39.1	-1.2
CMIG				*e*S	Sn	04 52 55.1	-2.5
PNIG	**Pinotepa**	**1.94**	**270**	*i* P	Pn	04 52 46.4	-1.6
PNIG				*i* S	Sn	04 53 09.2	-2.3
PNIG	**Pinotepa**	**1.94**	**270**	*i* P	Pn	04 52 46.4	-1.6
PNIG				*i* S	Sn	04 53 09.2	-2.3
UTMO	**Huajuapan**	**2.15**	**311**	*i* P	Pn	04 52 49.9	-1.0
UTMO				*i* S	Sn	04 53 15.0	-1.7
UTMO	**Huajuapan**	**2.15**	**311**	*i* P	Pn	04 52 49.9	-1.0
UTMO				*i* S	Sn	04 53 15.0	-1.7
PCIG		**2.86**	**104**	*i* P	Pn	04 52 58.4	-2.1
PCIG				*i* S	Sn	04 53 32.8	-1.2
PCIG		**2.86**	**104**	*i* P	Pn	04 52 58.4	-2.1
PCIG				*i* S	Sn	04 53 32.8	-1.2
TGIG		**2.89**	**82**	*i* P	Pn	04 52 59.2	-1.6
TGIG				*i* S	Sn	04 53 32.9	-1.6
TGIG		**2.89**	**82**	*i* P	Pn	04 52 59.2	-1.6
TGIG				*i* S	Sn	04 53 32.9	-1.6

*NEIC **27** 05:24:31.4, 38°.36S×175°.72E, h193km, MG3.9(WEL), After WEL.*

WEL 27 05:24:32.9±0.3, 38°.40S×175°.76E, h180km±2km, ML3.9/18, Error ellipse: s-maj=2.6km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	**Mount Tarawera**	**0.61**	**75**	PN	Pn	05 24 58.8	+0.7
TARZ				SN	Sn	05 25 16.9	-0.5
TARZ	**Mount Tarawera**	**0.61**	**75**	Pn	Pn	05 24 58.9	+0.7
KRVZ	**Karewarewa**	**0.70**	**187**	PN	Pn	05 24 58.8	+0.2
KRVZ				SN	Sn	05 25 18.9	+0.4
KRVZ	**Karewarewa**	**0.70**	**187**	Pn	Pn	05 24 58.8	+0.2
TWVZ	**Taurewa**	**0.72**	**200**	PN	Pn	05 24 58.8	+0.1
TWVZ				SN	Sn	05 25 18.6	0.0
TWVZ	**Taurewa**	**0.72**	**200**	Pn	Pn	05 24 58.8	+0.1
WTVZ	**West Tongariro**	**0.73**	**190**	PN	Pn	05 24 58.9	+0.2
WTVZ				SN	Sn	05 25 18.5	-0.3
WTVZ	**West Tongariro**	**0.73**	**190**	Pn	Pn	05 24 59.0	+0.2
OTVZ	**Oturere**	**0.77**	**185**	PN	Pn	05 24 59.3	+0.3
OTVZ				SN	Sn	05 25 18.9	-0.3
OTVZ	**Oturere**	**0.77**	**185**	Pn	Pn	05 24 59.3	+0.3
NGZ	**Ngauruhoe**	**0.79**	**189**	PN	Pn	05 24 59.3	+0.2
NGZ				SN	Sn	05 25 19.4	0.0
NGZ	**Ngauruhoe**	**0.79**	**189**	Pn	Pn	05 24 59.3	+0.2
WPVZ	**Whakapapa**	**0.82**	**192**	PN	Pn	05 24 59.4	+0.1
WPVZ	**Whakapapa**	**0.82**	**192**	Pn	Pn	05 24 59.4	+0.1
FWVZ	**Far West T-bar**	**0.87**	**191**	PN	Pn	05 24 59.9	+0.3
FWVZ	**Far West T-bar**	**0.87**	**191**	Pn	Pn	05 24 59.9	+0.3
TUVZ	**Tukino**	**0.88**	**185**	PN	Pn	05 24 59.9	+0.3
TUVZ				SN	Sn	05 25 19.7	-0.7
TUVZ	**Tukino**	**0.88**	**185**	Pn	Pn	05 24 59.9	+0.3
TRVZ	**Turoa**	**0.92**	**190**	PN	Pn	05 25 00.3	+0.4
TRVZ	**Turoa**	**0.92**	**190**	Pn	Pn	05 25 00.3	+0.4
WNVZ	**Wahianoa**	**0.94**	**188**	PN	Pn	05 25 00.3	+0.2
WNVZ	**Wahianoa**	**0.94**	**188**	Pn	Pn	05 25 00.3	+0.2
PKVZ	**Pokaka**	**0.95**	**200**	PN	Pn	05 25 00.2	+0.1
PKVZ	**Pokaka**	**0.95**	**200**	Pn	Pn	05 25 00.2	+0.1
BKZ	**Black Stump Fm**	**0.96**	**144**	PN	Pn	05 25 00.2	0.0
BKZ	**Black Stump Fm**	**0.96**	**144**	Pn	Pn	05 25 00.2	0.0
MOVZ	**Moawhango**	**1.01**	**180**	PN	Pn	05 25 00.4	-0.2
MOVZ	**Moawhango**	**1.01**	**180**	Pn	Pn	05 25 00.4	-0.2
MTVZ	**Mangateitei**	**1.01**	**193**	PN	Pn	05 25 00.6	0.0
MTVZ	**Mangateitei**	**1.01**	**193**	Pn	Pn	05 25 00.6	0.0
URZ	**Urewera**	**1.07**	**83**	PN	Pn	05 25 00.6	-0.5
URZ	**Urewera**	**1.07**	**83**	Pn	Pn	05 25 00.6	-0.5
NMHZ	**Naumai**	**1.08**	**131**	PN	Pn	05 25 01.9	+0.8
NMHZ	**Naumai**	**1.08**	**131**	Pn	Pn	05 25 01.9	+0.8
BHHZ	**Black Hill Sta**	**1.12**	**168**	PN	Pn	05 25 01.2	-0.2
BHHZ	**Black Hill Sta**	**1.12**	**168**	Pn	Pn	05 25 01.2	-0.2
RAHZ	**Arahi**	**1.16**	**117**	PN	Pn	05 25 02.2	+0.4
RAHZ				SN	Sn	05 25 23.8	-0.2
RAHZ	**Arahi**	**1.16**	**117**	Pn	Pn	05 25 02.2	+0.4
RAHZ				Sn	Sn	05 25 23.8	-0.2
MCHZ	**McNeill Hill**	**1.28**	**145**	PN	Pn	05 25 03.4	+0.7
MCHZ	**McNeill Hill**	**1.28**	**145**	Pn	Pn	05 25 03.4	+0.7
MWZ	**Matawai**	**1.39**	**88**	PN	Pn	05 25 03.5	-0.2
MWZ	**Matawai**	**1.39**	**88**	Pn	Pn	05 25 03.5	-0.2
WAZ	**Wanganui**	**1.48**	**204**	PN	Pn	05 25 04.4	-0.3
WAZ	**Wanganui**	**1.48**	**204**	Pn	Pn	05 25 04.4	-0.2
PNHZ	**Pukenui**	**1.55**	**167**	PN	Pn	05 25 05.0	-0.2
PNHZ	**Pukenui**	**1.55**	**167**	Pn	Pn	05 25 05.0	-0.2
PKE	**Pukeiti**	**1.60**	**240**	PN	Pn	05 25 05.9	+0.2
PKE	**Pukeiti**	**1.60**	**240**	Pn	Pn	05 25 05.9	+0.2
KNZ	**Kokohu**	**1.62**	**113**	PN	Pn	05 25 05.8	-0.2
KNZ	**Kokohu**	**1.62**	**113**	Pn	Pn	05 25 05.8	-0.2
CKHZ	**Cape Kidnapper**	**1.63**	**141**	PN	Pn	05 25 06.2	+0.3
CKHZ	**Cape Kidnapper**	**1.63**	**141**	Pn	Pn	05 25 06.2	+0.3
KAHZ	**Kahuranaki**	**1.65**	**148**	PN	Pn	05 25 06.4	+0.2
KAHZ	**Kahuranaki**	**1.65**	**148**	Pn	Pn	05 25 06.4	+0.2
TSZ	**Takapari Road**	**1.67**	**175**	PN	Pn	05 25 06.0	-0.4
TSZ	**Takapari Road**	**1.67**	**175**	Pn	Pn	05 25 06.0	-0.4
PRGZ	**Paritu Road**	**1.74**	**108**	PN	Pn	05 25 07.1	0.0
PRGZ	**Paritu Road**	**1.74**	**108**	Pn	Pn	05 25 07.1	0.0
WPHZ	**Waipukurau**	**1.75**	**163**	PN	Pn	05 25 06.9	-0.3
WPHZ	**Waipukurau**	**1.75**	**163**	Pn	Pn	05 25 06.9	-0.3
MHGZ	**Mahia Peninsul**	**1.84**	**115**	PN	Pn	05 25 08.3	+0.2
MHGZ	**Mahia Peninsul**	**1.84**	**115**	Pn	Pn	05 25 08.3	+0.2
PXZ	**Pawanui**	**1.84**	**153**	PN	Pn	05 25 07.8	-0.4
PXZ	**Pawanui**	**1.84**	**153**	Pn	Pn	05 25 07.8	-0.4
CNGZ	**Carnagh Statio**	**1.92**	**93**	PN	Pn	05 25 09.4	+0.4
CNGZ	**Carnagh Statio**	**1.92**	**93**	Pn	Pn	05 25 09.4	+0.4
DVHZ	**Dannevirke**	**1.93**	**171**	PN	Pn	05 25 08.2	-0.9
DVHZ	**Dannevirke**	**1.93**	**171**	Pn	Pn	05 25 08.2	-0.9
POWZ	**Post Office Ro**	**1.99**	**180**	PN	Pn	05 25 08.7	-1.0
POWZ	**Post Office Ro**	**1.99**	**180**	Pn	Pn	05 25 08.7	-1.0
PUZ	**Puketiti**	**1.99**	**81**	PN	Pn	05 25 09.2	-0.7
PUZ	**Puketiti**	**1.99**	**81**	Pn	Pn	05 25 09.2	-0.7
MXZ	**Matakaoa Point**	**2.18**	**68**	PN	Pn	05 25 11.6	-0.2
MXZ	**Matakaoa Point**	**2.18**	**68**	Pn	Pn	05 25 11.6	-0.2
MRZ	**Mangatainoka R**	**2.27**	**183**	PN	Pn	05 25 11.3	-1.5
MRZ	**Mangatainoka R**	**2.27**	**183**	Pn	Pn	05 25 11.3	-1.5
BFZ	**Birch Farm**	**2.31**	**171**	PN	Pn	05 25 12.0	-1.3
BFZ	**Birch Farm**	**2.31**	**171**	Pn	Pn	05 25 12.0	-1.3
OGWZ	**Otaki Gorge**	**2.46**	**190**	PN	Pn	05 25 13.7	-1.4
OGWZ	**Otaki Gorge**	**2.46**	**190**	Pn	Pn	05 25 13.7	-1.4
HOWZ	**Holdsworth Sta**	**2.51**	**184**	PN	Pn	05 25 13.7	-1.8
HOWZ	**Holdsworth Sta**	**2.51**	**184**	Pn	Pn	05 25 13.7	-1.8
KIW	**Kapiti Island**	**2.55**	**195**	PN	Pn	05 25 14.2	-1.9
KIW	**Kapiti Island**	**2.55**	**195**	Pn	Pn	05 25 14.2	-1.9
TMWZ	**Te Maipa**	**2.71**	**178**	PN	Pn	05 25 16.0	-1.9
TMWZ	**Te Maipa**	**2.71**	**178**	Pn	Pn	05 25 16.1	-1.9
CAW	**Cannon Point**	**2.76**	**191**	PN	Pn	05 25 16.6	-1.9
CAW	**Cannon Point**	**2.76**	**191**	Pn	Pn	05 25 16.6	-1.9
MTW	**Mount Morrison**	**2.77**	**184**	PN	Pn	05 25 16.4	-2.2
MTW	**Mount Morrison**	**2.77**	**184**	Pn	Pn	05 25 16.4	-2.2
DUWZ	**D'Urville Isla**	**2.79**	**210**	PN	Pn	05 25 16.9	-2.1
DUWZ	**D'Urville Isla**	**2.79**	**210**	Pn	Pn	05 25 16.9	-2.1
WEL	**Wellington**	**2.98**	**194**	PN	Pn	05 25 18.9	-2.3
WEL	**Wellington**	**2.98**	**194**	Pn	Pn	05 25 18.9	-2.3
PAWZ	**Paruwai Farm**	**2.99**	**185**	PN	Pn	05 25 19.0	-2.3
PAWZ	**Paruwai Farm**	**2.99**	**185**	Pn	Pn	05 25 19.0	-2.3
TRWZ	**Traveller**	**3.00**	**181**	PN	Pn	05 25 19.2	-2.2
TRWZ	**Traveller**	**3.00**	**181**	Pn	Pn	05 25 19.2	-2.2
SNZO	**South Karori**	**3.02**	**195**	PN	Pn	05 25 19.3	-2.4
SNZO	**South Karori**	**3.02**	**195**	Pn	Pn	05 25 19.2	-2.4
TCW	**Tory Channel**	**3.04**	**202**	PN	Pn	05 25 19.7	-2.2
TCW	**Tory Channel**	**3.04**	**202**	Pn	Pn	05 25 19.7	-2.2
MSWZ	**Moikau Station**	**3.04**	**187**	PN	Pn	05 25 19.4	-2.5
MSWZ	**Moikau Station**	**3.04**	**187**	Pn	Pn	05 25 19.4	-2.5
BHW	**Baring Head**	**3.08**	**193**	PN	Pn	05 25 20.0	-2.5
BHW	**Baring Head**	**3.08**	**193**	Pn	Pn	05 25 20.0	-2.5
PLWZ	**Palliser**	**3.19**	**187**	PN	Pn	05 25 21.1	-2.7
PLWZ	**Palliser**	**3.19**	**187**	Pn	Pn	05 25 21.1	-2.7
TUWZ	**Tuamarina**	**3.34**	**204**	PN	Pn	05 25 22.9	-2.6
TUWZ	**Tuamarina**	**3.34**	**204**	Pn	Pn	05 25 22.9	-2.6
NNZ	**Nelson**	**3.36**	**212**	PN	Pn	05 25 23.1	-2.8
NNZ	**Nelson**	**3.36**	**212**	Pn	Pn	05 25 23.1	-2.8
QRZ	**Quartz Range**	**3.48**	**225**	PN	Pn	05 25 24.0	-3.3
QRZ	**Quartz Range**	**3.48**	**225**	Pn	Pn	05 25 24.0	-3.3
BSWZ	**Blackbirch Sta**	**3.62**	**203**	PN	Pn	05 25 26.5	-2.5
BSWZ	**Blackbirch Sta**	**3.62**	**203**	Pn	Pn	05 25 26.5	-2.5
THZ	**Tophouse**	**4.01**	**212**	PN	Pn	05 25 30.9	-3.1
THZ	**Tophouse**	**4.01**	**212**	Pn	Pn	05 25 30.9	-3.1
KHZ	**Kahutara**	**4.36**	**202**	PN	Pn	05 25 35.6	-2.8
KHZ	**Kahutara**	**4.36**	**202**	Pn	Pn	05 25 35.6	-2.8
LTZ	**Lake Taylor**	**5.12**	**210**	PN	Pn	05 25 44.8	-3.5
LTZ	**Lake Taylor**	**5.12**	**210**	Pn	Pn	05 25 44.8	-3.5
MQZ	**McQueen's Vall**	**5.80**	**203**	PN	Pn	05 25 52.3	-4.8
WVZ	**Waitaha Valley**	**6.03**	**218**	PN	Pn	05 25 56.6	-3.5
RPZ	**Rata Peaks**	**6.39**	**212**	PN	Pn	05 26 00.9	-3.9
FOZ	**Fox Glacier**	**6.91**	**220**	PN	Pn	05 26 06.6	-5.0
LBZ	**Lake Benmore**	**7.30**	**213**	PN	Pn	05 26 11.7	-5.2
ODZ	**Otahua Downs**	**7.66**	**208**	PN	Pn	05 26 17.8	-3.8
JCZ	**Jackson Bay**	**7.74**	**221**	PN	Pn	05 26 18.6	-4.0
EAZ	**Earnscleugh**	**8.36**	**213**	PN	Pn	05 26 25.7	-5.0
TUZ	**Tuapeka**	**8.81**	**209**	PN	Pn	05 26 33.0	-3.7

*ISK **27** 05:26:58.9, 39°.48N×33°.05E, h3km, MD2.8*
*CSEM **27** 05:26:59.7±0.2, 39°.48N×33°.03E, h4km±2km, MD2.8, Error ellipse: s-maj=5.5km s-min=4.5km az=166.0*
*ISCJB **27** 05:27:00.2±0.5, 39°.48N±0°.03×33°.04E±0°.04, h10km, Error ellipse: s-maj=4.3km s-min=4.0km az=162.7*
*DDA **27** 05:27:00.1, 39°.43N×33°.08E, h7km±1km, Md2.9*

ISC 27 05:27:00.4±0.5, 39°.45N±0°.03×33°.04E±0°.04, h2km±5km, n26, σ0°80/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Afşar-Bala (A**	**0.03**	**102**	*e*PG	**Pg**	**05 26 59.7**	**-1.4**
AFSR				*e*SG	**Sg**	**05 27 01.2**	**-0.3**
AFSR	**Afşar-Bala (A**	**0.03**	**102**	*e*Pg	**Pg**	**05 26 59.7**	**-1.3**
AFSR				*e*Sg	**Sg**	**05 27 01.2**	**-0.3**
BBAL	**Bala**	**0.11**	**37**	*i* P	**Pg**	**05 27 02.9**	**+0.4**
BBAL				*i* S	**Sg**	**05 27 05.0**	**+0.9**
BBAL	**Bala**	**0.11**	**37**	*i* P	**Pg**	**05 27 02.9**	**+0.3**
BBAL				*i* S	**Sg**	**05 27 05.0**	**+0.9**
LOD	**Lodumlu**	**0.48**	**334**	*e*PG	**Pg**	**05 27 08.7**	**-0.9**
LOD				*e*SG	**Sg**	**05 27 16.1**	**+0.1**
LOD	**Lodumlu**	**0.48**	**334**	*e*Pg	**Pg**	**05 27 08.7**	**-0.9**
LOD				*e*Sg	**Sg**	**05 27 16.1**	**+0.2**
KAMT	**Kaman**	**0.53**	**99**	*e*PG	**Pg**	**05 27 10.0**	**-0.6**
KAMT				*e*SG	**Sg**	**05 27 17.9**	**+0.5**
KAMT	**Kaman**	**0.53**	**99**	*e*Pg	**Pg**	**05 27 10.0**	**-0.5**
KAMT				*e*Sg	**Sg**	**05 27 17.9**	**+0.5**
CDAG	**Cicekdag**	**1.05**	**80**	*i* P	**Pg**	**05 27 19.6**	**-0.8**
CDAG				*i* S	**Sg**	**05 27 34.4**	**+0.4**
CDAG	**Cicekdag**	**1.05**	**80**	*i* P	**Pg**	**05 27 19.6**	**-0.8**
CDAG				*i* S	**Sg**	**05 27 34.4**	**+0.4**
KIZT	**Kizilcal**	**1.06**	**238**	*e*PN	**Pg**	**05 27 20.4**	**-0.3**
KIZT	**Kizilcal**	**1.06**	**238**	*e*Pn	**Pg**	**05 27 20.4**	**-0.4**
ELDT	**Eldivan**	**1.08**	**16**	*i* P	**Pg**	**05 27 20.7**	**-0.3**
ELDT				*i* S	**Sg**	**05 27 36.6**	**+1.5**
ELDT	**Eldivan**	**1.08**	**16**	*i* P	**Pg**	**05 27 20.7**	**-0.3**
ELDT				*i* S	**Sg**	**05 27 36.6**	**+1.6**
SVRH	**Sivrihisar-ESK**	**1.17**	**270**	*e*PN	**Pn**	**05 27 22.4**	**-1.3**
SVRH	**Sivrihisar-ESK**	**1.17**	**270**	*e*Pn	**Pn**	**05 27 22.4**	**-1.3**
KDHN	**Kadinhani**	**1.17**	**218**	*i* P	**Pg**	**05 27 23.6**	**+0.8**
KDHN				*i* S	**Sg**	**05 27 39.5**	**+1.4**
KDHN	**Kadinhani**	**1.17**	**218**	*i* P	**Pg**	**05 27 23.6**	**+0.8**
KDHN				*i* S	**Sg**	**05 27 39.5**	**+1.4**
CORM	**Corum**	**1.43**	**59**	*e*PN	**Pn**	**05 27 26.1**	**-1.1**
CORM	**Corum**	**1.43**	**59**	*e*Pn	**Pn**	**05 27 26.1**	**-1.1**
AVNT	**Avonos**	**1.57**	**115**	*i* P	**Pn**	**05 27 29.7**	**+0.6**
AVNT				*i* S	**Sn**	**05 27 50.3**	**+0.4**
AVNT	**Avonos**	**1.57**	**115**	*i* P	**Pn**	**05 27 29.7**	**+0.6**
AVNT				*i* S	**Sn**	**05 27 50.3**	**+0.3**
KONT	**Konya--Tatoy**	**1.59**	**200**	*e*PN	**Pn**	**05 27 29.7**	**+0.2**
KONT	**Konya--Tatoy**	**1.59**	**200**	*e*Pn	**Pn**	**05 27 29.7**	**+0.2**
YOZ	**Yozgat**	**1.78**	**83**	*e*PN	**Pn**	**05 27 31.9**	**-0.1**
YOZ	**Yozgat**	**1.78**	**83**	*e*Pn	**Pn**	**05 27 31.9**	**-0.1**

*ISCJB **27** 05:45:47.7±0.9, 14°.5S±0°.2×71°.43W±0°.09, h120km±13km, mb3.6/4, Error ellipse: s-maj=33.4km s-min=8.2km az=22.6*
*IDC **27** 05:45:48.3±1.6, 14°.14S×71°.22W, h97km±32km, mb3.5/3, mb1 3.5/6, mb1mx3.4/17, mbtmp3.4/6, Error ellipse: s-maj=87.9km s-min=10.9km az=27.0*
*NEIC **27** 05:45:48.2±1.3, 14°.67S×71°.39W, h113km±12km, mb4.4/3, Error ellipse: s-maj=32.4km s-min=13.2km az=199.0*

ISC 27 05:45:49.0±0.8, 14°.5S±0°.2×71°.41W±0°.09, h116km±12km, n16, σ1°25/18, mb3.6/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.63**	**120**	P	**Pn**	**05 46 43.3**	**-0.2**
1.3nm,0.3s,baz=298,slow=9.7,SNR=12							
LPAZ				S	**Sn**	**05 47 27.1**	**+1.4**
1.8nm,0.3s,baz=195,slow=22,SNR=12							
LPAZ	**La Paz**	**3.63**	**120**	*e*Pn	**Pn**	**05 46 42.7**	**-0.8**
LPAZ				*e*Sn	**Sn**	**05 47 27.2**	**+1.5**
NNA	**Nana**	**5.85**	**295**	P	**Pn**	**05 47 12.8**	**-0.5**
3.1nm,0.3s,baz=136,slow=13,SNR=8.7							
NNA				S	**Sn**	**05 48 19.6**	**+0.5**
6.7nm,0.3s,baz=30,slow=24,SNR=10							
NNA	**Nana**	**5.85**	**295**	*e*Pn	**Pn**	**05 47 13.2**	**-0.1**
9.1nm,0.2s							
NNA				*e*Sn	**Sn**	**05 48 18.6**	**-0.5**
SAML	**Samuel**	**9.76**	**56**	*e*Pn	**Pn**	**05 48 07.1**	**+0.6**
4.2nm,0.6s							
SIV	**San Ignacio**	**10.09**	**100**	P	**Pn**	**05 48 08.7**	**-2.1**
0.3nm,0.3s,baz=287,slow=12,SNR=8.0							
SIV	**San Ignacio**	**10.09**	**100**	P	**Pn**	**05 48 08.7**	**-2.1**
SDCO	**Great Sand Dun**	**61.04**	**329**	*e*P	**P**	**05 55 53.3**	**+2.9**
0.6nm,0.5s,mb3.9							
ULM	**Lac du Bonnet**	**67.96**	**343**	P	**P**	**05 56 34.2**	**-1.0**
0.8nm,0.4s,mb3.9,baz=148,slow=4.2,SNR=2.6							
**

*DDA **27** 06:03:21.6, 40.′16N×31.′66E, h7km±6km, Md3.0*
*ISCJB **27** 06:03:22.2±0.7, 40.′14N±0.′04×31.′66E±0.′04, h6km±7km, Error ellipse: s-maj=6.0km s-min=5.2km az=13.4*
*ISK **27** 06:03:22.3, 40.′13N×31.′66E, h9km, MD2.8*
*CSEM **27** 06:03:22.2±0.2, 40.′14N×31.′67E, h2km, MD2.8, Error ellipse: s-maj=5.8km s-min=5.0km az=27.0*

ISC 27 06:03:22.5±0.8, 40.′15N±0.′04×31.′69E±0.′05, h5km±9km, n30, σ0.93/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDUB	**Mudurnu**	**0.49**	**311**	*e*PG	**Pg**	**06 03 31.4**	**-0.6**
MDUB				*e*SG	**Sg**	**06 03 39.9**	**+1.4**
MDUB	**Mudurnu**	**0.49**	**311**	*e*Pg	**Pg**	**06 03 31.4**	**-0.6**
MDUB				*e*Sg	**Sg**	**06 03 39.9**	**+1.4**
SVRH	**Sivrihisar-ESK**	**0.71**	**190**	*e*PG	**Pg**	**06 03 35.3**	**-0.8**
SVRH	**Sivrihisar-ESK**	**0.71**	**190**	*e*Pg	**Pg**	**06 03 35.3**	**-0.8**
LOD	**Lodumlu**	**0.87**	**107**	*e*PG	**Pg**	**06 03 40.1**	**+1.0**
LOD	**Lodumlu**	**0.87**	**107**	*e*Pg	**Pg**	**06 03 40.1**	**+1.0**
ESKT	**Eskisehir**	**0.90**	**226**	*e*PG	**Pg**	**06 03 39.9**	**+0.2**
ESKT	**Eskisehir**	**0.90**	**226**	*i* P	**Pg**	**06 03 38.1**	**-1.6**
ESKT				*i* S	**Sg**	**06 03 51.2**	**-0.1**
ESKT	**Eskisehir**	**0.90**	**226**	*e*Pg	**Pg**	**06 03 39.9**	**+0.2**
SEYT	**Eskypehyr**	**0.90**	**226**	*i* P	**Pg**	**06 03 38.1**	**-1.6**
SEYT				*i* S	**Sg**	**06 03 51.2**	**-0.1**
HENT	**Hendek**	**0.90**	**319**	*e*P	**Pg**	**06 03 40.0**	**+0.2**
HENT				*i* S	**Sg**	**06 03 50.7**	**-0.9**
HENT	**Hendek**	**0.90**	**319**	*e*P	**Pg**	**06 03 40.0**	**+0.2**
HENT				*i* S	**Sg**	**06 03 50.7**	**-0.9**
GULT	**Gulveren**	**0.94**	**288**	*e*PG	**Pg**	**06 03 40.9**	**+0.4**
GULT	**Gulveren**	**0.94**	**288**	*e*Pg	**Pg**	**06 03 40.9**	**+0.4**
BORA	**Eskisehir**	**0.98**	**255**	*i* P	**Pg**	**06 03 40.3**	**-1.1**
BORA				*i* S	**Sg**	**06 03 57.3**	**+3.2**
BORA	**Eskisehir**	**0.98**	**255**	*i* P	**Pg**	**06 03 40.3**	**-1.0**
BORA				*i* S	**Sg**	**06 03 57.3**	**+3.2**
KIZT	**Kizilcal**	**1.27**	**173**	*e*PN	**Pn**	**06 03 46.5**	**-0.3**
KIZT	**Kizilcal**	**1.27**	**173**	*e*Pn	**Pn**	**06 03 46.6**	**-0.3**
AFSR	**Af¨ar-Bala (A**	**1.27**	**123**	*e*PN	**Pn**	**06 03 47.0**	**+0.1**
AFSR	**Af¨ar-Bala (A**	**1.27**	**123**	*e*Pn	**Pn**	**06 03 47.0**	**+0.1**
SAFT	**Safranbolu**	**1.33**	**35**	*e*PN	**Pn**	**06 03 47.7**	**+0.1**
SAFT	**Safranbolu**	**1.33**	**35**	*e*Pn	**Pn**	**06 03 47.7**	**0.0**
ELDT	**Eldivan**	**1.37**	**75**	*e*P	**Pn**	**06 03 47.2**	**-1.0**
ELDT				*i* S	**Sb**	**06 04 06.3**	**-0.1**
ELDT	**Eldivan**	**1.37**	**75**	*e*P	**Pn**	**06 03 47.2**	**-1.0**
CAVI	**Cavuskoy**	**1.41**	**273**	*e*PN	**Pn**	**06 03 48.7**	**-0.1**
CAVI	**Cavuskoy**	**1.41**	**273**	*e*Pn	**Pn**	**06 03 48.7**	**-0.1**
ALT	**Altintas**	**1.64**	**229**	*e*PN	**Pn**	**06 03 51.5**	**-0.3**
ALT	**Altintas**	**1.64**	**229**	*e*Pn	**Pn**	**06 03 51.5**	**-0.3**
KDHN	**Kadinhani**	**1.66**	**168**	*i* P	**Pn**	**06 03 54.4**	**+2.3**
KDHN				*i* S	**Sn**	**06 04 19.1**	**+5.3**
KDHN	**Kadinhani**	**1.66**	**168**	*i* P	**Pn**	**06 03 54.4**	**+2.3**

*NEIC **27** 06:32:11.8, 39.°49S×174.°41E, h219km, MG3.6(WEL), After WEL.*

WEL 27 06:32:11.7±0.4, 39.°48S×174.°41E, h220km±3km, ML3.6/8, Error ellipse: s-maj=3.5km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.52**	**122**	PN	Pn	06 32 41.6	+0.5
WAZ				SN	S	06 33 04.0	-0.1
WAZ	**Wanganui**	**0.52**	**122**	PN	Pn	06 32 41.7	+0.6
PKVZ	**Pokaka**	**0.75**	**76**	PN	Pn	06 32 41.8	-0.3
PKVZ				SN	S	06 33 04.5	-1.2
PKVZ	**Pokaka**	**0.75**	**76**	Pn	Pn	06 32 41.8	-0.3
MTVZ	**Mangateitei**	**0.82**	**84**	PN	Pn	06 32 42.4	0.0
MTVZ				SN	S	06 33 05.1	-1.3
MTVZ	**Mangateitei**	**0.82**	**84**	Pn	Pn	06 32 42.4	0.0
MTVZ				Sn	S	06 33 05.1	-1.3
TWVZ	**Taurewa**	**0.89**	**63**	PN	Pn	06 32 42.4	-0.5
TWVZ				SN	S	06 33 05.8	-1.3
TWVZ	**Taurewa**	**0.89**	**63**	Pn	Pn	06 32 42.4	-0.5
WPVZ	**Whakapapa**	**0.92**	**73**	PN	Pn	06 32 42.9	-0.1
WPVZ				SN	S	06 33 05.9	-1.4
WPVZ	**Whakapapa**	**0.92**	**73**	Pn	Pn	06 32 42.9	-0.1
WNVZ	**Wahianoa**	**0.93**	**81**	PN	Pn	06 32 43.2	+0.1
WNVZ	**Wahianoa**	**0.93**	**81**	Pn	Pn	06 32 43.2	+0.1
NGZ	**Ngauruhoe**	**0.97**	**72**	PN	Pn	06 32 43.2	-0.1
NGZ	**Ngauruhoe**	**0.97**	**72**	Pn	Pn	06 32 43.2	-0.1
WTVZ	**West Tongariro**	**0.98**	**69**	PN	Pn	06 32 43.3	-0.1
WTVZ	**West Tongariro**	**0.98**	**69**	Pn	Pn	06 32 43.3	-0.1
TUVZ	**Tukino**	**0.98**	**78**	PN	Pn	06 32 43.6	+0.3
TUVZ	**Tukino**	**0.98**	**78**	Pn	Pn	06 32 43.6	+0.3
OTVZ	**Oturere**	**1.02**	**73**	PN	Pn	06 32 43.7	+0.1
OTVZ	**Oturere**	**1.02**	**73**	Pn	Pn	06 32 43.7	+0.1
KRVZ	**Karewarewa**	**1.03**	**69**	PN	Pn	06 32 43.5	-0.1
KRVZ	**Karewarewa**	**1.03**	**69**	Pn	Pn	06 32 43.5	-0.1
MOVZ	**Moawhango**	**1.04**	**87**	PN	Pn	06 32 43.4	-0.4
MOVZ	**Moawhango**	**1.04**	**87**	Pn	Pn	06 32 43.4	-0.4
KATZ	**Kakaramea**	**1.11**	**64**	PN	Pn	06 32 44.0	-0.3
KATZ	**Kakaramea**	**1.11**	**64**	Pn	Pn	06 32 44.0	-0.3
BHHZ	**Black Hill Sta**	**1.28**	**91**	PN	Pn	06 32 44.9	-0.4
BHHZ	**Black Hill Sta**	**1.28**	**91**	Pn	Pn	06 32 44.9	-0.4
DUWZ	**D'Urville Isla**	**1.38**	**196**	PN	Pn	06 32 46.0	-0.1
DUWZ	**D'Urville Isla**	**1.38**	**196**	Pn	Pn	06 32 46.0	-0.1
KIW	**Kapiti Island**	**1.43**	**165**	PN	Pn	06 32 46.5	-0.1
KIW	**Kapiti Island**	**1.43**	**165**	Pn	Pn	06 32 46.5	-0.1
PNHZ	**Pukenui**	**1.45**	**108**	PN	Pn	06 32 46.8	+0.1
PNHZ	**Pukenui**	**1.45**	**108**	Pn	Pn	06 32 46.8	+0.1
OGWZ	**Otaki Gorge**	**1.46**	**157**	PN	Pn	06 32 46.9	+0.1
OGWZ	**Otaki Gorge**	**1.46**	**157**	Pn	Pn	06 32 46.9	+0.1
MRZ	**Mangatainoka R**	**1.48**	**143**	PN	Pn	06 32 46.8	-0.1
MRZ	**Mangatainoka R**	**1.48**	**143**	Pn	Pn	06 32 46.8	-0.1
DVHZ	**Dannevirke**	**1.58**	**122**	PN	Pn	06 32 47.8	0.0
DVHZ	**Dannevirke**	**1.58**	**122**	Pn	Pn	06 32 47.8	0.0
BKZ	**Black Stump Fm**	**1.64**	**80**	PN	Pn	06 32 47.9	-0.5
BKZ	**Black Stump Fm**	**1.64**	**80**	Pn	Pn	06 32 47.9	-0.5
HOWZ	**Holdsworth Sta**	**1.65**	**150**	PN	Pn	06 32 48.2	-0.1
HOWZ	**Holdsworth Sta**	**1.65**	**150**	Pn	Pn	06 32 48.2	-0.1
WPHZ	**Waipukurau**	**1.67**	**111**	PN	Pn	06 32 48.8	+0.3
WPHZ	**Waipukurau**	**1.67**	**111**	Pn	Pn	06 32 48.8	+0.3
CAW	**Cannon Point**	**1.70**	**163**	PN	Pn	06 32 48.6	-0.2
CAW	**Cannon Point**	**1.70**	**163**	Pn	Pn	06 32 48.6	-0.2
TIWZ	**Tintock**	**1.72**	**139**	PN	Pn	06 32 49.0	0.0
TIWZ	**Tintock**	**1.72**	**139**	Pn	Pn	06 32 49.0	0.0
TCW	**Tory Channel**	**1.74**	**183**	PN	Pn	06 32 49.2	0.0
TCW	**Tory Channel**	**1.74**	**183**	Pn	Pn	06 32 49.2	0.0
MCHZ	**McNeill Hill**	**1.77**	**90**	PN	Pn	06 32 50.1	+0.6
MCHZ	**McNeill Hill**	**1.77**	**90**	Pn	Pn	06 32 50.1	+0.6
BFZ	**Birch Farm**	**1.85**	**131**	PN	Pn	06 32 50.0	-0.2
BFZ	**Birch Farm**	**1.85**	**131**	Pn	Pn	06 32 50.0	-0.2
MTW	**Mount Morrison**	**1.87**	**154**	PN	Pn	06 32 50.1	-0.3
MTW	**Mount Morrison**	**1.87**	**154**	Pn	Pn	06 32 50.1	-0.3
NMHZ	**Naumai**	**1.89**	**79**	PN	Pn	06 32 51.1	+0.4
NMHZ	**Naumai**	**1.89**	**79**	Pn	Pn	06 32 51.1	+0.4
NNZ	**Nelson**	**1.91**	**204**	PN	Pn	06 32 50.3	-0.5
NNZ	**Nelson**	**1.91**	**204**	Pn	Pn	06 32 50.3	-0.5
KAHZ	**Kahuranaki**	**1.93**	**100**	PN	Pn	06 32 51.4	+0.5
KAHZ	**Kahuranaki**	**1.93**	**100**	Pn	Pn	06 32 51.4	+0.5
PXZ	**Pawanui**	**1.97**	**107**	PN	Pn	06 32 51.5	+0.2
PXZ	**Pawanui**	**1.97**	**107**	Pn	Pn	06 32 51.5	+0.2
QRZ	**Quartz Range**	**1.98**	**226**	PN	Pn	06 32 50.0	-1.4
QRZ	**Quartz Range**	**1.98**	**226**	Pn	Pn	06 32 50.0	-1.4
TMWZ	**Te Maipa**	**1.98**	**146**	PN	Pn	06 32 51.1	-0.4
TMWZ	**Te Maipa**	**1.98**	**146**	Pn	Pn	06 32 51.1	-0.4
TUWZ	**Tuamarina**	**1.98**	**190**	PN	Pn	06 32 51.1	-0.3
TUWZ	**Tuamarina**	**1.98**	**190**	Pn	Pn	06 32 51.1	-0.3
MSWZ	**Moikau Station**	**2.04**	**162**	PN	Pn	06 32 51.5	-0.5
MSWZ	**Moikau Station**	**2.04**	**162**	Pn	Pn	06 32 51.5	-0.5
RAHZ	**Arahi**	**2.15**	**76**	PN	Pn	06 32 52.9	-0.3
RAHZ	**Arahi**	**2.15**	**76**	Pn	Pn	06 32 52.9	-0.3
TRWZ	**Traveller**	**2.15**	**154**	PN	Pn	06 32 53.0	-0.2
TRWZ	**Traveller**	**2.15**	**154**	Pn	Pn	06 32 53.0	-0.2
PLWZ	**Palliser**	**2.19**	**163**	PN	Pn	06 32 52.9	-0.6
PLWZ	**Palliser**	**2.19**	**163**	Pn	Pn	06 32 52.9	-0.6
BSWZ	**Blackbirch Sta**	**2.27**	**190**	PN	Pn	06 32 54.0	-0.3
BSWZ	**Blackbirch Sta**	**2.27**	**190**	Pn	Pn	06 32 54.0	-0.3
THZ	**Tophouse**	**2.56**	**206**	PN	Pn	06 32 56.5	-0.9
THZ	**Tophouse**	**2.56**	**206**	Pn	Pn	06 32 56.5	-0.9
KNZ	**Kokohu**	**2.57**	**81**	PN	Pn	06 32 57.0	-0.6
KNZ	**Kokohu**	**2.57**	**81**	Pn	Pn	06 32 57.0	-0.6
MWZ	**Matawai**	**2.68**	**66**	PN	Pn	06 32 57.5	-1.4
MWZ	**Matawai**	**2.68**	**66**	Pn	Pn	06 32 57.5	-1.4
MHGZ	**Mahia Peninsul**	**2.73**	**84**	PN	Pn	06 32 59.2	-0.1
MHGZ	**Mahia Peninsul**	**2.73**	**84**	Pn	Pn	06 32 59.2	-0.1
DSZ	**Denniston Nort**	**3.01**	**220**	PN	Pn	06 33 01.0	-1.5
DSZ	**Denniston Nort**	**3.01**	**220**	Pn	Pn	06 33 01.0	-1.5
PUZ	**Puketiti**	**3.31**	**66**	PN	Pn	06 33 04.3	-1.7
PUZ	**Puketiti**	**3.31**	**66**	Pn	Pn	06 33 04.3	-1.7
LTZ	**Lake Taylor**	**3.68**	**205**	PN	Pn	06 33 08.9	-1.3
LTZ	**Lake Taylor**	**3.68**	**205**	Pn	Pn	06 33 08.9	-1.3
MQZ	**McQueen's Vall**	**4.43**	**197**	PN	Pn	06 33 17.2	-2.1
MQZ	**McQueen's Vall**	**4.43**	**197**	Pn	Pn	06 33 17.2	-2.1
WVZ	**Waitaha Valley**	**4.54**	**216**	PN	Pn	06 33 18.9	-1.8
WVZ	**Waitaha Valley**	**4.54**	**216**	Pn	Pn	06 33 18.9	-1.8
ODZ	**Otahua Downs**	**6.23**	**205**	Pn	Pn	06 33 40.3	-1.7

IDC 27 06:49:37.2±1.1, 27.°56N×140.°28E, h291km±15km, mb3.1/5, mb1 3.3/5, mb1mx2.8/22, mbtmp3.1/5, Error ellipse: s-maj=35.6km s-min=22.7km az=90.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.75**	**105**	P	Pn	06 50 23.2	+1.9
CBIJ				S	S	06 50 56.1	-0.1
WRA	**Warramunga Arr**	**47.57**	**188**	P	P	06 57 44.1	-0.2
BVAR	**Borovoye Array**	**56.56**	**317**	P	P	06 58 50.3	+0.6
AKTO	**Aktyubinsk**	**64.52**	**315**	P	P	06 59 43.1	-0.2
YKA	**Yellowknife Ar**	**72.54**	**28**	P	P	07 00 32.9	+0.5
FINES	**FINESS Array B**	**76.78**	**333**	P	P	07 00 56.0	-0.7

*ISCJB **27** 06:59:55.3±1.7, 49.°57S±0.′07×164.°11E±0.′08, h10km±12km, mb4.4/10, MS4.5/12, Error ellipse: s-maj=13.9km s-min=5.6km az=150.2*
*IDC **27** 06:59:57.7±1.0, 49.°76S×163.°14E, h0km, mb4.5/8, mb1 4.5/8, mb1mx4.4/14, mbtmp4.5/8, MS4.5/14, Ms1 4.5/14, ms1mx4.3/21, Error ellipse: s-maj=40.9km s-min=20.9km az=58.0*
*NEIC **27** 06:59:57.6±0.6, 49.°50S×163.°99E, h10km, mb4.6/6, Error ellipse: s-maj=15.3km s-min=13.7km az=175.0*
*GCMT **27** 06:59:59.7±0.3, 49.°79S×163.°48E, h12km, MW5.1, Moment Tensor Solution. s33,c44; s68,c98; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.46±.20; $M_{\theta\theta}$5.84±.16; $M_{\phi\phi}$-5.38±.16; $M_{r\theta}$0.67±.51; $M_{r\phi}$0.24±.18; $M_{\theta r}$-0.12±.48; Best double couple: $M_0$5.70000×10^{16} NP1:ϕ_s44.00000°, δ85.00000°, λ177.00000°. NP2:ϕ_s134.00000°, δ87.00000°, λ5.00000°. Principal axes: T 5.9200, Plg6.0000°, Azm359.0000°; N -0.5300, Plg84.0000°, Azm164.0000°; P -5.3900, Plg2.0000°, Azm269.0000°; Data Used: II IU G CN IC.*

ISC 27 06:59:57.5±1.9, 49.°56S±0.′07×164.°06E±0.′07, h11km±13km, n83, σ1.9/10/64, mb4.4/10, MS4.5/12, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**3.79**	**45**	PN	**Pn**	**07 00 55.6**	**-0.1**
APZ				SN	**Sn**	**07 01 39.9**	**-0.2**
PYZ	**Puysegur Point**	**3.82**	**29**	PN	**Pn**	**07 00 55.2**	**-1.0**
PYZ				SN	**Sn**	**07 01 42.5**	**+1.5**
WHZ	**Wether Hill Ro**	**4.51**	**37**	PN	**Pn**	**07 01 05.6**	**0.0**
WHZ				SN	**Sn**	**07 01 58.0**	**+0.1**
SYZ	**Scrubby Hill**	**4.55**	**50**	PN	**Pn**	**07 01 06.7**	**+0.5**
SYZ				SN	**Sn**	**07 01 57.3**	**-1.8**
DCZ	**Deep Cove**	**4.59**	**28**	PN	**Pn**	**07 01 06.2**	**-0.5**
MLZ	**Mavora Lakes**	**5.05**	**35**	PN	**Pn**	**07 01 13.3**	**+0.2**
TUZ	**Tuapeka**	**5.21**	**48**	PN	**Pn**	**07 01 15.3**	**+0.1**
MSZ	**Milford Sound**	**5.55**	**30**	PN	**Pn**	**07 01 19.7**	**-0.3**
EAZ	**Earnscleugh**	**5.60**	**41**	PN	**Pn**	**07 01 21.4**	**+0.7**
ODZ	**Otahua Downs**	**6.36**	**47**	*e*Pn	**Pn**	**07 01 30.5**	**-0.5**
ODZ				*e*Sn	**Sn**	**07 02 38.4**	**-5.1**
ODZ	**Otahua Downs**	**6.36**	**47**	PN	**Pn**	**07 01 30.2**	**-0.8**
JCZ	**Jackson Bay**	**6.36**	**32**	PN	**Pn**	**07 01 33.1**	**+2.0**
LBZ	**Lake Benmore**	**6.66**	**41**	PN	**Pn**	**07 01 34.2**	**-0.9**
FOZ	**Fox Glacier**	**7.14**	**35**	PN	**Pn**	**07 01 43.4**	**+1.7**
RPZ	**Rata Peaks**	**7.57**	**42**	Pn	**Pn**	**07 01 46.1**	**-1.5**
RPZ				Sn	**Sn**	**07 03 11.0**	**-2.3**
RPZ				LR	LR	07 05 09.8	
RPZ	**Rata Peaks**	**7.57**	**42**	*e*Pn	**Pn**	**07 01 46.2**	**-1.4**
RPZ				*e*Sn	**Sn**	**07 03 09.4**	**-3.9**
RPZ	**Rata Peaks**	**7.57**	**42**	PN	**Pn**	**07 01 45.7**	**-1.9**
WVZ	**Waitaha Valley**	**7.96**	**38**	PN	**Pn**	**07 01 52.4**	**-0.6**
MQZ	**McQueen's Vall**	**8.31**	**49**	PN	**Pn**	**07 01 58.2**	**+0.3**
LTZ	**Lake Taylor**	**8.85**	**43**	PN	**Pn**	**07 02 07.3**	**+2.1**
DSZ	**Denniston Nort**	**9.50**	**38**	PN	**Pn**	**07 02 14.2**	**0.0**
TAU	**Tasmania Unive**	**13.34**	**294**	*e*Pn	**Pn**	**07 03 03.9**	**-2.8**
MOO	**Moorlands**	**13.70**	**295**	*e*P	**Pn**	**07 03 10.7**	**-0.8**
MOO				*e*S	**Sn**	**07 05 30.0**	**-13**
URZ	**Urewera**	**14.67**	**45**	Pn	**Pn**	**07 03 24.3**	**-0.5**
URZ				Sn	**Sn**	**07 05 59.8**	**-7.5**
URZ				LR	LR	07 09 41.8	
URZ	**Urewera**	**14.67**	**45**	*e*P	**Pn**	**07 03 31.1**	**+6.3**
URZ				Sn	**Sn**	**07 05 59.8**	**-7.5**
TOO	**Toolangi**	**17.96**	**305**	*e*P	**Pn**	**07 04 08.6**	**+1.6**
CMSA	**Cobar Meteorol**	**22.67**	**316**	*e*P	**P**	**07 05 00.0**	**+1.4**
STKA	**Stephens Creek**	**24.38**	**308**	P	**P**	**07 05 16.3**	**+0.8**
STKA	**Stephens Creek**	**24.38**	**308**	*e*P	**P**	**07 05 16.2**	**+0.7**
STKA	**Stephens Creek**	**24.38**	**308**	*e*P	**P**	**07 05 17.2**	**+1.7**
EIDS	**Eidsvold**	**26.17**	**333**	*e*P	**P**	**07 05 32.5**	**+0.7**
DZM	**Mont Dzumac**	**27.49**	**5**	*e*S	**S**	**07 10 27.7**	**+3.4**
DZM				*e*LR	LR	07 12 57.8	
CTA	**Charters Tower**	**32.66**	**328**	LR	LR	07 18 12.4	
AS31	**Alice Springs**	**34.99**	**307**	*e*P	**P**	**07 06 49.5**	**-0.2**
ASAR	**Alice Springs**	**34.99**	**307**	P	**P**	**07 06 49.4**	**-0.4**
ASAR	**Alice Springs**	**34.99**	**307**	P	**P**	**07 06 49.4**	**-0.4**
WB2	**Warramunga Arr**	**37.87**	**311**	*e*P	**P**	**07 07 14.2**	**0.0**
WRA	**Warramunga Arr**	**37.87**	**311**	P	**P**	**07 07 12.8**	**-1.6**
WRA	**Warramunga Arr**	**37.87**	**311**	P	**P**	**07 07 12.8**	**-1.6**
WRAB	**Tennant Creek**	**37.88**	**311**	*e*P	**P**	**07 07 12.8**	**-1.5**
NWAO	**Narrogin (SRO)**	**38.25**	**278**	P	**P**	**07 07 13.4**	**-4.0**
NWAO				LR	LR	07 19 46.7	
NWAO	**Narrogin (SRO)**	**38.25**	**278**	P	**P**	**07 07 13.4**	**-4.0**
HNR	**Honiara**	**40.14**	**354**	LR	LR	07 21 36.8	
QSPA	**South Pole Qui**	**40.57**	**180**	P	**P**	**07 07 36.3**	**+0.1**
QSPA	**South Pole Qui**	**40.57**	**180**	*e*P	**P**	**07 07 36.2**	**0.0**
PMG	**Port Moresby**	**42.43**	**335**	P	**P**	**07 07 52.6**	**+0.4**
PMG	**Port Moresby**	**42.43**	**335**	*e*P	**P**	**07 07 54.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**43.97**	**302**	P	**P**	**07 08 02.6**	**-2.0**
FITZ				LR	LR	07 25 00.1	
FITZ	**Fitzroy Crossi**	**43.97**	**302**	*e*P	**P**	**07 08 04.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**43.97**	**302**	*e*P	**P**	**07 08 04.2**	**-0.5**
TBI	**Tubuai**	**44.67**	**71**	*e*S	**S**	**07 14 52.8**	**+6.5**
TBI				*e*LR	LR	07 20 47.4	
PPT2	**Papeete2**	**48.96**	**66**	*e*S	**S**	**07 15 53.2**	**+5.4**
PPT2				*e*LR	LR	07 22 58.2	
RKT	**Rikitea**	**54.04**	**84**	*e*S	**S**	**07 17 04.5**	**+6.8**
RKT				*e*LR	LR	07 25 13.9	
SNAA	**Sanae**	**58.72**	**185**	*e*P	**P**	**07 09 55.2**	**+0.7**
TAOE	**Nuku Hiva Isla**	**61.46**	**68**	*e*LR	LR	07 28 28.4	
PLCA	**Paso Flores**	**78.07**	**141**	LR	LR	07 37 37.6	
MJAR	**Matsushiro Arr**	**88.73**	**339**	LR	LR	07 48 20.7	
CMAR	**Chiang Mai Arr**	**88.78**	**301**	P	**P**	**07 12 51.9**	**+0.7**
CMAR				LR	LR	07 52 48.4	
CMAR	**Chiang Mai Arr**	**88.78**	**301**	P	**P**	**07 12 51.9**	**+0.7**
KSRS	**Korea Array**	**92.35**	**332**	LR	LR	07 50 39.4	
BOSA	**Boshof**	**93.97**	**215**	LR	LR	07 48 45.4	
CPUP	**Villa Florida**	**95.95**	**143**	LR	LR	07 52 26.8	
USRK	**Ussuriysk Arra**	**97.48**	**337**	LR	LR	07 57 56.6	
MKAR	**Makanchi Array**	**119.16**	**309**	PKP	PKPdf	07 18 47.3	+1.7
MKAR	**Makanchi Array**	**119.16**	**309**	PKP	PKPdf	07 18 47.3	+1.7
ILAR	**Eielson Array**	**120.18**	**22**	PKP	PKPdf	07 18 50.1	+3.2
ILAR	**Eielson Array**	**120.18**	**22**	PKP	PKPdf	07 18 50.1	+3.2
YKA	**Yellowknife Ar**	**128.80**	**36**	PKP	PKPdf	07 19 05.9	+2.4
YKA	**Yellowknife Ar**	**128.80**	**36**	PKP	PKPdf	07 19 05.9	+2.4
TORD	**Torodi Ar. Bea**	**140.90**	**208**	PKP	PKPdf	07 19 26.4	-1.2
TORD	**Torodi Ar. Bea**	**140.90**	**208**	PKP	PKPdf	07 19 26.4	-1.2
BRTR	**Keskin Array B**	**143.97**	**273**	PKP	PKPdf	07 19 32.9	+0.6
BRTR	**Keskin Array B**	**143.97**	**273**	PKP	PKPdf	07 19 32.9	+0.6
AKASG	**Malin Array Be**	**151.36**	**290**	PKPbc	PKPbc	07 19 49.7	-0.5
AKASG	**Malin Array Be**	**151.36**	**290**	PKPbc	PKPbc	07 19 49.7	-0.4
MLR	**Muntele Rosu**	**151.69**	**278**	PKPbc	PKPbc	07 19 52.3	+1.2
MLR	**Muntele Rosu**	**151.69**	**278**	PKPbc	PKPbc	07 19 52.3	+1.2
FINES	**FINESS Array B**	**153.90**	**313**	PKPbc	PKPbc	07 19 57.8	+2.3
FINES	**FINESS Array B**	**153.90**	**313**	PKPbc	PKPbc	07 19 57.8	+2.3
KEST	**Kesra**	**156.97**	**243**	PKPab	PKPab	07 20 23.5	+0.8
KEST	**Kesra**	**156.97**	**243**	PKPab	PKPab	07 20 23.5	+0.7
GERES	**GERESS Array B**	**160.67**	**279**	PKPab	PKPab	07 20 37.4	-1.1
GERES	**GERESS Array B**	**160.67**	**279**	PKPab	PKPab	07 20 37.4	-1.1

*NIED **27** 07:05:00, 41.°80N×143.°30E, h50km, Mw4.0 Best double couple: $M_0$9.61000×10^{14} NP1:ϕ_s150.00000°, δ69.00000°, λ-41.00000°. NP2:ϕ_s257.00000°, δ52.00000°, λ-153.00000°.*
*ISCJB **27** 07:05:43.6±0.7, 41.°69N±0.′05×143.°42E±0.′08, h49km±5km, mb3.8/11, Error ellipse: s-maj=12.2km s-min=5.7km az=37.5*
*MOS **27** 07:05:43.2±1.4, 41.°70N×143.°49E, h47km, mb4.3/2, Error ellipse: s-maj=16.7km s-min=11.2km az=76.5*
*NEIC **27** 07:05:45.6, 41.°77N×143.°33E, h41km, mb4.2/2, After JMA.*
NEIC Recorded [1 JMA] in southern Hokkaido.
*IDC **27** 07:05:45.9±0.8, 41.°68N×143.°23E, h54km±6km, mb3.5/11, mb1 3.7/13, mb1mx3.5/26, mbtmp3.6/13, Error ellipse: s-maj=19.4km s-min=15.5km az=123.0*
*JMA **27** 07:05:45.6±0.1, 41.°77N×143.°33E, h41km±1km, M3.7*
JMA Felt I J1.

ISC 27 07:05:45.2±0.7, 41.°75N±0.′05×143.°37E±0.′08, h43km±5km, h55km±4.4km: pP-P, n58, σ0.69/63, mb3.8/11, 4C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.31**	**330**	*e*Pg	**Pn**	**07 05 53.3**	**-0.6**
ERM				*e*Sg	**Sn**	**07 05 58.2**	**-1.7**
ERM	**Erimo**	**0.31**	**330**	*e*P	**Pn**	**07 05 53.3**	**-0.5**
JEM	**Erimo**	**0.31**	**330**	⇓P	**Pn**	**07 05 53.4**	**-0.4**
JEM				*e*S	**Sn**	**07 05 59.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.70**	**320**	⇑P	**Pn**	**07 05 58.7**	**0.0**
JNBK				*e*S	**Sn**	**07 06 09.1**	**+0.6**
JCH	**Churui**	**0.87**	**360**	P	**Pn**	**07 06 01.0**	**0.0**
JCH				*e*S	**Sn**	**07 06 13.2**	**+0.7**
JOB	**Onbets**	**1.21**	**16**	⇑P	**Pn**	**07 06 06.1**	**+0.5**
JOB				*e*S	**Sn**	**07 06 21.2**	**+0.4**
JBT2	**Biratori 2**	**1.27**	**324**	P	**Pn**	**07 06 07.1**	**+0.6**
JAR	**Ashorobuto**	**1.58**	**11**	⇑P	**Pn**	**07 06 10.6**	**-0.1**
JAR				*e*S	**Sn**	**07 06 30.1**	**+0.2**
JAK	**Akkeshi**	**1.59**	**38**	⇑P	**Pn**	**07 06 10.9**	**+0.

RES	Resolute Bay	57.66	16	P	P	07 15 30.2	-0.3
	comp=Z,1.6nm,0.6s,mb4.2,baz=316,slow=6.7,SNR=8.9						
RES	Resolute Bay	57.66	16	*eP*	P	07 15 29.6	-0.9
	comp=Z,1.7nm,0.7s,mb4.2						
RES	Resolute Bay	57.66	16	P	P	07 15 30.2	-0.3
RES				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
YKA	Yellowknife Ar	59.00	32	P	P	07 15 40.0	+0.1
	comp=Z,0.3nm,0.7s,mb3.5,baz=303,slow=7.3,SNR=3.0						
YKA				pP	pP	07 15 56.0	+3.7
	comp=Z,0.3nm,0.6s,baz=303,slow=7.0,SNR=4.1						
YKA	Yellowknife Ar	59.00	32	P	P	07 15 40.0	+0.1
YKA				pP	pP	07 15 56.0	+3.7
YKA	Yellowknife Ar	59.00	32	P	P	07 15 40.0	+0.1
YKA				*PP	pP	07 15 56.0	+3.7
WRA	Warramunga Arr	61.94	190	P	P	07 15 59.6	-0.8
	comp=Z,0.2nm,0.4s,mb3.6,baz=7.2,slow=6.6,SNR=3.0						
WRA				pP	pP	07 16 13.8	+0.9
	comp=Z,0.3nm,0.4s,baz=6.2,slow=6.7,SNR=3.3						
WRA	Warramunga Arr	61.94	190	P	P	07 15 59.6	-0.8
WRA				pP	pP	07 16 13.8	+0.9
WRA	Warramunga Arr	61.94	190	P	P	07 15 59.6	-0.8
WRA				*PP	pP	07 16 13.8	+0.9
FINES	FINESS Array B	65.36	332	P	P	07 16 22.0	-0.6
	comp=Z,3.6nm,0.9s,mb4.4,baz=46,slow=9.0,SNR=6.7						
FINES				pP	pP	07 16 36.3	+1.2
	comp=Z,2.3nm,0.7s,baz=26,slow=4.9,SNR=2.2						
FINES	FINESS Array B	65.36	332	P	P	07 16 22.0	-0.6
FINES				pP	pP	07 16 36.3	+1.2
FINES	FINESS Array B	65.36	332	P	P	07 16 22.0	-0.6
FINES				*PP	pP	07 16 36.3	+1.2
ASAR	Alice Springs	65.67	190	pP	pP	07 16 38.5	+1.0
	comp=Z,0.3nm,0.6s,baz=15,slow=7.7,SNR=2.1						
ASAR	Alice Springs	65.67	190	pP	pP	07 16 38.5	+1.0
ASAR	Alice Springs	65.67	190	P	pP	07 16 38.5	+1.0
HFS	Hagfors	70.42	336	P	P	07 16 54.3	-0.1
	comp=Z,3.2nm,1.0s,mb4.2,baz=38,slow=7.5,SNR=4.8						
HFS	Hagfors	70.42	336	P	P	07 16 54.3	-0.1
HFS	Hagfors	70.42	336	P	P	07 16 54.3	0.0
NVAR	Mina Array Bea	71.01	55	P	P	07 16 57.6	-0.7
	comp=Z,0.7nm,0.7s,mb3.7,baz=291,slow=7.1,SNR=5.6						
NVAR	Mina Array Bea	71.01	55	P	P	07 16 57.6	-0.7

IDC ***27*** *07:18:12.7±0.7, 1°.94S×138°.99E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, ML4.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/21, Error ellipse: s-maj=31.3km s-min=15.2km az=77.0*

DJA ***27*** *07:18:14, 1°.59S×139°.13E, h19km, MLv4.8/4*

ISCJB ***27*** *07:18:16.3±0.8, 2°.01S±0°.05×138°.98E±0°.06, h38km±7km, mb4.3/17, Error ellipse: s-maj=10.7km s-min=7.1km az=141.2*

NEIC ***27*** *07:18:20.0±1.7, 2°.04S×138°.89E, h56km±15km, mb4.4/10, Error ellipse: s-maj=12.4km s-min=9.7km az=76.0*

ISC 27 07:18:16.5±1.2, 1°.98S±0°.05×139°.02E±0°.06, h26km±8km, n60, σ0s87/60, mb4.3/17, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.31	267	P	Pb	07 18 24.2	+0.4
SMPI				S	Sb	07 18 35.9	+7.1
JAY	Jayapura	1.77	108	P	Pn	07 18 44.8	-0.6
BAKI	Biak	3.02	285	P	Pn	07 19 02.1	-0.5
BAKI				S	Sn	07 19 38.9	+1.0
PMG	Port Moresby	10.95	133	Pn	Pn	07 20 55.4	+3.7
	baz=356,slow=19,SNR=1.8						
PMG	Port Moresby	10.95	133	Pn	Pn	07 20 55.4	+3.7
COEN	Coen	12.59	161	*e*Pn	Pn	07 21 15.2	+1.1
WRAB	Tennant Creek	18.42	194	*e*P	Pn	07 22 28.2	-2.0
	26nm,0.6s						
WRAB	Tennant Creek	18.42	194	P	Pn	07 22 28.9	-1.3
WB2	Warramunga Arr	18.43	194	*e*P	Pn	07 22 28.8	-1.5
WRA	Warramunga Arr	18.43	194	P	Pn	07 22 29.9	-0.4
	2.8nm,0.3s,baz=17,slow=12,SNR=46						
WRA				S	Sn	07 25 45.0	-11
	0.3nm,0.3s,baz=11,slow=22,SNR=6.8						
WRA	Warramunga Arr	18.43	194	P	Pn	07 22 29.9	-0.4
WRA				S	Sn	07 25 45.0	-11
CTA	Charters Tower	19.34	159	P	Pn	07 22 40.5	-0.7
	0.3nm,0.3s,baz=350,slow=14,SNR=4.5						
CTA	Charters Tower	19.34	159	P	Pn	07 22 40.5	-0.7
CTAO	Charters Tower	19.34	159	*e*P	Pn	07 22 42.0	+0.7
	5.2nm,0.8s						
FITZ	Fitzroy Crossi	20.72	218	P	P	07 22 55.5	+0.3
	3.1nm,0.5s,baz=43,slow=14,SNR=8.3						
FITZ				S	S	07 26 39.8	-5.7
	13nm,0.9s,baz=155,slow=8.6,SNR=6.6						
FITZ	Fitzroy Crossi	20.72	218	*e*P	P	07 22 55.5	+0.4
FITZ				*e*S	S	07 26 39.5	-5.9
FITZ	Fitzroy Crossi	20.72	218	*e*P	P	07 22 55.7	+0.5
	9.0nm,0.8s						
FITZ				S	S	07 26 39.8	-5.7
FITZ				*e*S	S	07 26 40.7	-4.7
AS31	Alice Springs	22.12	193	*e*P	P	07 23 09.8	-0.3
AS31				*e*S	S	07 27 14.0	+1.2
ASAR	Alice Springs	22.13	193	P	P	07 23 10.1	-0.1
	13nm,0.7s,mb4.5,baz=23,slow=10,SNR=168						
ASAR				S	S	07 27 06.7	-6.2
	1.2nm,0.8s,baz=14,slow=16,SNR=3.6						
ASAR	Alice Springs	22.13	193	P	P	07 23 10.1	-0.1
ASAR				S	S	07 27 06.7	-6.2
QLP	Quilpie	24.97	169	*e*P	P	07 23 38.8	+0.7
EIDS	Eidsvold	26.00	154	*e*P	P	07 23 50.8	+3.3
EIDS	Eidsvold	26.00	154	*e*P	P	07 23 50.7	+3.2
	17nm,1.0s,mb4.5						
RMQ	Roma	26.10	160	*e*P	P	07 23 50.9	+2.5
	46nm,1.7s,mb4.7						
MBWA	Marble Bar	26.78	223	*e*P	P	07 23 54.4	-0.2
	6.5nm,0.7s,mb4.3						
STKA	Stephens Creek	29.84	176	P	P	07 24 21.2	-0.5
	4.0nm,0.7s,mb4.3,baz=13,slow=8.3,SNR=8.3						
STKA				LR	LR	07 37 25.7	
	comp=Z,118nm,18.9s,baz=197,slow=39						
STKA	Stephens Creek	29.84	176	*e*P	P	07 24 22.3	+0.6
STKA	Stephens Creek	29.84	176	*e*P	P	07 24 21.9	+0.2
	0.8nm,0.6s,mb3.6						
FORT	Forrest	30.47	199	*e*P	P	07 24 27.4	+0.1
FORT	Forrest	30.47	199	*e*P	P	07 24 27.3	0.0
	30nm,0.6s,mb5.2						
KLBR	Kellerberrin	35.65	212	*e*P	P	07 25 12.1	-0.4
	42nm,1.6s,mb5.1						
KULM	Kulim	39.00	281	*e*P	P	07 25 40.1	-1.2
	5.7nm,0.6s,mb4.5						
CMAR	Chiang Mai Arr	44.35	299	P	P	07 26 25.4	+0.5
	3.1nm,0.8s,mb4.1,baz=120,slow=6.8,SNR=14						
CMAR	Chiang Mai Arr	44.35	299	P	P	07 26 25.4	+0.5
SONM	Songino Array	57.19	334	P	P	07 28 01.9	+0.6
	0.4nm,0.6s,mb3.6,baz=156,slow=4.6,SNR=2.8						
SONM	Songino Array	57.19	334	P	P	07 28 01.9	+0.6
MK31	Makanchi Array	69.40	322	*e*P	P	07 29 22.7	+0.5
MKAR	Makanchi Array	69.40	322	P	P	07 29 22.6	+0.3
	0.5nm,0.4s,mb3.8,baz=101,slow=8.9,SNR=12						
MKAR	Makanchi Array	69.40	322	P	P	07 29 22.6	+0.3
ZALV	Zalesovo Beam	71.46	330	P	P	07 29 34.2	-0.5
	0.6nm,0.6s,mb3.7,baz=103,slow=7.1,SNR=3.8						
ZALV	Zalesovo Beam	71.46	330	P	P	07 29 34.2	-0.5
KURK	Kurchatov	73.30	325	P	P	07 29 45.5	-0.2
	1.9nm,0.9s,mb4.0,baz=112,slow=5.4,SNR=9.3						
KURK	Kurchatov	73.30	325	P	P	07 29 45.5	-0.2
BVAR	Borovoye Array	78.89	325	P	P	07 30 17.3	-0.2
	2.2nm,0.8s,mb4.1,baz=108,slow=9.5,SNR=9.4						
BVAR	Borovoye Array	78.89	325	P	P	07 30 17.3	-0.2
BRVK	Borovoye	78.96	325	*e*P	P	07 30 17.6	-0.3
	2.6nm,0.6s,mb4.3						
ILAR	Eielson Array	85.04	24	P	P	07 30 48.9	-0.6
	0.8nm,0.9s,mb3.9,baz=254,slow=3.6,SNR=4.2						
ILAR	Eielson Array	85.04	24	P	P	07 30 48.9	-0.6
QSPA	South Pole Qui	87.97	180	*e*P	P	07 31 03.3	-0.4
	8.2nm,1.3s,mb4.8						
TORD	Torodi Ar. Bea	136.35	287	PKP	PKPdf	07 37 36.1	-0.8
	1.3nm,0.7s,baz=73,slow=2.3,SNR=8.5						
TORD	Torodi Ar. Bea	136.35	287	PKP	PKPdf	07 37 36.1	-0.8
DBIC	Dimbokro	143.69	279	PKP	PKPdf	07 37 48.0	-2.4
	8.5nm,0.9s,baz=93,slow=3.1,SNR=10						
DBIC	Dimbokro	143.69	279	*e*PKPdf	PKPdf	07 37 47.7	-2.7
DBIC				PKP	PKPdf	07 37 48.0	-2.4
ROSC	El Rosal	146.59	84	PKPbc	PKPbc	07 37 57.9	+1.0
	1.9nm,0.5s,baz=105,slow=19,SNR=3.4						
ROSC	El Rosal	146.59	84	PKPbc	PKPbc	07 37 57.9	+1.1
LPAZ	La Paz	147.62	125	PKPbc	PKPbc	07 38 01.9	+2.2
	1.7nm,0.8s,baz=109,slow=5.1,SNR=6.3						
LPAZ	La Paz	147.62	125	*e*PKPbc	PKPbc	07 37 59.8	+0.2
CPUP	Villa Florida	147.73	152	PKPbc	PKPbc	07 37 60.0	+0.3
	1.1nm,0.8s,baz=166,slow=8.3,SNR=3.3						
CPUP	Villa Florida	147.73	152	PKPbc	PKPbc	07 37 60.0	+0.3
SDV	Santo Domingo	149.71	76	*e*PKPbc	PKPbc	07 38 04.1	-1.0

ISCJB ***27*** *07:18:33.8±0.9, 37°.57N±0°.05×35°.77E±0°.05, h10km, Error ellipse: s-maj=7.8km s-min=5.6km az=161.7*

DDA ***27*** *07:18:33.9, 37°.51N×35°.66E, h7km±2km, MDd.8*

CSEM ***27*** *07:18:33.8±0.4, 37°.57N×35°.73E, h8km, MD2.5, Error ellipse: s-maj=9.4km s-min=7.5km az=151.0*

ISK ***27*** *07:18:35.3, 37°.50N×35°.90E, h10km, MD2.5*

ISC 27 07:18:34.0±0.9, 37°.59N±0°.08×35°.75E±0°.05, h9km±12km, n10, σ0s94/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.12	152	*e*PG	Pg	07 18 37.6	+0.7
KOZT				*e*SG	Sg	07 18 39.6	+0.8
CEYT	Ceyhan	0.58	180	*e*PG	Pg	07 18 44.7	-0.5
CEYT				*e*SG	Sg	07 18 53.2	+0.4
CEYT	Ceyhan	0.58	180	*e*Pg	Pg	07 18 44.7	-0.5
CEYT				*e*Sg	Sg	07 18 53.2	+0.4
GULE	Gulek	0.84	249	*i* P	Pg	07 18 48.5	-1.6
GULE				*i* S	Sg	07 19 01.2	+0.3
GULE	Gulek	0.84	249	*i* P	Pg	07 18 48.5	-1.6
GULE				*i* S	Sg	07 19 01.2	+0.2
KMRS	Kahramanmaras	0.92	95	*e*PG	Pg	07 18 51.1	-0.5
KMRS				*e*SG	Sg	07 19 02.5	-1.0
KMRS	Kahramanmaras	0.92	95	*e*Pg	Pg	07 18 51.1	-0.5
KMRS				*e*Sg	Sg	07 19 02.5	-1.0
PINB	Pinarbasi	1.20	25	*i* P	Pn	07 18 58.5	+1.5
PINB				*i* S	Sb	07 19 17.2	+4.6
PINB	Pinarbasi	1.20	25	*i* P	Pn	07 18 58.5	+1.5
PINB				*i* S	Sb	07 19 17.2	+4.7
SARI	SarD1z-Kayseri	1.32	34	*e*PG	Pg	07 18 54.9	-4.4

NIED ***27*** *07:29:00, 24°.50N×125°.50E, h38km, Mw3.9 Best double couple: M0:6.77000×10^14 NP1:φs157.00000°, δ48.00000°, λ98.00000°. NP2:φs325.00000°, δ43.00000°, λ81.00000°.*

ISCJB ***27*** *07:29:36.6±0.5, 24°.65N±0°.08×125°.44E±0°.06, h66km±5km, mb3.6/7, Error ellipse: s-maj=15.1km s-min=4.8km az=150.2*

NEIC ***27*** *07:29:38.0±0.7, 24°.54N×125°.35E, h51km±7km, mb3.9/2, Error ellipse: s-maj=16.4km s-min=9.4km az=152.0*

JMA ***27*** *07:29:37.0±0.1, 24°.52N×125°.50E, h58km±1km, M3.6*

IDC ***27*** *07:29:38.6±0.8, 24°.52N×125°.14E, h56km±7km, mb3.4/6, mb1 3.7/7, mb1mx3.5/18, mbtmp3.5/7, MS3.8/2, Ms1 3.8/2, ms1mx3.1/22, Error ellipse: s-maj=35.5km s-min=14.8km az=71.0*

ISC 27 07:29:37.8±0.5, 24°.63N±0°.08×125°.43E±0°.06, h58km±5km, n57km±1.5km: pP-P, n47, σ0s98/48, mb3.6/7, MS3.7/2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.13	351	P	Pn	07 29 46.6	-0.1
JOGS				S	Sn	07 29 53.7	+0.5
JMJ	Miyako jima 2	0.22	326	P	Pn	07 29 47.3	+0.1
JMJ				S	Sn	07 29 54.7	+0.8
JTJ	Tarama	0.66	271	P	Pn	07 29 51.7	+0.9
JTJ				S	Sn	07 30 02.0	+0.5
JIJ	Ishigaki jima	1.20	257	P	Pn	07 29 58.5	+0.3
JIJ				S	Sn	07 30 13.4	-0.4
JKRS	Kuro-shima	1.35	253	P	Pn	07 30 00.8	+0.5
JKRS				S	Sn	07 30 18.5	+1.1
IRIF	Iriomote-Funau	1.58	260	P	Pn	07 30 03.5	+0.1
HATJ	Hateruma jima	1.59	249	P	Pn	07 30 03.8	+0.3
JKE	Kume jima 2	2.09	36	P	Pn	07 30 10.4	+0.1
YOJ	Yonaguni jima	2.21	266	P	Pn	07 30 12.3	+0.3
JAGN	Aguni-jima	2.54	40	P	Pn	07 30 17.8	+1.2
JJT2	Tamagusuku 2	2.58	54	P	Pn	07 30 17.5	+0.4
JIH	Iheya	3.31	43	P	Pn	07 30 27.0	-0.1
JOW	Kunigami	3.37	49	P	Pn	07 30 28.0	0.0
	21nm,0.3s,baz=184,slow=13,SNR=32						
JOW	Kunigami	3.37	49	*e*Pn	Pn	07 30 27.6	-0.4
JOW	Kunigami	3.37	49	P	Pn	07 30 27.8	-0.2
NACB	Ninganchiao	3.52	263	*e*Pn	Pn	07 30 29.0	-1.0
YHNB	Yeheng	3.69	271	*e*Pn	Pn	07 30 34.3	+2.0
YULB	Yu-li	3.97	253	*e*Pn	Pn	07 30 34.4	-1.9
YULB				*e*Sn	Sn	07 31 17.6	-3.9
SSLB	Suanglung	4.17	259	*e*Pn	Pn	07 30 38.0	-0.9
SSLB				*e*Sn	Sn	07 31 22.9	-3.5
TWG	Pinlang	4.38	247	*e*Pn	Pn	07 30 39.3	-2.5
JTK	Tokunoshima	4.46	44	P	Pn	07 30 41.6	-1.2
JTK				*e*S	Sn	07 31 32.7	-0.7
TPUB	Ta-pu	4.59	254	*e*Pn	Pn	07 30 44.4	-0.2
JAM	Amami Oshima	5.31	44	P	Pn	07 30 53.2	-1.3
JMZ	Minamidaito 2	5.38	76	P	Pn	07 30 51.7	-3.7
JMZ				*e*S	Sn	07 31 46.7	-9.3
MJAR	Matsushiro Arr	16.17	40	P	Pn	07 33 25.4	+4.3
	0.6nm,0.3s,baz=228,slow=12,SNR=9.2						
MJAR	Matsushiro Arr	16.17	40	P	Pn	07 33 25.4	+4.3
GUMO	Guam	21.37	117	LR	LR	07 41 20.0	
	comp=Z,140nm,19.7s,MS3.4,baz=62,slow=32						
PETK	Petropavlovsk-	37.38	32	LR	LR	07 50 48.7	
	comp=Z,312nm,21.1s,MS4.1,baz=36,slow=34						
MKAR	Makanchi Array	40.76	314	P	P	07 37 13.3	+0.2
	0.5nm,0.4s,mb3.5,baz=101,slow=10,SNR=9.2						
MKAR				pP	pP	07 37 28.0	0.0
	0.3nm,0.5s,baz=97,slow=10,SNR=3.6						
MKAR	Makanchi Array	40.76	314	P	P	07 37 13.3	+0.2
MKAR				pP	pP	07 37 28.0	0.0
ZALV	Zalesovo Beam	42.04	325	P	P	07 37 23.2	-0.2
	0.5nm,0.5s,mb3.4,baz=123,slow=5.3,SNR=3.2						
ZALV	Zalesovo Beam	42.04	325	P	P	07 37 23.2	-0.2
WRAB	Tennant Creek	45.14	168	*e*P	P	07 37 48.4	-0.3
	3.0nm,0.8s,mb4.2						
WRA	Warramunga Arr	45.15	168	P	P	07 37 48.7	0.0
	0.8nm,0.7s,mb3.7,baz=349,slow=8.2,SNR=11						
WRA				pP	pP	07 38 03.8	0.0
	1.2nm,1.0s,baz=349,slow=8.8,SNR=3.2						
WRA	Warramunga Arr	45.15	168	P	P	07 37 48.7	0.0
WRA				pP	pP	07 38 03.8	0.0
ASAR	Alice Springs	48.71	170	P	P	07 38 17.6	+1.1
	0.5nm,0.5s,mb3.8,baz=356,slow=7.5,SNR=18						
ASAR				pP	pP	07 38 31.8	+0.1
	0.3nm,0.6s,baz=356,slow=6.7,SNR=3.2						
ASAR	Alice Springs	48.71	170	P	P	07 38 17.6	+1.1
ASAR				pP	pP	07 38 31.8	+0.1
STKA	Stephens Creek	58.28	164	P	P	07 39 27.0	+0.6
	0.7nm,0.5s,mb3.9,baz=16,slow=7.4,SNR=3.8						
STKA	Stephens Creek	58.28	164	*e*P	P	07 39 27.5	+1.1
	0.4nm,0.9s,mb3.5						
ILAR	Eielson Array	67.03	28	pP	pP	07 40 42.2	+1.9
	0.3nm,0.7s,baz=294,slow=8.5,SNR=2.8						
ILAR	Eielson Array	67.03	28	pP	pP	07 40 42.2	+1.9
AKASG	Malin Array Be	75.09	319	pP	pP	07 41 28.3	-1.3
	0.8nm,0.5s,baz=64,slow=5.4,SNR=2.8						
AKASG	Malin Array Be	75.09	319	pP	pP	07 41 28.3	-1.3
BRTR	Keskin Array B	76.00	307	pP	pP	07 41 33.8	-1.3
	1.4nm,0.9s,baz=59,slow=7.2,SNR=3.4						
BRTR	Keskin Array B	76.00	307	pP	pP	07 41 33.8	-1.3
YKA	Yellowknife Ar	81.02	24	P	P	07 41 48.6	+2.6
	0.1nm,0.8s,mb2.8,baz=291,slow=5.2,SNR=4.1						
YKA				pP	pP	07 42 03.8	+1.4
	0.7nm,0.8s,baz=301,slow=5.5,SNR=7.6						
YKA	Yellowknife Ar	81.02	24	P	P	07 41 48.6	+2.6
YKA				pP	pP	07 42 03.9	+1.4

DDA ***27*** *08:19:57.9, 37°.73N×29°.23E, h14km±1km, Md2.8*

ISK ***27*** *08:19:58.4, 37°.69N×29°.18E, h7km, MD2.8*

CSEM ***27*** *08:19:58.6±0.2, 37°.72N×29°.20E, h5km, MD2.8, Error ellipse: s-maj=5.4km s-min=4.2km az=78.0*

ISCJB ***27*** *08:19:59.0±0.4, 37°.71N±0°.02×29°.16E±0°.04, h10km, Error ellipse: s-maj=4.7km s-min=3.4km az=170.8*

ISC 27 08:19:59.3±0.5, 37°.73N±0°.02×29°.18E±0°.04, h9km±4km, n28, σ1s07/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.12	284	*e*PG	Pg	08 20 01.9	-0.1
DENT				*e*SG	Sg	08 20 04.7	+0.9
DENT	Denizli	0.12	284	*e*Pg	Pg	08 20 01.9	-0.1
DENT				*e*Sg	Sg	08 20 04.7	+0.9
GOLH	Golhisar	0.58	148	*i* P	Pg	08 20 07.9	-2.5
GOLH				*i* S	Sg	08 20 17.5	-0.4
GOLH	Golhisar	0.58	148	*i* P	Pg	08 20 07.9	-2.5
GOLH				*i* S	Sg	08 20 17.5	-0.4
GLHS	Glhisar (BURDU	0.62	156	*e*PG	Pg	08 20 09.5	-1.8
GLHS				*e*SG	Sg	08 20 19.5	+0.1
GLHS	Glhisar (BURDU	0.62	156	*e*Pg	Pg	08 20 09.5	-1.8
GLHS				*e*Sg	Sg	08 20 19.5	+0.1
KHAL	Karahalli	0.69	21	*i* P	Pg	08 20 11.4	-1.2
KHAL				*i* S	Sg	08 20 23.3	+1.7
KHAL	Karahalli	0.69	21	*i* P	Pg	08 20 11.4	-1.2
KHAL				*i* S	Sg	08 20 23.3	+1.7
KULA	Kula-Manisa	0.89	333	*e*PG	Pg	08 20 16.5	+0.2
KULA	Kula-Manisa	0.89	333	*e*Pg	Pg	08 20 16.5	+0.2
YER	Yerkesik	0.92	231	*e*PG	Pg	08 20 15.9	-1.1
YER				*e*SG	Sg	08 20 28.9	-0.2
YER	Yerkesik	0.92	231	*e*Pg	Pg	08 20 16.0	-1.0
YER				*e*Sg	Sg	08 20 28.9	-0.1
TURN	Turunc	0.97	208	*i* P	Pg	08 20 20.5	+2.7
TURN				*i* S	Sg	08 20 39.0	+8.7
TURN	Turunc	0.97	208	*i* P	Pg	08 20 20.5	+2.7
KORT	Korkueli	1.18	127	*i* P	Pb	08 20 21.9	0.0
KORT				*i* S	Sg	08 20 39.0	+1.7
KORT	Korkueli	1.18	127	*i* P	Pb	08 20 21.9	0.0
KORT				*i* S	Sg	08 20 39.0	+1.7
SHUT	Suhut-Afyon	1.36	52	*e*PN	Pn	08 20 24.8	+0.2
SHUT	Suhut-Afyon	1.36	52	*e*Pn	Pn	08 20 24.8	+0.3
GDZ	Gediz	1.38	10	*i* P	Pn	08 20 23.2	-1.5
GDZ				*i* S	Sb	08 20 43.0	-0.1
GDZ	Gediz	1.38	10	*i* P	Pn	08 20 23.2	-1.6
GDZ				*i* S	Sb	08 20 43.0	-0.1
ALT	Altintas	1.52	29	*e*PN	Pn	08 20 26.6	0.0
ALT	Altintas	1.52	29	*e*Pn	Pn	08 20 26.6	0.0
AKAS	Kas	1.53	167	*i* P	Pn	08 20 27.1	+0.3
AKAS				*i* S	Sn	08 20 48.0	+1.3
AKAS	Kas	1.53	167	*i* P	Pn	08 20 27.1	+0.3
AKAS				*i* S	Sn	08 20 48.0	+1.2
DAT	Datca	1.62	233	*e*PN	Pn	08 20 28.0	0.0
DAT	Datca	1.62	233	*e*Pn	Pn	08 20 28.0	0.0
BODT	Bodrum	1.63	247	*e*PN	Pn	08 20 28.2	+0.1
BODT	Bodrum	1.63	247	*e*Pn	Pn	08 20 28.2	+0.1

TIR ***27*** *08:26:59.8±4.5, 40°.09N×23°.83E, h0km±328km, ML4.3*

SKO ***27*** *08:26:59.9, 40°.04N×24°.21E, h0km, M4.2, ML4.6*

ISCJB ***27*** *08:27:01.6±0.3, 40°.139N±0°.010×24°.07E±0°.01, h4km±2km, mb4.2/32, MS3.6/7, Error ellipse: s-maj=1.6km s-min=1.6km az=2.2*

PDG ***27*** *08:27:01.9±1.0, 40°.13N×24°.05E, h0km±11km, ML4.1/9, Error ellipse: s-maj=1.6km s-min=1.3km az=90.0*

DDA ***27*** *08:27:02.4, 40°.37N×24°.22E, h13km±4km, Md3.7*

CSEM ***27*** *08:27:02.3±0.1, 40°.11N×24°.03E, h2km, mb4.3/9, Error ellipse: s-maj=2.0km s-min=1.9km az=34.0*

ATH ***27*** *08:27:02.4, 40°.14N×24°.01E, h29km, ML4.1*

THE ***27*** *08:27:02.8, 40°.12N×24°.05E, h3km±1km, ML4.4/14, Error ellipse: s-maj=1.2km s-min=0.6km az=314.0*

NEIC ***27*** *08:27:02.4, 40°.14N×24°.01E, h29km, mb4.4/12, ML4.1(ATH), After ATH.*

IDC ***27*** *08:27:02.1±0.6, 40°.15N×24°.14E, h0km, mb4.1/17, mb1 4.2/25, mb1mx4.1/33, mbtmp4.0/25, ML3.6/8, MS3.7/8, Ms1 3.8/8, ms1mx3.2/45, Error ellipse: s-maj=12.0km s-min=9.8km az=96.0*

SOF ***27*** *08:27:03.1, 40°.29N×24°.11E, h7km, MD3.7*

BEO ***27*** *08:27:04.1±0.9, 40°.13N×23°.90E, h14km±4km, ML4.5/1*

MOS ***27*** *08:27:05.8±1.3, 40°.26N×24°.08E, h33km, mb4.6/11, Error ellipse: s-maj=6.9km s-min=3.8km az=91.5*

ISK ***27*** *08:27:05.9, 39°.86N×24°.34E, h8km, ML4.0*

ISC 27 08:27:02.7±0.3, 40°.16N±0°.009×24°.05E±0°.01, h3km±2km, n665, σ1s27/793, mb4.2/32, MS3.6/7, 65C-48D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.22	347	P	Pg	08 27 07.5	+0.5
OUR				S	Sg	08 27 10.9	+1.0
OUR	Ouranopolis	0.22	347	P	Pg	08 27 07.5	+0.5
OUR				S	Sg	08 27 10.9	+1.0
PAIG	Paliouri	0.34	236	P	Pg	08 27 09.5	+0.3
PAIG				S	Sg	08 27 14.1	+0.5
PAIG	Paliouri	0.34	236	P	Pg	08 27 09.5	+0.3
PAIG				S	Sg	08 27 14.1	+0.5
PLG	Polygyros	0.53	299	*e*PB

RDO				*e*SN	Sn	08 27 49.4	-2.0
RDO	**Rodhopi**	**1.53**	**47**	P	Pn	08 27 30.0	-0.9
RDO				S	Sn	08 27 51.7	+0.3
RDO	**Rodhopi**	**1.53**	**47**	*e*Pn	Pn	08 27 29.5	-1.4
RDO	**Rodhopi**	**1.53**	**47**	P	Pn	08 27 30.0	-0.9
RDO				*e*Sn	Sn	08 27 49.4	-2.0
RDO				S	Sn	08 27 51.7	+0.3
BOZC	**Bozcaada**	**1.56**	**99**	*i* P	Pn	08 27 30.3	-1.1
BOZC				*i* S	Sn	08 27 48.6	-3.6
ATAL	**Atalanti**	**1.63**	**210**	P	Pn	08 27 31.1	-1.2
ATAL	**Atalanti**	**1.63**	**210**	P	Pn	08 27 31.1	-1.2
VAY	**Valandovo**	**1.65**	**317**	*e*Pn	Pn	08 27 31.3	-1.2
VAY				*e*Sn	Sn	08 27 54.7	+0.5
VAY				*e*Lg		08 27 54.9	
	comp=N,9μm,1.1s						
VAY				*e*Lg		08 27 55.1	
	comp=E,5μm,0.8s						
VAY	**Valandovo**	**1.65**	**317**	*e*Pn	Pn	08 27 31.3	-1.2
VAY				*e*Sn	Sn	08 27 54.7	+0.5
VAY				*e*Lg		08 27 54.9	
	comp=E,9μm,1.1s						
RZN	**Rozhen**	**1.65**	**18**	*i* P	Pn	08 27 31.8	-0.8
RZN	**Rozhen**	**1.65**	**18**	*i* P	Pn	08 27 31.8	-0.8
THL	**Klokotos Trika**	**1.66**	**251**	*e*PN	Pn	08 27 31.6	-1.1
THL				*e*SN	Sn	08 27 52.3	-2.2
THL	**Klokotos Trika**	**1.66**	**251**	P	Pn	08 27 31.6	-1.1
THL				S	Sn	08 27 55.6	+1.1
THL	**Klokotos Trika**	**1.66**	**251**	P	Pn	08 27 31.6	-1.1
THL				*e*Sn	Sn	08 27 52.3	-2.2
THL				S	Sn	08 27 55.6	+1.1
LKR	**Lokris**	**1.67**	**209**	*e*PB	Pn	08 27 31.7	-1.2
LKR	**Lokris**	**1.67**	**209**	P	Pn	08 27 31.6	-1.3
LKR	**Lokris**	**1.67**	**209**	P	Pn	08 27 31.6	-1.3
ERET	**Eretria**	**1.68**	**186**	P	Pn	08 27 31.9	-1.1
ERET				S	Sn	08 27 54.3	-0.8
ERET	**Eretria**	**1.68**	**186**	P	Pn	08 27 31.9	-1.1
ERET				S	Sn	08 27 54.3	-0.8
ALN	**Alexandroupoli**	**1.71**	**62**	*e*PB	Pn	08 27 32.0	-1.4
ALN	**Alexandroupoli**	**1.71**	**62**	P	Pn	08 27 32.1	-1.3
ALN				S	Sn	08 27 55.0	-0.8
ALN	**Alexandroupoli**	**1.71**	**62**	P	Pn	08 27 32.1	-1.3
ALN				S	Sn	08 27 55.0	-0.8
AGG	**Agios Georgios**	**1.72**	**231**	*e*PN	Pn	08 27 32.4	-1.1
AGG	**Agios Georgios**	**1.72**	**231**	P	Pn	08 27 32.4	-1.1
AGG				S	Sn	08 27 56.1	+0.1
AGG	**Agios Georgios**	**1.72**	**231**	P	Pn	08 27 32.4	-1.1
AGG				S	Sn	08 27 56.1	+0.1
ENEZ	**Enez**	**1.72**	**68**	*e*PN	Pn	08 27 35.8	+2.2
ENEZ				*e*SN	Sn	08 27 58.1	+2.1
ENEZ	**Enez**	**1.72**	**68**	*e*Pn	Pn	08 27 35.8	+2.2
ENEZ				*e*Sn	Sn	08 27 58.2	+2.1
KZN	**Kozani**	**1.75**	**277**	*e*PN	Pn	08 27 33.0	-1.0
KZN	**Kozani**	**1.75**	**277**	P	Pn	08 27 33.3	-0.7
KZN				S	Sn	08 27 56.9	0.0
KZN	**Kozani**	**1.75**	**277**	*e*Pn	Pn	08 27 33.0	-1.0
KZN	**Kozani**	**1.75**	**277**	P	Pn	08 27 33.3	-0.7
KZN				S	Sn	08 27 56.9	0.0
EZN	**Ezine**	**1.77**	**99**	*e*PN	Pn	08 27 34.2	-0.1
EZN				*e*SN	Sn	08 27 54.0	-3.4
EZN	**Ezine**	**1.77**	**99**	*e*Pn	Pn	08 27 34.2	-0.1
EZN				*e*Sn	Sn	08 27 54.0	-3.4
MAKR	**Makrakomi, Fth**	**1.84**	**234**	P	Pn	08 27 34.7	-0.6
MAKR	**Makrakomi, Fth**	**1.84**	**234**	P	Pn	08 27 34.7	-0.6
KDZ	**Kurdzhali**	**1.85**	**34**	*i* P	Pn	08 27 33.5	-1.8
KDZ	**Kurdzhali**	**1.85**	**34**	*i* P	Pn	08 27 33.5	-1.8
GELI	**Tayfur-Gelibol**	**1.88**	**81**	*e*PN	Pn	08 27 36.9	+1.2
GELI	**Tayfur-Gelibol**	**1.88**	**81**	*e*Pn	Pn	08 27 36.9	+1.2
KKB	**Krupnik**	**1.90**	**338**	*i* P	Pn	08 27 34.9	-1.0
KKB	**Krupnik**	**1.90**	**338**	*i* P	Pn	08 27 34.9	-1.0
PRK	**Paraskevi**	**1.92**	**116**	*e*PB	Pn	08 27 36.2	-0.1
PRK	**Paraskevi**	**1.92**	**116**	P	Pn	08 27 36.2	-0.1
PRK				S	Sn	08 28 01.4	+0.3
PRK	**Paraskevi**	**1.92**	**116**	*e*Pb	Pn	08 27 36.2	-0.1
PRK				S	Sn	08 28 01.4	+0.3
ERIK	**Erikli-Kesan**	**1.96**	**73**	*e*PN	Pn	08 27 38.3	+1.4
ERIK	**Erikli-Kesan**	**1.96**	**73**	*e*Pn	Pn	08 27 38.3	+1.4
VIL1	**Vilia, Western**	**2.03**	**196**	*e*PN	Pn	08 27 36.6	-1.2
PLD	**Plovdiv**	**2.05**	**14**	*i* Pn	Pn	08 27 37.9	-0.1
PLD				*i* Sn	Sn	08 28 03.7	-0.4
PLD				*i* Sg	Sg	08 28 10.3	+1.8
PLD	**Plovdiv**	**2.05**	**14**	P	Pn	08 27 37.9	-0.1
PLD	**Plovdiv**	**2.05**	**14**	*i* P	Pn	08 27 37.9	-0.1
PLD	**Plovdiv**	**2.05**	**14**	P	Pn	08 27 37.9	-0.1
PLD				*i* Sn	Sn	08 28 03.7	-0.4
PLD				*i* Sg	Sg	08 28 10.3	+1.8
DESF	**Desfina**	**2.07**	**215**	P	Pn	08 27 36.0	-2.3
DESF	**Desfina**	**2.07**	**215**	P	Pn	08 27 36.0	-2.3
PTL	**Penteli**	**2.07**	**184**	*e*PN	Pn	08 27 37.4	-0.9
PTL	**Penteli**	**2.07**	**184**	P	Pn	08 27 37.5	-0.8
PTL	**Penteli**	**2.07**	**184**	P	Pn	08 27 37.5	-0.8
MRMA	**Marmari**	**2.07**	**173**	P	Pn	08 27 37.6	-0.8
MRMA	**Marmari**	**2.07**	**173**	P	Pn	08 27 37.6	-0.8
LPK	**Lapseki**	**2.09**	**82**	*e*PN	Pn	08 27 40.2	+1.6
LPK	**Lapseki**	**2.09**	**82**	*e*Pn	Pn	08 27 40.2	+1.5
EVR	**Evrytania**	**2.11**	**236**	*e*PB	Pn	08 27 38.1	-0.7
EVR	**Evrytania**	**2.11**	**236**	P	Pn	08 27 38.2	-0.6
EVR				S	Sn	08 28 06.8	+1.3
EVR	**Evrytania**	**2.11**	**236**	P	Pn	08 27 38.2	-0.6
EVR				S	Sn	08 28 06.8	+1.3
FNA	**Florina**	**2.14**	**289**	P	Pn	08 27 38.7	-0.7
FNA	**Florina**	**2.14**	**289**	P	Pn	08 27 38.7	-0.7
ATH	**Athens Observa**	**2.16**	**187**	*e*PN	Pn	08 27 38.4	-1.1
ATH				*e*SB	Sn	08 28 04.8	-2.0
ATH	**Athens Observa**	**2.16**	**187**	P	Pn	08 27 39.0	-0.5
ATH	**Athens Observa**	**2.16**	**187**	*e*Pn	Pn	08 27 38.4	-1.1
ATH	**Athens Observa**	**2.16**	**187**	P	Pn	08 27 39.0	-0.5
ATH				*e*Sb	Sn	08 28 04.8	-2.0
MEV	**Metsovon**	**2.19**	**262**	P	Pn	08 27 40.5	+0.5
MEV	**Metsovon**	**2.19**	**262**	P	Pn	08 27 40.5	+0.5
AYVA	**Ayvalik**	**2.19**	**111**	*i* P	Pn	08 27 39.8	-0.2
AYVA				*i* S	Sn	08 28 03.9	-3.8
AYVA	**Ayvalik**	**2.19**	**111**	*i* P	Pn	08 27 39.8	-0.2
AYVA				*i* S	Sn	08 28 03.9	-3.8
DIM	**Dimitrovgrad**	**2.23**	**30**	*i* P	Pn	08 27 39.9	-0.7
DIM				*i* Pg	Pg	08 27 44.8	-0.7
DIM	**Dimitrovgrad**	**2.23**	**30**	*i* P	Pn	08 27 39.9	-0.7
LTK	**Loutraki**	**2.25**	**202**	*e*PN	Pn	08 27 39.9	-1.0
LTK	**Loutraki**	**2.25**	**202**	*e*Pn	Pn	08 27 39.9	-1.0
BIA	**Bitola**	**2.26**	**294**	*e*Pn	Pn	08 27 40.1	-0.9
BIA				*e*Sn	Sn	08 28 11.7	+2.3
BIA				*e*Lg		08 28 11.9	
	comp=N,247nm,0.5s						
BIA				*e*Lg		08 28 12.1	
	comp=E,298nm,0.6s						
BIA	**Bitola**	**2.26**	**294**	*e*Pn	Pn	08 27 40.1	-0.9
BIA				*e*Sn	Sn	08 28 11.7	+2.3
BIA				*e*Lg		08 28 11.8	
	comp=E,247nm,0.5s						
VLY	**Voula,Athens**	**2.27**	**185**	*e*PN	Pn	08 27 40.1	-1.0
VLY	**Voula,Athens**	**2.27**	**185**	P	Pn	08 27 40.1	-1.0
VLY	**Voula,Athens**	**2.27**	**185**	P	Pn	08 27 40.1	-1.0
KALE	**Kalithea**	**2.27**	**221**	P	Pn	08 27 40.2	-0.9
KALE	**Kalithea**	**2.27**	**221**	P	Pn	08 27 40.2	-0.9
NEST	**Nestorio**	**2.31**	**278**	P	Pn	08 27 41.5	-0.2
NEST	**Nestorio**	**2.31**	**278**	P	Pn	08 27 41.5	-0.2
TRIZ	**Trizonia**	**2.33**	**222**	P	Pn	08 27 40.2	-1.7
TRIZ	**Trizonia**	**2.33**	**222**	P	Pn	08 27 40.2	-1.7
CHOS	**Chios island**	**2.33**	**137**	*e*PN	Pn	08 27 41.8	-0.1
CHOS	**Chios island**	**2.33**	**137**	P	Pn	08 27 41.9	0.0
CHOS	**Chios island**	**2.33**	**137**	*e*Pn	Pn	08 27 41.8	-0.1
THAL	**Thalero**	**2.34**	**208**	P	Pn	08 27 41.2	-0.8
THAL	**Thalero**	**2.34**	**208**	P	Pn	08 27 41.2	-0.8
EFP	**Efpalio**	**2.37**	**225**	*e*PN	Pn	08 27 41.7	-0.7
EFP	**Efpalio**	**2.37**	**225**	*e*Pn	Pn	08 27 41.7	-0.7
NAIG	**Nisos Aigina**	**2.39**	**191**	*e*PN	Pn	08 27 41.8	-1.0
NAIG	**Nisos Aigina**	**2.39**	**191**	*e*Pn	Pn	08 27 41.8	-1.0
PGB	**Panagyurishte**	**2.43**	**2**	P	Pn	08 27 42.3	-1.0
PGB				*i* Pg	Pg	08 27 47.0	-2.3
PGB	**Panagyurishte**	**2.43**	**2**	*i* P	Pn	08 27 42.3	-1.0
RKY	**Sarkoy-Tekirda**	**2.46**	**76**	*e*PN	Pn	08 27 46.1	+2.4
RKY	**Sarkoy-Tekirda**	**2.46**	**76**	*e*Pn	Pn	08 27 46.1	+2.4
SART	**Tekirdag**	**2.46**	**76**	*i* P	Pn	08 27 40.9	-2.8
SART	**Tekirdag**	**2.46**	**76**	*i* P	Pn	08 27 40.9	-2.8
KRUS	**Krusevo**	**2.47**	**301**	*e*Pn	Pn	08 27 42.9	-0.9
KRUS	**Krusevo**	**2.47**	**301**	*e*Pn	Pn	08 27 42.9	-0.9
LAKA	**Lakka**	**2.47**	**221**	P	Pn	08 27 43.0	-0.8
LAKA	**Lakka**	**2.47**	**221**	P	Pn	08 27 43.0	-0.8
JAN	**Janina**	**2.50**	**260**	*e*PN	Pn	08 27 43.1	-1.2
JAN	**Janina**	**2.50**	**260**	P	Pn	08 27 44.4	+0.1
JAN	**Janina**	**2.50**	**260**	*e*Pn	Pn	08 27 43.1	-1.2
JAN	**Janina**	**2.50**	**260**	P	Pn	08 27 44.4	+0.1
KRBG	**Karabiga-Canak**	**2.50**	**83**	*e*PN	Pn	08 27 44.7	+0.4
KRBG	**Karabiga-Canak**	**2.50**	**83**	*e*Pn	Pn	08 27 44.7	+0.4
UPR	**University Cam**	**2.54**	**225**	*e*PN	Pn	08 27 44.1	-0.7
UPR	**University Cam**	**2.54**	**225**	*e*Pn	Pn	08 27 44.1	-0.7
VTS	**Vitosha**	**2.55**	**346**	⇓*i*Pn	Pn	08 27 44.9	-0.1
VTS				*i* Sn	Sn	08 28 15.2	-1.4
VTS	**Vitosha**	**2.55**	**346**	P	Pn	08 27 44.9	-0.1
VTS	**Vitosha**	**2.55**	**346**	⇑P	Pn	08 27 44.9	-0.1
VTS				S	Sn	08 28 16.7	+0.1
VTS	**Vitosha**	**2.55**	**346**	*i* P	Pn	08 27 44.8	-0.2
VTS	**Vitosha**	**2.55**	**346**	⇑*i*P	Pn	08 27 44.9	-0.1
VTS	**Vitosha**	**2.55**	**346**	S	Sn	08 28 16.7	+0.1
VTS	**Vitosha**	**2.55**	**346**	P	Pn	08 27 44.9	-0.1
VTS				*i* Sn	Sn	08 28 15.2	-1.4
VTS				S	Sn	08 28 16.7	+0.1
MFT	**Murefte**	**2.56**	**74**	*e*PN	Pn	08 27 46.7	+1.7
MFT	**Murefte**	**2.56**	**74**	*e*Pn	Pn	08 27 46.7	+1.7
URLA	**Izmir**	**2.64**	**131**	*i* P	Pn	08 27 45.0	-1.2
URLA	**Izmir**	**2.64**	**131**	*i* P	Pn	08 27 45.0	-1.2
EDRB	**Edirne**	**2.67**	**49**	*e*PN	Pn	08 27 50.5	+3.8
EDRB	**Edirne**	**2.67**	**49**	*e*Pn	Pn	08 27 50.5	+3.8
SKO	**Skopje**	**2.71**	**314**	*e*Pn	Pn	08 27 47.1	0.0
SKO	**Skopje**	**2.71**	**314**	*e*Pn	Pn	08 27 47.1	0.0
DIDY	**Didyma**	**2.72**	**194**	P	Pn	08 27 46.5	-0.7
DIDY	**Didyma**	**2.72**	**194**	P	Pn	08 27 46.5	-0.7
BALY	**Balya**	**2.77**	**97**	*i* P	Pn	08 27 48.2	+0.2
BALY	**Balya**	**2.77**	**97**	*i* P	Pn	08 27 48.2	+0.2
GONE	**Gonen-Balikesi**	**2.79**	**90**	*e*PN	Pn	08 27 49.2	+0.9
GONE	**Gonen-Balikesi**	**2.79**	**90**	*e*Pn	Pn	08 27 49.2	+0.9
TKR	**Tekirdag**	**2.80**	**71**	*e*PN	Pn	08 27 50.6	+2.3
TKR	**Tekirdag**	**2.80**	**71**	*e*Pn	Pn	08 27 50.6	+2.2
RLS	**Riolos of Patr**	**2.87**	**225**	*e*PN	Pn	08 27 49.2	-0.2
RLS	**Riolos of Patr**	**2.87**	**225**	P	Pn	08 27 50.5	+1.1
RLS	**Riolos of Patr**	**2.87**	**225**	*e*Pb	Pn	08 27 50.2	+0.8
RLS	**Riolos of Patr**	**2.87**	**225**	P	Pn	08 27 50.5	+1.1
BLCB	**Balcova**	**2.90**	**126**	*e*PN	Pn	08 27 49.0	-0.7
BLCB	**Balcova**	**2.90**	**126**	*e*Pn	Pn	08 27 49.0	-0.7
IGT	**Igoumenitsa**	**2.92**	**260**	P	Pn	08 27 52.0	+2.0
EDC	**Edincik**	**2.93**	**84**	*e*PN	Pn	08 27 51.6	+1.5
EDC	**Edincik**	**2.93**	**84**	*e*Pn	Pn	08 27 51.7	+1.5
LKD2	**Lefkada island**	**2.94**	**244**	P	Pn	08 27 51.7	+1.4
LKD2	**Lefkada island**	**2.94**	**244**	P	Pn	08 27 51.7	+1.4
BNT	**Bandirma**	**2.97**	**84**	*e*PN	Pn	08 27 52.7	+1.9
BNT	**Bandirma**	**2.97**	**84**	*e*Pn	Pn	08 27 52.7	+1.9
JMB	**Yambol**	**3.03**	**38**	P	Pn	08 27 51.2	-0.3
JMB	**Yambol**	**3.03**	**38**	*i* P	Pn	08 27 50.9	-0.6
JMB	**Yambol**	**3.03**	**38**	P	Pn	08 27 51.2	-0.3
IZM	**Izmir**	**3.03**	**123**	*e*PN	Pn	08 27 51.6	+0.1
IZM	**Izmir**	**3.03**	**123**	*e*Pn	Pn	08 27 51.6	+0.1
VLX	**Vlachokerasia**	**3.04**	**206**	*e*PN	Pn	08 27 51.2	-0.4
VLX	**Vlachokerasia**	**3.04**	**206**	*e*Pn	Pn	08 27 51.2	-0.4
SRN	**Sarande**	**3.12**	**267**	*i* PN	Pn	08 27 55.8	+3.0
SRN				*i* SN	Sn	08 28 31.7	+1.2
SRN	**Sarande**	**3.12**	**267**	*i* Pn	Pn	08 27 55.8	+3.1
	SNR=40						
SRN				*i* Sn	Sn	08 28 31.7	+1.2
	SNR=40						
PHP	**Peshkopia**	**3.15**	**301**	*i* PN	Pn	08 27 53.5	+0.3
PHP				*i* SN	Sn	08 28 34.0	+2.6
PHP	**Peshkopia**	**3.15**	**301**	*i* Pn	Pn	08 27 53.5	+0.3
	SNR=40						
PHP				*i* Sn	Sn	08 28 34.0	+2.7
	SNR=40						
AKHS	**Akhisar**	**3.17**	**112**	*i* P	Pn	08 27 54.1	+0.7
AKHS	**Akhisar**	**3.17**	**112**	*i* P	Pn	08 27 54.1	+0.7
BARS	**Barje**	**3.18**	**329**	⇓*i*Pn	Pn	08 27 53.1	-0.5
BARS				*i* Sg	Sg	08 28 41.8	-2.9
BARS				*e*Sg	Sg	08 28 43.3	-1.4
SMG	**Samos**	**3.24**	**137**	*e*PN	Pn	08 27 54.5	0.0
SMG	**Samos**	**3.24**	**137**	*e*Pn	Pn	08 27 54.5	0.0
PVL	**Pavlikeni**	**3.24**	**17**	*i* P	Pn	08 27 52.2	-2.3
PVL	**Pavlikeni**	**3.24**	**17**	*i* P	Pn	08 27 52.2	-2.3
PVL	**Pavlikeni**	**3.24**	**17**	*i* Pg	Pg	08 28 02.9	-1.9
MPEP	**Malo Peshtene**	**3.25**	**356**	*i* P	Pn	08 27 54.3	-0.2
MPEP				*i* Pg	Pg	08 28 02.9	-2.0
APE	**Apeiranthos**	**3.26**	**159**	*e*PN	Pn	08 27 53.6	-1.0
APE	**Apeiranthos**	**3.26**	**159**	*e*PN	Pn	08 27 54.0	-0.7
APE	**Apeiranthos**	**3.26**	**159**	P	Pn	08 27 54.0	-0.7
APE	**Apeiranthos**	**3.26**	**159**	⇑P	Pn	08 27 53.9	-0.8
APE	**Apeiranthos**	**3.26**	**159**	⇑*i*P	Pn	08 27 53.9	-0.8
APE	**Apeiranthos**	**3.26**	**159**	P	Pn	08 27 53.9	-0.8
KEK	**Kerkira**	**3.29**	**264**	*e*PN	Pn	08 27 54.7	-0.5
KEK	**Kerkira**	**3.29**	**264**	P	Pn	08 27 57.3	+2.1
KCTX	**Karacabey (Bur**	**3.30**	**86**	*e*PN	Pn	08 27 56.1	+0.8
KCTX	**Karacabey (Bur**	**3.30**	**86**	*e*Pn	Pn	08 27 56.1	+0.8
VLS	**Valsamata**	**3.31**	**235**	*e*PN	Pn	08 27 55.2	-0.2
VLS	**Valsamata**	**3.31**	**235**	P	Pn	08 27 56.0	+0.6
VLS	**Valsamata**	**3.31**	**235**	P	Pn	08 27 56.0	+0.6
ZAPS	**Zavoj**	**3.33**	**342**	⇓*i*Pn	Pn	08 27 56.0	+0.4
SLVT	**Silivri**	**3.36**	**69**	*e*PN	Pn	08 27 59.2	+3.2
SLVT	**Silivri**	**3.36**	**69**	*e*Pn	Pn	08 27 59.3	+3.3
ITM	**Ithomi**	**3.37**	**210**	P	Pn	08 27 56.8	+0.6
ITM	**Ithomi**	**3.37**	**210**	P	Pn	08 27 56.8	+0.6
TIR	**Tirane**	**3.41**	**293**	*i* PN	Pn	08 27 59.7	+3.0
TIR	**Tirane**	**3.41**	**293**	*e*P	Pn	08 27 58.8	+2.0
TIR	**Tirane**	**3.41**	**293**	*e*P	Pn	08 27 58.8	+2.1
TIR	**Tirane**	**3.41**	**293**	*e*P	Pn	08 27 58.8	+2.1
TIR	**Tirane**	**3.41**	**293**	*i* Pn	Pn	08 27 59.7	+3.0
	SNR=40						
SZH	**Strazhica**	**3.45**	**24**	*i* P	Pn	08 27 56.7	-0.6
SZH	**Strazhica**	**3.45**	**24**	*i* P	Pn	08 27 56.7	-0.6
CTYL	**Yal??k??y-??at**	**3.49**	**66**	*e*PN	Pn	08 28 00.6	+2.7
CTYL	**Yal??k??y-??at**	**3.49**	**66**	*e*Pn	Pn	08 28 00.6	+2.7
DST	**Dursunbey**	**3.56**	**97**	*e*PN	Pn	08 27 58.9	+0.1
DST	**Dursunbey**	**3.56**	**97**	*e*Pn	Pn	08 27 58.9	+0.1
CTKS	**Kestanelik-??a**	**3.57**	**70**	*e*PN	Pn	08 28 02.1	+3.2
CTKS	**Kestanelik-??a**	**3.57**	**70**	*e*Pn	Pn	08 28 02.2	+3.2
ZIMR		**3.67**	**15**	S	Sg	08 29 02.5	+1.9
PUK	**Puka**	**3.68**	**303**	*i* PN	Pn	08 28 03.1	+2.6
PUK				*i* SN	Sn	08 28 50.0	+5.6
PUK	**Puka**	**3.68**	**303**	*i* Pn	Pn	08 28 03.1	+2.6
	SNR=40						
ARMT	**Armutlu**	**3.71**	**81**	*e*PN	Pn	08 28 02.9	+2.0
ARMT	**Armutlu**	**3.71**	**81**	*e*Pn	Pn	08 28 02.9	+2.0
BCI	**Bajram Curri**	**3.75**	**308**	*i* PN	Pn	08 28 01.7	+0.3
BCI				*i* SN	Sn	08 28 54.8	+8.7
BCI	**Bajram Curri**	**3.75**	**308**	*i* Pn	Pn	08 28 01.7	+0.3
	SNR=40						
BGKT	**Bogazkoy**	**3.75**	**72**	*e*PN	Pn	08 28 04.4	+3.0
BGKT	**Bogazkoy**	**3.75**	**72**	*e*Pn	Pn	08 28 04.4	+3.0
SELS	**Selova**	**3.80**	**326**	⇑*i*Pn	Pn	08 28 01.0	-1.1
SELS				*i* Sn	Sn	08 28 44.0	-3.3
ROIA	**ROIAK**	**3.88**	**39**	*i* P	Pn	08 28 03.2	-0.1
KULA	**Kula-Manisa**	**3.92**	**113**	*e*PN	Pn	08 28 03.4	-0.4
KULA	**Kula-Manisa**	**3.92**	**113**	*e*Pn	Pn	08 28 03.4	-0.4
ISK	**Istanbul-Kandi**	**3.93**	**74**	*e*PN	Pn	08 28 06.6	+2.6
ISK	**Istanbul-Kandi**	**3.93**	**74**	*e*Pn	Pn	08 28 06.6	+2.7
PVY	**Plav**	**3.95**	**310**	⇑*i*Pn	Pn	08 28 04.5	+0.3
PVY				*e*Sn	Sn	08 28 53.3	+2.3
PVY	**Plav**	**3.95**	**310**	⇑*i*Pn	Pn	08 28 04.5	+0.3
PVY				*e*Sn	Sn	08 28 53.3	+2.3
KLYT	**Kilyos**	**3.96**	**72**	*e*PN	Pn	08 28 07.5	+3.2
KLYT	**Kilyos**	**3.96**	**72**	*e*Pn	Pn	08 28 07.6	+3.2
PRD	**Provadia**	**3.98**	**38**	*i* P	Pn	08 28 03.6	-0.9
PRD	**Provadia**	**3.98**	**38**	*i* P	Pn	08 28 03.6	-0.9
BODT	**Bodrum**	**3.98**	**139**	*e*PN	Pn	08 28 03.9	-0.7
BODT	**Bodrum**	**3.98**	**139**	*e*Pn	Pn	08 28 03.9	-0.7
BOLS	**Boljevac**	**4.03**	**338**	⇓*i*Pn	Pn	08 28 02.9	-2.3
BOLS				*e*Sn	Sn	08 28 49.7	-3.2
BOLS	**Boljevac**	**4.03**	**338**	⇓*i*Pn	Pn	08 28 02.9	-2.3
BOLS				*e*Sn	Sn	08 28 49.7	-3.2
ULC	**Ulcinj**	**4.07**	**298**	⇑*i*Pn	Pn	08 28 06.7	+0.8
ULC				*e*Sn	Sn	08 28 56.4	+2.3
ULC	**Ulcinj**	**4.07**	**298**	⇑*i*Pn	Pn	08 28 06.7	+0.8
ULC				*e*Sn	Sn	08 28 56.4	+2.3
YLV	**Yalova**	**4.09**	**82**	*e*PN	Pn	08 28 08.0	+1.8
YLV	**Yalova**	**4.09**	**82**	*e*Pn	Pn	08 28 08.0	+1.8
IVA	**Berane**	**4.16**	**313**	⇓*i*Pn	Pn	08 28 07.5	+0.5
IVA				*e*Sn	Sn	08 28 58.4	+2.2
BEY	**Berane**	**4.16**	**313**	⇓*i*Pn	Pn	08 28 07.5	+0.4
BEY				*e*Sn	Sn	08 28 58.4	+2.2
CRAR	**CRAIOVA**	**4.21**	**358**	⇑*i*P	Pg	08 28 21.7	-1.6
TTG	**Podgorica**	**4.28**	**304**	⇓*i*Pn	Pn	08 28 09.6	+0.8
TTG				*e*Sn	Sn	08 29 01.7	+2.4
PDG	**Podgorica**	**4.29**	**304**	⇓*i*Pn	Pn	08 28 09.6	+0.8
PDG				*e*Sn	Sn	08 29 01.7	+2.3
HRT	**Hereke**	**4.34**	**79**	*e*PN	Pn	08 28 11.7	+2.1
HRT	**Hereke**	**4.34**	**79**	*e*Pn	Pn	08 28 11.7	+2.1
SILT	**Sile**	**4.38**	**75**	*e*PN	Pn	08 28 13.5	+3.4
SILT	**Sile**	**4.38**	**75**	*e*Pn	Pn	08 28 13.5	+3.4
CAVI	**Cavuskoy**	**4.44**	**87**	*e*PN	Pn	08 28 12.4	+1.4
CAVI	**Cavuskoy**	**4.44**	**87**	*e*Pn	Pn	08 28 12.4	+1.4
YER	**Yerkesik**	**4.46**	**131**	*e*PN	Pn	08 28 11.8	+0.6
YER	**Yerkesik**	**4.46**	**131**	*e*Pn	Pn	08 28 11.8	+0.6
BUM	**Brajici-Budva**	**4.46**	**301**	⇓*i*Pn	Pn	08 28 12.1	+0.9
BUM				*e*Sn	Sn	08 29 04.7	+1.1
BUM	**Brajici-Budva**	**4.46**	**301**	⇓*i*Pn	Pn	08 28 12.1	+0.9
BUM				*e*Sn	Sn	08 29 04.7	+1.1
HUMR	**Humele**	**4.46**	**9**	⇑*i*P	Pn	08 28 10.5	-0.7
HUMR	**Humele**	**4.46**	**9**	S	Sg	08 29 25.6	-0.4
HUMR	**Humele**	**4.46**	**9**	⇑*i*P	Pn	08 28 10.5	-0.7
GRUS	**Gruza**	**4.51**	**328**	⇓*i*Pn	Pn	08 28 11.0	-0.9
GRUS				*i* Sn	Sn	08 29 01.5	-3.4
GRUS	**Gruza**	**4.51**	**328**	⇓*i*Pn	Pn	08 28 11.0	-0.9
CIOR	**Ciorogarla**	**4.54**	**17**	S	Sg	08 29 34.9	+6.5
SVIS	**Svilajnac**	**4.65**	**334**	*e*Pn	Pn	08 28 13.4	-0.4
RMGR	**Halanga-Turnu**	**4.65**	**348**	⇑*i*P	Pn	08 28 12.7	-1.1
RMGR	**Halanga-Turnu**	**4.65**	**348**

BRTR Keskin Array B 7.38 90 Pn **Pn 08 28 51.8 +0.4**
BRTR Sn **Sn 08 30 15.2 -0.4**
BRTR Keskin Array B 7.38 90 *ce*P **Pn 08 28 51.7 +0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.4s
BRTR Keskin Array B 7.38 90 *e*P **Pn 08 28 51.7 +0.3**
comp=Z,4.0nm,0.4s
BRTR Sn **Sn 08 30 15.2 -0.4**
BURAR Bucovina Array 7.54 6 ⇑P **Pn 08 28 53.8 +0.3**
BURAR Bucovina Array 7.54 6 ⇑*i*P **Pn 08 28 53.8 +0.3**
BUR08 Bucovina Ar. S 7.57 6 *e*Pn **Pn 08 28 53.6 -0.3**
BUR08 Bucovina Ar. S 7.57 6 *e*Pn **Pn 08 28 53.6 -0.3**
KIS Kishinev 7.70 25 *e* **Pb 08 29 20.0 +3.2**
TRPA Tarpa 8.09 353 ⇑*i*P **Pn 08 29 00.1 -0.8**
TRPA Tarpa 8.09 353 *e*P **Pn 08 29 01.4 +0.5**
NVLJ Novalja 8.12 306 *e*Pn **Pn 08 28 59.5 -1.9**
NVLJ Novalja 8.12 306 *e*Pn **Pn 08 28 59.5 -1.9**
BUD Budapest 8.21 335 *e* **Pn 08 29 04.5 +1.8**
BUD Budapest 8.21 335 *e*P **Pn 08 29 04.5 +1.8**
BEHE Becsehely 8.27 323 *e*P **Pn 08 29 04.1 +0.6**
PKSG 8.34 333 ⇓*e*P **Pn 08 29 05.0 +0.5**
PSZ Piszkesteto 8.35 340 *e*Pn **Pn 08 29 04.6 -0.1**
comp=Z,11nm,0.7s
PSZ Piszkesteto 8.35 340 *e*P **Pn 08 29 04.6 0.0**
PSZ pmax pmax
comp=Z,11nm,0.7s
PSZ Piszkesteto 8.35 340 *e* **Pn 08 29 03.3 -1.3**
PSZ Piszkesteto 8.35 340 *e*P **Pn 08 29 04.6 0.0**
comp=Z,11nm,0.7s
GOLS Golise 8.52 316 *e*Pn **Pn 08 29 07.0 0.0**
UZH Uzhgorod 8.61 352 *e*P **Pn 08 29 11.9 +3.8**
UZH *e*S **Sn 08 30 50.9 +5.3**
KECS Kecovo 8.74 344 *e*P **Pn 08 29 11.2 +1.2**
KECS Kecovo 8.74 344 *e*PN **Pn 08 29 11.2 +1.2**
KECS *e*PG Pn 08 29 51.4 +41
KECS *e*SG Sn 08 31 41.4 +52
KECS Kecovo 8.74 344 *e*P **Pn 08 29 11.2 +1.2**
GROS Grobnik 8.89 318 *i* Pn **Pn 08 29 11.9 0.0**
KOLS Kolonicke sedl 8.91 352 *e*SG Sx 08 31 47.7
CRVS Cervenica-Dubn 8.98 349 *e*P **Pn 08 29 16.1 +2.9**
CRVS Cervenica-Dubn 8.98 349 *e*PN **Pn 08 29 16.1 +2.9**
CRVS *e* 08 31 54.0
VYHS Vyhne 9.17 338 *e*P **Pn 08 29 14.9 -0.9**
VYHS Vyhne 9.17 338 *e*PN **Pn 08 29 14.9 -0.9**
VYHS Vyhne 9.17 338 *e*P **Pn 08 29 14.9 -0.9**
SOKA Soboth 9.27 318 ⇑*i*Pn **Pn 08 29 16.6 -0.6**
SOKA Soboth 9.27 318 ⇑*i*Pn **Pn 08 29 16.6 -0.6**
SOKA Soboth 9.27 318 ⇑*i*Pn **Pn 08 29 16.6 -0.6**
SOP Sopron 9.29 327 ⇓*e* **Pn 08 29 17.2 -0.3**
SOP Sopron 9.29 327 ⇓*e*P **Pn 08 29 17.2 -0.3**
OBKA Obir 9.42 316 ⇓*i*Pn **Pn 08 29 19.4 +0.1**
OBKA Obir 9.42 316 ⇓*i*Pn **Pn 08 29 19.4 +0.1**
OBKA Obir 9.42 316 ⇓*i*Pn **Pn 08 29 19.4 +0.2**
ARSA Arzberg 9.43 322 ⇓*i*Sn **Pn 08 29 18.7 -0.6**
ARSA ⇑*i*Sn **Sn 08 30 58.1 -7.7**
ARSA Arzberg 9.43 322 ⇓*i*Pn **Pn 08 29 18.8 -0.6**
ARSA *i* Sn **Sn 08 30 58.1 -7.7**
ARSA Arzberg 9.43 322 ⇓*i*Pn **Pn 08 29 18.8 -0.6**
STHS Stebnicka Huta 9.51 349 *e*P **Pn 08 29 20.7 +0.2**
STHS Stebnicka Huta 9.51 349 *e*PN **Pn 08 29 20.7 +0.2**
STHS Stebnicka Huta 9.51 349 *e*SG Sx 08 32 05.9
STHS Stebnicka Huta 9.51 349 *e*P **Pn 08 29 20.7 +0.2**
SMOL Smolenice 9.64 333 *e*P **Pn 08 29 23.9 +1.7**
SMOL Smolenice 9.64 333 *e*PN **Pn 08 29 23.9 +1.7**
SMOL Smolenice 9.64 333 *e*P **Pn 08 29 23.9 +1.7**
CONA Conrad Observa 9.78 326 ⇑*i*Pn **Pn 08 29 23.8 -0.4**
CONA ⇑*i*Sn **Sn 08 31 06.9 -7.5**
CONA Conrad Observa 9.78 326 ⇑*i*Pn **Pn 08 29 23.8 -0.4**
CONA *i* Sn **Sn 08 31 06.9 -7.5**
CONA Conrad Observa 9.78 326 ⇑*i*Pn **Pn 08 29 23.8 -0.4**
KBA Koelnbreinsper 10.42 315 ⇑*i*Pn **Pn 08 29 33.1 +0.2**
KBA Koelnbreinsper 10.42 315 ⇑*i*Pn **Pn 08 29 33.1 +0.2**
KBA Koelnbreinsper 10.42 315 ⇑*i*P **Pn 08 29 33.1 +0.2**
KBA Koelnbreinsper 10.42 315 *i*P **Pn 08 29 33.1 +0.2**
MOA Molln 10.45 321 ⇑*i*Pn **Pn 08 29 33.2 -0.2**
MOA ⇓*i*Sn **Sn 08 31 24.6 -6.4**
MOA Molln 10.45 321 ⇑*i*Pn **Pn 08 29 33.2 -0.2**
MOA *i* Sn **Sn 08 31 24.6 -6.4**
MOA Molln 10.45 321 ⇑*i*Pn **Pn 08 29 33.2 -0.2**
VRAC Vranov 10.61 333 Pn **Pn 08 29 37.7 +2.2**
comp=Z,0.0nm,0.3s,baz=165,slow=10,SNR=2.0
VRAC Vranov 10.61 333 Pn **Pn 08 29 37.7 +2.2**
VRAC Vranov 10.61 333 P **Pn 08 29 37.7 +2.2**
VRAC Vranov 10.61 333 P **Pn 08 29 37.7 +2.2**
KIEV Kiev 11.18 17 *e*Pn **Pn 08 29 42.2 -1.1**
comp=Z,4.8nm,0.6s
KIEV Kiev 11.18 17 *e*P **Pn 08 29 42.2 -1.1**
KIEV pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 11.18 17 *e*P **Pn 08 29 42.2 -1.1**
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 11.19 17 Pn **Pn 08 29 41.2 -2.2**
comp=Z,3.4nm,0.3s,baz=203,slow=11,SNR=13
AKASG Malin Array Be 11.19 17 Pn **Pn 08 29 41.2 -2.2**
AKASG Malin Array Be 11.19 17 P **Pn 08 29 41.2 -2.3**
AKASG Malin Array Be 11.19 17 P **Pn 08 29 41.2 -2.3**
AKBB Malin Array Si 11.19 17 *e*Pn **Pn 08 29 42.2 -1.3**
AKBB Malin Array Si 11.19 17 *e*P **Pn 08 29 42.2 -1.2**
AKBB Malin Array Si 11.19 17 *e*P **Pn 08 29 42.2 -1.2**
GERES GERESS Array B 11.43 323 Pn **Pn 08 29 48.6 +1.9**
comp=Z,0.4nm,0.3s,baz=149,slow=13,SNR=12
GERES LR LR 08 34 43.4
comp=Z,406nm,20.5s,baz=114,slow=40
GERES GERESS Array B 11.43 323 Pn **Pn 08 29 48.6 +1.9**
GERES GERESS Array B 11.43 323 P **Pn 08 29 48.6 +1.9**
GERES GERESS Array B 11.43 323 P **Pn 08 29 48.6 +1.9**
KHC Kasperske Hory 11.69 324 *e*Pn **Pn 08 29 54.2 +3.9**
comp=Z,4.7nm,0.8s
KHC Kasperske Hory 11.69 324 *e*P **Pn 08 29 51.0 +0.7**
KHC Kasperske Hory 11.69 324 *e*P **Pn 08 29 51.0 +0.7**
KHC *ex* x 08 30 01.5
KHC *ex* x 08 30 10.0
KHC Kasperske Hory 11.69 324 *e*P **Pn 08 29 51.0 +0.7**
FETA Feichten 11.86 310 ⇓*i*Pn **Pn 08 29 52.6 -0.1**
FETA Feichten 11.86 310 ⇓*i*Pn **Pn 08 29 52.6 -0.1**
FETA Feichten 11.86 310 ⇓*i*Pn **Pn 08 29 52.6 -0.1**
DAVOX Davos/Dischmat 12.25 308 Pn **Pn 08 29 56.7 -1.3**
comp=Z,0.4nm,0.3s,baz=156,slow=15,SNR=4.7
DAVOX Davos/Dischmat 12.25 308 Pn **Pn 08 29 56.8 -1.3**
DAVOX Davos/Dischmat 12.25 308 P **Pn 08 29 56.8 -1.2**
DAVOX Davos/Dischmat 12.25 308 P **Pn 08 29 56.8 -1.2**
KEST Kesra 12.40 254 Pn **Pn 08 30 01.2 +1.0**
comp=Z,0.1nm,0.3s,baz=189,slow=5.3,SNR=6.1
KEST Kesra 12.40 254 Pn **Pn 08 30 01.2 +1.0**
KEST Kesra 12.40 254 Pn **Pn 08 30 01.2 +1.1**
ASF Jabal al Asfar 13.05 123 Pn **Pn 08 30 08.2 -0.8**
comp=Z,0.6nm,0.3s,baz=87,slow=3.6,SNR=4.0
ASF Jabal al Asfar 13.05 123 Pn **Pn 08 30 08.2 -0.8**
ASF Jabal al Asfar 13.05 123 P **Pn 08 30 08.2 -0.8**
MBDF Montbardon 13.56 296 *e*P **Pn 08 30 12.2 -3.7**
comp=Z,31nm,0.9s
MBDF Montbardon 13.56 296 *e*P **Pn 08 30 12.2 -3.7**
comp=Z,31nm,0.9s
MBDF Montbardon 13.56 296 *e*P **Pn 08 30 12.2 -3.7**
MBDF pmax pmax
comp=Z,31nm,0.9s
CLL Collm 13.57 329 *e*P **Pn 08 30 24.0 +8.0**
CLL Collm 13.57 329 *e*PP 08 30 24.0
CLL LmH 08 34 00.0
comp=N,300nm,18.4s
CLL LmH 08 34 00.0
comp=E,200nm,19.9s
LPG La Plagne 13.78 299 *e*P **Pn 08 30 15.6 -3.3**
comp=E,17nm,1.0s
LPG La Plagne 13.78 299 *e*P **Pn 08 30 15.6 -3.3**
comp=E,17nm,1.0s
LPG La Plagne 13.78 299 *e*P **Pn 08 30 15.6 -3.3**
LPG pmax pmax
comp=Z,17nm,1.0s
LPL La Plagne 13.80 299 *e*P **Pn 08 30 15.8 -3.4**
LPL La Plagne 13.80 299 *e*P **Pn 08 30 15.8 -3.4**
LPL La Plagne 13.80 299 *e*P **Pn 08 30 15.8 -3.4**
BFO Black Forest 13.93 311 *e*Pn **Pn 08 30 21.1 +0.2**
BFO Black Forest 13.93 311 *e*P **Pn 08 30 21.1 +0.3**
BFO Black Forest 13.93 311 *e*P **Pn 08 30 21.1 +0.3**
ORIF Oris-en-Rattie 14.23 296 *e*P **Pn 08 30 24.2 -0.8**
comp=Z,108nm,1.7s
ORIF Oris-en-Rattie 14.23 296 *e*P **Pn 08 30 24.2 -0.8**
comp=Z,108nm,1.7s
ORIF Oris-en-Rattie 14.23 296 *e*P **Pn 08 30 24.2 -0.8**
ORIF pmax pmax
comp=Z,108nm,1.7s

KIV Kislovodsk 14.37 68 *e*P **Pn 08 30 28.7 +1.8**
KIV pmax pmax
comp=Z,4.0nm,1.2s
HINF Hinteralfeld 14.56 308 *e*P **Pn 08 30 26.5 -3.0**
comp=Z,34nm,1.4s
HINF Hinteralfeld 14.56 308 *e*P **Pn 08 30 26.5 -3.0**
comp=Z,34nm,1.4s
HINF Hinteralfeld 14.56 308 *e*P **Pn 08 30 26.5 -3.0**
HINF pmax pmax
comp=Z,34nm,1.4s
HAU Haudompre 14.95 308 *e*P **Pn 08 30 37.6 +2.8**
HAU Haudompre 14.95 308 *e*P **Pn 08 30 37.6 +2.8**
HAU Haudompre 14.95 308 *e*P **Pn 08 30 37.6 +2.8**
VSR Storozhevoye 15.29 38 *e*P **Pn 08 30 38.3 -1.1**
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=E,1.0nm,0.3s
GNI Garni 15.83 83 ⇑*e*P **Pn 08 30 48.2 +1.7**
GNI pmax pmax
comp=Z,12nm,1.2s
GNI Garni 15.83 83 *e*P **Pn 08 30 48.2 +1.7**
comp=Z,12nm,1.2s
MEZF Maizieres J'vi 15.94 308 *e*P **Pn 08 30 50.5 +2.6**
MEZF Maizieres J'vi 15.94 308 *e*P **Pn 08 30 50.5 +2.6**
MEZF Maizieres J'vi 15.94 308 *e*P **Pn 08 30 50.5 +2.6**
SMF Signal de Mont 16.05 301 *e*P **Pn 08 30 52.3 +3.0**
SMF Signal de Mont 16.05 301 *e*P **Pn 08 30 52.3 +3.0**
SMF Signal de Mont 16.05 301 *e*P **Pn 08 30 52.3 +3.0**
SMF Signal de Mont 16.05 301 *e*P **Pn 08 30 52.3 +3.0**
SSF Saint Saulge 16.40 302 *e*P **Pn 08 30 56.7 +3.0**
comp=Z,14nm,1.0s
SSF Saint Saulge 16.40 302 *e*P **Pn 08 30 56.7 +3.0**
comp=Z,14nm,1.0s
SSF Saint Saulge 16.40 302 *e*P **Pn 08 30 56.7 +3.0**
SSF pmax pmax
comp=Z,14nm,1.0s
SSF Saint Saulge 16.40 302 *e*P **Pn 08 30 56.7 +3.0**
comp=Z,14nm,1.0s
AVF Avril sur Loir 16.42 301 *e*P **Pn 08 30 54.2 +0.2**
comp=Z,40nm,1.3s
AVF Avril sur Loir 16.42 301 *e*P **Pn 08 30 54.2 +0.2**
comp=Z,40nm,1.3s
AVF Avril sur Loir 16.42 301 *e*P **Pn 08 30 54.2 +0.2**
AVF pmax pmax
comp=Z,40nm,1.3s
AVF Avril sur Loir 16.42 301 *e*P **Pn 08 30 54.2 +0.2**
comp=Z,40nm,1.3s
VRHR Novokhopersk 16.44 42 *e*P **Pn 08 30 55.6 +1.4**
VRHR pmax pmax
comp=N,4.0nm,0.3s
VRHR pmax pmax
comp=E,6.0nm,0.3s
VRHR pmax pmax
comp=Z,6.0nm,0.3s
VRHR Novokhopersk 16.44 42 *e*P **Pn 08 30 55.6 +1.4**
BAIF Baives 17.13 312 *e*P **Pn 08 31 01.5 -1.5**
comp=Z,20nm,1.1s
BAIF Baives 17.13 312 *e*P **Pn 08 31 01.5 -1.5**
comp=Z,20nm,1.0s
BAIF Baives 17.13 312 *e*P **Pn 08 31 01.5 -1.5**
BAIF pmax pmax
comp=Z,20nm,1.0s
OBN Obninsk 17.17 25 ⇑*e*P **Pn 08 31 01.0 -2.5**
OBN pmax pmax
comp=Z,20nm,1.2s
VSU Vasula 18.44 4 ⇑*e*P **Pn 08 31 19.3 +0.2**
VSU pmax pmax
comp=Z,27nm,1.0s
VSU Vasula 18.44 4 *e*P **Pn 08 31 19.3 +0.2**
comp=Z,27nm,1.0s
LDF La Druitiere 19.19 304 *e*P **Pn 08 31 24.8 -3.5**
LDF La Druitiere 19.19 304 *e*P **Pn 08 31 24.8 -3.5**
LDF La Druitiere 19.19 304 *e*P **Pn 08 31 24.8 -3.5**
LDF La Druitiere 19.19 304 *e*P **Pn 08 31 24.8 -3.5**
HFS Hagfors 21.06 346 P **P 08 31 45.9 -1.7**
comp=Z,5.3nm,0.8s,mb3.9,baz=156,slow=11,SNR=10
HFS LR LR 08 39 14.7
comp=Z,216nm,19.2s,MS3.5,baz=253,slow=35
HFS Hagfors 21.06 346 P **P 08 31 45.9 -1.7**
HFS Hagfors 21.06 346 P **P 08 31 45.9 -1.8**
HFS Hagfors 21.06 346 P **P 08 31 45.9 -1.8**
FINES FINESS Array B 21.39 3 P **P 08 31 49.5 -1.7**
comp=Z,4.2nm,0.8s,mb3.8,baz=192,slow=9.6,SNR=9.0
FINES LR LR 08 39 12.9
comp=Z,330nm,21.1s,MS3.7,baz=32,slow=34
FINES FINESS Array B 21.39 3 P **P 08 31 49.5 -1.7**
FINES FINESS Array B 21.39 3 P **P 08 31 49.5 -1.7**
FINES FINESS Array B 21.39 3 P **P 08 31 49.5 -1.7**
ESDC Sonseca Array 21.46 278 P **P 08 31 50.9 -1.3**
comp=Z,2.3nm,0.6s,mb3.7,baz=70,slow=10.0,SNR=11
ESDC Sonseca Array 21.46 278 P **P 08 31 50.9 -1.3**
ESDC Sonseca Array 21.46 278 P **P 08 31 50.9 -1.3**
KONO Kongsberg 21.56 340 *e*P **P 08 31 53.9 +0.8**
KONO Kongsberg 21.56 340 *e*P **P 08 31 53.9 +0.8**
KONO Kongsberg 21.56 340 *e*P **P 08 31 53.9 +0.8**
NOA NORSAR Array B 22.40 344 P **P 08 32 00.2 -1.8**
comp=Z,9.9nm,0.9s,mb4.2,baz=152,slow=10,SNR=24
NOA LR LR 08 42 13.4
comp=Z,160nm,18.8s,MS3.5,baz=270,slow=41
NOA NORSAR Array B 22.40 344 P **P 08 32 00.2 -1.8**
NOA NORSAR Array B 22.40 344 P **P 08 32 00.2 -1.8**
NOA NORSAR Array B 22.40 344 P **P 08 32 00.2 -1.8**
KLMR Klimovskoe 22.86 20 *e*P **P 08 31 59.4 -7.5**
KLMR pmax pmax
comp=Z,56nm,1.6s,mb4.7
TAM Tamanrasset 23.33 228 *e*P **P 08 32 15.3 +3.2**
comp=Z,4.1nm,0.9s,mb3.9
TAM Tamanrasset 23.33 228 *e*P **P 08 32 15.4 +3.2**
TAM pmax pmax
comp=Z,4.0nm,0.9s,mb3.9
ESK Eskdalemuir 23.61 319 *e*P **P 08 32 12.3 -2.4**
comp=Z,11nm,0.8s,mb4.3
ESK Eskdalemuir 23.61 319 *i*P **P 08 32 14.2 -0.6**
ESK Eskdalemuir 23.61 319 *i*P **P 08 32 14.2 -0.6**
AKTK Aktyubinsk 25.82 55 P **P 08 32 34.1 -0.9**
AKTO Aktyubinsk 25.82 55 P **P 08 32 34.1 -1.0**
comp=Z,2.6nm,0.9s,mb3.8,baz=254,slow=12,SNR=6.3
AKTO LR LR 08 43 27.4
comp=Z,146nm,21.4s,MS3.5,baz=138,slow=38
AKTO Aktyubinsk 25.82 55 P **P 08 32 34.1 -1.0**
AKTO Aktyubinsk 25.82 55 P **P 08 32 34.1 -0.9**
AKTO Aktyubinsk 25.82 55 P **P 08 32 34.1 -0.9**
ABKAR Akbulak array 26.89 58 *e*P **P 08 32 44.5 -0.2**
comp=Z,0.7nm,0.6s,mb3.4
ABKAR Akbulak array 26.89 58 *e*P **P 08 32 44.5 -0.2**
comp=Z,0.7nm,0.6s,mb3.4
ARU Arti 27.79 42 *d i*P **P 08 32 53.0 +0.4**
ARU 08 33 36.7
ARU S **S 08 37 36.4 +0.5**
ARU SS 08 38 43.9
ARU pmax pmax
comp=Z,5.0nm,1.2s,mb4.0
ARU Arti 27.79 42 *i*P **P 08 32 53.0 +0.4**
comp=Z,5.0nm,1.2s,mb4.0
ARU S **S 08 37 36.4 +0.5**
ARCES ARCESS Array B 29.49 1 LR LR 08 44 23.0
comp=Z,335nm,21.4s,MS3.9,baz=210,slow=35
TORD Torodi Ar. Bea 33.28 222 P **P 08 33 41.8 +0.2**
comp=Z,3.1nm,0.6s,mb4.4,baz=30,slow=8.9,SNR=12
TORD Torodi Ar. Bea 33.28 222 P **P 08 33 41.8 +0.2**
TORD Torodi Ar. Bea 33.28 222 P **P 08 33 41.8 +0.2**
BRVK Borovoye 33.71 52 *e*P **P 08 33 45.9 +1.0**
comp=Z,5.6nm,0.9s,mb4.5
BRVK Borovoye 33.71 52 ⇓*e*P **P 08 33 46.2 +1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRVK Borovoye 33.71 52 *e*P **P 08 33 45.9 +1.0**
comp=Z,5.6nm,0.9s,mb4.5
AAK Ala-Archa 37.49 69 ⇑*i*P **P 08 34 19.0 +1.5**
AAK pmax pmax
comp=Z,15nm,2.3s,mb4.4
AAK Ala-Archa 37.49 69 *i*P **P 08 34 19.0 +1.5**
comp=Z,15nm,2.3s,mb4.4
KURK Kurchatov 38.92 56 LR LR 08 51 25.3
comp=Z,54nm,19.5s,MS3.4,baz=335,slow=38
KURK Kurchatov 38.92 56 ⇑*e*P **P 08 34 29.4 -0.1**
KURK pmax pmax
comp=Z,5.0nm,1.7s,mb4.0
KURK Kurchatov 38.92 56 *e*P **P 08 34 29.4 -0.1**
comp=Z,5.0nm,1.7s,mb4.0
NVS Novosibirsk 41.34 49 *e*P **P 08 34 50.8 +1.3**
NVS pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.5s
NVS Novosibirsk 41.34 49 *e*P **P 08 34 50.8 +1.3**
comp=E,9.0nm,1.3s,mb4.2
MK31 Makanchi Array 41.96 61 *e*P **P 08 34 54.9 +0.2**
MK31 Makanchi Array 41.96 61 *e*P **P 08 34 54.9 +0.2**
MK31 Makanchi Array 41.96 61 *e*P **P 08 34 54.9 +0.2**
MKAR Makanchi Array 41.96 61 P **P 08 34 54.8 +0.1**
comp=E,3.9nm,0.7s,mb4.2,baz=278,slow=6.9,SNR=29
MKAR Makanchi Array 41.96 61 P **P 08 34 54.8 +0.1**
MKAR Makanchi Array 41.96 61 *ce*P **P 08 34 55.2 +0.5**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 41.96 61 P **P 08 34 54.8 +0.1**
DBIC Dimbokro 42.19 226 P **P 08 34 59.1 +2.2**
comp=Z,2.7nm,0.6s,mb4.0,baz=343,slow=6.2,SNR=4.7
DBIC Dimbokro 42.19 226 P **P 08 34 59.1 +2.2**
DBIC Dimbokro 42.19 226 P **P 08 34 59.1 +2.2**
ZAA0 Zalesovo Array 42.35 50 *e*P **P 08 34 57.7 -0.1**
ZAA0 Zalesovo Array 42.35 50 *e*P **P 08 34 57.7 -0.1**
ZALV Zalesovo Beam 42.35 50 P **P 08 34 57.6 -0.2**
comp=Z,2.9nm,0.6s,mb4.1,baz=280,slow=8.7,SNR=17
ZALV Zalesovo Beam 42.35 50 P **P 08 34 57.6 -0.2**
ZALV Zalesovo Beam 42.35 50 P **P 08 34 57.6 -0.2**
ZALV Zalesovo Beam 42.35 50 P **P 08 34 57.6 -0.2**
LIC Lamto 42.65 225 *e*P **P 08 35 02.7 +2.0**
comp=Z,19nm,0.9s,mb4.5
LIC Lamto 42.65 225 *e*P **P 08 35 02.7 +2.0**
comp=Z,19nm,0.9s,mb4.8
SONM Songino Array 57.11 53 P **P 08 36 50.5 +0.2**
comp=Z,0.9nm,0.8s,mb3.9,baz=285,slow=8.2,SNR=5.8
SONM Songino Array 57.11 53 P **P 08 36 50.5 +0.2**
SONM Songino Array 57.11 53 P **P 08 36 50.5 +0.3**
SONM Songino Array 57.11 53 P **P 08 36 50.5 +0.3**
LBTB Lobatse 64.81 178 P **P 08 37 43.7 +1.0**
comp=Z,4.5nm,0.9s,mb4.5,baz=74,slow=5.1,SNR=5.1
LBTB Lobatse 64.81 178 P **P 08 37 43.7 +1.0**
LBTB Lobatse 64.81 178 P **P 08 37 43.7 +1.0**
LBTB Lobatse 64.81 178 P **P 08 37 43.7 +1.0**
CMAR Chiang Mai Arr 66.94 85 P **P 08 37 56.2 -0.6**
comp=Z,1.1nm,0.6s,mb4.1,baz=304,slow=9.1,SNR=9.3
CMAR Chiang Mai Arr 66.94 85 P **P 08 37 56.2 -0.6**
CMAR Chiang Mai Arr 66.94 85 P **P 08 37 56.2 -0.6**
CMAR Chiang Mai Arr 66.94 85 P **P 08 37 56.2 -0.6**
ENH Enshi 68.00 68 *e*P **P 08 38 02.8 -0.6**
comp=Z,6.0nm,0.8s,mb4.7
ENH Enshi 68.00 68 *e*P **P 08 38 02.8 -0.5**
comp=Z,6.0nm,0.8s,mb4.7
BOSA Boshof 68.39 179 P **P 08 38 05.6 +0.1**
comp=Z,4.7nm,1.0s,mb4.5,baz=62,slow=11,SNR=3.8
BOSA Boshof 68.39 179 P **P 08 38 05.6 +0.1**
BOSA pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BOSA Boshof 68.39 179 P **P 08 38 05.6 +0.1**
comp=Z,5.0nm,1.0s,mb4.5
BILL Bilibino 68.49 14 ⇓*e*P **P 08 38 05.5 -0.3**
BILL pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
BILL Bilibino 68.49 14 *e*P **P 08 38 05.5 -0.3**
comp=Z,8.0nm,1.6s,mb4.5
YKA Yellowknife Ar 72.47 341 P **P 08 38 28.9 -1.2**
comp=Z,0.3nm,0.7s,mb3.3,baz=34,slow=5.5,SNR=6.8
YKA Yellowknife Ar 72.47 341 P **P 08 38 28.9 -1.2**
YKA Yellowknife Ar 72.47 341 P **P 08 38 28.9 -1.3**
YKA Yellowknife Ar 72.47 341 P **P 08 38 28.9 -1.3**
USRK Ussuriysk Arra 73.99 45 LR LR 09 18 13.3
comp=Z,69nm,18.0s,MS4.0,baz=343,slow=42
ILAR Eielson Array 75.21 356 P **P 08 38 46.0 -0.1**
comp=Z,0.5nm,0.9s,mb3.4,baz=333,slow=3.3,SNR=5.6
ILAR Eielson Array 75.21 356 P **P 08 38 46.0 -0.1**
ILAR Eielson Array 75.21 356 P **P 08 38 46.1 -0.1**
KSAR Wonju Array Be 75.96 53 P **P 08 38 50.3 -0.7**
KSAR Wonju Array Be 75.96 53 P **P 08 38 50.3 -0.7**
KSRS Korea Array 75.98 53 P **P 08 38 50.3 -0.8**
comp=Z,2.4nm,0.9s,mb4.2,baz=308,slow=4.5,SNR=5.6
KSRS Korea Array 75.98 53 P **P 08 38 50.3 -0.8**
KSRS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
WVT Waverly 81.64 311 *e*P **P 08 39 20.8 -1.5**
comp=Z,2.0nm,0.5s,mb4.3
WVT Waverly 81.64 311 *e*P **P 08 39 20.8 -1.4**
WVT pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
KSU1 Kansas State U 84.33 318 *e*P **P 08 39 35.0 -1.1**
MIAR Mount Ida 86.06 313 *e*P **P 08 39 44.3 -0.5**
comp=Z,4.2nm,0.8s,mb4.7
MIAR Mount Ida 86.06 313 *e*P **P 08 39 44.3 -0.5**
MIAR pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
MOOW Moose Ponds 87.09 329 *e*P **P 08 39 50.6 +0.8**
comp=Z,2.9nm,0.5s,mb4.8
TXAR Lajitas Array 95.56 316 P **P 08 40 28.6 -0.8**
comp=Z,1.1nm,0.9s,mb4.3,baz=101,slow=4.1,SNR=6.8
TXAR Lajitas Array 95.56 316 P **P 08 40 28.6 -0.8**
TXAR Lajitas Array 95.56 316 P **P 08 40 28.6 -0.8**
ASAR Alice Springs 119.67 97 PKP PKPdf 08 45 52.0 -2.3
comp=Z,0.4nm,0.7s,baz=313,slow=1.5,SNR=7.2
ASAR Alice Springs 119.67 97 PKP PKPdf 08 45 52.0 -2.3
ASAR Alice Springs 119.67 97 PKIKP PKPdf 08 45 52.0 -2.3

NEIC ***27*** *08:27:17.5±2.6, 34°.96N×23°.77E, h23km±20km, mb4.1/2, Error ellipse: s-maj=11.6km s-min=7.6km az=191.0*
IDC ***27*** *08:27:19.3±4.5, 34°.92N×23°.81E, h41km±44km, mb3.8/9, mb1 3.9/10, mb1mx3.7/25, mbtmp3.8/10, ML4.4/1, Error ellipse: s-maj=25.1km s-min=21.4km az=116.0*
ISCJB ***27*** *08:27:19.9±0.4, 34°.76N±0°.03×23°.89E±0°.05, h68km±5km, mb3.7/10, Error ellipse: s-maj=7.9km s-min=4.5km az=155.1*
CSEM ***27*** *08:27:20.1±0.2, 34°.77N×23°.68E, h60km, ML3.4, Error ellipse: s-maj=6.0km s-min=4.2km az=54.0*
ATH ***27*** *08:27:21.6, 35°.03N×23°.79E, h72km±4km*
HLW ***27*** *08:27:29.1, 34°.48N×24°.26E, h30km±13km, Md3.9, MI3.9*
ISC 27 08:27:21.4±0.4, 34°.81N±0°.03×23°.84E±0°.05, h62km±5km, n104, σ1§**26**/113**, mb3.8**/10**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.67**	**26**	*e*P	**Pn**	**08 27 34.9**	**-0.5**
VAM				*e*S	**Sn**	**08 27 45.5**	**-0.1**
VAM	**Vamos**	**0.67**	**26**	*e*P	**Pn**	**08 27 34.4**	**-1.0**
VAM				*e*S	**Sn**	**08 27 45.5**	**-0.1**
SIVA	**Sivas**	**0.82**	**75**	*e*P	**Pn**	**08 27 38.7**	**+1.5**
SIVA	**Sivas**	**0.82**	**75**	*e*P	**Pn**	**08 27 38.7**	**+1.5**
NPS	**Neapolis**	**1.52**	**72**	*e*P	**Pn**	**08 27 48.0**	**+1.6**
NPS	**Neapolis**	**1.52**	**72**	*e*P	**Pn**	**08 27 48.0**	**+1.6**
KYTH	**Kithira**	**1.61**	**336**	*e*P	**Pn**	**08 27 46.3**	**-1.3**
KYTH	**Kithira**	**1.61**	**336**	*e*P	**Pn**	**08 27 46.3**	**-1.3**
ZKR	**Zakros**	**1.97**	**80**	*e*P	**Pn**	**08 27 55.0**	**+2.5**
ZKR	**Zakros**	**1.97**	**80**	*e*P	**Pn**	**08 27 55.1**	**+2.6**
VLI	**Veliai**	**2.04**	**339**	*e*P	**Pn**	**08 27 52.2**	**-1.3**
VLI	**Veliai**	**2.04**	**339**	*e*P	**Pn**	**08 27 52.2**	**-1.3**
APE	**Apeiranthos**	**2.64**	**31**	S	**Sn**	**08 28 30.9**	**-1.5**
APE	**Apeiranthos**	**2.64**	**31**	S	**Sn**	**08 28 30.9**	**-1.5**
PYL	**PYLOS**	**2.69**	**321**	*e*P	**Pn**	**08 28 00.9**	**-1.4**
PYL	**PYLOS**	**2.69**	**321**	*e*P	**Pn**	**08 28 00.6**	**-1.7**
LTBQ	**Tobruq**	**2.74**	**179**	*i* Pn	**Pn**	**08 28 04.4**	**+1.4**
	SNR=45						
KARP	**Karpathos**	**2.82**	**74**	*e*P	**Pn**	**08 28 05.7**	**+1.7**
KARP	**Karpathos**	**2.82**	**74**	*e*P	**Pn**	**08 28 05.7**	**+1.7**
SLUM		**3.50**	**160**	P	**Pn**	**08 28 14.8**	**+1.5**
	baz=164						
SLUM				S	**Sn**	**08 28 49.9**	**-3.6**
	baz=164						
SLUM		**3.50**	**160**	P	**Pn**	**08 28 14.8**	**+1.5**
SLUM				S	**Sn**	**08 28 49.9**	**-3.6**
LJBD	**Adjabya**	**4.95**	**219**	*e*P	**Pn**	**08 28 30.6**	**-2.5**
	SNR=45						
SWA2		**5.71**	**166**	P	**Pn**	**08 28 44.7**	**+1.0**
	baz=168						
SWA2				S	**Sn**	**08 29 42.4**	**-5.5**
	baz=168						
SWA2		**5.71**	**166**	P	**Pn**	**08 28 44.7**	**+1.1**
AWBH		**7.77**	**145**	P	**Pn**	**08

KOT Kottamia 8.32 124 P Pn 08 29 19.0 -0.3
HSAF As Saff 8.33 126 P Pn 08 29 19.1 -0.3
baz=126
HSAF As Saff 8.33 126 P Pn 08 29 19.1 -0.4
GLL Jalalah 8.46 126 P Pn 08 29 20.8 -0.4
baz=125
GLL Jalalah 8.46 126 P Pn 08 29 20.8 -0.4
HHAG Hagoal 8.49 122 AMP 08 30 00.0
comp=N,70μm,0.9s,logA/T=4.9,baz=122
HFRF Wahat Farafira 8.54 152 P Pn 08 29 22.4 +0.1
baz=153
HFRF Wahat Farafira 8.54 152 P Pn 08 29 22.4 +0.1
SUZ 9.07 121 P Pn 08 29 29.0 -0.6
baz=120
SUZ 9.07 121 P Pn 08 29 29.0 -0.6
STON Ston 9.37 331 *e*Pn Pn 08 29 26.4 -7.2
STON Sn Sn 08 30 59.6 -18
MMAI Mount Meron Ar 9.77 97 P Pn 08 29 37.7 -1.5
comp=N,3.7nm,0.3s,baz=302,slow=13,SNR=16
MMAI S Sn 08 31 26.6 -0.7
comp=N,5.2nm,0.3s,baz=276,slow=18,SNR=5.6
MMAI Mount Meron Ar 9.77 97 P Pn 08 29 37.7 -1.5
MMAI S Sn 08 31 26.6 -0.7
MMAI Mount Meron Ar 9.77 97 P Pn 08 29 37.7 -1.5
MMAI S Sn 08 31 26.6 -0.7
HNKL Nakhl 9.85 117 P Pn 08 29 40.2 0.0
baz=116
HNKL S Sn 08 31 19.3 -10
baz=116
HNKL Nakhl 9.85 117 P Pn 08 29 40.2 -0.1
HDK1 Dakhla 10.41 151 P Pn 08 29 47.2 -0.6
baz=152
HDK1 Dakhla 10.41 151 P Pn 08 29 47.2 -0.7
HHRG Al Ghardaqah 11.26 130 P Pn 08 29 58.6 -0.8
baz=129
NVLJ Novalja 11.94 327 *i* Pn Pn 08 30 02.8 -5.8
NVLJ Sn Sn 08 32 04.2 -16
VSL Villasalto 12.45 296 Pn Pn 08 30 11.5 -4.2
VSL Villasalto 12.45 296 Pn Pn 08 30 11.5 -4.2
VRAC Vranov 15.45 342 P Pn 08 30 56.9 +1.6
comp=N,1.5nm,0.3s,baz=153,slow=11,SNR=9.7
VRAC Vranov 15.45 342 P Pn 08 30 56.9 +1.6
VRAC Vranov 15.45 342 P Pn 08 30 56.9 +1.6
OKC Ostrava-Krasne 15.59 346 *i* P Pn 08 30 59.5 +2.3
OKC Ostrava-Krasne 15.59 346 P Pn 08 30 59.5 +2.3
TREC Trest 15.74 339 *i* P Pn 08 31 01.0 +2.0
TREC Trest 15.74 339 P Pn 08 31 01.0 +2.0
GERES GERESS Array B 15.91 335 P Pn 08 31 03.5 +2.3
comp=N,1.0nm,0.3s,baz=143,slow=11,SNR=12
GERES GERESS Array B 15.91 335 P Pn 08 31 03.5 +2.3
GERES GERESS Array B 15.91 335 P Pn 08 31 03.5 +2.3
KHC Kasperske Hory 16.20 335 *i* P Pn 08 31 06.8 +2.0
KHC *ep*P pP 08 31 13.0 -7.0
KHC Kasperske Hory 16.20 335 P Pn 08 31 06.8 +2.0
DPC Dobruska-Polom 16.48 343 *i* P Pn 08 31 09.3 +1.0
DPC Dobruska-Polom 16.48 343 P Pn 08 31 09.3 +1.0
PRU Pruhonice 16.63 339 *i* P Pn 08 31 10.9 +0.6
PRU Pruhonice 16.63 339 P Pn 08 31 10.9 +0.6
UPC Upice 16.70 342 *i* P Pn 08 31 12.2 +1.1
UPC Upice 16.70 342 P Pn 08 31 12.2 +1.1
BRG Berggiesshubel 17.59 339 *e*(P) pP 08 31 33.9 -1.6
comp=N,2.8nm,0.9s
CLL Collm 18.26 338 *e*P Pn 08 31 29.0 -1.2
CLL *ep*PP 08 31 44.0
SUW Suwalki 19.21 359 *e*P Pn 08 31 38.8 -2.7
comp=N,13nm,0.5s
SUW Suwalki 19.21 359 *e*P Pn 08 31 38.8 -2.7
comp=N,13nm,0.5s
HFS Hagfors 26.19 348 P P 08 32 48.2 -1.6
comp=N,3.6nm,0.4s,mb4.3,baz=157,slow=10,SNR=20
HFS Hagfors 26.19 348 P P 08 32 48.2 -1.6
HFS Hagfors 26.19 348 P P 08 32 48.2 -1.6
FINES FINESS Array B 26.69 2 P P 08 32 53.0 -1.3
comp=N,1.8nm,0.5s,mb3.9,baz=169,slow=9.4,SNR=7.1
FINES FINESS Array B 26.69 2 P P 08 32 53.0 -1.3
FINES FINESS Array B 26.69 2 P P 08 32 53.0 -1.4
NOA NORSAR Array B 27.48 347 P P 08 33 00.1 -1.4
comp=N,0.7nm,0.4s,mb3.6,baz=154,slow=9.3,SNR=8.0
NOA NORSAR Array B 27.48 347 P P 08 33 00.1 -1.4
NOA NORSAR Array B 27.48 347 P P 08 33 00.1 -1.3
TORD Torodi Ar. Bea 29.44 228 P P 08 33 20.5 +1.2
comp=N,0.4nm,0.4s,mb3.5,baz=31,slow=8.7,SNR=7.7
TORD PcP PcP 08 36 22.4 -1.4
comp=N,1.6nm,0.8s,baz=19,slow=2.2,SNR=6.5
TORD Torodi Ar. Bea 29.44 228 P P 08 33 20.5 +1.2
TORD PcP PcP 08 36 22.4 -1.4
TORD Torodi Ar. Bea 29.44 228 PcP PcP 08 36 22.4 -1.4
ARCES ARCESS Array B 34.80 1 P P 08 34 04.4 -1.2
comp=N,2.9nm,0.8s,mb4.3,baz=163,slow=8.9,SNR=4.2
ARCES ARCESS Array B 34.80 1 P P 08 34 04.4 -1.2
ARCES ARCESS Array B 34.80 1 P P 08 34 04.4 -1.2
KURK Kurchatov 42.24 51 *e*P P 08 35 08.4 +0.1
comp=N,1.7nm,0.8s,mb3.7
KURK Kurchatov 42.24 51 *e*P P 08 35 08.4 +0.1
comp=N,1.7nm,0.8s,mb3.7
MK31 Makanchi Array 44.87 56 *e*P P 08 35 30.2 +0.7
MK31 Makanchi Array 44.87 56 *e*P P 08 35 30.2 +0.8
MKAR Makanchi Array 44.87 56 P P 08 35 29.6 +0.1
comp=N,0.6nm,0.3s,mb3.9,baz=268,slow=8.0,SNR=8.9
MKAR Makanchi Array 44.87 56 P P 08 35 29.6 +0.1
MKAR Makanchi Array 44.87 56 P P 08 35 29.5 +0.1
ZAA0 Zalesovo Array 46.03 46 *e*P P 08 35 38.4 -0.1
ZAA0 Zalesovo Array 46.03 46 *e*P P 08 35 38.4 -0.1
ZALV Zalesovo Beam 46.03 46 P P 08 35 38.5 0.0
comp=N,1.8nm,0.4s,mb4.3,baz=273,slow=8.7,SNR=6.1
ZALV Zalesovo Beam 46.03 46 P P 08 35 38.5 0.0
ZALV Zalesovo Beam 46.03 46 P P 08 35 38.5 0.0
YKA Yellowknife Ar 77.45 342 P P 08 39 09.8 +0.3
comp=N,0.2nm,0.4s,mb3.4,baz=34,slow=5.2,SNR=7.9
YKA Yellowknife Ar 77.45 342 P P 08 39 09.8 +0.3
YKA Yellowknife Ar 77.45 342 P P 08 39 09.9 +0.3
ILAR Eielson Array 80.48 356 P P 08 39 26.2 0.0
comp=N,0.2nm,0.5s,mb3.3,baz=335,slow=3.6,SNR=4.4
ILAR Eielson Array 80.48 356 P P 08 39 26.2 0.0
ILAR Eielson Array 80.48 356 P P 08 39 26.2 0.0

IDC 27 09:02:35.6±4.2,3°.34S×100°.08E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=181.4km s-min=21.2km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.27	119	P	P	09 09 48.9	-0.6
	0.4nm,0.5s,baz=299,slow=9.5,SNR=9.4						
ASAR	Alice Springs	38.42	125	P	P	09 09 59.3	+0.2
	0.6nm,0.6s,baz=302,slow=8.1,SNR=8.4						
SONM	Songino Array	51.26	5	P	P	09 11 41.3	+0.2
	0.7nm,0.7s,baz=193,slow=7.0,SNR=4.7						
MKAR	Makanchi Array	52.33	345	P	P	09 11 48.8	-0.3
	1.0nm,0.7s,baz=152,slow=8.5,SNR=9.9						
ZALV	Zalesovo Beam	58.49	349	P	P	09 12 33.1	-0.3
	0.3nm,0.3s,baz=178,slow=4.0,SNR=3.5						
TXAR	Lajitas Array	145.70	39	PKPbc	PKPbc	09 22 17.4	+0.3
	0.9nm,0.6s,baz=238,slow=0.4,SNR=11						

IDC 27 09:12:58.4±3.6,2°.61S×101°.01E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=164.3km s-min=22.3km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.82	120	P	P	09 20 08.4	0.0
	0.3nm,0.5s,baz=300,slow=9.2,SNR=5.9						
ASAR	Alice Springs	38.08	126	P	P	09 20 19.3	+0.1
	0.3nm,0.7s,baz=301,slow=8.1,SNR=5.1						
SONM	Songino Array	50.45	5	P	P	09 21 57.7	-0.2
	0.6nm,0.7s,baz=192,slow=8.5,SNR=4.0						
MKAR	Makanchi Array	51.88	344	P	P	09 22 08.3	-0.4
	0.7nm,0.6s,baz=134,slow=6.9,SNR=6.5						
ZALV	Zalesovo Beam	57.95	349	P	P	09 22 53.0	+0.6
	0.4nm,0.4s,baz=160,slow=8.9,SNR=3.2						
TXAR	Lajitas Array	144.55	39	PKP	PKPdf	09 32 36.5	-1.2
	1.0nm,0.6s,baz=318,slow=2.5,SNR=9.4						

BJI ***27*** *09:35:01.9, 0°.93S×122°.72E, h213km, mB4.8/13, mb4.5/27*
ISCJB ***27*** *09:35:02.7±0.3, 0°.08S±0°.03×122°.94E±0°.04, h173km±3km, mb4.6/51, Error ellipse: s-maj=6.9km s-min=4.2km az=150.0*

IDC ***27*** *09:35:04.4±0.9, 0°.06S×122°.95E, h183km±8km, mb4.0/16, mb1 4.1/18, mb1mx4.0/24, mbtmp4.0/18, MS2.8/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=18.7km s-min=7.2km az=66.0*
DJA ***27*** *09:35:04, 0°.05S×122°.93E, h144km, MLv4.7/12*
NEIC ***27*** *09:35:04.1±0.2, 0°.06S×122°.98E, mb4.8/26, Error ellipse: s-maj=8.5km s-min=4.5km az=57.0*
ISC 27 09:35:03.7±0.3, 0°.10S±0°.03×122°.93E±0°.04, h167km±2km, h206km±14.2km: pP-P, n135, σ1§17/133, mb4.6/51, 1C-5D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.74	6	P	Pn	09 35 28.1	-0.2
GTOI				S	Sn	09 35 46.7	-0.4
LUWI	Luwuk	0.95	190	P	Pn	09 35 29.2	-0.5
LUWI				S	Sn	09 35 47.7	-2.0
MRSI	Marisa	1.15	300	P	Pn	09 35 29.8	-1.5
MRSI				S	Sn	09 35 49.3	-3.2
KMSI	Cibinong	1.24	57	P	Pn	09 35 32.5	+0.4
MNI	Manado	2.45	51	P	Pn	09 35 42.2	-2.8
KDI	Kendari	3.84	185	P	Pn	09 36 02.1	-0.3
TTSI	Tana Toraja	4.27	227	P	Pn	09 36 09.0	+1.1
TNTI	Ternate	4.52	79	P	Pn	09 36 10.5	-0.6
LBMI	Labuha	4.60	97	P	Pn	09 36 11.1	-1.1
SPSI	Sidrap Palu	4.97	219	P	Pn	09 36 18.8	+1.8
	0.3nm814nm39nm,0.9s						
NLAI	Namlea	5.20	127	P	Pn	09 36 21.3	+1.3
	5.0nm70nm,0.9s						
KAPI	Kappang	5.82	213	P	Pn	09 36 29.0	+0.7
	1.5nm,0.3s,baz=39,slow=8.5,SNR=7.8						
KAPI				LR	LR	09 39 02.6	
	comp=Z,87nm,20.6s,baz=289,slow=41						
KAPI	Kappang	5.82	213	P	Pn	09 36 29.0	+0.7
KAPI	Kappang	5.82	213	P	Pn	09 36 27.7	-0.5
	45nm,1.2s						
BKSI	Bulukumba	5.90	208	P	Pn	09 36 30.3	+1.1
	0.2nm612nm40nm,1.2s						
AAI	Ambon	6.35	124	P	Pn	09 36 37.1	+1.9
	3μm87nm,0.6s						
TSM	Tawau	6.68	311	P	Pn	09 36 38.1	-1.4
MYLDM	Lahad Datu	6.87	320	P	Pn	09 36 44.5	+2.4
MYLDM	Lahad Datu	6.87	320	P	Pn	09 36 42.7	+0.7
CTBH	Cotabato--PC H	7.39	10‖	*e*P	Pn	09 36 50.2	+1.2
PAGZ	Pagadian	7.91	3	*e*P	Pn	09 36 58.1	+2.2
SDKM	Sandakan	8.09	315	P	Pn	09 36 59.9	+1.7
BUKP	Musuan	8.21	15	*e*P	Pn	09 37 01.9	+2.1
KKM	Kota Kinabalu	9.07	312	P	Pn	09 37 12.3	+1.1
KKM	Kota Kinabalu	9.07	312	*e*Pn	Pn	09 37 16.0	+4.8
KKM				*e*Sn	Sn	09 38 51.5	-0.7
KKM	Kota Kinabalu	9.07	312	P	Pn	09 37 17.6	+6.4
KSM	Kuching	12.72	277	*e*Pn	Pn	09 38 01.0	+2.1
	25nm,1.0s						
FITZ	Fitzroy Crossi	18.08	172	P	P	09 39 03.5	+0.8
	5.0nm,0.3s,baz=3.9,slow=8.3,SNR=109						
FITZ	Fitzroy Crossi	18.08	172	‖*i*P	P	09 39 03.5	+0.8
FITZ	Fitzroy Crossi	18.08	172	*e*P	P	09 39 03.4	+0.6
	35nm,0.6s						
MBWA	Marble Bar	21.16	188	*e*P	P	09 39 35.0	-0.8
	11nm,0.9s,mb4.2						
IPM	Ipoh	22.36	282	*e*P	P	09 39 48.3	+0.1
	13nm,0.7s,mb4.5						
WRAB	Tennant Creek	22.66	151	*e*P	P	09 39 50.6	-0.4
	17nm,0.6s,mb4.7						
WRA	Warramunga Arr	22.66	151	P	P	09 39 50.5	-0.4
	7.2nm,0.4s,mb4.4,baz=334,slow=8.6,SNR=215						
WRA				pP		09 40 24.3	
	9.9nm,0.8s,baz=332,slow=12,SNR=4.7						
WRA				S	S	09 43 44.4	-2.1
	1.0nm,0.8s,baz=334,slow=16,SNR=2.6						
WRA				ScP	ScP	09 46 58.4	-1.7
	3.0nm,0.6s,baz=329,slow=2.6,SNR=23						
WRA	Warramunga Arr	22.66	151	P	P	09 39 50.5	-0.4
WRA				pP		09 40 24.3	
WRA				S	S	09 43 44.4	-2.1
WRA				ScP	ScP	09 46 58.4	-1.7
WB2	Warramunga Arr	22.67	151	*e*P	P	09 39 50.7	-0.3
KULM	Kulim	22.89	284	*e*Pn	P	09 39 52.0	-1.2
	46nm,1.5s,mb4.7						
COEN	Coen	24.31	125	*e*P	P	09 40 06.8	+0.8
	2μm,2.2s						
AS31	Alice Springs	25.73	156	*e*P	P	09 40 19.0	+0.2
AS31				*e*ScP	ScP	09 47 07.7	-0.8
ASAR	Alice Springs	25.73	156	P	P	09 40 18.9	+0.1
	4.1nm,0.6s,mb4.2,baz=343,slow=13,SNR=70						
ASAR				pP	pP	09 40 55.8	+2.7
	2.2nm,0.7s,baz=341,slow=8.8,SNR=2.4						
ASAR				PcP	PcP	09 43 44.4	-0.2
	0.8nm,0.3s,baz=341,slow=2.3,SNR=6.2						
ASAR				S	S	09 44 34.3	-1.0
	1.1nm,1.0s,baz=352,slow=26,SNR=4.2						
ASAR				ScP	ScP	09 47 07.7	-0.8
	2.7nm,0.7s,baz=341,slow=2.9,SNR=22						
ASAR	Alice Springs	25.73	156	P	P	09 40 18.9	+0.1
ASAR				pP	pP	09 40 55.8	+2.7
ASAR				PcP	PcP	09 43 44.4	-0.2
ASAR				S	S	09 44 34.3	-1.0
ASAR				ScP	ScP	09 47 07.7	-0.8
PMG	Port Moresby	25.82	112	P	P	09 40 19.7	-0.1
	4.4nm,0.5s,mb4.3,baz=319,slow=6.4,SNR=4.9						
PMG	Port Moresby	25.82	112	P	P	09 40 19.7	-0.1
QIS	Mount Isa	26.06	142	‖*i*P	P	09 40 22.2	+0.4
BDT	Bhumibol Dam	29.20	307	P	P	09 40 50.0	+0.2
CMAR	Chiang Mai Arr	29.93	309	P	P	09 40 57.1	+0.9
	6.9nm,0.7s,mb4.5,baz=136,slow=7.1,SNR=35						
CMAR	Chiang Mai Arr	29.93	309	P	P	09 40 57.1	+0.9
CHG	Chiang Mai	30.14	310	P	P	09 40 58.6	+0.6
CHTO	Chiang Mai	30.14	310	*e*P	P	09 40 58.6	+0.5
	16nm,0.9s,mb4.8						
GYA	Guiyang	30.71	331	P	P	09 41 06.0	+3.0
GYA				pP	pP	09 41 49.8	+12
GYA				sP	sP	09 42 15.0	+18
GYA				PcP	PcP	09 43 57.5	+0.7
GYA				S	S	09 45 52.8	-0.8
GYA				ScP	ScP	09 47 18.5	-5.5
GYA				PcS	PcS	09 47 40.0	-1.0
GYA				ScS	ScS	09 51 13.3	-7.6
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
FORT	Forrest	30.89	171	*e*P	P	09 41 04.5	0.0
KMI	Kunming	31.79	324	P	P	09 41 14.5	+2.0
KMI				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
NJ2	Nanjing	32.21	353	*e*P	P	09 41 19.0	+2.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
ENH	Enshi	32.81	338	*e*P	P	09 41 21.7	+0.4
	comp=Z,36nm,0.7s,mb5.2						
BBOO	Buckleboo	34.81	160	‖*i*P	P	09 41 38.4	-0.1
CD2	Chengdu	35.82	331	*e*P	P	09 41 48.0	+0.8
CD2				pP	pP	09 42 34.8	+12
CD2				sP	sP	09 42 59.3	+18
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				pmax	pmax		
	comp=Z,30nm,5.2s						
STKA	Stephens Creek	36.20	153	P	P	09 41 50.1	-0.3
	comp=Z,11nm,0.6s,mb4.6,baz=326,slow=8.4,SNR=34						
STKA				pP	pP	09 42 27.9	+1.9
	comp=Z,1.3nm,0.5s,baz=325,slow=8.8,SNR=1.5						
STKA	Stephens Creek	36.20	153	‖*i*P	P	09 41 50.7	+0.3
STKA	Stephens Creek	36.20	153	P	P	09 41 50.1	-0.3
STKA				pP	pP	09 42 27.9	+1.9
STKA				*e*PP	PP	09 43 15.8	-0.5
STKA				*e*PcP	PcP	09 44 12.1	-0.1
XAN	Xi'an	36.42	340	P	P	09 41 52.8	+0.5
XAN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
CMSA	Cobar Meteorol	37.97	148	*e*P	P	09 42 06.6	+1.2
MJAR	Matsushiro Arr	39.12	20	P	P	09 42 12.9	-1.9
	comp=Z,3.2nm,0.7s,mb4.1,baz=199,slow=8.7,SNR=7.5						
MJAR	Matsushiro Arr	39.12	20	P	P	09 42 12.9	-1.9
SHL	Shillong	39.37	313	*e*PKP	P	09 42 17.0	-0.2
SHL				*e*S	sP	09 43 17.0	+4.9
ARPS	Mount Arapiles	40.47	156	*e*P	P	09 42 26.7	+0.7
	comp=Z,13nm,0.3s,mb5.0						
HHC	Hu-ho-hao-te	42.05	347	*e*P	P	09 42 41.5	+2.7
HHC				pP	pP	09 43 29.5	+14
HHC				sP	sP	09 43 54.5	+20
HHC				PP	PP	09 44 26.8	+7.0
HHC				PcS	PcS	09 48 22.3	-0.1
HHC				S	S	09 48 46.0	+0.6
HHC				SS	SS	09 51 56.3	-3.4
HHC				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.8						
HHC				pmax	pmax		
	comp=Z,180nm,5.2s						
LSA	Lhasa	42.38	317	*e*P	P	09 42 43.0	+1.3
	comp=Z,8.8nm,0.6s,mb4.6						
TOO	Toolangi	42.70	153	*e*P	P	09 42 45.9	+1.7
ODAN	Odare	43.44	311	*e*P	P	09 42 50.3	0.0
	comp=Z,15nm,0.5s,mb4.9						
ODAN	Odare	43.44	311	*e*P	P	09 42 50.3	0.0
	comp=Z,15nm,0.5s,mb4.9						
TAPN	Taplejung	43.46	312	*e*P	P	09 42 50.6	+0.1
	comp=Z,39nm,1.0s,mb5.0						
TAPN	Taplejung	43.46	312	*e*P	P	09 42 50.6	+0.1
	comp=Z,39nm,1.0s,mb5.0						
CN2	Changchun	43.77	3	*e*P	P	09 42 57.5	+4.9
CN2				*es*P	sP	09 44 08.3	+20
CN2				*e*S	S	09 49 14.0	+3.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
RAMN	Ramite	44.09	311	*e*P	P	09 42 55.7	+0.3
	comp=Z,46nm,0.5s,mb5.4						
RAMN	Ramite	44.09	311	*e*P	P	09 42 55.7	+0.3
	comp=Z,46nm,0.5s,mb5.4						
GTA	Gaotai	44.65	334	*e*P	P	09 42 59.5	-0.2
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
JIRN	Jiri	44.77	311	*e*P	P	09 43 01.0	+0.1
	comp=Z,9.3nm,0.5s,mb4.7						
JIRN	Jiri	44.77	311	*e*P	P	09 43 01.0	+0.1
	comp=Z,9.3nm,0.5s,mb4.7						
USRK	Ussuriysk Arra	44.84	9	P	P	09 42 60.0	-1.1
	comp=Z,2.6nm,0.6s,mb4.0,baz=204,slow=5.1,SNR=8.1						
MDJ	Mudanjiang	44.92	7	P	P	09 43 04.3	+2.6
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.1						
MDJ				pmax	pmax		
	comp=Z,170nm,6.5s						
GUN	Gumba	45.13	311	*e*P	P	09 43 03.8	+0.1
	comp=Z,36nm,0.5s,mb5.3						
GUN	Gumba	45.13	311	*e*P	P	09 43 03.8	+0.1
	comp=Z,36nm,0.5s,mb5.3						
PKI	Pulchoki	45.31	310	*e*P	P	09 43 04.6	-0.6
	comp=Z,9.6nm,0.5s,mb4.7						
PKI	Pulchoki	45.31	310	*e*P	P	09 43 04.6	-0.6
	comp=Z,9.6nm,0.5s,mb4.7						
KKN	Kakani	45.52	311	*e*P	P	09 43 06.5	-0.3
	comp=Z,5.5nm,0.2s,mb4.8						
KKN	Kakani	45.52	311	*e*P	P	09 43 06.5	-0.3
	comp=Z,5.5nm,0.2s,mb4.8						
DMN	Daman	45.56	310	*e*P	P	09 43 07.0	-0.1
	comp=Z,27nm,0.8s,mb4.9						
DMN	Daman	45.56	310	*e*P	P	09 43 07.0	-0.1
	comp=Z,27nm,0.8s,mb4.9						
GKN	Gorkha	46.12	311	*e*P	P	09 43 11.2	-0.3
	comp=Z,15nm,0.4s,mb5.0						
GKN	Gorkha	46.12	311	*e*P	P	09 43 11.2	-0.3
	comp=Z,15nm,0.4s,mb5.0						
KOLN	Koldanda	46.80	310	*e*P	P	09 43 16.4	-0.4
	comp=Z,36nm,0.5s,mb5.2						
KOLN	Koldanda	46.80	310	*e*P	P	09 43 16.4	-0.4
	comp=Z,36nm,0.5s,mb5.2						
DANN	Dangsing	46.97	310	*e*P	P	09 43 17.8	-0.2
	comp=Z,45nm,0.6s,mb5.3						
DANN	Dangsing	46.97	310	*e*P	P	09 43 17.8	-0.2
	comp=Z,45nm,0.6s,mb5.3						
ASAJ	Asahikawa	47.39	19	P	P	09 43 20.4	-0.6
	comp=Z,23nm,1.1s,mb4.7,baz=270,slow=5.1,SNR=6.2						
ASAJ	Asahikawa	47.39	19	P	P	09 43 20.4	-0.6
ULN	Ulaanbaatar	49.73	346	*e*P	P	09 43 39.0	+0.2
	comp=Z,14nm,1.3s,mb4.4						
SONM	Songino Array	49.87	345	P	P	09 43 40.2	+0.3
	comp=Z,2.1nm,0.5s,mb4.0,baz=160,slow=9.4,SNR=20						
SONM				PcP	PcP	09 44 56.1	-1.7
	comp=Z,1.5nm,0.7s,baz=163,slow=4.4,SNR=4.6						
SONM	Songino Array	49.87	345	P	P	09 43 40.2	+0.3
SONM				PcP	PcP	09 44 56.1	-1.7
WMQ	Urumqi	53.84	329	*e*P	P	09 44 08.5	-0.9
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,410nm,7.2s						
KSH	Kashi	58.21	318	P	P	09 44 41.0	+0.5
KSH				PcP	PcP	09 45 30.0	0.0
KSH				pP	pP	09 45 31.5	+12
KSH				sP	sP	09 45 53.3	+16
KSH				PP	PP	09 46 56.8	+5.5
KSH				ScP	ScP	09 49 06.0	-8.6
KSH				PcS	PcS	09 49 29.5	-2.1
KSH				S	S	09 52 23.8	-5.4
KSH				sS	sS	09 53 51.3	+15
KSH				ScS	ScS	09 54 04.5	-9.2
KSH				SS	SS	09 56 20.8	-3.0
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
KSH				pmax	pmax		
	comp=Z,250nm,6.2s						
KSH				LR	LR		
	comp=N,340nm,6.7s						
KSH				LR	LR		
	comp=E,290nm,6.6s						
KSH				LR	LR		
	comp=Z,280nm,6.1s						
MK31	Makanchi Array	58.66	328	*e*P	P	09 44 42.5	-1.0
MKAR	Makanchi Array	58.66	328	P	P	09 44 42.2	-1.2
	comp=Z,3.1nm,0.4s,mb4.5,baz=123,slow=8.5,SNR=30						
MKAR				PcP	PcP	09 45 29.6	-2.0
	comp=Z,1.5nm,0.5s,baz=124,slow=4.6,SNR=6.5						
MKAR	Makanchi Array	58.66	328	*e*P	P	09 44 42.4	-1.0
MKAR				PcP	PcP	09 45 29.6	-2.0
TKM2	Tokmak 2	60.22	322	*e*P	P	09 44 54.2	-0.1
	comp=Z,3.2nm,0.8s,mb4.2						
AAK	Ala-Archa	60.77	321	*e*P	P	09 44 57.8	-0.1
	comp=Z,43nm,1.5s,mb5.1						
KBL	Kabul	60.96	310	*e*P	P	09 44 58.2	-1.1
	comp=Z,13nm,0.7s,mb4.9						
EKS2	Erkin-Say	61.23	320	*e*P	P	09 45 01.1	0.0
	comp=Z,14nm,1.7s,mb4.5						
ZALV	Zalesovo Beam	62.38	336	P	P	09 45 06.2	-2.3
	comp=Z,1.0nm,0.3s,mb4.1,baz=121,slow=5.7,SNR=12						
ZALV	Zalesovo Beam	62.38	336	P	P	09 45 06.2	-2.3
KURK	Kurchatov	63.03	330	P	P	09 45 11.3	-1.6
	comp=Z,3.4nm,0.7s,mb4.3,baz=138,slow=4.2,SNR=23						
KURK				PcP	PcP	09 45 46.8	-2.4
	comp=Z,1.3nm,0.6s,baz=123,slow=3.1,SNR=4.4						
KURK	Kurchatov	63.03	330	*e*P	P	09 45 11.3	-1.5
	comp=Z,12nm,1.1s,mb4.6						
KURK

*IDC **27** 09:45:35.2±0.8, 17°.59N×145°.93E, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.8/24, mbtmp3.8/10, ML3.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/26, Error ellipse: s-maj=28.5km s-min=17.1km az=104.0*
*ISCJB **27** 09:45:37.3±6.6, 17°.58N±0°.08×145°.8E±0°.2, h26km±47km, mb3.7/10, Error ellipse: s-maj=31.5km s-min=13.3km az=7.4*
*NEIC **27** 09:45:40.4±0.6, 17°.53N×145°.91E, h35km, mb3.7/1, Error ellipse: s-maj=24.1km s-min=11.8km az=99.0*

ISC 27 09:45:37.6±6.6, 17°.57N±0°.07×145°.9E±0°.2, h15km±41km, n22, σ0°91/23, mb3.7/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.08**	**194**	Pn	**Pn**	**09 46 39.8**	**+0.3**
	5.3nm,0.3s,baz=360,slow=19,SNR=2.6						
GUMO				Sn	**Sn**	**09 47 27.2**	**+0.1**
	16nm,0.3s,baz=70,slow=22,SNR=12						
GUMO	**Guam**	**4.08**	**194**	Pn	**Pn**	**09 46 39.9**	**+0.3**
GUMO				Sn	**Sn**	**09 47 27.2**	**+0.1**
KSRS	**Korea Array**	**25.35**	**325**	LR	LR	09 59 31.0	
	comp=Z,24nm,19.1s,baz=355,slow=33						
WRAB	**Tennant Creek**	**38.96**	**197**	*e*P	**P**	**09 53 02.5**	**-0.7**
	1.1nm,0.8s,mb3.6						
WRA	**Warramunga Arr**	**38.97**	**197**	P	**P**	**09 53 02.3**	**-1.0**
	0.5nm,0.7s,mb3.4,baz=18,slow=9.2,SNR=6.3						
WRA	**Warramunga Arr**	**38.97**	**197**	P	**P**	**09 53 02.3**	**-1.0**
ASAR	**Alice Springs**	**42.63**	**196**	P	**P**	**09 53 33.8**	**+0.3**
	0.1nm,0.6s,mB2.7,baz=21,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**42.63**	**196**	P	**P**	**09 53 33.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**44.57**	**279**	P	**P**	**09 53 51.0**	**+1.6**
	1.6nm,0.8s,mb3.9,baz=70,slow=6.8,SNR=7.2						
CMAR	**Chiang Mai Arr**	**44.57**	**279**	P	**P**	**09 53 51.0**	**+1.6**
ZALV	**Zalesovo Beam**	**59.03**	**323**	P	**P**	**09 55 35.6**	**-1.2**
	0.6nm,0.3s,mb4.2,baz=110,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**59.03**	**323**	P	**P**	**09 55 35.6**	**-1.2**
KURK	**Kurchatov**	**62.24**	**318**	P	**P**	**09 55 59.1**	**+0.4**
	0.6nm,0.5s,mb4.0,baz=93,slow=7.3,SNR=10						
KURK	**Kurchatov**	**62.24**	**318**	P	**P**	**09 55 59.1**	**+0.4**
ILAR	**Eielson Array**	**64.57**	**26**	P	**P**	**09 56 12.8**	**-1.1**
	0.4nm,0.6s,mb3.6,baz=247,slow=6.0,SNR=11						
ILAR	**Eielson Array**	**64.57**	**26**	P	**P**	**09 56 12.8**	**-1.1**
BVAR	**Borovoye Array**	**67.47**	**321**	P	**P**	**09 56 32.0**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=117,slow=8.7,SNR=5.4						
BVAR	**Borovoye Array**	**67.47**	**321**	P	**P**	**09 56 32.0**	**-0.7**
YKA	**Yellowknife Ar**	**78.89**	**28**	P	**P**	**09 57 40.8**	**+0.8**
	0.9nm,0.6s,mb3.9,baz=288,slow=5.4,SNR=15						
YKA	**Yellowknife Ar**	**78.89**	**28**	P	**P**	**09 57 40.9**	**+0.8**
NVAR	**Mina Array Bea**	**83.68**	**52**	P	**P**	**09 58 07.3**	**+1.3**
	0.8nm,0.6s,mb4.0,baz=263,slow=5.8,SNR=5.5						
NVAR	**Mina Array Bea**	**83.68**	**52**	P	**P**	**09 58 07.3**	**+1.3**

*ISCJB **27** 09:47:22.8±0.5, 38°.09N±0°.03×30°.14E±0°.04, h7km±6km, Error ellipse: s-maj=5.8km s-min=4.2km az=9.3*
*ISK **27** 09:47:22.5, 38°.05N×30°.12E, h8km, MD2.8*
*DDA **27** 09:47:23.9, 38°.14N×30°.13E, h7km±6km, Md2.9*
*CSEM **27** 09:47:23.0±0.2, 38°.09N×30°.13E, h8km, MD2.9, Error ellipse: s-maj=5.8km s-min=4.8km az=89.0*

ISC 27 09:47:23.6±0.5, 38°.09N±0°.03×30°.15E±0°.04, h11km±5km, n29, σ1°11/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.56**	**34**	*e*PG	**Pg**	**09 47 34.0**	**-0.6**
SHUT				*e*SG	**Sg**	**09 47 43.8**	**+1.8**
SHUT	**Suhut-Afyon**	**0.56**	**34**	*e*Pg	**Pg**	**09 47 34.0**	**-0.6**
SHUT				*e*Sg	**Sg**	**09 47 43.8**	**+1.8**
KHAL	**Karahalli**	**0.59**	**299**	*i* P	**Pg**	**09 47 34.4**	**-0.7**
KHAL				*i* S	**Sg**	**09 47 45.9**	**+3.2**
KHAL	**Karahalli**	**0.59**	**299**	*i* P	**Pg**	**09 47 34.4**	**-0.6**
BCK	**Bucak**	**0.72**	**151**	*e*PG	**Pg**	**09 47 36.0**	**-1.5**
BCK				*e*SG	**Sg**	**09 47 46.5**	**-0.4**
BCK	**Bucak**	**0.72**	**151**	*e*Pg	**Pg**	**09 47 36.0**	**-1.5**
BCK				*e*Sg	**Sg**	**09 47 46.5**	**-0.3**
BOLV	**Bolvadin**	**0.89**	**45**	*i* P	**Pg**	**09 47 39.5**	**-1.3**
BOLV				*i* S	**Sg**	**09 47 53.1**	**+0.7**
BOLV	**Bolvadin**	**0.89**	**45**	*i* P	**Pg**	**09 47 39.5**	**-1.3**
BOLV				*i* S	**Sg**	**09 47 53.1**	**+0.7**
SUTC	**Sutluce-Ispart**	**0.91**	**132**	*e*PG	**Pg**	**09 47 40.6**	**-0.5**
SUTC	**Sutluce-Ispart**	**0.91**	**132**	*e*Pg	**Pg**	**09 47 40.6**	**-0.5**
GOLH	**Golhisar**	**0.97**	**209**	*i* P	**Pg**	**09 47 41.2**	**-1.0**
GOLH				*i* S	**Sg**	**09 47 57.2**	**+2.3**
GOLH	**Golhisar**	**0.97**	**209**	*i* P	**Pg**	**09 47 41.2**	**-1.0**
KORT	**Korkueli**	**1.10**	**171**	*e*P	**Pg**	**09 47 46.4**	**+1.7**
KORT	**Korkueli**	**1.10**	**171**	*e*P	**Pg**	**09 47 46.4**	**+1.7**
GDZ	**Gediz**	**1.13**	**333**	*i* P	**Pg**	**09 47 44.5**	**-0.8**
GDZ				*i* S	**Sg**	**09 47 59.9**	**-0.1**
GDZ	**Gediz**	**1.13**	**333**	*i* P	**Pg**	**09 47 44.5**	**-0.8**
GDZ				*i* S	**Sg**	**09 47 59.8**	**-0.1**
KULA	**Kula-Manisa**	**1.24**	**290**	*e*PN	**Pn**	**09 47 46.6**	**-0.4**
KULA	**Kula-Manisa**	**1.24**	**290**	*e*Pn	**Pn**	**09 47 46.6**	**-0.4**
ESKT	**Eskisehir**	**1.53**	**21**	*i* P	**Pn**	**09 47 49.2**	**-1.7**
ESKT				*i* S	**Sn**	**09 48 11.3**	**+0.5**
SEYT	**Eskypehyr**	**1.53**	**21**	*i* P	**Pn**	**09 47 49.2**	**-1.7**
SEYT				*i* S	**Sn**	**09 48 11.3**	**+0.5**
KIZT	**Kizilcal**	**1.57**	**59**	*e*PN	**Pn**	**09 47 51.9**	**+0.4**
KIZT	**Kizilcal**	**1.57**	**59**	*e*Pn	**Pn**	**09 47 51.9**	**+0.4**
TURN	**Turunc**	**1.73**	**226**	*i* P	**Pn**	**09 47 58.7**	**+5.2**
SVRH	**Sivrihisar-ESK**	**1.73**	**38**	*e*PN	**Pn**	**09 47 54.5**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.73**	**38**	*e*Pn	**Pn**	**09 47 54.5**	**+0.8**
HDMB	**Hadim**	**2.17**	**120**	*e*PN	**Pn**	**09 48 00.3**	**+0.6**
HDMB	**Hadim**	**2.17**	**120**	*e*Pn	**Pn**	**09 48 00.3**	**+0.6**
BODT	**Bodrum**	**2.48**	**246**	*e*PN	**Pn**	**09 48 03.8**	**-0.1**
BODT	**Bodrum**	**2.48**	**246**	*e*Pn	**Pn**	**09 48 03.8**	**-0.1**

*NEIC **27** 09:52:11.2, 16°.45N×98°.97W, h16km, MD3.4(MEX), After MEX.*

MEX 27 09:52:11.0±0.4, 16°.42N×98°.98W, h16km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.82**	**92**	*i* P	Pb	09 52 24.1	-2.8
PNIG				*e*S	Sb	09 52 33.9	-3.9
PNIG	**Pinotepa**	**0.82**	**92**	*i* P	Pb	09 52 24.1	-2.8
PNIG				*e*S	Sb	09 52 33.9	-3.9
ACX	**Acapulco**	**0.95**	**298**	*i* P	Pb	09 52 26.2	-2.9
ACX				*i* S	Sb	09 52 39.1	-2.4
ACX	**Acapulco**	**0.95**	**298**	*i* P	Pb	09 52 26.2	-2.9
ACX				*i* S	Sb	09 52 39.1	-2.4
CAIG	**El Cayaco**	**1.38**	**297**	*i* P	Pn	09 52 31.7	-3.9
CAIG				*i* S	Sn	09 52 47.9	-5.7
CAIG	**El Cayaco**	**1.38**	**297**	*i* P	Pn	09 52 31.7	-3.9
CAIG				*i* S	Sn	09 52 47.9	-5.7
MEIG	**Mezcala**	**1.62**	**338**	*i* P	Pn	09 52 35.7	-3.2
MEIG				*e*S	Sn	09 52 54.1	-5.3
MEIG	**Mezcala**	**1.62**	**338**	*i* P	Pn	09 52 35.7	-3.2
MEIG				*e*S	Sn	09 52 54.1	-5.3

*CSEM **27** 09:52:19.1±0.1, 40°.12N×23°.99E, h9km, ML2.7/12, Error ellipse: s-maj=2.7km s-min=2.0km az=99.0*
*ATH **27** 09:52:19.7, 40°.15N×23°.89E, h27km±1km, MD3.2/9*
*BEO **27** 09:52:23.5±1.2, 40°.39N×23°.74E, h0km*

THE 27 09:52:19.6, 40°.14N×23°.98E, h9km, ML2.7/12, Error ellipse: s-maj=0.9km s-min=0.5km az=61.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.19**	**360**	P	Pg	09 52 23.8	+0.2
OUR				S	Sg	09 52 26.9	+0.6
OUR	**Ouranopolis**	**0.19**	**360**	P	Pg	09 52 23.8	+0.2
OUR				S	Sg	09 52 26.9	+0.6
PAIG	**Paliouri**	**0.32**	**228**	P	Pg	09 52 25.7	-0.1
PAIG				S	Sg	09 52 30.2	+0.2
PAIG	**Paliouri**	**0.32**	**228**	P	Pg	09 52 25.7	-0.1
PAIG				S	Sg	09 52 30.2	+0.2
PLG	**Polygyros**	**0.47**	**300**	*e*PB	Pg	09 52 28.6	-0.2
PLG				*e*SB	Sg	09 52 34.8	-0.2
PLG	**Polygyros**	**0.47**	**300**	P	Pg	09 52 28.7	-0.1
PLG				S	Sg	09 52 35.3	+0.3
PLG	**Polygyros**	**0.47**	**300**	P	Pg	09 52 28.7	-0.1
PLG				S	Sg	09 52 35.3	+0.3
HORT	**Hortiatis**	**0.81**	**304**	P	Pg	09 52 34.6	-0.7
HORT				S	Sg	09 52 46.0	+0.1
HORT	**Hortiatis**	**0.81**	**304**	P	Pg	09 52 34.6	-0.7
HORT				S	Sg	09 52 46.0	+0.1
SOH	**Sokhos**	**0.83**	**325**	*e*PN	Pn	09 52 35.1	-2.4
SOH				*e*SN	Sn	09 52 46.1	-3.8
SOH	**Sokhos**	**0.83**	**325**	P	Pg	09 52 35.6	0.0
SOH				S	Sg	09 52 47.0	+0.5
SOH	**Sokhos**	**0.83**	**325**	*e*Pn	Pn	09 52 35.1	-2.4
SOH	**Sokhos**	**0.83**	**325**	P	Pg	09 52 35.6	0.0
SOH				*e*Sn	Sn	09 52 46.1	-3.8
SOH				S	Sg	09 52 47.0	+0.5
KAVA	**Kavala**	**0.95**	**25**	P	Pg	09 52 37.1	-0.7
KAVA				S	Sg	09 52 50.6	+0.5
KAVA	**Kavala**	**0.95**	**25**	P	Pg	09 52 37.1	-0.7
KAVA				S	Sg	09 52 50.6	+0.5
LIA	**Limnos Island**	**0.95**	**104**	P	Pg	09 52 37.6	-0.3
LIA	**Limnos Island**	**0.95**	**104**	P	Pg	09 52 37.6	-0.3
AOS	**Alonnisos**	**0.97**	**185**	P	Pg	09 52 37.5	-0.8
AOS				S	Sg	09 52 51.7	+0.8
AOS	**Alonnisos**	**0.97**	**185**	P	Pg	09 52 37.5	-0.8
XOR	**Xorichti**	**0.98**	**218**	P	Pg	09 52 38.9	+0.4
XOR				S	Sg	09 52 52.7	+1.4
XOR	**Xorichti**	**0.98**	**218**	P	Pg	09 52 38.9	+0.4
NEO	**Neokhori**	**1.02**	**215**	*e*PN	Pn	09 52 39.0	-1.1
NEO				*e*SN	Sn	09 52 52.8	-1.7
NEO	**Neokhori**	**1.02**	**215**	P	Pg	09 52 38.9	-0.2
NEO	**Neokhori**	**1.02**	**215**	*e*Pn	Pn	09 52 39.0	-1.1
NEO				*e*Sn	Sn	09 52 52.8	-1.7
SRS	**Serrai**	**1.02**	**343**	P	Pg	09 52 39.1	-0.1
SRS				S	Sg	09 52 53.1	+0.7
SRS	**Serrai**	**1.02**	**343**	P	Pg	09 52 39.1	-0.1
SRS				S	Sg	09 52 53.1	+0.7
SKIA	**Skiathos**	**1.05**	**202**	P	Pg	09 52 39.3	-0.5
SKIA	**Skiathos**	**1.05**	**202**	P	Pg	09 52 39.3	-0.5
LIT	**Litokhoron**	**1.15**	**268**	*e*PN	Pn	09 52 40.8	-1.0
LIT				*e*SN	Sn	09 52 55.8	-1.8
LIT	**Litokhoron**	**1.15**	**268**	P	Pb	09 52 40.8	-0.8
LIT				S	Sg	09 52 56.8	+0.4
LIT	**Litokhoron**	**1.15**	**268**	P	Pb	09 52 40.8	-0.8
LIT				*e*Sn	Sn	09 52 55.8	-1.8
LIT				S	Sg	09 52 56.8	+0.4
NVR	**Nevrokopi**	**1.21**	**356**	P	Pb	09 52 41.9	-0.8
NVR				S	Sb	09 52 59.5	+1.0
NVR	**Nevrokopi**	**1.21**	**356**	P	Pb	09 52 41.9	-0.8
NVR				S	Sb	09 52 59.5	+1.0
KNT	**Kendrikon**	**1.31**	**321**	P	Pn	09 52 43.6	-0.5
KNT				S	Sb	09 53 01.0	-0.4
KNT	**Kendrikon**	**1.31**	**321**	P	Pn	09 52 43.6	-0.5
KNT				S	Sb	09 53 01.0	-0.4
GRG	**Griva**	**1.45**	**305**	P	Pn	09 52 46.1	0.0
GRG				S	Sn	09 53 06.1	+0.8
GRG	**Griva**	**1.45**	**305**	P	Pn	09 52 46.1	0.0
GRG				S	Sn	09 53 06.1	+0.8
MRKA	**Markates**	**1.47**	**192**	P	Pn	09 52 45.1	-1.1
MRKA	**Markates**	**1.47**	**192**	P	Pn	09 52 45.1	-1.1
RDO	**Rodhopi**	**1.55**	**49**	*e*PN	Pn	09 52 48.3	+0.9
RDO				*e*SN	Sn	09 53 09.4	+1.7
RDO	**Rodhopi**	**1.55**	**49**	P	Pn	09 52 46.6	-0.8
RDO	**Rodhopi**	**1.55**	**49**	P	Pn	09 52 46.6	-0.8
RDO	**Rodhopi**	**1.55**	**49**	*e*Pn	Pn	09 52 48.3	+0.9
RDO				*e*Sn	Sn	09 53 09.4	+1.7
VAY	**Valandovo**	**1.59**	**318**	*e*Pn	Pn	09 52 47.9	-0.1
VAY				*e*Sn	Sn	09 53 09.8	+1.1
VAY	**Valandovo**	**1.59**	**318**	*e*Pn	Pn	09 52 47.9	-0.1
VAY				*e*Sn	Sn	09 53 09.8	+1.1
THL	**Klokotos Trika**	**1.62**	**250**	*e*PN	Pn	09 52 47.5	-0.9
THL				*e*SN	Sn	09 53 08.4	-1.0
THL	**Klokotos Trika**	**1.62**	**250**	P	Pn	09 52 47.8	-0.6
THL	**Klokotos Trika**	**1.62**	**250**	*e*Pn	Pn	09 52 47.5	-0.9
THL	**Klokotos Trika**	**1.62**	**250**	P	Pn	09 52 47.8	-0.6
THL				*e*Sn	Sn	09 53 08.8	-0.6
ATAL	**Atalanti**	**1.63**	**208**	P	Pn	09 52 47.5	-0.9
ATAL	**Atalanti**	**1.63**	**208**	P	Pn	09 52 47.5	-0.9
LKR	**Lokris**	**1.67**	**207**	*e*PB	Pb	09 52 48.5	-2.0
LKR	**Lokris**	**1.67**	**207**	P	Pn	09 52 48.1	-1.0
LKR	**Lokris**	**1.67**	**207**	P	Pn	09 52 48.1	-1.0
AGG	**Agios Georgios**	**1.70**	**229**	*e*PB	Pb	09 52 48.6	-2.4
AGG	**Agios Georgios**	**1.70**	**229**	P	Pn	09 52 48.6	-0.8
AGG	**Agios Georgios**	**1.70**	**229**	*e*Pb	Pb	09 52 48.6	-2.4
ERET	**Eretria**	**1.70**	**185**	P	Pn	09 52 48.2	-1.3
ERET	**Eretria**	**1.70**	**185**	P	Pn	09 52 48.2	-1.3
ALN	**Alexandroupoli**	**1.75**	**64**	*e*PB	Pb	09 52 50.6	-1.2
ALN	**Alexandroupoli**	**1.75**	**64**	P	Pn	09 52 48.7	-1.4
ALN	**Alexandroupoli**	**1.75**	**64**	P	Pn	09 52 48.7	-1.4
ALN				*e*Sn	Sn	09 53 15.2	+2.7
MAKR	**Makrakomi, Fth**	**1.82**	**232**	P	Pn	09 52 51.3	+0.2
MAKR	**Makrakomi, Fth**	**1.82**	**232**	P	Pn	09 52 51.3	+0.2
PLD	**Plovdiv**	**2.04**	**15**	*e*Pn	Pn	09 52 57.5	+3.4
PLD				*e*Sn	Sn	09 53 21.1	+1.4
PLD	**Plovdiv**	**2.04**	**15**	*e*Pn	Pn	09 52 57.5	+3.4
PLD				*e*Sn	Sn	09 53 21.1	+1.4
VTS	**Vitosha**	**2.52**	**347**	*e*Pn	Pn	09 53 01.2	+0.5
VTS				*e*Sn	Sn	09 53 27.3	-4.2
BARS	**Barje**	**3.13**	**329**	*e*Pn	Pn	09 53 09.1	0.0
BARS	**Barje**	**3.13**	**329**	*e*Pn	Pn	09 53 09.1	0.0
ZAPS	**Zavoj**	**3.29**	**343**	*e*Pn	Pn	09 53 12.6	+1.3
GRUS	**Gruza**	**4.47**	**328**	*e*Pn	Pn	09 53 26.4	-1.1
GRUS	**Gruza**	**4.47**	**328**	*e*Pn	Pn	09 53 26.4	-1.1
DIVS	**Divibare**	**4.94**	**324**	*e*Pn	Pn	09 53 34.5	+0.5
DIVS	**Divibare**	**4.94**	**324**	*e*Pn	Pn	09 53 34.5	+0.5

*ISCJB **27** 09:58:19.0±0.7, 0°.16S±0°.05×125°.59E±0°.05, h68km±7km, mb4.0/11, Error ellipse: s-maj=8.3km s-min=7.8km az=135.4*
*DJA **27** 09:58:20, 0°.14N×125°.67E, h34km, MLv4.3/9*
*NEIC **27** 09:58:20.7±2.9, 0°.15S×125°.56E, h67km±28km, mb4.1/1, Error ellipse: s-maj=28.7km s-min=9.1km az=60.0*
*IDC **27** 09:58:21.2±4.5, 0°.14S×125°.48E, h69km±44km, mb3.8/10, mb1 3.9/12, mb1mx3.8/21, mbtmp3.8/12, ML3.6/2, MS3.9/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=31.4km s-min=14.8km az=63.0*

ISC 27 09:58:20.0±0.7, 0°.13S±0°.05×125°.63E±0°.05, h59km±7km, n40, σ0°94/42, mb4.0/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.75**	**333**	P	**Pn**	**09 58 46.6**	**-1.5**
KMSI	**Cibinong**	**1.79**	**293**	P	**Pn**	**09 58 47.8**	**-0.9**
LBMI	**Labuha**	**1.93**	**105**	P	**Pn**	**09 58 51.4**	**+0.9**
TNTI	**Ternate**	**1.95**	**63**	P	**Pn**	**09 58 50.2**	**-0.6**
GTOI	**Gorontalo**	**2.73**	**286**	P	**Pn**	**09 59 01.7**	**+0.3**
GTOI				S	**Sn**	**09 59 35.2**	**+1.9**
LUWI	**Luwuk**	**3.00**	**252**	P	**Pn**	**09 59 10.1**	**+5.0**
LUWI				S	**Sn**	**09 59 46.7**	**+6.8**
NLAI	**Namlea**	**3.42**	**155**	P	**Pn**	**09 59 15.6**	**+4.7**
MRSI	**Marisa**	**3.74**	**279**	P	**Pn**	**09 59 15.7**	**+0.4**
TTSI	**Tana Toraja**	**6.49**	**243**	P	**Pn**	**09 59 54.0**	**+1.0**
SPSI	**Sidrap Palu**	**6.99**	**237**	P	**Pn**	**09 59 59.2**	**-0.6**
KAPI	**Kappang**	**7.62**	**230**	P	**Pn**	**10 00 08.5**	**+0.1**
	2.2nm,0.3s,baz=37,slow=5.9,SNR=6.9						
KAPI				S	**Sn**	**10 01 32.4**	**-1.0**
	0.8nm,0.3s,baz=189,slow=22,SNR=3.1						
KAPI	**Kappang**	**7.62**	**230**	P	**Pn**	**10 00 08.5**	**+0.1**
KAPI				S	**Sn**	**10 01 32.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**17.86**	**180**	P	**Pn**	**10 02 24.3**	**-0.1**
	0.1nm,0.3s,baz=37,slow=13,SNR=5.1						
FITZ	**Fitzroy Crossi**	**17.86**	**180**	P	**Pn**	**10 02 24.3**	**-0.1**
WRAB	**Tennant Creek**	**21.45**	**157**	*e*P	**P**	**10 03 02.5**	**-1.0**
	8.6nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**21.46**	**157**	P	**P**	**10 03 03.1**	**-0.5**
	6.2nm,0.8s,mb4.0,baz=336,slow=12,SNR=33						
WRA	**Warramunga Arr**	**21.46**	**157**	P	**P**	**10 03 03.1**	**-0.5**
WB2	**Warramunga Arr**	**21.46**	**157**	*e*P	**P**	**10 03 03.0**	**-0.7**
AS31	**Alice Springs**	**24.73**	**162**	*e*P	**P**	**10 03 36.7**	**+0.7**
ASAR	**Alice Springs**	**24.74**	**162**	P	**P**	**10 03 36.8**	**+0.8**
	3.3nm,0.7s,mb4.0,baz=341,slow=7.4,SNR=51						
ASAR	**Alice Springs**	**24.74**	**162**	P	**P**	**10 03 36.8**	**+0.8**
STKA	**Stephens Creek**	**35.00**	**156**	P	**P**	**10 05 08.5**	**+1.6**
	6.4nm,0.9s,mb4.5,baz=313,slow=8.3,SNR=10						
STKA	**Stephens Creek**	**35.00**	**156**	P	**P**	**10 05 08.5**	**+1.6**
KSAR	**Wonju Array Be**	**37.44**	**3**	P	**P**	**10 05 28.8**	**+1.2**
KSRS	**Korea Array**	**37.46**	**3**	P	**P**	**10 05 28.8**	**+1.0**
	2.5nm,0.7s,mb4.1,baz=179,slow=10,SNR=11						
SONM	**Songino Array**	**50.62**	**343**	P	**P**	**10 07 14.3**	**+1.4**
	1.3nm,0.7s,mb4.0,baz=156,slow=8.0,SNR=5.6						
SONM				LR	LR	10 28 21.6	
	comp=Z,121nm,19.1s,baz=28,slow=36						
SONM	**Songino Array**	**50.62**	**343**	P	**P**	**10 07 14.3**	**+1.4**
MKAR	**Makanchi Array**	**60.13**	**327**	P	**P**	**10 08 20.1**	**-1.2**
	0.9nm,0.4s,mb4.1,baz=123,slow=8.3,SNR=7.7						
MKAR	**Makanchi Array**	**60.13**	**327**	P	**P**	**10 08 20.1**	**-1.2**
ZALV	**Zalesovo Beam**	**63.54**	**334**	P	**P**	**10 08 43.1**	**-1.1**
	0.7nm,0.5s,mb4.0,baz=134,slow=4.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**63.54**	**334**	P	**P**	**10 08 43.1**	**-1.0**
KURK	**Kurchatov**	**64.42**	**329**	P	**P**	**10 08 48.9**	**-1.1**
	1.4nm,0.8s,mb4.0,baz=128,slow=5.9,SNR=8.8						
KURK	**Kurchatov**	**64.42**	**329**	P	**P**	**10 08 48.9**	**-1.1**
ABKAR	**Akbulak array**	**74.45**	**322**	*e*P	**P**	**10 09 51.1**	**-0.8**
AKTO	**Aktyubinsk**	**76.01**	**322**	P	**P**	**10 10 00.7**	**-0.1**
	1.7nm,0.6s,mb4.1,baz=89,slow=11,SNR=9.6						
AKTO	**Aktyubinsk**	**76.01**	**322**	P	**P**	**10 10 00.7**	**-0.1**
ILAR	**Eielson Array**	**89.04**	**25**	P	**P**	**10 11 08.3**	**0.0**
	0.1nm,0.5s,mb3.4,baz=280,slow=4.8,SNR=4.0						
ILAR	**Eielson Array**	**89.04**	**25**	P	**P**	**10 11 08.3**	**0.0**
TORD	**Torodi Ar. Bea**	**122.98**	**286**	PKP	PKPdf	10 17 11.4	+0.7
	0.4nm,0.7s,baz=66,slow=3.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**122.98**	**286**	PKP	PKPdf	10 17 11.4	+0.7

IDC 27 10:28:24.2±2.1, 7°.75N×125°.57E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=103.1km s-min=22.2km az=58.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.99**	**295**	P	P	10 34 17.1	+0.2
	0.7nm,0.4s,baz=98,slow=5.8,SNR=5.9						
WRA	**Warramunga Arr**	**28.84**	**163**	P	P	10 34 24.8	+0.3
	0.3nm,1.0s,baz=343,slow=8.5,SNR=3.2						
ASAR	**Alice Springs**	**32.27**	**166**	P	P	10 34 54.5	-0.3
	0.2nm,0.4s,baz=340,slow=6.7,SNR=13						
MKAR	**Makanchi Array**	**53.63**	**324**	P	P	10 37 47.3	0.0
	0.5nm,0.4s,baz=119,slow=8.1,SNR=6.0						

*ISK **27** 11:07:20.8, 41°.07N×34°.55E, h5km, MD2.9*
*ISCJB **27** 11:07:21.2±0.4, 41°.04N±0°.02×34°.54E±0°.03, h10km, Error ellipse: s-maj=3.4km s-min=3.4km az=11.5*
*DDA **27** 11:07:21.5, 41°.07N×34°.52E, h3km±5km, Md3.0*
*CSEM **27** 11:07:22.1±0.2, 41°.06N×34°.56E, h2km, MD2.9, Error ellipse: s-maj=3.9km s-min=3.7km az=108.0*

ISC 27 11:07:22.1±0.4, 41°.06N±0°.02×34°.53E±0°.03, h10km, n30, σ1°09/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.39**	**267**	*e*PG	**Pg**	**11 07 29.7**	**0.0**
TOS				*e*SG	**Sg**	**11 07 36.8**	**+1.8**
TOS	**Tosya**	**0.39**	**267**	*e*Pg	**Pg**	**11 07 29.7**	**-0.1**
TOS				*e*Sg	**Sg**	**11 07 36.8**	**+1.9**
BYBT	**Boyabat**	**0.45**	**23**	*e*PG	**Pg**	**11 07 30.1**	**-0.8**
BYBT				*e*SG	**Sg**	**11 07 37.4**	**+0.6**
BYBT	**Boyabat**	**0.45**	**23**	*e*Pg	**Pg**	**11 07 30.1**	**-0.8**
BYBT				*e*Sg	**Sg**	**11 07 37.4**	**+0.6**
CTKT	**Corum**	**0.47**	**156**	*i* P	**Pg**	**11 07 30.4**	**-0.9**
CTKT				*i* S	**Sg**	**11 07 38.1**	**+0.5**
CTKT	**Corum**	**0.47**	**156**	*i* P	**Pg**	**11 07 30.5**	**-0.9**
CTKT				*i* S	**Sg**	**11 07 38.2**	**+0.6**
DIKM	**Dikmen**	**0.81**	**42**	*e*PG	**Pg**	**11 07 37.5**	**-0.1**
DIKM	**Dikmen**	**0.81**	**42**	*e

MKAR	**Makanchi Array**	**57.93 314**	P		**P**	**11 19 17.6**	**+0.2**
ILAR	**Eielson Array**	**63.28 26**	P		**P**	**11 19 52.1**	**-1.0**
2.1nm,0.5s,mb4.0,baz=258,slow=5.8,SNR=66							
ILAR	**Eielson Array**	**63.28 26**	P		**P**	**11 19 52.1**	**-1.0**
INK	**Inuvik**	**68.99 23**	P		**P**	**11 20 29.4**	**+0.1**
1.8nm,0.8s,mb3.7,baz=268,slow=6.3,SNR=8.9							
INK	**Inuvik**	**68.99 23**	P		**P**	**11 20 29.4**	**+0.1**
DLBC	**Dease Lake**	**70.99 34**	P		**P**	**11 20 42.8**	**+1.1**
4.9nm,0.9s,mb4.1,baz=287,slow=8.6,SNR=7.2							
DLBC	**Dease Lake**	**70.99 34**	P		**P**	**11 20 42.8**	**+1.1**
ABKAR	**Akbulak array**	**72.80 317**	*e*P		**P**	**11 20 52.7**	**+0.1**
0.3nm,0.3s,mb3.4							
YKA	**Yellowknife Ar**	**77.64 28**	P		**P**	**11 21 19.7**	**-0.3**
1.6nm,0.5s,mb3.9,baz=289,slow=5.5,SNR=56							
YKA	**Yellowknife Ar**	**77.64 28**	P		**P**	**11 21 19.8**	**-0.2**
ARCES	**ARCESS Array B**	**81.93 342**	P		**P**	**11 21 43.3**	**+0.4**
6.3nm,0.9s,mb4.2,baz=353,slow=8.6,SNR=3.9							
ARCES	**ARCESS Array B**	**81.93 342**	P		**P**	**11 21 43.3**	**+0.4**
NVAR	**Mina Array Bea**	**83.00 52**	P		**P**	**11 21 50.0**	**+0.9**
3.0nm,0.7s,mb4.1,baz=268,slow=6.0,SNR=22							
NVAR	**Mina Array Bea**	**83.00 52**	P		**P**	**11 21 50.0**	**+0.9**
JOF	**Joensuu**	**83.45 335**	*e*p		**P**	**11 21 49.4**	**-1.5**
1.0nm,0.4s,mb3.9							
FINES	**FINESS Array B**	**86.32 335**	P		**P**	**11 22 03.4**	**-1.8**
1.3nm,0.4s,mb4.0,baz=66,slow=4.2,SNR=18							
FINES	**FINESS Array B**	**86.32 335**	P		**P**	**11 22 03.4**	**-1.8**

IDC 27 11:16:59.6±5.8, 3°.34S×132°.18E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.0/16, Error ellipse: s-maj=378.8km s-min=30.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.64**	**173**	Pn	Pn	11 20 52.4	-2.0
0.2nm,0.3s,baz=353,slow=13,SNR=6.2							
WRA				Sn	Sn	11 23 46.2	-14
0.2nm,0.3s,baz=0.2,slow=23,SNR=6.7							
ASAR	**Alice Springs**	**20.28**	**175**	P	P	11 21 37.9	+0.9
1.8nm,0.6s,baz=352,slow=10.0,SNR=26							
NWAO	**Narrogin (SRO)**	**32.59**	**204**	LR	LR	11 37 54.0	
comp=Z,54nm,22.0s,baz=210,slow=38							
MKAR	**Makanchi Array**	**66.42**	**325**	P	P	11 27 50.7	+0.1
0.5nm,0.7s,baz=131,slow=5.2,SNR=4.3							

*IDC **27** 11:30:30.9±1.5, 2°.64S×128°.66E, h0km, mb4.2/3, mb1 4.3/5, mb1mx3.9/17, mbtmp4.2/5, ML4.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/28, Error ellipse: s-maj=82.5km s-min=13.8km az=69.0*
*NEIC **27** 11:30:36.6±0.7, 2°.84S×128°.20E, h35km, mb4.3/4, Error ellipse: s-maj=16.7km s-min=9.6km az=57.0*
*DJA **27** 11:30:36, 2°.78S×127°.94E, h11km, MLv4.3/11*
*ISCJB **27** 11:30:37.1±0.5, 2°.87S±0°.04×128°.00E±0°.05, h65km±6km, mb4.1/4, Error ellipse: s-maj=9.0km s-min=5.4km az=137.0*
ISC 27 11:30:38.5±0.5, 2°.90S±0°.04×128°.02E±0°.05, h60km±6km, n31, σ1°35/40, mb4.2/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.80**	**168**	P	**Pn**	**11 30 52.9**	**-1.1**
AAI				S	**Sn**	**11 31 06.9**	**+1.5**
NLAI	**Namlea**	**0.98**	**250**	P	**Pn**	**11 30 53.2**	**-3.1**
NLAI				S	**Sn**	**11 31 08.8**	**-0.7**
MSAI	**Masohi**	**1.01**	**116**	P	**Pn**	**11 30 58.3**	**+1.7**
MSAI				S	**Sn**	**11 31 17.8**	**+7.7**
LBMI	**Labuha**	**2.31**	**347**	P	**Pn**	**11 31 12.2**	**-2.0**
TNTI	**Ternate**	**3.71**	**350**	P	**Pn**	**11 31 31.8**	**-1.5**
FAKI	**Fak Fak**	**4.22**	**90**	P	**Pn**	**11 31 41.2**	**+0.8**
KDI	**Kendari**	**5.50**	**259**	P	**Pn**	**11 31 56.8**	**-1.0**
0.1nm16nm,0.9s							
LUWI	**Luwuk**	**5.56**	**289**	P	**Pn**	**11 31 56.7**	**-2.1**
0.5nm2μm135nm,0.9s							
GTOI	**Gorontalo**	**6.12**	**305**	P	**Pn**	**11 32 06.8**	**+0.4**
0.9nm2μm78nm,0.9s							
GTOI				S	**Sn**	**11 33 16.1**	**+1.0**
0.9nm2μm78nm,0.9s							
APSI	**Ampana**	**6.67**	**287**	P	**Pn**	**11 32 12.9**	**-1.0**
TTSI	**Tana Toraja**	**8.19**	**269**	P	**Pn**	**11 32 38.1**	**+3.3**
BKSI	**Bulukumba**	**8.24**	**253**	P	**Pn**	**11 32 36.6**	**+1.2**
23nm,1.1s							
SPSI	**Sidrap Palu**	**8.31**	**262**	P	**Pn**	**11 32 38.0**	**+1.6**
KAPI	**Kappang**	**8.52**	**255**	*e*Pn	**Pn**	**11 32 41.2**	**+2.0**
FITZ	**Fitzroy Crossi**	**15.29**	**189**	Pn	**Pn**	**11 34 12.6**	**+1.8**
0.2nm,0.3s,baz=4.2,slow=13,SNR=5.6							
FITZ				LR	LR	11 39 48.4	
comp=Z,52nm,18.1s,baz=226,slow=36							
FITZ	**Fitzroy Crossi**	**15.29**	**189**	Pn	**Pn**	**11 34 12.6**	**+1.8**
WRAB	**Tennant Creek**	**18.02**	**160**	*e*Pn	**Pn**	**11 34 43.9**	**-1.0**
4.6nm,0.6s							
WRAB				*e*Sn	**Sn**	**11 38 01.5**	**-3.8**
WRA	**Warramunga Arr**	**18.03**	**160**	P	**Pn**	**11 34 44.2**	**-0.8**
0.9nm,0.3s,baz=344,slow=11,SNR=50							
WRA				S	**S**	**11 38 06.4**	**-2.1**
0.2nm,0.3s,baz=336,slow=21,SNR=4.8							
WRA	**Warramunga Arr**	**18.03**	**160**	P	**Pn**	**11 34 44.2**	**-0.8**
WRA				S	**S**	**11 38 06.4**	**-2.1**
WB2	**Warramunga Arr**	**18.03**	**160**	*e*P	**Pn**	**11 34 44.0**	**-1.1**
WB2				*e*Sn	**Sn**	**11 38 06.4**	**+0.8**
COEN	**Coen**	**18.57**	**127**	*e*Pn	**Pn**	**11 34 51.4**	**-0.1**
132nm,1.2s							
MBWA	**Marble Bar**	**19.86**	**203**	P	**Pn**	**11 35 04.4**	**-2.5**
11nm,1.1s							
AS31	**Alice Springs**	**21.41**	**165**	*e*P	**P**	**11 35 21.2**	**-0.3**
AS31				*e*S	**S**	**11 39 16.4**	**+0.5**
ASAR	**Alice Springs**	**21.41**	**165**	P	**P**	**11 35 21.8**	**+0.2**
21nm,1.0s,mb4.4,baz=344,slow=12,SNR=121							
ASAR	**Alice Springs**	**21.41**	**165**	P	**P**	**11 35 21.8**	**+0.2**
STKA	**Stephens Creek**	**31.53**	**158**	P	**P**	**11 36 55.5**	**+0.4**
1.3nm,0.4s,mb4.1,baz=346,slow=9.9,SNR=9.4							
STKA	**Stephens Creek**	**31.53**	**158**	P	**P**	**11 36 55.5**	**+0.4**
MK31	**Makanchi Array**	**63.74**	**327**	*e*P	**P**	**11 41 05.0**	**+1.0**
MKAR	**Makanchi Array**	**63.74**	**327**	P	**P**	**11 41 05.5**	**+1.4**
2.1nm,0.9s,mb4.2,baz=118,slow=7.6,SNR=12							
MKAR	**Makanchi Array**	**63.74**	**327**	P	**P**	**11 41 05.5**	**+1.4**
KURK	**Kurchatov**	**68.01**	**329**	*e*P	**P**	**11 41 32.0**	**+0.6**
3.2nm,0.9s,mb4.3							

*ISK **27** 11:36:01.4, 37°.19N×27°.90E, h21km, MD2.3*
*CSEM **27** 11:36:03.9±0.4, 37°.06N×27°.93E, h2km, MD2.3, Error ellipse: s-maj=12.0km s-min=7.3km az=175.0*
*ISCJB **27** 11:36:04.0±0.6, 37°.09N±0°.04×27°.91E±0°.03, h10km, Error ellipse: s-maj=6.3km s-min=3.9km az=6.0*
*DDA **27** 11:36:04.5, 37°.09N×27°.92E, h7km±6km, Md2.8*
ISC 27 11:36:04.7±0.6, 37°.09N±0°.05×27°.91E±0°.03, h1km±16km, n12, σ1°37/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.31**	**81**	*e*PG	**Pg**	**11 36 08.7**	**-1.9**
YER				*e*SG	**Sg**	**11 36 14.1**	**-0.5**
YER	**Yerkesik**	**0.31**	**81**	*e*Pg	**Pg**	**11 36 08.7**	**-1.9**
YER				*e*Sg	**Sg**	**11 36 14.1**	**-0.4**
DAT	**Datca**	**0.45**	**216**	*e*PG	**Pg**	**11 36 12.5**	**-0.8**
DAT				*e*SG	**Sg**	**11 36 20.6**	**+1.6**
DAT	**Datca**	**0.45**	**216**	*e*Pg	**Pg**	**11 36 12.5**	**-0.7**
DAT				*e*Sg	**Sg**	**11 36 20.6**	**+1.6**
BODT	**Bodrum**	**0.48**	**267**	*e*PG	**Pg**	**11 36 11.8**	**-2.0**
BODT				*e*SG	**Sg**	**11 36 19.4**	**-0.7**
BODT	**Bodrum**	**0.48**	**267**	*e*Pg	**Pg**	**11 36 11.8**	**-2.0**
BODT				*e*Sg	**Sg**	**11 36 19.4**	**-0.6**
GCAM	**G?zelcaml?**	**0.81**	**319**	*i* P	**Pg**	**11 36 21.2**	**+0.9**
GCAM				*i* S	**Sg**	**11 36 32.5**	**+1.7**
GCAM	**G?zelcaml?**	**0.81**	**319**	*i* P	**Pg**	**11 36 21.2**	**+0.9**
GCAM				*i* S	**Sg**	**11 36 32.5**	**+1.7**
GOLH	**Golhisar**	**1.33**	**83**	*i* P	**Pg**	**11 36 28.5**	**-1.7**
GOLH				*i* S	**Sg**	**11 36 49.2**	**+1.7**
GOLH	**Golhisar**	**1.33**	**83**	*i* P	**Pg**	**11 36 28.5**	**-1.7**
GOLH				*i* S	**Sg**	**11 36 49.2**	**+1.7**
AKAS	**Kas**	**1.61**	**121**	*i* P	**Pn**	**11 36 34.0**	**-0.3**
AKAS				*i* S	**Sg**	**11 36 58.1**	**+1.6**
AKAS	**Kas**	**1.61**	**121**	*i* P	**Pn**	**11 36 34.0**	**-0.2**
AKAS				*i* S	**Sg**	**11 36 58.1**	**+1.6**

*DDA **27** 11:46:26.3, 40°.80N×30°.25E, h5km±3km, Md3.2*
*ISCJB **27** 11:46:27.0±0.4, 40°.77N±0°.02×30°.23E±0°.03, h1km±3km, Error ellipse: s-maj=4.6km s-min=2.5km az=32.0*

*ISK **27** 11:46:27.2, 40°.74N×30°.21E, h5km, MD3.1*
*CSEM **27** 11:46:27.3±0.1, 40°.76N×30°.23E, h2km, MD3.1, Error ellipse: s-maj=3.5km s-min=2.0km az=30.0*
ISC 27 11:46:27.4±0.4, 40°.78N±0°.02×30°.24E±0°.03, h2km±3km, n71, σ0°94/115, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	**Sapanca-Adapaz**	**0.11**	**151**	PG	**Pg**	**11 46 29.9**	**+0.4**
SPNC				*e*SG	**Sg**	**11 46 31.5**	**+0.6**
SPNC	**Sapanca-Adapaz**	**0.11**	**151**	*i* Pg	**Pg**	**11 46 29.9**	**+0.4**
SPNC				*e*Sg	**Sg**	**11 46 31.5**	**+0.6**
GULT	**Gulveren**	**0.41**	**149**	*e*PG	**Pg**	**11 46 35.1**	**-0.1**
GULT				*e*SG	**Sg**	**11 46 41.3**	**+0.8**
GULT	**Gulveren**	**0.41**	**149**	*e*Pg	**Pg**	**11 46 35.1**	**-0.1**
GULT				*e*Sg	**Sg**	**11 46 41.3**	**+0.8**
HRT	**Hereke**	**0.43**	**275**	*e*PG	**Pg**	**11 46 35.8**	**+0.1**
HRT				*e*SG	**Sg**	**11 46 42.3**	**+0.9**
HRT	**Hereke**	**0.43**	**275**	*e*Pg	**Pg**	**11 46 35.8**	**+0.1**
HRT				*e*Sg	**Sg**	**11 46 42.3**	**+1.0**
HENT	**Hendek**	**0.50**	**85**	*i* P	**Pg**	**11 46 36.4**	**-0.6**
HENT				*i* S	**Sg**	**11 46 43.2**	**-0.3**
HENT	**Hendek**	**0.50**	**85**	*i* P	**Pg**	**11 46 36.4**	**-0.6**
HENT				*i* S	**Sg**	**11 46 43.2**	**-0.3**
ADVT	**Abdulvahap**	**0.52**	**228**	*e*PG	**Pg**	**11 46 37.0**	**-0.3**
ADVT				*e*SG	**Sg**	**11 46 43.4**	**-0.6**
ADVT	**Abdulvahap**	**0.52**	**228**	*e*Pg	**Pg**	**11 46 37.0**	**-0.3**
ADVT				*e*Sg	**Sg**	**11 46 43.4**	**-0.6**
SILT	**Sile**	**0.58**	**309**	*e*PG	**Pg**	**11 46 39.6**	**+1.1**
SILT				*e*SG	**Sg**	**11 46 48.0**	**+1.9**
SILT	**Sile**	**0.58**	**309**	*e*Pg	**Pg**	**11 46 39.7**	**+1.1**
SILT				*e*Sg	**Sg**	**11 46 48.0**	**+1.9**
CAVI	**Cavuskoy**	**0.65**	**208**	*e*PG	**Pg**	**11 46 39.4**	**-0.5**
CAVI	**Cavuskoy**	**0.65**	**208**	*e*Pg	**Pg**	**11 46 39.4**	**-0.5**
YLV	**Yalova**	**0.69**	**252**	*e*PG	**Pg**	**11 46 40.5**	**-0.2**
YLV				*e*SG	**Sg**	**11 46 50.7**	**+1.0**
YLV	**Yalova**	**0.69**	**252**	*e*Pg	**Pg**	**11 46 40.5**	**-0.1**
YLV				*e*Sg	**Sg**	**11 46 50.7**	**+1.1**
MDUB	**Mudurnu**	**0.79**	**113**	*e*PG	**Pg**	**11 46 42.5**	**0.0**
MDUB	**Mudurnu**	**0.79**	**113**	*e*Pg	**Pg**	**11 46 42.6**	**0.0**
BUY	**Buyukada**	**0.85**	**275**	*i* P	**Pg**	**11 46 43.8**	**0.0**
BUY				*i* S	**Sg**	**11 46 55.0**	**+0.2**
BUY	**Buyukada**	**0.85**	**275**	*i* P	**Pg**	**11 46 43.8**	**+0.1**
BUY				*i* S	**Sg**	**11 46 55.0**	**+0.2**
GEMT	**Gemlik**	**0.87**	**247**	*e*PG	**Pg**	**11 46 43.6**	**-0.5**
GEMT	**Gemlik**	**0.87**	**247**	*e*Pg	**Pg**	**11 46 43.6**	**-0.5**
BORA	**Eskisehir**	**0.92**	**170**	*i* P	**Pg**	**11 46 44.5**	**-0.4**
BORA				*i* S	**Sg**	**11 46 58.1**	**+1.3**
BORA	**Eskisehir**	**0.92**	**170**	*i* P	**Pg**	**11 46 44.5**	**-0.4**
BORA				*i* S	**Sg**	**11 46 58.1**	**+1.3**
ISK	**Istanbul-Kandi**	**0.94**	**288**	*e*PG	**Pg**	**11 46 44.8**	**-0.5**
ISK	**Istanbul-Kandi**	**0.94**	**288**	*e*Pg	**Pg**	**11 46 44.8**	**-0.5**
KLYT	**Kilyos**	**1.02**	**298**	*e*PG	**Pg**	**11 46 47.4**	**+0.5**
KLYT				*e*SG	**Sg**	**11 47 01.1**	**+1.0**
KLYT	**Kilyos**	**1.02**	**298**	*e*Pg	**Pg**	**11 46 47.4**	**+0.5**
KLYT				*e*Sg	**Sg**	**11 47 01.1**	**+1.0**
ULDT	**Uludag**	**1.06**	**233**	*i* P	**Pg**	**11 46 46.0**	**-1.6**
ULDT				*i* S	**Sg**	**11 46 59.3**	**-2.0**
ULDT	**Uludag**	**1.06**	**233**	*i* P	**Pg**	**11 46 46.0**	**-1.6**
ULDT				*i* S	**Sg**	**11 46 59.3**	**-2.0**
ARMT	**Armutlu**	**1.07**	**259**	*e*PG	**Pg**	**11 46 47.1**	**-0.8**
ARMT				*e*SG	**Sg**	**11 47 02.5**	**+0.8**
ARMT	**Armutlu**	**1.07**	**259**	*e*Pg	**Pg**	**11 46 47.1**	**-0.8**
ARMT				*e*Sg	**Sg**	**11 47 02.5**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.11**	**249**	*e*PG	**Pg**	**11 46 48.6**	**-0.1**
MDNY				*e*SG	**Sg**	**11 47 02.7**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.11**	**249**	*e*Pg	**Pg**	**11 46 48.6**	**-0.1**
MDNY				*e*Sg	**Sg**	**11 47 02.7**	**-0.4**
BGKT	**Bogazkoy**	**1.18**	**290**	*e*PN	**Pn**	**11 46 49.4**	**-1.5**
BGKT				*e*SN	**Sn**	**11 47 07.0**	**-0.6**
BGKT	**Bogazkoy**	**1.18**	**290**	*e*Pn	**Pn**	**11 46 49.4**	**-1.5**
BGKT				*e*Sn	**Sn**	**11 47 07.0**	**-0.6**
ESKT	**Eskisehir**	**1.35**	**159**	*e*PN	**Pn**	**11 46 53.1**	**-0.1**
ESKT	**Eskisehir**	**1.35**	**159**	*i* P	**Pg**	**11 46 51.8**	**-1.3**
ESKT				*i* S	**Sg**	**11 47 10.7**	**+0.1**
ESKT	**Eskisehir**	**1.35**	**159**	*e*Pn	**Pn**	**11 46 53.1**	**-0.1**
SEYT	**Eskypehyr**	**1.35**	**159**	*i* P	**Pg**	**11 46 51.8**	**-1.3**
SEYT				*i* S	**Sg**	**11 47 10.7**	**+0.1**
CTKS	**Kestanelik-??a**	**1.39**	**290**	*e*PN	**Pn**	**11 46 53.7**	**-0.1**
CTKS	**Kestanelik-??a**	**1.39**	**290**	*e*Pn	**Pn**	**11 46 53.7**	**-0.1**
ELBA	**Catalca**	**1.42**	**285**	*i* P	**Pn**	**11 46 52.7**	**-1.5**
ELBA				*i* S	**Sg**	**11 47 11.3**	**-1.6**
ELBA	**Catalca**	**1.42**	**285**	*i* P	**Pn**	**11 46 52.7**	**-1.5**
ELBA				*i* S	**Sg**	**11 47 11.3**	**-1.6**
KCTX	**Karacabey (Bur**	**1.52**	**251**	*e*PN	**Pn**	**11 46 54.7**	**-1.0**
KCTX	**Karacabey (Bur**	**1.52**	**251**	*e*Pn	**Pn**	**11 46 54.7**	**-1.0**
SLVT	**Silivri**	**1.60**	**287**	*e*PN	**Pn**	**11 46 56.8**	**+0.1**
SLVT				*e*SN	**Sn**	**11 47 18.0**	**+0.1**
SLVT	**Silivri**	**1.60**	**287**	*e*Pn	**Pn**	**11 46 56.8**	**+0.1**
SLVT				*e*Sn	**Sn**	**11 47 18.0**	**+0.1**
CTYL	**Yal??k??y-??at**	**1.63**	**296**	*e*PN	**Pn**	**11 46 57.0**	**0.0**
CTYL				*e*SN	**Sn**	**11 47 19.2**	**+0.6**
CTYL	**Yal??k??y-??at**	**1.63**	**296**	*e*Pn	**Pn**	**11 46 57.1**	**0.0**
CTYL				*e*Sn	**Sn**	**11 47 19.2**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.66**	**143**	*e*PN	**Pn**	**11 46 57.5**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.66**	**143**	*e*Pn	**Pn**	**11 46 57.6**	**+0.1**
DST	**Dursunbey**	**1.71**	**227**	*e*PN	**Pn**	**11 46 58.0**	**-0.2**
DST	**Dursunbey**	**1.71**	**227**	*e*Pn	**Pn**	**11 46 58.0**	**-0.2**
ALT	**Altintas**	**1.73**	**183**	*e*PN	**Pn**	**11 46 58.1**	**-0.4**
ALT	**Altintas**	**1.73**	**183**	*e*Pn	**Pn**	**11 46 58.1**	**-0.4**
GDZ	**Gediz**	**1.79**	**199**	*i* P	**Pn**	**11 46 59.7**	**+0.4**
GDZ				*i* S	**Sn**	**11 47 21.7**	**-0.9**
GDZ	**Gediz**	**1.79**	**199**	*i* P	**Pn**	**11 46 59.7**	**+0.4**
GDZ				*i* S	**Sn**	**11 47 21.7**	**-0.9**
DURS	**Dursunbey**	**1.79**	**229**	*i* P	**Pn**	**11 47 00.5**	**+1.1**
DURS				*i* S	**Sn**	**11 47 23.4**	**+0.7**
DURS	**Dursunbey**	**1.79**	**229**	*i* P	**Pn**	**11 47 00.5**	**+1.1**
DURS				*i* S	**Sn**	**11 47 23.4**	**+0.7**
EDC	**Edincik**	**1.86**	**257**	*e*PN	**Pn**	**11 47 00.0**	**-0.2**
EDC	**Edincik**	**1.86**	**257**	*e*Pn	**Pn**	**11 47 00.0**	**-0.3**
GONE	**Gonen-Balikesi**	**2.08**	**250**	*e*PN	**Pn**	**11 47 03.0**	**-0.4**
GONE	**Gonen-Balikesi**	**2.08**	**250**	*e*Pn	**Pn**	**11 47 03.0**	**-0.3**
BOLV	**Bolvadin**	**2.13**	**165**	*i* P	**Pn**	**11 47 06.8**	**+2.8**
BOLV				*i* S	**Sn**	**11 47 31.4**	**+0.3**
BOLV	**Bolvadin**	**2.13**	**165**	*i* P	**Pn**	**11 47 06.8**	**+2.8**
BOLV				*i* S	**Sn**	**11 47 31.4**	**+0.3**
BALY	**Balya**	**2.26**	**243**	*i* P	**Pn**	**11 47 08.5**	**+2.8**
BALY				*i* S	**Sn**	**11 47 37.5**	**+3.3**
BALY	**Balya**	**2.26**	**243**	*i* P	**Pn**	**11 47 08.5**	**+2.7**
BALY				*i* S	**Sn**	**11 47 37.5**	**+3.3**
EDRB	**Edirne**	**2.84**	**293**	*e*PN	**Pn**	**11 47 14.9**	**+1.2**
EDRB	**Edirne**	**2.84**	**293**	*e*Pn	**Pn**	**11 47 14.9**	**+1.2**
TIRR	**Tirgusor**	**3.91**	**340**	⇓*i*P	**Sn**	**11 48 11.9**	**-3.1**

IDC 27 11:53:00.8±2.3, 6°.25S×129°.16E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/14, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=154.1km s-min=31.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.51**	**160**	Pn	Pn	11 56 26.4	-1.1
0.2nm,0.3s,baz=342,slow=12,SNR=18							
WRA				Sn	Sn	11 58 57.3	-12
0.2nm,0.3s,baz=336,slow=22,SNR=6.6							
ASAR	**Alice Springs**	**17.90**	**166**	P	Pn	11 57 12.2	+0.8
0.1nm,0.3s,baz=342,slow=9.1,SNR=8.3							
MKAR	**Makanchi Array**	**67.15**	**327**	P	P	12 03 56.6	+0.1
0.1nm,0.4s,baz=117,slow=8.1,SNR=4.9							

*NNC **27** 12:19:22.4±1.4, 41°.46N×72°.43E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=13.5km s-min=5.6km az=179.0*
*ISCJB **27** 12:19:24.1±3.1, 41°.5N±0°.3×71°.9E±0°.2, h10km, Error ellipse: s-maj=45.2km s-min=9.4km az=17.4*
ISC 27 12:19:27.1±3.0, 41°.7N±0°.3×72°.1E±0°.2, h10km, n13, σ1°19/13, 2C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.30**	**69**	P	**Pn**	**12 19 48.8**	**-2.5**
SNR=73							
AML				P		12 19 48.8	
SNR=73							
EKS2	**Erkin-Say**	**1.61**	**51**	P	**Pn**	**12 19 56.1**	**+0.5**
SNR=21							
EKS2				P		12 19 56.1	
SNR=21							
KK31	**Karatay Array**	**1.84**	**322**	Pg	**Pg**	**12 20 01.6**	**-0.8**
14nm,0.3s,baz=138,slow=13,SNR=238							
KK31				⇑Lg		12 20 31.3	
28nm,0.4s,baz=138,slow=27,SNR=14							
UCH	**Uchtor**	**1.91**	**72**	P	**Pn**	**12 19 59.5**	**-0.1**
SNR=6.0							
UCH				P		12 19 59.5	
SNR=6.0							
AAK	**Ala-Archa**	**2.05**	**61**	P	**Pn**	**12 20 01.6**	**0.0**
SNR=22							
AAK				P		12 20 01.6	
SNR=22							
KBK	**Karagaybulak**	**2.36**	**64**	P	**Pn**	**12 20 08.2**	**+2.4**
SNR=5.3							
KBK				P		12 20 08.2	
SNR=5.3							
CHMS	**Chumysh**	**2.39**	**55**	P	**Pn**	**12 20 12.0**	**+5.6**
SNR=7.3							
CHMS				P		12 20 12.0	
SNR=7.3							
USP	**Ospenovka**	**2.41**	**48**	P	**Pn**	**12 20 06.5**	**0.0**
SNR=19							
USP				P		12 20 06.5	
SNR=19							
KZA	**Kyzart**	**2.41**	**79**	P	**Pn**	**12 20 04.8**	**-1.7**
SNR=36							
KZA				P		12 20 04.8	
SNR=36							
TKM2	**Tokmak 2**	**2.90**	**63**	P	**Pn**	**12 20 13.3**	**0.0**
SNR=24							
TKM2				P		12 20 13.3	
SNR=24							
TKM2	**Tokmak 2**	**2.90**	**63**	⇑Pg	**Pn**	**12 20 12.9**	**-0.4**
6.7nm,0.5s							
TKM2				⇓Lg		12 20 51.2	
49nm,0.5s							
ULHL	**Ulahol**	**3.17**	**78**	P	**Pn**	**12 20 18.3**	**+1.4**
SNR=7.5							
ULHL				P		12 20 18.3	
SNR=7.5							
AB31	**Akbulak array**	**11.39**	**316**	⇓Pn	**Pn**	**12 22 10.6**	**+0.8**
0.2nm,0.4s,baz=131,slow=15,SNR=4.1							

IDC 27 12:35:37.3±3.4, 30°.24S×176°.94W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/15, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=78.5km s-min=47.5km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.39**	**210**	Pn	Pn	12 37 53.4	-0.5
0.4nm,0.3s,baz=320,slow=5.8,SNR=4.6							
URZ				Sn	Sn	12 39 33.4	-6.8
0.7nm,0.3s,baz=140,slow=19,SNR=6.5							
ASAR	**Alice Springs**	**44.03**	**266**	P	P	12 43 46.5	-0.4
0.3nm,0.6s,baz=105,slow=7.2,SNR=6.0							
WRA	**Warramunga Arr**	**45.01**	**271**	P	P	12 43 55.0	+0.3
1.0nm,0.6s,baz=111,slow=7.6,SNR=16							
FINES	**FINESS Array B**	**145.30**	**341**	PKPbc	PKPbc	12 55 15.3	-0.8
5.9nm,1.1s,baz=104,slow=4.4,SNR=3.6							

*NEIC **27** 12:40:27.9, 44°.40N×11°.70E, h10km, ML3.3(LDG), ML3.3(VIE), After LDG.*
*PRU **27** 12:40:27.3, 44°.46N×11°.65E, h0km*
*LDG **27** 12:40:27.9±0.1, 44°.40N×11°.70E, h10km, Ml3.3/14, Error ellipse: s-maj=4.6km s-min=3.3km az=45.0*
*CSEM **27** 12:40:28.1±0.1, 44°.33N×11°.58E, h20km, ML3.2/11, Error ellipse: s-maj=2.3km s-min=2.2km az=34.0*
*STR **27** 12:40:33.6±1.1, 44°.68N×10°.92E, h5km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ROM 27 12:40:28.4±0.2, 44°.32N×11°.50E, h23km±3km, Md2.7/30, Ml2.8/21, 14C-9D, Error ellipse: s-maj=3.4km s-min=2.3km az=56.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.07**	**338**	Pg	Pb	12 40 32.2	-0.4

PRMA	PARMA	0.96	298	Pg	Pb	12	40	48.3	+2.0
	266nm,0.7s								
PRMA	PARMA	0.96	298	Pg	Pb	12	40	48.3	+2.0
	266nm,0.7s								
BADI	Badiali	0.97	146	Pg	Pb	12	40	46.3	-0.2
	3µm,2.8s								
BADI	Badiali	0.97	146	Pg	Pb	12	40	46.3	-0.2
	3µm,2.8s								
PESA	Pesaro	1.03	111	Pg	Pn	12	40	49.5	+2.1
PESA	Pesaro	1.03	111	Pg	Pn	12	40	49.5	+2.1
PIEI	Pieia	1.08	136	Pg	Pn	12	40	48.3	+0.2
	174nm,0.6s								
PIEI	Pieia	1.08	136	Pg	Pn	12	40	48.3	+0.2
	174nm,0.6s								
FSSB	Fossombrone	1.11	124	Pg	Pn	12	40	48.2	-0.3
	67nm,0.2s								
FSSB	Fossombrone	1.11	124	Pg	Pn	12	40	48.2	-0.3
	67nm,0.2s								
MURB	Monte Urbino	1.29	144	Pg	Pn	12	40	52.8	+1.9
	418nm,0.3s								
MURB	Monte Urbino	1.29	144	Pg	Pn	12	40	52.8	+1.9
	418nm,0.3s								
ROVR	Rover¤ Verone	1.37	347	Pg	Pn	12	40	51.7	-0.3
BALD	Monte Baldo	1.45	341	*e*Pg	Pn	12	40	54.5	+1.3
BALD				*e*Sg	Sn	12	41	13.8	+2.4
BALD	Monte Baldo	1.45	341	*e*Pg	Pn	12	40	54.5	+1.3
BALD				*e*Sg	Sn	12	41	13.8	+2.3
SALO	Salr	1.48	332	Pg	Pn	12	40	53.9	+0.4
	259nm,0.4s								
SNTG	Esanatoglia	1.49	135	Pg	Pn	12	40	55.1	+1.4
	71nm,0.3s								
SNTG	Esanatoglia	1.49	135	Pg	Pn	12	40	55.1	+1.4
	71nm,0.3s								
SACS	San Casciano d	1.50	168	Pg	Pn	12	40	56.1	+2.3
MTLO	Montello	1.56	16⇑	*e*Pg	Pn	12	40	54.1	-0.5
MTLO	Montello	1.56	16	*e*Pg	Pn	12	40	54.1	-0.5
DDS	Dosso del Somm	1.58	352⇓	*e*Pg	Pn	12	40	54.5	-0.4
DDS	Dosso del Somm	1.58	352	*e*Pg	Pn	12	40	54.5	-0.5
CESI	CESI - Serrava	1.66	142	Pg	Pn	12	40	59.1	+3.1
	51nm,0.8s								
CESI	CESI - Serrava	1.66	142	Pg	Pn	12	40	59.1	+3.1
	51nm,0.8s								
VARN	Col Varnada, M	1.73	14⇑	*e*Pn	Pn	12	40	55.6	-1.4
VARN	Col Varnada, M	1.73	14	*e*Pn	Pn	12	40	55.6	-1.4
CTI	Castel Tesino	1.74	3	Pg	Pn	12	40	56.6	-0.5
PANI	Panarotta	1.74	356⇑	*e*Pn	Pn	12	41	00.3	+3.2
PANI	Panarotta	1.74	356	*e*Pn	Pn	12	41	00.3	+3.2
RNI	Roncone	1.77	340	*e*Pn	Pn	12	40	58.1	+0.5
RNI	Roncone	1.77	340	*e*Pn	Pn	12	40	58.1	+0.5
CAE	Caneva	1.82	21⇓	*e*Pn	Pn	12	40	57.6	-0.6
CAE	Caneva	1.82	21	*e*Pn	Pn	12	40	57.6	-0.6
POLC	Polcenigo	1.85	22	*e*Pn	Pn	12	40	58.5	-0.2
MABI	Malga Bissina	1.87	339	Pg	Pn	12	40	59.1	+0.1
	44nm,0.4s								
MLNI	Malnisio	2.00	23	*e*Pn	Pn	12	40	60.0	-0.7
MLNI	Malnisio	2.00	23	*e*Pn	Pn	12	41	00.0	-0.7
CIMO	Cimolais	2.10	18⇓	*e*Pn	Pn	12	41	01.4	-0.8
CIMO	Cimolais	2.10	18	*e*Pn	Pn	12	41	01.4	-0.7
TRI	Trieste	2.13	48⇑	*e*Pn	Pn	12	41	01.1	-1.4
TRI	Trieste	2.13	48	*e*Pn	Pn	12	41	00.8	-1.7
TRI	Trieste	2.13	48	*e*Pn	Pn	12	41	00.8	-1.7
SKDS	Skadanscina	2.17	55	*i* Pn	Pn	12	41	01.8	-1.3
SKDS									
	comp=Z,43nm,0.3s								
SKDS	Skadanscina	2.17	55	Pn	Pn	12	41	01.8	-1.2
	comp=Z,43nm,0.3s								
APPI	Appiano	2.17	355	Pg	Pn	12	41	03.2	+0.1
MPRI	Monte Prat	2.19	28⇑	*e*Pn	Pn	12	41	02.8	-0.6
MPRI	Monte Prat	2.19	28	*e*Pn	Pn	12	41	02.8	-0.6
SABO	M.te Sabotino	2.23	41⇑	*e*Pn	Pn	12	41	03.2	-0.7
SABO	M.te Sabotino	2.23	41	Pg	Pn	12	41	03.2	-0.7
SABO	M.te Sabotino	2.23	41	*e*Pn	Pn	12	41	03.2	-0.7
BAD	Bernadia	2.28	32⇑	*e*Pn	Pn	12	41	03.5	-1.1
BAD	Bernadia	2.28	32	*e*Pn	Pn	12	41	03.5	-1.1
VINO	Villanova	2.31	32⇑	*e*Pn	Pn	12	41	04.0	-1.1
VINO	Villanova	2.31	32	*e*Pn	Pn	12	41	04.0	-1.0
ROBS	Robic	2.40	36	*i* Pn	Pn	12	41	05.2	-0.9
ROBS	Robic	2.40	36	*i* Pn	Pn	12	41	05.2	-0.9
DRE	Drenchia	2.40	38⇑	*e*Pn	Pn	12	41	05.2	-1.0
DRE	Drenchia	2.40	38	*e*Pn	Pn	12	41	05.2	-1.0
JAVS	Javornik	2.41	48	*i* Pn	Pn	12	41	05.2	-1.0
JAVS	Javornik	2.41	48	*i* Pn	Pn	12	41	05.2	-1.1
VOJS	Vojsko	2.41	44	*i* Pn	Pn	12	41	05.3	-1.0
VOJS	Vojsko	2.41	44	*i* Pn	Pn	12	41	05.3	-1.0
NVLJ	Novalja	2.43	83	*i* Pn	Pn	12	41	07.0	+0.4
NVLJ				Sn	Sn	12	41	34.8	-0.8
NVLJ	Novalja	2.43	83	*i* Pn	Pn	12	41	06.9	+0.3
NVLJ				Sn	Sn	12	41	34.7	-0.8
ZOU	Zoufplan	2.47	24	*e*Pn	Pn	12	41	07.2	+0.1
CADS	Cadrg	2.48	39	*i* Pn	Pn	12	41	06.3	-1.0
CADS	Cadrg	2.48	39	*i* Pn	Pn	12	41	06.3	-1.0
PGF	Pioggiola	2.54	227	*e*Pn	Pn	12	41	09.8	+1.7
	SNR=1.0								
PGF				*e*Sn	Sn	12	41	40.6	+2.4
	comp=Z,61nm,0.4s								
PGF	Pioggiola	2.54	227	*e*Pn	Pn	12	41	09.8	+1.7
PGF				*e*Sn	Sn	12	41	40.6	+2.4
PGF	Pioggiola	2.54	227	*e*Pn	Pn	12	41	09.8	+1.7
	SNR=1.0								
PGF				*e*Sn	Sn	12	41	40.6	+2.4
	comp=Z,31nm,0.4s								
CRNS	Crni Vrh	2.63	47	*i* Pn	Pn	12	41	08.6	-0.8
TUE	Stuetta	2.64	326	*e*Pn	Pn	12	41	10.6	+1.1
TUE	Stuetta	2.64	326	*e*Pn	Pn	12	41	10.6	+1.1
ACOM	Acomizza, Ital	2.65	32⇑	*e*Pn	Pn	12	41	09.4	-0.2
ACOM	Acomizza, Ital	2.65	32	*e*Pn	Pn	12	41	09.4	-0.2
GBRS	Gornja Briga	2.65	61	*i* Pn	Pn	12	41	09.0	-0.6
GBRS				*i* Sn	Sn	12	41	39.7	-1.3
FETA	Feichten	2.76	349⇓	*i*Pn	Pn	12	41	12.9	+1.7
FETA	Feichten	2.76	349⇓	*i*Pn	Pn	12	41	12.9	+1.7
FETA	Feichten	2.76	349⇓	*i*Pn	Pn	12	41	12.9	+1.7
VISS	Visnje	2.79	57	*i* Pn	Pn	12	41	11.2	-0.4
VISS				*i* Sn	Sn	12	41	43.4	-1.2
VISS									
	comp=Z,6.0nm,0.2s								
VISS	Visnje	2.79	57	*i* Pn	Pn	12	41	11.2	-0.4
VISS				*i* Sn	Sn	12	41	43.4	-1.2
	comp=Z,6.0nm,0.2s								
SAOF	Saorge	2.86	265	P	Pn	12	41	14.5	+2.0
SAOF				S	Sn	12	41	49.5	+3.3
SAOF	Saorge	2.86	265	P	Pn	12	41	14.5	+2.0
SAOF				S	Sn	12	41	49.5	+3.3
MOZS	Mozjanca	2.87	45	*i* Pn	Pn	12	41	12.7	+0.1
MOZS									
	comp=Z,24nm,0.4s								
MOZS	Mozjanca	2.87	45	*i* Pn	Pn	12	41	12.7	0.0
	comp=Z,24nm,0.4s								
BOJS	Bojanci	2.92	65	*i* Pn	Pn	12	41	13.1	-0.3
BOJS				*i* Sn	Sn	12	41	46.7	-0.9
BOJS	Bojanci	2.92	65	*i* Pn	Pn	12	41	13.1	-0.2
BOJS				*i* Sn	Sn	12	41	46.7	-1.0
AUTN	L'Aution	2.95	265	P	Pn	12	41	16.6	+2.9
AUTN				S	Sn	12	41	49.8	+1.4
AUTN	L'Aution	2.95	265	P	Pn	12	41	16.6	+2.9
AUTN				S	Sn	12	41	49.8	+1.4
WTTA	Wattenberg	2.95	2⇓	*e*Pn	Pn	12	41	15.4	+1.6
	SNR=5.4								
WTTA	Wattenberg	2.95	2⇓	*e*Pn	Pn	12	41	15.4	+1.6
WTTA	Wattenberg	2.95	2⇓	*e*Pn	Pn	12	41	15.4	+1.6
SBF	Sospel	2.96	263	*e*Pn	Pn	12	41	15.4	+1.4
	SNR=1.0								
SBF				*e*Sn	Sn	12	41	50.3	+1.5
	comp=Z,46nm,0.5s,SNR=1.0								
SBF	Sospel	2.96	263	*e*Pn	Pn	12	41	15.4	+1.4
SBF				*e*Sn	Sn	12	41	50.3	+1.5
SBF	Sospel	2.96	263	*e*Pn	Pn	12	41	15.4	+1.4
	SNR=1.0								
SBF				*e*Sn	Sn	12	41	50.3	+1.5
	comp=Z,23nm,0.5s,SNR=1.0								
WATA	Walderalm	3.02	1⇑	*e*Pn	Pn	12	41	16.1	+1.4
	SNR=9.5								
WATA	Walderalm	3.02	1⇑	*e*Pn	Pn	12	41	16.1	+1.4
WATA	Walderalm	3.02	1⇑	*e*Pn	Pn	12	41	16.1	+1.3
TOUF	Mont Tournerai	3.07	266	P	Pn	12	41	17.8	+2.3
TOUF	Mont Tournerai	3.07	266	P	Pn	12	41	17.8	+2.3
RETA	Reutte	3.21	351	*i* Pn	Pn	12	41	19.1	+1.7
	SNR=9.2								
RETA	Reutte	3.21	351	*i* Pn	Pn	12	41	19.1	+1.7
RETA	Reutte	3.21	351	*i* Pn	Pn	12	41	19.1	+1.7
MBDF	Montbardon	3.41	279	*e*Pn	Pn	12	41	21.9	+1.8
	SNR=1.0								
MBDF				*e*Sn	Sn	12	42	01.2	+1.5
	comp=Z,25nm,0.6s								
MBDF	Montbardon	3.41	279	*e*Pn	Pn	12	41	21.9	+1.8
MBDF				*e*Sn	Sn	12	42	01.2	+1.5
MBDF	Montbardon	3.41	279	*e*Pn	Pn	12	41	21.9	+1.8
	SNR=1.0								
MBDF				*e*Sn	Sn	12	42	01.2	+1.5
	comp=Z,12nm,0.6s								
LPG	La Plagne	3.58	291	*e*Pn	Pn	12	41	23.6	+1.2
	SNR=1.0								
LPG	La Plagne	3.58	291	*e*Pn	Pn	12	41	23.6	+1.2
LPG	La Plagne	3.58	291	*e*Pn	Pn	12	41	23.6	+1.2
	SNR=1.0								
LPL	La Plagne	3.59	291	*e*Pn	Pn	12	41	23.2	+0.6
LPL				*e*Sn	Sn	12	42	05.5	+1.2
	comp=Z,19nm,0.6s,SNR=1.0								
LPL	La Plagne	3.59	291	*e*Pn	Pn	12	41	23.2	+0.6
LPL				*e*Sn	Sn	12	42	05.5	+1.2
LPL	La Plagne	3.59	291	*e*Pn	Pn	12	41	23.2	+0.6
LPL				*e*Sn	Sn	12	42	05.5	+1.2
	comp=Z,9.6nm,0.6s,SNR=1.0								
LMR	La Mourre	3.74	257	*e*Pn	Pn	12	41	25.9	+1.2
	SNR=1.0								
LMR				*e*Sn	Sn	12	42	09.2	+1.2
	comp=Z,8.7nm,0.3s								
LMR	La Mourre	3.74	257	*e*Pn	Pn	12	41	25.9	+1.2
LMR				*e*Sn	Sn	12	42	09.2	+1.2
LMR	La Mourre	3.74	257	*e*Pn	Pn	12	41	25.9	+1.2
	SNR=1.0								
LMR				*e*Sn	Sn	12	42	09.2	+1.2
	comp=Z,4.3nm,0.3s								
ORIF	Oris-en-Rattie	4.06	281	*e*Pn	Pn	12	41	30.8	+1.8
ORIF				*e*Sn	Sn	12	42	16.6	+0.9
	comp=Z,9.7nm,0.4s,SNR=1.0								
ORIF	Oris-en-Rattie	4.06	281	*e*Pn	Pn	12	41	30.8	+1.8
ORIF				*e*Sn	Sn	12	42	16.6	+0.9
ORIF	Oris-en-Rattie	4.06	281	*e*Pn	Pn	12	41	30.8	+1.8
ORIF				*e*Sn	Sn	12	42	16.6	+0.9
	comp=Z,4.8nm,0.4s,SNR=1.0								
SMRF	Simiane la Rot	4.28	268	*e*Pn	Pn	12	41	34.3	+2.3
	SNR=1.0								
SMRF	Simiane la Rot	4.28	268	*e*Pn	Pn	12	41	34.3	+2.3
SMRF	Simiane la Rot	4.28	268	*e*Pn	Pn	12	41	34.3	+2.3
	SNR=1.0								
FELD	Feldberg im Sc	4.31	327	Pg	Pn	12	41	32.9	+0.4
FELD	Feldberg im Sc	4.31	327	P	Pn	12	41	32.9	+0.4
FELD	Feldberg im Sc	4.31	327	P	Pn	12	41	32.5	0.0
CABF	La Chapelle	4.45	303	*e*Pn	Pn	12	41	35.4	+1.1
	SNR=1.0								
CABF				*e*Sn	Sn	12	42	24.2	-1.1
	comp=Z,10.0nm,0.5s,SNR=1.0								
CABF	La Chapelle	4.45	303	*e*Pn	Pn	12	41	35.4	+1.1
CABF				*e*Sn	Sn	12	42	24.2	-1.1
CABF	La Chapelle	4.45	303	*e*Pn	Pn	12	41	35.4	+1.1
	SNR=1.0								
CABF				*e*Sn	Sn	12	42	24.2	-1.1
	comp=Z,5.0nm,0.5s,SNR=1.0								
BFO	Black Forest	4.58	332	*e*Pn	Pn	12	41	35.4	-0.8
BFO				*e*Sn	Sn	12	42	27.4	-1.1
BFO	Black Forest	4.58	332	*e*Pn	Pn	12	41	35.4	-0.7
BFO				*e*Sn	Sn	12	42	27.4	-1.1
BFO	Black Forest	4.58	332	⇑*i*Pg	Pn	12	41	35.4	-0.8
BFO	Black Forest	4.58	332	⇑*i*P	Pn	12	41	35.4	-0.8
MOF	Molkenrain	4.66	321	P	Pn	12	41	37.4	+0.1
MOF	Molkenrain	4.66	321	P	Pn	12	41	37.4	+0.1
STON	Ston	4.73	106	*e*Pn	Pn	12	41	38.4	+0.2
STON				Sn	Sn	12	42	31.1	-1.2
STON	Ston	4.73	106	*e*Pn	Pn	12	41	38.3	+0.1
STON				Sn	Sn	12	42	31.1	-1.2
HINF	Hinteralfeld	4.77	319	*e*Pn	Pn	12	41	38.4	-0.3
	SNR=1.0								
HINF				*e*Sn	Sn	12	42	29.1	-4.1
	comp=Z,4.8nm,0.3s,SNR=1.0								
HINF	Hinteralfeld	4.77	319	*e*Pn	Pn	12	41	38.4	-0.3
HINF				*e*Sn	Sn	12	42	29.1	-4.1
HINF	Hinteralfeld	4.77	319	*e*Pn	Pn	12	41	38.4	-0.3
	SNR=1.0								
HINF				*e*Sn	Sn	12	42	29.1	-4.1
	comp=Z,2.4nm,0.3s,SNR=1.0								
VIVF	Saint-Julien-l	4.91	279	*e*Pn	Pn	12	41	41.4	+0.7
	SNR=1.0								
VIVF	Saint-Julien-l	4.91	279	*e*Pn	Pn	12	41	41.4	+0.7
VIVF	Saint-Julien-l	4.91	279	*e*Pn	Pn	12	41	41.4	+0.7
	SNR=1.0								
ECH	Echery	4.93	324	P	Pn	12	41	40.2	-0.7
ECH	Echery	4.93	324	P	Pn	12	41	40.2	-0.7
KHC	Kasperske Hory	5.03	16	*e*PN	Pn	12	41	40.9	-1.4
KHC				*e*PG	Pn	12	42	03.0	+21
KHC				*e*SN	Sn	12	42	36.5	-3.0
KHC				*e*x	x	12	42	57.0	
KHC				*e*SG	Sn	12	43	05.5	+26
KHC	Kasperske Hory	5.03	16	Pn	Pn	12	41	40.9	-1.4
KHC				Sn	Sn	12	42	36.5	-3.0
KHC				Sg	Sn	12	43	05.5	+26
CDF	Champ du Feu	5.03	326	*e*Pn	Pn	12	41	41.9	-0.5
	SNR=1.0								
CDF	Champ du Feu	5.03	326	*e*Pn	Pn	12	41	41.9	-0.5
CDF	Champ du Feu	5.03	326	*e*Pn	Pn	12	41	41.9	-0.5
	SNR=1.0								
HAU	Haudompre	5.14	318	*e*Pn	Pn	12	41	43.9	0.0
	SNR=1.0								
HAU				*e*Sn	Sn	12	42	40.2	-2.2
	comp=Z,12nm,0.4s,SNR=1.0								
HAU	Haudompre	5.14	318	*e*Pn	Pn	12	41	43.9	0.0
HAU				*e*Sn	Sn	12	42	40.2	-2.2
HAU	Haudompre	5.14	318	*e*Pn	Pn	12	41	43.9	0.0
	SNR=1.0								
HAU				*e*Sn	Sn	12	42	40.2	-2.2
	comp=Z,5.8nm,0.4s,SNR=1.0								
SMF	Signal de Mont	5.87	296	*e*Pn	Pn	12	41	53.5	-0.3
	SNR=1.0								
SMF				*e*Sn	Sn	12	42	57.7	-2.6
	comp=Z,13nm,0.4s,SNR=1.0								
SMF	Signal de Mont	5.87	296	*e*Pn	Pn	12	41	53.5	-0.3
SMF				*e*Sn	Sn	12	42	57.7	-2.6
SMF	Signal de Mont	5.87	296	*e*Pn	Pn	12	41	53.5	-0.3
	SNR=1.0								
NKC	Novy Kostel	5.96	6	*e*SN	Sn	12	42	58.8	-3.7
LOR	Lormes	6.10	302	*e*Pn	Pn	12	41	57.5	+0.4
	SNR=1.0								
LOR				*e*Sn	Sn	12	43	02.2	-3.9
	comp=Z,11nm,0.3s,SNR=1.0								
LOR	Lormes	6.10	302	*e*Pn	Pn	12	41	57.5	+0.4
LOR				*e*Sn	Sn	12	43	02.2	-3.9
LOR	Lormes	6.10	302	*e*Pn	Pn	12	41	57.5	+0.4
	SNR=1.0								
AVF	Avril sur Loir	6.23	296	*e*Pn	Pn	12	41	59.5	+0.6
	SNR=1.0								
AVF				*e*Sn	Sn	12	43	07.0	-2.3
	comp=Z,6.7nm,0.8s,SNR=1.0								
AVF	Avril sur Loir	6.23	296	*e*Pn	Pn	12	41	59.5	+0.6
AVF				*e*Sn	Sn	12	43	07.0	-2.3
AVF	Avril sur Loir	6.23	296	*e*Pn	Pn	12	41	59.5	+0.6
	SNR=1.0								
SSF	Saint Saulge	6.24	299	*e*Pn	Pn	12	41	58.0	-0.9
	SNR=1.0								
SSF	Saint Saulge	6.24	299	*e*Pn	Pn	12	41	58.0	-0.9
SSF	Saint Saulge	6.24	299	*e*Pn	Pn	12	41	58.0	-0.9
	SNR=1.0								
BGF	Bois d'Agland	6.49	293	*e*Sn	Sn	12	43	13.3	-2.3
	comp=Z,5.5nm,0.3s,SNR=1.0								
BGF	Bois d'Agland	6.49	293	*e*Sn	Sn	12	43	13.3	-2.3
MTLF	Montolieu	6.79	265	*e*Pn	Pn	12	42	09.0	+2.6
	SNR=1.0								
MTLF	Montolieu	6.79	265	*e*Pn	Pn	12	42	09.0	+2.6
MTLF	Montolieu	6.79	265	*e*Pn	Pn	12	42	09.0	+2.6
	SNR=1.0								
TCF	Toulx Ste Croi	6.84	290	*e*Sn	Sn	12	43	20.3	-4.0
	comp=Z,2.9nm,0.4s,SNR=1.0								
TCF	Toulx Ste Croi	6.84	290	*e*Sn	Sn	12	43	20.3	-4.0
CLL	Collm	7.07	8	*e*Pn	Pn	12	42	09.0	-1.3
CLL				*e*Sn	Sn	12	43	19.0	-11
CLL				*e*Sb	Sb	12	43	44.0	-10
CLL				*e*Sg	Sn	12	44	11.0	+41
RJF	Les Rejaudoux	7.17	281	*e*Pn	Pn	12	42	13.4	+1.7
	SNR=1.0								
RJF	Les Rejaudoux	7.17	281	*e*Pn	Pn	12	42	13.4	+1.7
RJF	Les Rejaudoux	7.17	281	*e*Pn	Pn	12	42	13.4	+1.7
	SNR=1.0								

ISCJB ***27*** *12:40:35.9±1.0, 10°.77N±0°.08×86°.48W±0°.09, h60km±12km, mb3.7/5, Error ellipse: s-maj=19.0km s-min=5.2km az=136.5*
CASC ***27*** *12:40:35.2±1.9, 10°.87N×86°.43W, h3km, MD3.7, ML3.7*
IDC ***27*** *12:40:39.3±2.7, 11°.59N×85°.78W, h40km±30km, mb3.6/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.6/6, ML3.6/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/25, Error ellipse: s-maj=62.0km s-min=21.0km az=55.0*

ISC 27 12:40:36.6±1.0, 10°.76N±0°.08×86°.48W±0°.08, h49km±12km, n35, σ1°19/41, mb3.7/5, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	Universidad de	0.94	97⇑	*i*P	Pn	12 40 52.9	-0.6
NY14				*i* S	Sn	12 41 06.7	+0.8
GBS3	Finca Las Im¯¡	1.01	89	*i* P	Pn	12 40 53.0	-1.4
GBS3				*i* S	Sn	12 41 08.0	+0.4
GBS2	Las Lilas	1.01	86	*i* P	Pn	12 40 53.7	-0.8
LAPC	Finca la Perla	1.03	90	*i* P	Pn	12 40 53.4	-1.3
LAPC				*i* S	Sn	12 41 08.6	+0.5
BUEV	Buena Vista	1.06	88	*i* P	Pn	12 40 54.2	-0.9
GB1A	Borinquen Arri	1.07	87	*i* P	Pn	12 40 54.4	-0.8
GPS3	Bodega del ICE	1.10	90	*i* P	Pn	12 40 54.6	-1.0
GPS3				*i* S	Sn	12 41 10.4	+0.7
LIM1	Limonal	1.21	93	*i* P	Pn	12 40 56.3	-0.8
LIM1				*i* S	Sn	12 41 13.4	+0.9
MASN	Masaya	1.26	15	*e*P	Pn	12 40 57.3	-0.6
COLC	Colonia	1.26	94	*i* P	Pn	12 40 56.8	-1.0
MESS	Mesas	1.27	91	*i* P	Pn	12 40 57.4	-0.6
TICN	Ticuantepe	1.29	11	*e*P	Pn	12 40 57.9	-0.3
CUI	Cuipilapa	1.30	94	*i* P	Pn	12 40 58.0	-0.4
CUI				*i* S	Sn	12 41 16.2	+1.5
XAVN	Gruta Xavier	1.39	6	*e*P	Pn	12 40 59.3	-0.3
COPN	Copaltepe	1.41	356	*e*P	Pn	12 40 59.3	-0.7
COPN				*e*S	Sn	12 41 18.9	+1.5
CSAN		1.41	2	*e*P	Pn	12 40 57.9	-2.1
JTS	JuntasAbangare	1.57	107	Pn	Pn	12 41 03.6	+1.5
	21nm,0.3s,baz=315,slow=19,SNR=67						
JTS				Sn	Sn	12 41 25.1	+3.7
	31nm,0.3s,baz=291,slow=23,SNR=6.9						
JTS	JuntasAbangare	1.57	107	*e*P	Pn	12 41 04.2	+2.1
HUEN		1.59	11	*e*P	Pn	12 41 01.7	-0.8
JCR	Jicaral	1.62	124	*e*P	Pn	12 41 03.4	+0.5
JCR				*e*S	Sn	12 41 30.4	+7.8
MIRN	Miramar	1.68	352	*e*P	Pn	12 41 04.0	+0.4
MIRN				*e*S	Sn	12 41 24.3	+0.3
CRIN	San Cristobal	2.00	344	*e*P	Pn	12 41 07.5	-0.5
CRIN				*e*S	Sn	12 41 34.6	+2.7
CRIN				AML	AML	12 41 46.1	
	comp=N,935nm,0.7s						
CGA2	Cerro Gallo 2	2.12	110	*e*P	Pn	12 41 12.7

ISC 27 12:56:06.2±0.5,37°57N±0°08×94°72E±0°05,h10km,n84,
σ1°17/93,mb4.0/20,8C-6D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.40**	**64**	**Pn**	**Pn**	**12 57 15.8**	**+2.8**
GTA				Pg	**Pb**	**12 57 22.3**	**-1.3**
GTA				Sn	**Sn**	**12 57 57.3**	**-7.0**
GTA				smax			
	comp=N,60nm,0.5s						
GTA				smax			
	comp=E,68nm,0.6s						
GTA				LR	LR		
	comp=N,310nm,5.9s						
GTA				LR	LR		
	comp=E,460nm,5.9s						
GTA				LR	LR		
	comp=Z,590nm,8.5s						
LZH	**Lanzhou**	**7.46**	**99**	*e*Pg	**Pg**	**12 58 28.8**	**-0.3**
LZH				Sg	**Sn**	**12 59 21.3**	**+1.5**
LZH				smax			
	comp=N,59nm,1.1s						
LZH				smax			
	comp=E,43nm,0.9s						
LZH				LR	LR		
	comp=N,340nm,6.4s						
LZH				LR	LR		
	comp=E,430nm,6.7s						
LZH				LR	LR		
	comp=Z,430nm,7.9s						
WMQ	**Urumqi**	**8.21**	**322**	*e*P	**Pn**	**12 58 07.0**	**+1.6**
WMQ				S	**Sn**	**12 59 37.5**	**-0.7**
WMQ				smax			
	comp=N,160nm,1.0s						
WMQ				smax			
	comp=E,220nm,1.0s						
MK31	**Makanchi Array**	**13.02**	**319**	Pn	**Pn**	**12 59 10.6**	**-0.6**
	comp=E,1.5nm,0.3s,baz=126,slow=14,SNR=134						
MK31				⇓Sn	**Sn**	**13 01 28.7**	**-7.4**
	comp=E,3.2nm,0.6s,baz=131,slow=24,SNR=6.1						
MK31	**Makanchi Array**	**13.02**	**319**	*e*Pn	**Pn**	**12 59 10.8**	**-0.3**
MK31				*e*Sn	**Sn**	**13 01 27.4**	**-8.7**
MK31	**Makanchi Array**	**13.02**	**319**	*e*P	**Pn**	**12 59 10.9**	**-0.3**
MKAR	**Makanchi Array**	**13.02**	**319**	Pn	**Pn**	**12 59 11.0**	**-0.2**
	comp=E,1.2nm,0.3s,baz=124,slow=14,SNR=67						
MKAR				Sn	**Sn**	**13 01 33.3**	**-2.8**
	comp=E,1.2nm,0.3s,baz=132,slow=23,SNR=4.5						
MKAR	**Makanchi Array**	**13.02**	**319**	Pn	**Pn**	**12 59 11.0**	**-0.2**
MKAR				Sn	**Sn**	**13 01 33.3**	**-2.8**
MKAR	**Makanchi Array**	**13.02**	**319**	P	**Pn**	**12 59 11.0**	**-0.2**
MKAR						13 01 33.3	
SONM	**Songino Array**	**13.36**	**36**	Pn	**Pn**	**12 59 17.5**	**+1.7**
	comp=E,0.7nm,0.3s,baz=224,slow=15,SNR=8.4						
SONM				Lg		13 03 14.0	
	comp=E,0.1nm,0.3s,baz=219,slow=32,SNR=3.4						
SONM	**Songino Array**	**13.36**	**36**	Pn	**Pn**	**12 59 17.5**	**+1.7**
SONM				Lg		13 03 14.0	
SONM	**Songino Array**	**13.36**	**36**	P	**Pn**	**12 59 17.5**	**+1.7**
ZAK	**Zakamensk**	**14.20**	**23**	*e*P	**Pn**	**12 59 36.1**	**+8.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TKM2	**Tokmak 2**	**15.54**	**296**	⇑Pn	**Pn**	**12 59 44.1**	**-1.2**
	comp=Z,11nm,0.7s						
TKM2				⇓Sn	**Sn**	**13 02 28.9**	**-8.6**
	comp=Z,2.1nm,0.6s						
TKM2	**Tokmak 2**	**15.54**	**296**	*e*Pn	**Pn**	**12 59 45.2**	**-0.1**
	comp=Z,13nm,0.7s						
TKM2	**Tokmak 2**	**15.54**	**296**	*e*P	**Pn**	**12 59 45.2**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,13nm,0.7s						
AAK	**Ala-Archa**	**16.27**	**294**	*e*Pn	**Pn**	**12 59 55.5**	**+0.8**
	comp=Z,17nm,0.8s						
AAK	**Ala-Archa**	**16.27**	**294**	⇓*e*P	**Pn**	**12 59 59.3**	**+4.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**17.45**	**324**	P	**Pn**	**13 00 08.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=132,slow=11,SNR=19						
KURK	**Kurchatov**	**17.45**	**324**	P	**Pn**	**13 00 08.8**	**-0.8**
KURK	**Kurchatov**	**17.45**	**324**	⇑*e*P	**Pn**	**13 00 11.8**	**+2.3**
ZAA0	**Zalesovo Array**	**17.75**	**341**	*e*P	**Pn**	**13 00 15.0**	**+1.8**
ZALV	**Zalesovo Beam**	**17.75**	**341**	P	**Pn**	**13 00 12.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=146,slow=12,SNR=13						
ZALV	**Zalesovo Beam**	**17.75**	**341**	P	**Pn**	**13 00 12.7**	**-0.5**
ZALV	**Zalesovo Beam**	**17.75**	**341**	P	**Pn**	**13 00 12.7**	**-0.5**
NVS	**Novosibirsk**	**18.97**	**339**	*e*P	**Pn**	**13 00 28.0**	**-0.2**
KK31	**Karatay Array**	**19.24**	**294**	⇑P	**Pn**	**13 00 31.3**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=94,slow=10,SNR=16						
KKAR	**Karatay Array**	**19.24**	**294**	*e*P	**Pn**	**13 00 31.0**	**-0.5**
	comp=Z,1.8nm,0.6s						
KKAR	**Karatay Array**	**19.24**	**294**	*e*P	**Pn**	**13 00 31.0**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NJ2	**Nanjing**	**20.54**	**98**	*e*P	**P**	**13 00 46.0**	**+1.2**
BVA0	**Borovoye Array**	**22.90**	**320**	⇓P	**P**	**13 01 08.8**	**-1.1**
	comp=Z,1.0nm,1.1s,mb3.2,baz=122,slow=11,SNR=12						
BVAR	**Borovoye Array**	**22.90**	**320**	P	**P**	**13 01 10.9**	**+1.0**
	comp=Z,1.4nm,0.4s,mb3.8,baz=117,slow=12,SNR=8.3						
BVAR	**Borovoye Array**	**22.90**	**320**	P	**P**	**13 01 10.9**	**+1.0**
BVAR	**Borovoye Array**	**22.90**	**320**	P	**P**	**13 01 10.9**	**+1.0**
BRVK	**Borovoye**	**22.97**	**320**	⇓P	**P**	**13 01 09.9**	**-0.7**
	comp=Z,10nm,0.8s,mb4.3						
BRVK	**Borovoye**	**22.97**	**320**	⇑*i*P	**P**	**13 01 12.2**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
ZRNK	**Zerenda**	**23.57**	**319**	⇑P	**P**	**13 01 16.4**	**-0.6**
	comp=Z,2.2nm,0.8s,mb3.6						
KSAR	**Wonju Array Be**	**26.24**	**80**	P	**P**	**13 01 39.6**	**-1.7**
KSAR	**Wonju Array Be**	**26.24**	**80**	P	**P**	**13 01 39.6**	**-1.7**
KSRS	**Korea Array**	**26.26**	**80**	P	**P**	**13 01 39.6**	**-2.0**
	comp=Z,2.2nm,0.8s,mb3.8,baz=278,slow=7.7,SNR=6.5						
KSRS	**Korea Array**	**26.26**	**80**	P	**P**	**13 01 39.6**	**-2.0**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
AB31	**Akbulak array**	**27.59**	**306**	⇑P	**P**	**13 01 54.6**	**+1.2**
	comp=Z,0.4nm,0.5s,mb3.3,baz=103,slow=9.6,SNR=4.3						
AKTO	**Aktyubinsk**	**29.06**	**308**	P	**P**	**13 02 07.8**	**+1.3**
	comp=Z,1.1nm,0.5s,mb3.9,baz=92,slow=9.8,SNR=6.8						
AKTO	**Aktyubinsk**	**29.06**	**308**	P	**P**	**13 02 07.8**	**+1.3**
AKTO	**Aktyubinsk**	**29.06**	**308**	P	**P**	**13 02 07.8**	**+1.4**
ARU	**Arti**	**30.55**	**320**	*d*P	**P**	**13 02 20.1**	**+0.5**
ARU				*e*		13 03 18.7	
ARU				S	**S**	**13 07 14.7**	**-6.3**
ARU				SS	SS	13 08 56.0	-35
ARU				pmax	pmax		
	comp=Z,23nm,2.5s,mb4.6						
JOF	**Joensuu**	**45.37**	**325**	*e*P	**P**	**13 04 24.7**	**+0.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
JOF	**Joensuu**	**45.37**	**325**	*e*p	**P**	**13 04 24.7**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.2						
BRTR	**Keskin Array B**	**46.94**	**292**	P	**P**	**13 04 38.1**	**+1.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=96,slow=7.0,SNR=4.3						
BRTR	**Keskin Array B**	**46.94**	**292**	P	**P**	**13 04 38.1**	**+1.1**
BRTR	**Keskin Array B**	**46.94**	**292**	*ce*P	**P**	**13 04 38.5**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	**Kangasniemi**	**47.68**	**324**	*e*P	**P**	**13 04 42.4**	**-0.1**
KAF	**Kangasniemi**	**47.68**	**324**	*e*p	**P**	**13 04 42.4**	**-0.1**
FINES	**FINESS Array B**	**47.82**	**323**	P	**P**	**13 04 44.3**	**+0.8**
	comp=Z,2.2nm,0.7s,mb4.3,baz=68,slow=8.0,SNR=10						
FINES	**FINESS Array B**	**47.82**	**323**	P	**P**	**13 04 44.3**	**+0.8**
FINES	**FINESS Array B**	**47.82**	**323**	P	**P**	**13 04 44.3**	**+0.8**
BILL	**Bilibino**	**48.92**	**28**	⇑*e*P	**P**	**13 04 48.7**	**-3.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
NB2	**NORSAR Subarra**	**54.97**	**324**	P	**P**	**13 05 37.1**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=73,slow=7.4						
NOA	**NORSAR Array B**	**54.97**	**324**	P	**P**	**13 05 37.7**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=73,slow=7.2,SNR=7.9						
NOA	**NORSAR Array B**	**54.97**	**324**	P	**P**	**13 05 37.7**	**+0.6**
NOA	**NORSAR Array B**	**54.97**	**324**	P	**P**	**13 05 37.7**	**+0.6**
ILAR	**Eielson Array**	**67.26**	**24**	P	**P**	**13 07 00.1**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.2,baz=297,slow=4.5,SNR=20						
ILAR	**Eielson Array**	**67.26**	**24**	P	**P**	**13 07 00.1**	**-0.3**
ILAR	**Eielson Array**	**67.26**	**24**	P	**P**	**13 07 00.1**	**-0.3**
WRA	**Warramunga Arr**	**68.28**	**140**	P	**P**	**13 07 05.3**	**-2.1**
	comp=Z,0.2nm,0.6s,mb3.4,baz=335,slow=6.6,SNR=4.2						
WRA	**Warramunga Arr**	**68.28**	**140**	P	**P**	**13 07 05.3**	**-2.1**
WRA	**Warramunga Arr**	**68.28**	**140**	P	**P**	**13 07 05.3**	**-2.1**
INK	**Inuvik**	**68.48**	**17**	P	**P**	**13 07 07.8**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=353,slow=7.5,SNR=9.9						
INK	**Inuvik**	**68.48**	**17**	P	**P**	**13 07 07.8**	**-0.3**
INK	**Inuvik**	**68.48**	**17**	P	**P**	**13 07 07.8**	**-0.3**
KDAK	**Kodiak Island**	**69.61**	**32**	P	**P**	**13 07 14.8**	**-0.5**
	comp=Z,6.7nm,0.6s,mb4.7,baz=338,slow=11,SNR=4.7						
KDAK	**Kodiak Island**	**69.61**	**32**	P	**P**	**13 07 14.8**	**-0.5**
KDAK	**Kodiak Island**	**69.61**	**32**	*i* P	**P**	**13 07 14.9**	**-0.3**
ASAR	**Alice Springs**	**71.19**	**142**	P	**P**	**13 07 24.2**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=329,slow=6.0,SNR=24						
ASAR	**Alice Springs**	**71.19**	**142**	P	**P**	**13 07 24.2**	**-1.1**
ASAR	**Alice Springs**	**71.19**	**142**	P	**P**	**13 07 24.2**	**-1.1**
ESDC	**Sonseca Array**	**72.94**	**307**	P	**P**	**13 07 36.9**	**+1.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=50,slow=5.5,SNR=7.8						
ESDC	**Sonseca Array**	**72.94**	**307**	P	**P**	**13 07 36.9**	**+1.2**
YKA	**Yellowknife Ar**	**77.53**	**13**	P	**P**	**13 08 01.2**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=335,slow=5.3,SNR=19						
YKA	**Yellowknife Ar**	**77.53**	**13**	P	**P**	**13 08 01.2**	**-0.5**
YKA	**Yellowknife Ar**	**77.53**	**13**	P	**P**	**13 08 01.2**	**-0.5**
WVOR	**Wild Horse Val**	**94.77**	**24**	*e*P	**P**	**13 09 24.2**	**-3.8**
	comp=Z,7.8nm,0.3s						
WVOR	**Wild Horse Val**	**94.77**	**24**	*e*P	**P**	**13 09 24.2**	**-3.8**
SAML	**Samuel**	**145.21**	**319**	*e*PKPbc	PKPbc	13 15 44.5	+0.3

*ISCJB **27** 12:56:42.8±0.5,21°47S±0°04×66°69W±0°05,h212km±4km, mb4.5/67, Error ellipse: s-maj=8.2km s-min=6.3km az=176.2*
*BJI **27** 12:56:42.2,21°50S×66°40W,h199km,mB5.5/4*
*IDC **27** 12:56:45.6±0.7,21°41S×66°67W,h224km±5km,mb4.2/14, mb1 4.3/20,mb1mx4.3/23,mbtmp4.2/20,Error ellipse: s-maj=14.2km s-min=8.9km az=51.0*
*NEIC **27** 12:56:45.6±0.3,21°53S×66°61W,mb4.6/54,Error ellipse: s-maj=9.3km s-min=6.3km az=75.0*
*GUC **27** 12:56:45.0±0.5,21°36S×67°29W,h249km±22km*
ISC 27 12:56:43.7±0.5,21°48S±0°04×66°65W±0°05,h205km±4km, h232km±.6km:pP-P,n156,σ1°09/141,mb4.5/67,3C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**241**	*e*Pn	**Pn**	**12 57 28.4**	**+1.9**
LVC				*e*Sn	**Sn**	**12 58 00.4**	**+0.5**
MACH	**Maria Elena**	**2.97**	**255**	⇑*i*P	**Pn**	**12 57 34.2**	**+1.0**
MACH				*i* S	**Sn**	**12 58 11.0**	**-1.0**
CEN1	**Los Morros**	**3.80**	**239**	⇓*i*P	**Pn**	**12 57 46.2**	**+3.2**
CEN1				*i* S	**Sn**	**12 58 33.5**	**+3.8**
MECH	**Mejillones**	**3.87**	**245**	⇑*i*P	**Pn**	**12 57 44.5**	**+0.5**
MECH				*i* S	**Sn**	**12 58 29.5**	**-2.0**
ANCH	**Antofagasta**	**4.11**	**237**	⇑*i*P	**Pn**	**12 57 47.2**	**+0.3**
ANCH				*i* S	**Sn**	**12 58 33.8**	**-3.0**
ARCH	**Arica**	**4.54**	**310**	*e*P	**Pn**	**12 57 51.9**	**-0.4**
ARCH				*i* S	**Sn**	**12 58 42.6**	**-3.8**
LPAZ	**La Paz**	**5.35**	**345**	P	**Pn**	**12 58 05.0**	**+2.3**
	63nm,0.3s,baz=156,slow=8.6,SNR=817						
LPAZ				S	**Sn**	**12 59 05.9**	**+0.8**
	7.3nm,0.3s,baz=356,slow=14,SNR=9.4						
LPAZ	**La Paz**	**5.35**	**345**	*e*Pn	**Pn**	**12 58 05.0**	**+2.4**
LPAZ				S	**Sn**	**12 59 05.9**	**+0.8**
LPAZ				*e*Sn	**Sn**	**12 59 07.3**	**+2.2**
SIV	**San Ignacio**	**7.59**	**45**	P	**Pn**	**12 58 31.9**	**+0.2**
	79nm,0.3s,baz=231,slow=13,SNR=672						
SIV				S	**Sn**	**12 59 47.0**	**-11**
	baz=246,slow=17,SNR=4.8						
SIV	**San Ignacio**	**7.59**	**45**	P	**Pn**	**12 58 31.9**	**+0.2**
SIV				S	**Sn**	**12 59 47.0**	**-11**
LCO	**Las Campanas**	**8.35**	**205**	*e*Pn	**Pn**	**12 58 38.9**	**-2.5**
LCO				*e*Sn	**Sn**	**13 00 09.3**	**-6.1**
CPUP	**Villa Florida**	**9.80**	**121**	P	**Pn**	**12 59 02.4**	**+2.2**
	16nm,0.3s,baz=285,slow=12,SNR=57						
CPUP	**Villa Florida**	**9.80**	**121**	P	**Pn**	**12 59 02.4**	**+2.2**
CFAA	**Coronel Fontan**	**10.19**	**188**	P	**Pn**	**12 59 03.5**	**-1.7**
	2.6nm,0.3s,baz=1.8,slow=14,SNR=86						
CFAA				S	**Sn**	**13 00 51.4**	**-7.6**
	2.5nm,0.3s,baz=168,slow=19,SNR=8.0						
CFAA	**Coronel Fontan**	**10.19**	**188**	P	**Pn**	**12 59 03.5**	**-1.7**
CFAA				S	**Sn**	**13 00 51.4**	**-7.6**
SAML	**Samuel**	**12.89**	**16**	*e*Pn	**Pn**	**12 59 39.4**	**-0.3**
NNA	**Nana**	**13.57**	**312**	P	**Pn**	**12 59 47.2**	**-0.9**
	5.5nm,0.3s,baz=140,slow=16,SNR=37						
NNA				S	**S**	**13 02 10.4**	**-9.0**
	3.9nm,0.3s,baz=216,slow=19,SNR=4.1						
NNA	**Nana**	**13.57**	**312**	*e*Pn	**Pn**	**12 59 50.0**	**+1.8**
	79nm,0.8s						
NNA				*e*S	**S**	**13 02 09.5**	**-10**
NNA				S	**S**	**13 02 10.4**	**-9.0**
TRQA	**Tornquist**	**17.01**	**167**	*e*P	**P**	**13 00 26.9**	**-1.4**
	9.1nm,0.7s						
ATAH	**Atahualpa**	**18.22**	**320**	P	**P**	**13 00 42.8**	**+1.1**
	1.4nm,0.3s,baz=162,slow=21,SNR=9.7						
ATAH	**Atahualpa**	**18.22**	**320**	P	**P**	**13 00 42.8**	**+1.1**
PLCA	**Paso Flores**	**19.48**	**189**	P	**P**	**13 00 55.0**	**0.0**
	1.4nm,0.3s,baz=356,slow=12,SNR=23						
PLCA	**Paso Flores**	**19.48**	**189**	P	**P**	**13 00 55.0**	**0.0**
OTAV	**Otavalo**	**24.46**	**330**	*e*P	**P**	**13 01 45.6**	**+1.6**
	7.3nm,0.6s,mb4.5						
SDV	**Santo Domingo**	**30.42**	**352**	*e*P	**P**	**13 02 35.9**	**-1.2**
	9.4nm,0.6s,mb4.6						
RCBR	**Riachuelo**	**33.58**	**67**	P	**P**	**13 03 04.9**	**+0.1**
	10nm,1.1s,mb4.3,baz=231,slow=13,SNR=4.4						
RCBR				pP	pP	13 03 52.2	+5.4
	12nm,0.9s,baz=233,slow=10,SNR=3.4						
RCBR	**Riachuelo**	**33.58**	**67**	P	**P**	**13 03 04.9**	**+0.1**
RCBR				pP	pP	13 03 52.2	+5.4
GRGR	**Grenville**	**33.76**	**9**	*e*P	**P**	**13 03 05.2**	**-1.0**
	111nm,0.6s,mb5.6						
JTS	**JuntasAbangare**	**36.33**	**329**	P	**P**	**13 03 29.3**	**+1.2**
	5.9nm,0.5s,mb4.4,baz=239,slow=1.5,SNR=5.1						
JTS	**JuntasAbangare**	**36.33**	**329**	P	**P**	**13 03 29.3**	**+1.2**
CELP	**Cerrillos**	**39.30**	**0**	*e*P	**P**	**13 03 51.8**	**-1.2**
LRS	**Lares**	**39.52**	**360**	*e*P	**P**	**13 03 52.5**	**-2.2**
SDDR	**Presa de Saban**	**40.46**	**353**	*e*P	**P**	**13 04 01.6**	**-0.9**
TEIG	**Tepich**	**46.53**	**322**	P	**P**	**13 04 49.7**	**-1.2**
	16nm,0.5s,mb4.6,baz=177,slow=1.3,SNR=20						
TEIG	**Tepich**	**46.53**	**332**	P	**P**	**13 04 49.7**	**-1.2**
CMIG	**Matias Romero**	**47.27**	**322**	P	**P**	**13 04 56.4**	**-0.3**
	14nm,0.6s,mb4.4,baz=121,slow=5.7,SNR=23						
CMIG	**Matias Romero**	**47.27**	**322**	P	**P**	**13 04 56.4**	**-0.3**
JSC	**Jenkinsville**	**57.16**	**346**	*e*P	**P**	**13 06 08.2**	**-1.0**
LRAL	**Lakeview Retre**	**57.58**	**340**	*e*P	**P**	**13 06 10.4**	**-1.6**
	15nm,1.2s,mb4.5						
TKL	**Tuckaleechee C**	**59.09**	**344**	P	**P**	**13 06 21.1**	**-1.3**
	12nm,0.8s,mb4.6,baz=162,slow=8.9,SNR=16						
TKL	**Tuckaleechee C**	**59.09**	**344**	*e*P	**P**	**13 06 21.3**	**-1.2**
SWET	**Sewanee**	**59.27**	**342**	*e*P	**P**	**13 06 22.4**	**-1.3**
	18nm,0.7s,mb4.8						
NATX	**Nacogdoches**	**59.35**	**332**	*e*P	**P**	**13 06 24.6**	**+0.3**
	64nm,0.6s,mb5.4						
PLAL	**Pickwick Lake**	**59.72**	**340**	*e*P	**P**	**13 06 24.9**	**-1.9**
	13nm,0.8s,mb4.6						
VNA2	**Neumayer--Watz**	**59.98**	**161**	*e*	**P**	**13 06 29.4**	**+1.3**
JCT	**Junction City**	**60.69**	**327**	*e*P	**P**	**13 06 32.7**	**-0.8**
	14nm,0.8s,mb4.7						
WVT	**Waverly**	**60.70**	**340**	*e*P	**P**	**13 06 31.3**	**-2.0**
	38nm,0.6s,mb5.2						
UALR	**University of**	**61.03**	**336**	*e*P	**P**	**13 06 34.7**	**-1.0**
	13nm,0.9s,mb4.6						
MIAR	**Mount Ida**	**61.31**	**335**	*e*P	**P**	**13 06 36.5**	**-1.0**
	32nm,1.3s,mb4.8						
SNAA	**Sanae**	**61.62**	**161**	*e*	**P**	**13 06 40.5**	**+1.3**
TXAR	**Lajitas Array**	**61.84**	**323**	P	**P**	**13 06 40.4**	**-0.8**
	2.1nm,0.7s,mb3.9,baz=148,slow=8.2,SNR=14						
TXAR	**Lajitas Array**	**61.84**	**323**	P	**P**	**13 06 40.4**	**-0.8**
WCI	**Wyandotte Cave**	**62.19**	**343**	*e*P	**P**	**13 06 40.7**	**-2.6**
	11nm,0.8s,mb4.5						
BLO	**Bloomington**	**63.13**	**343**	*e*P	**P**	**13 06 47.7**	**-1.8**
	18nm,0.7s,mb4.8						
ACSO	**Alum Creek Sta**	**63.25**	**346**	*e*P	**P**	**13 06 49.1**	**-1.2**
	16nm,0.6s,mb4.8						
CCM	**Cathedral Cave**	**63.57**	**338**	*e*P	**P**	**13 06 50.8**	**-1.6**
GDL2	**Guadalupe Moun**	**64.43**	**325**	*e*P	**P**	**13 06 58.2**	**0.0**
KSU1	**Kansas State U**	**66.47**	**335**	*e*P	**P**	**13 07 10.0**	**-1.1**
	18nm,0.8s,mb4.8						
DBIC	**Dimbokro**	**66.72**	**72**	P	**P**	**13 07 12.3**	**-0.9**
	7.6nm,0.8s,mb4.4,baz=230,slow=6.6,SNR=9.4						
DBIC				pP	pP	13 08 06.0	+5.1
	7.4nm,0.9s,baz=225,slow=6.0,SNR=4.6						
DBIC	**Dimbokro**	**66.72**	**72**	*e*P	**P**	**13 07 12.8**	**-0.5**
DBIC				pP	pP	13 08 06.0	+5.1
BNM	**Barren Site**	**67.14**	**325**	*e*P	**P**	**13 07 15.9**	**+0.5**
	4.7nm,0.7s,mb4.2						
LPM	**Los Pinos Moun**	**67.26**	**325**	*e*P	**P**	**13 07 16.8**	**+0.6**
CBKS	**Cedar Bluff**	**67.51**	**333**	*e*P	**P**	**13 07 17.6**	**-0.1**
	34nm,0.8s,mb5.0						
ANMO	**Albuquerque**	**67.65**	**325**	*e*P	**P**	**13 07 18.8**	**+0.2**
	7.9nm,0.8s,mb4.4						
JFWS	**Jewell Farm**	**67.66**	**341**	*e*P	**P**	**13 07 17.2**	**-1.3**
	17nm,1.0s,mb4.6						
SCIA	**State Center**	**67.69**	**339**	*e*P	**P**	**13 07 17.6**	**-1.1**
	16nm,0.8s,mb4.7						
TUC	**Tucson**	**68.13**	**321**	*e*P	**P**	**13 07 22.1**	**+0.4**
	11nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**68.72**	**180**	*e*P	**P**	**13 07 25.9**	**+1.3**
	9.8nm,1.0s,mb4.4						
SDCO	**Great Sand Dun**	**69.32**	**328**	*e*P	**P**	**13 07 29.5**	**+0.6**
	14nm,0.9s,mb4.6						
ECSD	**EROS Data Cent**	**70.48**	**337**	*e*P	**P**	**13 07 34.6**	**-1.2**
	5.9nm,0.8s,mb4.3						
WUAZ	**Wupatki**	**70.77**	**323**	*e*P	**P**	**13 07 38.9**	**+1.1**
	19nm,1.0s,mb4.7						
ISCO	**Idaho Springs**	**70.98**	**329**	*e*P	**P**	**13 07 39.8**	**+0.9**
	13nm,1.4s,mb4.4						
SMCO	**Snowmass**	**71.16**	**328**	*e*P	**P**	**13 07 41.1**	**+1.1**
	8.2nm,0.9s,mb4.4						
PV01	**Paradox Valley**	**71.17**	**326**	*e*P	**P**	**13 07 40.8**	**+0.7**
	1μm,1.0s						
PV04	**Paradox Valley**	**71.54**	**326**	*e*P	**P**	**13 07 43.2**	**+0.9**
SRU	**San Rafael**	**72.92**	**326**	*e*P	**P**	**13 07 51.0**	**+0.5**
	21nm,0.7s,mb4.9						
CCUT	**Cedar City**	**73.34**	**323**	*e*P	**P**	**13 07 54.6**	**+1.6**
	19nm,0.8s,mb4.8						
MSU	**Marysvale**	**73.37**	**324**	*e*P	**P**	**13 07 54.3**	**+1.1**
TMUT	**Trail Mountain**	**73.42**	**325**	*e*P	**P**	**13 07 54.5**	**+1.1**
	6.8nm,0.6s,mb4.5						
ARUT	**Antelope Range**	**73.55**	**323**	*e*P	**P**	**13 07 55.1**	**+0.9**
	17nm,0.9s,mb4.7						
RSSD	**Black Hills**	**73.71**	**333**	*e*P	**P**	**13 07 55.4**	**+0.4**
	3.9nm,0.9s,mb4.0						
GSC	**Goldstone**	**73.81**	**319**	*e*P	**P**	**13 07 56.6**	**+0.8**
	18nm,1.4s,mb4.5						
AGMN	**Agassiz Nation**	**74.22**	**340**	*e*P	**P**	**13 07 56.8**	**-1.0**
	8.3nm,1.0s,mb4.3						
DAU	**Daniels Canyon**	**74.26**	**326**	*e*P	**P**	**13 07 58.3**	**+0.1**
DUG	**Dugway**	**74.92**	**325**	*e*P	**P**	**13 08 03.1**	**+1.1**
	8.2nm,0.8s,mb4.4						
ISA	**Isabella**	**75.08**	**319**	*e*P	**P**	**13 08 03.8**	**+0.7**
	20nm,1.0s,mb4.7						
BW06	**Boulder Array**	**75.16**	**329**	*e*P	**P**	**13 08 03.2**	**-0.1**
	15nm,1.7s,mb4.3						
TORD	**Torodi Ar. Bea**	**75.37**	**69**	P	**P**	**13 08 04.1**	**-1.1**
	8.2nm,0.5s,mb4.6,baz=256,slow=5.4,SNR=76						
TORD				pP	pP	13 08 58.8	+4.8
	14nm,0.7s,baz=251,slow=5.8,SNR=15						
TORD	**Torodi Ar. Bea**	**75.37**	**69**	P	**P**	**13 08 04.1**	**-1.0**
TORD				pP	pP	13 08 58.8	+4.8
ULM	**Lac du Bonnet**	**75.95**	**341**	P	**P**	**13 08 06.3**	**-1.3**
	12nm,0.6s,mb4.7,baz=153,slow=6.1,SNR=32						
ULM	**Lac du Bonnet**	**75.95**	**341**	P	**P**	**13 08 06.3**	**-1.3**
SCHQ	**Schefferville**	**75.99**	**360**	P	**P**	**13 08 06.8**	**-0.9**
	5.6nm,0.6s,mb4.3,baz=179,slow=4.1,SNR=9.8						
SCHQ	**Schefferville**	**75.99**	**360**	P	**P**	**13 08 06.8**	**-0.9**
HVU	**Hansel Valley**	**76.04**	**326**	*e*P	**P**	**13 08 09.3**	**+0.9**
	8.8nm,0.9s,mb4.4						
REDW	**

MK31	Makanchi Array	144.36	37	ePKPdf	PKPdf	13 15 54.2	-1.0
MKAR	Makanchi Array	144.36	37	PKP	PKPdf	13 15 54.2	-1.1
	comp=Z,17nm,0.8s,baz=334,slow=2.9,SNR=131						
MKAR	Makanchi Array	144.36	37	PKP	PKPdf	13 15 54.2	-1.1
HYB	Hyderabad	146.98	91	*i* PKP	PKPdf	13 16 01.5	+0.9
HYB				e*p*PKP	pPKPdf	13 17 00.0	+6.4
WMQ	Urumqi	149.19	38	e*P*KPbc	PKPbc	13 16 01.8	-6.1
USRK	Ussuriysk Arra	152.57	330	PKPbc	PKPbc	13 16 15.4	-0.3
	comp=Z,2.7nm,0.6s,baz=4.5,slow=2.0,SNR=9.8						
SONM	Songino Array	153.11	10	PKP	PKPdf	13 16 09.7	+0.4
	comp=Z,2.3nm,0.8s,baz=297,slow=0.5,SNR=8.7						
SONM				PKPbc	PKPbc	13 16 16.9	+0.1
	comp=Z,3.8nm,0.5s,baz=299,slow=1.4,SNR=16						
SONM				pPKPbc	pPKPbc	13 17 16.6	+7.0
	comp=Z,1.5nm,0.7s,baz=146,slow=0.5,SNR=3.3						
SONM	Songino Array	153.11	10	PKP	PKPdf	13 16 09.7	+0.4
SONM				PKPbc	PKPbc	13 16 16.9	+0.1
SONM				pPKPbc	pPKPbc	13 17 16.6	+7.0
MJAR	Matsushiro Arr	153.68	310	PKPbc	PKPbc	13 16 17.2	-1.3
	comp=Z,1.6nm,0.7s,baz=74,slow=1.7,SNR=5.0						
MJAR				PKPab	PKPab	13 16 30.1	-1.9
	comp=Z,2.2nm,0.8s,baz=74,slow=1.6,SNR=5.1						
MJAR	Matsushiro Arr	153.68	310	PKPbc	PKPbc	13 16 17.2	-1.3
MJAR				PKPab	PKPab	13 16 30.1	-1.9
CN2	Changchun	155.57	338	e*P*KP	PKPdf	13 16 08.0	-4.8
GTA	Gaotai	158.70	30	e*P*KP	PKPdf	13 16 17.5	+0.6
HHC	Hu-ho-hao-te	160.63	4	e*P*KP	PKPdf	13 16 14.5	-4.6
HHC				p*P*KP	pPKPdf	13 17 10.8	-1.5
HHC				s*P*KP		13 17 34.5	
HHC				PKS		13 19 46.5	
HHC				PP	PP	13 20 43.5	-0.4
HHC				SKKS	SKKSac	13 27 07.8	-5.2
HHC				AMB	AMB		
	comp=Z,230nm,5.4s						
LZH	Lanzhou	163.24	28	e*P*KP	PKPdf	13 16 19.3	-2.6
LZH				p*P*KP	pPKPdf	13 17 13.5	-1.7
CMAR	Chiang Mai Arr	166.13	100	PKP	PKPdf	13 16 24.5	-0.4
	comp=Z,0.8nm,0.8s,baz=280,slow=2.2,SNR=6.2						
CMAR	Chiang Mai Arr	166.13	100	PKP	PKPdf	13 16 24.5	-0.4
GYA	Guiyang	172.13	50	e*P*KP	PKPdf	13 16 26.5	-1.9
GYA				s*P*KP		13 17 38.5	
GYA				PKS		13 19 56.8	
GYA				PP	PP	13 21 43.0	-1.3

IDC 27 13:03:32.5±1.1, 55°.71N×165°.91E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/28, mbtmp3.7/9, ML3.6/1, MS3.3/1, Ms1 3.4/1, ms1mx2.7/38, Error ellipse: s-maj=33.7km s-min=18.0km az=162.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.46	245	Pn	Pn	13 04 55.8	+0.8
	2.1nm,0.3s,baz=74,slow=18,SNR=8.8						
PETK				Sn	Sn	13 05 58.1	-0.2
	0.5nm,0.3s,baz=12,slow=29,SNR=2.8						
ILAR	Eielson Array	24.54	49	P	P	13 08 54.1	+0.8
	0.5nm,0.8s,baz=253,slow=8.9,SNR=4.2						
ILAR				LR	LR	13 19 32.3	
	comp=Z,65nm,20.5s,baz=61,slow=39						
INK	Inuvik	29.69	41	P	P	13 09 38.2	-1.3
	1.7nm,1.2s,baz=214,slow=6.3,SNR=3.2						
SONM	Songino Array	36.61	283	P	P	13 10 41.4	+1.3
	1.0nm,0.8s,baz=69,slow=8.1,SNR=4.0						
KURK	Kurchatov	49.20	303	P	P	13 12 22.6	+0.6
	1.9nm,0.7s,baz=53,slow=7.4,SNR=11						
MKAR	Makanchi Array	50.04	297	P	P	13 12 27.7	-0.7
	0.7nm,0.7s,baz=55,slow=6.2,SNR=8.0						
BVAR	Borovoye Array	51.38	310	P	P	13 12 38.6	+0.2
	0.5nm,0.5s,baz=26,slow=8.0,SNR=2.9						
TXAR	Lajitas Array	66.54	72	P	P	13 14 25.1	+1.1
	0.4nm,0.6s,baz=300,slow=5.1,SNR=4.9						
ASAR	Alice Springs	83.62	209	P	P	13 16 01.9	-0.5
	0.5nm,0.6s,baz=16,slow=4.3,SNR=9.7						

*ISCJB **27** 13:23:28.3±0.2, 44°.69N±0°.02×10°.45E±0°.02, h10km, Error ellipse: s-maj=2.8km s-min=2.4km az=21.1*
*CSEM **27** 13:23:30.6±0.1, 44°.56N×10°.45E, h20km, ML3.1/17, Error ellipse: s-maj=3.7km s-min=3.1km az=28.0*
*ROM **27** 13:23:30.6±0.2, 44°.54N×10°.38E, h25km±2km, Md2.6/22, Ml3.0/12, Error ellipse: s-maj=4.8km s-min=2.6km az=64.0*
*PRU **27** 13:23:32.5, 44°.69N×10°.67E, h11km*
*NEIC **27** 13:23:32.1, 44°.59N×10°.54E, h20km, ML3.1(LDG), ML2.7(VIE), After LDG.*
*LDG **27** 13:23:32.1±0.1, 44°.59N×10°.54E, h20km, Ml3.1/14, Error ellipse: s-maj=4.5km s-min=3.1km az=36.0*

ISC 27 13:23:29.5±0.2, 44°.67N±0°.02×10°.46E±0°.02, h10km, n122, σ1§24/183, 6C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	PARMA	0.14	312	Pg	Pg	13 23 36.3	+3.6
PRMA				Sg	Sg	13 23 42.1	+7.1
	982nm,0.5s						
PRMA	PARMA	0.14	312	Pg	Pg	13 23 36.3	+3.6
PRMA				Sg	Sg	13 23 42.1	+7.1
	982nm,0.5s						
ERBM	Eremo	0.25	188	Pg	Pg	13 23 35.1	+0.5
ERBM				Sg	Sg	13 23 39.5	+1.5
	6μm,0.3s						
ERBM	Eremo	0.25	188	Pg	Pg	13 23 35.1	+0.5
ERBM				Sg	Sg	13 23 39.5	+1.5
	6μm,0.3s						
GSCL	Gusciola	0.33	164	Pg	Pg	13 23 36.1	0.0
GSCL	Gusciola	0.33	164	Pg	Pg	13 23 36.1	0.0
ZCCA	Zocca	0.49	130	Pg	Pg	13 23 40.8	+1.8
	411nm,0.9s						
ZCCA	Zocca	0.49	130	Pg	Pg	13 23 40.8	+1.8
	411nm,0.9s						
SBPO	S.Benedetto Po	0.50	40	Pg	Pg	13 23 44.7	+5.4
BDI	Bagni Di Lucca	0.61	171	Pg	Pg	13 23 40.4	-1.0
BDI				Sg	Sg	13 23 48.5	-0.9
	421nm,0.6s						
BDI	Bagni Di Lucca	0.61	171	Pg	Pg	13 23 40.4	-1.0
BDI				Sg	Sg	13 23 48.5	-0.9
	421nm,0.6s						
SC2M	Scurtabo	0.71	249	Pg	Pg	13 23 43.4	+0.1
SC2M	Scurtabo	0.71	249	Pg	Pg	13 23 43.4	+0.1
BOB	Bobbio (Coli)	0.73	278	Pg	Pg	13 23 45.6	+2.0
BOB	Bobbio (Coli)	0.73	278	Pg	Pg	13 23 45.6	+2.0
FIU	Minerbio Fiu	0.74	92	Pg	Pg	13 23 47.0	+3.3
FIU	Minerbio Fiu	0.74	92	Pg	Pg	13 23 47.0	+3.3
MAIM	Mastiano	0.76	178	Pg	Pg	13 23 42.8	-1.3
	156nm,0.7s						
MAIM	Mastiano	0.76	178	Pg	Pg	13 23 42.8	-1.3
	156nm,0.7s						
MTRZ	Monterenzio	0.78	112	Pg	Pg	13 23 47.7	+3.2
SEI	Scarperia	0.89	133	Pg	Pg	13 23 46.3	-0.3
	260nm,0.3s						
SEI	Scarperia	0.89	133	Pg	Pg	13 23 46.3	-0.3
	260nm,0.3s						
SALO	Salr	0.95	3	Pg	Pg	13 23 50.7	+2.9
	2μm,0.5s						
SALO	Salr	0.95	3	Pg	Pg	13 23 50.7	+2.9
	2μm,0.5s						
CRMI	Carmignano	0.95	157	Pg	Pg	13 23 47.4	-0.4
CRMI	Carmignano	0.95	157	Pg	Pg	13 23 47.4	-0.4
ROVR	Rover¤ Verone	1.07	24	Pg	Pg	13 23 51.8	+1.7
	1μm,0.3s						
ROVR	Rover¤ Verone	1.07	24	Pg	Pg	13 23 51.8	+1.7
	1μm,0.3s						
MDI	Monti di Nese	1.23	335	Pg	Pg	13 23 54.1	+1.0
	211nm,0.4s						
MDI	Monti di Nese	1.23	335	Pg	Pg	13 23 54.1	+1.0
	211nm,0.4s						
ASQU	Asqua	1.29	132	Pg	Pg	13 23 54.6	+0.3
ASQU	Asqua	1.29	132	Pg	Pg	13 23 54.6	+0.3
CSNT	Castellina Chi	1.34	153	Pg	Pg	13 23 53.7	-1.5
	80nm,0.6s						
CSNT	Castellina Chi	1.34	153	Pg	Pg	13 23 53.7	-1.5
	80nm,0.6s						
MABI	Malga Bissina	1.39	2	Pg	Pg	13 23 56.7	+0.6
	114nm,0.4s						
MUGIO	Muggio	1.60	322	Pg	Pg	13 23 58.9	-1.4
CTI	Castel Tesino	1.61	31	Pg	Pg	13 23 59.4	-1.1
	276nm,0.2s						
APPI	Appiano	1.89	16	Pg	Pg	13 24 04.1	-1.6
TUE	Stuetta	1.97	337	e*P*n	Pn	13 24 04.8	+1.9
TUE	Stuetta	1.97	337	Pg	Pg	13 24 05.4	-1.8
	42nm,0.2s						
TUE	Stuetta	1.97	337	e*P*n	Pn	13 24 04.8	+1.9
SBF	Sospel	2.32	251	e*P*n	Pn	13 24 07.8	+0.1
	SNR=1.0						
SBF				e*S*n	Sn	13 24 35.5	-0.7
	40nm,0.4s,SNR=1.0						
SBF	Sospel	2.32	251	e*P*n	Pn	13 24 07.8	+0.1
SBF				e*S*n	Sn	13 24 35.5	-0.7
SBF	Sospel	2.32	251	e*P*n	Pn	13 24 07.8	+0.1
	SNR=1.0						
SBF				e*S*n	Sn	13 24 35.5	-0.7
	20nm,0.4s,SNR=1.0						
PGF	Pioggiola	2.37	207	e*P*n	Pn	13 24 06.8	-1.6
	SNR=1.0						
PGF				e*S*n	Sn	13 24 33.9	-3.6
	12nm,0.3s,SNR=1.0						
PGF	Pioggiola	2.37	207	e*P*n	Pn	13 24 06.8	-1.6
PGF				e*S*n	Sn	13 24 33.9	-3.6
PGF	Pioggiola	2.37	207	e*P*n	Pn	13 24 06.8	-1.6
	SNR=1.0						
PGF				e*S*n	Sn	13 24 33.9	-3.6
	5.9nm,0.3s,SNR=1.0						
ABTA	Abfaltersbach	2.53	34⇑	*i* P*n*	Pn	13 24 13.0	+2.4
ABTA	Abfaltersbach	2.53	34⇑	*i* P*n*	Pn	13 24 13.0	+2.4
ABTA	Abfaltersbach	2.53	34⇑	*i* P*n*	Pn	13 24 13.0	+2.4
MBDF	Montbardon	2.63	273	e*P*n	Pn	13 24 12.5	+0.5
	SNR=1.0						
MBDF				e*S*n	Sn	13 24 44.6	+0.7
	19nm,0.4s						
MBDF	Montbardon	2.63	273	e*P*n	Pn	13 24 12.5	+0.5
MBDF				e*S*n	Sn	13 24 44.6	+0.7
MBDF	Montbardon	2.63	273	e*P*n	Pn	13 24 12.5	+0.5
	SNR=1.0						
MBDF				e*S*n	Sn	13 24 44.6	+0.7
	9.4nm,0.4s						
SKDS	Skadanscina	2.67	70	*i* P*n*	Pn	13 24 12.3	-0.2
SKDS				*i* S*n*	Sn	13 24 43.4	-1.4
SKDS							
	comp=Z,6.0nm,0.1s						
SKDS	Skadanscina	2.67	70	P*n*	Pn	13 24 12.3	-0.2
SKDS				*i* S*n*	Sn	13 24 43.4	-1.4
	comp=Z,6.0nm,0.1s						
MOTA	Moosalm	2.71	9⇓	e*P*n	Pn	13 24 16.9	+3.7
	SNR=7.6						
MOTA	Moosalm	2.71	9⇓	e*P*n	Pn	13 24 16.9	+3.7
MOTA	Moosalm	2.71	9⇓	e*P*n	Pn	13 24 16.9	+3.8
WTTA	Wattenberg	2.72	17⇓	e*P*n	Pn	13 24 16.7	+3.5
	SNR=15						
WTTA	Wattenberg	2.72	17⇓	e*P*n	Pn	13 24 16.7	+3.5
WTTA	Wattenberg	2.72	17⇓	e*P*n	Pn	13 24 16.7	+3.4
LPG	La Plagne	2.75	289	e*P*n	Pn	13 24 14.5	+0.8
LPG				e*S*n	Sn	13 24 46.9	-0.1
	comp=Z,15nm,0.6s						
LPG	La Plagne	2.75	289	e*P*n	Pn	13 24 14.5	+0.8
LPG				e*S*n	Sn	13 24 46.9	-0.1
LPG	La Plagne	2.75	289	e*P*n	Pn	13 24 14.5	+0.8
LPG				e*S*n	Sn	13 24 46.9	-0.1
	comp=Z,7.6nm,0.6s						
VOJS	Vojsko	2.77	59	*i* P*n*	Pn	13 24 14.5	+0.6
VOJS				*i* S*n*	Sn	13 24 47.8	+0.4
VOJS							
	comp=Z,10.0nm,0.2s						
VOJS	Vojsko	2.77	59	*i* P*n*	Pn	13 24 14.5	+0.6
VOJS				*i* S*n*	Sn	13 24 47.8	+0.4
	comp=Z,10.0nm,0.2s						
LPL	La Plagne	2.77	289	e*P*n	Pn	13 24 14.6	+0.7
LPL				e*S*n	Sn	13 24 47.0	-0.4
	comp=Z,8.0nm,0.3s						
LPL	La Plagne	2.77	289	e*P*n	Pn	13 24 14.6	+0.7
LPL				e*S*n	Sn	13 24 47.0	-0.4
LPL	La Plagne	2.77	289	e*P*n	Pn	13 24 14.6	+0.7
LPL				e*S*n	Sn	13 24 47.0	-0.4
	comp=Z,4.0nm,0.3s						
WATA	Walderalm	2.78	16⇑	e*P*n	Pn	13 24 17.6	+3.5
	SNR=7.7						
WATA	Walderalm	2.78	16⇑	e*P*n	Pn	13 24 17.6	+3.5
WATA	Walderalm	2.78	16⇑	e*P*n	Pn	13 24 17.6	+3.6
CRNS	Crni Vrh	3.03	61	*i* P*n*	Pn	13 24 18.1	+0.6
LMR	La Mourre	3.15	246	e*P*n	Pn	13 24 18.9	-0.2
	SNR=1.0						
LMR				e*S*n	Sn	13 24 54.5	-2.2
	comp=Z,27nm,0.4s,SNR=1.0						
LMR	La Mourre	3.15	246	e*P*n	Pn	13 24 18.9	-0.2
LMR				e*S*n	Sn	13 24 54.5	-2.2
LMR	La Mourre	3.15	246	e*P*n	Pn	13 24 18.9	-0.2
	SNR=1.0						
LMR				e*S*n	Sn	13 24 54.5	-2.2
	comp=Z,14nm,0.4s,SNR=1.0						
NVLJ	Novalja	3.15	90	*i* P*n*	Pn	13 24 19.3	+0.2
NVLJ				S*n*	Sn	13 24 55.6	-1.2
NVLJ	Novalja	3.15	90	*i* P*n*	Pn	13 24 19.3	+0.1
NVLJ				S*n*	Sn	13 24 55.6	-1.2
ORIF	Oris-en-Rattie	3.27	276	e*P*n	Pn	13 24 23.4	+2.6
	SNR=1.0						
ORIF				e*S*n	Sn	13 24 58.8	-0.9
	comp=Z,11nm,0.4s						
ORIF	Oris-en-Rattie	3.27	276	e*P*n	Pn	13 24 23.4	+2.6
ORIF				e*S*n	Sn	13 24 58.8	-0.9
ORIF	Oris-en-Rattie	3.27	276	e*P*n	Pn	13 24 23.4	+2.6
	SNR=1.0						
ORIF				e*S*n	Sn	13 24 58.8	-0.9
	comp=Z,5.4nm,0.4s						
VISS	Visnje	3.30	68	*i* P*n*	Pn	13 24 21.8	+0.6
VISS				*i* S*n*	Sn	13 24 59.3	-1.0
VISS	Visnje	3.30	68	*i* P*n*	Pn	13 24 21.8	+0.7
VISS				*i* S*n*	Sn	13 24 59.3	-1.0
SMRF	Simiane la Rot	3.57	261	e*P*n	Pn	13 24 26.5	+1.6
	SNR=1.0						
SMRF				e*S*g	Sg	13 25 24.1	-0.1
	comp=Z,11nm,0.7s,SNR=1.0						
SMRF	Simiane la Rot	3.57	261	e*P*n	Pn	13 24 26.5	+1.6
SMRF				e*S*g	Sg	13 25 24.1	-0.1
SMRF	Simiane la Rot	3.57	261	e*P*n	Pn	13 24 26.5	+1.6
	SNR=1.0						
SMRF				e*S*g	Sg	13 25 24.1	-0.1
	comp=Z,5.3nm,0.7s,SNR=1.0						
CABF	La Chapelle	3.63	304	e*P*n	Pn	13 24 27.4	+1.7
	SNR=1.0						
CABF	La Chapelle	3.63	304	e*P*n	Pn	13 24 27.4	+1.7
CABF	La Chapelle	3.63	304	e*P*n	Pn	13 24 27.4	+1.7
	SNR=1.0						
HINF	Hinteralfeld	4.02	323	e*P*n	Pn	13 24 31.9	+0.8
	SNR=1.0						
HINF				e*S*n	Sn	13 25 18.1	-0.1
	comp=Z,12nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	4.02	323	e*P*n	Pn	13 24 31.9	+0.8
HINF				e*S*n	Sn	13 25 18.1	-0.1
HINF	Hinteralfeld	4.02	323	e*P*n	Pn	13 24 31.9	+0.8
	SNR=1.0						
HINF				e*S*n	Sn	13 25 18.1	-0.1
	comp=Z,6.1nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-I	4.13	275	e*P*n	Pn	13 24 33.2	+0.7
	SNR=1.0						
VIVF	Saint-Julien-I	4.13	275	e*P*n	Pn	13 24 33.2	+0.7
VIVF	Saint-Julien-I	4.13	275	e*P*n	Pn	13 24 33.2	+0.7
	SNR=1.0						
CDF	Champ du Feu	4.34	331	e*P*n	Pn	13 24 36.4	+0.9
	SNR=1.0						
CDF				e*S*n	Sn	13 25 25.1	-1.0
	comp=Z,5.8nm,0.2s,SNR=1.0						
CDF	Champ du Feu	4.34	331	e*P*n	Pn	13 24 36.4	+0.9
CDF				e*S*n	Sn	13 25 25.1	-1.0
CDF	Champ du Feu	4.34	331	e*P*n	Pn	13 24 36.4	+0.9
	SNR=1.0						
CDF				e*S*n	Sn	13 25 25.1	-1.0
	comp=Z,2.9nm,0.2s,SNR=1.0						
HAU	Haudompre	4.39	321	e*P*n	Pn	13 24 36.4	+0.3
	SNR=1.0						
HAU				e*S*n	Sn	13 25 26.7	-0.5
	comp=Z,23nm,0.3s						
HAU	Haudompre	4.39	321	e*P*n	Pn	13 24 36.4	+0.3
HAU				e*S*n	Sn	13 25 26.7	-0.5
HAU	Haudompre	4.39	321	e*P*n	Pn	13 24 36.4	+0.3
	SNR=1.0						
HAU				e*S*n	Sn	13 25 26.7	-0.5
	comp=Z,11nm,0.3s						
KHC	Kasperske Hory	4.95	24	e*P*N	Pn	13 24 45.1	+1.3
KHC				e*x*	x	13 25 07.0	
KHC				e*S*N	Sn	13 25 40.3	-0.8
KHC				e*S*G	Sg	13 26 07.2	-1.1
	comp=Z,5.6nm,0.7s						
KHC	Kasperske Hory	4.95	24	P*n*	Pn	13 24 45.1	+1.3
KHC				S*n*	Sn	13 25 40.3	-0.8
KHC				S*g*	Sg	13 26 07.2	-1.1
	comp=Z,5.6nm,0.7s						
SMF	Signal de Mont	5.04	295	e*P*n	Pn	13 24 45.9	+0.8
	SNR=1.0						
SMF				e*S*n	Sn	13 25 41.6	-1.8
	comp=Z,2.6nm,0.3s,SNR=1.0						
SMF	Signal de Mont	5.04	295	e*P*n	Pn	13 24 45.9	+0.8
SMF				e*S*n	Sn	13 25 41.6	-1.8
SMF	Signal de Mont	5.04	295	e*P*n	Pn	13 24 45.9	+0.8
	SNR=1.0						
SMF				e*S*n	Sn	13 25 41.6	-1.8
	comp=Z,1.3nm,0.3s,SNR=1.0						
LOR	Lormes	5.29	302	e*P*n	Pn	13 24 48.5	0.0
	SNR=1.0						
LOR				e*S*n	Sn	13 25 47.5	-1.9
	comp=Z,6.0nm,0.3s,SNR=1.0						
LOR	Lormes	5.29	302	e*P*n	Pn	13 24 48.5	0.0
LOR				e*S*n	Sn	13 25 47.5	-1.9
LOR	Lormes	5.29	302	e*P*n	Pn	13 24 48.5	0.0
	SNR=1.0						
LOR				e*S*n	Sn	13 25 47.5	-1.9
	comp=Z,3.0nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	5.41	296	e*P*n	Pn	13 24 49.0	-1.2
	SNR=1.0						
AVF	Avril sur Loir	5.41	296	e*P*n	Pn	13 24 49.0	-1.2
AVF	Avril sur Loir	5.41	296	e*P*n	Pn	13 24 49.0	-1.2
	SNR=1.0						
SSF	Saint Saulge	5.41	299	e*P*n	Pn	13 24 51.0	+0.8
	SNR=1.0						
SSF				e*S*n	Sn	13 25 51.0	-1.5
	comp=Z,3.3nm,0.3s						
SSF	Saint Saulge	5.41	299	e*P*n	Pn	13 24 51.0	+0.8
SSF				e*S*n	Sn	13 25 51.0	-1.5
SSF	Saint Saulge	5.41	299	e*P*n	Pn	13 24 51.0	+0.8
	SNR=1.0						
SSF				e*S*n	Sn	13 25 51.0	-1.5
	comp=Z,1.6nm,0.3s						
STON	Ston	5.54	106	*i* P*n*	Pn	13 24 51.2	-0.8
STON				S*n*	Sn	13 25 51.1	-4.6
STON	Ston	5.54	106	*i* P*n*	Pn	13 24 51.1	-0.9
BGF	Bois d'Agland	5.67	292	e*P*n	Pn	13 24 54.3	+0.6
	SNR=1.0						
BGF	Bois d'Agland	5.67	292	e*P*n	Pn	13 24 54.3	+0.6
BGF	Bois d'Agland	5.67	292	e*P*n	Pn	13 24 54.3	+0.6
	SNR=1.0						
NKC	Novy Kostel	5.73	13	e*S*N	Sn	13 25 58.2	-2.1
PRU	Pruhonice	6.00	26	e*S*N	Sn	13 26 05.0	-2.0

IDC 27 13:25:10.2±1.3, 55°.70N×165°.93E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/26, mbtmp3.4/6, ML3.4/1, Error ellipse: s-maj=42.6km s-min=22.1km az=153.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.47	245	Pn	Pn	13 26 33.9	+1.1
	1.3nm,0.3s,baz=78,slow=19,SNR=7.6						
ILAR	Eielson Array	24.54	49	P	P	13 30 32.0	+1.0
	0.3nm,0.7s,baz=232,slow=8.8,SNR=4.3						
YKA	Yellowknife Ar	38.91	47	P	P	13 32 36.3	-0.7
	0.1nm,0.5s,baz=289,slow=6.3,SNR=3.4						
KURK	Kurchatov	49.22	303	P	P	13 34 00.5	+0.6
	1.7nm,0.9s,baz=53,slow=7.4,SNR=8.9						
MKAR	Makanchi Array	50.06	297	P	P	13 34 06.0	-0.3
	0.5nm,0.8s,baz=60,slow=6.4,SNR=4.3						
ASAR	Alice Springs	83.63	209	P	P	13 37 40.1	0.0
	0.3nm,0.6s,baz=17,slow=4.9,SNR=8.0						

*ISCJB **27** 13:28:26.6±1.4, 53°.32N±0°.06×163°.41W±0°.05, h18km±8km, mb4.6/63, MS3.9/8, Error ellipse: s-maj=9.7km s-min=4.7km az=164.1*
*IDC **27** 13:28:27.7±1.0, 53°.74N×163°.78W, h0km, mb4.3/22, mb1 4.4/24, mb1mx4.3/33, mbtmp4.3/24, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx3.1/32, Error ellipse: s-maj=26.5km s-min=12.6km az=166.0*
*NEIC **27** 13:28:28.2, 53°.40N×163°.53W, h10km, mb4.8/21, After AEIC.*
*MOS **27** 13:28:29.6±1.0, 53°.75N×163°.66W, h23km, mb4.8/30, Error ellipse: s-maj=13.3km s-min=6.5km az=91.0*
*BJI **27** 13:28:32.3, 54°.23N×163°.98W, h33km, mB5.3/15, mb4.7/29, Ms4.9/10, Ms7 4.6/10*

ISC 27 13:28:27.5±1.6, 53°.40N±0°.05×163°.51W±0°.05, h9km±9km, h34km±1.1km: pP-P, n210, σ0§80/218, mb4.6/63, MS3.9/8, 23C-8D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	1.25	354	P	Pn	13 28 50.7	-0.4
SSLS	Shishaldin Sou	1.34	348	P	Pn	13 28 52.4	0.0
SSLS				S	Sb	13 29 11.8	+1.7
FALS	False Pass	1.46	2	P	Pn	13 28 53.9	-0.1
FALS				S	Sn	13 29 12.5	-0.7
AKUT	Akutan	1.53	300	P	Pn	13 28 54.6	-0.4
AKUT				S	Sn	13 29 14.3	-0.6
DRIA	Deer Island	1.73	25	P	Pn	13 28 57.5	-0.3
UNV	Unalaska Valle	1.83	285	P	Pn	13 28 58.6	-0.6
DT1	Dutton Round H	1.85	22	P	Pn	13 28 59.9	+0.5
DTNA	Dutton South F	1.90	22	P	Pn	13 29 00.7	+0.7
MREP	Makushin Rep't	1.97	283	P	Pn	13 29 01.4	+0.4
MSW	Makushin Switc	2.01	286	P	Pn	13 29 01.3	-0.2
MSW				S	Sn	13 29 27.5	+0.7
MCIR	Makushin Cirqu	2.08	287	P	Pn	13 29 03.1	+0.6
MSOM	Makushin Julie	2.09	283	P	Pn	13 29 03.0	+0.3
MSOM	Makushin Julie	2.09	283	P	Pn	13 29 03.0	+0.4
HAG	Hague Volcano	2.14	26	P	Pn	13 29 04.2	+0.9
HAG	Hague Volcano	2.14

ASAJ Asahikawa 35.93 277 P **P 13 35 27.6 -0.3**
comp=Z,16nm,0.9s,mb5.0,baz=58,slow=9.5,SNR=3.2
ASAJ Asahikawa 35.93 277 P **P 13 35 27.6 -0.3**
MSU Marysvale 37.80 92 *e*P **P 13 35 39.4 -4.5**
MSU Marysvale 37.80 92 *e*P **P 13 35 39.4 -4.5**
ULM Lac du Bonnet 40.51 66 LR LR 13 52 58.7
comp=Z,74nm,19.9s,MS3.5,baz=5.4,slow=36
MDJ Mudanjiang 43.25 287 P **P 13 36 28.0 -0.8**
MDJ pmax pmax
comp=Z,350nm,4.9s
MAT Matsushiro 43.25 271 P **P 13 36 27.6 -1.4**
MJAR Matsushiro Arr 43.25 271 P **P 13 36 28.4 -0.6**
comp=Z,3.9nm,1.0s,mb4.1,baz=30,slow=6.1,SNR=5.8
MJAR Matsushiro Arr 43.25 271 P **P 13 36 28.4 -0.6**
MJAR Matsushiro Arr 43.25 271 P **P 13 36 28.4 -0.6**
DAG Danmarks Havn 48.19 10 *i* P **P 13 37 07.0 -0.5**
comp=Z,9.5nm,0.9s,mb4.8
DAG *i* 13 37 20.0
SUMG Summit 48.69 19 *i* P **P 13 37 13.5 +2.1**
comp=Z,9.3nm,0.9s,mb4.8
KSRS Korea Array 48.77 280 P **P 13 37 12.7 +0.3**
comp=Z,5.7nm,0.8s,mb4.7,baz=48,slow=7.2,SNR=18
KSAR Wonju Array Be 48.80 280 P **P 13 37 12.7 0.0**
KSAR Wonju Array Be 48.80 280 P **P 13 37 12.7 0.0**
TXAR Lajitas Array 49.23 95 P **P 13 37 20.3 +4.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=250,slow=3.6,SNR=5.4
TXAR Lajitas Array 49.23 95 P **P 13 37 20.3 +4.2**
TXAR Lajitas Array 49.23 95 P **P 13 37 20.3 +4.2**
TLY Talaya 52.54 308 *e*P **P 13 37 40.7 0.0**
comp=Z,8.8nm,0.9s,mb4.7
TLY Talaya 52.54 308 *e*P **P 13 37 39.6 -1.1**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,87nm,19.0s,MS3.8
ULN Ulaanbaatar 53.41 303 *e*P **P 13 37 47.0 -0.1**
comp=Z,14nm,1.0s,mb4.9
ULN Ulaanbaatar 53.41 303 *e*P **P 13 37 47.0 -0.2**
ULN pmax pmax
comp=Z,14nm,1.0s,mb4.8
SONM Songino Array 53.76 303 P **P 13 37 49.4 -0.4**
comp=Z,6.5nm,0.8s,mb4.6,baz=46,slow=7.9,SNR=17
SONM Songino Array 53.76 303 P **P 13 37 49.4 -0.4**
SONM Songino Array 53.76 303 P **P 13 37 49.4 -0.3**
HHC Hu-ho-hao-te 55.80 294 *e*P **P 13 38 05.8 +1.2**
HHC pP pP 13 38 16.0 +8.5
HHC sP sP 13 38 19.5 +11
HHC PP PP 13 40 12.5 +3.7
HHC S **S 13 45 48.0 -3.5**
HHC ScS ScS 13 47 49.3 -4.5
HHC SS SS 13 49 32.8 -3.6
HHC pmax pmax
comp=Z,13nm,0.6s,mb5.1
HHC pmax pmax
comp=Z,160nm,3.8s
HHC LR LR
comp=N,340nm,17.8s,MS4.7
HHC LR LR
comp=E,370nm,17.8s,MS4.7
HHC LR LR
comp=Z,230nm,16.6s,MS4.3
KEV Kevo 56.91 356 *e*P **P 13 38 10.4 -1.7**
KEV Kevo 56.91 356 *e*p **P 13 38 10.4 -1.7**
LBNH Lisbon 56.98 59 *e*P **P 13 38 12.3 -0.7**
LBNH Lisbon 56.98 59 *e*P **P 13 38 12.3 -0.7**
NJ2 Nanjing 57.87 282 *e*P **P 13 38 19.5 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ZALV Zalesovo Beam 58.98 320 P **P 13 38 26.2 -0.6**
comp=Z,2.0nm,0.6s,mb4.4,baz=42,slow=6.9,SNR=15
ZALV Zalesovo Beam 58.98 320 P **P 13 38 26.2 -0.6**
ZALV Zalesovo Beam 58.98 320 P **P 13 38 26.2 -0.7**
GTA Gaotai 63.09 300 P **P 13 38 54.5 -0.5**
GTA pP pP 13 39 04.8 +6.9
GTA sP sP 13 39 08.8 +10
GTA pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
LZH Lanzhou 63.43 295 *e*P **P 13 38 57.8 +0.5**
LZH pP pP 13 39 07.5 +7.3
LZH sP sP 13 39 11.5 +10
LZH *e*PP PP 13 41 20.5 +4.1
LZH *e*S **S 13 47 30.5 +0.5**
LZH sS sS 13 47 40.0 +5.2
LZH pmax pmax
comp=Z,18nm,1.1s,mb5.1
LZH pmax pmax
comp=Z,91nm,6.6s
LZH LR LR
comp=N,200nm,14.6s,MS4.6
LZH LR LR
comp=E,250nm,14.0s,MS4.6
LZH LR LR
comp=Z,320nm,17.3s,MS4.6
JOF Joensuu 63.44 352 *e*P **P 13 38 55.9 -1.0**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
JOF Joensuu 63.44 352 *e*p **P 13 38 55.9 -1.0**
comp=Z,2.6nm,0.5s,mb4.6
KURK Kurchatov 63.88 321 P **P 13 39 00.3 +0.3**
comp=Z,7.3nm,1.0s,mb4.7,baz=38,slow=6.7,SNR=34
KURK Kurchatov 63.88 321 *e*P **P 13 38 59.1 -0.9**
comp=Z,8.1nm,1.0s,mb4.7
KURK *e*pP pP 13 39 10.1 +7.2
KURK Kurchatov 63.88 321⇑*e*P **P 13 38 59.2 -0.8**
KURK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SVE Sverdlovsk 64.35 335⇑*e*P **P 13 39 02.7 -0.3**
SVE pmax pmax
comp=Z,14nm,1.0s,mb5.0
KAF Kangasniemi 64.57 355 *e*P **P 13 39 02.8 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KAF Kangasniemi 64.57 355 *e*p **P 13 39 02.8 -1.5**
comp=Z,6.4nm,0.7s,mb4.8
BVA0 Borovoye Array 64.84 327 *i* P **P 13 39 06.1 -0.1**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BVAR Borovoye Array 64.84 327 P **P 13 39 06.2 0.0**
comp=Z,7.6nm,0.8s,mb4.8,baz=44,slow=7.2,SNR=37
BVAR Borovoye Array 64.84 327 P **P 13 39 06.2 0.0**
BVAR Borovoye Array 64.84 327 P **P 13 39 06.2 -0.1**
BRVK Borovoye 64.84 327 *d i* P **P 13 39 06.3 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ARU Arti 65.23 336 *e*P **P 13 39 08.2 -0.5**
comp=Z,7.0nm,0.6s,mb4.9
ARU *e*pP pP 13 39 16.2 +4.6
ARU *e*sP sP 13 39 21.3 +8.6
ARU Arti 65.23 336 *e*P **P 13 39 08.2 -0.5**
ARU *e**PP pP 13 39 16.2 +4.6
ARU *e**SP sP 13 39 21.3 +8.6
ARU pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
FINES FINESS Array B 65.25 355 P **P 13 39 07.8 -1.0**
comp=Z,6.4nm,0.7s,mb4.7,baz=3.9,slow=5.9,SNR=11
FINES FINESS Array B 65.25 355 P **P 13 39 07.8 -1.0**
FINES FINESS Array B 65.25 355 P **P 13 39 07.8 -1.0**
ZRNK Zerenda 65.34 328 *i* P **P 13 39 09.3 -0.2**
ZRNK pmax pmax
comp=Z,11nm,0.8s,mb4.9
MK31 Makanchi Array 65.59 317 *ce*P **P 13 39 10.2 -1.0**
MKAR Makanchi Array 65.59 317 P **P 13 39 10.1 -1.1**
comp=Z,2.3nm,0.8s,mb4.2,baz=48,slow=6.8,SNR=16
MKAR LR LR 14 09 03.5
comp=Z,72nm,18.5s,MS3.9,baz=353,slow=37
MKAR Makanchi Array 65.59 317 P **P 13 39 10.1 -1.1**
MKAR Makanchi Array 65.59 317 *ce*P **P 13 39 10.3 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 65.61 311 *e*P **P 13 39 12.0 +0.6**
WMQ pP pP 13 39 22.3 +8.0
WMQ sP sP 13 39 26.3 +11
WMQ pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
WMQ pmax pmax
comp=Z,490nm,5.8s
NOA NORSAR Array B 65.83 3 P **P 13 39 12.5 0.0**
comp=Z,4.6nm,0.9s,mb4.5,baz=357,slow=6.5,SNR=13
NOA NORSAR Array B 65.83 3 P **P 13 39 12.5 0.0**
NOA NORSAR Array B 65.83 3 P **P 13 39 12.5 0.0**
GYA Guiyang 69.11 286 P **P 13 39 33.8 0.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
OBN Obninsk 70.58 348⇑*e*P **P 13 39 41.9 -0.5**
OBN *e* 13 39 59.3
OBN *e* 13 42 18.0
OBN pmax pmax
comp=Z,14nm,1.4s,mb4.7
AKTO Aktyubinsk 70.79 333 P **P 13 39 44.2 +0.4**
comp=Z,10nm,0.8s,mb4.8,baz=26,slow=6.0,SNR=34
AKTO Aktyubinsk 70.79 333 P **P 13 39 44.2 +0.4**
AKTO Aktyubinsk 70.79 333 P **P 13 39 44.2 +0.4**
AB31 Akbulak array 71.32 332 *ce*P **P 13 39 47.2 +0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ABKAR Akbulak array 71.32 332 *e*P **P 13 39 46.6 -0.4**
comp=Z,2.8nm,0.5s,mb4.5
TKM2 Tokmak 2 71.48 318 *e*P **P 13 39 48.0 -0.1**
comp=Z,5.7nm,1.1s,mb4.4
TKM2 Tokmak 2 71.48 318 *e*P **P 13 39 48.0 -0.1**
TKM2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
USP Ospenovka 71.62 319 P **P 13 39 49.3 +0.3**
SNR=6.8
USP P 13 39 49.3
SNR=6.8
AAK Ala-Archa 72.16 319 *e*P **P 13 39 52.7 +0.5**
comp=Z,32nm,1.0s,mb5.2
AAK *e*pP pP 13 40 02.8 +7.7
AAK Ala-Archa 72.16 319 *d i* P **P 13 39 53.0 +0.8**
AAK pmax pmax
comp=Z,14nm,0.8s,mb4.9
KMI Kunming 72.38 288 P **P 13 39 55.3 +1.5**
KMI pP pP 13 40 05.0 +8.3
KMI sP sP 13 40 10.0 +12
KMI S S 13 49 15.5 -1.9
KMI SS SS 13 53 44.3 -11
KMI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
EKS2 Erkin-Say 72.42 319 *e*P **P 13 39 53.5 -0.2**
comp=Z,7.1nm,1.0s,mb4.5
EKS2 *e*pP pP 13 40 04.3 +7.7
EKS2 Erkin-Say 72.42 319 *e*P **P 13 39 53.5 -0.2**
EKS2 *e**PP pP 13 40 04.4 +7.7
EKS2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KKAR Karatay Array 73.28 322 *e*P **P 13 39 58.7 -0.2**
comp=Z,2.1nm,0.7s,mb4.2
KKAR *e*pP pP 13 40 09.0 +7.2
KKAR Karatay Array 73.28 322 *e*P **P 13 39 58.7 -0.1**
KKAR *e**PP pP 13 40 09.0 +7.2
KKAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LSA Lhasa 75.11 300 P **P 13 40 10.0 +0.3**
LSA Lhasa 75.11 300 *e*P **P 13 40 10.1 +0.4**
comp=Z,4.5nm,0.6s,mb4.6
LSA *e*pP pP 13 40 20.9 +8.2
LSA Lhasa 75.11 300 *e*P **P 13 40 10.1 +0.4**
LSA *e**PP pP 13 40 20.9 +8.2
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CLL Collm 75.62 2 *e*P **P 13 40 13.0 +0.7**
CLL pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CLL Collm 75.62 2 *e*P **P 13 40 13.0 +0.7**
comp=Z,7.0nm,1.1s,mb4.5
AKASG Malin Array Be 75.72 352 P **P 13 40 11.5 -1.3**
comp=Z,4.3nm,0.6s,mb4.6,baz=8.3,slow=5.5,SNR=12
AKASG Malin Array Be 75.72 352 P **P 13 40 11.5 -1.3**
AKASG Malin Array Be 75.72 352 *ce*P **P 13 40 12.1 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
BRG Berggiesshubel 76.08 2 *i* P **P 13 40 14.9 0.0**
comp=Z,4.2nm,0.9s,mb4.3
BRG Berggiesshubel 76.08 2 *i* P **P 13 40 14.9 0.0**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
DPC Dobruska-Polom 76.62 0 *e*P **P 13 40 18.4 +0.4**
DPC Dobruska-Polom 76.62 0 *e*P **P 13 40 18.4 +0.4**
KWP Kalwaria Pacla 77.21 356⇑P **P 13 40 21.7 +0.4**
KWP Kalwaria Pacla 77.21 356⇑*i*P **P 13 40 21.7 +0.4**
STHS Stebnicka Huta 77.48 357 *e*P **P 13 40 24.3 +1.5**
STHS pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
STHS Stebnicka Huta 77.48 357 *e*P **P 13 40 24.2 +1.4**
VRAC Vranov 77.67 360⇑P **P 13 40 24.4 +0.5**
VRAC Vranov 77.67 360⇑*i*P **P 13 40 24.4 +0.5**
KHC Kasperske Hory 77.81 2 *e*P **P 13 40 23.8 -1.0**
comp=Z,4.2nm,1.0s,mb4.3
KHC Kasperske Hory 77.81 2 *e*P **P 13 40 23.8 -0.9**
KHC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KHC Kasperske Hory 77.81 2 *e*P **P 13 40 25.4 +0.7**
CRVS Cervenica-Dubn 77.98 357 *e*P **P 13 40 26.1 +0.4**
CRVS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
CRVS Cervenica-Dubn 77.98 357 *e*P **P 13 40 26.0 +0.3**
GERES GERESS Array B 78.10 2 P **P 13 40 26.9 +0.5**
comp=Z,1.9nm,0.8s,mb4.0,baz=346,slow=2.8,SNR=8.9
GERES GERESS Array B 78.10 2 P **P 13 40 26.9 +0.5**
GERES GERESS Array B 78.10 2 P **P 13 40 26.9 +0.6**
KECS Kecovo 78.43 357 *e*P **P 13 40 28.8 +0.6**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KECS Kecovo 78.43 357 *e*P **P 13 40 28.8 +0.6**
VYHS Vyhne 78.46 358 *e*P **P 13 40 28.7 +0.4**
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
VYHS Vyhne 78.46 358 *e*P **P 13 40 28.7 +0.4**
TRPA Tarpa 78.71 356⇑*i*P **P 13 40 30.5 +0.8**
TAPN Taplejung 78.78 301 *e*P **P 13 40 30.7 +0.3**
comp=Z,13nm,0.9s,mb4.9
TAPN Taplejung 78.78 301 *e*P **P 13 40 30.7 +0.3**
comp=Z,13nm,0.9s,mb4.9
PSZ Piszkesteto 79.02 358⇑P **P 13 40 32.7 +1.3**
PSZ Piszkesteto 79.02 358⇑*i*P **P 13 40 32.7 +1.3**
BURAR Bucovina Array 79.09 354⇑P **P 13 40 31.8 0.0**
BURAR Bucovina Array 79.09 354⇑*i*P **P 13 40 31.8 0.0**
GUN Gumba 79.25 303 *e*P **P 13 40 33.5 +0.5**
comp=Z,26nm,0.8s,mb5.2
GUN Gumba 79.25 303 *e*P **P 13 40 33.5 +0.5**
comp=Z,26nm,0.8s,mb5.2
JIRN Jiri 79.30 302 *e*P **P 13 40 34.0 +0.7**
comp=Z,10nm,0.6s,mb4.9
JIRN Jiri 79.30 302 *e*P **P 13 40 34.0 +0.7**
comp=Z,10nm,0.6s,mb4.9
KKN Kakani 79.66 303 *e*P **P 13 40 35.6 +0.4**
KKN Kakani 79.66 303 *e*P **P 13 40 35.6 +0.4**
KKN Kakani 79.66 303 *e*P **P 13 40 35.6 +0.4**
RAMN Ramite 79.67 301 *e*P **P 13 40 35.3 0.0**
comp=Z,26nm,0.8s,mb5.2
RAMN Ramite 79.67 301 *e*P **P 13 40 35.3 0.0**
comp=Z,26nm,0.8s,mb5.2
PKI Pulchoki 79.77 303 *e*P **P 13 40 35.7 -0.2**
PKI Pulchoki 79.77 303 *e*P **P 13 40 35.7 -0.2**
PKI Pulchoki 79.77 303 *e*P **P 13 40 35.7 -0.2**
CMAR Chiang Mai Arr 79.78 287 P **P 13 40 36.0 0.0**
comp=Z,3.0nm,0.9s,mb4.2,baz=22,slow=5.6,SNR=16
CMAR Chiang Mai Arr 79.78 287 P **P 13 40 36.0 0.0**
CMAR Chiang Mai Arr 79.78 287 P **P 13 40 36.0 0.0**
GKN Gorkha 79.80 304 *e*P **P 13 40 36.1 +0.1**
comp=Z,20nm,0.8s,mb5.1
GKN Gorkha 79.80 304 *e*P **P 13 40 36.1 +0.1**
comp=Z,20nm,0.8s,mb5.1
DMN Daman 79.89 303 *e*P **P 13 40 36.9 +0.4**
DMN Daman 79.89 303 *e*P **P 13 40 36.9 +0.4**
DANN Dangsing 79.95 304 *e*P **P 13 40 37.5 +0.7**
comp=Z,66nm,0.7s,mb5.7
DANN Dangsing 79.95 304 *e*P **P 13 40 37.5 +0.7**
comp=Z,66nm,0.7s,mb5.7
DRGR 80.04 356⇓P **P 13 40 37.0 0.0**
DRGR 80.04 356⇓*i*P **P 13 40 37.0 0.0**
KIV Kislovodsk 80.45 341⇑*e*P **P 13 40 39.9 +0.7**
KIV *e* 13 40 49.5
KIV *e*SS SS 13 55 55.2 -0.4
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KIV MLR MLR
comp=Z,100nm,14.0s,MS4.3
KOLN Koldanda 80.51 304 *e*P **P 13 40 40.1 +0.2**
comp=Z,15nm,0.8s,mb5.0
KOLN Koldanda 80.51 304 *e*P **P 13 40 40.1 +0.2**
comp=Z,15nm,0.8s,mb5.0
PKSM Moragy 80.75 358⇓P **P 13 40 36.3 -4.5**
PKSM Moragy 80.75 358⇓*i*P **P 13 40 36.3 -4.5**
BZS Buzias 81.26 356⇑P **P 13 40 40.2 -3.4**
BZS Buzias 81.26 356⇑*i*P **P 13 40 40.2 -3.4**
ZEI Tsey 81.34 340 *e*P **P 13 40 44.0 -0.1**
ZEI pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GZR Gura Zlata 81.44 356⇓P **P 13 40 44.7 +0.2**
GZR Gura Zlata 81.44 356⇓*i*P **P 13 40 44.7 +0.2**
ISR Istrita 81.48 353⇑P **P 13 40 44.3 -0.4**
ISR Istrita 81.48 353⇑*i*P **P 13 40 44.3 -0.4**
ESDC Sonseca Array 85.63 16 P **P 13 41 06.4 +0.3**
comp=Z,0.6nm,0.7s,mb4.0,baz=342,slow=4.5,SNR=3.1
ESDC Sonseca Array 85.63 16 P **P 13 41 06.4 +0.3**
BR131 Keskin Array S 86.07 347 *e*P **P 13 41 08.3 0.0**
comp=Z,3.3nm,0.8s,mb4.6
BRTR Keskin Array B 86.07 347 P **P 13 41 07.8 -0.5**
comp=Z,4.5nm,1.0s,mb4.7,baz=29,slow=2.6,SNR=10
BRTR Keskin Array B 86.07 347 P **P 13 41 07.8 -0.5**
BRTR Keskin Array B 86.07 347 *ce*P **P 13 41 09.1 +0.8**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
HYB Hyderabad 91.69 302 *i* P **P 13 41 35.0 -0.3**

IDC ***27*** *13:38:50.1±0.8, 37°.24N×74°.46E, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.8/26, mbtmp3.8/13, ML3.6/4, Error ellipse: s-maj=22.3km s-min=20.3km az=110.0*
NEIC ***27*** *13:38:51.9±2.4, 37°.18N×74°.47E, h12km±17km, mb3.9/2, Error ellipse: s-maj=9.3km s-min=4.7km az=64.0*
ISCJB ***27*** *13:38:52.2±0.3, 37°.40N±0°.03×74°.95E±0°.07, h10km, mb3.7/12, Error ellipse: s-maj=8.4km s-min=3.9km az=166.4*
NNC ***27*** *13:38:54.2±1.2, 37°.57N×74°.24E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=9.7km s-min=5.3km az=179.0*
ISC 27 13:38:54.6±0.3,**37°.43N**±0°.03×**74°.96E**±0°.06,**h10km**,**n83**, σ1§**58**/91,**mb3.7**/12,**3C-8D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.23**	**20**	Pg	**Pn**	**13 39 25.5**	**-6.2**
KSH				Sg	**Sn**	**13 39 46.3**	**-13**
KSH				smax			
KSH	comp=N,720nm,0.8s			smax			
KSH	comp=E,1μm,0.8s						
CHCP	**Chirah Chowk**	**4.01**	**201**	P	**Pn**	**13 39 58.4**	**+2.4**
CEP	**Cherat**	**4.37**	**216**	P	**Pn**	**13 40 01.5**	**+0.5**
CEP				S	**Sb**	**13 41 05.0**	**+0.7**
KZA	**Kyzart**	**4.65**	**3**	P	**Pn**	**13 40 07.7**	**+2.8**
KZA	SNR=18			P		13 40 07.7	
KZA	SNR=18						
AML	**Almayashu**	**4.80**	**349**	P	**Pn**	**13 40 08.8**	**+1.9**
AML	SNR=9.5			P		13 40 08.8	
AML	SNR=9.5						
UCH	**Uchtor**	**4.81**	**356**	P	**Pn**	**13 40 11.0**	**+4.0**
UCH	SNR=6.8			P		13 40 11.0	
UCH	SNR=6.8						
THN	**Thein Dam**	**5.02**	**173**	*e*PKP	**Pn**	**13 40 12.0**	**+2.0**
AAK	**Ala-Archa**	**5.21**	**356**	P	**Pn**	**13 40 17.1**	**+4.4**
AAK	SNR=5.5			P		13 40 17.1	
AAK	SNR=5.5						
AAK	**Ala-Archa**	**5.21**	**356**	*e*Pn	**Pn**	**13 40 14.1**	**+1.5**
KBK	**Karagaybulak**	**5.22**	**360**	P	**Pn**	**13 40 14.3**	**+1.5**
KBK	SNR=7.2			P		13 40 14.3	
KBK	SNR=7.2						
EKS2	**Erkin-Say**	**5.31**	**351**	P	**Pn**	**13 40 17.7**	**+3.8**
EKS2	SNR=9.9			P		13 40 17.7	
EKS2	SNR=9.9						
EKS2	**Erkin-Say**	**5.31**	**351**	*e*Pn	**Pn**	**13 40 14.5**	**+0.6**
THW	**Thamme Wali**	**5.32**	**211**	P	**Pn**	**13 40 13.9**	**-0.2**
TKM2	**Tokmak 2**	**5.51**	**5**	P	**Pn**	**13 40 19.7**	**+3.1**
TKM2	SNR=37			P		13 40 19.7	
TKM2	SNR=37						
TKM2	**Tokmak 2**	**5.51**	**5**	⇓Pn	**Pn**	**13 40 16.5**	**-0.2**
TKM2	comp=E,5.7nm,0.4s			⇓Sn	**Sn**	**13 41 22.4**	**+2.3**
TKM2	comp=E,40nm,0.7s						
TKM2	**Tokmak 2**	**5.51**	**5**	*e*Pn	**Pn**	**13 40 19.4**	**+2.8**
CHMS	**Chumysh**	**5.57**	**358**	P	**Pn**	**13 40 19.9**	**+2.5**
CHMS	SNR=8.7			P		13 40 19.9	
CHMS	SNR=8.7						
KBL	**Kabul**	**5.60**	**241**	*e*Pn	**Pn**	**13 40 08.6**	**-9.3**
SARP	**Sargodha**	**5.81**	**200**	P	**Pn**	**13 40 21.1**	**+0.3**
SDNR	**Sundarnagar**	**6.14**	**164**	*e*PKP	**Pn**	**13 40 27.5**	**+2.2**
SDNR				*e*S	**Sn**	**13 41 39.0**	**+3.4**
KK31	**Karatay Array**	**6.61**	**330**	⇓Pn	**Pn**	**13 40 30.4**	**-1.5**
KK31	comp=E,8.3nm,0.4s,baz=132,slow=12,SNR=174			⇑Sn	**Sn**	**13 41 45.3**	**-1.9**
KK31	comp=E,14nm,0.5s,baz=142,slow=15,SNR=7.8						
KKAR	**Karatay Array**	**6.61**	**330**	*e*Pn	**Pn**	**13 40 30.7**	**-1.1**
MK31	**Makanchi Array**	**10.82**	**28**	⇓Pn	**Pn**	**13 41 34.6**	**+5.1**
MK31	comp=E,2.9nm,0.9s,baz=200,slow=13,SNR=8.3			⇓Sn	**Sn**	**13 43 42.2**	**+12**
MK31	comp=E,1.9nm,0.7s						
MK31	**Makanchi Array**	**10.82**	**28**	*e*Pn	**Pn**	**13 41 32.1**	**+2.6**
MKAR	**Makanchi Array**	**10.82**	**28**	Pn	**Pn**	**13 41 32.1**	**+2.6**
MKAR	comp=E,0.2nm,0.3s,baz=195,slow=14,SNR=7.3						
DANN	**Dangsing**	**11.68**	**138**	*e*P	**Pn**	**13 41 40.6**	**-0.7**
DANN	comp=E,23nm,0.3s **Dangsing**	**11.68**	**138**	*e*P	**Pn**	**13 41 40.6**	**-0.7**
KOLN	comp=E,23nm,0.3s **Koldanda**	**12.06**	**140**	*e*P	**Pn**	**13 41 45.9**	**-0.7**
KOLN	comp=E,21nm,0.4s **Koldanda**	**12.06**	**140**	*e*P	**Pn**	**13 41 45.9**	**-0.7**
GKN	comp=E,21nm,0.4s **Gorkha**	**12.43**	**136**	*e*P	**Pn**	**13 41 51.2**	**-0.3**
GKN	comp=E,23nm,0.5s **Gorkha**	**12.43**	**136**	*e*P	**Pn**	**13 41 51.2**	**-0.3**
DMN	comp=E,23nm,0.5s **Daman**	**12.99**	**136**	*e*P	**Pn**	**13 41 58.3**	**-1.0**
DMN	**Daman**	**12.99**	**136**	*e*P	**Pn**	**13 41 58.3**	**-1.0**
PKI	**Pulchoki**	**13.19**	**135**	*e*P	**Pn**	**13 42 00.4**	**-1.6**
PKI	**Pulchoki**	**13.19**	**135**	*e*P	**Pn**	**13 42 00.4**	**-1.6**
GUN	**Gumba**	**13.20**	**133**	*e*P	**Pn**	**13 42 01.0**	**-1.1**
GUN	comp=E,9.6nm,0.3s **Gumba**	**13.20**	**133**	*e*P	**Pn**	**13 42 01.0**	**-1.1**
KURBB	comp=E,9.6nm,0.3s **Kurchatov Arra**	**13.44**	**10**	Pn	**Pn**	**13 42 05.9**	**+0.7**
KURBB	comp=E,1.3nm,1.4s			Lg		13 45 59.8	
KURBB	comp=E,3.0nm,1.1s						
KURK	**Kurchatov**	**13.54**	**10**	Pn	**Pn**	**13 42 04.4**	**-2.2**
KURK	comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=7.8			Lg		13 45 56.1	
KURK	comp=E,0.0nm,0.3s,baz=205,slow=26,SNR=4.5						
KURK	**Kurchatov**	**13.54**	**10**	⇓Pn	**Pn**	**13 42 07.2**	**+0.6**
KURK	comp=E,7.7nm,1.2s			⇑Lg		13 46 02.7	
KURK	comp=E,6.6nm,1.1s						
KURK	**Kurchatov**	**13.54**	**10**	*e*Pn	**Pn**	**13 42 06.5**	**-0.1**
KURK				Lg		13 45 56.1	
JIRN	**Jiri**	**13.57**	**133**	*e*P	**Pn**	**13 42 06.2**	**-1.0**
JIRN	comp=E,11nm,0.5s **Jiri**	**13.57**	**133**	*e*P	**Pn**	**13 42 06.2**	**-1.0**
RAMN	comp=E,11nm,0.5s **Ramite**	**14.35**	**133**	*e*P	**Pn**	**13 42 14.7**	**-3.0**
RAMN	comp=E,15nm,0.5s **Ramite**	**14.35**	**133**	*e*P	**Pn**	**13 42 14.7**	**-3.0**
BVAR	comp=E,15nm,0.5s **Borovoye Array**	**15.92**	**350**	Pn	**Pn**	**13 42 37.2**	**-1.4**
BVAR	comp=E,1.2nm,0.3s,baz=152,slow=9.6,SNR=27 **Borovoye Array**	**15.92**	**350**	Pn	**Pn**	**13 42 37.2**	**-1.4**
BRVK	**Borovoye**	**15.97**	**350**	*e*Pn	**Pn**	**13 42 38.8**	**-0.4**
AB31	comp=E,13nm,0.8s **Akbulak array**	**16.06**	**322**	Pn	**Pn**	**13 42 35.7**	**-4.8**
AB31	comp=E,2.2nm,0.6s,baz=132,slow=14,SNR=40			⇑Sn	**Sn**	**13 45 28.8**	**-10**
ABKAR	comp=E,1.3nm,0.6s,baz=132,slow=25,SNR=3.8 **Akbulak array**	**16.06**	**322**	*e*Pn	**Pn**	**13 42 35.9**	**-4.5**
AKTO	comp=E,3.5nm,0.6s **Aktyubinsk**	**17.78**	**322**	P	**Pn**	**13 42 58.6**	**-3.4**
AKTO	comp=E,0.5nm,0.3s,baz=110,slow=12,SNR=14 **Aktyubinsk**	**17.78**	**322**	⇓Pn	**Pn**	**13 42 57.9**	**-4.1**
AKTO	comp=E,0.9nm,0.8s			⇓Sn	**Sn**	**13 46 10.8**	**-9.3**
AKTO	comp=E,0.6nm,0.8s						
AKTO	**Aktyubinsk**	**17.78**	**322**	P	**Pn**	**13 42 58.6**	**-3.4**
ZAA0	**Zalesovo Array**	**17.87**	**19**	*e*Pn	**Pn**	**13 43 03.0**	**-0.1**
ZALV	**Zalesovo Beam**	**17.87**	**19**	P	**Pn**	**13 43 01.7**	**-1.4**

comp=E,0.4nm,0.3s,baz=209,slow=11,SNR=18
ZALV Zalesovo Beam 17.87 19 P Pn 13 43 01.7 -1.4
SONM Songino Array 25.20 56 P P 13 44 22.1 +1.9
comp=E,2.3nm,0.8s,mb3.8,baz=257,slow=10,SNR=4.3
SONM Songino Array 25.20 56 P P 13 44 22.1 +1.9
CMAR Chiang Mai Arr 28.25 125 P P 13 44 51.5 +3.6
comp=E,0.7nm,0.8s,mb3.3,baz=308,slow=9.9,SNR=5.2
CMAR Chiang Mai Arr 28.25 125 P P 13 44 51.5 +3.6
FINES FINESS Array B 38.53 324 P P 13 46 18.1 +1.2
comp=E,1.3nm,0.5s,mb3.9,baz=116,slow=11,SNR=9.7
FINES FINESS Array B 38.53 324 P P 13 46 18.1 +1.2
ARCES ARCESS Array B 41.54 336 P P 13 46 43.9 +2.1
comp=E,3.1nm,0.8s,mb4.0,baz=114,slow=9.0,SNR=3.7
ARCES ARCESS Array B 41.54 336 P P 13 46 43.9 +2.1
NB2 NORSAR Subarra 45.57 322 P P 13 47 12.4 -1.9
comp=Z,3.4nm,1.2s,mb4.2,baz=92,slow=7.9
NOA NORSAR Array B 45.57 322 P P 13 47 12.3 -2.1
comp=Z,0.8nm,0.7s,mb3.8,baz=92,slow=7.7,SNR=2.9
NOA NORSAR Array B 45.57 322 P P 13 47 12.3 -2.1
TORD Torodi Ar. Bea 68.90 271 P P 13 49 53.5 -6.4
comp=Z,0.3nm,0.4s,mb3.6,baz=52,slow=6.3,SNR=2.9
TORD Torodi Ar. Bea 68.90 271 P P 13 49 53.5 -6.4
INK Inuvik 72.45 11 P P 13 50 18.8 -1.9
comp=Z,0.7nm,0.7s,mb3.7,baz=351,slow=4.0,SNR=2.9
INK Inuvik 72.45 11 P P 13 50 18.8 -1.9
ILAR Eielson Array 72.99 17 P P 13 50 23.6 -0.4
comp=Z,0.8nm,1.0s,mb3.6,baz=296,slow=4.9,SNR=5.6
ILAR Eielson Array 72.99 17 P P 13 50 23.6 -0.4
FALS False Pass 75.38 31 *eP* **P 13 50 37.8 -0.3**
DBIC Dimbokro 77.90 269 P P 13 50 48.3 -4.7
comp=Z,1.9nm,0.8s,mb4.1,baz=295,slow=1.8,SNR=3.3
DBIC Dimbokro 77.90 269 P P 13 50 48.3 -4.7
WRA Warramunga Arr 79.84 125 P P 13 51 03.5 0.0
comp=Z,0.5nm,0.8s,mb3.5,baz=329,slow=5.1,SNR=3.8
WRA Warramunga Arr 79.84 125 P P 13 51 03.5 +0.1
YKA Yellowknife Ar 80.13 4 P P 13 51 02.2 -2.2
comp=Z,0.5nm,0.6s,mb3.6,baz=346,slow=5.5,SNR=13
YKA Yellowknife Ar 80.13 4 P P 13 51 02.2 -2.2
ASAR Alice Springs 82.24 128 P P 13 51 13.1 -3.0
comp=Z,0.2nm,0.8s,mb3.1,baz=316,slow=5.1,SNR=2.7
ASAR Alice Springs 82.24 128 P P 13 51 13.1 -3.0

IDC ***27*** *13:48:02.0±0.9, 27°.91S×176°.83W, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.1/15, mbtmp4.2/6, ML4.6/1, MS3.6/3, Ms1 3.5/3, ms1mx3.4/15, Error ellipse: s-maj=45.2km s-min=23.4km az=166.0*
NEIC ***27*** *13:48:06.0±1.4, 28°.39S×176°.64W, h37km±13km, mb4.4/2, Error ellipse: s-maj=17.2km s-min=12.5km az=147.0*
ISC 27 13:48:06.6±1.3, 28°.27S±0°.07×176°.5W±0°.1, h58km±15km, n45, σ1°.28/30, mb4.1/6, MS3.6/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**11.23**	**205**	PN	**Pn**	**13 50 43.0**	**-1.2**
MWZ				*e*SN	**Sn**	13 52 49.3	+1.2
URZ	**Urewera**	**11.32**	**207**	Pn	**Pn**	**13 50 43.3**	**-2.3**
	0.3nm,0.3s,baz=314,slow=22,SNR=12						
URZ				Sn	**Sn**	13 52 52.0	+1.5
	2.6nm,0.3s,baz=196,slow=16,SNR=10						
URZ	**Urewera**	**11.32**	**207**	Pn	**Pn**	**13 50 43.3**	**-2.3**
URZ				Sn	**Sn**	13 52 52.0	+1.5
URZ	**Urewera**	**11.32**	**207**	PN	**Pn**	**13 50 43.7**	**-1.8**
URZ				SN	**Sn**	13 52 52.1	+1.6
MSVF	**Nonsavu**	**11.64**	**333**	*e*Pn	**Pn**	**13 50 51.1**	**+1.1**
	5.5nm,0.7s						
BKZ	**Black Stump Fm**	**12.35**	**206**	PN	**Pn**	**13 50 56.5**	**-3.1**
BKZ				SN	**Sn**	13 53 16.7	+1.3
NNZ	**Nelson**	**15.37**	**210**	*e*PN	**Pn**	13 51 40.5	+0.7
KHZ	**Kahutara**	**16.29**	**207**	*e*PN	**Pn**	13 51 49.2	-2.3
DZM	**Mont Dzumac**	**16.65**	**288**	*e*LR	LR	13 55 16.6	
	322nm,25.9s						
RAR	**Rarotonga**	**16.70**	**69**	Pn	**Pn**	**13 51 58.1**	**+1.4**
	2.0nm,0.3s,baz=271,slow=7.0,SNR=8.9						
RAR				Sn	**Sn**	**13 54 49.7**	**-12**
	1.0nm,0.3s,baz=64,slow=16,SNR=3.6						
RAR				LR	LR	13 56 50.1	
	comp=Z,192nm,21.8s,baz=248,slow=31						
RAR	**Rarotonga**	**16.70**	**69**	Pn	**Pn**	**13 51 58.1**	**+1.4**
RAR				Sn	**Sn**	**13 54 49.7**	**-12**
TBI	**Tubuai**	**24.77**	**85**	*e*LR	LR	13 59 48.1	
	168nm,26.5s						
TBI				*e*T		14 19 06.4	
	23nm,0.4s						
PAE	**Paea**	**26.85**	**73**	*e*T		14 21 38.2	
	14nm,0.3s						
PPT2	**Papeete2**	**26.88**	**73**	*e*LR	LR	14 00 39.5	
	152nm,24.8s						
PPT2				*e*T		14 21 42.8	
	4.9nm,0.3s						
CTA	**Charters Tower**	**34.87**	**275**	P	**P**	**13 54 53.1**	**+0.7**
	3.7nm,0.8s,mb4.3,baz=84,slow=9.2,SNR=4.5						
CTA	**Charters Tower**	**34.87**	**275**	P	**P**	**13 54 53.1**	**+0.7**
CTAO	**Charters Tower**	**34.87**	**275**	*e*P	**P**	**13 54 52.9**	**+0.4**
	5.2nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**36.32**	**254**	LR	LR	14 09 01.6	
	comp=Z,73nm,19.2s,MS3.5,baz=26,slow=35						
RKT	**Rikitea**	**37.60**	**92**	*e*T		14 35 08.0	
	1.5nm,0.3s						
ASAR	**Alice Springs**	**44.62**	**264**	P	**P**	**13 56 14.1**	**+0.7**
	2.3nm,1.0s,mb4.0,baz=107,slow=7.4,SNR=16						
ASAR				PcP	PcP	13 57 58.5	+3.0
	0.9nm,0.9s,baz=116,slow=4.0,SNR=4.3						
ASAR	**Alice Springs**	**44.62**	**264**	P	**P**	**13 56 14.1**	**+0.7**
ASAR				PcP	PcP	13 57 58.5	+3.0
WB2	**Warramunga Arr**	**45.41**	**269**	*e*P	**P**	**13 56 19.4**	**-0.3**
WRAB	**Tennant Creek**	**45.41**	**269**	*e*P	**P**	**13 56 18.4**	**-1.4**
	3.1nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**45.42**	**269**	P	**P**	**13 56 19.8**	**-0.1**
	1.7nm,0.6s,mb4.0,baz=110,slow=6.3,SNR=27						
WRA				PcP	PcP	13 58 01.5	+3.3
	1.6nm,0.9s,baz=112,slow=3.5,SNR=5.8						
WRA	**Warramunga Arr**	**45.42**	**269**	P	**P**	**13 56 19.8**	**-0.1**
WRA				PcP	PcP	13 58 01.5	+3.3
FITZ	**Fitzroy Crossi**	**53.75**	**268**	LR	LR	14 19 07.1	
	comp=Z,58nm,19.3s,MS3.6,baz=160,slow=35						
MJAR	**Matsushiro Arr**	**77.28**	**324**	P	**P**	**13 59 54.6**	**-0.1**
	1.9nm,0.8s,mb4.0,baz=177,slow=6.1,SNR=4.5						
MJAR	**Matsushiro Arr**	**77.28**	**324**	P	**P**	**13 59 54.6**	**-0.1**
NVAR	**Mina Array Bea**	**85.76**	**42**	P	**P**	**14 00 44.8**	**+5.4**
	0.9nm,0.8s,mb4.0,baz=225,slow=7.4,SNR=5.6						
NVAR	**Mina Array Bea**	**85.76**	**42**	P	**P**	**14 00 44.8**	**+5.4**
ZALV	**Zalesovo Beam**	**117.33**	**319**	PKP	PKPdf	14 06 47.0	+2.0
	0.2nm,0.3s,baz=112,slow=1.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**117.33**	**319**	PKP	PKPdf	14 06 47.0	+2.0
MKAR	**Makanchi Array**	**117.42**	**311**	PKP	PKPdf	14 06 47.6	+2.3
	0.6nm,0.7s,baz=228,slow=2.2,SNR=5.9						
MKAR	**Makanchi Array**	**117.42**	**311**	PKP	PKPdf	14 06 47.6	+2.3
JOF	**Joensuu**	**140.90**	**340**	*ep*	PKPdf	14 07 25.9	-3.4
KAF	**Kangasniemi**	**142.96**	**342**	*ep*	PKPdf	14 07 30.9	-2.1
FINES	**FINESS Array B**	**143.57**	**342**	PKhKP	PKPpre	14 07 32.8	
	3.5nm,0.9s,baz=34,slow=4.2,SNR=11						
NB2	**NORSAR Subarra**	**146.82**	**353**	PKP	PKPbc	14 07 44.1	+2.6
	comp=Z,2.4nm,0.8s,baz=17,slow=2.8						
NOA	**NORSAR Array B**	**146.82**	**353**	PKPbc	PKPbc	14 07 44.2	+2.7
	comp=Z,1.9nm,0.7s,baz=16,slow=2.5,SNR=8.7						
NOA	**NORSAR Array B**	**146.82**	**353**	PKPbc	PKPbc	14 07 44.2	+2.7
AKASG	**Malin Array Be**	**150.35**	**326**	PKPbc	PKPbc	14 07 53.5	+2.5
	comp=Z,4.1nm,0.7s,baz=44,slow=3.3,SNR=14						
AKASG	**Malin Array Be**	**150.35**	**326**	PKPbc	PKPbc	14 07 53.5	+2.5
BRTR	**Keskin Array B**	**152.68**	**303**	PKPbc	PKPbc	14 07 59.5	+2.7
	comp=Z,1.1nm,0.4s,baz=130,slow=4.9,SNR=5.8						
BRTR	**Keskin Array B**	**152.68**	**303**	PKPbc	PKPbc	14 07 59.5	+2.7
TORD	**Torodi Ar. Bea**	**164.86**	**173**	PKPab	PKPab	14 09 05.5	+4.8
	comp=Z,0.4nm,0.5s,baz=181,slow=5.8,SNR=3.1						

DJA 27 13:49:17, 4°.18S×129°.91E, h90km, MLv3.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.28**	**310**	P	Pn	13 49 40.3	+0.2
MSAI				S	Sn	13 49 59.4	+2.0
AAI	**Ambon**	**1.78**	**286**	P	Pn	13 49 47.2	+0.9
FAKI	**Fak Fak**	**2.65**	**62**	P	Pn	13 49 59.3	+1.5
FAKI				S	Sn	13 50 31.3	+2.1
GTOI	**Gorontalo**	**8.39**	**305**	P	Pn	13 51 15.9	0.0

ISK ***27*** *14:04:39.1, 37°.28N×37°.24E, h5km, MD2.8*
ISCJB ***27*** *14:04:40.4±0.5, 37°.25N±0°.04×37°.21E±0°.06, h10km, Error ellipse: s-maj=7.5km s-min=4.1km az=35.1*
DDA ***27*** *14:04:40.7, 37°.25N×37°.18E, h7km±3km, Md2.8*
CSEM ***27*** *14:04:40.0±0.3, 37°.28N×37°.20E, h5km, MD2.8, Error ellipse: s-maj=8.6km s-min=5.4km az=114.0*
ISC 27 14:04:40.3±0.6, 37°.27N±0°.04×37°.22E±0°.06, h4km±6km, n19, σ0°.98/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.10**	**184**	*e*PG	**Pg**	**14 04 41.7**	**-0.6**
GAZ				*e*SG	**Sg**	14 04 43.8	+0.2
GAZ	**Gaziantep**	**0.10**	**184**	*e*Pg	**Pg**	14 04 41.7	-0.6
GAZ				*e*Sg	**Sg**	14 04 43.8	+0.2
GZT	**Gaziantep**	**0.29**	**73**	*i* P	**Pg**	14 04 44.2	-1.7
GZT				*i* S	**Sg**	14 04 55.9	+6.3
KMRS	**Kahramanmaras**	**0.34**	**313**	*e*PG	**Pg**	14 04 46.9	0.0
KMRS	**Kahramanmaras**	**0.34**	**313**	*e*Pg	**Pg**	14 04 46.9	0.0
KUZU	**Kuzuini**	**0.51**	**193**	*i* P	**Pg**	14 04 49.8	-0.3
KUZU				*i* S	**Sg**	14 04 58.0	+1.3
KUZU	**Kuzuini**	**0.51**	**193**	*i* P	**Pg**	14 04 49.8	-0.3
KUZU				*i* S	**Sg**	14 04 58.0	+1.3
COBT	**Iskenderun**	**1.08**	**226**	*i* P	**Pg**	14 05 00.1	-0.8
COBT				*i* S	**Sg**	14 05 15.4	+0.5
COBT	**Iskenderun**	**1.08**	**226**	*i* P	**Pg**	14 05 00.1	-0.8
COBT				*i* S	**Sg**	14 05 15.4	+0.5
AKCD	**Akcadag**	**1.17**	**28**	*i* P	**Pg**	14 05 03.5	+0.9
AKCD				*i* S	**Sg**	14 05 21.5	+3.8
AKCD	**Akcadag**	**1.17**	**28**	*i* P	**Pg**	14 05 03.5	+0.9
AKCD				*i* S	**Sg**	14 05 21.5	+3.8
URFA	**Urfa**	**1.29**	**82**	*e*PN	**Pn**	14 05 04.3	-0.7
URFA				*e*SN	**Sn**	14 05 22.7	-0.1
URFA	**Urfa**	**1.29**	**82**	*e*Pn	**Pn**	14 05 04.3	-0.8
URFA				*e*Sn	**Sn**	14 05 22.7	-0.1
MALT	**Malatya**	**1.41**	**42**	*e*PN	**Pn**	14 05 07.0	+0.2
MALT				*e*SN	**Sn**	14 05 27.2	+1.3
MALT	**Malatya**	**1.41**	**42**	*e*Pn	**Pn**	14 05 07.0	+0.2
MALT				*e*Sn	**Sn**	14 05 27.2	+1.3
SARI	**SarD1z-Kayseri**	**1.46**	**344**	*e*PN	**Pn**	14 05 05.0	-2.5
SARI	**SarD1z-Kayseri**	**1.46**	**344**	*e*Pn	**Pn**	14 05 05.0	-2.5
KRTS	**Karatas**	**1.63**	**245**	*e*PN	**Pn**	14 05 10.2	+0.4
KRTS	**Karatas**	**1.63**	**245**	*e*Pn	**Pn**	14 05 10.2	+0.4

ISCJB ***27*** *14:22:02.0±0.5, 40°.17N±0°.04×30°.03E±0°.03, h1km±7km, Error ellipse: s-maj=6.3km s-min=3.7km az=22.8*
ISK ***27*** *14:22:01.7, 40°.19N×30°.02E, h3km, MD2.7*
DDA ***27*** *14:22:01.9, 40°.16N×30°.02E, h7km±6km, Md2.7*
CSEM ***27*** *14:22:02.2±0.2, 40°.18N×30°.01E, h5km, MD2.7, Error ellipse: s-maj=3.8km s-min=3.0km az=20.0*
ISC 27 14:22:02.4±0.5, 40°.18N±0°.03×30°.02E±0°.03, h7km±6km, n28, σ0°.75/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAVI	**Cavuskoy**	**0.14**	**278**	*e*PG	**Pg**	**14 22 04.9**	**-0.4**
CAVI				*e*SG	**Sg**	14 22 08.0	+0.7
CAVI	**Cavuskoy**	**0.14**	**278**	*e*Pg	**Pg**	14 22 04.9	-0.4
CAVI				*e*Sg	**Sg**	14 22 08.0	+0.7
ADVT	**Abdulvahap**	**0.33**	**319**	*e*PG	**Pg**	14 22 08.8	0.0
ADVT				*e*SG	**Sg**	14 22 14.4	+1.2
ADVT	**Abdulvahap**	**0.33**	**319**	*e*Pg	**Pg**	14 22 08.8	0.0
ADVT				*e*Sg	**Sg**	14 22 14.4	+1.2
BORA	**Eskisehir**	**0.45**	**132**	*i* P	**Pg**	14 22 10.7	-0.4
BORA				*i* S	**Sg**	14 22 17.1	+0.1
BORA	**Eskisehir**	**0.45**	**132**	*i* P	**Pg**	14 22 10.7	-0.4
BORA				*i* S	**Sg**	14 22 17.1	+0.1
GULT	**Gulveren**	**0.45**	**57**	*e*PG	**Pg**	14 22 11.5	+0.3
GULT	**Gulveren**	**0.45**	**57**	*e*Pg	**Pg**	14 22 11.5	+0.3
SPNC	**Sapanca-Adapaz**	**0.55**	**24**	*e*PG	**Pg**	14 22 12.9	-0.1
SPNC	**Sapanca-Adapaz**	**0.55**	**24**	*e*Pg	**Pg**	14 22 12.9	-0.1
YLV	**Yalova**	**0.63**	**308**	*e*PG	**Pg**	14 22 15.0	+0.5
YLV	**Yalova**	**0.63**	**308**	*e*Pg	**Pg**	14 22 15.0	+0.5
ULDT	**Uludag**	**0.68**	**267**	*i* P	**Pg**	14 22 13.7	-1.8
ULDT				*i* S	**Sg**	14 22 23.1	-1.2
ULDT	**Uludag**	**0.68**	**267**	*i* P	**Pg**	14 22 13.7	-1.8
ULDT				*i* S	**Sg**	14 22 23.1	-1.2
ESKT	**Eskisehir**	**0.92**	**136**	*e*PG	**Pg**	14 22 20.1	+0.1
ESKT	**Eskisehir**	**0.92**	**136**	*i* P	**Pg**	14 22 20.9	+0.9
ESKT				*i* S	**Sg**	14 22 32.0	0.0
ESKT	**Eskisehir**	**0.92**	**136**	*e*Pg	**Pg**	14 22 20.2	+0.1
SEYT	**Eskypehyr**	**0.92**	**136**	*i* P	**Pg**	14 22 20.9	+0.8
SEYT				*i* S	**Sg**	14 22 32.0	0.0
HENT	**Hendek**	**0.93**	**46**	*i* P	**Pg**	14 22 19.3	-0.9
HENT	**Hendek**	**0.93**	**46**	*i* P	**Pg**	14 22 19.3	-0.9
MDUB	**Mudurnu**	**0.94**	**72**	*e*PG	**Pg**	14 22 20.6	+0.1
MDUB	**Mudurnu**	**0.94**	**72**	*e*Pg	**Pg**	14 22 20.6	+0.1
GDZ	**Gediz**	**1.17**	**201**	*i* P	**Pg**	14 22 24.4	-0.5
GDZ				*i* S	**Sg**	14 22 40.8	+0.8
GDZ	**Gediz**	**1.17**	**201**	*i* P	**Pg**	14 22 24.4	-0.5
GDZ				*i* S	**Sg**	14 22 40.8	+0.8
DURS	**Dursunbey**	**1.32**	**244**	*i* P	**Pn**	14 22 26.6	-0.7
DURS				*i* S	**Sb**	14 22 45.7	+0.9
DURS	**Dursunbey**	**1.32**	**244**	*i* P	**Pn**	14 22 26.6	-0.7
DURS				*i* S	**Sb**	14 22 45.7	+1.0
BOLV	**Bolvadin**	**1.63**	**154**	*i* P	**Pn**	14 22 32.6	+1.1
BOLV				*i* S	**Sn**	14 22 52.3	-0.5
BOLV	**Bolvadin**	**1.63**	**154**	*i* P	**Pn**	14 22 32.6	+1.1
BOLV				*i* S	**Sn**	14 22 52.3	-0.4

IDC 27 14:43:54.4±1.1, 19°.56S×177°.31E, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.9/15, mbtmp3.8/7, ML4.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/27, Error ellipse: s-maj=43.8km s-min=23.0km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.46**	**254**	*e*LR	LR	14 48 41.5	
	335nm,25.9s						
URZ	**Urewera**	**18.63**	**180**	P	Pn	14 48 14.2	+0.5
	0.7nm,0.3s,baz=65,slow=8.6,SNR=7.6						
URZ				LR	LR	14 53 59.4	
	comp=Z,139nm,20.8s,baz=308,slow=32						
HNR	**Honiara**	**19.58**	**299**	LR	LR	14 53 30.3	
	comp=Z,60nm,18.2s,baz=302,slow=29						
RPZ	**Rata Peaks**	**24.65**	**191**	LR	LR	14 56 57.4	
	comp=Z,157nm,19.9s,baz=355,slow=32						
CTA	**Charters Tower**	**29.20**	**264**	LR	LR	15 00 11.0	
	comp=Z,93nm,19.7s,baz=49,slow=33						
TBI	**Tubuai**	**31.12**	**103**	*e*LR	LR	14 58 15.9	
	164nm,32.0s						
PPT2	**Papeete2**	**31.43**	**92**	*e*LR	LR	14 58 26.4	
	141nm,26.8s						
STKA	**Stephens Creek**	**34.28**	**242**	P	P	14 50 42.4	0.0
	1.7nm,0.8s,baz=88,slow=10,SNR=2.6						
STKA				LR	LR	15 03 44.5	
	comp=Z,79nm,19.0s,baz=204,slow=35						
WRA	**Warramunga Arr**	**40.36**	**262**	P	P	14 51 33.5	-0.7
	0.5nm,0.7s,baz=92,slow=8.2,SNR=2.9						
ASAR	**Alice Springs**	**40.45**	**256**	P	P	14 51 34.6	-0.2
	1.0nm,0.6s,baz=84,slow=8.5,SNR=27						
NWAO	**Narrogin (SRO)**	**54.85**	**243**	LR	LR	15 14 36.6	
	comp=Z,119nm,21.7s,baz=20,slow=34						
NVAR	**Mina Array Bea**	**83.45**	**45**	P	P	14 56 25.3	+1.5
	0.3nm,0.6s,baz=225,slow=10,SNR=2.9						
CMAR	**Chiang Mai Arr**	**85.66**	**291**	P	P	14 56 36.4	+0.9
	0.2nm,0.3s,baz=152,slow=6.1,SNR=3.2						
TXAR	**Lajitas Array**	**90.31**	**59**	P	P	14 56 56.0	-1.5
	0.3nm,0.7s,baz=262,slow=6.2,SNR=3.4						

MOS ***27*** *14:50:28.9±1.1, 53°.78N×163°.64W, h29km, mb5.5/117, MS5.0/12, Error ellipse: s-maj=8.4km s-min=6.4km az=68.5*
SZGRF ***27*** *14:50:28.7, 54°.19N×164°.06W, h33km, mb5.1, MS4.7, Unimak Island, Alaska, United States, region*
DJA ***27*** *14:50:28, 53°.63N×163°.54W, h14km, mb5.4/7*
NEIC ***27*** *14:50:28.2, 53°.39N×163°.53W, h26km, mb5.3/166, ML4.6(AEIC), MW5.1(USGS), After AEIC.*
IDC ***27*** *14:50:28.5±2.5, 53°.60N×163°.70W, h16km±14km, mb4.9/36, mb1 5.0/39, mb1mx5.0/41, mbtmp4.9/39, ML4.5/3, MS4.7/26, Ms1 4.7/26, ms1mx4.5/39, Error ellipse: s-maj=16.1km s-min=9.9km az=160.0*
ISCJB ***27*** *14:50:29.5±0.1, 53°.57N±0°.03×163°.66W±0°.03, h33km, mb5.2/278, MS4.8/51, Error ellipse: s-maj=4.0km s-min=2.1km az=173.3*
GCMT ***27*** *14:50:31.7±0.2, 53°.41N×163°.58W, h15km, MW5.2, Moment Tensor Solution. s74,c117; s89,c147; Moment tensor: Scale 10^16 Nm; Mrr=4.73±.17; Mθθ=-2.86±.13; Mφφ=-1.87±.12; Mrθ=4.87±.38; Mθφ=-3.74±.11; Mφr=2.97±.30; Best double couple: M0=7.90000×10^16 NP1:φs=217.00000°, δ23.00000°, λ71.00000°. NP2:φs=57.00000°, δ68.00000°, λ98.00000°. Principal axes: T 7.2500, Plg66.0000°, Azm340.0000°; N 1.2800, Plg7.0000°, Azm234.0000°; P -8.5400, Plg23.0000°, Azm141.0000°; Data Used: II IU IC G CN.*
BJI ***27*** *14:50:32.6, 54°.15N×164°.50W, h34km, mB5.4/35, mb5.3/58, Ms5.3/43, Ms7 4.9/43*
BGS ***27*** *14:50:36.6±1.8, 53°.69N×158°.38W, h33km, mb5.2*
ISC 27 14:50:31.7±0.1, 53°.61N±0°.03×163°.68W±0°.03, h36km, h36km±2.0km: pP-P, n819, σ0°.93/809, mb5.2/278, MS4.8/51, 47C-38D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRPK	**Brown Peak**	**1.04**	**358**	P	**Pn**	**14 50 49.6**	**-0.2**
SSLN	**Shishaldin Nor**	**1.22**	**351**	P	**Pn**	**14 50 52.9**	**+0.7**
ISNN	**Isanotski Nort**	**1.23**	**357**	P	**Pn**	**14 50 53.3**	**+0.9**
FALS	**False Pass**	**1.26**	**7**	P	**Pn**	**14 50 53.0**	**+0.1**
FALS				S	**Sn**	14 51 11.8	+3.2
AKA	**Akutan**	**1.35**	**294**	P	**Pn**	**14 50 53.7**	**-0.3**
AKUT	**Akutan**	**1.35**	**294**	P	**Pn**	**14 50 53.7**	**-0.3**
AKUT				S	**Sn**	14 51 12.6	+2.0
DRIA	**Deer Island**	**1.60**	**31**	P	**Pn**	**14 50 56.3**	**-1.2**
UNV	**Unalaska Valle**	**1.69**	**279**	P	**Pn**	**14 50 57.3**	**-1.4**
UNV				S	**Sn**	14 51 21.0	+1.8
DT1	**Dutton Round H**	**1.71**	**28**	P	**Pn**	**14 50 58.3**	**-0.7**
DTNA	**Dutton South F**	**1.76**	**28**	P	**Pn**	**14 50 59.9**	**+0.2**
MREP	**Makushin Rep't**	**1.83**	**278**	P	**Pn**	**14 50 59.9**	**-0.8**
DOL	**Dolgoi Island**	**1.88**	**34**	P	**Pn**	**14 51 01.1**	**-0.2**
MCIR	**Makushin Cirqu**	**1.94**	**282**	P	**Pn**	**14 51 01.7**	**-0.4**
MSOM	**Makushin Julie**	**1.95**	**278**	P	**Pn**	**14 51 01.4**	**-0.9**
MSOM	**Makushin Julie**	**1.95**	**278**	P	**Pn**	**14 51 01.4**	**-0.9**
HAG	**Hague Volcano**	**2.00**	**30**	P	**Pn**	**14 51 03.1**	**+0.1**
HAG	**Hague Volcano**	**2.00**	**30**	P	**Pn**	**14 51 03.1**	**+0.1**
PS4A	**Pavlof South-4**	**2.04**	**31**	P	**Pn**	**14 51 02.8**	**-0.8**
PVV	**Pavlof Volcano**	**2.09**	**31**	P	**Pn**	**14 51 04.5**	**+0.4**
SDPT	**Sand Point**	**2.56**	**46**	P	**Pn**	**14 51 09.7**	**-0.9**
SDPT				S	**Sn**	14 51 41.3	+0.8
OKTU	**Okmok Mt. Tuli**	**2.61**	**267**	P	**Pn**	**14 51 10.5**	**-0.8**
OKRE	**Okmok R'deer P**	**2.67**	**270**	P	**Pn**	**14 51 11.8**	**-0.5**
OKWE	**Okmok W'ng Wal**	**2.72**	**269**	P	**Pn**	**14 51 12.9**	**0.0**
OKSP	**Okmok Steeple**	**2.78**	**265**	P	**Pn**	**14 51 12.5**	**-1.2**
NIKO	**Nikolski**	**3.17**	**261**	*e*Pn	**Pn**	**14 51 18.8**	**-0.2**
VNSG	**Veniaminof 6**	**3.67**	**45**	P	**Pn**	**14 51 26.2**	**+0.3**
VNHG	**Veniaminof 1**	**3.70**	**43**	P	**Pn**	**14 51 26.5**	**+0.3**
CHGN	**Chignik**	**4.06**	**46**	*e*Pn	**Pn**	**14 51 30.7**	**-0.6**
ANPK	**Aniakchak Peak**	**4.54**	**42**	P	**Pn**	**14 51 38.4**	**+0.5**
ANNE	**Aniakchak Nort**	**4.62**	**42**	P	**Pn**	**14 51 38.7**	**-0.2**
KOFP	**Flat Point**	**6.44**	**262**	P	**Pn**	**14 52 04.0**	**+0.1**
KOKL	**Mount Kliuchef**	**6.49**	**263**	P	**Pn**	**14 52 03.7**	**-0.9**
ATKA	**Atka Island**	**6.51**	**262**	P	**Pn**	**14 52 05.0**	**0.0**
KELA	**Mount Kelaz**	**6.58**	**39**	P	**Pn**	**14 52 06.3**	**+0.5**
KABU	**Katmai Buttres**	**6.64**	**42**	P	**Pn**	**14 52 07.0**	**+0.3**
OHAK	**Old Harbor**	**6.94**	**54**	P	**Pn**	**14 52 08.0**	**-2.7**
KDAK	**Kodiak Island**	**7.54**	**52**	Pn	**Pn**	**14 52 16.3**	**-2.6**
	9.7nm,0.3s,baz=231,slow=9.2,SNR=61						
KDAK				Sn	**Sn**	14 53 36.4	-6.7
	4.0nm,0.3s,baz=160,slow=22,SNR=8.7						
KDAK	**Kodiak Island**	**7.54**	**52**	Pn	**Pn**	**14 52 16.3**	**-2.6**
KDAK				Sn	**Sn**	14 53 36.4	-6.7
KDAK	**Kodiak Island**	**7.54**	**52**	*i* P	**Pn**	**14 52 16.3**	**-2.6**
KDAK	**Kodiak Island**	**7.54**	**52**	Pn	**Pn**	**14 52 16.0**	**-2.9**
	383nm,0.6s,SNR=22						
OPT	**Oil Point**	**8

LON pmax pmax
comp=Z,304nm,3.0s
ETW Entiat 27.81 85 *eP* **P 14 56 17.8 +0.6**
RSW Rattlesnake Hi 28.85 86 *eP* **P 14 56 27.9 +1.4**
HAWA Hanford 28.89 86 *eP* **P 14 56 27.1 +0.2**
comp=Z,31nm,0.8s,mb5.1
YBH Yreka Blue Hor 29.62 97 *eP* **P 14 56 33.1 -0.2**
comp=Z,214nm,2.6s,mb5.4
YBH *e*pP pP 14 56 44.3 +0.8
YBH Yreka Blue Hor 29.62 97 *eP* **P 14 56 33.1 -0.2**
YBH *e**PP pP 14 56 44.3 +0.8
YBH pmax pmax
comp=Z,214nm,2.6s
MOD Modoc 30.95 94 *eP* **P 14 56 46.5 +1.4**
comp=Z,32nm,1.2s,mb5.0
BSMT Bassoo Peak 30.97 81 *eP* **P 14 56 46.2 +1.0**
BMO Blue Mountains 31.03 87 *eP* **P 14 56 46.7 +0.9**
comp=Z,12nm,1.2s,mb4.6
JTMT Jette 31.32 80 *eP* **P 14 56 48.7 +0.5**
comp=Z,5.3nm,0.8s,mb4.4
WVOR Wild Horse Val 31.62 92 *eP* **P 14 56 51.3 +0.4**
comp=Z,30nm,0.9s,mb5.1
WVOR Wild Horse Val 31.62 92 *eP* **P 14 56 51.3 +0.3**
WVOR pmax pmax
comp=Z,30nm,0.9s,mb5.1
MFID Camas Ranch 32.72 88 *eP* **P 14 57 00.7 +0.1**
comp=Z,19nm,0.8s,mb5.1
WCN Washoe City 32.90 98 *eP* **P 14 57 03.7 +1.5**
comp=Z,11nm,1.0s,mb4.8
WCN Washoe City 32.90 98 *eP* **P 14 57 03.7 +1.5**
WCN pmax pmax
comp=Z,11nm,1.0s,mb4.7
CMB Columbia Colle 33.36 100 *eP* **P 14 57 07.3 +1.0**
comp=Z,11nm,1.1s,mb4.7
CMB Columbia Colle 33.36 100 *eP* **P 14 57 07.3 +1.0**
CMB pmax pmax
comp=Z,11nm,1.1s,mb4.7
HLID Hailey 33.48 87 *eP* **P 14 57 07.5 +0.3**
comp=Z,25nm,1.3s,mb5.0
MCMT McKenzie Canyo 33.69 84 *eP* **P 14 57 09.3 +0.3**
comp=Z,5.2nm,0.9s,mb4.5
RES Resolute Bay 33.75 26 ScP ScP 15 03 31.9 +2.5
comp=Z,4.2nm,0.9s,baz=297,slow=8.6,SNR=4.1
RES LR LR 15 12 36.0
comp=Z,2µm,18.9s,MS4.8,baz=69,slow=39
RES Resolute Bay 33.75 26 ScP ScP 15 03 31.9 +2.5
YSS Yuzh-Sakhalins 34.16 281 *eP* **P 14 57 13.0 -0.1**
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.2
NVAR Mina Array Bea 34.33 98 P **P 14 57 14.8 +0.1**
comp=Z,5.5nm,0.8s,mb4.5,baz=298,slow=8.1,SNR=25
NVAR ScP ScP 15 03 33.6 +1.6
comp=Z,0.3nm,0.3s,baz=283,slow=4.5,SNR=5.2
NVAR Mina Array Bea 34.33 98 P **P 14 57 14.8 +0.1**
NVAR ScP ScP 15 03 33.6 +1.6
ELK Elko 34.67 92 *eP* **P 14 57 18.3 +0.7**
comp=Z,20nm,0.9s,mb5.0
ELK Elko 34.67 92 *eP* **P 14 57 18.3 +0.7**
ELK pmax pmax
comp=Z,20nm,0.9s
YMR Madison River 34.90 83 *eP* **P 14 57 17.8 -1.7**
comp=Z,14nm,0.6s,mb5.1
YAK Yakutsk 34.95 311 *eP* **P 14 57 18.7 -1.1**
comp=Z,64nm,0.7s,mb5.7
YAK Yakutsk 34.95 311 *eP* **P 14 57 17.6 -2.2**
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,51nm,0.9s,mb5.5
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK MLR MLR
comp=Z,2µm,19.0s,MS4.9
YAK MLR MLR
comp=N,272nm,5.0s
YAK MLR MLR
comp=E,2µm,18.0s
FFC Flin Flon 35.12 63 *eP* **P 14 57 21.7 +0.4**
comp=E,34nm,1.5s,mb5.0
FFC Flin Flon 35.12 63 *i* P **P 14 57 22.3 +1.0**
RRI2 Red Ridge 35.44 85 *eP* **P 14 57 24.3 +0.1**
comp=E,12nm,1.0s,mb4.8
RRI2 *e*pP pP 14 57 38.3 +3.9
HVU Hansel Valley 35.50 88 *eP* **P 14 57 25.5 +0.7**
comp=E,13nm,0.9s,mb4.8
HVU Hansel Valley 35.50 88 *eP* **P 14 57 25.5 +0.8**
HVU pmax pmax
comp=Z,13nm,0.9s,mb4.9
RLMT Red Lodge 35.65 81 *eP* **P 14 57 26.5 +0.6**
comp=Z,12nm,0.9s,mb4.8
ASAJ Asahikawa 35.80 277 *eP* **P 14 57 27.1 -0.2**
comp=Z,114nm,1.5s,mb5.6
ISA Isabella 36.10 101 *eP* **P 14 57 30.1 +0.2**
comp=Z,9.6nm,1.0s,mb4.7
ISA Isabella 36.10 101 *eP* **P 14 57 30.1 +0.2**
ISA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
DUG Dugway 36.46 90 *eP* **P 14 57 33.4 +0.4**
comp=Z,23nm,1.0s,mb5.1
DUG Dugway 36.46 90 *eP* **P 14 57 33.4 +0.5**
DUG pmax pmax
comp=Z,23nm,1.0s,mb5.1
DGMT Dagmar 36.80 73 *eP* **P 14 57 36.5 +0.7**
comp=Z,37nm,1.0s,mb5.2
DGMT *e*pP pP 14 57 50.0 +4.0
BW06 Boulder Array 36.83 85 *eP* **P 14 57 36.0 -0.1**
comp=Z,14nm,1.4s,mb4.6
DAU Daniels Canyon 37.25 89 *eP* **P 14 57 40.8 +1.2**
DAU Daniels Canyon 37.25 89 *eP* **P 14 57 40.8 +1.1**
MPU Maple Canyon 37.27 90 *eP* **P 14 57 41.2 +1.4**
comp=Z,8.6nm,0.8s,mb4.6
GSC Goldstone 37.33 100 *eP* **P 14 57 40.5 +0.1**
comp=Z,19nm,1.0s,mb4.9
GSC Goldstone 37.33 100 *eP* **P 14 57 40.5 +0.1**
GSC pmax pmax
comp=Z,19nm,1.0s,mb4.9
ARUT Antelope Range 37.63 94 *eP* **P 14 57 42.9 0.0**
comp=Z,32nm,1.2s,mb4.9
ARUT Antelope Range 37.63 94 *eP* **P 14 57 42.9 0.0**
ARUT pmax pmax
comp=Z,32nm,1.2s,mb4.9
HABR Khabarovsk 37.81 288 *eP* **P 14 57 43.0 -1.3**
HABR *e**PP pP 14 57 52.8 -1.8
HABR *eS* **S 15 03 32.5 -0.1**
HABR *e**SS sS 15 03 49.0 -0.5
HABR *eSS* SS 15 06 15.5 -3.5
HABR *e* 15 07 52.7
HABR pmax pmax
comp=Z,82nm,0.9s,mb5.5
HABR pmax pmax
comp=E,79nm,1.1s
HABR pmax pmax
comp=N,49nm,1.7s
HABR MLR MLR
comp=Z,1µm,19.0s,MS4.7
CCUT Cedar City 37.84 94 *eP* **P 14 57 45.7 +1.1**
comp=Z,74nm,2.0s,mb5.1
MSU Marysvale 37.91 92 *eP* **P 14 57 46.5 +1.2**
MSU Marysvale 37.91 92 *eP* **P 14 57 46.5 +1.2**
TMUT Trail Mountain 37.98 90 *eP* **P 14 57 47.1 +1.2**
comp=Z,36nm,0.9s,mb5.1
SRU San Rafael 38.51 90 *eP* **P 14 57 50.8 +0.5**
comp=Z,23nm,1.0s,mb4.9
SRU San Rafael 38.51 90 *eP* **P 14 57 50.8 +0.5**
SRU pmax pmax
comp=Z,23nm,1.0s,mb4.9
ALE Alert 38.68 12 P **P 14 57 51.0 -0.3**
comp=Z,319nm,1.0s,mb6.0,SNR=28
CLNS Chul'man 39.18 304 *eP* **P 14 57 54.5 -1.2**
CLNS *e**PP pP 14 58 04.4 -1.6
CLNS *e* 14 59 25.1
CLNS *e* 15 00 03.2
CLNS *eS* **S 15 03 46.8 -6.2**
CLNS pmax pmax
comp=Z,44nm,0.9s,mb5.2
CLNS pmax pmax
comp=E,32nm,0.9s
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS smax
comp=N,189nm,12.6s
CLNS smax
comp=E,321nm,11.8s
CLNS MLR MLR
comp=Z,2µm,16.0s,MS5.1
CLNS MLR MLR
comp=N,2µm,16.0s,MS5.1
CLNS MLR MLR
comp=E,2µm,19.0s,MS5.1
KLR Kul'dur 39.27 291 *eP* **P 14 57 50.7 -5.8**
KLR MLR MLR
comp=E,2µm,16.0s
RSSD Black Hills 39.29 79 *eP* **P 14 57 56.3 -0.5**
comp=E,12nm,1.1s,mb4.5
RSSD Black Hills 39.29 79 *eP* **P 14 57 56.3 -0.4**
RSSD pmax pmax
comp=Z,12nm,1.1s,mb4.5
PV04 Paradox Valley 39.94 90 *eP* **P 14 58 02.0 -0.2**
PV01 Paradox Valley 40.31 90 *eP* **P 14 58 04.6 -0.7**
comp=Z,2µm,0.8s
WUAZ Wupatki 40.39 95 *eP* **P 14 58 06.4 +0.4**
comp=Z,16nm,0.8s,mb4.8
ULM Lac du Bonnet 40.52 66 P **P 14 58 06.2 -0.7**
comp=Z,10nm,0.8s,mb4.5,baz=301,slow=9.0,SNR=22
ULM PcP PcP 15 00 08.4 -0.3
comp=Z,2.7nm,0.5s,baz=348,slow=3.7,SNR=3.0
ULM LR LR 15 16 19.5
comp=Z,872nm,18.1s,MS4.7,baz=130,slow=38
ULM Lac du Bonnet 40.52 66 *eP* **P 14 58 06.4 -0.5**
comp=Z,16nm,0.9s,mb4.6
ULM PcP PcP 15 00 08.4 -0.3
ULM Lac du Bonnet 40.52 66 *eP* **P 14 58 06.4 -0.5**
ULM 15 00 08.4
ULM pmax pmax
comp=Z,16nm,0.9s
SMCO Snowmass 40.58 87 *eP* **P 14 58 09.4 +1.9**
comp=Z,7.9nm,1.1s,mb4.3
MVCO Mesa Verde 40.96 91 *eP* **P 14 58 10.4 -0.3**
comp=Z,10nm,0.9s,mb4.5
AGMN Agassiz Nation 41.58 69 *eP* **P 14 58 14.4 -1.3**
comp=Z,36nm,0.8s,mb5.1
USRK Ussuriysk Arra 41.96 284 P **P 14 58 16.9 -1.9**
comp=Z,3.8nm,0.7s,mb4.1,baz=48,slow=8.1,SNR=8.0
USRK PcP PcP 15 00 13.6 0.0
comp=Z,3.2nm,0.9s,baz=43,slow=4.3,SNR=4.7
USRK LR LR 15 14 12.1
comp=Z,859nm,21.2s,MS4.6,baz=229,slow=34
OGNE Ogallala 42.39 81 *eP* **P 14 58 23.7 +1.4**
comp=Z,17nm,0.8s,mb4.7
OGNE *e*pP pP 14 58 35.7 +3.0
SDCO Great Sand Dun 42.39 88 *eP* **P 14 58 22.6 +0.2**
comp=Z,10nm,1.1s,mb4.4
VLA Vladivostok 42.67 283 ⇓ *i* P **P 14 58 25.0 +0.4**
VLA pmax pmax
comp=Z,64nm,1.7s,mb5.1
TUC Tucson 42.98 98 *eP* **P 14 58 27.2 0.0**
comp=Z,9.5nm,1.0s,mb4.5
TUC Tucson 42.98 98 *eP* **P 14 58 27.2 -0.1**
TUC pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
MDJ Mudanjiang 43.09 286 P **P 14 58 27.5 -0.5**
MDJ pP pP 14 58 36.3 -2.1
MDJ sP sP 14 58 39.8 -2.8
MDJ PP PP 15 00 06.3 -1.9
MDJ PcP PcP 15 00 17.3 0.0
MDJ ScP ScP 15 04 05.8 +0.4
MDJ PcS PcS 15 04 10.3 +0.7
MDJ S **S 15 04 50.8 -0.6**
MDJ ScS ScS 15 08 25.8 +0.7
MDJ pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
MDJ pmax pmax
comp=Z,340nm,4.6s
MDJ LR LR
comp=N,1µm,16.3s,MS5.0
MDJ LR LR
comp=E,750nm,14.8s,MS5.0
MDJ LR LR
comp=Z,1µm,22.7s
MJAR Matsushiro Arr 43.15 271 P **P 14 58 28.6 0.0**
comp=Z,24nm,1.0s,mb4.9,baz=29,slow=6.2,SNR=34
MJAR LR LR 15 14 20.6
comp=Z,857nm,21.3s,MS4.6,baz=70,slow=33
MJAR Matsushiro Arr 43.15 271 P **P 14 58 28.6 0.0**
MJAR Matsushiro Arr 43.15 271 P **P 14 58 28.6 +0.1**
MAJO Matsushiro 43.15 271 *eP* **P 14 58 28.5 -0.1**
comp=Z,92nm,0.9s,mb5.5
MAJO Matsushiro 43.15 271 *eP* **P 14 58 28.5 -0.1**
MAJO pmax pmax
comp=Z,92nm,0.9s,mb5.5
MAT Matsushiro 43.15 271 P **P 14 58 27.7 -0.9**
MAT *eS* **S 15 04 59.0 +6.6**
LAZ Ladron 43.67 93 *eP* **P 14 58 32.9 +0.1**
comp=Z,16nm,0.8s,mb4.8
ANMO Albuquerque 43.70 91 ScP ScP 15 04 08.6 +0.5
comp=Z,1.7nm,0.8s,baz=264,slow=3.6,SNR=4.6
ANMO Albuquerque 43.70 91 ScP ScP 15 04 08.6 +0.5
ECSD EROS Data Cent 43.82 75 *eP* **P 14 58 32.1 -1.7**
comp=Z,13nm,0.9s,mb4.7
BOD Bodaibo 43.86 310 *eP* **P 14 58 32.0 -2.0**
BOD pmax pmax
comp=Z,28nm,1.1s,mb4.9
LENM Lemitar 43.94 93 *e*pP pP 14 58 44.0 -1.3
BNM Barren Site 44.15 92 *eP* **P 14 58 37.8 +1.1**
comp=Z,7.5nm,0.8s,mb4.5
EYMN Ely 44.19 67 *eP* **P 14 58 36.5 -0.3**
comp=Z,20nm,0.8s,mb4.9
CBKS Cedar Bluff 45.11 82 *e*pP pP 14 58 59.2 +4.5
HIA Hailar 45.78 297 *eP* **P 14 58 48.1 -1.3**
comp=Z,33nm,0.8s,mb5.3
HIA Hailar 45.78 297 *eP* **P 14 58 48.1 -1.3**
HIA pmax pmax
comp=Z,33nm,0.8s
CN2 Changchun 45.95 288 ⇑ P **P 14 58 49.8 -1.0**
CN2 *e*sP sP 14 59 04.8 -0.7
CN2 *eS* **S 15 05 29.8 -3.1**
CN2 pmax pmax
comp=Z,50nm,0.8s,mb5.5
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,1µm,18.0s,MS4.9
CN2 LR LR
comp=E,800nm,18.0s,MS4.9
CN2 LR LR
comp=Z,1µm,19.0s,MS4.8
MNTX Cornudas Mount 46.62 94 *eP* **P 14 58 56.4 +0.1**
comp=Z,4.6nm,0.7s,mb4.5
KSU1 Kansas State U 46.76 80 *eP* **P 14 58 56.9 -0.4**
comp=Z,14nm,0.8s,mb5.0
GDL2 Guadalupe Moun 46.87 92 *eP* **P 14 58 59.1 +1.0**
SCIA State Center 46.91 74 *eP* **P 14 58 58.6 +0.2**
comp=Z,23nm,0.9s,mb5.1
KBS Kingsbay 47.70 1 *eP* **P 14 59 04.5 +0.5**
comp=Z,83nm,1.0s,mb5.7
KBS Kingsbay 47.70 1 *eP* **P 14 59 04.6 +0.5**
KBS pmax pmax
comp=Z,83nm,1.0s,mb5.7
JFWS Jewell Farm 47.96 71 *eP* **P 14 59 04.5 -2.1**
comp=Z,36nm,0.8s,mb5.5
JFWS Jewell Farm 47.96 71 *eP* **P 14 59 04.5 -2.0**
JFWS pmax pmax
comp=Z,36nm,0.8s,mb5.5
DAG Danmarks Havn 48.01 10 *i* P **P 14 59 05.7 -0.8**
comp=Z,82nm,0.9s,mb5.8
SNY Shenyang 48.27 287 ⇑ P **P 14 59 09.8 +0.9**
SNY pmax pmax
comp=Z,31nm,0.7s,mb5.5
SNY LR LR
comp=N,870nm,19.6s,MS4.8
SNY LR LR
comp=E,520nm,16.2s,MS4.8
SNY LR LR
comp=Z,970nm,20.6s,MS4.8
WMOK Wichita Mounta 48.42 86 *eP* **P 14 59 08.4 -1.7**
comp=Z,20nm,1.0s,mb5.1
WMOK Wichita Mounta 48.42 86 *eP* **P 14 59 08.5 -1.7**
WMOK pmax pmax
comp=Z,20nm,1.0s,mb5.1
SPB4 Spitsbergen Ar 48.48 360 *eP* **P 14 59 09.4 -0.7**
SUMG Summit 48.54 19 *eP* **P 14 59 11.1 +0.6**
comp=Z,57nm,0.9s,mb5.6
SUMG Summit 48.54 19 *eP* **P 14 59 11.1 +0.5**
SUMG pmax pmax
comp=Z,57nm,0.9s
SUMG Summit 48.54 19 *i* P **P 14 59 11.1 +0.5**
comp=Z,56nm,0.9s,mb5.6
KSRS Korea Array 48.63 280 P **P 14 59 11.8 0.0**
comp=Z,33nm,0.8s,mb5.4,baz=53,slow=7.1,SNR=68
KSRS LR LR 15 17 22.7
comp=Z,298nm,18.9s,MS4.3,baz=54,slow=33
KSAR Wonju Array Be 48.66 280 P **P 14 59 11.8 -0.3**
KSAR Wonju Array Be 48.66 280 P **P 14 59 11.8 -0.2**
TXAR Lajitas Array 49.35 95 P **P 14 59 16.7 -0.6**
comp=Z,4.4nm,0.6s,mb4.6,baz=300,slow=5.5,SNR=37
TXAR ScP ScP 15 04 30.9 -0.9
comp=Z,1.9nm,0.9s,baz=285,slow=4.9,SNR=6.1
TXAR LR LR 15 19 02.7
comp=Z,491nm,19.7s,MS4.5,baz=105,slow=35
TXAR Lajitas Array 49.35 95 P **P 14 59 16.7 -0.6**
TXAR ScP ScP 15 04 30.9 -0.9
TXAR Lajitas Array 49.35 95 P **P 14 59 16.7 -0.7**
INCN Inchon 49.37 281 *eP* **P 14 59 17.0 -0.4**
comp=Z,36nm,0.9s,mb5.4
SFJD Kangerlussuaq 49.71 28 *eP* **P 14 59 19.8 +0.2**
comp=Z,81nm,0.8s,mb5.8
SFJD Kangerlussuaq 49.71 28 *eP* **P 14 59 19.8 +0.2**
SFJD pmax pmax
comp=Z,81nm,0.8s,mb5.8
SFJD Kangerlussuaq 49.71 28 *i* P **P 14 59 19.5 -0.1**
comp=Z,63nm,0.8s,mb5.7
JNU Nakatsue 49.87 273 *eP* **P 14 59 21.4 +0.2**
comp=Z,19nm,1.0s,mb5.1
CCM Cathedral Cave 50.59 77 *eP* **P 14 59 23.9 -2.8**
comp=Z,12nm,0.8s,mb4.9
CCM Cathedral Cave 50.59 77 *eP* **P 14 59 23.9 -2.8**
CCM pmax pmax
comp=Z,12nm,0.8s,mb4.9
SLM Saint Louis 50.78 76 *eP* **P 14 59 26.5 -1.6**
comp=Z,35nm,0.8s,mb5.3
SLM Saint Louis 50.78 76 *eP* **P 14 59 26.5 -1.6**
SLM pmax pmax
comp=Z,35nm,0.8s,mb5.3
JCT Junction City 50.82 90 *eP* **P 14 59 27.3 -1.1**
comp=Z,22nm,0.8s,mb5.2
JCT Junction City 50.82 90 *eP* **P 14 59 27.3 -1.2**
JCT pmax pmax
comp=Z,22nm,0.8s,mb5.1
RFTA Plano 50.87 86 *eP* **P 14 59 28.3 -0.5**
MIAR Mount Ida 51.64 82 *eP* **P 14 59 33.2 -1.3**
comp=Z,24nm,1.0s,mb5.1
MIAR Mount Ida 51.64 82 *eP* **P 14 59 33.3 -1.3**
MIAR pmax pmax
comp=Z,24nm,1.0s,mb5.1
OLIL Olney 51.94 74 *eP* **P 14 59 35.3 -1.5**
comp=Z,40nm,0.8s,mb5.4
SIUC Southern Illin 51.99 76 *eP* **P 14 59 36.2 -0.9**
comp=Z,24nm,0.8s,mb5.2
SCHQ Schefferville 52.13 47 P **P 14 59 37.5 -0.5**
comp=Z,22nm,0.8s,mb5.1,baz=311,slow=7.8,SNR=21
SCHQ Schefferville 52.13 47 P **P 14 59 37.5 -0.5**
TLY Talaya 52.33 308 *eP* **P 14 59 39.0 -0.5**
comp=Z,21nm,0.9s,mb5.1
TLY Talaya 52.33 308 *eP* **P 14 59 38.5 -1.0**
TLY *eS* **S 15 07 16.1 +14**
TLY pmax pmax
comp=Z,75nm,1.0s,mb5.6
TLY MLR MLR
comp=Z,2µm,18.0s,MS5.1
TLY Talaya 52.33 308 P **P 14 59 39.7 +0.2**
SNR=12
TLY Talaya 52.33 308 P **P 14 59 39.0 -0.5**
comp=Z,432nm,0.9s,mb6.4,SNR=8.9
BLO Bloomington 52.55 73 *eP* **P 14 59 40.0 -1.3**
comp=Z,24nm,0.7s,mb5.2
BLO Bloomington 52.55 73 *eP* **P 14 59 40.0 -1.3**
BLO pmax pmax
comp=Z,25nm,0.7s,mb5.2
USIN University of 52.72 75 *eP* **P 14 59 41.0 -1.6**
comp=Z,65nm,0.8s,mb5.6
SCO Scoresbysund 53.20 15 *i* P **P 14 59 46.7 +1.1**
comp=Z,21nm,0.9s,mb5.1
ULN Ulaanbaatar 53.21 303 *eP* **P 14 59 45.7 -0.4**
comp=Z,78nm,0.8s,mb5.7
ULN Ulaanbaatar 53.21 303 *eP* **P 14 59 45.7 -0.4**
ULN Ulaanbaatar 53.21 303 P **P 14 59 45.7 -0.4**
comp=Z,1µmcomp=Z,104nm,0.9s,mb5.8
ULN Ulaanbaatar 53.21 303 P **P 14 59 46.2 +0.1**
SNR=19
WCI Wyandotte Cave 53.32 73 *eP* **P 14 59 45.8 -1.2**
comp=Z,8.4nm,0.7s,mb4.8
WCI Wyandotte Cave 53.32 73 *eP* **P 14 59 45.8 -1.2**
WCI pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ZAK Zakamensk 53.37 307 *eP* **P 14 59 46.2 -1.0**
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
SONM Songino Array 53.56 303 P **P 14 59 48.4 -0.2**
comp=Z,53nm,0.9s,mb5.5,baz=44,slow=6.3,SNR=110
SONM LR LR 15 24 46.9
comp=Z,691nm,19.2s,MS4.7,baz=228,slow=38
SONM Songino Array 53.56 303 P **P 14 59 48.4 -0.2**
SONM Songino Array 53.56 303 P **P 14 59 48.4 -0.2**
MOY Mondy 53.57 310 *eP* **P 14 59 48.8 +0.2**
MOY pmax pmax
comp=Z,30nm,1.1s,mb5.1
BJI Beijing 53.64 290 P **P 14 59 48.8 -0.5**
BJI pmax pmax
comp=Z,27nm,0.8s,mb5.2
BJI LR LR
comp=N,930nm,20.0s,MS5.0
BJI LR LR
comp=E,920nm,20.6s,MS5.0
BJI LR LR
comp=Z,730nm,19.1s,MS4.8
ACSO Alum Creek Sta 53.82 69 *eP* **P 14 59 49.5 -1.1**
comp=Z,12nm,0.8s,mb4.9
WVT Waverly 53.89 76 *eP* **P 14 59 49.5 -1.7**
comp=Z,27nm,0.7s,mb5.3
WVT Waverly 53.89 76 *eP* **P 14 59 49.5 -1.7**
WVT pmax pmax
comp=Z,27nm,0.7s,mb5.3
OXF Oxford 54.11 79 *eP* **P 14 59 51.7 -1.1**
comp=Z,98nm,1.0s,mb5.7
OXF Oxford 54.11 79 *eP* **P 14 59 51.7 -1.1**
OXF pmax pmax
comp=Z,98nm,1.0s,mb5.7
ALLY Alegheny Colle 54.41 66 *eP* **P 14 59 53.5 -1.4**
comp=Z,41nm,0.8s,mb5.4
PLAL Pickwick Lake 54.55 78 *eP* **P 14 59 54.9 -1.1**
comp=Z,15nm,0.8s,mb5.1
HHC Hu-ho-hao-te 55.63 294 *eP* **P 15 00 04.3 +0.6**
HHC pP pP 15 00 15.3 +0.9
HHC sP sP 15 00 19.0 +0.4
HHC PP PP 15 02 09.5 +1.7
HHC S **S 15 07 45.0 -2.0**
HHC ScS ScS 15 09 47.5 -2.3
HHC pmax pmax
comp=Z,42nm,1.2s,mb5.3
HHC pmax pmax
comp=Z,440nm,6.7s
HHC LR LR
comp=N,850nm,13.1s,MS5.2
HHC LR LR
comp=E,1µm,14.3s,MS5.2
HHC LR LR
comp=Z,690nm,17.8s,MS4.8
SWET Sewanee 55.63 76 *eP* **P 15 00 02.2 -1.6**
comp=Z,7.4nm,0.9s,mb4.7
JOW Kunigami 55.97 270 *eP* **P 15 00 07.4 +1.1**
comp=Z,11nm,1.0s,mb4.8
TZTN Tazewell 56.06 73 *eP* **P 15 00 06.1 -0.8**
comp=Z,17nm,0.9s,mb5.1
SSPA Standing Stone 56.34 66 *eP* **P 15 00 08.0 -0.8**
comp=Z,17nm,0.9s,mb5.1
TKL Tuckaleechee C 56.56 74 *eP* **P 15 00 08.4 -2.1**
TKL Tuckaleechee C 56.56 74 *eP* **P 15 00 08.4 -2.0**
LRAL Lakeview Retre 56.56 78 *eP* **P 15 00 08.8 -1.7**
comp=Z,7.3nm,0.9s,mb4.7
BTO Baotou 56.64 295 *eP* **P 15 00 11.0 +0.1**
KEV Kevo 56.70 356 *eP* **P 15 00 09.2 -1.8**
KEV pmax pmax
comp=Z,27nm,0.6s,mb5.5
KEV Kevo 56.70 356 *ep* **P 15 00 09.2 -1.8**
comp=Z,27nm,0.6s,mb5.5
ARCES ARCESS Array B 56.99 356 P **P 15 00 11.9 -1.1**
comp=Z,25nm,0.9s,mb5.2,baz=0.0,slow=7.3,SNR=12
ARCES LR LR 15 24 27.9
comp=Z,901nm,19.3s,MS4.9,baz=243,slow=36
ARCES ARCESS Array B 56.99 356 P **P 15 00 11.9 -1.1**
ARCES ARCESS Array B 56.99 356 P **P 15 00 11.9 -1.1**
ARE0 ARCESS Array S 56.99 356 *eP* **P 15 00 13.0 +0.1**

SSE	**Sheshan**	**57.05 279**	P	**P**	**15 00 15.5 +1.5**	
SSE			pP	pP	15 00 25.0 +0.3	
SSE			sP	sP	15 00 29.3 +0.4	
SSE			S	**S**	**15 08 10.0 +3.9**	
SSE			pmax	pmax		
	comp=Z,50nm,0.8s,mb5.6					
SSE			pmax	pmax		
	comp=Z,150nm,4.6s					
SSE			LR	LR		
	comp=N,300nm,16.9s,MS4.6					
SSE			LR	LR		
	comp=E,240nm,16.9s,MS4.6					
SSE			LR	LR		
	comp=Z,350nm,19.6s,MS4.5					
TRO	**Tromso**	**57.06 359**	*e*P	**P**	**15 00 14.3 +0.8**	
TRO			AMB	AMB	15 00 19.2	
	comp=Z,161nm,1.8s,mb5.8					
BLA	**Blacksburg**	**57.36 70**	*e*P	**P**	**15 00 15.1 -0.9**	
	comp=Z,28nm,0.8s,mb5.3					
BLA	**Blacksburg**	**57.36 70**	*e*P	**P**	**15 00 15.1 -1.0**	
BLA			pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3					
NJ2	**Nanjing**	**57.73 281**	*e*P	**P**	**15 00 18.3 -0.4**	
NJ2			pP	pP	15 00 27.0 -2.5	
NJ2			sP	sP	15 00 31.0 -2.6	
NJ2			PP	PP	15 02 26.0 -0.7	
NJ2			S	**S**	**15 08 14.0 -0.9**	
NJ2			pmax	pmax		
	comp=Z,60nm,1.1s,mb5.5					
NJ2			pmax	pmax		
	comp=Z,140nm,7.9s					
NJ2			LR	LR		
	comp=N,520nm,15.8s,MS4.9					
NJ2			LR	LR		
	comp=E,510nm,16.8s,MS4.9					
NJ2			LR	LR		
	comp=Z,590nm,12.8s,MS4.9					
LVZ	**Lovozero**	**58.05 352**	*e*P	**P**	**15 00 20.4 -0.1**	
LVZ	**Lovozero**	**58.05 352**	*e*P	**P**	**15 00 20.4 0.0**	
GOGA	**Godfrey**	**58.34 76**	*e*P	**P**	**15 00 21.2 -1.8**	
	comp=Z,90nm,2.3s,mb5.4					
GOGA	**Godfrey**	**58.34 76**	*e*P	**P**	**15 00 21.2 -1.8**	
GOGA			pmax	pmax		
	comp=Z,90nm,2.3s,mb5.4					
APA	**Apatity**	**58.47 352**⇑	*e*P	**P**	**15 00 23.3 -0.1**	
APA			MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3					
NVS	**Novosibirsk**	**58.67 321**⇑	*i*P	**P**	**15 00 23.9 -1.1**	
NVS			*e*		15 01 12.8	
NVS			*e*		15 02 28.9	
NVS			*e*S	**S**	**15 08 16.9 -10**	
NVS			*e*SS	ScS	15 10 04.3 -7.2	
NVS			pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1					
NVS			pmax	pmax		
	comp=N,15nm,1.6s					
NVS			pmax	pmax		
	comp=E,18nm,1.2s					
NVS			pmax	pmax		
	comp=Z,49nm,2.9s,mb5.0					
NVS			pmax	pmax		
	comp=N,40nm,3.0s					
NVS			pmax	pmax		
	comp=E,61nm,3.9s					
NVS			smax			
	comp=N,44nm,4.0s					
NVS			smax			
	comp=E,56nm,3.2s					
ZAA0	**Zalesovo Array**	**58.76 320**	*e*P	**P**	**15 00 24.9 -0.7**	
ZALV	**Zalesovo Beam**	**58.76 320**	P	**P**	**15 00 24.5 -1.1**	
	comp=E,24nm,0.8s,mb5.3,baz=40,slow=6.5,SNR=79					
ZALV			PcP	PcP	15 01 15.4 +0.4	
	comp=E,14nm,0.8s,baz=44,slow=4.8,SNR=7.7					
ZALV			LR	LR	15 28 30.7	
	comp=E,1μm,18.2s,MS5.0,baz=253,slow=39					
ZALV	**Zalesovo Beam**	**58.76 320**	P	**P**	**15 00 24.5 -1.1**	
ZALV			PcP	PcP	15 01 15.4 +0.4	
ZALV	**Zalesovo Beam**	**58.76 320**	P	**P**	**15 00 24.5 -1.1**	
ZALV					15 01 15.4	
WHN	**Wuhan**	**61.45 283**	P	**P**	**15 00 43.8 -0.6**	
XAN	**Xi'an**	**61.97 290**	P	**P**	**15 00 47.5 -0.4**	
XAN			pP	pP	15 00 57.8 -0.9	
XAN			sP	sP	15 01 01.5 -1.3	
XAN			PP	PP	15 03 05.0 +0.9	
XAN			S	**S**	**15 09 04.5 -5.0**	
XAN			sS	sS	15 09 21.3 -6.0	
XAN			SS	SS	15 13 06.8 -4.8	
XAN			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6					
XAN			pmax	pmax		
	comp=Z,40nm,5.4s					
XAN			LR	LR		
	comp=N,540nm,14.4s,MS4.9					
XAN			LR	LR		
	comp=E,270nm,16.4s,MS4.9					
XAN			LR	LR		
	comp=Z,270nm,18.4s,MS4.4					
SOKR	**Solikamsk**	**62.58 338**	*c i*P	**P**	**15 00 50.4 -1.2**	
SOKR			pmax	pmax		
	comp=Z,120nm,1.1s,mb5.9					
SOKR			MLR	MLR		
	comp=Z,1μm,22.0s,MS5.1					
SSLB	**Suanglung**	**62.61 273**	*e*P	**P**	**15 00 50.9 -1.4**	
	comp=Z,45nm,0.9s,mb5.6					
GTA	**Gaotai**	**62.91 300**	⇑P	**P**	**15 00 53.3 -0.7**	
GTA			pP	pP	15 01 03.5 -1.3	
GTA			sP	sP	15 01 07.3 -1.7	
GTA			S	**S**	**15 09 18.0 -3.1**	
GTA			sS	sS	15 09 33.8 -5.1	
GTA			SS	SS	15 13 24.0 -1.9	
GTA			pmax	pmax		
	comp=Z,48nm,0.9s,mb5.6					
GTA			pmax	pmax		
	comp=Z,140nm,4.3s					
GTA			LR	LR		
	comp=N,1μm,16.2s,MS5.3					
GTA			LR	LR		
	comp=E,1μm,17.1s,MS5.3					
GTA			LR	LR		
	comp=Z,2μm,15.9s,MS5.4					
JOF	**Joensuu**	**63.22 352**	*e*P	**P**	**15 00 54.5 -1.3**	
JOF			pmax	pmax		
	comp=Z,26nm,0.6s,mb5.5					
JOF	**Joensuu**	**63.22 352**	*e*p	**P**	**15 00 54.5 -1.3**	
	comp=Z,26nm,0.6s,mb5.5					
LZH	**Lanzhou**	**63.25 295**	⇑P	**P**	**15 00 56.5 +0.1**	
LZH			pP	pP	15 01 07.5 +0.3	
LZH			*e*S	**S**	**15 09 28.0 +2.5**	
LZH			pmax	pmax		
	comp=Z,34nm,1.0s,mb5.4					
LZH			pmax	pmax		
	comp=Z,200nm,9.7s					
LZH			LR	LR		
	comp=N,2μm,18.5s,MS5.4					
LZH			LR	LR		
	comp=E,1μm,15.6s,MS5.4					
LZH			LR	LR		
	comp=Z,1μm,16.7s,MS5.2					
KURK	**Kurchatov**	**63.66 321**	LR	LR	15 31 40.6	
	comp=Z,2μm,18.4s,MS5.2,baz=40,slow=39					
KURK	**Kurchatov**	**63.66 321**	*e*P	**P**	**15 00 58.3 -0.5**	
	comp=Z,75nm,1.0s,mb5.7					
KURK	**Kurchatov**	**63.66 321**	*c i*P	**P**	**15 00 58.2 -0.6**	
KURK			pmax	pmax		
	comp=Z,71nm,1.0s,mb5.7					
KURK	**Kurchatov**	**63.66 321**	P	**P**	**15 00 58.8 0.0**	
	SNR=22					
KURK	**Kurchatov**	**63.66 321**	P	**P**	**15 00 58.8 0.0**	
	comp=Z,359nm,0.8s,mb6.5,SNR=43					
SVE	**Sverdlovsk**	**64.13 335**⇑	*i*P	**P**	**15 01 02.1 +0.3**	
SVE			*e*		15 03 25.4	
SVE			pmax	pmax		
	comp=Z,104nm,1.0s,mb5.8					
SVE			MLR	MLR		
	comp=Z,1μm,15.0s,MS5.2					
KAF	**Kangasniemi**	**64.36 355**	*e*P	**P**	**15 01 01.6 -1.6**	
KAF			pmax	pmax		
	comp=Z,48nm,0.7s,mb5.6					
KAF	**Kangasniemi**	**64.36 355**	*e*p	**P**	**15 01 01.6 -1.6**	
	comp=Z,48nm,0.7s,mb5.6					
KLMR	**Klimovskoe**	**64.40 348**	*e*P	**P**	**15 01 01.9 -1.6**	
KLMR			pmax	pmax		
	comp=Z,61nm,1.2s,mb5.5					
ENH	**Enshi**	**64.45 287**	*e*P	**P**	**15 01 03.9 -0.4**	
	comp=Z,62nm,0.9s,mb5.6					
BVA0	**Borovoye Array**	**64.61 327**	*i* P	**P**	**15 01 04.7 -0.3**	
BVA0			pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0					
BVAR	**Borovoye Array**	**64.61 327**	LR	LR	15 33 26.2	
	comp=Z,1μm,19.1s,MS5.0,baz=44,slow=40					
BRVK	**Borovoye**	**64.62 327**	*e*P	**P**	**15 01 05.2 +0.1**	
	comp=Z,72nm,0.9s,mb5.7					
BRVK	**Borovoye**	**64.62 327**	*c i*P	**P**	**15 01 04.7 -0.4**	
BRVK			pmax	pmax		
	comp=Z,83nm,1.0s,mb5.7					
BRVK	**Borovoye**	**64.62 327**	P	**P**	**15 01 05.2 +0.1**	
	comp=Z,468nm,0.7s,mb6.6,SNR=27					
BRVK	**Borovoye**	**64.62 327**	P	**P**	**15 01 05.8 +0.7**	
	SNR=18					
FOO	**Floro**	**64.80 6**	*e*P	**P**	**15 01 06.0 -0.1**	
ARU	**Arti**	**65.00 336**	*e*P	**P**	**15 01 06.8 -0.7**	
	comp=Z,79nm,0.9s,mb5.8					
ARU	**Arti**	**65.00 336**	*d i*P	**P**	**15 01 07.2 -0.3**	
ARU					15 01 37.2	
ARU			*e*		15 03 24.7	
ARU			S	S	15 09 48.3 +1.8	
ARU			SS	SS	15 13 58.6 +1.0	
ARU			pmax	pmax		
	comp=Z,93nm,1.0s,mb5.8					
ARU	**Arti**	**65.00 336**	P	**P**	**15 01 07.5 0.0**	
	comp=Z,550nm,0.7s,mb6.7,SNR=24					
FINES	**FINESS Array B**	**65.04 355**	P	**P**	**15 01 06.6 -1.1**	
	comp=Z,52nm,0.8s,mb5.6,baz=17,slow=8.0,SNR=66					
FINES			LR	LR	15 32 04.3	
	comp=Z,710nm,18.5s,MS4.9,baz=200,slow=38					
FINES	**FINESS Array B**	**65.04 355**	P	**P**	**15 01 06.6 -1.1**	
FINES	**FINESS Array B**	**65.04 355**	P	**P**	**15 01 06.6 -1.1**	
ZRNK	**Zerenda**	**65.12 328**	*i* P	**P**	**15 01 07.9 -0.4**	
ZRNK			pmax	pmax		
	comp=Z,97nm,0.7s,mb5.9					
TAOE	**Nuku Hiva Isla**	**65.35 154**	*e*S	S	15 09 56.4 +4.8	
	comp=Z,340nm,24.2s					
TAOE			*e*LR	LR	15 20 37.8	
	comp=Z,640nm,28.7s					
MK31	**Makanchi Array**	**65.37 316**	*e*P	**P**	**15 01 09.2 -0.8**	
MK31	**Makanchi Array**	**65.37 316**	*i* P	**P**	**15 01 09.1 -1.0**	
MK31			pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1					
MKAR	**Makanchi Array**	**65.37 316**	P	**P**	**15 01 08.7 -1.3**	
	comp=Z,21nm,0.9s,mb5.2,baz=50,slow=6.5,SNR=94					
MKAR			LR	LR	15 31 02.4	
	comp=Z,793nm,19.7s,MS4.9,baz=7.9,slow=37					
MKAR	**Makanchi Array**	**65.37 316**	P	**P**	**15 01 08.7 -1.3**	
MKAR	**Makanchi Array**	**65.37 316**	*ce*P	**P**	**15 01 09.3 -0.8**	
MKAR			pmax	pmax		
	comp=Z,21nm,0.9s					
WMQ	**Urumqi**	**65.40 311**	P	**P**	**15 01 10.5 +0.2**	
WMQ			pP	pP	15 01 20.8 -0.3	
WMQ			sP	sP	15 01 24.8 -0.5	
WMQ			PP	PP	15 03 36.5 +2.6	
WMQ			S	S	15 09 51.0 -0.8	
WMQ			pmax	pmax		
	comp=Z,32nm,0.8s,mb5.4					
WMQ			pmax	pmax		
	comp=Z,380nm,5.0s					
WMQ			LR	LR		
	comp=N,1μm,20.8s,MS5.1					
WMQ			LR	LR		
	comp=E,540nm,20.8s,MS5.1					
WMQ			LR	LR		
	comp=Z,670nm,18.4s,MS4.9					
NOA	**NORSAR Array B**	**65.63 3**	P	**P**	**15 01 10.7 -0.8**	
	comp=Z,35nm,0.9s,mb5.4,baz=357,slow=6.5,SNR=85					
NOA			LR	LR	15 31 11.2	
	comp=Z,317nm,19.6s,MS4.5,baz=10.0,slow=37					
NOA	**NORSAR Array B**	**65.63 3**	P	**P**	**15 01 10.7 -0.8**	
NOA	**NORSAR Array B**	**65.63 3**	P	**P**	**15 01 10.7 -0.8**	
LRW	**Lerwick**	**65.75 9**	*e*P	**P**	**15 01 12.7 +0.4**	
LRW			AMB	AMB	15 01 14.2	
	comp=Z,87nm,1.0s,mb5.8					
NAO01	**NORSAR Array S**	**65.82 3**	*e*P	**P**	**15 01 12.1 -0.6**	
	comp=Z,36nm,1.1s,mb5.3					
ASK	**Askoy**	**65.92 6**	*e*P	**P**	**15 01 13.1 -0.2**	
RUND	**Rundenannen**	**66.00 6**	*e*P	**P**	**15 01 14.1 +0.3**	
BER	**Bergen**	**66.02 6**	*e*P	**P**	**15 01 14.2 +0.1**	
PUL	**Pulkovo**	**66.42 352**⇑	*e*P	**P**	**15 01 16.3 -0.3**	
ODD1	**Odda**	**66.57 5**	*e*P	**P**	**15 01 15.8 -1.8**	
ODD1			AMB	AMB	15 01 17.2	
	comp=Z,79nm,0.9s,mb5.8					
HFS	**Hagfors**	**66.59 1**	P	**P**	**15 01 17.0 -0.7**	
	comp=Z,69nm,0.8s,mb5.7,baz=35,slow=5.3,SNR=9.3					
HFS	**Hagfors**	**66.59 1**	P	**P**	**15 01 17.0 -0.7**	
HFS	**Hagfors**	**66.59 1**	P	**P**	**15 01 17.0 -0.7**	
OSL	**Oslo**	**66.72 3**	*e*P	**P**	**15 01 18.2 -0.3**	
KONO	**Kongsberg**	**66.97 4**	*e*P	**P**	**15 01 21.4 +1.3**	
KONO			AMB	AMB	15 01 22.8	
	comp=Z,52nm,1.6s,mb5.3					
KONO	**Kongsberg**	**66.97 4**	*e*P	**P**	**15 01 20.3 +0.2**	
	comp=Z,43nm,0.9s,mb5.5					
KONO	**Kongsberg**	**66.97 4**	*e*P	**P**	**15 01 20.3 +0.2**	
KONO			pmax	pmax		
	comp=Z,43nm,0.9s,mb5.5					
BLS5	**Blasjo**	**67.05 5**	*e*P	**P**	**15 01 21.0 +0.5**	
BLS5			AMB	AMB	15 01 22.3	
	comp=Z,25nm,0.8s,mb5.3					
CD2	**Chengdu**	**67.20 291**⇓	*i*P	**P**	**15 01 22.3 +0.3**	
CD2			pP	pP	15 01 32.5 -0.4	
CD2			sP	sP	15 01 36.5 -0.5	
CD2			PP	PP	15 03 51.8 +1.9	
CD2			S	S	15 10 12.0 -2.0	
CD2			sS	sS	15 10 29.3 -2.6	
CD2			SS	SS	15 14 32.8 -0.2	
CD2			pmax	pmax		
	comp=Z,70nm,1.0s,mb5.7					
CD2			pmax	pmax		
	comp=Z,240nm,8.2s					
CD2			LR	LR		
	comp=N,520nm,13.2s,MS5.2					
CD2			LR	LR		
	comp=E,890nm,16.7s,MS5.2					
CD2			LR	LR		
	comp=Z,690nm,17.8s,MS4.9					
MVH1	**Achvaich**	**67.59 12**	*e*P	**P**	**15 01 23.5 -0.6**	
KAC	**Achnashellach**	**67.86 12**	*e*P	**P**	**15 01 25.4 -0.4**	
VSU	**Vasula**	**67.97 354**⇓	*i*P	**P**	**15 01 26.3 -0.1**	
VSU			pmax	pmax		
	comp=Z,76nm,0.8s,mb5.8					
KPL	**Plockton**	**67.97 13**	*e*P	**P**	**15 01 26.1 -0.3**	
KPL			AMB	AMB	15 01 41.5	
	comp=Z,57nm,3.9s					
MCD	**Coleburn Disti**	**68.03 11**	*e*P	**P**	**15 01 26.8 0.0**	
MDO	**Dochfour**	**68.04 12**	*e*P	**P**	**15 01 26.6 -0.3**	
SNART	**Snartemo**	**68.17 5**	*e*P	**P**	**15 01 29.0 +1.3**	
SNART			AMB	AMB	15 01 30.3	
	comp=Z,38nm,1.2s,mb5.3					
GYA	**Guiyang**	**68.96 286**⇑	*i*P	**P**	**15 01 33.0 -0.1**	
GYA			pP	pP	15 01 45.3 +1.3	
GYA			sP	sP	15 01 50.5 +2.3	
GYA			PcP	PcP	15 01 59.0 +1.8	
GYA			PP	PP	15 04 07.5 +2.2	
GYA			ScP		15 05 58.5	
GYA			S	S	15 10 33.0 -2.1	
GYA			SKS		15 11 25.5	
GYA			pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3					
GYA			pmax	pmax		
	comp=Z,120nm,5.0s					
GYA			LR	LR		
	comp=N,550nm,18.0s,MS5.0					
GYA			LR	LR		
	comp=E,510nm,19.4s,MS5.0					
GYA			LR	LR		
	comp=Z,570nm,18.7s,MS4.8					
EAB	**Aberfoyle**	**69.26 12**	*e*P	**P**	**15 01 34.3 -0.3**	
PGBU	**Glenifferbraes**	**69.61 12**	*e*P	**P**	**15 01 36.0 -0.7**	
PGBU			AMB	AMB	15 01 39.1	
	comp=Z,64nm,1.4s,mb5.4					
MOS	**Moscow**	**69.62 347**	*e*P	**P**	**15 01 37.2 +0.5**	
MOS			pmax	pmax		
	comp=Z,69nm,0.7s,mb5.7					
EAU	**Auchinoon**	**69.71 12**	*e*P	**P**	**15 01 37.3 0.0**	
ESY	**Stoneypath**	**69.74 11**	*e*P	**P**	**15 01 38.0 +0.5**	
EBL	**Broad Law**	**69.83 12**	*e*P	**P**	**15 01 38.6 +0.6**	
MUD	**Monsted U'grnd**	**70.15 4**	*i* P	**P**	**15 01 40.4 +0.4**	
	comp=Z,26nm,1.0s,mb5.1					
ESK	**Eskdalemuir**	**70.26 12**	*e*P	**P**	**15 01 40.9 +0.2**	
	comp=Z,30nm,0.8s,mb5.3					
ESK	**Eskdalemuir**	**70.26 12**	*i* P	**P**	**15 01 41.8 +1.1**	
ESK	**Eskdalemuir**	**70.26 12**	P	**P**	**15 01 41.3 +0.6**	
	comp=Z,217nm,0.8s,mb6.1,SNR=5.5					
OBN	**Obninsk**	**70.36 348**	*e*P	**P**	**15 01 39.4 -2.0**	
	comp=Z,63nm,0.8s,mb5.6					
OBN	**Obninsk**	**70.36 348**	*d i*P	**P**	**15 01 40.8 -0.5**	
OBN			*e*	pP	15 01 52.8 +0.5	
OBN			*e*		15 04 18.3	
OBN			*e*S	S	15 10 52.5 +1.7	
OBN			pmax	pmax		
	comp=Z,82nm,1.0s,mb5.6					
OBN			MLR	MLR		
	comp=Z,700nm,16.0s,MS5.0					
GAL1	**Galloway**	**70.51 13**	*e*P	**P**	**15 01 41.7 -0.5**	
GAL1			AMB	AMB	15 01 43.5	
	comp=Z,36nm,1.1s,mb5.2					
AKTO	**Aktyubinsk**	**70.56 333**	P	**P**	**15 01 42.5 -0.1**	
	comp=Z,103nm,0.9s,mb5.8,baz=29,slow=5.5,SNR=169					
AKTO	**Aktyubinsk**	**70.56 333**	P	**P**	**15 01 42.5 -0.1**	
AKTO	**Aktyubinsk**	**70.56 333**	*i* P	**P**	**15 01 41.7 -0.9**	
AKTO			pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1					
IZAR	**Zarasai**	**70.70 354**	*e*P	**P**	**15 01 43.8 +0.4**	
IZAR			AMB	AMB	15 01 45.8	
	comp=Z,29nm,1.2s,mb5.1					
XAL	**Allendale**	**70.82 11**	*e*P	**P**	**15 01 44.7 +0.6**	
ISAL	**Salakas**	**70.89 354**	*e*P	**P**	**15 01 44.8 +0.3**	
ISAL			AMB	AMB	15 01 47.0	
	comp=Z,28nm,1.1s,mb5.1					
KESW	**Keswick, Cumbr**	**70.98 12**	*e*P	**P**	**15 01 45.3 +0.3**	
KESW			AMB	AMB	15 01 47.0	
	comp=Z,57nm,2.3s,mb5.1					
COP	**Copenhagen**	**71.03 2**	*i* P	**P**	**15 01 45.6 +0.3**	
	comp=Z,16nm,0.8s,mb5.0					
AB31	**Akbulak array**	**71.09 331**	*ce*P	**P**	**15 01 46.2 +0.3**	
AB31			pmax	pmax		
	comp=Z,16nm,0.3s,mb5.4					
ABKAR	**Akbulak array**	**71.09 331**	*e*P	**P**	**15 01 45.7 -0.1**	
	comp=Z,68nm,0.8s,mb5.6					
IIGN	**Ignalina**	**71.10 354**	*e*P	**P**	**15 01 46.1 +0.3**	
IIGN			AMB	AMB	15 01 48.2	
	comp=Z,29nm,1.1s,mb5.1					
TKM2	**Tokmak 2**	**71.26 318**	P	**P**	**15 01 47.3 +0.3**	
	SNR=32					
TKM2			P		15 01 47.3	
	SNR=32					
TKM2	**Tokmak 2**	**71.26 318**	*e*P	**P**	**15 01 47.5 +0.5**	
	comp=Z,34nm,1.1s,mb5.2					
TKM2	**Tokmak 2**	**71.26 318**	*i* P	**P**	**15 01 47.2 +0.2**	
USP	**Ospenovka**	**71.40 319**	P	**P**	**15 01 48.3 +0.4**	
	SNR=29					
USP			P		15 01 48.3	
	SNR=29					
NACGM	**Naroch**	**71.52 354**	*e*	**P**	**15 01 45.0 -3.3**	
CHMS	**Chumysh**	**71.53 319**	P	**P**	**15 01 49.6 +1.0**	
	SNR=30					
CHMS			P		15 01 49.6	
	SNR=30					
BSD	**Bornholm Skovb**	**71.64 1**	*i* P	**P**	**15 01 48.9 -0.2**	
	comp=Z,18nm,0.9s,mb5.0					
FRU	**Bishkek**	**71.72 319**	*e*P	**P**	**15 01 51.0 +1.2**	
FRU			pmax	pmax		
	comp=Z,90nm,1.6s,mb5.5					
KBK	**Karagaybulak**	**71.74 318**	P	**P**	**15 01 50.5 +0.6**	
	SNR=25					
KBK			P		15 01 50.5	
	SNR=25					
MICGM	**Minsk**	**71.84 353**⇑	*e*P	**P**	**15 01 48.0 -2.2**	
MNK	**Minsk**	**71.84 353**⇑	*e*P	**P**	**15 01 48.0 -2.3**	
MNK			pmax	pmax		
	comp=Z,170nm,1.0s,mb5.9					
PPT2	**Papeete2**	**71.94 166**	*e*S	S	15 11 14.0 +4.4	
	comp=Z,933nm,27.0s					
PPT2			*e*LR	LR	15 23 51.8	
	comp=Z,645nm,22.5s,baz=351					
AAK	**Ala-Archa**	**71.94 319**	P	**P**	**15 01 51.6 +0.5**	
	SNR=49					
AAK			P		15 01 51.6	
	SNR=49					
AAK	**Ala-Archa**	**71.94 319**	*e*P	**P**	**15 01 51.5 +0.4**	
	comp=Z,195nm,0.9s,mb6.0					
AAK	**Ala-Archa**	**71.94 319**	*i* P	**P**	**15 01 51.6 +0.5**	
AAK	**Ala-Archa**	**71.94 319**	P	**P**	**15 01 51.9 +0.8**	
	comp=Z,223nm,1.0s,mb6.0					
AAK	**Ala-Archa**	**71.94 319**	P	**P**	**15 01 51.8 +0.7**	
	comp=Z,269nm,1.0s,mb6.1,SNR=33					
AAK	**Ala-Archa**	**71.94 319**	P	**P**	**15 01 51.8 +0.7**	
	SNR=18					
KZA	**Kyzart**	**72.11 318**	P	**P**	**15 01 53.6 +1.5**	
	SNR=15					
KZA			P		15 01 53.6	
	SNR=15					
EKS2	**Erkin-Say**	**72.20 319**	P	**P**	**15 01 53.3 +0.7**	
	SNR=49					
EKS2			P		15 01 53.3	
	SNR=49					
EKS2	**Erkin-Say**	**72.20 319**	*e*P	**P**	**15 01 53.2 +0.6**	
	comp=Z,50nm,0.9s,mb5.4					
EKS2	**Erkin-Say**	**72.20 319**	*e*P	**P**	**15 01 53.2 +0.6**	
EKS2			pmax	pmax		
	comp=Z,50nm,0.9s,mb5.4					
KMI	**Kunming**	**72.22 288**	P	**P**	**15 01 53.0 0.0**	
KMI			pP	pP	15 02 04.3 +0.3	
KMI			sP	sP	15 02 08.5 +0.4	
KMI			PP	PP	15 04 34.0 +0.6	
KMI			S	S	15 11 11.5 -1.6	
KMI			sS	sS	15 11 29.5 -1.8	
KMI			pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0					
KMI			pmax	pmax		
	comp=Z,180nm,4.6s					
KMI			LR	LR		
	comp=N,420nm,16.4s,MS5.0					
KMI			LR	LR		
	comp=E,630nm,17.5s,MS5.0					
KMI			LR	LR		
	comp=Z,640nm,19.8s,MS4.9					
SUW	**Suwalki**	**72.60 356**	*e*P	**P**	**15 01 54.9 +0.1**	
SUW	**Suwalki**	**72.60 356**	*e*P	**P**	**15 01 54.1 -0.7**	
	comp=Z,105nm,1.0s,mb5.7					
SUW	**Suwalki**	**72.60 356**	*e*P	**P**	**15 01 54.9 +0.1**	
FOEL	**Foel Wylfa**	**72.63 12**	*e*P	**P**	**15 01 54.6 -0.4**	
FOEL			AMB	AMB	15 01 55.8	
	comp=Z,74nm,0.8s,mb5.6					
AML	**Almayashu**	**72.68 319**	P	**P**	**15 01 56.8 +1.3**	
	SNR=53					
AML			P		15 01 56.8	
	SNR=53					
DAV	**Davao City (W)**	**72.94 259**	LR	LR	15 29 15.2	
	comp=Z,840nm,21.6s,MS5.0,baz=39,slow=32					
KK31	**Karatay Array**	**73.06 322**	*ce*P	**P**	**15 01 57.3 -0.4**	
KK31			pmax	pmax		
	comp=Z,28nm,0.7s,mb5.3					
KKAR	**Karatay Array**	**73.06 322**	*e*P	**P**	**15 01 57.4 -0.4**	
	comp=Z,21nm,0.7s,mb5.2					
KKAR	**Karatay Array**	**73.06 322**	*e*P	**P**	**15 01 57.4 -0.3**	
KKAR			pmax	pmax		
	comp=Z,21nm,0.7s,mb5.2					
GKP	**Gorka Klasztor**	**73.49 359**	*e*P	**P**	**15 01 60.0 -0.1**	
GKP	**Gorka Klasztor**	**73.49 359**	*e*P	**P**	**15 02 00.0 -0.1**	
VRHR	**Novokhopersk**	**73.53 344**	*e*P	**P**	**15 01 58.2 -2.2**	
VRHR			pmax	pmax		
	comp=N,10.0nm,0.7s					
VRHR			pmax	pmax		
	comp=E,10.0nm,0.7s					
VRHR			pmax	pmax		
	comp=Z,30nm,0.7s,mb5.3					
MCH1	**Michaelchurch**	**73.53 12**	*e*P	**P**	**15 02 01.1 +0.8**	
MCH1			AMB	AMB	15 02 10.9	
	comp=Z,57nm,3.3s					
VSR	**Storozhevoye**	**73.81 345**	*e*P	**P**	**15 02 01.6 -0.4**	
VSR			pmax	pmax		
	comp=N,10.0nm,0.6s					
VSR			pmax	pmax		
	comp=E,4.0nm,0.6s					
VSR			pmax	pmax		
	comp=Z,50nm,0.6s,mb5.6					
KSH	**Kashi**	**73.98 316**	P	**P**	**15 02 07.0 +3.8**	
KSH			pP	pP	15 02 16.3 +2.1	
KSH			sP	sP

comp=Z,160nm,3.5s
KSH LR LR
comp=N,200nm,8.0s
KSH LR LR
comp=E,200nm,6.8s
KSH LR LR
comp=Z,2µm,15.8s,MS5.6
IBBN Ibbenburen 74.22 5 *e*P **P 15 02 05.6 +1.2**
comp=Z,25nm,0.9s,mb5.1
RUE Ruedersdorf 74.27 2 *e*P **P 15 02 05.0 +0.4**
comp=Z,63nm,1.0s,mb5.5
WOL Wolverton 74.42 11 *e*P **P 15 02 04.9 -0.7**
WOL AMB AMB 15 02 13.6
comp=Z,113nm,2.1s,mb5.4
CLZ Clausthal 74.81 4 *e*P **P 15 02 09.3 +1.5**
comp=Z,21nm,0.9s,mb5.1
CLZ Clausthal 74.81 4 *e*P **P 15 02 09.3 +1.5**
CLZ pmax pmax
comp=Z,21nm,0.9s,mb5.1
BEL Belsk 74.86 357 *e*P **P 15 02 07.9 -0.3**
BEL Belsk 74.86 357 *e*P **P 15 02 07.9 -0.2**
LSA Lhasa 74.92 300 P **P 15 02 10.0 +1.2**
LSA Lhasa 74.92 300 *e*P **P 15 02 09.9 +1.1**
comp=Z,53nm,0.8s,mb5.5
LSA Lhasa 74.92 300 *e*P **P 15 02 09.9 +1.1**
LSA pmax pmax
comp=Z,53nm,0.8s,mb5.5
BUG Bochum--Univer 75.05 6 *e*P **P 15 02 10.0 +0.8**
comp=Z,24nm,1.1s,mb5.0
PMG Port Moresby 75.28 231 P **P 15 02 09.5 -1.5**
comp=Z,5.8nm,0.6s,mb4.7,baz=10,slow=2.8,SNR=7.9
PMG Port Moresby 75.28 231 *e*P **P 15 02 10.7 -0.3**
comp=Z,9.1nm,0.8s,mb4.8
PMG Port Moresby 75.28 231 *c i*P **P 15 02 10.6 -0.3**
PMG pmax pmax
comp=Z,13nm,1.7s
CLL Collm 75.42 2 *e*P **P 15 02 11.9 +0.6**
comp=Z,17nm,0.9s,mb5.0
CLL Collm 75.42 2⇓*i*P **P 15 02 11.4 +0.1**
CLL pmax pmax
comp=Z,38nm,1.0s,mb5.3
CLL Collm 75.42 2⇓*i*P **P 15 02 11.4 +0.1**
comp=Z,38nm,1.0s,mb5.3
CLL *e*S S 15 11 58.0 +10
CLL *e*(SS) 15 17 13.0
CLL *e* 15 20 54.0
AKASG Malin Array Be 75.50 352 P **P 15 02 10.3 -1.5**
comp=Z,23nm,0.6s,mb5.3,baz=11,slow=5.8,SNR=63
AKASG LR LR 15 40 38.5
comp=Z,857nm,18.8s,MS5.1,baz=15,slow=40
AKASG Malin Array Be 75.50 352 P **P 15 02 10.3 -1.5**
AKASG Malin Array Be 75.50 352 *i* P **P 15 02 10.6 -1.2**
AKASG pmax pmax
comp=Z,23nm,0.6s
AKBB Malin Array Si 75.50 352 *e*P **P 15 02 10.9 -0.9**
AKBB Malin Array Si 75.50 352 *e*P **P 15 02 10.9 -0.9**
KIEV Kiev 75.51 352 *e*P **P 15 02 10.5 -1.3**
comp=Z,35nm,0.7s,mb5.4
KIEV Kiev 75.51 352⇓*i*P **P 15 02 11.0 -0.9**
BEBN Eben Emael 75.59 7 P **P 15 02 13.8 +1.5**
SNF Seneffe 75.77 8 P **P 15 02 13.8 +0.5**
comp=Z,16nm,1.4s,mb4.8
MEM Membach 75.80 7 P **P 15 02 13.1 -0.4**
comp=Z,31nm,1.0s,mb5.2
BRG Berggiesshubel 75.88 2 *i* P **P 15 02 13.8 -0.1**
comp=Z,29nm,1.1s,mb5.1
BRG *e* 15 02 20.9
comp=Z,10nm,0.9s
BRG *e* pP 15 02 25.5 +0.6
comp=Z,13nm,0.9s
BRG Berggiesshubel 75.88 2 *e*P **P 15 02 14.8 +0.9**
comp=Z,13nm,0.9s,mb4.9
BRG Berggiesshubel 75.88 2 *i* P **P 15 02 13.8 -0.1**
BRG *e* 15 02 20.9
BRG *e* pP 15 02 25.5 +0.5
BRG pmax pmax
comp=Z,29nm,1.0s,mb5.2
KSP Ksiaz 75.93 0 *e*P **P 15 02 14.2 0.0**
KSP Ksiaz 75.93 0 *e*P **P 15 02 13.9 -0.3**
KSP Ksiaz 75.93 0⇑*e*P **P 15 02 13.9 -0.3**
BCLA Clavier 75.94 7 P **P 15 02 15.0 +0.7**
comp=Z,16nm,1.0s,mb4.9
MOX Moxa 76.05 3 *e*P **P 15 02 16.0 +1.1**
comp=Z,20nm,0.2s,mb5.7
MOX Moxa 76.05 3 *e*P **P 15 02 16.0 +1.1**
MOX pmax pmax
comp=Z,20nm,0.2s,mb5.7
DOU Dourbes 76.20 8 P **P 15 02 15.3 -0.5**
BAIF Baives 76.21 8 *e*P **P 15 02 16.0 +0.2**
comp=Z,53nm,1.0s,mb5.1
BAIF Baives 76.21 8 *e*P **P 15 02 16.0 +0.2**
comp=Z,53nm,1.0s,mb5.4
BAIF Baives 76.21 8 *e*P **P 15 02 16.0 +0.2**
BAIF pmax pmax
comp=Z,53nm,1.0s,mb5.4
PVCC Panska Ves 76.23 1 *e*P **P 15 02 16.1 +0.1**
PVCC Panska Ves 76.23 1 *e*P **P 15 02 16.1 +0.1**
UPC Upice 76.26 0 *e*P **P 15 02 16.6 +0.5**
UPC *e* 15 02 21.0
UPC Upice 76.26 0 *e*P **P 15 02 16.6 +0.5**
UPC *e*pP pP 15 02 21.0 -6.2
TANN Tannenbergstha 76.30 3 *e*P **P 15 02 17.6 +1.2**
comp=Z,5.0nm,0.8s,mb4.5
TNS Taunus Mts 76.33 5 *e*P **P 15 02 17.6 +1.0**
comp=Z,23nm,1.1s,mb5.0
TNS Taunus Mts 76.33 5 *e*P **P 15 02 17.6 +1.0**
TNS pmax pmax
comp=Z,23nm,1.1s,mb5.0
DPC Dobruska-Polom 76.42 360 *e*P **P 15 02 16.7 -0.3**
DPC *e* 15 02 22.6
DPC Dobruska-Polom 76.42 360 *e*P **P 15 02 16.7 -0.3**
DPC *e*pP pP 15 02 22.6 -5.5
NKC Novy Kostel 76.48 3 *e*P **P 15 02 17.6 +0.2**
NKC Novy Kostel 76.48 3 *e*P **P 15 02 17.6 +0.2**
OJC Ojcow 76.51 358 *e*P **P 15 02 17.8 +0.2**
OJC Ojcow 76.51 358 *e*P **P 15 02 17.8 +0.2**
LVV L'vov 76.75 355⇓*i*P **P 15 02 18.6 -0.3**
WLF Walferdange 76.75 7 P **P 15 02 19.2 +0.3**
comp=Z,28nm,1.2s,mb5.1
WLF Walferdange 76.75 7 *e*P **P 15 02 20.4 +1.5**
comp=Z,21nm,1.0s,mb5.0
WLF Walferdange 76.75 7 *e*P **P 15 02 19.2 +0.2**
comp=Z,37nm,0.9s,mb5.3
WLF Walferdange 76.75 7 *e*P **P 15 02 19.2 +0.3**
WLF pmax pmax
comp=Z,37nm,0.9s,mb5.3
PRU Pruhonice 76.77 1 *e*P **P 15 02 19.4 +0.4**
PRU *e* 15 02 26.5
PRU MLR MLR
comp=Z,500nm,19.2s,MS4.8
PRU Pruhonice 76.77 1 *e*P **P 15 02 19.4 +0.4**
PRU *e*pP pP 15 02 26.5 -3.6
PRU AMS AMS 15 45 50.0
comp=Z,500nm,19.2s
OKC Ostrava-Krasne 76.92 359 *e*P **P 15 02 20.0 +0.1**
OKC Ostrava-Krasne 76.92 359 *e*P **P 15 02 20.0 +0.1**
ROTZ Rotzenmuhle 76.94 3 *e*P **P 15 02 21.3 +1.3**
comp=Z,8.0nm,1.0s,mb4.6
GRF Grafenberg Arr 76.99 3 *e*P **P 15 02 21.7 +1.4**
comp=Z,21nm,0.8s,mb5.1
GRF *e*L 15 37 43.0
comp=Z,394nm,21.3s
GRF Grafenberg Arr 76.99 3 *e*P **P 15 02 21.7 +1.4**
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRF MLR MLR
comp=Z,400nm,21.3s,MS4.7
MORC Moravsky Berou 76.99 359 *e*P **P 15 02 20.5 +0.3**
comp=Z,17nm,0.8s,mb5.0
MORC Moravsky Berou 76.99 359 *e*P **P 15 02 20.5 +0.2**
MORC pmax pmax
comp=Z,17nm,0.8s,mb5.0
MORC Moravsky Berou 76.99 359⇓*i*P **P 15 02 20.8 +0.5**
GRFO Grafenberg 76.99 3 *e*P **P 15 02 19.9 -0.4**
comp=Z,41nm,0.9s,mb5.4
GRFO Grafenberg 76.99 3 *e*P **P 15 02 19.9 -0.4**
GRFO pmax pmax
comp=Z,41nm,0.9s,mb5.4
KWP Kalwaria Pacla 77.00 356 *e*P **P 15 02 20.6 +0.3**
KWP Kalwaria Pacla 77.00 356 *e*P **P 15 02 19.8 -0.5**
comp=Z,74nm,0.8s,mb5.7
KWP Kalwaria Pacla 77.00 356 *e*P **P 15 02 19.8 -0.5**
KWP pmax pmax
comp=Z,74nm,0.8s,mb5.7
KWP Kalwaria Pacla 77.00 356⇑*i*P **P 15 02 20.5 +0.2**

FLN La Foliniere 77.02 11 *e*P **P 15 02 21.1 +0.6**
comp=Z,74nm,1.1s,mb5.2
FLN *e*R
comp=Z,628nm,19.8s
FLN La Foliniere 77.02 11 *e*P **P 15 02 21.1 +0.6**
comp=Z,74nm,1.1s,mb5.5
FLN La Foliniere 77.02 11 *e*P **P 15 02 21.1 +0.6**
FLN pmax pmax
comp=Z,75nm,1.1s,mb5.5
LDF La Druitiere 77.23 11 *e*P **P 15 02 21.2 -0.4**
comp=Z,22nm,0.9s,mb4.8
LDF La Druitiere 77.23 11 *e*P **P 15 02 21.2 -0.4**
comp=Z,22nm,0.9s,mb5.1
LDF La Druitiere 77.23 11 *e*P **P 15 02 21.2 -0.4**
LDF pmax pmax
comp=Z,22nm,0.9s,mb5.1
SGMF Saint Gilles 77.26 13 *e*P **P 15 02 21.8 0.0**
comp=Z,78nm,1.1s,mb5.3
SGMF Saint Gilles 77.26 13 *e*P **P 15 02 21.8 0.0**
comp=Z,78nm,1.1s,mb5.5
SGMF Saint Gilles 77.26 13 *e*P **P 15 02 21.8 0.0**
SGMF pmax pmax
comp=Z,79nm,1.1s,mb5.6
STHS Stebnicka Huta 77.27 357 *e*P **P 15 02 22.4 +0.6**
STHS pmax pmax
comp=Z,41nm,0.7s,mb5.5
STHS Stebnicka Huta 77.27 357 *e*P **P 15 02 22.4 +0.6**
GRR Gorron 77.34 12 *e*P **P 15 02 22.1 -0.2**
comp=Z,66nm,1.2s,mb5.2
GRR Gorron 77.34 12 *e*P **P 15 02 22.1 -0.2**
comp=Z,66nm,1.2s,mb5.4
GRR Gorron 77.34 12 *e*P **P 15 02 22.1 -0.2**
GRR pmax pmax
comp=Z,67nm,1.2s,mb5.5
VRAC Vranov 77.46 360 P **P 15 02 23.3 +0.3**
comp=Z,30nm,0.9s,mb5.2,baz=3.2,slow=5.6,SNR=32
VRAC Vranov 77.46 360 P **P 15 02 23.3 +0.3**
VRAC Vranov 77.46 360 P **P 15 02 23.3 +0.4**
VRAC Vranov 77.46 360⇓*i*P **P 15 02 23.5 +0.6**
TREC Trest 77.47 1 *e*P **P 15 02 23.2 +0.2**
TREC Trest 77.47 1 *e*P **P 15 02 23.2 +0.2**
QUIF Quistinic 77.51 13 *e*P **P 15 02 23.1 -0.1**
QUIF Quistinic 77.51 13 *e*P **P 15 02 23.1 -0.1**
QUIF Quistinic 77.51 13 *e*P **P 15 02 23.1 -0.1**
LANF Langenberg 77.54 6 *e*P **P 15 02 24.1 +0.7**
WET Wettzell 77.58 2 *e*P **P 15 02 25.0 +1.4**
comp=Z,9.0nm,1.0s,mb4.7
WET Wettzell 77.58 2 *e*P **P 15 02 25.0 +1.4**
WET pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KHC Kasperske Hory 77.61 2 *e*P **P 15 02 24.4 +0.6**
comp=Z,32nm,1.0s,mb5.2
KHC Kasperske Hory 77.61 2 *e*P **P 15 02 24.3 +0.5**
KHC *e* 15 02 29.1
KHC *e* pP 15 02 37.0 +2.2
KHC MLR MLR
comp=Z,600nm,18.8s,MS4.9
KHC Kasperske Hory 77.61 2 *e*P **P 15 02 24.3 +0.5**
KHC *e*pP pP 15 02 29.1 -5.7
KHC *e*x x 15 02 37.0
KHC AMS AMS 15 46 00.0
comp=Z,600nm,18.8s
TBI Tubuai 77.62 167 *e*S S 15 12 13.9 +1.1
comp=Z,496nm,32.0s
TBI *e*SS SS 15 17 15.2 +1.7
comp=Z,98nm,25.0s
TBI *e*LR LR 15 26 03.4
comp=Z,586nm,33.0s,baz=346
KOLS Kolonicke sedl 77.71 356 *e*P **P 15 02 26.2 +1.9**
KOLS Kolonicke sedl 77.71 356 *e*P **P 15 02 26.2 +1.9**
CRVS Cervenica-Dubn 77.78 357 *e*P **P 15 02 25.1 +0.4**
CRVS pmax pmax
comp=Z,16nm,0.9s,mb5.0
CRVS Cervenica-Dubn 77.78 357 *e*P **P 15 02 25.1 +0.4**
STU Stuttgart 77.82 5 *e*P **P 15 02 25.9 +1.0**
comp=Z,20nm,1.0s,mb5.0
STU Stuttgart 77.82 5 *e*P **P 15 02 25.5 +0.5**
comp=Z,31nm,0.8s,mb5.3
STU Stuttgart 77.82 5 *e*P **P 15 02 25.5 +0.6**
STU pmax pmax
comp=Z,31nm,0.8s,mb5.3
MEZF Maizieres J'vi 77.82 8 *e*P **P 15 02 25.2 +0.2**
comp=Z,57nm,1.1s,mb5.1
MEZF Maizieres J'vi 77.82 8 *e*P **P 15 02 25.2 +0.2**
comp=Z,57nm,1.1s,mb5.4
GEC2 GERESS Array S 77.90 2 *e*P **P 15 02 26.5 +1.1**
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 77.90 2 *e*P **P 15 02 26.5 +1.1**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 77.90 2 P **P 15 02 25.5 +0.1**
comp=Z,15nm,0.8s,mb5.0,baz=358,slow=4.0,SNR=46
GERES GERESS Array B 77.90 2 P **P 15 02 25.5 +0.1**
GERES GERESS Array B 77.90 2 P **P 15 02 25.5 +0.1**
UZH Uzhgorod 78.01 356⇓*i*P **P 15 02 26.7 +0.7**
UZH *i* pP 15 02 38.1 +1.0
CHRT Chiangrai 78.03 287⇑P **P 15 02 26.0 -0.5**
comp=Z,132nm,1.0s,mb5.8
CDF Champ du Feu 78.07 6 *e*P **P 15 02 26.5 +0.2**
comp=Z,46nm,0.9s,mb5.1
CDF Champ du Feu 78.07 6 *e*P **P 15 02 26.5 +0.2**
comp=Z,46nm,0.9s,mb5.4
CDF Champ du Feu 78.07 6 *e*P **P 15 02 26.5 +0.2**
CDF pmax pmax
comp=Z,46nm,0.9s,mb5.4
THEF They Montfort 78.17 7 *e*P **P 15 02 27.4 +0.5**
KOLL Kolacno 78.18 359 *e*P **P 15 02 27.6 +0.7**
KOLL Kolacno 78.18 359 *e*P **P 15 02 27.6 +0.7**
BFO Black Forest 78.22 5 *e*P **P 15 02 28.1 +1.0**
comp=Z,6.0nm,0.9s,mb4.5
BFO Black Forest 78.22 5 *e*P **P 15 02 27.1 0.0**
comp=Z,18nm,0.9s,mb5.0
BFO Black Forest 78.22 5 *e*P **P 15 02 27.1 0.0**
BFO pmax pmax
comp=Z,18nm,0.9s,mb5.0
KECS Kecovo 78.23 357 *e*P **P 15 02 27.4 +0.2**
KECS pmax pmax
comp=Z,19nm,0.8s,mb5.1
KECS Kecovo 78.23 357 *e*P **P 15 02 27.4 +0.2**
SMOL Smolenice 78.25 359 *e*P **P 15 02 28.2 +0.9**
SMOL Smolenice 78.25 359 *e*P **P 15 02 28.2 +0.9**
VYHS Vyhne 78.25 358 *e*P **P 15 02 27.7 +0.3**
VYHS pmax pmax
comp=Z,18nm,1.1s,mb4.9
VYHS Vyhne 78.25 358 *e*P **P 15 02 27.7 +0.3**
ECH Echery 78.26 6 *e*P **P 15 02 27.7 +0.3**
comp=Z,42nm,0.9s,mb5.4
ECH Echery 78.26 6 *e*P **P 15 02 27.7 +0.3**
ECH pmax pmax
comp=Z,42nm,0.9s,mb5.4
ECH Echery 78.26 6 *e*P **P 15 02 28.5 +1.1**
HAU Haudompre 78.41 7 *e*P **P 15 02 28.3 +0.1**
comp=Z,53nm,0.8s,mb5.2
HAU *e*R
comp=Z,622nm,22.2s
HAU Haudompre 78.41 7 *e*P **P 15 02 28.3 +0.1**
comp=Z,53nm,0.8s,mb5.5
HAU Haudompre 78.41 7 *e*P **P 15 02 28.3 +0.1**
HAU pmax pmax
comp=Z,53nm,0.8s,mb5.5
TRPA Tarpa 78.50 356⇓*i*P **P 15 02 29.6 +0.9**
TAPN Taplejung 78.59 301 *e*P **P 15 02 29.6 0.0**
comp=Z,120nm,1.0s,mb5.8
TAPN Taplejung 78.59 301 *e*P **P 15 02 29.6 0.0**
comp=Z,120nm,1.0s,mb5.8
MOF Molkenrain 78.62 6 *e*P **P 15 02 30.4 +1.0**
HINF Hinteralfeld 78.64 6 *e*P **P 15 02 29.4 -0.1**
comp=Z,39nm,0.9s,mb5.0
HINF Hinteralfeld 78.64 6 *e*P **P 15 02 29.4 -0.1**
comp=Z,39nm,0.9s,mb5.3
HINF Hinteralfeld 78.64 6 *e*P **P 15 02 29.4 -0.1**
HINF pmax pmax
comp=Z,39nm,0.9s,mb5.3
PSZ Piszkesteto 78.81 358 *e*P **P 15 02 28.2 -2.2**
comp=Z,33nm,0.9s,mb5.3
PSZ Piszkesteto 78.81 358 *e*P **P 15 02 28.2 -2.2**
PSZ pmax pmax
comp=Z,33nm,0.9s,mb5.3
PSZ Piszkesteto 78.81 358⇑*e*P **P 15 02 32.3 +1.9**
PSZ Piszkesteto 78.81 358⇑*i*P **P 15 02 31.9 +1.5**
CONA Conrad Observa 78.84 0 *i* P **P 15 02 31.2 +0.6**
comp=Z,32nm,0.9s,mb5.3,SNR=34
CONA Conrad Observa 78.84 0 *i* P **P 15 02 31.2 +0.6**
comp=Z,32nm,0.9s,mb5.2
BUR08 Bucovina Ar. S 78.85 354 *e*P **P 15 02 31.0 +0.3**

BURAR Bucovina Array 78.87 354⇓P **P 15 02 30.5 -0.3**
BURAR Bucovina Array 78.87 354⇓*i*P **P 15 02 30.5 -0.3**
MOA Molln 78.91 1⇑*i*P **P 15 02 31.0 0.0**
comp=Z,19nm,1.0s,mb5.0,SNR=9.5
MOA Molln 78.91 1⇑*i*P **P 15 02 31.0 0.0**
comp=Z,19nm,1.0s,mb5.0
BMR Baia Mare 78.91 355⇓P **P 15 02 32.0 +1.0**
BMR Baia Mare 78.91 355⇓*i*P **P 15 02 32.0 +1.0**
LOR Lormes 78.95 9 *e*P **P 15 02 31.2 0.0**
comp=Z,63nm,1.0s,mb5.2
LOR *e*R
comp=Z,379nm,18.2s
LOR Lormes 78.95 9 *e*P **P 15 02 31.2 0.0**
comp=Z,63nm,1.0s,mb5.5
LOR Lormes 78.95 9 *e*P **P 15 02 31.2 0.0**
LOR pmax pmax
comp=Z,63nm,1.0s,mb5.5
RJOB Jochberg 78.99 2 *e*P **P 15 02 32.5 +1.1**
comp=Z,10.0nm,1.1s,mb4.7
GUN Gumba 79.06 302 *e*P **P 15 02 32.6 +0.5**
comp=Z,287nm,0.9s,mb6.2
GUN Gumba 79.06 302 *e*P **P 15 02 32.6 +0.5**
comp=Z,287nm,0.9s,mb6.2
SOP Sopron 79.09 360⇑*e*P **P 15 02 32.9 +0.9**
LOMF Lomont 79.10 7 *e*P **P 15 02 32.6 +0.6**
JIRN Jiri 79.11 302 *e*P **P 15 02 33.0 +0.6**
comp=Z,69nm,0.6s,mb5.8
JIRN Jiri 79.11 302 *e*P **P 15 02 33.0 +0.6**
comp=Z,69nm,0.6s,mb5.8
SSF Saint Saulge 79.12 9 *e*P **P 15 02 32.2 +0.1**
comp=Z,35nm,0.6s,mb5.2
SSF Saint Saulge 79.12 9 *e*P **P 15 02 32.2 +0.1**
comp=Z,35nm,0.6s,mb5.5
SSF Saint Saulge 79.12 9 *e*P **P 15 02 32.2 +0.1**
SSF pmax pmax
comp=Z,35nm,0.6s,mb5.5
ODAN Odare 79.15 301 *e*P **P 15 02 32.6 -0.1**
comp=Z,63nm,0.9s,mb5.5
ODAN Odare 79.15 301 *e*P **P 15 02 32.6 -0.1**
comp=Z,63nm,0.9s,mb5.5
MFF Saint Martin d 79.19 11 *e*P **P 15 02 32.7 +0.2**
comp=Z,109nm,1.2s,mb5.4
MFF Saint Martin d 79.19 11 *e*P **P 15 02 32.7 +0.2**
comp=Z,109nm,1.2s,mb5.7
MFF Saint Martin d 79.19 11 *e*P **P 15 02 32.7 +0.2**
MFF pmax pmax
comp=Z,109nm,1.2s,mb5.7
BUD Budapest 79.26 358⇑*e*P **P 15 02 34.2 +1.3**
MOTA Moosalm 79.33 4⇓*i*P **P 15 02 33.9 +0.6**
comp=Z,36nm,0.8s,mb5.3,SNR=25
MOTA Moosalm 79.33 4⇓*i*P **P 15 02 33.9 +0.6**
comp=Z,36nm,0.8s,mb5.3
MOTA Moosalm 79.33 4⇓*i*P **P 15 02 33.9 +0.6**
MOTA pmax pmax
comp=Z,36nm,0.8s,mb5.3
CHG Chiang Mai 79.34 287 P pP 15 02 44.7 -0.2
CHTO Chiang Mai 79.34 287 *e*P **P 15 02 32.7 -1.0**
comp=Z,16nm,1.1s,mb4.9
CHTO Chiang Mai 79.34 287 *e*P **P 15 02 32.7 -1.1**
CHTO pmax pmax
comp=Z,17nm,1.1s,mb4.9
CHTO Chiang Mai 79.34 287 P **P 15 02 33.8 0.0**
comp=Z,14nm,1.6s,mb4.6
WATA Walderalm 79.36 3 *i* P **P 15 02 34.2 +0.8**
comp=Z,51nm,1.1s,mb5.4,SNR=22
WATA Walderalm 79.36 3 *i* P **P 15 02 34.2 +0.8**
comp=Z,51nm,1.1s,mb5.4
WATA Walderalm 79.36 3 *i* P **P 15 02 34.2 +0.8**
WATA pmax pmax
comp=Z,51nm,1.1s,mb5.4
AVF Avril sur Loir 79.37 9 *e*P **P 15 02 33.5 0.0**
comp=Z,47nm,0.9s,mb5.1
AVF Avril sur Loir 79.37 9 *e*P **P 15 02 33.5 0.0**
comp=Z,47nm,0.9s,mb5.4
AVF Avril sur Loir 79.37 9 *e*P **P 15 02 33.5 0.0**
AVF pmax pmax
comp=Z,47nm,0.9s,mb5.4
WTTA Wattenberg 79.43 3⇑*i*P **P 15 02 34.8 +1.0**
comp=Z,41nm,0.7s,mb5.5,SNR=35
WTTA Wattenberg 79.43 3⇑*i*P **P 15 02 34.8 +1.0**
comp=Z,41nm,0.7s,mb5.5
WTTA Wattenberg 79.43 3⇑*i*P **P 15 02 34.8 +1.0**
WTTA pmax pmax
comp=Z,41nm,0.7s,mb5.5
KKN Kakani 79.46 303 *e*P **P 15 02 34.5 +0.2**
comp=Z,86nm,0.8s,mb5.7
KKN Kakani 79.46 303 *e*P **P 15 02 34.5 +0.2**
comp=Z,86nm,0.8s,mb5.7
KKN Kakani 79.46 303 *e*P **P 15 02 34.5 +0.2**
KKN pmax pmax
comp=Z,86nm,0.8s,mb5.7
RAMN Ramite 79.48 301 *e*P **P 15 02 34.4 -0.1**
comp=Z,200nm,0.8s,mb6.1
RAMN Ramite 79.48 301 *e*P **P 15 02 34.4 -0.1**
comp=Z,200nm,0.8s,mb6.1
ARSA Arzberg 79.52 1 *i* P **P 15 02 35.4 +1.1**
comp=Z,32nm,1.0s,mb5.2,SNR=18
ARSA Arzberg 79.52 1 *i* P **P 15 02 35.4 +1.1**
comp=Z,32nm,1.0s,mb5.2
BGF Bois d'Agland 79.56 9 *e*P **P 15 02 34.5 0.0**
comp=Z,27nm,0.9s,mb4.9
BGF Bois d'Agland 79.56 9 *e*P **P 15 02 34.5 0.0**
comp=Z,27nm,0.9s,mb5.2
BGF Bois d'Agland 79.56 9 *e*P **P 15 02 34.5 0.0**
BGF pmax pmax
comp=Z,27nm,0.9s,mb5.2
SMF Signal de Mont 79.56 9 *e*P **P 15 02 34.5 -0.1**
comp=Z,76nm,1.0s,mb5.3
SMF Signal de Mont 79.56 9 *e*P **P 15 02 34.5 -0.1**
comp=Z,76nm,1.0s,mb5.6
SMF Signal de Mont 79.56 9 *e*P **P 15 02 34.5 -0.1**
SMF pmax pmax
comp=Z,76nm,1.0s,mb5.6
PKI Pulchoki 79.58 303 *e*P **P 15 02 35.0 0.0**
comp=Z,176nm,1.0s,mb5.9
PKI Pulchoki 79.58 303 *e*P **P 15 02 35.0 0.0**
comp=Z,176nm,1.0s,mb6.0
PKI Pulchoki 79.58 303 *e*P **P 15 02 35.0 0.0**
GKN Gorkha 79.61 303 *e*P **P 15 02 35.1 0.0**
comp=Z,167nm,0.8s,mb6.0
GKN Gorkha 79.61 303 *e*P **P 15 02 35.1 0.0**
comp=Z,167nm,0.8s,mb6.0
CM31 Chiang Mai Arr 79.62 287 *e*P **P 15 02 35.0 -0.4**
comp=Z,26nm,0.9s,mb5.2
CMAR Chiang Mai Arr 79.62 287 P **P 15 02 34.9 -0.5**
comp=Z,22nm,1.0s,mb5.1,baz=23,slow=5.6,SNR=90
CMAR LR LR 15 39 51.7
comp=Z,396nm,20.4s,MS4.7,baz=46,slow=37
CMAR Chiang Mai Arr 79.62 287 P **P 15 02 34.9 -0.5**
CMAR Chiang Mai Arr 79.62 287 P **P 15 02 34.9 -0.4**
FETA Feichten 79.64 4 *i* P **P 15 02 36.0 +1.0**
comp=Z,61nm,0.9s,mb5.5,SNR=41
FETA Feichten 79.64 4 *i* P **P 15 02 36.0 +1.1**
comp=Z,61nm,0.9s,mb5.5
KBA Koelnbreinsper 79.66 2 *i* P **P 15 02 36.1 +1.1**
comp=Z,87nm,1.1s,mb5.6,SNR=55
KBA Koelnbreinsper 79.66 2 *i* P **P 15 02 36.1 +1.1**
comp=Z,87nm,1.0s,mb5.6
KBA Koelnbreinsper 79.66 2 *i* P **P 15 02 36.1 +1.0**
KBA pmax pmax
comp=Z,87nm,1.0s,mb5.6
DZM Mont Dzumac 79.67 208 *e*S S 15 12 38.4 +3.6
comp=Z,317nm,26.1s
DZM *e*SS SS 15 17 48.1 +3.7
comp=Z,104nm,24.4s
DZM *e*LR LR 15 27 23.9
comp=Z,629nm,21.6s
DMN Daman 79.70 303 *e*P **P 15 02 35.8 +0.2**
comp=Z,182nm,1.0s,mb6.0
DMN Daman 79.70 303 *e*P **P 15 02 35.8 +0.2**
comp=Z,182nm,1.0s,mb6.0
DANN Dangsing 79.76 304 *e*P **P 15 02 36.5 +0.6**
comp=Z,520nm,0.7s,mb6.5
DANN Dangsing 79.76 304 *e*P **P 15 02 36.5 +0.6**
comp=Z,520nm,0.7s,mb6.6
TCF Toulx Ste Croi 79.76 10 *e*P **P 15 02 35.6 0.0**
comp=Z,23nm,0.9s,mb4.8
TCF Toulx Ste Croi 79.76 10 *e*P **P 15 02 35.6 0.0**
comp=Z,23nm,0.9s,mb5.1
TCF Toulx Ste Croi 79.76 10 *e*P **P 15 02 35.6 0.0**
TCF pmax pmax
comp=Z,23nm,0.9s,mb5.1
CABF La Chapelle 79.78 7 *e*P **P 15 02 36.3 +0.6**
comp=Z,86nm,1.0s,mb5.3
CABF La Chapelle 79.78 7 *e*P **P 15 02 36.3 +0.6**
comp=Z,86nm,1.0s,mb5.6
CABF La Chapelle 79.78 7 *e*P **P 15 02 36.3 +0.6**

CABF pmax pmax
comp=Z,86nm,1.0s,mb5.6
LEOM Leova 79.78 352 ⇑P **P 15 02 36.3 +0.6**
LEOM Leova 79.78 352 ⇑iP **P 15 02 36.3 +0.6**
DRGR 79.83 356 P **P 15 02 36.8 +0.8**
DRGR 79.83 356 ⇑iP **P 15 02 36.9 +0.9**
DAVOX Davos/Dischmat 79.84 4 P **P 15 02 37.2 +1.1**
comp=Z,18nm,0.6s,mb5.2,baz=337,slow=6.5,SNR=42
DAVOX Davos/Dischmat 79.84 4 P **P 15 02 37.2 +1.1**
DAVOX Davos/Dischmat 79.84 4 P **P 15 02 37.2 +1.1**
TESR 79.87 353 ⇓iP **P 15 02 35.8 -0.4**
ABTA Abfaltersbach 79.97 3 *i* PcP **P 15 02 37.9 +1.2**
comp=Z,40nm,1.0s,mb5.3,SNR=18
ABTA Abfaltersbach 79.97 3 *i* P **P 15 02 37.9 +1.2**
comp=Z,40nm,1.0s,mb5.3
AGO Saint Agoulin 80.08 9 *e*P **P 15 02 38.9 +1.5**
SOKA Soboth 80.09 1 ⇓*i*P **P 15 02 38.1 +0.7**
comp=Z,60nm,1.1s,mb5.4
SOKA Soboth 80.09 1 ⇓*i*P **P 15 02 38.1 +0.7**
comp=Z,60nm,1.1s,mb5.4
THN Thein Dam 80.09 312 *ex* **P 15 02 36.9 -0.8**
TUE Stuetta 80.12 5 *e*P **P 15 02 38.8 +1.2**
comp=Z,20nm,0.9s,mb5.1
PLDF La Plantade 80.21 9 *e*P **P 15 02 39.0 +0.9**
KIV Kislovodsk 80.22 341 *e*P **P 15 02 39.1 +0.9**
comp=Z,46nm,0.8s,mb5.5
KIV Kislovodsk 80.22 341 *c i*P **P 15 02 38.6 +0.4**
KIV *e* 15 02 44.7
KIV *e*SS SS 15 17 53.8 +3.6
KIV pmax pmax
comp=Z,47nm,0.8s,mb5.5
KIV Kislovodsk 80.22 341 P **P 15 02 39.8 +1.6**
comp=Z,352nm,0.7s,mb6.4,SNR=6.2
OBKA Obir 80.25 1 *i* P **P 15 02 39.1 +0.9**
comp=Z,89nm,0.8s,mb5.7,SNR=36
OBKA Obir 80.25 1 *i* P **P 15 02 39.1 +0.9**
comp=Z,89nm,0.8s,mb5.8
OG35 Corcelles 80.31 8 *e*P **P 15 02 39.4 +0.8**
GROS Grobnik 80.31 1 *i* P **P 15 02 39.0 +0.4**
GROS Grobnik 80.31 1 *i* P **P 15 02 39.0 +0.4**
KOLN Koldanda 80.31 304 *e*P **P 15 02 39.0 +0.1**
comp=Z,118nm,0.8s,mb5.9
KOLN Koldanda 80.31 304 *e*P **P 15 02 39.0 +0.1**
comp=Z,118nm,0.8s,mb5.9
ANN Anapa 80.32 345 *e*P **P 15 02 40.0 +1.3**
ANN *e*S S 15 12 44.5 +3.1
ANN pmax pmax
comp=Z,112nm,1.6s,mb5.5
KOGS Kog 80.32 0 *i* P **P 15 02 38.8 +0.1**
KOGS Kog 80.32 0 *i* P **P 15 02 38.8 +0.1**
PYM Petit Puy Mans 80.37 9 *e*P **P 15 02 39.8 +0.9**
MRSI Marisa 80.38 258 P **P 15 02 38.6 -0.8**
comp=Z,734nmcomp=Z,28nm,1.7s,mb4.9
ROBS Robic 80.50 2 *i* P **P 15 02 39.0 -0.7**
ROBS Robic 80.50 2 *i* P **P 15 02 39.0 -0.6**
VRI Vrincioaia 80.51 353 ⇓P **P 15 02 40.7 +1.0**
VRI Vrincioaia 80.51 353 ⇓iP **P 15 02 40.7 +1.0**
PLOR Plostina 80.53 353 ⇓P **P 15 02 40.4 +0.6**
PLOR Plostina 80.53 353 ⇓iP **P 15 02 40.4 +0.6**
PKSM Moragy 80.54 358 ⇓P **P 15 02 40.2 +0.4**
PKSM Moragy 80.54 358 ⇓iP **P 15 02 40.2 +0.4**
SMLA Simla 80.55 311 *i* P **P 15 02 39.1 -1.0**
BDT Bhumibol Dam 80.56 286 P **P 15 02 40.0 -0.4**
RJF Les Rejaudoux 80.66 11 *e*P **P 15 02 40.1 -0.4**
RJF *e*R
comp=Z,586nm,20.2s
RJF Les Rejaudoux 80.66 11 *e*P **P 15 02 40.1 -0.4**
RJF Les Rejaudoux 80.66 11 *e*P **P 15 02 40.1 -0.4**
LJU Ljubljana 80.72 1 *i* P **P 15 02 41.3 +0.5**
LJU Ljubljana 80.72 1 *i* P **P 15 02 41.3 +0.5**
RSL Roselend 80.74 7 *e*P **P 15 02 42.2 +1.3**
LBL Lubilhac 80.91 9 *e*P **P 15 02 43.6 +1.8**
LPL La Plagne 80.92 7 *e*P **P 15 02 43.1 +1.2**
comp=Z,31nm,1.0s,mb4.9
LPL La Plagne 80.92 7 *e*P **P 15 02 43.1 +1.2**
comp=Z,31nm,1.0s,mb5.2
LPL La Plagne 80.92 7 *e*P **P 15 02 43.1 +1.2**
LPL pmax pmax
comp=Z,31nm,1.0s,mb5.2
LFF La Frestale 80.93 11 *e*P **P 15 02 42.1 +0.1**
LFF La Frestale 80.93 11 *e*P **P 15 02 42.1 +0.1**
LFF La Frestale 80.93 11 *e*P **P 15 02 42.1 +0.1**
LPG La Plagne 80.94 7 *e*P **P 15 02 43.5 +1.5**
comp=Z,41nm,1.0s,mb5.0
LPG La Plagne 80.94 7 *e*P **P 15 02 43.5 +1.5**
comp=Z,41nm,1.0s,mb5.3
LPG La Plagne 80.94 7 *e*P **P 15 02 43.5 +1.5**
LPG pmax pmax
comp=Z,41nm,1.0s,mb5.3
MLR Muntele Rosu 80.94 353 P **P 15 02 42.7 +0.8**
comp=Z,2.5nm,1.0s,mb4.1,baz=355,slow=4.8,SNR=8.0
MLR Muntele Rosu 80.94 353 P **P 15 02 42.7 +0.8**
MLR Muntele Rosu 80.94 353 P **P 15 02 42.7 +0.7**
MLR Muntele Rosu 80.94 353 ⇓iP **P 15 02 43.0 +1.0**
TLCR 81.01 351 ⇑P **P 15 02 42.3 -0.1**
TLCR 81.01 351 ⇑iP **P 15 02 42.3 -0.1**
BZS Buzias 81.05 356 ⇓P **P 15 02 42.9 +0.3**
BZS Buzias 81.05 356 ⇓iP **P 15 02 42.8 +0.2**
KBL Kabul 81.07 318 *e*P **P 15 02 42.0 -0.8**
comp=Z,34nm,0.9s,mb5.3
KBL Kabul 81.07 318 *e*P **P 15 02 42.0 -0.9**
KBL pmax pmax
comp=Z,34nm,0.9s,mb5.3
CFR Carcaliu 81.08 352 ⇓P **P 15 02 43.3 +0.6**
CFR Carcaliu 81.08 352 ⇓iP **P 15 02 43.3 +0.6**
CAF Calviac 81.09 10 *e*P **P 15 02 42.9 +0.1**
comp=Z,74nm,1.4s,mb5.1
CAF Calviac 81.09 10 *e*P **P 15 02 42.9 +0.1**
comp=Z,74nm,1.4s,mb5.4
CAF Calviac 81.09 10 *e*P **P 15 02 42.9 +0.1**
CAF pmax pmax
comp=Z,74nm,1.4s,mb5.4
LOT Lotru 81.12 355 ⇑iP **P 15 02 43.1 +0.2**
ZEI Tsey 81.12 340 *e*P **P 15 02 43.1 +0.1**
ZEI pmax pmax
comp=Z,29nm,0.8s,mb5.3
SOC Sochi 81.13 343 *e*P **P 15 02 41.9 -1.1**
SOC *e*S S 15 12 50.9 +1.0
SOC pmax pmax
comp=Z,90nm,0.9s,mb5.7
GZR Gura Zlata 81.22 355 ⇑P **P 15 02 43.5 0.0**
GZR Gura Zlata 81.22 355 ⇑iP **P 15 02 43.5 0.0**
ISR Istrita 81.27 353 ⇑P **P 15 02 44.8 +1.1**
ISR Istrita 81.27 353 ⇑iP **P 15 02 44.8 +1.1**
BNI Bardonecchia 81.38 7 *e*P **P 15 02 44.3 0.0**
comp=Z,35nm,1.0s,mb5.2
BNI Bardonecchia 81.38 7 *e*P **P 15 02 44.3 0.0**
BNI pmax pmax
comp=Z,35nm,1.0s,mb5.2
ONI Oni 81.38 340 P **P 15 02 45.8 +1.4**
VIVF Saint-Julien-l 81.41 8 *e*P **P 15 02 44.9 +0.4**
comp=Z,47nm,1.0s,mb5.1
VIVF Saint-Julien-l 81.41 8 *e*P **P 15 02 44.9 +0.4**
comp=Z,47nm,1.0s,mb5.4
VIVF Saint-Julien-l 81.41 8 *e*P **P 15 02 44.9 +0.4**
VIVF pmax pmax
comp=Z,47nm,1.0s,mb5.4
ORIF Oris-en-Rattie 81.45 7 *e*P **P 15 02 45.4 +0.7**
comp=Z,42nm,1.0s,mb5.0
ORIF *e*R
comp=Z,538nm,20.2s
ORIF Oris-en-Rattie 81.45 7 *e*P **P 15 02 45.4 +0.7**
comp=Z,42nm,1.0s,mb5.3
ORIF Oris-en-Rattie 81.45 7 *e*P **P 15 02 45.4 +0.7**
ORIF pmax pmax
comp=Z,42nm,1.0s,mb5.3
MBDF Montbardon 81.70 7 *e*P **P 15 02 47.5 +1.4**
comp=Z,72nm,0.9s,mb5.3
MBDF Montbardon 81.70 7 *e*P **P 15 02 47.5 +1.4**
comp=Z,72nm,0.9s,mb5.6
MBDF Montbardon 81.70 7 *e*P **P 15 02 47.5 +1.4**
MBDF pmax pmax
comp=Z,72nm,0.9s,mb5.6
SULR 81.72 353 ⇑iP **P 15 02 48.7 +2.5**
TIRR Tirgusor 81.77 351 ⇑P **P 15 02 47.1 +0.7**
TIRR Tirgusor 81.77 351 ⇑iP **P 15 02 47.0 +0.6**
GOR Gori 81.83 339 P sP 15 03 01.8 -0.1
ABKT Ailbek 81.94 328 P **P 15 02 47.9 +0.5**
comp=Z,229nm,0.9s,mb6.1,SNR=18
TBLG Delisi 81.94 339 P **P 15 02 48.9 +1.5**
TBLG Delisi 81.94 339 P **P 15 02 48.9 +1.6**
HUMR Humele 81.96 354 ⇑iP **P 15 02 47.4 0.0**
MTA Mtatsminda 81.96 339 P **P 15 02 49.1 +1.6**
LASF Ste Croix 82.11 9 *e*P **P 15 02 48.8 +0.6**
AKH Akhalkalaki 82.51 340 P **P 15 02 52.7 +2.3**
SBF Sospel 82.61 6 *e*P **P 15 02 51.1 +0.3**
comp=Z,183nm,1.2s,mb5.7
SBF Sospel 82.61 6 *e*P **P 15 02 51.1 +0.3**
comp=Z,183nm,1.2s,mb6.0
SBF Sospel 82.61 6 *e*P **P 15 02 51.1 +0.3**
MTLF Montolieu 82.67 10 *e*P **P 15 02 50.9 -0.3**
MTLF Montolieu 82.67 10 *e*P **P 15 02 50.9 -0.3**
MTLF Montolieu 82.67 10 *e*P **P 15 02 50.9 -0.3**
ETSF Etsaut 82.78 12 *e*P **P 15 02 52.4 +0.7**
ETSF Etsaut 82.78 12 *e*P **P 15 02 52.4 +0.7**
ETSF Etsaut 82.78 12 *e*P **P 15 02 52.4 +0.7**
GNI Garni 83.45 338 P **P 15 02 56.7 +1.5**
comp=Z,31nm,0.8s,mb5.4,baz=338,slow=7.0,SNR=14
GNI Garni 83.45 338 P **P 15 02 56.8 +1.5**
GNI Garni 83.45 338 *c i*P **P 15 02 56.6 +1.4**
GNI pmax pmax
comp=Z,33nm,0.8s
VTS Vitosha 84.00 355 ⇓P **P 15 02 57.9 -0.1**
VTS Vitosha 84.00 355 ⇓iP **P 15 02 57.9 -0.1**
PGF Pioggiola 84.02 5 *e*P **P 15 02 57.7 -0.4**
PGF Pioggiola 84.02 5 *e*P **P 15 02 57.7 -0.4**
PGF Pioggiola 84.02 5 *e*P **P 15 02 57.7 -0.4**
AQU L'Aquila 84.39 2 *e*P **P 15 02 59.7 -0.3**
comp=Z,20nm,1.0s,mb5.2
AQU L'Aquila 84.39 2 *e*P **P 15 02 59.7 -0.3**
AQU pmax pmax
comp=Z,20nm,1.0s,mb5.2
SBUM Sibu 84.53 267 P **P 15 03 02.1 +1.0**
comp=Z,18nm,0.9s,mb5.2
CTA Charters Tower 85.10 226 P **P 15 03 02.1 -1.5**
comp=Z,5.6nm,1.0s,mb4.7,baz=22,slow=5.1,SNR=4.0
CTA Charters Tower 85.10 226 P **P 15 03 02.1 -1.5**
CTA Charters Tower 85.10 226 P **P 15 03 02.2 -1.5**
VAY Valandovo 85.30 355 *e*Pg **P 15 03 05.0 +0.4**
KRUS Krusevo 85.31 356 *e*Pg **P 15 03 04.3 -0.3**
ESDC Sonseca Array 85.46 16 P **P 15 03 05.9 +0.5**
comp=Z,2.2nm,0.6s,mb4.5,baz=342,slow=4.9,SNR=12
ESDC Sonseca Array 85.46 16 P **P 15 03 05.9 +0.5**
ROSC El Rosal 85.74 88 LR LR 15 43 25.5
comp=Z,109nm,18.4s,MS4.3,baz=28,slow=37
BR131 Keskin Array S 85.85 347 *e*P **P 15 03 08.0 +0.7**
comp=Z,29nm,0.9s,mb5.5
BRTR Keskin Array B 85.85 347 P **P 15 03 08.1 +0.7**
comp=Z,33nm,0.9s,mb5.6,baz=36,slow=2.2,SNR=71
BRTR LR LR 15 46 06.4
comp=Z,374nm,20.1s,MS4.8,baz=184,slow=39
BRTR Keskin Array B 85.85 347 P **P 15 03 08.1 +0.7**
BRTR Keskin Array B 85.85 347 *c e*P **P 15 03 08.1 +0.8**
BRTR pmax pmax
comp=Z,33nm,0.9s
KAPI Kappang 86.09 256 P **P 15 03 09.0 +0.1**
comp=Z,5.9nm,0.3s,mb5.4,baz=106,slow=7.4,SNR=5.1
KAPI Kappang 86.09 256 P **P 15 03 08.9 +0.1**
KAPI Kappang 86.09 256 P **P 15 03 09.3 +0.5**
KSM Kuching 86.45 268 *e*P **P 15 03 10.9 +0.3**
comp=Z,24nm,1.2s,mb5.3
KSM Kuching 86.45 268 P **P 15 03 11.9 +1.3**
OTAV Otavalo 86.97 94 *e*P **P 15 03 13.3 +0.1**
comp=Z,6.0nm,0.8s,mb4.9
WRA Warramunga Arr 90.51 236 P **P 15 03 28.7 -1.0**
comp=Z,1.8nm,1.0s,mb4.3,baz=37,slow=5.7,SNR=7.5
WRA Warramunga Arr 90.51 236 P **P 15 03 28.7 -1.0**
WRA Warramunga Arr 90.51 236 P **P 15 03 28.7 -0.9**
KEST Kesra 90.83 6 P **P 15 03 32.7 +1.6**
comp=Z,1.4nm,0.6s,mb4.5,baz=31,slow=12,SNR=2.8
KEST Kesra 90.83 6 P **P 15 03 32.7 +1.6**
HYB Hyderabad 91.50 302 ⇓iP **P 15 03 33.0 -1.5**
HYB *ep*P pP 15 03 42.5 -3.2
MMAI Mount Meron Ar 92.16 344 P **P 15 03 39.0 +1.6**
comp=Z,11nm,1.0s,mb5.1,baz=358,slow=7.8,SNR=6.1
MMAI Mount Meron Ar 92.16 344 P **P 15 03 39.0 +1.6**
ASF Jabal al Asfar 92.73 343 P **P 15 03 40.4 +0.4**
comp=Z,6.9nm,0.9s,mb5.1,baz=8.2,slow=1.5,SNR=7.2
ASF Jabal al Asfar 92.73 343 P **P 15 03 40.4 +0.4**
ASF Jabal al Asfar 92.73 343 P **P 15 03 40.4 +0.4**
POO Poona 92.86 307 *ex* **P 15 03 39.0 -1.8**
FITZ Fitzroy Crossi 93.47 244 P **P 15 03 43.3 0.0**
comp=Z,6.2nm,0.9s,mb5.0,baz=134,slow=2.7,SNR=7.5
FITZ Fitzroy Crossi 93.47 244 *e*P **P 15 03 43.4 0.0**
comp=Z,8.1nm,1.0s,mb5.1
ASAR Alice Springs 93.87 235 P **P 15 03 44.5 -0.6**
comp=Z,1.3nm,0.9s,mb4.3,baz=23,slow=4.1,SNR=10.0
ASAR PKKPbc PKKPbc 15 20 47.8 +1.0
comp=Z,0.6nm,0.5s,baz=205,slow=2.1,SNR=14
ASAR Alice Springs 93.87 235 P **P 15 03 44.5 -0.6**
ASAR PKKPbc PKKPbc 15 20 47.8 +1.0
ASAR Alice Springs 93.87 235 P **P 15 03 44.5 -0.6**
ARQ Araqi 95.86 323 P **P 15 03 54.2 -0.3**
SNR=5.3
STKA Stephens Creek 97.42 224 LR LR 15 45 06.0
comp=Z,248nm,20.8s,MS4.7,baz=24,slow=34
TORD Torodi Ar. Bea 112.35 15 PKiKP PKiKP 15 09 03.3 -0.5
comp=Z,1.1nm,0.6s,baz=337,slow=2.0,SNR=7.7
TORD PP PP 15 09 43.2 -5.2
comp=Z,0.9nm,0.9s,baz=331,slow=6.1,SNR=4.2
TORD PKKPbc PKKPbc 15 19 50.5 -1.1
comp=Z,0.5nm,0.5s,baz=152,slow=2.3,SNR=5.7
TORD Torodi Ar. Bea 112.35 15 PKiKP PKiKP 15 09 03.3 -0.5
TORD PP PP 15 09 43.2 -5.2
TORD PKKPbc PKKPbc 15 19 50.5 -1.1
DBIC Dimbokro 117.34 24 PKP PKPdf 15 09 13.1 -0.3
comp=Z,6.2nm,1.3s,baz=53,slow=5.1,SNR=3.8
DBIC Dimbokro 117.34 24 PKP PKPdf 15 09 13.1 -0.3
DBIC Dimbokro 117.34 24 PKIKP PKPdf 15 09 13.1 -0.4
KMBO Kilima Mbogo 124.90 334 *e*PKPdf PKPdf 15 09 29.6 +1.6
KMBO Kilima Mbogo 124.90 334 *e*PKIKP PKPdf 15 09 29.6 +1.6
QSPA South Pole Qui 143.38 180 *e*PKPdf PKPdf 15 09 56.6 -3.7
LBTB Lobatse 150.61 343 *e*PKPbc PKPbc 15 10 19.2 -0.3
BOSA Boshof 154.18 342 PKPbc PKPbc 15 10 27.0 -0.4
comp=Z,11nm,0.8s,baz=329,slow=1.3,SNR=17
BOSA Boshof 154.18 342 PKPbc PKPbc 15 10 27.0 -0.5

IDC ***27*** *14:58:39.1±1.0, 53°.69N×163°.66W, h0km, mb4.2/19, mb1 4.3/21, mb1mx4.1/32, mbtmp4.1/21, ML3.7/2, Error ellipse: s-maj=26.9km s-min=14.3km az=171.0*
ISCJB ***27*** *14:58:40.2±1.6, 53°.38N±0°.06×163°.46W±0°.06, h29km±10km, mb4.5/33, Error ellipse: s-maj=10.6km s-min=5.0km az=165.2*
NEIC ***27*** *14:58:41.0, 53°.39N×163°.53W, h29km, mb4.9/15, After AEIC.*
ISC 27 14:58:39.8±1.8, 53°.44N±0°.06×163°.52W±0°.05, h12km±11km, n94, σ0s81/99, mb4.5/33, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.22**	**329**	P	**Pn**	**14 59 02.4**	**-0.1**
BRPK	**Brown Peak**	**1.22**	**354**	P	**Pn**	**14 59 02.4**	**-0.2**
FALS	**False Pass**	**1.42**	**2**	P	**Pn**	**14 59 05.7**	**+0.3**
FALS				S	**Sn**	**14 59 25.3**	**+1.2**
AKUT	**Akutan**	**1.51**	**298**	P	**Pn**	**14 59 06.5**	**-0.1**
AKUT				S	**Sn**	**14 59 26.3**	**+0.1**
DRIA	**Deer Island**	**1.70**	**25**	P	**Pn**	**14 59 09.2**	**0.0**
DT1	**Dutton Round H**	**1.82**	**23**	P	**Pn**	**14 59 12.4**	**+1.5**
UNV	**Unalaska Valle**	**1.82**	**284**	P	**Pn**	**14 59 10.3**	**-0.6**
UNV				S	**Sn**	**14 59 33.0**	**-0.9**
DTNA	**Dutton South F**	**1.87**	**23**	P	**Pn**	**14 59 12.6**	**+1.1**
MREP	**Makushin Rep't**	**1.96**	**282**	P	**Pn**	**14 59 13.2**	**+0.4**
DOL	**Dolgoi Island**	**1.97**	**29**	P	**Pn**	**14 59 13.3**	**+0.4**
MSW	**Makushin Switc**	**2.00**	**285**	P	**Pn**	**14 59 13.3**	**-0.1**
MSW				S	**Sn**	**14 59 39.0**	**+0.8**
MCIR	**Makushin Cirqu**	**2.07**	**286**	P	**Pn**	**14 59 14.6**	**+0.3**
MSOM	**Makushin Julie**	**2.08**	**282**	P	**Pn**	**14 59 14.5**	**0.0**
SDPT	**Sand Point**	**2.61**	**42**	P	**Pn**	**14 59 22.5**	**+0.7**
SDPT				S	**Sn**	**14 59 53.2**	**-0.1**
OKSP	**Okmok Steeple**	**2.87**	**268**	P	**Pn**	**14 59 24.9**	**-0.4**
KDAK	**Kodiak Island**	**7.56**	**51**	Pn	**Pn**	**15 00 29.0**	**-0.8**
KDAK	1.5nm,0.3s,baz=356,slow=4.8,SNR=16			Sn	**Sn**	**15 01 49.2**	**-6.0**
KDAK	**Kodiak Island**	**7.56**	**51**	Pn	**Pn**	**15 00 29.0**	**-0.8**
KDAK	1.0nm,0.3s,baz=159,slow=22,SNR=8.0			Sn	**Sn**	**15 01 49.2**	**-6.0**
SLKM	**Skilak Lake**	**10.13**	**40**	*e*Pn	**Pn**	**15 01 03.4**	**-1.4**
ILAR	**Eielson Array**	**14.15**	**30**	Pn	**Pn**	**15 01 56.1**	**-3.6**
	0.1nm,0.3s,baz=218,slow=12,SNR=8.0						
ILAR	**Eielson Array**	**14.15**	**30**	Pn	**Pn**	**15 01 56.1**	**-3.6**
COLD	**Coldfoot**	**15.26**	**20**	*e*Pn	**Pn**	**15 02 14.7**	**0.0**
	17nm,1.2s						
DAWY	**Dawson**	**16.31**	**40**	*e*Pn	**Pn**	**15 02 28.7**	**+0.4**
BILL	**Bilibino**	**20.46**	**327**	*e*P	**P**	**15 03 16.8**	**0.0**
	14nm,1.0s						
INK	**Inuvik**	**20.53**	**32**	P	**P**	**15 03 16.3**	**-1.3**
	3.9nm,0.5s,baz=240,slow=12,SNR=8.9						
INK	**Inuvik**	**20.53**	**32**	P	**P**	**15 03 16.3**	**-1.3**
	2.1nm,0.6s						
PETK	**Petropavlovsk-**	**23.01**	**285**	P	**P**	**15 03 44.2**	**0.0**
	3.7nm,0.3s,mb4.2,baz=85,slow=14,SNR=8.3						
PETK	**Petropavlovsk-**	**23.01**	**285**	P	**P**	**15 03 44.2**	**0.0**
YKA	**Yellowknife Ar**	**26.84**	**51**	P	**P**	**15 04 21.0**	**+1.4**
	0.8nm,0.5s,mb3.5,baz=270,slow=9.2,SNR=11						
YKA	**Yellowknife Ar**	**26.84**	**51**	P	**P**	**15 04 21.1**	**+1.4**
NVAR	**Mina Array Bea**	**34.21**	**97**	P	**P**	**15 05 27.6**	**+2.7**
	0.3nm,0.7s,baz=304,slow=9.7,SNR=2.7						
NVAR	**Mina Array Bea**	**34.21**	**97**	P	**P**	**15 05 27.6**	**+2.6**
KSRS	**Korea Array**	**48.76**	**280**	P	**P**	**15 07 24.8**	**+0.6**
	4.0nm,0.9s,mb4.5,baz=53,slow=7.3,SNR=10						
KSAR	**Wonju Array Be**	**48.79**	**280**	P	**P**	**15 07 24.8**	**+0.4**
TXAR	**Lajitas Array**	**49.24**	**95**	P	**P**	**15 07 29.5**	**+1.6**
	0.3nm,0.6s,mb3.5,baz=304,slow=6.8,SNR=4.2						
TXAR	**Lajitas Array**	**49.24**	**95**	P	**P**	**15 07 29.5**	**+1.6**
ULN	**Ulaanbaatar**	**53.39**	**303**	*e*P	**P**	**15 07 58.6**	**-0.2**
	7.1nm,0.8s,mb4.7						
SONM	**Songino Array**	**53.74**	**303**	P	**P**	**15 08 01.6**	**+0.3**
	3.9nm,0.7s,mb4.4,baz=40,slow=7.5,SNR=13						
SONM	**Songino Array**	**53.74**	**303**	P	**P**	**15 08 01.6**	**+0.3**
ACSO	**Alum Creek Sta**	**53.78**	**69**	*e*P	**P**	**15 08 00.6**	**-1.2**
	5.8nm,0.5s,mb4.8						
TKL	**Tuckaleechee C**	**56.51**	**74**	*e*P	**P**	**15 08 19.7**	**-1.9**
KEV	**Kevo**	**56.88**	**356**	*e*p	**P**	**15 08 22.2**	**-1.5**
ZALV	**Zalesovo Beam**	**58.95**	**320**	P	**P**	**15 08 37.6**	**-0.9**
	1.5nm,0.5s,mb4.3,baz=44,slow=6.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**58.95**	**320**	P	**P**	**15 08 37.6**	**-0.9**
JOF	**Joensuu**	**63.40**	**352**	*e*p	**P**	**15 09 07.0**	**-1.5**
	2.7nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**64.53**	**355**	*e*p	**P**	**15 09 14.7**	**-1.2**
	4.7nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**64.81**	**327**	P	**P**	**15 09 18.1**	**+0.2**
	4.2nm,0.6s,mb4.6,baz=43,slow=7.2,SNR=21						
BVAR	**Borovoye Array**	**64.81**	**327**	P	**P**	**15 09 18.1**	**+0.2**
FINES	**FINESS Array B**	**65.21**	**355**	P	**P**	**15 09 19.5**	**-0.9**
	5.3nm,0.8s,mb4.6,baz=351,slow=5.4,SNR=9.2						
FINES	**FINESS Array B**	**65.21**	**355**	P	**P**	**15 09 19.5**	**-0.9**
MKAR	**Makanchi Array**	**65.56**	**316**	P	**P**	**15 09 22.1**	**-0.7**
	1.3nm,0.7s,mb4.1,baz=40,slow=6.3,SNR=11						
MKAR	**Makanchi Array**	**65.56**	**316**	P	**P**	**15 09 22.1**	**-0.7**
NOA	**NORSAR Array B**	**65.79**	**3**	P	**P**	**15 09 24.1**	**0.0**
	2.3nm,0.8s,mb4.3,baz=359,slow=6.4,SNR=7.0						
NOA	**NORSAR Array B**	**65.79**	**3**	P	**P**	**15 09 24.1**	**0.0**
HFS	**Hagfors**	**66.76**	**2**	P	**P**	**15 09 29.8**	**-0.5**
	3.0nm,0.4s,mb4.7,baz=26,slow=3.8,SNR=24						
HFS	**Hagfors**	**66.76**	**2**	P	**P**	**15 09 29.8**	**-0.5**
AKTO	**Aktyubinsk**	**70.75**	**333**	P	**P**	**15 09 55.4**	**0.0**
	6.6nm,0.8s,mb4.6,baz=38,slow=5.5,SNR=17						
AKTO	**Aktyubinsk**	**70.75**	**333**	P	**P**	**15 09 55.4**	**0.0**
ABKAR	**Akbulak array**	**71.29**	**332**	*e*P	**P**	**15 09 58.6**	**-0.1**
	31nm,1.2s,mb5.1						
AAK	**Ala-Archa**	**72.13**	**319**	*e*P	**P**	**15 10 02.7**	**-1.1**
	22nm,1.0s,mb5.0						
KKAR	**Karatay Array**	**73.25**	**322**	*e*P	**P**	**15 10 09.8**	**-0.7**
	1.6nm,0.7s,mb4.1						
LSA	**Lhasa**	**75.09**	**300**	*e*P	**P**	**15 10 22.7**	**+1.3**
	4.5nm,0.6s,mb4.6						
CLL	**Collm**	**75.59**	**2**	*e*P	**P**	**15 10 23.0**	**-0.9**
AKASG	**Malin Array Be**	**75.68**	**352**	P	**P**	**15 10 23.7**	**-0.7**
	2.2nm,0.5s,mb4.3,baz=10,slow=5.4,SNR=9.0						
AKASG	**Malin Array Be**	**75.68**	**352**	P	**P**	**15 10 23.7**	**-0.7**
GERES	**GERESS Array B**	**78.07**	**2**	P	**P**	**15 10 38.0**	**+0.1**
	1.0nm,0.7s,mb3.9,baz=332,slow=4.8,SNR=5.7						
GERES	**GERESS Array B**	**78.07**	**2**	P	**P**	**15 10 38.0**	**+0.1**
TAPN	**Taplejung**	**78.76**	**301**	*e*P	**P**	**15 10 42.4**	**+0.3**
	6.1nm,0.7s,mb4.6						
TAPN	**Taplejung**	**78.76**	**301**	*e*P	**P**	**15 10 42.4**	**+0.3**
	6.1nm,0.7s,mb4.6						
GUN	**Gumba**	**79.24**	**303**	*e*P	**P**	**15 10 45.4**	**+0.7**
	11nm,0.4s,mb5.1						
GUN	**Gumba**	**79.24**	**303**	*e*P	**P**	**15 10 45.4**	**+0.7**
	11nm,0.4s,mb5.2						
JIRN	**Jiri**	**79.28**	**302**	*e*P	**P**	**15 10 45.8**	**+0.8**
	8.0nm,0.5s,mb4.9						
JIRN	**Jiri**	**79.28**	**302**	*e*P	**P**	**15 10 45.8**	**+0.8**
	8.0nm,0.5s,mb4.9						
KKN	**Kakani**	**79.64**	**303**	*e*P	**P**	**15 10 47.3**	**+0.4**
KKN	**Kakani**	**79.64**	**303**	*e*P	**P**	**15 10 47.3**	**+0.4**
RAMN	**Ramite**	**79.66**	**301**	*e*P	**P**	**15 10 47.3**	**+0.3**
	20nm,0.8s,mb5.1						
RAMN	**Ramite**	**79.66**	**301**	*e*P	**P**	**15 10 47.3**	**+0.3**
	20nm,0.8s,mb5.1						
PKI	**Pulchoki**	**79.75**	**303**	*e*P	**P**	**15 10 47.8**	**+0.3**
PKI	**Pulchoki**	**79.75**	**303**	*e*P	**P**	**15 10 47.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**79.77**	**287**	P	**P**	**15 10 47.6**	**-0.1**
	1.9nm,0.8s,mb4.1,baz=25,slow=6.0,SNR=12						
CMAR	**Chiang Mai Arr**	**79.77**	**287**	P	**P**	**15 10 47.6**	**-0.1**
GKN	**Gorkha**	**79.78**	**303**	*e*P	**P**	**15 10 47.8**	**+0.1**
	15nm,0.8s,mb5.0						
GKN	**Gorkha**	**79.78**	**303**	*e*P	**P**	**15 10 47.8**	**+0.1**
	15nm,0.8s,mb5.0						
DMN	**Daman**	**79.87**	**303**	*e*P	**P**	**15 10 48.5**	**+0.3**
	10nm,0.7s,mb4.9						
DMN	**Daman**	**79.87**	**303**	*e*P	**P**	**15 10 48.5**	**+0.3**
	10nm,0.7s,mb4.9						
DANN	**Dangsing**	**79.93**	**304**	*e*P	**P**	**15 10 49.2**	**+0.7**
	48nm,0.7s,mb5.6						
DANN	**Dangsing**	**79.93**	**304**	*e*P	**P**	**15 10 49.2**	**+0.7**
	48nm,0.7s,mb5.5						
DAVOX	**Davos/Dischmat**	**80.00**	**5**	P	**P**	**15 10 48.8**	**+0.2**
	1.6nm,0.5s,mb4.2,baz=301,slow=10,SNR=3.8						
DAVOX	**Davos/Dischmat**	**80.00**	**5**	P	**P**	**15 10 48.8**	**+0.2**
KOLN	**Koldanda**	**80.49**	**304**	*e*P	**P**	**15 10 51.8**	**+0.3**
	12nm,0.8s,mb4.9						
KOLN	**Koldanda**	**80.49**	**304**	*e*P	**P**	**15 10 51.8**	**+0.3**
	12nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**86.03**	**347**	P	**P**	**15 11 20.9**	**+1.0**
	2.3nm

KURK Kurchatov 51.95 345 P **P 15 16 52.1 +0.2**
1.4nm,0.7s,mb4.0,baz=166,slow=7.2,SNR=15
KURK Kurchatov 51.95 345 P **P 15 16 52.1 +0.2**
ZALV Zalesovo Beam 53.72 351 P **P 15 17 05.4 +0.5**
2.5nm,0.5s,mb4.4,baz=178,slow=6.7,SNR=16
ZALV Zalesovo Beam 53.72 351 P **P 15 17 05.4 +0.5**
BVAR Borovoye Array 56.41 341 P **P 15 17 24.3 -0.1**
1.3nm,0.7s,mb4.0,baz=142,slow=7.4,SNR=5.6
BVAR Borovoye Array 56.41 341 P **P 15 17 24.3 0.0**
GERES GERESS Array B 84.97 319 P **P 15 20 18.7 +0.4**
0.4nm,0.8s,mb3.6,baz=76,slow=8.3,SNR=2.8
GERES GERESS Array B 84.97 319 P **P 15 20 18.7 +0.4**

IDC 27 15:12:06.4±65.0, 20°.93S×179°.73W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/14, mbtmp4.0/3, MS3.7/4, Ms1 3.7/4, ms1mx3.5/25, Error ellipse: s-maj=1168.0km s-min=156.7km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.14**	**244**	P	P	15 19 08.7	-1.8
2.2nm,0.8s,baz=87,slow=11,SNR=4.2							
ASAR	**Alice Springs**	**42.84**	**257**	P	P	15 20 06.5	-0.1
0.9nm,0.6s,baz=93,slow=7.4,SNR=41							
WRA	**Warramunga Arr**	**42.94**	**263**	P	P	15 20 08.4	+1.1
0.9nm,0.3s,baz=92,slow=8.5,SNR=90							
BBB	**Bella Bella**	**85.55**	**29**	LR	LR	15 52 41.4	
comp=Z,148nm,20.6s,baz=246,slow=28							
CFAA	**Coronel Fontan**	**96.14**	**127**	LR	LR	15 59 42.0	
comp=Z,11nm,18.4s,slow=30							
ATAH	**Atahualpa**	**97.96**	**101**	LR	LR	15 59 52.7	
comp=Z,56nm,21.8s,slow=29							
TEIG	**Tepich**	**98.30**	**72**	LR	LR	15 59 37.6	
comp=Z,27nm,20.6s,slow=29							

*IDC **27** 15:24:09.1±1.1, 53°.85N×163°.75W, h0km, mb4.0/17, mb1 4.1/19, mb1mx4.0/31, mbtmp4.0/19, ML3.8/2, Error ellipse: s-maj=28.3km s-min=14.4km az=173.0*
*NEIC **27** 15:24:09.7, 53°.39N×163°.53W, h18km, mb4.1/5, ML3.7(AEIC), After AEIC.*

ISC 27 15:24:10.2±1.5, 53°.47N±0°.07×163°.47W±0°.05, h21km±10km, n81, σ1°.02/90, mb4.2/24, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.19**	**352**	P	**Pn**	**15 24 31.5**	**-0.1**
WESE	**West Dahl East**	**1.20**	**327**	P	**Pn**	**15 24 31.8**	**0.0**
FALS	**False Pass**	**1.39**	**1**	P	**Pn**	**15 24 34.7**	**+0.3**
FALS				S	**Sn**	**15 24 53.8**	**+1.7**
AKA	**Akutan**	**1.52**	**297**	P	**Pn**	**15 24 35.9**	**-0.2**
AKUT	**Akutan**	**1.52**	**297**	P	**Pn**	**15 24 35.8**	**-0.3**
AKUT				S	**Sn**	**15 24 55.3**	**0.0**
DRIA	**Deer Island**	**1.66**	**25**	P	**Pn**	**15 24 39.1**	**+1.0**
DT1	**Dutton Round H**	**1.79**	**23**	P	**Pn**	**15 24 40.0**	**+0.3**
DTNA	**Dutton South F**	**1.83**	**23**	P	**Pn**	**15 24 40.5**	**+0.1**
UNV	**Unalaska Valle**	**1.84**	**283**	P	**Pn**	**15 24 39.8**	**-0.8**
UNV				eSn	**Sn**	**15 25 01.2**	**-2.0**
DOL	**Dolgoi Island**	**1.93**	**29**	P	**Pn**	**15 24 42.0**	**+0.2**
MREP	**Makushin Rep't**	**1.98**	**281**	P	**Pn**	**15 24 42.4**	**0.0**
MSW	**Makushin Switc**	**2.02**	**284**	P	**Pn**	**15 24 42.4**	**-0.6**
MSW				S	**Sn**	**15 25 08.3**	**+0.7**
HAG	**Hague Volcano**	**2.07**	**26**	P	**Pn**	**15 24 45.0**	**+1.4**
MCIR	**Makushin Cirqu**	**2.09**	**285**	P	**Pn**	**15 24 44.4**	**+0.4**
MSOM	**Makushin Julie**	**2.10**	**281**	P	**Pn**	**15 24 43.8**	**-0.3**
PS4A	**Pavlof South-4**	**2.11**	**26**	P	**Pn**	**15 24 45.9**	**+1.7**
PVV	**Pavlof Volcano**	**2.15**	**27**	P	**Pn**	**15 24 46.2**	**+1.4**
SDPT	**Sand Point**	**2.57**	**42**	P	**Pn**	**15 24 51.7**	**+1.1**
OKRE	**Okmok R'deer P**	**2.80**	**273**	P	**Pn**	**15 24 54.2**	**+0.4**
CHGN	**Chignik**	**4.07**	**44**	ePn	**Pn**	**15 25 08.9**	**-2.3**
CHGN				eSn	**Sn**	**15 25 57.5**	**-0.7**
ANPK	**Aniakchak Peak**	**4.56**	**40**	P	**Pn**	**15 25 20.3**	**+2.4**
KDAK	**Kodiak Island**	**7.53**	**51**	Pn	**Pn**	**15 25 57.9**	**-0.7**
2.2nm,0.3s,baz=87,slow=22,SNR=26							
KDAK	**Kodiak Island**	**7.53**	**51**	ePn	**Pn**	**15 25 57.4**	**-1.2**
KDAK				Pn	**Pn**	**15 25 57.9**	**-0.7**
KDAK				eSn	**Sn**	**15 27 23.5**	**+0.3**
SEW	**Seward**	**10.15**	**44**	ePn	**Pn**	**15 26 33.7**	**-0.8**
SEW				eSn	**Sn**	**15 28 22.8**	**-4.8**
RC01	**Rabbit Creek A**	**10.64**	**39**	ePn	**Pn**	**15 26 40.4**	**-0.8**
RC01				eSn	**Sn**	**15 28 36.4**	**-3.1**
PPLA	**Purkeypile**	**11.15**	**28**	ePn	**Pn**	**15 26 48.5**	**+0.3**
DIV	**Divide**	**12.23**	**44**	ePn	**Pn**	**15 27 01.7**	**-1.3**
TNA	**Tin City**	**12.33**	**351**	ePn	**Pn**	**15 27 04.9**	**+0.5**
PAX	**Paxson**	**13.39**	**38**	ePn	**Pn**	**15 27 17.5**	**-1.2**
10.0nm,0.9s							
ILAR	**Eielson Array**	**14.11**	**30**	Pn	**Pn**	**15 27 25.5**	**-3.1**
0.2nm,0.3s,baz=223,slow=12,SNR=11							
ILAR	**Eielson Array**	**14.11**	**30**	Pn	**Pn**	**15 27 25.5**	**-3.1**
COLD	**Coldfoot**	**15.23**	**20**	ePn	**Pn**	**15 27 44.3**	**+0.7**
11nm,1.0s							
EGAK	**Eagle**	**16.00**	**36**	ePn	**Pn**	**15 27 53.9**	**+0.3**
8.0nm,0.9s							
DAWY	**Dawson**	**16.27**	**40**	ePn	**Pn**	**15 27 55.6**	**-1.5**
DLBC	**Dease Lake**	**19.24**	**62**	P	**Pn**	**15 28 36.8**	**+2.9**
0.1nm,0.3s,baz=255,slow=16,SNR=4.0							
BILL	**Bilibino**	**20.45**	**327**	eP	**P**	**15 28 45.1**	**-0.8**
6.3nm,0.9s							
INK	**Inuvik**	**20.49**	**32**	P	**P**	**15 28 43.6**	**-2.7**
1.7nm,0.4s,baz=243,slow=9.6,SNR=21							
PETK	**Petropavlovsk-**	**23.02**	**285**	P	**P**	**15 29 13.2**	**-0.3**
4.9nm,0.6s,mb4.1,baz=84,slow=13,SNR=5.5							
PETK	**Petropavlovsk-**	**23.02**	**285**	P	**P**	**15 29 13.2**	**-0.3**
YKA	**Yellowknife Ar**	**26.80**	**51**	P	**P**	**15 29 49.7**	**+1.3**
2.0nm,0.9s,mb3.6,baz=270,slow=7.3,SNR=23							
YKA	**Yellowknife Ar**	**26.80**	**51**	P	**P**	**15 29 49.7**	**+1.3**
NVAR	**Mina Array Bea**	**34.19**	**98**	P	**P**	**15 30 57.8**	**+3.9**
0.7nm,0.6s,mb3.7,baz=293,slow=8.7,SNR=5.6							
KSRS	**Korea Array**	**48.78**	**280**	P	**P**	**15 32 54.0**	**+0.7**
0.9nm,0.7s,mb3.9,baz=53,slow=7.5,SNR=4.8							
KSAR	**Wonju Array Be**	**48.81**	**280**	P	**P**	**15 32 54.0**	**+0.4**
TXAR	**Lajitas Array**	**49.21**	**95**	P	**P**	**15 33 01.5**	**+4.7**
0.7nm,0.8s,mb3.8,baz=297,slow=4.2,SNR=4.3							
TXAR	**Lajitas Array**	**49.21**	**95**	P	**P**	**15 33 01.5**	**+4.7**
ULN	**Ulaanbaatar**	**53.39**	**303**	eP	**P**	**15 33 27.7**	**-0.2**
2.9nm,0.7s,mb4.3							
SONM	**Songino Array**	**53.74**	**303**	P	**P**	**15 33 30.6**	**+0.2**
1.6nm,0.8s,mb4.0,baz=52,slow=8.0,SNR=5.4							
SONM	**Songino Array**	**53.74**	**303**	P	**P**	**15 33 30.6**	**+0.2**
KEV	**Kevo**	**56.85**	**356**	ep	**P**	**15 33 51.3**	**-1.2**
5.2nm,0.6s,mb4.7							
ZALV	**Zalesovo Beam**	**58.95**	**320**	P	**P**	**15 34 07.0**	**-0.4**
0.7nm,0.4s,mb4.0,baz=32,slow=5.8,SNR=5.2							
ZALV	**Zalesovo Beam**	**58.95**	**320**	P	**P**	**15 34 07.0**	**-0.4**
JOF	**Joensuu**	**63.38**	**352**	ep	**P**	**15 34 36.3**	**-1.0**
1.1nm,0.4s,mb4.3							
KURK	**Kurchatov**	**63.84**	**321**	P	**P**	**15 34 41.0**	**+0.4**
1.5nm,0.8s,mb4.1,baz=40,slow=7.0,SNR=11							
KURK	**Kurchatov**	**63.84**	**321**	P	**P**	**15 34 41.0**	**+0.4**
KAF	**Kangasniemi**	**64.50**	**355**	ep	**P**	**15 34 41.4**	**-3.3**
3.8nm,0.8s							
BVAR	**Borovoye Array**	**64.80**	**327**	P	**P**	**15 34 47.3**	**+0.5**
2.6nm,0.7s,mb4.4,baz=37,slow=7.6,SNR=16							
BVAR	**Borovoye Array**	**64.80**	**327**	P	**P**	**15 34 47.3**	**+0.5**
FINES	**FINESS Array B**	**65.19**	**355**	P	**P**	**15 34 48.0**	**-1.2**
2.8nm,0.8s,mb4.4,baz=14,slow=8.5,SNR=7.3							
FINES	**FINESS Array B**	**65.19**	**355**	P	**P**	**15 34 48.0**	**-1.2**
MKAR	**Makanchi Array**	**65.56**	**317**	P	**P**	**15 34 51.2**	**-0.6**
0.4nm,0.4s,mb3.8,baz=44,slow=7.3,SNR=14							
MKAR	**Makanchi Array**	**65.56**	**317**	P	**P**	**15 34 51.2**	**-0.6**
NB2	**NORSAR Subarra**	**65.76**	**3**	P	**P**	**15 34 53.2**	**+0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=358,slow=6.5							
NOA	**NORSAR Array B**	**65.76**	**3**	P	**P**	**15 34 52.8**	**-0.1**
comp=Z,2.5nm,0.9s,mb4.2,baz=357,slow=6.4,SNR=6.8							
NOA	**NORSAR Array B**	**65.76**	**3**	P	**P**	**15 34 52.8**	**-0.1**
AKTO	**Aktyubinsk**	**70.74**	**333**	P	**P**	**15 35 24.6**	**+0.4**
comp=Z,4.1nm,0.7s,mb4.5,baz=45,slow=6.3,SNR=11							
AKTO	**Aktyubinsk**	**70.74**	**333**	P	**P**	**15 35 24.6**	**+0.4**
ABKAR	**Akbulak array**	**71.28**	**332**	eP	**P**	**15 35 27.5**	**0.0**
comp=Z,1.7nm,0.4s,mb4.3							
ABKAR				epP	pP	15 35 34.4	+0.1
AKASG	**Malin Array Be**	**75.66**	**352**	P	**P**	**15 35 52.5**	**-0.8**
comp=Z,1.7nm,0.5s,mb4.2,baz=10.0,slow=5.7,SNR=5.0							
AKASG	**Malin Array Be**	**75.66**	**352**	P	**P**	**15 35 52.5**	**-0.8**
GERES	**GERESS Array B**	**78.03**	**2**	P	**P**	**15 36 06.3**	**-0.5**
comp=Z,0.8nm,0.8s,mb3.7,baz=54,slow=5.0,SNR=3.5							
GERES	**GERESS Array B**	**78.03**	**2**	P	**P**	**15 36 06.3**	**-0.5**
GUN	**Gumba**	**79.24**	**303**	eP	**P**	**15 36 14.7**	**+1.0**
comp=Z,6.7nm,0.5s,mb4.8							
JIRN	**Jiri**	**79.29**	**302**	eP	**P**	**15 36 15.0**	**+1.0**
comp=Z,3.6nm,0.5s,mb4.6							
KKN	**Kakani**	**79.64**	**303**	eP	**P**	**15 36 17.5**	**+1.6**
RAMN	**Ramite**	**79.66**	**301**	eP	**P**	**15 36 15.8**	**-0.2**
comp=Z,13nm,0.7s,mb5.0							
CMAR	**Chiang Mai Arr**	**79.78**	**287**	P	**P**	**15 36 16.6**	**-0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=24,slow=6.0,SNR=9.2							
CMAR	**Chiang Mai Arr**	**79.78**	**287**	P	**P**	**15 36 16.6**	**-0.1**
GKN	**Gorkha**	**79.79**	**304**	eP	**P**	**15 36 17.1**	**+0.4**
DMN	**Daman**	**79.88**	**303**	eP	**P**	**15 36 17.6**	**+0.4**
DANN	**Dangsing**	**79.94**	**304**	eP	**P**	**15 36 18.4**	**+0.9**
comp=Z,25nm,0.8s,mb5.2							

IDC 27 15:26:13.9±9.5, 1°.79N×122°.79E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=171.2km s-min=121.3km az=115.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.96**	**172**	P	Pn	15 30 46.9	-2.5
0.4nm,0.3s,baz=352,slow=8.6,SNR=11							
WRA	**Warramunga Arr**	**24.38**	**153**	P	P	15 31 33.9	-0.1
2.2nm,0.7s,baz=336,slow=9.7,SNR=26							
ASAR	**Alice Springs**	**27.51**	**158**	P	P	15 32 02.1	-0.1
0.2nm,0.4s,baz=335,slow=11,SNR=9.3							
STKA	**Stephens Creek**	**37.93**	**154**	P	P	15 33 34.1	+0.9
1.9nm,0.7s,baz=330,slow=8.1,SNR=4.7							

*IDC **27** 15:26:36.0±1.0, 53°.73N×163°.70W, h0km, mb3.9/18, mb1 4.1/20, mb1mx4.0/31, mbtmp3.9/20, ML3.6/2, Error ellipse: s-maj=27.4km s-min=14.4km az=175.0*
*NEIC **27** 15:26:38.2, 53°.46N×163°.53W, h21km, mb4.8/9, After AEIC.*

ISC 27 15:26:38.1±2.3, 53°.55N±0°.09×163°.51W±0°.06, h17km±13km, n74, σ0°.85/79, mb4.2/26, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.11**	**353**	P	**Pb**	**15 26 59.0**	**+0.3**
WESE	**West Dahl East**	**1.12**	**326**	P	**Pn**	**15 26 59.4**	**+0.4**
FALS	**False Pass**	**1.31**	**2**	P	**Pn**	**15 27 02.3**	**+0.7**
AKA	**Akutan**	**1.46**	**295**	P	**Pn**	**15 27 03.3**	**-0.3**
AKUT	**Akutan**	**1.47**	**295**	P	**Pn**	**15 27 03.2**	**-0.4**
AKUT				S	**Sn**	**15 27 22.9**	**+0.6**
UNV	**Unalaska Valle**	**1.81**	**281**	P	**Pn**	**15 27 07.7**	**-0.6**
UNV				S	**Sn**	**15 27 30.9**	**+0.2**
MREP	**Makushin Rep't**	**1.94**	**279**	P	**Pn**	**15 27 10.8**	**+0.6**
MSW	**Makushin Switc**	**1.98**	**282**	P	**Pn**	**15 27 10.1**	**-0.6**
MSW				S	**Sn**	**15 27 36.4**	**+1.3**
HAG	**Hague Volcano**	**2.01**	**27**	P	**Pn**	**15 27 12.5**	**+1.4**
MCIR	**Makushin Cirqu**	**2.05**	**283**	P	**Pn**	**15 27 11.7**	**+0.1**
MSOM	**Makushin Julie**	**2.06**	**279**	P	**Pn**	**15 27 12.3**	**+0.4**
PVV	**Pavlof Volcano**	**2.09**	**28**	P	**Pn**	**15 27 13.6**	**+1.4**
SDPT	**Sand Point**	**2.53**	**43**	P	**Pn**	**15 27 19.2**	**+1.0**
KDAK	**Kodiak Island**	**7.49**	**51**	Pn	**Pn**	**15 28 25.5**	**-0.9**
1.0nm,0.3s,baz=306,slow=19,SNR=5.1							
KDAK				Sn	**Sn**	**15 29 45.4**	**-5.4**
0.7nm,0.3s,baz=156,slow=20,SNR=5.5							
KDAK	**Kodiak Island**	**7.49**	**51**	Pn	**Pn**	**15 28 25.5**	**-0.9**
KDAK				Sn	**Sn**	**15 29 45.4**	**-5.4**
ILAR	**Eielson Array**	**14.05**	**30**	Pn	**Pn**	**15 29 53.4**	**-2.7**
0.1nm,0.3s,baz=216,slow=12,SNR=3.3							
DAWY	**Dawson**	**16.22**	**40**	ePn	**Pn**	**15 30 24.2**	**-0.6**
INK	**Inuvik**	**20.43**	**32**	P	**P**	**15 31 12.3**	**-1.7**
3.1nm,0.5s,baz=237,slow=13,SNR=5.8							
INK	**Inuvik**	**20.43**	**32**	eP	**P**	**15 31 12.3**	**-1.8**
3.5nm,0.6s							
PETK	**Petropavlovsk-**	**22.98**	**285**	P	**P**	**15 31 40.9**	**-0.6**
2.2nm,0.5s,mb3.8,baz=87,slow=12,SNR=3.9							
PETK	**Petropavlovsk-**	**22.98**	**285**	P	**P**	**15 31 40.9**	**-0.6**
YKA	**Yellowknife Ar**	**26.77**	**51**	P	**P**	**15 32 17.4**	**+1.0**
1.2nm,0.7s,mb3.5,baz=270,slow=9.1,SNR=9.5							
YKA	**Yellowknife Ar**	**26.77**	**51**	P	**P**	**15 32 17.4**	**+0.9**
NVAR	**Mina Array Bea**	**34.22**	**98**	P	**P**	**15 33 25.1**	**+2.6**
0.4nm,0.7s,mb3.5,baz=312,slow=9.5,SNR=2.7							
NVAR	**Mina Array Bea**	**34.22**	**98**	P	**P**	**15 33 25.1**	**+2.6**
KSRS	**Korea Array**	**48.74**	**280**	P	**P**	**15 35 21.4**	**-0.2**
1.4nm,0.7s,mb4.1,baz=55,slow=7.3,SNR=5.3							
KSAR	**Wonju Array Be**	**48.77**	**280**	P	**P**	**15 35 21.4**	**-0.4**
TXAR	**Lajitas Array**	**49.24**	**95**	P	**P**	**15 35 26.6**	**+1.2**
0.2nm,0.5s,mb3.5,baz=290,slow=6.5,SNR=3.5							
TXAR	**Lajitas Array**	**49.24**	**95**	P	**P**	**15 35 26.6**	**+1.2**
SONM	**Songino Array**	**53.68**	**303**	P	**P**	**15 35 58.3**	**-0.1**
1.7nm,0.8s,mb4.0,baz=44,slow=7.7,SNR=4.4							
SONM	**Songino Array**	**53.68**	**303**	P	**P**	**15 35 58.3**	**-0.1**
ZALV	**Zalesovo Beam**	**58.87**	**320**	P	**P**	**15 36 33.7**	**-1.6**
0.6nm,0.5s,mb3.9,baz=29,slow=7.7,SNR=3.6							
ZALV				PcP	PcP	15 37 24.5	0.0
0.8nm,0.6s,baz=58,slow=3.6,SNR=3.2							
ZALV	**Zalesovo Beam**	**58.87**	**320**	P	**P**	**15 36 33.8**	**-1.6**
ZALV				PcP	PcP	15 37 24.6	0.0
KURK	**Kurchatov**	**63.77**	**321**	P	**P**	**15 37 08.8**	**+0.3**
1.0nm,0.6s,mb4.1,baz=35,slow=6.6,SNR=7.7							
KURK	**Kurchatov**	**63.77**	**321**	P	**P**	**15 37 08.8**	**+0.3**
BVAR	**Borovoye Array**	**64.72**	**327**	P	**P**	**15 37 15.1**	**+0.4**
2.3nm,0.6s,mb4.4,baz=41,slow=5.7,SNR=11							
BVAR	**Borovoye Array**	**64.72**	**327**	P	**P**	**15 37 15.1**	**+0.4**
FINES	**FINESS Array B**	**65.10**	**355**	P	**P**	**15 37 16.0**	**-1.1**
1.2nm,0.8s,mb4.0,baz=37,slow=5.4,SNR=4.5							
FINES	**FINESS Array B**	**65.10**	**355**	P	**P**	**15 37 16.0**	**-1.1**
MKAR	**Makanchi Array**	**65.48**	**316**	P	**P**	**15 37 18.4**	**-1.4**
0.3nm,0.4s,mb3.6,baz=45,slow=7.6,SNR=6.0							
MKAR	**Makanchi Array**	**65.48**	**316**	P	**P**	**15 37 18.4**	**-1.4**
NOA	**NORSAR Array B**	**65.68**	**3**	P	**P**	**15 37 20.6**	**-0.3**
1.6nm,0.8s,mb4.1,baz=358,slow=6.5,SNR=5.1							
NOA	**NORSAR Array B**	**65.68**	**3**	P	**P**	**15 37 20.6**	**-0.3**
AKTO	**Aktyubinsk**	**70.66**	**333**	P	**P**	**15 37 52.5**	**+0.3**
3.4nm,0.7s,mb4.4,baz=1.2,slow=6.2,SNR=8.2							
AKTO	**Aktyubinsk**	**70.66**	**333**	P	**P**	**15 37 52.5**	**+0.3**
ABKAR	**Akbulak array**	**71.19**	**332**	eP	**P**	**15 37 55.1**	**-0.4**
1.8nm,0.5s,mb4.3							
AKASG	**Malin Array Be**	**75.57**	**352**	P	**P**	**15 38 20.0**	**-1.3**
1.8nm,0.5s,mb4.2,baz=8.8,slow=5.5,SNR=6.3							
AKASG	**Malin Array Be**	**75.57**	**352**	P	**P**	**15 38 20.0**	**-1.3**
GERES	**GERESS Array B**	**77.96**	**2**	P	**P**	**15 38 34.4**	**-0.3**
0.3nm,0.6s,mb3.4,baz=342,slow=17,SNR=3.6							
GERES	**GERESS Array B**	**77.96**	**2**	P	**P**	**15 38 34.4**	**-0.3**
GUN	**Gumba**	**79.18**	**303**	eP	**P**	**15 38 41.9**	**+0.1**
12nm,0.7s,mb4.9							
GUN	**Gumba**	**79.18**	**303**	eP	**P**	**15 38 41.9**	**+0.1**
12nm,0.7s,mb4.9							
JIRN	**Jiri**	**79.23**	**302**	eP	**P**	**15 38 42.5**	**+0.4**
4.7nm,0.5s,mb4.7							
JIRN	**Jiri**	**79.23**	**302**	eP	**P**	**15 38 42.5**	**+0.4**
4.7nm,0.5s,mb4.7							
ODAN	**Odare**	**79.27**	**301**	eP	**P**	**15 38 43.0**	**+0.7**
ODAN	**Odare**	**79.27**	**301**	eP	**P**	**15 38 43.0**	**+0.7**
KKN	**Kakani**	**79.58**	**303**	eP	**P**	**15 38 44.7**	**+0.7**
3.9nm,0.6s,mb4.5							
KKN	**Kakani**	**79.58**	**303**	eP	**P**	**15 38 44.7**	**+0.7**
3.9nm,0.6s,mb4.5							
RAMN	**Ramite**	**79.60**	**301**	eP	**P**	**15 38 43.8**	**-0.3**
9.9nm,0.7s,mb4.9							
RAMN	**Ramite**	**79.60**	**301**	eP	**P**	**15 38 43.8**	**-0.3**
9.9nm,0.7s,mb4.8							
PKI	**Pulchoki**	**79.70**	**303**	eP	**P**	**15 38 44.5**	**-0.1**
PKI	**Pulchoki**	**79.70**	**303**	eP	**P**	**15 38 44.5**	**-0.1**
GKN	**Gorkha**	**79.73**	**303**	eP	**P**	**15 38 44.5**	**-0.3**
7.6nm,0.7s,mb4.7							
GKN	**Gorkha**	**79.73**	**303**	eP	**P**	**15 38 44.5**	**-0.3**
7.6nm,0.7s,mb4.7							
CMAR	**Chiang Mai Arr**	**79.74**	**287**	P	**P**	**15 38 44.2**	**-0.7**
0.7nm,0.6s,mb3.7,baz=26,slow=6.5,SNR=5.8							
CMAR	**Chiang Mai Arr**	**79.74**	**287**	P	**P**	**15 38 44.2**	**-0.7**
DMN	**Daman**	**79.82**	**303**	eP	**P**	**15 38 45.4**	**+0.1**
5.5nm,0.5s,mb4.7							
DMN	**Daman**	**79.82**	**303**	eP	**P**	**15 38 45.4**	**+0.1**
5.5nm,0.5s,mb4.7							
DANN	**Dangsing**	**79.88**	**304**	eP	**P**	**15 38 45.9**	**+0.3**
26nm,0.6s,mb5.3							
DANN	**Dangsing**	**79.88**	**304**	eP	**P**	**15 38 45.9**	**+0.3**
26nm,0.6s,mb5.3							
KOLN	**Koldanda**	**80.43**	**304**	eP	**P**	**15 38 48.5**	**-0.1**
3.7nm,0.4s,mb4.6							
KOLN	**Koldanda**	**80.43**	**304**	eP	**P**	**15 38 48.5**	**-0.1**
3.7nm,0.4s,mb4.7							
BRTR	**Keskin Array B**	**85.93**	**347**	P	**P**	**15 39 17.4**	**+0.6**
1.5nm,0.9s,mb4.2,baz=90,slow=1.2,SNR=4.5							
BRTR	**Keskin Array B**	**85.93**	**347**	P	**P**	**15 39 17.4**	**+0.6**

*ISCJB **27** 15:29:18.8±0.7, 37°.89N±0°.03×29°.24E±0°.06, h1km±17km, Error ellipse: s-maj=7.9km s-min=5.0km az=10.6*

*DDA **27** 15:29:18.9, 37°.88N×29°.23E, h7km±2km, Md2.8*
*CSEM **27** 15:29:18.6±0.3, 37°.85N×29°.29E, h2km, MD2.7, Error ellipse: s-maj=7.1km s-min=4.4km az=113.0*
*ISK **27** 15:29:19.3, 37°.90N×29°.16E, h8km, MD2.7*

ISC 27 15:29:19.4±0.7, 37°.89N±0°.03×29°.24E±0°.06, h5km±15km, n12, σ0°.82/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**231**	ePG	**Pg**	**15 29 23.8**	**+0.3**
DENT				eSG	**Sg**	**15 29 26.5**	**+0.2**
DENT	**Denizli**	**0.21**	**231**	ePg	**Pg**	**15 29 23.8**	**+0.3**
DENT				eSg	**Sg**	**15 29 26.5**	**+0.3**
KHAL	**Karahalli**	**0.52**	**22**	i P	**Pg**	**15 29 29.2**	**-0.3**
KHAL				i S	**Sg**	**15 29 37.0**	**+0.7**
KHAL	**Karahalli**	**0.52**	**22**	i P	**Pg**	**15 29 29.2**	**-0.3**
KHAL				i S	**Sg**	**15 29 37.0**	**+0.7**
GOLH	**Golhisar**	**0.70**	**158**	i P	**Pg**	**15 29 30.8**	**-2.0**
GOLH				i S	**Sg**	**15 29 42.8**	**+1.0**
GOLH	**Golhisar**	**0.70**	**158**	i P	**Pg**	**15 29 30.8**	**-1.9**
GOLH				i S	**Sg**	**15 29 42.8**	**+1.0**
KULA	**Kula-Manisa**	**0.78**	**324**	ePG	**Pg**	**15 29 33.9**	**-0.3**
KULA				eSG	**Sg**	**15 29 44.3**	**-0.1**
KULA	**Kula-Manisa**	**0.78**	**324**	ePg	**Pg**	**15 29 33.9**	**-0.4**
KULA				eSg	**Sg**	**15 29 44.3**	**-0.1**
YER	**Yerkesik**	**1.07**	**226**	ePG	**Pg**	**15 29 38.7**	**-1.1**
YER				eSG	**Sg**	**15 29 54.5**	**+0.9**
YER	**Yerkesik**	**1.07**	**226**	ePg	**Pg**	**15 29 38.7**	**-1.1**
YER				eSg	**Sg**	**15 29 54.5**	**+0.8**
ALT	**Altintas**	**1.35**	**30**	ePN	**Pn**	**15 29 45.2**	**+0.3**
ALT	**Altintas**	**1.35**	**30**	ePn	**Pn**	**15 29 45.2**	**+0.3**

*DDA **27** 15:33:20.6, 40°.19N×31°.76E, h7km±5km, Md3.0*
*ISCJB **27** 15:33:21.4±0.8, 40°.18N±0°.04×31°.70E±0°.04, h3km±7km, Error ellipse: s-maj=6.0km s-min=5.3km az=170.5*
*ISK **27** 15:33:21.8, 40°.15N×31°.65E, h17km, MD3.0*
*CSEM **27** 15:33:21.7±0.3, 40°.17N×31°.68E, h10km, MD3.0, Error ellipse: s-maj=7.8km s-min=5.8km az=8.0*

ISC 27 15:33:22.2±0.7, 40°.19N±0°.04×31°.70E±0°.05, h10km±7km, n28, σ1°.21/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDUB	**Mudurnu**	**0.48**	**306**	ePG	**Pg**	**15 33 31.1**	**-0.4**
MDUB				eSG	**Sg**	**15 33 39.1**	**+1.3**
MDUB	**Mudurnu**	**0.48**	**306**	ePg	**Pg**	**15 33 31.1**	**-0.4**
MDUB				eSg	**Sg**	**15 33 39.1**	**+1.3**
SVRH	**Sivrihisar-ESK**	**0.75**	**190**	ePG	**Pg**	**15 33 35.2**	**-1.5**
SVRH				eSG	**Sg**	**15 33 47.0**	**+0.5**
SVRH	**Sivrihisar-ESK**	**0.75**	**190**	ePg	**Pg**

PRU	**Pruhonice**	**1.80 213**	Pg	**Pg**	**16 06 09.2**	**-0.2**
PRU			Sg	**Sg**	**16 06 32.5**	**-0.2**
	15nm,0.3s					
CLL	**Collm**	**1.94 266**	*e*Pn	**Pn**	**16 06 08.0**	**-1.1**
CLL			*e*Pg	**Pg**	**16 06 11.0**	**-1.1**
CLL			*i* Sg	**Sg**	**16 06 37.3**	**+0.1**
	comp=Z,12nm,0.7s					
MORC	**Moravsky Berou**	**1.96 151**	*e*Pn	**Pn**	**16 06 08.9**	**-0.5**
MORC			*e*Sg	**Sg**	**16 06 35.6**	**-2.2**
VRAC	**Vranov**	**2.22 171**	*e*Pn	**Pn**	**16 06 13.7**	**+0.8**
VRAC			*e*Sg	**Sg**	**16 06 45.5**	**-0.6**
TREC	**Trest**	**2.24 190**	*e*PN	**Pn**	**16 06 14.6**	**+1.4**
TREC	**Trest**	**2.24 190**	Pn	**Pn**	**16 06 14.6**	**+1.4**
NKC	**Novy Kostel**	**2.63 243**	*e*PN	**Pn**	**16 06 18.3**	**-0.3**
NKC			*e*PG	**Pg**	**16 06 24.7**	**-0.6**
NKC			*e*SG	**Sg**	**16 06 59.7**	**+0.4**
	comp=Z,42nm,0.3s					
NKC	**Novy Kostel**	**2.63 243**	Pn	**Pn**	**16 06 18.3**	**-0.3**
OJC	**Ojcow**	**2.68 117**	*e*Pg	**Pg**	**16 06 26.8**	**+0.5**
OJC			*e*Sg	**Sg**	**16 07 01.6**	**+0.6**
KHC	**Kasperske Hory**	**2.86 215**	*e*PN	**Pn**	**16 06 22.0**	**+0.2**
KHC			*e*PG	**Pg**	**16 06 28.1**	**-1.7**
KHC			*e*SN	**Sn**	**16 06 55.9**	**-1.0**
KHC			*e*SG	**Sg**	**16 07 05.8**	**-1.0**
KHC	**Kasperske Hory**	**2.86 215**	Pn	**Pn**	**16 06 22.0**	**+0.2**
KHC	**Kasperske Hory**	**2.86 215**	Pg	**Pg**	**16 06 28.1**	**-1.7**
KHC			Sn	**Sn**	**16 06 55.9**	**-1.0**
KHC			Sg	**Sg**	**16 07 05.8**	**-1.0**

*IDC **27** 16:08:06.3±0.9, 6°.62S×130°.60E, h0km, mb4.0/5, mb1 4.3/8, mb1mx4.0/14, mbtmp4.1/8, ML4.4/3, Error ellipse: s-maj=49.2km s-min=19.2km az=69.0*
*NEIC **27** 16:08:11.7±1.6, 6°.75S×130°.39E, h36km±15km, mb4.3/4, Error ellipse: s-maj=18.2km s-min=8.8km az=53.0*
ISC 27 16:08:12.4±0.6, **6°.96S**±0°.06×**130°.0E**±0°.1, **h35**km, **n30**, σ1º**10**/37, **mb4.1**/9, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.84 200**		Pn	**Pn**	**16 11 03.1**	**+4.3**
	4.8nm,0.3s,baz=39,slow=11,SNR=69						
FITZ				Sn	**Sn**	**16 13 07.7**	**-2.2**
	4.4nm,0.3s,baz=240,slow=21,SNR=7.2						
FITZ	**Fitzroy Crossi**	**11.84 200**		*e*Pn	**Pn**	**16 11 02.3**	**+3.4**
	2.6nm,0.3s						
FITZ				*e*S	**Sn**	**16 13 04.5**	**-5.3**
FITZ				Sn	**Sn**	**16 13 07.7**	**-2.2**
WRAB	**Tennant Creek**	**13.58 162**		*e*Pn	**Pn**	**16 11 22.9**	**+0.3**
	3.3nm,0.4s						
WRAB				*e*Sn	**Sn**	**16 13 42.1**	**-10**
WRA	**Warramunga Arr**	**13.59 162**		Pn	**Pn**	**16 11 23.7**	**+1.0**
	1.4nm,0.3s,baz=338,slow=13,SNR=65						
WRA				Sn	**Sn**	**16 13 41.9**	**-11**
	2.5nm,0.3s,baz=350,slow=21,SNR=9.2						
WRA	**Warramunga Arr**	**13.59 162**		Pn	**Pn**	**16 11 23.7**	**+1.0**
WRA				Sn	**Sn**	**16 13 41.9**	**-11**
WB2	**Warramunga Arr**	**13.59 162**		*e*Pn	**Pn**	**16 11 23.1**	**+0.3**
WB2				*e*Sn	**Sn**	**16 13 40.2**	**-12**
AS31	**Alice Springs**	**17.04 168**		*e*Pn	**Pn**	**16 12 08.4**	**+0.4**
AS31				*e*Sn	**Sn**	**16 15 00.4**	**-16**
ASAR	**Alice Springs**	**17.04 168**		P	**Pn**	**16 12 09.0**	**+1.0**
	1.0nm,0.3s,baz=339,slow=8.6,SNR=146						
ASAR				S	**S**	**16 15 06.0**	**-19**
	0.4nm,0.3s,baz=340,slow=21,SNR=7.5						
ASAR	**Alice Springs**	**17.04 168**		P	**Pn**	**16 12 09.0**	**+1.0**
ASAR				S	**S**	**16 15 06.0**	**-19**
MBWA	**Marble Bar**	**17.23 214**		*e*Pn	**Pn**	**16 12 14.8**	**+4.4**
MBWA				*e*Sn	**Sn**	**16 15 15.5**	**-5.6**
KKM	**Kota Kinabalu**	**18.84 313**		P	**Pn**	**16 12 30.4**	**+0.2**
STKA	**Stephens Creek**	**27.07 158**		P	**P**	**16 13 51.5**	**-0.2**
	0.6nm,0.3s,mb3.6,baz=348,slow=13,SNR=5.7						
STKA	**Stephens Creek**	**27.07 158**		*e*P	**P**	**16 13 51.5**	**-0.2**
	0.3nm,0.7s,mb2.9						
CMAR	**Chiang Mai Arr**	**39.67 310**		P	**P**	**16 15 43.0**	**+1.7**
	0.7nm,0.5s,mb3.6,baz=146,slow=7.1,SNR=7.8						
CMAR	**Chiang Mai Arr**	**39.67 310**		P	**P**	**16 15 43.0**	**+1.7**
ULN	**Ulaanbaatar**	**58.21 342**		P	**P**	**16 18 00.9**	**-2.0**
	1.4nm,0.6s,mb4.2						
MK31	**Makanchi Array**	**68.17 327**		*e*P	**P**	**16 19 09.5**	**+0.5**
MKAR	**Makanchi Array**	**68.17 327**		P	**P**	**16 19 09.6**	**+0.5**
	4.2nm,0.5s,mb4.8,baz=114,slow=8.4,SNR=84						
MKAR	**Makanchi Array**	**68.17 327**		P	**P**	**16 19 09.6**	**+0.5**
TKM2	**Tokmak 2**	**69.92 321**		*e*P	**P**	**16 19 20.2**	**+0.1**
	2.6nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**70.48 320**		*e*P	**P**	**16 19 24.3**	**+0.9**
	7.5nm,0.6s,mb4.8						
EKS2	**Erkin-Say**	**70.95 320**		*e*P	**P**	**16 19 27.1**	**+0.8**
	1.8nm,0.7s,mb4.1						
ZALV	**Zalesovo Beam**	**71.53 334**		P	**P**	**16 19 28.1**	**-1.4**
	0.5nm,0.5s,mb3.7,baz=149,slow=6.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**71.53 334**		P	**P**	**16 19 28.1**	**-1.4**
ILAR	**Eielson Array**	**93.33 25**		P	**P**	**16 21 20.0**	**-3.4**
	0.3nm,0.7s,mb3.9,baz=284,slow=4.4,SNR=4.2						
ILAR	**Eielson Array**	**93.33 25**		P	**P**	**16 21 20.0**	**-3.4**
TORD	**Torodi Ar. Bea**	**128.75 281**		PKP	PKPdf	16 27 16.4	-0.7
	0.3nm,0.3s,baz=56,slow=1.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**128.75 281**		PKP	PKPdf	16 27 16.4	-0.7
LPAZ	**La Paz**	**150.78 142**		PKPbc	PKPbc	16 28 01.9	-0.1
	0.8nm,0.4s,baz=277,slow=1.6,SNR=4.6						
LPAZ	**La Paz**	**150.78 142**		PKPbc	PKPbc	16 28 01.9	-0.1

IDC 27 16:19:37.6±2.4, **9°.45S×118°.82E, h0**km, **mb3.1**/2, **mb1 3.3**/4, **mb1mx3.2**/17, **mbtmp3.2**/4, **ML2.8**/2, **Error ellipse: s-maj=197.2km s-min=24.4km az=52.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.85 143**		Pn	Pn	16 22 13.3	-1.0
	0.1nm,0.3s,baz=304,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**18.27 127**		P	Pn	16 23 52.5	-0.2
	0.0nm,0.3s,baz=306,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**20.19 136**		P	P	16 24 14.8	+0.8
	0.5nm,1.0s,baz=310,slow=10.0,SNR=8.2						
MKAR	**Makanchi Array**	**64.77 333**		P	P	16 30 18.0	+0.1
	0.3nm,0.7s,baz=126,slow=7.4,SNR=2.9						

*TRN **27** 16:29:42.9, 19°.24N×64°.85W, h44km, MD2.9(RSPR)*
*NEIC **27** 16:29:44.1, 19°.26N×64°.81W, h64km, MD2.9(RSPR), After RSPR.*
RSPR 27 16:29:44.1, 19°.26N×64°.81W, h64km±9km, **MD2.9**/9, **17C-9D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.69 139**		*e*P	Pn	16 29 58.1	-0.5
ABV				*e*S	Sn	16 30 08.4	-0.7
ABV	**Anegada**	**0.69 139**		*e*P	Pn	16 29 58.6	0.0
ABV				*e*S	Sn	16 30 08.4	-0.7
TBVI	**Tortola**	**0.86 168**		*e*P	Pn	16 29 59.7	-0.9
TBVI				*e*S	Sn	16 30 12.8	+0.1
TBVI	**Tortola**	**0.86 168**		*e*P	Pn	16 29 59.7	-0.9
TBVI				*e*S	Sn	16 30 12.8	+0.1
TBVI	**Tortola**	**0.86 168**		*e*P	Pn	16 29 59.7	-0.9
TBVI				*e*S	Sn	16 30 12.8	+0.1
STVI	**Saint Thomas**	**0.91 189**		*i*P	Pn	16 30 00.1	-1.2
STVI	**Saint Thomas**	**0.91 189**		*i*P	Pn	16 30 00.1	-1.2
STVI				*e*S	Sn	16 30 12.9	-1.0
STVI	**Saint Thomas**	**0.91 189**		*i*P	Pn	16 30 00.8	-0.5
STVI				*e*S	Sn	16 30 12.9	-1.0
MTP	**Monte Pirata**	**1.35 211**		*e*P	Pn	16 30 06.7	-0.3
MTP	**Monte Pirata**	**1.35 211**		*e*P	Pn	16 30 06.7	-0.3
MTP				*e*S	Sn	16 30 24.2	+0.1
MTP	**Monte Pirata**	**1.35 211**		*e*P	Pn	16 30 06.7	-0.3
MTP				*e*S	Sn	16 30 24.2	+0.1
CBYP	**Canovanas**	**1.40 225**		*e*P	Pn	16 30 07.3	-0.2
CBYP	**Canovanas**	**1.40 225**		*e*P	Pn	16 30 07.3	-0.2
CBYP				*e*S	Sn	16 30 24.1	-1.1
CBYP	**Canovanas**	**1.40 225**		*e*P	Pn	16 30 07.3	-0.2
CBYP				*e*S	Sn	16 30 24.8	-0.3
HUMP	**Col San Antoni**	**1.49 222**		*e*P	Pn	16 30 08.3	-0.4
HUMP	**Col San Antoni**	**1.49 222**		*e*P	Pn	16 30 08.3	-0.4
HUMP				*e*S	Sn	16 30 26.5	-0.8
HUMP	**Col San Antoni**	**1.49 222**		*e*P	Pn	16 30 08.3	-0.4
HUMP				*e*S	Sn	16 30 26.5	-0.8
SJG	**San Juan**	**1.71 228**		*e*P	Pn	16 30 11.4	-0.3
SJG				*e*S	Sn	16 30 32.0	-0.7
SJG	**San Juan**	**1.71 228**		*e*P	Pn	16 30 11.4	-0.3
SJG				*e*S	Sn	16 30 32.0	-0.7
SJG	**San Juan**	**1.71 228**		*e*P	Pn	16 30 11.4	-0.3
SJG				*e*S	Sn	16 30 32.0	-0.7
CELP	**Cerrillos**	**2.05 235**		*e*S	Sn	16 30 39.6	-1.3
CELP	**Cerrillos**	**2.05 235**		*e*S	Sn	16 30 39.6	-1.3
AOPR	**Arecibo Observ**	**2.05 244**		*e*S	Sn	16 30 40.8	-0.2
AOPR	**Arecibo Observ**	**2.05 244**		*e*S	Sn	16 30 40.8	-0.2
LSP	**Las Mesas**	**2.41 244**		*i*eP	Pn	16 30 20.1	-1.2
LSP				*e*S	Sn	16 30 49.6	-0.1
LSP	**Las Mesas**	**2.41 244**		*i*eP	Pn	16 30 20.1	-1.2
LSP				*e*S	Sn	16 30 49.6	-0.1
LSP	**Las Mesas**	**2.41 244**		*i*eP	Pn	16 30 20.1	-1.2
LSP				*e*S	Sn	16 30 49.6	-0.1
CRPR	**Cabo Rojo, PR**	**2.51 241**		*i*eP	Pn	16 30 22.4	-0.3
CRPR	**Cabo Rojo, PR**	**2.51 241**		*i*eP	Pn	16 30 22.4	-0.3
CRPR	**Cabo Rojo, PR**	**2.51 241**		*i*eP	Pn	16 30 22.4	-0.3

*CSEM **27** 16:36:46.3±99.0, 46°.39N×15°.07E, h0km, Suspected Mining induced. After LJU*
LJU 27 16:36:46.3, 46°.39N×15°.07E, h0km **Rockburst, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDS	**Vrh nad Dolski**	**0.39 222**		*i* Pg	Pg	16 36 53.7	0.0

*ISCJB **27** 16:37:39.0±0.5, 37°.89N±0°.03×29°.23E±0°.05, h5km±7km, Error ellipse: s-maj=6.4km s-min=4.3km az=14.4*
*DDA **27** 16:37:38.9, 37°.89N×29°.24E, h7km±3km, Md2.8*
*CSEM **27** 16:37:38.9±0.2, 37°.89N×29°.24E, h5km, MD2.6, Error ellipse: s-maj=4.7km s-min=3.0km az=100.0*
*ISK **27** 16:37:39.0, 37°.90N×29°.21E, h12km, MD2.6*
ISC 27 16:37:39.3±0.5, **37°.89N**±0°.03×**29°.22E**±0°.05, **h10**km±6km, **n24**, σ0º**71**/38, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20 227**		*e*PG	**Pg**	**16 37 44.0**	**+0.5**
DENT	**Denizli**	**0.20 227**		*e*Pg	**Pg**	**16 37 44.1**	**+0.6**
DNZL	**Cakiroluk**	**0.24 214**		*i* P	**Pg**	**16 37 43.7**	**-0.6**
DNZL				*i* S	**Sg**	**16 37 47.6**	**0.0**
DNZL	**Cakiroluk**	**0.24 214**		*i* P	**Pg**	**16 37 43.7**	**-0.6**
DNZL				*i* S	**Sg**	**16 37 47.6**	**0.0**
KHAL	**Karahalli**	**0.52 24**		*i* P	**Pg**	**16 37 48.9**	**-0.6**
KHAL				*i* S	**Sg**	**16 37 56.4**	**0.0**
KHAL	**Karahalli**	**0.52 24**		*i* P	**Pg**	**16 37 48.8**	**-0.7**
KHAL				*i* S	**Sg**	**16 37 56.4**	**0.0**
GOLH	**Golhisar**	**0.71 157**		*i* P	**Pg**	**16 37 51.6**	**-1.4**
GOLH				*i* S	**Sg**	**16 38 03.9**	**+1.6**
GOLH	**Golhisar**	**0.71 157**		*i* P	**Pg**	**16 37 51.6**	**-1.4**
GOLH				*i* S	**Sg**	**16 38 03.8**	**+1.6**
KULA	**Kula-Manisa**	**0.76 325**		*e*Pg	**Pg**	**16 37 53.8**	**-0.1**
KULA				*e*SG	**Sg**	**16 38 05.0**	**+1.1**
KULA	**Kula-Manisa**	**0.76 325**		*e*Pg	**Pg**	**16 37 53.8**	**-0.2**
KULA				*e*Sg	**Sg**	**16 38 05.1**	**+1.2**
GLHS	**Glhisar (BURDU**	**0.77 163**		*e*PG	**Pg**	**16 37 54.7**	**+0.6**
GLHS	**Glhisar (BURDU**	**0.77 163**		*e*Pg	**Pg**	**16 37 54.7**	**+0.6**
YER	**Yerkesik**	**1.06 225**		*e*PG	**Pg**	**16 37 58.9**	**-0.8**
YER	**Yerkesik**	**1.06 225**		*e*Pg	**Pg**	**16 37 58.9**	**-0.8**
AYDN	**Tasoluk**	**1.09 258**		*i* P	**Pb**	**16 38 00.3**	**+0.1**
AYDN				*i* S	**Sg**	**16 38 13.8**	**-0.5**
AYDN	**Tasoluk**	**1.09 258**		*i* P	**Pb**	**16 38 00.3**	**+0.1**
AYDN				*i* S	**Sg**	**16 38 13.8**	**-0.5**
GDZ	**Gediz**	**1.21 10**		*i* P	**Pn**	**16 38 02.2**	**-0.1**
GDZ				*i* S	**Sb**	**16 38 17.1**	**-0.9**
GDZ	**Gediz**	**1.21 10**		*i* P	**Pn**	**16 38 02.2**	**-0.1**
GDZ				*i* S	**Sb**	**16 38 17.1**	**-0.9**
DEMI	**Demirci**	**1.21 341**		*i* P	**Pn**	**16 38 02.9**	**+0.5**
DEMI				*i* S	**Sb**	**16 38 18.8**	**+0.7**
DEMI	**Demirci**	**1.21 341**		*i* P	**Pn**	**16 38 02.9**	**+0.5**
DEMI				*i* S	**Sb**	**16 38 18.8**	**+0.7**
SHUT	**Suhut-Afyon**	**1.24 57**		*e*PN	**Pn**	**16 38 02.9**	**+0.2**
SHUT	**Suhut-Afyon**	**1.24 57**		*e*Pn	**Pn**	**16 38 02.9**	**+0.2**
ALT	**Altintas**	**1.35 31**		*e*PN	**Pn**	**16 38 04.1**	**-0.2**
ALT	**Altintas**	**1.35 31**		*e*Pn	**Pn**	**16 38 04.1**	**-0.2**

*NEIC **27** 16:41:22.8, 39°.89S×176°.76E, h49km, ML3.5(WEL), After WEL.*
WEL 27 16:41:22.9±0.1, **39°.88S**×**176°.75E, h47**km±2km, **ML3.5**/13, **Error ellipse: s-maj=1.3km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.13 50**		PN	**Pn**	16 41 30.2	-0.3
KAHZ				SN	Sn	16 41 36.2	+0.3
KAHZ	**Kahuranaki**	**0.13 50**		PN	**Pn**	16 41 30.2	-0.3
KAHZ				Sn	Sn	16 41 36.2	+0.3
PXZ	**Pawanui**	**0.18 149**		PN	**Pn**	16 41 30.7	0.0
PXZ				SN	Sn	16 41 36.2	-0.1
PXZ	**Pawanui**	**0.18 149**		Pn	**Pn**	16 41 30.8	0.0
WPHZ	**Waipukurau**	**0.30 232**		PN	**Pn**	16 41 31.5	-0.2
WPHZ				SN	Sn	16 41 37.9	-0.1
WPHZ	**Waipukurau**	**0.30 232**		Pn	**Pn**	16 41 31.5	-0.2
CKHZ	**Cape Kidnapper**	**0.34 49**		PN	**Pn**	16 41 32.5	+0.4
CKHZ				SN	Sn	16 41 39.0	+0.4
CKHZ	**Cape Kidnapper**	**0.34 49**		Pn	**Pn**	16 41 32.5	+0.4
PRHZ	**Porangahau**	**0.40 192**		PN	**Pn**	16 41 33.4	+0.7
PRHZ				SN	Sn	16 41 39.9	+0.1
PRHZ	**Porangahau**	**0.40 192**		Pn	**Pn**	16 41 33.4	+0.7
PNHZ	**Pukenui**	**0.42 265**		PN	**Pn**	16 41 31.9	-1.1
PNHZ				SN	Sn	16 41 38.6	-1.6
PNHZ	**Pukenui**	**0.42 265**		Pn	**Pn**	16 41 31.9	-1.1
MCHZ	**McNeill Hill**	**0.44 355**		PN	**Pn**	16 41 32.3	-0.9
MCHZ	**McNeill Hill**	**0.44 355**		Pn	**Pn**	16 41 32.3	-0.9
DVHZ	**Dannevirke**	**0.61 226**		PN	**Pn**	16 41 35.3	0.0
DVHZ	**Dannevirke**	**0.61 226**		Pn	**Pn**	16 41 35.3	0.0
TSZ	**Takapari Road**	**0.63 253**		PN	**Pn**	16 41 34.9	-0.7
TSZ	**Takapari Road**	**0.63 253**		Pn	**Pn**	16 41 34.9	-0.7
BHHZ	**Black Hill Sta**	**0.66 306**		PN	**Pn**	16 41 34.4	-1.5
BHHZ	**Black Hill Sta**	**0.66 306**		Pn	**Pn**	16 41 34.4	-1.5
BKZ	**Black Stump Fm**	**0.74 345**		PN	**Pn**	16 41 35.6	-1.5
BKZ	**Black Stump Fm**	**0.74 345**		Pn	**Pn**	16 41 35.6	-1.5
NMHZ	**Naumai**	**0.78 3**		PN	**Pn**	16 41 37.5	-0.1
NMHZ	**Naumai**	**0.78 3**		Pn	**Pn**	16 41 37.5	-0.1
BFZ	**Birch Farm**	**0.89 205**		PN	**Pn**	16 41 39.4	+0.4
MOVZ	**Moawhango**	**0.90 301**		PN	**Pn**	16 41 38.4	-0.7
MOVZ				SN	Sn	16 41 49.3	-1.8
MOVZ	**Moawhango**	**0.90 301**		Pn	**Pn**	16 41 38.4	-0.7
MOVZ				Sn	Sn	16 41 49.3	-1.8
POWZ	**Post Office Ro**	**0.91 235**		PN	**Pn**	16 41 39.2	0.0
POWZ	**Post Office Ro**	**0.91 235**		Pn	**Pn**	16 41 39.2	0.0
RAHZ	**Arahi**	**1.00 15**		PN	**Pn**	16 41 40.3	-0.2
RAHZ	**Arahi**	**1.00 15**		Pn	**Pn**	16 41 40.3	-0.2
TUVZ	**Tukino**	**1.04 306**		PN	**Pn**	16 41 41.0	0.0
TUVZ	**Tukino**	**1.04 306**		Pn	**Pn**	16 41 41.0	0.0
WNVZ	**Wahianoa**	**1.04 302**		PN	**Pn**	16 41 41.0	-0.1
WNVZ	**Wahianoa**	**1.04 302**		Pn	**Pn**	16 41 41.0	-0.1
TRVZ	**Turoa**	**1.09 302**		PN	**Pn**	16 41 41.9	+0.1
TRVZ	**Turoa**	**1.09 302**		Pn	**Pn**	16 41 41.9	+0.1
DRZ	**Dome Shelter**	**1.09 303**		PN	**Pn**	16 41 42.3	+0.5
DRZ	**Dome Shelter**	**1.09 303**		Pn	**Pn**	16 41 42.3	+0.5
OTVZ	**Oturere**	**1.10 310**		PN	**Pn**	16 41 41.5	-0.3
OTVZ	**Oturere**	**1.10 310**		Pn	**Pn**	16 41 41.5	-0.3
MTVZ	**Mangateitei**	**1.10 296**		PN	**Pn**	16 41 42.0	+0.1
MTVZ	**Mangateitei**	**1.10 296**		Pn	**Pn**	16 41 42.0	+0.2
HATZ	**Hinemaiaia**	**1.11 333**		PN	**Pn**	16 41 41.4	-0.5
HATZ	**Hinemaiaia**	**1.11 333**		Pn	**Pn**	16 41 41.5	-0.5
TIWZ	**Tintock**	**1.11 216**		PN	**Pn**	16 41 42.1	+0.1
TIWZ	**Tintock**	**1.11 216**		Pn	**Pn**	16 41 42.1	+0.1
FWVZ	**Far West T-bar**	**1.11 304**		PN	**Pn**	16 41 42.0	0.0
FWVZ	**Far West T-bar**	**1.11 304**		Pn	**Pn**	16 41 42.0	0.0
KNZ	**Kokohu**	**1.12 40**		PN	**Pn**	16 41 41.7	-0.5
KNZ	**Kokohu**	**1.12 40**		Pn	**Pn**	16 41 41.7	-0.4
NGZ	**Ngauruhoe**	**1.13 308**		PN	**Pn**	16 41 41.9	-0.4
NGZ	**Ngauruhoe**	**1.13 308**		Pn	**Pn**	16 41 41.9	-0.4
RITZ	**Rihia Road**	**1.13 322**		PN	**Pn**	16 41 42.2	-0.1
RITZ	**Rihia Road**	**1.13 322**		Pn	**Pn**	16 41 42.2	-0.1
WPVZ	**Whakapapa**	**1.15 306**		PN	**Pn**	16 41 42.6	+0.1
WPVZ	**Whakapapa**	**1.15 306**		Pn	**Pn**	16 41 42.6	+0.1
MHGZ	**Mahia Peninsul**	**1.16 51**		PN	**Pn**	16 41 43.0	+0.4
MHGZ	**Mahia Peninsul**	**1.16 51**		Pn	**Pn**	16 41 43.0	+0.4
KRVZ	**Karerawerawa**	**1.16 312**		PN	**Pn**	16 41 42.3	-0.4
KRVZ	**Karerawerawa**	**1.16 312**		Pn	**Pn**	16 41 42.3	-0.4
WTVZ	**West Tongariro**	**1.18 310**		PN	**Pn**	16 41 43.1	+0.2
WTVZ	**West Tongariro**	**1.18 310**		Pn	**Pn**	16 41 43.1	+0.2
MRZ	**Mangatainoka R**	**1.19 228**		PN	**Pn**	16 41 42.6	-0.4
MRZ	**Mangatainoka R**	**1.19 228**		Pn	**Pn**	16 41 42.6	-0.4
KATZ	**Kakaramea**	**1.22 318**		PN	**Pn**	16 41 43.6	+0.1
KATZ	**Kakaramea**	**1.22 318**		Pn	**Pn**	16 41 43.6	+0.1
PKVZ	**Pokaka**	**1.23 298**		PN	**Pn**	16 41 43.8	+0.2
PKVZ	**Pokaka**	**1.23 298**		Pn	**Pn**	16 41 43.8	+0.2
RATZ	**Rangitukua**	**1.26 323**		PN	**Pn**	16 41 44.7	+0.6
RATZ	**Rangitukua**	**1.26 323**		Pn	**Pn**	16 41 44.7	+0.6
TWVZ	**Taurewa**	**1.29 308**		PN	**Pn**	16 41 44.2	-0.3
TWVZ	**Taurewa**	**1.29 308**		Pn	**Pn**	16 41 44.2	-0.3
PRGZ	**Paritu Road**	**1.30 43**		PN	**Pn**	16 41 44.4	-0.2
PRGZ	**Paritu Road**	**1.30 43**		Pn	**Pn**	16 41 44.4	-0.2
ALRZ	**Allen Road**	**1.35 346**		PN	**Pn**	16 41 44.6	-0.7
ALRZ	**Allen Road**	**1.35 346**		Pn	**Pn**	16 41 44.6	-0.7
WHTZ	**Whakaora**	**1.36 333**		Pn	**Pn**	16 41 45.4	0.0
WAZ	**Wanganui**	**1.36 275**		PN	**Pn**	16 41 46.2	+0.8
WAZ	**Wanganui**	**1.36 275**		Pn	**Pn**	16 41 46.2	+0.8
HOWZ	**Holdsworth Sta**	**1.39 222**		PN	**Pn**	16 41 45.2	-0.5
HOWZ				SN	Sn	16 42 02.9	0.0
HOWZ	**Holdsworth Sta**	**1.39 222**		Pn	**Pn**	16 41 45.2	-0.5
HOWZ				Sn	Sn	16 42 02.9	0.0
TMWZ	**Te Maipa**	**1.39 208**		PN	**Pn**	16 41 45.4	-0.4
TMWZ	**Te Maipa**	**1.39 208**		Pn	**Pn**	16 41 45.4	-0.4
PRRZ	**Plateau Road**	**1.41 349**		PN	**Pn**	16 41 45.6	-0.5
PRRZ	**Plateau Road**	**1.41 349**		Pn	**Pn**	16 41 45.6	-0.5
WATZ	**Wairara**	**1.41 326**		Pn	**Pn**	16 41 46.8	+0.7
OGWZ	**Otaki Gorge**	**1.52 232**		PN	**Pn**	16 41 47.0	-0.6
OGWZ	**Otaki Gorge**	**1.52 232**		Pn	**Pn**	16 41 47.0	-0.6
HRRZ	**Handcock Road**	**1.53 346**		PN	**Pn**	16 41 47.4	-0.3
HRRZ	**Handcock Road**	**1.53 346**		Pn	**Pn**	16 41 47.4	-0.3
RRRZ	**Republican Roa**	**1.55 353**		PN	**Pn**	16 41 47.2	-0.8
RRRZ	**Republican Roa**	**1.55 353**		Pn	**Pn**	16 41 47.2	-0.8
MTW	**Mount Morrison**	**1.59 216**		PN	**Pn**	16 41 47.7	-0.8
MTW	**Mount Morrison**	**1.59 216**		Pn	**Pn**	16 41 47.7	-0.8
URZ	**Urewera**	**1.64 10**		*e*Pn	**Pn**	16 41 48.1	-1.2
TARZ	**Mount Tarawera**	**1.65 353**		PN	**Pn**	16 41 49.0	-0.5
TARZ	**Mount Tarawera**	**1.65 353**		Pn	**Pn**	16 41 49.0	-0.5
MWZ	**Matawai**	**1.66 22**		PN	**Pn**	16 41 48.6	-0.9
MWZ	**Matawai**	**1.66 22**		Pn	**Pn**	16 41 48.6	-0.9
KIW	**Kapiti Island**	**1.71 234**		PN	**Pn**	16 41 49.6	-0.6
KIW	**Kapiti Island**	**1.71 234**		Pn	**Pn**	16 41 49.6	-0.6
TRWZ	**Traveller**	**1.72 208**		PN	**Pn**	16 41 49.4	-0.9
TRWZ	**Traveller**	**1.72 208**		Pn	**Pn**	16 41 49.4	-0.9
CAW	**Cannon Point**	**1.77 226**		PN	**Pn**	16 41 49.9	-1.1
CAW	**

JIH	Iheya	2.18	30	P	Pn	16 43 53.6	+0.5
JIH				eS	Sn	16 44 19.3	+0.4
JIJ	Ishigaki jima	2.48	252	P	Pn	16 43 56.3	-0.8
JKRS	Kuro-shima	2.63	250	P	Pn	16 43 58.9	-0.3
IRIF	Iriomote-Funau	2.84	254	P	Pn	16 44 01.5	-0.6
HATJ	Hateruma jima	2.87	248	P	Pn	16 44 02.3	-0.2
JTK	Tokunoshima	3.30	37	P	Pn	16 44 08.4	0.0
JTK				eS	Sn	16 44 43.5	-2.8
YOJ	Yonaguni jima	3.44	259	P	Pn	16 44 09.5	-0.9
JMZ	Minamidaito 2	4.12	80	P	Pn	16 44 17.5	-2.1
JMZ				S	Sn	16 45 01.4	-5.2
JAM	Amami Oshima	4.14	38	P	Pn	16 44 19.8	-0.2
JAM				S	Sn	16 45 03.7	-3.5
JZK	Kikaishima	4.29	42	P	Pn	16 44 21.9	0.0
JZK				S	Sn	16 45 09.2	-1.5
NACB	Ninganchiao	4.77	259	ePn	Pn	16 44 26.7	-1.9
YHNB	Yeheng	4.88	266	ePn	Pn	16 44 30.8	+0.7
JNN	Nakanoshima	5.45	30	P	Pn	16 44 38.7	+0.8
JNN				eS	Sn	16 45 40.5	+1.2
SONM	Songino Array	27.76	330	P	P	16 49 03.6	-0.4
	2.0nm,0.6s,mb3.9,baz=152,slow=11,SNR=5.4						
SONM	Songino Array	27.76	330	P	P	16 49 03.6	-0.4
MKAR	Makanchi Array	41.26	313	P	P	16 50 59.6	-0.7
	1.6nm,0.5s,mb3.9,baz=98,slow=11,SNR=45						
MKAR	Makanchi Array	41.26	313	P	P	16 50 59.6	-0.7
ZALV	Zalesovo Beam	42.30	324	P	P	16 51 07.5	-1.2
	0.5nm,0.4s,mb3.5,baz=101,slow=7.1,SNR=3.8						
ZALV	Zalesovo Beam	42.30	324	P	P	16 51 07.5	-1.2
KURK	Kurchatov	44.69	318	P	P	16 51 27.4	-0.6
	0.6nm,0.4s,mb3.8,baz=108,slow=9.2,SNR=4.3						
KURK	Kurchatov	44.69	318	P	P	16 51 27.4	-0.6
WRA	Warramunga Arr	45.43	170	P	P	16 51 34.4	+0.2
	0.3nm,0.3s,mb3.6,baz=348,slow=8.9,SNR=11						
WRA	Warramunga Arr	45.43	170	P	P	16 51 34.4	+0.2
ASAR	Alice Springs	49.02	171	P	P	16 52 03.1	+1.1
	0.3nm,0.4s,mb3.7,baz=352,slow=7.0,SNR=15						
ASAR	Alice Springs	49.02	171	P	P	16 52 03.1	+1.1
FINES	FINESS Array B	73.13	330	P	P	16 54 45.5	+0.3
	1.2nm,0.5s,mb4.1,baz=56,slow=5.4,SNR=9.3						
FINES	FINESS Array B	73.13	330	P	P	16 54 45.5	+0.3
YKA	Yellowknife Ar	80.07	24	P	P	16 55 26.3	+1.9
	0.1nm,0.4s,mb3.1,baz=302,slow=5.1,SNR=2.7						
YKA	Yellowknife Ar	80.07	24	P	P	16 55 26.2	+1.9

*ISCJB **27** 16:45:54.1±1.2, 11°.3S±0°.3×111°.4E±0°.3, h3km, mb3.8/9, Error ellipse: s-maj=57.9km s-min=10.6km az=138.7*
*IDC **27** 16:45:55.5±2.3, 10°.38S×112°.07E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/17, mbtmp3.7/9, ML3.5/1, Error ellipse: s-maj=124.1km s-min=16.2km az=50.0*
*NEIC **27** 16:45:56.8±1.1, 11°.20S×111°.48E, h35km, mb4.1/1, Error ellipse: s-maj=56.9km s-min=10.1km az=48.0*
ISC 27 16:45:56.9±1.1, 11°.2S±0°.3×111°.5E±0°.3, h35km, n23, σ1§04/26, mb3.8/9, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	12.68	143	ePn	Pn	16 48 53.9	-0.9
MBWA				eSn	Sn	16 51 02.3	-12
FITZ	Fitzroy Crossi	15.30	118	Pn	Pn	16 49 30.5	+0.1
	0.2nm,0.3s,baz=226,slow=19,SNR=6.8						
FITZ				Sn	Sn	16 52 06.6	-12
	0.1nm,0.3s,baz=145,slow=18,SNR=2.8						
FITZ	Fitzroy Crossi	15.30	118	Pn	Pn	16 49 30.5	+0.1
FITZ				Sn	Sn	16 52 06.6	-12
WRA	Warramunga Arr	23.63	114	P	P	16 51 07.6	+2.4
	0.7nm,0.7s,mb3.2,baz=288,slow=12,SNR=5.5						
WRA	Warramunga Arr	23.63	114	P	P	16 51 07.6	+2.4
WRAB	Tennant Creek	23.64	114	P	P	16 51 04.8	-0.5
ASAR	Alice Springs	24.67	123	P	P	16 51 18.1	+3.5
	0.3nm,0.7s,mb2.9,baz=302,slow=9.1,SNR=6.5						
ASAR	Alice Springs	24.67	123	P	P	16 51 18.1	+3.5
CMAR	Chiang Mai Arr	31.95	337	P	P	16 52 19.6	-0.1
	0.3nm,0.4s,mb3.4,baz=153,slow=6.1,SNR=4.0						
CMAR	Chiang Mai Arr	31.95	337	P	P	16 52 19.6	-0.1
STKA	Stephens Creek	34.55	131	P	P	16 52 47.1	+4.8
	2.1nm,0.9s,mb4.0,baz=312,slow=12,SNR=3.0						
STKA	Stephens Creek	34.55	131	P	P	16 52 47.1	+4.8
SONM	Songino Array	58.93	356	P	P	16 55 51.2	-1.2
	0.7nm,0.5s,mb3.9,baz=188,slow=5.8,SNR=2.3						
SONM	Songino Array	58.93	356	P	P	16 55 51.2	-1.2
MK31	Makanchi Array	63.36	338	eP	P	16 56 22.9	+0.4
MKAR	Makanchi Array	63.36	338	P	P	16 56 23.1	+0.6
	0.9nm,0.5s,mb4.2,baz=147,slow=8.2,SNR=23						
MKAR	Makanchi Array	63.36	338	P	P	16 56 23.1	+0.5
KURK	Kurchatov	67.97	338	P	P	16 56 52.4	+0.1
	0.8nm,0.8s,mb3.8,baz=152,slow=5.3,SNR=6.4						
KURK	Kurchatov	67.97	338	P	P	16 56 52.4	+0.1
ZAA0	Zalesovo Array	68.72	343	P	P	16 56 55.4	-1.5
ZALV	Zalesovo Beam	68.72	343	P	P	16 56 56.9	+0.1
	1.8nm,0.6s,mb4.2,baz=167,slow=5.0,SNR=9.9						
ZALV	Zalesovo Beam	68.72	343	P	P	16 56 56.9	+0.1
ABKAR	Akbulak array	75.28	328	eP	P	16 57 37.5	+1.2
	1.8nm,0.7s,mb4.1						

MAN 27 17:16:48, 7°.25N×123°.56E, h21km, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.62	343	eP	Pb	17 17 01.7	+1.5
PAGZ				eS	Sb	17 17 11.6	+3.1
CTBH	Cotabato--PC H	0.68	92	‖ iP	Pb	17 17 00.8	-0.3
IPIL	Ipil	1.12	299	eP	Pn	17 17 09.6	+1.1
IPIL				eS	Sb	17 17 24.7	+1.8
BUKP	Musuan	1.61	67	eP	Pn	17 17 16.4	+1.2
CGP	Cagayan de Oro	1.64	43	⇑ eP	Pn	17 17 17.3	+1.6
CGP				eS	Sn	17 17 37.6	+1.4

IDC 27 17:21:39.0±49.0, 15°.00S×172°.22W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=964.3km s-min=177.6km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.22	240	P	P	17 29 57.8	-0.4
	1.3nm,0.8s,baz=90,slow=11,SNR=2.5						
WRA	Warramunga Arr	51.05	256	P	P	17 30 43.5	+0.1
	0.1nm,0.3s,baz=91,slow=6.9,SNR=9.8						
ASAR	Alice Springs	51.32	252	P	P	17 30 45.5	+0.1
	2.3nm,0.6s,baz=90,slow=7.8,SNR=87						

*FUNV **27** 17:29:19.3, 5°.43N×72°.87W, h65km, MW3.8*
*ISCJB **27** 17:29:23.0±0.8, 5°.70N±0°.07×72°.36W±0°.07, h82km±16km, Error ellipse: s-maj=15.4km s-min=7.5km az=137.9*
*IDC **27** 17:29:24.1±1.2, 5°.75N×75°.92W, h0km, mb3.3/1, mb1 3.6/1, mb1mx3.2/18, mbtmp3.3/1, Error ellipse: s-maj=58.3km s-min=23.7km az=36.0*
ISC 27 17:29:24.6±0.8, 5°.75N±0°.07×72°.42W±0°.07, h67km±16km, n19, σ1§06/22, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.10	245	Pn	Pn	17 29 56.6	-0.8
	39nm,0.3s,baz=94,slow=15,SNR=92						
ROSC				Sn	Sn	17 30 23.6	+1.1
	30nm,0.3s,baz=100,slow=23,SNR=4.4						
CAPV	Capacho	2.10	3	eP	Pn	17 29 57.6	0.0
CAPV				eS	Sn	17 30 24.2	+1.5
SOCV	Socops	2.96	32	eP	Pn	17 30 09.1	-0.1
SOCV				eS	Sn	17 30 47.9	+4.3
ELOV	Elorza	3.17	67	eP	Pn	17 30 12.7	+0.6
VIGV	El Vigia	3.24	19	eP	Pn	17 30 13.4	+0.3
VIGV				eS	Sn	17 30 52.5	+2.0
VIRV	Villa del Rosa	4.72	0	eP	Pn	17 30 31.0	-2.3
VIRV				eS	Sn	17 31 24.0	-2.7
QARV	Quebrada Arrib	4.81	23	eP	Pn	17 30 34.6	+0.1
TEPV	Terepaima	5.27	37	eP	Pn	17 30 41.8	+1.1
BAUV	El Baul	5.38	54	eP	Pn	17 30 42.2	-0.1
DABV	Dabajuro	5.43	19	eP	Pn	17 30 42.3	-0.7
SIQV	Siquisique	5.51	28	eP	Pn	17 30 43.8	-0.3
MAPV	Macapo	5.64	44	eP	Pn	17 30 46.2	+0.3
TURV	Turiamo	6.51	44	eP	Pn	17 30 57.1	-0.7
MONV	Montecano	6.62	21	eP	Pn	17 30 57.5	-1.8
BIRV	Birongo	7.69	52	eP	Pn	17 31 13.8	-0.1
CUPV	Cępira	7.84	57	eP	Pn	17 31 15.9	-0.1
YKA	Yellowknife Ar	64.50	340	P	P	17 39 54.9	+0.9
	0.2nm,0.6s,baz=132,slow=6.5,SNR=6.1						

ASAR	Alice Springs	149.03	232	PKPbc	PKPbc	17 49 07.5	+1.5
	0.3nm,0.7s,baz=120,slow=3.9,SNR=3.6						
WRA	Warramunga Arr	150.41	239	PKPbc	PKPbc	17 49 09.4	0.0
	0.4nm,0.6s,baz=108,slow=2.8,SNR=8.8						

*PLV **27** 17:30:37.5±1.9, 23°.42N×100°.88E, h14km±16km, MD3.2*
*IDC **27** 17:33:31.7±1.0, 24°.02N×101°.09E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/23, mbtmp3.5/7, ML3.5/1, Error ellipse: s-maj=35.4km s-min=15.9km az=78.0*
*NEIC **27** 17:33:32.9±0.6, 23°.98N×101°.14E, h10km, mb3.9/1, Error ellipse: s-maj=15.9km s-min=9.3km az=96.0*
*BJI **27** 17:33:36.5, 24°.32N×101°.17E, h15km, mB4.2/1, mb4.1/3, ML3.9/10, Ms3.8/2, Ms7 3.4/2*
ISC 27 17:33:32.2±0.9, 23°.97N±0°.05×101°.11E±0°.08, h5km±8km, n30, σ1§25/38, mb3.5/7, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	1.87	52	Pg	Pg	17 34 08.0	-0.1
KMI				Sg	Sg	17 34 33.3	+0.9
KMI				smax			
	comp=N,980nm,1.0s						
KMI				smax			
	comp=E,750nm,0.8s						
LCVN	Lai Chau	2.69	135	ePg	Px	17 31 24.4	
LCVN				eSg	Sx	17 31 59.2	
TGV	Tuan Giao	3.18	138	ePn	Px	17 31 24.2	
TGV				ePg	Px	17 31 35.1	
TGV				eSg	Sx	17 32 12.7	
SLVN	Son La	3.68	135	ePn	Px	17 31 31.5	
SLVN				ePg	Px	17 31 45.5	
SLVN				eSg	Sx	17 32 30.1	
CHRT	Chiangrai	4.26	197	P	Pb	17 34 45.0	-2.6
	comp=E,526nm,0.9s						
CHG	Chiang Mai	5.51	202	P	Pb	17 35 16.6	+7.7
	comp=E,52nm,1.0s						
CHTO	Chiang Mai	5.51	202	ePn	Pn	17 34 53.0	-2.0
	comp=E,41nm,1.1s						
CHTO				ePg	Pg	17 35 17.8	-0.1
CHTO				eSg	Sg	17 36 29.6	+0.3
CM31	Chiang Mai Arr	5.85	201	ePn	Pn	17 34 60.0	+0.5
	comp=E,22nm,0.6s						
CM31				ePg	Pg	17 35 25.3	+1.1
CM31				eSg	Sg	17 36 33.7	-6.3
CMAR	Chiang Mai Arr	5.85	201	Pn	Pn	17 35 01.4	+1.9
	comp=E,0.3nm,0.3s,baz=12,slow=13,SNR=13						
CMAR				Pg	Pg	17 35 22.4	-1.8
	comp=E,1.5nm,0.3s,baz=32,slow=18,SNR=26						
CMAR				Lg		17 36 37.9	
	comp=E,0.5nm,0.3s,baz=352,slow=19,SNR=4.4						
CMAR	Chiang Mai Arr	5.85	201	Pn	Pn	17 35 01.4	+1.9
CMAR				Pg	Pg	17 35 22.4	-1.8
CMAR				Lg		17 36 37.9	
BDT	Bhumibol Dam	6.98	197	P	Pg	17 35 52.5	+6.7
CD2	Chengdu	7.30	18	ePn	Pn	17 35 21.5	+2.0
CD2				Sn	Sn	17 36 40.5	-2.2
CD2				smax			
	comp=N,30nm,1.9s						
CD2				smax			
	comp=E,80nm,1.1s						
CD2				LR	LR		
	comp=N,380nm,7.8s						
CD2				LR	LR		
	comp=E,560nm,8.4s						
CD2				LR	LR		
	comp=Z,500nm,10.5s						
ENH	Enshi	9.75	48	ePn	Pn	17 35 51.3	-1.7
	comp=Z,7.3nm,0.5s						
ENH				eSn	Sn	17 37 36.7	-6.1
LSA	Lhasa	10.57	305	ePn	Pn	17 36 04.3	0.0
	comp=Z,4.1nm,0.8s						
XAN	Xi'an	12.13	32	P	Pn	17 36 24.8	-0.9
XAN				S	Sn	17 38 33.0	-8.4
XAN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,30nm,4.9s						
XAN				LR	LR		
	comp=N,210nm,8.5s						
XAN				LR	LR		
	comp=E,100nm,10.6s						
XAN				LR	LR		
	comp=Z,88nm,10.6s						
HHC	Hu-ho-hao-te	18.98	25	eP	Pn	17 37 49.5	-5.5
HHC				pP	pP	17 37 52.5	-3.3
HHC				sP	sP	17 37 56.3	-0.2
HHC				PP		17 38 06.3	
HHC				S	Sn	17 41 17.0	-11
HHC				sS	sS	17 41 23.5	-9.1
HHC				SS		17 41 42.8	
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,4.8s						
HHC				LR	LR		
	comp=N,430nm,9.2s						
HHC				LR	LR		
	comp=E,250nm,8.1s						
HHC				LR	LR		
	comp=Z,290nm,8.8s						
SONM	Songino Array	24.18	9	P	P	17 38 49.5	+0.2
	comp=Z,0.8nm,0.4s,mb3.5,baz=196,slow=11,SNR=3.9						
SONM	Songino Array	24.18	9	P	P	17 38 49.5	+0.2
ULN	Ulaanbaatar	24.31	10	eP	P	17 38 51.1	+0.6
	comp=Z,2.0nm,0.6s,mb3.7						
MK31	Makanchi Array	27.32	331	eP	P	17 39 19.3	+1.5
MKAR	Makanchi Array	27.32	331	P	P	17 39 16.1	-1.7
	comp=Z,0.4nm,0.4s,mb3.3,baz=186,slow=24,SNR=10						
MKAR	Makanchi Array	27.32	331	P	P	17 39 16.1	-1.7
ZALV	Zalesovo Beam	32.34	342	P	P	17 40 02.9	+0.7
	comp=Z,0.6nm,0.4s,mb3.7,baz=148,slow=8.7,SNR=6.1						
ZALV	Zalesovo Beam	32.34	342	P	P	17 40 02.9	+0.7
BVAR	Borovoye Array	37.16	329	P	P	17 40 44.3	+0.5
	comp=Z,0.3nm,0.5s,mb3.4,baz=114,slow=13,SNR=3.7						
BVAR	Borovoye Array	37.16	329	P	P	17 40 44.4	+0.5
WRA	Warramunga Arr	54.34	141	P	P	17 43 00.4	+0.5
	comp=Z,0.7nm,0.6s,mb3.8,baz=332,slow=7.9,SNR=8.8						
WRA	Warramunga Arr	54.34	141	P	P	17 43 00.4	+0.5
ASAR	Alice Springs	57.05	144	P	P	17 43 20.2	+0.9
	comp=Z,0.3nm,0.8s,mb3.4,baz=321,slow=6.6,SNR=4.2						
ASAR	Alice Springs	57.05	144	P	P	17 43 20.2	+0.9

*NEIC **27** 17:47:27.4, 16°.72N×99°.35W, h15km, MD3.5(MEX), After MEX.*
MEX 27 17:47:27.1±0.6, 16°.77N×99°.41W, h6km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.44	283	i P	Pg	17 47 36.0	+0.4
ACX				eS	Sg	17 47 43.8	+2.4
ACX	Acapulco	0.44	283	i P	Pg	17 47 36.0	+0.4
ACX				i S	Sg	17 47 43.8	+2.4
CAIG	El Cayaco	0.86	289	i P	Pg	17 47 42.3	-1.5
CAIG				eS	Sg	17 47 54.0	-1.0
CAIG	El Cayaco	0.86	289	i P	Pg	17 47 42.3	-1.5
CAIG				i S	Sg	17 47 53.0	-2.0
MEIG	Mezcala	1.17	350	i P	Pg	17 47 45.9	-3.6
MEIG				eS	Sg	17 48 01.3	-3.4
MEIG	Mezcala	1.17	350	i P	Pg	17 47 45.9	-3.6
MEIG				eS	Sg	17 48 01.3	-3.4
PLIG	Platanillo	1.61	357	i P	Pn	17 47 53.2	-2.9
PLIG				eS	Sn	17 48 12.2	-5.0
PLIG	Platanillo	1.61	357	i P	Pn	17 47 53.2	-2.9
PLIG				eS	Sn	17 48 12.2	-5.0
ZIIG	Zihuatanejo	2.13	293	i P	Pn	17 48 00.1	-3.1
ZIIG				i S	Sn	17 48 26.5	-3.6
ZIIG	Zihuatanejo	2.13	293	i P	Pn	17 48 00.1	-3.1
ZIIG				i S	Sn	17 48 24.8	-5.3

IDC 27 17:48:38.5±3.1, 30°.77S×176°.53W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=78.9km s-min=45.0km az=127.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	9.13	213	Pn	Pn	17 50 51.1	-0.4
	0.3nm,0.3s,baz=321,slow=6.5,SNR=2.6						
URZ				Sn	Sn	17 52 40.5	+5.5
	0.7nm,0.3s,baz=127,slow=20,SNR=4.4						

ASAR	Alice Springs	44.35	267	P	P	17 56 51.0	+0.3
	0.4nm,0.7s,baz=105,slow=7.4,SNR=8.6						
WRA	Warramunga Arr	45.38	272	P	P	17 56 58.5	-0.3
	0.9nm,0.5s,baz=111,slow=8.1,SNR=17						
FINES	FINESS Array B	145.91	341	PKPbc	PKPbc	18 08 18.3	-0.8
	2.4nm,0.8s,baz=22,slow=4.5,SNR=2.9						

*ISCJB **27** 17:53:26.2±0.6, 37°.89N±0°.03×29°.21E±0°.07, h2km±10km, Error ellipse: s-maj=8.8km s-min=5.1km az=8.9*
*ISK **27** 17:53:26.4, 37°.89N×29°.12E, h13km, MD2.7*
*CSEM **27** 17:53:26.4±0.1, 37°.89N×29°.21E, h5km, MD2.7, Error ellipse: s-maj=4.6km s-min=2.9km az=97.0*
*DDA **27** 17:53:26.3, 37°.89N×29°.21E, h7km±2km, Ml2.9*
ISC 27 17:53:26.6±0.6, 37°.89N±0°.03×29°.20E±0°.07, h8km±9km, n22, σ0§49/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.18	225	ePG	Pg	17 53 30.4	0.0
DENT				eSG	Sg	17 53 33.3	+0.4
DENT	Denizli	0.18	225	ePg	Pg	17 53 30.5	+0.1
DENT				eSg	Sg	17 53 33.3	+0.4
DNZL	Cakiroluk	0.23	212	eP	Pg	17 53 31.1	-0.1
DNZL	Cakiroluk	0.23	212	eP	Pg	17 53 31.1	-0.1
KHAL	Karahalli	0.54	25	i P	Pg	17 53 36.4	-0.7
KHAL				i S	Sg	17 53 44.6	+0.6
KHAL	Karahalli	0.54	25	i P	Pg	17 53 36.3	-0.7
KHAL				i S	Sg	17 53 44.7	+0.6
GOLH	Golhisar	0.71	156	eP	Pg	17 53 39.1	-1.1
GOLH	Golhisar	0.71	156	eP	Pg	17 53 39.2	-1.1
KULA	Kula-Manisa	0.76	326	ePG	Pg	17 53 41.1	-0.1
KULA				eSG	Sg	17 53 51.2	+0.1
KULA	Kula-Manisa	0.76	326	ePg	Pg	17 53 41.1	-0.1
KULA				eSg	Sg	17 53 51.2	+0.1
GLHS	Glhisar (BURDU	0.77	162	ePG	Pg	17 53 42.3	+1.0
GLHS	Glhisar (BURDU	0.77	162	ePg	Pg	17 53 42.3	+0.9
YER	Yerkesik	1.04	224	ePG	Pg	17 53 46.3	-0.4
YER	Yerkesik	1.04	224	ePg	Pg	17 53 46.3	-0.4
DEMI	Demirci	1.22	342	eP	Pb	17 53 49.8	-0.1
DEMI	Demirci	1.22	342	eP	Pb	17 53 49.8	-0.1
SHUT	Suhut-Afyon	1.26	58	ePN	Pn	17 53 50.6	0.0
SHUT	Suhut-Afyon	1.26	58	ePn	Pn	17 53 50.6	+0.1
ELL	Elmali	1.27	153	ePN	Pn	17 53 51.0	+0.3
ELL	Elmali	1.27	153	ePn	Pn	17 53 51.0	+0.3
ALT	Altintas	1.37	31	ePN	Pn	17 53 52.2	0.0
ALT	Altintas	1.37	31	ePn	Pn	17 53 52.2	+0.1

*ISK **27** 17:57:46.8, 37°.51N×27°.19E, h4km, MD3.2*
*ISCJB **27** 17:57:48.2±0.3, 37°.53N±0°.02×27°.25E±0°.03, h10km, Error ellipse: s-maj=4.4km s-min=2.7km az=145.7*
*ATH **27** 17:57:48.3, 37°.48N×27°.19E, h5km±2km, MD3.0/6*
*DDA **27** 17:57:48.6, 37°.56N×27°.25E, h7km±2km, Ml3.2*
*CSEM **27** 17:57:48.0±0.2, 37°.50N×27°.22E, h2km, MD3.0, Error ellipse: s-maj=4.3km s-min=3.3km az=52.0*
ISC 27 17:57:48.8±0.3, 37°.52N±0°.02×27°.24E±0°.04, h10km, n48, σ1§07/65, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.18	359	i P	Pg	17 57 52.2	-0.4
GCAM				i S	Sg	17 57 56.5	+1.3
GCAM	G?zelcaml?	0.18	359	i P	Pg	17 57 52.2	-0.4
GCAM				i S	Sg	17 57 56.5	+1.3
SMG	Samos	0.37	301	ePG	Pg	17 57 55.4	-0.6
SMG				eSB	Sg	17 58 01.0	0.0
SMG	Samos	0.37	301	ePb	Pg	17 57 55.4	-0.6
SMG				eSb	Sg	17 58 01.0	0.0
BODT	Bodrum	0.46	173	ePG	Pg	17 57 55.6	-2.2
BODT				eSG	Sg	17 58 03.0	-0.9
BODT	Bodrum	0.46	173	ePg	Pg	17 57 55.6	-2.2
BODT				eSg	Sg	17 58 03.0	-0.9
AYDN	Tasoluk	0.53	75	‖ eP	Pg	17 57 58.3	-0.8
AYDN	Tasoluk	0.53	75	eP	Pg	17 57 58.3	-0.7
DAT	Datca	0.84	161	ePG	Pg	17 58 04.0	-0.9
DAT				eSG	Sg	17 58 16.8	+1.1
DAT	Datca	0.84	161	ePg	Pg	17 58 04.0	-0.9
DAT				eSg	Sg	17 58 16.8	+1.0
IZM	Izmir	0.88	1	ePG	Pg	17 58 04.4	-1.2
IZM	Izmir	0.88	1	ePg	Pg	17 58 04.4	-1.2
BLCB	Balcova	0.88	350	ePG	Pg	17 58 04.3	-1.4
BLCB	Balcova	0.88	350	ePg	Pg	17 58 04.3	-1.4
YER	Yerkesik	0.92	115	ePG	Pg	17 58 05.5	-0.9
YER	Yerkesik	0.92	115	ePg	Pg	17 58 05.5	-0.9
TURN	Turunc	1.27	120	eP	Pn	17 58 09.4	-3.1
TURN				i S	Sb	17 58 26.0	-3.0
TURN	Turunc	1.27	120	eP	Pn	17 58 09.4	-3.1
TURN				i S	Sb	17 58 26.0	-3.1
CHOS	Chios island	1.27	313	ePB	Pb	17 58 13.0	+0.2
CHOS				eSB	Sg	17 58 30.7	+0.9
CHOS	Chios island	1.27	313	ePb	Pb	17 58 13.3	+0.5
CHOS				eSb	Sg	17 58 31.0	+1.2
APE	Apeiranthos	1.43	252	ePN	Pn	17 58 14.1	-0.7
APE	Apeiranthos	1.43	252	ePB	Pn	17 58 14.8	0.0
APE				eSB	Sb	17 58 33.8	-0.1
APE	Apeiranthos	1.43	252	ePn	Pn	17 58 14.1	-0.7
APE	Apeiranthos	1.43	252	ePb	Pn	17 58 14.8	0.0
APE				eSb	Sb	17 58 33.8	-0.1
DENT	Denizli	1.44	80	ePN	Pn	17 58 15.1	+0.2
DENT	Denizli	1.44	80	ePn	Pn	17 58 15.1	+0.2
ARG	Arkhangelos	1.48	151	ePN	Pn	17 58 15.8	+0.3
ARG				eSB	Sb	17 58 36.7	+1.4
ARG	Arkhangelos	1.48	151	ePg	Pn	17 58 15.6	+0.1
ARG				eSb	Sb	17 58 36.7	+1.4
KULA	Kula-Manisa	1.50	48	ePN	Pn	17 58 15.6	-0.1
KULA	Kula-Manisa	1.50	48	ePn	Pn	17 58 15.6	-0.1
AYVA	Ayvalik	1.83	347	i P	Pg	17 58 22.8	-1.2
AYVA	Ayvalik	1.83	347	i

0.7nm,0.5s,mb3.6,baz=342,slow=9.1,SNR=11
WRA Warramunga Arr 41.66 162 P **P 18 06 28.8 -0.4**
ZALV Zalesovo Beam 43.93 329 P **P 18 06 46.5 -0.8**
1.0nm,0.7s,mb3.6,baz=111,slow=8.1,SNR=5.8
ZALV Zalesovo Beam 43.93 329 P **P 18 06 46.5 -0.8**
ASAR Alice Springs 45.07 164 P **P 18 06 57.2 +0.6**
0.4nm,0.4s,mb3.7,baz=343,slow=6.7,SNR=21
ASAR Alice Springs 45.07 164 P **P 18 06 57.2 +0.6**
YKA Yellowknife Ar 86.67 23 P **P 18 11 23.9 -0.2**
0.1nm,0.5s,mb3.3,baz=308,slow=4.4,SNR=4.8
YKA Yellowknife Ar 86.67 23 P **P 18 11 23.9 -0.2**

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*IDC **27** 18:05:53.8±10.0, 18.°19S×178.°28W, h452km±104km, mb3.3/5, mb1 3.5/5, mb1mx3.2/15, mbtmp3.3/5, Error ellipse: s-maj=112.3km s-min=47.3km az=136.0*
NEIC 27 18:05:57.8±2.1, 18.°25S×178.°43W, h500km, mb3.0/1, Error ellipse: s-maj=101.0km s-min=18.2km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.38**	**261**	P	P	18 11 55.0	+0.8
4.5nm,0.8s,baz=73,slow=11,SNR=3.2							
CTA	**Charters Tower**	**33.38**	**261**	P	P	18 11 55.0	+0.8
STKA	**Stephens Creek**	**38.45**	**242**	P	P	18 12 36.4	+0.2
1.2nm,0.4s,baz=63,slow=9.5,SNR=8.3							
STKA	**Stephens Creek**	**38.45**	**242**	P	P	18 12 36.1	-0.2
0.3nm,0.6s							
WRAB	**Tennant Creek**	**44.55**	**260**	*e*P	P	18 13 24.2	-0.6
WRA	**Warramunga Arr**	**44.56**	**260**	P	P	18 13 24.8	-0.1
1.0nm,0.5s,baz=96,slow=6.8,SNR=10							
WRA	**Warramunga Arr**	**44.56**	**260**	P	P	18 13 24.8	-0.1
ASAR	**Alice Springs**	**44.69**	**255**	P	P	18 13 26.1	+0.3
6.6nm,0.4s,baz=90,slow=8.5,SNR=89							
ASAR	**Alice Springs**	**44.69**	**255**	P	P	18 13 26.1	+0.3
ILAR	**Eielson Array**	**86.22**	**13**	P	P	18 17 45.1	-0.2
0.2nm,0.4s,baz=218,slow=5.1,SNR=10							
ILAR	**Eielson Array**	**86.22**	**13**	P	P	18 17 45.1	-0.2
BRTR	**Keskin Array B**	**145.01**	**314**	PKPbc	PKPbc	18 24 37.9	-0.6
1.1nm,0.9s,baz=72,slow=4.7,SNR=3.4							
BRTR	**Keskin Array B**	**145.01**	**314**	PKPbc	PKPbc	18 24 37.9	-0.6
CLL	**Collm**	**145.79**	**347**	*i* PKPbc	PKPbc	18 24 40.9	+0.4
MMAI	**Mount Meron Ar**	**146.31**	**303**	PKPbc	PKPbc	18 24 43.6	+1.0
1.2nm,0.5s,baz=59,slow=5.6,SNR=3.2							
MMAI	**Mount Meron Ar**	**146.31**	**303**	PKPbc	PKPbc	18 24 43.6	+1.0
GERES	**GERESS Array B**	**147.93**	**345**	PKPbc	PKPbc	18 24 47.0	+0.7
0.3nm,0.5s,baz=4.0,slow=4.2,SNR=4.0							
GERES	**GERESS Array B**	**147.93**	**345**	PKPbc	PKPbc	18 24 47.0	+0.7

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*ISCJB **27** 18:07:49.7±0.4, 51.°51N±0.°02×16.°20E±0.°02, h0km, Error ellipse: s-maj=3.5km s-min=1.9km az=16.4*
*CSEM **27** 18:07:51.1±0.2, 51.°55N×16.°19E, h2km, ML3.8/5, Error ellipse: s-maj=3.6km s-min=2.6km az=16.0*
*NEIC **27** 18:07:51.3±0.5, 51.°60N×16.°19E, h5km, ML3.1(SZGRF), Error ellipse: s-maj=7.8km s-min=6.9km az=100.0*
*IDC **27** 18:07:52.4±0.7, 51.°51N×16.°05E, h0km, mb3.2/1, mb1 3.4/7, mb1mx3.3/24, mbtmp3.2/7, ML3.0/6, Error ellipse: s-maj=13.1km s-min=6.7km az=103.0*
*WAR **27** 18:07:52.7, 51.°53N×16.°17E, ML2.9, Mining Induced*
*PRU **27** 18:07:52.3, 51.°51N×16.°18E, h0km, Felt In Harrachov*
*BGR **27** 18:07:53.3±0.5, 51.°49N×16.°14E, h1km, ML3.1/15, Error ellipse: s-maj=7.8km s-min=3.3km az=11.0*
ISC 27 18:07:51.0±0.3, 51.°55N±0.°02×16.°18E±0.°02, h0km, n112, σ0§93/175, 9C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**174**	*e*Pg	**Pg**	**18 08 05.4**	**+0.7**
KSP				*e*Sg	**Sg**	**18 08 14.6**	**+0.7**
KSP	**Ksiaz**	**0.71**	**174**	*e*Pg	**Pg**	**18 08 05.4**	**+0.7**
KSP				*e*Sg	**Sg**	**18 08 14.6**	**+0.7**
KSP	**Ksiaz**	**0.71**	**174**	*i* Pg	**Pg**	**18 08 05.4**	**+0.7**
KSP				*i* Sg	**Sg**	**18 08 14.6**	**+0.7**
KSP	**Ksiaz**	**0.71**	**174**	Pg	**Pg**	**18 08 05.4**	**+0.7**
KSP				Sg	**Sg**	**18 08 14.6**	**+0.7**
UPC	**Upice**	**1.05**	**186**	*e*PG	**Pg**	**18 08 11.5**	**+0.4**
UPC	**Upice**	**1.05**	**186**	Pg	**Pg**	**18 08 11.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.21**	**176**	*e*Pg	**Pg**	**18 08 14.2**	**+0.1**
DPC	**Dobruska-Polom**	**1.21**	**176**	*e*PG	**Pg**	**18 08 14.1**	**0.0**
DPC				*e*SG	**Sg**	**18 08 29.3**	**-0.4**
63nm,0.3s							
DPC	**Dobruska-Polom**	**1.21**	**176**	Pg	**Pg**	**18 08 14.2**	**+0.1**
DPC				Sg	**Sg**	**18 08 29.3**	**-0.4**
63nm,0.3s							
PVCC	**Panska Ves**	**1.45**	**225**	*e*PG	**Pg**	**18 08 18.4**	**-0.3**
PVCC				*e*SG	**Sg**	**18 08 38.1**	**+0.7**
225nm,0.2s							
PVCC	**Panska Ves**	**1.45**	**225**	Pg	**Pg**	**18 08 18.4**	**-0.3**
PVCC				Sg	**Sg**	**18 08 38.1**	**+0.7**
225nm,0.2s							
BRG	**Berggiesshubel**	**1.56**	**245**	PN	**Pn**	**18 08 19.4**	**-0.6**
BRG				PG	**Pg**	**18 08 21.2**	**+0.2**
BRG				SG	**Sg**	**18 08 42.0**	**+0.8**
173nm,0.4s							
BRG	**Berggiesshubel**	**1.56**	**245**	*e*Pn	**Pn**	**18 08 21.2**	**+1.2**
BRG				*e*Sg	**Sg**	**18 08 41.8**	**+0.5**
BRG	**Berggiesshubel**	**1.56**	**245**	Pn	**Pg**	**18 08 21.2**	**+0.2**
BRG				Sg	**Sg**	**18 08 41.8**	**+0.6**
RUE	**Ruedersdorf**	**1.75**	**303**	*e*Pn	**Pn**	**18 08 22.1**	**-0.5**
RUE				*e*Sn	**Sn**	**18 08 45.7**	**+0.1**
RUE	**Ruedersdorf**	**1.75**	**303**	*e*Pn	**Pn**	**18 08 22.1**	**-0.5**
RUE				*e*Sn	**Sn**	**18 08 45.7**	**+0.1**
GKP	**Gorka Klasztor**	**1.84**	**20**	*e*Pn	**Pn**	**18 08 29.1**	**+5.3**
GKP				*e*Pg	**Pg**	**18 08 32.7**	**+6.5**
GKP				*e*Sg	**Sg**	**18 08 59.2**	**+9.2**
PRU	**Pruhonice**	**1.88**	**214**	*e*PG	**Pg**	**18 08 26.2**	**-0.8**
PRU				*e*SG	**Sg**	**18 08 51.6**	**+0.2**
67nm,0.5s							
PRU	**Pruhonice**	**1.88**	**214**	Pg	**Pg**	**18 08 26.2**	**-0.8**
PRU				Sg	**Sg**	**18 08 51.6**	**+0.2**
67nm,0.5s							
FBE	**Freiberg**	**1.89**	**252**	*e*Pn	**Pn**	**18 08 26.9**	**+2.4**
FBE				*e*Sg	**Sg**	**18 08 51.7**	**+0.1**
FBE	**Freiberg**	**1.89**	**252**	Pn	**Pn**	**18 08 26.9**	**+2.4**
FBE				Sg	**Sg**	**18 08 51.7**	**+0.1**
RAC	**Raciborz**	**1.95**	**138**	*e*Pg	**Pg**	**18 08 27.7**	**-0.6**
RAC				*e*Sg	**Sg**	**18 08 52.4**	**-1.1**
RAC	**Raciborz**	**1.95**	**138**	*e*Pg	**Pg**	**18 08 27.6**	**-0.7**
RAC				*e*Sg	**Sg**	**18 08 52.3**	**-1.2**
MORC	**Moravsky Berou**	**1.98**	**154**	*e*Pn	**Pn**	**18 08 25.2**	**-0.5**
MORC				*e*Sn	**Sn**	**18 08 49.2**	**-1.9**
MORC	**Moravsky Berou**	**1.98**	**154**	*e*Pn	**Pn**	**18 08 25.5**	**-0.2**
MORC	**Moravsky Berou**	**1.98**	**154**	‖ *i*P	**Pn**	**18 08 25.5**	**-0.2**
MORC	**Moravsky Berou**	**1.98**	**154**	‖ *i*P	**Pn**	**18 08 25.5**	**-0.2**
MORC				*e*Sn	**Sn**	**18 08 49.2**	**-1.9**
MORC				*e*Sg	**Sg**	**18 08 53.6**	**-0.9**
MORC				S	**Sn**	**18 08 54.2**	**+3.1**
CLL	**Collm**	**2.01**	**264**	*e*Pn	**Pn**	**18 08 25.5**	**-0.6**
CLL	**Collm**	**2.01**	**264**	*i* Pn	**Pn**	**18 08 25.6**	**-0.5**
CLL				*i* Pg	**Pg**	**18 08 29.3**	**-0.1**
CLL				*i*		18 08 32.6	
CLL				*i* Sg	**Sg**	**18 08 55.9**	**+0.5**
comp=Z,64nm,0.7s							
CLL	**Collm**	**2.01**	**264**	Pn	**Pn**	**18 08 25.5**	**-0.6**
OKC	**Ostrava-Krasne**	**2.12**	**143**	*e*Pn	**Pn**	**18 08 30.4**	**+2.7**
OKC	**Ostrava-Krasne**	**2.12**	**143**	*e*PN	**Pn**	**18 08 26.9**	**-0.8**
OKC				*e*PG	**Pg**	**18 08 31.1**	**-0.6**
OKC				*e*SG	**Sg**	**18 08 57.4**	**-1.8**
OKC	**Ostrava-Krasne**	**2.12**	**143**	Pn	**Pn**	**18 08 26.9**	**-0.8**
VRAC	**Vranov**	**2.26**	**173**	Pn	**Pn**	**18 08 30.1**	**+0.5**
comp=Z,4.0nm,0.3s,baz=346,slow=13,SNR=37							
VRAC				Pg	**Pg**	**18 08 33.3**	**-1.0**
comp=Z,6.6nm,0.3s,baz=348,slow=17,SNR=21							
VRAC				Lg		18 09 02.4	
comp=Z,12nm,0.3s,baz=84,slow=16,SNR=11							
VRAC	**Vranov**	**2.26**	**173**	Pn	**Pn**	**18 08 30.1**	**+0.5**
VRAC				Pg	**Pg**	**18 08 33.3**	**-1.0**
VRAC				Lg		18 09 02.4	
VRAC	**Vranov**	**2.26**	**173**	‖ *i*P	**Pn**	**18 08 29.8**	**+0.2**
VRAC	**Vranov**	**2.26**	**173**	S	**Sn**	**18 09 02.9**	**+4.7**
VRAC	**Vranov**	**2.26**	**173**	*e*Pn	**Pn**	**18 08 29.6**	**0.0**
VRAC	**Vranov**	**2.26**	**173**	Pg	**Pg**	**18 08 33.3**	**-1.0**
VRAC				*e*Sg	**Sg**	**18 09 02.5**	**-1.1**
TREC	**Trest**	**2.30**	**191**	*e*PN	**Pn**	**18 08 30.6**	**+0.4**
TREC				*e*PG	**Pg**	**18 08 34.1**	**-1.0**
TREC	**Trest**	**2.30**	**191**	Pn	**Pn**	**18 08 30.6**	**+0.4**
TREC	**Trest**	**2.30**	**191**	Pg	**Pg**	**18 08 34.1**	**-1.0**
TANN	**Tannenbergstha**	**2.61**	**246**	*e*Pn	**Pn**	**18 08 34.7**	**+0.3**
TANN				*e*Sg	**Sg**	**18 09 13.5**	**-1.4**
TANN	**Tannenbergstha**	**2.61**	**246**	Pn	**Pn**	**18 08 34.7**	**+0.3**
TANN				Sg	**Sg**	**18 09 13.5**	**-1.4**
OJC	**Ojcow**	**2.65**	**119**	*e*Pg	**Pg**	**18 08 41.5**	**-0.3**
OJC				*e*Sg	**Sg**	**18 09 16.7**	**+0.6**
OJC	**Ojcow**	**2.65**	**119**	*e*Pn	**Pn**	**18 08 34.7**	**-0.2**
OJC				*e*Sg	**Sg**	**18 09 17.1**	**+1.0**
OJC	**Ojcow**	**2.65**	**119**	Pn	**Pn**	**18 08 34.7**	**-0.2**
OJC	**Ojcow**	**2.65**	**119**	*e*Pg	**Pg**	**18 08 41.5**	**-0.3**
OJC				Sg	**Sg**	**18 09 17.1**	**+1.0**
WERD	**Werda**	**2.69**	**247**	*e*Pn	**Pn**	**18 08 35.6**	**+0.2**
WERD	**Werda**	**2.69**	**247**	Pn	**Pn**	**18 08 35.6**	**+0.1**
NKC	**Novy Kostel**	**2.71**	**242**	*e*PG	**Pg**	**18 08 42.7**	**-0.2**
NKC				*e*SG	**Sg**	**18 09 19.6**	**+1.6**
comp=Z,93nm,0.3s							
NKC	**Novy Kostel**	**2.71**	**242**	Pg	**Pg**	**18 08 42.7**	**-0.2**
NKC				Sg	**Sg**	**18 09 19.6**	**+1.6**
comp=Z,93nm,0.3s							
KHC	**Kasperske Hory**	**2.94**	**216**	*e*Pn	**Pn**	**18 08 38.7**	**-0.2**
KHC				*e*Pb	**Pb**	**18 08 45.4**	**+1.1**
KHC				*e*Sn	**Sn**	**18 09 10.5**	**-4.5**
KHC				*e*Sg	**Sg**	**18 09 24.4**	**-1.1**
KHC	**Kasperske Hory**	**2.94**	**216**	*e*PN	**Pn**	**18 08 39.0**	**0.0**
KHC				*e*PG	**Pg**	**18 08 45.4**	**-2.0**
KHC				*e*SN	**Sn**	**18 09 13.8**	**-1.2**
KHC				*e*SG	**Sg**	**18 09 24.5**	**-1.0**
comp=Z,30nm,0.5s							
KHC	**Kasperske Hory**	**2.94**	**216**	Pn	**Pn**	**18 08 39.0**	**0.0**
MOX	**Moxa**	**3.02**	**254**	*e*Pg	**Pg**	**18 08 48.5**	**-0.4**
MOX				*e*Sg	**Sg**	**18 09 27.8**	**-0.2**
MOX	**Moxa**	**3.02**	**254**	Pg	**Pg**	**18 08 48.5**	**-0.4**
MOX				Sg	**Sg**	**18 09 27.8**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.10**	**236**	*e*Pn	**Pn**	**18 08 41.7**	**+0.6**
ROTZ	**Rotzenmuhle**	**3.10**	**236**	Pn	**Pn**	**18 08 41.7**	**+0.6**
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn	**Pn**	**18 08 42.2**	**+0.5**
GEC2	**GERESS Array S**	**3.14**	**211**	Pn	**Pn**	**18 08 42.2**	**+0.5**
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**18 08 42.4**	**+0.7**
comp=Z,1.2nm,0.3s,baz=27,slow=12,SNR=47							
GERES				Pg	**Pg**	**18 08 49.0**	**-2.3**
comp=Z,4.1nm,0.3s,baz=38,slow=16,SNR=36							
GERES				Lg		18 09 28.7	
comp=Z,3.4nm,0.3s,baz=33,slow=26,SNR=5.1							
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**18 08 42.4**	**+0.7**
GERES				Pg	**Pg**	**18 08 49.0**	**-2.3**
GERES				Lg		18 09 28.7	
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**18 08 42.4**	**+0.7**
GERES	**GERESS Array B**	**3.14**	**211**	Pg	**Pg**	**18 08 49.0**	**-2.2**
WET	**Wettzell**	**3.21**	**223**	*e*Pn	**Pn**	**18 08 42.9**	**+0.2**
WET	**Wettzell**	**3.21**	**223**	Pn	**Pn**	**18 08 42.9**	**+0.3**
KOLL	**Kolacno**	**3.30**	**153**	*e*PN	**Pn**	**18 08 43.9**	**0.0**
KOLL				*e*SG	**Sg**	**18 09 37.0**	**0.0**
KOLL	**Kolacno**	**3.30**	**153**	*e*Pn	**Pn**	**18 08 43.9**	**0.0**
KOLL				*e*Sg	**Sg**	**18 09 37.0**	**0.0**
NIE	**Niedzica**	**3.39**	**127**	*e*P	**Pg**	**18 08 56.6**	**+0.6**
NIE				*e*S	**Sg**	**18 09 40.4**	**+0.4**
VYHS	**Vyhne**	**3.51**	**150**	*e*PN	**Pn**	**18 08 46.7**	**0.0**
VYHS				*e*		18 08 59.5	
VYHS	**Vyhne**	**3.51**	**150**	*e*Pn	**Pn**	**18 08 46.7**	**0.0**
VYHS				*e*Sg	**Sg**	**18 09 42.9**	**-0.7**
CLZ	**Clausthal**	**3.63**	**277**	*e*Pn	**Pn**	**18 08 49.2**	**+0.8**
CLZ	**Clausthal**	**3.63**	**277**	Pn	**Pn**	**18 08 49.2**	**+0.8**
BSD	**Bornholm Skovb**	**3.65**	**348**	*i* P	**Pn**	**18 08 47.5**	**-1.2**
BSD				*i* S	**Sn**	**18 09 27.3**	**-5.0**
BSD	**Bornholm Skovb**	**3.65**	**348**	*i* P	**Pn**	**18 08 47.5**	**-1.2**
GRA1	**Grafenberg Arr**	**3.67**	**241**	Pn	**Pn**	**18 08 49.3**	**+0.4**
GRF	**Grafenberg Arr**	**3.67**	**241**	*e*Pn	**Pn**	**18 08 49.3**	**+0.4**
GRFO	**Grafenberg**	**3.67**	**241**	*e*Pn	**Pn**	**18 08 48.1**	**-0.8**
GRFO				*e*Pg	**Pg**	**18 09 02.2**	**+1.0**
GRFO				*e*Sg	**Sg**	**18 09 48.8**	**0.0**
GRFO	**Grafenberg**	**3.67**	**241**	*e*Pn	**Pn**	**18 08 48.1**	**-0.8**
STHS	**Stebnicka Huta**	**3.87**	**122**	*e*PN	**Pn**	**18 08 52.9**	**+1.1**
STHS				*e*		18 09 05.6	
STHS	**Stebnicka Huta**	**3.87**	**122**	*e*Pn	**Pn**	**18 08 52.9**	**+1.1**
STHS				*e*Sg	**Sg**	**18 09 56.5**	**+1.1**
KECS	**Kecovo**	**4.14**	**136**	*e*PN	**Pn**	**18 08 56.2**	**+0.8**
KECS				*e*		18 09 12.0	
KECS	**Kecovo**	**4.14**	**136**	*e*Pn	**Pn**	**18 08 56.3**	**+0.9**
KECS				*e*Sg	**Sg**	**18 10 05.5**	**+1.6**
CRVS	**Cervenica-Dubn**	**4.30**	**126**	*e*PN	**Pn**	**18 08 58.2**	**+0.6**
CRVS				*e*		18 09 14.2	
CRVS	**Cervenica-Dubn**	**4.30**	**126**	*e*Pn	**Pn**	**18 08 58.2**	**+0.6**
CRVS				*e*Sg	**Sg**	**18 10 09.3**	**+0.1**
PSZ	**Piszkesteto**	**4.36**	**145**	‖ *i*P	**Pn**	**18 09 00.1**	**+1.7**
PSZ	**Piszkesteto**	**4.36**	**145**	‖ *i*P	**Pn**	**18 09 00.1**	**+1.7**
PKSM	**Moragy**	**5.58**	**162**	‖ *i*P	**Pn**	**18 09 16.1**	**+0.8**
PKSM	**Moragy**	**5.58**	**162**	‖ *i*P	**Pn**	**18 09 16.1**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.32**	**223**	Pn	**Pn**	**18 09 26.4**	**+1.2**
comp=Z,0.3nm,0.3s,baz=36,slow=14,SNR=4.3							
DAVOX	**Davos/Dischmat**	**6.32**	**223**	Pn	**Pn**	**18 09 26.4**	**+1.2**
DAVOX	**Davos/Dischmat**	**6.32**	**223**	Pn	**Pn**	**18 09 26.5**	**+1.2**
BZS	**Buzias**	**6.95**	**147**	‖ *i*P	**Pn**	**18 09 35.2**	**+1.3**
BZS	**Buzias**	**6.95**	**147**	‖ *i*P	**Pn**	**18 09 35.2**	**+1.3**
BUR08	**Bucovina Ar. S**	**7.04**	**120**	*e*Pn	**Pn**	**18 09 35.4**	**+0.2**
BUR08	**Bucovina Ar. S**	**7.04**	**120**	*e*Pn	**Pn**	**18 09 35.4**	**+0.1**
BURAR	**Bucovina Array**	**7.07**	**120**	‖ *i*P	**Pn**	**18 09 35.4**	**-0.2**
BURAR	**Bucovina Array**	**7.07**	**120**	‖ *i*P	**Pn**	**18 09 35.4**	**-0.2**
AKASG	**Malin Array Be**	**8.25**	**91**	Pn	**Pn**	**18 09 52.0**	**+0.2**
comp=Z,1.5nm,0.3s,baz=277,slow=12,SNR=5.0							
AKASG	**Malin Array Be**	**8.25**	**91**	Pn	**Pn**	**18 09 52.0**	**+0.2**
AKASG	**Malin Array Be**	**8.25**	**91**	Pn	**Pn**	**18 09 52.0**	**+0.2**
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**Pn**	**18 10 13.2**	**-1.1**
comp=Z,0.1nm,0.3s,baz=138,slow=18,SNR=2.9							
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**Pn**	**18 10 13.2**	**-1.1**
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**Pn**	**18 10 13.2**	**-1.2**
FINES	**FINESS Array B**	**11.30**	**25**	Pn	**Pn**	**18 10 31.7**	**-1.9**
comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=11							
FINES				Sn	**Sn**	**18 12 32.6**	**-7.9**
comp=Z,0.4nm,0.3s,baz=216,slow=21,SNR=8.6							
FINES	**FINESS Array B**	**11.30**	**25**	Pn	**Pn**	**18 10 31.7**	**-1.9**
FINES				Sn	**Sn**	**18 12 32.6**	**-7.9**
FINES	**FINESS Array B**	**11.30**	**25**	Pn	**Pn**	**18 10 31.7**	**-1.9**
KAF	**Kangasniemi**	**11.93**	**24**	*ep*	**Pn**	**18 10 39.2**	**-2.9**
comp=Z,2.2nm,1.0s							
YKA	**Yellowknife Ar**	**59.84**	**336**	P	**P**	**18 17 58.3**	**+0.7**
comp=Z,0.2nm,0.6s,baz=28,slow=6.7,SNR=4.6							
YKA	**Yellowknife Ar**	**59.84**	**336**	P	**P**	**18 17 58.3**	**+0.7**
YKA	**Yellowknife Ar**	**59.84**	**336**	P	**P**	**18 17 58.3**	**+0.7**

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*ISCJB **27** 18:30:51.0±0.9, 37.°88N±0.°04×29.°23E±0.°08, h10km, Error ellipse: s-maj=9.7km s-min=5.5km az=22.0*
*ISK **27** 18:30:50.5, 37.°89N×29.°24E, h5km, MD2.7*
*CSEM **27** 18:30:50.3±0.2, 37.°85N×29.°31E, h2km, MD2.7, Error ellipse: s-maj=6.4km s-min=3.9km az=138.0*
*DDA **27** 18:30:51.2, 37.°88N×29.°18E, h7km±1km, Md2.9*
ISC 27 18:30:51.1±1.0, 37.°87N±0.°05×29.°26E±0.°08, h10km, n10, σ0§46/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**237**	*e*PG	**Pg**	**18 30 54.9**	**-0.6**
DENT				*e*SG	**Sg**	**18 30 59.0**	**+0.5**
DENT	**Denizli**	**0.21**	**237**	*e*Pg	**Pg**	**18 30 54.9**	**-0.6**
DENT				*e*Sg	**Sg**	**18 30 59.0**	**+0.6**
DNZL	**Cakiroluk**	**0.24**	**223**	*i* P	**Pg**	**18 30 55.7**	**-0.4**
DNZL				*i* S	**Sg**	**18 30 59.6**	**+0.2**
DNZL	**Cakiroluk**	**0.24**	**223**	*i* P	**Pg**	**18 30 55.7**	**-0.4**
DNZL				*i* S	**Sg**	**18 30 59.6**	**+0.2**
KULA	**Kula-Manisa**	**0.80**	**324**	*e*PG	**Pg**	**18 31 06.6**	**+0.2**
KULA				*e*SG	**Sg**	**18 31 16.6**	**-0.3**
KULA	**Kula-Manisa**	**0.80**	**324**	*e*Pg	**Pg**	**18 31 06.6**	**+0.1**
KULA				*e*Sg	**Sg**	**18 31 16.6**	**-0.3**
SHUT	**Suhut-Afyon**	**1.23**	**56**	*e*PN	**Pn**	**18 31 13.8**	**-0.4**
SHUT	**Suhut-Afyon**	**1.23**	**56**	*e*Pn	**Pn**	**18 31 13.9**	**-0.4**
ALT	**Altintas**	**1.36**	**29**	*e*PN	**Pn**	**18 31 16.9**	**+0.8**
ALT	**Altintas**	**1.36**	**29**	*e*Pn	**Pn**	**18 31 16.9**	**+0.8**

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*IDC **27** 18:39:53.1±4.9, 30.°31N×67.°42E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.2/27, mbtmp3.3/5, Error ellipse: s-maj=131.3km s-min=68.4km az=129.0*
*NEIC **27** 18:39:54.1±2.5, 30.°23N×67.°79E, h10km, mb3.5/2, Error ellipse: s-maj=63.2km s-min=32.4km az=119.0*
ISC 27 18:39:52.5±1.1, 30.°2N±0.°2×67.°5E±0.°4, h10km, n19, σ1§07/20, mb3.3/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.56**	**16**	*e*Pn	**Pn**	**18 41 03.4**	**+1.9**
KBL				*e*Sn	**Sn**	**18 41 54.0**	**-0.5**
EKS2	**Erkin-Say**	**13.46**	**20**	*e*Pn	**Pn**	**18 43 02.7**	**-0.7**
AAK	**Ala-Archa**	**13.65**	**22**	*e*Pn	**Pn**	**18 43 06.2**	**+0.1**
4.9nm,0.6s							
TKM2	**Tokmak 2**	**14.29**	**25**	Pn	**Pn**	**18 43 12.9**	**-1.9**
2.7nm,0.8s							
MK31	**Makanchi Array**	**20.19**	**31**	*e*P	**P**	**18 44 26.9**	**-0.2**
MKAR	**Makanchi Array**	**20.19**	**31**	P	**P**	**18 44 27.0**	**-0.1**
0.8nm,0.7s,baz=211,slow=9.7,SNR=6.7							
MKAR	**Makanchi Array**	**20.19**	**31**	P	**P**	**18 44 27.0**	**-0.1**
LSA	**Lhasa**	**20.49**	**85**	P	**P**	**18 44 36.6**	**+6.0**
1.9nm,0.9s							
KURK	**Kurchatov**	**22.16**	**19**	P	**P**	**18 44 48.8**	**+0.5**
0.3nm,0.4s,mb3.1,baz=208,slow=9.4,SNR=3.2							
KURK	**Kurchatov**	**22.16**	**19**	P	**P**	**18 44 48.9**	**+0.5**
BVAR	**Borovoye Array**	**22.95**	**4**	P	**P**	**18 44 56.3**	**-0.4**
0.7nm,0.7s,mb3.2,baz=172,slow=10,SNR=4.5							
BVAR	**Borovoye Array**	**22.95**	**4**	P	**P**	**18 44 56.3**	**-0.4**
ZAA0	**Zalesovo Array**	**26.88**	**23**	P	**P**	**18 45 32.5**	**-0.8**
ZALV	**Zalesovo Beam**	**26.88**	**23**	P	**P**	**18 45 35.4**	**+2.2**
0.4nm,0.4s,mb3.3,baz=224,slow=10,SNR=3.2							
ZALV	**Zalesovo Beam**	**26.88**	**23**	P	**P**	**18 45 35.4**	**+2.2**
GVD	**Gavdhos**	**36.71**	**289**	*e*P	**P**	**18 47 06.2**	**+6.5**
300nm,1.2s							
KMBO	**Kilima Mbogo**	**42.42**	**228**	*e*P	**P**	**18 47 46.5**	**-1.0**
0.7nm,0.7s,mb3.4							
YKA	**Yellowknife Ar**	**87.66**	**1**	P	**P**	**18 52 42.1**	**+1.3**
0.3nm,0.8s,mb3.6,baz=349,slow=5.0,SNR=6.0							
YKA	**Yellowknife Ar**	**87.66**	**1**	P	**P**	**18 52 42.1**	**+1.3**

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*IDC **27** 18:47:52.4±1.5, 7.°45S×127.°75E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.7/16, mbtmp3.7/7, ML3.8/3, Error ellipse: s-maj=77.0km s-min=23.5km az=70.0*
*ISCJB **27** 18:47:56.4±0.6, 7.°76S±0.°05×127.°35E±0.°08, h33km, mb3.6/5, Error ellipse: s-maj=11.4km s-min=6.7km az=166.4*
*NEIC **27** 18:47:57.9±0.7, 7.°62S×127.°60E, h35km, mb3.4/1, Error ellipse: s-maj=24.0km s-min=8.8km az=63.0*
ISC 27 18:47:58.3±0.6, 7.°72S±0.°05×127.°37E±0.°08, h35km, n21, σ1§36/30, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.46**	**189**	Pn	**Pn**	**18 50 28.9**	**+3.1**
0.6nm,0.3s,baz=36,slow=10,SNR=18							
FITZ				Sn	**Sn**	**18 52 23.2**	**+1.4**
1.0nm,0.3s,baz=58,slow=22,SNR=4.8							
FITZ	**Fitzroy Crossi**	**10.46**	**189**	*e*Pn	**Pn**	**18 50 28.1**	**+2.3**
2.3nm,0.5s							
FITZ				*e*Sn	**Sn**	**18 52 20.9**	**-0.8**
WRAB	**Tennant Creek**	**13.90**	**152

SKR *e*S **Sn** **18 53 05.0 -0.9**
SKR A 18 53 08.4
comp=E,310nm,0.5s
SKR A 18 53 08.4
comp=E,390nm,0.5s
YUK Yuzh-Kuril'sk 5.69 242 *i* PN **Pn** **18 52 36.7 +1.5**
YUK *i* S **Sn** **18 53 42.2 +3.1**
YUK pmax pmax
comp=N,113nm,0.4s
YUK pmax pmax
comp=Z,205nm,0.4s
YUK pmax pmax
comp=Z,19µm,0.4s
YUK pmax pmax
comp=E,84nm,0.4s
YUK smax
comp=N,340nm,0.4s
YUK smax
comp=E,358nm,0.4s
YUK MLR MLR
comp=Z,9µm,8.0s
YUK Yuzh-Kuril'sk 5.69 242⇑ *i*P **Pn** **18 52 36.7 +1.5**
YUK AMB AMB 18 52 37.3
comp=Z,113nm,0.4s
YUK AMB AMB 18 52 37.3
comp=Z,84nm,0.4s
YUK AMB AMB 18 52 37.3
comp=Z,205nm,0.4s
YUK *i* S **Sn** **18 53 42.3 +3.2**
YUK A 18 54 10.0
comp=Z,770nm,0.5s
YUK A 18 54 10.0
comp=Z,380nm,0.5s
YUK AMS AMS 18 55 19.4
comp=Z,9µm,8.0s
NEM2 Nemuro 2 6.15 237 P **Pn** **18 52 40.1 -1.3**
NEM2 *e*S **Sn** **18 53 45.6 -4.8**
JRA Rausu 6.20 244 P **Pn** **18 52 44.4 +2.3**
JNK Nakash 6.63 243 P **Pn** **18 52 48.9 +0.9**
JNK *e*S **Sn** **18 54 02.1 -0.1**
YSS Yuzh-Sakhalins 6.91 274 *e*Pn **Pn** **18 52 55.2 +3.4**
YSS *e*S **Sn** **18 54 13.6 +4.6**
YSS Yuzh-Sakhalins 6.91 274 *e*PN **Pn** **18 52 55.0 +3.2**
YSS *e*S **Sn** **18 54 11.0 +2.1**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS smax
comp=E,50nm,0.8s
YSS smax
comp=N,50nm,0.9s
YSS Yuzh-Sakhalins 6.91 274 *e*P **Pn** **18 52 55.0 +3.2**
YSS AMB AMB 18 52 58.0
comp=N,30nm,0.9s
YSS *e*S **Sn** **18 54 11.0 +2.1**
YSS A 18 54 14.0
comp=N,50nm,0.9s
JTKR Abashiri--Toko 6.94 248 P **Pn** **18 52 54.0 +1.7**
JAK Akkeshi 6.98 239 P **Pn** **18 52 51.6 -1.2**
JAK *e*S **Sn** **18 54 05.9 -4.9**
PET Petropavlovsk 7.17 29 *e*Pn **Pn** **18 52 57.0 +1.8**
PET *e*S **Sn** **18 54 12.9 -2.3**
PET Petropavlovsk 7.17 29 *e*PN **Pn** **18 52 57.1 +1.8**
JAR Ashorobuto 7.37 244 P **Pn** **18 52 58.2 +0.1**
JOB Onbets 7.55 241 P **Pn** **18 53 00.6 0.0**
ASAJ Asahikawa 7.72 252 Pn **Pn** **18 53 06.2 +3.2**
comp=N,3.7nm,0.3s,baz=171,slow=32,SNR=12
ASAJ LR LR 18 56 09.0
comp=N,186nm,19.6s,baz=138,slow=39
ASAJ Asahikawa 7.72 252 *e*Pn **Pn** **18 53 05.6 +2.7**
ASAJ Asahikawa 7.72 252 PN **Pn** **18 53 06.2 +3.2**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
JKK2 Kamakawa 2 7.73 250 P **Pn** **18 53 05.8 +2.7**
JWK2 Keihoku 7.77 262 P **Pn** **18 53 09.6 +6.0**
TYV Tymovskoe 7.79 304 *e*P **Pn** **18 53 08.0 +4.2**
TYV AMB AMB 18 53 15.0
comp=Z,13nm,0.9s
TYV AMB AMB 18 53 15.0
comp=Z,44nm,0.9s
JCH Churui 8.00 241 P **Pn** **18 53 06.0 -0.8**
JCH *e*S **Sn** **18 54 32.1 -3.7**
ERM Erimo 8.48 238 *e*Pn **Pn** **18 53 12.0 -1.4**
ERM *e*Sn **Sn** **18 54 29.3 -18**
ERM Erimo 8.48 238⇑ *e*PN **Pn** **18 53 13.3 -0.1**
ERM Erimo 8.48 238 *e*P **Pn** **18 53 13.3 -0.1**
JNBK Urakawa-nobuka 8.56 241 P **Pn** **18 53 13.7 -0.7**
JNBK *e*S **Sn** **18 54 44.5 -5.0**
JTM Tenmabayashi 10.48 238 P **Pn** **18 53 38.1 -2.5**
JTM *e*S **Sn** **18 55 27.1 -9.4**
OFUJ Ofunato 11.32 230 P **Pn** **18 53 47.8 -4.3**
OFUJ *e*S **Sn** **18 55 44.1 -13**
JIO Ouri 11.95 229 *e*S **Sn** **18 55 59.5 -13**
HABR Khabarovsk 12.09 284 *e*PN **Pn** **18 54 01.3 -1.3**
HABR pmax pmax
comp=N,81nm,2.9s
HABR pmax pmax
comp=Z,48nm,1.5s
HABR pmax pmax
comp=E,41nm,1.5s
USRK Ussuriysk Arra 14.85 267 Pn **Pn** **18 54 38.7 -1.1**
comp=E,0.3nm,0.3s,baz=81,slow=13,SNR=6.2
USRK LR LR 18 59 45.4
comp=E,118nm,19.1s,baz=154,slow=35
MJAR Matsushiro Arr 15.04 232 Pn **Pn** **18 54 39.9 -2.4**
comp=E,0.3nm,0.3s,baz=27,slow=16,SNR=4.9
MJAR LR LR 18 59 50.1
comp=E,126nm,19.6s,baz=15,slow=35
MJAR Matsushiro Arr 15.04 232 Pn **Pn** **18 54 39.9 -2.4**
MJAR Matsushiro Arr 15.04 232 P **Pn** **18 54 39.9 -2.4**
MAJO Matsushiro 15.04 232 *e*Pn **Pn** **18 54 39.2 -3.1**
MAJO *e* 18 55 00.4
MAJO Matsushiro 15.04 232 *e*P **Pn** **18 54 39.2 -3.1**
MAT Matsushiro 15.04 232 P **Pn** **18 54 39.5 -2.8**
MDJ Mudanjiang 16.38 270 P **Pn** **18 54 59.5 +0.1**
MDJ pP pP 18 55 16.5 +3.4
MDJ sP sP 18 55 25.0 +5.3
MDJ S **S** **18 57 58.8 -11**
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ Mudanjiang 16.38 270 *e*Pn **Pn** **18 54 58.8 -0.6**
comp=Z,10nm,0.6s
ZEA Zeya 17.64 302 *e*P **Pn** **18 55 15.3 +0.2**
CN2 Changchun 19.46 271 *e*P **Pn** **18 55 35.3 -1.8**
CN2 *es*P sP 18 55 56.3 +2.5
CN2 *e*S **S** **18 59 05.5 -7.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,12.0s
CN2 LR LR
comp=E,500nm,12.0s
CN2 LR LR
comp=Z,700nm,13.0s
YAK Yakutsk 20.08 327 *e*P **P** **18 55 42.9 +0.9**
comp=Z,262nm,2.5s
YAK Yakutsk 20.08 327 *e*P **P** **18 55 42.3 +0.3**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.4s
KSRS Korea Array 20.67 252 P **P** **18 55 48.8 +0.2**
comp=N,3.3nm,0.6s,baz=62,slow=9.0,SNR=21
KSRS Korea Array 20.67 252 P **P** **18 55 48.8 +0.2**
KSAR Wonju Array Be 20.70 252 P **P** **18 55 48.8 -0.1**
KSAR Wonju Array Be 20.70 252 P **P** **18 55 48.8 -0.2**
BILL Bilibino 22.27 13 *e*P **P** **18 56 05.0 -0.5**
BILL Bilibino 22.27 13⇑ *e*P **P** **18 56 05.5 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.0
HHC Hu-ho-hao-te 30.10 274 *e*P **P** **18 57 18.0 +0.4**
HHC pP pP 18 57 33.3 +2.4
HHC sP sP 18 57 40.5 +3.4
HHC PP PP 18 58 17.5 -8.6
HHC PcP PcP 19 00 18.8 +0.8
HHC S **S** **19 02 10.5 -1.9**
HHC SS SS 19 03 51.5 -30
HHC ScS ScS 19 07 49.5 -1.6
HHC pmax pmax
comp=Z,12nm,0.6s,mb4.8
HHC pmax pmax
comp=Z,280nm,7.5s
HHC LR LR
comp=N,290nm,16.7s,MS4.2
HHC LR LR
comp=E,430nm,17.8s,MS4.2
HHC LR LR
comp=Z,280nm,19.0s,MS3.9
ULN Ulaanbaatar 30.67 289 *e*P **P** **18 57 26.0 +3.5**
comp=Z,3.3nm,0.8s,mb4.2
ULN Ulaanbaatar 30.67 289 *e*P **P** **18 57 26.0 +3.5**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
COLD Coldfoot 35.30 34 *e*P **P** **18 58 03.0 +0.4**
comp=Z,4.7nm,0.6s,mb4.6
COLD *e* pP 18 58 16.1 0.0
XAN Xi'an 35.35 265 P **P** **18 58 03.8 +0.3**
XAN pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
XAN pmax pmax
comp=Z,21nm,7.4s
MCK McKinley 35.64 40 P **P** **18 58 05.8 +0.2**
MCK McKinley 35.64 40 P **P** **18 58 05.8 +0.1**
SML Sawmill 35.98 44 *e*P **P** **18 58 09.9 +1.3**
comp=Z,8.1nm,0.8s,mb4.7
SML Sawmill 35.98 44 *e*P **P** **18 58 09.9 +1.4**
SML pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 36.12 39 *e*P **P** **18 58 10.0 +0.2**
comp=Z,6.4nm,0.8s,mb4.6
COLA *e* pP 18 58 23.9 +0.7
COLA College 36.12 39 *e*P **P** **18 58 10.0 +0.3**
COLA *e* pP 18 58 23.9 +0.7
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ILAR Eielson Array 36.53 39 P **P** **18 58 13.2 0.0**
comp=Z,2.3nm,0.9s,mb4.0,baz=258,slow=6.4,SNR=19
ILAR Eielson Array 36.53 39 P **P** **18 58 13.2 0.0**
ILAR Eielson Array 36.53 39 P **P** **18 58 13.2 0.0**
LZH Lanzhou 37.70 271 *e*P **P** **18 58 23.8 +0.3**
LZH pP pP 18 58 42.0 +5.0
LZH sP sP 18 58 51.5 +8.4
LZH PP PP 18 59 54.0 +3.8
LZH *e*S **S** **19 04 07.3 -2.5**
LZH sS sS 19 04 39.0 +6.3
LZH pmax pmax
comp=Z,19nm,1.0s,mb4.8
LZH pmax pmax
comp=Z,93nm,6.1s
LZH LR LR
comp=N,360nm,10.6s,MS4.5
LZH LR LR
comp=E,310nm,11.4s,MS4.5
LZH LR LR
comp=Z,470nm,15.0s,MS4.4
GTA Gaotai 38.76 279 *e*P **P** **18 58 35.0 +2.6**
GTA pP pP 18 58 53.8 +7.8
GTA sP sP 18 58 58.3 +6.2
GTA pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
CD2 Chengdu 40.71 265 *e*P **P** **18 58 48.8 +0.2**
CD2 pP pP 18 59 07.3 +5.0
CD2 sP sP 18 59 16.3 +7.9
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
CD2 pmax pmax
comp=Z,30nm,4.8s
GYA Guiyang 41.57 257 *e*P **P** **18 58 56.5 +0.7**
GYA pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
INK Inuvik 41.61 32 *e*P **P** **18 58 56.0 +0.4**
comp=Z,6.9nm,0.8s,mb4.3
INK *e* pP 18 59 09.7 +0.5
INK Inuvik 41.61 32 *e*P **P** **18 58 56.0 +0.4**
INK *e* pP 18 59 09.7 +0.4
INK pmax pmax
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 42.36 306 P **P** **18 59 00.3 -1.6**
comp=Z,1.4nm,0.4s,mb3.9,baz=59,slow=6.8,SNR=12
ZALV PcP PcP 19 00 54.1 -0.2
comp=Z,1.5nm,0.7s,baz=83,slow=3.4,SNR=7.8
ZALV LR LR 19 18 00.5
comp=Z,115nm,18.6s,MS3.8,baz=244,slow=38
ZALV Zalesovo Beam 42.36 306 P **P** **18 59 00.3 -1.6**
ZALV PcP PcP 19 00 54.1 -0.2
ZALV Zalesovo Beam 42.36 306 P **P** **18 59 00.3 -1.6**
ZALV 19 00 54.1
WMQ Urumqi 44.69 291 *e*P **P** **18 59 22.5 +1.7**
QIZ Qiongzhong 44.74 246 P **P** **18 59 18.0 -3.4**
KMI Kunming 45.09 259 P **P** **18 59 24.5 +0.3**
KMI pP pP 18 59 43.0 +5.0
KMI sP sP 18 59 50.3 +6.3
KMI pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
MK31 Makanchi Array 46.70 297 *e*P **P** **18 59 35.8 -0.8**
MK31 Makanchi Array 46.70 297 *e*P **P** **18 59 35.8 -0.8**
MKAR Makanchi Array 46.70 297 P **P** **18 59 35.9 -0.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=67,slow=7.5,SNR=16
MKAR PcP PcP 19 01 08.7 -0.6
comp=Z,0.9nm,0.5s,baz=54,slow=1.2,SNR=6.5
MKAR LR LR 19 20 25.2
comp=Z,166nm,18.2s,MS4.0,baz=353,slow=38
MKAR Makanchi Array 46.70 297 P **P** **18 59 35.9 -0.7**
MKAR PcP PcP 19 01 08.7 -0.6
MKAR Makanchi Array 46.70 297 *ce*P **P** **18 59 40.5 +3.9**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 47.12 303 P **P** **18 59 39.6 -0.2**
comp=Z,3.0nm,0.7s,mb4.4,baz=70,slow=8.4,SNR=22
KURK Kurchatov 47.12 303 *e*P **P** **18 59 38.9 -0.9**
comp=Z,3.5nm,0.8s,mb4.3
KURK Kurchatov 47.12 303⇓ *e*P **P** **18 59 39.0 -0.8**
KURK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
LSA Lhasa 50.08 273 *e*P **P** **19 00 04.2 +1.4**
comp=Z,3.9nm,0.4s,mb4.8
LSA Lhasa 50.08 273 *e*P **P** **19 00 04.2 +1.4**
LSA pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
BVAR Borovoye Array 50.61 309 P **P** **19 00 05.9 -0.6**
comp=Z,0.9nm,0.4s,mb4.0,baz=47,slow=7.5,SNR=11
BVAR PcP PcP 19 01 23.3 0.0
comp=Z,1.4nm,0.5s,baz=100,slow=2.6,SNR=8.0
BVAR Borovoye Array 50.61 309 P **P** **19 00 05.9 -0.6**
BVAR PcP PcP 19 01 23.3 0.0
BVAR Borovoye Array 50.61 309 P **P** **19 00 05.9 -0.6**
BVAR 19 01 23.3
BRVK Borovoye 50.65 309 *e*P **P** **19 00 06.2 -0.5**
BRVK *e*PcP PcP 19 01 22.7 -0.8
BRVK Borovoye 50.65 309⇑ *e*P **P** **19 00 06.2 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
YKA Yellowknife Ar 50.90 37 P **P** **19 00 08.8 +0.3**
comp=Z,2.7nm,0.8s,mb4.2,baz=296,slow=7.1,SNR=36
YKA PcP PcP 19 01 23.9 -0.3
comp=Z,1.2nm,0.7s,baz=304,slow=3.7,SNR=7.1
YKA Yellowknife Ar 50.90 37 P **P** **19 00 08.8 +0.3**
YKA PcP PcP 19 01 23.9 -0.3
YKA Yellowknife Ar 50.90 37 P **P** **19 00 08.8 +0.3**
YKA 19 01 23.9
CHTO Chiang Mai 51.98 256 *e*P **P** **19 00 17.8 +0.6**
comp=Z,8.4nm,0.8s,mb4.7
CHTO Chiang Mai 51.98 256 *e*P **P** **19 00 17.8 +0.7**
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CM31 Chiang Mai Arr 52.23 256 *e*P **P** **19 00 19.1 +0.1**
comp=Z,5.1nm,0.9s,mb4.5
CMAR Chiang Mai Arr 52.23 256 P **P** **19 00 20.1 +1.0**
comp=Z,3.8nm,0.8s,mb4.4,baz=35,slow=7.4,SNR=43
CMAR LR LR 19 24 32.6
comp=Z,25nm,19.0s,MS3.3,baz=15,slow=38
CMAR Chiang Mai Arr 52.23 256 P **P** **19 00 20.1 +1.0**
CMAR Chiang Mai Arr 52.23 256 P **P** **19 00 20.1 +1.1**
TKM2 Tokmak 2 52.76 296 *e*P **P** **19 00 21.7 -0.9**
TKM2 Tokmak 2 52.76 296 *e*P **P** **19 00 21.7 -0.9**
AAK Ala-Archa 53.59 296 *e*P **P** **19 00 28.8 0.0**
comp=Z,128nm,2.4s,mb5.4
AAK Ala-Archa 53.59 296 *de*P **P** **19 00 29.6 +0.8**
AAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
TAPN Taplejung 53.91 273 *e*P **P** **19 00 32.3 +1.0**
comp=Z,12nm,0.6s,mb5.0
TAPN Taplejung 53.91 273 *e*P **P** **19 00 32.3 +1.0**
comp=Z,12nm,0.6s,mb5.0
EKS2 Erkin-Say 54.02 296 *e*P **P** **19 00 32.6 +0.7**
comp=Z,3.7nm,1.1s,mb4.2
EKS2 Erkin-Say 54.02 296 *e*P **P** **19 00 32.6 +0.7**
EKS2 pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
ODAN Odare 54.44 273 *e*P **P** **19 00 36.4 +1.3**
comp=Z,8.4nm,0.5s,mb5.0
ODAN Odare 54.44 273 *e*P **P** **19 00 36.4 +1.3**
comp=Z,8.4nm,0.5s,mb4.9
JIRN Jiri 54.75 274 *e*P **P** **19 00 38.5 +1.1**
comp=Z,5.8nm,0.5s,mb4.8
JIRN Jiri 54.75 274 *e*P **P** **19 00 38.5 +1.1**
comp=Z,5.8nm,0.5s,mb4.9
ARU Arti 54.76 317 *e*P **P** **19 00 35.5 -1.6**
ARU Arti 54.76 317 P **P** **19 00 36.1 -1.0**
GUN Gumba 54.80 275 *e*P **P** **19 00 38.5 +0.7**
comp=Z,11nm,0.5s,mb5.1
GUN Gumba 54.80 275 *e*P **P** **19 00 38.5 +0.7**
comp=Z,11nm,0.5s,mb5.1
RAMN Ramite 54.92 273 *e*P **P** **19 00 39.3 +0.7**
comp=Z,31nm,0.5s,mb5.6
RAMN Ramite 54.92 273 *e*P **P** **19 00 39.3 +0.7**
comp=Z,31nm,0.5s,mb5.6
KKN Kakani 55.29 275 *e*P **P** **19 00 42.6 +1.3**
comp=Z,15nm,0.6s,mb5.2
KKN Kakani 55.29 275 *e*P **P** **19 00 42.6 +1.3**
comp=Z,15nm,0.6s,mb5.2
KKN Kakani 55.29 275 *e*P **P** **19 00 42.6 +1.3**
KKN pmax pmax
comp=Z,15nm,0.6s,mb5.2
PKI Pulchoki 55.34 275 *e*P **P** **19 00 42.3 +0.6**
PKI Pulchoki 55.34 275 *e*P **P** **19 00 42.3 +0.6**
PKI Pulchoki 55.34 275 *e*P **P** **19 00 42.3 +0.6**
DMN Daman 55.52 275 *e*P **P** **19 00 44.1 +1.1**
DMN Daman 55.52 275 *e*P **P** **19 00 44.1 +1.1**
GKN Gorkha 55.59 276 *e*P **P** **19 00 44.1 +0.6**
GKN Gorkha 55.59 276 *e*P **P** **19 00 44.1 +0.6**
KKAR Karatay Array 55.76 299 *e*P **P** **19 00 44.0 -0.5**
KKAR Karatay Array 55.76 299 *e*P **P** **19 00 44.0 -0.4**
DANN Dangsing 55.97 277 *e*P **P** **19 00 47.3 +1.1**
comp=Z,14nm,0.6s,mb5.2
DANN Dangsing 55.97 277 *e*P **P** **19 00 47.3 +1.1**
comp=Z,14nm,0.6s,mb5.2
KOLN Koldanda 56.45 276 *e*P **P** **19 00 50.4 +0.8**
comp=Z,15nm,0.8s,mb5.1
KOLN Koldanda 56.45 276 *e*P **P** **19 00 50.4 +0.8**
comp=Z,15nm,0.8s,mb5.1
ARCES ARCESS Array B 57.63 341 P **P** **19 00 58.0 +0.7**
comp=Z,4.4nm,0.9s,mb4.5,baz=32,slow=7.1,SNR=3.7
ARCES ARCESS Array B 57.63 341 P **P** **19 00 58.0 +0.7**
ARCES ARCESS Array B 57.63 341 P **P** **19 00 58.0 +0.7**
ABKAR Akbulak array 58.18 310 *e*P **P** **19 01 00.2 -1.2**
KSM Kuching 58.43 232 *e*P **P** **19 01 03.9 +0.3**
comp=Z,3.9nm,0.9s,mb4.4
AKTO Aktyubinsk 58.48 312 P **P** **19 01 03.0 -0.5**
comp=Z,1.0nm,0.6s,mb4.1,baz=81,slow=6.8,SNR=5.2
AKTO PcP PcP 19 01 52.8 -0.8
comp=Z,0.9nm,0.5s,baz=64,slow=4.4,SNR=3.6
AKTO Aktyubinsk 58.48 312 P **P** **19 01 03.0 -0.5**
AKTO PcP PcP 19 01 52.8 -0.8
AKTO Aktyubinsk 58.48 312 P **P** **19 01 03.0 -0.5**
AKTO 19 01 52.8
SLMT Seeley Lake 59.80 52 *e*P **P** **19 01 12.9 +0.2**
comp=Z,3.8nm,0.7s,mb4.5
CHMT Chamberlain Mo 60.13 52 *e*P **P** **19 01 14.1 -0.9**
SUMG Summit 60.55 4 *e*P **P** **19 01 17.9 +0.5**
comp=Z,30nm,0.9s,mb5.4
SUMG Summit 60.55 4 *e*P **P** **19 01 17.9 +0.5**
SUMG pmax pmax
comp=Z,30nm,0.9s
SUMG Summit 60.55 4 *i* P **P** **19 01 18.4 +0.9**
comp=Z,25nm,0.9s,mb5.3
FFC Flin Flon 60.73 40 *e*P **P** **19 01 19.2 +0.2**
comp=Z,6.2nm,0.9s,mb4.7
FFC Flin Flon 60.73 40 *i* P **P** **19 01 19.9 +0.9**
KULM Kulim 60.98 244 P **P** **19 01 22.4 +1.2**
JOF Joensuu 61.10 334 *e*P **P** **19 01 19.1 -2.2**
JOF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
JOF Joensuu 61.10 334 *ep* **P** **19 01 19.1 -2.2**
comp=Z,3.0nm,0.7s,mb4.5
DLMT Dillon 61.45 53 *e*P **P** **19 01 22.0 -2.0**
comp=Z,15nm,0.6s,mb5.3
KBL Kabul 61.83 291 *e*P **P** **19 01 25.6 -1.1**
comp=Z,3.1nm,0.8s,mb4.5
KBL Kabul 61.83 291 *e*P **P** **19 01 25.6 -1.1**
KBL pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
NVAR Mina Array Bea 62.52 62 P **P** **19 01 32.0 +0.8**
comp=Z,2.2nm,0.8s,mb4.3,baz=292,slow=7.1,SNR=12
NVAR Mina Array Bea 62.52 62 P **P** **19 01 32.0 +0.8**
SCO Scoresbysund 62.85 358 *i* P **P** **19 01 33.4 +0.4**
comp=Z,7.0nm,1.0s,mb4.8
KAF Kangasniemi 63.21 335 *e*P **P** **19 01 34.2 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
KAF Kangasniemi 63.21 335 *ep* **P** **19 01 34.2 -1.3**
comp=Z,3.9nm,0.6s,mb4.7
FINES FINESS Array B 63.81 335 P **P** **19 01 39.0 -0.5**
comp=Z,7.3nm,0.4s,mb5.1,baz=36,slow=7.3,SNR=78
FINES FINESS Array B 63.81 335 P **P** **19 01 39.0 -0.5**
FINES FINESS Array B 63.81 335 P **P** **19 01 39.0 -0.4**
DUG Dugway 64.64 58 *e*P **P** **19 01 45.2 0.0**
comp=Z,4.1nm,0.8s,mb4.5
DUG Dugway 64.64 58 *e*P **P** **19 01 45.3 +0.1**
DUG pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
OBN Obninsk 65.07 325⇑ *e*P **P** **19 01 46.5 -1.2**
OBN pmax pmax
comp=Z,26nm,1.6s,mb5.0
VSU Vasula 65.98 332⇑ *i*P **P** **19 01 52.7 -0.9**
VSU pmax pmax
comp=Z,26nm,1.2s,mb5.1
NB2 NORSAR Subarra 68.01 341 P **P** **19 02 05.9 -0.5**
comp=Z,9.6nm,0.6s,mb5.0,baz=27,slow=6.5
NOA NORSAR Array B 68.01 341 P **P** **19 02 06.2 -0.3**
comp=Z,7.5nm,0.6s,mb4.9,baz=28,slow=6.3,SNR=45
NOA NORSAR Array B 68.01 341 P **P** **19 02 06.2 -0.3**
NOA NORSAR Array B 68.01 341 P **P** **19 02 06.2 -0.2**
WRA Warramunga Arr 68.61 199 P **P** **19 02 09.7 -0.9**
comp=Z,1.5nm,0.9s,mb3.9,baz=14,slow=6.6,SNR=10
WRA Warramunga Arr 68.61 199 P **P** **19 02 09.7 -0.9**
WRA Warramunga Arr 68.61 199 P **P** **19 02 09.7 -0.9**
SUW Suwalki 70.76 331 P **P** **19 02 20.3 -3.2**
SUW Suwalki 70.76 331 P **P** **19 02 20.3 -3.2**
AKASG Malin Array Be 71.30 326 P **P** **19 02 26.1 -0.8**
comp=Z,9.8nm,0.4s,mb5.1,baz=34,slow=6.2,SNR=42
AKASG Malin Array Be 71.30 326 P **P** **19 02 26.1 -0.8**
AKASG Malin Array Be 71.30 326 *ce*P **P** **19 02 26.1 -0.8**
AKASG pmax pmax
comp=Z,10.0nm,0.4s
KIEV Kiev 71.31 326 *e*P **P** **19 02 25.4 -1.5**
comp=Z,12nm,0.6s,mb5.0
KIEV Kiev 71.31 326 *d* *i*P **P** **19 02 26.2 -0.7**
ASAR Alice Springs 72.31 198 P **P** **19 02 33.4 +0.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=12,slow=5.7,SNR=16
ASAR Alice Springs 72.31 198 P **P** **19 02 33.4 +0.3**
ASAR Alice Springs 72.31 198 P **P** **19 02 33.4 +0.3**
SCHQ Schefferville 73.23 23 P **P** **19 02 37.4 -0.9**
comp=Z,3.4nm,1.0s,mb4.2,baz=61,slow=13,SNR=7.2
SCHQ Schefferville 73.23 23 P **P** **19 02 37.4 -0.9**
KWP Kalwaria Pacla 74.58 329⇑ *i*P **P** **19 02 46.9 +0.6**
KWP Kalwaria Pacla 74.58 329⇑ *i*P **P** **19 02 46.9 +0.6**
OJC Ojcow 75.08 331 *e*P **P** **19 02 48.8 -0.4**
OJC Ojcow 75.08 331 *e*P **P** **19 02 48.2 -1.0**
comp=Z,6.6nm,0.7s,mb4.7
OJC Ojcow 75.08 331 *e*P **P** **19 02 48.8 -0.4**
STHS Stebnicka Huta 75.28 330 *e*P **P** **19 02 51.3 +1.0**
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
STHS Stebnicka Huta 75.28 330 *e*P **P** **19 02 51.2 +0.9**
BUR08 Bucovina Ar. S 75.33 326 *e*P **P** **19 02 50.5 -0.1**
BURAR Bucovina Array 75.35 326 ⇓P **P** **19 02 50.6 -0.1**
BURAR Bucovina Array 75.35 326 ⇓*i*P **P** **19 02 50.6 -0.1**
NIE Niedzica 75.59 330 *e*P **P** **19 02 52.7 +0.6**
NIE Niedzica 75.59 330 *e*P **P** **19 02 52.7 +0.6**
CRVS Cervenica-Dubn 75.64 329 *e*P **P** **19 02 52.1 -0.3**
CRVS pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
CRVS Cervenica-Dubn 75.64 329 *e*P **P** **19 02 52.1 -0.3**
KSP Ksiaz 75.67 333 *e*P **P** **19 02 52.0 -0.5**
KSP Ksiaz 75.67 333 *e*P **P** **19 02 52.0 -0.5**
TESR 75.70 325 ⇓*i*P **P** **19 02 52.3 -0.5**
TLCR 75.91 323 ⇓P **P** **19 02 54.1 +0.1**
TLCR 75.91 323 ⇓*i*P **P** **19 02 54.1 +0.1**
TRPA Tarpa 75.91 328 ⇓*i*P **P** **19 02 54.2 +0.3**
UPC Upice 76.05 333 *i* P **P** **19 02 55.0 +0.3**

UPC	Upice	76.05 333	*i* P		P	19 02 55.0 +0.3
DPC	Dobruska-Polom	76.09 333	*e*P		P	19 02 55.4 +0.4
DPC	Dobruska-Polom	76.09 333	*i* P		P	19 02 55.3 +0.4
DPC	Dobruska-Polom	76.09 333	*i* P		P	19 02 55.3 +0.4
CFR	Carcaliu	76.19 323	⇓P		P	19 02 55.7 +0.1
CFR	Carcaliu	76.19 323	⇓*i*P		P	19 02 55.7 +0.1
VRI	Vrincioaia	76.20 324	⇓P		P	19 02 56.3 +0.7
VRI	Vrincioaia	76.20 324	⇓*i*P		P	19 02 56.3 +0.7
MORC	Moravsky Berou	76.20 332	*e*P		P	19 02 55.6 +0.1
MORC	Moravsky Berou	76.20 332	⇑P		P	19 02 55.6 0.0
MORC	Moravsky Berou	76.20 332	⇑*i*P		P	19 02 55.6 0.0
CLL	Collm	76.24 335	*e*P		P	19 02 55.2 -0.5
	comp=Z,20nm,1.5s,mb4.8					
CLL	Collm	76.24 335	⇑*i*P		P	19 02 54.8 -0.9
CLL			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8					
CLL	Collm	76.24 335	⇑*i*P		P	19 02 54.8 -0.9
	comp=Z,12nm,1.0s,mb4.8					
KECS	Kecovo	76.33 330	*e*P		P	19 02 56.0 -0.3
KECS			pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1					
KECS	Kecovo	76.33 330	*e*P		P	19 02 56.0 -0.3
BRG	Berggiesshubel	76.35 335	*i* P		P	19 02 56.0 -0.4
	comp=Z,5.2nm,1.0s,mb4.4					
BRG	Berggiesshubel	76.35 335	*e*P		P	19 02 56.0 -0.4
	comp=Z,8.0nm,1.5s,mb4.4					
BRG	Berggiesshubel	76.35 335	*i* P		P	19 02 56.0 -0.4
BRG			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4					
CLZ	Clausthal	76.48 337	*e*P		P	19 02 57.3 +0.2
	comp=Z,2.0nm,0.9s,mb4.0					
CLZ	Clausthal	76.48 337	*e*P		P	19 02 57.3 +0.2
CLZ			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0					
IBBN	Ibbenburen	76.73 339	*e*P		P	19 02 58.4 -0.1
	comp=Z,39nm,1.7s,mb5.1					
MLR	Muntele Rosu	76.82 325	⇑P		P	19 03 00.2 +1.1
MLR	Muntele Rosu	76.82 325	⇑*i*P		P	19 03 00.2 +1.1
VYHS	Vyhne	76.89 331	*e*P		P	19 02 59.7 +0.2
VYHS			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
VYHS	Vyhne	76.89 331	*e*P		P	19 02 59.7 +0.2
VRAC	Vranov	76.92 332	⇑P		P	19 02 59.7 +0.1
VRAC	Vranov	76.92 332	⇑*i*P		P	19 02 59.7 +0.1
PRU	Pruhonice	76.95 334	*i* P		P	19 02 59.8 0.0
PRU	Pruhonice	76.95 334	*i* P		P	19 02 59.8 0.0
PSZ	Piszkesteto	77.02 330	P		P	19 03 00.5 +0.2
	comp=Z,4.4nm,0.9s,mb4.4					
PSZ	Piszkesteto	77.02 330	⇑P		P	19 03 00.9 +0.7
PSZ	Piszkesteto	77.02 330	⇑*i*P		P	19 03 00.9 +0.7
TANN	Tannenbergstha	77.19 335	*e*P		P	19 03 01.0 -0.1
MOX	Moxa	77.22 336	*e*P		P	19 03 01.2 -0.1
	comp=Z,67nm,2.2s,mb5.2					
MOX	Moxa	77.22 336	*e*P		P	19 03 01.2 -0.1
MOX			pmax	pmax		
	comp=Z,67nm,2.2s,mb5.2					
UBBA	Unterbreizbach	77.51 337	*e*P		P	19 03 01.9 -1.0
	comp=Z,1.0nm,0.7s,mb3.9					
TXAR	Lajitas Array	77.57 60	P		P	19 03 03.8 +0.2
	comp=Z,1.6nm,0.6s,mb4.2,baz=298,slow=5.0,SNR=20					
TXAR	Lajitas Array	77.57 60	P		P	19 03 03.8 +0.2
TXAR	Lajitas Array	77.57 60	P		P	19 03 03.8 +0.2
ROTZ	Rotzenmuhle	77.84 335	*e*P		P	19 03 05.2 +0.4
	comp=Z,2.0nm,0.9s,mb4.0					
KHC	Kasperske Hory	78.01 334	*e*P		P	19 03 05.8 +0.1
	comp=Z,48nm,2.3s,mb5.0					
KHC	Kasperske Hory	78.01 334	*e*P		P	19 03 05.8 +0.1
KHC			pmax	pmax		
	comp=Z,48nm,2.3s,mb5.0					
KHC	Kasperske Hory	78.01 334	*i* P		P	19 03 05.3 -0.4
KHC			*ep*P	pP		19 03 23.5 +2.9
GZR	Gura Zlata	78.13 327	⇓P		P	19 03 06.1 -0.3
GZR	Gura Zlata	78.13 327	⇓*i*P		P	19 03 06.1 -0.3
BR131	Keskin Array S	78.14 317	*e*P		P	19 03 06.5 -0.2
	comp=Z,2.4nm,0.8s,mb4.2					
BRTR	Keskin Array B	78.14 317	P		P	19 03 06.8 +0.1
	comp=Z,2.9nm,0.8s,mb4.2,baz=63,slow=4.8,SNR=12					
BRTR	Keskin Array B	78.14 317	P		P	19 03 06.8 +0.1
BRTR	Keskin Array B	78.14 317	*ce*P		P	19 03 06.8 +0.2
BRTR			pmax	pmax		
	comp=Z,3.0nm,0.8s					
GRF	Grafenberg Arr	78.19 336	*e*P		P	19 03 07.1 +0.4
	comp=Z,11nm,1.2s,mb4.7					
GRF	Grafenberg Arr	78.19 336	*e*P		P	19 03 07.1 +0.4
GRF			pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7					
WET	Wettzell	78.20 334	*e*P		P	19 03 07.2 +0.4
	comp=Z,7μm,5.3s					
WET	Wettzell	78.20 334	*e*P		P	19 03 07.2 +0.4
GEC2	GERESS Array S	78.22 334	*e*P		P	19 03 06.8 -0.1
	comp=Z,1.0nm,0.6s,mb3.9					
GEC2	GERESS Array S	78.22 334	*e*P		P	19 03 06.8 -0.1
GEC2			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9					
GERES	GERESS Array B	78.22 334	P		P	19 03 06.8 -0.1
	comp=Z,1.4nm,0.6s,mb4.1,baz=34,slow=5.3,SNR=16					
GERES	GERESS Array B	78.22 334	P		P	19 03 06.8 -0.1
GERES	GERESS Array B	78.22 334	P		P	19 03 06.8 -0.1
BZS	Buzias	78.37 327	⇑P		P	19 03 07.6 -0.2
BZS	Buzias	78.37 327	⇑*i*P		P	19 03 07.6 -0.2
MIB	Mutribah	78.42 301	*e*P		P	19 03 08.3 0.0
MIB			AMb	AMB		19 03 09.4
	comp=Z,49nm,0.7s,mb5.5					
TNS	Taunus Mts	78.46 338	*e*P		P	19 03 08.3 +0.1
	comp=Z,2.0nm,0.6s,mb4.2					
TNS	Taunus Mts	78.46 338	*e*P		P	19 03 08.3 +0.1
TNS			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2					
MEM	Membach	78.72 339	P		P	19 03 09.7 +0.1
	comp=Z,9.9nm,1.2s,mb4.6					
NAY	Al-Naaiem	78.88 301	*e*P		P	19 03 10.6 -0.3
NAY			AMb	AMB		19 03 12.3
	comp=Z,20nm,1.1s,mb5.0					
PKSM	Moragy	78.93 330	⇑P		P	19 03 09.8 -1.0
PKSM	Moragy	78.93 330	⇑*i*P		P	19 03 09.8 -1.0
RDF	Al-Radifah	78.94 301	*e*P		P	19 03 11.1 -0.1
RDF			AMb	AMB		19 03 12.2
	comp=Z,40nm,1.0s,mb5.3					
BCLA	Clavier	79.07 340	P		P	19 03 12.7 +1.2
RJOB	Jochberg	79.49 334	*e*P		P	19 03 14.3 +0.5
	comp=Z,25nm,1.8s,mb4.8					
BAIF	Baives	79.67 340	*e*P		P	19 03 14.3 -0.5
BAIF	Baives	79.67 340	*e*P		P	19 03 14.3 -0.5
BAIF	Baives	79.67 340	*e*P		P	19 03 14.3 -0.5
WCI	Wyandotte Cave	80.11 43	*e*P		P	19 03 17.2 -0.2
	comp=Z,9.2nm,1.0s,mb4.7					
WCI	Wyandotte Cave	80.11 43	*e*P		P	19 03 17.2 -0.2
WCI			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7					
BFO	Black Forest	80.23 337	*e*P		P	19 03 17.8 0.0
	comp=Z,3.0nm,0.9s,mb4.2					
BFO	Black Forest	80.23 337	*e*P		P	19 03 17.8 0.0
BFO			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2					
CDF	Champ du Feu	80.43 338	*e*P		P	19 03 18.8 -0.1
CDF	Champ du Feu	80.43 338	*e*P		P	19 03 18.8 -0.1
CDF	Champ du Feu	80.43 338	*e*P		P	19 03 18.8 -0.1
MEZF	Maizieres J'vi	80.91 339	*e*P		P	19 03 21.6 +0.1
	comp=Z,18nm,0.9s,mb4.7					
MEZF	Maizieres J'vi	80.91 339	*e*P		P	19 03 21.6 +0.1
	comp=Z,18nm,0.9s,mb5.0					
HAU	Haudompre	81.05 338	*e*P		P	19 03 21.8 -0.4
HAU	Haudompre	81.05 338	*e*P		P	19 03 21.8 -0.4
HAU	Haudompre	81.05 338	*e*P		P	19 03 21.8 -0.4
PMOR	Pomariorio Ree	81.30 123	*e*T			20 32 42.8
	comp=Z,4.7nm,0.2s					
LOR	Lormes	82.35 339	*e*P		P	19 03 28.8 -0.3
	comp=Z,11nm,0.7s,mb4.6					
LOR	Lormes	82.35 339	*e*P		P	19 03 28.8 -0.3
	comp=Z,11nm,0.7s,mb4.9					
LOR	Lormes	82.35 339	*e*P		P	19 03 28.8 -0.3
LOR			pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9					
PPT2	Papeete2	82.42 126	*e*LR		LR	19 29 24.3
	comp=Z,49nm,23.0s					
ASF	Jabal al Asfar	82.45 310	P		P	19 03 31.0 +1.1
	comp=Z,1.9nm,0.6s,mb4.2,baz=232,slow=2.3,SNR=5.0					
ASF	Jabal al Asfar	82.45 310	P		P	19 03 31.0 +1.1
ASF	Jabal al Asfar	82.45 310	P		P	19 03 31.0 +1.1
MMAI	Mount Meron Ar	82.56 311	P		P	19 03 31.5 +1.0
	comp=Z,4.2nm,0.5s,mb4.7,baz=46,slow=7.1,SNR=16					
MMAI	Mount Meron Ar	82.56 311	P		P	19 03 31.5 +1.0
SSF	Saint Saulge	82.63 339	*e*P		P	19 03 30.2 -0.4
SSF	Saint Saulge	82.63 339	*e*P		P	19 03 30.2 -0.4
SSF	Saint Saulge	82.63 339	*e*P		P	19 03 30.2 -0.4
AVF	Avril sur Loir	82.92 339	*e*P		P	19 03 31.9 -0.2
	comp=Z,18nm,1.0s,mb4.7					
AVF	Avril sur Loir	82.92 339	*e*P		P	19 03 31.9 -0.2
	comp=Z,18nm,1.0s,mb5.1					
AVF	Avril sur Loir	82.92 339	*e*P		P	19 03 31.9 -0.2
AVF			pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1					
SMF	Signal de Mont	82.94 339	*e*P		P	19 03 32.0 -0.2
SMF	Signal de Mont	82.94 339	*e*P		P	19 03 32.0 -0.2
SMF	Signal de Mont	82.94 339	*e*P		P	19 03 32.0 -0.2
LPG	La Plagne	83.26 337	*e*P		P	19 03 33.9 0.0
	comp=Z,13nm,1.0s,mb4.6					
LPG	La Plagne	83.26 337	*e*P		P	19 03 33.9 0.0
	comp=Z,13nm,1.0s,mb4.9					
LPG	La Plagne	83.26 337	*e*P		P	19 03 33.9 0.0
LPG			pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9					
BGF	Bois d'Agland	83.26 340	*e*P		P	19 03 34.1 +0.2
	comp=Z,21nm,1.0s,mb4.8					
BGF	Bois d'Agland	83.26 340	*e*P		P	19 03 34.1 +0.2
	comp=Z,21nm,1.0s,mb5.1					
BGF	Bois d'Agland	83.26 340	*e*P		P	19 03 34.1 +0.2
BGF			pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1					
TCF	Toulx Ste Croi	83.67 340	*e*P		P	19 03 35.6 -0.3
TCF	Toulx Ste Croi	83.67 340	*e*P		P	19 03 35.6 -0.3
TCF	Toulx Ste Croi	83.67 340	*e*P		P	19 03 35.6 -0.3
ORIF	Oris-en-Rattie	84.03 337	*e*P		P	19 03 38.4 +0.6
ORIF	Oris-en-Rattie	84.03 337	*e*P		P	19 03 38.4 +0.6
ORIF	Oris-en-Rattie	84.03 337	*e*P		P	19 03 38.4 +0.6
VIVF	Saint-Julien-l	84.40 338	*e*P		P	19 03 39.9 +0.2
VIVF	Saint-Julien-l	84.40 338	*e*P		P	19 03 39.9 +0.2
VIVF	Saint-Julien-l	84.40 338	*e*P		P	19 03 39.9 +0.2
SMRF	Simiane la Rot	84.98 337	*e*P		P	19 03 42.1 -0.6
SMRF	Simiane la Rot	84.98 337	*e*P		P	19 03 42.1 -0.6
TBI	Tubuai	87.15 129	*e*T			20 40 02.0
	comp=Z,7.0nm,0.3s					
CPUP	Villa Florida	148.54 60	PKPbc	PKPbc		19 10 52.5 -1.6
	comp=Z,1.3nm,0.5s,baz=200,slow=1.6,SNR=7.1					
CPUP	Villa Florida	148.54 60	PKPbc	PKPbc		19 10 52.5 -1.6
VNA2	Neumayer--Watz	154.12 195	*e*	PKPab		19 11 18.0 -1.6
VNA1	Neumayer--Stat	154.50 195	*e*	PKPab		19 11 19.1 -2.1

DDA ***27*** *19:06:16.9, 37°.89N×29°.22E, h7km±2km, Ml2.7*
ISCJB ***27*** *19:06:17.6±0.7, 37°.90N±0°.04×29°.17E±0°.08, h10km, Error ellipse: s-maj=9.1km s-min=5.1km az=18.2*
CSEM ***27*** *19:06:17.3±0.3, 37°.90N×29°.26E, h2km, MD2.7, Error ellipse: s-maj=10.4km s-min=6.0km az=124.0*
ISK ***27*** *19:06:17.9, 37°.94N×29°.20E, h7km, MD2.7*
ISC 27 19:06:17.8±0.7, 37°.89N±0°.04×29°.20E±0°.08, h10km, n12, σ0°71/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.19	223	*e*PG	Pg	19 06 23.0	+1.3
DENT	Denizli	0.19	223	*e*Pg	Pg	19 06 23.0	+1.2
DNZL	Cakiroluk	0.23	210	*e*P	Pg	19 06 21.8	-0.8
DNZL				*i* S	Sg	19 06 25.6	-0.1
DNZL	Cakiroluk	0.23	210	*e*P	Pg	19 06 21.8	-0.8
DNZL				*i* S	Sg	19 06 25.6	-0.2
KHAL	Karahalli	0.53	26	*e*P	Pg	19 06 27.1	-1.2
KHAL	Karahalli	0.53	26	*e*P	Pg	19 06 27.0	-1.2
KULA	Kula-Manisa	0.75	326	*e*PG	Pg	19 06 31.9	-0.5
KULA				*e*SG	Sg	19 06 42.4	+0.3
KULA	Kula-Manisa	0.75	326	*e*Pg	Pg	19 06 31.9	-0.4
KULA				*e*Sg	Sg	19 06 42.4	+0.2
SHUT	Suhut-Afyon	1.26	58	*e*PN	Pn	19 06 41.7	+0.3
SHUT	Suhut-Afyon	1.26	58	*e*Pn	Pn	19 06 41.7	+0.3
ALT	Altintas	1.37	31	*e*PN	Pn	19 06 43.0	0.0
ALT				*e*SN	Sn	19 07 01.9	+0.8
ALT	Altintas	1.37	31	*e*Pn	Pn	19 06 43.0	0.0
ALT				*e*Sn	Sn	19 07 01.9	+0.8

IDC 27 19:06:51.4±1.3, 13°.76N×144°.98E, h111km±6km, mb3.0/4, mb1 3.2/4, mb1mx3.1/20, mbtmp3.0/4, Error ellipse: s-maj=55.6km s-min=23.7km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.20	213	P	Pn	19 07 08.4	+1.5
	baz=146,slow=3.6						
GUMO				S	Sn	19 07 19.8	+1.2
	2μm,0.3s,baz=269,slow=24,SNR=73						
WRA	Warramunga Arr	35.09	198	P	P	19 13 33.5	-0.6
	0.4nm,0.6s,baz=19,slow=9.3,SNR=6.6						
ASAR	Alice Springs	38.74	196	P	P	19 14 05.5	+0.6
	0.2nm,0.9s,baz=19,slow=11,SNR=4.4						
MKAR	Makanchi Array	61.45	316	P	P	19 16 56.3	+0.2
	0.6nm,1.0s,baz=96,slow=8.8,SNR=7.2						
YKA	Yellowknife Ar	82.66	27	P	P	19 19 01.5	-0.7
	0.2nm,0.7s,baz=293,slow=5.2,SNR=3.9						

NIED ***27*** *19:16:00, 44°.10N×148°.70E, h23km, Mw4.8 Best double couple: M0 1.53000×10^16 NP1:φs252.00000°, δ69.00000°, λ147.00000°. NP2:φs355.00000°, δ59.00000°, λ25.00000°.*
IDC ***27*** *19:16:18.0±0.5, 43°.96N×148°.28E, h0km, mb4.3/26, mb1 4.4/29, mb1mx4.4/30, mbtmp4.3/29, ML3.4/3, MS4.2/14, Ms1 4.2/14, ms1mx4.0/32, Error ellipse: s-maj=14.7km s-min=11.3km az=132.0*
JMA ***27*** *19:16:18.7±0.6, 44°.14N×148°.66E, h30km, M5.0*
ISCJB ***27*** *19:16:21.7±0.5, 43°.81N±0°.03×148°.33E±0°.04, h40km±3km, mb4.9/142, MS4.4/29, Error ellipse: s-maj=6.1km s-min=3.7km az=146.9*
MOS ***27*** *19:16:21.6±0.9, 43°.84N×148°.26E, h38km, mb5.2/50, MS4.3/6, Error ellipse: s-maj=7.2km s-min=4.8km az=111.9*
SKHL ***27*** *19:16:22.5±0.5, 43°.92N×148°.25E, h34km±3km, mb5.1/4*
NEIC ***27*** *19:16:23.7±0.7, 43°.93N×148°.28E, h40km±6km, mb5.1/89, Error ellipse: s-maj=5.8km s-min=4.3km az=139.0*
BJI ***27*** *19:16:23.0, 43°.93N×148°.33E, h53km, mB5.2/35, mb4.8/49, Ms4.7/42, Ms7 4.6/43*
ISC 27 19:16:23.8±0.5, 43°.84N±0°.03×148°.31E±0°.04, h42km±3km, h46km±3.2km: pP-P, n493, σ1°04/513, mb4.9/142, MS4.4/29, 47C-23D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.43	347	PN	Pn	19 16 44.0	-3.2
KUR				S	Sn	19 17 00.5	-4.2
KUR				pmax	pmax		
	comp=Z,2μm,0.5s						
KUR				smax			
	comp=N,6μm,0.5s						
KUR				smax			
	comp=E,4μm,0.5s						
KUR	Kuril'sk	1.43	347	*e*P	Pn	19 16 44.0	-3.2
KUR				AMB	AMB	19 16 50.0	
	comp=E,2μm,0.5s						
KUR				*e*S	Sn	19 17 00.5	-4.2
KUR				A		19 17 17.5	
	comp=E,6μm,0.5s						
KUR				A		19 17 17.5	
	comp=E,4μm,0.5s						
YUK	Yuzh-Kuril'sk	1.78	277	*i* PN	Pn	19 16 48.4	-3.6
YUK				*i* S	Sn	19 17 07.6	-5.7
YUK				pmax	pmax		
	comp=N,563nm,0.2s						
YUK				pmax	pmax		
	comp=E,781nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax			
	comp=E,12μm,0.4s						
YUK				smax			
	comp=N,6μm,0.5s						
YUK	Yuzh-Kuril'sk	1.78	277	⇓*i*P	Pn	19 16 48.5	-3.5
YUK				AMB	AMB	19 16 53.0	
	comp=N,370nm,0.5s						
YUK				AMB	AMB	19 16 53.0	
	comp=N,550nm,0.5s						
YUK				AMB	AMB	19 16 53.0	
	comp=N,2μm,0.5s						
YUK				*i* S	Sn	19 17 07.7	-5.6
YUK				A		19 17 18.6	
	comp=N,14μm,0.5s						
YUK				A		19 17 18.6	
	comp=N,11μm,0.5s						
YUK				AMS	AMS	19 18 03.0	
	comp=N,23μm,9.0s						
NEM2	Nemuro 2	1.92	257	P	Pn	19 16 52.4	-1.6
NEM2				*e*S	Sn	19 17 17.4	+0.5
JRA	Rausu	2.30	273	P	Pn	19 16 58.9	-0.3
JNK	Nakash	2.61	266	P	Pn	19 17 02.9	-0.6
JNK				*e*S	Sn	19 17 34.1	+0.2
JAK	Akkeshi	2.76	253	P	Pn	19 17 04.8	-0.7
JAK				*e*S	Sn	19 17 39.4	+1.8
JTKR	Abashiri--Toko	3.18	274	P	Pn	19 17 11.4	+0.1
JAR	Ashorobuto	3.34	262	P	Pn	19 17 13.4	-0.1
JAR				*e*S	Sn	19 17 57.3	+5.4
JOB	Onbets	3.39	255	P	Pn	19 17 13.4	-0.8
JCH	Churui	3.82	253	P	Pn	19 17 19.5	-0.5
JCH				*e*S	Sn	19 18 05.8	+2.2
JKK2	Kamakawa 2	4.02	272	P	Pn	19 17 24.7	+1.9
ASAJ	Asahikawa	4.13	276	Pn	Pn	19 17 26.1	+1.8
	comp=N,10nm,0.3s,baz=81,slow=12,SNR=18						
ASAJ				Sn	Sn	19 18 27.8	+16
	comp=N,13nm,0.3s,baz=194,slow=26,SNR=4.1						
ASAJ				LR	LR	19 19 07.7	
	comp=N,4μm,19.0s,baz=122,slow=41						
ASAJ	Asahikawa	4.13	276	Pn	Pn	19 17 26.1	+1.8
ASAJ				*e*Sn	Sn	19 17 55.9	-15
ASAJ				Sn	Sn	19 18 27.8	+16
ASAJ	Asahikawa	4.13	276	PN	Pn	19 17 26.1	+1.8
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,4μm,19.0s						
ASAJ	Asahikawa	4.13	276	P	Pn	19 17 26.5	+2.2
JEM	Erimo	4.20	246	P	Pn	19 17 26.5	+1.3
ERM	Erimo	4.20	246	*e*Pn	Pn	19 17 26.4	+1.2
ERM				*e*Sn	Sn	19 18 18.9	+5.9
ERM	Erimo	4.20	246	*d i*PN	Pn	19 17 26.5	+1.3
ERM	Erimo	4.20	246	*e*P	Pn	19 17 26.5	+1.3
JFR	Furan	4.21	263	P	Pn	19 17 26.4	+1.0
JFR				*e*S	Sn	19 18 16.8	+3.5
JSE	Soyaes	4.25	287	P	Pn	19 17 27.2	+1.3
JNBK	Urakawa-nobuka	4.36	251	P	Pn	19 17 27.6	+0.2
JAB	Ashibetsu	4.43	268	P	Pn	19 17 30.5	+2.1
JBT2	Biratori 2	4.46	258	P	Pn	19 17 28.9	0.0
JBT2				*e*S	Sn	19 18 24.0	+4.4
JHR	Hokuryu	4.77	271	P	Pn	19 17 35.4	+2.4
JWK2	Keihoku	4.81	290	P	Pn	19 17 36.5	+2.9
YSS	Yuzh-Sakhalins	5.00	310	*e*Pn	Pn	19 17 36.0	-0.2
YSS	Yuzh-Sakhalins	5.00	310	*e*PN	Pn	19 17 35.7	-0.5
YSS				pmax	pmax		
	comp=Z,50nm,0.5s						
YSS	Yuzh-Sakhalins	5.00	310	*e*P	Pn	19 17 35.7	-0.5
YSS				AMB	AMB	19 17 37.0	
	comp=Z,50nm,0.5s						
YSS				*e*S	Sn	19 18 28.5	-4.1
YSS				A		19 18 31.0	
	comp=Z,110nm,1.0s						
JEW	Eniwo	5.10	261	P	Pn	19 17 39.0	+1.4
JEW				*e*S	Sn	19 18 40.9	+5.7
JNB	Noboribetsu	5.49	258	P	Pn	19 17 43.8	+0.8
JKB	Kayabe	5.69	252	P	Pn	19 17 45.6	-0.1
JKB				*e*S	Sn	19 18 49.3	-0.4
JYM2	Yakumo 2	6.07	256	P	Pn	19 17 51.0	+0.1
JANG	Nango	6.12	238	P	Pn	19 17 50.2	-1.5
JANG				*e*S	Sn	19 18 55.8	-4.6
JSH	Shimam	6.15	262	P	Pn	19 17 53.4	+1.4
JTM	Tenmabayashi	6.17	243	P	Pn	19 17 51.5	-0.8
JTM				*e*S	Sn	19 18 59.4	-2.2
JTH	Tanohata	6.19	233	P	Pn	19 17 50.5	-2.1
JTH				*e*S	Sn	19 18 56.2	-5.8
JSR	Shiriuchi	6.26	251	P	Pn	19 17 53.0	-0.5
JOSM	Okushiri--Mats	6.71	258	P	Pn	19 18 00.8	+1.1
OFUJ	Ofunato	6.89	229	P	Pn	19 17 59.9	-2.3
OFUJ				*e*S	Sn	19 19 13.2	-6.0
JRG	Rokugo	7.26	235	P	Pn	19 18 07.0	-0.3
JRG				*e*S	Sn	19 19 27.4	-1.0
JIO	Ouri	7.52	227	P	Pn	19 18 08.2	-2.6
JIO				*e*S	Sn	19 19 27.2	-7.5
JYA	Atsumi	8.33	234	P	Pn	19 18 21.0	-0.9
JFK	Kawauchi	8.59	224	P	Pn	19 18 23.8	-1.6
JFK				*e*S	Sn	19 19 53.0	-7.9
JFY	Yanaizu	9.17	228	P	Pn	19 18 32.0	-1.4
MAJO	Matsushiro	10.62	230	*e*Pn	Pn	19 18 52.5	-0.7
MAJO	Matsushiro	10.62	230	*e*PN	Pn	19 18 52.5	-0.7
MAT	Matsushiro	10.62	230	P	Pn	19 18 51.7	-1.5
MAT				*e*S	Sn	19 20 54.8	+4.1
MJAR	Matsushiro Arr	10.62	230	Pn	Pn	19 18 51.9	-1.3
	comp=Z,1.2nm,0.3s,baz=31,slow=13,SNR=61						
MJAR				Sn	Sn	19 20 48.8	-1.9
	comp=Z,0.4nm,0.3s,baz=246,slow=24,SNR=4.2						
MJAR	Matsushiro Arr	10.62	230	Pn	Pn	19 18 51.9	-1.3
MJAR				Sn	Sn	19 20 48.8	-1.9
MJAR	Matsushiro Arr	10.62	230	PN	Pn	19 18 51.9	-1.3
PET	Petropavlovsk	11.46	33	*e*PN	Px	19 19 24.8	
PET				MLR	MLR		
	comp=Z,1μm,11.0s						
PET	Petropavlovsk	11.46	33	*e*P	Pn	19 19 05.9	+1.2
USRK	Ussuriysk Arra	11.75	277	Pn	Pn	19 19 08.0	-0.7
	comp=Z,0.7nm,0.3s,baz=88,slow=14,SNR=11						
USRK				LR	LR	19 23 52.9	
	comp=Z,1μm,18.1s,baz=35,slow=39						
VLA	Vladivostok	11.95	272	⇑*e*PN	Pn	19 19 11.9	+0.5
VLA				pmax	pmax		
	comp=Z,77nm,1.2s						
VLA	Vladivostok	11.95	272	*e*P	Pn	19 19 11.9	+0.5
KLR	Kul'dur	12.60	301	*e*P

YAK			smax			
	comp=E,785nm,4.0s					
YAK			MLR	MLR		
	comp=Z,824nm,14.0s,MS4.3					
YAK			MLR	MLR		
	comp=N,483nm,13.0s					
JOW	**Kunigami**	**23.46 230**	P	**P**	**19 21 30.4**	**+0.9**
	comp=N,19nm,0.9s,mb4.5,baz=58,slow=11,SNR=7.0					
JOW	**Kunigami**	**23.46 230**	P	**P**	**19 21 30.4**	**+0.9**
BJI	**Beijing**	**24.12 272**	P	**P**	**19 21 35.8**	**+0.4**
BJI			S	**S**	**19 25 48.3**	**-1.9**
BJI			sS	sS	19 26 12.3	+3.2
BJI			pmax	pmax		
	comp=Z,43nm,1.3s,mb4.7					
BJI			pmax	pmax		
	comp=Z,460nm,4.8s					
BJI			LR	LR		
	comp=N,930nm,13.1s,MS4.5					
BJI			LR	LR		
	comp=E,380nm,12.0s,MS4.5					
BJI			LR	LR		
	comp=Z,380nm,19.4s					
BJT	**Baijiatuau**	**24.13 272**	*e*P	**P**	**19 21 35.2**	**-0.4**
	comp=Z,29nm,0.8s,mb4.8					
BJT	**Baijiatuau**	**24.13 272**	*e*P	**P**	**19 21 35.2**	**-0.3**
BJT			pmax	pmax		
	comp=Z,29nm,0.8s					
SSE	**Sheshan**	**24.88 248**	*e*P	**P**	**19 21 40.0**	**-2.4**
SSE			pP		19 21 53.0	
SSE			S	**S**	**19 25 58.0**	**-4.6**
SSE			sS	sS	19 26 19.5	-2.0
SSE			pmax	pmax		
	comp=Z,24nm,0.7s,mb4.8					
SSE			pmax	pmax		
	comp=Z,180nm,9.8s					
SSE			LR	LR		
	comp=N,510nm,17.9s,MS4.1					
SSE			LR	LR		
	comp=E,160nm,17.8s,MS4.1					
SSE			LR	LR		
	comp=Z,580nm,19.9s,MS4.1					
BOD	**Bodaibo**	**25.45 315**	*e*P	**P**	**19 21 38.3**	**-9.1**
NJ2	**Nanjing**	**25.90 253**	*e*P	**P**	**19 21 52.8**	**+1.1**
NJ2			pP	pP	19 22 05.0	+2.0
NJ2			sP	sP	19 22 10.8	+2.7
NJ2			PP		19 22 34.0	
NJ2			S	**S**	**19 26 20.0**	**+1.2**
NJ2			sS	sS	19 26 34.0	-3.8
NJ2			pmax	pmax		
	comp=Z,40nm,0.8s,mb5.0					
NJ2			pmax	pmax		
	comp=Z,220nm,4.2s					
NJ2			LR	LR		
	comp=N,780nm,18.0s,MS4.5					
NJ2			LR	LR		
	comp=E,960nm,20.3s,MS4.5					
NJ2			LR	LR		
	comp=Z,1μm,18.8s,MS4.5					
BILL	**Bilibino**	**26.05 15**	*e*P	**P**	**19 21 49.9**	**-2.8**
	comp=Z,3.4nm,0.8s,mb3.9					
BILL	**Bilibino**	**26.05 15⇑**	*i*P	**P**	**19 21 52.7**	**+0.1**
BILL			pmax	pmax		
	comp=Z,11nm,1.6s,mb4.1					
BILL			MLR	MLR		
	comp=Z,800nm,18.0s,MS4.3					
HHC	**Hu-ho-hao-te**	**27.18 277**	*e*P	**P**	**19 22 04.5**	**+1.4**
HHC			pP	pP	19 22 19.3	+4.8
HHC			sP	sP	19 22 26.5	+6.9
HHC			PP		19 22 52.5	
HHC			S	**S**	**19 26 36.3**	**-2.5**
HHC			SS		19 27 53.5	
HHC			pmax	pmax		
	comp=Z,22nm,1.7s,mb4.4					
HHC			pmax	pmax		
	comp=Z,260nm,5.1s					
HHC			LR	LR		
	comp=N,730nm,15.5s,MS4.5					
HHC			LR	LR		
	comp=E,810nm,15.5s,MS4.5					
HHC			LR	LR		
	comp=Z,770nm,14.3s,MS4.4					
ULN	**Ulaanbaatar**	**28.77 293**	*e*P	**P**	**19 22 17.2**	**-0.1**
	comp=Z,9.8nm,1.1s,mb4.5					
ULN	**Ulaanbaatar**	**28.77 293**	*e*P	**P**	**19 22 17.2**	**0.0**
ULN			pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5					
SONM	**Songino Array**	**29.21 293**	P	**P**	**19 22 21.7**	**+0.5**
	comp=Z,3.2nm,0.6s,mb4.2,baz=79,slow=9.2,SNR=5.8					
SONM			LR	LR	19 35 13.8	
	comp=Z,1μm,18.3s,MS4.5,baz=104,slow=39					
SONM	**Songino Array**	**29.21 293**	P	**P**	**19 22 21.7**	**+0.5**
SONM	**Songino Array**	**29.21 293**	P	**P**	**19 22 21.7**	**+0.5**
WHN	**Wuhan**	**29.91 255**	P	**P**	**19 22 28.5**	**+1.0**
TLY	**Talaya**	**30.62 301**	*e*P	**P**	**19 22 35.6**	**+2.0**
	comp=Z,7.2nm,0.8s,mb4.5					
TLY	**Talaya**	**30.62 301**	*e*P	**P**	**19 22 35.2**	**+1.6**
TLY			*e*S	**S**	**19 27 29.7**	**-3.0**
TLY			*e*SS	SS	19 29 10.2	-34
TLY			*e*SSS		19 29 37.8	
TLY			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5					
TLY			MLR	MLR		
	comp=Z,670nm,16.0s,MS4.4					
ZAK	**Zakamensk**	**30.95 298**	*e*P	**P**	**19 22 35.7**	**-0.8**
XAN	**Xi'an**	**31.90 266**	P	**P**	**19 22 44.8**	**-0.2**
XAN			pP	pP	19 22 59.5	+3.0
XAN			sP	sP	19 23 07.0	+5.5
XAN			PP	PP	19 23 49.8	-7.7
XAN			S	**S**	**19 27 46.0**	**-7.0**
XAN			sS	sS	19 28 12.0	-0.1
XAN			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1					
XAN			pmax	pmax		
	comp=Z,26nm,4.1s					
XAN			LR	LR		
	comp=N,190nm,12.1s,MS4.1					
XAN			LR	LR		
	comp=E,190nm,14.6s,MS4.1					
XAN			LR	LR		
	comp=Z,150nm,13.8s,MS3.8					
TNA	**Tin City**	**32.32 33**	*e*P	**P**	**19 22 49.2**	**+0.8**
	comp=Z,21nm,1.1s,mb4.9					
ENH	**Enshi**	**33.50 259**	*e*P	**P**	**19 22 58.4**	**-0.7**
	comp=Z,9.9nm,0.8s,mb4.8					
LZH	**Lanzhou**	**34.61 273**	⇑P	**P**	**19 23 09.8**	**+1.2**
LZH			pP	pP	19 23 24.3	+4.2
LZH			sP	sP	19 23 33.8	+8.6
LZH			*e*S	**S**	**19 28 37.0**	**+2.0**
LZH			pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0					
LZH			pmax	pmax		
	comp=Z,190nm,8.2s					
LZH			LR	LR		
	comp=N,590nm,10.6s,MS4.7					
LZH			LR	LR		
	comp=E,370nm,10.5s,MS4.7					
LZH			LR	LR		
	comp=Z,710nm,14.2s,MS4.5					
GTA	**Gaotai**	**36.10 280**	⇑P	**P**	**19 23 22.3**	**+0.8**
GTA			pP	pP	19 23 37.5	+4.5
GTA			sP	sP	19 23 44.8	+6.8
GTA			PcP	PcP	19 25 48.0	+1.4
GTA			S	**S**	**19 28 54.5**	**-3.4**
GTA			sS	sS	19 29 20.5	+3.4
GTA			pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7					
GTA			pmax	pmax		
	comp=Z,220nm,7.1s					
GTA			LR	LR		
	comp=N,700nm,14.5s,MS4.8					
GTA			LR	LR		
	comp=E,840nm,14.5s,MS4.8					
GTA			LR	LR		
	comp=Z,1μm,14.5s,MS4.8					
CD2	**Chengdu**	**37.25 265⇓**	*i*P	**P**	**19 23 32.0**	**+0.7**
CD2			pP	pP	19 23 47.0	+4.1
CD2			sP	sP	19 23 54.3	+6.4
CD2			PP	PP	19 24 59.3	+2.6
CD2			S	**S**	**19 29 12.5**	**-3.0**
CD2			sS	sS	19 29 38.5	+3.7
CD2			SS	SS	19 31 44.5	-15
CD2			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.4					
CD2			pmax	pmax		
	comp=Z,230nm,8.2s					
CD2			LR	LR		
	comp=N,490nm,13.2s,MS4.6					
CD2			LR	LR		
	comp=E,350nm,13.2s,MS4.6					
CD2			LR	LR		
	comp=Z,390nm,17.8s,MS4.2					
GYA	**Guiyang**	**37.76 257⇑**	*i*P	**P**	**19 23 35.5**	**-0.1**
GYA			pP	pP	19 23 50.5	+3.3
GYA			sP	sP	19 23 57.8	+5.6
GYA			PP	PP	19 25 06.5	+4.2
GYA			PcP	PcP	19 25 54.0	+2.2
GYA			S	**S**	**19 29 22.8**	**-0.5**
GYA			ScP	ScP	19 29 35.5	-0.2
GYA			ScS	ScS	19 33 42.0	-2.7
GYA			pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8					
GYA			pmax	pmax		
	comp=Z,120nm,4.7s					
GYA			LR	LR		
	comp=N,580nm,17.0s,MS4.6					
GYA			LR	LR		
	comp=E,520nm,18.4s,MS4.6					
GYA			LR	LR		
	comp=Z,560nm,17.7s,MS4.4					
OHAK	**Old Harbor**	**38.24 48**	*e*P	**P**	**19 23 38.3**	**-1.1**
KDAK	**Kodiak Island**	**38.57 48**	P	**P**	**19 23 41.4**	**-0.7**
	comp=Z,11nm,0.6s,mb4.8,baz=313,slow=7.6,SNR=12					
KDAK	**Kodiak Island**	**38.57 48**	P	**P**	**19 23 41.4**	**-0.7**
KDAK	**Kodiak Island**	**38.57 48**	*i* P	**P**	**19 23 43.0**	**+0.9**
PPLA	**Purkeypile**	**38.58 39**	*e*P	**P**	**19 23 44.0**	**+1.9**
	comp=Z,98nm,1.6s,mb5.3					
COLD	**Coldfoot**	**39.63 32**	*e*P	**P**	**19 23 50.5**	**-0.4**
	comp=Z,9.2nm,0.7s,mb4.6					
MCK	**McKinley**	**40.05 38**	P	**P**	**19 23 53.9**	**-0.4**
	comp=Z,29nm,1.4s,mb4.8					
MCK	**McKinley**	**40.05 38**	P	**P**	**19 23 53.9**	**-0.4**
MCK			pmax	pmax		
	comp=Z,29nm,1.4s,mb4.8					
SML	**Sawmill**	**40.40 41**	*e*P	**P**	**19 23 59.4**	**+2.1**
	comp=Z,7.1nm,0.8s,mb4.5					
SML	**Sawmill**	**40.40 41**	*e*P	**P**	**19 23 59.4**	**+2.1**
SML			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4					
COLA	**College**	**40.51 36**	*e*P	**P**	**19 23 58.1**	**0.0**
	comp=Z,15nm,0.8s,mb4.7					
COLA	**College**	**40.51 36**	*e*P	**P**	**19 23 58.2**	**+0.1**
COLA			pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7					
QIZ	**Qiongzhong**	**40.56 245**	P	**P**	**19 24 01.0**	**+1.9**
QIZ			S	**S**	**19 30 02.5**	**-3.0**
QIZ			LR	LR		
	comp=Z,470nm,17.6s,MS4.4					
ILAR	**Eielson Array**	**40.92 36**	P	**P**	**19 23 59.8**	**-1.7**
	comp=Z,1.2nm,0.6s,mb3.7,baz=265,slow=7.3,SNR=29					
ILAR			LR	LR	19 43 26.0	
	comp=Z,187nm,18.9s,MS4.0,baz=284,slow=40					
ILAR	**Eielson Array**	**40.92 36**	P	**P**	**19 23 59.8**	**-1.7**
ILAR	**Eielson Array**	**40.92 36**	P	**P**	**19 23 59.8**	**-1.7**
KMI	**Kunming**	**41.35 258**	P	**P**	**19 24 06.8**	**+1.2**
KMI			pP	pP	19 24 21.5	+4.2
KMI			sP	sP	19 24 27.5	+5.2
KMI			S	**S**	**19 30 14.0**	**-3.2**
KMI			pmax	pmax		
	comp=Z,23nm,1.7s,mb4.5					
KMI			pmax	pmax		
	comp=Z,190nm,5.3s					
KMI			LR	LR		
	comp=N,370nm,13.8s,MS4.6					
KMI			LR	LR		
	comp=E,390nm,14.5s,MS4.6					
KMI			LR	LR		
	comp=Z,500nm,13.2s,MS4.6					
ZALV	**Zalesovo Beam**	**41.61 307**	P	**P**	**19 24 07.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=75,slow=8.5,SNR=5.1					
ZALV			PcP	PcP	19 26 04.0	+0.4
	comp=Z,5.6nm,0.9s,baz=64,slow=3.4,SNR=9.0					
ZALV			LR	LR	19 41 47.4	
	comp=Z,128nm,19.0s,MS3.8,baz=243,slow=37					
ZALV	**Zalesovo Beam**	**41.61 307**	P	**P**	**19 24 07.2**	**-0.1**
ZALV			PcP	PcP	19 26 04.0	+0.4
ZALV	**Zalesovo Beam**	**41.61 307**	P	**P**	**19 24 07.2**	**-0.1**
ZALV					19 26 04.0	
WMQ	**Urumqi**	**42.84 292**	P	**P**	**19 24 17.8**	**+0.3**
WMQ			pP	pP	19 24 33.3	+4.1
WMQ			sP	sP	19 24 40.5	+6.3
WMQ			PP	PP	19 26 00.0	+2.8
WMQ			S	**S**	**19 30 36.0**	**-2.8**
WMQ			ScS	ScS	19 34 11.0	-3.5
WMQ			pmax	pmax		
	comp=Z,17nm,0.8s,mb4.8					
WMQ			pmax	pmax		
	comp=Z,300nm,6.2s					
WMQ			LR	LR		
	comp=N,1μm,15.0s,MS5.3					
WMQ			LR	LR		
	comp=E,2μm,13.6s,MS5.3					
WMQ			LR	LR		
	comp=Z,890nm,15.2s,MS4.8					
EGAK	**Eagle**	**43.37 36**	*e*P	**P**	**19 24 21.3**	**-0.1**
	comp=Z,50nm,1.4s,mb5.0					
MK31	**Makanchi Array**	**45.28 298**	*e*P	**P**	**19 24 36.4**	**-0.6**
MK31			*e*		19 26 26.0	
MK31	**Makanchi Array**	**45.28 298**	*ce*P	**P**	**19 24 36.3**	**-0.7**
MK31			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8					
MKAR	**Makanchi Array**	**45.28 298**	P	**P**	**19 24 36.9**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.3,baz=74,slow=7.9,SNR=31					
MKAR			PcP	PcP	19 26 17.7	+1.5
	comp=Z,1.7nm,0.8s,baz=104,slow=6.1,SNR=2.6					
MKAR			LR	LR	19 44 44.1	
	comp=Z,349nm,20.8s,MS4.3,baz=58,slow=38					
MKAR	**Makanchi Array**	**45.28 298**	P	**P**	**19 24 36.9**	**-0.1**
MKAR			PcP	PcP	19 26 17.7	+1.5
MKAR	**Makanchi Array**	**45.28 298**	*ce*P	**P**	**19 24 36.9**	**-0.1**
MKAR			pmax	pmax		
	comp=Z,4.0nm,0.7s					
INK	**Inuvik**	**45.90 30**	P	**P**	**19 24 40.7**	**-0.9**
	comp=Z,4.1nm,0.5s,mb4.6,baz=309,slow=7.0,SNR=26					
INK	**Inuvik**	**45.90 30**	P	**P**	**19 24 40.7**	**-0.9**
INK	**Inuvik**	**45.90 30**	P	**P**	**19 24 40.7**	**-0.9**
KURK	**Kurchatov**	**46.17 304**	P	**P**	**19 24 44.0**	**+0.1**
	comp=Z,2.5nm,0.5s,mb4.4,baz=75,slow=8.0,SNR=33					
KURK			PcP	PcP	19 26 19.5	+0.3
	comp=Z,2.7nm,0.8s,baz=71,slow=3.4,SNR=7.3					
KURK	**Kurchatov**	**46.17 304**	*e*P	**P**	**19 24 43.1**	**-0.9**
	comp=Z,6.5nm,0.7s,mb4.7					
KURK			*e*PcP	PcP	19 26 18.5	-0.7
KURK			PcP	PcP	19 26 19.5	+0.3
KURK			*e*PP	PP	19 26 28.8	-3.8
KURK	**Kurchatov**	**46.17 304⇓**	*i*P	**P**	**19 24 43.2**	**-0.8**
KURK			pmax	pmax		
	comp=Z,16nm,1.7s,mb4.7					
LSA	**Lhasa**	**47.02 272**	*e*P	**P**	**19 24 52.0**	**+1.1**
	comp=Z,11nm,0.8s,mb4.8					
LSA	**Lhasa**	**47.02 272**	*e*P	**P**	**19 24 52.0**	**+1.1**
LSA			pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8					
CHTO	**Chiang Mai**	**48.12 255**	*e*P	**P**	**19 25 00.5**	**+1.0**
	comp=Z,17nm,1.2s,mb5.0					
CHTO	**Chiang Mai**	**48.12 255**	*e*P	**P**	**19 25 00.5**	**+1.0**
CHTO			pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0					
CM31	**Chiang Mai Arr**	**48.36 255**	*e*P	**P**	**19 25 01.3**	**0.0**
	comp=Z,4.0nm,0.8s,mb4.5					
CMAR	**Chiang Mai Arr**	**48.36 255**	P	**P**	**19 25 02.5**	**+1.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=42,slow=7.2,SNR=25					
CMAR			LR	LR	19 47 46.8	
	comp=Z,272nm,19.2s,MS4.2,baz=60,slow=39					
CMAR	**Chiang Mai Arr**	**48.36 255**	P	**P**	**19 25 02.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**48.36 255**	P	**P**	**19 25 02.5**	**+1.2**
BRVK	**Borovoye**	**50.14 310**	*e*P	**P**	**19 25 11.9**	**-2.7**
BRVK			*e*PcP	PcP	19 26 32.0	-1.5
BRVK	**Borovoye**	**50.14 310⇑**	*e*P	**P**	**19 25 14.9**	**+0.4**
BRVK			pmax	pmax		
	comp=Z,11nm,2.5s,mb4.4					
TAPN	**Taplejung**	**50.85 272**	*e*P	**P**	**19 25 21.1**	**+0.9**
	comp=Z,11nm,0.5s,mb5.1					
TAPN	**Taplejung**	**50.85 272**	*e*P	**P**	**19 25 21.1**	**+0.9**
	comp=Z,11nm,0.5s,mb5.0					
ZRNK	**Zerenda**	**50.89 310**	*i* P	**P**	**19 25 18.5**	**-1.7**
ZRNK			pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.3					
TKM2	**Tokmak 2**	**51.22 296**	P	**P**	**19 25 23.6**	**+0.8**
	SNR=21					
TKM2			P		19 25 23.6	
	SNR=21					
TKM2	**Tokmak 2**	**51.22 296**	*e*P	**P**	**19 25 23.6**	**+0.7**
	comp=Z,44nm,1.4s,mb5.2					
TKM2	**Tokmak 2**	**51.22 296**	*i* P	**P**	**19 25 23.6**	**+0.7**
ODAN	**Odare**	**51.36 272**	*e*P	**P**	**19 25 24.8**	**+0.7**
ODAN	**Odare**	**51.36 272**	*e*P	**P**	**19 25 24.8**	**+0.7**
JIRN	**Jiri**	**51.77 273**	*e*P	**P**	**19 25 28.0**	**+0.9**
	comp=Z,13nm,0.9s,mb4.8					
JIRN	**Jiri**	**51.77 273**	*e*P	**P**	**19 25 28.0**	**+0.9**
	comp=Z,13nm,0.9s,mb4.9					
KBK	**Karagaybulak**	**51.77 296**	P	**P**	**19 25 27.7**	**+0.7**
	SNR=17					
KBK			P		19 25 27.7	
	SNR=17					
USP	**Ospenovka**	**51.77 297**	P	**P**	**19 25 27.4**	**+0.5**
	SNR=18					
USP			P		19 25 27.4	
	SNR=18					
KZA	**Kyzart**	**51.84 295**	P	**P**	**19 25 29.1**	**+1.6**
	SNR=19					
KZA			P		19 25 29.1	
	SNR=19					
GUN	**Gumba**	**51.84 274**	*e*P	**P**	**19 25 28.3**	**+0.6**
	comp=Z,63nm,0.8s,mb5.6					
GUN	**Gumba**	**51.84 274**	*e*P	**P**	**19 25 28.3**	**+0.6**
	comp=Z,63nm,0.8s,mb5.6					
RAMN	**Ramite**	**51.88 272**	*e*P	**P**	**19 25 28.4**	**+0.4**
	comp=Z,55nm,0.5s,mb5.7					
RAMN	**Ramite**	**51.88 272**	*e*P	**P**	**19 25 28.4**	**+0.4**
	comp=Z,55nm,0.5s,mb5.7					
FRU	**Bishkek**	**51.90 296**	*e*P	**P**	**19 25 29.0**	**+1.1**
AAK	**Ala-Archa**	**52.07 296**	P	**P**	**19 25 29.6**	**+0.4**
	SNR=9.7					
AAK			P		19 25 29.6	
	SNR=9.7					
AAK	**Ala-Archa**	**52.07 296**	*e*P	**P**	**19 25 29.6**	**+0.3**
	comp=Z,36nm,0.9s,mb5.3					
AAK	**Ala-Archa**	**52.07 296**	*i* P	**P**	**19 25 29.3**	**+0.1**
AAK			pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2					
KKN	**Kakani**	**52.35 274**	*e*P	**P**	**19 25 31.9**	**+0.5**
	comp=Z,42nm,0.7s,mb5.5					
KKN	**Kakani**	**52.35 274**	*e*P	**P**	**19 25 31.9**	**+0.5**
	comp=Z,42nm,0.7s,mb5.5					
KKN	**Kakani**	**52.35 274**	*e*P	**P**	**19 25 31.9**	**+0.5**
KKN			pmax	pmax		
	comp=Z,42nm,0.7s,mb5.5					
PKI	**Pulchoki**	**52.38 274**	*e*P	**P**	**19 25 32.0**	**+0.3**
	comp=Z,25nm,0.7s,mb5.2					
PKI	**Pulchoki**	**52.38 274**	*e*P	**P**	**19 25 32.0**	**+0.3**
	comp=Z,25nm,0.7s,mb5.2					
PKI	**Pulchoki**	**52.38 274**	*e*P	**P**	**19 25 32.0**	**+0.3**
PKI			pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2					
EKS2	**Erkin-Say**	**52.52 296**	P	**P**	**19 25 32.5**	**0.0**
	SNR=16					
EKS2			P		19 25 32.5	
	SNR=16					
EKS2	**Erkin-Say**	**52.52 296**	*e*P	**P**	**19 25 32.8**	**+0.2**
	comp=Z,9.4nm,0.9s,mb4.7					
EKS2			*e*		19 26 48.0	
EKS2	**Erkin-Say**	**52.52 296**	*e*P	**P**	**19 25 32.8**	**+0.2**
EKS2			*e*		19 26 48.0	
EKS2			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7					
DMN	**Daman**	**52.58 274**	*e*P	**P**	**19 25 33.8**	**+0.6**
	comp=Z,47nm,0.7s,mb5.5					
DMN	**Daman**	**52.58 274**	*e*P	**P**	**19 25 33.8**	**+0.6**
	comp=Z,47nm,0.7s,mb5.5					
KSH	**Kashi**	**52.61 292**	P	**P**	**19 25 37.5**	**+4.3**
KSH			pP	pP	19 25 52.5	+7.3
KSH			sP	sP	19 25 59.8	+10
KSH			PcP	PcP	19 26 46.0	+3.1
KSH			PP	PP	19 27 37.5	+5.2
KSH			ScP	ScP	19 30 37.3	+0.7
KSH			PcS	PcS	19 30 43.5	+2.1
KSH			S	**S**	**19 32 57.5**	**+0.2**
KSH			sS	sS	19 33 24.3	+7.0
KSH			ScS	ScS	19 35 17.5	-1.8
KSH			SS	SS	19 36 34.3	-1.2
KSH			pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8					
KSH			pmax	pmax		
	comp=Z,190nm,6.4s					
KSH			LR	LR		
	comp=N,370nm,7.8s					
KSH			LR	LR		
	comp=E,590nm,8.5s					
KSH			LR	LR		
	comp=Z,1μm,13.8s,MS5.0					
GKN	**Gorkha**	**52.69 275**	*e*P	**P**	**19 25 34.4**	**+0.4**
	comp=Z,78nm,1.0s,mb5.6					
GKN	**Gorkha**	**52.69 275**	*e*P	**P**	**19 25 34.4**	**+0.4**
	comp=Z,78nm,1.0s,mb5.6					
AML	**Almayashu**	**52.83 296**	P	**P**	**19 25 36.0**	**+1.2**
	SNR=8.7					
AML			P		19 25 36.0	
	SNR=8.7					
DANN	**Dangsing**	**53.12 276**	*e*P	**P**	**19 25 38.1**	**+0.9**
	comp=Z,93nm,0.7s,mb5.8					
DANN	**Dangsing**	**53.12 276**	*e*P	**P**	**19 25 38.1**	**+0.9**
	comp=Z,93nm,0.7s,mb5.8					
KOLN	**Koldanda**	**53.57 275**	*e*P	**P**	**19 25 40.7**	**+0.2**
	comp=Z,42nm,0.7s,mb5.5					
KOLN	**Koldanda**	**53.57 275**	*e*P	**P**	**19 25 40.7**	**+0.2**
	comp=Z,42nm,0.7s,mb5.5					
KSM	**Kuching**	**54.01 230**	*e*P	**P**	**19 25 45.6**	**+1.8**
	comp=Z,24nm,1.2s,mb5.0					
HNR	**Honiara**	**54.06 166**	LR	LR	19 46 55.3	
	comp=Z,130nm,18.0s,MS4.0,baz=198,slow=34					
KK31	**Karatay Array**	**54.41 298**	*ce*P	**P**	**19 25 45.9**	**-0.5**
KK31			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6					
KKAR	**Karatay Array**	**54.41 298**	*e*P	**P**	**19 25 46.2**	**-0.2**
KKAR	**Karatay Array**	**54.41 298**	*e*P	**P**	**19 25 46.2**	**-0.2**
RES	**Resolute Bay**	**54.64 17**	P	**P**	**19 25 46.8**	**-0.8**
	comp=Z,4.5nm,0.7s,mb4.6,baz=324,slow=6.6,SNR=16					
RES	**Resolute Bay**	**54.64 17**	P	**P**	**19 25 46.8**	**-0.8**
RES	**Resolute Bay**	**54.64 17**	P	**P**	**19 25 46.8**	**-0.8**
ARU	**Arti**	**54.85 317**	*e*P	**P**	**19 25 47.4**	**-2.0**
	comp=Z,38nm,1.8s,mb5.1					
ARU	**Arti**	**54.85 317**	*d i*P	**P**	**19 25 48.7**	**-0.7**
ARU			S	**S**	**19 33 25.4**	**-1.8**
ARU			SS	SS	19 37 07.0	-3.2
ARU			pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8					
YKA	**Yellowknife Ar**	**55.26 34**	P	**P**	**19 25 52.7**	**+0.5**
	comp=Z,2.2nm,0.6s,mb4.4,baz=298,slow=6.8,SNR=39					
YKA			PcP	PcP	19 26 54.1	+1.6
	comp=Z,0.6nm,0.6s,baz=304,slow=3.9,SNR=2.1					
YKA			LR	LR	19 50 44.1	
	comp=Z,15nm,21.2s,baz=110,slow=37					
YKA	**Yellowknife Ar**	**55.26 34**	P	**P**	**19 25 52.7**	**+0.5**
YKA			PcP	PcP	19 26 54.1	+1.6
YKA	**Yellowknife Ar**	**55.26 34**	P	**P**	**19 25 52.7**	**+0.5**
YKA					19 26 54.2	
DDI	**Dehra Dun**	**56.07 281**	*ex*	**P**	**19 25 58.0**	**-0.5**
SMLA	**Simla**	**56.24 283**	*i* x	**P**	**19 25 59.0**	**-0.8**
	baz=128,slow=6.2					
SMLA			*i* P		19 25 59.0	
KULM	**Kulim**	**56.73 242**	*e*P	**P**	**19 25 59.5**	**-3.9**
	comp=Z,12nm,1.1s,mb4.8					
AB31	**Akbulak array**	**57.66 309**	*ce*P	**P**	**19 26 09.0**	**-0.5**
AB31			pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.9					
COEN	**Coen**	**57.71 186**	*e*P	**P**	**19 26 11.3**	**+1.2**
	comp=Z,72nm,0.7s,mb5.8					
AKTO	**Aktyubinsk**	**58.11 311**	*i* P	**P**	**19 26 11.2**	**-1.4**
KEV	**Kevo**	**58.92 340**	*e*P	**P**	**19 26 14.7**	**-3.3**
KEV			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7					
KEV	**Kevo**	**58.92 340**	*e*p	**P**	**19 26 14

comp=Z,3.0nm,0.5s,mb4.7
JOF Joensuu 62.40 333 *ep* **P 19 26 38.8 -2.9**
comp=Z,2.6nm,0.5s,mb4.6
HYB Hyderabad 63.62 269 *i* P **P 19 26 50.0 -0.5**
CTA Charters Tower 63.64 182 P **P 19 26 51.0 +0.6**
comp=Z,1.0nm,0.4s,mb4.2,baz=339,slow=8.6,SNR=2.9
CTA Charters Tower 63.64 182 P **P 19 26 51.0 +0.6**
CTA Charters Tower 63.64 182 P **P 19 26 51.0 +0.6**
CTAO Charters Tower 63.64 182 *eP* pP 19 27 00.4 -2.3
comp=Z,22nm,1.4s
CTAO Charters Tower 63.64 182 *eP* pP 19 27 00.4 -2.3
CTAO pmax pmax
comp=Z,22nm,1.4s,mb5.0
KAF Kangasniemi 64.60 334 *eP* **P 19 26 53.7 -2.6**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
KAF Kangasniemi 64.60 334 *ep* **P 19 26 53.7 -2.6**
comp=Z,2.8nm,0.5s,mb4.5
WRAB Tennant Creek 64.74 195 *eP* **P 19 26 57.4 -0.2**
comp=Z,10nm,1.1s,mb4.8
WRAB Tennant Creek 64.74 195 *eP* **P 19 26 57.4 -0.2**
WRAB pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
WRA Warramunga Arr 64.75 195 P **P 19 26 57.7 0.0**
comp=Z,1.6nm,0.7s,mb4.1,baz=13,slow=6.7,SNR=11
WRA Warramunga Arr 64.75 195 P **P 19 26 57.7 0.0**
WRA Warramunga Arr 64.75 195 P **P 19 26 57.7 0.0**
FITZ Fitzroy Crossi 65.05 204 *eP* **P 19 27 00.2 +0.6**
comp=Z,6.5nm,0.8s,mb4.7
FITZ *e* pP 19 27 11.1 -0.9
ABKT Ailbek 65.13 299 P **P 19 27 00.2 +0.1**
comp=Z,115nm,0.8s,mb6.0,SNR=5.4
FFC Flin Flon 65.13 37 *eP* **P 19 26 59.4 -0.4**
comp=Z,9.8nm,0.8s,mb4.9
FFC Flin Flon 65.13 37 *eP* **P 19 26 59.4 -0.4**
FFC pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
FINES FINESS Array B 65.17 333 P **P 19 26 57.9 -2.1**
comp=Z,4.9nm,0.5s,mb4.8,baz=35,slow=6.9,SNR=21
FINES LR LR 19 59 27.5
comp=Z,194nm,19.1s,MS4.3,baz=313,slow=40
FINES FINESS Array B 65.17 333 P **P 19 26 57.9 -2.1**
FINES FINESS Array B 65.17 333 P **P 19 26 57.9 -2.1**
EGMT Eagleton 65.73 46 *eP* **P 19 27 03.8 0.0**
OBN Obninsk 65.73 324⇑ *eP* **P 19 27 04.0 +0.2**
OBN *e* 19 27 33.4
OBN pmax pmax
comp=Z,31nm,2.0s,mb5.0
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.7
VRHR Novokhopersk 66.13 319 *eP* **P 19 27 04.2 -2.1**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.6s
VRHR pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
NVAR Mina Array Bea 66.82 59 P **P 19 27 11.8 +0.8**
comp=Z,0.8nm,0.5s,mb4.0,baz=298,slow=7.7,SNR=7.1
NVAR Mina Array Bea 66.82 59 P **P 19 27 11.8 +0.8**
VSR Storozhevoye 67.21 320 *eP* **P 19 27 12.5 -0.7**
VSR pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
VSR pmax pmax
comp=N,1.0nm,0.2s
VSR pmax pmax
comp=E,1.0nm,0.2s
AS31 Alice Springs 68.46 194 *eP* **P 19 27 21.7 +0.4**
ASAR Alice Springs 68.46 194 P **P 19 27 22.0 +0.7**
comp=E,1.5nm,0.6s,mb4.2,baz=7.4,slow=5.2,SNR=34
ASAR Alice Springs 68.46 194 P **P 19 27 22.0 +0.7**
ASAR Alice Springs 68.46 194 P **P 19 27 22.0 +0.7**
MBWA Marble Bar 69.79 208 P **P 19 27 30.5 +0.9**
comp=E,2.9nm,0.6s,mb4.4
MBWA *e* pP 19 27 41.1 -0.9
NB2 NORSAR Subarra 69.82 339 P **P 19 27 28.3 -1.1**
comp=Z,2.9nm,0.5s,mb4.5,baz=31,slow=6.5
NOA NORSAR Array B 69.82 339 P **P 19 27 28.5 -0.8**
comp=Z,2.6nm,0.4s,mb4.5,baz=30,slow=6.3,SNR=40
NOA LR LR 20 01 37.5
comp=Z,111nm,20.7s,MS4.1,baz=35,slow=39
NOA NORSAR Array B 69.82 339 P **P 19 27 28.5 -0.8**
NOA NORSAR Array B 69.82 339 P **P 19 27 28.5 -0.8**
KIV Kislovodsk 70.32 312 *eP* **P 19 27 33.0 +0.2**
comp=Z,32nm,0.8s,mb5.3
KIV *e* pP 19 27 44.0 -1.2
KIV Kislovodsk 70.32 312⇑ *eP* **P 19 27 33.0 +0.2**
KIV *e* pP 19 27 44.2 -1.0
KIV pmax pmax
comp=Z,91nm,2.5s,mb5.3
KIV MLR MLR
comp=Z,400nm,16.0s,MS4.8
KIV Kislovodsk 70.32 312 P **P 19 27 33.4 +0.6**
comp=Z,277nm,0.7s,SNR=5.4
ZEI Tsey 70.46 311 *eP* **P 19 27 32.5 -1.1**
ZEI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MTA Mtatsminda 70.69 310 P **P 19 27 35.5 +0.5**
TBLG Delisi 70.69 310 *eP* **P 19 27 35.3 +0.3**
TBLG Delisi 70.69 310 P **P 19 27 35.3 +0.3**
ONI Oni 70.83 311 P **P 19 27 37.0 +1.1**
ULM Lac du Bonnet 70.92 38 P **P 19 27 35.5 -0.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=302,slow=10,SNR=3.4
ULM Lac du Bonnet 70.92 38 P **P 19 27 35.5 -0.8**
ULM Lac du Bonnet 70.92 38 P **P 19 27 35.5 -0.8**
LDFC Landfair 70.92 60 *eP* **P 19 27 37.1 +0.6**
comp=Z,17nm,1.2s,mb4.8
SRU San Rafael 71.06 54 *eP* **P 19 27 36.4 -0.9**
comp=Z,5.6nm,0.7s,mb4.6
SRU San Rafael 71.06 54 *eP* **P 19 27 36.4 -0.9**
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
RSSD Black Hills 71.29 46 *eP* **P 19 27 37.9 -0.7**
comp=Z,3.4nm,0.8s,mb4.3
RSSD Black Hills 71.29 46 *eP* **P 19 27 37.9 -0.7**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GNI Garni 71.75 308 *eP* **P 19 27 42.8 +1.3**
comp=Z,28nm,1.2s,mb5.1
GNI Garni 71.75 308 *deP* **P 19 27 42.8 +1.3**
GNI pmax pmax
comp=Z,17nm,1.2s
SUW Suwalki 71.85 329 *eP* **P 19 27 41.2 -0.6**
SUW Suwalki 71.85 329 *eP* **P 19 27 41.2 -0.6**
AKASG Malin Array Be 72.00 324 P **P 19 27 42.0 -0.8**
comp=Z,3.0nm,0.5s,mb4.5,baz=36,slow=6.1,SNR=22
AKASG Malin Array Be 72.00 324 P **P 19 27 42.0 -0.8**
AKASG Malin Array Be 72.00 324 *ceP* **P 19 27 42.0 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 72.00 324 *eP* **P 19 27 40.1 -2.6**
AKBB *e* pP 19 27 53.1 -2.1
AKBB Malin Array Si 72.00 324 *eP* **P 19 27 40.1 -2.7**
AKBB *e* pP 19 27 53.1 -2.1
KIEV Kiev 72.01 324 *eP* **P 19 27 41.7 -1.2**
comp=Z,17nm,0.8s,mb5.0
KIEV *e* pP 19 27 53.0 -2.4
KIEV Kiev 72.01 324 *dP* **P 19 27 42.2 -0.6**
PV04 Paradox Valley 72.48 53 *eP* **P 19 27 49.7 +3.8**
PV01 Paradox Valley 72.85 53 *eP* **P 19 27 51.1 +3.0**
comp=Z,218nm,0.8s,mb6.1
BEL Belsk 74.46 329 *eP* **P 19 27 58.0 +0.7**
BEL Belsk 74.46 329 *eP* **P 19 27 58.0 +0.7**
LVV L'vov 74.82 326 *eP* **P 19 27 59.0 -0.4**
ECSD EROS Data Cent 75.34 43 *eP* **P 19 28 03.5 +1.0**
comp=Z,31nm,1.8s,mb4.9
KWP Kalwaria Pacla 75.49 327 *eP* **P 19 28 03.6 +0.4**
KWP Kalwaria Pacla 75.49 327 *eP* **P 19 28 03.5 +0.2**
comp=Z,23nm,0.6s,mb5.3
KWP *e*PcP PcP 19 28 14.6 -1.6
KWP Kalwaria Pacla 75.49 327 ⇑P **P 19 28 03.7 +0.4**
KWP Kalwaria Pacla 75.49 327 ⇑*iP* **P 19 28 03.7 +0.4**
STKA Stephens Creek 75.60 186 P **P 19 28 04.1 +0.3**
comp=Z,1.7nm,1.0s,mb3.9,baz=205,slow=11,SNR=3.0
STKA LR LR 20 04 21.8
comp=Z,94nm,18.7s,MS4.1,baz=24,slow=38
STKA Stephens Creek 75.60 186 P **P 19 28 04.1 +0.3**
STKA Stephens Creek 75.60 186 P **P 19 28 04.1 +0.2**
BUR08 Bucovina Ar. S 76.04 324 *eP* **P 19 28 06.4 0.0**
BUR08 *e*PcP PcP 19 28 17.6 -1.0
BURAR Bucovina Array 76.06 324 ⇓P **P 19 28 06.3 -0.2**
BURAR Bucovina Array 76.06 324 ⇓*iP* **P 19 28 06.3 -0.2**
OJC Ojcow 76.14 329 *eP* **P 19 28 06.9 0.0**
OJC Ojcow 76.14 329 *eP* **P 19 28 06.4 -0.5**
comp=Z,43nm,1.4s,mb5.2
OJC Ojcow 76.14 329 *eP* **P 19 28 06.9 0.0**
STHS Stebnicka Huta 76.24 328 *eP* **P 19 28 08.6 +1.1**
STHS pmax pmax
comp=Z,16nm,1.5s,mb4.7
STHS Stebnicka Huta 76.24 328 *eP* **P 19 28 08.6 +1.1**
TESR 76.30 323 ⇓*iP* **P 19 28 07.8 -0.1**
CRVS Cervenica-Dubn 76.57 327 *eP* **P 19 28 09.5 +0.1**
CRVS pmax pmax
comp=Z,78nm,2.5s,mb5.2
CRVS Cervenica-Dubn 76.57 327 *eP* **P 19 28 09.5 +0.1**
NIE Niedzica 76.59 328 *eP* **P 19 28 10.5 +1.0**
NIE Niedzica 76.59 328 *eP* **P 19 28 10.5 +1.0**
TRPA Tarpa 76.76 326 ⇑*iP* **P 19 28 11.1 +0.6**
VRI Vrincioaia 76.76 322 ⇑P **P 19 28 11.6 +1.1**
VRI Vrincioaia 76.76 322 ⇑*iP* **P 19 28 11.6 +1.1**
KSP Ksiaz 76.90 331 *eP* **P 19 28 11.3 +0.1**
KSP Ksiaz 76.90 331 *eP* **P 19 28 11.1 -0.1**
KSP Ksiaz 76.90 331 *eP* **P 19 28 11.1 -0.1**
OKC Ostrava-Krasne 77.06 329 *i P* **P 19 28 11.7 -0.5**
OKC *e**PP pP 19 28 26.5 +1.8
OKC Ostrava-Krasne 77.06 329 *i P* **P 19 28 11.7 -0.5**
OKC *ep*P pP 19 28 26.5 +1.8
SCHQ Schefferville 77.25 20 P **P 19 28 13.0 -0.1**
comp=Z,2.2nm,0.6s,mb4.3,baz=13,slow=5.1,SNR=7.2
SCHQ Schefferville 77.25 20 P **P 19 28 13.0 -0.1**
UPC Upice 77.28 331 *i P* **P 19 28 13.2 -0.1**
UPC *e**PP pP 19 28 24.7 -1.2
UPC Upice 77.28 331 *i P* **P 19 28 13.2 -0.1**
UPC *ep*P pP 19 28 24.7 -1.2
KECS Kecovo 77.29 327 *eP* **P 19 28 13.9 +0.5**
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KECS Kecovo 77.29 327 *eP* **P 19 28 13.9 +0.5**
DPC Dobruska-Polom 77.30 331 *eP* **P 19 28 12.3 -1.2**
comp=Z,34nm,1.4s,mb5.1
DPC Dobruska-Polom 77.30 331 *i P* **P 19 28 13.8 +0.3**
DPC *e**PP pP 19 28 22.5 -3.5
DPC Dobruska-Polom 77.30 331 *i P* **P 19 28 13.8 +0.3**
DPC *ep*P pP 19 28 22.5 -3.5
MORC Moravsky Berou 77.34 330 *eP* **P 19 28 13.8 +0.1**
comp=Z,21nm,1.2s,mb5.0
MORC Moravsky Berou 77.34 330 *eP* **P 19 28 13.8 +0.1**
MORC pmax pmax
comp=Z,21nm,1.2s,mb4.9
MORC Moravsky Berou 77.34 330 ⇑*iP* **P 19 28 13.7 0.0**
CLL Collm 77.62 333 ⇑*iP* **P 19 28 14.6 -0.6**
CLL *i* pP 19 28 25.2 -2.6
CLL pmax pmax
comp=Z,23nm,1.1s,mb5.0
CLL Collm 77.62 333 ⇑*iP* **P 19 28 14.6 -0.6**
comp=Z,23nm,1.1s,mb5.0
CLL *i* pP 19 28 23.7 -4.1
CLL *i* PcP PcP 19 28 25.2 -0.1
CLL *i* pP pP 19 28 28.2 +0.4
CLL LmV 20 02 00.0
comp=Z,200nm,18.8s
BRG Berggiesshubel 77.68 332 *eP* **P 19 28 15.2 -0.4**
comp=Z,8.8nm,1.1s,mb4.6
BRG *e* pP 19 28 27.5 -0.7
comp=Z,3.5nm,0.7s
BRG Berggiesshubel 77.68 332 *eP* **P 19 28 15.2 -0.4**
BRG *e* pP 19 28 27.5 -0.7
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
DRGR 77.75 325 ⇓P **P 19 28 15.3 -0.8**
DRGR 77.75 325 ⇓*iP* **P 19 28 15.3 -0.8**
PVCC Panska Ves 77.76 332 *i P* **P 19 28 16.0 0.0**
PVCC *e**PP pP 19 28 25.0 -3.6
PVCC Panska Ves 77.76 332 *i P* **P 19 28 16.0 0.0**
PVCC *ep*P pP 19 28 25.0 -3.6
VYHS Vyhne 77.91 328 *eP* **P 19 28 17.1 +0.2**
VYHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
VYHS Vyhne 77.91 328 *eP* **P 19 28 17.1 +0.2**
PSZ Piszkesteto 77.98 327 *eP* **P 19 28 15.8 -1.6**
comp=Z,7.7nm,0.8s,mb4.7
PSZ Piszkesteto 77.98 327 ⇓P **P 19 28 16.1 -1.2**
PSZ Piszkesteto 77.98 327 ⇓*iP* **P 19 28 16.1 -1.2**
VRAC Vranov 78.07 330 ⇑P **P 19 28 18.3 +0.5**
VRAC Vranov 78.07 330 ⇑*iP* **P 19 28 18.3 +0.5**
BR131 Keskin Array S 78.08 314 *eP* **P 19 28 18.2 +0.1**
comp=Z,8.0nm,1.1s,mb4.6
BRTR Keskin Array B 78.08 314 P **P 19 28 18.4 +0.4**
comp=Z,1.7nm,0.9s,mb4.0,baz=73,slow=4.1,SNR=6.5
BRTR Keskin Array B 78.08 314 *ceP* **P 19 28 18.4 +0.4**
BRTR Keskin Array B 78.08 314 *ceP* **P 19 28 18.5 +0.4**
PRU Pruhonice 78.22 332 *i P* **P 19 28 18.7 +0.1**
PRU *e**PP pP 19 28 27.7 -3.5
PRU Pruhonice 78.22 332 *i P* **P 19 28 18.7 +0.1**
PRU *ep*P pP 19 28 27.7 -3.5
SMOL Smolenice 78.43 329 *eP* **P 19 28 20.7 +0.9**
SMOL Smolenice 78.43 329 *eP* **P 19 28 20.7 +0.9**
TREC Trest 78.48 331 *i P* **P 19 28 20.0 0.0**
TREC Trest 78.48 331 *i P* **P 19 28 20.0 0.0**
NKC Novy Kostel 78.72 333 *i P* **P 19 28 21.0 -0.4**
NKC Novy Kostel 78.72 333 *i P* **P 19 28 21.0 -0.4**
GZR Gura Zlata 78.84 324 ⇑P **P 19 28 22.4 +0.3**
GZR Gura Zlata 78.84 324 ⇑*iP* **P 19 28 22.4 +0.3**
BZS Buzias 79.15 325 ⇑P **P 19 28 23.8 0.0**
BZS Buzias 79.15 325 ⇑*iP* **P 19 28 23.8 0.0**
KHC Kasperske Hory 79.28 332 *eP* **P 19 28 24.5 0.0**
comp=Z,16nm,0.6s,mb5.1
KHC Kasperske Hory 79.28 332 *eP* **P 19 28 24.5 0.0**
KHC pmax pmax
comp=Z,16nm,0.6s,mb5.1
KHC Kasperske Hory 79.28 332 *i P* **P 19 28 24.4 -0.1**
KHC *ep*P pP 19 28 33.8 -3.3
KHC *ex* x 19 29 00.0
GERES GERESS Array B 79.48 331 P **P 19 28 25.0 -0.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=39,slow=6.2,SNR=23
GERES GERESS Array B 79.48 331 P **P 19 28 25.0 -0.6**
GERES GERESS Array B 79.48 331 P **P 19 28 25.0 -0.6**
CONA Conrad Observa 79.49 330 ⇑*iP* **P 19 28 26.2 +0.6**
comp=Z,18nm,1.4s,mb4.8
CONA Conrad Observa 79.49 330 ⇑*iP* **P 19 28 26.2 +0.6**
comp=Z,18nm,1.4s,mb4.8
GRF Grafenberg Arr 79.59 333 *eP* **P 19 28 26.2 +0.1**
MEM Membach 80.38 337 P **P 19 28 35.1 +4.7**
BCLA Clavier 80.75 337 P **P 19 28 35.7 +3.4**
SOKA Soboth 80.85 329 ⇓*iP* **P 19 28 32.4 -0.5**
comp=Z,12nm,0.8s,mb4.9
SOKA Soboth 80.85 329 ⇓*iP* **P 19 28 32.4 -0.5**
comp=Z,12nm,0.8s,mb4.9
DLF Lyons Farm 80.86 345 *eP* **P 19 28 31.4 -1.5**
VTS Vitosha 80.90 322 ⇑P **P 19 28 34.1 +0.8**
VTS Vitosha 80.90 322 ⇑*iP* **P 19 28 34.1 +0.8**
KBA Koelnbreinsper 81.12 331 ⇓*iP* **P 19 28 35.1 +0.7**
comp=Z,28nm,0.9s,mb5.2
KBA Koelnbreinsper 81.12 331 ⇓*iP* **P 19 28 35.1 +0.7**
comp=Z,28nm,0.9s,mb5.2
KBA Koelnbreinsper 81.12 331 ⇓*iP* **P 19 28 35.1 +0.7**
KBA pmax pmax
comp=Z,28nm,0.9s,mb5.2
BAIF Baives 81.38 338 *eP* **P 19 28 35.2 -0.5**
comp=Z,15nm,0.9s,mb4.6
BAIF Baives 81.38 338 *eP* **P 19 28 35.2 -0.5**
comp=Z,15nm,0.9s,mb4.9
BAIF Baives 81.38 338 *eP* **P 19 28 35.2 -0.5**
BAIF pmax pmax
comp=Z,15nm,0.9s,mb4.9
WATA Walderalm 81.51 332 ⇑*iP* **P 19 28 36.6 +0.2**
comp=Z,11nm,0.5s,mb5.0,SNR=11
WATA Walderalm 81.51 332 ⇑*iP* **P 19 28 36.6 +0.2**
comp=Z,11nm,0.5s,mb5.0
WATA Walderalm 81.51 332 ⇑*iP* **P 19 28 36.6 +0.1**
WATA pmax pmax
comp=Z,11nm,0.5s,mb5.0
WTTA Wattenberg 81.55 332 *i P* **P 19 28 37.0 +0.3**
comp=Z,19nm,0.5s,mb5.3,SNR=7.0
WTTA Wattenberg 81.55 332 *i P* **P 19 28 37.0 +0.3**
comp=Z,19nm,0.5s,mb5.3
WTTA Wattenberg 81.55 332 *i P* **P 19 28 37.0 +0.3**
WTTA pmax pmax
comp=Z,19nm,0.5s,mb5.3
MOTA Moosalm 81.66 332 ⇓*iP* **P 19 28 37.6 +0.3**
comp=Z,11nm,0.7s,mb4.9,SNR=5.7
MOTA Moosalm 81.66 332 ⇓*iP* **P 19 28 37.6 +0.3**
comp=Z,11nm,0.7s,mb4.9
MOTA Moosalm 81.66 332 ⇓*iP* **P 19 28 37.6 +0.3**
MOTA pmax pmax
comp=Z,11nm,0.7s,mb4.9
TXAR Lajitas Array 81.90 57 P **P 19 28 39.6 +0.7**
comp=Z,2.3nm,0.6s,mb4.3,baz=305,slow=3.6,SNR=21
TXAR Lajitas Array 81.90 57 P **P 19 28 39.6 +0.7**
TXAR Lajitas Array 81.90 57 P **P 19 28 39.6 +0.7**
CDF Champ du Feu 81.96 335 *eP* **P 19 28 37.8 -1.0**
comp=Z,62nm,1.5s,mb5.0
CDF Champ du Feu 81.96 335 *eP* **P 19 28 37.8 -1.0**
comp=Z,62nm,1.5s,mb5.3
CDF Champ du Feu 81.96 335 *eP* **P 19 28 37.8 -1.0**
PMOR Pomariorio Ree 82.46 119 *eT* 20 59 43.8
comp=Z,38nm,0.3s
MEZF Maizieres J'vi 82.54 336 *eP* **P 19 28 41.7 -0.2**
comp=Z,41nm,0.9s,mb5.2
MEZF Maizieres J'vi 82.54 336 *eP* **P 19 28 41.7 -0.2**
comp=Z,41nm,0.9s,mb5.5
FUORN Ofenpass-Fuorn 82.58 332 *eP* **P 19 28 42.8 +0.7**
comp=Z,44nm,1.6s,mb5.2
HAU Haudompre 82.60 335 ⇑*iP* **P 19 28 41.7 -0.5**
HAU *eR*
comp=Z,184nm,17.8s
HAU Haudompre 82.60 335 ⇑*iP* **P 19 28 41.7 -0.5**
HAU Haudompre 82.60 335 ⇑*iP* **P 19 28 41.7 -0.5**
HINF Hinteralfeld 82.62 335 *eP* **P 19 28 41.4 -0.9**
comp=Z,11nm,0.7s,mb4.7
HINF Hinteralfeld 82.62 335 *eP* **P 19 28 41.4 -0.9**
comp=Z,11nm,0.7s,mb5.0
HINF Hinteralfeld 82.62 335 *eP* **P 19 28 41.4 -0.9**
HINF pmax pmax
comp=Z,11nm,0.7s,mb5.0
TUE Stuetta 83.01 333 *eP* **P 19 28 44.2 -0.1**
comp=Z,9.4nm,0.7s,mb4.9
PPT2 Papeete2 83.37 122 *eLR* LR 19 54 35.5
comp=Z,261nm,33.0s
TIAR Tiarei 83.49 122 *eT* 21 01 00.7
comp=Z,8.8nm,0.3s
SENIN Lac Senin/Sane 83.77 334 *eP* **P 19 28 48.7 +0.4**
comp=Z,9.2nm,0.7s,mb5.0
FLN La Foliniere 83.80 340 *eP* **P 19 28 48.0 -0.3**
FLN *eR*
comp=Z,168nm,19.2s
FLN La Foliniere 83.80 340 *eP* **P 19 28 48.0 -0.3**
FLN La Foliniere 83.80 340 *eP* **P 19 28 48.0 -0.3**
LDF La Druitiere 83.86 340 *eP* **P 19 28 48.6 -0.1**
comp=Z,7.7nm,0.6s,mb4.7
LDF La Druitiere 83.86 340 *eP* **P 19 28 48.6 -0.1**
comp=Z,7.7nm,0.6s,mb5.0
LDF La Druitiere 83.86 340 *eP* **P 19 28 48.6 -0.1**
LDF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
CABF La Chapelle 83.93 335 ⇑*iP* **P 19 28 48.9 -0.1**
comp=Z,10nm,0.7s,mb4.8
CABF La Chapelle 83.93 335 ⇑*iP* **P 19 28 48.9 -0.1**
comp=Z,10nm,0.7s,mb5.1
CABF La Chapelle 83.93 335 ⇑*iP* **P 19 28 48.9 -0.1**
CABF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LOR Lormes 84.00 337 *eP* **P 19 28 49.0 -0.4**
comp=Z,18nm,0.8s,mb4.9
LOR *eR*
comp=Z,154nm,20.2s
LOR Lormes 84.00 337 *eP* **P 19 28 49.0 -0.4**
comp=Z,18nm,0.8s,mb5.2
LOR Lormes 84.00 337 *eP* **P 19 28 49.0 -0.4**
LOR pmax pmax
comp=Z,18nm,0.8s,mb5.2
GRR Gorron 84.24 340 *eP* **P 19 28 49.9 -0.7**
comp=Z,20nm,0.6s,mb5.1
GRR Gorron 84.24 340 *eP* **P 19 28 49.9 -0.7**
comp=Z,20nm,0.6s,mb5.4
GRR Gorron 84.24 340 *eP* **P 19 28 49.9 -0.7**
GRR pmax pmax
comp=Z,21nm,0.6s,mb5.4
SSF Saint Saulge 84.29 337 *eP* **P 19 28 49.8 -1.1**
comp=Z,18nm,0.8s,mb4.9
SSF Saint Saulge 84.29 337 *eP* **P 19 28 49.8 -1.1**
comp=Z,18nm,0.8s,mb5.2
SSF Saint Saulge 84.29 337 *eP* **P 19 28 49.8 -1.1**
SSF pmax pmax
comp=Z,18nm,0.8s,mb5.2
MEH Mehetia 84.52 121 *eT* 21 02 17.9
comp=Z,66nm,0.2s
SMF Signal de Mont 84.57 336 *eP* **P 19 28 51.5 -0.8**
comp=Z,22nm,0.7s,mb5.1
SMF Signal de Mont 84.57 336 *eP* **P 19 28 51.5 -0.8**
comp=Z,22nm,0.7s,mb5.4
SMF Signal de Mont 84.57 336 *eP* **P 19 28 51.5 -0.8**
SMF pmax pmax
comp=Z,22nm,0.7s,mb5.4
AVF Avril sur Loir 84.58 337 *eP* **P 19 28 52.2 -0.1**
comp=Z,15nm,0.7s,mb4.9
AVF Avril sur Loir 84.58 337 *eP* **P 19 28 52.2 -0.1**
comp=Z,15nm,0.7s,mb5.2
AVF Avril sur Loir 84.58 337 *eP* **P 19 28 52.2 -0.1**
AVF pmax pmax
comp=Z,15nm,0.7s,mb5.2
LPL La Plagne 84.71 334 ⇑*iP* **P 19 28 53.4 +0.4**
comp=Z,23nm,0.7s,mb5.1
LPL La Plagne 84.71 334 ⇑*iP* **P 19 28 53.4 +0.4**
comp=Z,23nm,0.7s,mb5.4
LPL La Plagne 84.71 334 ⇑*iP* **P 19 28 53.4 +0.4**
LPL pmax pmax
comp=Z,23nm,0.7s,mb5.4
LPG La Plagne 84.72 334 ⇑*iP* **P 19 28 53.6 +0.5**
comp=Z,26nm,0.6s,mb5.2
LPG La Plagne 84.72 334 ⇑*iP* **P 19 28 53.6 +0.5**
comp=Z,26nm,0.6s,mb5.5
LPG La Plagne 84.72 334 ⇑*iP* **P 19 28 53.6 +0.5**
LPG pmax pmax
comp=Z,26nm,0.6s,mb5.5
SGMF Saint Gilles 84.78 341 *eP* **P 19 28 53.3 0.0**
comp=Z,57nm,1.0s,mb5.3
SGMF Saint Gilles 84.78 341 *eP* **P 19 28 53.3 0.0**
comp=Z,57nm,1.0s,mb5.7
SGMF Saint Gilles 84.78 341 *eP* **P 19 28 53.3 0.0**
ROSF Rostrenen 84.87 341 *eP* **P 19 28 53.2 -0.6**
comp=Z,82nm,1.1s,mb5.5
ROSF Rostrenen 84.87 341 *eP* **P 19 28 53.2 -0.6**
comp=Z,82nm,1.1s,mb5.8
ROSF Rostrenen 84.87 341 *eP* **P 19 28 53.2 -0.6**
BGF Bois d'Agland 84.94 337 *eP* **P 19 28 54.6 +0.5**
comp=Z,26nm,0.8s,mb5.1
BGF Bois d'Agland 84.94 337 *eP* **P 19 28 54.6 +0.5**
comp=Z,26nm,0.8s,mb5.4
BGF Bois d'Agland 84.94 337 *eP* **P 19 28 54.6 +0.5**
BGF pmax pmax
comp=Z,27nm,0.8s,mb5.4
QUIF Quistinic 85.24 341 *eP* **P 19 28 55.3 -0.3**
QUIF Quistinic 85.24 341 *eP* **P 19 28 55.3 -0.3**
QUIF Quistinic 85.24 341 *eP* **P 19 28 55.3 -0.3**
MBDF Montbardon 85.40 334 *eP* **P 19 28 56.7 +0.2**
comp=Z,12nm,0.6s,mb4.9
MBDF Montbardon 85.40 334 *eP* **P 19 28 56.7 +0.2**
comp=Z,12nm,0.6s,mb5.2
MBDF Montbardon 85.40 334 *eP* **P 19 28 56.7 +0.2**
MBDF pmax pmax
comp=Z,12nm,0.6s,mb5.2
ORIF Oris-en-Rattie 85.51 334 *eP* **P 19 28 57.3 +0.3**
comp=Z,24nm,0.8s,mb5.2
ORIF *eR*
comp=Z,170nm,21.2s
ORIF Oris-en-Rattie 85.51 334 *eP* **P 19 28 57.3 +0.3**
comp=Z,24nm,0.8s,mb5.5
ORIF Oris-en-Rattie 85.51 334 *eP* **P 19 28 57.3 +0.3**
ORIF pmax pmax
comp=Z,24nm,0.8s,mb5.5
MFF Saint Martin d 85.71 339 *eP* **P 19 28 58.2 +0.2**
comp=Z,30nm,0.7s,mb5.3
MFF Saint Martin d 85.71 339 *eP* **P 19 28 58.2 +0.2**
comp=Z,30nm,0.7s,mb5.6
MFF Saint Martin d 85.71 339 *eP* **P 19 28 58.2 +0.2**
VIVF Saint-Julien-l 85.94 335 *eP* **P 19 28 59.5 +0.3**
comp=Z,23nm,0.9s,mb5.1
VIVF Saint-Julien-l 85.94 335 *eP* **P 19 28 59.5 +0.3**
comp=Z,23nm,0.9s,mb5.4
VIVF Saint-Julien-l 85.94 335 *eP* **P 19 28 59.5 +0.3**
VIVF pmax pmax
comp=Z,23nm,0.9s,mb5.4
SBF Sospel 85.95 333 *eP* **P 19 28 58.7 -0.5**
comp=Z,64nm,0.9s,mb5.5
SBF Sospel 85.95 333 *eP* **P 19 28 58.7 -0.5**
comp=Z,64nm,0.9s,mb5.8
SBF Sospel 85.95 333 *eP* **P 19 28 58.7 -0.5**
CAF Calviac 86.65 337 *eP* **P 19 29 03.4 +0.7**
comp=Z,19nm,0.8s,mb5.1
CAF Calviac 86.65 337 *eP* **P 19 29 03.4 +0.7**
comp=Z,19nm,0.8s,mb5.4
CAF Calviac 86.65 337 *eP* **P 19 29 03.4 +0.7**
CAF pmax pmax
comp=Z,19nm,0.8s,mb5.4
LMR La Mourre 86.73 333 *eP* **P 19 29 02.8 -0.3**

	comp=Z,23nm,0.7s,mb5.2						
LMR	La Mourre	86.73	333	eP	P	19 29 02.8	-0.3
	comp=Z,23nm,0.7s,mb5.5						
LMR	La Mourre	86.73	333	eP	P	19 29 02.8	-0.3
LMR				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.5						
LFF	La Frestale	87.01	338	eP	P	19 29 04.9	+0.5
	comp=Z,23nm,0.7s,mb5.2						
LFF	La Frestale	87.01	338	eP	P	19 29 04.9	+0.5
	comp=Z,23nm,0.7s,mb5.5						
LFF	La Frestale	87.01	338	eP	P	19 29 04.9	+0.5
LFF				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.5						
TBI	Tubuai	87.83	126	eLR	LR	19 57 00.8	
	comp=Z,138nm,29.0s						
TBI				eT		21 06 26.3	
	comp=Z,8.9nm,0.3s						
ETSF	Etsaut	89.25	338	eP	P	19 29 15.6	+0.5
	comp=Z,16nm,0.7s,mb5.1						
ETSF	Etsaut	89.25	338	eP	P	19 29 15.6	+0.5
	comp=Z,16nm,0.7s,mb5.5						
ETSF	Etsaut	89.25	338	eP	P	19 29 15.6	+0.5
ETSF				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.5						
ESDC	Sonseca Array	93.18	339	P	P	19 29 34.9	+1.5
	comp=Z,0.3nm,0.5s,mb4.0,baz=6.1,slow=4.1,SNR=2.9						
ESDC				LR	LR	20 18 05.1	
	comp=Z,108nm,18.3s,MS4.3,baz=25,slow=40						
ESDC	Sonseca Array	93.18	339	P	P	19 29 34.9	+1.5
TORD	Torodi Ar. Bea	115.63	324	PKP	PKPdf	19 35 00.7	-1.0
	comp=Z,0.2nm,0.4s,baz=11,slow=1.3,SNR=4.3						
TORD	Torodi Ar. Bea	115.63	324	PKP	PKPdf	19 35 00.7	-1.0
LPAZ	La Paz	138.72	60	PKP	PKPdf	19 35 45.9	+0.5
	comp=Z,0.8nm,0.5s,baz=2.4,slow=4.5,SNR=2.7						
LPAZ	La Paz	138.72	60	PKP	PKPdf	19 35 45.9	+0.5
LPAZ	La Paz	138.72	60	PKIKP	PKPdf	19 35 45.9	+0.5
LCO	Las Campanas	145.64	78	eP	PKPdf	19 35 57.7	+0.4
SNAA	Sanae	148.79	197	e	PKPbc	19 36 07.0	+1.8
SNAA				e		19 36 16.9	
SNAA	Sanae	148.79	197	ePKPbc	PKPbc	19 36 05.9	+0.7
SNAA	Sanae	148.79	197	ePKP2	PKPbc	19 36 05.9	+0.7
VNA2	Neumayer--Watz	150.31	196	e	PKPbc	19 36 10.9	+2.0
	baz=68,slow=0.8						
VNA2				e		19 36 20.8	
VNA3	Neumayer Olymp	150.47	194	e	PKPbc	19 36 10.9	+1.6
VNA3				e		19 36 20.9	
VNA1	Neumayer--Stat	150.70	196	e	PKPbc	19 36 12.1	+2.2
VNA1				e		19 36 21.2	
PLCA	Paso Flores	151.26	97	PKPbc	PKPbc	19 36 15.2	+3.1
	comp=Z,4.2nm,1.0s,baz=324,slow=14,SNR=2.2						
PLCA	Paso Flores	151.26	97	PKPbc	PKPbc	19 36 15.2	+3.1
PLCA	Paso Flores	151.26	97	PKIKP	PKPbc	19 36 15.2	+3.1
CPUP	Villa Florida	152.87	58	PKPbc	PKPbc	19 36 18.8	+2.6
	comp=Z,0.4nm,0.4s,baz=114,slow=2.6,SNR=3.4						
CPUP	Villa Florida	152.87	58	PKPbc	PKPbc	19 36 18.8	+2.6
CPUP	Villa Florida	152.87	58	PKIKP	PKPbc	19 36 18.8	+2.6

*SOF **27** 19:25:05.1, 40.78N×27.99E, h2km, MD2.7*
*ISCJB **27** 19:25:07.5±0.3, 40.84N±0.02×28.04E±0.02, h6km±3km, Error ellipse: s-maj=3.1km s-min=2.8km az=154.5*
*ISK **27** 19:25:07.4, 40.83N×28.04E, h9km, MD3.2, ML3.0*
*CSEM **27** 19:25:07.9±0.1, 40.84N×28.03E, h8km, MD3.2, Error ellipse: s-maj=2.2km s-min=1.9km az=173.0*
*DDA **27** 19:25:07.6, 40.84N×28.04E, h26km±1km, Md3.3*
ISC 27 19:25:08.2±0.3, 40.84N±0.02×28.04E±0.02, h7km±3km, n89, σ0.75/116, 3C, Turkey

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TKR	Tekirdag	0.41	292	ePG	Pg	19 25 15.8	-0.4
TKR				eSG	Sg	19 25 22.9	+1.4
TKR	Tekirdag	0.41	292	ePg	Pg	19 25 15.8	-0.3
TKR				eSg	Sg	19 25 22.9	+1.4
SLVT	Silivri	0.42	18	ePG	Pg	19 25 16.3	+0.1
SLVT				eSG	Sg	19 25 22.3	+0.6
SLVT	Silivri	0.42	18	ePg	Pg	19 25 16.3	+0.1
SLVT				eSg	Sg	19 25 22.3	+0.6
ELBA	Catalca	0.43	44	iP	Pg	19 25 16.0	-0.5
ELBA	Catalca	0.43	44	iP	Pg	19 25 16.0	-0.5
BNT	Bandirma	0.49	191	ePG	Pg	19 25 17.3	-0.2
BNT	Bandirma	0.49	191	ePg	Pg	19 25 17.3	-0.2
EDC	Edincik	0.51	195	ePG	Pg	19 25 17.6	-0.3
EDC				eSG	Sg	19 25 24.9	+0.4
EDC	Edincik	0.51	195	ePg	Pg	19 25 17.6	-0.3
EDC				eSg	Sg	19 25 24.9	+0.4
CTKS	Kestanelik-??a	0.54	41	ePG	Pg	19 25 18.4	-0.1
CTKS	Kestanelik-??a	0.54	41	ePg	Pg	19 25 18.5	0.0
KCTX	Karacabey (Bur	0.62	157	ePG	Pg	19 25 20.0	-0.1
KCTX	Karacabey (Bur	0.62	157	ePg	Pg	19 25 20.0	-0.1
BGKT	Bogazkoy	0.66	58	ePG	Pg	19 25 20.6	-0.1
BGKT	Bogazkoy	0.66	58	ePg	Pg	19 25 20.7	-0.1
CTYL	Yal??k??y-??at	0.67	16	ePG	Pg	19 25 21.1	+0.1
CTYL				eSG	Sg	19 25 30.8	+1.1
CTYL	Yal??k??y-??at	0.67	16	ePg	Pg	19 25 21.1	+0.1
CTYL				eSg	Sg	19 25 30.8	+1.1
RKY	Sarkoy-Tekirda	0.67	258	ePG	Pg	19 25 20.8	-0.2
RKY				eSG	Sg	19 25 30.9	+1.2
RKY	Sarkoy-Tekirda	0.67	258	ePg	Pg	19 25 20.8	-0.2
RKY				eSg	Sg	19 25 30.9	+1.2
ARMT	Armutlu	0.68	113	ePG	Pg	19 25 21.1	-0.2
ARMT				eSG	Sg	19 25 30.9	+0.7
ARMT	Armutlu	0.68	113	ePg	Pg	19 25 21.1	-0.2
ARMT				eSg	Sg	19 25 30.9	+0.7
KRBG	Karabiga-Canak	0.71	232	ePG	Pg	19 25 21.8	-0.2
KRBG	Karabiga-Canak	0.71	232	ePg	Pg	19 25 21.8	-0.1
MDNY	Mudanya-Bursa	0.80	126	ePG	Pg	19 25 23.3	-0.1
MDNY	Mudanya-Bursa	0.80	126	ePg	Pg	19 25 23.3	-0.1
ISK	Istanbul-Kandi	0.81	73	ePG	Pg	19 25 22.6	-1.1
ISK	Istanbul-Kandi	0.81	73	ePg	Pg	19 25 22.6	-1.1
BUY	Buyukada	0.82	88	iP	Pg	19 25 23.6	-0.3
BUY				iS	Sg	19 25 35.2	+0.6
BUY	Buyukada	0.82	88	iP	Pg	19 25 23.6	-0.3
BUY				iS	Sg	19 25 35.2	+0.6
GONE	Gonen-Balikesi	0.83	199	ePG	Pg	19 25 24.0	-0.1
GONE				eSG	Sg	19 25 35.7	+0.7
GONE	Gonen-Balikesi	0.83	199	ePg	Pg	19 25 24.0	-0.1
GONE				eSg	Sg	19 25 35.7	+0.8
KLYT	Kilyos	0.87	61	ePG	Pg	19 25 24.4	-0.4
KLYT	Kilyos	0.87	61	ePg	Pg	19 25 24.4	-0.4
GEMT	Gemlik	0.96	114	ePG	Pg	19 25 26.3	-0.3
GEMT	Gemlik	0.96	114	ePg	Pg	19 25 26.3	-0.3
LPK	Lapseki	1.08	245	ePG	Pg	19 25 27.4	-1.4
LPK	Lapseki	1.08	245	ePg	Pg	19 25 27.4	-1.4
BALY	Balya	1.14	196	iP	Pg	19 25 29.6	-0.4
BALY				iS	Sg	19 25 45.5	+0.8
BALY	Balya	1.14	196	iP	Pg	19 25 29.6	-0.4
BALY				iS	Sg	19 25 45.5	+0.7
ERIK	Erikli-Kesan	1.17	262	ePN	Pn	19 25 30.0	-0.9
ERIK				eSN	Sn	19 25 46.4	-0.7
ERIK	Erikli-Kesan	1.17	262	ePn	Pn	19 25 30.0	-0.9
ERIK				eSn	Sn	19 25 46.4	-0.6
HRT	Hereke	1.24	90	ePN	Pn	19 25 31.0	-0.8
HRT	Hereke	1.24	90	ePn	Pn	19 25 31.0	-0.8
SILT	Sile	1.26	75	ePN	Pn	19 25 31.3	-0.8
SILT	Sile	1.26	75	ePn	Pn	19 25 31.3	-0.8
GELI	Tayfur-Gelibol	1.27	250	ePN	Pn	19 25 31.2	-1.0
GELI	Tayfur-Gelibol	1.27	250	ePn	Pn	19 25 31.2	-1.0
DURS	Dursunbey	1.28	165	iP	Pn	19 25 31.4	-1.0
DURS				iS	Sb	19 25 49.6	+0.5
DURS	Dursunbey	1.28	165	iP	Pn	19 25 31.4	-0.9
DURS				iS	Sb	19 25 49.6	+0.5
ADVT	Abdulvahap	1.36	107	ePN	Pn	19 25 32.6	-0.8
ADVT	Abdulvahap	1.36	107	ePn	Pn	19 25 32.6	-0.8
EDRB	Edirne	1.40	317	ePN	Pn	19 25 33.4	-0.7
EDRB	Edirne	1.40	317	ePn	Pn	19 25 33.4	-0.7
ENEZ	Enez	1.43	267	ePN	Pn	19 25 34.2	-0.3
ENEZ	Enez	1.43	267	ePn	Pn	19 25 34.2	-0.3
CAVI	Cavuskoy	1.52	114	ePN	Pn	19 25 35.3	-0.3
CAVI				eSN	Sn	19 25 56.2	+0.7
CAVI	Cavuskoy	1.52	114	ePn	Pn	19 25 35.3	-0.3
CAVI				eSn	Sn	19 25 56.2	+0.7
EZN	Ezine	1.65	233	ePN	Pn	19 25 38.2	+0.7
EZN	Ezine	1.65	233	ePn	Pn	19 25 38.2	+0.7
SPNC	Sapanca-Adapaz	1.73	94	ePN	Pn	19 25 38.4	-0.2
SPNC	Sapanca-Adapaz	1.73	94	ePn	Pn	19 25 38.4	-0.2
AYVA	Ayvalik	1.84	215	iP	Pn	19 25 42.7	+2.6
AYVA	Ayvalik	1.84	215	iP	Pn	19 25 42.7	+2.6
GULT	Gulveren	1.93	101	ePN	Pn	19 25 41.4	+0.1
GULT	Gulveren	1.93	101	ePn	Pn	19 25 41.4	+0.1
JMB	Yambol	1.96	327	iP	Pn	19 25 42.4	+0.6
JMB				iPg	Pg	19 25 46.1	+0.4
JMB	Yambol	1.96	327	iP	Pn	19 25 42.4	+0.6
KDZ	Kurdzhali	2.14	293	iP	Pn	19 25 43.8	-0.4
KDZ				iPg	Pg	19 25 48.8	-0.3
KDZ	Kurdzhali	2.14	293	iP	Pn	19 25 43.9	-0.4
HENT	Hendek	2.17	89	eP	Pn	19 25 43.9	-0.7
HENT	Hendek	2.17	89	eP	Pn	19 25 43.9	-0.8
KULA	Kula-Manisa	2.37	168	ePN	Pn	19 25 48.1	+0.8
KULA	Kula-Manisa	2.37	168	ePn	Pn	19 25 48.2	+0.9
ALT	Altintas	2.39	137	ePN	Pn	19 25 47.6	0.0
ALT	Altintas	2.39	137	ePn	Pn	19 25 47.6	0.0
MDUB	Mudurnu	2.43	98	ePN	Pn	19 25 48.1	-0.1
MDUB	Mudurnu	2.43	98	ePn	Pn	19 25 48.2	0.0
ESKT	Eskisehir	2.52	120	ePN	Pn	19 25 50.0	+0.5
ESKT	Eskisehir	2.52	120	ePn	Pn	19 25 50.0	+0.5
BLCB	Balcova	2.56	198	ePN	Pn	19 25 50.5	+0.5
BLCB	Balcova	2.56	198	ePn	Pn	19 25 50.5	+0.6
RZN	Rozhen	2.65	290	iP	Pn	19 25 50.6	-0.6
RZN				iPg	Pg	19 25 56.8	-2.0
RZN	Rozhen	2.65	290	iP	Pn	19 25 50.6	-0.6
SVRH	Sivrihisar-ESK	3.01	116	ePN	Pn	19 25 56.9	+0.7
SVRH	Sivrihisar-ESK	3.01	116	ePn	Pn	19 25 56.9	+0.7
TIRR	Tirgusor	3.63	4	⇑iP	Sn	19 26 49.0	+1.2
MLR	Muntele Rosu	4.90	343	⇑iP	Pn	19 26 23.8	+1.7
MLR	Muntele Rosu	4.90	343	⇑iP	Pn	19 26 23.8	+1.7

*IDC **27** 19:32:53.3±2.9, 33.24S×179.11W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/13, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=66.6km s-min=44.7km az=120.0*
ISC 27 19:32:58.5±2.2, 33.6S±0.1×178.8W±0.3, h61km±23km, n13, σ0.56/17, mb3.4/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.58	210	PN	Pn	19 34 05.2	0.0
MXZ				SN	Sn	19 34 57.2	+0.1
CNGZ	Carnagh Statio	5.42	206	PN	Pn	19 34 16.7	+0.1
CNGZ				SN	Sn	19 35 18.1	+0.5
MWZ	Matawai	5.56	212	PN	Pn	19 34 18.8	+0.1
MWZ				SN	Sn	19 35 21.9	+0.7
URZ	Urewera	5.69	215	Pn	Pn	19 34 21.0	+0.6
	2.5nm,0.3s,baz=65,slow=4.6,SNR=15						
URZ				Sn	Sn	19 35 23.6	-0.8
	3.7nm,0.3s,baz=114,slow=23,SNR=7.1						
URZ	Urewera	5.69	215	PN	Pn	19 34 20.5	+0.1
URZ				eSN	Sn	19 35 21.8	-2.6
KNZ	Kokohu	6.09	207	PN	Pn	19 34 25.2	-0.7
OUZ	Omahuta	6.50	254	PN	Pn	19 34 31.7	+0.2
BKZ	Black Stump Fm	6.71	213	PN	Pn	19 34 34.1	-0.2
PXZ	Pawanui	7.27	207	eSN	Sn	19 35 57.2	-6.0
MRZ	Mangatainoka R	8.33	211	eSN	Sn	19 36 20.9	-8.1
ASAR	Alice Springs	42.38	271	P	P	19 40 47.3	+0.2
	0.3nm,0.5s,mb3.1,baz=113,slow=8.0,SNR=13						
WRA	Warramunga Arr	43.67	276	P	P	19 40 57.2	-0.2
	0.5nm,0.3s,mb3.6,baz=116,slow=8.0,SNR=21						
FINES	FINESS Array B	147.92	338	PKPbc	PKPbc	19 52 37.8	+1.8
	2.5nm,0.9s,baz=23,slow=6.2,SNR=7.0						

*ATH **27** 20:09:19.8, 40.15N×24.05E, h24km±1km, ML4.3*
*BJI **27** 20:09:19.1, 40.44N×23.26E, h26km, mB5.3/9, mb4.6/21, Ms5.0/6, Ms7 4.5/7*
*ISCJB **27** 20:09:19.8±0.3, 40.177N±0.010×24.07E±0.01, h9km±2km, mb4.4/48, MS4.0/19, Error ellipse: s-maj=1.8km s-min=1.6km az=25.9*
*IDC **27** 20:09:19.5±0.6, 40.12N×24.00E, h0km, mb4.1/19, mb1 4.2/27, mb1mx4.1/33, mbtmp4.0/27, ML3.7/8, MS3.8/23, Ms1 3.8/23, ms1mx3.6/46, Error ellipse: s-maj=11.2km s-min=10.7km az=47.0*
*PDG **27** 20:09:20.9±0.6, 40.11N×24.04E, h15km±1km, ML4.2/9, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
*CSEM **27** 20:09:20.4±0.1, 40.13N×24.07E, h5km, mb4.5/20, Ms3.3, Mw4.4, Error ellipse: s-maj=1.9km s-min=1.7km az=115.0*
*THE **27** 20:09:21.0, 40.11N×24.03E, h3km, ML4.5/24, Error ellipse: s-maj=0.7km s-min=0.4km az=334.0*
*NEIC **27** 20:09:21.0, 40.11N×24.03E, h3km, mb4.5/23, ML4.6(THE), MW4.4(USGS), After THE.*
NEIC Felt at Atalanti, Sykia and Thessaloniki, Greece.
*SOF **27** 20:09:21.0, 40.33N×24.07E, h5km, MD4.2*
*MOS **27** 20:09:22.5±1.1, 40.19N×24.00E, h33km, mb4.6/20, Error ellipse: s-maj=5.2km s-min=3.1km az=95.0*
ISC 27 20:09:21.0±0.3, 40.121N±0.009×24.06E±0.01, h8km±1km, h28km±2.2km:pP-P, n755, σ1.10/932, mb4.4/48, MS4.0/19, 63C-46D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.22	345	P	Pg	20 09 25.4	-0.1
OUR				S	Sg	20 09 28.5	0.0
OUR	Ouranopolis	0.22	345	P	Pg	20 09 25.4	-0.1
OUR				S	Sg	20 09 28.5	0.0
OUR	Ouranopolis	0.22	345	P	Pg	20 09 25.4	-0.1
OUR				S	Sg	20 09 28.5	0.0
OUR	Ouranopolis	0.22	345	P	Pg	20 09 25.4	-0.1
OUR				S	Sg	20 09 28.5	0.0
PAIG	Paliouri	0.35	237	P	Pg	20 09 27.5	-0.3
PAIG				S	Sg	20 09 32.3	-0.1
PAIG	Paliouri	0.35	237	P	Pg	20 09 27.5	-0.3
PAIG				S	Sg	20 09 32.3	-0.1
PAIG	Paliouri	0.35	237	P	Pg	20 09 27.5	-0.3
PAIG				S	Sg	20 09 32.3	-0.1
PAIG	Paliouri	0.35	237	P	Pg	20 09 27.5	-0.3
PAIG				S	Sg	20 09 32.3	-0.1
PLG	Polygyros	0.53	299	ePN	Pg	20 09 30.5	-0.8
PLG				eSN	Sg	20 09 37.0	-1.3
PLG	Polygyros	0.53	299	P	Pg	20 09 30.6	-0.7
PLG				S	Sg	20 09 38.3	0.0
PLG	Polygyros	0.53	299	P	Pg	20 09 30.6	-0.7
PLG				S	Sg	20 09 38.3	0.0
PLG	Polygyros	0.53	299	P	Pg	20 09 30.6	-0.7
PLG				S	Sg	20 09 38.3	0.0
PLG	Polygyros	0.53	299	P	Pg	20 09 30.6	-0.7
PLG				S	Sg	20 09 38.3	0.0
HORT	Hortiatis	0.87	303	P	Pg	20 09 36.7	-1.1
HORT				S	Sg	20 09 49.5	+0.3
HORT	Hortiatis	0.87	303	P	Pg	20 09 36.7	-1.1
HORT				S	Sg	20 09 49.5	+0.3
HORT	Hortiatis	0.87	303	P	Pg	20 09 36.7	-1.1
HORT				S	Sg	20 09 49.5	+0.3
SOH	Sokhos	0.88	323	ePN	Pn	20 09 36.8	-3.0
SOH				eSN	Sn	20 09 48.7	-4.1
SOH	Sokhos	0.88	323	P	Pg	20 09 37.6	-0.4
SOH				S	Sg	20 09 49.6	+0.1
SOH	Sokhos	0.88	323	P	Pg	20 09 37.6	-0.4
SOH				S	Sg	20 09 49.6	+0.1
SOH	Sokhos	0.88	323	P	Pg	20 09 37.6	-0.4
SOH				S	Sg	20 09 49.6	+0.1
SOH	Sokhos	0.88	323	ePn	Pn	20 09 36.8	-3.0
SOH	Sokhos	0.88	323	P	Pg	20 09 37.6	-0.4
SOH				eSn	Sn	20 09 48.7	-4.1
SOH				S	Sg	20 09 49.6	+0.1
LIA	Limnos Island	0.89	104	P	Pg	20 09 39.0	+0.9
LIA				S	Sg	20 09 52.3	+2.6
LIA	Limnos Island	0.89	104	P	Pg	20 09 39.0	+0.9
LIA				S	Sg	20 09 52.3	+2.6
LIA	Limnos Island	0.89	104	P	Pg	20 09 39.0	+0.9
KAVA	Kavala	0.94	21	P	Pg	20 09 38.8	-0.3
KAVA				S	Sg	20 09 52.7	+1.4
KAVA	Kavala	0.94	21	P	Pg	20 09 38.8	-0.3
KAVA				S	Sg	20 09 52.7	+1.4
KAVA	Kavala	0.94	21	P	Pg	20 09 38.8	-0.3
KAVA				S	Sg	20 09 52.7	+1.4
AOS	Alonnisos	0.96	188	P	Pg	20 09 39.2	-0.2
AOS				S	Sg	20 09 53.6	+1.7
AOS	Alonnisos	0.96	188	P	Pg	20 09 39.2	-0.2
AOS				S	Sg	20 09 53.6	+1.7
AOS	Alonnisos	0.96	188	P	Pg	20 09 39.2	-0.2
AOS				S	Sg	20 09 53.6	+1.7
THE	Thessaloniki	0.98	302	P	Pg	20 09 39.2	-0.6
THE				S	Sg	20 09 52.7	+0.2
THE	Thessaloniki	0.98	302	P	Pg	20 09 39.2	-0.6
THE				S	Sg	20 09 52.7	+0.2
THE	Thessaloniki	0.98	302	P	Pg	20 09 39.2	-0.6
THE				S	Sg	20 09 52.7	+0.2
THE	Thessaloniki	0.98	302	P	Pg	20 09 39.2	-0.6
THE				S	Sg	20 09 52.7	+0.2
XOR	Xorichti	1.01	222	P	Pg	20 09 39.9	-0.4
XOR				S	Sg	20 09 54.7	+1.3
XOR	Xorichti	1.01	222	P	Pg	20 09 39.9	-0.4
XOR				S	Sg	20 09 54.7	+1.3
XOR	Xorichti	1.01	222	P	Pg	20 09 39.9	-0.4
XOR				S	Sg	20 09 54.7	+1.3
NEO	Neokhori	1.04	219	ePN	Pn	20 09 40.0	-1.9
NEO	Neokhori	1.04	219	P	Pg	20 09 40.3	-0.6
NEO				S	Sg	20 09 55.3	+0.9
NEO	Neokhori	1.04	219	P	Pg	20 09 40.3	-0.6
NEO				S	Sg	20 09 55.5	+1.1
NEO	Neokhori	1.04	219	ePn	Pn	20 09 40.0	-1.9
NEO	Neokhori	1.04	219	P	Pg	20 09 40.3	-0.6
NEO				S	Sg	20 09 55.3	+0.9
SKIA	Skiathos	1.06	206	P	Pg	20 09 40.5	-0.8
SKIA				S	Sg	20 09 55.6	+0.6
SKIA	Skiathos	1.06	206	P	Pg	20 09 40.5	-0.8
SKIA				S	Sg	20 09 55.6	+0.6
SRS	Serrai	1.06	341	P	Pg	20 09 40.7	-0.6
SRS				S	Sg	20 09 56.0	+1.0
SRS	Serrai	1.06	341	P	Pg	20 09 40.7	-0.6
SRS				S	Sg	20 09 56.0	+1.0
SRS	Serrai	1.06	341	P	Pg	20 09 40.7	-0.6
SRS				S	Sg	20 09 56.0	+1.0
SRS	Serrai	1.06	341	P	Pg	20 09 40.7	-0.6
SRS				S	Sg	20 09 56.0	+1.0
LIT	Litokhoron	1.20	270	ePN	Pn	20 09 42.3	-1.9
LIT				eSN	Sn	20 09 59.2	-1.5
LIT	Litokhoron	1.20	270	P	Pb	20 09 42.7	-1.4
LIT				S	Sg	20 10 00.2	+0.5
LIT	Litokhoron	1.20	270	P	Pb	20 09 42.7	-1.4
LIT	Litokhoron	1.20	270	P	Pb	20 09 42.7	-1.4
LIT	Litokhoron	1.20	270	ePn	Pn	20 09 42.3	-1.9
LIT	Litokhoron	1.20	270	P	Pb	20 09 42.7	-1.4
LIT				eSn	Sn	20 09 59.2	-1.5
LIT				S	Sg	20 10 00.2	+0.5
NVR	Nevrokopi	1.24	353	ePN	Pn	20 09 43.2	-1.4
NVR				eSN	Sn	20 09 59.7	-1.8
NVR	Nevrokopi	1.24	353	P	Pn	20 09 43.6	-1.0
NVR				S	Sb	20 10 01.7	+0.9
NVR	Nevrokopi	1.24	353	P	Pn	20 09 43.6	-1.0
NVR	Nevrokopi	1.24	353	ePn	Pn	20 09 43.2	-1.4
NVR	Nevrokopi	1.24	353	P	Pn	20 09 43.6	-1.0
NVR				eSn	Sn	20 09 59.7	-1.8
NVR				S	Sb	20 10 01.7	+0.9
KNT	Kendrikon	1.36	320	P	Pn	20 09 45.9	-0.5
KNT				S	Sb	20 10 06.0	+1.6
KNT	Kendrikon	1.36	320	P	Pn	20 09 45.9	-0.5
KNT	Kendrikon	1.36	320	P	Pn	20 09 45.9	-0.5
KNT	Kendrikon	1.36	320	P	Pn	20 09 45.9	-0.5
KNT				S	Sb	20 10 06.0	+1.6
SMIA	Simia	1.40	208	P	Pn	20 09 46.1	-0.8
SMIA				S	Sb	20 10 05.7	+0.2
SMIA	Simia	1.40	208	P	Pn	20 09 46.1	-0.8
SMIA				S	Sb	20 10 05.7	+0.2
MRKA	Markates	1.46	195	P	Pn	20 09 46.4	-1.3
MRKA	Markates	1.46	195	P	Pn	20 09 46.4	-1.3
MMB	Musomiste	1.49	350	iPg	Pg	20 09 46.5	-3.1
MMB	Musomiste	1.49	350	iPg	Pg	20 09 46.5	-3.1
GRG	Griva	1.51	304	P	Pn	20 09 48.6	+0.2
GRG				S	Sn	20 10 09.7	+1.3
GRG	Griva	1.51	304	P	Pn	20 09 48.6	+0.2
GRG	Griva	1.51	304	P	Pn	20 09 48.6	+0.2
GRG	Griva	1.51	304	P	Pn	20 09 48.6	+0.2
GRG				S	Sn	20 10 09.7	+1.3
RDO	Rodhopi	1.52	47	ePN	Pn	20 09 47.3	-1.3
RDO				eSN	Sn	20 10 07.5	-1.1
RDO	Rodhopi	1.52	47	P	Pn	20 09 47.7	-0.9
RDO				S	Sn	20 10 09.5	+0.9
RDO	Rodhopi	1.52	47	P	Pn	20 09 47.7	-0.9
RDO	Rodhopi	1.52	47	ePn	Pn	20 09 47.3	-1.3
RDO	Rodhopi	1.52	47	P	Pn	20 09 47.7	-0.9
RDO				eSn	Sn	20 10 07.5	-1.1
RDO				S	Sn	20 10 09.5	+0.9
BOZC	Bozcaada	1.56	100	eP	Pn	20 09 48.5	-0.5
ATAL	Atalanti	1.64	210	P	Pn	20 09 49.0	-1.1
ATAL	Atalanti	1.64	210	P	Pn	20 09 49.0	-1.1
ATAL	Atalanti	1.64	210	P	Pn	20 09 49.0	-1.1
RZN	Rozhen	1.64	17	iP	Pn	20 09 49.7	-0.5
RZN	Rozhen	1.64	17	iP	Pn	20 09 49.7	-0.5
VAY	Valandovo	1.65	317	ePn	Pn	20 09 49.4	-0.9
VAY				eSn	Sn	20 10 13.8	+2.1
VAY	Valandovo	1.65	317	ePn	Pn	20 09 49.3	-1.0
VAY				eSn	Sn	20 10 13.7	+2.0
THL	Klokotos Trika	1.67	251	ePN	Pn	20 09 49.4	-1.2
THL				eSN	Sn	20 10 11.4	-0.8
THL	Klokotos Trika	1.67	251	P	Pn	20 09 49.6	-1.0
THL				S	Sn	20 10 12.2	0.0
THL	Klokotos Trika	1.67	251	P	Pn	20 09 49.6	-1.0
THL				eSn	Sn	20 10 11.4	-0.8
THL				S	Sn	20 10 12.2	0.0
LKR	Lokris	1.68	210	ePB	Pb	20 09 49.7	-2.5
LKR				eSN	Sn	20 10 12.6	+0.1
LKR	Lokris	1.68	210	P	Pn	20 09 49.5	-1.2
LKR				S	Sn	20 10 11.9	-0.6
LKR	Lokris	1.68	210	P	Pn	20 09 49.5	-1.2
LKR				S	Sn	20 10 11.9	-0.6
LKR	Lokris	1.68	210	ePb	Pn	20 09 49.5	-1.2
LKR				S	Sn	20 10 11.9	-0.6
LKR				eSn	Sn	20 10 12.6	+0.1
ERET	Eretria	1.69	187	P	Pn	20 09 50.0	-0.8
ERET				S	Sn	20 10 12.2	-0.4
ERET	Eretria	1.69	187	P	Pn	20 09 50.0	-0.8
ERET				S	Sn	20 10 12.2	-0.4
ALN	Alexandroupoli	1.70	62	ePN	Pn	20 09 49.8	-1.2
ALN	Alexandroupoli	1.70	62	P	Pn	20 09 50.8	-0.2
ALN				S	Sn	20 10 15.1	+2.1
ALN	Alexandroupoli	1.70	62	P	Pn	20 09 50.8	-0.2
ALN				S	Sn	20 10 15.1	+2.1
ALN	Alexandroupoli	1.70	62	P	Pn	20 09 50.8	-0.2
ALN				S	Sn	20 10 15.1	+2.1
ALN	Alexandroupoli	1.70	62	ePn	Pn	20 09 49.8	-1.2
ALN	Alexandroupoli	1.70	62	P	Pn	20 09 50.8	-0.2
ALN				S	Sn	20 10 15.1	+2.1
AGG	Agios Georgios	1.73	231	ePN	Pn	20 09 50.3	-1.1
AGG	Agios Georgios	1.73	231	P	Pn	20 09 50.4	-1.0
AGG				S	Sn	20 10 13.6	0.0
AGG	Agios Georgios	1.73	231	P	Pn	20 09 50.4	-1.0
AGG				S	Sn	20 10 13.6	0.0
AGG	Agios Georgios	1.73	231	P	Pn	20 09 50.4	-1.0
AGG				S	Sn	20 10 13.6	0.0
AGG	Agios Georgios	1.73	231	P	Pn	20 09 50.4	-1.0
AGG				S	Sn	20 10 13.6	0.0
KZN	Kozani	1.76	277	ePN	Pn	20 09 51.0	-0.8
KZN				eSN	Sn	20 10 14.0	-0.5
KZN	Kozani	1.76	277	P	Pn	20 09 51.1	-0.7
KZN				S	Sn	20 10 14.7	+0.2
KZN	Kozani	1.76	277	P	Pn	20 09 51.1	-0.7
KZN				S	Sn	20 10 14.7	+0.2
KZN	Kozani	1.76	277	P	Pn	20 09 51.1	-0.7
KZN				S	Sn	20 10 14.7	+0.2
KZN	Kozani	1.76	277	P	Pn	20 09 51.1	-0.7
KZN				eSn	Sn	20 10 14.0	-0.5
KZN				S	Sn	20 10 14.7	+0.2
KDZ	Kurdzhali	1.84	34	iP	Pn	20 09 51.4	-1.6
KDZ	Kurdzhali	1.84	34	iP	Pn	20 09 51.4	-1.6
MAKR	Makrakomi, Fth	1.85	234	P	Pn	20 09 52.6	-0.5
MAKR	Makrakomi, Fth	1.85	234	P	Pn	20 09 52.6	-0.5
MAKR	Makrakomi, Fth	1.85	234	P	Pn	20 09 52.6	-0.5
KKB	Krupnik	1.89	337	iPg	Pg	20 09 52.9	-0.8
KKB	Krupnik	1.89	337	iPg	Pg	20 09 52.9	-0.8
PRK	Paraskevi	1.92	116	ePN	Pn	20 09 53.8	-0.2
PRK	Paraskevi	1.92	116	P	Pn	20 09 54.8	+0.8
PRK				S	Sn	20 10 19.9	+1.6
PRK	Paraskevi	1.92	116	P	Pn	20 09 54.8	+0.8
PRK				S	Sn	20 10 19.9	+1.6
PRK	Paraskevi	1.92	116	P	Pn	20 09 54.8	+0.8
PRK				S	Sn	20 10 19.9	+1.6
PRK	Paraskevi	1.92	116	ePn	Pn	20 09 54.0	0.0
PRK	Paraskevi	1.92	116	P	Pn	20 09 54.8	+0.8
PRK				S	Sn	20 10 19.9	+1.6
PLD	Plovdiv	2.04	14	P	Pn	20 09 56.0	+0.3
PLD				S	Sn	20 10 23.2	+1.8
PLD	Plovdiv	2.04	14	P	Pn	20 09 56.0	+0.3
PLD				S	Sn	20 10 23.2	+1.8
PLD	Plovdiv	2.04	14	P	Pn	20 09 56.0	+0.3
PLD				S	Sn	20 10 23.2	+1.8
PLD	Plovdiv	2.04	14	iP	Pn	20 09 55.4	-0.3
PLD	Plovdiv	2.04	14	iP	Pn	20 09 55.4	-0.3
PLD				S	Sn	20 10 23.2	+1.8

PTL	Penteli	2.07 184	ePN	Pn	20 09 55.2	-0.9
PTL	Penteli	2.07 184	P	Pn	20 09 55.3	-0.8
PTL			S	Sn	20 10 23.0	+0.8
PTL	Penteli	2.07 184	P	Pn	20 09 55.3	-0.8
PTL			S	Sn	20 10 23.0	+0.8
PTL	Penteli	2.07 184	P	Pn	20 09 55.3	-0.8
PTL			S	Sn	20 10 23.0	+0.8
MRMA	Marmari	2.08 173	P	Pn	20 09 55.7	-0.5
MRMA	Marmari	2.08 173	P	Pn	20 09 55.7	-0.5
EVR	Evrytania	2.12 236	ePB	Pn	20 09 56.3	-0.4
EVR	Evrytania	2.12 236	P	Pn	20 09 56.6	-0.1
EVR			S	Sn	20 10 24.1	+0.9
EVR	Evrytania	2.12 236	P	Pn	20 09 56.6	-0.1
EVR			S	Sn	20 10 24.1	+0.9
EVR	Evrytania	2.12 236	ePb	Pn	20 09 56.3	-0.4
EVR	Evrytania	2.12 236	P	Pn	20 09 56.6	-0.1
EVR			S	Sn	20 10 24.1	+0.9
FNA	Florina	2.15 289	P	Pn	20 09 56.9	-0.3
FNA			S	Sn	20 10 24.9	+0.8
FNA	Florina	2.15 289	P	Pn	20 09 56.9	-0.3
FNA			S	Sn	20 10 24.9	+0.8
FNA	Florina	2.15 289	P	Pn	20 09 56.9	-0.3
FNA			S	Sn	20 10 24.9	+0.8
FNA	Florina	2.15 289	P	Pn	20 09 56.9	-0.3
FNA			S	Sn	20 10 24.9	+0.8
ATH	Athens Observa	2.16 187	ePN	Pn	20 09 56.4	-0.9
ATH			eSN	Sn	20 10 24.3	0.0
ATH	Athens Observa	2.16 187	P	Pn	20 09 56.9	-0.4
ATH			S	Sn	20 10 25.1	+0.8
ATH	Athens Observa	2.16 187	P	Pn	20 09 56.9	-0.4
ATH			S	Sn	20 10 25.1	+0.8
ATH	Athens Observa	2.16 187	P	Pn	20 09 56.9	-0.4
ATH			S	Sn	20 10 25.1	+0.8
ATH	Athens Observa	2.16 187	ePn	Pn	20 09 56.3	-1.0
ATH	Athens Observa	2.16 187	P	Pn	20 09 56.9	-0.4
ATH			eSn	Sn	20 10 24.8	+0.5
ATH			S	Sn	20 10 25.1	+0.8
AYVA	Ayvalik	2.19 111	*i* P	Pn	20 09 58.2	+0.5
AYVA	Ayvalik	2.19 111	*i* P	Pn	20 09 58.2	+0.5
DIM	Dimitrovgrad	2.23 30	*i* P	Pn	20 09 58.2	0.0
DIM	Dimitrovgrad	2.23 30	*i* P	Pn	20 09 58.2	0.0
BIA	Bitola	2.27 294	ePn	Pn	20 09 58.2	-0.6
BIA			eSn	Sn	20 10 28.2	+1.3
BIA	Bitola	2.27 294	ePn	Pn	20 09 58.2	-0.6
BIA			eSn	Sn	20 10 28.2	+1.2
VLY	Voula,Athens	2.27 185	ePN	Pn	20 09 58.0	-0.9
VLY	Voula,Athens	2.27 185	P	Pn	20 09 58.0	-0.9
VLY	Voula,Athens	2.27 185	P	Pn	20 09 58.0	-0.9
VLY	Voula,Athens	2.27 185	P	Pn	20 09 58.0	-0.9
KALE	Kalithea	2.28 221	P	Pn	20 09 58.3	-0.7
KALE	Kalithea	2.28 221	P	Pn	20 09 58.3	-0.7
KALE	Kalithea	2.28 221	P	Pn	20 09 58.3	-0.7
NEST	Nestorio	2.32 278	P	Pn	20 09 59.6	+0.1
NEST			S	Sn	20 10 29.2	+0.9
NEST	Nestorio	2.32 278	P	Pn	20 09 59.6	+0.1
NEST			S	Sn	20 10 29.2	+0.9
CHOS	Chios island	2.32 138	ePB	Pn	20 09 59.6	0.0
CHOS	Chios island	2.32 138	P	Pn	20 09 59.8	+0.2
CHOS	Chios island	2.32 138	ePb	Pn	20 09 59.8	+0.2
TRIZ	Trizonia	2.33 222	P	Pn	20 09 59.3	-0.4
TRIZ	Trizonia	2.33 222	P	Pn	20 09 59.3	-0.4
THAL	Thalero	2.35 208	P	Pn	20 09 59.1	-0.8
THAL			S	Sn	20 10 29.2	+0.3
THAL	Thalero	2.35 208	P	Pn	20 09 59.1	-0.8
THAL			S	Sn	20 10 29.2	+0.3
PGB	Panagyurishte	2.43 2	*i* P	Pn	20 09 59.9	-1.1
PGB	Panagyurishte	2.43 2	*i* P	Pn	20 09 59.9	-1.1
KRUS	Krusevo	2.47 301	ePn	Pn	20 10 00.7	-0.9
KRUS	Krusevo	2.47 301	ePn	Pn	20 10 00.7	-0.9
LAKA	Lakka	2.48 221	P	Pn	20 10 01.4	-0.3
LAKA	Lakka	2.48 221	P	Pn	20 10 01.4	-0.3
LAKA	Lakka	2.48 221	P	Pn	20 10 01.4	-0.3
JAN	Janina	2.51 260	ePN	Pn	20 10 01.9	-0.2
JAN	Janina	2.51 260	P	Pn	20 10 02.4	+0.3
JAN			S	Sn	20 10 34.6	+1.7
JAN	Janina	2.51 260	P	Pn	20 10 02.4	+0.3
JAN			S	Sn	20 10 34.6	+1.7
JAN	Janina	2.51 260	P	Pn	20 10 02.4	+0.3
JAN			S	Sn	20 10 34.6	+1.7
JAN	Janina	2.51 260	P	Pn	20 10 02.4	+0.3
JAN			S	Sn	20 10 34.6	+1.7
JAN	Janina	2.51 260	ePb	Pb	20 10 03.0	-3.4
JAN			S	Sn	20 10 34.6	+1.7
KBN	Korca	2.55 282	*i* PN	Pn	20 10 02.3	-0.3
KBN			*i* SN	Sn	20 10 27.7	-6.2
KBN	Korca	2.55 282	*i* Pn	Pn	20 10 02.3	-0.4
VTS	Vitosha	2.55 346	P	Pn	20 10 03.2	+0.5
VTS			S	Sn	20 10 36.0	+2.1
VTS	Vitosha	2.55 346	P	Pn	20 10 03.2	+0.5
VTS			S	Sn	20 10 36.0	+2.1
VTS	Vitosha	2.55 346	⇑P	Pn	20 10 02.8	+0.1
VTS			S	Sn	20 10 33.9	0.0
VTS	Vitosha	2.55 346	*i* P	Pn	20 10 02.7	0.0
VTS	Vitosha	2.55 346	⇑*i*P	Pn	20 10 02.8	+0.1
VTS	Vitosha	2.55 346	S	Sn	20 10 33.9	0.0
VTS	Vitosha	2.55 346	*i* P	Pn	20 10 02.7	0.0
VTS			S	Sn	20 10 33.9	0.0
SKO	Skopje	2.71 314	ePn	Pn	20 10 05.2	+0.3
SKO			eSn	Sg	20 10 48.3	+0.3
SKO	Skopje	2.71 314	ePn	Pn	20 10 05.2	+0.3
BALY	Balya	2.76 97	*i* P	Pn	20 10 08.3	+2.7
RLS	Riolos of Patr	2.88 225	P	Pn	20 10 06.7	-0.6
RLS			S	Sn	20 10 42.1	0.0
RLS	Riolos of Patr	2.88 225	P	Pn	20 10 06.7	-0.6
RLS			S	Sn	20 10 42.1	0.0
RLS	Riolos of Patr	2.88 225	P	Pn	20 10 06.7	-0.6
RLS			S	Sn	20 10 42.1	0.0
IGT	Igoumenitsa	2.93 260	P	Pn	20 10 11.0	+3.1
IGT			S	Sn	20 10 44.6	+1.3
IGT	Igoumenitsa	2.93 260	P	Pn	20 10 11.0	+3.1
IGT			S	Sn	20 10 44.6	+1.3
IGT	Igoumenitsa	2.93 260	P	Pn	20 10 11.0	+3.1
IGT			S	Sn	20 10 44.6	+1.3
JMB	Yambol	3.02 38	*i* Pg	Pg	20 10 17.6	-1.2
JMB	Yambol	3.02 38	*i* Pg	Pg	20 10 17.6	-1.2
SRN	Sarande	3.13 267	*i* PN	Pn	20 10 12.0	+1.4
SRN	Sarande	3.13 267	*i* Pn	Pn	20 10 12.0	+1.4
PHP	Peshkopia	3.16 301	*i* PN	Pg	20 10 22.2	+0.8
PHP			*i* SN	Sb	20 10 58.6	+2.7
PVL	Pavlikeni	3.24 17	*i* P	Pn	20 10 10.0	-2.1
PVL	Pavlikeni	3.24 17	*i* P	Pn	20 10 10.0	-2.1
SMG	Samos	3.24 137	ePN	Pn	20 10 12.1	-0.1
SMG	Samos	3.24 137	ePn	Pn	20 10 12.1	-0.1
MPEP	Malo Peshtene	3.24 356	*i* P	Pb	20 10 21.0	+2.2
APE	Apeiranthos	3.26 159	P	Pn	20 10 11.8	-0.6
APE	Apeiranthos	3.26 159	P	Pn	20 10 11.8	-0.6
APE	Apeiranthos	3.26 159	⇑P	Pn	20 10 11.8	-0.6
APE			S	Sn	20 10 48.7	-2.7
APE	Apeiranthos	3.26 159	⇑*i*P	Pn	20 10 11.8	-0.6
APE	Apeiranthos	3.26 159	S	Sn	20 10 48.7	-2.7
APE	Apeiranthos	3.26 159	P	Pn	20 10 11.8	-0.6
APE			S	Sn	20 10 48.7	-2.7
KEK	Kerkira	3.30 264	ePN	Pn	20 10 13.1	+0.1
KEK	Kerkira	3.30 264	P	Pn	20 10 14.9	+1.9
KEK	Kerkira	3.30 264	P	Pn	20 10 14.9	+1.9
KEK	Kerkira	3.30 264	P	Pn	20 10 14.9	+1.9
KEK	Kerkira	3.30 264	ePb	Pb	20 10 16.0	-3.8
ITM	Ithomi	3.38 210	ePN	Pn	20 10 14.2	+0.1
ITM	Ithomi	3.38 210	P	Pn	20 10 14.5	+0.4
ITM	Ithomi	3.38 210	P	Pn	20 10 14.5	+0.4
ITM	Ithomi	3.38 210	P	Pn	20 10 14.5	+0.4
ITM	Ithomi	3.38 210	ePn	Pn	20 10 15.2	+1.1
TIR	Tirane	3.41 292	*i* PN	Pn	20 10 16.1	+1.6
TIR			*i* SN	Sb	20 11 03.9	+0.5
TIR	Tirane	3.41 292	ePn	Pn	20 10 16.7	+2.2
TIR			eS	Sb	20 11 02.6	-0.8
TIR	Tirane	3.41 292	eP	Pn	20 10 16.7	+2.1
TIR			eS	Sb	20 11 02.6	-0.8
TIR	Tirane	3.41 292	eP	Pn	20 10 16.7	+2.1
DURS	Dursunbey	3.44 97	*i* P	Pn	20 10 16.0	+1.1
SZH	Strazhica	3.44 23	*i* P	Pn	20 10 14.6	-0.4
SZH	Strazhica	3.44 23	*i* P	Pn	20 10 14.6	-0.4
ZIMR		3.67 15	S	Sg	20 11 18.9	+0.2
PUK	Puka	3.69 303	*i* PN	Pn	20 10 18.8	+0.5
PUK			*i* SN	Sn	20 11 05.1	+3.1
PUK	Puka	3.69 303	*i* Pn	Pn	20 10 18.8	+0.5
PUK			*i* Sn	Sn	20 11 05.1	+3.1
BCI	Bajram Curri	3.75 308	*i* PN	Pn	20 10 19.6	+0.4
BCI			*i* SN	Sn	20 11 10.9	+7.3
BCI	Bajram Curri	3.75 308	*i* Pn	Pn	20 10 19.6	+0.4
AYDN	Tasoluk	3.86 128	*i* P	Pn	20 10 22.4	+1.7
AYDN	Tasoluk	3.86 128	*i* P	Pn	20 10 22.4	+1.7
ROIA	ROIAK	3.88 39	*i* P	Pn	20 10 21.4	+0.5
PVY	Plav	3.95 310	⇑*i*Pn	Pn	20 10 22.5	+0.5
PVY			eSn	Sn	20 11 08.6	+0.1
PVY	Plav	3.95 310	⇑*i*Pn	Pn	20 10 22.5	+0.5
PVY			eSn	Sn	20 11 08.6	+0.1
PRD	Provadia	3.97 38	*i* P	Pn	20 10 21.2	-0.9
PRD			*i* Pg	Pg	20 10 35.0	-2.0
PRD	Provadia	3.97 38	*i* P	Pn	20 10 21.2	-0.9
BOLS	Boljevac	4.02 338	ePn	Pn	20 10 21.0	-1.9
ULC	Ulcinj	4.08 298	⇑*i*Pn	Pn	20 10 24.8	+1.1
ULC			eSn	Sn	20 11 12.2	+0.6
ULC	Ulcinj	4.08 298	⇑*i*Pn	Pn	20 10 24.8	+1.1
ULC			eSn	Sn	20 11 12.2	+0.6
IVA	Berane	4.16 313	⇑*i*Pn	Pn	20 10 25.3	+0.5
IVA			eSn	Sn	20 11 13.8	+0.2
BEY	Berane	4.16 313	⇑*i*Pn	Pn	20 10 25.3	+0.4
BEY			eSn	Sn	20 11 13.8	+0.1
CRAR	CRAIOVA	4.21 357	⇑*i*P	Pg	20 10 43.7	+2.1
CRAR	CRAIOVA	4.21 357	S	Sg	20 11 35.2	-0.8
TTG	Podgorica	4.29 304	⇑*i*Pn	Pn	20 10 27.6	+1.0
TTG			eSn	Sn	20 11 17.5	+0.7
PDG	Podgorica	4.29 304	⇑*i*Pn	Pn	20 10 27.6	+1.0
PDG			eSn	Sn	20 11 17.5	+0.6
GDZ	Gediz	4.31 102	eP	Pn	20 10 25.7	-1.2
HUMR	Humele	4.46 9	⇑*i*P	Pn	20 10 28.5	-0.4
HUMR	Humele	4.46 9	⇑*i*P	Pn	20 10 28.5	-0.4
HUMR			S	Sn	20 11 20.0	-0.9
BUM	Brajici-Budva	4.46 301	⇓*i*Pn	Pn	20 10 29.6	+0.6
BUM			eSn	Sn	20 11 20.9	-0.2
BUM	Brajici-Budva	4.46 301	⇓*i*Pn	Pn	20 10 29.6	+0.6
BUM			eSn	Sn	20 11 20.9	-0.2
BUC1	Bucharest	4.47 18	S	Sn	20 11 18.8	-2.5
GRUS	Gruza	4.51 328	ePn	Pn	20 10 28.9	-0.8
KHAL	Karahalli	4.57 111	eP	Pn	20 10 31.9	+1.5
DNZL	Cakiroluk	4.59 120	eP	Pn	20 10 31.6	+1.0
DNZL	Cakiroluk	4.59 120	eP	Pn	20 10 31.6	+0.9
RMGR	Halanga-Turnu	4.65 348	⇓*i*P	Pn	20 10 30.8	-0.7
RMGR	Halanga-Turnu	4.65 348	S	Sg	20 11 50.1	-0.2
RMGR	Halanga-Turnu	4.65 348	⇓*i*P	Pn	20 10 30.8	-0.7
NKY	Niksic	4.66 307	⇑*i*Pn	Pn	20 10 32.8	+1.1
NKY			eSn	Sn	20 11 26.0	+0.1
NKY	Niksic	4.66 307	⇑*i*Pn	Pn	20 10 32.8	+1.1
NKY			eSn	Sn	20 11 26.0	+0.1
PSN	Preselentsi	4.71 40	*i* P	Pn	20 10 30.9	-1.4
PSN	Preselentsi	4.71 40	*i* P	Pn	20 10 30.9	-1.4
HCY	Herceg Novi	4.79 301	⇑*i*Pn	Pn	20 10 34.1	+0.6
HCY			eSn	Sn	20 11 29.1	-0.1
HCY	Herceg Novi	4.79 301	⇑*i*Pn	Pn	20 10 34.1	+0.6
HCY			eSn	Sn	20 11 29.1	-0.1
SULR		4.84 19	⇑*i*P	Pn	20 10 32.1	-2.0
SULR		4.84 19	⇑*i*P	Pn	20 10 32.1	-2.0
SULR			S	Sn	20 11 28.7	-1.6
UPM	Unac-Piva	4.94 310	⇑*i*Pn	Pn	20 10 36.1	+0.6
UPM			eSn	Sn	20 11 32.4	-0.4
UPM	Unac-Piva	4.94 310	⇑*i*Pn	Pn	20 10 36.1	+0.6
UPM			eSn	Sn	20 11 32.4	-0.4
BRY	Bratogost	4.99 306	⇓*i*Pn	Pn	20 10 37.4	+1.2
BRY			eSn	Sn	20 11 33.8	-0.2
BRY	Bratogost	4.99 306	⇓*i*Pn	Pn	20 10 37.4	+1.2
BRY			eSn	Sn	20 11 33.8	-0.2
DIVS	Divibare	4.99 324	ePn	Pn	20 10 35.8	-0.5
AMRR	Amara	5.10 27	⇓*i*P	Pb	20 10 48.3	-2.2
PE1	Pezze di Greco	5.11 280	ePn	Pn	20 10 38.0	+0.2
PE1			eSn	Sn	20 11 33.5	-3.5
CVD	Cernavoda	5.12 34	⇑P	Pn	20 10 38.6	+0.5
CVD	Cernavoda	5.12 34	⇑*i*P	Pn	20 10 38.6	+0.5
CVD	Cernavoda	5.12 34	P	Pn	20 10 38.6	+0.5
SIVA	Sivas	5.13 173	P	Pn	20 10 38.8	+0.7
SIVA	Sivas	5.13 173	P	Pn	20 10 38.8	+0.7
SIVA	Sivas	5.13 173	P	Pn	20 10 38.8	+0.7
SECR		5.13 16	⇓*i*P	Pn	20 10 39.2	+1.1
SECR		5.13 16	S	Sg	20 12 08.9	+3.2
SECR		5.13 16	⇓*i*P	Pn	20 10 39.2	+1.1
TAR1	Taranto	5.19 277	ePn	Pn	20 10 39.1	+0.1
PGOR	Pogoanele	5.25 23	S	Sg	20 12 13.9	+4.4
GVD	Gavdhos	5.27 180	ePn	Pn	20 10 45.4	+5.3
ISR	Istrita	5.32 19	⇑P	Pn	20 10 41.8	+1.1
ISR	Istrita	5.32 19	⇑*i*P	Pn	20 10 41.8	+1.1
ISR	Istrita	5.32 19	P	Pn	20 10 41.8	+1.1
GZR	Gura Zlata	5.35 350	P	Pn	20 10 43.8	+2.6
GZR	Gura Zlata	5.35 350	⇓*i*P	Pn	20 10 40.0	-1.2
GZR	Gura Zlata	5.35 350	S	Sg	20 12 09.0	-3.8
GZR	Gura Zlata	5.35 350	⇓*i*P	Pn	20 10 40.0	-1.2
VOIR		5.36	S	Sg	20 12 13.4	+0.2
TIRR	Tirgusor	5.41 35	ePn	Pn	20 10 41.6	-0.3
TIRR			eS	Sg	20 12 15.7	+1.2
TIRR	Tirgusor	5.41 35	⇓P	Pn	20 10 41.9	0.0
TIRR	Tirgusor	5.41 35	⇓*i*P	Pn	20 10 41.9	0.0
TIRR	Tirgusor	5.41 35	S	Sg	20 12 11.7	-2.8
TIRR	Tirgusor	5.41 35	ePn	Pn	20 10 41.6	-0.3
TIRR	Tirgusor	5.41 35	P	Pn	20 10 41.9	0.0
STON	Ston	5.51 302	*i* Pn	Pn	20 10 45.4	+2.0
STON			Sn	Sn	20 11 48.0	+1.2
STON	Ston	5.51 302	*i* Pn	Pn	20 10 45.3	+2.0
STON			Sn	Sn	20 11 48.0	+1.1
ISP	Isparta	5.54 112	Pn	Pn	20 10 44.8	+1.1
ISP	Isparta	5.54 112	P	Pn	20 10 44.8	+1.1
ISP	Isparta	5.54 112	P	Pn	20 10 44.8	+1.1
MLR	Muntele Rosu	5.54 14	Pn	Pn	20 10 45.0	+1.2
	0.7nm,0.3s,baz=174,slow=9.2,SNR=37					
MLR			Lg		20 12 22.1	
	2.1nm,0.3s,baz=105,slow=20,SNR=6.4					
MLR	Muntele Rosu	5.54 14	Pn	Pn	20 10 45.0	+1.2
MLR			Lg		20 12 22.1	
MLR	Muntele Rosu	5.54 14	P	Pn	20 10 45.0	+1.2
MLR	Muntele Rosu	5.54 14	⇓*i*P	Pn	20 10 45.3	+1.5
MLR	Muntele Rosu	5.54 14	S	Sg	20 12 21.0	+2.1
MLR	Muntele Rosu	5.54 14	P	Pn	20 10 45.0	+1.2
BAI	Bari	5.55 283	ePn	Pn	20 10 44.8	+0.9
TIP	Timpagrande	5.71 263	ePn	Pn	20 10 46.6	+0.4
TIP			eS	Sn	20 11 48.3	-3.6
TIP	Timpagrande	5.71 263	ePn	Pn	20 10 46.6	+0.5
BZS	Buzias	5.78 343	⇑P	Pn	20 10 45.6	-1.4
BZS	Buzias	5.78 343	⇑*i*P	Pn	20 10 45.6	-1.4
BZS	Buzias	5.78 343	S	Sg	20 12 22.9	-3.6
BZS	Buzias	5.78 343	P	Pn	20 10 45.6	-1.4
DEV	Deva	5.82 352	⇓P	Pn	20 10 48.1	+0.5
DEV	Deva	5.82 352	⇓*i*P	Pn	20 10 48.1	+0.5
DEV	Deva	5.82 352	S	Sn	20 11 52.0	-2.6
DEV	Deva	5.82 352	P	Pn	20 10 48.1	+0.5
AKAS	Kas	5.84 130	*i* P	Pn	20 10 52.8	+4.8
CFR	Carcaliu	5.88 29	⇓P	Pn	20 10 47.9	-0.5
CFR	Carcaliu	5.88 29	⇓*i*P	Pn	20 10 47.9	-0.5
CFR	Carcaliu	5.88 29	S	Sn	20 11 54.8	-1.2
CFR	Carcaliu	5.88 29	P	Pn	20 10 47.9	-0.5
TIM	Timisoara	5.99 341	S	Sg	20 12 37.0	+3.9
CDT	Castel del Mon	6.00 282	ePn	Pn	20 10 49.2	-0.9
MDB	Medias	6.02 2	⇓P	Pn	20 10 51.3	+0.9
MDB	Medias	6.02 2	⇓*i*P	Pn	20 10 51.3	+0.9
MDB	Medias	6.02 2	P	Pn	20 10 51.3	+0.9
PLOR	Plostina	6.03 17	⇑P	Pn	20 10 52.2	+1.7
PLOR	Plostina	6.03 17	⇑*i*P	Pn	20 10 52.2	+1.7
PLOR	Plostina	6.03 17	P	Pn	20 10 52.2	+1.7
PETR		6.06 22	⇑*i*P	Pn	20 10 52.3	+1.4
VRI	Vrincioaia	6.07 18	⇑P	Pn	20 10 52.4	+1.4
VRI			S	Sn	20 12 02.5	+1.9
VRI	Vrincioaia	6.07 18	⇑*i*P	Pn	20 10 52.4	+1.4
VRI	Vrincioaia	6.07 18	S	Sn	20 12 02.5	+1.9
VRI	Vrincioaia	6.07 18	P	Pn	20 10 52.4	+1.4
VRI			S	Sn	20 12 02.5	+1.9
TLCR		6.16 33	⇑P	Pn	20 10 52.4	+0.2
TLCR		6.16 33	⇑*i*P	Pn	20 10 52.4	+0.2
TLCR		6.16 33	P	Pn	20 10 52.4	+0.2
CUC	Castrocucco	6.33 271	ePn	Pn	20 10 54.7	+0.2
CUC			eS	Sn	20 12 08.1	+1.1
CUC	Castrocucco	6.33 271	ePn	Pn	20 10 54.7	+0.1
CUC			eS	Sn	20 12 08.1	+1.1
TESR		6.66 16	⇓*i*P	Pn	20 10 59.6	+0.5
DRGR		6.74 352	⇑P	Pn	20 10 59.6	-0.6
DRGR		6.74 352	⇑*i*P	Pn	20 10 59.6	-0.6
DRGR		6.74 352	S	Sn	20 12 15.7	-1.5
DRGR		6.74 352	P	Pn	20 10 59.6	-0.6
RHK3	Tenkes	7.16 325	⇑*i*P	Pn	20 11 05.4	-0.6
PKSM	Moragy	7.26 329	⇓P	Pn	20 11 06.3	-1.1
PKSM	Moragy	7.26 329	⇓*i*P	Pn	20 11 06.3	-1.1
PKSM	Moragy	7.26 329	S	Sn	20 12 25.0	-5.0
PKSM	Moragy	7.26 329	P	Pn	20 11 06.3	-1.1
PKS2	Kecel	7.28 333	⇑*i*P	Pn	20 11 06.8	-0.9
BR131	Keskin Array S	7.38 90	*e*Pn	Pn	20 11 09.9	+0.9
BR131	Keskin Array S	7.38 90	*e*Pn	Pn	20 11 09.9	+0.9
BRTR	Keskin Array B	7.38 90	Pn	Pn	20 11 09.3	+0.4
	1.7nm,0.3s,baz=271,slow=12,SNR=29					
BRTR			Sn	Sn	20 12 32.0	-0.8
	0.2nm,0.3s,baz=267,slow=17,SNR=2.9					
BRTR			LR	LR	20 14 12.2	
	comp=Z,146nm,21.7s,baz=287,slow=39					
BRTR	Keskin Array B	7.38 90	Pn	Pn	20 11 09.3	+0.4
BRTR			Sn	Sn	20 12 32.0	-0.8
BRTR	Keskin Array B	7.38 90	*i* P	Pn	20 11 09.6	+0.6
BRTR			pmax	pmax		
	comp=Z,4.0nm,0.4s					
BRTR	Keskin Array B	7.38 90	Pn	Pn	20 11 09.3	+0.3
BRTR	Keskin Array B	7.38 90	*i* P	Pn	20 11 09.6	+0.6
	comp=Z,4.0nm,0.4s					
BRTR			Sn	Sn	20 12 32.0	-0.8
PRAR	RASCA	7.41 12	⇑*i*P	Pn	20 11 10.6	+1.2
PKSN	Nyarlorinc	7.43 337	⇑*i*P	Pn	20 11 08.1	-1.5
BURAR	Bucovina Array	7.54 6	⇓P	Pn	20 11 11.5	+0.3
BURAR	Bucovina Array	7.54 6	⇓*i*P	Pn	20 11 11.5	+0.3
BUR08	Bucovina Ar. S	7.57 6	*e*Pn	Pn	20 11 11.3	-0.3
BUR08	Bucovina Ar. S	7.57 6	*e*Pn	Pn	20 11 11.3	-0.3
KIS	Kishinev	7.69 25	*e*	Px	20 11 26.0	
KIS			LRM		20 14 08.0	
	comp=Z,900nm,16.0s					
TRPA	Tarpa	8.08 353	⇓*i*P	Pn	20 11 19.8	+1.2
TRPA	Tarpa	8.08 353	S	Sx	20 13 37.5	
NVLJ	Novalja	8.12 306	ePn	Pn	20 11 18.2	-1.0
NVLJ			Sn	Sn	20 12 50.3	-0.9
NVLJ	Novalja	8.12 306	Sn	Sx	20 13 44.0	
NVLJ	Novalja	8.12 306	ePn	Pn	20 11 18.2	-1.0
NVLJ			Sn	Sn	20 12 50.3	-0.9
BEHE	Becsehely	8.27 322	⇓*i*P	Pn	20 11 21.7	+0.4
AQU	L'Aquila	8.33 289	ePn	Pn	20 11 26.1	+4.0
AQU	L'Aquila	8.33 289	eP	Pn	20 11 26.1	+4.0
PSZ	Piszkesteto	8.35 340	ePn	Pn	20 11 23.9	+1.6
PSZ	Piszkesteto	8.35 340	eP	Pn	20 11 23.9	+1.6
PSZ	Piszkesteto	8.35 340	⇑*e*	Pn	20 11 20.6	-1.7
PSZ	Piszkesteto	8.35 340	⇑*i*P	Pn	20 11 18.4	-3.9
PSZ	Piszkesteto	8.35 340	eP	Pn	20 11 23.9	+1.6
GOLS	Golise	8.53 316	*i* Pn	Pn	20 11 24.9	+0.1
UZH	Uzhgorod	8.60 352	eP	Pn	20 11 27.3	+1.5
UZH			eS	Sn	20 13 04.5	+1.6
UZH			MLR	MLR		
	comp=N,2μm,10.0s					
UZH			MLR	MLR		
	comp=E,1μm,10.0s					
UZH			MLR	MLR		
	comp=Z,1μm,10.0s					
UZH	Uzhgorod	8.60 352	eP	Pn	20 11 27.3	+1.5
UZH			eS	Sn	20 13 04.5	+1.6
WDD	Wield Dalam	8.64 244	ePn	Pn	20 11 26.3	0.0
WDD	Wield Dalam	8.64 244	ePn	Pn	20 11 26.3	-0.1
LEGS	Legarje	8.65 315	*i* Pn	Pn	20 11 27.5	+1.1
KECS	Kecovo	8.74 344	eP	Pn	20 11 26.1	-1.6
KECS	Kecovo	8.74 344	ePN	Pn	20 11 26.1	-1.6
KECS			*e*		20 11 34.1	
KECS	Kecovo	8.74 344	eSG	Sx	20 13 59.6	
KECS	Kecovo	8.74 344	eP	Pn	20 11 26.1	-1.6
VISS	Visnje	8.82 313	ePn	Pn	20 11 29.1	+0.3
KOLS	Kolonicke sedl	8.90 352	eP	Pn	20 11 33.9	+4.0
KOLS	Kolonicke sedl	8.90 352	ePN	Pn	20 11 33.9	+4.0
KOLS	Kolonicke sedl	8.90 352	eSG	Sx	20 14 06.3	
CRVS	Cervenica-Dubn	8.97 349	eP	Pn	20 11 30.7	-0.1
CRVS	Cervenica-Dubn	8.97 349	ePN	Pn	20 11 30.7	-0.1
CRVS	Cervenica-Dubn	8.97 349	eP	Pn	20 11 30.7	-0.1
VYHS	V

comp=Z,1.0nm,0.3s
AKASG **Malin Array Be** 11.18 17 Pn Pn 20 11 58.9 -2.2
AKASG **Malin Array Be** 11.18 17 *i* P Pn 20 11 59.5 -1.6
comp=Z,1.0nm,0.3s
MALT **Malatya** 11.29 95 P Pn 20 12 12.1 +9.4
GERES **GERESS Array B** 11.43 323 Pn Pn 20 12 04.5 +0.1
comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=19
GERES Sn Sn 20 14 11.4 -0.9
comp=Z,0.2nm,0.3s,baz=141,slow=18,SNR=2.9
GERES LR LR 20 16 50.7
comp=Z,434nm,21.2s,baz=130,slow=40
GERES **GERESS Array B** 11.43 323 Pn Pn 20 12 04.5 +0.1
GERES Sn Sn 20 14 11.3 -0.9
GERES **GERESS Array B** 11.43 323 P Pn 20 12 04.6 +0.2
GERES 20 14 11.4
GERES **GERESS Array B** 11.43 323 P Pn 20 12 04.6 +0.2
GERES S Sn 20 14 11.4 -0.8
MMAI **Mount Meron Ar** 11.55 124 Pn Pn 20 12 07.1 +0.9
comp=Z,0.8nm,0.3s,baz=316,slow=11,SNR=5.2
MMAI LR LR 20 17 32.5
comp=Z,180nm,19.7s,baz=310,slow=43
MMAI **Mount Meron Ar** 11.55 124 Pn Pn 20 12 07.1 +0.9
MMAI **Mount Meron Ar** 11.55 124 Pn Pn 20 12 07.1 +0.9
WATA **Walderalm** 11.55 313⇑ *i*Pn Pn 20 12 05.9 -0.2
SNR=9.1
WATA **Walderalm** 11.55 313⇑ *i*Pn Pn 20 12 05.9 -0.2
WATA **Walderalm** 11.55 313⇑ *i*P Pn 20 12 05.9 -0.2
WATA **Walderalm** 11.55 313 *i* P Pn 20 12 05.9 -0.2
DPC **Dobruska-Polom** 11.58 335 *e*P Pn 20 12 08.0 +1.4
DPC MLR MLR
comp=Z,900nm,6.2s
DPC **Dobruska-Polom** 11.58 335 *e*P Pn 20 12 08.0 +1.4
DPC *ex* x 20 12 20.3
DPC AMS AMS 20 17 30.0
comp=Z,900nm,6.2s
DPC **Dobruska-Polom** 11.58 335 *e*P Pn 20 12 08.0 +1.4
comp=Z,900nm,6.2s
KHC **Kasperske Hory** 11.69 324 *e*Pn Pn 20 12 08.8 +0.8
KHC **Kasperske Hory** 11.69 324 *e*P Pn 20 12 10.5 +2.5
KHC *e* 20 14 24.0
KHC MLR MLR
comp=Z,1μm,10.0s
KHC **Kasperske Hory** 11.69 324 *e*P Pn 20 12 10.5 +2.5
KHC *ex* x 20 12 21.2
KHC *ex* x 20 12 27.5
KHC *ex* x 20 14 12.0
KHC *e*S Sn 20 14 24.0 +5.3
KHC AMS AMS 20 16 50.0
comp=Z,1μm,10.0s
KHC **Kasperske Hory** 11.69 324 *e*Pn Pn 20 12 08.8 +0.8
KHC **Kasperske Hory** 11.69 324 *e*P Pn 20 12 10.5 +2.5
FETA **Feichten** 11.87 310⇓ *i*Pn Pn 20 12 10.3 -0.2
SNR=9.8
FETA **Feichten** 11.87 310⇓ *i*Pn Pn 20 12 10.3 -0.2
FETA **Feichten** 11.87 310⇓ *i*Pn Pn 20 12 10.3 -0.2
PRU **Pruhonice** 11.93 329 *e*P Pn 20 12 13.1 +1.8
PRU MLR MLR
comp=Z,1μm,6.8s
PRU **Pruhonice** 11.93 329 *e*P Pn 20 12 13.1 +1.8
PRU *ex* x 20 12 21.8
PRU AMS AMS 20 16 50.0
comp=Z,1μm,6.8s
PRU **Pruhonice** 11.93 329 *e*P Pn 20 12 13.1 +1.8
comp=Z,1μm,6.8s
FUORN **Ofenpass-Fuorn** 11.95 307 *e*Pn Pn 20 12 11.5 -0.1
FUORN **Ofenpass-Fuorn** 11.95 307 *e*Pn Pn 20 12 11.5 -0.1
KSP **Ksiaz** 12.02 336 *e*P Pn 20 12 16.1 +3.6
KSP **Ksiaz** 12.02 336 *e*P Pn 20 12 16.1 +3.6
DAVOX **Davos/Dischmat** 12.26 308 Pn Pn 20 12 16.1 +0.3
comp=Z,0.7nm,0.3s,baz=118,slow=17,SNR=9.9
DAVOX Sn Sn 20 14 34.4 +1.8
comp=Z,0.1nm,0.3s,baz=280,slow=18,SNR=2.5
DAVOX LR LR 20 16 40.0
comp=Z,316nm,19.8s,baz=113,slow=36
DAVOX **Davos/Dischmat** 12.26 308 Pn Pn 20 12 16.1 +0.3
DAVOX Sn Sn 20 14 34.4 +1.8
DAVOX **Davos/Dischmat** 12.26 308 P Pn 20 12 16.1 +0.3
DAVOX 20 14 34.4
DAVOX **Davos/Dischmat** 12.26 308 P Pn 20 12 16.1 +0.3
DAVOX S Sn 20 14 34.4 +1.8
PVCC **Panska Ves** 12.35 331 AMS AMS 20 17 00.0
comp=Z,900nm,8.4s
KEST **Kesra** 12.41 254 Pn Pn 20 12 18.2 +0.2
comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=7.9
KEST Sn Sn 20 14 36.1 -0.4
comp=Z,0.1nm,0.3s,baz=324,slow=19,SNR=4.0
KEST **Kesra** 12.41 254 Pn Pn 20 12 18.2 +0.2
KEST *e*P 20 12 20.0
KEST Sn Sn 20 14 36.1 -0.4
KEST **Kesra** 12.41 254 Pn Pn 20 12 18.2 +0.2
KEST **Kesra** 12.41 254 *e*P Pn 20 12 20.0 +2.0
TUE **Stuetta** 12.45 305 *e*Pn Pn 20 12 18.1 -0.3
TUE **Stuetta** 12.45 305 *e*Pn Pn 20 12 18.1 -0.3
BRG **Berggiesshubel** 12.87 330 *e*P Px 20 12 36.4
comp=Z,4.7nm,1.1s
BRG **Berggiesshubel** 12.87 330 *e*P Px 20 12 36.4
BRG pmax pmax
comp=Z,5.0nm,1.1s
ASF **Jabal al Asfar** 13.05 123 LR LR 20 18 39.0
comp=Z,117nm,18.5s,baz=350,slow=43
MBDF **Montbardon** 13.57 295 *e*P Pn 20 12 22.5 -11
comp=Z,24nm,0.9s
MBDF **Montbardon** 13.57 295 *e*P Pn 20 12 22.5 -11
MBDF **Montbardon** 13.57 295 *e*P Pn 20 12 22.5 -11
CLL **Collm** 13.58 329 *e*P Pn 20 12 40.0 +6.2
CLL **Collm** 13.58 329 *e*(PP) 20 12 40.0
CLL *e* 20 14 32.0
STU **Stuttgart** 13.68 314 Pn Pn 20 12 34.1 -1.0
STU **Stuttgart** 13.68 314 P Pn 20 12 34.1 -1.1
STU **Stuttgart** 13.68 314 P Pn 20 12 34.1 -1.1
SENIN **Lac Senin/Sane** 13.71 303 *e*Pn Pn 20 12 38.7 +3.1
BNI **Bardonecchia** 13.71 297 *e*Pn Pn 20 12 36.7 +0.9
BNI **Bardonecchia** 13.71 297 *e*P Pn 20 12 36.7 +1.0
BNI **Bardonecchia** 13.71 297 *e*P Pn 20 12 36.7 +1.0
LPG **La Plagne** 13.79 299 *e*P Pn 20 12 26.2 -11
comp=Z,52nm,1.1s
LPG **La Plagne** 13.79 299 *e*P Pn 20 12 26.2 -11
LPG **La Plagne** 13.79 299 *e*P Pn 20 12 26.2 -11
LPL **La Plagne** 13.81 299 *e*P Pn 20 12 26.6 -10
comp=Z,106nm,1.5s
LPL **La Plagne** 13.81 299 *e*P Pn 20 12 26.6 -10
LPL **La Plagne** 13.81 299 *e*P Pn 20 12 26.6 -10
SUW **Suwalki** 13.91 358 *e*P Pn 20 12 45.8 +7.5
SUW **Suwalki** 13.91 358 *e*Pn Pn 20 12 45.7 +7.4
SUW **Suwalki** 13.91 358 *e*P Pn 20 12 45.8 +7.5
ORIF **Oris-en-Rattie** 14.23 296 *e*P Pn 20 12 34.8 -8.0
comp=Z,80nm,1.5s
ORIF *e*R
comp=Z,339nm,20.8s
ORIF **Oris-en-Rattie** 14.23 296 *e*P Pn 20 12 34.8 -8.0
comp=Z,80nm,1.5s
ORIF **Oris-en-Rattie** 14.23 296 *e*P Pn 20 12 34.8 -8.0
ORIF pmax pmax
comp=Z,81nm,1.5s
KIV **Kislovodsk** 14.36 68⇑ *e*P Pn 20 12 44.7 +0.2
KIV pmax pmax
comp=Z,23nm,2.5s
KIV MLR MLR
comp=Z,100nm,17.0s
HINF **Hinteralfeld** 14.56 308 *e*P Pn 20 12 37.6 -10
comp=Z,57nm,1.5s
HINF **Hinteralfeld** 14.56 308 *e*P Pn 20 12 37.6 -10
HINF **Hinteralfeld** 14.56 308 *e*P Pn 20 12 37.6 -10
CDF **Champ du Feu** 14.58 310 *e*P Pn 20 12 44.8 -2.7
comp=Z,14nm,1.0s
CDF **Champ du Feu** 14.58 310 *e*P Pn 20 12 44.8 -2.7
comp=Z,14nm,1.0s
CDF **Champ du Feu** 14.58 310 *e*P Pn 20 12 44.8 -2.7
CDF pmax pmax
comp=Z,14nm,1.0s
HAU **Haudompre** 14.95 308 *e*P Pn 20 12 49.1 -3.5
comp=Z,14nm,0.9s
HAU *e*R
comp=Z,400nm,22.5s
HAU **Haudompre** 14.95 308 *e*P Pn 20 12 49.1 -3.5
comp=Z,14nm,0.9s
HAU **Haudompre** 14.95 308 *e*P Pn 20 12 49.1 -3.5
HAU pmax pmax
comp=Z,14nm,0.9s
VSR **Storozhevoye** 15.28 38 *e*P Pn 20 12 55.2 -1.8
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
GNI **Garni** 15.82 83 LR LR 20 19 17.6
comp=Z,115nm,20.0s,baz=279,slow=38
GNI **Garni** 15.82 83⇑ *e*P Pn 20 13 03.7 -0.4
GNI pmax pmax
comp=Z,17nm,1.7s
MEZF **Maizieres J'vi** 15.95 308 *e*P Pn 20 12 59.5 -6.1
comp=Z,61nm,1.4s
MEZF **Maizieres J'vi** 15.95 308 *e*P Pn 20 12 59.5 -6.1
comp=Z,61nm,1.4s
SMF **Signal de Mont** 16.06 301 *e*P Pn 20 13 02.0 -5.1
comp=Z,52nm,1.3s
SMF **Signal de Mont** 16.06 301 *e*P Pn 20 13 02.0 -5.1
comp=Z,52nm,1.3s
SMF **Signal de Mont** 16.06 301 *e*P Pn 20 13 02.0 -5.1
SMF pmax pmax
comp=Z,52nm,1.3s
LOR **Lormes** 16.24 303 *e*P Pn 20 13 03.8 -5.6
comp=Z,32nm,1.1s
LOR *e*R
comp=Z,330nm,17.8s
LOR **Lormes** 16.24 303 *e*P Pn 20 13 03.8 -5.6
comp=Z,32nm,1.1s
LOR **Lormes** 16.24 303 *e*P Pn 20 13 03.8 -5.6
LOR pmax pmax
comp=Z,32nm,1.1s
SSF **Saint Saulge** 16.40 302 *e*P Pn 20 13 07.3 -4.2
comp=Z,14nm,0.9s
SSF **Saint Saulge** 16.40 302 *e*P Pn 20 13 07.3 -4.2
comp=Z,14nm,0.9s
SSF **Saint Saulge** 16.40 302 *e*P Pn 20 13 07.3 -4.2
SSF pmax pmax
comp=Z,14nm,0.9s
MEM **Membach** 16.41 316 P Pn 20 13 15.2 +3.6
comp=Z,14nm,1.6s
AVF **Avril sur Loir** 16.42 301 *e*P Pn 20 13 06.7 -5.0
comp=Z,40nm,1.1s
AVF **Avril sur Loir** 16.42 301 *e*P Pn 20 13 06.7 -5.0
comp=Z,40nm,1.1s
AVF **Avril sur Loir** 16.42 301 *e*P Pn 20 13 06.7 -5.0
AVF pmax pmax
comp=Z,40nm,1.1s
VRHR **Novokhopersk** 16.43 42 *e*P Pn 20 13 12.6 +0.8
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,9.0nm,0.6s
VRHR **Novokhopersk** 16.43 42 *e*P Pn 20 13 12.6 +0.8
BGF **Bois d'Agland** 16.70 300 *e*P Pn 20 13 05.3 -10
comp=Z,39nm,1.1s
BGF **Bois d'Agland** 16.70 300 *e*P Pn 20 13 05.3 -10
BGF **Bois d'Agland** 16.70 300 *e*P Pn 20 13 05.3 -10
CAF **Calviac** 16.89 294 *e*P Pn 20 13 12.4 -5.3
comp=Z,60nm,1.3s
CAF **Calviac** 16.89 294 *e*P Pn 20 13 12.4 -5.3
comp=Z,60nm,1.3s
CAF **Calviac** 16.89 294 *e*P Pn 20 13 12.4 -5.3
CAF pmax pmax
comp=Z,60nm,1.3s
TCF **Toulx Ste Croi** 17.05 298 *e*P Pn 20 13 11.7 -8.0
TCF **Toulx Ste Croi** 17.05 298 *e*P Pn 20 13 11.7 -8.0
TCF **Toulx Ste Croi** 17.05 298 *e*P Pn 20 13 11.7 -8.0
OBN **Obninsk** 17.17 25 *e*Pn Pn 20 13 19.0 -2.0
comp=Z,22nm,0.9s
OBN **Obninsk** 17.17 25⇓ *i*P Pn 20 13 19.4 -1.7
OBN pmax pmax
comp=Z,63nm,2.5s
OBN MLR MLR
comp=Z,200nm,12.0s
OBN **Obninsk** 17.17 25 *e*Pn Pn 20 13 19.0 -2.1
comp=Z,22nm,0.9s
RJF **Les Rejaudoux** 17.34 295 *e*P Pn 20 13 14.4 -8.9
comp=Z,54nm,1.4s
RJF *e*R
comp=Z,217nm,22.0s
RJF **Les Rejaudoux** 17.34 295 *e*P Pn 20 13 14.4 -8.9
comp=Z,54nm,1.4s
RJF **Les Rejaudoux** 17.34 295 *e*P Pn 20 13 14.4 -8.9
RJF pmax pmax
comp=Z,54nm,1.4s
BHD **Baghdad** 17.66 106 *ex* x 20 13 20.5
BHD *ex* x 20 16 33.5
LFF **La Frestale** 17.83 293 *e*P Pn 20 13 22.2 -7.2
comp=Z,143nm,1.5s
LFF **La Frestale** 17.83 293 *e*P Pn 20 13 22.2 -7.2
comp=Z,143nm,1.5s
LFF **La Frestale** 17.83 293 *e*P Pn 20 13 22.2 -7.2
LFF pmax pmax
comp=Z,143nm,1.5s
MOS **Moscow** 18.02 25 *e*P Pn 20 13 32.0 +0.3
MOS pmax pmax
comp=Z,53nm,1.2s
MOS **Moscow** 18.02 25 *e*P Pn 20 13 32.0 +0.3
comp=Z,53nm,1.2s
VSU **Vasula** 18.44 4 *ce*P Pn 20 13 37.0 +0.2
VSU pmax pmax
comp=Z,59nm,1.7s
VSU **Vasula** 18.44 4 *e*P Pn 20 13 37.0 +0.2
comp=Z,59nm,1.7s
PUL **Pulkovo** 20.06 9 *de*P P 20 13 52.6 -1.8
PUL pmax pmax
comp=Z,34nm,0.4s
PUL **Pulkovo** 20.06 9 *e*P P 20 13 52.6 -1.8
comp=Z,34nm,0.4s
HFS **Hagfors** 21.06 345 P P 20 14 03.0 -2.2
comp=Z,6.9nm,0.7s,mb4.1,baz=153,slow=13,SNR=12
HFS LR LR 20 23 23.1
comp=Z,286nm,20.4s,MS3.6,baz=94,slow=40
HFS **Hagfors** 21.06 345 P P 20 14 03.0 -2.2
HFS **Hagfors** 21.06 345 P P 20 14 03.0 -2.3
HFS **Hagfors** 21.06 345 P P 20 14 03.0 -2.3
FINES **FINESS Array B** 21.39 3 P P 20 14 07.3 -1.4
comp=Z,6.3nm,0.8s,mb4.0,baz=188,slow=8.4,SNR=12
FINES LR LR 20 23 07.5
comp=Z,793nm,18.6s,MS4.1,baz=146,slow=39
FINES **FINESS Array B** 21.39 3 P P 20 14 07.3 -1.4
FINES **FINESS Array B** 21.39 3 P P 20 14 07.4 -1.4
FINES **FINESS Array B** 21.39 3 P P 20 14 07.4 -1.4
ESDC **Sonseca Array** 21.47 278 P P 20 14 08.9 -1.0
comp=Z,10nm,1.0s,mb4.1,baz=70,slow=8.9,SNR=19
ESDC **Sonseca Array** 21.47 278 P P 20 14 08.9 -1.0
ESDC **Sonseca Array** 21.47 278 P P 20 14 08.9 -1.0
ESLA **Sonseca Array** 21.47 278 *e*P P 20 14 10.0 0.0
ESLA **Sonseca Array** 21.47 278 *e*P P 20 14 10.0 +0.1
KONO **Kongsberg** 21.56 340 *e*P P 20 14 10.2 -0.5
comp=Z,20nm,1.1s,mb4.5
KONO **Kongsberg** 21.56 340 *e*P P 20 14 10.2 -0.5
KONO pmax pmax
comp=Z,20nm,1.1s,mb4.5
KONO **Kongsberg** 21.56 340 *e*P P 20 14 10.2 -0.5
comp=Z,20nm,1.1s,mb4.5
KAF **Kangasniemi** 22.07 3 *e*P P 20 14 14.4 -1.7
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
KAF **Kangasniemi** 22.07 3 *ep* P 20 14 14.4 -1.7
comp=Z,7.4nm,0.7s,mb4.2
KAF **Kangasniemi** 22.07 3 *e*P P 20 14 14.4 -1.7
comp=Z,7.0nm,0.7s,mb4.2
NAO01 **NORSAR Array S** 22.29 343 *e*P P 20 14 17.6 -0.9
comp=Z,15nm,0.7s,mb4.5
NAO01 **NORSAR Array S** 22.29 343 *e*P P 20 14 17.6 -0.9
comp=Z,15nm,0.7s,mb4.5
NB2 **NORSAR Subarra** 22.39 344 P P 20 14 17.9 -1.7
comp=Z,17nm,1.1s,mb4.4,baz=153,slow=11
NB2 **NORSAR Subarra** 22.39 344 P P 20 14 17.9 -1.7
comp=Z,17nm,1.1s,mb4.4,baz=153,slow=11,SNR=0.2
NOA **NORSAR Array B** 22.39 344 P P 20 14 18.0 -1.6
comp=Z,8.0nm,0.9s,mb4.2,baz=151,slow=9.7,SNR=21
NOA LR LR 20 22 36.1
comp=Z,151nm,18.4s,MS3.5,baz=180,slow=36
NOA **NORSAR Array B** 22.39 344 P P 20 14 18.0 -1.6
NOA **NORSAR Array B** 22.39 344 P P 20 14 18.0 -1.6
NOA **NORSAR Array B** 22.39 344 P P 20 14 18.0 -1.6
KLMR **Klimovskoe** 22.85 20 *e*P P 20 14 21.3 -3.2
KLMR pmax pmax
comp=Z,48nm,1.6s,mb4.7
JOF **Joensuu** 23.24 8 *e*P P 20 14 27.3 -1.2
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
JOF **Joensuu** 23.24 8 *ep* P 20 14 27.3 -1.2
comp=Z,4.6nm,0.7s,mb4.0
JOF **Joensuu** 23.24 8 *e*P P 20 14 27.3 -1.2
comp=Z,5.0nm,0.7s,mb4.0
TAM **Tamanrasset** 23.34 228 *e*P P 20 14 32.1 +2.2
comp=Z,10nm,1.1s,mb4.2
TAM **Tamanrasset** 23.34 228 *e*P P 20 14 32.1 +2.2
TAM pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
TAM **Tamanrasset** 23.34 228 *e*P P 20 14 32.1 +2.2
comp=Z,10nm,1.1s,mb4.2
MVO **Moncorvo** 23.55 283 *e*P P 20 14 31.3 -0.7
comp=Z,48nm,1.8s,mb4.6
MVO **Moncorvo** 23.55 283 *e*P P 20 14 31.3 -0.7
comp=Z,48nm,1.8s,mb4.6
ESK **Eskdalemuir** 23.61 319 *e*P P 20 14 30.5 -1.8
comp=Z,18nm,0.9s,mb4.5
ESK **Eskdalemuir** 23.61 319 *i* P P 20 14 33.2 +0.8
ESK **Eskdalemuir** 23.61 319 *i* P P 20 14 33.2 +0.8
PCBR **Castelo Branco** 24.11 280 *e*P P 20 14 37.1 0.0
PCBR **Castelo Branco** 24.11 280 *e*P P 20 14 37.1 0.0
PMTG **Montargil** 24.83 278 *e*P P 20 14 42.1 -1.6
comp=Z,52nm,1.4s,mb4.9
PMTG **Montargil** 24.83 278 *e*P P 20 14 42.1 -1.6
comp=Z,52nm,1.4s,mb4.9
AKTK **Aktyubinsk** 25.82 55 P P 20 14 52.7 +0.2
AKTO **Aktyubinsk** 25.82 55 P P 20 14 52.7 +0.2
comp=Z,2.6nm,0.9s,mb3.7,baz=245,slow=14,SNR=5.8
AKTO LR LR 20 28 02.9
comp=Z,150nm,20.3s,MS3.5,baz=125,slow=44
AKTO **Aktyubinsk** 25.82 55 P P 20 14 52.7 +0.2
AKTO **Aktyubinsk** 25.82 55 P P 20 14 52.7 +0.2
AKTO **Aktyubinsk** 25.82 55 P P 20 14 52.7 +0.2
ARU **Arti** 27.78 42 *c i*P P 20 15 10.2 +0.1
ARU 20 15 52.9
ARU S S 20 19 53.7 +0.8
ARU SS 20 21 05.1
ARU pmax pmax
comp=Z,17nm,1.7s,mb4.4
ARU **Arti** 27.78 42 *i* P P 20 15 10.2 +0.1
comp=Z,17nm,1.7s,mb4.4
ARU S S 20 19 53.7 +0.8
ARCES **ARCESS Array B** 29.49 1 LR LR 20 27 23.9
comp=Z,651nm,18.4s,MS4.3,baz=315,slow=37
TORD **Torodi Ar. Bea** 33.29 222 P P 20 15 58.7 -0.5
comp=Z,4.3nm,0.6s,mb4.5,baz=31,slow=9.2,SNR=17
TORD PcP PcP 20 18 40.3 -1.1
comp=Z,1.1nm,0.7s,baz=25,slow=3.1,SNR=4.7
TORD LR LR 20 29 04.8
comp=Z,85nm,19.8s,MS3.5,baz=100,slow=36
TORD **Torodi Ar. Bea** 33.29 222 P P 20 15 58.7 -0.5
TORD PcP PcP 20 18 40.3 -1.1
TORD **Torodi Ar. Bea** 33.29 222 P P 20 15 58.7 -0.5
BRVK **Borovoye** 33.70 52 *e*P P 20 16 01.7 -0.7
comp=Z,3.5nm,1.0s,mb4.2
BRVK **Borovoye** 33.70 52 *c i*P P 20 16 04.1 +1.7
BRVK pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
BRVK **Borovoye** 33.70 52 *e*P P 20 16 01.7 -0.7
comp=Z,3.5nm,1.0s,mb4.2
BVAR **Borovoye Array** 33.76 52 P P 20 16 03.8 +0.9
comp=Z,1.6nm,0.9s,mb4.0,baz=251,slow=4.4,SNR=6.2
BVAR **Borovoye Array** 33.76 52 P P 20 16 03.8 +0.8
BVAR **Borovoye Array** 33.76 52 P P 20 16 03.8 +0.9
BVAR **Borovoye Array** 33.76 52 P P 20 16 03.8 +0.9
KBL **Kabul** 35.91 84 *e*P P 20 16 22.1 +0.5
comp=Z,3.1nm,1.1s,mb4.2
KBL **Kabul** 35.91 84 *e*P P 20 16 22.1 +0.4
KBL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
KBL **Kabul** 35.91 84 *e*P P 20 16 22.1 +0.4
comp=Z,3.1nm,1.1s,mb4.2
EKS2 **Erkin-Say** 36.96 69 *e*P P 20 16 29.9 -0.6
EKS2 **Erkin-Say** 36.96 69 *e*P P 20 16 29.9 -0.7
EKS2 **Erkin-Say** 36.96 69 *e*P P 20 16 29.9 -0.7
AAK **Ala-Archa** 37.48 69 *e*P P 20 16 36.7 +1.7
AAK **Ala-Archa** 37.48 69 *e*P P 20 16 36.7 +1.7
AAK **Ala-Archa** 37.48 69 *e*P P 20 16 36.7 +1.7
KURK **Kurchatov** 38.91 56 P P 20 16 47.2 +0.2
comp=Z,1.5nm,0.8s,mb3.8,baz=277,slow=9.3,SNR=11
KURK PcP PcP 20 18 56.6 -1.0
comp=Z,1.3nm,0.8s,baz=277,slow=4.0,SNR=5.4
KURK **Kurchatov** 38.91 56 P P 20 16 47.2 +0.2
KURK PcP PcP 20 18 56.6 -1.0
KURK **Kurchatov** 38.91 56⇓ *e*P P 20 16 48.4 +1.4
KURK pmax pmax
comp=Z,11nm,1.7s,mb4.3
KURK **Kurchatov** 38.91 56 P P 20 16 47.2 +0.2
NVS **Novosibirsk** 41.34 49⇓ *i*P P 20 17 08.2 +1.2
NVS *e*S S 20 23 24.0 +2.6
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,15nm,1.4s
NVS pmax pmax
comp=Z,24nm,1.4s,mb4.6
NVS smax
comp=N,22nm,3.0s
NVS smax
comp=E,47nm,3.4s
NVS **Novosibirsk** 41.34 49 *i* P P 20 17 08.2 +1.2
comp=E,22nm,3.0s
MK31 **Makanchi Array** 41.95 61 *e*P P 20 17 12.5 +0.4
MK31 **Makanchi Array** 41.95 61 *e*P P 20 17 12.5 +0.3
MK31 **Makanchi Array** 41.95 61 *e*P P 20 17 12.5 +0.3
MKAR **Makanchi Array** 41.95 61 P P 20 17 12.7 +0.6
comp=E,3.0nm,0.6s,mb4.1,baz=276,slow=7.1,SNR=23
MKAR LR LR 20 36 23.9
comp=E,70nm,18.4s,MS3.6,baz=172,slow=39
MKAR **Makanchi Array** 41.95 61 P P 20 17 12.7 +0.6
MKAR **Makanchi Array** 41.95 61 *ce*P P 20 17 13.1 +0.9
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR **Makanchi Array** 41.95 61 P P 20 17 12.7 +0.5
DBIC **Dimbokro** 42.20 226 P P 20 17 15.3 +0.8
comp=Z,2.5nm,0.8s,mb3.9,baz=18,slow=9.3,SNR=4.0
DBIC LR LR 20 35 48.1
comp=Z,90nm,18.5s,MS3.7,baz=11,slow=38
DBIC **Dimbokro** 42.20 226 *e*P P 20 17 13.8 -0.7
comp=Z,16nm,1.2s,mb4.5
DBIC **Dimbokro** 42.20 226 *e*P P 20 17 13.8 -0.7
DBIC pmax pmax
comp=Z,16nm,1.2s
DBIC **Dimbokro** 42.20 226 *e*P P 20 17 13.8 -0.7
comp=Z,16nm,1.2s,mb4.5
ZAA0 **Zalesovo Array** 42.34 50 *e*P P 20 17 15.5 +0.3
ZAA0 **Zalesovo Array** 42.34 50 *e*P P 20 17 15.5 +0.2
ZALV **Zalesovo Beam** 42.34 50 P P 20 17 15.4 +0.1
comp=Z,3.7nm,0.7s,mb4.1,baz=281,slow=8.4,SNR=20
ZALV LR LR 20 35 20.2
comp=Z,76nm,19.2s,MS3.6,baz=70,slow=37
ZALV **Zalesovo Beam** 42.34 50 P P 20 17 15.4 +0.1
ZALV **Zalesovo Beam** 42.34 50 P P 20 17 15.4 +0.1
ZALV **Zalesovo Beam** 42.34 50 P P 20 17 15.4 +0.1
LIC **Lamto** 42.66 225 *e*P P 20 17 18.0 -0.3
comp=Z,48nm,1.1s,mb4.8
LIC *e*R
comp=Z,146nm,22.6s
LIC **Lamto** 42.66 225 *e*P P 20 17 18.0 -0.3
comp=Z,48nm,1.1s,mb5.1
LIC **Lamto** 42.66 225 *e*P P 20 17 18.0 -0.3
comp=Z,24nm,1.1s,mb4.8
SUMG **Summit** 44.06 337 *e*P P 20 17 28.3 -0.6
comp=Z,12nm,0.9s,mb4.6
SUMG **Summit** 44.06 337 *e*P P 20 17 28.3 -0.6
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG **Summit** 44.06 337 *e*P P 20 17 28.3 -0.6
comp=Z,12nm,0.9s,mb4.6
WMQ **Urumqi** 46.42 64 *e*P P 20 17 49.3 +1.3
WMQ pP pP 20 17 56.8 +6.4
WMQ sP sP 20 18 00.0 +8.6
WMQ pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
WMQ pmax pmax
comp=Z,260nm,4.8s
ZAK **Zakamensk** 54.21 51 *e*P P 20 18 46.9 0.0
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
ZAK **Zakamensk** 54.21 51 *e*P P 20 18 46.9 0.0
comp=Z,3.0nm,1.6s,mb4.0
FRB **Frobisher Bay** 55.99 328 LR LR 20 40 36.9
comp=Z,150nm,19.6s,MS4.1,baz=292,slow=34
SONM **Songino Array** 57.10 53 P P 20 19 08.5 +0.8
comp=Z,1.1nm,0.6s,mb4.1,baz=270,slow=8.6,SNR=3.6
SONM **Songino Array** 57.10 53 P P 20 19 08.5 +0.8
SONM **Songino Array** 57.10 53 P P 20 19 08.5 +0.8
SONM **Songino Array** 57.10 53 P P 20 19 08.5 +0.8
RES **Resolute Bay** 58.66 344 *e*P P 20 19 18.2 -0.1

comp=Z,4.0nm,1.0s,mb4.4
RES Resolute Bay 58.66 344 *e*P **P 20 19 18.2 -0.1**
RES pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
RES Resolute Bay 58.66 344 *e*P **P 20 19 18.2 -0.1**
comp=Z,4.0nm,1.0s,mb4.4
SCHQ Schefferville 58.90 317 P **P 20 19 19.3 -0.9**
comp=Z,7.1nm,1.2s,mb4.6,baz=62,slow=9.5,SNR=3.7
SCHQ Schefferville 58.90 317 P **P 20 19 19.3 -0.9**
SCHQ Schefferville 58.90 317 P **P 20 19 19.3 -0.9**
LZH Lanzhou 60.89 66 *e*P **P 20 19 35.3 +1.1**
LZH pP pP 20 19 45.5 +8.9
LZH sP sP 20 19 49.5 +12
LZH PP PP 20 21 51.5 +3.5
LZH pmax pmax
comp=Z,20nm,1.3s,mb5.1
LZH pmax pmax
comp=Z,53nm,6.7s
LZH LR LR
comp=N,210nm,15.7s,MS4.5
LZH LR LR
comp=E,180nm,16.0s,MS4.5
LZH LR LR
comp=Z,240nm,18.3s,MS4.4
CD2 Chengdu 63.52 71 *e*P **P 20 19 52.3 +0.4**
HHC Hu-ho-hao-te 63.67 58 *e*P **P 20 19 53.8 +1.0**
HHC pP pP 20 20 01.5 +6.3
HHC sP sP 20 20 05.3 +9.2
HHC PP PP 20 22 14.8 +2.4
HHC S **S 20 28 24.8 -2.4**
HHC ScS ScS 20 29 42.0 -4.6
HHC SS SS 20 32 32.0 -2.2
HHC pmax pmax
comp=Z,19nm,0.6s,mb5.3
HHC LR LR
comp=N,300nm,16.7s,MS4.8
HHC LR LR
comp=E,480nm,16.7s,MS4.8
HHC LR LR
comp=Z,290nm,15.5s,MS4.6
LBTB Lobatse 64.81 178 *e*P **P 20 20 01.4 +1.2**
comp=Z,5.7nm,0.9s,mb4.6
LBTB Lobatse 64.81 178 *e*P **P 20 20 01.4 +1.2**
LBTB pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LBTB Lobatse 64.81 178 *e*P **P 20 20 01.4 +1.2**
comp=Z,5.7nm,0.9s,mb4.6
KMI Kunming 65.96 77 P **P 20 20 10.8 +2.9**
KMI pP pP 20 20 17.8 +7.4
KMI sP sP 20 20 21.3 +10
KMI S S 20 28 54.3 -1.5
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CHTO Chiang Mai 66.72 85 *e*P **P 20 20 11.9 -1.0**
comp=Z,3.0nm,1.0s,mb4.3
CHTO Chiang Mai 66.72 85 *e*P **P 20 20 12.0 -0.9**
CHTO pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CHTO Chiang Mai 66.72 85 *e*P **P 20 20 12.0 -0.9**
comp=Z,3.0nm,1.0s,mb4.3
CMAR Chiang Mai Arr 66.94 85 P **P 20 20 13.7 -0.5**
comp=Z,1.2nm,0.8s,mb4.0,baz=304,slow=8.5,SNR=10
CMAR Chiang Mai Arr 66.94 85 P **P 20 20 13.7 -0.5**
CMAR Chiang Mai Arr 66.94 85 P **P 20 20 13.7 -0.5**
CMAR Chiang Mai Arr 66.94 85 P **P 20 20 13.7 -0.5**
BJI Beijing 67.07 56 P **P 20 20 15.5 +0.7**
BJI pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
BJI LR LR
comp=Z,69nm,29.0s,MS3.7
GYA Guiyang 68.11 73 *e*P **P 20 20 21.8 +0.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BOSA Boshof 68.39 179 P **P 20 20 23.0 0.0**
comp=Z,4.5nm,1.1s,mb4.4,baz=349,slow=10,SNR=3.9
BOSA LR LR 20 52 33.3
comp=Z,72nm,18.7s,MS3.9,baz=346,slow=38
BOSA Boshof 68.39 179 P **P 20 20 23.0 0.0**
BOSA Boshof 68.39 179 P **P 20 20 23.0 0.0**
BOSA Boshof 68.39 179 P **P 20 20 23.0 0.0**
BILL Bilibino 68.48 14 P **P 20 20 22.3 -1.0**
comp=Z,11nm,1.3s,mb4.7
BILL Bilibino 68.48 14 ⇓*i*P **P 20 20 22.9 -0.3**
BILL *e* 20 20 46.9
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.7
BILL Bilibino 68.48 14 *i*P **P 20 20 22.9 -0.3**
comp=Z,12nm,1.7s,mb4.7
BILL Bilibino 68.48 14 *e*PcP PcP 20 20 46.9 -1.6
INK Inuvik 70.59 351 LR LR 20 50 31.7
comp=Z,100nm,19.2s,MS4.1,baz=352,slow=35
SADO Sadowa 70.99 313 LR LR 20 52 22.4
comp=Z,125nm,20.6s,MS4.2,baz=104,slow=36
MDJ Mudanjiang 72.39 46 P **P 20 20 48.5 +1.0**
MDJ pmax pmax
comp=Z,7.0nm,2.1s,mb4.2
MDJ pmax pmax
comp=Z,400nm,6.2s
YKA Yellowknife Ar 72.47 341 P **P 20 20 46.8 -0.8**
comp=Z,0.4nm,0.9s,mb3.4,baz=27,slow=5.9,SNR=7.0
YKA Yellowknife Ar 72.47 341 P **P 20 20 46.9 -0.8**
YKA Yellowknife Ar 72.47 341 P **P 20 20 46.8 -0.9**
YKA Yellowknife Ar 72.47 341 P **P 20 20 46.8 -0.9**
NJ2 Nanjing 73.47 62 *e*P **P 20 20 53.0 -1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ILAR Eielson Array 75.20 356 P **P 20 21 04.3 +0.7**
comp=Z,0.7nm,1.0s,mb3.5,baz=350,slow=4.7,SNR=4.0
ILAR Eielson Array 75.20 356 P **P 20 21 04.3 +0.7**
ILAR Eielson Array 75.20 356 P **P 20 21 04.3 +0.6**
ILAR Eielson Array 75.20 356 P **P 20 21 04.3 +0.6**
KSAR Wonju Array Be 75.95 53 P **P 20 21 08.2 -0.2**
KSAR Wonju Array Be 75.95 53 P **P 20 21 08.3 -0.2**
KSRS Korea Array 75.97 53 P **P 20 21 08.2 -0.3**
comp=Z,1.3nm,0.9s,mb3.9,baz=310,slow=4.3,SNR=5.6
KSRS LR LR 20 58 54.3
comp=Z,85nm,19.6s,MS4.1,baz=187,slow=39
KSRS Korea Array 75.97 53 P **P 20 21 08.3 -0.2**
KSRS pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
KSRS MLR MLR
comp=Z,85nm,19.6s,MS4.1
BBB Bella Bella 84.94 343 LR LR 21 00 03.0
comp=Z,216nm,19.0s,MS4.6,baz=250,slow=36
MIAR Mount Ida 86.06 313 *e*P **P 20 22 00.9 -1.4**
comp=Z,10.0nm,1.1s,mb5.0
MIAR Mount Ida 86.06 313 *e*P **P 20 22 01.0 -1.4**
MIAR pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
ANMO Albuquerque 92.48 321 LR LR 21 00 24.9
comp=Z,81nm,21.6s,MS4.1,baz=16,slow=33
TXAR Lajitas Array 95.56 316 P **P 20 22 46.5 -0.4**
comp=Z,1.5nm,1.0s,mb4.4,baz=60,slow=5.3,SNR=7.3
TXAR Lajitas Array 95.56 316 P **P 20 22 46.5 -0.4**
TXAR Lajitas Array 95.56 316 P **P 20 22 46.5 -0.5**
ASAR Alice Springs 119.66 97 PKP PKPdf 20 28 09.4 -2.3
comp=Z,0.6nm,0.7s,baz=344,slow=2.3,SNR=6.3
ASAR Alice Springs 119.66 97 PKP PKPdf 20 28 09.4 -2.3
ASAR Alice Springs 119.66 97 PKIKP PKPdf 20 28 09.5 -2.2

*IDC **27** 20:10:22.3±3.7, 35°.57N×69°.30E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/27, mbtmp3.6/6, ML3.7/3, Error ellipse: s-maj=111.1km s-min=25.7km az=91.0*
*ISCJB **27** 20:10:39.8±0.5, 36°.38N±0°.04×69°.64E±0°.08, h146km±7km, mb3.6/4, Error ellipse: s-maj=10.0km s-min=5.7km az=7.4*
*NEIC **27** 20:10:40.8±0.9, 36°.33N×69°.78E, h151km±10km, mb4.2/7, Error ellipse: s-maj=16.4km s-min=10.7km az=110.0*
*NNC **27** 20:10:44.8±1.1, 37°.16N×69°.37E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=10.1km s-min=8.4km az=103.0*
ISC 27 20:10:40.8±0.5, 36°.36N±0°.03×69°.67E±0°.08, h144km±7km, n39, σ1§16/48, mb3.6/4, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.88**	**196**	*e*Pn	**Pn**	**20 11 14.8**	**+0.6**
KBL				*e*Sn	**Sn**	**20 11 37.9**	**-1.8**
CEP	**Cherat**	**3.12**	**143**	⇓P	**Pn**	**20 11 30.1**	**+0.6**
CEP				S	**Sn**	**20 12 07.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.99**	**131**	P	**Pn**	**20 11 41.2**	**+0.4**
AML	**Almayashu**	**6.56**	**27**	P	**Pn**	**20 12 15.4**	**+0.6**
	SNR=52						
AML				P		20 12 15.4	
	SNR=52						
KK31	**Karatay Array**	**6.77**	**5**	Pn	**Pn**	**20 12 17.8**	**+0.1**
	7.1nm,0.5s,baz=189,slow=10,SNR=141						
KK31				⇑Sn	**Sn**	**20 13 30.8**	**-2.7**
	4.2nm,0.6s,baz=213,slow=79,SNR=4.0						
KKAR	**Karatay Array**	**6.77**	**5**	*e*Pn	**Pn**	**20 12 17.5**	**-0.2**
	8.5nm,0.4s						
KKAR				*e*Sn	**Sn**	**20 13 27.1**	**-6.5**
UCH	**Uchtor**	**6.96**	**31**	P	**Pn**	**20 12 22.0**	**+1.7**
	SNR=7.1						
UCH				P		20 12 22.0	
	SNR=7.1						
EKS2	**Erkin-Say**	**7.05**	**25**	P	**Pn**	**20 12 21.9**	**+0.5**
	SNR=22						
EKS2				P		20 12 21.9	
	SNR=22						
EKS2	**Erkin-Say**	**7.05**	**25**	*e*Pn	**Pn**	**20 12 22.0**	**+0.5**
	10nm,0.6s						
EKS2				*e*Sn	**Sn**	**20 13 38.5**	**-1.8**
KZA	**Kyzart**	**7.17**	**35**	P	**Pn**	**20 12 24.2**	**+1.2**
	SNR=17						
KZA				P		20 12 24.2	
	SNR=17						
AAK	**Ala-Archa**	**7.29**	**29**	P	**Pn**	**20 12 25.5**	**+0.8**
	SNR=33						
AAK				P		20 12 25.5	
	SNR=33						
AAK	**Ala-Archa**	**7.29**	**29**	*e*Pn	**Pn**	**20 12 25.3**	**+0.6**
	90nm,0.6s						
AAK				*e*Sn	**Sn**	**20 13 45.5**	**-0.6**
KBK	**Karagaybulak**	**7.50**	**31**	P	**Pn**	**20 12 28.3**	**+0.9**
	SNR=21						
KBK				P		20 12 28.3	
	SNR=21						
CHMS	**Chumysh**	**7.71**	**29**	P	**Pn**	**20 12 30.7**	**+0.6**
	SNR=8.5						
CHMS				P		20 12 30.7	
	SNR=8.5						
ULHL	**Ulahol**	**7.78**	**39**	P	**Pn**	**20 12 32.3**	**+1.1**
	SNR=7.3						
ULHL				P		20 12 32.3	
	SNR=7.3						
USP	**Ospenovka**	**7.84**	**27**	P	**Pn**	**20 12 32.2**	**+0.2**
	SNR=23						
USP				P		20 12 32.2	
	SNR=23						
TKM2	**Tokmak 2**	**7.99**	**33**	P	**Pn**	**20 12 35.1**	**+1.1**
	SNR=10						
TKM2				P		20 12 35.1	
	SNR=10						
TKM2	**Tokmak 2**	**7.99**	**33**	⇑Pn	**Pn**	**20 12 34.8**	**+0.7**
	8.5nm,0.7s						
TKM2				⇑Sn	**Sn**	**20 14 01.9**	**-1.0**
	2.7nm,0.7s						
TKM2	**Tokmak 2**	**7.99**	**33**	*e*Pn	**Pn**	**20 12 34.2**	**+0.2**
	9.2nm,0.4s						
MK31	**Makanchi Array**	**14.05**	**38**	*e*Pn	**Pn**	**20 13 52.7**	**-0.7**
MKAR	**Makanchi Array**	**14.05**	**38**	Pn	**Pn**	**20 13 53.0**	**-0.4**
	0.1nm,0.3s,baz=227,slow=16,SNR=4.3						
MKAR	**Makanchi Array**	**14.05**	**38**	Pn	**Pn**	**20 13 53.0**	**-0.4**
AB31	**Akbulak array**	**14.72**	**334**	⇑Pn	**Pn**	**20 14 02.2**	**+0.4**
	0.5nm,0.3s,baz=147,slow=13,SNR=66						
AB31				⇑Sn	**Sn**	**20 16 38.3**	**-6.5**
	0.9nm,0.5s,baz=148,slow=24,SNR=5.8						
ABKAR	**Akbulak array**	**14.72**	**334**	*e*Pn	**Pn**	**20 14 01.6**	**-0.2**
	1.8nm,0.3s						
ABKAR				*e*Sn	**Sn**	**20 16 34.8**	**-10**
KURK	**Kurchatov**	**15.73**	**21**	Pn	**Pn**	**20 14 12.3**	**-2.1**
	0.1nm,0.3s,baz=211,slow=10,SNR=9.9						
KURK	**Kurchatov**	**15.73**	**21**	Pn	**Pn**	**20 14 12.3**	**-2.1**
BVAR	**Borovoye Array**	**16.68**	**2**	P	**Pn**	**20 14 27.0**	**+1.2**
	0.8nm,0.3s,baz=174,slow=9.1,SNR=21						
BVAR	**Borovoye Array**	**16.68**	**2**	P	**Pn**	**20 14 27.0**	**+1.2**
BRVK	**Borovoye**	**16.71**	**1**	Pn	**Pn**	**20 14 23.8**	**-2.4**
	2.4nm,0.6s						
ZAA0	**Zalesovo Array**	**20.51**	**26**	*e*P	**P**	**20 15 08.5**	**+1.1**
ZALV	**Zalesovo Beam**	**20.51**	**26**	P	**P**	**20 15 09.4**	**+2.0**
	2.4nm,0.4s,baz=216,slow=9.9,SNR=12						
ZALV	**Zalesovo Beam**	**20.51**	**26**	P	**P**	**20 15 09.4**	**+2.0**
ARU	**Arti**	**21.44**	**343**	P	**P**	**20 15 19.0**	**+1.7**
	3.9nm,0.8s,mb3.8						
TLY	**Talaya**	**28.52**	**47**	P	**P**	**20 16 19.6**	**-3.0**
	7.8nm,1.1s,mb4.3						
GVD	**Gavdhos**	**36.83**	**281**	P	**P**	**20 17 34.9**	**-0.1**
	187nm,1.1s						
WRA	**Warramunga Arr**	**82.83**	**121**	P	**P**	**20 22 47.8**	**-1.4**
	0.4nm,1.0s,mb3.1,baz=328,slow=5.0,SNR=2.8						
WRA	**Warramunga Arr**	**82.83**	**121**	P	**P**	**20 22 47.8**	**-1.4**
ASAR	**Alice Springs**	**85.06**	**124**	P	**P**	**20 22 59.5**	**-0.9**
	0.2nm,0.6s,mb3.0,baz=318,slow=4.0,SNR=4.2						
ASAR	**Alice Springs**	**85.06**	**124**	P	**P**	**20 22 59.5**	**-0.9**

*ISCJB **27** 20:17:32.4±0.3, 44°.49N±0°.02×110°.28W±0°.04, h10km, MS3.6/2, Error ellipse: s-maj=3.9km s-min=3.1km az=176.2*
*NEIC **27** 20:17:32.0, 44°.49N×110°.36W, h4km, ML3.5(SLC), ML3.2(BUT), After SLC.*
NEIC Felt in Yellowstone National Park.
*IDC **27** 20:17:34.9±1.1, 44°.49N×110°.34W, h0km, mb3.6/1, mb1 3.7/5, mb1mx3.5/26, mbtmp3.3/5, ML2.7/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/34, Error ellipse: s-maj=24.2km s-min=14.6km az=129.0*
ISC 27 20:17:33.7±0.3, 44°.48N±0°.02×110°.33W±0°.04, h10km, n61, σ1§33/70, MS3.6/2, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.10**	**329**	*e*Pg	**Pg**	**20 17 34.7**	**-1.6**
LKWY				*e*Sg	**Sg**	**20 17 36.2**	**-1.9**
YNR	**Norris Junctio**	**0.34**	**313**	*e*Pg	**Pg**	**20 17 39.5**	**-1.0**
YFT	**Old Faithful**	**0.36**	**266**	*e*Pg	**Pg**	**20 17 40.0**	**-0.8**
YMR	**Madison River**	**0.49**	**293**	*e*Pg	**Pg**	**20 17 42.6**	**-0.7**
MOOW	**Moose Ponds**	**0.79**	**202**	*e*Pg	**Pg**	**20 17 47.7**	**-1.2**
QLMT	**Earthquake Lak**	**0.86**	**294**	*e*Pg	**Pg**	**20 17 49.0**	**-1.2**
LOHW	**Long Hollow**	**0.89**	**193**	*e*Pg	**Pg**	**20 17 49.8**	**-1.1**
LOHW				*e*Sg	**Sg**	**20 18 01.1**	**-1.3**
RLMT	**Red Lodge**	**0.99**	**49**	*e*Pg	**Pg**	**20 17 51.5**	**-1.2**
RLMT				*e*Sg	**Sg**	**20 18 03.5**	**-2.2**
SNOW	**Snow King Moun**	**1.06**	**197**	*e*Pg	**Pg**	**20 17 53.0**	**-1.1**
DCID1	**Drake Creek**	**1.08**	**215**	*e*Pg	**Pg**	**20 17 53.5**	**-0.9**
REDW	**Red Top Meadow**	**1.18**	**199**	*e*Pg	**Pg**	**20 17 55.3**	**-1.1**
RRI2	**Red Ridge**	**1.34**	**213**	*e*Pn	**Pn**	**20 17 57.8**	**-0.6**
GCMT	**Greycliff**	**1.39**	**19**	*e*Pn	**Pn**	**20 17 59.0**	**-0.1**
BOZ	**Bozeman (W)**	**1.49**	**322**	*e*Pn	**Pn**	**20 17 58.3**	**-2.1**
BW06	**Boulder Array**	**1.80**	**162**	*e*Pn	**Pn**	**20 18 06.3**	**+1.5**
BW06				*e*Sn	**Sn**	**20 18 28.7**	**+1.0**
MCMT	**McKenzie Canyo**	**1.83**	**282**	*e*Pn	**Pn**	**20 18 06.2**	**+1.0**
DLMT	**Dillon**	**1.84**	**300**	*e*Pn	**Pn**	**20 18 06.8**	**+1.5**
LRM	**Limekiln Ridge**	**2.01**	**313**	*e*Pn	**Pn**	**20 18 08.9**	**+1.2**
HRY	**Holter Researc**	**2.47**	**335**	*e*Pn	**Pn**	**20 18 13.9**	**-0.1**
HLID	**Hailey**	**3.09**	**254**	*e*Pn	**Pn**	**20 18 24.2**	**+1.8**
CHMT	**Chamberlain Mo**	**3.18**	**321**	*e*Pn	**Pn**	**20 18 24.9**	**+1.1**
HVU	**Hansel Valley**	**3.24**	**214**	*e*Pn	**Pn**	**20 18 25.4**	**+0.8**
SLMT	**Seeley Lake**	**3.54**	**322**	*e*Pn	**Pn**	**20 18 29.8**	**+1.2**
EGMT	**Eagleton**	**3.57**	**6**	*e*Pn	**Pn**	**20 18 28.0**	**-1.1**
LAO	**LASA Array**	**3.63**	**51**	*e*Pn	**Pn**	**20 18 33.2**	**+3.2**
CTU	**Camp Tracy**	**3.93**	**196**	*e*Pn	**Pn**	**20 18 43.2**	**+9.2**
SWMT	**Swartz Lake**	**3.96**	**321**	*e*Pn	**Pn**	**20 18 35.3**	**+0.8**
YBMT	**Yellow Bay**	**4.24**	**324**	*e*Pn	**Pn**	**20 18 38.8**	**+0.5**
JTMT	**Jette**	**4.27**	**321**	*e*Pn	**Pn**	**20 18 39.3**	**+0.6**
RSSD	**Black Hills**	**4.53**	**92**	*e*Pn	**Pn**	**20 18 44.1**	**+1.8**
MPU	**Maple Canyon**	**4.56**	**193**	*e*Pg	**Pg**	**20 18 58.3**	**-2.8**
BSMT	**Bassoo Peak**	**4.58**	**319**	*e*Pn	**Pn**	**20 18 44.6**	**+1.7**
DUG	**Dugway**	**4.66**	**204**	*e*Pn	**Pn**	**20 18 44.9**	**+0.9**
PHWY	**Pilot Hill**	**4.78**	**130**	*e*Pn	**Pn**	**20 18 46.3**	**+0.5**
PHWY				*e*Sn	**Sn**	**20 19 35.6**	**-5.7**
PHWY				*e*Sg	**Sg**	**20 19 55.2**	**-12**
BMO	**Blue Mountains**	**4.99**	**277**	*e*Pn	**Pn**	**20 18 49.9**	**+1.3**
TMUT	**Trail Mountain**	**5.22**	**188**	Pn	**Pn**	**20 18 57.1**	**+5.3**
TMUT				*e*Pg	**Pg**	**20 19 09.9**	**-3.8**
SRU	**San Rafael**	**5.37**	**182**	*e*Pn	**Pn**	**20 18 54.5**	**+0.7**
	34nm,0.7s						
SRU				*e*Sn	**Sg**	**20 20 25.3**	**-0.7**
DGMT	**Dagmar**	**5.82**	**45**	*e*Pn	**Pn**	**20 19 02.1**	**+2.2**
	40nm,0.6s						
ISCO	**Idaho Springs**	**5.84**	**142**	*e*Pn	**Pn**	**20 19 03.7**	**+3.3**
	8.5nm,0.9s						
SMCO	**Snowmass**	**5.86**	**154**	Pn	**Pn**	**20 19 02.1**	**+1.6**
	24nm,0.8s						
SMCO				*e*Pg	**Pg**	**20 19 22.4**	**-3.5**
MSU	**Marysvale**	**6.12**	**194**	*e*Pn	**Pn**	**20 19 08.1**	**+3.9**
	4.6nm,0.7s						
PV04	**Paradox Valley**	**6.17**	**170**	*e*Pn	**Pn**	**20 19 05.8**	**+0.9**
WVOR	**Wild Horse Val**	**6.38**	**254**	*e*Pb	**Pb**	**20 19 19.6**	**-5.2**
	10nm,0.8s						
PV01	**Paradox Valley**	**6.48**	**168**	*e*Pn	**Pn**	**20 19 11.1**	**+2.1**
	2μm,1.0s						
HAWA	**Hanford**	**6.75**	**290**	*e*Pn	**Pn**	**20 19 12.2**	**-0.6**
	16nm,1.3s						
OGNE	**Ogallala**	**7.06**	**117**	*e*Pn	**Pn**	**20 19 14.9**	**-2.1**
	30nm,0.6s						
OGNE				*e*Pg	**Pg**	**20 19 42.0**	**-6.7**
OGNE				*e*Sg	**Sg**	**20 21 15.1**	**-5.0**
NVAR	**Mina Array Bea**	**8.51**	**227**	Pn	**Pn**	**20 19 41.5**	**+4.7**
	0.1nm,0.3s,baz=48,slow=11,SNR=4.3						
NVAR				Pg	Pn	20 20 01.9	+25
	0.1nm,0.3s,baz=48,slow=14,SNR=8.4						
NVAR	**Mina Array Bea**	**8.51**	**227**	Pn	**Pn**	**20 19 41.5**	**+4.7**
NVAR				Pg	Pn	20 20 01.9	+25
WUAZ	**Wupatki**	**8.99**	**185**	Pn	**Pn**	**20 19 44.0**	**+0.5**
	4.2nm,1.0s						
ECSD	**EROS Data Cent**	**9.90**	**90**	*e*Pn	**Pn**	**20 19 55.6**	**-0.3**
	9.6nm,0.8s						
AGMN	**Agassiz Nation**	**10.70**	**64**	*e*Pn	**Pn**	**20 20 06.6**	**-0.3**
	5.8nm,0.5s						
ULM	**Lac du Bonnet**	**11.37**	**54**	Pn	**Pn**	**20 20 15.2**	**-0.8**
	0.5nm,0.3s,baz=244,slow=15,SNR=6.5						
ULM				Pg	Pn	20 21 02.6	+47
	0.7nm,0.3s,baz=244,slow=13,SNR=5.2						
ULM				Lg		20 23 17.8	
	0.2nm,0.3s,baz=158,slow=19,SNR=3.1						
ULM	**Lac du Bonnet**	**11.37**	**54**	*e*Pn	**Pn**	**20 20 14.5**	**-1.5**
	1.9nm,0.6s						
ULM				Pg	Pn	20 21 02.6	+47
ULM				Lg		20 23 17.8	
TXAR	**Lajitas Array**	**16.02**	**158**	Pn	**Pn**	**20 21 24.1**	**+5.1**
	0.0nm,0.3s,baz=323,slow=12,SNR=4.1						
TXAR	**Lajitas Array**	**16.02**	**158**	Pn	**Pn**	**20 21 24.1**	**+5.1**
YKA	**Yellowknife Ar**	**18.22**	**354**	Pn	**Pn**	**20 21 45.2**	**-1.2**
	0.1nm,0.3s,baz=167,slow=12,SNR=3.7						
YKA	**Yellowknife Ar**	**18.22**	**354**	Pn	**Pn**	**20 21 45.2**	**-1.2**
TKL	**Tuckaleechee C**	**22.07**	**104**	LR	LR	20 31 51.2	
	comp=Z,126nm,20.6s,MS3.3,baz=94,slow=39						
ILAR	**Eielson Array**	**28.68**	**328**	P	**P**	**20 23 32.9**	**+2.5**
	0.6nm,0.8s,baz=128,slow=8.7,SNR=7.4						
ILAR	**Eielson Array**	**28.68**	**328**	P	**P**	**20 23 32.9**	**+2.5**
GERES	**GERESS Array B**	**74.96**	**35**	LR	LR	21 00 30.8	
	comp=Z,58nm,19.5s,MS3.9,baz=313,slow=34						

*IDC **27** 20:22:36.2±9.9, 20°.31S×178°.74W, h544km±116km, mb2.9/6, mb1 3.2/6, mb1mx3.1/13, mbtmp2.9/6, Error ellipse: s-maj=65.0km s-min=35.9km az=157.0*
*ISCJB **27** 20:22:40.9±2.4, 20°.4S±0°.4×179°.0W±0°.3, h620km±19km, mb3.3/7, Error ellipse: s-maj=71.7km s-min=22.3km az=152.1*
*NEIC **27** 20:22:41.3±2.0, 20°.44S×178°.88W, h610km±14km, mb3.8/1, Error ellipse: s-maj=56.5km s-min=17.6km az=152.0*
ISC 27 20:22:41.6±2.4, 20°.4S±0°.4×178°.9W±0°.3, h612km±18km, n19, σ0§54/14, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.93**	**312**	*e*P	**P**	**20 24 07.5**	**0.0**
ASAR	**Alice Springs**	**43.71**	**257**	P	**P**	**20 29 55.0**	**+0.5**
	1.2nm,0.6s,mb3.6,baz=94,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**43.71**	**257**	P	**P**	**20 29 55.0**	**+0.5**
WRAB	**Tennant Creek**	**43.76**	**262**	P	**P**	**20 29 54.0**	**-0.9**
	3.9nm,1.1s,mb3.9						
WRA	**Warramunga Arr**	**43.77**	**262**	P	**P**	**20 29 55.1**	**+0.2**
	0.4nm,0.3s,mb3.4,baz=97,slow=7.6,SNR=21						
WRA	**Warramunga Arr**	**43.77**	**262**	P	**P**	**20 29 55.1**	**+0.2**
MJAR	**Matsushiro Arr**	**69.65**	**324**	P	**P**	**20 32 51.7**	**+0.6**
	1.7nm,1.0s,mb3.4,baz=143,slow=6.7,SNR=4.1						
MJAR	**Matsushiro Arr**	**69.65**	**324**	P	**P**	**20 32 51.7**	**+0.6**
NVAR	**Mina Array Bea**	**81.56**	**44**	P	**P**	**20 33 56.5**	**-0.2**
	0.3nm,0.6s,mb3.0,baz=224,slow=7.5,SNR=3.7						
NVAR	**Mina Array Bea**	**81.56**	**44**	P	**P**	**20 33 56.5**	**-0.2**
TXAR	**Lajitas Array**	**87.73**	**58**	P	**P**	**20 34 27.4**	**+0.5**
	0.1nm,0.6s,mb2.7,baz=274,slow=4.9,SNR=3.6						
TXAR	**Lajitas Array**	**87.73**	**58**	P	**P**	**20 34 27.4**	**+0.5**
ILAR	**Eielson Array**	**88.43**	**13**	P	**P**	**20 34 28.5**	**-0.8**
	0.5nm,0.7s,mb3.4,baz=223,slow=5.5,SNR=7.9						
ILAR	**Eielson Array**	**88.43**	**13**	P	**P**	**20 34 28.5**	**-0.8**
AKASG	**Malin Array Be**	**142.53**	**330**	PKhKP	PKPpre	20 41 02.4	
	1.1nm,0.4s,baz=44,slow=4.5,SNR=9.5						
AKASG	**Malin Array Be**	**142.53**	**330**	PKPpre	PKPpre	20 41 02.4	
MMAI	**Mount Meron Ar**	**147.04**	**299**	PKPbc	PKPbc	20 41 18.2	+0.9
	0.9nm,0.5s,baz=78,slow=9.0,SNR=4.2						
MMAI	**Mount Meron Ar**	**147.04**	**299**	PKPbc	PKPbc	20 41 18.2	+0.9
CLL	**Collm**	**147.79**	**346**	*e*PKPbc	PKPbc	20 41 19.0	+0.4

*NEIC **27** 20:26:27.0, 44°.51N×110°.36W, h2km, ML3.2(SLC), ML3.1(BUT), After SLC.*
NEIC Felt in Yellowstone National Park.
*ISCJB **27** 20:26:28.0±0.3, 44°.49N±0°.02×110°.33W±0°.05, h10km, Error ellipse: s-maj=4.9km s-min=3.5km az=167.3*
*IDC **27** 20:26:29.6±1.5, 44°.52N×110°.30W, h0km, mb3.1/1, mb1 3.4/4, mb1mx3.3/25, mbtmp3.1/4, ML2.5/3, Error ellipse: s-maj=36.9km s-min=17.0km az=137.0*
ISC 27 20:26:29.1±0.3, 44°.48N±0°.02×110°.37W±0°.05, h10km, n49, σ1§40/54, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.09**	**343**	*e*Pg	**Pg**	**20 26 29.3**	**-2.2**
LKWY				*e*Sg	**Sg**	**20 26 30.7**	**-2.6**
YNR	**Norris Junctio**	**0.33**	**316**	*e*Pg	**Pg**	**20 26 34.0**	**-1.5**
YFT	**Old Faithful**	**0.34**	**265**	*e*Pg	**Pg**	**20 26 34.9**	**-0.9**
YMR	**Madison River**	**0.47**	**294**	*e*Pg	**Pg**	**20 26 37.3**	**-0.9**
MOOW	**Moose Ponds**	**0.78**	**201**	*e*Pg	**Pg**	**20 26 42.8**	**-1.3**
QLMT	**Earthquake Lak**	**0.84**	**295**	*e*Pg	**Pg**	**20 26 43.5**	**-1.7**
LOHW	**Long Hollow**	**0.89**	**191**	*e*Pg	**Pg**	**20 26 44.8**	**-1.3**
RLMT	**Red Lodge**	**1.01**	**50**	*e*Pg	**Pg**	**20 26 46.3**	**-2.2**
SNOW	**Snow King Moun**	**1.06**	**196**	*e*Pg	**Pg**	**20 26 48.0**	**-1.

ULM	**Lac du Bonnet**	**11.39**	**54**		**Pn**	**Pn**	**20 29 09.3 -2.4**
	0.4nm,0.3s,baz=240,slow=13,SNR=4.3						
ULM				Pg	Pn		20 29 56.5 +45
	0.4nm,0.3s,baz=240,slow=14,SNR=4.0						
ULM	**Lac du Bonnet**	**11.39**	**54**		**Pn**	**Pn**	**20 29 09.3 -2.4**
ULM				Pg	Pn		20 29 56.5 +45
YKA	**Yellowknife Ar**	**18.21**	**354**		**Pn**	**Pn**	**20 30 39.7 -2.0**
	0.0nm,0.3s,baz=173,slow=12,SNR=3.3						
YKA	**Yellowknife Ar**	**18.21**	**354**		**Pn**	**Pn**	**20 30 39.7 -2.0**
ILAR	**Eielson Array**	**28.67**	**328**		**P**	**P**	**20 32 27.5 +1.9**
	0.2nm,0.8s,baz=119,slow=7.5,SNR=3.2						
ILAR	**Eielson Array**	**28.67**	**328**		**P**	**P**	**20 32 27.5 +1.9**

IDC 27 20:28:15.3±1.7, 1°63N×126°14E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=163.6km s-min=21.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.90**	**160**	P	P	20 33 20.0	-0.9
	1.0nm,0.4s,baz=338,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.26**	**164**	P	P	20 33 53.1	+0.7
	1.0nm,0.6s,baz=351,slow=15,SNR=9.9						
MKAR	**Makanchi Array**	**58.94**	**326**	P	P	20 38 16.6	+0.2
	0.3nm,0.4s,baz=121,slow=7.9,SNR=4.3						
KURK	**Kurchatov**	**63.19**	**328**	P	P	20 38 45.2	0.0
	0.5nm,0.4s,baz=130,slow=6.1,SNR=4.2						

*OMAN **27** 20:28:50.7±99.0, 27°44N×55°43E, h98km±999km, Error ellipse: s-maj=2621.0km s-min=59.0km az=338.0*
*IDC **27** 20:28:52.3±1.7, 26°74N×55°90E, h0km, mb3.8/12, mb1 3.8/12, mb1mx3.7/27, mbtmp3.8/12, Error ellipse: s-maj=39.9km s-min=20.8km az=163.0*
*NEIC **27** 20:28:55.4, 26°86N×55°89E, h22km, mb3.8/7, ML3.5(THR), MN3.6(TEH), After TEH.*
*TEH **27** 20:28:55.4, 26°86N×55°89E, h22km*
*CSEM **27** 20:28:58.3±0.2, 26°89N×55°89E, h30km, mb3.8/5, Error ellipse: s-maj=7.2km s-min=6.5km az=128.0*
*SGS **27** 20:28:58.4, 26°45N×55°97E, h17km*
*THR **27** 20:29:02.9±0.5, 27°43N×55°94E, h14km±8km, ML3.5*
ISC 27 20:28:55.4±0.7, 26°70N±0°04×55°94E±0°04, h19km±5km, n128, σ1°03/134, mb3.8/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.72**	**16**	Pg	**Pg**	**20 29 07.0**	**-2.7**
BNDS	**Bandar-Abbas**	**0.72**	**16**	*e*Pg	**Pg**	**20 29 07.9**	**-1.8**
BNDS	**Bandar-Abbas**	**0.72**	**16**	*e*Pg	**Pg**	**20 29 07.9**	**-1.8**
IBND	**Bandar-abas**	**0.92**	**35**	*e*Pg	**Pg**	**20 29 12.3**	**-1.0**
IBND				*e*Sg	**Sg**	**20 29 24.6**	**-0.8**
IBND				*e*		20 29 38.3	
	comp=Z,68μm,0.2s						
IBND	**Bandar-abas**	**0.92**	**35**	*e*Pg	**Pg**	**20 29 12.3**	**-1.0**
HATD	**Hatta, Dubai**	**1.88**	**175**	P	**Pg**	**20 29 32.6**	**+1.1**
	SNR=9.0						
HATD	**Hatta, Dubai**	**1.88**	**175**	P	**Pg**	**20 29 32.6**	**+1.1**
	SNR=9.0						
ASHO	**Ashiyiah**	**2.01**	**177**	P	**Pg**	**20 29 33.5**	**-0.6**
	SNR=20						
ASHO	**Ashiyiah**	**2.01**	**177**	P	**Pg**	**20 29 33.5**	**-0.6**
	SNR=20						
KRBR	**Kerman**	**3.35**	**12**	Pn	**Pn**	**20 29 47.0**	**+0.3**
KRBR	**Kerman**	**3.35**	**12**	*e*Pn	**Pn**	**20 29 47.7**	**+1.0**
KRBR				*e*Sg	**Sn**	**20 30 26.0**	**0.0**
KRBR				AML	AML	20 30 38.1	
	comp=N,183nm,0.2s						
KRBR	**Kerman**	**3.35**	**12**	*e*Pn	**Pn**	**20 29 47.7**	**+1.0**
KRBR				*e*Sg	**Sn**	**20 30 26.0**	**0.0**
ARQ	**Araqi**	**3.39**	**171**	P	**Pn**	**20 29 52.9**	**+5.6**
	SNR=10.0						
ARQ	**Araqi**	**3.39**	**171**	P	**Pn**	**20 29 52.9**	**+5.6**
	SNR=10.0						
ISRV	**Sarvestan**	**3.66**	**318**	Pn	**Pn**	**20 29 52.0**	**+1.0**
ISRV	**Sarvestan**	**3.66**	**318**	*e*Pn	**Pn**	**20 29 52.0**	**+1.0**
ISRV				*e*		20 31 34.7	
	comp=Z,1μm,0.4s						
ISRV	**Sarvestan**	**3.66**	**318**	*e*Pn	**Pn**	**20 29 52.0**	**+1.0**
IPAR	**Pars**	**4.04**	**321**	Pn	**Pn**	**20 29 57.1**	**+0.9**
IPAR	**Pars**	**4.04**	**321**	*e*Pn	**Pn**	**20 29 57.2**	**+1.0**
IPAR				*e*		20 30 50.4	
	comp=Z,826nm,0.4s						
IPAR	**Pars**	**4.04**	**321**	*e*Pn	**Pn**	**20 29 57.2**	**+1.0**
SMDO	**Samad**	**4.10**	**152**	P	**Pn**	**20 30 03.1**	**+6.0**
	SNR=6.4						
SMDO	**Samad**	**4.10**	**152**	P	**Pn**	**20 30 03.1**	**+6.0**
	SNR=6.4						
IMEH	**Mehriz**	**4.81**	**346**	Pn	**Pn**	**20 30 07.6**	**+0.7**
IMEH	**Mehriz**	**4.81**	**346**	*e*	**Pn**	**20 30 14.5**	**+7.6**
	comp=Z,368nm,0.1s						
IMEH				*e*Pn	**Pn**	**20 30 07.7**	**+0.8**
IBAF	**Bafgh**	**4.88**	**356**	Pn	**Pn**	**20 30 08.5**	**+0.7**
IBAF	**Bafgh**	**4.88**	**356**	*e*	**Pn**	**20 30 14.7**	**+6.8**
	comp=Z,331nm,0.1s						
IBAF				*e*Pn	**Pn**	**20 30 08.5**	**+0.7**
BTHS		**5.31**	**241**	P	**Pn**	**20 30 14.8**	**+1.1**
BTHS		**5.31**	**241**	P	**Pn**	**20 30 14.8**	**+1.0**
ISAD	**Sadrabad**	**5.55**	**340**	Pn	**Pn**	**20 30 17.9**	**+0.8**
ISAD	**Sadrabad**	**5.55**	**340**	*e*Pn	**Pn**	**20 30 17.9**	**+0.8**
ISAD				*e*		20 31 22.9	
	comp=Z,411nm,0.2s						
ISAD	**Sadrabad**	**5.55**	**340**	*e*Pn	**Pn**	**20 30 17.9**	**+0.8**
ICHK	**Chekchek**	**5.68**	**347**	Pn	**Pn**	**20 30 19.5**	**+0.7**
ICHK	**Chekchek**	**5.68**	**347**	*e*Pn	**Pn**	**20 30 19.5**	**+0.7**
ICHK				*e*		20 31 27.9	
	comp=Z,270nm,0.2s						
ICHK	**Chekchek**	**5.68**	**347**	*e*Pn	**Pn**	**20 30 19.5**	**+0.7**
IKOO	**Kooshah**	**6.30**	**24**	*e*Pn	**Pn**	**20 30 28.5**	**+1.2**
IKOO				*e*		20 32 33.2	
	comp=Z,186nm,0.3s						
IKOO	**Kooshah**	**6.30**	**24**	*e*Pn	**Pn**	**20 30 28.5**	**+1.2**
ITEG	**Tejag**	**6.64**	**21**	*e*Pn	**Pn**	**20 30 33.4**	**+1.4**
ITEG				*e*		20 32 32.3	
	comp=Z,219nm,0.4s						
ITEG	**Tejag**	**6.64**	**21**	*e*Pn	**Pn**	**20 30 33.4**	**+1.4**
NASN	**Na'in**	**6.66**	**337**	Pn	**Pn**	**20 30 33.0**	**+0.8**
NASN	**Na'in**	**6.66**	**337**	*e*Pn	**Pn**	**20 30 33.7**	**+1.4**
NASN				AML	AML	20 31 49.1	
	comp=E,15nm,0.7s						
NASN	**Na'in**	**6.66**	**337**	*e*Pn	**Pn**	**20 30 33.7**	**+1.4**
IDAH	**Dahanechah**	**6.92**	**29**	*e*Pn	**Pn**	**20 30 37.1**	**+1.3**
IDAH				*e*		20 31 25.9	
	comp=Z,111nm,0.3s						
IDAH	**Dahanechah**	**6.92**	**29**	*e*Pn	**Pn**	**20 30 37.1**	**+1.3**
IZEF	**Zefreh**	**6.92**	**334**	Pn	**Pn**	**20 30 35.8**	**-0.1**
IZEF	**Zefreh**	**6.92**	**334**	*e*Pn	**Pn**	**20 30 35.9**	**0.0**
IZEF				*e*		20 30 46.2	
	comp=Z,153nm,0.2s						
IZEF	**Zefreh**	**6.92**	**334**	*e*Pn	**Pn**	**20 30 35.9**	**0.0**
HRDDS		**6.98**	**239**	S	**Sn**	**20 31 54.4**	**-1.2**
HRDDS		**6.98**	**239**	P	**Pn**	**20 30 38.2**	**+1.5**
IMON	**Monand**	**7.23**	**26**	*e*Pn	**Pn**	**20 30 41.4**	**+1.3**
IMON	**Monand**	**7.23**	**26**	*e*Pn	**Pn**	**20 30 41.4**	**+1.3**
QRN	**Al-Qurain**	**7.40**	**288**	*e*P	**Pn**	**20 30 42.7**	**+0.3**
QRN				AML	AML	20 32 04.1	
	comp=Z,29nm,0.3s						
IPIR	**Pirpir**	**7.41**	**325**	Pn	**Pn**	**20 30 43.7**	**+1.2**
IPIR	**Pirpir**	**7.41**	**325**	*e*Pn	**Pn**	**20 30 43.7**	**+1.2**
IPIR				*e*		20 32 05.8	
	comp=Z,446nm,0.2s						
IPIR	**Pirpir**	**7.41**	**325**	*e*Pn	**Pn**	**20 30 43.7**	**+1.2**
IKLH	**Kolahrood**	**7.60**	**331**	Pn	**Pn**	**20 30 45.7**	**+0.5**
IKLH	**Kolahrood**	**7.60**	**331**	*e*Pn	**Pn**	**20 30 45.8**	**+0.6**
IKLH				*e*		20 30 51.5	
	comp=Z,134nm,0.1s						
IKLH	**Kolahrood**	**7.60**	**331**	Pn	**Pn**	**20 30 45.7**	**+0.5**
RDF	**Al-Radifah**	**7.75**	**289**	*e*P	**Pn**	**20 30 48.2**	**+0.9**
RDF				AML	AML	20 32 12.4	
	comp=Z,18nm,0.4s						
RDF	**Al-Radifah**	**7.75**	**289**	*e*P	**Pn**	**20 30 48.2**	**+0.9**
UMR	**Umm Al-Rimmam**	**7.80**	**293**	*e*P	**Pn**	**20 30 48.4**	**+0.5**
UMR	**Umm Al-Rimmam**	**7.80**	**293**	*e*P	**Pn**	**20 30 48.4**	**+0.5**
NAY	**Al-Naaiem**	**8.10**	**290**	*e*P	**Pn**	**20 30 52.3**	**+0.2**
NAY				AML	AML	20 32 19.1	
	comp=Z,2.7nm,0.3s						
NAY	**Al-Naaiem**	**8.10**	**290**	*e*P	**Pn**	**20 30 52.3**	**+0.3**
MIB	**Mutribah**	**8.19**	**294**	*e*P	**Pn**	**20 30 53.1**	**-0.2**
MIB				AML	AML	20 32 23.0	
	comp=Z,44nm,0.6s						
MIB	**Mutribah**	**8.19**	**294**	*e*P	**Pn**	**20 30 53.1**	**-0.2**
ISFB	**Sefidab**	**8.27**	**338**	Pn	**Pn**	**20 30 54.5**	**+0.2**
ISFB	**Sefidab**	**8.27**	**338**	*e*Pn	**Pn**	**20 30 54.5**	**+0.2**
ISFB	**Sefidab**	**8.27**	**338**	*e*Pn	**Pn**	**20 30 54.5**	**+0.2**
ASYS		**10.37**	**277**	P	**Pn**	**20 31 21.4**	**-1.8**
ASYS		**10.37**	**277**	P	**Pn**	**20 31 21.4**	**-1.8**
ASYS				S	**Sn**	**20 33 12.1**	**-6.8**
GNI	**Garni**	**16.33**	**328**	Pn	**Pn**	**20 32 41.7**	**-2.0**
GNI	**Garni**	**16.33**	**328**	Pn	**Pn**	**20 32 41.7**	**-1.9**
KKAR	**Karatay Array**	**20.21**	**32**	*e*Pn	**P**	**20 33 29.4**	**+0.2**
	comp=Z,1.1nm,0.6s						
KKAR	**Karatay Array**	**20.21**	**32**	*e*Pn	**P**	**20 33 29.4**	**+0.3**
	comp=Z,1.1nm,0.6s						
KIV	**Kislovodsk**	**20.29**	**331**	*e*P	**P**	**20 33 27.6**	**-2.4**
	comp=Z,23nm,1.3s						
KIV	**Kislovodsk**	**20.29**	**331**	*e*P	**P**	**20 33 27.5**	**-2.4**
	comp=Z,23nm,1.3s						
EKS2	**Erkin-Say**	**21.58**	**38**	*e*P	**P**	**20 33 44.6**	**+0.7**
	comp=Z,9.2nm,1.3s,mb4.0						
EKS2	**Erkin-Say**	**21.58**	**38**	*e*P	**P**	**20 33 44.6**	**+0.7**
	comp=Z,9.2nm,1.3s,mb4.0						
AAK	**Ala-Archa**	**21.96**	**39**	*e*P	**P**	**20 33 48.3**	**+0.3**
	comp=Z,8.4nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**21.96**	**39**	*e*P	**P**	**20 33 48.3**	**+0.3**
	comp=Z,8.4nm,0.6s,mb4.3						
BR131	**Keskin Array S**	**22.66**	**311**	*e*P	**P**	**20 33 54.8**	**-0.7**
	comp=Z,1.3nm,0.6s,mb3.5						
BR131	**Keskin Array S**	**22.66**	**311**	*e*P	**P**	**20 33 54.8**	**-0.7**
	comp=Z,1.2nm,0.6s,mb3.5						
BRTR	**Keskin Array B**	**22.66**	**311**	P	**P**	**20 33 55.5**	**-0.1**
	comp=Z,0.8nm,0.9s,mb3.2,baz=123,slow=10,SNR=3.3						
BRTR	**Keskin Array B**	**22.66**	**311**	P	**P**	**20 33 55.5**	**-0.1**
BRTR	**Keskin Array B**	**22.66**	**311**	P	**P**	**20 33 55.5**	**0.0**
ABKAR	**Akbulak array**	**22.73**	**7**	*e*P	**P**	**20 33 55.4**	**-0.8**
	comp=Z,1.8nm,0.7s,mb3.6						
ABKAR	**Akbulak array**	**22.73**	**7**	*e*P	**P**	**20 33 55.3**	**-0.8**
	comp=Z,1.8nm,0.7s,mb3.6						
TKM2	**Tokmak 2**	**22.77**	**40**	*e*P	**P**	**20 33 57.1**	**+0.5**
	comp=Z,2.3nm,1.0s,mb3.6						
TKM2	**Tokmak 2**	**22.77**	**40**	*e*P	**P**	**20 33 57.1**	**+0.5**
	comp=Z,2.3nm,1.0s,mb3.6						
AKTO	**Aktyubinsk**	**23.75**	**3**	P	**P**	**20 34 06.3**	**-0.2**
	comp=Z,1.9nm,0.6s,mb3.7,baz=177,slow=9.6,SNR=6.5						
AKTO	**Aktyubinsk**	**23.75**	**3**	P	**P**	**20 34 06.3**	**-0.2**
AKTO	**Aktyubinsk**	**23.75**	**3**	P	**P**	**20 34 06.3**	**-0.2**
BRVK	**Borovoye**	**28.42**	**18**	*e*P	**P**	**20 34 48.3**	**-0.4**
BRVK	**Borovoye**	**28.42**	**18**	*e*P	**P**	**20 34 48.3**	**-0.4**
BVAR	**Borovoye Array**	**28.42**	**18**	P	**P**	**20 34 48.5**	**-0.2**
	comp=Z,2.1nm,0.7s,mb3.9,baz=204,slow=8.5,SNR=15						
BVAR	**Borovoye Array**	**28.42**	**18**	P	**P**	**20 34 48.5**	**-0.2**
BVAR	**Borovoye Array**	**28.42**	**18**	P	**P**	**20 34 48.5**	**-0.2**
MKAR	**Makanchi Array**	**28.89**	**39**	P	**P**	**20 34 54.0**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.3,baz=230,slow=6.8,SNR=5.7						
MKAR	**Makanchi Array**	**28.89**	**39**	P	**P**	**20 34 54.0**	**+1.1**
MKAR	**Makanchi Array**	**28.89**	**39**	P	**P**	**20 34 54.0**	**+1.0**
KURK	**Kurchatov**	**29.57**	**30**	P	**P**	**20 34 58.0**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.5,baz=230,slow=8.4,SNR=7.5						
KURK	**Kurchatov**	**29.57**	**30**	P	**P**	**20 34 58.0**	**-1.0**
KURK	**Kurchatov**	**29.57**	**30**	P	**P**	**20 34 58.0**	**-1.0**
AKASG	**Malin Array Be**	**31.45**	**327**	P	**P**	**20 35 14.4**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.4,baz=136,slow=8.5,SNR=3.8						
AKASG	**Malin Array Be**	**31.45**	**327**	P	**P**	**20 35 14.4**	**-1.2**
AKASG	**Malin Array Be**	**31.45**	**327**	P	**P**	**20 35 14.4**	**-1.2**
ZAA0	**Zalesovo Array**	**34.56**	**30**	*e*P	**P**	**20 35 42.1**	**-0.5**
ZAA0	**Zalesovo Array**	**34.56**	**30**	*e*P	**P**	**20 35 42.1**	**-0.6**
ZALV	**Zalesovo Beam**	**34.56**	**30**	P	**P**	**20 35 42.5**	**-0.2**
	comp=Z,2.3nm,0.4s,mb4.4,baz=233,slow=8.8,SNR=17						
ZALV	**Zalesovo Beam**	**34.56**	**30**	P	**P**	**20 35 42.5**	**-0.2**
ZALV	**Zalesovo Beam**	**34.56**	**30**	P	**P**	**20 35 42.5**	**-0.2**
MORC	**Moravsky Berou**	**37.37**	**318**	*e*P	**P**	**20 36 04.0**	**-2.7**
MORC	**Moravsky Berou**	**37.37**	**318**	*e*P	**P**	**20 36 04.0**	**-2.7**
FINES	**FINESS Array B**	**40.12**	**338**	P	**P**	**20 36 28.9**	**-0.8**
	comp=Z,1.8nm,0.8s,mb3.8,baz=134,slow=9.8,SNR=4.9						
FINES	**FINESS Array B**	**40.12**	**338**	P	**P**	**20 36 28.9**	**-0.8**
FINES	**FINESS Array B**	**40.12**	**338**	P	**P**	**20 36 28.9**	**-0.8**
NAO01	**NORSAR Array S**	**45.64**	**331**	*e*P	**P**	**20 37 11.8**	**-2.6**
TORD	**Torodi Ar. Bea**	**52.40**	**266**	P	**P**	**20 38 07.1**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.0,baz=66,slow=7.5,SNR=16						
TORD	**Torodi Ar. Bea**	**52.40**	**266**	P	**P**	**20 38 07.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**52.40**	**266**	P	**P**	**20 38 07.1**	**+0.2**
KSAR	**Wonju Array Be**	**60.58**	**60**	P	**P**	**20 39 04.8**	**0.0**
KSAR	**Wonju Array Be**	**60.58**	**60**	P	**P**	**20 39 04.8**	**0.0**
KSRS	**Korea Array**	**60.60**	**60**	P	**P**	**20 39 04.8**	**-0.2**
	comp=Z,1.0nm,0.7s,mb4.1,baz=287,slow=6.5,SNR=4.8						
ILAR	**Eielson Array**	**87.11**	**10**	P	**P**	**20 41 39.2**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.7,baz=321,slow=4.2,SNR=5.0						
ILAR	**Eielson Array**	**87.11**	**10**	P	**P**	**20 41 39.2**	**-0.5**
ILAR	**Eielson Array**	**87.11**	**10**	P	**P**	**20 41 39.2**	**-0.5**
YKA	**Yellowknife Ar**	**90.80**	**356**	P	**P**	**20 41 55.1**	**-2.0**
	comp=Z,0.1nm,0.7s,mb3.3,baz=360,slow=5.1,SNR=3.2						
YKA	**Yellowknife Ar**	**90.80**	**356**	P	**P**	**20 41 55.1**	**-2.0**

IDC 27 20:30:42.3±5.1, 7°20S×156°60E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=130.1km s-min=37.2km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.03**	**237**	P	P	20 36 08.8	+0.5
	1.0nm,0.6s,baz=63,slow=9.5,SNR=10						
ASAR	**Alice Springs**	**27.25**	**231**	P	P	20 36 27.8	-0.6
	0.2nm,0.5s,baz=57,slow=10,SNR=3.9						
CMAR	**Chiang Mai Arr**	**62.31**	**295**	P	P	20 41 07.0	+0.1
	0.6nm,0.8s,baz=136,slow=6.3,SNR=5.9						
MKAR	**Makanchi Array**	**84.61**	**318**	P	P	20 43 18.0	+0.2
	1.1nm,0.9s,baz=98,slow=7.0,SNR=5.9						

IDC 27 20:34:26.2±3.2, 31°27S×176°73W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.8/15, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=77.0km s-min=36.9km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.62**	**214**	Pn	Pn	20 36 32.7	+0.5
	0.4nm,0.3s,baz=272,slow=4.4,SNR=5.2						
URZ				Sn	Sn	20 38 08.8	-1.2
	0.9nm,0.3s,baz=181,slow=20,SNR=8.1						
ASAR	**Alice Springs**	**44.16**	**267**	P	P	20 42 37.2	+0.4
	0.7nm,0.7s,baz=103,slow=7.4,SNR=7.0						
WRA	**Warramunga Arr**	**45.23**	**272**	P	P	20 42 45.0	-0.3
	0.6nm,0.3s,baz=111,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**146.33**	**340**	PKPbc	PKPbc	20 54 07.2	-0.9
	0.9nm,0.6s,baz=29,slow=3.2,SNR=6.4						

*NEIC **27** 20:47:21.9, 40°44S×173°29E, h180km, MG4.2(WEL), After WEL.*
WEL 27 20:47:22.9±0.3, 40°46S×173°32E, h169km±2km, ML4.2/19, 20C-24D, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.57**	**127**	⇑PN	Pn	20 47 47.2	+0.4
DUWZ				SN	Sn	20 48 04.6	-0.5
DUWZ	**D'Urville Isla**	**0.57**	**127**	⇑Pn	Pn	20 47 47.2	+0.4
DUWZ				Sn	Sn	20 48 04.6	-0.5
QRZ	**Quartz Range**	**0.70**	**238**	⇓PN	Pn	20 47 47.4	0.0
QRZ				SN	Sn	20 48 05.3	-1.0
QRZ	**Quartz Range**	**0.70**	**238**	⇓Pn	Pn	20 47 47.4	0.0
NNZ	**Nelson**	**0.76**	**176**	⇓PN	Pn	20 47 47.8	0.0
NNZ				SN	Sn	20 48 06.4	-0.6
NNZ	**Nelson**	**0.76**	**176**	⇓Pn	Pn	20 47 47.8	0.0
TCW	**Tory Channel**	**1.05**	**136**	⇓PN	Pn	20 47 50.4	+0.5
TCW				SN	Sn	20 48 09.5	-1.2
TCW	**Tory Channel**	**1.05**	**136**	⇓Pn	Pn	20 47 50.4	+0.5
TUWZ	**Tuamarina**	**1.08**	**154**	⇓PN	Pn	20 47 50.4	+0.3
TUWZ				SN	Sn	20 48 10.2	-1.0
TUWZ	**Tuamarina**	**1.08**	**154**	⇓Pn	Pn	20 47 50.4	+0.3
NRZ	**Ngariki Road**	**1.22**	**23**	⇓PN	Pn	20 47 51.5	+0.1
NRZ	**Ngariki Road**	**1.22**	**23**	⇓Pn	Pn	20 47 51.5	+0.1
NWEZ	**Newall Road**	**1.26**	**20**	⇑PN	Pn	20 47 51.8	+0.1
NWEZ				SN	Sn	20 48 15.0	+1.2
NWEZ	**Newall Road**	**1.26**	**20**	⇑Pn	Pn	20 47 51.8	+0.1
KIW	**Kapiti Island**	**1.28**	**109**	PN	Pn	20 47 52.0	+0.1
KIW				SN	Sn	20 48 12.3	-1.7
KIW	**Kapiti Island**	**1.28**	**109**	Pn	Pn	20 47 52.0	+0.1
DFE	**Dawson Falls**	**1.28**	**28**	PN	Pn	20 47 52.0	+0.1
DFE	**Dawson Falls**	**1.28**	**28**	Pn	Pn	20 47 52.0	+0.1
BSWZ	**Blackbirch Sta**	**1.32**	**162**	⇓PN	Pn	20 47 52.5	+0.3
BSWZ				SN	Sn	20 48 14.3	-0.6
BSWZ	**Blackbirch Sta**	**1.32**	**162**	⇓Pn	Pn	20 47 52.5	+0.3
BSWZ				Sn	Sn	20 48 14.3	-0.6
NEZ	**North Egmont**	**1.33**	**27**	PN	Pn	20 47 52.0	-0.4
NEZ	**North Egmont**	**1.33**	**27**	Pn	Pn	20 47 52.0	-0.4
THZ	**Tophouse**	**1.34**	**193**	⇓PN	Pn	20 47 52.2	-0.2
THZ				SN	Sn	20 48 14.0	-1.2
THZ	**Tophouse**	**1.34**	**193**	⇓Pn	Pn	20 47 52.2	-0.2
SNZO	**South Karori**	**1.35**	**129**	⇓PN	Pn	20 47 52.6	+0.1
SNZO				SN	Sn	20 48 13.8	-1.5
SNZO	**South Karori**	**1.35**	**129**	⇓Pn	Pn	20 47 52.6	+0.1
PKE	**Pukeiti**	**1.36**	**22**	PN	Pn	20 47 52.6	-0.1
PKE	**Pukeiti**	**1.36**	**22**	Pn	Pn	20 47 52.6	-0.1
WEL	**Wellington**	**1.38**	**127**	PN	Pn	20 47 52.9	+0.2
WEL	**Wellington**	**1.38**	**127**	Pn	Pn	20 47 52.9	+0.2
RAEZ	**Rainy Point**	**1.44**	**36**	PN	Pn	20 47 52.1	-1.2
RAEZ	**Rainy Point**	**1.44**	**36**	Pn	Pn	20 47 52.1	-1.2
DREZ	**Durham Road**	**1.44**	**29**	PN	Pn	20 47 52.3	-1.1
DREZ	**Durham Road**	**1.44**	**29**	Pn	Pn	20 47 52.3	-1.1
CMWZ	**Cape Campbell**	**1.46**	**152**	PN	Pn	20 47 54.1	+0.6
CMWZ	**Cape Campbell**	**1.46**	**152**	Pn	Pn	20 47 54.1	+0.6
OGWZ	**Otaki Gorge**	**1.46**	**105**	⇑PN	Pn	20 47 53.8	+0.3
OGWZ	**Otaki Gorge**	**1.46**	**105**	⇑Pn	Pn	20 47 53.8	+0.2
WAZ	**Wanganui**	**1.46**	**62**	PN	Pn	20 47 53.9	+0.4
WAZ	**Wanganui**	**1.46**	**62**	Pn	Pn	20 47 54.0	+0.4
CAW	**Cannon Point**	**1.48**	**117**	PN	Pn	20 47 53.9	+0.2
CAW	**Cannon Point**	**1.48**	**117**	Pn	Pn	20 47 53.9	+0.2
BHW	**Baring Head**	**1.51**	**129**	PN	Pn	20 47 53.9	-0.1
BHW	**Baring Head**	**1.51**	**129**	Pn	Pn	20 47 53.9	-0.1
MHEZ	**Mangahewa**	**1.58**	**30**	PN	Pn	20 47 55.0	+0.2
MHEZ	**Mangahewa**	**1.58**	**30**	Pn	Pn	20 47 55.0	+0.2
DSZ	**Denniston Nort**	**1.72**	**221**	⇓PN	Pn	20 47 55.5	-0.6
DSZ	**Denniston Nort**	**1.72**	**221**	⇓Pn	Pn	20 47 55.5	-0.6
HOWZ	**Holdsworth Sta**	**1.73**	**105**	⇑PN	Pn	20 47 56.2	-0.1
HOWZ	**Holdsworth Sta**	**1.73**	**105**	⇑Pn	Pn	20 47 56.2	-0.1
VRZ	**Vera Road**	**1.73**	**40**	⇑PN	Pn	20 47 55.7	-0.7
VRZ	**Vera Road**	**1.73**	**40**	⇑Pn	Pn	20 47 55.7	-0.7
MRZ	**Mangatainoka R**	**1.74**	**97**	⇑PN	Pn	20 47 56.2	-0.1
MRZ	**Mangatainoka R**	**1.74**	**97**	⇑Pn	Pn	20 47 56.2	-0.1
MSWZ	**Moikau Station**	**1.75**	**124**	⇓PN	Pn	20 47 56.3	-0.2
MSWZ	**Moikau Station**	**1.75**	**124**	⇓Pn	Pn	20 47 56.3	-0.1
MTW	**Mount Morrison**	**1.80**	**114**	⇑PN	Pn	20 47 56.9	-0.1
MTW	**Mount Morrison**	**1.80**	**114**	⇑Pn	Pn	20 47 56.9	-0.1
PLWZ	**Palliser**	**1.84**	**128**	⇓PN	Pn	20 47 57.2	-0.3
PLWZ	**Palliser**	**1.84**	**128**	⇓Pn	Pn	20 47 57.2	-0.3
PAWZ	**Pa

TUZ Tuapeka 6.12 205 Pn Pn 20 48 48.4 -2.8
SYZ Scrubby Hill 6.79 205 Pn Pn 20 48 57.9 -2.2

IDC 27 21:01:20.1±2.2, 13°.41N×93°.19E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, ML1.9/1, Error ellipse: s-maj=68.3km s-min=29.6km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.47**	**47**	Pn	Pn	21 03 10.3	0.0
	0.0nm,0.3s,baz=243,slow=15,SNR=2.7						
CMAR				Sn	Sn	21 04 27.8	-8.1
	0.2nm,0.3s,baz=242,slow=27,SNR=3.2						
MKAR	**Makanchi Array**	**34.52**	**347**	P	P	21 08 10.0	0.0
	0.2nm,0.5s,baz=162,slow=8.2,SNR=3.4						
WRA	**Warramunga Arr**	**52.32**	**129**	P	P	21 10 34.1	+0.2
	0.5nm,0.9s,baz=304,slow=7.9,SNR=5.3						
WRA				pP		21 10 41.2	
	0.6nm,0.8s,baz=300,slow=9.8,SNR=7.1						
ASAR	**Alice Springs**	**54.25**	**133**	P	P	21 10 48.0	-0.2
	0.2nm,0.3s,baz=309,slow=6.8,SNR=7.3						
ASAR				pP		21 10 56.2	
	0.5nm,0.5s,baz=309,slow=6.8,SNR=8.3						

*IDC **27** 21:07:42.7±0.5, 14°.83S×167°.89E, h0km, mb4.9/22, mb1 4.9/23, mb1mx4.9/23, mbtmp4.9/23, ML5.2/1, MS4.3/13, Ms1 4.3/13, ms1mx4.2/24, Error ellipse: s-maj=15.2km s-min=14.6km az=15.0*

*MOS **27** 21:07:46.9±1.2, 14°.78S×167°.68E, h33km, mb5.2/49, MS4.4/7, Error ellipse: s-maj=9.5km s-min=8.1km az=13.7*

*ISCJB **27** 21:07:46.5±0.2, 14°.91S±0°.03×167°.74E±0°.03, h33km, mb5.2/128, MS4.5/21, Error ellipse: s-maj=4.4km s-min=4.3km az=25.3*

*GCMT **27** 21:07:47.6±0.2, 14°.86S×167°.81E, h13km, MW5.2, Moment Tensor Solution. s55,c76; s80,c132; Moment tensor: Scale 10^{16}Nm; M_{rr}6.19±.21; $M_{\theta\theta}$-0.46±.19; $M_{\phi\phi}$-5.73±.16; $M_{r\theta}$0.18±.44; $M_{r\phi}$3.64±.13; $M_{\theta r}$-1.35±.37; Best double couple: $M_0$7.00000×10^{16} NP1:ϕ_s328.00000°, δ40.00000°, λ82.00000°. NP2:ϕ_s158.00000°, δ51.00000°, λ97.00000°. Principal axes: T 6.3500, Plg83.0000°, Azm108.0000°; N 1.3600, Plg5.0000°, Azm334.0000°; P -7.7100, Plg5.0000°, Azm243.0000°; Data Used: II IU G CN IC.*

*BJI **27** 21:07:47.8, 14°.80S×167°.80E, h40km, mB5.4/20, mb4.9/33, Ms5.2/18, Ms7 4.9/19*

*NEIC **27** 21:07:48.8±1.2, 14°.83S×167°.77E, h40km±10km, mb5.1/60, Error ellipse: s-maj=6.9km s-min=6.4km az=179.0*

*DJA **27** 21:07:53, 15°.22S×167°.81E, h64km, mb5.3/53*

ISC 27 21:07:48.4±0.2, 14°.89S±0°.03×167°.80E±0°.03, h35km, (h50km±3.9km:pP-P), n437, σ19°04/269, mb5.2/128, MS4.5/21, 5C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.26**	**190**	*e*Pn	**Pn**	**21 09 31.1**	**-1.0**
	89nm,0.3s						
DZM				*e*LR	LR	21 10 54.5	
	4μm,26.4s						
DZM	**Mont Dzumac**	**7.26**	**190**	*e*Pn	**Pn**	**21 09 31.4**	**-0.7**
	105nm,0.5s						
DZM				*e*S	**Sn**	**21 10 53.4**	**+0.1**
NOUC	**Port Laguerre**	**7.32**	**191**	*e*P	**Pn**	**21 09 32.8**	**-0.1**
NOUC				*e*S	**Sn**	**21 10 52.7**	**-1.9**
LASL	**Noumea**	**7.40**	**189**	*e*P	**Pn**	**21 09 33.7**	**-0.3**
HNR	**Honiara**	**9.40**	**304**	Pn	**Pn**	**21 10 00.7**	**-0.8**
	25nm,0.3s,baz=155,slow=9.9,SNR=10						
HNR				Sn	**Sn**	**21 11 46.2**	**+0.2**
	10nm,0.3s,baz=342,slow=20,SNR=1.6						
HNR				LR	LR	21 13 06.3	
	comp=Z,1μm,20.3s,baz=134,slow=34						
HNR	**Honiara**	**9.40**	**304**	*e*Pn	**Pn**	**21 10 00.9**	**-0.6**
HNR				*e*S	**Sn**	**21 11 53.7**	**+7.7**
HNR	**Honiara**	**9.40**	**304**	*e*P	**Pn**	**21 10 00.9**	**-0.6**
HNR				*e*S	**Sn**	**21 11 53.7**	**+7.7**
MSVF	**Nonsavu**	**10.24**	**107**	*e*Pn	**Pn**	**21 10 16.8**	**+3.9**
MSVF	**Nonsavu**	**10.24**	**107**	*e*P	**Pn**	**21 10 16.8**	**+3.9**
MSVF	**Nonsavu**	**10.24**	**107**	Pn	**Pn**	**21 10 18.0**	**+5.1**
	389nm,1.0s,SNR=9.1						
FUNA	**Funafuti**	**12.82**	**62**	Pn	**Pn**	**21 10 43.7**	**-4.6**
EIDS	**Eidsvold**	**18.83**	**234**	*e*Pn	**Pn**	**21 12 07.0**	**+1.0**
	54nm,1.0s						
PMG	**Port Moresby**	**20.90**	**283**	P	**P**	**21 12 28.3**	**+0.3**
	18nm,0.8s,baz=100,slow=2.8,SNR=10						
PMG	**Port Moresby**	**20.90**	**283**	*e*P	**P**	**21 12 28.0**	**+0.1**
	257nm,1.2s						
PMG	**Port Moresby**	**20.90**	**283**	*c i*P	**P**	**21 12 27.4**	**-0.5**
PMG				pmax	pmax		
	comp=Z,49nm,1.2s						
PMG	**Port Moresby**	**20.90**	**283**	P	**P**	**21 12 29.0**	**+1.1**
	comp=Z,2μmcomp=Z,103nm,0.9s						
OUZ	**Omahuta**	**20.91**	**167**	*e*P	**P**	**21 12 29.2**	**+1.3**
	comp=Z,66nm,0.9s						
CTA	**Charters Tower**	**21.19**	**253**	P	**P**	**21 12 32.1**	**+1.1**
	comp=Z,40nm,0.9s,mb4.7,baz=76,slow=14,SNR=18						
CTA				LR	LR	21 19 59.2	
	comp=Z,2μm,18.8s,MS4.5,baz=70,slow=35						
CTA	**Charters Tower**	**21.19**	**253**	*e*P	**P**	**21 12 31.9**	**+0.9**
CTA	**Charters Tower**	**21.19**	**253**	P	**P**	**21 12 32.1**	**+1.1**
CTA	**Charters Tower**	**21.19**	**253**	P	**P**	**21 12 32.1**	**+1.1**
CTA				pmax	pmax		
	comp=Z,41nm,0.9s						
CTA				MLR	MLR		
	comp=Z,2μm,18.8s						
CTAO	**Charters Tower**	**21.19**	**253**	*e*P	**P**	**21 12 32.1**	**+1.1**
	comp=Z,74nm,0.9s,mb5.0						
CTAO	**Charters Tower**	**21.19**	**253**	*e*P	**P**	**21 12 32.2**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,74nm,0.9s,mb5.0						
CTAO	**Charters Tower**	**21.19**	**253**	P	**P**	**21 12 32.3**	**+1.3**
	comp=Z,1μmcomp=Z,93nm,1.0s,mb5.1						
ARMA	**Armidale**	**21.45**	**221**	*e*P	**P**	**21 12 35.2**	**+1.5**
ARMA	**Armidale**	**21.45**	**221**	*e*P	**P**	**21 12 34.4**	**+0.7**
	comp=Z,44nm,0.9s,mb4.8						
COEN	**Coen**	**23.87**	**269**	*e*P	**P**	**21 12 58.7**	**-0.1**
	comp=Z,499nm,1.4s,mb5.8						
COEN	**Coen**	**23.87**	**269**	P	**P**	**21 12 58.2**	**-0.7**
	comp=Z,28nm,1.4s,mb4.5						
URZ	**Urewera**	**24.69**	**162**	P	**P**	**21 13 06.2**	**+0.1**
	comp=Z,36nm,1.0s,mb4.8,baz=341,slow=8.7,SNR=11						
URZ				LR	LR	21 20 51.0	
	comp=Z,1μm,20.7s,MS4.5,baz=350,slow=32						
URZ	**Urewera**	**24.69**	**162**	P	**P**	**21 13 06.2**	**+0.1**
CNB	**Canberra Magne**	**26.23**	**216**	*e*P	**P**	**21 13 21.1**	**+0.9**
CAN	**Canberra**	**26.44**	**216**	*e*P	**P**	**21 13 22.0**	**0.0**
	comp=Z,57nm,1.7s,mb4.8						
CAN	**Canberra**	**26.44**	**216**	*e*P	**P**	**21 13 22.0**	**-0.1**
CAN				pmax	pmax		
	comp=Z,57nm,1.7s,mb4.8						
RPZ	**Rata Peaks**	**28.87**	**175**	P	**P**	**21 13 44.4**	**+0.7**
	comp=Z,5.0nm,0.6s,mb4.4,baz=359,slow=4.2,SNR=3.8						
RPZ				LR	LR	21 23 48.1	
	comp=Z,423nm,21.6s,MS4.0,baz=165,slow=33						
RPZ	**Rata Peaks**	**28.87**	**175**	P	**P**	**21 13 44.4**	**+0.7**
STKA	**Stephens Creek**	**29.29**	**230**	P	**P**	**21 13 48.1**	**+0.6**
	comp=Z,14nm,0.4s,mb5.1,baz=54,slow=8.7,SNR=49						
STKA				LR	LR	21 24 47.2	
	comp=Z,994nm,20.3s,MS4.4,baz=53,slow=35						
STKA	**Stephens Creek**	**29.29**	**230**	‖*i*P	**P**	**21 13 48.2**	**+0.6**
STKA	**Stephens Creek**	**29.29**	**230**	*e*P	**P**	**21 13 48.4**	**+0.9**
	comp=Z,9.7nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**29.29**	**230**	*e*P	**P**	**21 13 48.4**	**+0.8**
STKA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TOO	**Toolangi**	**30.03**	**217**	*e*P	**P**	**21 13 54.8**	**+0.7**
RAR	**Rarotonga**	**31.42**	**106**	P	**P**	**21 14 06.4**	**-0.2**
	comp=Z,34nm,1.0s,mb5.1,baz=216,slow=8.9,SNR=3.5						
RAR				LR	LR	21 23 52.1	
	comp=Z,483nm,19.5s,MS4.2,baz=295,slow=31						
RAR	**Rarotonga**	**31.42**	**106**	P	**P**	**21 14 06.4**	**-0.2**
RAR	**Rarotonga**	**31.42**	**106**	P	**P**	**21 14 06.4**	**-0.2**
RAR				pmax	pmax		
	comp=Z,34nm,1.0s						
RAR				MLR	MLR		
	comp=Z,483nm,19.5s						
SMPI	**Sarmi**	**31.44**	**291**	P	**P**	**21 14 07.1**	**+0.3**
	comp=Z,121nm,1.4s,mb5.5						
WB2	**Warramunga Arr**	**32.28**	**256**	*e*P	**P**	**21 14 12.7**	**-1.4**
WRAB	**Tennant Creek**	**32.28**	**256**	*e*P	**P**	**21 14 12.2**	**-1.9**
	comp=Z,17nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**32.28**	**256**	*e*P	**P**	**21 14 12.3**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**32.28**	**256**	P	**P**	**21 14 12.8**	**-1.3**
	comp=Z,29nm,1.1s,mb5.0						
WRAB	**Tennant Creek**	**32.28**	**256**	P	**P**	**21 14 12.2**	**-1.9**
	comp=Z,84nm,0.6s,mb5.8,SNR=20						
WRA	**Warramunga Arr**	**32.29**	**256**	P	**P**	**21 14 12.5**	**-1.7**
	comp=Z,6.7nm,0.5s,mb4.8,baz=86,slow=9.6,SNR=153						
WRA				PcP	PcP	21 17 02.1	+0.1
	comp=Z,3.4nm,1.0s,baz=91,slow=4.8,SNR=5.2						
WRA				LR	LR	21 26 45.2	
	comp=Z,2μm,19.3s,MS4.9,baz=85,slow=35						
WRA	**Warramunga Arr**	**32.29**	**256**	P	**P**	**21 14 12.5**	**-1.7**
WRA				PcP	PcP	21 17 02.0	+0.1
WRA	**Warramunga Arr**	**32.29**	**256**	P	**P**	**21 14 12.5**	**-1.7**
WRA						21 17 02.1	
WRA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WRA				MLR	MLR		
	comp=Z,2μm,19.3s						
MOO	**Moorlands**	**32.70**	**209**	*e*P	**P**	**21 14 18.6**	**+1.1**
AS31	**Alice Springs**	**33.10**	**249**	*e*P	**P**	**21 14 20.3**	**-1.0**
AS31				*e*PcP	PcP	21 17 04.0	-0.2
ASAR	**Alice Springs**	**33.10**	**249**	P	**P**	**21 14 20.1**	**-1.1**
	comp=Z,12nm,0.5s,mb5.1,baz=79,slow=8.9,SNR=262						
ASAR				PcP	PcP	21 17 04.2	+0.1
	comp=Z,4.5nm,0.8s,baz=88,slow=1.7,SNR=5.8						
ASAR				S	**S**	**21 19 36.9**	**-1.3**
	comp=Z,4.5nm,1.2s,baz=84,slow=26,SNR=5.9						
ASAR				ScP	ScP	21 20 51.4	+5.5
	comp=Z,1.2nm,0.9s,baz=96,slow=2.8,SNR=5.2						
ASAR	**Alice Springs**	**33.10**	**249**	P	**P**	**21 14 20.1**	**-1.1**
ASAR				PcP	PcP	21 17 04.2	+0.1
ASAR				S	**S**	**21 19 36.9**	**-1.3**
ASAR				ScP	ScP	21 20 51.4	+5.5
ASAR	**Alice Springs**	**33.10**	**249**	P	**P**	**21 14 20.2**	**-1.1**
ASAR						21 17 04.3	
ASAR				S	**S**	**21 19 36.9**	**-1.4**
ASAR				pmax	pmax		
	comp=Z,13nm,0.5s						
ASAR				smax			
	comp=N,5.0nm,1.2s						
BBOO	**Buckleboo**	**33.89**	**233**	*e*P	**P**	**21 14 28.7**	**+0.6**
	comp=N,891nm,0.8s						
FORT	**Forrest**	**39.66**	**240**	*e*P	**P**	**21 15 17.1**	**-0.1**
FORT	**Forrest**	**39.66**	**240**	*e*P	**P**	**21 15 17.1**	**-0.1**
	comp=N,99nm,0.6s,mb5.7						
FITZ	**Fitzroy Crossi**	**40.49**	**259**	*e*P	**P**	**21 15 22.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**40.49**	**259**	*e*P	**P**	**21 15 23.1**	**-1.2**
	comp=N,20nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.49**	**259**	P	**P**	**21 15 23.4**	**-0.9**
	comp=N,29nm,1.3s,mb4.8						
PPT2	**Papete2**	**40.95**	**100**	*e*S	**S**	**21 21 34.0**	**-3.8**
	comp=N,363nm,25.5s						
PPT2				*e*LQ		21 24 50.3	
	comp=N,1μm,31.0s						
PPT2				*e*LR	LR	21 26 23.8	
	comp=N,1μm,28.8s						
TBI	**Tubuai**	**41.12**	**108**	*e*P	**P**	**21 15 27.8**	**-1.6**
	comp=N,131nm,1.1s,mb5.5						
TBI				*e*S	**S**	**21 21 34.2**	**-6.2**
	comp=N,331nm,26.5s						
TBI				*e*LQ		21 24 46.6	
	comp=N,2μm,30.2s						
TBI				*e*LR	LR	21 26 27.6	
	comp=N,833nm,29.5s						
TIAR	**Tiarei**	**41.17**	**100**	*e*P	**P**	**21 15 29.7**	**-0.1**
	comp=N,69nm,1.1s,mb5.2						
LBMI	**Labuha**	**42.26**	**286**	P	**P**	**21 15 46.2**	**+7.4**
	comp=N,97nm,1.2s,mb5.3						
MEH	**Mehetia**	**42.37**	**100**	*e*P	**P**	**21 15 39.5**	**-0.2**
	comp=N,143nm,1.1s,mb5.5						
PMOR	**Pomariorio Ree**	**42.75**	**96**	*e*P	**P**	**21 15 43.9**	**+1.1**
	comp=N,154nm,1.0s,mb5.7						
MMRI	**Maumere**	**44.98**	**273**	P	**P**	**21 16 00.2**	**-0.5**
	comp=N,105nm,1.2s,mb5.5						
BBSI	**Bau Bau**	**45.41**	**277**	P	sP	21 16 17.1	-1.6
KMSI	**Cibinong**	**45.97**	**286**	P	**P**	**21 16 11.9**	**+3.3**
	comp=N,2μmcomp=N,157nm,0.9s,mb6.0						
MBWA	**Marble Bar**	**46.00**	**255**	*e*P	**P**	**21 16 08.5**	**-0.3**
	comp=N,31nm,0.7s,mb5.3						
MBWA	**Marble Bar**	**46.00**	**255**	P	**P**	**21 16 08.3**	**-0.4**
	comp=N,53nm,0.8s,mb5.5						
LUWI	**Luwuk**	**46.55**	**283**	P	**P**	**21 16 15.7**	**+2.6**
	comp=N,857nmcomp=N,74nm,1.1s,mb5.5						
GTOI	**Gorontalo**	**46.90**	**285**	P	**P**	**21 16 16.8**	**+0.9**
	comp=N,60nm,0.9s,mb5.5						
BKSI	**Bulukumba**	**47.80**	**276**	P	**P**	**21 16 21.9**	**-1.0**
	comp=N,515nmcomp=N,31nm,1.2s,mb5.2						
MRSI	**Marisa**	**47.84**	**285**	P	**P**	**21 16 21.3**	**-1.9**
	comp=N,511nmcomp=N,25nm,1.3s,mb5.1						
KAPI	**Kappang**	**48.24**	**277**	*e*P	**P**	**21 16 25.6**	**-0.7**
	comp=N,63nm,1.0s,mb5.6						
KAPI	**Kappang**	**48.24**	**277**	P	**P**	**21 16 25.8**	**-0.5**
	comp=N,665nmcomp=N,66nm,1.4s,mb5.5						
KLBR	**Kellerberrin**	**48.48**	**241**	*e*P	**P**	**21 16 26.7**	**-1.2**
	comp=N,17nm,0.7s,mb5.2						
TTSI	**Tana Toraja**	**48.72**	**279**	P	**P**	**21 16 38.3**	**+8.3**
	comp=N,762nmcomp=N,28nm,1.2s,mb5.2						
NWAO	**Narrogin (SRO)**	**49.11**	**239**	*e*P	**P**	**21 16 31.7**	**-1.0**
	comp=N,42nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	**49.11**	**239**	*e*P	**P**	**21 16 31.7**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,43nm,1.0s						
MJSI	**Majene**	**49.38**	**278**	P	**P**	**21 16 35.7**	**+0.7**
	comp=Z,615nmcomp=Z,39nm,1.2s,mb5.3						
MTNI	**Mataram**	**50.84**	**271**	P	**P**	**21 16 45.8**	**-0.3**
	comp=Z,85nm,0.9s,mb5.7						
TAOE	**Nuku Hiva Isla**	**51.20**	**89**	*e*S	**S**	**21 24 03.2**	**-2.0**
	comp=Z,585nm,27.7s						
TAOE				*e*LR	LR	21 31 11.7	
	comp=Z,861nm,30.0s						
KHKI	**Kahang-Kahang**	**51.44**	**271**	P	**P**	**21 16 53.6**	**+3.0**
	comp=Z,73nm,1.3s,mb5.5						
IGBI	**Denpasar**	**51.79**	**270**	P	**P**	**21 16 59.0**	**+5.7**
	comp=Z,140nm,0.7s,mb6.0						
KBKI	**Kotabaru**	**52.14**	**277**	P	**P**	**21 17 03.2**	**+7.3**
	comp=Z,33nm,1.3s,mb5.1						
NBBI	**Negara**	**52.40**	**271**	P	**P**	**21 17 04.5**	**+6.8**
	comp=Z,130nm,1.1s,mb5.8						
MYLDM	**Lahad Datu**	**52.77**	**288**	P	**P**	**21 17 07.0**	**+6.5**
	comp=Z,50nm,1.2s,mb5.3						
KMMI	**Kalianget**	**53.32**	**272**	P	**P**	**21 17 12.6**	**+8.0**
	comp=Z,91nm,1.4s,mb5.5						
GMJI	**Gumukmas**	**53.55**	**271**	P	**P**	**21 17 07.3**	**+1.0**
	comp=Z,57nm,2.2s,mb5.1						
PWJI	**Pagerwojo**	**55.19**	**271**	P	**P**	**21 17 19.2**	**+1.0**
	comp=Z,48nm,1.7s,mb5.2						
KKM	**Kota Kinabalu**	**55.20**	**288**	*e*P	**P**	**21 17 18.7**	**+0.4**
	comp=Z,54nm,1.0s,mb5.5						
KKM	**Kota Kinabalu**	**55.20**	**288**	P	**P**	**21 17 18.9**	**+0.6**
	comp=Z,704nmcomp=Z,61nm,1.1s,mb5.5						
SJI	**Sawahan**	**55.29**	**271**	P	**P**	**21 17 20.0**	**+1.1**
	comp=Z,50nm,1.4s,mb5.4						
PCJI	**Pacitan**	**55.76**	**270**	P	**P**	**21 17 23.6**	**+1.3**
	comp=Z,116nm,1.4s,mb5.7						
UGM	**Wangama**	**56.45**	**270**	P	**P**	**21 17 27.7**	**+0.4**
	comp=Z,249nm,2.0s,mb5.9						
JOW	**Kunigami**	**56.51**	**317**	P	**P**	**21 17 27.6**	**+0.2**
	comp=Z,14nm,0.6s,mb5.2,baz=117,slow=6.8,SNR=4.4						
JOW				LR	LR	21 38 48.0	
	comp=Z,220nm,18.5s,MS4.3,baz=135,slow=33						
JOW	**Kunigami**	**56.51**	**317**	P	**P**	**21 17 27.6**	**+0.2**
PBKI	**Pangkalan Bun**	**56.62**	**277**	P	**P**	**21 17 30.1**	**+1.6**
	comp=Z,55nm,1.1s,mb5.5						
BJII	**Banjarmegara**	**57.37**	**271**	P	**P**	**21 17 36.0**	**+2.2**
	comp=Z,40nm,1.6s,mb5.2						
SBUM	**Sibu**	**57.65**	**283**	P	**P**	**21 17 35.6**	**-0.1**
	comp=Z,12nm,1.0s,mb4.9						
MJAR	**Matsushiro Arr**	**58.28**	**332**	P	**P**	**21 17 39.3**	**-0.4**
	comp=Z,8.5nm,0.9s,mb4.8,baz=170,slow=8.7,SNR=13						
MJAR	**Matsushiro Arr**	**58.28**	**332**	P	**P**	**21 17 39.3**	**-0.4**
MJAR	**Matsushiro Arr**	**58.28**	**332**	P	**P**	**21 17 39.3**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAT	**Matsushiro**	**58.28**	**332**	P	**P**	**21 17 37.7**	**-2.0**
KSM	**Kuching**	**59.15**	**281**	*e*P	**P**	**21 17 44.8**	**-1.4**
	comp=Z,36nm,1.1s,mb5.3						
KSM	**Kuching**	**59.15**	**281**	P	**P**	**21 17 45.7**	**-0.5**
	comp=Z,33nm,1.4s,mb5.2						
JNU	**Nakatsue**	**59.35**	**324**	*e*P	**P**	**21 17 46.3**	**-0.9**
	comp=Z,9.2nm,0.8s,mb4.9						
LEM	**Lembang**	**59.50**	**271**	P	**P**	**21 17 49.5**	**+0.8**
	comp=Z,68nm,0.8s,mb5.7						
CBJI	**Citeko**	**60.34**	**271**	P	**P**	**21 17 53.7**	**-0.7**
	comp=Z,124nm,0.9s,mb5.9						
SKJI	**Sukabumi**	**60.49**	**270**	P	**P**	**21 17 55.4**	**0.0**
	comp=Z,126nm,1.2s,mb5.8						
CGJI	**Cibinong**	**61.41**	**271**	P	**P**	**21 18 00.0**	**-1.7**
	comp=Z,100nm,1.1s,mb5.8						
VNDA	**Vanda**	**62.72**	**181**	*e*P	**P**	**21 18 10.3**	**+0.9**
	comp=Z,9.1nm,1.0s,mb4.9						
VNDA	**Vanda**	**62.72**	**181**	*e*P	**P**	**21 18 10.4**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SBA	**Scott Base**	**62.98**	**180**	*e*P	**P**	**21 18 12.5**	**+1.3**
	comp=Z,21nm,1.3s,mb5.1						
SBA				*e*pP	pP	21 18 27.0	+5.1
SBA	**Scott Base**	**62.98**	**180**	*e*P	**P**	**21 18 12.5**	**+1.3**
SBA				*e**PP	pP	21 18 27.0	+5.1
SBA				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.1						
ASAJ	**Asahikawa**	**63.06**	**340**	P	**P**	**21 18 11.6**	**-0.5**
	comp=Z,28nm,1.0s,mb5.3,baz=194,slow=8.3,SNR=4.5						
ASAJ	**Asahikawa**	**63.06**	**340**	P	**P**	**21 18 11.6**	**-0.5**
ASAJ	**Asahikawa**	**63.06**	**340**	P	**P**	**21 18 11.6**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,28nm,1.0s						
KSRS	**Korea Array**	**64.16**	**325**	P	**P**	**21 18 20.1**	**+0.6**
	comp=Z,4.7nm,0.8s,mb4.6,baz=138,slow=7.3,SNR=14						
KSRS	**Korea Array**	**64.16**	**325**	P	**P**	**21 18 20.1**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KSAR	**Wonju Array Be**	**64.17**	**325**	P	**P**	**21 18 20.1**	**+0.5**
KSAR	**Wonju Array Be**	**64.17**	**325**	P	**P**	**21 18 20.1**	**+0.5**
NJ2	**Nanjing**	**66.15**	**316**	*e*P	**P**	**21 18 33.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
QIZ	**Qiongzhong**	**66.27**	**299**	P	**P**	**21 18 32.0**	**-1.5**
USRK	**Ussuriysk Arra**	**67.25**	**333**	P	**P**	**21 18 40.6**	**+1.3**
	comp=Z,5.2nm,0.8s,mb4.6,baz=131,slow=7.6,SNR=7.4						
BKNI	**Bangkinang**	**67.67**	**277**	P	**P**	**21 18 43.1**	**+0.5**
	comp=Z,836nmcomp=Z,82nm,1.1s,mb5.7						
MDJ	**Mudanjiang**	**68.66**	**332**	P	**P**	**21 18 49.0**	**+0.9**
MDJ				pP	pP	21 19 01.0	+2.0
MDJ				sP	sP	21 19 06.3	+3.3
MDJ				PcP	PcP	21 19 13.0	+0.2
MDJ				PP	PP	21 21 20.0	-0.3
MDJ				S	S	21 27 51.3	+2.7
MDJ				SS	SS	21 32 16.0	+2.0
MDJ				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
MDJ				pmax	pmax		
	comp=Z,300nm,5.8s						
MDJ				LR	LR		
	comp=N,79nm,20.1s,MS4.0						
MDJ				LR	LR		
	comp=E,61nm,19.3s,MS4.0						
IPM	**Ipoh**	**68.88**	**281**	*e*P	**P**	**21 18 50.1**	**-0.2**
	comp=E,21nm,0.8s,mb5.1						
IPM	**Ipoh**	**68.88**	**281**	P	**P**	**21 18 49.9**	**-0.3**
	comp=E,32nm,1.1s,mb5.2						
MNSI	**Mandailing Nat**	**69.20**	**277**	P	**P**	**21 18 51.3**	**-0.9**
	comp=E,52nm,0.8s,mb5.5						
HABR	**Khabarovsk**	**69.48**	**337**	*e*P	pP	21 19 06.5	+2.6
HABR						21 19 13.7	
HABR				*e*		21 21 24.5	
HABR				*e*PPP		21 23 06.8	
HABR				*e*		21 28 47.4	
HABR				MLR	MLR		
	comp=Z,237nm,17.0s,MS4.5						
KULM	**Kulim**	**69.49**	**282**	*e*P	**P**	**21 18 53.6**	**-0.3**
	comp=Z,7.2nm,1.0s,mb4.6						
KULM	**Kulim**	**69.49**	**282**	P	**P**	**21 18 53.8**	**-0.2**
	comp=Z,1μmcomp=Z,15nm,1.3s,mb4.8						
CN2	**Changchun**	**70.05**	**329**	*e*P	**P**	**21 18 57.3**	**+0.6**
CN2				*e*sP	sP	21 19 17.8	+6.2
CN2				*e*S	S	21 28 03.0	-2.0
CN2				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
CN2				pmax	pmax		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=N,500nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=E,400nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=Z,700nm,19.0s,MS4.9						
PSI	**Prapat**	**70.39**	**278**	P	**P**	**21 18 59.1**	**-0.4**
	comp=Z,25nm,1.1s,mb5.1						
TSI	**Tuntungan**	**70.94**	**279**	P	**P**	**21 19 02.6**	**-0.3**
	comp=Z,68nm,1.7s,mb5.3						
KLR	**Kul'dur**	**71.36**	**336**	*e*P	**P**	**21 19 03.3**	**-1.3**
GYA	**Guiyang**	**72.23**	**304**	⇑*i*P	**P**	**21 19

comp=Z,20nm,1.2s,mb4.9
LZH pmax pmax
comp=Z,110nm,7.0s
LZH LR LR
comp=N,300nm,16.2s,MS4.9
LZH LR LR
comp=E,320nm,17.4s,MS4.9
LZH LR LR
comp=Z,430nm,18.2s,MS4.8
YAK Yakutsk 82.33 343 *eP* **P 21 20 05.1 -1.0**
comp=Z,22nm,0.8s,mb5.2
YAK Yakutsk 82.33 343 *eP* **P 21 20 05.1 -1.0**
YAK pmax pmax
comp=Z,23nm,0.8s,mb5.2
ULN Ulaanbaatar 82.57 324 *eP* **P 21 20 07.9 +0.2**
comp=Z,13nm,0.9s,mb5.0
ULN Ulaanbaatar 82.57 324 *eP* **P 21 20 07.9 +0.2**
ULN pmax pmax
comp=Z,13nm,0.9s,mb5.0
BILL Bilibino 82.70 359 *eP* **P 21 20 06.2 -1.8**
comp=Z,12nm,1.1s,mb4.8
BILL Bilibino 82.70 359⇑ *eP* **P 21 20 06.3 -1.7**
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.8
SONM Songino Array 82.93 323 P **P 21 20 09.9 +0.3**
comp=Z,4.9nm,0.8s,mb4.6,baz=130,slow=4.3,SNR=7.9
SONM Songino Array 82.93 323 P **P 21 20 09.9 +0.3**
SONM Songino Array 82.93 323 P **P 21 20 09.9 +0.3**
SONM pmax pmax
comp=Z,5.0nm,0.8s
GTA Gaotai 83.15 314 P **P 21 20 11.5 +0.6**
GTA pP pP 21 20 26.5 +4.5
GTA sP sP 21 20 32.8 +6.8
GTA S S 21 30 26.5 -2.0
GTA sS sS 21 30 52.8 +6.0
GTA pmax pmax
comp=Z,13nm,1.3s,mb4.8
GTA pmax pmax
comp=Z,160nm,6.7s
GTA LR LR
comp=N,210nm,16.1s,MS4.7
GTA LR LR
comp=E,190nm,16.2s,MS4.7
GTA LR LR
comp=Z,210nm,14.2s,MS4.7
TRF Thorofare Moun 84.53 18 *eP* **P 21 20 15.4 -2.1**
comp=Z,129nm,2.2s,mb5.7
WDC Whiskeytown Da 84.80 46 *eP* **P 21 20 20.8 +1.5**
comp=Z,83nm,2.3s,mb5.5
WDC Whiskeytown Da 84.80 46 *eP* **P 21 20 20.8 +1.5**
WDC pmax pmax
comp=Z,83nm,2.3s,mb5.5
BOD Bodaibo 84.84 334 *eP* **P 21 20 17.2 -1.9**
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
MCK McKinley 85.14 18 *eP* **P 21 20 18.6 -1.9**
comp=Z,21nm,1.1s,mb5.2
MCK McKinley 85.14 18 *eP* **P 21 20 18.6 -1.9**
MCK pmax pmax
comp=Z,21nm,1.1s,mb5.2
CMB Columbia Colle 85.31 49 *eP* **P 21 20 21.0 -1.0**
comp=Z,9.5nm,1.2s,mb4.8
CMB Columbia Colle 85.31 49 *eP* **P 21 20 21.0 -1.0**
CMB pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
MWC Mount Wilson 85.64 53 *eP* **P 21 20 24.5 +0.8**
comp=Z,39nm,1.5s,mb5.4
MWC Mount Wilson 85.64 53 *eP* **P 21 20 24.5 +0.8**
MWC pmax pmax
comp=Z,39nm,1.5s,mb5.4
ISA Isabella 85.84 52 *eP* **P 21 20 24.9 +0.2**
comp=Z,11nm,1.2s,mb5.0
ISA Isabella 85.84 52 *eP* **P 21 20 24.9 +0.2**
ISA pmax pmax
comp=Z,11nm,1.2s,mb5.0
ZAK Zakamensk 85.98 325 *eP* **P 21 20 24.5 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
LSA Lhasa 86.08 302 *eP* **P 21 20 27.0 +1.0**
comp=Z,12nm,0.9s,mb5.1
LSA Lhasa 86.08 302 *eP* **P 21 20 27.0 +1.0**
LSA pmax pmax
comp=Z,12nm,0.9s,mb5.1
COLA College 86.31 17 *eP* **P 21 20 24.4 -1.9**
comp=Z,9.3nm,0.8s,mb5.1
COLA College 86.31 17 *eP* **P 21 20 24.4 -1.9**
COLA pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MTUM Tungsten Hills 86.39 50 *eP* **P 21 20 28.1 +0.8**
ILAR Eielson Array 86.52 18 P **P 21 20 24.9 -2.4**
comp=Z,9.4nm,0.7s,mb5.1,baz=233,slow=4.7,SNR=83
ILAR LR LR 21 54 13.1
comp=Z,264nm,20.4s,MS4.6,baz=145,slow=32
ILAR Eielson Array 86.52 18 P **P 21 20 24.9 -2.4**
ILAR Eielson Array 86.52 18 P **P 21 20 24.9 -2.4**
ILAR pmax pmax
comp=Z,9.0nm,0.7s
ILAR MLR MLR
comp=Z,264nm,20.4s
NVAR Mina Array Bea 86.98 49 P **P 21 20 30.1 -0.1**
comp=Z,6.7nm,1.0s,mb4.8,baz=237,slow=6.3,SNR=20
NVAR LR LR 21 50 04.1
comp=Z,243nm,21.8s,MS4.6,baz=100,slow=29
NVAR Mina Array Bea 86.98 49 P **P 21 20 30.1 -0.1**
GSC Goldstone 86.98 52 *eP* **P 21 20 31.9 +1.6**
comp=Z,16nm,1.5s,mb5.0
GSC Goldstone 86.98 52 *eP* **P 21 20 31.9 +1.6**
GSC pmax pmax
comp=Z,17nm,1.5s,mb5.0
COLD Coldfoot 87.44 15 *eP* **P 21 20 31.8 0.0**
comp=Z,36nm,2.1s,mb5.2
TAPN Taplejung 88.21 299 *eP* **P 21 20 36.3 0.0**
comp=Z,39nm,0.9s,mb5.6
TAPN Taplejung 88.21 299 *eP* **P 21 20 36.3 0.0**
comp=Z,39nm,0.9s,mb5.6
LDFC Landfair 88.21 53 *eP* **P 21 20 35.8 -0.4**
comp=Z,31nm,1.0s,mb5.5
ODAN Odare 88.33 298 *eP* **P 21 20 36.3 -0.6**
comp=Z,32nm,0.8s,mb5.6
ODAN Odare 88.33 298 *eP* **P 21 20 36.3 -0.6**
comp=Z,32nm,0.8s,mb5.6
SYO Syowa Base 88.70 196⇓ *eP* **P 21 20 36.2 -1.7**
RAMN Ramite 89.03 298 *eP* **P 21 20 40.0 -0.2**
comp=Z,25nm,1.0s,mb5.5
RAMN Ramite 89.03 298 *eP* **P 21 20 40.0 -0.2**
comp=Z,25nm,1.0s,mb5.5
HAWA Hanford 89.13 41 *eP* **P 21 20 41.7 +1.5**
comp=Z,29nm,1.5s,mb5.4
JIRN Jiri 89.59 299 *eP* **P 21 20 42.7 -0.1**
comp=Z,9.0nm,1.1s,mb5.0
JIRN Jiri 89.59 299 *eP* **P 21 20 42.7 -0.1**
comp=Z,9.0nm,1.1s,mb5.0
GUN Gumba 89.92 299 *eP* **P 21 20 44.4 0.0**
comp=Z,27nm,0.9s,mb5.6
GUN Gumba 89.92 299 *eP* **P 21 20 44.4 0.0**
comp=Z,27nm,0.9s,mb5.6
BMO Blue Mountains 90.01 43 *eP* **P 21 20 44.1 -0.3**
comp=Z,10nm,1.3s,mb5.0
BMO Blue Mountains 90.01 43 *eP* **P 21 20 44.1 -0.3**
BMO pmax pmax
comp=Z,10.0nm,1.3s,mb5.0
ELK Elko 90.01 48 *eP* **P 21 20 45.4 +1.0**
comp=Z,9.4nm,1.1s,mb5.0
ELK Elko 90.01 48 *eP* **P 21 20 45.4 +0.9**
ELK pmax pmax
comp=Z,9.0nm,1.1s
PKI Pulchoki 90.23 298 *eP* **P 21 20 45.2 -0.6**
comp=Z,48nm,1.2s,mb5.7
PKI Pulchoki 90.23 298 *eP* **P 21 20 45.2 -0.6**
comp=Z,48nm,1.2s,mb5.7
PKI Pulchoki 90.23 298 *eP* **P 21 20 45.2 -0.6**
PKI pmax pmax
comp=Z,48nm,1.2s,mb5.7
CCUT Cedar City 90.35 51 *eP* **P 21 20 46.7 +0.5**
comp=Z,8.5nm,1.1s,mb5.0
ARUT Antelope Range 90.37 51 *eP* **P 21 20 47.4 +1.2**
comp=Z,3.8nm,0.6s,mb4.9
ARUT Antelope Range 90.37 51 *eP* **P 21 20 47.4 +1.2**
ARUT pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
KKN Kakani 90.40 299 *eP* **P 21 20 46.0 -0.6**
comp=Z,14nm,0.8s,mb5.3
KKN Kakani 90.40 299 *eP* **P 21 20 46.0 -0.6**
comp=Z,14nm,0.8s,mb5.3
KKN Kakani 90.40 299 *eP* **P 21 20 46.0 -0.6**
KKN pmax pmax
comp=Z,14nm,0.8s,mb5.3

DMN Daman 90.50 298 *eP* **P 21 20 46.8 -0.3**
comp=Z,64nm,1.2s,mb5.8
DMN Daman 90.50 298 *eP* **P 21 20 46.8 -0.3**
comp=Z,64nm,1.2s,mb5.8
TUC Tucson 90.78 57 *eP* **P 21 20 48.0 -0.3**
comp=Z,8.6nm,1.1s,mb5.0
TUC Tucson 90.78 57 *eP* **P 21 20 48.0 -0.3**
TUC pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
GKN Gorkha 91.00 299 *eP* **P 21 20 48.4 -1.0**
comp=Z,28nm,1.1s,mb5.5
GKN Gorkha 91.00 299 *eP* **P 21 20 48.4 -1.0**
comp=Z,28nm,1.1s,mb5.5
WUAZ Wupatki 91.25 54 *eP* **P 21 20 51.2 +0.8**
comp=Z,13nm,1.1s,mb5.2
HLID Hailey 91.52 45 *eP* **P 21 20 51.9 +0.4**
comp=Z,5.3nm,1.1s,mb4.8
MSU Marysvale 91.54 51 *eP* **P 21 20 52.1 +0.5**
MSU Marysvale 91.54 51 *eP* **P 21 20 52.1 +0.5**
DUG Dugway 91.58 49 *eP* **P 21 20 51.6 -0.3**
comp=Z,33nm,2.2s,mb5.3
DUG Dugway 91.58 49 *eP* **P 21 20 51.6 -0.2**
DUG pmax pmax
comp=Z,33nm,2.2s,mb5.3
KOLN Koldanda 91.82 298 *eP* **P 21 20 52.8 -0.4**
comp=Z,4.4nm,0.7s,mb4.9
KOLN Koldanda 91.82 298 *eP* **P 21 20 52.8 -0.4**
comp=Z,4.4nm,0.7s,mb4.9
MAIT Maitri 92.97 188 *eP* pP 21 21 08.1 -0.8
WMQ Urumqi 93.21 314 P **P 21 20 59.3 +0.1**
WMQ pP pP 21 21 16.5 +6.1
WMQ pmax pmax
comp=Z,11nm,1.2s,mb5.2
SNAA Sanae 93.42 183 *e* **P 21 20 59.5 -0.3**
SNAA Sanae 93.42 183 *e* **P 21 20 59.5 -0.3**
SNAA Sanae 93.42 183 *eP* **P 21 21 00.2 +0.4**
comp=Z,3.0nm,0.7s,mb4.8
SNAA Sanae 93.42 183 *eP* **P 21 21 00.2 +0.4**
SNAA pmax pmax
comp=Z,3.0nm,0.7s
VNA3 Neumayer Olymp 94.07 181 *e* pP 21 21 13.9 0.0
VNA3 Neumayer Olymp 94.07 181 *e* pP 21 21 13.9 0.0
PV01 Paradox Valley 94.15 52 *eP* **P 21 21 04.1 +0.4**
VNA2 Neumayer--Watz 94.34 182 *e* **P 21 21 03.9 -0.1**
VNA2 Neumayer--Watz 94.34 182 *e* **P 21 21 03.9 -0.1**
baz=182,slow=3.8
VNA2 Neumayer--Watz 94.34 182 *e* pP 21 21 15.5 +0.3
VNA2 Neumayer--Watz 94.34 182 *e* pP 21 21 15.5 +0.3
baz=182,slow=3.8
PDAR Pinedale Array 94.67 47 P **P 21 21 06.3 +0.3**
comp=Z,0.2nm,0.3s,mb4.0,baz=251,slow=7.4,SNR=4.0
PDAR Pinedale Array 94.67 47 P **P 21 21 06.3 +0.3**
ANMO Albuquerque 94.96 55 *eP* **P 21 21 07.6 0.0**
comp=Z,2.3nm,1.0s,mb4.6
ANMO Albuquerque 94.96 55 *eP* **P 21 21 07.6 +0.1**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 95.90 61 P **P 21 21 12.4 +0.4**
comp=Z,1.4nm,0.7s,mb4.5,baz=223,slow=6.2,SNR=15
TXAR LR LR 21 56 15.5
comp=Z,129nm,19.4s,MS4.4,baz=80,slow=30
TXAR Lajitas Array 95.90 61 P **P 21 21 12.4 +0.4**
TXAR Lajitas Array 95.90 61 P **P 21 21 12.4 +0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR MLR MLR
comp=Z,129nm,19.4s
YKA Yellowknife Ar 97.45 27 P **P 21 21 16.0 -2.1**
comp=Z,2.7nm,0.8s,mb4.7,baz=256,slow=4.6,SNR=26
YKA PKKPbc PKKPbc 21 38 04.2 +6.1
comp=Z,0.3nm,0.8s,baz=72,slow=3.3,SNR=5.3
YKA LR LR 22 00 57.1
comp=Z,16nm,18.3s,MS3.5,baz=130,slow=33
YKA Yellowknife Ar 97.45 27 P **P 21 21 16.0 -2.1**
YKA PKKPbc PKKPbc 21 38 04.2 +6.1
YKA Yellowknife Ar 97.45 27 P **P 21 21 16.0 -2.1**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA MLR MLR
comp=Z,16nm,18.3s
MK31 Makanchi Array 97.67 316 *eP* **P 21 21 19.5 0.0**
MK31 Makanchi Array 97.67 316 *eP* **P 21 21 19.5 0.0**
MKAR Makanchi Array 97.67 316 P **P 21 21 18.1 -1.4**
comp=Z,6.2nm,0.7s,mb5.2,baz=95,slow=6.3,SNR=40
MKAR Makanchi Array 97.67 316 P **P 21 21 18.1 -1.4**
MKAR Makanchi Array 97.67 316 P **P 21 21 18.2 -1.3**
ZALV Zalesovo Beam 97.82 324 P **P 21 21 18.4 -1.6**
comp=Z,5.8nm,0.8s,mb5.2,baz=112,slow=3.9,SNR=26
ZALV LR LR 22 04 46.6
comp=Z,73nm,18.1s,MS4.2,baz=68,slow=35
ZALV Zalesovo Beam 97.82 324 P **P 21 21 18.4 -1.7**
ZALV Zalesovo Beam 97.82 324 P **P 21 21 18.4 -1.6**
ZALV pmax pmax
comp=Z,6.0nm,0.8s,mb5.2
ZALV MLR MLR
comp=Z,73nm,18.1s,MS4.2
KURK Kurchatov 100.85 320 P Pdif 21 21 32.2 -1.5
comp=Z,0.8nm,0.8s,baz=98,slow=3.8,SNR=5.3
KURK PKiKP PKiKP 21 25 59.4 +0.2
comp=Z,0.6nm,0.9s,baz=107,slow=2.1,SNR=4.2
KURK Kurchatov 100.85 320 P Pdif 21 21 32.2 -1.5
KURK PKiKP PKiKP 21 25 59.4 +0.2
KURK Kurchatov 100.85 320 P Pdif 21 21 32.2 -1.5
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 116.68 117 PKP PKPdf 21 26 29.8 -0.1
comp=Z,1.4nm,0.9s,baz=297,slow=2.3,SNR=5.0
LPAZ La Paz 116.68 117 PKP PKPdf 21 26 29.8 -0.1
LPAZ La Paz 116.68 117 PKIKP PKPdf 21 26 29.8 -0.1
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
ARCES ARCESS Array B 120.53 346 PKP PKPdf 21 26 34.4 -1.3
comp=Z,6.3nm,0.8s,baz=31,slow=2.1,SNR=15
ARCES ARCESS Array B 120.53 346 PKP PKPdf 21 26 34.4 -1.3
ARCES ARCESS Array B 120.53 346 PKIKP PKPdf 21 26 34.4 -1.3
ARCES pmax pmax
comp=Z,6.0nm,0.8s
SCHQ Schefferville 122.14 34 PKP PKPdf 21 26 37.6 -1.6
comp=Z,3.5nm,0.9s,baz=238,slow=3.9,SNR=3.8
SCHQ Schefferville 122.14 34 PKP PKPdf 21 26 37.6 -1.6
SDV Santo Domingo 122.63 89 *eP*KPdf PKPdf 21 26 40.8 -0.6
BOSA Boshof 123.59 220 PKP PKPdf 21 26 42.5 -0.4
comp=Z,5.0nm,1.1s,baz=301,slow=12,SNR=3.2
BOSA Boshof 123.59 220 PKP PKPdf 21 26 42.5 -0.4
BOSA Boshof 123.59 220 PKIKP PKPdf 21 26 42.5 -0.4
BOSA pmax pmax
comp=Z,5.0nm,1.1s
SAML Samuel 124.19 112 *eP*KPdf PKPdf 21 26 42.8 -1.6
OBN Obninsk 125.11 328⇑ *i*PKIKP PKPdf 21 26 44.1 -0.8
OBN pmax pmax
comp=Z,11nm,1.1s
VSR Storozhevoye 125.32 323 *eP*KIKP PKPdf 21 26 42.1 -3.3
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 126.06 338 PKP PKPdf 21 26 45.5 -1.1
comp=Z,2.3nm,0.6s,baz=52,slow=2.3,SNR=13
FINES FINESS Array B 126.06 338 PKP PKPdf 21 26 45.5 -1.1
FINES FINESS Array B 126.06 338 PKIKP PKPdf 21 26 45.5 -1.0
FINES pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra130.91 345 PKPdf PKPdf 21 26 55.9 +0.1
comp=Z,4.0nm,1.2s,baz=31,slow=1.9
NOA NORSAR Array B 130.91 345 PKP PKPdf 21 26 55.5 -0.3
comp=Z,0.9nm,0.7s,baz=33,slow=1.9,SNR=5.2
NOA NORSAR Array B 130.91 345 PKP PKPdf 21 26 55.5 -0.3
NOA NORSAR Array B 130.91 345 PKIKP PKPdf 21 26 55.5 -0.3
NOA pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 131.15 326 PKP PKPdf 21 26 56.6 0.0
comp=Z,0.9nm,0.6s,baz=58,slow=0.5,SNR=3.6
AKASG Malin Array Be 131.15 326 PKP PKPdf 21 26 56.6 0.0
AKASG Malin Array Be 131.15 326 PKIKP PKPdf 21 26 56.6 0.0
AKASG pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 133.00 311 PKP PKPdf 21 27 01.2 +0.8
comp=Z,1.4nm,0.9s,baz=154,slow=3.6,SNR=5.1
BRTR Keskin Array B 133.00 311 PKP PKPdf 21 27 01.2 +0.8
BRTR Keskin Array B 133.00 311 PKIKP PKPdf 21 27 01.2 +0.8
BRTR pmax pmax
comp=Z,1.0nm,1.0s

BRG Berggiesshubel 138.37 335 *eP* PKPpre 21 27 00.9
comp=Z,2.7nm,1.1s
BRG *e* 21 27 18.4
comp=Z,6.2nm,1.4s
BRG *e* 21 29 01.8
comp=Z,49nm,2.4s
BRG Berggiesshubel 138.37 335 *e*PKHKP PKPpre 21 27 00.9
BRG pmax pmax
comp=Z,3.0nm,1.0s
CLL Collm 138.41 336 *e*PKIKP pPKPdf 21 27 22.0 +0.4
CLL Collm 138.41 336 *ep*PKPdf pPKPdf 21 27 22.0 +0.4
GERES GERESS Array B 140.02 333 PKhKP PKPpre 21 27 07.6
comp=Z,0.9nm,0.7s,baz=42,slow=3.2,SNR=3.7
GERES GERESS Array B 140.02 333 PKPpre PKPpre 21 27 07.6
GERES GERESS Array B 140.02 333 *i* PKIKP PKPpre 21 27 07.6
GERES pmax pmax
comp=Z,1.0nm,0.7s
BAIF Baives 142.47 343 *e*PKP1 PKPdf 21 27 16.6 -0.9
BAIF Baives 142.47 343 *eP* PKPdf 21 27 16.6 -0.9
BAIF Baives 142.47 343 *e*PKIKP PKPdf 21 27 16.6 -0.9
CDF Champ du Feu 142.91 338 *e*PKP1 PKPdf 21 27 13.9 -4.4
comp=Z,15nm,1.1s
CDF Champ du Feu 142.91 338 *eP* PKPdf 21 27 13.9 -4.4
CDF Champ du Feu 142.91 338 *e*PKIKP PKPdf 21 27 13.9 -4.4
FUORN Ofenpass-Fuorn 143.21 334 *e*PKPdf PKPdf 21 27 16.2 -2.8
HINF Hinteralfeld 143.57 338 *e*PKP1 PKPdf 21 27 16.6 -2.9
comp=Z,13nm,1.0s
HINF Hinteralfeld 143.57 338 *eP* PKPdf 21 27 16.6 -2.9
HINF Hinteralfeld 143.57 338 *e*PKIKP PKPdf 21 27 16.6 -2.9
HAU Haudompre 143.59 339 *e*PKP1 PKPdf 21 27 16.1 -3.4
comp=Z,16nm,0.9s
HAU *e*R
comp=Z,140nm,17.0s
HAU Haudompre 143.59 339 *eP* PKPdf 21 27 16.1 -3.4
HAU Haudompre 143.59 339 *e*PKIKP PKPdf 21 27 16.1 -3.4
MEZF Maizieres J'vi 143.59 341 *e*PKP1 PKPdf 21 27 15.4 -4.1
comp=Z,22nm,0.9s
MEZF Maizieres J'vi 143.59 341 *eP* PKPdf 21 27 15.4 -4.1
TUE Stuetta 143.71 335 *e*PKPdf PKPdf 21 27 18.0 -1.8
SENIN Lac Senin/Sane 144.62 336 *e*PKPdf PKPdf 21 27 21.9 +0.5
AQU L'Aquila 144.86 326 *e*PKPdf PKPdf 21 27 20.9 -1.1
AQU L'Aquila 144.86 326 *e*PKIKP PKPdf 21 27 20.9 -1.0
CABF La Chapelle 144.87 338 *e*PKP1 PKPdf 21 27 20.4 -1.4
comp=Z,36nm,1.0s
CABF La Chapelle 144.87 338 *eP* PKPdf 21 27 20.4 -1.4
CABF La Chapelle 144.87 338 *e*PKIKP PKPdf 21 27 20.4 -1.4
FLN La Foliniere 144.87 346 *e*PKP1 PKPdf 21 27 19.2 -2.6
FLN *e*R
comp=Z,146nm,17.0s
FLN La Foliniere 144.87 346 *eP* PKPdf 21 27 19.2 -2.6
FLN La Foliniere 144.87 346 *e*PKIKP PKPdf 21 27 19.2 -2.6
TIP Timpagrande 144.91 319 *e*PKPdf PKPdf 21 27 21.7 -0.5
LDF La Druitiere 144.95 346 *e*PKP1 PKPdf 21 27 19.2 -2.7
comp=Z,8.8nm,0.7s
LDF La Druitiere 144.95 346 *eP* PKPdf 21 27 19.2 -2.7
LDF La Druitiere 144.95 346 *e*PKIKP PKPdf 21 27 19.2 -2.7
CUC Castrocucco 145.00 321 *e*PKPdf PKPdf 21 27 20.3 -1.9
LOR Lormes 145.06 341 *e*PKP1 PKPbc 21 27 20.4 -1.1
comp=Z,76nm,1.3s
LOR *e*R
comp=Z,122nm,19.2s
LOR Lormes 145.06 341 *eP* PKPbc 21 27 20.4 -1.1
LOR Lormes 145.06 341 *e*PKIKP PKPdf 21 27 20.4 -1.7
GRR Gorron 145.31 347 *e*PKP1 PKPbc 21 27 20.0 -2.3
comp=Z,27nm,0.7s
GRR Gorron 145.31 347 *eP* PKPbc 21 27 20.0 -2.3
GRR Gorron 145.31 347 *e*PKP2 PKPab 21 27 20.0 -2.4
SSF Saint Saulge 145.35 341 *e*PKP1 PKPbc 21 27 21.5 -1.0
comp=Z,102nm,1.1s
SSF Saint Saulge 145.35 341 *eP* PKPbc 21 27 21.5 -1.0
SSF Saint Saulge 145.35 341 *e*PKIKP PKPdf 21 27 21.5 -1.1
RSL Roselend 145.44 337 PKP PKPdf 21 27 23.8 +1.0
OG35 Corcelles 145.54 338 PKP PKPdf 21 27 24.0 +1.0
LPL La Plagne 145.55 336 *e*PKP1 PKPbc 21 27 22.7 -0.5
comp=Z,68nm,0.9s
LPL La Plagne 145.55 336 *eP* PKPdf 21 27 22.7 -0.3
LPL La Plagne 145.55 336 *e*PKIKP PKPdf 21 27 22.7 -0.3
LPG La Plagne 145.55 336 *e*PKP1 PKPbc 21 27 22.8 -0.4
comp=Z,70nm,0.8s
LPG La Plagne 145.55 336 *eP* PKPdf 21 27 22.8 -0.2
LPG La Plagne 145.55 336 *e*PKIKP PKPdf 21 27 22.8 -0.2
SMF Signal de Mont 145.61 340 *e*PKP1 PKPbc 21 27 22.2 -1.1
comp=Z,129nm,1.3s
SMF Signal de Mont 145.61 340 *eP* PKPdf 21 27 22.2 -0.9
SMF Signal de Mont 145.61 340 *e*PKIKP PKPdf 21 27 22.2 -0.9
AVF Avril sur Loir 145.64 341 *e*PKP1 PKPdf 21 27 22.3 -0.8
comp=Z,53nm,1.1s
AVF Avril sur Loir 145.64 341 *eP* PKPdf 21 27 22.3 -0.8
AVF Avril sur Loir 145.64 341 *e*PKP2 PKPdf 21 27 22.3 -0.8
SGMF Saint Gilles 145.79 349 *e*PKP1 PKPdf 21 27 22.4 -0.9
comp=Z,76nm,1.0s
SGMF Saint Gilles 145.79 349 *eP* PKPdf 21 27 22.4 -0.9
SGMF Saint Gilles 145.79 349 *e*PKP2 PKPdf 21 27 22.4 -0.9
ROSF Rostrenen 145.84 349 *e*PKP1 PKPdf 21 27 22.6 -0.8
comp=Z,96nm,1.2s
ROSF Rostrenen 145.84 349 *eP* PKPdf 21 27 22.6 -0.8
ROSF Rostrenen 145.84 349 *e*PKP2 PKPdf 21 27 22.6 -0.8
BNI Bardonecchia 145.95 336 *e*PKPdf PKPdf 21 27 24.1 +0.4
BNI Bardonecchia 145.95 336 *e*PKP2 PKPdf 21 27 24.2 +0.5
BGF Bois d'Agland 146.01 341 *e*PKP1 PKPdf 21 27 23.5 -0.3
comp=Z,61nm,1.1s
BGF Bois d'Agland 146.01 341 *eP* PKPdf 21 27 23.5 -0.3
BGF Bois d'Agland 146.01 341 *e*PKP2 PKPdf 21 27 23.5 -0.3
MBDF Montbardon 146.19 335 *e*PKP1 PKPdf 21 27 24.1 0.0
comp=Z,100nm,1.2s
MBDF Montbardon 146.19 335 *eP* PKPdf 21 27 24.1 0.0
MBDF Montbardon 146.19 335 *e*PKP2 PKPdf 21 27 24.1 0.0
QUIF Quistinic 146.23 349 *e*PKP1 PKPdf 21 27 23.5 -0.6
QUIF Quistinic 146.23 349 *eP* PKPdf 21 27 23.5 -0.6
QUIF Quistinic 146.23 349 *e*PKP2 PKPdf 21 27 23.5 -0.6
PLDF La Plantade 146.28 340 PKP PKPbc 21 27 26.4 +1.0
AGO Saint Agoulin 146.37 341 PKP PKPbc 21 27 26.4 +0.7
ORIF Oris-en-Rattie 146.38 337 *e*PKP1 PKPbc 21 27 25.0 -0.7
comp=Z,63nm,0.8s
ORIF *e*R
comp=Z,162nm,17.2s
ORIF Oris-en-Rattie 146.38 337 *eP* PKPdf 21 27 25.0 +0.5
ORIF Oris-en-Rattie 146.38 337 *e*PKP2 PKPbc 21 27 25.0 -0.7
SAOF Saorge 146.46 334 PKP PKPbc 21 27 26.6 +0.6
SSB Saint Sauveur 146.57 338 *e*PKPbc PKPbc 21 27 26.1 -0.1
SSB Saint Sauveur 146.57 338 *e*PKP2 PKPbc 21 27 26.1 -0.2
TOUF Mont Tournerai 146.57 344 PKP PKPbc 21 27 27.2 +0.9
SBF Sospel 146.62 334 *e*PKP1 PKPdf 21 27 25.0 +0.1
comp=Z,122nm,0.8s
SBF Sospel 146.62 334 *eP* PKPdf 21 27 25.0 +0.1
SBF Sospel 146.62 334 *e*PKP2 PKPdf 21 27 25.0 +0.1
MFF Saint Martin d 146.81 345 *e*PKP1 PKPdf 21 27 25.8 +0.7
comp=Z,62nm,1.0s
MFF Saint Martin d 146.81 345 *eP* PKPdf 21 27 25.8 +0.7
MFF Saint Martin d 146.81 345 *e*PKP2 PKPdf 21 27 25.8 +0.7
VIVF Saint-Julien-l 146.88 338 *e*PKP1 PKPdf 21 27 26.2 +0.9
comp=Z,48nm,1.1s
VIVF Saint-Julien-l 146.88 338 *eP* PKPdf 21 27 26.2 +0.9
VIVF Saint-Julien-l 146.88 338 *e*PKP2 PKPdf 21 27 26.2 +0.9
CALN Calern 146.94 334 PKP PKPab 21 27 28.3 -0.5
PGF Pioggiola 146.95 331 *e*PKP1 PKPdf 21 27 26.3 +0.8
comp=Z,150nm,0.9s
PGF Pioggiola 146.95 331 *eP* PKPdf 21 27 26.3 +0.8
PGF Pioggiola 146.95 331 *e*PKP2 PKPdf 21 27 26.3 +0.8
LBL Lubilhac 147.05 340 PKP PKPbc 21 27 27.6 -0.1
SMRF Simiane la Rot 147.29 336 *e*PKP1 PKPbc 21 27 27.6 -0.8
comp=Z,120nm,1.3s
SMRF Simiane la Rot 147.29 336 *eP* PKPdf 21 27 27.6 +1.6
LMR La Mourre 147.44 334 *e*PKP1 PKPdf 21 27 27.4 +1.1
comp=Z,178nm,1.5s
LMR La Mourre 147.44 334 *eP* PKPdf 21 27 27.4 +1.1
LMR La Mourre 147.44 334 *e*PKP2 PKPdf 21 27 27.4 +1.1
RJF Les Rejaudoux 147.54 342 *e*PKP1 PKPbc 21 27 28.0 -1.0
comp=Z,60nm,1.1s
RJF *e*R
comp=Z,113nm,20.0s
RJF Les Rejaudoux 147.54 342 *eP* PKPbc 21 27 28.0 -1.0
RJF Les Rejaudoux 147.54 342 *e*PKP2 PKPbc 21 27 28.0 -1.0
CAF Calviac 147.71 341 *e*PKP1 PKPbc 21 27 28.6 -0.9
comp=Z,50nm,1.1s
CAF Calviac 147.71 341 *eP* PKPbc 21 27 28.6 -0.9
CAF Calviac 147.71 341 *e*PKP2 PKPbc 21 27 28.6 -0.9
LASF Ste Croix 147.85 338 *e*PKP1 PKPbc 21 27 29.0 -0.9
comp=Z,118nm,1.3s
LASF Ste Croix 147.85 338 *eP* PKPbc 21 27 29.0 -0.9
LFF La Frestale 148.10 342 *e*PKP1 PKPbc 21 27 29.4 -1.1
comp=Z,29nm,0.7s
LFF La Frestale 148.10 342 *eP* PKPbc 21 27 29.4 -1.1

LFF	**La Frestale**	**148.10**	**342**	*e*PKP2	PKPbc	21 27 29.4	-1.1
MTLF	**Montolieu**	**149.07**	**339**	*e*PKP1	PKPbc	21 27 32.1	-1.0
	comp=Z,73nm,1.1s						
MTLF	**Montolieu**	**149.07**	**339**	*e*P	PKPbc	21 27 32.1	-1.0
MTLF	**Montolieu**	**149.07**	**339**	*e*PKP2	PKPbc	21 27 32.1	-1.0
EPF	**Esparros**	**149.96**	**341**	*e*PKP1	PKPbc	21 27 34.1	-1.2
	comp=Z,28nm,1.1s						
EPF	**Esparros**	**149.96**	**341**	*e*P	PKPbc	21 27 34.1	-1.2
EPF	**Esparros**	**149.96**	**341**	*e*PKHKP	PKPbc	21 27 34.1	-1.2
SJPF	**Ste Jean**	**150.34**	**344**	*e*PKP1	PKPbc	21 27 35.4	-0.8
	comp=Z,60nm,1.2s						
SJPF	**Ste Jean**	**150.34**	**344**	*e*P	PKPbc	21 27 35.4	-0.8
SJPF	**Ste Jean**	**150.34**	**344**	*e*PKIKP	PKPbc	21 27 35.4	-0.8
ETSF	**Etsaut**	**150.35**	**343**	*e*PKP1	PKPbc	21 27 35.7	-0.5
	comp=Z,92nm,1.2s						
ETSF	**Etsaut**	**150.35**	**343**	*e*P	PKPbc	21 27 35.7	-0.5
ETSF	**Etsaut**	**150.35**	**343**	*e*PKIKP	PKPbc	21 27 35.7	-0.5
KEST	**Kesra**	**151.66**	**321**	PKPbc	PKPbc	21 27 39.6	+0.1
	comp=Z,7.3nm,0.8s,baz=156,slow=0.4,SNR=21						
KEST	**Kesra**	**151.66**	**321**	*e*PKPbc	PKPbc	21 27 39.6	+0.1
ESDC	**Sonseca Array**	**154.27**	**345**	PKPbc	PKPbc	21 27 46.3	+1.1
	comp=Z,1.4nm,0.9s,baz=20,slow=3.7,SNR=5.5						
ESDC	**Sonseca Array**	**154.27**	**345**	PKPbc	PKPbc	21 27 46.3	+1.2
TORD	**Torodi Ar. Bea**	**166.41**	**264**	PKP	PKPdf	21 27 49.8	-1.2
	comp=Z,3.3nm,1.0s,baz=46,slow=0.4,SNR=11						
TORD				PKPab	PKPab	21 28 52.6	-0.1
	comp=Z,2.5nm,0.9s,baz=92,slow=2.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**166.41**	**264**	PKP	PKPdf	21 27 49.8	-1.2
TORD				PKPab	PKPab	21 28 52.6	-0.1
LIC	**Lamto**	**168.88**	**220**	*e*PKP2	PKPab	21 29 03.4	-0.1
	comp=Z,51nm,1.2s						
LIC				*e*R			
	comp=Z,236nm,23.0s						
LIC	**Lamto**	**168.88**	**220**	*e*PKPab	PKPab	21 29 03.4	-0.1
DBIC	**Dimbokro**	**169.11**	**222**	PKPab	PKPab	21 29 05.0	+0.5
	comp=Z,3.5nm,1.0s,baz=169,slow=3.7,SNR=3.7						
DBIC	**Dimbokro**	**169.11**	**222**	PKPab	PKPab	21 29 05.0	+0.5
DBIC	**Dimbokro**	**169.11**	**222**	PKP2	PKPab	21 29 05.0	+0.5
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						

BJI 27 21:17:58.1, 31°.54N×104°.33E, h7km, ML3.2/11, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.80**	**218**	Pg	Pg	21 18 11.3	-2.1
CD2				Sg	Sg	21 18 22.3	-1.5
CD2				smax			
	comp=N,850nm,0.7s						
CD2				smax			
	comp=E,810nm,0.7s						
XAN	**Xi'an**	**4.60**	**56**	Pn	Pn	21 19 09.8	+1.8
XAN				Pg	Pg	21 19 21.5	-4.7
XAN				Sn	Sn	21 20 08.5	+6.8
XAN				Sg	Sg	21 20 22.8	-3.0
XAN				smax			
	comp=N,38nm,0.8s						
XAN				smax			
	comp=E,18nm,0.8s						

SZGRF ***27*** *21:20:08.8, 22°.32S×178°.84W, h33km, South of Fiji Islands*
ISCJB ***27*** *21:21:08.9±1.3, 20°.4S±0°.1×177°.9W±0°.1, h536km±13km, mb4.2/22, Error ellipse: s-maj=22.0km s-min=12.8km az=139.0*
NEIC ***27*** *21:21:09.2±1.0, 20°.42S×177°.84W, h534km±9km, mb4.5/9, Error ellipse: s-maj=15.7km s-min=9.2km az=143.0*
IDC ***27*** *21:21:11.6±2.9, 20°.62S×177°.87W, h561km±31km, mb3.7/15, mb1 3.9/16, mb1mx3.9/18, mbtmp3.7/16, Error ellipse: s-maj=18.2km s-min=12.2km az=112.0*
ISC 27 21:21:09.4±1.3, 20°.4S±0°.1×177°.9W±0°.1, h531km±13km, **n149,** σ0°.80/49, **mb4.2**/22, **9C-14D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.68**	**304**	*e*P	**P**	**21 22 35.7**	**+0.2**
URZ	**Urewera**	**18.33**	**193**	P	**P**	**21 24 50.2**	**-0.8**
	3.7nm,0.3s,baz=340,slow=3.1,SNR=27						
URZ				S	**S**	**21 27 44.3**	**-7.2**
	1.1nm,0.3s,baz=30,slow=20,SNR=8.5						
URZ	**Urewera**	**18.33**	**193**	*e*P	**P**	**21 24 49.7**	**-1.3**
	14nm,0.6s						
URZ				S	**S**	**21 27 44.3**	**-7.2**
EIDS	**Eidsvold**	**29.00**	**254**	*e*P	**P**	**21 26 26.8**	**+0.5**
ARMA	**Armidale**	**29.23**	**244**	*e*P	**P**	**21 26 29.5**	**+1.3**
CTA	**Charters Tower**	**33.63**	**264**	P	**P**	**21 27 06.2**	**+0.2**
	11nm,0.4s,mb4.7,baz=94,slow=12,SNR=17						
CTA	**Charters Tower**	**33.63**	**264**	||*i*P	**P**	**21 27 06.0**	**0.0**
CTA	**Charters Tower**	**33.63**	**264**	P	**P**	**21 27 06.2**	**+0.2**
CTAO	**Charters Tower**	**33.63**	**264**	*e*P	**P**	**21 27 06.1**	**+0.1**
PMG	**Port Moresby**	**35.44**	**283**	P	**P**	**21 27 20.7**	**-0.6**
	15nm,0.8s,mb4.6,baz=90,slow=7.1,SNR=12						
PMG	**Port Moresby**	**35.44**	**283**	*e*P	**P**	**21 27 20.9**	**-0.4**
STKA	**Stephens Creek**	**37.95**	**244**	P	**P**	**21 27 42.4**	**+0.8**
	5.5nm,0.6s,mb4.3,baz=99,slow=7.9,SNR=18						
STKA				PcP	PcP	21 29 43.1	-0.6
	1.4nm,0.5s,baz=98,slow=7.1,SNR=3.6						
STKA	**Stephens Creek**	**37.95**	**244**	||*i*P	**P**	**21 27 42.3**	**+0.6**
STKA	**Stephens Creek**	**37.95**	**244**	*e*P	**P**	**21 27 42.1**	**+0.5**
	1.3nm,0.8s,mb3.5						
STKA				PcP	PcP	21 29 43.1	-0.6
ASAR	**Alice Springs**	**44.67**	**257**	P	**P**	**21 28 35.0**	**0.0**
	21nm,0.8s,mb4.7,baz=96,slow=7.7,SNR=122						
ASAR				PcP	PcP	21 30 06.3	+0.1
	2.9nm,0.7s,baz=107,slow=4.0,SNR=9.2						
ASAR	**Alice Springs**	**44.67**	**257**	P	**P**	**21 28 35.0**	**0.0**
ASAR				PcP	PcP	21 30 06.3	+0.1
WB2	**Warramunga Arr**	**44.73**	**262**	*e*P	**P**	**21 28 34.6**	**-1.0**
WRAB	**Tennant Creek**	**44.73**	**262**	*e*P	**P**	**21 28 34.8**	**-0.8**
	17nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**44.74**	**262**	P	**P**	**21 28 35.1**	**-0.6**
	9.1nm,0.5s,mb4.5,baz=98,slow=8.6,SNR=112						
WRA				PcP	PcP	21 30 06.9	+0.3
	2.4nm,0.9s,baz=90,slow=4.5,SNR=5.6						
WRA	**Warramunga Arr**	**44.74**	**262**	P	**P**	**21 28 35.1**	**-0.6**
WRA				PcP	PcP	21 30 06.9	+0.3
FORT	**Forrest**	**49.45**	**247**	*e*P	**P**	**21 29 10.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.17**	**262**	*e*P	**P**	**21 29 37.9**	**-0.2**
MJAR	**Matsushiro Arr**	**70.20**	**324**	P	**P**	**21 31 27.7**	**-1.1**
	2.9nm,0.7s,mb3.9,baz=157,slow=5.7,SNR=8.9						
MJAR	**Matsushiro Arr**	**70.20**	**324**	P	**P**	**21 31 27.7**	**-1.1**
KSM	**Kuching**	**73.52**	**278**	*e*P	**P**	**21 31 48.5**	**-0.1**
	8.1nm,1.0s,mb4.1						
KSRS	**Korea Array**	**76.89**	**318**	P	**P**	**21 32 07.2**	**+0.3**
	0.9nm,0.6s,mb3.4,baz=127,slow=5.4,SNR=5.2						
KSAR	**Wonju Array Be**	**76.91**	**318**	P	**P**	**21 32 07.2**	**+0.2**
USRK	**Ussuriysk Arra**	**78.94**	**326**	P	**P**	**21 32 18.6**	**+0.9**
	5.6nm,0.7s,mb4.0,baz=120,slow=3.9,SNR=10						
NVAR	**Mina Array Bea**	**80.86**	**43**	P	**P**	**21 32 29.2**	**+1.2**
	2.7nm,0.8s,mb3.7,baz=227,slow=9.2,SNR=15						
NVAR	**Mina Array Bea**	**80.86**	**43**	P	**P**	**21 32 29.2**	**+1.2**
KULM	**Kulim**	**83.88**	**278**	*e*P	**P**	**21 32 44.0**	**+0.1**
	4.1nm,0.5s,mb4.2						
ENH	**Enshi**	**86.08**	**304**	*e*P	**P**	**21 32 54.8**	**+0.6**
	9.7nm,1.3s,mb4.3						
MCK	**McKinley**	**86.84**	**12**	*e*P	**P**	**21 32 56.2**	**-0.7**
	8.2nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**86.89**	**57**	P	**P**	**21 32 59.6**	**+1.6**
	1.2nm,0.7s,mb3.6,baz=213,slow=6.5,SNR=14						
TXAR	**Lajitas Array**	**86.89**	**57**	P	**P**	**21 32 59.6**	**+1.6**
COLA	**College**	**88.07**	**12**	*e*P	**P**	**21 33 01.9**	**-0.8**
	11nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**88.18**	**13**	P	**P**	**21 33 02.1**	**-1.1**
	3.8nm,0.8s,mb4.2,baz=217,slow=5.5,SNR=60						
ILAR	**Eielson Array**	**88.18**	**13**	P	**P**	**21 33 02.1**	**-1.1**
PDAR	**Pinedale Array**	**88.80**	**43**	P	**P**	**21 33 07.1**	**+0.5**
	1.7nm,0.7s,mb4.0,baz=223,slow=3.7,SNR=13						
PDAR	**Pinedale Array**	**88.80**	**43**	P	**P**	**21 33 07.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**90.20**	**290**	P	**P**	**21 33 14.9**	**+1.3**
	4.5nm,0.8s,mb4.3,baz=116,slow=3.0,SNR=17						
CMAR	**Chiang Mai Arr**	**90.20**	**290**	P	**P**	**21 33 14.9**	**+1.3**
CHTO	**Chiang Mai**	**90.33**	**290**	*e*P	**P**	**21 33 15.0**	**+0.8**
	6.3nm,0.6s,mb4.6						
INK	**Inuvik**	**94.14**	**15**	P	**P**	**21 33 29.2**	**-1.3**
	3.4nm,1.1s,mb4.4,baz=160,slow=4.6,SNR=6.9						
INK	**Inuvik**	**94.14**	**15**	P	**P**	**21 33 29.2**	**-1.3**
YKA	**Yellowknife Ar**	**96.36**	**25**	P	**P**	**21 33 39.9**	**-0.8**
	0.6nm,0.8s,mb3.9,baz=246,slow=4.5,SNR=7.0						
YKA	**Yellowknife Ar**	**96.36**	**25**	P	**P**	**21 33 40.0**	**-0.8**
ZALV	**Zalesovo Beam**	**110.49**	**321**	PKiKP	PKiKP	21 38 39.7	-1.3
	1.3nm,0.6s,baz=116,slow=1.1,SNR=8.6						
ZALV	**Zalesovo Beam**	**110.49**	**321**	PKiKP	PKiKP	21 38 39.7	-1.3
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP	PKiKP	21 38 41.9	-0.8
	1.2nm,0.7s,baz=171,slow=0.4,SNR=9.6						
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP	PKiKP	21 38 41.9	-0.8
KURK	**Kurchatov**	**114.00**	**317**	PKP	PKiKP	21 38 46.8	-1.0
	1.4nm,0.6s,baz=105,slow=1.7,SNR=22						
KURK	**Kurchatov**	**114.00**	**317**	PKP	PKiKP	21 38 46.8	-1.0
BVAR	**Borovoye Array**	**119.08**	**320**	PKP	PKPdf	21 38 56.8	-0.7
	2.8nm,0.6s,baz=101,slow=1.5,SNR=18						
BVAR	**Borovoye Array**	**119.08**	**320**	PKP	PKPdf	21 38 56.8	-0.7
KKAR	**Karatay Array**	**119.28**	**309**	*e*PKPdf	PKPdf	21 38 57.5	-0.7
KBL	**Kabul**	**119.95**	**299**	*e*PKPdf	PKPdf	21 38 58.9	-0.9
ARU	**Arti**	**125.18**	**326**	*e*PKPdf	PKPdf	21 39 08.9	-0.2
BOSA	**Boshof**	**126.41**	**205**	PKP	PKPdf	21 39 13.4	+0.9
	6.6nm,1.1s,baz=56,slow=3.6,SNR=3.2						
BOSA	**Boshof**	**126.41**	**205**	PKP	PKPdf	21 39 13.4	+0.9
ARCES	**ARCESS Array B**	**128.84**	**350**	PKP	PKPdf	21 39 15.1	-0.7
	4.2nm,0.8s,baz=70,slow=3.0,SNR=7.4						
ARCES	**ARCESS Array B**	**128.84**	**350**	PKP	PKPdf	21 39 15.1	-0.7
FINES	**FINESS Array B**	**135.71**	**344**	PKP	PKPdf	21 39 26.8	-2.1
	5.0nm,1.0s,baz=5.7,slow=1.4,SNR=6.7						
FINES	**FINESS Array B**	**135.71**	**344**	PKP	PKPdf	21 39 26.8	-2.1
NOA	**NORSAR Array B**	**138.89**	**353**	PKhKP	PKPpre	21 39 26.9	
	0.9nm,0.9s,baz=10,slow=2.3,SNR=4.0						
NOA	**NORSAR Array B**	**138.89**	**353**	PKPpre	PKPpre	21 39 26.9	
SUW	**Suwalki**	**142.78**	**339**	*e*P	PKPdf	21 39 39.1	-2.8
AKASG	**Malin Array Be**	**142.98**	**331**	PKhKP	PKPpre	21 39 38.9	
	10nm,0.6s,baz=43,slow=4.1,SNR=42						
AKASG	**Malin Array Be**	**142.98**	**331**	PKPpre	PKPpre	21 39 38.9	
BSEG	**Bad Segeberg**	**145.93**	**351**	*e*PKPbc	PKPbc	21 39 49.3	+0.1
BR131	**Keskin Array S**	**146.86**	**313**	*e*PKPbc	PKPbc	21 39 52.0	-0.3
BRTR	**Keskin Array B**	**146.86**	**313**	PKPbc	PKPbc	21 39 52.0	-0.2
	4.7nm,0.7s,baz=113,slow=3.5,SNR=21						
BRTR	**Keskin Array B**	**146.86**	**313**	PKPbc	PKPbc	21 39 52.0	-0.2
BUR08	**Bucovina Ar. S**	**147.01**	**331**	*e*PKPbc	PKPbc	21 39 52.6	+0.2
BURAR	**Bucovina Array**	**147.03**	**331**	||*i*P	PKPbc	21 39 52.7	+0.3
OJC	**Ojcow**	**147.10**	**339**	*e*PKP	PKPbc	21 39 52.4	-0.1
STHS	**Stebnicka Huta**	**147.27**	**337**	*e*PKP	PKPbc	21 39 53.2	+0.2
STHS				*e*		21 39 57.8	
VRI	**Vrincioaia**	**147.54**	**327**	||*i*P	PKPbc	21 39 53.5	-0.3
PLOR	**Plostina**	**147.59**	**327**	||*i*P	PKPbc	21 39 56.1	+2.1
NIE	**Niedzica**	**147.60**	**338**	*e*PKP	PKPbc	21 39 54.4	+0.5
CRVS	**Cervenica-Dubn**	**147.61**	**336**	*e*PKP	PKPbc	21 39 55.6	+1.7
CRVS				*e*		21 39 58.1	
KSP	**Ksiaz**	**147.62**	**343**	*e*P	PKPbc	21 39 54.2	+0.3
KSP	**Ksiaz**	**147.62**	**343**	*e*PKPdf	PKPbc	21 39 54.2	+0.3
TRPA	**Tarpa**	**147.80**	**334**	||*i*P	PKPbc	21 39 54.5	+0.1
CLZ	**Clausthal**	**147.96**	**350**	*e*PKPbc	PKPbc	21 39 55.1	+0.4
CLL	**Collm**	**147.99**	**347**	*e*PKPbc	PKPbc	21 39 54.7	-0.1
CLL	**Collm**	**147.99**	**347**	||*i*PKPbc	PKPbc	21 39 54.7	-0.1
	comp=Z,22nm,0.8s						
CLL				⇑*i*PKPab	PKPab	21 39 58.8	-0.6
	comp=Z,9.0nm,0.8s						
UPC	**Upice**	**148.00**	**343**	⇑*i*PKP	PKPbc	21 39 54.9	+0.1
UPC				*e*PKPAB	PKPab	21 39 59.7	+0.2
DPC	**Dobruska-Polom**	**148.06**	**343**	⇑*i*PKP	PKPbc	21 39 55.4	+0.4
DPC				*e*PKPAB	PKPab	21 40 00.3	+0.6
BRG	**Berggiesshubel**	**148.19**	**346**	*i* P	PKPbc	21 39 55.5	+0.2
	comp=Z,11nm,0.7s						
BRG				*i*		21 39 60.0	
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**148.19**	**346**	*e*PKPbc	PKPbc	21 39 55.4	+0.1
MLR	**Muntele Rosu**	**148.20**	**327**	||*i*P	PKPbc	21 39 54.6	-0.9
MORC	**Moravsky Berou**	**148.22**	**341**	||*i*P	PKPbc	21 39 54.8	-0.6
KECS	**Kecovo**	**148.32**	**336**	*e*PKP	PKPbc	21 39 55.9	+0.2
KECS				*e*		21 40 01.1	
PVCC	**Panska Ves**	**148.36**	**345**	⇑*i*PKP	PKPbc	21 39 56.0	+0.3
PRU	**Pruhonice**	**148.86**	**344**	⇑*i*PKP	PKPbc	21 39 56.9	-0.1
PRU				*e*PKPAB	PKPab	21 40 03.0	0.0
MOX	**Moxa**	**148.89**	**348**	*e*PKPbc	PKPbc	21 39 57.2	+0.2
VYHS	**Vyhne**	**148.91**	**338**	*e*PKP	PKPbc	21 39 57.1	0.0
VYHS				*e*		21 40 03.7	
VRAC	**Vranov**	**148.92**	**342**	||*i*P	PKPbc	21 39 56.9	-0.2
TANN	**Tannenbergstha**	**148.94**	**347**	*e*PKPbc	PKPbc	21 39 57.3	+0.1
KOLL	**Kolacno**	**148.98**	**339**	*e*PKP	PKPbc	21 39 58.0	+0.7
UBBA	**Unterbreizbach**	**149.01**	**350**	*e*PKPbc	PKPbc	21 39 57.4	+0.1
NKC	**Novy Kostel**	**149.12**	**347**	⇑*i*PKP	PKPbc	21 39 57.5	-0.1
NKC				*e*PKPAB	PKPab	21 40 03.7	-0.4
TREC	**Trest**	**149.25**	**343**	⇑*i*PKP	PKPbc	21 39 57.9	0.0
SMOL	**Smolenice**	**149.36**	**340**	*e*PKP	PKPbc	21 39 59.0	+0.8
HUMR	**Humele**	**149.36**	**327**	||*i*P	PKPbc	21 39 57.4	-1.0
ROTZ	**Rotzenmuhle**	**149.61**	**347**	*e*PKPbc	PKPbc	21 39 59.2	+0.4
GZR	**Gura Zlata**	**149.81**	**330**	||*i*P	PKPbc	21 39 59.2	-0.2
TNS	**Taunus Mts**	**149.81**	**352**	*e*PKPbc	PKPbc	21 39 59.7	+0.4
GRF	**Grafenberg Arr**	**149.88**	**348**	*e*PKPbc	PKPbc	21 40 00.1	+0.7
KHC	**Kasperske Hory**	**149.90**	**345**	*e*PKPbc	PKPbc	21 39 59.7	+0.2
KHC				*e*PKPab	PKPab	21 40 07.7	+0.3
KHC	**Kasperske Hory**	**149.90**	**345**	⇑*i*PKP	PKPbc	21 39 59.6	+0.1
KHC				*e*PKPAB	PKPab	21 40 07.4	+0.1
GEC2	**GERESS Array S**	**150.13**	**345**	*e*PKPbc	PKPbc	21 40 00.1	+0.1
GERES	**GERESS Array B**	**150.13**	**345**	PKPbc	PKPbc	21 40 00.0	0.0
	comp=Z,4.2nm,0.8s,baz=29,slow=3.0,SNR=15						
GERES				PKPab	PKPab	21 40 08.0	-0.3
	comp=Z,0.6nm,0.5s,baz=357,slow=2.7,SNR=4.3						
GERES	**GERESS Array B**	**150.13**	**345**	PKPbc	PKPbc	21 40 00.0	0.0
GERES				PKPab	PKPab	21 40 08.0	-0.3
BZS	**Buzias**	**150.16**	**332**	||*i*P	PKPbc	21 39 59.0	-1.2
BAIF	**Baives**	**150.35**	**357**	*e*PKP1	PKPbc	21 40 00.6	+0.1
	comp=Z,35nm,1.1s						
BAIF	**Baives**	**150.35**	**357**	*e*P	PKPbc	21 40 00.6	+0.1
WLF	**Walferdange**	**150.62**	**355**	*e*PKPbc	PKPbc	21 40 02.1	+1.0
PKSM	**Moragy**	**150.91**	**336**	||*i*P	PKPbc	21 40 01.3	-0.6
RJOB	**Jochberg**	**151.38**	**345**	*e*PKPbc	PKPbc	21 40 02.7	-0.3
FLN	**La Foliniere**	**151.62**	**4**	*e*PKP1	PKPbc	21 40 02.8	-0.6
FLN	**La Foliniere**	**151.62**	**4**	*e*P	PKPbc	21 40 02.8	-0.6
VTS	**Vitosha**	**151.64**	**326**	⇑*i*P	PKPbc	21 40 03.3	-0.4
BFO	**Black Forest**	**151.68**	**351**	*e*PKPbc	PKPbc	21 40 03.5	-0.1
CDF	**Champ du Feu**	**151.74**	**353**	*e*PKP1	PKPbc	21 40 03.4	-0.3
	comp=Z,5.4nm,0.7s						
CDF	**Champ du Feu**	**151.74**	**353**	*e*P	PKPbc	21 40 03.4	-0.3
LDF	**La Druitiere**	**151.81**	**3**	*e*PKP1	PKPbc	21 40 03.0	-0.9
	comp=Z,4.9nm,0.5s						
LDF	**La Druitiere**	**151.81**	**3**	*e*P	PKPbc	21 40 03.0	-0.9
MEZF	**Maizieres J'vi**	**151.86**	**356**	*e*PKP1	PKPbc	21 40 04.1	+0.1
MEZF	**Maizieres J'vi**	**151.86**	**356**	*e*P	PKPbc	21 40 04.1	+0.1
SGMF	**Saint Gilles**	**151.95**	**7**	*e*PKP1	PKPbc	21 40 03.5	-0.7
	comp=Z,12nm,0.7s						
SGMF	**Saint Gilles**	**151.95**	**7**	*e*P	PKPbc	21 40 03.5	-0.7
GRR	**Gorron**	**151.97**	**4**	*e*PKP1	PKPbc	21 40 03.9	-0.3
	comp=Z,8.9nm,0.5s						
GRR	**Gorron**	**151.97**	**4**	*e*P	PKPbc	21 40 03.9	-0.3
QUIF	**Quistinic**	**152.21**	**8**	*e*PKP1	PKPbc	21 40 03.9	-0.9
QUIF	**Quistinic**	**152.21**	**8**	*e*P	PKPbc	21 40 03.9	-0.9
HAU	**Haudompre**	**152.24**	**354**	*e*PKP1	PKPbc	21 40 04.4	-0.5
	comp=Z,5.8nm,0.7s						
HAU	**Haudompre**	**152.24**	**354**	*e*P	PKPbc	21 40 04.4	-0.5
HINF	**Hinterlafeld**	**152.38**	**353**	*e*PKP1	PKPbc	21 40 04.6	-0.5
HINF	**Hinterlafeld**	**152.38**	**353**	*e*P	PKPbc	21 40 04.6	-0.5
LOR	**Lormes**	**153.15**	**357**	*e*PKP1	PKPbc	21 40 07.1	+0.2
	comp=Z,3.5nm,0.6s						
LOR	**Lormes**	**153.15**	**357**	*e*P	PKPbc	21 40 07.1	+0.2
SSF	**Saint Saulge**	**153.37**	**358**	*e*PKP1	PKPbc	21 40 07.1	-0.2
SSF	**Saint Saulge**	**153.37**	**358**	*e*P	PKPbc	21 40 07.1	-0.2
ESDC	**Sonseca Array**	**160.08**	**14**	PKPab	PKPab	21 40 51.5	+0.2
	comp=Z,0.5nm,0.6s,baz=332,slow=4.6,SNR=3.5						
ESDC	**Sonseca Array**	**160.08**	**14**	PKPab	PKPab	21 40 51.5	+0.2
TORD	**Torodi Ar. Bea**	**172.78**	**177**	PKP	PKPdf	21 40 17.2	-1.1
	comp=Z,1.4nm,0.9s,baz=253,slow=0.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**172.78**	**177**	PKP	PKPdf	21 40 17.2	-1.1

IDC ***27*** *21:22:25.3±1.9, 2°.79S×128°.11E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx3.2/15, Error ellipse: s-maj=175.1km s-min=23.2km az=68.0*
ISCJB ***27*** *21:22:31.7±0.6, 2°.87S±0°.06×128°.01E±0°.08, h67km±9km, mb3.4/3, Error ellipse: s-maj=14.3km s-min=7.9km az=154.4*
DJA ***27*** *21:22:31, 2°.78S×128°.02E, h14km, MLv3.6/4*
ISC 27 21:22:32.7±0.6, **2°.86S**±0°.05×**128°.06E**±0°.08, **h57**km±9km, **n12,** σ1°.00/15, **mb3.5**/3, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.83**	**171**	P	**Pn**	**21 22 46.8**	**-1.7**
AAI				S	**Sn**	**21 23 00.4**	**+0.3**
MSAI	**Masohi**	**0.99**	**119**	P	**Pn**	**21 22 52.2**	**+1.7**
MSAI				S	**Sn**	**21 23 12.3**	**+8.6**
LBMI	**Labuha**	**2.27**	**346**	P	**Pn**	**21 23 07.2**	**-0.7**
LBMI				S	**Sn**	**21 23 34.7**	**-0.1**
FAKI	**Fak Fak**	**4.18**	**91**	P	**Pn**	**21 23 33.1**	**-0.9**
TLE	**Tual**	**5.42**	**121**	P	**Pn**	**21 23 54.5**	**+3.5**
	175nm,2.4s						
KDI	**Kendari**	**5.54**	**258**	P	**Pn**	**21 23 52.6**	**-0.1**
	15nm,1.0s						
LUWI	**Luwuk**	**5.59**	**289**	P	**Pn**	**21 23 54.4**	**+1.1**
WRA	**Warramunga Arr**	**18.05**	**161**	P	**Pn**	**21 26 38.2**	**-1.5**
	0.3nm,0.3s,baz=343,slow=13,SNR=16						
ASAR	**Alice Springs**	**21.45**	**165**	P	**P**	**21 27 16.4**	**+0.1**
	0.7nm,0.3s,mb3.4,baz=346,slow=12,SNR=17						
ASAR				S	**S**	**21 31 11.8**	**+0.6**
	1.5nm,1.1s,baz=345,slow=21,SNR=5.4						
KSRS	**Korea Array**	**40.11**	**360**	LR	LR	21 46 53.9	
	comp=Z,125nm,20.2s,baz=155,slow=37						
MKAR	**Makanchi Array**	**63.72**	**327**	P	**P**	**21 32 59.0**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=129,slow=8.2,SNR=3.6						
KURK	**Kurchatov**	**68.00**	**329**	P	**P**	**21 33 25.7**	**-0.2**
	0.4nm,0.8s,mb3.5,baz=130,slow=5.9,SNR=6.9						

SKO ***27*** *21:25:18.0, 40°.49N×20°.84E, h0km*
ISCJB ***27*** *21:25:19.9±0.7, 40°.69N±0°.02×20°.80E±0°.04, h1km±5km, Error ellipse: s-maj=4.6km s-min=3.9km az=178.6*
ATH ***27*** *21:25:20.9, 40°.72N×20°.98E, h23km±2km, MD3.3/3*
CSEM ***27*** *21:25:20.5±0.2, 40°.69N×20°.87E, h2km, ML2.6/9, Error ellipse: s-maj=4.9km s-min=3.7km az=128.0*
THE ***27*** *21:25:21.4, 40°.65N×20°.89E, h0km±2km, ML2.6/9, Error ellipse: s-maj=2.6km s-min=0.8km az=311.0*
ISC 27 21:25:21.0±0.5, **40°.68N**±0°.02×**20°.84E**±0°.03, **h4**km±4km, **n48,** σ1°.12/76, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.30**	**149**	P	**Pg**	**21 25 26.1**	**-0.8**
NEST				S	**Sg**	**21 25 31.4**	**+0.5**
NEST	**Nestorio**	**0.30**	**149**	P	**Pg**	**21 25 26.1**	**-0.8**
NEST				S

LIA				S	Sg	21 28 37.2	+2.1
LIA	**Limnos Island**	**0.84**	**308**	P	Pg	21 28 24.0	-0.2
LIA				S	Sg	21 28 37.2	+2.1
CHOS	**Chios island**	**1.00**	**179**	*e*PB	Pb	21 28 26.1	-1.7
CHOS				*e*SB	Sb	21 28 40.3	-0.8
CHOS	**Chios island**	**1.00**	**179**	P	Pg	21 28 26.2	-1.1
CHOS				S	Sg	21 28 40.9	+0.7
CHOS	**Chios island**	**1.00**	**179**	P	Pg	21 28 26.2	-1.1
CHOS				*e*Sb	Sb	21 28 40.3	-0.8
CHOS				S	Sg	21 28 40.9	+0.7
GELI	**Tayfur-Gelibol**	**1.06**	**18**	*e*PG	Pg	21 28 27.7	-0.9
GELI				*e*SG	Sg	21 28 42.1	-0.2
GELI	**Tayfur-Gelibol**	**1.06**	**18**	*e*Pg	Pg	21 28 27.7	-0.8
GELI				*e*Sg	Sg	21 28 42.1	-0.2
LPK	**Lapseki**	**1.13**	**29**	*e*PN	Pn	21 28 27.7	-2.7
LPK	**Lapseki**	**1.13**	**29**	*e*Pn	Pn	21 28 27.7	-2.7
BLCB	**Balcova**	**1.27**	**142**	*e*PN	Pn	21 28 31.4	-0.9
BLCB	**Balcova**	**1.27**	**142**	*e*Pn	Pn	21 28 31.4	-0.9
BALY	**Balya**	**1.27**	**73**	*i* P	Pn	21 28 31.2	-1.2
BALY				*i* S	Sb	21 28 50.6	+1.6
BALY	**Balya**	**1.27**	**73**	*i* P	Pn	21 28 31.2	-1.1
BALY				*i* S	Sb	21 28 50.6	+1.6
ERIK	**Erikli-Kesan**	**1.33**	**16**	*e*PN	Pn	21 28 32.0	-1.2
ERIK				*e*SN	Sn	21 28 49.9	-1.3
ERIK	**Erikli-Kesan**	**1.33**	**16**	*e*Pn	Pn	21 28 32.0	-1.2
ERIK				*e*Sn	Sn	21 28 49.9	-1.3
ENEZ	**Enez**	**1.35**	**4**	*e*PN	Pn	21 28 32.0	-1.5
ENEZ	**Enez**	**1.35**	**4**	*e*Pn	Pn	21 28 32.0	-1.5
IZM	**Izmir**	**1.37**	**136**	*e*PN	Pn	21 28 33.2	-0.5
IZM	**Izmir**	**1.37**	**136**	*e*Pn	Pn	21 28 33.3	-0.4
KRBG	**Karabiga-Canak**	**1.40**	**43**	*e*PN	Pn	21 28 32.5	-1.6
KRBG	**Karabiga-Canak**	**1.40**	**43**	*e*Pn	Pn	21 28 32.5	-1.6
AKHS	**Akhisar**	**1.47**	**110**	*e*P	Pn	21 28 34.1	-1.0
AKHS				*i* S	Sn	21 28 56.8	+2.2
AKHS	**Akhisar**	**1.47**	**110**	*e*P	Pn	21 28 34.1	-1.0
AKHS				*i* S	Sn	21 28 56.8	+2.2
ALN	**Alexandroupoli**	**1.51**	**0**	P	Pn	21 28 34.6	-1.0
ALN				S	Sn	21 28 55.7	+0.1
ALN	**Alexandroupoli**	**1.51**	**0**	P	Pn	21 28 34.6	-1.0
ALN				S	Sn	21 28 55.7	+0.1
RKY	**Sarkoy-Tekirda**	**1.56**	**34**	*e*PN	Pn	21 28 35.9	-0.5
RKY	**Sarkoy-Tekirda**	**1.56**	**34**	*e*Pn	Pn	21 28 35.9	-0.5
AOS	**Alonnisos**	**1.69**	**263**	P	Pn	21 28 38.1	0.0
AOS	**Alonnisos**	**1.69**	**263**	P	Pn	21 28 38.1	0.0
MFT	**Murefte**	**1.69**	**34**	*e*PN	Pn	21 28 37.9	-0.2
MFT	**Murefte**	**1.69**	**34**	*e*Pn	Pn	21 28 37.9	-0.2
EDC	**Edincik**	**1.70**	**55**	*e*PN	Pn	21 28 37.9	-0.3
EDC	**Edincik**	**1.70**	**55**	*e*Pn	Pn	21 28 37.9	-0.3
BNT	**Bandirma**	**1.74**	**56**	*e*PN	Pn	21 28 37.5	-1.3
BNT	**Bandirma**	**1.74**	**56**	*e*Pn	Pn	21 28 37.5	-1.3
SMG	**Samos**	**1.79**	**159**	*e*PN	Pn	21 28 40.3	+0.8
SMG				*e*SN	Sn	21 29 05.5	+3.1
SMG	**Samos**	**1.79**	**159**	*e*Pn	Pn	21 28 40.3	+0.8
SMG				*e*Sn	Sn	21 29 05.5	+3.1
RDO	**Rodhopi**	**1.80**	**348**	*e*PG	Pn	21 28 38.5	-1.1
RDO	**Rodhopi**	**1.80**	**348**	P	Pn	21 28 38.5	-1.1
RDO	**Rodhopi**	**1.80**	**348**	P	Pn	21 28 38.5	-1.1
OUR	**Ouranopolis**	**1.85**	**301**	P	Pn	21 28 40.0	-0.3
OUR	**Ouranopolis**	**1.85**	**301**	P	Pn	21 28 40.0	-0.3
DURS	**Dursunbey**	**1.90**	**83**	*e*P	Pn	21 28 40.0	-1.0
DURS	**Dursunbey**	**1.90**	**83**	*e*P	Pn	21 28 40.0	-0.9
PAIG	**Paliouri**	**1.90**	**287**	P	Pn	21 28 41.3	+0.3
PAIG	**Paliouri**	**1.90**	**287**	P	Pn	21 28 41.3	+0.3
TKR	**Tekirdag**	**1.97**	**35**	*e*PN	Pn	21 28 41.5	-0.4
TKR	**Tekirdag**	**1.97**	**35**	*e*Pn	Pn	21 28 41.6	-0.4
KCTX	**Karacabey (Bur**	**1.99**	**63**	*e*PN	Pn	21 28 42.0	-0.2
KCTX	**Karacabey (Bur**	**1.99**	**63**	*e*Pn	Pn	21 28 42.0	-0.2
KAVA	**Kavala**	**1.99**	**324**	P	Pn	21 28 42.4	+0.2
KAVA				S	Sn	21 29 09.5	+2.1
KAVA	**Kavala**	**1.99**	**324**	P	Pn	21 28 42.4	+0.2
KAVA				S	Sn	21 29 09.5	+2.1
SKIA	**Skiathos**	**2.01**	**265**	P	Pn	21 28 42.8	+0.3
SKIA	**Skiathos**	**2.01**	**265**	P	Pn	21 28 42.8	+0.3
CRLT	**Corlu**	**2.17**	**36**	*e*PN	Pn	21 28 44.9	+0.2
CRLT	**Corlu**	**2.17**	**36**	*e*Pn	Pn	21 28 44.9	+0.2
KULA	**Kula-Manisa**	**2.22**	**112**	*e*PN	Pn	21 28 45.8	+0.4
KULA	**Kula-Manisa**	**2.22**	**112**	*e*Pn	Pn	21 28 45.8	+0.4
PLG	**Polygyros**	**2.23**	**297**	*e*PN	Pn	21 28 44.3	-1.2
PLG	**Polygyros**	**2.23**	**297**	P	Pn	21 28 45.3	-0.2
PLG				S	Sn	21 29 14.2	+0.9
PLG	**Polygyros**	**2.23**	**297**	P	Pn	21 28 45.3	-0.2
PLG				S	Sn	21 29 14.2	+0.9
VLY	**Voula,Athens**	**2.33**	**230**	P	Pn	21 28 46.2	-0.8
VLY	**Voula,Athens**	**2.33**	**230**	P	Pn	21 28 46.2	-0.8
APE	**Apeiranthos**	**2.35**	**190**	P	Pn	21 28 46.6	-0.6
APE				S	Sn	21 29 16.8	+0.5
APE	**Apeiranthos**	**2.35**	**190**	P	Pn	21 28 46.6	-0.6
APE				S	Sn	21 29 16.8	+0.5
MDNY	**Mudanya-Bursa**	**2.40**	**65**	*e*PN	Pn	21 28 48.4	+0.5
MDNY	**Mudanya-Bursa**	**2.40**	**65**	*e*Pn	Pn	21 28 48.4	+0.6
ARMT	**Armutlu**	**2.47**	**61**	*e*PN	Pn	21 28 49.3	+0.5
ARMT	**Armutlu**	**2.47**	**61**	*e*Pn	Pn	21 28 49.3	+0.5
SLVT	**Silivri**	**2.48**	**41**	*e*PN	Pn	21 28 48.9	-0.1
SLVT	**Silivri**	**2.48**	**41**	*e*Pn	Pn	21 28 48.9	-0.1
SOH	**Sokhos**	**2.51**	**306**	P	Pn	21 28 49.9	+0.5
SOH	**Sokhos**	**2.51**	**306**	P	Pn	21 28 49.9	+0.5
EDRB	**Edirne**	**2.52**	**12**	*e*PN	Pn	21 28 49.6	+0.1
EDRB	**Edirne**	**2.52**	**12**	*e*Pn	Pn	21 28 49.6	+0.1
SRS	**Serrai**	**2.55**	**313**	P	Pn	21 28 49.6	-0.3
SRS				S	Sn	21 29 22.2	+1.0
SRS	**Serrai**	**2.55**	**313**	P	Pn	21 28 49.6	-0.3
SRS				S	Sn	21 29 22.2	+1.0
NVR	**Nevrokopi**	**2.57**	**320**	*e*PN	Pn	21 28 49.0	-1.2
NVR	**Nevrokopi**	**2.57**	**320**	P	Pn	21 28 49.4	-0.8
NVR				S	Sn	21 29 23.8	+2.0
NVR	**Nevrokopi**	**2.57**	**320**	*e*Pn	Pn	21 28 49.0	-1.2
NVR	**Nevrokopi**	**2.57**	**320**	P	Pn	21 28 49.4	-0.8
NVR				S	Sn	21 29 23.8	+2.0
CTKS	**Kestanelik-??a**	**2.64**	**45**	*e*PN	Pn	21 28 50.3	-0.8
CTKS	**Kestanelik-??a**	**2.64**	**45**	*e*Pn	Pn	21 28 50.3	-0.9
CTYL	**Yal??k??y-??at**	**2.70**	**39**	*e*PN	Pn	21 28 52.7	+0.6
CTYL	**Yal??k??y-??at**	**2.70**	**39**	*e*Pn	Pn	21 28 52.7	+0.7
BGKT	**Bogazkoy**	**2.75**	**49**	*e*PN	Pn	21 28 53.3	+0.6
BGKT	**Bogazkoy**	**2.75**	**49**	*e*Pn	Pn	21 28 53.3	+0.6
YLV	**Yalova**	**2.82**	**64**	*e*PN	Pn	21 28 54.6	+0.9
YLV	**Yalova**	**2.82**	**64**	*e*Pn	Pn	21 28 54.6	+1.0
ISK	**Istanbul-Kandi**	**2.85**	**53**	*e*PN	Pn	21 28 54.5	+0.3
ISK	**Istanbul-Kandi**	**2.85**	**53**	*e*Pn	Pn	21 28 54.5	+0.4
PLD	**Plovdiv**	**2.90**	**340**	P	Pn	21 28 55.8	+1.1
PLD	**Plovdiv**	**2.90**	**340**	P	Pn	21 28 55.8	+1.1
KLYT	**Kilyos**	**2.96**	**50**	*e*PN	Pn	21 28 56.4	+0.8
KLYT	**Kilyos**	**2.96**	**50**	*e*Pn	Pn	21 28 56.4	+0.9
KNT	**Kendrikon**	**2.99**	**307**	P	Pn	21 28 55.8	-0.2
KNT	**Kendrikon**	**2.99**	**307**	P	Pn	21 28 55.8	-0.2
ADVT	**Abdulvahap**	**3.03**	**69**	*e*PN	Pn	21 28 57.1	+0.6
ADVT	**Abdulvahap**	**3.03**	**69**	*e*Pn	Pn	21 28 57.1	+0.6
JMB	**Yambol**	**3.10**	**7**	P	Pn	21 28 57.8	+0.2
JMB	**Yambol**	**3.10**	**7**	P	Pn	21 28 57.8	+0.2
THL	**Klokotos Trika**	**3.12**	**275**	P	Pn	21 28 57.5	-0.3
THL	**Klokotos Trika**	**3.12**	**275**	P	Pn	21 28 57.5	-0.3
HRT	**Hereke**	**3.13**	**62**	*e*PN	Pn	21 28 58.1	+0.2
HRT	**Hereke**	**3.13**	**62**	*e*Pn	Pn	21 28 58.2	+0.3
ALT	**Altintas**	**3.18**	**95**	*e*PN	Pn	21 28 59.5	+0.9
ALT	**Altintas**	**3.18**	**95**	*e*Pn	Pn	21 28 59.5	+0.9

IDC 27 22:06:23.9±4.7, 15°.08S×66°.69E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.7/4, MS3.9/8, Ms1 3.8/8, ms1mx3.5/38, Error ellipse: s-maj=128.0km s-min=35.4km az=66.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**40.54**	**244**	LR	LR	22 27 27.7	
	comp=Z,108nm,19.6s,baz=166,slow=31						
CMAR	**Chiang Mai Arr**	**46.05**	**45**	P	P	22 14 49.5	-0.1
	0.6nm,0.7s,baz=230,slow=9.3,SNR=7.3						
CMAR				LR	LR	22 31 26.4	
	comp=Z,94nm,18.1s,baz=178,slow=33						
KAPI	**Kappang**	**53.08**	**85**	LR	LR	22 34 57.7	
	comp=Z,61nm,19.6s,baz=118,slow=32						
FITZ	**Fitzroy Crossi**	**56.38**	**102**	LR	LR	22 36 55.0	
	comp=Z,82nm,18.7s,baz=194,slow=32						
MKAR	**Makanchi Array**	**63.16**	**12**	P	P	22 16 53.5	+0.1
	0.7nm,1.1s,baz=213,slow=5.0,SNR=2.1						
ASAR	**Alice Springs**	**63.50**	**109**	P	P	22 16 55.8	-0.5
	0.8nm,0.9s,baz=259,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**64.33**	**105**	P	P	22 17 02.5	+0.6
	0.8nm,0.9s,baz=269,slow=6.4,SNR=8.2						
KURK	**Kurchatov**	**66.34**	**8**	LR	LR	22 43 35.9	
	comp=Z,43nm,18.8s,baz=320,slow=34						
STKA	**Stephens Creek**	**69.52**	**119**	LR	LR	22 42 13.2	
	comp=Z,95nm,19.7s,baz=25,slow=31						
JOW	**Kunigami**	**72.86**	**55**	LR	LR	22 47 52.9	
	comp=Z,86nm,18.1s,baz=87,slow=34						
FINES	**FINESS Array B**	**82.78**	**342**	LR	LR	22 52 59.3	
	comp=Z,132nm,18.2s,baz=141,slow=34						

IDC 27 22:28:04.3±1.9, 3°.62N×129°.35E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/17, mbtmp3.4/5, Error ellipse: s-maj=92.1km s-min=20.3km az=66.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.92**	**168**	P	P	22 33 20.1	-0.1
	0.2nm,0.4s,baz=345,slow=9.7,SNR=7.9						
ASAR	**Alice Springs**	**27.48**	**171**	P	P	22 33 51.5	-1.0
	0.3nm,0.5s,baz=348,slow=7.3,SNR=5.8						
CMAR	**Chiang Mai Arr**	**33.20**	**299**	P	P	22 34 43.8	+0.6
	0.8nm,0.7s,baz=112,slow=6.9,SNR=5.1						
MKAR	**Makanchi Array**	**59.16**	**324**	P	P	22 38 07.4	+0.4
	0.2nm,0.5s,baz=117,slow=8.6,SNR=4.1						
KURK	**Kurchatov**	**63.26**	**327**	P	P	22 38 34.8	+0.1
	0.2nm,0.4s,baz=128,slow=6.7,SNR=5.0						

*ISCJB **27** 22:30:03.8±0.3, 44°.47N±0°.02×110°.36W±0°.03, h10km, Error ellipse: s-maj=3.4km s-min=3.2km az=173.2*
*NEIC **27** 22:30:03.0, 44°.50N×110°.36W, h4km, ML3.3(SLC), After SLC.*
*IDC **27** 22:30:12.3±1.3, 45°.11N×110°.14W, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/25, mbtmp3.1/4, ML2.3/2, Error ellipse: s-maj=30.5km s-min=12.2km az=148.0*

ISC 27 22:30:04.6±0.3, 44°.52N±0°.02×110°.37W±0°.03, h10km, n46, σ1°.38/75, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.05**	**336**	*e*Pg	Pg	22 30 05.4	-1.2
LKWY				*e*S	Sg	22 30 06.7	-1.4
YNR	**Norris Junctio**	**0.29**	**312**	*e*Pg	Pg	22 30 09.8	-0.7
YNR				*e*S	Sg	22 30 14.5	0.0
YFT	**Old Faithful**	**0.34**	**258**	*e*Pg	Pg	22 30 10.4	-0.9
YFT				*e*S	Sg	22 30 13.9	-2.0
YMR	**Madison River**	**0.45**	**290**	*e*Pg	Pg	22 30 13.2	-0.1
QLMT	**Earthquake Lak**	**0.82**	**293**	*e*Pg	Pg	22 30 19.8	-0.6
LOHW	**Long Hollow**	**0.92**	**191**	*e*Pg	Pg	22 30 21.4	-1.0
LOHW				*e*S	Sg	22 30 35.4	+1.1
RLMT	**Red Lodge**	**0.99**	**52**	*e*Pg	Pg	22 30 22.3	-1.3
RLMT				*e*S	Sg	22 30 36.5	-0.1
SNOW	**Snow King Moun**	**1.09**	**195**	*e*Pg	Pg	22 30 24.3	-1.3
DCID1	**Drake Creek**	**1.09**	**213**	*e*Pg	Pg	22 30 25.0	-0.7
RRI2	**Red Ridge**	**1.36**	**211**	*e*Pn	Pn	22 30 29.1	-0.4
RRI2				*e*S	Sb	22 30 49.1	+1.6
GCMT	**Greycliff**	**1.37**	**21**	*e*Pn	Pn	22 30 30.2	+0.5
GCMT				*e*S	Sb	22 30 52.0	+4.3
BOZ	**Bozeman (W)**	**1.44**	**322**	*e*Pn	Pn	22 30 31.2	+0.5
DLMT	**Dillon**	**1.79**	**299**	*e*Pn	Pn	22 30 36.0	+0.4
DLMT				*e*S	Sn	22 31 00.1	+1.8
MCMT	**McKenzie Canyo**	**1.79**	**281**	*e*Pn	Pn	22 30 37.6	+2.0
BW06	**Boulder Array**	**1.85**	**161**	*e*Pn	Pn	22 30 37.3	+0.9
BW06				*e*S	Sn	22 31 00.9	+1.1
LRM	**Limekiln Ridge**	**1.96**	**312**	*e*Pn	Pn	22 30 39.3	+1.4
LRM				*e*S	Sn	22 31 07.3	+4.7
HRY	**Holter Researc**	**2.42**	**335**	*e*Pn	Pn	22 30 45.7	+1.5
HRY				*e*S	Sn	22 31 22.3	+8.4
HLID	**Hailey**	**3.07**	**253**	*e*Pn	Pn	22 30 55.5	+2.3
HLID				*e*S	Sg	22 31 43.6	+0.4
CHMT	**Chamberlain Mo**	**3.13**	**321**	*e*Pn	Pn	22 30 56.0	+2.0
CHMT				*e*S	Sg	22 31 43.6	-1.5
HVU	**Hansel Valley**	**3.25**	**214**	*e*Pn	Pn	22 30 55.5	-0.2
SLMT	**Seeley Lake**	**3.49**	**322**	*e*Pn	Pn	22 31 00.5	+1.6
SLMT				*e*S	Sg	22 31 54.1	-2.5
EGMT	**Eagleton**	**3.53**	**7**	*e*Pn	Pn	22 31 02.0	+2.6
EGMT				*e*S	Sg	22 31 56.0	-2.0
LAO	**LASA Array**	**3.63**	**52**	*e*Pn	Pn	22 31 01.3	+0.4
SWMT	**Swartz Lake**	**3.91**	**321**	*e*Pn	Pn	22 31 06.8	+2.1
MFID	**Camas Ranch**	**4.09**	**256**	*e*Pn	Pn	22 31 06.0	-1.1
MFID				*e*Pg	Pg	22 31 19.0	-3.9
DAU	**Daniels Canyon**	**4.16**	**189**	*e*Pn	Pn	22 31 08.6	+0.5
YBMT	**Yellow Bay**	**4.19**	**324**	*e*Pn	Pn	22 31 11.3	+2.8
YBMT				*e*Pg	Pg	22 31 22.9	-2.0
JTMT	**Jette**	**4.22**	**321**	*e*Pn	Pn	22 31 10.3	+1.4
JTMT				*e*Pg	Pg	22 31 24.0	-1.5
BSMT	**Bassoo Peak**	**4.53**	**319**	*e*Pn	Pn	22 31 14.2	+1.0
BSMT				*e*Pg	Pg	22 31 29.6	-1.7
RSSD	**Black Hills**	**4.56**	**93**	*e*Pn	Pn	22 31 15.0	+1.3
RSSD				*e*S	Sg	22 32 25.6	-5.5
DUG	**Dugway**	**4.69**	**204**	*e*Pn	Pn	22 31 18.1	+2.7
PHWY	**Pilot Hill**	**4.83**	**130**	*e*Pn	Pn	22 31 15.4	-2.0
PHWY				*e*S	Sg	22 32 32.5	-7.3
TMUT	**Trail Mountain**	**5.26**	**187**	*e*Pn	Pn	22 31 22.3	-0.9
TMUT				*e*Pg	Pg	22 31 44.2	-1.1
SRU	**San Rafael**	**5.41**	**181**	*e*Pn	Pn	22 31 27.9	+2.7
SRU				*e*Pg	Pg	22 31 46.6	-1.5
DGMT	**Dagmar**	**5.81**	**45**	*e*Pn	Pn	22 31 30.9	+0.1
DGMT				*e*S	Sn	22 32 41.5	+4.0
PV04	**Paradox Valley**	**6.22**	**169**	*e*Pn	Pn	22 31 34.7	-1.7
PV04				*e*Pg	Pg	22 32 02.9	-0.8
PV04				*e*S	Sg	22 33 20.1	-4.1
PV01	**Paradox Valley**	**6.52**	**167**	*e*Pn	Pn	22 31 41.4	+0.8
	1μm,0.9s						
PV01				*e*Pg	Pg	22 32 07.2	-2.3
PV01				*e*S	Sg	22 33 33.8	-0.2
OGNE	**Ogallala**	**7.10**	**117**	*e*Pn	Pn	22 31 49.2	+0.7
OGNE				*e*Pg	Pg	22 32 15.1	-5.4
NVAR	**Mina Array Bea**	**8.51**	**227**	Pn	Pn	22 32 26.5	+19
	0.1nm,0.3s,baz=48,slow=14,SNR=3.2						
NVAR	**Mina Array Bea**	**8.51**	**227**	Pn	Pn	22 32 26.5	+19
ULM	**Lac du Bonnet**	**11.37**	**55**	Pn	Pn	22 32 46.5	-0.5
	0.3nm,0.3s,baz=240,slow=13,SNR=4.5						
ULM				Pg	Pn	22 33 31.1	+44
	0.4nm,0.3s,baz=246,slow=16,SNR=5.0						
ULM				Lg		22 35 48.8	
	0.1nm,0.3s,baz=183,slow=4.5,SNR=3.1						
ULM	**Lac du Bonnet**	**11.37**	**55**	Pn	Pn	22 32 46.5	-0.5
YKA	**Yellowknife Ar**	**18.18**	**354**	Pn	Pn	22 34 15.0	-1.8
	baz=173,slow=11,SNR=2.6						
YKA	**Yellowknife Ar**	**18.18**	**354**	Pn	Pn	22 34 15.0	-1.8
ILAR	**Eielson Array**	**28.63**	**328**	P	P	22 36 05.9	+5.0
	0.3nm,0.9s,baz=126,slow=9.1,SNR=3.0						
ILAR	**Eielson Array**	**28.63**	**328**	P	P	22 36 05.9	+5.0

*DDA **27** 22:52:23.6, 37°.88N×29°.20E, h5km±3km, Md3.9*
*IDC **27** 22:52:23.9±1.0, 37°.88N×29°.17E, h0km, mb3.7/6, mb1 3.7/11, mb1mx3.6/27, mbtmp3.6/11, ML3.4/5, MS2.5/1, Ms1 2.5/1, ms1mx2.2/39, Error ellipse: s-maj=21.1km s-min=14.9km az=58.0*
*NEIC **27** 22:52:24.0, 37°.79N×29°.18E, h6km, ML3.8(ISK), After ISK.*
*ISK **27** 22:52:24.6, 37°.80N×29°.20E, h6km, ML3.8*
*ISCJB **27** 22:52:24.2±0.4, 37°.83N±0°.02×29°.19E±0°.02, h3km±3km, mb3.6/6, Error ellipse: s-maj=2.8km s-min=2.6km az=157.6*
*THE **27** 22:52:25.8, 37°.96N×29°.29E, h1km±2km, ML4.3/2, Error ellipse: s-maj=2.6km s-min=0.9km az=58.0*
*ATH **27** 22:52:25.6, 37°.97N×29°.14E, h23km±5km, MD3.8/7*
*CSEM **27** 22:52:25.3±0.1, 37°.84N×29°.22E, h2km, ML3.8, Error ellipse: s-maj=2.9km s-min=2.8km az=65.0*

ISC 27 22:52:25.1±0.4, 37°.83N±0°.02×29°.20E±0°.02, h1km±3km, n245, σ1°.04/276, mb3.6/6, 5C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.15**	**239**	*e*PG	Pg	22 52 28.5	+0.4
DENT	**Denizli**	**0.15**	**239**	*e*Pg	Pg	22 52 28.5	+0.4
DNZL	**Cakiroluk**	**0.19**	**220**	*i* P	Pg	22 52 29.1	+0.4
DNZL	**Cakiroluk**	**0.19**	**220**	*i* P	Pg	22 52 29.1	+0.4
KHAL	**Karahalli**	**0.58**	**23**	*i* P	Pg	22 52 34.5	-1.9
KHAL	**Karahalli**	**0.58**	**23**	*i* P	Pg	22 52 34.5	-1.8
GOLH	**Golhisar**	**0.66**	**154**	*i* P	Pg	22 52 36.8	-0.9
GOLH	**Golhisar**	**0.66**	**154**	*i* P	Pg	22 52 36.8	-1.0
GLHS	**Glhisar (BURDU**	**0.72**	**161**	*e*PG	Pg	22 52 38.0	-0.8
GLHS				*e*SG	Sg	22 52 48.5	+0.4
GLHS	**Glhisar (BURDU**	**0.72**	**161**	*e*Pg	Pg	22 52 38.1	-0.7
GLHS				*e*Sg	Sg	22 52 48.5	+0.4
KULA	**Kula-Manisa**	**0.80**	**328**	*e*PG	Pg	22 52 40.5	0.0
KULA	**Kula-Manisa**	**0.80**	**328**	*e*Pg	Pg	22 52 40.5	0.0
YER	**Yerkesik**	**1.01**	**227**	*e*PG	Pg	22 52 44.0	-0.5
YER				*e*SG	Sg	22 52 58.2	+0.7
YER	**Yerkesik**	**1.01**	**227**	*e*Pg	Pg	22 52 44.0	-0.4
YER				*e*Sg	Sg	22 52 58.2	+0.7
ISP	**Isparta**	**1.05**	**90**	*e*PG	Pg	22 52 44.5	-0.7
ISP	**Isparta**	**1.05**	**90**	P	Pg	22 52 44.6	-0.6
ISP	**Isparta**	**1.05**	**90**	*e*Pg	Pg	22 52 44.3	-0.9
ISP				*e*S	Sg	22 53 01.8	+3.1
ISP	**Isparta**	**1.05**	**90**	P	Pg	22 52 44.6	-0.6
ISP				*e*S	Sg	22 53 01.8	+3.1
AYDN	**Tasoluk**	**1.06**	**261**	*i* P	Pg	22 52 44.9	-0.6
AYDN	**Tasoluk**	**1.06**	**261**	*i* P	Pg	22 52 44.9	-0.6
TURN	**Turunc**	**1.07**	**207**	*i* P	Pg	22 52 49.0	+3.4
TURN	**Turunc**	**1.07**	**207**	*i* P	Pg	22 52 49.0	+3.4
BCK	**Bucak**	**1.16**	**108**	*e*PN	Pn	22 52 47.0	-1.5
BCK	**Bucak**	**1.16**	**108**	*e*Pn	Pn	22 52 47.1	-1.4
ELL	**Elmali**	**1.22**	**152**	*e*PN	Pn	22 52 47.7	-1.7
ELL	**Elmali**	**1.22**	**152**	*e*Pn	Pn	22 52 47.7	-1.6
KORT	**Korkueli**	**1.24**	**132**	*i* P	Pg	22 52 50.1	+1.3
KORT	**Korkueli**	**1.24**	**132**	*i* P	Pg	22 52 50.1	+1.3
GDZ	**Gediz**	**1.27**	**10**	*i* P	Pg	22 52 40.3	-9.3
SHUT	**Suhut-Afyon**	**1.28**	**56**	*e*PN	Pg	22 52 49.6	-0.1
SHUT				*e*SN	Sg	22 53 08.1	+1.7
SHUT	**Suhut-Afyon**	**1.28**	**56**	*e*Pn	Pg	22 52 49.6	-0.1
SHUT				*e*Sn	Sg	22 53 08.1	+1.7
ALT	**Altintas**	**1.41**	**30**	*e*PN	Pg	22 52 51.0	-1.2
ALT	**Altintas**	**1.41**	**30**	*e*Pn	Pg	22 52 51.0	-1.2
SUTC	**Sutluce-Ispart**	**1.47**	**103**	*e*PN	Pg	22 52 52.0	-1.3
SUTC	**Sutluce-Ispart**	**1.47**	**103**	*e*Pn	Pg	22 52 52.0	-1.3
ANTB	**Antalya**	**1.49**	**128**	*e*PN	Pn	22 52 52.4	-0.6
ANTB	**Antalya**	**1.49**	**128**	*e*Pn	Pn	22 52 52.4	-0.6
AKHS	**Akhisar**	**1.51**	**314**	*i* P	Pn	22 52 51.2	-2.1
AKHS	**Akhisar**	**1.51**	**314**	*i* P	Pn	22 52 51.2	-2.1
AKAS	**Kas**	**1.63**	**168**	*i* P	Pg	22 52 55.4	-0.9
AKAS	**Kas**	**1.63**	**168**	*i* P	Pg	22 52 55.4	-0.9
IZM	**Izmir**	**1.63**	**291**	*e*PN	Pn	22 52 54.6	-0.3
IZM	**Izmir**	**1.63**	**291**	*e*Pn	Pn	22 52 54.6	-0.3
BOLV	**Bolvadin**	**1.64**	**57**	*i* P	Pn	22 52 54.3	-0.8
BOLV	**Bolvadin**	**1.64**	**57**	*i* P	Pn	22 52 54.3	-0.7
BODT	**Bodrum**	**1.69**	**243**	*e*PN	Pn	22 52 54.6	-1.1
BODT	**Bodrum**	**

ALN	Alexandroupoli	3.92	322	P	Pn	22 53 25.2	-1.2
ALN	Alexandroupoli	3.92	322	P	Pn	22 53 25.2	-1.2
BR131	Keskin Array S	3.95	60	*e*Pn	Pn	22 53 25.5	-1.3
BR131				*e*S	Sn	22 54 12.2	-1.6
BR131	Keskin Array S	3.95	60	*e*Pn	Pn	22 53 25.5	-1.3
BR131				*e*S	Sn	22 54 12.2	-1.6
BRTR	Keskin Array B	3.95	60	Pn	Pn	22 53 26.4	-0.4
	0.8nm,0.3s,baz=239,slow=16,SNR=51						
BRTR				Sn	Sn	22 54 12.8	-0.9
	1.7nm,0.3s,baz=235,slow=23,SNR=8.2						
BRTR	Keskin Array B	3.95	60	Pn	Pn	22 53 26.4	-0.4
BRTR				Sn	Sn	22 54 12.8	-0.9
BRTR	Keskin Array B	3.95	60	Pn	Pn	22 53 26.5	-0.3
BRTR				Sn	Sn	22 54 12.9	-0.9
LEF	Lefka	4.02	131	*e*PN	Pn	22 53 27.6	-0.2
LEF	Lefka	4.02	131	*e*Pn	Pn	22 53 27.6	-0.2
LFK	Lefkose	4.32	125	*e*PN	Pn	22 53 32.5	+0.6
LFK	Lefkose	4.32	125	*e*Pn	Pn	22 53 32.5	+0.6
MERS	Mersin	4.35	101	*e*PN	Pn	22 53 33.4	+1.1
MERS	Mersin	4.35	101	*e*Pn	Pn	22 53 33.4	+1.1
RDO	Rodhopi	4.36	321	P	Pn	22 53 31.2	-1.2
RDO	Rodhopi	4.36	321	P	Pn	22 53 31.2	-1.2
EDRB	Edirne	4.43	336	*e*PN	Pn	22 53 34.8	+1.3
EDRB	Edirne	4.43	336	*e*Pn	Pn	22 53 34.8	+1.3
SIVA	Sivas	4.52	233	*e*PN	Pn	22 53 36.4	+1.7
SIVA	Sivas	4.52	233	*e*Pn	Pn	22 53 36.4	+1.7
VAM	Vamos	4.69	240	*e*PN	Pn	22 53 38.4	+1.3
VAM	Vamos	4.69	240	*e*Pn	Pn	22 53 38.0	+0.9
OUR	Ouranopolis	4.77	303	P	Pn	22 53 37.4	-0.7
OUR	Ouranopolis	4.77	303	P	Pn	22 53 37.4	-0.7
PAIG	Paliouri	4.79	298	P	Pn	22 53 38.1	-0.3
PAIG	Paliouri	4.79	298	P	Pn	22 53 38.1	-0.3
KAVA	Kavala	4.81	312	P	Pn	22 53 37.5	-1.2
KAVA	Kavala	4.81	312	P	Pn	22 53 37.5	-1.2
CORM	Corum	4.83	59	*e*PN	Pn	22 53 40.5	+1.5
CORM	Corum	4.83	59	*e*Pn	Pn	22 53 40.5	+1.5
YOZ	Yozgat	5.11	67	*e*PN	Pn	22 53 44.5	+1.6
YOZ	Yozgat	5.11	67	*e*Pn	Pn	22 53 44.5	+1.7
SRS	Serrai	5.44	309	P	Pn	22 53 46.2	-1.1
SRS	Serrai	5.44	309	P	Pn	22 53 46.2	-1.1
AGG	Agios Georgios	5.52	285	P	Pn	22 53 48.8	+0.3
AGG	Agios Georgios	5.52	285	P	Pn	22 53 48.8	+0.3
KALE	Kalithea	5.60	278	P	Pn	22 53 50.0	+0.5
KALE	Kalithea	5.60	278	P	Pn	22 53 50.0	+0.5
LIT	Litokhoron	5.70	295	P	Pn	22 53 51.3	+0.4
LIT	Litokhoron	5.70	295	P	Pn	22 53 51.3	+0.4
LAKA	Lakka	5.71	276	P	Pn	22 53 52.2	+1.1
LAKA	Lakka	5.71	276	P	Pn	22 53 52.2	+1.1
THL	Klokotos Trika	5.88	289	P	Pn	22 53 53.8	+0.4
THL	Klokotos Trika	5.88	289	P	Pn	22 53 53.8	+0.4
KNT	Kendrikon	5.90	306	P	Pn	22 53 53.5	-0.1
KNT	Kendrikon	5.90	306	P	Pn	22 53 53.5	-0.1
GRG	Griva	6.12	303	P	Pn	22 53 57.2	+0.6
GRG	Griva	6.12	303	P	Pn	22 53 57.2	+0.6
VTS	Vitosha	6.60	318	⇑*i*P	Pn	22 54 01.4	-1.9
TIRR	Tirgusor	6.64	355	⇑*i*P	Pn	22 54 02.4	-1.4
TIRR	Tirgusor	6.64	355	⇑*i*P	Pn	22 54 02.4	-1.4
MMAI	Mount Meron Ar	6.98	132	Pn	Pn	22 54 07.7	-0.8
	5.8nm,0.3s,baz=320,slow=12,SNR=39						
MMAI				Sn	Sn	22 55 27.4	-1.1
	2.2nm,0.3s,baz=309,slow=26,SNR=6.2						
MMAI	Mount Meron Ar	6.98	132	Pn	Pn	22 54 07.7	-0.8
MMAI				Sn	Sn	22 55 27.4	-1.1
MMAI	Mount Meron Ar	6.98	132	Pn	Pn	22 54 07.7	-0.8
MMAI				Sn	Sn	22 55 27.4	-1.1
TLCR		7.35	358	⇑*i*P	Pn	22 54 12.4	-1.2
TLCR		7.35	358	⇑*i*P	Pn	22 54 12.4	-1.2
MLR	Muntele Rosu	8.03	343	Pn	Pn	22 54 22.6	-0.2
	0.1nm,0.3s,baz=105,slow=20,SNR=7.7						
MLR	Muntele Rosu	8.03	343	Pn	Pn	22 54 22.6	-0.2
MLR	Muntele Rosu	8.03	343	⇓*i*P	Pn	22 54 22.2	-0.6
MLR	Muntele Rosu	8.03	343	⇓*i*P	Pn	22 54 22.2	-0.6
MLR	Muntele Rosu	8.03	343	Pn	Pn	22 54 22.6	-0.2
VRI	Vrincioaia	8.24	348	⇓*i*P	Pn	22 54 25.0	-0.7
VRI	Vrincioaia	8.24	348	⇓*i*P	Pn	22 54 25.0	-0.7
ASF	Jabal al Asfar	8.47	130	Pn	Pn	22 54 29.0	+0.1
	0.3nm,0.3s,baz=257,slow=14,SNR=6.0						
ASF				Sn	Sn	22 56 08.8	+3.6
	0.1nm,0.3s,baz=64,slow=17,SNR=2.1						
ASF				LR	LR	22 58 11.2	
	comp=Z,31nm,18.8s,baz=346,slow=41						
ASF	Jabal al Asfar	8.47	130	Pn	Pn	22 54 29.0	+0.1
ASF				Sn	Sn	22 56 08.8	+3.6
GZR	Gura Zlata	8.95	330	⇓*i*P	Pn	22 54 33.7	-1.8
EIL	Elat	9.44	148	Pn	Pn	22 54 43.5	+1.3
	0.5nm,0.3s,baz=309,slow=17,SNR=5.2						
EIL				Sn	Sn	22 56 28.3	-0.8
	0.3nm,0.3s,baz=285,slow=20,SNR=2.3						
EIL	Elat	9.44	148	Pn	Pn	22 54 43.5	+1.3
EIL				Sn	Sn	22 56 28.3	-0.8
EIL	Elat	9.44	148	Pn	Pn	22 54 43.5	+1.2
EIL				Sn	Sn	22 56 28.3	-0.8
BZS	Buzias	9.62	326	⇓*i*P	Pn	22 54 41.4	-3.2
GERES	GERESS Array B	15.72	319	Pn	Pn	22 56 11.6	+3.9
	0.0nm,0.3s,baz=124,slow=12,SNR=5.6						
GERES	GERESS Array B	15.72	319	Pn	Pn	22 56 11.6	+3.9
FINES	FINESS Array B	23.72	356	P	P	22 57 36.8	-1.6
	2.2nm,0.9s,mb3.7,baz=167,slow=13,SNR=3.8						
FINES	FINESS Array B	23.72	356	P	P	22 57 36.8	-1.6
FINES	FINESS Array B	23.72	356	P	P	22 57 36.8	-1.6
HFS	Hagfors	24.40	341	P	P	22 57 43.3	-1.4
	2.4nm,0.8s,mb3.8,baz=153,slow=13,SNR=3.8						
HFS	Hagfors	24.40	341	P	P	22 57 43.3	-1.4
HFS	Hagfors	24.40	341	P	P	22 57 43.3	-1.4
NB2	NORSAR Subarra	25.83	340	P	P	22 57 55.6	-2.1
	comp=Z,0.8nm,0.7s,mb3.5,baz=143,slow=9.3						
NB2	NORSAR Subarra	25.83	340	P	P	22 57 55.6	-2.1
	comp=Z,0.8nm,0.7s,mb3.5,SNR=5.8						
NOA	NORSAR Array B	25.83	340	P	P	22 57 56.0	-1.7
	comp=Z,1.4nm,0.8s,mb3.6,baz=146,slow=9.2,SNR=5.3						
NOA	NORSAR Array B	25.83	340	P	P	22 57 56.0	-1.7
NOA	NORSAR Array B	25.83	340	P	P	22 57 56.0	-1.7
TORD	Torodi Ar. Bea	34.70	232	P	P	22 59 15.3	-1.3
	comp=Z,1.2nm,0.7s,mb4.0,baz=36,slow=8.8,SNR=9.0						
TORD	Torodi Ar. Bea	34.70	232	P	P	22 59 15.3	-1.3
TORD	Torodi Ar. Bea	34.70	232	P	P	22 59 15.3	-1.3
MKAR	Makanchi Array	39.60	60	P	P	22 59 57.0	-1.0
	comp=Z,0.8nm,0.9s,mb3.4,baz=302,slow=5.9,SNR=3.8						
MKAR	Makanchi Array	39.60	60	P	P	22 59 57.0	-1.0
MKAR	Makanchi Array	39.60	60	P	P	22 59 57.0	-0.9
ZALV	Zalesovo Beam	40.80	48	P	P	23 00 06.3	-1.6
	comp=Z,1.0nm,0.9s,mb3.5,baz=256,slow=4.0,SNR=3.2						
ZALV	Zalesovo Beam	40.80	48	P	P	23 00 06.3	-1.6
ZALV	Zalesovo Beam	40.80	48	P	P	23 00 06.3	-1.5

TEH ***27*** *22:58:42.8,26°.90N×55°.77E, h6km*
ISCJB ***27*** *22:58:43.3±0.5,26°.86N±0°.04×55°.72E±0°.04, h10km, Error ellipse: s-maj=6.2km s-min=4.4km az=140.0*
CSEM ***27*** *22:58:44.0±0.3,26°.83N×55°.77E, h2km, ML3.1, Error ellipse: s-maj=9.2km s-min=7.4km az=107.0*
SGS ***27*** *22:58:47.0,27°.17N×55°.64E, h29km*
KISR ***27*** *22:58:47.1±0.8,26°.66N×54°.93E, h34km±999km, ML3.3*
OMAN ***27*** *22:58:48.8±99.0,26°.59N×56°.00E, h10km, Error ellipse: s-maj=120.0km s-min=11.8km az=22.0*

ISC 27 22:58:44.6±0.5,26°.81N±0°.04×55°.78E±0°.04,h10km,n35,
σ1♀11/40,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.68	31	*e*Pg	Pg	22 58 56.8	-1.0
BNDS				*e*Sg	Sg	22 59 06.2	-0.4
IBND	Bandar-abas	0.92	47	*e*Pg	Pg	22 59 00.6	-1.8
IBND				*e*		22 59 03.0	
	comp=Z,22μm,0.1s						
IBND				*e*Sg	Sg	22 59 13.3	-1.2
BANOM	Banah	1.00	152	P	Pg	22 59 02.6	-1.3
	SNR=613						
BANOM	Banah	1.00	152	P	Pg	22 59 02.6	-1.3
	SNR=613						
ASHO	Ashiyiah	2.13	173	P	Pn	22 59 21.2	+0.9
	SNR=20						
ASHO	Ashiyiah	2.13	173	P	Pn	22 59 21.2	+0.9
	SNR=20						
ASUD	Al Ashush, Dub	2.22	191	P	Pn	22 59 23.3	+1.8
	SNR=30						
ASUD	Al Ashush, Dub	2.22	191	P	Pn	22 59 23.3	+1.9
	SNR=30						
KRBR	Kerman	3.27	15	*e*Pn	Pn	22 59 36.6	+0.6
ISRV	Sarvestan	3.48	318	*e*Pn	Pn	22 59 39.4	+0.6
ISRV				*e*		23 00 52.8	
	comp=Z,365nm,0.2s						

IPAR	Pars	3.86	322	*e*Pn	Pn	22 59 45.1	+1.0
IPAR				*e*		23 00 35.9	
	comp=Z,256nm,0.4s						
IMEH	Mehriz	4.67	348	*e*Pn	Pn	22 59 55.9	+0.7
IMEH				*e*		23 00 00.9	
	comp=Z,237nm,0.1s						
IBAF	Bafgh	4.76	358	*e*Pn	Pn	22 59 57.0	+0.5
IBAF				*e*		23 00 05.4	
	comp=Z,171nm,0.2s						
SLWS		5.05	248	P	Pn	23 00 00.8	+0.4
SLWS		5.05	248	P	Pn	23 00 00.8	+0.4
ZHSF	Zahedan	5.21	57	*e*Pn	Pn	23 00 03.8	+1.2
ICHK	Chekchek	5.54	348	*e*	Pn	23 00 12.4	+5.2
	comp=Z,123nm,0.1s						
ICHK				*e*Pn	Pn	23 00 07.7	+0.5
IKOO	Kooshah	6.25	26	*e*Pn	Pn	23 00 17.3	+0.4
IKOO				*e*		23 00 42.1	
	comp=Z,61nm,0.3s						
NASN	Na'in	6.50	337	*e*Pn	Pn	23 00 20.7	+0.4
ITEG	Tejag	6.59	22	*e*Pn	Pn	23 00 22.6	+1.1
ITEG				*e*		23 02 40.6	
	comp=Z,35nm,0.3s						
IZEF	Zefreh	6.76	334	*e*Pn	Pn	23 00 24.4	+0.5
IZEF				*e*		23 00 28.8	
	comp=Z,73nm,0.1s						
HRDDS		6.92	237	S	Sn	23 01 42.0	-3.0
HRDDS		6.92	237	P	Pn	23 00 25.6	-0.6
IPIR	Pirpir	7.23	325	*e*Pn	Pn	23 00 31.3	+0.9
IPIR				*e*		23 00 34.9	
	comp=Z,119nm,0.1s						
IKLH	Kolahrood	7.44	332	*e*Pn	Pn	23 00 34.2	+1.0
IKLH				*e*		23 00 36.9	
	comp=Z,86nm,0.1s						
NAY	Al-Naaiem	7.93	290	*e*P	Pn	23 00 40.8	+0.8
NAY				*e*S	Sn	23 02 05.3	-4.4
NAY				AML	AML	23 02 09.0	
	comp=Z,3.5nm,0.7s						
NAY	Al-Naaiem	7.93	290	*e*P	Pn	23 00 40.8	+0.8
MIB	Mutribah	8.02	294	*e*P	Pn	23 00 41.8	+0.6
MIB				*e*S	Sn	23 02 08.6	-3.3
MIB				AML	AML	23 02 10.9	
	comp=Z,4.9nm,0.5s						
MIB	Mutribah	8.02	294	*e*P	Pn	23 00 41.8	+0.6
ASYS		10.21	276	P	Pn	23 01 09.5	-1.8
ASYS		10.21	276	P	Pn	23 01 09.5	-1.8
IKOM	Komasi	10.23	318	*e*Pn	Pn	23 01 12.1	+0.6
IKOM				*e*		23 01 13.5	
	comp=Z,232nm,0.1s						
IGHG	Ghaleghazi	10.91	316	*e*Pn	Pn	23 01 19.4	-1.4
IGHG				*e*		23 01 21.9	
	comp=Z,182nm,0.1s						
ILIN	Lien	11.07	319	*e*Pn	Pn	23 01 21.9	-1.1
ILIN				*e*		23 01 23.3	
	comp=Z,180nm,0.1s						
IDHR	Dehrash	11.27	316	*e*Pn	Pn	23 01 24.3	-1.4
IDHR				*e*		23 01 34.0	
	comp=Z,135nm,0.1s						

IDC ***27*** *22:58:45.7±2.3,5°.84N×125°.46E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=208.3km s-min=24.5km az=65.0*
ISCJB ***27*** *22:58:60.0±1.0,6°.0N±0°.3×126°.1E±0°.5, h153km±16km, mb3.4/3, Error ellipse: s-maj=90.0km s-min=23.5km az=149.3*

ISC 27 22:59:01.3±1.0,6°.0N±0°.3×126°.1E±0°.4,h145km±15km,n6,
σ0♀87/7,mb3.4/3,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.91	7	*e*P	Pn	22 59 24.7	-0.1
DMPH	Davao City--Mi	1.22	329	⇑*e*P	Pn	22 59 28.4	+0.8
DMPH				*e*S	Sn	22 59 46.7	-1.0
BUKP	Musuan	2.12	330	*e*P	Pn	22 59 38.4	+0.8
WRA	Warramunga Arr	27.04	163	P	P	23 04 29.5	-0.6
	0.2nm,0.3s,mb3.2,baz=341,slow=9.6,SNR=4.9						
ASAR	Alice Springs	30.48	166	P	P	23 05 00.8	+0.3
	0.4nm,0.4s,mb3.5,baz=342,slow=7.0,SNR=11						
MKAR	Makanchi Array	55.34	325	P	P	23 08 19.7	-0.3
	0.4nm,0.3s,mb3.6,baz=115,slow=7.3,SNR=17						

IDC ***27*** *23:21:24.9±1.0,30°.22S×176°.58W, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.2/15, mbtmp4.2/6, ML4.1/1, Error ellipse: s-maj=31.5km s-min=26.7km az=146.0*
ISCJB ***27*** *23:21:28.9±1.1,30°.55S±0°.04×176°.8W±0°.1, h33km, mb4.1/6, Error ellipse: s-maj=17.0km s-min=6.2km az=2.0*
NEIC ***27*** *23:21:30.1±0.6,30°.28S×176°.58W, h35km, mb4.1/1, Error ellipse: s-maj=14.6km s-min=12.0km az=86.0*

ISC 27 23:21:30.6±1.1,30°.45S±0°.04×176°.8W±0°.1,h35km,n25,
σ1♀37/22,mb4.1/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.56	320	*e*Pn	Pn	23 21 55.2	-0.7
RAO				*e*S	Sn	23 22 14.6	-0.2
PUZ	Puketiti	8.65	207	PN	Pn	23 23 30.2	-3.1
PUZ				SN	Sn	23 25 09.7	+0.1
CNGZ	Carnagh Statio	9.03	206	PN	Pn	23 23 36.4	-2.0
MWZ	Matawai	9.17	209	PN	Pn	23 23 36.4	-4.0
MWZ				SN	Sn	23 25 22.5	+0.1
URZ	Urewera	9.29	211	Pn	Pn	23 23 44.4	+2.3
	1.9nm,0.3s,baz=315,slow=0.4,SNR=4.5						
URZ				Sn	Sn	23 25 24.2	-1.1
	3.1nm,0.3s,baz=279,slow=19,SNR=7.4						
URZ	Urewera	9.29	211	Pn	Pn	23 23 44.4	+2.3
URZ				Sn	Sn	23 25 24.2	-1.1
STKA	Stephens Creek	35.51	257	P	P	23 28 26.1	+1.9
	2.8nm,0.9s,mb4.2,baz=109,slow=12,SNR=3.4						
STKA	Stephens Creek	35.51	257	P	P	23 28 26.1	+1.9
ASAR	Alice Springs	44.17	266	P	P	23 29 36.8	+0.6
	1.9nm,0.8s,mb3.9,baz=102,slow=7.6,SNR=17						
ASAR	Alice Springs	44.17	266	P	P	23 29 36.8	+0.6
WRA	Warramunga Arr	45.17	272	P	P	23 29 44.3	+0.1
	5.8nm,0.9s,mb4.4,baz=112,slow=7.6,SNR=30						
WRA	Warramunga Arr	45.17	272	P	P	23 29 44.3	+0.1
VNDA	Vanda	48.16	186	*e*P	P	23 30 16.1	+9.2
	1.8nm,0.9s,mb4.1						
QSPA	South Pole Qui	59.66	180	P	P	23 31 32.6	+1.8
	2.8nm,0.8s,mb4.3,baz=65,slow=4.1,SNR=7.4						
QSPA	South Pole Qui	59.66	180	P	P	23 31 32.6	+1.8
NVAR	Mina Array Bea	87.55	42	P	P	23 34 13.4	-1.4
	0.4nm,0.7s,mb3.8,baz=214,slow=6.2,SNR=4.8						
NVAR	Mina Array Bea	87.55	42	P	P	23 34 13.4	-1.4
FINES	FINESS Array B	145.55	341	PKPbc	PKPbc	23 41 03.9	-0.6
	4.7nm,0.8s,baz=11,slow=1.4,SNR=7.5						
FINES	FINESS Array B	145.55	341	PKPbc	PKPbc	23 41 03.9	-0.6
NOA	NORSAR Array B	148.95	352	PKPbc	PKPbc	23 41 13.8	-0.2
	1.1nm,0.8s,baz=12,slow=4.1,SNR=3.3						
NOA	NORSAR Array B	148.95	352	PKPbc	PKPbc	23 41 13.8	-0.2
AKASG	Malin Array Be	151.98	324	PKPbc	PKPbc	23 41 20.6	-1.0
	0.9nm,0.4s,baz=52,slow=2.5,SNR=5.4						
AKASG	Malin Array Be	151.98	324	PKPbc	PKPbc	23 41 20.6	-1.0
TORD	Torodi Ar. Bea	162.72	175	PKPab	PKPab	23 42 17.6	-0.4
	0.4nm,0.7s,baz=183,slow=4.0,SNR=2.9						
TORD	Torodi Ar. Bea	162.72	175	PKPab	PKPab	23 42 17.6	-0.4

IDC ***27*** *23:32:31.6±5.0,45°.22N×121°.81W, h0km, mb3.0/1, mb1 3.6/3, mb1mx3.3/24, mbtmp3.1/3, Error ellipse: s-maj=140.4km s-min=27.4km az=84.0*
ISCJB ***27*** *23:32:35.2±0.9,45°.17N±0°.03×120°.86W±0°.04, h19km±10km, Error ellipse: s-maj=5.4km s-min=4.4km az=170.8*
NEIC ***27*** *23:32:35.6,45°.13N×120°.95W, h16km, MD3.6(SEA), After SEA.*
NEIC Felt at The Dalles. Also felt at Dallesport, Washington.
PNSN ***27*** *23:32:35.6,45°.13N×120°.95W, h16km, MD3.6, Fault plane solution: NP1:φs340.00000°, δ80.00000°, NP2: φs246.00000°, δ70.00000°, Principal axes: T Plg7.0000°, Azm112.0000°; P Plg21.0000°, Azm205.0000°;*

ISC 27 23:32:35.5±0.8,45°.14N±0°.03×120°.89W±0°.03,h13km±6km,
n33,σ1♀01/50,Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOOD	Mount Hood Mea	0.57	289	*e*Pg	Pg	23 32 45.9	-0.8
HOOD				*e*Sg	Sg	23 32 53.6	-0.6
RSW	Rattlesnake Hi	1.55	35	*e*Pn	Pn	23 33 02.6	-0.2
HAWA	Hanford	1.57	37	*e*Pn	Pn	23 33 02.8	-0.3
HAWA				*e*S	Sn	23 33 24.2	+0.9

LON	Longmire	1.74	339	*e*Pn	Pn	23 33 05.1	-0.2
LON				*e*S	Sn	23 33 29.1	+1.8
COR	Corvallis	1.80	253	*e*Pn	Pn	23 33 05.8	-0.4
COR				*e*S	Sn	23 33 28.8	-0.1
LNOR	Lincton Mounta	1.97	67	*e*Pn	Pn	23 33 08.1	-0.5
HEBO	Mount Hebo	2.03	273	*e*Pn	Pn	23 33 08.9	-0.5
HEBO				*e*S	Sn	23 33 29.8	-4.7
ETW	Entiat	2.50	9	*e*Pn	Pn	23 33 15.7	-0.1
BMO	Blue Mountains	2.56	95	*e*Pn	Pn	23 33 16.9	+0.3
BMO				*e*S	Sn	23 33 54.6	+7.1
OD2	Odessa Site #2	2.71	33	*e*Pn	Pn	23 33 17.8	-0.9
OD2				*e*S	Sn	23 33 50.5	-0.9
GNW	Green Mountain	2.77	332	*e*Pn	Pn	23 33 20.3	+0.7
GNW				*e*S	Sn	23 33 58.5	+5.5
HUMO	Hull Mountain	2.94	211	*e*Pn	Pn	23 33 22.9	+1.1
HUMO				*e*S	Sn	23 34 04.0	+7.1
NLWA	Neilton Lookou	3.06	319	*e*Pn	Pn	23 33 22.5	-1.0
JCW	Jim Creek	3.14	347	*e*Pn	Pn	23 33 25.8	+1.2
JCW				*e*S	Sb	23 34 10.8	+1.4
WVOR	Wild Horse Val	3.15	148	*e*Pn	Pn	23 33 25.9	+1.1
RPW	Rockport	3.34	353	*e*Pn	Pn	23 33 25.8	-1.6
RPW				*e*S	Sb	23 34 17.6	+2.6
KEBM	Edson Butte	3.36	229	*e*Pn	Pn	23 33 27.7	+0.1
YBH	Yreka Blue Hor	3.65	202	*e*Pn	Pn	23 33 32.9	+1.3
PGC	Sidney	3.93	334	*e*Pn	Pn	23 33 35.8	+0.4
MFID	Camas Ranch	4.02	114	*e*Pn	Pn	23 33 36.4	-0.3
MFID				*e*S	Sg	23 34 44.7	+0.2
NEW	Newport	4.06	38	*e*Pn	Pn	23 33 35.8	-1.5
NEW				*e*S	Sn	23 34 22.0	-2.6
HLID	Hailey	4.90	106	*e*Pn	Pn	23 33 48.5	-0.3
HLID				*e*S	Sb	23 35 00.2	+0.3
BSMT	Bassoo Peak	5.01	55	*e*Pn	Pn	23 33 50.4	+0.1
	11nm,0.4s						
BSMT				*e*S	Sn	23 34 47.5	-0.5
SWMT	Swartz Lake	5.33	61	*e*Pn	Pn	23 33 55.3	+0.7
	7.1nm,0.6s						
SWMT				*e*S	Sg	23 35 28.4	+2.0
SLMT	Seeley Lake	5.55	65	*e*Pn	Pn	23 33 57.3	-0.4
	7.5nm,0.4s						
CHMT	Chamberlain Mo	5.61	69	*e*Pn	Pn	23 33 59.2	+0.7
	4.4nm,0.6s						
MCMT	McKenzie Canyo	5.71	90	*e*Pn	Pn	23 33 59.0	-0.9
	4.3nm,0.5s						
MCMT				*e*S	Sg	23 35 34.5	-4.2
NVAR	Mina Array Bea	6.97	163	Pn	Pn	23 34 21.8	+4.5
	0.2nm,0.3s,baz=344,slow=12,SNR=10						
NVAR	Mina Array Bea	6.97	163	Pn	Pn	23 34 21.8	+4.5
YKA	Yellowknife Ar	17.77	10	P	Pn	23 36 40.3	-1.8
	0.1nm,0.3s,baz=194,slow=11,SNR=10						
YKA	Yellowknife Ar	17.77	10	P	Pn	23 36 40.4	-1.8
TXAR	Lajitas Array	20.83	133	P	P	23 37 21.0	+4.3
	0.7nm,0.9s,baz=321,slow=8.1,SNR=6.5						
TXAR	Lajitas Array	20.83	133	P	P	23 37 21.0	+4.3

ISCJB ***27*** *23:34:25.4±0.6,37°.89N±0°.03×29°.20E±0°.07, h4km±10km, Error ellipse: s-maj=9.6km s-min=4.8km az=10.9*
ISK ***27*** *23:34:25.1,37°.90N×29°.16E, h8km, MD2.6*
DDA ***27*** *23:34:25.6,37°.88N×29°.20E, h7km±1km, Md2.5*
CSEM ***27*** *23:34:25.4±0.1,37°.88N×29°.17E, h8km, MD2.6, Error ellipse: s-maj=4.1km s-min=2.6km az=98.0*

ISC 27 23:34:25.8±0.6,37°.89N±0°.03×29°.18E±0°.08,h10km±8km,
n20,σ0♀58/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.18	220	*e*PG	Pg	23 34 28.7	-0.9
DENT				*e*SG	Sg	23 34 33.1	+1.0
DENT	Denizli	0.18	220	*e*Pg	Pg	23 34 28.7	-0.9
DENT				*e*Sg	Sg	23 34 33.1	+1.0
DNZL	Cakiroluk	0.22	208	*e*P	Pg	23 34 30.4	-0.1
DNZL				*i* S	Sg	23 34 34.2	+0.7
DNZL	Cakiroluk	0.22	208	*e*P	Pg	23 34 30.4	0.0
DNZL				*i* S	Sg	23 34 34.2	+0.7
KHAL	Karahalli	0.54	27	*i* P	Pg	23 34 35.6	-0.8
KHAL				*i* S	Sg	23 34 44.0	+0.5
KHAL	Karahalli	0.54	27	*i* P	Pg	23 34 35.6	-0.8
KHAL				*i* S	Sg	23 34 44.0	+0.5
KULA	Kula-Manisa	0.75	327	*e*PG	P

KZA	**Kyzart**	**6.44**	**30**	P	**Pn**	**00 21 06.4**	**+0.5**
	SNR=10						
KZA				P		00 21 06.4	
	SNR=10						
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**00 21 06.8**	**+0.4**
	SNR=19						
EKS2				P		00 21 06.8	
	SNR=19						
EKS2	**Erkin-Say**	**6.47**	**19**	*e*Pn	**Pn**	**00 21 06.7**	**+0.4**
	10nm,0.6s						
EKS2				*e*S	**Sn**	**00 22 17.7**	**-0.9**
KK31	**Karatay Array**	**6.53**	**357**	P	**Pn**	**00 21 07.4**	**+0.3**
	8.4nm,0.3s,baz=177,slow=12,SNR=131						
KK31				⇑S	**Sn**	**00 22 18.3**	**-1.6**
	9.0nm,0.5s,baz=180,slow=24,SNR=7.2						
KKAR	**Karatay Array**	**6.53**	**357**	*e*Pn	**Pn**	**00 21 07.6**	**+0.5**
	22nm,0.3s						
KKAR				*e*S	**Sn**	**00 22 19.2**	**-0.8**
AAK	**Ala-Archa**	**6.65**	**24**	P	**Pn**	**00 21 09.2**	**+0.4**
	SNR=30						
AAK				P		00 21 09.2	
	SNR=30						
AAK	**Ala-Archa**	**6.65**	**24**	*e*Pn	**Pn**	**00 21 09.2**	**+0.4**
	95nm,0.6s						
AAK				*e*S	**Sn**	**00 22 23.9**	**+0.9**
KBK	**Karagaybulak**	**6.83**	**26**	P	**Pn**	**00 21 11.6**	**+0.4**
	SNR=9.2						
KBK				P		00 21 11.6	
	SNR=9.2						
CHMS	**Chumysh**	**7.06**	**24**	P	**Pn**	**00 21 14.6**	**+0.2**
	SNR=13						
CHMS				P		00 21 14.6	
	SNR=13						
USP	**Ospenovka**	**7.23**	**21**	P	**Pn**	**00 21 16.5**	**-0.1**
	SNR=18						
USP				P		00 21 16.5	
	SNR=18						
TKM2	**Tokmak 2**	**7.29**	**28**	P	**Pn**	**00 21 17.6**	**0.0**
	SNR=9.9						
TKM2				P		00 21 17.6	
	SNR=9.9						
TKM2	**Tokmak 2**	**7.29**	**28**	⇓P	**Pn**	**00 21 16.9**	**-0.6**
TKM2				⇓S	**Sn**	**00 22 39.1**	**+0.4**
	5.1nm,1.0s						
TKM2	**Tokmak 2**	**7.29**	**28**	*e*Pn	**Pn**	**00 21 17.4**	**-0.1**
	7.4nm,0.5s						
TKM2				*e*S	**Sn**	**00 22 33.9**	**-4.7**
MK31	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**00 22 41.3**	**+3.3**
	baz=0.0,slow=0.1,SNR=6.3						
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**00 22 35.9**	**-2.1**
	0.0nm,0.3s,baz=212,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**00 22 35.9**	**-2.1**
AB31	**Akbulak array**	**14.98**	**331**	⇑P	**Pn**	**00 22 58.8**	**-1.1**
	0.6nm,0.3s,baz=163,slow=13,SNR=59						
AB31				⇓S	**Sn**	**00 25 38.9**	**-6.2**
	0.8nm,0.5s,baz=154,slow=24,SNR=6.0						
ABKAR	**Akbulak array**	**14.98**	**331**	*e*Pn	**Pn**	**00 22 59.2**	**-0.7**
	2.1nm,0.3s						
ABKAR				*e*S	**Sn**	**00 25 37.4**	**-7.7**
KURK	**Kurchatov**	**15.18**	**19**	P	**Pn**	**00 23 02.9**	**+0.4**
	0.1nm,0.3s,baz=208,slow=10,SNR=5.7						
KURK	**Kurchatov**	**15.18**	**19**	P	**Pn**	**00 23 02.9**	**+0.4**
ZRNK	**Zerenda**	**16.43**	**356**	⇓P	**Pn**	**00 23 18.6**	**+0.6**
	1.4nm,0.5s						
BVA0	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**00 23 21.7**	**+3.5**
	0.2nm,0.6s,baz=232,slow=38,SNR=12						
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**00 23 21.3**	**+3.1**
	0.4nm,0.3s,baz=158,slow=8.7,SNR=7.5						
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**00 23 21.3**	**+3.1**
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**00 23 21.6**	**+0.5**
	0.6nm,0.3s,baz=137,slow=15,SNR=10						
AKTO				S	**S**	**00 26 20.8**	**-10**
	0.2nm,0.3s,baz=356,slow=19,SNR=4.0						
AKTO	**Aktyubinsk**	**16.68**	**330**	⇑P	**Pn**	**00 23 21.7**	**+0.7**
	0.8nm,1.2s						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**00 23 21.6**	**+0.5**
AKTO				S	**S**	**00 26 20.8**	**-10**
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**00 23 55.5**	**-1.2**
	1.3nm,0.3s,baz=213,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**00 23 55.5**	**-1.2**
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**00 26 38.6**	**+2.3**
	1.3nm,0.7s,mb4.0,baz=121,slow=5.9,SNR=6.5						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**00 26 38.6**	**+2.3**
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**00 27 09.4**	**+2.8**
	3.5nm,0.8s,mb4.2,baz=107,slow=8.6,SNR=4.1						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**00 27 09.4**	**+2.8**
NB2	**NORSAR Subarra**	**44.27**	**323**	P	**P**	**00 27 34.6**	**+1.7**
	comp=Z,0.7nm,0.5s,mb3.6,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**00 27 34.9**	**+2.0**
	comp=Z,0.8nm,0.5s,mb3.7,baz=96,slow=7.7,SNR=6.4						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**00 27 34.9**	**+2.0**
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	**P**	**00 30 05.9**	**-1.5**
	comp=Z,0.2nm,0.5s,mb3.2,baz=50,slow=5.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	**P**	**00 30 05.9**	**-1.5**
YKA	**Yellowknife Ar**	**81.17**	**3**	P	**P**	**00 31 37.9**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=351,slow=5.5,SNR=14						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	**P**	**00 31 37.9**	**+0.2**
WRA	**Warramunga Arr**	**82.09**	**122**	P	**P**	**00 31 39.8**	**-3.3**
	comp=Z,0.4nm,0.9s,mb3.2,baz=329,slow=4.6,SNR=2.9						
WRA	**Warramunga Arr**	**82.09**	**122**	P	**P**	**00 31 39.8**	**-3.3**

IDC 28 00:39:37.5±2.4, 5°.39S×147°.11E, h234km±29km, mb3.3/5, mb1 3.4/7, mb1mx3.2/15, mbtmp3.2/7, Error ellipse: s-maj=52.4km s-min=13.3km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.99**	**179**	P	Pn	00 40 40.0	-0.5
	1.3nm,0.3s,baz=350,slow=14,SNR=3.7						
PMG				S	S	00 41 24.9	-5.5
	2.0nm,0.3s,baz=351,slow=19,SNR=4.8						
WRA	**Warramunga Arr**	**19.07**	**220**	P	P	00 43 42.3	-0.4
	0.3nm,0.3s,baz=42,slow=10.0,SNR=29						
WRA				S	S	00 47 06.7	+0.2
	0.1nm,0.3s,baz=41,slow=21,SNR=3.9						
ASAR	**Alice Springs**	**22.18**	**214**	P	P	00 44 15.4	+0.8
	3.0nm,0.7s,baz=44,slow=7.3,SNR=54						
FITZ	**Fitzroy Crossi**	**24.48**	**237**	P	P	00 44 36.3	+0.7
	3.6nm,0.4s,baz=51,slow=12,SNR=36						
MKAR	**Makanchi Array**	**77.10**	**320**	P	P	00 51 05.3	+0.3
	0.2nm,0.5s,baz=96,slow=8.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**78.56**	**328**	P	P	00 51 12.4	-0.5
	0.6nm,0.4s,baz=107,slow=5.4,SNR=5.6						
ILAR	**Eielson Array**	**84.88**	**23**	P	P	00 51 45.8	+0.1
	0.1nm,0.5s,baz=255,slow=7.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**145.04**	**285**	PKPbc	PKPbc	00 58 47.0	-0.9
	0.5nm,0.6s,baz=68,slow=3.3,SNR=13						

*CSEM **28** 01:02:36.9±0.2, 44°.55N×10°.48E, h26km±1km, ML2.2/10, Error ellipse: s-maj=5.6km s-min=3.3km az=94.0*
*ISCJB **28** 01:02:37.0±0.4, 44°.54N±0°.03×10°.37E±0°.05, h29km±3km, Error ellipse: s-maj=5.8km s-min=4.6km az=30.8*
*ROM **28** 01:02:37.0±0.4, 44°.52N×10°.44E, h28km±5km, Md2.3/6, Ml2.5/6, Error ellipse: s-maj=14.0km s-min=4.5km az=70.0*
*LDG **28** 01:02:38.5±0.3, 44°.51N×10°.46E, h20km, Ml2.3/10, Error ellipse: s-maj=6.7km s-min=5.0km az=92.0*
ISC 28 01:02:37.6±0.4, 44°.54N±0°.03×10°.41E±0°.04, h27km±3km, n33, σ0°.93/60, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.12**	**178**	Pg	**Pb**	**01 02 41.8**	**-0.8**
ERBM				Sg	**Sb**	**01 02 45.9**	**0.0**
	754nm,0.3s						
ERBM	**Eremo**	**0.12**	**178**	Pg	**Pb**	**01 02 41.8**	**-0.8**
ERBM				Sg	**Sb**	**01 02 45.9**	**0.0**
	754nm,0.3s						
PRMA	**PARMA**	**0.23**	**343**	Pg	**Pb**	**01 02 43.3**	**-0.5**
PRMA				Sg	**Sb**	**01 02 49.6**	**+1.6**
	148nm,0.5s						
PRMA	**PARMA**	**0.23**	**343**	Pg	**Pb**	**01 02 43.3**	**-0.5**
PRMA				Sg	**Sb**	**01 02 49.6**	**+1.6**
	148nm,0.5s						
GSCL	**Gusciola**	**0.23**	**146**	Pg	**Pb**	**01 02 42.7**	**-1.0**
GSCL				Sg	**Sb**	**01 02 47.4**	**-0.5**
	103nm,0.5s						
GSCL	**Gusciola**	**0.23**	**146**	Pg	**Pb**	**01 02 42.7**	**-1.0**
GSCL				Sg	**Sb**	**01 02 47.4**	**-0.5**
	103nm,0.5s						
BDI	**Bagni Di Lucca**	**0.50**	**164**	Pg	**Pb**	**01 02 47.4**	**-0.4**
BDI				Sg	**Sb**	**01 02 55.3**	**+0.6**
	75nm,0.2s						
BDI	**Bagni Di Lucca**	**0.50**	**164**	Pg	**Pb**	**01 02 47.4**	**-0.4**
BDI				Sg	**Sb**	**01 02 55.3**	**+0.6**
	75nm,0.2s						
SALO	**Salr**	**1.08**	**4**	Pg	**Pn**	**01 02 58.0**	**+1.1**
	250nm,0.4s						
SALO	**Salr**	**1.08**	**4**	Pg	**Pn**	**01 02 58.0**	**+1.1**
	250nm,0.4s						
ROVR	**Rover¨¤ Verone**	**1.20**	**23**	Pg	**Pn**	**01 02 58.8**	**+0.2**
ROVR				Sg	**Sn**	**01 03 15.4**	**+1.4**
	202nm,0.2s						
ROVR	**Rover¨¤ Verone**	**1.20**	**23**	Pg	**Pn**	**01 02 58.8**	**+0.2**
ROVR				Sg	**Sn**	**01 03 15.4**	**+1.4**
	202nm,0.2s						
CTI	**Castel Tesino**	**1.74**	**30**	Pg	**Pn**	**01 03 06.3**	**+0.3**
CTI				Sg	**Sn**	**01 03 27.7**	**+0.3**
	46nm,0.2s						
PGF	**Pioggiola**	**2.24**	**208**	*e*Pn	**Pn**	**01 03 12.9**	**0.0**
PGF				*e*Sn	**Sn**	**01 03 40.2**	**+0.6**
	2.1nm,0.3s						
PGF	**Pioggiola**	**2.24**	**208**	*e*Pn	**Pn**	**01 03 12.9**	**0.0**
PGF				*e*Sn	**Sn**	**01 03 40.2**	**+0.6**
	1.0nm,0.3s						
SBF	**Sospel**	**2.24**	**253**	*e*Pn	**Pn**	**01 03 13.5**	**+0.6**
SBF				*e*Sn	**Sn**	**01 03 41.0**	**+1.3**
	7.7nm,0.3s						
SBF	**Sospel**	**2.24**	**253**	*e*Pn	**Pn**	**01 03 13.5**	**+0.6**
SBF				*e*Sn	**Sn**	**01 03 41.0**	**+1.3**
	3.8nm,0.3s						
MBDF	**Montbardon**	**2.60**	**275**	*e*Pn	**Pn**	**01 03 18.3**	**+0.5**
MBDF				*e*Sn	**Sn**	**01 03 47.9**	**-0.6**
	1.2nm,0.3s						
MBDF	**Montbardon**	**2.60**	**275**	*e*Pn	**Pn**	**01 03 18.3**	**+0.5**
MBDF				*e*Sn	**Sn**	**01 03 47.9**	**-0.6**
	0.6nm,0.3s						
LPG	**La Plagne**	**2.76**	**292**	*e*Pn	**Pn**	**01 03 20.2**	**+0.2**
LPG				*e*Sn	**Sn**	**01 03 51.2**	**-1.3**
	0.6nm,0.2s						
LPL	**La Plagne**	**2.78**	**292**	*e*Pn	**Pn**	**01 03 20.8**	**+0.5**
LPL				*e*Sn	**Sn**	**01 03 51.8**	**-1.2**
	0.9nm,0.2s						
LMR	**La Mourre**	**3.06**	**248**	*e*Pn	**Pn**	**01 03 24.4**	**+0.2**
LMR				*e*Sn	**Sn**	**01 04 00.1**	**+0.2**
	3.8nm,0.3s						
LMR	**La Mourre**	**3.06**	**248**	*e*Pn	**Pn**	**01 03 24.4**	**+0.2**
LMR				*e*Sn	**Sn**	**01 04 00.1**	**+0.2**
	1.9nm,0.3s						
NVLJ	**Novalja**	**3.19**	**88**	*e*Pn	**Pn**	**01 03 26.2**	**+0.2**
NVLJ				Sn	**Sn**	**01 04 01.4**	**-1.7**
CABF	**La Chapelle**	**3.67**	**306**	*e*Pn	**Pn**	**01 03 33.8**	**+1.3**
CABF				*e*Sn	**Sn**	**01 04 09.6**	**-5.3**
	0.4nm,0.3s						
CABF	**La Chapelle**	**3.67**	**306**	*e*Pn	**Pn**	**01 03 33.8**	**+1.3**
HINF	**Hinteralfeld**	**4.10**	**324**	*e*Pn	**Pn**	**01 03 38.4**	**0.0**
HINF				*e*Sn	**Sn**	**01 04 23.0**	**-2.5**
	2.5nm,0.3s						
HINF	**Hinteralfeld**	**4.10**	**324**	*e*Pn	**Pn**	**01 03 38.4**	**0.0**
HINF				*e*Sn	**Sn**	**01 04 23.0**	**-2.5**
	1.2nm,0.3s						
CDF	**Champ du Feu**	**4.43**	**332**	*e*Pn	**Pn**	**01 03 42.9**	**-0.1**
CDF				*e*Sn	**Sn**	**01 04 27.9**	**-5.8**
	1.7nm,0.3s						
CDF	**Champ du Feu**	**4.43**	**332**	*e*Pn	**Pn**	**01 03 42.9**	**-0.1**
HAU	**Haudompre**	**4.46**	**322**	*e*Pn	**Pn**	**01 03 43.8**	**+0.4**
HAU				*e*Sn	**Sn**	**01 04 31.5**	**-2.9**
	5.4nm,0.4s						
HAU	**Haudompre**	**4.46**	**322**	*e*Pn	**Pn**	**01 03 43.8**	**+0.4**
HAU				*e*Sn	**Sn**	**01 04 31.5**	**-2.9**
	2.7nm,0.4s						
KHC	**Kasperske Hory**	**5.08**	**24**	*e*P	Px	01 04 19.5	
KHC				*ex*	x	01 05 14.5	

*NEIC **28** 01:09:21.8, 32°.46S×71°.83W, h14km, ML3.1(GUC), After GUC.*
GUC 28 01:09:21.8±0.8, 32°.46S×71°.83W, h14km±6km, MD3.7, ML3.1, 6C-14D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**165**	⇓*i*P	Pg	01 09 32.9	-0.5
IHA				*e*S	Sg	01 09 41.0	-0.2
IHA	**Instituto Hidr**	**0.59**	**165**	⇓*i*P	Pg	01 09 32.9	-0.5
IHA				*e*S	Sg	01 09 41.0	-0.2
CHNG	**Los Chungos**	**0.64**	**26**	⇓*i*P	Pg	01 09 33.8	-0.4
CHNG				*i* S	Sg	01 09 42.9	+0.3
CHNG	**Los Chungos**	**0.64**	**26**	⇓*i*P	Pg	01 09 33.8	-0.4
CHNG				*i* S	Sg	01 09 42.9	+0.3
PTCH	**Petorca**	**0.78**	**76**	⇓*i*P	Pg	01 09 36.6	-0.4
PTCH				*i* S	Sg	01 09 47.6	+0.3
PTCH	**Petorca**	**0.78**	**76**	⇓*i*P	Pg	01 09 36.6	-0.4
PTCH				*i* S	Sg	01 09 47.6	+0.3
PTCH				AML	AML	01 09 47.7	
	comp=N,2μm,0.2s						
LCCH	**Las Cruces**	**1.04**	**168**	⇓*i*P	Pb	01 09 40.7	-0.8
LCCH	**Las Cruces**	**1.04**	**168**	⇓*i*P	Pb	01 09 40.7	-0.8
JACH	**Jahuel**	**1.07**	**102**	⇑*i*P	Pb	01 09 40.8	-1.2
JACH				*i* S	Sb	01 09 55.2	-0.6
JACH	**Jahuel**	**1.07**	**102**	⇑*i*P	Pb	01 09 40.8	-1.2
JACH				*i* S	Sb	01 09 55.2	-0.6
PEL	**Peldehue**	**1.18**	**126**	⇓*i*P	Pn	01 09 42.7	-1.2
PEL				*i* S	Sb	01 09 58.5	-0.6
PEL				AML	AML	01 10 03.5	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.34**	**140**	⇑*i*P	Pn	01 09 45.3	-0.7
RCDM				*i* S	Sn	01 10 02.3	-1.4
RCDM	**Rinconada Maip**	**1.34**	**140**	⇑*i*P	Pn	01 09 45.3	-0.7
RCDM				*i* S	Sn	01 10 02.3	-1.4
RCDM				AML	AML	01 10 08.4	
	comp=N,272nm,0.4s						
TACH	**Talagante**	**1.41**	**148**	*e*P	Pn	01 09 46.6	-0.4
TACH	**Talagante**	**1.41**	**148**	*e*P	Pn	01 09 46.6	-0.4
CLCH	**Cerro Calan**	**1.43**	**131**	⇓*i*P	Pn	01 09 46.9	-0.5
CLCH				*e*S	Sn	01 10 05.3	-0.7
CLCH				AML	AML	01 10 11.9	
	comp=N,458nm,0.5s						
CMCH	**Combarbala**	**1.46**	**29**	⇓*i*P	Pn	01 09 46.8	-1.0
CMCH				*i* S	Sn	01 10 05.9	-0.7
CMCH	**Combarbala**	**1.46**	**29**	⇓*i*P	Pn	01 09 46.8	-1.0
CMCH				*i* S	Sn	01 10 05.9	-0.7
CMCH				AML	AML	01 10 09.5	
	comp=E,2μm,0.5s						
LNV	**Longovilo**	**1.54**	**167**	⇓*i*P	Pn	01 09 48.3	-0.5
LNV	**Longovilo**	**1.54**	**167**	⇓*i*P	Pn	01 09 48.3	-0.5
FCH	**Farellones**	**1.56**	**124**	AML	AML	01 10 16.6	
	comp=N,152nm,0.3s						
PCH	**Pirque**	**1.60**	**137**	*e*P	Pn	01 09 49.1	-0.5
PCH	**Pirque**	**1.60**	**137**	*e*P	Pn	01 09 49.1	-0.5
LMEL	**Las Melosas**	**1.94**	**136**	⇑*i*P	Pn	01 09 55.8	+1.4
LMEL				*i* S	Sn	01 10 20.6	+2.0
LMEL	**Las Melosas**	**1.94**	**136**	⇑*i*P	Pn	01 09 55.8	+1.4
LMEL				*i* S	Sn	01 10 20.6	+2.0
LMEL				AML	AML	01 10 26.8	
	comp=N,145nm,0.2s						
LCO	**Las Campanas**	**3.57**	**16**	*e*Pn	Pn	01 10 16.2	-0.5
LCO				*e*Sn	Sn	01 10 58.5	-0.2
LCO				*e*Sg	Sg	01 11 12.7	-3.7

*NEIC **28** 01:25:22.4, 37°.03S×176°.62E, h291km, MG4.1(WEL), After WEL.*
WEL 28 01:25:22.4±0.6, 36°.96S×176°.55E, h284km±4km, ML4.1/12, Error ellipse: s-maj=5.8km s-min=4.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.38**	**161**	PN	Pn	01 26 03.1	0.0
URZ				SN	S	01 26 34.6	-0.8
URZ	**Urewera**	**1.38**	**161**	Pn	Pn	01 26 03.1	0.0
MXZ	**Matakaoa Point**	**1.53**	**114**	PN	Pn	01 26 04.1	0.0
MXZ				*e*SN	S	01 26 36.5	-0.7
MXZ	**Matakaoa Point**	**1.53**	**114**	Pn	Pn	01 26 04.1	0.0
MXZ				Sn	S	01 26 36.5	-0.7
MWZ	**Matawai**	**1.58**	**151**	PN	Pn	01 26 04.6	+0.2
MWZ				SN	S	01 26 37.2	-0.6
MWZ	**Matawai**	**1.58**	**151**	Pn	Pn	01 26 04.6	+0.2
PUZ	**Puketiti**	**1.76**	**130**	PN	Pn	01 26 05.8	+0.1
PUZ				SN	S	01 26 39.6	-0.6
PUZ	**Puketiti**	**1.76**	**130**	Pn	Pn	01 26 05.8	+0.1
RAHZ	**Arahi**	**2.00**	**168**	PN	Pn	01 26 08.3	+0.6
RAHZ	**Arahi**	**2.00**	**168**	Pn	Pn	01 26 08.3	+0.6
CNGZ	**Carnagh Statio**	**2.02**	**140**	PN	Pn	01 26 08.2	+0.4
CNGZ	**Carnagh Statio**	**2.02**	**140**	Pn	Pn	01 26 08.2	+0.4
NMHZ	**Naumai**	**2.15**	**175**	PN	Pn	01 26 09.8	+0.9
NMHZ	**Naumai**	**2.15**	**175**	Pn	Pn	01 26 09.8	+0.9
BKZ	**Black Stump Fm**	**2.21**	**181**	PN	Pn	01 26 09.4	0.0
BKZ	**Black Stump Fm**	**2.21**	**181**	Pn	Pn	01 26 09.4	0.0
PRGZ	**Paritu Road**	**2.23**	**152**	PN	Pn	01 26 09.9	+0.3
PRGZ	**Paritu Road**	**2.23**	**152**	Pn	Pn	01 26 09.9	+0.3
KNZ	**Kokohu**	**2.25**	**157**	PN	Pn	01 26 09.5	-0.2
KNZ	**Kokohu**	**2.25**	**157**	Pn	Pn	01 26 09.5	-0.2
KRVZ	**Karewarewa**	**2.25**	**198**	PN	Pn	01 26 10.6	+0.8
KRVZ	**Karewarewa**	**2.25**	**198**	Pn	Pn	01 26 10.6	+0.8
WTVZ	**West Tongariro**	**2.29**	**199**	PN	Pn	01 26 10.8	+0.7
WTVZ	**West Tongariro**	**2.29**	**199**	Pn	Pn	01 26 10.8	+0.7
TWVZ	**Taurewa**	**2.29**	**202**	PN	Pn	01 26 10.9	+0.8
TWVZ	**Taurewa**	**2.29**	**202**	Pn	Pn	01 26 10.9	+0.8
OTVZ	**Oturere**	**2.31**	**197**	PN	Pn	01 26 11.3	+0.9
OTVZ	**Oturere**	**2.31**	**197**	Pn	Pn	01 26 11.3	+0.9
NGZ	**Ngauruhoe**	**2.34**	**198**	PN	Pn	01 26 11.6	+1.0
NGZ	**Ngauruhoe**	**2.34**	**198**	Pn	Pn	01 26 11.6	+1.0
WPVZ	**Whakapapa**	**2.38**	**199**	PN	Pn	01 26 11.7	+0.8
WPVZ	**Whakapapa**	**2.38**	**199**	Pn	Pn	01 26 11.7	+0.8
FWVZ	**Far West T-bar**	**2.43**	**199**	PN	Pn	01 26 11.9	+0.5
FWVZ	**Far West T-bar**	**2.43**	**199**	Pn	Pn	01 26 11.9	+0.5
MHGZ	**Mahia Peninsul**	**2.44**	**154**	PN	Pn	01 26 11.5	0.0
MHGZ	**Mahia Peninsul**	**2.44**	**154**	Pn	Pn	01 26 11.5	0.0
WNVZ	**Wahianoa**	**2.48**	**197**	PN	Pn	01 26 12.3	+0.4
WNVZ	**Wahianoa**	**2.48**	**197**	Pn	Pn	01 26 12.3	+0.4
MCHZ	**McNeill Hill**	**2.49**	**177**	PN	Pn	01 26 12.2	+0.3
MCHZ	**McNeill Hill**	**2.49**	**177**	Pn	Pn	01 26 12.2	+0.3
PKVZ	**Pokaka**	**2.52**	**202**	PN	Pn	01 26 12.7	+0.5
PKVZ	**Pokaka**	**2.52**	**202**	Pn	Pn	01 26 12.7	+0.5
MOVZ	**Moawhango**	**2.53**	**194**	PN	Pn	01 26 12.2	-0.1
MOVZ	**Moawhango**	**2.53**	**194**	Pn	Pn	01 26 12.2	-0.1
BHHZ	**Black Hill Sta**	**2.56**	**188**	PN	Pn	01 26 12.5	-0.1
BHHZ	**Black Hill Sta**	**2.56**	**188**	Pn	Pn	01 26 12.5	-0.1
MTVZ	**Mangateitei**	**2.57**	**199**	PN	Pn	01 26 13.2	+0.5
MTVZ	**Mangateitei**	**2.57**	**199**	Pn	Pn	01 26 13.2	+0.5
VRZ	**Vera Road**	**2.58**	**213**	PN	Pn	01 26 14.6	+1.7
CKHZ	**Cape Kidnapper**	**2.73**	**171**	PN	Pn	01 26 14.0	-0.2
CKHZ	**Cape Kidnapper**	**2.73**	**171**	Pn	Pn	01 26 14.0	-0.2
KAHZ	**Kahuranaki**	**2.85**	**175**	PN	Pn	01 26 15.2	-0.2
KAHZ	**Kahuranaki**	**2.85**	**175**	Pn	Pn	01 26 15.2	-0.2
PNHZ	**Pukenui**	**2.97**	**185**	PN	Pn	01 26 15.8	-0.7
PNHZ	**Pukenui**	**2.97**	**185**	Pn	Pn	01 26 15.8	-0.7
WAZ	**Wanganui**	**3.05**	**203**	PN	Pn	01 26 17.0	-0.4
WAZ	**Wanganui**	**3.05**	**203**	Pn	Pn	01 26 17.0	-0.4
PXZ	**Pawanui**	**3.08**	**175**	PN	Pn	01 26 17.1	-0.6
PXZ	**Pawanui**	**3.08**	**175**	Pn	Pn	01 26 17.1	-0.6
WPHZ	**Waipukurau**	**3.10**	**182**	PN	Pn	01 26 17.4	-0.6
WPHZ	**Waipukurau**	**3.10**	**182**	Pn	Pn	01 26 17.4	-0.6
TSZ	**Takapari Road**	**3.13**	**188**	PN	Pn	01 26 17.4	-0.9
TSZ	**Takapari Road**	**3.13**	**188**	Pn	Pn	01 26 17.4	-0.9
PRHZ	**Porangahau**	**3.31**	**179**	PN	Pn	01 26 19.2	-0.9
PRHZ	**Porangahau**	**3.31**	**179**	Pn	Pn	01 26 19.2	-0.9
DVHZ	**Dannevirke**	**3.35**	**185**	PN	Pn	01 26 19.3	-1.3
DVHZ	**Dannevirke**	**3.35**	**185**	Pn	Pn	01 26 19.3	-1.3
POWZ	**Post Office Ro**	**3.48**	**190**	PN	Pn	01 26 20.6	-1.3
POWZ	**Post Office Ro**	**3.48**	**190**	Pn	Pn	01 26 20.6	-1.3
BFZ	**Birch Farm**	**3.73**	**184**	PN	Pn	01 26 23.2	-1.4
BFZ	**Birch Farm**	**3.73**	**184**	Pn	Pn	01 26 23.2	-1.4
MRZ	**Mangatainoka R**	**3.78**	**191**	PN	Pn	01 26 23.4	-1.7
MRZ	**Mangatainoka R**	**3.78**	**191**	Pn	Pn	01 26 23.4	-1.7
TIWZ	**Tintock**	**3.85**	**188**	PN	Pn	01 26 24.5	-1.4
TIWZ	**Tintock**	**3.85**	**188**	Pn	Pn	01 26 24.5	-1.4
OGWZ	**Otaki Gorge**	**4.00**	**195**	PN	Pn	01 26 26.0	-1.7

comp=E,620nm,4.8s
LZH LR LR
comp=Z,640nm,6.2s
MK31 Makanchi Array 10.23 320 Pn **Pn 01 48 18.6 +0.2**
comp=Z,21nm,0.5s,baz=128,slow=14,SNR=848
MK31 ⇑Sn **Sn 01 50 10.0 -3.2**
comp=Z,28nm,0.8s,baz=134,slow=24,SNR=6.3
MK31 ⇑Lg 01 51 12.9
comp=Z,62nm,0.8s
MK31 Makanchi Array 10.23 320 *e*Pn **Pn 01 48 18.8 +0.3**
MK31 *e*Sn **Sn 01 50 12.3 -0.8**
MK31 Makanchi Array 10.23 320 *i* P **Pn 01 48 18.6 +0.2**
MK31 pmax pmax
comp=Z,11nm,0.2s
MKAR Makanchi Array 10.23 320 Pn **Pn 01 48 19.2 +0.8**
comp=Z,9.0nm,0.3s,baz=132,slow=14,SNR=215
MKAR Sn **Sn 01 50 13.5 +0.3**
comp=Z,6.5nm,0.3s,baz=135,slow=25,SNR=5.1
MKAR Lg 01 51 28.8
comp=Z,1.7nm,0.3s,baz=123,slow=26,SNR=3.4
MKAR Makanchi Array 10.23 320 Pn **Pn 01 48 19.2 +0.8**
MKAR Sn **Sn 01 50 13.5 +0.3**
MKAR Lg 01 51 28.8
MKAR Makanchi Array 10.23 320 *i* P **Pn 01 48 18.6 +0.2**
MKAR pmax pmax
comp=Z,32nm,0.5s
ULHL Ulahol 12.20 289 P **Pn 01 48 46.0 +0.7**
SNR=9.9
ULHL P 01 48 46.0
SNR=9.9
KSH Kashi 12.29 276 *e*P **Pn 01 48 50.8 +4.2**
KSH pP 01 48 54.3
KSH sP 01 48 57.8
KSH PP 01 49 01.5
KSH S **Sn 01 51 09.3 +5.6**
KSH pmax pmax
comp=Z,22nm,0.7s
KSH LR LR
comp=N,430nm,3.4s
KSH LR LR
comp=E,330nm,3.5s
GUN Gumba 12.42 205 *e*P **Pn 01 48 49.2 +0.9**
comp=E,46nm,0.8s
GUN Gumba 12.42 205 *e*P **Pn 01 48 49.2 +0.9**
comp=E,46nm,0.8s
TAPN Taplejung 12.43 197 *e*P **Pn 01 48 43.9 -4.6**
comp=E,4.4nm,0.4s
TAPN Taplejung 12.43 197 *e*P **Pn 01 48 43.9 -4.6**
comp=E,4.4nm,0.4s
JIRN Jiri 12.55 204 *e*P **Pn 01 48 49.4 -0.8**
comp=E,5.1nm,0.5s
JIRN Jiri 12.55 204 *e*P **Pn 01 48 49.4 -0.8**
comp=E,5.1nm,0.5s
KKN Kakani 12.73 207 *e*P **Pn 01 48 53.0 +0.3**
comp=E,22nm,0.6s
KKN Kakani 12.73 207 *e*P **Pn 01 48 53.0 +0.3**
comp=E,22nm,0.6s
KKN Kakani 12.73 207 *e*P **Pn 01 48 53.0 +0.3**
KKN pmax pmax
comp=Z,22nm,0.6s
GKN Gorkha 12.78 210 *e*P **Pn 01 48 54.1 +0.8**
comp=Z,18nm,0.5s
GKN Gorkha 12.78 210 *e*P **Pn 01 48 54.1 +0.8**
comp=Z,18nm,0.5s
TKM2 Tokmak 2 12.78 292 P **Pn 01 48 53.2 0.0**
SNR=95
TKM2 P 01 48 53.2
SNR=95
TKM2 Tokmak 2 12.78 292 *e*Pn **Pn 01 48 53.1 -0.1**
TKM2 *e*Sn **Sn 01 51 14.4 -1.2**
TKM2 Tokmak 2 12.78 292 *i* P **Pn 01 48 53.2 -0.1**
DANN Dangsing 12.84 214 *e*P **Pn 01 48 56.2 +2.1**
comp=Z,8.8nm,0.5s
DANN Dangsing 12.84 214 *e*P **Pn 01 48 56.2 +2.1**
comp=Z,8.8nm,0.5s
CD2 Chengdu 12.84 127 *e*P **Pn 01 49 02.8 +8.6**
CD2 pP 01 49 06.0
CD2 PP 01 49 13.5
CD2 S **Sn 01 51 28.3 +11**
CD2 SS 01 51 43.3
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,30nm,4.0s
CD2 LR LR
comp=N,600nm,9.6s
CD2 LR LR
comp=E,200nm,10.8s
CD2 LR LR
comp=Z,200nm,12.0s
PKI Pulchoki 12.89 207 *e*P **Pn 01 48 53.0 -1.8**
comp=Z,32nm,0.7s
PKI Pulchoki 12.89 207 *e*P **Pn 01 48 53.0 -1.8**
comp=Z,32nm,0.7s
PKI Pulchoki 12.89 207 *e*P **Pn 01 48 53.0 -1.8**
PKI pmax pmax
comp=Z,32nm,0.7s
KZA Kyzart 12.90 288 P **Pn 01 48 55.8 +0.9**
SNR=6.0
KZA P 01 48 55.8
SNR=6.0
DMN Daman 12.96 208 *e*P **Pn 01 48 53.4 -2.4**
comp=Z,44nm,0.9s
DMN Daman 12.96 208 *e*P **Pn 01 48 53.4 -2.4**
comp=Z,44nm,0.9s
ODAN Odare 12.97 198 *e*P **Pn 01 48 47.9 -8.1**
comp=Z,15nm,0.4s
ODAN Odare 12.97 198 *e*P **Pn 01 48 47.9 -8.1**
comp=Z,15nm,0.4s
RAMN Ramite 13.09 201 *e*P **Pn 01 48 51.2 -6.4**
comp=Z,14nm,0.5s
RAMN Ramite 13.09 201 *e*P **Pn 01 48 51.2 -6.4**
comp=Z,14nm,0.5s
KBK Karagaybulak 13.21 290 P **Pn 01 48 59.0 -0.1**
SNR=42
KBK P 01 48 59.0
SNR=42
KOLN Koldanda 13.41 213 *e*P **Pn 01 49 00.2 -1.7**
comp=Z,15nm,0.7s
KOLN Koldanda 13.41 213 *e*P **Pn 01 49 00.2 -1.7**
comp=Z,15nm,0.7s
SONM Songino Array 13.53 46 Pn **Pn 01 49 01.7 -1.8**
comp=Z,1.0nm,0.3s,baz=231,slow=15,SNR=20
SONM Sn **Sn 01 51 35.9 +2.1**
comp=Z,0.3nm,0.3s,baz=235,slow=18,SNR=3.2
SONM Lg 01 52 54.0
comp=Z,1.4nm,0.3s,baz=235,slow=29,SNR=12
SONM Songino Array 13.53 46 Pn **Pn 01 49 01.7 -1.8**
SONM Sn **Sn 01 51 35.9 +2.1**
SONM Lg 01 52 54.0
SONM Songino Array 13.53 46 P **Pn 01 49 01.7 -1.7**
SONM 01 51 35.9
SONM pmax pmax
comp=Z,1.0nm,0.3s
AAK Ala-Archa 13.53 290 P **Pn 01 49 03.2 -0.3**
SNR=6.7
AAK P 01 49 03.2
SNR=6.7
AAK Ala-Archa 13.53 290 *i* P **Pn 01 49 03.2 -0.3**
USP Ospenovka 13.64 292 P **Pn 01 49 04.4 -0.6**
SNR=16
USP P 01 49 04.4
SNR=16
ZAK Zakamensk 13.69 32 *e*P **Pn 01 49 05.3 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 13.92 47 *e*Pn **Pn 01 49 14.9 +6.2**
ULN Ulaanbaatar 13.92 47 *e*P **Pn 01 49 14.9 +6.2**
EKS2 Erkin-Say 14.06 290 *e*Pn **Pn 01 49 11.0 +0.3**
EKS2 Erkin-Say 14.06 290 *e*P **Pn 01 49 11.0 +0.3**
KURBB Kurchatov Arra 14.70 325 ⇑Pn **Pn 01 49 18.6 -0.8**
comp=Z,1.9nm,0.7s
KURK Kurchatov 14.72 325 Pn **Pn 01 49 17.0 -2.7**
comp=Z,0.2nm,0.3s,baz=131,slow=13,SNR=19
KURK Sn **Sn 01 51 58.0 -4.8**
comp=Z,0.2nm,0.3s,baz=127,slow=29,SNR=4.2
KURK Lg 01 53 50.0
baz=132,slow=32,SNR=4.4
KURK Kurchatov 14.72 325 ⇓Pn **Pn 01 49 19.3 -0.4**
comp=Z,12nm,1.0s
KURK ⇑Sn **Sn 01 52 00.4 -2.4**
comp=Z,17nm,0.6s
KURK ⇑Lg 01 53 35.7
comp=Z,61nm,1.1s
KURK Kurchatov 14.72 325 *e*Pn **Pn 01 49 17.6 -2.1**
KURK Sn **Sn 01 51 58.0 -4.8**
KURK *e*Sn **Sn 01 52 00.3 -2.5**
KURK Lg 01 53 50.0
KURK Kurchatov 14.72 325 P **Pn 01 49 17.8 -1.9**
KURK 01 51 57.8
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK smax
comp=N,14nm,0.7s
KURK pmax pmax
comp=N,61nm,1.1s
HHC Hu-ho-hao-te 15.16 78 *e*P **Pn 01 49 23.3 -2.4**
HHC pP pP 01 49 26.8 -6.7
HHC sP sP 01 49 30.8 -3.9
HHC PP 01 49 35.8
HHC S **Sn 01 52 09.5 -4.2**
HHC sS sS 01 52 15.3 -20
HHC SS 01 52 27.3
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.6s
HHC LR LR
comp=N,380nm,6.3s
HHC LR LR
comp=E,380nm,7.3s
HHC LR LR
comp=Z,360nm,5.3s
HHC Hu-ho-hao-te 15.16 78 *e*P **Pn 01 49 32.5 +6.8**
HHC sP sP 01 49 38.5 +3.8
HHC PP 01 49 45.0
HHC S **Sn 01 52 23.8 +10**
HHC sS sS 01 52 29.0 -6.0
HHC SS 01 52 42.3
HHC PcP PcP 01 54 37.5 +5.2
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,240nm,4.5s
HHC LR LR
comp=N,270nm,9.5s
HHC LR LR
comp=E,300nm,8.9s
HHC LR LR
comp=Z,310nm,10.1s
ZAA0 Zalesovo Array 15.40 344 *e*Pn **Pn 01 49 29.3 +0.6**
ZALV Zalesovo Beam 15.40 344 Pn **Pn 01 49 27.2 -1.6**
comp=Z,0.2nm,0.3s,baz=166,slow=11,SNR=17
ZALV Sn **Sn 01 52 16.2 -3.1**
comp=Z,0.9nm,0.3s,baz=166,slow=30,SNR=6.4
ZALV Lg 01 54 13.9
baz=140,slow=32,SNR=3.4
ZALV Zalesovo Beam 15.40 344 Pn **Pn 01 49 27.2 -1.6**
ZALV Sn **Sn 01 52 16.2 -3.1**
ZALV Lg 01 54 13.9
ZALV Zalesovo Beam 15.40 344 P **Pn 01 49 27.2 -1.5**
ZALV 01 52 16.2
ZALV smax
comp=N,1.0nm,0.3s
KK31 Karatay Array 16.50 290 P **Pn 01 49 46.2 +3.2**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 16.50 290 *e*Pn **Pn 01 49 44.2 +1.2**
KKAR Karatay Array 16.50 290 *e*P **Pn 01 49 44.2 +1.2**
NVS Novosibirsk 16.58 342 ⇑*i*P **Pn 01 49 42.1 -1.9**
NVS *e* 01 52 45.1
KMI Kunming 16.86 144 P **Pn 01 49 55.0 +7.3**
KMI pP pP 01 49 57.5 +5.1
KMI sP sP 01 49 58.8 +5.1
KMI S **Sn 01 53 04.3 +9.2**
KMI pmax pmax
comp=Z,11nm,0.5s
KMI LR LR
comp=N,170nm,14.3s
KMI LR LR
comp=E,280nm,14.7s
KMI LR LR
comp=Z,130nm,12.1s
GYA Guiyang 17.83 132 *e*P **Pn 01 50 07.8 +8.0**
GYA pmax pmax
comp=Z,10.0nm,0.6s
BJI Beijing 18.72 80 P **Pn 01 50 15.8 +5.2**
BJI S **Sn 01 53 47.5 +7.5**
BJI pmax pmax
comp=Z,14nm,0.7s
BJI LR LR
comp=Z,91nm,19.2s
KBL Kabul 18.84 262 *e*P **Pn 01 50 11.1 -1.0**
comp=Z,33nm,0.8s
KBL Kabul 18.84 262 *e*P **Pn 01 50 11.1 -1.0**
KBL pmax pmax
comp=Z,33nm,0.8s
BVA0 Borovoye Array 20.12 320 P **P 01 50 25.9 +0.5**
comp=Z,1.1nm,0.6s,baz=110,slow=12,SNR=33
BVA0 Borovoye Array 20.12 320 *i* P **P 01 50 25.9 +0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 20.12 320 P **P 01 50 26.0 +0.6**
comp=Z,5.9nm,0.7s,baz=128,slow=9.6,SNR=20
BVAR Borovoye Array 20.12 320 P **P 01 50 26.0 +0.6**
BVAR Borovoye Array 20.12 320 P **P 01 50 26.0 +0.6**
BVAR pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 20.19 320 ⇑P **P 01 50 29.6 +3.4**
comp=Z,18nm,0.8s
BRVK Borovoye 20.19 320 *e*P **P 01 50 28.0 +1.8**
comp=Z,11nm,0.7s
BRVK Borovoye 20.19 320 ⇑*e*P **P 01 50 25.5 -0.7**
BRVK pmax pmax
comp=Z,14nm,1.2s
ZRNK Zerenda 20.78 319 ⇓Pn **P 01 50 34.7 +2.2**
comp=Z,4.5nm,0.6s
ZRNK Zerenda 20.78 319 *i* P **P 01 50 32.1 -0.5**
ZRNK pmax pmax
comp=Z,5.0nm,0.5s
CMAR Chiang Mai Arr 21.68 162 P **P 01 50 36.9 -5.6**
comp=Z,3.4nm,0.7s,mb3.9,baz=338,slow=11,SNR=20
CMAR Chiang Mai Arr 21.68 162 P **P 01 50 36.9 -5.6**
CMAR Chiang Mai Arr 21.68 162 P **P 01 50 36.9 -5.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
NJ2 Nanjing 23.04 100 *e*P **P 01 51 02.5 +5.6**
NJ2 pmax pmax
comp=Z,20nm,0.5s,mb4.8
HYB Hyderabad 24.71 212 *i* P **P 01 51 08.0 -4.9**
AB31 Akbulak array 24.75 304 ⇑P **P 01 51 16.1 +3.0**
comp=Z,2.9nm,0.8s,mb3.9,baz=100,slow=10,SNR=8.9
ABKAR Akbulak array 24.75 304 *e*P **P 01 51 14.2 +1.1**
comp=Z,2.3nm,0.6s,mb3.9
CN2 Changchun 25.42 69 *e*P **P 01 51 17.5 -1.8**
CN2 *e*S **S 01 55 42.5 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
CN2 pmax pmax
comp=Z,200nm,4.0s
AKTO Aktyubinsk 26.21 306 P **P 01 51 27.9 +1.5**
comp=Z,2.0nm,0.6s,mb3.8,baz=115,slow=9.3,SNR=8.6
AKTO Aktyubinsk 26.21 306 ⇑P **P 01 51 27.2 +0.9**
comp=Z,2.5nm,2.2s,mb3.4
AKTO Aktyubinsk 26.21 306 P **P 01 51 27.9 +1.5**
AKTO Aktyubinsk 26.21 306 P **P 01 51 27.9 +1.6**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
SVE Sverdlovsk 26.90 321 *e*P **P 01 51 34.4 +2.0**
SVE pmax pmax
comp=Z,13nm,1.2s,mb4.3
ARU Arti 27.76 319 *e*P **P 01 51 40.2 0.0**
comp=Z,8.9nm,1.0s,mb4.3
ARU Arti 27.76 319 *d i*P **P 01 51 41.7 +1.5**
ARU PPP 01 52 32.7
ARU S **S 01 56 21.9 -0.7**
ARU pmax pmax
comp=Z,11nm,1.1s,mb4.4
KSAR Wonju Array Be 28.19 82 P **P 01 51 39.6 -4.7**
KSAR Wonju Array Be 28.19 82 P **P 01 51 39.6 -4.6**
KSRS Korea Array 28.21 82 P **P 01 51 39.6 -4.9**
comp=Z,1.2nm,0.6s,mb3.7,baz=286,slow=7.5,SNR=3.6
KSRS Korea Array 28.21 82 P **P 01 51 39.6 -4.9**
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
VRHR Novokhopersk 36.62 306 *e*P **P 01 52 57.1 -0.7**
VRHR pmax pmax
comp=N,1.0nm,0.7s
VRHR pmax pmax
comp=E,2.0nm,0.7s
VRHR pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
VSR Storozhevoye 38.16 306 *e*P **P 01 53 11.0 +0.2**
VSR pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.6s
KLMR Klimovskoe 38.53 322 *e*P **P 01 53 10.4 -3.4**
KLMR pmax pmax
comp=Z,16nm,0.9s,mb4.8
OBN Obninsk 39.62 312 ⇓*e*P **P 01 53 25.2 +2.2**
OBN 01 55 00.0
OBN pmax pmax
comp=Z,28nm,1.7s,mb4.7
OBN MLR MLR
comp=Z,200nm,17.0s
JOF Joensuu 42.64 324 *e*P **P 01 53 46.9 -0.9**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
JOF Joensuu 42.64 324 *ep* **P 01 53 46.9 -0.9**
comp=Z,3.3nm,0.6s,mb4.2
BR131 Keskin Array S 44.21 290 *e*P **P 01 54 01.0 +0.2**
comp=Z,2.1nm,0.7s,mb4.0
BRTR Keskin Array B 44.21 290 P **P 01 54 00.7 -0.1**
comp=Z,2.3nm,0.8s,mb4.0,baz=94,slow=7.8,SNR=13
BRTR Keskin Array B 44.21 290 P **P 01 54 00.7 -0.1**
BRTR Keskin Array B 44.21 290 P **P 01 54 00.7 -0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 44.46 306 P **P 01 54 02.8 +0.2**
comp=Z,0.8nm,0.4s,mb3.8,baz=70,slow=7.5,SNR=4.9
AKASG Malin Array Be 44.46 306 P **P 01 54 02.8 +0.2**
AKASG Malin Array Be 44.46 306 P **P 01 54 02.8 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 45.06 322 P **P 01 54 07.2 -0.1**
comp=Z,1.1nm,0.4s,mb4.0,baz=73,slow=7.9,SNR=14
FINES FINESS Array B 45.06 322 P **P 01 54 07.2 -0.1**
FINES FINESS Array B 45.06 322 P **P 01 54 07.2 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 45.56 333 P **P 01 54 12.6 +1.4**
comp=Z,8.2nm,1.0s,mb4.6,baz=80,slow=7.7,SNR=6.3
ARCES PcP PcP 01 55 48.3 -1.2
comp=Z,10nm,1.0s,baz=90,slow=3.6,SNR=6.8
ARCES ARCESS Array B 45.56 333 P **P 01 54 12.6 +1.4**
ARCES PcP PcP 01 55 48.3 -1.2
ARCES ARCESS Array B 45.56 333 P **P 01 54 12.6 +1.5**
ARCES 01 55 48.3
ARCES pmax pmax
comp=Z,8.0nm,1.0s
NB2 NORSAR Subarra 52.22 323 P **P 01 55 02.4 +0.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=74,slow=7.4
NOA NORSAR Array B 52.22 323 P **P 01 55 02.6 +0.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=75,slow=7.5,SNR=8.5
NOA NORSAR Array B 52.22 323 P **P 01 55 02.6 +0.3**
NOA NORSAR Array B 52.22 323 P **P 01 55 02.6 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 54.17 311 *e*P **P 01 55 17.0 +0.2**
CLL Collm 54.17 311 *e*P **P 01 55 17.0 +0.2**
GERES GERESS Array B 54.63 308 P **P 01 55 20.8 +0.6**
comp=Z,0.3nm,0.6s,mb3.5,baz=81,slow=6.1,SNR=3.0
GERES GERESS Array B 54.63 308 P **P 01 55 20.8 +0.6**
GERES GERESS Array B 54.63 308 P **P 01 55 20.8 +0.6**
CDF Champ du Feu 58.71 309 *e*P **P 01 55 49.2 0.0**
CDF Champ du Feu 58.71 309 *e*P **P 01 55 49.2 0.0**
CDF Champ du Feu 58.71 309 *e*P **P 01 55 49.2 0.0**
HINF Hinteralfeld 59.22 309 *e*P **P 01 55 53.2 +0.4**
comp=Z,2.1nm,0.5s,mb4.1
HINF Hinteralfeld 59.22 309 *e*P **P 01 55 53.2 +0.4**
comp=Z,2.1nm,0.5s,mb4.4
HINF Hinteralfeld 59.22 309 *e*P **P 01 55 53.2 +0.4**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
HAU Haudompre 59.45 309 *e*P **P 01 55 55.0 +0.7**
comp=Z,4.4nm,0.6s,mb4.4
HAU Haudompre 59.45 309 *e*P **P 01 55 55.0 +0.7**
comp=Z,4.4nm,0.6s,mb4.7
HAU Haudompre 59.45 309 *e*P **P 01 55 55.0 +0.7**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LPG La Plagne 60.32 306 *e*P **P 01 56 01.2 +0.8**
comp=Z,19nm,1.0s,mb4.8
LPG La Plagne 60.32 306 *e*P **P 01 56 01.2 +0.8**
comp=Z,19nm,1.0s,mb5.1
LPG La Plagne 60.32 306 *e*P **P 01 56 01.2 +0.8**
LPG pmax pmax
comp=Z,19nm,1.0s,mb5.1
LPL La Plagne 60.33 306 *e*P **P 01 56 01.2 +0.8**
LPL La Plagne 60.33 306 *e*P **P 01 56 01.2 +0.8**
LPL La Plagne 60.33 306 *e*P **P 01 56 01.2 +0.8**
MBDF Montbardon 60.66 305 *e*P **P 01 56 03.0 +0.2**
comp=Z,26nm,1.1s,mb5.0
MBDF Montbardon 60.66 305 *e*P **P 01 56 03.0 +0.2**
comp=Z,26nm,1.1s,mb5.3
MBDF Montbardon 60.66 305 *e*P **P 01 56 03.0 +0.2**
MBDF pmax pmax
comp=Z,26nm,1.1s,mb5.3
ORIF Oris-en-Rattie 61.14 306 *e*P **P 01 56 05.8 -0.2**
comp=Z,9.2nm,0.6s,mb4.8
ORIF Oris-en-Rattie 61.14 306 *e*P **P 01 56 05.8 -0.2**
comp=Z,9.2nm,0.6s,mb5.1
ORIF Oris-en-Rattie 61.14 306 *e*P **P 01 56 05.8 -0.2**
ORIF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
SMF Signal de Mont 61.59 308 *e*P **P 01 56 08.6 -0.4**
comp=Z,14nm,0.9s,mb4.8
SMF Signal de Mont 61.59 308 *e*P **P 01 56 08.6 -0.4**
comp=Z,14nm,0.9s,mb5.1
SMF Signal de Mont 61.59 308 *e*P **P 01 56 08.6 -0.4**
SMF pmax pmax
comp=Z,14nm,0.9s,mb5.1
AVF Avril sur Loir 61.81 309 *e*P **P 01 56 10.6 +0.1**
AVF Avril sur Loir 61.81 309 *e*P **P 01 56 10.6 +0.1**
AVF Avril sur Loir 61.81 309 *e*P **P 01 56 10.6 +0.1**
LDF La Druitiere 62.99 312 *e*P **P 01 56 18.3 -0.1**
comp=Z,6.8nm,0.8s,mb4.5
LDF La Druitiere 62.99 312 *e*P **P 01 56 18.3 -0.1**
comp=Z,6.8nm,0.8s,mb4.8
LDF La Druitiere 62.99 312 *e*P **P 01 56 18.3 -0.1**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
GRR Gorron 63.52 312 *e*P **P 01 56 21.8 -0.1**
GRR Gorron 63.52 312 *e*P **P 01 56 21.8 -0.1**
GRR Gorron 63.52 312 *e*P **P 01 56 21.8 -0.1**
SGMF Saint Gilles 64.56 312 *e*P **P 01 56 28.7 0.0**
SGMF Saint Gilles 64.56 312 *e*P **P 01 56 28.7 0.0**
SGMF Saint Gilles 64.56 312 *e*P **P 01 56 28.7 0.0**
ILAR Eielson Array 66.57 24 P **P 01 56 41.1 -0.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=301,slow=4.9,SNR=26
ILAR Eielson Array 66.57 24 P **P 01 56 41.1 -0.3**
ILAR Eielson Array 66.57 24 P **P 01 56 41.1 -0.3**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 67.47 17 P **P 01 56 46.5 -0.5**
comp=Z,1.8nm,0.9s,mb4.1,baz=308,slow=4.3,SNR=5.0
INK Inuvik 67.47 17 P **P 01 56 46.5 -0.5**
INK Inuvik 67.47 17 P **P 01 56 46.5 -0.5**
INK pmax pmax
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 70.09 305 P **P 01 57 03.3 -0.6**
comp=Z,0.8nm,0.6s,mb3.8,baz=64,slow=6.9,SNR=5.4
ESDC Sonseca Array 70.09 305 P **P 01 57 03.3 -0.6**
WRA Warramunga Arr 71.08 138 P **P 01 57 05.7 -4.3**
comp=Z,2.4nm,0.7s,mb4.3,baz=332,slow=5.7,SNR=19
WRA Warramunga Arr 71.08 138 P **P 01 57 05.7 -4.3**
WRA Warramunga Arr 71.08 138 P **P 01 57 05.7 -4.3**
WRA pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 73.96 140 P **P 01 57 22.9 -4.2**
comp=Z,2.6nm,0.7s,mb4.3,baz=328,slow=5.4,SNR=25
ASAR Alice Springs 73.96 140 P **P 01 57 22.9 -4.2**
ASAR Alice Springs 73.96 140 P **P 01 57 22.9 -4.2**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 76.32 12 P **P 01 57 39.1 -1.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=333,slow=5.6,SNR=16
YKA Yellowknife Ar 76.32 12 P **P 01 57 39.1 -1.2**
YKA Yellowknife Ar 76.32 12 P **P 01 57 39.1 -1.2**
YKA pmax pmax
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 81.93 280 P **P 01 58 10.4 -1.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=48,slow=4.9,SNR=24

TORD	Torodi Ar. Bea	81.93 280	P	P	01 58 10.4	-1.3
STKA	Stephens Creek	84.55 139	P	P	01 58 20.0	-4.8
	comp=Z,1.3nm,0.5s,mb4.3,baz=334,slow=6.6,SNR=5.2					
STKA	Stephens Creek	84.55 139	P	P	01 58 20.0	-4.8
STKA	Stephens Creek	84.55 139	P	P	01 58 20.0	-4.8
STKA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
LPAZ	La Paz	151.15 317	PKPbc	PKPbc	02 05 44.3	-1.1
	comp=Z,2.0nm,0.6s,baz=0.9,slow=2.5,SNR=7.4					
LPAZ	La Paz	151.15 317	PKPbc	PKPbc	02 05 44.3	-1.1
CPUP	Villa Florida	151.20 287	PKPbc	PKPbc	02 05 42.8	-2.5
	comp=Z,2.6nm,0.6s,baz=27,slow=2.7,SNR=10					
CPUP	Villa Florida	151.20 287	PKPbc	PKPbc	02 05 42.8	-2.5

*ISCJB **28** 02:37:29.8±1.1, 14°.56S±0°.07×72°.43W±0°.06, h73km±13km, mb3.5/5, Error ellipse: s-maj=13.4km s-min=7.0km az=34.6*
*IDC **28** 02:37:33.7±1.4, 14°.72S×72°.69W, h98km±13km, mb3.3/4, mb1 3.6/9, mb1mx3.5/19, mbtmp3.4/9, Error ellipse: s-maj=38.9km s-min=9.5km az=32.0*
*NEIC **28** 02:37:33.9±1.0, 14°.66S×72°.63W, h96km±10km, mb4.0/1, Error ellipse: s-maj=24.2km s-min=9.4km az=46.0*

ISC 28 02:37:31.9±0.8, 14°.58S±0°.07×72°.43W±0°.05, h76km±10km, n28, σ1s03/33, mb3.5/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.48	113	P	Pn	02 38 43.2	+5.9
	4.0nm,0.3s,baz=293,slow=8.1,SNR=61						
LPAZ				S	Sn	02 39 37.1	+9.0
	3.3nm,0.3s,baz=190,slow=22,SNR=14						
LPAZ	La Paz	4.48	113	P	Pn	02 38 43.2	+5.9
LPAZ				S	Sn	02 39 37.1	+9.0
NNA	Nana	5.01	300	P	Pn	02 38 44.8	+0.2
	25nm,0.3s,baz=120,slow=11,SNR=30						
NNA				S	Sn	02 39 39.0	-2.3
	49nm,0.3s,baz=225,slow=20,SNR=9.9						
NNA	Nana	5.01	300	ePn	Pn	02 38 44.5	-0.2
NNA				eSn	Sn	02 39 37.0	-4.3
LVC	Limon Verde	8.66	158	ePn	Pn	02 39 33.7	-0.7
	9.2nm,0.5s						
ATAH	Atahualpa	9.44	321	P	Pn	02 39 48.4	+3.3
	0.7nm,0.3s,baz=122,slow=15,SNR=4.0						
ATAH				S	Sn	02 41 30.1	+0.5
	0.4nm,0.3s,baz=107,slow=19,SNR=2.8						
ATAH	Atahualpa	9.44	321	P	Pn	02 39 48.4	+3.3
ATAH				S	Sn	02 41 30.1	+0.5
SAML	Samuel	10.64	59	ePn	Pn	02 40 02.3	+0.8
	8.4nm,0.7s						
SAML				eSn	Sn	02 41 56.9	-2.0
SIV	San Ignacio	11.04	99	P	Pn	02 40 08.5	+1.4
	0.5nm,0.3s,baz=288,slow=12,SNR=16						
SIV				S	Sn	02 42 08.7	-0.2
	0.1nm,0.3s,baz=210,slow=20,SNR=3.9						
SIV	San Ignacio	11.04	99	P	Pn	02 40 08.5	+1.4
SIV				S	Sn	02 42 08.7	-0.2
CFAA	Coronel Fontan	17.38	168	P	Pn	02 41 29.4	0.0
	0.0nm,0.3s,baz=344,slow=11,SNR=9.1						
CFAA	Coronel Fontan	17.38	168	P	Pn	02 41 29.4	0.0
CPUP	Villa Florida	18.33	132	P	Pn	02 41 39.9	-1.1
	1.4nm,0.3s,baz=289,slow=11,SNR=17						
CPUP	Villa Florida	18.33	132	eP	Pn	02 41 40.5	-0.5
	6.2nm,0.3s						
JTS	JuntasAbangare	27.66	333	eP	P	02 43 11.7	-1.0
TXAR	Lajitas Array	53.06	325	P	P	02 46 41.7	+0.2
	0.3nm,0.7s,mb3.4,baz=158,slow=8.8,SNR=4.1						
TXAR	Lajitas Array	53.06	325	P	P	02 46 41.7	+0.2
SNAA	Sanae	69.87	162	eP	P	02 48 35.1	+0.9
	1.5nm,0.6s,mb4.0						
TORD	Torodi Ar. Bea	78.37	73	P	P	02 49 23.8	-0.9
	1.7nm,0.9s,mb3.8,baz=258,slow=5.9,SNR=9.0						
TORD	Torodi Ar. Bea	78.37	73	P	P	02 49 23.8	-0.9
ESDC	Sonseca Array	83.38	46	P	P	02 49 51.9	+1.0
	0.6nm,0.5s,mb3.7,baz=263,slow=4.7,SNR=4.5						
ESDC	Sonseca Array	83.38	46	P	P	02 49 51.9	+1.0
YKA	Yellowknife Ar	83.59	342	P	P	02 49 51.4	0.0
	0.1nm,0.7s,mb2.8,baz=135,slow=5.0,SNR=4.1						
YKA	Yellowknife Ar	83.59	342	P	P	02 49 51.4	0.0
ZALV	Zalesovo Beam	136.85	20	PKP	PKPdf	02 56 46.2	+0.7
	0.5nm,0.6s,baz=336,slow=3.2,SNR=3.4						
ZALV	Zalesovo Beam	136.85	20	PKP	PKPdf	02 56 46.2	+0.7
SONM	Songino Array	146.83	1	PKPbc	PKPbc	02 57 06.5	+1.1
	0.8nm,0.8s,baz=322,slow=3.1,SNR=4.3						
SONM	Songino Array	146.83	1	PKPbc	PKPbc	02 57 06.5	+1.1

*IDC **28** 02:45:24.0±2.5, 20°.09S×178°.12W, h515km±26km, mb3.2/6, mb1 3.5/7, mb1mx3.3/14, mbtmp3.3/7, Error ellipse: s-maj=19.1km s-min=12.0km az=140.0*
*ISCJB **28** 02:45:24.7±1.2, 20°.03S±0°.10×178°.12W±0°.1, h525km±12km, mb3.8/9, Error ellipse: s-maj=18.1km s-min=13.9km az=30.6*
*NEIC **28** 02:45:24.9±1.4, 20°.12S×178°.08W, h532km±12km, mb4.1/3, Error ellipse: s-maj=26.8km s-min=16.0km az=139.0*

ISC 28 02:45:25.0±1.2, 20°.1S±0°.1×178°.1W±0°.1, h520km±11km, n45, σ0s80/27, mb3.8/9, 4C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.35	302	ePn	P	02 46 47.9	+0.3
DZM	Mont Dzumac	14.56	260	eP	P	02 48 31.1	+0.8
	6.2nm,0.8s						
URZ	Urewera	18.55	192	P	P	02 49 08.8	-0.4
	6.2nm,0.3s,baz=298,slow=4.3,SNR=25						
URZ				S	S	02 52 12.5	+0.7
	0.5nm,0.3s,baz=72,slow=20,SNR=3.3						
URZ	Urewera	18.55	192	P	P	02 49 08.8	-0.4
URZ				S	S	02 52 12.5	+0.7
STKA	Stephens Creek	37.88	244	P	P	02 51 55.7	-1.7
	2.8nm,0.8s,mb3.9,baz=102,slow=10,SNR=4.1						
STKA	Stephens Creek	37.88	244	P	P	02 51 55.7	-1.7
AS31	Alice Springs	44.52	256	eP	P	02 52 49.6	-0.6
ASAR	Alice Springs	44.52	256	P	P	02 52 49.7	-0.6
	3.4nm,0.8s,mb3.9,baz=86,slow=8.6,SNR=26						
ASAR				PcP	PcP	02 54 21.7	-0.7
	1.0nm,0.5s,baz=108,slow=3.9,SNR=12						
ASAR				S	S	02 58 47.7	-0.1
	0.6nm,0.9s,baz=93,slow=16,SNR=5.4						
ASAR	Alice Springs	44.52	256	P	P	02 52 49.7	-0.6
ASAR				PcP	PcP	02 54 21.7	-0.7
ASAR				S	S	02 58 47.7	-0.1
WRA	Warramunga Arr	44.56	262	P	P	02 52 50.0	-0.7
	1.4nm,0.4s,mb3.8,baz=98,slow=8.0,SNR=39						
WRA				PcP	PcP	02 54 21.1	-1.6
	1.2nm,0.9s,baz=92,slow=3.5,SNR=3.8						
WRA				S	S	02 58 48.8	+0.3
	0.3nm,0.6s,baz=59,slow=15,SNR=6.5						
WRA	Warramunga Arr	44.56	262	P	P	02 52 50.0	-0.7
WRA				PcP	PcP	02 54 21.1	-1.6
WRA				S	S	02 58 48.8	+0.3
NVAR	Mina Array Bea	80.81	43	P	P	02 56 44.7	+0.4
	1.7nm,1.1s,mb3.4,baz=222,slow=9.6,SNR=5.5						
NVAR	Mina Array Bea	80.81	43	P	P	02 56 44.7	+0.3
IPM	Ipoh	82.99	277	eP	P	02 56 56.5	+0.4
	2.0nm,0.3s,mb4.1						
KULM	Kulim	83.63	278	eP	P	02 56 59.9	+0.7
	1.8nm,0.4s,mb4.0						
TXAR	Lajitas Array	86.93	57	P	P	02 57 14.7	-0.1
	0.6nm,0.6s,mb3.4,baz=222,slow=6.7,SNR=10						
TXAR	Lajitas Array	86.93	57	P	P	02 57 14.7	-0.1
ILAR	Eielson Array	87.96	13	P	P	02 57 17.8	-1.0
	0.5nm,0.6s,mb3.4,baz=217,slow=5.4,SNR=12						
ILAR	Eielson Array	87.96	13	P	P	02 57 17.8	-1.0
CMAR	Chiang Mai Arr	89.90	290	P	P	02 57 30.6	+1.7
	1.9nm,0.8s,mb4.0,baz=117,slow=2.9,SNR=8.5						
CMAR	Chiang Mai Arr	89.90	290	P	P	02 57 30.6	+1.7
ZALV	Zalesovo Beam	110.14	321	PKiKP	PKiKP	03 02 55.3	-1.8
	0.5nm,0.5s,baz=108,slow=3.3,SNR=3.3						
ZALV	Zalesovo Beam	110.14	321	PKiKP	PKiKP	03 02 55.3	-1.8
MKAR	Makanchi Array	110.87	314	PKiKP	PKiKP	03 02 57.6	-1.1
	0.4nm,0.6s,baz=128,slow=0.6,SNR=4.5						
MKAR	Makanchi Array	110.87	314	PKiKP	PKiKP	03 02 57.6	-1.1
KURK	Kurchatov	113.65	318	ePKP	PKiKP	03 03 01.9	-2.0
ARU	Arti	124.84	326	ePKPdf	PKPdf	03 03 24.3	-1.0
FINES	FINESS Array B	135.38	344	PKP	PKPdf	03 03 42.2	-2.8
	1.6nm,1.0s,baz=222,slow=1.9,SNR=4.7						
FINES	FINESS Array B	135.38	344	PKP	PKPdf	03 03 42.2	-2.8
AKASG	Malin Array Be	142.64	331	PKPbc	PKPbc	03 03 54.7	
	3.0nm,0.4s,baz=43,slow=4.0,SNR=22						
AKASG	Malin Array Be	142.64	331	PKPpre	PKPpre	03 03 54.7	
KWP	Kalwaria Pacla	146.20	335	⇓iP	PKPdf	03 04 06.7	+2.0
BRTR	Keskin Array B	146.52	313	PKPbc	PKPbc	03 04 07.3	-0.7
	2.0nm,0.7s,baz=140,slow=3.9,SNR=13						
BRTR	Keskin Array B	146.52	313	PKPbc	PKPbc	03 04 07.3	-0.7
BURAR	Bucovina Array	146.69	331	⇓iP	PKPbc	03 04 08.5	+0.3
KSP	Ksiaz	147.30	343	eP	PKPbc	03 04 09.7	0.0
TRPA	Tarpa	147.46	334	⇑iP	PKPbc	03 04 09.9	-0.3
CLL	Collm	147.67	347	⇓iPKPbc	PKPbc	03 04 10.4	-0.3
	comp=Z,9.0nm,0.9s						
CLL				i PKPab	PKPab	03 04 14.2	-0.6
	comp=Z,3.0nm,0.9s						
MLR	Muntele Rosu	147.86	327	⇑iP	PKPbc	03 04 11.9	+0.5
BRG	Berggiesshubel	147.87	346	i P	PKPbc	03 04 11.0	-0.2
	comp=Z,4.9nm,1.1s						
BRG				e		03 11 15.7	
	comp=Z,3.0nm,0.8s						
MORC	Moravsky Berou	147.89	341	⇑iP	PKPbc	03 04 11.2	-0.1
KHC	Kasperske Hory	149.58	345	⇑ePKP	PKPbc	03 04 14.5	-1.0
GERES	GERESS Array B	149.81	344	PKPbc	PKPbc	03 04 15.1	-1.0
	comp=Z,0.4nm,0.5s,baz=45,slow=0.1,SNR=4.2						
GERES	GERESS Array B	149.81	344	PKPbc	PKPbc	03 04 15.1	-1.0
BZS	Buzias	149.82	332	⇓iP	PKPbc	03 04 15.6	-0.6

*ISCJB **28** 03:34:51.9±1.0, 37°.93N±0°.04×29°.2E±0°.1, h4km±19km, Error ellipse: s-maj=15.8km s-min=6.8km az=3.5*
*DDA **28** 03:34:51.7, 37°.89N×29°.20E, h7km±1km, Md2.7*
*CSEM **28** 03:34:51.8±0.3, 37°.92N×29°.26E, h2km, MD2.6, Error ellipse: s-maj=11.2km s-min=6.1km az=123.0*
*ISK **28** 03:34:52.0, 37°.96N×29°.21E, h6km, MD2.6*

ISC 28 03:34:52.2±0.9, 37°.92N±0°.04×29°.2E±0°.1, h7km±17km, n12, σ0s72/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.23	225	ePG	Pg	03 34 57.4	+0.7
DENT				eSG	Sg	03 35 01.2	+1.4
DENT	Denizli	0.23	225	ePg	Pg	03 34 57.4	+0.7
DENT				eSg	Sg	03 35 01.2	+1.4
DNZL	Cakiroluk	0.27	213	i P	Pg	03 34 56.5	-1.1
DNZL				i S	Sg	03 35 00.3	-0.9
DNZL	Cakiroluk	0.27	213	i P	Pg	03 34 56.5	-1.1
DNZL				i S	Sg	03 35 00.3	-0.9
KHAL	Karahalli	0.49	24	i P	Pg	03 35 02.0	+0.3
KHAL	Karahalli	0.49	24	i P	Pg	03 35 02.0	+0.3
KULA	Kula-Manisa	0.75	323	ePG	Pg	03 35 06.0	-0.6
KULA				eSG	Sg	03 35 16.3	0.0
KULA	Kula-Manisa	0.75	323	ePg	Pg	03 35 06.0	-0.6
KULA				eSg	Sg	03 35 16.3	0.0
SHUT	Suhut-Afyon	1.21	58	ePN	Pn	03 35 15.6	0.0
SHUT	Suhut-Afyon	1.21	58	ePn	Pn	03 35 15.6	0.0
ALT	Altintas	1.33	31	ePN	Pn	03 35 17.4	+0.2
ALT	Altintas	1.33	31	ePn	Pn	03 35 17.4	+0.3

*ISCJB **28** 03:36:51.8±0.8, 36°.14N±0°.03×27°.06E±0°.06, h7km±8km, Error ellipse: s-maj=8.9km s-min=5.2km az=17.1*
*ISK **28** 03:36:51.5, 36°.15N×27°.04E, h9km, MD3.0*
*ATH **28** 03:36:52.2, 36°.11N×27°.13E, h30km±3km, MD3.0/4*
*CSEM **28** 03:36:53.4±0.5, 36°.14N×27°.10E, h27km±2km, MD3.0, Error ellipse: s-maj=14.6km s-min=9.3km az=131.0*

ISC 28 03:36:52.4±0.8, 36°.14N±0°.03×27°.05E±0°.07, h9km±8km, n19, σ0s58/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.60	172	ePN	Pg	03 37 04.2	+0.2
KARP				eSN	Sg	03 37 12.2	+0.4
KARP	Karpathos	0.60	172	ePn	Pg	03 37 04.2	+0.2
KARP				eSn	Sg	03 37 12.3	+0.5
DAT	Datca	0.72	36	ePG	Pg	03 37 06.3	-0.1
DAT				eSG	Sg	03 37 16.4	+0.6
DAT	Datca	0.72	36	ePg	Pg	03 37 06.3	-0.1
DAT				eSg	Sg	03 37 16.4	+0.6
ARG	Arkhangelos	0.87	85	ePN	Pg	03 37 08.6	-0.6
ARG				eSN	Sg	03 37 20.0	-0.5
ARG	Arkhangelos	0.87	85	ePn	Pg	03 37 08.6	-0.6
ARG				eSn	Sg	03 37 20.0	-0.5
BODT	Bodrum	0.94	13	ePG	Pg	03 37 09.1	-1.5
BODT				eSG	Sg	03 37 23.7	+0.9
BODT	Bodrum	0.94	13	ePg	Pg	03 37 09.1	-1.4
BODT				eSg	Sg	03 37 23.7	+0.9
YER	Yerkesik	1.40	45	ePN	Pn	03 37 17.8	-0.3
YER	Yerkesik	1.40	45	ePn	Pn	03 37 17.8	-0.2
NPS	Neapolis	1.46	234	ePN	Pn	03 37 18.9	0.0
NPS				eSN	Sn	03 37 37.9	-0.3
NPS	Neapolis	1.46	234	ePn	Pn	03 37 18.9	0.0
NPS				eSn	Sn	03 37 37.9	-0.3
APE	Apeiranthos	1.54	308	ePN	Pn	03 37 19.8	-0.2
APE	Apeiranthos	1.54	308	ePN	Pn	03 37 20.3	+0.4
APE	Apeiranthos	1.54	308	ePn	Pn	03 37 19.8	-0.1
GLHS	Gihisar (BURDU	2.21	62	ePN	Pn	03 37 29.3	+0.1
GLHS	Gihisar (BURDU	2.21	62	ePn	Pn	03 37 29.3	+0.1
ELL	Elmali	2.38	74	ePN	Pn	03 37 32.2	+0.7
ELL	Elmali	2.38	74	ePn	Pn	03 37 32.2	+0.7

*NEIC **28** 03:38:29.6±0.8, 5°.12S×142°.80E, h35km, mb4.0/1, Error ellipse: s-maj=16.4km s-min=11.8km az=80.0*
*ISCJB **28** 03:38:30.6±2.3, 5°.3S±0°.1×143°.0E±0°.1, h67km±24km, mb3.5/3, Error ellipse: s-maj=18.0km s-min=15.4km az=43.5*
*IDC **28** 03:38:31.3±8.2, 5°.22S×143°.04E, h58km±86km, mb3.4/3, mb1 3.7/5, mb1mx3.4/13, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=55.2km s-min=31.2km az=158.0*

ISC 28 03:38:34.5±2.2, 5°.4S±0°.1×143°.0E±0°.1, h92km±24km, n15, σ1s19/21, mb3.5/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.72	134	P	Pn	03 39 56.8	-0.2
	1.4nm,0.3s,baz=307,slow=10,SNR=5.1						
PMG				S	Sn	03 41 01.0	-0.2
	0.9nm,0.3s,baz=317,slow=19,SNR=7.5						
PMG	Port Moresby	5.72	134	P	Pn	03 39 56.8	-0.1
	0.8nm,0.8s						
PMG				S	Sn	03 41 01.0	-0.2
COEN	Coen	8.48	179	ePn	Pn	03 40 34.7	+0.1
WB2	Warramunga Arr	16.71	209	eP	Pn	03 42 22.6	-0.4
WRA	Warramunga Arr	16.71	210	P	Pn	03 42 22.4	-0.7
	0.3nm,0.3s,baz=26,slow=13,SNR=15						
WRA				S	S	03 45 21.9	-12
	0.2nm,0.3s,baz=41,slow=24,SNR=4.6						
WRA	Warramunga Arr	16.71	210	P	Pn	03 42 22.4	-0.7
WRA				S	S	03 45 21.9	-12
AS31	Alice Springs	20.14	205	eP	P	03 43 03.5	+2.1
ASAR	Alice Springs	20.14	205	P	P	03 43 03.6	+2.2
	2.2nm,0.5s,baz=32,slow=11,SNR=58						
ASAR				S	S	03 46 41.2	-1.5
	0.4nm,0.9s,baz=19,slow=18,SNR=4.7						
ASAR	Alice Springs	20.14	205	P	P	03 43 03.6	+2.2
ASAR				S	S	03 46 41.2	-1.5
KAPI	Kappang	23.15	270	eP	P	03 43 30.3	-2.9
	5.4nm,0.9s,mb3.9						
MK31	Makanchi Array	74.55	322	eP	P	03 50 04.1	+0.8
MKAR	Makanchi Array	74.55	322	P	P	03 50 03.9	+0.6
	0.4nm,0.8s,mb3.2,baz=106,slow=8.0,SNR=3.6						
MKAR	Makanchi Array	74.55	322	P	P	03 50 03.9	+0.6
ILAR	Eielson Array	86.54	24	P	P	03 51 06.2	-0.9
	0.3nm,0.7s,mb3.3,baz=266,slow=5.4,SNR=4.2						
ILAR	Eielson Array	86.54	24	P	P	03 51 06.2	-0.9

*NEIC **28** 03:40:20.7, 32°.24S×71°.75W, h25km, ML3.1(GUC), After GUC.*

GUC 28 03:40:20.7±0.8, 32°.24S×71°.75W, h25km±6km, MD3.7, ML3.1, 7C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.42	311	⇑iP	Pb	03 40 29.8	+0.2
CHNG				i S	Sb	03 40 35.5	-0.1
CHNG	Los Chungos	0.42	311	⇑iP	Pb	03 40 29.8	+0.2
CHNG				i S	Sb	03 40 35.5	-0.1
PTCH	Petorca	0.70	92	⇓iP	Pb	03 40 34.1	-0.1
PTCH				i S	Sb	03 40 43.7	+0.3
PTCH	Petorca	0.70	92	⇓iP	Pb	03 40 34.1	-0.1
PTCH				i S	Sb	03 40 43.7	+0.3
PTCH				AML	AML	03 40 43.9	
	comp=N,2μm,0.2s						
ROCH	El Roble	0.96	139	⇓iP	Pn	03 40 38.0	-0.6
ROCH				i S	Sb	03 40 51.1	+0.2
ROCH				AML	AML	03 40 53.5	
	comp=E,1μm,0.5s						
JACH	Jahuel	1.07	114	⇑iP	Pn	03 40 39.7	-0.4
JACH				i S	Sb	03 40 54.3	+0.1
JACH	Jahuel	1.07	114	⇑iP	Pn	03 40 39.7	-0.4
JACH				i S	Sb	03 40 54.3	+0.1
LCCH	Las Cruces	1.24	173	eP	Pn	03 40 42.2	-0.2
LCCH	Las Cruces	1.24	173	eP	Pn	03 40 42.2	-0.2
CMCH	Combarbala	1.24	31	⇓iP	Pn	03 40 42.2	-0.2
CMCH				i S	Sn	03 40 58.6	+0.2
CMCH	Combarbala	1.24	31	⇓iP	Pn	03 40 42.2	-0.2
CMCH				i S	Sn	03 40 58.6	+0.2
CMCH				AML	AML	03 41 02.5	
	comp=N,2μm,0.5s						
PEL	Peldehue	1.27	135	⇑iP	Pn	03 40 43.0	+0.1
PEL				i S	Sn	03 41 00.1	+1.0
PEL				AML	AML	03 41 05.6	
	comp=E,731nm,0.4s						
CLCH	Cerro Calan	1.54	139	⇓iP	Pn	03 40 47.2	+0.7
CLCH				i S	Sn	03 41 07.2	+1.4
CLCH				AML	AML	03 41 21.7	
	comp=E,340nm,0.7s						
CLCH				AML	AML	03 41 22.2	
	comp=E,410nm,0.7s						
ANTU	Antumapu	1.62	145	⇓iP	Pn	03 40 48.2	+0.5
ANTU	Antumapu	1.62	145	⇓iP	Pn	03 40 48.2	+0.5
ANTU				AML	AML	03 41 15.2	
	comp=E,275nm,0.4s						
FCH	Farellones	1.64	132	AML	AML	03 41 20.0	
	comp=E,150nm,0.4s						
PCH	Pirque	1.72	143	⇑iP	Pn	03 40 50.5	+1.4
PCH	Pirque	1.72	143	eP	Pn	03 40 50.0	+0.9
PCH				⇑iP		03 40 50.5	
LMEL	Las Melosas	2.06	141	eP	Pn	03 40 55.2	+1.5
LMEL				i S	Sn	03 41 21.8	+3.1
LMEL	Las Melosas	2.06	141	eP	Pn	03 40 55.2	+1.5
LMEL				i S	Sn	03 41 21.8	+3.1
LMEL				AML	AML	03 41 29.6	
	comp=N,153nm,0.3s						
LCO	Las Campanas	3.35	16	ePn	Pn	03 41 11.5	+0.1
LCO				eSn	Sn	03 41 51.0	+0.7

*TIF **28** 03:56:53.3, 39°.71N×49°.57E, h27km±1km*
*ISCJB **28** 03:56:58.2±2.1, 40°.3N±0°.3×49°.4E±0°.1, h44km±36km, mb3.6/6, Error ellipse: s-maj=49.5km s-min=12.6km az=10.6*
*IDC **28** 03:57:00.7±3.6, 40°.07N×49°.30E, h68km±59km, mb3.5/6, mb1 3.5/9, mb1mx3.2/27, mbtmp3.5/9, ML3.1/1, Error ellipse: s-maj=89.3km s-min=20.3km az=8.0*
*NEIC **28** 03:57:00.3±1.2, 40°.09N×49°.33E, h64km±22km, mb3.7/4, Error ellipse: s-maj=29.7km s-min=7.9km az=191.0*

ISC 28 03:56:59.4±1.7, 40°.3N±0°.2×49°.44E±0°.09, h40km±26km, n23, σ0s56/23, mb3.6/6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	Garni	3.60	270	P	Pn	03 57 53.0	+0.4
	0.6nm,0.3s,baz=90,slow=2.0,SNR=6.1						
GNI	Garni	3.60	270	P	Pn	03 57 53.0	+0.4
AKASG	Malin Array Be	17.55	313	P	Pn	04 01 00.6	-0.2
	0.7nm,0.3s,baz=118,slow=12,SNR=3.4						
AKASG	Malin Array Be	17.55	313	P	Pn	04 01 00.6	-0.2
EKS2	Erkin-Say	18.39	75	eP	Pn	04 01 10.9	-0.3
	5.4nm,1.3s						
AAK	Ala-Archa	18.92	75	eP	Pn	04 01 17.1	-0.4
	5.2nm,0.7s						
BRVK	Borovoye	19.12	41	eP	Pn	04 01 20.4	+0.6
	5.3nm,1.2s						
BVAR	Borovoye Array	19.15	41	P	Pn	04 01 19.5	-0.7
	0.1nm,0.3s,baz=232,slow=9.0,SNR=3.8						
BVAR	Borovoye Array	19.15	41	P	Pn	04 01 19.5	-0.7
TKM2	Tokmak 2	19.73	74	eP	Pn	04 01 26.8	-0.4
	5.5nm,1.4s						
KURK	Kurchatov	22.84	53	P	P	04 01 59.7	+0.9
	1.2nm,0.7s,mb3.4,baz=260,slow=9.6,SNR=10.0						
KURK	Kurchatov	22.84	53	P	P	04 01 59.7	+0.9
MK31	Makanchi Array	24.58	64	eP	P	04 02 15.4	0.0
MKAR	Makanchi Array	24.58	64	P	P	04 02 15.7	+0.2
	1.6nm,0.8s,mb3.6,baz=262,slow=7.6,SNR=10						
MKAR	Makanchi Array	24.58	64	P	P	04 02 15.7	+0.2
FINES	FINESS Array B	25.57	334	P	P	04 02 23.9	-0.3
	0.7nm,0.4s,mb3.5,baz=137,slow=8.7,SNR=4.7						
FINES	FINESS Array B	25.57	334	P	P	04 02 23.9	-0.3
ZALV	Zalesovo Beam	27.38	48	P	P	04 02 41.1	+0.4
	0.3nm,0.3s,mb3.3,baz=290,slow=8.6,SNR=3.6						
ZALV	Zalesovo Beam	27.38	48	P	P	04 02 41.1	+0.4
HFS	Hagfors	29.76	324	P	P	04 03 00.8	-1.0
	1.9nm,0.8s,mb3.9,baz=134,slow=8.3,SNR=4.5						
HFS	Hagfors	29.76	324	P	P	04 03 00.8	-1.0
ARCES	ARCESS Array B	31.95	344	P	P	04 03 21.7	+0.8
	3.4nm,1.0s,mb4.1,baz=138,slow=8.5,SNR=2.7						
ARCES	ARCESS Array B	31.95	344	P	P	04 03 21.8	+0.8

*ISK **28** 03:57:26.6, 39°.13N×42°.32E, h16km, MD2.9*
*CSEM **28** 03:57:26.6±0.3, 39°.14N×42°.30E, h20km, MD2.9, Error ellipse: s-maj=9.6km s-min=5.1km az=2.0*
*

PB09 AML AML 03 59 13.7
comp=E,20μm,0.5s
PB04 Plate Boundary 0.76 273⇑ *iP* **Pn 03 59 03.7 +6.2**
PB04 *i* S **Sn 03 59 24.1 +12**
PB04 AML AML 03 59 25.7
comp=N,3μm,0.2s
MACH Maria Elena 1.01 276⇓ *iP* **Pn 03 58 60.0 +0.1**
MACH *i* S **Sn 03 59 16.9 +0.4**
MACH Maria Elena 1.01 276⇓ *iP* **Pn 03 58 60.0 +0.1**
MACH *i* S **Sn 03 59 16.9 +0.4**
PB07 Plate Boundary 1.27 297⇑ *iP* **Pn 03 59 02.7 +0.1**
PB07 *i* S **Sn 03 59 21.4 +0.2**
CEN1 Los Morros 1.77 233⇓ *iP* **Pn 03 59 11.1 +2.7**
CEN1 *i* S **Sn 03 59 36.0 +4.3**
CEN1 AML AML 03 59 46.2
comp=N,282nm,0.4s
MECH Mejillones 1.82 244 *eP* **Pn 03 59 08.8 -0.3**
MECH *i* S **Sn 03 59 32.6 -0.1**
MECH Mejillones 1.82 244 *eP* **Pn 03 59 08.8 -0.3**
MECH *i* S **Sn 03 59 32.6 -0.1**
MECH AML AML 03 59 40.3
comp=E,996nm,0.4s
ANCH Antofagasta 2.10 229 *eP* **Pn 03 59 12.8 +0.2**
ANCH *i* S **Sn 03 59 38.5 -0.5**
ANCH Antofagasta 2.10 229 *eP* **Pn 03 59 12.8 +0.2**
ANCH *i* S **Sn 03 59 38.5 -0.5**
HMBC Humberston 2.32 330⇑ *iP* **Pn 03 59 14.0 -1.3**
HMBC *i* S **Sn 03 59 43.1 -0.9**
HMBC AML AML 03 59 48.0
comp=E,712nm,0.5s
LPAZ La Paz 6.01 5 P **Pn 04 00 06.0 +1.3**
comp=E,1.1nm,0.3s,baz=196,slow=5.1,SNR=24
LPAZ La Paz 6.01 5 P **Pn 04 00 06.0 +1.3**
LCO Las Campanas 6.92 195 *e*Pn **Pn 04 00 12.8 -3.9**
comp=E,12nm,0.7s
SAML Samuel 14.29 22 *eP* **Pn 04 01 55.9 +0.9**
comp=E,5.6nm,1.3s
SNAA Sanae 61.44 161 *eP* **P 04 08 42.1 +0.7**
comp=E,0.6nm,0.5s,mb3.9
DBIC Dimbokro 68.75 73 P **P 04 09 28.8 -0.9**
comp=E,2.2nm,1.0s,mb3.9,baz=218,slow=7.8,SNR=3.5
DBIC Dimbokro 68.75 73 P **P 04 09 28.8 -0.9**
TORD Torodi Ar. Bea 77.42 70 P **P 04 10 19.5 -1.1**
comp=E,0.7nm,0.4s,mb3.8,baz=254,slow=5.5,SNR=37
TORD Torodi Ar. Bea 77.42 70 P **P 04 10 19.5 -1.2**
YKA Yellowknife Ar 92.02 340 P **P 04 11 33.3 +0.3**
comp=E,0.3nm,0.5s,mb3.8,baz=136,slow=4.7,SNR=14
YKA Yellowknife Ar 92.02 340 P **P 04 11 33.4 +0.4**
ASAR Alice Springs 129.30 207 PKP PKPdf 04 17 34.2 +1.0
comp=E,0.3nm,0.9s,baz=129,slow=2.2,SNR=4.1
ASAR Alice Springs 129.30 207 PKP PKPdf 04 17 34.2 +1.0
WRA Warramunga Arr 132.37 210 PKP PKPdf 04 17 39.8 +0.7
comp=E,0.3nm,0.8s,baz=146,slow=1.8,SNR=4.6
WRA Warramunga Arr 132.37 210 PKP PKPdf 04 17 39.8 +0.7
MKAR Makanchi Array 146.15 37 PKPbc PKPbc 04 18 05.0 +0.6
comp=E,0.8nm,0.6s,baz=354,slow=2.9,SNR=7.1
MKAR Makanchi Array 146.15 37 PKPbc PKPbc 04 18 05.0 +0.6

GUC 28 04:10:06.9±0.8, 32°.22S×71°.41W, h8km±8km, MD3.6, ML2.2, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.34**	**347**	*i*P	Pg	04 10 14.1	+0.5
CHNG				*i* S	Sg	04 10 19.6	+1.4
CMCH	**Combarbala**	**1.10**	**18**	*i*P	Pg	04 10 26.6	-1.4
CMCH				*i* S	Sg	04 10 42.9	+0.6
CMCH				AML	AML	04 10 46.6	
	comp=E,167nm,0.5s						
FCH	**Farellones**	**1.45**	**140⇓**	*i*P	Pn	04 10 33.0	-0.5
FCH				*i* S	Sn	04 10 53.7	+0.9
FCH				AML	AML	04 10 55.3	
	comp=E,42nm,0.2s						
TACH	**Talagante**	**1.48**	**165**	*e*P	Pn	04 10 33.1	-0.9
TACH				*i* S	Sn	04 10 53.1	-0.4
PCH	**Pirque**	**1.59**	**152**	*e*P	Pn	04 10 35.0	-0.3
PCH				*i* S	Sn	04 10 57.4	+1.3

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*IDC **28** 04:27:10.2±0.8, 28°.63N×95°.78E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.8/27, mbtmp3.9/13, MS3.7/2, Ms1 3.7/2, ms1mx2.8/38, Error ellipse: s-maj=40.7km s-min=15.0km az=60.0*
*NEIC **28** 04:27:15.8±1.4, 28°.68N×96°.12E, h42km±15km, mb3.7/7, Error ellipse: s-maj=16.3km s-min=9.2km az=57.0*
ISC 28 04:27:11.9±1.7, 28°.64N±0°.05×96°.03E±0°.06, h10km±11km, n39, σ1§06/43, mb3.9/17, MS3.6/2, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**4.27**	**207**	*e*PKP	**Pg**	**04 28 33.0**	**-0.7**
IMP				*e*S	**Sg**	**04 29 30.0**	**+0.9**
LSA	**Lhasa**	**4.40**	**285**	*e*Pn	**Pn**	**04 28 22.9**	**+4.3**
LSA				*e*Sn	**Sn**	**04 29 11.5**	**+1.6**
SHL	**Shillong**	**4.80**	**231**	*e*PN	**Pn**	**04 28 26.5**	**+2.3**
SHL				*e*PG	**Pg**	**04 28 51.5**	**+7.7**
SHL				*e*SN	**Sn**	**04 29 17.5**	**-2.3**
SHL				*e*SG	**Sg**	**04 29 45.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**10.48**	**165**	Pn	**Pn**	**04 29 42.2**	**0.0**
	baz=344,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**10.48**	**165**	Pn	**Pn**	**04 29 42.2**	**0.0**
SONM	**Songino Array**	**20.79**	**20**	P	**P**	**04 31 53.0**	**0.0**
	0.9nm,0.6s,baz=193,slow=6.1,SNR=6.4						
SONM				LR	LR	04 41 24.9	
	comp=Z,98nm,18.0s,MS3.2,baz=41,slow=41						
SONM	**Songino Array**	**20.79**	**20**	P	**P**	**04 31 53.0**	**0.0**
ULN	**Ulaanbaatar**	**21.02**	**21**	*e*P	**P**	**04 31 55.0**	**-0.5**
	1.7nm,0.7s,mb3.5						
MK31	**Makanchi Array**	**21.08**	**333**	*e*P	**P**	**04 31 56.4**	**+0.3**
MKAR	**Makanchi Array**	**21.08**	**333**	P	**P**	**04 31 55.9**	**-0.3**
	5.6nm,0.6s,mb4.1,baz=140,slow=13,SNR=29						
MKAR	**Makanchi Array**	**21.08**	**333**	P	**P**	**04 31 55.9**	**-0.3**
TKM2	**Tokmak 2**	**21.78**	**316**	*e*P	**P**	**04 32 04.2**	**+0.4**
	1.7nm,0.6s,mb3.6						
AAK	**Ala-Archa**	**22.31**	**314**	*e*P	**P**	**04 32 10.3**	**+0.9**
	13nm,0.8s,mb4.4						
EKS2	**Erkin-Say**	**22.77**	**314**	*e*P	**P**	**04 32 14.7**	**+0.3**
	3.1nm,1.0s,mb3.7						
KKAR	**Karatay Array**	**25.09**	**312**	*e*P	**P**	**04 32 38.4**	**+1.9**
	1.7nm,0.7s,mb3.7						
KURK	**Kurchatov**	**25.68**	**334**	P	**P**	**04 32 40.7**	**-1.1**
	1.0nm,0.5s,mb3.6,baz=144,slow=10,SNR=9.7						
KURK	**Kurchatov**	**25.68**	**334**	*e*P	**P**	**04 32 41.6**	**-0.2**
	1.6nm,0.6s,mb3.7						
ZAA0	**Zalesovo Array**	**26.59**	**345**	*e*P	**P**	**04 32 50.4**	**+0.4**
ZALV	**Zalesovo Beam**	**26.59**	**345**	P	**P**	**04 32 49.7**	**-0.3**
	2.5nm,0.6s,mb3.9,baz=152,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**26.59**	**345**	P	**P**	**04 32 49.7**	**-0.3**
ABKAR	**Akbulak array**	**34.35**	**317**	*e*P	**P**	**04 33 59.5**	**+0.8**
	1.4nm,0.6s,mb4.1						
AKTO	**Aktyubinsk**	**35.96**	**318**	P	**P**	**04 34 10.6**	**-1.9**
	1.3nm,0.5s,mb4.1,baz=110,slow=6.9,SNR=4.6						
AKTO	**Aktyubinsk**	**35.96**	**318**	P	**P**	**04 34 10.6**	**-1.9**
FINES	**FINESS Array B**	**55.74**	**327**	P	**P**	**04 36 47.6**	**-0.8**
	1.2nm,0.6s,mb4.1,baz=114,slow=8.5,SNR=6.2						
FINES	**FINESS Array B**	**55.74**	**327**	P	**P**	**04 36 47.6**	**-0.8**
ARCES	**ARCESS Array B**	**56.67**	**337**	P	**P**	**04 36 54.0**	**-0.9**
	3.8nm,0.9s,mb4.5,baz=75,slow=6.9,SNR=2.9						
ARCES	**ARCESS Array B**	**56.67**	**337**	P	**P**	**04 36 54.0**	**-0.9**
WRA	**Warramunga Arr**	**60.84**	**138**	P	**P**	**04 37 25.2**	**+0.6**
	1.2nm,0.7s,mb4.2,baz=327,slow=7.6,SNR=7.4						
WRA	**Warramunga Arr**	**60.84**	**138**	P	**P**	**04 37 25.2**	**+0.6**
NB2	**NORSAR Subarra**	**62.92**	**327**	P	**P**	**04 37 37.5**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.2,baz=79,slow=6.9						
NOA	**NORSAR Array B**	**62.92**	**327**	P	**P**	**04 37 37.9**	**-0.2**
	comp=Z,1.9nm,0.7s,mb4.3,baz=81,slow=6.6,SNR=9.7						
NOA	**NORSAR Array B**	**62.92**	**327**	P	**P**	**04 37 37.9**	**-0.1**
ASAR	**Alice Springs**	**63.52**	**141**	P	**P**	**04 37 44.0**	**+1.5**
	comp=Z,0.5nm,0.6s,mb3.7,baz=324,slow=6.9,SNR=13						
ASAR	**Alice Springs**	**63.52**	**141**	P	**P**	**04 37 44.0**	**+1.5**
GERES	**GERESS Array B**	**64.19**	**313**	P	**P**	**04 37 45.7**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=66,slow=4.8,SNR=3.1						
GERES	**GERESS Array B**	**64.19**	**313**	P	**P**	**04 37 45.7**	**-0.9**
JMIC	**Jan Mayen**	**67.78**	**340**	LR	LR	05 13 38.0	
	comp=Z,90nm,19.3s,MS4.0,baz=271,slow=41						
TORD	**Torodi Ar. Bea**	**87.53**	**284**	P	**P**	**04 39 59.1**	**-1.4**
	comp=Z,0.4nm,0.8s,mb3.7,baz=77,slow=3.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**87.53**	**284**	P	**P**	**04 39 59.1**	**-1.4**

MEX 28 04:28:21.8±1.3, 19°.29N×105°.08W, h9km±11km, MD4.0, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.22**	**10**	*i*P	Pg	04 28 25.1	-1.1
CJM				*i* S	Sg	04 28 29.7	+0.4
R15V		**1.05**	**96**	*i*P	Pg	04 28 38.0	-3.9
R15V				*i* S	Sg	04 28 51.5	-4.0
EZ5V		**1.41**	**82**	*i*P	Pn	04 28 45.0	-2.6
EZ5V				*e*S	Sn	04 29 01.9	-4.5
ANIG	**Ahuacatlan**	**1.84**	**17**	*i*P	Pn	04 28 51.5	-2.1
ANIG				*i* S	Sn	04 29 11.0	-5.9
MMIG	**Aquila**	**1.92**	**121**	*i*P	Pn	04 28 51.8	-2.9
MMIG				*e*S	Sn	04 29 13.9	-5.1
SFJM	**Santa Fe**	**2.26**	**58**	*i*P	Pn	04 28 57.0	-2.4
SFJM				*i* S	Sn	04 29 23.2	-4.2

DJA 28 04:29:39, 1°.33N×120°.56E, h51km, MLv3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.62**	**122**	P	Pn	04 30 06.0	+0.8
MRSI				S	Sn	04 30 22.8	-2.1
APSI	**Ampana**	**2.48**	**154**	P	Pn	04 30 16.8	-0.1
GTOI	**Gorontalo**	**2.54**	**106**	P	Pn	04 30 17.3	-0.5
GTOI				S	Sn	04 30 50.9	+3.3
LUWI	**Luwuk**	**3.23**	**137**	P	Pn	04 30 27.8	+0.5
LUWI				S	Sn	04 31 08.2	+3.7

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*IDC **28** 04:47:51.4±3.0, 16°.53S×175°.81W, h385km±30km, mb3.7/9, mb1 3.9/9, mb1mx3.6/17, mbtmp3.7/9, Error ellipse: s-maj=24.6km s-min=13.1km az=146.0*
*NEIC **28** 04:47:51.7±1.6, 16°.24S×175°.87W, h385km±14km, mb4.3/13, Error ellipse: s-maj=16.4km s-min=13.5km az=143.0*
ISC 28 04:47:52.8±1.5, 16°.2S±0°.1×176°.0W±0°.1, h389km±14km, n65, σ0§78/41, mb4.2/20, 3C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.92**	**254**	*e*Pn	**Pn**	**04 49 24.2**	**+0.1**
	30nm,0.8s						
DZM	**Mont Dzumac**	**17.61**	**248**	*e*P	**P**	**04 51 33.9**	**+0.2**
	11nm,1.0s						
URZ	**Urewera**	**22.82**	**194**	P	**P**	**04 52 19.8**	**-3.7**
	9.8nm,0.7s,mb4.3,baz=75,slow=3.2,SNR=8.8						
URZ	**Urewera**	**22.82**	**194**	P	**P**	**04 52 19.8**	**-3.7**
RPZ	**Rata Peaks**	**29.58**	**199**	P	**P**	**04 53 18.6**	**-4.8**
	4.1nm,0.6s,mb3.9,baz=31,slow=5.9,SNR=1.9						
RPZ	**Rata Peaks**	**29.58**	**199**	P	**P**	**04 53 18.6**	**-4.8**
ARMA	**Armidale**	**32.82**	**239**	*e*P	**P**	**04 53 51.5**	**-0.2**
CTA	**Charters Tower**	**36.06**	**258**	*e*P	**P**	**04 54 18.8**	**-0.5**
CTAO	**Charters Tower**	**36.06**	**258**	*e*P	**P**	**04 54 18.8**	**-0.6**
	4.4nm,0.8s,mb3.8						
CNB	**Canberra Magne**	**36.32**	**232**	*e*P	**P**	**04 54 21.7**	**+0.4**
PMG	**Port Moresby**	**36.54**	**276**	*e*P	**P**	**04 54 24.6**	**+1.1**
	3.5nm,0.7s,mb3.8						
COEN	**Coen**	**39.47**	**268**	*e*P	**P**	**04 54 48.5**	**+0.9**
	103nm,0.8s,mb5.2						
TOO	**Toolangi**	**40.06**	**230**	*e*P	**P**	**04 54 52.3**	**+0.2**
STKA	**Stephens Creek**	**41.50**	**240**	P	**P**	**04 55 01.6**	**-2.3**
	5.9nm,0.7s,mb4.0,baz=87,slow=7.6,SNR=12						
STKA				PcP	PcP	04 56 51.7	-1.2
	2.1nm,0.7s,baz=90,slow=2.0,SNR=3.9						
STKA	**Stephens Creek**	**41.50**	**240**	*e*P	**P**	**04 55 03.6**	**-0.2**
STKA	**Stephens Creek**	**41.50**	**240**	*e*P	**P**	**04 55 03.7**	**-0.1**
	2.0nm,0.9s,mb3.5						
STKA				PcP	PcP	04 56 51.7	-1.2
WB2	**Warramunga Arr**	**47.24**	**258**	*e*P	**P**	**04 55 48.5**	**-0.4**
WRAB	**Tennant Creek**	**47.25**	**258**	*e*P	**P**	**04 55 48.4**	**-0.5**
	74nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**47.26**	**258**	P	**P**	**04 55 48.8**	**-0.2**
	19nm,0.7s,mb4.5,baz=90,slow=7.0,SNR=162						
WRA				PcP	PcP	04 57 13.5	+0.4
	2.1nm,0.7s,baz=87,slow=3.8,SNR=5.7						
WRA	**Warramunga Arr**	**47.26**	**258**	P	**P**	**04 55 48.8**	**-0.2**
WRA				PcP	PcP	04 57 13.5	+0.4
AS31	**Alice Springs**	**47.51**	**253**	*e*P	**P**	**04 55 50.7**	**-0.1**
ASAR	**Alice Springs**	**47.52**	**253**	P	**P**	**04 55 50.7**	**-0.2**
	43nm,0.7s,mb4.9,baz=86,slow=7.9,SNR=410						
ASAR				PcP	PcP	04 57 14.4	+0.4
	2.2nm,0.7s,baz=105,slow=3.9,SNR=5.5						
ASAR				S	**S**	**05 02 14.9**	**-0.9**
	1.1nm,1.0s,baz=91,slow=15,SNR=6.7						
ASAR	**Alice Springs**	**47.52**	**253**	P	**P**	**04 55 50.7**	**-0.2**
ASAR				PcP	PcP	04 57 14.4	+0.4
ASAR				S	**S**	**05 02 14.9**	**-0.9**
FORT	**Forrest**	**52.85**	**243**	*e*P	**P**	**04 56 29.7**	**-0.6**
FORT	**Forrest**	**52.85**	**243**	*e*P	**P**	**04 56 29.5**	**-0.8**
	34nm,0.7s,mb4.7						
MBWA	**Marble Bar**	**60.77**	**255**	*e*P	**P**	**04 57 25.1**	**-0.3**
	7.4nm,0.6s,mb4.3						
KLBR	**Kellerberrin**	**61.68**	**243**	*e*P	**P**	**04 57 30.8**	**-0.5**
	28nm,0.8s,mb4.8						
VNDA	**Vanda**	**62.36**	**185**	*e*P	**P**	**04 57 36.0**	**+1.0**
	7.6nm,1.0s,mb4.2						
QSPA	**South Pole Qui**	**73.86**	**180**	*e*P	**P**	**04 58 46.6**	**+1.0**
	17nm,1.1s,mb4.6						
NVAR	**Mina Array Bea**	**76.58**	**43**	P	**P**	**04 59 01.0**	**-0.5**
	0.5nm,0.8s,mb3.2,baz=224,slow=9.9,SNR=4.1						
NVAR	**Mina Array Bea**	**76.58**	**43**	P	**P**	**04 59 01.0**	**-0.5**
TXAR	**Lajitas Array**	**83.11**	**57**	P	**P**	**04 59 35.1**	**-1.3**
	0.6nm,0.7s,mb3.5,baz=228,slow=7.1,SNR=8.1						
TXAR	**Lajitas Array**	**83.11**	**57**	P	**P**	**04 59 35.0**	**-1.3**
ILAR	**Eielson Array**	**83.71**	**12**	P	**P**	**04 59 38.4**	**-0.1**
	0.5nm,0.7s,mb3.4,baz=214,slow=6.4,SNR=5.3						
ILAR	**Eielson Array**	**83.71**	**12**	P	**P**	**04 59 38.4**	**-0.1**
IPM	**Ipoh**	**84.54**	**276**	*e*P	**P**	**04 59 45.0**	**+1.1**
	11nm,0.9s,mb4.6						
CMAR	**Chiang Mai Arr**	**90.52**	**289**	P	**P**	**05 00 12.9**	**+0.8**
	0.8nm,0.4s,mb4.0,baz=78,slow=2.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**90.52**	**289**	P	**P**	**05 00 12.9**	**+0.8**
SNAA	**Sanae**	**92.24**	**178**	*e*P	**P**	**05 00 20.5**	**+1.5**
	1.5nm,0.8s,mb4.0						
TKM2	**Tokmak 2**	**114.28**	**310**	*e*PKP	PKiKP	05 05 46.4	-0.5
BVAR	**Borovoye Array**	**116.97**	**322**	PKP	PKPdf	05 05 50.9	-0.8
	1.0nm,0.7s,baz=94,slow=4.6,SNR=5.0						
BVAR	**Borovoye Array**	**116.97**	**322**	PKP	PKPdf	05 05 50.9	-0.8
ARU	**Arti**	**122.69**	**327**	*e*PKPdf	PKPdf	05 06 02.6	0.0
ARCES	**ARCESS Array B**	**125.02**	**351**	PKP	PKPdf	05 06 05.9	-0.8
	8.6nm,1.0s,baz=18,slow=3.2,SNR=3.6						
ARCES	**ARCESS Array B**	**125.02**	**351**	PKP	PKPdf	05 06 05.9	-0.8
FINES	**FINESS Array B**	**132.13**	**346**	PKP	PKPdf	05 06 19.4	-1.0
	2.5nm,1.0s,baz=42,slow=4.3,SNR=5.0						
FINES	**FINESS Array B**	**132.13**	**346**	PKP	PKPdf	05 06 19.4	-1.0
KMBO	**Kilima Mbogo**	**142.96**	**245**	*e*PKPdf	PKPdf	05 06 40.3	-1.5
BUR08	**Bucovina Ar. S**	**144.09**	**335**	*e*PKPdf	PKPdf	05 06 42.8	+0.1
CLL	**Collm**	**144.23**	**350**	*e*PKPdf	PKPdf	05 06 42.0	-0.8
TLCR		**144.37**	**329**	⇓*i*P	PKPdf	05 06 43.3	0.0
MORC	**Moravsky Berou**	**144.75**	**345**	*e*PKPbc	PKPdf	05 06 44.2	+0.5
MORC	**Moravsky Berou**	**144.75**	**345**	⇓*i*P	PKPdf	05 06 44.6	+0.8
BR131	**Keskin Array S**	**145.15**	**318**	*e*PKPbc	PKPbc	05 06 45.9	+0.6
BRTR	**Keskin Array B**	**145.15**	**318**	PKPbc	PKPbc	05 06 45.8	+0.5
	5.5nm,0.9s,baz=132,slow=4.6,SNR=23						
BRTR	**Keskin Array B**	**145.15**	**318**	PKPbc	PKPbc	05 06 45.8	+0.5
VYHS	**Vyhne**	**145.57**	**343**	*e*PKP	PKPdf	05 06 47.3	+2.1
DRGR		**145.76**	**337**	⇑*i*P	PKPdf	05 06 47.2	+1.6
GERES	**GERESS Array B**	**146.48**	**348**	PKPbc	PKPbc	05 06 47.3	-1.5
	0.5nm,0.5s,baz=23,slow=3.5,SNR=2.7						
GERES	**GERESS Array B**	**146.48**	**348**	PKPbc	PKPbc	05 06 47.3	-1.5
GZR	**Gura Zlata**	**146.90**	**336**	⇑*i*P	PKPbc	05 06 50.5	+0.4
BZS	**Buzias**	**147.16**	**337**	⇓*i*P	PKPbc	05 06 51.3	+0.5
VTS	**Vitosha**	**148.98**	**332**	⇑*i*P	PKPbc	05 06 56.5	+0.9
TORD	**Torodi Ar. Bea**	**176.23**	**143**	PKP	PKPdf	05 07 16.5	-1.3
	0.7nm,0.9s,baz=214,slow=1.1,SNR=4.9						
TORD				PKPab	PKPab	05 08 59.5	-1.0
	0.6nm,0.8s,baz=244,slow=4.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**176.23**	**143**	PKP	PKPdf	05 07 16.5	-1.3
TORD				PKPab	PKPab	05 08 59.5	-1.0

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*IDC **28** 04:48:12.2±1.6, 5°.63N×125°.67E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.7/24, Error ellipse: s-maj=160.8km s-min=21.6km az=67.0*
*ISCJB **28** 04:48:22.6±1.1, 5°.73N±0°.10×126°.5E±0°.1, h107km±13km, mb3.5/4, Error ellipse: s-maj=22.8km s-min=16.0km az=2.0*
*MAN **28** 04:48:23, 5°.87N×126°.74E, h95km, mb4.9, ML3.8, MS3.9*
ISC 28 04:48:23.6±1.2, 5°.72N±0°.10×126°.5E±0°.1, h92km±14km, n9, σ1§04/12, mb3.5/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.24**	**348**	*e*P	**Pn**	**04 48 46.1**	**-0.2**
MATI				*e*S	**Sn**	**04 49 01.8**	**-1.6**
GSPH	**General Santos**	**1.59**	**283**	*e*P	**Pn**	**04 48 49.5**	**-1.1**
GSPH				*e*S	**Sn**	**04 49 10.6**	**-0.5**
DMPH	**Davao City--Mi**	**1.68**	**324⇑**	*e*P	**Pn**	**04 48 52.1**	**+0.4**
DMPH				*e*S	**Sn**	**04 49 15.0**	**+1.9**
BUKP	**Musuan**	**2.58**	**326**	*e*P	**Pn**	**04 49 04.9**	**+1.3**
BUKP				*e*S	**Sn**	**04 49 34.5**	**+0.3**
KAPI	**Kappang**	**12.62**	**212**	LR	LR	04 55 15.4	
	comp=Z,62nm,18.6s,baz=81,slow=35						
WRA	**Warramunga Arr**	**26.64**	**163**	P	**P**	**04 53 54.7**	**+1.0**
	0.3nm,0.3s,mb3.3,baz=343,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**30.09**	**166**	P	**P**	**04 54 24.4**	**0.0**
	0.3nm,0.3s,mb3.3,baz=342,slow=7.1,SNR=7.2						
MKAR	**Makanchi Array**	**55.81**	**325**	P	**P**	**04 57 47.3**	**-3.8**
	0.4nm,0.5s,mb3.7,baz=118,slow=7.1,SNR=8.2						
ZALV	**Zalesovo Beam**	**58.73**	**333**	P	**P**	**04 58 10.6**	**-0.9**
	0.3nm,0.3s,mb3.7,baz=96,slow=8.8,SNR=3.4						

DJA 28 04:50:42, 1°.54N×121°.22E, h14km, MLv4.4/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.28**	**146**	P	Pn	04 51 05.9	+0.4
MRSI				S	Sb	04 51 20.9	-1.3
GTOI	**Gorontalo**	**2.00**	**117**	P	Pn	04 51 17.2	+1.8
GTOI				S	Sn	04 51 41.3	+1.0
APSI	**Ampana**	**2.47**	**170**	P	Pn	04 51 21.7	-0.2
APSI				S	Sn	04 51 54.6	+2.7
LUWI	**Luwuk**	**3.00**	**149**	P	Pn	04 51 29.6	+0.5
LUWI				S	Sn	04 52 08.4	+3.5
TTSI	**Tana Toraja**	**4.76**	**197**	P	Pn	04 51 53.6	+0.2
PAGZ	**Pagadian**	**6.63**	**19**	*e*P	Pg	04 52 58.4	+9.4

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*NEIC **28** 05:00:30.4±3.3, 30°.18S×179°.20W, h318km±27km, mb3.8/3, Error ellipse: s-maj=37.0km s-min=18.1km az=52.0*
*IDC **28** 05:00:32.6±6.1, 30°.23S×179°.31W, h331km±53km, mb3.3/4, mb1 3.4/5, mb1mx3.3/15, mbtmp3.3/5, Error ellipse: s-maj=59.0km s-min=25.3km az=30.0*
ISC 28 05:00:39.9±1.7, 30°.95±0°.1×179.7W±0°.4, h385km±20km, n40, σ1§15/35, mb3.6/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.83**	**193**	SN	**S**	**05 03 43.9**	**+0.3**
PUZ	**Puketiti**	**7.33**	**193**	*e*PN	**Pn**	**05 02 27.3**	**+0.6**
PUZ				SN	**S**	**05 03 53.7**	**-0.4**
URZ	**Urewera**	**7.78**	**199**	P	**Pn**	**05 02 32.3**	**+0.5**
	1.3nm,0.3s,baz=338,slow=2.7,SNR=12						
URZ				S	**S**	**05 04 04.5**	**+1.0**
	2.0nm,0.3s,baz=108,slow=22,SNR=11						
URZ	**Urewera**	**7.78**	**199**	P	**Pn**	**05 02 32.3**	**+0.5**
URZ				S	**S**	**05 04 04.5**	**+1.0**
URZ	**Urewera**	**7.78**	**199**	*e*PN	**Pn**	**05 02 31.8**	**-0.1**
URZ				*e*SN	**S**	**05 04 04.5**	**+1.0**
KNZ	**Kokohu**	**8.37**	**194**	*e*PN	**Pn**	**05 02 40.0**	**+1.4**
RAHZ	**Arahi**	**8.40**	**197**	*e*PN	**Pn**	**05 02 41.2**	**+2.1**
BKZ	**Black Stump Fm**	**8.80**	**200**	*e*PN	**Pn**	**05 02 41.9**	**-1.8**
BKZ				*e*SN	**S**	**05 04 25.5**	**+0.3**
KAHZ	**Kahuranaki**	**9.29**	**197**	*e*PN	**Pn**	**05 02 49.7**	**+0.2**
PXZ	**Pawanui**	**9.52**	**196**	*e*PN	**Pn**	**05 02 51.3**	**-0.6**
PXZ				*e*SN	**S**	**05 04 37.1**	**-3.4**
BFZ	**Birch Farm**	**10.28**	**197**	*e*SN	**S**	**05 04 53.2**	**-3.8**
MRZ	**Mangatainoka R**	**10.45**	**200**	*e*PN	**Pn**	**05 03 02.5**	**-0.4**
MRZ				*e*SN	**S**	**05 04 56.0**	**-4.7**
OGWZ	**Otaki Gorge**	**10.72**	**201**	*e*PN	**Pn**	**05 03 03.9**	**-2.1**
THZ	**Tophouse**	**12.35**	**207**	*e*PN	**Pn**	**05 03 23.3**	**-1.8**
KHZ	**Kahutara**	**12.69**	**203**	*e*P	**P**	**05 03 28.9**	**+1.5**
KHZ				S	**S**

HLID Hailey 3.08 253 *e*Pn **Pn 05 16 48.2 +1.4**
CHMT Chamberlain Mo 3.13 321 *e*Pn **Pn 05 16 48.8 +1.2**
HVU Hansel Valley 3.26 214 *e*Pn **Pn 05 16 50.2 +0.8**
SLMT Seeley Lake 3.48 322 *e*Pn **Pn 05 16 53.5 +1.0**
SLMT *e*Sg **Sg 05 17 50.9 +0.8**
EGMT Eagleton 3.52 7 *e*Pn **Pn 05 16 54.1 +1.1**
EGMT *e*Sg **Sg 05 17 50.6 -0.7**
LAO LASA Array 3.62 52 *e*Pn **Pn 05 16 57.1 +2.7**
SWMT Swartz Lake 3.91 321 *e*Pn **Pn 05 16 59.4 +1.1**
JLU Jordanelle 4.00 192 *e*Pn **Pn 05 17 01.0 +1.4**
MFID Camas Ranch 4.10 256 *e*Pn **Pn 05 17 01.7 +0.8**
DAU Daniels Canyon 4.17 189 *e*Pn **Pn 05 17 03.1 +1.3**
YBMT Yellow Bay 4.19 324 *e*Pn **Pn 05 17 03.5 +1.3**
JTMT Jette 4.22 321 *e*Pn **Pn 05 17 03.2 +0.7**
BSMT Bassoo Peak 4.53 319 *e*Pn **Pn 05 17 08.3 +1.6**
RSSD Black Hills 4.56 93 *e*Pn **Pn 05 17 08.2 +0.9**
MPU Maple Canyon 4.61 192 *e*Pn **Pn 05 17 12.8 +4.9**
DUG Dugway 4.69 204 *e*Pn **Pn 05 17 10.1 +1.0**
PHWY Pilot Hill 4.83 130 *e*Pn **Pn 05 17 11.6 +0.5**
BMO Blue Mountains 4.96 276 *e*Pn **Pn 05 17 14.4 +1.7**
ELK Elko 5.22 225 *e*Pn **Pn 05 17 20.7 +4.4**
TMUT Trail Mountain 5.26 187 *e*Pn **Pn 05 17 20.9 +4.0**
SRU San Rafael 5.41 181 *e*Pn **Pn 05 17 21.0 +2.0**
LNOR Lincton Mounta 5.76 286 *e*Pn **Pn 05 17 26.4 +2.7**
SMCO Snowmass 5.91 153 *e*Pn **Pn 05 17 26.8 +0.9**
NEW Newport 5.98 311 *e*Pn **Pn 05 17 27.0 +0.3**
10nm,0.6s
MSU Marysvale 6.16 193 *e*Pn **Pn 05 17 31.9 +2.6**
PV04 Paradox Valley 6.23 169 *e*Pn **Pn 05 17 30.8 +0.6**
OGNE Ogallala 7.10 117 *e*Pn **Pn 05 17 42.8 +0.6**
CCUT Cedar City 7.33 199 *e*Pn **Pn 05 17 49.3 +4.0**
MVCO Mesa Verde 7.45 168 *e*Pn **Pn 05 17 47.6 +0.7**
ETW Entiat 7.58 297 *e*Pn **Pn 05 17 49.8 +1.0**
ETW *e*Sg **Sg 05 19 56.7 -4.8**
SDCO Great Sand Dun 7.70 150 *e*Pn **Pn 05 17 52.7 +2.3**
NVAR Mina Array Bea 8.52 227 Pn **Pn 05 18 00.2 -1.4**
0.0nm,0.3s,baz=39,slow=12,SNR=2.5
NVAR Mina Array Bea 8.52 227 Pn **Pn 05 18 00.2 -1.4**
ECSD EROS Data Cent 9.92 90 *e*Pn **Pn 05 18 20.5 -0.3**
ANMO Albuquerque 10.03 161 Pn **Pn 05 18 17.3 -5.0**
0.0nm,0.3s,baz=342,slow=19,SNR=2.3
ANMO Lg 05 21 11.0
0.4nm,0.3s,baz=343,slow=19,SNR=2.7
ANMO Albuquerque 10.03 161 Pn **Pn 05 18 17.3 -5.0**
ANMO Lg 05 21 11.0
AGMN Agassiz Nation 10.70 64 *e*Pn **Pn 05 18 31.1 -0.4**
ULM Lac du Bonnet 11.36 55 Pn **Pn 05 18 37.4 -3.1**
1.8nm,0.3s,baz=237,slow=11,SNR=17
ULM Lg 05 21 45.9
0.3nm,0.3s,baz=187,slow=13,SNR=2.8
ULM LR LR 05 23 49.4
comp=Z,183nm,19.2s,baz=214,slow=41
ULM Lac du Bonnet 11.36 55 *e*Pn **Pn 05 18 38.5 -2.0**
ULM Lg 05 21 45.9
FFC Flin Flon 11.55 25 *e*Pn **Pn 05 18 42.5 -0.6**
KSU1 Kansas State U 11.60 113 *e*Pn **Pn 05 18 45.5 +1.6**
WMOK Wichita Mounta 13.22 134 *e*Pn **Pn 05 19 04.6 -1.5**
JCT Junction City 16.32 146 *e*Pn **Pn 05 19 48.9 +1.5**
15nm,1.1s
MIAR Mount Ida 16.32 122 *e*Pn **Pn 05 19 47.0 -0.4**
17nm,1.4s
UALR University of 16.92 119 *e*Pn **Pn 05 19 57.8 +2.8**
21nm,1.1s
YKA Yellowknife Ar 18.17 354 Pn **Pn 05 20 08.1 -2.2**
0.1nm,0.3s,baz=166,slow=11,SNR=11
YKA Lg 05 25 22.3
0.0nm,0.3s,baz=165,slow=26,SNR=3.7
YKA LR LR 05 27 12.9
comp=Z,9.1nm,21.2s,baz=45,slow=37
YKA Yellowknife Ar 18.17 354 Pn **Pn 05 20 08.2 -2.2**
YKA Lg 05 25 22.3
DLBC Dease Lake 18.44 326 LR LR 05 27 49.5
comp=Z,585nm,19.5s,baz=191,slow=38
WVT Waverly 19.08 108 *e*P **Pn 05 20 20.2 -1.3**
14nm,1.2s
ACSO Alum Creek Sta 20.64 92 *e*P **P 05 20 42.2 +4.4**
11nm,0.8s
LRAL Lakeview Retre 21.45 114 *e*P **P 05 20 46.0 -0.6**
15nm,1.0s,mb4.3
TKL Tuckaleechee C 22.11 104 P **P 05 20 52.8 -0.9**
1.2nm,0.6s,mb3.5,baz=294,slow=6.5,SNR=2.2
TKL LR LR 05 30 27.3
comp=Z,215nm,21.7s,MS3.5,baz=292,slow=40
TKL Tuckaleechee C 22.11 104 P **P 05 20 52.8 -0.9**
ILAR Eielson Array 28.63 328 P **P 05 21 54.4 0.0**
0.8nm,0.8s,mb3.5,baz=121,slow=8.1,SNR=11
ILAR Eielson Array 28.63 328 P **P 05 21 54.4 0.0**
TEIG Tepich 30.39 136 LR LR 05 37 01.1
comp=Z,123nm,19.9s,MS3.5,baz=293,slow=42
RES Resolute Bay 31.03 8 LR LR 05 35 50.8
comp=Z,158nm,18.5s,MS3.7,baz=187,slow=38
NNA Nana 63.94 143 LR LR 05 58 14.9
comp=Z,38nm,18.7s,MS3.6,baz=228,slow=40
ESDC Sonseca Array 73.23 51 LR LR 05 57 55.7
comp=Z,51nm,20.4s,MS3.8,baz=150,slow=34
ZALV Zalesovo Beam 81.05 351 P **P 05 28 11.5 -1.5**
0.3nm,0.3s,mb3.7,baz=359,slow=6.2,SNR=3.3
ZALV Zalesovo Beam 81.05 351 P **P 05 28 11.5 -1.5**
CBIJ Chichi jima 82.80 301 LR LR 05 58 11.9
comp=Z,71nm,21.2s,MS4.0,baz=317,slow=31
MKAR Makanchi Array 88.38 351 P **P 05 28 49.5 -0.6**
0.8nm,1.0s,mb3.9,baz=343,slow=4.5,SNR=2.7
MKAR Makanchi Array 88.38 351 P **P 05 28 49.5 -0.6**
TORD Torodi Ar. Bea 95.95 65 LR LR 06 11 58.3
comp=Z,63nm,19.4s,MS4.1,baz=205,slow=35

*BJI **28** 05:17:03.9,32°.47N×116°.14W,h12km,mB5.3/5,mb4.8/8, Ms7 4.8/2*
*IDC **28** 05:17:06.0±1.9,32°.22N×115°.51W,h0km,mb3.8/2, mb1 4.0/5,mb1mx3.7/26,mbtmp3.7/5,ML3.9/3,MS3.5/5, Ms1 3.5/5,ms1mx3.2/37,Error ellipse: s-maj=38.4km s-min=10.5km az=39.0*
*NEIC **28** 05:17:07.0,32°.57N×115°.54W,h10km,ML4.5(PAS), ML4.5(ECX),MW4.3(SLM),After PAS.*
NEIC Felt [V] at Mexicali. Also felt at Progreso. Felt [II] at San Luis Rio Colorado, Sonora. Felt [IV] at Calexico; [III] at El Centro, Heber, Holtville, Imperial and Lakeside; [II] at Brawley and San Diego, California. Felt in many parts of Orange, Riverside and San Diego Counties. Felt [II] at San Luis and Yuma, Arizona. Also felt at Somerton.
*ECX **28** 05:17:08.9±0.5,32°.57N×115°.53W,h8km,MD4.5,MW4.6*
ISC 28 05:17:07.5±0.4,32°.56N±0°.03×115°.52W±0°.02,h15km±3km, n51,σ0°.99/65,mb4.4/2,MS3.8/3,7C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.20**	**298**	⇑*i*P	**Pg**	**05 17 12.2**	**0.0**
SNR	**Schaffner Ranc**	**0.31**	**12**	⇓*i*P	**Pg**	**05 17 14.7**	**+0.7**
COK	**Cook Ranch**	**0.34**	**329**	⇓*i*P	**Pg**	**05 17 14.9**	**+0.4**
YUH	**Yuha Desert**	**0.35**	**285**	⇑*i*P	**Pg**	**05 17 14.7**	**-0.1**
COA	**Coachella**	**0.45**	**47**	⇓*i*P	**Pg**	**05 17 16.9**	**+0.4**
RMX	**La Rumorosa**	**0.48**	**276**	⇑*e*P	**Pg**	**05 17 17.2**	**+0.2**
RMX				*e*S	**Sg**	**05 17 23.8**	**+0.4**
CRR	**Carrizo Plain**	**0.51**	**311**	⇓*i*P	**Pg**	**05 17 17.6**	**+0.1**
RDX	**Rancho Dawling**	**0.72**	**210**	⇓*i*P	**Pg**	**05 17 21.4**	**-0.1**
RDX				*e*S	**Sg**	**05 17 30.8**	**-0.3**
GLA	**Glamis**	**0.76**	**49**	*e*Pg	**Pg**	**05 17 21.1**	**-1.3**
GLA				*e*Sg	**Sg**	**05 17 31.5**	**-0.9**
BAR	**Barrett**	**0.98**	**278**	*e*Pg	**Pg**	**05 17 25.8**	**-0.7**
BAR				*e*Sg	**Sg**	**05 17 38.9**	**-0.5**
CBX	**Cerro Bola**	**1.00**	**256**	⇑*e*P	**Pb**	**05 17 26.5**	**+0.1**
CBX				*e*S	**Sb**	**05 17 39.7**	**+0.3**
ECNX	**Esteban Cantu**	**1.28**	**226**	⇑*i*P	**Pn**	**05 17 31.2**	**+0.4**
ECNX				⇑*e*P		05 17 29.7	
ECNX				*e*S	**Sb**	**05 17 45.4**	**-2.1**
ECNX				*e*S	**Sb**	**05 17 48.5**	**+1.0**
PBX	**Punta Banda**	**1.31**	**232**	⇑*i*P	**Pn**	**05 17 31.5**	**+0.4**
PBX				*e*S	**Sb**	**05 17 49.2**	**+0.9**
PFO	**Pinyon Flat Ob**	**1.31**	**323**	*e*Pn	**Pn**	**05 17 29.8**	**-1.4**
PFO				*e*Sn	**Sn**	**05 17 46.2**	**-2.3**
LDFC	**Landfair**	**2.54**	**8**	*e*Pn	**Pn**	**05 17 48.2**	**+0.1**
MWC	**Mount Wilson**	**2.70**	**309**	*e*Pn	**Pn**	**05 17 50.6**	**+0.3**
MWC				*e*Sn	**Sn**	**05 18 31.5**	**+8.8**
PASC	**Pasadena Art C**	**2.75**	**307**	*e*Pn	**Pn**	**05 17 53.6**	**+2.5**
PASC				*e*Sn	**Sn**	**05 18 30.8**	**+6.8**
OSI	**Osito Adit**	**3.37**	**308**	*e*Pn	**Pn**	**05 17 59.0**	**-0.6**
ISA	**Isabella**	**3.95**	**322**	*e*Pn	**Pn**	**05 18 06.0**	**-1.5**
TUC	**Tucson**	**4.01**	**92**	*e*Pn	**Pn**	**05 18 06.5**	**-1.8**
WUAZ	**Wupatki**	**4.53**	**48**	*e*Pn	**Pn**	**05 18 16.6**	**+1.1**
MTUM	**Tungsten Hills**	**5.40**	**333**	*e*Pn	**Pn**	**05 18 28.4**	**+1.0**
NVAR	**Mina Array Bea**	**6.29**	**340**	Pn	**Pn**	**05 18 45.2**	**+5.6**
	0.7nm,0.3s,baz=166,slow=16,SNR=12						
NVAR				Lg		05 20 33.5	
	baz=155,slow=37,SNR=1.7						
NVAR	**Mina Array Bea**	**6.29**	**340**	Pn	**Pn**	**05 18 45.2**	**+5.6**
NVAR				Lg		05 20 33.5	
SAO	**San Andreas Ge**	**6.44**	**312**	*e*Pn	**Pn**	**05 18 42.2**	**+0.5**
CMB	**Columbia Colle**	**6.76**	**325**	*e*Pn	**Pn**	**05 18 45.8**	**-0.3**
LAZ	**Ladron**	**7.24**	**73**	*e*Pn	**Pn**	**05 18 46.2**	**-6.4**
LENM	**Lemitar**	**7.33**	**75**	*e*Pn	**Pn**	**05 18 54.8**	**+1.0**
LENM				*e*Sn	**Sn**	**05 20 17.7**	**+1.0**
WCN	**Washoe City**	**7.56**	**334**	*e*Pn	**Pn**	**05 18 57.2**	**+0.2**
WCN				*e*Pg	Pn	05 19 34.6	+38
WCN				*e*Sg	Sn	05 21 16.1	+54
BNM	**Barren Site**	**7.61**	**76**	*e*Pn	**Pn**	**05 18 58.5**	**+0.8**
	18nm,0.5s						
BNM				*e*Sn	**Sn**	**05 20 23.0**	**-0.6**
LPM	**Los Pinos Moun**	**7.63**	**74**	*e*Pn	**Pn**	**05 18 59.0**	**+0.9**
LPM				*e*Sn	**Sn**	**05 20 25.3**	**+1.1**
ANMO	**Albuquerque**	**7.91**	**70**	Pn	**Pn**	**05 19 03.2**	**+1.4**
	0.7nm,0.3s,baz=252,slow=12,SNR=15						
ANMO	**Albuquerque**	**7.91**	**70**	*e*Pn	**Pn**	**05 19 02.3**	**+0.4**
	19nm,0.8s						
MNTX	**Cornudas Mount**	**8.64**	**93**	*e*Pn	**Pn**	**05 19 11.5**	**-0.3**
	6.8nm,0.4s						
MNTX				*e*Sn	**Sn**	**05 20 44.6**	**-4.4**
GDL2	**Guadalupe Moun**	**9.44**	**89**	Pn	**Pn**	**05 19 21.7**	**-1.1**
GDL2				*e*Sn	**Sn**	**05 21 08.2**	**-0.5**
CPRX	**Cap Rock**	**9.82**	**84**	*e*Pn	**Pn**	**05 19 27.5**	**-0.5**
	18nm,0.5s						
CPRX				*e*Sn	**Sn**	**05 21 18.7**	**+0.7**
CLNB	**Carlsbad**	**9.84**	**89**	*e*Pn	**Pn**	**05 19 28.5**	**+0.1**
	36nm,0.8s						
TXAR	**Lajitas Array**	**10.67**	**104**	Pn	**Pn**	**05 19 40.6**	**+0.9**
	0.7nm,0.3s,baz=279,slow=14,SNR=43						
TXAR				Sn	**Sn**	**05 21 37.5**	**-1.3**
	0.3nm,0.3s,baz=283,slow=20,SNR=2.8						
TXAR				Lg		05 22 38.6	
	0.1nm,0.3s,baz=281,slow=33,SNR=3.2						
TXAR				LR	LR	05 24 10.8	
	comp=Z,302nm,21.7s,baz=160,slow=40						
TXAR	**Lajitas Array**	**10.67**	**104**	Pn	**Pn**	**05 19 40.6**	**+0.9**
TXAR				Sn	**Sn**	**05 21 37.5**	**-1.3**
TXAR				Lg		05 22 38.6	
CMIG	**Matias Romero**	**24.18**	**125**	P	**P**	**05 22 22.9**	**-0.3**
	4.1nm,0.9s,mb3.9,baz=316,slow=8.8,SNR=10						
CMIG				LR	LR	05 31 56.8	
	comp=Z,169nm,19.3s,MS3.5,baz=204,slow=37						
CMIG	**Matias Romero**	**24.18**	**125**	P	**P**	**05 22 22.9**	**-0.3**
YKA	**Yellowknife Ar**	**29.96**	**1**	LR	LR	05 36 24.1	
	comp=Z,16nm,19.8s,baz=285,slow=38						
ILAR	**Eielson Array**	**37.54**	**339**	P	**P**	**05 24 23.2**	**+2.7**
	0.7nm,0.8s,baz=156,slow=7.2,SNR=5.7						
ILAR	**Eielson Array**	**37.54**	**339**	P	**P**	**05 24 23.2**	**+2.7**
CN2	**Changchun**	**85.84**	**321**	*e*P	**P**	**05 29 40.0**	**-6.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.9						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
KSRS	**Korea Array**	**88.64**	**315**	LR	LR	06 06 45.7	
	comp=Z,41nm,19.4s,MS3.9,baz=123,slow=34						
SONM	**Songino Array**	**91.59**	**333**	LR	LR	06 10 39.7	
	comp=Z,74nm,19.4s,MS4.1,baz=27,slow=35						
HHC	**Hu-ho-hao-te**	**95.01**	**326**	*e*P	**P**	**05 30 27.0**	**-2.5**
HHC				pP	pP	05 30 35.3	+0.6
HHC				sP	sP	05 30 38.3	+1.8
HHC				PP	PP	05 34 18.3	+0.3
HHC				SKS		05 40 59.0	
HHC				S	S	05 41 37.0	-6.6
HHC				sS	sS	05 41 50.0	-2.1
HHC				SS	SS	05 48 04.0	-3.4
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,6.1s						
HHC				LR	LR		
	comp=Z,260nm,17.8s						
NJ2	**Nanjing**	**97.75**	**316**	*e*P	**P**	**05 30 40.3**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
WMQ	**Urumqi**	**101.09**	**343**	*e*P	Pdif	05 30 56.5	-0.3
LZH	**Lanzhou**	**102.41**	**328**	*e*P	Pdif	05 31 02.0	-0.6
LZH				pP		05 31 07.0	
LZH				sP		05 31 09.3	
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						

*IDC **28** 05:22:52.6±1.1,36°.01N×27°.98E,h0km,mb3.7/8, mb1 3.7/14,mb1mx3.6/28,mbtmp3.5/14,ML3.4/5,Error ellipse: s-maj=20.8km s-min=18.3km az=30.0*
*DDA **28** 05:22:57.9,35°.70N×27°.74E,h27km,Md3.2*
*ISCJB **28** 05:22:58.7±0.2,35°.80N±0°.02×28°.01E±0°.02,h73km±3km, mb3.7/12,Error ellipse: s-maj=3.5km s-min=3.1km az=176.3*
*ISK **28** 05:22:58.1,35°.84N×27°.88E,h21km,MD3.5*
*ATH **28** 05:22:59.9,35°.86N×27°.91E,h59km±1km,MD3.6/13*
*NEIC **28** 05:22:59.3±0.6,35°.80N×27°.97E,h71km±7km,MD3.5(ISK), Error ellipse: s-maj=10.8km s-min=7.5km az=197.0*
*CSEM **28** 05:23:00.1±0.1,35°.78N×27°.99E,h66km±2km,mb4.2/4, Error ellipse: s-maj=3.4km s-min=2.9km az=19.0*
*THE **28** 05:23:03.7,35°.98N×27°.68E,h14km±2km,ML3.8/3,Error ellipse: s-maj=2.8km s-min=0.7km az=116.0*
*HLW **28** 05:23:05.3,35°.49N×28°.00E,h32km±15km,Md3.5,Ml3.3*
ISC 28 05:23:00.1±0.2,35°.82N±0°.02×27°.99E±0°.02,h66km±3km, n236,σ1s17/291,mb3.7/12,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.41**	**16**	*e*P	**Pn**	**05 23 11.7**	**0.0**
ARG				*e*S	**Sn**	**05 23 19.8**	**-0.4**
ARG	**Arkhangelos**	**0.41**	**16**	P	**Pn**	**05 23 11.7**	**0.0**
ARG				S	**Sn**	**05 23 19.4**	**-0.8**
ARG	**Arkhangelos**	**0.41**	**16**	P	**Pn**	**05 23 11.7**	**0.0**
ARG				S	**Sn**	**05 23 19.4**	**-0.8**
ARG	**Arkhangelos**	**0.41**	**16**	*e*P	**Pn**	**05 23 11.7**	**0.0**
ARG				*e*S	**Sn**	**05 23 19.8**	**-0.4**
KARP	**Karpathos**	**0.73**	**248**	*e*P	**Pn**	**05 23 14.7**	**-0.3**
KARP				*e*S	**Sn**	**05 23 25.0**	**-1.0**
KARP	**Karpathos**	**0.73**	**248**	P	**Pn**	**05 23 14.7**	**-0.3**
KARP				S	**Sn**	**05 23 25.0**	**-1.0**
KARP	**Karpathos**	**0.73**	**248**	P	**Pn**	**05 23 14.7**	**-0.3**
KARP	**Karpathos**	**0.73**	**248**	*e*P	**Pn**	**05 23 14.7**	**-0.3**
KARP				*e*S	**Sn**	**05 23 25.0**	**-1.0**
DAT	**Datca**	**0.96**	**340**	PG	**Pn**	**05 23 16.9**	**-1.1**
DAT				*e*SG	**Sn**	**05 23 29.8**	**-1.4**
DAT	**Datca**	**0.96**	**340**	*i* Pg	**Pn**	**05 23 16.9**	**-1.0**
DAT				*e*Sg	**Sn**	**05 23 29.8**	**-1.4**
NIS1	**Nisyros Isl.**	**1.02**	**320**	P	**Pn**	**05 23 18.1**	**-0.5**
NIS1				S	**Sn**	**05 23 28.5**	**-3.9**
NIS1	**Nisyros Isl.**	**1.02**	**320**	P	**Pn**	**05 23 18.1**	**-0.5**
NIS1				S	**Sn**	**05 23 28.5**	**-3.9**
NIS1	**Nisyros Isl.**	**1.02**	**320**	P	**Pn**	**05 23 18.1**	**-0.5**
NIS1				S	**Sn**	**05 23 28.5**	**-3.9**
NISR	**Nisiros**	**1.05**	**319**	P	**Pn**	**05 23 18.4**	**-0.6**
NISR	**Nisiros**	**1.05**	**319**	P	**Pn**	**05 23 18.4**	**-0.6**
TURN	**Turunc**	**1.16**	**25**	*i* P	**Pn**	**05 23 19.0**	**-1.4**
TURN				*i* S	**Sn**	**05 23 32.2**	**-3.4**
TURN	**Turunc**	**1.16**	**25**	*i* P	**Pn**	**05 23 19.0**	**-1.4**
TURN				*i* S	**Sn**	**05 23 32.2**	**-3.4**
YER	**Yerkesik**	**1.33**	**10**	*e*PN	**Pn**	**05 23 22.6**	**-0.1**
YER	**Yerkesik**	**1.33**	**10**	Pn	**Pn**	**05 23 22.6**	**-0.1**
YER	**Yerkesik**	**1.33**	**10**	*e*Pn	**Pn**	**05 23 22.6**	**-0.1**
KSL	**Kastellorizon**	**1.33**	**75**	*e*P	**Pn**	**05 23 24.1**	**+1.4**
KSL	**Kastellorizon**	**1.33**	**75**	*e*P	**Pn**	**05 23 24.1**	**+1.4**
BODT	**Bodrum**	**1.35**	**336**	*e*PN	**Pn**	**05 23 20.9**	**-2.1**
BODT				*e*SN	**Sn**	**05 23 38.8**	**-1.3**
BODT	**Bodrum**	**1.35**	**336**	Pn	**Pn**	**05 23 21.9**	**-1.1**
BODT				Sg	**Sn**	**05 23 38.9**	**-1.2**
BODT	**Bodrum**	**1.35**	**336**	Pn	**Pn**	**05 23 21.9**	**-1.1**
BODT				*e*Sn	**Sn**	**05 23 38.8**	**-1.3**
AKAS	**Kas**	**1.37**	**72**	P	**Pn**	**05 23 23.6**	**+0.4**
AKAS				S	**Sn**	**05 23 42.0**	**+1.4**
AKAS	**Kas**	**1.37**	**72**	*i* P	**Pn**	**05 23 23.6**	**+0.4**
AKAS				*i* S	**Sn**	**05 23 39.5**	**-1.0**
AKAS	**Kas**	**1.37**	**72**	*i* P	**Pn**	**05 23 23.6**	**+0.4**
AKAS				S	**Sn**	**05 23 42.0**	**+1.4**
ZKR	**Zakros**	**1.61**	**245**	*e*P	**Pn**	**05 23 27.2**	**+0.8**
ZKR	**Zakros**	**1.61**	**245**	P	**Pn**	**05 23 27.8**	**+1.4**
ZKR				S	**Sn**	**05 23 47.3**	**+1.0**
ZKR	**Zakros**	**1.61**	**245**	*e*P	**Pn**	**05 23 27.6**	**+1.2**
ZKR				S	**Sn**	**05 23 47.3**	**+1.0**
GLHS	**Glhisar (BURDU**	**1.80**	**42**	*e*PN	**Pn**	**05 23 29.5**	**+0.6**
GLHS	**Glhisar (BURDU**	**1.80**	**42**	*e*Pn	**Pn**	**05 23 29.5**	**+0.5**
ELL	**Elmali**	**1.80**	**59**	*e*PN	**Pn**	**05 23 30.0**	**+1.0**
ELL	**Elmali**	**1.80**	**59**	Pn	**Pn**	**05 23 30.0**	**+1.0**
ELL	**Elmali**	**1.80**	**59**	*e*Pn	**Pn**	**05 23 30.0**	**+1.0**
AYDN	**Tasoluk**	**1.84**	**357**	*i* P	**Pn**	**05 23 29.7**	**+0.3**
AYDN				*e*S	**Sn**	**05 23 49.5**	**-2.2**
AYDN	**Tasoluk**	**1.84**	**357**	*i* P	**Pn**	**05 23 29.7**	**+0.3**
AYDN				*e*S	**Sn**	**05 23 49.5**	**-2.2**
GOLH	**Golhisar**	**1.90**	**41**	*i* P	**Pn**	**05 23 31.6**	**+1.3**
GOLH				*i* S	**Sn**	**05 23 51.2**	**-2.0**
GOLH	**Golhisar**	**1.90**	**41**	*i* P	**Pn**	**05 23 31.6**	**+1.4**
GOLH				*i* S	**Sn**	**05 23 51.2**	**-1.9**
GCAM	**G?zelcaml?**	**1.97**	**342**	*i* P	**Pn**	**05 23 31.6**	**+0.3**
GCAM				*i* S	**Sn**	**05 23 54.3**	**-0.6**
GCAM	**G?zelcaml?**	**1.97**	**342**	*i* P	**Pn**	**05 23 31.6**	**+0.4**
GCAM				*i* S	**Sn**	**05 23 54.3**	**-0.6**
NPS	**Neapolis**	**2.02**	**255**	*e*P	**Pn**	**05 23 31.8**	**-0.1**
NPS				*e*S	**Sn**	**05 23 55.1**	**-1.0**
NPS	**Neapolis**	**2.02**	**255**	P	**Pn**	**05 23 32.3**	**+0.4**
NPS				S	**Sn**	**05 23 56.4**	**+0.3**
NPS	**Neapolis**	**2.02**	**255**	*e*P	**Pn**	**05 23 31.8**	**-0.1**
NPS				*e*S	**Sn**	**05 23 55.1**	**-1.0**
DNZL	**Cakiroluk**	**2.05**	**24**	*i* P	**Pn**	**05 23 33.8**	**+1.5**
DNZL				*i* S	**Sn**	**05 23 53.7**	**-3.1**
DNZL	**Cakiroluk**	**2.05**	**24**	*i* P	**Pn**	**05 23 33.8**	**+1.5**
DNZL				*i* S	**Sn**	**05 23 53.7**	**-3.1**
THR1	**Thera Island**	**2.12**	**286**	P	**Pn**	**05 23 32.8**	**-0.5**
THR1	**Thera Island**	**2.12**	**286**	P	**Pn**	**05 23 32.8**	**-0.5**
THR2	**Thira island,**	**2.16**	**288**	P	**Pn**	**05 23 33.4**	**-0.4**
THR2	**Thira island,**	**2.16**	**288**	P	**Pn**	**05 23 33.4**	**-0.4**
THR6	**Thira Island,**	**2.17**	**285**	P	**Pn**	**05 23 33.3**	**-0.6**
THR6	**Thira Island,**	**2.17**	**285**	P	**Pn**	**05 23 33.3**	**-0.6**
KORT	**Korkueli**	**2.24**	**58**	*i* P	**Pn**	**05 23 37.3**	**+2.5**
KORT				*i* S	**Sn**	**05 24 05.3**	**+3.9**
KORT	**Korkueli**	**2.24**	**58**	*i* P	**Pn**	**05 23 37.3**	**+2.5**
KORT				*i* S	**Sn**	**05 24 05.3**	**+3.9**
APE	**Apeiranthos**	**2.34**	**303**	*e*PN	**Pn**	**05 23 35.9**	**-0.4**
APE	**Apeiranthos**	**2.34**	**303**	*e*P	**Pn**	**05 23 36.1**	**-0.2**
APE				*e*S	**Sn**	**05 24 03.2**	**-0.7**
APE	**Apeiranthos**	**2.34**	**303**	P	**Pn**	**05 23 36.1**	**-0.2**
APE	**Apeiranthos**	**2.34**	**303**	Pn	**Pn**	**05 23 35.9**	**-0.4**
APE	**Apeiranthos**	**2.34**	**303**	P	**Pn**	**05 23 36.1**	**-0.2**
APE				*e*S	**Sn**	**05 24 03.2**	**-0.7**
ANTB	**Antalya**	**2.40**	**63**	*e*PN	**Pn**	**05 23 38.6**	**+1.5**
ANTB	**Antalya**	**2.40**	**63**	*e*Pn	**Pn**	**05 23 38.6**	**+1.5**
IZM	**Izmir**	**2.64**	**347**	*e*PN	**Pn**	**05 23 40.4**	**+0.2**
IZM	**Izmir**	**2.64**	**347**	Pn	**Pn**	**05 23 41.8**	**+1.6**
IZM	**Izmir**	**2.64**	**347**	*e*Pn	**Pn**	**05 23 40.4**	**+0.1**
BCK	**Bucak**	**2.65**	**51**	*e*PN	**Pn**	**05 23 41.8**	**+1.3**
BCK	**Bucak**	**2.65**	**51**	Pn	**Pn**	**05 23 41.8**	**+1.3**
BCK	**Bucak**	**2.65**	**51**	*e*Pn	**Pn**	**05 23 41.8**	**+1.3**
BLCB	**Balcova**	**2.67**	**344**	*e*PN	**Pn**	**05 23 40.6**	**-0.1**
BLCB	**Balcova**	**2.67**	**344**	*e*Pn	**Pn**	**05 23 40.6**	**-0.1**
SIVA	**Sivas**	**2.72**	**254**	*e*P	**Pn**	**05 23 42.2**	**+0.8**
SIVA	**Sivas**	**2.72**	**254**	P	**Pn**	**05 23 43.7**	**+2.3**
SIVA	**Sivas**	**2.72**	**254**	*e*P	**Pn**	**05 23 42.2**	**+0.8**
KULA	**Kula-Manisa**	**2.74**	**11**	*e*PN	**Pn**	**05 23 42.2**	**+0.5**
KULA	**Kula-Manisa**	**2.74**	**11**	*e*Pn	**Pn**	**05 23 42.2**	**+0.5**
KHAL	**Karahalli**	**2.81**	**25**	*i* P	**Pn**	**05 23 43.4**	**+0.8**
KHAL				*i* S	**Sn**	**05 24 13.8**	**-1.7**
KHAL	**Karahalli**	**2.81**	**25**	*i* P	**Pn**	**05 23 43.4**	**+0.7**
KHAL				*i* S	**Sn**	**05 24 13.8**	**-1.6**
CHOS	**Chios island**	**2.99**	**329**	*e*P	**Pn**	**05 23 45.1**	**0.0**
CHOS	**Chios island**	**2.99**	**329**	P	**Pn**	**05 23 45.3**	**+0.2**
CHOS				S	**Sn**	**05 24 18.2**	**-1.6**
CHOS	**Chios island**	**2.99**	**329**	*e*P	**Pn**	**05 23 45.1**	**0.0**
CHOS				S	**Sn**	**05 24 18.2**	**-1.6**
VAM	**Vamos**	**3.12**	**263**	*e*P	**Pn**	**05 23 48.1**	**+1.3**
VAM				*e*S	**Sn**	**05 24 22.0**	**-0.9**
VAM	**Vamos**	**3.12**	**263**	P	**Pn**	**05 23 48.5**	**+1.7

KOT	Kottamia	6.71 150	P	Pn	05 24 35.7	-0.2
MMAI	Mount Meron Ar	6.74 112	Pn	Pn	05 24 34.4	-1.9
	1.4nm,0.3s,baz=296,slow=11,SNR=2.7					
MMAI			Sn	Sn	05 25 47.4	-4.2
	9.7nm,0.3s,baz=321,slow=26,SNR=7.7					
MMAI	Mount Meron Ar	6.74 112	Pn	Pn	05 24 34.4	-1.9
MMAI	Mount Meron Ar	6.74 112	Pn	Pn	05 24 34.4	-1.9
HHAG	Hagoal	6.80 148	P	Pn	05 24 37.1	-0.1
	baz=146					
HHAG			AMP		05 25 00.0	
	comp=E,30μm,0.1s,logA/T=5.3,baz=146					
HHAG			S	Sn	05 25 46.6	-6.5
	baz=146					
HHAG	Hagoal	6.80 148	P	Pn	05 24 37.1	-0.1
HSAF	As Saff	6.88 153	P	Pn	05 24 37.5	-0.8
	baz=151					
HSAF	As Saff	6.88 153	P	Pn	05 24 37.5	-0.8
SWA2		6.90 199	P	Pn	05 24 38.1	-0.5
	baz=200					
SWA2			S	Sn	05 25 48.1	-7.6
	baz=200					
SWA2		6.90 199	P	Pn	05 24 38.1	-0.5
GLL	Jalalah	6.97 152	P	Pn	05 24 38.9	-0.7
	baz=151					
GLL	Jalalah	6.97 152	P	Pn	05 24 38.9	-0.7
SUZ		7.22 144	P	Pn	05 24 43.0	0.0
	baz=142					
SUZ		7.22 144	P	Pn	05 24 43.0	0.0
AWBH		7.52 174	P	Pn	05 24 46.1	-1.0
	baz=173					
AWBH		7.52 174	P	Pn	05 24 46.1	-1.0
HNKL	Nakhl	7.74 138	P	Pn	05 24 49.8	-0.3
	baz=136					
HNKL	Nakhl	7.74 138	P	Pn	05 24 49.8	-0.3
ASF	Jabal al Asfar	8.24 114	Sn	Sn	05 26 23.2	-5.3
	comp=E,0.6nm,0.3s,baz=302,slow=3.2,SNR=3.1					
EIL	Elat	8.48 134	Pn	Pn	05 24 58.3	-2.0
	comp=E,0.8nm,0.3s,baz=354,slow=18,SNR=4.4					
EIL			Sn	Sn	05 26 29.5	-4.9
	comp=E,5.7nm,0.3s,baz=331,slow=14,SNR=17					
EIL	Elat	8.48 134	Pn	Pn	05 24 58.3	-2.0
EIL	Elat	8.48 134	Pn	Pn	05 24 58.3	-1.9
HFRF	Wahat Farafira	8.65 178	P	Pn	05 25 01.4	-1.2
	baz=178					
HFRF	Wahat Farafira	8.65 178	P	Pn	05 25 01.4	-1.2
HKAT	Jabal Katrina	8.88 143	P	Pn	05 25 05.2	-0.4
	baz=142					
HKAT	Jabal Katrina	8.88 143	P	Pn	05 25 05.2	-0.4
AKASG	Malin Array Be	14.90 3	Pn	Pn	05 26 23.4	-3.4
	comp=E,0.1nm,0.3s,baz=188,slow=9.4,SNR=2.7					
AKASG	Malin Array Be	14.90 3	Pn	Pn	05 26 23.4	-3.4
KEST	Kesra	15.14 275	Pn	Pn	05 26 29.1	-1.0
	comp=E,0.0nm,0.3s,baz=83,slow=16,SNR=2.0					
KEST	Kesra	15.14 275	Pn	Pn	05 26 29.1	-1.0
KEST	Kesra	15.14 275	Pn	Pn	05 26 29.0	-1.0
VRAC	Vranov	15.85 332	Pn	Pn	05 26 36.0	-2.9
	baz=131,slow=11,SNR=2.7					
VRAC	Vranov	15.85 332	Pn	Pn	05 26 36.0	-2.9
GERES	GERESS Array B	16.72 325	Pn	Pn	05 26 46.9	-3.0
	comp=E,0.1nm,0.3s,baz=134,slow=11,SNR=2.1					
GERES	GERESS Array B	16.72 325	Pn	Pn	05 26 46.9	-3.0
LPG	La Plagne	18.74 308	*e*P	Pn	05 27 13.9	-0.6
LPG	La Plagne	18.74 308	*e*P	Pn	05 27 13.9	-0.6
LPL	La Plagne	18.76 308	*e*P	Pn	05 27 14.0	-0.8
LPL	La Plagne	18.76 308	*e*P	Pn	05 27 14.0	-0.8
CLL	Collm	18.85 330	*e*(P)	Pn	05 27 15.0	-0.8
CABF	La Chapelle	19.62 310	*e*P	Pn	05 27 24.2	-0.8
CABF	La Chapelle	19.62 310	*e*P	Pn	05 27 24.2	-0.8
CDF	Champ du Feu	19.78 316	*e*P	Pn	05 27 26.1	-0.7
	comp=E,6.1nm,0.6s					
CDF	Champ du Feu	19.78 316	*e*P	Pn	05 27 26.1	-0.7
	comp=E,6.1nm,0.6s					
CDF	Champ du Feu	19.78 316	*e*P	Pn	05 27 26.1	-0.7
	comp=E,6.0nm,0.6s					
HAU	Haudompre	20.11 314	*e*P	P	05 27 29.5	+1.2
	comp=E,2.1nm,0.5s					
HAU	Haudompre	20.11 314	*e*P	P	05 27 29.5	+1.2
	comp=E,2.0nm,0.5s					
SMF	Signal de Mont	21.05 308	*e*P	P	05 27 38.8	+0.3
SMF	Signal de Mont	21.05 308	*e*P	P	05 27 38.8	+0.3
LOR	Lormes	21.29 310	*e*P	P	05 27 42.5	+1.5
	comp=E,5.7nm,0.8s,mb3.7					
LOR	Lormes	21.29 310	*e*P	P	05 27 42.5	+1.5
	comp=E,5.0nm,0.8s,mb3.9					
SSF	Saint Saulge	21.43 309	*e*P	P	05 27 42.6	+0.1
SSF	Saint Saulge	21.43 309	*e*P	P	05 27 42.6	+0.1
BAIF	Baives	22.36 317	*e*P	P	05 27 52.5	+0.1
BAIF	Baives	22.36 317	*e*P	P	05 27 52.5	+0.1
LDF	La Druitiere	24.27 310	*e*P	P	05 28 11.4	+0.5
	comp=E,4.4nm,0.5s,mb3.7					
LDF	La Druitiere	24.27 310	*e*P	P	05 28 11.4	+0.5
	comp=E,4.0nm,0.5s,mb4.0					
FLN	La Foliniere	24.55 311	*e*P	P	05 28 13.0	-0.5
	comp=E,5.0nm,0.3s,mb4.1					
FLN	La Foliniere	24.55 311	*e*P	P	05 28 13.0	-0.5
	comp=E,5.0nm,0.3s,mb4.4					
GRR	Gorron	24.65 310	*e*P	P	05 28 14.7	+0.3
	comp=E,8.7nm,0.5s,mb4.2					
GRR	Gorron	24.65 310	*e*P	P	05 28 14.7	+0.3
	comp=E,8.0nm,0.5s,mb4.4					
ESDC	Sonseca Array	25.48 288	P	P	05 28 22.0	0.0
	comp=E,1.0nm,0.6s,mb3.4,baz=84,slow=9.8,SNR=6.7					
ESDC	Sonseca Array	25.48 288	P	P	05 28 22.0	0.0
ESDC	Sonseca Array	25.48 288	P	P	05 28 22.0	0.0
FINES	FINESS Array B	25.67 358	P	P	05 28 21.5	-2.0
	comp=E,1.6nm,0.8s,mb3.5,baz=172,slow=11,SNR=2.9					
FINES	FINESS Array B	25.67 358	P	P	05 28 21.5	-2.0
HFS	Hagfors	26.02 344	P	P	05 28 25.2	-1.5
	comp=E,2.2nm,0.9s,mb3.6,baz=139,slow=11,SNR=3.4					
HFS	Hagfors	26.02 344	P	P	05 28 25.2	-1.5
HFS	Hagfors	26.02 344	P	P	05 28 25.2	-1.5
NOA	NORSAR Array B	27.41 342	P	P	05 28 38.7	-0.5
	comp=E,0.4nm,0.7s,mb3.0,baz=151,slow=9.2,SNR=2.8					
NOA	NORSAR Array B	27.41 342	P	P	05 28 38.7	-0.5
NOA	NORSAR Array B	27.41 342	P	P	05 28 38.7	-0.4
TORD	Torodi Ar. Bea	32.71 233	P	P	05 29 27.7	+1.3
	comp=E,0.2nm,0.4s,mb3.3,baz=29,slow=9.2,SNR=5.9					
TORD	Torodi Ar. Bea	32.71 233	P	P	05 29 27.7	+1.3
TORD	Torodi Ar. Bea	32.71 233	P	P	05 29 27.7	+1.3
ARCES	ARCESS Array B	33.80 358	P	P	05 29 33.2	-2.1
	comp=E,6.3nm,1.0s,mb4.4,baz=165,slow=8.1,SNR=2.6					
ARCES	ARCESS Array B	33.80 358	P	P	05 29 33.2	-2.1
MKAR	Makanchi Array	41.48 57	P	P	05 30 40.7	+0.3
	comp=E,0.5nm,0.7s,mb3.5,baz=282,slow=7.6,SNR=3.5					
MKAR	Makanchi Array	41.48 57	P	P	05 30 40.7	+0.3
MKAR	Makanchi Array	41.48 57	P	P	05 30 40.7	+0.3
ZALV	Zalesovo Beam	42.88 47	P	P	05 30 51.4	-0.3
	comp=E,0.3nm,0.3s,mb3.5,baz=258,slow=6.9,SNR=3.1					
ZALV	Zalesovo Beam	42.88 47	P	P	05 30 51.4	-0.3
ZALV	Zalesovo Beam	42.88 47	P	P	05 30 51.4	-0.3

*TIR **28** 05:34:23.8, 41.°81N×19.°75E, h2km, ML2.8*
*ISCJB **28** 05:34:24.8±0.9, 41.°84N±0.°06×19.°8E±0.°1, h26km±13km, Error ellipse: s-maj=16.8km s-min=8.5km az=156.5*

ISC 28 05:34:25.0±0.9, 41.°83N±0.°06×19.°8E±0.°1, h23km±13km, n5, σ0°65/9, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUK	Puka	0.22	21	*i* PG	Pb	05 34 30.3	-0.4
PUK				*i* SG	Sb	05 34 35.2	+0.6
TIR	Tirane	0.49	173	*i* PG	Pb	05 34 35.2	+0.3
PHP	Peshkopia	0.51	107	*i* PG	Pb	05 34 34.5	-0.8
PHP				*i* SG	Sb	05 34 43.2	+0.8
BCI	Bajram Curri	0.57	22	*i* PG	Pb	05 34 35.2	-1.1
BCI				*i* SG	Sb	05 34 44.5	+0.4
STON	Ston	1.86	305	*e*Pn	Pn	05 34 55.1	-0.4
STON				Sn	Sn	05 35 18.9	+0.7

GUC 28 05:49:59.8±0.9, 31.°30S×68.°47W, h45km±21km, MD3.8, ML3.4, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	Combarbala	2.17	273	⇓*i*P	Pn	05 50 34.8	+1.3
CMCH				*i* S	Sn	05 51 00.2	+1.1
CMCH				AML	AML	05 51 01.3	
	comp=N,521nm,0.4s						
FCH	Farellones	2.55	217	*e*P	Pn	05 50 39.9	+1.3
FCH				*i* S	Sn	05 51 10.4	+2.1
FCH				AML	AML	05 51 11.3	
	comp=E,66nm,0.2s						
CLCH	Cerro Calan	2.73	219	*e*P	Pn	05 50 43.2	+2.1
CLCH				*i* S	Sn	05 51 15.7	+2.9
ANTU	Antumapu	2.92	218	*i* S	Sn	05 51 18.8	+1.4
ANTU				AML	AML	05 51 20.0	
	comp=E,61nm,0.3s						
VACH	Vallenar	3.36	323	*i* S	Sn	05 51 29.2	+0.8
VACH				AML	AML	05 51 32.7	
	comp=E,297nm,0.1s						

*IDC **28** 05:52:36.1±0.9, 29.°63S×64.°63W, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.7/14, mbtmp3.6/7, ML3.7/3, Error ellipse: s-maj=28.0km s-min=14.3km az=142.0*
*ISCJB **28** 05:52:39.3±1.2, 29.°64S±0.°07×64.°59W±0.°07, h35km±15km, mb3.7/4, Error ellipse: s-maj=11.8km s-min=9.1km az=144.0*
*NEIC **28** 05:52:41.7±0.8, 29.°65S×64.°58W, h39km±9km, Error ellipse: s-maj=11.6km s-min=8.5km az=111.0*

ISC 28 05:52:41.8±0.8, 29.°63S±0.°06×64.°60W±0.°07, h38km±12km, n24, σ0°84/23, mb3.7/4, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	Coronel Fontan	3.70	237	Pn	Pn	05 53 35.9	-0.6
	0.3nm,0.3s,baz=64,slow=17,SNR=17						
CFAA				Sn	Sn	05 54 19.6	+0.8
	6.4nm,0.3s,baz=128,slow=19,SNR=8.8						
CFAA				Lg		05 54 32.2	
	9.2nm,0.3s,baz=318,slow=22,SNR=11						
CFAA	Coronel Fontan	3.70	237	Pn	Pn	05 53 35.9	-0.6
CFAA				Sn	Sn	05 54 19.6	+0.8
CFAA				Lg		05 54 32.2	
LCO	Las Campanas	5.36	275	*e*Pn	Pn	05 54 01.6	+2.3
LCO				*e*Sn	Sn	05 54 58.9	-0.9
CPUP	Villa Florida	7.22	65	Pn	Pn	05 54 25.0	+0.2
	1.3nm,0.3s,baz=224,slow=11,SNR=14						
CPUP				Lg		05 56 25.8	
	5.6nm,0.3s,baz=254,slow=19,SNR=3.4						
CPUP	Villa Florida	7.22	65	Pn	Pn	05 54 25.0	+0.2
CPUP				Lg		05 56 25.8	
TRQA	Tornquist	8.68	166	*e*Pn	Pn	05 54 44.2	-0.6
PLCA	Paso Flores	12.09	202	Pn	Pn	05 55 31.1	-0.4
	0.1nm,0.3s,baz=11,slow=11,SNR=2.9						
PLCA				Lg		05 58 59.6	
	0.1nm,0.3s,baz=25,slow=2.7,SNR=3.5						
PLCA	Paso Flores	12.09	202	Pn	Pn	05 55 31.1	-0.4
PLCA				Lg		05 58 59.6	
LPAZ	La Paz	13.67	346	Pn	Pn	05 55 52.0	-1.3
	0.1nm,0.3s,baz=148,slow=17,SNR=2.1						
LPAZ	La Paz	13.67	346	Pn	Pn	05 55 52.0	-1.3
SIV	San Ignacio	13.96	14	Pn	Pn	05 55 58.0	+0.9
	0.1nm,0.3s,baz=229,slow=11,SNR=2.7						
SIV	San Ignacio	13.96	14	Pn	Pn	05 55 58.0	+0.9
QSPA	South Pole Qui	60.59	180	P	P	06 02 48.1	+0.1
	2.0nm,1.2s,mb4.1,baz=146,slow=3.8,SNR=3.6						
QSPA	South Pole Qui	60.59	180	P	P	06 02 48.1	+0.1
TXAR	Lajitas Array	69.48	324	P	P	06 03 46.1	-0.3
	0.2nm,0.9s,mb3.0,baz=143,slow=7.9,SNR=2.7						
TXAR	Lajitas Array	69.48	324	P	P	06 03 46.1	-0.3
BOSA	Boshof	76.33	115	P	P	06 04 27.4	+0.2
	1.0nm,0.5s,mb4.0,baz=264,slow=9.2,SNR=3.7						
BOSA	Boshof	76.33	115	P	P	06 04 27.4	+0.2
TORD	Torodi Ar. Bea	76.72	66	P	P	06 04 29.5	+0.1
	0.5nm,0.5s,mb3.7,baz=279,slow=6.6,SNR=5.4						
TORD	Torodi Ar. Bea	76.72	66	P	P	06 04 29.5	0.0
ZALV	Zalesovo Beam	147.12	34	PKPbc	PKPbc	06 12 19.9	-0.4
	0.7nm,0.5s,baz=321,slow=2.7,SNR=4.4						
ZALV	Zalesovo Beam	147.12	34	PKPbc	PKPbc	06 12 19.9	-0.4
MKAR	Makanchi Array	149.15	47	PKPbc	PKPbc	06 12 26.1	+0.3
	0.5nm,0.7s,baz=312,slow=4.4,SNR=3.7						
MKAR	Makanchi Array	149.15	47	PKPbc	PKPbc	06 12 26.1	+0.2

*DDA **28** 05:54:57.5, 37.°89N×29.°24E, h7km±2km, Md2.6*
*CSEM **28** 05:54:57.7±0.2, 37.°88N×29.°27E, h2km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.0km az=136.0*
*ISCJB **28** 05:54:58.1±0.7, 37.°90N±0.°04×29.°23E±0.°05, h7km±6km, Error ellipse: s-maj=7.5km s-min=4.7km az=37.9*
*ISK **28** 05:54:58.0, 37.°91N×29.°23E, h8km, MD2.6*

ISC 28 05:54:58.3±0.8, 37.°88N±0.°03×29.°24E±0.°07, h7km±10km, n16, σ0°61/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	Denizli	0.20	232	*e*PG	Pg	05 55 02.8	+0.5
DENT				*e*SG	Sg	05 55 06.5	+1.4
DENT	Denizli	0.20	232	*e*Pg	Pg	05 55 02.8	+0.4
DENT				*e*Sg	Sg	05 55 06.5	+1.4
DNZL	Cakiroluk	0.24	219	*i* P	Pg	05 55 02.5	-0.6
DNZL				*i* S	Sg	05 55 06.2	-0.1
DNZL	Cakiroluk	0.24	219	*i* P	Pg	05 55 02.5	-0.6
DNZL				*i* S	Sg	05 55 06.2	-0.1
KHAL	Karahalli	0.53	22	*i* P	Pg	05 55 07.7	-0.8
KHAL				*i* S	Sg	05 55 15.3	-0.1
KHAL	Karahalli	0.53	22	*i* P	Pg	05 55 07.7	-0.8
KHAL				*i* S	Sg	05 55 15.3	-0.1
KULA	Kula-Manisa	0.78	324	*e*PG	Pg	05 55 13.1	-0.1
KULA				*e*SG	Sg	05 55 23.7	+0.3
KULA	Kula-Manisa	0.78	324	*e*Pg	Pg	05 55 13.1	-0.2
KULA				*e*Sg	Sg	05 55 23.7	+0.3
MANT	Manisa	0.81	319	*i* P	Pg	05 55 14.4	+0.5
MANT				*i* S	Sg	05 55 24.8	+0.4
MANT	Manisa	0.81	319	*i* P	Pg	05 55 14.4	+0.5
MANT				*i* S	Sg	05 55 24.8	+0.4
AYDN	Tasoluk	1.10	259	*i* P	Pg	05 55 18.7	-0.6
AYDN				*i* S	Sg	05 55 32.4	-1.2
AYDN	Tasoluk	1.10	259	*i* P	Pg	05 55 18.7	-0.6
AYDN				*i* S	Sg	05 55 32.4	-1.2
SHUT	Suhut-Afyon	1.23	57	*e*PN	Pn	05 55 22.3	+0.4
SHUT				*e*SN	Sn	05 55 39.0	+0.2
SHUT	Suhut-Afyon	1.23	57	*e*Pn	Pn	05 55 22.3	+0.4
SHUT				*e*Sn	Sn	05 55 39.0	+0.2
ALT	Altintas	1.36	30	*e*PN	Pn	05 55 23.5	-0.2
ALT	Altintas	1.36	30	*e*Pn	Pn	05 55 23.5	-0.1

*ISCJB **28** 05:56:23.4±1.0, 38.°72N±0.°05×142.°31E±0.°09, h49km±9km, mb3.5/7, Error ellipse: s-maj=13.2km s-min=5.4km az=27.3*
*NEIC **28** 05:56:24.4, 38.°71N×142.°25E, h37km, MG4.0(JMA), After JMA.*
NEIC Recorded [1 JMA] in Iwate and Miyagi.
*JMA **28** 05:56:24.4±0.1, 38.°70N×142.°25E, h37km±2km, M4.0*
JMA Felt I J1.
*IDC **28** 05:56:29.2±3.5, 38.°53N×142.°13E, h93km±31km, mb3.1/7, mb1 3.4/9, mb1mx3.3/23, mbtmp3.2/9, Error ellipse: s-maj=29.1km s-min=18.5km az=82.0*

ISC 28 05:56:24.3±0.9, 38.°71N±0.°05×142.°29E±0.°08, h42km±10km, n30, σ1°04/40, mb3.5/7, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	0.61	307	⇓P	Pn	05 56 36.3	-0.3
OFUJ				S	Sn	05 56 44.6	-0.7
JIO	Ouri	0.78	251	⇓P	Pn	05 56 38.3	-0.6
JIO				S	Sn	05 56 48.0	-1.5
JMK	Ichinoseki	0.87	286	⇓P	Pn	05 56 39.9	-0.2
JMK				S	Sn	05 56 51.0	-0.6
JOM	Ohasama	1.08	315	⇓P	Pn	05 56 43.4	+0.4
JOM				*e*S	Sn	05 56 57.0	+0.1
JTH	Tanohata	1.27	345	P	Pn	05 56 45.9	+0.4
JTH				*e*S	Sn	05 57 02.0	+0.7
JOU	Okura	1.32	255	P	Pn	05 56 46.4	+0.1
JOU				S	Sn	05 57 03.0	+0.3
JMM	Marumori	1.45	235	⇑P	Pn	05 56 47.7	-0.4
JMM				*e*S	Sn	05 57 04.8	-1.1
JYK	Kaneyama	1.52	278	P	Pn	05 56 49.7	+0.7
JYK				*e*S	Sn	05 57 08.4	+0.8
ERM	Erimo	3.36	11	*e*Pn	Pn	05 57 13.4	-0.9
ERM				*e*Sn	Sn	05 57 52.1	-0.9
MJAR	Matsushiro Arr	3.90	237	P	Pn	05 57 23.9	+2.3
	2.2nm,0.3s,baz=43,slow=12,SNR=20						
MJAR	Matsushiro Arr	3.90	237	P	Pn	05 57 23.9	+2.3
MAJO	Matsushiro	3.90	237	*e*Pn	Pn	05 57 24.1	+2.4
MAT	Matsushiro	3.90	237	P	Pn	05 57 24.8	+3.1
MAT				S	Sn	05 58 07.1	+0.9
ASAJ	Asahikawa	5.40	2	Pn	Pn	05 57 43.0	+0.7
USRK	Ussuriysk Arra	9.47	309	P	Pn	05 58 43.4	+5.4
	0.3nm,0.3s,baz=128,slow=13,SNR=12						
JNU	Nakatsue	10.80	242	*e*Pn	Pn	05 58 54.6	-1.7
SONM	Songino Array	27.47	301	P	P	06 02 04.8	-1.4
	0.3nm,0.5s,mb3.1,baz=80,slow=8.2,SNR=2.3						
SONM	Songino Array	27.47	301	P	P	06 02 04.8	-1.4
ZALV	Zalesovo Beam	41.32	311	P	P	06 04 05.5	0.0
	0.8nm,0.4s,mb3.7,baz=88,slow=7.6,SNR=6.3						
ZALV	Zalesovo Beam	41.32	311	P	P	06 04 05.5	0.0
MKAR	Makanchi Array	43.84	301	P	P	06 04 26.9	+0.9
	0.3nm,0.4s,mb3.4,baz=84,slow=10,SNR=5.9						
MKAR	Makanchi Array	43.84	301	P	P	06 04 26.9	+0.9
ILAR	Eielson Array	47.71	33	P	P	06 04 57.5	+1.2
	0.2nm,0.6s,mb3.3,baz=262,slow=6.3,SNR=4.7						
ILAR	Eielson Array	47.71	33	P	P	06 04 57.5	+1.2
WRA	Warramunga Arr	58.82	189	P	P	06 06 15.3	-3.1
	0.9nm,0.7s,mb3.9,baz=7.6,slow=7.5,SNR=3.2						
WRA	Warramunga Arr	58.82	189	P	P	06 06 15.3	-3.1
ASAR	Alice Springs	62.55	189	P	P	06 06 43.0	-0.7
	0.2nm,0.6s,mb3.4,baz=18,slow=6.8,SNR=3.9						
ASAR	Alice Springs	62.55	189	P	P	06 06 43.0	-0.7
TXAR	Lajitas Array	88.55	53	P	P	06 09 12.8	+0.1
	0.1nm,0.6s,mb3.3,baz=306,slow=6.6,SNR=2.5						
TXAR	Lajitas Array	88.55	53	P	P	06 09 12.8	+0.1

*ISK **28** 06:10:32.8, 37.°94N×29.°16E, h5km, MD2.6*
*ISCJB **28** 06:10:33.3±0.7, 37.°90N±0.°04×29.°19E±0.°08, h10km, Error ellipse: s-maj=9.5km s-min=3.8km az=26.9*
*DDA **28** 06:10:33.0, 37.°89N×29.°20E, h7km±2km, Md2.6*
*CSEM **28** 06:10:33.5±0.3, 37.°91N×29.°18E, h0km±4km, MD2.6, Error ellipse: s-maj=11.1km s-min=5.6km az=108.0*

ISC 28 06:10:33.9±0.7, 37.°89N±0.°04×29.°18E±0.°08, h10km, n10, σ0°82/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	Denizli	0.18	220	*e*PG	Pg	06 10 37.4	-0.4
DENT				*e*SG	Sg	06 10 41.6	+1.2
DENT	Denizli	0.18	220	*e*Pg	Pg	06 10 37.4	-0.4
DENT				*e*Sg	Sg	06 10 41.6	+1.2
DNZL	Cakiroluk	0.23	208	*i* P	Pg	06 10 38.2	-0.5
DNZL				*i* S	Sg	06 10 41.9	+0.1
DNZL	Cakiroluk	0.23	208	*i* P	Pg	06 10 38.2	-0.4
DNZL				*i* S	Sg	06 10 41.9	+0.1
KHAL	Karahalli	0.54	27	*i* P	Pg	06 10 43.8	-0.4
KHAL				*i* S	Sg	06 10 51.5	+0.1
KHAL	Karahalli	0.54	27	*i* P	Pg	06 10 43.8	-0.5
KHAL				*i* S	Sg	06 10 51.5	+0.2
KULA	Kula-Manisa	0.74	327	*e*PG	Pg	06 10 46.8	-1.4
KULA				*e*SG	Sg	06 10 58.6	+0.7
KULA	Kula-Manisa	0.74	327	*e*Pg	Pg	06 10 46.8	-1.4
KULA				*e*Sg	Sg	06 10 58.6	+0.7
ALT	Altintas	1.37	32	*e*PN	Pg	06 10 59.4	-0.7
ALT				*e*SN	Sg	06 11 19.3	+1.3
ALT	Altintas	1.37	32	*e*Pn	Pg	06 10 59.4	-0.8
ALT				*e*Sn	Sg	06 11 19.3	+1.4

*IDC **28** 06:20:19.1±1.5, 4.°57S×137.°44E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/12, mbtmp4.2/4, ML4.5/1, Error ellipse: s-maj=66.8km s-min=33.7km az=89.0*
*NEIC **28** 06:20:21.5±1.2, 4.°74S×137.°04E, h10km, mb4.5/1, Error ellipse: s-maj=27.6km s-min=14.3km az=80.0*
*ISCJB **28** 06:20:26.0±3.4, 4.°9S±0.°1×137.°2E±0.°2, h70km±34km, mb4.0/3, Error ellipse: s-maj=29.8km s-min=17.3km az=17.6*

ISC 28 06:20:27.6±1.9, 4.°98S±0.°08×137.°3E±0.°1, h71km±19km, n15, σ1°22/23, mb4.0/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEN	Coen	10.66	147	*e*Pn	Pn	06 22 58.8	+1.2
	55nm,0.6s						
COEN				*e*Sn	Sn	06 24 53.2	-2.1
WRAB	Tennant Creek	15.13	191	*e*Pn	Pn	06 23 57.2	-0.2
	18nm,0.7s						
WB2	Warramunga Arr	15.14	191	Pn	Pn	06 23 57.6	0.0
WB2				*e*Sn	Sn	06 26 39.5	-4.9
WRA	Warramunga Arr	15.15	191	Pn	Pn	06 23 56.5	-1.1
	0.5nm,0.3s,baz=8.3,slow=13,SNR=5.9						
WRA				Sn	Sn	06 26 43.0	-1.5
	0.3nm,0.3s,baz=12,slow=22,SNR=3.3						
WRA				Lg		06 28 25.6	
	0.7nm,0.3s,baz=5.6,slow=29,SNR=5.2						
WRA	Warramunga Arr	15.15	191	Pn	Pn	06 23 56.5	-1.1
WRA				Sn	Sn	06 26 43.0	-1.5
WRA				Lg		06 28 25.6	
FITZ	Fitzroy Crossi	17.30	220	*e*Pn	Pn	06 24 24.3	-0.3
FITZ				*e*Sn	Sn	06 27 25.1	-12
AS31	Alice Springs	18.86	190	*e*P	Pn	06 24 45.8	+2.4
AS31				*e*S	S	06 28 21.5	+8.5
ASAR	Alice Springs	18.86	190	P	Pn	06 24 45.8	+2.3
	1.3nm,0.3s,baz=12,slow=11,SNR=81						
ASAR				S	S	06 28 13.5	+0.5
	0.1nm,0.3s,baz=8.5,slow=28,SNR=3.0						
ASAR				Lg		06 30 19.2	
	0.0nm,0.3s,baz=12,slow=28,SNR=2.9						
ASAR	Alice Springs	18.86	190	P	Pn	06 24 45.8	+2.3
ASAR				S	S	06 28 13.5	+0.5
ASAR				Lg

RAMN	Ramite	7.76	216	*e*P	Pn	06 24 25.4	-1.5
	comp=E,13nm,0.4s						
KKN	Kakani	7.85	227	*e*P	Pn	06 24 28.2	+0.2
	comp=E,10nm,0.5s						
KKN	Kakani	7.85	227	*e*P	Pn	06 24 28.2	+0.2
	comp=E,10nm,0.5s						
PKI	Pulchoki	7.93	225	*e*P	Pn	06 24 29.6	+0.5
	comp=E,10nm,0.4s						
PKI	Pulchoki	7.93	225	*e*P	Pn	06 24 29.6	+0.5
	comp=E,10nm,0.4s						
DMN	Daman	8.08	227	*e*P	Pn	06 24 31.6	+0.3
	comp=E,9.2nm,0.6s						
DMN	Daman	8.08	227	*e*P	Pn	06 24 31.6	+0.3
	comp=E,9.2nm,0.6s						
GKN	Gorkha	8.11	231	*e*P	Pn	06 24 32.2	+0.6
	comp=E,7.6nm,0.4s						
GKN	Gorkha	8.11	231	*e*P	Pn	06 24 32.2	+0.6
	comp=E,7.6nm,0.4s						
DANN	Dangsing	8.47	236	*e*P	Pn	06 24 36.7	+0.1
	comp=E,10nm,0.5s						
DANN	Dangsing	8.47	236	*e*P	Pn	06 24 36.7	+0.1
	comp=E,10nm,0.5s						
MKAR	Makanchi Array	15.26	335	Pn	Pn	06 26 09.0	-0.2
	baz=148,slow=13,SNR=2.9						
MKAR	Makanchi Array	15.26	335	Pn	Pn	06 26 09.0	-0.2
SONM	Songino Array	18.22	33	P	Pn	06 26 46.5	-0.2
	comp=E,0.1nm,0.3s,baz=231,slow=9.4,SNR=6.2						
SONM	Songino Array	18.22	33	P	Pn	06 26 46.5	-0.2
ULN	Ulaanbaatar	18.55	34	*e*P	Pn	06 26 53.1	+2.4
	comp=E,2.3nm,0.7s						
KURK	Kurchatov	19.87	335	P	Pn	06 27 05.6	-1.0
	comp=E,0.6nm,0.5s,baz=136,slow=12,SNR=3.8						
KURK	Kurchatov	19.87	335	P	Pn	06 27 05.6	-1.0
ZALV	Zalesovo Beam	21.20	349	P	P	06 27 21.1	+1.8
	comp=E,1.1nm,0.7s,mb3.3,baz=168,slow=10,SNR=6.2						
ZALV	Zalesovo Beam	21.20	349	P	P	06 27 21.1	+1.8
BVAR	Borovoye Array	24.93	329	P	P	06 27 58.3	+1.3
	comp=E,0.4nm,0.5s,mb3.2,baz=143,slow=13,SNR=5.1						
BVAR	Borovoye Array	24.93	329	P	P	06 27 58.3	+1.3
BRTR	Keskin Array B	46.44	295	P	P	06 30 59.2	-1.5
	comp=E,0.7nm,0.8s,mb3.6,baz=69,slow=7.9,SNR=2.1						
BRTR	Keskin Array B	46.44	295	P	P	06 30 59.2	-1.5
FINES	FINESS Array B	49.81	325	P	P	06 31 25.5	-1.0
	comp=E,0.9nm,0.5s,mb4.0,baz=98,slow=10,SNR=3.7						
FINES	FINESS Array B	49.81	325	P	P	06 31 25.5	-1.0
NOA	NORSAR Array B	57.00	325	P	P	06 32 18.9	-0.4
	comp=E,0.6nm,0.8s,mb3.7,baz=79,slow=7.2,SNR=2.9						
NOA	NORSAR Array B	57.00	325	P	P	06 32 18.9	-0.4
ILAR	Eielson Array	72.10	23	P	P	06 33 57.4	-0.5
	comp=E,0.3nm,0.9s,mb3.2,baz=321,slow=5.1,SNR=2.5						
ILAR	Eielson Array	72.10	23	P	P	06 33 57.4	-0.5
YKA	Yellowknife Ar	82.18	12	P	P	06 34 53.2	-1.4
	comp=E,0.2nm,0.8s,mb3.1,baz=327,slow=4.8,SNR=4.9						
YKA	Yellowknife Ar	82.18	12	P	P	06 34 53.2	-1.4
TORD	Torodi Ar. Bea	82.95	281	P	P	06 34 58.5	-1.0
	comp=E,0.3nm,0.8s,mb3.4,baz=47,slow=4.3,SNR=4.6						
TORD	Torodi Ar. Bea	82.95	281	P	P	06 34 58.5	-1.0

*ISCJB **28** 06:26:35.0±0.5, 6°.87N±0°.06×73°.06W±0°.04, h165km±5km, mb3.8/5, Error ellipse: s-maj=10.0km s-min=6.1km az=151.7*
*IDC **28** 06:26:36.2±2.4, 6°.75N×73°.08W, h161km±19km, mb3.6/4, mb1 3.8/6, mb1mx3.3/21, mbtmp3.6/6, Error ellipse: s-maj=42.5km s-min=20.2km az=90.0*
*NEIC **28** 06:26:36.4±0.8, 6°.82N×73°.07W, h163km±8km, mb3.7/1, Error ellipse: s-maj=15.5km s-min=11.8km az=139.0*
*FUNV **28** 06:26:36.0, 6°.79N×73°.13W, h169km, MW3.8*
ISC 28 06:26:36.0±0.5, 6°.87N±0°.06×73°.05W±0°.04, h159km±5km, n34, σ0°91/39, mb3.8/5, 2C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.23	36	⇑*i*P	Pn	06 27 05.0	+1.3
CAPV				*e*S	Sn	06 27 26.1	+1.2
ROSC	El Rosal	2.37	213	P	Pn	06 27 16.9	+0.9
	44nm,0.3s,baz=27,slow=2.3,SNR=152						
ROSC				S	Sn	06 27 45.7	-1.1
	53nm,0.3s,baz=90,slow=19,SNR=13						
ROSC	El Rosal	2.37	213	P	Pn	06 27 16.9	+0.9
ROSC				*e*Sn	Sn	06 27 45.0	-1.8
ROSC				S	Sn	06 27 45.7	-1.1
VIGV	El Vigia	2.58	40	⇓*i*P	Pn	06 27 19.5	+1.0
VIGV				*e*S	Sn	06 27 51.2	-0.2
SOCV	Socops	2.59	57	⇓*e*P	Pn	06 27 19.8	+1.1
SOCV				*e*S	Sn	06 27 51.8	+0.1
SDV	Santo Domingo	3.13	50	*e*Pn	Pn	06 27 26.4	+1.1
SDV				*e*Sn	Sn	06 28 03.4	-0.1
ELOV	Elorza	3.55	88	⇓*e*P	Pn	06 27 31.3	+0.7
VIRV	Villa del Rosa	3.67	10	⇓*i*P	Pn	06 27 31.8	-0.5
VIRV				*e*S	Sn	06 28 14.2	-1.8
SANV	Sanarito	4.36	53	⇓*e*P	Pn	06 27 41.2	+0.1
DABV	Dabajuro	4.69	30	*e*P	Pn	06 27 46.3	+0.8
TEPV	Terepaima	4.91	51	⇓*i*P	Pn	06 27 48.6	+0.3
BAUV	El Baul	5.38	67	⇓*e*P	Pn	06 27 53.2	-1.3
MAPV	Macapo	5.42	57	⇓*e*P	Pn	06 27 54.9	-0.2
MONV	Montecano	5.90	31	*e*P	Pn	06 28 01.0	-0.5
TURV	Turiamo	6.26	55	*e*P	Pn	06 28 05.0	-1.3
BCIP	Isla Barro Col	7.10	289	*e*Pn	Pn	06 28 17.1	-0.3
BCIP				*e*Sn	Sn	06 29 36.4	-0.7
MERV	Las Mercedes	7.10	70	*e*P	Pn	06 28 16.3	-1.1
CUPV	Cœpira	7.86	66	⇑*e*P	Pn	06 28 26.4	-1.1
PCRV	Puerto La Cruz	8.95	68	*e*P	Pn	06 28 41.0	-1.0
TEIG	Tepich	19.86	313	P	P	06 30 55.6	+0.7
	0.6nm,0.3s,baz=140,slow=16,SNR=4.5						
TEIG	Tepich	19.86	313	P	P	06 30 55.6	+0.7
TXAR	Lajitas Array	36.48	312	P	P	06 33 27.2	+1.2
	0.6nm,0.6s,mb3.4,baz=124,slow=8.9,SNR=16						
TXAR	Lajitas Array	36.48	312	P	P	06 33 27.2	+1.2
WMOK	Wichita Mounta	36.48	323	*e*P	P	06 33 25.8	-0.1
	0.9nm,0.6s,mb3.6						
ULM	Lac du Bonnet	47.27	340	P	P	06 34 52.4	-0.7
	1.8nm,0.5s,mb4.0,baz=180,slow=7.6,SNR=4.1						
ULM	Lac du Bonnet	47.27	340	P	P	06 34 52.4	-0.7
SCHQ	Schefferville	48.09	5	P	P	06 35 00.5	+1.1
	2.7nm,0.5s,mb4.1,baz=208,slow=7.3,SNR=10						
SCHQ	Schefferville	48.09	5	P	P	06 35 00.5	+1.1
YKA	Yellowknife Ar	63.25	340	P	P	06 36 47.7	+0.5
	1.1nm,0.6s,mb3.9,baz=133,slow=6.6,SNR=40						
YKA	Yellowknife Ar	63.25	340	P	P	06 36 47.8	+0.5
ASAR	Alice Springs	149.19	234	PKPbc	PKPbc	06 46 06.0	-0.6
	0.6nm,0.6s,baz=120,slow=3.9,SNR=8.4						
ASAR	Alice Springs	149.19	234	PKPbc	PKPbc	06 46 06.0	-0.6
WRA	Warramunga Arr	150.42	241	PKPbc	PKPbc	06 46 09.1	-0.5
	0.4nm,0.4s,baz=108,slow=2.7,SNR=12						
WRA	Warramunga Arr	150.42	241	PKPbc	PKPbc	06 46 09.1	-0.5

*IDC **28** 06:32:34.4±2.7, 3°.56N×94°.17E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/24, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=114.5km s-min=21.3km az=59.0*
*ISCJB **28** 06:32:38.6±1.2, 3°.7N±0°.2×94°.4E±0°.3, h33km, mb4.0/7, Error ellipse: s-maj=41.7km s-min=13.5km az=150.9*
*NEIC **28** 06:32:40.9±1.1, 3°.72N×94°.43E, h35km, mb4.4/2, Error ellipse: s-maj=37.8km s-min=12.4km az=61.0*
ISC 28 06:32:41.0±1.2, 3°.7N±0°.2×94°.4E±0°.3, h35km, n16, σ0°81/15, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.30	16	Pn	Pn	06 36 14.6	+0.3
	baz=210,slow=10,SNR=4.1						
CMAR	Chiang Mai Arr	15.30	16	Pn	Pn	06 36 14.6	+0.3
MK31	Makanchi Array	44.18	348	*e*P	P	06 40 46.5	+0.1
MKAR	Makanchi Array	44.18	348	P	P	06 40 45.7	-0.6
	1.1nm,0.4s,mb3.9,baz=162,slow=8.1,SNR=21						
MKAR	Makanchi Array	44.18	348	P	P	06 40 45.7	-0.6
KKAR	Karatay Array	44.60	335	*e*P	P	06 40 51.4	+1.6
	1.3nm,0.7s,mb3.9						
KSRS	Korea Array	45.47	38	LR	LR	07 02 22.1	
	comp=Z,28nm,21.8s,baz=35,slow=39						
WRA	Warramunga Arr	45.71	123	P	P	06 40 59.4	+0.4
	0.7nm,0.7s,mb3.7,baz=300,slow=9.2,SNR=4.6						
WRA	Warramunga Arr	45.71	123	P	P	06 40 59.4	+0.4
WRAB	Tennant Creek	45.72	123	*e*P	P	06 40 59.8	+0.8
	31nm,1.9s,mb4.9						
ASAR	Alice Springs	47.11	127	P	P	06 41 08.8	-1.1
	0.2nm,0.5s,mb3.3,baz=297,slow=8.1,SNR=4.0						
ASAR	Alice Springs	47.11	127	P	P	06 41 08.8	-1.1
KURK	Kurchatov	48.69	347	P	P	06 41 20.8	-0.9
	0.5nm,0.3s,mb4.0,baz=168,slow=7.1,SNR=9.3						
KURK	Kurchatov	48.69	347	P	P	06 41 20.8	-0.9

ZALV	Zalesovo Beam	50.68	353	P	P	06 41 36.3	-0.5
	1.3nm,0.5s,mb4.2,baz=178,slow=7.2,SNR=6.3						
ZALV	Zalesovo Beam	50.68	353	P	P	06 41 36.3	-0.5

MAN 28 06:53:50, 9°.31N×125°.65E, h9km, mb3.9, ML2.7, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.34	185	*e*P	Pg	06 53 58.3	+1.6
BUTP				*e*S	Sg	06 54 02.3	+0.9
MSLP	Maasin	1.13	316	*e*P	Pb	06 54 11.2	-0.5
CGP	Cagayan de Oro	1.27	228	⇑*i*P	Pn	06 54 13.5	-0.5
CGP				*i*S	Sb	06 54 32.4	+1.7
BUKP	Musuan	1.54	202	*e*P	Pn	06 54 18.1	+0.5

*IDC **28** 07:08:59.5±1.7, 36°.61N×142°.64E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.7/24, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=45.0km s-min=21.1km az=57.0*
*NIED **28** 07:09:00, 36°.60N×142°.40E, h17km, Mw3.9 Best double couple: M07.81000×10^14 NP1:φs=311.00000°, δ73.00000°, λ-112.00000°. NP2:φs=186.00000°, δ28.00000°, λ-39.00000°.*
*NEIC **28** 07:09:01.6, 36°.62N×142°.43E, h20km, MG3.7(JMA), After JMA.*
*JMA **28** 07:09:01.5±0.2, 36°.62N×142°.43E, h20km, M3.7*
*ISCJB **28** 07:09:02.3±1.8, 36°.61N±0°.04×142°.46E±0°.07, h28km±15km, mb3.7/6, Error ellipse: s-maj=9.3km s-min=6.5km az=17.0*
ISC 28 07:09:02.9±1.9, 36°.61N±0°.04×142°.42E±0°.08, h18km±14km, n31, σ0°98/41, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.39	291	P	Pn	07 09 26.0	-1.3
JHO	Hitachi	1.49	270	P	Pn	07 09 27.5	-1.2
JHO				S	Sn	07 09 45.3	-2.3
CHOJ	Chosi	1.55	235	P	Pn	07 09 29.0	-0.6
CHOJ				*e*S	Sn	07 09 49.4	+0.1
JMM	Marumori	1.80	314	P	Pn	07 09 32.0	-1.0
JFT	Otama	1.89	299	P	Pn	07 09 34.3	0.0
JFT				S	Sn	07 09 57.7	+0.1
BSO1	Boso 1	2.28	211	P	Pn	07 09 38.8	-0.8
BSO1				S	Sn	07 10 07.2	0.0
JAG	Ashikaga	2.39	266	P	Pn	07 09 40.9	-0.3
JMK	Ichinoseki	2.52	338	P	Pn	07 09 43.0	+0.1
JMK				*e*S	Sn	07 10 12.3	-0.8
JRY	Ryogami san	2.90	259	P	Pn	07 09 47.5	-0.6
JRY				S	Sn	07 10 21.2	-1.3
JOM	Ohasama	2.99	343	P	Pn	07 09 49.2	-0.2
JOD2	Odawara 2	3.02	244	P	Pn	07 09 49.6	-0.2
JYN	Shimob	3.33	252	P	Pn	07 09 54.7	+0.7
JYN				S	Sn	07 10 34.3	+1.2
MJAR	Matsushiro Arr	3.39	270	Pn	Pn	07 09 55.2	+0.3
	3.8nm,0.3s,baz=86,slow=8.0,SNR=53						
MJAR				Sn	Sn	07 10 38.6	+4.1
	2.2nm,0.3s,baz=95,slow=28,SNR=5.4						
MJAR	Matsushiro Arr	3.39	270	Pn	Pn	07 09 55.2	+0.3
MJAR				Sn	Sn	07 10 38.6	+4.1
MAJO	Matsushiro	3.39	270	*e*Pn	Pn	07 09 55.6	+0.7
MAT	Matsushiro	3.39	270	P	Pn	07 09 55.6	+0.7
MAT				S	Sn	07 10 35.6	+1.0
MAT	Matsushiro	3.39	270	P	Pn	07 09 55.8	+0.9
KSRS	Korea Array	11.62	278	Pn	Pn	07 11 51.0	+3.2
	baz=96,slow=12,SNR=3.0						
KSAR	Wonju Array Be	11.65	278	Pn	Pn	07 11 51.0	+2.8
SONM	Songino Array	28.69	304	P	P	07 14 59.8	+1.2
	1.6nm,0.8s,mb3.8,baz=110,slow=9.1,SNR=9.4						
SONM	Songino Array	28.69	304	P	P	07 14 59.8	+1.2
ZALV	Zalesovo Beam	42.79	313	P	P	07 17 00.0	+0.8
	0.4nm,0.4s,mb3.5,baz=94,slow=5.9,SNR=4.2						
ZALV	Zalesovo Beam	42.79	313	P	P	07 17 00.0	+0.8
MKAR	Makanchi Array	45.02	303	P	P	07 17 17.4	+0.2
	0.7nm,0.7s,mb3.6,baz=83,slow=9.9,SNR=5.7						
MKAR	Makanchi Array	45.02	303	P	P	07 17 17.4	+0.2
KURK	Kurchatov	46.82	309	P	P	07 17 32.1	+0.7
	1.4nm,0.7s,mb4.0,baz=83,slow=7.8,SNR=15						
KURK	Kurchatov	46.82	309	P	P	07 17 32.1	+0.7
WRA	Warramunga Arr	56.76	189	P	P	07 18 44.6	-1.1
	0.5nm,0.5s,mb3.8,baz=7.1,slow=7.0,SNR=5.9						
WRA	Warramunga Arr	56.76	189	P	P	07 18 44.6	-1.1
ASAR	Alice Springs	60.49	189	P	P	07 19 12.1	+0.4
	0.5nm,0.9s,mb3.5,baz=5.5,slow=6.9,SNR=3.8						
ASAR	Alice Springs	60.49	189	P	P	07 19 12.1	+0.4

*BJI **28** 07:13:07.0, 62°.40N×151°.10W, h89km, mB5.3/11, mb4.9/28, Ms4.9/3, Ms7 4.5/7*
*ISCJB **28** 07:13:08.8±0.2, 62°.36N±0°.02×151°.01W±0°.04, h98km±2km, mb4.5/62, Error ellipse: s-maj=3.4km s-min=3.0km az=39.0*
*MOS **28** 07:13:08.4±0.9, 62°.38N×151°.19W, h91km, mb4.8/15, Error ellipse: s-maj=13.2km s-min=6.2km az=96.7*
*NEIC **28** 07:13:10.7, 62°.35N×151°.05W, h90km, mb4.7/17, After AEIC.*
NEIC Felt [III] at Anchorage, Eagle River, Talkeetna and Trapper Creek and [II] at Wasilla. Also felt at Big Lake, Chugiak, Elmendorf AFB, Fort Richardson, Houston, Palmer, Sutton and Willow.
*IDC **28** 07:13:11.0±0.6, 62°.54N×151°.18W, h93km±4km, mb4.0/24, mb1 4.1/26, mb1mx4.1/28, mbtmp4.0/26, MS3.3/3, Ms1 3.3/3, ms1mx2.9/25, Error ellipse: s-maj=12.0km s-min=9.4km az=163.0*
ISC 28 07:13:10.1±0.2, 62°.36N±0°.02×151°.02W±0°.04, h91km±2km, h93km±2.2km; pP-P, n262, σ0°76/275, mb4.5/62, 7C-1D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.45	212	P	Pn	07 13 23.9	-0.6
SKT				S	Sn	07 13 34.7	-0.5
PPLA	Purkeypile	0.76	316	P	Pn	07 13 27.2	0.0
PPLA				S	Sn	07 13 39.6	-0.5
SUA	Susitna One	0.91	172	P	Pn	07 13 29.2	+0.4
SUA				S	Sn	07 13 43.4	+0.6
STLK	Strandline Lak	0.94	204	P	Pn	07 13 29.1	-0.1
TRF	Thorofare Moun	1.15	17	P	Pn	07 13 32.0	+0.5
TRF				S	Sn	07 13 48.1	+0.5
PMR	Palmer	1.18	130	P	Pn	07 13 31.7	-0.2
PMR				S	Sn	07 13 48.7	+0.4
PMR	Palmer	1.18	130	P	Pn	07 13 31.7	-0.2
PMR				S	Sn	07 13 48.7	+0.4
FIB	Fire Island	1.26	161	P	Pn	07 13 34.0	+1.1
FIB				S	Sn	07 13 52.5	+2.4
FIB	Fire Island	1.26	161	P	Pn	07 13 34.0	+1.1
FIB				S	Sn	07 13 52.5	+2.4
SPNW	Spurr Northwes	1.26	217	P	Pn	07 13 32.9	0.0
SPU	Mount Spurr	1.28	203	*e*Pn	Pn	07 13 33.0	-0.1
SML	Sawmill	1.38	112	P	Pn	07 13 34.8	+0.5
SML				S	Sn	07 13 54.0	+1.3
SML	Sawmill	1.38	112	P	Pn	07 13 34.8	+0.5
SML				S	Sn	07 13 54.0	+1.4
RC01	Rabbit Creek A	1.41	154	P	Pn	07 13 34.4	-0.3
BKG	Blockade Glaci	1.42	205	P	Pn	07 13 34.6	-0.3
RND	Reindeer	1.45	42	P	Pn	07 13 35.5	+0.4
RND	Reindeer	1.45	42	P	Pn	07 13 35.5	+0.4
MCK	McKinley	1.68	34	P	Pn	07 13 38.6	+0.6
MCK	McKinley	1.68	34	P	Pn	07 13 38.6	+0.6
SCM	Sheep Creek Mo	1.82	105	P	Pn	07 13 39.8	0.0
SCM	Sheep Creek Mo	1.82	105	P	Pn	07 13 39.8	0.0
DHY	Denali Highway	1.83	65	P	Pn	07 13 40.6	+0.6
SLKM	Skilak Lake	1.90	168	P	Pn	07 13 40.7	-0.2
SLKM	Skilak Lake	1.90	168	P	Pn	07 13 40.7	-0.2
RDN	Redoubt North	2.03	205	P	Pn	07 13 42.7	+0.1
RSO	Redoubt South	2.08	204	P	Pn	07 13 43.5	+0.2
RED	Redoubt Volcan	2.12	204	P	Pn	07 13 43.9	+0.1
TT01	Tatalina	2.37	286	P	Pn	07 13 46.8	-0.3
SEW	Seward	2.39	161	P	Pn	07 13 47.0	-0.4
NEA	Nenana	2.39	21	P	Pn	07 13 47.4	0.0
INE	Iliamna NE	2.51	204	P	Pn	07 13 48.6	-0.3
SVW2	Sparrevohn	2.51	242	*e*P	Pn	07 13 48.8	-0.2
ILW	Iliamna West	2.52	205	P	Pn	07 13 49.1	0.0
VLZ	Valdez	2.55	117	P	Pn	07 13 48.8	-0.7
KLU	Klutina	2.56	108	P	Pn	07 13 49.2	-0.5
BRLK	Bradley Lake	2.60	178	P	Pn	07 13 49.8	-0.4
PAX	Paxson	2.63	74	P	Pn	07 13 51.4	+0.8

PAX	Paxson	2.63	74	P	Pn	07 13 51.4	+0.8
MLY	Manley	2.69	3	P	Pn	07 13 51.2	-0.1
FID	Port Fidalgo	2.71	125	P	Pn	07 13 51.0	-0.6
CCB	Clear Creek Bu	2.71	31	P	Pn	07 13 51.7	0.0
HDA	Harding Lake	2.75	40	P	Pn	07 13 52.6	+0.4
DIV	Divide	2.79	114	P	Pn	07 13 51.9	-0.8
MDM	Murphy Dome	2.89	24	P	Pn	07 13 54.3	+0.3
COLA	College	2.89	28	P	Pn	07 13 53.8	-0.3
COLA	College	2.89	28	P	Pn	07 13 53.8	-0.3
OPT	Oil Point	2.92	203	P	Pn	07 13 54.6	+0.2
IL1	Eielson Array	3.05	36	P	Pn	07 13 56.1	0.0
ILAR	Eielson Array	3.05	36	P	Pn	07 13 56.2	+0.1
	166nm,0.3s,baz=221,slow=14,SNR=8026						
ILAR				S	Sn	07 14 30.6	-1.0
	85nm,0.3s,baz=220,slow=22,SNR=6.6						
ILAR	Eielson Array	3.05	36	P	Pn	07 13 56.2	+0.1
ILAR				S	Sn	07 14 30.6	-1.0
ILAR	Eielson Array	3.05	36	P	Pn	07 13 56.2	+0.1
ILAR				S	Sn	07 14 30.6	-1.0
GLM	Gilmore Dome	3.10	30	P	Pn	07 13 57.1	+0.3
EYAK	Cordova Ski Ar	3.12	123	P	Pn	07 13 56.5	-0.5
BMRM	Bremner River	3.36	112	P	Pn	07 13 59.4	-1.0
MENT	Mentasta	3.42	77	*e*P	Pn	07 14 01.8	+0.6
DOT	Dot Lake	3.43	65	P	Pn	07 14 01.6	+0.4
GOAT	Goat Mountain	3.51	118	P	Pn	07 14 01.9	-0.5
GCSA	Galena City Sc	3.55	315	P	Pn	07 14 03.0	+0.1
RAGM	Ragged Mountai	3.64	120	*e*Pn	Pn	07 14 04.3	+0.2
MID	Middleton Isla	3.73	140	*e*P	Pn	07 14 06.0	+0.7
MID	Middleton Isla	3.73	140	*e*P	Pn	07 14 06.0	+0.7
FOPK	Fourpeaked Vol	3.81	200	P	Pn	07 14 07.2	+0.7
IM3	Indian Mountai	3.83	343	P	Pn	07 14 06.6	-0.1
IMA2	Indian Mountai	3.90	344	*e*Pn	Pn	07 14 08.3	+0.7
PRP	Porcupine Dome	3.99	35	P	Pn	07 14 09.3	+0.5
NICHA	Nichawak Mount	4.01	119	P	Pn	07 14 08.5	-0.7
BERG	Berg Lake	4.04	116	P	Pn	07 14 08.6	-0.9
KAPH	Katmai Pasha	4.12	205	P	Pn	07 14 09.8	-0.8
KHIT	Khitrov Hills	4.20	114	P	Pn	07 14 11.0	-0.7
GRIN	Grindle Hills	4.26	116	P	Pn	07 14 11.6	-0.9
BCA3	Beaver Creek A	4.31	76	P	Pn	07 14 13.3	+0.1
BALM	Baldy	4.34	104	P	Pn	07 14 12.9	-0.6
BALM	Baldy	4.34	104	P	Pn	07 14 13.0	-0.6
ISLE	Juniper Island	4.52	109	P	Pn	07 14 15.2	-0.8
KULT	Kultieth River	4.53	114	P	Pn	07 14 15.7	-0.4
KAKN	Katmai Knife C	4.54	208	P	Pn	07 14 16.4	0.0
BARK	Barkley Ridge	4.55	112	P	Pn	07 14 16.2	-0.2
KELA	Mount Kelaz	4.58	213	P	Pn	07 14 17.1	+0.3
KABU	Katmai Buttres	4.62	209	P	Pn	07 14 17.8	+0.4
KCE	Katmai Mt Cerb	4.62	208	P	Pn	07 14 17.4	0.0
KDAK	Kodiak Island	4.66	190	P	Pn	07 14 16.6	-1.4
	22nm,0.3s,baz=28,slow=9.2,SNR=214						
KDAK	Kodiak Island	4.66	190	*e*Pn	Pn	07 14 16.9	-1.0
KDAK	Kodiak Island	4.66	190	*i*P	Pn	07 14 16.2	-1.7
BAGL	Bagley Icefiel	4.68	110	P	Pn	07 14 17.6	-0.7
COLD	Coldfoot	4.90	4	P	Pn	07 14 21.7	+0.5
WRG	White River Gl	4.93	114	P	Pn	07 14 21.4	-0.2
EGAK	Eagle	5.03	57	P	Pn	07 14 23.1	+0.2
TABL	Table Mountain	5.12	108	P	Pn	07 14 23.7	-0.5
OHAK	Old Harbor	5.28	194	P	Pn	07 14 24.5	-1.8
CHX	Chaix Hills	5.31	111	P	Pn	07 14 26.8	0.0
DAWY	Dawson	5.53	67	P	Pn	07 14 29.9	+0.1
BM3	Burnt Mountain	5.77	25	P	Pn	07 14 33.0	+0.1
PNL	Peninsula	6.26	110	P	Pn	07 14 40.5	+0.8
CHGN	Chignik	7.15	215	*e*P	Pn	07 14 51.8	0.0
TNA	Tin City	8.09	301	*e*Pn	Pn	07 15 04.8	+0.3
	104nm,0.6s						
TNA				*e*Sn	Sn	07 16 29.6	-4.6
SKAG	Skagway	8.18	104	*e*P	Pn	07 15 05.5	-0.3
SDPT	Sand Point	8.56	219	*e*Pn	Pn	07 15 13.4	+2.4
	104nm,0.6s						
INK	Inuvik	9.41	43	P	Pn	07 15 22.4	-0.1
	8.4nm,0.3s,baz=238,slow=17,SNR=189						
INK				LR	LR	07 18 56.4	
	comp=Z,177nm,20.9s,baz=161,slow=37						
INK	Inuvik	9.41	43	*e*Pn	Pn	07 15 22.4	-0.1
	105nm,0.9s						
INK	Inuvik	9.41	43	*e*P	Pn	07 15 22.4	-0.1
INK				pmax

TXAR Lajitas Array 45.01 115 P **P** **07 21 19.1 +3.0**
comp=Z,0.5nm,0.6s,mb3.4,baz=321,slow=6.6,SNR=9.0
TXAR pP pP 07 21 40.9 +3.1
comp=Z,0.9nm,0.6s,baz=330,slow=6.4,SNR=5.0
TXAR LR LR 07 40 14.3
comp=Z,44nm,20.8s,baz=350,slow=36
TXAR Lajitas Array 45.01 115 P **P** **07 21 19.1 +3.0**
TXAR pP pP 07 21 40.9 +3.1
TXAR Lajitas Array 45.01 115 P **P** **07 21 19.1 +3.0**
TXAR *PP pP 07 21 40.9 +3.1
JCT Junction City 45.68 110 *e*P **P** **07 21 23.0 +1.6**
comp=Z,6.2nm,0.7s,mb4.5
JCT Junction City 45.68 110 *e*P **P** **07 21 23.0 +1.6**
JCT pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
USRK Ussuriysk Arra 46.36 284 P **P** **07 21 25.3 -1.3**
comp=Z,1.3nm,0.7s,mb3.8,baz=29,slow=10,SNR=3.4
ARCES ARCESS Array B 48.37 2 P **P** **07 21 41.9 0.0**
comp=Z,6.4nm,0.9s,mb4.5,baz=359,slow=8.7,SNR=4.5
ARCES pP pP 07 22 04.2 +0.5
comp=Z,6.4nm,0.9s,baz=21,slow=7.9,SNR=2.2
ARCES ARCESS Array B 48.37 2 P **P** **07 21 41.9 +0.1**
ARCES pP pP 07 22 04.2 +0.5
ARCES ARCESS Array B 48.37 2 P **P** **07 21 41.9 +0.1**
ARCES *PP pP 07 22 04.2 +0.5
CN2 Changchun 49.60 289 *e*P **P** **07 21 51.0 -0.5**
CN2 *e*pP pP 07 22 14.3 +0.8
CN2 *e*sP sP 07 22 25.0 +1.2
CN2 *e*S **S** **07 28 49.8 -2.7**
CN2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
CN2 pmax pmax
comp=Z,200nm,4.0s
MAT Matsushiro 49.60 273 P **P** **07 21 51.3 -0.4**
MJAR Matsushiro Arr 49.60 273 P **P** **07 21 51.6 -0.1**
comp=Z,3.2nm,0.6s,mb4.4,baz=355,slow=9.2,SNR=12
MJAR Matsushiro Arr 49.60 273 P **P** **07 21 51.6 -0.1**
MJAR Matsushiro Arr 49.60 273 P **P** **07 21 51.6 -0.1**
ZAK Zakamensk 53.22 310 *e*P **P** **07 22 18.1 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
KSRS Korea Array 53.60 282 P **P** **07 22 21.9 +0.4**
comp=Z,4.0nm,0.6s,mb4.6,baz=28,slow=6.8,SNR=17
KSAR Wonju Array Be 53.63 282 P **P** **07 22 21.9 +0.2**
KSAR Wonju Array Be 53.63 282 P **P** **07 22 21.9 +0.2**
ULN Ulaanbaatar 53.91 305 *e*P **P** **07 22 24.2 +0.7**
comp=Z,4.2nm,0.6s,mb4.7
ULN Ulaanbaatar 53.91 305 *e*P **P** **07 22 24.2 +0.7**
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SONM Songino Array 54.18 306 P **P** **07 22 26.6 +1.1**
comp=Z,10nm,0.8s,mb4.9,baz=33,slow=7.8,SNR=49
SONM Songino Array 54.18 306 P **P** **07 22 26.6 +1.1**
SONM Songino Array 54.18 306 P **P** **07 22 26.6 +1.1**
NVS Novosibirsk 55.67 325 *i* P **P** **07 22 34.6 -1.5**
NVS *e* 07 23 11.5
NVS pmax pmax
comp=Z,14nm,1.1s,mb4.9
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.4s
ZAA0 Zalesovo Array 56.03 324 *e*P **P** **07 22 38.1 -0.7**
ZALV Zalesovo Beam 56.03 324 P **P** **07 22 38.0 -0.7**
comp=E,7.7nm,0.5s,mb5.0,baz=30,slow=6.7,SNR=43
ZALV Zalesovo Beam 56.03 324 P **P** **07 22 38.0 -0.7**
ZALV Zalesovo Beam 56.03 324 P **P** **07 22 38.1 -0.6**
NB2 NORSAR Subarra 56.18 10 P **P** **07 22 38.5 -1.2**
comp=Z,1.2nm,0.6s,mb4.1,baz=352,slow=7.4
NOA NORSAR Array B 56.18 10 P **P** **07 22 38.8 -0.8**
comp=Z,0.7nm,0.6s,mb3.9,baz=351,slow=7.2,SNR=5.2
NOA pP pP 07 23 01.6 -0.6
comp=Z,1.4nm,0.7s,baz=350,slow=7.2,SNR=4.4
NOA sP sP 07 23 13.7 +1.4
comp=Z,1.0nm,0.7s,baz=350,slow=7.2,SNR=3.0
NOA NORSAR Array B 56.18 10 P **P** **07 22 38.8 -0.8**
NOA pP pP 07 23 01.6 -0.6
NOA sP sP 07 23 13.7 +1.4
NOA NORSAR Array B 56.18 10 P **P** **07 22 38.8 -0.9**
NOA *PP pP 07 23 01.6 -0.5
NOA *SP sP 07 23 13.7 +1.4
FINES FINESS Array B 56.50 2 P **P** **07 22 42.0 0.0**
comp=Z,3.0nm,0.9s,mb4.3,baz=2.5,slow=8.6,SNR=6.2
FINES pP pP 07 23 05.0 +0.7
comp=Z,3.5nm,0.8s,baz=351,slow=7.4,SNR=3.2
FINES FINESS Array B 56.50 2 P **P** **07 22 42.0 0.0**
FINES pP pP 07 23 05.0 +0.7
FINES FINESS Array B 56.50 2 P **P** **07 22 42.0 +0.1**
FINES *PP pP 07 23 05.1 +0.7
BJI Beijing 56.68 293 P **P** **07 22 44.0 +0.5**
BJI pmax pmax
comp=Z,14nm,0.9s,mb5.0
BJI LR LR
comp=Z,53nm,17.2s
HHC Hu-ho-hao-te 57.95 297 *e*P **P** **07 23 00.0 +7.6**
HHC pP pP 07 23 23.8 +8.8
HHC sP sP 07 23 35.5 +10
HHC PP PP 07 25 10.8 +10
HHC S **S** **07 30 49.8 +4.6**
HHC sS sS 07 31 31.3 +7.5
HHC ScS ScS 07 32 36.8 +4.0
HHC SS SS 07 34 44.0 +7.3
HHC pmax pmax
comp=Z,12nm,0.7s,mb5.0
HHC pmax pmax
comp=Z,170nm,5.6s
HHC LR LR
comp=N,270nm,15.5s
HHC LR LR
comp=E,480nm,17.8s
HHC LR LR
comp=Z,180nm,15.5s
SVE Sverdlovsk 58.62 340 *e*P **P** **07 22 56.6 -0.3**
SVE pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ARU Arti 59.32 341 *c i*P **P** **07 23 00.4 -1.3**
ARU *PP pP 07 23 22.1 -2.3
ARU S **S** **07 31 04.4 +1.8**
ARU SS SS 07 35 04.2 +6.7
ARU pmax pmax
comp=Z,23nm,1.7s,mb4.9
BRVK Borovoye 60.41 333 *c e*P **P** **07 23 07.5 -1.7**
BRVK pmax pmax
comp=Z,12nm,1.7s,mb4.7
BVA0 Borovoye Array 60.42 333 *i* P **P** **07 23 08.8 -0.5**
BVAR Borovoye Array 60.42 333 P **P** **07 23 08.8 -0.5**
comp=Z,2.3nm,0.5s,mb4.5,baz=38,slow=7.0,SNR=23
BVAR Borovoye Array 60.42 333 P **P** **07 23 08.8 -0.5**
BVAR Borovoye Array 60.42 333 P **P** **07 23 08.8 -0.5**
KURK Kurchatov 60.61 326 P **P** **07 23 10.5 -0.1**
comp=Z,4.5nm,0.6s,mb4.7,baz=28,slow=7.0,SNR=44
KURK PcP PcP 07 23 54.1 +0.1
comp=Z,0.7nm,0.6s,baz=29,slow=5.8,SNR=4.4
KURK PP PP 07 25 20.7 -3.8
comp=Z,1.2nm,0.9s,baz=36,slow=10,SNR=4.6
KURK Kurchatov 60.61 326 P **P** **07 23 10.5 -0.1**
comp=Z,0.3nm,0.6s,mb3.5
KURK PcP PcP 07 23 54.1 +0.1
KURK PP PP 07 25 20.7 -3.8
KURK Kurchatov 60.61 326 P **P** **07 23 10.5 -0.1**
KURK 07 23 54.1
KURK 07 25 20.7
NJ2 Nanjing 62.20 286 *e*P **P** **07 23 21.5 -0.1**
NJ2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
JOW Kunigami 62.33 275 P **P** **07 23 22.3 -0.2**
comp=Z,29nm,1.0s,mb5.3,baz=101,slow=3.5,SNR=6.9
JOW Kunigami 62.33 275 P **P** **07 23 22.3 -0.2**
OBN Obninsk 62.72 355⇑ *e*P **P** **07 23 25.1 +0.4**
OBN *e* pP 07 23 43.6 -3.9
OBN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MK31 Makanchi Array 63.17 322 *e*P **P** **07 23 26.7 -1.1**
MK31 Makanchi Array 63.17 322 *i* P **P** **07 23 26.6 -1.2**
MK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
MKAR Makanchi Array 63.17 322 P **P** **07 23 26.9 -1.0**
comp=Z,7.7nm,0.7s,mb4.7,baz=40,slow=6.8,SNR=77
MKAR PP PP 07 25 43.2 -3.9
comp=Z,1.5nm,0.8s,baz=46,slow=6.9,SNR=3.8
MKAR Makanchi Array 63.17 322 P **P** **07 23 26.9 -1.0**
MKAR PP PP 07 25 43.2 -3.9
MKAR Makanchi Array 63.17 322 P **P** **07 23 26.9 -0.9**
MKAR 07 25 43.2

GTA Gaotai 63.85 305 *e*P **P** **07 23 33.0 +0.6**
GTA pP pP 07 23 55.0 -0.3
GTA sP sP 07 24 04.5 -0.9
GTA pmax pmax
comp=Z,15nm,1.2s,mb4.7
WMQ Urumqi 64.21 317 *e*P **P** **07 23 36.8 +2.1**
LZH Lanzhou 65.16 300 *e*P **P** **07 23 41.8 +0.8**
LZH pP pP 07 24 06.5 +2.5
LZH sP sP 07 24 18.0 +4.0
LZH pmax pmax
comp=Z,16nm,1.0s,mb4.8
AKTO Aktyubinsk 65.21 340 P **P** **07 23 40.6 -0.4**
comp=Z,5.3nm,0.5s,mb4.6,baz=38,slow=6.7,SNR=13
AKTO Aktyubinsk 65.21 340 P **P** **07 23 40.6 -0.4**
AKTO Aktyubinsk 65.21 340 P **P** **07 23 40.7 -0.4**
AB31 Akbulak array 66.03 338 *i* P **P** **07 23 46.1 -0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
ABKAR Akbulak array 66.03 338 *e*P **P** **07 23 45.8 -0.6**
comp=Z,3.9nm,0.6s,mb4.4
ABKAR *e*pP pP 07 24 12.2 +2.8
AKASG Malin Array Be 67.29 360 P **P** **07 23 53.5 -0.8**
comp=Z,2.9nm,0.6s,mb4.3,baz=1.6,slow=6.4,SNR=14
AKASG pP pP 07 24 17.4 -0.1
comp=Z,1.6nm,0.5s,baz=0.4,slow=6.4,SNR=3.1
AKASG Malin Array Be 67.29 360 P **P** **07 23 53.5 -0.8**
AKASG pP pP 07 24 17.4 -0.1
AKASG Malin Array Be 67.29 360 P **P** **07 23 53.5 -0.8**
AKASG *PP pP 07 24 17.4 -0.1
KHC Kasperske Hory 68.18 11 *e*pP pP 07 24 18.5 -4.7
GERES GERESS Array B 68.48 11 P **P** **07 24 02.1 +0.3**
comp=Z,0.6nm,0.5s,mb3.6,baz=0.0,slow=7.3,SNR=3.6
GERES GERESS Array B 68.48 11 P **P** **07 24 02.1 +0.3**
GERES GERESS Array B 68.48 11 P **P** **07 24 02.1 +0.3**
USP Ospenovka 68.57 326 P **P** **07 24 02.4 -0.1**
SNR=6.2
USP P 07 24 02.4
SNR=6.2
TKM2 Tokmak 2 68.60 325 P **P** **07 24 02.9 +0.2**
SNR=8.6
TKM2 P 07 24 02.9
SNR=8.6
TKM2 Tokmak 2 68.60 325 *e*P **P** **07 24 02.8 +0.1**
comp=Z,7.3nm,0.9s,mb4.5
TKM2 Tokmak 2 68.60 325 *i* P **P** **07 24 02.9 +0.2**
KBK Karagaybulak 69.02 325 P **P** **07 24 05.7 +0.4**
SNR=6.6
KBK P 07 24 05.7
SNR=6.6
AAK Ala-Archa 69.16 326 P **P** **07 24 06.4 +0.3**
SNR=6.8
AAK P 07 24 06.4
SNR=6.8
AAK Ala-Archa 69.16 326 *e*P **P** **07 24 06.3 +0.1**
comp=Z,23nm,0.9s,mb5.0
AAK Ala-Archa 69.16 326 *i* P **P** **07 24 06.4 +0.2**
EKS2 Erkin-Say 69.32 326 P **P** **07 24 07.5 +0.3**
SNR=12
EKS2 P 07 24 07.5
SNR=12
EKS2 Erkin-Say 69.32 326 *e*P **P** **07 24 07.2 +0.1**
comp=Z,9.9nm,0.9s,mb4.6
EKS2 Erkin-Say 69.32 326 *e*P **P** **07 24 07.3 +0.2**
EKS2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
CD2 Chengdu 69.70 298 *e*P **P** **07 24 10.0 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
KK31 Karatay Array 69.72 329 *i* P **P** **07 24 08.6 -1.0**
KKAR Karatay Array 69.72 329 *e*P **P** **07 24 08.9 -0.8**
comp=Z,3.2nm,0.9s,mb4.2
KKAR Karatay Array 69.72 329 *e*P **P** **07 24 08.9 -0.7**
KKAR pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
AML Almayashu 69.84 326 P **P** **07 24 11.1 +0.8**
SNR=8.8
AML P 07 24 11.1
SNR=8.8
BUR08 Bucovina Ar. S 70.31 3 *e*P **P** **07 24 13.1 0.0**
KSH Kashi 71.67 323⇑ *i*P **P** **07 24 24.0 +2.5**
GYA Guiyang 72.37 293 *e*P **P** **07 24 26.0 +0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
ESDC Sonseca Array 74.91 26 P **P** **07 24 41.8 +1.2**
comp=Z,0.8nm,0.6s,mb3.6,baz=338,slow=5.2,SNR=5.3
ESDC pP pP 07 25 04.4 +0.4
comp=Z,1.0nm,0.7s,baz=335,slow=5.9,SNR=3.1
ESDC Sonseca Array 74.91 26 P **P** **07 24 41.8 +1.2**
ESDC pP pP 07 25 04.4 +0.4
KMI Kunming 75.21 296 P **P** **07 24 46.5 +4.0**
KMI pmax pmax
comp=Z,13nm,1.0s,mb4.6
BRTR Keskin Array B 78.19 356 P **P** **07 24 59.1 +0.1**
comp=Z,0.7nm,0.7s,mb3.5,baz=3.9,slow=2.6,SNR=3.2
BRTR Keskin Array B 78.19 356 P **P** **07 24 59.1 +0.1**
BRTR Keskin Array B 78.19 356 P **P** **07 24 59.1 +0.1**
TAPN Taplejung 79.11 309 *e*P **P** **07 25 04.8 +0.5**
comp=Z,17nm,0.7s,mb5.0
TAPN Taplejung 79.11 309 *e*P **P** **07 25 04.8 +0.5**
comp=Z,17nm,0.7s,mb5.0
GUN Gumba 79.25 311 *e*P **P** **07 25 05.6 +0.6**
GUN Gumba 79.25 311 *e*P **P** **07 25 05.6 +0.6**
JIRN Jiri 79.37 311 *e*P **P** **07 25 06.4 +0.7**
comp=Z,1.8nm,0.3s,mb4.4
JIRN Jiri 79.37 311 *e*P **P** **07 25 06.4 +0.7**
comp=Z,1.8nm,0.3s,mb4.4
KKN Kakani 79.57 311 *e*P **P** **07 25 07.2 +0.4**
comp=Z,4.2nm,0.2s,mb4.8
KKN Kakani 79.57 311 *e*P **P** **07 25 07.2 +0.4**
comp=Z,4.2nm,0.3s,mb4.8
KKN Kakani 79.57 311 *e*P **P** **07 25 07.2 +0.4**
KKN pmax pmax
comp=Z,4.0nm,0.3s,mb4.7
DANN Dangsing 79.58 313 *e*P **P** **07 25 07.4 +0.6**
comp=Z,32nm,1.0s,mb5.1
DANN Dangsing 79.58 313 *e*P **P** **07 25 07.4 +0.6**
comp=Z,32nm,1.0s,mb5.1
GKN Gorkha 79.60 312 *e*P **P** **07 25 07.2 +0.3**
GKN Gorkha 79.60 312 *e*P **P** **07 25 07.2 +0.3**
ODAN Odare 79.67 309 *e*P **P** **07 25 07.8 +0.5**
comp=Z,5.2nm,0.4s,mb4.7
ODAN Odare 79.67 309 *e*P **P** **07 25 07.8 +0.5**
comp=Z,5.2nm,0.4s,mb4.7
PKI Pulchoki 79.73 311 *e*P **P** **07 25 08.0 +0.4**
PKI Pulchoki 79.73 311 *e*P **P** **07 25 08.0 +0.4**
PKI Pulchoki 79.73 311 *e*P **P** **07 25 08.0 +0.4**
DMN Daman 79.80 312 *e*P **P** **07 25 08.4 +0.4**
DMN Daman 79.80 312 *e*P **P** **07 25 08.4 +0.4**
RAMN Ramite 79.87 310 *e*P **P** **07 25 08.4 0.0**
comp=Z,16nm,0.8s,mb4.9
RAMN Ramite 79.87 310 *e*P **P** **07 25 08.4 0.0**
comp=Z,16nm,0.8s,mb4.9
KOLN Koldanda 80.17 313 *e*P **P** **07 25 10.0 0.0**
comp=Z,4.8nm,0.4s,mb4.7
KOLN Koldanda 80.17 313 *e*P **P** **07 25 10.0 0.0**
comp=Z,4.8nm,0.4s,mb4.7
CMAR Chiang Mai Arr 82.72 296 P **P** **07 25 23.2 -0.3**
comp=Z,3.3nm,0.8s,mb4.2,baz=4.2,slow=6.4,SNR=15
CMAR Chiang Mai Arr 82.72 296 P **P** **07 25 23.2 -0.3**
CMAR Chiang Mai Arr 82.72 296 P **P** **07 25 23.2 -0.3**
BOSA Boshof 146.16 6 PKPbc PKPbc 07 32 38.5 -0.6
comp=Z,4.2nm,0.8s,baz=225,slow=2.1,SNR=5.8
BOSA Boshof 146.16 6 PKPbc PKPbc 07 32 38.5 -0.6
QSPA South Pole Qui 152.17 180 *e*PKPbc PKPbc 07 32 53.3 +0.6

*CSEM **28** 07:15:54.7±1.0, 49°.85N×18°.57E, h1km, Error ellipse: s-maj=15.1km s-min=8.3km az=96.0*

PRU 28 07:15:55.3, 49°.82N×18°.56E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.27**	**274**	*e*PG	Pg	07 16 00.1	-0.3
OKC				*e*SG	Sg	07 16 04.0	+0.1
OKC	**Ostrava-Krasne**	**0.27**	**274**	Pg	Pg	07 16 00.1	-0.3
OKC				Sg	Sg	07 16 04.0	+0.1
MORC	**Moravsky Berou**	**0.66**	**267**	*e*Pg	Pg	07 16 08.2	+0.3
MORC				*e*Sg	Sg	07 16 15.5	-1.0
DPC	**Dobruska-Polom**	**1.54**	**291**	*e*PG	Pg	07 16 23.6	-1.1
DPC				*e*SG	Sg	07 16 44.3	-0.3
DPC	**Dobruska-Polom**	**1.54**	**291**	Pg	Pg	07 16 23.6	-1.1
DPC				Sg	Sg	07 16 44.3	-0.3

*NEIC **28** 07:17:29.9, 32°.23S×71°.72W, h27km, ML2.5(GUC), After GUC.*

GUC 28 07:17:29.9±0.9, 32°.23S×71°.72W, h27km±15km, MD3.5, ML2.5, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.39**	**28⇑**	*i*P	Pb	07 17 38.6	+0.2
CHNG				*i* S	Sb	07 17 44.1	-0.1
CHNG	**Los Chungos**	**0.39**	**28⇑**	*i*P	Pb	07 17 38.6	+0.2
CHNG				*i* S	Sb	07 17 44.1	-0.1
PTCH	**Petorca**	**0.67**	**93⇑**	*i*P	Pb	07 17 42.9	0.0
PTCH				*i* S	Sb	07 17 52.3	+0.5
PTCH	**Petorca**	**0.67**	**93⇑**	*i*P	Pb	07 17 42.9	0.0
PTCH				*i* S	Sb	07 17 52.3	+0.5
PTCH				AML	AML	07 17 52.5	
	comp=N,985nm,0.2s						
ROCH	**El Roble**	**0.95**	**141⇑**	*i*P	Pn	07 17 46.9	-0.5
ROCH				*i* S	Sb	07 18 00.1	+0.1
JACH	**Jahuel**	**1.05**	**116**	*e*P	Pn	07 17 48.5	-0.3
JACH				*i* S	Sn	07 18 02.6	0.0
JACH	**Jahuel**	**1.05**	**116**	*e*P	Pn	07 17 48.5	-0.3
JACH				*i* S	Sn	07 18 02.6	0.0
CMCH	**Combarbala**	**1.22**	**30⇓**	*i*P	Pn	07 17 51.1	0.0
CMCH				*i* S	Sn	07 18 07.3	+0.7
CMCH	**Combarbala**	**1.22**	**30⇓**	*i*P	Pn	07 17 51.1	0.0
CMCH				*i* S	Sn	07 18 07.3	+0.7
CMCH				AML	AML	07 18 13.4	
	comp=N,352nm,0.4s						
PEL	**Peldehue**	**1.26**	**137⇓**	*i*P	Pn	07 17 52.0	+0.3
PEL				*i* S	Sn	07 18 08.7	+0.9
PEL				AML	AML	07 18 12.6	
	comp=E,155nm,0.4s						
CLCH	**Cerro Calan**	**1.53**	**140**	*e*P	Pn	07 17 56.4	+1.0
CLCH				*i* S	Sn	07 18 16.6	+2.1
CLCH				AML	AML	07 18 25.6	
	comp=N,62nm,0.7s						
FCH	**Farellones**	**1.63**	**133**	*e*P	Pn	07 17 48.7	-8.1
FCH				*i* S	Sn	07 18 10.9	-5.9
FCH				AML	AML	07 18 11.7	
	comp=E,77nm,0.3s						

IDC 28 07:18:13.4±2.8, 7°.11S×120°.11E, h436km±51km, mb3.2/2, mb1 3.2/5, mb1mx2.9/19, mbtmp3.1/5, Error ellipse: s-maj=131.3km s-min=70.3km az=64.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.11**	**350**	P	P	07 19 13.4	0.0
	10nm,0.3s,baz=171,slow=5.3,SNR=23						
FITZ	**Fitzroy Crossi**	**12.18**	**154**	P	P	07 20 53.1	-1.3
	0.1nm,0.3s,baz=329,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**18.80**	**134**	P	P	07 22 03.6	-1.1
	0.7nm,0.3s,baz=315,slow=11,SNR=28						
ASAR	**Alice Springs**	**21.13**	**143**	P	P	07 22 26.2	+0.3
	2.0nm,0.5s,baz=314,slow=8.2,SNR=40						
STKA	**Stephens Creek**	**31.76**	**144**	P	P	07 24 00.5	+0.5
	1.0nm,0.3s,baz=318,slow=11,SNR=6.7						

LJU 28 07:18:33.3, 46°.29N×13°.27E, h11km, ML1.4, 3C-3D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VINO	**Villanova**	**0.04**	**164⇓**	*e*Pg	Pg	07 18 35.4	+0.1
VINO				*e*Sg	Sg	07 18 36.9	+0.2
VINO	**Villanova**	**0.04**	**164**	*e*Sg	Sg	07 18 36.9	+0.2
BAD	**Bernadia**	**0.06**	**196⇑**	*e*Pg	Pg	07 18 35.6	+0.2
BAD				*e*Sg	Sg	07 18 37.4	+0.4
BAD	**Bernadia**	**0.06**	**196**	*e*Sg	Sg	07 18 37.4	+0.4
BOO	**Bordano**	**0.12**	**283⇑**	*i*Pg	Pg	07 18 36.3	+0.1
ROBS	**Robic**	**0.18**	**106**	*i* Pg	Pg	07 18 37.3	+0.2
ROBS				*i* Sg	Sg	07 18 39.9	+0.2
ROBS							
	comp=Z,39nm,0.1s						
DRE	**Drenchia**	**0.29**	**114⇓**	*e*Pg	Pg	07 18 39.1	0.0
DRE				*e*Sg	Sg	07 18 43.8	+0.8
ACOM	**Acomizza, Ital**	**0.31**	**34⇓**	*e*Pg	Pg	07 18 39.6	+0.2
ACOM				*e*Sg	Sg	07 18 44.5	+0.8
CADS	**Cadrg**	**0.33**	**101**	*i* Pg	Pg	07 18 39.8	-0.1
CADS				*i* Sg	Sg	07 18 45.4	+1.0
CADS							
	comp=Z,6.0nm,0.1s						
ZOU	**Zoufplan**	**0.33**	**323⇑**	*e*Pg	Pg	07 18 40.0	+0.1
ZOU				*e*Sg	Sg	07 18 45.5	+1.0
SABO	**M.te Sabotino**	**0.39**	**143**	*e*Pg	Pg	07 18 41.5	+0.5

*NEIC **28** 07:54:58.9, 32°.23S×71°.72W, h33km, ML2.6(GUC), After GUC.*

GUC 28 07:54:58.9±0.7, 32°.23S×71°.72W, h33km±5km, MD3.6, ML2.6, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.39**	**29⇑**	*i*P	Pb	07 55 07.7	-0.1
CHNG				*i* S	Sb	07 55 14.2	+0.3
CHNG	**Los Chungos**	**0.39**	**29⇑**	*i*P	Pb	07 55 07.7	-0.1
CHNG				*i* S	Sb	07 55 14.2	+0.3
PTCH	**Petorca**	**0.67**	**93⇑**	*i*P	Pn	07 55 12.1	0.0
PTCH				*i* S	Sb	07 55 21.6	+0.2
PTCH	**Petorca**	**0.67**	**93⇑**	*i*P	Pn	07 55 12.1	0.0
PTCH				*i* S	Sb	07 55 21.6	+0.2
PTCH				AML	AML	07 55 21.7	
	comp=N,2μm,0.2s						
ROCH	**El Roble**	**0.95**	**141⇓**	*i*P	Pn	07 55 15.9	-0.1
ROCH				AML	AML	07 55 31.0	
	comp=N,202nm,0.3s						
JACH	**Jahuel**	**1.06**	**116⇓**	*i*P	Pn	07 55 17.8	+0.3
JACH	**Jahuel**	**1.06**	**116⇓**	*i*P	Pn	07 55 17.8	+0.3
CMCH	**Combarbala**	**1.22**	**31⇓**	*i*P	Pn	07 55 20.2	+0.6
CMCH				*i* S	Sn	07 55 36.6	+1.7
CMCH	**Combarbala**	**1.22**	**31⇓**	*i*P	Pn	07 55 20.2	+0.6
CMCH				*i* S	Sn	07 55 36.6	+1.7
CMCH				AML	AML	07 55 42.5	
	comp=N,475nm,0.6s						
PEL	**Peldehue**	**1.27**	**137⇓**	*i*P	Pn	07 55 21.2	+0.9
PEL				*i* S	Sn	07 55 37.9	+1.8
PEL				AML	AML	07 55 41.8	
	comp=E,218nm,0.4s						
CLCH	**Cerro Calan**	**1.54**	**140**	*e*P	Pn	07 55 25.5	+1.5
CLCH				*i* S	Sn	07 55 45.9	+3.1
CLCH				AML	AML	07 55 54.7	
	comp=N,78nm,0.5s						
TACH	**Talagante**	**1.57**	**155**	*e*P	Pn	07 55 26.0	+1.5
TACH	**Talagante**	**1.57**	**155**	*e*P	Pn	07 55 26.0	+1.5
ANTU	**Antumapu**	**1.62**	**146**	AML	AML	07 55 50.6	
	comp=N,69nm,0.3s						
FCH	**Farellones**	**1.63**	**133**	*i* P	Pn	07 55 28.1	+2.8
FCH				*i* S	Sn	07 55 49.5	+4.3
FCH				AML	AML	07 55 51.2	
	comp=E,142nm,0.3s						
PCH	**Pirque**	**1.72**	**144**	*e*P	Pn	07 55 28.3	+1.7
PCH	**Pirque**	**1.72**	**144**	*e*P	Pn	07 55 28.3	+1.7
LNV	**Longovilo**	**1.74**	**171**	*e*P	Pn	07 55 28.1	+1.3
LNV	**Longovilo**	**1.74**	**171**	*e*P	Pn	07 55 28.1	+1.3
LMEL	**Las Melosas**	**2.06**	**142**	*e*P	Pn	07 55 33.0	+1.8
LMEL	**Las Melosas**	**2.06**	**142**	*e*P	Pn	07 55 33.0	+1.8
LMEL				AML	AML	07 56 05.4	
	comp=N,91nm,0.1s						
CACH	**El Canelo**	**2.11**	**154**	*e*P	Pn	07 55 34.3	+2.5
CACH	**El Canelo**	**2.11**	**154**	*e*P	Pn	07 55 34.3	+2.5
LCO	**Las Campanas**	**3.32**	**16**	*e*Pn	Pn	07 55 49.0	+0.4

*DDA **28** 07:56:10.9, 37°.89N×29°.23E, h7km±2km, Md2.8*
*ISCJB **28** 07:56:11.1±0.5, 37°.90N±0°.03×29°.19E±0°.04, h10km±8km, Error ellipse: s-maj=6.1km s-min=5.0km az=35.4*
*ISK **28** 07:56:11.0, 37°.87N×29°.19E, h12km, MD2.6*
*CSEM **28** 07:56:11.0±0.1, 37°.89N×29°.20E, h10km, MD2.6, Error ellipse: s-maj=3.5km s-min=3.1km az=104.0*

ISC 28 07:56:11.4±0.9, 37°.90N±0°.03×29°.17E±0°.05, h14km±12km, n16, σ0°65/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**218**	*e*PG	**Pg**	**07 56 15.3**	**-0.2**
DENT				*e*SG	**Sg**	**07 56 18.3**	**-0.2**
DENT	**Denizli**	**0.18**	**218**	*e*Pg	**Pg**	**07 56 15.3**	**-0.3**
DENT				*e*Sg	**Sg**	**07 56 18.3**	**-0.2**
DNZL	**Cakiroluk**	**0.23**	**206**	*i* P	**Pg**	**07 56 16.4**	**0.0**

DNZL				*i* S		Sg	07 56 19.8	0.0
DNZL	**Cakiroluk**	**0.23**	**206**	*i* P		Pg	07 56 16.4	0.0
DNZL				*i* S		Sg	07 56 19.8	0.0
KHAL	**Karahalli**	**0.54**	**28**	*i* P		Pg	07 56 21.1	-0.8
KHAL				*i* S		Sg	07 56 29.2	+0.1
KHAL	**Karahalli**	**0.54**	**28**	*i* P		Pg	07 56 21.1	-0.8
KHAL				*i* S		Sg	07 56 29.2	+0.1
GOLH	**Golhisar**	**0.73**	**155**	*i* P		Pg	07 56 24.9	-0.6
GOLH				*i* S		Sg	07 56 36.4	+1.3
GOLH	**Golhisar**	**0.73**	**155**	*i* P		Pg	07 56 24.9	-0.6
GOLH				*i* S		Sg	07 56 36.4	+1.3
KULA	**Kula-Manisa**	**0.74**	**327**	*e*PG		Pg	07 56 26.2	+0.5
KULA	**Kula-Manisa**	**0.74**	**327**	*e*Pg		Pg	07 56 26.2	+0.5
MANT	**Manisa**	**0.77**	**321**	*i* P		Pg	07 56 26.2	-0.1
MANT				*i* S		Sg	07 56 37.1	+0.7
MANT	**Manisa**	**0.77**	**321**	*i* P		Pg	07 56 26.2	-0.1
MANT				*i* S		Sg	07 56 37.1	+0.8
YER	**Yerkesik**	**1.04**	**223**	*e*PG		Pg	07 56 31.1	-0.2
YER	**Yerkesik**	**1.04**	**223**	*e*Pg		Pg	07 56 31.1	-0.3
ISP	**Isparta**	**1.07**	**94**	*e*PG		Pg	07 56 30.8	-1.2
ISP				*e*SG		Sg	07 56 46.9	+0.9
ISP	**Isparta**	**1.07**	**94**	*e*Pg		Pg	07 56 30.8	-1.2
ISP				*e*Sg		Sg	07 56 46.9	+0.9

IDC ***28*** *07:56:18.0±0.9, 9.°94S×160.°37E, h0km, mb4.2/8, mb1 4.5/9, mb1mx4.2/16, mbtmp4.2/9, ML4.2/1, MS3.5/2, Ms1 3.4/2, ms1mx3.0/17, Error ellipse: s-maj=21.0km s-min=16.1km az=83.0*
ISCJB ***28*** *07:56:21.2±0.7, 10.°03S±0.°05×160.°38E±0.°10, h33km, mb4.0/8, MS3.4/2, Error ellipse: s-maj=14.2km s-min=6.9km az=166.9*
NEIC ***28*** *07:56:24.2±2.3, 9.°91S×160.°31E, h41km±18km, mb4.1/2, Error ellipse: s-maj=31.2km s-min=9.8km az=117.0*
ISC 28 07:56:23.3±0.7,**9.°97S**±0.°06×**160.°3E**±0.°1,**h35km**,**n30**, σ0°**82**/31,**mb4.0**/8,**MS3.4**/2,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.66**	**325**	Pn	**Pn**	**07 56 35.1**	**-1.0**
	400nm,0.3s,baz=213,slow=15,SNR=95						
HNR				Sn	**Sn**	**07 56 45.2**	**-0.1**
	1μm,0.3s,baz=156,slow=20,SNR=32						
HNR	**Honiara**	**0.66**	**325**	*e*Pg	**Pn**	**07 56 35.7**	**-0.4**
HNR				Sn	**Sn**	**07 56 45.2**	**-0.1**
HNR				*e*Sg	**Sn**	**07 56 45.6**	**+0.3**
DZM	**Mont Dzumac**	**13.38**	**155**	*e*LR	LR	08 02 51.9	
	79nm,23.4s						
CTA	**Charters Tower**	**16.90**	**232**	Pn	**Pn**	**08 00 18.7**	**+1.5**
	0.5nm,0.3s,baz=65,slow=12,SNR=19						
CTA	**Charters Tower**	**16.90**	**232**	*e*P	**Pn**	**08 00 21.9**	**+4.7**
CTA	**Charters Tower**	**16.90**	**232**	Pn	**Pn**	**08 00 18.7**	**+1.5**
CTAO	**Charters Tower**	**16.90**	**232**	*e*P	**Pn**	**08 00 19.1**	**+1.9**
	55nm,1.3s						
RMQ	**Roma**	**19.74**	**212**	*e*P	**Pn**	**08 00 52.7**	**+0.9**
	50nm,1.1s						
ARMA	**Armidale**	**21.90**	**201**	*e*P	**P**	**08 01 10.9**	**-2.6**
QLP	**Quilpie**	**22.46**	**221**	*e*P	**P**	**08 01 19.7**	**+0.2**
WRA	**Warramunga Arr**	**26.96**	**245**	P	**P**	**08 02 02.4**	**+0.5**
	4.8nm,0.9s,mb4.0,baz=76,slow=9.7,SNR=23						
WRA				PcP	PcP	08 05 23.1	-0.1
	0.7nm,0.7s,baz=69,slow=2.7,SNR=5.0						
WRA	**Warramunga Arr**	**26.96**	**245**	P	**P**	**08 02 02.4**	**+0.5**
WRA				PcP	PcP	08 05 23.1	-0.1
STKA	**Stephens Creek**	**27.86**	**216**	P	**P**	**08 02 09.8**	**0.0**
	6.8nm,1.1s,mb4.2,baz=8.0,slow=7.7,SNR=9.4						
STKA				LR	LR	08 11 16.4	
	comp=Z,88nm,20.1s,MS3.3,baz=25,slow=32						
STKA	**Stephens Creek**	**27.86**	**216**	*e*P	**P**	**08 02 05.4**	**-4.4**
STKA	**Stephens Creek**	**27.86**	**216**	P	**P**	**08 02 09.8**	**0.0**
	17nm,1.2s,mb4.5						
AS31	**Alice Springs**	**28.66**	**238**	*e*P	**P**	**08 02 16.8**	**-0.2**
ASAR	**Alice Springs**	**28.66**	**238**	P	**P**	**08 02 16.4**	**-0.6**
	1.1nm,0.7s,mb3.7,baz=61,slow=10,SNR=20						
ASAR	**Alice Springs**	**28.66**	**238**	P	**P**	**08 02 16.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**34.56**	**253**	*e*P	**P**	**08 03 08.1**	**-0.9**
PPT2	**Papeete2**	**49.12**	**105**	*e*LR	LR	08 19 26.5	
	60nm,24.2s						
KSRS	**Korea Array**	**56.11**	**329**	P	**P**	**08 05 59.5**	**+0.3**
	0.3nm,0.4s,mb3.7,baz=91,slow=22,SNR=3.4						
KSRS				LR	LR	08 26 07.0	
	comp=Z,41nm,21.0s,MS3.5,baz=251,slow=32						
KSAR	**Wonju Array Be**	**56.12**	**329**	P	**P**	**08 05 59.5**	**+0.2**
SONM	**Songino Array**	**74.72**	**326**	P	**P**	**08 08 00.0**	**+0.6**
	0.7nm,0.5s,mb3.9,baz=134,slow=5.4,SNR=5.2						
SONM	**Songino Array**	**74.72**	**326**	P	**P**	**08 08 00.0**	**+0.6**
ILAR	**Eielson Array**	**84.27**	**20**	P	**P**	**08 08 50.6**	**-0.4**
	0.9nm,0.7s,mb4.0,baz=256,slow=5.0,SNR=13						
ILAR	**Eielson Array**	**84.27**	**20**	P	**P**	**08 08 50.6**	**-0.4**
NVAR	**Mina Array Bea**	**89.45**	**51**	P	**P**	**08 09 17.8**	**+0.9**
	1.0nm,0.8s,mb4.2,baz=252,slow=4.8,SNR=6.4						
NVAR	**Mina Array Bea**	**89.45**	**51**	P	**P**	**08 09 17.8**	**+0.9**
YKA	**Yellowknife Ar**	**96.49**	**28**	P	**P**	**08 09 48.4**	**-0.4**
	0.6nm,0.6s,mb4.2,baz=260,slow=4.7,SNR=16						
YKA	**Yellowknife Ar**	**96.49**	**28**	P	**P**	**08 09 48.4**	**-0.4**

ISK ***28*** *08:08:26.4, 37.°99N×29.°17E, h5km, MD2.5*
DDA ***28*** *08:08:26.7, 37.°89N×29.°21E, h7km±3km, Md2.6*
CSEM ***28*** *08:08:26.7±0.3, 37.°92N×29.°14E, h15km, MD2.6, Error ellipse: s-maj=10.1km s-min=7.0km az=107.0*
ISCJB ***28*** *08:08:27.0±0.9, 37.°91N±0.°05×29.°12E±0.°09, h21km±11km, Error ellipse: s-maj=11.8km s-min=7.9km az=163.9*
ISC 28 08:08:27.1±0.7,**37.°93N**±0.°04×**29.°11E**±0.°08,**h18km**±8km, **n12**, σ0°**80**/23,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**199**	PG	**Pg**	**08 08 32.3**	**+0.6**
DENT				*e*SG	**Sg**	**08 08 36.2**	**+1.3**
DENT	**Denizli**	**0.18**	**199**	*i* Pg	**Pg**	**08 08 32.3**	**+0.5**
DENT				*e*Sg	**Sg**	**08 08 36.2**	**+1.3**
DNZL	**Cakiroluk**	**0.24**	**192**	*i* P	**Pg**	**08 08 31.8**	**-0.9**
DNZL				*i* S	**Sg**	**08 08 35.5**	**-0.9**
DNZL	**Cakiroluk**	**0.24**	**192**	*i* P	**Pg**	**08 08 31.8**	**-0.9**
DNZL				*i* S	**Sg**	**08 08 35.5**	**-0.9**
KHAL	**Karahalli**	**0.54**	**34**	*i* P	**Pg**	**08 08 37.3**	**-0.6**
KHAL				*i* S	**Sg**	**08 08 45.4**	**+0.3**
KHAL	**Karahalli**	**0.54**	**34**	*i* P	**Pg**	**08 08 37.3**	**-0.6**
KHAL				*i* S	**Sg**	**08 08 45.4**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**329**	*e*PG	**Pg**	**08 08 39.6**	**-1.0**
KULA				*e*SG	**Sg**	**08 08 49.5**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**329**	*e*Pg	**Pg**	**08 08 39.6**	**-1.0**
KULA				*e*Sg	**Sg**	**08 08 49.5**	**-0.2**
MANT	**Manisa**	**0.71**	**323**	*i* P	**Pg**	**08 08 42.4**	**+1.3**
MANT				*i* S	**Sg**	**08 08 55.1**	**+4.5**
MANT	**Manisa**	**0.71**	**323**	*i* P	**Pg**	**08 08 42.3**	**+1.2**
SHUT	**Suhut-Afyon**	**1.30**	**61**	*e*PN	**Pn**	**08 08 50.0**	**-0.4**
SHUT				*e*SN	**Sn**	**08 09 07.8**	**+0.5**
SHUT	**Suhut-Afyon**	**1.30**	**61**	*e*Pn	**Pn**	**08 08 50.0**	**-0.3**
SHUT				*e*Sn	**Sn**	**08 09 07.8**	**+0.6**

ISK ***28*** *08:16:18.9, 37.°89N×36.°70E, h5km, MD2.9*
DDA ***28*** *08:16:18.4, 37.°81N×36.°68E, h7km±6km, Md3.3*
CSEM ***28*** *08:16:19.8±0.3, 37.°86N×36.°70E, h10km, MD3.3, Error ellipse: s-maj=6.2km s-min=6.1km az=107.0*
ISCJB ***28*** *08:16:20.5±0.8, 37.°84N±0.°03×36.°70E±0.°03, h13km±7km, Error ellipse: s-maj=5.7km s-min=4.5km az=17.5*
ISC 28 08:16:20.3±0.5,**37.°84N**±0.°03×**36.°72E**±0.°03,**h9km**±5km, **n23**, σ1°**24**/42,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.78**	**150**	*e*PG	**Pg**	**08 16 35.3**	**0.0**
GAZ				*e*SG	**Sg**	**08 16 48.2**	**+2.9**
GAZ	**Gaziantep**	**0.78**	**150**	*e*Pg	**Pg**	**08 16 35.3**	**0.0**
GAZ				*e*Sg	**Sg**	**08 16 48.2**	**+2.8**
KOZT	**Kozan**	**0.80**	**243**	*e*PG	**Pg**	**08 16 36.1**	**+0.5**
KOZT				*e*SG	**Sg**	**08 16 47.6**	**+1.7**
GZT	**Gaziantep**	**0.83**	**126**	*i* P	**Pg**	**08 16 34.8**	**-1.5**
GZT				*i* S	**Sg**	**08 16 48.0**	**+1.0**
SARI	**SarD1z-Kayseri**	**0.83**	**359**	*e*PG	**Pg**	**08 16 30.0**	**-6.3**
SARI				*e*SG	**Sg**	**08 16 40.5**	**-6.7**
PINB	**Pinarbasi**	**0.87**	**343**	*i* P	**Pg**	**08 16 35.6**	**-1.3**
PINB				*i* S	**Sg**	**08 16 48.9**	**+0.6**
PINB	**Pinarbasi**	**0.87**	**343**	*i* P	**Pg**	**08 16 35.7**	**-1.3**
PINB				*i* S	**Sg**	**08 16 48.9**	**+0.6**
AKCD	**Akcadag**	**1.05**	**64**	*i* P	**Pg**	**08 16 39.9**	**-0.6**
AKCD				*i* S	**Sg**	**08 16 54.3**	**+0.1**
AKCD	**Akcadag**	**1.05**	**64**	*i* P	**Pg**	**08 16 39.9**	**-0.6**
AKCD				*i* S	**Sg**	**08 16 54.3**	**+0.1**
KUZU	**Kuzuini**	**1.11**	**165**	*i* P	**Pg**	**08 16 40.8**	**-0.7**
KUZU				*i* S	**Sg**	**08 16 54.1**	**-1.8**
KUZU	**Kuzuini**	**1.11**	**165**	*i* P	**Pg**	**08 16 40.8**	**-0.7**
KUZU				*i* S	**Sg**	**08 16 54.1**	**-1.8**
BNN	**Bunyan**	**1.22**	**326**	*e*PN	**Pn**	**08 16 41.8**	**-1.7**
BNN	**Bunyan**	**1.22**	**326**	*e*Pn	**Pn**	**08 16 41.8**	**-1.7**
ATAB	**Bozova**	**1.31**	**106**	*i* P	**Pn**	**08 16 41.9**	**-2.8**
ATAB				*i* S	**Sb**	**08 17 00.8**	**-1.1**
ATAB	**Bozova**	**1.31**	**106**	*i* P	**Pn**	**08 16 41.9**	**-2.8**
ATAB				*i* S	**Sb**	**08 17 00.8**	**-1.1**
MALT	**Malatya**	**1.43**	**70**	*e*PN	**Pn**	**08 16 47.0**	**+0.6**
MALT	**Malatya**	**1.43**	**70**	*e*Pn	**Pn**	**08 16 47.0**	**+0.6**
MYA	**Malataya**	**1.43**	**70**	*e*PN	**Pn**	**08 16 47.4**	**+1.0**
MYA				*e*SN	**Sn**	**08 17 08.0**	**+2.6**
MYA	**Malataya**	**1.43**	**70**	*e*Pn	**Pn**	**08 16 47.4**	**+1.0**
MYA				*e*Sn	**Sn**	**08 17 08.0**	**+2.7**
GULE	**Gulek**	**1.64**	**251**	*i* P	**Pn**	**08 16 49.1**	**-0.2**
GULE				*i* S	**Sn**	**08 17 10.3**	**-0.2**
GULE	**Gulek**	**1.64**	**251**	*i* P	**Pn**	**08 16 49.1**	**-0.2**
GULE				*i* S	**Sn**	**08 17 10.3**	**-0.2**
ELZG	**Elazig**	**1.90**	**69**	*i* P	**Pn**	**08 16 54.2**	**+1.3**
ELZG				*i* S	**Sn**	**08 17 16.9**	**-0.1**
ELZG	**Elazig**	**1.90**	**69**	*i* P	**Pn**	**08 16 54.2**	**+1.3**
ELZG				*i* S	**Sn**	**08 17 16.9**	**-0.1**

IDC ***28*** *08:27:27.7±1.4, 36.°39N×142.°79E, h0km, mb3.9/6, mb1 3.9/10, mb1mx3.7/25, mbtmp3.8/10, ML3.6/3, Error ellipse: s-maj=37.3km s-min=18.1km az=61.0*
ISCJB ***28*** *08:27:29.6±1.9, 36.°51N±0.°04×142.°64E±0.°07, h24km±15km, mb3.9/7, Error ellipse: s-maj=9.0km s-min=6.6km az=17.7*
NEIC ***28*** *08:27:29.1±0.8, 36.°41N×142.°75E, h10km, mb4.2/1, Error ellipse: s-maj=16.0km s-min=12.7km az=67.0*
JMA ***28*** *08:27:31.1±0.2, 36.°54N×142.°46E, h89km, M3.3*
ISC 28 08:27:30.8±2.0,**36.°52N**±0.°04×**142.°57E**±0.°07,**h17km**±14km, **n32**, σ1°**14**/41,**mb3.9**/7,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.53**	**293**	P	**Pn**	**08 27 56.4**	**-0.9**
JFK	**Kawauchi**	**1.60**	**303**	P	**Pn**	**08 27 57.0**	**-1.2**
CHOJ	**Chosi**	**1.60**	**240**	P	**Pn**	**08 27 57.7**	**-0.6**
CHOJ				*e*S	**Sn**	**08 28 18.2**	**-0.4**
JHO	**Hitachi**	**1.61**	**274**	P	**Pn**	**08 27 57.0**	**-1.4**
JHO				S	**Sn**	**08 28 17.0**	**-1.7**
JMM	**Marumori**	**1.95**	**314**	P	**Pn**	**08 28 02.2**	**-0.9**
JMM				*e*S	**Sn**	**08 28 26.9**	**-0.3**
BSO1	**Boso 1**	**2.27**	**215**	P	**Pn**	**08 28 06.9**	**-0.5**
BSO1				*e*S	**Sn**	**08 28 35.4**	**+0.5**
JAG	**Ashikaga**	**2.51**	**269**	P	**Pn**	**08 28 10.5**	**-0.3**
JMK	**Ichinoseki**	**2.65**	**337**	P	**Pn**	**08 28 12.5**	**-0.2**
JMK				*e*S	**Sn**	**08 28 43.2**	**-1.3**
JYK	**Kaneyama**	**2.97**	**325**	P	**Pn**	**08 28 17.2**	**+0.2**
JRY	**Ryogami san**	**3.00**	**261**	P	**Pn**	**08 28 16.9**	**-0.6**
JRY				*e*S	**Sn**	**08 28 52.1**	**-1.0**
MJAR	**Matsushiro Arr**	**3.51**	**272**	Pn	**Pn**	**08 28 24.7**	**+0.2**
	4.9nm,0.3s,baz=99,slow=18,SNR=60						
MJAR				Sn	**Sn**	**08 29 09.1**	**+3.5**
	1.9nm,0.3s,baz=93,slow=27,SNR=4.5						
MJAR	**Matsushiro Arr**	**3.51**	**272**	Pn	**Pn**	**08 28 24.7**	**+0.2**
MJAR				Sn	**Sn**	**08 29 09.1**	**+3.6**
MAJO	**Matsushiro**	**3.51**	**272**	*e*Pn	**Pn**	**08 28 25.4**	**+0.9**
MAT	**Matsushiro**	**3.51**	**272**	P	**Pn**	**08 28 25.2**	**+0.7**
MAT				S	**Sn**	**08 29 07.7**	**+2.1**
ASAJ	**Asahikawa**	**7.59**	**0**	Pn	**Pn**	**08 29 21.2**	**+0.7**
	1.2nm,0.3s,baz=215,slow=9.7,SNR=9.2						
ASAJ	**Asahikawa**	**7.59**	**0**	Pn	**Pn**	**08 29 21.2**	**+0.7**
USRK	**Ussuriysk Arra**	**11.12**	**317**	Pn	**Pn**	**08 30 13.0**	**+4.1**
	0.2nm,0.3s,baz=115,slow=15,SNR=3.7						
KSRS	**Korea Array**	**11.75**	**279**	Pn	**Pn**	**08 30 20.8**	**+3.2**
	0.2nm,0.3s,baz=93,slow=15,SNR=4.1						
KSAR	**Wonju Array Be**	**11.78**	**279**	Pn	**Pn**	**08 30 20.8**	**+2.8**
SONM	**Songino Array**	**28.84**	**304**	P	**P**	**08 33 29.6**	**+1.6**
	2.8nm,0.8s,mb4.1,baz=102,slow=8.5,SNR=18						
SONM	**Songino Array**	**28.84**	**304**	P	**P**	**08 33 29.6**	**+1.6**
ZALV	**Zalesovo Beam**	**42.94**	**313**	P	**P**	**08 35 29.4**	**+1.0**
	0.6nm,0.6s,mb3.5,baz=98,slow=8.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**42.94**	**313**	P	**P**	**08 35 29.4**	**+1.0**
MKAR	**Makanchi Array**	**45.18**	**303**	P	**P**	**08 35 47.6**	**+1.1**
	1.1nm,0.7s,mb3.8,baz=92,slow=9.1,SNR=9.1						
MKAR	**Makanchi Array**	**45.18**	**303**	P	**P**	**08 35 47.6**	**+1.1**
KURK	**Kurchatov**	**46.98**	**309**	*e*P	**P**	**08 36 01.1**	**+0.5**
	1.7nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**56.69**	**189**	P	**P**	**08 37 12.7**	**-0.6**
	0.5nm,0.5s,mb3.8,baz=6.7,slow=7.2,SNR=5.7						
WRA	**Warramunga Arr**	**56.69**	**189**	P	**P**	**08 37 12.7**	**-0.6**
ASAR	**Alice Springs**	**60.41**	**189**	P	**P**	**08 37 39.5**	**+0.4**
	0.3nm,0.7s,mb3.5,baz=0.8,slow=6.1,SNR=7.1						
ASAR	**Alice Springs**	**60.41**	**189**	P	**P**	**08 37 39.5**	**+0.4**
STKA	**Stephens Creek**	**68.04**	**181**	P	**P**	**08 38 26.2**	**-2.8**
	2.9nm,0.8s,mb4.3,baz=68,slow=8.1,SNR=3.8						
STKA	**Stephens Creek**	**68.04**	**181**	P	**P**	**08 38 26.2**	**-2.8**

ATH ***28*** *08:52:21.5, 37.°98N×29.°12E, h5km±2km, MD3.9/9*
IDC ***28*** *08:52:22.2±1.2, 37.°91N×29.°08E, h0km, mb3.7/6, mb1 3.7/10, mb1mx3.6/27, mbtmp3.7/10, ML3.8/4, MS3.1/6, Ms1 3.1/6, ms1mx2.7/39, Error ellipse: s-maj=26.0km s-min=19.7km az=45.0*
DDA ***28*** *08:52:22.5, 37.°91N×29.°19E, h8km±3km, Md3.5, Ml3.8*
CSEM ***28*** *08:52:23.4±0.1, 37.°92N×29.°17E, h2km, MD3.9, Error ellipse: s-maj=3.3km s-min=3.2km az=99.0*
ISK ***28*** *08:52:23.7, 37.°79N×29.°20E, h5km, MD3.9, ML3.8*
ISCJB ***28*** *08:52:23.3±0.3, 37.°89N±0.°01×29.°16E±0.°02, h1km±3km, mb3.5/6, MS3.3/3, Error ellipse: s-maj=2.6km s-min=2.3km az=35.3*
NEIC ***28*** *08:52:24.0, 37.°80N×29.°19E, h5km, ML3.8(ISK), After ISK.*
ISC 28 08:52:24.2±0.3,**37.°87N**±0.°01×**29.°17E**±0.°02,**h1km**±3km, **n152**, σ1°**53**/203,**mb3.5**/6,**MS3.3**/3,**1C-2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.16**	**223**	PG	**Pg**	**08 52 26.9**	**-0.3**
DENT				*e*SG	**Sg**	**08 52 29.9**	**+0.8**
DENT	**Denizli**	**0.16**	**223**	*i* Pg	**Pg**	**08 52 26.9**	**-0.3**
DENT				*e*Sg	**Sg**	**08 52 29.9**	**+0.7**
DNZL	**Cakiroluk**	**0.20**	**208**	*i* P	**Pg**	**08 52 27.7**	**-0.4**
DNZL				*i* S	**Sg**	**08 52 31.8**	**+1.1**
DNZL	**Cakiroluk**	**0.20**	**208**	*i* P	**Pg**	**08 52 27.7**	**-0.4**
DNZL				*i* S	**Sg**	**08 52 31.8**	**+1.1**
KHAL	**Karahalli**	**0.56**	**27**	*i* P	**Pg**	**08 52 33.0**	**-2.0**
KHAL				*i* S	**Sg**	**08 52 40.4**	**-1.9**
KHAL	**Karahalli**	**0.56**	**27**	*i* P	**Pg**	**08 52 33.0**	**-2.0**
KHAL				*i* S	**Sg**	**08 52 40.4**	**-1.9**
GOLH	**Golhisar**	**0.70**	**153**	*i* P	**Pg**	**08 52 35.8**	**-1.9**
GOLH				*i* S	**Sg**	**08 52 48.8**	**+2.0**
GOLH	**Golhisar**	**0.70**	**153**	*i* P	**Pg**	**08 52 35.8**	**-1.9**
GOLH				*i* S	**Sg**	**08 52 48.8**	**+2.0**
KULA	**Kula-Manisa**	**0.76**	**328**	*e*PG	**Pg**	**08 52 40.7**	**+2.0**
MANT	**Manisa**	**0.78**	**323**	*i* P	**Pg**	**08 52 38.0**	**-1.2**
MANT				*i* S	**Sg**	**08 52 50.1**	**+0.7**
MANT	**Manisa**	**0.78**	**323**	*i* P	**Pg**	**08 52 38.0**	**-1.2**
MANT				*i* S	**Sg**	**08 52 50.1**	**+0.7**
YER	**Yerkesik**	**1.01**	**224**	*e*PG	**Pg**	**08 52 43.5**	**-0.2**
YER				*e*SG	**Sg**	**08 52 58.2**	**+1.4**
YER	**Yerkesik**	**1.01**	**224**	*e*Pg	**Pg**	**08 52 43.5**	**-0.1**
YER				*e*Sg	**Sg**	**08 52 58.2**	**+1.4**
AYDN	**Tasoluk**	**1.04**	**259**	*i* P	**Pg**	**08 52 43.6**	**-0.5**
AYDN				*i* S	**Sg**	**08 52 57.0**	**-0.6**
AYDN	**Tasoluk**	**1.04**	**259**	*i* P	**Pg**	**08 52 43.6**	**-0.5**
AYDN				*i* S	**Sg**	**08 52 57.0**	**-0.6**
ISP	**Isparta**	**1.07**	**92**	*e*PG	**Pg**	**08 52 43.9**	**-0.9**
ISP				*e*SG	**Sg**	**08 53 00.5**	**+1.7**
ISP	**Isparta**	**1.07**	**92**	*e*Pg	**Pg**	**08 52 43.9**	**-0.9**
TURN	**Turunc**	**1.09**	**204**	*i* P	**Pg**	**08 52 48.3**	**+3.2**
TURN				*i* S	**Sg**	**08 53 08.0**	**+8.8**
TURN	**Turunc**	**1.09**	**204**	*i* P	**Pg**	**08 52 48.3**	**+3.2**
BCK	**Bucak**	**1.20**	**109**	*e*PN	**Pn**	**08 52 47.0**	**-1.1**
BCK	**Bucak**	**1.20**	**109**	*e*Pn	**Pn**	**08 52 47.0**	**-1.1**
DEMI	**Demirci**	**1.22**	**343**	*i* P	**Pg**	**08 52 46.4**	**-1.3**
DEMI				*i* S	**Sg**	**08 53 02.1**	**-1.5**
DEMI	**Demirci**	**1.22**	**343**	*i* P	**Pg**	**08 52 46.4**	**-1.3**
DEMI				*i* S	**Sg**	**08 53 02.1**	**-1.4**
GDZ	**Gediz**	**1.24**	**11**	*i* P	**Pg**	**08 52 44.5**	**-3.6**
GDZ				*i* S	**Sg**	**08 52 57.9**	**-6.3**
GDZ	**Gediz**	**1.24**	**11**	*i* P	**Pg**	**08 52 44.5**	**-3.5**
GDZ				*i* S	**Sg**	**08 52 57.9**	**-6.3**
ELL	**Elmali**	**1.27**	**152**	*e*PN	**Pg**	**08 52 48.1**	**-0.4**
ELL				*e*SN	**Sn**	**08 53 04.2**	**-2.3**
ELL	**Elmali**	**1.27**	**152**	*e*Pn	**Pg**	**08 52 48.1**	**-0.3**
ELL				*e*Sn	**Sn**	**08 53 04.3**	**-2.3**
KORT	**Korkueli**	**1.28**	**132**	*i* P	**Pg**	**08 52 48.4**	**-0.3**
KORT				*i* S	**Sg**	**08 53 06.9**	**+1.6**
KORT	**Korkueli**	**1.28**	**132**	*i* P	**Pg**	**08 52 48.4**	**-0.3**
KORT				*i* S	**Sg**	**08 53 06.9**	**+1.6**
ALT	**Altintas**	**1.40**	**32**	*e*PN	**Pg**	**08 52 51.5**	**+0.5**
ALT	**Altintas**	**1.40**	**32**	*e*Pn	**Pg**	**08 52 51.5**	**+0.5**
AKHS	**Akhisar**	**1.47**	**314**	*i* P	**Pn**	**08 52 49.7**	**-2.0**
AKHS				*i* S	**Sg**	**08 53 13.5**	**+2.2**
AKHS	**Akhisar**	**1.47**	**314**	*i* P	**Pn**	**08 52 49.7**	**-2.0**
AKHS				*i* S	**Sg**	**08 53 13.5**	**+2.2**
SUTC	**Sutluce-Ispart**	**1.51**	**105**	*e*PN	**Pg**	**08 52 52.3**	**-0.8**
SUTC	**Sutluce-Ispart**	**1.51**	**105**	*e*Pn	**Pg**	**08 52 52.3**	**-0.8**
ANTB	**Antalya**	**1.53**	**129**	*e*PN	**Pg**	**08 52 52.0**	**-1.5**
ANTB	**Antalya**	**1.53**	**129**	*e*Pn	**Pg**	**08 52 52.1**	**-1.4**
GCAM	**G?zelcaml?**	**1.54**	**264**	*i* P	**Pn**	**08 52 50.7**	**-2.1**
GCAM				*i* S	**Sg**	**08 53 14.6**	**+1.0**
GCAM	**G?zelcaml?**	**1.54**	**264**	*i* P	**Pn**	**08 52 50.7**	**-2.0**
GCAM				*i* S	**Sg**	**08 53 14.6**	**+0.9**
BOLV	**Bolvadin**	**1.64**	**58**	*i* P	**Pg**	**08 52 52.8**	**-2.9**
BOLV				*i* S	**Sg**	**08 53 18.3**	**+1.4**
BOLV	**Bolvadin**	**1.64**	**58**	*i* P	**Pg**	**08 52 52.8**	**-2.8**
BOLV				*i* S	**Sg**	**08 53 18.3**	**+1.4**
AKAS	**Kas**	**1.67**	**168**	*i* P	**Pb**	**08 52 53.8**	**-1.9**
AKAS				*i* S	**Sb**	**08 53 16.8**	**-0.4**
AKAS	**Kas**	**1.67**	**168**	*i* P	**Pb**	**08 52 53.8**	**-1.9**
AKAS				*i* S	**Sb**	**08 53 16.8**	**-0.4**
BODT	**Bodrum**	**1.68**	**242**	*e*PN	**Pb**	**08 52 54.9**	**-1.0**
BODT				*e*SN	**Sb**	**08 53 18.3**	**+0.8**
BODT	**Bodrum**	**1.68**	**242**	*e*Pn	**Pb**	**08 52 54.9**	**-1.0**
BODT				*e*Sn	**Sb**	**08 53 18.3**	**+0.8**
DAT	**Datca**	**1.70**	**229**	*e*PN	**Pb**	**08 52 55.1**	**-1.2**
DAT				*e*SN	**Sb**	**08 53 18.0**	**-0.2**
DAT	**Datca**	**1.70**	**229**	*e*Pn	**Pb**	**08 52 55.1**	**-1.2**
DAT				*e*Sn	**Sb**	**08 53 18.0**	**-0.1**
KSL	**Kastellorizon**	**1.75**	**169**	*e*PN	**Pn**	**08 52 56.9**	**+1.3**
BLCB	**Balcova**	**1.75**	**288**	*e*PN	**Pg**	**08 52 56.8**	**-1.0**
BLCB	**Balcova**	**1.75**	**288**	*e*Pn	**Pg**	**08 52 56.8**	**-1.0**
DURS	**Dursunbey**	**1.81**	**343**	*i* P	**Pn**	**08 52 54.0**	**-2.5**
DURS				*i* S	**Sn**	**08 53 20.1**	**0.0**
DURS	**Dursunbey**	**1.81**	**343**	*i* P	**

HFS	**Hagfors**	**24.36 341**	P		**P**	**08 57 41.6**	**-1.8**
	2.7nm,0.9s,mb3.8,baz=103,slow=4.7,SNR=3.8						
HFS			LR		LR	09 08 05.1	
	comp=Z,79nm,19.9s,MS3.2,baz=258,slow=39						
HFS	**Hagfors**	**24.36 341**	P		**P**	**08 57 41.6**	**-1.8**
HFS	**Hagfors**	**24.36 341**	P		**P**	**08 57 41.6**	**-1.8**
NOA	**NORSAR Array B**	**25.79 340**	P		**P**	**08 57 54.5**	**-1.8**
	1.0nm,0.7s,mb3.5,baz=146,slow=8.9,SNR=4.6						
NOA	**NORSAR Array B**	**25.79 340**	P		**P**	**08 57 54.5**	**-1.8**
NOA	**NORSAR Array B**	**25.79 340**	P		**P**	**08 57 54.5**	**-1.8**
TORD	**Torodi Ar. Bea**	**34.70 232**	P		**P**	**08 59 13.9**	**-1.7**
	1.8nm,1.1s,mb3.9,baz=35,slow=8.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**34.70 232**	P		**P**	**08 59 13.9**	**-1.7**
TORD	**Torodi Ar. Bea**	**34.70 232**	P		**P**	**08 59 13.9**	**-1.7**
MKAR	**Makanchi Array**	**39.61 60**	P		**P**	**08 59 55.3**	**-1.7**
	0.6nm,0.7s,mb3.3,baz=262,slow=8.5,SNR=4.6						
MKAR	**Makanchi Array**	**39.61 60**	P		**P**	**08 59 55.3**	**-1.7**
MKAR	**Makanchi Array**	**39.61 60**	P		**P**	**08 59 55.3**	**-1.7**
ZALV	**Zalesovo Beam**	**40.80 48**	LR		LR	09 21 30.3	
	comp=Z,39nm,18.4s,MS3.3,baz=39,slow=43						
KSRS	**Korea Array**	**74.08 55**	LR		LR	09 38 11.4	
	comp=Z,21nm,18.7s,MS3.5,baz=325,slow=37						
YKA	**Yellowknife Ar**	**75.82 344**	P		**P**	**09 04 09.2**	**-2.3**
	0.1nm,0.6s,mb3.1,baz=31,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**75.82 344**	P		**P**	**09 04 09.2**	**-2.3**
YKA	**Yellowknife Ar**	**75.82 344**	P		**P**	**09 04 09.2**	**-2.3**

IDC 28 09:01:08.1±1.2,25°.51N×142°.69E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/22,mbtmp3.7/5,Error ellipse: s-maj=66.1km s-min=28.4km az=102.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.90**	**191**	P	P	09 09 32.5	-0.1
	0.4nm,0.4s,baz=8.4,slow=8.4,SNR=3.4						
ILAR	**Eielson Array**	**58.89**	**28**	P	P	09 11 08.3	-0.1
	0.6nm,1.2s,baz=260,slow=5.5,SNR=4.2						
YKA	**Yellowknife Ar**	**73.32**	**28**	P	P	09 12 41.1	-0.1
	0.1nm,0.6s,baz=293,slow=5.8,SNR=4.5						
FINES	**FINESS Array B**	**79.57**	**334**	P	P	09 13 17.3	+0.6
	1.2nm,0.8s,baz=78,slow=6.4,SNR=6.2						
HFS	**Hagfors**	**85.06**	**337**	P	P	09 13 45.3	-0.2
	1.8nm,1.0s,baz=79,slow=7.5,SNR=4.2						

*ISCJB **28** 09:05:57.4±0.6,55°.9S±0°.1×123°.6W±0°.2,h10km,mb4.1/9, MS3.7/8,Error ellipse: s-maj=18.7km s-min=16.0km az=158.8*

*IDC **28** 09:05:58.0±0.7,55°.87S×123°.70W,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.1/12,mbtmp4.1/7,MS3.7/8,Ms1 3.7/8, ms1mx3.6/15,Error ellipse: s-maj=38.3km s-min=21.1km az=155.0*

*NEIC **28** 09:05:59.5±0.5,55°.84S×123°.70W,h10km,mb4.5/4,Error ellipse: s-maj=24.7km s-min=13.1km az=155.0*

ISC 28 09:05:59.2±0.6,55°.9S±0°.1×123.7W±0°.2,h10km,n34, σ0s82/18,mb4.1/9,MS3.7/8,1C,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.73**	**132**	LR	LR	09 20 16.2	
	comp=Z,433nm,22.0s,MS4.0,baz=272,slow=29						
USHA	**Ushuaia**	**30.75**	**111**	LR	LR	09 20 58.1	
	comp=Z,384nm,19.9s,MS4.1,baz=231,slow=29						
RKT	**Rikitea**	**33.77**	**341**	*e*T		09 47 59.0	
	3.7nm,0.3s						
QSPA	**South Pole Qui**	**34.28**	**180**	P	**P**	**09 12 45.8**	**+1.0**
	3.4nm,0.9s,mb4.3,baz=72,slow=4.4,SNR=7.3						
QSPA	**South Pole Qui**	**34.28**	**180**	*e*P	**P**	**09 12 46.1**	**+1.2**
	8.9nm,1.2s,mb4.6						
TBI	**Tubuai**	**37.63**	**319**	*e*LQ		09 21 40.0	
	173nm,26.2s						
TBI				*e*LR	LR	09 23 29.1	
	458nm,26.8s,baz=164						
TBI				*e*T		09 52 46.4	
	69nm,0.4s						
PPT2	**Papeete2**	**42.97**	**322**	*e*S	**S**	**09 20 23.4**	**0.0**
	100nm,25.2s						
PPT2				*e*LQ		09 23 45.9	
	800nm,27.0s						
PPT2				*e*LR	LR	09 25 56.8	
	538nm,26.0s,baz=160						
PMOR	**Pomariorio Ree**	**44.83**	**326**	*e*T		10 01 46.4	
	7.9nm,0.3s						
CFAA	**Coronel Fontan**	**45.32**	**81**	LR	LR	09 27 56.7	
	comp=Z,10nm,19.3s,MS2.8,baz=47,slow=29						
SYO	**Syowa Base**	**54.81**	**173⇑**	*e*P	**P**	**09 15 26.5**	**-2.0**
CPUP	**Villa Florida**	**55.47**	**87**	P	**P**	**09 15 34.0**	**+0.1**
	0.6nm,0.5s,mb3.9,baz=198,slow=9.3,SNR=3.1						
CPUP				LR	LR	09 37 13.2	
	comp=Z,61nm,20.0s,MS3.7,baz=33,slow=34						
CPUP	**Villa Florida**	**55.47**	**87**	P	**P**	**09 15 34.0**	**+0.1**
LPAZ	**La Paz**	**57.60**	**70**	P	**P**	**09 15 50.1**	**+1.0**
	4.4nm,1.1s,mb4.4,baz=196,slow=5.5,SNR=5.8						
LPAZ				LR	LR	09 36 06.9	
	comp=Z,30nm,18.6s,MS3.4,baz=272,slow=31						
LPAZ	**La Paz**	**57.60**	**70**	*e*P	**P**	**09 15 50.3**	**+1.2**
	6.8nm,1.2s,mb4.5						
DZM	**Mont Dzumac**	**60.73**	**274**	*e*LR	LR	09 34 06.0	
	172nm,25.6s						
SIV	**San Ignacio**	**61.64**	**76**	P	**P**	**09 16 16.8**	**-0.2**
	1.4nm,0.8s,mb4.1,baz=237,slow=9.7,SNR=4.3						
SIV	**San Ignacio**	**61.64**	**76**	P	**P**	**09 16 16.8**	**-0.2**
SAML	**Samuel**	**66.34**	**70**	*e*P	**P**	**09 16 47.8**	**-0.1**
	1.2nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**66.72**	**247**	LR	LR	09 38 49.8	
	comp=Z,150nm,20.0s,MS4.2,baz=206,slow=30						
ROSC	**El Rosal**	**72.80**	**52**	LR	LR	09 42 40.9	
	comp=Z,26nm,20.1s,MS3.5,baz=183,slow=30						
ASAR	**Alice Springs**	**77.33**	**247**	P	**P**	**09 17 53.9**	**0.0**
	1.8nm,0.3s,mb4.0,baz=146,slow=4.4,SNR=9.9						
ASAR	**Alice Springs**	**77.33**	**247**	P	**P**	**09 17 53.9**	**0.0**
WRA	**Warramunga Arr**	**80.17**	**249**	P	**P**	**09 18 09.8**	**+0.2**
	4.4nm,1.1s,mb4.3,baz=147,slow=4.9,SNR=16						
WRA	**Warramunga Arr**	**80.17**	**249**	P	**P**	**09 18 09.8**	**+0.2**
WRAB	**Tennant Creek**	**80.18**	**249**	*e*P	**P**	**09 18 10.0**	**+0.4**
	4.5nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**86.60**	**17**	P	**P**	**09 18 41.3**	**-0.9**
	0.3nm,0.8s,mb3.6,baz=188,slow=7.6,SNR=3.7						
TXAR	**Lajitas Array**	**86.60**	**17**	P	**P**	**09 18 41.3**	**-0.9**
BOSA	**Boshof**	**91.77**	**153**	LR	LR	09 55 12.1	
	comp=Z,81nm,20.4s,MS4.2,baz=28,slow=32						
ILAR	**Eielson Array**	**121.64**	**349**	PKP	PKPdf	09 24 52.8	+1.4
	0.5nm,0.7s,baz=189,slow=2.1,SNR=7.2						
ILAR	**Eielson Array**	**121.64**	**349**	PKP	PKPdf	09 24 52.8	+1.4
SONM	**Songino Array**	**148.63**	**277**	PKPbc	PKPbc	09 25 47.6	+2.2
	1.5nm,0.9s,baz=150,slow=2.9,SNR=6.7						
SONM	**Songino Array**	**148.63**	**277**	PKPbc	PKPbc	09 25 47.6	+2.2
MKAR	**Makanchi Array**	**161.46**	**252**	PKPab	PKPab	09 26 43.9	+0.3
	0.4nm,0.8s,baz=117,slow=5.0,SNR=3.7						
MKAR	**Makanchi Array**	**161.46**	**252**	PKPab	PKPab	09 26 43.9	+0.3

TRN 28 09:06:09.1,16°.15N×60°.90W,h31km,MD3.5,M3.0(FDF), M3.3(FDF),6C-11D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.22**	**317⇑**	*i*P	Pb	09 06 16.1	+0.3
SFG	**Saint Francois**	**0.30**	**290⇓**	*e*P	Pb	09 06 17.8	+1.0
MGG	**Marie-Galante**	**0.46**	**240⇓**	*e*P	Pb	09 06 21.0	+2.0
SEG	**Port Louis**	**0.63**	**293⇓**	*e*P	Pb	09 06 22.5	+0.7
BCG	**Bois Riant Cap**	**0.69**	**265⇓**	*e*P	Pn	09 06 24.2	+1.4
DOG	**Dongo Capester**	**0.70**	**260⇓**	*e*P	Pn	09 06 24.4	+1.6
DWS	**Wesley**	**0.70**	**214**	*e*P	Pn	09 06 25.2	+2.3
DWS				*e*S	Sb	09 06 35.6	+3.3
DVCT	**Vielle Casse P**	**0.72**	**222⇑**	*i*P	Pn	09 06 25.9	+2.7
DVCT				*e*S	Sb	09 06 36.3	+3.4
PHG	**Guadaloupe-2**	**0.73**	**259⇓**	*e*P	Pn	09 06 24.9	+1.7
SCG	**Saint Claude**	**0.76**	**261⇓**	*e*P	Pn	09 06 25.3	+1.6
TBG	**Guadaloupe-3**	**0.78**	**248⇓**	*e*P	Pn	09 06 25.4	+1.5
LZG	**Guadaloupe-1**	**0.84**	**269⇑**	*i*P	Pn	09 06 25.9	+1.1
DLPL	**La Plaine**	**0.88**	**202**	*e*P	Pn	09 06 26.5	+1.2
DLPL				*e*S	Sn	09 06 38.8	+1.8
MDN	**Morne-Daniel**	**0.95**	**210⇑**	*i*P	Pn	09 06 28.1	+1.7
MDN				*e*S	Sn	09 06 41.6	+2.7
DBCT	**Belle View Cho**	**0.97**	**206**	*e*P	Pn	09 06 28.5	+1.8
DBCT				*e*S	Sn	09 06 42.0	+2.6
DSTT	**Stowe**	**0.98**	**203**	*e*P	Pn	09 06 28.2	+1.5
DSTT				*e*S	Sn	09 06 41.7	+2.2
DPMT	**Pointe Michel**	**1.00**	**207**	*e*P	Pn	09 06 29.1	+2.2
DPMT				*e*S	Sn	09 06 42.5	+2.6
DFBT	**Forest Bistro**	**1.01**	**206⇓**	*e*P	Pn	09 06 28.7	+1.6
DFBT				*e*S	Sn	09 06 42.2	+2.1
DSHT	**Scott's Head**	**1.04**	**206**	*e*P	Pn	09 06 29.5	+2.0
DSHT				*e*S	Sn	09 06 43.0	+2.0
BPA	**Boggy Peak**	**1.28**	**314**	*e*P	Pn	09 06 32.1	+1.3
BPA				*e*S	Sn	09 06 49.2	+2.3
FDF	**Fort de France**	**1.43**	**190⇑**	*e*P	Pn	09 06 33.9	+0.9
FDF				⇑*e*S	Sn	09 06 51.9	+1.2
MVM	**Montagne Vaucl**	**1.59**	**180⇓**	*e*P	Pn	09 06 36.7	+1.6
MVM				⇓*e*S	Sn	09 06 56.9	+2.3
BIM	**Bigot**	**1.63**	**186**	*e*P	Pn	09 06 37.2	+1.5
BIM				*e*S	Sn	09 06 57.8	+2.2
SKI	**Saint Kitts**	**2.12**	**304**	*e*P	Pn	09 06 43.9	+1.6
SKI				*e*S	Sn	09 07 10.1	+2.4
MCLT	**Moule a Chique**	**2.43**	**181**	*e*P	Pn	09 06 49.3	+2.7
MCLT				*e*S	Sn	09 07 16.9	+1.6
SVB	**Belmont**	**2.88**	**187**	*e*P	Pn	09 06 55.3	+2.4
SVB				*e*S	Sn	09 07 26.6	+0.1

IDC 28 09:18:22.4±2.7,17°.76S×69°.43W,h139km±19km,mb3.3/3, mb1 3.5/4,mb1mx3.3/14,mbtmp3.4/4,Error ellipse: s-maj=40.2km s-min=27.7km az=102.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.92**	**41**	P	Pn	09 18 57.9	+2.0
	3.5nm,0.3s,baz=219,slow=5.4,SNR=111						
LPAZ				LR	LR	09 19 14.2	
	comp=Z,25μm,19.2s,baz=171,slow=27						
LPAZ				S	Sn	09 19 22.8	+1.2
	2.3nm,0.3s,baz=335,slow=23,SNR=8.3						
SIV	**San Ignacio**	**8.19**	**79**	P	Pn	09 20 17.0	-1.4
	3.5nm,0.3s,baz=274,slow=14,SNR=50						
PLCA	**Paso Flores**	**22.92**	**182**	P	P	09 23 14.2	-0.1
	1.0nm,0.8s,baz=5.2,slow=11,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.59**	**71**	P	P	09 29 58.6	+0.5
	0.9nm,0.4s,baz=254,slow=6.0,SNR=15						
YKA	**Yellowknife Ar**	**87.51**	**341**	P	P	09 30 53.3	-0.6
	0.2nm,0.6s,baz=131,slow=4.6,SNR=6.7						

*ISK **28** 09:30:31.9,37°.93N×29°.20E,h4km,MD2.6*

*ISCJB **28** 09:30:32.6±0.5,37°.90N±0°.02×29°.22E±0°.04,h8km±5km, Error ellipse: s-maj=5.2km s-min=3.9km az=2.7*

*DDA **28** 09:30:32.4,37°.90N×29°.22E,h4km±3km,Md3.0*

*CSEM **28** 09:30:32.4±0.2,37°.89N×29°.22E,h10km,MD2.6,Error ellipse: s-maj=4.5km s-min=3.4km az=80.0*

ISC 28 09:30:32.9±0.4,37°.90N±0°.02×29°.20E±0°.04,h12km±5km, n26,σ0s86/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**223**	*e*PG	**Pg**	**09 30 37.1**	**-0.2**
DENT				*e*SG	**Sg**	**09 30 40.9**	**+0.7**
DENT	**Denizli**	**0.20**	**223**	*e*Pg	**Pg**	**09 30 37.1**	**-0.2**
DENT				*e*Sg	**Sg**	**09 30 40.9**	**+0.7**
DNZL	**Cakiroluk**	**0.24**	**211**	*i*P	**Pg**	**09 30 37.7**	**-0.3**
DNZL				*i*S	**Sg**	**09 30 40.5**	**-0.9**
DNZL	**Cakiroluk**	**0.24**	**211**	*i*P	**Pg**	**09 30 37.7**	**-0.3**
DNZL				*i*S	**Sg**	**09 30 40.5**	**-1.0**
KHAL	**Karahalli**	**0.52**	**26**	*i*P	**Pg**	**09 30 43.4**	**+0.2**
KHAL				*i*S	**Sg**	**09 30 49.8**	**-0.2**
KHAL	**Karahalli**	**0.52**	**26**	*i*P	**Pg**	**09 30 43.3**	**+0.1**
KHAL				*i*S	**Sg**	**09 30 49.8**	**-0.3**
GOLH	**Golhisar**	**0.72**	**157**	*i*P	**Pg**	**09 30 44.6**	**-2.3**
GOLH				*i*S	**Sg**	**09 30 57.0**	**+0.7**
GOLH	**Golhisar**	**0.72**	**157**	*i*P	**Pg**	**09 30 44.6**	**-2.3**
GOLH				*i*S	**Sg**	**09 30 57.0**	**+0.7**
KULA	**Kula-Manisa**	**0.75**	**325**	*e*PG	**Pg**	**09 30 46.6**	**-0.8**
KULA				*e*SG	**Sg**	**09 30 57.2**	**0.0**
KULA	**Kula-Manisa**	**0.75**	**325**	*e*Pg	**Pg**	**09 30 46.6**	**-0.8**
KULA				*e*Sg	**Sg**	**09 30 57.2**	**0.0**
GLHS	**Glhisar (BURDU**	**0.78**	**162**	*e*PG	**Pg**	**09 30 48.8**	**+0.8**
GLHS				*e*SG	**Sg**	**09 31 00.3**	**+2.1**
GLHS	**Glhisar (BURDU**	**0.78**	**162**	*e*Pg	**Pg**	**09 30 48.8**	**+0.8**
MANT	**Manisa**	**0.78**	**319**	*i*P	**Pg**	**09 30 48.3**	**+0.3**
MANT				*i*S	**Sg**	**09 30 58.8**	**+0.6**
MANT	**Manisa**	**0.78**	**319**	*i*P	**Pg**	**09 30 48.3**	**+0.3**
MANT				*i*S	**Sg**	**09 30 58.8**	**+0.6**
ISP	**Isparta**	**1.05**	**94**	*e*PG	**Pg**	**09 30 52.5**	**-0.5**
ISP	**Isparta**	**1.05**	**94**	*e*Pg	**Pg**	**09 30 52.5**	**-0.6**
YER	**Yerkesik**	**1.06**	**224**	*e*PN	**Pg**	**09 30 53.1**	**-0.2**
YER	**Yerkesik**	**1.06**	**224**	*e*Pn	**Pg**	**09 30 53.1**	**-0.2**
AYDN	**Tasoluk**	**1.08**	**258**	*i*P	**Pb**	**09 30 53.4**	**-0.1**
AYDN				*i*S	**Sb**	**09 31 06.7**	**-0.8**
AYDN	**Tasoluk**	**1.08**	**258**	*i*P	**Pb**	**09 30 53.4**	**-0.1**
AYDN				*i*S	**Sb**	**09 31 06.7**	**-0.7**
BCK	**Bucak**	**1.18**	**111**	*e*PN	**Pn**	**09 30 54.8**	**-0.4**
BCK	**Bucak**	**1.18**	**111**	*e*Pn	**Pn**	**09 30 54.8**	**-0.5**
DEMI	**Demirci**	**1.20**	**342**	*i*P	**Pn**	**09 30 56.5**	**+1.0**
DEMI				*i*S	**Sb**	**09 31 12.8**	**+1.6**
DEMI	**Demirci**	**1.20**	**342**	*i*P	**Pn**	**09 30 56.5**	**+0.9**
DEMI				*i*S	**Sb**	**09 31 12.8**	**+1.7**
GDZ	**Gediz**	**1.21**	**10**	*i*P	**Pn**	**09 30 55.1**	**-0.5**
GDZ				*i*S	**Sb**	**09 31 10.6**	**-0.7**
GDZ	**Gediz**	**1.21**	**10**	*i*P	**Pn**	**09 30 55.1**	**-0.5**
GDZ				*i*S	**Sb**	**09 31 10.6**	**-0.6**

MAN 28 09:34:24,7°.46N×122°.95E,h40km,mb4.1,ML2.9,MS2.7, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.49**	**311**	*e*P	Pn	09 34 37.0	+2.4
IPIL				*e*S	Sn	09 34 43.9	+1.7
PAGZ	**Pagadian**	**0.58**	**48**	*e*P	Pn	09 34 37.6	+1.8
PAGZ				*e*S	Sn	09 34 47.3	+3.1
ZMPH	**Zamboanga City**	**1.01**	**240⇓**	*i*P	Pn	09 34 42.3	+0.6
ZMPH				*i*S	Sn	09 34 55.9	+1.2
CTBH	**Cotabato--PC H**	**1.31**	**100⇑**	*i*P	Pn	09 34 46.0	+0.2

IDC 28 09:36:14.8±2.0,14°.71S×173°.94W,h0km,mb3.6/6, mb1 4.0/6,mb1mx3.8/15,mbtmp3.6/6,MS3.4/2,Ms1 3.4/2, ms1mx2.8/26,Error ellipse: s-maj=120.5km s-min=23.8km az=149.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.95**	**118**	LR	LR	09 43 49.7	
	comp=Z,70nm,19.5s,baz=271,slow=30						
HNR	**Honiara**	**26.06**	**279**	LR	LR	09 49 12.4	
	comp=Z,181nm,21.0s,baz=169,slow=30						
WRA	**Warramunga Arr**	**49.50**	**256**	P	P	09 45 07.6	+0.1
	0.7nm,1.1s,baz=88,slow=7.3,SNR=3.3						
ASAR	**Alice Springs**	**49.83**	**251**	P	P	09 45 09.3	-0.6
	1.7nm,0.6s,baz=86,slow=8.0,SNR=40						
NVAR	**Mina Array Bea**	**74.17**	**42**	P	P	09 47 53.3	0.0
	0.5nm,0.7s,baz=228,slow=7.8,SNR=4.4						
TXAR	**Lajitas Array**	**80.66**	**56**	P	P	09 48 30.6	+0.6
	0.5nm,1.0s,baz=203,slow=9.2,SNR=3.9						
ILAR	**Eielson Array**	**81.87**	**11**	P	P	09 48 35.0	-0.6
	0.3nm,0.6s,baz=217,slow=5.8,SNR=4.5						
YKA	**Yellowknife Ar**	**89.67**	**24**	P	P	09 49 14.2	-0.1
	0.2nm,0.8s,baz=245,slow=4.3,SNR=3.8						
BRTR	**Keskin Array B**	**145.29**	**321**	PKPbc	PKPbc	09 55 55.6	+1.1
	1.1nm,0.8s,baz=44,slow=2.0,SNR=4.8						

*DDA **28** 09:36:34.6,37°.89N×29°.23E,h5km±3km,Md2.8*

*ISCJB **28** 09:36:35.4±0.4,37°.90N±0°.02×29°.15E±0°.03,h9km±6km, Error ellipse: s-maj=4.6km s-min=3.7km az=160.3*

*ISK **28** 09:36:35.9,37°.89N×29°.12E,h7km,MD2.6*

*CSEM **28** 09:36:35.4±0.2,37°.91N×29°.20E,h2km,MD2.8,Error ellipse: s-maj=3.9km s-min=2.9km az=83.0*

ISC 28 09:36:35.8±0.4,37°.91N±0°.02×29°.18E±0°.04,h4km±10km, n26,σ0s97/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**217**	*e*PG	**Pg**	**09 36 39.7**	**+0.1**
DENT				*e*SG	**Sg**	**09 36 42.4**	**+0.1**
DENT	**Denizli**	**0.20**	**217**	*e*Pg	**Pg**	**09 36 39.7**	**+0.1**
DENT				*e*Sg	**Sg**	**09 36 42.4**	**+0.2**
KHAL	**Karahalli**	**0.52**	**28**	*i*P	**Pg**	**09 36 45.5**	**-0.2**
KHAL				*i*S	**Sg**	**09 36 52.9**	**+0.4**
KHAL	**Karahalli**	**0.52**	**28**	*i*P	**Pg**	**09 36 45.5**	**-0.2**
KHAL				*i*S	**Sg**	**09 36 52.9**	**+0.5**
KULA	**Kula-Manisa**	**0.73**	**326**	*e*PG	**Pg**	**09 36 50.5**	**+0.7**
KULA				*e*SG	**Sg**	**09 37 00.6**	**+1.4**
KULA	**Kula-Manisa**	**0.73**	**326**	*e*Pg	**Pg**	**09 36 50.5**	**+0.8**
KULA				*e*Sg	**Sg**	**09 37 00.6**	**+1.4**
GOLH	**Golhisar**	**0.74**	**156**	*i*P	**Pg**	**09 36 48.1**	**-1.9**
GOLH				*i*S	**Sg**	**09 36 58.2**	**-1.3**
GOLH	**Golhisar**	**0.74**	**156**	*i*P	**Pg**	**09 36 48.1**	**-1.8**
GOLH				*i*S	**Sg**	**09 36 58.2**	**-1.3**
MANT	**Manisa**	**0.76**	**320**	*i*P	**Pg**	**09 36 50.8**	**+0.5**
MANT				*i*S	**Sg**	**09 37 00.7**	**+0.5**
MANT	**Manisa**	**0.76**	**320**	*i*P	**Pg**	**09 36 50.8**	**+0.5**
MANT				*i*S	**Sg**	**09 37 00.7**	**+0.6**
GLHS	**Glhisar (BURDU**	**0.80**	**162**	*e*PG	**Pg**	**09 36 51.3**	**+0.3**
GLHS				*e*SG	**Sg**	**09 37 02.7**	**+1.3**
GLHS	**Glhisar (BURDU**	**0.80**	**162**	*e*Pg	**Pg**	**09 36 51.3**	**+0.3**
GLHS				*e*Sg	**Sg**	**09 37 02.7**	**+1.3**
YER	**Yerkesik**	**1.06**	**223**	*e*PG	**Pg**	**09 36 55.6**	**-0.4**
YER				*e*SG	**Sg**	**09 37 10.3**	**+0.6**
YER	**Yerkesik**	**1.06**	**223**	*e*Pg	**Pg**	**09 36 55.6**	**-0.4**
YER				*e*Sg	**Sg**	**09 37 10.3**	**+0.6**
AYDN	**Tasoluk**	**1.06**	**257**	*i*P	**Pg**	**09 36 55.6**	**-0.5**
AYDN				*i*S	**Sg**	**09 37 09.1**	**-0.8**
AYDN	**Tasoluk**	**1.06**	**257**	*i*P	**Pg**	**09 36 55.6**	**-0.5**
AYDN				*i*S	**Sg**	**09 37 09.1**	**-0.8**
ISP	**Isparta**	**1.06**	**94**	*e*PN	**Pg**	**09 36 58.0**	**+1.8**
ISP				*e*SN	**Sg**	**09 37 13.8**	**+3.8**
ISP	**Isparta**	**1.06**	**94**	*e*Pn	**Pg**	**09 36 58.0**	**+1.8**
ISP				*e*Sn	**Sg**	**09 37 13.8**	**+3.8**
DEMI	**Demirci**	**1.19**	**342**	*i*P	**Pg**	**09 36 57.9**	**-0.6**
DEMI				*i*S	**Sg**	**09 37 13.8**	**-0.1**
DEMI	**Demirci**	**1.19**	**342**	*i*P	**Pg**	**09 36 57.9**	**-0.6**
DEMI				*i*S	**Sg**	**09 37 13.8**	**-0.1**
GDZ	**Gediz**	**1.20**	**11**	*i*P	**Pg**	**09 36 57.5**	**-1.2**
GDZ				*i*S	**Sg**	**09 37 11.9**	**-2.3**
GDZ	**Gediz**	**1.20**	**11**	*i*P	**Pg**	**09 36 57.5**	**-1.2**
GDZ				*i*S	**Sg**	**09 37 11.9**	**-2.3**
BCK	**Bucak**	**1.20**	**112**	*e*PN	**Pn**	**09 36 59.4**	**0.0**
BCK	**Bucak**	**1.20**	**112**	*e*Pn	**Pn**	**09 36 59.4**	**0.0**
ELL	**Elmali**	**1.30**	**153**	*e*PN	**Pn**	**09 37 00.9**	**+0.3**
ELL	**Elmali**	**1.30**	**153**	*e*Pn	**Pn**	**09 37 00.9**	**+0.2**

*ISK **28** 09:38:03.9,37°.89N×29°.20E,h4km,MD2.6*

*DDA **28** 09:38:03.5,37°.90N×29°.24E,h2km±3km,Md2.8*

*ISCJB **28** 09:38:04.0±0.6,37°.91N±0°.03×29°.21E±0°.05,h9km±5km, Error ellipse: s-maj=6.4km s-min=4.3km az=5.8*

*CSEM **28** 09:38:04.0±0.2,37°.90N×29°.22E,h12km,MD2.6,Error ellipse: s-maj=4.4km s-min=2.9km az=87.0*

ISC 28 09:38:04.3±0.5,37°.91N±0°.03×29°.19E±0°.05,h13km±6km, n18,σ0s59/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**219**	*e*PG	**Pg**	**09 38 08.4**	**-0.3**
DENT				*e*SG	**Sg**	**09 38 11.6**	**-0.2**
DENT	**Denizli**	**0.20**	**219**	*e*Pg	**Pg**	**09 38 08.4**	**-0.3**
DENT				*e*Sg	**Sg**	**09 38 11.6**	**-0.1**
KHAL	**Karahalli**	**0.52**	**27**	*i*P	**Pg**	**09 38 14.4**	**0.0**
KHAL				*i*S	**Sg**	**09 38 21.4**	**+0.1**
KHAL	**Karahalli**	**0.52**	**27**	*i*P	**Pg**	**09 38 14.4**	**0.0**
KHAL				*i*S	**Sg**	**09 38 21.4**	**+0.1**
KULA	**Kula-Manisa**	**0.73**	**325**	*e*PG	**Pg**	**09 38 19.1**	**+0.6**
KULA	**Kula-Manisa**	**0.73**	**325**	*e*Pg	**Pg**	**09 38 19.1**	**+0.6**
GOLH	**Golhisar**	**0.73**	**156**	*i*P	**Pg**	**09 38 16.8**	**-1.8**
GOLH				*i*S	**Sg**	**09 38 29.0**	**+0.8**
GOLH	**Golhisar**	**0.73**	**156**	*i*P	**Pg**	**09 38 16.8**	**-1.7**
GOLH				*i*S	**Sg**	**09 38 29.0**	**+0.8**
MANT	**Manisa**	**0.76**	**319**	*i*P	**Pg**	**09 38 19.8**	**+0.7**
MANT				*i*S	**

s-maj=318.8km s-min=24.1km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.43**	**156**	P	P	10 08 53.9	+0.9
	0.5nm,0.4s,baz=336,slow=9.6,SNR=8.2						
ASAR	**Alice Springs**	**28.68**	**160**	P	P	10 09 22.4	+0.1
	0.2nm,0.3s,baz=332,slow=8.0,SNR=9.4						
STKA	**Stephens Creek**	**38.98**	**156**	P	P	10 10 50.5	-1.1
	1.2nm,0.7s,baz=336,slow=10.0,SNR=3.8						
MKAR	**Makanchi Array**	**56.17**	**327**	P	P	10 13 05.1	0.0
	0.3nm,0.3s,baz=132,slow=7.4,SNR=7.4						

*TAP **28** 10:26:51.8, 24°.21N×122°.57E, h33km±1km, ML2.6, C*
*ISCJB **28** 10:26:52.5±0.4, 24°.22N±0°.05×122°.57E±0°.03, h33km,*
Error ellipse: s-maj=7.0km s-min=3.4km az=0.3
*JMA **28** 10:26:52.0±0.1, 24°.78N×122°.65E, h45km, M1.7*
ISC 28 10:26:52.6±0.8, 24°.23N±0°.05×122°.57E±0°.03, h33km±7km, n19, σ0.97/29, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.47**	**60**	*eP*	**Pb**	**10 27 02.1**	**-0.6**
	baz=63						
YOJ				S	**Sb**	**10 27 09.8**	**+0.1**
	baz=63						
YOJ	**Yonaguni jima**	**0.47**	**60**	P	**Pb**	**10 27 02.3**	**-0.4**
YOJ				S	**Sb**	**10 27 09.7**	**0.0**
TWC	**Suao**	**0.76**	**300**	P	**Pn**	**10 27 06.5**	**-0.4**
	baz=302						
TWC				S	**Sn**	**10 27 16.9**	**-0.4**
	baz=302						
TWD	**Chiawan**	**0.90**	**261**	*eP*	**Pn**	**10 27 08.4**	**-0.5**
	baz=262						
TWB1	**Santiao Chiao**	**0.94**	**326**	*eP*	**Pn**	**10 27 10.1**	**+0.6**
	baz=327						
TWE	**Neicheng**	**0.96**	**301**	P	**Pn**	**10 27 09.8**	**+0.1**
	baz=296						
TWE				*eS*	**Sn**	**10 27 21.6**	**-0.5**
	baz=296						
ENTT	**Nioudou**	**1.00**	**295**	P	**Pn**	**10 27 10.6**	**+0.3**
	baz=295						
ENTT				*eS*	**Sn**	**10 27 25.2**	**+1.9**
	baz=295						
IRIF	**Iriomote-Funau**	**1.07**	**84**	P	**Pn**	**10 27 10.9**	**-0.3**
IRIF				S	**Sn**	**10 27 24.7**	**-0.2**
NWF	**Wu-fen Shan**	**1.11**	**320**	*eP*	**Pn**	**10 27 11.8**	**+0.1**
	baz=320						
NWF				*eS*	**Sn**	**10 27 24.4**	**-1.5**
	baz=320						
NNS	**Nan Shan**	**1.11**	**281**	*eP*	**Pn**	**10 27 12.8**	**+1.0**
	baz=282						
NSK	**Sanguang**	**1.19**	**292**	*eP*	**Pn**	**10 27 12.9**	**0.0**
	baz=280						
WHF	**Hehuan Shan**	**1.19**	**266**	*eP*	**Pn**	**10 27 12.3**	**-0.6**
	baz=267						
JKRS	**Kuro-shima**	**1.32**	**89**	P	**Pn**	**10 27 15.1**	**+0.5**
JKRS				*eS*	**Sn**	**10 27 32.6**	**+1.6**
EHY	**Hungye**	**1.35**	**238**	*eP*	**Pn**	**10 27 14.0**	**-1.1**
	baz=238						
EHY				*eS*	**Sn**	**10 27 30.4**	**-1.4**
	baz=238						
JIJ	**Ishigaki jima**	**1.44**	**84**	P	**Pn**	**10 27 15.8**	**-0.6**
JIJ				*eS*	**Sn**	**10 27 33.2**	**-1.0**
TWF1	**Yuli**	**1.45**	**234**	*eP*	**Pn**	**10 27 15.3**	**-1.2**
	baz=233						
TYC	**Yuchr**	**1.60**	**259**	*eP*	**Pn**	**10 27 19.8**	**+1.3**
	baz=258						
CHN5	**Tsauling**	**1.84**	**251**	*eP*	**Pn**	**10 27 23.5**	**+1.7**
	baz=249						
CHN1	**Nanshi**	**2.14**	**241**	*eP*	**Pn**	**10 27 28.8**	**+2.9**
	baz=240						

*ISK **28** 10:26:54.5, 37°.90N×29°.18E, h5km, MD2.6*
*ISCJB **28** 10:26:55.7±0.5, 37°.89N±0°.03×29°.21E±0°.04, h10km±10km,*
Error ellipse: s-maj=5.9km s-min=4.2km az=177.0
*CSEM **28** 10:26:55.1±0.1, 37°.86N×29°.24E, h15km, MD2.6, Error*
ellipse: s-maj=3.0km s-min=2.2km az=92.0
*DDA **28** 10:26:59.2, 38°.03N×29°.74E, h5km±25km, Md2.8*
ISC 28 10:26:55.9±0.5, 37°.88N±0°.03×29°.21E±0°.05, h15km±8km, n20, σ1.05/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**227**	*ePG*	**Pg**	**10 26 59.4**	**-1.0**
DENT				*eSG*	**Sg**	**10 27 02.1**	**-1.3**
DENT	**Denizli**	**0.19**	**227**	*ePg*	**Pg**	**10 26 59.4**	**-1.0**
DENT				*eSg*	**Sg**	**10 27 02.1**	**-1.3**
DNZL	**Cakiroluk**	**0.23**	**213**	*i P*	**Pg**	**10 27 00.8**	**-0.2**
DNZL				*i S*	**Sg**	**10 27 05.0**	**+0.5**
DNZL	**Cakiroluk**	**0.23**	**213**	*i P*	**Pg**	**10 27 00.8**	**-0.3**
DNZL				*i S*	**Sg**	**10 27 05.0**	**+0.5**
KHAL	**Karahalli**	**0.54**	**25**	*i P*	**Pg**	**10 27 06.3**	**-0.2**
KHAL				*i S*	**Sg**	**10 27 14.3**	**+0.7**
KHAL	**Karahalli**	**0.54**	**25**	*i P*	**Pg**	**10 27 06.3**	**-0.2**
KHAL				*i S*	**Sg**	**10 27 14.4**	**+0.7**
GOLH	**Golhisar**	**0.70**	**156**	*eP*	**Pg**	**10 27 08.5**	**-1.2**
GOLH				*i S*	**Sg**	**10 27 21.5**	**+2.5**
GOLH	**Golhisar**	**0.70**	**156**	*eP*	**Pg**	**10 27 08.5**	**-1.2**
GOLH				*i S*	**Sg**	**10 27 21.5**	**+2.5**
KULA	**Kula-Manisa**	**0.76**	**326**	*ePG*	**Pg**	**10 27 10.2**	**-0.5**
KULA				*eSG*	**Sg**	**10 27 20.9**	**+0.1**
KULA	**Kula-Manisa**	**0.76**	**326**	*ePg*	**Pg**	**10 27 10.3**	**-0.5**
KULA				*eSg*	**Sg**	**10 27 20.9**	**+0.1**
GLHS	**Glhisar (BURDU**	**0.76**	**162**	*ePG*	**Pg**	**10 27 09.7**	**-1.0**
GLHS				*eSG*	**Sg**	**10 27 23.1**	**+2.2**
GLHS	**Glhisar (BURDU**	**0.76**	**162**	*ePg*	**Pg**	**10 27 09.7**	**-1.1**
MANT	**Manisa**	**0.79**	**320**	*i P*	**Pg**	**10 27 11.3**	**0.0**
MANT				*i S*	**Sg**	**10 27 24.0**	**+2.2**
MANT	**Manisa**	**0.79**	**320**	*i P*	**Pg**	**10 27 11.4**	**+0.1**
MANT				*i S*	**Sg**	**10 27 24.0**	**+2.2**
ISP	**Isparta**	**1.04**	**93**	*ePG*	**Pg**	**10 27 15.1**	**-1.0**
ISP	**Isparta**	**1.04**	**93**	*ePg*	**Pg**	**10 27 15.1**	**-1.0**
YER	**Yerkesik**	**1.05**	**225**	*ePG*	**Pg**	**10 27 15.9**	**-0.3**
YER				*eSG*	**Sg**	**10 27 30.5**	**+0.6**
YER	**Yerkesik**	**1.05**	**225**	*ePg*	**Pg**	**10 27 15.9**	**-0.3**
YER				*eSg*	**Sg**	**10 27 30.5**	**+0.6**
GDZ	**Gediz**	**1.22**	**10**	*i P*	**Pn**	**10 27 17.9**	**-0.6**
GDZ				*i S*	**Sb**	**10 27 34.4**	**+0.1**
GDZ	**Gediz**	**1.22**	**10**	*i P*	**Pn**	**10 27 17.9**	**-0.6**
GDZ				*i S*	**Sb**	**10 27 34.4**	**+0.1**

KRSC 28 10:34:49.4±0.9, 54°.37N×162°.59E, h24km±23km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.54**	**291**	*eP*	Pb	10 35 00.6	+0.5
MKZ				*eS*	Sb	10 35 09.0	+1.6
TUMR	**Tumrok**	**1.68**	**304**	*eP*	Pn	10 35 18.1	+0.8
TUMR				S	Sn	10 35 39.0	+0.9
KMNR	**Kamenistaya**	**1.94**	**317**	*eP*	Pn	10 35 21.8	+1.0
KMNR				S	Sn	10 35 45.8	+1.4
SPN	**Mys Shipunski**	**1.99**	**231**	S	Sn	10 35 45.0	-0.5
NLC	**Nalytchevo**	**2.27**	**239**	*eS*	Sn	10 35 53.8	+1.3
KOZ	**Kozyrevsk**	**2.30**	**318**	P	Pn	10 35 26.6	+0.9
SDLR	**Sedlovina**	**2.45**	**245**	*eP*	Pn	10 35 29.7	+1.8
SDLR				S	Sn	10 35 58.4	+1.4
AVH	**Avacha**	**2.54**	**246**	*eP*	Pn	10 35 31.2	+2.2
AVH				S	Sn	10 36 01.1	+2.0
SRDR	**Sredinnyy**	**2.55**	**321**	P	Pn	10 35 30.3	+1.1
KOK	**Koryaka**	**2.58**	**247**	P	Pn	10 35 31.7	+2.1
KOK				S	Sn	10 36 02.0	+1.8
PET	**Petropavlovsk**	**2.70**	**242**	P	Pn	10 35 32.4	+1.1
PET				S	Sn	10 36 03.8	+0.7
RUS	**Russkaya**	**3.12**	**233**	P	Pn	10 35 39.1	+2.1

*ISK **28** 10:40:19.8, 39°.15N×42°.34E, h5km, MD3.3*
*DDA **28** 10:40:19.9, 39°.14N×42°.33E, h18km±2km, Md3.4*
*ISCJB **28** 10:40:20.5±0.3, 39°.15N±0°.02×42°.33E±0°.02, h10km, Error*
ellipse: s-maj=3.1km s-min=2.7km az=10.8
*CSEM **28** 10:40:20.5±0.2, 39°.14N×42°.35E, h2km, MD3.3, Error*
ellipse: s-maj=5.4km s-min=3.7km az=21.0
ISC 28 10:40:21.1±0.4, 39°.16N±0°.02×42°.32E±0°.03, h4km±5km, n48, σ1.02/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.67**	**51**	*ePg*	**Pg**	**10 40 33.7**	**-0.1**
AGRB				*eSG*	**Sg**	**10 40 43.6**	**+1.2**
AGRB	**Hanur-Agry**	**0.67**	**51**	*ePg*	**Pg**	**10 40 33.7**	**-0.1**
AGRB				*eSg*	**Sg**	**10 40 43.6**	**+1.1**
VRTB	**Varto-Mus**	**0.67**	**270**	*ePG*	**Pg**	**10 40 34.2**	**+0.3**
VRTB				*eSG*	**Sg**	**10 40 44.8**	**+2.1**
VRTB	**Varto-Mus**	**0.67**	**270**	*ePg*	**Pg**	**10 40 34.2**	**+0.2**
VRTB				*eSg*	**Sg**	**10 40 44.8**	**+2.1**
BNGL	**BINGOL**	**0.94**	**257**	*i P*	**Pg**	**10 40 37.5**	**-1.5**
BNGL				*i S*	**Sg**	**10 40 51.2**	**+0.1**
HOMI	**Horasan**	**0.94**	**340**	*i P*	**Pg**	**10 40 39.5**	**+0.4**
VANB	**Van**	**1.01**	**124**	*ePG*	**Pg**	**10 40 40.2**	**-0.1**
VANB				*eSG*	**Sg**	**10 40 55.5**	**+2.0**
VANB	**Van**	**1.01**	**124**	*ePg*	**Pg**	**10 40 40.2**	**-0.2**
GEVA	**Gevas**	**1.03**	**146**	*i P*	**Pg**	**10 40 38.5**	**-2.2**
GEVA				*i S*	**Sg**	**10 40 53.9**	**-0.1**
GEVA	**Gevas**	**1.03**	**146**	*i P*	**Pg**	**10 40 38.5**	**-2.2**
GEVA				*i S*	**Sg**	**10 40 53.9**	**-0.1**
VANT	**Van**	**1.04**	**135**	*ePG*	**Pg**	**10 40 40.1**	**-1.0**
VANT	**Van**	**1.04**	**135**	*ePg*	**Pg**	**10 40 40.1**	**-1.0**
ERZM	**Erzurum**	**1.05**	**315**	*i P*	**Pg**	**10 40 40.3**	**-0.9**
ERZM				*i S*	**Sg**	**10 40 55.5**	**+0.8**
ERZM	**Erzurum**	**1.05**	**315**	*i P*	**Pg**	**10 40 40.3**	**-0.8**
ERZM				*i S*	**Sg**	**10 40 55.5**	**+0.8**
EZM	**Erzurum**	**1.05**	**315**	*ePG*	**Pg**	**10 40 41.1**	**0.0**
DYDN	**Diyadin**	**1.13**	**70**	*i P*	**Pg**	**10 40 41.1**	**-1.6**
DYDN				*i S*	**Sg**	**10 40 57.3**	**0.0**
DYDN	**Diyadin**	**1.13**	**70**	*i P*	**Pg**	**10 40 41.1**	**-1.6**
DYDN				*i S*	**Sg**	**10 40 57.3**	**0.0**
CLDR	**Caldiran**	**1.24**	**90**	*ePN*	**Pn**	**10 40 43.9**	**-1.2**
CLDR	**Caldiran**	**1.24**	**90**	*ePn*	**Pn**	**10 40 43.9**	**-1.2**
BEST	**Besiri**	**1.51**	**213**	*i P*	**Pn**	**10 40 48.3**	**-0.6**
BEST				*i S*	**Sg**	**10 41 10.6**	**+1.0**
KARS	**Kars**	**1.58**	**21**	*ePN*	**Pg**	**10 40 50.6**	**-0.7**
KARS				*eSN*	**Sg**	**10 41 12.1**	**+0.4**
KARS	**Kars**	**1.58**	**21**	*ePn*	**Pg**	**10 40 50.6**	**-0.7**
KARS				*eSn*	**Sg**	**10 41 12.1**	**+0.4**
KOPT	**Kop Dagi**	**1.65**	**302**	*i P*	**Pg**	**10 40 51.8**	**-0.8**
KOPT	**Kop Dagi**	**1.65**	**302**	*i P*	**Pg**	**10 40 51.8**	**-0.8**
HAKT	**HAKKARI**	**1.94**	**145**	*i P*	**Pn**	**10 40 54.6**	**-0.1**
HAKT				*i S*	**Sg**	**10 41 24.9**	**+1.7**
HAKT	**HAKKARI**	**1.94**	**145**	*i P*	**Pn**	**10 40 54.6**	**-0.1**
DAGI	**Agillar**	**1.94**	**351**	*i P*	**Pn**	**10 40 54.5**	**-0.2**
ARTV	**Artvin**	**2.04**	**352**	*i P*	**Pn**	**10 40 56.2**	**+0.1**
ARTV	**Artvin**	**2.04**	**352**	*i P*	**Pn**	**10 40 56.2**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**2.08**	**307**	*ePN*	**Pb**	**10 40 58.3**	**-1.1**
BAYT	**Ayd¨–ntepe-Bay**	**2.08**	**307**	*ePn*	**Pb**	**10 40 58.3**	**-1.1**
GNI	**Garni**	**2.11**	**61**	*ePN*	**Pn**	**10 40 57.6**	**+0.5**
GNI	**Garni**	**2.11**	**61**	*ePn*	**Pn**	**10 40 57.6**	**+0.5**
PTK	**Pertek**	**2.30**	**264**	*ePN*	**Pn**	**10 41 00.2**	**+0.6**
PTK	**Pertek**	**2.30**	**264**	*ePn*	**Pn**	**10 41 00.2**	**+0.6**
BCA	**Borcka**	**2.34**	**347**	*ePN*	**Pn**	**10 41 01.0**	**+0.7**
BCA	**Borcka**	**2.34**	**347**	*ePn*	**Pn**	**10 41 01.0**	**+0.7**
EZC	**Erzincan**	**2.37**	**285**	*ePN*	**Pb**	**10 41 02.3**	**-1.9**
EZC	**Erzincan**	**2.37**	**285**	*ePn*	**Pb**	**10 41 02.3**	**-2.0**
AKH	**Akhalkalaki**	**2.42**	**21**	P	**Pb**	**10 41 06.5**	**+1.4**
SVRC	**Sivrice-ELAZID**	**2.48**	**253**	*ePN*	**Pn**	**10 41 02.2**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.48**	**253**	*ePn*	**Pn**	**10 41 02.2**	**0.0**
GUMT	**Gumushane**	**2.54**	**302**	*ePN*	**Pn**	**10 41 03.8**	**+0.8**
GUMT	**Gumushane**	**2.54**	**302**	*ePn*	**Pn**	**10 41 03.8**	**+0.8**
GOR	**Gori**	**3.13**	**25**	P	**Pb**	**10 41 18.0**	**+0.7**
MTA	**Mtatsminda**	**3.16**	**36**	P	**Pb**	**10 41 16.0**	**-1.6**
TBLG	**Delisi**	**3.16**	**35**	P	**Pb**	**10 41 17.3**	**-0.5**
ONI	**Oni**	**3.53**	**14**	P	**Pn**	**10 41 18.1**	**+1.5**

*ISCJB **28** 10:53:26.6±1.0, 37°.90N±0°.03×29°.19E±0°.08, h3km±8km,*
Error ellipse: s-maj=11.3km s-min=4.6km az=12.1
*DDA **28** 10:53:26.4, 37°.89N×29°.22E, h7km±3km, Md2.7*
*CSEM **28** 10:53:26.3±0.2, 37°.87N×29°.23E, h8km, MD2.5, Error*
ellipse: s-maj=4.3km s-min=2.0km az=107.0
*ISK **28** 10:53:27.2, 37°.90N×29°.06E, h5km, MD2.5*
ISC 28 10:53:26.7±1.1, 37°.88N±0°.03×29°.21E±0°.09, h11km±6km, n16, σ0.42/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**228**	*ePG*	**Pg**	**10 53 30.8**	**0.0**
DENT				*eSG*	**Sg**	**10 53 33.4**	**-0.1**
DENT	**Denizli**	**0.19**	**228**	*ePg*	**Pg**	**10 53 30.8**	**0.0**
DENT				*eSg*	**Sg**	**10 53 33.4**	**-0.1**
DNZL	**Cakiroluk**	**0.23**	**214**	*i P*	**Pg**	**10 53 31.5**	**0.0**
DNZL				*i S*	**Sg**	**10 53 35.4**	**+0.6**
DNZL	**Cakiroluk**	**0.23**	**214**	*i P*	**Pg**	**10 53 31.5**	**0.0**
DNZL				*i S*	**Sg**	**10 53 35.4**	**+0.7**
KHAL	**Karahalli**	**0.54**	**24**	*i P*	**Pg**	**10 53 36.7**	**-0.4**
KHAL	**Karahalli**	**0.54**	**24**	*i P*	**Pg**	**10 53 36.7**	**-0.4**
KULA	**Kula-Manisa**	**0.77**	**326**	*ePG*	**Pg**	**10 53 42.0**	**+0.5**
KULA				*eSG*	**Sg**	**10 53 50.7**	**-0.8**
KULA	**Kula-Manisa**	**0.77**	**326**	*ePg*	**Pg**	**10 53 42.0**	**+0.5**
KULA				*eSg*	**Sg**	**10 53 50.7**	**-0.8**
MANT	**Manisa**	**0.80**	**320**	*i P*	**Pg**	**10 53 41.9**	**-0.1**
MANT				*i S*	**Sg**	**10 53 53.0**	**+0.5**
MANT	**Manisa**	**0.80**	**320**	*i P*	**Pg**	**10 53 41.9**	**-0.2**
MANT				*i S*	**Sg**	**10 53 53.0**	**+0.5**
YER	**Yerkesik**	**1.05**	**225**	*ePG*	**Pg**	**10 53 46.2**	**-0.6**
YER				*eSG*	**Sg**	**10 54 00.7**	**+0.1**
YER	**Yerkesik**	**1.05**	**225**	*ePg*	**Pg**	**10 53 46.2**	**-0.7**
YER				*eSg*	**Sg**	**10 54 00.7**	**+0.2**
AYDN	**Tasoluk**	**1.08**	**259**	*i P*	**Pb**	**10 53 47.2**	**-0.2**
AYDN				*i S*	**Sb**	**10 54 01.1**	**-0.3**
AYDN	**Tasoluk**	**1.08**	**259**	*i P*	**Pb**	**10 53 47.2**	**-0.1**
AYDN				*i S*	**Sb**	**10 54 01.1**	**-0.3**
DEMI	**Demirci**	**1.22**	**342**	*i P*	**Pn**	**10 53 50.1**	**+0.4**
DEMI				*i S*	**Sb**	**10 54 05.9**	**+0.3**
DEMI	**Demirci**	**1.22**	**342**	*i P*	**Pn**	**10 53 50.1**	**+0.4**
DEMI				*i S*	**Sb**	**10 54 05.9**	**+0.3**

*NEIC **28** 11:23:32.8, 37°.34S×179°.93E, h70km, ML3.6(WEL), After WEL.*
WEL 28 11:23:32.0±0.5, 37°.35S×179°.90W, h33km, ML3.6/4, Error ellipse: s-maj=4.9km s-min=3.9km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.44**	**261**	PN	Pn	11 23 55.0	-0.7
MXZ				SN	Sn	11 24 12.8	-0.7
MXZ	**Matakaoa Point**	**1.44**	**261**	Pn	Pn	11 23 55.0	-0.7
PUZ	**Puketiti**	**1.63**	**243**	PN	Pn	11 23 57.7	-0.6
PUZ				*eSN*	Sn	11 24 16.0	-2.0
PUZ	**Puketiti**	**1.63**	**243**	Pn	Pn	11 23 57.7	-0.6
PUZ				Sn	Sn	11 24 16.3	-1.7
CNGZ	**Carnagh Statio**	**1.87**	**232**	PN	Pn	11 24 01.6	0.0
CNGZ	**Carnagh Statio**	**1.87**	**232**	Pn	Pn	11 24 01.6	0.0
MWZ	**Matawai**	**2.26**	**243**	PN	Pn	11 24 06.1	-0.8
MWZ				*eSN*	Sn	11 24 30.6	-3.0
MWZ	**Matawai**	**2.26**	**243**	Pn	Pn	11 24 06.1	-0.8
PRGZ	**Paritu Road**	**2.35**	**227**	PN	Pn	11 24 07.9	-0.3
PRGZ	**Paritu Road**	**2.35**	**227**	Pn	Pn	11 24 07.9	-0.3
MHGZ	**Mahia Peninsul**	**2.49**	**223**	PN	Pn	11 24 09.3	-0.8
MHGZ	**Mahia Peninsul**	**2.49**	**223**	Pn	Pn	11 24 09.3	-0.8
URZ	**Urewera**	**2.53**	**248**	*ePN*	Pn	11 24 10.6	-0.2
URZ				SN	Sn	11 24 39.3	-1.1
URZ	**Urewera**	**2.53**	**248**	Pn	Pn	11 24 10.9	+0.2
KNZ	**Kokohu**	**2.53**	**228**	PN	Pn	11 24 09.7	-1.0
KNZ	**Kokohu**	**2.53**	**228**	Pn	Pn	11 24 09.7	-1.0
NMHZ	**Naumai**	**3.12**	**235**	*ePN*	Pn	11 24 18.3	-0.6
NMHZ	**Naumai**	**3.12**	**235**	Pn	Pn	11 24 18.5	-0.4
BKZ	**Black Stump Fm**	**3.37**	**236**	PN	Pn	11 24 21.4	-0.7
BKZ	**Black Stump Fm**	**3.37**	**236**	Pn	Pn	11 24 21.4	-0.7
MCHZ	**McNeill Hill**	**3.39**	**231**	PN	Pn	11 24 22.2	-0.4
MCHZ	**McNeill Hill**	**3.39**	**231**	Pn	Pn	11 24 22.2	-0.4
KUZ	**Kuaotunu**	**3.55**	**278**	*ePN*	Pn	11 24 24.0	-0.8
KUZ	**Kuaotunu**	**3.55**	**278**	Pn	Pn	11 24 23.9	-0.9
PXZ	**Pawanui**	**3.68**	**222**	*ePN*	Pn	11 24 23.4	-3.1
PXZ	**Pawanui**	**3.68**	**222**	Pn	Pn	11 24 23.6	-2.9
BHHZ	**Black Hill Sta**	**3.82**	**235**	*ePN*	Pn	11 24 27.5	-0.9
BHHZ	**Black Hill Sta**	**3.82**	**235**	Pn	Pn	11 24 27.5	-0.9
BFZ	**Birch Farm**	**4.47**	**221**	*ePN*	Pn	11 24 34.5	-3.0
MRZ	**Mangatainoka R**	**4.83**	**225**	PN	Pn	11 24 39.5	-2.8
MRZ				SN	Sn	11 25 31.7	-5.3
MRZ	**Mangatainoka R**	**4.83**	**225**	Pn	Pn	11 24 39.5	-2.8

IDC 28 11:39:16.9±1.0, 47°.09N×155°.76E, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/24, mbtmp3.5/9, ML3.3/1, Error ellipse: s-maj=29.5km s-min=22.1km az=122.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.16**	**11**	Pn	Pn	11 40 49.7	+0.7
	0.7nm,0.3s,baz=181,slow=13,SNR=12						
ILAR	**Eielson Array**	**35.15**	**39**	P	P	11 46 11.8	+0.1
	0.2nm,0.6s,baz=254,slow=7.4,SNR=6.4						
MKAR	**Makanchi Array**	**48.39**	**298**	P	P	11 48 00.1	-0.1
	0.7nm,0.9s,baz=92,slow=7.6,SNR=3.4						
YKA	**Yellowknife Ar**	**49.56**	**38**	P	P	11 48 08.8	-0.2
	0.1nm,0.6s,baz=290,slow=5.8,SNR=2.8						
BVAR	**Borovoye Array**	**52.04**	**310**	P	P	11 48 27.7	-0.2
	0.5nm,0.5s,baz=54,slow=7.5,SNR=5.2						
FINES	**FINESS Array B**	**64.50**	**336**	P	P	11 49 54.9	+0.1
	3.4nm,1.1s,baz=33,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**69.46**	**202**	P	P	11 50 26.7	0.0
	0.2nm,0.7s,baz=22,slow=6.9,SNR=3.4						
ASAR	**Alice Springs**	**73.14**	**201**	P	P	11 50 49.5	+0.5
	1.2nm,1.1s,baz=26,slow=6.6,SNR=4.2						
TXAR	**Lajitas Array**	**75.74**	**62**	P	P	11 51 04.2	0.0
	0.2nm,0.7s,baz=291,slow=5.1,SNR=4.7						

GUC 28 11:40:15.9±0.6, 22°.33S×69°.95W, h53km±6km, MD3.9, ML3.2, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACH	**Maria Elena**	**0.22**	**54**	*eP*	Pn	11 40 25.5	+0.9
MACH				*i S*	Sn	11 40 32.1	+1.2
MECH	**Mejillones**	**0.90**	**211**	↑*iP*	Pn	11 40 32.5	+0.1
MECH				*i S*	Sn	11 40 45.3	+0.9
MECH				AML	AML	11 40 48.2	
	comp=E,2μm,0.4s						
CEN1	**Los Morros**	**1.08**	**192**	*eP*	Pn	11 40 38.2	+3.4
CEN1				*i S*	Sn	11 40 55.2	+6.4
CEN1				AML	AML	11 40 57.2	
	comp=E,415nm,0.4s						
ANCH	**Antofagasta**	**1.41**	**197**	*eP*	Pn	11 40 39.6	+0.3
ANCH				*eS*	Sn	11 40 58.1	+1.3
ANCH				AML	AML	11 41 00.4	
	comp=E,499nm,0.3s						

*ATH **28** 11:52:20.0, 36°.83N×28°.50E, h15km±1km, MD3.4/6*
*ISCJB **28** 11:52:21.3±0.4, 36°.77N±0°.02×28°.52E±0°.03, h9km±4km,*
Error ellipse: s-maj=4.1km s-min=3.4km az=167.3
*ISK **28** 11:52:21.7, 36°.81N×28°.51E, h7km, MD2.9*
*DDA **28** 11:52:21.3, 36°.74N×28°.51E, h7km±3km, Ml3.2*
*CSEM **28** 11:52:21.4±0.2, 36°.74N×28°.51E, h8km, MD2.9, Error*
ellipse: s-maj=4.9km s-min=3.9km az=160.0
ISC 28 11:52:22.1±0.4, 36°.78N±0°.02×28°.51E±0°.03, h11km±4km, n39, σ1.08/63, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.12**	**39**	*i P*	**Pg**	**11 52 25.7**	**+0.6**
TURN				*i S*	**Sg**	**11 52 29.9**	**+2.6**
TURN	**Turunc**	**0.12**	**39**	*i P*	**Pg**	**11 52 25.7**	**+0.6**
TURN				*i S*	**Sg**	**11 52 29.9**	**+2.7**
YER	**Yerkesik**	**0.40**	**333**	*ePg*	**Pg**	**11 52 29.4**	**-0.6**
YER				*eSg*	**Sg**	**11 52 35.1**	**-0.2**
YER	**Yerkesik**	**0.40**	**333**	*ePG*	**Pg**	**11 52 29.4**	**-0.6**
YER				*eSG*	**Sg**	**11 52 35.1**	**-0.2**
ARG	**Arkhangelos**	**0.64**	**209**	*ePB*	**Pg**	**11 52 32.9**	**-1.6**
ARG				*eSN*	**Sg**	**11 52 43.2**	**+0.3**
ARG	**Arkhangelos**	**0.64**	**209**	*ePg*	**Pg**	**11 52 32.7**	**-1.8**
ARG				*eSb*	**Sg**	**11 52 43.2**	**+0.3**
DAT	**Datca**	**0.75**	**266**	*ePG*	**Pg**	**11 52 36.7**	**+0.1**
DAT				*eSG*	**Sg**	**11 52 47.6**	**+1.3**
DAT	**Datca**	**0.75**	**266**	*ePg*	**Pg**	**11 52 36.7**	**+0.1**
DAT				*eSg*	**Sg**	**11 52 47.6**	**+1.3**
GLHS	**Glhisar (BURDU**	**0.88**	**64**	*ePG*	**Pg**	**11 52 38.7**	**-0.4**
GLHS				*eSG*	**Sg**	**11 52 51.2**	**+0.7**
GLHS	**Glhisar (BURDU**	**0.88**	**64**	*ePg*	**Pg**	**11 52

*ISCJB **28** 11:59:18.3±0.3,29°.08N±0°.03×139°.81E±0°.07, h418km±4km, mb4.0/39, Error ellipse: s-maj=9.3km s-min=5.1km az=173.1*
*IDC **28** 11:59:18.9±0.7,29°.05N×139°.69E, h405km±8km, mb3.3/16, mb1 3.5/20, mb1mx3.4/25, mbtmp3.3/20, Error ellipse: s-maj=14.8km s-min=10.3km az=75.0*
*JMA **28** 11:59:18.9±0.2,29°.17N×140°.20E, h429km±4km, M3.7*
*BJI **28** 11:59:19.0,28°.96N×139°.58E, h421km, mB4.5/4, mb4.4/10*
*NEIC **28** 11:59:19.8±0.5,29°.06N×139°.76E, h418km±5km, mb4.3/20, Error ellipse: s-maj=7.8km s-min=6.4km az=73.0*

ISC 28 11:59:19.1±0.3,29°.11N±0°.03×139°.86E±0°.07,h409km±4km, n102,σ0°90/112,mb4.0/39,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.87**	**134**	P	**Pn**	**12 00 22.8**	**+0.7**
	95nm,0.3s,baz=327,slow=3.8,SNR=43						
CBIJ				S	**S**	**12 01 12.8**	**-0.2**
	99nm,0.3s,baz=110,slow=22,SNR=11						
CBIJ	**Chichi jima**	**2.87**	**134**	P	**Pn**	**12 00 22.8**	**+0.7**
CBIJ				S	**S**	**12 01 12.8**	**-0.2**
CBIJ	**Chichi jima**	**2.87**	**134**	P	**Pn**	**12 00 22.5**	**+0.4**
CBIJ				eS	**S**	**12 01 12.5**	**-0.6**
JHHJ	**Haha-jima-NKT**	**3.21**	**140**	P	**Pn**	**12 00 25.2**	**+0.3**
JHHJ				eS	**S**	**12 01 17.3**	**-0.8**
BSO1	**Boso 1**	**5.61**	**10**	eS	**S**	**12 01 59.9**	**-0.2**
BSO3	**Boso 3**	**5.70**	**5**	P	**Pn**	**12 00 48.8**	**0.0**
BSO3				eS	**S**	**12 02 01.4**	**-0.5**
BSO4	**Boso 4**	**5.88**	**4**	P	**Pn**	**12 00 52.0**	**+1.3**
BSO4				eS	**S**	**12 02 04.9**	**-0.5**
JKN2	**Miekihoku**	**5.96**	**330**	P	**Pn**	**12 00 53.9**	**+2.4**
JOD2	**Odawara 2**	**6.17**	**354**	P	**Pn**	**12 00 54.1**	**+0.3**
JOD2				eS	**S**	**12 02 10.0**	**-1.1**
JNY	**Yasuok**	**6.46**	**345**	P	**Pn**	**12 00 58.5**	**+1.6**
JHU	**Hanno**	**6.74**	**356**	P	**Pn**	**12 00 59.9**	**-0.1**
JHU				eS	**S**	**12 02 19.2**	**-3.3**
JRY	**Ryogami san**	**6.93**	**354**	P	**Pn**	**12 01 02.9**	**+0.7**
JRY				eS	**S**	**12 02 25.0**	**-1.5**
JYT	**Yasato**	**7.10**	**2**	P	**P**	**12 01 04.4**	**+0.3**
JYT				eS	**S**	**12 02 25.3**	**-4.6**
JAG	**Ashikaga**	**7.30**	**357**	P	**P**	**12 01 05.8**	**-0.5**
JAG				eS	**S**	**12 02 30.9**	**-3.1**
JHO	**Hitachi**	**7.50**	**4**	P	**P**	**12 01 09.2**	**+0.7**
JHO				eS	**S**	**12 02 36.2**	**-2.0**
MJAR	**Matsushiro Arr**	**7.54**	**350**	P	**P**	**12 01 09.1**	**+0.2**
	0.7nm,0.3s,baz=168,slow=11,SNR=15						
MJAR	**Matsushiro Arr**	**7.54**	**350**	P	**P**	**12 01 09.1**	**+0.2**
MAJO	**Matsushiro**	**7.54**	**350**	ePn	**Pn**	**12 01 09.2**	**+0.2**
JHS	**Saijyo**	**8.20**	**317**	P	**P**	**12 01 18.4**	**+2.1**
JMZ	**Minamidaito 2**	**8.34**	**249**	P	**P**	**12 01 17.7**	**-0.4**
JNU	**Nakatsue**	**8.67**	**309**	ePn	**Pn**	**12 01 23.5**	**+1.6**
JSJ	**Shimokoshiki**	**9.12**	**289**	P	**P**	**12 01 27.8**	**+1.1**
JOW	**Kunigami**	**10.49**	**260**	P	**P**	**12 01 42.1**	**+0.2**
	2.0nm,0.3s,baz=132,slow=11,SNR=6.9						
JOW	**Kunigami**	**10.49**	**260**	ePn	**Pn**	**12 01 43.8**	**+1.0**
KSRS	**Korea Array**	**12.99**	**313**	P	**P**	**12 02 10.2**	**+0.9**
	0.8nm,0.3s,baz=129,slow=11,SNR=30						
KSAR	**Wonju Array Be**	**13.01**	**313**	P	**P**	**12 02 10.2**	**+0.7**
USRK	**Ussuriysk Arra**	**16.31**	**340**	P	**P**	**12 02 46.8**	**+1.6**
	2.8nm,0.3s,baz=143,slow=9.7,SNR=40						
CN2	**Changchun**	**18.65**	**326**	eP	**P**	**12 03 11.0**	**+1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HIA	**Hailar**	**25.32**	**328**	eP	**P**	**12 04 11.4**	**+0.7**
	comp=Z,5.5nm,0.4s,mb4.3						
ENH	**Enshi**	**26.37**	**280**	eP	**P**	**12 04 18.7**	**-1.6**
	comp=Z,9.2nm,0.8s,mb4.3						
XAN	**Xi'an**	**26.75**	**288**	P	**P**	**12 04 22.3**	**-1.3**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2						
XAN				pmax	pmax		
	comp=Z,16nm,4.5s						
ULN	**Ulaanbaatar**	**31.45**	**316**	eP	**P**	**12 05 04.8**	**+0.3**
	comp=Z,2.2nm,1.0s,mb3.4						
SONM	**Songino Array**	**31.84**	**315**	P	**P**	**12 05 08.2**	**+0.3**
	comp=Z,1.3nm,0.4s,mb3.6,baz=127,slow=9.0,SNR=18						
SONM				PcP	PcP	12 07 47.8	+0.7
	comp=Z,0.3nm,0.5s,baz=93,slow=1.7,SNR=4.6						
SONM	**Songino Array**	**31.84**	**315**	P	**P**	**12 05 08.2**	**+0.3**
SONM				PcP	PcP	12 07 47.8	+0.7
GTA	**Gaotai**	**34.41**	**298**	eP	**P**	**12 05 29.5**	**-0.5**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
TLY	**Talaya**	**35.08**	**320**	eP	**P**	**12 05 36.1**	**+0.6**
	comp=Z,4.4nm,0.5s,mb4.0						
CMAR	**Chiang Mai Arr**	**38.74**	**263**	P	**P**	**12 06 05.2**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.1,baz=85,slow=4.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**38.74**	**263**	P	**P**	**12 06 05.2**	**-1.1**
TAPN	**Taplejung**	**45.67**	**281**	eP	**P**	**12 07 01.0**	**-0.3**
	comp=Z,8.5nm,0.4s,mb4.4						
TAPN	**Taplejung**	**45.67**	**281**	eP	**P**	**12 07 01.0**	**-0.3**
	comp=Z,8.5nm,0.4s,mb4.4						
ODAN	**Odare**	**46.07**	**280**	eP	**P**	**12 07 04.0**	**-0.4**
	comp=Z,12nm,0.5s,mb4.5						
ODAN	**Odare**	**46.07**	**280**	eP	**P**	**12 07 04.0**	**-0.4**
	comp=Z,12nm,0.5s,mb4.5						
ZALV	**Zalesovo Beam**	**46.62**	**318**	P	**P**	**12 07 07.0**	**-1.2**
	comp=Z,1.6nm,0.4s,mb3.7,baz=95,slow=8.6,SNR=9.0						
ZALV				PcP	PcP	12 08 33.8	-0.5
	comp=Z,1.1nm,0.4s,baz=121,slow=4.2,SNR=5.5						
ZALV	**Zalesovo Beam**	**46.62**	**318**	P	**P**	**12 07 07.0**	**-1.2**
ZALV				PcP	PcP	12 08 33.8	-0.5
RAMN	**Ramite**	**46.73**	**281**	eP	**P**	**12 07 09.1**	**-0.3**
	comp=Z,15nm,0.6s,mb4.5						
RAMN	**Ramite**	**46.73**	**281**	eP	**P**	**12 07 09.1**	**-0.3**
	comp=Z,15nm,0.6s,mb4.5						
JIRN	**Jiri**	**46.89**	**282**	eP	**P**	**12 07 11.1**	**+0.4**
	comp=Z,5.3nm,0.4s,mb4.2						
JIRN	**Jiri**	**46.89**	**282**	eP	**P**	**12 07 11.1**	**+0.4**
	comp=Z,5.3nm,0.4s,mb4.2						
GUN	**Gumba**	**47.09**	**282**	eP	**P**	**12 07 12.3**	**+0.1**
	comp=Z,34nm,0.7s,mb4.8						
GUN	**Gumba**	**47.09**	**282**	eP	**P**	**12 07 12.3**	**+0.1**
	comp=Z,34nm,0.7s,mb4.8						
PKI	**Pulchoki**	**47.59**	**282**	eP	**P**	**12 07 15.5**	**-0.5**
PKI	**Pulchoki**	**47.59**	**282**	eP	**P**	**12 07 15.5**	**-0.5**
MKAR	**Makanchi Array**	**47.61**	**308**	P	**P**	**12 07 15.2**	**-0.6**
	comp=Z,1.1nm,0.3s,mb3.6,baz=87,slow=9.5,SNR=34						
MKAR				PcP	PcP	12 08 37.6	-0.5
	comp=Z,0.3nm,0.3s,baz=86,slow=6.6,SNR=5.0						
MKAR	**Makanchi Array**	**47.61**	**308**	P	**P**	**12 07 15.2**	**-0.6**
MKAR				PcP	PcP	12 08 37.6	-0.5
KKN	**Kakani**	**47.64**	**282**	eP	**P**	**12 07 16.1**	**-0.3**
KKN	**Kakani**	**47.64**	**282**	eP	**P**	**12 07 16.1**	**-0.3**
DMN	**Daman**	**47.83**	**282**	eP	**P**	**12 07 17.3**	**-0.5**
	comp=Z,10nm,0.4s,mb4.5						
DMN	**Daman**	**47.83**	**282**	eP	**P**	**12 07 17.3**	**-0.5**
	comp=Z,10nm,0.4s,mb4.5						
GKN	**Gorkha**	**48.13**	**283**	eP	**P**	**12 07 19.6**	**-0.5**
GKN	**Gorkha**	**48.13**	**283**	eP	**P**	**12 07 19.6**	**-0.5**
DANN	**Dangsing**	**48.79**	**283**	eP	**P**	**12 07 25.1**	**+0.1**
	comp=Z,25nm,0.6s,mb4.8						
DANN	**Dangsing**	**48.79**	**283**	eP	**P**	**12 07 25.1**	**+0.1**
	comp=Z,25nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**48.90**	**198**	eP	**P**	**12 07 25.9**	**0.0**
	comp=Z,2.9nm,0.6s,mb3.8						
WRAB	**Tennant Creek**	**49.05**	**187**	eP	**P**	**12 07 26.4**	**-0.5**
	comp=Z,5.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**49.05**	**187**	P	**P**	**12 07 26.6**	**-0.4**
	comp=Z,5.0nm,0.3s,mb4.3,baz=2.8,slow=7.8,SNR=149						
WRA				PcP	PcP	12 08 44.1	+0.6
	comp=Z,0.5nm,0.5s,baz=358,slow=3.8,SNR=3.8						
WRA	**Warramunga Arr**	**49.05**	**187**	P	**P**	**12 07 26.6**	**-0.4**
WRA				PcP	PcP	12 08 44.1	+0.6
KOLN	**Koldanda**	**49.08**	**283**	eP	**P**	**12 07 26.8**	**-0.4**
	comp=Z,16nm,0.6s,mb4.5						
KOLN	**Koldanda**	**49.08**	**283**	eP	**P**	**12 07 26.8**	**-0.4**
	comp=Z,16nm,0.6s,mb4.5						
KURK	**Kurchatov**	**50.11**	**313**	eP	**P**	**12 07 33.7**	**-0.8**
	comp=Z,3.3nm,0.6s,mb3.8						
AS31	**Alice Springs**	**52.78**	**187**	eP	**P**	**12 07 53.5**	**-0.7**
ASAR	**Alice Springs**	**52.78**	**187**	P	**P**	**12 07 54.0**	**-0.3**
	comp=Z,1.6nm,0.4s,mb3.6,baz=2.3,slow=6.7,SNR=106						
ASAR	**Alice Springs**	**52.78**	**187**	P	**P**	**12 07 54.0**	**-0.3**
AAK	**Ala-Archa**	**53.43**	**303**	eP	**P**	**12 07 58.5**	**-0.3**
	comp=Z,4.9nm,0.5s,mb4.0						
BRVK	**Borovoye**	**55.23**	**316**	eP	**P**	**12 08 10.9**	**-0.5**
	comp=Z,2.4nm,0.7s,mb3.5						
KKAR	**Karatay Array**	**56.25**	**304**	eP	**P**	**12 08 18.1**	**-0.6**
	comp=Z,3.3nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**56.95**	**29**	P	**P**	**12 08 24.5**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=250,slow=5.2,SNR=5.7						
ILAR	**Eielson Array**	**56.95**	**29**	P	**P**	**12 08 24.5**	**+1.3**
ARU	**Arti**	**61.58**	**321**	eP	**P**	**12 08 54.3**	**-0.3**
	comp=Z,6.6nm,0.4s,mb4.5						
INK	**Inuvik**	**62.07**	**25**	P	**P**	**12 08 58.5**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.4,baz=44,slow=23,SNR=6.3						
INK	**Inuvik**	**62.07**	**25**	P	**P**	**12 08 58.5**	**+0.9**
ABKAR	**Akbulak array**	**62.22**	**313**	eP	**P**	**12 08 58.2**	**-0.7**
	comp=Z,3.1nm,0.5s,mb4.1						
KEV	**Kevo**	**70.40**	**340**	ep	**P**	**12 09 49.4**	**-0.4**
	comp=Z,3.4nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**70.96**	**340**	P	**P**	**12 09 53.8**	**+0.7**
	comp=Z,3.7nm,0.5s,mb4.2,baz=72,slow=8.6,SNR=21						
ARCES	**ARCESS Array B**	**70.96**	**340**	P	**P**	**12 09 53.8**	**+0.7**
YKA	**Yellowknife Ar**	**71.35**	**28**	P	**P**	**12 09 57.1**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=296,slow=6.3,SNR=3.9						
YKA	**Yellowknife Ar**	**71.35**	**28**	P	**P**	**12 09 57.1**	**+1.6**
JOF	**Joensuu**	**72.37**	**333**	ep	**P**	**12 10 01.7**	**+0.2**
	comp=Z,8.8nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**74.77**	**333**	ep	**P**	**12 10 14.7**	**-0.6**
	comp=Z,4.2nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**75.23**	**333**	P	**P**	**12 10 17.9**	**0.0**
	comp=Z,3.7nm,0.4s,mb4.4,baz=71,slow=5.0,SNR=72						
FINES	**FINESS Array B**	**75.23**	**333**	P	**P**	**12 10 17.9**	**0.0**
AKASG	**Malin Array Be**	**79.78**	**323**	P	**P**	**12 10 42.6**	**-0.4**
	comp=Z,1.3nm,0.3s,mb4.0,baz=51,slow=5.5,SNR=9.8						
AKASG	**Malin Array Be**	**79.78**	**323**	P	**P**	**12 10 42.6**	**-0.4**
NVAR	**Mina Array Bea**	**80.88**	**51**	P	**P**	**12 10 51.8**	**+2.7**
	comp=Z,0.2nm,0.4s,mb3.2,baz=290,slow=5.7,SNR=3.8						
NVAR	**Mina Array Bea**	**80.88**	**51**	P	**P**	**12 10 51.8**	**+2.7**
NOA	**NORSAR Array B**	**80.98**	**337**	P	**P**	**12 10 48.9**	**-0.2**
	comp=Z,1.8nm,0.4s,mb4.1,baz=46,slow=5.0,SNR=17						
NOA	**NORSAR Array B**	**80.98**	**337**	P	**P**	**12 10 48.9**	**-0.2**
BRTR	**Keskin Array B**	**83.13**	**312**	P	**P**	**12 11 00.8**	**+0.1**
	comp=Z,1.9nm,0.7s,mb3.9,baz=109,slow=3.7,SNR=8.6						
BRTR	**Keskin Array B**	**83.13**	**312**	P	**P**	**12 11 00.8**	**+0.1**
GERES	**GERESS Array B**	**88.72**	**328**	P	**P**	**12 11 26.8**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=55,slow=5.1,SNR=4.4						
GERES	**GERESS Array B**	**88.72**	**328**	P	**P**	**12 11 26.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**121.72**	**310**	PKP	PKPdf	12 17 25.2	-0.7
	comp=Z,0.2nm,0.4s,baz=7.4,slow=2.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**121.72**	**310**	PKP	PKPdf	12 17 25.2	-0.7

MAN 28 12:03:39,6°.20N×124°.76E,h31km,mb4.2,ML3.1,MS2.8, 4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.22**	**120**	↓eP	Pb	12 03 50.4	+4.9
GSPH				eS	Sb	12 03 58.9	+8.9
KCP	**Kidapawan**	**0.87**	**22**	↓eP	Pn	12 04 00.9	+5.8
CTBH	**Cotabato--PC H**	**1.14**	**334**	↓iP	Pn	12 03 59.0	+0.2
CTBH				*i* S	Sn	12 04 12.7	-0.6
BUKP	**Musuan**	**1.70**	**10**	eP	Pn	12 04 08.0	+1.5
BUKP				eS	Sn	12 04 18.9	-8.3
PAGZ	**Pagadian**	**2.13**	**320**	eP	Pn	12 04 15.2	+2.6
PAGZ				eS	Sn	12 04 26.1	-12
CGP	**Cagayan de Oro**	**2.25**	**358**	↓eP	Pn	12 04 17.0	+2.9
CGP				eS	Sn	12 04 43.5	+2.8

*ISCJB **28** 12:10:56.8±0.5, 10°.25N±0°.06×84°.87W±0°.05, h75km±4km, mb3.1/2, Error ellipse: s-maj=12.2km s-min=4.2km az=38.7*
*CASC **28** 12:10:57.5±1.1, 10°.25N×84°.84W, h66km±5km, MD3.6*
*IDC **28** 12:10:57.2±1.8, 10°.25N×84°.93W, h65km±13km, mb3.0/2, mb1 3.7/3, mb1mx3.2/20, mbtmp3.3/3, Error ellipse: s-maj=150.7km s-min=31.3km az=52.0*

ISC 28 12:10:57.6±0.5,10°.24N±0°.06×84°.87W±0°.05,h70km±5km, n33,σ0°42/47,mb3.1/2,7C-3D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**0.10**	**299**	P	**Pn**	**12 11 07.2**	**-0.6**
	366nm,0.3s,baz=108,slow=3.1,SNR=3479						
JTS				S	**Sn**	**12 11 14.6**	**-0.7**
	1μm,0.3s,baz=17,slow=19,SNR=68						
CASO	**Castillo**	**0.23**	**34**	*i* P	**Pn**	**12 11 08.1**	**-0.2**
CGA2	**Cerro Gallo 2**	**0.46**	**120**	↑iP	**Pn**	**12 11 09.8**	**-0.2**
JCR	**Jicaral**	**0.46**	**212**	↑iP	**Pn**	**12 11 09.7**	**-0.4**
A494	**Palo Verde**	**0.49**	**282**	↑iP	**Pn**	**12 11 09.6**	**-0.7**
A494				*i* S	**Sn**	**12 11 20.1**	**+0.5**
CUI	**Cuipilapa**	**0.51**	**325**	*i* P	**Pn**	**12 11 10.2**	**-0.2**
CUI				*i* S	**Sn**	**12 11 20.0**	**+0.1**
COLC	**Colonia**	**0.53**	**322**	*i* P	**Pn**	**12 11 10.4**	**-0.4**
COLC				*i* S	**Sn**	**12 11 20.6**	**+0.2**
GUAB	**Guayabo de Bag**	**0.58**	**322**	*i* P	**Pn**	**12 11 11.0**	**-0.2**
GUAB				*i* S	**Sn**	**12 11 21.4**	**+0.1**
A490	**San Lazaro**	**0.58**	**273**	↓iP	**Pn**	**12 11 11.4**	**-0.2**
A490				*i* S	**Sn**	**12 11 21.7**	**+0.4**
LIM1	**Limonal**	**0.59**	**320**	*i* P	**Pn**	**12 11 11.2**	**-0.2**
MESS	**Mesas**	**0.59**	**327**	*i* P	**Pn**	**12 11 11.1**	**-0.2**
A495	**El Viejo**	**0.60**	**284**	↓iP	**Pn**	**12 11 10.9**	**-0.5**
A495				*i* S	**Sn**	**12 11 21.5**	**-0.1**
GPS2	**Hotel Rinc^±n**	**0.70**	**317**	*i* P	**Pn**	**12 11 12.5**	**+0.1**
GPS2				*i* S	**Sn**	**12 11 23.7**	**+0.3**
GPS3	**Bodega del ICE**	**0.71**	**316**	*i* P	**Pn**	**12 11 12.5**	**-0.1**
GPS3				*i* S	**Sn**	**12 11 23.7**	**+0.1**
GPS1	**Guardaparques**	**0.71**	**318**	*i* P	**Pn**	**12 11 12.9**	**+0.3**
GPS1				*i* S	**Sn**	**12 11 23.9**	**+0.2**
A492	**Arado**	**0.72**	**268**	↓iP	**Pn**	**12 11 12.5**	**-0.2**
LAPC	**Finca la Perla**	**0.76**	**313**	*i* P	**Pn**	**12 11 13.0**	**-0.2**
LAPC				*i* S	**Sn**	**12 11 24.6**	**-0.2**
BUEV	**Buena Vista**	**0.77**	**316**	*i* P	**Pn**	**12 11 13.2**	**-0.1**
NY14	**Universidad de**	**0.77**	**302**	*i* P	**Pn**	**12 11 13.7**	**+0.4**
NY14				*i* S	**Sn**	**12 11 26.2**	**+1.3**
GB1A	**Borinquen Arri**	**0.78**	**318**	*i* P	**Pn**	**12 11 13.5**	**+0.2**
GBS3	**Finca Las lm^¡**	**0.79**	**313**	*i* P	**Pn**	**12 11 13.2**	**-0.3**
GBS3				*i* S	**Sn**	**12 11 25.3**	**0.0**
GBS2	**Las Lilas**	**0.82**	**316**	↑iP	**Pn**	**12 11 13.8**	**-0.1**
GBS2				*i* S	**Sn**	**12 11 26.4**	**+0.4**
SJS	**Escuela Geolog**	**0.85**	**111**	↑eP	**Pn**	**12 11 14.4**	**+0.1**
SJS				eS	**Sn**	**12 11 26.7**	**0.0**
QCR	**Quepos**	**1.07**	**140**	↑eP	**Pn**	**12 11 16.5**	**-0.5**
QCR				eS	**Sn**	**12 11 32.0**	**+0.6**
BUS	**Buena Vista**	**1.29**	**122**	↑eP	**Pn**	**12 11 20.2**	**+0.4**
ACR	**Cerro Adams**	**2.30**	**133**	eP	**Pn**	**12 11 32.7**	**-0.7**
BRU2	**Volcan**	**2.58**	**124**	eP	**Pn**	**12 11 37.4**	**+0.3**
BRU2				eS	**Sn**	**12 12 08.5**	**+1.0**
CMIG	**Matias Romero**	**11.88**	**306**	P	**Pn**	**12 13 44.1**	**+0.1**
	0.6nm,0.3s,baz=132,slow=11,SNR=4.4						
PTP	**Ponta Puerca**	**20.26**	**65**	eP	x	12 11 40.5	
TXAR	**Lajitas Array**	**25.88**	**320**	P	**P**	**12 16 22.2**	**-0.7**
	0.2nm,0.5s,mb2.9,baz=136,slow=10,SNR=9.8						
NVAR	**Mina Array Bea**	**41.02**	**319**	P	**P**	**12 18 34.6**	**+0.6**
	0.4nm,0.6s,mb3.5,baz=150,slow=6.2,SNR=5.3						
ASAR	**Alice Springs**	**140.73**	**245**	PKP	PKPdf	12 30 19.6	-0.5
	0.2nm,0.6s,baz=92,slow=1.9,SNR=7.9						
WRA	**Warramunga Arr**	**141.03**	**251**	PKP	PKPdf	12 30 19.6	-1.1
	0.3nm,0.4s,baz=94,slow=2.6,SNR=6.3						

*NEIC **28** 12:12:15.6±2.6, 5°.60S×127°.75E, h353km±34km, mb4.2/2, Error ellipse: s-maj=22.0km s-min=13.8km az=61.0*
*ISCJB **28** 12:12:17.3±0.5, 5°.68S±0°.05×127°.90E±0°.09, h395km±7km, mb3.5/7, Error ellipse: s-maj=14.0km s-min=7.8km az=164.4*
*IDC **28** 12:12:18.8±3.0, 5°.69S×127°.81E, h395km±36km, mb3.2/7, mb1 3.5/10, mb1mx3.4/17, mbtmp3.3/10, Error ellipse: s-maj=40.3km s-min=9.9km az=76.0*
*DJA **28** 12:12:22, 5°.31S×128°.05E, h371km, MLv3.3/4*

ISC 28 12:12:18.3±0.5,5°.69S±0°.05×127°.93E±0°.09,h387km±6km, n29,σ1°10/36,mb3.5/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.01**	**7**	P	**Pn**	**12 13 13.7**	**+0.6**
MSAI	**Masohi**	**2.53**	**23**	P	**Pn**	**12 13 15.8**	**-1.0**
MSAI				S	**S**	**12 14 00.2**	**-3.7**
NLAI	**Namlea**	**2.58**	**341**	P	**Pn**	**12 13 17.9**	**+0.8**
TLE	**Tual**	**4.78**	**90**	P	**Pn**	**12 13 40.0**	**+2.6**
TLE				S	**S**	**12 14 40.5**	**-1.0**
LBMI	**Labuha**	**5.04**	**355**	P	**Pn**	**12 13 40.9**	**+0.8**
FAKI	**Fak Fak**	**5.11**	**58**	P	**Pn**	**12 13 41.9**	**+1.0**
FAKI				S	**S**	**12 14 45.3**	**-2.5**
FITZ	**Fitzroy Crossi**	**12.54**	**190**	P	**P**	**12 15 03.7**	**-0.7**
	0.3nm,0.3s,baz=3.2,slow=10,SNR=7.7						
FITZ	**Fitzroy Crossi**	**12.54**	**190**	ePn	**Pn**	**12 15 03.9**	**-2.0**
WRAB	**Tennant Creek**	**15.47**	**157**	eP	**P**	**12 15 37.2**	**+0.7**
	5.6nm,0.4s						
WRA	**Warramunga Arr**	**15.47**	**157**	P	**P**	**12 15 37.2**	**+0.8**
	3.2nm,0.3s,baz=335,slow=11,SNR=122						
WRA				S	**S**	**12 18 18.1**	**-2.5**
	0.2nm,0.3s,baz=333,slow=21,SNR=7.3						
WRA	**Warramunga Arr**	**15.47**	**157**	P	**P**	**12 15 37.2**	**+0.8**
WRA				S	**S**	**12 18 18.1**	**-2.5**
WB2	**Warramunga Arr**	**15.48**	**157**	eP	**P**	**12 15 37.1**	**+0.6**
MBWA	**Marble Bar**	**17.31**	**207**	eP	**P**	**12 15 55.4**	**-0.7**
	16nm,1.1s						
AS31	**Alice Springs**	**18.77**	**163**	eP	**P**	**12 16 12.0**	**+0.5**
ASAR	**Alice Springs**	**18.77**	**163**	P	**P**	**12 16 12.1**	**+0.5**
	2.9nm,0.3s,baz=343,slow=12,SNR=326						
ASAR				S	**S**	**12 19 25.1**	**+0.9**
	0.1nm,0.3s,baz=350,slow=22,SNR=7.2						
ASAR	**Alice Springs**	**18.77**	**163**	P	**P**	**12 16 12.1**	**+0.5**
ASAR				S	**S**	**12 19 25.1**	**+0.9**
STKA	**Stephens Creek**	**29.02**	**156**	P	**P**	**12 17 45.5**	**+1.1**
	1.8nm,0.5s,mb3.7,baz=329,slow=8.4,SNR=10						
STKA	**Stephens Creek**	**29.02**	**156**	P	**P**	**12 17 45.5**	**+1.1**
KSAR	**Wonju Array Be**	**42.91**	**360**	P	**P**	**12 19 41.0**	**+0.3**
KSRS	**Korea Array**	**42.92**	**360**	P	**P**	**12 19 41.0**	**+0.2**
	0.6nm,0.5s,mb3.2,baz=178,slow=9.4,SNR=6.2						
MJAR	**Matsushiro Arr**	**43.10**	**12**	P	**P**	**12 19 41.0**	**-1.1**
	0.3nm,0.4s,mb3.0,baz=34,slow=8.8,SNR=3.4						
MJAR	**Matsushiro Arr**	**43.10**	**12**	P	**P**	**12 19 41.0**	**-1.1**
USRK	**Ussuriysk Arra**	**49.80**	**4**	P	**P**	**12 20 33.6**	**+0.2**
	1.1nm,0.5s,mb3.5,baz=197,slow=8.5,SNR=5.1						
SONM	**Songino Array**	**56.57**	**343**	P	**P**	**12 21 22.3**	**+0.3**
	0.8nm,0.6s,mb3.2,baz=173,slow=8.8,SNR=8.6						
SONM	**Songino Array**	**56.57**	**343**	P	**P**	**12 21 22.3**	**+0.3**
MKAR	**Makanchi Array**	**66.02**	**327**	P	**P**	**12 22 24.0**	**-0.7**
	1.2nm,0.4s,mb3.9,baz=114,slow=8.6,SNR=36						
MKAR	**Makanchi Array**	**66.02**	**327**	P	**P**	**12 22 24.0**	**-0.7**
ZALV	**Zalesovo Beam**	**69.52**	**334**	P	**P**	**12 22 45.0**	**-1.1**
	1.1nm,0.4s,mb3.7,baz=113,slow=4.7,SNR=6.9						
ZALV	**Zalesovo Beam**	**69.52**	**334**	P	**P**	**12 22 45.0**	**-1.1**

*ISCJB **28** 12:14:10.3±0.7, 37°.90N±0°.03×29°.19E±0°.1, h15km±11km, Error ellipse: s-maj=15.4km s-min=5.4km az=178.2*
*DDA **28** 12:14:10.0, 37°.90N×29°.20E, h7km±5km, Md2.5*
*CSEM **28** 12:14:10.0±0.2, 37°.88N×29°.21E, h15km, MD2.5, Error ellipse: s-maj=6.8km s-min=4.3km az=98.0*
*ISK **28** 12:14:11.0, 37°.90N×29°.10E, h9km, MD2.5*

ISC 28 12:14:10.4±1.1,37°.89N±0°.03×29°.19E±0°.06,h16km±14km, n12,σ0°65/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**223**	ePG	**Pg**	**12 14 15.1**	**+0.2**
DENT				eSG	**Sg**	**12 14 17.6**	**-0.3**
DENT	**Denizli**	**0.18**	**223**	ePg	**Pg**	**12 14 15.1**	**+0.2**
DENT				eSg	**Sg**

MJAR	**Matsushiro Arr**	**62.10 333**	P	**P**		**12 41 05.8**	**-1.9**
CMAR	**Chiang Mai Arr**	**77.69 294**	P	**P**		**12 42 45.6**	**+1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=145,slow=4.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**77.69 294**	P	**P**		**12 42 45.6**	**+1.7**
SONM	**Songino Array**	**86.50 323**	P	**P**		**12 43 29.8**	**+0.4**
	comp=Z,1.5nm,0.9s,mb4.2,baz=148,slow=5.0,SNR=7.2						
SONM	**Songino Array**	**86.50 323**	P	**P**		**12 43 29.8**	**+0.4**
NVAR	**Mina Array Bea**	**89.12 49**	P	**P**		**12 43 41.3**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.7,baz=203,slow=5.9,SNR=3.0						
NVAR	**Mina Array Bea**	**89.12 49**	P	**P**		**12 43 41.3**	**-0.9**
ILAR	**Eielson Array**	**90.12 18**	P	**P**		**12 43 44.4**	**-1.7**
	comp=Z,0.5nm,0.8s,mb3.9,baz=225,slow=5.4,SNR=6.7						
ILAR	**Eielson Array**	**90.12 18**	P	**P**		**12 43 44.4**	**-1.7**
YKA	**Yellowknife Ar**	**100.69 27**	P	Pdif		12 44 34.5	-0.3
	comp=Z,0.3nm,0.6s,baz=256,slow=4.5,SNR=7.6						
YKA	**Yellowknife Ar**	**100.69 27**	P	Pdif		12 44 34.5	-0.2

MAN 28 12:39:56, 14°.51N×122°.49E, h1km, mb4.5, ML3.3, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guainayangan**	**0.60**	**184**	*i* P	Pg	12 40 07.6	+0.1
GQP				*i* S	Sg	12 40 15.9	+0.6
AUQP	**San Andres**	**1.19**	**171**	*e*P	Pg	12 40 19.6	+0.8
AUQP				*e*S	Sg	12 40 28.5	-5.8
PVCP	**Virac**	**1.85**	**119**	*e*P	Pn	12 40 29.5	+0.6
PVCP				*e*S	Sn	12 40 45.6	-7.4

ISCJB ***28*** *13:01:21.3±0.6, 35°.2N±0°.1×35°.18W±0°.10, h10km, mb3.9/18, MS3.8/18, Error ellipse: s-maj=15.8km s-min=10.9km az=17.5*
IDC ***28*** *13:01:21.6±0.8, 35°.13N×35°.15W, h0km, mb3.8/16, mb1 4.0/16, mb1mx3.9/28, mbtmp3.8/16, MS3.9/17, Ms1 3.9/17, ms1mx3.8/32, Error ellipse: s-maj=20.4km s-min=17.0km az=27.0*
CSEM ***28*** *13:01:21.8±0.3, 35°.15N×35°.21W, h2km, mb4.3/5, Mw5.0, Error ellipse: s-maj=18.1km s-min=12.5km az=13.0*
NEIC ***28*** *13:01:23.0±0.5, 35°.13N×35°.17W, h10km, mb4.5/4, Error ellipse: s-maj=13.7km s-min=9.3km az=195.0*
GCMT ***28*** *13:01:27.2±0.3, 35°.22N×35°.31W, h12km±1km, MW5.0, Moment Tensor Solution. s24,c29; s81,c112; Moment tensor: Scale 10^16^Nm; Mrr-1.50±.17; Mθθ2.39±.17; Mφφ-0.89±.14; Mrθ1.46±.44; Mrφ3.46±.14; Mθφ0.09±.33; Best double couple: M0=4.10000×10^16^ NP1:φs13.00000°, δ65.00000°, λ-172.00000°. NP2:φs280.00000°, δ82.00000°, λ-25.00000°. Principal axes: T 4.8400, Plg12.0000°, Azm329.0000°; N -1.4600, Plg64.0000°, Azm84.0000°; P -3.3800, Plg23.0000°, Azm234.0000°; Data Used: II IU CN G IC.*

ISC 28 13:01:23.3±0.6, 35°.2N±0°.1×35°.15W±0°.09, h10km, n68, σ0=93/59, mb3.9/18, MS3.8/18, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**8.17**	**69**	*e*P	**Pn**	**13 03 20.8**	**-1.1**
CMLA	**Cha da Macela**	**8.17**	**69**	*e*P	**Pn**	**13 03 20.8**	**-1.1**
ESDC	**Sonseca Array**	**25.10**	**70**	P	**P**	**13 06 50.0**	**+2.0**
	0.3nm,0.6s,mb3.0,baz=268,slow=12,SNR=4.3						
ESDC				LR	LR	13 14 04.0	
	comp=Z,317nm,21.2s,MS3.8,baz=280,slow=30						
ESDC	**Sonseca Array**	**25.10**	**70**	P	**P**	**13 06 50.0**	**+2.0**
ESDC	**Sonseca Array**	**25.10**	**70**	P	**P**	**13 06 50.0**	**+1.9**
BBTS	**Babate**	**26.41**	**136**	LR	LR	13 14 26.5	
	comp=Z,594nm,21.9s,MS4.1,baz=337,slow=30						
SCHQ	**Schefferville**	**29.42**	**322**	LR	LR	13 17 57.9	
	comp=Z,355nm,20.5s,MS4.0,baz=249,slow=34						
FRB	**Frobisher Bay**	**35.14**	**335**	P	**P**	**13 08 15.6**	**-1.0**
	2.1nm,0.9s,mb4.1,baz=114,slow=13,SNR=3.9						
FRB				LR	LR	13 18 44.4	
	comp=Z,126nm,22.0s,MS3.6,baz=304,slow=30						
FRB	**Frobisher Bay**	**35.14**	**335**	P	**P**	**13 08 15.6**	**-1.0**
FRB	**Frobisher Bay**	**35.14**	**335**	P	**P**	**13 08 15.6**	**-1.1**
TAM	**Tamanrasset**	**37.41**	**98**	*e*P	**P**	**13 08 38.1**	**+1.6**
	11nm,1.1s,mb4.6						
TAM	**Tamanrasset**	**37.41**	**98**	*e*P	**P**	**13 08 38.1**	**+1.5**
	11nm,1.1s,mb4.6						
JMIC	**Jan Mayen**	**38.58**	**14**	P	**P**	**13 08 45.5**	**-0.3**
	58nm,0.5s,baz=190,slow=7.6,SNR=2.8						
JMIC	**Jan Mayen**	**38.58**	**14**	P	**P**	**13 08 45.5**	**-0.3**
JMIC	**Jan Mayen**	**38.58**	**14**	P	**P**	**13 08 45.5**	**-0.3**
NB2	**NORSAR Subarra**	**39.09**	**34**	P	**P**	**13 08 53.5**	**+3.2**
	comp=Z,3.7nm,1.0s,mb4.1,baz=251,slow=8.6						
NB2	**NORSAR Subarra**	**39.09**	**34**	P	**P**	**13 08 53.5**	**+3.2**
	comp=Z,3.7nm,1.0s,mb4.1,SNR=9.8						
NOA	**NORSAR Array B**	**39.09**	**34**	P	**P**	**13 08 51.7**	**+1.4**
	comp=Z,2.1nm,0.8s,mb3.9,baz=251,slow=8.5,SNR=7.8						
NOA				LR	LR	13 24 19.1	
	comp=Z,100nm,18.4s,MS3.7,baz=240,slow=35						
NOA	**NORSAR Array B**	**39.09**	**34**	P	**P**	**13 08 51.7**	**+1.4**
NOA	**NORSAR Array B**	**39.09**	**34**	P	**P**	**13 08 51.7**	**+1.4**
TKL	**Tuckaleechee C**	**39.31**	**285**	LR	LR	13 20 50.8	
	comp=Z,106nm,20.8s,MS3.6,baz=271,slow=30						
DBIC	**Dimbokro**	**39.75**	**128**	P	**P**	**13 08 54.5**	**-1.8**
	comp=Z,4.8nm,0.9s,mb4.2,baz=311,slow=12,SNR=5.5						
DBIC				LR	LR	13 23 12.5	
	comp=Z,273nm,19.4s,MS4.1,baz=298,slow=33						
DBIC	**Dimbokro**	**39.75**	**128**	*e*P	**P**	**13 08 55.3**	**-1.0**
	comp=Z,4.1nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**39.75**	**128**	*e*P	**P**	**13 08 55.3**	**-1.0**
	comp=Z,4.1nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**39.80**	**114**	P	**P**	**13 08 55.8**	**-0.9**
	comp=Z,2.2nm,0.8s,mb3.9,baz=310,slow=7.0,SNR=10						
TORD				LR	LR	13 23 54.9	
	comp=Z,256nm,20.1s,MS4.1,baz=275,slow=34						
TORD	**Torodi Ar. Bea**	**39.80**	**114**	P	**P**	**13 08 55.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**39.80**	**114**	P	**P**	**13 08 55.8**	**-0.9**
ULM	**Lac du Bonnet**	**45.83**	**309**	LR	LR	13 27 08.9	
	comp=Z,327nm,20.9s,MS4.2,baz=90,slow=34						
FINES	**FINESS Array B**	**46.18**	**36**	P	**P**	**13 09 48.3**	**+0.5**
	comp=Z,3.1nm,0.9s,mb4.3,baz=180,slow=0.2,SNR=4.4						
FINES				LR	LR	13 26 32.9	
	comp=Z,253nm,19.5s,MS4.2,baz=154,slow=33						
FINES	**FINESS Array B**	**46.18**	**36**	P	**P**	**13 09 48.3**	**+0.5**
FINES	**FINESS Array B**	**46.18**	**36**	P	**P**	**13 09 48.3**	**+0.5**
ROSC	**El Rosal**	**47.08**	**239**	LR	LR	13 27 22.6	
	comp=Z,238nm,20.9s,MS4.1,baz=24,slow=33						
ARCES	**ARCESS Array B**	**47.31**	**25**	LR	LR	13 25 45.1	
	comp=Z,11nm,21.1s,MS2.8,baz=205,slow=31						
AKASG	**Malin Array Be**	**48.09**	**50**	P	**P**	**13 10 01.9**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.3,baz=271,slow=8.1,SNR=4.8						
AKASG				LR	LR	13 30 12.2	
	comp=Z,130nm,19.0s,MS3.9,baz=285,slow=36						
AKASG	**Malin Array Be**	**48.09**	**50**	P	**P**	**13 10 01.9**	**-1.0**
AKASG	**Malin Array Be**	**48.09**	**50**	P	**P**	**13 10 02.0**	**-0.9**
RES	**Resolute Bay**	**48.51**	**342**	P	**P**	**13 10 06.5**	**+0.6**
	comp=Z,1.8nm,0.8s,mb4.2,baz=108,slow=10,SNR=4.8						
RES	**Resolute Bay**	**48.51**	**342**	P	**P**	**13 10 06.5**	**+0.6**
RES	**Resolute Bay**	**48.51**	**342**	P	**P**	**13 10 06.4**	**+0.6**
FFC	**Flin Flon**	**49.15**	**315**	*e*P	**P**	**13 10 10.5**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.4						
FFC	**Flin Flon**	**49.15**	**315**	*e*P	**P**	**13 10 10.5**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**53.58**	**63**	LR	LR	13 33 32.4	
	comp=Z,46nm,18.2s,MS3.6,baz=282,slow=36						
YKA	**Yellowknife Ar**	**54.73**	**326**	P	**P**	**13 10 51.9**	**-0.5**
	comp=Z,0.7nm,0.9s,mb3.7,baz=79,slow=7.1,SNR=6.7						
YKA				LR	LR	13 34 47.6	
	comp=Z,13nm,19.9s,MS3.0,baz=145,slow=37						
YKA	**Yellowknife Ar**	**54.73**	**326**	P	**P**	**13 10 52.0**	**-0.5**
YKA	**Yellowknife Ar**	**54.73**	**326**	P	**P**	**13 10 52.0**	**-0.4**
ANMO	**Albuquerque**	**57.14**	**292**	LR	LR	13 34 08.6	
	comp=Z,93nm,18.1s,MS3.9,baz=250,slow=34						
TXAR	**Lajitas Array**	**57.22**	**285**	P	**P**	**13 11 11.3**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=100,slow=7.4,SNR=3.7						
TXAR	**Lajitas Array**	**57.22**	**285**	P	**P**	**13 11 11.3**	**+0.5**
TXAR	**Lajitas Array**	**57.22**	**285**	P	**P**	**13 11 11.3**	**+0.5**
LPAZ	**La Paz**	**59.99**	**217**	P	**P**	**13 11 31.4**	**+1.3**
	comp=Z,3.6nm,0.8s,mb4.4,baz=25,slow=4.7,SNR=7.7						
LPAZ				LR	LR	13 34 37.6	
	comp=Z,190nm,21.1s,MS4.2,baz=269,slow=33						
LPAZ	**La Paz**	**59.99**	**217**	*e*P	**P**	**13 11 30.1**	**0.0**
	comp=Z,7.6nm,1.0s,mb4.7						
LPAZ	**La Paz**	**59.99**	**217**	*e*P	**P**	**13 11 30.1**	**0.0**
	comp=Z,7.6nm,1.0s,mb4.7						
INK	**Inuvik**	**60.79**	**335**	P	**P**	**13 11 34.7**	**-0.3**
	comp=Z,1.5nm,0.9s,mb4.1,baz=74,slow=6.8,SNR=3.1						
INK	**Inuvik**	**60.79**	**335**	P	**P**	**13 11 34.7**	**-0.3**
INK	**Inuvik**	**60.79**	**335**	P	**P**	**13 11 34.7**	**-0.3**
NVAR	**Mina Array Bea**	**64.43**	**300**	P	**P**	**13 12 00.4**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.7,baz=92,slow=6.6,SNR=2.8						
NVAR	**Mina Array Bea**	**64.43**	**300**	P	**P**	**13 12 00.4**	**+0.7**
NVAR	**Mina Array Bea**	**64.43**	**300**	P	**P**	**13 12 00.4**	**+0.6**
ILAR	**Eielson Array**	**67.17**	**334**	P	**P**	**13 12 16.5**	**-0.5**
	comp=Z,0.3nm,0.8s,mb3.4,baz=46,slow=5.2,SNR=3.4						
ILAR	**Eielson Array**	**67.17**	**334**	P	**P**	**13 12 16.5**	**-0.5**
ILAR	**Eielson Array**	**67.17**	**334**	P	**P**	**13 12 16.5**	**-0.4**
ZALV	**Zalesovo Beam**	**77.25**	**32**	P	**P**	**13 13 18.2**	**+0.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=298,slow=3.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**77.25**	**32**	P	**P**	**13 13 18.2**	**+0.8**
ZALV	**Zalesovo Beam**	**77.25**	**32**	P	**P**	**13 13 18.2**	**+0.8**
MKAR	**Makanchi Array**	**80.95**	**38**	P	**P**	**13 13 37.3**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=292,slow=5.4,SNR=2.2						
MKAR	**Makanchi Array**	**80.95**	**38**	P	**P**	**13 13 37.3**	**-0.5**
MKAR	**Makanchi Array**	**80.95**	**38**	P	**P**	**13 13 37.3**	**-0.5**
BOSA	**Boshof**	**85.27**	**130**	LR	LR	13 51 48.0	
	comp=Z,72nm,18.0s,MS4.1,baz=346,slow=36						

NIED ***28*** *13:31:00,48°.10N×155°.30E, h26km, Mw5.4 Best double couple: M0=1.22000×10^17^ NP1:φs236.00000°, δ73.00000°, λ129.00000°. NP2:φs345.00000°, δ42.00000°, λ26.00000°.*
DJA ***28*** *13:31:30,48°.56N×154°.82E, h10km, mb5.4/11*
JMA ***28*** *13:31:30.5±0.7, 48°.11N×155°.32E, h30km, M6.0*
BGS ***28*** *13:31:31.8±1.8, 47°.97N×157°.09E, h40km, mb5.8*
SKHL ***28*** *13:31:34.6±2.3, 47°.98N×154°.90E, h46km±4km, mb6.4/2, mbh5.7/1, Ms5.1/5, msh6.1/3*
ISCJB ***28*** *13:31:34.8±0.3, 48°.19N±0°.02×154°.49E±0°.02, h40km±3km, mb5.5/351, MS4.9/210, Error ellipse: s-maj=4.0km s-min=2.1km az=151.3*
MOS ***28*** *13:31:35.5±1.1, 48°.14N×154°.63E, h64km, mb5.6/75, MS4.9/69, Error ellipse: s-maj=7.6km s-min=5.8km az=64.7*
BJI ***28*** *13:31:35.4, 48°.31N×154°.57E, h59km, mB5.3/46, mb5.2/65, Ms5.1/65, Ms7 4.9/62*
IDC ***28*** *13:31:35.7±1.6, 48°.35N×154°.32E, h34km±11km, mb5.1/30, mb1 5.2/31, mb1mx5.2/31, mbtmp5.1/31, ML5.3/2, MS4.8/32, Ms1 4.8/32, ms1mx4.7/40, Error ellipse: s-maj=12.6km s-min=9.7km az=143.0*
NEIC ***28*** *13:31:36.3±0.5, 48°.28N×154°.37E, h38km±4km, mb5.5/212, MS4.9/143, Error ellipse: s-maj=3.9km s-min=2.1km az=160.0*
KRSC ***28*** *13:31:36.7±2.5, 48°.05N×156°.12E, h10km±10km, ML5.8*
GCMT ***28*** *13:31:39.3±0.1, 48°.19N×154°.75E, h45km, MW5.4, Moment Tensor Solution. s84,c159; s99,c223; Moment tensor: Scale 10^17^Nm; Mrr1.01±.03; Mθθ0.55±.02; Mφφ-1.55±.02; Mrθ0.43±.02; Mrφ-0.38±.02; Mθφ0.94±.03; Best double couple: M0=1.70000×10^17^ NP1:φs169.00000°, δ29.00000°, λ58.00000°. NP2:φs24.00000°, δ65.00000°, λ107.00000°. Principal axes: T 1.4200, Plg65.0000°, Azm324.0000°; N 0.5400, Plg15.0000°, Azm197.0000°; P -1.9600, Plg19.0000°, Azm102.0000°; Data Used: II IU IC G CN. Surface waves from 110 sta.*
TEH ***28*** *13:31:40.0, 48°.38N×154°.26E, h61km*
SZGRF ***28*** *13:31:40.1, 49°.66N×152°.70E, h33km, mb5.8, MS5.0, Northwest of Kuril Islands, Russia*

ISC 28 13:31:37.9±0.3, 48°.26N±0°.02×154°.42E±0°.02, h50km±2km, h59km±1.7km: pP-P, n1313, σ0=99/1250, mb5.5/351, MS4.9/210, 94C-53D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.67**	**24**	*e*PN	**Pn**	**13 32 18.9**	**+0.6**
SKR				*e*S	**Sn**	**13 32 50.2**	**+0.8**
SKR				pmax	pmax		
	comp=N,2μm,0.5s						
SKR				pmax	pmax		
	comp=Z,5μm,0.5s						
SKR				pmax	pmax		
	comp=E,1μm,0.7s						
SKR				pmax	pmax		
	comp=Z,8μm,1.0s						
SKR				smax			
	comp=N,18μm,3.0s						
SKR				smax			
	comp=E,51μm,6.0s						
SKR				smax			
	comp=N,12μm,0.4s						
SKR				smax			
	comp=E,6μm,0.4s						
SKR				MLR	MLR		
	comp=E,16μm,10.0s						
SKR				MLR	MLR		
	comp=Z,20μm,10.0s						
SKR	**Severo-Kuril's**	**2.67**	**24**	*e*P	**Pn**	**13 32 18.9**	**+0.6**
SKR				AMB	AMB	13 32 23.5	
	comp=Z,8μm,1.0s						
SKR				AMB	AMB	13 32 23.5	
	comp=Z,8μm,1.0s						
SKR				AMB	AMB	13 32 23.5	
	comp=Z,2μm,0.6s						
SKR				AMB	AMB	13 32 23.5	
	comp=Z,1μm,0.6s						
SKR				AMB	AMB	13 32 23.5	
	comp=Z,5μm,0.5s						
SKR				pP		13 32 31.2	
SKR				*e*S	**Sn**	**13 32 50.2**	**+0.8**
SKR				A		13 32 56.0	
	comp=Z,51μm,6.0s						
SKR				A		13 32 56.0	
	comp=Z,20μm,6.0s						
SKR				A		13 32 56.0	
	comp=Z,18μm,3.0s						
SKR				A		13 32 56.0	
	comp=Z,50μm,6.0s						
SKR				A		13 32 56.0	
	comp=Z,20μm,6.0s						
SKR				A		13 32 56.0	
	comp=Z,18μm,3.0s						
SKR				A		13 32 59.6	
	comp=Z,12μm,0.4s						
SKR				A		13 32 59.6	
	comp=Z,6μm,0.4s						
SKR				A		13 32 59.6	
	comp=Z,930nm,0.4s						
SKR				AMS	AMS	13 33 41.0	
	comp=Z,20μm,10.0s						
SKR				AMS	AMS	13 33 41.0	
	comp=Z,16μm,10.0s						
SKR				AMS	AMS	13 33 41.0	
	comp=Z,20μm,10.0s						
SKR				AMS	AMS	13 33 41.0	
	comp=Z,16μm,10.0s						
GRL	**Gorelyy**	**4.89**	**27**	*i* P	**Pn**	**13 32 49.2**	**+0.4**
GRL				*i* S	**Sn**	**13 33 41.7**	**-2.3**
RUS	**Russkaya**	**4.93**	**31**	*i* P	**Pn**	**13 32 47.6**	**-1.7**
RUS				*i* S	**Sn**	**13 33 39.5**	**-5.5**
RUS	**Russkaya**	**4.93**	**31**	PN	**Pn**	**13 32 47.6**	**-1.7**
PETK	**Petropavlovsk-**	**5.29**	**22**	Pn	**Pn**	**13 32 54.8**	**+0.6**
	comp=Z,125nm,0.3s,baz=193,slow=11,SNR=534						
PETK	**Petropavlovsk-**	**5.29**	**22**	Pn	**Pn**	**13 32 54.8**	**+0.6**
PETK	**Petropavlovsk-**	**5.29**	**22**	PN	**Pn**	**13 32 54.8**	**+0.7**
PETK				pmax	pmax		
	comp=Z,125nm,0.3s						
KUR	**Kuril'sk**	**5.43**	**239**	↓*i* PN	**Pn**	**13 32 58.2**	**+2.1**
KUR				*e*S	**Sn**	**13 34 01.5**	**+4.3**
KUR				pmax	pmax		
	comp=N,4μm,1.0s						
KUR				pmax	pmax		
	comp=E,4μm,1.0s						
KUR				pmax	pmax		
	comp=Z,9μm,1.0s						
KUR				pmax	pmax		
	comp=N,10μm,1.8s						
KUR				pmax	pmax		
	comp=Z,18μm,1.8s						
KUR				pmax	pmax		
	comp=E,15μm,2.0s						
KUR				smax			
	comp=N,8μm,1.0s						
KUR				smax			
	comp=E,13μm,1.0s						
KUR				MLR	MLR		
	comp=N,38μm,16.0s						
KUR				MLR	MLR		
	comp=Z,31μm,16.0s						
KUR				MLR	MLR		
	comp=N,27μm,12.0s						
KUR	**Kuril'sk**	**5.43**	**239**	↓*i* P	**Pn**	**13 32 58.2**	**+2.1**
KUR				AMB	AMB	13 33 05.0	
	comp=N,4μm,1.0s						
KUR				AMB	AMB	13 33 05.0	
	comp=N,9μm,1.0s						
KUR				AMB	AMB	13 33 05.0	
	comp=N,15μm,1.0s						
KUR				AMB	AMB	13 33 05.0	
	comp=N,10μm,1.8s						
KUR				AMB	AMB	13 33 05.0	
	comp=N,15μm,1.8s						
KUR				AMB	AMB	13 33 05.0	
	comp=N,18μm,1.8s						
KUR				*e*S	**Sn**	**13 34 01.5**	**+4.3**
KUR				A		13 34 13.0	
	comp=N,54μm,2.0s						
KUR				A		13 34 13.0	
	comp=N,38μm,2.0s						
KUR				A		13 34 13.0	
	comp=N,30μm,2.0s						
KUR				A		13 34 13.0	
	comp=N,25μm,2.0s						
KUR				A		13 34 24.0	
	comp=N,8μm,1.0s						
KUR				A		13 34 24.0	
	comp=N,13μm,1.0s						
KUR				AMS	AMS	13 34 56.0	
	comp=N,28μm,16.0s						
KUR				AMS	AMS	13 34 56.0	
	comp=N,31μm,16.0s						
KUR				AMS	AMS	13 34 56.0	
	comp=N,38μm,12.0s						
KUR				AMS	AMS	13 34 56.0	
	comp=N,27μm,12.0s						
KUR				AMS	AMS	13 34 56.0	
	comp=N,27μm,14.0s						
PET	**Petropavlovsk**	**5.48**	**28**	*i* P	**Pn**	**13 32 56.5**	**-0.3**
PET				*i* S	**Sn**	**13 33 54.2**	**-4.2**
PET	**Petropavlovsk**	**5.48**	**28**	*e*Pn	**Pn**	**13 32 56.1**	**-0.7**
PET				*e*Sn	**Sn**	**13 33 58.7**	**+0.3**
PET	**Petropavlovsk**	**5.48**	**28**	*e*PN	**Pn**	**13 32 56.8**	**0.0**
PET				*e*S	**Sn**	**13 33 56.7**	**-1.7**
PET				pmax	pmax		
	comp=Z,755nm,0.7s						
PET				smax			
	comp=N,3μm,1.0s						
PET				MLR	MLR		
	comp=Z,4μm,14.0s						
PET				MLR	MLR		
	comp=Z,6μm,11.0s						
INSR	**Institute**	**5.50**	**27**	P	**Pn**	**13 32 56.9**	**-0.2**
INSR				*i* S	**Sn**	**13 33 55.9**	**-3.1**
KOK	**Koryaka**	**5.71**	**26**	*e*P	**Pn**	**13 33 00.8**	**+0.9**
KOK				*i* S	**Sn**	**13 34 01.4**	**-2.6**
SDLR	**Sedlovina**	**5.77**	**28**	*e*P	**Pn**	**13 33 00.5**	**-0.3**
SDLR				*e*S	**Sn**	**13 34 01.4**	**-4.2**
SPN	**Mys Shipunski**	**6.01**	**34**	*e*P	**Pn**	**13 33 02.8**	**-1.3**
SPN				*i* S	**Sn**	**13 34 05.2**	**-6.3**
SPN	**Mys Shipunski**	**6.01**	**34**	PN	**Pn**	**13 33 02.8**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**7.29**	**238**	*de*PN	**Pn**	**13 33 21.8**	**+0.1**
YUK				pmax	pmax		
	comp=E,446nm,0.6s						
YUK				pmax	pmax		
	comp=Z,1μm,0.6s						
YUK				pmax	pmax		
	comp=N,288nm,0.6s						
YUK				MLR	MLR		
	comp=E,7μm,17.0s						
YUK				MLR	MLR		
	comp=Z,10μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**7.29**	**238**	*e*P	**Pn**	**13 33 21.9**	**+0.2**
YUK				AMB	AMB	13 33 25.4	
	comp=Z,2μm,0.5s						
YUK				AMB	AMB	13 33 25.4	
	comp=Z,390nm,0.3s						
YUK				AMB	AMB	13 33 25.4	
	comp=Z,710nm,0.4s						
YUK				AMB	AMB	13 33 35.0	
	comp=Z,9μm,2.0s						
YUK				*i* sP		13 33 40.3	
YUK				*i* S	**Sn**	**13 34 43.7**	**+0.7**
YUK				AMS	AMS	13 36 07.0	
	comp=Z,17μm,15.0s						
YUK				AMS	AMS	13 36 07.0	
	comp=Z,14μm,14.0s						
JRA	**Rausu**	**7.77**	**240**	P	**Pn**	**13 33 29.2**	**+0.9**
NEM2	**Nemuro 2**	**7.79**	**234**	↓↓P	**Pn**	**13 33 26.1**	**-2.4**
NEM2				*e*S	**Sn**	**13 34 52.3**	**-2.9**
TUMR	**Tumrok**	**7.88**	**25**	*e*P	**Pn**	**13 33 30.9**	**+1.2**
TUMR				*i* S	**Sn**	**13 34 53.9**	**-3.4**
YSS	**Yuzh-Sakhalins**	**8.00**	**265**	*e*Pn	**Pn**	**13 33 33.9**	**+2.6**
YSS				*e*Sn	**Sn**	**13 35 01.8**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.00**	**265**	*d i*PN	**Pn**	**13 33 33.9**	**+2.6**
YSS				*e*S	**Sn**	**13 35 03.0**	**+2.8**
YSS				pmax	pmax		
	comp=N,1μm,1.0s						
YSS				pmax	pmax		
	comp=E,590nm,1.0s						
YSS				pmax	pmax		
	comp=Z,1μm,1.0s						
YSS				smax			
	comp=E,530nm,1.0s						
YSS				MLR	MLR		
	comp=E,8μm,17.0s						
YSS				MLR	MLR		
	comp=Z,8μm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.00**	**265**	↓*i* P	**Pn**	**13 33 33.9**	**+2.6**
YSS				AMB	AMB	13 33 36.0	
	comp=Z,1μm,1.0s						
YSS				AMB	AMB	13 33 36.0	
	comp=Z,590nm,1.0s						
YSS				AMB	AMB	13 33 36.0	
	comp=Z,1μm,1.0s						
YSS				*e*sP		13 33 52.2	
YSS				*e*S	**Sn**	**13 35 03.0**	**+2.8**
YSS				A		13 35 08.0	
	comp=Z,530nm,1.0s						
YSS				*e*LQ		13 35 42.0	
YSS				*e*LR	LR	13 36 00.0	
YSS				AMS	AMS	13 36 26.0	
	comp=Z,8μm,17.0s						
YSS				AMS	AMS	13 36 26.0	
	comp=Z,8μm,17.0s						
TYV	**Tymovskoe**	**8.09**	**293**	*e*P	**Pn**	**13 33 35.5**	**+3.0**
TYV				AMB	AMB	13 33 38.0	
	comp=Z,44nm,1.0s						
TYV				AMB	AMB	13 33 38.0	
	comp=Z,110nm,1.0s						
TYV				AMB	AMB	13 33 38.0	
	comp=Z,215nm,1.0s						
TYV				AMB	AMB	13 33 40.0	
	comp=Z,2μm,6.0s						
TYV				AMB	AMB	13 33 40.0	
	comp=Z,2μm,6.0s						
TYV				*e*S	**Sn**	**13 35 08.0**	**+5.6**
TYV				A		13 35 10.2	
	comp=Z,176nm,0.8s

UGL AMS AMS 13 37 10.0
comp=E,8μm,16.0s
UGL AMS AMS 13 37 10.0
comp=E,13μm,16.0s
JTKR Abashiri--Toko 8.47 243 P **Pn 13 33 39.3 +1.5**
KOZ Kozyrevsk 8.50 21 P **Pn 13 33 39.8 +1.7**
KPT Kopyto 8.50 23 *e*P **Pn 13 33 39.5 +1.3**
KOZR Kozyr 8.51 21 PN **Pn 13 33 39.8 +1.5**
JAK Akkeshi 8.61 236 P **Pn 13 33 37.9 -1.8**
JAK *e*S **Sn 13 35 11.6 -3.7**
SRDR Sredinnyy 8.70 20 P **Pn 13 33 43.6 +2.7**
JMP Maruseppu 8.78 245 P **Pn 13 33 44.8 +2.8**
JSE Soyaes 8.79 252 P **Pn 13 33 45.5 +3.3**
JAR Ashorobuto 8.94 240 P **Pn 13 33 44.2 -0.1**
OKH Okha 8.98 310 *e*PN **Pn 13 33 49.4 +4.6**
OKH Okha 8.98 310 *e*P **Pn 13 33 49.4 +4.6**
OKH AMB AMB 13 33 49.9
comp=E,1μm,1.1s
OKH *e*S **Sn 13 35 26.0 +1.5**
OKH A 13 35 32.4
comp=E,1μm,0.8s
OKH A 13 35 32.4
comp=E,2μm,0.8s
OKH AMS AMS 13 37 10.4
comp=E,17μm,16.0s
OKH AMS AMS 13 37 10.4
comp=E,14μm,18.0s
JWK2 Keihoku 9.08 256 P **Pn 13 33 51.1 +4.9**
JOB Onbets 9.15 238 P **Pn 13 33 46.0 -1.1**
JOB *e*S **Sn 13 35 26.7 -1.9**
ASAJ Asahikawa 9.19 248 Pn **Pn 13 33 48.0 +0.3**
comp=E,14nm,0.3s,baz=81,slow=14,SNR=72
ASAJ LR LR 13 37 01.0
comp=E,9μm,20.9s,baz=233,slow=36
ASAJ Asahikawa 9.19 248 *e*Pn **Pn 13 33 49.7 +2.1**
ASAJ Asahikawa 9.19 248 PN **Pn 13 33 48.0 +0.4**
ASAJ pmax pmax
comp=Z,14nm,0.3s
ASAJ MLR MLR
comp=Z,9μm,21.0s
ASAJ Asahikawa 9.19 248 P **Pn 13 33 50.5 +2.9**
JKK2 Kamakawa 2 9.22 246 P **Pn 13 33 50.1 +2.0**
JSS Shosan 9.51 251 P **Pn 13 33 57.4 +5.3**
JCH Churui 9.60 238 P **Pn 13 33 51.1 -2.2**
JFR Furan 9.71 243 P **Pn 13 33 55.8 +1.0**
JAB Ashibetsu 9.74 245 P **Pn 13 33 57.2 +2.0**
JHR Hokuryu 9.92 248 P **Pn 13 34 02.8 +5.2**
JBT2 Biratori 2 10.08 242 P **Pn 13 33 59.7 -0.1**
ERM Erimo 10.11 236 *e*Pn **Pn 13 33 59.1 -1.1**
ERM *e*Sn **Sn 13 35 49.4 -2.7**
ERM Erimo 10.11 236 *c i*PN **Pn 13 34 01.6 +1.4**
ERM Erimo 10.11 236 Pn **Pn 13 33 59.1 -1.1**
comp=Z,3μm,0.5s,SNR=13
JEM Erimo 10.11 236 P **Pn 13 33 58.1 -2.1**
JNBK Urakawa-nobuka 10.16 238 P **Pn 13 33 59.0 -2.0**
JNB Noboribetsu 11.05 243 P **Pn 13 34 12.9 -0.1**
JKB Kayabe 11.40 241 P **Pn 13 34 15.3 -2.6**
JYM2 Yakumo 2 11.65 243 P **Pn 13 34 20.6 -0.7**
JTM Tenmabayashi 12.10 237 P **Pn 13 34 22.3 -5.1**
JANG Nango 12.13 234 P **Pn 13 34 22.1 -5.8**
JANG *e*S **Sn 13 36 32.0 -10**
JOSM Okushiri--Mats 12.21 245 P **Pn 13 34 30.8 +1.8**
JTH Tanohata 12.26 232 P **Pn 13 34 25.6 -4.0**
TEY Ternei 12.66 262 *e*P **Pn 13 34 43.0 +8.0**
TEY AMB AMB 13 34 43.8
comp=Z,65nm,1.0s
TEY AMB AMB 13 34 43.8
comp=Z,65nm,1.0s
TEY *e*LR LR 13 38 29.6
TEY AMS AMS 13 38 42.0
comp=Z,3μm,20.0s
TEY AMS AMS 13 38 42.0
comp=Z,5μm,20.0s
TEY AMS AMS 13 38 42.0
comp=Z,7μm,20.0s
FX1 Attu Island--F 12.77 62 Pn **Pn 13 34 33.8 -2.8**
comp=Z,123nm,0.3s,baz=282,slow=1.7,SNR=70
FX1 Attu Island--F 12.77 62 Pn **Pn 13 34 33.8 -2.8**
FX1 Attu Island--F 12.77 62 PN **Pn 13 34 33.8 -2.7**
FX1 pmax pmax
comp=Z,123nm,0.3s
HABR Khabarovsk 12.89 278 *de*PN **Pn 13 34 43.6 +5.5**
HABR *e*S **Sn 13 37 04.6 +4.7**
HABR pmax pmax
comp=Z,191nm,1.3s
HABR pmax pmax
comp=E,196nm,1.7s
HABR pmax pmax
comp=N,42nm,1.3s
HABR MLR MLR
comp=Z,7μm,19.0s
OFUJ Ofunato 13.00 230 P **Pn 13 34 33.5 -6.2**
SMY Shemya 13.29 63 *e*Pn **Pn 13 34 40.2 -3.4**
SMY *e*Sn **Sn 13 36 59.6 -10**
SMY Shemya 13.29 63 *e*PN **Pn 13 34 40.2 -3.4**
JRG Rokugo 13.31 233 P **Pn 13 34 39.2 -4.7**
JIO Ouri 13.64 229 P **Pn 13 34 42.8 -5.6**
JIO *e*S **Sn 13 37 07.4 -11**
JYA Atsumi 14.38 233 P **Pn 13 34 54.7 -3.7**
JFK Kawauchi 14.72 227 P **Pn 13 34 57.6 -5.2**
KLR Kul'dur 14.98 282 *e*P **Pn 13 35 06.7 +0.5**
KLR pmax pmax
comp=E,180nm,1.4s
KLR pmax pmax
comp=Z,200nm,1.4s
KLR MLR MLR
comp=Z,16μm,13.0s
JFY Yanaizu 15.27 230 P **Pn 13 35 05.3 -4.8**
USRK Ussuriysk Arra 16.02 264 Pn **Pn 13 35 21.2 +1.6**
comp=Z,3.2nm,0.3s,baz=70,slow=11,SNR=52
USRK LR LR 13 41 19.1
comp=Z,2μm,19.1s,baz=249,slow=36
VLA Vladivostok 16.54 260 ‖ *i*P **Pn 13 35 26.8 +0.7**
VLA S **S 13 38 26.8 -11**
VLA pmax pmax
comp=Z,121nm,0.8s
MAJO Matsushiro 16.71 231 *e*P **Pn 13 35 25.9 -2.4**
MAJO Matsushiro 16.71 231 *e*P **Pn 13 35 25.9 -2.4**
MAT Matsushiro 16.71 231 P **Pn 13 35 24.7 -3.6**
MAT *e*S **S 13 38 39.9 -1.8**
MJAR Matsushiro Arr 16.71 231 Pn **Pn 13 35 24.9 -3.4**
comp=Z,2.0nm,0.3s,baz=27,slow=13,SNR=61
MJAR ScP ScP 13 43 44.5 -0.6
comp=Z,0.2nm,0.3s,baz=51,slow=0.6,SNR=5.0
MJAR Matsushiro Arr 16.71 231 Pn **Pn 13 35 24.9 -3.4**
MJAR ScP ScP 13 43 44.5 -0.6
MJAR Matsushiro Arr 16.71 231 P **Pn 13 35 24.9 -3.4**
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MDJ Mudanjiang 17.47 267 P **Pn 13 35 37.3 -0.4**
MDJ pP pP 13 35 48.8 -0.9
MDJ sP sP 13 35 56.8 +0.8
MDJ S **S 13 38 49.0 -8.2**
MDJ PcP PcP 13 40 13.5 -2.4
MDJ ScP ScP 13 43 44.8 -1.8
MDJ PcS PcS 13 43 52.5 +0.5
MDJ ScS ScS 13 47 26.5 0.0
MDJ pmax pmax
comp=Z,58nm,1.1s
MDJ pmax pmax
comp=Z,950nm,8.4s
MDJ LR LR
comp=N,1μm,23.9s
MDJ LR LR
comp=E,2μm,24.9s
MDJ LR LR
comp=Z,3μm,23.9s
MDJ Mudanjiang 17.47 267 *e*P **Pn 13 35 39.3 +1.5**
comp=Z,114nm,1.0s
ZEA Zeya 17.90 298 *e*P **Pn 13 35 41.7 -1.2**
ZEA AMB AMB 13 35 46.3
comp=Z,82nm,0.8s
ZEA AMB AMB 13 35 46.3
comp=Z,50nm,0.7s
ZEA *e*S **S 13 39 07.0 +1.3**
ZEA A 13 39 16.0
comp=Z,600nm,9.0s
YAK Yakutsk 19.58 324 *e*P **Pn 13 36 00.8 -2.2**
comp=Z,539nm,0.9s
YAK Yakutsk 19.58 324 *e*P **Pn 13 36 01.5 -1.5**
YAK *e*S **S 13 39 39.2 -0.2**
YAK pmax pmax
comp=E,320nm,1.2s
YAK pmax pmax
comp=Z,496nm,1.0s
YAK pmax pmax
comp=N,163nm,1.1s
YAK smax
comp=N,829nm,2.5s
YAK smax
comp=E,598nm,2.5s
YAK MLR MLR
comp=Z,3μm,25.0s
YAK MLR MLR
comp=N,2μm,23.0s
YAK MLR MLR
comp=E,3μm,24.0s
CLNS Chul'man 19.77 307 *e*P **Pn 13 36 07.3 +2.0**
CLNS pmax pmax
comp=Z,398nm,0.7s
CLNS pmax pmax
comp=E,219nm,1.0s
CLNS pmax pmax
comp=N,223nm,1.3s
CLNS MLR MLR
comp=Z,4μm,18.0s
CLNS MLR MLR
comp=E,3μm,19.0s
CLNS MLR MLR
comp=N,2μm,14.0s
CN2 Changchun 20.54 268 *e*P **P 13 36 09.3 -2.6**
CN2 *ep*P 13 36 22.5
CN2 *es*P sP 13 36 30.3 +0.6
CN2 *e*S **S 13 39 50.0 -8.8**
CN2 pmax pmax
comp=Z,140nm,0.8s
CN2 pmax pmax
comp=Z,400nm,3.0s
CN2 LR LR
comp=N,3μm,15.0s,MS4.9
CN2 LR LR
comp=E,2μm,15.0s,MS4.9
CN2 LR LR
comp=Z,3μm,15.0s,MS4.8
BILL Bilibino 20.73 13 *e*P **P 13 36 11.3 -2.4**
comp=Z,80nm,0.9s
BILL LR LR
comp=Z,2μm,20.0s,MS4.5
BILL Bilibino 20.73 13 *k i*P **P 13 36 12.1 -1.6**
BILL *e* 13 36 36.2
BILL 13 36 40.0
BILL *i* S **S 13 40 03.2 +1.1**
BILL *i* 13 40 13.7
BILL pmax pmax
comp=Z,47nm,0.9s
BILL MLR MLR
comp=Z,2μm,16.0s,MS4.5
KSRS Korea Array 22.12 251 P **P 13 36 28.8 -0.1**
comp=Z,80nm,0.7s,mb5.3,baz=49,slow=10,SNR=126
KSRS ScP ScP 13 43 57.4 -0.1
comp=Z,2.4nm,1.1s,baz=58,slow=1.4,SNR=5.8
KSRS LR LR 13 44 42.8
comp=Z,4μm,18.5s,MS4.8,baz=58,slow=36
KSRS Korea Array 22.12 251 P **P 13 36 28.8 -0.1**
KSRS pmax pmax
comp=Z,80nm,0.7s,mb5.3
KSRS MLR MLR
comp=Z,4μm,18.5s,MS4.8
KSAR Wonju Array Be 22.15 251 P **P 13 36 28.8 -0.4**
KSAR ScP ScP 13 43 57.4 -0.2
KSAR Wonju Array Be 22.15 251 P **P 13 36 28.8 -0.4**
SNY Shenyang 22.62 265 ⇑P **P 13 36 33.0 -1.2**
SNY S **S 13 40 37.3 -1.3**
SNY pmax pmax
comp=Z,34nm,1.0s,mb4.7
SNY pmax pmax
comp=Z,1μm,7.8s
SNY LR LR
comp=N,1μm,13.5s,MS4.8
SNY LR LR
comp=E,3μm,16.9s,MS4.8
SNY LR LR
comp=Z,3μm,20.6s,MS4.7
HIA Hailar 22.77 286 *e*P **P 13 36 34.5 -1.2**
comp=Z,68nm,0.9s,mb5.1
HIA LR LR
comp=Z,5μm,20.0s,MS5.0
HIA Hailar 22.77 286 *e*P **P 13 36 34.5 -1.2**
HIA pmax pmax
comp=Z,68nm,0.9s
HIA MLR MLR
comp=Z,5μm,20.0s
INCN Inchon 22.92 252 *e*P **P 13 36 37.5 +0.1**
INCN LR LR
comp=Z,3μm,19.0s,MS4.8
INCN Inchon 22.92 252 P **P 13 36 38.3 +1.0**
SNR=14
CBIJ Chichi jima 23.18 209 P **P 13 36 40.3 +0.1**
baz=324,slow=18
CBIJ LR LR 13 43 47.4
comp=Z,688nm,21.1s,MS4.1,baz=182,slow=32
CBIJ Chichi jima 23.18 209 P **P 13 36 40.3 +0.1**
JNU Nakatsue 23.26 238 *e*P **P 13 36 40.5 -0.4**
GAMB Gambell 24.08 37 *e*P **P 13 36 48.4 +0.2**
comp=Z,173nm,1.1s,mb5.4
DL2 Dalian 25.36 261 P **P 13 37 00.3 +0.2**
DL2 pP pP 13 37 14.8 +2.0
DL2 *e*S **S 13 41 22.3 -0.5**
DL2 sS sS 13 41 44.3 -0.1
DL2 pmax pmax
comp=Z,50nm,1.1s,mb5.0
DL2 pmax pmax
comp=Z,150nm,7.8s
DL2 LR LR
comp=N,620nm,18.8s,MS4.4
DL2 LR LR
comp=E,780nm,16.9s,MS4.4
DL2 LR LR
comp=Z,1μm,19.7s,MS4.4
BOD Bodaibo 25.75 307 *e*P **P 13 37 01.7 -1.7**
BOD *e* pP 13 37 17.3 +1.1
BOD pmax pmax
comp=Z,22nm,1.2s,mb4.6
CIT Chita 26.21 294 *e*P pP 13 37 23.0 +2.6
CIT *e* 13 37 40.7
TNA Tin City 26.29 35 *e*P **P 13 37 09.0 +0.8**
comp=Z,127nm,0.9s,mb5.5
BJI Beijing 28.41 268 P **P 13 37 29.3 +1.9**
BJI sP sP 13 37 49.8 +3.6
BJI S **S 13 42 14.0 +3.2**
BJI sS sS 13 42 36.0 +3.5
BJI pmax pmax
comp=Z,25nm,0.8s,mb4.9
BJI pmax pmax
comp=Z,170nm,4.4s
BJI LR LR
comp=N,1μm,18.7s,MS4.7
BJI LR LR
comp=E,2μm,23.1s,MS4.7
BJI LR LR
comp=Z,1μm,26.6s,MS4.4
BJT Baijiatuau 28.42 268 P **P 13 37 27.4 -0.1**
comp=Z,20nm,0.6s,mb4.9
BJT LR LR
comp=Z,2μm,22.0s,MS4.6
BJT Baijiatuau 28.42 268 P **P 13 37 27.4 -0.1**
BJT pmax pmax
comp=Z,20nm,0.6s
BJT MLR MLR
comp=Z,2μm,22.0s
JOW Kunigami 29.54 233 P **P 13 37 37.8 +0.2**
comp=Z,32nm,0.7s,mb5.2,baz=58,slow=10,SNR=12
JOW LR LR 13 49 55.3
comp=Z,1μm,21.7s,MS4.4,baz=137,slow=37
JOW Kunigami 29.54 233 *e*P **P 13 37 37.9 +0.3**
comp=Z,23nm,1.1s,mb4.8
MIDW Midway 29.59 122 PFAKE 13 37 50.0 +12
MIDW LR LR
comp=Z,3μm,21.0s,MS5.0
SSE Sheshan 30.48 248 P **P 13 37 42.3 -3.5**
SSE sP sP 13 38 03.5 -1.1
SSE S **S 13 42 40.3 -3.2**
SSE sS sS 13 43 06.0 +0.8
SSE pmax pmax
comp=Z,32nm,0.7s,mb5.2
SSE pmax pmax
comp=Z,240nm,5.4s
SSE LR LR
comp=N,1μm,27.1s,MS4.5
SSE LR LR
comp=E,960nm,27.2s,MS4.5
SSE LR LR
comp=Z,2μm,16.2s
HHC Hu-ho-hao-te 31.10 272 *e*P **P 13 37 51.5 +0.3**
HHC pP pP 13 38 06.0 +1.9
HHC sP sP 13 38 14.3 +4.3
HHC PP PP 13 38 54.8 -7.1
HHC S **S 13 42 49.0 -4.0**
HHC sS sS 13 43 16.3 +1.6
HHC SS SS 13 44 38.5 -29
HHC ScS ScS 13 48 18.5 -2.6
HHC pmax pmax
comp=Z,42nm,1.0s,mb5.2
HHC pmax pmax
comp=Z,280nm,4.4s
HHC LR LR
comp=N,2μm,16.7s,MS5.0
HHC LR LR
comp=E,2μm,16.7s,MS5.0
HHC LR LR
comp=Z,2μm,20.2s,MS4.8
ULN Ulaanbaatar 31.27 287 *e*P **P 13 37 52.2 -0.5**
comp=Z,16nm,1.1s,mb4.8
ULN *e*PcP PcP 13 40 46.1 +0.3
ULN *e*ScP ScP 13 44 24.1 -0.3
ULN LR LR
comp=Z,4μm,19.0s,MS5.1
ULN Ulaanbaatar 31.27 287 *e*P **P 13 37 52.2 -0.4**
ULN *e* 13 40 46.1
ULN pmax pmax
comp=Z,16nm,1.1s,mb4.8
ULN MLR MLR
comp=Z,4μm,19.0s,MS5.1
ULN Ulaanbaatar 31.27 287 P **P 13 37 52.7 +0.1**
comp=Z,16nm,1.5s,mb4.6
NJ2 Nanjing 31.30 252 *e*P **P 13 37 54.0 +1.0**
NJ2 pP pP 13 38 07.5 +1.5
NJ2 sP sP 13 38 16.5 +4.6
NJ2 S **S 13 42 51.0 -5.3**
NJ2 sS sS 13 43 21.0 +2.9
NJ2 pmax pmax
comp=Z,70nm,1.2s,mb5.4
NJ2 pmax pmax
comp=Z,140nm,4.6s
NJ2 LR LR
comp=N,6μm,18.0s
NJ2 LR LR
comp=E,2μm,27.4s
NJ2 LR LR
comp=Z,3μm,19.2s,MS5.0
SONM Songino Array 31.70 288 P **P 13 37 55.3 -1.1**
comp=Z,8.7nm,0.9s,mb4.6,baz=71,slow=8.5,SNR=42
SONM PcP PcP 13 40 47.3 +0.3
comp=Z,14nm,0.7s,baz=79,slow=2.1,SNR=14
SONM ScP ScP 13 44 25.9 0.0
comp=Z,7.2nm,1.1s,baz=71,slow=1.4,SNR=12
SONM LR LR 13 51 57.4
comp=Z,4μm,18.8s,MS5.2,baz=74,slow=39
SONM Songino Array 31.70 288 P **P 13 37 55.3 -1.1**
SONM PcP PcP 13 40 47.3 +0.3
SONM ScP ScP 13 44 25.9 0.0
SONM Songino Array 31.70 288 P **P 13 37 55.3 -1.1**
SONM 13 40 47.3
SONM pmax pmax
comp=Z,9.0nm,0.9s
SONM MLR MLR
comp=Z,4μm,18.8s
RSO Redoubt South 32.19 48 *e*P **P 13 38 01.4 +0.8**
TLY Talaya 32.31 296 *e*P **P 13 38 02.7 +1.1**
TLY *e*PcP PcP 13 40 49.4 +0.9
TLY LR LR
comp=Z,4μm,20.0s,MS5.1
TLY Talaya 32.31 296 *e*P **P 13 38 02.8 +1.1**
TLY *e*S **S 13 43 04.6 -7.0**
TLY pmax pmax
comp=Z,22nm,0.7s,mb5.1
TLY MLR MLR
comp=Z,3μm,19.0s,MS5.1
PPLA Purkeypile 32.45 43 *e*P **P 13 38 03.1 +0.2**
KDAK Kodiak Island 32.47 53 PFAKE 13 38 20.0 +17
KDAK LR LR
comp=Z,3μm,20.0s,MS5.0
KDAK Kodiak Island 32.47 53 *i* P **P 13 38 02.9 -0.2**
KDAK Kodiak Island 32.47 53 P **P 13 38 03.0 -0.1**
comp=Z,220nm,1.2s,mb5.9,SNR=5.1
ZAK Zakamensk 32.87 293 *e*P **P 13 38 06.6 -0.1**
ZAK *e* 13 38 30.1
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TRF Thorofare Moun 33.33 42 *e*P **P 13 38 10.6 +0.1**
SLKM Skilak Lake 33.44 48 *e*P **P 13 38 10.3 -1.3**
SLKM Skilak Lake 33.44 48 *e*P **P 13 38 10.3 -1.2**
COLD Coldfoot 33.59 35 *e*P **P 13 38 12.8 +0.1**
RC01 Rabbit Creek A 33.64 47 *e*P **P 13 38 12.6 -0.6**
SEW Seward 33.86 48 *e*P **P 13 38 14.4 -0.7**
MOY Mondy 33.90 296 *e*P **P 13 38 17.3 +1.7**
PMR Palmer 33.91 46 P **P 13 38 13.8 -1.8**
PMR Palmer 33.91 46 P **P 13 38 13.8 -1.7**
MCK McKinley 33.93 42 *e*P **P 13 38 15.3 -0.4**
comp=Z,34nm,0.9s,mb5.3
MCK McKinley 33.93 42 *e*P **P 13 38 15.3 -0.4**
MCK pmax pmax
comp=Z,33nm,0.9s,mb5.3
SML Sawmill 34.27 45 *e*P **P 13 38 18.5 -0.2**
SML Sawmill 34.27 45 *e*P **P 13 38 18.5 -0.2**
COLA College 34.41 40 *e*P **P 13 38 19.8 -0.1**
comp=Z,106nm,0.9s,mb5.8
COLA LR LR
comp=Z,1μm,19.0s,MS4.6
COLA College 34.41 40 *e*P **P 13 38 19.8 0.0**
COLA pmax pmax
comp=Z,106nm,0.9s,mb5.8
COLA MLR MLR
comp=Z,1μm,19.0s,MS4.6
ILAR Eielson Array 34.82 40 P **P 13 38 22.6 -0.7**
comp=Z,52nm,1.3s,mb5.3,baz=256,slow=7.2,SNR=101
ILAR LR LR 13 54 40.3
comp=Z,515nm,18.5s,MS4.3,baz=118,slow=40
ILAR Eielson Array 34.82 40 P **P 13 38 22.6 -0.7**
ILAR Eielson Array 34.82 40 P **P 13 38 22.7 -0.7**
ILAR pmax pmax
comp=Z,53nm,1.3s
ILAR MLR MLR
comp=Z,515nm,18.5s
YHNB Yeheng 35.07 240 PFAKE 13 38 40.0 +14
YHNB LR LR
comp=Z,2μm,19.0s,MS4.8
WHN Wuhan 35.18 255 P **P 13 38 26.0 -0.9**
WHN S **S 13 43 53.5 -3.0**
WHN pmax pmax
comp=Z,120nm,0.7s,mb5.9
WHN LR LR
comp=N,7μm,24.8s,MS5.4
WHN LR LR
comp=E,4μm,22.3s,MS5.4
WHN LR LR
comp=Z,3μm,21.2s,MS5.0
PAX Paxson 35.52 43 *e*P **P 13 38 28.4 -1.1**
comp=Z,15nm,0.9s,mb4.9
PAX Paxson 35.52 43 *e*P **P 13 38 28.4 -1.1**
PAX pmax pmax
comp=Z,15nm,0.9s,mb4.9
DIV Divide 35.56 46 *e*P **P 13 38 29.1 -0.7**
SSLB Suanglung 36.00 239 *e*P **P 13 38 33.0 -1.0**
comp=Z,28nm,0.9s,mb5.2
DOT Dot Lake 36.10 42 *e*P **P 13 38 33.4 -1.0**
YULB Yu-li 36.11 238 *e*P **P 13 38 35.0 +0.2**
BMRM Bremner River 36.14 46 *e*P **P 13 38 34.6 -0.2**
RAGM Ragged Mountai 36.19 47 *e*P **P 13 38 36.7 +1.5**
MENT Mentasta 36.32 43 *e*P **P 13 38 37.2 +1.0**
QZH Quanzhou 36.50 243 P **P 13 38 38.3 +0.1**
QZH S **S 13 44 10.0 -6.8**
QZH pmax pmax
comp=Z,110nm,0.9s,mb5.7
QZH LR LR
comp=Z,2μm,22.8s,MS4.8
XAN Xi'an 36.54 264 P **P 13 38 38.5 0.0**
XAN pP pP 13 38 51.3 -0.3
XAN sP sP 13 38 56.5 -0.9
XAN pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
XAN pmax pmax
comp=Z,59nm,5.8s
XAN LR LR
comp=N,1μm,16.7s,MS4.7

XAN LR LR
comp=E,430nm,17.9s,MS4.7
XAN LR LR
comp=Z,600nm,17.3s,MS4.4
TPUB Ta-pu 36.56 239 *e*P **P 13 38 38.3 -0.5**
TWG Pinlang 36.69 238 *e*P **P 13 38 39.5 -0.3**
EGAK Eagle 37.27 40 *e*P **P 13 38 43.6 -0.8**
EGAK LR LR
comp=Z,931nm,20.0s,MS4.6
ENH Enshi 38.52 259 *e*P **P 13 38 54.0 -1.2**
comp=Z,82nm,0.9s,mb5.5
ENH *e*PcP PcP 13 41 06.8 -0.4
ENH LR LR
comp=Z,1μm,21.0s,MS4.8
LZH Lanzhou 38.74 271 ⇑P **P 13 38 58.0 +0.9**
LZH pP pP 13 39 14.5 +4.3
LZH sP sP 13 39 21.0 +4.9
LZH PP PP 13 40 32.5 +6.2
LZH *e*S **S 13 44 51.5 +0.9**
LZH sS sS 13 45 15.0 +2.3
LZH pmax pmax
comp=Z,110nm,1.3s,mb5.4
LZH pmax pmax
comp=Z,210nm,4.5s
LZH LR LR
comp=N,2μm,17.5s,MS5.2
LZH LR LR
comp=E,2μm,15.6s,MS5.2
LZH LR LR
comp=Z,2μm,18.3s,MS5.0
PNL Peninsula 38.93 48 *e*P **P 13 38 57.9 -0.4**
GTA Gaotai 39.63 278 ⇑P **P 13 39 04.5 +0.1**
GTA pP pP 13 39 19.8 +2.2
GTA sP sP 13 39 26.5 +3.1
GTA PP PP 13 40 40.0 +4.1
GTA PcP PcP 13 41 10.0 -0.5
GTA ScP ScP 13 44 55.0 +0.1
GTA S **S 13 45 02.3 -1.5**
GTA sS sS 13 45 27.5 +1.6
GTA pmax pmax
comp=Z,12nm,1.6s,mb4.4
GTA pmax pmax
comp=Z,260nm,6.6s
GTA LR LR
comp=N,2μm,15.9s,MS5.3
GTA LR LR
comp=E,3μm,16.2s,MS5.3
GTA LR LR
comp=Z,4μm,17.3s,MS5.3
SKAG Skagway 40.98 47 *e*P **P 13 39 16.7 +1.4**
comp=Z,107nm,1.6s,mb5.2
CD2 Chengdu 41.90 265 ⇑*i*P **P 13 39 23.5 +0.3**
CD2 pP pP 13 39 39.0 +2.5
CD2 sP sP 13 39 46.3 +4.0
CD2 PP PP 13 41 04.0 +3.3
CD2 PcP PcP 13 41 19.3 +1.2
CD2 PcS PcS 13 45 09.8 0.0
CD2 S **S 13 45 36.3 -1.5**
CD2 SS SS 13 48 38.8 -6.7
CD2 ScS ScS 13 49 18.5 -2.8
CD2 pmax pmax
comp=Z,100nm,0.8s,mb5.5
CD2 pmax pmax
comp=Z,210nm,7.2s
CD2 LR LR
comp=N,1μm,17.8s,MS5.0
CD2 LR LR
comp=E,1μm,20.2s,MS5.0
CD2 LR LR
comp=Z,2μm,22.6s,MS4.9
ZAA0 Zalesovo Array 42.47 305 *e*P **P 13 39 26.1 -1.4**
ZAA0 *e*PcP PcP 13 41 19.9 +0.4
ZALV Zalesovo Beam 42.47 305 P **P 13 39 25.6 -1.9**
comp=Z,17nm,0.4s,mb5.0,baz=60,slow=7.5,SNR=98
ZALV PcP PcP 13 41 20.5 +1.0
comp=Z,44nm,0.8s,baz=64,slow=3.4,SNR=19
ZALV ScP ScP 13 45 05.7 -0.1
comp=Z,4.7nm,1.1s,baz=50,slow=4.5,SNR=3.7
ZALV ScS ScS 13 49 24.1 0.0
comp=Z,2.6nm,1.0s,baz=46,slow=4.3,SNR=5.0
ZALV LR LR 13 57 57.8
comp=Z,2μm,20.9s,MS4.9,baz=66,slow=37
ZALV Zalesovo Beam 42.47 305 P **P 13 39 25.6 -1.9**
ZALV PcP PcP 13 41 20.5 +0.9
ZALV ScP ScP 13 45 05.7 -0.1
ZALV ScS ScS 13 49 24.1 0.0
ZALV Zalesovo Beam 42.47 305 P **P 13 39 25.6 -1.9**
ZALV 13 41 20.5
ZALV 13 49 24.1
ZALV pmax pmax
comp=Z,17nm,0.4s,mb5.0
ZALV MLR MLR
comp=Z,2μm,20.9s,MS4.9
GYA Guiyang 42.91 257 ⇑*i*P **P 13 39 30.5 -1.0**
GYA pP pP 13 39 45.3 +0.5
GYA sP sP 13 39 52.0 +1.4
GYA PP PP 13 41 13.5 +1.8
GYA PcP PcP 13 41 23.3 +1.8
GYA ScP ScP 13 45 07.8 -0.3
GYA PcS PcS 13 45 15.0 +1.1
GYA S **S 13 45 52.3 -0.5**
GYA sS sS 13 46 15.5 +0.4
GYA SS SS 13 48 57.5 -8.1
GYA pmax pmax
comp=Z,110nm,0.9s,mb5.6
GYA pmax pmax
comp=Z,180nm,5.3s
GYA LR LR
comp=N,560nm,17.4s,MS4.7
GYA LR LR
comp=E,550nm,18.9s,MS4.7
GYA LR LR
comp=Z,590nm,16.1s,MS4.6
NVS Novosibirsk 42.99 307 *e*P **P 13 39 30.6 -1.2**
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,14nm,0.7s
NVS pmax pmax
comp=Z,18nm,0.7s,mb4.9
WMQ Urumqi 45.22 290 P **P 13 39 51.0 +1.2**
WMQ pP pP 13 40 06.5 +3.4
WMQ sP sP 13 40 13.5 +4.5
WMQ PP PP 13 41 37.8 +1.8
WMQ S **S 13 46 26.0 0.0**
WMQ sS sS 13 46 52.3 +3.9
WMQ pmax pmax
comp=Z,23nm,1.0s,mb5.0
WMQ pmax pmax
comp=Z,300nm,4.6s
WMQ LR LR
comp=N,3μm,15.4s,MS5.4
WMQ LR LR
comp=E,2μm,15.4s,MS5.4
WMQ LR LR
comp=Z,2μm,22.0s
QIZ Qiongzhong 46.26 247 P **P 13 39 59.5 +1.3**
QIZ sP sP 13 40 18.0 +0.6
QIZ S **S 13 46 41.0 -0.4**
QIZ sS sS 13 47 04.8 +0.9
QIZ LR LR
comp=N,850nm,16.1s
QIZ LR LR
comp=Z,2μm,16.4s,MS5.1
QIZ Qiongzhong 46.26 247 PFAKE 13 40 10.0 +12
QIZ LR LR
comp=Z,897nm,22.0s,MS4.7
KIP Kipapa 46.35 108 *e*P **P 13 40 00.4 +1.5**
KIP pmax pmax
comp=Z,61nm,1.2s,mb5.4
KMI Kunming 46.39 259 P **P 13 39 57.3 -1.9**
KMI PP PP 13 41 46.0 -2.7
KMI S **S 13 46 39.8 -3.5**
KMI SS SS 13 49 59.3 -10
KMI pmax pmax
comp=Z,63nm,1.0s,mb5.5
KMI pmax pmax
comp=Z,260nm,3.9s
KMI LR LR
comp=N,870nm,18.6s,MS4.8
KMI LR LR
comp=E,410nm,16.2s,MS4.8
KMI LR LR
comp=Z,930nm,21.3s
MK31 Makanchi Array 47.05 297 *e*P **P 13 40 02.9 -1.3**
MK31 Makanchi Array 47.05 297 *i*P **P 13 40 02.7 -1.4**
MK31 pmax pmax
comp=Z,62nm,0.9s,mb5.5
MKAR Makanchi Array 47.05 297 P **P 13 40 02.5 -1.6**
comp=Z,35nm,0.8s,mb5.3,baz=61,slow=6.0,SNR=87
MKAR PcP PcP 13 41 36.1 +0.7
comp=Z,12nm,0.8s,baz=45,slow=3.6,SNR=4.0
MKAR ScP ScP 13 45 27.3 +2.4
comp=Z,1.3nm,0.7s,baz=46,slow=4.2,SNR=3.5
MKAR ScS ScS 13 49 55.5 +2.0
comp=Z,0.8nm,0.8s,baz=60,slow=7.4,SNR=4.4
MKAR LR LR 14 01 31.2
comp=Z,3μm,18.8s,MS5.2,baz=43,slow=38
MKAR Makanchi Array 47.05 297 P **P 13 40 02.5 -1.6**
MKAR PcP PcP 13 41 36.1 +0.7
MKAR ScP ScP 13 45 27.3 +2.4
MKAR ScS ScS 13 49 55.5 +2.0
MKAR Makanchi Array 47.05 297 *i*P **P 13 40 03.4 -0.7**
MKAR pmax pmax
comp=Z,35nm,0.8s
KURK Kurchatov 47.28 303 *e*P **P 13 40 04.0 -1.9**
comp=Z,135nm,0.8s,mb5.9
KURK *e*PcP PcP 13 41 36.6 +0.5
KURK LR LR
comp=Z,3μm,20.0s,MS5.2
KURK Kurchatov 47.28 303 *ce*P **P 13 40 04.7 -1.1**
KURK Kurchatov 47.28 303 P **P 13 40 05.8 -0.1**
SNR=42
KURK Kurchatov 47.28 303 P **P 13 40 04.4 -1.4**
comp=Z,1μm,0.7s,mb6.9,SNR=45
ALE Alert 48.15 6 P **P 13 40 12.0 -0.3**
comp=Z,246nm,0.9s,mb6.2,SNR=20
CTBH Cotabato--PC H 48.23 222 ⇑*i*P **P 13 40 14.8 +1.2**
RES Resolute Bay 49.12 19 LR LR 14 02 11.5
comp=Z,559nm,21.0s,MS4.5,baz=148,slow=37
YKA Yellowknife Ar 49.19 38 P **P 13 40 20.4 0.0**
comp=Z,19nm,0.8s,mb5.2,baz=297,slow=7.6,SNR=103
YKA Yellowknife Ar 49.19 38 P **P 13 40 20.4 0.0**
YKA Yellowknife Ar 49.19 38 P **P 13 40 20.4 0.0**
YKA pmax pmax
comp=Z,19nm,0.8s
BVA0 Borovoye Array 50.60 309 *i*P **P 13 40 30.0 -1.2**
BVA0 pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
BVAR Borovoye Array 50.60 309 P **P 13 40 29.2 -2.0**
comp=Z,64nm,0.4s,mb5.9,baz=56,slow=7.5,SNR=289
BVAR PcP PcP 13 41 49.0 +0.8
comp=Z,26nm,0.7s,baz=69,slow=3.3,SNR=9.5
BVAR Borovoye Array 50.60 309 P **P 13 40 29.2 -2.0**
BVAR PcP PcP 13 41 49.0 +0.8
BVAR Borovoye Array 50.60 309 P **P 13 40 29.2 -2.0**
BVAR 13 41 49.0
BVAR pmax pmax
comp=Z,64nm,0.4s
BRVK Borovoye 50.63 309 *e*P **P 13 40 29.9 -1.5**
comp=Z,104nm,0.6s,mb5.9
BRVK *e*PcP PcP 13 41 48.6 +0.3
BRVK LR LR
comp=Z,4μm,20.0s,MS5.4
BRVK Borovoye 50.63 309 *de*P **P 13 40 30.3 -1.2**
BRVK pmax pmax
comp=Z,99nm,0.7s,mb5.8
BRVK Borovoye 50.63 309 P **P 13 40 30.9 -0.6**
comp=Z,1μm,0.7s,mb6.9,SNR=99
BRVK Borovoye 50.63 309 P **P 13 40 30.8 -0.7**
SNR=20
LSA Lhasa 51.08 273 P **P 13 40 36.3 +1.1**
LSA S **S 13 47 50.3 +1.2**
LSA Lhasa 51.08 273 *e*P **P 13 40 36.8 +1.6**
comp=Z,21nm,0.6s,mb5.2
LSA LR LR
comp=Z,2μm,22.0s,MS5.0
LSA Lhasa 51.08 273 *e*P **P 13 40 36.8 +1.6**
LSA pmax pmax
comp=Z,21nm,0.6s,mb5.2
LSA MLR MLR
comp=Z,2μm,22.0s,MS5.0
SPITS Spitsbergen Ar 51.29 350 P **P 13 40 34.6 -1.5**
comp=Z,5.8nm,0.5s,mb4.8,baz=71,slow=14,SNR=15
SPITS LR LR 14 01 34.7
comp=Z,557nm,21.8s,MS4.5,baz=50,slow=35
SPITS Spitsbergen Ar 51.29 350 P **P 13 40 34.6 -1.5**
SPITS Spitsbergen Ar 51.29 350 P **P 13 40 34.6 -1.5**
SPITS pmax pmax
comp=Z,6.0nm,0.5s
SPB4 Spitsbergen Ar 51.29 350 *e*P **P 13 40 35.8 -0.4**
CHRT Chiangrai 52.02 257 ⇓P **P 13 40 42.0 -0.3**
comp=Z,176nm,0.8s,mb6.0
NLWA Neilton Lookou 52.32 58 *e*P **P 13 40 44.5 +0.3**
comp=Z,22nm,0.8s,mb5.1
NLWA LR LR
comp=Z,1μm,21.0s,MS4.9
MYLDM Lahad Datu 52.72 227 P **P 13 40 49.3 +1.8**
comp=Z,45nm,1.0s,mb5.3
JCW Jim Creek 52.97 56 *e*P **P 13 40 48.9 -0.1**
comp=Z,34nm,0.8s,mb5.3
KKM Kota Kinabalu 53.13 230 PFAKE 13 41 00.0 +10
KKM LR LR
comp=Z,441nm,21.0s,MS4.5
TKM2 Tokmak 2 53.14 296 P **P 13 40 51.5 +1.2**
SNR=16
TKM2 P 13 40 51.5
SNR=16
TKM2 Tokmak 2 53.14 296 *e*P **P 13 40 49.7 -0.6**
comp=Z,48nm,1.1s,mb5.3
TKM2 *e*pP pP 13 41 07.2 +3.3
TKM2 LR LR
comp=Z,2μm,20.0s,MS5.1
TKM2 Tokmak 2 53.14 296 *i*P **P 13 40 49.6 -0.7**
TKM2 pmax pmax
comp=Z,35nm,0.9s,mb5.3
SHL Shillong 53.30 268 *e*PKP **P 13 40 50.0 -1.7**
SHL *ex* x 13 48 25.5
CHTO Chiang Mai 53.33 257 *e*P **P 13 40 51.2 -0.8**
comp=Z,63nm,0.8s,mb5.6
CHTO LR LR
comp=Z,1μm,19.0s,MS5.0
CHTO Chiang Mai 53.33 257 *e*P **P 13 40 51.2 -0.8**
CHTO pmax pmax
comp=Z,63nm,0.8s,mb5.6
CHTO MLR MLR
comp=Z,1μm,19.0s,MS5.0
CHTO Chiang Mai 53.33 257 P **P 13 40 52.4 +0.4**
comp=Z,1μmcomp=Z,109nm,0.8s,mb5.8
CHTO Chiang Mai 53.33 257 P **P 13 40 52.7 +0.7**
SNR=19
SVE Sverdlovsk 53.34 317 ⇓*i*P **P 13 40 50.8 -0.7**
SVE *e* 13 42 55.2
SVE *e*S **S 13 48 22.6 +3.3**
SVE pmax pmax
comp=Z,45nm,0.8s,mb5.5
SVE MLR MLR
comp=Z,1μm,19.0s,MS5.0
SOKR Solikamsk 53.48 321 ⇑*i*P **P 13 40 52.6 +0.1**
SOKR pmax pmax
comp=Z,20nm,1.3s,mb4.9
SOKR MLR MLR
comp=Z,1μm,21.0s,MS4.9
CM31 Chiang Mai Arr 53.59 256 *e*P **P 13 40 53.8 0.0**
comp=Z,42nm,0.8s,mb5.4
CM31 LR LR
comp=Z,1μm,19.0s,MS4.9
CMAR Chiang Mai Arr 53.59 256 P **P 13 40 52.8 -1.1**
comp=Z,43nm,0.8s,mb5.5,baz=34,slow=7.0,SNR=185
CMAR PcP PcP 13 42 01.1 +1.2
comp=Z,13nm,0.7s,baz=22,slow=2.4,SNR=9.2
CMAR ScP ScP 13 45 54.4 +1.1
comp=Z,3.5nm,0.9s,baz=19,slow=3.4,SNR=8.6
CMAR LR LR 14 05 19.2
comp=Z,1μm,18.5s,MS5.0,baz=51,slow=38
CMAR Chiang Mai Arr 53.59 256 P **P 13 40 52.8 -1.1**
CMAR PcP PcP 13 42 01.1 +1.2
CMAR ScP ScP 13 45 54.4 +1.1
CMAR Chiang Mai Arr 53.59 256 P **P 13 40 52.8 -1.1**
CMAR 13 42 01.2
CMAR pmax pmax
comp=Z,43nm,0.8s
CMAR MLR MLR
comp=Z,1μm,18.5s
USP Ospenovka 53.60 297 P **P 13 40 53.9 +0.2**
SNR=54
USP P 13 40 53.9
SNR=54
CHMS Chumysh 53.60 296 P **P 13 40 53.7 +0.1**
SNR=15
CHMS P 13 40 53.7
SNR=15
KBK Karagaybulak 53.68 296 P **P 13 40 55.5 +1.2**
SNR=16
KBK P 13 40 55.5
SNR=16
FRU Bishkek 53.78 296 *e*P **P 13 40 55.0 0.0**
FRU pmax pmax
comp=Z,60nm,1.4s,mb5.3
KZA Kyzart 53.84 295 P **P 13 40 57.4 +2.0**
SNR=13
KZA P 13 40 57.4
SNR=13
AAK Ala-Archa 53.97 296 P **P 13 40 56.1 -0.2**
SNR=23
AAK P 13 40 56.1
SNR=23
AAK Ala-Archa 53.97 296 *e*P **P 13 40 55.9 -0.5**
comp=Z,107nm,1.0s,mb5.7
AAK LR LR
comp=Z,2μm,20.0s,MS5.1
AAK Ala-Archa 53.97 296 *i*P **P 13 40 56.1 -0.3**
AAK Ala-Archa 53.97 296 P **P 13 40 55.9 -0.5**
comp=Z,126nm,1.0s,mb5.8,SNR=13
ETW Entiat 54.19 56 *e*P **P 13 40 57.7 -0.2**
comp=Z,30nm,0.7s,mb5.3
EKS2 Erkin-Say 54.38 296 P **P 13 40 59.3 -0.1**
SNR=22
EKS2 P 13 40 59.3
SNR=22
EKS2 Erkin-Say 54.38 296 *e*P **P 13 40 58.9 -0.5**
comp=Z,24nm,1.0s,mb5.1
EKS2 *e*PcP PcP 13 42 02.6 0.0
EKS2 LR LR
comp=Z,2μm,21.0s,MS5.1
EKS2 Erkin-Say 54.38 296 *e*P **P 13 40 58.9 -0.5**
EKS2 *e* 13 42 02.6
EKS2 pmax pmax
comp=Z,24nm,1.0s,mb5.1
EKS2 MLR MLR
comp=Z,2μm,21.0s,MS5.1
BDT Bhumibol Dam 54.44 255 P **P 13 41 00.0 0.0**
ARU Arti 54.51 317 *e*P **P 13 40 57.8 -2.2**
comp=Z,66nm,0.7s,mb5.8
ARU LR LR
comp=Z,1μm,22.0s,MS4.9
ARU Arti 54.51 317 *c i*P **P 13 40 58.2 -1.8**
ARU *PP pP 13 41 13.7 0.0
ARU *e* 13 42 01.0
ARU *e* 13 42 58.4
ARU S **S 13 48 33.5 -1.6**
ARU SS SS 13 52 15.4 -1.9
ARU pmax pmax
comp=Z,81nm,0.8s,mb5.8
ARU MLR MLR
comp=Z,1μm,22.0s,MS4.9
ARU Arti 54.51 317 P **P 13 40 58.3 -1.7**
comp=Z,625nm,0.8s,mb6.7,SNR=30
AML Almayashu 54.74 296 P **P 13 41 03.8 +1.8**
SNR=17
AML P 13 41 03.8
SNR=17
TAPN Taplejung 54.90 273 *e*P **P 13 41 03.8 +0.4**
comp=Z,45nm,0.7s,mb5.6
TAPN Taplejung 54.90 273 *e*P **P 13 41 03.8 +0.4**
comp=Z,45nm,0.7s,mb5.6
KSH Kashi 54.91 292 *e*P **P 13 41 07.0 +3.8**
KSH pP pP 13 41 22.8 +5.9
KSH sP sP 13 41 29.5 +6.9
KSH PcP PcP 13 42 08.5 +3.8
KSH PP PP 13 43 11.5 +5.3
KSH ScP ScP 13 46 00.8 +2.0
KSH PcS PcS 13 46 06.3 +1.8
KSH S **S 13 48 41.5 +0.6**
KSH sS sS 13 49 08.8 +4.9
KSH ScS ScS 13 50 47.0 -0.8
KSH SS SS 13 52 24.3 0.0
KSH pmax pmax
comp=Z,12nm,1.1s,mb4.8
KSH pmax pmax
comp=Z,160nm,4.4s
KSH LR LR
comp=N,1μm,15.3s,MS5.3
KSH LR LR
comp=E,2μm,17.7s,MS5.3
KSH LR LR
comp=Z,3μm,22.1s,MS5.3
DAG Danmarks Havn 55.17 358 *i*P **P 13 41 03.7 -0.9**
comp=Z,9.1nm,0.9s,mb4.8
DAG
comp=Z,470nm,18.0s
RSW Rattlesnake Hi 55.30 57 *e*P **P 13 41 05.9 -0.1**
comp=Z,32nm,0.9s,mb5.3
HAWA Hanford 55.33 57 *e*P **P 13 41 06.1 -0.1**
comp=Z,16nm,0.9s,mb5.0
HAWA LR LR
comp=Z,1μm,22.0s,MS5.0
ODAN Odare 55.44 273 *e*P **P 13 41 07.2 0.0**
comp=Z,46nm,0.8s,mb5.6
ODAN Odare 55.44 273 *e*P **P 13 41 07.2 0.0**
comp=Z,46nm,0.8s,mb5.6
HUMO Hull Mountain 55.59 63 *e*P **P 13 41 08.8 +0.7**
comp=Z,70nm,1.5s,mb5.5
JIRN Jiri 55.71 274 *e*P **P 13 41 09.6 +0.4**
comp=Z,16nm,0.5s,mb5.3
JIRN Jiri 55.71 274 *e*P **P 13 41 09.6 +0.4**
comp=Z,16nm,0.5s,mb5.3
LVZ Lovozero 55.74 337 PFAKE 13 41 20.0 +11
LVZ LR LR
comp=Z,2μm,19.0s,MS5.2
GUN Gumba 55.76 275 *e*P **P 13 41 09.1 -0.4**
comp=Z,30nm,0.4s,mb5.7
GUN Gumba 55.76 275 *e*P **P 13 41 09.1 -0.4**
comp=Z,30nm,0.4s,mb5.7
RAMN Ramite 55.91 274 *e*P **P 13 41 10.4 -0.2**
comp=Z,144nm,0.8s,mb6.1
RAMN Ramite 55.91 274 *e*P **P 13 41 10.4 -0.2**
comp=Z,144nm,0.8s,mb6.1
KKAR Karatay Array 56.06 299 *e*P **P 13 41 10.8 -0.6**
comp=Z,13nm,0.8s,mb5.0
KKAR Karatay Array 56.06 299 *e*P **P 13 41 10.8 -0.6**
KKAR pmax pmax
comp=Z,13nm,0.8s,mb5.0
KEV Kevo 56.22 341 PFAKE 13 41 20.0 +7.8
KEV LR LR
comp=Z,3μm,20.0s,MS5.3
KEV Kevo 56.22 341 *e*P **P 13 41 10.6 -1.6**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
KEV Kevo 56.22 341 *ep* **P 13 41 10.6 -1.6**
comp=Z,7.1nm,0.7s,mb4.8
KKN Kakani 56.23 275 *e*P **P 13 41 13.4 +0.5**
comp=Z,73nm,0.8s,mb5.8
KKN Kakani 56.23 275 *e*P **P 13 41 13.4 +0.5**
comp=Z,73nm,0.8s,mb5.8
KKN Kakani 56.23 275 *e*P **P 13 41 13.4 +0.5**
YBH Yreka Blue Hor 56.26 63 *e*P **P 13 41 13.7 +0.9**
comp=Z,11nm,0.7s,mb5.0
YBH Yreka Blue Hor 56.26 63 *e*P **P 13 41 13.7 +0.8**
YBH pmax pmax
comp=Z,11nm,0.7s
PKI Pulchoki 56.29 275 *e*P **P 13 41 13.8 +0.5**
comp=Z,52nm,0.8s,mb5.6
PKI Pulchoki 56.29 275 *e*P **P 13 41 13.8 +0.5**
comp=Z,52nm,0.8s,mb5.6
PKI Pulchoki 56.29 275 *e*P **P 13 41 13.8 +0.5**
APA Apatity 56.31 337 ⇑*i*P **P 13 41 09.0 -3.8**
APA pmax pmax
comp=Z,113nm,1.4s,mb5.7
APA MLR MLR
comp=Z,3μm,17.0s,MS5.4
DMN Daman 56.47 275 *e*P **P 13 41 15.1 +0.5**
comp=Z,141nm,0.7s,mb6.1
DMN Daman 56.47 275 *e*P **P 13 41 15.1 +0.5**
comp=Z,141nm,0.7s,mb6.1
GKN Gorkha 56.52 276 *e*P **P 13 41 14.7 -0.2**
comp=Z,127nm,0.8s,mb6.0
GKN Gorkha 56.52 276 *e*P **P 13 41 14.7 -0.2**
comp=Z,127nm,0.8s,mb6.0
ARCES ARCESS Array B 56.72 341 P **P 13 41 13.9 -1.8**
comp=Z,9.5nm,0.6s,mb5.0,baz=33,slow=7.1,SNR=14
ARCES PcP PcP 13 42 11.7 +0.4
comp=Z,10nm,0.8s,baz=22,slow=6.9,SNR=4.2
ARCES LR LR 14 09 15.2
comp=Z,2μm,20.6s,MS5.1,baz=32,slow=40
ARCES ARCESS Array B 56.72 341 P **P 13 41 13.9 -1.8**
ARCES PcP PcP 13 42 11.7 +0.4
ARCES ARCESS Array B 56.72 341 P **P 13 41 13.9 -1.9**

ARCES 13 42 11.7
ARCES pmax pmax
comp=Z,10.0nm,0.6s
ARCES MLR MLR
comp=Z,2μm,20.6s
DANN Dangsing 56.88 277 *e*P **P 13 41 17.2 -0.3**
comp=Z,206nm,0.7s,mb6.3
DANN Dangsing 56.88 277 *e*P **P 13 41 17.2 -0.3**
comp=Z,206nm,0.7s,mb6.3
WDC Whiskeytown Da 57.06 64 *e*P **P 13 41 18.9 +0.3**
comp=Z,8.5nm,0.8s,mb4.8
WDC Whiskeytown Da 57.06 64 *e*P **P 13 41 18.9 +0.3**
WDC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BSMT Bassoo Peak 57.07 53 *e*P **P 13 41 19.1 +0.6**
comp=Z,35nm,1.1s,mb5.3
BLMT Blacktail Moun 57.20 53 *e*P **P 13 41 21.6 +2.1**
comp=Z,16nm,0.2s,mb5.8
KOLN Koldanda 57.37 276 *e*P **P 13 41 21.5 +0.6**
comp=Z,126nm,0.7s,mb6.0
KOLN Koldanda 57.37 276 *e*P **P 13 41 21.5 +0.6**
comp=Z,126nm,0.7s,mb6.0
JTMT Jette 57.40 53 *e*P **P 13 41 21.2 +0.3**
comp=Z,15nm,0.9s,mb5.0
BMO Blue Mountains 57.51 57 *e*P **P 13 41 22.0 +0.3**
comp=Z,12nm,0.8s,mb5.0
BMO LR LR
comp=Z,509nm,20.0s,MS4.6
BMO Blue Mountains 57.51 57 *e*P **P 13 41 22.0 +0.3**
BMO pmax pmax
comp=Z,12nm,0.8s,mb5.0
BMO MLR MLR
comp=Z,509nm,20.0s,MS4.6
HNR Honiara 57.64 174 PFAKE 13 41 40.0 +17
HNR LR LR
comp=Z,1μm,22.0s,MS4.9
SWMT Swartz Lake 57.70 53 *e*P **P 13 41 23.1 +0.1**
comp=Z,18nm,1.0s,mb5.0
PMG Port Moresby 57.77 188 *e*P **P 13 41 24.0 +0.3**
comp=Z,9.5nm,0.8s,mb4.9
PMG LR LR
comp=Z,521nm,21.0s,MS4.6
PMG Port Moresby 57.77 188 *e*P **P 13 41 24.8 +1.1**
PMG pmax pmax
comp=Z,12nm,1.2s
PMG Port Moresby 57.77 188 P **P 13 41 24.6 +0.9**
AB31 Akbulak array 58.15 310 *i*P **P 13 41 24.7 -1.4**
ABKAR Akbulak array 58.15 310 *e*P **P 13 41 24.5 -1.6**
comp=Z,63nm,0.6s,mb5.8
MSO Missoula 58.15 54 *e*P **P 13 41 25.6 -0.5**
comp=Z,16nm,1.0s,mb5.0
MSO LR LR
comp=Z,251nm,19.0s,MS4.3
WVOR Wild Horse Val 58.23 60 *e*P **P 13 41 26.9 +0.1**
comp=Z,14nm,0.7s,mb5.1
WVOR Wild Horse Val 58.23 60 *e*P **P 13 41 26.9 +0.1**
WVOR pmax pmax
comp=Z,13nm,0.7s,mb5.1
SBUM Sibu 58.25 232 P **P 13 41 27.3 +0.1**
comp=Z,12nm,1.7s,mb4.7
AKTO Aktyubinsk 58.39 312 P **P 13 41 25.9 -1.9**
comp=Z,11nm,0.5s,mb5.1,baz=60,slow=7.1,SNR=44
AKTO PcP PcP 13 42 18.4 +0.3
comp=Z,20nm,0.8s,baz=38,slow=5.2,SNR=6.2
AKTO Aktyubinsk 58.39 312 P **P 13 41 25.9 -1.9**
AKTO PcP PcP 13 42 18.4 +0.3
AKTO Aktyubinsk 58.39 312 P **P 13 41 25.9 -1.8**
AKTO 13 42 18.4
AKTO pmax pmax
comp=Z,11nm,0.5s,mb5.1
FFC Flin Flon 59.02 41 *e*P **P 13 41 32.1 +0.1**
comp=Z,41nm,1.2s,mb5.3
FFC LR LR
comp=Z,429nm,19.0s,MS4.6
FFC Flin Flon 59.02 41 *i*P **P 13 41 33.5 +1.5**
FFC Flin Flon 59.02 41 P **P 13 41 32.8 +0.8**
comp=Z,136nm,0.7s,mb6.1,SNR=10
SUMG Summit 59.13 4 *e*P **P 13 41 32.9 +0.2**
comp=Z,133nm,0.8s,mb6.0
SUMG Summit 59.13 4 *e*P **P 13 41 32.9 +0.3**
SUMG Summit 59.13 4 *i*P **P 13 41 33.0 +0.4**
comp=Z,119nm,0.8s,mb6.0
MFID Camas Ranch 59.23 58 *e*P **P 13 41 32.9 -0.8**
comp=Z,15nm,1.0s,mb5.0
KLMR Klimovskoe 59.28 329 *e*P **P 13 41 30.5 -3.2**
KLMR pmax pmax
comp=Z,47nm,0.9s,mb5.5
KLMR MLR MLR
comp=Z,2μm,19.0s,MS5.3
DDI Dehra Dun 59.34 282 *e*PKP **P 13 41 35.4 +0.7**
HRY Holter Researc 59.35 53 *e*P **P 13 41 36.5 +2.0**
comp=Z,9.3nm,0.6s,mb5.0
SMLA Simla 59.40 284 *i*P **P 13 41 33.1 -1.9**
SMLA *i*S **S 13 49 40.4 +0.2**
WCN Washoe City 59.53 64 *e*P **P 13 41 36.2 +0.3**
comp=Z,15nm,0.9s,mb5.0
WCN Washoe City 59.53 64 *e*P **P 13 41 36.2 +0.4**
WCN pmax pmax
comp=Z,15nm,0.9s,mb5.0
LRM Limekiln Ridge 59.59 54 *e*P **P 13 41 36.4 +0.3**
comp=Z,183nm,0.9s,mb6.1
EGMT Eagleton 59.61 51 *e*P **P 13 41 36.3 0.0**
comp=Z,20nm,0.9s,mb5.2
EGMT LR LR
comp=Z,779nm,19.0s,MS4.9
DLMT Dillon 59.80 55 *e*P **P 13 41 39.2 +1.6**
comp=Z,47nm,1.5s,mb5.3
HLID Hailey 59.94 57 *e*P **P 13 41 39.2 +0.6**
comp=Z,33nm,1.4s,mb5.2
HLID LR LR
comp=Z,638nm,21.0s,MS4.7
CMB Columbia Colle 59.96 65 *e*P **P 13 41 38.1 -0.7**
comp=Z,9.8nm,0.8s,mb4.9
CMB Columbia Colle 59.96 65 *e*P **P 13 41 38.1 -0.7**
CMB pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MCMT McKenzie Canyo 60.00 55 *e*P **P 13 41 39.1 +0.2**
comp=Z,4.2nm,0.7s,mb4.6
KSM Kuching 60.09 233 *e*P **P 13 41 40.5 +0.5**
comp=Z,37nm,0.9s,mb5.4
KSM LR LR
comp=Z,420nm,21.0s,MS4.5
KSM Kuching 60.09 233 P **P 13 41 41.5 +1.6**
comp=Z,45nm,0.9s,mb5.5
BOZ Bozeman (W) 60.14 54 PFAKE 13 41 50.0 +10
BOZ LR LR
comp=Z,395nm,22.0s,MS4.5
NIL Nilore 60.28 288 PFAKE 13 41 50.0 +9.0
NIL LR LR
comp=Z,115nm,22.0s,MS4.0
BMN Battle Mountai 60.32 61 *e*P **P 13 41 41.8 +0.5**
comp=Z,20nm,0.6s,mb5.3
BMN LR LR
comp=Z,809nm,22.0s,MS4.8
BMN Battle Mountai 60.32 61 *e*P **P 13 41 41.8 +0.6**
BMN pmax pmax
comp=Z,20nm,0.6s,mb5.3
BMN MLR MLR
comp=Z,809nm,22.0s,MS4.8
JOF Joensuu 60.38 334 *e*P **P 13 41 40.2 -1.1**
JOF pmax pmax
comp=Z,12nm,0.5s,mb5.2
JOF Joensuu 60.38 334 *e*p **P 13 41 40.2 -1.1**
comp=Z,12nm,0.5s,mb5.2
JMIC Jan Mayen 60.44 354 LR LR 14 06 16.9
comp=Z,397nm,18.0s,MS4.6,baz=115,slow=34
QLMT Earthquake Lak 60.77 54 *e*P **P 13 41 44.7 +0.4**
comp=Z,3.5nm,0.8s,mb4.5
NVAR Mina Array Bea 60.96 64 P **P 13 41 46.0 +0.3**
comp=Z,15nm,0.6s,mb5.3,baz=298,slow=7.1,SNR=118
NVAR PcP PcP 13 42 30.2 +1.6
comp=Z,4.3nm,0.6s,baz=290,slow=5.4,SNR=2.4
NVAR LR LR 14 03 31.0
comp=Z,396nm,20.4s,MS4.5,baz=63,slow=31
NVAR Mina Array Bea 60.96 64 P **P 13 41 46.0 +0.3**
NVAR PcP PcP 13 42 30.2 +1.6
NDI New Delhi 60.97 282 *e*PKP **P 13 41 45.2 -0.6**
NDI AMb AMB 13 41 47.1
comp=Z,39nm,1.2s,mb5.4
GCMT Greycliff 61.10 53 *e*P **P 13 41 46.8 +0.3**
comp=Z,11nm,0.6s,mb5.2
KAPI Kappang 61.12 220 PFAKE 13 42 00.0 +13
KAPI LR LR
comp=Z,250nm,20.0s,MS4.4
KAPI Kappang 61.12 220 P **P 13 41 46.6 -0.3**
comp=Z,37nm,1.4s,mb5.3
YMR Madison River 61.13 54 *e*P **P 13 41 47.6 +1.0**
comp=Z,87nm,1.5s,mb5.7
YNR Norris Junctio 61.26 54 *e*P **P 13 41 50.3 +2.7**
comp=Z,30nm,1.2s,mb5.3
LKWY Lake 61.50 54 PFAKE 13 42 00.0 +11
LKWY LR LR
comp=Z,707nm,21.0s,MS4.8
SCO Scoresbysund 61.55 359⇑ *i*P **P 13 41 49.5 +0.4**
comp=Z,24nm,0.9s,mb5.3
DCID1 Drake Creek 61.71 55 P **P 13 41 51.5 +0.9**
comp=Z,33nm,1.1s,mb5.4
RLMT Red Lodge 61.75 53 P **P 13 41 50.3 -0.5**
comp=Z,41nm,1.1s,mb5.5
RLMT LR LR
comp=Z,614nm,21.0s,MS4.7
RRI2 Red Ridge 61.80 56 *e*P **P 13 41 52.0 +0.8**
comp=Z,24nm,0.8s,mb5.4
HVU Hansel Valley 62.01 58 *e*P **P 13 41 53.1 +0.4**
comp=Z,16nm,1.0s,mb5.1
HVU Hansel Valley 62.01 58 *e*P **P 13 41 53.1 +0.5**
HVU pmax pmax
comp=Z,16nm,1.0s,mb5.1
LOHW Long Hollow 62.02 55 *e*P **P 13 41 53.4 +0.7**
comp=Z,21nm,1.2s,mb5.1
SNOW Snow King Moun 62.03 55 *e*P **P 13 41 55.4 +2.7**
comp=Z,18nm,0.9s,mb5.2
DGMT Dagmar 62.13 48 *e*P **P 13 41 53.0 -0.3**
comp=Z,25nm,0.8s,mb5.4
DGMT LR LR
comp=Z,610nm,19.0s,MS4.8
LAO LASA Array 62.30 50 *e*P **P 13 41 55.8 +1.3**
comp=Z,22nm,0.7s,mb5.4
LAO LR LR
comp=Z,751nm,20.0s,MS4.8
KBL Kabul 62.34 292 *e*P **P 13 41 53.3 -1.7**
comp=Z,25nm,0.9s,mb5.3
KBL Kabul 62.34 292 *e*P **P 13 41 53.3 -1.6**
KBL pmax pmax
comp=Z,25nm,0.9s,mb5.3
KAF Kangasniemi 62.45 335 *e*P **P 13 41 53.5 -1.7**
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
KAF Kangasniemi 62.45 335 *e*p **P 13 41 53.5 -1.7**
comp=Z,10nm,0.6s,mb5.1
KULM Kulim 62.52 245 *e*P **P 13 41 56.1 -0.2**
comp=Z,39nm,0.9s,mb5.5
KULM LR LR
comp=Z,373nm,22.0s,MS4.5
KULM Kulim 62.52 245 P **P 13 41 58.1 +1.7**
comp=Z,51nm,0.9s,mb5.6
COEN Coen 62.74 192 *e*P **P 13 41 57.5 -0.2**
comp=Z,156nm,1.1s,mb6.0
DAC Darwin (Calif) 62.79 65 PFAKE 13 42 10.0 +12
DAC LR LR
comp=Z,577nm,19.0s,MS4.8
IPM Ipoh 62.94 244 *e*P **P 13 41 58.9 -0.2**
comp=Z,26nm,1.1s,mb5.3
DUG Dugway 63.03 59 *e*P **P 13 41 59.7 +0.2**
comp=Z,26nm,0.9s,mb5.3
DUG LR LR
comp=Z,718nm,22.0s,MS4.8
DUG Dugway 63.03 59 *e*P **P 13 41 59.7 +0.2**
DUG pmax pmax
comp=Z,26nm,0.9s,mb5.4
DUG MLR MLR
comp=Z,718nm,22.0s,MS4.8
FINES FINESS Array B 63.05 335 P **P 13 41 57.6 -1.6**
comp=Z,35nm,0.7s,mb5.6,baz=31,slow=7.9,SNR=161
FINES LR LR 14 11 46.1
comp=Z,2μm,21.5s,MS5.2,baz=33,slow=38
FINES FINESS Array B 63.05 335 P **P 13 41 57.6 -1.6**
FINES FINESS Array B 63.05 335 P **P 13 41 57.7 -1.6**
FINES pmax pmax
comp=Z,35nm,0.7s
FINES MLR MLR
comp=Z,2μm,21.5s
BW06 Boulder Array 63.15 55 PFAKE 13 42 10.0 +10
BW06 LR LR
comp=Z,451nm,20.0s,MS4.6
OSI Osito Adit 63.20 67 *e*P **P 13 42 00.5 -0.2**
comp=Z,34nm,0.8s,mb5.5
FRB Frobisher Bay 63.34 20 LR LR 14 11 34.6
comp=Z,757nm,21.8s,MS4.8,baz=330,slow=38
MYKOM Kota Tinggi 63.43 240 P **P 13 42 05.0 +2.6**
comp=Z,31nm,1.1s,mb5.3
SFJD Kangerlussuaq 63.51 11 *e*P **P 13 42 02.1 -0.1**
comp=Z,71nm,0.8s,mb5.8
SFJD LR LR
comp=Z,1μm,19.0s,MS5.0
SFJD Kangerlussuaq 63.51 11 *e*P **P 13 42 02.1 -0.1**
SFJD pmax pmax
comp=Z,71nm,0.8s,mb5.8
SFJD MLR MLR
comp=Z,1μm,19.0s,MS5.0
SFJD Kangerlussuaq 63.51 11⇓ *i*P **P 13 42 02.6 +0.4**
comp=Z,64nm,0.8s,mb5.7
SFJD
comp=Z,760nm,18.0s
JLU Jordanelle 63.54 58 *e*P **P 13 42 03.5 +0.6**
comp=Z,16nm,1.0s,mb5.0
MOS Moscow 63.70 326 *e*P **P 13 42 10.9 +7.3**
MOS *e* 13 42 42.2
MOS pmax pmax
comp=Z,47nm,1.4s,mb5.3
DAU Daniels Canyon 63.77 58 *e*P **P 13 42 06.2 +1.8**
comp=Z,15nm,0.9s,mb5.0
DAU Daniels Canyon 63.77 58 *e*P **P 13 42 06.2 +1.8**
DAU pmax pmax
comp=Z,15nm,0.9s,mb5.0
MPU Maple Canyon 63.83 59 *e*P **P 13 42 05.3 +0.6**
comp=Z,25nm,0.9s,mb5.2
PASC Pasadena Art C 63.83 67 *e*P **P 13 42 03.6 -1.2**
comp=Z,22nm,1.1s,mb5.1
MWC Mount Wilson 63.87 67 *e*P **P 13 42 04.7 -0.4**
comp=Z,41nm,1.2s,mb5.3
MWC Mount Wilson 63.87 67 *e*P **P 13 42 04.7 -0.4**
MWC pmax pmax
comp=Z,41nm,1.2s,mb5.3
GSC Goldstone 63.92 66 *e*P **P 13 42 05.2 -0.2**
comp=Z,13nm,0.9s,mb5.0
GSC Goldstone 63.92 66 *e*P **P 13 42 05.2 -0.2**
GSC pmax pmax
comp=Z,13nm,0.9s,mb5.0
ARUT Antelope Range 64.27 62 *e*P **P 13 42 07.8 +0.1**
comp=Z,26nm,1.0s,mb5.2
ARUT Antelope Range 64.27 62 *e*P **P 13 42 07.8 +0.1**
ARUT pmax pmax
comp=Z,26nm,1.0s,mb5.2
VIS Vishakhapatnam 64.44 268 *e*x x 13 41 53.2
VIS AMb AMB 13 41 54.6
comp=Z,84nm,0.7s,mb5.9
CCUT Cedar City 64.47 62 *e*P **P 13 42 09.4 +0.3**
comp=Z,17nm,0.9s,mb5.1
MVU Marysvale 64.50 60 PFAKE 13 42 20.0 +11
MVU LR LR
comp=Z,793nm,22.0s,MS4.9
MSU Marysvale 64.52 60 *e*P **P 13 42 09.5 +0.2**
comp=Z,25nm,1.3s,mb5.1
MSU Marysvale 64.52 60 *e*P **P 13 42 09.5 +0.2**
MSU pmax pmax
comp=Z,25nm,1.3s,mb5.1
BHPL Bhopal 64.52 277 *e*PKP **P 13 42 09.3 -0.2**
TMUT Trail Mountain 64.55 59 *e*P **P 13 42 11.3 +1.8**
comp=Z,24nm,0.9s,mb5.2
OBN Obninsk 64.57 326 PFAKE 13 42 20.0 +11
OBN LR LR
comp=Z,1μm,22.0s,MS5.0
OBN Obninsk 64.57 326 *d*i P **P 13 42 08.2 -1.1**
OBN *e*SP sP 13 42 31.0 +2.0
OBN 13 42 44.0
OBN S **S 13 50 49.0 +4.3**
OBN pmax pmax
comp=Z,27nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,900nm,18.0s,MS5.0
ULM Lac du Bonnet 64.81 42 P **P 13 42 10.1 -0.9**
comp=Z,9.1nm,0.6s,mb5.0,baz=312,slow=7.6,SNR=16
ULM LR LR 14 11 10.7
comp=Z,491nm,20.2s,MS4.7,baz=313,slow=37
ULM Lac du Bonnet 64.81 42 P **P 13 42 09.4 -1.6**
comp=Z,11nm,0.8s,mb5.0
ULM Lac du Bonnet 64.81 42 P **P 13 42 10.1 -0.9**
ULM pmax pmax
comp=Z,9.0nm,0.6s
ULM MLR MLR
comp=Z,491nm,20.2s
SRU San Rafael 65.07 59 *e*P **P 13 42 13.2 +0.3**
comp=Z,36nm,0.8s,mb5.5
SRU San Rafael 65.07 59 *e*P **P 13 42 13.2 +0.3**
SRU pmax pmax
comp=Z,37nm,0.8s,mb5.5
LDFC Landfair 65.10 65 *e*P **P 13 42 12.7 -0.4**
comp=Z,36nm,0.7s,mb5.5
RSSD Black Hills 65.18 51 *e*P **P 13 42 13.5 0.0**
comp=Z,22nm,0.6s,mb5.4
RSSD Black Hills 65.18 51 *e*P **P 13 42 13.5 0.0**
RSSD pmax pmax
comp=Z,22nm,0.6s,mb5.4
PFO Pinyon Flat Ob 65.27 67 *e*P **P 13 42 12.9 -1.3**
comp=Z,15nm,1.3s,mb4.8
PFO LR LR
comp=Z,493nm,22.0s,MS4.7
PFO Pinyon Flat Ob 65.27 67 *e*P **P 13 42 12.9 -1.3**
PFO pmax pmax
comp=Z,15nm,1.3s,mb4.9
PFO MLR MLR
comp=Z,493nm,22.0s,MS4.7
PSI Prapat 65.53 245 P **P 13 42 17.1 +1.0**
comp=Z,73nm,0.9s,mb5.7
VRHR Novokhopersk 65.54 320 *e*P **P 13 42 13.7 -2.0**
VRHR *e*S S 13 50 49.4 -7.4
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.6
VRHR smax
comp=N,80nm,1.8s
VRHR smax
comp=E,80nm,1.8s
VRHR smax
comp=Z,10.0nm,0.9s
VRHR MLR MLR
comp=E,340nm,16.0s
VRHR MLR MLR
comp=Z,850nm,16.0s,MS5.0
VRHR MLR MLR
comp=N,240nm,8.0s
AGMN Agassiz Nation 66.22 43 *e*P **P 13 42 20.3 +0.1**
comp=N,63nm,1.4s,mb5.5
AGMN LR LR
comp=Z,951nm,21.0s,MS5.0
PV04 Paradox Valley 66.48 58 *e*P **P 13 42 22.3 +0.3**
VSR Storozhevoye 66.49 322 *e*P **P 13 42 20.6 -1.2**
VSR *e*PP pP 13 42 34.5 -1.3
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,20nm,0.7s,mb5.3
VSR MLR MLR
comp=E,1μm,24.0s,MS5.1
VSR MLR MLR
comp=Z,2μm,24.0s,MS5.3
VSR MLR MLR
comp=N,850nm,19.0s,MS5.1
IMYA Miami 66.53 299 *e*P **P 13 42 22.2 -0.1**
ABKT Aibek 66.59 301 P **P 13 42 22.4 -0.3**
comp=N,222nm,0.7s,mb6.3,SNR=15
IEMG Emamgholi 66.64 300 *e*P **P 13 42 23.5 +0.5**
GLA Glamis 66.64 66 P **P 13 42 21.2 -1.9**
comp=N,16nm,0.9s,mb5.1
GLA Glamis 66.64 66 P **P 13 42 21.2 -1.9**
GLA pmax pmax
comp=Z,16nm,0.9s,mb5.0
PV01 Paradox Valley 66.85 58 *e*P **P 13 42 25.4 +1.0**
comp=Z,985nm,0.8s,mb6.9
ISRO Mashad 66.92 299 *e*P **P 13 42 18.9 -5.9**
SMCO Snowmass 67.03 57 *e*P **P 13 42 25.2 -0.3**
comp=Z,15nm,0.8s,mb5.1
WUAZ Wupatki 67.03 62 *e*P **P 13 42 25.6 +0.1**
comp=Z,25nm,1.2s,mb5.1
NB2 NORSAR Subarra 67.09 342 P **P 13 42 24.7 -0.7**
comp=Z,34nm,1.0s,mb5.3,baz=26,slow=6.5
NOA NORSAR Array B 67.09 342 P **P 13 42 24.5 -0.9**
comp=Z,19nm,0.8s,mb5.2,baz=26,slow=6.3,SNR=68
NOA LR LR 14 16 31.0
comp=Z,706nm,18.2s,MS4.9,baz=20,slow=40
NOA NORSAR Array B 67.09 342 P **P 13 42 24.5 -0.9**
NOA NORSAR Array B 67.09 342 P **P 13 42 24.5 -0.9**
NOA pmax pmax
comp=Z,19nm,0.8s
NOA MLR MLR
comp=Z,706nm,18.2s
ISHV Shirvan 67.10 301 *e*P **P 13 42 27.0 +1.1**
IPAY Payeh 67.10 299 *e*P **P 13 42 26.5 +0.5**
IAKL Akhelmad 67.14 300 *e*P **P 13 42 26.8 +0.6**
IMOG Moghan 67.14 299 *e*P **P 13 42 25.7 -0.5**
IKRD Kardeh 67.16 300 *e*P **P 13 42 23.4 -2.9**
ISFR Sfrayin 67.26 300 *e*P **P 13 42 27.2 +0.2**
BORG Borgarnes 67.29 358 P **P 13 42 28.4 +1.7**
comp=Z,66nm,0.8s,mb5.7,baz=34,slow=2.8,SNR=10
BORG LR LR 14 09 14.5
comp=Z,489nm,21.2s,MS4.7,baz=239,slow=34
BORG Borgarnes 67.29 358 P **P 13 42 28.4 +1.7**
BORG Borgarnes 67.29 358 P **P 13 42 28.4 +1.7**
NAO01 NORSAR Array S 67.33 342 *e*P **P 13 42 26.2 -0.8**
comp=Z,27nm,1.0s,mb5.2
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.2
ISCO Idaho Springs 67.34 55 *e*P **P 13 42 28.1 +0.7**
comp=Z,16nm,0.9s,mb5.0
ISCO LR LR
comp=Z,612nm,20.0s,MS4.8
ISCO Idaho Springs 67.34 55 *e*P **P 13 42 28.1 +0.7**
ISCO pmax pmax
comp=Z,15nm,0.9s,mb5.0
ISCO MLR MLR
comp=Z,612nm,20.0s,MS4.8
HFS Hagfors 67.35 340 P **P 13 42 25.6 -1.6**
comp=Z,26nm,0.6s,mb5.4,baz=67,slow=5.0,SNR=88
HFS LR LR 14 17 10.3
comp=Z,970nm,18.1s,MS5.1,baz=22,slow=41
HFS Hagfors 67.35 340 P **P 13 42 25.6 -1.6**
HFS Hagfors 67.35 340 P **P 13 42 25.6 -1.5**
HFS pmax pmax
comp=Z,26nm,0.6s
HFS MLR MLR
comp=Z,970nm,18.2s
MVCO Mesa Verde 67.53 59 *e*P **P 13 42 28.7 0.0**
comp=Z,32nm,1.0s,mb5.3
MVCO LR LR
comp=Z,658nm,19.0s,MS4.9
IZAR Zarasai 67.67 331 *e*P **P 13 42 28.9 -0.3**
IZAR AMB AMB 13 42 30.8
comp=Z,17nm,1.0s,mb5.0
HYB Hyderabad 67.85 272 *i*P **P 13 42 29.0 -1.9**
comp=Z,120nm,1.0s,mb5.9
ISAL Salakas 67.85 331 *e*P **P 13 42 30.0 -0.3**
ISAL AMB AMB 13 42 32.1
comp=Z,14nm,0.9s,mb5.0
IIGN Ignalina 68.00 331 *e*P **P 13 42 31.0 -0.3**
IIGN AMB AMB 13 42 32.2
comp=Z,22nm,0.9s,mb5.2
MICGM Minsk 68.15 330⇓ *e*P **P 13 42 31.0 -1.3**
MNK Minsk 68.17 330⇓ *e*P **P 13 42 31.0 -1.4**
NACGM Naroch 68.19 330 *e* **P 13 42 29.0 -3.5**
CTA Charters Tower 68.42 188 LR LR 14 08 39.5
comp=Z,217nm,20.7s,MS4.4,baz=9.8,slow=32
CTA Charters Tower 68.42 188 *e*P **P 13 42 33.7 -0.5**
CTAO Charters Tower 68.42 188 PFAKE 13 42 50.0 +16
CTAO LR LR
comp=Z,365nm,19.0s,MS4.6
EYMN Ely 68.45 41 *e*P **P 13 42 34.5 +0.2**
comp=Z,32nm,1.1s,mb5.3
EYMN LR LR
comp=Z,529nm,19.0s,MS4.8
OGNE Ogallala 68.47 52 *e*P **P 13 42 34.5 0.0**
comp=Z,57nm,0.9s,mb5.6
OGNE LR LR
comp=Z,473nm,22.0s,MS4.7
KONO Kongsberg 68.69 342 *e*P **P 13 42 35.6 +0.1**
comp=Z,46nm,0.9s,mb5.4
KONO LR LR
comp=Z,1μm,19.0s,MS5.1
KONO Kongsberg 68.69 342 *e*P **P 13 42 35.6 +0.1**
KONO pmax pmax
comp=Z,46nm,0.9s,mb5.4
KONO MLR MLR
comp=Z,1μm,19.0s,MS5.1
MAK Makhachkala 68.76 311 *e*P **P 13 42 34.2 -2.0**
MAK MLR MLR

comp=Z,3μm,18.0s,MS5.5
SDCO Great Sand Dun 68.85 57 *e*P **P 13 42 36.3 -0.6**
comp=Z,22nm,1.3s,mb4.9
SDCO LR LR

comp=Z,588nm,21.0s,MS4.8
MSVF Nonsavu 69.00 156 P **P 13 42 38.1 +0.2**
comp=Z,20nm,1.0s,mb5.0
MSVF Nonsavu 69.00 156 P **P 13 42 38.1 +0.2**
MSVF pmax pmax

comp=Z,20nm,1.0s,mb5.0
ECSD EROS Data Cent 69.21 47 *e*P **P 13 42 38.4 -0.7**
comp=Z,20nm,0.8s,mb5.1
ECSD LR LR

comp=Z,612nm,20.0s,MS4.8
TUC Tucson 69.61 64 *e*P **P 13 42 41.5 -0.1**
comp=Z,7.4nm,1.0s,mb4.6
TUC Tucson 69.61 64 *e*P **P 13 42 41.6 -0.1**
TUC pmax pmax

comp=Z,7.0nm,1.0s,mb4.5
ITEG Tejag 69.73 297 *e*P **P 13 42 43.5 +1.1**
IKOO Kooshah 69.91 296 *e*P **P 13 42 44.3 +0.8**
IGLO Ghaloghah 70.03 303 *e*P **P 13 42 44.2 0.0**
SUW Suwalki 70.09 332 *e*P **P 13 42 43.2 -1.1**
SUW *e* 13 42 44.5
SUW LMZ 14 13 01.6

comp=Z,1μm,26.6s
SUW Suwalki 70.09 332 *e*P **P 13 42 42.4 -1.9**
comp=Z,57nm,1.0s,mb5.5
SUW Suwalki 70.09 332 *e*P **P 13 42 43.2 -1.1**
LRW Lerwick 70.16 347 *e*P **P 13 42 44.1 -0.5**
LRW AMB AMB 13 42 45.9

comp=Z,42nm,1.2s,mb5.3
POO Poona 70.19 276 *e*PKP **P 13 42 46.0 +0.6**
WRAB Tennant Creek 70.22 200 *e*P **P 13 42 45.2 -0.1**
comp=Z,36nm,0.9s,mb5.3
WRAB LR LR

comp=Z,507nm,20.0s,MS4.8
WRAB Tennant Creek 70.22 200 *e*P **P 13 42 45.2 -0.1**
WRAB pmax pmax

comp=Z,36nm,0.9s,mb5.3
WRAB MLR MLR

comp=Z,507nm,20.0s,MS4.8
WRAB Tennant Creek 70.22 200 P **P 13 42 45.7 +0.4**
WRAB Tennant Creek 70.22 200 P **P 13 42 45.2 -0.1**
comp=Z,219nm,0.8s,mb6.1,SNR=13
WB2 Warramunga Arr 70.22 200 *e*P **P 13 42 45.2 -0.2**
WRA Warramunga Arr 70.23 200 P **P 13 42 44.0 -1.4**
comp=Z,28nm,0.8s,mb5.2,baz=16,slow=6.5,SNR=101
WRA Warramunga Arr 70.23 200 P **P 13 42 44.0 -1.4**
WRA Warramunga Arr 70.23 200 P **P 13 42 44.0 -1.4**
WRA pmax pmax

comp=Z,28nm,0.8s
ANMO Albuquerque 70.29 59 *e*P **P 13 42 46.1 +0.3**
comp=Z,11nm,0.9s,mb4.8
ANMO LR LR

comp=Z,525nm,19.0s,MS4.8
ANMO Albuquerque 70.29 59 *e*P **P 13 42 46.1 +0.3**
ANMO pmax pmax

comp=Z,11nm,0.9s
ANMO MLR MLR

comp=Z,525nm,19.0s
IKIA Kiasar 70.32 302 *e*P **P 13 42 45.3 -0.7**
KIV Kislovodsk 70.38 315 P **P 13 42 45.7 -0.5**
comp=Z,21nm,0.7s,mb5.2
KIV LR LR

comp=Z,1μm,21.0s,MS5.2
KIV Kislovodsk 70.38 315 *e*P **P 13 42 46.1 -0.1**
KIV *e* 13 43 07.9
KIV *e* 13 45 21.6
KIV *e*S S 13 51 53.8 -1.0
KIV pmax pmax

comp=Z,21nm,0.6s,mb5.2
KIV MLR MLR

comp=Z,1μm,19.0s,MS5.2
LENM Lemitar 70.55 60 *e*P **P 13 42 47.9 +0.4**
comp=Z,8.9nm,1.0s,mb4.7
ZEI Tsey 70.69 313 *e*P **P 13 42 48.1 0.0**
ZEI pmax pmax

comp=Z,21nm,1.4s,mb4.9
IANJ Anjilo 70.72 302 *e*P **P 13 42 49.1 +0.7**
BNM Barren Site 70.77 60 P **P 13 42 49.0 +0.3**
comp=Z,26nm,1.3s,mb5.0
AKASG Malin Array Be 70.78 327 P **P 13 42 45.9 -2.6**
comp=Z,33nm,0.6s,mb5.4,baz=33,slow=6.2,SNR=73
AKASG LR LR 14 15 50.5

comp=Z,941nm,19.9s,MS5.0,baz=40,slow=38
AKASG Malin Array Be 70.78 327 P **P 13 42 46.0 -2.6**
AKASG Malin Array Be 70.78 327 *i* P **P 13 42 47.2 -1.4**
AKASG pmax pmax

comp=Z,33nm,0.6s
AKBB Malin Array Si 70.78 327 *e*P **P 13 42 46.5 -2.1**
AKBB Malin Array Si 70.78 327 *e*P **P 13 42 46.5 -2.1**
KIEV Kiev 70.80 327 *e*P **P 13 42 46.4 -2.2**
comp=Z,40nm,0.8s,mb5.4
KIEV LR LR

comp=Z,1μm,22.0s,MS5.1
KIEV Kiev 70.80 327 *d i*P **P 13 42 47.5 -1.1**
DZM Mont Dzumac 70.83 168 *e*LR LR 14 04 30.3

comp=Z,1μm,24.9s
ISHM Shahmirzad 70.83 302 *e*P **P 13 42 49.9 +0.8**
KAD Karad 70.84 275 *e*PKP **P 13 42 49.5 +0.1**
KAD AMb AMB 13 42 51.4

comp=Z,184nm,0.7s,mb6.1
FITZ Fitzroy Crossi 70.89 209 *e*P **P 13 42 49.3 -0.2**
ONI Oni 71.04 313 P **P 13 42 48.4 -1.8**
MTA Mtatsminda 71.05 312 P **P 13 42 50.6 +0.3**
TBLG Delisi 71.05 312 P **P 13 42 50.9 +0.6**
TBLG Delisi 71.05 312 P **P 13 42 51.0 +0.7**
GOR Gori 71.17 312 P **P 13 42 52.4 +1.3**
CBKS Cedar Bluff 71.23 53 PFAKE 13 43 00.0 +8.5
CBKS LR LR

comp=Z,373nm,19.0s,MS4.7
ILAS Lasjerd 71.32 302 *e*P **P 13 42 53.2 +1.1**
BSD Bornholm Skovb 71.53 337 ⇓*i*P **P 13 42 53.5 +0.5**
comp=Z,91nm,0.8s,mb5.8
SCHQ Schefferville 71.58 24 P **P 13 42 52.0 -1.2**
comp=Z,51nm,0.7s,mb5.5,baz=345,slow=6.2,SNR=77
SCHQ Schefferville 71.58 24 *e*P **P 13 42 53.5 +0.3**
comp=Z,60nm,0.9s,mb5.5
SCHQ LR LR

comp=Z,675nm,20.0s,MS4.9
COP Copenhagen 71.65 338 ⇓*i*P **P 13 42 54.7 +1.0**
comp=Z,92nm,0.8s,mb5.8
COP

comp=Z,480nm,30.0s
IDMV Damavand 71.70 303 *e*P **P 13 42 54.4 0.0**
MUD Monsted U'grnd 71.71 341 ⇓*i*P **P 13 42 55.2 +1.2**
comp=Z,48nm,0.8s,mb5.5
AKH Akhalkalaki 71.91 312 P **P 13 42 55.5 0.0**
SOC Sochi 72.06 316 *e*P **P 13 42 57.0 +0.6**
SOC *e*S S 13 52 11.6 -2.6
SOC *e**SS sS 13 52 42.3 +4.3
SOC pmax pmax

comp=Z,59nm,0.8s,mb5.6
SOC MLR MLR

comp=Z,2μm,22.0s,MS5.4
ANN Anapa 72.16 318 *e*P **P 13 42 56.7 -0.2**
ANN *e**PP pP 13 43 12.6 +1.5
ANN *e*S S 13 52 16.8 +1.5
ANN pmax pmax

comp=Z,58nm,1.4s,mb5.3
GNI Garni 72.23 311 *e*P **P 13 43 07.0 +10**
GNI Garni 72.23 311 *e*P **P 13 42 59.3 +1.8**
comp=Z,44nm,0.9s,mb5.4
GNI LR LR

comp=Z,1μm,20.0s,MS5.3
GNI Garni 72.23 311 *e*P **P 13 42 59.3 +1.8**
GNI pmax pmax

comp=Z,44nm,0.9s
GNI MLR MLR

comp=Z,1μm,20.0s
GNI Garni 72.23 311 P **P 13 42 60.0 +2.5**
SNR=6.0
SCIA State Center 72.23 46 *e*P **P 13 42 57.5 +0.1**
comp=Z,39nm,0.8s,mb5.4
SCIA LR LR

comp=Z,692nm,19.0s,MS5.0
IMHD Mahdasht 72.39 304 *e*P **P 13 43 00.0 +1.5**
ISFB Sefidab 72.47 302 *e*P **P 13 42 58.4 -0.6**
GKP Gorka Klasztor 72.53 335 *e*P **P 13 42 58.8 -0.2**
GKP *e* 13 42 59.8
GKP LMZ 14 19 57.3

comp=Z,2μm,19.5s
GKP Gorka Klasztor 72.53 335 *e*P **P 13 42 58.8 -0.2**
GKP MLR MLR

comp=Z,2μm,19.5s,MS5.3
IBAF Bafgh 72.55 298 *e*P **P 13 42 58.9 -0.6**
KSU1 Kansas State U 72.65 50 *e*P **P 13 42 58.6 -1.3**
comp=Z,10nm,0.6s,mb4.9
KSU1 LR LR

comp=Z,784nm,19.0s,MS5.0
BEL Belsk 72.71 332 *e*P **P 13 43 00.1 0.0**
BEL LMZ 14 14 42.5

comp=Z,2μm,26.7s
BEL Belsk 72.71 332 *e*P **P 13 43 00.1 0.0**
BEL MLR MLR

comp=Z,2μm,26.7s,MS5.1
MVH1 Achvaich 72.72 348 *e*P **P 13 42 58.9 -1.1**
JFWS Jewell Farm 72.86 44 PFAKE 13 43 10.0 +8.8
JFWS LR LR

comp=Z,850nm,21.0s,MS5.0
MCD Coleburn Disti 72.92 348 *e*P **P 13 43 00.5 -0.7**
AMTX Amarillo 73.05 57 *e*P **P 13 43 02.9 +0.5**
comp=Z,32nm,1.0s,mb5.2
AMTX LR LR

comp=Z,604nm,20.0s,MS4.9
MME1 Meikle Cairn 73.14 347 *e*P **P 13 43 01.8 -0.7**
MDO Dochfour 73.21 348 *e*P **P 13 43 01.9 -1.1**
IMEH Mehriz 73.25 298 *e*P **P 13 43 02.8 -0.9**
MNTX Cornudas Mount 73.25 61 *e*P **P 13 43 03.5 -0.2**
comp=Z,8.5nm,1.1s,mb4.6
MNTX LR LR

comp=Z,337nm,20.0s,MS4.6
KAC Achnashellach 73.28 349 *e*P **P 13 43 03.0 -0.4**
LVV L'vov 73.37 329 *c i*P **P 13 43 04.4 +0.4**
LVV *e*S S 13 52 26.6 -2.3
ISAD Sadrabad 73.42 299 *e*P **P 13 43 05.1 +0.5**
GDL2 Guadalupe Moun 73.48 60 *e*P **P 13 43 04.9 -0.1**
comp=Z,62nm,1.0s,mb5.5
KPL Plockton 73.48 349 *e*P **P 13 43 04.2 -0.4**
KPL AMB AMB 13 43 05.4

comp=Z,96nm,1.2s,mb5.6
IZEF Zefreh 73.48 301 *e*P **P 13 43 05.6 +0.6**
SIM Simferopol' 73.48 320 *d i*P **P 13 43 05.0 +0.2**
SIM pmax pmax

comp=Z,48nm,0.8s,mb5.5
SIM MLR MLR

comp=Z,930nm,18.0s,MS5.1
AGRB Hanur-Agry 73.54 311 *e*P **P 13 43 07.9 +2.6**
IKLH Kolahrood 73.60 302 *e*P **P 13 43 06.4 +0.7**
BSEG Bad Segeberg 73.75 339 *e*P **P 13 43 07.1 +0.9**
comp=Z,246nm,2.0s,mb5.8
BSEG Bad Segeberg 73.75 339 *e*P **P 13 43 07.1 +0.9**
TUTA Tutak 73.77 311 ⇑*i*P **P 13 43 07.4 +0.9**
GLMI Grayling 73.86 39 PFAKE 13 43 20.0 +13
GLMI LR LR

comp=Z,852nm,19.0s,MS5.0
AS31 Alice Springs 73.92 200 *e*P **P 13 43 07.3 -0.1**
ASAR Alice Springs 73.92 200 P **P 13 43 07.4 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=14,slow=4.5,SNR=87
ASAR Alice Springs 73.92 200 P **P 13 43 07.4 0.0**
ASAR Alice Springs 73.92 200 P **P 13 43 07.4 0.0**
ASAR pmax pmax

comp=Z,12nm,0.8s
KIS Kishinev 73.98 325 ⇓*i*P **P 13 43 08.0 +0.3**
KIS XM 13 43 08.5

comp=Z,100nm,1.4s
KIS *e*L 14 09 46.0
KIS LRM 14 19 40.0

comp=Z,1μm,20.0s
KIS Kishinev 73.98 325 κ *i*P **P 13 43 08.0 +0.3**
KIS *i* 13 43 16.0
KIS *i* 13 43 30.0
KIS pmax pmax

comp=Z,140nm,1.4s,mb5.7
KIS MLR MLR

comp=N,500nm,20.0s
KIS MLR MLR

comp=Z,1μm,20.0s,MS5.2
KIS MLR MLR

comp=Z,1μm,20.0s
KWP Kalwaria Pacla 73.98 330 *e*P **P 13 43 07.8 +0.2**
KWP *e* 13 43 08.8
KWP LMZ 14 13 45.4

comp=Z,900nm,28.3s
KWP Kalwaria Pacla 73.98 330 *e*P **P 13 43 07.3 -0.3**
comp=Z,134nm,1.0s,mb5.8
KWP LR LR

comp=Z,1μm,22.0s,MS5.2
KWP Kalwaria Pacla 73.98 330 ⇓P **P 13 43 08.7 +1.1**
KWP Kalwaria Pacla 73.98 330 ⇓*i*P **P 13 43 08.7 +1.1**
ERZM Erzurum 74.10 313 ⇑*i*P **P 13 43 08.8 +0.3**
EZM Erzurum 74.10 313 *e*P **P 13 43 11.1 +2.6**
RUE Ruedersdorf 74.19 336 *e*P **P 13 43 08.5 -0.3**
comp=Z,103nm,0.8s,mb5.8
IAS Iasi 74.30 325 P **P 13 43 10.1 +0.6**
IAS Iasi 74.30 325 ⇓*i*P **P 13 43 09.2 -0.3**
EAB Aberfoyle 74.42 348 *e*P **P 13 43 08.5 -1.6**
OJC Ojcow 74.42 332 *e*P **P 13 43 10.1 -0.1**
OJC Ojcow 74.42 332 *e*P **P 13 43 10.1 -0.1**
ESY Stoneypath 74.43 347 *e*P **P 13 43 09.8 -0.4**
KOPT Kop Dagi 74.44 313 ⇑*i*P **P 13 43 12.2 +1.7**
IPIR Pirpir 74.46 302 *e*P **P 13 43 13.3 +2.6**
EDI Edinburgh 74.51 347 *e*P **P 13 43 09.1 -1.5**
EDI AMB AMB 13 43 11.1

comp=Z,60nm,0.8s,mb5.6
GUMT Gumushane 74.59 314 *e*P **P 13 43 13.2 +1.9**
EAU Auchinoon 74.63 347 *e*P **P 13 43 11.1 -0.1**
LEOM Leova 74.63 325 P **P 13 43 12.4 +0.9**
EBL Broad Law 74.64 347 *e*P **P 13 43 10.9 -0.4**
STHS Stebnicka Huta 74.65 330 *e*P **P 13 43 11.9 +0.4**
STHS pmax pmax

comp=Z,44nm,0.8s,mb5.4
STHS Stebnicka Huta 74.65 330 *e*P **P 13 43 11.9 +0.4**
HAKT HAKKARI 74.71 310 ⇑*i*P **P 13 43 11.9 -0.2**
KOLS Kolonicke sedl 74.72 330 *e*P **P 13 43 11.4 -0.6**
KOLS Kolonicke sedl 74.72 330 *e*P **P 13 43 11.4 -0.6**
WMOK Wichita Mounta 74.76 55 *e*P **P 13 43 11.5 -0.9**
comp=Z,12nm,0.9s,mb4.8
WMOK Wichita Mounta 74.76 55 *e*P **P 13 43 11.5 -0.9**
WMOK pmax pmax

comp=Z,12nm,0.9s,mb4.8
BUR08 Bucovina Ar. S 74.80 327 *e*P **P 13 43 11.4 -1.0**
PGBU Glenifferbraes 74.81 348 *e*P **P 13 43 12.0 -0.3**
PGBU AMB AMB 13 43 14.0

comp=Z,322nm,0.9s,mb6.2
BURAR Bucovina Array 74.81 327 ⇓P **P 13 43 11.9 -0.6**
BURAR Bucovina Array 74.81 327 ⇓*i*P **P 13 43 11.9 -0.6**
KELT Kelkit 74.94 314 ⇑*i*P **P 13 43 12.6 -0.8**
BNGL BINGOL 74.94 312 ⇑*i*P **P 13 43 13.9 +0.5**
KSP Ksiaz 74.95 334 *e*P **P 13 43 12.9 -0.2**
KSP *e* 13 43 13.8
KSP LMZ 14 21 41.1

comp=Z,2μm,20.3s
KSP Ksiaz 74.95 334 *e*P **P 13 43 12.7 -0.5**
KSP LM 14 21 48.0

comp=Z,3.3nm,20.3s
KSP Ksiaz 74.95 334 *e*P **P 13 43 12.7 -0.5**
NIE Niedzica 74.96 331 *e*P **P 13 43 13.7 +0.4**
NIE Niedzica 74.96 331 *e*P **P 13 43 13.7 +0.4**
UZH Uzhgorod 74.98 329 *c i*P **P 13 43 13.3 -0.1**
UZH *e*S S 13 52 43.8 -3.2
UZH MLR MLR

comp=Z,250nm,17.0s,MS4.6
CUKT Cukurca 75.00 309 *e*P **P 13 43 14.5 +0.7**
CRVS Cervenica-Dubn 75.03 330 *e*P **P 13 43 13.0 -0.7**
CRVS pmax pmax

comp=Z,28nm,0.9s,mb5.2
CRVS Cervenica-Dubn 75.03 330 *e*P **P 13 43 13.0 -0.7**
ESK Eskdalemuir 75.10 347 *e*P **P 13 43 12.5 -1.5**
ESK AMB AMB 13 43 14.4

comp=Z,77nm,0.7s,mb5.7
ESK Eskdalemuir 75.10 347 *e*P **P 13 43 13.5 -0.5**
comp=Z,77nm,0.7s,mb5.7
ESK LR LR

comp=Z,305nm,21.0s,MS4.6
ESK Eskdalemuir 75.10 347 *i*P **P 13 43 14.7 +0.7**
ESK Eskdalemuir 75.10 347 P **P 13 43 13.9 -0.1**
comp=Z,706nm,0.7s,mb6.7,SNR=24
BNGB Bing^¶l 75.14 312 *e*P **P 13 43 14.7 +0.2**
TESR 75.21 326 ⇓*i*P **P 13 43 14.0 -0.8**
OKC Ostrava-Krasne 75.28 332 *e*P **P 13 43 15.6 +0.5**
OKC MLR MLR

comp=Z,1μm,18.4s,MS5.2
OKC Ostrava-Krasne 75.28 332 *e*P **P 13 43 15.6 +0.5**
OKC AMS AMS 14 21 10.0

comp=Z,1μm,18.4s
IPAR Pars 75.30 298 *e*P **P 13 43 16.5 +0.9**
TRPA Tarpa 75.32 329 ⇓*i*P **P 13 43 15.2 -0.2**

UPC Upice 75.33 334 *e*P **P 13 43 15.1 -0.3**
UPC *e* 13 43 23.4
UPC Upice 75.33 334 *e*P **P 13 43 15.1 -0.3**
UPC *e*pP pP 13 43 23.4 -6.3
DPC Dobruska-Polom 75.38 334 *e*P **P 13 43 15.7 0.0**
DPC MLR MLR

comp=Z,2μm,21.3s,MS5.3
DPC Dobruska-Polom 75.38 334 *e*P **P 13 43 15.7 0.0**
DPC AMS AMS 14 22 10.0

comp=Z,2μm,21.3s
XAL Allendale 75.39 346 *e*P **P 13 43 14.7 -0.9**
CLL Collm 75.46 336 *e*P **P 13 43 16.3 +0.2**
comp=Z,68nm,0.9s,mb5.6
CLL Collm 75.46 336 *i*P **P 13 43 15.5 -0.6**
CLL pmax pmax

comp=Z,141nm,0.8s,mb6.0
CLL MLR MLR

comp=Z,1μm,21.6s,MS5.1
CLL Collm 75.46 336 *i*P **P 13 43 15.5 -0.6**
CLL ⇓*i*Pmax 13 43 16.8

comp=Z,141nm,0.8s
CLL *e*(PS) 13 53 30.0
CLL *e* 13 58 48.0
CLL Lm 14 19 00.0

comp=N,700nm,20.6s
CLL Lm 14 19 00.0

comp=E,400nm,20.7s
CLL Lm 14 19 00.0

comp=Z,1μm,21.6s
TLCR 75.48 324 ⇓P **P 13 43 16.2 -0.2**
TLCR 75.48 324 ⇓*i*P **P 13 43 16.2 -0.2**
KRLC Kraliky 75.48 333 *e*P **P 13 43 16.2 -0.1**
MORC Moravsky Berou 75.52 333 *e*P **P 13 43 16.3 -0.2**
comp=Z,102nm,0.9s,mb5.8
MORC Moravsky Berou 75.52 333 ⇑P **P 13 43 16.6 +0.1**
MORC Moravsky Berou 75.52 333 ⇑*i*P **P 13 43 16.6 +0.1**
BRG Berggiesshubel 75.59 335 *i*P **P 13 43 16.6 -0.3**
comp=Z,53nm,0.9s,mb5.5
BRG *e* 13 43 24.3

comp=Z,18nm,0.9s
BRG *e* pP 13 43 32.2 +1.0

comp=Z,22nm,0.8s
BRG

comp=Z,1μm,23.2s
BRG

comp=N,1μm,24.7s
BRG

comp=E,1μm,24.7s
BRG Berggiesshubel 75.59 335 *e*P **P 13 43 17.2 +0.3**
comp=Z,488nm,3.6s
BRG Berggiesshubel 75.59 335 *i*P **P 13 43 16.6 -0.3**
BRG *e* pP 13 43 32.2 +1.0
BRG pmax pmax

comp=Z,53nm,0.8s,mb5.5
BRG MLR MLR

comp=Z,1μm,23.2s,MS5.0
BRG MLR MLR

comp=N,1μm,23.7s,MS5.2
BRG MLR MLR

comp=E,1μm,23.7s,MS5.2
ISRV Sarvestan 75.60 298 *e*P **P 13 43 18.8 +1.5**
DIKM Dikmen 75.62 317 *e*P **P 13 43 19.6 +2.4**
CLZ Clausthal 75.66 338 *e*P **P 13 43 18.4 +1.1**
comp=Z,95nm,1.4s,mb5.5
CLZ Clausthal 75.66 338 *e*P **P 13 43 18.4 +1.1**
CLZ pmax pmax

comp=Z,95nm,1.4s,mb5.5
RSDY Resadiye-TOKAT 75.66 315 *e*P **P 13 43 17.2 -0.3**
LIKS Likavka 75.67 331 *e*P **P 13 43 17.7 +0.3**
LIKS pmax pmax

comp=Z,63nm,1.1s,mb5.5
LIKS Likavka 75.67 331 *e*P **P 13 43 17.7 +0.3**
ERBA Erbaa 75.70 316 ⇑*i*P **P 13 43 18.1 +0.4**
KECS Kecovo 75.71 330 *e*P **P 13 43 16.9 -0.7**
KECS pmax pmax

comp=Z,26nm,0.9s,mb5.2
KECS Kecovo 75.71 330 *e*P **P 13 43 16.9 -0.7**
VRI Vrincioaia 75.72 325 ⇑P **P 13 43 18.9 +1.1**
VRI Vrincioaia 75.72 325 ⇑*i*P **P 13 43 18.9 +1.1**
PVCC Panska Ves 75.72 335 *e*P **P 13 43 18.1 +0.4**
PVCC MLR MLR

comp=Z,1μm,21.5s,MS5.2
PVCC Panska Ves 75.72 335 *e*P **P 13 43 18.1 +0.4**
PVCC AMS AMS 14 18 30.0

comp=Z,1μm,21.5s
CFR Carcaliu 75.75 324 ⇑P **P 13 43 18.6 +0.7**
CFR Carcaliu 75.75 324 ⇑*i*P **P 13 43 18.6 +0.7**
GAL1 Galloway 75.76 348 *e*P **P 13 43 16.3 -1.5**
GAL1 AMB AMB 13 43 19.1

comp=Z,111nm,0.9s,mb5.8
MBWA Marble Bar 75.76 213 *e*P **P 13 43 17.7 -0.4**
comp=Z,29nm,1.0s,mb5.2
MBWA Marble Bar 75.76 213 P **P 13 43 20.4 +2.3**
PLOR Plostina 75.77 325 ⇓P **P 13 43 19.1 +1.1**
PLOR Plostina 75.77 325 ⇓*i*P **P 13 43 19.1 +1.1**
KESW Keswick, Cumbr 75.79 347 *e*P **P 13 43 17.9 -0.1**
KESW AMB AMB 13 43 19.7

comp=Z,179nm,1.0s,mb6.0
ILIC ilic-Erzincan 75.81 314 *e*P **P 13 43 19.6 +1.3**
PTK Pertek 75.85 313 *e*P **P 13 43 19.7 +1.1**
IBBN Ibbenburen 75.86 340 *e*P **P 13 43 19.1 +0.7**
comp=Z,70nm,0.9s,mb5.6
XDE Dent Fell 75.93 347 *e*P **P 13 43 18.4 -0.4**
TXAR Lajitas Array 75.99 62 P **P 13 43 19.2 -0.3**
comp=Z,8.6nm,0.5s,mb4.9,baz=300,slow=4.4,SNR=147
TXAR Lajitas Array 75.99 62 P **P 13 43 19.2 -0.3**
TXAR Lajitas Array 75.99 62 P **P 13 43 19.2 -0.3**
TXAR pmax pmax

comp=Z,9.0nm,0.5s
KEMA Kemaliye 75.99 314 ⇑*i*P **P 13 43 20.4 +0.9**
TOKA Tokat 76.11 316 ⇑*i*P **P 13 43 20.9 +0.9**
SCER sogukcermik 76.17 315 ⇑*i*P **P 13 43 21.2 +0.8**
BANOM Banah 76.21 293 P **P 13 43 22.1 +1.2**
SNR=6.0
PRU Pruhonice 76.22 335 *e*P **P 13 43 20.4 -0.1**
PRU MLR MLR

comp=Z,1μm,16.2s,MS5.3
PRU Pruhonice 76.22 335 *e*P **P 13 43 20.4 -0.1**
PRU AMS AMS 14 19 00.0

comp=Z,1μm,16.2s
VRAC Vranov 76.22 333 P **P 13 43 19.7 -0.8**
comp=Z,79nm,0.8s,mb5.7,baz=32,slow=5.2,SNR=106
VRAC LR LR 14 22 54.3

comp=Z,1μm,19.0s,MS5.3,baz=23,slow=40
VRAC Vranov 76.22 333 P **P 13 43 19.7 -0.8**
VRAC Vranov 76.22 333 P **P 13 43 21.4 +0.9**
VRAC Vranov 76.22 333 ⇑*i*P **P 13 43 20.8 +0.3**
VYHS Vyhne 76.24 331 *e*P **P 13 43 20.0 -0.6**
VYHS pmax pmax

comp=Z,38nm,0.9s,mb5.3
VYHS Vyhne 76.24 331 *e*P **P 13 43 20.0 -0.6**
TIRR Tirgusor 76.24 323 *e*P **P 13 43 20.1 -0.6**
comp=Z,66nm,0.9s,mb5.6
TIRR Tirgusor 76.24 323 ⇑P **P 13 43 20.3 -0.4**
TIRR Tirgusor 76.24 323 ⇑*i*P **P 13 43 20.3 -0.4**
GIM North Isle of 76.28 347 *e*P **P 13 43 21.0 +0.2**
KOLL Kolacno 76.30 332 *e*P **P 13 43 21.4 +0.4**
KOLL Kolacno 76.30 332 *e*P **P 13 43 21.4 +0.4**
AAM Ann Arbor 76.31 40 PFAKE 13 43 30.0 +8.8
AAM LR LR

comp=Z,764nm,20.0s,MS5.0
MLR Muntele Rosu 76.34 325 P **P 13 43 20.6 -0.7**
comp=Z,22nm,0.7s,mb5.2,baz=172,slow=5.3,SNR=90
MLR LR LR 14 19 28.2

comp=Z,228nm,21.9s,MS4.4,baz=239,slow=38
MLR Muntele Rosu 76.34 325 P **P 13 43 20.6 -0.7**
MLR Muntele Rosu 76.34 325 P **P 13 43 22.5 +1.2**
MLR Muntele Rosu 76.34 325 ⇑*i*P **P 13 43 21.3 0.0**
ELZG Elazig 76.36 313 ⇑*i*P **P 13 43 23.3 +1.8**
MDB Medias 76.37 327 P **P 13 43 23.6 +2.2**
MDB Medias 76.37 327 ⇑*i*P **P 13 43 22.9 +1.5**
MARD Mardin 76.39 311 ⇑*i*P **P 13 43 21.0 -0.7**
PSZ Piszkesteto 76.40 330 *e*P **P 13 43 21.8 +0.2**
comp=Z,65nm,1.0s,mb5.5
PSZ LR LR

comp=Z,1μm,19.0s,MS5.2
PSZ Piszkesteto 76.40 330 P **P 13 43 22.4 +0.8**
PSZ Piszkesteto 76.40 330 ⇑*e*P **P 13 43 22.6 +1.0**
PSZ Piszkesteto 76.40 330 ⇓*i*P **P 13 43 22.2 +0.6**
TANN Tannenbergstha 76.41 336 *e*P **P 13 43 22.3 +0.7**
comp=Z,31nm,1.0s,mb5.2
DRGR 76.41 328 P **P 13 43 21.9 +0.2**
DRGR 76.41 328 ⇓*i*P **P 13 43 21.1 -0.6**
ISR Istrita 76.42 325 P **P 13 43 23.4 +1.7**

ISR Istrita 76.42 325 ⇓iP P 13 43 23.0 +1.3
MOX Moxa 76.43 337 eP P 13 43 22.3 +0.6
comp=Z,52nm,1.0s,mb5.4
MOX Moxa 76.43 337 eP P 13 43 22.3 +0.6
MOX pmax pmax
comp=Z,52nm,1.0s,mb5.4
AMRR Amara 76.54 324 P P 13 43 24.2 +1.8
AMRR Amara 76.54 324 ⇑iP P 13 43 23.2 +0.8
BALT Daday 76.55 319 ⇑iP P 13 43 22.4 -0.1
TREC Trest 76.56 334 eP P 13 43 22.2 -0.3
TREC MLR MLR
comp=Z,2µm,19.8s,MS5.3
TREC Trest 76.56 334 eP P 13 43 22.2 -0.3
TREC AMS AMS 14 22 30.0
comp=Z,2µm,19.8s
NKC Novy Kostel 76.58 336 eP P 13 43 22.5 0.0
NKC Novy Kostel 76.58 336 eP P 13 43 22.5 0.0
CTKT Corum 76.65 317 ⇑iP P 13 43 22.1 -1.0
TOS Tosya 76.66 318 eP P 13 43 24.6 +1.4
SMOL Smolenice 76.67 332 eP P 13 43 23.7 +0.6
SMOL Smolenice 76.67 332 eP P 13 43 23.7 +0.6
SECR 76.67 325 ⇑iP P 13 43 23.5 +0.3
UBBA Unterbreizbach 76.69 338 eP P 13 43 23.7 +0.6
comp=Z,41nm,1.1s,mb5.3
MYA Malataya 76.76 313 eP P 13 43 26.2 +2.4
MALT Malatya 76.77 313 eP P 13 43 25.0 +1.1
BUG Bochum--Univer 76.78 340 eP P 13 43 24.2 +0.6
comp=Z,73nm,1.0s,mb5.6
KBI1 Birley Grange 76.83 345 eP P 13 43 23.2 -0.7
SULR 76.90 325 ⇑iP P 13 43 21.9 -2.6
AEU East Anglia Un 76.94 344 eP P 13 43 25.2 +0.6
WBK Wadi Bani Khal 76.96 289 P P 13 43 27.2 +2.1
SNR=17
PSN Preselentsi 76.98 323 eP P 13 43 26.0 +1.1
AKCD Akcadag 77.03 314 ⇑iP P 13 43 26.4 +1.1
BUD Budapest 77.06 331 ⇑eP P 13 43 26.4 +1.1
ROTZ Rotzenmuhle 77.07 336 eP P 13 43 26.4 +1.1
comp=Z,116nm,1.6s,mb5.6
CORM Corum 77.08 317 eP P 13 43 25.8 +0.3
KWE Weaver Farm 77.11 346 eP P 13 43 25.4 -0.1
HATD Hatta, Dubai 77.11 293 P P 13 43 26.1 +0.1
SNR=24
DEV Deva 77.12 328 ⇓iP P 13 43 26.6 +0.9
DEV Deva 77.12 328 ⇓iP P 13 43 26.6 +0.9
RFTA Plano 77.20 55 eP P 13 43 25.3 -1.0
SMDO Samad 77.21 290 P P 13 43 27.4 +0.9
SNR=18
CIOR Ciorogarla 77.24 325 ⇑iP P 13 43 26.6 +0.2
KHC Kasperske Hory 77.26 335 eP P 13 43 26.4 +0.1
comp=Z,139nm,0.8s,mb5.9
KHC Kasperske Hory 77.26 335 eP P 13 43 26.5 +0.1
KHC Kasperske Hory 77.26 335 eP P 13 43 26.4 0.0
KHC ex x 13 43 32.0
KHC epP pP 13 43 38.0 -2.7
KHC AMS AMS 14 19 20.0
comp=Z,1µm,19.4s
ASHO Ashiyiah 77.26 293 P P 13 43 27.2 +0.4
SNR=17
NAZ Nazwa, Dubai 77.28 293 P P 13 43 28.0 +1.0
SNR=7.1
HOQ Hoqain 77.29 291 P P 13 43 27.3 +0.3
SNR=21
SARI SarD1z-Kayseri 77.31 315 eP P 13 43 29.7 +2.9
JCT Junction City 77.37 58 eP P 13 43 26.6 -0.7
comp=Z,8.3nm,0.6s,mb4.8
JCT LR LR
comp=Z,596nm,22.0s,MS4.9
JCT Junction City 77.37 58 eP P 13 43 26.6 -0.8
JCT pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
JCT MLR MLR
comp=Z,596nm,22.0s,MS4.9
GRF Grafenberg Arr 77.40 337 eP P 13 43 28.3 +1.1
comp=Z,134nm,0.9s,mb5.9
GRF eL 14 20 12.6
comp=Z,756nm,18.8s
GRF Grafenberg Arr 77.40 337 eP P 13 43 28.3 +1.1
GRF MLR MLR
comp=Z,800nm,18.8s,MS5.1
GRFO Grafenberg 77.40 337 eP P 13 43 27.2 +0.1
comp=Z,136nm,0.8s,mb5.9
GRFO Grafenberg 77.40 337 eP P 13 43 27.3 +0.1
GRFO pmax pmax
comp=Z,136nm,0.8s,mb5.9
WET Wettzell 77.45 335 eP P 13 43 28.6 +1.2
comp=Z,79nm,1.0s,mb5.6
WET Wettzell 77.45 335 eP P 13 43 28.6 +1.2
WET pmax pmax
comp=Z,79nm,1.0s,mb5.6
FOEL Foel Wylfa 77.45 346 eP P 13 43 26.2 -1.1
FOEL AMB AMB 13 43 28.1
comp=Z,139nm,0.9s,mb5.9
PINB Pinarbasi 77.45 315 ⇑iP P 13 43 28.4 +0.8
GEC2 GERESS Array S 77.48 335 eP P 13 43 28.3 +0.7
comp=Z,764µm,38.3s
GEC2 GERESS Array S 77.48 335 eP P 13 43 28.3 +0.7
GERES GERESS Array B 77.48 335 P P 13 43 26.4 -1.3
comp=Z,42nm,0.7s,mb5.5,baz=35,slow=4.9,SNR=147
GERES LR LR 14 20 02.0
comp=Z,1µm,21.7s,MS5.2,baz=21,slow=38
GERES GERESS Array B 77.48 335 P P 13 43 26.4 -1.3
GERES GERESS Array B 77.48 335 P P 13 43 26.4 -1.2
GERES pmax pmax
comp=Z,42nm,0.7s
GERES MLR MLR
comp=Z,1µm,21.7s
ATAB Bozova 77.50 313 ⇑iP P 13 43 28.2 +0.3
DLF Lyons Farm 77.54 348 ⇑iP P 13 43 27.3 -0.6
DSB Dublin 77.57 348 eP P 13 43 27.7 -0.3
comp=Z,124nm,0.8s,mb5.9
BNN Bunyan 77.58 315 eP P 13 43 28.8 +0.4
MSNY Massena 77.59 33 eP P 13 43 28.5 +0.2
comp=Z,301nm,1.0s,mb6.2
GZR Gura Zlata 77.59 327 P P 13 43 28.3 0.0
GZR Gura Zlata 77.59 327 ⇓iP P 13 43 27.7 -0.6
TNS Taunus Mts 77.62 338 eP P 13 43 29.3 +0.9
comp=Z,144nm,1.7s,mb5.6
TNS Taunus Mts 77.62 338 eP P 13 43 29.3 +0.9
TNS pmax pmax
comp=Z,144nm,1.7s,mb5.6
BHD Baghdad 77.63 306 *i* x x 13 43 26.5
BHD *i* x x 13 53 13.0
CDAG Cicekdag 77.64 317 ⇑iP P 13 43 28.7 0.0
CONA Conrad Observa 77.67 333 *i* P P 13 43 28.9 +0.3
comp=Z,107nm,0.9s,mb5.8,SNR=101
CONA Conrad Observa 77.67 333 *i* P P 13 43 28.9 +0.3
comp=Z,107nm,0.9s,mb5.8
SOP Sopron 77.67 332 ⇑eP P 13 43 29.8 +1.1
JMDO Jabal Madar 77.68 290 P P 13 43 29.4 +0.2
SNR=40
MIAR Mount Ida 77.69 52 eP P 13 43 27.8 -1.3
comp=Z,12nm,0.7s,mb4.9
MIAR LR LR
comp=Z,529nm,22.0s,MS4.8
MIAR Mount Ida 77.69 52 eP P 13 43 27.8 -1.3
MIAR pmax pmax
comp=Z,12nm,0.7s,mb4.9
MIAR MLR MLR
comp=Z,529nm,22.0s,MS4.8
PRD Provadia 77.69 323 eP P 13 43 28.7 -0.2
BEBN Eben Emael 77.74 340 P P 13 43 28.8 -0.2
comp=Z,62nm,1.0s,mb5.5
ASUD Al Ashush, Dub 77.75 293 P P 13 43 31.1 +1.5
SNR=6.2
HLM1 Long Mynd 77.76 346 eP P 13 43 27.9 -1.2
HLM1 AMB AMB 13 43 29.8
comp=Z,90nm,1.0s,mb5.6
BZS Buzias 77.81 328 P P 13 43 30.1 +0.6
BZS Buzias 77.81 328 ⇑iP P 13 43 29.1 -0.4
MEM Membach 77.84 340 P P 13 43 29.3 -0.3
comp=Z,114nm,1.0s,mb5.8
TIM Timisoara 77.85 329 P P 13 43 30.7 +1.0
BR131 Keskin Array S 77.89 317 eP P 13 43 29.8 -0.3
comp=Z,93nm,0.8s,mb5.8
BR131 LR LR
comp=Z,342nm,20.0s,MS4.7
BRTR Keskin Array B 77.89 317 P P 13 43 29.9 -0.2
comp=Z,100nm,0.8s,mb5.8,baz=59,slow=3.2,SNR=219
BRTR LR LR 14 23 29.3
comp=Z,568nm,19.4s,MS4.9,baz=205,slow=40
BRTR Keskin Array B 77.89 317 P P 13 43 29.9 -0.2
BRTR Keskin Array B 77.89 317 P P 13 43 29.9 -0.2
BRTR pmax pmax
comp=Z,100nm,0.8s
ARQ Araqi 77.96 291 P P 13 43 30.8 +0.1
SNR=18
USIN University of 77.97 46 *e*P P 13 43 31.3 +0.7
comp=Z,98nm,1.3s,mb5.6
BSY Bisya 77.97 291 P P 13 43 31.4 +0.6
SNR=41
PARMO Parma 77.98 48 *e*P P 13 43 31.4 +0.8
ERPA Erie 78.01 38 PFAKE 13 43 40.0 +9.3
ERPA LR LR
comp=Z,405nm,19.0s,MS4.8
LONY Lake Ozonia 78.02 33 PFAKE 13 43 40.0 +9.3
LONY LR LR
comp=Z,505nm,21.0s,MS4.8
AVNT Avonos 78.10 316 ⇑iP P 13 43 30.9 -0.3
SSW Stow on the Wo 78.12 345 *e*P P 13 43 31.1 -0.1
CRAR CRAIOVA 78.13 326 P P 13 43 32.3 +1.0
KAMT Kaman 78.15 317 *e*P P 13 43 32.9 +1.3
KMRS Kahramanmaras 78.15 314 *e*P P 13 43 33.2 +1.6
LOD Lodumlu 78.16 318 *e*P P 13 43 31.9 +0.4
SKP1 Kophill 78.17 345 *e*P P 13 43 30.2 -1.2
BCLA Clavier 78.18 340 P P 13 43 30.6 -0.8
comp=Z,88nm,1.2s,mb5.6
MOA Molln 78.22 334 ⇑iP P 13 43 31.9 +0.2
comp=Z,74nm,0.8s,mb5.7,SNR=26
MOA Molln 78.22 334 ⇑iP P 13 43 31.9 +0.2
comp=Z,74nm,0.8s,mb5.7
SZH Strazhica 78.22 324 *e*P P 13 43 30.9 -0.9
GAZ Gaziantep 78.26 313 *e*P P 13 43 33.9 +1.7
BBAL Bala 78.28 318 ⇑iP P 13 43 33.0 +0.8
MCH1 Michaelchurch 78.28 346 *e*P P 13 43 31.4 -0.6
MCH1 AMB AMB 13 43 33.6
comp=Z,93nm,1.1s,mb5.7
ACSO Alum Creek Sta 78.29 41 PFAKE 13 43 40.0 +7.7
ACSO LR LR
comp=Z,567nm,19.0s,MS4.9
PKSM Moragy 78.31 330 P P 13 43 32.6 +0.3
PKSM Moragy 78.31 330 ⇑iP P 13 43 32.5 +0.2
SNF Seneffe 78.32 341 P P 13 43 31.8 -0.5
comp=Z,48nm,1.1s,mb5.3
ARMA Armidale 78.35 182 *e*P P 13 43 32.0 -0.5
ELSH Elham, Standar 78.36 343 *e*P P 13 43 33.3 +0.8
ELSH AMB AMB 13 43 34.4
comp=Z,347nm,0.9s,mb6.3
AFSR Af´ar-Bala (A 78.38 318 *e*P P 13 43 33.5 +0.7
ARSA Arzberg 78.38 333 ⇑iP P 13 43 33.0 +0.3
comp=Z,68nm,1.0s,mb5.5,SNR=19
ARSA Arzberg 78.38 333 ⇑iP P 13 43 33.0 +0.3
comp=Z,68nm,1.0s,mb5.5
HBAR Harrisburg 78.40 49 *e*P P 13 43 33.8 +0.8
WCI Wyandotte Cave 78.41 45 *e*P P 13 43 32.5 -0.5
comp=Z,29nm,0.8s,mb5.2
WCI Wyandotte Cave 78.41 45 *e*P P 13 43 32.5 -0.5
WCI pmax pmax
comp=Z,29nm,0.8s,mb5.3
SWN1 Swindon 78.55 345 *e*P P 13 43 33.6 +0.2
SWN1 AMB AMB 13 43 35.5
comp=Z,668nm,0.9s,mb6.6
HGH Gray Hill 78.60 346 *e*P P 13 43 33.6 -0.2
UMR Umm Al-Rimmam 78.60 302 *e*P P 13 43 33.9 -0.3
UMR AMb AMB 13 43 35.7
comp=Z,270nm,0.8s,mb6.2
MIB Mutribah 78.63 302 *e*P P 13 43 33.4 -1.0
MIB AMb AMB 13 43 35.9
comp=Z,392nm,0.8s,mb6.4
WOL Wolverton 78.64 345 *e*P P 13 43 33.1 -0.9
WOL AMB AMB 13 43 34.9
comp=Z,247nm,1.0s,mb6.1
DOU Dourbes 78.64 341 P P 13 43 34.0 -0.1
comp=Z,46nm,1.3s,mb5.2
KOZT Kozan 78.68 315 *e*P P 13 43 36.9 +2.4
WLF Walferdange 78.69 340 P P 13 43 34.6 +0.3
WLF Walferdange 78.69 340 *e*P P 13 43 36.6 +2.3
comp=Z,32nm,0.9s,mb5.2
WLF Walferdange 78.69 340 *e*P P 13 43 33.9 -0.4
comp=Z,46nm,0.9s,mb5.4
WLF LR LR
comp=Z,1µm,20.0s,MS5.3
WLF Walferdange 78.69 340 *e*P P 13 43 33.9 -0.4
WLF pmax pmax
comp=Z,46nm,0.9s,mb5.4
WLF MLR MLR
comp=Z,1µm,20.0s,MS5.3
NCB Newcomb 78.71 34 PFAKE 13 43 50.0 +15
NCB LR LR
comp=Z,597nm,22.0s,MS4.9
RJOB Jochberg 78.75 335 *e*P P 13 43 35.8 +1.2
comp=Z,56nm,0.9s,mb5.5
BAIF Baives 78.76 341 *e*P P 13 43 34.0 -0.7
comp=Z,195nm,1.0s,mb5.7
BAIF Baives 78.76 341 *e*P P 13 43 34.0 -0.7
comp=Z,195nm,1.0s,mb6.0
BAIF Baives 78.76 341 *e*P P 13 43 34.0 -0.7
STU Stuttgart 78.78 337 *e*P P 13 43 35.5 +0.7
comp=Z,110nm,1.0s,mb5.7
STU Stuttgart 78.78 337 *e*P P 13 43 33.2 -1.6
comp=Z,82nm,0.9s,mb5.7
STU Stuttgart 78.78 337 *e*P P 13 43 33.2 -1.6
STU pmax pmax
comp=Z,81nm,0.9s,mb5.7
LANF Langenberg 78.93 338 *e*P P 13 43 36.2 +0.5
SOKA Soboth 79.04 333 ⇓iP P 13 43 36.1 -0.2
comp=Z,137nm,0.9s,mb5.9
SOKA Soboth 79.04 333 ⇓iP P 13 43 36.1 -0.2
comp=Z,137nm,0.9s,mb5.9
CEYT Ceyhan 79.10 314 *e*P P 13 43 39.1 +2.3
QRN Al-Qurain 79.10 301 *e*P P 13 43 36.9 0.0
QRN AMb AMB 13 43 38.2
comp=Z,180nm,0.7s,mb6.1
NAY Al-Naaiem 79.10 302 *e*P P 13 43 36.5 -0.4
NAY AMb AMB 13 43 38.5
comp=Z,153nm,1.0s,mb5.9
KBA Koelnbreinsper 79.18 334 *i* P P 13 43 37.6 +0.5
comp=Z,290nm,0.7s,mb6.3,SNR=206
KBA Koelnbreinsper 79.18 334 *i* P P 13 43 37.6 +0.5
comp=Z,290nm,0.7s,mb6.3
KBA Koelnbreinsper 79.18 334 *i* P P 13 43 37.6 +0.5
NATX Nacogdoches 79.26 54 *e*P P 13 43 37.4 -0.4
comp=Z,27nm,0.8s,mb5.2
NATX LR LR
comp=Z,575nm,22.0s,MS4.9
LBNH Lisbon 79.30 32 PFAKE 13 43 50.0 +12
LBNH LR LR
comp=Z,671nm,20.0s,MS5.0
PKME Peaks-Kenny Pk 79.31 30 PFAKE 13 43 50.0 +12
PKME LR LR
comp=Z,546nm,20.0s,MS4.9
GULE Gulek 79.34 315 ⇑iP P 13 43 38.5 +0.4
OBKA Obir 79.34 333 ⇓iP P 13 43 37.9 0.0
comp=Z,56nm,0.7s,mb5.6,SNR=27
OBKA Obir 79.34 333 ⇓iP P 13 43 37.9 0.0
comp=Z,56nm,0.6s,mb5.7
WVT Waverly 79.35 47 *e*P P 13 43 37.4 -0.8
comp=Z,23nm,1.4s,mb4.9
WVT Waverly 79.35 47 *e*P P 13 43 37.4 -0.8
WVT pmax pmax
comp=Z,23nm,1.4s,mb4.9
BFO Black Forest 79.41 338 *e*P P 13 43 38.9 +0.7
comp=Z,78nm,1.0s,mb5.6
BFO Black Forest 79.41 338 *e*P P 13 43 37.8 -0.4
comp=Z,123nm,1.1s,mb5.8
BFO LR LR
comp=Z,846nm,21.0s,MS5.1
BFO Black Forest 79.41 338 *e*P P 13 43 38.9 +0.7
BFO pmax pmax
comp=Z,78nm,1.0s,mb5.6
BFO Black Forest 79.41 338 P P 13 43 38.7 +0.5
comp=Z,550nm,0.8s,mb6.5,SNR=23
ACCN Adirondack Com 79.42 34 *e*P P 13 43 38.1 -0.3
comp=Z,20nm,1.1s,mb5.0
WATA Walderalm 79.45 335 ⇑iP P 13 43 38.6 0.0
comp=Z,250nm,1.0s,mb6.1,SNR=95
WATA Walderalm 79.45 335 ⇑iP P 13 43 38.5 0.0
comp=Z,250nm,1.0s,mb6.1
WATA Walderalm 79.45 335 ⇑iP P 13 43 38.6 +0.1
WATA pmax pmax
comp=Z,250nm,1.0s,mb6.1
HTL Hartland 79.49 347 *e*P P 13 43 38.6 0.0
HTL AMB AMB 13 43 40.4
comp=Z,124nm,0.8s,mb5.9
MYKA Terra Mystica 79.50 334 ⇑iP P 13 43 38.5 -0.3
comp=Z,56nm,0.7s,mb5.6
MYKA Terra Mystica 79.50 334 ⇑iP P 13 43 38.5 -0.3
comp=Z,56nm,0.7s,mb5.6
WTTA Wattenberg 79.50 335 *i* P P 13 43 39.0 +0.2
comp=Z,310nm,0.8s,mb6.3,SNR=205
WTTA Wattenberg 79.50 335 *i* P P 13 43 39.0 +0.2
comp=Z,310nm,0.8s,mb6.3
WTTA Wattenberg 79.50 335 *i* P P 13 43 39.0 +0.2
PGB Panagyurishte 79.51 325 *e*P P 13 43 39.3 +0.4
RETA Reutte 79.54 336 *i* P P 13 43 39.0 0.0
comp=Z,110nm,0.8s,mb5.8,SNR=96
RETA Reutte 79.54 336 *i* P P 13 43 39.0 0.0
comp=Z,110nm,0.8s,mb5.8
BINY Binghamton 79.55 36 PFAKE 13 43 50.0 +11
BINY LR LR
comp=Z,664nm,20.0s,MS5.0
KDHN Kadinhani 79.56 318 ⇑iP P 13 43 38.3 -1.0
MOTA Moosalm 79.58 336 ⇑iP P 13 43 39.0 -0.2
comp=Z,248nm,0.9s,mb6.1,SNR=128
MOTA Moosalm 79.58 336 ⇑iP P 13 43 39.0 -0.2
comp=Z,248nm,0.9s,mb6.1
MOTA Moosalm 79.58 336 ⇑iP P 13 43 39.0 -0.2
CDF Champ du Feu 79.59 338 *e*P P 13 43 38.7 -0.6
comp=Z,276nm,1.0s,mb5.9
CDF Champ du Feu 79.59 338 *e*P P 13 43 38.7 -0.6
comp=Z,276nm,1.0s,mb6.1
CDF Champ du Feu 79.59 338 *e*P P 13 43 38.7 -0.6
PLD Plovdiv 79.68 324 P P 13 43 42.0 +2.1
PLD Plovdiv 79.68 324 P P 13 43 42.0 +2.1
PLD Plovdiv 79.68 324 P P 13 43 42.0 +2.1
DIVS Divibare 79.70 328 P P 13 43 40.2 +0.3
YAYL Yayladag 79.70 314 ⇑iP P 13 43 40.3 +0.2
LADK Ladik-KONYA 79.71 317 *e*P P 13 43 39.9 -0.2
ABTA Abfaltersbach 79.72 334 ⇑iP P 13 43 40.0 0.0
comp=Z,68nm,0.8s,mb5.6,SNR=15
ABTA Abfaltersbach 79.72 334 ⇑iP P 13 43 40.0 0.0
comp=Z,68nm,0.8s,mb5.6
KDZ Kurdzhali 79.79 324 *e*P P 13 43 40.7 +0.2
ECH Echery 79.80 338 *e*P P 13 43 39.4 -1.0
comp=Z,132nm,1.0s,mb5.8
ECH LR LR
comp=Z,977nm,22.0s,MS5.1
ECH Echery 79.80 338 *e*P P 13 43 39.4 -1.0
ECH pmax pmax
comp=Z,132nm,1.0s,mb5.8
ECH MLR MLR
comp=Z,977nm,22.0s,MS5.1
ECH Echery 79.80 338 *e*P P 13 43 40.5 +0.1
VTS Vitosha 79.84 326 P P 13 43 41.6 +0.9
VTS Vitosha 79.84 326 P P 13 43 41.6 +0.9
VTS Vitosha 79.84 326 P P 13 43 41.6 +0.9
VTS Vitosha 79.84 326 *e*P P 13 43 40.7 0.0
VTS Vitosha 79.84 326 ⇑iP P 13 43 40.2 -0.5
OXF Oxford 79.85 49 PFAKE 13 43 50.0 +9.1
OXF LR LR
comp=Z,599nm,21.0s,MS4.9
VISS Visnje 79.89 333 *i* P P 13 43 40.0 -0.9
BOLV Bolvadin 79.92 318 ⇑iP P 13 43 41.6 +0.4
KONT Konya--Tatoy 79.92 317 *e*P P 13 43 39.3 -1.9
DYA Yadsworthy 79.94 346 *e*P P 13 43 40.1 -1.1
DYA AMB AMB 13 43 41.7
comp=Z,212nm,1.0s,mb6.0
DAVA Damuels 79.96 336 ⇓iP P 13 43 41.6 +0.3
comp=Z,154nm,0.8s,mb6.0,SNR=33
DAVA Damuels 79.96 336 ⇓iP P 13 43 41.6 +0.3
comp=Z,154nm,0.8s,mb6.0
FETA Feichten 79.98 336 *i* P P 13 43 41.6 +0.2
comp=Z,127nm,1.0s,mb5.8,SNR=90
FETA Feichten 79.98 336 *i* P P 13 43 41.6 +0.2
comp=Z,127nm,1.0s,mb5.8
BOJS Bojanci 80.03 332 *i* P P 13 43 40.9 -0.8
RZN Rozhen 80.03 324 *e*P P 13 43 41.9 +0.1
MEZF Maizieres J'vi 80.04 340 *e*P P 13 43 41.4 -0.3
comp=Z,368nm,0.9s,mb6.0
MEZF Maizieres J'vi 80.04 340 *e*P P 13 43 41.4 -0.3
comp=Z,368nm,0.9s,mb6.3
JAVS Javornik 80.04 333 *i* P P 13 43 40.5 -1.2
CEY Cerknica 80.07 333 *i* P P 13 43 40.9 -1.0
THEF They Montfort 80.08 339 *e*P P 13 43 42.5 +0.6
PLAL Pickwick Lake 80.15 48 *e*P P 13 43 42.5 -0.1
comp=Z,15nm,1.0s,mb4.9
MOF Molkenrain 80.15 338 *e*P P 13 43 42.9 +0.6
RDO Rodhopi 80.17 323 P P 13 43 43.4 +0.9
RDO Rodhopi 80.17 323 P P 13 43 43.4 +0.9
ALN Alexandroupoli 80.18 323 P P 13 43 43.2 +0.6
ALN Alexandroupoli 80.18 323 P P 13 43 43.2 +0.6
ALN Alexandroupoli 80.18 323 P P 13 43 43.2 +0.6
HAU Haudompre 80.20 339 *e*P P 13 43 41.8 -0.7
comp=Z,211nm,1.0s,mb5.7
HAU *e*R
comp=Z,1µm,22.8s
HAU Haudompre 80.20 339 *e*P P 13 43 41.8 -0.7
comp=Z,211nm,1.0s,mb6.0
HAU Haudompre 80.20 339 *e*P P 13 43 41.8 -0.7
HAU pmax pmax
comp=Z,211nm,1.0s,mb6.0
HINF Hinteralfeld 80.25 338 *e*P P 13 43 41.9 -0.9
comp=Z,140nm,1.0s,mb5.5
HINF Hinteralfeld 80.25 338 *e*P P 13 43 41.9 -0.9
comp=Z,140nm,1.0s,mb5.8
HINF Hinteralfeld 80.25 338 *e*P P 13 43 41.9 -0.9
HINF pmax pmax
comp=Z,140nm,1.0s,mb5.8
GDZ Gediz 80.26 320 ⇑iP P 13 43 42.1 -1.0
TRI Trieste 80.30 333 PFAKE 13 43 50.0 +6.9
TRI LR LR
comp=Z,844nm,19.0s,MS5.1
DAVOX Davos/Dischmat 80.43 336 P P 13 43 44.2 +0.4
comp=Z,111nm,0.7s,mb5.9,baz=17,slow=4.8,SNR=147
DAVOX LR LR 14 22 23.5
comp=Z,635nm,20.2s,MS5.0,baz=252,slow=38
DAVOX Davos/Dischmat 80.43 336 P P 13 43 44.2 +0.4
DAVOX Davos/Dischmat 80.43 336 P P 13 43 44.2 +0.4
MMB Musomiste 80.50 325 *e*P P 13 43 44.5 +0.2
BALY Balya 80.50 321 ⇑iP P 13 43 44.3 0.0
KKB Krupnik 80.51 325 *e*P P 13 43 44.1 -0.2
PLE Pljevlja 80.59 328 ⇑iP P 13 43 46.9 +2.2
STKA Stephens Creek 80.59 191 P P 13 43 44.4 -0.2
comp=Z,6.4nm,0.8s,mb4.6,baz=20,slow=7.3,SNR=6.6
STKA LR LR 14 16 53.8
comp=Z,384nm,20.1s,MS4.7,baz=284,slow=34
STKA Stephens Creek 80.59 191 *e*P P 13 43 44.8 +0.2
STKA Stephens Creek 80.59 191 P P 13 43 44.4 -0.2
STKA Stephens Creek 80.59 191 P P 13 43 44.4 -0.2
STKA pmax pmax
comp=Z,6.0nm,0.9s
NVR Nevrokopi 80.66 325 *e*P P 13 43 45.4 +0.3
NVR Nevrokopi 80.66 325 P P 13 43 45.9 +0.8
NVR Nevrokopi 80.66 325 P P 13 43 45.9 +0.8
HDMB Hadim 80.67 316 *e*P P 13 43 46.0 +0.7
LOMF Lomont 80.69 338 *e*P P 13 43 45.9 +0.7
KAVA Kavala 80.70 324 P P 13 43 45.7 +0.3
KAVA Kavala 80.70 324 P P 13 43 45.7 +0.3
ERMK Ermenek 80.73 316 ⇑iP P 13 43 44.0 -1.7
TAOE Nuku Hiva Isla 80.74 114 *e*LR LR 14 09 02.1
comp=Z,2µm,23.2s
IVA Berane 80.81 328 ⇑iP P 13 43 45.2 -0.7
ISP Isparta 80.85 318 P P 13 43 46.5 +0.3
ISP Isparta 80.85 318 *e*P P 13 43 44.1 -2.1
comp=Z,52nm,0.7s,mb5.6
ISP LR LR
comp=Z,574nm,22.0s,MS4.9
ISP Isparta 80.85 318 ⇑P P 13 43 46.2 0.0
ISP Isparta 80.85 318 ⇑iP P 13 43 46.2 0.0
KHAL Karahalli 80.85 319 ⇑iP P 13 43 45.4 -0.8
JSA Saint Aubin 80.85 345 *e*P P 13 43 44.5 -1.5
JSA AMB AMB 13 43 46.8
comp=Z,195nm,0.9s,mb6.0
TUE Stuetta 80.86 336 *e*P P 13 43 46.4 +0.3
comp=Z,210nm,0.8s,mb6.1
TUE LR LR
comp=Z,857nm,19.0s,MS5.1
UPM Unac-Piva 80.86 329 ⇑iP P 13 43 45.0 -1.2
FLN La Foliniere 80.95 343 *e*P P 13 43 45.9 -0.7
comp=Z,270nm,0.9s,mb5.9
FLN *e*R
comp=Z,716nm,21.2s
FLN La Foliniere 80.95 343 *e*P P 13 43 45.9 -0.7
comp=Z,270nm,0.9s,mb6.2
FLN La Foliniere 80.95 343 *e*P P 13 43 45.9 -0.7
SRS Serrai 80.96 325 P P 13 43 47.1 +0.4
SRS Serrai 80.96 325 P P 13 43 47.1 +0.4
SRS Serrai 80.96 325 P P 13 43 47.1 +0.4
FKH Fakeheh 80.99 312 *e*P P 13 43 48.2 +1.2
NVLJ Novalja 80.99 332 P P 13 43 45.5 -1.4
SWET Sewanee 81.00 46 *e*P P 13 43 47.4 +0.3
comp=Z,18nm,0.8s,mb5.0
PVY Plav 81.03 328 ⇑iP P 13 43 45.8 -1.3
EREN Erenkoy 81.04 314 *e*P P 13 43 44.2 -3.0
LDF La Druitiere 81.05 343 *e*P P 13 43 46.2 -0.9
comp=Z,105nm,0.9s,mb5.5

LDF La Druitiere 81.05 343 *eP* **P 13 43 46.2 -0.9**
comp=Z,105nm,0.9s,mb5.8
LDF La Druitiere 81.05 343 *eP* **P 13 43 46.2 -0.9**
LDF pmax pmax
comp=Z,105nm,0.9s,mb5.8
RAO Raoul Island 81.05 156 PFAKE 13 44 00.0 +13
RAO LR LR
comp=Z,1µm,22.0s,MS5.2
TZTN Tazewell 81.05 44 *eP* **P 13 43 47.3 -0.1**
VBMS Vicksburg 81.10 51 PFAKE 13 44 00.0 +12
VBMS LR LR
comp=Z,554nm,20.0s,MS4.9
PMOR Pomariorio Ree 81.15 124 *eT* 15 12 54.4
comp=Z,30nm,0.2s
MANT Manisa 81.15 320⇑ *iP* **P 13 43 47.2 -0.6**
NKY Niksic 81.18 328⇑ *iP* **P 13 43 46.3 -1.6**
KNT Kendrikon 81.19 325 P **P 13 43 48.6 +0.6**
KNT Kendrikon 81.19 325 P **P 13 43 48.6 +0.6**
KNT Kendrikon 81.19 325 P **P 13 43 48.6 +0.6**
BCI Bajram Curri 81.19 328 *eP* **P 13 43 48.0 +0.1**
HWQ Hawqa 81.19 313 *eP* **P 13 43 48.3 +0.2**
BRY Bratogost 81.26 329⇑ *iP* **P 13 43 46.7 -1.6**
SOH Sokhos 81.31 325 P **P 13 43 48.7 +0.1**
SOH Sokhos 81.31 325 P **P 13 43 48.7 +0.1**
SOH Sokhos 81.31 325 P **P 13 43 48.7 +0.1**
GAZI Gazipasa 81.34 316⇑ *iP* **P 13 43 53.6 +4.7**
LIA Limnos Island 81.37 323 *eP* **P 13 43 48.3 -0.7**
LIA Limnos Island 81.37 323 P **P 13 43 49.4 +0.4**
LIA Limnos Island 81.37 323 P **P 13 43 49.4 +0.4**
GRR Gorron 81.38 344 *eP* **P 13 43 48.4 -0.5**
comp=Z,405nm,1.0s,mb6.0
GRR Gorron 81.38 344 *eP* **P 13 43 48.4 -0.5**
comp=Z,405nm,1.0s,mb6.3
GRR Gorron 81.38 344 *eP* **P 13 43 48.4 -0.5**
TTG Podgorica 81.42 328⇑ *iP* **P 13 43 47.8 -1.4**
LOR Lormes 81.47 340 *eP* **P 13 43 48.7 -0.6**
comp=Z,357nm,0.9s,mb6.0
LOR *eR*
comp=Z,2µm,21.8s
LOR Lormes 81.47 340 *eP* **P 13 43 48.7 -0.6**
comp=Z,357nm,0.9s,mb6.3
LOR Lormes 81.47 340 *eP* **P 13 43 48.7 -0.6**
OUR Ouranopolis 81.48 324 P **P 13 43 49.5 0.0**
OUR Ouranopolis 81.48 324 P **P 13 43 49.5 0.0**
OUR Ouranopolis 81.48 324 P **P 13 43 49.5 0.0**
PRK Paraskevi 81.48 322 P **P 13 43 50.1 +0.5**
PRK Paraskevi 81.48 322 P **P 13 43 50.1 +0.5**
PRK Paraskevi 81.48 322 P **P 13 43 50.1 +0.5**
PHNC Paralimni 81.53 314 P **P 13 43 51.1 +1.2**
comp=Z,2.2nm,0.8s,mb4.1
PUK Puka 81.54 328 *eP* **P 13 43 49.5 -0.3**
LFK Lefkose 81.55 315 *eP* **P 13 43 50.7 +0.7**
GRG Griva 81.55 325 P **P 13 43 50.1 +0.2**
GRG Griva 81.55 325 P **P 13 43 50.1 +0.2**
GRG Griva 81.55 325 P **P 13 43 50.1 +0.2**
CABF La Chapelle 81.56 339 *eP* **P 13 43 49.5 -0.3**
comp=Z,204nm,0.9s,mb5.7
CABF La Chapelle 81.56 339 *eP* **P 13 43 49.5 -0.3**
comp=Z,204nm,0.9s,mb6.0
CABF La Chapelle 81.56 339 *eP* **P 13 43 49.5 -0.3**
CABF pmax pmax
comp=Z,204nm,0.9s,mb6.1
HORT Hortiatis 81.59 325 P **P 13 43 49.9 -0.2**
HORT Hortiatis 81.59 325 P **P 13 43 49.9 -0.2**
BHL Bhannes 81.63 313 *eP* **P 13 43 50.9 +0.4**
PHP Peshkopia 81.65 327 *eP* **P 13 43 50.0 -0.4**
PLG Polygyros 81.65 324 *eP* **P 13 43 49.5 -0.9**
PLG Polygyros 81.65 324 P **P 13 43 50.5 +0.1**
PLG Polygyros 81.65 324 P **P 13 43 50.5 +0.1**
PLG Polygyros 81.65 324 P **P 13 43 50.5 +0.1**
BUM Brajici-Budva 81.66 328⇑ *iP* **P 13 43 49.4 -1.1**
HCY Herceg Novi 81.67 329⇑ *iP* **P 13 43 48.2 -2.3**
OG01 Vacheresse 81.68 338 *eP* **P 13 43 51.4 +0.9**
SSF Saint Saulge 81.75 340 *eP* **P 13 43 50.2 -0.6**
comp=Z,203nm,0.8s,mb5.8
SSF Saint Saulge 81.75 340 *eP* **P 13 43 50.2 -0.6**
comp=Z,203nm,0.8s,mb6.1
SSF Saint Saulge 81.75 340 *eP* **P 13 43 50.2 -0.6**
SSF pmax pmax
comp=Z,203nm,0.8s,mb6.1
MAMC Mammari 81.78 315 P **P 13 43 51.5 +0.3**
SGMF Saint Gilles 81.82 345 *eP* **P 13 43 50.8 -0.4**
comp=Z,321nm,1.0s,mb5.9
SGMF Saint Gilles 81.82 345 *eP* **P 13 43 50.8 -0.4**
comp=Z,321nm,1.0s,mb6.2
SGMF Saint Gilles 81.82 345 *eP* **P 13 43 50.8 -0.4**
SGMF pmax pmax
comp=Z,321nm,1.0s,mb6.2
ULC Ulcinj 81.84 328⇑ *iP* **P 13 43 50.6 -0.8**
ROSF Rostrenen 81.87 345 *eP* **P 13 43 51.1 -0.3**
comp=Z,436nm,1.0s,mb6.0
ROSF Rostrenen 81.87 345 *eP* **P 13 43 51.1 -0.3**
comp=Z,436nm,1.0s,mb6.3
ROSF Rostrenen 81.87 345 *eP* **P 13 43 51.1 -0.3**
RCY Rachaya 81.87 312 *eP* **P 13 43 52.6 +0.9**
CSS Prodhromos 81.90 315 P **P 13 43 51.5 -0.3**
BLA Blacksburg 81.91 41 *eP* **P 13 43 51.6 -0.2**
comp=Z,26nm,1.2s,mb5.0
BLA LR LR
comp=Z,531nm,21.0s,MS4.9
BLA Blacksburg 81.91 41 *eP* **P 13 43 51.6 -0.3**
BLA pmax pmax
comp=Z,26nm,1.2s,mb5.0
BLA MLR MLR
comp=Z,531nm,21.0s,MS4.9
PAIG Paliouri 81.95 324 P **P 13 43 51.8 -0.2**
PAIG Paliouri 81.95 324 P **P 13 43 51.8 -0.2**
PAIG Paliouri 81.95 324 P **P 13 43 51.8 -0.2**
LEF Lefka 81.98 315 *eP* **P 13 43 52.5 +0.2**
AVF Avril sur Loir 82.04 340 *eP* **P 13 43 51.8 -0.5**
comp=Z,289nm,0.9s,mb5.9
AVF Avril sur Loir 82.04 340 *eP* **P 13 43 51.8 -0.5**
comp=Z,289nm,0.9s,mb6.2
AVF Avril sur Loir 82.04 340 *eP* **P 13 43 51.8 -0.5**
SMF Signal de Mont 82.06 340 *eP* **P 13 43 52.0 -0.5**
comp=Z,449nm,1.1s,mb6.0
SMF Signal de Mont 82.06 340 *eP* **P 13 43 52.0 -0.5**
comp=Z,449nm,1.1s,mb6.3
SMF Signal de Mont 82.06 340 *eP* **P 13 43 52.0 -0.5**
ALFC Alevga 82.09 315 P **P 13 43 51.8 -1.0**
comp=Z,4.1nm,0.9s,mb4.4
FNA Florina 82.09 326 P **P 13 43 52.8 +0.1**
FNA Florina 82.09 326 P **P 13 43 52.8 +0.1**
FNA Florina 82.09 326 P **P 13 43 52.8 +0.1**
FORT Forrest 82.15 203 *eP* **P 13 43 53.7 +0.8**
FORT Forrest 82.15 203 *eP* **P 13 43 53.2 +0.3**
comp=Z,116nm,0.8s,mb5.9
TIR Tirane 82.15 327 *eP* **P 13 43 53.3 +0.2**
TIR Tirane 82.15 327 PFAKE 13 44 00.0 +6.9
TIR LR LR
comp=Z,1µm,20.0s,MS5.2
OG35 Corcelles 82.22 339 *eP* **P 13 43 53.7 +0.4**
LRAL Lakeview Retre 82.24 48 *eP* **P 13 43 53.6 0.0**
comp=Z,4.1nm,0.6s,mb4.5
LRAL LR LR
comp=Z,646nm,21.0s,MS5.0
QUIF Quistinic 82.25 345 *eP* **P 13 43 52.9 -0.5**
comp=Z,181nm,1.1s,mb5.6
QUIF Quistinic 82.25 345 *eP* **P 13 43 52.9 -0.5**
comp=Z,181nm,1.1s,mb5.9
QUIF Quistinic 82.25 345 *eP* **P 13 43 52.9 -0.5**
QUIF pmax pmax
comp=Z,181nm,1.1s,mb5.9
LIT Litokhoron 82.26 325 P **P 13 43 53.2 -0.4**
LIT Litokhoron 82.26 325 P **P 13 43 53.2 -0.4**
LIT Litokhoron 82.26 325 P **P 13 43 53.2 -0.4**
RSL Roselend 82.29 338 *eP* **P 13 43 54.9 +1.2**
CHOS Chios island 82.30 322 P **P 13 43 54.0 +0.1**
PPT2 Papeete2 82.36 127 *eS* S 13 54 09.5 +3.2
comp=Z,563nm,30.8s
PPT2 *eLR* LR 14 09 51.4
comp=Z,2µm,23.2s,baz=323
PPT2 *eT* 15 14 24.2
comp=Z,11nm,0.2s
KZN Kozani 82.36 325 *eP* **P 13 43 53.4 -0.7**
KZN Kozani 82.36 325 P **P 13 43 53.9 -0.2**
KZN Kozani 82.36 325 P **P 13 43 53.9 -0.2**
KZN Kozani 82.36 325 P **P 13 43 53.9 -0.2**
BGF Bois d'Agland 82.37 341 *eP* **P 13 43 53.6 -0.5**
comp=Z,160nm,1.0s,mb5.6
BGF Bois d'Agland 82.37 341 *eP* **P 13 43 53.6 -0.5**
comp=Z,160nm,1.0s,mb5.9
BGF Bois d'Agland 82.37 341 *eP* **P 13 43 53.6 -0.5**
BGF pmax pmax
comp=Z,160nm,1.0s,mb5.9
CBN Corbin 82.39 39 PFAKE 13 44 10.0 +16
CBN LR LR
comp=Z,880nm,22.0s,MS5.1
PAE Paea 82.41 127 *eT* 15 14 29.7
comp=Z,2.2nm,0.3s
LPL La Plagne 82.43 338 *eP* **P 13 43 54.8 +0.4**
comp=Z,326nm,0.9s,mb6.0
LPL La Plagne 82.43 338 *eP* **P 13 43 54.8 +0.4**
comp=Z,326nm,0.9s,mb6.3
LPL La Plagne 82.43 338 *eP* **P 13 43 54.8 +0.4**
PPCY Paphos 82.43 315 P **P 13 43 52.7 -1.9**
LPG La Plagne 82.44 338 *eP* **P 13 43 55.0 +0.5**
comp=Z,434nm,0.9s,mb6.1
LPG La Plagne 82.44 338 *eP* **P 13 43 55.0 +0.5**
comp=Z,434nm,0.9s,mb6.4
LPG La Plagne 82.44 338 *eP* **P 13 43 55.0 +0.5**
TIAR Tiarei 82.45 127 *eT* 15 14 32.5
comp=Z,27nm,0.2s
AOS Alonnisos 82.52 323 P **P 13 43 55.4 +0.4**
AOS Alonnisos 82.52 323 P **P 13 43 55.4 +0.4**
NEST Nestorio 82.53 326 P **P 13 43 55.3 +0.2**
SKIA Skiathos 82.68 324 P **P 13 43 56.0 +0.1**
PLDF La Plantade 82.75 340 *eP* **P 13 43 57.1 +1.0**
TCF Toulx Ste Croi 82.77 341 *eP* **P 13 43 55.9 -0.2**
comp=Z,279nm,0.9s,mb6.0
TCF Toulx Ste Croi 82.77 341 *eP* **P 13 43 55.9 -0.2**
comp=Z,279nm,0.9s,mb6.3
TCF Toulx Ste Croi 82.77 341 *eP* **P 13 43 55.9 -0.2**
AGO Saint Agoulin 82.78 340 *eP* **P 13 43 57.3 +1.1**
BNI Bardonecchia 82.87 338 *eP* **P 13 43 57.3 +0.6**
comp=Z,98nm,0.9s,mb5.8
BNI LR LR
comp=Z,1µm,22.0s,MS5.3
BNI Bardonecchia 82.87 338 *eP* **P 13 43 57.3 +0.6**
BNI pmax pmax
comp=Z,98nm,0.9s,mb5.8
BNI MLR MLR
comp=Z,1µm,22.0s,MS5.3
GDM Grand'Maison 82.87 338 *eP* **P 13 43 58.0 +1.3**
THL Klokotos Trika 82.91 325 P **P 13 43 56.6 -0.4**
GRN Grenoble 82.93 338 *eP* **P 13 43 58.4 +1.4**
MFF Saint Martin d 82.96 343 *eP* **P 13 43 56.8 -0.3**
comp=Z,241nm,1.0s,mb5.9
MFF Saint Martin d 82.96 343 *eP* **P 13 43 56.8 -0.3**
comp=Z,241nm,1.0s,mb6.2
MFF Saint Martin d 82.96 343 *eP* **P 13 43 56.8 -0.3**
MFF pmax pmax
comp=Z,241nm,1.0s,mb6.2
MEV Metsovon 83.01 326 P **P 13 43 59.1 +1.5**
MEV Metsovon 83.01 326 P **P 13 43 59.1 +1.5**
MRKA Markates 83.03 323 P **P 13 43 56.9 -0.8**
SMIA Simia 83.03 324 P **P 13 43 57.7 0.0**
PYM Petit Puy Mans 83.10 340 *eP* **P 13 43 58.9 +1.0**
MBDF Montbardon 83.15 337 *eP* **P 13 43 57.9 -0.3**
comp=Z,161nm,0.9s,mb5.7
MBDF Montbardon 83.15 337 *eP* **P 13 43 57.9 -0.3**
comp=Z,161nm,0.9s,mb6.0
MBDF Montbardon 83.15 337 *eP* **P 13 43 57.9 -0.3**
MBDF pmax pmax
comp=Z,161nm,0.9s,mb6.0
ERET Eretria 83.17 323 P **P 13 43 58.4 0.0**
SSB Saint Sauveur 83.19 339 *eP* **P 13 43 58.2 -0.1**
comp=Z,157nm,0.9s,mb6.0
SSB LR LR
comp=Z,908nm,21.0s,MS5.1
SSB Saint Sauveur 83.19 339 *eP* **P 13 43 58.2 -0.1**
SSB pmax pmax
comp=Z,157nm,0.9s,mb6.0
SSB MLR MLR
comp=Z,908nm,21.0s,MS5.1
SSB Saint Sauveur 83.19 339 *eP* **P 13 43 59.3 +1.0**
ORIF Oris-en-Rattie 83.20 338 *eP* **P 13 43 58.7 +0.3**
comp=Z,344nm,0.9s,mb6.1
ORIF *eR*
comp=Z,1µm,22.8s
ORIF Oris-en-Rattie 83.20 338 *eP* **P 13 43 58.7 +0.3**
comp=Z,344nm,0.9s,mb6.4
ORIF Oris-en-Rattie 83.20 338 *eP* **P 13 43 58.7 +0.3**
ARG Arkhangelos 83.24 319 P **P 13 43 59.2 +0.4**
ARG Arkhangelos 83.24 319 P **P 13 43 59.2 +0.4**
ARG Arkhangelos 83.24 319 P **P 13 43 59.2 +0.4**
AGG Agios Georgios 83.25 324 P **P 13 43 57.4 -1.4**
AGG Agios Georgios 83.25 324 P **P 13 43 57.4 -1.4**
AGG Agios Georgios 83.25 324 P **P 13 43 57.4 -1.4**
ATAL Atalanti 83.27 324 P **P 13 43 58.6 -0.3**
ATAL Atalanti 83.27 324 P **P 13 43 58.6 -0.3**
JAN Janina 83.27 326 *eP* **P 13 43 59.2 +0.3**
JAN Janina 83.27 326 P **P 13 43 59.5 +0.6**
JAN Janina 83.27 326 P **P 13 43 59.5 +0.6**
JAN Janina 83.27 326 P **P 13 43 59.5 +0.6**
LKR Lokris 83.31 324 P **P 13 43 58.5 -0.6**
LKR Lokris 83.31 324 P **P 13 43 58.5 -0.6**
MAKR Makrakomi, Fth 83.34 325 P **P 13 43 58.7 -0.5**
MAKR Makrakomi, Fth 83.34 325 P **P 13 43 58.7 -0.5**
CAN Canberra 83.34 184 PFAKE 13 44 10.0 +11
CAN LR LR
comp=Z,696nm,20.0s,MS5.0
SURF Saint Ours 83.37 337 *eP* **P 13 44 00.6 +1.3**
MEH Mehetia 83.40 126 *eT* 15 15 43.6
comp=Z,68nm,0.3s
AQU L'Aquila 83.44 332 *eP* **P 13 44 00.9 +1.2**
comp=Z,87nm,0.8s,mb5.8
AQU LR LR
comp=Z,728nm,21.0s,MS5.0
AQU L'Aquila 83.44 332⇓ *iP* **P 13 44 01.1 +1.4**
AQU L'Aquila 83.44 332⇓ *iP* **P 13 44 01.1 +1.4**
PTL Penteli 83.48 323 P **P 13 43 59.5 -0.5**
PTL Penteli 83.48 323 P **P 13 43 59.5 -0.5**
LBL Lubilhac 83.53 340 *eP* **P 13 44 01.3 +1.2**
VIVF Saint-Julien-l 83.55 339 *eP* **P 13 44 00.3 +0.1**
comp=Z,275nm,1.1s,mb6.0
VIVF Saint-Julien-l 83.55 339 *eP* **P 13 44 00.3 +0.1**
comp=Z,275nm,1.1s,mb6.3
VIVF Saint-Julien-l 83.55 339 *eP* **P 13 44 00.3 +0.1**
VIVF pmax pmax
comp=Z,275nm,1.1s,mb6.3
KEK Kerkira 83.61 326 P **P 13 44 00.7 +0.1**
KEK Kerkira 83.61 326 P **P 13 44 00.7 +0.1**
SAOF Saorge 83.64 337 *eP* **P 13 44 00.9 +0.2**
GOGA Godfrey 83.65 45 PFAKE 13 44 10.0 +9.0
GOGA LR LR
comp=Z,637nm,20.0s,MS5.0
OG26 St.-Nazaire-De 83.66 338 *eP* **P 13 44 02.4 +1.6**
AUTN L'Aution 83.66 337 *eP* **P 13 44 01.3 +0.5**
OG25 Le Caire 83.66 338 *eP* **P 13 44 02.0 +1.2**
VLY Voula,Athens 83.68 323 P **P 13 44 00.3 -0.7**
VLY Voula,Athens 83.68 323 P **P 13 44 00.3 -0.7**
TOUF Mont Tournerai 83.69 337 *eP* **P 13 44 01.4 +0.4**
DESF Desfina 83.70 324 P **P 13 43 57.9 -3.2**
RBK Rabkut 83.73 289 P **P 13 44 00.9 -0.7**
SNR=25
SBF Sospel 83.78 337 *eP* **P 13 44 00.7 -0.7**
comp=Z,407nm,1.0s,mb6.2
SBF Sospel 83.78 337 *eP* **P 13 44 00.7 -0.7**
comp=Z,407nm,1.0s,mb6.5
SBF Sospel 83.78 337 *eP* **P 13 44 00.7 -0.7**
MVIF Mont Vial 83.83 337 *eP* **P 13 44 02.2 +0.5**
BRAL Brewton 83.84 49 PFAKE 13 44 10.0 +8.1
BRAL LR LR
comp=Z,344nm,20.0s,MS4.7
RJF Les Rejaudoux 83.85 341 *eP* **P 13 44 01.3 -0.4**
comp=Z,218nm,1.3s,mb5.8
RJF *eR*
comp=Z,1µm,22.5s
RJF Les Rejaudoux 83.85 341 *eP* **P 13 44 01.3 -0.4**
comp=Z,218nm,1.3s,mb6.1
RJF Les Rejaudoux 83.85 341 *eP* **P 13 44 01.3 -0.4**
RJF pmax pmax
comp=Z,218nm,1.3s,mb6.1
NAIG Nisos Aigina 83.89 323 *eP* **P 13 44 00.5 -1.6**
REVF Revere 83.92 337 *eP* **P 13 44 02.6 +0.5**
JSC Jenkinsville 83.97 43 *eP* **P 13 44 03.2 +0.7**
JSC Jenkinsville 83.97 43 *eP* **P 13 44 03.2 +0.6**
CALN Calern 84.03 337 *eP* **P 13 44 02.9 +0.2**
LAKA Lakka 84.07 324 P **P 13 44 02.9 -0.1**
LAKA Lakka 84.07 324 P **P 13 44 02.9 -0.1**
CAF Calviac 84.09 341 *eP* **P 13 44 02.9 -0.1**
comp=Z,210nm,1.1s,mb5.9
CAF Calviac 84.09 341 *eP* **P 13 44 02.9 -0.1**
comp=Z,210nm,1.1s,mb6.2
CAF Calviac 84.09 341 *eP* **P 13 44 02.9 -0.1**
CAF pmax pmax
comp=Z,210nm,1.1s,mb6.2
LKD2 Lefkada island 84.10 325 P **P 13 44 03.0 -0.1**
LKD2 Lefkada island 84.10 325 P **P 13 44 03.0 -0.1**
SMRF Simiane la Rot 84.16 338 *eP* **P 13 44 03.6 +0.3**
comp=Z,263nm,1.2s,mb6.0
SMRF Simiane la Rot 84.16 338 *eP* **P 13 44 03.6 +0.3**
comp=Z,263nm,1.2s,mb6.2
KARP Karpathos 84.23 319 P **P 13 44 03.5 -0.4**
KARP Karpathos 84.23 319 P **P 13 44 03.5 -0.4**
VILF Villemus 84.24 338 *eP* **P 13 44 05.2 +1.5**
LFF La Frestale 84.36 342 *eP* **P 13 44 04.2 -0.2**
comp=Z,199nm,0.9s,mb6.0
LFF La Frestale 84.36 342 *eP* **P 13 44 04.2 -0.2**
comp=Z,199nm,0.9s,mb6.2
LFF La Frestale 84.36 342 *eP* **P 13 44 04.2 -0.2**
LFF pmax pmax
comp=Z,199nm,0.9s,mb6.2
TAVF Tavernes 84.37 337 *eP* **P 13 44 05.4 +1.0**
ABTO Aybut 84.41 290 P **P 13 44 04.7 -0.4**
SNR=33
PRAF Pradon 84.42 338 *eP* **P 13 44 06.3 +1.6**
RLS Riolos of Patr 84.42 325 P **P 13 44 04.8 0.0**
RLS Riolos of Patr 84.42 325 P **P 13 44 04.8 0.0**
LASF Ste Croix 84.48 339 *eP* **P 13 44 05.1 +0.1**
comp=Z,156nm,1.3s,mb5.7
LASF Ste Croix 84.48 339 *eP* **P 13 44 05.1 +0.1**
comp=Z,156nm,1.3s,mb6.0
LMR La Mourre 84.52 337 *eP* **P 13 44 04.7 -0.5**
comp=Z,486nm,1.1s,mb6.2
LMR La Mourre 84.52 337 *eP* **P 13 44 04.7 -0.5**
comp=Z,486nm,1.1s,mb6.5
LMR La Mourre 84.52 337 *eP* **P 13 44 04.7 -0.5**
TREF Trevaresse 84.54 338 *eP* **P 13 44 06.5 +1.2**
PGF Pioggiola 84.58 335 *eP* **P 13 44 04.7 -0.8**
comp=Z,82nm,0.9s,mb5.6
PGF Pioggiola 84.58 335 *eP* **P 13 44 04.7 -0.8**
comp=Z,82nm,0.9s,mb5.9
PGF Pioggiola 84.58 335 *eP* **P 13 44 04.7 -0.8**
PGF pmax pmax
comp=Z,82nm,0.9s,mb5.9
VLS Valsamata 84.66 325 P **P 13 44 05.6 -0.4**
VLS Valsamata 84.66 325 P **P 13 44 05.6 -0.4**
VLS Valsamata 84.66 325 P **P 13 44 05.6 -0.4**
CNNC Cliffs of the 84.67 41 PFAKE 13 44 20.0 +14
CNNC LR LR
comp=Z,751nm,22.0s,MS5.0
CUC Castrocucco 84.78 329 PFAKE 13 44 20.0 +13
CUC LR LR
comp=Z,833nm,20.0s,MS5.1
VLI Veliai 85.00 323 P **P 13 44 06.3 -1.4**
VLI Veliai 85.00 323 P **P 13 44 06.3 -1.4**
ZKR Zakros 85.00 320 P **P 13 44 07.5 -0.3**
ZKR Zakros 85.00 320 P **P 13 44 07.5 -0.3**
ITM Ithomi 85.01 324 P **P 13 44 06.9 -0.9**
ITM Ithomi 85.01 324 P **P 13 44 06.9 -0.9**
TIP Timpagrande 85.18 328 *eP* **P 13 44 08.7 +0.2**
comp=Z,142nm,1.2s,mb6.0
TIP LR LR
comp=Z,1µm,20.0s,MS5.2
NHSC New Hope 85.44 43 PFAKE 13 44 20.0 +10
NHSC LR LR
comp=Z,742nm,20.0s,MS5.1
MTLF Montolieu 85.56 340 *eP* **P 13 44 09.5 -0.9**
comp=Z,42nm,0.9s,mb5.4
MTLF Montolieu 85.56 340 *eP* **P 13 44 09.5 -0.9**
comp=Z,42nm,0.9s,mb5.7
MTLF Montolieu 85.56 340 *eP* **P 13 44 09.5 -0.9**
MTLF pmax pmax
comp=Z,42nm,0.9s,mb5.7
VAM Vamos 85.61 321 P **P 13 44 11.2 +0.4**
VAM Vamos 85.61 321 P **P 13 44 11.2 +0.4**
VAM Vamos 85.61 321 P **P 13 44 11.2 +0.4**
SIVA Sivas 85.69 321 P **P 13 44 11.3 +0.1**
SIVA Sivas 85.69 321 P **P 13 44 11.3 +0.1**
KLBR Kellerberrin 86.00 211 *eP* **P 13 44 12.8 +0.3**
comp=Z,26nm,0.9s,mb5.5
EPF Esparros 86.27 341 *eP* **P 13 44 13.2 -0.7**
comp=Z,32nm,0.6s,mb5.4
EPF Esparros 86.27 341 *eP* **P 13 44 13.2 -0.7**
comp=Z,32nm,0.6s,mb5.7
EPF Esparros 86.27 341 *eP* **P 13 44 13.2 -0.7**
EPF pmax pmax
comp=Z,32nm,0.6s,mb5.7
RESF Ens 86.49 341 *eP* **P 13 44 15.7 +0.7**
SJPF Ste Jean 86.52 342 *eP* **P 13 44 15.3 +0.2**
comp=Z,28nm,1.0s,mb5.2
SJPF Ste Jean 86.52 342 *eP* **P 13 44 15.3 +0.2**
comp=Z,28nm,1.0s,mb5.5
SJPF Ste Jean 86.52 342 *eP* **P 13 44 15.3 +0.2**
SJPF pmax pmax
comp=Z,28nm,1.0s,mb5.5
ETSF Etsaut 86.59 342 *eP* **P 13 44 15.4 -0.1**
comp=Z,29nm,0.6s,mb5.4
ETSF Etsaut 86.59 342 *eP* **P 13 44 15.4 -0.1**
comp=Z,29nm,0.6s,mb5.7
ETSF Etsaut 86.59 342 *eP* **P 13 44 15.4 -0.1**
ETSF pmax pmax
comp=Z,29nm,0.6s,mb5.7
TBI Tubuai 87.17 130 *eS* S 13 54 56.8 +2.8
comp=Z,182nm,32.2s
TBI *eLR* LR 14 11 51.4
comp=Z,2µm,30.2s,baz=324
TBI *eT* 15 20 26.7
comp=Z,17nm,0.3s
VSL Villasalto 87.28 334 PFAKE 13 44 30.0 +11
VSL LR LR
comp=Z,737nm,20.0s,MS5.1
NWAO Narrogin (SRO) 87.40 211 PFAKE 13 44 30.0 +11
NWAO LR LR
comp=Z,310nm,22.0s,MS4.7
PBRG Braganca 88.79 346 *eP* **P 13 44 26.6 +0.6**
PBRG *eLR* LR 14 15 33.2
comp=Z,418nm,18.0s
PGAV Gavieira, Arco 88.87 347 *eLR* LR 14 15 30.6
comp=Z,278nm,20.0s
WDD Wield Dalam 88.93 328 PFAKE 13 44 40.0 +13
WDD LR LR
comp=Z,802nm,19.0s,MS5.2
POLO Lamas de Olo 89.38 347 *eP* **P 13 44 28.5 -0.3**
POLO *eLR* LR 14 15 36.0
comp=Z,165nm,20.0s
MVO Moncorvo 89.46 346 *eP* **P 13 44 28.7 -0.5**
comp=Z,42nm,2.2s,mb5.4
MVO *eLR* LR 14 15 41.4
comp=Z,372nm,20.0s
PVRL Vila Real 89.46 347 *eP* **P 13 44 28.8 -0.4**
comp=Z,47nm,1.1s,mb5.7
PVIS Viseu 90.04 347 *eP* **P 13 44 32.5 +0.6**
MTE Manteigas 90.29 346 *eP* **P 13 44 32.9 -0.2**
comp=Z,46nm,1.3s,mb5.7
MTE *eLR* LR 14 16 06.0
comp=Z,408nm,18.0s
MTE Manteigas 90.29 346 PFAKE 13 44 40.0 +6.9
MTE LR LR
comp=Z,494nm,20.0s,MS4.9
ESDC Sonseca Array 90.37 343 P **P 13 44 31.6 -1.9**
comp=Z,12nm,0.8s,mb5.2,baz=4.6,slow=3.8,SNR=33
ESDC LR LR 14 29 57.1
comp=Z,667nm,20.7s,MS5.0,baz=10.0,slow=39
ESDC Sonseca Array 90.37 343 P **P 13 44 31.6 -1.9**
ESLA Sonseca Array 90.37 343 *eP* **P 13 44 32.6 -0.9**
comp=Z,3.5nm,0.9s,mb4.7
ESLA LR LR
comp=Z,6µm,21.0s,MS6.0
PAB San Pablo 90.57 344 PFAKE 13 44 50.0 +16
PAB LR LR
comp=Z,999nm,20.0s,MS5.2
KEST Kesra 90.77 332 P **P 13 44 34.0 -1.4**
comp=Z,13nm,0.8s,mb5.3,baz=310,slow=1.1,SNR=37
KEST LR LR 14 30 16.0
comp=Z,345nm,20.2s,MS4.8,baz=190,slow=39
KEST Kesra 90.77 332 *eP* **P 13 44 34.8 -0.6**
PCBR Castelo Branco 90.83 346 *eP* **P 13 44 35.8 +0.2**
SNZO South Karori 90.97 165 PFAKE 13 44 50.0 +14
SNZO LR LR
comp=Z,666nm,21.0s,MS5.0
PMRV Marv??o 91.22 346 *eLR* LR 14 16 39.0
comp=Z,700nm,20.0s
PMTG Montargil 91.70 347 *eLR* LR 14 16 51.6
comp=Z,322nm,20.0s
PESTR Estremoz 91.80 346 *eP* **P 13 44 39.2 -0.9**
PESTR *eLR* LR 14 16 48.8
comp=Z,629nm,20.0s
PMAFR Mafra 91.97 347 *eLR* LR 14 16 52.2
comp=Z,422nm,20.0s
EVO Evora 92.19 346 *eP* **P 13 44 42.1 +0.2**
comp=Z,47nm,1.6s,mb5.6

PBAR	**Barrancos**	**92.38**	**345**	*e*P	**P**	**13 44 42.0 -0.8**
PBAR				*e*LR	LR	14 17 13.3
	comp=Z,427nm,18.0s					
PBEJ	**Beja**	**92.66**	**346**	*e*P	**P**	**13 44 41.3 -2.8**
	comp=Z,58nm,2.0s,mb5.7					
PNCL	**Nicolau / Gran**	**92.68**	**347**	*e*LR	LR	14 17 07.1
	comp=Z,470nm,20.0s					
RPZ	**Rata Peaks**	**92.75**	**168**	LR	LR	14 21 05.2
	comp=Z,530nm,20.9s,MS5.0,baz=1.1,slow=32					
PCVE	**Castro Verde**	**93.08**	**346**	*e*P	**P**	**13 44 46.4 +0.4**
PCVE				*e*LR	LR	14 17 33.3
	comp=Z,573nm,20.0s					
PVAQ	**Vaqueiros**	**93.25**	**346**	*e*LR	LR	14 17 40.7
	comp=Z,512nm,18.0s					
PBDV	**Barranco-do-Ve**	**93.44**	**346**	*e*LR	LR	14 17 47.3
	comp=Z,689nm,20.0s					
MORF	**Marmelete**	**93.49**	**347**	*e*LR	LR	14 19 15.7
	comp=Z,560nm,20.0s					
PFVI	**Vila Bispo**	**93.69**	**347**	*e*LR	LR	14 17 47.2
	comp=Z,646nm,18.0s					
SFS	**San Fernando**	**93.90**	**344**	PFAKE		13 45 00.0 +10
SFS				LR	LR	
	comp=Z,2μm,20.0s,MS5.5					
RKT	**Rikitea**	**94.94**	**119**	*e*LR	LR	14 15 03.9
	comp=Z,892nm,35.2s					
RTC	**Rabat Centre**	**96.43**	**344**	PFAKE		13 45 10.0 +8.6
RTC				LR	LR	
	comp=Z,661nm,19.0s,MS5.1					
GTBY	**Guantanamo Bay**	**98.98**	**46**	PFAKE		13 45 20.0 +6.9
GTBY				LR	LR	
	comp=Z,835nm,20.0s,MS5.2					
MTDJ	**Mount Denham**	**99.22**	**49**	PFAKE		13 45 30.0 +16
MTDJ				LR	LR	
	comp=Z,314nm,19.0s,MS4.8					
MSEY	**Mahe Island**	**99.43**	**274**	PFAKE		13 45 30.0 +15
MSEY				LR	LR	
	comp=Z,457nm,21.0s,MS5.0					
SDDR	**Presa de Saban**	**101.60**	**44**	PFAKE		13 45 40.0 +15
SDDR				LR	LR	
	comp=Z,446nm,21.0s,MS5.0					
JTS	**JuntasAbangare**	**101.71**	**60**	PFAKE		13 45 40.0 +15
JTS				LR	LR	
	comp=Z,372nm,19.0s,MS4.9					
TAM	**Tamanrasset**	**103.98**	**331**	PFAKE		13 45 50.0 +15
TAM				LR	LR	
	comp=Z,734nm,22.0s,MS5.2					
BCIP	**Isla Barro Col**	**105.53**	**56**	PFAKE		13 50 10.0 +14
BCIP				LR	LR	
	comp=Z,253nm,20.0s,MS4.8					
KMBO	**Kilima Mbogo**	**108.64**	**290**	PFAKE		13 50 10.0 +8.6
KMBO				LR	LR	
	comp=Z,574nm,21.0s,MS5.1					
SDV	**Santo Domingo**	**110.63**	**48**	PFAKE		13 50 20.0 +15
SDV				LR	LR	
	comp=Z,118nm,20.0s,MS4.5					
GRGR	**Grenville**	**111.89**	**38**	PFAKE		13 50 20.0 +13
GRGR				LR	LR	
	comp=Z,785nm,19.0s,MS5.3					
TORD	**Torodi Ar. Bea**	**114.24**	**331**	PKP	PKiKP	13 50 10.2 -1.8
	comp=Z,2.4nm,0.7s,baz=355,slow=1.9,SNR=13					
TORD				PKKPbc	PKKPbc	14 00 53.0 +2.8
	comp=Z,0.2nm,0.5s,baz=226,slow=2.7,SNR=3.9					
TORD	**Torodi Ar. Bea**	**114.24**	**331**	PKP	PKiKP	13 50 10.2 -1.8
TORD				PKKPbc	PKKPbc	14 00 53.0 +2.8
ABPO	**Ambohimpanom**	**115.33**	**269**	PFAKE		13 50 30.0 +16
ABPO				LR	LR	
	comp=Z,333nm,19.0s,MS5.0					
CASY	**Casey**	**119.04**	**199**	PFAKE		13 50 30.0 +11
CASY				LR	LR	
	comp=Z,325nm,21.0s,MS4.9					
DBIC	**Dimbokro**	**122.35**	**335**	PKP	PKPdf	13 50 27.1 -0.5
	comp=Z,11nm,0.8s,baz=15,slow=2.4,SNR=16					
DBIC	**Dimbokro**	**122.35**	**335**	PKP	PKPdf	13 50 27.1 -0.5
DBIC				LR	LR	
	comp=Z,489nm,21.0s,MS5.1					
DBIC	**Dimbokro**	**122.35**	**335**	PKIKP	PKPdf	13 50 27.1 -0.5
DBIC				pmax	pmax	
	comp=Z,11nm,0.8s					
LIC	**Lamto**	**122.82**	**335**	*e*PKIKP	PKPdf	13 50 28.3 -0.2
	comp=Z,31nm,0.9s					
LIC				*e*R		
	comp=Z,507nm,21.8s					
LIC	**Lamto**	**122.82**	**335**	*e*PKPdf	PKPdf	13 50 28.3 -0.2
NNA	**Nana**	**124.24**	**67**	PFAKE		13 50 40.0 +8.9
NNA				LR	LR	
	comp=Z,294nm,22.0s,MS4.9					
SAML	**Samuel**	**129.65**	**52**	PFAKE		13 50 50.0 +8.5
SAML				LR	LR	
	comp=Z,240nm,20.0s,MS4.9					
LPAZ	**La Paz**	**132.85**	**62**	PKP	PKPdf	13 50 47.4 0.0
	comp=Z,1.8nm,0.8s,baz=11,slow=8.5,SNR=5.3					
LPAZ	**La Paz**	**132.85**	**62**	PKP	PKPdf	13 50 47.4 0.0
LPAZ				LR	LR	
	comp=Z,211nm,19.0s,MS4.9					
LPAZ	**La Paz**	**132.85**	**62**	PKIKP	PKPdf	13 50 47.4 0.0
LPAZ				pmax	pmax	
	comp=Z,2.0nm,0.8s					
LBTB	**Lobatse**	**133.87**	**281**	*e*PKPdf	PKPdf	13 50 50.2 +1.1
LBTB				LR	LR	
	comp=Z,402nm,19.0s,MS5.2					
LBTB	**Lobatse**	**133.87**	**281**	*e*PKIKP	PKPdf	13 50 50.2 +1.1
LBTB				MLR	MLR	
	comp=Z,402nm,19.0s,MS5.2					
BOSA	**Boshof**	**136.51**	**278**	PKhKP	PKPpre	13 50 40.7
	comp=Z,4.8nm,0.8s,baz=252,slow=14,SNR=3.3					
BOSA	**Boshof**	**136.51**	**278**	PKPpre	PKPpre	13 50 40.7
BOSA	**Boshof**	**136.51**	**278**	*i* PKHKP	PKPpre	13 50 40.7
BOSA				pmax	pmax	
	comp=Z,5.0nm,0.8s					
RCBR	**Riachuelo**	**136.82**	**15**	PFAKE		13 51 10.0 +15
RCBR				LR	LR	
	comp=Z,303nm,20.0s,MS5.0					
LVC	**Limon Verde**	**137.19**	**69**	PFAKE		13 51 10.0 +15
LVC				LR	LR	
	comp=Z,225nm,20.0s,MS4.9					
QSPA	**South Pole Qui**	**137.99**	**180**	*e*PKPdf	PKPdf	13 50 56.7 +1.6
QSPA				LR	LR	
	comp=Z,304nm,19.0s,MS5.1					
LCO	**Las Campanas**	**140.53**	**78**	*e*PKPpre	PKPpre	13 50 56.6
LCO				*e*PKPdf	PKPdf	13 51 02.4 +1.1
LCO				LR	LR	
	comp=Z,419nm,19.0s,MS5.2					
SYO	**Syowa Base**	**142.66**	**213⇓**	*e*PKiKP	PKiKP	13 51 07.6 +0.6
SYO	**Syowa Base**	**142.66**	**213⇑**	*e*sPKiKP		13 51 29.8
CPUP	**Villa Florida**	**146.95**	**60**	PKPbc	PKPbc	13 51 13.2 -1.4
	comp=Z,13nm,0.8s,baz=301,slow=2.9,SNR=8.2					
CPUP	**Villa Florida**	**146.95**	**60**	PKPbc	PKPbc	13 51 13.2 -1.4
PLCA	**Paso Flores**	**147.44**	**94**	PKPbc	PKPbc	13 51 13.4 -2.2
	comp=Z,6.2nm,0.8s,baz=275,slow=2.2,SNR=10.0					
PLCA	**Paso Flores**	**147.44**	**94**	*e*PKPbc	PKPbc	13 51 16.2 +0.7
PLCA				LR	LR	
	comp=Z,632nm,22.0s,MS5.4					
SPB	**Sao Paulo**	**149.89**	**43**	*e*PKPbc	PKPbc	13 51 21.6 -0.7
SPB				LR	LR	
	comp=Z,394nm,20.0s,MS5.2					
CAM4	**Nova Friburgo**	**150.81**	**34⇑**	*i* P	PKPab	13 51 33.3 +1.5
CAM4				*i*		13 51 37.0
CAM4				*i*		13 51 46.6
CAM4				*i*		13 51 50.4
CAM4				*i*		13 51 55.5
NVL	**N'lazarevskaya**	**151.37**	**205⇓**	*i* PKP2	PKPab	13 51 41.1 +8.2
NVL				pmax	pmax	
	comp=Z,35nm,1.2s					
MAIT	**Maitri**	**151.40**	**205**	*e*P	PKPbc	13 51 24.8 +0.4
TRQA	**Tornquist**	**151.80**	**82**	*e*PKPbc	PKPbc	13 51 26.4 0.0
SNAA	**Sanae**	**154.25**	**196**	*e*	PKPab	13 51 46.2 +1.2
SNAA	**Sanae**	**154.25**	**196**	*e*PKPbc	PKPbc	13 51 30.2 -0.5
VNA2	**Neumayer--Watz**	**155.68**	**194**	*e*	PKPab	13 51 51.7 +0.6
	baz=136,slow=1.2					
VNA3	**Neumayer Olymp**	**155.76**	**192**	*e*	PKPab	13 51 52.2 +0.8
VNA1	**Neumayer--Stat**	**156.07**	**194**	*e*	PKPab	13 51 54.1 +1.3

IDC 28 13:50:15.5±5.0, 23°.36S×131°.53E, h0km, mb1 3.6/3, mb1mx3.3/12, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=53.2km s-min=24.0km az=84.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**2.21**	**98**	Pn	Pn	13 50 55.5	+2.1
	7.8nm,0.3s,baz=289,slow=15,SNR=323						
ASAR				Sn	Sn	13 51 21.4	0.0
	69nm,0.3s,baz=276,slow=29,SNR=66						
WRA	**Warramunga Arr**	**4.29**	**38**	Pn	Pn	13 51 20.0	-2.1
	1.0nm,0.3s,baz=218,slow=14,SNR=46						
WRA				Pg	Pg	13 51 33.8	-4.0
	4.4nm,0.3s,baz=214,slow=18,SNR=18						
WRA				Sn	Sn	13 52 21.5	+8.6
	9.8nm,0.3s,baz=216,slow=28,SNR=10.0						
STKA	**Stephens Creek**	**12.31**	**136**	Pn	Pn	13 53 11.5	-0.6
	0.3nm,0.3s,baz=323,slow=15,SNR=5.6						
STKA				Sn	Sn	13 55 22.4	-7.7
	0.6nm,0.3s,baz=324,slow=16,SNR=4.6						

*ISCJB **28** 14:02:07.9±0.7, 32°.51S±0°.08×138°.38E±0°.05, h10km, Error ellipse: s-maj=11.7km s-min=6.0km az=179.6*
*NEIC **28** 14:02:11.0, 32°.66S×138°.27E, h14km, ML3.1(AUST), After AUST.*
*AUST **28** 14:02:11.1, 32°.66S×138°.27E, h14km, ML3.1*
*IDC **28** 14:02:13.1±6.2, 32°.11S×138°.45E, h0km, mb1 3.1/3, mb1mx3.0/12, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=86.6km s-min=19.6km az=20.0*
ISC 28 14:02:09.7±0.7, 32°.56S±0°.07×138°.34E±0°.05, h10km, n12, σ1°.18/20, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**1.94**	**262**	*e*P	**Pn**	**14 02 43.0**	**+0.3**
BBOO				*e*S	**Sn**	**14 03 08.0**	**+0.9**
BBOO	**Buckleboo**	**1.94**	**262**	*e*Pn	**Pn**	**14 02 42.9**	**+0.2**
BBOO				*e*Sn	**Sn**	**14 03 06.1**	**-1.0**
STKA	**Stephens Creek**	**2.84**	**77**	Pn	**Pn**	**14 02 57.2**	**+2.0**
	1.3nm,0.3s,baz=246,slow=14,SNR=21						
STKA				Lg		14 03 38.5	
	7.6nm,0.3s,baz=330,slow=23,SNR=12						
STKA	**Stephens Creek**	**2.84**	**77**	*e*P	**Pn**	**14 02 57.1**	**+1.9**
STKA				*e*S	**Sn**	**14 03 30.1**	**+0.6**
STKA	**Stephens Creek**	**2.84**	**77**	Pn	**Pn**	**14 02 57.2**	**+2.0**
STKA				Lg		14 03 38.5	
ARPS	**Mount Arapiles**	**5.09**	**146**	*e*P	**Pn**	**14 03 25.4**	**-0.7**
ARPS				*e*S	**Sn**	**14 04 21.0**	**-4.0**
	38nm,0.9s						
CMSA	**Cobar Meteorol**	**6.33**	**83**	*e*P	**Pn**	**14 03 43.4**	**+0.3**
CMSA				*e*S	**Sn**	**14 04 53.7**	**-1.7**
ASAR	**Alice Springs**	**9.68**	**335**	Pn	**Pn**	**14 04 29.5**	**+0.3**
	0.1nm,0.3s,baz=160,slow=12,SNR=12						
ASAR				Sn	**Sn**	**14 06 13.6**	**-4.4**
	0.2nm,0.3s,baz=156,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**9.68**	**335**	Pn	**Pn**	**14 04 29.5**	**+0.3**
ASAR				Sn	**Sn**	**14 06 13.6**	**-4.4**
AS31	**Alice Springs**	**9.69**	**335**	*e*Pn	**Pn**	**14 04 30.4**	**+1.2**
AS31				*e*Sn	**Sn**	**14 06 14.8**	**-3.2**
WRA	**Warramunga Arr**	**13.06**	**343**	Pn	**Pn**	**14 05 14.7**	**-0.7**
	0.1nm,0.3s,baz=160,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**13.06**	**343**	Pn	**Pn**	**14 05 14.7**	**-0.7**

*ISCJB **28** 14:09:04.9±0.6, 37°.88N±0°.04×29°.25E±0°.04, h12km±6km, Error ellipse: s-maj=6.7km s-min=4.6km az=145.9*
*ISK **28** 14:09:04.0, 37°.91N×29°.25E, h5km, MD2.4*
*DDA **28** 14:09:04.4, 37°.91N×29°.19E, h3km±3km, Md2.7*
*CSEM **28** 14:09:04.3±0.2, 37°.86N×29°.26E, h15km, MD2.4, Error ellipse: s-maj=4.7km s-min=3.7km az=132.0*
ISC 28 14:09:05.1±0.6, 37°.87N±0°.04×29°.23E±0°.04, h17km±5km, n16, σ0°.69/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**234**	*e*PG	**Pg**	**14 09 09.5**	**-0.3**
DENT				*e*SG	**Sg**	**14 09 14.0**	**+1.0**
DENT	**Denizli**	**0.19**	**234**	*e*Pg	**Pg**	**14 09 09.5**	**-0.3**
DENT				*e*Sg	**Sg**	**14 09 14.0**	**+1.0**
DNZL	**Cakiroluk**	**0.23**	**219**	*i* P	**Pg**	**14 09 09.8**	**-0.5**
DNZL				*i* S	**Sg**	**14 09 13.6**	**-0.4**
DNZL	**Cakiroluk**	**0.23**	**219**	*i* P	**Pg**	**14 09 09.8**	**-0.6**
DNZL				*i* S	**Sg**	**14 09 13.6**	**-0.4**
KHAL	**Karahalli**	**0.54**	**22**	*i* P	**Pg**	**14 09 15.3**	**-0.6**
KHAL				*i* S	**Sg**	**14 09 23.2**	**0.0**
KHAL	**Karahalli**	**0.54**	**22**	*i* P	**Pg**	**14 09 15.3**	**-0.6**
KHAL				*i* S	**Sg**	**14 09 23.2**	**0.0**
KULA	**Kula-Manisa**	**0.79**	**325**	*e*PG	**Pg**	**14 09 19.8**	**-0.7**
KULA				*e*SG	**Sg**	**14 09 31.7**	**+0.9**
KULA	**Kula-Manisa**	**0.79**	**325**	*e*Pg	**Pg**	**14 09 19.8**	**-0.6**
KULA				*e*Sg	**Sg**	**14 09 31.7**	**+0.9**
MANT	**Manisa**	**0.82**	**320**	*i* P	**Pb**	**14 09 20.3**	**-0.5**
MANT				*i* S	**Sb**	**14 09 31.1**	**-0.4**
MANT	**Manisa**	**0.82**	**320**	*i* P	**Pb**	**14 09 20.3**	**-0.5**
MANT				*i* S	**Sb**	**14 09 31.1**	**-0.4**
ISP	**Isparta**	**1.02**	**92**	*e*PG	**Pg**	**14 09 23.9**	**-1.0**
ISP				*e*SG	**Sg**	**14 09 39.8**	**+1.4**
ISP	**Isparta**	**1.02**	**92**	*e*Pg	**Pg**	**14 09 23.9**	**-1.0**
AYDN	**Tasoluk**	**1.09**	**259**	*i* P	**Pb**	**14 09 26.0**	**+0.5**
AYDN				*i* S	**Sb**	**14 09 39.8**	**+0.5**
AYDN	**Tasoluk**	**1.09**	**259**	*i* P	**Pb**	**14 09 26.0**	**+0.5**
AYDN				*i* S	**Sb**	**14 09 39.8**	**+0.4**
GDZ	**Gediz**	**1.23**	**9**	*i* P	**Pn**	**14 09 27.0**	**-0.5**
GDZ				*i* S	**Sb**	**14 09 44.4**	**+0.8**
GDZ	**Gediz**	**1.23**	**9**	*i* P	**Pn**	**14 09 27.0**	**-0.5**
GDZ				*i* S	**Sb**	**14 09 44.3**	**+0.7**

*ISCJB **28** 14:10:01.0±0.6, 37°.90N±0°.03×29°.20E±0°.04, h6km±5km, Error ellipse: s-maj=5.7km s-min=4.4km az=10.0*
*ISK **28** 14:10:00.5, 37°.89N×29°.14E, h14km, MD2.7*
*CSEM **28** 14:10:00.9±0.2, 37°.88N×29°.19E, h10km, MD2.7, Error ellipse: s-maj=4.2km s-min=3.3km az=95.0*
*DDA **28** 14:10:01.1, 37°.92N×29°.23E, h3km±2km, Md2.9*
ISC 28 14:10:01.4±0.5, 37°.89N±0°.03×29°.19E±0°.04, h11km±5km, n22, σ0°.74/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**221**	*e*PG	**Pg**	**14 10 04.6**	**-0.8**
DENT				*e*SG	**Sg**	**14 10 07.9**	**-0.2**
DENT	**Denizli**	**0.18**	**221**	*e*Pg	**Pg**	**14 10 04.6**	**-0.8**
DENT				*e*Sg	**Sg**	**14 10 07.9**	**-0.3**
DNZL	**Cakiroluk**	**0.23**	**209**	*i* P	**Pg**	**14 10 06.3**	**+0.1**
DNZL				*i* S	**Sg**	**14 10 11.3**	**+1.9**
DNZL	**Cakiroluk**	**0.23**	**209**	*i* P	**Pg**	**14 10 06.3**	**+0.1**
DNZL				*i* S	**Sg**	**14 10 11.3**	**+1.8**
KHAL	**Karahalli**	**0.53**	**27**	*i* P	**Pg**	**14 10 11.3**	**-0.4**
KHAL				*i* S	**Sg**	**14 10 18.6**	**-0.2**
KHAL	**Karahalli**	**0.53**	**27**	*i* P	**Pg**	**14 10 11.4**	**-0.4**
KHAL				*i* S	**Sg**	**14 10 18.6**	**-0.2**
KULA	**Kula-Manisa**	**0.74**	**326**	*e*PG	**Pg**	**14 10 15.0**	**-0.8**
KULA				*e*SG	**Sg**	**14 10 25.8**	**+0.2**
KULA	**Kula-Manisa**	**0.74**	**326**	*e*Pg	**Pg**	**14 10 15.0**	**-0.8**
KULA				*e*Sg	**Sg**	**14 10 25.8**	**+0.3**
MANT	**Manisa**	**0.78**	**320**	*i* P	**Pg**	**14 10 16.8**	**+0.5**
MANT				*i* S	**Sg**	**14 10 27.2**	**+0.7**
MANT	**Manisa**	**0.78**	**320**	*i* P	**Pg**	**14 10 16.8**	**+0.5**
MANT				*i* S	**Sg**	**14 10 27.2**	**+0.7**
GLHS	**Glhisar (BURDU**	**0.78**	**161**	*e*PG	**Pg**	**14 10 16.2**	**-0.2**
GLHS	**Glhisar (BURDU**	**0.78**	**161**	*e*Pg	**Pg**	**14 10 16.2**	**-0.2**
YER	**Yerkesik**	**1.04**	**224**	*e*PG	**Pg**	**14 10 20.2**	**-1.2**
YER	**Yerkesik**	**1.04**	**224**	*e*Pg	**Pg**	**14 10 20.3**	**-1.2**
ISP	**Isparta**	**1.06**	**93**	*e*PN	**Pn**	**14 10 21.8**	**-0.3**
ISP				*e*SN	**Sn**	**14 10 37.6**	**+0.8**
ISP	**Isparta**	**1.06**	**93**	*e*Pn	**Pn**	**14 10 21.8**	**-0.3**
ISP				*e*Sn	**Sn**	**14 10 37.6**	**+0.8**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P	**Pb**	**14 10 22.3**	**+0.6**
AYDN				*i* S	**Sb**	**14 10 35.6**	**0.0**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P	**Pb**	**14 10 22.3**	**+0.6**
AYDN				*i* S	**Sb**	**14 10 35.6**	**0.0**
DEMI	**Demirci**	**1.21**	**342**	*i* P	**Pn**	**14 10 24.8**	**+0.7**
DEMI				*i* S	**Sb**	**14 10 39.8**	**+0.1**
DEMI	**Demirci**	**1.21**	**342**	*i* P	**Pn**	**14 10 24.8**	**+0.7**
DEMI				*i* S	**Sb**	**14 10 39.8**	**+0.1**
BLCB	**Balcova**	**1.76**	**287**	*e*PN	**Pn**	**14 10 30.3**	**-1.4**
BLCB	**Balcova**	**1.76**	**287**	*e*Pn	**Pn**	**14 10 30.3**	**-1.4**

*NEIC **28** 14:29:44.3±1.7, 31°.18S×179°.79W, h453km±16km, mb4.2/3, Error ellipse: s-maj=24.2km s-min=16.0km az=54.0*
*IDC **28** 14:29:45.6±5.0, 31°.25S×179°.95W, h455km±57km, mb3.4/4, mb1 3.6/6, mb1mx3.3/16, mbtmp3.5/6, Error ellipse: s-maj=54.1km s-min=28.4km az=15.0*
ISC 28 14:29:46.1±1.2, 31°.34S±0°.08×180°.0E±0°.2, h454km±17km, n44, σ1°.20/49, mb3.9/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.36**	**192**	*e*PN	**P**	**14 31 23.7**	**-0.4**
MXZ				SN	**S**	**14 32 41.5**	**-2.8**
OUZ	**Omahuta**	**6.61**	**232**	*e*P	**P**	**14 31 28.7**	**+2.0**
PUZ	**Puketiti**	**6.87**	**192**	*e*PN	**P**	**14 31 29.2**	**-0.1**
PUZ				SN	**S**	**14 32 52.6**	**-1.3**
MWZ	**Matawai**	**7.27**	**195**	*e*PN	**P**	**14 31 31.9**	**-1.6**
MWZ				SN	**S**	**14 33 01.2**	**-0.5**
CNGZ	**Carnagh Statio**	**7.28**	**191**	*e*PN	**P**	**14 31 34.1**	**+0.5**
URZ	**Urewera**	**7.30**	**198**	P	**P**	**14 31 35.3**	**+1.4**
	15nm,0.3s,baz=351,slow=3.7,SNR=116						
URZ				S	**S**	**14 33 02.3**	**-0.1**
	12nm,0.3s,baz=120,slow=20,SNR=8.8						
URZ	**Urewera**	**7.30**	**198**	*e*P	**P**	**14 31 33.2**	**-0.7**
	97nm,0.5s						
URZ				S	**S**	**14 33 02.3**	**-0.1**
URZ	**Urewera**	**7.30**	**198**	*e*PN	**P**	**14 31 31.7**	**-2.2**
URZ				SN	**S**	**14 33 01.1**	**-1.2**
RRRZ	**Republican Roa**	**7.55**	**201**	PN	**P**	**14 31 39.2**	**+2.6**
PRRZ	**Plateau Road**	**7.73**	**201**	PN	**P**	**14 31 40.8**	**+2.3**
PRGZ	**Paritu Road**	**7.76**	**192**	*e*PN	**P**	**14 31 39.4**	**+0.6**
KNZ	**Kokohu**	**7.90**	**193**	*e*PN	**P**	**14 31 40.3**	**0.0**
RAHZ	**Arahi**	**7.93**	**197**	*e*PN	**P**	**14 31 41.0**	**+0.4**
MHGZ	**Mahia Peninsul**	**7.98**	**192**	*e*PN	**P**	**14 31 42.2**	**+1.1**
NMHZ	**Naumai**	**8.17**	**198**	PN	**P**	**14 31 42.8**	**-0.3**
HIZ	**Hauiti**	**8.31**	**209**	*e*PN	**P**	**14 31 46.3**	**+1.6**
PXZ	**Pawanui**	**9.04**	**195**	*e*PN	**P**	**14 31 51.7**	**-0.8**
PXZ				*e*SN	**S**	**14 33 34.2**	**-2.4**
TSZ	**Takapari Road**	**9.30**	**199**	*e*PN	**P**	**14 31 55.1**	**-0.2**
MRZ	**Mangatainoka R**	**9.96**	**200**	PN	**P**	**14 32 00.5**	**-2.1**
MRZ				*e*SN	**S**	**14 33 55.1**	**0.0**
TIWZ	**Tintock**	**9.99**	**198**	*e*PN	**P**	**14 32 03.8**	**+0.9**
MTW	**Mount Morrison**	**10.45**	**199**	PN	**P**	**14 32 09.1**	**+1.3**
THZ	**Tophouse**	**11.86**	**207**	*e*PN	**P**	**14 32 22.8**	**-0.3**
THZ				*e*SN	**S**	**14 34 32.8**	**0.0**
KHZ	**Kahutara**	**12.20**	**203**	*e*P	**P**	**14 32 26.8**	**-0.1**
	10nm,0.4s						
RPZ	**Rata Peaks**	**14.23**	**207**	P	**P**	**14 32 50.7**	**+2.0**
	0.4nm,0.3s,baz=69,slow=4.4,SNR=3.5						
RPZ				S	**S**	**14 35 22.5**	**+2.9**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=3.3						
RPZ	**Rata Peaks**	**14.23**	**207**	*e*P	**P**	**14 32 50.6**	**+1.9**
RPZ				S	**S**	**14 35 22.5**	**+2.9**
DZM	**Mont Dzumac**	**15.21**	**304**	P	**P**	**14 32 58.3**	**-1.1**
CTA	**Charters Tower**	**32.27**	**282**	P	**P**	**14 35 35.9**	**0.0**
	2.0nm,0.3s,mb4.0,baz=66,slow=13,SNR=5.3						
CTA	**Charters Tower**	**32.27**	**282**	P	**P**	**14 35 35.9**	**0.0**
CTAO	**Charters Tower**	**32.27**	**282**	*e*P	**P**	**14 35 36.1**	**+0.1**
	2.7nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**32.59**	**259**	P	**P**	**14 35 39.5**	**+0.9**
	1.4nm,0.5s,mb3.7,baz=100,slow=12,SNR=8.0						
STKA	**Stephens Creek**	**32.59**	**259**	*e*P	**P**	**14 35 40.0**	**+1.4**
	0.3nm,0.3s,mb3.2						
AS31	**Alice Springs**	**41.35**	**269**	*e*P	**P**	**14 36 50.6**	**-0.4**
ASAR	**Alice Springs**	**41.35**	**269**	P	**P**	**14 36 50.7**	**-0.3**
	1.3nm,0.4s,mb3.8,baz=106,slow=7.4,SNR=98						
ASAR	**Alice Springs**	**41.35**	**269**	P	**P**	**14 36 50.7**	**-0.3**
WB2	**Warramunga Arr**	**42.41**	**274**	*e*P	**P**	**14 36 58.6**	**-0.9**
WRAB	**Tennant Creek**	**42.42**	**274**	*e*P	**P**	**14 36 58.6**	**-1.0**
	3.4nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**42.42**	**274**	P	**P**	**14 36 58.9**	**-0.7**
	3.2nm,0.3s,mb4.2,baz=111,slow=8.0,SNR=60						
WRA	**Warramunga Arr**	**42.42**	**274**	P	**P**	**14 36 58.9**	**-0.7**
FINES	**FINESS Array B**	**145.40**	**338**	PKPbc	PKPbc	14 48 30.5	-1.1
	1.5nm,0.4s,baz=56,slow=4.2,SNR=24						
FINES	**FINESS Array B**	**145.40**	**338**	PKPbc	PKPbc	14 48 30.5	-1.1
NB2	**NORSAR Subarra**	**149.38**	**349**	PKP	PKPbc	14 48 41.3	-0.8
	comp=Z,0.5nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.38**	**349**	PKPbc	PKPbc	14 48 40.3	-1.8
	comp=Z,1.0nm,0.8s,baz=17,slow=4.2,SNR=4.2						
NOA	**NORSAR Array B**	**149.38**	**349**	PKPbc	PKPbc	14 48 40.4	-1.8
NAO01	**NORSAR Array S**	**149.62**	**349**	*e*PKPab	PKPab	14 48 47.7	-2.0

MAN 28 14:58:43.6°.08N×126°.27E, h159km, mb4.5, ML3.3, MS3.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.86**	**359**	*e*P	Pn	14 59 08.8	+1.2
MATI				*e*S	Sn	14 59 12.8	-14
GSPH	**General Santos**	**1.31**	**271**	*e*P	Pn	14 59 10.4	-0.9
GSPH				*e*S	Sn	14 59 29.6	-3.5
BUKP	**Musuan**	**2.15**	**326**	*e*P	Pn	14 59 23.1	+2.7
BUKP				*e*S	Sn	14 59 50.9	+1.5

CLNS				*e*S	Sn	15 11 12.1	+5.9
CLNS				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.1s						
CLNS				pmax	pmax		
	comp=N,2.0nm,0.2s						
CLNS				smax			
	comp=E,11nm,0.3s						
CLNS				smax			
	comp=N,59nm,0.7s						
CLNS	**Chul'man**	**3.56**	**82**	*e*	Pn	15 10 23.1	-0.9
CLNS				*e*Pg	Pg	15 10 31.9	-4.8
CLNS				*e*Sg	Sg	15 11 18.8	-4.0
IENR	**Iengra**	**3.57**	**92**	⇑*i*Pn	Pn	15 10 25.0	+0.9
IENR				*e*Pg	Pg	15 10 32.8	-4.0
IENR				*e*Sg	Sg	15 11 19.0	-4.1
YOA	**Uoyan**	**3.77**	**267**	*e*PN	Pn	15 10 35.6	+8.8
YOA				*i*		15 11 26.7	
YOA				pmax	pmax		
	comp=Z,54nm,0.5s						
YOA				smax			
	comp=N,471nm,1.0s						
KMO	**Kumora**	**4.11**	**264**	*e*Pn	Pn	15 10 32.0	+0.6
KMO				*e*Pg	Pg	15 10 41.7	-5.4
KMO				*e*Sg	Sg	15 11 34.1	-6.1
KMO				Pmax			
	comp=N,27nm,0.4s						
KMO				Smax			
	comp=N,145nm,1.0s						
YLYR	**Ulyunkhan**	**4.45**	**251**	*e*PN	Pn	15 10 36.6	+0.4
YLYR				*e*		15 10 48.3	
YLYR				pmax	pmax		
	comp=Z,1.0nm,0.1s						
YLYR	**Ulyunkhan**	**4.45**	**251**	*e*Pg	Pg	15 10 47.4	-6.2
YLYR				*e*Sg	Sg	15 11 45.2	-6.0
YLYR				Smax			
	comp=Z,73nm,1.1s						
NIZ	**Nizh Angarsk**	**5.04**	**265**	*e*PN	Pn	15 10 46.8	+2.5
NIZ				*e*S	Sn	15 12 06.2	+23
NIZ				smax			
	comp=N,61nm,0.9s						
NIZ	**Nizh Angarsk**	**5.04**	**265**	*e*	Pn	15 10 46.9	+2.6
NIZ				*e*Pg	Pg	15 10 59.3	-5.7
NIZ				*e*Sg	Sg	15 12 04.4	-5.9
NIZ				Pmax			
	comp=N,4.0nm,0.6s						
NIZ				Smax			
	comp=N,61nm,0.8s						
CIT	**Chita**	**5.35**	**215**	*e*	Pn	15 11 00.6	+12
CIT				*e*Pg	Pg	15 11 04.9	-6.1
CIT				*e*		15 12 01.8	
CIT				*e*Sg	Sg	15 12 14.0	-6.3
CIT				Pmax			
	comp=N,59nm,0.2s						
CIT				Smax			
	comp=N,108nm,0.6s						
SYVR	**Suvo**	**5.65**	**243**	*e*PN	Pn	15 10 52.8	+0.2
SYVR				pmax	pmax		
	comp=Z,14nm,0.8s						
SYVR	**Suvo**	**5.65**	**243**	*e*	Pn	15 10 53.3	+0.7
SYVR				*e*		15 11 09.2	
SYVR				*e*Sg	Sg	15 12 24.9	-4.7
SYVR				max			
	comp=Z,13nm,0.9s						
SYVR				Smax			
	comp=Z,65nm,0.8s						
MXMB	**Maximikha**	**6.49**	**244**	*e*	Pn	15 11 59.7	+56
MXMB				*e*Sg	Sg	15 12 49.7	-6.9
MXMB				Smax			
	comp=Z,175nm,0.8s						
OGRR	**Ongureny**	**6.87**	**250**	*e*Sg	Sg	15 13 01.1	-7.9
OGRR				Smax			
	comp=Z,20nm,1.0s						
KPC	**Khapcheranga**	**7.75**	**211**	*e*PG	Pg	15 11 46.3	-11
KPC				pmax	pmax		
	comp=Z,28nm,0.1s						
KPC	**Khapcheranga**	**7.75**	**211**	*e*	Pn	15 12 18.3	+57
KPC				*e*Sg	Sg	15 13 26.7	-10
KPC				Smax			
	comp=Z,97nm,1.3s						
YAK	**Yakutsk**	**7.96**	**42**	*e*PN	Pn	15 11 18.1	-6.2
YAK				*e*		15 11 48.8	
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TRG	**Tyrgan**	**7.97**	**247**	*e*		15 13 27.4	
TRG				*e*Sg	Sg	15 13 34.2	-10
TRG				Smax			
	comp=Z,15nm,1.1s						
FFNB	**Fofonovo**	**8.18**	**242**	*e*Sg	Sn	15 13 42.5	+43
FFNB				Smax			
	comp=Z,37nm,1.1s						
HRMR	**Khuramsha**	**8.36**	**239**	*e*	Pn	15 11 59.2	+29
HRMR				*e*		15 13 19.8	
HRMR				*e*Sg	Sn	15 13 49.0	+45
HRMR				Smax			
	comp=Z,115nm,1.0s						
ARS	**Arshan**	**10.46**	**251**	*e*Sg	Sn	15 14 52.2	+57
ARS				Smax			
	comp=Z,26nm,0.8s						
ZAK	**Zakamensk**	**10.93**	**242**	*e*	Pn	15 12 59.4	+54
ZAK				*e*Sg	Sn	15 15 08.7	+61
ZAK				Smax			
	comp=Z,6.0nm,0.9s						
ORL	**Orlik**	**11.54**	**258**	*e*Sg	Sn	15 15 25.5	+63
ORL				Smax			
	comp=Z,8.0nm,1.0s						

*ISCJB **28** 15:16:05.7±1.1,37°.94N±0°.05×29°.24E±0°.09,h10km,Error ellipse: s-maj=10.8km s-min=5.6km az=27.7*
*DDA **28** 15:16:05.5,37°.95N×29°.21E,h3km±1km,Md2.5*
*CSEM **28** 15:16:05.5±0.6,37°.95N×29°.22E,h15km,MD2.5,Error ellipse: s-maj=15.1km s-min=9.1km az=112.0*
ISC 28 15:16:06.0±1.2,37°.93N±0°.05×29°.26E±0°.09,h10km,n8,σ0°99/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.25**	**226**	*e*PG	**Pg**	**15 16 11.2**	**+0.2**
DENT				*e*SG	**Sg**	**15 16 14.9**	**+0.5**
DENT	**Denizli**	**0.25**	**226**	*e*Pg	**Pg**	**15 16 11.2**	**+0.2**
DENT				*e*Sg	**Sg**	**15 16 14.9**	**+0.5**
KHAL	**Karahalli**	**0.48**	**23**	*i* P	**Pg**	**15 16 15.1**	**-0.3**
KHAL				*i* S	**Sg**	**15 16 22.7**	**+0.9**
KHAL	**Karahalli**	**0.48**	**23**	*i* P	**Pg**	**15 16 15.1**	**-0.3**
KHAL				*i* S	**Sg**	**15 16 22.7**	**+0.9**
KULA	**Kula-Manisa**	**0.75**	**322**	*e*PG	**Pg**	**15 16 18.5**	**-2.0**
KULA	**Kula-Manisa**	**0.75**	**322**	*e*Pg	**Pg**	**15 16 18.5**	**-2.0**
MANT	**Manisa**	**0.79**	**316**	*i* P	**Pg**	**15 16 20.5**	**-0.7**
MANT				*i* S	**Sg**	**15 16 32.7**	**+1.2**
MANT	**Manisa**	**0.79**	**316**	*i* P	**Pg**	**15 16 20.5**	**-0.7**
MANT				*i* S	**Sg**	**15 16 32.7**	**+1.2**

*IDC **28** 15:20:25.4±1.0,16°.29S×175°.15W,h0km,mb4.2/7, mb1 4.5/7,mb1mx4.1/16,mbtmp4.2/7,Error ellipse: s-maj=37.1km s-min=17.2km az=141.0*
*ISCJB **28** 15:20:27.6±4.7,16°.4S±0°.2×175°.0W±0°.2,h25km±34km, mb4.2/8,Error ellipse: s-maj=40.6km s-min=18.5km az=136.0*
*NEIC **28** 15:20:47.9±0.6,16°.75S×174°.92W,h200km,mb3.6/2, Error ellipse: s-maj=23.3km s-min=10.8km az=135.0*
ISC 28 15:20:31.9±4.0,16°.5S±0°.2×174°.9W±0°.2,h47km±39km,n25,σ0°38/20,mb4.2/8,1C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.82**	**196**	P	**P**	**15 25 31.1**	**+0.3**
	6.3nm,0.6s,mb4.2,baz=42,slow=11,SNR=8.8						
URZ	**Urewera**	**22.82**	**196**	*e*P	**P**	**15 25 31.0**	**+0.2**
EIDS	**Eidsvold**	**32.91**	**249**	*e*P	**P**	**15 27 02.3**	**+0.4**
STKA	**Stephens Creek**	**42.26**	**241**	P	**P**	**15 28 20.6**	**-0.2**
	4.6nm,0.5s,mb4.3,baz=72,slow=9.3,SNR=15						
STKA	**Stephens Creek**	**42.26**	**241**	*e*P	**P**	**15 28 20.9**	**+0.1**
	0.7nm,0.5s,mb3.5						
WB2	**Warramunga Arr**	**48.19**	**258**	P	**P**	**15 29 07.5**	**-0.6**
WRAB	**Tennant Creek**	**48.19**	**258**	*e*P	**P**	**15 29 07.9**	**-0.2**
	4.6nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**48.20**	**258**	P	**P**	**15 29 08.0**	**-0.1**
	0.8nm,0.4s,mb4.1,baz=96,slow=7.0,SNR=16						
WRA				S	**S**	**15 36 04.5**	**+0.2**
	0.3nm,0.3s,baz=131,slow=30,SNR=15						
WRA	**Warramunga Arr**	**48.20**	**258**	P	**P**	**15 29 08.0**	**-0.1**
WRA				S	**S**	**15 36 04.5**	**+0.2**
AS31	**Alice Springs**	**48.41**	**253**	*e*P	**P**	**15 29 09.4**	**-0.3**
ASAR	**Alice Springs**	**48.41**	**253**	P	**P**	**15 29 09.8**	**0.0**
	15nm,0.5s,mb5.2,baz=88,slow=8.5,SNR=560						
ASAR				PcP	PcP	15 30 33.0	-2.6
	0.4nm,0.4s,baz=101,slow=4.0,SNR=4.9						
ASAR	**Alice Springs**	**48.41**	**253**	P	**P**	**15 29 09.8**	**0.0**
ASAR				PcP	PcP	15 30 33.0	-2.6
PETK	**Petropavlovsk-**	**73.21**	**343**	P	**P**	**15 31 58.5**	**+0.9**
	3.9nm,0.9s,mb4.3,baz=137,slow=8.2,SNR=4.8						
PETK	**Petropavlovsk-**	**73.21**	**343**	P	**P**	**15 31 58.5**	**+0.9**
NVAR	**Mina Array Bea**	**76.08**	**42**	P	**P**	**15 32 14.3**	**-0.3**
	0.3nm,0.6s,mb3.4,baz=216,slow=7.3,SNR=3.5						
NVAR	**Mina Array Bea**	**76.08**	**42**	P	**P**	**15 32 14.3**	**-0.3**
ILAR	**Eielson Array**	**83.77**	**12**	P	**P**	**15 32 55.3**	**-0.3**
	0.5nm,0.5s,mb3.9,baz=225,slow=5.7,SNR=17						
ILAR	**Eielson Array**	**83.77**	**12**	P	**P**	**15 32 55.3**	**-0.3**
CLL	**Collm**	**144.67**	**351**	⇑*i*PKPdf	PKPdf	15 40 00.7	-2.6
	comp=Z,7.0nm,0.9s						
BR131	**Keskin Array S**	**146.04**	**319**	*e*PKP	PKPdf	15 40 05.3	-0.7
BRTR	**Keskin Array B**	**146.04**	**319**	PKPbc	PKPbc	15 40 05.5	-1.4
	comp=Z,1.6nm,0.8s,baz=89,slow=2.0,SNR=7.0						
BRTR	**Keskin Array B**	**146.04**	**319**	PKPbc	PKPbc	15 40 05.5	-1.4
KHC	**Kasperske Hory**	**146.70**	**350**	*e*PKP	PKPdf	15 40 07.0	+0.2
GERES	**GERESS Array B**	**146.95**	**350**	PKPbc	PKPbc	15 40 07.5	-1.7
	comp=Z,0.7nm,0.6s,baz=56,slow=3.4,SNR=5.0						
GERES	**GERESS Array B**	**146.95**	**350**	PKPbc	PKPbc	15 40 07.5	-1.7

*NEIC **28** 15:21:44.5,38°.68S×175°.47E,h184km,MG3.8(WEL), After WEL.*
WEL 28 15:21:45.5±0.3,38°.71S×175°.47E,h176km±2km,ML3.8/17, 3C-1D,Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.36**	**185**	PN	Pn	15 22 09.1	-0.1
TWVZ				SN	Sn	15 22 28.1	+0.5
TWVZ	**Taurewa**	**0.36**	**185**	Pn	Pn	15 22 09.2	0.0
KRVZ	**Karewarewa**	**0.40**	**161**	PN	Pn	15 22 09.5	+0.1
KRVZ				SN	Sn	15 22 27.7	-0.1
KRVZ	**Karewarewa**	**0.40**	**161**	Pn	Pn	15 22 09.5	+0.2
WTVZ	**West Tongariro**	**0.41**	**167**	PN	Pn	15 22 09.5	+0.2
WTVZ				SN	Sn	15 22 27.7	-0.2
WTVZ	**West Tongariro**	**0.41**	**167**	Pn	Pn	15 22 09.6	+0.2
NGZ	**Ngauruhoe**	**0.47**	**168**	PN	Pn	15 22 09.8	+0.2
NGZ				SN	Sn	15 22 28.4	0.0
NGZ	**Ngauruhoe**	**0.47**	**168**	Pn	Pn	15 22 09.7	+0.1
NGZ				Sn	Sn	15 22 28.4	0.0
WPVZ	**Whakapapa**	**0.49**	**174**	PN	Pn	15 22 10.0	+0.3
WPVZ	**Whakapapa**	**0.49**	**174**	Pn	Pn	15 22 10.0	+0.3
HIZ	**Hauiti**	**0.52**	**292**	PN	Pn	15 22 09.5	-0.4
HIZ				SN	Sn	15 22 28.2	-0.3
HIZ	**Hauiti**	**0.52**	**292**	Pn	Pn	15 22 09.5	-0.4
TUVZ	**Tukino**	**0.57**	**166**	PN	Pn	15 22 10.4	+0.3
TUVZ				SN	Sn	15 22 28.4	-0.7
TUVZ	**Tukino**	**0.57**	**166**	Pn	Pn	15 22 10.4	+0.3
PKVZ	**Pokaka**	**0.58**	**190**	PN	Pn	15 22 10.2	+0.1
PKVZ	**Pokaka**	**0.58**	**190**	Pn	Pn	15 22 10.2	+0.1
TRVZ	**Turoa**	**0.59**	**174**	PN	Pn	15 22 10.5	+0.4
TRVZ	**Turoa**	**0.59**	**174**	Pn	Pn	15 22 10.5	+0.4
WNVZ	**Wahianoa**	**0.62**	**171**	PN	Pn	15 22 10.7	+0.4
WNVZ	**Wahianoa**	**0.62**	**171**	Pn	Pn	15 22 10.7	+0.4
MTVZ	**Mangateitei**	**0.67**	**180**	PN	Pn	15 22 10.7	+0.2
MTVZ				SN	Sn	15 22 29.6	-0.5
MTVZ	**Mangateitei**	**0.67**	**180**	Pn	Pn	15 22 10.7	+0.2
VRZ	**Vera Road**	**0.69**	**233**	PN	Pn	15 22 10.6	-0.1
VRZ	**Vera Road**	**0.69**	**233**	Pn	Pn	15 22 10.6	-0.1
MOVZ	**Moawhango**	**0.73**	**163**	PN	Pn	15 22 10.8	-0.1
MOVZ				SN	Sn	15 22 28.7	-1.8
MOVZ	**Moawhango**	**0.73**	**163**	Pn	Pn	15 22 10.8	-0.1
RRRZ	**Republican Roa**	**0.90**	**66**	PN	Pn	15 22 11.3	-0.7
RRRZ	**Republican Roa**	**0.90**	**66**	Pn	Pn	15 22 11.3	-0.7
BHHZ	**Black Hill Sta**	**0.90**	**150**	PN	Pn	15 22 11.9	-0.1
BHHZ				SN	Sn	15 22 30.6	-1.9
BHHZ	**Black Hill Sta**	**0.90**	**150**	Pn	Pn	15 22 11.9	-0.1
BKZ	**Black Stump Fm**	**0.91**	**120**	⇑PN	Pn	15 22 11.9	-0.2
BKZ	**Black Stump Fm**	**0.91**	**120**	Pn	Pn	15 22 11.9	-0.2
MHEZ	**Mangahewa**	**0.97**	**248**	PN	Pn	15 22 12.7	+0.2
MHEZ	**Mangahewa**	**0.97**	**248**	Pn	Pn	15 22 12.7	+0.2
TOZ	**Tahuroa Road**	**0.98**	**1**	⇓PN	Pn	15 22 12.0	-0.7
TOZ	**Tahuroa Road**	**0.98**	**1**	Pn	Pn	15 22 11.9	-0.7
RAEZ	**Rainy Point**	**1.02**	**235**	PN	Pn	15 22 12.9	+0.1
RAEZ	**Rainy Point**	**1.02**	**235**	Pn	Pn	15 22 12.9	+0.1
NMHZ	**Naumai**	**1.11**	**111**	PN	Pn	15 22 14.2	+0.7
NMHZ	**Naumai**	**1.11**	**111**	Pn	Pn	15 22 14.2	+0.7
WAZ	**Wanganui**	**1.11**	**200**	PN	Pn	15 22 13.7	+0.2
WAZ	**Wanganui**	**1.11**	**200**	Pn	Pn	15 22 13.7	+0.2
MCHZ	**McNeill Hill**	**1.20**	**128**	PN	Pn	15 22 15.1	+0.8
MCHZ	**McNeill Hill**	**1.20**	**128**	Pn	Pn	15 22 15.1	+0.8
NEZ	**North Egmont**	**1.21**	**242**	PN	Pn	15 22 14.7	+0.3
NEZ	**North Egmont**	**1.21**	**242**	Pn	Pn	15 22 14.7	+0.3
DFE	**Dawson Falls**	**1.23**	**240**	PN	Pn	15 22 14.1	-0.5
DFE	**Dawson Falls**	**1.23**	**240**	Pn	Pn	15 22 14.1	-0.5
PKE	**Pukeiti**	**1.25**	**247**	PN	Pn	15 22 14.8	0.0
PKE	**Pukeiti**	**1.25**	**247**	Pn	Pn	15 22 14.8	0.0
RAHZ	**Arahi**	**1.27**	**100**	PN	Pn	15 22 15.1	+0.2
RAHZ	**Arahi**	**1.27**	**100**	Pn	Pn	15 22 15.1	+0.2
PNHZ	**Pukenui**	**1.32**	**155**	PN	Pn	15 22 15.4	+0.1
PNHZ	**Pukenui**	**1.32**	**155**	Pn	Pn	15 22 15.4	+0.1
NRZ	**Ngariki Road**	**1.35**	**242**	PN	Pn	15 22 15.5	-0.2
NRZ	**Ngariki Road**	**1.35**	**242**	Pn	Pn	15 22 15.5	-0.2
URZ	**Urewera**	**1.36**	**71**	PN	Pn	15 22 14.2	-1.5
URZ	**Urewera**	**1.36**	**71**	Pn	Pn	15 22 14.2	-1.5
TSZ	**Takapari Road**	**1.40**	**164**	⇑PN	Pn	15 22 16.0	0.0
TSZ	**Takapari Road**	**1.40**	**164**	⇑Pn	Pn	15 22 16.0	0.0
KAHZ	**Kahuranaki**	**1.53**	**135**	PN	Pn	15 22 17.7	+0.4
KAHZ	**Kahuranaki**	**1.53**	**135**	Pn	Pn	15 22 17.7	+0.4
WPHZ	**Waipukurau**	**1.54**	**151**	PN	Pn	15 22 17.5	0.0
WPHZ	**Waipukurau**	**1.54**	**151**	Pn	Pn	15 22 17.5	0.0
CKHZ	**Cape Kidnapper**	**1.56**	**128**	PN	Pn	15 22 18.1	+0.5
CKHZ	**Cape Kidnapper**	**1.56**	**128**	Pn	Pn	15 22 18.1	+0.5
MWZ	**Matawai**	**1.65**	**77**	PN	Pn	15 22 17.5	-1.1
MWZ	**Matawai**	**1.65**	**77**	Pn	Pn	15 22 17.5	-1.1
DVHZ	**Dannevirke**	**1.67**	**162**	PN	Pn	15 22 18.4	-0.3
DVHZ	**Dannevirke**	**1.67**	**162**	Pn	Pn	15 22 18.4	-0.3
POWZ	**Post Office Ro**	**1.69**	**172**	PN	Pn	15 22 18.4	-0.5
POWZ	**Post Office Ro**	**1.69**	**172**	Pn	Pn	15 22 18.4	-0.5
PXZ	**Pawanui**	**1.70**	**141**	PN	Pn	15 22 18.9	-0.1
PXZ	**Pawanui**	**1.70**	**141**	Pn	Pn	15 22 18.9	-0.1
KNZ	**Kokohu**	**1.74**	**101**	PN	Pn	15 22 18.9	-0.6
KNZ	**Kokohu**	**1.74**	**101**	Pn	Pn	15 22 18.9	-0.6
PRHZ	**Porangahau**	**1.79**	**150**	PN	Pn	15 22 19.9	-0.1
PRHZ	**Porangahau**	**1.79**	**150**	Pn	Pn	15 22 19.9	-0.1
OTAZ	**Otara**	**1.81**	**346**	PN	Pn	15 22 19.5	-0.8
OTAZ	**Otara**	**1.81**	**346**	Pn	Pn	15 22 19.5	-0.8
PRGZ	**Paritu Road**	**1.89**	**97**	PN	Pn	15 22 20.5	-0.6
PRGZ	**Paritu Road**	**1.89**	**97**	Pn	Pn	15 22 20.5	-0.6
MHGZ	**Mahia Peninsul**	**1.95**	**104**	PN	Pn	15 22 21.5	-0.1
MHGZ	**Mahia Peninsul**	**1.95**	**104**	Pn	Pn	15 22 21.5	-0.1
MRZ	**Mangatainoka R**	**1.95**	**178**	PN	Pn	15 22 20.8	-0.8
MRZ	**Mangatainoka R**	**1.95**	**178**	Pn	Pn	15 22 20.8	-0.8
BFZ	**Birch Farm**	**2.05**	**163**	PN	Pn	15 22 22.1	-0.7
BFZ	**Birch Farm**	**2.05**	**163**	Pn	Pn	15 22 22.1	-0.7
TIWZ	**Tintock**	**2.09**	**171**	PN	Pn	15 22 22.4	-0.7
TIWZ	**Tintock**	**2.09**	**171**	Pn	Pn	15 22 22.4	-0.7
OGWZ	**Otaki Gorge**	**2.12**	**186**	PN	Pn	15 22 22.7	-0.7
OGWZ	**Otaki Gorge**	**2.12**	**186**	Pn	Pn	15 22 22.7	-0.7
CNGZ	**Carnagh Statio**	**2.15**	**85**	PN	Pn	15 22 23.4	-0.5
CNGZ	**Carnagh Statio**	**2.15**	**85**	Pn	Pn	15 22 23.4	-0.5
HOWZ	**Holdsworth Sta**	**2.18**	**179**	PN	Pn	15 22 23.2	-1.0
HOWZ	**Holdsworth Sta**	**2.18**	**179**	Pn	Pn	15 22 23.2	-1.0
KIW	**Kapiti Island**	**2.19**	**191**	PN	Pn	15 22 23.1	-1.1
KIW	**Kapiti Island**	**2.19**	**191**	Pn	Pn	15 22 23.1	-1.1
PUZ	**Puketiti**	**2.28**	**75**	PN	Pn	15 22 23.7	-1.6
PUZ	**Puketiti**	**2.28**	**75**	Pn	Pn	15 22 23.8	-1.6
DUWZ	**D'Urville Isla**	**2.41**	**209**	PN	Pn	15 22 25.3	-1.4
DUWZ	**D'Urville Isla**	**2.41**	**209**	Pn	Pn	15 22 25.3	-1.4
CAW	**Cannon Point**	**2.41**	**187**	PN	Pn	15 22 25.6	-1.2
CAW	**Cannon Point**	**2.41**	**187**	Pn	Pn	15 22 25.6	-1.2
TMWZ	**Te Maipa**	**2.41**	**173**	PN	Pn	15 22 25.7	-1.1
TMWZ	**Te Maipa**	**2.41**	**173**	Pn	Pn	15 22 25.7	-1.1
MTW	**Mount Morrison**	**2.44**	**180**	PN	Pn	15 22 25.8	-1.4
MTW	**Mount Morrison**	**2.44**	**180**	Pn	Pn	15 22 25.8	-1.4
MXZ	**Matakaoa Point**	**2.51**	**64**	PN	Pn	15 22 26.6	-1.4
MXZ	**Matakaoa Point**	**2.51**	**64**	Pn	Pn	15 22 26.6	-1.4
WEL	**Wellington**	**2.63**	**192**	PN	Pn	15 22 27.8	-1.5
WEL	**Wellington**	**2.63**	**192**	Pn	Pn	15 22 27.8	-1.5
SNZO	**South Karori**	**2.66**	**193**	PN	Pn	15 22 28.1	-1.6
SNZO	**South Karori**	**2.66**	**193**	Pn	Pn	15 22 28.1	-1.6
TCW	**Tory Channel**	**2.66**	**200**	PN	Pn	15 22 28.3	-1.5
TCW	**Tory Channel**	**2.66**	**200**	Pn	Pn	15 22 28.3	-1.5
PAWZ	**Paruwai Farm**	**2.67**	**181**	PN	Pn	15 22 28.2	-1.6
PAWZ	**Paruwai Farm**	**2.67**	**181**	Pn	Pn	15 22 28.2	-1.6
TRWZ	**Traveller**	**2.69**	**177**	PN	Pn	15 22 28.6	-1.4
TRWZ	**Traveller**	**2.69**	**177**	Pn	Pn	15 22 28.6	-1.4
MSWZ	**Moikau Station**	**2.71**	**184**	PN	Pn	15 22 28.6	-1.6
MSWZ	**Moikau Station**	**2.71**	**184**	Pn	Pn	15 22 28.6	-1.6
BHW	**Baring Head**	**2.73**	**190**	PN	Pn	15 22 29.0	-1.6
BHW	**Baring Head**	**2.73**	**190**	Pn	Pn	15 22 29.0	-1.6
PLWZ	**Palliser**	**2.86**	**183**	PN	Pn	15 22 30.3	-1.8
PLWZ	**Palliser**	**2.86**	**183**	Pn	Pn	15 22 30.3	-1.8
TUWZ	**Tuamarina**	**2.96**	**203**	PN	Pn	15 22 31.3	-2.1
TUWZ	**Tuamarina**	**2.96**	**203**	Pn	Pn	15 22 31.3	-2.1
NNZ	**Nelson**	**2.98**	**212**	PN	Pn	15 22 31.3	-2.2
NNZ	**Nelson**	**2.98**	**212**	Pn	Pn	15 22 31.3	-2.2
QRZ	**Quartz Range**	**3.10**	**226**	PN	Pn	15 22 32.3	-2.8
QRZ	**Quartz Range**	**3.10**	**226**	Pn	Pn	15 22 32.3	-2.8
BSWZ	**Blackbirch Sta**	**3.24**	**202**	PN	Pn	15 22 35.1	-1.7
BSWZ	**Blackbirch Sta**	**3.24**	**202**	Pn	Pn	15 22 35.1	-1.7
THZ	**Tophouse**	**3.63**	**212**	PN	Pn	15 22 38.7	-2.9
THZ	**Tophouse**	**3.63**	**212**	Pn	Pn	15 22 38.7	-2.9
KHZ	**Kahutara**	**3.98**	**201**	PN	Pn	15 22 43.9	-2.2
KHZ	**Kahutara**	**3.98**	**201**	Pn	Pn	15 22 43.9	-2.2
DSZ	**Denniston Nort**	**4.13**	**222**	PN	Pn	15 22 44.6	-3.4
DSZ	**Denniston Nort**	**4.13**	**222**	Pn	Pn	15 22 44.6	-3.4
LTZ	**Lake Taylor**	**4.74**	**210**	PN	Pn	15 22 51.9	-3.9
LTZ	**Lake Taylor**	**4.74**	**210**	Pn	Pn	15 22 52.0	-3.9
CRLZ	**Canterbury Las**	**5.32**	**203**	PN	Pn	15 22 59.2	-4.1
CRLZ	**Canterbury Las**	**5.32**	**203**	Pn	Pn	15 22 59.2	-4.1
MQZ	**McQueen's Vall**	**5.42**	**202**	PN	Pn	15 23 00.7	-4.1
MQZ	**McQueen's Vall**	**5.42**	**202**	Pn	Pn	15 23 00.7	-4.1
WVZ	**Waitaha Valley**	**5.65**	**218**	PN	Pn	15 23 04.6	-3.0
WVZ	**Waitaha Valley**	**5.65**	**218**	Pn	Pn	15 23 04.7	-3.0
FOZ	**Fox Glacier**	**6.52**	**220**	PN	Pn	15 23 14.8	-4.4
FOZ	**Fox Glacier**	**6.52**	**220**	Pn	Pn	15 23 14.8	-4.4
LBZ	**Lake Benmore**	**6.92**	**213**	PN	Pn	15 23 20.3	-4.0
LBZ	**Lake Benmore**	**6.92**	**213**	Pn	Pn	15 23 20.3	-4.0
JCZ	**Jackson Bay**	**7.36**	**221**	PN	Pn	15 23 26.9	-3.3
JCZ	**Jackson Bay**	**7.36**	**221**	Pn	Pn	15 23 26.9	-3.3
WKZ	**Wanaka**	**7.78**	**216**	PN	Pn	15 23 31.2	-4.5
WKZ	**Wanaka**	**7.78**	**216**	Pn	Pn	15 23 31.2	-4.5
TUZ	**Tuapeka**	**8.43**	**209**	PN	Pn	15 23 41.9	-2.4
TUZ	**Tuapeka**	**8.43**	**209**	Pn	Pn	15 23 41.9	-2.4

*MDD **28** 15:25:42.0±1.5,39°.58N×12°.15W,h0km,mb3.6/12,Error ellipse: s-maj=14.7km s-min=8.0km az=84.0,PRXIMO*
*INMG **28** 15:25:44.6±1.2,39°.60N×12°.56W,h10km,ML2.0,Error ellipse: s-maj=7.3km s-min=2.9km az=86.0*
*CSEM **28** 15:25:44.9±0.5,39°.58N×11°.88W,h10km,mb3.6/12,Error ellipse: s-maj=9.2km s-min=4.8km az=82.0*
ISC 28 15:25:44.4±0.9,39°.60N±0°.03×11°.91W±0°.06,h10km,n74,σ1°08/140,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**2.14**	**107**	*e*Pn	**Pn**	**15 26 21.3**	**+1.2**
PMAFR				*e*Sn	**Sn**	**15 26 49

PCVE	**Castro Verde**	**3.61**	**122**	*e*Pn		**Pn**	**15 26 40.4**	**0.0**
PCVE				*e*Sn		**Sn**	**15 27 22.8**	**-0.3**
PCAB	**Cabril**	**3.63**	**53**	*e*Sn		**Sn**	**15 27 23.1**	**-0.3**
PCAB	**Cabril**	**3.63**	**53**	S		**Sn**	**15 27 23.1**	**-0.3**
PCAB	**Cabril**	**3.63**	**53**	*e*Sn		**Sn**	**15 27 23.1**	**-0.3**
PGAV	**Gavieira, Arco**	**3.64**	**48**	*e*Pn		**Pn**	**15 26 40.9**	**+0.2**
PGAV				*e*Sn		**Sn**	**15 27 22.6**	**-1.0**
PGAV	**Gavieira, Arco**	**3.64**	**48**	*e*Pn		**Pn**	**15 26 40.9**	**+0.2**
PGAV				*e*Sn		**Sn**	**15 27 22.6**	**-1.0**
ELOB	**Lobios**	**3.70**	**51**	P		**Pn**	**15 26 40.9**	**-0.6**
	0.6nm,0.1s,SNR=7.1							
ELOB				S		**Sn**	**15 27 24.0**	**-1.2**
	0.9nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**3.70**	**51**	P		**Pn**	**15 26 40.9**	**-0.6**
	0.6nm,0.1s,SNR=7.1							
ELOB				S		**Sn**	**15 27 24.0**	**-1.2**
	0.9nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.90**	**101**	P		**Pn**	**15 26 44.8**	**+0.5**
	0.4nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**15 27 29.1**	**-1.0**
	2.1nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**3.90**	**101**	P		**Pn**	**15 26 44.8**	**+0.5**
	0.4nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**15 27 29.1**	**-1.0**
	2.1nm,0.2s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**3.91**	**126**	*e*Pn		**Pn**	**15 26 44.5**	**0.0**
PBDV				*e*Sn		**Sn**	**15 27 30.1**	**-0.3**
PBDV	**Barranco-do-Ve**	**3.91**	**126**	P		**Pn**	**15 26 44.5**	**0.0**
PBDV				S		**Sn**	**15 27 30.1**	**-0.3**
PBDV	**Barranco-do-Ve**	**3.91**	**126**	*e*Pn		**Pn**	**15 26 44.5**	**0.0**
PBDV				*e*Sn		**Sn**	**15 27 30.1**	**-0.3**
PVAQ	**Vaqueiros**	**3.95**	**122**	*e*Pn		**Pn**	**15 26 44.7**	**-0.3**
PVAQ				*e*Sn		**Sn**	**15 27 31.2**	**-0.2**
PVAQ	**Vaqueiros**	**3.95**	**122**	P		**Pn**	**15 26 44.7**	**-0.3**
PVAQ				S		**Sn**	**15 27 31.2**	**-0.2**
PVAQ	**Vaqueiros**	**3.95**	**122**	*e*Pn		**Pn**	**15 26 44.7**	**-0.3**
PVAQ				*e*Sn		**Sn**	**15 27 31.2**	**-0.2**
EMAZ	**Mazaricos**	**4.01**	**33**	P		**Pn**	**15 26 44.2**	**-1.6**
	0.8nm,0.2s,SNR=7.9							
EMAZ				S		**Sn**	**15 27 28.7**	**-4.2**
	1.1nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**4.04**	**119**	P		**Pn**	**15 26 44.9**	**-1.3**
	0.4nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**15 27 33.0**	**-0.5**
	0.5nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**4.04**	**119**	P		**Pn**	**15 26 44.9**	**-1.3**
	0.4nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**15 27 33.0**	**-0.5**
	0.5nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**4.04**	**66**	*e*Pn		**Pn**	**15 26 47.5**	**+1.2**
MVO				*e*Sn		**Sn**	**15 27 33.1**	**-0.5**
MVO	**Moncorvo**	**4.04**	**66**	P		**Pn**	**15 26 47.5**	**+1.3**
	0.6nm,0.1s,SNR=6.7							
MVO				S		**Sn**	**15 27 33.2**	**-0.4**
	0.5nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**4.04**	**66**	P		**Pn**	**15 26 47.5**	**+1.2**
	0.6nm,0.1s,SNR=6.7							
MVO				S		**Sn**	**15 27 33.2**	**-0.4**
	0.5nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.49**	**112**	P		**Pn**	**15 26 52.4**	**0.0**
	0.3nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**15 27 44.4**	**-0.2**
	0.2nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.49**	**112**	P		**Pn**	**15 26 52.4**	**0.0**
	0.3nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**15 27 44.4**	**-0.2**
	0.2nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**4.50**	**59**	*e*Pn		**Pn**	**15 26 53.8**	**+1.2**
PBRG				*e*Sn		**Sn**	**15 27 45.2**	**+0.2**
PBRG	**Braganca**	**4.50**	**59**	P		**Pn**	**15 26 53.8**	**+1.2**
PBRG				S		**Sn**	**15 27 45.2**	**+0.2**
PBRG	**Braganca**	**4.50**	**59**	*e*Pn		**Pn**	**15 26 53.8**	**+1.2**
PBRG				*e*Sn		**Sn**	**15 27 45.2**	**+0.2**
ECAL	**Calabor**	**4.57**	**58**	P		**Pn**	**15 26 54.6**	**+1.1**
	1.7nm,0.2s,SNR=6.5							
ECAL				S		**Sn**	**15 27 45.7**	**-1.0**
	0.4nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**4.57**	**58**	P		**Pn**	**15 26 54.6**	**+1.1**
	1.7nm,0.2s,SNR=6.5							
ECAL				S		**Sn**	**15 27 45.7**	**-1.0**
	0.4nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**5.90**	**102**	P		**Pn**	**15 27 12.0**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**15 28 17.6**	**-1.8**
	0.3nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**5.90**	**102**	P		**Pn**	**15 27 12.0**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**15 28 17.6**	**-1.8**
	0.3nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**6.25**	**52**	P		**Pn**	**15 27 17.2**	**+0.7**
	0.3nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**6.25**	**52**	P		**Pn**	**15 27 17.2**	**+0.7**
	0.3nm,0.2s,SNR=7.9							

GUC 28 16:14:40.2±0.6, 32°.85S×71°.97W, h25km±7km, MD3.5, ML2.9, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.33**	**123**	⇓*i*P	Pb	16 14 47.6	+0.1
IHA				*i* S	Sb	16 14 52.9	+0.3
LCCH	**Las Cruces**	**0.71**	**152**	⇑*i*P	Pb	16 14 53.1	-0.8
LCCH				*i* S	Sb	16 15 03.2	0.0
ROCH	**El Roble**	**0.81**	**99**	⇓*i*P	Pb	16 14 55.1	-0.5
ROCH				*i* S	Sb	16 15 06.3	+0.1
ROCH				AML	AML	16 15 07.1	
	comp=N,639nm,0.2s						
CHNG	**Los Chungos**	**1.04**	**22**	⇑*i*P	Pn	16 14 58.7	-0.5
CHNG				*i* S	Sb	16 15 12.2	-0.5
CHNG				AML	AML	16 15 13.0	
	comp=E,204nm,0.3s						
PTCH	**Petorca**	**1.05**	**57**	⇑*i*P	Pn	16 14 59.2	-0.2
PTCH				*i* S	Sb	16 15 13.2	+0.2
PTCH				AML	AML	16 15 13.8	
	comp=N,663nm,0.3s						
PEL	**Peldehue**	**1.12**	**106**	⇑*i*P	Pn	16 15 00.1	-0.1
PEL				*i* S	Sn	16 15 14.9	+0.1
PEL				AML	AML	16 15 20.6	
	comp=N,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.16**	**124**	*e*P	Pn	16 15 00.1	-0.8
RCDM				*e*S	Sn	16 15 14.9	-1.1
RCDM				AML	AML	16 15 17.7	
	comp=E,421nm,0.1s						
JACH	**Jahuel**	**1.17**	**82**	*e*P	Pn	16 15 00.6	-0.3
JACH				*i* S	Sn	16 15 16.4	+0.3
TACH	**Talagante**	**1.18**	**133**	*e*P	Pn	16 15 01.2	+0.1
TACH				*i* S	Sn	16 15 16.2	-0.1
LNV	**Longovilo**	**1.20**	**157**	*e*P	Pn	16 15 00.7	-0.7
LNV				*i* S	Sn	16 15 17.2	+0.4
SAN	**Santiago**	**1.25**	**119**	*i* S	Sn	16 15 18.5	+0.4
SAN				AML	AML	16 15 25.0	
	comp=N,326nm,0.5s						
CLCH	**Cerro Calan**	**1.32**	**115**	⇓*i*P	Pn	16 15 03.5	+0.5
CLCH				*i* S	Sn	16 15 20.6	+0.8
CLCH				AML	AML	16 15 28.3	
	comp=E,315nm,0.4s						
ANTU	**Antumapu**	**1.33**	**123**	*e*P	Pn	16 15 03.1	0.0
ANTU				*e*S	Sn	16 15 20.6	+0.6
ANTU				AML	AML	16 15 27.5	
	comp=E,400nm,0.5s						
PCH	**Pirque**	**1.44**	**123**	*e*P	Pn	16 15 05.3	+0.6
PCH				*i* S	Sn	16 15 24.3	+1.4
FCH	**Farellones**	**1.49**	**109**	*e*P	Pn	16 15 05.2	-0.1
FCH				*e*S	Sn	16 15 25.0	+1.1
FCH				AML	AML	16 15 28.1	
	comp=E,291nm,0.3s						
CHCH	**Chadas Angostu**	**1.54**	**135**	*e*P	Pn	16 15 06.9	+0.8
CHCH				*e*S	Sn	16 15 26.7	+1.4
CACH	**El Canelo**	**1.70**	**138**	*e*P	Pn	16 15 09.9	+1.6
CACH				*i* S	Sn	16 15 33.0	+3.6
LMEL	**Las Melosas**	**1.78**	**125**	*e*P	Pn	16 15 10.6	+1.2
LMEL				*e*S	Sn	16 15 33.9	+2.7
LMEL				AML	AML	16 15 39.4	
	comp=N,377nm,0.2s						

*IDC **28** 16:21:41.6±6.8, 20°.18S×177°.58W, h533km±75km, mb3.2/6, mb1 3.4/7, mb1mx3.1/15, mbtmp3.2/7, Error ellipse: s-maj=38.6km s-min=35.1km az=12.0*
*ISCJB **28** 16:21:43.1±1.8, 20°.2S±0°.2×177°.7W±0°.2, h563km±15km, mb3.7/8, Error ellipse: s-maj=33.9km s-min=22.9km az=17.0*

*NEIC **28** 16:21:43.2±1.9, 20°.24S×177°.52W, h562km±16km, mb3.8/3, Error ellipse: s-maj=32.2km s-min=21.3km az=122.0*
ISC 28 16:21:43.5±1.8, 20°.3S±0°.2×177°.6W±0°.2, h559km±15km, n27, σ0s85/20, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.84**	**300**	*e*P	**P**	**16 23 12.1**	**-0.5**
DZM	**Mont Dzumac**	**15.02**	**260**	P	**P**	**16 24 55.2**	**+2.2**
URZ	**Urewera**	**18.53**	**193**	P	**P**	**16 25 25.5**	**-0.1**
	0.7nm,0.3s,baz=298,slow=3.5,SNR=4.6						
URZ	**Urewera**	**18.53**	**193**	*e*P	**P**	**16 25 25.5**	**0.0**
CTAO	**Charters Tower**	**33.91**	**264**	*e*P	**P**	**16 27 40.8**	**0.0**
	4.9nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**38.26**	**244**	P	**P**	**16 28 16.8**	**+0.3**
	1.0nm,0.4s,mb3.7,baz=348,slow=21,SNR=8.6						
STKA	**Stephens Creek**	**38.26**	**244**	*e*P	**P**	**16 28 16.7**	**+0.2**
	0.2nm,0.4s,mb3.0						
AS31	**Alice Springs**	**44.96**	**256**	*e*P	**P**	**16 29 09.4**	**0.0**
ASAR	**Alice Springs**	**44.97**	**256**	P	**P**	**16 29 09.4**	**-0.1**
	3.9nm,0.8s,mb4.0,baz=92,slow=6.8,SNR=56						
ASAR				PcP	PcP	16 30 39.0	+0.3
	0.5nm,0.7s,baz=109,slow=4.3,SNR=4.5						
ASAR	**Alice Springs**	**44.97**	**256**	P	**P**	**16 29 09.4**	**-0.1**
ASAR				PcP	PcP	16 30 39.0	+0.3
WB2	**Warramunga Arr**	**45.02**	**262**	*e*P	**P**	**16 29 08.8**	**-1.2**
WRAB	**Tennant Creek**	**45.02**	**262**	*e*P	**P**	**16 29 08.9**	**-1.1**
	1.6nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**45.03**	**262**	P	**P**	**16 29 09.5**	**-0.6**
	2.0nm,0.5s,mb3.9,baz=97,slow=7.2,SNR=50						
WRA	**Warramunga Arr**	**45.03**	**262**	P	**P**	**16 29 09.5**	**-0.6**
MJAR	**Matsushiro Arr**	**70.25**	**323**	P	**P**	**16 32 00.8**	**0.0**
	0.6nm,0.6s,mb3.3,baz=123,slow=1.1,SNR=4.5						
MJAR	**Matsushiro Arr**	**70.25**	**323**	P	**P**	**16 32 00.8**	**0.0**
ILAR	**Eielson Array**	**87.98**	**13**	P	**P**	**16 33 33.8**	**0.0**
	0.2nm,0.6s,mb3.1,baz=213,slow=6.5,SNR=4.2						
ILAR	**Eielson Array**	**87.98**	**13**	P	**P**	**16 33 33.8**	**0.0**
CMAR	**Chiang Mai Arr**	**90.41**	**289**	P	**P**	**16 33 47.7**	**+1.6**
	0.6nm,1.0s,mb3.4,baz=97,slow=3.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**90.41**	**289**	P	**P**	**16 33 47.7**	**+1.6**
AKASG	**Malin Array Be**	**142.99**	**332**	PKhKP	PKPpre	16 40 10.7	
	0.5nm,0.4s,baz=45,slow=4.7,SNR=4.6						
AKASG	**Malin Array Be**	**142.99**	**332**	PKPpre	PKPpre	16 40 10.7	
BRTR	**Keskin Array B**	**146.97**	**313**	PKPbc	PKPbc	16 40 22.8	-1.0
	0.6nm,0.7s,baz=28,slow=3.4,SNR=3.4						
BRTR	**Keskin Array B**	**146.97**	**313**	PKPbc	PKPbc	16 40 22.8	-1.0
CLL	**Collm**	**147.91**	**347**	*e*PKPbc	PKPbc	16 40 27.0	+1.1
GERES	**GERESS Array B**	**150.07**	**345**	PKPbc	PKPbc	16 40 32.9	+1.6
	0.6nm,0.7s,baz=149,slow=3.1,SNR=3.8						
GERES	**GERESS Array B**	**150.07**	**345**	PKPbc	PKPbc	16 40 32.9	+1.6

*CSEM **28** 16:22:02.9±0.2, 36°.17N×23°.26E, h10km, ML3.0, Error ellipse: s-maj=7.0km s-min=3.7km az=49.0*
*ISCJB **28** 16:22:02.4±0.6, 36°.19N±0°.04×23°.29E±0°.05, h8km±5km, mb3.6/6, Error ellipse: s-maj=8.0km s-min=3.9km az=138.1*
*ATH **28** 16:22:02.3, 36°.22N×23°.29E, h16km±1km, ML3.0*
*THE **28** 16:22:04.1, 36°.28N×23°.35E, h0km±1km, ML3.2/5, Error ellipse: s-maj=1.7km s-min=0.7km az=225.0*
*NEIC **28** 16:22:04.1, 36°.28N×23°.35E, h0km, ML3.3(THE), After THE.*
*IDC **28** 16:22:28.7±8.1, 37°.81N×24°.40E, h144km±46km, mb3.3/6, mb1 3.4/6, mb1mx3.1/23, mbtmp3.3/6, Error ellipse: s-maj=98.9km s-min=25.9km az=24.0*
ISC 28 16:22:02.9±0.7, 36°.17N±0°.04×23°.29E±0°.05, h8km±5km, n112, σ1s04/148, mb3.6/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.23**	**299**	*e*PB	**Pg**	**16 22 07.1**	**-0.4**
KYTH	**Kithira**	**0.23**	**299**	P	**Pg**	**16 22 07.2**	**-0.3**
KYTH	**Kithira**	**0.23**	**299**	P	**Pg**	**16 22 07.2**	**-0.3**
KYTH	**Kithira**	**0.23**	**299**	*e*Pb	**Pg**	**16 22 07.1**	**-0.4**
VLI	**Veliai**	**0.62**	**333**	*e*PN	**Pg**	**16 22 13.5**	**-1.3**
VLI				*e*SN	**Sg**	**16 22 21.9**	**-1.0**
VLI	**Veliai**	**0.62**	**333**	P	**Pg**	**16 22 14.4**	**-0.4**
VLI				S	**Sg**	**16 22 23.2**	**+0.3**
VLI	**Veliai**	**0.62**	**333**	P	**Pg**	**16 22 14.4**	**-0.4**
VLI				S	**Sg**	**16 22 23.2**	**+0.3**
VLI	**Veliai**	**0.62**	**333**	*e*Pn	**Pg**	**16 22 13.5**	**-1.3**
VLI	**Veliai**	**0.62**	**333**	P	**Pg**	**16 22 14.4**	**-0.4**
VLI				S	**Sg**	**16 22 23.2**	**+0.3**
VAM	**Vamos**	**1.06**	**135**	*e*PN	**Pg**	**16 22 23.6**	**+0.3**
VAM				*e*SN	**Sg**	**16 22 38.3**	**+1.2**
VAM	**Vamos**	**1.06**	**135**	P	**Pg**	**16 22 24.8**	**+1.5**
VAM				S	**Sg**	**16 22 41.5**	**+4.4**
VAM	**Vamos**	**1.06**	**135**	P	**Pg**	**16 22 24.8**	**+1.5**
VAM				S	**Sg**	**16 22 41.5**	**+4.4**
VAM	**Vamos**	**1.06**	**135**	*e*Pn	**Pg**	**16 22 23.6**	**+0.3**
VAM	**Vamos**	**1.06**	**135**	P	**Pg**	**16 22 24.8**	**+1.5**
VAM				*e*Sn	**Sg**	**16 22 38.3**	**+1.2**
VAM				S	**Sg**	**16 22 41.5**	**+4.4**
DIDY	**Didyma**	**1.31**	**357**	P	**Pn**	**16 22 26.0**	**-1.4**
DIDY				S	**Sb**	**16 22 44.5**	**-0.1**
DIDY	**Didyma**	**1.31**	**357**	P	**Pn**	**16 22 26.0**	**-1.4**
DIDY				S	**Sb**	**16 22 44.5**	**-0.1**
GVD	**Gavdhos**	**1.48**	**153**	*e*PN	**Pn**	**16 22 31.4**	**+1.6**
GVD	**Gavdhos**	**1.48**	**153**	*e*Pn	**Pn**	**16 22 29.6**	**-0.2**
GVD	**Gavdhos**	**1.48**	**153**	*e*Pn	**Pn**	**16 22 29.6**	**-0.2**
ITM	**Ithomi**	**1.49**	**313**	*e*PN	**Pn**	**16 22 29.3**	**-0.6**
ITM	**Ithomi**	**1.49**	**313**	P	**Pn**	**16 22 29.5**	**-0.4**
ITM				S	**Sn**	**16 22 52.4**	**+2.9**
ITM	**Ithomi**	**1.49**	**313**	*e*Pn	**Pn**	**16 22 29.1**	**-0.8**
ITM	**Ithomi**	**1.49**	**313**	P	**Pn**	**16 22 29.5**	**-0.4**
ITM				S	**Sn**	**16 22 52.4**	**+2.9**
NAIG	**Nisos Aigina**	**1.59**	**6**	*e*PN	**Pn**	**16 22 30.8**	**-0.6**
NAIG	**Nisos Aigina**	**1.59**	**6**	*e*Pn	**Pn**	**16 22 30.8**	**-0.6**
VLY	**Voula,Athens**	**1.73**	**13**	*e*PN	**Pn**	**16 22 33.6**	**+0.4**
VLY	**Voula,Athens**	**1.73**	**13**	P	**Pn**	**16 22 33.2**	**0.0**
VLY				S	**Sn**	**16 22 55.6**	**+0.2**
VLY	**Voula,Athens**	**1.73**	**13**	P	**Pn**	**16 22 33.2**	**0.0**
VLY	**Voula,Athens**	**1.73**	**13**	*e*Pn	**Pn**	**16 22 33.6**	**+0.4**
VLY				S	**Sn**	**16 22 55.6**	**+0.2**
ATH	**Athens Observa**	**1.83**	**11**	*e*PN	**Pn**	**16 22 34.6**	**0.0**
ATH	**Athens Observa**	**1.83**	**11**	P	**Pn**	**16 22 35.4**	**+0.8**
ATH	**Athens Observa**	**1.83**	**11**	P	**Pn**	**16 22 35.4**	**+0.8**
ATH	**Athens Observa**	**1.83**	**11**	*e*Pn	**Pn**	**16 22 34.6**	**0.0**
ATH	**Athens Observa**	**1.83**	**11**	P	**Pn**	**16 22 35.4**	**+0.8**
THAL	**Thalero**	**1.93**	**345**	P	**Pn**	**16 22 36.5**	**+0.5**
THAL	**Thalero**	**1.93**	**345**	P	**Pn**	**16 22 36.5**	**+0.5**
PTL	**Penteli**	**1.93**	**14**	*e*PN	**Pn**	**16 22 35.8**	**-0.2**
PTL	**Penteli**	**1.93**	**14**	P	**Pn**	**16 22 36.2**	**+0.2**
PTL				S	**Sn**	**16 23 00.4**	**-0.1**
PTL	**Penteli**	**1.93**	**14**	*e*Pn	**Pn**	**16 22 35.8**	**-0.2**
PTL	**Penteli**	**1.93**	**14**	P	**Pn**	**16 22 36.2**	**+0.2**
PTL				S	**Sn**	**16 23 00.4**	**-0.1**
APE	**Apeiranthos**	**2.02**	**63**	*e*PN	**Pn**	**16 22 37.4**	**+0.2**
APE	**Apeiranthos**	**2.02**	**63**	P	**Pn**	**16 22 37.4**	**+0.2**
APE				S	**Sn**	**16 23 02.8**	**+0.2**
APE	**Apeiranthos**	**2.02**	**63**	P	**Pn**	**16 22 37.4**	**+0.2**
APE				S	**Sn**	**16 23 02.8**	**+0.2**
NPS	**Neapolis**	**2.10**	**115**	*e*PN	**Pn**	**16 22 39.4**	**+1.1**
NPS				*e*SN	**Sn**	**16 23 05.4**	**+0.9**
NPS	**Neapolis**	**2.10**	**115**	P	**Pn**	**16 22 39.0**	**+0.7**
NPS				S	**Sn**	**16 23 08.3**	**+3.8**
NPS	**Neapolis**	**2.10**	**115**	P	**Pn**	**16 22 39.0**	**+0.7**
NPS	**Neapolis**	**2.10**	**115**	*e*Pn	**Pn**	**16 22 39.8**	**+1.5**
NPS				*e*Sn	**Sn**	**16 23 05.4**	**+0.9**
NPS				S	**Sn**	**16 23 08.3**	**+3.8**
ERET	**Eretria**	**2.31**	**10**	P	**Pn**	**16 22 41.1**	**-0.1**
ERET				S	**Sn**	**16 23 10.1**	**+0.4**
ERET	**Eretria**	**2.31**	**10**	P	**Pn**	**16 22 41.1**	**-0.1**
ERET				S	**Sn**	**16 23 10.1**	**+0.4**
LAKA	**Lakka**	**2.32**	**334**	P	**Pn**	**16 22 41.9**	**+0.6**
LAKA	**Lakka**	**2.32**	**334**	P	**Pn**	**16 22 41.9**	**+0.6**
DESF	**Desfina**	**2.32**	**345**	P	**Pn**	**16 22 42.0**	**+0.7**
DESF	**Desfina**	**2.32**	**345**	P	**Pn**	**16 22 42.0**	**+0.7**
RLS	**Riolos of Patr**	**2.38**	**323**	P	**Pn**	**16 22 43.7**	**+1.5**
RLS				S	**Sn**	**16 23 13.6**	**+2.1**
RLS	**Riolos of Patr**	**2.38**	**323**	P	**Pn**	**16 22 43.7**	**+1.5**
RLS				S	**Sn**	**16 23 13.6**	**+2.1**
TRIZ	**Trizonia**	**2.40**	**337**	P	**Pn**	**16 22 42.0**	**-0.4**
TRIZ	**Trizonia**	**2.40**	**337**	P	**Pn**	**16 22 42.0**	**-0.4**
KALE	**Kalithea**	**2.40**	**338**	P	**Pn**	**16 22 42.5**	**+0.1**
KALE				S	**Sn**	**16 23 12.8**	**+0.8**
KALE	**Kalithea**	**2.40**	**338**	P	**Pn**	**16 22 42.5**	**+0.1**
KALE				S	**Sn**	**16 23 12.8**	**+0.8**
LKR	**Lokris**	**2.49**	**355**	*e*PB	**Pb**	**16 22 43.3**	**-4.5**
LKR	**Lokris**	**2.49**	**355**	P	**Pn**	**16 22 42.9**	**-0.7**
LKR				S	**Sn**	**16 23 15.0**	**+0.8**
LKR	**Lokris**	**2.49**	**355**	P	**Pn**	**16 22 42.9**	**-0.7**
LKR				S	**Sn**	**16 23 15.0**	**+0.8**
ATAL	**Atalanti**	**2.53**	**355**	P	**Pn**	**16 22 44.0**	**-0.2**
ATAL				S	**Sn**	**16 23 15.3**	**+0.1**
ATAL	**Atalanti**	**2.53**	**355**	P	**Pn**	**16 22 44.0**	**-0.2**
ATAL				S	**Sn**	**16 23 15.3**	**+0.1**
SMIA	**Simia**	**2.71**	**359**	P	**Pn**	**16 22 46.5**	**-0.1**
SMIA	**Simia**	**2.71**	**359**	P	**Pn**	**16 22 46.5**	**-0.1**
VLS	**Valsamata**	**2.94**	**314**	P	**Pn**	**16 22 51.0**	**+1.1**
VLS	**Valsamata**	**2.94**	**314**	P	**Pn**	**16 22 51.0**	**+1.1**
AGG	**Agios Georgios**	**2.95**	**345**	P	**Pn**	**16 22 49.9**	**-0.1**
AGG	**Agios Georgios**	**2.95**	**345**	P	**Pn**	**16 22 49.9**	**-0.1**
EVR	**Evrytania**	**2.98**	**337**	P	**Pn**	**16 22 51.4**	**+0.9**
EVR	**Evrytania**	**2.98**	**337**	P	**Pn**	**16 22 51.4**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.98**	**342**	P	**Pn**	**16 22 51.2**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.98**	**342**	P	**Pn**	**16 22 51.2**	**+0.7**
AOS	**Alonnisos**	**3.03**	**9**	P	**Pn**	**16 22 50.7**	**-0.4**
AOS	**Alonnisos**	**3.03**	**9**	P	**Pn**	**16 22 50.7**	**-0.4**
CHOS	**Chios island**	**3.13**	**44**	P	**Pn**	**16 22 52.9**	**+0.5**
CHOS				S	**Sn**	**16 23 30.1**	**+0.2**
CHOS	**Chios island**	**3.13**	**44**	P	**Pn**	**16 22 52.9**	**+0.5**
CHOS				S	**Sn**	**16 23 30.1**	**+0.2**
NEO	**Neokhori**	**3.13**	**359**	P	**Pn**	**16 22 52.9**	**+0.4**
NEO	**Neokhori**	**3.13**	**359**	P	**Pn**	**16 22 52.9**	**+0.4**
KARP	**Karpathos**	**3.21**	**100**	*e*PN	**Pn**	**16 22 54.8**	**+1.2**
KARP	**Karpathos**	**3.21**	**100**	*e*Pn	**Pn**	**16 22 54.8**	**+1.2**
PAIG	**Paliouri**	**3.77**	**5**	P	**Pn**	**16 23 00.3**	**-0.9**
PAIG	**Paliouri**	**3.77**	**5**	P	**Pn**	**16 23 00.3**	**-0.9**
OUR	**Ouranopolis**	**4.20**	**7**	P	**Pn**	**16 23 06.6**	**-0.5**
OUR	**Ouranopolis**	**4.20**	**7**	P	**Pn**	**16 23 06.6**	**-0.5**
KNT	**Kendrikon**	**5.00**	**357**	P	**Pn**	**16 23 18.9**	**+0.8**
KNT	**Kendrikon**	**5.00**	**357**	P	**Pn**	**16 23 18.9**	**+0.8**
CUC	**Castrocucco**	**7.02**	**305**	*e*P	**Pn**	**16 23 45.2**	**-0.7**
	9.7nm,0.6s						
CUC	**Castrocucco**	**7.02**	**305**	*e*P	**Pn**	**16 23 45.2**	**-0.7**
	9.7nm,0.6s						
BRTR	**Keskin Array B**	**8.92**	**63**	P	**Pn**	**16 24 15.4**	**+3.5**
	0.1nm,0.3s,baz=245,slow=15,SNR=4.2						
BRTR	**Keskin Array B**	**8.92**	**63**	P	**Pn**	**16 24 15.4**	**+3.5**
NVLJ	**Novalja**	**10.55**	**325**	*i* Pn	**Pn**	**16 24 32.1**	**-2.2**
NVLJ				Sn	**Sn**	**16 26 23.5**	**-9.2**
NVLJ	**Novalja**	**10.55**	**325**	*i* Pn	**Pn**	**16 24 32.1**	**-2.2**
FINES	**FINESS Array B**	**25.36**	**3**	P	**P**	**16 27 26.7**	**-3.3**
	0.8nm,0.5s,mb3.5,baz=160,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**25.36**	**3**	P	**P**	**16 27 26.7**	**-3.3**
NOA	**NORSAR Array B**	**26.05**	**347**	P	**P**	**16 27 34.8**	**-1.6**
	0.3nm,0.6s,mb3.0,baz=152,slow=8.7,SNR=3.6						
NOA	**NORSAR Array B**	**26.05**	**347**	P	**P**	**16 27 34.8**	**-1.6**
NOA	**NORSAR Array B**	**26.05**	**347**	P	**P**	**16 27 34.8**	**-1.5**
MK31	**Makanchi Array**	**44.50**	**57**	*e*P	**P**	**16 30 13.0**	**-1.6**
MK31	**Makanchi Array**	**44.50**	**57**	*e*P	**P**	**16 30 13.0**	**-1.6**
MKAR	**Makanchi Array

4.7nm,0.6s,mb4.2
ODAN Odare 41.99 323 *e*P **P 16 59 54.3 +0.4**
4.7nm,0.6s,mb4.2
TAPN Taplejung 42.17 324 *e*P **P 16 59 55.9 +0.7**
9.3nm,0.9s,mb4.3
TAPN Taplejung 42.17 324 *e*P **P 16 59 55.9 +0.7**
9.3nm,0.9s,mb4.3
RAMN Ramite 42.53 322 *e*P **P 16 59 58.3 +0.2**
RAMN Ramite 42.53 322 *e*P **P 16 59 58.3 +0.2**
JIRN Jiri 43.30 323 *e*P **P 17 00 04.5 +0.4**
2.3nm,0.4s,mb4.1
JIRN Jiri 43.30 323 *e*P **P 17 00 04.5 +0.4**
2.3nm,0.4s,mb4.1
GUN Gumba 43.67 323 *e*P **P 17 00 07.2 +0.3**
7.2nm,0.5s,mb4.4
GUN Gumba 43.67 323 *e*P **P 17 00 07.2 +0.3**
7.2nm,0.5s,mb4.5
PKI Pulchoki 43.71 322 *e*P **P 17 00 07.2 -0.1**
PKI Pulchoki 43.71 322 *e*P **P 17 00 07.2 -0.1**
DMN Daman 43.93 322 *e*P **P 17 00 08.9 0.0**
DMN Daman 43.93 322 *e*P **P 17 00 08.9 0.0**
KKN Kakani 43.95 322 *e*P **P 17 00 08.9 -0.2**
KKN Kakani 43.95 322 *e*P **P 17 00 08.9 -0.2**
GKN Gorkha 44.50 322 *e*P **P 17 00 12.5 -0.8**
6.2nm,0.3s,mb4.7
GKN Gorkha 44.50 322 *e*P **P 17 00 12.5 -0.8**
6.2nm,0.3s,mb4.6
KOLN Koldanda 44.98 320 *e*P **P 17 00 16.6 -0.4**
6.7nm,0.6s,mb4.4
KOLN Koldanda 44.98 320 *e*P **P 17 00 16.6 -0.4**
6.7nm,0.6s,mb4.3
DANN Dangsing 45.29 321 *e*P **P 17 00 19.2 -0.2**
DANN Dangsing 45.29 321 *e*P **P 17 00 19.2 -0.2**
KSAR Wonju Array Be 45.43 15 P **P 17 00 20.6 +0.4**
KSRS Korea Array 45.45 15 P **P 17 00 20.6 +0.2**
2.0nm,0.7s,mb3.8,baz=207,slow=7.8,SNR=10
MJAR Matsushiro Arr 48.27 26 P **P 17 00 39.9 -1.8**
1.9nm,0.9s,mb3.6,baz=206,slow=9.8,SNR=3.2
MJAR Matsushiro Arr 48.27 26 P **P 17 00 39.9 -1.7**
USRK Ussuriysk Arra 52.85 16 P **P 17 01 14.1 -0.7**
1.8nm,0.7s,mb3.5,baz=212,slow=5.0,SNR=5.1
ULN Ulaanbaatar 54.36 354 *e*P **P 17 01 25.1 -0.3**
SONM Songino Array 54.40 354 P **P 17 01 25.6 -0.1**
1.2nm,0.3s,mb3.6,baz=173,slow=9.0,SNR=24
SONM ScP ScP 17 05 25.1 +0.2
0.1nm,0.4s,baz=138,slow=4.5,SNR=2.3
SONM Songino Array 54.40 354 P **P 17 01 25.6 -0.1**
SONM ScP ScP 17 05 25.1 +0.2
MK31 Makanchi Array 60.01 335 *e*P **P 17 02 03.3 -0.6**
MKAR Makanchi Array 60.01 335 P **P 17 02 03.5 -0.3**
1.2nm,0.4s,mb3.6,baz=150,slow=7.1,SNR=36
MKAR Makanchi Array 60.01 335 P **P 17 02 03.5 -0.3**
KURK Kurchatov 64.59 336 P **P 17 02 32.8 -0.6**
1.0nm,0.5s,mb3.5
ZALV Zalesovo Beam 64.96 341 P **P 17 02 34.5 -1.2**
1.4nm,0.4s,mb3.7,baz=146,slow=5.1,SNR=8.7
ZALV Zalesovo Beam 64.96 341 P **P 17 02 34.5 -1.2**
BOSA Boshof 86.03 242 P **P 17 04 33.8 +0.7**
8.1nm,1.2s,mb4.2,baz=123,slow=12,SNR=5.8
BOSA Boshof 86.03 242 P **P 17 04 33.8 +0.7**
CPUP Villa Florida 146.46 194 PKPbc PKPbc 17 11 31.1 +0.7
2.2nm,0.5s,baz=147,slow=3.1,SNR=8.6
CPUP Villa Florida 146.46 194 *e*PKPbc PKPbc 17 11 30.7 +0.4
LPAZ La Paz 157.38 174 PKPab PKPab 17 12 21.2 +2.2
0.6nm,0.4s,baz=198,slow=6.4,SNR=3.1
LPAZ La Paz 157.38 174 PKPab PKPab 17 12 21.2 +2.2

GUC 28 16:54:17.8±0.7, 31°78S×71°43W, h31km±1km, MD3.9, ML3.5, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.12**	**210⇓**	*i*P	Pb	16 54 23.4	0.0
CHNG				*i* S	Sb	16 54 27.1	-0.2
CHNG				AML	AML	16 54 27.5	
	comp=E,18μm,0.2s						
PTCH	**Petorca**	**0.64**	**139⇑**	*i*P	Pb	16 54 30.4	-0.2
PTCH				*i* S	Sb	16 54 39.2	-0.1
PTCH				AML	AML	16 54 40.2	
	comp=N,11μm,0.2s						
CMCH	**Combarbala**	**0.71**	**31⇑**	*i*P	Pn	16 54 31.2	-0.4
CMCH				*i* S	Sb	16 54 41.3	+0.2
CMCH				AML	AML	16 54 44.1	
	comp=N,5μm,0.8s						
JACH	**Jahuel**	**1.15**	**142⇓**	*i*P	Pn	16 54 38.6	+0.9
JACH				*i* S	Sn	16 54 53.5	+1.2
PEL	**Peldehue**	**1.50**	**155⇓**	*i*P	Pn	16 54 43.7	+1.1
PEL				*i* S	Sn	16 55 03.5	+2.5
PEL				AML	AML	16 55 07.2	
	comp=E,2μm,0.3s						
LCCH	**Las Cruces**	**1.70**	**184⇑**	*i*P	Pn	16 54 46.8	+1.6
LCCH				*i* S	Sn	16 55 08.5	+2.6
CLCH	**Cerro Calan**	**1.78**	**155⇑**	*i*P	Pn	16 54 48.2	+1.8
CLCH				*i* S	Sn	16 55 10.7	+2.8
CLCH				AML	AML	16 55 20.3	
	comp=N,902nm,0.6s						
STL	**Santa Lucia**	**1.78**	**158**	*e*P	Pn	16 54 48.2	+1.8
STL				*e*S	Sn	16 55 10.7	+2.7
RCDM	**Rinconada Maip**	**1.78**	**163⇑**	*i*P	Pn	16 54 48.0	+1.5
RCDM				*i* S	Sn	16 55 10.7	+2.7
RCDM				AML	AML	16 55 18.4	
	comp=E,2μm,0.0s						
SAN	**Santiago**	**1.79**	**159**	*e*P	Pn	16 54 48.2	+1.7
SAN				*i* S	Sn	16 55 10.7	+2.4
SAN				AML	AML	16 55 11.9	
	comp=N,405nm,0.2s						
LSCH	**La Serena**	**1.87**	**5**	*e*P	Pn	16 54 49.3	+1.6
LSCH				*i* S	Sn	16 55 12.4	+2.2
LSCH				AML	AML	16 55 21.4	
	comp=E,106nm,0.3s						
ANTU	**Antumapu**	**1.91**	**160**	*e*P	Pn	16 54 49.9	+1.7
ANTU				*i* S	Sn	16 55 13.9	+2.8
ANTU				AML	AML	16 55 23.6	
	comp=N,638nm,0.2s						
PCH	**Pirque**	**1.99**	**157**	*e*P	Pn	16 54 51.2	+1.8
LNV	**Longovilo**	**2.17**	**180⇑**	*i*P	Pn	16 54 52.7	+0.9
LNV				*i* S	Sn	16 55 19.7	+2.1
CHCH	**Chadas Angostu**	**2.25**	**163**	*i* S	Sn	16 55 21.9	+2.5
LMEL	**Las Melosas**	**2.31**	**154**	*e*P	Pn	16 54 56.0	+2.4
LMEL				AML	AML	16 55 34.7	
	comp=N,660nm,0.2s						
CACH	**El Canelo**	**2.43**	**164**	*e*P	Pn	16 54 57.7	+2.3
CACH				*i* S	Sn	16 55 27.5	+3.5

ISCJB ***28*** *17:06:49.8±0.5, 37°87N±0°02×29°20E±0°03, h9km±7km, Error ellipse: s-maj=4.5km s-min=4.2km az=173.3*
ISK ***28*** *17:06:49.4, 37°88N×29°19E, h7km, MD2.7*
DDA ***28*** *17:06:49.9, 37°88N×29°22E, h7km±3km, Md2.8*
CSEM ***28*** *17:06:49.9±0.1, 37°86N×29°21E, h10km, MD2.7, Error ellipse: s-maj=3.0km s-min=2.8km az=90.0*

ISC 28 17:06:50.4±0.5, 37°87N±0°03×29°20E±0°04, h12km±6km, n22, σ0°70/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**228**	*e*PG	**Pg**	**17 06 53.8**	**-0.5**
DENT				*e*SG	**Sg**	**17 06 56.5**	**-0.5**
DENT	**Denizli**	**0.18**	**228**	*e*Pg	**Pg**	**17 06 53.8**	**-0.5**
DENT				*e*Sg	**Sg**	**17 06 56.5**	**-0.5**
DNZL	**Cakiroluk**	**0.22**	**213**	*i* P	**Pg**	**17 06 54.9**	**-0.1**
DNZL				*i* S	**Sg**	**17 06 58.7**	**+0.6**
DNZL	**Cakiroluk**	**0.22**	**213**	*i* P	**Pg**	**17 06 54.9**	**-0.1**
DNZL				*i* S	**Sg**	**17 06 58.7**	**+0.6**
KHAL	**Karahalli**	**0.55**	**25**	*i* P	**Pg**	**17 07 00.7**	**-0.4**
KHAL				*i* S	**Sg**	**17 07 08.3**	**-0.1**
KHAL	**Karahalli**	**0.55**	**25**	*i* P	**Pg**	**17 07 00.7**	**-0.4**
KHAL				*i* S	**Sg**	**17 07 08.3**	**-0.1**
GLHS	**Glhisar (BURDU**	**0.75**	**161**	*e*PG	**Pg**	**17 07 03.5**	**-1.5**
GLHS				*e*SG	**Sg**	**17 07 15.6**	**+0.8**
GLHS	**Glhisar (BURDU**	**0.75**	**161**	*e*Pg	**Pg**	**17 07 03.5**	**-1.4**
GLHS				*e*Sg	**Sg**	**17 07 15.6**	**+0.8**
KULA	**Kula-Manisa**	**0.77**	**327**	*e*PG	**Pg**	**17 07 04.9**	**-0.4**
KULA				*e*SG	**Sg**	**17 07 15.3**	**0.0**
KULA	**Kula-Manisa**	**0.77**	**327**	*e*Pg	**Pg**	**17 07 04.9**	**-0.3**
KULA				*e*Sg	**Sg**	**17 07 15.3**	**0.0**
MANT	**Manisa**	**0.80**	**321**	*i* P	**Pg**	**17 07 05.5**	**-0.3**
MANT				*i* S	**Sg**	**17 07 17.9**	**+1.6**
MANT	**Manisa**	**0.80**	**321**	*i* P	**Pg**	**17 07 05.4**	**-0.4**
MANT				*i* S	**Sg**	**17 07 17.9**	**+1.7**
YER	**Yerkesik**	**1.03**	**225**	*e*PG	**Pg**	**17 07 09.8**	**-0.5**
YER				*e*SG	**Sg**	**17 07 24.4**	**+0.6**
YER	**Yerkesik**	**1.03**	**225**	*e*Pg	**Pg**	**17 07 09.8**	**-0.5**
YER				*e*Sg	**Sg**	**17 07 24.4**	**+0.7**
ISP	**Isparta**	**1.05**	**92**	*e*PG	**Pg**	**17 07 09.5**	**-1.1**
ISP				*e*SG	**Sg**	**17 07 25.5**	**+1.3**
ISP	**Isparta**	**1.05**	**92**	*e*Pg	**Pg**	**17 07 09.5**	**-1.1**
ISP				*e*Sg	**Sg**	**17 07 25.5**	**+1.3**
AYDN	**Tasoluk**	**1.07**	**259**	*i* P	**Pg**	**17 07 11.1**	**+0.2**
AYDN				*i* S	**Sg**	**17 07 24.6**	**-0.1**
AYDN	**Tasoluk**	**1.07**	**259**	*i* P	**Pg**	**17 07 11.1**	**+0.2**
AYDN				*i* S	**Sg**	**17 07 24.6**	**-0.1**
DEMI	**Demirci**	**1.23**	**342**	*i* P	**Pn**	**17 07 13.6**	**+0.2**
DEMI				*i* S	**Sb**	**17 07 28.9**	**-0.5**
DEMI	**Demirci**	**1.23**	**342**	*i* P	**Pn**	**17 07 13.6**	**+0.2**
DEMI				*i* S	**Sb**	**17 07 28.9**	**-0.4**
SUTC	**Sutluce-Ispart**	**1.48**	**105**	*e*PN	**Pn**	**17 07 17.2**	**+0.4**
SUTC	**Sutluce-Ispart**	**1.48**	**105**	*e*Pn	**Pn**	**17 07 17.3**	**+0.4**

ISCJB ***28*** *17:15:49.9±0.6, 37°91N±0°03×29°17E±0°06, h10km, Error ellipse: s-maj=7.2km s-min=3.8km az=176.2*
ISK ***28*** *17:15:49.8, 37°90N×29°10E, h14km, MD2.5*
DDA ***28*** *17:15:49.5, 37°89N×29°21E, h7km±2km, Md2.8*
CSEM ***28*** *17:15:50.1±0.2, 37°91N×29°16E, h2km, MD2.5, Error ellipse: s-maj=6.3km s-min=3.5km az=86.0*

ISC 28 17:15:50.5±1.2, 37°90N±0°03×29°16E±0°07, h8km±27km, n14, σ0°76/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**215**	*e*PG	**Pg**	**17 15 53.9**	**-0.4**
DENT	**Denizli**	**0.18**	**215**	*e*Pg	**Pg**	**17 15 53.9**	**-0.3**
DNZL	**Cakiroluk**	**0.23**	**203**	*i* P	**Pg**	**17 15 54.6**	**-0.5**
DNZL				*i* S	**Sg**	**17 15 58.4**	**0.0**
DNZL	**Cakiroluk**	**0.23**	**203**	*i* P	**Pg**	**17 15 54.6**	**-0.6**
DNZL				*i* S	**Sg**	**17 15 58.3**	**0.0**
KHAL	**Karahalli**	**0.53**	**29**	*i* P	**Pg**	**17 16 00.2**	**-0.6**
KHAL				*i* S	**Sg**	**17 16 07.6**	**-0.2**
KHAL	**Karahalli**	**0.53**	**29**	*i* P	**Pg**	**17 16 00.2**	**-0.6**
KHAL				*i* S	**Sg**	**17 16 07.6**	**-0.2**
KULA	**Kula-Manisa**	**0.73**	**327**	*e*PG	**Pg**	**17 16 03.7**	**-0.8**
KULA				*e*SG	**Sg**	**17 16 14.4**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**327**	*e*Pg	**Pg**	**17 16 03.7**	**-0.8**
KULA				*e*Sg	**Sg**	**17 16 14.4**	**+0.4**
MANT	**Manisa**	**0.76**	**321**	*i* P	**Pg**	**17 16 05.1**	**+0.1**
MANT				*i* S	**Sg**	**17 16 16.4**	**+1.5**
MANT	**Manisa**	**0.76**	**321**	*i* P	**Pg**	**17 16 05.1**	**+0.1**
MANT				*i* S	**Sg**	**17 16 16.4**	**+1.5**
GLHS	**Glhisar (BURDU**	**0.79**	**160**	*e*PG	**Pg**	**17 16 05.9**	**+0.1**
GLHS				*e*SG	**Sg**	**17 16 17.6**	**+1.5**
GLHS	**Glhisar (BURDU**	**0.79**	**160**	*e*Pg	**Pg**	**17 16 05.9**	**+0.2**
GLHS				*e*Sg	**Sg**	**17 16 17.6**	**+1.6**
YER	**Yerkesik**	**1.04**	**223**	*e*PG	**Pg**	**17 16 09.5**	**-1.0**
YER	**Yerkesik**	**1.04**	**223**	*e*Pg	**Pg**	**17 16 09.5**	**-0.9**

MAN 28 17:25:07, 11°38N×122°53E, h89km, mb3.7, ML2.4, MS2.0, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**0.27**	**50⇑**	*e*P	Pn	17 25 21.3	+1.1
RCP				*e*S	Sn	17 25 32.7	+2.8
GUIM	**Jordan**	**0.75**	**176**	*e*P	Pn	17 25 25.6	+1.7
GUIM				*e*S	Sn	17 25 39.2	+2.6
OTRP	**Odiongan**	**1.09**	**333**	*e*P	Pn	17 25 28.8	+1.0
CUYO	**Cuyo Island**	**1.58**	**251**	*e*P	Pn	17 25 34.2	+0.5

IDC ***28*** *17:31:58.0±0.5, 37°23N×22°22E, h0km, mb4.2/22, mb1 4.3/29, mb1mx4.3/34, mbtmp4.2/29, ML3.7/7, MS3.3/15, Ms1 3.4/15, ms1mx3.2/43, Error ellipse: s-maj=13.0km s-min=12.3km az=59.0*
CSEM ***28*** *17:31:59.9±0.1, 37°18N×22°08E, h2km, mb5.0/5, Ms3.1, Error ellipse: s-maj=3.3km s-min=2.5km az=40.0*
ATH ***28*** *17:32:00.1, 37°21N×22°14E, h5km±1km, ML4.2*
THE ***28*** *17:32:00.7, 37°18N×22°20E, h0km±1km, ML4.3/9, Error ellipse: s-maj=1.5km s-min=0.6km az=211.0*
MOS ***28*** *17:32:01.1±1.2, 37°17N×22°06E, h33km, mb4.5/24, Error ellipse: s-maj=6.2km s-min=3.8km az=102.4*
PDG ***28*** *17:32:01.1±0.5, 37°25N×22°25E, h11km±1km, ML4.2/7, Error ellipse: s-maj=1.0km s-min=1.2km az=0.0*
HLW ***28*** *17:32:01.2, 37°37N×22°03E, h33km±17km, Md4.6, Ml3.8*
NEIC ***28*** *17:32:03.4±0.5, 37°18N×22°09E, h42km±5km, mb4.5/27, Error ellipse: s-maj=6.6km s-min=3.9km az=197.0*

ISC 28 17:32:00.2±0.3, 37°12N±0°01×22°13E±0°01, h11km±2km, n638, σ1°30/726, mb4.4/47, MS3.6/10, 25C-23D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.17**	**289**	*e*PG	**Pg**	**17 32 03.6**	**-0.4**
ITM				*e*SG	**Sg**	**17 32 06.1**	**-0.5**
ITM	**Ithomi**	**0.17**	**289**	P	**Pg**	**17 32 03.8**	**-0.2**
ITM				S	**Sg**	**17 32 08.0**	**+1.4**
ITM	**Ithomi**	**0.17**	**289**	P	**Pg**	**17 32 03.8**	**-0.2**
ITM				*e*Sg	**Sg**	**17 32 06.1**	**-0.5**
ITM				S	**Sg**	**17 32 08.0**	**+1.4**
VLX	**Vlachokerasia**	**0.32**	**39**	P	**Pg**	**17 32 05.8**	**-0.8**
VLX				S	**Sg**	**17 32 09.8**	**-1.1**
PYL	**PYLOS**	**0.38**	**234**	P	**Pg**	**17 32 08.5**	**+0.7**
PYL				S	**Sg**	**17 32 14.9**	**+2.0**
DYR	**Agios Nikonas**	**0.40**	**155**	P	**Pg**	**17 32 09.3**	**+1.3**
DYR				S	**Sg**	**17 32 16.6**	**+3.3**
VLI	**Veliai**	**0.76**	**122**	*e*PB	**Pg**	**17 32 15.9**	**+1.0**
VLI				*e*SG	**Sg**	**17 32 26.5**	**+1.6**
VLI	**Veliai**	**0.76**	**122**	P	**Pg**	**17 32 14.8**	**-0.1**
VLI				S	**Sg**	**17 32 26.5**	**+1.6**
VLI	**Veliai**	**0.76**	**122**	P	**Pg**	**17 32 14.8**	**-0.1**
VLI	**Veliai**	**0.76**	**122**	*e*Pb	**Pg**	**17 32 15.9**	**+1.0**
VLI				S	**Sg**	**17 32 26.5**	**+1.6**
GUR	**Goura**	**0.83**	**12**	P	**Pg**	**17 32 13.8**	**-2.4**
GUR				S	**Sg**	**17 32 25.0**	**-2.0**
DIDY	**Didyma**	**0.93**	**68**	P	**Pg**	**17 32 16.5**	**-1.6**
DIDY				S	**Sg**	**17 32 29.8**	**-0.5**
DIDY	**Didyma**	**0.93**	**68**	P	**Pg**	**17 32 16.5**	**-1.6**
DIDY				S	**Sg**	**17 32 29.8**	**-0.5**
DID	**Didima**	**0.96**	**66**	P	**Pg**	**17 32 18.0**	**-0.7**
DID				S	**Sg**	**17 32 31.6**	**+0.3**
THAL	**Thalero**	**1.01**	**25**	P	**Pg**	**17 32 17.7**	**-1.8**
THAL	**Thalero**	**1.01**	**25**	P	**Pg**	**17 32 17.7**	**-1.8**
RLS	**Riolos of Patr**	**1.07**	**331**	*e*PB	**Pg**	**17 32 19.0**	**-1.8**
RLS	**Riolos of Patr**	**1.07**	**331**	P	**Pg**	**17 32 19.1**	**-1.7**
RLS				S	**Sg**	**17 32 36.1**	**+1.4**
RLS	**Riolos of Patr**	**1.07**	**331**	*e*Pb	**Pg**	**17 32 19.0**	**-1.8**
RLS				S	**Sg**	**17 32 36.1**	**+1.4**
KYTH	**Kithira**	**1.11**	**139**	*e*PB	**Pg**	**17 32 22.7**	**+1.1**
KYTH	**Kithira**	**1.11**	**139**	P	**Pg**	**17 32 23.0**	**+1.4**
KYTH	**Kithira**	**1.11**	**139**	P	**Pg**	**17 32 23.0**	**+1.4**
LTK	**Loutraki**	**1.12**	**36**	P	**Pg**	**17 32 19.8**	**-1.9**
LAKA	**Lakka**	**1.12**	**354**	P	**Pg**	**17 32 20.0**	**-1.7**
LAKA				S	**Sg**	**17 32 36.3**	**0.0**
LAKA	**Lakka**	**1.12**	**354**	P	**Pg**	**17 32 20.0**	**-1.7**
LAKA				S	**Sg**	**17 32 36.3**	**0.0**
UPR	**University Cam**	**1.19**	**347**	P	**Pn**	**17 32 20.8**	**-1.9**
UPR				S	**Sb**	**17 32 36.9**	**-1.2**
TRIZ	**Trizonia**	**1.24**	**358**	P	**Pn**	**17 32 22.0**	**-1.4**
TRIZ				S	**Sb**	**17 32 40.3**	**+0.8**
TRIZ	**Trizonia**	**1.24**	**358**	P	**Pn**	**17 32 22.0**	**-1.4**
TRIZ				S	**Sb**	**17 32 40.3**	**+0.8**
NAIG	**Nisos Aigina**	**1.25**	**59**	*e*PB	**Pb**	**17 32 22.8**	**-1.0**
NAIG	**Nisos Aigina**	**1.25**	**59**	*e*Pb	**Pb**	**17 32 22.8**	**-1.0**
KALE	**Kalithea**	**1.27**	**0**	P	**Pn**	**17 32 23.4**	**-0.3**
KALE				S	**Sb**	**17 32 41.9**	**+1.6**
KALE	**Kalithea**	**1.27**	**0**	P	**Pn**	**17 32 23.4**	**-0.3**
KALE				S	**Sb**	**17 32 41.9**	**+1.6**
EFP	**Efpalio**	**1.31**	**352**	P	**Pn**	**17 32 22.6**	**-1.8**
EFP				S	**Sb**	**17 32 40.5**	**-1.1**
DSF	**Desfina**	**1.32**	**14**	P	**Pn**	**17 32 23.2**	**-1.3**
DSF				S	**Sb**	**17 32 41.4**	**-0.5**
DESF	**Desfina**	**1.33**	**14**	P	**Pn**	**17 32 24.1**	**-0.5**
DESF				S	**Sb**	**17 32 41.9**	**-0.1**
DESF	**Desfina**	**1.33**	**14**	P	**Pn**	**17 32 24.1**	**-0.5**
DESF				S	**Sb**	**17 32 41.9**	**-0.1**
VIL1	**Vilia, Western**	**1.41**	**42**	*e*PB	**Pb**	**17 32 25.6**	**-0.8**
VIL1				*e*SB	**Sb**	**17 32 44.0**	**-0.4**
KFL	**Anninata**	**1.45**	**313**	P	**Pn**	**17 32 26.0**	**-0.3**
KFL				S	**Sn**	**17 32 46.5**	**+1.3**
VLY	**Voula,Athens**	**1.51**	**61**	*e*PG	**Pg**	**17 32 27.1**	**-2.1**
VLY				*e*SG	**Sg**	**17 32 47.2**	**-1.6**
VLY	**Voula,Athens**	**1.51**	**61**	P	**Pn**	**17 32 27.2**	**+0.1**
VLY				S	**Sn**	**17 32 46.9**	**+0.1**
VLY	**Voula,Athens**	**1.51**	**61**	P	**Pn**	**17 32 27.2**	**+0.1**
VLY				S	**Sn**	**17 32 46.9**	**+0.1**
VLY				*e*Sg	**Sg**	**17 32 47.2**	**-1.6**
ATH	**Athens Observa**	**1.52**	**56**	*e*PB	**Pb**	**17 32 27.6**	**-0.7**
ATH	**Athens Observa**	**1.52**	**56**	P	**Pn**	**17 32 27.3**	**+0.1**
ATH				S	**Sn**	**17 32 48.1**	**+1.1**
ATH	**Athens Observa**	**1.52**	**56**	P	**Pn**	**17 32 27.3**	**+0.1**
ATH	**Athens Observa**	**1.52**	**56**	*e*Pb	**Pb**	**17 32 27.6**	**-0.7**
ATH				S	**Sn**	**17 32 48.1**	**+1.1**
VLS	**Valsamata**	**1.61**	**311**	*e*PG	**Pg**	**17 32 29.2**	**-1.9**
VLS	**Valsamata**	**1.61**	**311**	P	**Pn**	**17 32 28.4**	**-0.1**
VLS				S	**Sn**	**17 32 52.3**	**+3.1**
VLS	**Valsamata**	**1.61**	**311**	P	**Pn**	**17 32 28.4**	**-0.1**
VLS	**Valsamata**	**1.61**	**311**	*e*Pg	**Pg**	**17 32 28.8**	**-2.3**
VLS				S	**Sn**	**17 32 52.3**	**+3.1**
PTL	**Penteli**	**1.66**	**56**	*e*PB	**Pb**	**17 32 29.5**	**-1.2**
PTL				*e*SB	**Sb**	**17 32 51.5**	**-0.1**
PTL	**Penteli**	**1.66**	**56**	P	**Pn**	**17 32 29.3**	**+0.1**
PTL				S	**Sn**	**17 32 51.6**	**+1.2**
PTL	**Penteli**	**1.66**	**56**	P	**Pn**	**17 32 29.3**	**+0.1**
PTL				S	**Sn**	**17 32 51.6**	**+1.2**
LKR	**Lokris**	**1.67**	**24**	*e*PG	**Pg**	**17 32 29.5**	**-2.8**
LKR	**Lokris**	**1.67**	**24**	P	**Pn**	**17 32 29.4**	**+0.1**
LKR				S	**Sn**	**17 32 51.7**	**+0.9**
LKR	**Lokris**	**1.67**	**24**	P	**Pn**	**17 32 29.4**	**+0.1**
LKR				S	**Sn**	**17 32 51.7**	**+0.9**
ATAL	**Atalanti**	**1.72**	**24**	P	**Pn**	**17 32 30.0**	**0.0**
ATAL				S	**Sn**	**17 32 53.5**	**+1.6**
ATAL	**Atalanti**	**1.72**	**24**	P	**Pn**	**17 32 30.0**	**0.0**
ATAL				S	**Sn**	**17 32 53.5**	**+1.6**
EVR	**Evrytania**	**1.81**	**352**	*e*PN	**Pn**	**17 32 32.6**	**+1.4**
EVR	**Evrytania**	**1.81**	**352**	P	**Pn**	**17 32 32.3**	**+1.1**
EVR				S	**Sn**	**17 32 56.7**	**+2.6**
EVR	**Evrytania**	**1.81**	**352**	P	**Pn**	**17 32 32.3**	**+1.1**
EVR	**Evrytania**	**1.81**	**352**	*e*Pn	**Pn**	**17 32 32.6**	**+1.4**
EVR				S	**Sn**	**17 32 56.7**	**+2.6**
ERET	**Eretria**	**1.87**	**45**	P	**Pn**	**17 32 32.5**	**+0.4**
ERET	**Eretria**	**1.87**	**45**	P	**Pn**	**17 32 32.5**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.89**	**0**	P	**Pn**	**17 32 33.7**	**+1.4**
MAKR				S	**Sn**	**17 32 58.4**	**+2.4**
MAKR	**Makrakomi, Fth**	**1.89**	**0**	P	**Pn**	**17 32 33.7**	**+1.4**
MAKR				S	**Sn**	**17 32 58.4**	**+2.4**
AGG	**Agios Georgios**	**1.90**	**5**	*e*PN	**Pn**	**17 32 34.5**	**+2.0**
AGG				*e*SN	**Sn**	**17 32 59.2**	**+2.8**
AGG	**Agios Georgios**	**1.90**	**5**	P	**Pn**	**17 32 33.1**	**+0.6**
AGG	**Agios Georgios**	**1.90**	**5**	P	**Pn**	**17 32 33.1**	**+0.6**
AGG	**Agios Georgios**	**1.90**	**5**	*e*Pn	**Pn**	**17 32 34.6**	**+2.1**
AGG				*e*Sn	**Sn**	**17 32 59.2**	**+2.8**
SMIA	**Simia**	**1.95**	**26**	P	**Pn**	**17 32 33.6**	**+0.5**
SMIA	**Simia**	**1.95**	**26**	P	**Pn**	**17 32 33.6**	**+0.5**
MRKA	**Markates**	**1.96**	**36**	P	**Pn**	**17 32 33.5**	**+0.3**
MRKA	**Markates**	**1.96**	**36**	P	**Pn**	**17 32 33.5**	**+0.3**
MRMA	**Marmari**	**2.02**	**62**	P	**Pn**	**17 32 34.5**	**+0.4**
MRMA	**Marmari**	**2.02**	**62**	P	**Pn**	**17 32 34.5**	**+0.4**
LKD2	**Lefkada island**	**2.03**	**325**	P	**Pn**	**17 32 36.3**	**+2.1**
LKD2				S	**Sn**	**17 33 03.7**	**+4.2**
LKD2	**Lefkada island**	**2.03**	**325**	P	**Pn**	**17 32 36.3**	**+2.1**
LKD2				S	**Sn**	**17 33 03.7**	**+4.2**
SKIA	**Skiathos**	**2.30**	**27**	P	**Pn**	**17 32 38.3**	**+0.4**
SKIA	**Skiathos**	**2.30**	**27**	P	**Pn**	**17 32 38.3**	**+0.4**
NEO	**Neokhori**	**2.34**	**21**	*e*PN	**Pn**	**17 32 39.8**	**+1.2**
NEO	**Neokhori**	**2.34**	**21**	P	**Pn**	**17 32 38.9**	**+0.3**
NEO	**Neokhori**	**2.34**	**21**	P	**Pn**	**17 32 38.9**	**+0.3**
NEO	**Neokhori**	**2.34**	**21**	*e*Pn	**Pn**	**17 32 39.8**	**+1.2**
XOR	**Xorichti**	**2.39**	**20**	P	**Pn**	**17 32 39.5**	**+0.3**
XOR	**Xorichti**	**2.39**	**20**	P	**Pn**	**17 32 39.5**	**+0.3**
VAM	**Vamos**	**2.40**	**135**	*e*PN	**Pn**	**17 32 42.9**	**+3.6**
VAM	**Vamos**	**2.40**	**135**	P	**Pn**	**17 32 40.9**	**+1.6**
VAM	**Vamos**	**2.40**	**135**	P	**Pn**	**17 32 40.9**	**+1.6**
VAM	**Vamos**	**2.40**	**135**	*e*Pn	**Pn**	**17 32 42.9**	**+3.6**
THL	**Klokotos Trika**	**2.44**	**358**	*e*PN	**Pn**	**17 32 41.5**	**+1.6**
THL	**Klokotos Trika**	**2.44**	**358**	P	**Pn**	**17 32 40.5**	**+0.6**
THL	**Klokotos Trika**	**2.44**	**358**	P	**Pn**	**17 32 40.5**	**+0.6**
THL	**Klokotos Trika**	**2.44**

SRS	Serrai	4.15	15	P		Pn	17 33 04.1	+0.8
VAY	Valandovo	4.21	5	*e*Pn		Pn	17 33 05.7	+1.5
VAY				*e*Sn		Sn	17 33 52.9	-0.3
VAY	Valandovo	4.21	5	*e*Pn		Pn	17 33 05.6	+1.5
VAY				*e*Sn		Sn	17 33 52.9	-0.3
EZN	Ezine	4.26	49	*e*PN		Pn	17 33 03.1	-1.7
EZN	Ezine	4.26	49	*e*Pn		Pn	17 33 03.1	-1.8
KRUS	Krusevo	4.29	351	*e*Pn		Pn	17 33 06.6	+1.3
KRUS	Krusevo	4.29	351	*e*Pn		Pn	17 33 06.6	+1.2
KARP	Karpathos	4.36	110	*e*PN		Pn	17 33 10.0	+3.8
KARP	Karpathos	4.36	110	P		Pn	17 33 08.3	+2.1
KARP	Karpathos	4.36	110	P		Pn	17 33 08.3	+2.1
KARP	Karpathos	4.36	110	*e*PN		Pn	17 33 10.0	+3.8
DAT	Datca	4.38	94	*e*PN		Pn	17 33 08.7	+2.1
DAT	Datca	4.38	94	*e*Pn		Pn	17 33 08.7	+2.1
NVR	Nevrokopi	4.43	17	*e*PN		Pn	17 33 09.3	+2.1
NVR	Nevrokopi	4.43	17	P		Pn	17 33 07.9	+0.7
NVR	Nevrokopi	4.43	17	P		Pn	17 33 07.9	+0.7
NVR	Nevrokopi	4.43	17	*e*Pn		Pn	17 33 08.7	+1.5
TIR	Tirane	4.57	338	*e*PN		Pn	17 33 12.2	+3.1
TIR				*i* SN		Sg	17 34 32.9	+6.1
TIR	Tirane	4.57	338	*e*Pn		Pn	17 33 12.2	+3.1
TIP	Timpagrande	4.70	297	*e*Pn		Pn	17 33 11.1	+0.2
TIP	Timpagrande	4.70	297	*e*Pn		Pn	17 33 11.1	+0.1
GELI	Tayfur-Gelibol	4.71	45	*e*PN		Pn	17 33 10.5	-0.7
GELI	Tayfur-Gelibol	4.71	45	*e*Pn		Pn	17 33 10.5	-0.6
PHP	Peshkopia	4.74	345	*e*PN		Pn	17 33 12.4	+0.9
PHP				*i* SN		Sb	17 34 16.3	-3.9
PHP	Peshkopia	4.74	345	*e*Pn		Pn	17 33 12.4	+0.9
ENEZ	Enez	4.78	40	*e*PN		Pn	17 33 10.3	-1.7
ENEZ	Enez	4.78	40	*e*Pn		Pn	17 33 10.3	-1.7
RDO	Rodhopi	4.81	32	*e*PN		Pn	17 33 14.3	+1.8
RDO	Rodhopi	4.81	32	*e*Pn		Pn	17 33 14.3	+1.8
ALN	Alexandroupoli	4.85	38	P		Pn	17 33 13.6	+0.6
ALN	Alexandroupoli	4.85	38	P		Pn	17 33 13.6	+0.6
LPK	Lapseki	4.86	47	*e*PN		Pn	17 33 11.6	-1.5
LPK	Lapseki	4.86	47	*e*Pn		Pn	17 33 11.6	-1.6
SKO	Skopje	4.87	354	*e*Pn		Pn	17 33 15.7	+2.4
SKO	Skopje	4.87	354	*e*Pn		Pn	17 33 15.7	+2.4
ARG	Arkhangelos	4.91	99	*e*PN		Pn	17 33 17.4	+3.6
ARG	Arkhangelos	4.91	99	*e*Pn		Pn	17 33 16.8	+3.0
YER	Yerkesik	4.92	88	*e*PN		Pn	17 33 15.8	+1.9
YER	Yerkesik	4.92	88	*e*Pn		Pn	17 33 15.9	+2.0
ERIK	Erikli-Kesan	4.92	43	*e*PN		Pn	17 33 12.4	-1.6
ERIK	Erikli-Kesan	4.92	43	*e*Pn		Pn	17 33 12.4	-1.6
TAR1	Taranto	5.08	313	*e*Pn		Pn	17 33 15.4	-0.8
PE1	Pezze di Greco	5.19	317	*e*Pn		Pn	17 33 17.3	-0.4
PE1				*e*Sn		Sn	17 34 15.2	-2.3
KRBG	Karabiga-Canak	5.19	49	*e*PN		Pn	17 33 16.6	-1.1
KRBG	Karabiga-Canak	5.19	49	*e*Pn		Pn	17 33 16.6	-1.1
PUK	Puka	5.21	341	*e*PN		Pn	17 33 18.6	+0.7
PUK				*i* SN		Sn	17 34 19.8	+1.9
PUK	Puka	5.21	341	*e*Pn		Pn	17 33 18.6	+0.7
PUK				*i* Sn		Sn	17 34 19.8	+1.9
GONE	Gonen-Balikesi	5.24	54	*e*PN		Pn	17 33 17.4	-0.9
GONE	Gonen-Balikesi	5.24	54	*e*Pn		Pn	17 33 17.4	-1.0
LTBQ	Tobruq	5.27	163	*i* P		Pn	17 33 21.3	+2.5
	SNR=23							
ULC	Ulcinj	5.32	336	⇑*i*Pn		Pn	17 33 20.7	+1.2
ULC	Ulcinj	5.32	336	⇑*i*Pn		Pn	17 33 20.7	+1.2
KULA	Kula-Manisa	5.36	73	*e*PN		Pn	17 33 20.7	+0.8
KULA	Kula-Manisa	5.36	73	*e*Pn		Pn	17 33 20.7	+0.8
BCI	Bajram Curri	5.47	344	*e*PN		Pn	17 33 23.2	+1.7
BCI				*e*PN		Sn	17 34 27.8	+3.4
BCI	Bajram Curri	5.47	344	*e*Pn		Pn	17 33 23.2	+1.7
EDC	Edincik	5.52	53	*e*PN		Pn	17 33 21.4	-0.8
VTS	Vitosha	5.52	8	P		Pn	17 33 24.4	+2.1
VTS	Vitosha	5.52	8	⇑*i*P		Pn	17 33 24.4	+2.1
VTS	Vitosha	5.52	8	P		Pn	17 33 24.4	+2.1
BAI	Bari	5.70	316	*e*Pn		Pn	17 33 23.1	-1.6
BAI				*e*Sn		Sn	17 34 28.2	-1.8
PVY	Plav	5.71	344	⇓*i*Pn		Pn	17 33 26.2	+1.4
PVY				*i* Sn		Sn	17 34 29.8	-0.6
PVY	Plav	5.71	344	⇓*i*Pn		Pn	17 33 26.2	+1.4
PVY				*i* Sn		Sn	17 34 29.8	-0.6
CUC	Castrocucco	5.72	302	*e*Pn		Pn	17 33 26.1	+1.2
	62nm,0.6s							
CUC	Castrocucco	5.72	302	*e*Pn		Pn	17 33 26.1	+1.2
	62nm,0.6s							
BUM	Brajici-Budva	5.74	335	⇑*i*Pn		Pn	17 33 26.6	+1.4
BUM				*i* Sn		Sn	17 34 30.7	-0.3
BUM	Brajici-Budva	5.74	335	⇑*i*Pn		Pn	17 33 26.6	+1.4
BUM				*i* Sn		Sn	17 34 30.7	-0.3
TTG	Podgorica	5.74	338	⇑*i*Pn		Pn	17 33 26.2	+1.0
TTG				*i* Sn		Sn	17 34 31.4	+0.4
PDG	Podgorica	5.74	338	⇑*i*Pn		Pn	17 33 26.2	+0.9
PDG				*i* Sn		Sn	17 34 31.4	+0.3
KCTX	Karacabey (Bur	5.79	55	*e*PN		Pn	17 33 25.4	-0.6
GLHS	Glhisar (BURDU	5.89	87	*e*PN		Pn	17 33 29.9	+2.6
EDRB	Edirne	5.92	36	*e*PN		Pn	17 33 26.9	-0.7
IVA	Berane	5.99	344	⇓*i*Pn		Pn	17 33 30.2	+1.5
IVA				*i* Sn		Sn	17 34 36.8	-0.4
BEY	Berane	5.99	344	⇓*i*Pn		Pn	17 33 30.2	+1.5
BEY				*i* Sn		Sn	17 34 36.8	-0.4
HCY	Herceg Novi	6.01	333	⇑*i*Pn		Pn	17 33 30.4	+1.5
HCY				*i* Sn		Sn	17 34 37.6	0.0
HCY	Herceg Novi	6.01	333	⇑*i*Pn		Pn	17 33 30.4	+1.5
HCY				*i* Sn		Sn	17 34 37.6	0.0
CDT	Castel del Mon	6.03	313	*e*Pn		Pn	17 33 28.8	-0.4
CDT				*e*Sn		Sn	17 34 36.1	-2.0
NKY	Niksic	6.17	338	⇓*i*Pn		Pn	17 33 32.3	+1.2
NKY				*i* Sn		Sn	17 34 41.5	-0.1
NKY	Niksic	6.17	338	⇓*i*Pn		Pn	17 33 32.3	+1.2
NKY				*i* Sn		Sn	17 34 41.5	-0.1
MDNY	Mudanya-Bursa	6.20	56	*e*PN		Pn	17 33 31.7	+0.2
WDD	Wield Dalam	6.25	261	*e*Pn		Pn	17 33 31.2	-1.1
	181nm,0.5s							
WDD	Wield Dalam	6.25	261	*e*Pn		Pn	17 33 31.2	-1.1
	181nm,0.5s							
ARMT	Armutlu	6.28	55	*e*PN		Pn	17 33 31.8	-0.8
BRY	Bratogost	6.39	336	⇑*i*Pn		Pn	17 33 35.7	+1.5
BRY				*i* Sn		Sn	17 34 46.2	-0.9
BRY	Bratogost	6.39	336	⇑*i*Pn		Pn	17 33 35.7	+1.5
BRY				*i* Sn		Sn	17 34 46.2	-0.9
LJBD	Adjabya	6.40	195	*i* P		Pn	17 33 34.0	-0.3
	SNR=22							
UPM	Unac-Piva	6.55	339	⇑*i*Pn		Pn	17 33 37.4	+1.0
UPM				*e*Sn		Sn	17 34 50.9	-0.2
UPM	Unac-Piva	6.55	339	⇑*i*Pn		Pn	17 33 37.4	+1.0
UPM				*e*Sn		Sn	17 34 50.9	-0.2
BGKT	Bogazkoy	6.56	50	*e*PN		Pn	17 33 36.2	-0.3
MS1	Monte Sant'Ang	6.62	316	*e*Pn		Pn	17 33 36.7	-0.6
MS1				*e*Sn		Sn	17 34 52.2	-0.6
ISK	Istanbul-Kandi	6.67	52	*e*PN		Pn	17 33 37.3	-0.7
ISP	Isparta	6.71	82	*e*Pn		Pn	17 33 41.0	+2.4
	43nm,0.3s							
ISP	Isparta	6.71	82	*e*P		Pn	17 33 41.0	+2.4
ISP				pmax	pmax			
	comp=Z,43nm,0.3s							
ISP	Isparta	6.71	82	*e*P		Pn	17 33 41.0	+2.4
	comp=Z,43nm,0.3s							
BCK	Bucak	6.75	85	*e*PN		Pn	17 33 41.5	+2.3
CAVI	Cavuskoy	6.77	61	*e*PN		Pn	17 33 39.9	+0.5
ADVT	Abdulvahap	6.80	59	*e*PN		Pn	17 33 40.0	+0.2
HRT	Hereke	6.94	56	*e*PN		Pn	17 33 41.6	-0.1
HMAT	Matruh	7.29	144	S		Sn	17 35 06.8	-2.4
	baz=144							
GULT	Gulveren	7.34	61	*e*PN		Pn	17 33 47.6	+0.4
SVRH	Sivrihisar-ESK	7.74	70	*e*PN		Pn	17 33 53.1	+0.4
MDUB	Mudurnu	7.83	62	*e*PN		Pn	17 33 54.2	+0.2
KIZT	Kizilcal	7.90	74	*e*PN		Pn	17 33 56.1	+1.3
GZR	Gura Zlata	8.28	3	⇑*i*P		Pn	17 34 01.5	+1.5
SWA2		8.34	160	P		Pn	17 34 01.0	+0.1
	baz=159							
SWA2				S		Sn	17 35 31.5	-3.6
	baz=159							
SWA2		8.34	160	P		Pn	17 34 01.0	+0.1
BZS	Buzias	8.49	358	⇑*i*P		Pn	17 34 02.9	-0.1
AQU	L'Aquila	8.51	311	⇓*i*P		Pn	17 34 08.9	+5.7
TIRR	Tirgusor	8.74	31	*e*Pn		Pn	17 34 06.8	+0.4
TIRR	Tirgusor	8.74	31	*e*P		Pn	17 34 06.8	+0.5
TIRR	Tirgusor	8.74	31	⇓*i*P		Pn	17 34 06.9	+0.6
TIRR	Tirgusor	8.74	31	*e*P		Pn	17 34 06.8	+0.5
MLR	Muntele Rosu	8.84	18	Pn		Pn	17 34 10.3	+2.6
	comp=Z,0.1nm,0.3s,baz=178,slow=16,SNR=6.4							
MLR				LR		LR	17 37 55.8	
	comp=Z,49nm,19.1s,baz=16,slow=41							
MLR	Muntele Rosu	8.84	18	Pn		Pn	17 34 10.3	+2.6
MLR	Muntele Rosu	8.84	18	P		Pn	17 34 10.3	+2.6
MLR	Muntele Rosu	8.84	18	⇓*i*P		Pn	17 34 10.4	+2.7
MLR	Muntele Rosu	8.84	18	P		Pn	17 34 10.3	+2.6
NVLJ	Novalja	9.24	326	*e*Pn		Pn	17 34 12.2	-1.0
NVLJ				Sn		Sn	17 35 51.3	-5.9
NVLJ	Novalja	9.24	326	*e*Pn		Pn	17 34 12.2	-1.0
PLOR	Plostina	9.35	20	⇑*i*P		Pn	17 34 21.1	+6.3
VRI	Vrincioaia	9.39	20	⇓*i*P		Pn	17 34 19.0	+3.7
BR131	Keskin Array S	9.40	70	*e*Pn		Pn	17 34 18.7	+3.3
	comp=Z,4.7nm,0.5s							
BR131	Keskin Array S	9.40	70	*e*Pn		Pn	17 34 18.7	+3.3
	comp=Z,4.7nm,0.5s							
BRTR	Keskin Array B	9.40	70	Pn		Pn	17 34 18.9	+3.4
	comp=Z,1.1nm,0.3s,baz=250,slow=15,SNR=31							
BRTR	Keskin Array B	9.40	70	Pn		Pn	17 34 18.9	+3.4
BRTR	Keskin Array B	9.40	70	P		Pn	17 34 18.9	+3.5
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRTR	Keskin Array B	9.40	70	P		Pn	17 34 18.9	+3.5
	comp=Z,1.0nm,0.3s							
PKSM	Moragy	9.45	345	⇓*i*P		Pn	17 34 14.3	-1.8
PKSM	Moragy	9.45	345	⇓*i*P		Pn	17 34 14.3	-1.8
TLCR		9.50	30	⇓*i*P		Pn	17 34 16.7	-0.1
TLCR		9.50	30	⇓*i*P		Pn	17 34 16.7	-0.1
DRGR		9.67	2	⇑*i*P		Pn	17 34 19.9	+0.8
DRGR		9.67	2	⇑*i*P		Pn	17 34 19.9	+0.8
BOJS	Bojanci	9.84	330	*i* Pn		Pn	17 34 20.9	-0.5
BOJS				*i* Sn		Sn	17 36 01.7	-10
BOJS	Bojanci	9.84	330	Pn		Pn	17 34 20.9	-0.5
TESR		9.97	18	⇓*i*P		Pn	17 34 26.0	+2.8
GBRS	Gornja Briga	10.04	329	*e*Pn		Pn	17 34 23.7	-0.4
VISS	Visnje	10.25	330	*i* Pn		Pn	17 34 26.2	-0.8
VISS				*i* Sn		Sn	17 36 18.0	-3.8
VISS	Visnje	10.25	330	*i* Pn		Pn	17 34 26.2	-0.8
HNAT	Natroun	10.30	134	P		Pn	17 34 26.9	-0.9
	baz=134							
SKDS	Skadanscina	10.39	327	*i* Pn		Pn	17 34 28.3	-0.6
SKDS				*i* Sn		Sn	17 36 18.0	-7.2
SKDS	Skadanscina	10.39	327	*i* Pn		Pn	17 34 28.3	-0.6
KEST	Kesra	10.39	266	Pn		Pn	17 34 30.0	+0.9
	comp=Z,0.1nm,0.3s,baz=47,slow=1.2,SNR=9.5							
KEST				LR		LR	17 39 45.2	
	comp=Z,35nm,18.2s,baz=356,slow=45							
KEST	Kesra	10.39	266	*e*P		Pn	17 34 29.5	+0.4
KEST	Kesra	10.39	266	*e*P		Pn	17 34 29.5	+0.4
JAVS	Javornik	10.64	328	*i* Pn		Pn	17 34 32.4	0.0
JAVS				*i* Sn		Sn	17 36 27.4	-4.0
JAVS	Javornik	10.64	328	*i* Pn		Pn	17 34 32.3	-0.1
BURAR	Bucovina Array	10.73	11	⇓*i*P		Pn	17 34 36.8	+3.2
BUR08	Bucovina Ar. S	10.76	11	*e*P		Pn	17 34 36.1	+2.1
BUR08	Bucovina Ar. S	10.76	11	*e*P		Pn	17 34 36.1	+2.1
HSAF	As Saff	10.86	131	P		Pn	17 34 34.6	-0.9
	baz=131							
SOKA	Soboth	10.91	333	⇑*i*Pn		Pn	17 34 34.0	-2.1
SOKA	Soboth	10.91	333	⇑*i*Pn		Pn	17 34 34.0	-2.1
SOKA	Soboth	10.91	333	⇑*i*Pn		Pn	17 34 34.0	-2.1
PSZ	Piszkesteto	10.91	352	⇓*i*P		Pn	17 34 35.8	-0.3
PSZ	Piszkesteto	10.91	352	⇓*i*P		Pn	17 34 35.8	-0.3
OBKA	Obir	10.95	331	⇓*i*Pn		Pn	17 34 33.8	-2.8
OBKA	Obir	10.95	331	⇓*i*Pn		Pn	17 34 33.8	-2.8
GLL	Jalalah	10.99	130	P		Pn	17 34 36.1	-1.2
	baz=131							
HFRF	Wahat Farafira	11.24	150	P		Pn	17 34 39.5	-1.1
	baz=150							
HFRF				AMP			17 37 00.0	
	comp=N,20µm,0.8s,logA/T=4.4,baz=150							
KECS	Kecovo	11.42	354	*e*P		Pn	17 34 42.9	-0.1
KECS	Kecovo	11.42	354	*e*PN		Pn	17 34 42.8	-0.2
KECS	Kecovo	11.42	354	*e*P		Pn	17 34 42.9	-0.1
PGF	Pioggiola	11.45	302	*e*P		Pn	17 34 39.4	-4.1
PGF	Pioggiola	11.45	302	*e*P		Pn	17 34 39.4	-4.1
PGF	Pioggiola	11.45	302	*e*P		Pn	17 34 39.4	-4.1
UZH	Uzhgorod	11.50	1	*e*P		Pn	17 34 50.3	+6.1
VYHS	Vyhne	11.62	349	*e*P		Pn	17 34 44.5	-1.2
VYHS	Vyhne	11.62	349	*e*PN		Pn	17 34 44.5	-1.2
VYHS				*e*SN		Sn	17 36 44.7	-11
VYHS	Vyhne	11.62	349	*e*P		Pn	17 34 44.5	-1.2
MMAI	Mount Meron Ar	11.62	107	Pn		Pn	17 34 44.6	-1.3
	comp=N,3.3nm,0.3s,baz=309,slow=11,SNR=18							
MMAI				Sn		Sn	17 36 54.3	-1.3
	comp=N,2.9nm,0.3s,baz=313,slow=23,SNR=6.1							
MMAI				LR		LR	17 40 05.5	
	comp=N,51nm,22.0s,baz=315,slow=42							
MMAI	Mount Meron Ar	11.62	107	Pn		Pn	17 34 44.6	-1.3
MMAI				Sn		Sn	17 36 54.3	-1.3
KOLL	Kolacno	11.77	348	*e*P		Pn	17 34 46.4	-1.4
KOLL	Kolacno	11.77	348	*e*PN		Pn	17 34 46.4	-1.4
KOLL	Kolacno	11.77	348	*e*P		Pn	17 34 46.4	-1.4
CRVS	Cervenica-Dubn	11.78	358	*e*P		Pn	17 34 48.4	+0.4
CRVS	Cervenica-Dubn	11.78	358	*e*PN		Pn	17 34 48.4	+0.4
CRVS	Cervenica-Dubn	11.78	358	*e*P		Pn	17 34 48.4	+0.4
STHS	Stebnicka Huta	12.30	357	*e*P		Pn	17 34 55.7	+0.6
STHS	Stebnicka Huta	12.30	357	*e*PN		Pn	17 34 55.7	+0.6
STHS				*e*PG		Px	17 36 00.9	
STHS	Stebnicka Huta	12.30	357	*e*P		Pn	17 34 55.7	+0.6
VRAC	Vranov	12.82	343	Pn		Pn	17 34 59.8	-2.5
	comp=N,0.0nm,0.3s,baz=187,slow=19,SNR=3.1							
VRAC	Vranov	12.82	343	Pn		Pn	17 34 59.8	-2.5
VRAC	Vranov	12.82	343	P		Pn	17 34 59.8	-2.5
VRAC	Vranov	12.82	343	P		Pn	17 34 59.8	-2.5
OKC	Ostrava-Krasne	13.03	348	*e*P		Pn	17 35 07.7	+2.6
OKC	Ostrava-Krasne	13.03	348	*e*P		Pn	17 35 07.7	+2.6
OKC				*ex*		x	17 35 16.0	
EIL	Elat	13.03	121	Pn		Pn	17 35 04.2	-1.0
	comp=N,1.6nm,0.3s,baz=345,slow=9.4,SNR=14							
EIL				Sn		Sn	17 37 25.2	-4.9
	comp=N,1.4nm,0.3s,baz=75,slow=19,SNR=5.5							
EIL	Elat	13.03	121	Pn		Pn	17 35 04.2	-1.0
EIL				Sn		Sn	17 37 25.2	-4.9
TREC	Trest	13.09	340	*e*P		Pn	17 35 09.5	+3.7
ASF	Jabal al Asfar	13.12	108	Pn		Pn	17 35 06.3	-0.1
	comp=N,0.3nm,0.3s,baz=278,slow=7.1,SNR=2.0							
ASF				LR		LR	17 40 22.0	
	comp=N,46nm,19.3s,baz=32,slow=38							
ASF	Jabal al Asfar	13.12	108	Pn		Pn	17 35 06.3	-0.1
ASF	Jabal al Asfar	13.12	108	P		Pn	17 35 06.3	-0.1
GERES	GERESS Array B	13.23	335	Pn		Pn	17 35 09.2	+1.4
	comp=N,0.3nm,0.3s,baz=156,slow=13,SNR=5.9							
GERES	GERESS Array B	13.23	335	Pn		Pn	17 35 09.2	+1.4
GERES	GERESS Array B	13.23	335	P		Pn	17 35 09.2	+1.4
GERES	GERESS Array B	13.23	335	P		Pn	17 35 09.2	+1.4
DAVOX	Davos/Dischmat	13.26	321	LR		LR	17 39 36.2	
	comp=N,44nm,20.2s,baz=267,slow=35							
TUE	Stuetta	13.33	318	*e*P		Pn	17 35 08.9	-0.3
	comp=N,6.5nm,0.8s							
TUE	Stuetta	13.33	318	*e*P		Pn	17 35 08.9	-0.3
	comp=N,6.5nm,0.8s							
KRLC	Kraliky	13.51	345	*e*P		Pn	17 35 09.5	-2.1
KRLC	Kraliky	13.51	345	P		Pn	17 35 09.5	-2.1
KHC	Kasperske Hory	13.52	335	*e*P		Pn	17 35 11.7	0.0
	comp=N,6.0nm,0.8s							
KHC	Kasperske Hory	13.52	335	*e*P		Pn	17 35 12.2	+0.5
KHC				MLR	MLR			
	comp=Z,400nm,12.1s							
KHC	Kasperske Hory	13.52	335	*e*P		Pn	17 35 12.2	+0.5
KHC				*ex*		x	17 35 17.4	
KHC				*ex*		x	17 35 21.9	
KHC				AMS	AMS		17 41 00.0	
	comp=Z,400nm,12.1s							
KHC	Kasperske Hory	13.52	335	*e*P		Pn	17 35 11.7	0.0
	comp=Z,6.0nm,0.8s							
MBDF	Montbardon	13.86	308	*e*P		Pn	17 35 16.3	-0.1
	comp=Z,24nm,0.9s							
MBDF	Montbardon	13.86	308	*e*P		Pn	17 35 16.3	-0.1
	comp=Z,24nm,0.9s							
MBDF	Montbardon	13.86	308	*e*P		Pn	17 35 16.3	-0.1
MBDF				pmax	pmax			
	comp=Z,24nm,0.9s							
MBDF	Montbardon	13.86	308	*e*P		Pn	17 35 16.3	-0.1
	comp=Z,12nm,0.9s							
ANN	Anapa	13.86	52	*e*P		Pn	17 35 18.8	+2.4
ANN				*e*S		Sn	17 37 56.7	+6.4
ANN				pmax	pmax			
	comp=Z,62nm,1.7s							
ANN	Anapa	13.86	52	*e*P		Pn	17 35 18.8	+2.4
	comp=Z,62nm,1.7s							
DPC	Dobruska-Polom	13.87	344	*e*P		Pn	17 35 17.9	+1.5
DPC	Dobruska-Polom	13.87	344	*e*P		Pn	17 35 17.9	+1.5
DPC				*ex*		x	17 35 24.0	
DPC	Dobruska-Polom	13.87	344	*e*P		Pn	17 35 17.9	+1.5
PRU	Pruhonice	13.97	339	*e*P		Pn	17 35 26.1	+8.2
PRU				MLR	MLR			
	comp=Z,400nm,10.4s							
PRU	Pruhonice	13.97	339	*e*P		Pn	17 35 26.1	+8.2
PRU				AMS	AMS		17 41 10.0	
	comp=Z,400nm,10.4s							
UPC	Upice	14.08	344	*e*P		Pn	17 35 17.9	-1.5
UPC	Upice	14.08	344	*e*P		Pn	17 35 17.9	-1.5
UPC				*ex*		x	17 35 27.9	
UPC	Upice	14.08	344	*e*P		Pn	17 35 17.9	-1.5
LPG	La Plagne	14.25	311	*e*P		Pn	17 35 21.8	+0.1
	comp=Z,47nm,1.4s							
LPG	La Plagne	14.25	311	*e*P		Pn	17 35 21.8	+0.1
	comp=Z,47nm,1.4s							
LPG	La Plagne	14.25	311	*e*P		Pn	17 35 21.8	+0.1
LPG				pmax	pmax			
	comp=Z,47nm,1.4s							
LPL	La Plagne	14.27	311	*e*P		Pn	17 35 22.1	+0.1
	comp=Z,18nm,1.0s							
LPL	La Plagne	14.27	311	*e*P		Pn	17 35 22.1	+0.1
	comp=Z,18nm,1.0s							
LPL	La Plagne	14.27	311	*e*P		Pn	17 35 22.1	+0.1
LPL				pmax	pmax			
	comp=Z,18nm,1.0s							
KSP	Ksiaz	14.34	345	*e*P		Pn	17 35 31.0	+8.1
KSP	Ksiaz	14.34	345	*e*P		Pn	17 35 30.9	+8.0
KSP	Ksiaz	14.34	345	*e*P		Pn	17 35 30.9	+8.0
PVCC	Panska Ves	14.46	340	*e*P		Pn	17 35 25.9	+1.4
PVCC	Panska Ves	14.46	340	*e*P		Pn	17 35 25.9	+1.4
PVCC				*ex*		x	17 35 32.3	
KIEV	Kiev	14.48	18	*i* P		Pn	17 35 26.6	+1.7
AKASG	Malin Array Be	14.49	18	Pn		Pn	17 35 23.6	-1.5
	comp=Z,0.6nm,0.3s,baz=205,slow=12,SNR=3.8							
AKASG	Malin Array Be	14.49	18	Pn		Pn	17 35 23.6	-1.5
AKASG	Malin Array Be	14.49	18	*ce*P		Pn	17 35 31.1	+6.1
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	14.49	18	Pn		Pn	17 35 23.5	-1.5
AKASG	Malin Array Be	14.49	18	*e*P		Pn	17 35 31.1	+6.1
	comp=Z,1.0nm,0.4s							
ORIF	Oris-en-Rattie	14.51	308	*e*P		Pn	17 35 24.5	-0.8
	comp=Z,43nm,1.4s							
ORIF				*e*R				
	comp=Z,187nm,18.2s							
ORIF	Oris-en-Rattie	14.51	308	*e*P		Pn	17 35 24.5	-0.8
	comp=Z,43nm,1.4s							
ORIF	Oris-en-Rattie	14.51	308	*e*P		Pn	17 35 24.5	-0.8
ORIF				pmax	pmax			
	comp=Z,43nm,1.4s							
BRG	Berggiesshubel

BAIF Baives 18.26 321 *eP* **Pn 17 36 12.9 -0.4**
BAIF pmax pmax
comp=Z,6.0nm,0.4s
BAIF Baives 18.26 321 *eP* **Pn 17 36 12.9 -0.4**
comp=Z,3.2nm,0.4s
VSR Storozhevoye 18.59 35 *eP* **Pn 17 36 17.2 -0.1**
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,5.0nm,0.5s
VSR pmax pmax
comp=Z,6.0nm,0.5s
VSR Storozhevoye 18.59 35 *eP* **Pn 17 36 17.2 -0.1**
MFF Saint Martin d 19.05 307 *eP* **Pn 17 36 20.0 -2.9**
MFF Saint Martin d 19.05 307 *eP* **Pn 17 36 20.0 -2.9**
MFF Saint Martin d 19.05 307 *eP* **Pn 17 36 20.0 -2.9**
VRHR Novokhopersk 19.69 39 *eP* **Pn 17 36 30.1 -0.5**
VRHR pmax pmax
comp=N,40nm,1.0s
VRHR pmax pmax
comp=E,40nm,1.0s
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR Novokhopersk 19.69 39 *eP* **Pn 17 36 30.1 -0.5**
LDF La Druitiere 19.86 312 *eP* **Pn 17 36 30.4 -2.2**
comp=Z,8.2nm,0.4s
LDF La Druitiere 19.86 312 *eP* **Pn 17 36 30.4 -2.2**
comp=Z,8.2nm,0.4s
LDF La Druitiere 19.86 312 *eP* **Pn 17 36 30.4 -2.2**
LDF pmax pmax
comp=Z,8.0nm,0.4s
LDF La Druitiere 19.86 312 *eP* **Pn 17 36 30.4 -2.2**
comp=Z,4.1nm,0.4s
FLN La Foliniere 20.15 312 *eP* **P 17 36 31.8 -2.3**
FLN *eR*
comp=Z,128nm,21.5s
FLN La Foliniere 20.15 312 *eP* **P 17 36 31.8 -2.3**
FLN La Foliniere 20.15 312 *eP* **P 17 36 31.8 -2.3**
TAM Tamanrasset 20.23 230 P **P 17 36 37.0 +1.8**
comp=Z,6.7nm,0.9s
TAM Tamanrasset 20.23 230 P **P 17 36 37.1 +1.9**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 20.23 230 P **P 17 36 37.0 +1.8**
comp=Z,6.7nm,0.9s
OBN Obninsk 20.52 24 P **P 17 36 39.0 +0.9**
OBN *e* 17 36 47.4
OBN *e* 17 36 54.4
OBN S **S 17 40 28.0 +0.7**
OBN pmax pmax
comp=Z,38nm,1.6s
OBN Obninsk 20.52 24 P **P 17 36 39.0 +0.9**
comp=Z,38nm,1.6s
ESDC Sonseca Array 20.59 285 P **P 17 36 38.8 -0.2**
comp=Z,2.4nm,0.7s,baz=81,slow=11,SNR=11
ESDC Sonseca Array 20.59 285 P **P 17 36 38.8 -0.2**
ESDC Sonseca Array 20.59 285 P **P 17 36 38.8 -0.2**
SGMF Saint Gilles 21.19 309 *eP* **P 17 36 44.1 -1.3**
comp=Z,204nm,1.7s,mb4.9
SGMF Saint Gilles 21.19 309 *eP* **P 17 36 44.1 -1.3**
comp=Z,204nm,1.7s,mb5.2
SGMF Saint Gilles 21.19 309 *eP* **P 17 36 44.1 -1.3**
SGMF Saint Gilles 21.19 309 *eP* **P 17 36 44.1 -1.3**
comp=Z,102nm,1.7s,mb4.9
MOS Moscow 21.37 24 *eP* **P 17 36 46.4 -0.9**
MOS *eS* **S 17 40 40.4 -3.9**
MOS pmax pmax
comp=Z,54nm,1.0s,mb4.8
MOS Moscow 21.37 24 *eP* **P 17 36 46.4 -0.9**
comp=Z,54nm,1.0s,mb4.8
QUIF Quistinic 21.44 308 *eP* **P 17 36 47.3 -0.9**
QUIF Quistinic 21.44 308 *eP* **P 17 36 47.3 -0.9**
QUIF Quistinic 21.44 308 *eP* **P 17 36 47.3 -0.9**
QUIF Quistinic 21.44 308 *eP* **P 17 36 47.3 -0.9**
VSU Vasula 21.56 7 *i P* **P 17 36 50.5 +1.1**
VSU pmax pmax
comp=Z,48nm,0.9s,mb4.9
ROSF Rostrenen 21.66 309 *eP* **P 17 36 48.4 -2.1**
comp=Z,80nm,1.0s,mb4.8
ROSF Rostrenen 21.66 309 *eP* **P 17 36 48.4 -2.1**
comp=Z,80nm,1.0s,mb5.1
ROSF Rostrenen 21.66 309 *eP* **P 17 36 48.4 -2.1**
ROSF pmax pmax
comp=Z,80nm,1.0s,mb5.1
MIB Mutribah 22.22 102 *eP* **P 17 36 57.1 +0.4**
MIB AMb AMB 17 37 02.2
comp=Z,47nm,0.8s,mb5.0
MIB Mutribah 22.22 102 *eP* **P 17 36 57.1 +0.4**
comp=Z,47nm,0.8s,mb5.0
NAY Al-Naaiem 22.39 103 *eP* **P 17 36 58.4 -0.2**
NAY AMb AMB 17 37 01.2
comp=Z,35nm,0.5s,mb5.0
NAY Al-Naaiem 22.39 103 *eP* **P 17 36 58.3 -0.2**
comp=Z,35nm,0.5s,mb5.0
UMR Umm Al-Rimmam 22.63 102 *eP* **P 17 37 01.5 +0.5**
UMR AMb AMB 17 37 07.3
comp=Z,57nm,0.6s,mb5.2
UMR Umm Al-Rimmam 22.63 102 *eP* **P 17 37 01.5 +0.5**
comp=Z,57nm,0.6s,mb5.2
HFS Hagfors 23.65 349 P **P 17 37 09.8 -1.5**
comp=Z,7.4nm,0.5s,mb4.4,baz=150,slow=10,SNR=20
HFS Hagfors 23.65 349 P **P 17 37 09.8 -1.6**
HFS Hagfors 23.65 349 P **P 17 37 09.8 -1.5**
HFS pmax pmax
comp=Z,7.0nm,0.5s
KONO Kongsberg 23.95 344 *eP* **P 17 37 11.5 -2.5**
comp=Z,32nm,1.5s,mb4.5
KONO Kongsberg 23.95 344 *eP* **P 17 37 11.5 -2.5**
KONO pmax pmax
comp=Z,32nm,1.5s,mb4.5
FINES FINESS Array B 24.47 5 P **P 17 37 16.9 -1.8**
comp=Z,1.9nm,0.4s,mb3.9,baz=196,slow=8.8,SNR=18
FINES PcP PcP 17 40 56.5 -0.6
comp=Z,0.8nm,0.4s,baz=142,slow=3.5,SNR=3.4
FINES FINESS Array B 24.47 5 P **P 17 37 16.9 -1.8**
FINES PcP PcP 17 40 56.5 -0.6
FINES FINESS Array B 24.47 5 P **P 17 37 17.0 -1.8**
FINES 17 40 56.5
FINES pmax pmax
comp=Z,2.0nm,0.4s
NAO01 NORSAR Array S 24.79 347 *eP* **P 17 37 19.7 -2.0**
comp=Z,5.5nm,0.5s,mb4.3
NB2 NORSAR Subarra 24.91 347 P **P 17 37 21.0 -1.8**
comp=Z,0.5nm,0.5s,mb3.3,baz=152,slow=10
NB2 NORSAR Subarra 24.91 347 P **P 17 37 21.0 -1.8**
comp=Z,0.5nm,0.5s,mb3.3,SNR=8.6
NOA NORSAR Array B 24.91 347 P **P 17 37 21.4 -1.5**
comp=Z,3.1nm,0.6s,mb4.0,baz=156,slow=8.8,SNR=19
NOA LR LR 17 46 51.9
comp=Z,24nm,21.3s,MS2.7,baz=180,slow=36
NOA NORSAR Array B 24.91 347 P **P 17 37 21.4 -1.5**
NOA NORSAR Array B 24.91 347 P **P 17 37 21.4 -1.4**
NOA pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 25.15 5 *eP* **P 17 37 23.9 -1.1**
KAF Kangasniemi 25.15 5 *ep* **P 17 37 23.9 -1.1**
KAF Kangasniemi 25.15 5 *eP* **P 17 37 23.9 -1.1**
DLF Lyons Farm 25.62 318 *eP* **P 17 37 30.0 +0.6**
DLF Lyons Farm 25.62 318 *eP* **P 17 37 30.0 +0.6**
KLMR Klimovskoe 26.18 19 *eP* **P 17 37 38.1 +3.8**
KLMR pmax pmax
comp=Z,22nm,1.2s,mb4.6
JOF Joensuu 26.43 9 *eP* **P 17 37 34.9 -1.7**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
JOF Joensuu 26.43 9 *ep* **P 17 37 34.9 -1.7**
comp=Z,3.8nm,0.6s,mb4.1
AKTO Aktyubinsk 28.82 51 P **P 17 37 56.7 -1.4**
comp=Z,0.6nm,0.3s,mb3.8,baz=238,slow=10,SNR=6.7
AKTO PcP PcP 17 41 06.9 -0.6
comp=Z,0.8nm,0.7s,baz=192,slow=1.3,SNR=2.6
AKTO Aktyubinsk 28.82 51 P **P 17 37 56.7 -1.4**
AKTO PcP PcP 17 41 06.9 -0.6
AKTO Aktyubinsk 28.82 51 P **P 17 37 56.7 -1.4**
AKTO 17 41 06.9
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
ABKAR Akbulak array 29.81 54 *eP* **P 17 38 05.6 -1.2**
comp=Z,0.8nm,0.4s,mb3.8
TORD Torodi Ar. Bea 30.07 223 P **P 17 38 09.9 +0.4**
comp=Z,1.4nm,0.5s,mb4.0,baz=29,slow=8.7,SNR=12
TORD LR LR 17 51 27.4
comp=Z,178nm,18.3s,MS3.7,baz=20,slow=39
TORD Torodi Ar. Bea 30.07 223 P **P 17 38 09.9 +0.4**
SVE Sverdlovsk 32.24 40 *eP* **P 17 38 28.0 -0.2**
SVE pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
ARCES ARCESS Array B 32.52 2 P **P 17 38 28.9 -1.6**
comp=Z,2.5nm,0.6s,mb4.3,baz=190,slow=9.9,SNR=9.6
ARCES ARCESS Array B 32.52 2 P **P 17 38 28.9 -1.6**
ARCES ARCESS Array B 32.52 2 P **P 17 38 28.9 -1.6**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
KEV Kevo 32.80 3 *eP* **P 17 38 30.6 -2.4**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
KEV Kevo 32.80 3 *ep* **P 17 38 30.6 -2.4**
comp=Z,0.8nm,0.3s,mb4.1
BRVK Borovoye 36.78 49⇓ *eP* **P 17 39 07.3 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,2.2s,mb4.3
KKAR Karatay Array 37.06 65 *eP* **P 17 39 09.2 -0.9**
comp=Z,1.1nm,0.4s,mb4.0
KKAR Karatay Array 37.06 65 *eP* **P 17 39 09.2 -0.9**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
DBIC Dimbokro 39.03 226 P **P 17 39 27.1 +0.2**
comp=Z,1.6nm,0.3s,mb4.2,baz=34,slow=9.1,SNR=8.0
DBIC LR LR 17 56 36.8
comp=Z,81nm,18.0s,MS3.6,baz=265,slow=38
DBIC Dimbokro 39.03 226 *eP* **P 17 39 26.8 -0.1**
comp=Z,2.4nm,0.4s,mb4.3
DBIC Dimbokro 39.03 226 P **P 17 39 27.1 +0.2**
DBIC pmax pmax
comp=Z,2.0nm,0.4s
DBIC MLR MLR
comp=Z,81nm,18.0s
LIC Lamto 39.49 226 *eP* **P 17 39 31.2 +0.5**
comp=Z,5.5nm,0.3s,mb4.5
LIC Lamto 39.49 226 *eP* **P 17 39 31.2 +0.5**
comp=Z,5.5nm,0.3s,mb4.8
AAK Ala-Archa 40.03 65 *eP* **P 17 39 34.8 -0.2**
comp=Z,19nm,1.1s,mb4.8
AAK Ala-Archa 40.03 65 *eP* **P 17 39 34.8 -0.2**
AAK pmax pmax
comp=Z,19nm,1.1s,mb4.7
BBTS Babate 40.96 247 LR LR 17 58 42.9
comp=Z,135nm,20.7s,MS3.8,baz=46,slow=39
SPITS Spitsbergen Ar 41.23 358 LR LR 17 56 20.3
comp=Z,63nm,19.3s,MS3.5,baz=170,slow=36
KURK Kurchatov 41.89 53 *eP* **P 17 39 48.6 -1.6**
comp=Z,3.0nm,0.6s,mb4.1
KURK Kurchatov 41.89 53⇑ *iP* **P 17 39 48.8 -1.4**
KURK pmax pmax
comp=Z,6.0nm,1.2s,mb4.1
NVS Novosibirsk 44.47 46 *eP* **P 17 40 10.3 -0.7**
MK31 Makanchi Array 44.77 58 *eP* **P 17 40 12.3 -1.3**
MK31 Makanchi Array 44.77 58 *eP* **P 17 40 12.3 -1.3**
MKAR Makanchi Array 44.77 58 P **P 17 40 12.4 -1.2**
comp=Z,2.8nm,0.5s,mb4.4,baz=269,slow=7.4,SNR=54
MKAR PcP PcP 17 41 54.7 -0.9
comp=Z,1.2nm,0.6s,baz=280,slow=4.9,SNR=3.1
MKAR LR LR 18 01 25.4
comp=Z,50nm,18.6s,MS3.5,baz=353,slow=40
MKAR Makanchi Array 44.77 58 P **P 17 40 12.4 -1.2**
MKAR PcP PcP 17 41 54.7 -0.9
MKAR Makanchi Array 44.77 58 *ceP* **P 17 40 12.3 -1.3**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
ZAA0 Zalesovo Array 45.45 47 *eP* **P 17 40 17.4 -1.5**
ZALV Zalesovo Beam 45.45 47 P **P 17 40 17.4 -1.4**
comp=Z,4.5nm,0.3s,mb4.7,baz=267,slow=8.7,SNR=36
ZALV Zalesovo Beam 45.45 47 P **P 17 40 17.4 -1.4**
ZALV Zalesovo Beam 45.45 47 P **P 17 40 17.4 -1.5**
ZALV pmax pmax
comp=Z,5.0nm,0.3s,mb4.8
DANN Dangsing 51.79 81 *eP* **P 17 41 07.5 -0.5**
comp=Z,15nm,0.5s,mb5.2
DANN Dangsing 51.79 81 *eP* **P 17 41 07.5 -0.5**
comp=Z,15nm,0.5s,mb5.2
KOLN Koldanda 51.92 82 *eP* **P 17 41 07.0 -2.0**
comp=Z,5.1nm,0.5s,mb4.7
KOLN Koldanda 51.92 82 *eP* **P 17 41 07.0 -2.0**
comp=Z,5.1nm,0.5s,mb4.7
GKN Gorkha 52.63 81 *eP* **P 17 41 13.6 -0.7**
GKN Gorkha 52.63 81 *eP* **P 17 41 13.6 -0.7**
DMN Daman 53.18 81 *eP* **P 17 41 17.5 -0.8**
DMN Daman 53.18 81 *eP* **P 17 41 17.5 -0.8**
KKN Kakani 53.24 81 *eP* **P 17 41 17.9 -0.8**
KKN Kakani 53.24 81 *eP* **P 17 41 17.9 -0.8**
KKN Kakani 53.24 81 *eP* **P 17 41 17.9 -0.8**
PKI Pulchoki 53.44 81 *eP* **P 17 41 18.7 -1.5**
PKI Pulchoki 53.44 81 *eP* **P 17 41 18.7 -1.5**
PKI Pulchoki 53.44 81 *eP* **P 17 41 18.7 -1.5**
GUN Gumba 53.65 80 *eP* **P 17 41 21.3 -0.5**
comp=Z,8.0nm,0.5s,mb4.9
GUN Gumba 53.65 80 *eP* **P 17 41 21.3 -0.5**
comp=Z,8.0nm,0.5s,mb4.9
JIRN Jiri 54.01 80 *eP* **P 17 41 24.1 -0.3**
comp=Z,1.6nm,0.4s,mb4.3
JIRN Jiri 54.01 80 *eP* **P 17 41 24.1 -0.3**
comp=Z,1.6nm,0.4s,mb4.3
RAMN Ramite 54.66 81 *eP* **P 17 41 27.6 -1.6**
comp=Z,7.5nm,0.6s,mb4.9
RAMN Ramite 54.66 81 *eP* **P 17 41 27.6 -1.6**
comp=Z,7.5nm,0.6s,mb4.9
ODAN Odare 55.33 81 *eP* **P 17 41 32.1 -1.9**
ODAN Odare 55.33 81 *eP* **P 17 41 32.1 -1.9**
TAPN Taplejung 55.35 80 *eP* **P 17 41 33.4 -0.7**
comp=Z,2.2nm,0.3s,mb4.6
TAPN Taplejung 55.35 80 *eP* **P 17 41 33.4 -0.7**
comp=Z,2.2nm,0.3s,mb4.7
SCHQ Schefferville 60.10 318 P **P 17 42 06.3 -0.8**
comp=Z,4.4nm,0.7s,mb4.6,baz=51,slow=16,SNR=8.9
SCHQ Schefferville 60.10 318 P **P 17 42 06.3 -0.7**
SONM Songino Array 60.14 51 P **P 17 42 06.6 -0.9**
comp=Z,0.6nm,0.5s,mb3.9,baz=284,slow=7.0,SNR=7.7
SONM Songino Array 60.14 51 P **P 17 42 06.6 -0.9**
SONM Songino Array 60.14 51 P **P 17 42 06.6 -0.9**
SONM pmax pmax
comp=Z,1.0nm,0.5s
RES Resolute Bay 61.13 344 LR LR 18 07 32.0
comp=Z,56nm,20.1s,MS3.7,baz=213,slow=35
BOSA Boshof 65.45 177 P **P 17 42 44.1 +1.2**
comp=Z,2.0nm,0.4s,mb4.5,baz=218,slow=4.2,SNR=13
BOSA Boshof 65.45 177 P **P 17 42 44.1 +1.2**
BOSA Boshof 65.45 177 P **P 17 42 44.1 +1.2**
BOSA pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
CM31 Chiang Mai Arr 68.77 83 *eP* **P 17 43 03.3 -1.1**
comp=Z,1.4nm,0.4s,mb4.2
CMAR Chiang Mai Arr 68.77 83 P **P 17 43 03.2 -1.2**
comp=Z,2.5nm,1.0s,mb4.1,baz=304,slow=8.0,SNR=18
CMAR Chiang Mai Arr 68.77 83 P **P 17 43 03.2 -1.2**
CMAR Chiang Mai Arr 68.77 83 P **P 17 43 03.2 -1.2**
CMAR pmax pmax
comp=Z,3.0nm,1.0s
RCBR Riachuelo 68.87 245 LR LR 18 12 43.3
comp=Z,67nm,20.4s,MS3.9,baz=40,slow=35
INK Inuvik 73.31 351 P **P 17 43 30.5 -0.7**
comp=Z,1.7nm,0.9s,mb4.0,baz=50,slow=6.0,SNR=4.5
INK Inuvik 73.31 351 P **P 17 43 30.5 -0.7**
INK Inuvik 73.31 351 P **P 17 43 30.5 -0.7**
INK pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 74.81 341 P **P 17 43 39.3 -0.7**
comp=Z,0.5nm,0.4s,mb3.8,baz=34,slow=5.4,SNR=16
YKA Yellowknife Ar 74.81 341 P **P 17 43 39.4 -0.6**
YKA Yellowknife Ar 74.81 341 P **P 17 43 39.4 -0.6**
FFC Flin Flon 76.73 330 *ceP* **P 17 43 52.1 +1.0**
USRK Ussuriysk Arra 77.17 44 P **P 17 43 52.4 -1.4**
comp=Z,2.1nm,0.7s,mb4.2,baz=291,slow=3.6,SNR=6.6
ULM Lac du Bonnet 77.30 324 P **P 17 43 53.9 -0.5**
comp=Z,8.1nm,0.9s,mb4.7,baz=49,slow=3.7,SNR=9.5
ULM Lac du Bonnet 77.30 324 P **P 17 43 53.9 -0.5**
ULM Lac du Bonnet 77.30 324 P **P 17 43 53.9 -0.5**
ULM pmax pmax
comp=Z,8.0nm,0.9s
ILAR Eielson Array 78.07 355 P **P 17 43 58.6 +0.2**
comp=Z,1.3nm,0.9s,mb3.9,baz=353,slow=3.5,SNR=13
ILAR Eielson Array 78.07 355 P **P 17 43 58.6 +0.2**
ILAR Eielson Array 78.07 355 P **P 17 43 58.6 +0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
KSAR Wonju Array Be 78.99 51 P **P 17 44 03.0 -1.0**
KSAR Wonju Array Be 78.99 51 P **P 17 44 03.0 -1.0**
KSRS Korea Array 79.00 51 P **P 17 44 03.0 -1.1**
comp=Z,1.2nm,0.4s,mb4.2,baz=312,slow=4.4,SNR=13
KSRS Korea Array 79.00 51 P **P 17 44 03.0 -1.1**
KSRS pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
MJAR Matsushiro Arr 85.80 46 P **P 17 44 39.0 -0.6**
comp=Z,1.8nm,0.6s,mb4.5,baz=327,slow=3.6,SNR=7.7
MJAR Matsushiro Arr 85.80 46 P **P 17 44 39.0 -0.6**
MJAR Matsushiro Arr 85.80 46 P **P 17 44 39.1 -0.5**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
NVAR Mina Array Bea 96.43 330 P **P 17 45 30.5 +1.2**
comp=Z,0.6nm,0.9s,mb4.0,baz=59,slow=3.7,SNR=3.2
NVAR Mina Array Bea 96.43 330 P **P 17 45 30.5 +1.2**
CPUP Villa Florida 97.69 243 LR LR 18 29 13.0
comp=Z,49nm,18.1s,MS4.0,baz=44,slow=35
LPAZ La Paz 99.84 257 LR LR 18 35 50.4
comp=Z,39nm,18.4s,MS4.0,baz=132,slow=38
WRA Warramunga Arr 119.21 94 PKP PKPdf 17 50 48.7 -0.9
comp=Z,0.4nm,0.7s,baz=322,slow=1.7,SNR=6.6
WRA Warramunga Arr 119.21 94 PKP PKPdf 17 50 48.7 -0.9
WRA Warramunga Arr 119.21 94 PKIKP PKPdf 17 50 48.7 -0.9
ASAR Alice Springs 120.78 98 PKP PKPdf 17 50 51.7 -0.8
comp=Z,0.5nm,0.5s,baz=303,slow=1.6,SNR=13
ASAR Alice Springs 120.78 98 PKP PKPdf 17 50 51.7 -0.8
ASAR Alice Springs 120.78 98 PKIKP PKPdf 17 50 51.7 -0.8
ASAR pmax pmax
comp=Z,1.0nm,0.5s

NEIC ***28*** *17:40:19.8, 17°.06N×95°.00W, h16km, MD3.7(MEX), After MEX.*

MEX 28 17:40:19.9±0.4, 17°.05N×95°.00W, h15km±6km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.12**	**67**	*i* P		Pg	17 40 22.6	-0.7
CMIG				*i* S		Sg	17 40 24.9	-0.7
CMIG	**Matias Romero**	**0.12**	**67**	*i* P		Pg	17 40 22.6	-0.7
CMIG				*i* S		Sg	17 40 24.9	-0.7
HUIG	**Huatulco**	**1.66**	**220**	*i* P		Pn	17 40 45.0	-3.4
HUIG				*e*S		Sn	17 41 04.6	-4.9
HUIG	**Huatulco**	**1.66**	**220**	*i* P		Pn	17 40 45.0	-3.4
HUIG				*e*S		Sn	17 41 04.6	-4.9
TGIG		**1.81**	**98**	*i* P		Pn	17 40 47.6	-3.0
TGIG				*i* S		Sn	17 41 08.0	-5.4
TGIG		**1.81**	**98**	*i* P		Pn	17 40 47.6	-3.0
TGIG				*i* S		Sn	17 41 08.0	-5.4
PCIG		**2.17**	**128**	*i* P		Pn	17 40 52.8	-2.6
PCIG				*i* S		Sn	17 41 17.4	-4.6
PCIG		**2.17**	**128**	*i* P		Pn	17 40 52.8	-2.6
PCIG				*i* S		Sn	17 41 17.4	-4.6

ISCJB ***28*** *18:01:28.7±0.5, 37°.89N±0°.03×29°.19E±0°.04, h12km±8km, Error ellipse: s-maj=5.9km s-min=4.1km az=161.4*
ISK ***28*** *18:01:28.5, 37°.91N×29°.24E, h17km, MD2.6*
CSEM ***28*** *18:01:28.7±0.2, 37°.89N×29°.23E, h12km, MD2.6, Error ellipse: s-maj=5.4km s-min=3.7km az=72.0*
DDA ***28*** *18:01:29.0, 37°.90N×29°.20E, h7km±2km, Md2.7*

ISC 28 18:01:29.1±0.5, 37°.89N±0°.03×29°.19E±0°.04, h16km±8km, n22, σ0°72/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**223**	*e*PG		**Pg**	**18 01 34.5**	**+0.9**
DENT	**Denizli**	**0.18**	**223**	*e*Pg		**Pg**	**18 01 34.5**	**+0.9**
DNZL	**Cakiroluk**	**0.23**	**210**	*i* P		**Pg**	**18 01 33.9**	**-0.4**
DNZL				*i* S		**Sg**	**18 01 37.8**	**0.0**
DNZL	**Cakiroluk**	**0.23**	**210**	*i* P		**Pg**	**18 01 33.9**	**-0.4**
DNZL				*i* S		**Sg**	**18 01 37.8**	**0.0**
KHAL	**Karahalli**	**0.53**	**26**	*i* P		**Pg**	**18 01 39.0**	**-0.7**
KHAL				*i* S		**Sg**	**18 01 47.3**	**+0.4**
KHAL	**Karahalli**	**0.53**	**26**	*i* P		**Pg**	**18 01 39.0**	**-0.7**
KHAL				*i* S		**Sg**	**18 01 47.3**	**+0.4**
GOLH	**Golhisar**	**0.72**	**156**	*i* P		**Pg**	**18 01 40.9**	**-2.3**
GOLH				*i* S		**Sg**	**18 01 53.6**	**+1.0**
GOLH	**Golhisar**	**0.72**	**156**	*i* P		**Pg**	**18 01 40.8**	**-2.3**
GOLH				*i* S		**Sg**	**18 01 53.6**	**+1.0**
KULA	**Kula-Manisa**	**0.75**	**326**	*e*PG		**Pg**	**18 01 43.7**	**0.0**
KULA				*e*SG		**Sg**	**18 01 54.3**	**+0.6**
KULA	**Kula-Manisa**	**0.75**	**326**	*e*Pg		**Pg**	**18 01 43.7**	**-0.1**
KULA				*e*Sg		**Sg**	**18 01 54.3**	**+0.6**
GLHS	**Glhisar (BURDU**	**0.77**	**161**	*e*PG		**Pg**	**18 01 44.2**	**0.0**
GLHS				*e*SG		**Sg**	**18 01 55.3**	**+0.9**
GLHS	**Glhisar (BURDU**	**0.77**	**161**	*e*Pg		**Pg**	**18 01 44.2**	**0.0**
GLHS				*e*Sg		**Sg**	**18 01 55.3**	**+0.9**
MANT	**Manisa**	**0.78**	**320**	*i* P		**Pg**	**18 01 44.1**	**-0.2**
MANT				*i* S		**Sg**	**18 01 54.8**	**+0.2**
MANT	**Manisa**	**0.78**	**320**	*i* P		**Pg**	**18 01 44.1**	**-0.2**
MANT				*i* S		**Sg**	**18 01 54.8**	**+0.2**
YER	**Yerkesik**	**1.04**	**224**	*e*PN		**Pg**	**18 01 49.2**	**-0.1**
YER	**Yerkesik**	**1.04**	**224**	*e*Pn		**Pg**	**18 01 49.2**	**-0.1**
ISP	**Isparta**	**1.06**	**93**	*e*PG		**Pg**	**18 01 48.8**	**-0.7**
ISP	**Isparta**	**1.06**	**93**	*e*Pg		**Pg**	**18 01 48.8**	**-0.7**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P		**Pg**	**18 01 49.8**	**+0.1**
AYDN				*i* S		**Sg**	**18 02 02.8**	**-0.8**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P		**Pg**	**18 01 49.8**	**+0.1**
AYDN				*i* S		**Sg**	**18 02 02.8**	**-0.8**
DEMI	**Demirci**	**1.21**	**342**	*i* P		**Pn**	**18 01 52.1**	**+0.7**
DEMI				*i* S		**Sb**	**18 02 07.0**	**0.0**
DEMI	**Demirci**	**1.21**	**342**	*i* P		**Pn**	**18 01 52.1**	**+0.7**
DEMI				*i* S		**Sb**	**18 02 07.0**	**-0.1**

ISCJB ***28*** *18:03:37.7±0.6, 48°.22N±0°.04×154°.43E±0°.05, h42km±5km, mb4.7/117, MS3.7/10, Error ellipse: s-maj=8.1km s-min=3.9km az=140.1*
KRSC ***28*** *18:03:38.6±2.8, 47°.95N×156°.49E, h10km±10km, ML4.9*
IDC ***28*** *18:03:38.4±4.0, 48°.28N×154°.36E, h33km±30km, mb4.3/25, mb1 4.4/27, mb1mx4.4/29, mbtmp4.3/27, ML4.1/2, MS3.7/10, Ms1 3.7/10, ms1mx3.5/26, Error ellipse: s-maj=16.6km s-min=10.9km az=151.0*
NEIC ***28*** *18:03:38.9±0.5, 48°.23N×154°.38E, h40km±4km, mb5.0/72, Error ellipse: s-maj=6.2km s-min=3.3km az=146.0*
SZGRF ***28*** *18:03:39.7, 49°.40N×154°.29E, h33km, mb4.7, Kuril Islands, Russia*
SKHL ***28*** *18:03:40.4±1.4, 48°.07N×154°.67E, h58km±4km, mb5.1/5*
BJI ***28*** *18:03:40.0, 48°.12N×154°.63E, h84km, mB5.0/5, mb4.4/13, Ms4.8/1*
MOS ***28*** *18:03:41.1±0.9, 48°.18N×154°.37E, h73km, mb5.0/39, Error ellipse: s-maj=8.7km s-min=5.0km az=94.1*

ISC 28 18:03:40.9±0.5, 48°.32N±0°.04×154°.37E±0°.06, h52km±4km, n414, σ0°86/416, mb4.7/117, MS3.7/10, 28C-37D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.63**	**25**	*e*PN		**Pn**	**18 04 22.0**	**+1.2**
SKR				*i* S		**Sn**	**18 04 52.8**	**+1.4**
SKR				pmax		pmax		
	comp=Z,310nm,0.5s							
SKR				pmax		pmax		
	comp=N,160nm,0.4s							
SKR				pmax		pmax		
	comp=E,80nm,0.4s							
SKR				smax				
	comp=N,690nm,0.5s							
SKR				smax				
	comp=E,1μm,0.3s							
SKR	**Severo-Kuril's**	**2.63**	**25**	*e*P		**Pn**	**18 04 22.0**	**+1.2**
SKR				AMB		AMB	18 04 25.0	
	comp=E,160nm,0.4s							
SKR				AMB		AMB	18 04 25.0	
	comp=E,80nm,0.4s							
SKR				AMB		AMB	18 04 25.0	
	comp=E,310nm,0.5s							
SKR				*i* S		**Sn**	**18 04 52.8**	**+1.4**
SKR				A			18 04 57.0	
	comp=E,690nm,0.5s							
SKR				A			18 04 57.0	
	comp=E,1μm,0.5s							
SKR				A			18 04 57.0	
	comp=E,240nm,0.6s							
GRL	**Gorelyy**	**4.85**	**28**	*i* P		**Pn**	**18 04 52.2**	**+0.9**
GRL				*i* S		**Sn**	**18 05 45.8**	**-0.3**
RUS	**Russkaya**	**4.90**	**31**	*i* P		**Pn**	**18 04 50.5**	**-1.4**
RUS				*i* S		**Sn**	**18 05 42.9**	**-4.3**
RUS	**Russkaya**	**4.90**	**31**	PN		**Pn**	**18 04 50.5**	**-1.4**
PETK	**Petropavlovsk-**	**5.24**	**23**	Pn		**Pn**	**18 04 58.0**	**+1.4**
	comp=E,6.4nm,0.3s,baz=175,slow=11,SNR=199							
PETK	**Petropavlovsk-**	**5.24**	**23**	Pn		**Pn**	**18 04 58.0**	**+1.4**
PETK	**Petropavlovsk-**	**5.24**	**23**	PN		**Pn**	**18 04 58.0**	**+1.4**
PETK				pmax		pmax		

comp=Z,6.0nm,0.3s
KUR Kuril'sk 5.43 238 PN **Pn 18 05 00.5 +1.3**
KUR *e*S **Sn 18 06 05.5 +5.2**
KUR pmax pmax
comp=Z,660nm,1.0s
KUR pmax pmax
comp=N,80nm,0.6s
KUR pmax pmax
comp=E,230nm,0.6s
KUR smax
comp=N,940nm,1.0s
KUR smax
comp=E,500nm,0.9s
KUR Kuril'sk 5.43 238 *e*P **Pn 18 05 00.5 +1.3**
KUR AMB AMB 18 05 03.0
comp=E,660nm,1.0s
KUR AMB AMB 18 05 03.0
comp=E,80nm,0.6s
KUR AMB AMB 18 05 03.0
comp=E,230nm,0.6s
KUR *e*S **Sn 18 06 05.5 +5.2**
KUR A 18 06 19.5
comp=E,940nm,1.0s
KUR A 18 06 19.5
comp=E,500nm,1.0s
PET Petropavlovsk 5.44 28 *e*P **Pn 18 04 59.2 -0.1**
PET *i* S **Sn 18 05 58.3 -2.2**
PET Petropavlovsk 5.44 28 *e*Pn **Pn 18 04 59.2 -0.1**
comp=E,57nm,0.8s
PET Petropavlovsk 5.44 28 *e*PN **Pn 18 04 59.1 -0.2**
PET *e*S **Sn 18 05 56.2 -4.3**
PET pmax pmax
comp=Z,68nm,0.8s
PET smax
comp=N,532nm,1.3s
PET MLR MLR
comp=Z,432nm,10.9s
SDLR Sedlovina 5.73 28 *e*P **Pn 18 05 03.3 0.0**
SDLR *e*S **Sn 18 06 05.2 -2.4**
SPN Mys Shipunski 5.98 35 P **Pn 18 05 05.4 -1.3**
SPN *i* S **Sn 18 06 08.2 -5.6**
SPN Mys Shipunski 5.98 35 PN **Pn 18 05 05.4 -1.3**
YUK Yuzh-Kuril'sk 7.30 237 *i* PN **Pn 18 05 26.3 +1.5**
YUK *i* S **Sn 18 06 46.8 +0.6**
YUK pmax pmax
comp=E,75nm,0.3s
YUK pmax pmax
comp=Z,99nm,0.4s
YUK pmax pmax
comp=N,75nm,0.4s
YUK Yuzh-Kuril'sk 7.30 237⇓ *i*P **Pn 18 05 26.3 +1.5**
YUK AMB AMB 18 05 29.0
comp=N,110nm,0.4s
YUK *i* S **Sn 18 06 46.9 +0.7**
TUMR Tumrok 7.84 25 P **Pn 18 05 34.2 +2.1**
YSS Yuzh-Sakhalins 7.97 264 *e*Pn **Pn 18 05 32.8 -1.2**
YSS Yuzh-Sakhalins 7.97 264⇓ *i*PN **Pn 18 05 37.0 +3.0**
YSS pmax pmax
comp=N,20nm,0.7s
YSS pmax pmax
comp=E,70nm,0.7s
YSS pmax pmax
comp=Z,70nm,0.7s
YSS Yuzh-Sakhalins 7.97 264⇓ *i*P **Pn 18 05 37.0 +3.0**
YSS AMB AMB 18 05 38.0
comp=Z,20nm,0.7s
YSS AMB AMB 18 05 38.0
comp=Z,70nm,0.7s
YSS AMB AMB 18 05 38.0
comp=Z,70nm,0.7s
YSS *e*S **Sn 18 07 03.6 +1.0**
TYV Tymovskoe 8.03 293 *e*P **Pn 18 05 39.5 +4.7**
TYV AMB AMB 18 05 42.0
comp=Z,11nm,0.9s
TYV AMB AMB 18 05 42.0
comp=Z,44nm,0.9s
TYV AMB AMB 18 05 42.0
comp=Z,33nm,0.9s
ASAJ Asahikawa 9.18 247 Pn **Pn 18 05 53.8 +3.2**
comp=Z,2.1nm,0.3s,baz=70,slow=10,SNR=16
ASAJ LR LR 18 08 49.7
comp=Z,454nm,19.7s,baz=23,slow=34
ASAJ Asahikawa 9.18 247 Pn **Pn 18 05 53.8 +3.2**
ASAJ Asahikawa 9.18 247 PN **Pn 18 05 53.8 +3.2**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ERM Erimo 10.12 236 *e*Pn **Pn 18 06 01.5 -1.9**
ERM Erimo 10.12 236 *i* PN **Pn 18 06 03.6 +0.2**
ERM Erimo 10.12 236 *e*P **Pn 18 06 03.6 +0.2**
FX1 Attu Island--F 12.77 62 Pn **Pn 18 06 35.8 -3.7**
comp=Z,6.0nm,0.3s,baz=207,slow=2.3,SNR=6.1
FX1 Sn **Sn 18 08 44.2 -16**
comp=Z,3.1nm,0.3s,baz=108,slow=20,SNR=3.7
FX1 Attu Island--F 12.77 62 Pn **Pn 18 06 35.8 -3.7**
FX1 Sn **Sn 18 08 44.2 -16**
FX1 Attu Island--F 12.77 62 PN **Pn 18 06 35.8 -3.8**
FX1 pmax pmax
comp=Z,6.0nm,0.3s
SMY Shemya 13.29 63 *e*Pn **Pn 18 06 43.9 -2.7**
SMY Shemya 13.29 63 *e*PN **Pn 18 06 43.9 -2.8**
KLR Kul'dur 14.94 282 *e*P **Pn 18 07 06.0 -2.6**
USRK Ussuriysk Arra 16.00 263 Pn **Pn 18 07 24.5 +2.3**
comp=Z,0.6nm,0.3s,baz=65,slow=12,SNR=14
MAJO Matsushiro 16.72 231 *e*Pn **Pn 18 07 28.5 -2.9**
comp=Z,129nm,2.1s
MAJO Matsushiro 16.72 231 *e*P **Pn 18 07 28.5 -2.9**
MAJO pmax pmax
comp=Z,129nm,2.1s
MAT Matsushiro 16.72 231 P **Pn 18 07 27.7 -3.7**
MJAR Matsushiro Arr 16.72 231 Pn **Pn 18 07 28.3 -3.1**
comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=12
MJAR Matsushiro Arr 16.72 231 Pn **Pn 18 07 28.3 -3.1**
MJAR Matsushiro Arr 16.72 231 P **Pn 18 07 28.3 -3.1**
YAK Yakutsk 19.51 324 *e*P **Pn 18 08 03.7 -1.4**
comp=Z,24nm,0.8s
YAK Yakutsk 19.51 324 *e*P **Pn 18 08 02.9 -2.2**
YAK *e*S **S 18 11 39.4 -1.3**
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK smax
comp=N,532nm,3.8s
YAK smax
comp=E,259nm,4.1s
CN2 Changchun 20.51 268 *e*P **P 18 08 13.0 -1.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 20.67 13 *e*P **P 18 08 14.4 -1.6**
comp=Z,7.0nm,0.8s
BILL Bilibino 20.67 13 P **P 18 08 15.0 -1.0**
BILL pmax pmax
comp=Z,8.0nm,0.8s
KSRS Korea Array 22.11 250 P **P 18 08 31.4 -0.3**
comp=Z,12nm,0.7s,mb4.4,baz=51,slow=10.0,SNR=30
KSRS Korea Array 22.11 250 P **P 18 08 31.4 -0.2**
KSRS pmax pmax
comp=Z,13nm,0.7s,mb4.5
KSAR Wonju Array Be 22.14 250 P **P 18 08 31.4 -0.6**
KSAR Wonju Array Be 22.14 250 P **P 18 08 31.4 -0.6**
CBIJ Chichi jima 23.22 209 LR LR 18 16 46.8
comp=Z,88nm,19.4s,MS3.2,baz=350,slow=34
JNU Nakatsue 23.27 238 *e*P **P 18 08 42.5 -1.4**
comp=Z,58nm,2.8s,mb4.5
GAMB Gambell 24.05 37 *e*P **P 18 08 50.5 -0.3**
comp=Z,5.5nm,0.9s,mb4.0
BOD Bodaibo 25.69 307 *e*P pP 18 09 20.8 +1.9
TNA Tin City 26.25 35 *e*P **P 18 09 10.8 +0.1**
comp=Z,16nm,0.9s,mb4.6
JOW Kunigami 29.55 233 LR LR 18 21 31.3
comp=Z,84nm,20.8s,MS3.4,baz=114,slow=36
SONM Songino Array 31.65 287 P **P 18 09 58.6 -0.2**
comp=Z,0.3nm,0.6s,baz=78,slow=7.5,SNR=1.9
SONM PcP PcP 18 12 49.4 -0.2
comp=Z,1.7nm,0.7s,baz=89,slow=1.9,SNR=11
SONM LR LR 18 23 58.3
comp=Z,199nm,18.8s,MS3.8,baz=23,slow=38
SONM Songino Array 31.65 287 P **P 18 09 58.6 -0.2**
SONM PcP PcP 18 12 49.4 -0.2
SONM Songino Array 31.65 287 P **P 18 09 58.6 -0.2**
SONM 18 12 49.4
SONM MLR MLR
comp=Z,199nm,18.8s
TLY Talaya 32.25 295 *e*P **P 18 10 05.2 +1.2**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,177nm,21.0s,MS3.7
COLD Coldfoot 33.56 35 *e*P **P 18 10 14.6 -0.6**
comp=Z,5.3nm,0.8s,mb4.5
MCK McKinley 33.91 42 *e*P **P 18 10 19.2 +0.9**
comp=Z,10nm,1.0s,mb4.7
MCK McKinley 33.91 42 *e*P **P 18 10 19.2 +0.9**
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.7
COLA College 34.38 40 *e*P **P 18 10 22.2 -0.2**
comp=Z,13nm,0.9s,mb4.8
COLA College 34.38 40 *e*P **P 18 10 22.2 -0.2**
COLA pmax pmax
comp=Z,13nm,0.9s,mb4.9
ILAR Eielson Array 34.79 40 P **P 18 10 25.9 0.0**
comp=Z,2.4nm,1.0s,mb4.1,baz=258,slow=9.3,SNR=16
ILAR Eielson Array 34.79 40 P **P 18 10 25.9 0.0**
ILAR Eielson Array 34.79 40 P **P 18 10 26.0 0.0**
ILAR pmax pmax
comp=Z,2.0nm,1.0s
EGAK Eagle 37.24 40 *e*P **P 18 10 47.0 0.0**
comp=Z,8.2nm,0.8s,mb4.6
ENH Enshi 38.50 259 *e*P **P 18 10 57.4 -0.5**
comp=Z,5.4nm,0.9s,mb4.3
INK Inuvik 39.87 33 P **P 18 11 10.0 +1.1**
comp=Z,4.8nm,0.7s,mb4.3,baz=292,slow=7.5,SNR=22
INK Inuvik 39.87 33 P **P 18 11 10.0 +1.1**
INK Inuvik 39.87 33 P **P 18 11 10.0 +1.1**
INK pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 42.40 305 P **P 18 11 28.9 -0.9**
comp=Z,3.4nm,0.5s,mb4.2,baz=62,slow=6.5,SNR=26
ZALV PcP PcP 18 13 22.2 +0.1
comp=Z,5.6nm,0.8s,baz=90,slow=3.0,SNR=21
ZALV LR LR 18 30 08.5
comp=Z,84nm,18.6s,MS3.7,baz=248,slow=38
ZALV Zalesovo Beam 42.40 305 P **P 18 11 28.9 -0.9**
ZALV PcP PcP 18 13 22.2 +0.1
ZALV Zalesovo Beam 42.40 305 P **P 18 11 28.9 -0.9**
ZALV 18 13 22.2
ZALV pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
ZALV MLR MLR
comp=Z,84nm,18.6s,MS3.7
KMI Kunming 46.37 259 P **P 18 12 01.5 -0.4**
KMI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MK31 Makanchi Array 46.99 297 *e*P **P 18 12 04.6 -1.9**
MK31 Makanchi Array 46.99 297 *c e*P **P 18 12 04.6 -1.9**
MKAR Makanchi Array 46.99 297 P **P 18 12 05.9 -0.6**
comp=Z,2.2nm,0.8s,mb4.1,baz=56,slow=7.5,SNR=18
MKAR PcP PcP 18 13 37.3 -0.7
comp=Z,1.8nm,0.8s,baz=56,slow=4.5,SNR=6.9
MKAR LR LR 18 33 41.0
comp=Z,120nm,18.4s,MS3.9,baz=354,slow=38
MKAR Makanchi Array 46.99 297 *e*P **P 18 12 05.5 -0.9**
MKAR PcP PcP 18 13 37.3 -0.7
MKAR Makanchi Array 46.99 297 *e*P **P 18 12 05.6 -0.9**
MKAR 18 13 37.3
KURK Kurchatov 47.22 303 *e*P **P 18 12 07.8 -0.3**
comp=Z,15nm,0.7s,mb5.0
KURK Kurchatov 47.22 303 *d i*P **P 18 12 07.8 -0.4**
KURK pmax pmax
comp=Z,14nm,0.6s,mb5.1
RES Resolute Bay 49.08 19 P **P 18 12 22.9 +0.7**
comp=Z,10nm,0.7s,mb5.0,baz=304,slow=7.1,SNR=36
RES Resolute Bay 49.08 19 P **P 18 12 22.9 +0.7**
RES Resolute Bay 49.08 19 P **P 18 12 22.9 +0.7**
RES pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
YKA Yellowknife Ar 49.16 38 P **P 18 12 23.6 +0.6**
comp=Z,3.5nm,0.8s,mb4.4,baz=298,slow=7.6,SNR=31
YKA Yellowknife Ar 49.16 38 P **P 18 12 23.6 +0.6**
YKA Yellowknife Ar 49.16 38 P **P 18 12 23.6 +0.6**
YKA pmax pmax
comp=Z,4.0nm,0.9s
BVA0 Borovoye Array 50.53 309 *i* P **P 18 12 32.8 -0.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BRVK Borovoye 50.57 309 *e*P **P 18 12 33.4 -0.4**
comp=Z,12nm,0.6s,mb5.0
BRVK Borovoye 50.57 309⇑ *i*P **P 18 12 33.2 -0.6**
BRVK pmax pmax
comp=Z,12nm,0.7s,mb4.9
ZRNK Zerenda 51.28 309 *i* P **P 18 12 38.4 -0.8**
ZRNK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CHTO Chiang Mai 53.31 257 *e*P **P 18 12 55.0 +0.3**
comp=Z,8.1nm,0.8s,mb4.7
CHTO Chiang Mai 53.31 257 *e*P **P 18 12 55.0 +0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CM31 Chiang Mai Arr 53.57 256 *e*P **P 18 12 56.4 -0.1**
comp=Z,1.4nm,0.4s,mb4.2
CMAR Chiang Mai Arr 53.57 256 P **P 18 12 57.4 +0.8**
comp=Z,4.5nm,0.8s,mb4.5,baz=33,slow=7.3,SNR=43
CMAR PcP PcP 18 14 03.2 +0.6
comp=Z,2.0nm,0.8s,baz=6.9,slow=2.7,SNR=9.9
CMAR Chiang Mai Arr 53.57 256 P **P 18 12 57.4 +0.8**
CMAR PcP PcP 18 14 03.2 +0.6
CMAR Chiang Mai Arr 53.57 256 P **P 18 12 57.4 +0.9**
CMAR 18 14 03.2
CMAR pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 53.91 296 *e*P **P 18 12 58.4 -0.3**
comp=Z,7.3nm,0.6s,mb4.8
AAK Ala-Archa 53.91 296 *e*P **P 18 12 58.4 -0.3**
AAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ARU Arti 54.44 317 *e*P **P 18 13 01.3 -1.0**
comp=Z,7.5nm,0.6s,mb4.8
ARU Arti 54.44 317 *c i*P **P 18 13 01.3 -1.1**
ARU *e* 18 15 02.7
ARU S **S 18 20 36.3 -0.4**
ARU SS SS 18 24 13.8 -5.1
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ARCES ARCESS Array B 56.65 341 LR LR 18 41 56.6
comp=Z,112nm,19.6s,MS4.0,baz=23,slow=40
YBMT Yellow Bay 57.47 53 *e*P **P 18 13 24.8 +0.7**
AB31 Akbulak array 58.08 310 *c e*P **P 18 13 27.7 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
ABKAR Akbulak array 58.08 310 *e*P **P 18 13 27.9 -0.5**
FFC Flin Flon 58.99 41 *e*P **P 18 13 35.2 +0.5**
comp=Z,4.6nm,0.9s,mb4.5
FFC Flin Flon 58.99 41 *i* P **P 18 13 35.8 +1.1**
SUMG Summit 59.07 4 *e*P **P 18 13 35.5 +0.5**
comp=Z,14nm,0.7s,mb5.1
SUMG Summit 59.07 4 *e*P **P 18 13 35.5 +0.5**
SUMG pmax pmax
comp=Z,14nm,0.7s
SUMG Summit 59.07 4 *i* P **P 18 13 35.8 +0.8**
comp=Z,14nm,0.8s,mb5.0
JOF Joensuu 60.30 334 *e*P **P 18 13 41.6 -2.0**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
JOF Joensuu 60.30 334 *e p* **P 18 13 41.6 -2.0**
comp=Z,1.6nm,0.6s,mb4.2
NVAR Mina Array Bea 60.96 64 P **P 18 13 48.7 +0.2**
comp=Z,2.2nm,0.7s,mb4.4,baz=297,slow=7.3,SNR=17
NVAR Mina Array Bea 60.96 64 P **P 18 13 48.7 +0.2**
KAF Kangasniemi 62.38 335 *e*P **P 18 13 55.0 -2.6**
KAF pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
KAF Kangasniemi 62.38 335 *e p* **P 18 13 55.0 -2.6**
comp=Z,2.4nm,0.8s,mb4.4
FINES FINESS Array B 62.98 335 P **P 18 14 00.7 -0.9**
comp=Z,2.9nm,0.6s,mb4.6,baz=40,slow=7.7,SNR=13
FINES FINESS Array B 62.98 335 P **P 18 14 00.7 -0.9**
FINES FINESS Array B 62.98 335 P **P 18 14 00.7 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.6s
DUG Dugway 63.03 59 *e*P **P 18 14 01.9 -0.4**
comp=Z,57nm,2.8s,mb5.2
DUG Dugway 63.03 59 *e*P **P 18 14 01.9 -0.4**
DUG pmax pmax
comp=Z,57nm,2.8s,mb5.2
BW06 Boulder Array 63.14 55 *e*P **P 18 14 03.4 +0.4**
comp=Z,9.4nm,1.5s,mb4.7
ULM Lac du Bonnet 64.78 42 P **P 18 14 12.7 -0.9**
comp=Z,1.8nm,0.7s,mb4.2,baz=254,slow=7.4,SNR=2.8
ULM Lac du Bonnet 64.78 42 P **P 18 14 12.7 -0.9**
ULM Lac du Bonnet 64.78 42 P **P 18 14 12.7 -0.9**
ULM pmax pmax
comp=Z,2.0nm,0.7s
SRU San Rafael 65.06 59 *e*P **P 18 14 16.4 +0.8**
comp=Z,5.4nm,1.0s,mb4.5
SRU San Rafael 65.06 59 *e*P **P 18 14 16.4 +0.8**
SRU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
RSSD Black Hills 65.17 51 *e*P **P 18 14 16.3 +0.1**
comp=Z,3.7nm,0.8s,mb4.5
RSSD Black Hills 65.17 51 *e*P **P 18 14 16.3 +0.1**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
NB2 NORSAR Subarra 67.02 342 P **P 18 14 26.6 -1.2**
comp=Z,1.5nm,0.7s,mb4.1,baz=28,slow=6.5
NOA NORSAR Array B 67.02 342 P **P 18 14 26.9 -0.9**
comp=Z,1.8nm,0.8s,mb4.1,baz=26,slow=6.4,SNR=15
NOA LR LR 18 48 03.3
comp=Z,38nm,20.9s,MS3.6,baz=310,slow=40
NOA NORSAR Array B 67.02 342 P **P 18 14 26.9 -0.9**
NOA NORSAR Array B 67.02 342 P **P 18 14 26.9 -0.9**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,38nm,20.9s
HFS Hagfors 67.28 340 P **P 18 14 29.0 -0.5**
comp=Z,2.4nm,0.6s,mb4.4,baz=70,slow=5.2,SNR=13
HFS Hagfors 67.28 340 P **P 18 14 29.0 -0.5**
HFS Hagfors 67.28 340 P **P 18 14 29.0 -0.5**
HFS pmax pmax
comp=Z,2.0nm,0.6s
HYB Hyderabad 67.81 272 *i* P **P 18 14 33.0 -0.5**
ECSD EROS Data Cent 69.19 47 *e*P **P 18 14 41.3 -0.4**
comp=Z,74nm,2.5s,mb5.2
WRAB Tennant Creek 70.26 200 *e*P **P 18 14 47.0 -1.5**
WRAB Tennant Creek 70.26 200 *e*P **P 18 14 47.0 -1.4**
WB2 Warramunga Arr 70.27 200 *e*P **P 18 14 47.3 -1.2**
WRA Warramunga Arr 70.28 200 P **P 18 14 47.2 -1.3**
comp=Z,5.3nm,0.8s,mb4.5,baz=16,slow=6.6,SNR=27
WRA Warramunga Arr 70.28 200 P **P 18 14 47.2 -1.3**
WRA Warramunga Arr 70.28 200 P **P 18 14 47.2 -1.3**
WRA pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 70.71 327 P **P 18 14 49.8 -1.1**
comp=Z,3.0nm,0.5s,mb4.5,baz=32,slow=6.3,SNR=12
AKASG Malin Array Be 70.71 327 P **P 18 14 49.8 -1.1**
AKASG Malin Array Be 70.71 327 P **P 18 14 49.8 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 70.72 327 *e*P **P 18 14 50.1 -0.9**
comp=Z,30nm,1.9s,mb4.9
KIEV Kiev 70.72 327 *e*P **P 18 14 50.1 -0.9**
KIEV pmax pmax
comp=Z,30nm,1.9s,mb4.9
SCHQ Schefferville 71.53 24 P **P 18 14 55.8 -0.1**
comp=Z,6.2nm,0.9s,mb4.5,baz=348,slow=8.7,SNR=6.2
SCHQ LR LR 18 50 55.0
comp=Z,63nm,18.8s,MS3.9,baz=160,slow=40
SCHQ Schefferville 71.53 24 P **P 18 14 55.8 -0.1**
GNI Garni 72.16 311⇓ *e*P **P 18 15 00.0 +0.2**
GNI pmax pmax
comp=Z,9.0nm,1.7s
KWP Kalwaria Pacla 73.91 330 *e*P **P 18 15 09.2 -0.7**
comp=Z,8.4nm,0.8s,mb4.7
KWP Kalwaria Pacla 73.91 330 ⇓P **P 18 15 10.5 +0.5**
KWP Kalwaria Pacla 73.91 330 ⇓ *i*P **P 18 15 10.5 +0.5**
ASAR Alice Springs 73.97 199 P **P 18 15 10.2 -0.3**
comp=Z,2.2nm,0.8s,mb4.1,baz=16,slow=4.8,SNR=21
ASAR Alice Springs 73.97 199 P **P 18 15 10.2 -0.3**
ASAR Alice Springs 73.97 199 P **P 18 15 10.2 -0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
OJC Ojcow 74.35 332 *e*P **P 18 15 12.8 +0.2**
OJC Ojcow 74.35 332 *e*P **P 18 15 12.4 -0.1**
comp=Z,7.2nm,0.9s,mb4.6
OJC Ojcow 74.35 332 *e*P **P 18 15 12.8 +0.2**
STHS Stebnicka Huta 74.58 330 *e*P **P 18 15 15.0 +1.1**
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
STHS Stebnicka Huta 74.58 330 *e*P **P 18 15 15.0 +1.1**
BUR08 Bucovina Ar. S 74.72 327 *e*P **P 18 15 14.6 -0.1**
BURAR Bucovina Array 74.74 327 ⇑P **P 18 15 14.8 -0.1**
BURAR Bucovina Array 74.74 327 ⇑ *i*P **P 18 15 14.8 -0.1**
KSP Ksiaz 74.87 334 *e*P **P 18 15 15.7 +0.1**
KSP Ksiaz 74.87 334 *e*P **P 18 15 15.7 +0.1**
CRVS Cervenica-Dubn 74.95 330 *e*P **P 18 15 16.1 0.0**
CRVS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
CRVS Cervenica-Dubn 74.95 330 *e*P **P 18 15 16.0 -0.1**
TESR 75.14 326⇑ *i*P **P 18 15 16.9 -0.3**
OKC Ostrava-Krasne 75.20 332 *i* P **P 18 15 17.7 +0.2**
OKC Ostrava-Krasne 75.20 332 ⇓ *i*P **P 18 15 17.7 +0.2**
TRPA Tarpa 75.25 329 ⇓ *i*P **P 18 15 18.0 +0.2**
UPC Upice 75.25 334 *i* P **P 18 15 18.1 +0.3**
UPC Upice 75.25 334 ⇓ *i*P **P 18 15 18.1 +0.3**
DPC Dobruska-Polom 75.30 334 *e*P **P 18 15 16.7 -1.4**
comp=Z,10nm,0.9s,mb4.8
DPC Dobruska-Polom 75.30 334 ⇓ *i*P **P 18 15 18.7 +0.6**
DPC Dobruska-Polom 75.30 334 ⇓ *i*P **P 18 15 18.7 +0.6**
CLL Collm 75.38 336 *e*P **P 18 15 18.4 -0.1**
comp=Z,4.0nm,0.8s,mb4.4
CLL Collm 75.38 336 ⇓ *i*P **P 18 15 18.5 0.0**
CLL pmax pmax
comp=Z,15nm,0.8s,mb5.0
CLL Collm 75.38 336 ⇓ *i*P **P 18 15 18.5 0.0**
comp=Z,15nm,0.8s,mb5.0
TLCR 75.41 324 ⇓P **P 18 15 18.8 +0.1**
TLCR 75.41 324 ⇓ *i*P **P 18 15 18.8 +0.1**
KRLC Kraliky 75.41 333 ⇓ *i*P **P 18 15 19.0 +0.3**
MORC Moravsky Berou 75.44 333 *e*P **P 18 15 19.6 +0.7**
comp=Z,10nm,0.9s,mb4.8
MORC Moravsky Berou 75.44 333 *e*P **P 18 15 19.6 +0.7**
MORC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MORC Moravsky Berou 75.44 333⇑ *i*P **P 18 15 19.4 +0.5**
BRG Berggiesshubel 75.52 335 *i* P **P 18 15 19.3 0.0**
comp=Z,5.8nm,0.9s,mb4.5
BRG Berggiesshubel 75.52 335 *e*P **P 18 15 19.3 0.0**
BRG Berggiesshubel 75.52 335 *i* P **P 18 15 19.3 0.0**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLZ Clausthal 75.58 338 *e*P **P 18 15 20.5 +0.9**
comp=Z,2.0nm,0.8s,mb4.1
CLZ Clausthal 75.58 338 *e*P **P 18 15 20.5 +0.9**
CLZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 75.64 330 *e*P **P 18 15 20.3 +0.3**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 75.64 330 *e*P **P 18 15 20.3 +0.3**
PVCC Panska Ves 75.65 335 *i* P **P 18 15 20.3 +0.3**
PVCC Panska Ves 75.65 335 ⇓ *i*P **P 18 15 20.3 +0.3**
CFR Carcaliu 75.68 324 ⇑P **P 18 15 20.0 -0.3**
CFR Carcaliu 75.68 324 ⇑ *i*P **P 18 15 20.0 -0.3**
IBBN Ibbenburen 75.79 340 *e*P **P 18 15 21.5 +0.7**
comp=Z,43nm,1.5s,mb5.2
TXAR Lajitas Array 75.99 62 P **P 18 15 22.5 +0.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=300,slow=4.2,SNR=29
TXAR Lajitas Array 75.99 62 P **P 18 15 22.5 +0.2**
TXAR Lajitas Array 75.99 62 P **P 18 15 22.5 +0.2**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
PRU Pruhonice 76.14 335 *i* P **P 18 15 23.3 +0.4**
PRU Pruhonice 76.14 335 ⇓ *i*P **P 18 15 23.3 +0.4**
VRAC Vranov 76.15 333 ⇑P **P 18 15 23.6 +0.7**
VRAC Vranov 76.15 333 ⇑ *i*P **P 18 15 23.6 +0.7**
VYHS Vyhne 76.17 331 *e*P **P 18 15 23.5 +0.5**
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VYHS Vyhne 76.17 331 *e*P **P 18 15 23.5 +0.5**
KOLL Kolacno 76.23 332 *e*P **P 18 15 24.3 +0.9**
KOLL Kolacno 76.23 332 *e*P **P 18 15 24.3 +0.9**
MLR Muntele Rosu 76.27 325 ⇓P **P 18 15 24.3 +0.7**
MLR Muntele Rosu 76.27 325 ⇓ *i*P **P 18 15 24.3 +0.7**
PSZ Piszkesteto 76.33 330 ⇑P **P 18 15 23.8 -0.1**
PSZ Piszkesteto 76.33 330 ⇑ *i*P **P 18 15 23.8 -0.1**
TANN Tannenbergstha 76.34 336 *e*P **P 18 15 24.3 +0.3**
comp=Z,2.0nm,1.2s,mb3.9
DRGR 76.34 328 ⇓P **P 18 15 24.1 +0.1**
DRGR 76.34 328 ⇓ *i*P **P 18 15 24.1 +0.1**
ISR Istrita 76.35 325 ⇑P **P 18 15 25.0 +0.9**
ISR Istrita 76.35 325 ⇑ *i*P **P 18 15 25.0 +0.9**
MOX Moxa 76.36 337 *e*P **P 18 15 24.4 +0.3**
comp=Z,248nm,2.7s,mb5.7
MOX Moxa 76.36 337 *e*P **P 18 15 24.4 +0.3**

TREC **Trest** 76.49 334 *i* P P 18 15 25.1 +0.3
TREC **Trest** 76.49 334 ⇓*i*P P 18 15 25.1 +0.3
UBBA **Unterbreizbach** 76.61 338 *e*P P 18 15 25.6 +0.1
comp=Z,1.0nm,0.8s,mb3.8
ROTZ **Rotzenmuhle** 77.00 336 *e*P P 18 15 28.5 +0.8
comp=Z,4.0nm,1.0s,mb4.3
KHC **Kasperske Hory** 77.19 335 *e*P P 18 15 28.1 -0.7
comp=Z,13nm,0.8s,mb4.9
KHC **Kasperske Hory** 77.19 335 ⇓*i*P P 18 15 29.5 +0.7
KHC **Kasperske Hory** 77.19 335 ⇓*i*P P 18 15 29.5 +0.7
KHC *ex* x 18 15 34.0
GRF **Grafenberg Arr** 77.33 336 *e*P P 18 15 30.4 +0.8
comp=Z,728nm,2.9s
GRF **Grafenberg Arr** 77.33 336 *e*P P 18 15 30.4 +0.8
WET **Wettzell** 77.38 335 *e*P P 18 15 30.7 +0.9
comp=Z,26nm,1.5s,mb4.9
WET **Wettzell** 77.38 335 *e*P P 18 15 30.7 +0.9
WET pmax pmax
comp=Z,26nm,1.5s,mb4.9
GEC2 **GERESS Array S** 77.41 335 *e*P P 18 15 30.4 +0.4
GEC2 **GERESS Array S** 77.41 335 *e*P P 18 15 30.4 +0.4
GERES **GERESS Array B** 77.41 335 P P 18 15 30.3 +0.3
comp=Z,4.5nm,0.7s,mb4.5,baz=26,slow=5.3,SNR=24
GERES LR LR 18 56 10.9
comp=Z,70nm,18.1s,MS4.0,baz=22,slow=41
GERES **GERESS Array B** 77.41 335 P P 18 15 30.3 +0.3
GERES **GERESS Array B** 77.41 335 P P 18 15 30.3 +0.3
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES MLR MLR
comp=Z,70nm,18.1s
GZR **Gura Zlata** 77.52 327 ⇓P P 18 15 30.0 -0.7
GZR **Gura Zlata** 77.52 327 ⇓*i*P P 18 15 30.0 -0.7
TNS **Taunus Mts** 77.55 338 *e*P P 18 15 31.3 +0.5
comp=Z,5.0nm,0.9s,mb4.4
TNS **Taunus Mts** 77.55 338 *e*P P 18 15 31.3 +0.5
TNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CONA **Conrad Observa** 77.60 333 *i* P P 18 15 32.0 +0.9
comp=Z,8.8nm,0.8s,mb4.8,SNR=11
CONA **Conrad Observa** 77.60 333 *i* P P 18 15 32.0 +0.9
comp=Z,8.8nm,0.8s,mb4.7
BZS **Buzias** 77.74 328 ⇑P P 18 15 31.9 0.0
BZS **Buzias** 77.74 328 ⇑*i*P P 18 15 31.9 0.0
MEM **Membach** 77.77 340 P P 18 15 32.6 +0.6
comp=Z,12nm,1.1s,mb4.7
BR131 **Keskin Array S** 77.82 317 *e*P P 18 15 32.3 -0.2
comp=Z,11nm,0.9s,mb4.8
BRTR **Keskin Array B** 77.82 317 P P 18 15 33.0 +0.5
comp=Z,10nm,0.8s,mb4.8,baz=65,slow=4.0,SNR=44
BRTR **Keskin Array B** 77.82 317 P P 18 15 33.0 +0.5
BRTR **Keskin Array B** 77.82 317 P P 18 15 33.0 +0.5
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BCLA **Clavier** 78.11 340 P P 18 15 34.1 +0.2
MOA **Molln** 78.15 334 *i* P P 18 15 34.5 +0.4
comp=Z,7.9nm,0.8s,mb4.7,SNR=9.1
MOA **Molln** 78.15 334 *i* P P 18 15 34.5 +0.4
comp=Z,7.9nm,0.8s,mb4.7
PKSM **Moragy** 78.23 330 ⇓P P 18 15 34.0 -0.7
PKSM **Moragy** 78.23 330 ⇓*i*P P 18 15 34.0 -0.7
SNF **Seneffe** 78.25 341 P P 18 15 33.7 -1.0
DOU **Dourbes** 78.57 341 P P 18 15 36.6 +0.2
WLF **Walferdange** 78.62 340 P P 18 15 38.6 +1.9
RJOB **Jochberg** 78.67 335 *e*P P 18 15 38.1 +1.1
comp=Z,4.0nm,0.8s,mb4.4
BAIF **Baives** 78.69 341 *e*P P 18 15 37.0 -0.1
comp=Z,21nm,0.9s,mb4.7
BAIF **Baives** 78.69 341 *e*P P 18 15 37.0 -0.1
comp=Z,21nm,0.9s,mb5.1
BAIF **Baives** 78.69 341 *e*P P 18 15 37.0 -0.1
BAIF pmax pmax
comp=Z,21nm,0.9s,mb5.1
STU **Stuttgart** 78.70 337 *e*P P 18 15 37.6 +0.4
comp=Z,2.0nm,0.7s,mb4.2
SOKA **Soboth** 78.97 333 ⇑*i*P P 18 15 38.8 +0.1
comp=Z,12nm,0.9s,mb4.8
SOKA **Soboth** 78.97 333 ⇑*i*P P 18 15 38.8 +0.1
comp=Z,12nm,0.9s,mb4.8
KBA **Koelnbreinsper** 79.11 334 *i* P P 18 15 40.6 +1.1
comp=Z,33nm,0.8s,mb5.3,SNR=30
KBA **Koelnbreinsper** 79.11 334 *i* P P 18 15 40.6 +1.1
comp=Z,33nm,0.8s,mb5.3
KBA **Koelnbreinsper** 79.11 334 *i* P P 18 15 40.6 +1.1
BFO **Black Forest** 79.33 338 *e*P P 18 15 41.0 +0.4
comp=Z,2.0nm,1.0s,mb4.0
BFO **Black Forest** 79.33 338 *e*P P 18 15 40.0 -0.7
comp=Z,10nm,0.9s,mb4.8
BFO **Black Forest** 79.33 338 *e*P P 18 15 41.0 +0.4
BFO pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
WATA **Walderalm** 79.38 335 ⇓*i*P P 18 15 41.5 +0.5
comp=Z,21nm,1.0s,mb5.0
WATA **Walderalm** 79.38 335 ⇓*i*P P 18 15 41.5 +0.5
comp=Z,21nm,1.0s,mb5.0
WATA **Walderalm** 79.38 335 ⇓*i*P P 18 15 41.5 +0.6
WATA pmax pmax
comp=Z,21nm,1.0s,mb5.0
WTTA **Wattenberg** 79.43 335 ⇑*i*P P 18 15 42.1 +0.9
comp=Z,30nm,0.8s,mb5.3
WTTA **Wattenberg** 79.43 335 ⇑*i*P P 18 15 42.1 +0.9
comp=Z,30nm,0.8s,mb5.3
WTTA **Wattenberg** 79.43 335 ⇑*i*P P 18 15 42.1 +0.9
WTTA pmax pmax
comp=Z,30nm,0.8s,mb5.3
MOTA **Moosalm** 79.51 336 ⇑*i*P P 18 15 42.0 +0.4
comp=Z,28nm,1.0s,mb5.2
MOTA **Moosalm** 79.51 336 ⇑*i*P P 18 15 42.0 +0.4
comp=Z,28nm,1.0s,mb5.1
MOTA **Moosalm** 79.51 336 ⇑*i*P P 18 15 42.0 +0.4
MOTA pmax pmax
comp=Z,28nm,1.0s,mb5.2
CDF **Champ du Feu** 79.52 338 *e*P P 18 15 41.6 -0.1
comp=Z,22nm,0.9s,mb4.8
CDF **Champ du Feu** 79.52 338 *e*P P 18 15 41.6 -0.1
comp=Z,22nm,0.9s,mb5.1
CDF **Champ du Feu** 79.52 338 *e*P P 18 15 41.6 -0.1
CDF pmax pmax
comp=Z,22nm,0.9s,mb5.1
PDKS **Podkum** 79.53 333 *i* P P 18 15 42.1 +0.3
ECH **Echery** 79.73 338 *e*P P 18 15 42.1 -0.7
comp=Z,9.1nm,0.9s,mb4.7
ECH **Echery** 79.73 338 *e*P P 18 15 42.1 -0.7
ECH pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VTS **Vitosha** 79.77 326 ⇓P P 18 15 43.3 +0.2
VTS **Vitosha** 79.77 326 ⇓*i*P P 18 15 43.3 +0.2
DAVA **Damuels** 79.89 336 ⇓*i*P P 18 15 44.0 +0.3
comp=Z,13nm,0.8s,mb4.9
DAVA **Damuels** 79.89 336 ⇓*i*P P 18 15 44.0 +0.3
comp=Z,13nm,0.8s,mb4.9
FETA **Feichten** 79.91 336 ⇑*i*P P 18 15 44.1 +0.4
comp=Z,11nm,0.9s,mb4.8,SNR=12
FETA **Feichten** 79.91 336 ⇑*i*P P 18 15 44.1 +0.4
comp=Z,11nm,0.9s,mb4.8
BOJS **Bojanci** 79.95 332 *i* P P 18 15 43.6 -0.5
MEZF **Maizieres J'vi** 79.97 340 *e*P P 18 15 44.3 +0.2
comp=Z,52nm,1.0s,mb5.1
MEZF **Maizieres J'vi** 79.97 340 *e*P P 18 15 44.3 +0.2
comp=Z,52nm,1.0s,mb5.4
JAVS **Javornik** 79.97 333 *i* P P 18 15 43.6 -0.5
HAU **Haudompre** 80.12 339 *e*P P 18 15 44.8 -0.1
comp=Z,13nm,0.8s,mb4.6
HAU *e*R
comp=Z,119nm,22.8s
HAU **Haudompre** 80.12 339 *e*P P 18 15 44.8 -0.1
comp=Z,13nm,0.8s,mb4.9
HAU **Haudompre** 80.12 339 *e*P P 18 15 44.8 -0.1
HAU pmax pmax
comp=Z,13nm,0.8s,mb4.9
HINF **Hinteralfeld** 80.18 338 *e*P P 18 15 44.9 -0.3
comp=Z,14nm,1.0s,mb4.6
HINF **Hinteralfeld** 80.18 338 *e*P P 18 15 44.9 -0.3
comp=Z,14nm,1.0s,mb4.9
HINF **Hinteralfeld** 80.18 338 *e*P P 18 15 44.9 -0.3
HINF pmax pmax
comp=Z,14nm,1.0s,mb4.8
FUORN **Ofenpass-Fuorn** 80.40 336 *e*P P 18 15 44.8 -1.7
comp=Z,12nm,0.8s,mb4.9
ISP **Isparta** 80.78 318 *e*P P 18 15 47.0 -1.6
comp=Z,8.5nm,0.7s,mb4.8
ISP **Isparta** 80.78 318 *e*P P 18 15 47.0 -1.6
ISP pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TUE **Stuetta** 80.78 336 *e*P P 18 15 47.7 -0.8
comp=Z,19nm,0.8s,mb5.1

FLN **La Foliniere** 80.88 343 *e*P P 18 15 48.8 -0.2
comp=Z,16nm,0.7s,mb4.7
FLN *e*R
comp=Z,100nm,19.0s
FLN **La Foliniere** 80.88 343 *e*P P 18 15 48.8 -0.2
comp=Z,16nm,0.7s,mb5.0
FLN **La Foliniere** 80.88 343 *e*P P 18 15 48.8 -0.2
FLN pmax pmax
comp=Z,16nm,0.7s,mb5.1
LDF **La Druitiere** 80.97 343 *e*P P 18 15 49.0 -0.5
comp=Z,12nm,1.0s,mb4.5
LDF **La Druitiere** 80.97 343 *e*P P 18 15 49.0 -0.5
comp=Z,12nm,1.0s,mb4.8
LDF **La Druitiere** 80.97 343 *e*P P 18 15 49.0 -0.5
LDF pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRR **Gorron** 81.31 344 *e*P P 18 15 51.3 0.0
comp=Z,71nm,1.1s,mb5.2
GRR **Gorron** 81.31 344 *e*P P 18 15 51.3 0.0
comp=Z,71nm,1.1s,mb5.5
GRR **Gorron** 81.31 344 *e*P P 18 15 51.3 0.0
LOR **Lormes** 81.40 340 *e*P P 18 15 51.6 -0.2
comp=Z,35nm,0.9s,mb5.0
LOR *e*R
comp=Z,98nm,20.5s
LOR **Lormes** 81.40 340 *e*P P 18 15 51.6 -0.2
comp=Z,35nm,0.9s,mb5.3
LOR **Lormes** 81.40 340 *e*P P 18 15 51.6 -0.2
LOR pmax pmax
comp=Z,35nm,0.9s,mb5.3
SENIN **Lac Senin/Sane** 81.42 338 *e*P P 18 15 51.1 -0.8
comp=Z,12nm,1.0s,mb4.8
CABF **La Chapelle** 81.49 339 *e*P P 18 15 52.5 +0.2
comp=Z,20nm,0.9s,mb4.7
CABF **La Chapelle** 81.49 339 *e*P P 18 15 52.5 +0.2
comp=Z,20nm,0.9s,mb5.0
CABF **La Chapelle** 81.49 339 *e*P P 18 15 52.5 +0.2
CABF pmax pmax
comp=Z,20nm,0.9s,mb5.0
SSF **Saint Saulge** 81.67 340 *e*P P 18 15 53.0 -0.2
comp=Z,24nm,0.9s,mb4.8
SSF **Saint Saulge** 81.67 340 *e*P P 18 15 53.0 -0.2
comp=Z,24nm,0.9s,mb5.1
SSF **Saint Saulge** 81.67 340 *e*P P 18 15 53.0 -0.2
SSF pmax pmax
comp=Z,24nm,0.9s,mb5.1
SGMF **Saint Gilles** 81.75 345 *e*P P 18 15 53.8 +0.2
SGMF **Saint Gilles** 81.75 345 *e*P P 18 15 53.8 +0.2
SGMF **Saint Gilles** 81.75 345 *e*P P 18 15 53.8 +0.2
ROSF **Rostrenen** 81.80 345 *e*P P 18 15 54.0 +0.2
comp=Z,229nm,1.5s,mb5.6
ROSF **Rostrenen** 81.80 345 *e*P P 18 15 54.0 +0.2
comp=Z,229nm,1.5s,mb5.9
ROSF **Rostrenen** 81.80 345 *e*P P 18 15 54.0 +0.2
AVF **Avril sur Loir** 81.96 340 *e*P P 18 15 54.8 +0.1
comp=Z,27nm,0.9s,mb4.9
AVF **Avril sur Loir** 81.96 340 *e*P P 18 15 54.8 +0.1
comp=Z,27nm,0.9s,mb5.2
AVF **Avril sur Loir** 81.96 340 *e*P P 18 15 54.8 +0.1
AVF pmax pmax
comp=Z,27nm,0.9s,mb5.2
SMF **Signal de Mont** 81.99 340 *e*P P 18 15 54.9 0.0
comp=Z,68nm,1.3s,mb5.1
SMF **Signal de Mont** 81.99 340 *e*P P 18 15 54.9 0.0
comp=Z,68nm,1.3s,mb5.4
SMF **Signal de Mont** 81.99 340 *e*P P 18 15 54.9 0.0
SMF pmax pmax
comp=Z,68nm,1.3s,mb5.4
QUIF **Quistinic** 82.18 345 *e*P P 18 15 55.7 -0.2
QUIF **Quistinic** 82.18 345 *e*P P 18 15 55.7 -0.2
QUIF **Quistinic** 82.18 345 *e*P P 18 15 55.7 -0.2
FORT **Forrest** 82.19 203 *e*P P 18 15 55.4 -0.5
comp=Z,35nm,0.8s,mb5.3
BGF **Bois d'Agland** 82.30 341 *e*P P 18 15 56.6 +0.1
comp=Z,48nm,1.3s,mb5.0
BGF **Bois d'Agland** 82.30 341 *e*P P 18 15 56.6 +0.1
comp=Z,48nm,1.3s,mb5.3
BGF **Bois d'Agland** 82.30 341 *e*P P 18 15 56.6 +0.1
BGF pmax pmax
comp=Z,48nm,1.3s,mb5.3
ASF **Jabal al Asfar** 82.33 311 P P 18 15 57.2 +0.2
comp=Z,8.3nm,0.9s,mb4.7,baz=275,slow=0.7,SNR=10
ASF **Jabal al Asfar** 82.33 311 P P 18 15 57.2 +0.2
ASF **Jabal al Asfar** 82.33 311 P P 18 15 57.2 +0.3
ASF pmax pmax
comp=Z,8.0nm,0.9s
LPL **La Plagne** 82.35 338 *e*P P 18 15 57.8 +1.0
comp=Z,29nm,0.8s,mb5.0
LPL **La Plagne** 82.35 338 *e*P P 18 15 57.8 +1.0
comp=Z,29nm,0.8s,mb5.3
LPL **La Plagne** 82.35 338 *e*P P 18 15 57.8 +1.0
LPL pmax pmax
comp=Z,29nm,0.8s,mb5.3
LPG **La Plagne** 82.37 338 *e*P P 18 15 58.0 +1.1
comp=Z,35nm,0.9s,mb5.0
LPG **La Plagne** 82.37 338 *e*P P 18 15 58.0 +1.1
comp=Z,35nm,0.9s,mb5.3
LPG **La Plagne** 82.37 338 *e*P P 18 15 58.0 +1.1
LPG pmax pmax
comp=Z,35nm,0.9s,mb5.3
MMAI **Mount Meron Ar** 82.41 312 P P 18 15 58.1 +0.8
comp=Z,15nm,0.7s,mb5.0,baz=40,slow=8.0,SNR=23
MMAI **Mount Meron Ar** 82.41 312 P P 18 15 58.1 +0.8
PPT2 **Papeete2** 82.42 127 *e*LR LR 18 41 50.4
comp=Z,75nm,24.8s
PPT2 *e*T 19 46 34.6
comp=Z,1.8nm,0.3s
TIAR **Tiarei** 82.52 127 *e*T 19 46 43.0
comp=Z,10nm,0.3s
MFF **Saint Martin d** 82.89 343 *e*P P 18 15 59.7 +0.2
comp=Z,33nm,1.0s,mb5.0
MFF **Saint Martin d** 82.89 343 *e*P P 18 15 59.7 +0.2
comp=Z,33nm,1.0s,mb5.3
MFF **Saint Martin d** 82.89 343 *e*P P 18 15 59.7 +0.2
MFF pmax pmax
comp=Z,33nm,1.0s,mb5.3
MBDF **Montbardon** 83.08 337 *e*P P 18 16 00.9 +0.3
comp=Z,30nm,1.0s,mb5.0
MBDF **Montbardon** 83.08 337 *e*P P 18 16 00.9 +0.3
comp=Z,30nm,1.0s,mb5.3
MBDF **Montbardon** 83.08 337 *e*P P 18 16 00.9 +0.3
MBDF pmax pmax
comp=Z,30nm,1.0s,mb5.3
ORIF **Oris-en-Rattie** 83.13 338 *e*P P 18 16 01.7 +0.9
comp=Z,28nm,0.9s,mb5.0
ORIF *e*R
comp=Z,85nm,22.7s
ORIF **Oris-en-Rattie** 83.13 338 *e*P P 18 16 01.7 +0.9
comp=Z,28nm,0.9s,mb5.3
ORIF **Oris-en-Rattie** 83.13 338 *e*P P 18 16 01.7 +0.9
ORIF pmax pmax
comp=Z,28nm,0.9s,mb5.3
MEH **Mehetia** 83.47 126 *e*T 19 47 54.0
comp=Z,24nm,0.2s
VIVF **Saint-Julien-l** 83.48 339 *e*P P 18 16 03.1 +0.4
comp=Z,17nm,1.0s,mb4.7
VIVF **Saint-Julien-l** 83.48 339 *e*P P 18 16 03.1 +0.4
comp=Z,17nm,1.0s,mb5.0
VIVF **Saint-Julien-l** 83.48 339 *e*P P 18 16 03.1 +0.4
VIVF pmax pmax
comp=Z,17nm,1.0s,mb5.0
SBF **Sospel** 83.71 337 *e*P P 18 16 03.6 -0.3
comp=Z,53nm,0.9s,mb5.4
SBF **Sospel** 83.71 337 *e*P P 18 16 03.6 -0.3
comp=Z,53nm,0.9s,mb5.7
SBF **Sospel** 83.71 337 *e*P P 18 16 03.6 -0.3
RJF **Les Rejaudoux** 83.78 341 *e*P P 18 16 04.4 +0.2
RJF *e*R
comp=Z,90nm,18.5s
RJF **Les Rejaudoux** 83.78 341 *e*P P 18 16 04.4 +0.2
RJF **Les Rejaudoux** 83.78 341 *e*P P 18 16 04.4 +0.2
CAF **Calviac** 84.02 341 *e*P P 18 16 06.4 +1.0
CAF **Calviac** 84.02 341 *e*P P 18 16 06.4 +1.0
CAF **Calviac** 84.02 341 *e*P P 18 16 06.4 +1.0
SMRF **Simiane la Rot** 84.09 338 *e*P P 18 16 06.5 +0.7
SMRF **Simiane la Rot** 84.09 338 *e*P P 18 16 06.5 +0.7
LFF **La Frestale** 84.29 342 *e*P P 18 16 07.0 +0.2
comp=Z,30nm,0.9s,mb5.1
LFF **La Frestale** 84.29 342 *e*P P 18 16 07.0 +0.2
comp=Z,30nm,0.9s,mb5.4
LFF **La Frestale** 84.29 342 *e*P P 18 16 07.0 +0.2
LFF pmax pmax
comp=Z,30nm,0.9s,mb5.4
LASF **Ste Croix** 84.41 339 *e*P P 18 16 08.1 +0.7
LASF **Ste Croix** 84.41 339 *e*P P 18 16 08.1 +0.7
LMR **La Mourre** 84.45 337 *e*P P 18 16 07.6 0.0
comp=Z,73nm,1.1s,mb5.4
LMR **La Mourre** 84.45 337 *e*P P 18 16 07.6 0.0
comp=Z,73nm,1.1s,mb5.7
LMR **La Mourre** 84.45 337 *e*P P 18 16 07.6 0.0
PGF **Pioggiola** 84.50 335 *e*P P 18 16 07.7 -0.2
PGF **Pioggiola** 84.50 335 *e*P P 18 16 07.7 -0.2
PGF **Pioggiola** 84.50 335 *e*P P 18 16 07.7 -0.2
EIL **Elat** 85.33 310 P P 18 16 12.8 +0.5
comp=Z,2.9nm,0.5s,mb4.6,baz=28,slow=7.5,SNR=4.3
EIL **Elat** 85.33 310 P P 18 16 12.8 +0.5
ETSF **Etsaut** 86.52 342 *e*P P 18 16 18.5 +0.6
comp=Z,10.0nm,0.9s,mb4.8
ETSF **Etsaut** 86.52 342 *e*P P 18 16 18.5 +0.6
comp=Z,10.0nm,0.9s,mb5.0
ETSF **Etsaut** 86.52 342 *e*P P 18 16 18.5 +0.6
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
TBI **Tubuai** 87.24 130 *e*T 19 52 37.5
comp=Z,6.4nm,0.3s
ESDC **Sonseca Array** 90.30 343 P P 18 16 35.4 -0.6
comp=Z,1.5nm,0.8s,mb4.4,baz=8.7,slow=4.2,SNR=6.3
ESDC **Sonseca Array** 90.30 343 P P 18 16 35.4 -0.6
KEST **Kesra** 90.69 332 P P 18 16 38.4 +0.6
comp=Z,2.1nm,0.9s,mb4.5,baz=314,slow=5.8,SNR=4.3
KEST **Kesra** 90.69 332 P P 18 16 38.4 +0.6
TORD **Torodi Ar. Bea** 114.17 331 PKP PKiKP 18 22 13.4 -1.2
comp=Z,0.6nm,0.8s,baz=341,slow=3.1,SNR=2.6
TORD **Torodi Ar. Bea** 114.17 331 PKP PKiKP 18 22 13.4 -1.2
DBIC **Dimbokro** 122.28 335 PKP PKPdf 18 22 29.1 -1.2
comp=Z,2.9nm,0.8s,baz=209,slow=3.2,SNR=3.6
DBIC **Dimbokro** 122.28 335 PKP PKPdf 18 22 29.1 -1.2
DBIC **Dimbokro** 122.28 335 PKIKP PKPdf 18 22 29.1 -1.1
DBIC pmax pmax
comp=Z,3.0nm,0.8s
CPUP **Villa Florida** 146.94 60 PKPbc PKPbc 18 23 16.5 -0.9
comp=Z,1.2nm,0.6s,baz=307,slow=0.7,SNR=8.2
CPUP **Villa Florida** 146.94 60 PKPbc PKPbc 18 23 16.5 -0.9

ISCJB ***28*** *18:26:23.6±0.6, 38°.23N±0°.03×26°.53E±0°.04, h10km±4km, Error ellipse: s-maj=5.6km s-min=4.7km az=151.0*
DDA ***28*** *18:26:23.6, 38°.26N×26°.56E, h6km±2km, Md2.6*
CSEM ***28*** *18:26:23.9±0.2, 38°.28N×26°.59E, h8km±2km, MD2.6, Error ellipse: s-maj=6.6km s-min=4.4km az=60.0*
ATH ***28*** *18:26:23.4, 38°.24N×26°.53E, h29km±1km, MD3.2/6*
THE ***28*** *18:26:25.4, 38°.48N×25°.54E, h0km±5km, ML2.9/4, Error ellipse: s-maj=5.2km s-min=2.4km az=297.0*
ISC 28 18:26:24.2±0.5, 38°.27N±0°.03×26°.56E±0°.04, h10km±4km, n36, σ1.913/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.09**	**20**	*i* P		**Pg**	**18 26 25.9**	**-0.8**
URLA				*i* S		**Sg**	**18 26 28.5**	**0.0**
URLA	**Izmir**	**0.09**	**20**	*i* P		**Pg**	**18 26 25.9**	**-0.8**
URLA				*i* S		**Sg**	**18 26 28.5**	**0.0**
CHOS	**Chios island**	**0.41**	**286**	*e*PB		**Pg**	**18 26 32.5**	**+0.2**
CHOS	**Chios island**	**0.41**	**286**	P		**Pg**	**18 26 32.9**	**+0.6**
CHOS				S		**Sg**	**18 26 40.1**	**+2.4**
CHOS	**Chios island**	**0.41**	**286**	*e*Pb		**Pg**	**18 26 32.5**	**+0.2**
CHOS	**Chios island**	**0.41**	**286**	P		**Pg**	**18 26 32.9**	**+0.6**
CHOS				S		**Sg**	**18 26 40.1**	**+2.4**
SMG	**Samos**	**0.60**	**158**	*e*PN		**Pg**	**18 26 35.3**	**-0.6**
SMG				*e*SN		**Sg**	**18 26 44.6**	**+0.8**
SMG	**Samos**	**0.60**	**158**	*e*Pn		**Pg**	**18 26 35.3**	**-0.6**
GCAM	**G?zelcaml?**	**0.78**	**137**	*i* P		**Pg**	**18 26 38.7**	**-0.6**
GCAM				*i* S		**Sg**	**18 26 49.5**	**0.0**
GCAM	**G?zelcaml?**	**0.78**	**137**	*i* P		**Pg**	**18 26 38.7**	**-0.6**
GCAM				*i* S		**Sg**	**18 26 49.5**	**0.0**
PRK	**Paraskevi**	**1.00**	**347**	*e*PN		**Pn**	**18 26 42.7**	**-1.6**
PRK				*e*SN		**Sn**	**18 26 57.8**	**-0.7**
PRK	**Paraskevi**	**1.00**	**347**	P		**Pg**	**18 26 42.9**	**-0.5**
PRK				S		**Sn**	**18 26 57.8**	**-0.7**
PRK	**Paraskevi**	**1.00**	**347**	*e*Pn		**Pn**	**18 26 42.7**	**-1.6**
PRK	**Paraskevi**	**1.00**	**347**	P		**Pg**	**18 26 42.9**	**-0.5**
PRK				S		**Sn**	**18 26 57.8**	**-0.7**
PRK				*e*Sn		**Sn**	**18 26 58.7**	**+0.2**
AYVA	**Ayvalik**	**1.04**	**6**	*i* P		**Pg**	**18 26 43.3**	**-1.0**
AYVA				*i* S		**Sg**	**18 26 59.6**	**+1.8**
AYVA	**Ayvalik**	**1.04**	**6**	*i* P		**Pg**	**18 26 43.3**	**-1.0**
AYVA				*i* S		**Sg**	**18 26 59.6**	**+1.8**
AYDN	**Tasoluk**	**1.21**	**120**	*i* P		**Pn**	**18 26 47.2**	**0.0**
AYDN				*i* S		**Sb**	**18 27 02.5**	**-0.4**
AYDN	**Tasoluk**	**1.21**	**120**	*i* P		**Pn**	**18 26 47.2**	**0.0**
AYDN				*i* S		**Sb**	**18 27 02.5**	**-0.4**
APE	**Apeiranthos**	**1.45**	**214**	*e*PN		**Pn**	**18 26 48.8**	**-1.7**
APE				*e*SN		**Sn**	**18 27 08.5**	**-1.1**
APE	**Apeiranthos**	**1.45**	**214**	P		**Pn**	**18 26 51.1**	**+0.6**
APE				S		**Sn**	**18 27 11.5**	**+1.9**
APE	**Apeiranthos**	**1.45**	**214**	*e*Pb		**Pb**	**18 26 47.8**	**-3.5**
APE	**Apeiranthos**	**1.45**	**214**	P		**Pn**	**18 26 51.1**	**+0.6**
APE				*e*Sn		**Sn**	**18 27 09.0**	**-0.6**
APE				S		**Sn**	**18 27 11.5**	**+1.9**
MANT	**Manisa**	**1.59**	**81**	*i* P		**Pn**	**18 26 53.8**	**+1.4**
MANT				*i* S		**Sn**	**18 27 14.9**	**+1.9**
MANT	**Manisa**	**1.59**	**81**	*i* P		**Pn**	**18 26 53.8**	**+1.4**
ALN	**Alexandroupoli**	**2.65**	**352**	*e*PN		**Pn**	**18 27 07.1**	**0.0**
ALN	**Alexandroupoli**	**2.65**	**352**	P		**Pn**	**18 27 04.6**	**-2.5**
ALN	**Alexandroupoli**	**2.65**	**352**	P		**Pn**	**18 27 04.6**	**-2.5**
ALN	**Alexandroupoli**	**2.65**	**352**	*e*Pn		**Pn**	**18 27 07.7**	**+0.6**
RDO	**Rodhopi**	**2.98**	**345**	*e*PN		**Pn**	**18 27 11.1**	**-0.4**
RDO	**Rodhopi**	**2.98**	**345**	P		**Pn**	**18 27 11.4**	**-0.1**
RDO				S		**Sn**	**18 27 42.1**	**-5.2**
RDO	**Rodhopi**	**2.98**	**345**	*e*Pn		**Pn**	**18 27 11.1**	**-0.4**
RDO	**Rodhopi**	**2.98**	**345**	P		**Pn**	**18 27 11.4**	**-0.1**
KAVA	**Kavala**	**3.15**	**331**	P		**Pn**	**18 27 09.4**	**-4.4**
KAVA	**Kavala**	**3.15**	**331**	P		**Pn**	**18 27 09.4**	**-4.4**
SOH	**Sokhos**	**3.55**	**317**	P		**Pn**	**18 27 12.7**	**-6.7**
KNT	**Kendrikon**	**4.04**	**317**	P		**Pn**	**18 27 16.6**	**-9.5**

NEIC ***28*** *18:34:35.6±1.1, 23°.79N×121°.80E, h35km, Error ellipse: s-maj=18.9km s-min=8.1km az=112.0*
ISCJB ***28*** *18:34:36.5±0.2, 23°.83N±0°.01×121°.74E±0°.02, h45km±4km, Error ellipse: s-maj=3.0km s-min=2.1km az=40.5*
JMA ***28*** *18:34:36.8±0.3, 23°.96N×121°.74E, h75km, M2.9*
TAP ***28*** *18:34:36.6, 23°.86N×121°.68E, h47km, ML3.6, C*
ISC 28 18:34:37.1±0.2, 23°.84N±0°.02×121°.73E±0°.02, h41km±4km, n70, σ0.977/128, 10C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.18**	**320**	*e*P		**Pn**	**18 34 44.5**	**+0.2**
	baz=334							
HWA				*e*S		**Sn**	**18 34 49.9**	**+0.5**
	baz=334							
ESF	**Shoufeng Towns**	**0.21**	**279**	*e*P		**Pn**	**18 34 44.5**	**-0.1**
	baz=286							
ESF				*e*S		**Sn**	**18 34 51.3**	**+1.5**
	baz=286							
TEGC	**Jichi Village**	**0.22**	**234**	*e*P		**Pn**	**18 34 45.2**	**+0.6**
	baz=208							
TEGC				*e*S		**Sn**	**18 34 51.7**	**+1.8**
	baz=208							
TWD	**Chiawan**	**0.27**	**333**	⇑*i*P		**Pn**	**18 34 45.0**	**-0.2**
	baz=338							
TWD				*e*S		**Sn**	**18 34 51.1**	**+0.3**
	baz=338							
ESL	**Shilin**	**0.28**	**265**	⇑*i*P		**Pn**	**18 34 44.8**	**-0.4**
	baz=266							
ESL				*e*S		**Sn**	**18 34 50.4**	**-0.4**
	baz=266							
NACB	**Ninganchiao**	**0.36**	**339**	*e*Pn		**Pn**	**18 34 45.2**	**-0.9**
NACB				*e*Sn		**Sn**	**18 34 49.7**	**-2.7**
EHY	**Hungye**	**0.50**	**229**	*e*P		**Pn**	**18 34 47.0**	**-0.9**
	baz=222							
EHY				*e*S		**Sn**	**18 34 54.4**	**-1.1**
	baz=222							
WHF	**Hehuan Shan**	**0.53**	**306**	⇑*i*P		**Pn**	**18 34 47.8**	**-0.4**
	baz=301							
WHF				S		**Sn**	**18 34 56.0**	**-0.1**
	baz=301							
ENA	**Nanau**	**0.59**	**1**	*e*P		**Pn**	**18 34 48.6**	**-0.4**
	baz=14							
ENA				*e*S		**Sn**	**18 34 57.9**	**+0.4**
	baz=14							
YULB	**Yu-li**	**0.60**	**222**	*e*Pn		**Pn**	**18 34 46.8**	**-2.4**
YULB				*e*Sn		**Sn**	**18 34 56.4**	**-1.3**
TWF1	**Yuli**	**0.63**	**220**	⇓P		**Pn**	**18 34 48.6**	**-0.9**
	baz=220							
TWF1				*e*S		**Sn**	**18 34 57.3**	**-1.2**
	baz=220							

TWT	Tachien	0.66	309	⇑P	Pn	18 34 49.8	-0.1
	baz=309						
TWT				eS	Sn	18 34 58.8	-0.4
	baz=309						
NNS	Nan Shan	0.68	331	⇑iP	Pn	18 34 49.7	-0.6
	baz=333						
NNS				eS	Sn	18 34 59.1	-0.8
	baz=333						
SSLB	Suanglung	0.71	266	ePn	Pn	18 34 49.7	-1.0
SSLB				eSn	Sn	18 34 59.6	-0.9
SMLT	Sun Moon Lake	0.76	274	⇑P	Pn	18 34 51.1	-0.2
	baz=271						
SMLT				eS	Sn	18 35 01.5	-0.3
	baz=271						
TWC	Suao	0.78	8	eP	Pn	18 34 51.5	0.0
	baz=19						
TWC				eS	Sn	18 35 02.1	0.0
	baz=19						
YUS	Yu-Shan	0.80	244	eP	Pn	18 34 52.0	+0.2
	baz=233						
YUS				eS	Sn	18 35 02.1	-0.4
	baz=233						
TYC	Yuchr	0.80	275	eP	Pn	18 34 51.7	-0.2
	baz=275						
TYC				eS	Sn	18 35 02.7	0.0
	baz=275						
CHKT	Chengkung	0.81	205	eP	Pn	18 34 51.5	-0.5
	baz=190						
CHKT				eS	Sn	18 35 03.6	+0.8
	baz=190						
ENTT	Nioudou	0.81	349	⇑iP	Pn	18 34 51.5	-0.5
	baz=355						
ENTT				eS	Sn	18 35 03.1	+0.1
	baz=355						
TWE	Neicheng	0.88	356	⇑iP	Pn	18 34 52.6	-0.4
	baz=352						
TWE				eS	Sn	18 35 04.5	-0.2
	baz=352						
YHNB	Yeheng	0.89	339	ePn	Pn	18 34 52.5	-0.6
YHNB				eSn	Sn	18 35 02.5	-2.4
NSK	Sanguang	0.90	338	⇑iP	Pn	18 34 52.9	-0.4
	baz=341						
NSK				eS	Sn	18 35 04.4	-0.7
	baz=341						
ALS	Alishan	0.91	249	⇓P	Pn	18 34 53.7	+0.3
	baz=245						
ALS				eS	Sn	18 35 06.0	+0.7
	baz=245						
ELDTW	Lidau	0.92	226	⇓P	Pn	18 34 52.6	-0.9
	baz=217						
WNT	Mingjian	0.96	273	eP	Pn	18 34 54.4	+0.3
	baz=270						
WNT				eS	Sn	18 35 07.2	+0.7
	baz=270						
CHN5	Tsauling	0.99	256	⇓P	Pn	18 34 54.6	+0.1
	baz=253						
CHN5				eS	Sn	18 35 08.5	+1.1
	baz=253						
TWQ1	Liyutan	1.01	300	⇓iP	Pn	18 34 54.9	+0.1
	baz=300						
TWQ1				eS	Sn	18 35 08.0	+0.1
	baz=300						
TCU	Taichung	1.01	288	⇓P	Pn	18 34 55.3	+0.5
	baz=287						
TCU				eS	Sn	18 35 08.6	+0.7
	baz=287						
NSTT	Nanjuang	1.03	320	⇓eP	Pn	18 34 55.3	+0.2
	baz=308						
NSTT				eS	Sn	18 35 08.4	0.0
	baz=308						
NSY	Sanyi	1.06	303	eP	Pn	18 34 55.3	-0.2
	baz=303						
NSY				eS	Sn	18 35 09.5	+0.6
	baz=303						
WGK	Gukeng	1.08	262	eP	Pn	18 34 55.7	0.0
	baz=259						
WGK				eS	Sn	18 35 10.5	+1.0
	baz=259						
STYT	Tauyuan	1.12	233	⇑P	Pn	18 34 56.6	+0.3
	baz=239						
STYT				eS	Sn	18 35 11.3	+0.9
	baz=239						
TPUB	Ta-pu	1.14	242	ePn	Pn	18 34 56.7	+0.1
TPUB				eSn	Sn	18 35 11.1	+0.1
TATO	Taipei	1.15	349	ePn	Pn	18 34 56.2	-0.6
TATO				eSn	Sn	18 35 10.3	-1.1
TWG	Pinlang	1.18	211	eP	Pn	18 34 55.1	-2.0
	baz=197						
TWG				eS	Sn	18 35 10.2	-1.8
	baz=197						
TWG	Pinlang	1.18	211	ePn	Pn	18 34 55.6	-1.5
TWG				eSn	Sn	18 35 10.3	-1.6
WTP	Ta-pu	1.18	240	⇓iP	Pn	18 34 57.5	+0.3
	baz=236						
WTP				eS	Sn	18 35 13.0	+1.0
	baz=236						
HSN	Hsinchu	1.19	324	eP	Pn	18 34 57.3	+0.1
	baz=327						
HSN				eS	Sn	18 35 12.7	+0.6
	baz=327						
TWB1	Santiao Chiao	1.19	11	eP	Pn	18 34 57.5	+0.3
	baz=31						
TWB1				eS	Sn	18 35 13.2	+1.0
	baz=31						
TAP1	Taipei	1.21	351	eP	Pn	18 34 57.2	-0.3
	baz=353						
TAP1				eS	Sn	18 35 12.9	+0.2
	baz=353						
NWF	Wu-fen Shan	1.23	2	eP	Pn	18 34 58.0	+0.2
	baz=354						
NWF				eS	Sn	18 35 13.7	+0.5
	baz=354						
NCU	National Centr	1.23	336	eP	Pn	18 34 58.0	+0.2
	baz=337						
NCU				eS	Sn	18 35 13.8	+0.6
	baz=337						
CHY	Chiayi	1.25	255	eP	Pn	18 34 58.5	+0.5
	baz=251						
CHY				eS	Sn	18 35 14.3	+0.8
	baz=251						
CHN1	Nanshi	1.28	240	eP	Pn	18 34 58.7	+0.2
	baz=236						
CHN1				eS	Sn	18 35 15.3	+0.8
	baz=236						
TWS1	Kuangyinshan	1.29	347	eP	Pn	18 34 58.7	+0.1
	baz=350						
TWS1				eS	Sn	18 35 15.1	+0.4
	baz=350						
YOJ	Yonaguni jima	1.32	62	P	Pn	18 34 59.1	0.0
YOJ				S	Sn	18 35 15.6	+0.1
WTCT	Ta-ch'eng	1.33	271	eP	Pn	18 34 59.3	+0.2
	baz=270						
WTCT				eS	Sn	18 35 16.6	+1.0
	baz=270						
WSF	Szhu	1.40	262	eP	Pn	18 35 00.2	+0.2
	baz=260						
WSF				eS	Sn	18 35 18.5	+1.1
	baz=260						
ECL	Taimali	1.43	210	eP	Pn	18 34 58.8	-1.7
	baz=200						
TWY	Chenhua	1.44	355	eP	Pn	18 35 01.1	+0.5
	baz=346						
CHN3	Shinhua	1.47	239	eP	Pn	18 35 01.6	+0.6
	baz=236						
CHN3				eS	Sn	18 35 20.1	+1.1
	baz=236						
CHN8	Yiju	1.48	251	eP	Pn	18 35 00.9	-0.3
	baz=248						
CHN8				eS	Sn	18 35 19.8	+0.5
	baz=248						
SSD	Sandimen	1.48	223	eP	Pn	18 35 01.6	+0.4
	baz=220						
SCLT	Jiali	1.56	245	eP	Pn	18 35 01.7	-0.6
	baz=242						
SCLT				eS	Sn	18 35 21.7	+0.5
	baz=242						
TWM1	Shoushan	1.57	230	eP	Pn	18 35 03.3	+0.8
	baz=227						
SGLT	Jiouru	1.59	226	eP	Pn	18 35 03.6	+0.9
	baz=223						
EAST	Anshuo	1.66	210	eP	Pn	18 35 03.1	-0.6
	baz=200						
SCZT	Fangliau	1.78	215	eP	Pn	18 35 06.6	+1.2
	baz=212						
LAY	Lan-yu	1.80	185	eP	Pn	18 35 04.6	-1.0
	baz=174						
LAY				eS	Sn	18 35 26.3	-0.9
	baz=174						
IRIF	Iriomote-Funau	1.89	74	P	Pn	18 35 07.0	+0.1
IRIF				S	Sn	18 35 30.4	+0.9
HATJ	Hateruma jima	1.91	83	P	Pn	18 35 07.4	+0.3
HATJ				eS	Sn	18 35 30.4	+0.5
TWP	Hsiaoliuchiu	1.95	221	eP	Pn	18 35 09.6	+1.9
	baz=218						
PNG	Penghu	2.01	263	eP	Pn	18 35 07.2	-1.3
	baz=261						
PNG				eS	Sn	18 35 31.0	-1.5
	baz=261						
TWK1	Hengchun	2.07	205	eP	Pn	18 35 09.8	+0.5
	baz=193						
JKRS	Kuro-shima	2.12	79	P	Pn	18 35 10.5	+0.5
JKRS				eS	Sn	18 35 36.4	+1.3
JIJ	Ishigaki jima	2.26	76	P	Pn	18 35 11.8	-0.2
JIJ				S	Sn	18 35 38.1	-0.6
JTJ	Tarama	2.83	73	P	Pn	18 35 19.7	0.0
JTJ				eS	Sn	18 35 52.4	-0.1
KNM	Kinmen	3.07	281	eP	Pn	18 35 22.3	-0.7
	baz=280						
JOGS	Gusukube	3.48	74	eS	Sn	18 36 09.4	+0.8

*ISCJB **28** 18:35:02.8±0.9, 37°.90N±0°.03×29°.20E±0°.07, h5km±8km, Error ellipse: s-maj=9.9km s-min=4.3km az=19.0*
*DDA **28** 18:35:02.1, 37°.88N×29°.22E, h7km±2km, Md2.6*
*CSEM **28** 18:35:02.7±0.4, 37°.91N×29°.23E, h2km, MD2.6, Error ellipse: s-maj=9.2km s-min=4.5km az=108.0*
*ISK **28** 18:35:04.0, 37°.94N×29°.01E, h5km, MD2.5*

ISC 28 18:35:02.9±0.9, 37°.90N±0°.03×29°.22E±0°.07, h12km±7km, n16, σ0s74/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.21	227	ePG	Pg	18 35 08.7	+1.3
DENT	Denizli	0.21	227	ePg	Pg	18 35 08.7	+1.3
DNZL	Cakiroluk	0.25	214	iP	Pg	18 35 06.8	-1.3
DNZL				iS	Sg	18 35 10.8	-0.8
DNZL	Cakiroluk	0.25	214	iP	Pg	18 35 06.8	-1.3
DNZL				iS	Sg	18 35 10.8	-0.8
KHAL	Karahalli	0.52	24	iP	Pg	18 35 12.6	-0.5
KHAL				iS	Sg	18 35 20.8	+0.8
KHAL	Karahalli	0.52	24	iP	Pg	18 35 12.6	-0.5
KHAL				iS	Sg	18 35 20.8	+0.8
KULA	Kula-Manisa	0.76	325	ePG	Pg	18 35 17.4	-0.3
KULA				eSG	Sg	18 35 27.6	-0.1
KULA	Kula-Manisa	0.76	325	ePg	Pg	18 35 17.4	-0.2
KULA				eSg	Sg	18 35 27.6	0.0
MANT	Manisa	0.79	319	iP	Pg	18 35 17.6	-0.6
MANT				iS	Sg	18 35 28.8	+0.2
MANT	Manisa	0.79	319	iP	Pg	18 35 17.6	-0.7
MANT				iS	Sg	18 35 28.8	+0.2
YER	Yerkesik	1.07	225	ePG	Pg	18 35 23.4	0.0
YER				eSG	Sg	18 35 39.0	+1.7
YER	Yerkesik	1.07	225	ePg	Pg	18 35 23.4	0.0
YER				eSg	Sg	18 35 39.0	+1.7
AYDN	Tasoluk	1.09	258	iP	Pb	18 35 23.4	-0.3
AYDN				iS	Sb	18 35 37.5	-0.4
AYDN	Tasoluk	1.09	258	iP	Pb	18 35 23.4	-0.3
AYDN				iS	Sb	18 35 37.5	-0.3
DEMI	Demirci	1.21	341	iP	Pb	18 35 25.8	+0.1
DEMI				iS	Sb	18 35 41.6	+0.2
DEMI	Demirci	1.21	341	iP	Pn	18 35 25.8	+0.1
DEMI				iS	Sb	18 35 41.6	+0.2

*ISK **28** 18:49:29.7, 37°.92N×29°.17E, h5km, MD2.6*
*ISCJB **28** 18:49:30.7±0.5, 37°.90N±0°.02×29°.20E±0°.04, h1km±9km, Error ellipse: s-maj=5.1km s-min=4.0km az=9.7*
*DDA **28** 18:49:30.5, 37°.89N×29°.24E, h7km±2km, Md2.8*
*CSEM **28** 18:49:30.5±0.1, 37°.89N×29°.22E, h5km, MD2.6, Error ellipse: s-maj=2.9km s-min=2.3km az=90.0*

ISC 28 18:49:31.1±0.5, 37°.90N±0°.03×29°.20E±0°.04, h9km±10km, n20, σ0s79/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.20	222	ePG	Pg	18 49 34.6	-0.6
DENT	Denizli	0.20	222	ePg	Pg	18 49 34.6	-0.6
DNZL	Cakiroluk	0.24	210	iP	Pg	18 49 35.5	-0.5
DNZL				iS	Sg	18 49 39.7	+0.4
DNZL	Cakiroluk	0.24	210	iP	Pg	18 49 35.5	-0.5
DNZL				iS	Sg	18 49 39.7	+0.4
KHAL	Karahalli	0.52	26	iP	Pg	18 49 40.9	-0.5
KHAL				iS	Sg	18 49 48.4	+0.2
KHAL	Karahalli	0.52	26	iP	Pg	18 49 40.8	-0.5
KHAL				iS	Sg	18 49 48.4	+0.2
GOLH	Golhisar	0.72	156	iP	Pg	18 49 43.4	-1.6
GOLH				iS	Sg	18 49 54.6	+0.1
GOLH	Golhisar	0.72	156	iP	Pg	18 49 43.4	-1.7
GOLH				iS	Sg	18 49 54.6	+0.1
KULA	Kula-Manisa	0.74	326	ePG	Pg	18 49 44.9	-0.6
KULA				eSG	Sg	18 49 55.2	0.0
KULA	Kula-Manisa	0.74	326	ePg	Pg	18 49 44.9	-0.6
KULA				eSg	Sg	18 49 55.3	+0.1
MANT	Manisa	0.78	320	iP	Pg	18 49 46.0	-0.1
MANT				iS	Sg	18 49 56.9	+0.6
MANT	Manisa	0.78	320	iP	Pg	18 49 46.0	-0.1
MANT				iS	Sg	18 49 56.9	+0.7
ISP	Isparta	1.05	94	ePG	Pg	18 49 50.9	-0.5
ISP				eSG	Sg	18 50 07.4	+2.4
ISP	Isparta	1.05	94	ePg	Pg	18 49 50.9	-0.5
YER	Yerkesik	1.05	224	ePG	Pg	18 49 51.0	-0.4
YER				eSG	Sg	18 50 06.6	+1.5
YER	Yerkesik	1.05	224	ePg	Pg	18 49 51.0	-0.4
YER				eSg	Sg	18 50 06.6	+1.5
AYDN	Tasoluk	1.07	258	iP	Pg	18 49 51.5	-0.3
AYDN				iS	Sg	18 50 06.0	+0.4
AYDN	Tasoluk	1.07	258	iP	Pg	18 49 51.5	-0.2
AYDN				iS	Sg	18 50 06.0	+0.4
DEMI	Demirci	1.20	342	iP	Pb	18 49 54.0	0.0
DEMI				iS	Sb	18 50 09.8	+0.1
DEMI	Demirci	1.20	342	iP	Pb	18 49 54.0	-0.1
DEMI				iS	Sb	18 50 09.8	+0.1

*TRN **28** 18:51:37.2, 18°.01N×65°.39W, h29km, MD2.7(RSPR)*
*NEIC **28** 18:51:40.2, 18°.01N×65°.37W, h14km, MD2.7(RSPR), After RSPR.*

RSPR 28 18:51:40.2, 18°.01N×65°.37W, h14km, MD2.7/5, 9C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	0.20	297	⇑eP	Pg	18 51 44.9	+0.2
MTP	Monte Pirata	0.20	297	⇑eP	Pg	18 51 44.9	+0.2
MTP				eS	Sg	18 51 48.1	+0.4
MTP	Monte Pirata	0.20	297	⇑eP	Pg	18 51 44.9	+0.2
MTP				eS	Sg	18 51 48.1	+0.4
HUMP	Col San Antoni	0.47	286	⇓iP	Pg	18 51 49.0	-0.6
HUMP	Col San Antoni	0.47	286	⇓iP	Pg	18 51 49.0	-0.6
HUMP				eS	Sg	18 51 55.5	-0.6
HUMP	Col San Antoni	0.47	286	⇓iP	Pg	18 51 49.4	-0.3
HUMP				eS	Sg	18 51 55.5	-0.6
CPD	Cerro la Pandu	0.52	273	eS	Sg	18 51 57.3	-0.2
CPD	Cerro la Pandu	0.52	273	eS	Sg	18 51 57.3	-0.2
STVI	Saint Thomas	0.52	49	⇑eP	Pg	18 51 50.0	-0.6
STVI	Saint Thomas	0.52	49	⇑eP	Pg	18 51 50.0	-0.6
STVI				eS	Sg	18 51 57.1	-0.4
STVI	Saint Thomas	0.52	49	⇑eP	Pg	18 51 50.0	-0.6
STVI				eS	Sg	18 51 57.1	-0.4
CBYP	Canovanas	0.53	299	⇓eP	Pg	18 51 50.3	-0.5
CBYP	Canovanas	0.53	299	⇓eP	Pg	18 51 50.3	-0.5
CBYP				eS	Sg	18 51 57.8	0.0
CBYP	Canovanas	0.53	299	⇓eP	Pg	18 51 50.3	-0.5
CBYP				eS	Sg	18 51 57.8	0.0
TBVI	Tortola	0.82	60	⇑eP	Pg	18 51 54.4	-1.8
TBVI				eS	Sg	18 52 05.4	-1.6
TBVI	Tortola	0.82	60	⇑eP	Pg	18 51 54.4	-1.8
TBVI				eS	Sg	18 52 05.4	-1.6
TBVI	Tortola	0.82	60	⇑eP	Pg	18 51 54.4	-1.8
TBVI				eS	Sg	18 52 05.4	-1.6

*ISK **28** 18:53:50.2, 36°.88N×36°.00E, h11km, MD2.6*
*ISCJB **28** 18:53:51.3±0.6, 36°.90N±0°.03×35°.98E±0°.04, h3km±13km, Error ellipse: s-maj=5.4km s-min=5.0km az=20.2*
*DDA **28** 18:53:51.5, 36°.89N×35°.94E, h7km±1km, Md2.6*
*CSEM **28** 18:53:51.8±0.2, 36°.89N×35°.97E, h2km, MD2.6, Error ellipse: s-maj=4.8km s-min=4.6km az=144.0*

ISC 28 18:53:51.7±0.7, 36°.90N±0°.03×35°.95E±0°.05, h14km±10km, n14, σ0s65/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	Ceyhan	0.19	304	ePG	Pg	18 53 55.7	-0.4
CEYT				eSG	Sg	18 53 59.6	+0.5
CEYT	Ceyhan	0.19	304	ePg	Pg	18 53 55.7	-0.4
CEYT				eSg	Sg	18 53 59.6	+0.4
KRTS	Karatas	0.56	234	ePG	Pg	18 54 02.4	-0.4
KRTS				eSG	Sg	18 54 10.6	+0.3
KRTS	Karatas	0.56	234	ePg	Pg	18 54 02.4	-0.4
KRTS				eSg	Sg	18 54 10.6	+0.3
KOZT	Kozan	0.58	351	ePG	Pg	18 54 02.7	-0.5
KOZT				eSG	Sg	18 54 11.9	+1.0
YAYL	Yayladag	0.88	171	iP	Pg	18 54 08.4	-0.3
YAYL				iS	Sg	18 54 20.4	+0.2
YAYL	Yayladag	0.88	171	iP	Pg	18 54 08.4	-0.3
YAYL				iS	Sg	18 54 20.4	+0.2
KUZU	Kuzuini	0.92	98	iP	Pg	18 54 09.4	0.0
KUZU				iS	Sg	18 54 22.5	+1.2
KUZU	Kuzuini	0.92	98	iP	Pg	18 54 09.4	0.0
KUZU				iS	Sg	18 54 22.5	+1.1
KMRS	Kahramanmaras	0.97	51	ePG	Pg	18 54 09.2	-1.3
KMRS				eSG	Sg	18 54 22.5	-0.6
KMRS	Kahramanmaras	0.97	51	ePg	Pg	18 54 09.2	-1.3
KMRS				eSg	Sg	18 54 22.5	-0.6
SARI	SarD1z-Kayseri	1.87	18	ePN	Pn	18 54 18.6	-4.7
AKCD	Akcadag	2.10	48	iP	Pg	18 54 31.6	-0.4
AKCD				iS	Sb	18 54 56.1	+0.7
AKCD	Akcadag	2.10	48	iP	Pg	18 54 31.6	-0.3
AKCD				iS	Sb	18 54 56.1	+0.7

IDC 28 18:57:15.8±2.0, 6°.64S×128°.52E, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.3/14, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=132.2km s-min=30.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.38	157	Pn	Pn	19 00 41.6	+0.8
	0.3nm,0.3s,baz=336,slow=12,SNR=22						
WRA				Sn	Sn	19 03 08.2	-13
	0.3nm,0.3s,baz=329,slow=23,SNR=6.9						
ASAR	Alice Springs	17.71	164	P	Pn	19 01 23.4	-0.5
	0.2nm,0.3s,baz=342,slow=11,SNR=30						
MKAR	Makanchi Array	67.12	327	P	P	19 08 11.4	+0.2
	0.1nm,0.5s,baz=116,slow=5.3,SNR=3.6						

*NIED **28** 19:56:00.31°.80N×142°.00E, h5km, Mw4.1 Best double couple: M0 1.57000×10^15 NP1:φ0.00000°, δ59.00000°, λ89.00000°. NP2:φ0 183.00000°, δ31.00000°, λ92.00000°.*
*IDC **28** 19:56:40.9±0.7, 31°.77N×141°.76E, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/22, mbtmp3.8/14, ML3.8/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/33, Error ellipse: s-maj=22.7km s-min=16.3km az=84.0*
*ISCJB **28** 19:56:42.1±2.0, 31°.79N±0°.04×141°.73E±0°.09, h21km±14km, mb3.9/15, MS3.3/2, Error ellipse: s-maj=13.0km s-min=5.7km az=158.6*
*JMA **28** 19:56:42.7±0.3, 31°.83N×141°.96E, h55km, M3.8*
*NEIC **28** 19:56:43.8±3.4, 31°.75N×141°.61E, h18km±21km, mb4.3/2, Error ellipse: s-maj=9.8km s-min=7.1km az=76.0*

ISC 28 19:56:44.2±2.1, 31°.78N±0°.04×141°.70E±0°.09, h21km±15km, n66, σ0s75/70, mb3.9/15, MS3.3/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.08	310	P	Pn	19 57 17.8	0.0
JHJ2				eS	Sn	19 57 43.3	+0.3
BSO3	Boso 3	3.18	342	eS	Sn	19 58 08.8	-1.4
JOD2	Odawara 2	4.11	329	P	Pn	19 57 44.8	-0.9
JOD2				eS	Sn	19 58 33.3	+0.2
JYN	Shimob	4.55	325	eS	Sn	19 58 44.4	+0.4
CBIJ	Chichi jima	4.68	175	Pn	Pn	19 57 53.8	+0.2
	11nm,0.3s,baz=345,slow=22,SNR=16						
CBIJ				Sn	Sn	19 58 42.0	-5.2
	baz=323,slow=20						
CBIJ	Chichi jima	4.68	175	Pn	Pn	19 57 53.8	+0.2
CBIJ				Sn	Sn	19 58 42.0	-5.2
CBIJ	Chichi jima	4.68	175	P	Pn	19 57 51.7	-1.9
JRY	Ryogami san	4.83	332	P	Pn	19 57 56.6	+1.0
JRY				eS	Sn	19 58 49.7	-1.1
JAG	Ashikaga	5.00	339	P	Pn	19 57 57.9	0.0
JAG				eS	Sn	19 58 54.4	-0.6
MJAR	Matsushiro Arr	5.57	330	Pn	Pn	19 58 06.5	+0.8
	1.1nm,0.3s,baz=155,slow=11,SNR=22						
MJAR	Matsushiro Arr	5.57	330	Pn	Pn	19 58 06.5	+0.8
MAJO	Matsushiro	5.57	330	ePn	Pn	19 58 04.4	-1.3
	14nm,0.7s						
MAT	Matsushiro	5.57	330	P	Pn	19 58 06.7	+1.0
MAT				S	Sn	19 59 11.8	+2.7
JMK	Ichinoseki	7.17	357	P	Pn	19 58 27.6	-0.1
JMK				eS	Sn	19 59 41.3	-7.2
KSRS	Korea Array	12.68	300	LR	LR	20 04 36.1	
	comp=Z,123nm,19.5s,baz=110,slow=37						
JOW	Kunigami	12.71	251	LR	LR	20 04 26.8	
	comp=Z,90nm,18.3s,baz=80,slow=36						
USRK	Ussuriysk Arra	14.56	331	LR	LR	20 05 40.1	
	comp=Z,94nm,18.5s,baz=134,slow=37						
SSLB	Suanglung	19.99	252	eP	Pn	20 01 12.4	-4.6
SONM	Songino Array	31.18	311	P	P	20 03 03.3	+1.8
	1.8nm,0.7s,mb4.0,baz=117,slow=8.0,SNR=11						
SONM	Songino Array	31.18	311	P	P	20 03 03.3	+1.8
CMAR	Chiang Mai Arr	40.67	261	P	P	20 04 22.4	-0.7
	0.5nm,0.8s,mb3.2,baz=47,slow=8.1,SNR=4.8						
CMAR	Chiang Mai Arr	40.67	261	P	P	20 04 22.4	-0.7
ZALV	Zalesovo Beam	45.76	316	P	P	20 05 03.7	-0.1
	0.4nm,0.3s,mb3.8,baz=84,slow=7.6,SNR=5.7						
ZALV				PcP	PcP	20 06 41.7	+0.5
	0.8nm,0.6s,baz=129,slow=2.1,SNR=4.2						
ZALV				LR	LR	20 23 27.0	
	comp=Z,23nm,19.2s,MS3.1,baz=145,slow=35						
ZALV	Zalesovo Beam	45.76	316	P	P	20 05 03.7	-0.1
ZALV				PcP	PcP	20 06 41.7	+0.5
TAPN	Taplejung	46.78	279	eP	P	20 05 11.9	-0.3
TAPN	Taplejung	46.78	279	eP	P	20 05 11.9	-0.3
ODAN	Odare	47.21	279	eP	P	20 05 14.7	-0.9
ODAN	Odare	47.21	279	eP	P	20 05 14.7	-0.9
MKAR	Makanchi Array	47.27	306	P	P	20 05 16.5	+0.7
	0.9nm,0.5s,mb3.9,baz=85,slow=8.8,SNR=8.2						
MKAR	Makanchi Array	47.27	306	P	P	20 05 16.5	+0.7
RAMN	Ramite	47.84	279	eP	P	20 05 20.2	-0.3
RAMN	Ramite	47.84	279	eP	P	20 05 20.2	-0.3
JIRN	Jiri	47.95	280	eP	P	20 05 21.6	+0.2
	2.9nm,0.8s,mb4.4						
JIRN	Jiri	47.95	280	eP	P	20 05 21.6	+0.2
	2.9nm,0.8s,mb4.4						
GUN	Gumba	48.13	281	eP	P	20 05 22.4	-0.3
GUN	Gumba	48.13	281	eP	P	20 05 22.4	-0.3
KKN	Kakani	48.67	281	eP	P	20 05 26.7	-0.2
KKN	Kakani	48.67	281	eP	P	20 05 26.7	-0.2
DMN	Daman	48.88	280	eP	P	20 05 29.1	+0.6
DMN	Daman	48.88	280	eP	P	20 05 29.1	+0.6
GKN	Gorkha	49.14	281	eP	P	20 05 30.4	-0.1
GKN	Gorkha	49.14	281	eP	P	20 05 30.4	-0.1
KURK	Kurchatov	49.49	312	LR	LR	20 27 18.1	
	comp=Z,44nm,19.1s,MS3.5,baz=125,slow=37						
DANN	Dangsing	49.76	282	eP	P	20 05 35.

0.5nm,0.8s,mb3.5,baz=297,slow=5.2,SNR=3.7
NVAR Mina Array Bea 77.98 52 P **P 20 08 40.5 -0.5**
AKASG Malin Array Be 78.62 323 P **P 20 08 44.4 +0.2**
0.6nm,0.5s,mb3.8,baz=49,slow=6.0,SNR=3.3
AKASG Malin Array Be 78.62 323 P **P 20 08 44.4 +0.2**
NOA NORSAR Array B 79.13 338 P **P 20 08 46.6 -0.1**
0.9nm,0.8s,mb3.8,baz=40,slow=5.9,SNR=4.0
NOA NORSAR Array B 79.13 338 P **P 20 08 46.6 -0.1**
TXAR Lajitas Array 93.13 53 P **P 20 09 58.2 +1.3**
0.7nm,0.7s,mb4.2,baz=295,slow=3.2,SNR=8.3
TXAR Lajitas Array 93.13 53 P **P 20 09 58.2 +1.3**

*ISK **28** 20:00:31.0,37°.91N×29°.24E,h2km,MD2.6*
*ISCJB **28** 20:00:32.2±0.5,37°.90N±0°.02×29°.24E±0°.04,h7km±6km, Error ellipse: s-maj=5.0km s-min=3.9km az=0.8*
*DDA **28** 20:00:32.2,37°.89N×29°.23E,h7km±3km,Md2.7*
*CSEM **28** 20:00:32.0±0.1,37°.88N×29°.25E,h8km,MD2.6, Error ellipse: s-maj=2.4km s-min=2.0km az=77.0*
ISC 28 20:00:32.6±0.5,37°.90N±0°.02×29°.23E±0°.04,h11km±5km, n26,σ0°79/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**227**	*e*PG	**Pg**	**20 00 36.5**	**-0.6**
DENT				*e*SG	**Sg**	20 00 39.5	-0.6
DENT	**Denizli**	**0.21**	**227**	*e*Pg	**Pg**	**20 00 36.5**	**-0.6**
DENT				*e*Sg	**Sg**	20 00 39.5	-0.6
DNZL	**Cakiroluk**	**0.25**	**215**	*i* P	**Pg**	**20 00 37.5**	**-0.3**
DNZL				*i* S	**Sg**	20 00 41.1	-0.2
DNZL	**Cakiroluk**	**0.25**	**215**	*i* P	**Pg**	**20 00 37.5**	**-0.3**
DNZL				*i* S	**Sg**	20 00 41.1	-0.2
KHAL	**Karahalli**	**0.52**	**24**	*i* P	**Pg**	**20 00 42.8**	**+0.1**
KHAL				*i* S	**Sg**	20 00 50.4	+0.9
KHAL	**Karahalli**	**0.52**	**24**	*i* P	**Pg**	**20 00 42.8**	**+0.1**
KHAL				*i* S	**Sg**	20 00 50.4	+0.9
GOLH	**Golhisar**	**0.71**	**158**	*i* P	**Pg**	**20 00 45.6**	**-0.8**
GOLH				*i* S	**Sg**	20 00 57.7	+2.1
GOLH	**Golhisar**	**0.71**	**158**	*i* P	**Pg**	**20 00 45.6**	**-0.8**
GOLH				*i* S	**Sg**	20 00 57.7	+2.0
KULA	**Kula-Manisa**	**0.76**	**324**	*e*PG	**Pg**	**20 00 46.7**	**-0.6**
KULA				*e*SG	**Sg**	20 00 58.0	+0.7
KULA	**Kula-Manisa**	**0.76**	**324**	*e*Pg	**Pg**	**20 00 46.7**	**-0.6**
KULA				*e*Sg	**Sg**	20 00 58.0	+0.7
GLHS	**Glhisar (BURDU**	**0.77**	**164**	*e*PG	**Pg**	**20 00 46.6**	**-0.9**
GLHS				*e*SG	**Sg**	20 00 59.0	+1.4
GLHS	**Glhisar (BURDU**	**0.77**	**164**	*e*Pg	**Pg**	**20 00 46.6**	**-0.9**
MANT	**Manisa**	**0.79**	**318**	*i* P	**Pg**	**20 00 48.1**	**+0.1**
MANT				*i* S	**Sg**	20 00 58.2	-0.1
MANT	**Manisa**	**0.79**	**318**	*i* P	**Pg**	**20 00 48.1**	**+0.2**
MANT				*i* S	**Sg**	20 00 58.2	-0.1
ISP	**Isparta**	**1.03**	**94**	*e*PG	**Pg**	**20 00 51.1**	**-1.3**
ISP	**Isparta**	**1.03**	**94**	*e*Pg	**Pg**	**20 00 51.1**	**-1.3**
YER	**Yerkesik**	**1.07**	**225**	*e*PG	**Pg**	**20 00 52.7**	**-0.5**
YER				*e*SG	**Sg**	20 01 08.5	+1.4
YER	**Yerkesik**	**1.07**	**225**	*e*Pg	**Pg**	**20 00 52.7**	**-0.5**
YER				*e*Sg	**Sg**	20 01 08.5	+1.4
AYDN	**Tasoluk**	**1.09**	**258**	*i* P	**Pb**	**20 00 53.1**	**-0.5**
AYDN				*i* S	**Sb**	20 01 07.9	0.0
AYDN	**Tasoluk**	**1.09**	**258**	*i* P	**Pb**	**20 00 53.1**	**-0.4**
AYDN				*i* S	**Sb**	20 01 07.9	+0.1
BCK	**Bucak**	**1.17**	**112**	*e*PN	**Pn**	**20 00 54.1**	**-0.7**
BCK	**Bucak**	**1.17**	**112**	*e*Pn	**Pn**	**20 00 54.1**	**-0.7**
DEMI	**Demirci**	**1.21**	**341**	*i* P	**Pn**	**20 00 55.3**	**-0.2**
DEMI				*i* S	**Sb**	20 01 11.9	+0.7
DEMI	**Demirci**	**1.21**	**341**	*i* P	**Pn**	**20 00 55.3**	**-0.2**
DEMI				*i* S	**Sb**	20 01 11.9	+0.7
ELL	**Elmali**	**1.27**	**155**	*e*PN	**Pn**	**20 00 56.5**	**+0.2**
ELL	**Elmali**	**1.27**	**155**	*e*Pn	**Pn**	**20 00 56.5**	**+0.2**

*ISCJB **28** 20:03:11.4±0.7,38°.92N±0°.03×27°.95E±0°.03,h3km±7km, Error ellipse: s-maj=5.8km s-min=4.3km az=163.8*
*ISK **28** 20:03:11.5,38°.87N×27°.97E,h19km,MD2.8*
*DDA **28** 20:03:11.4,38°.90N×27°.95E,h7km±3km,Md2.7*
*CSEM **28** 20:03:11.8±0.1,38°.90N×27°.96E,h12km,MD2.7, Error ellipse: s-maj=3.2km s-min=3.0km az=10.0*
ISC 28 20:03:12.2±0.6,38°.90N±0°.03×27°.96E±0°.04,h13km±5km, n24,σ0°69/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.60**	**76**	*i* P	**Pg**	**20 03 23.6**	**-0.5**
DEMI				*i* S	**Sg**	20 03 32.3	+0.2
DEMI	**Demirci**	**0.60**	**76**	*i* P	**Pg**	**20 03 23.6**	**-0.5**
DEMI				*i* S	**Sg**	20 03 32.3	+0.2
MANT	**Manisa**	**0.62**	**131**	*i* P	**Pg**	**20 03 23.9**	**-0.5**
MANT				*i* S	**Sg**	20 03 33.2	+0.6
MANT	**Manisa**	**0.62**	**131**	*i* P	**Pg**	**20 03 23.9**	**-0.5**
MANT				*i* S	**Sg**	20 03 33.2	+0.6
KULA	**Kula-Manisa**	**0.67**	**125**	*e*PG	**Pg**	**20 03 24.7**	**-0.6**
KULA				*e*SG	**Sg**	20 03 34.2	+0.1
KULA	**Kula-Manisa**	**0.67**	**125**	*e*Pg	**Pg**	**20 03 24.7**	**-0.6**
KULA				*e*Sg	**Sg**	20 03 34.2	+0.1
DURS	**Dursunbey**	**0.80**	**30**	*i* P	**Pg**	**20 03 27.5**	**-0.4**
DURS				*i* S	**Sg**	20 03 39.7	+1.4
DURS	**Dursunbey**	**0.80**	**30**	*i* P	**Pg**	**20 03 27.5**	**-0.3**
DURS				*i* S	**Sg**	20 03 39.7	+1.3
BLCB	**Balcova**	**0.89**	**235**	*e*PG	**Pg**	**20 03 28.4**	**-0.9**
BLCB				*e*SG	**Sg**	20 03 41.7	+0.8
BLCB	**Balcova**	**0.89**	**235**	*e*Pg	**Pg**	**20 03 28.4**	**-1.0**
BLCB				*e*Sg	**Sg**	20 03 41.7	+0.7
AYVA	**Ayvalik**	**1.07**	**293**	*i* P	**Pb**	**20 03 30.9**	**-1.6**
AYVA				*i* S	**Sb**	20 03 47.5	+1.1
AYVA	**Ayvalik**	**1.07**	**293**	*i* P	**Pb**	**20 03 30.9**	**-1.6**
AYVA				*i* S	**Sb**	20 03 47.5	+1.1
GONE	**Gonen-Balikesi**	**1.16**	**350**	*e*PN	**Pn**	**20 03 33.8**	**-0.3**
GONE				*e*SN	**Sn**	20 03 49.7	-0.1
GONE	**Gonen-Balikesi**	**1.16**	**350**	*e*Pn	**Pn**	**20 03 33.8**	**-0.3**
GONE				*e*Sn	**Sn**	20 03 49.7	-0.1
GDZ	**Gediz**	**1.20**	**81**	*i* P	**Pn**	**20 03 34.1**	**-0.6**
GDZ				*i* S	**Sb**	20 03 50.2	+0.1
GDZ	**Gediz**	**1.20**	**81**	*i* P	**Pn**	**20 03 34.1**	**-0.5**
GDZ				*i* S	**Sb**	20 03 50.2	+0.1
AYDN	**Tasoluk**	**1.24**	**183**	*i* P	**Pn**	**20 03 35.0**	**-0.2**
AYDN				*i* S	**Sb**	20 03 52.3	+1.0
AYDN	**Tasoluk**	**1.24**	**183**	*i* P	**Pn**	**20 03 35.0**	**-0.2**
AYDN				*i* S	**Sb**	20 03 52.3	+1.0
KCTX	**Karacabey (Bur**	**1.40**	**13**	*e*PN	**Pn**	**20 03 37.8**	**+0.5**
KCTX	**Karacabey (Bur**	**1.40**	**13**	*e*Pn	**Pn**	**20 03 37.8**	**+0.5**
EZN	**Ezine**	**1.57**	**307**	*e*PN	**Pn**	**20 03 39.9**	**+0.2**
EZN	**Ezine**	**1.57**	**307**	*e*Pn	**Pn**	**20 03 39.9**	**+0.2**
CAVI	**Cavuskoy**	**1.95**	**48**	*e*PN	**Pn**	**20 03 44.8**	**-0.1**
CAVI	**Cavuskoy**	**1.95**	**48**	*e*Pn	**Pn**	**20 03 44.8**	**-0.1**

MAN 28 20:05:50,7°.58N×124°.75E,h1km,mb4.1,ML2.9,MS2.6, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.43**	**46**	*e*P	Pg	20 05 59.2	+0.9
BUKP				*e*S	Sg	20 06 05.4	+1.5
CTBH	**Cotabato--PC H**	**0.61**	**235**	⇓*i*P	Pg	20 06 02.2	+0.5
CTBH				*i* S	Sg	20 06 12.1	+2.5
CGP	**Cagayan de Oro**	**0.87**	**357**	⇑*e*P	Pg	20 06 08.2	+1.4
CGP				*i* S	Sg	20 06 22.5	+4.4
PAGZ	**Pagadian**	**1.38**	**281**	*e*P	Pn	20 06 17.5	+1.1
PAGZ				*e*S	Sg	20 06 35.1	+0.7

*ISK **28** 20:16:36.8,38°.78N×43°.73E,h2km,MD2.7*
*ISCJB **28** 20:16:37.3±0.9,38°.77N±0°.04×43°.75E±0°.07,h3km±16km, Error ellipse: s-maj=9.8km s-min=5.2km az=25.6*
*CSEM **28** 20:16:37.3±0.3,38°.76N×43°.74E,h2km,MD2.7, Error ellipse: s-maj=8.4km s-min=4.5km az=102.0*
*DDA **28** 20:16:38.7,38°.76N×43°.65E,h20km,Md2.8*
ISC 28 20:16:37.8±0.7,38°.77N±0°.04×43°.75E±0°.07,h13km±11km, n16,σ0°82/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.34**	**238**	*e*PG	**Pg**	**20 16 44.3**	**-0.3**
VANB	**Van**	**0.34**	**238**	*e*Pg	**Pg**	**20 16 44.3**	**-0.3**
CLDR	**Caldiran**	**0.39**	**19**	*e*PG	**Pg**	**20 16 45.3**	**-0.3**
CLDR				*e*SG	**Sg**	20 16 51.8	+0.9
CLDR	**Caldiran**	**0.39**	**19**	*e*Pg	**Pg**	**20 16 45.3**	**-0.3**
CLDR				*e*Sg	**Sg**	20 16 51.8	+0.9
VANT	**Van**	**0.52**	**228**	*e*PG	**Pg**	**20 16 47.9**	**-0.1**
VANT				*e*SG	**Sg**	**20 16 55.2**	**+0.4**
VANT	**Van**	**0.52**	**228**	*e*Pg	**Pg**	**20 16 47.9**	**0.0**
VANT				*e*Sg	**Sg**	**20 16 55.2**	**+0.4**
DYDN	**Diyadin**	**0.77**	**356**	*i* P	**Pg**	**20 16 52.8**	**0.0**
DYDN				*i* S	**Sg**	20 17 03.5	+0.6
DYDN	**Diyadin**	**0.77**	**356**	*i* P	**Pg**	**20 16 52.8**	**0.0**
DYDN				*i* S	**Sg**	20 17 03.5	+0.6
TUTA	**Tutak**	**0.96**	**311**	*i* P	**Pg**	**20 16 55.0**	**-1.4**
TUTA				*i* S	**Sg**	20 17 09.2	+0.2
TUTA	**Tutak**	**0.96**	**311**	*i* P	**Pg**	**20 16 55.0**	**-1.4**
TUTA				*i* S	**Sg**	20 17 09.2	+0.2
AGRB	**Hanur-Agry**	**1.00**	**324**	*e*PG	**Pg**	**20 16 55.7**	**-1.3**
AGRB				*e*SG	**Sg**	20 17 11.4	+1.3
AGRB	**Hanur-Agry**	**1.00**	**324**	*e*Pg	**Pg**	**20 16 55.7**	**-1.3**
AGRB				*e*Sg	**Sg**	20 17 11.4	+1.4
HAKT	**HAKKARI**	**1.21**	**182**	*i* P	**Pn**	**20 16 59.6**	**-0.7**
HAKT				*i* S	**Sb**	20 17 17.3	+1.3
HAKT	**HAKKARI**	**1.21**	**182**	*i* P	**Pn**	**20 16 59.6**	**-0.7**
HAKT				*i* S	**Sb**	20 17 17.3	+1.3
GNI	**Garni**	**1.57**	**29**	*e*PN	**Pg**	**20 17 07.4**	**-0.6**
GNI	**Garni**	**1.57**	**29**	*e*Pn	**Pg**	**20 17 07.4**	**-0.6**

*IDC **28** 20:25:31.5±0.9,11°.31S×166°.50E,h76km±5km,mb4.0/11, mb1 4.1/13,mb1mx4.0/18,mbtmp4.0/13,MS3.5/7, Ms1 3.5/7,ms1mx3.3/23,Error ellipse: s-maj=25.2km s-min=15.5km az=134.0*
*NEIC **28** 20:25:31.6±0.4, 11°.33S×166°.46E,mb5.0/6,Error ellipse: s-maj=9.3km s-min=8.4km az=114.0*
*ISCJB **28** 20:25:32.6±2.2, 11°.30S±0°.07×166°.4E±0°.1,h100km±18km, mb4.3/15,Error ellipse: s-maj=18.4km s-min=9.8km az=152.5*
ISC 28 20:25:33.5±1.7,11°.27S±0°.07×166°.40E±0°.10,h95km±14km, h79km±1.7km:pP-P,n54,σ0°97/49,mb4.3/15,1C,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.60**	**285**	P	**Pn**	**20 27 07.3**	**-0.7**
32nm,0.3s,baz=171,slow=1.5,SNR=24							
HNR				S	**Sn**	**20 28 17.3**	**-4.5**
11nm,0.3s,baz=186,slow=19,SNR=1.7							
HNR				LR	LR	20 28 55.9	
comp=Z,208nm,21.1s,baz=118,slow=30							
HNR	**Honiara**	**6.60**	**285**	*e*Pn	**Pn**	**20 27 06.8**	**-1.2**
DZM	**Mont Dzumac**	**10.74**	**180**	*e*Pn	**Pn**	**20 28 06.3**	**+2.0**
22nm,0.2s							
DZM				*e*Sn	**Sn**	**20 29 59.1**	**-3.6**
6.9nm,0.3s							
DZM				*e*LR	LR	20 30 45.8	
706nm,26.6s							
DZM	**Mont Dzumac**	**10.74**	**180**	*e*P	**Pn**	**20 28 05.9**	**+1.5**
DZM	**Mont Dzumac**	**10.74**	**180**	*e*Pn	**Pn**	**20 28 02.1**	**-2.2**
23nm,0.5s							
DZM				*e*Sn	**Sn**	**20 30 02.7**	**0.0**
NOUC	**Port Laguerre**	**10.77**	**180**	*e*P	**Pn**	**20 28 07.0**	**+2.2**
NOUC				*e*S	**Sn**	**20 30 03.4**	**0.0**
PMG	**Port Moresby**	**19.02**	**274**	P	**Pn**	**20 29 49.6**	**-0.1**
0.8nm,0.3s,baz=89,slow=5.0,SNR=5.2							
PMG	**Port Moresby**	**19.02**	**274**	P	**Pn**	**20 29 49.6**	**-0.1**
1.3nm,1.1s							
EIDS	**Eidsvold**	**20.17**	**224**	*e*P	**P**	**20 29 59.4**	**-1.0**
62nm,0.7s							
CTA	**Charters Tower**	**21.26**	**243**	P	**P**	**20 30 13.5**	**+1.2**
13nm,0.7s,mb4.4,baz=70,slow=10,SNR=16							
CTA				LR	LR	20 36 50.2	
comp=Z,134nm,21.2s,baz=68,slow=32							
CTA	**Charters Tower**	**21.26**	**243**	*e*P	**P**	**20 30 12.8**	**+0.6**
CTA	**Charters Tower**	**21.26**	**243**	P	**P**	**20 30 13.5**	**+1.2**
CTAO	**Charters Tower**	**21.26**	**243**	*e*P	**P**	**20 30 11.7**	**-0.6**
COEN	**Coen**	**22.82**	**261**	*e*P	**P**	**20 30 29.5**	**+0.8**
116nm,1.4s,mb5.0							
ARMA	**Armidale**	**23.48**	**214**	⇑*i*P	**P**	**20 30 36.9**	**+2.3**
ARMA	**Armidale**	**23.48**	**214**	*e*P	**P**	**20 30 34.5**	**-0.1**
OUZ	**Omahuta**	**24.73**	**166**	*e*P	**P**	**20 30 45.2**	**-0.7**
URZ	**Urewera**	**28.54**	**162**	LR	LR	20 39 32.3	
comp=Z,61nm,18.5s,baz=333,slow=30							
STKA	**Stephens Creek**	**30.72**	**224**	P	**P**	**20 31 41.0**	**+1.4**
1.9nm,0.5s,mb4.1,baz=53,slow=5.9,SNR=4.8							
STKA				LR	LR	20 41 15.2	
comp=Z,127nm,21.7s,baz=27,slow=31							
STKA	**Stephens Creek**	**30.72**	**224**	*e*P	**P**	**20 31 41.1**	**+1.5**
STKA	**Stephens Creek**	**30.72**	**224**	*e*P	**P**	**20 31 39.6**	**0.0**
5.3nm,1.6s,mb4.0							
WB2	**Warramunga Arr**	**32.00**	**250**	*e*P	**P**	**20 31 51.2**	**+0.2**
WRAB	**Tennant Creek**	**32.00**	**250**	*e*P	**P**	**20 31 50.7**	**-0.2**
40nm,1.4s,mb5.0							
WRAB	**Tennant Creek**	**32.00**	**250**	P	**P**	**20 31 50.3**	**-0.6**
85nm,1.2s,mb5.3,SNR=9.1							
WRA	**Warramunga Arr**	**32.01**	**250**	P	**P**	**20 31 50.9**	**-0.1**
8.9nm,0.8s,mb4.5,baz=82,slow=9.0,SNR=49							
WRA				pP	pP	20 32 10.0	-2.6
2.6nm,0.7s,baz=83,slow=9.0,SNR=3.2							
WRA	**Warramunga Arr**	**32.01**	**250**	P	**P**	**20 31 50.9**	**-0.1**
WRA				pP	pP	20 32 10.0	-2.6
RPZ	**Rata Peaks**	**32.58**	**174**	P	**P**	**20 31 54.3**	**-1.4**
8.1nm,0.8s,mb4.6,baz=176,slow=16,SNR=5.1							
RPZ				LR	LR	20 41 50.3	
comp=Z,97nm,18.6s,baz=353,slow=30							
RPZ	**Rata Peaks**	**32.58**	**174**	P	**P**	**20 31 54.3**	**-1.4**
AS31	**Alice Springs**	**33.26**	**244**	*e*P	**P**	**20 32 01.4**	**-0.5**
ASAR	**Alice Springs**	**33.27**	**244**	P	**P**	**20 32 01.5**	**-0.5**
4.0nm,0.7s,mb4.4,baz=66,slow=9.7,SNR=81							
ASAR				pP	pP	20 32 20.4	-3.3
2.2nm,0.8s,baz=73,slow=9.3,SNR=6.7							
ASAR				PcP	PcP	20 34 43.0	+0.6
1.6nm,1.0s,baz=84,slow=2.4,SNR=5.0							
ASAR				pPcP		20 35 04.2	
1.1nm,0.8s,baz=82,slow=2.4,SNR=5.8							
ASAR	**Alice Springs**	**33.27**	**244**	P	**P**	**20 32 01.5**	**-0.5**
ASAR				pP	pP	20 32 20.4	-3.3
ASAR				PcP	PcP	20 34 43.0	+0.6
ASAR				pPcP		20 35 04.2	
FITZ	**Fitzroy Crossi**	**39.94**	**255**	*e*P	**P**	**20 32 58.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**39.94**	**255**	*e*P	**P**	**20 32 58.5**	**-0.2**
8.7nm,0.6s,mb4.8							
PPT2	**Papeete2**	**43.02**	**104**	*e*LR	LR	20 45 28.7	
72nm,29.5s							
CBIJ	**Chichi jima**	**44.79**	**329**	LR	LR	20 49 18.8	
comp=Z,71nm,21.5s,baz=238,slow=32							
MBWA	**Marble Bar**	**45.73**	**251**	*e*P	**P**	**20 33 46.1**	**+0.6**
40nm,1.4s,mb5.0							
CMAR	**Chiang Mai Arr**	**72.78**	**293**	P	**P**	**20 36 53.2**	**+1.1**
1.6nm,1.0s,mb3.8,baz=107,slow=4.4,SNR=7.8							
CMAR				pP	pP	20 37 12.7	-3.9
0.8nm,0.8s,baz=118,slow=5.0,SNR=3.1							
CMAR	**Chiang Mai Arr**	**72.78**	**293**	P	**P**	**20 36 53.2**	**+1.1**
CMAR				pP	pP	20 37 12.7	-3.9
SONM	**Songino Array**	**79.22**	**324**	P	**P**	**20 37 28.8**	**+0.8**
0.9nm,1.0s,mb3.5,baz=138,slow=3.4,SNR=4.5							
SONM	**Songino Array**	**79.22**	**324**	P	**P**	**20 37 28.8**	**+0.8**
ILAR	**Eielson Array**	**83.52**	**18**	P	**P**	**20 37 51.0**	**+0.7**
0.5nm,0.5s,mb3.6,baz=232,slow=4.4,SNR=7.7							
ILAR				pP	pP	20 38 12.2	-3.2
1.1nm,0.9s,baz=233,slow=5.9,SNR=3.7							
ILAR				LR	LR	21 13 11.8	
comp=Z,50nm,18.5s,baz=320,slow=34							
ILAR	**Eielson Array**	**83.52**	**18**	P	**P**	**20 37 51.0**	**+0.7**
ILAR				pP	pP	20 38 12.2	-3.2
NVAR	**Mina Array Bea**	**85.68**	**50**	pP	pP	20 38 25.2	-1.8
2.6nm,0.8s,baz=233,slow=7.3,SNR=10							
NVAR	**Mina Array Bea**	**85.68**	**50**	pP	pP	20 38 25.2	-1.8
ZALV	**Zalesovo Beam**	**94.11**	**324**	P	**P**	**20 38 39.7**	**-1.4**
0.2nm,0.4s,mb3.8,baz=121,slow=6.9,SNR=4.5							
ZALV				pP	pP	20 39 01.7	-4.8
0.7nm,0.7s,baz=90,slow=4.4,SNR=2.9							
ZALV	**Zalesovo Beam**	**94.11**	**324**	P	**P**	**20 38 39.7**	**-1.4**
ZALV				pP	pP	20 39 01.7	-4.8
MKAR	**Makanchi Array**	**94.12**	**317**	P	**P**	**20 38 41.9**	**+0.5**
1.2nm,0.8s,mb4.3,baz=90,slow=6.1,SNR=10							
MKAR				pP	pP	20 39 02.6	-4.1
1.8nm,0.8s,baz=100,slow=6.1,SNR=9.5							
MKAR	**Makanchi Array**	**94.12**	**317**	P	**P**	**20 38 41.9**	**+0.5**
MKAR				pP	pP	20 39 02.6	-4.1
YKA	**Yellowknife Ar**	**94.88**	**27**	P	**P**	**20 38 43.9**	**-0.6**
0.1nm,0.4s,mb3.6,baz=259,slow=4.7,SNR=4.0							
YKA				pP	pP	20 39 05.9	-3.9
0.2nm,0.6s,baz=255,slow=5.0,SNR=3.1							
YKA	**Yellowknife Ar**	**94.88**	**27**	P	**P**	**20 38 43.9**	**-0.6**
YKA				pP	pP	20 39 05.9	-3.9
ESDC	**Sonseca Array**	**150.44**	**345**	PKPbc	PKPbc	20 45 15.6	+1.3
0.5nm,0.7s,baz=349,slow=3.1,SNR=3.5							
ESDC	**Sonseca Array**	**150.44**	**345**	PKPbc	PKPbc	20 45 15.6	+1.3
TORD	**Torodi Ar. Bea**	**164.93**	**279**	PKPab	PKPab	20 46 24.9	+0.6
0.5nm,1.0s,baz=72,slow=4.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**164.93**	**279**	PKPab	PKPab	20 46 24.9	+0.6

*NEIC **28** 20:31:12.7,37°.50S×177°.33E,h131km,MG3.8(WEL), After WEL.*
WEL 28 20:31:13.1±0.2,37°.52S×177°.34E,h128km±1km,ML3.7/7, 4C-1D,Error ellipse: s-maj=1.6km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.12**	**265**	PN	Pn	20 31 30.4	-0.1
WIZ	**White Island**	**0.12**	**265**	Pn	Pn	20 31 30.4	-0.1
OPRZ	**Ohinepanea**	**0.70**	**242**	PN	Pn	20 31 33.2	-0.1
OPRZ				SN	Sn	20 31 48.7	+0.2
OPRZ	**Ohinepanea**	**0.70**	**242**	Pn	Pn	20 31 33.2	-0.1
OPRZ				Sn	Sn	20 31 48.8	+0.3
EDRZ	**Edgecumbe**	**0.76**	**219**	PN	Pn	20 31 33.9	+0.2
EDRZ	**Edgecumbe**	**0.76**	**219**	Pn	Pn	20 31 33.9	+0.2
URZ	**Urewera**	**0.76**	**193**	⇑PN	Pn	20 31 33.5	-0.2
URZ				SN	Sn	20 31 49.4	0.0
URZ	**Urewera**	**0.76**	**193**	Pn	Pn	20 31 33.5	-0.2
MXZ	**Matakaoa Point**	**0.77**	**94**	⇑PN	Pn	20 31 33.6	-0.2
MXZ				SN	Sn	20 31 50.2	+0.7
MXZ	**Matakaoa Point**	**0.77**	**94**	Pn	Pn	20 31 33.6	-0.2
MWZ	**Matawai**	**0.83**	**169**	⇑PN	Pn	20 31 34.3	0.0
MWZ				SN	Sn	20 31 50.9	+0.5
MWZ	**Matawai**	**0.83**	**169**	Pn	Pn	20 31 34.3	0.0
PUZ	**Puketiti**	**0.92**	**127**	⇑PN	Pn	20 31 34.8	-0.2
PUZ				SN	Sn	20 31 50.9	-0.8
PUZ	**Puketiti**	**0.92**	**127**	Pn	Pn	20 31 34.8	-0.2
TARZ	**Mount Tarawera**	**0.97**	**222**	PN	Pn	20 31 36.1	+0.6
TARZ	**Mount Tarawera**	**0.97**	**222**	Pn	Pn	20 31 36.1	+0.6
CNGZ	**Carnagh Statio**	**1.19**	**145**	PN	Pn	20 31 38.0	+0.4
CNGZ	**Carnagh Statio**	**1.19**	**145**	Pn	Pn	20 31 38.0	+0.4
ALRZ	**Allen Road**	**1.30**	**217**	PN	Pn	20 31 39.0	+0.2
ALRZ	**Allen Road**	**1.30**	**217**	Pn	Pn	20 31 39.0	+0.2
RAHZ	**Arahi**	**1.41**	**188**	PN	Pn	20 31 40.1	0.0
RAHZ	**Arahi**	**1.41**	**188**	Pn	Pn	20 31 40.1	0.0
PRGZ	**Paritu Road**	**1.47**	**163**	PN	Pn	20 31 40.5	-0.2
PRGZ	**Paritu Road**	**1.47**	**163**	Pn	Pn	20 31 40.5	-0.1
TOZ	**Tahuroa Road**	**1.47**	**261**	PN	Pn	20 31 41.1	+0.4
TOZ	**Tahuroa Road**	**1.47**	**261**	Pn	Pn	20 31 41.1	+0.4
TOZ				Sn	Sn	20 31 42.9	-19
KNZ	**Kokohu**	**1.52**	**170**	PN	Pn	20 31 40.9	-0.5
KNZ	**Kokohu**	**1.52**	**170**	Pn	Pn	20 31 40.9	-0.4
NMHZ	**Naumai**	**1.63**	**195**	PN	Pn	20 31 42.9	+0.3
NMHZ	**Naumai**	**1.63**	**195**	Pn	Pn	20 31 42.9	+0.3
MHGZ	**Mahia Peninsul**	**1.69**	**165**	PN	Pn	20 31 43.2	-0.1
MHGZ	**Mahia Peninsul**	**1.69**	**165**	Pn	Pn	20 31 43.2	-0.1
BKZ	**Black Stump Fm**	**1.77**	**202**	PN	Pn	20 31 43.7	-0.6
BKZ	**Black Stump Fm**	**1.77**	**202**	Pn	Pn	20 31 43.7	-0.6
MKAZ	**Moumakai**	**1.78**	**283**	⇓PN	Pn	20 31 44.7	+0.5
MKAZ	**Moumakai**	**1.78**	**283**	Pn	Pn	20 31 44.4	+0.2
MCHZ	**McNeill Hill**	**1.99**	**194**	PN	Pn	20 31 46.4	-0.4
MCHZ	**McNeill Hill**	**1.99**	**194**	Pn	Pn	20 31 46.4	-0.4
OTVZ	**Oturere**	**2.10**	**218**	PN	Pn	20 31 48.2	0.0
OTVZ	**Oturere**	**2.10**	**218**	Pn	Pn	20 31 48.2	0.0
CKHZ	**Cape Kidnapper**	**2.15**	**185**	PN	Pn	20 31 47.8

DEMI			*i* S		**Sg**	**20 34 21.1**	**-0.7**
DEMI	**Demirci**	**1.22 341**	*i* P		**Pg**	**20 34 05.3**	**-0.6**
DEMI			*i* S		**Sg**	**20 34 21.1**	**-0.7**
ELL	**Elmali**	**1.26 154**	*e*PN		**Pn**	**20 34 06.8**	**-0.4**
ELL	**Elmali**	**1.26 154**	*e*Pn		**Pn**	**20 34 06.8**	**-0.4**
AKHS	**Akhisar**	**1.49 312**	*i* P		**Pn**	**20 34 09.3**	**-1.0**
AKHS			*i* S		**Sb**	**20 34 31.7**	**+1.5**
AKHS	**Akhisar**	**1.49 312**	*i* P		**Pn**	**20 34 09.3**	**-1.0**
AKHS			*i* S		**Sb**	**20 34 31.7**	**+1.5**
BOLV	**Bolvadin**	**1.60 58**	*i* P		**Pn**	**20 34 12.1**	**+0.2**
BOLV			*i* S		**Sn**	**20 34 37.6**	**+4.6**
BOLV	**Bolvadin**	**1.60 58**	*i* P		**Pn**	**20 34 12.1**	**+0.3**
BOLV			*i* S		**Sn**	**20 34 37.7**	**+4.6**
BODT	**Bodrum**	**1.73 242**	*e*PN		**Pn**	**20 34 13.1**	**-0.5**
BODT	**Bodrum**	**1.73 242**	*e*Pn		**Pn**	**20 34 13.1**	**-0.5**
DAT	**Datca**	**1.74 229**	*e*PN		**Pn**	**20 34 13.6**	**-0.2**
DAT	**Datca**	**1.74 229**	*e*Pn		**Pn**	**20 34 13.6**	**-0.2**
BLCB	**Balcova**	**1.79 287**	*e*PN		**Pn**	**20 34 13.8**	**-0.6**
BLCB	**Balcova**	**1.79 287**	*e*Pn		**Pn**	**20 34 13.8**	**-0.7**
KIZT	**Kizilcal**	**2.32 64**	*e*PN		**Pn**	**20 34 22.9**	**+1.1**
KIZT	**Kizilcal**	**2.32 64**	*e*Pn		**Pn**	**20 34 22.9**	**+1.2**
GONE	**Gonen-Balikesi**	**2.47 332**	*e*PN		**Pn**	**20 34 24.2**	**+0.3**
GONE	**Gonen-Balikesi**	**2.47 332**	*e*Pn		**Pn**	**20 34 24.2**	**+0.4**

KRSC 28 20:49:00.3±1.5, 54°.20N×160°.09E, h126km±55km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**1.09**	**2**	*i* P	Pn	20 49 25.0	+1.4
SPN	**Mys Shipunski**	**1.10**	**182**	*i* P	Pn	20 49 25.2	+1.4
SPN				*i* S	Sn	20 49 43.4	+1.7
NLC	**Nalytchevo**	**1.12**	**204**	*e*P	Pn	20 49 25.1	+1.1
NLC				*i* S	Sn	20 49 43.3	+1.3
AVH	**Avacha**	**1.23**	**221**	*i* P	Pn	20 49 26.4	+1.2
KOK	**Koryaka**	**1.25**	**224**	*e*P	Pn	20 49 26.4	+1.0
PET	**Petropavlovsk**	**1.46**	**217**	*e*P	Pn	20 49 28.1	+0.5
KMNR	**Kamenistaya**	**1.56**	**3**	P	Pn	20 49 29.6	+0.9
BKI	**Bering**	**3.56**	**71**	P	Pn	20 49 56.2	+2.2
BKI				*i* S	Sn	20 50 36.5	+0.9

IDC 28 20:51:08.3±3.7, 4°.03S×152°.54E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/14, mbtmp3.3/2, Error ellipse: s-maj=162.2km s-min=49.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**227**	P	P	20 56 23.6	+0.8
	0.7nm,0.4s,baz=52,slow=9.6,SNR=19						
ASAR	**Alice Springs**	**26.55**	**221**	P	P	20 56 47.7	-0.3
	0.1nm,0.4s,baz=56,slow=8.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.81**	**289**	PKPbc	PKPbc	21 11 00.7	-0.8
	0.2nm,0.3s,baz=59,slow=2.2,SNR=4.7						

*NEIC **28** 20:54:15.8, 19°.49N×66°.38W, h67km, MD3.4(RSPR), After RSPR.*

RSPR 28 20:54:15.8, 19°.49N×66°.38W, h67km±13km, MD3.4/6, 12C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.19 197**	⇓	*e*P	Pn	20 54 35.7	-0.8
AOPR	**Arecibo Observ**	**1.19 197**	⇓	*e*P	Pn	20 54 35.7	-0.8
AOPR				*e*S	Sn	20 54 51.2	-0.8
AGPR	**Aguadilla, PR**	**1.22 214**		*e*Pn	Pn	20 54 36.3	-0.7
AGPR				*e*Sn	Sn	20 54 53.0	+0.2
LRS	**Lares**	**1.27 200**		*e*Pn	Pn	20 54 36.5	-1.0
CBYP	**Canovanas**	**1.31 157**	⇑	*e*P	Pn	20 54 37.0	-1.1
CBYP	**Canovanas**	**1.31 157**	⇑	*e*P	Pn	20 54 37.0	-1.1
CBYP				*e*S	Sn	20 54 54.7	-0.1
SJG	**San Juan**	**1.38 171**	⇓	*i* P	Pn	20 54 38.0	-1.1
SJG	**San Juan**	**1.38 171**	⇓	*i* P	Pn	20 54 38.0	-1.1
CELP	**Cerrillos**	**1.42 188**	⇓	*e*P	Pn	20 54 38.8	-0.7
CELP	**Cerrillos**	**1.42 188**	⇓	*e*P	Pn	20 54 38.8	-0.7
CELP				*e*Sn	Sn	20 54 58.6	+1.3
HUMP	**Col San Antoni**	**1.43 159**	⇓	*e*P	Pn	20 54 38.5	-1.2
HUMP	**Col San Antoni**	**1.43 159**	⇓	*e*P	Pn	20 54 38.5	-1.2
HUMP				*e*S	Sn	20 54 57.1	-0.6
OBIP	**Obispado Ponce**	**1.45 188**		*e*Pn	Pn	20 54 39.2	-0.8
OBIP				*e*Sn	Sn	20 55 01.1	+3.0
LSP	**Las Mesas**	**1.46 207**	⇑	*e*P	Pn	20 54 40.1	0.0
LSP	**Las Mesas**	**1.46 207**	⇑	*e*P	Pn	20 54 40.1	0.0
LSP				*e*Sn	Sn	20 55 00.4	+1.9
CPD	**Cerro la Pandu**	**1.51 163**	⇓	*e*P	Pn	20 54 40.1	-0.7
CPD	**Cerro la Pandu**	**1.51 163**	⇓	*e*P	Pn	20 54 40.1	-0.7
CPD				*e*S	Sn	20 54 59.1	-0.5
ICM	**Isla Caja Muer**	**1.59 185**	⇑	*e*P	Pn	20 54 41.8	-0.1
ICM	**Isla Caja Muer**	**1.59 185**	⇑	*e*P	Pn	20 54 41.8	-0.1
ICM				*e*Sn	Sn	20 55 00.8	-0.7
MTP	**Monte Pirata**	**1.59 150**	⇑	*e*P	Pn	20 54 40.9	-1.0
MTP	**Monte Pirata**	**1.59 150**	⇑	*e*P	Pn	20 54 40.9	-1.0
MTP				*e*S	Sn	20 55 00.8	-0.7
CRPR	**Cabo Rojo, PR**	**1.62 205**		*e*Pn	Pn	20 54 42.9	+0.6
STVI	**Saint Thomas**	**1.76 130**	⇑	*e*P	Pn	20 54 43.7	-0.5
STVI	**Saint Thomas**	**1.76 130**	⇑	*e*P	Pn	20 54 43.7	-0.5
STVI				*e*S	Sn	20 55 05.2	-0.4
STVI				*e*Sn	Sn	20 55 05.5	-0.1
TBVI	**Tortola**	**1.98 122**	⇑	*e*P	Pn	20 54 47.0	-0.1
TBVI				*e*S	Sn	20 55 10.2	-0.8
TBVI	**Tortola**	**1.98 122**	⇑	*e*P	Pn	20 54 47.0	-0.1
TBVI				*e*S	Sn	20 55 10.2	-0.8
SDDR	**Presa de Saban**	**4.66 265**		*e*Pn	Pn	20 55 23.5	-0.2

*DDA **28** 21:04:16.4, 37°.85N×29°.27E, h7km±6km, Md2.9*
*ISK **28** 21:04:18.2, 37°.96N×29°.24E, h13km, MD2.6*
*CSEM **28** 21:04:18.6±0.2, 37°.95N×29°.23E, h19km±2km, MD2.9, Error ellipse: s-maj=4.6km s-min=3.6km az=51.0*
*ISCJB **28** 21:04:19.3±0.6, 37°.94N±0°.03×29°.22E±0°.05, h19km±10km, Error ellipse: s-maj=6.9km s-min=5.3km az=162.3*

ISC 28 21:04:18.9±0.6, 37°.94N±0°.03×29°.23E±0°.05, h18km±5km, n17, σ0°.55/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.24**	**219**	*e*PG	**Pg**	**21 04 24.9**	**+0.4**
DENT				*e*SG	**Sg**	**21 04 28.3**	**-0.1**
DENT	**Denizli**	**0.24**	**219**	*e*Pg	**Pg**	**21 04 24.9**	**+0.4**
DENT				*e*Sg	**Sg**	**21 04 28.3**	**-0.1**
KHAL	**Karahalli**	**0.47**	**26**	*i* P	**Pg**	**21 04 23.6**	**-5.0**
KHAL				*i* S	**Sg**	**21 04 35.1**	**0.0**
KULA	**Kula-Manisa**	**0.72**	**322**	*e*PG	**Pg**	**21 04 32.7**	**-0.4**
KULA				*e*SG	**Sg**	**21 04 42.8**	**0.0**
KULA	**Kula-Manisa**	**0.72**	**322**	*e*Pg	**Pg**	**21 04 32.7**	**-0.4**
KULA				*e*Sg	**Sg**	**21 04 42.8**	**0.0**
MANT	**Manisa**	**0.76**	**316**	*i* P	**Pb**	**21 04 33.8**	**+0.2**
MANT				*i* S	**Sb**	**21 04 44.4**	**+0.9**
MANT	**Manisa**	**0.76**	**316**	*i* P	**Pb**	**21 04 33.8**	**+0.3**
MANT				*i* S	**Sb**	**21 04 44.4**	**+0.9**
GLHS	**Glhisar (BURDU**	**0.81**	**165**	*e*PG	**Pg**	**21 04 35.0**	**+0.1**
GLHS				*e*SG	**Sg**	**21 04 46.1**	**+0.5**
GLHS	**Glhisar (BURDU**	**0.81**	**165**	*e*Pg	**Pg**	**21 04 35.0**	**+0.2**
GLHS				*e*Sg	**Sg**	**21 04 46.1**	**+0.5**
ISP	**Isparta**	**1.03**	**96**	*e*PG	**Pg**	**21 04 38.0**	**-0.9**
ISP	**Isparta**	**1.03**	**96**	*e*Pg	**Pg**	**21 04 38.0**	**-0.9**
YER	**Yerkesik**	**1.10**	**223**	*e*PN	**Pn**	**21 04 39.3**	**-0.1**
YER	**Yerkesik**	**1.10**	**223**	*e*Pn	**Pn**	**21 04 39.3**	**0.0**
AYDN	**Tasoluk**	**1.10**	**256**	*i* P	**Pn**	**21 04 38.1**	**-1.2**
AYDN				*i* S	**Sb**	**21 04 53.2**	**-0.2**
AYDN	**Tasoluk**	**1.10**	**256**	*i* P	**Pn**	**21 04 38.1**	**-1.3**
AYDN				*i* S	**Sb**	**21 04 53.2**	**-0.2**
BCK	**Bucak**	**1.18**	**114**	*e*PN	**Pn**	**21 04 41.0**	**+0.6**
BCK	**Bucak**	**1.18**	**114**	*e*Pn	**Pn**	**21 04 41.1**	**+0.6**

*IDC **28** 21:06:48.4±1.9, 5°.13S×151°.38E, h120km±14km, mb3.8/11, mb1 4.0/12, mb1mx3.8/16, mbtmp3.8/12, Error ellipse: s-maj=33.2km s-min=10.8km az=122.0*
*ISCJB **28** 21:06:50.9±2.2, 5°.16S±0°.10×151°.2E±0°.1, h155km±20km, mb3.9/15, Error ellipse: s-maj=22.3km s-min=14.7km az=24.3*
*NEIC **28** 21:06:51.2±1.6, 5°.15S×151°.30E, h146km±15km, mb4.1/6, Error ellipse: s-maj=15.0km s-min=10.1km az=105.0*

ISC 28 21:06:50.0±1.9, 5°.12S±0°.09×151°.3E±0°.1, h134km±16km, n36, σ0°.80/39, mb3.9/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.93**	**224**	P	**Pn**	**21 08 16.3**	**+0.7**
	6.7nm,0.3s,baz=56,slow=6.5,SNR=17						
PMG				S	**Sn**	**21 09 22.0**	**-0.5**
	48nm,0.3s,baz=256,slow=23,SNR=25						
PMG	**Port Moresby**	**5.93**	**224**	*e*Pn	**Pn**	**21 08 16.3**	**+0.6**
	107nm,0.9s						
PMG				*e*Sn	**Sn**	**21 09 22.3**	**-0.2**
COEN	**Coen**	**11.90**	**222**	*e*Pn	**Pn**	**21 09 36.6**	**+1.1**
COEN				*e*Sn	**Sn**	**21 11 42.6**	**-4.1**
CTAO	**Charters Tower**	**15.68**	**198**	*e*P	**Pn**	**21 10 23.5**	**-0.1**
WRAB	**Tennant Creek**	**22.13**	**227**	*e*P	**P**	**21 11 34.6**	**-0.2**
	8.0nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**22.13**	**227**	*e*P	**P**	**21 11 35.0**	**+0.1**
WRA	**Warramunga Arr**	**22.14**	**227**	P	**P**	**21 11 34.8**	**-0.2**
	3.7nm,0.5s,mb4.1,baz=49,slow=10,SNR=50						
WRA				pP		21 11 56.9	
	2.1nm,0.4s,baz=52,slow=9.9,SNR=7.8						
WRA				S	**S**	**21 15 32.4**	**+2.6**
	1.2nm,0.9s,baz=44,slow=19,SNR=3.5						
WRA				ScP	ScP	21 18 53.3	+1.0
	1.3nm,0.8s,baz=51,slow=2.8,SNR=15						
WRA	**Warramunga Arr**	**22.14**	**227**	P	**P**	**21 11 34.8**	**-0.2**
WRA				pP		21 11 56.9	
WRA				S	**S**	**21 15 32.4**	**+2.6**
WRA				ScP	ScP	21 18 53.3	+1.0
AS31	**Alice Springs**	**24.94**	**221**	*e*P	**P**	**21 12 00.5**	**-0.4**
ASAR	**Alice Springs**	**24.94**	**221**	P	**P**	**21 12 01.1**	**+0.2**
	2.1nm,0.3s,mb4.1,baz=57,slow=8.7,SNR=44						
ASAR				ScP	ScP	21 19 01.6	+1.8
	0.5nm,0.6s,baz=31,slow=2.5,SNR=6.9						
ASAR	**Alice Springs**	**24.94**	**221**	P	**P**	**21 12 01.1**	**+0.2**
ASAR				ScP	ScP	21 19 01.6	+1.8
ARMA	**Armidale**	**25.17**	**179**	P	**P**	**21 12 02.8**	**-0.1**
STKA	**Stephens Creek**	**28.14**	**198**	P	**P**	**21 12 28.2**	**-1.3**
	2.3nm,0.7s,mb4.0,baz=4.8,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**28.14**	**198**	*e*P	**P**	**21 12 28.6**	**-0.9**
	0.5nm,0.7s,mb3.4						
FITZ	**Fitzroy Crossi**	**28.22**	**241**	P	**P**	**21 12 29.6**	**-0.8**
	4.8nm,0.4s,mb4.6,baz=81,slow=7.0,SNR=22						
FITZ	**Fitzroy Crossi**	**28.22**	**241**	*e*P	**P**	**21 12 30.7**	**+0.3**
	4.8nm,0.5s,mb4.5						
MBWA	**Marble Bar**	**34.54**	**240**	*e*P	**P**	**21 13 25.8**	**0.0**
	4.3nm,0.3s,mb4.6						
KKM	**Kota Kinabalu**	**36.76**	**287**	*e*P	**P**	**21 13 44.3**	**-0.6**
PETK	**Petropavlovsk-**	**58.25**	**5**	P	**P**	**21 16 29.6**	**-0.6**
	5.2nm,0.9s,mb4.3,baz=157,slow=6.8,SNR=6.2						
PETK	**Petropavlovsk-**	**58.25**	**5**	P	**P**	**21 16 29.6**	**-0.6**
SONM	**Songino Array**	**65.81**	**329**	P	**P**	**21 17 22.6**	**+1.8**
	1.1nm,0.6s,mb3.9,baz=148,slow=4.8,SNR=11						
SONM	**Songino Array**	**65.81**	**329**	P	**P**	**21 17 22.6**	**+1.8**
MKAR	**Makanchi Array**	**79.60**	**319**	P	**P**	**21 18 41.8**	**-0.5**
	0.2nm,0.5s,mb3.0,baz=100,slow=7.0,SNR=7.2						
MKAR	**Makanchi Array**	**79.60**	**319**	P	**P**	**21 18 41.8**	**-0.5**
ZALV	**Zalesovo Beam**	**80.60**	**327**	P	**P**	**21 18 47.3**	**-0.2**
	0.6nm,0.4s,mb3.5,baz=116,slow=5.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**80.60**	**327**	P	**P**	**21 18 47.3**	**-0.2**
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**	**21 18 59.0**	**-0.9**
	1.6nm,0.6s,mb3.9,baz=251,slow=5.2,SNR=32						
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**	**21 18 59.0**	**-0.9**
TKM2	**Tokmak 2**	**83.09**	**314**	*e*P	**P**	**21 19 01.0**	**+0.2**
	0.7nm,0.5s,mb3.6						
KURK	**Kurchatov**	**83.11**	**322**	*e*P	**P**	**21 19 00.4**	**-0.3**
	0.6nm,0.3s,mb3.8						
NVAR	**Mina Array Bea**	**93.44**	**52**	P	**P**	**21 19 52.5**	**+2.0**
	0.9nm,0.6s,mb4.0,baz=279,slow=5.2,SNR=6.5						
NVAR	**Mina Array Bea**	**93.44**	**52**	P	**P**	**21 19 52.5**	**+2.0**
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**21 20 03.1**	**-0.3**
	0.2nm,0.5s,mb3.7,baz=268,slow=5.0,SNR=5.4						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**21 20 03.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**149.00**	**287**	PKPbc	PKPbc	21 26 23.4	+0.1
	1.8nm,0.7s,baz=69,slow=2.6,SNR=13						
TORD	**Torodi Ar. Bea**	**149.00**	**287**	PKPbc	PKPbc	21 26 23.4	+0.1

*ISCJB **28** 21:28:23.7±0.4, 32°.67N±0°.02×47°.70E±0°.05, h10km, Error ellipse: s-maj=5.6km s-min=3.3km az=171.7*
*KISR **28** 21:28:23.4±0.9, 32°.71N×47°.99E, h44km±999km, ML2.8*
*TEH **28** 21:28:24.8, 32°.61N×47°.64E, h9km*
*CSEM **28** 21:28:24.1±0.1, 32°.64N×47°.63E, h2km, ML2.8, Error ellipse: s-maj=10.4km s-min=2.6km az=94.0*

ISC 28 21:28:25.1±0.4, 32°.66N±0°.02×47°.69E±0°.04, h10km, n20, σ0°.79/32, 3C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.52**	**354**	*e*Pg	**Pg**	**21 28 52.2**	**-2.0**
IKOM				*e*Sg	**Sg**	**21 29 13.9**	**0.0**
IKOM				*e*		21 29 20.6	
	comp=Z,3μm,0.2s						
IGHG	**Ghaleghazi**	**1.91**	**331**	⇑ *e*Pn	**Pn**	**21 28 58.2**	**+0.5**
IGHG				*e*Sg	**Sg**	**21 29 25.4**	**-1.1**
IGHG				*e*		21 29 33.2	
	comp=Z,2μm,0.4s						
IVIS	**Veis**	**1.99**	**340**	*e*Pn	**Pn**	**21 28 58.7**	**0.0**
IVIS				*e*		21 29 33.8	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**2.31**	**332**	*e*Pn	**Pn**	**21 29 03.0**	**-0.1**
IDHR				*e*		21 29 43.4	
	comp=Z,2μm,0.1s						
ILIN	**Lien**	**2.33**	**345**	*e*	**Pb**	**21 29 10.5**	**+3.3**
	comp=Z,913nm,0.1s						
ILIN				*e*Pn	**Pn**	**21 29 03.8**	**+0.3**
SNGE	**Sanandaj**	**2.44**	**353**	*e*Pn	**Pn**	**21 29 05.5**	**+0.5**
SNGE				*e*Sg	**Sg**	**21 29 43.2**	**-0.4**
IPIR	**Pirpir**	**2.70**	**89**	*e*	**Sg**	**21 29 50.5**	**-1.3**
	comp=Z,546nm,0.2s						
IPIR				*e*Pn	**Pn**	**21 29 09.3**	**+0.8**
IPIR				*e*Sg	**Sg**	**21 29 50.6**	**-1.3**
ASAO	**Ashtian**	**2.71**	**45**	*e*Pn	**Pn**	**21 29 09.8**	**+1.1**
MIB	**Mutribah**	**2.86**	**186**	*e*P	**Pn**	**21 29 10.5**	**-0.3**
MIB				*e*S	**Sn**	**21 29 45.5**	**+0.2**
MIB				AML	AML	21 29 48.3	
	comp=Z,15nm,0.5s						
MIB	**Mutribah**	**2.86**	**186**	*e*P	**Pn**	**21 29 10.5**	**-0.3**
MIB				*e*S	**Sn**	**21 29 45.5**	**+0.2**
IKLH	**Kolahrood**	**3.33**	**78**	*e*Pn	**Pn**	**21 29 17.8**	**+0.6**
IKLH				*e*Sn	**Sn**	**21 29 56.6**	**-0.3**
IKLH				*e*		21 30 18.0	
	comp=Z,356nm,0.2s						
NAY	**Al-Naaiem**	**3.42**	**187**	*e*P	**Pn**	**21 29 18.0**	**-0.5**
NAY	**Al-Naaiem**	**3.42**	**187**	*e*P	**Pn**	**21 29 18.0**	**-0.5**
RDF	**Al-Radifah**	**3.72**	**182**	*e*P	**Pn**	**21 29 22.8**	**+0.2**
RDF				*e*S	**Sn**	**21 30 07.0**	**+0.4**
RDF				AML	AML	21 30 10.4	
	comp=Z,15nm,0.5s						
RDF	**Al-Radifah**	**3.72**	**182**	*e*P	**Pn**	**21 29 22.8**	**+0.2**
RDF				*e*S	**Sn**	**21 30 07.0**	**+0.5**
QRN	**Al-Qurain**	**3.91**	**177**	*e*P	**Pn**	**21 29 24.5**	**-0.7**
QRN				*e*S	**Sn**	**21 30 10.3**	**-0.8**
QRN				AML	AML	21 30 13.9	
	comp=Z,24nm,0.3s						
IZEF	**Zefreh**	**3.92**	**85**	⇑ *e*Pn	**Pn**	**21 29 25.8**	**+0.6**
IZEF				*e*		21 29 41.0	
	comp=Z,115nm,0.1s						
IFIR	**Firoozkooh**	**5.14**	**53**	⇑ *e*Pn	**Pn**	**21 29 42.9**	**+0.8**
IFIR				*e*		21 30 03.0	
	comp=Z,110nm,0.2s						
IHRS	**Heris**	**5.67**	**355**	*e*Pn	**Pn**	**21 29 50.1**	**+0.8**
IHRS				*e*		21 30 14.6	
	comp=N,46nm,0.2s						
IANJ	**Anjilo**	**5.88**	**60**	*e*Pn	**Pn**	**21 29 51.5**	**-0.7**

*SKHL **28** 21:28:50.2±0.3, 47°.48N×130°.33E, h10km±9km, mb3.7/2*
*BJI **28** 21:28:51.6, 47°.38N×130°.09E, h14km, ML3.6/10*

ISC 28 21:28:45.6±0.6, 47°.49N±0°.03×130°.28E±0°.05, h10km, n11, σ1°.49/18, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**2.00**	**29**	*e*Pg	**Pg**	**21 29 25.9**	**+2.1**
KLR				*e*Sg	**Sg**	**21 29 52.2**	**+2.5**
MDJ	**Mudanjiang**	**2.92**	**190**	Pn	**Pn**	**21 29 36.0**	**+4.0**
MDJ				Pg	**Pg**	**21 29 42.5**	**+1.0**
MDJ				Sg	**Sg**	**21 30 17.8**	**-1.4**
MDJ				smax			
	comp=N,42nm,0.4s						
MDJ				smax			
	comp=E,130nm,0.8s						
KHBR	**Khabarovsk**	**3.36**	**71**	*e*Sg	**Sg**	**21 30 32.9**	**-0.4**
CN2	**Changchun**	**5.01**	**224**	*e*Pn	**Pn**	**21 30 04.5**	**+3.7**
CN2				Sg	**Sg**	**21 31 25.5**	**-0.8**

TEY	**Ternei**	**5.03**	**117**	*e*rx	rx	21 30 29.0	
TEY				*e*Sg	**Sg**	**21 31 27.0**	**0.0**
TEY				A		21 31 30.0	
	comp=E,67nm,0.9s						
GRNR	**Gornyy**	**5.20**	**49**	*e*Sg	**Sg**	**21 31 30.8**	**-1.5**
GRNR				A		21 31 40.0	
	comp=E,69nm,0.9s						
EKMR	**Ekimchan**	**5.84**	**16**	*e*Pn	**Pn**	**21 30 18.0**	**+5.9**
EKMR				*e*Pg	**Pg**	**21 30 35.7**	**-1.6**
EKMR				AMB	AMB	21 30 42.5	
	comp=E,4.0nm,0.5s						
EKMR				*e*Sg	**Sg**	**21 31 52.5**	**-0.4**
EKMR				A		21 32 06.5	
	comp=E,24nm,0.6s						
ZEA	**Zeya**	**6.54**	**344**	*e*Sg	**Sg**	**21 32 17.0**	**+1.6**
KROS	**Kirovskiy**	**7.25**	**345**	*e*Pn	**Pn**	**21 30 37.6**	**+6.1**
KROS				*e*Sg	**Sg**	**21 32 36.7**	**-1.5**
KROS				A		21 32 48.5	
	comp=E,10.0nm,0.5s						
BMKR	**Bomnak**	**7.28**	**353**	*e*Pn	**Pn**	**21 30 37.7**	**+5.8**
BMKR				AMB	AMB	21 30 38.4	
	comp=E,3.0nm,0.4s						
BMKR				*e*Sg	**Sg**	**21 32 37.0**	**-2.2**
BMKR				A		21 32 42.3	
	comp=E,9.0nm,0.5s						
NKL	**Nikolayevsk**	**8.73**	**46**	*e*Sg	Sx	21 33 23.5	

*NIED **28** 21:28:00.27°.10N×130°.00E, h14km, Mw3.7 Best double couple: M0=4.09000×10^14 NP1:φs=38.00000°, δ54.00000°, λ-105.00000°. NP2:φs=242.00000°, δ38.00000°, λ-71.00000°.*

JMA 28 21:28:51.4±0.1, 27°.13N×129°.96E, h44km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.11**	**306**	P	Pn	21 29 10.8	+0.3
JTK				S	Sn	21 29 24.6	0.0
JZK	**Kikaishima**	**1.18**	**1**	P	Pn	21 29 12.2	+0.7
JZK				S	Sn	21 29 26.8	+0.5
JAM	**Amami Oshima**	**1.31**	**346**	P	Pn	21 29 13.7	+0.4
JAM				S	Sn	21 29 29.4	-0.2
JOW	**Kunigami**	**1.53**	**259**	P	Pn	21 29 17.4	+1.1
JOW				*e*S	Sn	21 29 36.0	+1.0
JMZ	**Minamidaito 2**	**1.73**	**139**	P	Pn	21 29 19.5	+0.6
JMZ				S	Sn	21 29 39.4	-0.4
JIH	**Iheya**	**1.78**	**267**	P	Pn	21 29 20.7	+1.0
JIH				*e*S	Sn	21 29 40.8	-0.3
JJT2	**Tamagusuku 2**	**2.21**	**244**	P	Pn	21 29 27.2	+1.6
JJT2				S	Sn	21 29 53.1	+1.4
NAH1	**Naha**	**2.23**	**246**	P	Pn	21 29 27.3	+1.4
NAH1				S	Sn	21 29 53.6	+1.4
JAGN	**Aguni-jima**	**2.49**	**258**	P	Pn	21 29 30.4	+1.0
JAGN				S	Sn	21 29 58.3	-0.2
JKE	**Kume jima 2**	**2.95**	**255**	P	Pn	21 29 36.6	+0.9
JKE				S	Sn	21 30 11.1	+1.2
JTN	**Tanegashima 3**	**3.62**	**14**	P	Pn	21 29 45.0	0.0
JTN				S	Sn	21 30 25.7	-0.8

*DDA **28** 21:34:33.0, 37°.88N×29°.23E, h10km±3km, Md3.0*
*ISCJB **28** 21:34:33.2±0.5, 37°.89N±0°.02×29°.20E±0°.03, h10km±5km, Error ellipse: s-maj=4.3km s-min=3.4km az=163.7*
*ISK **28** 21:34:33.0, 37°.89N×29°.16E, h8km, MD3.1*
*CSEM **28** 21:34:33.4±0.1, 37°.88N×29°.18E, h5km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.9km az=67.0*

ISC 28 21:34:33.8±0.4, 37°.89N±0°.02×29°.19E±0°.03, h4km±5km, n50, σ0°.92/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**224**	*e*PG	**Pg**	**21 34 37.3**	**-0.1**
DENT	**Denizli**	**0.18**	**224**	*e*Pg	**Pg**	**21 34 37.3**	**-0.1**
DNZL	**Cakiroluk**	**0.23**	**211**	*i* P	**Pg**	**21 34 37.9**	**-0.3**
DNZL				*i* S	**Sg**	**21 34 41.9**	**+0.7**
DNZL	**Cakiroluk**	**0.23**	**211**	*i* P	**Pg**	**21 34 37.9**	**-0.3**
DNZL				*i* S	**Sg**	**21 34 41.9**	**+0.7**
KHAL	**Karahalli**	**0.54**	**26**	*i* P	**

Moment Tensor Solution. s90 Moment tensor: Scale 10^{16}Nm; M_{rr}8.04; $M_{\theta\theta}$-1.65; $M_{\phi\phi}$-6.39; $M_{r\theta}$3.12; $M_{\theta\phi}$-4.79; $M_{\phi r}$1.15; Best double couple: $M_0$9.40000×10^{16} NP1: ϕ_s46.00000°,δ55.00000°,λ108.00000°. NP2: ϕ_s197.00000°,δ39.00000°,λ66.00000°. Principal axes: T 8.9600, Plg73.0000°, Azm3.0000°; N 0.8000, Plg14.0000°, Azm215.0000°; P -9.7600, Plg8.0000°, Azm123.0000°;

MOS 28 *21:40:16.5±1.3, 48.°27N×154.°46E, h64km, mb5.6/89, MS4.8/40 Error ellipse: s-maj=7.7km s-min=5.6km az=65.4*

IDC 28 *21:40:16.8±1.7, 48.°32N×154.°34E, h43km±14km, mb5.0/31, mb1 5.2/34, mb1mx5.2/34, mbtmp5.0/34, ML5.1/2, MS4.6/26, Ms1 4.6/26, ms1mx4.5/33, Error ellipse: s-maj=13.3km s-min=10.4km az=145.0*

SZGRF 28 *21:40:17.2, 48.°97N×153.°88E, h33km, mb5.6, MS5.5, Kuril Islands, Russia*

GCMT 28 *21:40:19.8±0.1, 48.°19N×154.°74E, h48km, MW5.4, Moment Tensor Solution. s84,c153; s16,c17; Moment tensor: Scale 10^{17}Nm; M_{rr}1.14±.02; $M_{\theta\theta}$-0.20±.02; $M_{\phi\phi}$-0.93±.02; $M_{r\theta}$0.36±.02; $M_{\theta\phi}$-0.77±.01; $M_{\phi r}$0.23±.02; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s201.00000°, δ38.00000°,λ73.00000°. NP2:ϕ_s42.00000°,δ54.00000°, λ103.00000°. Principal axes: T 1.2300, Plg76.0000°, Azm355.0000°; N 0.2500, Plg10.0000°, Azm215.0000°; P -1.4700, Plg8.0000°, Azm123.0000°; Data Used: II IU IC G CN. Surface waves: sta=104, comp=188, per= 50.*

ISC 28 21:40:18.1±0.3, 48.°28N±0.°02×154.°32E±0.°03, h53km±2km, h49km±1.2km:pP-P,n1054,σ0s84/1071,mb5.5/311, MS4.8/61,203C-41D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.67**	**25**	⇑*i*PN	**Pn**	**21 40 58.8**	**+0.1**
SKR				*i* S	**Sn**	**21 41 31.0**	**+1.2**
SKR				pmax	pmax		
	comp=N,5μm,2.0s						
SKR				pmax	pmax		
	comp=Z,10μm,2.0s						
SKR				pmax	pmax		
	comp=N,2μm,0.5s						
SKR				pmax	pmax		
	comp=E,950nm,0.5s						
SKR				pmax	pmax		
	comp=Z,4μm,0.5s						
SKR				smax			
	comp=N,8μm,0.5s						
SKR				smax			
	comp=E,9μm,0.5s						
SKR				smax			
	comp=N,35μm,2.0s						
SKR				smax			
	comp=E,20μm,2.0s						
SKR				MLR	MLR		
	comp=E,21μm,12.0s						
SKR				MLR	MLR		
	comp=Z,19μm,12.0s						
SKR				MLR	MLR		
	comp=N,18μm,8.0s						
SKR	**Severo-Kuril's**	**2.67**	**25**	⇑*i*P	**Pn**	**21 40 58.8**	**+0.1**
SKR				AMB	AMB	21 41 02.0	
	comp=N,10μm,2.0s						
SKR				AMB	AMB	21 41 02.0	
	comp=N,5μm,2.0s						
SKR				AMB	AMB	21 41 04.0	
	comp=N,4μm,0.5s						
SKR				AMB	AMB	21 41 04.0	
	comp=N,2μm,0.5s						
SKR				AMB	AMB	21 41 04.0	
	comp=N,950nm,0.5s						
SKR				*i* S	**Sn**	**21 41 31.0**	**+1.2**
SKR				A		21 41 38.5	
	comp=N,8μm,0.5s						
SKR				A		21 41 38.5	
	comp=N,9μm,0.5s						
SKR				A		21 41 38.5	
	comp=N,3μm,0.5s						
SKR				A		21 41 41.0	
	comp=N,34μm,2.0s						
SKR				A		21 41 41.0	
	comp=N,20μm,2.0s						
SKR				A		21 41 41.0	
	comp=N,35μm,2.0s						
SKR				A		21 41 41.0	
	comp=N,20μm,2.0s						
SKR				AMS	AMS	21 42 24.0	
	comp=N,18μm,11.0s						
SKR				AMS	AMS	21 42 24.0	
	comp=N,21μm,11.0s						
SKR				AMS	AMS	21 42 24.0	
	comp=N,19μm,11.0s						
SKR				AMS	AMS	21 42 24.0	
	comp=N,18μm,11.0s						
SKR				AMS	AMS	21 42 24.0	
	comp=N,20μm,11.0s						
SKR				AMS	AMS	21 42 24.0	
	comp=N,18μm,11.0s						
GRL	**Gorelyy**	**4.90**	**28**	*i* P	**Pn**	**21 41 29.6**	**+0.4**
GRL				*e*S	**Sn**	**21 42 23.5**	**-1.0**
RUS	**Russkaya**	**4.95**	**31**	*i* P	**Pn**	**21 41 28.0**	**-1.8**
RUS				*e*S	**Sn**	**21 42 20.7**	**-4.9**
RUS	**Russkaya**	**4.95**	**31**	PN	**Pn**	**21 41 28.0**	**-1.8**
PETK	**Petropavlovsk-**	**5.29**	**23**	P	**Pn**	**21 41 35.5**	**+1.1**
	comp=N,85nm,0.3s,baz=180,slow=11,SNR=962						
PETK				S	**Sn**	**21 42 42.0**	**+8.0**
	baz=139,slow=22,SNR=2.9						
PETK				LR	LR	21 43 50.3	
	comp=N,7μm,21.5s,baz=333,slow=41						
PETK	**Petropavlovsk-**	**5.29**	**23**	P	**Pn**	**21 41 35.5**	**+1.1**
PETK				S	**Sn**	**21 42 42.0**	**+8.0**
PETK	**Petropavlovsk-**	**5.29**	**23**	PN	**Pn**	**21 41 35.5**	**+1.1**
PETK				S	**Sn**	**21 42 42.0**	**+8.0**
PETK				pmax	pmax		
	comp=Z,85nm,0.3s						
PETK				MLR	MLR		
	comp=Z,7μm,21.5s						
KUR	**Kuril'sk**	**5.38**	**238**	⇑*i*PN	**Pn**	**21 41 37.0**	**+1.3**
KUR				*e*S	**Sn**	**21 42 42.6**	**+6.3**
KUR				pmax	pmax		
	comp=N,640nm,0.9s						
KUR				pmax	pmax		
	comp=E,850nm,0.9s						
KUR				pmax	pmax		
	comp=Z,3μm,0.9s						
KUR				pmax	pmax		
	comp=Z,5μm,1.0s						
KUR				smax			
	comp=N,30μm,2.0s						
KUR				smax			
	comp=E,20μm,2.0s						
KUR				smax			
	comp=N,3μm,0.8s						
KUR				smax			
	comp=E,2μm,0.8s						
KUR				MLR	MLR		
	comp=N,11μm,13.0s						
KUR				MLR	MLR		
	comp=Z,14μm,13.0s						
KUR				MLR	MLR		
	comp=E,14μm,16.0s						
KUR	**Kuril'sk**	**5.38**	**238**	⇑*i*P	**Pn**	**21 41 37.0**	**+1.3**
KUR				AMB	AMB	21 41 41.2	
	comp=E,640nm,0.9s						
KUR				AMB	AMB	21 41 41.2	
	comp=E,850nm,0.9s						
KUR				AMB	AMB	21 41 41.2	
	comp=E,3μm,0.9s						
KUR				AMB	AMB	21 41 45.0	
	comp=E,5μm,1.0s						
KUR				*e*S	**Sn**	**21 42 42.6**	**+6.3**
KUR				A		21 42 46.4	
	comp=E,30μm,2.0s						
KUR				A		21 42 46.4	
	comp=E,20μm,2.0s						
KUR				A		21 42 48.0	
	comp=E,25μm,2.0s						
KUR				A		21 42 48.0	
	comp=E,22μm,2.0s						
KUR				A		21 42 49.0	
	comp=E,3μm,0.8s						
KUR				A		21 42 49.0	
	comp=E,2μm,0.8s						
KUR				AMS	AMS	21 43 48.0	
	comp=E,14μm,13.0s						
KUR				AMS	AMS	21 43 48.0	
	comp=E,11μm,16.0s						
KUR				AMS	AMS	21 43 48.0	
	comp=E,14μm,16.0s						
PET	**Petropavlovsk**	**5.49**	**29**	*e*P	**Pn**	**21 41 36.7**	**-0.5**
PET				*e*S	**Sn**	**21 42 35.8**	**-3.1**
PET	**Petropavlovsk**	**5.49**	**29**	*e*Pn	**Pn**	**21 41 36.3**	**-0.9**
	comp=E,776nm,0.9s						
PET				*e*Sn	**Sn**	**21 42 38.6**	**-0.3**
PET	**Petropavlovsk**	**5.49**	**29**	*e*PN	**Pn**	**21 41 36.2**	**-1.0**
PET				*e*S	**Sn**	**21 42 37.7**	**-1.2**
PET				smax			
	comp=E,5μm,0.7s						
PET				smax			
	comp=N,4μm,1.1s						
PET				MLR	MLR		
	comp=Z,6μm,22.0s						
PET				MLR	MLR		
	comp=Z,6μm,11.0s						
INSR	**Institute**	**5.51**	**28**	P	**Pn**	**21 41 37.2**	**-0.3**
INSR				*e*S	**Sn**	**21 42 36.7**	**-2.7**
SDLR	**Sedlovina**	**5.78**	**28**	*i* P	**Pn**	**21 41 40.6**	**-0.6**
SDLR				S	**Sn**	**21 42 42.8**	**-3.2**
SPN	**Mys Shipunski**	**6.03**	**35**	S	**Sn**	**21 42 42.1**	**-10**
YUK	**Yuzh-Kuril'sk**	**7.25**	**237**	*i* PN	**Pn**	**21 42 03.7**	**+2.4**
YUK				*i* S	**Sn**	**21 43 26.5**	**+4.4**
YUK				pmax	pmax		
	comp=E,366nm,0.7s						
YUK				pmax	pmax		
	comp=N,260nm,0.6s						
YUK				pmax	pmax		
	comp=Z,708nm,0.6s						
YUK				MLR	MLR		
	comp=Z,5μm,16.0s						
YUK				MLR	MLR		
	comp=E,3μm,16.0s						
YUK				MLR	MLR		
	comp=N,3μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**7.25**	**237**	⇑*i*P	**Pn**	**21 42 03.8**	**+2.5**
YUK				AMB	AMB	21 42 04.8	
	comp=N,180nm,0.5s						
YUK				AMB	AMB	21 42 04.8	
	comp=N,520nm,0.5s						
YUK				AMB	AMB	21 42 04.8	
	comp=N,730nm,0.5s						
YUK				AMS	AMS	21 44 46.8	
	comp=N,3μm,16.0s						
YUK				AMS	AMS	21 44 46.8	
	comp=N,5μm,16.0s						
YUK				AMS	AMS	21 44 46.8	
	comp=N,3μm,17.0s						
JRA	**Rausu**	**7.72**	**239**	P	**Pn**	**21 42 09.2**	**+1.3**
NEM2	**Nemuro 2**	**7.75**	**234**	P	**Pn**	**21 42 06.3**	**-1.9**
NEM2				*e*S	**Sn**	**21 43 30.5**	**-3.9**
YSS	**Yuzh-Sakhalins**	**7.93**	**265**	*e*Pn	**Pn**	**21 42 14.5**	**+3.9**
YSS				*e*Sn	**Sn**	**21 43 40.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**7.93**	**265**	⇓*i*PN	**Pn**	**21 42 14.6**	**+4.0**
YSS				pmax	pmax		
	comp=N,150nm,0.8s						
YSS				pmax	pmax		
	comp=E,330nm,0.8s						
YSS				pmax	pmax		
	comp=Z,330nm,0.8s						
YSS				MLR	MLR		
	comp=E,4μm,17.0s						
YSS				MLR	MLR		
	comp=Z,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.93**	**265**	⇓*i*P	**Pn**	**21 42 14.6**	**+4.0**
YSS				AMB	AMB	21 42 15.2	
	comp=Z,330nm,0.8s						
YSS				AMB	AMB	21 42 15.2	
	comp=Z,150nm,0.8s						
YSS				AMB	AMB	21 42 15.2	
	comp=Z,330nm,0.8s						
YSS				A		21 43 43.0	
	comp=Z,290nm,0.7s						
YSS				*e*LQ		21 44 20.0	
YSS				AMS	AMS	21 45 04.0	
	comp=Z,4μm,17.0s						
YSS				AMS	AMS	21 45 04.0	
	comp=Z,4μm,17.0s						
TYV	**Tymovskoe**	**8.01**	**293**	*e*P	**Pn**	**21 42 14.8**	**+3.1**
TYV				AMB	AMB	21 42 20.0	
	comp=Z,97nm,1.0s						
TYV				AMB	AMB	21 42 20.0	
	comp=Z,176nm,1.0s						
TYV				AMB	AMB	21 42 20.0	
	comp=Z,209nm,0.8s						
TYV				AMS	AMS	21 45 34.0	
	comp=Z,9μm,19.0s						
UGL	**Uglegorsk**	**8.15**	**280**	*e*PN	**Pn**	**21 42 18.0**	**+4.4**
UGL				S	**Sn**	**21 43 48.5**	**+4.3**
UGL				pmax	pmax		
	comp=Z,640nm,0.8s						
UGL				smax			
	comp=N,79nm,0.6s						
UGL				smax			
	comp=E,150nm,0.6s						
UGL				MLR	MLR		
	comp=N,6μm,16.0s						
UGL				MLR	MLR		
	comp=E,8μm,16.0s						
UGL	**Uglegorsk**	**8.15**	**280**	*e*P	**Pn**	**21 42 18.0**	**+4.4**
UGL				AMB	AMB	21 42 19.5	
	comp=E,640nm,0.8s						
UGL				*e*S	**Sn**	**21 43 48.5**	**+4.3**
UGL				A		21 43 57.5	
	comp=E,79nm,0.6s						
UGL				A		21 43 57.5	
	comp=E,150nm,0.6s						
UGL				*e*L		21 44 29.0	
UGL				AMS	AMS	21 45 40.0	
	comp=E,6μm,16.0s						
UGL				AMS	AMS	21 45 40.0	
	comp=E,8μm,16.0s						
JNK	**Nakash**	**8.17**	**238**	P	**Pn**	**21 42 14.4**	**+0.4**
JTKR	**Abashiri--Toko**	**8.41**	**243**	P	**Pn**	**21 42 19.2**	**+1.9**
KOZ	**Kozyrevsk**	**8.50**	**22**	P	**Pn**	**21 42 19.2**	**+0.8**
KOZR	**Kozyr**	**8.51**	**22**	PN	**Pn**	**21 42 19.2**	**+0.6**
JAK	**Akkeshi**	**8.56**	**235**	P	**Pn**	**21 42 17.6**	**-1.7**
JAK				*e*S	**Sn**	**21 43 50.3**	**-4.1**
SRDR	**Sredinnyy**	**8.70**	**20**	*e*P	**Pn**	**21 42 23.3**	**+2.2**
JMP	**Maruseppu**	**8.72**	**245**	P	**Pn**	**21 42 23.9**	**+2.4**
JSE	**Soyaes**	**8.73**	**252**	P	**Pn**	**21 42 26.1**	**+4.5**
JAR	**Ashorobuto**	**8.89**	**240**	P	**Pn**	**21 42 25.2**	**+1.3**
JWK2	**Keihoku**	**9.02**	**255**	P	**Pn**	**21 42 31.6**	**+6.0**
JOB	**Onbets**	**9.10**	**238**	*e*S	**Sn**	**21 44 02.9**	**-4.8**
ASAJ	**Asahikawa**	**9.13**	**247**	P	**Pn**	**21 42 30.8**	**+3.7**
	comp=E,5.9nm,0.3s,baz=76,slow=12,SNR=41						
ASAJ				LR	LR	21 45 38.7	
	comp=E,6μm,22.0s,baz=251,slow=35						
ASAJ	**Asahikawa**	**9.13**	**247**	PN	**Pn**	**21 42 30.8**	**+3.7**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,6μm,22.0s						
ASAJ	**Asahikawa**	**9.13**	**247**	P	**Pn**	**21 42 30.6**	**+3.5**
JKK2	**Kamakawa 2**	**9.17**	**246**	P	**Pn**	**21 42 30.3**	**+2.7**
JCH	**Churui**	**9.55**	**238**	P	**Pn**	**21 42 31.9**	**-1.0**
JCH				*e*S	**Sn**	**21 44 15.0**	**-3.7**
JAB	**Ashibetsu**	**9.69**	**245**	P	**Pn**	**21 42 37.3**	**+2.6**
JBT2	**Biratori 2**	**10.03**	**241**	P	**Pn**	**21 42 39.3**	**0.0**
ERM	**Erimo**	**10.06**	**236**	*e*Pn	**Pn**	**21 42 39.8**	**0.0**
ERM				*e*Sn	**Sn**	**21 44 31.8**	**+0.6**
ERM	**Erimo**	**10.06**	**236**	*i* PN	**Pn**	**21 42 40.2**	**+0.3**
JEM	**Erimo**	**10.06**	**236**	*e*S	**Sn**	**21 44 24.1**	**-7.1**
JNBK	**Urakawa-nobuka**	**10.12**	**238**	P	**Pn**	**21 42 38.7**	**-1.9**
JNB	**Noboribetsu**	**10.99**	**243**	*e*S	**Sn**	**21 44 52.5**	**-1.5**
JKB	**Kayabe**	**11.35**	**241**	P	**Pn**	**21 42 55.3**	**-2.2**
JKB				*e*S	**Sn**	**21 44 57.8**	**-4.9**
JSH	**Shimam**	**11.49**	**246**	P	**Pn**	**21 43 00.3**	**+0.9**
JYM2	**Yakumo 2**	**11.60**	**243**	P	**Pn**	**21 43 00.6**	**-0.3**
JTM	**Tenmabayashi**	**12.05**	**236**	P	**Pn**	**21 43 03.5**	**-3.5**
JTM				*e*S	**Sn**	**21 45 08.9**	**-11**
HABR	**Khabarovsk**	**12.81**	**278**	*de*PN	**Pn**	**21 43 23.1**	**+5.8**
HABR				pmax	pmax		
	comp=Z,193nm,2.1s						
HABR				pmax	pmax		
	comp=E,137nm,1.6s						
HABR				pmax	pmax		
	comp=N,49nm,2.1s						
HABR				MLR	MLR		
	comp=Z,4μm,17.0s						
FX1	**Attu Island--F**	**12.82**	**62**	P	**Pn**	**21 43 13.8**	**-3.6**
	comp=Z,70nm,0.3s,baz=331,slow=0.5,SNR=48						
FX1				S	**Sn**	**21 45 23.3**	**-15**
	comp=Z,91nm,0.3s,baz=75,slow=21,SNR=10						
FX1				LR	LR	21 47 51.8	
	comp=Z,1μm,21.6s,baz=270,slow=36						
FX1	**Attu Island--F**	**12.82**	**62**	*e*Pn	**Pn**	**21 43 14.1**	**-3.4**
FX1				S	**Sn**	**21 45 23.3**	**-15**
FX1	**Attu Island--F**	**12.82**	**62**	*e*PN	**Pn**	**21 43 14.1**	**-3.3**
OFUJ	**Ofunato**	**12.96**	**229**	P	**Pn**	**21 43 14.4**	**-5.0**
JRG	**Rokugo**	**13.27**	**233**	*e*S	**Sn**	**21 45 38.4**	**-11**
SMY	**Shemya**	**13.34**	**63**	*e*Pn	**Pn**	**21 43 21.1**	**-3.4**
SMY				*e*Sn	**Sn**	**21 45 39.0**	**-12**
SMY	**Shemya**	**13.34**	**63**	*e*PN	**Pn**	**21 43 21.1**	**-3.4**
JIO	**Ouri**	**13.60**	**229**	P	**Pn**	**21 43 22.6**	**-5.5**
JIO				*e*S	**Sn**	**21 45 45.7**	**-12**
SEY	**Seymchan**	**14.72**	**357**	*ce*P	**Pn**	**21 43 42.8**	**-0.1**
KLR	**Kul'dur**	**14.91**	**282**	*e*P	**Pn**	**21 43 46.2**	**+0.8**
KLR				pmax	pmax		
	comp=E,120nm,1.8s						
KLR				pmax	pmax		
	comp=Z,160nm,1.8s						
KLR				MLR	MLR		
	comp=Z,7μm,13.0s						
USRK	**Ussuriysk Arra**	**15.96**	**264**	P	**Pn**	**21 44 00.1**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=70,slow=11,SNR=73						
USRK				LR	LR	21 49 47.9	
	comp=Z,1μm,21.5s,baz=246,slow=36						
VLA	**Vladivostok**	**16.47**	**260**	⇓*i*P	**Pn**	**21 44 07.1**	**+1.7**
VLA				*e*S	**S**	**21 47 07.9**	**-8.8**
MAJO	**Matsushiro**	**16.67**	**231**	*e*Pn	**Pn**	**21 44 05.7**	**-2.2**
	comp=Z,89nm,0.9s						
MAJO	**Matsushiro**	**16.67**	**231**	*e*P	**Pn**	**21 44 05.7**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,89nm,0.9s						
MAT	**Matsushiro**	**16.67**	**231**	P	**Pn**	**21 44 05.0**	**-2.9**
MJAR	**Matsushiro Arr**	**16.67**	**231**	P	**Pn**	**21 44 05.7**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=28,slow=12,SNR=56						
MJAR				LR	LR	21 50 39.3	
	comp=Z,517nm,19.8s,baz=55,slow=37						
MJAR	**Matsushiro Arr**	**16.67**	**231**	P	**Pn**	**21 44 05.7**	**-2.3**
MJAR	**Matsushiro Arr**	**16.67**	**231**	P	**Pn**	**21 44 05.7**	**-2.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**17.40**	**267**	P	**Pn**	**21 44 16.3**	**-0.7**
MDJ				pP	pP	21 44 32.5	+3.1
MDJ				S	**S**	**21 47 28.5**	**-7.2**
MDJ				PcP	PcP	21 48 57.3	+1.6
MDJ				ScP	ScP	21 52 28.8	+2.8
MDJ				PcS	PcS	21 52 33.5	+1.7
MDJ				ScS	ScS	21 56 09.3	+3.4
MDJ				pmax	pmax		
	comp=Z,29nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,200nm,5.1s						
MDJ				LR	LR		
	comp=N,1μm,23.6s						
MDJ				LR	LR		
	comp=E,1μm,27.0s						
MDJ				LR	LR		
	comp=Z,2μm,22.4s						
MDJ	**Mudanjiang**	**17.40**	**267**	*e*Pn	**Pn**	**21 44 17.0**	**0.0**
	comp=Z,44nm,1.0s						
ZEA	**Zeya**	**17.82**	**298**	*e*P	**Pn**	**21 44 21.7**	**-0.4**
ZEA				AMB	AMB	21 44 35.4	
	comp=Z,160nm,1.6s						
ZEA				AMB	AMB	21 44 35.4	
	comp=Z,130nm,2.0s						
ZEA				AMB	AMB	21 44 38.0	
	comp=Z,2μm,6.0s						
ZEA				AMB	AMB	21 44 38.0	
	comp=Z,2μm,7.0s						
YAK	**Yakutsk**	**19.52**	**324**	*e*Pn	**Pn**	**21 44 41.0**	**-1.4**
	comp=Z,184nm,0.7s						
YAK	**Yakutsk**	**19.52**	**324**	*e*P	**Pn**	**21 44 40.5**	**-1.8**
YAK				*e*S	**S**	**21 48 19.1**	**+1.1**
YAK				pmax	pmax		
	comp=Z,120nm,1.1s						
YAK				pmax	pmax		
	comp=N,40nm,1.2s						
YAK				pmax	pmax		
	comp=E,45nm,1.0s						
YAK				smax			
	comp=N,410nm,11.1s						
YAK				smax			
	comp=E,386nm,12.6s						
YAK				MLR	MLR		
	comp=Z,3μm,25.0s						
YAK				MLR	MLR		
	comp=E,1μm,23.0s						
YAK				MLR	MLR		
	comp=N,828nm,19.0s						
CLNS	**Chul'man**	**19.70**	**307**	*e*P	**Pn**	**21 44 46.5**	**+2.0**
CLNS				*e*S	**S**	**21 48 22.3**	**+0.6**
CLNS				pmax	pmax		
	comp=Z,313nm,0.8s						
CLNS				pmax	pmax		
	comp=E,131nm,0.9s						
CLNS				pmax	pmax		
	comp=N,85nm,0.8s						
CLNS				smax			
	comp=E,496nm,11.4s						
CLNS				smax			
	comp=N,943nm,14.4s						
CLNS				MLR	MLR		
	comp=Z,3μm,18.0s						
CLNS				MLR	MLR		
	comp=N,1μm,17.0s						
CLNS				MLR	MLR		
	comp=E,2μm,16.0s						
CN2	**Changchun**	**20.47**	**268**	*e*P	**P**	**21 44 49.3**	**-1.9**
CN2				*ep*P		21 45 00.0	
CN2				*es*P	sP	21 45 06.0	-3.8
CN2				*e*S	**S**	**21 48 29.0**	**-8.3**
CN2				pmax	pmax		
	comp=Z,100nm,0.9s						
CN2				pmax	pmax		
	comp=Z,400nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,1μm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,2μm,16.0s,MS4.5						
BILL	**Bilibino**	**20.72**	**13**	*e*Pn	**P**	**21 44 50.4**	**-3.2**
	comp=Z,51nm,0.8s						
BILL				*e*Sn	**S**	**21 48 40.9**	**-0.8**
BILL	**Bilibino**	**20.72**	**13**	α *i*P	**P**	**21 44 51.1**	**-2.5**
BILL				*e**SP	sP	21 45 16.0	+3.7
BILL				*i* S	**S**	**21 48 40.9**	**-0.8**
BILL						21 49 00.0	
BILL				pmax	pmax		
	comp=Z,46nm,0.8s						
BILL				MLR	MLR		
	comp=Z,800nm,15.0s,MS4.2						
KSRS	**Korea Array**	**22.06**	**250**	P	**P**	**21 45 08.6**	**+0.3**
	comp=Z,121nm,0.9s,mb5.3,baz=51,slow=9.8,SNR=147						
KSRS				PcP	PcP	21 49 05.0	+0.7
	comp=Z,6.1nm,0.8s,baz=350,slow=1.3,SNR=9.5						
KSRS	**Korea Array**	**22.06**	**250**	P	**P**	**21 45 08.6**	**+0.3**
KSRS						21 49 05.0	
KSRS				pmax	pmax		
	comp=Z,121nm,0.9s,mb5.3						
KSAR	**Wonju Array Be**	**22.09**	**250**	P	**P**	**21 45 08.6**	**0.0**
KSAR				PcP	PcP	21 49 05.0	+0.6
KSAR	**Wonju Array Be**	**22.09**	**250**	P	**P**	**21 45 08.6**	**0.0**
KSAR						21 49 05.0	
SNY	**Shenyang**	**22.55**	**265**	⇓P	**P**	**21 45 12.5**	**-1.0**
SNY				S	**S**	**21 49 11.8**	**-5.5**
SNY				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.7						
SNY				pmax	pmax		
	comp=Z,250nm,3.6s						
SNY				LR	LR		
	comp=N,1μm,20.4s						
SNY				LR	LR		
	comp=E,960nm,26.4s						
SNY				LR	LR		
	comp=Z,2μm,24.0s,MS4.3						
HIA	**Hailar**	**22.70**	**286**	*e*P	**P**	**21 45 15.0**	**+0.1**
	comp=Z,34nm,0.8s,mb4.8						
HIA	**Hailar**	**22.70**	**286**	*e*P	**P**	**21 45 15.0**	**+0.1**
HIA				pmax	pmax		
	comp=Z,34nm,0.8s						
INCN	**Inchon**	**22.86**	**252**	*e*P	**P**	**21 45 17.2**	**+0.5**
	comp=Z,115nm,0.9s,mb5.3						
INCN	**Inchon**	**22.86**	**252**	P	**P**	**21 45 18.2**	**+1.4**
	SNR=8.9						

CBIJ Chichi jima 23.17 208 LR LR 21 55 09.3
comp=Z,300nm,18.2s,MS3.8,baz=216,slow=38
JNU Nakatsue 23.22 238 *e*P **P** **21 45 20.5 -0.1**
GAMB Gambell 24.11 37 *e*P **P** **21 45 28.0 -0.4**
comp=Z,153nm,1.1s,mb5.3
GAMB *e*S **S** **21 49 33.2 -8.9**
DL2 Dalian 25.30 260 P **P** **21 45 39.5 0.0**
DL2 sP sP 21 45 56.5 -2.6
DL2 *e*S **S** **21 50 01.3 -0.3**
DL2 sS sS 21 50 16.3 -7.9
DL2 pmax pmax
comp=Z,30nm,0.7s,mb4.9
DL2 pmax pmax
comp=Z,150nm,6.1s
DL2 LR LR
comp=N,630nm,21.5s,MS4.2
DL2 LR LR
comp=E,500nm,22.7s,MS4.2
DL2 LR LR
comp=Z,700nm,22.4s,MS4.1
BOD Bodaibo 25.68 307 *e*P **P** **21 45 41.1 -1.6**
BOD *e* pP 21 45 56.6 +0.6
BOD pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
BOD pmax pmax
comp=Z,50nm,1.3s,mb4.9
TNA Tin City 26.31 35 *e*P **P** **21 45 48.6 +0.3**
comp=Z,113nm,0.9s,mb5.4
BJI Beijing 28.34 267 P **P** **21 46 06.8 0.0**
BJI pP pP 21 46 17.3 -2.9
BJI sP sP 21 46 22.5 -3.9
BJI S **S** **21 50 50.3 +0.8**
BJI sS sS 21 51 08.5 -3.7
BJI pmax pmax
comp=Z,22nm,1.1s,mb4.7
BJI pmax pmax
comp=Z,200nm,4.4s
BJI LR LR
comp=N,830nm,16.0s,MS4.7
BJI LR LR
comp=E,2μm,16.4s,MS4.7
BJI LR LR
comp=Z,920nm,18.5s,MS4.4
BJT Baijiatuau 28.35 267 *e*P **P** **21 46 06.2 -0.7**
BJT Baijiatuau 28.35 267 *e*P **P** **21 46 06.2 -0.7**
JOW Kunigami 29.50 233 P **P** **21 46 16.9 -0.3**
comp=Z,24nm,0.8s,mb5.0,baz=39,slow=5.5,SNR=8.4
JOW PcP PcP 21 49 21.8 +0.3
comp=Z,11nm,0.6s,baz=115,slow=6.7,SNR=4.0
JOW LR LR 21 58 31.9
comp=Z,629nm,21.7s,MS4.2,baz=281,slow=37
JOW Kunigami 29.50 233 *e*P **P** **21 46 12.0 -5.2**
comp=Z,13nm,0.9s,mb4.7
SSE Sheshan 30.42 248 P **P** **21 46 22.3 -3.0**
SSE pP pP 21 46 39.3 +0.5
SSE sP sP 21 46 47.3 +2.3
SSE S **S** **21 51 19.8 -2.6**
SSE sS sS 21 51 49.5 +4.4
SSE pmax pmax
comp=Z,16nm,0.6s,mb4.9
SSE pmax pmax
comp=Z,130nm,4.3s
SSE LR LR
comp=N,610nm,24.4s,MS4.3
SSE LR LR
comp=E,500nm,24.4s,MS4.3
SSE LR LR
comp=Z,850nm,28.6s,MS4.2
HHC Hu-ho-hao-te 31.02 272 *e*P **P** **21 46 30.5 0.0**
HHC pP pP 21 46 42.3 -1.7
HHC sP sP 21 46 48.3 -2.0
HHC PP PP 21 47 33.5 -7.7
HHC S **S** **21 51 31.3 -0.3**
HHC sS sS 21 51 50.5 -3.9
HHC ScS ScS 21 56 59.5 -0.8
HHC pmax pmax
comp=Z,27nm,1.0s,mb5.0
HHC pmax pmax
comp=Z,160nm,3.7s
HHC LR LR
comp=N,850nm,16.7s,MS4.7
HHC LR LR
comp=E,1μm,15.5s,MS4.7
HHC LR LR
comp=Z,1μm,20.2s,MS4.6
ULN Ulaanbaatar 31.19 287 *e*P **P** **21 46 31.0 -1.0**
comp=Z,6.0nm,0.8s,mb4.5
ULN Ulaanbaatar 31.19 287 *e*P **P** **21 46 31.0 -1.0**
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
ULN Ulaanbaatar 31.19 287 P **P** **21 46 32.1 +0.1**
comp=Z,9.5nm,1.0s,mb4.6
NJ2 Nanjing 31.24 252 *e*P **P** **21 46 33.0 +0.5**
NJ2 pP pP 21 46 43.8 -2.2
NJ2 sP sP 21 46 48.8 -3.4
NJ2 S **S** **21 51 36.0 +0.9**
NJ2 sS sS 21 51 57.0 -0.9
NJ2 pmax pmax
comp=Z,40nm,0.9s,mb5.2
NJ2 pmax pmax
comp=Z,290nm,8.1s
NJ2 LR LR
comp=N,4μm,22.2s,MS5.1
NJ2 LR LR
comp=E,960nm,20.2s,MS5.1
NJ2 LR LR
comp=Z,1μm,19.6s,MS4.6
SONM Songino Array 31.62 287 P **P** **21 46 35.0 -0.7**
comp=Z,4.3nm,0.8s,mb4.3,baz=88,slow=8.2,SNR=29
SONM PcP PcP 21 49 26.7 0.0
comp=Z,12nm,0.7s,baz=95,slow=1.8,SNR=17
SONM ScP ScP 21 53 05.1 -0.1
comp=Z,2.6nm,1.1s,baz=121,slow=1.3,SNR=6.4
SONM LR LR 22 00 35.4
comp=Z,3μm,18.6s,MS5.0,baz=359,slow=38
SONM Songino Array 31.62 287 P **P** **21 46 35.0 -0.7**
SONM PcP PcP 21 49 26.7 0.0
SONM ScP ScP 21 53 05.1 -0.1
SONM Songino Array 31.62 287 P **P** **21 46 35.0 -0.7**
SONM 21 49 26.7
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM MLR MLR
comp=Z,3μm,18.7s
TLY Talaya 32.23 295 *e*P **P** **21 46 42.0 +1.0**
TLY *e* 21 47 47.5
TLY *e*SS SS 21 53 51.5 -18
TLY pmax pmax
comp=Z,13nm,0.7s,mb4.9
TLY MLR MLR
comp=Z,2μm,20.0s,MS4.9
PPLA Purkeypile 32.48 43 *e*P **P** **21 46 44.5 +1.4**
comp=Z,195nm,1.6s,mb5.7
KDAK Kodiak Island 32.52 53 *i*P **P** **21 46 41.7 -1.7**
ZAK Zakamensk 32.80 293 *e*P **P** **21 46 46.8 +0.8**
ZAK *e* 21 49 29.9
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TRF Thorofare Moun 33.35 42 *e*P **P** **21 46 50.8 +0.1**
comp=Z,44nm,1.0s,mb5.3
COLD Coldfoot 33.61 35 *e*P **P** **21 46 53.0 +0.2**
comp=Z,39nm,0.8s,mb5.4
RC01 Rabbit Creek A 33.68 47 *e*P **P** **21 46 53.1 -0.4**
comp=Z,138nm,1.8s,mb5.6
MOY Mondy 33.83 296 *e*P pP 21 47 10.7 +2.2
PMR Palmer 33.94 46 *e*P **P** **21 46 55.0 -0.7**
comp=Z,15nm,0.7s,mb5.0
PMR Palmer 33.94 46 *e*P **P** **21 46 55.1 -0.7**
PMR pmax pmax
comp=Z,15nm,0.7s,mb5.0
MCK McKinley 33.96 42 *e*P **P** **21 46 55.6 -0.3**
comp=Z,62nm,1.0s,mb5.5
MCK McKinley 33.96 42 *e*P **P** **21 46 55.6 -0.3**
MCK pmax pmax
comp=Z,62nm,1.0s,mb5.5
SML Sawmill 34.30 45 *e*P **P** **21 46 58.6 -0.4**
comp=Z,29nm,0.7s,mb5.3
SML Sawmill 34.30 45 *e*P **P** **21 46 58.6 -0.4**
SML pmax pmax
comp=Z,29nm,0.7s,mb5.3
COLA College 34.43 40 *e*P **P** **21 47 00.4 +0.3**
comp=Z,102nm,0.9s,mb5.8
COLA College 34.43 40 *e*P **P** **21 47 00.4 +0.4**
COLA pmax pmax
comp=Z,102nm,0.9s,mb5.8
ILAR Eielson Array 34.85 40 P **P** **21 47 03.0 -0.6**
comp=Z,32nm,1.1s,mb5.2,baz=258,slow=8.4,SNR=98
ILAR PcP PcP 21 49 33.4 -2.1
comp=Z,2.7nm,0.6s,baz=280,slow=3.5,SNR=4.9
ILAR LR LR 22 01 50.8
comp=Z,560nm,21.7s,MS4.3,baz=281,slow=37
ILAR Eielson Array 34.85 40 P **P** **21 47 03.0 -0.6**
ILAR PcP PcP 21 49 33.4 -2.1
ILAR Eielson Array 34.85 40 P **P** **21 47 03.0 -0.6**
ILAR 21 49 33.4
ILAR pmax pmax
comp=Z,32nm,1.1s
ILAR MLR MLR
comp=Z,560nm,21.7s
WHN Wuhan 35.12 254 P **P** **21 47 05.8 -0.5**
WHN PcP PcP 21 49 37.0 +0.2
WHN S **S** **21 52 39.5 +4.2**
WHN pmax pmax
comp=Z,110nm,0.6s,mb6.0
WHN LR LR
comp=N,1μm,8.7s
WHN LR LR
comp=E,1μm,14.7s
WHN LR LR
comp=Z,2μm,23.6s
PAX Paxson 35.55 43 *e*P **P** **21 47 10.4 +0.7**
comp=Z,34nm,1.2s,mb5.2
PAX Paxson 35.55 43 *e*P **P** **21 47 10.4 +0.7**
PAX pmax pmax
comp=Z,34nm,1.2s,mb5.2
DIV Divide 35.59 46 *e*P **P** **21 47 10.1 0.0**
comp=Z,45nm,0.6s,mb5.6
SSLB Suanglung 35.95 239 *e*P **P** **21 47 13.8 +0.2**
comp=Z,31nm,1.0s,mb5.2
YULB Yu-li 36.06 238 *e*P **P** **21 47 14.7 +0.2**
comp=Z,21nm,0.7s,mb5.2
DOT Dot Lake 36.13 42 *e*P **P** **21 47 13.7 -1.0**
comp=Z,6.9nm,0.8s,mb4.6
BMRM Bremner River 36.17 46 *e*P **P** **21 47 15.5 +0.5**
comp=Z,42nm,0.9s,mb5.4
RAGM Ragged Mountai 36.22 47 *e*P **P** **21 47 16.2 +0.7**
comp=Z,77nm,1.2s,mb5.5
XAN Xi'an 36.47 264 P **P** **21 47 17.5 -0.4**
XAN pP pP 21 47 29.5 -2.0
XAN sP sP 21 47 35.0 -2.7
XAN PP PP 21 48 39.5 -2.0
XAN S **S** **21 52 51.5 -4.5**
XAN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
XAN pmax pmax
comp=Z,40nm,7.0s
XAN LR LR
comp=N,630nm,20.5s,MS4.4
XAN LR LR
comp=E,300nm,20.1s,MS4.4
XAN LR LR
comp=Z,340nm,21.6s,MS4.1
TPUB Ta-pu 36.52 239 *e*P **P** **21 47 18.7 +0.4**
comp=Z,70nm,0.7s,mb5.6
TWG Pinlang 36.64 238 *e*P **P** **21 47 18.9 -0.4**
comp=Z,51nm,0.8s,mb5.4
EGAK Eagle 37.30 40 *e*P **P** **21 47 24.0 -0.5**
comp=Z,77nm,0.9s,mb5.5
DAWY Dawson 38.14 41 *e*P **P** **21 47 31.8 +0.2**
DAWY *e*PcP PcP 21 49 45.4 +0.1
ENH Enshi 38.45 259 *e*P **P** **21 47 34.5 -0.2**
comp=Z,56nm,0.9s,mb5.3
ENH *e*PcP PcP 21 49 46.4 -0.5
LZH Lanzhou 38.67 271 ⇑P **P** **21 47 36.8 +0.4**
LZH pP pP 21 47 49.5 -0.7
LZH sP sP 21 47 53.8 -2.6
LZH *e*S **S** **21 53 32.0 +2.8**
LZH sS sS 21 53 51.5 -0.9
LZH SS SS 21 56 17.0 -4.0
LZH pmax pmax
comp=Z,47nm,1.0s,mb5.2
LZH pmax pmax
comp=Z,250nm,5.1s
LZH LR LR
comp=N,1μm,15.5s,MS4.9
LZH LR LR
comp=E,1μm,17.2s,MS4.9
LZH LR LR
comp=Z,1μm,18.0s,MS4.8
GTA Gaotai 39.55 278 ⇓P **P** **21 47 44.5 +0.7**
GTA pP pP 21 47 56.5 -1.0
GTA sP sP 21 48 02.5 -1.2
GTA PP PP 21 49 20.0 +4.8
GTA PcP PcP 21 49 51.0 +0.8
GTA ScP ScP 21 53 35.0 +0.8
GTA S **S** **21 53 42.8 +0.4**
GTA sS sS 21 54 02.5 -3.1
GTA pmax pmax
comp=Z,9.0nm,1.4s,mb4.3
GTA pmax pmax
comp=Z,120nm,5.0s
GTA LR LR
comp=N,1μm,17.8s,MS5.0
GTA LR LR
comp=E,1μm,17.3s,MS5.0
GTA LR LR
comp=Z,2μm,16.6s,MS5.1
INK Inuvik 39.92 33 *e*P **P** **21 47 47.1 +0.6**
comp=Z,50nm,0.8s,mb5.3
INK *e*PP PP 21 49 19.9 +1.2
INK Inuvik 39.92 33 *e*P **P** **21 47 47.1 +0.6**
INK *e* 21 49 19.9
INK pmax pmax
comp=Z,50nm,0.8s
CD2 Chengdu 41.83 264 *e*P **P** **21 48 02.8 +0.2**
CD2 sP sP 21 48 20.5 -2.1
CD2 PP PP 21 49 43.3 +3.3
CD2 PcP PcP 21 49 58.8 +1.1
CD2 PcS PcS 21 53 49.0 -0.4
CD2 sS sS 21 54 37.5 -2.3
CD2 SS SS 21 57 18.5 -5.5
CD2 ScS ScS 21 57 59.5 -1.0
CD2 pmax pmax
comp=Z,80nm,0.8s,mb5.4
CD2 pmax pmax
comp=Z,150nm,8.2s
CD2 LR LR
comp=N,740nm,19.0s,MS4.8
CD2 LR LR
comp=E,1μm,20.2s,MS4.8
CD2 LR LR
comp=Z,1μm,23.8s,MS4.7
ZAA0 Zalesovo Array 42.39 305 *e*P **P** **21 48 05.9 -1.0**
ZAA0 *e*PcP PcP 21 49 59.2 0.0
ZALV Zalesovo Beam 42.39 305 P **P** **21 48 05.9 -1.0**
comp=Z,29nm,0.5s,mb5.2,baz=62,slow=6.7,SNR=226
ZALV PcP PcP 21 49 59.2 0.0
comp=Z,37nm,0.8s,baz=64,slow=3.4,SNR=26
ZALV ScP ScP 21 53 44.5 -0.6
comp=Z,0.9nm,0.7s,baz=82,slow=2.0,SNR=2.6
ZALV LR LR 22 06 45.6
comp=Z,1μm,20.0s,MS4.7,baz=74,slow=38
ZALV Zalesovo Beam 42.39 305 P **P** **21 48 05.9 -1.0**
ZALV PcP PcP 21 49 59.2 0.0
ZALV ScP ScP 21 53 44.5 -0.6
ZALV Zalesovo Beam 42.39 305 P **P** **21 48 05.9 -1.0**
ZALV 21 49 59.2
ZALV pmax pmax
comp=Z,29nm,0.5s,mb5.2
ZALV MLR MLR
comp=Z,1μm,20.0s,MS4.7
GYA Guiyang 42.85 257 ⇑*i*P **P** **21 48 11.0 0.0**
GYA pP pP 21 48 25.0 +0.2
GYA sP sP 21 48 31.3 +0.3
GYA PP PP 21 49 53.5 +2.4
GYA PcP PcP 21 50 03.0 +1.8
GYA ScP ScP 21 53 49.0 +1.5
GYA PcS PcS 21 53 53.3 -0.3
GYA S **S** **21 54 31.5 -0.1**
GYA sS sS 21 54 55.5 +0.6
GYA SS SS 21 57 36.0 -8.2
GYA pmax pmax
comp=Z,80nm,0.9s,mb5.5
GYA pmax pmax
comp=Z,130nm,6.2s
GYA LR LR
comp=N,860nm,17.5s,MS4.8
GYA LR LR
comp=E,750nm,18.6s,MS4.8
GYA LR LR
comp=Z,990nm,16.9s,MS4.8
NVS Novosibirsk 42.92 307 ⇑*i*P **P** **21 48 10.7 -0.5**
NVS pmax pmax
comp=Z,16nm,0.5s,mb5.0
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,11nm,0.6s
DLBC Dease Lake 43.95 47 *e*P **P** **21 48 19.9 +0.5**
WMQ Urumqi 45.14 290 P **P** **21 48 29.8 +0.7**
WMQ pP pP 21 48 42.3 -0.8
WMQ sP sP 21 48 47.5 -1.8
WMQ PP PP 21 50 16.0 +0.8
WMQ S **S** **21 55 04.5 -0.1**
WMQ sS sS 21 55 25.5 -2.6
WMQ pmax pmax
comp=Z,15nm,1.0s,mb4.8
WMQ pmax pmax
comp=Z,230nm,6.2s
WMQ LR LR
comp=N,2μm,15.0s,MS5.2
WMQ LR LR
comp=E,1μm,17.4s,MS5.2
WMQ LR LR
comp=Z,1μm,23.8s
QIZ Qiongzhong 46.20 247 P **P** **21 48 38.8 +1.0**
QIZ sP sP 21 48 53.8 -4.1
QIZ S **S** **21 55 21.8 +1.5**
QIZ sS sS 21 55 45.0 +1.1
QIZ pmax pmax
comp=Z,36nm,1.2s,mb5.2
QIZ pmax pmax
comp=Z,150nm,3.3s
QIZ LR LR
comp=N,590nm,14.4s
QIZ LR LR
comp=Z,820nm,15.2s,MS4.8
KMI Kunming 46.33 259 P **P** **21 48 38.8 +0.1**
KMI pP pP 21 48 52.5 -0.2
KMI sP sP 21 48 57.5 -1.3
KMI PP PP 21 50 26.0 -2.1
KMI S **S** **21 55 15.8 -6.3**
KMI pmax pmax
comp=Z,47nm,1.0s,mb5.4
KMI pmax pmax
comp=Z,200nm,3.1s
KMI LR LR
comp=N,590nm,18.3s,MS4.6
KMI LR LR
comp=E,360nm,20.8s,MS4.6
KMI LR LR
comp=Z,510nm,20.8s,MS4.5
MK31 Makanchi Array 46.97 297 *e*P **P** **21 48 42.2 -1.2**
MK31 *e*PcP PcP 21 50 15.2 +0.2
MK31 Makanchi Array 46.97 297 *e*P **P** **21 48 42.3 -1.2**
MK31 *e* 21 50 15.3
MKAR Makanchi Array 46.97 297 P **P** **21 48 42.2 -1.3**
comp=Z,15nm,0.8s,mb5.0,baz=63,slow=6.1,SNR=58
MKAR PcP PcP 21 50 14.5 -0.6
comp=Z,12nm,0.7s,baz=55,slow=4.7,SNR=6.2
MKAR ScP ScP 21 54 04.4 +0.3
comp=Z,1.5nm,0.9s,baz=63,slow=5.8,SNR=4.3
MKAR LR LR 22 10 09.0
comp=Z,2μm,18.7s,MS5.1,baz=24,slow=38
MKAR Makanchi Array 46.97 297 PcP PcP 21 50 14.5 -0.6
MKAR ScP ScP 21 54 04.4 +0.3
MKAR Makanchi Array 46.97 297 P **P** **21 48 42.2 -1.3**
MKAR 21 50 14.5
MKAR pmax pmax
comp=Z,15nm,0.8s
MKAR MLR MLR
comp=Z,2μm,18.7s
KURK Kurchatov 47.21 303 *e*P **P** **21 48 44.0 -1.3**
comp=Z,114nm,0.7s,mb5.9
KURK Kurchatov 47.21 303 ⇑*i*P **P** **21 48 43.7 -1.5**
KURK pmax pmax
comp=Z,98nm,0.6s,mb5.9
KURK Kurchatov 47.21 303 P **P** **21 48 45.3 0.0**
SNR=26
ALE Alert 48.13 6 P **P** **21 48 51.0 -1.1**
comp=Z,189nm,0.7s,mb6.2,SNR=20
RES Resolute Bay 49.12 19 *e*P **P** **21 48 59.7 0.0**
comp=Z,87nm,0.6s,mb6.0
RES Resolute Bay 49.12 19 *e*P **P** **21 48 59.7 0.0**
RES pmax pmax
comp=Z,87nm,0.6s,mb6.0
YKA Yellowknife Ar 49.21 38 P **P** **21 49 00.7 +0.2**
comp=Z,20nm,0.8s,mb5.2,baz=298,slow=7.7,SNR=185
YKA PcP PcP 21 50 22.7 -0.1
comp=Z,3.2nm,0.8s,baz=296,slow=3.4,SNR=4.3
YKA Yellowknife Ar 49.21 38 P **P** **21 49 00.8 +0.2**
YKA PcP PcP 21 50 22.7 -0.1
YKA Yellowknife Ar 49.21 38 P **P** **21 49 00.7 +0.2**
YKA 21 50 22.7
YKA pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 50.56 309 *e*P **P** **21 49 09.5 -1.4**
BRVK Borovoye 50.56 309 *c i*P **P** **21 49 10.2 -0.7**
BRVK pmax pmax
comp=Z,99nm,0.6s,mb5.9
BRVK Borovoye 50.56 309 P **P** **21 49 11.1 +0.2**
SNR=16
LSA Lhasa 51.01 273 *e*P **P** **21 49 18.8 +4.2**
LSA Lhasa 51.01 273 *e*P **P** **21 49 16.4 +1.8**
comp=Z,19nm,0.7s,mb5.1
LSA Lhasa 51.01 273 *e*P **P** **21 49 16.4 +1.8**
LSA pmax pmax
comp=Z,19nm,0.7s,mb5.1
CHRT Chiangrai 51.96 257 ⇑P **P** **21 49 21.5 -0.3**
comp=Z,129nm,1.8s,mb5.6
JCW Jim Creek 53.01 56 *e*P **P** **21 49 29.2 0.0**
TKM2 Tokmak 2 53.06 296 P **P** **21 49 30.7 +1.0**
SNR=10
TKM2 P 21 49 30.7
SNR=10
TKM2 Tokmak 2 53.06 296 *e*P **P** **21 49 29.6 -0.1**
comp=Z,21nm,0.8s,mb5.1
TKM2 Tokmak 2 53.06 296 *i*P **P** **21 49 30.6 +0.9**
CHTO Chiang Mai 53.27 257 *e*P **P** **21 49 32.2 +0.8**
comp=Z,52nm,0.8s,mb5.5
CHTO Chiang Mai 53.27 257 *e*P **P** **21 49 32.2 +0.7**
CHTO pmax pmax
comp=Z,52nm,0.8s,mb5.5
CHTO Chiang Mai 53.27 257 P **P** **21 49 32.0 +0.5**
comp=Z,733nmcomp=Z,86nm,1.2s,mb5.5
CHTO Chiang Mai 53.27 257 P **P** **21 49 32.6 +1.1**
SNR=15
SVE Sverdlovsk 53.27 317 *c e*P **P** **21 49 30.4 -0.6**
SVE *e* 21 50 38.1
SVE *e*S **S** **21 56 58.2 +0.1**
SVE pmax pmax
comp=Z,35nm,0.6s,mb5.5
SVE MLR MLR
comp=Z,1μm,24.0s,MS5.0
SOKR Solikamsk 53.41 321 *e*P **P** **21 49 31.1 -0.9**
SOKR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
SOKR MLR MLR
comp=Z,790nm,21.0s,MS4.7
USP Ospenovka 53.52 297 P **P** **21 49 32.9 -0.1**
SNR=33
USP P 21 49 32.9
SNR=33
CM31 Chiang Mai Arr 53.53 256 *e*P **P** **21 49 34.1 +0.7**
comp=Z,30nm,0.8s,mb5.3
CM31 *e*PcP PcP 21 50 40.1 +0.5
CMAR Chiang Mai Arr 53.53 256 P **P** **21 49 34.4 +1.0**
comp=Z,30nm,0.7s,mb5.3,baz=33,slow=7.3,SNR=237
CMAR PcP PcP 21 50 40.5 +0.9
comp=Z,12nm,0.7s,baz=12,slow=2.3,SNR=11
CMAR ScP ScP 21 54 32.9 +0.2
comp=Z,1.4nm,0.7s,baz=17,slow=3.7,SNR=5.6
CMAR LR LR 22 14 14.6
comp=Z,573nm,18.3s,MS4.7,baz=52,slow=38
CMAR Chiang Mai Arr 53.53 256 P **P** **21 49 34.4 +1.0**
CMAR PcP PcP 21 50 40.5 +0.9
CMAR ScP ScP 21 54 32.9 +0.2
CMAR Chiang Mai Arr 53.53 256 P **P** **21 49 34.4 +1.0**
CMAR 21 50 40.5
CMAR pmax pmax
comp=Z,30nm,0.7s
CMAR MLR MLR
comp=Z,573nm,18.3s
KBK Karagaybulak 53.61 296 P **P** **21 49 33.1 -0.6**
SNR=11
KBK P 21 49 33.1
SNR=11

FRU Bishkek 53.70 296 *e*P **P 21 49 35.0 +0.6**
KZA Kyzart 53.76 295 P **P 21 49 36.6 +1.8**
SNR=17
KZA P 21 49 36.6
SNR=17
AAK Ala-Archa 53.89 296 P **P 21 49 35.6 -0.1**
SNR=22
AAK P 21 49 35.6
SNR=22
AAK Ala-Archa 53.89 296 *e*P **P 21 49 34.9 -0.9**
comp=Z,62nm,0.7s,mb5.6
AAK Ala-Archa 53.89 296⇓ *i*P **P 21 49 35.6 -0.2**
AAK pmax pmax
comp=Z,32nm,0.7s,mb5.4
AAK Ala-Archa 53.89 296 P **P 21 49 35.7 -0.1**
comp=Z,101nm,0.8s,mb5.8
AAK Ala-Archa 53.89 296 P **P 21 49 36.1 +0.3**
SNR=6.9
ETW Entiat 54.23 56 *e*P **P 21 49 38.0 -0.2**
EKS2 Erkin-Say 54.31 296 P **P 21 49 34.3 -4.5**
SNR=24
EKS2 P 21 49 34.3
SNR=24
EKS2 Erkin-Say 54.31 296 *e*P **P 21 49 38.8 0.0**
EKS2 Erkin-Say 54.31 296 *e*P **P 21 49 38.8 0.0**
BDT Bhumibol Dam 54.37 255 P **P 21 49 40.0 +0.5**
ARU Arti 54.44 317 *e*P **P 21 49 37.0 -2.5**
ARU Arti 54.44 317 *d i*P **P 21 49 38.4 -1.1**
ARU *e* 21 50 41.7
ARU *e* 21 51 38.0
ARU PPP 21 52 50.7
ARU S **S 21 57 12.2 -1.7**
ARU SS SS 22 00 51.9 -4.1
ARU SSS 22 02 53.9
ARU pmax pmax
comp=Z,66nm,0.6s,mb5.7
ARU Arti 54.44 317 P **P 21 49 38.8 -0.7**
comp=Z,855nm,0.5s,mb6.9,SNR=39
GTOI Gorontalo 54.63 220 P **P 21 49 40.2 -1.2**
comp=Z,28nm,1.6s,mb5.0
AML Almayashu 54.67 296 P **P 21 49 42.9 +1.5**
SNR=8.3
AML P 21 49 42.9
SNR=8.3
KSH Kashi 54.83 292 P **P 21 49 47.0 +4.4**
KSH pP pP 21 49 59.5 +2.6
KSH sP sP 21 50 04.8 +1.8
KSH PcP PcP 21 50 48.5 +4.2
KSH PP PP 21 51 51.3 +5.8
KSH ScP ScP 21 54 41.5 +3.4
KSH PcS PcS 21 54 45.8 +1.7
KSH S **S 21 57 24.3 +4.7**
KSH sS sS 21 57 45.5 +1.8
KSH ScS ScS 21 59 28.8 +1.9
KSH SS SS 22 01 07.8 +4.9
KSH pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KSH pmax pmax
comp=Z,78nm,5.2s
KSH LR LR
comp=N,710nm,16.2s,MS5.0
KSH LR LR
comp=E,660nm,13.3s,MS5.0
KSH LR LR
comp=Z,2μm,20.5s
TAPN Taplejung 54.83 273 *e*P **P 21 49 43.8 +1.0**
TAPN Taplejung 54.83 273 *e*P **P 21 49 43.8 +1.0**
DAG Danmarks Havn 55.15 358 *i*P **P 21 49 42.6 -1.8**
comp=Z,5.7nm,1.0s,mb4.6
MRSI Marisa 55.23 221 P **P 21 49 44.8 -0.9**
comp=Z,688nmcomp=Z,44nm,1.8s,mb5.2
OD2 Odessa Site #2 55.25 56 *e*P **P 21 49 44.9 -0.6**
RSW Rattlesnake Hi 55.34 57 *e*P **P 21 49 46.7 +0.5**
ODAN Odare 55.37 273 *e*P **P 21 49 47.0 +0.3**
comp=Z,38nm,0.7s,mb5.6
ODAN Odare 55.37 273 *e*P **P 21 49 47.0 +0.3**
comp=Z,38nm,0.7s,mb5.5
HAWA Hanford 55.38 57 *e*P **P 21 49 46.4 -0.1**
comp=Z,24nm,1.1s,mb5.1
JIRN Jiri 55.64 274 *e*P **P 21 49 49.2 +0.6**
comp=Z,17nm,0.6s,mb5.3
JIRN Jiri 55.64 274 *e*P **P 21 49 49.2 +0.6**
comp=Z,17nm,0.6s,mb5.3
GUN Gumba 55.68 275 *e*P **P 21 49 49.0 +0.1**
comp=Z,42nm,0.6s,mb5.7
GUN Gumba 55.68 275 *e*P **P 21 49 49.0 +0.1**
comp=Z,42nm,0.6s,mb5.6
LVZ Lovozero 55.69 337 *i*P **P 21 49 47.9 -0.4**
LVZ Lovozero 55.69 337 P **P 21 49 47.6 -0.7**
comp=Z,255nm,0.8s,mb6.3,SNR=5.0
RAMN Ramite 55.84 273 *e*P **P 21 49 50.1 +0.1**
comp=Z,103nm,0.8s,mb5.9
RAMN Ramite 55.84 273 *e*P **P 21 49 50.1 +0.1**
comp=Z,103nm,0.8s,mb5.9
KKAR Karatay Array 55.98 299 *e*P **P 21 49 49.9 -0.9**
KKAR Karatay Array 55.98 299 *e*P **P 21 49 49.9 -0.9**
KKN Kakani 56.16 275 *e*P **P 21 49 52.9 +0.6**
comp=Z,46nm,0.5s,mb5.7
KKN Kakani 56.16 275 *e*P **P 21 49 52.9 +0.6**
comp=Z,46nm,0.5s,mb5.8
KKN Kakani 56.16 275 *e*P **P 21 49 52.9 +0.6**
KKN pmax pmax
comp=Z,46nm,0.5s,mb5.8
KEV Kevo 56.17 341 *e*P **P 21 49 50.2 -1.6**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
KEV Kevo 56.17 341 *e p* **P 21 49 50.2 -1.6**
comp=Z,7.3nm,0.7s,mb4.8
PKI Pulchoki 56.22 275 *e*P **P 21 49 52.9 +0.2**
comp=Z,43nm,0.6s,mb5.7
PKI Pulchoki 56.22 275 *e*P **P 21 49 52.9 +0.2**
comp=Z,43nm,0.6s,mb5.7
PKI Pulchoki 56.22 275 *e*P **P 21 49 52.9 +0.2**
PKI pmax pmax
comp=Z,43nm,0.6s,mb5.7
APA Apatity 56.25 337⇓ *e*P **P 21 49 52.6 +0.2**
APA MLR MLR
comp=Z,2μm,17.0s,MS5.3
YBH Yreka Blue Hor 56.31 63 *e*P **P 21 49 54.3 +1.1**
comp=Z,82nm,1.7s,mb5.5
YBH Yreka Blue Hor 56.31 63 *e*P **P 21 49 54.3 +1.1**
YBH pmax pmax
comp=Z,81nm,1.7s
DMN Daman 56.40 275 *e*P **P 21 49 54.4 +0.4**
comp=Z,108nm,0.8s,mb5.9
DMN Daman 56.40 275 *e*P **P 21 49 54.4 +0.4**
comp=Z,108nm,0.8s,mb5.9
GKN Gorkha 56.45 276 *e*P **P 21 49 54.1 -0.3**
comp=Z,85nm,0.6s,mb6.0
GKN Gorkha 56.45 276 *e*P **P 21 49 54.1 -0.3**
comp=Z,85nm,0.6s,mb6.0
ARCES ARCESS Array B 56.67 341 P **P 21 49 53.4 -2.0**
comp=Z,11nm,0.7s,mb5.0,baz=25,slow=6.9,SNR=7.3
ARCES LR LR 22 18 13.8
comp=Z,1μm,20.2s,MS5.0,baz=32,slow=40
ARCES ARCESS Array B 56.67 341 P **P 21 49 53.4 -2.0**
ARCES ARCESS Array B 56.67 341 P **P 21 49 53.4 -2.0**
ARCES pmax pmax
comp=Z,11nm,0.7s
ARCES MLR MLR
comp=Z,1μm,20.3s
DANN Dangsing 56.80 277 *e*P **P 21 49 57.4 +0.5**
comp=Z,159nm,0.6s,mb6.2
DANN Dangsing 56.80 277 *e*P **P 21 49 57.4 +0.5**
comp=Z,159nm,0.6s,mb6.2
WALA Waterton Lakes 56.84 52 *e*P **P 21 49 57.0 +0.1**
comp=Z,0.7nm,0.7s
WALA *e* pP 21 50 08.8 -2.5
BSMT Bassoo Peak 57.11 53 *e*P **P 21 49 59.3 +0.5**
WDC Whiskeytown Da 57.11 64 *e*P **P 21 49 59.1 +0.2**
comp=Z,32nm,1.3s,mb5.2
WDC Whiskeytown Da 57.11 64 *e*P **P 21 49 59.1 +0.2**
WDC pmax pmax
comp=Z,32nm,1.3s,mb5.2
BLMT Blacktail Moun 57.24 53 *e*P **P 21 50 00.8 +1.1**
KOLN Koldanda 57.29 276 *e*P **P 21 50 00.1 -0.2**
comp=Z,78nm,0.7s,mb5.9
KOLN Koldanda 57.29 276 *e*P **P 21 50 00.1 -0.2**
comp=Z,78nm,0.7s,mb5.8
JTMT Jette 57.44 53 *e*P **P 21 50 01.6 +0.5**
YBMT Yellow Bay 57.52 53 *e*P **P 21 50 02.1 +0.5**
BMO Blue Mountains 57.55 57 *e*P **P 21 50 02.4 +0.4**
MOD Modoc 57.63 62 *e*P **P 21 50 03.2 +0.6**
SWMT Swartz Lake 57.74 53 *e*P **P 21 50 03.5 +0.3**
PMG Port Moresby 57.78 188 *ce*P **P 21 50 03.2 -0.6**
PMG pmax pmax
comp=Z,9.0nm,0.8s
ABKAR Akbulak array 58.07 310 *e*P **P 21 50 04.2 -1.4**
MSO Missoula 58.19 54 *e*P **P 21 50 06.5 +0.2**
comp=Z,89nm,2.0s,mb5.5
WVOR Wild Horse Val 58.28 60 *e*P **P 21 50 07.0 -0.1**
comp=Z,45nm,1.4s,mb5.3
WVOR Wild Horse Val 58.28 60 *e*P **P 21 50 07.0 -0.1**
WVOR pmax pmax
comp=Z,45nm,1.4s,mb5.3
OHCM Honcut 58.52 65 *e*P **P 21 50 08.3 -0.5**
FFC Flin Flon 59.05 41 *e*P **P 21 50 11.9 -0.3**
comp=Z,31nm,0.9s,mb5.3
FFC Flin Flon 59.05 41 *i*P **P 21 50 12.4 +0.2**
SUMG Summit 59.11 4 *e*P **P 21 50 11.9 -0.5**
comp=Z,77nm,0.7s,mb5.8
SUMG Summit 59.11 4 *e*P **P 21 50 11.9 -0.5**
SUMG pmax pmax
comp=Z,77nm,0.7s
SUMG Summit 59.11 4⇑ *i*P **P 21 50 13.1 +0.7**
comp=Z,73nm,0.8s,mb5.8
KLMR Klimovskoe 59.22 329 *e*P **P 21 50 10.3 -3.0**
KLMR pmax pmax
comp=Z,27nm,0.6s,mb5.5
KLMR MLR MLR
comp=Z,1μm,17.0s,MS5.1
DDI Dehra Dun 59.27 282 *e*PKP **P 21 50 13.0 -1.1**
MFID Camas Ranch 59.28 58 *e*P **P 21 50 14.2 +0.2**
comp=Z,10nm,0.8s,mb4.9
SMLA Simla 59.32 284 *i*P **P 21 50 13.2 -1.2**
HRY Holter Researc 59.40 53 *e*P **P 21 50 15.8 +1.1**
WCN Washoe City 59.58 64 *e*P **P 21 50 16.5 +0.4**
comp=Z,28nm,1.2s,mb5.2
WCN Washoe City 59.58 64 *e*P **P 21 50 16.5 +0.3**
WCN pmax pmax
comp=Z,28nm,1.2s,mb5.2
LRM Limekiln Ridge 59.63 54 *e*P **P 21 50 17.0 +0.7**
EGMT Eagleton 59.65 51 *e*P **P 21 50 16.7 +0.2**
comp=Z,375nm,2.6s,mb6.0
DLMT Dillon 59.84 55 *e*P **P 21 50 18.3 +0.5**
comp=Z,127nm,1.9s,mb5.6
HLID Hailey 59.98 57 *e*P **P 21 50 19.0 +0.2**
comp=Z,47nm,1.6s,mb5.3
HLID *e* pP 21 50 31.6 -1.7
CMB Columbia Colle 60.01 65 *e*P **P 21 50 19.0 -0.1**
comp=Z,38nm,1.5s,mb5.2
CMB Columbia Colle 60.01 65 *e*P **P 21 50 19.0 -0.1**
CMB pmax pmax
comp=Z,38nm,1.5s,mb5.2
MCMT McKenzie Canyo 60.04 55 *e*P **P 21 50 19.4 +0.2**
comp=Z,4.1nm,0.8s,mb4.5
MCMT *e* pP 21 50 31.7 -2.0
KSM Kuching 60.05 233 *e*P **P 21 50 20.9 +1.4**
comp=Z,27nm,0.9s,mb5.3
KSM Kuching 60.05 233 P **P 21 50 20.3 +0.7**
comp=Z,515nmcomp=Z,38nm,1.0s,mb5.4
SPSI Sidrap Palu 60.15 221 P **P 21 50 19.3 -0.9**
comp=Z,22nm,1.5s,mb5.0
SAO San Andreas Ge 60.17 67 *e*P **P 21 50 20.1 -0.1**
comp=Z,51nm,1.8s,mb5.2
SAO San Andreas Ge 60.17 67 *e*P **P 21 50 20.1 -0.1**
SAO pmax pmax
comp=Z,51nm,1.8s,mb5.2
BOZ Bozeman (W) 60.18 54 *e*P **P 21 50 21.1 +0.9**
comp=Z,263nm,2.3s,mb5.9
BOZ Bozeman (W) 60.18 54 *e*P **P 21 50 21.1 +0.9**
BOZ pmax pmax
comp=Z,263nm,2.3s,mb5.9
JOF Joensuu 60.32 334 *e*P **P 21 50 19.4 -1.4**
JOF pmax pmax
comp=Z,14nm,0.5s,mb5.2
JOF Joensuu 60.32 334 *ep* **P 21 50 19.4 -1.4**
comp=Z,14nm,0.5s,mb5.3
BMN Battle Mountai 60.37 61 *e*P **P 21 50 21.6 +0.1**
comp=Z,9.9nm,0.4s,mb5.2
BMN *e* pP 21 50 34.5 -1.6
BMN Battle Mountai 60.37 61 *e*P **P 21 50 21.6 +0.1**
BMN *e* pP 21 50 34.5 -1.5
BMN pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
QLMT Earthquake Lak 60.81 54 *e*P **P 21 50 25.3 +0.8**
NDI New Delhi 60.90 281 *e*PKP **P 21 50 24.5 -0.8**
NVAR Mina Array Bea 61.01 64 P **P 21 50 26.4 +0.4**
comp=Z,12nm,0.5s,mb5.3,baz=293,slow=7.6,SNR=125
NVAR PcP PcP 21 51 09.6 +0.9
comp=Z,7.3nm,0.8s,baz=291,slow=3.7,SNR=5.7
NVAR LR LR 22 11 50.6
comp=Z,318nm,21.5s,MS4.4,baz=57,slow=31
NVAR Mina Array Bea 61.01 64 P **P 21 50 26.4 +0.4**
NVAR PcP PcP 21 51 09.6 +0.9
KAPI Kappang 61.09 220 *e*P **P 21 50 25.2 -1.5**
KAPI Kappang 61.09 220 P **P 21 50 25.7 -1.0**
comp=Z,32nm,1.1s,mb5.4
YMR Madison River 61.17 54 *e*P **P 21 50 28.2 +1.3**
comp=Z,153nm,1.8s,mb5.8
YMR *e* pP 21 50 40.6 -0.8
BKSI Bulukumba 61.21 220 P **P 21 50 26.7 -0.8**
comp=Z,26nm,0.9s,mb5.4
YNR Norris Junctio 61.30 54 *e*P **P 21 50 29.6 +1.9**
comp=Z,32nm,1.2s,mb5.3
ELK Elko 61.32 60 *e*P **P 21 50 28.6 +0.6**
comp=Z,11nm,0.8s,mb5.0
ELK Elko 61.32 60 *e*P **P 21 50 28.6 +0.6**
ELK pmax pmax
comp=Z,11nm,0.8s
YFT Old Faithful 61.38 54 *e*P **P 21 50 30.9 +2.5**
comp=Z,362nm,2.6s,mb6.0
SCO Scoresbysund 61.52 359⇑ *i*P **P 21 50 29.0 +0.2**
comp=Z,13nm,0.8s,mb5.1
LKWY Lake 61.55 54 *e*P **P 21 50 32.8 +3.3**
comp=Z,106nm,0.8s,mb6.0
LKWY Lake 61.55 54 *e*P **P 21 50 32.8 +3.4**
LKWY pmax pmax
comp=Z,106nm,0.8s,mb6.0
MTUM Tungsten Hills 61.55 65 *e*P **P 21 50 29.9 +0.3**
MTUM *ep*P pP 21 50 42.5 -1.6
RRI2 Red Ridge 61.84 56 *e*P **P 21 50 32.8 +1.4**
comp=Z,31nm,0.8s,mb5.5
BBKI Banjar Baru 61.96 226 P **P 21 50 32.6 0.0**
comp=Z,101nm,1.2s,mb5.8
HVU Hansel Valley 62.05 58 *e*P **P 21 50 33.9 +1.0**
HVU Hansel Valley 62.05 58 *e*P **P 21 50 33.9 +1.0**
LOHW Long Hollow 62.06 55 *e*P **P 21 50 34.1 +1.2**
comp=Z,58nm,1.4s,mb5.5
SNOW Snow King Moun 62.08 55 *e*P **P 21 50 34.7 +1.7**
comp=Z,57nm,1.3s,mb5.5
SNOW *ep*P pP 21 50 47.6 0.0
DGMT Dagmar 62.16 48 *e*P **P 21 50 33.9 +0.4**
comp=Z,32nm,0.8s,mb5.5
DGMT *ep*P pP 21 50 47.1 -1.0
KBL Kabul 62.26 292 *e*P **P 21 50 34.0 -0.3**
KBL Kabul 62.26 292 *e*P **P 21 50 34.0 -0.4**
LAO LASA Array 62.34 50 *e*P **P 21 50 35.4 +0.7**
comp=Z,31nm,0.9s,mb5.4
LAO *ep*P pP 21 50 48.8 -0.5
AHID Auburn Hatcher 62.34 56 *e*P **P 21 50 35.2 +0.4**
KAF Kangasniemi 62.39 335 *e*P **P 21 50 32.3 -2.5**
KAF pmax pmax
comp=Z,12nm,0.6s,mb5.2
KULM Kulim 62.47 245 *e*P **P 21 50 36.8 +0.8**
KULM Kulim 62.47 245 P **P 21 50 36.8 +0.8**
comp=Z,41nm,0.9s,mb5.6
ISA Isabella 62.72 66 *e*P **P 21 50 36.3 -1.1**
ISA Isabella 62.72 66 *e*P **P 21 50 36.3 -1.1**
COEN Coen 62.75 192 *e*P **P 21 50 37.4 -0.2**
comp=Z,142nm,1.1s,mb6.0
COEN Coen 62.75 192 P **P 21 50 35.5 -2.2**
comp=Z,20nm,1.2s,mb5.1
HWUT Hardware Ranch 62.85 57 *e*P **P 21 50 38.9 +0.7**
FINES FINESS Array B 63.00 335 P **P 21 50 37.5 -1.4**
comp=Z,34nm,0.6s,mb5.7,baz=35,slow=7.2,SNR=174
FINES LR LR 22 20 34.2
comp=Z,1μm,21.2s,MS5.0,baz=31,slow=38
FINES FINESS Array B 63.00 335 P **P 21 50 37.5 -1.4**
FINES FINESS Array B 63.00 335 P **P 21 50 37.5 -1.4**
FINES pmax pmax
comp=Z,34nm,0.6s
FINES MLR MLR
comp=Z,1μm,21.2s
PUL Pulkovo 63.07 332 *ce*P **P 21 50 39.0 -0.4**
PUL pmax pmax
comp=Z,66nm,0.4s,mb6.1
DUG Dugway 63.08 59 *e*P **P 21 50 40.2 +0.5**
comp=Z,24nm,0.9s,mb5.3
DUG Dugway 63.08 59 *e*P **P 21 50 40.2 +0.5**
DUG pmax pmax
comp=Z,25nm,0.9s,mb5.3
BW06 Boulder Array 63.19 55 *e*P **P 21 50 40.8 +0.4**
OSI Osito Adit 63.26 67 *e*P **P 21 50 41.0 0.0**
comp=Z,31nm,0.7s,mb5.5
SFJD Kangerlussuaq 63.50 11 *e*P **P 21 50 41.6 -0.5**
comp=Z,37nm,0.8s,mb5.6
SFJD Kangerlussuaq 63.50 11 *e*P **P 21 50 41.6 -0.5**
SFJD pmax pmax
comp=Z,37nm,0.8s,mb5.6
SFJD Kangerlussuaq 63.50 11⇑ *i*P **P 21 50 41.4 -0.7**
comp=Z,42nm,0.8s,mb5.6
JLU Jordanelle 63.58 58 *e*P **P 21 50 44.0 +1.0**
DAU Daniels Canyon 63.82 58 *e*P **P 21 50 45.9 +1.3**
DAU Daniels Canyon 63.82 58 *e*P **P 21 50 45.9 +1.3**
MPU Maple Canyon 63.87 59 *e*P **P 21 50 45.9 +0.9**
PASC Pasadena Art C 63.88 67 *e*P **P 21 50 45.0 -0.1**
comp=Z,59nm,0.8s,mb5.7
MWC Mount Wilson 63.92 67 *e*P **P 21 50 45.1 -0.3**
MWC Mount Wilson 63.92 67 *e*P **P 21 50 45.1 -0.3**
GSC Goldstone 63.97 66 *e*P **P 21 50 45.5 -0.2**
comp=Z,12nm,0.8s,mb5.0
GSC Goldstone 63.97 66 *e*P **P 21 50 45.5 -0.2**
GSC pmax pmax
comp=Z,12nm,0.8s,mb5.0
ARUT Antelope Range 64.32 61 *e*P **P 21 50 48.1 +0.2**
comp=Z,14nm,0.8s,mb5.0
ARUT Antelope Range 64.32 61 *e*P **P 21 50 48.1 +0.1**
ARUT pmax pmax
comp=Z,14nm,0.8s,mb5.0
BHPL Bhopal 64.45 277 *e*PKP **P 21 50 49.4 +0.4**
BHPL AMb AMB 21 50 49.8
comp=Z,100nm,0.9s,mb5.9
OBN Obninsk 64.51 326 *e*P **P 21 50 47.6 -1.3**
comp=Z,16nm,0.6s,mb5.2
OBN Obninsk 64.51 326⇖ *i*P **P 21 50 47.4 -1.5**
OBN *e* pP 21 51 00.4 -3.1
OBN *e* 21 51 22.5
OBN pmax pmax
comp=Z,13nm,0.6s,mb5.1
OBN MLR MLR
comp=Z,600nm,20.0s,MS4.8
CCUT Cedar City 64.52 62 *e*P **P 21 50 49.7 +0.4**
MSU Marysvale 64.57 60 *e*P **P 21 50 50.4 +0.8**
MSU Marysvale 64.57 60 *e*P **P 21 50 50.4 +0.8**
TMUT Trail Mountain 64.60 59 *e*P **P 21 50 50.6 +0.9**
comp=Z,40nm,1.3s,mb5.3
ULM Lac du Bonnet 64.83 42 P **P 21 50 50.7 -0.4**
comp=Z,14nm,0.7s,mb5.1,baz=316,slow=7.1,SNR=30
ULM LR LR 22 22 16.2
comp=Z,285nm,18.9s,MS4.5,baz=152,slow=39
ULM Lac du Bonnet 64.83 42 P **P 21 50 50.7 -0.4**
ULM Lac du Bonnet 64.83 42 P **P 21 50 50.7 -0.4**
ULM pmax pmax
comp=Z,15nm,0.7s
ULM MLR MLR
comp=Z,285nm,19.0s
SRU San Rafael 65.11 59 *e*P **P 21 50 53.5 +0.4**
comp=Z,30nm,0.9s,mb5.3
SRU San Rafael 65.11 59 *e*P **P 21 50 53.5 +0.4**
SRU pmax pmax
comp=Z,30nm,0.9s,mb5.3
LDFC Landfair 65.15 65 *e*P **P 21 50 53.2 -0.2**
RSSD Black Hills 65.22 51 *e*P **P 21 50 53.8 +0.1**
comp=Z,30nm,0.6s,mb5.5
RSSD Black Hills 65.22 51 *e*P **P 21 50 53.8 +0.1**
RSSD pmax pmax
comp=Z,30nm,0.6s,mb5.5
VSU Vasula 65.23 333⇑ *i*P **P 21 50 52.4 -1.1**
VSU pmax pmax
comp=Z,34nm,0.7s,mb5.5
VRHR Novokhopersk 65.47 320 *e*P **P 21 50 52.9 -2.3**
VRHR pmax pmax
comp=N,4.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.5
PSI Prapat 65.48 245 P **P 21 50 56.5 +0.8**
comp=Z,55nm,0.8s,mb5.6
BAR Barrett 65.82 68 *e*P **P 21 50 57.5 -0.2**
comp=Z,13nm,0.8s,mb5.0
KHKI Kahang-Kahang 65.91 223 P **P 21 50 56.5 -1.9**
AGMN Agassiz Nation 66.25 43 *e*P **P 21 50 59.8 -0.5**
comp=Z,198nm,2.3s,mb5.7
VSR Storozhevoye 66.42 322 *e*P **P 21 51 00.0 -1.3**
VSR *e**PP pP 21 51 13.6 -2.4
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VSR MLR MLR
comp=N,610nm,18.0s,MS4.9
VSR MLR MLR
comp=Z,720nm,18.0s,MS4.9
VSR MLR MLR
comp=E,440nm,19.0s,MS4.9
ABKT Ailbek 66.52 301 P **P 21 51 02.1 0.0**
comp=E,190nm,0.6s,mb6.3,SNR=22
PV04 Paradox Valley 66.53 58 *e*P **P 21 51 02.5 +0.3**
GLA Glamis 66.70 66 *e*P **P 21 51 03.7 +0.3**
comp=E,20nm,0.8s,mb5.2
GLA Glamis 66.70 66 *e*P **P 21 51 03.7 +0.3**
GLA pmax pmax
comp=Z,20nm,0.8s,mb5.2
PV01 Paradox Valley 66.90 58 *e*P **P 21 51 05.1 +0.6**
comp=Z,9μm,1.9s
NB2 NORSAR Subarra 67.04 341 P **P 21 51 03.8 -1.3**
comp=Z,14nm,0.6s,mb5.2,baz=25,slow=6.5
NOA NORSAR Array B 67.04 341 P **P 21 51 03.8 -1.3**
comp=Z,11nm,0.6s,mb5.1,baz=25,slow=6.3,SNR=73
NOA LR LR 22 25 08.8
comp=Z,484nm,18.5s,MS4.8,baz=20,slow=40
NOA NORSAR Array B 67.04 341 P **P 21 51 03.8 -1.3**
NOA NORSAR Array B 67.04 341 P **P 21 51 03.8 -1.3**
NOA pmax pmax
comp=Z,11nm,0.6s
NOA MLR MLR
comp=Z,484nm,18.5s
SMCO Snowmass 67.07 57 *e*P **P 21 51 06.0 +0.4**
WUAZ Wupatki 67.08 62 *e*P **P 21 51 05.8 0.0**
comp=Z,255nm,2.8s,mb5.8
NAO01 NORSAR Array S 67.28 342 *e*P **P 21 51 06.0 -0.6**
comp=Z,14nm,0.8s,mb5.0
HFS Hagfors 67.30 340 P **P 21 51 05.4 -1.4**
comp=Z,14nm,0.4s,mb5.3,baz=50,slow=4.6,SNR=105
HFS PcP PcP 21 51 31.6 -2.6
comp=Z,6.9nm,0.7s,baz=68,slow=5.6,SNR=4.1
HFS Hagfors 67.30 340 P **P 21 51 05.4 -1.4**
HFS PcP PcP 21 51 31.6 -2.6
HFS Hagfors 67.30 340 P **P 21 51 05.4 -1.4**
HFS 21 51 31.6
HFS pmax pmax
comp=Z,14nm,0.4s
ISCO Idaho Springs 67.39 55 *e*P **P 21 51 08.4 +0.7**
ISCO Idaho Springs 67.39 55 *e*P **P 21 51 08.4 +0.7**
PWJI Pagerwojo 67.39 226 P **P 21 51 06.0 -1.9**
MVCO Mesa Verde 67.58 59 *e*P **P 21 51 09.2 +0.3**
HYB Hyderabad 67.78 271 *i*P **P 21 51 09.0 -1.4**
LATR Latur 68.40 274 *e*PKP **P 21 51 14.4 +0.1**
CTA Charters Tower 68.44 188 *e*P **P 21 51 13.6 -0.7**
EYMN Ely 68.48 41 *e*P **P 21 51 13.8 -0.6**
OGNE Ogallala 68.51 52 *e*P **P 21 51 14.9 +0.2**
comp=Z,63nm,0.8s,mb5.6
KONO Kongsberg 68.64 342 *e*P **P 21 51 15.0 -0.1**
comp=Z,42nm,0.9s,mb5.4
KONO Kongsberg 68.64 342 *e*P **P 21 51 15.0 -0.2**
KONO pmax pmax
comp=Z,42nm,0.9s,mb5.4
MAK Makhachkala 68.68 311 *e*P **P 21 51 16.2 +0.5**
MAK *e* 21 53 48.3
MAK *e*PPP 21 55 31.4
MAK *e*S S 22 00 17.7 +3.1
MAK pmax pmax
comp=Z,47nm,0.6s,mb5.6
MAK MLR MLR
comp=Z,2μm,17.0s,MS5.3
SDCO Great Sand Dun 68.90 57 *e*P **P 21 51 17.5 +0.4**
MSVF Nonsavu 69.05 156 *e*P **P 21 51 18.8 +0.6**
MSVF Nonsavu 69.05 156 *e*P **P 21 51 18.8 +0.7**
ECSD EROS Data Cent 69.24 47 *e*P **P 21 51 18.5 -0.7**
TUC Tucson 69.66 64 *e*P **P 21 51 21.9 0.0**
TUC Tucson 69.66 64 *e*P **P 21 51 21.9 -0.1**
SUW Suwalki 70.04 332 *e*P **P 21 51 22.7 -1.2**
SUW LMZ 22 21 38.5

comp=Z,800nm,25.1s
SUW Suwalki 70.04 332 *e*P **P 21 51 22.2 -1.7**
SUW Suwalki 70.04 332 *e*P **P 21 51 22.7 -1.2**
SUW MLR MLR
comp=Z,800nm,25.1s,MS4.9
POO Poona 70.12 276 *e*PKP **P 21 51 25.7 +0.8**
POO AMb AMB 21 51 27.2
comp=Z,136nm,0.6s,mb6.0
WRAB Tennant Creek 70.22 200 *e*P **P 21 51 24.4 -0.9**
WRAB Tennant Creek 70.22 200 *e*P **P 21 51 24.4 -0.9**
WRAB Tennant Creek 70.22 200 P **P 21 51 24.6 -0.7**
comp=Z,56nm,0.9s,mb5.5
WRAB Tennant Creek 70.22 200 P **P 21 51 24.0 -1.3**
comp=Z,182nm,0.8s,mb6.1,SNR=14
WB2 Warramunga Arr 70.23 200 *e*P **P 21 51 24.4 -1.0**
WB2 *e*PcP PcP 21 51 46.8 -0.1
WRA Warramunga Arr 70.23 200 P **P 21 51 24.4 -0.9**
comp=Z,20nm,0.8s,mb5.1,baz=14,slow=6.1,SNR=97
WRA Warramunga Arr 70.23 200 P **P 21 51 24.4 -0.9**
WRA Warramunga Arr 70.23 200 P **P 21 51 24.4 -0.9**
WRA pmax pmax
comp=Z,21nm,0.8s
KIV Kislovodsk 70.31 315 *e*P **P 21 51 26.1 +0.4**
KIV Kislovodsk 70.31 315 *e*P **P 21 51 26.2 +0.5**
KIV *e*S S 22 00 32.7 -1.0
KIV pmax pmax
comp=Z,18nm,0.6s,mb5.2
KIV MLR MLR
comp=Z,761nm,19.0s,MS5.0
KIV Kislovodsk 70.31 315 P **P 21 51 26.1 +0.4**
comp=Z,179nm,0.8s,mb6.0,SNR=5.2
LAZ Ladron 70.34 60 *e*P **P 21 51 27.1 +1.0**
comp=Z,16nm,1.3s,mb4.8
LAZ *e*pP pP 21 51 39.9 -1.0
ANMO Albuquerque 70.34 59 *e*P **P 21 51 26.0 0.0**
comp=Z,9.9nm,0.9s,mb4.7
ANMO *e* pP 21 51 39.6 -1.3
ANMO Albuquerque 70.34 59 *e*P **P 21 51 26.0 -0.1**
ANMO *e* pP 21 51 39.6 -1.3
ANMO pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 70.61 313 *e*P **P 21 51 26.4 -1.2**
ZEI pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
LPM Los Pinos Moun 70.70 60 *e*P **P 21 51 29.1 +0.8**
LPM *e*pP pP 21 51 41.7 -1.4
AKASG Malin Array Be 70.72 327 P **P 21 51 26.4 -1.7**
comp=Z,35nm,0.6s,mb5.5,baz=32,slow=6.1,SNR=91
AKASG LR LR 22 24 28.6
comp=Z,692nm,19.9s,MS4.9,baz=35,slow=38
AKASG Malin Array Be 70.72 327 P **P 21 51 26.4 -1.7**
AKASG Malin Array Be 70.72 327 P **P 21 51 26.4 -1.7**
AKASG pmax pmax
comp=Z,35nm,0.6s
AKASG MLR MLR
comp=Z,692nm,19.9s
AKBB Malin Array Si 70.72 327 *e*P **P 21 51 26.9 -1.3**
AKBB Malin Array Si 70.72 327 *e*P **P 21 51 26.9 -1.2**
KIEV Kiev 70.73 327 *e*P **P 21 51 26.2 -2.0**
KIEV Kiev 70.73 327⇓ *i*P **P 21 51 26.6 -1.6**
KAD Karad 70.77 275 *e*PKP **P 21 51 29.5 +0.6**
KAD AMb AMB 21 51 30.9
comp=Z,83nm,1.1s,mb5.6
FITZ Fitzroy Crossi 70.88 209 LR LR 22 20 41.5
comp=Z,100nm,18.5s,MS4.1,baz=195,slow=34
FITZ Fitzroy Crossi 70.88 209 *e*P **P 21 51 29.4 +0.1**
FITZ Fitzroy Crossi 70.88 209 *e*P **P 21 51 29.9 +0.5**
comp=Z,29nm,0.8s,mb5.3
FITZ Fitzroy Crossi 70.88 209 P **P 21 51 29.6 +0.3**
comp=Z,46nm,1.0s,mb5.4
TBLG Delisi 70.98 312 P **P 21 51 29.4 -0.4**
TBLG Delisi 70.98 312 P **P 21 51 29.4 -0.4**
BSD Bornholm Skovb 71.48 337⇓ *i*P **P 21 51 32.6 0.0**
comp=Z,65nm,0.8s,mb5.6
SCHQ Schefferville 71.58 24 P **P 21 51 33.3 +0.1**
comp=Z,45nm,0.8s,mb5.4,baz=355,slow=6.4,SNR=69
SCHQ LR LR 22 26 09.9
comp=Z,183nm,20.8s,MS4.3,baz=337,slow=38
SCHQ Schefferville 71.58 24 *e*P **P 21 51 33.3 0.0**
comp=Z,44nm,0.8s,mb5.5
COP Copenhagen 71.60 338⇑ *i*P **P 21 51 33.5 +0.2**
comp=Z,62nm,0.8s,mb5.6
MUD Monsted U'grnd 71.66 340⇑ *i*P **P 21 51 33.8 +0.1**
comp=Z,35nm,0.8s,mb5.3
ANN Anapa 72.09 318 *e*P **P 21 51 35.7 -0.8**
ANN *e**PP pP 21 51 54.7 +3.4
ANN *e*S S 22 00 50.7 -3.5
ANN pmax pmax
comp=Z,37nm,1.2s,mb5.2
ANN MLR MLR
comp=N,552nm,20.0s,MS4.9
ANN MLR MLR
comp=E,371nm,20.0s,MS4.9
ANN MLR MLR
comp=Z,653nm,20.0s,MS4.9
GNI Garni 72.16 311 P **P 21 51 38.8 +1.8**
comp=Z,12nm,0.6s,mb5.0,baz=345,slow=4.7,SNR=15
GNI Garni 72.16 311 P **P 21 51 38.8 +1.8**
GNI Garni 72.16 311c *i*P **P 21 51 38.5 +1.5**
GNI pmax pmax
comp=Z,38nm,1.2s
SCIA State Center 72.26 46 *e*P **P 21 51 37.3 -0.3**
GKP Gorka Klasztor 72.47 335 *e*P **P 21 51 38.4 -0.2**
GKP LMZ 22 26 10.2
comp=Z,1μm,20.5s
GKP Gorka Klasztor 72.47 335 *e*P **P 21 51 38.4 -0.2**
BEL Belsk 72.65 332 *e*P **P 21 51 39.9 +0.2**
BEL LMZ 22 23 22.3
comp=Z,1μm,25.2s
BEL Belsk 72.65 332 *e*P **P 21 51 39.8 +0.1**
BEL MLR MLR
comp=Z,1μm,25.2s,MS5.0
MVH1 Achvaich 72.68 348⇑ *e*P **P 21 51 39.4 -0.3**
KSU1 Kansas State U 72.69 50 *e*P **P 21 51 38.8 -1.3**
DAGI Agillar 72.86 313 *i*P **P 21 51 42.1 +1.0**
MCD Coleburn Disti 72.88 348⇑ *e*P **P 21 51 40.0 -0.9**
AMTX Amarillo 73.09 56 *e*P **P 21 51 42.4 -0.2**
comp=Z,14nm,0.8s,mb5.0
MDO Dochfour 73.17 348⇑ *e*P **P 21 51 42.5 -0.2**
KAC Achnashellach 73.24 349⇑ *e*P **P 21 51 42.8 -0.3**
MNTX Cornudas Mount 73.30 61 *e*P **P 21 51 43.7 -0.2**
comp=Z,49nm,1.8s,mb5.1
MNTX *e* pP 21 51 56.9 -1.9
LVV L'vov 73.31 329 *e*P **P 21 51 42.7 -0.9**
LVV MLR MLR
comp=N,200nm,19.0s,MS4.7
LVV MLR MLR
comp=Z,400nm,19.0s,MS4.7
LVV MLR MLR
comp=E,300nm,18.0s,MS4.7
EIDS Eidsvold 73.37 183 *e*P **P 21 51 44.3 +0.2**
comp=E,16nm,0.9s,mb5.0
SIM Simferopol' 73.42 320 *e*P **P 21 51 44.0 -0.4**
SIM pmax pmax
comp=Z,30nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,370nm,15.2s,MS4.8
KPL Plockton 73.44 349⇑ *e*P **P 21 51 44.1 -0.2**
KPL AMB AMB 21 51 44.7
comp=Z,80nm,0.9s,mb5.7
GDL2 Guadalupe Moun 73.53 60 *e*P **P 21 51 45.3 0.0**
BSEG Bad Segeberg 73.70 339 *e*P **P 21 51 46.5 +0.7**
comp=Z,29nm,0.6s,mb5.4
BSEG Bad Segeberg 73.70 339 *e*P **P 21 51 46.5 +0.7**
BSEG pmax pmax
comp=Z,29nm,0.6s,mb5.4
KIS Kishinev 73.92 325 *i*P **P 21 51 47.0 -0.2**
KIS *e*L 22 20 20.0
KIS LRM 22 28 16.0
comp=Z,600nm,18.0s
KIS Kishinev 73.92 325 *i*P **P 21 51 47.0 -0.2**
KIS MLR MLR
comp=Z,500nm,18.0s,MS4.8
KIS MLR MLR
comp=Z,900nm,20.0s
AS31 Alice Springs 73.92 199 *e*P **P 21 51 47.2 -0.2**
KWP Kalwaria Pacla 73.92 330 *e*P **P 21 51 47.5 +0.3**
KWP LMZ 22 22 07.9
comp=Z,600nm,31.2s
KWP Kalwaria Pacla 73.92 330 *e*P **P 21 51 47.1 -0.1**
comp=Z,77nm,0.9s,mb5.6
KWP Kalwaria Pacla 73.92 330 *e*P **P 21 51 47.1 -0.1**
KWP pmax pmax
comp=Z,77nm,0.9s,mb5.6
KWP Kalwaria Pacla 73.92 330⇑ *i*P **P 21 51 47.5 +0.3**

ASAR Alice Springs 73.92 199 P **P 21 51 47.4 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=15,slow=5.3,SNR=23
ASAR Alice Springs 73.92 199 P **P 21 51 47.4 0.0**
ASAR Alice Springs 73.92 199 P **P 21 51 47.4 0.0**
ASAR pmax pmax
comp=Z,12nm,0.8s
RUE Ruedersdorf 74.14 336 *e*P **P 21 51 48.0 -0.4**
comp=Z,69nm,0.8s,mb5.6
IAS Iasi 74.24 325⇑ P **P 21 51 48.5 -0.6**
IAS Iasi 74.24 325⇑ *i*P **P 21 51 48.5 -0.6**
OJC Ojcow 74.37 332 *e*P **P 21 51 49.9 +0.1**
OJC Ojcow 74.37 332⇑ *e*P **P 21 51 49.9 +0.1**
EAB Aberfoyle 74.38 348⇑ *e*P **P 21 51 49.5 -0.2**
ESY Stoneypath 74.39 347⇑ *e*P **P 21 51 49.5 -0.3**
EDI Edinburgh 74.47 347⇑ *e*P **P 21 51 48.9 -1.4**
EDI AMB AMB 21 51 50.2
comp=Z,54nm,0.7s,mb5.6
LEOM Leova 74.57 325⇓ P **P 21 51 50.9 -0.1**
LEOM Leova 74.57 325⇓ *i*P **P 21 51 50.9 -0.1**
EAU Auchinoon 74.59 347⇑ *e*P **P 21 51 50.8 -0.2**
STHS Stebnicka Huta 74.59 330 *e*P **P 21 51 52.0 +0.9**
STHS pmax pmax
comp=Z,40nm,0.7s,mb5.5
STHS Stebnicka Huta 74.59 330 *e*P **P 21 51 52.0 +0.9**
EBL Broad Law 74.59 347⇑ *e*P **P 21 51 50.7 -0.3**
HAKT HAKKARI 74.64 310 *i*P **P 21 51 51.5 -0.1**
KOLS Kolonicke sedl 74.67 329 *e*P **P 21 51 54.1 +2.5**
KOLS Kolonicke sedl 74.67 329 *e*P **P 21 51 54.1 +2.5**
BUR08 Bucovina Ar. S 74.73 327 *e*P **P 21 51 51.5 -0.5**
BURAR Bucovina Array 74.75 327⇓ P **P 21 51 52.0 -0.1**
BURAR Bucovina Array 74.75 327⇓ *i*P **P 21 51 52.0 -0.1**
PGBU Glenifferbraes 74.77 348⇑ *e*P **P 21 51 52.0 -0.1**
PGBU AMB AMB 21 51 52.7
comp=Z,218nm,0.8s,mb6.1
WMOK Wichita Mounta 74.80 55 *e*P **P 21 51 51.3 -1.3**
WMOK Wichita Mounta 74.80 55 *e*P **P 21 51 51.3 -1.3**
KSP Ksiaz 74.89 334 *e*P **P 21 51 53.2 +0.4**
KSP LMZ 22 30 40.9
comp=Z,900nm,20.0s
KSP Ksiaz 74.89 334 *e*P **P 21 51 52.7 -0.1**
KSP *e*pP pP 21 52 05.3 -2.5
KSP LM 22 30 15.0
comp=Z,1.8nm,20.5s
KSP Ksiaz 74.89 334 *e*P **P 21 51 52.7 -0.1**
KSP *e**PP pP 21 52 05.3 -2.5
KSP MLR MLR
comp=Z,2μm,20.5s,MS5.4
NIE Niedzica 74.90 331 *e*P **P 21 51 53.6 +0.7**
NIE Niedzica 74.90 331⇑ *e*P **P 21 51 53.6 +0.7**
UZH Uzhgorod 74.92 329 *e*P **P 21 51 52.0 -1.0**
UZH *e* pP 21 52 06.3 -1.7
UZH *e*S S 22 01 23.0 -3.0
CRVS Cervenica-Dubn 74.97 330 *e*P **P 21 51 53.5 +0.2**
CRVS pmax pmax
comp=Z,19nm,0.7s,mb5.1
CRVS Cervenica-Dubn 74.97 330 *e*P **P 21 51 53.5 +0.2**
RAC Raciborz 74.99 332 *e*P **P 21 51 54.1 +0.7**
ESK Eskdalemuir 75.06 347⇑ *e*P **P 21 51 52.5 -1.2**
ESK AMB AMB 21 51 53.2
comp=Z,76nm,0.7s,mb5.7
ESK Eskdalemuir 75.06 347 *e*P **P 21 51 53.7 0.0**
comp=Z,80nm,0.6s,mb5.8
ESK Eskdalemuir 75.06 347 *i*P **P 21 51 54.0 +0.3**
TESR 75.15 326⇑ *i*P **P 21 51 54.2 -0.2**
HDIL Hopedale 75.18 45 *e*P **P 21 51 54.4 -0.3**
OKC Ostrava-Krasne 75.22 332 *e*P **P 21 51 55.1 +0.4**
OKC MLR MLR
comp=Z,700nm,17.2s,MS5.0
OKC Ostrava-Krasne 75.22 332⇑ *e*P **P 21 51 55.1 +0.4**
OKC AMS AMS 22 30 00.0
comp=Z,700nm,17.2s
TRPA Tarpa 75.26 329⇓ *i*P **P 21 51 55.3 +0.3**
UPC Upice 75.27 334 *e*P **P 21 51 55.4 +0.4**
UPC *e* 21 52 02.5
UPC Upice 75.27 334⇑ *e*P **P 21 51 55.4 +0.4**
UPC *ex* x 21 52 02.5
DPC Dobruska-Polom 75.32 334 *e*P **P 21 51 55.6 +0.3**
DPC *e* 21 52 02.5
DPC MLR MLR
comp=Z,1μm,15.4s,MS5.2
DPC Dobruska-Polom 75.32 334 *e*P **P 21 51 55.6 +0.3**
DPC *ex* x 21 52 02.5
DPC AMS AMS 22 30 50.0
comp=Z,1μm,15.4s
XAL Allendale 75.35 346⇑ *e*P **P 21 51 55.3 -0.1**
CLL Collm 75.40 336 *e*P **P 21 51 55.7 0.0**
comp=Z,56nm,0.6s,mb5.7
CLL Collm 75.40 336 *i*P **P 21 51 55.8 +0.1**
CLL *e**PP pP 21 52 13.0 +2.3
CLL *e*S S 22 01 28.0 -3.3
CLL pmax pmax
comp=Z,121nm,0.7s,mb5.9
CLL Collm 75.40 336 *i*P **P 21 51 55.8 +0.1**
comp=Z,121nm,0.7s,mb5.9
CLL *e*sP sP 21 52 13.0 -3.6
CLL *e*(PP) 21 55 06.0
CLL *e*S S 22 01 28.0 -3.3
CLL *e*SS SS 22 06 30.0 +9.0
CLL *e* 22 07 18.0
CLL Lm 22 27 00.0
comp=Z,800nm,21.0s
TLCR 75.41 323⇓ P **P 21 51 56.0 +0.1**
TLCR 75.41 323⇓ *i*P **P 21 51 56.0 +0.1**
MORC Moravsky Berou 75.46 333 *e*P **P 21 51 56.2 +0.1**
comp=Z,70nm,0.8s,mb5.6
MORC Moravsky Berou 75.46 333⇓ P **P 21 51 57.0 +0.9**
MORC Moravsky Berou 75.46 333⇓ *i*P **P 21 51 57.0 +0.9**
BRG Berggiesshubel 75.54 335 *i*P **P 21 51 56.4 -0.1**
comp=Z,36nm,0.8s,mb5.4
BRG *i* 21 52 02.9
comp=Z,16nm,0.9s
BRG *e* pP 21 52 10.9 -0.5
comp=Z,18nm,0.8s
BRG
comp=Z,660nm,22.7s
BRG
comp=N,720nm,23.6s
BRG
comp=E,940nm,23.6s
BRG Berggiesshubel 75.54 335 *e*P **P 21 51 56.6 +0.1**
comp=Z,21nm,0.6s,mb5.2
BRG Berggiesshubel 75.54 335 *i*P **P 21 51 56.4 -0.1**
BRG *e* pP 21 52 10.9 -0.6
BRG pmax pmax
comp=Z,36nm,0.8s,mb5.3
BRG MLR MLR
comp=Z,660nm,22.7s,MS4.9
BRG MLR MLR
comp=N,720nm,23.6s,MS5.1
BRG MLR MLR
comp=E,940nm,23.6s,MS5.1
PETR 75.59 325⇑ *i*P **P 21 51 57.9 +1.0**
CLZ Clausthal 75.60 338 *e*P **P 21 51 57.7 +0.8**
CLZ Clausthal 75.60 338 *e*P **P 21 51 57.7 +0.8**
LIKS Likavka 75.61 331 *e*P **P 21 51 58.1 +1.1**
LIKS pmax pmax
comp=Z,41nm,0.9s,mb5.4
LIKS Likavka 75.61 331 *e*P **P 21 51 58.1 +1.1**
ERBA Erbaa 75.63 316 *i*P **P 21 51 58.4 +1.1**
KECS Kecovo 75.65 330 *e*P **P 21 51 57.4 +0.2**
KECS pmax pmax
comp=Z,22nm,1.0s,mb5.0
KECS Kecovo 75.65 330 *e*P **P 21 51 57.4 +0.2**
VRI Vrincioaia 75.66 325⇑ P **P 21 51 57.6 +0.3**
VRI Vrincioaia 75.66 325⇑ *i*P **P 21 51 57.6 +0.3**
PVCC Panska Ves 75.67 335⇑ *i*P **P 21 51 57.7 +0.4**
PVCC MLR MLR
comp=Z,1μm,19.0s,MS5.2
PVCC Panska Ves 75.67 335⇑ *i*P **P 21 51 57.7 +0.4**
PVCC AMS AMS 22 27 20.0
comp=Z,1μm,19.0s
CFR Carcaliu 75.69 324 P **P 21 51 57.7 +0.2**
CFR Carcaliu 75.69 324⇓ *i*P **P 21 51 57.5 0.0**
PLOR Plostina 75.70 325⇑ P **P 21 51 57.6 0.0**
PLOR Plostina 75.70 325⇑ *i*P **P 21 51 57.5 -0.1**
GAL1 Galloway 75.72 348⇑ *e*P **P 21 51 56.9 -0.6**
GAL1 AMB AMB 21 51 57.9
comp=Z,68nm,0.7s,mb5.7
MBWA Marble Bar 75.74 213 *e*P **P 21 51 57.3 -0.6**
comp=Z,28nm,0.9s,mb5.2
MBWA Marble Bar 75.74 213 P **P 21 51 57.5 -0.5**
comp=Z,36nm,0.9s,mb5.3
KESW Keswick, Cumbr 75.75 347⇑ *e*P **P 21 51 57.5 -0.1**

KESW AMB AMB 21 51 58.4
comp=Z,134nm,0.9s,mb5.9
HAVZ Havza 75.80 317 *i*P **P 21 51 59.4 +1.2**
IBBN Ibbenburen 75.81 340 *e*P **P 21 51 58.4 +0.3**
XDE Dent Fell 75.89 347⇑ *e*P **P 21 51 57.7 -0.7**
TXAR Lajitas Array 76.04 62 P **P 21 51 59.6 -0.1**
comp=Z,18nm,0.7s,mb5.1,baz=298,slow=4.5,SNR=229
TXAR Lajitas Array 76.04 62 P **P 21 51 59.6 -0.1**
TXAR Lajitas Array 76.04 62 P **P 21 51 59.6 -0.2**
TXAR pmax pmax
comp=Z,18nm,0.7s
PRU Pruhonice 76.16 335⇑ *i*P **P 21 52 00.2 +0.1**
PRU MLR MLR
comp=Z,800nm,18.8s,MS5.0
PRU Pruhonice 76.16 335⇑ *i*P **P 21 52 00.2 +0.1**
PRU AMS AMS 22 27 40.0
comp=Z,800nm,18.8s
VRAC Vranov 76.16 333 P **P 21 52 00.6 +0.5**
comp=Z,71nm,0.8s,mb5.6,baz=32,slow=5.5,SNR=136
VRAC Vranov 76.16 333 P **P 21 52 00.6 +0.5**
VRAC Vranov 76.16 333⇑ P **P 21 52 00.9 +0.8**
VRAC Vranov 76.16 333⇑ *i*P **P 21 52 00.9 +0.8**
TIRR Tirgusor 76.18 323 *e*P **P 21 52 00.1 -0.1**
comp=Z,21nm,0.6s,mb5.2
TIRR Tirgusor 76.18 323⇑ P **P 21 52 00.4 +0.1**
TIRR Tirgusor 76.18 323⇑ *i*P **P 21 52 00.4 +0.1**
VYHS Vyhne 76.18 331 *e*P **P 21 52 00.8 +0.6**
VYHS pmax pmax
comp=Z,23nm,0.8s,mb5.2
VYHS Vyhne 76.18 331 *e*P **P 21 52 00.8 +0.6**
KOLL Kolacno 76.25 332 *e*P **P 21 52 01.2 +0.6**
KOLL Kolacno 76.25 332 *e*P **P 21 52 01.2 +0.6**
MLR Muntele Rosu 76.27 325 P **P 21 52 01.1 +0.3**
comp=Z,16nm,0.7s,mb5.1,baz=0.0,slow=8.1
MLR Muntele Rosu 76.27 325 P **P 21 52 01.1 +0.3**
MLR Muntele Rosu 76.27 325⇓ P **P 21 52 01.4 +0.6**
MLR Muntele Rosu 76.27 325⇓ *i*P **P 21 52 01.4 +0.6**
MDB Medias 76.31 327 P **P 21 52 02.2 +1.2**
MDB Medias 76.31 327⇓ *i*P **P 21 52 01.4 +0.4**
MARD Mardin 76.32 311 *i*P **P 21 52 01.7 +0.4**
PSZ Piszkesteto 76.34 330 *e*P **P 21 52 01.0 -0.2**
comp=Z,34nm,0.9s,mb5.3
PSZ Piszkesteto 76.34 330⇓ P **P 21 52 02.0 +0.8**
PSZ Piszkesteto 76.34 330⇓ *e*P **P 21 52 01.6 +0.4**
PSZ Piszkesteto 76.34 330⇓ *i*P **P 21 52 02.0 +0.8**
DRGR 76.35 328⇑ P **P 21 52 01.3 +0.1**
DRGR 76.35 328⇑ *i*P **P 21 52 01.3 +0.1**
TANN Tannenbergstha 76.36 336 *e*P **P 21 52 01.5 +0.3**
ISR Istrita 76.36 325⇓ P **P 21 52 02.2 +0.9**
ISR Istrita 76.36 325⇓ *i*P **P 21 52 02.2 +0.9**
PGOR Pogoanele 76.36 324⇑ *i*P **P 21 52 02.1 +0.7**
MOX Moxa 76.38 337 *e*P **P 21 52 01.6 +0.3**
MOX Moxa 76.38 337 *e*P **P 21 52 01.6 +0.3**
CVD Cernavoda 76.45 323⇓ P **P 21 52 02.2 +0.4**
CVD Cernavoda 76.45 323⇓ *i*P **P 21 52 02.2 +0.4**
AMRR Amara 76.48 324⇓ P **P 21 52 02.8 +0.8**
AMRR Amara 76.48 324⇓ *i*P **P 21 52 02.8 +0.8**
BALT Daday 76.48 319 *i*P **P 21 52 02.6 +0.5**
TREC Trest 76.51 334 *e*P **P 21 52 02.5 +0.4**
TREC MLR MLR
comp=Z,1μm,20.9s,MS5.1
TREC Trest 76.51 334⇑ *e*P **P 21 52 02.5 +0.4**
TREC AMS AMS 22 30 50.0
comp=Z,1μm,20.9s
NKC Novy Kostel 76.53 336 *e*P **P 21 52 02.6 +0.4**
NKC *e* 21 52 08.7
NKC Novy Kostel 76.53 336⇑ *e*P **P 21 52 02.6 +0.4**
NKC *ex* x 21 52 08.7
SMOL Smolenice 76.61 332 *e*P **P 21 52 03.7 +1.0**
SMOL Smolenice 76.61 332 *e*P **P 21 52 03.7 +1.0**
SECR 76.61 325⇓ *i*P **P 21 52 03.0 +0.3**
UBBA Unterbreizbach 76.64 338 *e*P **P 21 52 02.8 0.0**
comp=Z,13nm,0.6s,mb5.0
MANR Mangalia 76.64 323⇑ *i*P **P 21 52 03.4 +0.5**
BUG Bochum--Univer 76.73 340 *e*P **P 21 52 03.5 +0.2**
comp=Z,38nm,0.7s,mb5.4
KBI1 Birley Grange 76.78 345⇑ *e*P **P 21 52 03.3 -0.3**
WBK Wadi Bani Khal 76.88 289 P **P 21 52 05.9 +1.2**
SNR=14
PSN Preselentsi 76.91 323 P **P 21 52 04.6 +0.1**
BUD Budapest 77.01 331⇑ *e*P **P 21 52 05.3 +0.4**
ROTZ Rotzenmuhle 77.01 336 *e*P **P 21 52 05.4 +0.5**
comp=Z,13nm,0.7s,mb5.0
HATD Hatta, Dubai 77.04 293 P **P 21 52 06.1 +0.6**
SNR=10
DEV Deva 77.06 327⇓ P **P 21 52 06.1 +0.8**
DEV Deva 77.06 327⇓ *i*P **P 21 52 06.1 +0.8**
LOT Lotru 77.12 327⇓ *i*P **P 21 52 05.4 -0.2**
SMDO Samad 77.14 290 P **P 21 52 07.1 +1.1**
SNR=14
CIOR Ciorogarla 77.18 325⇓ *i*P **P 21 52 05.8 -0.1**
OLIL Olney 77.18 45 *e*P **P 21 52 05.7 -0.4**
comp=Z,91nm,1.7s,mb5.4
ASHO Ashiyiah 77.19 293 P **P 21 52 06.9 +0.6**
SNR=8.7
KHC Kasperske Hory 77.21 335 *e*P **P 21 52 06.0 0.0**
comp=Z,98nm,0.8s,mb5.8
KHC Kasperske Hory 77.21 335 *e*P **P 21 52 06.0 0.0**
KHC pmax pmax
comp=Z,98nm,0.8s,mb5.8
KHC Kasperske Hory 77.21 335⇑ *i*P **P 21 52 06.4 +0.4**
KHC *ex* x 21 52 11.4
KHC AMS AMS 22 28 10.0
comp=Z,900nm,20.3s
HOQ Hoqain 77.22 291 P **P 21 52 07.1 +0.6**
SNR=22
ELDT Eldivan 77.30 318 *i*P **P 21 52 08.2 +1.4**
GRF Grafenberg Arr 77.35 336 *e*P **P 21 52 07.7 +0.9**
comp=Z,74nm,0.6s,mb5.8
GRF *e*L 23 07 19.6
comp=Z,2μm,18.8s
GRF Grafenberg Arr 77.35 336 *e*P **P 21 52 07.7 +0.9**
GRF pmax pmax
comp=Z,74nm,0.6s,mb5.8
GRF MLR MLR
comp=Z,2μm,18.8s,MS5.5
GRFO Grafenberg 77.35 336 *e*P **P 21 52 06.6 -0.2**
comp=Z,94nm,0.7s,mb5.8
GRFO Grafenberg 77.35 336 *e*P **P 21 52 06.6 -0.2**
GRFO pmax pmax
comp=Z,94nm,0.7s,mb5.8
PINB Pinarbasi 77.39 315 *i*P **P 21 52 08.4 +1.1**
WET Wettzell 77.39 335 *e*P **P 21 52 07.9 +0.8**
comp=Z,46nm,0.6s,mb5.6
WET Wettzell 77.39 335 *e*P **P 21 52 07.9 +0.8**
WET pmax pmax
comp=Z,46nm,0.6s,mb5.6
FOEL Foel Wylfa 77.41 346⇑ *e*P **P 21 52 06.0 -1.1**
FOEL AMB AMB 21 52 06.8
comp=Z,116nm,1.0s,mb5.8
JCT Junction City 77.42 58 P **P 21 52 06.8 -0.7**
comp=Z,8.1nm,0.6s,mb4.8
JCT Junction City 77.42 58 *e*P **P 21 52 06.8 -0.7**
JCT pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
GEC2 GERESS Array S 77.43 335 *e*P **P 21 52 07.6 +0.3**
GEC2 GERESS Array S 77.43 335 *e*P **P 21 52 07.6 +0.3**
GERES GERESS Array B 77.43 335 P **P 21 52 07.5 +0.2**
comp=Z,39nm,0.6s,mb5.5,baz=33,slow=5.2,SNR=193
GERES LR LR 22 28 39.2
comp=Z,887nm,21.3s,MS5.1,baz=23,slow=38
GERES GERESS Array B 77.43 335 P **P 21 52 07.5 +0.2**
GERES GERESS Array B 77.43 335 P **P 21 52 07.5 +0.2**
GERES pmax pmax
comp=Z,39nm,0.6s
GERES MLR MLR
comp=Z,887nm,21.3s
DLF Lyons Farm 77.50 348⇑ *i*P **P 21 52 07.7 +0.1**
DSB Dublin 77.53 348 *e*P **P 21 52 07.3 -0.5**
comp=Z,90nm,0.8s,mb5.8
GZR Gura Zlata 77.53 327 P **P 21 52 08.1 +0.2**
GZR Gura Zlata 77.53 327⇑ *i*P **P 21 52 07.7 -0.2**
BHD Baghdad 77.55 306 *ex* **P 21 52 06.8 -1.4**
BHD *ex* x 22 01 50.5
TNS Taunus Mts 77.57 338 *e*P **P 21 52 08.6 +0.6**
comp=Z,41nm,0.6s,mb5.5
TNS Taunus Mts 77.57 338 *e*P **P 21 52 08.6 +0.6**
TNS pmax pmax
comp=Z,41nm,0.6s,mb5.5
JMDO Jabal Madar 77.60 290 P **P 21 52 09.5 +0.8**
SNR=24
CONA Conrad Observa 77.61 333 *i*P **P 21 52 09.0 +0.7**
comp=Z,61nm,0.7s,mb5.6,SNR=79
CONA Conrad Observa 77.61 333 *i*P **P 21 52 09.0 +0.7**

comp=Z,61nm,0.7s,mb5.6
SOP Sopron 77.62 332⇑eP P 21 52 09.1 +0.8
PRD Provadia 77.63 323 P P 21 52 08.2 -0.3
BEBN Eben Emael 77.69 340 P P 21 52 08.7 0.0
comp=Z,44nm,0.8s,mb5.4
HLM1 Long Mynd 77.71 346⇑eP P 21 52 07.4 -1.4
HLM1 AMB AMB 21 52 08.4
comp=Z,83nm,1.0s,mb5.6
MIAR Mount Ida 77.73 52 eP P 21 52 08.6 -0.6
comp=Z,18nm,0.8s,mb5.0
MIAR Mount Ida 77.73 52 eP P 21 52 08.6 -0.6
MIAR pmax pmax
comp=Z,18nm,0.8s,mb5.0
BZS Buzias 77.75 328 ⇑P P 21 52 08.7 -0.4
BZS Buzias 77.75 328⇑iP P 21 52 08.7 -0.4
TIM Timisoara 77.79 328 P P 21 52 10.2 +0.9
MEM Membach 77.79 340 P P 21 52 09.3 0.0
comp=Z,86nm,1.0s,mb5.6
BR131 Keskin Array S 77.83 317 eP P 21 52 10.1 +0.5
comp=Z,46nm,0.7s,mb5.5
BRTR Keskin Array B 77.83 317 P P 21 52 10.1 +0.5
comp=Z,77nm,0.8s,mb5.7,baz=66,slow=3.2,SNR=247
BRTR LR LR 22 32 07.1
comp=Z,352nm,18.8s,MS4.7,baz=208,slow=40
BRTR Keskin Array B 77.83 317 P P 21 52 10.1 +0.5
BRTR Keskin Array B 77.83 317 P P 21 52 10.1 +0.5
BRTR pmax pmax
comp=Z,77nm,0.8s
BRTR MLR MLR
comp=Z,352nm,18.8s
ARQ Araqi 77.89 291 P P 21 52 10.8 +0.6
SNR=15
BSY Bisya 77.90 290 P P 21 52 11.1 +0.8
SNR=35
UCC Uccle 77.98 341 P P 21 52 09.2 -1.1
USIN University of 78.00 46 eP P 21 52 10.6 -0.1
comp=Z,17nm,0.9s,mb5.0
AVNT Avonos 78.03 316 iP P 21 52 11.4 +0.6
ZIMR 78.05 325 ⇑P P 21 52 10.5 -0.3
ZIMR 78.05 325⇑iP P 21 52 10.5 -0.3
CRAR CRAIOVA 78.07 326 P P 21 52 11.6 +0.7
SSW Stow on the Wo 78.08 345⇑eP P 21 52 11.0 +0.2
SKP1 Kophill 78.13 344⇑eP P 21 52 10.4 -0.7
BCLA Clavier 78.13 340 P P 21 52 11.1 0.0
comp=Z,43nm,0.8s,mb5.4
MOA Molln 78.16 334 iP P 21 52 11.8 +0.4
comp=Z,54nm,0.8s,mb5.5,SNR=24
MOA Molln 78.16 334 iP P 21 52 11.8 +0.4
comp=Z,54nm,0.8s,mb5.5
MCH1 Michaelchurch 78.24 346⇑eP P 21 52 11.3 -0.4
MCH1 AMB AMB 21 52 12.7
comp=Z,88nm,2.4s,mb5.3
PKSM Moragy 78.25 330 ⇑P P 21 52 11.2 -0.7
PKSM Moragy 78.25 330⇑iP P 21 52 11.2 -0.7
SNF Seneffe 78.27 341 P P 21 52 11.9 0.0
comp=Z,37nm,1.2s,mb5.2
ARSA Arzberg 78.32 333 iP P 21 52 12.7 +0.5
comp=Z,35nm,0.8s,mb5.4,SNR=41
ARSA Arzberg 78.32 333 iP P 21 52 12.7 +0.5
comp=Z,35nm,0.8s,mb5.3
ARMA Armidale 78.38 182 eP P 21 52 13.0 +0.5
ARMA Armidale 78.38 182 eP P 21 52 13.1 +0.5
comp=Z,12nm,0.7s,mb4.9
PVL Pavlikeni 78.43 325 P P 21 52 12.7 -0.2
WCI Wyandotte Cave 78.44 44 eP P 21 52 12.7 -0.4
comp=Z,14nm,0.8s,mb5.0
WCI Wyandotte Cave 78.44 44 eP P 21 52 12.7 -0.4
WCI pmax pmax
comp=Z,14nm,0.8s,mb4.9
SWN1 Swindon 78.50 345⇑eP P 21 52 13.3 +0.2
SWN1 AMB AMB 21 52 14.6
comp=Z,473nm,0.8s,mb6.5
UMR Umm Al-Rimmam 78.53 302 eP P 21 52 13.7 0.0
UMR AMb AMB 21 52 14.8
comp=Z,214nm,0.6s,mb6.2
HGH Gray Hill 78.55 346⇑eP P 21 52 12.6 -0.8
MIB Mutribah 78.55 302 eP P 21 52 13.6 -0.2
MIB AMb AMB 21 52 15.0
comp=Z,321nm,0.6s,mb6.4
JMB Yambol 78.57 323 P P 21 52 14.1 +0.4
DOU Dourbes 78.59 341 P P 21 52 13.6 -0.1
comp=Z,28nm,1.1s,mb5.1
WOL Wolverton 78.59 345⇑eP P 21 52 13.4 -0.3
WOL AMB AMB 21 52 14.6
comp=Z,205nm,0.7s,mb6.2
WLF Walferdange 78.64 340 P P 21 52 13.9 -0.1
comp=Z,32nm,1.3s,mb5.1
WLF Walferdange 78.64 340 eP P 21 52 14.5 +0.5
WLF Walferdange 78.64 340 eP P 21 52 14.3 +0.3
comp=Z,38nm,0.9s,mb5.3
WLF Walferdange 78.64 340 eP P 21 52 14.3 +0.3
WLF pmax pmax
comp=Z,38nm,0.9s,mb5.3
RJOB Jochberg 78.69 335 eP P 21 52 15.1 +0.8
comp=Z,30nm,0.6s,mb5.4
BAIF Baives 78.71 341⇑iP P 21 52 14.3 -0.1
comp=Z,103nm,0.9s,mb5.5
BAIF Baives 78.71 341⇑iP P 21 52 14.3 -0.1
comp=Z,103nm,0.9s,mb5.8
BAIF Baives 78.71 341⇑iP P 21 52 14.3 -0.1
BAIF pmax pmax
comp=Z,103nm,0.9s,mb5.8
STU Stuttgart 78.72 337 eP P 21 52 14.9 +0.5
comp=Z,40nm,0.7s,mb5.5
STU Stuttgart 78.72 337 eP P 21 52 14.4 0.0
comp=Z,124nm,1.3s,mb5.7
STU Stuttgart 78.72 337 eP P 21 52 14.4 0.0
STU pmax pmax
comp=Z,124nm,1.3s,mb5.7
KBD Kabd 78.83 301 eP P 21 52 15.3 -0.1
KBD AMb AMB 21 52 16.3
comp=Z,116nm,0.6s,mb6.0
LANF Langenberg 78.88 338 eP P 21 52 15.4 +0.1
SOKA Soboth 78.98 333⇑iP P 21 52 16.2 +0.3
comp=Z,79nm,0.7s,mb5.7
SOKA Soboth 78.98 333⇑iP P 21 52 16.2 +0.3
comp=Z,79nm,0.7s,mb5.8
QRN Al-Qurain 79.02 301 eP P 21 52 16.4 0.0
QRN AMb AMB 21 52 17.4
comp=Z,179nm,0.6s,mb6.2
NAY Al-Naaiem 79.03 302 eP P 21 52 16.0 -0.4
NAY AMb AMB 21 52 17.6
comp=Z,91nm,1.4s,mb5.5
RDF Al-Radifah 79.09 301 eP P 21 52 17.4 +0.6
RDF AMb AMB 21 52 19.6
comp=Z,324nm,0.8s,mb6.3
BORA Eskisehir 79.11 319 iP P 21 52 16.8 0.0
KBA Koelnbreinsper 79.13 334 iP P 21 52 17.5 +0.8
comp=Z,223nm,0.7s,mb6.2,SNR=73
KBA Koelnbreinsper 79.13 334 iP P 21 52 17.5 +0.8
comp=Z,223nm,0.6s,mb6.3
KBA Koelnbreinsper 79.13 334 iP P 21 52 17.5 +0.8
OBKA Obir 79.28 333⇑iP P 21 52 17.5 -0.1
comp=Z,51nm,0.7s,mb5.6,SNR=32
OBKA Obir 79.28 333⇑iP P 21 52 17.5 -0.1
comp=Z,51nm,0.7s,mb5.6
NATX Nacogdoches 79.30 54 eP P 21 52 18.1 +0.2
comp=Z,29nm,0.8s,mb5.3
DIM Dimitrovgrad 79.34 324 P P 21 52 17.9 0.0
BFO Black Forest 79.35 338 eP P 21 52 18.3 +0.4
comp=Z,31nm,0.7s,mb5.3
BFO Black Forest 79.35 338 eP P 21 52 17.1 -0.8
comp=Z,59nm,0.8s,mb5.6
BFO Black Forest 79.35 338 eP P 21 52 18.3 +0.4
BFO pmax pmax
comp=Z,31nm,0.7s,mb5.3
WVT Waverly 79.39 47 eP P 21 52 17.2 -1.1
comp=Z,6.4nm,0.7s,mb4.7
WVT Waverly 79.39 47 eP P 21 52 17.2 -1.1
WVT pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
WATA Walderalm 79.40 335 iP P 21 52 18.8 +0.7
comp=Z,80nm,0.6s,mb5.8,SNR=84
WATA Walderalm 79.40 335 iP P 21 52 18.8 +0.7
comp=Z,80nm,0.6s,mb5.8
WATA Walderalm 79.40 335 iP P 21 52 18.8 +0.6
WATA pmax pmax
comp=Z,80nm,0.6s,mb5.8
MYKA Terra Mystica 79.45 334⇑iP P 21 52 18.2 -0.2
comp=Z,42nm,0.7s,mb5.5
MYKA Terra Mystica 79.45 334⇑iP P 21 52 18.2 -0.2
comp=Z,42nm,0.7s,mb5.5
PGB Panagyurishte 79.45 325 P P 21 52 18.6 +0.1
WTTA Wattenberg 79.45 335 iP P 21 52 19.4 +1.0
comp=Z,207nm,0.6s,mb6.2,SNR=243
WTTA Wattenberg 79.45 335 iP P 21 52 19.4 +1.0
comp=Z,207nm,0.6s,mb6.2
WTTA Wattenberg 79.45 335 iP P 21 52 19.4 +1.0
RETA Reutte 79.49 336 iP P 21 52 19.0 +0.4
comp=Z,75nm,0.7s,mb5.7,SNR=102
RETA Reutte 79.49 336 iP P 21 52 19.0 +0.4
comp=Z,75nm,0.7s,mb5.7
MOTA Moosalm 79.52 336 iP P 21 52 19.4 +0.5
comp=Z,119nm,0.7s,mb5.9,SNR=139
MOTA Moosalm 79.52 336 iP P 21 52 19.4 +0.5
comp=Z,119nm,0.7s,mb5.9
MOTA Moosalm 79.52 336 iP P 21 52 19.4 +0.6
MOTA pmax pmax
comp=Z,119nm,0.7s,mb5.9
CDF Champ du Feu 79.54 338⇑iP P 21 52 18.9 0.0
comp=Z,191nm,0.9s,mb5.7
CDF Champ du Feu 79.54 338⇑iP P 21 52 18.9 0.0
comp=Z,191nm,0.9s,mb6.0
CDF Champ du Feu 79.54 338⇑iP P 21 52 18.9 0.0
CDF pmax pmax
comp=Z,191nm,0.9s,mb6.0
PLD Plovdiv 79.62 324 P P 21 52 19.8 +0.3
PLD Plovdiv 79.62 324 P P 21 52 19.8 +0.3
PLD Plovdiv 79.62 324 P P 21 52 19.8 +0.3
DIVS Divibare 79.64 328 P P 21 52 19.4 -0.1
ABTA Abfaltersbach 79.67 334⇑iP P 21 52 19.3 -0.3
comp=Z,41nm,0.7s,mb5.5,SNR=42
ABTA Abfaltersbach 79.67 334⇑iP P 21 52 19.3 -0.3
comp=Z,41nm,0.7s,mb5.5
KDZ Kurdzhali 79.73 324 P P 21 52 20.2 +0.2
ECH Echery 79.75 338 eP P 21 52 19.9 -0.2
comp=Z,74nm,0.8s,mb5.7
ECH Echery 79.75 338 eP P 21 52 19.9 -0.2
ECH pmax pmax
comp=Z,74nm,0.8s,mb5.7
ECH Echery 79.75 338 eP P 21 52 20.2 +0.1
VTS Vitosha 79.78 326 P P 21 52 20.7 +0.4
VTS Vitosha 79.78 326 P P 21 52 20.7 +0.4
VTS Vitosha 79.78 326 P P 21 52 20.7 +0.4
VTS Vitosha 79.78 326 P P 21 52 20.2 -0.1
VTS Vitosha 79.78 326⇑iP P 21 52 20.5 +0.2
OXF Oxford 79.89 49 eP P 21 52 20.0 -1.1
comp=Z,29nm,1.0s,mb5.2
OXF Oxford 79.89 49 eP P 21 52 20.0 -1.1
OXF pmax pmax
comp=Z,29nm,1.0s,mb5.2
DAVA Damuels 79.91 336 iP P 21 52 21.6 +0.6
comp=Z,110nm,0.8s,mb5.8,SNR=25
DAVA Damuels 79.91 336 iP P 21 52 21.6 +0.6
comp=Z,110nm,0.8s,mb5.8
FETA Feichten 79.92 336 iP P 21 52 21.7 +0.7
comp=Z,64nm,0.8s,mb5.6,SNR=71
FETA Feichten 79.92 336 iP P 21 52 21.7 +0.7
comp=Z,64nm,0.8s,mb5.6
RZN Rozhen 79.97 324 P P 21 52 21.5 +0.1
MEZF Maizieres J'vi 79.99 340⇑iP P 21 52 21.6 +0.3
comp=Z,237nm,0.8s,mb5.9
MEZF Maizieres J'vi 79.99 340⇑iP P 21 52 21.6 +0.3
comp=Z,237nm,0.8s,mb6.2
THEF They Montfort 80.03 339 eP P 21 52 21.7 +0.2
MOF Molkenrain 80.10 338 eP P 21 52 21.9 0.0
RDO Rodhopi 80.11 323 P P 21 52 22.7 +0.6
RDO Rodhopi 80.11 323 P P 21 52 22.7 +0.6
HAU Haudompre 80.15 339⇑iP P 21 52 22.0 -0.2
comp=Z,128nm,0.9s,mb5.6
HAU eR
comp=Z,1µm,22.8s
HAU Haudompre 80.15 339⇑iP P 21 52 22.0 -0.2
comp=Z,128nm,0.9s,mb5.8
HAU Haudompre 80.15 339⇑iP P 21 52 22.0 -0.2
HAU pmax pmax
comp=Z,128nm,0.9s,mb5.8
PLAL Pickwick Lake 80.18 48 eP P 21 52 21.4 -1.2
comp=Z,20nm,1.3s,mb4.9
HINF Hinteralfeld 80.20 338⇑iP P 21 52 22.1 -0.4
comp=Z,46nm,0.7s,mb5.2
HINF Hinteralfeld 80.20 338⇑iP P 21 52 22.1 -0.4
comp=Z,46nm,0.7s,mb5.5
HINF Hinteralfeld 80.20 338⇑iP P 21 52 22.1 -0.4
HINF pmax pmax
comp=Z,46nm,0.7s,mb5.5
DAVOX Davos/Dischmat 80.38 336 P P 21 52 24.3 +0.9
comp=Z,89nm,0.7s,mb5.8,baz=14,slow=3.5,SNR=189
DAVOX Davos/Dischmat 80.38 336 P P 21 52 24.3 +0.9
DAVOX Davos/Dischmat 80.38 336 P P 21 52 24.3 +0.8
MMB Musomiste 80.44 325 P P 21 52 24.0 +0.1
KKB Krupnik 80.45 325 P P 21 52 23.8 -0.1
RAR Rarotonga 80.45 137 LR LR 22 22 14.8
comp=Z,551nm,18.9s,MS4.9,baz=97,slow=31
PLE Pljevlja 80.53 328⇑iP P 21 52 28.6 +4.3
DEMI Demirci 80.56 320 iP P 21 52 24.4 -0.2
NVR Nevrokopi 80.59 324 P P 21 52 25.1 +0.4
NVR Nevrokopi 80.59 324 P P 21 52 25.1 +0.4
STKA Stephens Creek 80.61 191 P P 21 52 23.9 -0.7
comp=Z,5.0nm,0.7s,mb4.5,baz=331,slow=5.5,SNR=8.6
STKA Stephens Creek 80.61 191 eP P 21 52 23.6 -1.0
STKA Stephens Creek 80.61 191 P P 21 52 23.9 -0.7
STKA Stephens Creek 80.61 191 P P 21 52 23.9 -0.7
STKA pmax pmax
comp=Z,5.0nm,0.7s
LOMF Lomont 80.64 338 eP P 21 52 25.2 +0.4
ERMK Ermenek 80.66 316 iP P 21 52 23.9 -1.2
IVA Berane 80.75 328⇑iP P 21 52 25.2 -0.3
ISP Isparta 80.78 318 P P 21 52 25.7 -0.1
ISP Isparta 80.78 318 eP P 21 52 25.4 -0.4
comp=Z,50nm,0.6s,mb5.6
ISP Isparta 80.78 318 ⇑P P 21 52 25.4 -0.4
ISP Isparta 80.78 318⇑iP P 21 52 25.4 -0.4
TUE Stuetta 80.80 336 eP P 21 52 26.5 +0.7
comp=Z,134nm,0.8s,mb5.9
UPM Unac-Piva 80.81 329⇑iP P 21 52 25.3 -0.5
JSA Saint Aubin 80.81 345⇑eP P 21 52 24.4 -1.3
JSA AMB AMB 21 52 25.4
comp=Z,146nm,1.0s,mb5.9
TAOE Nuku Hiva Isla 80.82 114 eLR LR 22 17 44.8
comp=Z,1µm,22.9s
SRS Serrai 80.89 325 P P 21 52 26.3 0.0
SRS Serrai 80.89 325 P P 21 52 26.3 0.0
SRS Serrai 80.89 325 P P 21 52 26.3 0.0
FLN La Foliniere 80.91 343⇑iP P 21 52 26.0 -0.2
comp=Z,175nm,0.8s,mb5.7
FLN eR
comp=Z,587nm,20.8s
FLN La Foliniere 80.91 343⇑iP P 21 52 26.0 -0.2
comp=Z,175nm,0.8s,mb6.0
FLN La Foliniere 80.91 343⇑iP P 21 52 26.0 -0.2
NVLJ Novalja 80.93 332 P P 21 52 24.9 -1.5
PVY Plav 80.97 328 eP P 21 52 24.7 -2.0
SKO Skopje 80.97 326 ePg P 21 52 27.3 +0.6
SKO Skopje 80.97 326 ePg P 21 52 27.3 +0.6
LDF La Druitiere 81.00 343⇑iP P 21 52 26.4 -0.3
comp=Z,34nm,0.6s,mb5.2
LDF La Druitiere 81.00 343⇑iP P 21 52 26.4 -0.3
comp=Z,34nm,0.6s,mb5.5
LDF La Druitiere 81.00 343⇑iP P 21 52 26.4 -0.3
LDF pmax pmax
comp=Z,34nm,0.6s,mb5.5
SWET Sewanee 81.04 46 eP P 21 52 26.2 -1.0
comp=Z,12nm,0.8s,mb4.9
MANT Manisa 81.09 320 iP P 21 52 27.4 0.0
VAY Valandovo 81.11 325 ePg P 21 52 26.9 -0.6
VAY eSg PcP 21 52 31.5 -2.2
VAY Valandovo 81.11 325 ePg P 21 52 26.8 -0.7
VAY eSg PcP 21 52 31.5 -2.2
NKY Niksic 81.12 328⇑iP P 21 52 26.7 -0.8
HWQ Hawqa 81.12 312 eP P 21 52 27.5 -0.2
KNT Kendrikon 81.12 325 P P 21 52 27.8 +0.2
KNT Kendrikon 81.12 325 P P 21 52 27.8 +0.2
KNT Kendrikon 81.12 325 P P 21 52 27.8 +0.2
BRY Bratogost 81.20 329⇑iP P 21 52 25.1 -2.8
PMOR Pomariorio Ree 81.22 124 eT 23 21 38.9
comp=Z,30nm,0.2s
LIA Limnos Island 81.31 323 P P 21 52 28.7 +0.1
LIA Limnos Island 81.31 323 P P 21 52 28.7 +0.1
GRR Gorron 81.34 344⇑iP P 21 52 28.6 +0.1
comp=Z,220nm,0.9s,mb5.8
GRR Gorron 81.34 344⇑iP P 21 52 28.6 +0.1
comp=Z,220nm,0.9s,mb6.1
GRR Gorron 81.34 344⇑iP P 21 52 28.6 +0.1
TTG Podgorica 81.36 328⇑iP P 21 52 26.8 -2.0
LOR Lormes 81.42 340⇑iP P 21 52 28.9 -0.1
comp=Z,215nm,0.8s,mb5.8
LOR eR
comp=Z,1µm,22.0s
LOR Lormes 81.42 340⇑iP P 21 52 28.9 -0.1
comp=Z,215nm,0.8s,mb6.1
LOR Lormes 81.42 340⇑iP P 21 52 28.9 -0.1
GRG Griva 81.49 325 P P 21 52 29.6 +0.1
GRG Griva 81.49 325 P P 21 52 29.6 +0.1
GRG Griva 81.49 325 P P 21 52 29.6 +0.1
CABF La Chapelle 81.51 338⇑iP P 21 52 29.8 +0.3
comp=Z,116nm,0.9s,mb5.5
CABF La Chapelle 81.51 338⇑iP P 21 52 29.8 +0.3
comp=Z,116nm,0.9s,mb5.8
CABF La Chapelle 81.51 338⇑iP P 21 52 29.8 +0.3
CABF pmax pmax
comp=Z,116nm,0.9s,mb5.8
HORT Hortiatis 81.53 325 P P 21 52 29.0 -0.7
DNZL Cakiroluk 81.54 319 iP P 21 52 30.3 +0.5
BHL Bhannes 81.56 312 eP P 21 52 30.0 0.0
KRUS Krusevo 81.57 326 ePg P 21 52 29.3 -0.6
KRUS Krusevo 81.57 326 ePg P 21 52 29.2 -0.7
PLG Polygyros 81.59 324 P P 21 52 29.7 -0.3
PLG Polygyros 81.59 324 P P 21 52 29.7 -0.3
PLG Polygyros 81.59 324 P P 21 52 29.7 -0.3
BUM Brajici-Budva 81.60 328⇑iP P 21 52 28.1 -2.0
HCY Herceg Novi 81.61 329⇑iP P 21 52 27.1 -3.0
OG01 Vacheresse 81.63 338 eP P 21 52 30.7 +0.6
GOLH Golhisar 81.69 318 iP P 21 52 29.9 -0.8
SSF Saint Saulge 81.70 340⇑iP P 21 52 30.4 -0.1
comp=Z,135nm,0.8s,mb5.6
SSF Saint Saulge 81.70 340⇑iP P 21 52 30.4 -0.1
comp=Z,135nm,0.8s,mb5.9
SSF Saint Saulge 81.70 340⇑iP P 21 52 30.4 -0.1
SSF pmax pmax
comp=Z,135nm,0.8s,mb5.9
TKL Tuckaleechee C 81.70 44 eP P 21 52 30.5 -0.2
TKL ePcP PcP 21 52 36.6 +0.2
TKL Tuckaleechee C 81.70 44 eP P 21 52 30.5 -0.2
MAMC Mammari 81.72 315 P P 21 52 30.1 -0.7
SGMF Saint Gilles 81.78 345⇑iP P 21 52 31.0 +0.1
comp=Z,151nm,0.9s,mb5.6
SGMF Saint Gilles 81.78 345⇑iP P 21 52 31.0 +0.1
comp=Z,151nm,0.9s,mb5.9
SGMF Saint Gilles 81.78 345⇑iP P 21 52 31.0 +0.1
SGMF pmax pmax
comp=Z,151nm,0.9s,mb5.9
ULC Ulcinj 81.78 328⇑iP P 21 52 30.9 -0.1
ROSF Rostrenen 81.82 345⇑iP P 21 52 31.3 +0.2
comp=Z,233nm,0.9s,mb5.8
ROSF Rostrenen 81.82 345⇑iP P 21 52 31.3 +0.2
comp=Z,233nm,0.9s,mb6.1
ROSF Rostrenen 81.82 345⇑iP P 21 52 31.3 +0.2
BIA Bitola 81.84 326 ePg P 21 52 30.4 -0.9
BIA Bitola 81.84 326 ePg P 21 52 30.4 -1.0
AVF Avril sur Loir 81.99 340⇑iP P 21 52 32.0 0.0
comp=Z,162nm,0.9s,mb5.7
AVF Avril sur Loir 81.99 340⇑iP P 21 52 32.0 0.0
comp=Z,162nm,0.9s,mb6.0
AVF Avril sur Loir 81.99 340⇑iP P 21 52 32.0 0.0
AVF pmax pmax
comp=Z,162nm,0.9s,mb6.0
BST Brest 81.99 346 eP P 21 52 32.5 +0.5
SMF Signal de Mont 82.01 340⇑iP P 21 52 32.2 +0.1
comp=Z,333nm,1.2s,mb5.8
SMF Signal de Mont 82.01 340⇑iP P 21 52 32.2 +0.1
comp=Z,333nm,1.2s,mb6.1
SMF Signal de Mont 82.01 340⇑iP P 21 52 32.2 +0.1
ALFC Alevga 82.02 315 P P 21 52 31.8 -0.6
comp=Z,1.9nm,0.8s,mb4.1
FNA Florina 82.03 326 P P 21 52 31.9 -0.4
FNA Florina 82.03 326 P P 21 52 31.9 -0.4
FNA Florina 82.03 326 P P 21 52 31.9 -0.4
AYDN Tasoluk 82.07 320 iP P 21 52 33.2 +0.6
TIR Tirane 82.09 327 eP P 21 52 32.7 0.0
comp=Z,155nm,0.6s,mb6.1
TIR Tirane 82.09 327 eP P 21 52 32.7 0.0
FORT Forrest 82.15 203 eP P 21 52 32.7 -0.1
FORT Forrest 82.15 203 eP P 21 52 32.8 0.0
comp=Z,151nm,0.7s,mb6.0
OG35 Corcelles 82.17 339 eP P 21 52 33.2 +0.2
QUIF Quistinic 82.21 345⇑iP P 21 52 33.0 -0.1
comp=Z,62nm,0.8s,mb5.3
QUIF Quistinic 82.21 345⇑iP P 21 52 33.0 -0.1
comp=Z,62nm,0.8s,mb5.6
QUIF Quistinic 82.21 345⇑iP P 21 52 33.0 -0.1
QUIF pmax pmax
comp=Z,62nm,0.8s,mb5.6
SZAC Souni-Zanaja 82.21 315 P P 21 52 33.2 -0.2
RSL Roselend 82.24 338 eP P 21 52 34.1 +0.8
LRAL Lakeview Retre 82.27 48 eP P 21 52 32.5 -1.3
comp=Z,4.1nm,0.6s,mb4.5
KZN Kozani 82.29 325 P P 21 52 33.0 -0.7
KZN Kozani 82.29 325 P P 21 52 33.0 -0.7
KZN Kozani 82.29 325 P P 21 52 33.0 -0.7
BGF Bois d'Agland 82.32 341⇑iP P 21 52 33.8 +0.1
comp=Z,79nm,0.7s,mb5.4
BGF Bois d'Agland 82.32 341⇑iP P 21 52 33.8 +0.1
comp=Z,79nm,0.7s,mb5.8
BGF Bois d'Agland 82.32 341⇑iP P 21 52 33.8 +0.1
BGF pmax pmax
comp=Z,79nm,0.7s,mb5.8
ASF Jabal al Asfar 82.33 311 P P 21 52 34.8 +0.8
comp=Z,48nm,0.9s,mb5.4,baz=270,slow=3.7,SNR=79
ASF Jabal al Asfar 82.33 311 P P 21 52 34.8 +0.8
ASF Jabal al Asfar 82.33 311 P P 21 52 34.8 +0.7
ASF pmax pmax
comp=Z,48nm,0.9s
PPCY Paphos 82.36 315 P P 21 52 33.1 -1.1
LPL La Plagne 82.37 338⇑iP P 21 52 35.1 +1.1
comp=Z,210nm,0.8s,mb5.8
LPL La Plagne 82.37 338⇑iP P 21 52 35.1 +1.1
comp=Z,210nm,0.8s,mb6.1
LPL La Plagne 82.37 338⇑iP P 21 52 35.1 +1.1
LPG La Plagne 82.39 338⇑iP P 21 52 35.3 +1.2
comp=Z,270nm,0.8s,mb5.9
LPG La Plagne 82.39 338⇑iP P 21 52 35.3 +1.2
comp=Z,270nm,0.8s,mb6.2
LPG La Plagne 82.39 338⇑iP P 21 52 35.3 +1.2
MMAI Mount Meron Ar 82.40 312 P P 21 52 35.2 +0.8
comp=Z,109nm,0.7s,mb5.9,baz=37,slow=7.3,SNR=195
MMAI Mount Meron Ar 82.40 312 P P 21 52 35.2 +0.8
TURN Turunc 82.42 319 iP P 21 52 35.5 +1.0
PPT2 Papeete2 82.43 127 eS S 22 02 52.9 +6.1
comp=Z,127nm,26.8s
PPT2 eLR LR 22 18 32.2
comp=Z,842nm,23.0s,baz=322
PPT2 eT 23 23 04.3
comp=Z,11nm,0.3s
NEST Nestorio 82.47 326 P P 21 52 34.6 -0.1
PAE Paea 82.49 127 eT 23 23 13.1
comp=Z,2.9nm,0.2s
TIAR Tiarei 82.53 127 eT 23 23 12.1
comp=Z,36nm,0.3s
FYTO Fytoko, Volos 82.62 324 P P 21 52 42.6 +7.2
FYTO Fytoko, Volos 82.62 324 P P 21 52 42.6 +7.2
PLDF La Plantade 82.70 340 eP P 21 52 36.5 +0.8
BNI Bardonecchia 82.82 338 eP P 21 52 37.3 +0.9
comp=Z,58nm,0.8s,mb5.7
BNI Bardonecchia 82.82 338 eP P 21 52 37.3 +0.9
BNI pmax pmax
comp=Z,58nm,0.8s,mb5.7
GDM Grand'Maison 82.82 338 eP P 21 52 37.5 +1.1
GRN Grenoble 82.88 338 eP P 21 52 37.7 +1.0
MFF Saint Martin d 82.91 343⇑iP P 21 52 37.0 +0.2
comp=Z,102nm,0.6s,mb5.7
MFF Saint Martin d 82.91 343⇑iP P 21 52 37.0 +0.2
comp=Z,102nm,0.6s,mb6.0
MFF Saint Martin d 82.91 343⇑iP P 21 52 37.0 +0.2
MFF pmax pmax
comp=Z,102nm,0.6s,mb6.0
MBDF Montbardon 83.10 337⇑iP P 21 52 38.1 +0.3
comp=Z,131nm,0.9s,mb5.6
MBDF Montbardon 83.10 337⇑iP P 21 52 38.1 +0.3
comp=Z,131nm,0.9s,mb6.0
MBDF Montbardon 83.10 337⇑iP P 21 52 38.1 +0.3
MBDF pmax pmax
comp=Z,131nm,0.9s,mb6.0
SSB Saint Sauveur 83.14 339 eP P 21 52 38.4 +0.4
comp=Z,98nm,0.9s,mb5.8
SSB Saint Sauveur 83.14 339 eP P 21 52 38.4 +0.4
SSB pmax pmax
comp=Z,97nm,0.9s,mb5.8
SSB Saint Sauveur 83.14 339 eP P 21 52 38.5 +0.5
ORIF Oris-en-Rattie 83.15 338⇑iP P 21 52 38.9 +0.8
comp=Z,215nm,0.9s,mb5.9
ORIF eR
comp=Z,575nm,22.0s
ORIF Oris-en-Rattie 83.15 338⇑iP P 21 52 38.9 +0.8
comp=Z,215nm,0.9s,mb6.2
ORIF Oris-en-Rattie 83.15 338⇑iP P 21 52 38.9 +0.8

ORIF pmax pmax
comp=Z,215nm,0.9s,mb6.2
JAN Janina 83.21 326 P **P 21 52 39.6 +1.1**
JAN Janina 83.21 326 P **P 21 52 39.6 +1.1**
JAN Janina 83.21 326 P **P 21 52 39.6 +1.1**
SURF Saint Ours 83.32 337 *eP* **P 21 52 40.0 +1.0**
AQU L'Aquila 83.39 332 *eP* **P 21 52 39.4 0.0**
comp=Z,55nm,0.8s,mb5.6
AQU L'Aquila 83.39 332 ⇓*iP* **P 21 52 39.9 +0.6**
AQU L'Aquila 83.39 332 ⇓*iP* **P 21 52 39.9 +0.6**
MEH Mehetia 83.47 126 *eT* 23 24 25.1
comp=Z,56nm,0.3s
LBL Lubilhac 83.48 340 *eP* **P 21 52 40.7 +0.9**
VIVF Saint-Julien-I 83.50 339⇑*iP* **P 21 52 40.4 +0.5**
comp=Z,159nm,1.0s,mb5.8
VIVF Saint-Julien-I 83.50 339⇑*iP* **P 21 52 40.4 +0.5**
comp=Z,159nm,1.0s,mb6.1
VIVF Saint-Julien-I 83.50 339⇑*iP* **P 21 52 40.4 +0.5**
VIVF pmax pmax
comp=Z,159nm,1.0s,mb6.1
SAOF Saorge 83.58 337 *eP* **P 21 52 40.2 -0.1**
AUTN L'Aution 83.61 337 *eP* **P 21 52 40.7 +0.2**
OG26 St.-Nazaire-De 83.61 338 *eP* **P 21 52 41.4 +0.9**
OG25 Le Caire 83.61 338 *eP* **P 21 52 41.2 +0.7**
TOUF Mont Tournerai 83.64 337 *eP* **P 21 52 40.5 -0.1**
RBK Rabkut 83.65 289 P **P 21 52 41.0 -0.1**
SNR=20
SBF Sospel 83.73 337⇑*iP* **P 21 52 40.9 -0.2**
comp=Z,270nm,1.0s,mb6.0
SBF Sospel 83.73 337⇑*iP* **P 21 52 40.9 -0.2**
comp=Z,270nm,1.0s,mb6.3
SBF Sospel 83.73 337⇑*iP* **P 21 52 40.9 -0.2**
MVIF Mont Vial 83.77 337 *eP* **P 21 52 41.5 +0.2**
RJF Les Rejaudoux 83.80 341 *eP* **P 21 52 41.4 0.0**
comp=Z,49nm,0.8s,mb5.4
RJF *eR*
comp=Z,940nm,22.5s
RJF Les Rejaudoux 83.80 341 *eP* **P 21 52 41.4 0.0**
comp=Z,49nm,0.8s,mb5.7
RJF Les Rejaudoux 83.80 341 *eP* **P 21 52 41.4 0.0**
RJF pmax pmax
comp=Z,49nm,0.8s,mb5.7
REVF Revere 83.86 337 *eP* **P 21 52 41.8 0.0**
CALN Calern 83.98 337 *eP* **P 21 52 42.8 +0.4**
JSC Jenkinsville 84.00 43 *eP* **P 21 52 42.2 -0.4**
JSC Jenkinsville 84.00 43 *eP* **P 21 52 42.2 -0.4**
CAF Calviac 84.04 341⇑*iP* **P 21 52 43.2 +0.5**
comp=Z,71nm,0.8s,mb5.5
CAF Calviac 84.04 341⇑*iP* **P 21 52 43.2 +0.5**
comp=Z,71nm,0.8s,mb5.8
CAF Calviac 84.04 341⇑*iP* **P 21 52 43.2 +0.5**
CAF pmax pmax
comp=Z,71nm,0.8s,mb5.8
SMRF Simiane la Rot 84.11 338 *eP* **P 21 52 43.9 +0.9**
comp=Z,140nm,1.2s,mb5.7
SMRF Simiane la Rot 84.11 338 *eP* **P 21 52 43.9 +0.9**
comp=Z,140nm,1.2s,mb6.0
LFF La Frestale 84.32 341⇑*iP* **P 21 52 44.4 +0.4**
comp=Z,91nm,0.6s,mb5.8
LFF La Frestale 84.32 341⇑*iP* **P 21 52 44.4 +0.4**
comp=Z,91nm,0.6s,mb6.1
LFF La Frestale 84.32 341⇑*iP* **P 21 52 44.4 +0.4**
LFF pmax pmax
comp=Z,91nm,0.6s,mb6.1
TAVF Tavernes 84.32 337 *eP* **P 21 52 44.6 +0.5**
ABTO Aybut 84.34 290 P **P 21 52 44.8 +0.2**
SNR=22
PRAF Pradon 84.37 338 *eP* **P 21 52 45.3 +1.0**
LASF Ste Croix 84.43 339⇑*iP* **P 21 52 45.3 +0.6**
comp=Z,32nm,0.8s,mb5.2
LASF Ste Croix 84.43 339⇑*iP* **P 21 52 45.3 +0.6**
comp=Z,32nm,0.8s,mb5.5
LMR La Mourre 84.47 337⇑*iP* **P 21 52 44.9 +0.1**
comp=Z,238nm,1.0s,mb6.0
LMR La Mourre 84.47 337⇑*iP* **P 21 52 44.9 +0.1**
comp=Z,238nm,1.0s,mb6.3
LMR La Mourre 84.47 337⇑*iP* **P 21 52 44.9 +0.1**
TREF Trevaresse 84.48 338 *eP* **P 21 52 45.1 +0.2**
PGF Pioggiola 84.52 335⇑*iP* **P 21 52 44.8 -0.3**
comp=Z,73nm,0.7s,mb5.6
PGF Pioggiola 84.52 335⇑*iP* **P 21 52 44.8 -0.3**
comp=Z,73nm,0.7s,mb5.9
PGF Pioggiola 84.52 335⇑*iP* **P 21 52 44.8 -0.3**
PGF pmax pmax
comp=Z,73nm,0.7s,mb5.9
TIP Timpagrande 85.12 328 *eP* **P 21 52 47.7 -0.5**
comp=Z,43nm,0.8s,mb5.6
EIL Elat 85.33 310 P **P 21 52 49.6 +0.2**
comp=Z,30nm,0.5s,mb5.7,baz=18,slow=3.3,SNR=54
EIL Elat 85.33 310 P **P 21 52 49.6 +0.2**
MTLF Montolieu 85.51 340⇑*iP* **P 21 52 49.8 -0.3**
comp=Z,24nm,0.7s,mb5.2
MTLF Montolieu 85.51 340⇑*iP* **P 21 52 49.8 -0.3**
comp=Z,24nm,0.7s,mb5.5
MTLF Montolieu 85.51 340⇑*iP* **P 21 52 49.8 -0.3**
MTLF pmax pmax
comp=Z,24nm,0.7s,mb5.5
TOO Toolangi 85.84 187 *eP* **P 21 52 51.5 +0.1**
KLBR Kellerberrin 85.99 211 *eP* **P 21 52 51.5 -0.8**
comp=Z,23nm,0.8s,mb5.5
MLS Moulis 86.13 341 *eP* **P 21 52 52.8 -0.3**
EPF Esparros 86.22 341⇑*iP* **P 21 52 53.4 -0.2**
comp=Z,35nm,0.5s,mb5.5
EPF Esparros 86.22 341⇑*iP* **P 21 52 53.4 -0.2**
comp=Z,35nm,0.5s,mb5.8
EPF Esparros 86.22 341⇑*iP* **P 21 52 53.4 -0.2**
EPF pmax pmax
comp=Z,35nm,0.5s,mb5.8
SJPF Ste Jean 86.47 342 *eP* **P 21 52 55.4 +0.6**
comp=Z,20nm,0.8s,mb5.1
SJPF Ste Jean 86.47 342 *eP* **P 21 52 55.4 +0.6**
comp=Z,20nm,0.8s,mb5.4
SJPF Ste Jean 86.47 342 *eP* **P 21 52 55.4 +0.6**
SJPF pmax pmax
comp=Z,20nm,0.8s,mb5.4
ETSF Etsaut 86.54 342 *eP* **P 21 52 55.7 +0.5**
comp=Z,39nm,0.6s,mb5.5
ETSF Etsaut 86.54 342 *eP* **P 21 52 55.7 +0.5**
comp=Z,39nm,0.6s,mb5.8
ETSF Etsaut 86.54 342 *eP* **P 21 52 55.7 +0.5**
ETSF pmax pmax
comp=Z,39nm,0.6s,mb5.8
TBI Tubuai 87.25 130 *e*LR LR 22 20 35.3
comp=Z,1μm,23.8s,baz=326
TBI *eT* 23 29 11.7
comp=Z,23nm,0.3s
NWAO Narrogin (SRO) 87.39 211 LR LR 22 27 10.8
comp=Z,196nm,20.1s,MS4.5,baz=206,slow=32
NWAO Narrogin (SRO) 87.39 211 *eP* **P 21 52 58.6 -0.5**
comp=Z,34nm,0.8s,mb5.6
NWAO Narrogin (SRO) 87.39 211 *eP* **P 21 52 58.6 -0.5**
NWAO pmax pmax
comp=Z,34nm,0.8s
PBRG Braganca 88.75 346 *eP* **P 21 53 05.8 0.0**
comp=Z,45nm,1.6s,mb5.5
POLO Lamas de Olo 89.33 347 *eP* **P 21 53 07.6 -0.9**
MVO Moncorvo 89.42 346 *eP* **P 21 53 08.9 0.0**
PVRL Vila Real 89.42 347 *eP* **P 21 53 08.0 -0.9**
PVIS Viseu 89.99 347 *eP* **P 21 53 10.9 -0.7**
comp=Z,38nm,1.6s,mb5.5
MTE Manteigas 90.25 346 *eP* **P 21 53 13.2 +0.4**
ESDC Sonseca Array 90.33 343 P **P 21 53 11.9 -1.2**
comp=Z,6.7nm,0.7s,mb5.1,baz=360,slow=3.3,SNR=36
ESDC LR LR 22 38 34.6
comp=Z,471nm,21.1s,MS4.9,baz=5.0,slow=39
ESDC Sonseca Array 90.33 343 P **P 21 53 11.9 -1.2**
PAB San Pablo 90.53 344 *eP* **P 21 53 13.1 -1.0**
comp=Z,9.9nm,0.7s,mb5.2
PAB San Pablo 90.53 344 *eP* **P 21 53 13.1 -1.0**
PAB pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
KEST Kesra 90.71 332 P **P 21 53 15.0 -0.1**
comp=Z,8.9nm,0.7s,mb5.2,baz=306,slow=3.0,SNR=28
KEST LR LR 22 38 53.7
comp=Z,247nm,20.1s,MS4.6,baz=331,slow=39
KEST Kesra 90.71 332 *eP* **P 21 53 14.7 -0.4**
PCBR Castelo Branco 90.78 346 *eP* **P 21 53 13.7 -1.6**
PMTG Montargil 91.66 346 *eP* **P 21 53 19.4 0.0**
comp=Z,32nm,2.0s,mb5.3
PESTR Estremoz 91.75 346 *eP* **P 21 53 18.6 -1.2**
comp=Z,32nm,2.0s,mb5.3
EVO Evora 92.15 346 *eP* **P 21 53 19.6 -2.1**
PBAR Barrancos 92.34 345 *eP* **P 21 53 21.6 -0.9**
PNCL Nicolau / Gran 92.64 347 *eP* **P 21 53 21.9 -2.0**
TORD Torodi Ar. Bea 114.18 331 Pdiff Pdif 21 55 01.8 +1.3
comp=Z,0.7nm,0.9s,baz=11,slow=4.2,SNR=4.0
TORD PKP PKiKP 21 58 50.5 -1.2
comp=Z,2.7nm,0.6s,baz=7.7,slow=1.3,SNR=41
TORD PKKPbc PKKPbc 22 09 29.9 -0.3
comp=Z,0.8nm,0.8s,baz=226,slow=1.6,SNR=7.5
TORD PKKPab PKKPab 22 09 37.4 -3.8
comp=Z,1.4nm,0.8s,baz=212,slow=4.1,SNR=7.7
TORD Torodi Ar. Bea 114.18 331 Pdif Pdif 21 55 01.8 +1.3
TORD PKP PKiKP 21 58 50.5 -1.2
TORD PKKPbc PKKPbc 22 09 29.9 -0.3
TORD PKKPab PKKPab 22 09 37.4 -3.8
DBIC Dimbokro 122.30 335 PKP PKPdf 21 59 06.3 -1.1
comp=Z,12nm,0.7s,baz=350,slow=1.8,SNR=22
DBIC Dimbokro 122.30 335 PKP PKPdf 21 59 06.3 -1.1
DBIC Dimbokro 122.30 335 PKIKP PKPdf 21 59 06.4 -1.0
DBIC pmax pmax
comp=Z,12nm,0.7s
LIC Lamto 122.77 335⇑*i*PKIKP PKPdf 21 59 07.2 -1.1
comp=Z,21nm,0.8s
LIC *eR*
comp=Z,391nm,23.0s
LIC Lamto 122.77 335⇑*i*PKPdf PKPdf 21 59 07.2 -1.1
SAML Samuel 129.69 51 *e*PKPdf PKPdf 21 59 20.6 -0.8
LPAZ La Paz 132.91 62 PKP PKPdf 21 59 27.9 +0.5
comp=Z,1.9nm,0.8s,baz=352,slow=4.2,SNR=5.4
LPAZ La Paz 132.91 62 PKP PKPdf 21 59 27.9 +0.5
LPAZ La Paz 132.91 62 PKIKP PKPdf 21 59 27.9 +0.5
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 136.44 278 PKP PKPdf 21 59 34.7 +1.0
comp=Z,2.2nm,0.6s,baz=11,slow=4.1,SNR=4.5
BOSA Boshof 136.44 278 PKP PKPdf 21 59 34.7 +1.0
BOSA Boshof 136.44 278 PKIKP PKPdf 21 59 34.7 +1.0
BOSA pmax pmax
comp=Z,2.0nm,0.6s
QSPA South Pole Qui 138.02 180 *e*PKPdf PKPdf 21 59 34.8 -0.2
SYO Syowa Base 142.64 213⇑*eP* PKPdf 21 59 37.6 -6.1
CPUP Villa Florida 147.00 60 PKPbc PKPbc 21 59 53.7 -0.9
comp=Z,16nm,0.7s,baz=303,slow=2.8,SNR=53
CPUP Villa Florida 147.00 60 PKPbc PKPbc 21 59 53.7 -0.9
PLCA Paso Flores 147.51 94 PKPbc PKPbc 21 59 54.5 -1.2
comp=Z,13nm,0.9s,baz=285,slow=3.6,SNR=20
PLCA Paso Flores 147.51 94 *e*PKPdf PKPdf 21 59 54.0 +1.1
PLCA PKPbc PKPbc 21 59 54.5 -1.2
NVL **N'lazarevskaya 151.37 205** *e*PKP2 PKPab 22 00 19.8 +7.0
NVL pmax pmax
comp=Z,34nm,0.9s
TRQA Tornquist 151.86 82 *e*PKPbc PKPbc 22 00 06.1 -0.4
SNAA Sanae 154.25 196 *e*PKPbc PKPbc 22 00 09.9 -0.8

ATH 28 21:50:32.0, 35.°72N×22.°02E, h38^{km}±8^{km}, MD2.9/3, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.00**	**56**	*e*PN	Pn	21 50 51.3	+1.8
VLI	**Veliai**	**1.24**	**36**	*e*PN	Pn	21 50 54.6	+1.8
VLI				*e*SN	Sn	21 51 10.7	+2.3
ITM	**Ithomi**	**1.46**	**357**	*e*PB	Pn	21 50 57.2	+1.4
ITM				*e*SN	Sn	21 51 16.5	+2.8

IDC 28 21:57:14.0±7.3, 19.°62S×176.°95W, h0^{km}, mb3.2/2, mb1 3.5/2, mb1mx3.3/15, mbtmp3.2/2, Error ellipse: s-maj=368.9km s-min=108.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.68**	**256**	P	P	22 05 36.7	-0.2
	0.2nm,0.5s,baz=96,slow=8.4,SNR=5.0						
WRA	**Warramunga Arr**	**45.70**	**261**	P	P	22 05 37.3	+0.1
	0.3nm,0.8s,baz=96,slow=8.4,SNR=5.3						
AKASG	**Malin Array Be**	**142.71**	**332**	PKP	PKPdf	22 16 48.5	-0.7
	0.6nm,0.3s,baz=50,slow=3.9,SNR=6.0						

*ISCJB **28** 22:07:25.8±2.3, 22.°47S±0.°05×173.°69E±0.°05, h26^{km}±16^{km}, mb4.6/36, MS4.8/14, Error ellipse: s-maj=8.8km s-min=7.3km az=18.4*
*NEIC **28** 22:07:29.7±1.0, 22.°37S×173.°78E, h49^{km}±9^{km}, mb4.9/18, Error ellipse: s-maj=8.6km s-min=7.5km az=86.0*
*GCMT **28** 22:07:30.9±0.2, 22.°48S×173.°70E, h29^{km}±1^{km}, MW5.2, Moment Tensor Solution. s58,c90; s63,c93; Moment tensor: Scale 10^{16}Nm; M_{rr}4.93±.22; $M_{\theta\theta}$-5.48±.15; $M_{\phi\phi}$0.55±.15; $M_{r\theta}$4.50±.27; $M_{\theta\phi}$-0.85±.13; $M_{\phi r}$0.96±.27; Best double couple: $M_0$7.00000×10^{16} NP1:ϕ_s266.00000°, δ25.00000°, λ96.00000°. NP2:ϕ_s79.00000°, δ66.00000°, λ87.00000°. Principal axes: T 6.6700, Plg69.0000°, Azm344.0000°; N 0.6500, Plg3.0000°, Azm80.0000°; P -7.3200, Plg21.0000°, Azm171.0000°; Data Used: II IU IC G CN.*
*BJI **28** 22:07:31.5, 21.°75S×173.°70E, h46^{km}, mB5.3/22, mb4.8/26, Ms5.3/18, Ms7 5.0/18*
*IDC **28** 22:07:32.0±5.8, 22.°54S×173.°62E, h65^{km}±52^{km}, mb4.1/15, mb1 4.3/17, mb1mx4.3/18, mbtmp4.2/17, ML4.3/2, MS4.6/7, Ms1 4.6/7, ms1mx4.1/22, Error ellipse: s-maj=23.2km s-min=20.6km az=52.0*
ISC 28 22:07:27.7±2.4, 22.°46S±0.°05×173.°77E±0.°04, h29^{km}±17^{km}, h43^{km}±1.2^{km}: pP-P, n113, σ1^{s}28/82, mb4.6/36, MS4.8/14, 10D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.19**	**41**	*e*Pn	**Pn**	**22 08 56.8**	**-0.5**
MSVF				*e*Sn	**Sn**	**22 10 05.6**	**-1.6**
MSVF	**Nonsavu**	**6.19**	**41**	Pn	**Pn**	**22 08 57.0**	**-0.3**
	1μm,1.0s,SNR=37						
DZM	**Mont Dzumac**	**6.79**	**272**	*e*Pn	**Pn**	**22 09 05.7**	**+0.1**
	20nm,0.5s						
DZM				*e*Sn	**Sn**	**22 10 20.3**	**-1.6**
NOUC	**Port Laguerre**	**6.92**	**272**	*e*P	**Pn**	**22 09 06.3**	**-1.0**
NOUC				*e*S	**Sn**	**22 10 25.6**	**+0.4**
OUZ	**Omahuta**	**12.71**	**181**	*e*Pn	**Pn**	**22 10 30.1**	**+3.5**
URZ	**Urewera**	**16.00**	**170**	P	**Pn**	**22 11 12.5**	**+1.7**
	0.9nm,0.3s,baz=358,slow=7.9,SNR=17						
URZ				LR	LR	22 15 59.9	
	comp=Z,3μm,20.2s,baz=22,slow=32						
URZ	**Urewera**	**16.00**	**170**	*e*Pn	**Pn**	**22 11 13.7**	**+2.9**
HNR	**Honiara**	**18.54**	**312**	P	**Pn**	**22 11 43.5**	**+0.9**
	1.5nm,0.3s,baz=228,slow=4.8,SNR=13						
HNR	**Honiara**	**18.54**	**312**	*e*P	**Pn**	**22 11 42.8**	**+0.2**
	331nm,1.1s						
SNZO	**South Karori**	**18.81**	**178**	*e*P	**Pn**	**22 11 45.8**	**+0.2**
	53nm,1.3s						
KHZ	**Kahutara**	**19.90**	**180**	*e*P	**Pn**	**22 11 57.8**	**-0.8**
	195nm,1.6s						
EIDS	**Eidsvold**	**20.93**	**258**	*e*P	**P**	**22 12 09.0**	**+0.7**
	87nm,1.5s						
RPZ	**Rata Peaks**	**21.31**	**185**	P	**P**	**22 12 12.8**	**+0.6**
	21nm,0.8s,mb4.5,baz=66,slow=1.9,SNR=12						
RPZ				LR	LR	22 19 19.6	
	comp=Z,3μm,21.7s,MS4.7,baz=336,slow=33						
RPZ	**Rata Peaks**	**21.31**	**185**	*e*P	**P**	**22 12 12.9**	**+0.7**
	78nm,1.1s,mb5.0						
ARMA	**Armidale**	**21.32**	**244**	*e*P	**P**	**22 12 10.9**	**-1.5**
ARMA	**Armidale**	**21.32**	**244**	*e*P	**P**	**22 12 14.1**	**+1.6**
CNB	**Canberra Magne**	**24.83**	**234**	*e*P	**P**	**22 12 49.0**	**+1.4**
CAN	**Canberra**	**25.11**	**234**	*e*P	**P**	**22 12 51.5**	**+1.5**
	73nm,1.4s,mb5.0						
CTA	**Charters Tower**	**25.73**	**270**	P	**P**	**22 12 55.4**	**-0.6**
	2.0nm,0.5s,mb3.9,baz=121,slow=10,SNR=4.8						
CTA	**Charters Tower**	**25.73**	**270**	*e*P	**P**	**22 12 55.0**	**-0.9**
CTA	**Charters Tower**	**25.73**	**270**	P	**P**	**22 12 55.4**	**-0.6**
CTAO	**Charters Tower**	**25.73**	**270**	*e*P	**P**	**22 12 56.7**	**+0.7**
	6.6nm,0.8s,mb4.2						
PMG	**Port Moresby**	**28.62**	**293**	P	**P**	**22 13 23.1**	**+1.1**
	13nm,1.0s,mb4.6,baz=135,slow=6.0,SNR=3.4						
PMG	**Port Moresby**	**28.62**	**293**	*e*P	**P**	**22 13 22.7**	**+0.8**
STKA	**Stephens Creek**	**30.02**	**245**	P	**P**	**22 13 34.0**	**-0.3**
	5.0nm,1.0s,mb4.2,baz=80,slow=1.0,SNR=4.7						
STKA	**Stephens Creek**	**30.02**	**245**	*e*P	**P**	**22 13 34.1**	**-0.1**
STKA	**Stephens Creek**	**30.02**	**245**	*e*P	**P**	**22 13 34.6**	**+0.4**
	2.9nm,1.0s,mb4.0						
COEN	**Coen**	**30.22**	**281**	P	**P**	**22 13 36.0**	**-0.1**
AS31	**Alice Springs**	**36.61**	**260**	*e*P	**P**	**22 14 29.7**	**-2.0**
ASAR	**Alice Springs**	**36.62**	**260**	P	**P**	**22 14 29.1**	**-2.6**
	3.3nm,0.8s,mb4.2,baz=92,slow=8.3,SNR=19						
ASAR	**Alice Springs**	**36.62**	**260**	P	**P**	**22 14 29.1**	**-2.6**
WRAB	**Tennant Creek**	**36.77**	**266**	*e*P	**P**	**22 14 30.2**	**-2.8**
	3.5nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**36.77**	**266**	P	**P**	**22 14 29.6**	**-3.5**
	1.1nm,0.4s,mb4.0,baz=95,slow=8.4,SNR=29						
WRA				LR	LR	22 29 55.7	
	comp=Z,821nm,18.5s,MS4.5,baz=115,slow=37						
WRA	**Warramunga Arr**	**36.77**	**266**	P	**P**	**22 14 29.6**	**-3.5**
FORT	**Forrest**	**41.46**	**248**	*e*P	**P**	**22 15 08.3**	**-3.9**
FITZ	**Fitzroy Crossi**	**45.20**	**266**	P	**P**	**22 15 40.9**	**-1.7**
	9.4nm,1.1s,mb4.5,baz=132,slow=0.9,SNR=4.5						
FITZ	**Fitzroy Crossi**	**45.20**	**266**	*e*P	**P**	**22 15 40.3**	**-2.3**
FITZ	**Fitzroy Crossi**	**45.20**	**266**	*e*P	**P**	**22 15 40.7**	**-1.9**
	13nm,0.9s,mb4.8						
MBWA	**Marble Bar**	**49.95**	**261**	*e*P	**P**	**22 16 19.4**	**-0.1**
	5.2nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**50.61**	**245**	P	**P**	**22 16 23.5**	**-0.8**
	7.8nm,0.9s,mb4.6,baz=82,slow=12,SNR=3.0						
NWAO	**Narrogin (SRO)**	**50.61**	**245**	P	**P**	**22 16 23.5**	**-0.8**
VNDA	**Vanda**	**55.41**	**183**	*e*P	**P**	**22 16 58.9**	**0.0**
	24nm,1.6s,mb5.0						
SBA	**Scott Base**	**55.54**	**182**	*e*P	**P**	**22 17 01.4**	**+1.5**
	54nm,1.4s,mb5.4						
QSPA	**South Pole Qui**	**67.61**	**180**	*e*P	**P**	**22 18 20.4**	**-0.9**
	51nm,1.2s,mb5.4						
MJAR	**Matsushiro Arr**	**67.61**	**330**	P	**P**	**22 18 21.5**	**-0.3**
	7.4nm,1.0s,mb4.7,baz=171,slow=7.2,SNR=8.3						
MJAR	**Matsushiro Arr**	**67.61**	**330**	P	**P**	**22 18 21.5**	**-0.3**
KSRS	**Korea Array**	**73.58**	**323**	P	**P**	**22 18 58.1**	**0.0**
	0.5nm,0.3s,mb4.0,baz=124,slow=7.1,SNR=5.4						
KSAR	**Wonju Array Be**	**73.59**	**323**	P	**P**	**22 18 58.1**	**-0.1**
NJ2	**Nanjing**	**75.47**	**314**	*e*P	**P**	**22 19 10.5**	**+1.2**
NJ2				pP	pP	22 19 22.8	+4.4
NJ2				sP	sP	22 19 27.5	+5.8
NJ2				PP	PP	22 22 00.8	+1.8
NJ2				S	S	22 28 47.0	-0.9
NJ2				sS	sS	22 29 10.0	+7.1
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				pmax	pmax		
	comp=Z,180nm,3.5s						
NJ2				LR	LR		
	comp=N,320nm,16.5s,MS4.8						
NJ2				LR	LR		
	comp=E,280nm,19.1s,MS4.8						
NJ2				LR	LR		
	comp=Z,390nm,15.7s,MS4.8						
PETK	**Petropavlovsk-**	**76.54**	**350**	P	**P**	**22 19 15.0**	**+0.2**
	comp=Z,10nm,0.9s,mb4.7,baz=152,slow=6.6,SNR=5.7						
PETK	**Petropavlovsk-**	**76.54**	**350**	P	**P**	**22 19 15.0**	**+0.2**
USRK	**Ussuriysk Arra**	**76.57**	**330**	P	**P**	**22 19 15.5**	**+0.2**
	comp=Z,5.2nm,1.0s,mb4.4,baz=123,slow=7.0,SNR=6.3						
MDJ	**Mudanjiang**	**78.00**	**329**	P	**P**	**22 19 23.5**	**+0.2**
ENH	**Enshi**	**80.98**	**308**	*e*P	**P**	**22 19 39.2**	**-0.7**
	comp=Z,7.8nm,0.8s,mb4.7						
GYA	**Guiyang**	**81.12**	**303**	P	**P**	**22 19 42.8**	**+2.1**
GYA				pP	pP	22 19 56.5	+6.6
GYA				sP	sP	22 20 01.3	+8.1
GYA				PP	PP	22 22 50.0	+3.6
GYA				S	S	22 29 48.8	-0.1
GYA				SKS		22 29 52.3	
GYA				sS	sS	22 30 11.0	+7.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,760nm,18.5s,MS5.2						
GYA				LR	LR		
	comp=E,650nm,19.6s,MS5.2						
GYA				LR	LR		
	comp=Z,790nm,18.9s,MS5.1						
BJI	**Beijing**	**82.12**	**319**	P	**P**	**22 19 47.3**	**+1.7**
BJI				sP	sP	22 20 04.0	+5.9
BJI				S	S	22 30 01.0	+2.4
BJI				SS	SS	22 35 16.3	-2.7
BJI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
BJI				pmax	pmax		
	comp=Z,340nm,5.5s						
BJI				LR	LR		
	comp=N,340nm,19.2s,MS5.0						
BJI				LR	LR		
	comp=E,440nm,18.6s,MS5.0						
BJI				LR	LR		
	comp=Z,330nm,19.7s,MS4.7						
SYO	**Syowa Base**	**82.98**	**195**⇓*eP*	P	**P**	**22 19 48.0**	**-1.8**
SYO	**Syowa Base**	**82.98**	**195**⇓*e*PcP	PcP	**P**	22 19 52.4	-2.1
XAN	**Xi'an**	**83.41**	**311**	P	**P**	**22 19 52.5**	**0.0**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.9						
XAN				pmax	pmax		
	comp=Z,22nm,6.3s						
KMI	**Kunming**	**83.56**	**300**	P	**P**	**22 19 55.0**	**+1.5**
KMI				pP	pP	22 20 07.0	+4.3
KMI				sP	sP	22 20 11.8	+5.8
KMI				PP	PP	22 23 09.0	+2.6
KMI				S	S	22 30 16.0	+2.1
KMI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
KMI				pmax	pmax		
	comp=Z,110nm,4.8s						
KMI				LR	LR		
	comp=N,100nm,21.3s,MS4.4						
KMI				LR	LR		
	comp=E,120nm,20.1s,MS4.4						
KMI				LR	LR		
	comp=Z,170nm,21.9s,MS4.4						
CMAR	**Chiang Mai Arr**	**83.67**	**293**	P	**P**	**22 19 54.6**	**+0.4**
	comp=Z,0.8nm,0.7s,mb3.9,baz=138,slow=3.8,SNR=8.1						
CMAR	**Chiang Mai Arr**	**83.67**	**293**	P	**P**	**22 19 54.6**	**+0.4**
HHC	**Hu-ho-hao-te**	**85.43**	**318**	*e*P	**P**	**22 20 05.3**	**+2.7**
HHC				pP	pP	22 20 18.8	+7.0
HHC				sP	sP	22 20 23.5	+8.4
HHC				SKS		22 30 24.0	
HHC				S	S	22 30 33.5	+1.6
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
HHC				pmax	pmax		
	comp=Z,160nm,5.5s						
HHC				LR	LR		
	comp=N,310nm,13.1s,MS5.1						
HHC				LR	LR		
	comp=E,370nm,13.1s,MS5.1						
HHC				LR	LR		
	comp=Z,480nm,20.2s						
CD2	**Chengdu**	**85.55**	**306**	*e*P	**P**	**22 20 05.5**	**+2.1**
CD2				pP	pP	22 20 19.0	+6.4
CD2				sP	sP	22 20 24.5	+8.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
CD2				pmax	pmax		
	comp=Z,30nm,5.0s						
SNAA	**Sanae**	**86.09**	**181**	*e*	**P**	**22 20 03.7**	**-1.8**
SNAA	**Sanae**	**86.09**	**181**	*e*P	**P**	**22 20 03.3**	**-2.2**
	comp=Z,7.5nm,1.0s,mb4.9						
ISA	**Isabella**	**86.30**	**49**	*e*P	**P**	**22 20 06.9**	**-0.2**
	comp=Z,6.8nm,0.9s,mb4.9						
VNA3	**Neumayer Olymp**	**86.52**	**179**	*e*	**P**	**22 20 05.5**	**-2.1**
VNA2	**Neumayer--Watz**	**86.86**	**180**	*e*	**P**	**22 20 08.2**	**-1.1**
NVAR	**Mina Array Bea**	**87.83**	**47**	P	**P**	**22 20 13.8**	**-0.6**
	comp=Z,3.4nm,1.2s,mb4.5,baz=213,slow=8.7,SNR=5.7						
NVAR				LR	LR	22 50 13.6	
	comp=Z,247nm,21.6s,MS4.6,baz=98,slow=29						
NVAR	**Mina Array Bea**	**87.83**	**47**	P	**P**	**22 20 13.8**	**-0.6**
LZH	**Lanzhou**	**88.03**	**310**	*e*P	**P**	**22 20 17.8**	**+2.4**
LZH				pP	pP	22 20 29.8	+5.2
LZH				sP	sP

SONM	**Songino Array**	**92.35 322**	P	**P**	**22 20 35.2**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.8,baz=114,slow=1.2,SNR=4.3					
SONM	**Songino Array**	**92.35 322**	P	**P**	**22 20 35.2**	**0.0**
GTA	**Gaotai**	**92.41 312**	*e*P	**P**	**22 20 36.8**	**+1.0**
GTA			pP	pP	22 20 50.5	+5.5
GTA			sP	sP	22 20 55.8	+7.5
GTA			SKS		22 31 04.8	
GTA			S	S	22 31 34.8	-2.8
GTA			sS	sS	22 31 57.8	+4.8
GTA			pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.5					
GTA			pmax	pmax		
	comp=Z,290nm,5.2s					
GTA			LR	LR		
	comp=N,250nm,18.0s,MS5.0					
GTA			LR	LR		
	comp=E,460nm,17.6s,MS5.0					
GTA			LR	LR		
	comp=Z,730nm,16.9s,MS5.2					
PLCA	**Paso Flores**	**93.31 137**	LR	LR	22 52 27.4	
	comp=Z,297nm,22.0s,MS4.7,baz=97,slow=29					
TXAR	**Lajitas Array**	**94.63 60**	P	**P**	**22 20 47.9**	**+1.6**
	comp=Z,0.2nm,0.3s,mb4.0,baz=263,slow=7.2,SNR=10					
TXAR			LR	LR	22 55 51.0	
	comp=Z,166nm,19.2s,MS4.5,baz=60,slow=31					
TXAR	**Lajitas Array**	**94.63 60**	P	**P**	**22 20 47.9**	**+1.6**
WMQ	**Urumqi**	**102.49 312**	*e*P	Pdif	22 21 23.0	+1.8
WMQ			LR	LR		
	comp=N,970nm,17.6s,MS5.5					
WMQ			LR	LR		
	comp=E,600nm,16.6s,MS5.5					
WMQ			LR	LR		
	comp=Z,960nm,16.0s,MS5.4					
FINES	**FINESS Array B**	**135.14 339**	PKP	PKPdf	22 26 43.0	-0.9
	comp=Z,2.9nm,1.0s,baz=298,slow=4.1,SNR=3.4					
FINES	**FINESS Array B**	**135.14 339**	PKP	PKPdf	22 26 43.0	-0.9
BURAR	**Bucovina Array**	**144.46 323**	‖ *i*P	PKPdf	22 26 57.6	-3.6
ISP	**Isparta**	**144.97 304**	‖ *i*P	PKPdf	22 27 02.4	0.0
MLR	**Muntele Rosu**	**145.16 319**	‖ *i*P	PKPbc	22 26 56.8	-5.3
KOLS	**Kolonicke sedl**	**145.25 326**	*e*PKP	PKPdf	22 27 03.2	+0.7
STHS	**Stebnicka Huta**	**145.45 328**	*e*PKP	PKPdf	22 27 04.4	+1.6
CRVS	**Cervenica-Dubn**	**145.68 327**	*e*PKP	PKPdf	22 27 01.6	-1.7
DRGR		**146.33 323**	‖ *i*P	PKPdf	22 27 07.1	+2.7
KECS	**Kecovo**	**146.44 327**	*e*PKP	PKPdf	22 27 08.8	+4.2
KSP	**Ksiaz**	**146.67 334**	*e*PKP	PKPdf	22 27 04.7	-0.2
DPC	**Dobruska-Polom**	**147.03 333**	*e*PKP	PKPdf	22 27 05.2	-0.3
UPC	**Upice**	**147.04 334**	*e*PKP	PKPdf	22 27 05.5	0.0
PSZ	**Piszkesteto**	**147.12 327**	‖ *e*PKP	PKPdf	22 27 05.2	-0.5
VYHS	**Vyhne**	**147.25 329**	*e*PKP	PKPdf	22 27 06.0	+0.1
CLL	**Collm**	**147.56 337**	*e*PKPbc	PKPbc	22 27 07.0	-2.0
CLL			*ep*PKPbc	pPKPbc	22 27 21.0	+2.6
BRG	**Berggiesshubel**	**147.57 336**	*e*PKP	PKPdf	22 27 06.9	+0.6
	comp=Z,7.6nm,1.3s					
BRG			*e*		22 27 18.6	
	comp=Z,18nm,1.4s					
PVCC	**Panska Ves**	**147.60 335**	*e*PKP	PKPdf	22 27 08.2	+1.8
VRAC	**Vranov**	**147.70 332**	‖ *i*P	PKPab	22 27 15.1	+3.4
PRU	**Pruhonice**	**148.04 324**	*e*PKP	PKPdf	22 27 08.5	+2.3
PKSM	**Moragy**	**148.88 326**	‖ *i*P	PKPdf	22 27 09.5	+0.8
SOP	**Sopron**	**148.90 330**	‖ *e*PKP	PKPdf	22 27 11.7	+3.0
KHC	**Kasperske Hory**	**149.10 334**	*e*PKP	PKPdf	22 27 07.5	-1.4
KHC			*ex*	x	22 27 11.7	
GERES	**GERESS Array B**	**149.28 334**	PKPbc	PKPbc	22 27 11.3	-2.3
	comp=Z,1.2nm,0.7s,baz=46,slow=6.1,SNR=5.7					
GERES	**GERESS Array B**	**149.28 334**	PKPbc	PKPbc	22 27 11.3	-2.3
BAIF	**Baives**	**151.26 346**	*e*PKP1	PKPbc	22 27 18.3	0.0
	comp=Z,34nm,1.3s					
HAU	**Haudompre**	**152.60 341**	*e*PKP1	PKPbc	22 27 25.5	+4.1
LOR	**Lormes**	**153.95 344**	*e*PKP1	PKPbc	22 27 27.3	+2.9
	comp=Z,6.8nm,0.9s					
SSF	**Saint Saulge**	**154.23 345**	*e*PKP1	PKPbc	22 27 28.1	+3.1
	comp=Z,17nm,1.2s					
TORD	**Torodi Ar. Bea**	**168.05 220**	PKP	PKPdf	22 27 30.6	-1.8
	comp=Z,0.3nm,0.9s,baz=220,slow=2.9,SNR=2.5					
TORD			PKPab	PKPab	22 28 39.6	-0.3
	comp=Z,0.8nm,0.8s,baz=117,slow=2.9,SNR=4.7					
TORD	**Torodi Ar. Bea**	**168.05 220**	PKP	PKPdf	22 27 30.6	-1.8
TORD			PKPab	PKPab	22 28 39.6	-0.3

*ISK **28** 22:24:08.0, 37°.89N×29°.19E, h5km, MD2.6*
*ISCJB **28** 22:24:09.3±0.5, 37°.90N±0°.03×29°.21E±0°.04, h5km±8km, Error ellipse: s-maj=5.8km s-min=4.4km az=174.0*
*DDA **28** 22:24:09.6, 37°.90N×29°.21E, h7km±4km, Md2.8*
*CSEM **28** 22:24:09.4±0.2, 37°.89N×29°.20E, h8km, MD2.6, Error ellipse: s-maj=4.6km s-min=4.2km az=75.0*

ISC 28 22:24:09.8±0.5, **37°.90N**±0°.03×**29°.20E**±0°.04, **h10**km±6km, **n22**, σ0s**73**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**223**	*e*PG	**Pg**	**22 24 12.3**	**-1.5**
DENT	**Denizli**	**0.19**	**223**	*e*Pg	**Pg**	**22 24 12.3**	**-1.6**
DNZL	**Cakiroluk**	**0.24**	**210**	*i* P	**Pg**	**22 24 14.6**	**-0.1**
DNZL				*i* S	**Sg**	**22 24 18.4**	**+0.4**
DNZL	**Cakiroluk**	**0.24**	**210**	*i* P	**Pg**	**22 24 14.6**	**-0.1**
DNZL				*i* S	**Sg**	**22 24 18.4**	**+0.5**
KHAL	**Karahalli**	**0.53**	**26**	*i* P	**Pg**	**22 24 20.4**	**+0.3**
KHAL				*i* S	**Sg**	**22 24 27.6**	**+0.6**
KHAL	**Karahalli**	**0.53**	**26**	*i* P	**Pg**	**22 24 20.4**	**+0.4**
KHAL				*i* S	**Sg**	**22 24 27.6**	**+0.6**
GOLH	**Golhisar**	**0.72**	**156**	*e*P	**Pg**	**22 24 24.3**	**+0.6**
GOLH				*i* S	**Sg**	**22 24 34.0**	**+1.0**
GOLH	**Golhisar**	**0.72**	**156**	*e*P	**Pg**	**22 24 24.3**	**+0.7**
GOLH				*i* S	**Sg**	**22 24 34.0**	**+1.0**
KULA	**Kula-Manisa**	**0.75**	**326**	*e*PG	**Pg**	**22 24 23.8**	**-0.4**
KULA				*e*SG	**Sg**	**22 24 34.6**	**+0.6**
KULA	**Kula-Manisa**	**0.75**	**326**	*e*Pg	**Pg**	**22 24 23.8**	**-0.4**
KULA				*e*Sg	**Sg**	**22 24 34.6**	**+0.6**
GLHS	**Glhisar (BURDU**	**0.78**	**162**	*e*PG	**Pg**	**22 24 24.6**	**-0.1**
GLHS				*e*SG	**Sg**	**22 24 35.5**	**+0.6**
GLHS	**Glhisar (BURDU**	**0.78**	**162**	*e*Pg	**Pg**	**22 24 24.6**	**-0.1**
GLHS				*e*Sg	**Sg**	**22 24 35.5**	**+0.6**
ISP	**Isparta**	**1.05**	**94**	*e*PG	**Pg**	**22 24 28.5**	**-1.4**
ISP	**Isparta**	**1.05**	**94**	*e*Pg	**Pg**	**22 24 28.5**	**-1.5**
YER	**Yerkesik**	**1.05**	**224**	*e*PG	**Pg**	**22 24 28.9**	**-1.1**
YER	**Yerkesik**	**1.05**	**224**	*e*Pg	**Pg**	**22 24 28.9**	**-1.1**
AYDN	**Tasoluk**	**1.07**	**258**	*i* P	**Pb**	**22 24 30.7**	**+0.3**
AYDN				*i* S	**Sb**	**22 24 45.0**	**+0.6**
AYDN	**Tasoluk**	**1.07**	**258**	*i* P	**Pb**	**22 24 30.7**	**+0.3**
AYDN				*i* S	**Sb**	**22 24 45.0**	**+0.6**
BCK	**Bucak**	**1.19**	**111**	*e*PN	**Pn**	**22 24 32.1**	**-0.2**
BCK	**Bucak**	**1.19**	**111**	*e*Pn	**Pn**	**22 24 32.1**	**-0.3**
ELL	**Elmali**	**1.28**	**153**	*e*PN	**Pn**	**22 24 33.3**	**-0.3**
ELL	**Elmali**	**1.28**	**153**	*e*Pn	**Pn**	**22 24 33.3**	**-0.3**

*SZGRF **28** 22:39:41.9, 48°.86N×154°.12E, h33km, mb5.1, Kuril Islands, Russia*
*BJI **28** 22:39:41.6, 48°.18N×154°.80E, h43km, mB5.0/32, mb4.8/48, Ms4.6/35, Ms7 4.4/36*
*ISCJB **28** 22:39:43.7±0.4, 48°.20N±0°.03×154°.37E±0°.03, h43km±3km, mb5.1/235, MS4.3/23, Error ellipse: s-maj=5.2km s-min=2.6km az=148.6*
*KRSC **28** 22:39:44.1±3.0, 47°.84N×157°.24E, h10km±10km, ML5.3*
*SKHL **28** 22:39:45.6±2.3, 48°.08N×154°.66E, h39km±3km, mb5.6/6, Ms4.5/1, msh5.8/2*
*NEIC **28** 22:39:45.9±0.6, 48°.25N×154°.28E, h47km±5km, mb5.3/151, Error ellipse: s-maj=4.0km s-min=2.3km az=161.0*
*MOS **28** 22:39:45.3±1.4, 48°.24N×154°.47E, h66km, mb5.4/87, MS4.0/15, Error ellipse: s-maj=9.3km s-min=5.9km az=64.1*
*IDC **28** 22:39:46.3±2.4, 48°.28N×154°.34E, h52km±21km, mb4.6/26, mb1 4.7/30, mb1mx4.7/30, mbtmp4.6/30, ML4.3/4, MS4.2/14, Ms1 4.2/14, ms1mx4.0/35, Error ellipse: s-maj=13.1km s-min=9.7km az=130.0*
*GCMT **28** 22:39:49.3±0.3, 48°.20N×154°.60E, h46km±1km, MW5.0, Moment Tensor Solution. s42,c56; s54,c77; Moment tensor: Scale 10^{16}Nm; M_{rr}4.27±.22; $M_{\theta\theta}$-1.91±.15; $M_{\phi\phi}$-2.36±.14; $M_{r\theta}$1.12±.14; $M_{\theta\phi}$-2.33±.09; $M_{r\phi}$0.18±.12; Best double couple: $M_0$4.50000×10^{16} NP1:ϕ_p213.00000°, δ40.00000°, λ75.00000°. NP2:ϕ_p52.00000°, δ51.00000°, λ102.00000°. Principal axes: T 4.4800, Plg79.0000°, Azm12.0000°; N 0.0900, Plg9.0000°, Azm224.0000°; P -4.5700, Plg6.0000°, Azm133.0000°; Data Used: II IU G IC CN.*

ISC 28 22:39:46.4±0.4, **48°.25N**±0°.03×**154°.32E**±0°.03, **h49**km±3km, **h48**km±2.0km:**pP-P, n729**, σ0s**82**/733, **mb5.1**/235, **MS4.3**/23,

127C-49D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.70**	**25**	*e*PN	**Pn**	**22 40 28.4**	**+1.2**
SKR				*e*S	**Sn**	**22 40 58.8**	**+0.2**
SKR				pmax	pmax		
	comp=Z,3μm,1.0s						
SKR				pmax	pmax		
	comp=N,550nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				pmax	pmax		
	comp=E,1μm,1.0s						
SKR				smax			
	comp=N,5μm,0.2s						
SKR				smax			
	comp=E,3μm,0.2s						
SKR				smax			
	comp=N,10μm,2.0s						
SKR				smax			
	comp=E,8μm,2.0s						
SKR				MLR	MLR		
	comp=E,6μm,6.0s						
SKR				MLR	MLR		
	comp=Z,6μm,6.0s						
SKR	**Severo-Kuril's**	**2.70**	**25**	*e*P	**Pn**	**22 40 28.4**	**+1.2**
SKR				AMB	AMB	22 40 30.0	
	comp=Z,3μm,1.0s						
SKR				AMB	AMB	22 40 32.0	
	comp=Z,550nm,0.5s						
SKR				AMB	AMB	22 40 32.0	
	comp=Z,1μm,0.5s						
SKR				AMB	AMB	22 40 32.0	
	comp=Z,1μm,1.0s						
SKR				*e*S	**Sn**	**22 40 58.8**	**+0.2**
SKR				A		22 41 09.5	
	comp=Z,2μm,0.5s						
SKR				A		22 41 09.5	
	comp=Z,10μm,2.0s						
SKR				A		22 41 09.5	
	comp=Z,6μm,2.0s						
SKR				A		22 41 09.5	
	comp=Z,10μm,2.0s						
SKR				A		22 41 09.5	
	comp=Z,8μm,2.0s						
SKR				A		22 41 09.5	
	comp=Z,5μm,0.2s						
SKR				A		22 41 09.5	
	comp=Z,3μm,0.2s						
SKR				AMS	AMS	22 41 42.0	
	comp=Z,6μm,6.0s						
SKR				AMS	AMS	22 41 42.0	
	comp=Z,6μm,6.0s						
SKR				AMS	AMS	22 41 42.0	
	comp=Z,6μm,6.0s						
SKR				AMS	AMS	22 41 42.0	
	comp=Z,6μm,6.0s						
GRL	**Gorelyy**	**4.93**	**28**	*e*P	**Pn**	**22 40 58.4**	**+0.7**
GRL				*e*S	**Sn**	**22 41 52.5**	**-0.9**
RUS	**Russkaya**	**4.97**	**31**	*e*P	**Pn**	**22 40 56.8**	**-1.5**
RUS				S	**Sn**	**22 41 49.9**	**-4.6**
RUS	**Russkaya**	**4.97**	**31**	PN	**Pn**	**22 40 56.8**	**-1.5**
PETK	**Petropavlovsk-**	**5.31**	**23**	P	**Pn**	**22 41 04.2**	**+1.1**
	comp=Z,18nm,0.3s,baz=182,slow=12,SNR=157						
PETK				S	**Sn**	**22 42 13.7**	**+11**
	baz=160,slow=18,SNR=2.4						
PETK				LR	LR	22 43 18.0	
	comp=Z,2μm,20.4s,baz=337,slow=40						
PETK	**Petropavlovsk-**	**5.31**	**23**	P	**Pn**	**22 41 04.2**	**+1.1**
PETK				S	**Sn**	**22 42 13.7**	**+11**
PETK	**Petropavlovsk-**	**5.31**	**23**	PN	**Pn**	**22 41 04.2**	**+1.2**
PETK				pmax	pmax		
	comp=Z,18nm,0.3s						
PETK				MLR	MLR		
	comp=Z,2μm,20.4s						
KUR	**Kuril'sk**	**5.37**	**238**	*e*PN	**Pn**	**22 41 05.5**	**+1.7**
KUR				*e*S	**Sn**	**22 42 09.5**	**+5.3**
KUR				pmax	pmax		
	comp=Z,850nm,0.9s						
KUR				pmax	pmax		
	comp=N,430nm,0.8s						
KUR				pmax	pmax		
	comp=E,220nm,0.8s						
KUR				smax			
	comp=N,2μm,0.9s						
KUR				smax			
	comp=E,1μm,0.9s						
KUR				smax			
	comp=N,11μm,5.0s						
KUR				smax			
	comp=E,9μm,4.0s						
KUR				MLR	MLR		
	comp=Z,6μm,14.0s						
KUR	**Kuril'sk**	**5.37**	**238**	*e*P	**Pn**	**22 41 05.5**	**+1.7**
KUR				AMB	AMB	22 41 18.0	
	comp=Z,430nm,0.8s						
KUR				AMB	AMB	22 41 18.0	
	comp=Z,220nm,0.8s						
KUR				AMB	AMB	22 41 18.0	
	comp=Z,850nm,0.9s						
KUR				*e*S	**Sn**	**22 42 09.5**	**+5.3**
KUR				A		22 42 14.0	
	comp=Z,2μm,0.9s						
KUR				A		22 42 14.0	
	comp=Z,1μm,0.9s						
KUR				A		22 42 24.0	
	comp=Z,11μm,5.0s						
KUR				A		22 42 24.0	
	comp=Z,9μm,5.0s						
KUR				AMS	AMS	22 43 14.0	
	comp=Z,6μm,14.0s						
PET	**Petropavlovsk**	**5.51**	**28**	P	**Pn**	**22 41 05.1**	**-0.7**
PET				*e*S	**Sn**	**22 42 04.0**	**-3.8**
PET	**Petropavlovsk**	**5.51**	**28**	*e*Pn	**Pn**	**22 41 05.4**	**-0.4**
PET	**Petropavlovsk**	**5.51**	**28**	*e*PN	**Pn**	**22 41 05.0**	**-0.8**
PET				*e*S	**Sn**	**22 42 06.8**	**-1.0**
PET				smax			
	comp=N,1μm,1.1s						
PET				smax			
	comp=E,1μm,0.7s						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
PET				MLR	MLR		
	comp=Z,3μm,15.0s						
SDLR	**Sedlovina**	**5.80**	**28**	*e*P	**Pn**	**22 41 09.6**	**-0.2**
SDLR				*e*S	**Sn**	**22 42 11.7**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**7.23**	**237**	*i* PN	**Pn**	**22 41 33.5**	**+4.1**
YUK				*e*S	**Sn**	**22 42 56.2**	**+6.2**
YUK				pmax	pmax		
	comp=N,137nm,0.4s						
YUK				pmax	pmax		
	comp=E,131nm,0.1s						
YUK				pmax	pmax		
	comp=Z,364nm,0.4s						
YUK				MLR	MLR		
	comp=Z,2μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**7.23**	**237**	‖ *i*P	**Pn**	**22 41 33.6**	**+4.2**
YUK				AMB	AMB	22 41 39.9	
	comp=Z,350nm,0.4s						
YUK				*e*S	**Sn**	**22 42 56.3**	**+6.3**
YUK				AMS	AMS	22 44 20.6	
	comp=Z,2μm,15.0s						
JRA	**Rausu**	**7.71**	**239**	P	**Pn**	**22 41 38.1**	**+2.2**
NEM2	**Nemuro 2**	**7.73**	**234**	P	**Pn**	**22 41 35.0**	**-1.2**
NEM2				*e*S	**Sn**	**22 42 59.1**	**-3.2**
TUMR	**Tumrok**	**7.91**	**25**	P	**Pn**	**22 41 38.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.92**	**265**	*e*Pn	**Pn**	**22 41 43.2**	**+4.4**
YSS	**Yuzh-Sakhalins**	**7.92**	**265**	‖ *i*PN	**Pn**	**22 41 43.0**	**+4.2**
YSS				pmax	pmax		
	comp=Z,140nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.92**	**265**	‖ *i*P	**Pn**	**22 41 43.0**	**+4.2**
YSS				AMB	AMB	22 41 44.5	
	comp=Z,140nm,0.7s						
YSS				*e*S	**Sn**	**22 43 06.7**	**-0.3**
YSS				A		22 43 16.7	
	comp=Z,150nm,0.8s						
TYV	**Tymovskoe**	**8.02**	**293**	*e*P	**Pn**	**22 41 44.0**	**+3.9**
TYV				AMB	AMB	22 41 47.0	
	comp=Z,12nm,0.6s						
TYV				AMB	AMB	22 41 47.0	
	comp=Z,97nm,1.0s						
TYV				AMB	AMB	22 41 47.0	
	comp=Z,154nm,1.0s						
ESO	**Esso**	**8.14**	**18**	P	**Pn**	**22 41 44.9**	**+3.2**
ESO	**Esso**	**8.14**	**18**	PN	**Pn**	**22 41 44.9**	**+3.2**
UGL	**Uglegorsk**	**8.15**	**280**	*e*PN	**Pn**	**22 41 47.0**	**+5.0**
UGL				*e*		22 43 22.0	
UGL				pmax	pmax		
	comp=Z,160nm,0.6s						
UGL	**Uglegorsk**	**8.15**	**280**	*e*P	**Pn**	**22 41 47.0**	**+5.0**
UGL				AMB	AMB	22 41 48.0	
	comp=Z,160nm,0.6s						
JNK	**Nakash**	**8.16**	**239**	P	**Pn**	**22 41 43.8**	**+1.7**
JTKR	**Abashiri--Toko**	**8.40**	**243**	P	**Pn**	**22 41 47.9**	**+2.5**
JAK	**Akkeshi**	**8.55**	**236**	P	**Pn**	**22 41 46.7**	**-0.7**
JAK				*e*S	**Sn**	**22 43 18.8**	**-3.6**
SRDR	**Sredinnyy**	**8.72**	**20**	P	**Pn**	**22 41 50.8**	**+1.1**
JAR	**Ashorobuto**	**8.88**	**240**	P	**Pn**	**22 41 53.7**	**+1.8**
JWK2	**Keihoku**	**9.02**	**256**	P	**Pn**	**22 42 00.2**	**+6.4**
ASAJ	**Asahikawa**	**9.12**	**247**	P	**Pn**	**22 41 59.7**	**+4.5**
	comp=Z,12nm,0.3s,baz=84,slow=14,SNR=20						
ASAJ				LR	LR	22 45 06.1	
	comp=Z,2μm,21.9s,baz=5.9,slow=35						
ASAJ	**Asahikawa**	**9.12**	**247**	P	**Pn**	**22 41 59.7**	**+4.5**
ASAJ	**Asahikawa**	**9.12**	**247**	PN	**Pn**	**22 41 59.7**	**+4.5**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,21.9s						
ASAJ	**Asahikawa**	**9.12**	**247**	P	**Pn**	**22 41 59.6**	**+4.4**
JKK2	**Kamakawa 2**	**9.16**	**246**	P	**Pn**	**22 41 59.0**	**+3.3**
KBTR	**Krutoberegovo**	**9.51**	**30**	*e*P	**Pn**	**22 41 58.1**	**-2.4**
KBTR				S	**Sn**	**22 43 35.7**	**-10**
KBTR	**Krutoberegovo**	**9.51**	**30**	PN	**Pn**	**22 41 58.1**	**-2.4**
JCH	**Churui**	**9.54**	**238**	P	**Pn**	**22 42 00.4**	**-0.6**
JCH				*e*S	**Sn**	**22 43 41.7**	**-5.0**
JFR	**Furan**	**9.65**	**243**	P	**Pn**	**22 42 03.9**	**+1.4**
JBT2	**Biratori 2**	**10.01**	**241**	P	**Pn**	**22 42 08.4**	**+0.9**
BKI	**Bering**	**10.03**	**42**	S	**Sn**	**22 43 42.1**	**-16**
ERM	**Erimo**	**10.05**	**236**	*e*Pn	**Pn**	**22 42 12.2**	**+4.3**
ERM	**Erimo**	**10.05**	**236**	*e*PN	**Pn**	**22 42 08.5**	**+0.6**
JNBK	**Urakawa-nobuka**	**10.10**	**238**	P	**Pn**	**22 42 07.4**	**-1.2**
JNBK				*e*S	**Sn**	**22 43 55.3**	**-5.1**
JKB	**Kayabe**	**11.34**	**241**	P	**Pn**	**22 42 24.2**	**-1.4**
JKB				*e*S	**Sn**	**22 44 24.2**	**-6.5**
JSH	**Shimam**	**11.48**	**246**	P	**Pn**	**22 42 28.9**	**+1.4**
JTM	**Tenmabayashi**	**12.04**	**237**	P	**Pn**	**22 42 32.0**	**-3.1**
JTM				*e*S	**Sn**	**22 44 38.2**	**-10**
HABR	**Khabarovsk**	**12.82**	**278**	*e*PN	**Pn**	**22 42 45.5**	**-0.2**
HABR				pmax	pmax		
	comp=E,88nm,2.0s						
HABR				pmax	pmax		
	comp=N,86nm,2.8s						
HABR				pmax	pmax		
	comp=Z,178nm,2.7s						
HABR				MLR	MLR		
	comp=Z,921nm,16.0s						
FX1	**Attu Island--F**	**12.83**	**62**	P	**Pn**	**22 42 43.7**	**-2.2**
	comp=Z,8.2nm,0.3s,baz=256,slow=20,SNR=7.0						
FX1				LR	LR	22 46 58.1	
	comp=Z,486nm,20.1s,baz=65,slow=34						
FX1	**Attu Island--F**	**12.83**	**62**	P	**Pn**	**22 42 43.7**	**-2.2**
FX1	**Attu Island--F**	**12.83**	**62**	PN	**Pn**	**22 42 43.7**	**-2.2**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
FX1				MLR	MLR		
	comp=Z,486nm,20.1s						
JRG	**Rokugo**	**13.25**	**233**	P	**Pn**	**22 42 49.3**	**-2.3**
JRG				*e*S	**Sn**	**22 45 10.9**	**-6.5**
JIO	**Ouri**	**13.58**	**229**	P	**Pn**	**22 42 53.4**	**-2.8**
JIO				*e*S	**Sn**	**22 45 16.4**	**-9.1**
SEY	**Seymchan**	**14.75**	**357**	‖ *i*P	**Pn**	**22 43 11.5**	**-0.2**
KLR	**Kul'dur**	**14.91**	**282**	*e*P	**Pn**	**22 43 15.7**	**+1.8**
KLR				MLR	MLR		
	comp=E,1μm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
USRK	**Ussuriysk Arra**	**15.95**	**264**	P	**Pn**	**22 43 28.9**	**+1.6**
	comp=Z,2.1nm,0.3s,baz=69,slow=12,SNR=52						
USRK				LR	LR	22 49 06.2	
	comp=Z,441nm,22.0s,baz=250,slow=35						
VLA	**Vladivostok**	**16.47**	**260**	P	**Pn**	**22 43 35.5**	**+1.7**
VLA				pmax	pmax		
	comp=Z,33nm,0.7s						
MJAR	**Matsushiro Arr**	**16.65**	**231**	P	**Pn**	**22 43 34.6**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=30,slow=12,SNR=20						
MJAR				LR	LR	22 50 16.9	
	comp=Z,259nm,20.5s,baz=55,slow=38						
MJAR	**Matsushiro Arr**	**16.65**	**231**	P	**Pn**	**22 43 34.6**	**-1.5**
MJAR	**Matsushiro Arr**	**16.65**	**231**	P	**Pn**	**22 43 34.6**	**-1.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,259nm,20.5s						
MAJO	**Matsushiro**	**16.65**	**231**	*e*Pn	**Pn**	**22 43 34.6**	**-1.5**
	comp=Z,38nm,0.9s						
MAJO	**Matsushiro**	**16.65**	**231**	*e*P	**Pn**	**22 43 34.6**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,37nm,0.9s						
MAT	**Matsushiro**	**16.65**	**231**	P	**Pn**	**22 43 33.7**	**-2.4**
MDJ	**Mudanjiang**	**17.40**	**267**	P	**Pn**	**22 43 44.5**	**-0.9**
MDJ				pP	pP	22 43 55.8	-1.6
MDJ				sP	sP	22 44 01.5	-2.1
MDJ				S	**S**	**22 46 56.0**	**-8.4**
MDJ				PcP	PcP	22 48 22.5	-1.9
MDJ				ScP	ScP	22 51 56.8	+1.7
MDJ				PcS	PcS	22 52 01.0	+0.5
MDJ				ScS	ScS	22 55 36.5	+1.6
MDJ				pmax	pmax		
	comp=Z,15nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,160nm,3.4s						
MDJ				LR	LR		
	comp=N,310nm,22.7s						
MDJ				LR	LR		
	comp=E,300nm,28.4s						
MDJ				LR	LR		
	comp=Z,380nm,35.5s						
ZEA	**Zeya**	**17.84**	**298**	*e*P	**Pn**	**22 43 52.3**	**+1.6**
ZEA				AMB	AMB	22 44 05.2	
	comp=Z,54nm,1.6s						
ZEA				AMB	AMB	22 44 05.2	
	comp=Z,46nm,1.4s						
ZEA				AMB	AMB	22 44 05.2	
	comp=Z,37nm,1.4s						
YAK	**Yakutsk**	**19.54**	**324**	*e*Pn	**Pn**	**22 44 10.0**	**-1.1**
	comp=Z,64nm,0.6s						
YAK	**Yakutsk**	**19.54**	**324**	*e*P	**Pn**	**22 44 09.6**	**-1.5**
YAK				pmax	pmax		
	comp=Z,24nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp

BILL 22 48 28.0
BILL pmax pmax
comp=Z,24nm,0.8s
BILL MLR MLR
comp=Z,700nm,17.0s,MS4.1
KSRS Korea Array 22.05 250 P **P** **22 44 37.5 +0.8**
comp=Z,37nm,0.6s,mb5.0,baz=50,slow=10,SNR=64
KSRS PcP PcP 22 48 33.3 +0.4
comp=Z,2.4nm,0.7s,baz=337,slow=2.1,SNR=7.0
KSRS Korea Array 22.05 250 P **P** **22 44 37.5 +0.8**
KSRS 22 48 33.3
KSRS pmax pmax
comp=Z,37nm,0.6s,mb5.0
KSAR Wonju Array Be 22.08 250 P **P** **22 44 37.5 +0.4**
KSAR PcP PcP 22 48 33.3 +0.3
KSAR Wonju Array Be 22.08 250 P **P** **22 44 37.5 +0.4**
KSAR 22 48 33.3
SNY Shenyang 22.55 265 ⇓P **P** **22 44 41.5 -0.5**
SNY S **S** **22 48 39.8 -6.3**
SNY pmax pmax
comp=Z,12nm,0.7s,mb4.4
SNY pmax pmax
comp=Z,180nm,8.0s
SNY LR LR
comp=E,570nm,18.0s
SNY LR LR
comp=Z,440nm,27.6s
INCN Inchon 22.85 252 *e*P **P** **22 44 46.6 +1.4**
comp=Z,36nm,0.8s,mb4.8
CBIJ Chichi jima 23.15 208 P **P** **22 44 48.3 -0.1**
CBIJ LR LR 22 52 15.7
comp=Z,293nm,20.2s,MS3.7,baz=25,slow=32
CBIJ Chichi jima 23.15 208 P **P** **22 44 48.3 -0.1**
GAMB Gambell 24.13 37 *e*P **P** **22 44 57.4 +0.2**
comp=Z,84nm,1.1s,mb5.1
BOD Bodaibo 25.70 307 *e*P **P** **22 45 10.4 -1.1**
BOD *e* pP 22 45 25.3 +1.2
BOD pmax pmax
comp=Z,14nm,1.4s,mb4.3
JOW Kunigami 29.48 233 P **P** **22 45 45.7 +0.1**
comp=Z,9.7nm,0.6s,mb4.7,baz=70,slow=14,SNR=4.3
JOW Kunigami 29.48 233 P **P** **22 45 45.7 0.0**
SSE Sheshan 30.41 248 P **P** **22 45 51.0 -2.8**
SSE pP pP 22 46 07.5 +0.9
SSE S **S** **22 50 48.8 -2.3**
SSE sS sS 22 51 18.0 +5.4
SSE pmax pmax
comp=Z,18nm,0.7s,mb4.9
SSE pmax pmax
comp=Z,140nm,4.7s
SSE LR LR
comp=N,130nm,24.3s,MS3.6
SSE LR LR
comp=E,130nm,24.2s,MS3.6
SSE LR LR
comp=Z,280nm,28.9s,MS3.8
HHC Hu-ho-hao-te 31.02 272 *e*P **P** **22 45 59.5 +0.4**
HHC pP pP 22 46 11.3 -0.6
HHC sP sP 22 46 17.3 -0.5
HHC PP PP 22 47 01.3 -8.4
HHC S **S** **22 50 59.3 -1.2**
HHC sS sS 22 51 18.3 -3.7
HHC ScS ScS 22 56 28.5 -0.9
HHC pmax pmax
comp=Z,13nm,0.6s,mb4.9
HHC pmax pmax
comp=Z,180nm,5.2s
HHC LR LR
comp=N,430nm,14.3s,MS4.4
HHC LR LR
comp=E,370nm,15.5s,MS4.4
HHC LR LR
comp=Z,400nm,14.3s,MS4.2
NJ2 Nanjing 31.23 252 *e*P **P** **22 46 00.8 -0.2**
NJ2 pmax pmax
comp=Z,20nm,0.5s,mb5.2
SONM Songino Array 31.63 288 P **P** **22 46 03.7 -0.7**
comp=Z,1.2nm,0.7s,mb3.8,baz=66,slow=10,SNR=12
SONM PcP PcP 22 48 55.3 -0.1
comp=Z,4.5nm,0.7s,baz=94,slow=1.7,SNR=16
SONM LR LR 23 00 03.5
comp=Z,880nm,18.7s,MS4.5,baz=241,slow=38
SONM Songino Array 31.63 288 P **P** **22 46 03.7 -0.7**
SONM PcP PcP 22 48 55.3 -0.1
SONM Songino Array 31.63 288 P **P** **22 46 03.7 -0.7**
SONM 22 48 55.3
SONM MLR MLR
comp=Z,880nm,18.7s
TLY Talaya 32.24 295 *e*P **P** **22 46 15.3 +5.6**
TLY *e* 22 47 26.8
TLY *e*SSS 22 53 49.3
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,671nm,19.0s,MS4.3
PPLA Purkeypile 32.50 43 *e*P **P** **22 46 13.1 +1.2**
comp=Z,184nm,1.8s,mb5.7
KDAK Kodiak Island 32.53 53 *i*P **P** **22 46 11.4 -0.8**
ZAK Zakamensk 32.81 293 *e*P **P** **22 46 14.5 -0.2**
ZAK *e* 22 47 27.6
ZAK *e* 22 48 58.0
TRF Thorofare Moun 33.38 42 *e*P **P** **22 46 19.5 0.0**
comp=Z,23nm,0.8s,mb5.2
COLD Coldfoot 33.63 35 *e*P **P** **22 46 21.7 +0.1**
comp=Z,25nm,0.8s,mb5.2
PMR Palmer 33.96 46 *e*P **P** **22 46 24.6 +0.1**
comp=Z,147nm,2.3s,mb5.5
PMR Palmer 33.96 46 *e*P **P** **22 46 24.7 +0.2**
PMR pmax pmax
comp=Z,147nm,2.3s,mb5.5
MCK McKinley 33.98 42 *e*P **P** **22 46 24.7 0.0**
comp=Z,41nm,1.0s,mb5.3
MCK McKinley 33.98 42 *e*P **P** **22 46 24.7 0.0**
MCK pmax pmax
comp=Z,41nm,1.0s,mb5.3
SML Sawmill 34.32 45 *e*P **P** **22 46 27.6 -0.1**
comp=Z,26nm,0.8s,mb5.2
SML Sawmill 34.32 45 *e*P **P** **22 46 27.6 -0.1**
SML pmax pmax
comp=Z,26nm,0.8s,mb5.2
COLA College 34.45 40 *e*P **P** **22 46 28.7 -0.1**
comp=Z,71nm,1.0s,mb5.5
COLA College 34.45 40 *e*P **P** **22 46 28.7 -0.1**
COLA pmax pmax
comp=Z,71nm,1.0s,mb5.5
ILAR Eielson Array 34.87 40 P **P** **22 46 31.6 -0.8**
comp=Z,13nm,0.9s,mb4.8,baz=257,slow=8.5,SNR=77
ILAR PcP PcP 22 49 02.2 -2.0
comp=Z,1.8nm,0.8s,baz=282,slow=3.6,SNR=5.5
ILAR Eielson Array 34.87 40 P **P** **22 46 31.6 -0.8**
ILAR PcP PcP 22 49 02.2 -2.0
ILAR Eielson Array 34.87 40 P **P** **22 46 31.6 -0.8**
ILAR 22 49 02.2
ILAR pmax pmax
comp=Z,13nm,0.9s
WHN Wuhan 35.11 254 ⇓P **P** **22 46 35.0 +0.1**
WHN *e*S **S** **22 52 07.0 +2.9**
WHN pmax pmax
comp=Z,48nm,0.6s,mb5.6
WHN LR LR
comp=Z,520nm,12.2s,MS4.5
PAX Paxson 35.57 43 *e*P **P** **22 46 39.0 +0.5**
comp=Z,25nm,1.2s,mb5.0
PAX Paxson 35.57 43 *e*P **P** **22 46 39.0 +0.5**
PAX pmax pmax
comp=Z,25nm,1.2s,mb5.0
DIV Divide 35.61 46 *e*P **P** **22 46 38.9 +0.1**
comp=Z,41nm,1.0s,mb5.3
DOT Dot Lake 36.15 42 *e*P **P** **22 46 42.3 -1.1**
comp=Z,5.1nm,0.8s,mb4.5
BMRM Bremner River 36.19 46 *e*P **P** **22 46 44.1 +0.3**
comp=Z,48nm,1.0s,mb5.4
XAN Xi'an 36.47 264 P **P** **22 46 46.0 -0.5**
XAN pP pP 22 46 58.0 -1.4
XAN sP sP 22 47 03.5 -1.7
XAN PP PP 22 48 09.5 -0.5
XAN sS sS 22 52 42.5 -4.1
XAN pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
XAN pmax pmax
comp=Z,38nm,5.7s
XAN LR LR
comp=N,240nm,19.6s,MS4.0
XAN LR LR
comp=E,110nm,16.9s,MS4.0
XAN LR LR
comp=Z,120nm,20.1s,MS3.7
TPUB Ta-pu 36.50 239 *e*P **P** **22 46 46.8 0.0**
comp=Z,38nm,0.8s,mb5.3
EGAK Eagle 37.32 40 *e*P **P** **22 46 52.7 -0.6**
comp=Z,52nm,0.9s,mb5.4
DAWY Dawson 38.16 41 *e*P **P** **22 47 00.1 -0.3**
ENH Enshi 38.45 259 *e*P **P** **22 47 02.5 -0.8**
comp=Z,20nm,0.9s,mb4.8
ENH *e*PcP PcP 22 49 15.0 -0.5
LZH Lanzhou 38.67 271 *e*P **P** **22 47 06.3 +1.3**
LZH pP pP 22 47 16.3 -1.8
LZH sP sP 22 47 21.0 -2.8
LZH PP PP 22 48 39.5 +5.4
LZH *e*S **S** **22 53 03.0 +4.9**
LZH sS sS 22 53 20.0 0.0
LZH pmax pmax
comp=Z,27nm,1.1s,mb4.9
LZH pmax pmax
comp=Z,100nm,4.8s
LZH LR LR
comp=N,430nm,14.5s,MS4.6
LZH LR LR
comp=E,570nm,17.4s,MS4.6
LZH LR LR
comp=Z,740nm,18.0s,MS4.5
GTA Gaotai 39.56 278 *e*P **P** **22 47 14.3 +1.9**
GTA pP pP 22 47 26.5 +1.1
GTA sP sP 22 47 32.0 +0.8
GTA PcP PcP 22 49 20.0 +1.1
GTA S **S** **22 53 15.0 +3.6**
GTA sS sS 22 53 35.5 +2.2
GTA SS SS 22 56 05.5 -1.8
GTA pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
GTA pmax pmax
comp=Z,160nm,4.5s
GTA LR LR
comp=N,260nm,20.0s,MS4.4
GTA LR LR
comp=E,460nm,17.6s,MS4.4
GTA LR LR
comp=Z,730nm,16.6s,MS4.6
INK Inuvik 39.95 33 *e*P **P** **22 47 15.0 -0.3**
comp=Z,28nm,0.8s,mb5.0
INK Inuvik 39.95 33 *e*P **P** **22 47 15.0 -0.3**
INK pmax pmax
comp=Z,28nm,0.8s
CD2 Chengdu 41.83 264 P **P** **22 47 31.3 +0.1**
CD2 pP pP 22 47 43.5 -0.8
CD2 sP sP 22 47 48.8 -1.3
CD2 PP PP 22 49 12.5 +4.0
CD2 PcP PcP 22 49 26.5 +0.1
CD2 S **S** **22 53 46.5 +1.1**
CD2 sS sS 22 54 07.3 -0.1
CD2 SS SS 22 56 49.3 -3.4
CD2 ScS ScS 22 57 27.3 -2.3
CD2 pmax pmax
comp=Z,40nm,1.2s,mb4.9
CD2 pmax pmax
comp=Z,160nm,11.8s
CD2 LR LR
comp=N,280nm,16.7s,MS4.4
CD2 LR LR
comp=E,420nm,19.0s,MS4.4
CD2 LR LR
comp=Z,290nm,21.4s,MS4.1
ZAA0 Zalesovo Array 42.41 305 *e*P **P** **22 47 34.7 -0.9**
ZAA0 *e*PcP PcP 22 49 28.0 0.0
ZALV Zalesovo Beam 42.41 305 P **P** **22 47 35.0 -0.7**
comp=Z,14nm,0.5s,mb4.9,baz=62,slow=6.7,SNR=123
ZALV PcP PcP 22 49 27.9 0.0
comp=Z,13nm,0.8s,baz=73,slow=3.0,SNR=22
ZALV LR LR 23 06 04.2
comp=Z,320nm,21.5s,MS4.2,baz=170,slow=37
ZALV Zalesovo Beam 42.41 305 P **P** **22 47 35.0 -0.7**
ZALV PcP PcP 22 49 27.9 0.0
ZALV Zalesovo Beam 42.41 305 P **P** **22 47 35.0 -0.7**
ZALV 22 49 27.9
ZALV pmax pmax
comp=Z,14nm,0.5s,mb4.8
ZALV MLR MLR
comp=Z,321nm,21.5s,MS4.2
GYA Guiyang 42.84 257 ⇑*i*P **P** **22 47 40.0 +0.5**
GYA pP pP 22 47 53.0 +0.3
GYA sP sP 22 47 59.3 +0.9
GYA PP PP 22 49 22.5 +3.0
GYA PcP PcP 22 49 31.0 +1.2
GYA ScP ScP 22 53 18.8 +2.3
GYA PcS PcS 22 53 24.0 +1.7
GYA S **S** **22 54 02.0 +1.6**
GYA sS sS 22 54 22.3 -0.1
GYA pmax pmax
comp=Z,30nm,0.9s,mb5.0
GYA pmax pmax
comp=Z,120nm,6.0s
GYA LR LR
comp=N,510nm,17.8s,MS4.6
GYA LR LR
comp=E,500nm,18.0s,MS4.6
GYA LR LR
comp=Z,530nm,18.3s,MS4.5
DLBC Dease Lake 43.97 47 *e*P **P** **22 47 48.5 +0.3**
WMQ Urumqi 45.15 290 *e*P **P** **22 47 58.5 +0.7**
WMQ pP pP 22 48 11.0 -0.1
WMQ sP sP 22 48 16.3 -0.5
WMQ PP PP 22 49 45.0 +1.1
WMQ S **S** **22 54 33.8 +0.1**
WMQ SS SS 22 57 48.0 -9.0
WMQ pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
WMQ pmax pmax
comp=Z,180nm,4.8s
WMQ LR LR
comp=N,390nm,18.4s,MS4.4
WMQ LR LR
comp=E,240nm,20.2s,MS4.4
WMQ LR LR
comp=Z,350nm,23.2s,MS4.2
QIZ Qiongzhong 46.19 247 P **P** **22 48 04.0 -2.3**
KMI Kunming 46.32 259 P **P** **22 48 07.5 +0.2**
KMI pP pP 22 48 18.5 -2.1
KMI sP sP 22 48 24.5 -1.8
KMI S **S** **22 54 48.5 -2.4**
KMI sS sS 22 55 11.5 -1.6
KMI SS SS 22 58 11.8 -4.9
KMI pmax pmax
comp=Z,15nm,1.1s,mb4.8
KMI pmax pmax
comp=Z,80nm,4.0s
KMI LR LR
comp=N,220nm,21.1s,MS4.2
KMI LR LR
comp=E,160nm,20.5s,MS4.2
KMI LR LR
comp=Z,180nm,20.1s,MS4.0
MK31 Makanchi Array 46.99 297 *e*P **P** **22 48 10.9 -1.3**
MK31 Makanchi Array 46.99 297 *e*P **P** **22 48 10.9 -1.3**
MKAR Makanchi Array 46.99 297 P **P** **22 48 11.4 -0.8**
comp=Z,3.1nm,0.6s,mb4.4,baz=68,slow=7.3,SNR=26
MKAR PcP PcP 22 49 43.2 -0.6
comp=Z,4.5nm,0.6s,baz=71,slow=3.0,SNR=7.9
MKAR LR LR 23 09 37.2
comp=Z,604nm,18.6s,MS4.6,baz=104,slow=38
MKAR Makanchi Array 46.99 297 *e*P **P** **22 48 11.0 -1.2**
MKAR PcP PcP 22 49 43.2 -0.6
MKAR Makanchi Array 46.99 297 P **P** **22 48 11.4 -0.8**
MKAR 22 49 43.3
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR MLR MLR
comp=Z,604nm,18.6s
KURK Kurchatov 47.22 303 LR LR 23 09 05.0
comp=Z,507nm,21.2s,MS4.5,baz=75,slow=37
KURK Kurchatov 47.22 303 *e*P **P** **22 48 12.4 -1.6**
comp=Z,40nm,0.7s,mb5.5
KURK Kurchatov 47.22 303 *d*⇑*i*P **P** **22 48 13.7 -0.3**
KURK pmax pmax
comp=Z,31nm,0.5s,mb5.5
KURK Kurchatov 47.22 303 P **P** **22 48 14.1 +0.1**
SNR=10.0
ALE Alert 48.16 6 P **P** **22 48 20.2 -0.7**
comp=Z,90nm,0.9s,mb5.8,SNR=5.8
RES Resolute Bay 49.15 19 LR LR 23 10 06.2
comp=Z,221nm,18.4s,MS4.2,baz=314,slow=37
YKA Yellowknife Ar 49.23 38 P **P** **22 48 29.3 0.0**
comp=Z,15nm,0.8s,mb5.1,baz=298,slow=7.6,SNR=86
YKA PcP PcP 22 49 51.3 -0.2
comp=Z,1.2nm,0.7s,baz=307,slow=3.9,SNR=4.0
YKA Yellowknife Ar 49.23 38 P **P** **22 48 29.3 0.0**
YKA PcP PcP 22 49 51.4 -0.2
YKA Yellowknife Ar 49.23 38 P **P** **22 48 29.3 0.0**
YKA 22 49 51.3
YKA pmax pmax
comp=Z,15nm,0.9s
BRVK Borovoye 50.58 309 *e*P **P** **22 48 39.3 -0.4**
comp=Z,51nm,0.5s,mb5.7
BRVK Borovoye 50.58 309 ⇑*i*P **P** **22 48 39.2 -0.5**
BRVK pmax pmax
comp=Z,37nm,0.6s,mb5.5
BRVK Borovoye 50.58 309 P **P** **22 48 39.8 +0.2**
SNR=6.8
LSA Lhasa 51.01 273 *e*P **P** **22 48 44.0 +0.8**
SPITS Spitsbergen Ar 51.28 350 P **P** **22 48 43.9 -0.7**
comp=Z,4.8nm,0.5s,mb4.7,baz=60,slow=16,SNR=7.7
SPITS Spitsbergen Ar 51.28 350 P **P** **22 48 43.9 -0.7**
SPITS Spitsbergen Ar 51.28 350 P **P** **22 48 43.9 -0.7**
SPITS pmax pmax
comp=Z,5.0nm,0.5s
JCW Jim Creek 53.02 56 *e*P **P** **22 48 58.0 +0.1**
TKM2 Tokmak 2 53.08 296 *e*P **P** **22 48 58.2 -0.1**
comp=Z,8.7nm,0.8s,mb4.7
TKM2 Tokmak 2 53.08 296 *e*P **P** **22 48 58.3 -0.1**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHTO Chiang Mai 53.26 257 *e*P **P** **22 49 00.8 +0.7**
CHTO Chiang Mai 53.26 257 *e*P **P** **22 49 00.8 +0.8**
CHTO Chiang Mai 53.26 257 P **P** **22 49 01.3 +1.2**
SNR=5.4
SVE Sverdlovsk 53.29 317 ⇓*e*P **P** **22 48 59.4 -0.3**
SVE pmax pmax
comp=Z,15nm,0.7s,mb5.0
CMAR Chiang Mai Arr 53.52 256 P **P** **22 49 03.0 +1.0**
comp=Z,11nm,0.7s,mb4.9,baz=34,slow=7.2,SNR=85
CMAR PcP PcP 22 50 08.8 +0.5
comp=Z,5.0nm,0.7s,baz=16,slow=2.3,SNR=13
CMAR LR LR 23 13 42.5
comp=Z,180nm,18.6s,MS4.2,baz=45,slow=38
CMAR Chiang Mai Arr 53.52 256 P **P** **22 49 03.0 +1.0**
CMAR PcP PcP 22 50 08.8 +0.5
CMAR Chiang Mai Arr 53.52 256 P **P** **22 49 03.0 +1.1**
CMAR 22 50 08.8
CMAR pmax pmax
comp=Z,11nm,0.7s
CMAR MLR MLR
comp=Z,180nm,18.6s
AAK Ala-Archa 53.91 296 *e*P **P** **22 49 03.0 -1.5**
comp=Z,18nm,0.6s,mb5.2
AAK Ala-Archa 53.91 296 ⇓*i*P **P** **22 49 04.9 +0.4**
AAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ETW Entiat 54.24 56 *e*P **P** **22 49 06.6 -0.3**
EKS2 Erkin-Say 54.32 296 *e*P **P** **22 49 07.7 +0.2**
comp=Z,3.8nm,0.8s,mb4.4
EKS2 Erkin-Say 54.32 296 *e*P **P** **22 49 07.7 +0.2**
ARU Arti 54.46 317 *e*P **P** **22 49 06.8 -1.5**
comp=Z,33nm,0.5s,mb5.5
ARU Arti 54.46 317 *d*⇑*i*P **P** **22 49 07.0 -1.3**
ARU *PP pP 22 49 22.6 +0.8
ARU *e* 22 50 10.5
ARU *e* 22 51 08.5
ARU S **S** **22 56 40.4 -2.7**
ARU SS SS 23 00 23.9 -1.3
ARU SSS 23 02 27.5
ARU pmax pmax
comp=Z,23nm,0.6s,mb5.3
ARU Arti 54.46 317 P **P** **22 49 07.0 -1.3**
comp=Z,353nm,0.5s,mb6.5,SNR=15
TAPN Taplejung 54.83 273 *e*P **P** **22 49 12.1 +0.7**
comp=Z,8.0nm,0.6s,mb5.0
TAPN Taplejung 54.83 273 *e*P **P** **22 49 12.1 +0.7**
comp=Z,8.0nm,0.6s,mb4.9
KSH Kashi 54.84 292 P **P** **22 49 17.3 +6.0**
KSH PcP PcP 22 50 19.5 +6.5
KSH PP PP 22 51 21.8 +7.6
KSH S **S** **22 56 56.0 +7.3**
KSH SS SS 23 00 39.8 +7.9
KSH pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KSH pmax pmax
comp=Z,170nm,5.7s
KSH LR LR
comp=N,1μm,15.6s,MS5.2
KSH LR LR
comp=E,540nm,12.4s,MS5.2
KSH LR LR
comp=Z,1μm,27.6s
OD2 Odessa Site #2 55.27 56 *e*P **P** **22 49 13.5 -0.7**
OD2 *e*pP pP 22 49 25.3 -2.6
RSW Rattlesnake Hi 55.36 57 *e*P **P** **22 49 15.4 +0.4**
ODAN Odare 55.37 273 *e*P **P** **22 49 15.6 +0.3**
comp=Z,17nm,0.7s,mb5.2
ODAN Odare 55.37 273 *e*P **P** **22 49 15.6 +0.3**
comp=Z,17nm,0.7s,mb5.2
HAWA Hanford 55.39 57 *e*P **P** **22 49 15.3 +0.2**
comp=Z,12nm,0.9s,mb4.9
JIRN Jiri 55.64 274 *e*P **P** **22 49 17.6 +0.3**
comp=Z,7.8nm,0.4s,mb5.0
JIRN Jiri 55.64 274 *e*P **P** **22 49 17.6 +0.3**
comp=Z,7.8nm,0.4s,mb5.1
GUN Gumba 55.69 275 *e*P **P** **22 49 17.5 -0.1**
comp=Z,15nm,0.4s,mb5.4
GUN Gumba 55.69 275 *e*P **P** **22 49 17.5 -0.1**
comp=Z,15nm,0.4s,mb5.4
RAMN Ramite 55.84 273 *e*P **P** **22 49 18.5 -0.2**
comp=Z,34nm,0.4s,mb5.7
RAMN Ramite 55.84 273 *e*P **P** **22 49 18.5 -0.2**
comp=Z,34nm,0.4s,mb5.7
KKAR Karatay Array 55.99 299 *e*P **P** **22 49 18.8 -0.7**
KKAR Karatay Array 55.99 299 *e*P **P** **22 49 18.8 -0.8**
KKN Kakani 56.16 275 *e*P **P** **22 49 20.7 -0.3**
comp=Z,21nm,0.5s,mb5.4
KKN Kakani 56.16 275 *e*P **P** **22 49 20.7 -0.3**
comp=Z,21nm,0.5s,mb5.4
KKN Kakani 56.16 275 *e*P **P** **22 49 20.7 -0.3**
KKN pmax pmax
comp=Z,21nm,0.5s,mb5.4
PKI Pulchoki 56.22 275 *e*P **P** **22 49 21.8 +0.4**
comp=Z,22nm,0.5s,mb5.4
PKI Pulchoki 56.22 275 *e*P **P** **22 49 21.8 +0.4**
comp=Z,22nm,0.5s,mb5.4
PKI Pulchoki 56.22 275 *e*P **P** **22 49 21.8 +0.4**
PKI pmax pmax
comp=Z,22nm,0.5s,mb5.4
APA Apatity 56.28 337 ⇓*e*P **P** **22 49 21.6 +0.4**
DMN Daman 56.40 275 *e*P **P** **22 49 22.8 +0.1**
comp=Z,37nm,0.6s,mb5.6
DMN Daman 56.40 275 *e*P **P** **22 49 22.8 +0.1**
comp=Z,37nm,0.6s,mb5.6
GKN Gorkha 56.45 276 *e*P **P** **22 49 23.3 +0.3**
comp=Z,36nm,0.5s,mb5.7
GKN Gorkha 56.45 276 *e*P **P** **22 49 23.3 +0.3**
comp=Z,36nm,0.5s,mb5.7
ARCES ARCESS Array B 56.70 341 P **P** **22 49 22.9 -1.3**
comp=Z,9.3nm,0.9s,mb4.8,baz=29,slow=8.3,SNR=4.8
ARCES ARCESS Array B 56.70 341 P **P** **22 49 22.9 -1.3**
ARCES ARCESS Array B 56.70 341 P **P** **22 49 22.9 -1.3**
ARCES pmax pmax
comp=Z,9.0nm,1.0s
DANN Dangsing 56.81 277 *e*P **P** **22 49 25.9 +0.4**
comp=Z,66nm,0.5s,mb5.9
DANN Dangsing 56.81 277 *e*P **P** **22 49 25.9 +0.4**
comp=Z,66nm,0.5s,mb5.9
BSMT Bassoo Peak 57.13 53 *e*P **P** **22 49 28.0 +0.5**
KOLN Koldanda 57.30 276 *e*P **P** **22 49 29.2 +0.2**
comp=Z,29nm,0.5s,mb5.6
KOLN Koldanda 57.30 276 *e*P **P** **22 49 29.2 +0.2**
comp=Z,29nm,0.5s,mb5.6
JTMT Jette 57.46 53 *e*P **P** **22 49 30.2 +0.4**
BMO Blue Mountains 57.57 57 *e*P **P** **22 49 31.0 +0.3**
comp=Z,11nm,0.9s,mb4.9
MOD Modoc 57.65 62 *e*P **P** **22 49 31.7 +0.4**
comp=Z,13nm,0.8s,mb5.0
CAL Calcutta 57.66 268 *e*PKP **P** **22 49 31.5 -0.1**
SWMT Swartz Lake 57.76 53 *e*P **P** **22 49 32.4 +0.4**
ABKAR Akbulak array 58.09 310 *e*P **P** **22 49 32.2 -2.1**
MSO Missoula 58.21 54 *e*P **P** **22 49 35.5 +0.4**
comp=Z,13nm,1.0s,mb4.9
OHCM Honcut 58.53 65 *e*P **P** **22 49 37.0 -0.6**
FFC Flin Flon 59.06 41 *e*P **P** **22 49 41.2 +0.3**
comp=Z,26nm,1.0s,mb5.2

FFC Flin Flon 59.06 41 *i* P **P 22 49 41.4 +0.4**
SUMG Summit 59.14 4 *e*P **P 22 49 41.7 +0.5**
comp=Z,31nm,0.8s,mb5.4
SUMG Summit 59.14 4 *e*P **P 22 49 41.7 +0.5**
SUMG pmax pmax
comp=Z,31nm,0.8s
SUMG Summit 59.14 4 *i* P **P 22 49 41.6 +0.4**
comp=Z,26nm,0.8s,mb5.3
WCN Washoe City 59.59 64 *e*P **P 22 49 45.5 +0.6**
comp=Z,11nm,0.9s,mb4.9
WCN Washoe City 59.59 64 *e*P **P 22 49 45.5 +0.6**
WCN pmax pmax
comp=Z,11nm,0.9s,mb4.9
LRM Limekiln Ridge 59.64 54 *e*P **P 22 49 46.0 +0.9**
EGMT Eagleton 59.67 51 *e*P **P 22 49 45.6 +0.4**
comp=Z,34nm,1.3s,mb5.2
DLMT Dillon 59.85 54 *e*P **P 22 49 47.1 +0.6**
comp=Z,23nm,1.4s,mb5.0
HLID Hailey 60.00 57 *e*P **P 22 49 48.0 +0.4**
comp=Z,10nm,1.0s,mb4.8
CMB Columbia Colle 60.02 65 *e*P **P 22 49 48.0 +0.2**
comp=Z,7.9nm,0.8s,mb4.8
CMB Columbia Colle 60.02 65 *e*P **P 22 49 48.0 +0.2**
CMB pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BOZ Bozeman (W) 60.20 54 *e*P **P 22 49 49.6 +0.7**
comp=Z,18nm,0.9s,mb5.1
BOZ Bozeman (W) 60.20 54 *e*P **P 22 49 49.6 +0.7**
BOZ pmax pmax
comp=Z,18nm,0.9s,mb5.1
JOF Joensuu 60.35 334 *e*P **P 22 49 48.2 -1.4**
JOF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
JOF Joensuu 60.35 334 *e*p **P 22 49 48.2 -1.4**
comp=Z,5.8nm,0.4s,mb5.0
BMN Battle Mountai 60.38 61 *e*P **P 22 49 50.9 +0.7**
comp=Z,21nm,1.0s,mb5.1
BMN *e*pP pP 22 50 03.1 -0.9
BMN Battle Mountai 60.38 61 *e*P **P 22 49 50.9 +0.7**
BMN pmax pmax
comp=Z,21nm,1.0s,mb5.1
QLMT Earthquake Lak 60.83 54 *e*P **P 22 49 54.2 +1.0**
NDI New Delhi 60.90 281 *e*PKP **P 22 49 53.1 -0.8**
NDI AMb AMB 22 49 57.6
comp=Z,6.7nm,0.3s,mb5.2
NVAR Mina Array Bea 61.02 64 P **P 22 49 54.9 +0.3**
comp=Z,11nm,0.6s,mb5.2,baz=293,slow=7.6,SNR=91
NVAR PcP PcP 22 50 37.8 +0.4
comp=Z,4.6nm,0.8s,baz=293,slow=5.2,SNR=6.2
NVAR LR LR 23 14 07.4
comp=Z,174nm,21.0s,MS4.2,baz=57,slow=34
NVAR Mina Array Bea 61.02 64 P **P 22 49 54.9 +0.3**
NVAR PcP PcP 22 50 37.8 +0.4
ELK Elko 61.33 60 *e*P **P 22 49 57.4 +0.7**
comp=Z,8.3nm,0.9s,mb4.9
ELK Elko 61.33 60 *e*P **P 22 49 57.4 +0.7**
ELK pmax pmax
comp=Z,8.0nm,0.9s
LKWY Lake 61.56 54 *e*P **P 22 49 51.7 -6.5**
LKWY Lake 61.56 54 *e*P **P 22 49 51.7 -6.5**
MTUM Tungsten Hills 61.56 65 *e*P **P 22 49 58.8 +0.4**
RRI2 Red Ridge 61.85 56 *e*P **P 22 50 01.8 +1.6**
comp=Z,22nm,0.8s,mb5.3
HVU Hansel Valley 62.07 58 *e*P **P 22 50 02.5 +0.9**
comp=Z,11nm,1.0s,mb4.9
HVU Hansel Valley 62.07 58 *e*P **P 22 50 02.5 +0.9**
HVU pmax pmax
comp=Z,11nm,1.0s,mb4.9
LOHW Long Hollow 62.08 55 *e*P **P 22 50 03.1 +1.5**
comp=Z,18nm,1.2s,mb5.1
SNOW Snow King Moun 62.09 55 *e*P **P 22 50 03.5 +1.7**
comp=Z,19nm,1.0s,mb5.2
DGMT Dagmar 62.18 48 *e*P **P 22 50 02.8 +0.5**
comp=Z,39nm,1.2s,mb5.4
KBL Kabul 62.27 292 *e*P **P 22 50 02.6 -0.5**
comp=Z,5.7nm,0.6s,mb4.9
KBL Kabul 62.27 292 *e*P **P 22 50 02.6 -0.5**
KBL pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
KAF Kangasniemi 62.42 335 *e*P **P 22 50 01.3 -2.3**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
KAF Kangasniemi 62.42 335 *e*p **P 22 50 01.3 -2.3**
comp=Z,5.5nm,0.7s,mb4.8
KULM Kulim 62.46 245 *e*P **P 22 50 04.8 +0.2**
ISA Isabella 62.73 66 *e*P **P 22 50 05.0 -1.1**
comp=Z,5.3nm,0.8s,mb4.7
ISA Isabella 62.73 66 *e*P **P 22 50 05.0 -1.1**
ISA pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
HWUT Hardware Ranch 62.87 57 *e*P **P 22 50 07.6 +0.7**
FINES FINESS Array B 63.03 335 P **P 22 50 06.2 -1.5**
comp=Z,15nm,0.6s,mb5.3,baz=36,slow=7.1,SNR=93
FINES FINESS Array B 63.03 335 P **P 22 50 06.2 -1.5**
FINES FINESS Array B 63.03 335 P **P 22 50 06.2 -1.5**
FINES pmax pmax
comp=Z,15nm,0.6s
DUG Dugway 63.09 59 *e*P **P 22 50 08.5 0.0**
comp=Z,21nm,0.9s,mb5.3
DUG Dugway 63.09 59 *e*P **P 22 50 08.5 0.0**
DUG pmax pmax
comp=Z,21nm,0.9s,mb5.3
BW06 Boulder Array 63.21 55 *e*P **P 22 50 09.4 +0.2**
OSI Osito Adit 63.27 67 *e*P **P 22 50 10.0 +0.3**
comp=Z,22nm,0.8s,mb5.3
SFJD Kangerlussuaq 63.52 11 *e*P **P 22 50 10.3 -0.6**
comp=Z,29nm,1.0s,mb5.3
SFJD Kangerlussuaq 63.52 11 *e*P **P 22 50 10.3 -0.6**
SFJD pmax pmax
comp=Z,29nm,1.0s,mb5.3
SFJD Kangerlussuaq 63.52 11 *i* P **P 22 50 09.9 -1.0**
comp=Z,14nm,0.9s,mb5.0
JLU Jordanelle 63.60 58 *e*P **P 22 50 12.6 +0.8**
comp=Z,10nm,1.1s,mb4.8
MOS Moscow 63.66 326 *e*P pP 22 50 29.2 +3.4
DAU Daniels Canyon 63.83 58 *e*P **P 22 50 07.5 -5.9**
DAU Daniels Canyon 63.83 58 *e*P **P 22 50 07.5 -5.9**
MPU Maple Canyon 63.88 59 *e*P **P 22 50 14.6 +0.9**
comp=Z,26nm,1.2s,mb5.1
MPU *e*pP pP 22 50 27.1 -0.4
MWC Mount Wilson 63.93 67 *e*P **P 22 50 13.8 -0.3**
comp=Z,21nm,1.1s,mb5.1
MWC Mount Wilson 63.93 67 *e*P **P 22 50 13.8 -0.3**
MWC pmax pmax
comp=Z,21nm,1.1s,mb5.1
GSC Goldstone 63.98 66 *e*P **P 22 50 14.0 -0.4**
comp=Z,9.3nm,0.8s,mb4.9
GSC Goldstone 63.98 66 *e*P **P 22 50 14.0 -0.4**
GSC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BHPL Bhopal 64.45 277 *e*PKP **P 22 50 18.0 +0.3**
BHPL AMb AMB 22 50 19.4
comp=Z,34nm,0.9s,mb5.4
CCUT Cedar City 64.54 62 *e*P **P 22 50 18.4 +0.4**
comp=Z,14nm,1.0s,mb4.9
MSU Marysvale 64.58 60 *e*P **P 22 50 19.1 +0.8**
MSU Marysvale 64.58 60 *e*P **P 22 50 19.1 +0.8**
TMUT Trail Mountain 64.61 59 *e*P **P 22 50 19.3 +0.8**
comp=Z,14nm,1.0s,mb4.9
TMUT *e*pP pP 22 50 31.9 -0.4
ULM Lac du Bonnet 64.85 42 P **P 22 50 18.9 -1.0**
comp=Z,11nm,0.8s,mb4.9,baz=311,slow=6.6,SNR=18
ULM Lac du Bonnet 64.85 42 *e*P **P 22 50 19.2 -0.6**
ULM Lac du Bonnet 64.85 42 *e*P **P 22 50 19.3 -0.6**
SRU San Rafael 65.13 59 *e*P **P 22 50 22.1 +0.3**
comp=Z,24nm,1.0s,mb5.2
SRU San Rafael 65.13 59 *e*P **P 22 50 22.1 +0.3**
SRU pmax pmax
comp=Z,24nm,1.0s,mb5.2
LDFC Landfair 65.16 65 *e*P **P 22 50 21.9 -0.2**
comp=Z,34nm,0.9s,mb5.4
RSSD Black Hills 65.23 51 *e*P **P 22 50 21.3 -1.2**
comp=Z,27nm,1.1s,mb5.2
RSSD Black Hills 65.23 51 *e*P **P 22 50 21.3 -1.2**
RSSD pmax pmax
comp=Z,27nm,1.1s,mb5.2
VRHR Novokhopersk 65.50 320 *e*P **P 22 50 22.6 -1.4**
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=E,3.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
AGMN Agassiz Nation 66.27 43 *e*P **P 22 50 28.4 -0.6**
comp=Z,18nm,1.1s,mb5.0
VSR Storozhevoye 66.44 322 *e*P **P 22 50 28.2 -1.9**

VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,1.0nm,0.4s
VSR pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
PV04 Paradox Valley 66.54 58 *e*P **P 22 50 31.1 +0.1**
GLA Glamis 66.71 66 *e*P **P 22 50 32.3 +0.2**
comp=Z,18nm,0.9s,mb5.1
GLA Glamis 66.71 66 *e*P **P 22 50 32.3 +0.2**
GLA pmax pmax
comp=Z,18nm,0.9s,mb5.1
NB2 NORSAR Subarra 67.06 342 P **P 22 50 32.8 -1.1**
comp=Z,5.2nm,0.6s,mb4.7,baz=29,slow=6.5
NOA NORSAR Array B 67.06 342 P **P 22 50 32.8 -1.1**
comp=Z,3.5nm,0.5s,mb4.7,baz=25,slow=6.3,SNR=35
NOA NORSAR Array B 67.06 342 P **P 22 50 32.8 -1.1**
NOA NORSAR Array B 67.06 342 P **P 22 50 32.8 -1.1**
NOA pmax pmax
comp=Z,4.0nm,0.5s
WUAZ Wupatki 67.09 62 *e*P **P 22 50 34.8 +0.3**
comp=Z,14nm,1.0s,mb5.0
BORG Borgarnes 67.29 358 P **P 22 50 35.9 +0.7**
comp=Z,12nm,0.8s,mb5.0,baz=10,slow=5.9,SNR=3.6
BORG Borgarnes 67.29 358 P **P 22 50 35.9 +0.7**
BORG Borgarnes 67.29 358 P **P 22 50 35.9 +0.7**
BORG pmax pmax
comp=Z,12nm,0.8s
ISCO Idaho Springs 67.40 55 *e*P **P 22 50 37.0 +0.6**
comp=Z,9.6nm,0.9s,mb4.8
ISCO Idaho Springs 67.40 55 *e*P **P 22 50 37.0 +0.6**
ISCO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MVCO Mesa Verde 67.59 59 *e*P **P 22 50 37.9 +0.2**
comp=Z,22nm,1.1s,mb5.1
IZAR Zarasai 67.63 331 *e*P **P 22 50 37.0 -0.5**
IZAR AMB AMB 22 50 38.4
comp=Z,2.8nm,0.5s,mb4.5
HYB Hyderabad 67.78 271 *i* P **P 22 50 38.0 -1.0**
ISAL Salakas 67.82 331 *e*P **P 22 50 38.3 -0.4**
ISAL AMB AMB 22 50 38.8
comp=Z,9.8nm,1.3s,mb4.7
IIGN Ignalina 67.97 331 *e*P **P 22 50 39.3 -0.4**
IIGN AMB AMB 22 50 39.9
comp=Z,5.0nm,0.6s,mb4.7
CTA Charters Tower 68.41 188 P **P 22 50 41.8 -0.9**
comp=Z,1.9nm,0.5s,mb4.4,baz=21,slow=7.8,SNR=5.2
CTA Charters Tower 68.41 188 P **P 22 50 41.8 -0.9**
CTA Charters Tower 68.41 188 P **P 22 50 41.8 -0.9**
CTA pmax pmax
comp=Z,2.0nm,0.5s
OGNE Ogallala 68.52 52 *e*P **P 22 50 43.4 0.0**
comp=Z,48nm,0.9s,mb5.4
SDCO Great Sand Dun 68.91 57 *e*P **P 22 50 46.2 +0.3**
comp=Z,13nm,1.5s,mb4.6
ECSD EROS Data Cent 69.26 47 *e*P **P 22 50 47.1 -0.8**
comp=Z,20nm,0.9s,mb5.1
TUC Tucson 69.67 64 *e*P **P 22 50 50.5 -0.1**
comp=Z,8.4nm,1.1s,mb4.6
TUC *e*pP pP 22 51 03.2 -1.5
TUC Tucson 69.67 64 *e*P **P 22 50 50.5 -0.2**
TUC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
POO Poona 70.12 276⇑ *i*P **P 22 50 53.0 -0.6**
comp=Z,50nm,1.0s,mb5.4
POO *e*PKP 22 50 53.2
POO AMb AMB 22 50 55.1
comp=Z,55nm,1.3s,mb5.3
WRAB Tennant Creek 70.19 200 *e*P **P 22 50 53.1 -0.7**
comp=Z,12nm,0.8s,mb4.9
WRAB Tennant Creek 70.19 200 *e*P **P 22 50 53.1 -0.7**
WRAB pmax pmax
comp=Z,12nm,0.8s,mb4.9
WRAB Tennant Creek 70.19 200 P **P 22 50 53.9 +0.1**
comp=Z,93nm,0.9s,mb5.7,SNR=5.3
WRA Warramunga Arr 70.20 200 P **P 22 50 53.1 -0.7**
comp=Z,8.1nm,0.7s,mb4.8,baz=16,slow=6.6,SNR=43
WRA Warramunga Arr 70.20 200 P **P 22 50 53.1 -0.7**
WRA Warramunga Arr 70.20 200 P **P 22 50 53.1 -0.7**
WRA pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 70.75 327 P **P 22 50 55.5 -1.4**
comp=Z,16nm,0.6s,mb5.1,baz=33,slow=6.3,SNR=46
AKASG Malin Array Be 70.75 327 P **P 22 50 55.5 -1.4**
AKASG Malin Array Be 70.75 327 P **P 22 50 55.5 -1.4**
AKASG pmax pmax
comp=Z,16nm,0.6s
KIEV Kiev 70.76 327 *e*P **P 22 50 55.0 -2.0**
KIEV Kiev 70.76 327 *c i*P **P 22 50 56.0 -1.0**
KAD Karad 70.77 275 *e*PKP **P 22 50 58.0 +0.5**
KAD AMb AMB 22 50 58.6
comp=Z,53nm,0.6s,mb5.6
DZM Mont Dzumac 70.84 168 *e*LR LR 23 12 27.6
comp=Z,355nm,25.1s
FITZ Fitzroy Crossi 70.86 209⇑ *i*P **P 22 50 57.7 -0.2**
ONI Oni 70.99 313 P **P 22 50 58.5 0.0**
BSD Bornholm Skovb 71.50 337 *i* P **P 22 51 00.8 -0.6**
comp=Z,23nm,0.8s,mb5.2
BSD
comp=Z,3μm,14.0s
SCHQ Schefferville 71.61 24 P **P 22 51 01.9 -0.1**
comp=Z,19nm,0.8s,mb5.1,baz=355,slow=6.1,SNR=38
SCHQ Schefferville 71.61 24 *e*P **P 22 51 02.3 +0.3**
COP Copenhagen 71.62 338 *i* P **P 22 51 01.8 -0.3**
comp=Z,21nm,0.8s,mb5.1
COP
comp=Z,2μm,11.0s
MUD Monsted U'grnd 71.69 340 *i* P **P 22 51 01.9 -0.6**
comp=Z,13nm,0.8s,mb4.9
MUD
comp=Z,4μm,14.0s
AKH Akhalkalaki 71.85 312 P **P 22 51 04.6 +0.9**
GNI Garni 72.17 311⇓ *i*P **P 22 51 06.7 +1.0**
GNI pmax pmax
comp=Z,16nm,1.4s
KSU1 Kansas State U 72.70 50 *e*P **P 22 51 07.5 -1.4**
comp=Z,9.3nm,0.7s,mb4.8
AMTX Amarillo 73.11 56 *e*P **P 22 51 11.3 -0.1**
comp=Z,11nm,0.8s,mb4.8
EIDS Eidsvold 73.34 183 *e*P **P 22 51 12.2 -0.4**
GDL2 Guadalupe Moun 73.54 60 *e*P **P 22 51 13.9 -0.1**
GDL2 *e*pP pP 22 51 26.7 -1.4
BSEG Bad Segeberg 73.73 339 *e*P **P 22 51 15.0 +0.3**
comp=Z,9.0nm,0.5s,mb5.0
BSEG Bad Segeberg 73.73 339 *e*P **P 22 51 15.0 +0.3**
BSEG pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
ASAR Alice Springs 73.90 199 P **P 22 51 16.1 +0.2**
comp=Z,5.6nm,0.8s,mb4.6,baz=13,slow=5.3,SNR=55
ASAR Alice Springs 73.90 199 P **P 22 51 16.1 +0.2**
ASAR Alice Springs 73.90 199 P **P 22 51 16.1 +0.2**
ASAR pmax pmax
comp=Z,6.0nm,0.8s
KWP Kalwaria Pacla 73.94 330⇓ P **P 22 51 16.1 +0.1**
KWP Kalwaria Pacla 73.94 330⇓ *i*P **P 22 51 16.1 +0.1**
OJC Ojcow 74.39 332 *e*P **P 22 51 18.7 +0.1**
OJC Ojcow 74.39 332 *e*P **P 22 51 18.4 -0.2**
comp=Z,21nm,1.0s,mb5.0
OJC Ojcow 74.39 332 *e*P **P 22 51 18.7 +0.1**
LEOM Leova 74.59 325⇓ P **P 22 51 19.8 0.0**
LEOM Leova 74.59 325⇓ *i*P **P 22 51 19.8 0.0**
STHS Stebnicka Huta 74.62 330 *e*P **P 22 51 20.7 +0.8**
STHS pmax pmax
comp=Z,15nm,0.7s,mb5.0
STHS Stebnicka Huta 74.62 330 *e*P **P 22 51 20.7 +0.8**
KOLS Kolonicke sedl 74.69 329 *e*P **P 22 51 20.3 0.0**
KOLS pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
KOLS Kolonicke sedl 74.69 329 *e*P **P 22 51 20.3 0.0**
BURAR Bucovina Array 74.78 327⇑ P **P 22 51 20.6 -0.3**
BURAR Bucovina Array 74.78 327⇑ *i*P **P 22 51 20.6 -0.3**
WMOK Wichita Mounta 74.81 55 *e*P **P 22 51 20.8 -0.5**
comp=Z,9.6nm,0.9s,mb4.7
WMOK Wichita Mounta 74.81 55 *e*P **P 22 51 20.8 -0.5**
WMOK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KSP Ksiaz 74.92 334 *e*P **P 22 51 21.3 -0.3**
KSP Ksiaz 74.92 334⇑ *e*P **P 22 51 21.3 -0.3**
NIE Niedzica 74.92 331 *e*P **P 22 51 22.2 +0.5**
NIE Niedzica 74.92 331 *e*P **P 22 51 22.2 +0.5**
UZH Uzhgorod 74.94 329 *e*P **P 22 51 20.7 -1.1**
UZH *e* pP 22 51 35.0 -0.9
CRVS Cervenica-Dubn 74.99 330 *e*P **P 22 51 22.1 0.0**
CRVS pmax pmax
comp=Z,18nm,1.5s,mb4.8

CRVS Cervenica-Dubn 74.99 330 *e*P **P 22 51 22.1 0.0**
QLP Quilpie 75.04 189 *e*P **P 22 51 22.1 -0.3**
ESK Eskdalemuir 75.09 347 *e*P **P 22 51 21.5 -1.0**
ESK Eskdalemuir 75.09 347 *i* P **P 22 51 22.9 +0.4**
TESR 75.17 326⇑ *i*P **P 22 51 23.0 -0.2**
OKC Ostrava-Krasne 75.24 332 *i* P **P 22 51 23.4 -0.1**
OKC Ostrava-Krasne 75.24 332⇑ *i*P **P 22 51 23.4 -0.1**
TRPA Tarpa 75.29 329⇑ *i*P **P 22 51 24.1 +0.3**
UPC Upice 75.30 334⇑ *i*P **P 22 51 24.0 +0.2**
UPC *e**PP pP 22 51 30.6 -7.3
UPC Upice 75.30 334⇑ *i*P **P 22 51 24.0 +0.2**
UPC *e*pP pP 22 51 30.6 -7.3
DPC Dobruska-Polom 75.34 334 *e*P **P 22 51 24.7 +0.6**
DPC Dobruska-Polom 75.34 334 *e*P **P 22 51 24.7 +0.6**
DPC Dobruska-Polom 75.34 334⇑ *i*P **P 22 51 24.6 +0.5**
DPC *e*pP pP 22 51 30.3 -7.9
CLL Collm 75.43 336 *e*P **P 22 51 24.3 -0.2**
comp=Z,10.0nm,0.5s,mb5.0
CLL Collm 75.43 336⇑ *i*P **P 22 51 24.3 -0.2**
CLL *e**PP pP 22 51 42.0 +3.3
CLL pmax pmax
comp=Z,44nm,0.7s,mb5.5
CLL Collm 75.43 336⇑ *i*P **P 22 51 24.3 -0.2**
comp=Z,44nm,0.7s,mb5.5
CLL *e*(sP) sP 22 51 42.0 -2.2
CLL *e* 22 51 55.0
TLCR 75.44 323⇓ P **P 22 51 24.7 0.0**
TLCR 75.44 323⇓ *i*P **P 22 51 24.6 -0.1**
MORC Moravsky Berou 75.48 333 *e*P **P 22 51 24.2 -0.7**
comp=Z,24nm,0.8s,mb5.2
MORC Moravsky Berou 75.48 333⇓ P **P 22 51 25.1 +0.2**
MORC Moravsky Berou 75.48 333⇓ *i*P **P 22 51 25.0 +0.1**
BRG Berggiesshubel 75.56 335⇑ *i*P **P 22 51 25.1 -0.3**
comp=Z,20nm,1.0s,mb5.0
BRG *e* 22 51 31.5
comp=Z,5.7nm,0.8s
BRG Berggiesshubel 75.56 335 *e*P **P 22 51 25.1 -0.2**
comp=Z,9.0nm,0.5s,mb5.0
BRG Berggiesshubel 75.56 335⇑ *i*P **P 22 51 25.0 -0.3**
BRG *e* 22 51 31.5
BRG pmax pmax
comp=Z,20nm,1.0s,mb5.0
PETR 75.61 325⇑ *i*P **P 22 51 26.6 +0.9**
CLZ Clausthal 75.63 338 *e*P **P 22 51 26.2 +0.5**
comp=Z,2.0nm,0.6s,mb4.2
CLZ Clausthal 75.63 338 *e*P **P 22 51 26.2 +0.5**
KECS Kecovo 75.68 330 *e*P **P 22 51 26.2 +0.2**
KECS pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
KECS Kecovo 75.68 330 *e*P **P 22 51 26.2 +0.2**
VRI Vrincioaia 75.68 325⇓ P **P 22 51 26.3 +0.2**
VRI Vrincioaia 75.68 325⇓ *i*P **P 22 51 26.3 +0.2**
PVCC Panska Ves 75.69 335 *i* P **P 22 51 26.4 +0.3**
PVCC Panska Ves 75.69 335⇑ *i*P **P 22 51 26.4 +0.3**
CFR Carcaliu 75.71 324⇑ P **P 22 51 26.3 0.0**
CFR Carcaliu 75.71 324⇑ *i*P **P 22 51 26.3 0.0**
PLOR Plostina 75.73 325⇑ P **P 22 51 26.5 +0.1**
PLOR Plostina 75.73 325⇑ *i*P **P 22 51 26.5 +0.1**
TXAR Lajitas Array 76.05 62 P **P 22 51 28.3 -0.2**
comp=Z,13nm,0.8s,mb4.9,baz=297,slow=4.5,SNR=124
TXAR Lajitas Array 76.05 62 P **P 22 51 28.3 -0.2**
TXAR Lajitas Array 76.05 62 P **P 22 51 28.3 -0.2**
TXAR pmax pmax
comp=Z,13nm,0.8s
PRU Pruhonice 76.19 335 *i* P **P 22 51 29.2 +0.3**
PRU Pruhonice 76.19 335⇑ *i*P **P 22 51 29.2 +0.3**
VRAC Vranov 76.19 333⇑ P **P 22 51 29.6 +0.7**
VRAC Vranov 76.19 333⇑ *i*P **P 22 51 29.6 +0.7**
VYHS Vyhne 76.21 331 *e*P **P 22 51 29.4 +0.4**
VYHS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VYHS Vyhne 76.21 331 *e*P **P 22 51 29.4 +0.4**
KOLL Kolacno 76.27 332 *e*P **P 22 51 29.9 +0.5**
KOLL Kolacno 76.27 332 *e*P **P 22 51 29.9 +0.5**
MLR Muntele Rosu 76.30 325⇓ P **P 22 51 29.8 +0.2**
MLR Muntele Rosu 76.30 325⇓ *i*P **P 22 51 29.8 +0.2**
PSZ Piszkesteto 76.36 330 *e*P **P 22 51 30.1 +0.1**
comp=Z,14nm,0.9s,mb4.9
PSZ Piszkesteto 76.36 330⇓ P **P 22 51 30.6 +0.6**
PSZ Piszkesteto 76.36 330⇓ *i*P **P 22 51 30.5 +0.5**
DRGR 76.38 328⇓ P **P 22 51 30.0 0.0**
DRGR 76.38 328⇓ *i*P **P 22 51 30.0 0.0**
ISR Istrita 76.38 325⇓ P **P 22 51 30.8 +0.7**
ISR Istrita 76.38 325⇓ *i*P **P 22 51 30.8 +0.7**
TANN Tannenbergstha 76.38 336 *e*P **P 22 51 30.1 +0.1**
comp=Z,6.0nm,0.7s,mb4.6
PGOR Pogoanele 76.39 324⇓ *i*P **P 22 51 30.7 +0.6**
MOX Moxa 76.40 337 *e*P **P 22 51 30.2 +0.1**
comp=Z,10.0nm,0.6s,mb4.9
MOX Moxa 76.40 337 *e*P **P 22 51 30.2 +0.1**
MOX pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
AMRR Amara 76.50 324⇓ P **P 22 51 31.4 +0.6**
AMRR Amara 76.50 324⇓ *i*P **P 22 51 31.4 +0.6**
TREC Trest 76.53 334 *i* P **P 22 51 31.1 +0.2**
TREC Trest 76.53 334⇑ *i*P **P 22 51 31.1 +0.2**
NKC Novy Kostel 76.55 336 *i* P **P 22 51 31.1 +0.1**
NKC Novy Kostel 76.55 336⇑ *i*P **P 22 51 31.1 +0.1**
SECR 76.63 325⇓ *i*P **P 22 51 31.7 +0.2**
SMOL Smolenice 76.63 332 *e*P **P 22 51 32.2 +0.7**
SMOL Smolenice 76.63 332 *e*P **P 22 51 32.2 +0.7**
UBBA Unterbreizbach 76.66 338 *e*P **P 22 51 31.2 -0.4**
comp=Z,3.0nm,0.1s,mb5.2
BUG Bochum-Univer 76.75 340 *e*P **P 22 51 32.1 0.0**
comp=Z,20nm,1.0s,mb5.0
SULR 76.86 325⇓ *i*P **P 22 51 30.6 -2.2**
PSN Preselentsi 76.94 323 *e*P **P 22 51 33.7 +0.4**
ROTZ Rotzenmuhle 77.04 336 *e*P **P 22 51 34.0 +0.3**
comp=Z,4.0nm,0.5s,mb4.6
LOT Lotru 77.14 327⇑ *i*P **P 22 51 35.3 +0.9**
CIOR Ciorogarla 77.20 325⇑ *i*P **P 22 51 35.3 +0.6**
HOQ Hoqain 77.22 291 P **P 22 51 35.9 +0.7**
SNR=7.6
KHC Kasperske Hory 77.23 335 *e*P **P 22 51 35.1 +0.3**
comp=Z,37nm,0.7s,mb5.4
KHC Kasperske Hory 77.23 335⇑ *i*P **P 22 51 35.3 +0.5**
KHC Kasperske Hory 77.23 335⇑ *i*P **P 22 51 35.3 +0.5**
GRF Grafenberg Arr 77.37 336 *e*P **P 22 51 36.2 +0.6**
comp=Z,25nm,0.4s,mb5.5
GRF Grafenberg Arr 77.37 336 *e*P **P 22 51 36.2 +0.6**
GRF pmax pmax
comp=Z,25nm,0.4s,mb5.5
GRFO Grafenberg 77.38 336 *e*P **P 22 51 36.2 +0.6**
comp=Z,40nm,0.7s,mb5.5
GRFO Grafenberg 77.38 336 *e*P **P 22 51 36.2 +0.6**
GRFO pmax pmax
comp=Z,40nm,0.7s,mb5.5
WET Wettzell 77.42 335 *e*P **P 22 51 36.2 +0.3**
comp=Z,10.0nm,0.9s,mb4.8
WET Wettzell 77.42 335 *e*P **P 22 51 36.2 +0.3**
WET pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
JCT Junction City 77.44 58 *e*P **P 22 51 35.7 -0.6**
comp=Z,20nm,1.1s,mb5.0
JCT Junction City 77.44 58 *e*P **P 22 51 35.7 -0.6**
JCT pmax pmax
comp=Z,19nm,1.1s,mb4.9
GEC2 GERESS Array S 77.45 335 *e*P **P 22 51 36.2 +0.1**
comp=Z,10.0nm,0.6s,mb4.9
GEC2 GERESS Array S 77.45 335 *e*P **P 22 51 36.2 +0.1**
GEC2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
GERES GERESS Array B 77.45 335 P **P 22 51 36.3 +0.3**
comp=Z,13nm,0.6s,mb5.1,baz=40,slow=5.5,SNR=56
GERES GERESS Array B 77.45 335 P **P 22 51 36.3 +0.3**
GERES GERESS Array B 77.45 335 P **P 22 51 36.3 +0.2**
GERES pmax pmax
comp=Z,13nm,0.6s
DLF Lyons Farm 77.53 348⇑ *i*P **P 22 51 36.3 -0.1**
GZR Gura Zlata 77.55 327⇓ P **P 22 51 36.6 -0.1**
GZR Gura Zlata 77.55 327⇓ *i*P **P 22 51 36.6 -0.1**
TNS Taunus Mts 77.60 338 *e*P **P 22 51 37.2 +0.4**
comp=Z,25nm,1.2s,mb5.0
TNS Taunus Mts 77.60 338 *e*P **P 22 51 37.2 +0.4**
TNS pmax pmax
comp=Z,25nm,1.2s,mb5.0
JMDO Jabal Madar 77.61 290 P **P 22 51 38.4 +1.0**
SNR=7.7
CONA Conrad Observa 77.64 333 *i* P **P 22 51 37.8 +0.7**
comp=Z,22nm,0.7s,mb5.2,SNR=10
CONA Conrad Observa 77.64 333 *i* P **P 22 51 37.8 +0.7**
comp=Z,22nm,0.7s,mb5.2
BEBN Eben Emael 77.72 340 P **P 22 51 37.5 0.0**
comp=Z,16nm,0.9s,mb5.0

MIAR Mount Ida 77.75 51 *eP* **P 22 51 37.5 -0.5**
comp=Z,11nm,0.8s,mb4.8
MIAR Mount Ida 77.75 51 *eP* **P 22 51 37.5 -0.5**
MIAR pmax pmax
comp=Z,11nm,0.8s,mb4.8
BZS Buzias 77.77 328 ⇓*P* **P 22 51 37.1 -0.8**
BZS Buzias 77.77 328 ⇓*iP* **P 22 51 37.1 -0.8**
MEM Membach 77.82 340 P **P 22 51 38.1 0.0**
comp=Z,33nm,1.1s,mb5.2
BRTR Keskin Array B 77.85 317 P **P 22 51 38.7 +0.3**
comp=Z,18nm,0.6s,mb5.2,baz=82,slow=2.3,SNR=125
BRTR Keskin Array B 77.85 317 P **P 22 51 38.7 +0.3**
BRTR Keskin Array B 77.85 317 P **P 22 51 38.7 +0.3**
BRTR pmax pmax
comp=Z,18nm,0.6s
ARQ Araqi 77.90 291 P **P 22 51 39.9 +0.9**
SNR=5.8
BSY Bisya 77.91 290 P **P 22 51 39.7 +0.7**
SNR=13
ZIMR 78.07 325 ⇑*P* **P 22 51 39.0 -0.6**
ZIMR 78.07 325 ⇑*iP* **P 22 51 39.0 -0.6**
BCLA Clavier 78.16 340 P **P 22 51 39.6 -0.4**
comp=Z,16nm,1.0s,mb4.9
SZH Strazhica 78.18 324 *eP* **P 22 51 39.5 -0.7**
MOA Molln 78.19 334 ⇑*iP* **P 22 51 40.3 +0.2**
comp=Z,16nm,0.7s,mb5.1,SNR=26
MOA Molln 78.19 334 ⇑*iP* **P 22 51 40.3 +0.2**
comp=Z,16nm,0.7s,mb5.1
FRNY Flat Rock 78.23 33 *eP* **P 22 51 36.5 -4.0**
PKSM Moragy 78.27 330 ⇓*P* **P 22 51 40.0 -0.7**
PKSM Moragy 78.27 330 ⇓*iP* **P 22 51 40.0 -0.7**
SNF Seneffe 78.30 341 P **P 22 51 40.2 -0.5**
comp=Z,7.0nm,0.7s,mb4.7
ARSA Arzberg 78.35 333 *iP* **P 22 51 41.3 +0.3**
comp=Z,14nm,0.8s,mb4.9,SNR=16
ARSA Arzberg 78.35 333 *iP* **P 22 51 41.3 +0.3**
comp=Z,14nm,0.8s,mb5.0
ARMA Armidale 78.35 182 *eP* **P 22 51 41.3 +0.3**
PVL Pavlikeni 78.45 325 *eP* **P 22 51 41.7 0.0**
WCI Wyandotte Cave 78.46 44 *eP* **P 22 51 41.4 -0.4**
comp=Z,15nm,0.8s,mb5.0
WCI Wyandotte Cave 78.46 44 *eP* **P 22 51 41.4 -0.4**
WCI pmax pmax
comp=Z,15nm,0.8s,mb5.0
UMR Umm Al-Rimmam 78.54 302 *eP* **P 22 51 42.1 -0.4**
UMR AMb AMB 22 51 43.4
comp=Z,84nm,0.6s,mb5.8
MIB Mutribah 78.57 302 *eP* **P 22 51 42.6 +0.1**
MIB AMb AMB 22 51 43.5
comp=Z,119nm,0.6s,mb6.0
DOU Dourbes 78.62 341 P **P 22 51 42.1 -0.4**
comp=Z,10nm,1.2s,mb4.6
WLF Walferdange 78.67 340 P **P 22 51 42.7 -0.1**
WLF Walferdange 78.67 340 *eP* **P 22 51 43.2 +0.5**
comp=Z,31nm,1.2s,mb5.1
WLF Walferdange 78.67 340 *eP* **P 22 51 43.2 +0.4**
WLF pmax pmax
comp=Z,31nm,1.2s,mb5.1
RJOB Jochberg 78.72 335 *eP* **P 22 51 43.6 +0.5**
comp=Z,10.0nm,0.6s,mb4.9
BAIF Baives 78.74 341 ⇑*iP* **P 22 51 43.1 -0.1**
comp=Z,48nm,0.9s,mb5.1
BAIF Baives 78.74 341 ⇑*iP* **P 22 51 43.1 -0.1**
comp=Z,48nm,0.9s,mb5.4
BAIF Baives 78.74 341 ⇑*iP* **P 22 51 43.1 -0.1**
BAIF pmax pmax
comp=Z,48nm,0.9s,mb5.4
STU Stuttgart 78.75 337 *eP* **P 22 51 43.4 +0.2**
comp=Z,19nm,0.7s,mb5.1
STU Stuttgart 78.75 337 *eP* **P 22 51 43.4 +0.2**
STU pmax pmax
comp=Z,19nm,0.7s,mb5.1
LANF Langenberg 78.91 338 *eP* **P 22 51 44.2 +0.1**
SOKA Soboth 79.01 333 ⇑*iP* **P 22 51 44.9 +0.2**
comp=Z,29nm,0.7s,mb5.3
SOKA Soboth 79.01 333 ⇑*iP* **P 22 51 44.9 +0.2**
comp=Z,29nm,0.7s,mb5.3
NAY Al-Naaiem 79.04 302 *eP* **P 22 51 45.0 -0.2**
NAY AMb AMB 22 51 46.1
comp=Z,54nm,1.6s,mb5.2
RDF Al-Radifah 79.11 301 *eP* **P 22 51 46.1 +0.5**
RDF AMb AMB 22 51 48.2
comp=Z,141nm,0.7s,mb6.0
KBA Koelnbreinsper 79.15 334 *iP* **P 22 51 46.6 +1.2**
comp=Z,71nm,0.6s,mb5.8,SNR=67
KBA Koelnbreinsper 79.15 334 *iP* **P 22 51 46.6 +1.2**
comp=Z,71nm,0.6s,mb5.8
KBA Koelnbreinsper 79.15 334 *iP* **P 22 51 46.6 +1.1**
OBKA Obir 79.31 333 ⇑*iP* **P 22 51 46.3 0.0**
comp=Z,18nm,0.7s,mb5.1,SNR=12
OBKA Obir 79.31 333 ⇑*iP* **P 22 51 46.3 0.0**
comp=Z,18nm,0.6s,mb5.2
NATX Nacogdoches 79.31 54 *eP* **P 22 51 47.1 +0.4**
comp=Z,35nm,1.0s,mb5.2
DIM Dimitrovgrad 79.36 324 *eP* **P 22 51 46.8 +0.1**
BFO Black Forest 79.38 338 *eP* **P 22 51 46.8 +0.1**
comp=Z,11nm,0.6s,mb5.0
BFO Black Forest 79.38 338 *eP* **P 22 51 46.5 -0.2**
BFO Black Forest 79.38 338 *eP* **P 22 51 46.8 +0.1**
BFO pmax pmax
comp=Z,11nm,0.6s,mb5.0
WVT Waverly 79.40 47 *eP* **P 22 51 46.4 -0.6**
comp=Z,101nm,2.6s,mb5.3
WVT Waverly 79.40 47 *eP* **P 22 51 46.4 -0.7**
WVT pmax pmax
comp=Z,101nm,2.6s,mb5.3
WATA Walderalm 79.43 335 *iP* **P 22 51 47.5 +0.6**
comp=Z,29nm,0.5s,mb5.5,SNR=57
WATA Walderalm 79.43 335 *iP* **P 22 51 47.5 +0.6**
comp=Z,29nm,0.5s,mb5.5
WATA Walderalm 79.43 335 *iP* **P 22 51 47.5 +0.5**
WATA pmax pmax
comp=Z,29nm,0.5s,mb5.5
MYKA Terra Mystica 79.47 334 ⇑*iP* **P 22 51 47.0 -0.3**
comp=Z,15nm,0.7s,mb5.0
MYKA Terra Mystica 79.47 334 ⇑*iP* **P 22 51 47.0 -0.3**
comp=Z,15nm,0.7s,mb5.0
WTTA Wattenberg 79.47 335 *iP* **P 22 51 47.9 +0.7**
comp=Z,73nm,0.6s,mb5.8,SNR=83
WTTA Wattenberg 79.47 335 *iP* **P 22 51 47.9 +0.7**
comp=Z,73nm,0.6s,mb5.8
WTTA Wattenberg 79.47 335 *iP* **P 22 51 47.9 +0.7**
RETA Reutte 79.51 336 ⇑*iP* **P 22 51 47.9 +0.4**
comp=Z,26nm,0.7s,mb5.3,SNR=33
RETA Reutte 79.51 336 ⇑*iP* **P 22 51 47.9 +0.4**
comp=Z,26nm,0.7s,mb5.3
MOTA Moosalm 79.55 336 ⇑*iP* **P 22 51 48.0 +0.4**
comp=Z,39nm,0.7s,mb5.5,SNR=56
MOTA Moosalm 79.55 336 ⇑*iP* **P 22 51 48.0 +0.4**
comp=Z,39nm,0.7s,mb5.5
MOTA Moosalm 79.55 336 ⇑*iP* **P 22 51 48.0 +0.4**
MOTA pmax pmax
comp=Z,39nm,0.7s,mb5.5
CDF Champ du Feu 79.57 338 ⇑*iP* **P 22 51 47.7 0.0**
comp=Z,92nm,1.1s,mb5.3
CDF Champ du Feu 79.57 338 ⇑*iP* **P 22 51 47.7 0.0**
comp=Z,92nm,1.1s,mb5.6
CDF Champ du Feu 79.57 338 ⇑*iP* **P 22 51 47.7 0.0**
CDF pmax pmax
comp=Z,92nm,1.1s,mb5.6
DIVS Divibare 79.67 328 P **P 22 51 48.1 -0.2**
ABTA Abfaltersbach 79.69 334 ⇓*iP* **P 22 51 48.4 0.0**
comp=Z,13nm,0.6s,mb5.0,SNR=16
ABTA Abfaltersbach 79.69 334 ⇓*iP* **P 22 51 48.4 0.0**
comp=Z,13nm,0.6s,mb5.0
LJU Ljubljana 79.73 333 *iP* **P 22 51 48.5 -0.2**
ECH Echery 79.78 338 *eP* **P 22 51 48.5 -0.4**
VTS Vitosha 79.80 326 P **P 22 51 49.3 +0.2**
VTS Vitosha 79.80 326 ⇓*P* **P 22 51 49.2 +0.1**
VTS Vitosha 79.80 326 *eP* **P 22 51 48.8 -0.3**
VTS Vitosha 79.80 326 ⇓*iP* **P 22 51 49.2 +0.1**
VISS Visnje 79.85 333 *iP* **P 22 51 48.7 -0.6**
DAVA Damuels 79.94 336 ⇑*iP* **P 22 51 50.1 +0.4**
comp=Z,39nm,0.9s,mb5.3,SNR=13
DAVA Damuels 79.94 336 ⇑*iP* **P 22 51 50.1 +0.4**
comp=Z,39nm,0.9s,mb5.3
FETA Feichten 79.95 336 *iP* **P 22 51 50.5 +0.7**
comp=Z,22nm,0.8s,mb5.2,SNR=8.9
FETA Feichten 79.95 336 *iP* **P 22 51 50.5 +0.7**
comp=Z,22nm,0.8s,mb5.1
BOJS Bojanci 79.99 332 *iP* **P 22 51 49.1 -1.0**
JAVS Javornik 80.01 333 *iP* **P 22 51 49.4 -0.8**
MEZF Maizieres J'vi 80.01 340 ⇑*iP* **P 22 51 50.3 +0.2**
comp=Z,67nm,0.8s,mb5.3
MEZF Maizieres J'vi 80.01 340 ⇑*iP* **P 22 51 50.3 +0.2**
comp=Z,67nm,0.8s,mb5.6

THEF They Montfort 80.05 339 *eP* **P 22 51 50.5 +0.2**
MOF Molkenrain 80.12 338 *eP* **P 22 51 50.5 -0.2**
HAU Haudompre 80.17 339 ⇑*iP* **P 22 51 50.8 -0.2**
comp=Z,64nm,1.1s,mb5.2
HAU *eR*
comp=Z,747nm,22.5s
HAU Haudompre 80.17 339 ⇑*iP* **P 22 51 50.8 -0.2**
comp=Z,64nm,1.1s,mb5.5
HAU Haudompre 80.17 339 ⇑*iP* **P 22 51 50.8 -0.2**
HAU pmax pmax
comp=Z,64nm,1.1s,mb5.5
PLAL Pickwick Lake 80.20 48 *eP* **P 22 51 50.4 -1.0**
comp=Z,20nm,1.2s,mb4.9
HINF Hinteralfeld 80.22 338 ⇑*iP* **P 22 51 50.9 -0.4**
comp=Z,43nm,1.1s,mb5.0
HINF Hinteralfeld 80.22 338 ⇑*iP* **P 22 51 50.9 -0.4**
comp=Z,43nm,1.1s,mb5.3
HINF Hinteralfeld 80.22 338 ⇑*iP* **P 22 51 50.9 -0.4**
HINF pmax pmax
comp=Z,43nm,1.1s,mb5.3
FUORN Ofenpass-Fuorn 80.44 336 *eP* **P 22 51 53.5 +1.0**
MMB Musomiste 80.46 325 *eP* **P 22 51 52.6 -0.1**
STKA Stephens Creek 80.58 191 P **P 22 51 53.1 0.0**
comp=Z,4.5nm,0.9s,mb4.4,baz=32,slow=5.0,SNR=4.9
STKA LR LR 23 26 23.8
comp=Z,133nm,21.7s,MS4.2,baz=25,slow=35
STKA Stephens Creek 80.58 191 P **P 22 51 53.1 0.0**
STKA Stephens Creek 80.58 191 P **P 22 51 53.1 0.0**
STKA pmax pmax
comp=Z,5.0nm,0.9s
STKA MLR MLR
comp=Z,133nm,21.7s
NVR Nevrokopi 80.61 325 P **P 22 51 53.6 +0.1**
LOMF Lomont 80.67 338 *eP* **P 22 51 54.0 +0.4**
ISP Isparta 80.80 318 P **P 22 51 54.9 +0.3**
ISP Isparta 80.80 318 *eP* **P 22 51 53.4 -1.1**
ISP Isparta 80.80 318 ⇓*P* **P 22 51 54.4 -0.2**
ISP Isparta 80.80 318 ⇓*iP* **P 22 51 54.4 -0.2**
TAOE Nuku Hiva Isla 80.81 114 *e*LR LR 23 17 11.1
comp=Z,376nm,23.6s
TUE Stuetta 80.83 336 *eP* **P 22 51 55.2 +0.7**
comp=Z,50nm,0.8s,mb5.5
FLN La Foliniere 80.93 343 ⇑*iP* **P 22 51 54.8 -0.2**
comp=Z,69nm,0.9s,mb5.3
FLN *eR*
comp=Z,490nm,21.5s
FLN La Foliniere 80.93 343 ⇑*iP* **P 22 51 54.8 -0.2**
comp=Z,69nm,0.9s,mb5.6
FLN La Foliniere 80.93 343 ⇑*iP* **P 22 51 54.8 -0.2**
FLN pmax pmax
comp=Z,69nm,0.9s,mb5.6
NVLJ Novalja 80.96 332 P **P 22 51 54.0 -1.3**
LDF La Druitiere 81.03 343 ⇑*iP* **P 22 51 55.1 -0.4**
comp=Z,9.7nm,0.5s,mb4.7
LDF La Druitiere 81.03 343 ⇑*iP* **P 22 51 55.1 -0.4**
comp=Z,9.7nm,0.5s,mb5.0
LDF La Druitiere 81.03 343 ⇑*iP* **P 22 51 55.1 -0.4**
LDF pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
SWET Sewanee 81.06 46 *eP* **P 22 51 55.1 -0.8**
comp=Z,22nm,1.1s,mb5.0
PMOR Pomariorio Ree 81.20 124 *eT* 00 21 07.4
comp=Z,8.1nm,0.2s
GRR Gorron 81.36 344 ⇑*iP* **P 22 51 57.3 0.0**
comp=Z,110nm,1.0s,mb5.5
GRR Gorron 81.36 344 ⇑*iP* **P 22 51 57.3 0.0**
comp=Z,110nm,1.0s,mb5.7
GRR Gorron 81.36 344 ⇑*iP* **P 22 51 57.3 0.0**
GRR pmax pmax
comp=Z,110nm,1.0s,mb5.7
LOR Lormes 81.45 340 ⇑*iP* **P 22 51 57.7 -0.1**
comp=Z,82nm,0.9s,mb5.4
LOR *eR*
comp=Z,590nm,22.8s
LOR Lormes 81.45 340 ⇑*iP* **P 22 51 57.7 -0.1**
comp=Z,82nm,0.9s,mb5.7
LOR Lormes 81.45 340 ⇑*iP* **P 22 51 57.7 -0.1**
SENIN Lac Senin/Sane 81.47 338 *eP* **P 22 51 58.7 +0.8**
comp=Z,25nm,1.0s,mb5.1
CABF La Chapelle 81.54 338 ⇑*iP* **P 22 51 58.5 +0.2**
comp=Z,54nm,1.0s,mb5.1
CABF La Chapelle 81.54 338 ⇑*iP* **P 22 51 58.5 +0.2**
comp=Z,54nm,1.0s,mb5.4
CABF La Chapelle 81.54 338 ⇑*iP* **P 22 51 58.5 +0.2**
CABF pmax pmax
comp=Z,54nm,1.0s,mb5.4
SSF Saint Saulge 81.72 340 ⇑*iP* **P 22 51 59.2 -0.1**
comp=Z,37nm,0.8s,mb5.1
SSF Saint Saulge 81.72 340 ⇑*iP* **P 22 51 59.2 -0.1**
comp=Z,37nm,0.8s,mb5.4
SSF Saint Saulge 81.72 340 ⇑*iP* **P 22 51 59.2 -0.1**
SSF pmax pmax
comp=Z,37nm,0.8s,mb5.4
SGMF Saint Gilles 81.80 345 ⇑*iP* **P 22 51 59.7 0.0**
comp=Z,37nm,0.7s,mb5.1
SGMF Saint Gilles 81.80 345 ⇑*iP* **P 22 51 59.7 0.0**
comp=Z,37nm,0.7s,mb5.4
SGMF Saint Gilles 81.80 345 ⇑*iP* **P 22 51 59.7 0.0**
SGMF pmax pmax
comp=Z,37nm,0.7s,mb5.4
ROSF Rostrenen 81.85 345 ⇑*iP* **P 22 52 00.1 +0.2**
comp=Z,79nm,0.9s,mb5.3
ROSF Rostrenen 81.85 345 ⇑*iP* **P 22 52 00.1 +0.2**
comp=Z,79nm,0.9s,mb5.6
ROSF Rostrenen 81.85 345 ⇑*iP* **P 22 52 00.1 +0.2**
ROSF pmax pmax
comp=Z,79nm,0.9s,mb5.6
AVF Avril sur Loir 82.01 340 ⇑*iP* **P 22 52 00.8 0.0**
comp=Z,62nm,0.8s,mb5.3
AVF Avril sur Loir 82.01 340 ⇑*iP* **P 22 52 00.8 0.0**
comp=Z,62nm,0.8s,mb5.6
AVF Avril sur Loir 82.01 340 ⇑*iP* **P 22 52 00.8 0.0**
AVF pmax pmax
comp=Z,62nm,0.8s,mb5.6
SMF Signal de Mont 82.04 340 ⇑*iP* **P 22 52 01.0 +0.1**
comp=Z,109nm,1.1s,mb5.4
SMF Signal de Mont 82.04 340 ⇑*iP* **P 22 52 01.0 +0.1**
comp=Z,109nm,1.1s,mb5.7
SMF Signal de Mont 82.04 340 ⇑*iP* **P 22 52 01.0 +0.1**
SMF pmax pmax
comp=Z,109nm,1.1s,mb5.7
TIR Tirane 82.12 327 *eP* **P 22 52 01.2 -0.2**
comp=Z,72nm,0.8s,mb5.7
TIR Tirane 82.12 327 *eP* **P 22 52 01.2 -0.2**
TIR pmax pmax
comp=Z,72nm,0.8s,mb5.7
FORT Forrest 82.12 203 *eP* **P 22 52 01.3 0.0**
FORT Forrest 82.12 203 *eP* **P 22 52 01.4 +0.1**
comp=Z,69nm,0.7s,mb5.7
QUIF Quistinic 82.24 345 *eP* **P 22 52 01.8 -0.1**
comp=Z,306nm,1.6s,mb5.7
QUIF Quistinic 82.24 345 *eP* **P 22 52 01.8 -0.1**
comp=Z,306nm,1.6s,mb6.0
QUIF Quistinic 82.24 345 *eP* **P 22 52 01.8 -0.1**
RSL Roselend 82.27 338 *eP* **P 22 52 02.6 +0.5**
BGF Bois d'Agland 82.35 341 ⇑*iP* **P 22 52 02.6 +0.1**
comp=Z,37nm,0.7s,mb5.1
BGF Bois d'Agland 82.35 341 ⇑*iP* **P 22 52 02.6 +0.1**
comp=Z,37nm,0.7s,mb5.4
BGF Bois d'Agland 82.35 341 ⇑*iP* **P 22 52 02.6 +0.1**
BGF pmax pmax
comp=Z,37nm,0.7s,mb5.4
LPL La Plagne 82.40 338 ⇑*iP* **P 22 52 03.8 +1.0**
comp=Z,71nm,0.8s,mb5.3
LPL La Plagne 82.40 338 ⇑*iP* **P 22 52 03.8 +1.0**
comp=Z,71nm,0.8s,mb5.7
LPL La Plagne 82.40 338 ⇑*iP* **P 22 52 03.8 +1.0**
LPL pmax pmax
comp=Z,71nm,0.8s,mb5.7
PPT2 Papeete2 82.41 127 *e*LR LR 23 17 59.3
comp=Z,246nm,22.8s,baz=311
PPT2 *eT* 00 22 35.6
comp=Z,4.8nm,0.2s
LPG La Plagne 82.41 338 ⇑*iP* **P 22 52 04.0 +1.1**
comp=Z,87nm,0.9s,mb5.4
LPG La Plagne 82.41 338 ⇑*iP* **P 22 52 04.0 +1.1**
comp=Z,87nm,0.9s,mb5.7
LPG La Plagne 82.41 338 ⇑*iP* **P 22 52 04.0 +1.1**
LPG pmax pmax
comp=Z,87nm,0.9s,mb5.7
PAE Paea 82.47 127 *eT* 00 22 41.0
comp=Z,1.5nm,0.3s
TIAR Tiarei 82.51 127 *eT* 00 22 44.1
comp=Z,14nm,0.3s
PLDF La Plantade 82.73 340 *eP* **P 22 52 05.0 +0.5**
BNI Bardonecchia 82.85 338 *eP* **P 22 52 06.0 +0.9**
comp=Z,22nm,0.9s,mb5.2

BNI Bardonecchia 82.85 338 *eP* **P 22 52 06.1 +0.9**
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.2
MFF Saint Martin d 82.94 343 ⇑*iP* **P 22 52 05.8 +0.2**
comp=Z,39nm,0.6s,mb5.3
MFF Saint Martin d 82.94 343 ⇑*iP* **P 22 52 05.8 +0.2**
comp=Z,39nm,0.6s,mb5.6
MFF Saint Martin d 82.94 343 ⇑*iP* **P 22 52 05.8 +0.2**
MFF pmax pmax
comp=Z,39nm,0.6s,mb5.6
MBDF Montbardon 83.12 337 ⇑*iP* **P 22 52 06.9 +0.3**
comp=Z,43nm,0.9s,mb5.2
MBDF Montbardon 83.12 337 ⇑*iP* **P 22 52 06.9 +0.3**
comp=Z,43nm,0.9s,mb5.5
MBDF Montbardon 83.12 337 ⇑*iP* **P 22 52 06.9 +0.3**
MBDF pmax pmax
comp=Z,43nm,0.9s,mb5.5
SSB Saint Sauveur 83.16 339 *eP* **P 22 52 07.1 +0.3**
ORIF Oris-en-Rattie 83.17 338 ⇑*iP* **P 22 52 07.7 +0.8**
comp=Z,72nm,0.9s,mb5.4
ORIF *eR*
comp=Z,656nm,23.0s
ORIF Oris-en-Rattie 83.17 338 ⇑*iP* **P 22 52 07.7 +0.8**
comp=Z,72nm,0.9s,mb5.7
ORIF Oris-en-Rattie 83.17 338 ⇑*iP* **P 22 52 07.7 +0.8**
ORIF pmax pmax
comp=Z,73nm,0.9s,mb5.7
AQU L'Aquila 83.41 332 *eP* **P 22 52 09.0 +0.9**
AQU L'Aquila 83.41 332 ⇑*P* **P 22 52 09.0 +0.9**
AQU L'Aquila 83.41 332 ⇑*iP* **P 22 52 09.0 +0.9**
MEH Mehetia 83.46 126 *eT* 00 23 55.5
comp=Z,30nm,0.3s
VIVF Saint-Julien-l 83.53 339 ⇑*iP* **P 22 52 09.2 +0.5**
comp=Z,55nm,1.0s,mb5.3
VIVF Saint-Julien-l 83.53 339 ⇑*iP* **P 22 52 09.2 +0.5**
comp=Z,55nm,1.0s,mb5.6
VIVF Saint-Julien-l 83.53 339 ⇑*iP* **P 22 52 09.2 +0.5**
VIVF pmax pmax
comp=Z,55nm,1.0s,mb5.6
RBK Rabkut 83.66 289 P **P 22 52 09.7 -0.1**
SNR=6.9
SBF Sospel 83.76 337 *eP* **P 22 52 09.6 -0.3**
comp=Z,92nm,0.8s,mb5.7
SBF Sospel 83.76 337 *eP* **P 22 52 09.6 -0.3**
comp=Z,92nm,0.8s,mb6.0
SBF Sospel 83.76 337 *eP* **P 22 52 09.6 -0.3**
SBF pmax pmax
comp=Z,92nm,0.8s,mb6.0
MVIF Mont Vial 83.80 337 *eP* **P 22 52 10.0 -0.1**
RJF Les Rejaudoux 83.83 341 *eP* **P 22 52 10.4 +0.2**
comp=Z,24nm,0.9s,mb5.0
RJF *eR*
comp=Z,574nm,17.5s
RJF Les Rejaudoux 83.83 341 *eP* **P 22 52 10.4 +0.2**
comp=Z,24nm,0.9s,mb5.3
RJF Les Rejaudoux 83.83 341 *eP* **P 22 52 10.4 +0.2**
RJF pmax pmax
comp=Z,24nm,0.9s,mb5.3
CAF Calviac 84.07 341 ⇑*iP* **P 22 52 12.0 +0.5**
comp=Z,12nm,0.5s,mb5.0
CAF Calviac 84.07 341 ⇑*iP* **P 22 52 12.0 +0.5**
comp=Z,12nm,0.5s,mb5.3
CAF Calviac 84.07 341 ⇑*iP* **P 22 52 12.0 +0.5**
CAF pmax pmax
comp=Z,12nm,0.5s,mb5.3
SMRF Simiane la Rot 84.13 338 *eP* **P 22 52 12.6 +0.8**
comp=Z,71nm,1.1s,mb5.4
SMRF Simiane la Rot 84.13 338 *eP* **P 22 52 12.6 +0.8**
comp=Z,71nm,1.1s,mb5.7
LFF La Frestale 84.34 341 ⇑*iP* **P 22 52 13.0 +0.2**
comp=Z,38nm,0.7s,mb5.3
LFF La Frestale 84.34 341 ⇑*iP* **P 22 52 13.0 +0.2**
comp=Z,38nm,0.7s,mb5.6
LFF La Frestale 84.34 341 ⇑*iP* **P 22 52 13.0 +0.2**
LFF pmax pmax
comp=Z,38nm,0.7s,mb5.6
ABTO Aybut 84.35 290 P **P 22 52 13.5 +0.2**
SNR=8.5
LASF Ste Croix 84.46 339 *eP* **P 22 52 14.1 +0.6**
comp=Z,31nm,1.1s,mb5.1
LASF Ste Croix 84.46 339 *eP* **P 22 52 14.1 +0.6**
comp=Z,31nm,1.0s,mb5.4
LMR La Mourre 84.49 337 *eP* **P 22 52 13.6 0.0**
comp=Z,108nm,1.1s,mb5.6
LMR La Mourre 84.49 337 *eP* **P 22 52 13.6 0.0**
comp=Z,108nm,1.1s,mb5.9
LMR La Mourre 84.49 337 *eP* **P 22 52 13.6 0.0**
LMR pmax pmax
comp=Z,108nm,1.1s,mb5.9
PGF Pioggiola 84.55 335 *eP* **P 22 52 13.6 -0.3**
comp=Z,41nm,0.8s,mb5.3
PGF Pioggiola 84.55 335 *eP* **P 22 52 13.6 -0.3**
comp=Z,41nm,0.8s,mb5.6
PGF Pioggiola 84.55 335 *eP* **P 22 52 13.6 -0.3**
PGF pmax pmax
comp=Z,41nm,0.8s,mb5.6
TIP Timpagrande 85.14 328 *eP* **P 22 52 17.0 0.0**
MTLF Montolieu 85.54 340 *eP* **P 22 52 18.4 -0.5**
comp=Z,38nm,1.2s,mb5.2
MTLF Montolieu 85.54 340 *eP* **P 22 52 18.4 -0.5**
comp=Z,38nm,1.2s,mb5.5
MTLF Montolieu 85.54 340 *eP* **P 22 52 18.4 -0.5**
MTLF pmax pmax
comp=Z,38nm,1.2s,mb5.5
KLBR Kellerberrin 85.97 211 *eP* **P 22 52 19.8 -1.1**
comp=Z,9.9nm,0.7s,mb5.2
EPF Esparros 86.25 341 *eP* **P 22 52 22.0 -0.4**
comp=Z,17nm,0.6s,mb5.2
EPF Esparros 86.25 341 *eP* **P 22 52 22.0 -0.4**
comp=Z,17nm,0.6s,mb5.5
EPF Esparros 86.25 341 *eP* **P 22 52 22.0 -0.4**
EPF pmax pmax
comp=Z,17nm,0.6s,mb5.5
SJPF Ste Jean 86.50 342 *eP* **P 22 52 24.3 +0.7**
comp=Z,8.9nm,0.8s,mb4.8
SJPF Ste Jean 86.50 342 *eP* **P 22 52 24.3 +0.7**
comp=Z,8.9nm,0.8s,mb5.0
SJPF Ste Jean 86.50 342 *eP* **P 22 52 24.3 +0.7**
SJPF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
ETSF Etsaut 86.57 342 ⇑*iP* **P 22 52 24.4 +0.4**
comp=Z,19nm,0.6s,mb5.2
ETSF Etsaut 86.57 342 ⇑*iP* **P 22 52 24.4 +0.4**
comp=Z,19nm,0.6s,mb5.5
ETSF Etsaut 86.57 342 ⇑*iP* **P 22 52 24.4 +0.4**
ETSF pmax pmax
comp=Z,19nm,0.6s,mb5.5
TBI Tubuai 87.23 130 *e*LR LR 23 20 04.3
comp=Z,383nm,26.2s
TBI *eT* 00 28 36.6
comp=Z,9.2nm,0.3s
URZ Urewera 88.49 162 P **P 22 52 30.5 -2.3**
comp=Z,8.1nm,0.8s,mb5.0,baz=71,slow=16,SNR=3.6
URZ Urewera 88.49 162 P **P 22 52 30.5 -2.3**
ESDC Sonseca Array 90.35 343 P **P 22 52 40.9 -1.1**
comp=Z,2.2nm,0.6s,mb4.7,baz=3.0,slow=3.6,SNR=17
ESDC Sonseca Array 90.35 343 P **P 22 52 40.9 -1.1**
KEST Kesra 90.73 332 P **P 22 52 43.5 -0.4**
comp=Z,2.3nm,0.7s,mb4.6,baz=296,slow=0.6,SNR=15
KEST Kesra 90.73 332 P **P 22 52 43.5 -0.4**
TORD Torodi Ar. Bea 114.20 331 PKP PKiKP 22 58 19.1 -1.4
comp=Z,1.0nm,0.5s,baz=9.9,slow=1.3,SNR=28
TORD Torodi Ar. Bea 114.20 331 PKP PKiKP 22 58 19.1 -1.4
DBIC Dimbokro 122.32 335 PKP PKPdf 22 58 35.1 -1.0
comp=Z,3.2nm,0.6s,baz=61,slow=2.7,SNR=8.0
DBIC Dimbokro 122.32 335 PKP PKPdf 22 58 35.1 -1.0
DBIC Dimbokro 122.32 335 PKIKP PKPdf 22 58 35.1 -1.0
DBIC pmax pmax
comp=Z,3.0nm,0.6s
LIC Lamto 122.79 335 *e*PKIKP PKPdf 22 58 35.9 -1.2
comp=Z,25nm,1.1s
LIC *eR*
comp=Z,393nm,21.2s
LIC Lamto 122.79 335 *e*PKPdf PKPdf 22 58 35.9 -1.2
CPUP Villa Florida 147.01 60 PKPbc PKPbc 22 59 21.4 -2.0
comp=Z,7.0nm,0.7s,baz=304,slow=2.2,SNR=24
CPUP Villa Florida 147.01 60 PKPbc PKPbc 22 59 21.4 -2.0
PLCA Paso Flores 147.51 94 PKPbc PKPbc 22 59 24.2 -0.1
comp=Z,6.4nm,0.8s,baz=300,slow=3.0,SNR=8.4
PLCA Paso Flores 147.51 94 PKPbc PKPbc 22 59 24.2 -0.1
SNAA Sanae 154.23 196 *e* PKPbc 22 59 38.5 -0.8
SNAA Sanae 154.23 196 *e* PKPbc 22 59 38.5 -0.8
VNA2 Neumayer--Watz 155.66 194 *e* PKPdf 22 59 41.7 +8.7
baz=107,slow=1.1
VNA2 Neumayer--Watz 155.66 194 *e* PKPdf 22 59 41.7 +8.7
VNA2 Neumayer--Watz 155.66 194 *e* PKPab 23 00 11.7 +12
baz=107,slow=1.1

VNA2	**Neumayer--Watz**	**155.66**	**194**	*e*	PKPab	23 00 11.7	+12
VNA3	**Neumayer Olymp**	**155.74**	**193**	*e*	PKPdf	22 59 41.3	+8.2
VNA3	**Neumayer Olymp**	**155.74**	**193**	*e*	PKPdf	22 59 41.3	+8.2
VNA3	**Neumayer Olymp**	**155.74**	**193**	*e*	PKPab	23 00 11.6	+12
VNA3	**Neumayer Olymp**	**155.74**	**193**	*e*	PKPab	23 00 11.6	+12
VNA1	**Neumayer--Stat**	**156.05**	**194**	*e*	PKPab	23 00 13.6	+12
VNA1	**Neumayer--Stat**	**156.05**	**194**	*e*	PKPab	23 00 13.6	+12

*SKO **28** 22:58:46.3, 39°.74N×26°.72E, h0^{km}*
*THE **28** 22:58:57.3, 40°.32N×25°.99E, h0^{km}±1^{km}, ML5.1/16, Error ellipse: s-maj=1.7km s-min=0.7km az=99.0*
*IDC **28** 22:58:58.3±0.5, 40°.40N×25°.74E, h0^{km}, mb4.4/29, mb1 4.5/38, mb1mx4.5/40, mbtmp4.4/38, ML4.2/9, MS4.6/27, Ms1 4.6/27, ms1mx4.5/34, Error ellipse: s-maj=9.4km s-min=8.1km az=70.0*
*ISK **28** 22:58:58.3, 40°.41N×25°.81E, h9^{km}, ML5.2*
*BEO **28** 22:58:58.0±0.6, 40°.50N×26°.20E, h0^{km}, ML5.6/1*
*ISCJB **28** 22:58:58.3±0.3, 40°.417N±0°.010×25°.776E±0°.009, h12^{km}±2^{km}, mb4.9/95, MS4.8/40, Error ellipse: s-maj=1.7km s-min=1.1km az=14.1*
*PDG **28** 22:58:58.9±0.6, 40°.40N×25°.78E, h14^{km}±1^{km}, MD4.8/4, ML4.7/10, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*
*BJI **28** 22:58:58.1, 40°.25N×25°.94E, h6^{km}, mB5.2/34, mb5.0/55, Ms5.1/40, Ms7 4.8/38*
*NEIC **28** 22:58:59.0, 40°.39N×25°.78E, h35^{km}, mb5.1/42, ML5.2(ISK), ML4.8(ATH), MW5.0(USGS), After ATH.*
NEIC Felt [IV] at Canakkale, [III] at Edirne and [II] at Istanbul, Turkey. Also felt at Ayvalik, Balikesir, Bursa, Buyukcekmece, Corlu, Izmir, Kesan, Luleburgaz, Silivri and Uzunkopru. Felt [III] at Alexandroupolis and [II] at Komotini, Greece. Also felt at Kamariotissa, Myrina, Orestias, Sapai, Souflion and Xanthi. Felt [III] at Plovdiv, Bulgaria. Also felt at Khaskovo and Kurdzhali.
*ATH **28** 22:58:59.0, 40°.39N×25°.78E, h35^{km}±2^{km}, ML4.8*
*CSEM **28** 22:58:59.5±0.1, 40°.38N×25°.79E, h10^{km}, mb5.1/52, Ms4.4, Mw5.1, Error ellipse: s-maj=1.7km s-min=1.2km az=16.0*
*MOS **28** 22:59:00.6±1.1, 40°.45N×25°.79E, h33^{km}, mb5.1/41, MS4.7/41, Error ellipse: s-maj=3.3km s-min=2.3km az=115.3*
*TEH **28** 22:59:00.0, 40°.45N×25°.75E, h12^{km}*
*DDA **28** 22:59:01.0, 40°.33N×26°.01E, h3^{km}, Ml5.1*
*GCMT **28** 22:59:02.7±0.2, 40°.33N×25°.84E, h12^{km}, MW5.2, Moment Tensor Solution. s55,c80; s99,c186; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.15; $M_{\theta\theta}$4.15±.14; $M_{\phi\phi}$-2.42±.14; $M_{r\theta}$-0.87±.37; $M_{\theta\phi}$-6.76±.11; $M_{\phi r}$-1.10±.36; Best double couple: $M_0$7.70000×10^{16} NP1:ϕ_s346.00000°, δ79.00000°, λ-10.00000°. NP2:ϕ_s78.00000°, δ80.00000°, λ-169.00000°. Principal axes: T 8.3800, Plg1.0000°, Azm212.0000°; N -1.3700, Plg75.0000°, Azm119.0000°; P -7.0200, Plg15.0000°, Azm302.0000°; Data Used: II IU IC G CN. Surface waves from 102 sta.*

ISC 28 22:58:59.4±0.3**, 40°.378N**±0°.010×**25°.793E**±0°.009**, h8^{km}**±2^{km}**, h16^{km}**±.6^{km}**:pP-P, n1593,** σ1^s.**15**/1801**, mb4.9**/95**, MS4.8**/40**, 80C-71D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.45**	**37**	*e*PG	**Pg**	**22 59 06.9**	**-1.3**
ENEZ	**Enez**	**0.45**	**37**	*e*Pg	**Pg**	**22 59 06.9**	**-1.3**
GELI	**Tayfur-Gelibol**	**0.52**	**88**	*e*PG	**Pg**	**22 59 08.8**	**-0.7**
GELI				*e*SG	**Sg**	**22 59 16.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.52**	**88**	Pg	**Pg**	**22 59 09.3**	**-0.2**
GELI				Sg	**Sg**	**22 59 16.4**	**0.0**
GELI	**Tayfur-Gelibol**	**0.52**	**88**	*e*Pg	**Pg**	**22 59 08.8**	**-0.7**
GELI				*e*Sg	**Sg**	**22 59 16.2**	**-0.1**
ALN	**Alexandroupoli**	**0.55**	**20**	*e*PN	**Pg**	**22 59 10.8**	**+0.7**
ALN				*e*SN	**Sg**	**22 59 18.4**	**+1.0**
ALN	**Alexandroupoli**	**0.55**	**20**	P	**Pg**	**22 59 08.6**	**-1.5**
ALN				S	**Sg**	**22 59 17.2**	**-0.2**
ALN	**Alexandroupoli**	**0.55**	**20**	P	**Pg**	**22 59 08.6**	**-1.5**
ALN				S	**Sg**	**22 59 17.2**	**-0.2**
ALN	**Alexandroupoli**	**0.55**	**20**	P	**Pg**	**22 59 08.6**	**-1.5**
ALN				S	**Sg**	**22 59 17.2**	**-0.2**
ALN	**Alexandroupoli**	**0.55**	**20**	P	**Pg**	**22 59 08.6**	**-1.5**
ALN	**Alexandroupoli**	**0.55**	**20**	*e*Pn	**Pg**	**22 59 10.8**	**+0.7**
ALN				S	**Sg**	**22 59 17.2**	**-0.2**
BOZC	**Bozcaada**	**0.57**	**159**	*i* P	**Pg**	**22 59 10.1**	**-0.4**
BOZC				*i* S	**Sg**	**22 59 17.8**	**-0.1**
ERIK	**Erikli-Kesan**	**0.62**	**62**	*e*PG	**Pg**	**22 59 10.3**	**-1.1**
ERIK	**Erikli-Kesan**	**0.62**	**62**	Pg	**Pg**	**22 59 10.7**	**-0.8**
ERIK				Sg	**Sg**	**22 59 19.7**	**+0.1**
ERIK	**Erikli-Kesan**	**0.62**	**62**	Pg	**Pg**	**22 59 10.7**	**-0.8**
ERIK				Sg	**Sg**	**22 59 19.7**	**+0.1**
LIA	**Limnos Island**	**0.67**	**224**	*e*PN	**Pn**	**22 59 12.8**	**-2.4**
LIA				*e*SN	**Sg**	**22 59 22.4**	**+1.4**
LIA	**Limnos Island**	**0.67**	**224**	*e*P	**Pg**	**22 59 10.1**	**-2.2**
LIA	**Limnos Island**	**0.67**	**224**	P	**Pg**	**22 59 11.9**	**-0.4**
LIA				S	**Sg**	**22 59 23.7**	**+2.6**
LIA	**Limnos Island**	**0.67**	**224**	P	**Pg**	**22 59 11.9**	**-0.4**
LIA				S	**Sg**	**22 59 23.7**	**+2.6**
LIA	**Limnos Island**	**0.67**	**224**	P	**Pg**	**22 59 11.9**	**-0.4**
LIA	**Limnos Island**	**0.67**	**224**	*e*Pn	**Pn**	**22 59 12.8**	**-2.4**
LIA				S	**Sg**	**22 59 23.7**	**+2.6**
EZN	**Ezine**	**0.69**	**143**	*e*PG	**Pg**	**22 59 12.2**	**-0.5**
EZN	**Ezine**	**0.69**	**143**	Pg	**Pg**	**22 59 12.4**	**-0.3**
EZN	**Ezine**	**0.69**	**143**	P	**Pg**	**22 59 12.4**	**-0.3**
EZN	**Ezine**	**0.69**	**143**	*e*Pg	**Pg**	**22 59 12.2**	**-0.5**
LPK	**Lapseki**	**0.74**	**90**	*e*PG	**Pg**	**22 59 12.7**	**-1.0**
LPK				*e*SG	**Sg**	**22 59 23.4**	**+0.1**
LPK	**Lapseki**	**0.74**	**90**	Pg	**Pg**	**22 59 12.0**	**-1.6**
LPK	**Lapseki**	**0.74**	**90**	*e*Pg	**Pg**	**22 59 12.7**	**-1.0**
LPK				*e*Sg	**Sg**	**22 59 23.4**	**+0.1**
RDO	**Rodhopi**	**0.79**	**346**	*e*PN	**Pn**	**22 59 14.8**	**-2.1**
RDO				*e*SN	**Sg**	**22 59 26.1**	**+1.1**
RDO	**Rodhopi**	**0.79**	**346**	P	**Pg**	**22 59 15.1**	**+0.4**
RDO				S	**Sg**	**22 59 28.1**	**+3.1**
RDO	**Rodhopi**	**0.79**	**346**	P	**Pg**	**22 59 15.1**	**+0.4**
RDO				S	**Sg**	**22 59 28.1**	**+3.1**
RDO	**Rodhopi**	**0.79**	**346**	*e*Pn	**Pn**	**22 59 14.8**	**-2.1**
RDO	**Rodhopi**	**0.79**	**346**	P	**Pg**	**22 59 15.1**	**+0.4**
RDO				S	**Sg**	**22 59 28.1**	**+3.1**
RKY	**Sarkoy-Tekirda**	**1.10**	**73**	*e*PN	**Pn**	**22 59 19.5**	**-1.6**
RKY				*e*SN	**Sn**	**22 59 35.0**	**-1.5**
RKY	**Sarkoy-Tekirda**	**1.10**	**73**	Pn	**Pn**	**22 59 19.5**	**-1.6**
RKY	**Sarkoy-Tekirda**	**1.10**	**73**	*e*Pn	**Pn**	**22 59 19.5**	**-1.6**
RKY				*e*Sn	**Sn**	**22 59 35.0**	**-1.5**
SART	**Tekirdag**	**1.10**	**73**	⇑*i*P	**Pg**	**22 59 18.4**	**-2.2**
SART				*i* S	**Sg**	**22 59 33.6**	**-1.3**
SART	**Tekirdag**	**1.10**	**73**	*i* P	**Pg**	**22 59 18.4**	**-2.2**
SART				*i* S	**Sg**	**22 59 33.6**	**-1.3**
KRBG	**Karabiga-Canak**	**1.15**	**89**	*e*PN	**Pn**	**22 59 20.7**	**-1.1**
KRBG				*e*SN	**Sn**	**22 59 36.6**	**-1.1**
KRBG	**Karabiga-Canak**	**1.15**	**89**	Pn	**Pn**	**22 59 19.7**	**-2.1**
KRBG	**Karabiga-Canak**	**1.15**	**89**	*e*Pn	**Pn**	**22 59 20.7**	**-1.1**
KRBG				*e*Sn	**Sn**	**22 59 36.6**	**-1.1**
KAVA	**Kavala**	**1.15**	**303**	P	**Pg**	**22 59 21.0**	**-0.6**
KAVA				S	**Sg**	**22 59 39.9**	**+3.4**
KAVA	**Kavala**	**1.15**	**303**	P	**Pg**	**22 59 21.0**	**-0.6**
KAVA				S	**Sg**	**22 59 39.9**	**+3.4**
KAVA	**Kavala**	**1.15**	**303**	P	**Pg**	**22 59 21.0**	**-0.6**
KAVA				S	**Sg**	**22 59 39.9**	**+3.4**
PRK	**Paraskevi**	**1.19**	**162**	*e*PN	**Pn**	**22 59 21.1**	**-1.2**
PRK				*e*SN	**Sn**	**22 59 38.0**	**-0.7**
PRK	**Paraskevi**	**1.19**	**162**	*e*P	**Pb**	**22 59 20.9**	**-1.3**
PRK	**Paraskevi**	**1.19**	**162**	P	**Pb**	**22 59 18.5**	**-3.7**
PRK				S	**Sg**	**22 59 34.0**	**-3.7**
PRK	**Paraskevi**	**1.19**	**162**	P	**Pb**	**22 59 19.3**	**-2.9**
PRK				S	**Sg**	**22 59 34.0**	**-3.7**
PRK	**Paraskevi**	**1.19**	**162**	P	**Pb**	**22 59 19.3**	**-2.9**
PRK				S	**Sg**	**22 59 34.0**	**-3.7**
PRK	**Paraskevi**	**1.19**	**162**	P	**Pb**	**22 59 19.3**	**-2.9**
PRK	**Paraskevi**	**1.19**	**162**	*e*Pn	**Pn**	**22 59 21.1**	**-1.2**
PRK				S	**Sg**	**22 59 34.0**	**-3.7**
PRK				*e*Sn	**Sn**	**22 59 38.0**	**-0.7**
AYVA	**Ayvalik**	**1.27**	**147**	P	**Pn**	**22 59 22.9**	**-0.6**
AYVA				S	**Sb**	**22 59 39.8**	**-0.3**
AYVA	**Ayvalik**	**1.27**	**147**	⇓*i*P	**Pn**	**22 59 22.5**	**-1.0**
AYVA				*i* S	**Sb**	**22 59 39.8**	**-0.3**
AYVA	**Ayvalik**	**1.27**	**147**	P	**Pn**	**22 59 22.9**	**-0.6**
AYVA				S	**Sb**	**22 59 39.8**	**-0.3**
OUR	**Ouranopolis**	**1.38**	**269**	P	**Pn**	**22 59 25.2**	**+0.2**
OUR				S	**Sb**	**22 59 47.1**	**+3.7**
OUR	**Ouranopolis**	**1.38**	**269**	P	**Pn**	**22 59 25.2**	**+0.2**
OUR				S	**Sb**	**22 59 47.1**	**+3.7**
OUR	**Ouranopolis**	**1.38**	**269**	P	**Pn**	**22 59 25.2**	**+0.2**
OUR				S	**Sb**	**22 59 47.1**	**+3.7**
OUR	**Ouranopolis**	**1.38**	**269**	P	**Pn**	**22 59 25.2**	**+0.2**
OUR				S	**Sb**	**22 59 47.1**	**+3.7**
TKR	**Tekirdag**	**1.46**	**65**	*e*PN	**Pn**	**22 59 25.2**	**-0.9**
TKR	**Tekirdag**	**1.46**	**65**	Pn	**Pn**	**22 59 25.5**	**-0.5**
TKR	**Tekirdag**	**1.46**	**65**	Pn	**Pn**	**22 59 25.5**	**-0.6**
GONE	**Gonen-Balikesi**	**1.49**	**102**	*e*PN	**Pn**	**22 59 26.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.49**	**102**	Pn	**Pn**	**22 59 26.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.49**	**102**	Pn	**Pn**	**22 59 26.4**	**0.0**
BALY	**Balya**	**1.54**	**114**	⇓*i*P	**Pn**	**22 59 26.8**	**-0.4**
BALY				*i* S	**Sn**	**22 59 45.6**	**-1.8**
BALY	**Balya**	**1.54**	**114**	*i* P	**Pn**	**22 59 26.8**	**-0.4**
BALY				*i* S	**Sn**	**22 59 45.6**	**-1.7**
EDC	**Edincik**	**1.58**	**90**	*e*PN	**Pn**	**22 59 27.3**	**-0.5**
EDC	**Edincik**	**1.58**	**90**	Pn	**Pn**	**22 59 27.3**	**-0.5**
EDC	**Edincik**	**1.58**	**90**	P	**Pn**	**22 59 27.3**	**-0.5**
EDC	**Edincik**	**1.58**	**90**	*e*Pn	**Pn**	**22 59 27.3**	**-0.5**
BNT	**Bandirma**	**1.63**	**90**	*e*PN	**Pn**	**22 59 27.4**	**-1.0**
BNT	**Bandirma**	**1.63**	**90**	Pn	**Pn**	**22 59 28.6**	**+0.2**
BNT	**Bandirma**	**1.63**	**90**	P	**Pn**	**22 59 28.6**	**+0.3**
BNT	**Bandirma**	**1.63**	**90**	P	**Pn**	**22 59 28.6**	**+0.3**
EDRB	**Edirne**	**1.63**	**26**	*e*PN	**Pn**	**22 59 27.3**	**-1.1**
EDRB	**Edirne**	**1.63**	**26**	Pn	**Pn**	**22 59 27.1**	**-1.4**
EDRB	**Edirne**	**1.63**	**26**	*e*Pn	**Pn**	**22 59 27.3**	**-1.2**
CRLT	**Corlu**	**1.66**	**62**	*e*PN	**Pn**	**22 59 28.1**	**-0.7**
CRLT	**Corlu**	**1.66**	**62**	Pn	**Pn**	**22 59 28.3**	**-0.5**
CRLT	**Corlu**	**1.66**	**62**	Pn	**Pn**	**22 59 28.3**	**-0.5**
PAIG	**Paliouri**	**1.68**	**255**	P	**Pn**	**22 59 28.2**	**-0.9**
PAIG				S	**Sn**	**22 59 54.2**	**+3.4**
PAIG	**Paliouri**	**1.68**	**255**	P	**Pn**	**22 59 28.2**	**-0.9**
PAIG				S	**Sn**	**22 59 54.2**	**+3.4**
PAIG	**Paliouri**	**1.68**	**255**	P	**Pn**	**22 59 28.2**	**-0.9**
PAIG				S	**Sn**	**22 59 54.2**	**+3.4**
PAIG	**Paliouri**	**1.68**	**255**	P	**Pn**	**22 59 28.2**	**-0.9**
PAIG				S	**Sn**	**22 59 54.2**	**+3.4**
NVR	**Nevrokopi**	**1.76**	**304**	*e*PB	**Pb**	**22 59 29.1**	**-2.8**
NVR				*e*SN	**Sn**	**22 59 50.0**	**-2.7**
NVR	**Nevrokopi**	**1.76**	**304**	*e*P	**Pn**	**22 59 29.3**	**-0.9**
NVR	**Nevrokopi**	**1.76**	**304**	P	**Pn**	**22 59 29.8**	**-0.4**
NVR				S	**Sn**	**22 59 56.6**	**+3.9**
NVR	**Nevrokopi**	**1.76**	**304**	P	**Pn**	**22 59 29.8**	**-0.4**
NVR				S	**Sn**	**22 59 56.6**	**+3.9**
NVR	**Nevrokopi**	**1.76**	**304**	*e*Pb	**Pb**	**22 59 29.4**	**-2.5**
NVR	**Nevrokopi**	**1.76**	**304**	P	**Pn**	**22 59 29.8**	**-0.4**
NVR				*e*Sn	**Sn**	**22 59 49.9**	**-2.8**
NVR				S	**Sn**	**22 59 56.6**	**+3.9**
PLG	**Polygyros**	**1.79**	**271**	*e*PB	**Pn**	**22 59 29.5**	**-1.1**
PLG				*e*SN	**Sn**	**22 59 50.6**	**-3.0**
PLG	**Polygyros**	**1.79**	**271**	*e*P	**Pn**	**22 59 29.5**	**-1.1**
PLG	**Polygyros**	**1.79**	**271**	P	**Pn**	**22 59 30.6**	**0.0**
PLG				S	**Sn**	**22 59 57.4**	**+3.8**
PLG	**Polygyros**	**1.79**	**271**	P	**Pn**	**22 59 30.6**	**0.0**
PLG				S	**Sn**	**22 59 57.4**	**+3.8**
PLG	**Polygyros**	**1.79**	**271**	P	**Pn**	**22 59 30.6**	**0.0**
PLG				S	**Sn**	**22 59 57.4**	**+3.8**
PLG	**Polygyros**	**1.79**	**271**	*e*Pb	**Pn**	**22 59 29.5**	**-1.1**
PLG	**Polygyros**	**1.79**	**271**	P	**Pn**	**22 59 30.6**	**0.0**
PLG				*e*Sn	**Sn**	**22 59 50.6**	**-3.0**
PLG				S	**Sn**	**22 59 57.4**	**+3.8**
SRS	**Serrai**	**1.83**	**295**	P	**Pn**	**22 59 30.4**	**-0.7**
SRS	**Serrai**	**1.83**	**295**	P	**Pn**	**22 59 30.4**	**-0.7**
SRS	**Serrai**	**1.83**	**295**	P	**Pn**	**22 59 30.4**	**-0.7**
SRS	**Serrai**	**1.83**	**295**	P	**Pn**	**22 59 30.4**	**-0.7**
AOS	**Alonnisos**	**1.91**	**231**	P	**Pn**	**22 59 31.9**	**-0.3**
AOS				S	**Sn**	**23 00 01.7**	**+5.4**
AOS	**Alonnisos**	**1.91**	**231**	P	**Pn**	**22 59 35.0**	**+2.8**
AOS	**Alonnisos**	**1.91**	**231**	P	**Pn**	**22 59 31.9**	**-0.3**
SOH	**Sokhos**	**1.91**	**284**	*e*PB	**Pb**	**22 59 31.4**	**-3.1**
SOH				*e*SN	**Sn**	**22 59 54.0**	**-2.4**
SOH	**Sokhos**	**1.91**	**284**	P	**Pn**	**22 59 31.5**	**-0.7**
SOH				S	**Sn**	**23 00 00.4**	**+4.0**
SOH	**Sokhos**	**1.91**	**284**	P	**Pn**	**22 59 31.5**	**-0.7**
SOH				S	**Sn**	**23 00 00.4**	**+4.0**
SOH	**Sokhos**	**1.91**	**284**	P	**Pn**	**22 59 31.5**	**-0.7**
SOH				S	**Sn**	**23 00 00.4**	**+4.0**
SOH	**Sokhos**	**1.91**	**284**	P	**Pn**	**22 59 31.5**	**-0.7**
SOH				*e*Sn	**Sn**	**22 59 54.0**	**-2.4**
SOH				S	**Sn**	**23 00 00.4**	**+4.0**
PLD	**Plovdiv**	**1.91**	**335**	P	**Pn**	**22 59 32.7**	**+0.4**
PLD				S	**Sn**	**23 00 00.1**	**+3.6**
PLD	**Plovdiv**	**1.91**	**335**	P	**Pn**	**22 59 32.7**	**+0.4**
PLD	**Plovdiv**	**1.91**	**335**	P	**Pn**	**22 59 32.7**	**+0.4**
PLD	**Plovdiv**	**1.91**	**335**	P	**Pn**	**22 59 32.7**	**+0.4**
PLD				S	**Sn**	**23 00 00.1**	**+3.6**
KCTX	**Karacabey (Bur**	**1.96**	**92**	*e*PN	**Pn**	**22 59 32.3**	**-0.7**
KCTX	**Karacabey (Bur**	**1.96**	**92**	*e*Pn	**Pn**	**22 59 32.3**	**-0.7**
CHOS	**Chios island**	**2.00**	**174**	*e*PN	**Pn**	**22 59 32.7**	**-0.8**
CHOS				*e*SN	**Sn**	**22 59 56.5**	**-2.2**
CHOS	**Chios island**	**2.00**	**174**	P	**Pn**	**22 59 31.0**	**-2.5**
CHOS				S	**Sn**	**22 59 57.2**	**-1.5**
CHOS	**Chios island**	**2.00**	**174**	P	**Pn**	**22 59 31.0**	**-2.5**
CHOS	**Chios island**	**2.00**	**174**	*e*Pn	**Pn**	**22 59 32.7**	**-0.8**
CHOS				*e*Sn	**Sn**	**22 59 56.5**	**-2.2**
CHOS				S	**Sn**	**22 59 57.2**	**-1.5**
SLVT	**Silivri**	**2.02**	**64**	*e*PN	**Pn**	**22 59 33.0**	**-0.8**
SLVT	**Silivri**	**2.02**	**64**	Pn	**Pn**	**22 59 32.8**	**-1.0**
SLVT	**Silivri**	**2.02**	**64**	*e*Pn	**Pn**	**22 59 33.0**	**-0.8**
HORT	**Hortiatis**	**2.06**	**277**	P	**Pn**	**22 59 33.7**	**-0.7**
HORT				S	**Sn**	**23 00 03.0**	**+2.7**
HORT	**Hortiatis**	**2.06**	**277**	P	**Pn**	**22 59 33.7**	**-0.7**
HORT				S	**Sn**	**23 00 03.0**	**+2.7**
HORT	**Hortiatis**	**2.06**	**277**	P	**Pn**	**22 59 33.7**	**-0.7**
HORT				S	**Sn**	**23 00 03.0**	**+2.7**
ELBA	**Catalca**	**2.15**	**68**	⇑*i*P	**Pn**	**22 59 33.0**	**-2.5**
ELBA	**Catalca**	**2.15**	**68**	*i* P	**Pn**	**22 59 33.0**	**-2.5**
SKIA	**Skiathos**	**2.16**	**237**	P	**Pn**	**22 59 33.6**	**-2.1**
SKIA				S	**Sn**	**23 00 09.4**	**+6.7**
SKIA	**Skiathos**	**2.16**	**237**	P	**Pn**	**22 59 33.6**	**-2.1**
JMB	**Yambol**	**2.17**	**16**	P	**Pn**	**22 59 34.1**	**-1.7**
JMB				S	**Sn**	**23 00 02.1**	**-0.8**
JMB	**Yambol**	**2.17**	**16**	P	**Pn**	**22 59 34.1**	**-1.7**
JMB				S	**Sn**	**23 00 02.1**	**-0.8**
JMB	**Yambol**	**2.17**	**16**	P	**Pn**	**22 59 34.1**	**-1.7**
JMB				S	**Sn**	**23 00 02.1**	**-0.8**
JMB	**Yambol**	**2.17**	**16**	P	**Pn**	**22 59 34.1**	**-1.7**
JMB				S	**Sn**	**23 00 02.1**	**-0.8**
THE	**Thessaloniki**	**2.17**	**278**	P	**Pn**	**22 59 36.3**	**+0.5**
THE				S	**Sn**	**23 00 07.0**	**+4.1**
THE	**Thessaloniki**	**2.17**	**278**	P	**Pn**	**22 59 36.3**	**+0.5**
THE				S	**Sn**	**23 00 07.0**	**+4.1**
THE	**Thessaloniki**	**2.17**	**278**	P	**Pn**	**22 59 36.3**	**+0.5**
THE				S	**Sn**	**23 00 07.0**	**+4.1**
THE	**Thessaloniki**	**2.17**	**278**	P	**Pn**	**22 59 36.3**	**+0.5**
THE				S	**Sn**	**23 00 07.0**	**+4.1**
CTYL	**Yal??k??y-??at**	**2.19**	**59**	*e*PN	**Pn**	**22 59 34.9**	**-1.2**
CTYL	**Yal??k??y-??at**	**2.19**	**59**	Pn	**Pn**	**22 59 35.0**	**-1.1**
CTYL	**Yal??k??y-??at**	**2.19**	**59**	Pn	**Pn**	**22 59 35.0**	**-1.1**
DURS	**Dursunbey**	**2.20**	**110**	⇓*i*P	**Pn**	**22 59 35.8**	**-0.5**
DURS	**Dursunbey**	**2.20**	**110**	*i* P	**Pn**	**22 59 35.8**	**-0.5**
BLCB	**Balcova**	**2.21**	**154**	*e*PN	**Pn**	**22 59 36.4**	**0.0**
BLCB	**Balcova**	**2.21**	**154**	Pn	**Pn**	**22 59 36.4**	**0.0**
BLCB	**Balcova**	**2.21**	**154**	*e*Pn	**Pn**	**22 59 36.4**	**0.0**
CTKS	**Kestanelik-??a**	**2.23**	**67**	*e*PN	**Pn**	**22 59 36.0**	**-0.7**
CTKS	**Kestanelik-??a**	**2.23**	**67**	Pn	**Pn**	**22 59 36.4**	**-0.3**
CTKS	**Kestanelik-??a**	**2.23**	**67**	Pn	**Pn**	**22 59 36.4**	**-0.3**
XOR	**Xorichti**	**2.24**	**244**	P	**Pn**	**22 59 34.7**	**-2.1**
XOR	**Xorichti**	**2.24**	**244**	P	**Pn**	**22 59 36.0**	**-0.8**
XOR	**Xorichti**	**2.24**	**244**	P	**Pn**	**22 59 36.0**	**-0.8**
NEO	**Neokhori**	**2.25**	**242**	*e*PN	**Pn**	**22 59 35.3**	**-1.6**
NEO				*e*SN	**Sn**	**23 00 02.4**	**-2.4**
NEO	**Neokhori**	**2.25**	**242**	*e*P	**Pn**	**22 59 34.6**	**-2.3**
NEO	**Neokhori**	**2.25**	**242**	P	**Pn**	**22 59 36.5**	**-0.4**
NEO	**Neokhori**	**2.25**	**242**	P	**Pn**	**22 59 36.5**	**-0.4**
NEO	**Neokhori**	**2.25**	**242**	*e*Pn	**Pn**	**22 59 35.0**	**-1.9**
NEO	**Neokhori**	**2.25**	**242**	P	**Pn**	**22 59 36.5**	**-0.4**
KNT	**Kendrikon**	**2.33**	**291**	P	**Pn**	**22 59 37.8**	**-0.3**
KNT				S	**Sn**	**23 00 10.3**	**+3.4**
KNT	**Kendrikon**	**2.33**	**291**	P	**Pn**	**22 59 37.8**	**-0.3**
KNT				S	**Sn**	**23 00 10.3**	**+3.4**
KNT	**Kendrikon**	**2.33**	**291**	P	**Pn**	**22 59 37.8**	**-0.3**
KNT				S	**Sn**	**23 00 10.3**	**+3.4**
KNT	**Kendrikon**	**2.33**	**291**	P	**Pn**	**22 59 37.8**	**-0.3**
KNT				S	**Sn**	**23 00 10.3**	**+3.4**
ARMT	**Armutlu**	**2.35**	**84**	*e*PN	**Pn**	**22 59 37.9**	**-0.3**
ARMT	**Armutlu**	**2.35**	**84**	Pn	**Pn**	**22 59 36.4**	**-1.9**
ARMT	**Armutlu**	**2.35**	**84**	*e*Pn	**Pn**	**22 59 37.9**	**-0.4**
MDNY	**Mudanya-Bursa**	**2.36**	**89**	*e*PN	**Pn**	**22 59 39.1**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.36**	**89**	Pn	**Pn**	**22 59 39.1**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.36**	**89**	*e*Pn	**Pn**	**22 59 39.1**	**+0.6**
MRKA	**Markates**	**2.39**	**226**	P	**Pn**	**22 59 37.4**	**-1.4**
MRKA	**Markates**	**2.39**	**226**	P	**Pn**	**22 59 37.4**	**-1.4**
BGKT	**Bogazkoy**	**2.40**	**70**	*e*PN	**Pn**	**22 59 39.1**	**+0.1**
BGKT	**Bogazkoy**	**2.40**	**70**	Pn	**Pn**	**22 59 39.1**	**+0.1**
BGKT	**Bogazkoy**	**2.40**	**70**	*e*Pn	**Pn**	**22 59 39.1**	**+0.1**
ERET	**Eretria**	**2.47**	**219**	P	**Pn**	**22 59 38.5**	**-1.5**
ERET	**Eretria**	**2.47**	**219**	P	**Pn**	**22 59 38.5**	**-1.5**
SMIA	**Simia**	**2.49**	**234**	P	**Pn**	**22 59 39.3**	**-1.0**
SMIA	**Simia**	**2.49**	**234**	P	**Pn**	**22 59 39.3**	**-1.0**
LIT	**Litokhoron**	**2.54**	**265**	*e*PN	**Pn**	**22 59 39.8**	**-1.2**
LIT	**Litokhoron**	**2.54**	**265**	P	**Pn**	**22 59 39.4**	**-1.6**
LIT	**Litokhoron**	**2.54**	**265**	P	**Pn**	**22 59 40.0**	**-1.0**
LIT	**Litokhoron**	**2.54**	**265**	P	**Pn**	**22 59 40.0**	**-1.0**
LIT	**Litokhoron**	**2.54**	**265**	P	**Pn**	**22 59 40.0**	**-1.0**
ISK	**Istanbul-Kandi**	**2.58**	**73**	*e*PN	**Pn**	**22 59 41.3**	**-0.1**
ISK	**Istanbul-Kandi**	**2.58**	**73**	Pn	**Pn**	**22 59 38.8**	**-2.7**
ISK	**Istanbul-Kandi**	**2.58**	**73**	P	**Pn**	**22 59 38.8**	**-2.6**
ISK	**Istanbul-Kandi**	**2.58**	**73**	P	**Pn**	**22 59 38.8**	**-2.6**
ISK	**Istanbul-Kandi**	**2.58**	**73**	*e*Pn	**Pn**	**22 59 41.3**	**-0.1**
GEMT	**Gemlik**	**2.59**	**88**	*e*PN	**Pn**	**22 59 41.1**	**-0.6**
GEMT	**Gemlik**	**2.59**	**88**	Pn	**Pn**	**22 59 41.1**	**-0.6**
GEMT	**Gemlik**	**2.59**	**88**	*e*Pn	**Pn**	**22 59 41.1**	**-0.6**
KLYT	**Kilyos**	**2.62**	**69**	*e*PN	**Pn**	**22 59 41.7**	**-0.2**
KLYT	**Kilyos**	**2.62**	**69**	Pn	**Pn**	**22 59 41.1**	**-0.9**
KLYT	**Kilyos**	**2.62**	**69**	*e*Pn	**Pn**	**22 59 41.7**	**-0.3**
DEMI	**Demirci**	**2.62**	**120**	⇓*i*P	**Pn**	**22 59 41.3**	**-0.7**
DEMI	**Demirci**	**2.62**	**120**	*i* P	**Pn**	**22 59 41.3**	**-0.7**
VAY	**Valandovo**	**2.62**	**292**	*e*Pn	**Pn**	**22 59 41.3**	**-0.7**
VAY				*e*Pg	**Pg**	**22 59 48.0**	**-1.6**
VAY				*e*Sn	**Sg**	**23 00 24.6**	**+1.0**
VAY	**Valandovo**	**2.62**	**292**	*e*Pn	**Pn**	**22 59 41.2**	**-0.8**
GRG	**Griva**	**2.64**	**284**	P	**Pn**	**22 59 42.5**	**+0.2**
GRG				S	**Sn**	**23 00 19.4**	**+4.8**
GRG	**Griva**	**2.64**	**284**	P	**Pn**	**22 59 42.5**	**+0.2**
GRG				S	**Sn**	**23 00 19.4**	**+4.8**
GRG	**Griva**	**2.64**	**284**	P	**Pn**	**22 59 42.5**	**+0.2**
GRG				S	**Sn**	**23 00 19.4**	**+4.8**
GRG	**Griva**	**2.64**	**284**	P	**Pn**	**22 59 42.5**	**+0.2**
ATAL	**Atalanti**	**2.73**	**233**	P	**Pn**	**22 59 43.7**	**+0.2**
ATAL	**Atalanti**	**2.73**	**233**	P	**Pn**	**22 59 43.7**	**+0.2**
ATAL	**Atalanti**	**2.73**	**233**	P	**Pn**	**22 59 43.7**	**+0.2**
YLV	**Yalova**	**2.74**	**85**	*e*PN	**Pn**	**22 59 44.4**	**+0.7**
YLV	**Yalova**	**2.74**	**85**	*e*Pn	**Pn**	**22 59 44.4**	**+0.8**
LKR	**Lokris**	**2.77**	**232**	*e*PN	**Pn**	**22 59 42.6**	**-1.4**
LKR	**Lokris**	**2.77**	**232**	*e*P	**Pn**	**22 59 42.3**	**-1.7**
LKR	**Lokris**	**2.77**	**232**	P	**Pn**	**22 59 43.8**	**-0.2**
LKR	**Lokris**	**2.77**	**232**	P	**Pn**	**22 59 43.8**	**-0.2**
LKR	**Lokris**	**2.77**	**232**	*e*Pn	**Pn**	**22 59 42.6**	**-1.4**
LKR	**Lokris**	**2.77**	**232**	P	**Pn**	**22 59 43.8**	**-0.2**
PTL	**Penteli**	**2.77**	**213**	*e*PN	**Pn**	**22 59 43.3**	**-0.7**
PTL	**Penteli**	**2.77**	**213**	*e*P	**Pn**	**22 59 43.1**	**-0.9**
PTL	**Penteli**	**2.77**	**213**	P	**Pn**	**22 59 43.0**	**-1.0**
PTL	**Penteli**	**2.77**	**213**	P	**Pn**	**22 59 43.0**	**-1.0**
PTL	**Penteli**	**2.77**	**213**	P	**Pn**	**22 59 43.0**	**-1.0**
PTL	**Penteli**	**2.77**	**213**	*e*Pn	**Pn**	**22 59 43.5**	**-0.5**
SMG	**Samos**	**2.79**	**163**	*e*PN	**Pn**	**22 59 43.7**	**-0.6**
SMG	**Samos**	**2.79**	**163**	*e*P	**Pn**	**22 59 43.6**	**-0.7**
SMG	**Samos**	**2.79**	**163**	P	**Pn**	**22 59 43.6**	**-0.7**
SMG	**Samos**	**2.79**	**163**	*e*Pn	**Pn**	**22 59 43.7**	**-0.6**
ATH	**Athens Observa**	**2.89**	**215**	*e*PN	**Pn**	**22 59 44.4**	**-1.4**
ATH	**Athens Observa**	**2.89**	**215**	*e*P	**Pn**	**22 59 44.4**	**-1.4**
ATH	**Athens Observa**	**2.89**	**215**	P	**Pn**	**22 59 44.4**	**-1.4**
ATH				S	**Sn**	**23 00 21.6**	**+0.9**
ATH	**Athens Observa**	**2.89**	**215**	P	**Pn**	**22 59 44.4**	**-1.4**
ATH				S	**Sn**	**23 00 21.6**	**+0.9**
ATH	**Athens Observa**	**2.89**	**215**	P	**Pn**	**22 59 44.4**	**-1.4**
ATH				S	**Sn**	**23 00 21.6**	**+0.9**
ATH	**Athens Observa**	**2.89**	**215**	P	**Pn**	**22 59 44.4**	**-1.4**
ATH				S	**Sn**	**23 00 21.6**	**+0.9**
KULA	**Kula-Manisa**	**2.90**	**129**	*e*PN	**Pn**	**22 59 46.5**	**+0.6**
KULA	**Kula-Manisa**	**2.90**	**129**	*e*Pn	**Pn**	**22 59 46.5**	**+0.7**
VIL1	**Vilia, Western**	**2.92**	**222**	*e*PN	**Pn**	**22 59 45.0**	**-1.2**
VTS	**Vitosha**	**2.94**	**320**	*i* Pn	**Pn**	**22 59 54.9**	**+8.4**
VTS				*i* Sg	**Sg**	**23 00 35.2**	**+1.3**
VTS	**Vitosha**	**2.94**	**320**	P	**Pn**	**22 59 46.5**	**0.0**
VTS				S	**Sn**	**23 00 26.3**	**+4.4**
VTS	**Vitosha**	**2.94**	**320**	P	**Pn**	**22 59 47.2**	**+0.7**
VTS				S	**Sn**	**23 00 26.3**	**+4.4**
VTS	**Vitosha**	**2.94**	**320**	P	**Pn**	**22 59 47.2**	**+0.7**
VTS				S	**Sn**	**23 00 26.3**	**+4.4**
VTS	**Vitosha**	**2.94**	**320**	⇑*i*P	**Pn**	**22 59 47.3**	**+0.8**
VTS	**Vitosha**	**2.94**	**320**	P	**Pn**	**22 59 46.5**	**0.0**
VTS				S	**Sn**	**23 00 26.3**	**+4.4**
VTS				*i* Sg	**Sg**	**23 00 35.2**	**+1.3**
VLY	**Voula,Athens**	**2.96**	**212**	*e*PN	**Pn**	**22 59 45.4**	**-1.3**
VLY	**Voula,Athens**	**2.96**	**212**	P	**Pn**	**22 59 45.2**	**-1.5**
VLY	**Voula,Athens**	**2.96**	**212**	P	**Pn**	**22 59 45.5**	**-1.2**
VLY	**Voula,Athens**	**2.96**	**212**	*e*Pn	**Pn**	**22 59 45.2**	**-1.5**
VLY	**Voula,Athens**	**2.96**	**212**	P	**Pn**	**22 59 45.5**	**-1.2**
HRT	**Hereke**	**2.98**	**80**	*e*PN	**Pn**	**22 59 46.5**	**-0.6**
HRT	**Hereke**	**2.98**	**80**	*e*Pn	**Pn**	**22 59 46.5**	**-0.5**
AGG	**Agios Georgios**	**2.99**	**244**	*e*PN	**Pn**	**22 59 46.0**	**-1.2**
AGG	**Agios Georgios**	**2.99**	**244**	P	**Pn**	**22 59 46.6**	**-0.6**
AGG	**Agios Georgios**	**2.99**	**244**	P	**Pn**	**22 59 46.6**	**-0.6**
AGG	**Agios Georgios**	**2.99**	**244**	P	**Pn**	**22 59 46.6**	**-0.6**
AGG	**Agios Georgios**	**2.99**	**244**	*e*Pn	**Pn**	**22 59 46.0**	**-1.2**
AGG	**Agios Georgios**	**2.99**	**244**	P	**Pn**	**22 59 46.6**	**-0.6**
ADVT	**Abdulvahap**	**3.01**	**88**	*e*PN	**Pn**	**22 59 46.7**	**-0.7**
ADVT	**Abdulvahap**	**3.01**	**88**	Pn	**Pn**	**22 59 46.7**	**-0.7**
ADVT	**Abdulvahap**	**3.01**	**88**	*e*Pn	**Pn**	**22 59 46.7**	**-0.7**
THL	**Klokotos Trika**	**3.02**	**256**	*e*PN	**Pn**	**22 59 46.2**	**-1.2**
THL	**Klokotos Trika**	**3.02**	**256**	P	**Pn**	**22 59 46.3**	**-1.1**
THL	**Klokotos Trika**	**3.02**	**256**	P	**Pn**	**22 59 46.3**	**-1.1**
SILT	**Sile**	**3.02**	**74**	*e*PN	**Pn**	**22 59 47.2**	**-0.4**
SILT	**Sile**	**3.02**	**74**	Pn	**Pn**	**22 59 47.2**	**-0.4**
SILT	**Sile**	**3.02**	**74**	*e*Pn	**Pn**	**22 59 47.2**	**-0.4**
KZN	**Kozani**	**3.08**	**270**	*e*PN	**Pn**	**22 59 47.8**	**-0.5**
KZN	**Kozani**	**3.08**	**270**	*e*P	**Pn**	**22 59 47.8**	**-0.5**
KZN	**Kozani**	**3.08**	**270**	P	**Pn**	**22 59 48.4**	**+0.1**
KZN	**Kozani**	**3.08**	**270**	P	**Pn**	**22 59 48.4**	**+0.1**
KZN	**Kozani**	**3.08**	**270**	P	**Pn**	**22 59 48.4**	**+0.1**
KZN	**Kozani**	**3.08**	**270**	*e*Pn	**Pn**	**22 59 47.8**	**-0.5**
KZN	**Kozani**	**3.08**	**270**	P	**Pn**	**22 59 48.4**	**+0.1**
CAVI	**Cavuskoy**	**3.10**	**92**	*e*PN	**Pn**	**22 59 49.1**	**+0.5**
CAVI	**Cavuskoy**	**3.10**	**92**	*e*Pn	**Pn**	**22 59 49.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**3.14**	**245**	P	**Pn**	**22 59 48.4**	**-0.7**
MAKR	**Makrakomi, Fth**	**3.14**	**245**	P	**Pn**	**22 59 48.4**	**-0.7**
MAKR	**Makrakomi, Fth**	**3.14**	**245**	P	**Pn**	**22 59 48.4**	**-0.7**
AYDN	**Tasoluk**	**3.16**	**148**	⇓*i*P	**Pn**	**22 59 48.9**	**-0.6**
AYDN	**Tasoluk**	**3.16**	**148**	*i* P	**Pn**	**22 59 48.9**	**-0.6**
NAIG	**Nisos Aigina**	**3.17**	**215**	*e*PN	**Pn**	**22 59 48.6**	**-1.0**
NAIG	**Nisos Aigina**	**3.17**	**215**	*e*Pn	**Pn**	**22 59 48.6**	**-1.0**
DESF	**Desfina**	**3.20**	**233**	P	**Pn**	**22 59 50.1**	**+0.1**
DESF	**Desfina**	**3.20**	**233**	P	**Pn**	**22 59 50.1**	**+0.1**
ZIMR		**3.29**	**355**	P	**Pn**	**22 59 52.1**	**+0.8**
ZIMR		**3.29**	**355**	P	**Pn**	**22 59 52.1**	**+0.8**
ZIMR		**3.29**	**355**	⇓*i*P	**Pn**	**22 59 52.2**	**+0.9**
APE	**Apeiranthos**	**3.31**	**184**	*e*PN	**Pn**	**22 59 52.8**	**+1.3**
APE	**Apeiranthos**	**3.31**	**184**	*e*PN	**Pn**	**22 59 50.7**	**-0.8**
APE	**Apeiranthos**	**3.31**	**184**	P	**Pn**	**22 59 50.3**	**-1.2**
APE	**Apeiranthos**	**3.31**	**184**	Pn	**Pn**	**22 59 49.7**	**-1.8**
APE	**Apeiranthos**	**3.31**	**184**	P	**Pn**	**22 59 49.7**	**-1.8**
APE	**Apeiranthos**	**3.31**	**184**	P	**Pn**	**22 59 50.3**	**-1.2**
THAL	**Thalero**	**3.37**	**227**	P	**Pn**	**22 59 51.4**	**-1.0**
THAL	**Thalero**	**3.37**	**227**	P	**Pn**	**22 59 51.4**	**-1.0**
FNA	**Florina**	**3.39**	**278**	P	**Pn**	**22 59 52.2**	**-0.4**
FNA	**Florina**	**3.39**	**278**	P	**Pn**	**22 59 52.2**	**-0.4**
FNA	**Florina**	**3.39**	**278**	P	**Pn**	**22 59 52.2**	**-0.4**
EVR	**Evrytania**	**3.40**	**246**	*e*PN	**Pn**	**22 59 52.2**	**-0.6**
EVR	**Evrytania**	**3.40**	**246**	*e*P	**Pn**	**22 59 51.9**	**-0.9**
EVR	**Evrytania**	**3.40**	**246**	P	**Pn**	**22 59 52.3**	**-0.5**
EVR	**Evrytania**	**3.40**	**246**	P	**Pn**	**22 59 52.3**	**-0.5**
EVR	**Evrytania**	**3.40**	**246**	P	**Pn**	**22 59 52.3**	**-0.5**
SPNC	**Sapanca-Adapaz**	**3.46**	**83**	*e*PN	**Pn**	**22 59 54.0**	**+0.4**
SPNC	**Sapanca-Adapaz**	**3.46**	**83**	Pn	**Pn**	**22 59 56.1**	**+2.6**
SPNC	**Sapanca-Adapaz**	**3.46**	**83**	*e*Pn	**Pn**	**22 59 54.0**	**+0.5**
BIA	**Bitola**	**3.46**	**282**	*e*Pn	**Pn**	**22 59 53.4**	**-0.1**
BIA	**Bitola**	**3.46**	**282**	*e*Pn	**Pn**	**22 59 53.3**	**-0.2**
KALE	**Kalithea**	**3.46**	**236**	P	**Pn**	**22 59 52.5**	**-1.0**
KALE	**Kalithea**	**3.46**	**236**	P	**Pn**	**22 59 52.5**	**-1.0**
KALE	**Kalithea**	**3.46**	**236**	P	**Pn**	**22 59 52.5**	**-1.0**
TRIZ	**Trizonia**	**3.51**	**236**	P	**Pn**	**22 59 54.6**	**+0.3**
TRIZ	**Trizonia**	**3.51**	**236**	P	**Pn**	**22 59 54.6**	**+0.3**
DIDY	**Didyma**	**3.53**	**216**	P	**Pn**	**22 59 52.7**	**-1.8**
DIDY	**Didyma**	**3.53**	**216**	P	**Pn**	**22 59 52.7**	**-1.8**
MEV	**Metsovon**	**3.55**	**262**	P	**Pn**	**22 59 55.3**	**+0.5**
MEV	**Metsovon**	**3.55**	**262**	P	**Pn**	**22 59 55.3**	**+0.5**

MEV	Metsovon	3.55 262	P	Pn	22 59 55.3	+0.5
KRUS	Krusevo	3.58 288	*e*Pn	Pn	22 59 55.0	-0.2
KRUS	Krusevo	3.58 288	*e*Pn	Pn	22 59 55.0	-0.3
GULT	Gulveren	3.61 88	*e*PN	Pn	22 59 56.5	+0.9
GULT	Gulveren	3.61 88	Pn	Pn	22 59 56.5	+0.9
GULT	Gulveren	3.61 88	*e*Pn	Pn	22 59 56.5	+0.9
NEST	Nestorio	3.62 272	P	Pn	22 59 56.2	+0.4
NEST	Nestorio	3.62 272	P	Pn	22 59 56.2	+0.4
DENT	Denizli	3.64 135	*e*PN	Pn	22 59 56.0	0.0
DENT	Denizli	3.64 135	Pn	Pn	22 59 56.0	0.0
DENT	Denizli	3.64 135	*e*Pn	Pn	22 59 56.0	0.0
LAKA	Lakka	3.65 235	P	Pn	22 59 55.5	-0.7
LAKA	Lakka	3.65 235	P	Pn	22 59 55.5	-0.7
LAKA	Lakka	3.65 235	P	Pn	22 59 55.5	-0.7
SKO	Skopje	3.65 297	*e*Pn	Pn	22 59 57.3	+1.1
SKO			*e*Pg	Pg	23 00 09.2	-0.1
SKO	Skopje	3.65 297	*e*Pn	Pn	22 59 57.2	+1.0
ZAPS	Zavoj	3.73 322	⇓*i*Pn	Pn	22 59 59.1	+1.8
ZAPS			*i* Sg	Sg	23 01 02.4	+3.1
YER	Yerkesik	3.78 148	*e*PN	Pn	22 59 58.4	+0.5
YER	Yerkesik	3.78 148	Pn	Pn	22 59 58.4	+0.5
YER	Yerkesik	3.78 148	P	Pn	22 59 58.4	+0.5
YER	Yerkesik	3.78 148	*e*Pn	Pn	22 59 58.4	+0.5
KBN	Korca	3.82 275	*e*PN	Pn	23 00 01.7	+3.1
KBN			*i* SN	Sg	23 01 03.0	+0.8
KBN	Korca	3.82 275	*e*Pn	Pn	23 00 01.7	+3.1
BARS	Barje	3.85 311	⇓*i*Pn	Pn	22 59 59.6	+0.7
BARS			*i* Sg	Sg	23 01 05.2	+2.1
BARS	Barje	3.85 311	⇓*i*Pn	Pn	22 59 59.6	+0.7
BARS			*i* Sg	Sg	23 01 05.2	+2.1
JAN	Janina	3.86 261	*e*PN	Pn	22 59 59.0	-0.1
JAN	Janina	3.86 261	P	Pn	22 59 59.9	+0.8
JAN	Janina	3.86 261	P	Pn	22 59 59.9	+0.8
JAN	Janina	3.86 261	*e*Pn	Pn	22 59 59.3	+0.2
JAN	Janina	3.86 261	P	Pn	22 59 59.9	+0.8
DAT	Datca	3.90 158	*e*PN	Pn	23 00 00.3	+0.6
DAT	Datca	3.90 158	*e*Pn	Pn	23 00 00.3	+0.6
ESKT	Eskisehir	3.98 101	*e*PN	Pn	23 00 01.4	+0.7
ESKT	Eskisehir	3.98 101	Pn	Pn	23 00 01.4	+0.7
ESKT	Eskisehir	3.98 101	*e*Pn	Pn	23 00 01.4	+0.7
MANR	Mangalia	4.02 30	⇓*i*P	Pn	23 00 00.6	-0.6
MANR	Mangalia	4.02 30	⇓*i*P	Pn	23 00 00.6	-0.6
CIOR	Ciorogarla	4.07 1	⇑*i*P	Pn	23 00 02.0	+0.1
CIOR	Ciorogarla	4.07 1	⇑*i*P	Pn	23 00 02.0	+0.1
RLS	Riolos of Patr	4.08 237	*e*PN	Pn	23 00 02.2	+0.1
RLS	Riolos of Patr	4.08 237	P	Pn	23 00 02.5	+0.4
RLS	Riolos of Patr	4.08 237	P	Pn	23 00 02.5	+0.4
RLS	Riolos of Patr	4.08 237	*e*Pn	Pn	23 00 02.2	+0.1
RLS	Riolos of Patr	4.08 237	P	Pn	23 00 02.5	+0.4
MDUB	Mudurnu	4.13 87	*e*PN	Pn	23 00 02.4	-0.3
MDUB	Mudurnu	4.13 87	Pn	Pn	23 00 02.4	-0.3
MDUB	Mudurnu	4.13 87	*e*Pn	Pn	23 00 02.4	-0.3
HUMR	Humele	4.19 352	⇓*i*P	Pn	23 00 03.5	-0.1
HUMR	Humele	4.19 352	⇓*i*P	Pn	23 00 03.5	-0.1
CRAR	CRAIOVA	4.21 340	⇑P	Pn	23 00 03.5	-0.4
CRAR	CRAIOVA	4.21 340	⇑*i*P	Pn	23 00 03.5	-0.4
CRAR	CRAIOVA	4.21 340	P	Pn	23 00 03.5	-0.4
PHP	Peshkopia	4.25 290	*e*PN	Pn	23 00 04.3	-0.2
PHP			*i* SN	Sg	23 01 28.7	+13
PHP	Peshkopia	4.25 290	*e*Pn	Pn	23 00 04.3	-0.2
CVD	Cernavoda	4.27 22	P	Pn	23 00 04.7	0.0
CVD	Cernavoda	4.27 22	⇑P	Pn	23 00 04.7	0.0
CVD	Cernavoda	4.27 22	⇑*i*P	Pn	23 00 04.7	0.0
CVD	Cernavoda	4.27 22	P	Pn	23 00 04.7	0.0
LKD2	Lefkada island	4.27 250	P	Pn	23 00 05.1	+0.4
LKD2	Lefkada island	4.27 250	P	Pn	23 00 05.1	+0.4
LKD2	Lefkada island	4.27 250	P	Pn	23 00 05.1	+0.4
IGT	Igoumenitsa	4.28 260	P	Pn	23 00 06.0	+1.2
IGT	Igoumenitsa	4.28 260	P	Pn	23 00 06.0	+1.2
IGT	Igoumenitsa	4.28 260	P	Pn	23 00 06.0	+1.2
IGT	Igoumenitsa	4.28 260	P	Pn	23 00 06.0	+1.2
VLI	Veliai	4.29 212	*e*PN	Pn	23 00 04.1	-0.8
VLI	Veliai	4.29 212	P	Pn	23 00 03.8	-1.1
VLI	Veliai	4.29 212	P	Pn	23 00 03.8	-1.1
VLI	Veliai	4.29 212	P	Pn	23 00 03.8	-1.1
SULR		4.31 4	P	Pn	23 00 03.9	-1.4
SULR		4.31 4	⇓*i*P	Pn	23 00 03.9	-1.4
SULR		4.31 4	P	Pn	23 00 03.9	-1.4
GLHS	Gihisar (BURDU	4.33 137	*e*PN	Pn	23 00 06.5	+1.0
GLHS	Gihisar (BURDU	4.33 137	Pn	Pn	23 00 06.5	+1.0
GLHS	Gihisar (BURDU	4.33 137	*e*Pn	Pn	23 00 06.5	+1.0
AMRR	Amara	4.38 15	P	Pn	23 00 06.8	+0.6
AMRR	Amara	4.38 15	⇓P	Pn	23 00 06.8	+0.6
AMRR	Amara	4.38 15	⇓*i*P	Pn	23 00 06.8	+0.6
AMRR	Amara	4.38 15	P	Pn	23 00 06.8	+0.6
KDZE	Karadeniz Ereo	4.39 76	*e*PN	Pn	23 00 06.8	+0.5
KDZE	Karadeniz Ereo	4.39 76	*e*Pn	Pn	23 00 06.8	+0.5
ITM	Ithomi	4.40 225	*e*PN	Pn	23 00 06.7	+0.3
ITM	Ithomi	4.40 225	P	Pn	23 00 06.5	+0.1
ITM	Ithomi	4.40 225	P	Pn	23 00 06.5	+0.1
ITM	Ithomi	4.40 225	P	Pn	23 00 06.5	+0.1
SRN	Sarande	4.47 265	*e*PN	Pn	23 00 07.6	+0.2
SRN			*i* SN	Sg	23 01 35.4	+13
SRN	Sarande	4.47 265	*e*Pn	Pn	23 00 07.6	+0.2
BOLS	Boljevac	4.48 322	⇓*i*Pn	Pn	23 00 06.6	-0.9
BOLS			*i* Sg	Sg	23 01 22.0	-1.2
BOLS	Boljevac	4.48 322	⇓*i*Pn	Pn	23 00 06.6	-0.9
ISP	Isparta	4.48 123	*e*PN	Pn	23 00 09.0	+1.4
ISP	Isparta	4.48 123	*e*Pn	Pn	23 00 07.9	+0.3
ISP			*e*Sn	Sn	23 01 00.8	+1.0
ISP	Isparta	4.48 123	*e*P	Pn	23 00 07.9	+0.3
ISP			*e*		23 01 00.8	
ISP	Isparta	4.48 123	⇑*i*P	Pn	23 00 08.0	+0.4
ISP	Isparta	4.48 123	*e*P	Pn	23 00 07.9	+0.3
ISP			*e*S	Sn	23 01 00.8	+1.0
SELS	Selova	4.50 311	⇑*i*Pn	Pn	23 00 07.8	-0.1
SELS			*i* Sg	Sg	23 01 26.6	+2.7
SELS	Selova	4.50 311	⇑*i*Pn	Pn	23 00 07.8	-0.1
SELS			*i* Sg	Sg	23 01 26.6	+2.7
SVRH	Sivrihisar-ESK	4.50 100	*e*PN	Pn	23 00 08.2	+0.2
SVRH	Sivrihisar-ESK	4.50 100	Pn	Pn	23 00 08.2	+0.2
SVRH	Sivrihisar-ESK	4.50 100	*e*Pn	Pn	23 00 08.2	+0.3
TIRR	Tirgusor	4.51 25	*e*Pn	Pn	23 00 07.4	-0.6
TIRR			*e*Sn	Sn	23 01 00.3	-0.4
TIRR	Tirgusor	4.51 25	*e*P	Pn	23 00 07.4	-0.7
TIRR			*e*		23 01 00.3	
TIRR	Tirgusor	4.51 25	⇑*i*P	Pn	23 00 08.4	+0.3
TIRR	Tirgusor	4.51 25	*e*P	Pn	23 00 07.4	-0.7
TIRR			*e*S	Sn	23 01 00.3	-0.4
ARG	Arkhangelos	4.54 155	*e*PN	Pn	23 00 08.9	+0.4
ARG	Arkhangelos	4.54 155	P	Pn	23 00 05.8	-2.7
ARG	Arkhangelos	4.54 155	P	Pn	23 00 05.8	-2.7
ARG	Arkhangelos	4.54 155	P	Pn	23 00 05.8	-2.7
ARG	Arkhangelos	4.54 155	P	Pn	23 00 05.8	-2.7
ARG	Arkhangelos	4.54 155	*e*Pn	Pn	23 00 08.9	+0.4
VLS	Valsamata	4.60 243	*e*PN	Pn	23 00 09.8	+0.6
VLS	Valsamata	4.60 243	P	Pn	23 00 11.1	+1.9
VLS	Valsamata	4.60 243	P	Pn	23 00 11.1	+1.9
VLS	Valsamata	4.60 243	*e*Pn	Pn	23 00 09.8	+0.6
VLS	Valsamata	4.60 243	P	Pn	23 00 11.1	+1.9
TIR	Tirane	4.60 284	*e*PN	Pn	23 00 12.3	+3.1
TIR			*i* SN	Sg	23 01 33.5	+6.4
TIR	Tirane	4.60 284	*e*Pn	Pn	23 00 10.7	+1.5
TIR			*e*Sn	Sn	23 01 02.6	-0.2
TIR	Tirane	4.60 284	*e*P	Pn	23 00 10.7	+1.5
TIR			*e*		23 01 02.6	
TIR	Tirane	4.60 284	*e*P	Pn	23 00 10.7	+1.5
TIR			*e*S	Sn	23 01 02.6	-0.2
PGOR	Pogoanele	4.61 11	⇓*i*P	Pn	23 00 10.6	+1.2
PGOR	Pogoanele	4.61 11	⇓*i*P	Pn	23 00 10.6	+1.2
KYTH	Kithira	4.63 209	*e*PN	Pn	23 00 09.1	-0.5
KYTH	Kithira	4.63 209	*e*Pn	Pn	23 00 09.1	-0.5
KEK	Kerkira	4.65 264	*e*PN	Pn	23 00 09.7	-0.2
KEK	Kerkira	4.65 264	P	Pn	23 00 11.2	+1.3
KEK	Kerkira	4.65 264	P	Pn	23 00 11.2	+1.3
KEK	Kerkira	4.65 264	*e*Pn	Pn	23 00 09.7	-0.2
KEK	Kerkira	4.65 264	P	Pn	23 00 11.2	+1.3
BCK	Bucak	4.74 126	*e*PN	Pn	23 00 13.2	+2.0
BCK	Bucak	4.74 126	Pn	Pn	23 00 13.2	+2.0
BCK	Bucak	4.74 126	P	Pn	23 00 13.2	+2.0
BCK	Bucak	4.74 126	*e*Pn	Pn	23 00 13.2	+2.0
BCI	Bajram Curri	4.74 297	*e*PN	Pn	23 00 11.4	+0.2
BCI			*i* SN	Sg	23 01 39.3	+7.6
BCI	Bajram Curri	4.74 297	*e*Pn	Pn	23 00 11.4	+0.2
PUK	Puka	4.75 292	*e*PN	Pn	23 00 11.6	+0.3
PUK			*i* SN	Sg	23 01 43.0	+11
PUK	Puka	4.75 292	*e*Pn	Pn	23 00 11.6	+0.3
ISR	Istrita	4.77 6	P	Pn	23 00 12.4	+0.8
ISR	Istrita	4.77 6	P	Pn	23 00 13.3	+1.7
ISR	Istrita	4.77 6	⇓*i*P	Pn	23 00 12.5	+0.9
ISR	Istrita	4.77 6	P	Pn	23 00 12.4	+0.8
ELL	Elmali	4.85 137	*e*PN	Pn	23 00 14.2	+1.5
ELL	Elmali	4.85 137	Pn	Pn	23 00 14.2	+1.5
ELL	Elmali	4.85 137	P	Pn	23 00 14.2	+1.5
ELL	Elmali	4.85 137	*e*Pn	Pn	23 00 14.2	+1.5
RMGR	Halanga-Turnu	4.86 333	⇑*i*P	Pn	23 00 13.0	+0.3
RMGR	Halanga-Turnu	4.86 333	⇑*i*P	Pn	23 00 13.0	+0.3
PVY	Plav	4.91 299	⇑*i*Pn	Pn	23 00 14.3	+0.8
PVY			*e*Sn	Sn	23 01 10.3	-0.1
PVY	Plav	4.91 299	⇑*i*Pn	Pn	23 00 14.3	+0.8
PVY			*e*Sn	Sn	23 01 10.3	-0.1
DJES	Djerdap	4.92 332	⇑*i*Pn	Pn	23 00 13.0	-0.6
DJES			*i* Sg	Sg	23 01 35.4	-2.0
DJES	Djerdap	4.92 332	P	Pn	23 00 12.2	-1.4
KIZT	Kizilcal	4.93 106	*e*PN	Pn	23 00 14.7	+0.9
KIZT	Kizilcal	4.93 106	Pn	Pn	23 00 14.7	+0.9
KIZT	Kizilcal	4.93 106	*e*Pn	Pn	23 00 14.7	+0.9
KARP	Karpathos	4.94 167	*e*PN	Pn	23 00 13.6	-0.4
KARP	Karpathos	4.94 167	P	Pn	23 00 11.9	-2.1
KARP	Karpathos	4.94 167	P	Pn	23 00 11.9	-2.1
KARP	Karpathos	4.94 167	P	Pn	23 00 11.9	-2.1
KARP	Karpathos	4.94 167	*e*Pn	Pn	23 00 13.6	-0.4
IVA	Berane	5.07 301	⇓*i*Pn	Pn	23 00 16.6	+0.9
IVA			*e*Sn	Sn	23 01 14.5	+0.1
BEY	Berane	5.08 301	⇓*i*Pn	Pn	23 00 16.6	+0.8
BEY			*e*Sn	Sn	23 01 14.5	0.0
CFR	Carcaliu	5.10 19	P	Pn	23 00 15.8	-0.3
CFR	Carcaliu	5.10 19	⇑P	Pn	23 00 15.8	-0.3
CFR	Carcaliu	5.10 19	⇑*i*P	Pn	23 00 15.8	-0.3
CFR	Carcaliu	5.10 19	P	Pn	23 00 15.8	-0.3
NPS	Neapolis	5.11 182	*e*PN	Pn	23 00 15.5	-0.7
NPS	Neapolis	5.11 182	P	Pn	23 00 18.0	+1.8
NPS	Neapolis	5.11 182	P	Pn	23 00 18.0	+1.8
NPS	Neapolis	5.11 182	*e*Pn	Pn	23 00 15.3	-0.9
NPS	Neapolis	5.11 182	P	Pn	23 00 18.0	+1.8
MLR	Muntele Rosu	5.11 1	Pn	Pn	23 00 17.2	+0.9
	2.8nm,0.3s,baz=162,slow=4.2,SNR=34					
MLR			Sn	Sn	23 01 16.7	+1.3
	13nm,0.3s,baz=146,slow=14,SNR=4.6					
MLR			Lg		23 01 44.9	
	9.4nm,0.3s,baz=226,slow=15,SNR=5.3					
MLR	Muntele Rosu	5.11 1	Pn	Pn	23 00 17.1	+0.9
MLR			Sn	Sn	23 01 16.7	+1.3
MLR			Lg		23 01 44.9	
MLR	Muntele Rosu	5.11 1	⇑P	Pn	23 00 17.2	+1.0
MLR	Muntele Rosu	5.11 1	⇑*i*P	Pn	23 00 17.2	+1.0
MLR	Muntele Rosu	5.11 1	Pn	Pn	23 00 17.1	+0.9
MLR			Sn	Sn	23 01 16.7	+1.3
ANTB	Antalya	5.15 131	*e*PN	Pn	23 00 18.5	+1.7
ANTB	Antalya	5.15 131	*e*Pn	Pn	23 00 18.5	+1.7
GRUS	Gruza	5.15 315	⇓*i*Pn	Pn	23 00 17.0	+0.2
GRUS	Gruza	5.15 315	⇓*i*Pn	Pn	23 00 17.0	+0.2
SVIS	Svilajnac	5.16 320	⇓*i*Pn	Pn	23 00 16.4	-0.5
ULC	Ulcinj	5.19 290	⇓*i*Pn	Pn	23 00 17.2	-0.1
ULC			*e*Sn	Sn	23 01 16.3	-1.0
ULC	Ulcinj	5.19 290	⇓*i*Pn	Pn	23 00 17.2	-0.1
ULC			*e*Sn	Sn	23 01 16.3	-1.0
SJES	Sjenica	5.21 305	*i* Pn	Pn	23 00 17.3	-0.4
LOT	Lotru	5.28 344	P	Pn	23 00 18.4	-0.2
LOT	Lotru	5.28 344	⇓*i*P	Pn	23 00 18.4	-0.2
LOT	Lotru	5.28 344	P	Pn	23 00 18.4	-0.2
SAFT	Safranbolu	5.30 78	*e*PN	Pn	23 00 20.1	+1.2
SAFT	Safranbolu	5.30 78	Pn	Pn	23 00 18.9	0.0
SAFT	Safranbolu	5.30 78	Pn	Pn	23 00 18.9	0.0
SARR	Saratov	5.30 78	pmax	pmax		
	comp=Z,97nm,1.1s					
TTG	Podgorica	5.32 295	⇓*i*Pn	Pn	23 00 20.1	+0.9
TTG			*e*Sn	Sn	23 01 19.6	-1.0
PDG	Podgorica	5.33 295	⇓*i*Pn	Pn	23 00 20.1	+0.9
PDG			*e*Sn	Sn	23 01 19.6	-1.1
LOD	Lodumlu	5.37 93	*e*PN	Pn	23 00 20.5	+0.8
LOD	Lodumlu	5.37 93	Pn	Pn	23 00 20.5	+0.8
LOD	Lodumlu	5.37 93	*e*Pn	Pn	23 00 20.5	+0.7
PETR		5.45 11	P	Pn	23 00 21.8	+1.0
PETR		5.45 11	⇑*i*P	Pn	23 00 21.9	+1.1
PETR		5.45 11	P	Pn	23 00 21.8	+1.0
GZR	Gura Zlata	5.48 337	P	Pn	23 00 21.3	0.0
GZR	Gura Zlata	5.48 337	P	Pn	23 00 21.4	+0.1
GZR	Gura Zlata	5.48 337	⇓*i*P	Pn	23 00 21.3	0.0
GZR	Gura Zlata	5.48 337	P	Pn	23 00 21.3	0.0
PLOR	Plostina	5.51 6	⇑P	Pn	23 00 22.8	+1.1
PLOR	Plostina	5.51 6	⇑*i*P	Pn	23 00 22.8	+1.1
PLOR	Plostina	5.51 6	P	Pn	23 00 22.8	+1.1
VRI	Vrincioaia	5.53 7	P	Pn	23 00 23.0	+1.0
VRI	Vrincioaia	5.53 7	P	Pn	23 00 23.0	+1.0
VRI	Vrincioaia	5.53 7	⇑*i*P	Pn	23 00 23.1	+1.1
VRI	Vrincioaia	5.53 7	P	Pn	23 00 23.0	+1.0
BUM	Brajici-Budva	5.54 293	⇑*i*Pn	Pn	23 00 22.4	+0.3
BUM			*e*Sn	Sn	23 01 24.8	-1.1
BUM	Brajici-Budva	5.54 293	⇑*i*Pn	Pn	23 00 22.4	+0.3
BUM			*e*Sn	Sn	23 01 24.8	-1.1
LADK	Ladik-KONYA	5.54 111	*e*PN	Pn	23 00 24.2	+2.0
LADK	Ladik-KONYA	5.54 111	Pn	Pn	23 00 24.2	+2.0
LADK	Ladik-KONYA	5.54 111	*e*Pn	Pn	23 00 24.2	+2.0
PLE	Pljevlja	5.62 304	⇑*i*Pn	Pn	23 00 24.2	+1.0
PLE			*e*Sn	Sn	23 01 26.9	-1.0
PLE	Pljevlja	5.62 304	⇑*i*Pn	Pn	23 00 24.2	+1.0
PLE			*e*Sn	Sn	23 01 26.9	-1.0
NKY	Niksic	5.65 298	⇓*i*Pn	Pn	23 00 24.2	+0.6
NKY			*e*Sn	Sn	23 01 27.7	-0.9
NKY	Niksic	5.65 298	⇓*i*Pn	Pn	23 00 24.2	+0.6
NKY			*e*Sn	Sn	23 01 27.7	-0.9
KONT	Konya--Tatoy	5.65 113	*e*PN	Pn	23 00 25.6	+1.9
KONT	Konya--Tatoy	5.65 113	Pn	Pn	23 00 25.6	+1.9
KONT	Konya--Tatoy	5.65 113	*e*Pn	Pn	23 00 25.6	+1.9
AFSR	Af´ar-Bala (A	5.67 97	*e*PN	Pn	23 00 25.5	+1.6
AFSR	Af´ar-Bala (A	5.67 97	*e*Pn	Pn	23 00 25.5	+1.5
DIVS	Divibare	5.69 313	⇓*i*Pn	Pn	23 00 24.0	-0.2
DIVS	Divibare	5.69 313	⇓*i*Pn	Pn	23 00 24.0	-0.2
MDB	Medias	5.85 350	P	Pn	23 00 26.8	+0.4
MDB	Medias	5.85 350	P	Pn	23 00 26.8	+0.4
MDB	Medias	5.85 350	⇓*i*P	Pn	23 00 26.9	+0.5
MDB	Medias	5.85 350	P	Pn	23 00 26.8	+0.4
HCY	Herceg Novi	5.86 293	⇑*i*Pn	Pn	23 00 27.3	+0.7
HCY			*e*Sn	Sn	23 01 33.5	-0.5
HCY	Herceg Novi	5.86 293	⇑*i*Pn	Pn	23 00 27.3	+0.7
HCY			*e*Sn	Sn	23 01 33.5	-0.5
UPM	Unac-Piva	5.87 301	⇑*i*Pn	Pn	23 00 27.7	+1.0
UPM			*e*Sn	Sn	23 01 33.5	-0.6
UPM	Unac-Piva	5.87 301	⇑*i*Pn	Pn	23 00 27.7	+1.0
UPM			*e*Sn	Sn	23 01 33.5	-0.6
DEV	Deva	5.89 340	P	Pn	23 00 27.3	+0.3
DEV	Deva	5.89 340	⇑P	Pn	23 00 27.3	+0.3
DEV	Deva	5.89 340	⇑*i*P	Pn	23 00 27.3	+0.3
DEV	Deva	5.89 340	P	Pn	23 00 27.3	+0.3
CANT	Cankiri	5.97 85	*e*PN	Pn	23 00 28.9	+0.8
CANT	Cankiri	5.97 85	Pn	Pn	23 00 28.9	+0.8
BRY	Bratogost	5.99 297	⇑*i*Pn	Pn	23 00 29.6	+1.3
BRY			*e*Sn	Sn	23 01 36.0	-1.1
BRY	Bratogost	5.99 297	⇑*i*Pn	Pn	23 00 29.6	+1.3
BRY			*e*Sn	Sn	23 01 36.0	-1.1
BR131	Keskin Array S	6.06 94	*e*Pn	Pn	23 00 29.0	-0.2
	comp=Z,29nm,0.4s					
BR131			*e*Sn	Sn	23 01 34.0	-4.7
BR131	Keskin Array S	6.06 94	*e*Pn	Pn	23 00 29.0	-0.2
	comp=Z,29nm,0.4s					
BRTR	Keskin Array B	6.06 94	Pn	Pn	23 00 29.0	-0.2
	comp=Z,14nm,0.3s,baz=267,slow=12,SNR=121					
BRTR			Sn	Sn	23 01 36.9	-1.8
	comp=Z,12nm,0.3s,baz=78,slow=16,SNR=3.3					
BRTR			Lg		23 02 12.6	
	baz=274,slow=17,SNR=3.6					
BRTR	Keskin Array B	6.06 94	Pn	Pn	23 00 29.0	-0.2
BRTR			Sn	Sn	23 01 36.9	-1.8
BRTR			Lg		23 02 12.6	
BRTR	Keskin Array B	6.06 94	*ce*P	Pn	23 00 22.7	-6.5
BRTR			pmax	pmax		
	comp=Z,2.0nm,0.3s					
BRTR	Keskin Array B	6.06 94	Pn	Pn	23 00 29.0	-0.2
BRTR			Sn	Sn	23 01 36.9	-1.8
BZS	Buzias	6.06 331	⇓*i*Pn	Pn	23 00 29.0	-0.3
BZS			*i* Sg	Sg	23 02 11.3	-2.8
BZS	Buzias	6.06 331	P	Pn	23 00 28.2	-1.1
BZS	Buzias	6.06 331	⇓P	Pn	23 00 28.3	-1.0
BZS	Buzias	6.06 331	⇓*i*P	Pn	23 00 28.3	-1.0
BZS	Buzias	6.06 331	P	Pn	23 00 28.3	-1.0
BZS			*i* Sg	Sg	23 02 11.3	-2.8
PPE	Popeni	6.07 14	⇑*i*P	Pn	23 00 22.7	-6.6
TESR		6.16 6	P	Pn	23 00 31.4	+0.7
TESR		6.16 6	⇑*i*P	Pn	23 00 31.4	+0.7
TESR		6.16 6	P	Pn	23 00 31.4	+0.7
KAMT	Kaman	6.18 97	*e*PN	Pn	23 00 32.5	+1.6
KAMT	Kaman	6.18 97	Pn	Pn	23 00 31.5	+0.6
KAMT	Kaman	6.18 97	Pn	Pn	23 00 31.5	+0.6
HDMB	Hadim	6.25 121	*e*PN	Pn	23 00 33.9	+2.0
HDMB	Hadim	6.25 121	Pn	Pn	23 00 33.9	+2.0
HDMB	Hadim	6.25 121	*e*Pn	Pn	23 00 33.9	+2.0
TOS	Tosya	6.29 81	*e*PN	Pn	23 00 33.9	+1.5
TOS	Tosya	6.29 81	Pn	Pn	23 00 33.9	+1.5
TOS	Tosya	6.29 81	*e*Pn	Pn	23 00 33.9	+1.5
TIM	Timisoara	6.32 330	P	Pn	23 00 32.7	-0.1
TIM	Timisoara	6.32 330	⇑P	Pn	23 00 32.7	-0.1
TIM	Timisoara	6.32 330	⇑*i*P	Pn	23 00 32.7	-0.1
TIM	Timisoara	6.32 330	P	Pn	23 00 32.7	-0.1
LEOM	Leova	6.35 16	⇓P	Pn	23 00 33.2	0.0
LEOM	Leova	6.35 16	⇓*i*P	Pn	23 00 33.2	0.0
LEOM	Leova	6.35 16	P	Pn	23 00 33.2	0.0
PE1	Pezze di Greco	6.38 277	*e*Pn	Pn	23 00 33.4	-0.4
BZK	Bozkurt	6.39 73	*e*PN	Pn	23 00 35.6	+1.8
BZK	Bozkurt	6.39 73	Pn	Pn	23 00 34.6	+0.7
BZK	Bozkurt	6.39 73	Pn	Pn	23 00 34.6	+0.7
TAR1	Taranto	6.49 274	*e*Pn	Pn	23 00 34.2	-1.0
CORM	Corum	6.76 89	*e*PN	Pn	23 00 41.5	+2.6
CORM	Corum	6.76 89	*e*Pn	Pn	23 00 41.5	+2.6
DRGR		6.79 342	P	Pn	23 00 38.7	-0.6
DRGR		6.79 342	P	Pn	23 00 38.7	-0.6
DRGR		6.79 342	⇑*i*P	Pn	23 00 38.8	-0.5
DRGR		6.79 342	P	Pn	23 00 38.7	-0.6
BAI	Bari	6.81 279	*e*Pn	Pn	23 00 39.0	-0.6
IAS	Iasi	6.93 10	P	Pn	23 00 40.9	-0.3
IAS	Iasi	6.93 10	P	Pn	23 00 40.9	-0.3
IAS	Iasi	6.93 10	⇑*i*P	Pn	23 00 41.0	-0.2
IAS	Iasi	6.93 10	P	Pn	23 00 40.9	-0.3
KIS	Kishinev	6.97 17	*i* P	Pn	23 00 41.0	-0.8
	comp=Z,700nm,1.3s					
KIS			*i* S	Sn	23 01 59.0	-2.2
KIS			LRM		23 05 20.0	
	comp=Z,5μm,10.0s					
KIS	Kishinev	6.97 17	P	Pn	23 00 41.4	-0.4
KIS	Kishinev	6.97 17	⇑*i*P	Pn	23 00 41.0	-0.8
KIS			*i* S	Sn	23 01 59.0	-2.2
KIS			pmax	pmax		
	comp=Z,720nm,1.3s					
KIS			pmax	pmax		
	comp=N,960nm,1.4s					
KIS			pmax	pmax		
	comp=E,350nm,1.4s					
KIS			MLR	MLR		
	comp=Z,5μm,7.0s					
KIS			MLR	MLR		
	comp=N,8μm,9.0s					
KIS			MLR	MLR		
	comp=E,10μm,10.0s					
KIS			MLR	MLR		
	comp=Z,5μm,10.0s					
KIS	K

comp=E,188nm,0.4s
FEO smax
comp=N,23nm,0.3s
FEO Feodosiya 8.45 54 *e*P **Pn 23 01 00.6 -1.5**
comp=N,42nm,0.3s
CEYT Ceyhan 8.48 110 *e*PN **Pn 23 01 03.3 +0.8**
CEYT Ceyhan 8.48 110 Pn **Pn 23 01 03.3 +0.8**
CEYT Ceyhan 8.48 110 *e*Pn **Pn 23 01 03.3 +0.8**
BUD Budapest 8.62 328⇑ *e*Pn **Pn 23 01 03.7 -0.6**
BUD Budapest 8.62 328⇑ *e*P **Pn 23 01 03.7 -0.6**
UZH Uzhgorod 8.62 344 *e*P **Pn 23 01 04.3 -0.1**
UZH *e*S **Sn 23 02 42.3 +0.6**
UZH MLR MLR
comp=N,10μm,8.0s
UZH MLR MLR
comp=Z,5μm,8.0s
UZH Uzhgorod 8.62 344 *e*P **Pn 23 01 04.3 -0.1**
UZH *e*S **Sn 23 02 42.3 +0.6**
PSZ Piszkesteto 8.65 333 *e*Pn **Pn 23 01 03.5 -1.3**
PSZ *e*Sn **Sn 23 02 39.1 -3.2**
PSZ Piszkesteto 8.65 333⇑ P **Pn 23 01 03.8 -0.9**
PSZ Piszkesteto 8.65 333⇓ *e*Sn **Pn 23 01 03.4 -1.3**
PSZ *e* **Sn 23 02 35.1 -7.3**
PSZ Piszkesteto 8.65 333⇑ *i*P **Pn 23 01 03.8 -0.9**
PSZ Piszkesteto 8.65 333 *e*Pn **Pn 23 01 03.5 -1.2**
PSZ Piszkesteto 8.65 333 P **Pn 23 01 03.8 -0.9**
RSDY Resadiye-TOKAT 8.80 86 *e*PN **Pn 23 01 07.7 +0.7**
RSDY Resadiye-TOKAT 8.80 86 Pn **Pn 23 01 07.7 +0.7**
RSDY Resadiye-TOKAT 8.80 86 *e*Pn **Pn 23 01 07.7 +0.8**
PKSG 8.81 325⇓ *e*P **Pn 23 01 06.8 -0.2**
KOLS Kolonicke sedl 8.91 345 *e*P **Pn 23 01 09.7 +1.3**
KOLS Kolonicke sedl 8.91 345 *e*PN **Pn 23 01 09.7 +1.3**
KOLS *e* 23 03 53.0
KOLS Kolonicke sedl 8.91 345 *e*P **Pn 23 01 09.7 +1.3**
KECS Kecovo 8.95 337 P **Pn 23 01 09.3 +0.4**
KECS Kecovo 8.95 337 *e*P **Pn 23 01 09.2 +0.3**
KECS *e* 23 02 43.8
KECS Kecovo 8.95 337 *e*PN **Pn 23 01 09.2 +0.3**
KECS *e*SN **Sn 23 02 43.8 -5.9**
KECS Kecovo 8.95 337 *e*P **Pn 23 01 09.2 +0.3**
BEHE Becsehely 8.95 316⇓ *e*P **Pn 23 01 09.0 +0.1**
CRVS Cervenica-Dubn 9.06 342 P **Pn 23 01 11.6 +1.1**
CRVS Cervenica-Dubn 9.06 342 *e*P **Pn 23 01 10.1 -0.4**
CRVS Cervenica-Dubn 9.06 342 *e*PN **Pn 23 01 10.1 -0.4**
CRVS Cervenica-Dubn 9.06 342 *e*P **Pn 23 01 10.1 -0.4**
NVLJ Novalja 9.09 301 P **Pn 23 01 11.6 +0.8**
NVLJ Novalja 9.09 301 *i*P **Pn 23 01 11.6 +0.8**
GCIS Gornji Cirnik 9.23 310 P **Pn 23 01 13.4 +0.6**
GCIS Gornji Cirnik 9.23 310 P **Pn 23 01 13.4 +0.6**
KERU Kerch 9.25 54 *e*P Px 23 01 30.3
BOJS Bojanci 9.27 307 *e*Pn **Pn 23 01 15.3 +2.0**
BOJS Bojanci 9.27 307 P **Pn 23 01 15.6 +2.3**
BOJS Bojanci 9.27 307 P **Pn 23 01 15.6 +2.3**
CRES Cresnjev 9.31 309 P **Pn 23 01 15.0 +1.1**
CRES Cresnjev 9.31 309 P **Pn 23 01 15.0 +1.1**
GAZ Gaziantep 9.47 106 *e*PN **Pn 23 01 17.4 +1.2**
GAZ Gaziantep 9.47 106 Pn **Pn 23 01 17.4 +1.2**
GAZ Gaziantep 9.47 106 *e*Pn **Pn 23 01 17.4 +1.3**
DOBS Dobrina 9.48 311 *e*Pn **Pn 23 01 16.6 +0.4**
DOBS Dobrina 9.48 311 P **Pn 23 01 16.4 +0.2**
DOBS Dobrina 9.48 311 P **Pn 23 01 16.4 +0.2**
KWP Kalwaria Pacla 9.51 348 *e*P **Pn 23 01 18.5 +2.0**
KWP LMZ 23 05 12.0
comp=Z,8μm,14.9s
KWP Kalwaria Pacla 9.51 348 P **Pn 23 01 16.6 +0.1**
KWP Kalwaria Pacla 9.51 348 P **Pn 23 01 16.6 +0.1**
KWP Kalwaria Pacla 9.51 348⇑ *i*P **Pn 23 01 16.7 +0.2**
KWP Kalwaria Pacla 9.51 348 P **Pn 23 01 16.6 +0.1**
VYHS Vyhne 9.51 331 P **Pn 23 01 15.6 -1.0**
VYHS Vyhne 9.51 331 P **Pn 23 01 15.6 -1.0**
VYHS Vyhne 9.51 331 *e*PN **Pn 23 01 15.3 -1.3**
VYHS Vyhne 9.51 331 *e*Pn **Pn 23 01 15.3 -1.3**
VYHS Vyhne 9.51 331 P **Pn 23 01 15.6 -1.0**
LVV L'vov 9.52 353 *e*P **Pn 23 01 20.8 +4.1**
LVV *e*S **Sn 23 03 10.7 +6.8**
LVV MLR MLR
comp=Z,4μm,10.0s
AQU L'Aquila 9.52 286 *e*Pn **Pn 23 01 16.8 0.0**
AQU L'Aquila 9.52 286 ⇓P **Pn 23 01 17.4 +0.6**
AQU L'Aquila 9.52 286 ⇓*i*P **Pn 23 01 17.4 +0.6**
AQU L'Aquila 9.52 286 *e*Pn **Pn 23 01 16.8 0.0**
AQU L'Aquila 9.52 286 P **Pn 23 01 17.4 +0.6**
STHS Stebnicka Huta 9.59 342 *e*P **Pn 23 01 19.4 +1.7**
STHS Stebnicka Huta 9.59 342 *e*PN **Pn 23 01 19.4 +1.7**
STHS Stebnicka Huta 9.59 342 *e*P **Pn 23 01 19.4 +1.7**
GROS Grobnik 9.64 312 *e*Pn **Pn 23 01 18.8 +0.4**
GROS Grobnik 9.64 312 P **Pn 23 01 18.2 -0.2**
GROS Grobnik 9.64 312 P **Pn 23 01 18.2 -0.2**
ANN Anapa 9.65 59 P **Pn 23 01 16.8 -1.8**
ANN Anapa 9.65 59 *e*P **Pn 23 01 15.5 -3.1**
ANN *e*S **Sn 23 03 00.9 -6.2**
ANN pmax pmax
comp=Z,64nm,1.1s
ANN Anapa 9.65 59 P **Pn 23 01 16.8 -1.8**
VISS Visnje 9.67 308 P **Pn 23 01 19.7 +0.9**
VISS Visnje 9.67 308 P **Pn 23 01 19.7 +0.9**
KOLL Kolacno 9.75 330 P **Pn 23 01 19.9 +0.1**
KOLL Kolacno 9.75 330 P **Pn 23 01 19.9 +0.1**
KOLL Kolacno 9.75 330 *e*PN **Pn 23 01 18.8 -1.0**
KOLL *e*SN **Sn 23 03 04.1 -5.3**
KOLL Kolacno 9.75 330 *e*Pn **Pn 23 01 18.8 -1.0**
KOLL Kolacno 9.75 330 P **Pn 23 01 19.9 +0.1**
NIE Niedzica 9.84 339 *e*P **Pn 23 01 22.2 +1.1**
NIE *e*S **Sn 23 03 12.0 +0.4**
NIE Niedzica 9.84 339 P **Pn 23 01 22.4 +1.3**
NIE Niedzica 9.84 339 *e*P **Pn 23 01 22.2 +1.1**
NIE *e*S **Sn 23 03 12.0 +0.4**
NIE Niedzica 9.84 339 *e*P **Pn 23 01 22.2 +1.1**
NIE *e*S **Sn 23 03 12.0 +0.4**
ILIC ilic-Erzincan 9.86 91 *e*PN **Pn 23 01 21.7 +0.3**
ILIC ilic-Erzincan 9.86 91 *e*Pn **Pn 23 01 21.7 +0.3**
SOP Sopron 9.87 321 P **Pn 23 01 21.9 +0.4**
SOP Sopron 9.87 321 P **Pn 23 01 21.9 +0.4**
SOP Sopron 9.87 321⇓ *e*Pn **Pn 23 01 22.0 +0.5**
SOP Sopron 9.87 321 P **Pn 23 01 21.9 +0.4**
LIKS Likavka 9.89 334 *e*P **Pn 23 01 22.2 +0.5**
LIKS Likavka 9.89 334 *e*PN **Pn 23 01 22.2 +0.5**
LIKS Likavka 9.89 334 *e*P **Pn 23 01 22.2 +0.5**
CEY Cerknica 9.89 307 P **Pn 23 01 22.8 +1.0**
CEY Cerknica 9.89 307 P **Pn 23 01 22.8 +1.0**
WDD Wield Dalam 9.95 247 *e*Pn **Pn 23 01 21.5 -1.2**
WDD Wield Dalam 9.95 247 *e*Pn **Pn 23 01 21.5 -1.2**
LJU Ljubljana 9.98 308 P **Pn 23 01 25.6 +2.6**
LJU Ljubljana 9.98 308 P **Pn 23 01 25.6 +2.6**
MYA Malataya 10.00 98 *e*PN **Pn 23 01 24.0 +0.7**
MYA Malataya 10.00 98 Pn **Pn 23 01 24.0 +0.7**
MYA Malataya 10.00 98 P **Pn 23 01 24.0 +0.7**
MYA Malataya 10.00 98 *e*Pn **Pn 23 01 24.0 +0.7**
SOKA Soboth 10.03 312⇓ *i*Pn **Pn 23 01 23.5 -0.2**
SOKA Soboth 10.03 312⇓ *i*Pn **Pn 23 01 23.5 -0.2**
SOKA Soboth 10.03 312⇓ *i*Pn **Pn 23 01 23.5 -0.2**
SMOL Smolenice 10.09 326 *e*P **Pn 23 01 23.9 -0.6**
SMOL *e* 23 03 13.4
SMOL Smolenice 10.09 326 *e*PN **Pn 23 01 23.8 -0.7**
SMOL *e*SN **Sn 23 03 13.4 -4.4**
SMOL Smolenice 10.09 326 *e*P **Pn 23 01 23.9 -0.6**
ARSA Arzberg 10.11 316 *i* Pn **Pn 23 01 24.5 -0.3**
SNR=28
ARSA Arzberg 10.11 316 P **Pn 23 01 25.0 +0.2**
ARSA Arzberg 10.11 316 Pn **Pn 23 01 24.5 -0.3**
SNR=28
ARSA Arzberg 10.11 316 P **Pn 23 01 25.0 +0.2**
HWQ Hawqa 10.12 124 *e*P **Pn 23 01 28.4 +3.4**
BHL Bhannes 10.18 126 *e*P **Pn 23 01 33.2 +7.4**
JAVS Javornik 10.19 307 P **Pn 23 01 27.7 +1.8**
JAVS Javornik 10.19 307 P **Pn 23 01 27.7 +1.8**
JAVC Velka Javorina 10.26 328 P **Pn 23 01 28.1 +1.2**
JAVC Velka Javorina 10.26 328 P **Pn 23 01 28.1 +1.2**
JAVC Velka Javorina 10.26 328 P **Pn 23 01 28.1 +1.2**
TRI Trieste 10.29 305 *e*Pn **Pn 23 01 26.8 -0.4**
TRI Trieste 10.29 305 *e*P **Pn 23 01 26.8 -0.4**
TRI Trieste 10.29 305 *e*P **Pn 23 01 26.8 -0.4**
VOY Vojsko 10.36 307 *e*Pn **Pn 23 01 28.1 -0.1**
VOY *e* 23 01 29.5
VOY *e* 23 01 36.9
VOY *e* 23 01 43.3
VOJS Vojsko 10.36 307 P **Pn 23 01 30.4 +2.1**
VOJS Vojsko 10.36 307 P **Pn 23 01 30.4 +2.1**
CONA Conrad Observa 10.38 320 *i* Pn **Pn 23 01 28.5 0.0**
SNR=15
CONA Conrad Observa 10.38 320 *i* Pn **Pn 23 01 28.5 0.0**
GORS Gorjuse 10.44 309 P **Pn 23 01 29.8 +0.5**
GORS Gorjuse 10.44 309 P **Pn 23 01 29.8 +0.5**
GUMT Gumushane 10.44 85 *e*PN **Pn 23 01 29.1 -0.3**
GUMT Gumushane 10.44 85 Pn **Pn 23 01 29.1 -0.3**
GUMT Gumushane 10.44 85 *e*Pn **Pn 23 01 29.1 -0.3**
CADS Cadrg 10.55 308 P **Pn 23 01 31.4 +0.6**
CADS Cadrg 10.55 308 P **Pn 23 01 31.4 +0.6**
URFA Urfa 10.57 102 *e*PN **Pn 23 01 32.4 +1.3**
URFA Urfa 10.57 102 Pn **Pn 23 01 32.4 +1.3**
URFA Urfa 10.57 102 *e*Pn **Pn 23 01 32.4 +1.3**
KIEV Kiev 10.59 12 *e*Pn **Pn 23 01 29.4 -2.0**
comp=Z,37nm,0.7s
KIEV Kiev 10.59 12 *e*P **Pn 23 01 30.6 -0.8**
KIEV Kiev 10.59 12 *e*Pn **Pn 23 01 29.4 -2.0**
comp=Z,37nm,0.7s
KIEV Kiev 10.59 12 *e*P **Pn 23 01 30.6 -0.8**
AKASG Malin Array Be 10.60 12 Pn **Pn 23 01 29.0 -2.5**
comp=Z,11nm,0.3s,baz=202,slow=11,SNR=54
AKASG Sn **Sn 23 03 22.7 -7.6**
comp=Z,8.0nm,0.3s,baz=203,slow=21,SNR=4.5
AKASG Lg 23 04 37.3
baz=185,slow=30,SNR=4.8
AKASG Malin Array Be 10.60 12 Pn **Pn 23 01 29.0 -2.5**
AKASG Sn **Sn 23 03 22.7 -7.6**
AKASG Lg 23 04 37.3
AKASG Malin Array Be 10.60 12 P **Pn 23 01 29.0 -2.5**
AKASG 23 03 22.7
AKASG pmax pmax
comp=Z,11nm,0.3s
AKASG smax
comp=N,8.0nm,0.3s
AKASG Malin Array Be 10.60 12 P **Pn 23 01 29.0 -2.5**
comp=N,11nm,0.3s
AKBB Malin Array Si 10.60 12 *e*Pn **Pn 23 01 28.8 -2.7**
AKBB Malin Array Si 10.60 12 *e*P **Pn 23 01 28.8 -2.7**
MMAI Mount Meron Ar 10.65 131 Pn **Pn 23 01 31.1 -1.2**
comp=N,6.5nm,0.3s,baz=311,slow=12,SNR=18
MMAI Sn **Sn 23 03 31.0 -0.7**
comp=N,3.1nm,0.3s,baz=304,slow=27,SNR=5.4
MMAI LR LR 23 06 27.6
comp=N,2μm,21.2s,baz=345,slow=42
MMAI Mount Meron Ar 10.65 131 Pn **Pn 23 01 31.1 -1.2**
MMAI Sn **Sn 23 03 31.0 -0.7**
MMAI Mount Meron Ar 10.65 131 Pn **Pn 23 01 31.0 -1.2**
MMAI Sn **Sn 23 03 31.0 -0.6**
SVRC Sivrice-ELAZID 10.65 96 *e*PN **Pn 23 01 32.1 -0.2**
SVRC Sivrice-ELAZID 10.65 96 *e*Pn **Pn 23 01 32.1 -0.2**
ROBS Robic 10.70 307 P **Pn 23 01 34.3 +1.5**
ROBS Robic 10.70 307 P **Pn 23 01 34.3 +1.5**
OJC Ojcow 10.70 339 *e*P **Pn 23 01 33.2 +0.3**
OJC Ojcow 10.70 339 P **Pn 23 01 34.3 +1.4**
OJC Ojcow 10.70 339 *e*P **Pn 23 01 33.2 +0.3**
OJC Ojcow 10.70 339 *e*P **Pn 23 01 33.2 +0.3**
MYKA Terra Mystica 10.81 309⇑ *i*Pn **Pn 23 01 34.6 +0.2**
MYKA Terra Mystica 10.81 309⇑ *i*Pn **Pn 23 01 34.6 +0.2**
MYKA Terra Mystica 10.81 309⇑ *i*Pn **Pn 23 01 34.6 +0.2**
SOC Sochi 10.85 68 *e*P **Pn 23 01 33.4 -1.5**
SOC *e* 23 03 35.7
SOC MLR MLR
comp=Z,2μm,12.0s
SOC Sochi 10.85 68 *e*P **Pn 23 01 33.4 -1.5**
SOC *e*S **Sn 23 03 35.7 -0.8**
comp=Z,2μm,12.0s
OKC Ostrava-Krasne 10.89 333 P **Pn 23 01 35.9 +0.5**
OKC Ostrava-Krasne 10.89 333 *e*P **Pn 23 01 35.1 -0.3**
OKC MLR MLR
comp=Z,4μm,7.9s
OKC Ostrava-Krasne 10.89 333 *e*P **Pn 23 01 35.1 -0.3**
OKC AMS AMS 23 07 30.0
comp=Z,4μm,7.9s
OKC Ostrava-Krasne 10.89 333 *e*P **Pn 23 01 35.1 -0.3**
comp=Z,4μm,7.9s
BAYT Ayd¨–ntepe-Bay 10.95 85 *e*PN **Pn 23 01 36.4 +0.1**
BAYT Ayd¨–ntepe-Bay 10.95 85 *e*Pn **Pn 23 01 36.4 +0.1**
MORC Moravsky Berou 11.05 331 *e*Pn **Pn 23 01 36.3 -1.4**
comp=Z,48nm,1.3s
MORC *e*Sn **Sn 23 03 36.2 -5.2**
MORC Moravsky Berou 11.05 331 ⇓P **Pn 23 01 37.2 -0.5**
MORC Moravsky Berou 11.05 331 ⇓*i*P **Pn 23 01 37.2 -0.5**
MORC Moravsky Berou 11.05 331 *e*Pn **Pn 23 01 36.3 -1.4**
comp=Z,48nm,1.3s
MORC Moravsky Berou 11.05 331 P **Pn 23 01 37.2 -0.5**
VRAC Vranov 11.05 327 Pn **Pn 23 01 36.7 -1.0**
comp=Z,0.9nm,0.3s,baz=142,slow=13,SNR=21
VRAC Sn **Sn 23 03 37.5 -3.9**
comp=Z,0.5nm,0.3s,baz=66,slow=14,SNR=4.3
VRAC LR LR 23 05 38.9
comp=Z,2μm,20.2s,baz=142,slow=36
VRAC Vranov 11.05 327 Pn **Pn 23 01 36.7 -1.0**
VRAC Sn **Sn 23 03 37.5 -3.9**
VRAC Vranov 11.05 327 P **Pn 23 01 37.6 -0.1**
VRAC Vranov 11.05 327 ⇓*i*P **Pn 23 01 37.0 -0.7**
VRAC Vranov 11.05 327 Pn **Pn 23 01 36.7 -1.0**
VRAC Vranov 11.05 327 P **Pn 23 01 37.6 -0.1**
RAC Raciborz 11.08 334 *e*P **Pn 23 01 39.3 +1.3**
RAC Raciborz 11.08 334 *e*P **Pn 23 01 39.3 +1.3**
MOA Molln 11.15 316 ⇓*i*Pn **Pn 23 01 39.4 +0.4**
MOA Molln 11.15 316 ⇓*i*Pn **Pn 23 01 39.4 +0.4**
MOA Molln 11.15 316 ⇓*i*Pn **Pn 23 01 39.4 +0.4**
BINT Bingol 11.44 93 *e*Pn **Pn 23 01 44.1 +1.1**
TREC Trest 11.52 324 *e*P **Pn 23 01 43.2 -0.9**
TREC MLR MLR
comp=Z,8μm,11.5s
TREC Trest 11.52 324 *e*P **Pn 23 01 43.2 -0.9**
TREC AMS AMS 23 06 50.0
comp=Z,8μm,11.5s
TREC Trest 11.52 324 *e*P **Pn 23 01 43.2 -0.9**
comp=Z,8μm,11.5s
ABTA Abfaltersbach 11.54 308 ⇓*i*Pn **Pn 23 01 44.0 -0.4**
SNR=21
ABTA Abfaltersbach 11.54 308 P **Pn 23 01 45.2 +0.8**
ABTA Abfaltersbach 11.54 308 Pn **Pn 23 01 44.0 -0.4**
SNR=21
ABTA Abfaltersbach 11.54 308 P **Pn 23 01 45.2 +0.8**
BNGB Bing¶l 11.56 92 *e*PN **Pn 23 01 44.1 -0.5**
EZM Erzurum 11.93 87 *e*PN **Pn 23 01 50.1 +0.4**
EZM Erzurum 11.93 87 Pn **Pn 23 01 50.1 +0.4**
BEL Belsk 11.97 345 *e*P **Pn 23 01 57.3 +7.1**
BEL LMZ 23 07 04.8
comp=Z,12μm,13.4s
BEL Belsk 11.97 345 *e*P **Pn 23 01 57.3 +7.1**
BEL MLR MLR
comp=Z,12μm,13.4s
DPC Dobruska-Polom 11.98 329 P **Pn 23 01 52.0 +1.6**
DPC Dobruska-Polom 11.98 329 *e*P **Pn 23 01 51.5 +1.1**
DPC MLR MLR
comp=Z,5μm,13.5s
DPC Dobruska-Polom 11.98 329 *e*P **Pn 23 01 51.5 +1.1**
DPC *ex* x 23 02 00.0
DPC AMS AMS 23 06 30.0
comp=Z,5μm,13.5s
DPC Dobruska-Polom 11.98 329 *e*P **Pn 23 01 51.5 +1.1**
comp=Z,5μm,13.5s
GERES GERESS Array B 12.07 319 Pn **Pn 23 01 50.7 -0.8**
comp=Z,0.4nm,0.3s,baz=126,slow=14,SNR=15
GERES LR LR 23 06 36.8
comp=Z,3μm,18.2s,baz=128,slow=38
GERES GERESS Array B 12.07 319 Pn **Pn 23 01 50.7 -0.8**
GERES GERESS Array B 12.07 319 P **Pn 23 01 50.7 -0.9**
GERES MLR MLR
comp=Z,3μm,18.2s
GERES GERESS Array B 12.07 319 P **Pn 23 01 50.7 -0.9**
comp=Z,3μm,18.2s
ASF Jabal al Asfar 12.13 129 Pn **Pn 23 01 53.2 +0.7**
comp=Z,0.2nm,0.3s,baz=322,slow=18,SNR=4.0
ASF Sn **Sn 23 04 15.7 +7.8**
comp=Z,0.2nm,0.3s,baz=16,slow=16,SNR=2.8
ASF LR LR 23 07 23.5
comp=Z,1μm,20.7s,baz=31,slow=42
ASF Jabal al Asfar 12.13 129 Pn **Pn 23 01 53.2 +0.7**
ASF Sn **Sn 23 04 15.7 +7.8**
ASF Jabal al Asfar 12.13 129 P **Pn 23 01 53.2 +0.7**
ASF 23 04 15.7
ASF MLR MLR
comp=Z,1μm,20.7s
UPC Upice 12.23 329 *e*P **Pn 23 01 51.6 -2.1**
UPC Upice 12.23 329 *e*P **Pn 23 01 51.6 -2.1**
UPC Upice 12.23 329 *e*P **Pn 23 01 51.6 -2.1**
KHC Kasperske Hory 12.31 319 *e*Pn **Pn 23 01 54.8 -0.1**
KHC Kasperske Hory 12.31 319 *e*P **Pn 23 01 54.8 -0.1**
KHC Kasperske Hory 12.31 319 *e*P **Pn 23 01 54.1 -0.8**
KHC *ex* x 23 02 04.0
KHC AMS AMS 23 07 10.0
comp=Z,9μm,11.1s
KHC Kasperske Hory 12.31 319 *e*P **Pn 23 01 54.8 -0.1**
WTTA Wattenberg 12.31 309 ⇓*i*Pn **Pn 23 01 57.2 +2.3**
SNR=29
WTTA Wattenberg 12.31 309 ⇓*i*Pn **Pn 23 01 57.2 +2.3**
WTTA Wattenberg 12.31 309 ⇓*i*P **Pn 23 01 57.2 +2.2**
WTTA Wattenberg 12.31 309 *i*P **Pn 23 01 57.2 +2.2**
WATA Walderalm 12.38 309⇑ *i*Pn **Pn 23 01 58.2 +2.3**
SNR=50
WATA Walderalm 12.38 309⇑ *i*Pn **Pn 23 01 58.2 +2.2**
WATA Walderalm 12.38 309⇑ *i*P **Pn 23 01 58.2 +2.3**
WATA Walderalm 12.38 309 *i*P **Pn 23 01 58.2 +2.3**
KSP Ksiaz 12.39 331 *e*P **Pn 23 01 56.6 +0.7**
KSP LMZ 23 06 14.8
comp=Z,3μm,21.3s
KSP Ksiaz 12.39 331 *e*P **Pn 23 01 55.6 -0.3**
KSP *e*PP 23 02 04.5
KSP Ksiaz 12.39 331 P **Pn 23 01 56.9 +1.0**
KSP Ksiaz 12.39 331 *e*P **Pn 23 01 55.6 -0.3**
KSP Ksiaz 12.39 331 *e*P **Pn 23 01 55.6 -0.3**
PRU Pruhonice 12.45 324 *e*P **Pn 23 01 55.6 -1.2**
PRU MLR MLR
comp=Z,6μm,10.3s
PRU Pruhonice 12.45 324 *e*P **Pn 23 01 55.6 -1.2**
PRU *ex* x 23 02 02.8
PRU AMS AMS 23 07 30.0
comp=Z,6μm,10.3s
PRU Pruhonice 12.45 324 *e*P **Pn 23 01 55.6 -1.2**
comp=Z,6μm,10.3s
MOTA Moosalm 12.67 308⇑ *i*Pn **Pn 23 02 00.8 +1.0**
SNR=25
MOTA Moosalm 12.67 308⇑ *i*Pn **Pn 23 02 00.8 +1.0**
MOTA Moosalm 12.67 308⇑ *i*Pn **Pn 23 02 00.8 +1.0**
MOTA Moosalm 12.67 308 *i*P **Pn 23 02 00.8 +1.0**
FETA Feichten 12.75 306⇑ *i*Pn **Pn 23 02 01.5 +0.6**
SNR=7.2
FETA Feichten 12.75 306⇑ *i*Pn **Pn 23 02 01.5 +0.6**
FETA Feichten 12.75 306⇑ *i*Pn **Pn 23 02 01.5 +0.6**
PGF Pioggiola 12.79 285 *e*P **Pn 23 02 03.5 +2.1**
comp=Z,155nm,1.3s
PGF Pioggiola 12.79 285 *e*P **Pn 23 02 03.5 +2.1**
comp=Z,155nm,1.3s
PGF Pioggiola 12.79 285 *e*P **Pn 23 02 03.5 +2.1**
PGF pmax pmax
comp=Z,155nm,1.3s
PGF Pioggiola 12.79 285 *e*P **Pn 23 02 03.5 +2.1**
comp=Z,78nm,1.3s
PVCC Panska Ves 12.83 326 *e*P **Pn 23 02 03.0 +1.0**
PVCC MLR MLR
comp=Z,5μm,10.1s
PVCC Panska Ves 12.83 326 *e*P **Pn 23 02 03.0 +1.0**
PVCC *ex* x 23 02 09.7
PVCC AMS AMS 23 07 40.0
comp=Z,5μm,10.1s
PVCC Panska Ves 12.83 326 *e*P **Pn 23 02 03.0 +1.0**
comp=Z,5μm,10.1s
FUORN Ofenpass-Fuorn 12.88 304 *e*Pn **Pn 23 02 02.9 +0.2**
FUORN Ofenpass-Fuorn 12.88 304 *e*Pn **Pn 23 02 02.8 +0.2**
KIV Kislovodsk 13.03 69 *e*Pn **Pn 23 02 05.7 +1.0**
KIV Kislovodsk 13.03 69 *e*P **Pn 23 02 04.5 -0.3**
KIV *e*S **Sn 23 04 29.0 -0.9**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,474nm,11.0s
KIV Kislovodsk 13.03 69 *e*P **Pn 23 02 04.5 -0.3**
comp=Z,26nm,1.0s
KIV Kislovodsk 13.03 69 *e*Pn **Pn 23 02 05.7 +0.9**
KIV *e*S **Sn 23 04 29.0 -0.9**
comp=Z,474nm,11.0s
EIL Elat 13.05 142 Pn **Pn 23 02 03.0 -2.0**
comp=Z,2.2nm,0.3s,baz=14,slow=16,SNR=23
EIL Sn **Sn 23 04 27.7 -2.6**
comp=Z,1.4nm,0.3s,baz=69,slow=22,SNR=5.5
EIL Elat 13.05 142 Pn **Pn 23 02 03.0 -2.0**
EIL Sn **Sn 23 04 27.7 -2.6**
EIL Elat 13.05 142 Pn **Pn 23 02 03.0 -2.0**
DAVOX Davos/Dischmat 13.18 304 Pn **Pn 23 02 07.5 +0.7**
comp=Z,2.2nm,0.3s,baz=155,slow=12,SNR=8.8
DAVOX Davos/Dischmat 13.18 304 Pn **Pn 23 02 07.5 +0.7**
DAVOX Davos/Dischmat 13.18 304 P **Pn 23 02 07.5 +0.7**
DAVOX Davos/Dischmat 13.18 304 P **Pn 23 02 07.5 +0.7**
AGRB Hanur-Agry 13.22 88 *e*PN **Pn 23 02 06.8 -0.6**
AGRB Hanur-Agry 13.22 88 *e*Pn **Pn 23 02 06.8 -0.6**
BRG Berggiesshubel 13.36 326 *e*P **Pn 23 02 09.9 +0.8**
comp=Z,11nm,1.6s
BRG *e* 23 02 19.2
comp=Z,16nm,1.2s
BRG
comp=Z,5μm,10.9s
BRG
comp=N,8μm,14.7s
BRG
comp=E,11μm,14.7s
BRG Berggiesshubel 13.36 326 *e*P **Pn 23 02 09.9 +0.7**
BRG pmax pmax
comp=Z,11nm,1.5s
BRG MLR MLR
comp=Z,5μm,10.9s
BRG MLR MLR
comp=N,8μm,14.7s
BRG MLR MLR
comp=E,11μm,14.7s
BRG Berggiesshubel 13.36 326 *e*P **Pn 23 02 09.9 +0.7**
comp=E,5μm,10.9s
TUE Stuetta 13.41 302 *e*Pn **Pn 23 02 09.9 +0.1**
TUE Stuetta 13.41 302 *e*Pn **Pn 23 02 09.9 0.0**
ONI Oni 13.43 75 P **Pn 23 02 12.0 +1.8**
ONI S **Sn 23 04 49.9 +10**
UBR Ueberruh 13.43 308 P **Pn 23 02 12.9 +2.8**
AKH Akhalkalaki 13.44 80 P **Pn 23 02 06.0 -4.3**
AKH S **Sn 23 04 56.9 +17**
NKC Novy Kostel 13.59 321 *e*P **Pn 23 02 12.6 +0.2**
NKC MLR MLR
comp=Z,4μm,13.3s
NKC Novy Kostel 13.59 321 *e*P **Pn 23 02 12.6 +0.2**
NKC *ex* x 23 02 21.0
NKC AMS AMS 23 08 00.0
comp=Z,4μm,13.3s
NKC Novy Kostel 13.59 321 *e*P **Pn 23 02 12.6 +0.2**
comp=Z,4μm,13.3s
VANB Van 13.71 92 *e*PN **Pn 23 02 14.2 +0.1**
VANB Van 13.71 92 *e*Pn **Pn 23 02 14.2 +0.1**
SUW Suwalki 13.75 354 *e*P **Pn 23 02 16.6 +2.1**
SUW LMZ 23 08 07.5
comp=Z,6μm,15.9s
SUW Suwalki 13.75 354 *e*Pn **Pn 23 02 14.8 +0.2**
SUW *e*Sn **Sn 23 04 42.1 -5.3**
SUW Suwalki 13.75 354 *e*P **Pn 23 02 14.8 +0.2**
SUW *e* 23 04 42.1
SUW Suwalki 13.75 354 *e*P **Pn 23 02 14.8 +0.2**
KEST Kesra 13.76 256 Pn **Pn 23 02 15.7 +0.9**
comp=Z,0.2nm,0.3s,baz=21,slow=5.6,SNR=15
KEST LR LR 23 08 19.2
comp=Z,757nm,19.1s,baz=204,slow=41
KEST Kesra 13.76 256 Pn **Pn 23 02 15.7 +0.9**
comp=Z,34nm,1.4s
KEST Kesra 13.76 256 Pn **Pn 23 02 15.7 +0.9**
comp=Z,34nm,1.4s
ZEI Tsey 13.77 74 *e*P **Pn 23 02 19.8 +5.0**
ZEI pmax pmax
comp=Z,32nm,1.2s
GRFO Grafenberg 13.87 317 *e*Pn **Pn 23 02 15.1 -1.0**
GRFO Grafenberg 13.87 317 *e*P **Pn 23 02 15.1 -1.0**
GRFO Grafenberg 13.87 317 *e*P **Pn 23 02 15.1 -1.0**
GOR Gori 13.89 77 P **Pn 23 02 20.0 +3.5**
SBF Sospel 14.06 290 *e*P **Pn 23 02 18.3 -0.5**
comp=Z,75nm,0.7s
SBF Sospel 14.06 290 *e*P **Pn 23 02 18.3 -0.5**
comp=Z,75nm,0.7s
SBF Sospel 14.06 290 *e*P **Pn 23 02 18.3 -0.5**
SBF pmax pmax
comp=Z,75nm,0.7s
SBF Sospel 14.06 290 *e*P **Pn 23 02 18.3 -0.5**
comp=Z,37nm,0.7s
CLL Collm 14.08 325 *e*P **Pn 23 02 17.0 -2.0**
CLL MLR MLR
comp=Z,3μm,19.0s
CLL Collm 14.08 325 *e*(P) **Pn 23 02 17.0 -2.0**
CLL *e*pP 23 02 22.0
CLL *e*PP 23 02 27.0
CLL *i* (sPP) 23 02 38.3

CLL			LmV			23 08 00.0
	comp=Z,3μm,19.0s					
CLL			Lmax			23 09 00.0
SISB	**Singen-Schiene**	**14.12 307**	P		**Pn**	**23 02 21.8 +2.2**
SISB	**Singen-Schiene**	**14.12 307**	P		**Pn**	**23 02 21.8 +2.2**
MNK	**Minsk**	**14.20 5**	‖ *e*P		**Pn**	**23 02 15.0 -5.6**
MNK			*e*S		**Sn**	**23 04 49.0 -9.2**
MNK			MLR	MLR		
	comp=E,25μm,11.0s					
MNK			MLR	MLR		
	comp=Z,7μm,8.0s					
MNK			MLR	MLR		
	comp=N,9μm,6.0s					
GUT	**Gutenstein**	**14.20 308**	P		**Pn**	**23 02 21.8 +1.1**
GUT	**Gutenstein**	**14.20 308**	P		**Pn**	**23 02 21.8 +1.1**
MICGM	**Minsk**	**14.20 5**	‖ *e*P		**Pn**	**23 02 15.0 -5.6**
BUCH	**Bad Urach**	**14.23 310**	P		**Pn**	**23 02 23.6 +2.5**
BUCH	**Bad Urach**	**14.23 310**	P		**Pn**	**23 02 23.6 +2.5**
VSR	**Storozhevoye**	**14.27 36**	*e*P		**Pn**	**23 02 18.6 -3.1**
VSR			*e*S		**Sn**	**23 04 59.1 -1.0**
VSR			pmax	pmax		
	comp=Z,40nm,0.9s					
VSR			pmax	pmax		
	comp=N,10.0nm,0.4s					
VSR			pmax	pmax		
	comp=E,10.0nm,0.4s					
VSR			smax			
	comp=N,250nm,1.1s					
VSR			smax			
	comp=E,410nm,1.1s					
VSR			smax			
	comp=Z,20nm,1.1s					
VSR			MLR	MLR		
	comp=N,3μm,11.0s					
VSR			MLR	MLR		
	comp=E,3μm,11.0s					
VSR			MLR	MLR		
	comp=Z,4μm,11.0s					
TBLG	**Delisi**	**14.36 78**	*e*P		**Pn**	**23 02 23.9 +1.0**
TBLG	**Delisi**	**14.36 78**	P		**Pn**	**23 02 23.9 +1.0**
MTA	**Mtatsminda**	**14.40 79**	P		**Pn**	**23 02 24.2 +0.7**
MTA			S		**Sn**	**23 05 14.4 +11**
GNI	**Garni**	**14.47 85**	Pn		**Pn**	**23 02 31.1 +6.7**
	comp=Z,0.8nm,0.3s,baz=267,slow=4.8,SNR=18					
GNI			Sn		**Sn**	**23 05 11.5 +6.4**
	comp=Z,0.6nm,0.3s,baz=109,slow=3.5,SNR=6.4					
GNI			LR		LR	23 08 04.7
	comp=Z,4μm,19.1s,baz=104,slow=38					
GNI	**Garni**	**14.47 85**	*e*PN		**Pn**	**23 02 24.2 -0.3**
GNI	**Garni**	**14.47 85**	P		**Pn**	**23 02 28.3 +3.8**
GNI			Sn		**Sn**	**23 05 11.5 +6.4**
GNI	**Garni**	**14.47 85**	*e*P		**Pn**	**23 02 28.3 +3.8**
GNI	**Garni**	**14.47 85**	P		**Pn**	**23 02 32.2 +7.7**
	SNR=28					
GNI	**Garni**	**14.47 85**	*e*Pn		**Pn**	**23 02 24.2 -0.3**
GNI	**Garni**	**14.47 85**	P		**Pn**	**23 02 32.2 +7.7**
	SNR=28					
STU	**Stuttgart**	**14.48 311**	*e*Pn		**Pn**	**23 02 23.4 -1.1**
STU	**Stuttgart**	**14.48 311**	*e*P		**Pn**	**23 02 23.4 -1.1**
STU	**Stuttgart**	**14.48 311**	*e*Pn		**Pn**	**23 02 23.4 -1.1**
NACGM	**Naroch**	**14.54 2**	*e*P		**Pn**	**23 02 20.0 -5.4**
VOR	**Voronezh**	**14.65 35**	P		**Pn**	**23 02 26.0 -0.8**
VOR			pmax	pmax		
	comp=Z,250nm,1.2s					
LMR	**La Mourre**	**14.67 288**	*e*P		**Pn**	**23 02 25.1 -2.0**
	comp=Z,198nm,1.5s					
LMR	**La Mourre**	**14.67 288**	*e*P		**Pn**	**23 02 25.1 -2.0**
	comp=Z,198nm,1.5s					
LMR	**La Mourre**	**14.67 288**	*e*P		**Pn**	**23 02 25.1 -2.0**
LMR			pmax	pmax		
	comp=Z,199nm,1.5s					
MBDF	**Montbardon**	**14.67 293**	*e*P		**Pn**	**23 02 25.9 -1.2**
	comp=Z,108nm,0.6s					
MBDF	**Montbardon**	**14.67 293**	*e*P		**Pn**	**23 02 25.9 -1.2**
	comp=Z,108nm,0.6s					
MBDF	**Montbardon**	**14.67 293**	*e*P		**Pn**	**23 02 25.9 -1.2**
MBDF			pmax	pmax		
	comp=Z,108nm,0.6s					
SENIN	**Lac Senin/Sane**	**14.71 300**	*e*Pn		**Pn**	**23 02 27.8 +0.2**
SENIN	**Lac Senin/Sane**	**14.71 300**	*e*Pn		**Pn**	**23 02 27.8 +0.2**
FELD	**Feldberg im Sc**	**14.79 306**	*e*P		**Pn**	**23 02 29.6 +0.9**
BNI	**Bardonecchia**	**14.80 295**	*e*Pn		**Pn**	**23 02 27.0 -1.9**
BNI	**Bardonecchia**	**14.80 295**	*e*P		**Pn**	**23 02 27.0 -1.9**
BNI	**Bardonecchia**	**14.80 295**	*e*Pn		**Pn**	**23 02 27.0 -1.9**
LPG	**La Plagne**	**14.85 296**	*e*P		**Pn**	**23 02 27.8 -1.7**
	comp=Z,56nm,0.6s					
LPG	**La Plagne**	**14.85 296**	*e*P		**Pn**	**23 02 27.8 -1.7**
	comp=Z,56nm,0.6s					
LPG	**La Plagne**	**14.85 296**	*e*P		**Pn**	**23 02 27.8 -1.7**
LPG			pmax	pmax		
	comp=Z,56nm,0.6s					
LPL	**La Plagne**	**14.86 296**	*e*P		**Pn**	**23 02 27.9 -1.9**
	comp=Z,102nm,1.0s					
LPL	**La Plagne**	**14.86 296**	*e*P		**Pn**	**23 02 27.9 -1.9**
	comp=Z,102nm,1.0s					
LPL	**La Plagne**	**14.86 296**	*e*P		**Pn**	**23 02 27.9 -1.9**
LPL			pmax	pmax		
	comp=Z,102nm,1.0s					
IIGN	**Ignalina**	**14.98 1**	*e*P		**Pn**	**23 02 28.6 -2.7**
IIGN			AMB	AMB		23 02 42.6
	comp=Z,23nm,1.6s					
IIGN	**Ignalina**	**14.98 1**	*e*P		**Pn**	**23 02 28.6 -2.7**
	comp=Z,23nm,1.6s,SNR=40					
TAVF	**Tavernes**	**15.02 289**	*e*P		**Pn**	**23 02 33.0 +1.1**
OG01	**Vacheresse**	**15.11 299**	*e*P		**Pn**	**23 02 38.8 +5.8**
OG01	**Vacheresse**	**15.11 299**	*e*P		**Pn**	**23 02 38.8 +5.8**
ISAL	**Salakas**	**15.21 1**	*e*P		**Pn**	**23 02 31.1 -3.2**
ISAL			AMB	AMB		23 02 41.2
	comp=Z,20nm,1.1s					
ISAL	**Salakas**	**15.21 1**	*e*P		**Pn**	**23 02 31.1 -3.2**
	comp=Z,20nm,1.1s,SNR=40					
BERF	**Bertagne**	**15.26 288**	*e*P		**Pn**	**23 02 36.3 +1.2**
MOF	**Molkenrain**	**15.32 305**	P		**Pn**	**23 02 37.5 +1.7**
MOF	**Molkenrain**	**15.32 305**	P		**Pn**	**23 02 37.5 +1.7**
ORIF	**Oris-en-Rattie**	**15.33 294**	*e*P		**Pn**	**23 02 35.4 -0.6**
	comp=Z,37nm,0.6s					
ORIF			*e*R			
	comp=Z,6μm,21.5s					
ORIF	**Oris-en-Rattie**	**15.33 294**	*e*P		**Pn**	**23 02 35.4 -0.6**
	comp=Z,37nm,0.6s					
ORIF	**Oris-en-Rattie**	**15.33 294**	*e*P		**Pn**	**23 02 35.4 -0.6**
ORIF			pmax	pmax		
	comp=Z,37nm,0.6s					
VRHR	**Novokhopersk**	**15.36 40**	*e*P		**Pn**	**23 02 36.1 -0.2**
VRHR			pmax	pmax		
	comp=Z,170nm,1.1s					
VRHR			pmax	pmax		
	comp=N,170nm,1.0s					
VRHR			pmax	pmax		
	comp=E,130nm,1.0s					
VRHR			MLR	MLR		
	comp=E,2μm,17.0s					
VRHR			MLR	MLR		
	comp=Z,2μm,17.0s					
VRHR			MLR	MLR		
	comp=N,510nm,11.0s					
IZAR	**Zarasai**	**15.38 1**	*e*P		**Pn**	**23 02 33.2 -3.5**
IZAR			AMB	AMB		23 02 47.3
	comp=Z,19nm,0.9s					
LANF	**Langenberg**	**15.39 310**	*e*P		**Pn**	**23 02 41.3 +4.6**
LANF	**Langenberg**	**15.39 310**	*e*P		**Pn**	**23 02 41.3 +4.6**
SMRF	**Simiane la Rot**	**15.41 290**	*e*P		**Pn**	**23 02 35.0 -2.0**
	comp=Z,237nm,1.7s					
SMRF	**Simiane la Rot**	**15.41 290**	*e*P		**Pn**	**23 02 35.0 -2.0**
	comp=Z,237nm,1.7s					
ECH	**Echery**	**15.45 307**	*e*P		**Pn**	**23 02 42.1 +4.6**
ECH	**Echery**	**15.45 307**	*e*P		**Pn**	**23 02 42.1 +4.6**
CDF	**Champ du Feu**	**15.46 307**	*e*P		**Pn**	**23 02 37.3 -0.3**
	comp=Z,348nm,1.6s					
CDF	**Champ du Feu**	**15.46 307**	*e*P		**Pn**	**23 02 37.3 -0.3**
	comp=Z,348nm,1.6s					
CDF	**Champ du Feu**	**15.46 307**	*e*P		**Pn**	**23 02 37.3 -0.3**
CDF			pmax	pmax		
	comp=Z,348nm,1.6s					
HINF	**Hinteralfeld**	**15.48 305**	*e*P		**Pn**	**23 02 37.9 -0.1**
	comp=Z,18nm,0.6s					
HINF	**Hinteralfeld**	**15.48 305**	*e*P		**Pn**	**23 02 37.9 -0.1**
	comp=Z,18nm,0.6s					
HINF	**Hinteralfeld**	**15.48 305**	*e*P		**Pn**	**23 02 37.9 -0.1**
HINF			pmax	pmax		
	comp=Z,18nm,0.6s					
TREF	**Trevaresse**	**15.51 289**	*e*P		**Pn**	**23 02 39.3 +0.9**
TREF	**Trevaresse**	**15.51 289**	*e*P		**Pn**	**23 02 39.3 +0.9**
CABF	**La Chapelle**	**15.58 300**	*e*P		**Pn**	**23 02 37.4 -1.8**
	comp=Z,67nm,0.7s					
CABF	**La Chapelle**	**15.58 300**	*e*P		**Pn**	**23 02 37.4 -1.8**
	comp=Z,67nm,0.7s					
CABF	**La Chapelle**	**15.58 300**	*e*P		**Pn**	**23 02 37.4 -1.8**
CABF			pmax	pmax		
	comp=Z,67nm,0.7s					
OG35	**Corcelles**	**15.78 298**	*e*P		**Pn**	**23 02 40.4 -1.4**
HAU	**Haudompre**	**15.87 305**	*e*P		**Pn**	**23 02 43.5 +0.5**
	comp=Z,17nm,0.5s					
HAU			*e*R			
	comp=Z,5μm,17.8s					
HAU	**Haudompre**	**15.87 305**	*e*P		**Pn**	**23 02 43.5 +0.5**
	comp=Z,17nm,0.5s					
HAU	**Haudompre**	**15.87 305**	*e*P		**Pn**	**23 02 43.5 +0.5**
HAU			pmax	pmax		
	comp=Z,17nm,0.5s					
ITBZ	**Tabriz**	**15.90 91**	*e*P		**Pn**	**23 02 45.8 +2.3**
ITBZ	**Tabriz**	**15.90 91**	*e*P		**Pn**	**23 02 45.8 +2.3**
IFTB	**Fath-abad**	**16.14 92**	*e*P		**Pn**	**23 02 42.0 -4.6**
RUP	**Ruppelstein**	**16.16 311**	*e*P		**Pn**	**23 02 49.7 +3.0**
VIVF	**Saint-Julien-l**	**16.17 293**	*e*P		**Pn**	**23 02 45.9 -1.0**
	comp=Z,22nm,0.6s					
VIVF	**Saint-Julien-l**	**16.17 293**	*e*P		**Pn**	**23 02 45.9 -1.0**
	comp=Z,22nm,0.6s					
VIVF	**Saint-Julien-l**	**16.17 293**	*e*P		**Pn**	**23 02 45.9 -1.0**
VIVF			pmax	pmax		
	comp=Z,22nm,0.6s					
THEF	**They Montfort**	**16.18 306**	*e*P		**Pn**	**23 02 50.6 +3.7**
THEF	**They Montfort**	**16.18 306**	*e*P		**Pn**	**23 02 50.6 +3.7**
OBN	**Obninsk**	**16.40 22**	*e*Pn		**Pn**	**23 02 45.1 -4.6**
	comp=Z,184nm,1.4s					
OBN	**Obninsk**	**16.40 22** κ	*i*P		**Pn**	**23 02 45.8 -3.9**
OBN			S		**Sn**	**23 05 56.0 +4.3**
OBN			pmax	pmax		
	comp=Z,81nm,1.2s					
OBN			MLR	MLR		
	comp=Z,2μm,15.0s					
MAK	**Makhachkala**	**16.42 74**	*e*P		**Pn**	**23 02 51.2 +1.0**
MAK			*e*S		**Sn**	**23 05 53.2 +0.7**
MAK			pmax	pmax		
	comp=Z,176nm,1.0s					
MAK			MLR	MLR		
	comp=Z,3μm,16.0s					
MAK	**Makhachkala**	**16.42 74**	*e*P		**Pn**	**23 02 51.2 +1.0**
	comp=Z,176nm,1.0s					
BHD	**Baghdad**	**16.47 110**	*i* x		x	23 02 57.6
BHD			*i* x		x	23 06 08.8
BHD			*i* x		x	23 08 30.5
BHD			*i* x		x	23 09 18.0
SET	**Setif**	**16.54 262**	P		**Pn**	**23 02 51.0 -0.7**
SET	**Setif**	**16.54 262**	P		**Pn**	**23 02 51.0 -0.7**
LASF	**Ste Croix**	**16.65 290**	*e*P		**Pn**	**23 02 51.3 -1.8**
	comp=Z,256nm,1.7s					
LASF	**Ste Croix**	**16.65 290**	*e*P		**Pn**	**23 02 51.3 -1.8**
	comp=Z,256nm,1.7s					
WLF	**Walferdange**	**16.66 310**	P		**Pn**	**23 02 54.0 +0.8**
	comp=Z,23nm,1.6s					
WLF	**Walferdange**	**16.66 310**	*e*Pn		**Pn**	**23 02 49.6 -3.5**
	comp=Z,57nm,1.4s					
WLF	**Walferdange**	**16.66 310**	*e*P		**Pn**	**23 02 49.7 -3.4**
WLF			pmax	pmax		
	comp=Z,57nm,1.4s					
WLF	**Walferdange**	**16.66 310**	P		**Pn**	**23 02 53.9 +0.8**
	comp=Z,23nm,1.6s					
MEZF	**Maizieres J'vi**	**16.86 306**	*e*P		**Pn**	**23 02 53.8 -1.8**
MEZF	**Maizieres J'vi**	**16.86 306**	P		**Pn**	**23 02 57.0 +1.4**
MEZF	**Maizieres J'vi**	**16.86 306**	P		**Pn**	**23 02 57.0 +1.4**
SMF	**Signal de Mont**	**17.09 299**	*e*P		**Pn**	**23 02 57.7 -0.8**
	comp=Z,58nm,1.0s					
SMF	**Signal de Mont**	**17.09 299**	P		**Pn**	**23 02 57.6 -0.9**
SMF	**Signal de Mont**	**17.09 299**	P		**Pn**	**23 02 57.6 -0.9**
SMF	**Signal de Mont**	**17.09 299**	*e*P		**Pn**	**23 02 57.7 -0.8**
	comp=Z,29nm,1.0s					
PLDF	**La Plantade**	**17.09 296**	*e*P		**Pn**	**23 02 57.2 -1.3**
PLDF	**La Plantade**	**17.09 296**	*e*P		**Pn**	**23 02 57.2 -1.3**
MEM	**Membach**	**17.18 313**	P		**Pn**	**23 03 02.5 +2.8**
	comp=Z,16nm,1.4s					
LOR	**Lormes**	**17.23 301**	*e*P		**Pn**	**23 03 00.1 -0.2**
	comp=Z,40nm,0.7s					
LOR			*e*R			
	comp=Z,2μm,19.4s					
LOR	**Lormes**	**17.23 301**	P		**Pn**	**23 02 59.7 -0.6**
LOR	**Lormes**	**17.23 301**	P		**Pn**	**23 02 59.7 -0.6**
LOR	**Lormes**	**17.23 301**	*e*P		**Pn**	**23 03 00.1 -0.2**
	comp=Z,20nm,0.7s					
MOS	**Moscow**	**17.24 23**	*e*P		**Pn**	**23 02 55.0 -5.4**
MOS			*e*S		**Sn**	**23 06 09.0 -3.2**
MOS			pmax	pmax		
	comp=Z,77nm,1.2s					
MOS			MLR	MLR		
	comp=Z,2μm,14.0s					
MOS			MLR	MLR		
	comp=E,2μm,11.0s					
MOS			MLR	MLR		
	comp=N,2μm,14.0s					
IDHR	**Dehrash**	**17.28 103**	*e*P		**Pn**	**23 03 02.3 +1.3**
IDHR	**Dehrash**	**17.28 103**	*e*P		**Pn**	**23 03 02.3 +1.3**
SSF	**Saint Saulge**	**17.41 300**	*e*P		**Pn**	**23 03 02.4 -0.1**
	comp=N,41nm,0.9s					
SSF	**Saint Saulge**	**17.41 300**	P		**Pn**	**23 03 02.4 -0.1**
SSF	**Saint Saulge**	**17.41 300**	P		**Pn**	**23 03 02.4 -0.1**
SSF	**Saint Saulge**	**17.41 300**	*e*P		**Pn**	**23 03 02.4 -0.1**
	comp=N,21nm,0.9s					
SARR	**Saratov**	**17.42 44**	*de*P		**Pn**	**23 03 01.3 -1.3**
SARR			*i* S		**Sn**	**23 06 13.9 -2.6**
SARR			pmax	pmax		
	comp=Z,97nm,1.1s					
AVF	**Avril sur Loir**	**17.45 299**	*e*P		**Pn**	**23 03 02.9 -0.1**
	comp=Z,82nm,1.0s					
AVF	**Avril sur Loir**	**17.45 299**	*e*P		**Pn**	**23 03 02.9 -0.1**
	comp=Z,82nm,1.0s					
AVF	**Avril sur Loir**	**17.45 299**	*e*P		**Pn**	**23 03 02.9 -0.1**
AVF			pmax	pmax		
	comp=Z,82nm,1.0s					
AVF	**Avril sur Loir**	**17.45 299**	*e*P		**Pn**	**23 03 02.9 -0.1**
	comp=Z,41nm,1.0s					
BEBN	**Eben Emael**	**17.46 313**	P		**Pn**	**23 03 06.7 +3.6**
BCLA	**Clavier**	**17.49 312**	P		**Pn**	**23 03 06.4 +2.9**
	comp=Z,40nm,2.9s					
IGHG	**Ghaleghazi**	**17.57 103**	*e*P		**Pn**	**23 03 06.2 +1.6**
IGHG	**Ghaleghazi**	**17.57 103**	*e*P		**Pn**	**23 03 06.2 +1.6**
ETOS	**Mallorca**	**17.59 275**	P		**Pn**	**23 03 05.8 +0.9**
ETOS	**Mallorca**	**17.59 275**	P		**Pn**	**23 03 05.8 +0.9**
ILIN	**Lien**	**17.61 101**	*e*P		**Pn**	**23 03 06.6 +1.4**
ILIN	**Lien**	**17.61 101**	*e*P		**Pn**	**23 03 06.6 +1.4**
CFON	**Fontmartina**	**17.66 282**	P		**Pn**	**23 03 05.5 -0.2**
CFON	**Fontmartina**	**17.66 282**	P		**Pn**	**23 03 05.5 -0.2**
IVIS	**Veis**	**17.70 103**	*e*P		**Pn**	**23 03 07.2 +1.0**
IVIS	**Veis**	**17.70 103**	*e*P		**Pn**	**23 03 07.2 +1.0**
BGF	**Bois d'Agland**	**17.73 298**	*e*P		**Pn**	**23 03 05.8 -0.8**
	comp=Z,90nm,0.9s					
BGF	**Bois d'Agland**	**17.73 298**	*e*P		**Pn**	**23 03 05.8 -0.8**
	comp=Z,90nm,0.9s					
BGF	**Bois d'Agland**	**17.73 298**	*e*P		**Pn**	**23 03 05.8 -0.8**
BGF			pmax	pmax		
	comp=Z,90nm,0.9s					
BGF	**Bois d'Agland**	**17.73 298**	*e*P		**Pn**	**23 03 05.8 -0.8**
	comp=Z,45nm,0.9s					
DOU	**Dourbes**	**17.76 310**	P		**Pn**	**23 03 08.4 +1.6**
	comp=Z,21nm,2.1s					
MTLF	**Montolieu**	**17.80 287**	*e*P		**Pn**	**23 03 05.0 -2.4**
	comp=Z,272nm,1.7s					
MTLF	**Montolieu**	**17.80 287**	*e*P		**Pn**	**23 03 05.0 -2.4**
	comp=Z,272nm,1.7s					
MTLF	**Montolieu**	**17.80 287**	*e*P		**Pn**	**23 03 05.0 -2.4**
MTLF			pmax	pmax		
	comp=Z,273nm,1.7s					
BAIF	**Baives**	**17.97 310**	*e*P		**Pn**	**23 03 08.7 -0.7**
BAIF	**Baives**	**17.97 310**	*e*P		**Pn**	**23 03 08.7 -0.7**
BAIF	**Baives**	**17.97 310**	*e*P		**Pn**	**23 03 08.7 -0.7**
BAIF	**Baives**	**17.97 310**	*e*P		**Pn**	**23 03 08.7 -0.7**
CLLI	**Llivia**	**17.97 285**	P		**Pn**	**23 03 09.5 -0.1**
CLLI	**Llivia**	**17.97 285**	P		**Pn**	**23 03 09.5 -0.1**
CAF	**Calviac**	**18.01 292**	*e*P		**Pn**	**23 03 10.6 +0.6**
	comp=Z,74nm,1.2s					
CAF	**Calviac**	**18.01 292**	*e*P		**Pn**	**23 03 10.6 +0.6**
	comp=Z,74nm,1.2s					
CAF	**Calviac**	**18.01 292**	*e*P		**Pn**	**23 03 10.6 +0.6**
CAF			pmax	pmax		
	comp=Z,74nm,1.2s					
CAF	**Calviac**	**18.01 292**	*e*P		**Pn**	**23 03 10.6 +0.6**
	comp=Z,37nm,1.2s					
VSU	**Vasula**	**18.11 2**	P		**Pn**	**23 03 09.0 -2.1**
VSU	**Vasula**	**18.11 2**	P		**Pn**	**23 03 09.0 -2.1**
SNF	**Seneffe**	**18.11 311**	P		**Pn**	**23 03 10.9 -0.3**
	comp=Z,17nm,1.7s					
EMIR	**Miracle**	**18.33 283**	P		**Pn**	**23 03 15.1 +1.2**
EMIR	**Miracle**	**18.33 283**	P		**Pn**	**23 03 15.1 +1.2**
IKOM	**Komasi**	**18.34 103**	*e*P		**Pn**	**23 03 14.2 +0.1**
IKOM	**Komasi**	**18.34 103**	*e*P		**Pn**	**23 03 14.2 +0.1**
RJF	**Les Rejaudoux**	**18.44 293**	*e*P		**Pn**	**23 03 15.3 0.0**
RJF			*e*R			
	comp=Z,3μm,17.8s					
RJF	**Les Rejaudoux**	**18.44 293**	*e*P		**Pn**	**23 03 15.3 0.0**
RJF	**Les Rejaudoux**	**18.44 293**	*e*P		**Pn**	**23 03 15.3 0.0**
RJF	**Les Rejaudoux**	**18.44 293**	*e*P		**Pn**	**23 03 15.3 0.0**
CSOR	**Sort**	**18.60 284**	P		**Pn**	**23 03 18.2 +1.0**
CSOR	**Sort**	**18.60 284**	P		**Pn**	**23 03 18.2 +1.0**
EPOB	**Poblet**	**18.71 281**	P		**Pn**	**23 03 16.9 -1.6**
EPOB	**Poblet**	**18.71 281**	P		**Pn**	**23 03 16.9 -1.6**
EIBI	**Ibiza**	**18.85 274**	P		**Pn**	**23 03 20.8 +0.5**
EIBI	**Ibiza**	**18.85 274**	P		**Pn**	**23 03 20.8 +0.5**
LFF	**La Frestale**	**18.95 292**	*e*P		**Pn**	**23 03 20.7 -0.8**
	comp=Z,102nm,1.4s					
LFF	**La Frestale**	**18.95 292**	*e*P		**Pn**	**23 03 20.7 -0.8**
	comp=Z,102nm,1.4s					
LFF	**La Frestale**	**18.95 292**	*e*P		**Pn**	**23 03 20.7 -0.8**
LFF			pmax	pmax		
	comp=Z,103nm,1.4s					
LFF	**La Frestale**	**18.95 292**	*e*P		**Pn**	**23 03 20.7 -0.8**
	comp=Z,51nm,1.4s					
EPF	**Esparros**	**19.17 286**	*e*P		**Pn**	**23 03 23.8 -0.3**
	comp=Z,156nm,1.7s					
EPF	**Esparros**	**19.17 286**	P		**Pn**	**23 03 23.3 -0.8**
EPF	**Esparros**	**19.17 286**	P		**Pn**	**23 03 23.3 -0.8**
EPF	**Esparros**	**19.17 286**	P		**Pn**	**23 03 23.3 -0.8**
ERTA	**Horta de San J**	**19.31 280**	P		**Pn**	**23 03 25.4 -0.4**
ERTA	**Horta de San J**	**19.31 280**	P		**Pn**	**23 03 25.4 -0.4**
EBIE	**Bielsa**	**19.32 285**	P		**Pn**	**23 03 25.3 -0.6**
EBIE	**Bielsa**	**19.32 285**	P		**Pn**	**23 03 25.3 -0.6**
ECHA	**Ech Chlef**	**19.62 265**	P		**Pn**	**23 03 33.1 +3.5**
ECHA	**Ech Chlef**	**19.62 265**	P		**Pn**	**23 03 33.1 +3.5**
MFF	**Saint Martin d**	**19.77 297**	*e*P		**Pn**	**23 03 29.9 -1.4**
	comp=Z,250nm,1.6s					
MFF	**Saint Martin d**	**19.77 297**	*e*P		**Pn**	**23 03 29.9 -1.4**
	comp=Z,250nm,1.6s					
MFF	**Saint Martin d**	**19.77 297**	*e*P		**Pn**	**23 03 29.9 -1.4**
MFF			pmax	pmax		
	comp=Z,250nm,1.6s					
MFF	**Saint Martin d**	**19.77 297**	*e*P		**Pn**	**23 03 29.9 -1.4**
	comp=Z,125nm,1.6s					
ESAC	**San Caprasio**	**19.83 282**	P		**Pn**	**23 03 30.3 -1.7**
ESAC	**San Caprasio**	**19.83 282**	P		**Pn**	**23 03 30.3 -1.7**
ETSF	**Etsaut**	**19.83 286**	*e*P		**Pn**	**23 03 31.6 -0.4**
	comp=Z,82nm,1.4s					
ETSF	**Etsaut**	**19.83 286**	P		**Pn**	**23 03 31.4 -0.6**
ETSF	**Etsaut**	**19.83 286**	P		**Pn**	**23 03 31.4 -0.6**
ETSF	**Etsaut**	**19.83 286**	P		**Pn**	**23 03 31.4 -0.6**
EANR	**'Ain N'Sour**	**19.89 265**	P		**Pn**	**23 03 34.2 +1.4**
EANR	**'Ain N'Sour**	**19.89 265**	P		**Pn**	**23 03 34.2 +1.4**
ETRT	**Tiaret**	**19.94 263**	P		**Pn**	**23 03 38.1 +4.7**
ETRT	**Tiaret**	**19.94 263**	P		**Pn**	**23 03 36.5 +3.1**
ETRT			P			23 03 38.1
EMOS	**Mosqueruela**	**19.99 279**	P		**Pn**	**23 03 33.7 -0.3**
EMOS	**Mosqueruela**	**19.99 279**	P		**Pn**	**23 03 33.7 -0.3**
EBEN	**Beniarda**	**20.12 274**	P		**P**	**23 03 36.1 +2.5**
IMHD	**Mahdasht**	**20.12 95**	*e*P		**P**	**23 03 35.3 +1.6**
IMHD	**Mahdasht**	**20.12 95**	*e*P		**P**	**23 03 35.3 +1.6**
LDF	**La Druitiere**	**20.16 303**	*e*P		**P**	**23 03 33.9 -0.1**
	comp=Z,39nm,0.6s					
LDF	**La Druitiere**	**20.16 303**	P		**P**	**23 03 33.9 -0.1**
LDF	**La Druitiere**	**20.16 303**	P		**P**	**23 03 33.9 -0.1**
LDF	**La Druitiere**	**20.16 303**	*e*P		**P**	**23 03 33.9 -0.1**
	comp=Z,20nm,0.6s					
SJPF	**Ste Jean**	**20.31 287**	*e*P		**P**	**23 03 36.5 +0.8**
	comp=Z,46nm,0.6s					
SJPF	**Ste Jean**	**20.31 287**	*e*P		**P**	**23 03 36.5 +0.8**
	comp=Z,46nm,0.6s					
SJPF	**Ste Jean**	**20.31 287**	*e*P		**P**	**23 03 36.5 +0.8**
SJPF			pmax	pmax		
	comp=Z,47nm,0.6s					
SJPF	**Ste Jean**	**20.31 287**	*e*P		**P**	**23 03 36.5 +0.8**
	comp=Z,23nm,0.6s					
FLN	**La Foliniere**	**20.43 303**	*e*P		**P**	**23 03 36.4 -0.6**
	comp=Z,42nm,0.6s					
FLN			*e*R			
	comp=Z,3μm,22.5s					
FLN	**La Foliniere**	**20.43 303**	P		**P**	**23 03 36.0 -1.0**
FLN	**La Foliniere**	**20.43 303**	P		**P**	**23 03 36.0 -1.0**
FLN	**La Foliniere**	**20.43 303**	*e*P		**P**	**23 03 36.4 -0.6**
	comp=Z,21nm,0.6s					
IR3	**Iran Long-Peri**	**20.47 96**	*e*P		**P**	**23 03 38.2 +0.7**
IR3	**Iran Long-Peri**	**20.47 96**	*e*P		**P**	**23 03 38.2 +0.7**
MIB	**Mutribah**	**20.50 114**	*e*P		**P**	**23 03 37.5 -0.3**
MIB			AMb	AMB		23 03 44.0
	comp=Z,263nm,1.0s					
MIB	**Mutribah**	**20.50 114**	*e*P		**P**	**23 03 37.5 -0.3**
	comp=Z,263nm,1.0s					
ECHE	**Chera**	**20.50 277**	P		**P**	**23 03 38.6 +0.8**
ECHE	**Chera**	**20.50 277**	P		**P**	**23 03 38.6 +0.8**
**ECH

ILAS	**Lasjerd**	**21.98**	**94**	*e*P	**P**	**23 03 54.6**	**+0.9**
ILAS	**Lasjerd**	**21.98**	**94**	*e*P	**P**	**23 03 54.6**	**+0.9**
QUIF	**Quistinic**	**22.01**	**300**	*e*P	**P**	**23 03 54.4**	**+0.4**
	comp=Z,99nm,0.9s,mb5.0						
QUIF	**Quistinic**	**22.01**	**300**	P	**P**	**23 03 53.9**	**-0.1**
QUIF	**Quistinic**	**22.01**	**300**	P	**P**	**23 03 53.9**	**-0.1**
QUIF	**Quistinic**	**22.01**	**300**	P	**P**	**23 03 53.9**	**-0.1**
ISHM	**Shahmirzad**	**22.08**	**93**	*e*P	**P**	**23 03 56.2**	**+1.4**
ISHM	**Shahmirzad**	**22.08**	**93**	*e*P	**P**	**23 03 56.2**	**+1.4**
EHUE	**Huescar**	**22.14**	**273**	P	**P**	**23 03 57.1**	**+1.6**
EHUE	**Huescar**	**22.14**	**273**	P	**P**	**23 03 57.1**	**+1.6**
EHUE	**Huescar**	**22.14**	**273**	P	**P**	**23 03 57.1**	**+1.6**
ROSF	**Rostrenen**	**22.15**	**301**	*e*P	**P**	**23 03 55.6**	**+0.1**
	comp=Z,115nm,1.1s,mb4.9						
ROSF	**Rostrenen**	**22.15**	**301**	P	**P**	**23 03 55.2**	**-0.3**
ROSF	**Rostrenen**	**22.15**	**301**	P	**P**	**23 03 55.2**	**-0.3**
ROSF	**Rostrenen**	**22.15**	**301**	*e*P	**P**	**23 03 55.6**	**+0.1**
	comp=Z,58nm,1.1s,mb4.9						
KLMR	**Klimovskoe**	**22.18**	**18**	*e*P	**P**	**23 03 52.5**	**-3.2**
KLMR				pmax	pmax		
	comp=Z,56nm,0.6s,mb5.2						
KLMR				MLR	MLR		
	comp=Z,3μm,11.0s,MS5.0						
IGLO	**Ghaloghah**	**22.26**	**91**	*e*P	**P**	**23 03 59.3**	**+2.6**
EQES	**Quesada**	**22.51**	**273**	P	**P**	**23 03 58.9**	**-0.5**
EQES	**Quesada**	**22.51**	**273**	P	**P**	**23 03 58.9**	**-0.5**
NB2	**NORSAR Subarra**	**22.55**	**341**	P	**P**	**23 03 57.5**	**-2.1**
	comp=Z,30nm,1.1s,mb4.6,baz=145,slow=10						
NB2	**NORSAR Subarra**	**22.55**	**341**	Pn	**P**	**23 04 04.0**	**+4.4**
NB2	**NORSAR Subarra**	**22.55**	**341**	P	**P**	**23 04 04.0**	**+4.4**
NB2	**NORSAR Subarra**	**22.55**	**341**	P	**P**	**23 03 57.5**	**-2.1**
	comp=Z,30nm,1.1s,mb4.6,baz=145,slow=9.6,SNR=9.9						
NB200	**NORSAR Array S**	**22.55**	**341**	P	**P**	**23 03 58.0**	**-1.6**
NB200	**NORSAR Array S**	**22.55**	**341**	P	**P**	**23 03 58.0**	**-1.6**
NOA	**NORSAR Array B**	**22.55**	**341**	P	**P**	**23 03 57.8**	**-1.8**
	comp=Z,6.1nm,0.7s,mb4.1,baz=144,slow=9.5,SNR=41						
NOA				LR	LR	23 13 38.3	
	comp=Z,2μm,18.8s,MS4.5,baz=155,slow=39						
NOA	**NORSAR Array B**	**22.55**	**341**	P	**P**	**23 03 57.8**	**-1.8**
NOA	**NORSAR Array B**	**22.55**	**341**	P	**P**	**23 03 57.8**	**-1.8**
NOA				MLR	MLR		
	comp=Z,2μm,18.8s						
NOA	**NORSAR Array B**	**22.55**	**341**	P	**P**	**23 03 57.8**	**-1.8**
	comp=Z,2μm,18.8s						
EBER	**Berja**	**22.63**	**270**	P	**P**	**23 03 59.6**	**-1.1**
EBER	**Berja**	**22.63**	**270**	P	**P**	**23 03 59.6**	**-1.1**
IANJ	**Anjilo**	**22.67**	**93**	*e*P	**P**	**23 04 01.5**	**+0.4**
IANJ	**Anjilo**	**22.67**	**93**	*e*P	**P**	**23 04 01.5**	**+0.4**
GUD	**Guadarrama**	**22.72**	**280**	P	**P**	**23 04 00.7**	**-0.9**
GUD	**Guadarrama**	**22.72**	**280**	P	**P**	**23 04 00.7**	**-0.9**
GUD	**Guadarrama**	**22.72**	**280**	P	**P**	**23 04 00.7**	**-0.9**
ESDC	**Sonseca Array**	**22.75**	**278**	P	**P**	**23 04 00.8**	**-1.2**
	comp=Z,4.0nm,0.6s,mb4.0,baz=70,slow=10.0,SNR=32						
ESDC	**Sonseca Array**	**22.75**	**278**	P	**P**	**23 04 00.8**	**-1.2**
ESDC	**Sonseca Array**	**22.75**	**278**	P	**P**	**23 04 00.8**	**-1.2**
JOF	**Joensuu**	**22.82**	**7**	*e*P	**P**	**23 04 01.2**	**-1.2**
JOF				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.7						
JOF	**Joensuu**	**22.82**	**7**	*e*p	**P**	**23 04 01.2**	**-1.2**
	comp=Z,16nm,0.5s,mb4.7						
JOF	**Joensuu**	**22.82**	**7**	*e*P	**P**	**23 04 01.2**	**-1.2**
	comp=Z,16nm,0.5s,mb4.7						
ECOG	**Cogollos-Vega**	**23.03**	**272**	P	**P**	**23 04 04.3**	**-0.6**
ECOG	**Cogollos-Vega**	**23.03**	**272**	P	**P**	**23 04 04.3**	**-0.6**
ECOG	**Cogollos-Vega**	**23.03**	**272**	P	**P**	**23 04 04.3**	**-0.6**
EALB	**Alboran**	**23.05**	**268**	P	**P**	**23 04 05.9**	**+0.8**
EALB	**Alboran**	**23.05**	**268**	P	**P**	**23 04 05.9**	**+0.8**
EGUA	**Guajares**	**23.16**	**271**	P	**P**	**23 04 05.6**	**-0.7**
EGUA	**Guajares**	**23.16**	**271**	P	**P**	**23 04 05.6**	**-0.7**
EGUA	**Guajares**	**23.16**	**271**	P	**P**	**23 04 05.6**	**-0.7**
EARI	**Arriondas**	**23.22**	**287**	P	**P**	**23 04 05.8**	**-1.0**
EARI	**Arriondas**	**23.22**	**287**	P	**P**	**23 04 05.8**	**-1.0**
ERON	**Agron**	**23.29**	**271**	P	**P**	**23 04 06.3**	**-1.4**
ERON	**Agron**	**23.29**	**271**	P	**P**	**23 04 06.3**	**-1.4**
ELOJ	**Sierra Loja**	**23.52**	**272**	P	**P**	**23 04 08.8**	**-1.3**
ELOJ	**Sierra Loja**	**23.52**	**272**	P	**P**	**23 04 08.8**	**-1.3**
ELOJ	**Sierra Loja**	**23.52**	**272**	P	**P**	**23 04 08.8**	**-1.3**
EADA	**Adamuz**	**23.56**	**274**	P	**P**	**23 04 08.9**	**-1.6**
EADA	**Adamuz**	**23.56**	**274**	P	**P**	**23 04 08.9**	**-1.6**
EMIJ	**Mijas**	**24.17**	**271**	P	**P**	**23 04 15.6**	**-0.5**
EMIJ	**Mijas**	**24.17**	**271**	P	**P**	**23 04 15.6**	**-0.5**
EPLA	**Plasencia**	**24.27**	**280**	P	**P**	**23 04 15.5**	**-1.5**
EPLA	**Plasencia**	**24.27**	**280**	P	**P**	**23 04 15.5**	**-1.5**
EPLA	**Plasencia**	**24.27**	**280**	P	**P**	**23 04 15.5**	**-1.5**
ESK	**Eskdalemuir**	**24.30**	**318**	*e*P	**P**	**23 04 16.1**	**-0.9**
	comp=Z,163nm,1.7s,mb5.2						
ESK	**Eskdalemuir**	**24.30**	**318**	*i* P	**P**	**23 04 16.9**	**-0.1**
ESK	**Eskdalemuir**	**24.30**	**318**	*i* P	**P**	**23 04 16.9**	**-0.1**
ECAL	**Calabor**	**24.46**	**284**	P	**P**	**23 04 18.2**	**-0.5**
ECAL	**Calabor**	**24.46**	**284**	P	**P**	**23 04 18.2**	**-0.5**
PBRG	**Braganca**	**24.49**	**284**	*e*P	**P**	**23 04 18.9**	**0.0**
	comp=Z,68nm,1.7s,mb4.8						
PBRG				*e*S	**S**	**23 08 46.0**	**+6.7**
PBRG				A		23 17 42.9	
	comp=Z,1μm,16.0s						
PBRG	**Braganca**	**24.49**	**284**	P	**P**	**23 04 20.4**	**+1.5**
PBRG	**Braganca**	**24.49**	**284**	*e*P	**P**	**23 04 18.9**	**0.0**
	comp=Z,68nm,1.7s,mb4.8						
AKTK	**Aktyubinsk**	**24.58**	**55**	P	**P**	**23 04 19.1**	**-0.6**
AKTK	**Aktyubinsk**	**24.58**	**55**	P	**P**	**23 04 19.1**	**-0.6**
AKTO	**Aktyubinsk**	**24.58**	**55**	P	**P**	**23 04 19.0**	**-0.7**
	comp=Z,5.6nm,0.7s,mb4.2,baz=249,slow=11,SNR=18						
AKTO	**Aktyubinsk**	**24.58**	**55**	P	**P**	**23 04 19.0**	**-0.7**
AKTO	**Aktyubinsk**	**24.58**	**55**	P	**P**	**23 04 19.0**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
AKTO	**Aktyubinsk**	**24.58**	**55**	P	**P**	**23 04 19.0**	**-0.7**
EPON	**Pontenova**	**24.63**	**288**	P	**P**	**23 04 18.1**	**-2.1**
EPON	**Pontenova**	**24.63**	**288**	P	**P**	**23 04 18.1**	**-2.1**
EJIF	**Jimena Fronter**	**24.74**	**271**	P	**P**	**23 04 21.7**	**+0.5**
EJIF	**Jimena Fronter**	**24.74**	**271**	P	**P**	**23 04 21.7**	**+0.5**
EJIF	**Jimena Fronter**	**24.74**	**271**	P	**P**	**23 04 21.7**	**+0.5**
MVO	**Moncorvo**	**24.79**	**283**	*e*P	**P**	**23 04 22.7**	**+1.0**
	comp=Z,70nm,1.6s,mb4.9						
MVO				*e*S	**S**	**23 08 53.8**	**+10**
MVO				A		23 16 58.3	
	comp=Z,681nm,18.0s						
MVO	**Moncorvo**	**24.79**	**283**	P	**P**	**23 04 23.5**	**+1.8**
MVO	**Moncorvo**	**24.79**	**283**	*e*P	**P**	**23 04 22.7**	**+1.0**
	comp=Z,70nm,1.6s,mb4.9						
ABKT	**Ailbek**	**25.11**	**85**	P	**P**	**23 04 26.5**	**+1.9**
	comp=Z,415nm,1.0s,mb5.9,SNR=11						
EMIN	**Mina Concepcio**	**25.26**	**275**	P	**P**	**23 04 25.4**	**-0.6**
EMIN	**Mina Concepcio**	**25.26**	**275**	P	**P**	**23 04 25.4**	**-0.6**
EBAD	**Badajoz**	**25.27**	**277**	P	**P**	**23 04 23.6**	**-2.4**
EBAD	**Badajoz**	**25.27**	**277**	P	**P**	**23 04 23.6**	**-2.4**
PVRL	**Vila Real**	**25.29**	**283**	*e*P	**P**	**23 04 27.9**	**+1.7**
PVRL	**Vila Real**	**25.29**	**283**	*e*P	**P**	**23 04 27.9**	**+1.7**
MTE	**Manteigas**	**25.31**	**281**	*e*P	**P**	**23 04 26.7**	**+0.3**
	comp=Z,92nm,1.5s,mb5.1						
MTE				*e*S	**S**	**23 09 04.2**	**+12**
MTE				A		23 15 17.2	
	comp=Z,829nm,18.0s						
MTE	**Manteigas**	**25.31**	**281**	*e*P	**P**	**23 04 26.6**	**+0.2**
	comp=Z,78nm,1.3s,mb5.1						
MTE	**Manteigas**	**25.31**	**281**	*e*P	**P**	**23 04 26.6**	**+0.2**
	comp=Z,77nm,1.3s,mb5.1						
POLO	**Lamas de Olo**	**25.33**	**283**	*e*P	**P**	**23 04 28.2**	**+1.6**
	comp=Z,33nm,1.7s,mb4.6						
POLO				*e*S	**S**	**23 09 05.7**	**+13**
POLO				A		23 18 10.6	
	comp=Z,537nm,16.0s						
POLO	**Lamas de Olo**	**25.33**	**283**	*e*P	**P**	**23 04 28.2**	**+1.6**
	comp=Z,33nm,1.7s,mb4.6						
PCBR	**Castelo Branco**	**25.37**	**280**	*e*P	**P**	**23 04 27.2**	**+0.2**
	comp=Z,47nm,1.4s,mb4.8						
PCBR	**Castelo Branco**	**25.37**	**280**	P	**P**	**23 04 27.7**	**+0.7**
PCBR	**Castelo Branco**	**25.37**	**280**	*e*P	**P**	**23 04 27.2**	**+0.2**
	comp=Z,47nm,1.4s,mb4.8						
PMRV	**Marv??o**	**25.40**	**279**	*e*P	**P**	**23 04 28.0**	**+0.8**
	comp=Z,59nm,1.6s,mb4.9						
PMRV				*e*S	**S**	**23 09 03.9**	**+10**
PMRV				A		23 16 43.2	
	comp=Z,1μm,18.0s						
PMRV	**Marv??o**	**25.40**	**279**	P	**P**	**23 04 28.2**	**+1.0**
PMRV	**Marv??o**	**25.40**	**279**	*e*P	**P**	**23 04 28.0**	**+0.8**
	comp=Z,59nm,1.6s,mb4.9						
PBAR	**Barrancos**	**25.43**	**276**	*e*S	**S**	**23 09 04.8**	**+10**
PBAR				A		23 15 09.8	
	comp=Z,930nm,18.0s						
PCAB	**Cabril**	**25.45**	**284**	*e*P	**P**	**23 04 30.9**	**+3.2**
PVIS	**Viseu**	**25.52**	**282**	*e*P	**P**	**23 04 30.5**	**+2.2**
	comp=Z,57nm,1.5s,mb4.9						
PVIS	**Viseu**	**25.52**	**282**	*e*P	**P**	**23 04 30.5**	**+2.2**
	comp=Z,57nm,1.5s,mb4.9						
PGAV	**Gavieira, Arco**	**25.59**	**285**	*e*P	**P**	**23 04 31.2**	**+2.2**
PGAV				*e*S	**S**	**23 09 15.8**	**+19**
PGAV				A		23 17 51.8	
	comp=Z,1μm,16.0s						
PGAV	**Gavieira, Arco**	**25.59**	**285**	*e*P	**P**	**23 04 31.2**	**+2.2**
AB31	**Akbulak array**	**25.62**	**58**	P	**P**	**23 04 28.8**	**-0.3**
AB31	**Akbulak array**	**25.62**	**58**	*ce*P	**P**	**23 04 28.7**	**-0.4**
AB31				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
AB31	**Akbulak array**	**25.62**	**58**	P	**P**	**23 04 28.8**	**-0.3**
ABKAR	**Akbulak array**	**25.62**	**58**	*e*P	**P**	**23 04 28.8**	**-0.2**
ABKAR	**Akbulak array**	**25.62**	**58**	*e*P	**P**	**23 04 28.8**	**-0.3**
IEMG	**Emamgholi**	**25.66**	**86**	*e*P	**P**	**23 04 30.4**	**+0.8**
IEMG	**Emamgholi**	**25.66**	**86**	*e*P	**P**	**23 04 30.4**	**+0.8**
PESTR	**Estremoz**	**25.68**	**278**	*e*P	**P**	**23 04 27.7**	**-2.0**
	comp=Z,53nm,1.4s,mb4.9						
PESTR				*e*S	**S**	**23 09 11.5**	**+13**
PESTR				A		23 15 44.8	
	comp=Z,725nm,16.0s						
PESTR	**Estremoz**	**25.68**	**278**	*e*P	**P**	**23 04 27.7**	**-2.0**
	comp=Z,53nm,1.4s,mb4.9						
STS	**Santiago**	**25.69**	**287**	P	**P**	**23 04 28.8**	**-1.0**
STS	**Santiago**	**25.69**	**287**	P	**P**	**23 04 28.8**	**-1.0**
STS	**Santiago**	**25.69**	**287**	P	**P**	**23 04 28.8**	**-1.0**
EMAZ	**Mazaricos**	**25.99**	**287**	P	**P**	**23 04 31.5**	**-1.1**
EMAZ	**Mazaricos**	**25.99**	**287**	P	**P**	**23 04 31.5**	**-1.1**
EVO	**Evora**	**26.08**	**277**	*e*P	**P**	**23 04 33.9**	**+0.5**
	comp=Z,28nm,1.2s,mb4.4						
EVO				*e*R			
	comp=Z,965nm,18.5s						
PBEJ	**Beja**	**26.10**	**276**	*e*P	**P**	**23 04 35.0**	**+1.4**
PBEJ	**Beja**	**26.10**	**276**	*e*P	**P**	**23 04 35.0**	**+1.4**
PMTG	**Montargil**	**26.11**	**278**	*e*P	**P**	**23 04 36.7**	**+3.0**
	comp=Z,33nm,1.3s,mb4.7						
PTOM	**Tomar**	**26.12**	**280**	*e*P	**P**	**23 04 34.2**	**+0.4**
	comp=Z,81nm,1.9s,mb4.9						
PTOM	**Tomar**	**26.12**	**280**	P	**P**	**23 04 34.6**	**+0.8**
PTOM	**Tomar**	**26.12**	**280**	*e*P	**P**	**23 04 34.2**	**+0.4**
	comp=Z,81nm,1.9s,mb4.9						
PVAQ	**Vaqueiros**	**26.16**	**274**	*e*S	**S**	**23 09 20.8**	**+15**
PVAQ				A		23 18 34.2	
	comp=Z,612nm,18.0s						
EVOP	**Sao Brissos**	**26.16**	**277**	*e*P	**P**	**23 04 33.9**	**-0.3**
	comp=Z,28nm,1.2s,mb4.7						
EVOP	**Sao Brissos**	**26.16**	**277**	*e*P	**P**	**23 04 33.9**	**-0.3**
EVOP				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.7						
EVOP	**Sao Brissos**	**26.16**	**277**	*e*P	**P**	**23 04 33.9**	**-0.3**
	comp=Z,14nm,1.2s,mb4.4						
PCVE	**Castro Verde**	**26.34**	**275**	*e*P	**P**	**23 04 37.6**	**+1.8**
PCVE				*e*S	**S**	**23 09 20.1**	**+11**
PCVE				A		23 16 48.3	
	comp=Z,655nm,18.0s						
PCVE	**Castro Verde**	**26.34**	**275**	*e*P	**P**	**23 04 37.6**	**+1.8**
PBDV	**Barranco-do-Ve**	**26.37**	**274**	*e*P	**P**	**23 04 37.3**	**+1.2**
PBDV				*e*S	**S**	**23 09 22.8**	**+13**
PBDV				A		23 18 41.3	
	comp=Z,467nm,18.0s						
PBDV	**Barranco-do-Ve**	**26.37**	**274**	*e*P	**P**	**23 04 37.3**	**+1.2**
PNCL	**Nicolau / Gran**	**26.58**	**276**	*e*P	**P**	**23 04 37.4**	**-0.5**
PNCL				*e*S	**S**	**23 09 20.6**	**+7.9**
PNCL				A		23 16 04.1	
	comp=Z,1μm,16.0s						
PNCL	**Nicolau / Gran**	**26.58**	**276**	*e*P	**P**	**23 04 37.4**	**-0.5**
ISRO	**Mashad**	**26.63**	**88**	*e*P	**P**	**23 04 39.3**	**+0.9**
ISRO	**Mashad**	**26.63**	**88**	*e*P	**P**	**23 04 39.3**	**+0.9**
ARU	**Arti**	**26.70**	**42**	*e*P	**P**	**23 04 37.5**	**-1.3**
	comp=Z,126nm,1.2s,mb5.3						
ARU	**Arti**	**26.70**	**42**	*d i*P	**P**	**23 04 40.7**	**+1.9**
ARU				*e*		23 05 21.9	
ARU				*e*PPP		23 05 32.0	
ARU				*e*		23 08 03.7	
ARU				SS		23 10 21.2	
ARU				SSS		23 10 45.4	
ARU				pmax	pmax		
	comp=Z,80nm,1.7s,mb5.0						
ARU				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.7						
ARU	**Arti**	**26.70**	**42**	P	**P**	**23 04 40.5**	**+1.7**
	comp=Z,486nm,1.1s,mb5.9,SNR=6.3						
ARU	**Arti**	**26.70**	**42**	*e*P	**P**	**23 04 37.5**	**-1.3**
	comp=Z,126nm,1.2s,mb5.3						
ARU	**Arti**	**26.70**	**42**	*e*PcP	PcP	23 08 03.7	+1.7
MORF	**Marmelete**	**26.90**	**275**	*e*S	**S**	**23 09 32.3**	**+15**
MORF				A		23 17 06.0	
	comp=Z,648nm,18.0s						
PMAFR	**Mafra**	**26.93**	**278**	*e*S	**S**	**23 09 35.4**	**+17**
PMAFR				A		23 17 39.6	
	comp=Z,1μm,18.0s						
PFVI	**Vila Bisbo**	**27.09**	**274**	*e*S	**S**	**23 09 35.0**	**+14**
PFVI				A		23 19 10.3	
	comp=Z,657nm,18.0s						
SOKR	**Solikamsk**	**27.28**	**35⇑**	*i*P	**P**	**23 04 44.5**	**+0.5**
SOKR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.7						
SOKR	**Solikamsk**	**27.28**	**35**	*i* P	**P**	**23 04 44.5**	**+0.5**
	comp=Z,2μm,21.0s						
APA	**Apatity**	**27.57**	**6⇓**	*i*P	**P**	**23 04 50.2**	**+3.7**
APA				*i*		23 05 48.0	
APA				pmax	pmax		
	comp=Z,108nm,1.4s,mb5.3						
APA				MLR	MLR		
	comp=Z,3μm,16.0s,MS5.0						
SVE	**Sverdlovsk**	**27.91**	**42⇑**	*e*P	**P**	**23 04 49.2**	**-0.4**
SVE				*e*S	**S**	**23 09 34.1**	**+0.9**
SVE				*e*		23 15 38.3	
SVE				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.1						
SVE				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.8						
SVE	**Sverdlovsk**	**27.91**	**42**	*e*P	**P**	**23 04 49.2**	**-0.4**
	comp=Z,61nm,1.1s,mb5.1						
SVE				*e*S	**S**	**23 09 34.1**	**+0.9**
LVZ	**Lovozero**	**28.00**	**7**	P	**P**	**23 04 51.6**	**+1.3**
LVZ	**Lovozero**	**28.00**	**7**	*e*P	**P**	**23 04 51.6**	**+1.3**
LVZ	**Lovozero**	**28.00**	**7**	*e*P	**P**	**23 04 51.6**	**+1.3**
IDAH	**Dahanechah**	**28.28**	**95**	*e*P	**P**	**23 04 59.2**	**+5.9**
ARCES	**ARCESS Array B**	**29.22**	**360**	LR	LR	23 17 13.4	
	comp=Z,3μm,18.3s,MS5.0,baz=170,slow=38						
ARQ	**Araqi**	**30.93**	**114**	P	**P**	**23 05 22.0**	**+5.2**
	SNR=6.2						
ZRNK	**Zerenda**	**31.72**	**52**	P	**P**	**23 05 23.0**	**-0.4**
ZRNK	**Zerenda**	**31.72**	**52**	P	**P**	**23 05 23.0**	**-0.4**
ZRNK	**Zerenda**	**31.72**	**52**	P	**P**	**23 05 23.0**	**-0.4**
BRVK	**Borovoye**	**32.50**	**52**	*e*P	**P**	**23 05 30.6**	**+0.4**
	comp=Z,36nm,1.2s,mb5.1						
BRVK	**Borovoye**	**32.50**	**52**	*e*P	**P**	**23 05 30.4**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.7						
BRVK	**Borovoye**	**32.50**	**52**	P	**P**	**23 05 31.3**	**+1.0**
	SNR=15						
BRVK	**Borovoye**	**32.50**	**52**	*e*P	**P**	**23 05 30.6**	**+0.3**
	comp=Z,36nm,1.2s,mb5.1						
BVAR	**Borovoye Array**	**32.56**	**52**	P	**P**	**23 05 30.9**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=250,slow=8.8,SNR=12						
BVAR	**Borovoye Array**	**32.56**	**52**	P	**P**	**23 05 30.9**	**+0.1**
BVAR	**Borovoye Array**	**32.56**	**52**	P	**P**	**23 05 30.9**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**32.56**	**52**	P	**P**	**23 05 30.9**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.9						
WBK	**Wadi Bani Khal**	**33.12**	**112**	P	**P**	**23 05 41.3**	**+5.2**
	SNR=5.5						
KKAR	**Karatay Array**	**33.18**	**70**	*e*P	**P**	**23 05 36.7**	**+0.3**
KKAR	**Karatay Array**	**33.18**	**70**	*e*P	**P**	**23 05 36.7**	**+0.3**
KKAR	**Karatay Array**	**33.18**	**70**	*e*P	**P**	**23 05 36.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**34.40**	**225**	P	**P**	**23 05 46.6**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.2,baz=34,slow=8.8,SNR=26						
TORD				LR	LR	23 22 04.5	
	comp=Z,506nm,18.9s,MS4.3,baz=25,slow=40						
TORD	**Torodi Ar. Bea**	**34.40**	**225**	P	**P**	**23 05 46.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**34.40**	**225**	P	**P**	**23 05 46.7**	**-0.5**
KBL	**Kabul**	**34.56**	**86**	*e*P	**P**	**23 05 49.6**	**+1.2**
	comp=Z,9.6nm,1.1s,mb4.6						
KBL	**Kabul**	**34.56**	**86**	*e*P	**P**	**23 05 49.6**	**+1.1**
KBL				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
KBL	**Kabul**	**34.56**	**86**	*e*P	**P**	**23 05 49.6**	**+1.1**
	comp=Z,9.6nm,1.1s,mb4.6						
EKS2	**Erkin-Say**	**35.62**	**70**	P	**P**	**23 05 58.6**	**+1.0**
	SNR=12						
EKS2				P		23 05 58.6	
	SNR=12						
EKS2	**Erkin-Say**	**35.62**	**70**	*e*P	**P**	**23 05 58.5**	**+0.9**
	comp=Z,39nm,1.1s,mb5.2						
EKS2	**Erkin-Say**	**35.62**	**70**	*e*P	**P**	**23 05 58.5**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.2						
EKS2	**Erkin-Say**	**35.62**	**70**	*e*P	**P**	**23 05 58.5**	**+1.0**
	comp=Z,39nm,1.1s,mb5.2						
USP	**Ospenovka**	**36.01**	**69**	P	**P**	**23 06 01.0**	**+0.2**
	SNR=8.1						
USP				P		23 06 01.0	
	SNR=8.1						
USP	**Ospenovka**	**36.01**	**69**	P	**P**	**23 06 01.0**	**+0.2**
USP	**Ospenovka**	**36.01**	**69**	P	**P**	**23 06 01.0**	**+0.2**
USP	**Ospenovka**	**36.01**	**69**	P	**P**	**23 06 01.0**	**+0.2**
AAK	**Ala-Archa**	**36.14**	**70**	P	**P**	**23 06 03.1**	**+1.1**
	SNR=11						
AAK				P		23 06 03.1	
	SNR=11						
AAK	**Ala-Archa**	**36.14**	**70**	*e*P	**P**	**23 06 03.0**	**+1.0**
	comp=Z,994nm,2.4s						
AAK	**Ala-Archa**	**36.14**	**70**	*i* P	**P**	**23 06 03.1**	**+1.1**
AAK	**Ala-Archa**	**36.14**	**70**	P	**P**	**23 06 03.5**	**+1.5**
	SNR=23						
AAK	**Ala-Archa**	**36.14**	**70**	*e*P	**P**	**23 06 03.0**	**+1.0**
	comp=Z,994nm,2.4s						
FRU	**Bishkek**	**36.19**	**70**	*e*P	**P**	**23 06 03.0**	**+0.6**
FRU				pmax	pmax		
	comp=Z,95nm,1.8s,mb5.4						
FRU	**Bishkek**	**36.19**	**70**	*e*P	**P**	**23 06 03.0**	**+0.6**
	comp=Z,95nm,1.8s,mb5.4						
BORG	**Borgarnes**	**36.30**	**328**	P	**P**	**23 06 05.0**	**+1.9**
	comp=Z,22nm,1.0s,mb5.1,baz=123,slow=6.1,SNR=6.3						
BORG	**Borgarnes**	**36.30**	**328**	P	**P**	**23 06 05.0**	**+1.9**
BORG	**Borgarnes**	**36.30**	**328**	P	**P**	**23 06 05.0**	**+1.9**
BORG				pmax	pmax		
	comp=Z,22nm,1.0s						
BORG	**Borgarnes**	**36.30**	**328**	P	**P**	**23 06 05.0**	**+1.9**
	comp=Z,22nm,1.0s,mb5.0						
KBK	**Karagaybulak**	**36.46**	**70**	P	**P**	**23 06 05.3**	**+0.6**
	SNR=6.3						
KBK				P		23 06 05.3	
	SNR=6.3						
KBK	**Karagaybulak**	**36.46**	**70**	P	**P**	**23 06 05.3**	**+0.6**
KBK	**Karagaybulak**	**36.46**	**70**	P	**P**	**23 06 05.3**	**+0.6**
KBK	**Karagaybulak**	**36.46**	**70**	P	**P**	**23 06 05.3**	**+0.6**
KZA	**Kyzart**	**36.82**	**71**	P	**P**	**23 06 09.6**	**+1.8**
	SNR=12						
KZA				P		23 06 09.6	
	SNR=12						
KZA	**Kyzart**	**36.82**	**71**	P	**P**	**23 06 09.6**	**+1.8**
KZA	**Kyzart**	**36.82**	**71**	P	**P**	**23 06 09.6**	**+1.8**
KZA	**Kyzart**	**36.82**	**71**	P	**P**	**23 06 09.6**	**+1.8**
TKM2	**Tokmak 2**	**36.87**	**69**	*e*P	**P**	**23 06 09.0**	**+0.9**
	comp=Z,14nm,1.3s,mb4.6						
TKM2	**Tokmak 2**	**36.87**	**69**	*i* P	**P**	**23 06 08.5**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.7						
TKM2	**Tokmak 2**	**36.87**	**69**	*i* P	**P**	**23 06 08.5**	**+0.3**
	comp=Z,

comp=Z,18nm,0.7s,mb5.0,baz=325,slow=1.6,SNR=3.3
BBTS Babate 44.85 248 P **P 23 07 15.8 +1.5**
BBTS Babate 44.85 248 P **P 23 07 15.8 +1.5**
WMQ Urumqi 45.12 64 P **P 23 07 16.5 +0.4**
WMQ PP PP 23 09 03.0 +1.7
WMQ SS SS 23 17 05.8 -12
WMQ pmax pmax
comp=Z,43nm,1.0s,mb5.2
WMQ pmax pmax
comp=Z,380nm,8.0s
WMQ LR LR
comp=N,1μm,16.6s,MS5.1
WMQ LR LR
comp=E,1μm,14.4s,MS5.1
WMQ LR LR
comp=Z,650nm,22.4s
POO Poona 46.50 103⇑ *i*P **P 23 07 31.0 +3.7**
comp=Z,30nm,1.0s,mb5.2
DANN Dangsing 48.55 85 *e*P **P 23 07 43.0 -0.2**
comp=Z,120nm,1.0s,mb5.9
DANN Dangsing 48.55 85 *e*P **P 23 07 43.0 -0.2**
comp=Z,120nm,1.0s,mb5.9
DANN Dangsing 48.55 85 *e*P **P 23 07 43.0 -0.2**
comp=Z,120nm,1.0s,mb5.9
KOLN Koldanda 48.72 86 *e*P **P 23 07 43.8 -0.7**
comp=Z,54nm,1.1s,mb5.5
KOLN Koldanda 48.72 86 *e*P **P 23 07 43.8 -0.7**
comp=Z,54nm,1.1s,mb5.5
KOLN Koldanda 48.72 86 *e*P **P 23 07 43.8 -0.7**
comp=Z,54nm,1.1s,mb5.5
GKN Gorkha 49.39 85 *e*P **P 23 07 49.0 -0.6**
comp=Z,76nm,1.1s,mb5.6
GKN Gorkha 49.39 85 *e*P **P 23 07 49.0 -0.6**
comp=Z,76nm,1.1s,mb5.6
GKN Gorkha 49.39 85 *e*P **P 23 07 49.0 -0.6**
comp=Z,76nm,1.1s,mb5.6
DMN Daman 49.95 86 *e*P **P 23 07 53.7 -0.2**
comp=Z,88nm,1.1s,mb5.7
DMN Daman 49.95 86 *e*P **P 23 07 53.7 -0.2**
comp=Z,88nm,1.1s,mb5.7
DMN Daman 49.95 86 *e*P **P 23 07 53.7 -0.2**
comp=Z,88nm,1.1s,mb5.7
KKN Kakani 49.99 85 *e*P **P 23 07 53.8 -0.4**
comp=Z,40nm,1.2s,mb5.3
KKN Kakani 49.99 85 *e*P **P 23 07 53.8 -0.4**
comp=Z,40nm,1.2s,mb5.3
KKN Kakani 49.99 85 *e*P **P 23 07 53.8 -0.4**
KKN pmax pmax
comp=Z,40nm,1.2s,mb5.3
KKN Kakani 49.99 85 *e*P **P 23 07 53.8 -0.4**
comp=Z,40nm,1.2s,mb5.3
PKI Pulchoki 50.20 85 *e*P **P 23 07 55.5 -0.3**
comp=Z,104nm,1.6s,mb5.6
PKI Pulchoki 50.20 85 *e*P **P 23 07 55.5 -0.3**
comp=Z,104nm,1.6s,mb5.6
PKI Pulchoki 50.20 85 *e*P **P 23 07 55.5 -0.3**
PKI pmax pmax
comp=Z,104nm,1.6s,mb5.6
PKI Pulchoki 50.20 85 *e*P **P 23 07 55.5 -0.3**
comp=Z,104nm,1.6s,mb5.6
GUN Gumba 50.39 85 *e*P **P 23 07 56.8 -0.4**
comp=Z,82nm,1.1s,mb5.7
GUN Gumba 50.39 85 *e*P **P 23 07 56.8 -0.4**
comp=Z,82nm,1.1s,mb5.7
GUN Gumba 50.39 85 *e*P **P 23 07 56.8 -0.4**
comp=Z,82nm,1.1s,mb5.7
HYB Hyderabad 50.70 101 *i*P **P 23 08 02.0 +2.3**
JIRN Jiri 50.75 85 *e*P **P 23 07 59.3 -0.6**
comp=Z,15nm,1.2s,mb4.8
JIRN Jiri 50.75 85 *e*P **P 23 07 59.3 -0.6**
comp=Z,15nm,1.2s,mb4.8
JIRN Jiri 50.75 85 *e*P **P 23 07 59.3 -0.6**
comp=Z,15nm,1.2s,mb4.8
MOY Mondy 51.22 51 *e*P **P 23 08 09.0 +5.9**
MOY pmax pmax
comp=Z,22nm,2.0s,mb4.7
RAMN Ramite 51.43 85 *e*P **P 23 08 03.9 -1.1**
comp=Z,86nm,1.0s,mb5.6
RAMN Ramite 51.43 85 *e*P **P 23 08 03.9 -1.1**
comp=Z,86nm,1.0s,mb5.6
RAMN Ramite 51.43 85 *e*P **P 23 08 03.9 -1.1**
comp=Z,86nm,1.0s,mb5.6
TAPN Taplejung 52.07 84 *e*P **P 23 08 09.4 -0.4**
comp=Z,38nm,1.0s,mb5.3
TAPN Taplejung 52.07 84 *e*P **P 23 08 09.4 -0.4**
comp=Z,38nm,1.0s,mb5.3
TAPN Taplejung 52.07 84 *e*P **P 23 08 09.4 -0.4**
comp=Z,38nm,1.0s,mb5.3
ODAN Odare 52.08 85 *e*P **P 23 08 08.5 -1.4**
comp=Z,61nm,1.1s,mb5.4
ODAN Odare 52.08 85 *e*P **P 23 08 08.5 -1.4**
comp=Z,61nm,1.1s,mb5.4
ODAN Odare 52.08 85 *e*P **P 23 08 08.5 -1.4**
comp=Z,61nm,1.1s,mb5.4
TLY Talaya 52.77 50 *e*P **P 23 08 20.4 +5.7**
TLY Talaya 52.77 50 *e*P **P 23 08 18.5 +3.8**
TLY *e*S **S 23 15 38.7 -4.1**
TLY pmax pmax
comp=Z,25nm,1.1s,mb5.1
TLY MLR MLR
comp=Z,200nm,19.0s,MS4.2
ZAK Zakamensk 53.01 51 *e*P **P 23 08 17.5 +1.0**
ZAK pmax pmax
comp=Z,16nm,1.2s,mb4.8
ZAK Zakamensk 53.01 51 *e*P **P 23 08 17.5 +1.0**
comp=Z,16nm,1.2s,mb4.8
LSA Lhasa 53.47 80 *e*P **P 23 08 19.8 -0.4**
GTA Gaotai 55.18 65⇑P **P 23 08 32.5 0.0**
GTA pP pP 23 08 37.3 +2.2
GTA sP sP 23 08 39.5 +3.4
GTA S **S 23 16 15.0 -0.9**
GTA sS sS 23 16 23.0 +2.9
GTA SS SS 23 19 58.8 -0.7
GTA pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
GTA pmax pmax
comp=Z,290nm,4.0s
GTA LR LR
comp=N,510nm,17.6s,MS4.8
GTA LR LR
comp=E,470nm,19.5s,MS4.8
GTA LR LR
comp=Z,580nm,20.4s,MS4.7
SONM Songino Array 55.88 53 P **P 23 08 38.0 +0.6**
comp=Z,9.8nm,1.2s,mb4.7,baz=288,slow=8.0,SNR=19
SONM LR LR 23 36 45.9
comp=Z,772nm,19.8s,MS4.8,baz=173,slow=41
SONM Songino Array 55.88 53 P **P 23 08 38.0 +0.6**
SONM Songino Array 55.88 53 P **P 23 08 38.0 +0.6**
SONM pmax pmax
comp=Z,10.0nm,1.2s
SONM MLR MLR
comp=Z,772nm,19.8s
SONM Songino Array 55.88 53 P **P 23 08 38.0 +0.6**
comp=Z,772nm,19.8s
BOD Bodaibo 56.09 40 *e*P **P 23 08 37.8 -0.9**
BOD pmax pmax
comp=Z,19nm,1.1s,mb5.0
BOD Bodaibo 56.09 40 *e*P **P 23 08 37.8 -0.9**
comp=Z,19nm,1.1s,mb5.0
ULN Ulaanbaatar 56.27 53 *e*P **P 23 08 40.6 +0.4**
comp=Z,28nm,1.1s,mb5.2
ULN Ulaanbaatar 56.27 53 *e*P **P 23 08 40.6 +0.4**
ULN pmax pmax
comp=Z,28nm,1.1s,mb5.2
ULN Ulaanbaatar 56.27 53 *e*P **P 23 08 40.6 +0.4**
comp=Z,28nm,1.1s,mb5.2
FRB Frobisher Bay 56.48 328 P **P 23 08 41.7 +0.3**
comp=Z,4.3nm,0.6s,mb4.7,baz=73,slow=8.4,SNR=18
FRB Frobisher Bay 56.48 328 P **P 23 08 41.7 +0.3**
FRB Frobisher Bay 56.48 328 P **P 23 08 41.7 +0.3**
FRB pmax pmax
comp=Z,4.0nm,0.6s
FRB Frobisher Bay 56.48 328 P **P 23 08 41.7 +0.3**
comp=Z,4.0nm,0.6s,mb4.6
RES Resolute Bay 58.77 344 P **P 23 08 58.2 +0.8**
comp=Z,3.2nm,0.9s,mb4.3,baz=62,slow=12,SNR=9.8
RES Resolute Bay 58.77 344 P **P 23 08 58.2 +0.8**
RES Resolute Bay 58.77 344 P **P 23 08 58.2 +0.8**
RES pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
RES Resolute Bay 58.77 344 P **P 23 08 58.2 +0.8**
comp=Z,3.0nm,1.0s,mb4.3
LZH Lanzhou 59.57 67 *e*P **P 23 09 04.5 +1.0**
LZH pP pP 23 09 09.3 +3.2
LZH sP sP 23 09 13.0 +5.9
LZH PP PP 23 11 14.5 -0.2
LZH *e*S **S 23 17 12.5 -1.1**
LZH sS sS 23 17 26.0 +8.1
LZH pmax pmax
comp=Z,32nm,1.5s,mb5.1
LZH pmax pmax
comp=Z,170nm,5.6s
LZH LR LR
comp=N,620nm,14.9s,MS5.0
LZH LR LR
comp=E,490nm,15.4s,MS5.0
LZH LR LR
comp=Z,640nm,17.0s,MS4.8
SCHQ Schefferville 59.60 318 P **P 23 09 03.7 +0.3**
comp=Z,5.5nm,0.8s,mb4.7,baz=47,slow=8.1,SNR=13
SCHQ LR LR 23 33 05.5
comp=Z,465nm,20.4s,MS4.6,baz=312,slow=34
SCHQ Schefferville 59.60 318 P **P 23 09 03.7 +0.3**
SCHQ Schefferville 59.60 318 P **P 23 09 03.7 +0.3**
YAK Yakutsk 61.14 32 P **P 23 09 16.3 +2.4**
YAK Yakutsk 61.14 32 *e*P **P 23 09 16.5 +2.6**
YAK pmax pmax
comp=Z,13nm,1.2s,mb4.9
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK Yakutsk 61.14 32 P **P 23 09 16.3 +2.4**
CD2 Chengdu 62.18 72 *e*P **P 23 09 22.3 +1.0**
CD2 pP pP 23 09 27.0 +3.1
CD2 sP sP 23 09 29.8 +4.9
CD2 S **S 23 17 44.5 -2.6**
CD2 sS sS 23 17 52.5 +1.2
CD2 SS SS 23 21 48.8 -0.8
CD2 pmax pmax
comp=Z,60nm,1.0s,mb5.7
CD2 pmax pmax
comp=Z,110nm,10.2s
CD2 LR LR
comp=N,860nm,20.2s,MS5.0
CD2 LR LR
comp=E,920nm,23.8s,MS5.0
CD2 LR LR
comp=Z,740nm,26.2s,MS4.7
HHC Hu-ho-hao-te 62.41 59 *e*P **P 23 09 23.3 +0.6**
HHC sP sP 23 09 29.0 +2.7
HHC PcP PcP 23 10 02.5 +0.3
HHC PP PP 23 11 42.5 +2.8
HHC S **S 23 17 47.5 -2.2**
HHC sS sS 23 17 54.8 +0.8
HHC ScS ScS 23 19 12.0 -3.3
HHC SS SS 23 21 51.3 -1.5
HHC pmax pmax
comp=Z,55nm,1.0s,mb5.6
HHC pmax pmax
comp=Z,340nm,3.7s
HHC LR LR
comp=N,600nm,15.5s,MS5.0
HHC LR LR
comp=E,580nm,14.3s,MS5.0
HHC LR LR
comp=Z,780nm,16.7s,MS5.0
XAN Xi'an 64.19 66 P **P 23 09 39.0 +4.4**
XAN pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
XAN pmax pmax
comp=Z,24nm,4.2s
KMI Kunming 64.61 78 P **P 23 09 38.0 +0.5**
KMI pP pP 23 09 41.8 +1.7
KMI sP sP 23 09 43.8 +2.7
KMI PP PP 23 12 04.3 +4.9
KMI S **S 23 18 15.8 -1.7**
KMI pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
KMI pmax pmax
comp=Z,110nm,4.3s
KMI LR LR
comp=N,280nm,20.5s,MS4.7
KMI LR LR
comp=E,340nm,19.3s,MS4.7
KMI LR LR
comp=Z,410nm,19.3s,MS4.6
CHTO Chiang Mai 65.38 86 *e*P **P 23 09 42.5 -0.1**
comp=Z,14nm,1.1s,mb4.9
CHTO Chiang Mai 65.38 86 *e*P **P 23 09 42.5 -0.1**
CHTO pmax pmax
comp=Z,14nm,1.1s,mb4.9
CHTO Chiang Mai 65.38 86 *e*P **P 23 09 42.5 -0.1**
comp=Z,14nm,1.1s,mb4.9
CMAR Chiang Mai Arr 65.59 86 P **P 23 09 43.9 -0.1**
comp=Z,11nm,1.1s,mb4.8,baz=303,slow=7.2,SNR=20
CMAR LR LR 23 43 42.5
comp=Z,301nm,21.5s,MS4.5,baz=293,slow=41
CMAR Chiang Mai Arr 65.59 86 P **P 23 09 43.9 -0.1**
CMAR Chiang Mai Arr 65.59 86 P **P 23 09 43.9 -0.1**
CMAR pmax pmax
comp=Z,11nm,1.1s
CMAR MLR MLR
comp=Z,301nm,21.5s
CMAR Chiang Mai Arr 65.59 86 P **P 23 09 43.8 -0.2**
BJI Beijing 65.82 57 P **P 23 09 49.8 +4.6**
BJI S S 23 18 29.8 -2.2
BJI pmax pmax
comp=Z,26nm,1.2s,mb5.1
BJI LR LR
comp=N,650nm,14.7s,MS5.0
BJI LR LR
comp=E,560nm,18.2s,MS5.0
BJI LR LR
comp=Z,410nm,33.2s
GYA Guiyang 66.76 74 P **P 23 09 52.0 +0.6**
GYA PP PP 23 12 21.3 +3.1
GYA ScP 23 14 23.0
GYA S S 23 18 42.5 -1.3
GYA SS SS 23 23 02.0 +0.8
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.1
GYA pmax pmax
comp=Z,130nm,5.3s
GYA LR LR
comp=N,520nm,18.4s,MS4.9
GYA LR LR
comp=E,540nm,19.0s,MS4.9
GYA LR LR
comp=Z,550nm,19.3s,MS4.8
BILL Bilibino 67.90 15⇑P **P 23 09 59.5 +1.6**
BILL pmax pmax
comp=Z,35nm,1.7s,mb5.1
BILL MLR MLR
comp=Z,800nm,18.0s,MS5.0
BILL Bilibino 67.90 15 P **P 23 09 59.5 +1.6**
comp=Z,800nm,18.0s
BOSA Boshof 68.64 181 P **P 23 10 03.4 +0.5**
comp=Z,4.4nm,1.1s,mb4.3,baz=38,slow=12,SNR=3.3
BOSA LR LR 23 44 18.8
comp=Z,605nm,19.1s,MS4.8,baz=357,slow=40
BOSA Boshof 68.64 181 P **P 23 10 03.4 +0.5**
BOSA Boshof 68.64 181 P **P 23 10 03.4 +0.5**
BOSA pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BOSA MLR MLR
comp=Z,605nm,19.1s,MS4.8
BOSA Boshof 68.64 181 P **P 23 10 03.4 +0.5**
comp=Z,605nm,19.1s
CN2 Changchun 69.37 50 *e*P **P 23 10 12.3 +4.8**
CN2 *es*P sP 23 10 19.3 +8.2
CN2 *e*S S 23 19 16.0 +1.5
CN2 pmax pmax
comp=Z,30nm,1.1s,mb5.1
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,800nm,15.0s,MS5.3
CN2 LR LR
comp=E,900nm,15.0s,MS5.3
CN2 LR LR
comp=Z,700nm,15.0s,MS5.0
KLR Kul'dur 69.54 42 *e*P **P 23 10 09.3 +0.9**
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.7
KLR Kul'dur 69.54 42 *e*P **P 23 10 09.3 +0.9**
comp=Z,3μm,13.0s
MDJ Mudanjiang 71.24 47 P **P 23 10 18.3 -0.7**
MDJ pmax pmax
comp=Z,8.0nm,2.2s,mb4.3
MDJ pmax pmax
comp=Z,410nm,4.9s
NJ2 Nanjing 72.17 63 *e*P **P 23 10 23.0 -1.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NJ2 LR LR
comp=N,600nm,21.2s
NJ2 LR LR
comp=E,360nm,26.6s
NJ2 LR LR
comp=Z,300nm,15.1s
YKA Yellowknife Ar 72.65 342 P **P 23 10 27.2 +0.1**
comp=Z,1.4nm,0.6s,mb4.1,baz=32,slow=5.2,SNR=29
YKA LR LR 23 42 36.9
comp=Z,42nm,18.1s,MS3.8,baz=85,slow=36
YKA Yellowknife Ar 72.65 342 P **P 23 10 27.2 +0.1**
YKA Yellowknife Ar 72.65 342 P **P 23 10 27.2 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA MLR MLR
comp=Z,42nm,18.1s
USRK Ussurisyk Arra 72.85 46 P **P 23 10 29.9 +1.3**
comp=Z,5.8nm,0.9s,mb4.5,baz=279,slow=5.3,SNR=8.2
USRK LR LR 23 47 44.4
comp=Z,338nm,18.4s,MS4.7,baz=124,slow=40
KSAR Wonju Array Be 74.74 54 P **P 23 10 39.6 -0.2**
KSAR Wonju Array Be 74.74 54 P **P 23 10 39.6 -0.2**
KSRS Korea Array 74.75 54 P **P 23 10 39.6 -0.3**
comp=Z,4.3nm,1.1s,mb4.3,baz=315,slow=5.3,SNR=3.7
KSRS LR LR 23 47 11.4
comp=Z,371nm,18.4s,MS4.7,baz=307,slow=39
KSRS Korea Array 74.75 54 P **P 23 10 39.6 -0.3**
KSRS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KSRS MLR MLR
comp=Z,371nm,18.4s,MS4.7
ILAR Eielson Array 75.03 357 P **P 23 10 41.9 +0.8**
comp=Z,0.3nm,0.6s,baz=345,slow=3.6,SNR=9.2
ILAR LR LR 23 44 47.0
comp=Z,392nm,18.8s,MS4.7,baz=191,slow=37
ILAR Eielson Array 75.03 357 P **P 23 10 41.9 +0.8**
ILAR Eielson Array 75.03 357 P **P 23 10 41.9 +0.9**
ILAR MLR MLR
comp=Z,392nm,18.8s
FFC Flin Flon 75.28 332 *c*e*P **P 23 10 48.6 +6.0**
ULM Lac du Bonnet 76.27 326 P **P 23 10 47.9 -0.5**
comp=Z,3.7nm,0.5s,mb4.6,baz=29,slow=4.4,SNR=13
ULM LR LR 23 44 48.1
comp=Z,535nm,18.4s,MS4.9,baz=152,slow=36
ULM Lac du Bonnet 76.27 326 P **P 23 10 47.9 -0.5**
ULM Lac du Bonnet 76.27 326 P **P 23 10 47.9 -0.5**
ULM pmax pmax
comp=Z,4.0nm,0.5s
ULM MLR MLR
comp=Z,535nm,18.4s
PETK Petropavlovsk- 78.04 27 P **P 23 10 59.7 +1.5**
comp=Z,2.0nm,0.7s,mb4.2,baz=290,slow=8.6,SNR=2.5
PETK LR LR 23 48 26.2
comp=Z,482nm,19.0s,MS4.8,baz=321,slow=38
PETK Petropavlovsk- 78.04 27 P **P 23 10 59.7 +1.5**
PETK Petropavlovsk- 78.04 27 P **P 23 10 59.7 +1.4**
PETK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
PETK MLR MLR
comp=Z,482nm,19.0s,MS4.8
YUK Yuzh-Kuril'sk 80.16 39 *c i*P **P 23 11 18.4 +8.4**
YUK *e*S S 23 21 24.3 +9.4
YUK pmax pmax
comp=Z,386nm,6.6s
YUK MLR MLR
comp=E,2μm,19.0s
YUK MLR MLR
comp=Z,1μm,19.0s,MS5.2
MJAR Matsushiro Arr 81.49 49 P **P 23 11 19.2 +1.9**
comp=Z,4.2nm,0.9s,mb4.4,baz=310,slow=5.7,SNR=7.7
MJAR LR LR 23 51 12.1
comp=Z,410nm,18.5s,MS4.8,baz=340,slow=38
MJAR Matsushiro Arr 81.49 49 P **P 23 11 19.2 +1.9**
MJAR Matsushiro Arr 81.49 49 P **P 23 11 19.2 +1.9**
MJAR pmax pmax
comp=Z,4.0nm,0.9s
MJAR MLR MLR
comp=Z,410nm,18.5s
NVAR Mina Array Bea 94.97 332 P **P 23 12 23.2 +0.8**
comp=Z,3.7nm,1.1s,mb4.7,baz=54,slow=4.0,SNR=6.2
NVAR LR LR 23 57 28.2
comp=Z,700nm,19.1s,MS5.2,baz=334,slow=37
NVAR Mina Array Bea 94.97 332 P **P 23 12 23.2 +0.8**
TXAR Lajitas Array 96.28 317 P **P 23 12 28.2 -0.4**
comp=Z,0.7nm,0.8s,mb4.1,baz=48,slow=4.3,SNR=5.7
TXAR LR LR 23 57 40.4
comp=Z,409nm,19.4s,MS4.9,baz=0.0,slow=37
TXAR Lajitas Array 96.28 317 P **P 23 12 28.2 -0.4**
TXAR Lajitas Array 96.28 317 P **P 23 12 28.2 -0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR MLR MLR
comp=Z,409nm,19.4s
WRA Warramunga Arr 116.58 94 PKP PKPdf 23 17 43.9 -0.3
comp=Z,1.3nm,1.1s,baz=325,slow=1.6,SNR=5.0
WRA Warramunga Arr 116.58 94 PKP PKPdf 23 17 43.9 -0.3
WRA Warramunga Arr 116.58 94 PKIKP PKPdf 23 17 43.9 -0.3
WRA pmax pmax
comp=Z,1.0nm,1.1s
ASAR Alice Springs 118.38 98 PKP PKPdf 23 17 46.4 -1.2
comp=Z,2.8nm,0.9s,baz=316,slow=1.2,SNR=5.2
ASAR Alice Springs 118.38 98 PKP PKPdf 23 17 46.4 -1.2
ASAR Alice Springs 118.38 98 PKIKP PKPdf 23 17 46.4 -1.2
ASAR pmax pmax
comp=Z,3.0nm,1.0s
DZM Mont Dzumac 142.10 73 *e*LR LR 00 04 57.2
comp=Z,403nm,23.7s
PPT2 Papeete2 156.94 349 *e*LR LR 00 11 42.6
comp=Z,371nm,22.5s
TBI Tubuai 162.56 345 *e*LR LR 00 14 29.9
comp=Z,400nm,24.0s

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*ATH **28** 23:06:30.9, 40.°32N±.25.°99E, h34km±10km, MD3.1/4*
*ISCJB **28** 23:06:31.5±0.9, 40.°32N±0.°03×.25.°79E±0.°05, h1km±6km,*
Error ellipse: s-maj=6.8km s-min=4.7km az=150.3
*ISK **28** 23:06:32.0, 40.°33N±.25.°85E, h5km, MD3.3, ML3.3*
*CSEM **28** 23:06:32.7±0.3, 40.°38N±.25.°78E, h10km, MD3.3, Error ellipse: s-maj=6.7km s-min=5.7km az=43.0*
ISC 28 23:06:32.1±0.9, **40.°33N**±0.°03×**25.°78E**±0.°05, **h1**km±5km, **n64**, σ0.°74/75, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ENEZ	**Enez**	**0.50**	**35**	*e*PG	**Pg**		**23 06 41.4**	**-0.2**
ENEZ				*e*SG	**Sg**		**23 06 48.3**	**+0.2**
ENEZ	**Enez**	**0.50**	**35**	*e*Pg	**Pg**		**23 06 41.4**	**-0.3**
ENEZ				*e*Sg	**Sg**		**23 06 48.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.54**	**82**	*e*PG	**Pg**		**23 06 42.1**	**-0.2**
GELI				*e*SG	**Sg**		**23 06 49.6**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.54**	**82**	*e*Pg	**Pg**		**23 06 42.1**	**-0.2**
GELI				*e*Sg	**Sg**		**23 06 49.7**	**+0.4**
ALN	**Alexandroupoli**	**0.61**	**19**	*e*PN	**Pg**		**23 06 43.4**	**-0.3**
ALN				*e*SN	**Sg**		**23 06 51.6**	**0.0**
ALN	**Alexandroupoli**	**0.61**	**19**	*e*Pn	**Pg**		**23 06 43.4**	**-0.3**
EZN	**Ezine**	**0.65**	**140**	*e*PG	**Pg**		**23 06 45.2**	**+0.7**
EZN				*e*SG	**Sg**		**23 06 53.1**	**+0.2**
EZN	**Ezine**	**0.65**	**140**	*e*Pg	**Pg**		**23 06 45.2**	**+0.7**
EZN				*e*Sg	**Sg**		**23 06 53.2**	**+0.2**
ERIK	**Erikli-Kesan**	**0.66**	**58**	*e*PG	**Pg**		**23 06 44.2**	**-0.5**
ERIK				*e*SG	**Sg**		**23 06 53.6**	**+0.4**
ERIK	**Erikli-Kesan**	**0.66**	**58**	*e*Pg	**Pg**		**23 06 44.2**	**-0.5**
ERIK				*e*Sg	**Sg**		**23 06 53.6**	**+0.4**
LPK	**Lapseki**	**0.75**	**86**	*e*PG	**Pg**		**23 06 45.2**	**-1.3**
LPK	**Lapseki**	**0.75**	**86**	*e*Pg	**Pg**		**23 06 45.2**	**-1.3**
RDO	**Rodhopi**	**0.84**	**347**	*e*PN	**Pg**		**23 06 48.1**	**-0.1**
RDO				*e*SN	**Sg**		**23 07 01.2**	**+2.1**
RDO	**Rodhopi**	**0.84**	**347**	*e*Pn	**Pg**		**23 06 48.1**	**-0.1**
RDO				*e*Sn	**Sg**		**23 07 01.2**	**+2.1**
RKY	**Sarkoy-Tekirda**	**1.13**	**71**	*e*PG	**Pg**		**23 06 52.6**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.13**	**71**	*e*Pg	**Pg**		**23 06 52.6**	**-1.1**
KRBG	**Karabiga-Canak**	**1.16**	**86**	*e*PN	**Pn**		**23 06 53.0**	**-2.4**
KRBG	**Karabiga-Canak**	**1.16**	**86**	*e*Pn	**Pn**		**23 06 53.0**	**-2.4**
GONE	**Gonen-Balikesi**	**1.49**	**100**	*e*PN	**Pn**		**23 06 59.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.49**	**100**	*e*Pn	**Pn**		**23 06 59.7**	**-0.2**
TKR	**Tekirdag**	**1.49**	**63**	*e*PN	**Pn**		**23 06 58.5**	**-1.4**
TKR	**Tekirdag**	**1.49**	**63**	*e*Pn	**Pn**		**23 06 58.5**	**-1.4**
EDC	**Edincik**	**1.59**	**89**	*e*PN	**Pn**		**23 07 00.9**	**-0.4**
EDC	**Edincik**	**1.59**	**89**	*e*Pn	**Pn**		**23 07 00.9**	**-0.4**
BNT	**Bandirma**	**1.64**	**88**	*e*PN	**Pn**		**23 07 01.3**	**-0.6**
BNT	**Bandirma**	**1.64**	**88**	*e*Pn	**Pn**		**23 07 01.3**	**-0.6**

EDRB	**Edirne**	1.69	25	*e*Pn	**Pn**	**23 07 02.5**	**-0.1**	SRS	S	**Sn**	**23 16 25.3**	**+1.8**
EDRB	**Edirne**	1.69	25	*e*Pn	**Pn**	**23 07 02.5**	**-0.1**	**KCTX**	**Karacabey (Bur**	1.91 91	*e*PN	**Pn**	**23 16 00.0**	**+0.5**
CRLT	**Corlu**	1.69	61	*e*PN	**Pn**	**23 07 02.4**	**-0.2**	**KCTX**	**Karacabey (Bur**	1.91 91	*e*Pn	**Pn**	**23 16 00.0**	**+0.5**
CRLT	**Corlu**	1.69	61	*e*Pn	**Pn**	**23 07 02.4**	**-0.3**	**AOS**	**Alonnisos**	1.92 233	P	**Pn**	**23 16 00.1**	**+0.5**
NVR	**Nevrokopi**	1.78 306	*e*PN	**Pn**	**23 07 03.3**	**-0.6**	AOS	S	**Sn**	**23 16 27.0**	**+3.0**
NVR	**Nevrokopi**	1.78 306	*e*Pn	**Pn**	**23 07 03.3**	**-0.6**	**AOS**	**Alonnisos**	1.92 233	P	**Pn**	**23 16 00.1**	**+0.5**
PLG	**Polygyros**	1.78 272	*e*PN	**Pn**	**23 07 03.1**	**-0.9**	AOS	S	**Sn**	**23 16 27.0**	**+3.0**
PLG	**Polygyros**	1.78 272	*e*Pn	**Pn**	**23 07 03.1**	**-0.9**	**CHOS**	**Chios island**	1.95 176	*e*PN	**Pn**	**23 15 59.4**	**-0.6**
KCTX	**Karacabey (Bur**	1.97 91	*e*PN	**Pn**	**23 07 06.2**	**-0.3**	CHOS	*e*SN	**Sn**	**23 16 24.0**	**-0.8**
KCTX	**Karacabey (Bur**	1.97 91	*e*Pn	**Pn**	**23 07 06.2**	**-0.3**	**CHOS**	**Chios island**	1.95 176	P	**Pn**	**23 15 59.4**	**-0.6**
SLVT	**Silivri**	2.06 63	*e*PN	**Pn**	**23 07 08.0**	**+0.3**	CHOS	S	**Sn**	**23 16 26.1**	**+1.3**
SLVT	**Silivri**	2.06 63	*e*Pn	**Pn**	**23 07 08.0**	**+0.3**	**CHOS**	**Chios island**	1.95 176	P	**Pn**	**23 15 59.4**	**-0.6**
BLCB	**Balcova**	2.17 153	*e*PN	**Pn**	**23 07 10.0**	**+0.8**	CHOS	*e*Sn	**Sn**	**23 16 24.4**	**-0.4**
BLCB	**Balcova**	2.17 153	*e*Pn	**Pn**	**23 07 10.0**	**+0.7**	CHOS	S	**Sn**	**23 16 26.1**	**+1.3**
CTKS	**Kestanelik-??a**	2.26 65	*e*PN	**Pn**	**23 07 10.7**	**+0.2**	**SOH**	**Sokhos**	1.97 285	*e*PN	**Pn**	**23 15 57.7**	**-2.6**
CTKS	**Kestanelik-??a**	2.26 65	*e*Pn	**Pn**	**23 07 10.7**	**+0.2**	SOH	*e*SN	**Sn**	**23 16 21.8**	**-3.6**
ARMT	**Armutlu**	2.37 83	*e*PN	**Pn**	**23 07 12.3**	**+0.3**	**SOH**	**Sokhos**	1.97 285	P	**Pn**	**23 16 00.0**	**-0.3**
ARMT	**Armutlu**	2.37 83	*e*Pn	**Pn**	**23 07 12.3**	**+0.4**	SOH	S	**Sn**	**23 16 28.1**	**+2.7**
MDNY	**Mudanya-Bursa**	2.37 88	*e*PN	**Pn**	**23 07 12.5**	**+0.5**	**SOH**	**Sokhos**	1.97 285	*e*Pn	**Pn**	**23 15 57.7**	**-2.6**
MDNY	**Mudanya-Bursa**	2.37 88	*e*Pn	**Pn**	**23 07 12.5**	**+0.4**	**SOH**	**Sokhos**	1.97 285	P	**Pn**	**23 16 00.0**	**-0.3**
BGKT	**Bogazkoy**	2.43 68	*e*PN	**Pn**	**23 07 13.3**	**+0.4**	SOH	*e*Sn	**Sn**	**23 16 21.8**	**-3.6**
BGKT	**Bogazkoy**	2.43 68	*e*Pn	**Pn**	**23 07 13.3**	**+0.5**	SOH	S	**Sn**	**23 16 28.1**	**+2.7**
ISK	**Istanbul-Kandi**	2.60 72	*e*PN	**Pn**	**23 07 15.9**	**+0.7**	**PLD**	**Plovdiv**	1.98 334	P	**Pn**	**23 15 59.5**	**-0.9**
ISK	**Istanbul-Kandi**	2.60 72	*e*Pn	**Pn**	**23 07 15.9**	**+0.7**	PLD	S	**Sn**	**23 16 27.0**	**+1.4**
KLYT	**Kilyos**	2.65 68	*e*PN	**Pn**	**23 07 16.2**	**+0.4**	**PLD**	**Plovdiv**	1.98 334	P	**Pn**	**23 15 59.5**	**-0.9**
KLYT	**Kilyos**	2.65 68	*e*Pn	**Pn**	**23 07 16.2**	**+0.4**	PLD	S	**Sn**	**23 16 27.0**	**+1.4**
YLV	**Yalova**	2.75 84	*e*PN	**Pn**	**23 07 18.1**	**+0.8**	**SLVT**	**Silivri**	2.00 62	*e*PN	**Pn**	**23 16 01.4**	**+0.7**
YLV	**Yalova**	2.75 84	*e*Pn	**Pn**	**23 07 18.1**	**+0.8**	**SLVT**	**Silivri**	2.00 62	*e*Pn	**Pn**	**23 16 01.4**	**+0.7**
KULA	**Kula-Manisa**	2.87 128	*e*PN	**Pn**	**23 07 20.1**	**+1.2**	**AKHS**	**Akhisar**	2.09 133	*i* P	**Pn**	**23 16 01.6**	**-0.4**
KULA	**Kula-Manisa**	2.87 128	*e*Pn	**Pn**	**23 07 20.1**	**+1.2**	AKHS	*e*S	**Sn**	**23 16 28.5**	**+0.1**
HRT	**Hereke**	3.00 79	*e*PN	**Pn**	**23 07 20.5**	**-0.2**	**AKHS**	**Akhisar**	2.09 133	*i* P	**Pn**	**23 16 01.6**	**-0.4**
HRT	**Hereke**	3.00 79	*e*Pn	**Pn**	**23 07 20.5**	**-0.2**	AKHS	*e*S	**Sn**	**23 16 28.5**	**+0.1**
ADVT	**Abdulvahap**	3.03 87	*e*PN	**Pn**	**23 07 22.0**	**+1.0**	**HORT**	**Hortiatis**	2.12 278	P	**Pn**	**23 16 02.4**	**0.0**
ADVT	**Abdulvahap**	3.03 87	*e*Pn	**Pn**	**23 07 22.0**	**+1.0**	HORT	S	**Sn**	**23 16 32.1**	**+2.9**
GULT	**Gulveren**	3.62 87	*e*PN	**Pn**	**23 07 29.0**	**-0.2**	**HORT**	**Hortiatis**	2.12 278	P	**Pn**	**23 16 02.4**	**0.0**
GULT	**Gulveren**	3.62 87	*e*Pn	**Pn**	**23 07 29.0**	**-0.2**	HORT	S	**Sn**	**23 16 32.1**	**+2.9**
ESKT	**Eskisehir**	3.98 100	*e*PN	**Pn**	**23 07 34.6**	**+0.5**	**DURS**	**Dursunbey**	2.14 109	*i* P	**Pn**	**23 16 02.5**	**-0.1**
ESKT	**Eskisehir**	3.98 100	*e*Pn	**Pn**	**23 07 34.6**	**+0.4**	DURS	*i* S	**Sn**	**23 16 27.8**	**-1.7**
								DURS	**Dursunbey**	2.14 109	*i* P	**Pn**	**23 16 02.5**	**-0.1**
								DURS	*i* S	**Sn**	**23 16 27.8**	**-1.7**
CTYL	**Yal??k??y-??at**	2.17 57	*e*PN	**Pn**	**23 16 03.9**	**+0.8**
CTYL	**Yal??k??y-??at**	2.17 57	*e*Pn	**Pn**	**23 16 03.9**	**+0.9**
CTKS	**Kestanelik-??a**	2.20 65	*e*PN	**Pn**	**23 16 03.5**	**-0.1**
CTKS	**Kestanelik-??a**	2.20 65	*e*Pn	**Pn**	**23 16 03.5**	**0.0**
JMB	**Yambol**	2.20 14	P	**Pn**	**23 16 03.2**	**-0.3**
JMB	S	**Sn**	**23 16 32.5**	**+1.4**
JMB	**Yambol**	2.20 14	P	**Pn**	**23 16 03.2**	**-0.3**
JMB	S	**Sn**	**23 16 32.5**	**+1.4**
THE	**Thessaloniki**	2.23 279	P	**Pn**	**23 16 03.7**	**-0.2**
THE	S	**Sn**	**23 16 34.8**	**+3.0**
THE	**Thessaloniki**	2.23 279	P	**Pn**	**23 16 03.7**	**-0.2**
THE	S	**Sn**	**23 16 34.8**	**+3.0**
NEO	**Neokhori**	2.27 244	*e*PN	**Pn**	**23 16 02.5**	**-2.0**
NEO	*e*SN	**Sn**	**23 16 29.5**	**-3.4**
NEO	**Neokhori**	2.27 244	*e*Pn	**Pn**	**23 16 02.5**	**-2.0**
NEO	*e*Sn	**Sn**	**23 16 29.3**	**-3.5**
ARMT	**Armutlu**	2.30 83	*e*PN	**Pn**	**23 16 05.8**	**+0.9**
ARMT	**Armutlu**	2.30 83	*e*Pn	**Pn**	**23 16 05.8**	**+0.9**
MDNY	**Mudanya-Bursa**	2.31 88	*e*PN	**Pn**	**23 16 05.5**	**+0.5**
MDNY	**Mudanya-Bursa**	2.31 88	*e*Pn	**Pn**	**23 16 05.5**	**+0.5**
BGKT	**Bogazkoy**	2.37 68	*e*PN	**Pn**	**23 16 05.5**	**-0.3**
BGKT	**Bogazkoy**	2.37 68	*e*Pn	**Pn**	**23 16 05.5**	**-0.3**
MRKA	**Markates**	2.39 228	P	**Pn**	**23 16 06.0**	**-0.1**
MRKA	**Markates**	2.39 228	P	**Pn**	**23 16 06.0**	**-0.1**
KNT	**Kendrikon**	2.40 291	P	**Pn**	**23 16 06.8**	**+0.6**
KNT	**Kendrikon**	2.40 291	P	**Pn**	**23 16 06.8**	**+0.6**
DEMI	**Demirci**	2.55 119	*i* P	**Pn**	**23 16 08.3**	**0.0**
DEMI	*i* S	**Sn**	**23 16 33.9**	**-5.8**
DEMI	**Demirci**	2.55 119	*i* P	**Pn**	**23 16 08.3**	**0.0**
KLYT	**Kilyos**	2.58 68	*e*PN	**Pn**	**23 16 09.5**	**+0.7**
KLYT	**Kilyos**	2.58 68	*e*Pn	**Pn**	**23 16 09.5**	**+0.7**
LIT	**Litokhoron**	2.59 266	*e*PN	**Pn**	**23 16 06.5**	**-2.4**
LIT	**Litokhoron**	2.59 266	P	**Pn**	**23 16 09.0**	**+0.1**
LIT	**Litokhoron**	2.59 266	*e*Pn	**Pn**	**23 16 06.2**	**-2.7**
LIT	**Litokhoron**	2.59 266	P	**Pn**	**23 16 09.0**	**+0.1**
VAY	**Valandovo**	2.69 293	*e*Pn	**Pn**	**23 16 08.5**	**-1.7**
VAY	*e*Pg	**Pg**	**23 16 15.0**	**-2.8**
VAY	*e*Sn	**Sn**	**23 16 51.2**	**+8.1**
VAY	**Valandovo**	2.69 293	*e*Pn	**Pn**	**23 16 08.5**	**-1.7**
GRG	**Griva**	2.71 285	P	**Pn**	**23 16 11.0**	**+0.6**
GRG	S	**Sn**	**23 16 46.3**	**+2.8**
GRG	**Griva**	2.71 285	P	**Pn**	**23 16 11.0**	**+0.6**
GRG	S	**Sn**	**23 16 46.3**	**+2.8**
SMG	**Samos**	2.73 163	*e*PN	**Pn**	**23 16 09.7**	**-1.0**
SMG	**Samos**	2.73 163	*e*Pn	**Pn**	**23 16 09.5**	**-1.2**
ATAL	**Atalanti**	2.74 234	P	**Pn**	**23 16 11.3**	**+0.4**
ATAL	**Atalanti**	2.74 234	P	**Pn**	**23 16 11.3**	**+0.4**
PTL	**Penteli**	2.75 215	*e*PN	**Pn**	**23 16 09.3**	**-1.8**
PTL	*e*SN	**Sn**	**23 16 41.6**	**-3.1**
PTL	**Penteli**	2.75 215	*e*Pn	**Pn**	**23 16 09.3**	**-1.8**
PTL	*e*Sn	**Sn**	**23 16 41.6**	**-3.1**
LKR	**Lokris**	2.78 234	*e*PN	**Pn**	**23 16 09.5**	**-1.9**
LKR	*e*SN	**Sn**	**23 16 42.3**	**-3.0**
LKR	**Lokris**	2.78 234	P	**Pn**	**23 16 10.9**	**-0.5**
LKR	**Lokris**	2.78 234	*e*Pn	**Pn**	**23 16 09.5**	**-1.9**
LKR	**Lokris**	2.78 234	P	**Pn**	**23 16 10.9**	**-0.5**
LKR	*e*Sn	**Sn**	**23 16 42.3**	**-3.0**
ATH	**Athens Observa**	2.88 216	*e*PN	**Pn**	**23 16 11.4**	**-1.5**
ATH	**Athens Observa**	2.88 216	*e*Pn	**Pn**	**23 16 11.4**	**-1.5**
VIL1	**Vilia, Western**	2.92 223	*e*PN	**Pn**	**23 16 11.8**	**-1.6**
VLY	**Voula,Athens**	2.95 214	*e*PN	**Pn**	**23 16 12.4**	**-1.4**
VLY	**Voula,Athens**	2.95 214	*e*Pn	**Pn**	**23 16 12.0**	**-1.8**
VTS	**Vitosha**	3.01 319	P	**Pn**	**23 16 14.1**	**-0.6**
VTS	S	**Sn**	**23 16 53.3**	**+2.2**
VTS	**Vitosha**	3.01 319	‖ *i*P	**Pn**	**23 16 13.9**	**-0.8**
VTS	**Vitosha**	3.01 319	P	**Pn**	**23 16 14.1**	**-0.6**
VTS	S	**Sn**	**23 16 53.3**	**+2.2**
AGG	**Agios Georgios**	3.02 246	*e*PN	**Pn**	**23 16 13.2**	**-1.6**
AGG	**Agios Georgios**	3.02 246	P	**Pn**	**23 16 13.4**	**-1.4**
AGG	**Agios Georgios**	3.02 246	P	**Pn**	**23 16 13.4**	**-1.4**
THL	**Klokotos Trika**	3.05 257	*e*PN	**Pn**	**23 16 13.1**	**-2.1**
THL	**Klokotos Trika**	3.05 257	P	**Pn**	**23 16 13.4**	**-1.8**
THL	**Klokotos Trika**	3.05 257	*e*Pn	**Pn**	**23 16 12.9**	**-2.3**
THL	**Klokotos Trika**	3.05 257	P	**Pn**	**23 16 13.4**	**-1.8**
KZN	**Kozani**	3.13 271	*e*PN	**Pn**	**23 16 14.8**	**-1.4**
KZN	**Kozani**	3.13 271	P	**Pn**	**23 16 16.2**	**0.0**
KZN	**Kozani**	3.13 271	*e*Pn	**Pn**	**23 16 14.8**	**-1.4**
KZN	**Kozani**	3.13 271	P	**Pn**	**23 16 16.2**	**0.0**
KALE	**Kalithea**	3.47 237	P	**Pn**	**23 16 22.4**	**+1.4**
KALE	**Kalithea**	3.47 237	P	**Pn**	**23 16 22.4**	**+1.4**
KRUS	**Krusevo**	3.65 288	*e*Pn	**Pn**	**23 16 22.0**	**-1.4**
KRUS	**Krusevo**	3.65 288	*e*Pn	**Pn**	**23 16 22.0**	**-1.4**
NEST	**Nestorio**	3.68 273	P	**Pn**	**23 16 24.0**	**+0.2**
NEST	**Nestorio**	3.68 273	P	**Pn**	**23 16 24.0**	**+0.2**
VLI	**Veliai**	4.27 213	P	**Pn**	**23 16 32.2**	**+0.2**
VLI	**Veliai**	4.27 213	P	**Pn**	**23 16 32.2**	**+0.2**
ISP	**Isparta**	4.41 123	‖ *i*P	**Pn**	**23 16 36.5**	**+2.7**
ISP	**Isparta**	4.41 123	‖ *i*P	**Pn**	**23 16 36.5**	**+2.7**
MLR	**Muntele Rosu**	5.16 1	‖ *i*P	**Pn**	**23 16 44.3**	**+0.2**
MLR	**Muntele Rosu**	5.16 1	‖ *i*P	**Pn**	**23 16 44.3**	**+0.2**
TLCR		5.32 23	‖ *i*P	**Pn**	**23 16 46.1**	**-0.2**
TLCR		5.32 23	‖ *i*P	**Pn**	**23 16 46.1**	**-0.2**
GZR	**Gura Zlata**	5.54 337	‖ *i*P	**Pn**	**23 16 47.3**	**-2.1**
GZR	**Gura Zlata**	5.54 337	‖ *i*P	**Pn**	**23 16 47.3**	**-2.1**
PLOR	**Plostina**	5.55 6	‖ *i*P	**Pn**	**23 16 49.7**	**+0.2**
PLOR	**Plostina**	5.55 6	‖ *i*P	**Pn**	**23 16 49.7**	**+0.2**
VRI	**Vrincioaia**	5.57 6	‖ *i*P	**Pn**	**23 16 50.2**	**+0.4**
VRI	**Vrincioaia**	5.57 6	‖ *i*P	**Pn**	**23 16 50.2**	**+0.4**
BZS	**Buzias**	6.13 331	‖ *i*P	**Pn**	**23 16 55.3**	**-2.2**
BZS	**Buzias**	6.13 331	‖ *i*P	**Pn**	**23 16 55.3**	**-2.2**
TESR		6.21 5	‖ *i*P	**Pn**	**23 16 58.5**	**0.0**
TESR		6.21 5	‖ *i*P	**Pn**	**23 16 58.5**	**0.0**
DRGR		6.85 342	‖ *i*P	**Pn**	**23 17 06.0**	**-1.4**
DRGR		6.85 342	‖ *i*P	**Pn**	**23 17 06.0**	**-1.4**
BURAR	**Bucovina Array**	7.30 357	‖ *i*P	**Pn**	**23 17 13.3**	**-0.2**
BURAR	**Bucovina Array**	7.30 357	‖ *i*P	**Pn**	**23 17 13.3**	**-0.2**

CSEM ***28*** *23:15:25.6±0.1, 40°.33N×25°.82E, h2km, MD3.1, Error ellipse: s-maj=2.8km s-min=2.4km az=176.0*
ISK ***28*** *23:15:25.7, 40°.34N×25°.88E, h4km, MD3.1*
ATH ***28*** *23:15:25.5, 40°.38N×25°.81E, h33km±2km, ML3.5*
ISCJB ***28*** *23:15:25.3±0.4, 40°.34N±0°.01×25°.84E±0°.02, h2km±3km, Error ellipse: s-maj=2.6km s-min=2.5km az=135.2*
DDA ***28*** *23:15:26.2, 40°.33N×25°.89E, h32km±2km, Md3.5*
THE ***28*** *23:15:26.0, 40°.34N×25°.93E, h0km±1km, ML3.5/15, Error ellipse: s-maj=1.8km s-min=0.8km az=98.0*

ISC 28 23:15:26.3±0.3, 40°.33N±0°.01×25°.86E±0°.02, h5km±3km, n171, σ1°18/251, 10C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.46**	**29**	*e*PG	**Pg**	**23 15 34.9**	**-0.4**
ENEZ	*e*SG	**Sg**	**23 15 41.7**	**+0.4**
ENEZ	**Enez**	**0.46**	**29**	*e*Pg	**Pg**	**23 15 34.9**	**-0.4**
ENEZ	*e*Sg	**Sg**	**23 15 41.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.47**	**81**	*e*PG	**Pg**	**23 15 35.6**	**+0.1**
GELI	*e*SG	**Sg**	**23 15 42.3**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.47**	**81**	*e*Pg	**Pg**	**23 15 35.6**	**+0.1**
GELI	*e*Sg	**Sg**	**23 15 42.3**	**+0.7**
BOZC	**Bozcaada**	**0.51**	**163**	*i* P	**Pg**	**23 15 36.7**	**+0.6**
BOZC	*i* S	**Sg**	**23 15 44.5**	**+1.7**
ALN	**Alexandroupoli**	**0.58**	**14**	*e*PN	**Pg**	**23 15 37.1**	**-0.5**
ALN	*e*SN	**Sg**	**23 15 45.2**	**0.0**
ALN	**Alexandroupoli**	**0.58**	**14**	P	**Pg**	**23 15 37.2**	**-0.4**
ALN	S	**Sg**	**23 15 45.2**	**0.0**
ALN	**Alexandroupoli**	**0.58**	**14**	P	**Pg**	**23 15 37.2**	**-0.4**
ALN	S	**Sg**	**23 15 45.2**	**0.0**
ERIK	**Erikli-Kesan**	**0.60**	**55**	*e*PG	**Pg**	**23 15 37.7**	**-0.2**
ERIK	*e*SG	**Sg**	**23 15 46.3**	**+0.5**
ERIK	**Erikli-Kesan**	**0.60**	**55**	*e*Pg	**Pg**	**23 15 37.7**	**-0.2**
ERIK	*e*Sg	**Sg**	**23 15 46.3**	**+0.5**
EZN	**Ezine**	**0.62**	**145**	*e*PG	**Pg**	**23 15 37.8**	**-0.4**
EZN	*e*SG	**Sg**	**23 15 47.4**	**+1.2**
EZN	**Ezine**	**0.62**	**145**	*e*Pg	**Pg**	**23 15 37.8**	**-0.4**
EZN	*e*Sg	**Sg**	**23 15 47.4**	**+1.2**
LIA	**Limnos Island**	**0.68**	**231**	*e*PN	**Pg**	**23 15 39.2**	**-0.1**
LIA	*e*SN	**Sg**	**23 15 49.5**	**+1.4**
LIA	**Limnos Island**	**0.68**	**231**	P	**Pg**	**23 15 39.4**	**+0.1**
LIA	S	**Sg**	**23 15 50.1**	**+2.0**
LIA	**Limnos Island**	**0.68**	**231**	*e*Pn	**Pg**	**23 15 39.2**	**-0.1**
LIA	S	**Sg**	**23 15 50.1**	**+2.0**
LPK	**Lapseki**	**0.69**	**86**	*e*PG	**Pg**	**23 15 38.6**	**-1.0**
LPK	**Lapseki**	**0.69**	**86**	*e*Pg	**Pg**	**23 15 38.6**	**-1.0**
RDO	**Rodhopi**	**0.85**	**343**	*e*PN	**Pg**	**23 15 41.5**	**-1.2**
RDO	*e*SN	**Sg**	**23 15 53.0**	**-0.8**
RDO	**Rodhopi**	**0.85**	**343**	P	**Pg**	**23 15 42.0**	**-0.7**
RDO	S	**Sg**	**23 15 55.0**	**+1.2**
RDO	**Rodhopi**	**0.85**	**343**	P	**Pg**	**23 15 42.0**	**-0.7**
RDO	*e*Sn	**Sg**	**23 15 53.0**	**-0.8**
RDO	S	**Sg**	**23 15 55.0**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.07**	**70**	*e*PG	**Pg**	**23 15 46.4**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.07**	**70**	*e*Pg	**Pg**	**23 15 46.4**	**-0.4**
SART	**Tekirdag**	**1.07**	**70**	*i* P	**Pg**	**23 15 45.2**	**-1.6**
SART	*i* S	**Sg**	**23 16 01.6**	**+0.9**
SART	**Tekirdag**	**1.07**	**70**	*i* P	**Pg**	**23 15 45.2**	**-1.6**
SART	*i* S	**Sg**	**23 16 01.6**	**+0.9**
KRBG	**Karabiga-Canak**	**1.10**	**86**	*e*PN	**Pg**	**23 15 46.9**	**-0.5**
KRBG	**Karabiga-Canak**	**1.10**	**86**	*e*Pn	**Pg**	**23 15 46.9**	**-0.5**
PRK	**Paraskevi**	**1.13**	**164**	*e*PN	**Pg**	**23 15 48.0**	**+0.1**
PRK	*e*SN	**Sg**	**23 16 03.2**	**+0.7**
PRK	**Paraskevi**	**1.13**	**164**	P	**Pg**	**23 15 48.1**	**+0.2**
PRK	S	**Sg**	**23 16 04.3**	**+1.8**
PRK	**Paraskevi**	**1.13**	**164**	P	**Pg**	**23 15 48.1**	**+0.2**
PRK	*e*Sn	**Sg**	**23 16 03.2**	**+0.7**
PRK	S	**Sg**	**23 16 04.3**	**+1.8**
AYVA	**Ayvalik**	**1.20**	**148**	*i* P	**Pg**	**23 15 49.4**	**-0.1**
AYVA	*i* S	**Sg**	**23 16 06.1**	**+1.1**
AYVA	**Ayvalik**	**1.20**	**148**	*i* P	**Pg**	**23 15 49.3**	**-0.1**
AYVA	*i* S	**Sg**	**23 16 06.1**	**+1.1**
KAVA	**Kavala**	**1.22**	**303**	P	**Pg**	**23 15 49.9**	**+0.1**
KAVA	S	**Sg**	**23 16 08.4**	**+2.8**
KAVA	**Kavala**	**1.22**	**303**	P	**Pg**	**23 15 49.9**	**+0.1**
KAVA	S	**Sg**	**23 16 08.4**	**+2.8**
GONE	**Gonen-Balikesi**	**1.43**	**101**	*e*PN	**Pn**	**23 15 53.0**	**+0.2**
GONE	**Gonen-Balikesi**	**1.43**	**101**	*e*Pn	**Pn**	**23 15 53.0**	**+0.2**
TKR	**Tekirdag**	**1.44**	**62**	*e*PN	**Pn**	**23 15 53.1**	**+0.1**
TKR	**Tekirdag**	**1.44**	**62**	*e*Pn	**Pn**	**23 15 53.1**	**+0.1**
OUR	**Ouranopolis**	**1.44**	**271**	P	**Pn**	**23 15 53.5**	**+0.5**
OUR	S	**Sb**	**23 16 14.5**	**+2.4**
OUR	**Ouranopolis**	**1.44**	**271**	P	**Pn**	**23 15 53.5**	**+0.5**
OUR	S	**Sb**	**23 16 14.5**	**+2.4**
BALY	**Balya**	**1.47**	**113**	*i* P	**Pn**	**23 15 53.5**	**0.0**
BALY	*i* S	**Sn**	**23 16 13.5**	**+0.4**
BALY	**Balya**	**1.47**	**113**	*i* P	**Pn**	**23 15 53.5**	**0.0**
BALY	*i* S	**Sn**	**23 16 13.5**	**+0.4**
EDC	**Edincik**	**1.53**	**89**	*e*PN	**Pn**	**23 15 54.7**	**+0.4**
EDC	**Edincik**	**1.53**	**89**	*e*Pn	**Pn**	**23 15 54.7**	**+0.4**
BNT	**Bandirma**	**1.57**	**88**	*e*PN	**Pn**	**23 15 54.8**	**-0.1**
BNT	**Bandirma**	**1.57**	**88**	*e*Pn	**Pn**	**23 15 54.8**	**-0.1**
CRLT	**Corlu**	**1.63**	**60**	*e*PN	**Pn**	**23 15 56.0**	**+0.3**
CRLT	**Corlu**	**1.63**	**60**	*e*Pn	**Pn**	**23 15 56.0**	**+0.3**
EDRB	**Edirne**	**1.66**	**23**	*e*PN	**Pn**	**23 15 55.4**	**-0.7**
EDRB	**Edirne**	**1.66**	**23**	*e*Pn	**Pn**	**23 15 55.4**	**-0.6**
PAIG	**Paliouri**	**1.72**	**257**	P	**Pn**	**23 15 57.5**	**+0.6**
PAIG	S	**Sn**	**23 16 22.3**	**+3.1**
PAIG	**Paliouri**	**1.72**	**257**	P	**Pn**	**23 15 57.5**	**+0.6**
PAIG	S	**Sn**	**23 16 22.3**	**+3.1**
NVR	**Nevrokopi**	**1.83**	**305**	*e*PB	**Pb**	**23 15 56.2**	**-4.0**
NVR	*e*SN	**Sn**	**23 16 17.3**	**-4.6**
NVR	**Nevrokopi**	**1.83**	**305**	P	**Pn**	**23 15 58.3**	**-0.1**
NVR	S	**Sn**	**23 16 23.7**	**+1.8**
NVR	**Nevrokopi**	**1.83**	**305**	*e*Pb	**Pb**	**23 15 56.3**	**-3.7**
NVR	**Nevrokopi**	**1.83**	**305**	P	**Pn**	**23 15 58.3**	**-0.1**
NVR	*e*Sn	**Sn**	**23 16 17.3**	**-4.6**
NVR	S	**Sn**	**23 16 23.7**	**+1.8**
PLG	**Polygyros**	**1.85**	**272**	*e*PB	**Pb**	**23 15 56.3**	**-4.2**
PLG	*e*SN	**Sn**	**23 16 17.7**	**-4.6**
PLG	**Polygyros**	**1.85**	**272**	P	**Pn**	**23 15 58.8**	**+0.2**
PLG	S	**Sn**	**23 16 25.1**	**+2.8**
PLG	**Polygyros**	**1.85**	**272**	*e*Pb	**Pb**	**23 15 56.6**	**-3.9**
PLG	**Polygyros**	**1.85**	**272**	P	**Pn**	**23 15 58.8**	**+0.2**
PLG	*e*Sn	**Sn**	**23 16 17.7**	**-4.6**
PLG	S	**Sn**	**23 16 25.1**	**+2.8**
SRS	**Serrai**	**1.90**	**295**	P	**Pn**	**23 15 59.3**	**0.0**
SRS	S	**Sn**	**23 16 25.3**	**+1.8**
SRS	**Serrai**	**1.90**	**295**	P	**Pn**	**23 15 59.3**	**0.0**

RSPR 28 23:34:44.3, 20°.30N×70°.96W, h65km±11km, MD4.2/6, 5C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.35**	**193**	*e*S	Sn	23 35 23.3	-0.8
SDDR	**Presa de Saban**	**1.35**	**193**	‖ *e*P	Pn	23 35 06.4	-0.7
DR12	**Loma Pena Alta**	**2.12**	**135**	‖ *e*P	Pn	23 35 17.1	-0.3
DR12	*e*S	Sn	23 35 42.4	-0.3
CBYP	**Canovanas**	**5.22**	**112**	‖ *e*P	Pn	23 36 00.2	+0.4
CBYP	**Canovanas**	**5.22**	**112**	*e*S	Sn	23 36 59.1	+0.3
HUMP	**Col San Antoni**	**5.28**	**113**	‖ *e*P	Pn	23 36 00.8	+0.2
HUMP	**Col San Antoni**	**5.28**	**113**	*e*S	Sn	23 37 00.7	+0.5
MTP	**Monte Pirata**	**5.56**	**112**	‖ *e*P	Pn	23 36 05.0	+0.6
MTP	**Monte Pirata**	**5.56**	**112**	*e*S	Sn	23 37 08.3	+1.4

IDC ***28*** *23:44:32.7±5.9, 23°.86N×97°.83E, h33km±48km, mb3.3/3, mb1 3.5/4, mb1mx3.2/24, mbtmp3.2/4, ML3.7/1, Error ellipse: s-maj=61.6km s-min=24.3km az=59.0*

ISC 28 23:44:22.1±1.7, 23°.3N±0°.1×95°.6E±0°.2, h10km, n7, σ1°18/10, mb3.6/2, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**5.18**	**131**	‖ PN	**Pb**	**23 45 51.0**	**-1.8**
CHRT	PG	**Pg**	**23 46 00.0**	**-1.3**
CHRT	SG	**Sg**	**23 47 09.5**	**+1.0**
CHG	**Chiang Mai**	**5.46**	**145**	PG	**Pg**	**23 46 08.0**	**+1.3**
CHG	SG	**Sg**	**23 47 17.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**5.75**	**147**	Pn	**Pn**	**23 45 52.0**	**+4.5**
0.6nm, 0.3s, baz=342, slow=12, SNR=6.8							
CMAR	Pg	**Pg**	**23 46 13.5**	**+1.2**
1.4nm, 0.3s, baz=347, slow=18, SNR=26							
CMAR	Lg	23 47 27.3	
2.4nm, 0.3s, baz=342, slow=28, SNR=4.6							
BDT	**Bhumibol Dam**	**6.83**	**152**	P	**Sg**	**23 48 00.0**	**-1.5**
20nm, 0.8s							
MKAR	**Makanchi Array**	**25.76**	**339**	P	Px	23 50 03.4	
0.4nm, 0.8s, baz=134, slow=10, SNR=4.2							

YER				*e*Sg	Sg	00 18 16.0	+0.9
YER	**Yerkesik**	**1.06**	**225**	*e*Pg	Pg	00 18 00.0	-1.2
YER				*e*Sg	Sg	00 18 16.0	+0.9
BCK	**Bucak**	**1.17**	**111**	*e*PN	Pn	00 18 02.8	0.0
BCK	**Bucak**	**1.17**	**111**	*e*Pn	Pn	00 18 02.8	0.0

ISCJB ***29*** *00:18:47.6±0.6, 37°.92N±0°.03×29°.20E±0°.06, h4km±12km, Error ellipse: s-maj=8.4km s-min=4.6km az=9.2*
DDA ***29*** *00:18:47.3, 37°.87N×29°.24E, h10km, Md2.7*
CSEM ***29*** *00:18:47.6±0.2, 37°.91N×29°.23E, h2km, MD2.6, Error ellipse: s-maj=5.4km s-min=3.8km az=97.0*
ISK ***29*** *00:18:47.3, 37°.93N×29°.21E, h9km, MD2.6*
ISC 29 00:18:48.1±0.6,**37°.92N**±0°.03×**29°.21E**±0°.06,**h7**km±11km, **n16**,σ0$59/26,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**221**	*e*PG	**Pg**	**00 18 52.3**	**0.0**
DENT	**Denizli**	**0.21**	**221**	*e*Pg	**Pg**	**00 18 52.3**	**0.0**
DNZL	**Cakiroluk**	**0.26**	**210**	*i* P	**Pg**	**00 18 52.0**	**-1.1**
DNZL				*i* S	**Sg**	**00 18 55.9**	**-0.7**
DNZL	**Cakiroluk**	**0.26**	**210**	*i* P	**Pg**	**00 18 52.0**	**-1.2**
DNZL				*i* S	**Sg**	**00 18 55.9**	**-0.7**
KHAL	**Karahalli**	**0.51**	**26**	*i* P	**Pg**	**00 18 57.5**	**-0.3**
KHAL				*i* S	**Sg**	**00 19 04.8**	**+0.4**
KHAL	**Karahalli**	**0.51**	**26**	*i* P	**Pg**	**00 18 57.5**	**-0.3**
KHAL				*i* S	**Sg**	**00 19 04.8**	**+0.4**
KULA	**Kula-Manisa**	**0.74**	**324**	*e*PG	**Pg**	**00 19 02.0**	**-0.3**
KULA				*e*SG	**Sg**	**00 19 12.1**	**+0.2**
KULA	**Kula-Manisa**	**0.74**	**324**	*e*Pg	**Pg**	**00 19 02.0**	**-0.2**
KULA				*e*Sg	**Sg**	**00 19 12.1**	**+0.3**
GLHS	**Glhisar (BURDU**	**0.79**	**163**	*e*PG	**Pg**	**00 19 03.1**	**-0.2**
GLHS				*e*SG	**Sg**	**00 19 14.4**	**+0.8**
GLHS	**Glhisar (BURDU**	**0.79**	**163**	*e*Pg	**Pg**	**00 19 03.1**	**-0.2**
GLHS				*e*Sg	**Sg**	**00 19 14.4**	**+0.8**
YER	**Yerkesik**	**1.07**	**224**	*e*PG	**Pg**	**00 19 09.0**	**+0.3**
YER				*e*SG	**Sg**	**00 19 23.7**	**+1.1**
YER	**Yerkesik**	**1.07**	**224**	*e*Pg	**Pg**	**00 19 09.0**	**+0.4**
YER				*e*Sg	**Sg**	**00 19 23.7**	**+1.1**
BCK	**Bucak**	**1.19**	**112**	*e*PN	**Pn**	**00 19 11.1**	**+0.1**
BCK	**Bucak**	**1.19**	**112**	*e*Pn	**Pn**	**00 19 11.1**	**+0.1**
ELL	**Elmali**	**1.29**	**154**	*e*PN	**Pn**	**00 19 12.1**	**-0.4**
ELL	**Elmali**	**1.29**	**154**	*e*Pn	**Pn**	**00 19 12.1**	**-0.4**

ISCJB ***29*** *00:24:23.6±0.4, 49°.83N±0°.03×18°.41E±0°.03, h0km, Error ellipse: s-maj=4.1km s-min=2.4km az=16.2*
CSEM ***29*** *00:24:24.0±0.2, 49°.84N×18°.47E, h1km, ML2.5/6, Error ellipse: s-maj=4.9km s-min=2.6km az=8.0*
IPEC ***29*** *00:24:24.1±0.2, 49°.85N×18°.53E, h1km±3km, ML1.9/3, Error ellipse: s-maj=2.4km s-min=1.2km az=167.0*
PRU ***29*** *00:24:24.9, 49°.88N×18°.46E, h0km*
ISC 29 00:24:24.5±0.4,**49°.82N**±0°.03×**18°.44E**±0°.03,**h0**km,**n28**, σ1$15/56,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.19**	**275**	*e*PG	**Pg**	**00 24 29.5**	**+1.4**
OKC				*e*SG	**Sg**	**00 24 32.5**	**+1.9**
	166nm,0.6s						
OKC	**Ostrava-Krasne**	**0.19**	**275**	*e*Pg	**Pg**	**00 24 29.2**	**+1.1**
	baz=88						
OKC				Sg	**Sg**	**00 24 32.5**	**+1.9**
	166nm,0.6s						
RAC	**Raciborz**	**0.31**	**329**	*e*Pg	**Pg**	**00 24 31.5**	**+1.1**
RAC				*e*Sg	**Sg**	**00 24 35.4**	**+1.0**
MORC	**Moravsky Berou**	**0.58**	**266**	*e*Pg	**Pg**	**00 24 36.6**	**+0.9**
	baz=83						
MORC				*e*Sg	**Sg**	**00 24 44.4**	**+1.2**
	25nm,0.4s,baz=83						
OJC	**Ojcow**	**0.96**	**65**	*e*Pg	**Pg**	**00 24 41.6**	**-1.3**
OJC				*e*Sg	**Sg**	**00 24 54.3**	**-1.0**
OJC	**Ojcow**	**0.96**	**65**	*e*Pg	**Pg**	**00 24 41.3**	**-1.6**
	baz=246						
OJC				*e*Sg	**Sg**	**00 24 54.3**	**-1.0**
KOLL	**Kolacno**	**1.24**	**181**	*e*PN	**Pn**	**00 24 48.5**	**-0.5**
KOLL				*e*SN	**Sn**	**00 25 05.8**	**-0.7**
NIE	**Niedzica**	**1.28**	**108**	*e*Pg	**Pg**	**00 24 48.5**	**-0.5**
NIE				*e*Sg	**Sg**	**00 25 06.7**	**+1.1**
NIE	**Niedzica**	**1.28**	**108**	*e*Pg	**Pg**	**00 24 48.5**	**-0.5**
NIE				*e*Sg	**Sg**	**00 25 06.7**	**+1.1**
VRAC	**Vranov**	**1.31**	**248**	*e*Pg	**Pg**	**00 24 49.7**	**+0.2**
VRAC				*e*Sg	**Sg**	**00 25 07.1**	**+0.6**
	19nm,0.4s,baz=66						
VYHS	**Vyhne**	**1.35**	**169**	*e*PN	**Pn**	**00 24 49.7**	**-0.8**
VYHS				*e*SN	**Sn**	**00 25 08.3**	**-0.9**
VYHS	**Vyhne**	**1.35**	**169**	*e*Pn	**Pn**	**00 24 49.7**	**-0.8**
VYHS				*e*Sn	**Sn**	**00 25 08.3**	**-0.9**
DPC	**Dobruska-Polom**	**1.47**	**292**	*e*PG	**Pg**	**00 24 51.7**	**-0.8**
DPC				*e*SG	**Sg**	**00 25 12.1**	**+0.6**
	14nm,0.5s						
DPC	**Dobruska-Polom**	**1.47**	**292**	Pg	**Pg**	**00 24 51.7**	**-0.8**
DPC				*e*Sg	**Sg**	**00 25 11.4**	**-0.1**
	baz=109						
KRUC	**Moravsky**	**1.54**	**241**	*e*Pg	**Pg**	**00 24 53.0**	**-0.9**
	baz=60						
KRUC				*e*Sg	**Sg**	**00 25 14.2**	**+0.4**
	7.7nm,0.3s,baz=60						
UPC	**Upice**	**1.71**	**295**	*e*PG	**Pg**	**00 24 55.7**	**-1.5**
UPC				*e*SG	**Sg**	**00 25 19.7**	**+0.4**
UPC	**Upice**	**1.71**	**295**	Pg	**Pg**	**00 24 55.7**	**-1.5**
UPC				Sg	**Sg**	**00 25 19.7**	**+0.4**
KSP	**Ksiaz**	**1.72**	**307**	*e*Pn	**Pn**	**00 24 54.7**	**-0.9**
KSP				*e*Pg	**Pg**	**00 24 57.1**	**-0.2**
KSP				*e*Sg	**Sg**	**00 25 19.3**	**-0.3**
STHS	**Stebnicka Huta**	**1.86**	**101**	*e*PN	**Pn**	**00 25 00.1**	**+2.5**
STHS				*e*SN	**Sn**	**00 25 24.1**	**+2.3**
STHS	**Stebnicka Huta**	**1.86**	**101**	*e*Pn	**Pn**	**00 25 00.1**	**+2.5**
STHS				*e*Sn	**Sn**	**00 25 24.1**	**+2.3**
KECS	**Kecovo**	**1.89**	**134**	*e*PN	**Pn**	**00 24 59.0**	**+1.0**
KECS				*e*SN	**Sn**	**00 25 21.7**	**-0.8**
KECS	**Kecovo**	**1.89**	**134**	*e*Pn	**Pn**	**00 24 59.0**	**+1.0**
KECS				*e*Sn	**Sn**	**00 25 21.7**	**-0.8**
CRVS	**Cervenica-Dubn**	**2.18**	**114**	*e*PN	**Pn**	**00 25 05.4**	**+3.5**
CRVS				*e*SN	**Sn**	**00 25 33.1**	**+3.6**
PRU	**Pruhonice**	**2.53**	**275**	*e*SG	**Sg**	**00 25 44.8**	**-0.8**
	5.1nm,0.4s						
PRU	**Pruhonice**	**2.53**	**275**	Sg	**Sg**	**00 25 44.8**	**-0.8**
	5.1nm,0.4s						
BRG	**Berggiesshubel**	**3.07**	**292**	PG	**Pg**	**00 25 20.8**	**-2.5**
BRG				SG	**Sg**	**00 26 02.1**	**-0.9**
	4.1nm,0.6s						
KHC	**Kasperske Hory**	**3.25**	**260**	*e*PN	**Pn**	**00 25 16.5**	**-0.1**
KHC				*e*PG	**Pg**	**00 25 23.5**	**-3.2**
KHC				*e*SG	**Sg**	**00 26 09.2**	**+0.5**
	5.9nm,0.5s						
KHC	**Kasperske Hory**	**3.25**	**260**	Pn	**Pn**	**00 25 16.5**	**-0.1**
KHC				Sg	**Sg**	**00 26 09.2**	**+0.5**
	5.9nm,0.5s						

SKO ***29*** *00:41:06.5, 40°.17N×27°.04E, h0km*
DDA ***29*** *00:41:19.8, 40°.38N×25°.83E, h23km±2km, Md3.0*
ISCJB ***29*** *00:41:19.3±0.4, 40°.36N±0°.02×25°.76E±0°.02, h0km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=23.6*
CSEM ***29*** *00:41:19.9±0.1, 40°.34N×25°.77E, h2km, MD3.1, Error ellipse: s-maj=2.6km s-min=2.0km az=12.0*
THE ***29*** *00:41:20.3, 40°.36N×25°.80E, h0km±1km, ML3.0/8, Error ellipse: s-maj=1.6km s-min=0.7km az=95.0*
ATH ***29*** *00:41:20.1, 40°.38N×25°.81E, h31km, MD3.4/8*
ISK ***29*** *00:41:20.1, 40°.37N×25°.91E, h5km, MD3.1, ML3.1*
ISC 29 00:41:20.4±0.3,**40°.36N**±0°.02×**25°.78E**±0°.02,**h4**km±2km, **n146**,σ1$03/207,**6C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**37**	PG	**Pg**	**00 41 29.3**	**-0.2**
ENEZ				*e*SG	**Sg**	**00 41 36.1**	**+0.4**
ENEZ	**Enez**	**0.47**	**37**	*i* Pg	**Pg**	**00 41 29.3**	**-0.2**
ENEZ				*e*Sg	**Sg**	**00 41 36.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.53**	**85**	PG	**Pg**	**00 41 29.8**	**-0.7**
GELI				*e*SG	**Sg**	**00 41 37.5**	**0.0**
GELI	**Tayfur-Gelibol**	**0.53**	**85**	*i* Pg	**Pg**	**00 41 29.8**	**-0.8**
GELI				*e*Sg	**Sg**	**00 41 37.5**	**0.0**
BOZC	**Bozcaada**	**0.55**	**158**	*i* P	**Pg**	**00 41 31.6**	**+0.6**
BOZC				*i* S	**Sg**	**00 41 39.0**	**+0.9**
ALN	**Alexandroupoli**	**0.58**	**20**	*e*PN	**Pg**	**00 41 31.7**	**+0.2**
ALN				*e*SN	**Sg**	**00 41 39.7**	**+0.7**
ALN	**Alexandroupoli**	**0.58**	**20**	P	**Pg**	**00 41 31.6**	**+0.1**
ALN				S	**Sg**	**00 41 38.9**	**-0.1**
ALN	**Alexandroupoli**	**0.58**	**20**	P	**Pg**	**00 41 31.6**	**+0.1**
ALN				S	**Sg**	**00 41 38.9**	**-0.1**
ERIK	**Erikli-Kesan**	**0.64**	**60**	*e*PG	**Pg**	**00 41 31.7**	**-1.0**
ERIK	**Erikli-Kesan**	**0.64**	**60**	*e*Pg	**Pg**	**00 41 31.7**	**-1.0**
LIA	**Limnos Island**	**0.65**	**225**	*e*PN	**Pg**	**00 41 33.9**	**+1.2**
LIA				*e*SN	**Sg**	**00 41 43.8**	**+2.7**
LIA	**Limnos Island**	**0.65**	**225**	P	**Pg**	**00 41 33.9**	**+1.2**
LIA				S	**Sg**	**00 41 43.8**	**+2.7**
LIA	**Limnos Island**	**0.65**	**225**	P	**Pg**	**00 41 33.9**	**+1.2**
LIA				S	**Sg**	**00 41 43.8**	**+2.7**
EZN	**Ezine**	**0.67**	**141**	*e*PG	**Pg**	**00 41 33.5**	**+0.3**
EZN	**Ezine**	**0.67**	**141**	*e*Pg	**Pg**	**00 41 33.5**	**+0.2**
LPK	**Lapseki**	**0.75**	**88**	*e*PG	**Pg**	**00 41 33.2**	**-1.5**
LPK				*e*SG	**Sg**	**00 41 43.5**	**-0.9**
LPK	**Lapseki**	**0.75**	**88**	*e*Pg	**Pg**	**00 41 33.2**	**-1.5**
LPK				*e*Sg	**Sg**	**00 41 43.5**	**-0.9**
RDO	**Rodhopi**	**0.81**	**347**	*e*PN	**Pg**	**00 41 36.2**	**+0.3**
RDO				*e*SN	**Sg**	**00 41 47.0**	**+0.5**
RDO	**Rodhopi**	**0.81**	**347**	P	**Pg**	**00 41 36.4**	**+0.5**
RDO				S	**Sg**	**00 41 47.5**	**+1.0**
RDO	**Rodhopi**	**0.81**	**347**	P	**Pg**	**00 41 36.4**	**+0.5**
RDO				S	**Sg**	**00 41 47.5**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.12**	**72**	*e*PG	**Pg**	**00 41 40.4**	**-1.3**
RKY	**Sarkoy-Tekirda**	**1.12**	**72**	*e*Pg	**Pg**	**00 41 40.4**	**-1.4**
SART	**Tekirdag**	**1.12**	**72**	*i* P	**Pg**	**00 41 40.0**	**-1.8**
SART				*i* S	**Sg**	**00 41 56.0**	**-0.3**
SART	**Tekirdag**	**1.12**	**72**	*i* P	**Pg**	**00 41 40.0**	**-1.8**
SART				*i* S	**Sg**	**00 41 56.0**	**-0.3**
KAVA	**Kavala**	**1.16**	**304**	P	**Pg**	**00 41 42.4**	**-0.1**
KAVA				S	**Sg**	**00 41 59.0**	**+1.4**
KAVA	**Kavala**	**1.16**	**304**	P	**Pg**	**00 41 42.4**	**-0.1**
KAVA				S	**Sg**	**00 41 59.0**	**+1.4**
KRBG	**Karabiga-Canak**	**1.16**	**88**	*e*PG	**Pg**	**00 41 41.5**	**-1.1**
KRBG	**Karabiga-Canak**	**1.16**	**88**	*e*Pg	**Pg**	**00 41 41.5**	**-1.1**
PRK	**Paraskevi**	**1.17**	**161**	*e*PN	**Pg**	**00 41 42.6**	**-0.2**
PRK				*e*SN	**Sn**	**00 41 58.0**	**-1.9**
PRK	**Paraskevi**	**1.17**	**161**	P	**Pg**	**00 41 42.6**	**-0.2**
PRK				S	**Sg**	**00 41 58.5**	**+0.6**
PRK	**Paraskevi**	**1.17**	**161**	P	**Pg**	**00 41 42.6**	**-0.2**
PRK				*e*Sn	**Sn**	**00 41 57.8**	**-2.1**
PRK				S	**Sg**	**00 41 58.5**	**+0.6**
AYVA	**Ayvalik**	**1.26**	**146**	*i* P	**Pg**	**00 41 44.1**	**-0.3**
AYVA				*i* S	**Sg**	**00 42 00.6**	**-0.2**
AYVA	**Ayvalik**	**1.26**	**146**	*i* P	**Pg**	**00 41 44.2**	**-0.3**
AYVA				*i* S	**Sg**	**00 42 00.6**	**-0.2**
OUR	**Ouranopolis**	**1.38**	**270**	P	**Pn**	**00 41 45.3**	**-1.0**
OUR				S	**Sg**	**00 42 05.9**	**+1.4**
OUR	**Ouranopolis**	**1.38**	**270**	P	**Pn**	**00 41 45.3**	**-1.0**
OUR				S	**Sg**	**00 42 05.9**	**+1.4**
TKR	**Tekirdag**	**1.48**	**64**	*e*PN	**Pn**	**00 41 47.8**	**+0.1**
TKR				*e*SN	**Sn**	**00 42 07.4**	**-0.1**
TKR	**Tekirdag**	**1.48**	**64**	*e*Pn	**Pn**	**00 41 47.8**	**0.0**
TKR				*e*Sn	**Sn**	**00 42 07.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.49**	**101**	*e*PN	**Pn**	**00 41 48.1**	**+0.2**
GONE	**Gonen-Balikesi**	**1.49**	**101**	*e*Pn	**Pn**	**00 41 48.1**	**+0.2**
EDC	**Edincik**	**1.59**	**90**	*e*PN	**Pn**	**00 41 48.4**	**-1.0**
EDC	**Edincik**	**1.59**	**90**	*e*Pn	**Pn**	**00 41 48.4**	**-0.9**
BNT	**Bandirma**	**1.64**	**89**	*e*PN	**Pn**	**00 41 49.4**	**-0.5**
BNT	**Bandirma**	**1.64**	**89**	*e*Pn	**Pn**	**00 41 49.4**	**-0.5**
EDRB	**Edirne**	**1.66**	**26**	*e*PN	**Pn**	**00 41 50.2**	**0.0**
EDRB	**Edirne**	**1.66**	**26**	*e*Pn	**Pn**	**00 41 50.2**	**-0.1**
PAIG	**Paliouri**	**1.67**	**256**	P	**Pn**	**00 41 49.4**	**-0.9**
PAIG	**Paliouri**	**1.67**	**256**	P	**Pn**	**00 41 49.4**	**-0.9**
CRLT	**Corlu**	**1.68**	**62**	*e*PN	**Pn**	**00 41 51.3**	**+0.8**
CRLT	**Corlu**	**1.68**	**62**	*e*Pn	**Pn**	**00 41 51.3**	**+0.8**
NVR	**Nevrokopi**	**1.76**	**305**	*e*PB	**Pb**	**00 41 51.0**	**-2.3**
NVR				*e*SN	**Sn**	**00 42 12.6**	**-2.0**
NVR	**Nevrokopi**	**1.76**	**305**	P	**Pn**	**00 41 51.1**	**-0.6**
NVR	**Nevrokopi**	**1.76**	**305**	P	**Pn**	**00 41 51.1**	**-0.6**
NVR				*e*Sn	**Sn**	**00 42 12.6**	**-2.0**
PLG	**Polygyros**	**1.78**	**271**	*e*PN	**Pn**	**00 41 51.0**	**-1.0**
PLG				*e*SN	**Sn**	**00 42 13.4**	**-1.7**
PLG	**Polygyros**	**1.78**	**271**	P	**Pn**	**00 41 51.0**	**-1.0**
PLG				S	**Sn**	**00 42 17.0**	**+1.9**
PLG	**Polygyros**	**1.78**	**271**	P	**Pn**	**00 41 51.0**	**-1.0**
PLG				*e*Sn	**Sn**	**00 42 13.6**	**-1.5**
PLG				S	**Sn**	**00 42 17.0**	**+1.9**
SRS	**Serrai**	**1.83**	**295**	P	**Pn**	**00 41 51.8**	**-0.8**
SRS	**Serrai**	**1.83**	**295**	P	**Pn**	**00 41 51.8**	**-0.8**
AOS	**Alonnisos**	**1.88**	**232**	P	**Pn**	**00 41 52.6**	**-0.7**
AOS				S	**Sn**	**00 42 19.6**	**+2.1**
AOS	**Alonnisos**	**1.88**	**232**	P	**Pn**	**00 41 52.6**	**-0.7**
AOS				S	**Sn**	**00 42 19.6**	**+2.1**
SOH	**Sokhos**	**1.91**	**285**	*e*PN	**Pn**	**00 41 52.9**	**-0.7**
SOH				*e*SN	**Sn**	**00 42 16.3**	**-1.8**
SOH	**Sokhos**	**1.91**	**285**	P	**Pn**	**00 41 53.1**	**-0.5**
SOH	**Sokhos**	**1.91**	**285**	P	**Pn**	**00 41 53.1**	**-0.5**
SOH				*e*Sn	**Sn**	**00 42 16.3**	**-1.8**
PLD	**Plovdiv**	**1.93**	**335**	P	**Pn**	**00 41 54.0**	**0.0**
PLD				S	**Sn**	**00 42 18.8**	**+0.1**
PLD	**Plovdiv**	**1.93**	**335**	P	**Pn**	**00 41 54.0**	**0.0**
PLD				S	**Sn**	**00 42 18.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.97**	**92**	*e*PN	**Pn**	**00 41 55.3**	**+0.7**
KCTX	**Karacabey (Bur**	**1.97**	**92**	*e*Pn	**Pn**	**00 41 55.3**	**+0.8**
CHOS	**Chios island**	**1.98**	**174**	*e*PN	**Pn**	**00 41 53.8**	**-0.8**
CHOS				*e*SN	**Sn**	**00 42 18.6**	**-1.2**
CHOS	**Chios island**	**1.98**	**174**	P	**Pn**	**00 41 54.0**	**-0.6**
CHOS				S	**Sn**	**00 42 21.4**	**+1.6**
CHOS	**Chios island**	**1.98**	**174**	P	**Pn**	**00 41 54.0**	**-0.6**
CHOS				*e*Sn	**Sn**	**00 42 18.6**	**-1.2**
CHOS				S	**Sn**	**00 42 21.4**	**+1.6**
SLVT	**Silivri**	**2.04**	**64**	*e*PN	**Pn**	**00 41 55.5**	**0.0**
SLVT	**Silivri**	**2.04**	**64**	*e*Pn	**Pn**	**00 41 55.5**	**0.0**
HORT	**Hortiatis**	**2.06**	**278**	P	**Pn**	**00 41 55.2**	**-0.6**
HORT	**Hortiatis**	**2.06**	**278**	P	**Pn**	**00 41 55.2**	**-0.6**
AKHS	**Akhisar**	**2.15**	**133**	*i* P	**Pn**	**00 42 00.1**	**+3.1**
AKHS				*i* S	**Sn**	**00 42 26.3**	**+2.1**
AKHS	**Akhisar**	**2.15**	**133**	*i* P	**Pn**	**00 42 00.1**	**+3.1**
AKHS				*i* S	**Sn**	**00 42 26.3**	**+2.1**
JMB	**Yambol**	**2.19**	**16**	P	**Pn**	**00 41 57.4**	**-0.2**
JMB				S	**Sn**	**00 42 26.3**	**+1.1**
JMB	**Yambol**	**2.19**	**16**	P	**Pn**	**00 41 57.4**	**-0.2**
JMB				S	**Sn**	**00 42 26.3**	**+1.1**
BLCB	**Balcova**	**2.20**	**153**	*e*PN	**Pn**	**00 41 59.0**	**+1.3**
BLCB	**Balcova**	**2.20**	**153**	*e*Pn	**Pn**	**00 41 59.0**	**+1.4**
DURS	**Dursunbey**	**2.20**	**109**	*i* P	**Pn**	**00 41 59.5**	**+1.7**
DURS				*i* S	**Sn**	**00 42 26.4**	**+1.0**
DURS	**Dursunbey**	**2.20**	**109**	*i* P	**Pn**	**00 41 59.5**	**+1.8**
DURS				*i* S	**Sn**	**00 42 26.4**	**+1.0**
CTYL	**Yal??k??y-??at**	**2.21**	**59**	*e*PN	**Pn**	**00 41 58.4**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.21**	**59**	*e*Pn	**Pn**	**00 41 58.4**	**+0.6**
CTKS	**Kestanelik-??a**	**2.25**	**66**	*e*PN	**Pn**	**00 41 58.2**	**-0.2**
CTKS	**Kestanelik-??a**	**2.25**	**66**	*e*Pn	**Pn**	**00 41 58.2**	**-0.2**
KNT	**Kendrikon**	**2.33**	**291**	P	**Pn**	**00 41 59.3**	**-0.2**
KNT				S	**Sn**	**00 42 29.9**	**+1.3**
KNT	**Kendrikon**	**2.33**	**291**	P	**Pn**	**00 41 59.3**	**-0.2**
KNT				S	**Sn**	**00 42 29.9**	**+1.3**
ARMT	**Armutlu**	**2.36**	**84**	*e*PN	**Pn**	**00 41 59.8**	**-0.1**
ARMT	**Armutlu**	**2.36**	**84**	*e*Pn	**Pn**	**00 41 59.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**2.37**	**89**	*e*PN	**Pn**	**00 42 00.6**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.37**	**89**	*e*Pn	**Pn**	**00 42 00.6**	**+0.6**
BGKT	**Bogazkoy**	**2.42**	**69**	*e*PN	**Pn**	**00 42 01.4**	**+0.7**
BGKT	**Bogazkoy**	**2.42**	**69**	*e*Pn	**Pn**	**00 42 01.4**	**+0.7**
LIT	**Litokhoron**	**2.53**	**265**	*e*PN	**Pn**	**00 42 01.4**	**-0.8**
LIT	**Litokhoron**	**2.53**	**265**	P	**Pn**	**00 42 01.8**	**-0.4**
LIT	**Litokhoron**	**2.53**	**265**	*e*Pn	**Pn**	**00 42 01.1**	**-1.1**
LIT	**Litokhoron**	**2.53**	**265**	P	**Pn**	**00 42 01.8**	**-0.4**
ULDT	**Uludag**	**2.58**	**94**	*i* P	**Pn**	**00 42 05.8**	**+2.9**
ULDT				*i* S	**Sn**	**00 42 37.3**	**+2.6**
ULDT	**Uludag**	**2.58**	**94**	*i* P	**Pn**	**00 42 05.8**	**+2.9**
ULDT				*i* S	**Sn**	**00 42 37.3**	**+2.7**
ISK	**Istanbul-Kandi**	**2.59**	**73**	*e*PN	**Pn**	**00 42 03.5**	**+0.4**
ISK	**Istanbul-Kandi**	**2.59**	**73**	*e*Pn	**Pn**	**00 42 03.5**	**+0.4**
DEMI	**Demirci**	**2.62**	**119**	*i* P	**Pn**	**00 42 03.3**	**-0.1**
DEMI				*i* S	**Sn**	**00 42 40.5**	**+4.9**
DEMI	**Demirci**	**2.62**	**119**	*i* P	**Pn**	**00 42 03.3**	**-0.1**
VAY	**Valandovo**	**2.62**	**293**	*e*Pn	**Pn**	**00 42 03.3**	**-0.1**
VAY				*e*Pg	**Pg**	**00 42 10.1**	**-0.4**
VAY				*e*Sn	**Sg**	**00 42 46.3**	**+1.8**
VAY	**Valandovo**	**2.62**	**293**	*e*Pn	**Pn**	**00 42 03.3**	**-0.2**
KLYT	**Kilyos**	**2.63**	**69**	*e*PN	**Pn**	**00 42 04.5**	**+0.9**
KLYT	**Kilyos**	**2.63**	**69**	*e*Pn	**Pn**	**00 42 04.5**	**+0.9**
PTL	**Penteli**	**2.74**	**213**	*e*PN	**Pn**	**00 42 04.0**	**-1.1**
PTL	**Penteli**	**2.74**	**213**	*e*Pn	**Pn**	**00 42 04.0**	**-1.1**
YLV	**Yalova**	**2.75**	**84**	*e*PN	**Pn**	**00 42 06.0**	**+0.8**
YLV	**Yalova**	**2.75**	**84**	*e*Pn	**Pn**	**00 42 06.0**	**+0.8**
SMG	**Samos**	**2.77**	**162**	*e*PN	**Pn**	**00 42 04.6**	**-0.9**
SMG	**Samos**	**2.77**	**162**	*e*Pn	**Pn**	**00 42 04.6**	**-0.9**
KULA	**Kula-Manisa**	**2.89**	**129**	*e*PN	**Pn**	**00 42 08.2**	**+1.1**
KULA	**Kula-Manisa**	**2.89**	**129**	*e*Pn	**Pn**	**00 42 08.2**	**+1.0**
VLY	**Voula,Athens**	**2.94**	**212**	*e*PN	**Pn**	**00 42 07.0**	**-0.8**
VLY	**Voula,Athens**	**2.94**	**212**	*e*Pn	**Pn**	**00 42 07.0**	**-0.8**
VTS	**Vitosha**	**2.96**	**320**	P	**Pn**	**00 42 08.4**	**+0.3**
VTS	**Vitosha**	**2.96**	**320**	⇓*i*P	**Pn**	**00 42 08.5**	**+0.4**
VTS	**Vitosha**	**2.96**	**320**	P	**Pn**	**00 42 08.4**	**+0.3**
AGG	**Agios Georgios**	**2.98**	**245**	P	**Pn**	**00 42 07.9**	**-0.5**
AGG	**Agios Georgios**	**2.98**	**245**	P	**Pn**	**00 42 07.9**	**-0.5**
HRT	**Hereke**	**3.00**	**80**	*e*PN	**Pn**	**00 42 09.0**	**+0.4**
HRT	**Hereke**	**3.00**	**80**	*e*Pn	**Pn**	**00 42 09.0**	**+0.4**
ADVT	**Abdulvahap**	**3.02**	**87**	*e*PN	**Pn**	**00 42 09.0**	**0.0**
ADVT	**Abdulvahap**	**3.02**	**87**	*e*Pn	**Pn**	**00 42 09.0**	**0.0**
KZN	**Kozani**	**3.06**	**270**	*e*PN	**Pn**	**00 42 09.7**	**+0.1**
KZN	**Kozani**	**3.06**	**270**	*e*Pn	**Pn**	**00 42 09.7**	**+0.1**
AYDN	**Tasoluk**	**3.15**	**148**	*i* P	**Pn**	**00 42 09.8**	**-0.9**
AYDN				*i* S	**Sn**	**00 42 47.0**	**-1.8**
AYDN	**Tasoluk**	**3.15**	**148**	*i* P	**Pn**	**00 42 09.8**	**-0.9**
AYDN				*i* S	**Sn**	**00 42 47.0**	**-1.7**
KRUS	**Krusevo**	**3.58**	**288**	*e*Pn	**Pn**	**00 42 16.0**	**-0.7**
KRUS	**Krusevo**	**3.58**	**288**	*e*Pn	**Pn**	**00 42 16.0**	**-0.7**
BARS	**Barje**	**3.86**	**311** ⇑*i*Pn		**Pn**	**00 42 21.0**	**+0.5**
ESKT	**Eskisehir**	**3.98**	**100**	*i* P	**Pn**	**00 42 19.9**	**-2.3**
SEYT	**Eskypehyr**	**3.98**	**100**	*i* P	**Pn**	**00 42 19.9**	**-2.3**
MLR	**Muntele Rosu**	**5.13**	**1** ⇓*i*P		**Pn**	**00 42 39.5**	**+1.5**
MLR	**Muntele Rosu**	**5.13**	**1** ⇓*i*P		**Pn**	**00 42 39.5**	**+1.5**
GRUS	**Gruza**	**5.16**	**315** ⇑*i*Pn		**Pn**	**00 42 38.3**	**-0.1**
GZR	**Gura Zlata**	**5.50**	**337** ⇑*i*P		**Pn**	**00 42 42.3**	**-0.7**
GZR	**Gura Zlata**	**5.50**	**337** S		**Sn**	**00 43 41.5**	**-5.1**
GZR	**Gura Zlata**	**5.50**	**337** ⇑*i*P		**Pn**	**00 42 42.3**	**-0.7**
VRI	**

2.2nm,0.1s
EVO Evora 5.99 79 *e*Pn **Pn 00 53 28.1 +0.5**
EVO *e*Sn **Sn 00 54 37.2 +1.0**
2.2nm,0.1s
PBDV Barranco-do-Ve 6.04 91 *e*Pn **Pn 00 53 28.3 0.0**
PBDV *e*Sn **Sn 00 54 38.7 +1.3**
PBDV Barranco-do-Ve 6.04 91 P **Pn 00 53 28.3 0.0**
PBDV S **Sn 00 54 38.7 +1.3**
PBDV Barranco-do-Ve 6.04 91 *e*Pn **Pn 00 53 28.3 0.0**
PBDV *e*Sn **Sn 00 54 38.7 +1.3**
PBEJ Beja 6.06 83 *e*Sn **Sn 00 54 37.8 -0.3**
PBEJ Beja 6.06 83 S **Sn 00 54 37.8 -0.3**
PBEJ Beja 6.06 83 *e*Sn **Sn 00 54 37.8 -0.3**
PVAQ Vaqueiros 6.19 89 *e*Pn **Pn 00 53 31.2 +0.8**
PVAQ *e*Sn **Sn 00 54 41.9 +0.6**
PVAQ A 00 54 45.5
1.5nm,0.1s
PVAQ Vaqueiros 6.19 89 P **Pn 00 53 31.2 +0.8**
PVAQ S **Sn 00 54 41.9 +0.6**
1.5nm,0.1s
PVAQ Vaqueiros 6.19 89 *e*Pn **Pn 00 53 31.2 +0.8**
PVAQ *e*Sn **Sn 00 54 41.9 +0.6**
1.5nm,0.1s
PESTR Estremoz 6.36 76 *e*Sn **Sn 00 54 45.9 +0.5**
PESTR Estremoz 6.36 76 *e*Sn **Sn 00 54 45.9 +0.5**
EGRO El Granado 6.37 88 P **Pn 00 53 31.4 -1.5**
0.1nm,0.1s,SNR=7.9
EGRO S **Sn 00 54 43.4 -2.2**
0.4nm,0.1s,SNR=7.9
EGRO El Granado 6.37 88 P **Pn 00 53 31.4 -1.5**
0.1nm,0.1s,SNR=7.9
EGRO S **Sn 00 54 43.4 -2.3**
0.4nm,0.1s,SNR=7.9
PMRV Marv??o 6.62 71 *e*Pn **Pn 00 53 36.3 0.0**
PMRV *e*Sn **Sn 00 54 52.5 +0.7**
PMRV Marv??o 6.62 71 P **Pn 00 53 36.3 0.0**
PMRV S **Sn 00 54 52.5 +0.7**
PMRV Marv??o 6.62 71 *e*Pn **Pn 00 53 36.3 0.0**
PMRV *e*Sn **Sn 00 54 52.5 +0.7**
PCBR Castelo Branco 6.67 68 *e*Sn **Sn 00 54 52.8 -0.1**
PCBR Castelo Branco 6.67 68 S **Sn 00 54 52.8 -0.1**
PCBR Castelo Branco 6.67 68 *e*Sn **Sn 00 54 52.8 -0.1**
PBAR Barrancos 6.72 82 *e*Pn **Pn 00 53 39.3 +1.6**
PBAR *e*Sn **Sn 00 54 54.0 -0.3**
PBAR Barrancos 6.72 82 P **Pn 00 53 39.3 +1.6**
PBAR S **Sn 00 54 54.0 -0.3**
PBAR Barrancos 6.72 82 *e*Pn **Pn 00 53 39.3 +1.6**
PBAR *e*Sn **Sn 00 54 54.0 -0.3**
EBAD Badajoz 6.79 77 P **Pn 00 53 38.5 -0.1**
0.2nm,0.1s,SNR=6.2
EBAD S **Sn 00 54 53.3 -2.7**
0.9nm,0.2s,SNR=7.9
EBAD Badajoz 6.79 77 P **Pn 00 53 38.5 -0.1**
0.2nm,0.1s,SNR=6.2
EBAD S **Sn 00 54 53.3 -2.7**
0.9nm,0.2s,SNR=7.9
EMIN Mina Concepcio 7.01 86 P **Pn 00 53 40.8 -0.8**
0.3nm,0.2s,SNR=4.0
EMIN S **Sn 00 54 59.2 -2.1**
0.2nm,0.2s,SNR=7.9
EMIN Mina Concepcio 7.01 86 P **Pn 00 53 40.8 -0.8**
0.3nm,0.2s,SNR=4.0
EMIN S **Sn 00 54 59.2 -2.1**
0.2nm,0.2s,SNR=7.9
MVO Moncorvo 7.47 59 P **Pn 00 53 47.5 -0.5**
0.1nm,0.1s,SNR=7.9
MVO S **Sn 00 55 07.8 -5.0**
0.3nm,0.1s,SNR=7.9
MVO Moncorvo 7.47 59 P **Pn 00 53 47.5 -0.5**
0.1nm,0.1s,SNR=7.9
ECAL Calabor 8.03 54 P **Pn 00 53 54.5 -1.1**
0.2nm,0.1s,SNR=4.1
ECAL S **Sn 00 55 20.6 -5.9**
0.2nm,0.2s,SNR=7.9
ECAL Calabor 8.03 54 P **Pn 00 53 54.5 -1.1**
0.2nm,0.1s,SNR=4.1
EADA Adamuz 8.66 83 P **Pn 00 54 02.6 -1.6**
0.2nm,0.1s,SNR=7.9
EADA S **Sn 00 55 38.6 -3.4**
0.3nm,0.1s,SNR=7.9
EADA Adamuz 8.66 83 P **Pn 00 54 02.6 -1.7**
0.2nm,0.1s,SNR=7.9
EADA S **Sn 00 55 38.6 -3.4**
0.3nm,0.1s,SNR=7.9

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*IDC **29** 01:04:51.3±5.4, 34°.36S×178°.96E, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.9/13, mbtmp3.9/2, Error ellipse: s-maj=230.4km s-min=60.0km az=164.0*
*WEL **29** 01:05:11.1±0.7, 35°.88S×178°.64E, h197km±10km, ML4.5/19, Error ellipse: s-maj=10.2km s-min=9.2km az=90.0*
*NEIC **29** 01:05:11.5, 35°.86S×178°.66E, h181km, MG4.5(WEL), After WEL.*
*ISCJB **29** 01:05:14.4±1.5, 36°.5S±0°.1×178°.6E±0°.2, h238km±8km, mb3.5/2, Error ellipse: s-maj=26.1km s-min=20.5km az=14.0.*
ISC 29 01:05:15.3±1.5, 36°.5S±0°.1×178°.6E±0°.2, h233km±8km, n98, σ0°69/103, mb3.5/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.11**	**192**	PN	**Pn**	01 05 45.7	**-3.3**
MXZ				SN	**S**	01 06 11.3	**-4.4**
MXZ	**Matakaoa Point**	**1.11**	**192**	Pn	**Pn**	01 05 45.7	**-3.3**
MXZ				Sn	**S**	01 06 11.3	**-4.4**
PUZ	**Puketiti**	**1.61**	**189**	PN	**Pn**	01 05 51.5	**-1.3**
PUZ				SN	**S**	01 06 22.2	**-0.2**
PUZ	**Puketiti**	**1.61**	**189**	Pn	**Pn**	01 05 51.5	**-1.3**
PUZ				Sn	**S**	01 06 22.1	**-0.2**
CNGZ	**Carnagh Statio**	**2.03**	**189**	PN	**Pn**	01 05 56.8	**+0.3**
CNGZ	**Carnagh Statio**	**2.03**	**189**	Pn	**Pn**	01 05 56.8	**+0.3**
MWZ	**Matawai**	**2.04**	**204**	PN	**Pn**	01 05 56.1	**-0.5**
MWZ				SN	**S**	01 06 31.3	**+2.1**
MWZ	**Matawai**	**2.04**	**204**	Pn	**Pn**	01 05 56.1	**-0.5**
OPRZ	**Ohinepanea**	**2.12**	**229**	PN	**Pn**	01 05 56.0	**-1.4**
OPRZ	**Ohinepanea**	**2.12**	**229**	Pn	**Pn**	01 05 56.0	**-1.4**
URZ	**Urewera**	**2.13**	**213**	PN	**Pn**	01 05 56.3	**-1.2**
URZ	**Urewera**	**2.13**	**213**	*e*Pn	**Pn**	01 05 56.5	**-1.0**
URZ				*e*S	**S**	01 06 30.8	**-0.1**
PRGZ	**Paritu Road**	**2.50**	**193**	PN	**Pn**	01 06 01.8	**+0.5**
PRGZ	**Paritu Road**	**2.50**	**193**	Pn	**Pn**	01 06 01.8	**+0.5**
KNZ	**Kokohu**	**2.64**	**196**	PN	**Pn**	01 06 02.8	**+0.1**
KNZ	**Kokohu**	**2.64**	**196**	Pn	**Pn**	01 06 02.8	**+0.1**
RAHZ	**Arahi**	**2.71**	**206**	PN	**Pn**	01 06 03.8	**+0.3**
RAHZ	**Arahi**	**2.71**	**206**	Pn	**Pn**	01 06 04.0	**+0.5**
MHGZ	**Mahia Peninsul**	**2.73**	**191**	PN	**Pn**	01 06 04.6	**+1.0**
MHGZ	**Mahia Peninsul**	**2.73**	**191**	Pn	**Pn**	01 06 04.6	**+1.0**
ALRZ	**Allen Road**	**2.74**	**220**	PN	**Pn**	01 06 04.1	**+0.3**
ALRZ	**Allen Road**	**2.74**	**220**	Pn	**Pn**	01 06 04.1	**+0.3**
NMHZ	**Naumai**	**2.97**	**208**	PN	**Pn**	01 06 07.3	**+1.0**
NMHZ	**Naumai**	**2.97**	**208**	Pn	**Pn**	01 06 07.3	**+1.0**
BKZ	**Black Stump Fm**	**3.16**	**211**	PN	**Pn**	01 06 08.7	**+0.4**
BKZ	**Black Stump Fm**	**3.16**	**211**	Pn	**Pn**	01 06 08.7	**+0.4**
MCHZ	**McNeill Hill**	**3.32**	**206**	PN	**Pn**	01 06 10.9	**+0.7**
MCHZ	**McNeill Hill**	**3.32**	**206**	Pn	**Pn**	01 06 10.9	**+0.7**
CKHZ	**Cape Kidnapper**	**3.39**	**200**	PN	**Pn**	01 06 11.6	**+0.5**
CKHZ	**Cape Kidnapper**	**3.39**	**200**	Pn	**Pn**	01 06 11.6	**+0.5**
OTVZ	**Oturere**	**3.54**	**220**	PN	**Pn**	01 06 13.6	**+0.8**
OTVZ	**Oturere**	**3.54**	**220**	Pn	**Pn**	01 06 13.6	**+0.8**
KAHZ	**Kahuranaki**	**3.58**	**202**	PN	**Pn**	01 06 14.1	**+0.9**
KAHZ	**Kahuranaki**	**3.58**	**202**	Pn	**Pn**	01 06 14.1	**+0.9**
BHHZ	**Black Hill Sta**	**3.61**	**213**	PN	**Pn**	01 06 14.0	**+0.4**
BHHZ	**Black Hill Sta**	**3.61**	**213**	Pn	**Pn**	01 06 14.0	**+0.4**
TUVZ	**Tukino**	**3.63**	**219**	PN	**Pn**	01 06 14.2	**+0.4**
TUVZ	**Tukino**	**3.63**	**219**	Pn	**Pn**	01 06 14.2	**+0.4**
PXZ	**Pawanui**	**3.80**	**200**	PN	**Pn**	01 06 16.1	**+0.2**
PXZ	**Pawanui**	**3.80**	**200**	Pn	**Pn**	01 06 16.1	**+0.2**
MTVZ	**Mangateitei**	**3.81**	**219**	PN	**Pn**	01 06 16.5	**+0.5**
WPHZ	**Waipukurau**	**3.96**	**205**	PN	**Pn**	01 06 18.4	**+0.7**
WPHZ	**Waipukurau**	**3.96**	**205**	Pn	**Pn**	01 06 18.4	**+0.7**
TSZ	**Takapari Road**	**4.13**	**209**	PN	**Pn**	01 06 19.7	**-0.1**
TSZ	**Takapari Road**	**4.13**	**209**	Pn	**Pn**	01 06 19.7	**-0.1**
DVHZ	**Dannevirke**	**4.26**	**206**	PN	**Pn**	01 06 21.3	**-0.1**
DVHZ	**Dannevirke**	**4.26**	**206**	Pn	**Pn**	01 06 21.3	**-0.1**
POWZ	**Post Office Ro**	**4.49**	**209**	PN	**Pn**	01 06 24.4	**+0.2**
BFZ	**Birch Farm**	**4.58**	**203**	PN	**Pn**	01 06 25.6	**+0.4**
BFZ	**Birch Farm**	**4.58**	**203**	Pn	**Pn**	01 06 25.6	**+0.4**
TIWZ	**Tintock**	**4.79**	**205**	PN	**Pn**	01 06 28.2	**+0.4**
TIWZ	**Tintock**	**4.79**	**205**	Pn	**Pn**	01 06 28.2	**+0.4**
MRZ	**Mangatainoka R**	**4.80**	**209**	PN	**Pn**	01 06 27.6	**-0.3**
MRZ	**Mangatainoka R**	**4.80**	**209**	Pn	**Pn**	01 06 27.6	**-0.3**
HOWZ	**Holdsworth Sta**	**5.03**	**208**	PN	**Pn**	01 06 30.3	**-0.4**
HOWZ	**Holdsworth Sta**	**5.03**	**208**	Pn	**Pn**	01 06 30.3	**-0.4**
TMWZ	**Te Maipa**	**5.08**	**204**	PN	**Pn**	01 06 31.5	**+0.1**
TMWZ	**Te Maipa**	**5.08**	**204**	Pn	**Pn**	01 06 31.5	**+0.1**
OGWZ	**Otaki Gorge**	**5.09**	**211**	PN	**Pn**	01 06 31.2	**-0.3**
OGWZ	**Otaki Gorge**	**5.09**	**211**	Pn	**Pn**	01 06 31.2	**-0.3**
KIW	**Kapiti Island**	**5.24**	**212**	PN	**Pn**	01 06 33.0	**-0.4**
KIW	**Kapiti Island**	**5.24**	**212**	Pn	**Pn**	01 06 33.0	**-0.4**
MTW	**Mount Morrison**	**5.26**	**206**	PN	**Pn**	01 06 33.3	**-0.3**
MTW	**Mount Morrison**	**5.26**	**206**	Pn	**Pn**	01 06 33.3	**-0.3**
CAW	**Cannon Point**	**5.38**	**210**	PN	**Pn**	01 06 34.4	**-0.7**
CAW	**Cannon Point**	**5.38**	**210**	Pn	**Pn**	01 06 34.5	**-0.7**
TRWZ	**Traveller**	**5.41**	**204**	PN	**Pn**	01 06 35.6	**+0.1**
TRWZ	**Traveller**	**5.41**	**204**	Pn	**Pn**	01 06 35.6	**+0.1**
PAWZ	**Paruwai Farm**	**5.48**	**206**	PN	**Pn**	01 06 36.1	**-0.4**
PAWZ	**Paruwai Farm**	**5.48**	**206**	Pn	**Pn**	01 06 36.1	**-0.4**
MSWZ	**Moikau Station**	**5.57**	**207**	PN	**Pn**	01 06 37.2	**-0.4**
DUWZ	**D'Urville Isla**	**5.66**	**219**	PN	**Pn**	01 06 38.8	**+0.2**
DUWZ	**D'Urville Isla**	**5.66**	**219**	Pn	**Pn**	01 06 38.8	**+0.2**
SNZO	**South Karori**	**5.70**	**211**	PN	**Pn**	01 06 38.5	**-0.7**
SNZO	**South Karori**	**5.70**	**211**	Pn	**Pn**	01 06 38.5	**-0.7**
PLWZ	**Palliser**	**5.71**	**206**	PN	**Pn**	01 06 38.6	**-0.7**
PLWZ	**Palliser**	**5.71**	**206**	Pn	**Pn**	01 06 38.6	**-0.7**
BHW	**Baring Head**	**5.71**	**209**	PN	**Pn**	01 06 38.8	**-0.6**
BHW	**Baring Head**	**5.71**	**209**	Pn	**Pn**	01 06 38.8	**-0.6**
TCW	**Tory Channel**	**5.80**	**214**	PN	**Pn**	01 06 39.6	**-0.9**
TCW	**Tory Channel**	**5.80**	**214**	Pn	**Pn**	01 06 39.6	**-0.9**
TUWZ	**Tuamarina**	**6.13**	**215**	PN	**Pn**	01 06 44.0	**-0.6**
TUWZ	**Tuamarina**	**6.13**	**215**	Pn	**Pn**	01 06 44.0	**-0.6**
NNZ	**Nelson**	**6.24**	**219**	PN	**Pn**	01 06 45.3	**-0.7**
NNZ	**Nelson**	**6.24**	**219**	Pn	**Pn**	01 06 45.3	**-0.7**
BSWZ	**Blackbirch Sta**	**6.38**	**214**	PN	**Pn**	01 06 47.7	**-0.1**
BSWZ	**Blackbirch Sta**	**6.38**	**214**	Pn	**Pn**	01 06 47.7	**-0.1**
KHZ	**Kahutara**	**7.10**	**212**	PN	**Pn**	01 06 57.1	**+0.1**
KHZ	**Kahutara**	**7.10**	**212**	Pn	**Pn**	01 06 57.1	**+0.1**
DSZ	**Denniston Nort**	**7.45**	**223**	PN	**Pn**	01 07 01.5	**+0.1**
DSZ	**Denniston Nort**	**7.45**	**223**	Pn	**Pn**	01 07 01.5	**+0.1**
LTZ	**Lake Taylor**	**7.96**	**216**	PN	**Pn**	01 07 06.9	**-1.0**
LTZ	**Lake Taylor**	**7.96**	**216**	Pn	**Pn**	01 07 06.9	**-1.0**
CTZ	**Chatham Island**	**8.12**	**155**	PN	**Pn**	01 07 15.7	**+5.8**
CTZ	**Chatham Island**	**8.12**	**155**	Pn	**Pn**	01 07 15.7	**+5.8**
ASAR	**Alice Springs**	**40.39**	**276**	P	**P**	01 12 31.9	**+1.1**
1.4nm,0.9s,mb3.4,baz=117,slow=7.6,SNR=11							
WRA	**Warramunga Arr**	**41.94**	**281**	P	**P**	**01 12 43.9**	**+0.4**
1.3nm,0.6s,mb3.6,baz=118,slow=7.8,SNR=11							
FINES	**FINESS Array B**	**149.62**	**334**	PKPbc	PKPbc	01 24 36.7	+0.4
2.9nm,0.9s,baz=72,slow=4.5,SNR=4.6							

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*ISCJB **29** 01:06:52.5±1.1, 40°.31N±0°.03×25°.80E±0°.08, h6km±8km, Error ellipse: s-maj=10.1km s-min=5.6km az=169.1*
*ISK **29** 01:06:52.7, 40°.32N×25°.84E, h10km, MD2.9*
*CSEM **29** 01:06:53.3±0.2, 40°.33N×25°.84E, h10km, MD2.9, Error ellipse: s-maj=4.5km s-min=3.3km az=76.0*
*ATH **29** 01:06:53.0, 41°.44N×26°.23E, h28km±2km, MD3.1/4*
ISC 29 01:06:53.2±1.1, 40°.32N±0°.04×25°.81E±0°.08, h9km±7km, n34, σ0°48/44, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.49**	**32**	*e*PG	**Pg**	01 07 02.6	**-0.2**
ENEZ				*e*SG	**Sg**	01 07 09.5	**+0.3**
ENEZ	**Enez**	**0.49**	**32**	*e*Pg	**Pg**	01 07 02.6	**-0.1**
ENEZ				*e*Sg	**Sg**	01 07 09.5	**+0.3**
GELI	**Tayfur-Gelibol**	**0.51**	**81**	*e*PG	**Pg**	01 07 02.9	**-0.2**
GELI				*e*SG	**Sg**	01 07 10.3	**+0.5**
GELI	**Tayfur-Gelibol**	**0.51**	**81**	*e*Pg	**Pg**	01 07 02.9	**-0.2**
GELI				*e*Sg	**Sg**	01 07 10.3	**+0.5**
ALN	**Alexandroupoli**	**0.61**	**17**	*e*PN	**Pg**	01 07 04.8	**-0.1**
ALN				*e*SN	**Sg**	01 07 13.5	**+0.7**
ALN	**Alexandroupoli**	**0.61**	**17**	*e*Pn	**Pg**	01 07 04.8	**-0.1**
ALN				*e*Sn	**Sg**	01 07 13.5	**+0.7**
EZN	**Ezine**	**0.63**	**141**	*e*PG	**Pg**	01 07 05.7	**+0.4**
EZN				*e*SG	**Sg**	01 07 14.0	**+0.5**
EZN	**Ezine**	**0.63**	**141**	*e*Pg	**Pg**	01 07 05.7	**+0.4**
EZN				*e*Sg	**Sg**	01 07 14.0	**+0.5**
ERIK	**Erikli-Kesan**	**0.64**	**56**	*e*PG	**Pg**	01 07 04.9	**-0.6**
ERIK				*e*SG	**Sg**	01 07 14.5	**+0.6**
ERIK	**Erikli-Kesan**	**0.64**	**56**	*e*Pg	**Pg**	01 07 04.9	**-0.7**
ERIK				*e*Sg	**Sg**	01 07 14.5	**+0.6**
LPK	**Lapseki**	**0.73**	**85**	*e*PG	**Pg**	01 07 06.0	**-1.2**
LPK	**Lapseki**	**0.73**	**85**	*e*Pg	**Pg**	01 07 06.0	**-1.2**
RDO	**Rodhopi**	**0.85**	**346**	*e*PN	**Pg**	01 07 05.2	**-4.4**
RDO	**Rodhopi**	**0.85**	**346**	*e*Pn	**Pg**	01 07 05.2	**-4.4**
RKY	**Sarkoy-Tekirda**	**1.11**	**70**	*e*PN	**Pg**	01 07 14.0	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.11**	**70**	*e*Pn	**Pg**	01 07 14.0	**-0.4**
KRBG	**Karabiga-Canak**	**1.14**	**86**	*e*PN	**Pg**	01 07 14.5	**-0.5**
KRBG	**Karabiga-Canak**	**1.14**	**86**	*e*Pn	**Pg**	01 07 14.5	**-0.5**
GONE	**Gonen-Balikesi**	**1.46**	**100**	*e*PN	**Pn**	01 07 19.8	**+0.1**
GONE	**Gonen-Balikesi**	**1.46**	**100**	*e*Pn	**Pn**	01 07 19.8	**+0.1**
TKR	**Tekirdag**	**1.48**	**62**	*e*PN	**Pn**	01 07 19.6	**-0.3**
TKR	**Tekirdag**	**1.48**	**62**	*e*Pn	**Pn**	01 07 19.6	**-0.3**
EDC	**Edincik**	**1.57**	**88**	*e*PN	**Pn**	01 07 20.9	**-0.3**
EDC	**Edincik**	**1.57**	**88**	*e*Pn	**Pn**	01 07 20.9	**-0.3**
EDRB	**Edirne**	**1.68**	**24**	*e*PN	**Pn**	01 07 22.9	**+0.2**
EDRB	**Edirne**	**1.68**	**24**	*e*Pn	**Pn**	01 07 23.0	**+0.2**
NVR	**Nevrokopi**	**1.80**	**306**	*e*PN	**Pn**	01 07 24.4	**0.0**
NVR	**Nevrokopi**	**1.80**	**306**	*e*Pn	**Pn**	01 07 24.4	**0.0**
PLG	**Polygyros**	**1.81**	**273**	*e*PN	**Pn**	01 07 31.6	**+7.1**
PLG	**Polygyros**	**1.81**	**273**	*e*Pn	**Pn**	01 07 31.6	**+7.1**
SLVT	**Silivri**	**2.04**	**63**	*e*PN	**Pn**	01 07 27.9	**+0.2**
SLVT	**Silivri**	**2.04**	**63**	*e*Pn	**Pn**	01 07 27.9	**+0.3**
BLCB	**Balcova**	**2.15**	**153**	*e*PN	**Pn**	01 07 29.7	**+0.5**
BLCB	**Balcova**	**2.15**	**153**	*e*Pn	**Pn**	01 07 29.7	**+0.5**

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*ISCJB **29** 01:12:23.1±0.6, 38°.11N±0°.03×20°.60E±0°.04, h11km±3km, mb3.7/4, Error ellipse: s-maj=6.2km s-min=3.7km az=44.6*
*ATH **29** 01:12:23.3, 38°.18N×20°.66E, h17km, ML3.2*
*CSEM **29** 01:12:23.9±0.2, 38°.14N×20°.69E, h2km, ML3.2, Error ellipse: s-maj=5.1km s-min=2.9km az=39.0*
*THE **29** 01:12:24.8, 38°.15N×20°.72E, h0km±2km, ML3.0/8, Error ellipse: s-maj=2.7km s-min=0.9km az=199.0*
*IDC **29** 01:12:32.6±1.4, 39°.31N×21°.98E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.3/24, mbtmp3.6/5, Error ellipse: s-maj=42.3km s-min=24.4km az=125.0*
ISC 29 01:12:24.1±0.6, 38°.13N±0°.03×20°.65E±0°.04, h8km±3km, n81, σ1°12/134, mb3.7/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.07**	**315**	*e*PB	**Pg**	01 12 26.5	**+0.5**
VLS				*e*SB	**Sg**	01 12 29.2	**+1.8**
VLS	**Valsamata**	**0.07**	**315**	P	**Pg**	01 12 26.6	**+0.6**
VLS				S	**Sg**	01 12 29.1	**+1.7**
VLS	**Valsamata**	**0.07**	**315**	P	**Pg**	01 12 26.6	**+0.6**
VLS				S	**Sg**	01 12 29.1	**+1.7**
RLS	**Riolos of Patr**	**0.65**	**96**	*e*PB	**Pg**	01 12 35.5	**-1.1**
RLS				*e*SN	**Sg**	01 12 45.0	**0.0**
RLS	**Riolos of Patr**	**0.65**	**96**	P	**Pg**	01 12 35.3	**-1.3**
RLS				S	**Sg**	01 12 45.0	**0.0**
RLS	**Riolos of Patr**	**0.65**	**96**	*e*Pb	**Pg**	01 12 35.5	**-1.1**
RLS				S	**Sg**	01 12 45.0	**0.0**
LKD2	**Lefkada island**	**0.66**	**0**	P	**Pg**	01 12 35.9	**-0.9**
LKD2				S	**Sg**	01 12 46.3	**+0.9**
LKD2	**Lefkada island**	**0.66**	**0**	P	**Pg**	01 12 35.9	**-0.9**
LKD2				S	**Sg**	01 12 46.3	**+0.9**
LAKA	**Lakka**	**1.05**	**84**	P	**Pg**	01 12 42.5	**-1.8**
LAKA				S	**Sg**	01 12 58.2	**+0.2**
LAKA	**Lakka**	**1.05**	**84**	P	**Pg**	01 12 42.5	**-1.8**
LAKA				S	**Sg**	01 12 58.2	**+0.2**
KALE	**Kalithea**	**1.20**	**77**	P	**Pb**	01 12 44.9	**-2.2**
KALE				S	**Sb**	01 13 02.9	**+0.1**
KALE	**Kalithea**	**1.20**	**77**	P	**Pb**	01 12 44.9	**-2.2**
KALE				S	**Sb**	01 13 02.9	**+0.1**
EVR	**Evrytania**	**1.20**	**49**	*e*PN	**Pn**	01 12 45.7	**-1.5**
EVR				*e*SN	**Sn**	01 13 01.9	**-1.8**
EVR	**Evrytania**	**1.20**	**49**	P	**Pb**	01 12 46.0	**-1.1**
EVR				S	**Sb**	01 13 03.2	**+0.4**
EVR	**Evrytania**	**1.20**	**49**	*e*Pn	**Pn**	01 12 45.7	**-1.5**
EVR	**Evrytania**	**1.20**	**49**	P	**Pb**	01 12 46.0	**-1.1**
EVR				*e*Sn	**Sn**	01 13 02.0	**-1.7**
EVR				S	**Sb**	01 13 03.2	**+0.4**
ITM	**Ithomi**	**1.39**	**133**	*e*PN	**Pn**	01 12 50.3	**+0.5**
ITM				*e*SN	**Sn**	01 13 09.2	**+0.9**
ITM	**Ithomi**	**1.39**	**133**	P	**Pn**	01 12 50.4	**+0.6**
ITM	**Ithomi**	**1.39**	**133**	*e*Pn	**Pn**	01 12 50.3	**+0.5**
ITM				*e*Sn	**Sn**	01 13 09.3	**+1.0**
IGT	**Igoumenitsa**	**1.42**	**350**	P	**Pn**	01 12 49.9	**-0.4**
IGT				S	**Sn**	01 13 10.5	**+1.3**
IGT	**Igoumenitsa**	**1.42**	**350**	P	**Pn**	01 12 49.9	**-0.4**
IGT				S	**Sn**	01 13 10.5	**+1.3**
MAKR	**Makrakomi, Fth**	**1.46**	**52**	P	**Pn**	01 12 50.6	**-0.2**
MAKR	**Makrakomi, Fth**	**1.46**	**52**	P	**Pn**	01 12 50.6	**-0.2**
JAN	**Janina**	**1.53**	**6**	*e*PN	**Pn**	01 12 51.3	**-0.5**
JAN				*e*SN	**Sn**	01 13 11.0	**-0.9**
JAN	**Janina**	**1.53**	**6**	P	**Pn**	01 12 52.7	**+0.9**
JAN				S	**Sn**	01 13 14.6	**+2.7**
JAN	**Janina**	**1.53**	**6**	*e*Pn	**Pn**	01 12 51.3	**-0.5**
JAN	**Janina**	**1.53**	**6**	P	**Pn**	01 12 52.7	**+0.9**
JAN				*e*Sn	**Sn**	01 13 11.0	**-0.9**
JAN				S	**Sn**	01 13 14.6	**+2.7**
AGG	**Agios Georgios**	**1.59**	**55**	*e*PN	**Pn**	01 12 52.3	**-0.3**
AGG	**Agios Georgios**	**1.59**	**55**	P	**Pn**	01 12 52.4	**-0.2**
AGG	**Agios Georgios**	**1.59**	**55**	P	**Pn**	01 12 52.4	**-0.2**
THAL	**Thalero**	**1.59**	**93**	P	**Pn**	01 12 52.7	**+0.1**
THAL	**Thalero**	**1.59**	**93**	P	**Pn**	01 12 52.7	**+0.1**
MEV	**Metsovon**	**1.71**	**15**	P	**Pn**	01 12 55.6	**+1.3**
MEV	**Metsovon**	**1.71**	**15**	P	**Pn**	01 12 55.6	**+1.3**
KEK	**Kerkira**	**1.72**	**337**	*e*PN	**Pn**	01 12 54.4	**+0.1**
KEK				*e*SN	**Sn**	01 13 16.2	**-0.2**
KEK	**Kerkira**	**1.72**	**337**	P	**Pn**	01 12 54.3	**0.0**
KEK				S	**Sn**	01 13 18.1	**+1.7**
KEK	**Kerkira**	**1.72**	**337**	P	**Pn**	01 12 54.3	**0.0**
KEK	**Kerkira**	**1.72**	**337**	*e*Pn	**Pn**	01 12 54.7	**+0.4**
KEK				*e*Sn	**Sn**	01 13 16.2	**-0.2**
KEK				S	**Sn**	01 13 18.1	**+1.7**
THL	**Klokotos Trika**	**1.79**	**36**	*e*PN	**Pn**	01 12 55.4	**+0.1**
THL				*e*SN	**Sn**	01 13 17.7	**-0.4**
THL	**Klokotos Trika**	**1.79**	**36**	P	**Pn**	01 12 56.2	**+0.9**
THL				S	**Sn**	01 13 19.9	**+1.8**
THL	**Klokotos Trika**	**1.79**	**36**	*e*Pn	**Pn**	01 12 55.4	**+0.1**
THL	**Klokotos Trika**	**1.79**	**36**	P	**Pn**	01 12 56.2	**+0.9**
THL				*e*Sn	**Sn**	01 13 17.7	**-0.4**
THL				S	**Sn**	01 13 19.9	**+1.8**
LKR	**Lokris**	**1.92**	**74**	*e*PN	**Pn**	01 12 57.5	**+0.4**
LKR				*e*SN	**Sn**	01 13 21.9	**+0.5**
LKR	**Lokris**	**1.92**	**74**	P	**Pn**	01 12 57.7	**+0.6**
LKR	**Lokris**	**1.92**	**74**	*e*Pn	**Pn**	01 12 57.5	**+0.4**
LKR				*e*Sn	**Sn**	01 13 22.9	**+1.5**
VIL1	**Vilia, Western**	**2.11**	**88**	*e*PN	**Pn**	01 13 00.0	**+0.3**
DIDY	**Didyma**	**2.13**	**107**	P	**Pn**	01 12 59.8	**-0.2**
DIDY				S	**Sn**	01 13 28.8	**+2.2**
DIDY	**Didyma**	**2.13**	**107**	P	**Pn**	01 12 59.8	**-0.2**
DIDY				S	**Sn**	01 13 28.8	**+2.2**
NAIG	**Nisos Aigina**	**2.27**	**98**	*e*PN	**Pn**	01 13 02.7	**+0.7**
NAIG	**Nisos Aigina**	**2.27**	**98**	*e*Pn	**Pn**	01 13 02.7	**+0.7**
VLI	**Veliai**	**2.30**	**127**	*e*PB	**Pb**	01 13 02.8	**-3.1**
NEO	**Neokhori**	**2.33**	**59**	*e*PN	**Pn**	01 13 03.2	**+0.4**
NEO				*e*SN	**Sn**	01 13 32.2

SART	**Tekirdag**	**1.10**	**72**	*i* P	**Pb**	**01 23 15.8**	**-1.3**
SART				*i* S	**Sb**	**01 23 30.6**	**-0.6**
SART	**Tekirdag**	**1.10**	**72**	*i* P	**Pb**	**01 23 15.8**	**-1.3**
SART				*i* S	**Sb**	**01 23 30.6**	**-0.6**
AYVA	**Ayvalik**	**1.25**	**147**	*i* P	**Pn**	**01 23 19.4**	**+0.1**
AYVA				*i* S	**Sb**	**01 23 36.9**	**+1.3**
AYVA	**Ayvalik**	**1.25**	**147**	*i* P	**Pn**	**01 23 19.4**	**+0.1**
AYVA				*i* S	**Sb**	**01 23 36.9**	**+1.3**
NVR	**Nevrokopi**	**1.78**	**305**	*e*PN	**Pn**	**01 23 27.1**	**+0.6**
NVR	**Nevrokopi**	**1.78**	**305**	*e*Pn	**Pn**	**01 23 27.1**	**+0.6**
PLG	**Polygyros**	**1.80**	**271**	*e*PN	**Pn**	**01 23 26.5**	**-0.4**
PLG	**Polygyros**	**1.80**	**271**	*e*Pn	**Pn**	**01 23 26.5**	**-0.4**
AKHS	**Akhisar**	**2.14**	**133**	*i* P	**Pn**	**01 23 31.5**	**0.0**
AKHS				*i* S	**Sn**	**01 24 05.8**	**+7.9**
AKHS	**Akhisar**	**2.14**	**133**	*i* P	**Pn**	**01 23 31.5**	**-0.1**
DURS	**Dursunbey**	**2.19**	**109**	*i* P	**Pn**	**01 23 33.0**	**+0.8**
DURS				*i* S	**Sn**	**01 24 05.6**	**+6.7**
DURS	**Dursunbey**	**2.19**	**109**	*i* P	**Pn**	**01 23 33.0**	**+0.8**

*NEIC **29** 01:24:29.9, 36°.33S×72°.98W, h41km, mb4.4/4, After GUC.*
*GUC **29** 01:24:29.9±0.9, 36°.33S×72°.98W, h41km±3km, ML4.8*
*ISCJB **29** 01:24:30.3±0.8, 36°.32S±0°.03×72°.96W±0°.10, h47km±7km, mb4.3/10, MS3.8/3, Error ellipse: s-maj=13.0km s-min=5.2km az=6.7*
*IDC **29** 01:24:34.0±3.1, 36°.37S×72°.64W, h56km±25km, mb3.9/8, mb1 4.0/11, mb1mx3.9/14, mbtmp3.8/11, ML4.0/3, MS3.6/5, Ms1 3.6/5, ms1mx3.3/20, Error ellipse: s-maj=28.9km s-min=18.8km az=93.0*
ISC 29 01:24:30.4±1.3, 36°.31S±0°.03×73°.02W±0°.07, h30km±9km, n56, σ1°.24/65, mb4.3/10, MS3.8/3, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.70**	**35**	⇓*i*P	**Pn**	**01 24 43.3**	**-0.9**
CNCO				*i* S	**Sb**	**01 24 53.2**	**-0.1**
CNCO	**Chanco**	**0.70**	**35**	⇓*i*P	**Pn**	**01 24 43.3**	**-0.9**
CNCO				*i* S	**Sb**	**01 24 53.2**	**-0.1**
CCHI	**Chillan**	**0.82**	**111**	⇓*i*P	**Pn**	**01 24 44.9**	**-1.0**
CCHI				*i* S	**Sn**	**01 24 55.7**	**-1.2**
CCHI	**Chillan**	**0.82**	**111**	⇓*i*P	**Pn**	**01 24 44.9**	**-1.0**
CCHI				*i* S	**Sn**	**01 24 55.7**	**-1.2**
CCHI				AML	AML	01 25 05.5	
	comp=E,9μm,0.1s						
CTCH	**Constitucion**	**1.09**	**27**	*i* P	**Pn**	**01 24 49.2**	**-0.4**
CTCH				*i* S	**Sn**	**01 25 04.7**	**+1.0**
CTCH	**Constitucion**	**1.09**	**27**	*i* P	**Pn**	**01 24 49.2**	**-0.4**
CTCH				*i* S	**Sn**	**01 25 04.7**	**+1.0**
CTCH				AML	AML	01 25 11.7	
	comp=E,71μm,0.5s						
LNCH	**Linares**	**1.24**	**69**	⇑*i*P	**Pn**	**01 24 53.8**	**+2.1**
LNCH				*i* S	**Sn**	**01 25 10.2**	**+2.9**
LNCH	**Linares**	**1.24**	**69**	⇑*i*P	**Pn**	**01 24 53.8**	**+2.1**
LNCH				*i* S	**Sn**	**01 25 10.2**	**+2.9**
LNCH				AML	AML	01 25 16.0	
	comp=N,26μm,0.4s						
TALC	**Talca**	**1.45**	**52**	⇓*i*P	**Pn**	**01 24 54.5**	**0.0**
TALC				*i* S	**Sn**	**01 25 12.6**	**+0.1**
TALC	**Talca**	**1.45**	**52**	⇓*i*P	**Pn**	**01 24 54.5**	**0.0**
TALC				*i* S	**Sn**	**01 25 12.6**	**+0.1**
TALC				AML	AML	01 25 20.9	
	comp=E,39μm,0.3s						
TMU	**Temuco**	**2.45**	**172**	*i* P	**Pn**	**01 25 07.9**	**-0.3**
TMU				*i* S	**Sn**	**01 25 36.5**	**-0.6**
TMU	**Temuco**	**2.45**	**172**	*i* P	**Pn**	**01 25 07.9**	**-0.3**
TMU				*i* S	**Sn**	**01 25 36.5**	**-0.6**
TACH	**Talagante**	**3.15**	**34**	⇑*i*P	**Pn**	**01 25 17.7**	**-0.3**
TACH				*i* S	**Sn**	**01 25 54.7**	**+0.1**
TACH	**Talagante**	**3.15**	**34**	⇑*i*P	**Pn**	**01 25 17.7**	**-0.3**
TACH				*i* S	**Sn**	**01 25 54.7**	**+0.1**
ANTU	**Antumapu**	**3.36**	**36**	*e*P	**Pn**	**01 25 21.6**	**+0.8**
ANTU				*i* S	**Sn**	**01 25 59.7**	**-0.1**
ANTU	**Antumapu**	**3.36**	**36**	*e*P	**Pn**	**01 25 21.6**	**+0.8**
ANTU				*i* S	**Sn**	**01 25 59.7**	**-0.1**
ANTU				AML	AML	01 26 23.0	
	comp=E,4μm,0.8s						
PLCA	**Paso Flores**	**4.83**	**157**	P	**Pn**	**01 25 42.2**	**+1.3**
	comp=E,0.8nm,0.3s,baz=322,slow=14,SNR=20						
PLCA				Lg		01 26 57.4	
	comp=E,9.8nm,0.3s,baz=10,slow=7.8,SNR=5.8						
PLCA	**Paso Flores**	**4.83**	**157**	*e*Pn	**Pn**	**01 25 42.1**	**+1.1**
PLCA				*e*S	**Sn**	**01 26 41.9**	**+6.1**
PLCA				Lg		01 26 57.4	
CFAA	**Coronel Fontan**	**6.15**	**42**	P	**Pn**	**01 25 59.1**	**0.0**
	comp=E,1.8nm,0.3s,baz=211,slow=12,SNR=85						
CFAA				S	**Sn**	**01 27 09.4**	**+1.0**
	comp=E,1.4nm,0.3s,baz=214,slow=22,SNR=3.9						
CFAA				Lg		01 27 25.8	
	comp=E,0.8nm,0.3s,baz=70,slow=18,SNR=7.7						
CFAA				LR	LR	01 28 26.1	
	comp=E,81nm,18.3s,baz=220,slow=39						
CFAA	**Coronel Fontan**	**6.15**	**42**	P	**Pn**	**01 25 59.1**	**0.0**
CFAA				S	**Sn**	**01 27 09.4**	**+1.0**
CFAA				Lg		01 27 25.8	
LCO	**Las Campanas**	**7.53**	**16**	*e*Pn	**Pn**	**01 26 16.6**	**-1.6**
	comp=E,47nm,0.7s						
LCO				*e*S	**Sn**	**01 27 40.4**	**-2.1**
TRQA	**Tornquist**	**8.99**	**104**	*e*Pn	**Pn**	**01 26 39.5**	**+1.4**
LVC	**Limon Verde**	**14.11**	**16**	*e*Pn	**Pn**	**01 27 48.7**	**+0.5**
	comp=E,12nm,1.0s						
CPUP	**Villa Florida**	**16.68**	**58**	P	**Pn**	**01 28 21.1**	**-0.8**
	comp=E,0.6nm,0.3s,baz=222,slow=9.6,SNR=9.0						
CPUP				LR	LR	01 35 24.1	
	comp=E,491nm,18.6s,baz=215,slow=40						
CPUP	**Villa Florida**	**16.68**	**58**	*e*Pn	**Pn**	**01 28 20.7**	**-1.1**
LPAZ	**La Paz**	**20.41**	**14**	P	**P**	**01 29 07.0**	**+2.0**
	comp=E,5.0nm,0.7s,baz=185,slow=12,SNR=9.6						
LPAZ	**La Paz**	**20.41**	**14**	*e*P	**P**	**01 29 05.5**	**+0.5**
	comp=E,12nm,1.0s						
SIV	**San Ignacio**	**22.86**	**31**	P	**P**	**01 29 31.2**	**0.0**
	comp=E,8.7nm,0.8s,mb4.3,baz=213,slow=10,SNR=22						
SIV				LR	LR	01 39 49.2	
	comp=E,154nm,20.5s,MS3.4,slow=40						
SIV	**San Ignacio**	**22.86**	**31**	P	**P**	**01 29 31.2**	**0.0**
SPB	**Sao Paulo**	**25.45**	**67**	*e*P	**P**	**01 29 54.0**	**-1.7**
	comp=E,15nm,0.8s,mb4.6						
SAML	**Samuel**	**28.67**	**21**	*e*P	**P**	**01 30 23.2**	**-1.4**
	comp=E,1.0nm,0.6s,mb3.7						
RKT	**Rikitea**	**54.56**	**266**	*e*T		02 32 22.5	
	comp=E,1.0nm,0.2s						
SYO	**Syowa Base**	**64.03**	**158**	⇑*e*P	**P**	**01 35 03.2**	**+2.6**
TBI	**Tubuai**	**66.02**	**258**	*e*LR	LR	01 54 57.4	
	comp=E,114nm,27.0s						
MEH	**Mehetia**	**67.77**	**264**	*e*T		02 48 47.5	
	comp=E,94nm,0.2s						
TIAR	**Tiarei**	**68.96**	**263**	*e*T		02 50 18.8	
	comp=E,9.1nm,0.3s						
PPT2	**Papeete2**	**69.13**	**263**	*e*LR	LR	01 56 28.1	
	comp=E,93nm,23.2s						
TXAR	**Lajitas Array**	**71.37**	**332**	P	**P**	**01 35 48.9**	**+1.6**
	comp=E,0.5nm,0.6s,mb3.6,baz=160,slow=8.6,SNR=5.4						
TXAR	**Lajitas Array**	**71.37**	**332**	P	**P**	**01 35 48.9**	**+1.6**
DBIC	**Dimbokro**	**76.68**	**71**	P	**P**	**01 36 16.9**	**-1.8**
	comp=E,2.4nm,0.5s,mb4.4,baz=206,slow=6.3,SNR=9.4						
DBIC				LR	LR	02 06 32.5	
	comp=E,66nm,18.4s,MS4.0,baz=274,slow=33						
DBIC	**Dimbokro**	**76.68**	**71**	P	**P**	**01 36 16.9**	**-1.8**
BOSA	**Boshof**	**79.71**	**118**	P	**P**	**01 36 35.0**	**-0.4**
	comp=E,8.5nm,0.9s,mb4.7,baz=245,slow=6.5,SNR=9.2						
BOSA				LR	LR	02 06 20.2	
	comp=E,62nm,19.0s,MS4.0,baz=166,slow=32						
BOSA	**Boshof**	**79.71**	**118**	P	**P**	**01 36 35.0**	**-0.4**
TMUT	**Trail Mountain**	**83.06**	**331**	*e*P	**P**	**01 36 51.0**	**-1.7**
	comp=E,18nm,0.5s,mb5.3						
NVAR	**Mina Array Bea**	**85.33**	**326**	P	**P**	**01 37 06.9**	**+2.7**
	comp=E,0.5nm,0.9s,mb3.6,baz=134,slow=5.1,SNR=2.6						
NVAR	**Mina Array Bea**	**85.33**	**326**	P	**P**	**01 37 06.9**	**+2.7**
TORD	**Torodi Ar. Bea**	**85.75**	**70**	P	**P**	**01 37 06.1**	**-0.7**
	comp=E,1.6nm,0.9s,mb4.3,baz=249,slow=4.0,SNR=8.8						
TORD	**Torodi Ar. Bea**	**85.75**	**70**	P	**P**	**01 37 06.1**	**-0.7**
ULM	**Lac du Bonnet**	**88.52**	**346**	P	**P**	**01 37 21.4**	**+2.1**
	comp=E,0.6nm,0.5s,mb4.2,baz=190,slow=6.1,SNR=1.7						
ULM	**Lac du Bonnet**	**88.52**	**346**	P	**P**	**01 37 21.4**	**+2.1**
WRA	**Warramunga Arr**	**118.36**	**209**	PKP	PKPdf	01 43 14.7	-0.6
	comp=E,0.1nm,0.4s,baz=155,slow=1.7,SNR=3.6						
WRA	**Warramunga Arr**	**118.36**	**209**	PKP	PKPdf	01 43 14.7	-0.6
ZALV	**Zalesovo Beam**	**156.59**	**34**	PKP	PKPdf	01 44 21.0	-0.7
	comp=E,0.5nm,0.7s,baz=305,slow=5.1,SNR=3.7						
ZALV				PKPab	PKPab	01 44 51.0	+0.2
	comp=E,0.5nm,0.5s,baz=298,slow=3.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**156.59**	**34**	PKP	PKPdf	01 44 21.0	-0.7
ZALV				PKPab	PKPab	01 44 51.0	+0.2
MKAR	**Makanchi Array**	**158.84**	**53**	PKP	PKPdf	01 44 24.3	-0.4
	comp=E,0.7nm,0.8s,baz=298,slow=2.6,SNR=4.5						
MKAR				PKPab	PKPab	01 45 00.5	-0.4
	comp=E,0.7nm,0.8s,baz=270,slow=2.9,SNR=6.9						
MKAR	**Makanchi Array**	**158.84**	**53**	PKP	PKPdf	01 44 24.3	-0.4
MKAR				PKPab	PKPab	01 45 00.5	-0.4

*NEIC **29** 01:38:16.0±0.3, 15°.34S×173°.30W, h35km, mb4.8/4, Error ellipse: s-maj=12.0km s-min=9.8km az=147.0*
*IDC **29** 01:38:21.1±0.7, 15°.36S×173°.22W, h79km±5km, mb4.0/11, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, MS3.9/12, Ms1 3.8/12, ms1mx3.6/28, Error ellipse: s-maj=24.4km s-min=12.5km az=122.0*
ISC 29 01:38:18.4±3.9, 15°.5S±0°.1×173°.2W±0°.1, h57km±38km, h83km±1.8km: pP-P, n85, σ0°.99/35, mb4.3/13, MS3.9/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.69**	**254**	*e*Pn	**Pn**	**01 40 30.0**	**+8.6**
RAR	**Rarotonga**	**13.97**	**116**	P	**Pn**	**01 41 32.7**	**-0.8**
	3.3nm,0.3s,baz=299,slow=10,SNR=4.8						
RAR				S	**Sn**	**01 43 50.4**	**-17**
	2.2nm,0.3s,baz=102,slow=22,SNR=3.1						
RAR	**Rarotonga**	**13.97**	**116**	Pn	**Pn**	**01 41 34.1**	**+0.6**
RAR				S	**Sn**	**01 43 50.4**	**-17**
DZM	**Mont Dzumac**	**20.35**	**248**	*e*P	**P**	**01 42 56.8**	**+6.6**
	108nm,1.1s						
DZM				*e*LR	LR	01 48 07.9	
	737nm,27.1s						
DZM	**Mont Dzumac**	**20.35**	**248**	*e*P	**P**	**01 42 53.3**	**+3.1**
	46nm,0.9s						
PAE	**Paea**	**22.74**	**99**	*e*T		02 06 23.6	
	4.6nm,0.3s						
PPT2	**Papeete2**	**22.75**	**99**	*e*LR	LR	01 48 25.9	
	292nm,29.0s						
PPT2				*e*T		02 06 24.0	
	10nm,0.4s						
TIAR	**Tiarei**	**22.96**	**99**	*e*T		02 06 40.3	
	24nm,0.4s						
TBI	**Tubuai**	**23.70**	**113**	*e*LR	LR	01 49 12.7	
	194nm,32.0s						
TBI				*e*T		02 07 42.6	
	18nm,0.3s						
MEH	**Mehetia**	**24.19**	**99**	*e*T		02 08 12.8	
	35nm,0.3s						
URZ	**Urewera**	**24.27**	**199**	P	**P**	**01 43 30.4**	**+0.2**
	15nm,0.3s,mb4.8,baz=21,slow=3.4,SNR=24						
URZ				S	**S**	**01 47 51.0**	**+6.0**
	7.8nm,0.8s,baz=65,slow=22,SNR=5.7						
URZ	**Urewera**	**24.27**	**199**	*e*P	**P**	**01 43 30.9**	**+0.8**
	26nm,0.7s,mb4.8						
URZ				S	**S**	**01 47 51.0**	**+6.0**
PMOR	**Pomariorio Ree**	**24.42**	**92**	*e*T		02 08 26.4	
	5.9nm,0.3s						
HNR	**Honiara**	**26.88**	**280**	LR	LR	01 52 41.7	
	comp=Z,89nm,18.2s,MS3.4,baz=319,slow=32						
RPZ	**Rata Peaks**	**31.20**	**202**	P	**P**	**01 44 32.0**	**-0.2**
	2.9nm,0.5s,mb4.4,baz=31,slow=4.4,SNR=3.3						
RPZ	**Rata Peaks**	**31.20**	**202**	P	**P**	**01 44 32.0**	**-0.2**
TAOE	**Nuku Hiva Isla**	**32.94**	**82**	*e*T		02 19 01.2	
	89nm,0.2s						
RKT	**Rikitea**	**36.79**	**108**	*e*T		02 24 01.4	
	13nm,0.3s						
STKA	**Stephens Creek**	**44.17**	**240**	P	**P**	**01 46 21.7**	**-0.1**
	3.9nm,0.5s,mb4.4,baz=85,slow=11,SNR=20						
STKA				LR	LR	02 01 53.6	
	comp=Z,191nm,18.8s,MS4.0,baz=25,slow=32						
STKA	**Stephens Creek**	**44.17**	**240**	P	**P**	**01 46 21.7**	**-0.1**
WB2	**Warramunga Arr**	**50.01**	**257**	*e*P	**P**	**01 47 06.6**	**-0.8**
WRAB	**Tennant Creek**	**50.01**	**257**	*e*P	**P**	**01 47 06.2**	**-1.2**
	4.3nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**01 47 06.3**	**-1.1**
	4.6nm,0.8s,mb4.6,baz=91,slow=7.0,SNR=58						
WRA				PcP	PcP	01 48 27.7	+0.9
	0.8nm,0.8s,baz=86,slow=4.3,SNR=7.5						
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**01 47 06.3**	**-1.1**
WRA				PcP	PcP	01 48 27.7	+0.9
AS31	**Alice Springs**	**50.27**	**252**	*e*P	**P**	**01 47 08.8**	**-0.6**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**01 47 08.6**	**-0.8**
	16nm,0.8s,mb5.1,baz=86,slow=8.1,SNR=104						
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**01 47 08.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**58.38**	**258**	LR	LR	02 10 34.8	
	comp=Z,91nm,18.4s,MS3.9,baz=64,slow=33						
VNDA	**Vanda**	**63.34**	**186**	*e*P	**P**	**01 48 42.6**	**+1.6**
	9.0nm,0.9s,mb4.9						
NWAO	**Narrogin (SRO)**	**64.76**	**241**	LR	LR	02 17 06.2	
	comp=Z,140nm,20.2s,MS4.2,baz=75,slow=36						
FX1	**Attu Island--F**	**69.07**	**351**	LR	LR	02 17 54.5	
	comp=Z,79nm,19.0s,MS4.0,baz=348,slow=34						
NVAR	**Mina Array Bea**	**74.24**	**42**	P	**P**	**01 49 49.2**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=230,slow=10.0,SNR=7.1						
NVAR				pP	pP	01 50 10.2	+4.9
	1.1nm,0.7s,baz=227,slow=11,SNR=5.8						
NVAR				LR	LR	02 15 23.7	
	comp=Z,106nm,18.4s,MS4.2,baz=41,slow=30						
NVAR	**Mina Array Bea**	**74.24**	**42**	P	**P**	**01 49 49.2**	**-0.2**
NVAR				pP	pP	01 50 10.2	+4.9
KSRS	**Korea Array**	**76.33**	**315**	P	**P**	**01 50 03.3**	**+1.8**
	1.6nm,0.5s,mb4.2,baz=103,slow=5.4,SNR=4.7						
KSAR	**Wonju Array Be**	**76.35**	**315**	P	**P**	**01 50 03.3**	**+1.7**
TXAR	**Lajitas Array**	**80.48**	**56**	P	**P**	**01 50 24.0**	**-0.6**
	0.4nm,0.8s,mb3.4,baz=220,slow=7.4,SNR=3.7						
TXAR				LR	LR	02 17 12.6	
	comp=Z,63nm,22.0s,MS3.9,baz=5.0,slow=29						
TXAR	**Lajitas Array**	**80.48**	**56**	P	**P**	**01 50 24.0**	**-0.6**
ILAR	**Eielson Array**	**82.47**	**11**	P	**P**	**01 50 33.5**	**-0.6**
	0.7nm,0.6s,mb3.8,baz=219,slow=7.2,SNR=17						
ILAR				pP	pP	01 50 56.0	+5.7
	2.8nm,0.9s,baz=206,slow=5.6,SNR=7.9						
ILAR				LR	LR	02 19 38.7	
	comp=Z,68nm,20.7s,MS4.0,baz=211,slow=30						
ILAR	**Eielson Array**	**82.47**	**11**	P	**P**	**01 50 33.5**	**-0.6**
ILAR				pP	pP	01 50 56.0	+5.7
YKA	**Yellowknife Ar**	**90.08**	**23**	P	**P**	**01 51 10.8**	**-0.8**
	0.5nm,0.7s,mb4.0,baz=240,slow=4.6,SNR=7.2						
YKA				pP	pP	01 51 33.4	+5.5
	1.8nm,0.9s,baz=228,slow=4.9,SNR=8.6						
YKA				LR	LR	02 24 26.1	
	comp=Z,10nm,18.8s,MS3.3,baz=140,slow=31						
YKA	**Yellowknife Ar**	**90.08**	**23**	P	**P**	**01 51 10.8**	**-0.8**
YKA				pP	pP	01 51 33.4	+5.5
NNA	**Nana**	**92.86**	**103**	LR	LR	02 23 15.8	
	comp=Z,45nm,20.9s,MS3.9,baz=226,slow=29						
ULM	**Lac du Bonnet**	**93.86**	**39**	LR	LR	02 24 56.7	
	comp=Z,110nm,21.3s,MS4.3,baz=9.7,slow=30						
SONM	**Songino Array**	**95.02**	**318**	P	**P**	**01 51 35.5**	**+0.7**
	0.7nm,0.8s,mb4.2,baz=109,slow=5.4,SNR=4.5						
SONM				LR	LR	02 36 50.6	
	comp=Z,48nm,18.4s,MS4.0,baz=204,slow=37						
SONM	**Songino Array**	**95.02**	**318**	P	**P**	**01 51 35.5**	**+0.7**
ZALV	**Zalesovo Beam**	**109.39**	**322**	PKiKP	PKiKP	01 56 41.2	-0.9
	0.6nm,0.6s,baz=60,slow=3.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**109.39**	**322**	PKiKP	PKiKP	01 56 41.2	-0.8
MKAR	**Makanchi Array**	**111.00**	**315**	PKiKP	PKiKP	01 56 44.4	-0.9
	0.5nm,0.6s,baz=84,slow=0.8,SNR=4.1						
MKAR	**Makanchi Array**	**111.00**	**315**	PKiKP	PKiKP	01 56 44.4	-0.9
KURK	**Kurchatov**	**113.31**	**319**	PKiKP	PKiKP	01 56 48.2	-1.4
	0.8nm,0.7s,baz=101,slow=1.6,SNR=4.4						
KURK	**Kurchatov**	**113.31**	**319**	PKiKP	PKiKP	01 56 48.2	-1.4
BVAR	**Borovoye Array**	**118.05**	**322**	PKP	PKPdf	01 56 57.9	-0.7
	1.5nm,0.7s,baz=48,slow=2.1,SNR=4.8						
BVAR	**Borovoye Array**	**118.05**	**322**	PKP	PKPdf	01 56 57.9	-0.7
DPC	**Dobruska-Polom**	**144.35**	**350**	*e*PKP	PKPdf	01 57 47.2	-0.8
DPC				*ep*PKP	pPKPdf	01 58 00.9	-4.0
OKC	**Ostrava-Krasne**	**144.49**	**347**	*e*PKP	PKPdf	01 57 47.6	-0.7
CRVS	**Cervenica-Dubn**	**144.55**	**343**	*e*PKP	PKPdf	01 57 46.6	-1.8
PRU	**Pruhonice**	**144.99**	**351**	*e*PKP	PKPdf	01 57 48.5	-0.6
PRU				*ep*PKP	pPKPdf	01 58 05.2	-0.8
PRU				*ex*	x	01 58 14.0	
KECS	**Kecovo**	**145.20**	**344**	*e*	PKPbc	01 57 43.4	-5.8
VRAC	**Vranov**	**145.31**	**349**	PKPbc	PKPbc	01 57 49.7	+0.1
	4.6nm,1.1s,baz=29,slow=3.9,SNR=4.8						
VRAC	**Vranov**	**145.31**	**349**	PKPbc	PKPbc	01 57 49.7	+0.1
VYHS	**Vyhne**	**145.60**	**346**	*e*PKP	PKPdf	01 57 50.8	+0.6
VYHS				*e*		01 58 06.3	
KOLL	**Kolacno**	**145.62**	**346**	*e*PKP	PKPdf	01 57 51.5	+1.2
KMBO	**Kilima Mbogo**	**145.68**	**244**	*e*PKPbc	PKPbc	01 57 53.3	+1.4
SMOL	**Smolenice**	**145.90**	**347**	*e*PKP	PKPdf	01 57 52.2	+1.5
KHC	**Kasperske Hory**	**145.97**	**352**	*e*PKP	PKPdf	01 57 51.4	+0.6
KHC				*ex*	x	01 58 11.7	
MLR	**Muntele Rosu**	**146.00**	**336**	PKPbc	PKPbc	01 57 52.2	+0.4
	1.7nm,1.0s,baz=38,slow=7.6,SNR=4.2						
MLR	**Muntele Rosu**	**146.00**	**336**	PKPbc	PKPbc	01 57 52.2	+0.4
GERES	**GERESS Array B**	**146.23**	**352**	PKPbc	PKPbc	01 57 52.5	+0.1
	2.1nm,0.9s,baz=5.7,slow=2.7,SNR=7.4						
GERES	**GERESS Array B**	**146.23**	**352**	PKPbc	PKPbc	01 57 52.5	+0.1
BR131	**Keskin Array S**	**146.32**	**321**	PKPbc	PKPbc	01 57 53.9	+0.9
BRTR	**Keskin Array B**	**146.32**	**321**	PKPbc	PKPbc	01 57 53.6	+0.6
	9.0nm,0.7s,baz=108,slow=2.2,SNR=27						
BRTR				pPKPbc	pPKPbc	01 58 14.5	+4.8
	6.9nm,0.9s,baz=90,slow=1.2,SNR=5.0						
BRTR	**Keskin Array B**	**146.32**	**321**	PKPbc	PKPbc	01 57 53.6	+0.6
BRTR				pPKPbc	pPKPbc	01 58 14.5	+4.8
CDF	**Champ du Feu**	**147.14**	**359**	*e*PKP1	pPKPbc	01 58 19.5	+7.7
	12nm,0.8s						
HAU	**Haudompre**	**147.54**	**1**	*e*PKP1	pPKPbc	01 58 20.6	+7.7
	23nm,0.9s						
HINF	**Hinteralfeld**	**147.74**	**360**	*e*PKP1	pPKPbc	01 58 20.9	+7.4
LOR	**Lormes**	**148.19**	**4**	*e*PKP1	pPKPbc	01 58 22.3	+7.6
	16nm,1.0s						
SSF	**Saint Saulge**	**148.37**	**4**	*e*PKP1	pPKPbc	01 58 23.0	+7.8
	24nm,1.1s						
AVF	**Avril sur Loir**	**148.63**	**5**	*e*PKP1	pPKPbc	01 58 23.2	+7.3
	23nm,1.2s						
DAVOX	**Davos/Dischmat**	**148.67**	**356**	PKPbc	PKPbc	01 58 00.5	+1.4
	2.8nm,0.8s,baz=316,slow=2.0,SNR=5.2						
DAVOX				pPKPbc	pPKPbc	01 58 23.1	+7.1
	5.4nm,0.8s,baz=297,slow=2.7,SNR=5.3						
DAVOX	**Davos/Dischmat**	**148.67**	**356**	PKPbc	PKPbc	01 58 00.5	+1.4
DAVOX				pPKPbc	pPKPbc	01 58 23.1	+7.1
SMF	**Signal de Mont**	**148.81**	**4**	*e*PKP1	pPKPbc	01 58 23.8	+7.5
	15nm,0.9s						
BGF	**Bois d'Agland**	**148.82**	**5**	*e*PKP1	pPKPbc	01 58 24.0	+7.6
CABF	**La Chapelle**	**148.94**	**1**	*e*PKP1	pPKPbc	01 58 25.0	+8.3
	42nm,1.1s						
TORD	**Torodi Ar. Bea**	**174.54**	**114**	PKP	PKPdf	01 58 20.2	-2.4
	1.1nm,1.0s,baz=246,slow=0.9,SNR=5.3						
TORD				PKPab	PKPab	01 59 54.5	-1.6
	0.6nm,0.8s,baz=249,slow=3.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**174.54**	**114**	PKP	PKPdf	01 58 20.2	-2.4
TORD				PKPab	PKPab	01 59 54.5	-1.6

*BJI **29** 01:44:19.0, 49°.08N×155°.09E, h60km, mB5.1/3, mb4.4/6*
*MOS **29** 01:44:21.7±0.9, 48°.31N×154°.34E, h35km, mb5.0/49, Error ellipse: s-maj=9.6km s-min=5.3km az=94.6*
*KRSC **29** 01:44:23.4±2.8, 47°.96N×156°.83E, h10km±10km, ML5.0*
*ISCJB **29** 01:44:23.6±0.6, 48°.35N±0°.05×154°.40E±0°.05, h50km±5km, mb4.7/99, MS3.9/9, Error ellipse: s-maj=9.1km s-min=4.0km az=147.3*
*SKHL **29** 01:44:23.9±2.1, 48°.12N×154°.85E, h91km±8km, mb5.2/3, msh5.9/1*
*NEIC **29** 01:44:24.0±0.6, 48°.27N×154°.36E, h43km±5km, mb4.9/60, Error ellipse: s-maj=7.3km s-min=3.7km az=158.0*
*IDC **29** 01:44:27.1±2.5, 48°.30N×154°.35E, h71km±21km, mb4.1/24, mb1 4.3/27, mb1mx4.3/30, mbtmp4.2/27, MS3.8/8, Ms1 3.9/8, ms1mx3.4/36, Error ellip

MJAR Matsushiro Arr 16.77 231 P **Pn 01 48 12.5 -4.6**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MAT Matsushiro 16.77 231 P **Pn 01 48 16.6 -0.5**
CLNS Chul'man 19.65 306 *eP* **Pn 01 48 53.9 +2.0**
CLNS pmax pmax
comp=Z,27nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,0.7s
CN2 Changchun 20.51 268 *eP* **P 01 48 56.8 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BILL Bilibino 20.59 13 *eP* **P 01 48 58.6 -1.5**
comp=Z,6.7nm,0.8s
BILL Bilibino 20.59 13⇑*iP* **P 01 48 58.8 -1.3**
BILL *e**PP 01 49 11.1
BILL *e* 01 53 06.0
BILL pmax pmax
comp=Z,6.0nm,0.7s
BILL MLR MLR
comp=Z,200nm,16.0s,MS3.6
KSRS Korea Array 22.13 250 P **P 01 49 15.3 -1.5**
comp=Z,12nm,0.9s,mb4.3,baz=55,slow=9.6,SNR=18
KSRS Korea Array 22.13 250 P **P 01 49 15.4 -1.5**
KSRS pmax pmax
comp=Z,12nm,0.9s,mb4.3
KSAR Wonju Array Be 22.16 250 P **P 01 49 15.3 -1.8**
KSAR Wonju Array Be 22.16 250 P **P 01 49 15.4 -1.8**
GAMB Gambell 23.99 38 *eP* **P 01 49 34.9 -0.2**
comp=Z,26nm,1.1s,mb4.6
BOD Bodaibo 25.63 307 *eP* pP 01 50 04.5 +0.4
TNA Tin City 26.19 35 *eP* **P 01 49 55.5 +0.5**
comp=Z,16nm,0.9s,mb4.6
SONM Songino Array 31.62 287 P **P 01 50 45.0 +1.5**
comp=Z,0.3nm,0.4s,baz=47,slow=6.5,SNR=3.3
SONM PcP PcP 01 53 33.3 -1.0
comp=Z,1.3nm,0.8s,baz=97,slow=1.8,SNR=7.5
SONM Songino Array 31.62 287 P **P 01 50 45.0 +1.5**
SONM PcP PcP 01 53 33.3 -1.0
SONM Songino Array 31.62 287 P **P 01 50 45.0 +1.6**
SONM 01 53 33.3
COLD Coldfoot 33.49 36 *eP* **P 01 50 58.5 -1.1**
comp=Z,7.2nm,0.8s,mb4.7
SML Sawmill 34.20 45 *eP* **P 01 51 05.6 -0.2**
comp=Z,9.2nm,0.8s,mb4.8
SML Sawmill 34.20 45 *eP* **P 01 51 05.6 -0.2**
SML pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ILAR Eielson Array 34.73 40 P **P 01 51 10.1 -0.3**
comp=Z,3.2nm,0.9s,mb4.3,baz=253,slow=8.2,SNR=14
ILAR LR LR 02 05 36.8
comp=Z,108nm,19.4s,MS3.6,baz=312,slow=36
ILAR Eielson Array 34.73 40 P **P 01 51 10.1 -0.3**
ILAR Eielson Array 34.73 40 P **P 01 51 10.1 -0.3**
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR MLR MLR
comp=Z,108nm,19.4s
EGAK Eagle 37.18 40 *eP* **P 01 51 31.0 -0.4**
comp=Z,16nm,0.9s,mb4.8
INK Inuvik 39.80 34 P **P 01 51 54.0 +0.8**
comp=Z,6.7nm,0.7s,mb4.5,baz=291,slow=7.9,SNR=17
INK Inuvik 39.80 34 *eP* **P 01 51 54.0 +0.7**
comp=Z,5.6nm,0.7s,mb4.4
INK Inuvik 39.80 34 *eP* **P 01 51 54.0 +0.7**
INK pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 42.35 305 P **P 01 52 13.2 -1.1**
comp=Z,1.7nm,0.5s,mb4.0,baz=56,slow=7.5,SNR=11
ZALV PcP PcP 01 54 06.3 -0.4
comp=Z,5.0nm,0.8s,baz=79,slow=3.2,SNR=19
ZALV Zalesovo Beam 42.35 305 P **P 01 52 13.2 -1.1**
ZALV Zalesovo Beam 42.35 305 P **P 01 52 13.2 -1.1**
ZALV 01 54 06.4
ZALV pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
MK31 Makanchi Array 46.95 297 *eP* **P 01 52 50.6 -0.4**
MK31 Makanchi Array 46.95 297 *ceP* **P 01 52 50.2 -0.8**
MKAR Makanchi Array 46.95 297 P **P 01 52 50.4 -0.6**
comp=Z,1.6nm,0.9s,mb4.0,baz=68,slow=8.0,SNR=8.8
MKAR PcP PcP 01 54 22.1 -0.6
comp=Z,1.4nm,0.8s,baz=46,slow=5.2,SNR=5.2
MKAR Makanchi Array 46.95 297 P **P 01 52 50.4 -0.6**
MKAR Makanchi Array 46.95 297 *ceP* **P 01 52 50.4 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 47.17 303 P **P 01 52 53.1 +0.5**
comp=Z,9.1nm,0.7s,mb4.8,baz=64,slow=8.2,SNR=39
KURK PcP PcP 01 54 23.4 0.0
comp=Z,3.4nm,0.8s,baz=64,slow=3.4,SNR=11
KURK LR LR 02 13 59.7
comp=Z,149nm,20.4s,MS3.9,baz=65,slow=38
KURK Kurchatov 47.17 303 P **P 01 52 53.1 +0.5**
KURK Kurchatov 47.17 303⇓*iP* **P 01 52 52.1 -0.6**
KURK pmax pmax
comp=Z,16nm,1.2s,mb4.8
RES Resolute Bay 49.00 19 P **P 01 53 06.8 +0.3**
comp=Z,11nm,0.7s,mb5.0,baz=289,slow=6.2,SNR=48
RES LR LR 02 15 39.9
comp=Z,77nm,18.8s,MS3.7,baz=174,slow=38
RES Resolute Bay 49.00 19 *eP* **P 01 53 06.9 +0.4**
comp=Z,9.9nm,0.8s,mb4.9
RES Resolute Bay 49.00 19 P **P 01 53 06.9 +0.4**
RES pmax pmax
comp=Z,11nm,0.7s,mb5.0
RES MLR MLR
comp=Z,77nm,18.8s,MS3.7
YKA Yellowknife Ar 49.10 38 P **P 01 53 07.6 +0.2**
comp=Z,4.3nm,0.8s,mb4.5,baz=298,slow=7.6,SNR=31
YKA Yellowknife Ar 49.10 38 P **P 01 53 07.6 +0.2**
YKA Yellowknife Ar 49.10 38 P **P 01 53 07.6 +0.2**
YKA pmax pmax
comp=Z,4.0nm,0.8s
BVA0 Borovoye Array 50.47 309 *iP* **P 01 53 17.3 -0.7**
BVAR Borovoye Array 50.47 309 P **P 01 53 17.5 -0.5**
comp=Z,6.3nm,0.3s,mb5.1,baz=56,slow=8.1,SNR=61
BVAR PcP PcP 01 54 34.9 -0.4
comp=Z,1.9nm,0.5s,baz=67,slow=3.4,SNR=8.4
BVAR Borovoye Array 50.47 309 P **P 01 53 17.5 -0.5**
BVAR PcP PcP 01 54 34.9 -0.4
BVAR Borovoye Array 50.47 309 P **P 01 53 17.5 -0.5**
BVAR 01 54 34.9
BVAR pmax pmax
comp=Z,6.0nm,0.4s
BRVK Borovoye 50.51 309 *eP* **P 01 53 17.4 -0.8**
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 50.51 309⇓*iP* **P 01 53 17.6 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CMAR Chiang Mai Arr 53.59 256 P **P 01 53 41.5 0.0**
comp=Z,2.8nm,0.9s,mb4.2,baz=30,slow=7.4,SNR=12
CMAR PcP PcP 01 54 47.2 -0.3
comp=Z,1.2nm,0.6s,baz=2.4,slow=2.7,SNR=5.6
CMAR Chiang Mai Arr 53.59 256 P **P 01 53 41.5 0.0**
CMAR PcP PcP 01 54 47.2 -0.3
CMAR Chiang Mai Arr 53.59 256 P **P 01 53 41.6 +0.1**
CMAR 01 54 47.2
CMAR pmax pmax
comp=Z,3.0nm,0.9s
ETW Entiat 54.14 56 *eP* **P 01 53 45.3 +0.1**
ARU Arti 54.37 317 *eP* **P 01 53 45.1 -1.7**
comp=Z,5.6nm,0.8s,mb4.5
ARU Arti 54.37 317 *dP* **P 01 53 45.3 -1.5**
ARU *PP pP 01 53 59.1 -2.8
ARU *e* 01 54 48.8
ARU *e* 01 55 43.9
ARU PPP 01 56 59.7
ARU S **S 02 01 20.8 +0.4**
ARU SS SS 02 05 02.9 +0.5
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BMO Blue Mountains 57.46 57 *eP* **P 01 54 09.2 +0.1**
comp=Z,3.2nm,0.8s,mb4.4
HNR Honiara 57.79 173 LR LR 02 13 26.6
comp=Z,112nm,20.8s,MS4.0,baz=304,slow=30
AB31 Akbulak array 58.02 310 *ceP* **P 01 54 12.0 -0.9**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
ABKAR Akbulak array 58.02 310 *eP* **P 01 54 11.9 -0.9**
comp=Z,8.0nm,0.7s,mb4.9
MSO Missoula 58.09 54 *eP* **P 01 54 13.8 +0.4**
comp=Z,30nm,2.3s,mb4.9

FFC Flin Flon 58.93 41 *iP* **P 01 54 20.1 +1.0**
WCN Washoe City 59.50 64 *eP* **P 01 54 24.1 +0.8**
comp=Z,52nm,2.6s,mb5.1
WCN Washoe City 59.50 64 *eP* **P 01 54 24.1 +0.8**
WCN pmax pmax
comp=Z,52nm,2.6s,mb5.1
LRM Limekiln Ridge 59.53 54 *eP* **P 01 54 24.3 +0.9**
HLID Hailey 59.89 57 *eP* **P 01 54 26.3 +0.4**
comp=Z,2.5nm,0.9s,mb4.2
JOF Joensuu 60.23 334 *eP* **P 01 54 27.2 -0.7**
JOF Joensuu 60.23 334 *ep* **P 01 54 27.2 -0.7**
QLMT Earthquake Lak 60.72 54 *eP* **P 01 54 32.6 +1.0**
NVAR Mina Array Bea 60.93 64 P **P 01 54 33.3 +0.2**
comp=Z,4.2nm,0.7s,mb4.7,baz=291,slow=7.4,SNR=33
NVAR PcP PcP 01 55 16.2 +0.1
comp=Z,1.5nm,0.8s,baz=313,slow=4.5,SNR=4.4
NVAR Mina Array Bea 60.93 64 P **P 01 54 33.3 +0.2**
NVAR PcP PcP 01 55 16.2 +0.1
ELK Elko 61.23 60 *eP* **P 01 54 35.9 +0.7**
ELK Elko 61.23 60 *eP* **P 01 54 35.9 +0.8**
RRI2 Red Ridge 61.75 56 *eP* **P 01 54 40.0 +1.5**
comp=Z,8.1nm,0.8s,mb4.9
KAF Kangasniemi 62.30 335 *eP* **P 01 54 40.4 -1.5**
KAF Kangasniemi 62.30 335 *ep* **P 01 54 40.4 -1.5**
FINES FINESS Array B 62.90 335 P **P 01 54 44.5 -1.5**
comp=Z,1.7nm,0.3s,mb4.6,baz=32,slow=8.1,SNR=23
FINES LR LR 02 26 38.2
comp=Z,198nm,18.3s,MS4.3,baz=4.9,slow=40
FINES FINESS Array B 62.90 335 P **P 01 54 44.5 -1.5**
FINES FINESS Array B 62.90 335 P **P 01 54 44.5 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,198nm,18.3s
DUG Dugway 62.99 59 *eP* **P 01 54 47.5 +0.7**
comp=Z,7.4nm,0.9s,mb4.8
DUG Dugway 62.99 59 *eP* **P 01 54 47.5 +0.6**
DUG pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
CCUT Cedar City 64.44 62 *eP* **P 01 54 57.1 +0.6**
comp=Z,5.0nm,1.0s,mb4.5
ULM Lac du Bonnet 64.72 42 P **P 01 54 58.0 -0.1**
comp=Z,3.1nm,0.8s,mb4.4,baz=327,slow=7.7,SNR=6.8
ULM Lac du Bonnet 64.72 42 P **P 01 54 58.0 -0.1**
ULM Lac du Bonnet 64.72 42 P **P 01 54 58.0 -0.1**
ULM pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael 65.03 59 *eP* **P 01 54 59.9 -0.3**
comp=Z,7.1nm,0.9s,mb4.7
SRU San Rafael 65.03 59 *eP* **P 01 54 59.9 -0.4**
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
RSSD Black Hills 65.12 51 *eP* **P 01 54 59.7 -1.1**
comp=Z,4.7nm,0.8s,mb4.6
RSSD Black Hills 65.12 51 *eP* **P 01 54 59.7 -1.1**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VRHR Novokhopersk 65.40 320 *eP* **P 01 54 56.2 -6.3**
VRHR pmax pmax
comp=N,2.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
NB2 NORSAR Subarra 66.93 342 P **P 01 55 11.4 -0.7**
comp=Z,2.8nm,1.0s,mb4.2,baz=22,slow=6.5
NOA NORSAR Array B 66.93 342 P **P 01 55 11.8 -0.3**
comp=Z,1.6nm,0.8s,mb4.1,baz=25,slow=6.3,SNR=16
NOA NORSAR Array B 66.93 342 P **P 01 55 11.8 -0.3**
NOA NORSAR Array B 66.93 342 P **P 01 55 11.8 -0.3**
NOA pmax pmax
comp=Z,2.0nm,0.8s
WUAZ Wupatki 67.00 62 *eP* **P 01 55 14.0 +1.0**
comp=Z,5.7nm,1.0s,mb4.6
ISCO Idaho Springs 67.30 55 *eP* **P 01 55 15.7 +0.9**
comp=Z,2.8nm,0.8s,mb4.3
ISCO Idaho Springs 67.30 55 *eP* **P 01 55 15.7 +0.9**
ISCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ECSD EROS Data Cent 69.14 47 *eP* **P 01 55 25.4 -0.8**
comp=Z,6.8nm,0.8s,mb4.6
KIV Kislovodsk 70.25 315 *eP* **P 01 55 34.5 +1.4**
KIV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIV MLR MLR
comp=Z,83nm,18.0s,MS4.0
WRA Warramunga Arr 70.35 200 P **P 01 55 31.7 -2.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=16,slow=6.7,SNR=12
WRA Warramunga Arr 70.35 200 P **P 01 55 31.7 -2.1**
WRA Warramunga Arr 70.35 200 P **P 01 55 31.7 -2.1**
WRA pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 70.64 327 P **P 01 55 34.0 -1.4**
comp=Z,1.1nm,0.4s,mb4.1,baz=32,slow=6.0,SNR=7.5
AKASG Malin Array Be 70.64 327 P **P 01 55 34.0 -1.4**
AKASG Malin Array Be 70.64 327 *ceP* **P 01 55 34.0 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
SCHQ Schefferville 71.46 24 P **P 01 55 40.8 +0.6**
comp=Z,6.3nm,0.8s,mb4.6,baz=272,slow=4.9,SNR=5.5
SCHQ Schefferville 71.46 24 P **P 01 55 40.8 +0.6**
KWP Kalwaria Pacla 73.83 330⇓*iP* **P 01 55 54.5 +0.1**
KWP Kalwaria Pacla 73.83 330⇓*iP* **P 01 55 54.5 +0.1**
ASAR Alice Springs 74.05 199 P **P 01 55 54.5 -1.2**
comp=Z,1.4nm,0.8s,mb3.9,baz=6.5,slow=5.5,SNR=11
ASAR Alice Springs 74.05 199 P **P 01 55 54.5 -1.2**
ASAR Alice Springs 74.05 199 P **P 01 55 54.6 -1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
OJC Ojcow 74.28 332 *eP* **P 01 55 57.1 +0.2**
comp=Z,6.8nm,1.1s,mb4.5
OJC Ojcow 74.28 332 *eP* **P 01 55 57.1 +0.1**
OJC pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
STHS Stebnicka Huta 74.50 330 *eP* **P 01 55 58.9 +0.6**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
STHS Stebnicka Huta 74.50 330 *eP* **P 01 55 58.9 +0.6**
BUR08 Bucovina Ar. S 74.65 327 *eP* **P 01 55 58.8 -0.4**
BURAR Bucovina Array 74.67 327⇓*P* **P 01 55 58.9 -0.4**
BURAR Bucovina Array 74.67 327⇓*iP* **P 01 55 58.9 -0.4**
WMOK Wichita Mounta 74.71 55 *eP* **P 01 55 59.3 -0.5**
comp=Z,71nm,2.9s,mb5.1
WMOK Wichita Mounta 74.71 55 *eP* **P 01 55 59.3 -0.5**
WMOK pmax pmax
comp=Z,71nm,2.9s,mb5.1
CRVS Cervenica-Dubn 74.88 330 *eP* **P 01 56 00.4 -0.1**
CRVS Cervenica-Dubn 74.88 330 *eP* **P 01 56 00.4 -0.1**
TESR 75.07 326⇑*iP* **P 01 56 01.2 -0.4**
OKC Ostrava-Krasne 75.13 332 *i P* **P 01 56 01.9 0.0**
OKC Ostrava-Krasne 75.13 332 *i P* **P 01 56 01.9 0.0**
TRPA Tarpa 75.18 329⇓*iP* **P 01 56 02.4 +0.2**
UPC Upice 75.18 334 *i P* **P 01 56 02.4 +0.2**
UPC Upice 75.18 334 *i P* **P 01 56 02.4 +0.2**
DPC Dobruska-Polom 75.22 334 *eP* **P 01 56 02.6 +0.1**
DPC Dobruska-Polom 75.22 334 *eP* **P 01 56 02.6 +0.1**
DPC Dobruska-Polom 75.22 334 *i P* **P 01 56 02.7 +0.2**
CLL Collm 75.31 336 *eP* **P 01 56 02.6 -0.3**
comp=Z,4.0nm,0.7s,mb4.5
CLL Collm 75.31 336⇓*iP* **P 01 56 02.9 0.0**
CLL pmax pmax
comp=Z,12nm,0.9s,mb4.8
CLL Collm 75.31 336⇓*iP* **P 01 56 02.9 0.0**
comp=Z,12nm,0.9s,mb4.8
MORC Moravsky Berou 75.37 333⇓*P* **P 01 56 04.0 +0.7**
MORC Moravsky Berou 75.37 333⇓*iP* **P 01 56 04.0 +0.7**
BRG Berggiesshubel 75.44 335 *i P* **P 01 56 03.3 -0.4**
comp=Z,4.3nm,0.9s,mb4.4
BRG Berggiesshubel 75.44 335 *eP* **P 01 56 03.5 -0.2**
comp=Z,6.0nm,1.4s,mb4.3
BRG Berggiesshubel 75.44 335 *i P* **P 01 56 03.3 -0.4**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLZ Clausthal 75.50 338 *eP* **P 01 56 04.6 +0.6**
comp=Z,2.0nm,0.8s,mb4.1
CLZ Clausthal 75.50 338 *eP* **P 01 56 04.6 +0.6**
CLZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 75.56 330 *eP* **P 01 56 04.7 +0.3**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 75.56 330 *eP* **P 01 56 04.7 +0.3**
PVCC Panska Ves 75.57 335 *i P* **P 01 56 04.7 +0.3**
PVCC Panska Ves 75.57 335 *i P* **P 01 56 04.7 +0.3**
IBBN Ibbenburen 75.71 340 *eP* **P 01 56 05.0 -0.2**
comp=Z,2.0nm,0.8s,mb4.1
TXAR Lajitas Array 75.95 62 P **P 01 56 06.6 -0.4**
comp=Z,3.8nm,0.7s,mb4.4,baz=300,slow=4.2,SNR=43
TXAR Lajitas Array 75.95 62 P **P 01 56 06.6 -0.4**
TXAR Lajitas Array 75.95 62 P **P 01 56 06.6 -0.4**
TXAR pmax pmax
comp=Z,4.0nm,0.7s
PRU Pruhonice 76.06 335 *i P* **P 01 56 07.6 +0.3**
PRU Pruhonice 76.06 335 *i P* **P 01 56 07.6 +0.3**
VRAC Vranov 76.07 333 P **P 01 56 07.7 +0.4**
comp=Z,7.6nm,0.8s,mb4.7,baz=22,slow=5.7,SNR=16
VRAC Vranov 76.07 333 P **P 01 56 07.7 +0.4**
VRAC Vranov 76.07 333⇓*P* **P 01 56 07.9 +0.6**
VRAC Vranov 76.07 333⇓*iP* **P 01 56 07.8 +0.5**
VYHS Vyhne 76.09 331 *eP* **P 01 56 07.6 +0.2**
VYHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
VYHS Vyhne 76.09 331 *eP* **P 01 56 07.6 +0.2**
MLR Muntele Rosu 76.19 325 P **P 01 56 08.9 +0.8**
MLR Muntele Rosu 76.19 325 P **P 01 56 08.9 +0.8**
MLR Muntele Rosu 76.19 325 P **P 01 56 08.9 +0.8**
MLR Muntele Rosu 76.19 325⇓*iP* **P 01 56 08.1 0.0**
PSZ Piszkesteto 76.25 330⇓*P* **P 01 56 09.1 +0.7**
PSZ Piszkesteto 76.25 330⇓*iP* **P 01 56 09.1 +0.7**
DRGR 76.27 328⇓*P* **P 01 56 08.4 -0.1**
DRGR 76.27 328⇓*iP* **P 01 56 08.4 -0.1**
ISR Istrita 76.28 325⇑*P* **P 01 56 08.6 0.0**
ISR Istrita 76.28 325⇑*iP* **P 01 56 08.6 0.0**
NKC Novy Kostel 76.43 336 *i P* **P 01 56 09.6 +0.3**
NKC Novy Kostel 76.43 336 *i P* **P 01 56 09.6 +0.3**
UBBA Unterbreizbach 76.54 338 *eP* **P 01 56 09.6 -0.3**
comp=Z,12nm,1.7s,mb4.5
BUG Bochum--Univer 76.62 340 *eP* **P 01 56 10.4 0.0**
comp=Z,3.0nm,0.6s,mb4.4
ROTZ Rotzenmuhle 76.92 336 *eP* **P 01 56 12.8 +0.7**
comp=Z,3.0nm,1.0s,mb4.2
KHC Kasperske Hory 77.11 335 *eP* **P 01 56 13.5 +0.3**
comp=Z,10nm,0.8s,mb4.8
KHC Kasperske Hory 77.11 335 *i P* **P 01 56 13.6 +0.4**
KHC *e* 01 56 19.0
KHC Kasperske Hory 77.11 335 *i P* **P 01 56 13.6 +0.4**
KHC *e*PCP PcP 01 56 19.0 -4.8
GRF Grafenberg Arr 77.25 336 *eP* **P 01 56 14.6 +0.6**
comp=Z,4.0nm,0.7s,mb4.5
GRF Grafenberg Arr 77.25 336 *eP* **P 01 56 14.6 +0.6**
GRF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
GRFO Grafenberg 77.25 336 *eP* **P 01 56 14.5 +0.5**
comp=Z,19nm,1.0s,mb5.0
GRFO Grafenberg 77.25 336 *eP* **P 01 56 14.5 +0.5**
GRFO pmax pmax
comp=Z,19nm,1.0s,mb5.0
WET Wettzell 77.30 335 *eP* **P 01 56 14.9 +0.7**
WET Wettzell 77.30 335 *eP* **P 01 56 14.9 +0.7**
GEC2 GERESS Array S 77.33 335 *eP* **P 01 56 14.5 +0.1**
comp=Z,1.0nm,0.6s,mb3.9
GEC2 GERESS Array S 77.33 335 *eP* **P 01 56 14.5 +0.1**
GEC2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
GERES GERESS Array B 77.33 335 P **P 01 56 14.6 +0.2**
comp=Z,3.7nm,0.7s,mb4.4,baz=28,slow=6.0,SNR=22
GERES GERESS Array B 77.33 335 P **P 01 56 14.6 +0.2**
GERES GERESS Array B 77.33 335 P **P 01 56 14.6 +0.2**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GZR Gura Zlata 77.44 327⇓*P* **P 01 56 14.8 -0.3**
GZR Gura Zlata 77.44 327⇓*iP* **P 01 56 14.8 -0.3**
TNS Taunus Mts 77.47 338 *eP* **P 01 56 15.5 +0.3**
comp=Z,15nm,1.5s,mb4.7
TNS Taunus Mts 77.47 338 *eP* **P 01 56 15.5 +0.3**
TNS pmax pmax
comp=Z,15nm,1.5s,mb4.7
CONA Conrad Observa 77.52 333⇑*iP* **P 01 56 16.2 +0.7**
comp=Z,7.4nm,0.9s,mb4.6,SNR=10.0
CONA Conrad Observa 77.52 333⇑*iP* **P 01 56 16.1 +0.7**
comp=Z,7.4nm,0.9s,mb4.6
BZS Buzias 77.66 328⇑*P* **P 01 56 15.7 -0.6**
BZS Buzias 77.66 328⇑*iP* **P 01 56 15.7 -0.6**
MEM Membach 77.69 340 P **P 01 56 15.6 -0.8**
BR131 Keskin Array S 77.76 317 *eP* **P 01 56 17.1 +0.1**
comp=Z,9.2nm,0.9s,mb4.7
BRTR Keskin Array B 77.76 317 P **P 01 56 17.1 +0.1**
comp=Z,8.7nm,0.9s,mb4.7,baz=64,slow=3.9,SNR=36
BRTR Keskin Array B 77.76 317 P **P 01 56 17.1 +0.1**
BRTR Keskin Array B 77.76 317 *ceP* **P 01 56 17.1 +0.1**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BCLA Clavier 78.03 340 P **P 01 56 18.0 -0.3**
PKSM Moragy 78.16 330⇓*P* **P 01 56 18.0 -1.1**
PKSM Moragy 78.16 330⇓*iP* **P 01 56 18.0 -1.1**
MIB Mutribah 78.51 302 *eP* **P 01 56 20.7 -0.7**
MIB AMb AMB 01 56 22.2
comp=Z,24nm,1.2s,mb5.0
RJOB Jochberg 78.59 335 *eP* **P 01 56 22.4 +0.9**
comp=Z,10.0nm,1.2s,mb4.6
BAIF Baives 78.61 341 *eP* **P 01 56 21.4 -0.1**
comp=Z,15nm,0.9s,mb4.6
BAIF Baives 78.61 341 *eP* **P 01 56 21.4 -0.1**
comp=Z,15nm,0.9s,mb4.9
BAIF Baives 78.61 341 *eP* **P 01 56 21.4 -0.1**
BAIF pmax pmax
comp=Z,15nm,0.9s,mb4.9
STU Stuttgart 78.62 337 *eP* **P 01 56 21.5 -0.1**
comp=Z,1.0nm,0.7s,mb3.9
NAY Al-Naaiem 78.99 302 *eP* **P 01 56 23.3 -0.6**
NAY AMb AMB 01 56 24.5
comp=Z,18nm,1.1s,mb4.9
KBA Koelnbreinsper 79.03 334⇑*iP* **P 01 56 24.5 +0.6**
comp=Z,28nm,1.0s,mb5.2
KBA Koelnbreinsper 79.03 334⇑*iP* **P 01 56 24.5 +0.6**
comp=Z,28nm,1.0s,mb5.2
KBA Koelnbreinsper 79.03 334⇑*iP* **P 01 56 24.5 +0.6**
KBA pmax pmax
comp=Z,28nm,1.0s,mb5.2
BFO Black Forest 79.25 338 *eP* **P 01 56 25.2 +0.2**
comp=Z,19nm,1.5s,mb4.8
BFO Black Forest 79.25 338 *eP* **P 01 56 24.9 -0.2**
comp=Z,8.6nm,1.0s,mb4.6
BFO Black Forest 79.25 338 *eP* **P 01 56 24.9 -0.1**
BFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WATA Walderalm 79.30 335⇑*iP* **P 01 56 25.8 +0.5**
comp=Z,23nm,1.1s,mb5.0,SNR=10
WATA Walderalm 79.30 335⇑*iP* **P 01 56 25.8 +0.5**
comp=Z,23nm,1.1s,mb5.0
WATA Walderalm 79.30 335⇑*iP* **P 01 56 25.8 +0.5**
WATA pmax pmax
comp=Z,23nm,1.1s,mb5.0
WTTA Wattenberg 79.35 335⇑*iP* **P 01 56 26.4 +0.8**
comp=Z,29nm,1.1s,mb5.1
WTTA Wattenberg 79.35 335⇑*iP* **P 01 56 26.4 +0.8**
comp=Z,29nm,1.1s,mb5.1
WTTA Wattenberg 79.35 335⇑*iP* **P 01 56 26.4 +0.8**
WTTA pmax pmax
comp=Z,29nm,1.1s,mb5.1
MOTA Moosalm 79.43 336⇑*iP* **P 01 56 26.4 +0.4**
comp=Z,15nm,0.8s,mb5.0
MOTA Moosalm 79.43 336⇑*iP* **P 01 56 26.4 +0.4**
comp=Z,15nm,0.8s,mb5.0
MOTA Moosalm 79.43 336⇑*iP* **P 01 56 26.4 +0.4**
MOTA pmax pmax
comp=Z,15nm,0.8s,mb5.0
CDF Champ du Feu 79.44 338 *eP* **P 01 56 26.0 -0.1**
comp=Z,28nm,1.1s,mb4.8
CDF Champ du Feu 79.44 338 *eP* **P 01 56 26.0 -0.1**
comp=Z,28nm,1.1s,mb5.1
CDF Champ du Feu 79.44 338 *eP* **P 01 56 26.0 -0.1**
CDF pmax pmax
comp=Z,28nm,1.1s,mb5.1
ECH Echery 79.65 338 *eP* **P 01 56 26.8 -0.4**
comp=Z,9.8nm,0.9s,mb4.7
ECH Echery 79.65 338 *eP* **P 01 56 26.8 -0.4**
ECH pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VTS Vitosha 79.69 326⇑*P* **P 01 56 27.5 -0.1**
VTS Vitosha 79.69 326⇑*iP* **P 01 56 27.5 -0.1**
DAVA Damuels 79.81 336⇑*iP* **P 01 56 28.4 +0.3**
comp=Z,13nm,0.9s,mb4.9
DAVA Damuels 79.81 336⇑*iP* **P 01 56 28.4 +0.3**
comp=Z,13nm,0.9s,mb4.9
MEZF Maizieres J'vi 79.89 340 *eP* **P 01 56 28.6 +0.1**
comp=Z,35nm,1.0s,mb4.9,baz=28
MEZF Maizieres J'vi 79.89 340 *eP* **P 01 56 28.6 +0.1**
comp=Z,35nm,1.0s,mb5.2
HAU Haudompre 80.05 339 *eP* **P 01 56 29.1 -0.2**

comp=Z,20nm,1.0s,mb4.7
HAU *e*R
comp=Z,157nm,21.2s
HAU Haudompre 80.05 339 *e*P **P 01 56 29.1 -0.2**
comp=Z,20nm,1.0s,mb5.0
HAU Haudompre 80.05 339 *e*P **P 01 56 29.1 -0.2**
HAU pmax pmax
comp=Z,20nm,1.0s,mb5.0
HINF Hinteralfeld 80.10 338 *e*P **P 01 56 29.2 -0.4**
comp=Z,8.0nm,0.9s,mb4.4
HINF Hinteralfeld 80.10 338 *e*P **P 01 56 29.2 -0.4**
comp=Z,8.0nm,0.9s,mb4.7
HINF Hinteralfeld 80.10 338 *e*P **P 01 56 29.2 -0.4**
HINF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
DAVOX Davos/Dischmat 80.28 336 P **P 01 56 31.3 +0.7**
comp=Z,9.5nm,0.8s,mb4.8,baz=18,slow=6.4,SNR=11
DAVOX Davos/Dischmat 80.28 336 P **P 01 56 31.3 +0.7**
DAVOX Davos/Dischmat 80.28 336 P **P 01 56 31.3 +0.7**
FUORN Ofenpass-Fuorn 80.32 336 *e*P **P 01 56 31.8 +0.9**
TUE Stuetta 80.71 336 *e*P **P 01 56 33.5 +0.5**
comp=Z,14nm,0.8s,mb4.9
FLN La Foliniere 80.80 343 *e*P **P 01 56 33.1 -0.3**
comp=Z,36nm,1.0s,mb4.9
FLN *e*R
comp=Z,122nm,22.2s
FLN La Foliniere 80.80 343 *e*P **P 01 56 33.1 -0.3**
comp=Z,36nm,1.0s,mb5.2
FLN La Foliniere 80.80 343 *e*P **P 01 56 33.1 -0.3**
FLN pmax pmax
comp=Z,36nm,1.0s,mb5.3
LDF La Druitiere 80.89 343 *e*P **P 01 56 33.4 -0.5**
comp=Z,4.3nm,0.7s,mb4.2
LDF La Druitiere 80.89 343 *e*P **P 01 56 33.4 -0.5**
comp=Z,4.3nm,0.6s,mb4.6
LDF La Druitiere 80.89 343 *e*P **P 01 56 33.4 -0.5**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GRR Gorron 81.23 344 *e*P **P 01 56 35.7 0.0**
comp=Z,19nm,0.9s,mb4.7
GRR Gorron 81.23 344 *e*P **P 01 56 35.7 0.0**
comp=Z,19nm,0.9s,mb5.0
GRR Gorron 81.23 344 *e*P **P 01 56 35.7 0.0**
GRR pmax pmax
comp=Z,19nm,0.9s,mb5.0
PMOR Pomariorio Ree 81.26 124 *e*T 03 25 50.2
comp=Z,5.2nm,0.2s
LOR Lormes 81.32 340 *e*P **P 01 56 35.9 -0.3**
comp=Z,28nm,0.9s,mb4.9,baz=18
LOR *e*R
comp=Z,121nm,22.8s
LOR Lormes 81.32 340 *e*P **P 01 56 35.9 -0.3**
comp=Z,28nm,0.9s,mb5.2
LOR Lormes 81.32 340 *e*P **P 01 56 35.9 -0.3**
LOR pmax pmax
comp=Z,28nm,0.9s,mb5.2
CABF La Chapelle 81.41 338 *e*P **P 01 56 36.9 +0.2**
comp=Z,36nm,1.1s,mb4.9
CABF La Chapelle 81.41 338 *e*P **P 01 56 36.9 +0.2**
comp=Z,36nm,1.1s,mb5.2
CABF La Chapelle 81.41 338 *e*P **P 01 56 36.9 +0.2**
CABF pmax pmax
comp=Z,36nm,1.1s,mb5.2
SSF Saint Saulge 81.59 340⇑ *i*P **P 01 56 37.5 -0.1**
comp=Z,16nm,0.8s,mb4.7
SSF Saint Saulge 81.59 340⇑ *i*P **P 01 56 37.5 -0.1**
comp=Z,16nm,0.8s,mb5.0
SSF Saint Saulge 81.59 340⇑ *i*P **P 01 56 37.5 -0.1**
SSF pmax pmax
comp=Z,16nm,0.8s,mb5.0
SGMF Saint Gilles 81.67 345 *e*P **P 01 56 38.1 +0.1**
comp=Z,29nm,0.9s,mb4.9
SGMF Saint Gilles 81.67 345 *e*P **P 01 56 38.1 +0.1**
comp=Z,29nm,0.9s,mb5.2
SGMF Saint Gilles 81.67 345 *e*P **P 01 56 38.1 +0.1**
SGMF pmax pmax
comp=Z,29nm,0.9s,mb5.2
ROSF Rostrenen 81.71 345 *e*P **P 01 56 38.3 +0.1**
comp=Z,115nm,1.3s,mb5.3
ROSF Rostrenen 81.71 345 *e*P **P 01 56 38.3 +0.1**
comp=Z,115nm,1.3s,mb5.7
ROSF Rostrenen 81.71 345 *e*P **P 01 56 38.3 +0.1**
AVF Avril sur Loir 81.88 340 *e*P **P 01 56 39.0 -0.2**
comp=Z,26nm,1.0s,mb4.8
AVF Avril sur Loir 81.88 340 *e*P **P 01 56 39.0 -0.2**
comp=Z,26nm,1.0s,mb5.1
AVF Avril sur Loir 81.88 340 *e*P **P 01 56 39.0 -0.2**
AVF pmax pmax
comp=Z,26nm,1.0s,mb5.1
SMF Signal de Mont 81.91 340 *e*P **P 01 56 40.3 +1.0**
comp=Z,40nm,1.2s,mb4.9
SMF Signal de Mont 81.91 340 *e*P **P 01 56 40.3 +1.0**
comp=Z,40nm,1.2s,mb5.2
SMF Signal de Mont 81.91 340 *e*P **P 01 56 40.3 +1.0**
SMF pmax pmax
comp=Z,40nm,1.2s,mb5.2
QUIF Quistinic 82.10 345 *e*P **P 01 56 40.7 +0.4**
QUIF Quistinic 82.10 345 *e*P **P 01 56 40.7 +0.4**
QUIF Quistinic 82.10 345 *e*P **P 01 56 40.7 +0.4**
BGF Bois d'Agland 82.22 341 *e*P **P 01 56 40.7 -0.2**
BGF Bois d'Agland 82.22 341 *e*P **P 01 56 40.7 -0.2**
BGF Bois d'Agland 82.22 341 *e*P **P 01 56 40.7 -0.2**
LPL La Plagne 82.27 338 *e*P **P 01 56 42.1 +0.9**
comp=Z,33nm,1.0s,mb4.9
LPL La Plagne 82.27 338 *e*P **P 01 56 42.1 +0.9**
comp=Z,33nm,1.0s,mb5.2
LPL La Plagne 82.27 338 *e*P **P 01 56 42.1 +0.9**
LPL pmax pmax
comp=Z,33nm,1.0s,mb5.2
LPG La Plagne 82.29 338 *e*P **P 01 56 42.3 +1.0**
comp=Z,37nm,1.0s,mb5.0
LPG La Plagne 82.29 338 *e*P **P 01 56 42.3 +1.0**
comp=Z,37nm,1.0s,mb5.3
LPG La Plagne 82.29 338 *e*P **P 01 56 42.3 +1.0**
LPG pmax pmax
comp=Z,37nm,1.0s,mb5.3
PPT2 Papeete2 82.48 127 *e*LR LR 02 22 35.3
comp=Z,96nm,23.5s
PPT2 *e*T 03 27 17.4
comp=Z,2.0nm,0.3s
MFF Saint Martin d 82.80 343 *e*P **P 01 56 43.9 -0.1**
comp=Z,25nm,1.0s,mb4.9
MFF Saint Martin d 82.80 343 *e*P **P 01 56 43.9 -0.1**
comp=Z,25nm,1.0s,mb5.2
MFF Saint Martin d 82.80 343 *e*P **P 01 56 43.9 -0.1**
MFF pmax pmax
comp=Z,25nm,1.0s,mb5.2
MBDF Montbardon 83.00 337 *e*P **P 01 56 45.6 +0.6**
comp=Z,12nm,0.9s,mb4.6
MBDF Montbardon 83.00 337 *e*P **P 01 56 45.6 +0.6**
comp=Z,12nm,0.9s,mb4.9
MBDF Montbardon 83.00 337 *e*P **P 01 56 45.6 +0.6**
MBDF pmax pmax
comp=Z,12nm,0.9s,mb4.9
SSB Saint Sauveur 83.03 339 *e*P **P 01 56 45.4 +0.2**
comp=Z,23nm,1.2s,mb5.1
SSB Saint Sauveur 83.03 339 *e*P **P 01 56 45.4 +0.2**
SSB pmax pmax
comp=Z,23nm,1.2s,mb5.1
ORIF Oris-en-Rattie 83.05 338 *e*P **P 01 56 46.0 +0.7**
comp=Z,29nm,1.0s,mb5.0
ORIF *e*R
comp=Z,112nm,23.0s
ORIF Oris-en-Rattie 83.05 338 *e*P **P 01 56 46.0 +0.7**
comp=Z,29nm,1.0s,mb5.3
ORIF Oris-en-Rattie 83.05 338 *e*P **P 01 56 46.0 +0.7**
ORIF pmax pmax
comp=Z,29nm,1.0s,mb5.3
VIVF Saint-Julien-l 83.40 339 *e*P **P 01 56 47.3 +0.2**
comp=Z,20nm,1.1s,mb4.8
VIVF Saint-Julien-l 83.40 339 *e*P **P 01 56 47.3 +0.2**
comp=Z,20nm,1.1s,mb5.1
VIVF Saint-Julien-l 83.40 339 *e*P **P 01 56 47.3 +0.2**
VIVF pmax pmax
comp=Z,20nm,1.1s,mb5.1
CAF Calviac 83.94 341 *e*P **P 01 56 49.5 -0.3**
CAF Calviac 83.94 341 *e*P **P 01 56 49.5 -0.3**
CAF Calviac 83.94 341 *e*P **P 01 56 49.5 -0.3**
LFF La Frestale 84.21 342 *e*P **P 01 56 50.9 -0.3**
LFF La Frestale 84.21 342 *e*P **P 01 56 50.9 -0.3**
LFF La Frestale 84.21 342 *e*P **P 01 56 50.9 -0.3**
EPF Esparros 86.12 341 *e*P **P 01 56 59.5 -1.3**
comp=Z,8.8nm,0.9s,mb4.7
EPF Esparros 86.12 341 *e*P **P 01 56 59.5 -1.3**
comp=Z,8.8nm,0.9s,mb5.0
EPF Esparros 86.12 341 *e*P **P 01 56 59.5 -1.3**
EPF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
TBI Tubuai 87.30 130 *e*LR LR 02 24 46.6
comp=Z,126nm,25.2s
TBI *e*T 03 33 17.1
comp=Z,5.0nm,0.3s
ESDC Sonseca Array 90.22 343 P **P 01 57 18.7 -1.6**
comp=Z,1.0nm,0.8s,mb4.2,baz=356,slow=5.2,SNR=6.3
ESDC LR LR 02 41 22.1
comp=Z,89nm,19.2s,MS4.2,baz=305,slow=38
ESDC Sonseca Array 90.22 343 P **P 01 57 18.8 -1.6**
ATD Arta Tunnel 95.25 294 LR LR 02 44 43.9
comp=Z,38nm,18.4s,MS3.9,baz=142,slow=38
TORD Torodi Ar. Bea 114.09 331 PKP PKiKP 02 02 57.8 -1.4
comp=Z,0.6nm,1.0s,baz=44,slow=3.3,SNR=3.4
TORD Torodi Ar. Bea 114.09 331 PKP PKiKP 02 02 57.8 -1.4
CFAA Coronel Fontan 143.84 78 PKP PKPdf 02 03 51.0 -3.7
comp=Z,0.5nm,0.8s,baz=281,slow=2.5,SNR=11
CFAA Coronel Fontan 143.84 78 PKP PKPdf 02 03 51.0 -3.7
CPUP Villa Florida 146.91 60 PKPbc PKPbc 02 04 00.9 -1.2
comp=Z,2.7nm,0.8s,baz=312,slow=2.0,SNR=9.3
CPUP Villa Florida 146.91 60 PKPbc PKPbc 02 04 00.9 -1.2
SNAA Sanae 154.38 196 *e* PKPab 02 04 31.5 -1.6
VNA2 Neumayer--Watz 155.81 195 *e* PKPab 02 04 37.4 -1.9
baz=130,slow=5.0
VNA3 Neumayer Olymp 155.89 193 *e* PKPab 02 04 37.4 -2.2

NNC 29 01:45:52.9±8.5, 36°.69N×70°.66E, h0km, mb3.7, mpv3.5, 3D, Error ellipse: s-maj=80.3km s-min=67.8km az=35.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.40**	**359**	⇓Pn	Pn	01 47 30.1	+1.7
	1.0nm,0.3s,baz=182,slow=14,SNR=66						
KK31				⇓Sn	Sn	01 48 43.2	+1.0
	1.9nm,0.4s,baz=179,slow=20						
TKM2	**Tokmak 2**	**7.29**	**30**	⇓Pn	Pn	01 47 39.6	-1.0
	2.6nm,0.5s						
AB31	**Akbulak array**	**14.78**	**331**	P	Pn	01 49 22.1	-1.0
	0.2nm,0.3s,baz=218,slow=8.9,SNR=15						

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*SKHL **29** 01:46:22.5±2.3, 48°.05N×154°.72E, h60km, mb5.4/1*
*ISCJB **29** 01:46:23.5±1.0, 48°.27N±0°.08×154°.4E±0°.1, h74km±8km, mb4.1/25, Error ellipse: s-maj=17.6km s-min=6.0km az=137.0*
*NEIC **29** 01:46:23.8±1.1, 48°.16N×154°.45E, h66km±10km, mb4.1/2, Error ellipse: s-maj=14.7km s-min=7.9km az=140.0*
*MOS **29** 01:46:23.6±0.8, 48°.29N×154°.38E, h76km, mb4.3/20, Error ellipse: s-maj=15.0km s-min=8.9km az=70.4*
*IDC **29** 01:46:25.0±2.7, 48°.27N×154°.40E, h72km±24km, mb3.9/23, mb1 4.1/26, mb1mx4.0/31, mbtmp3.9/26, MS3.9/5, Ms1 3.8/5, ms1mx3.1/35, Error ellipse: s-maj=17.5km s-min=11.6km az=146.0*
ISC 29 01:46:25.5±0.9, 48°.32N±0°.08×154°.4E±0°.1, h74km±7km, n98, σ0=56/97, mb4.1/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**25**	PN	**Pn**	**01 47 05.5**	**0.0**
SKR				*e*S	**Sn**	**01 47 36.0**	**-0.3**
SKR				smax			
	comp=E,690nm,0.3s						
SKR				smax			
	comp=N,340nm,0.5s						
SKR	**Severo-Kuril's**	**2.62**	**25**	*e*P	**Pn**	**01 47 05.5**	**0.0**
SKR				*e*S	**Sn**	**01 47 36.0**	**-0.3**
SKR				A		01 47 44.5	
	comp=N,340nm,0.5s						
SKR				A		01 47 44.5	
	comp=N,230nm,0.5s						
SKR				A		01 47 44.5	
	comp=N,690nm,0.2s						
PETK	**Petropavlovsk-**	**5.24**	**22**	P	**Pn**	**01 47 40.8**	**-0.3**
	comp=N,4.8nm,0.3s,baz=178,slow=11,SNR=4.1						
PETK	**Petropavlovsk-**	**5.24**	**22**	P	**Pn**	**01 47 40.8**	**-0.3**
PETK	**Petropavlovsk-**	**5.24**	**22**	PN	**Pn**	**01 47 40.8**	**-0.3**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KUR	**Kuril'sk**	**5.44**	**238**	*e*PN	**Pn**	**01 47 43.5**	**-0.4**
KUR				S	**Sn**	**01 48 46.0**	**+0.9**
KUR				pmax	pmax		
	comp=N,280nm,0.9s						
KUR				pmax	pmax		
	comp=E,210nm,0.9s						
KUR				pmax	pmax		
	comp=Z,500nm,0.9s						
KUR				smax			
	comp=N,260nm,0.7s						
KUR				smax			
	comp=E,1μm,1.0s						
KUR	**Kuril'sk**	**5.44**	**238**	*e*P	**Pn**	**01 47 43.5**	**-0.4**
KUR				AMB	AMB	01 47 49.6	
	comp=E,280nm,0.9s						
KUR				AMB	AMB	01 47 49.6	
	comp=E,210nm,0.9s						
KUR				AMB	AMB	01 47 49.6	
	comp=E,500nm,0.9s						
KUR				*e*S	**Sn**	**01 48 46.0**	**+0.9**
KUR				A		01 48 59.4	
	comp=E,260nm,0.7s						
KUR				A		01 48 59.4	
	comp=E,1μm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.98**	**265**	Pn	**Pn**	**01 48 18.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.98**	**265**	*e*PN	**Pn**	**01 48 18.7**	**+0.1**
YSS	**Yuzh-Sakhalins**	**7.98**	**265**	*e*P	**Pn**	**01 48 18.7**	**+0.1**
YSS				*e*S	**Sn**	**01 49 43.4**	**-3.8**
ASAJ	**Asahikawa**	**9.19**	**247**	P	**Pn**	**01 48 35.3**	**+0.2**
	comp=E,0.9nm,0.3s,baz=97,slow=6.4,SNR=4.6						
ASAJ				LR	LR	01 51 42.0	
	comp=E,400nm,20.2s,baz=185,slow=34						
ASAJ	**Asahikawa**	**9.19**	**247**	P	**Pn**	**01 48 35.3**	**+0.2**
ASAJ	**Asahikawa**	**9.19**	**247**	PN	**Pn**	**01 48 35.3**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.13**	**236**	Pn	**Pn**	**01 48 43.2**	**-4.7**
ERM	**Erimo**	**10.13**	**236**	PN	**Pn**	**01 48 43.2**	**-4.7**
USRK	**Ussuriysk Arra**	**16.01**	**263**	P	**Pn**	**01 50 06.5**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=69,slow=13,SNR=12						
MJAR	**Matsushiro Arr**	**16.73**	**231**	P	**Pn**	**01 50 10.6**	**-4.4**
	comp=Z,0.3nm,0.3s,baz=29,slow=12,SNR=5.9						
MJAR	**Matsushiro Arr**	**16.73**	**231**	P	**Pn**	**01 50 10.6**	**-4.4**
MJAR	**Matsushiro Arr**	**16.73**	**231**	P	**Pn**	**01 50 10.6**	**-4.4**
BILL	**Bilibino**	**20.67**	**13**	*e*P	**P**	**01 50 59.4**	**+0.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSRS	**Korea Array**	**22.12**	**250**	P	**P**	**01 51 14.6**	**0.0**
	comp=Z,11nm,1.0s,mb4.2,baz=51,slow=9.8,SNR=8.3						
KSRS	**Korea Array**	**22.12**	**250**	P	**P**	**01 51 14.6**	**0.0**
KSRS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
KSAR	**Wonju Array Be**	**22.15**	**250**	P	**P**	**01 51 14.6**	**-0.3**
KSAR	**Wonju Array Be**	**22.15**	**250**	P	**P**	**01 51 14.6**	**-0.4**
SONM	**Songino Array**	**31.66**	**287**	PcP	PcP	01 55 31.9	+0.3
	comp=Z,0.5nm,0.7s,baz=72,slow=1.9,SNR=5.5						
SONM				LR	LR	02 04 42.2	
	comp=Z,246nm,20.3s,baz=63,slow=35						
ILAR	**Eielson Array**	**34.79**	**40**	P	**P**	**01 53 08.1**	**-0.3**
	comp=Z,1.3nm,0.9s,mb3.8,baz=273,slow=9.2,SNR=5.8						
ILAR	**Eielson Array**	**34.79**	**40**	P	**P**	**01 53 08.1**	**-0.3**
ILAR	**Eielson Array**	**34.79**	**40**	P	**P**	**01 53 08.1**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**39.87**	**33**	P	**P**	**01 53 51.5**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.1,baz=289,slow=5.0,SNR=3.7						
INK	**Inuvik**	**39.87**	**33**	P	**P**	**01 53 52.0**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.0						
INK	**Inuvik**	**39.87**	**33**	P	**P**	**01 53 52.0**	**+0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**42.42**	**305**	P	**P**	**01 54 11.6**	**-0.8**
	comp=Z,1.3nm,0.5s,mb3.9,baz=58,slow=6.9,SNR=5.9						
ZALV				PcP	PcP	01 56 04.5	+0.4
	comp=Z,3.1nm,0.8s,baz=66,slow=4.9,SNR=9.9						
ZALV				LR	LR	02 11 00.9	
	comp=Z,96nm,20.5s,baz=62,slow=35						
ZALV	**Zalesovo Beam**	**42.42**	**305**	P	**P**	**01 54 11.6**	**-0.8**
ZALV	**Zalesovo Beam**	**42.42**	**305**	P	**P**	**01 54 11.6**	**-0.8**
ZALV						01 56 04.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
ZALV				MLR	MLR		
	comp=Z,96nm,20.5s						
MKAR	**Makanchi Array**	**47.01**	**297**	P	**P**	**01 54 49.7**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.6,baz=66,slow=7.2,SNR=6.7						
MKAR				PcP	PcP	01 56 20.1	0.0
	comp=Z,0.9nm,0.8s,baz=47,slow=4.7,SNR=3.5						
MKAR	**Makanchi Array**	**47.01**	**297**	P	**P**	**01 54 49.7**	**+0.7**
MKAR	**Makanchi Array**	**47.01**	**297**	P	**P**	**01 54 49.7**	**+0.8**
MKAR						01 56 20.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**47.23**	**303**	P	**P**	**01 54 50.9**	**+0.3**
	comp=Z,4.9nm,0.7s,mb4.4,baz=65,slow=8.3,SNR=11						
KURK				PcP	PcP	01 56 21.2	+0.5
	comp=Z,1.7nm,0.8s,baz=64,slow=3.6,SNR=6.7						
KURK	**Kurchatov**	**47.23**	**303**	P	**P**	**01 54 50.9**	**+0.3**
KURK	**Kurchatov**	**47.23**	**303**	P	**P**	**01 54 50.9**	**+0.3**
KURK						01 56 21.2	
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
RES	**Resolute Bay**	**49.07**	**19**	P	**P**	**01 55 05.0**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.5,baz=295,slow=5.3,SNR=14						
RES	**Resolute Bay**	**49.07**	**19**	P	**P**	**01 55 05.0**	**+0.5**
RES	**Resolute Bay**	**49.07**	**19**	P	**P**	**01 55 05.0**	**+0.5**
RES				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**49.15**	**38**	P	**P**	**01 55 05.5**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=298,slow=7.5,SNR=7.4						
YKA	**Yellowknife Ar**	**49.15**	**38**	P	**P**	**01 55 05.5**	**+0.3**
YKA	**Yellowknife Ar**	**49.15**	**38**	P	**P**	**01 55 05.6**	**+0.3**
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**01 55 15.5**	**-0.4**
	comp=Z,3.6nm,0.3s,mb4.8,baz=57,slow=8.1,SNR=21						
BVAR				PcP	PcP	01 56 33.0	+0.2
	comp=Z,1.9nm,0.8s,baz=59,slow=3.7,SNR=4.7						
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**01 55 15.5**	**-0.4**
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**01 55 15.5**	**-0.4**
BVAR						01 56 33.0	
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**53.59**	**256**	P	**P**	**01 55 39.2**	**+0.3**
	comp=Z,2.7nm,0.6s,mb4.5,baz=37,slow=7.6,SNR=7.9						
CMAR	**Chiang Mai Arr**	**53.59**	**256**	P	**P**	**01 55 39.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**53.59**	**256**	P	**P**	**01 55 39.2**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NVAR	**Mina Array Bea**	**60.95**	**64**	P	**P**	**01 56 31.2**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.3,baz=296,slow=7.5,SNR=9.6						
NVAR	**Mina Array Bea**	**60.95**	**64**	P	**P**	**01 56 31.2**	**+0.6**
FINES	**FINESS Array B**	**62.99**	**335**	P	**P**	**01 56 43.0**	**-0.9**
	comp=Z,1.0nm,0.4s,mb4.1,baz=34,slow=8.2,SNR=7.1						
FINES	**FINESS Array B**	**62.99**	**335**	P	**P**	**01 56 43.0**	**-0.9**
FINES	**FINESS Array B**	**62.99**	**335**	P	**P**	**01 56 43.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULM	**Lac du Bonnet**	**64.77**	**42**	P	**P**	**01 56 55.2**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.7,baz=328,slow=9.5,SNR=3.0						
ULM	**Lac du Bonnet**	**64.77**	**42**	P	**P**	**01 56 55.2**	**-0.5**
ULM	**Lac du Bonnet**	**64.77**	**42**	P	**P**	**01 56 55.2**	**-0.6**
ULM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SRU	**San Rafael**	**65.05**	**59**	*e*P	**P**	**01 56 58.2**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.1						
SRU	**San Rafael**	**65.05**	**59**	*e*P	**P**	**01 56 58.2**	**+0.4**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
NOA	**NORSAR Array B**	**67.02**	**342**	P	**P**	**01 57 09.7**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.6,baz=284,slow=9.6,SNR=5.0						
NOA	**NORSAR Array B**	**67.02**	**342**	P	**P**	**01 57 09.7**	**-0.4**
NOA	**NORSAR Array B**	**67.02**	**342**	P	**P**	**01 57 09.7**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HFS	**Hagfors**	**67.29**	**340**	P	**P**	**01 57 11.6**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=58,slow=4.7,SNR=6.6						
HFS	**Hagfors**	**67.29**	**340**	P	**P**	**01 57 11.6**	**-0.1**
HFS	**Hagfors**	**67.29**	**340**	P	**P**	**01 57 11.6**	**-0.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**70.28**	**200**	P	**P**	**01 57 29.4**	**-1.2**
	comp=Z,3.2nm,0.8s,mb4.2,baz=17,slow=6.7,SNR=11						
WRA				LR	LR	02 26 36.9	
	comp=Z,68nm,19.3s,baz=40,slow=34						
WRA	**Warramunga Arr**	**70.28**	**200**	P	**P**	**01 57 29.4**	**-1.2**
WRA	**Warramunga Arr**	**70.28**	**200**	P	**P**	**01 57 29.5**	**-1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**70.72**	**327**	P	**P**	**01 57 32.5**	**-0.6**
	comp=Z,1.2nm,0.6s,mb3.9,baz=35,slow=6.3,SNR=4.2						
AKASG	**Malin Array Be**	**70.72**	**327**	P	**P**	**01 57 32.5**	**-0.6**
AKASG	**Malin Array Be**	**70.72**	**327**	P	**P**	**01 57 32.5**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SCHQ	**Schefferville**	**71.53**	**24**	P	**P**	**01 57 38.1**	**+0.2**
	comp=Z,4.2nm,0.7s,mb4.4,baz=255,slow=9.9,SNR=6.7						
SCHQ	**Schefferville**	**71.53**	**24**	P	**P**	**01 57 38.1**	**+0.2**
ASAR	**Alice Springs**	**73.97**	**200**	P	**P**	**01 57 52.3**	**-0.4**
	comp=Z,1.6nm,0.8s,mb3.8,baz=16,slow=5.9,SNR=7.4						
ASAR	**Alice Springs**	**73.97**	**200**	P	**P**	**01 57 52.3**	**-0.4**
ASAR	**Alice Springs**	**73.97**	**200**	P	**P**	**01 57 52.3**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CLL	**Collm**	**75.39**	**336**	*i* P	**P**	**01 58 00.2**	**-0.5**
CLL				*e*		01 58 10.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
CLL	**Collm**	**75.39**	**336**	*i* P	**P**	**01 58 00.2**	**-0.5**
	comp=Z,10.0nm,1.2s,mb4.4						
CLL				*e*		01 58 10.0	
TXAR	**Lajitas Array**	**75.97**	**62**	P	**P**	**01 58 04.5**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.0,baz=301,slow=4.6,SNR=7.8						
TXAR	**Lajitas Array**	**75.97**	**62**	P	**P**	**01 58 04.5**	**+0.1**
TXAR	**Lajitas Array**	**75.97**	**62**	P	**P**	**01 58 04.5**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VRAC	**Vranov**	**76.16**	**333**	P	**P**	**01 58 06.0**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.1,baz=37,slow=7.3,SNR=5.3						
VRAC	**Vranov**	**76.16**	**333**	P	**P**	**01 58 06.0**	**+0.9**
VRAC	**Vranov**	**76.16**	**333**	P	**P**	**01 58 06.0**	**+0.9**
VRAC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MLR	**Muntele Rosu**	**76.28**	**325**	P	**P**	**01 58 06.6**	**+0.8**
	comp=Z,1.0nm,0.7s,mb3.6,baz=144,slow=6.2,SNR=4.5						
MLR	**Muntele Rosu**	**76.28**	**325**	P	**P**	**01 58 06.6**	**+0.8**
MLR	**Muntele Rosu**	**76.28**	**325**	P	**P**	**01 58 06.6**	**+0.8**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**77.42**	**335**	P	**P**	**01 58 12.4**	**+0.2**
	comp=Z,2.2nm,0.8s,mb3.9,baz=25,slow=5.4,SNR=6.5						
GERES	**GERESS Array B**	**77.42**	**335**	P	**P**	**01 58 12.4**	**+0.2**
GERES	**GERESS Array B**	**77.42**	**335**	P	**P**	**01 58 12.5**	**+0.3**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**80.65**	**191**	LR	LR	02 30 14.3	
	comp=Z,124nm,20.6s,baz=26,slow=33						
CFAA	**Coronel Fontan**	**143.84**	**78**	PKP	PKPdf	02 05 49.0	-2.8
	comp=Z,0.3nm,0.9s,baz=292,slow=3.7,SNR=5.3						
CFAA	**Coronel Fontan**	**143.84**	**78**	PKP	PKPdf	02 05 49.0	-2.8
CPUP	**Villa Florida**	**146.93**	**60**	PKPbc	PKP

n52,σ0°63/73, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**31**	*e*PG	**Pg**	**01 57 20.7**	**+0.1**
ENEZ				*e*SG	**Sg**	**01 57 27.7**	**+1.0**
ENEZ	**Enez**	**0.47**	**31**	*e*Pg	**Pg**	**01 57 20.7**	**+0.1**
ENEZ				*e*Sg	**Sg**	**01 57 27.7**	**+1.0**
GELI	**Tayfur-Gelibol**	**0.49**	**83**	*e*PG	**Pg**	**01 57 21.3**	**+0.2**
GELI				*e*SG	**Sg**	**01 57 28.3**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.49**	**83**	*e*Pg	**Pg**	**01 57 21.3**	**+0.1**
GELI				*e*Sg	**Sg**	**01 57 28.3**	**+0.7**
BOZC	**Bozcaada**	**0.53**	**161**	*i* P	**Pg**	**01 57 22.0**	**+0.3**
BOZC				*i* S	**Sg**	**01 57 29.4**	**+0.8**
ALN	**Alexandroupoli**	**0.58**	**16**	*e*P	**Pg**	**01 57 22.8**	**0.0**
ALN				*e*S	**Sg**	**01 57 32.2**	**+1.8**
ALN	**Alexandroupoli**	**0.58**	**16**	P	**Pg**	**01 57 22.9**	**+0.1**
ALN				S	**Sg**	**01 57 31.0**	**+0.6**
ALN	**Alexandroupoli**	**0.58**	**16**	P	**Pg**	**01 57 22.9**	**+0.1**
ALN				S	**Sg**	**01 57 31.0**	**+0.6**
ERIK	**Erikli-Kesan**	**0.61**	**57**	*e*PG	**Pg**	**01 57 23.6**	**+0.1**
ERIK	**Erikli-Kesan**	**0.61**	**57**	*e*Pg	**Pg**	**01 57 23.6**	**+0.1**
EZN	**Ezine**	**0.64**	**144**	*e*PG	**Pg**	**01 57 23.3**	**-0.6**
EZN	**Ezine**	**0.64**	**144**	*e*Pg	**Pg**	**01 57 23.3**	**-0.6**
LIA	**Limnos Island**	**0.67**	**229**	P	**Pg**	**01 57 24.4**	**0.0**
LIA				S	**Sg**	**01 57 33.8**	**+0.7**
LIA	**Limnos Island**	**0.67**	**229**	P	**Pg**	**01 57 24.4**	**0.0**
LIA				S	**Sg**	**01 57 33.8**	**+0.7**
LPK	**Lapseki**	**0.71**	**87**	*e*PG	**Pg**	**01 57 24.1**	**-1.1**
LPK	**Lapseki**	**0.71**	**87**	*e*Pg	**Pg**	**01 57 24.1**	**-1.2**
RDO	**Rodhopi**	**0.84**	**345**	*e*P	**Pg**	**01 57 26.3**	**-1.4**
RDO				*e*S	**Sg**	**01 57 38.3**	**-0.3**
RDO	**Rodhopi**	**0.84**	**345**	P	**Pg**	**01 57 27.5**	**-0.2**
RDO				S	**Sg**	**01 57 40.4**	**+1.8**
RDO	**Rodhopi**	**0.84**	**345**	P	**Pg**	**01 57 27.5**	**-0.2**
RDO				*e*S	**Sg**	**01 57 38.2**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.08**	**71**	*e*PN	**Pg**	**01 57 31.9**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.08**	**71**	*e*Pn	**Pg**	**01 57 32.0**	**-0.4**
SART	**Tekirdag**	**1.08**	**71**	*i* P	**Pg**	**01 57 31.1**	**-1.3**
SART				*i* S	**Sg**	**01 57 46.3**	**-0.3**
SART	**Tekirdag**	**1.08**	**71**	*i* P	**Pg**	**01 57 31.1**	**-1.4**
SART				*i* S	**Sg**	**01 57 46.3**	**-0.2**
KRBG	**Karabiga-Canak**	**1.12**	**87**	*e*PN	**Pg**	**01 57 32.5**	**-0.7**
KRBG	**Karabiga-Canak**	**1.12**	**87**	*e*Pn	**Pg**	**01 57 32.5**	**-0.6**
PRK	**Paraskevi**	**1.14**	**163**	P	**Pg**	**01 57 33.1**	**-0.5**
PRK				S	**Sg**	**01 57 48.6**	**+0.2**
PRK	**Paraskevi**	**1.14**	**163**	P	**Pg**	**01 57 33.1**	**-0.5**
PRK				S	**Sg**	**01 57 48.6**	**+0.2**
KAVA	**Kavala**	**1.20**	**304**	P	**Pg**	**01 57 33.8**	**-0.9**
KAVA	**Kavala**	**1.20**	**304**	P	**Pg**	**01 57 33.8**	**-0.9**
AYVA	**Ayvalik**	**1.22**	**147**	*i* P	**Pg**	**01 57 34.4**	**-0.7**
AYVA				*i* S	**Sg**	**01 57 52.2**	**+1.2**
AYVA	**Ayvalik**	**1.22**	**147**	*i* P	**Pg**	**01 57 34.4**	**-0.7**
AYVA				*i* S	**Sg**	**01 57 52.2**	**+1.2**
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*PN	**Pn**	**01 57 38.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*Pn	**Pn**	**01 57 38.2**	**-0.1**
TKR	**Tekirdag**	**1.45**	**63**	*e*PN	**Pn**	**01 57 38.1**	**-0.2**
TKR	**Tekirdag**	**1.45**	**63**	*e*Pn	**Pn**	**01 57 38.1**	**-0.2**
EDC	**Edincik**	**1.55**	**89**	*e*PN	**Pn**	**01 57 39.8**	**0.0**
EDC	**Edincik**	**1.55**	**89**	*e*Pn	**Pn**	**01 57 39.8**	**+0.1**
CRLT	**Corlu**	**1.65**	**61**	*e*PN	**Pn**	**01 57 40.9**	**-0.2**
CRLT	**Corlu**	**1.65**	**61**	*e*Pn	**Pn**	**01 57 40.9**	**-0.2**
EDRB	**Edirne**	**1.66**	**24**	*e*PN	**Pn**	**01 57 41.6**	**+0.4**
EDRB	**Edirne**	**1.66**	**24**	*e*Pn	**Pn**	**01 57 41.6**	**+0.4**
NVR	**Nevrokopi**	**1.80**	**305**	*e*P	**Pn**	**01 57 43.3**	**+0.1**
NVR	**Nevrokopi**	**1.80**	**305**	P	**Pn**	**01 57 42.2**	**-1.0**
NVR	**Nevrokopi**	**1.80**	**305**	*e*P	**Pn**	**01 57 43.3**	**+0.1**
SRS	**Serrai**	**1.87**	**295**	P	**Pn**	**01 57 44.2**	**+0.1**
SRS	**Serrai**	**1.87**	**295**	P	**Pn**	**01 57 44.2**	**+0.1**
BLCB	**Balcova**	**2.17**	**154**	*e*PN	**Pn**	**01 57 48.1**	**0.0**
BLCB	**Balcova**	**2.17**	**154**	*e*Pn	**Pn**	**01 57 48.1**	**-0.1**
JMB	**Yambol**	**2.20**	**15**	P	**Pn**	**01 57 48.5**	**-0.1**
JMB				S	**Sn**	**01 58 16.8**	**+0.7**
JMB	**Yambol**	**2.20**	**15**	P	**Pn**	**01 57 48.5**	**-0.1**
JMB				S	**Sn**	**01 58 16.8**	**+0.7**
BGKT	**Bogazkoy**	**2.39**	**68**	*e*PN	**Pn**	**01 57 51.6**	**+0.4**
BGKT	**Bogazkoy**	**2.39**	**68**	*e*Pn	**Pn**	**01 57 51.6**	**+0.4**

IDC 29 01:58:07.4±9.8, 19°.06S×177°.81W, h568km±90km, mb2.8/4, mb1 3.0/4, mb1mx2.8/15, mbtmp2.8/4, Error ellipse: s-maj=122.5km s-min=44.1km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.59**	**243**	P	P	02 04 42.8	+0.2
	1.6nm,0.8s,baz=90,slow=6.1,SNR=2.4						
WRA	**Warramunga Arr**	**45.00**	**261**	P	P	02 05 32.7	-0.4
	0.4nm,0.3s,baz=97,slow=7.8,SNR=7.0						
WRA				PcP	PcP	02 07 00.8	-1.1
	0.2nm,0.4s,baz=93,slow=3.9,SNR=2.5						
ASAR	**Alice Springs**	**45.04**	**255**	P	P	02 05 33.3	-0.1
	0.8nm,0.4s,baz=86,slow=8.0,SNR=13						
ASAR				PcP	PcP	02 07 00.9	-1.1
	0.4nm,0.6s,baz=97,slow=3.6,SNR=4.1						
ILAR	**Eielson Array**	**86.88**	**13**	P	P	02 09 51.1	-0.6
	0.2nm,0.5s,baz=226,slow=6.2,SNR=5.1						
BRTR	**Keskin Array B**	**145.99**	**314**	PKPbc	PKPbc	02 16 44.2	0.0
	0.3nm,0.4s,baz=129,slow=3.3,SNR=4.3						
MMAI	**Mount Meron Ar**	**147.24**	**302**	PKPbc	PKPbc	02 16 48.2	+0.4
	0.5nm,0.3s,baz=55,slow=5.5,SNR=3.6						

*KRSC **29** 02:03:50.8±3.0, 47°.92N×156°.77E, h10km±10km, ML4.3*
*MOS **29** 02:03:53.7±1.2, 48°.47N×154°.42E, h67km, mb4.1/8, Error ellipse: s-maj=26.8km s-min=9.8km az=76.3*
*ISCJB **29** 02:03:56.2±1.5, 48°.7N±0°.1×154°.5E±0°.2, h77km±10km, mb3.7/13, Error ellipse: s-maj=28.9km s-min=9.4km az=146.3*
*IDC **29** 02:03:58.5±2.9, 48°.54N×154°.37E, h89km±23km, mb3.5/13, mb1 3.7/16, mb1mx3.5/28, mbtmp3.5/16, Error ellipse: s-maj=36.5km s-min=15.4km az=166.0*

ISC 29 02:03:58.0±1.3, 48°.7N±0°.1×154°.4E±0°.2, h76km±8km, n40, σ0°82/43, mb3.7/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.27**	**28**	*e*PN	**Pn**	**02 04 34.5**	**+1.2**
SKR				*e*S	**Sn**	**02 05 05.5**	**+5.1**
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,170nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
GRL	**Gorelyy**	**4.51**	**30**	P	**Pn**	**02 05 04.1**	**+0.5**
RUS	**Russkaya**	**4.56**	**33**	P	**Pn**	**02 05 02.9**	**-1.5**
RUS				*i* S	**Sn**	**02 05 55.4**	**-0.6**
RUS	**Russkaya**	**4.56**	**33**	PN	**Pn**	**02 05 02.9**	**-1.5**
RUS				S	**Sn**	**02 05 55.4**	**-0.6**
PETK	**Petropavlovsk-**	**4.88**	**24**	P	**Pn**	**02 05 11.0**	**+2.3**
	comp=Z,3.0nm,0.3s,baz=187,slow=14,SNR=11						
PETK	**Petropavlovsk-**	**4.88**	**24**	PN	**Pn**	**02 05 11.0**	**+2.3**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PET	**Petropavlovsk**	**5.09**	**30**	P	**Pn**	**02 05 11.0**	**-0.6**
PET	**Petropavlovsk**	**5.09**	**30**	PN	**Pn**	**02 05 11.0**	**-0.6**
SDLR	**Sedlovina**	**5.38**	**30**	P	**Pn**	**02 05 15.6**	**0.0**
KBTR	**Krutoberegovo**	**9.10**	**31**	P	**Pn**	**02 06 05.2**	**-1.0**
KBTR	**Krutoberegovo**	**9.10**	**31**	PN	**Pn**	**02 06 05.2**	**-1.0**
ASAJ	**Asahikawa**	**9.36**	**245**	P	**Pn**	**02 06 10.2**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=59,slow=12,SNR=6.6						
ASAJ	**Asahikawa**	**9.36**	**245**	PN	**Pn**	**02 06 10.2**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
USRK	**Ussuriysk Arra**	**16.07**	**262**	P	**Pn**	**02 07 38.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=63,slow=12,SNR=8.8						
ILAR	**Eielson Array**	**34.48**	**40**	P	**P**	**02 10 37.8**	**-0.2**
	comp=Z,0.3nm,0.8s,mb3.2,baz=265,slow=8.1,SNR=4.7						
ILAR	**Eielson Array**	**34.48**	**40**	P	**P**	**02 10 37.8**	**-0.3**
ZALV	**Zalesovo Beam**	**42.21**	**304**	P	**P**	**02 11 41.8**	**-1.1**
	comp=Z,0.8nm,0.4s,mb3.8,baz=54,slow=8.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**42.21**	**304**	*e*P	**P**	**02 11 41.8**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
MKAR	**Makanchi Array**	**46.84**	**296**	P	**P**	**02 12 19.4**	**-0.6**
	comp=Z,0.4nm,0.9s,mb3.1,baz=74,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**46.84**	**296**	P	**P**	**02 12 19.4**	**-0.5**
KURK	**Kurchatov**	**47.03**	**303**	P	**P**	**02 12 21.4**	**0.0**
	comp=Z,1.7nm,0.7s,mb3.9,baz=65,slow=8.3,SNR=15						
KURK				PcP	PcP	02 13 51.4	-0.9
	comp=Z,0.1nm,0.2s,baz=68,slow=3.5,SNR=5.1						
KURK	**Kurchatov**	**47.03**	**303**	P	**P**	**02 12 21.4**	**0.0**
KURK						02 13 51.4	
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
RES	**Resolute Bay**	**48.71**	**19**	P	**P**	**02 12 35.5**	**+1.6**
	comp=Z,1.5nm,0.4s,mb4.3,baz=310,slow=4.3,SNR=18						
RES	**Resolute Bay**	**48.71**	**19**	P	**P**	**02 12 35.5**	**+1.5**
RES				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
YKA	**Yellowknife Ar**	**48.84**	**38**	P	**P**	**02 12 35.5**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=295,slow=7.2,SNR=5.2						
YKA	**Yellowknife Ar**	**48.84**	**38**	P	**P**	**02 12 35.5**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**60.77**	**64**	P	**P**	**02 14 01.8**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=302,slow=7.3,SNR=5.2						
FINES	**FINESS Array B**	**62.65**	**335**	P	**P**	**02 14 13.1**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.0,baz=23,slow=9.1,SNR=7.5						
FINES	**FINESS Array B**	**62.65**	**335**	P	**P**	**02 14 13.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**66.66**	**341**	P	**P**	**02 14 40.4**	**+0.4**
	comp=Z,0.5nm,0.8s,mb3.4,baz=21,slow=5.3,SNR=5.0						
NOA	**NORSAR Array B**	**66.66**	**341**	P	**P**	**02 14 40.4**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**75.78**	**62**	P	**P**	**02 15 34.6**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.4,baz=295,slow=4.4,SNR=5.8						
TXAR	**Lajitas Array**	**75.78**	**62**	P	**P**	**02 15 34.6**	**-0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	**Kasperske Hory**	**76.86**	**335**	*e*P	**P**	**02 15 42.0**	**+0.7**
KHC	**Kasperske Hory**	**76.86**	**335**	*e*P	**P**	**02 15 42.0**	**+0.7**
GERES	**GERESS Array B**	**77.08**	**335**	P	**P**	**02 15 42.6**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.5,baz=26,slow=6.5,SNR=4.8						
GERES	**GERESS Array B**	**77.08**	**335**	P	**P**	**02 15 42.6**	**+0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.56**	**317**	P	**P**	**02 15 45.6**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.7,baz=80,slow=2.1,SNR=11						
BRTR	**Keskin Array B**	**77.56**	**317**	*e*P	**P**	**02 15 45.6**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MMAI	**Mount Meron Ar**	**82.17**	**312**	P	**P**	**02 16 10.8**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.1,baz=24,slow=6.4,SNR=3.8						

*ISCJB **29** 02:06:52.8±0.7, 8°.93S±0°.05×124°.26E±0°.08, h118km±8km, mb4.1/14, Error ellipse: s-maj=15.2km s-min=5.6km az=149.6*
*DJA **29** 02:06:52, 9°.28S×123°.58E, h153km, MLv4.1/7*
*NEIC **29** 02:06:52.4±1.0, 8°.84S×124°.29E, h92km±9km, mb4.8/2, Error ellipse: s-maj=18.7km s-min=7.1km az=57.0*
*IDC **29** 02:06:56.3±3.0, 8°.76S×124°.05E, h122km±27km, mb3.8/11, mb1 3.9/12, mb1mx3.8/18, mbtmp3.8/12, MS2.7/1, Ms1 2.7/1, ms1mx2.2/24, Error ellipse: s-maj=27.8km s-min=12.4km az=66.0*

ISC 29 02:06:53.9±0.7, 8°.93S±0°.06×124°.23E±0°.09, h109km±8km, n61, σ1°03/65, mb4.1/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.99**	**278**	P	**Pn**	**02 07 26.8**	**0.0**
BBSI	**Bau Bau**	**3.80**	**334**	P	**Pn**	**02 07 51.5**	**+0.9**
KDI	**Kendari**	**5.19**	**342**	P	**Pn**	**02 08 09.8**	**+0.4**
	0.1nm23nm,0.9s						
BKSI	**Bulukumba**	**5.43**	**311**	P	**Pn**	**02 08 12.6**	**0.0**
	0.2nm668nm63nm,0.6s						
KAPI	**Kappang**	**5.91**	**311**	P	**Pn**	**02 08 19.4**	**+0.4**
	3.7nm,0.3s,baz=161,slow=7.9,SNR=16						
KAPI				LR	LR	02 10 48.1	
	comp=Z,74nm,21.7s,baz=134,slow=41						
KAPI	**Kappang**	**5.91**	**311**	*e*Pn	**Pn**	**02 08 19.2**	**+0.2**
	18nm,0.6s						
KAPI	**Kappang**	**5.91**	**311**	P	**Pn**	**02 08 19.8**	**+0.7**
	0.1nm23nm,0.6s						
SPSI	**Sidrap Palu**	**6.63**	**318**	P	**Pn**	**02 08 19.2**	**-10**
	0.1nm18nm,0.8s						
FITZ	**Fitzroy Crossi**	**9.22**	**172**	P	**Pn**	**02 09 02.1**	**-1.9**
	2.7nm,0.3s,baz=1.2,slow=11,SNR=60						
FITZ				S	**Sn**	**02 10 40.1**	**-5.8**
	34nm,0.3s,baz=205,slow=4.6,SNR=29						
FITZ	**Fitzroy Crossi**	**9.22**	**172**	*e*P	**Pn**	**02 09 01.8**	**-2.2**
FITZ				*e*S	**Sn**	**02 10 38.6**	**-7.3**
FITZ	**Fitzroy Crossi**	**9.22**	**172**	*e*Pn	**Pn**	**02 09 01.9**	**-2.1**
	8.6nm,0.3s						
FITZ				*e*S	**Sn**	**02 10 40.4**	**-5.5**
FITZ	**Fitzroy Crossi**	**9.22**	**172**	P	**Pn**	**02 09 02.8**	**-1.2**
	16nm,0.4s						
FITZ				S	**Sn**	**02 10 39.4**	**-6.5**
	16nm,0.4s						
MBWA	**Marble Bar**	**12.91**	**199**	*e*Pn	**Pn**	**02 09 53.0**	**-0.3**
MBWA				*e*S	**Sn**	**02 12 06.5**	**-9.0**
MBWA	**Marble Bar**	**12.91**	**199**	P	**Pn**	**02 09 54.7**	**+1.3**
PCJI	**Pacitan**	**12.93**	**272**	P	**Pn**	**02 09 50.7**	**-3.0**
PCJI				S	**Px**	02 09 50.9	
WRA	**Warramunga Arr**	**14.68**	**139**	P	**Pn**	**02 10 15.4**	**-0.8**
	2.2nm,0.3s,baz=315,slow=15,SNR=66						
WRA				S	**Sn**	**02 12 47.2**	**-11**
	5.7nm,0.3s,baz=317,slow=23,SNR=17						
WRA	**Warramunga Arr**	**14.68**	**139**	P	**Pn**	**02 10 15.4**	**-0.8**
WRA				S	**Sn**	**02 12 47.2**	**-11**
WRAB	**Tennant Creek**	**14.68**	**139**	*e*Pn	**Pn**	**02 10 15.4**	**-0.8**
	33nm,0.5s						
WRAB				*e*S	**Sn**	**02 12 46.7**	**-12**
WB2	**Warramunga Arr**	**14.68**	**139**	*e*Pn	**Pn**	**02 10 15.3**	**-1.0**
WB2				*e*S	**Sn**	**02 12 42.5**	**-16**
AS31	**Alice Springs**	**17.33**	**149**	*e*P	**Pn**	**02 10 49.6**	**+0.5**
AS31				*e*S	**S**	**02 13 54.1**	**-8.4**
ASAR	**Alice Springs**	**17.33**	**149**	P	**Pn**	**02 10 49.7**	**+0.6**
	2.8nm,0.3s,baz=324,slow=12,SNR=92						
ASAR				S	**S**	**02 13 53.0**	**-9.5**
	2.1nm,0.3s,baz=330,slow=20,SNR=11						
ASAR	**Alice Springs**	**17.33**	**149**	P	**Pn**	**02 10 49.7**	**+0.6**
ASAR				S	**S**	**02 13 53.0**	**-9.5**
COEN	**Coen**	**19.22**	**107**	P	**P**	**02 11 12.5**	**+2.9**
FORT	**Forrest**	**22.03**	**171**	*e*P	**P**	**02 11 40.6**	**+1.0**
FORT				*e*S	**S**	**02 15 40.7**	**+5.0**
KLBR	**Kellerberrin**	**23.34**	**194**	*e*P	**P**	**02 11 53.4**	**+0.9**
	35nm,1.4s,mb4.5						
KLBR				*e*S	**S**	**02 16 12.2**	**+15**
CTA	**Charters Tower**	**24.00**	**120**	P	**P**	**02 12 02.6**	**+3.9**
	4.5nm,0.8s,mb3.8,baz=292,slow=13,SNR=5.9						
CTA	**Charters Tower**	**24.00**	**120**	*e*P	**P**	**02 12 02.2**	**+3.6**
CTA	**Charters Tower**	**24.00**	**120**	P	**P**	**02 12 02.6**	**+3.9**
NWAO	**Narrogin (SRO)**	**24.74**	**194**	P	**P**	**02 12 05.7**	**+0.4**
	5.4nm,0.7s,mb4.1,baz=15,slow=9.9,SNR=5.4						
NWAO	**Narrogin (SRO)**	**24.74**	**194**	P	**P**	**02 12 05.7**	**+0.4**
STKA	**Stephens Creek**	**27.95**	**147**	P	**P**	**02 12 36.8**	**+2.6**
	3.3nm,0.7s,mb4.0,baz=328,slow=8.1,SNR=7.6						
STKA	**Stephens Creek**	**27.95**	**147**	*e*P	**P**	**02 12 36.9**	**+2.7**
STKA	**Stephens Creek**	**27.95**	**147**	P	**P**	**02 12 36.8**	**+2.6**
CMAR	**Chiang Mai Arr**	**36.92**	**318**	P	**P**	**02 13 52.7**	**+0.2**
	1.9nm,0.5s,mb4.3,baz=142,slow=6.1,SNR=8.5						
CMAR	**Chiang Mai Arr**	**36.92**	**318**	P	**P**	**02 13 52.7**	**+0.2**
MJAR	**Matsushiro Arr**	**47.10**	**15**	P	**P**	**02 15 14.5**	**-0.4**
	1.0nm,0.6s,mb3.7,baz=194,slow=8.9,SNR=4.2						
MJAR	**Matsushiro Arr**	**47.10**	**15**	P	**P**	**02 15 14.5**	**-0.4**
LSA	**Lhasa**	**49.89**	**322**	P	**P**	**02 15 37.4**	**+1.0**
	5.6nm,0.4s,mb4.8						
USRK	**Ussuriysk Arra**	**53.34**	**7**	P	**P**	**02 16 01.9**	**0.0**
	2.5nm,0.7s,mb4.4,baz=198,slow=7.3,SNR=9.3						
SONM	**Songino Array**	**58.68**	**346**	P	**P**	**02 16 39.1**	**-0.8**
	0.5nm,0.6s,mb3.7,baz=162,slow=8.7,SNR=5.0						
SONM	**Songino Array**	**58.68**	**346**	P	**P**	**02 16 39.1**	**-0.8**
MK31	**Makanchi Array**	**66.86**	**330**	*e*P	**P**	**02 17 33.8**	**-0.3**
MKAR	**Makanchi Array**	**66.86**	**330**	P	**P**	**02 17 33.8**	**-0.4**
	2.1nm,0.7s,mb4.1,baz=132,slow=7.9,SNR=20						
MKAR	**Makanchi Array**	**66.86**	**330**	P	**P**	**02 17 33.8**	**-0.4**
AAK	**Ala-Archa**	**68.46**	**323**	*e*P	**P**	**02 17 44.6**	**+0.4**
	6.8nm,0.6s,mb4.7						
ZALV	**Zalesovo Beam**	**70.92**	**337**	P	**P**	**02 17 57.5**	**-1.6**
	1.6nm,0.6s,mb4.0,baz=130,slow=3.0,SNR=9.5						
ZALV	**Zalesovo Beam**	**70.92**	**337**	P	**P**	**02 17 57.5**	**-1.6**
KURK	**Kurchatov**	**71.31**	**331**	P	**P**	**02 18 00.2**	**-1.3**
	1.8nm,0.8s,mb4.0,baz=141,slow=5.1,SNR=21						
KURK	**Kurchatov**	**71.31**	**331**	*e*P	**P**	**02 18 01.0**	**-0.6**
AKTO	**Aktyubinsk**	**82.17**	**324**	P	**P**	**02 19 02.7**	**+0.1**
	1.9nm,0.8s,mb4.0,baz=114,slow=6.1,SNR=7.2						
AKTO	**Aktyubinsk**	**82.17**	**324**	P	**P**	**02 19 02.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**123.54**	**280**	PKP	PKPdf	02 25 39.7	+0.2
	0.3nm,0.7s,baz=99,slow=2.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**123.54**	**280**	PKP	PKPdf	02 25 39.7	+0.2
TXAR	**Lajitas Array**	**130.81**	**59**	SKPbc	SKPbc	02 29 09.1	+1.7
	0.4nm,0.7s,baz=342,slow=5.7,SNR=4.2						
TXAR	**Lajitas Array**	**130.81**	**59**	SKPbc	SKPbc	02 29 09.1	+1.7
CPUP	**Villa Florida**	**144.92**	**178**	PKPbc	PKPdf	02 26 20.3	+1.3
	2.4nm,0.5s,baz=161,slow=2.6,SNR=13						
CPUP	**Villa Florida**	**144.92**	**178**	PKPbc	PKPdf	02 26 20.3	+1.3
LPAZ	**La Paz**	**152.12**	**154**	PKPab	PKPab	02 26 50.9	+3.5
	1.0nm,0.5s,baz=194,slow=4.2,SNR=5.7						
LPAZ	**La Paz**	**152.12**	**154**	PKPab	PKPab	02 26 50.9	+3.5
SIV	**San Ignacio**	**154.69**	**168**	PKPab	PKPab	02 27 00.3	+2.1
	1.3nm,0.6s,baz=197,slow=4.9,SNR=7.6						
SIV	**San Ignacio**	**154.69**	**168**	PKPab	PKPab	02 27 00.3	+2.1

*ISCJB **29** 02:09:47.9±0.4, 40°.33N±0°.02×25°.82E±0°.03, h9km±3km, Error ellipse: s-maj=3.9km s-min=3.2km az=149.4*
*ISK **29** 02:09:47.8, 40°.32N×25°.85E, h10km, MD2.8*
*ATH **29** 02:09:47.4, 40°.30N×25°.92E, h30km±2km, MD3.0/4*
*THE **29** 02:09:48.9, 40°.34N×25°.82E, h13km±1km, ML2.5/5, Error ellipse: s-maj=1.9km s-min=1.0km az=89.0*
*CSEM **29** 02:09:48.4±0.1, 40°.33N×25°.84E, h12km, MD2.8, Error ellipse: s-maj=2.4km s-min=2.0km az=47.0*
*DDA **29** 02:09:48.7, 40°.32N×25°.88E, h8km±1km, Md2.9*

ISC 29 02:09:48.5±0.4, 40°.33N±0°.02×25°.83E±0°.03, h12km±3km, n49, σ0°61/82, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**32**	*e*PG	**Pg**	**02 09 57.8**	**0.0**
ENEZ				*e*SG	**Sg**	**02 10 04.8**	**+0.6**
ENEZ	**Enez**	**0.47**	**32**	*e*Pg	**Pg**	**02 09 57.8**	**0.0**
ENEZ				*e*Sg	**Sg**	**02 10 04.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.50**	**82**	*e*PG	**Pg**	**02 09 58.0**	**-0.2**
GELI				*e*SG	**Sg**	**02 10 05.7**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.50**	**82**	*e*Pg	**Pg**	**02 09 58.0**	**-0.3**
GELI				*e*Sg	**Sg**	**02 10 05.7**	**+0.8**
BOZC	**Bozcaada**	**0.52**	**160**	*i* P	**Pg**	**02 09 58.7**	**0.0**
ALN	**Alexandroupoli**	**0.59**	**17**	*e*PN	**Pg**	**02 09 59.8**	**-0.1**
ALN				*e*SN	**Sg**	**02 10 08.3**	**+0.6**
ALN	**Alexandroupoli**	**0.59**	**17**	P	**Pg**	**02 09 59.8**	**-0.1**
ALN				S	**Sg**	**02 10 08.2**	**+0.5**
ALN	**Alexandroupoli**	**0.59**	**17**	P	**Pg**	**02 09 59.8**	**-0.1**
ALN				S	**Sg**	**02 10 08.2**	**+0.5**
ERIK	**Erikli-Kesan**	**0.62**	**57**	*e*PG	**Pg**	**02 10 00.2**	**-0.5**
ERIK	**Erikli-Kesan**	**0.62**	**57**	*e*Pg	**Pg**	**02 10 00.2**	**-0.4**
EZN	**

ORIF				*e*Sg		Sg	02 17 39.6	-0.1
	9.2nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.58**	**292**	*e*Pg		**Pg**	02 17 32.1	0.0
ORIF				*e*Sg		**Sg**	02 17 39.6	-0.1
ORIF	**Oris-en-Rattie**	**0.58**	**292**	*e*Pg		**Pg**	02 17 32.1	0.0
ORIF				*e*Sg		**Sg**	02 17 39.6	-0.1
	4.6nm,0.2s							
RSP	**Reno Superiore**	**0.63**	**45**	Pg		**Pg**	02 17 33.2	+0.1
RSP				Sg		**Sg**	02 17 41.9	+0.5
	35nm,0.2s							
RSP	**Reno Superiore**	**0.63**	**45**	Pg		**Pg**	02 17 33.2	+0.1
RSP				Sg		**Sg**	02 17 41.9	+0.5
	35nm,0.2s							
LPG	**La Plagne**	**0.80**	**6**	*e*Pg		**Pg**	02 17 36.6	+0.4
LPG				*e*Sg		**Sg**	02 17 46.8	+0.1
	9.5nm,0.2s							
LPG	**La Plagne**	**0.80**	**6**	*e*Pg		**Pg**	02 17 36.6	+0.4
LPG				*e*Sg		**Sg**	02 17 46.8	+0.1
LPG	**La Plagne**	**0.80**	**6**	*e*Pg		**Pg**	02 17 36.6	+0.4
LPG				*e*Sg		**Sg**	02 17 46.8	+0.1
	4.8nm,0.2s							
LPL	**La Plagne**	**0.81**	**5**	*e*Pg		**Pg**	02 17 36.8	+0.2
LPL				*e*Sg		**Sg**	02 17 47.1	-0.1
	31nm,0.4s							
LPL	**La Plagne**	**0.81**	**5**	*e*Pg		**Pg**	02 17 36.8	+0.2
LPL				*e*Sg		**Sg**	02 17 47.1	-0.1
LPL	**La Plagne**	**0.81**	**5**	*e*Pg		**Pg**	02 17 36.8	+0.2
LPL				*e*Sg		**Sg**	02 17 47.1	-0.1
	16nm,0.4s							
TOUF	**Mont Tournerai**	**0.82**	**147**	Pg		**Pg**	02 17 36.8	+0.1
TOUF				Sg		**Sg**	02 17 50.5	+3.0
TOUF	**Mont Tournerai**	**0.82**	**147**	Pg		**Pg**	02 17 36.8	+0.1
TOUF				Sg		**Sg**	02 17 50.5	+3.0
LSD	**Lago del Serru**	**0.83**	**25**	Pg		**Pg**	02 17 36.9	0.0
LSD				Sg		**Sg**	02 17 47.9	+0.1
	33nm,0.3s							
LSD	**Lago del Serru**	**0.83**	**25**	Pg		**Pg**	02 17 36.9	0.0
LSD				Sg		**Sg**	02 17 47.9	+0.1
	33nm,0.3s							
AUTN	**L'Aution**	**0.91**	**141**	Pg		**Pg**	02 17 38.7	+0.3
AUTN	**L'Aution**	**0.91**	**141**	Pg		**Pg**	02 17 38.7	+0.3
CALN	**Calern**	**0.97**	**169**	Pg		**Pg**	02 17 38.5	-1.1
CALN	**Calern**	**0.97**	**169**	Pg		**Pg**	02 17 38.5	-1.1
SAOF	**Saorge**	**0.98**	**137**	Pg		**Pg**	02 17 40.1	+0.4
SAOF	**Saorge**	**0.98**	**137**	Pg		**Pg**	02 17 40.1	+0.4
SBF	**Sospel**	**1.02**	**145**	*e*Pg		**Pg**	02 17 40.3	-0.2
SBF				*e*Sg		**Sg**	02 17 53.6	-0.2
	45nm,0.5s							
SBF	**Sospel**	**1.02**	**145**	*e*Pg		**Pg**	02 17 40.3	-0.2
SBF				*e*Sg		**Sg**	02 17 53.6	-0.2
SBF	**Sospel**	**1.02**	**145**	*e*Pg		**Pg**	02 17 40.3	-0.2
SBF				*e*Sg		**Sg**	02 17 53.6	-0.2
	22nm,0.5s							
SMRF	**Simiane la Rot**	**1.05**	**226**	*e*Pg		**Pg**	02 17 41.4	+0.3
SMRF				*e*Sg		**Sg**	02 17 54.6	-0.2
	14nm,0.3s							
SMRF	**Simiane la Rot**	**1.05**	**226**	*e*Pg		**Pg**	02 17 41.4	+0.3
SMRF				*e*Sg		**Sg**	02 17 54.6	-0.2
SMRF	**Simiane la Rot**	**1.05**	**226**	*e*Pg		**Pg**	02 17 41.4	+0.3
SMRF				*e*Sg		**Sg**	02 17 54.6	-0.2
	7.0nm,0.3s							
REVF	**Revere**	**1.10**	**151**	Pg		**Pg**	02 17 42.1	+0.1
REVF	**Revere**	**1.10**	**151**	Pg		**Pg**	02 17 42.1	+0.1
TRAV	**Traversella**	**1.13**	**44**	Pg		**Pg**	02 17 41.9	-0.6
TRAV				Sg		**Sg**	02 17 56.6	-0.6
TRAV	**Traversella**	**1.13**	**44**	Pg		**Pg**	02 17 41.9	-0.6
TRAV				Sg		**Sg**	02 17 56.6	-0.6
ORO	**Oropa**	**1.33**	**46**	Pg		**Pg**	02 17 45.7	-0.6
	11nm,0.3s							
ORO	**Oropa**	**1.33**	**46**	Pg		**Pg**	02 17 45.7	-0.6
	11nm,0.3s							
LMR	**La Mourre**	**1.38**	**184**	*e*Pg		**Pg**	02 17 46.7	-0.5
LMR				*e*Sg		**Sg**	02 18 04.9	-0.2
	11nm,0.2s							
LMR	**La Mourre**	**1.38**	**184**	*e*Pg		**Pg**	02 17 46.7	-0.5
LMR				*e*Sg		**Sg**	02 18 04.9	-0.2
LMR	**La Mourre**	**1.38**	**184**	*e*Pg		**Pg**	02 17 46.7	-0.5
LMR				*e*Sg		**Sg**	02 18 04.9	-0.2
	5.5nm,0.2s							
VIVF	**Saint-Julien-l**	**1.40**	**277**	*e*Pg		**Pg**	02 17 47.2	-0.6
VIVF				*e*Sg		**Sg**	02 18 05.5	-0.5
	6.5nm,0.3s							
VIVF	**Saint-Julien-l**	**1.40**	**277**	*e*Pg		**Pg**	02 17 47.2	-0.6
VIVF				*e*Sg		**Sg**	02 18 05.5	-0.5
VIVF	**Saint-Julien-l**	**1.40**	**277**	*e*Pg		**Pg**	02 17 47.2	-0.6
VIVF				*e*Sg		**Sg**	02 18 05.5	-0.5
	3.2nm,0.3s							
SSB	**Saint Sauveur**	**1.59**	**292**	Pn		**Pn**	02 17 51.0	+2.3
SSB	**Saint Sauveur**	**1.59**	**292**	Pn		**Pn**	02 17 51.0	+2.3
PGF	**Pioggiola**	**2.76**	**141**	*e*Pn		**Pn**	02 18 04.6	-0.1
PGF				*e*Sn		**Sn**	02 18 36.7	-1.2
	1.1nm,0.2s							
PGF	**Pioggiola**	**2.76**	**141**	*e*Pn		**Pn**	02 18 04.6	-0.1
PGF				*e*Sn		**Sn**	02 18 36.7	-1.2
PGF	**Pioggiola**	**2.76**	**141**	*e*Pn		**Pn**	02 18 04.6	-0.1
PGF				*e*Sn		**Sn**	02 18 36.7	-1.2
	0.6nm,0.2s							

*IDC **29** 02:23:41.3±1.5, 29°.82N×81°.86E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/25, mbtmp3.5/5, ML4.5/1, Error ellipse: s-maj=33.4km s-min=32.1km az=38.0*
*ISCJB **29** 02:23:47.7±1.9, 29°.9N±0°.1×82°.1E±0°.1, h65km±25km, mb3.0/3, Error ellipse: s-maj=21.1km s-min=20.8km az=12.5*

ISC 29 02:23:48.5±1.7, 29°.9N±0°.1×82°.2E±0°.1, h56km±24km, n8, σ1°02/10, mb3.1/3, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.71**	**260**	*e*PKP	**Pn**	02 24 15.3	-0.7
PTH				*e*S	**Sn**	02 24 38.1	+1.3
DDI	**Dehra Dun**	**3.58**	**278**	*e*PKP	**Pn**	02 24 41.0	-0.5
DDI				*e*S	**Sn**	02 25 33.7	+11
MKAR	**Makanchi Array**	**16.89**	**0**	Pn	**Pn**	02 27 41.0	0.0
	0.1nm,0.3s,baz=183,slow=12,SNR=6.3						
CMAR	**Chiang Mai Arr**	**19.05**	**123**	P	**Pn**	02 28 07.2	-0.3
	0.6nm,0.3s,baz=313,slow=11,SNR=4.2						
KURK	**Kurchatov**	**20.98**	**354**	P	**P**	02 28 25.2	-1.7
	0.8nm,0.6s,baz=178,slow=10.0,SNR=11						
ZALV	**Zalesovo Beam**	**24.13**	**4**	P	**P**	02 28 59.9	+1.0
	0.3nm,0.3s,mb3.1,baz=208,slow=8.1,SNR=2.9						
SONM	**Songino Array**	**25.87**	**39**	P	**P**	02 29 16.5	+1.7
	0.4nm,0.7s,mb3.0,baz=227,slow=9.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.39**	**277**	P	**P**	02 35 25.9	-0.7
	0.1nm,0.4s,mb3.1,baz=47,slow=6.3,SNR=3.1						

IDC 29 02:49:09.8±4.4, 48°.23N×154°.32E, h56km±39km, mb3.3/12, mb1 3.6/13, mb1mx3.4/23, mbtmp3.3/13, ML3.5/1, Error ellipse: s-maj=21.5km s-min=19.9km az=139.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.34**	**22**	P	Pn	02 50 27.0	+0.3
	1.5nm,0.3s,baz=190,slow=13,SNR=29						
USRK	**Ussuriysk Arra**	**15.95**	**264**	P	Pn	02 52 54.6	+4.2
	0.1nm,0.3s,baz=70,slow=14,SNR=4.5						
ILAR	**Eielson Array**	**34.88**	**40**	P	P	02 55 55.0	-0.3
	0.3nm,0.7s,baz=277,slow=10.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.43**	**305**	P	P	02 56 58.4	-0.1
	0.6nm,0.4s,baz=70,slow=6.6,SNR=4.3						
MKAR	**Makanchi Array**	**47.00**	**297**	P	P	02 57 34.9	-0.1
	0.2nm,0.8s,baz=69,slow=8.2,SNR=2.9						
YKA	**Yellowknife Ar**	**49.25**	**38**	P	P	02 57 52.5	+0.4
	0.4nm,0.8s,baz=301,slow=7.7,SNR=4.1						
NVAR	**Mina Array Bea**	**61.03**	**64**	P	P	02 59 17.5	+0.1
	0.4nm,0.5s,baz=297,slow=8.3,SNR=5.4						
FINES	**FINESS Array B**	**63.05**	**335**	P	P	02 59 29.6	-0.9
	2.5nm,0.9s,baz=70,slow=8.1,SNR=4.5						
NOA	**NORSAR Array B**	**67.09**	**342**	P	P	02 59 56.9	+0.2
	0.4nm,0.7s,baz=20,slow=5.4,SNR=2.7						
WRA	**Warramunga Arr**	**70.18**	**200**	P	P	03 00 16.5	+0.2
	0.4nm,0.7s,baz=8.5,slow=6.7,SNR=2.7						
ASAR	**Alice Springs**	**73.87**	**199**	P	P	03 00 38.4	0.0
	0.2nm,0.6s,baz=20,slow=5.9,SNR=3.2						
TXAR	**Lajitas Array**	**76.06**	**62**	P	P	03 00 51.3	+0.2
	0.4nm,0.6s,baz=310,slow=5.3,SNR=5.4						
GERES	**GERESS Array B**	**77.48**	**335**	P	P	03 00 59.5	+0.7
	0.3nm,0.6s,baz=34,slow=7.1,SNR=3.9						
BRTR	**Keskin Array B**	**77.87**	**317**	P	P	03 01 01.8	+0.6
	0.6nm,0.5s,baz=61,slow=1.6,SNR=8.2						

*ISCJB **29** 03:01:11.3±0.4, 40°.35N±0°.02×25°.82E±0°.03, h9km±3km, Error ellipse: s-maj=3.4km s-min=2.9km az=153.7*
*ATH **29** 03:01:11.0, 40°.32N×25°.87E, h33km±2km, MD2.9/4*
*CSEM **29** 03:01:11.9±0.1, 40°.33N×25°.82E, h9km, MD3.0, Error ellipse: s-maj=2.7km s-min=1.9km az=25.0*
*THE **29** 03:01:12.4, 40°.34N×25°.82E, h10km±1km, ML2.7/5, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0*
*ISK **29** 03:01:12.0, 40°.33N×25°.90E, h9km, MD3.0*
*DDA **29** 03:01:12.8, 40°.29N×25°.87E, h28km, Md3.0*

ISC 29 03:01:12.1±0.4, 40°.34N±0°.02×25°.83E±0°.03, h10km±3km, n89, σ0°80/121, 6C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.46**	**32**	*e*PG	**Pg**	03 01 21.2	+0.1
ENEZ				*e*SG	**Sg**	03 01 28.2	+0.9
ENEZ	**Enez**	**0.46**	**32**	*e*Pg	**Pg**	03 01 21.2	0.0
ENEZ				*e*Sg	**Sg**	03 01 28.2	+0.9
GELI	**Tayfur-Gelibol**	**0.49**	**83**	*e*PG	**Pg**	03 01 21.2	-0.5
GELI				*e*SG	**Sg**	03 01 27.8	-0.4
GELI	**Tayfur-Gelibol**	**0.49**	**83**	*e*Pg	**Pg**	03 01 21.2	-0.5
GELI				*e*Sg	**Sg**	03 01 27.8	-0.4
BOZC	**Bozcaada**	**0.53**	**161**	*i* P	**Pg**	03 01 22.4	+0.1
BOZC				*i* S	**Sg**	03 01 29.7	+0.5
ALN	**Alexandroupoli**	**0.58**	**16**	*e*PN	**Pg**	03 01 23.4	+0.1
ALN				*e*SN	**Sg**	03 01 31.7	+0.8
ALN	**Alexandroupoli**	**0.58**	**16**	P	**Pg**	03 01 23.3	0.0
ALN				S	**Sg**	03 01 31.8	+0.9
ALN	**Alexandroupoli**	**0.58**	**16**	P	**Pg**	03 01 23.3	0.0
ALN				S	**Sg**	03 01 31.8	+0.9
ERIK	**Erikli-Kesan**	**0.61**	**57**	*e*PG	**Pg**	03 01 23.8	-0.2
ERIK				*e*SG	**Sg**	03 01 32.2	+0.1
ERIK	**Erikli-Kesan**	**0.61**	**57**	*e*Pg	**Pg**	03 01 23.8	-0.2
ERIK				*e*Sg	**Sg**	03 01 32.2	+0.1
EZN	**Ezine**	**0.64**	**144**	*e*PG	**Pg**	03 01 24.0	-0.4
EZN				*e*SG	**Sg**	03 01 32.7	-0.1
EZN	**Ezine**	**0.64**	**144**	*e*Pg	**Pg**	03 01 24.0	-0.4
EZN				*e*Sg	**Sg**	03 01 32.7	-0.1
LIA	**Limnos Island**	**0.67**	**229**	*e*PN	**Pn**	03 01 24.8	-2.7
LIA				*e*SN	**Sg**	03 01 35.0	+1.3
LIA	**Limnos Island**	**0.67**	**229**	P	**Pg**	03 01 24.9	-0.1
LIA				S	**Sg**	03 01 35.1	+1.4
LIA	**Limnos Island**	**0.67**	**229**	P	**Pg**	03 01 24.9	-0.1
LIA				*e*Sn	**Sg**	03 01 35.0	+1.3
LPK	**Lapseki**	**0.71**	**87**	*e*PG	**Pg**	03 01 25.1	-0.7
LPK	**Lapseki**	**0.71**	**87**	*e*Pg	**Pg**	03 01 25.1	-0.7
RDO	**Rodhopi**	**0.83**	**345**	*e*PN	**Pn**	03 01 27.7	-2.1
RDO				*e*SN	**Sn**	03 01 40.1	-2.0
RDO	**Rodhopi**	**0.83**	**345**	P	**Pg**	03 01 27.9	-0.3
RDO				S	**Sg**	03 01 39.4	+0.3
RDO	**Rodhopi**	**0.83**	**345**	P	**Pg**	03 01 27.9	-0.3
RDO				S	**Sg**	03 01 39.4	+0.3
RDO				*e*Sn	**Sn**	03 01 40.1	-2.0
RKY	**Sarkoy-Tekirda**	**1.08**	**71**	*e*PG	**Pg**	03 01 32.4	-0.5
RKY	**Sarkoy-Tekirda**	**1.08**	**71**	*e*Pg	**Pg**	03 01 32.4	-0.5
SART	**Tekirdag**	**1.08**	**71**	⇑*i*P	**Pb**	03 01 31.6	-1.3
SART	**Tekirdag**	**1.08**	**71**	*i* P	**Pb**	03 01 31.6	-1.3
KRBG	**Karabiga-Canak**	**1.12**	**87**	*e*PG	**Pg**	03 01 32.5	-1.1
KRBG	**Karabiga-Canak**	**1.12**	**87**	*e*Pg	**Pg**	03 01 32.5	-1.1
PRK	**Paraskevi**	**1.15**	**163**	P	**Pb**	03 01 33.5	-0.4
PRK				S	**Sb**	03 01 49.2	+0.4
PRK	**Paraskevi**	**1.15**	**163**	P	**Pb**	03 01 33.5	-0.4
PRK				S	**Sb**	03 01 49.2	+0.4
KAVA	**Kavala**	**1.20**	**304**	P	**Pb**	03 01 34.0	-0.8
KAVA				S	**Sb**	03 01 50.3	0.0
KAVA	**Kavala**	**1.20**	**304**	P	**Pb**	03 01 34.0	-0.8
KAVA				S	**Sb**	03 01 50.3	0.0
AYVA	**Ayvalik**	**1.23**	**147**	⇓*i*P	**Pn**	03 01 35.0	-0.2
AYVA	**Ayvalik**	**1.23**	**147**	*i* P	**Pn**	03 01 35.0	-0.2
OUR	**Ouranopolis**	**1.41**	**270**	P	**Pn**	03 01 36.6	-1.2
OUR	**Ouranopolis**	**1.41**	**270**	P	**Pn**	03 01 36.6	-1.2
TKR	**Tekirdag**	**1.45**	**63**	*e*PN	**Pn**	03 01 38.4	+0.1
TKR	**Tekirdag**	**1.45**	**63**	*e*Pn	**Pn**	03 01 38.4	+0.1
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*PN	**Pn**	03 01 38.3	0.0
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*Pn	**Pn**	03 01 38.3	0.0
EDC	**Edincik**	**1.55**	**89**	*e*PN	**Pn**	03 01 39.6	0.0
EDC				*e*SN	**Sn**	03 01 59.9	+0.1
EDC	**Edincik**	**1.55**	**89**	*e*Pn	**Pn**	03 01 39.6	-0.1
EDC				*e*Sn	**Sn**	03 01 59.9	+0.1
BNT	**Bandirma**	**1.60**	**89**	*e*PN	**Pn**	03 01 40.1	-0.2
BNT	**Bandirma**	**1.60**	**89**	*e*Pn	**Pn**	03 01 40.1	-0.2
EDRB	**Edirne**	**1.66**	**24**	*e*PN	**Pn**	03 01 41.7	+0.6
EDRB	**Edirne**	**1.66**	**24**	*e*Pn	**Pn**	03 01 41.7	+0.6
NVR	**Nevrokopi**	**1.80**	**305**	*e*PN	**Pn**	03 01 42.3	-0.8
NVR	**Nevrokopi**	**1.80**	**305**	P	**Pn**	03 01 42.8	-0.3
NVR				S	**Sn**	03 02 06.4	+0.4
NVR	**Nevrokopi**	**1.80**	**305**	*e*Pn	**Pn**	03 01 42.3	-0.8
NVR	**Nevrokopi**	**1.80**	**305**	P	**Pn**	03 01 42.8	-0.3
NVR				S	**Sn**	03 02 06.4	+0.4
PLG	**Polygyros**	**1.82**	**272**	P	**Pn**	03 01 42.5	-0.9
PLG	**Polygyros**	**1.82**	**272**	P	**Pn**	03 01 42.5	-0.9
SRS	**Serrai**	**1.87**	**295**	P	**Pn**	03 01 43.9	-0.2
SRS				S	**Sn**	03 02 08.4	+0.7
SRS	**Serrai**	**1.87**	**295**	P	**Pn**	03 01 43.9	-0.2
SRS				S	**Sn**	03 02 08.4	+0.7
KCTX	**Karacabey (Bur**	**1.93**	**91**	*e*PN	**Pn**	03 01 44.9	0.0
KCTX	**Karacabey (Bur**	**1.93**	**91**	*e*Pn	**Pn**	03 01 44.9	0.0
SOH	**Sokhos**	**1.95**	**285**	P	**Pn**	03 01 44.9	-0.2
SOH	**Sokhos**	**1.95**	**285**	P	**Pn**	03 01 44.9	-0.2
PLD	**Plovdiv**	**1.96**	**335**	P	**Pn**	03 01 46.6	+1.4
PLD				S	**Sn**	03 02 10.2	+0.4
PLD	**Plovdiv**	**1.96**	**335**	P	**Pn**	03 01 46.6	+1.4
PLD				S	**Sn**	03 02 10.2	+0.4
SLVT	**Silivri**	**2.01**	**63**	*e*PN	**Pn**	03 01 47.0	+1.0
SLVT	**Silivri**	**2.01**	**63**	*e*Pn	**Pn**	03 01 47.0	+1.0
AKHS	**Akhisar**	**2.12**	**133**	*i* P	**Pn**	03 01 47.6	+0.2
AKHS	**Akhisar**	**2.12**	**133**	*i* P	**Pn**	03 01 47.6	+0.2
DURS	**Dursunbey**	**2.16**	**109**	*i* P	**Pn**	03 01 48.5	+0.5
DURS				*i* S	**Sn**	03 02 19.9	+5.1
DURS	**Dursunbey**	**2.16**	**109**	*i* P	**Pn**	03 01 48.5	+0.5
BLCB	**Balcova**	**2.17**	**154**	*e*PN	**Pn**	03 01 48.8	+0.7
BLCB	**Balcova**	**2.17**	**154**	*e*Pn	**Pn**	03 01 48.8	+0.7
JMB	**Yambol**	**2.20**	**15**	P	**Pn**	03 01 49.2	+0.6
JMB	**Yambol**	**2.20**	**15**	P	**Pn**	03 01 49.2	+0.6
CTKS	**Kestanelik-??a**	**2.22**	**65**	*e*PN	**Pn**	03 01 49.6	+0.8
CTKS	**Kestanelik-??a**	**2.22**	**65**	*e*Pn	**Pn**	03 01 49.6	+0.8
BGKT	**Bogazkoy**	**2.39**	**68**	*e*PN	**Pn**	03 01 51.7	+0.6
BGKT	**Bogazkoy**	**2.39**	**68**	*e*Pn	**Pn**	03 01 51.7	+0.6
GEMT	**Gemlik**	**2.57**	**87**	*e*PN	**Pn**	03 01 54.4	+0.8
GEMT	**Gemlik**	**2.57**	**87**	*e*Pn	**Pn**	03 01 54.4	+0.8
DEMI	**Demirci**	**2.58**	**119**	*e*P	**Pn**	03 01 54.3	+0.6
DEMI	**Demirci**	**2.58**	**119**	*e*P	**Pn**	03 01 54.3	+0.6
VTS	**Vitosha**	**2.99**	**320**	P	**Pn**	03 01 59.4	-0.1
VTS	**Vitosha**	**2.99**	**320**	⇑*i*P	**Pb**	03 02 07.8	+2.4
VTS	**Vitosha**	**2.99**	**320**	S	**Sg**	03 02 47.8	-0.3
VTS	**Vitosha**	**2.99**	**320**	P	**Pn**	03 01 59.4	-0.1
BARS	**Barje**	**3.90**	**311**	*e*Pn	**Pn**	03 02 12.5	+0.6
MLR	**Muntele Rosu**	**5.15**	**1**	⇓*i*P	**Pn**	03 02 25.8	-3.3
MLR	**Muntele Rosu**	**5.15**	**1**	⇓*i*P	**Pn**	03 02 25.8	-3.3
GRUS	**Gruza**	**5.20**	**315**	*e*Pn	**Pn**	03 02 30.0	+0.2
GZR	**Gura Zlata**	**5.53**	**337**	⇑*i*P	**Pn**	03 02 34.1	-0.2
GZR	**Gura Zlata**	**5.53**	**337**	S	**Sn**	03 03 32.8	-5.0
GZR	**Gura Zlata**	**5.53**	**337**	⇑*i*P	**Pn**	03 02 34.1	-0.2
BZS	**Buzias**	**6.11**	**331**	⇑*i*P	**Pn**	03 02 42.5	+0.2
BZS	**Buzias**	**6.11**	**331**	⇑*i*P	**Pn**	03 02 42.5	+0.2

*ISCJB **29** 03:06:26.9±0.5, 40°.34N±0°.02×25°.82E±0°.03, h9km±4km, Error ellipse: s-maj=4.1km s-min=3.9km az=155.8*
*ISK **29** 03:06:26.7, 40°.30N×25°.85E, h6km, MD2.9*
*ATH **29** 03:06:26.9, 40°.35N×25°.82E, h28km, MD2.9/3*
*THE **29** 03:06:27.5, 40°.34N×25°.82E, h2km±2km, ML2.4/5, Error ellipse: s-maj=2.8km s-min=0.9km az=102.0*
*CSEM **29** 03:06:27.1±0.2, 40°.31N×25°.82E, h8km, MD2.9, Error ellipse: s-maj=3.8km s-min=3.2km az=25.0*

ISC 29 03:06:27.5±0.5, 40°.33N±0°.02×25°.84E±0°.03, h10km±4km, n56, σ0°91/77, 1C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**30**	*e*PG	**Pg**	03 06 36.8	0.0
ENEZ				*e*SG	**Sg**	03 06 44.1	+1.1
ENEZ	**Enez**	**0.47**	**30**	*e*Pg	**Pg**	03 06 36.8	0.0
ENEZ				*e*Sg	**Sg**	03 06 44.1	+1.1
GELI	**Tayfur-Gelibol**	**0.49**	**81**	*e*PG	**Pg**	03 06 36.9	-0.2
GELI				*e*SG	**Sg**	03 06 43.9	+0.3
GELI	**Tayfur-Gelibol**	**0.49**	**81**	*e*Pg	**Pg**	03 06 36.9	-0.2
GELI				*e*Sg	**Sg**	03 06 43.9	+0.3
ALN	**Alexandroupoli**	**0.59**	**15**	*e*PN	**Pg**	03 06 38.6	-0.4
ALN				*e*SN	**Sg**	03 06 47.1	+0.3
ALN	**Alexandroupoli**	**0.59**	**15**	P	**Pg**	03 06 38.6	-0.4
ALN				S	**Sg**	03 06 46.6	-0.2
ALN	**Alexandroupoli**	**0.59**	**15**	P	**Pg**	03 06 38.6	-0.4
ALN				S	**Sg**	03 06 46.6	-0.2
ERIK	**Erikli-Kesan**	**0.62**	**56**	*e*PG	**Pg**	03 06 39.2	-0.3
ERIK	**Erikli-Kesan**	**0.62**	**56**	*e*Pg	**Pg**	03 06 39.2	-0.3
EZN	**Ezine**	**0.62**	**143**	*e*PG	**Pg**	03 06 38.6	-1.0
EZN	**Ezine**	**0.62**	**143**	*e*Pg	**Pg**	03 06 38.6	-1.0
LIA	**Limnos Island**	**0.66**	**230**	*e*PN	**Pn**	03 06 40.3	-2.5
LIA				*e*SN	**Sg**	03 06 50.1	+1.2
LIA	**Limnos Island**	**0.66**	**230**	P	**Pg**	03 06 40.4	+0.1
LIA				S	**Sg**	03 06 50.2	+1.3
LIA	**Limnos Island**	**0.66**	**230**	*e*Pn	**Pn**	03 06 40.3	-2.5
LIA				S	**Sg**	03 06 50.2	+1.3
LPK	**Lapseki**	**0.71**	**86**	*e*PG	**Pg**	03 06 40.4	-0.8
LPK	**Lapseki**	**0.71**	**86**	*e*Pg	**Pg**	03 06 40.4	-0.7
RDO	**Rodhopi**	**0.85**	**345**	*e*PN	**Pg**	03 06 43.2	-0.7
RDO				*e*SN	**Sn**	03 06 55.1	-2.8
RDO	**Rodhopi**	**0.85**	**345**	P	**Pg**	03 06 43.2	-0.7
RDO				S	**Sg**	03 06 55.2	+0.2
RDO	**Rodhopi**	**0.85**	**345**	P	**Pg**	03 06 43.2	-0.7
RDO				*e*Sn	**Sn**	03 06 55.1	-2.8
RKY	**Sarkoy-Tekirda**	**1.08**	**70**	*e*PN	**Pn**	03 06 47.9	-0.7
RKY	**Sarkoy-Tekirda**	**1.08**	**70**	*e*Pn	**Pn**	03 06 47.9	-0.8
KRBG	**Karabiga-Canak**	**1.12**	**86**	*e*PN	**Pn**	03 06 48.4	-0.8
KRBG	**Karabiga-Canak**	**1.12**	**86**	*e*Pn	**Pn**	03 06 48.4	-0.7
PRK	**Paraskevi**	**1.13**	**163**	P	**Pb**	03 06 48.9	-0.2
PRK				S	**Sb**	03 07 04.3	+0.5
PRK	**Paraskevi**	**1.13**	**163**	P	**Pb**	03 06 48.9	-0.2
PRK				S	**Sb**	03 07 04.3	+0.5
KAVA	**Kavala**	**1.21**	**304**	P	**Pn**	03 06 49.5	-0.9
KAVA				S	**Sb**	03 07 05.7	-0.4
KAVA	**Kavala**	**1.21**	**304**	P	**Pn**	03 06 49.5	-0.9
KAVA				S	**Sb**	03 07 05.7	-0.4
GONE	**Gonen-Balikesi**	**1.44**	**101**	*e*PN	**Pn**	03 06 53.8	+0.2
GONE	**Gonen-Balikesi**	**1.44**	**101**	*e*Pn	**Pn**	03 06 53.8	+0.2
TKR	**Tekirdag**	**1.45**	**62**	*e*PN	**Pn**	03 06 54.2	+0.5
TKR	**Tekirdag**	**1.45**	**62**	*e*Pn	**Pn**

IDC 29 03:17:58.3±1.2, 22°.94S×112°.16W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.8/11, mbtmp3.8/3, Error ellipse: s-maj=52.6km s-min=38.9km az=23.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAZ	**La Paz**	**41.88**	**89**	P	P	03 25 51.4	+0.8
	0.5nm,0.5s,baz=236,slow=7.3,SNR=4.1						
NVAR	**Mina Array Bea**	**61.31**	**355**	P	P	03 28 17.2	+1.7
	0.9nm,0.7s,baz=181,slow=8.9,SNR=7.5						
YKA	**Yellowknife Ar**	**85.15**	**359**	P	P	03 30 35.0	-0.8
	0.6nm,0.9s,baz=171,slow=4.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**146.48**	**342**	PKPbc	PKPbc	03 37 39.9	-1.1
	1.1nm,0.7s,baz=29,slow=5.1,SNR=5.8						
BRTR	**Keskin Array B**	**146.59**	**52**	PKPbc	PKPbc	03 37 41.7	-0.2
	1.2nm,0.7s,baz=228,slow=1.8,SNR=6.8						
BVAR	**Borovoye Array**	**149.89**	**357**	PKPbc	PKPbc	03 37 50.0	-0.2
	1.1nm,0.6s,baz=354,slow=1.5,SNR=7.1						
CMAR	**Chiang Mai Arr**	**150.59**	**267**	PKP	PKPdf	03 37 48.0	+0.6
	0.9nm,0.3s,baz=75,slow=1.9,SNR=6.6						
CMAR				PKPbc	PKPbc	03 37 53.5	+0.6
	1.3nm,0.6s,baz=19,slow=0.4,SNR=9.0						
KURK	**Kurchatov**	**151.02**	**346**	PKPbc	PKPbc	03 37 51.7	-1.2
	1.0nm,0.8s,baz=11,slow=2.7,SNR=5.4						
KURK				PKPab	PKPab	03 37 59.7	-0.7
	0.8nm,0.7s,baz=22,slow=3.2,SNR=5.8						
AKTO	**Aktyubinsk**	**151.50**	**13**	PKPbc	PKPbc	03 37 53.7	-0.3
	1.5nm,0.8s,baz=348,slow=1.7,SNR=6.5						
MKAR	**Makanchi Array**	**153.49**	**337**	PKPbc	PKPbc	03 37 57.7	-0.9
	0.3nm,0.7s,baz=24,slow=2.8,SNR=3.3						

*ISCJB **29** 03:27:54.2±0.6, 50°.64N±0°.04×4°.48E±0°.04, h27km±3km, Error ellipse: s-maj=7.1km s-min=4.2km az=166.6*
*CSEM **29** 03:27:54.3±0.2, 50°.59N×4°.51E, h5km, ML2.4/9, Error ellipse: s-maj=4.9km s-min=3.4km az=171.0*
*LDG **29** 03:27:55.4±0.0, 50°.65N×4°.57E, h4km, Md2.6/1, Ml2.3/18, Error ellipse: s-maj=0.9km s-min=0.5km az=172.0*
*UCC **29** 03:27:55.5±0.5, 50°.63N×4°.57E, h6km±1km, ML1.7*

ISC 29 03:27:55.1±0.5, 50°.59N±0°.03×4°.53E±0°.03, h19km±2km, n51, σ0°.94/111, 3C-1D, Belgium

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNF	**Seneffe**	**0.17**	**244**	P	**Pg**	**03 27 59.9**	**+0.1**
SNF				S	**Sg**	**03 28 02.8**	**-0.1**
	65nm,0.2s						
UCC	**Uccle**	**0.24**	**333**	P	**Pg**	**03 27 58.9**	**-1.8**
DOU	**Dourbes**	**0.49**	**175**	⇑P	**Pg**	**03 28 06.2**	**+1.1**
DOU				S	**Sg**	**03 28 13.0**	**+1.2**
DOU	**Dourbes**	**0.49**	**175**	P	**Pg**	**03 28 06.2**	**+1.1**
DOU				S	**Sg**	**03 28 13.0**	**+1.2**
BCLA	**Clavier**	**0.52**	**108**	⇓P	**Pg**	**03 28 05.4**	**-0.2**
BCLA				S	**Sg**	**03 28 11.5**	**-1.2**
	comp=N,12nm,0.1s						
BCLA	**Clavier**	**0.52**	**108**	P	**Pg**	**03 28 05.4**	**-0.2**
BCLA				S	**Sg**	**03 28 11.4**	**-1.3**
	comp=N,12nm,0.1s						
BAIF	**Baives**	**0.57**	**201**	*e*Pg	**Pg**	**03 28 07.4**	**+1.0**
BAIF				*e*Sg	**Sg**	**03 28 15.8**	**+1.7**
	comp=N,5.6nm,0.2s						
BAIF	**Baives**	**0.57**	**201**	*e*Pg	**Pg**	**03 28 07.4**	**+1.0**
BAIF				*e*Sg	**Sg**	**03 28 15.8**	**+1.7**
	comp=N,2.8nm,0.2s						
BEBN	**Eben Emael**	**0.76**	**73**	⇑P	**Pb**	**03 28 09.0**	**-0.8**
BEBN				S	**Sb**	**03 28 18.5**	**-1.2**
	comp=E,11nm,0.3s						
BEBN	**Eben Emael**	**0.76**	**73**	P	**Pb**	**03 28 08.9**	**-0.8**
BEBN				S	**Sb**	**03 28 18.5**	**-1.2**
	comp=E,11nm,0.3s						
MEM	**Membach**	**0.94**	**88**	⇑P	**Pb**	**03 28 12.8**	**0.0**
MEM				S	**Sb**	**03 28 24.8**	**-0.2**
	comp=N,8.7nm,0.3s						
MEM	**Membach**	**0.94**	**88**	P	**Pb**	**03 28 12.8**	**0.0**
MEM				S	**Sb**	**03 28 24.7**	**-0.2**
	comp=N,8.7nm,0.3s						
WLF	**Walferdange**	**1.39**	**131**	P	**Pn**	**03 28 21.9**	**+2.4**
WLF				S	**Sn**	**03 28 39.0**	**+1.6**
MEZF	**Maizieres J'vi**	**2.11**	**171**	*e*Pn	**Pn**	**03 28 30.5**	**+1.1**
MEZF	**Maizieres J'vi**	**2.11**	**171**	*e*Pg	**Pg**	**03 28 35.8**	**+0.1**
	baz=348						
MEZF				*e*Sn	**Sn**	**03 28 55.9**	**+0.7**
MEZF				*e*Sg	**Sg**	**03 29 03.6**	**+0.5**
	comp=N,3.9nm,0.2s						
MEZF	**Maizieres J'vi**	**2.11**	**171**	*e*Pn	**Pn**	**03 28 30.5**	**+1.1**
MEZF	**Maizieres J'vi**	**2.11**	**171**	*e*Pg	**Pg**	**03 28 35.8**	**+0.1**
	baz=348						
MEZF				*e*Sn	**Sn**	**03 28 55.9**	**+0.7**
MEZF				*e*Sg	**Sg**	**03 29 03.6**	**+0.5**
	comp=N,2.0nm,0.2s						
CDF	**Champ du Feu**	**2.82**	**140**	*e*Pn	**Pn**	**03 28 39.8**	**+0.7**
CDF				*e*Sn	**Sn**	**03 29 12.4**	**-0.1**
CDF				*e*Sg	**Sg**	**03 29 24.7**	**-0.9**
	comp=N,2.3nm,0.4s						
CDF	**Champ du Feu**	**2.82**	**140**	*e*Pn	**Pn**	**03 28 39.8**	**+0.7**
CDF				*e*Sn	**Sn**	**03 29 12.4**	**-0.1**
CDF				*e*Sg	**Sg**	**03 29 24.7**	**-0.9**
	comp=N,1.1nm,0.4s						
HAU	**Haudompre**	**2.84**	**155**	*e*Pn	**Pn**	**03 28 40.3**	**+0.8**
HAU	**Haudompre**	**2.84**	**155**	*e*Pg	**Pg**	**03 28 49.0**	**-0.6**
HAU				*e*Sn	**Sn**	**03 29 13.3**	**+0.1**
HAU				*e*Sg	**Sg**	**03 29 26.0**	**-0.5**
	comp=N,3.5nm,0.2s						
HAU	**Haudompre**	**2.84**	**155**	*e*Pn	**Pn**	**03 28 40.3**	**+0.8**
HAU	**Haudompre**	**2.84**	**155**	*e*Pg	**Pg**	**03 28 49.0**	**-0.6**
HAU				*e*Sn	**Sn**	**03 29 13.3**	**+0.1**
HAU				*e*Sg	**Sg**	**03 29 26.0**	**-0.5**
	comp=N,1.8nm,0.2s						
HINF	**Hinterlalfeld**	**3.16**	**150**	*e*Pn	**Pn**	**03 28 44.5**	**+0.6**
HINF	**Hinterlalfeld**	**3.16**	**150**	*e*Pg	**Pg**	**03 28 54.9**	**-0.8**
HINF				*e*Sn	**Sn**	**03 29 20.9**	**-0.1**
HINF				*e*Sg	**Sg**	**03 29 35.7**	**-1.0**
	comp=N,2.2nm,0.3s						
HINF	**Hinterlalfeld**	**3.16**	**150**	*e*Pn	**Pn**	**03 28 44.5**	**+0.6**
HINF	**Hinterlalfeld**	**3.16**	**150**	*e*Pg	**Pg**	**03 28 54.9**	**-0.8**
HINF				*e*Sn	**Sn**	**03 29 20.9**	**-0.1**
HINF				*e*Sg	**Sg**	**03 29 35.7**	**-1.0**
	comp=N,1.1nm,0.3s						
LOR	**Lormes**	**3.35**	**188**	*e*Pn	**Pn**	**03 28 47.3**	**+0.9**
LOR				*e*Sn	**Sn**	**03 29 25.9**	**+0.3**
LOR				*e*Sg	**Sg**	**03 29 42.6**	**-0.1**
	comp=N,1.5nm,0.3s						
LOR	**Lormes**	**3.35**	**188**	*e*Pn	**Pn**	**03 28 47.3**	**+0.9**
LOR				*e*Sn	**Sn**	**03 29 25.9**	**+0.3**
LOR				*e*Sg	**Sg**	**03 29 42.6**	**-0.1**
	comp=N,0.8nm,0.3s						
SSF	**Saint Saulge**	**3.59**	**191**	*e*Pn	**Pn**	**03 28 50.8**	**+1.0**
SSF				*e*Sn	**Sn**	**03 29 31.7**	**+0.1**
SSF				*e*Sg	**Sg**	**03 29 50.1**	**-0.3**
	comp=N,1.2nm,0.3s						
SSF	**Saint Saulge**	**3.59**	**191**	*e*Pn	**Pn**	**03 28 50.8**	**+1.0**
SSF				*e*Sn	**Sn**	**03 29 31.7**	**+0.1**
SSF				*e*Sg	**Sg**	**03 29 50.1**	**-0.3**
	comp=N,0.6nm,0.3s						
LDF	**La Druitiere**	**3.62**	**238**	*e*Pn	**Pn**	**03 28 51.0**	**+0.8**
LDF				*e*Sn	**Sn**	**03 29 32.2**	**-0.2**
LDF				*e*Sg	**Sg**	**03 29 50.9**	**-0.6**
	comp=N,1.1nm,0.2s						
LDF	**La Druitiere**	**3.62**	**238**	*e*Pn	**Pn**	**03 28 51.0**	**+0.8**
LDF				*e*Sn	**Sn**	**03 29 32.2**	**-0.2**
LDF				*e*Sg	**Sg**	**03 29 50.9**	**-0.6**
	comp=N,0.6nm,0.2s						
FLN	**La Foliniere**	**3.73**	**243**	*e*Pn	**Pn**	**03 28 52.3**	**+0.6**
FLN				*e*Sn	**Sn**	**03 29 34.6**	**-0.5**
FLN				*e*Sg	**Sg**	**03 29 54.1**	**-0.8**
	comp=N,1.3nm,0.3s						
FLN	**La Foliniere**	**3.73**	**243**	*e*Pn	**Pn**	**03 28 52.3**	**+0.6**
FLN				*e*Sn	**Sn**	**03 29 34.6**	**-0.5**
FLN				*e*Sg	**Sg**	**03 29 54.1**	**-0.8**
	comp=N,0.6nm,0.3s						
GRR	**Gorron**	**4.14**	**240**	*e*Pn	**Pn**	**03 28 58.1**	**+0.8**
GRR				*e*Sn	**Sn**	**03 29 44.5**	**-0.7**
GRR				*e*Sg	**Sg**	**03 30 07.1**	**-1.0**
	comp=N,1.1nm,0.2s						
GRR	**Gorron**	**4.14**	**240**	*e*Pn	**Pn**	**03 28 58.1**	**+0.8**
GRR				*e*Sn	**Sn**	**03 29 44.5**	**-0.7**
GRR				*e*Sg	**Sg**	**03 30 07.1**	**-1.0**
	comp=N,0.6nm,0.2s						
MFF	**Saint Martin d**	**5.05**	**220**	*e*Pn	**Pn**	**03 29 10.8**	**+1.0**
MFF				*e*Sn	**Sn**	**03 30 06.4**	**-1.2**
	comp=N,0.2nm,0.2s						
MFF	**Saint Martin d**	**5.05**	**220**	*e*Pn	**Pn**	**03 29 10.8**	**+1.0**
MFF				*e*Sn	**Sn**	**03 30 06.4**	**-1.2**
	comp=N,0.1nm,0.2s						
LPL	**La Plagne**	**5.28**	**163**	*e*Pn	**Pn**	**03 29 14.0**	**+1.0**
LPL				*e*Sn	**Sn**	**03 30 11.9**	**-1.4**
	comp=N,0.5nm,0.3s						
LPL	**La Plagne**	**5.28**	**163**	*e*Pn	**Pn**	**03 29 14.0**	**+1.0**
LPL				*e*Sn	**Sn**	**03 30 11.9**	**-1.4**
	comp=N,0.2nm,0.3s						
LPG	**La Plagne**	**5.30**	**163**	*e*Pn	**Pn**	**03 29 14.4**	**+1.1**
LPG				*e*Sn	**Sn**	**03 30 12.8**	**-1.0**
	comp=N,0.6nm,0.3s						
LPG	**La Plagne**	**5.30**	**163**	*e*Pn	**Pn**	**03 29 14.4**	**+1.1**
LPG				*e*Sn	**Sn**	**03 30 12.8**	**-1.0**
	comp=N,0.3nm,0.3s						
RJF	**Les Rejaudoux**	**5.66**	**202**	*e*Pn	**Pn**	**03 29 18.7**	**+0.5**
RJF				*e*Sn	**Sn**	**03 30 21.1**	**-1.5**
	comp=N,0.6nm,0.4s						
RJF	**Les Rejaudoux**	**5.66**	**202**	*e*Pn	**Pn**	**03 29 18.7**	**+0.5**
RJF				*e*Sn	**Sn**	**03 30 21.1**	**-1.5**
	comp=N,0.3nm,0.4s						
VIVF	**Saint-Julien-l**	**5.73**	**179**	*e*Pn	**Pn**	**03 29 20.0**	**+0.8**
VIVF				*e*Sn	**Sn**	**03 30 22.8**	**-1.6**
	comp=N,0.6nm,0.3s						
VIVF	**Saint-Julien-l**	**5.73**	**179**	*e*Pn	**Pn**	**03 29 20.0**	**+0.8**
VIVF				*e*Sn	**Sn**	**03 30 22.8**	**-1.6**
	comp=N,0.3nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.74**	**170**	*e*Pn	**Pn**	**03 29 20.0**	**+0.7**
ORIF				*e*Sn	**Sn**	**03 30 23.0**	**-1.6**
	comp=N,0.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.74**	**170**	*e*Pn	**Pn**	**03 29 20.0**	**+0.7**
CAF	**Calviac**	**5.90**	**197**	*e*Pn	**Pn**	**03 29 22.2**	**+0.7**
CAF				*e*Sn	**Sn**	**03 30 26.9**	**-1.7**
	comp=N,0.5nm,0.3s						
CAF	**Calviac**	**5.90**	**197**	*e*Pn	**Pn**	**03 29 22.2**	**+0.7**

*SZGRF **29** 03:37:08.2, 34°.50N×73°.50E, h158km, mb6.4, Pakistan*
*BGS **29** 03:37:17.9±1.7, 33°.88N×73°.34E, h150km, mb6.0*
*BJI **29** 03:37:40.5, 36°.67N×71°.11E, h147km, mB5.7/48, mb5.5/65*
*MOS **29** 03:37:40.7±0.9, 36°.52N×71°.07E, h155km, mb6.0/110, Error ellipse: s-maj=5.1km s-min=3.0km az=131.5*
*ISCJB **29** 03:37:40.5±0.1, 36°.41N±0°.01×71°.06E±0°.01, h157km, mb5.8/354, Error ellipse: s-maj=1.9km s-min=1.3km az=18.1*
*NEIC **29** 03:37:41.0±0.1, 36°.39N×71°.08E, h151km, mb5.9/192, ME6.0, MW5.8, MW5.8, Error ellipse: s-maj=3.8km s-min=2.3km az=23.0 Broadband fault plane solution: P waves. NP1:ϕ_s=270.00000°, δ50.00000°, λ90.00000°. NP2:ϕ_s=90.00000°, δ40.00000°, λ90.00000°. Principal axes: T Plg85.0000°, Azm180.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm360.0000°; Moment Tensor Solution. s78 Moment tensor: Scale 10^{17} Nm; M_{rr}=4.74; $M_{\theta\theta}$=-5.41; $M_{\phi\phi}$=0.67; $M_{r\theta}$=-2.97; $M_{\theta\phi}$=-0.43; $M_{\phi r}$=0.38; Best double couple: M_0=5.90000×10^{17} NP1:ϕ_s=272.00000°, δ60.00000°, λ97.00000°. NP2:ϕ_s=79.00000°, δ30.00000°, λ79.00000°. Principal axes: T 5.5900, Plg73.0000°, Azm200.0000°; N 0.6400, Plg6.0000°, Azm88.0000°; P -6.2300, Plg15.0000°, Azm357.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Some buildings damaged slightly in the Mansehra and Shangla areas, Pakistan. Felt at Abbottabad, Chitral, Hazara, Islamabad, Lahore and Rawalpindi. Felt [II] at Bagrami and Kabul, Afghanistan. Also felt at Asadabad, Charikar, Gardiz, Mazar-e Sharif and Konduz. Felt [III] at Dushanbe, Tajikistan. Also felt at Khorugh. Felt at Gilgit, Muzaffarabad and in the Kashmir Valley, Kashmir and at Tashkent, Uzbekistan.
*TEH **29** 03:37:41.0, 36°.59N×71°.06E, h141km*
*IDC **29** 03:37:42.3±0.4, 36°.40N×71°.10E, h163km±2km, mb5.4/27, mb1 5.5/30, mb1mx5.5/30, mbtmp5.4/30, MS4.9/15, Ms1 4.9/15, ms1mx4.5/43, Error ellipse: s-maj=8.3km s-min=6.6km az=7.0*
*DJA **29** 03:37:43, 36°.54N×71°.16E, h165km, Mw6.0/47*
*GCMT **29** 03:37:43.1±0.1, 36°.48N×70°.91E, h155km, MW5.8, Moment Tensor Solution. s111,c217; s37,c44; Moment tensor: Scale 10^{17}Nm; M_{rr}=5.52±.05; $M_{\theta\theta}$=-5.84±.07; $M_{\phi\phi}$=0.32±.07; $M_{r\theta}$=-3.45±.06; $M_{\theta\phi}$=-0.10±.07; $M_{\phi r}$=-0.31±.05; Best double couple: M_0=6.70000×10^{17} NP1:ϕ_s=92.00000°, δ29.00000°, λ94.00000°. NP2:ϕ_s=267.00000°, δ61.00000°, λ88.00000°. Principal axes: T 6.5000, Plg74.0000°, Azm171.0000°; N 0.3100, Plg2.0000°, Azm268.0000°; P -6.8100, Plg16.0000°, Azm358.0000°; Data Used: II IU IC G CN. Surface waves: sta=116, comp=268, per= 50.*
*NNC **29** 03:37:44.5±7.7, 36°.85N×70°.91E, h158km±84km, mb5.7, mpv6.7 Error ellipse: s-maj=65.4km s-min=36.6km az=4.0*

ISC 29 03:37:42.1±0.1, 36°.41N±0°.01×71°.09E±0°.01, h159km, h159km±.6km:pP-P, n1787, σ1°.04/1589, mb5.8/353, 406C-209D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.50**	**222**	*e*Pn	**Pn**	**03 38 23.1**	**-0.7**
KBL				*e*S	**Sn**	**03 38 55.2**	**-0.5**
KBL	**Kabul**	**2.50**	**222**	*e*Pn	**Pn**	**03 38 23.1**	**-0.6**
KBL				*e*S	**Sn**	**03 38 55.3**	**-0.5**
CEP	**Cherat**	**2.67**	**165**	⇓P	**Pn**	**03 38 25.8**	**+0.1**
CEP				S	**Sn**	**03 39 00.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.28**	**146**	⇓P	**Pn**	**03 38 33.6**	**+0.3**
NIL	**Nilore**	**3.28**	**147**	*e*Pn	**Pn**	**03 38 34.4**	**+1.1**
NIL				*e*S	**Sn**	**03 39 12.5**	**-0.5**
NIL	**Nilore**	**3.28**	**147**	*e*PN	**Pn**	**03 38 34.4**	**+1.1**
THW	**Thamme Wali**	**3.65**	**171**	⇓P	**Pn**	**03 38 37.9**	**-0.2**
SARP	**Sargodha**	**4.67**	**163**	P	**Pn**	**03 38 50.5**	**-0.8**
KSH	**Kashi**	**4.95**	**50**	⇑*i*P	**Pn**	**03 38 49.0**	**-5.9**
KSH				sP		03 39 20.0	
KSH				S	**Sn**	**03 39 39.5**	**-12**
KSH				smax			
	comp=N,34μm,0.5s						
KSH				smax			
	comp=E,21μm,0.7s						
THN	**Thein Dam**	**5.51**	**135**	*e*PKP	**Pn**	**03 39 00.2**	**-2.2**
THN				*e*S	**Sn**	**03 39 59.9**	**-5.3**
AML	**Almayashu**	**6.06**	**19**	P	**Pn**	**03 39 07.0**	**-2.5**
AML				P		03 39 07.0	
UCH	**Uchtor**	**6.38**	**24**	P	**Pn**	**03 39 12.1**	**-1.8**
	SNR=498						
UCH				P		03 39 12.1	
	SNR=498						
KZA	**Kyzart**	**6.51**	**28**	P	**Pn**	**03 39 13.6**	**-2.0**
	SNR=252						
KZA				P		03 39 13.6	
	SNR=252						
EKS2	**Erkin-Say**	**6.58**	**18**	P	**Pn**	**03 39 14.3**	**-2.2**
	SNR=1310						
EKS2				P		03 39 14.3	
	SNR=1310						
EKS2	**Erkin-Say**	**6.58**	**18**	*e*Pn	**Pn**	**03 39 14.8**	**-1.7**
EKS2				*e*S	**Sn**	**03 40 27.2**	**-3.3**
EKS2	**Erkin-Say**	**6.58**	**18**	*e*PN	**Pn**	**03 39 14.8**	**-1.6**
EKS2				*e*S	**Sn**	**03 40 27.2**	**-3.3**
BHK	**Bhakra**	**6.67**	**137**	*e*PKP	**Pn**	**03 39 14.0**	**-3.7**
BHK				*e*S	**Sn**	**03 40 25.8**	**-6.9**
KK31	**Karatay Array**	**6.70**	**356**	P	**Pn**	**03 39 15.8**	**-2.2**
	comp=E,2μm,0.5s,baz=181,slow=13						
KK31				⇑S	**Sn**	**03 40 27.2**	**-6.2**
	comp=E,10μm,0.8s,baz=185,slow=23,SNR=12						
KK31	**Karatay Array**	**6.70**	**356**	*e*PN	**Pn**	**03 39 15.8**	**-2.2**
KK31				pmax	pmax		
	comp=Z,2μm,0.3s						
KKAR	**Karatay Array**	**6.70**	**356**	*e*Pn	**Pn**	**03 39 15.7**	**-2.3**
KKAR				*e*S	**Sn**	**03 40 29.4**	**-3.9**
KKAR	**Karatay Array**	**6.70**	**356**	*e*PN	**Pn**	**03 39 15.7**	**-2.3**
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**03 39 16.6**	**-2.1**
	SNR=2602						
AAK				P		03 39 16.6	
	SNR=2602						
AAK	**Ala-Archa**	**6.75**	**22**	*e*Pn	**Pn**	**03 39 16.7**	**-2.0**
	comp=Z,4μm,0.9s						
AAK				*e*S	**Sn**	**03 40 31.7**	**-2.9**
AAK	**Ala-Archa**	**6.75**	**22**	*d i*PN	**Pn**	**03 39 16.5**	**-2.2**
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**03 39 16.2**	**-2.5**
AAK	**Ala-Archa**	**6.75**	**22**	Pn	**Pn**	**03 39 16.7**	**-2.0**
	comp=Z,22μm,0.5s						
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**03 39 16.7**	**-2.0**
	SNR=1398						
KBK	**Karagaybulak**	**6.91**	**24**	P	**Pn**	**03 39 19.0**	**-1.9**
	SNR=3121						
KBK				P		03 39 19.0	
	SNR=3121						
SDNR	**Sundarnagar**	**6.92**	**133**	*e*PKP	**Pn**	**03 39 18.0**	**-3.1**
SDNR				*ex*	x	03 40 28.0	
FRU	**Bishkek**	**6.97**	**22**	⇓*i*PN	**Pn**	**03 39 20.0**	**-1.6**
FRU				*i* S	**Sn**	**03 40 39.0**	**-0.8**
FRU				pmax	pmax		
	comp=E,12μm,2.0s						
FRU				smax			
	comp=E,58μm,3.0s						
ULHL	**Ulahol**	**7.06**	**33**	P	**Pn**	**03 39 21.1**	**-1.8**
	SNR=43						
ULHL				P		03 39 21.1	
	SNR=43						
CHMS	**Chumysh**	**7.16**	**22**	P	**Pn**	**03 39 22.5**	**-1.6**
	SNR=332						
CHMS				P		03 39 22.5	
	SNR=332						
SMLA	**Simla**	**7.30**	**134**	*i* P	**Pn**	**03 39 24.2**	**-2.0**
USP	**Ospenovka**	**7.33**	**20**	P	**Pn**	**03 39 23.6**	**-2.9**
	SNR=762						
USP				P		03 39 23.6	
	SNR=762						
TKM2	**Tokmak 2**	**7.37**	**27**	P	**Pn**	**03 39 25.4**	**-1.6**
	SNR=174						
TKM2				P		03 39 25.4	
	SNR=174						
TKM2	**Tokmak 2**	**7.37**	**27**	⇑P	**Pn**	**03 39 25.2**	**-1.8**
	comp=E,9μm,1.1s						
TKM2				⇓S	**Sn**	**03 40 43.6**	**-5.8**
	comp=E,6μm,1.6s						
TKM2	**Tokmak 2**	**7.37**	**27**	*e*Pn	**Pn**	**03 39 25.3**	**-1.6**
TKM2				*e*S	**Sn**	**03 40 46.4**	**-3.1**
TKM2	**Tokmak 2**	**7.37**	**27**	*i* PN	**Pn**	**03 39 25.3**	**-1.7**
KKR	**Kurukshetra**	**8.03**	**142**	*e*PKP	**Pn**	**03 39 34.3**	**-1.5**
KKR				AMb	AMB	03 39 36.3	
	comp=Z,2μm,1.2s						
KKR				*ex*	x	03 41 01.3	
KNDC	**Almaty**	**8.16**	**32**	⇓P	**Pn**	**03 39 36.3**	**-1.2**
KNDC				⇓S	**Sn**	**03 41 02.4**	**-6.1**
AAA	**Alma-Ata**	**8.20**	**32**	*e*PN	**Pn**	**03 39 36.1**	**-1.9**
AAA				pmax	pmax		
	comp=Z,24μm,2.2s						
DDI	**Dehra Dun**	**8.41**	**134**	*e*PKP	**Pn**	**03 39 39.4**	**-1.6**
DDI				*ex*	x	03 41 11.0	
RTK	**Rohtak**	**8.62**	**147**	*e*PKP	**Pn**	**03 39 40.8**	**-2.9**
RTK				AMb	AMB	03 39 42.4	
	comp=Z,1μm,0.8s						
RTK				*ex*	x	03 41 14.5	
NDI	**New Delhi**	**9.28**	**144**	*e*PKP	**Pn**	**03 39 49.0**	**-3.5**
NDI				AMb	AMB	03 40 18.9	
	comp=Z,2μm,1.5s						
NDI				*e*S	**Sn**	**03 41 25.6**	**-10**
AYAN	**Aya Nagar**	**9.41**	**145**	*e*PKP	**Pn**	**03 39 51.5**	**-2.7**
AYAN				AMb	AMB	03 39 58.9	
	comp=Z,778nm,0.8s						
IMON	**Monand**	**9.93**	**254**	*e*P	**Pn**	**03 40 00.5**	**-0.5**
IAKL	**Akhelmad**	**9.93**	**275**	*e*P	**Pn**	**03 39 58.1**	**-2.9**
IDAH	**Dahanechah**	**9.95**	**252**	*e*P	**Pn**	**03 39 59.9**	**-1.4**
IEMG	**Emamgholi**	**10.01**	**279**	*e*P	**Pn**	**03 39 57.4**	**-4.6**
PTH	**Pithoragarh**	**10.27**	**129**	*e*PKP	**Pn**	**03 40 03.2**	**-2.3**
PTH				*ex*	x	03 41 51.5	
AJM	**Ajmer**	**10.36**	**162**	*e*PKP	**Pn**	**03 40 03.0**	**-3.7**
LGTI	**Lohaghat**	**10.36**	**129**	*e*PKP	**Pn**	**03 40 09.0**	**+2.3**
LGTI				*e*S	**Sn**	**03 41 58.7**	**-2.8**
ABKT	**Ailbek**	**10.46**	**282**	Pn	**Pn**	**03 40 04.1**	**-3.9**
	comp=Z,7μm,0.6s						
ISFR	**Sfrayin**	**10.53**	**277**	*e*P	**Pn**	**03 40 05.7**	**-3.1**
IKOO	**Kooshah**	**10.74**	**252**	*e*P	**Pn**	**03 40 09.7**	**-2.0**
ITEG	**Tejag**	**10.75**	**255**	*e*P	**Pn**	**03 40 10.2**	**-1.6**
ISHV	**Shirvan**	**10.77**	**280**	*e*P	**Pn**	**03 40 08.2**	**-3.8**
AGRA	**Agra**	**10.85**	**146**	*e*PKP	**Pn**	**03 40 10.5**	**-2.7**
AGRA				AMb	AMB	03 40 12.5	
	comp=Z,571nm,0.3s						
AGRA				*e*S	**Sn**	**03 42 02.8**	**-11**
PYUN	**Piuthan**	**13.03**	**126**	*e*P	**Pn**	**03 40 38.2**	**-3.2**
PYUN	**Piuthan**	**13.03**	**126**	*e*P	**Pn**	**03 40 38.2**	**-3.2**
MK31	**Makanchi Array**	**13.32**	**35**	⇓P	**Pn**	**03 40 42.6**	**-2.3**
	comp=Z,555nm,0.9s,baz=218,slow=7.3,SNR=2591						
MK31	**Makanchi Array**	**13.32**	**35**	*e*Pn	**Pn**	**03 40 42.7**	**-2.2**
MK31	**Makanchi Array**	**13.32**	**35**	*e*P	**Pn**	**03 40 42.7**	**-2.2**
MKAR	**Makanchi Array**	**13.32**	**35**	P	**Pn**	**03 40 42.5**	**-2.4**
	comp=Z,4.7nm,0.3s,baz=226,slow=4.3,SNR=141						
MKAR				S	**Sn**	**03 43 22.0**	**+10**
	baz=230,slow=11,SNR=2.1						
MKAR				P3KPbc		04 16 45.0	
	comp=Z,0.0nm,0.3s,baz=28,slow=5.5,SNR=5.4						
MKAR	**Makanchi Array**	**13.32**	**35**	*e*Pn	**Pn**	**03 40 42.4**	**-2.5**
MKAR				S	**Sn**	**03 43 22.0**	**+10**
MKAR				*e*		04 16 45.0	
MKAR

KURK Kurchatov 15.29 18 P **Pn 03 41 04.5 -4.9**
comp=Z,2.5nm,0.3s,baz=207,slow=12,SNR=366
KURK S **S 03 43 59.5 -0.2**
comp=Z,0.4nm,0.3s,baz=209,slow=21,SNR=3.7
KURK LR LR 03 47 12.6
comp=Z,4μm,18.6s,baz=205,slow=38
KURK PKiKP PKiKP 03 53 56.2 -1.8
comp=Z,0.1nm,0.3s,baz=203,slow=0.4,SNR=6.3
KURK P3KPbc 04 16 36.3
comp=Z,0.0nm,0.3s,baz=21,slow=3.5,SNR=6.8
KURK Kurchatov 15.29 18 ⇓P **Pn 03 41 05.4 -4.1**
comp=Z,1μm,1.3s
KURK Kurchatov 15.29 18 *e*Pn **Pn 03 41 05.4 -4.1**
comp=Z,1μm,1.2s
KURK PKiKP PKiKP 03 53 56.2 -1.8
KURK *e* 04 16 36.3
KURK Kurchatov 15.29 18*d* *i*P **Pn 03 41 05.2 -4.3**
KURK Kurchatov 15.29 18 Pn **Pn 03 41 05.9 -3.6**
comp=Z,4μm,1.2s
JIRN Jiri 15.48 120 *e*P **Pn 03 41 09.9 -2.2**
JIRN Jiri 15.48 120 *e*P **Pn 03 41 09.9 -2.2**
IZEF Zefreh 15.83 263 *e*P **Pn 03 41 15.6 -0.7**
RAMN Ramite 16.21 121 *e*P **Pn 03 41 18.2 -2.8**
comp=Z,1μm,0.6s
RAMN Ramite 16.21 121 *e*P **Pn 03 41 18.2 -2.8**
comp=Z,1μm,0.6s
IGAR Gharneh 16.22 261 *e*P **Pn 03 41 20.8 -0.2**
IKLH Kolahrood 16.31 265 *e*P **Pn 03 41 21.2 -0.9**
BANOM Banah 16.40 235 P **Pn 03 41 22.9 -0.4**
SNR=136
BANOM P 03 41 23.6
SNR=54
IPAR Pars 16.46 252 *e*P **Pn 03 41 24.2 +0.2**
AKL Akola 16.49 160 *e*PKP **Pn 03 41 24.3 0.0**
AKL *i* x x 03 44 18.0
IMHD Mahdasht 16.54 274 *e*P **Pn 03 41 26.2 +1.4**
ZRNK Zerenda 16.60 356 ⇓P **Pn 03 41 23.0 -2.5**
comp=Z,3μm,1.4s
BVA0 Borovoye Array 16.62 359 P **Pn 03 41 23.1 -2.6**
comp=Z,555nm,1.4s,baz=169,slow=14,SNR=4323
BVA0 Borovoye Array 16.62 359 *i* P **Pn 03 41 23.0 -2.7**
BVA0 pmax pmax
comp=Z,555nm,1.4s
BVAR Borovoye Array 16.62 359 P **Pn 03 41 23.8 -1.8**
comp=Z,41nm,0.3s,baz=170,slow=9.0,SNR=392
BVAR S **S 03 44 23.3 -6.9**
comp=Z,14nm,0.3s,baz=167,slow=22,SNR=7.3
BVAR LR LR 03 49 22.8
comp=Z,1μm,20.8s,baz=198,slow=42
BVAR PKiKP PKiKP 03 53 57.5 -0.9
comp=Z,0.4nm,0.3s,baz=269,slow=2.7,SNR=5.5
BVAR P3KPbc 04 16 29.3
baz=3.6,slow=4.8,SNR=7.5
BVAR Borovoye Array 16.62 359 P **Pn 03 41 23.8 -1.8**
BVAR S **S 03 44 23.3 -6.9**
BVAR PKiKP PKiKP 03 53 57.5 -0.9
BVAR *e* 04 16 29.3
BVAR Borovoye Array 16.62 359 P **Pn 03 41 23.8 -1.9**
BVAR S **S 03 44 23.3 -6.9**
BVAR pmax pmax
comp=Z,41nm,0.3s
BVAR smax
comp=N,14nm,0.3s
BVAR MLR MLR
comp=Z,1μm,20.8s
ISRV Sarvestan 16.63 250 *e*P **Pn 03 41 25.6 -0.5**
BRVK Borovoye 16.65 358 *e*Pn **Pn 03 41 23.7 -2.4**
comp=Z,4μm,1.5s
BRVK *e*S **S 03 44 23.9 -7.0**
BRVK Borovoye 16.65 358*de*P **Pn 03 41 23.4 -2.7**
BRVK pmax pmax
comp=Z,3μm,1.7s
BRVK Borovoye 16.65 358 Pn **Pn 03 41 23.8 -2.3**
comp=Z,9μm,1.0s
BRVK Borovoye 16.65 358 P **Pn 03 41 23.9 -2.2**
SNR=1231
NGP Nagpur 16.72 153 *e*PKP **Pn 03 41 25.3 -1.9**
NGP *ex* x 03 44 15.3
TAPN Taplejung 16.74 118 *e*P **Pn 03 41 25.3 -2.1**
comp=Z,969nm,0.6s
TAPN Taplejung 16.74 118 *e*P **Pn 03 41 25.3 -2.1**
comp=Z,969nm,0.6s
ODAN Odare 16.81 120 *e*P **Pn 03 41 26.7 -1.6**
comp=Z,2μm,1.0s
ODAN *e*S **S 03 44 23.2 -12**
ODAN Odare 16.81 120 *e*P **Pn 03 41 26.7 -1.6**
comp=Z,2μm,1.0s
ODAN *e*S **S 03 44 23.2 -12**
AKTO Aktyubinsk 16.89 330 P **Pn 03 41 27.1 -1.9**
comp=Z,34nm,0.3s,baz=136,slow=12,SNR=1201
AKTO S **S 03 44 27.1 -9.2**
comp=Z,41nm,0.3s,baz=30,slow=23,SNR=8.7
AKTO LR LR 03 47 57.3
comp=Z,4μm,21.1s,baz=159,slow=36
AKTO Aktyubinsk 16.89 330 ⇑P **Pn 03 41 27.1 -1.8**
comp=Z,342nm,0.8s
AKTO Aktyubinsk 16.89 330 P **Pn 03 41 27.1 -1.9**
AKTO S **S 03 44 27.1 -9.2**
AKTO Aktyubinsk 16.89 330 P **Pn 03 41 27.1 -1.9**
AKTO S **S 03 44 27.1 -9.2**
AKTO pmax pmax
comp=Z,34nm,0.3s
AKTO smax
comp=N,41nm,0.3s
AKTO MLR MLR
comp=Z,4μm,21.1s
IPIR Pirpir 17.05 263 *e*P **Pn 03 41 31.1 +0.1**
HATD Hatta, Dubai 17.27 232 P **Pn 03 41 32.0 -1.8**
SNR=103
WBK Wadi Bani Khal 17.31 221 P **Pn 03 41 35.3 +1.1**
SNR=348
ASHO Ashiyiah 17.42 232 P **Pn 03 41 35.1 -0.4**
SNR=51
ASHO P 03 41 35.3
SNR=331
SMDO Samad 17.45 224 P **Pn 03 41 35.6 -0.3**
SNR=96
NAZ Nazwa, Dubai 17.46 234 P **Pn 03 41 35.2 -0.8**
SNR=66
HOQ Hoqain 17.46 227 P **Pn 03 41 34.9 -1.2**
SNR=86
SLGI Shiliguri 17.64 118 *ex* **Pn 03 41 38.3 +0.2**
ASUD Al Ashush, Dub 17.93 233 P **Pn 03 41 40.6 -1.0**
SNR=19
ASUD P 03 41 40.9
SNR=57
JMDO Jabal Madar 17.97 222 P **Pn 03 41 42.1 +0.1**
SNR=203
POO Poona 17.98 171 *e*PKP **Pn 03 41 39.4 -2.8**
LSA Lhasa 18.08 106 P **P 03 41 44.5 +2.8**
LSA S **S 03 44 53.8 -6.9**
LSA Lhasa 18.08 106 *e*P **P 03 41 45.2 +3.5**
comp=Z,864nm,1.3s
LSA *e*PcP PcP 03 46 09.7 +1.3
LSA *e*ScP ScP 03 49 29.2 +0.4
LSA Lhasa 18.08 106 *e*P **P 03 41 45.2 +3.5**
LSA pmax pmax
comp=Z,864nm,1.3s
ARQ Araqi 18.12 228 P **P 03 41 43.4 +1.4**
SNR=133
BSY Bisya 18.18 225 P **P 03 41 44.2 +1.5**
SNR=153
LATR Latur 18.57 163 *ex* **P 03 41 49.4 +2.4**
LATR *ex* x 03 45 05.5
IHRS Heris 19.20 283 *e*P **P 03 41 53.8 +0.1**
MAK Makhachkala 19.26 297*d* *i*P **P 03 41 55.2 +0.9**
MAK *i* S **S 03 45 24.1 +0.3**
MAK MLR MLR
comp=Z,5μm,12.0s
IKOM Komasi 19.37 270 *e*P **P 03 41 55.1 -0.5**
ILIN Lien 19.65 273 *e*P **P 03 41 58.9 +0.3**
IVIS Veis 19.82 272 *e*P **P 03 42 01.1 +0.6**
ITBZ Tabriz 19.91 283 *e*P **P 03 42 02.1 +0.8**
ZAA0 Zalesovo Array 19.96 24 *e*P **P 03 42 00.6 -1.2**
ZAA0 *e*S **S 03 45 34.3 -3.1**
ZALV Zalesovo Beam 19.96 24 P **P 03 42 01.5 -0.3**
comp=Z,44nm,0.3s,baz=219,slow=9.9,SNR=694
ZALV S **S 03 45 38.6 +1.2**
baz=215,slow=13,SNR=3.6
ZALV PKiKP PKiKP 03 53 57.6 -2.1
comp=Z,0.6nm,0.3s,baz=214,slow=1.6,SNR=6.2
ZALV P3KP 04 17 01.4
comp=Z,0.1nm,0.3s,baz=242,slow=2.9,SNR=4.0
ZALV Zalesovo Beam 19.96 24 P **P 03 42 01.5 -0.3**
ZALV S **S 03 45 38.6 +1.2**
ZALV PKiKP PKiKP 03 53 57.6 -2.1
ZALV PKKKP 04 17 01.4
ZALV Zalesovo Beam 19.96 24 P **P 03 42 01.5 -0.3**
ZALV S **S 03 45 38.6 +1.2**
ZALV pmax pmax
comp=Z,44nm,0.3s
HYB Hyderabad 20.04 159 *i* P **P 03 42 02.0 -0.9**
comp=Z,2μm,2.0s
HYB *e*sP sP 03 42 48.0 -2.3
HYB *e*S **S 03 45 44.0 +4.5**
IAZR Azarshahr 20.07 281 *e*P **P 03 42 03.3 +0.2**
IGHG Ghaleghazi 20.09 271 *e*P **P 03 42 03.4 0.0**
IDHR Dehrash 20.16 272 *e*P **P 03 42 02.5 -1.6**
NVS Novosibirsk 20.24 21⇑*i*P **P 03 42 04.6 -0.1**
NVS *i* S **S 03 45 41.6 -1.1**
NVS pmax pmax
comp=Z,2μm,1.3s
NVS pmax pmax
comp=N,3μm,1.6s
NVS pmax pmax
comp=E,736nm,1.6s
NVS smax
comp=N,7μm,2.4s
NVS smax
comp=E,3μm,2.4s
CAL Calcutta 20.36 128 *e*PKP **P 03 42 05.7 -0.6**
CAL *e*S **S 03 45 47.5 +1.8**
BWNR Bhubaneshwar 20.59 137 *e*PKP **P 03 42 06.0 -2.7**
UMR Umm Al-Rimmam 20.74 257 *e*P **P 03 42 09.9 -0.4**
UMR AMb AMB 03 42 14.0
comp=Z,5μm,1.0s
SHL Shillong 20.81 115 *ex* **P 03 42 13.0 +2.0**
SHL *e*S **S 03 45 57.0 +2.7**
KBD Kabd 20.92 257 *e*P **P 03 42 11.8 -0.4**
KBD AMb AMB 03 42 15.6
comp=Z,4μm,1.0s
MIB Mutribah 20.93 258 *e*P **P 03 42 12.1 -0.3**
MIB AMb AMB 03 42 16.3
comp=Z,6μm,1.0s
QRN Al-Qurain 20.94 255 *e*P **P 03 42 11.8 -0.6**
QRN AMb AMB 03 42 16.0
comp=Z,5μm,1.0s
GOA Goa 20.98 173⇑*e*PKP **P 03 42 14.2 +1.3**
GOA *e*S **S 03 46 01.0 +3.3**
GNI Garni 20.99 288 P **P 03 42 15.3 +2.4**
comp=Z,2μm,0.9s,baz=84,slow=1.6,SNR=712
GNI Garni 20.99 288 *e*P **P 03 42 15.0 +2.1**
GNI Garni 20.99 288 *e*P **P 03 42 15.0 +2.2**
comp=Z,4μm,1.1s
GNI *e* 03 46 12.7
GNI Garni 20.99 288*ce*P **P 03 42 14.7 +1.8**
GNI pmax pmax
comp=Z,5μm,1.2s
GNI Garni 20.99 288 P **P 03 42 15.2 +2.3**
SNR=682
MTA Mtatsminda 21.05 293 P **P 03 42 13.8 +0.3**
MTA S **S 03 46 00.6 +1.8**
TBLG Delisi 21.10 293 *i* P **P 03 42 14.4 +0.4**
TBLG *e*S **S 03 46 02.7 +3.0**
TBLG Delisi 21.10 293 P **P 03 42 14.4 +0.4**
TBLG S **S 03 46 02.7 +3.0**
RDF Al-Radifah 21.14 256 *e*P **P 03 42 15.0 +0.4**
RDF AMb AMB 03 42 18.4
comp=Z,8μm,1.0s,mb7.0
NAY Al-Naaiem 21.24 257 *e*P **P 03 42 15.0 -0.7**
NAY AMb AMB 03 42 17.4
comp=Z,3μm,1.2s,mb6.5
AGT Agartala 21.39 120 *e*PKP **P 03 42 16.0 -1.3**
AGT *ex* x 03 43 03.0
VJD Vijayawada 21.56 154 *ex* **P 03 42 20.0 +0.9**
GOR Gori 21.59 293 P **P 03 42 19.8 +0.6**
GOR S **S 03 46 12.6 +4.3**
SVE Sverdlovsk 21.60 344*c* *i*P **P 03 42 18.7 -0.4**
SVE *e*S **S 03 46 07.1 -1.0**
SVE pmax pmax
comp=Z,2μm,1.4s,mb6.4
SVE pmax pmax
comp=Z,2μm,10.1s
SVE smax
comp=E,10μm,16.6s
CLDR Caldiran 21.62 285 *e*P **P 03 42 19.9 +0.3**
ARU Arti 21.74 341 *e*P **P 03 42 20.1 -0.5**
comp=E,4μm,1.5s,mb6.6
ARU *e* 03 46 22.9
ARU Arti 21.74 341*d* *i*P **P 03 42 20.1 -0.5**
ARU *e* 03 42 50.1
ARU S **S 03 46 11.5 +1.1**
ARU SS 03 46 50.9
ARU pmax pmax
comp=Z,3μm,1.7s,mb6.5
ARU Arti 21.74 341 P **P 03 42 20.1 -0.5**
comp=Z,8μm,1.3s,mb7.0
DYDN Diyadin 21.79 287 *i* P **P 03 42 23.1 +1.7**
ZEI Tsey 21.84 295 *e*P **P 03 42 21.6 -0.2**
ZEI pmax pmax
comp=Z,972nm,1.0s,mb6.2
HAKT HAKKARI 21.88 281 *i* P **P 03 42 22.6 +0.3**
AKH Akhalkalaki 22.00 292 P **P 03 42 25.1 +1.6**
AKH S **S 03 46 23.7 +8.7**
VANB Van 22.05 284 *e*P **P 03 42 25.2 +1.1**
BHD Baghdad 22.12 270 *i* x **P 03 42 21.3 -3.6**
BHD *i* x x 03 46 15.0
ONI Oni 22.14 295 P **P 03 42 26.3 +1.3**
ONI S **S 03 46 25.1 +7.8**
KARS Kars 22.27 289 *e*P **P 03 42 28.2 +1.9**
GEVA Gevas 22.33 283 *i* P **P 03 42 27.7 +0.8**
AGRB Hanur-Agry 22.33 287 *e*P **P 03 42 29.0 +2.2**
TUTA Tutak 22.47 286 *i* P **P 03 42 30.1 +1.9**
GTA Gaotai 22.82 74 ⇑P **P 03 42 33.0 +1.7**
GTA pP 03 43 02.5
GTA sP sP 03 43 19.5 -0.9
GTA S **S 03 46 30.0 +1.6**
GTA sS sS 03 47 19.8 -1.4
GTA ScS ScS 03 53 24.5 -1.2
GTA pmax pmax
comp=Z,240nm,1.5s,mb5.4
GTA pmax pmax
comp=Z,3μm,4.5s
GTA LR LR
comp=N,2μm,9.3s
GTA LR LR
comp=E,3μm,11.9s
GTA LR LR
comp=Z,2μm,11.2s
KIV Kislovodsk 22.89 298 *e*P **P 03 42 31.8 -0.1**
comp=Z,641nm,0.9s,mb6.0
KIV Kislovodsk 22.89 298*c* *i*P **P 03 42 31.9 0.0**
KIV *e**PP 03 43 00.1
KIV *e**SP sP 03 43 18.8 -2.3
KIV *e*S **S 03 46 31.6 +2.2**
KIV pmax pmax
comp=Z,670nm,4.7s
KIV pmax pmax
comp=Z,612nm,1.0s,mb6.0
KIV MLR MLR
comp=Z,2μm,13.0s
KIV Kislovodsk 22.89 298 P **P 03 42 32.3 +0.3**
SNR=91
KIV Kislovodsk 22.89 298 P **P 03 42 31.4 -0.5**
comp=Z,3μm,1.0s,mb6.7,SNR=92
SIRN S¨–rnak 22.91 281 *i* P **P 03 42 32.8 +0.7**
HOMI Horasan 23.16 288 *i* P **P 03 42 36.5 +2.1**
ARTV Artvin 23.16 291 *i* P **P 03 42 35.0 +0.6**
DAGI Agilar 23.17 291 *i* P **P 03 42 36.2 +1.7**
DDEM Demirkent 23.29 290 *i* P **P 03 42 36.9 +1.3**
DBOC Borcka 23.37 291 *i* P **P 03 42 37.7 +1.4**
BCA Borcka 23.41 291 *e*P **P 03 42 37.8 +1.2**
VRTB Varto-Mus 23.53 286 *e*P **P 03 42 39.8 +2.0**
ERZM Erzurum 23.58 288 *i* P **P 03 42 39.7 +1.5**
EZM Erzurum 23.58 288 *e*P **P 03 42 41.4 +3.2**
SARR Saratov 23.70 317*ce*P **P 03 42 39.1 -0.1**
SARR *i* S **S 03 46 42.1 -0.2**
SARR pmax pmax
comp=Z,743nm,1.1s,mb6.1
BEST Besiri 23.77 283 *i* P **P 03 42 41.5 +1.5**
PZAR Pazar-Rize 23.94 291 *e*P **P 03 42 43.2 +1.7**
RBK Rabkut 24.04 223 P **P 03 42 42.4 -0.2**
SNR=126
BNGB Bing*¶ll 24.15 285 *e*P **P 03 42 45.4 +2.0**
MARD Mardin 24.22 281 *i* P **P 03 42 44.4 +0.3**
BAYT Ayd¨–ntepe-Bay 24.51 289 *e*P **P 03 42 48.4 +1.7**
ABTO Aybut 24.66 224 P **P 03 42 48.3 0.0**
SNR=348
MACK Trabzon 24.79 290 *i* P **P 03 42 51.0 +1.8**
KTUT Trabzon 24.79 290 *e*P **P 03 42 49.8 +0.6**
ERZN Erzincan 24.86 287 *e*P **P 03 42 49.8 0.0**
SOKR Solikamsk 24.96 343*d* *i*P **P 03 42 51.7 +1.2**
SOKR SS 03 48 14.2
SOKR pmax pmax
comp=Z,2μm,1.9s,mb6.2
SOKR MLR MLR
comp=Z,12μm,22.0s
SOC Sochi 24.98 296*c* *i*P **P 03 42 50.7 -0.2**
SOC *e**PP 03 43 21.6
SOC *e* 03 43 33.9
SOC *e* 03 46 22.5
SOC *e*S **S 03 47 04.8 +2.1**
SOC *e**SS sS 03 47 58.1 -2.6
SOC *e* 03 53 27.5
SOC pmax pmax
comp=Z,933nm,0.9s,mb6.3
GUMT Gumushane 25.02 289 *e*P **P 03 42 51.6 +0.3**
PTK Pertek 25.15 285 *e*P **P 03 42 52.3 -0.3**
KELT Kelkit 25.19 288 *i* P **P 03 42 53.9 +1.0**
SVRC Sivrice-ELAZID 25.27 284 *e*P **P 03 42 54.1 +0.5**
ELZG Elazig 25.50 284 *i* P **P 03 42 57.5 +1.8**
VRHR Novokhopersk 25.64 314 *e*P **P 03 42 56.4 -0.3**
VRHR *e**PP pP 03 43 25.8 -3.7
VRHR *e*S **S 03 47 12.7 -0.3**
VRHR pmax pmax
comp=N,230nm,0.9s
VRHR pmax pmax
comp=E,600nm,0.9s
VRHR pmax pmax
comp=Z,620nm,0.9s,mb6.2
VRHR smax
comp=N,730nm,1.2s
VRHR smax
comp=E,390nm,1.2s
VRHR smax
comp=Z,100nm,1.2s
ILIC ilic-Erzincan 25.75 287 *e*P **P 03 42 59.0 +1.0**
KEMA Kemaliye 25.82 286 *i* P **P 03 43 00.6 +2.0**
GRSN GIRESUNGRSN 25.93 290 *i* P **P 03 42 59.6 +0.1**
MALT Malatya 25.96 284 *e*P **P 03 42 58.6 -1.2**
MYA Malataya 25.96 284 *e*P **P 03 43 00.8 +1.0**
SUSE Susehri 26.00 288 *i* P **P 03 43 00.7 +0.5**
MOY Mondy 26.12 45 *e*P **P 03 43 02.4 +1.3**
MOY pmax pmax
comp=Z,175nm,1.8s,mb5.4
LZH Lanzhou 26.35 81 ⇑P **P 03 43 05.3 +1.9**
LZH PcP PcP 03 46 29.0 +4.1
LZH S **S 03 47 28.5 +3.9**
LZH sS sS 03 48 24.0 +1.0
LZH ScP ScP 03 49 50.3 +0.5
LZH ScS ScS 03 53 40.5 +0.3
LZH pmax pmax
comp=Z,220nm,1.4s,mb5.6
LZH pmax pmax
comp=Z,1μm,4.0s
LZH LR LR
comp=N,2μm,10.9s
LZH LR LR
comp=E,2μm,10.4s
LZH LR LR
comp=Z,3μm,12.2s
AKCD Akcadag 26.36 284 *i* P **P 03 43 05.1 +1.7**
DARE Darende-Malaty 26.38 286 *e*P **P 03 43 05.0 +1.4**
RSDY Resadiye-TOKAT 26.66 289 *e*P **P 03 43 07.5 +1.4**
ANN Anapa 26.74 299*c* *i*P **P 03 43 06.3 -0.4**
ANN *i* *PP pP 03 43 38.7 -0.9
ANN *i* 03 43 56.1
ANN *i* 03 46 23.3
ANN *i* S **S 03 47 31.3 +0.8**
ANN pmax pmax
comp=N,247nm,1.0s
ANN pmax pmax
comp=E,217nm,1.0s
ANN pmax pmax
comp=Z,828nm,1.0s,mb6.3
ANN smax
comp=N,434nm,5.7s
ANN smax
comp=E,368nm,5.7s
GZT Gaziantep 26.76 282 *i* P **P 03 43 07.4 +0.4**
SCER sogukcermik 26.84 288 *i* P **P 03 43 09.5 +1.8**
ZAK Zakamensk 26.99 49⇑*i*P **P 03 43 09.9 +1.0**
ZAK *e* pP 03 43 46.2 +4.3
ZAK *e* 03 46 26.0
ZAK pmax pmax
comp=Z,44nm,1.1s,mb5.0
GAZ Gaziantep 27.06 282 *e*P **P 03 43 11.1 +1.4**
ERBA Erbaa 27.08 290 *i* P **P 03 43 10.5 +0.6**
VSR Storozhevoye 27.11 313*c* *i*P **P 03 43 09.5 -0.5**
VSR *e**PP pP 03 43 40.8 -2.2
VSR *e*S **S 03 47 35.1 -1.2**
VSR *e**SS sS 03 48 30.7 -4.1
VSR pmax pmax
comp=N,510nm,1.0s
VSR pmax pmax
comp=E,2μm,1.0s
VSR pmax pmax
comp=Z,1μm,1.0s,mb6.5
VSR smax
comp=N,190nm,0.6s
VSR smax
comp=E,870nm,1.3s
VSR smax
comp=Z,110nm,1.3s
KMRS Kahramanmaras 27.26 283 *e*P **P 03 43 11.0 -0.4**
SARI SarD1z-Kayseri 27.27 285 *e*P **P 03 43 14.6 +3.0**
VOR Voronezh 27.28 314⇑*i*P **P 03 43 11.0 -0.5**
VOR pmax pmax
comp=Z,2μm,1.4s,mb6.6
TOKA Tokat 27.31 289 *i* P **P 03 43 12.9 +1.1**
PINB Pinarbasi 27.50 285 *i* P **P 03 43 15.4 +1.8**
KVT Kavak 27.61 290 *e*P **P 03 43 15.7 +1.2**
TLY Talaya 27.65 46 *e*P **P 03 43 14.8 0.0**
comp=Z,34nm,0.8s,mb5.1
TLY *e*PcP PcP 03 46 26.5 -1.2
TLY *e*ScP ScP 03 49 53.4 -0.1
TLY Talaya 27.65 46*c* *i*P **P 03 43 16.1 +1.4**
TLY *e* pP 03 43 51.2 +3.4
TLY *e*S **S 03 47 48.1 +3.4**
TLY pmax pmax
comp=Z,40nm,1.0s,mb5.1
TLY Talaya 27.65 46 P **P 03 43 16.6 +1.9**
SNR=6.2
TLY Talaya 27.65 46 P **P 03 43 15.3 +0.6**
comp=Z,240nm,1.1s,mb5.8,SNR=5.1
CD2 Chengdu 27.66 92⇑*i*P **P 03 43 17.0 +1.9**
CD2 pP pP 03 43 46.5 -1.6
CD2 sP sP 03 44 03.3 -3.2
CD2 PP PP 03 44 10.3 -10
CD2 PcP PcP 03 46 31.3 +3.1
CD2 S **S 03 47 46.5 +1.2**
CD2 sS sS 03 48 38.5 -5.3
CD2 SS SS 03 49 17.5 -31
CD2 ScS ScS 03 53 48.0 +1.9
CD2 pmax pmax
comp=Z,240nm,1.3s,mb5.8
CD2 pmax pmax
comp=Z,810nm,4.8s
CD2 LR LR
comp=N,2μm,10.7s
CD2 LR LR
comp=E,2μm,12.0s
CD2 LR LR
comp=Z,2μm,10.7s
ANDN Andirin 27.68 283 *i* P pP 03 43 41.7 -6.6
HAVZ Havza 27.86 291 *i* P **P 03 43 17.6 +0.9**
BNN Bunyan 27.91 286 *e*P **P 03 43 17.7 +0.4**
KOZT Kozan 28.11 283 *e*P **P 03 43 21.1 +2.2**
YAYL Yayladag 28.13 280 *i* P **P 03 43 19.7 +0.5**
DIKM Dikmen 28.19 292 *e*P **P 03 43 18.1 -1.6**
IRK Irkutsk 28.21 45 *e*P **P 03 43 17.9 -1.8**
IRK *e* pP 03 43 54.5 +1.6
IRK pmax pmax
comp=Z,129nm,1.7s,mb5.4
CEYT Ceyhan 28.24 282 *e*P **P 03 43 21.8 +1.6**
TRD Trivandrum 28.29 168⇓*ex* x 03 43 35.7
TRD *ex* x 03 48 01.7
SONM Songino Array 28.33 55 P **P 03 43 22.3 +1.5**
comp=Z,41nm,0.9s,mb5.2,baz=262,slow=6.8,SNR=154
SONM PcP PcP 03 46 28.0 -1.5
comp=Z,32nm,0.9s,baz=243,slow=1.6,SNR=4.7
SONM ScP ScP 03 49 54.0 -1.6

comp=Z,12nm,1.1s,baz=255,slow=4.5,SNR=4.7
SONM P3KPbc 04 15 37.4
comp=Z,5.9nm,0.9s,baz=94,slow=3.0,SNR=24
SONM Songino Array 28.33 55 P P 03 43 22.3 +1.5
SONM PcP PcP 03 46 28.0 -1.5
SONM ScP ScP 03 49 54.0 -1.6
SONM *e* 04 15 37.4
SONM Songino Array 28.33 55 P P 03 43 22.3 +1.5
SONM 03 46 28.0
SONM pmax pmax
comp=Z,41nm,0.9s
ASF Jabal al Asfar 28.47 272 P P 03 43 23.5 +1.2
comp=Z,28nm,1.1s,mb4.9,baz=303,slow=3.9,SNR=45
ASF Jabal al Asfar 28.47 272 P P 03 43 23.5 +1.2
ASF Jabal al Asfar 28.47 272 P P 03 43 23.5 +1.2
ASF pmax pmax
comp=Z,28nm,1.1s
HWQ Hawqa 28.65 276 *e*P **P 03 43 24.7 +0.9**
AVNT Avonos 28.69 286 *i* P **P 03 43 24.9 +0.7**
CORM Corum 28.73 289 *e*P **P 03 43 24.8 +0.3**
ULN Ulaanbaatar 28.77 55 *e*P **P 03 43 25.7 +1.0**
comp=Z,234nm,1.8s,mb5.6
ULN Ulaanbaatar 28.77 55 *e*P **P 03 43 25.7 +1.0**
ULN pmax pmax
comp=Z,234nm,1.8s,mb5.6
ULN Ulaanbaatar 28.77 55 P P 03 43 25.7 +1.0
comp=Z,1μcomp=Z,41nm,1.6s,mb4.9
ULN Ulaanbaatar 28.77 55 P P 03 43 26.1 +1.4
SNR=22
GULE Gulek 28.96 283 *i* P **P 03 43 28.2 +1.7**
CDAG Cicekdag 28.98 288 *i* P **P 03 43 26.3 -0.3**
BHL Bhannes 28.98 276 *e*P **P 03 43 27.7 +0.9**
SIM Simferopol' 29.10 299 *i* P **P 03 43 27.5 -0.2**
SIM *e**PP pP 03 44 01.0 +0.1
SIM *e*S **S 03 48 08.3 +0.6**
SIM pmax pmax
comp=Z,390nm,1.1s,mb6.0
MERS Mersin 29.23 282 *e*P **P 03 43 27.9 -1.0**
KMI Kunming 29.31 104 P P 03 43 31.0 +1.3
KMI pP pP 03 44 04.8 +1.8
KMI sP sP 03 44 23.0 +1.8
KMI PcP PcP 03 46 32.3 -0.1
KMI S **S 03 48 14.0 +2.7**
KMI sS sS 03 49 13.8 +3.9
KMI ScP ScP 03 49 58.5 -0.6
KMI pmax pmax
comp=Z,56nm,1.4s,mb5.1
KMI pmax pmax
comp=Z,930nm,4.6s
KMI LR LR
comp=N,860nm,21.2s
KMI LR LR
comp=E,640nm,18.5s
KMI LR LR
comp=Z,1μm,17.5s
MUKL Al Mukalla 29.42 228 *e*P **P 03 43 31.3 +0.5**
MMAI Mount Meron Ar 29.43 274 P P 03 43 31.9 +1.2
comp=Z,38nm,0.9s,mb5.1,baz=62,slow=8.8,SNR=31
MMAI PcP PcP 03 46 32.5 0.0
comp=Z,79nm,1.0s,baz=328,slow=7.8,SNR=5.1
MMAI ScP ScP 03 49 59.0 -0.4
comp=Z,15nm,1.0s,baz=54,slow=4.2,SNR=4.6
MMAI Mount Meron Ar 29.43 274 P P 03 43 31.9 +1.2
MMAI PcP PcP 03 46 32.5 0.0
MMAI ScP ScP 03 49 59.0 -0.4
CANT Cankiri 29.47 290 *e*P **P 03 43 31.5 +0.5**
KAMT Kaman 29.51 287 *e*P **P 03 43 31.1 -0.2**
BR131 Keskin Array S 29.53 288 *e*P **P 03 43 32.0 +0.5**
comp=Z,74nm,0.7s,mb5.5
BRTR Keskin Array B 29.53 288 P P 03 43 32.3 +0.8
comp=Z,78nm,0.7s,mb5.5,baz=99,slow=7.9,SNR=258
BRTR pP pP 03 44 04.8 0.0
comp=Z,33nm,0.7s,baz=109,slow=8.6,SNR=2.4
BRTR PcP PcP 03 46 32.4 -0.3
comp=Z,45nm,1.0s,baz=98,slow=4.6,SNR=3.8
BRTR ScP ScP 03 49 57.1 -2.5
comp=Z,7.4nm,1.0s,baz=147,slow=7.1,SNR=4.1
BRTR P3KPbc 04 15 34.5
comp=Z,2.6nm,1.0s,baz=225,slow=1.8,SNR=8.9
BRTR Keskin Array B 29.53 288 P P 03 43 32.3 +0.8
BRTR pP pP 03 44 04.8 0.0
BRTR PcP PcP 03 46 32.4 -0.3
BRTR ScP ScP 03 49 57.1 -2.5
BRTR *e* 04 15 34.5
BRTR Keskin Array B 29.53 288 P P 03 43 32.3 +0.7
BRTR *PP pP 03 44 04.9 +0.1
BRTR 03 46 32.4
BRTR 03 49 57.1
BRTR pmax pmax
comp=Z,79nm,0.7s
HMDM Hanimaadhoo 29.56 176 P P 03 43 35.2 +3.2
comp=Z,5μmcomp=Z,354nm,1.5s,mb5.9
BALT Daday 29.59 292 *i* P **P 03 43 31.4 -0.7**
ELDT Eldivan 29.62 289 *i* P **P 03 43 33.4 +1.0**
MOS Moscow 29.77 321 *e*P **P 03 43 31.1 -2.4**
MOS *e**PP pP 03 44 06.0 -0.8
MOS *e*S **S 03 48 17.4 -0.5**
MOS *i* *SS sS 03 49 15.5 -1.1
MOS *i* SS SS 03 50 11.9 -19
MOS pmax pmax
comp=Z,1μm,1.6s,mb6.3
MOS pmax pmax
comp=Z,763nm,1.3s,mb6.3
MOS pmax pmax
comp=E,384nm,1.2s
BBAL Bala 29.95 288 *i* P **P 03 43 35.6 +0.3**
AFSR Af´ar-Bala (A 30.00 287 *e*P **P 03 43 34.3 -1.4**
OBN Obninsk 30.05 319 *e*P **P 03 43 36.1 +0.2**
comp=E,961nm,1.1s,mb6.4
OBN Obninsk 30.05 319⇑*e*P **P 03 43 36.0 +0.1**
OBN *e**PP pP 03 44 08.9 -0.3
OBN *e**SP sP 03 44 25.6 -2.0
OBN *e* 03 44 38.9
OBN *e* 03 46 34.1
OBN *e*S **S 03 48 22.1 -0.2**
OBN pmax pmax
comp=Z,1μm,1.1s,mb6.5
OBN MLR MLR
comp=Z,3μm,18.0s
OBN Obninsk 30.05 319 P P 03 43 36.7 +0.8
comp=Z,4μm,1.1s,mb7.1,SNR=70
CHG Chiang Mai 30.11 118 ⇑P **P 03 43 36.9 0.0**
comp=Z,116nm,1.1s,mb5.5
CHTO Chiang Mai 30.11 118 *e*P **P 03 43 37.4 +0.5**
comp=Z,125nm,1.1s,mb5.5
CHTO *e*PcP PcP 03 46 35.2 +0.7
CHTO Chiang Mai 30.11 118 *e*P **P 03 43 37.4 +0.5**
CHTO *e* 03 46 35.2
CHTO pmax pmax
comp=Z,125nm,1.1s,mb5.6
CHTO Chiang Mai 30.11 118 P P 03 43 37.7 +0.8
comp=Z,2μcomp=Z,142nm,1.3s,mb5.5
CHTO Chiang Mai 30.11 118 P P 03 43 38.0 +1.1
SNR=59
SAFT Safranbolu 30.13 291 *e*P **P 03 43 37.8 +1.0**
LOD Lodumlu 30.18 288 *e*P **P 03 43 37.3 0.0**
LFK Lefkose 30.34 279 *e*P **P 03 43 38.2 -0.6**
CM31 Chiang Mai Arr 30.35 119 *e*P **P 03 43 41.0 +2.0**
comp=Z,314nm,1.1s,mb6.0
CM31 *e*PcP PcP 03 46 35.8 +0.6
CMAR Chiang Mai Arr 30.35 119 P P 03 43 40.2 +1.3
comp=Z,152nm,1.0s,mb5.7,baz=298,slow=7.5,SNR=306
CMAR pP pP 03 44 13.6 +1.3
comp=Z,45nm,1.0s,baz=311,slow=8.2,SNR=2.8
CMAR PcP PcP 03 46 35.5 +0.4
comp=Z,69nm,1.0s,baz=293,slow=4.2,SNR=11
CMAR PKiKP PKiKP 03 54 05.5 -0.9
comp=Z,0.6nm,0.3s,baz=284,slow=1.7,SNR=4.2
CMAR P3KPbc 04 15 30.4
comp=Z,2.1nm,0.9s,baz=151,slow=3.2,SNR=11
CMAR Chiang Mai Arr 30.35 119 P P 03 43 40.2 +1.3
CMAR pP pP 03 44 13.6 +1.3
CMAR PcP PcP 03 46 35.5 +0.4
CMAR PKiKP PKiKP 03 54 05.5 -0.9
CMAR *e* 04 15 30.4
CMAR Chiang Mai Arr 30.35 119 P P 03 43 40.3 +1.3
CMAR *PP pP 03 44 13.6 +1.3
CMAR 03 46 35.5
CMAR pmax pmax
comp=Z,152nm,1.0s
ERMK Ermenek 30.55 282 *i* P **P 03 43 39.9 -0.6**
CSS Prodhromos 30.58 279 P P 03 43 44.3 +3.5
BTO Baotou 30.58 70 *e*P **P 03 43 42.0 +1.2**
MAMC Mammari 30.62 279 P P 03 43 44.5 +3.3

LADK Ladik-KONYA 30.71 285 *e*P **P 03 43 41.8 -0.1**
KONT Konya--Tatoy 30.75 285 *e*P **P 03 43 43.1 +0.8**
HDMB Hadim 30.82 283 *e*P **P 03 43 43.2 +0.2**
KDHN Kadinhani 30.85 286 *i* P **P 03 43 43.3 +0.1**
XAN Xi'an 30.87 83 P P 03 43 44.3 +0.9
XAN pP pP 03 44 17.3 +0.5
XAN sP sP 03 44 35.0 0.0
XAN S **S 03 48 35.8 +0.2**
XAN sS sS 03 49 32.5 -1.8
XAN SS SS 03 50 34.8 -19
XAN pmax pmax
comp=Z,35nm,1.2s,mb5.0
XAN pmax pmax
comp=Z,160nm,6.3s
XAN LR LR
comp=N,840nm,10.7s
XAN LR LR
comp=E,270nm,9.0s
XAN LR LR
comp=Z,440nm,11.2s
LEF Lefka 30.89 279 *e*P **P 03 43 42.8 -0.8**
KIZT Kizilcal 30.98 287 *e*P **P 03 43 44.8 +0.4**
SZAC Souni-Zanaja 30.98 278 P P 03 43 45.1 +0.7
GAZI Gazipasa 31.10 281 *i* P **P 03 43 50.9 +5.5**
ALFC Alevga 31.11 279 P P 03 43 45.4 -0.2
comp=Z,2.2nm,0.8s
SVRH Sivrihisar-ESK 31.18 288 *e*P **P 03 43 46.8 +0.6**
BDT Bhumibol Dam 31.21 120 ⇓P **P 03 43 48.0 +1.5**
comp=Z,218nm,1.0s,mb5.8
MDUB Mudurnu 31.32 290 *e*P **P 03 43 47.4 +0.1**
PPCY Paphos 31.38 279 P P 03 43 45.7 -2.2
HENT Hendek 31.51 290 *i* P **P 03 43 48.9 -0.1**
KLMR Klimovskoe 31.59 331*c i*P **P 03 43 49.2 -0.2**
KLMR *e**PP pP 03 44 20.0 -2.8
KLMR *e**SP sP 03 44 40.0 -1.1
KLMR S **S 03 48 46.1 -0.1**
KLMR pmax pmax
comp=Z,513nm,1.2s,mb6.1
KLMR pmax pmax
comp=Z,200nm,5.5s
ESKT Eskisehir 31.69 288 *e*P **P 03 43 49.8 -0.7**
ESKT Eskisehir 31.69 288 *i* P **P 03 43 49.4 -1.2**
BOLV Bolvadin 31.73 286 *i* P **P 03 43 51.3 +0.4**
HHC Hu-ho-hao-te 31.73 69 *e*P **P 03 43 52.0 +1.1**
HHC pP pP 03 44 22.0 -2.3
HHC sP sP 03 44 38.5 -4.0
HHC PP PP 03 45 02.0 -3.6
HHC S **S 03 48 49.3 +0.5**
HHC sS sS 03 49 43.8 -3.8
HHC SS SS 03 50 51.8 -20
HHC pmax pmax
comp=Z,63nm,1.3s,mb5.2
HHC pmax pmax
comp=Z,760nm,4.5s
HHC LR LR
comp=N,1μm,10.1s
HHC LR LR
comp=E,1μm,10.3s
HHC LR LR
comp=Z,2μm,12.0s
GYA Guiyang 31.78 98⇑*i*P **P 03 43 52.8 +1.3**
GYA pP pP 03 44 23.0 -1.9
GYA sP sP 03 44 39.5 -3.6
GYA PP PP 03 45 03.0 -3.4
GYA PcP PcP 03 46 41.8 +2.9
GYA S **S 03 48 51.5 +1.6**
GYA sS sS 03 49 43.3 -5.5
GYA ScP ScP 03 50 04.5 -2.8
GYA PcS PcS 03 50 22.5 -1.3
GYA ScS ScS 03 54 02.0 -4.0
GYA pmax pmax
comp=Z,90nm,1.1s,mb5.4
GYA pmax pmax
comp=Z,580nm,5.5s
GULT Gulveren 31.84 290 *e*P **P 03 43 52.9 +1.0**
RADA Ahram - Rada'a 32.06 234 *e*P **P 03 43 52.6 -1.5**
ISP Isparta 32.20 285 *e*P **P 03 43 54.6 -0.4**
ISP Isparta 32.20 285 *e*P **P 03 43 55.2 +0.1**
comp=Z,94nm,1.3s,mb5.4
ISP *e*PcP PcP 03 46 37.4 -2.4
ISP Isparta 32.20 285 *e*P **P 03 43 55.2 +0.1**
ISP *e* 03 46 37.4
ISP pmax pmax
comp=Z,94nm,1.3s,mb5.4
BCK Bucak 32.22 284 *e*P **P 03 43 52.7 -2.5**
ANTB Antalya 32.27 283 *e*P **P 03 43 55.1 -0.6**
ADVT Abdulvahap 32.43 290 *e*P **P 03 43 55.8 -1.2**
ENH Enshi 32.50 90 *e*P **P 03 43 59.2 +1.4**
comp=Z,332nm,1.3s,mb5.9
ENH *e*ScP ScP 03 50 08.7 -0.9
TIY Taiyuan 32.83 75 *e*P **P 03 44 02.0 +1.5**
TIY pP pP 03 44 35.8 +1.7
TIY sP sP 03 44 54.0 +1.7
TIY S **S 03 49 07.0 +1.0**
TIY sS sS 03 50 01.3 -3.7
TIY pmax pmax
comp=Z,790nm,3.5s
TIY LR LR
comp=N,1μm,6.8s
TIY LR LR
comp=E,1μm,8.2s
TIY LR LR
comp=E,1μm,8.2s
GEMT Gemlik 32.85 290 *e*P **P 03 44 02.0 +1.3**
TLCR 32.86 299 ⇓P **P 03 44 01.0 +0.3**
TLCR 32.86 299 ⇓*i*P **P 03 44 01.0 +0.3**
ISK Istanbul-Kandi 32.88 291 *e*P **P 03 43 55.5 -5.4**
ELL Elmali 32.89 283 *e*P **P 03 44 01.7 +0.6**
KHAL Karahalli 32.91 286 *i* P **P 03 44 01.4 +0.1**
KIS Kishinev 32.92 302 *e*P **P 03 44 00.0 -1.2**
comp=E,2μm,1.1s,mb6.9
KIS *i* pP pP 03 44 34.0 -0.7
KIS Kishinev 32.92 302 *e*PP PP 03 45 02.0 -17
KIS Kishinev 32.92 302 *e*PPP 03 45 16.0
KIS *i* S **S 03 49 08.0 +0.9**
comp=E,3μm,10.0s
KIS *i* sS sS 03 50 08.0 +1.9
KIS *i* SS SS 03 50 32.0 -64
KIS *i* SSS 03 50 54.0
KIS *i* ScS ScS 03 54 12.0 +0.9
KIS LRM 04 00 54.0
comp=E,1μm,18.0s
KIS Kishinev 32.92 302 *e*P **P 03 44 00.0 -1.2**
KIS *i* *PP pP 03 44 34.0 -0.7
KIS *e*PPP 03 45 16.0
KIS *i* S **S 03 49 08.0 +0.9**
KIS *i* *SS sS 03 50 08.0 +1.9
KIS *i* 03 54 12.0
KIS pmax pmax
comp=Z,3μm,1.1s,mb6.9
KIS smax
comp=N,3μm,10.0s
KIS smax
comp=E,2μm,10.0s
KIS MLR MLR
comp=Z,1μm,18.0s
KIS Kishinev 32.92 302⇑*i*P **P 03 44 01.0 -0.2**
ULDT Uludag 32.92 289 *i* P **P 03 44 00.5 -0.8**
MANR Mangalia 33.04 296 ⇓*i*P **P 03 44 03.7 +1.4**
AKASG Malin Array Be 33.06 309 P **P 03 44 02.3 0.0**
comp=Z,838nm,0.8s,mb6.5,baz=79,slow=7.4,SNR=1475
AKASG pP pP 03 44 35.5 -0.4
comp=Z,227nm,0.7s,baz=81,slow=7.7,SNR=6.7
AKASG ScP ScP 03 50 08.6 -2.6
comp=Z,19nm,0.9s,baz=97,slow=2.2,SNR=4.6
AKASG LR LR 04 00 47.0
comp=Z,2μm,18.1s,baz=90,slow=42
AKASG Malin Array Be 33.06 309 P P 03 44 02.3 0.0
AKASG pP pP 03 44 35.5 -0.4
AKASG ScP ScP 03 50 08.6 -2.6
AKASG Malin Array Be 33.06 309 P P 03 44 02.3 0.0
AKASG *PP pP 03 44 35.5 -0.4
AKASG pmax pmax
comp=Z,838nm,0.8s
AKASG MLR MLR
comp=Z,2μm,18.1s
AKBB Malin Array Si 33.06 309 *e*P **P 03 44 01.9 -0.4**
AKBB *e* pP 03 44 36.0 +0.2
AKBB Malin Array Si 33.06 309 *e*P **P 03 44 01.9 -0.4**
AKBB *e* pP 03 44 36.1 +0.2
KIEV Kiev 33.07 309 *e*P **P 03 44 01.7 -0.7**
comp=Z,757nm,0.8s,mb6.5
KIEV Kiev 33.07 309 *e*P **P 03 44 01.7 -0.7**

KIEV pmax pmax
comp=Z,757nm,0.8s,mb6.5
NST Nakhon Sawan 33.07 121 P **P 03 44 04.4 +1.6**
comp=Z,361nm,1.2s,mb6.0
BGKT Bogazkoy 33.08 291 *e*P **P 03 43 59.0 -3.6**
GLHS Gihisar (BURDU 33.13 284 *e*P **P 03 44 02.2 -0.9**
TIRR Tirgusor 33.15 297 *e*P **P 03 44 03.3 0.0**
comp=Z,203nm,1.3s,mb5.7
TIRR Tirgusor 33.15 297 ⇓P **P 03 44 04.2 +1.0**
TIRR Tirgusor 33.15 297 ⇓*i*P **P 03 44 04.2 +1.0**
AKAS Kas 33.24 282 *i* P **P 03 44 00.8 -3.3**
LEOM Leova 33.29 301 P P 03 44 05.0 +0.6
LEOM Leova 33.29 301 ⇓*i*P **P 03 44 04.6 +0.2**
PSN Preselentsi 33.34 296 P P 03 44 05.2 +0.3
CFR Carcaliu 33.34 299 P P 03 44 05.6 +0.7
CFR Carcaliu 33.34 299 ⇓*i*P **P 03 44 05.4 +0.5**
DENT Denizli 33.38 285 *e*P **P 03 44 05.5 +0.2**
DEMI Demirci 33.40 288 *i* P **P 03 44 05.5 0.0**
SLVT Silivri 33.50 292 *e*P **P 03 44 07.1 +0.9**
DURS Dursunbey 33.50 289 *i* P **P 03 44 06.4 +0.1**
KULA Kula-Manisa 33.53 287 *e*P **P 03 44 04.3 -2.3**
CIT Chita 33.66 49 *e*P **P 03 44 07.9 +0.4**
CIT *e* pP 03 44 43.7 +2.6
CIT *e* 03 45 28.1
CIT *e* 03 46 44.1
CIT pmax pmax
comp=Z,338nm,1.3s,mb5.9
IAS Iasi 33.79 302 P P 03 44 08.7 0.0
IAS Iasi 33.79 302 ⇓*i*P **P 03 44 07.9 -0.8**
AMRR Amara 33.92 298⇑P **P 03 44 11.4 +1.5**
AMRR Amara 33.92 298⇑*i*P **P 03 44 11.4 +1.5**
PRD Provadia 33.94 295 P P 03 44 10.3 +0.3
PETR 33.98 300⇑*i*P **P 03 44 12.3 +1.9**
GONE Gonen-Balikesi 34.04 290 *e*P **P 03 44 11.4 +0.4**
YER Yerkesik 34.08 284 *e*P **P 03 44 05.0 -6.4**
PGOR Pogoanele 34.16 298⇑*i*P **P 03 44 13.9 +1.9**
VRI Vrincioaia 34.33 300⇑P **P 03 44 14.7 +1.3**
VRI Vrincioaia 34.33 300⇑*i*P **P 03 44 14.7 +1.3**
PLOR Plostina 34.39 300⇑P **P 03 44 15.4 +1.5**
PLOR Plostina 34.39 300⇑*i*P **P 03 44 15.4 +1.5**
TESR 34.39 301⇑*i*P **P 03 44 14.5 +0.6**
ARG Arkhangelos 34.41 283 P P 03 44 13.5 -0.7
ARG Arkhangelos 34.41 283 P P 03 44 13.5 -0.7
ARG Arkhangelos 34.41 283 P P 03 44 13.5 -0.7
ARG Arkhangelos 34.41 283 P P 03 44 13.5 -0.7
ISR Istrita 34.47 299⇑P **P 03 44 16.3 +1.7**
ISR Istrita 34.47 299⇑*i*P **P 03 44 16.3 +1.7**
EDRB Edirne 34.53 293 *e*P **P 03 44 14.6 -0.6**
JMB Yambol 34.59 294 P P 03 44 16.8 +1.1
JMB Yambol 34.59 294 P P 03 44 16.8 +1.1
JMB Yambol 34.59 294 P P 03 44 16.8 +1.1
JMB Yambol 34.59 294 P P 03 44 16.8 +1.1
JMB Yambol 34.59 294 P P 03 44 17.0 +1.3
MICGM Minsk 34.62 315⇑*i*P **P 03 44 15.0 -0.7**
MNK Minsk 34.64 315*c i*P **P 03 44 15.0 -0.9**
MNK *e**PP pP 03 44 44.0 -5.7
MNK *e* 03 45 06.0
MNK *e*PPP 03 45 36.0
MNK *e* 03 46 42.0
MNK *e*S **S 03 49 32.0 -1.5**
MNK S **S 03 49 33.0 -0.5**
MNK S **S 03 49 34.0 +0.5**
MNK *e* 03 54 20.0
MNK pmax pmax
comp=Z,3μm,1.0s,mb6.9
MNK pmax pmax
comp=N,490nm,1.2s
MNK pmax pmax
comp=E,2μm,1.2s
MNK pmax pmax
comp=Z,7μm,4.0s
SULR 34.69 298⇑*i*P **P 03 44 16.4 -0.1**
SECR 34.81 299 ⇓*i*P **P 03 44 19.1 +1.6**
ERIK Erikli-Kesan 34.84 291 *e*P **P 03 44 17.0 -0.8**
BUC1 Bucharest 34.87 297 P P 03 44 19.8 +1.8
MLR Muntele Rosu 34.89 299⇑P **P 03 44 19.7 +1.5**
MLR Muntele Rosu 34.89 299⇑*i*P **P 03 44 19.7 +1.5**
GELI Tayfur-Gelibol 34.91 290 *e*P **P 03 44 19.3 +0.8**
CIOR Ciorogarla 34.97 298⇑*i*P **P 03 44 20.7 +1.8**
NNT Nongplab 35.00 125 P P 03 44 21.5 +2.0
SZH Strazhica 35.00 295 P P 03 44 19.4 +0.2
PUL Pulkovo 35.03 325*ce*P **P 03 44 19.6 +0.4**
PUL pmax pmax
comp=Z,761nm,2.0s,mb6.0
SMG Samos 35.09 286 *e*P **P 03 44 18.9 -1.1**
EZN Ezine 35.11 289 *e*P **P 03 44 11.4 -6.8**
ALN Alexandroupoli 35.16 291 P P 03 44 20.8 +0.2
ALN Alexandroupoli 35.16 291 P P 03 44 20.8 +0.2
ALN Alexandroupoli 35.16 291 P P 03 44 20.8 +0.2
ALN Alexandroupoli 35.16 291 P P 03 44 20.8 +0.2
PRK Paraskevi 35.24 288 *e*P **P 03 44 18.8 -2.5**
PRK Paraskevi 35.24 288 P P 03 44 22.5 +1.2
PRK Paraskevi 35.24 288 P P 03 44 22.5 +1.2
PRK Paraskevi 35.24 288 P P 03 44 22.5 +1.2
PRK Paraskevi 35.24 288 P P 03 44 22.5 +1.2
BJT Baijiatuau 35.32 70 *e*P **P 03 44 23.6 +1.6**
comp=Z,24nm,0.6s,mb5.0
BJT *e*PcP PcP 03 46 48.7 0.0
BJT Baijiatuau 35.32 70 *e*P **P 03 44 23.6 +1.7**
BJT *e* 03 46 48.7
BJT pmax pmax
comp=Z,24nm,0.6s
BJI Beijing 35.32 70 P P 03 44 23.0 +1.1
BJI pP pP 03 44 55.0 -0.8
BJI PcP PcP 03 46 48.8 +0.1
BJI S **S 03 49 47.8 +3.6**
BJI ScP ScP 03 50 18.5 -1.0
BJI sS sS 03 50 37.0 -6.6
BJI ScS ScS 03 54 22.5 -1.6
BJI pmax pmax
comp=Z,48nm,1.6s,mb4.9
BJI pmax pmax
comp=Z,480nm,5.8s
NACGM Naroch 35.33 316 *e*P **P 03 44 19.0 -2.8**
KARP Karpathos 35.33 282 P P 03 44 21.9 -0.2
KARP Karpathos 35.33 282 P P 03 44 21.9 -0.2
KARP Karpathos 35.33 282 P P 03 44 21.9 -0.2
BOD Bodaibo 35.37 39 *e*P **P 03 44 21.9 -0.3**
BOD *e* pP 03 44 57.4 +1.4
BOD pmax pmax
comp=Z,107nm,1.1s,mb5.4
BURAR Bucovina Array 35.39 303 P P 03 44 23.5 +1.0
BURAR Bucovina Array 35.39 303⇑*i*P **P 03 44 23.0 +0.5**
BUR08 Bucovina Ar. S 35.41 303 *e*P **P 03 44 23.1 +0.5**
DIM Dimitrovgrad 35.41 293 *e*P **P 03 44 22.6 -0.1**
PVL Pavlikeni 35.44 295 P P 03 44 24.0 +1.0
RDO Rodhopi 35.51 292 P P 03 44 23.5 -0.1
RDO Rodhopi 35.51 292 P P 03 44 23.5 -0.1
RDO Rodhopi 35.51 292 P P 03 44 23.5 -0.1
KDZ Kurdzhali 35.54 293 P P 03 44 24.0 +0.2
HUMR Humele 35.61 298⇑*i*P **P 03 44 25.1 +0.8**
IIGN Ignalina 35.74 316 *e*P **P 03 44 25.9 +0.6**
IIGN AMB AMB 03 44 28.0
comp=Z,582nm,1.0s,mb6.2
IZAR Zarasai 35.82 317 *e*P **P 03 44 26.6 +0.6**
IZAR AMB AMB 03 44 28.6
comp=Z,514nm,1.0s,mb6.1
ISAL Salakas 35.85 317 *e*P **P 03 44 26.8 +0.6**
ISAL AMB AMB 03 44 28.9
comp=Z,394nm,1.1s,mb6.0
MDB Medias 35.97 300⇑P **P 03 44 28.8 +1.4**
MDB Medias 35.97 300⇑*i*P **P 03 44 28.8 +1.4**
JOF Joensuu 35.98 330 *e*P **P 03 44 27.5 +0.2**
JOF Joensuu 35.98 330 *e*p **P 03 44 27.5 +0.2**
PLD Plovdiv 36.02 294 P P 03 44 27.7 -0.1
PLD Plovdiv 36.02 294 P P 03 44 27.7 -0.1
PLD Plovdiv 36.02 294 P P 03 44 27.7 -0.1
PLD Plovdiv 36.02 294 P P 03 44 27.7 -0.1
PLD Plovdiv 36.02 294 P P 03 44 27.5 -0.3
RZN Rozhen 36.05 293 P P 03 44 28.5 +0.3
APE Apeiranthos 36.25 285 ⇓P **P 03 44 30.1 +0.2**
APE Apeiranthos 36.25 285 ⇓*i*P **P 03 44 30.0 +0.1**
LVV L´vov 36.27 307 ⇓*i*P **P 03 44 30.3 +0.4**
LVV *e**PP pP 03 45 04.3 +0.4
LVV *e* 03 45 54.5
LVV *e* 03 46 45.7
LVV *e*S **S 03 49 55.5 -3.0**
LVV *e* 03 52 38.5
LVV pmax pmax
comp=Z,3μm,1.3s,mb6.8
VSU Vasula 36.30 322*c i*P **P 03 44 29.8 -0.2**

VSU pmax pmax
comp=Z,927nm,1.2s,mb6.3
KAVA Kavala 36.30 292 P **P 03 44 30.2 -0.1**
KAVA Kavala 36.30 292 P **P 03 44 30.2 -0.1**
KAVA Kavala 36.30 292 P **P 03 44 30.2 -0.1**
WHN Wuhan 36.33 86 ⇑P **P 03 44 32.3 +1.7**
WHN pP pP 03 45 07.0 +2.4
WHN sP sP 03 45 25.5 +2.8
WHN PcP PcP 03 46 50.5 -1.4
WHN S **S 03 50 01.8 +2.0**
WHN pmax pmax
comp=Z,450nm,1.1s,mb6.0
WHN pmax pmax
comp=Z,2μm,7.3s
WHN LR LR
comp=N,2μm,4.5s
WHN LR LR
comp=E,770nm,9.8s
WHN LR LR
comp=Z,2μm,13.7s
PGB Panagyurishte 36.36 294 P **P 03 44 31.0 +0.2**
LOT Lotru 36.42 299⇑*iP* **P 03 44 31.7 +0.5**
CRAR CRAIOVA 36.46 297 P **P 03 44 32.7 +1.1**
NPS Neapolis 36.63 282 P **P 03 44 32.3 -0.8**
NPS Neapolis 36.63 282 P **P 03 44 32.3 -0.8**
NPS Neapolis 36.63 282 P **P 03 44 32.3 -0.8**
NPS Neapolis 36.63 282 P **P 03 44 32.3 -0.8**
NVR Nevrokopi 36.74 292 P **P 03 44 33.9 -0.1**
NVR Nevrokopi 36.74 292 P **P 03 44 33.9 -0.1**
NVR Nevrokopi 36.74 292 P **P 03 44 33.9 -0.1**
OUR Ouranopolis 36.80 291 P **P 03 44 34.2 -0.3**
OUR Ouranopolis 36.80 291 P **P 03 44 34.2 -0.3**
OUR Ouranopolis 36.80 291 P **P 03 44 34.2 -0.3**
OUR Ouranopolis 36.80 291 P **P 03 44 34.2 -0.3**
MMB Musomiste 36.80 293 P **P 03 44 34.2 -0.3**
TIA Tai'an 36.82 76 ⇑P **P 03 44 35.5 +0.7**
TIA pP pP 03 45 09.8 +1.0
TIA sP sP 03 45 30.0 +3.1
TIA S **S 03 50 11.0 +3.8**
TIA pmax pmax
comp=Z,130nm,1.1s,mb5.5
TIA pmax pmax
comp=Z,910nm,5.4s
TIA LR LR
comp=N,1μm,12.8s
TIA LR LR
comp=E,1μm,12.8s
TIA LR LR
comp=Z,1μm,11.8s
SRS Serrai 36.97 292 P **P 03 44 35.8 -0.2**
SRS Serrai 36.97 292 P **P 03 44 35.8 -0.2**
SRS Serrai 36.97 292 P **P 03 44 35.8 -0.2**
SRS Serrai 36.97 292 P **P 03 44 35.8 -0.2**
DEV Deva 37.00 300 ⇑P **P 03 44 37.4 +1.2**
DEV Deva 37.00 300⇑*iP* **P 03 44 37.4 +1.2**
VTS Vitosha 37.06 295 P **P 03 44 36.9 +0.2**
VTS Vitosha 37.06 295 P **P 03 44 36.9 +0.2**
VTS Vitosha 37.06 295 P **P 03 44 36.9 +0.2**
VTS Vitosha 37.06 295 ⇑P **P 03 44 37.2 +0.5**
VTS Vitosha 37.06 295 *eP* **P 03 44 36.0 -0.7**
VTS Vitosha 37.06 295⇑*iP* **P 03 44 37.2 +0.5**
PAIG Paliouri 37.10 290 P **P 03 44 37.2 +0.2**
PAIG Paliouri 37.10 290 P **P 03 44 37.2 +0.2**
PAIG Paliouri 37.10 290 P **P 03 44 37.2 +0.2**
PAIG Paliouri 37.10 290 P **P 03 44 37.2 +0.2**
DRGR 37.10 302 P **P 03 44 38.1 +1.1**
DRGR 37.10 302⇑*iP* **P 03 44 38.0 +1.0**
GZR Gura Zlata 37.12 299⇓*iP* **P 03 44 37.3 +0.1**
KWP Kalwaria Pacla 37.12 306 *i* P **P 03 44 38.0 +0.9**
comp=Z,3μm,1.4s,mb6.8
KWP *e*pP pP 03 45 11.3 +0.1
KWP *e*S **S 03 50 14.6 +3.2**
KWP LMZ 04 02 57.3
comp=Z,2μm,18.5s
KWP Kalwaria Pacla 37.12 306 *eP* **P 03 44 37.6 +0.5**
comp=Z,2μm,1.0s,mb6.6
KWP Kalwaria Pacla 37.12 306⇑*iP* **P 03 44 38.0 +0.9**
KWP *e**PP pP 03 45 11.3 +0.1
KWP *e*S **S 03 50 14.6 +3.2**
KWP MLR MLR
comp=Z,2μm,18.5s
KWP Kalwaria Pacla 37.12 306⇑*iP* **P 03 44 37.9 +0.8**
SOH Sokhos 37.20 292 P **P 03 44 37.8 -0.1**
SOH Sokhos 37.20 292 P **P 03 44 37.8 -0.1**
SOH Sokhos 37.20 292 P **P 03 44 37.8 -0.1**
SOH Sokhos 37.20 292 P **P 03 44 37.8 -0.1**
PLG Polygyros 37.20 291 *eP* **P 03 44 38.4 +0.5**
PLG Polygyros 37.20 291 P **P 03 44 37.9 0.0**
PLG Polygyros 37.20 291 P **P 03 44 37.9 0.0**
PLG Polygyros 37.20 291 P **P 03 44 37.9 0.0**
PLG Polygyros 37.20 291 P **P 03 44 37.9 0.0**
TRPA Tarpa 37.20 304⇑*iP* **P 03 44 38.9 +1.1**
SUW Suwalki 37.23 314 *i P* **P 03 44 37.8 -0.1**
comp=Z,2μm,1.1s,mb6.7
SUW *e*pP pP 03 45 10.5 -1.6
SUW *e*S **S 03 50 13.5 +0.6**
SUW *e*sS sS 03 51 19.2 +6.6
SUW LMZ 04 01 24.4
comp=Z,2μm,24.2s
SUW Suwalki 37.23 314 *eP* **P 03 44 37.7 -0.2**
comp=Z,2μm,0.9s,mb6.6
SUW Suwalki 37.23 314⇑*iP* **P 03 44 37.8 -0.2**
SUW *e**PP pP 03 45 10.5 -1.5
SUW *e*S **S 03 50 13.5 +0.6**
SUW MLR MLR
comp=Z,2μm,24.2s
KKB Krupnik 37.24 293 P **P 03 44 37.9 -0.3**
HIA Hailar 37.29 54 *eP* **P 03 44 39.3 +0.8**
comp=Z,39nm,1.0s,mb5.0
HIA Hailar 37.29 54 *eP* **P 03 44 39.3 +0.8**
HIA pmax pmax
comp=Z,39nm,1.0s
PTL Penteli 37.32 287 P **P 03 44 39.3 +0.3**
PTL Penteli 37.32 287 P **P 03 44 39.3 +0.3**
PTL Penteli 37.32 287 P **P 03 44 39.3 +0.3**
SIVA Sivas 37.33 282 P **P 03 44 37.9 -1.1**
SIVA Sivas 37.33 282 P **P 03 44 37.9 -1.1**
SIVA Sivas 37.33 282 P **P 03 44 37.9 -1.1**
UZH Uzhgorod 37.37 305⇓*iP* **P 03 44 39.0 -0.2**
UZH *i* 03 46 10.0
UZH *e* 03 46 54.0
UZH *i* S **S 03 50 15.0 -0.1**
KOLS Kolonicke sedl 37.39 305 *eP* **P 03 44 40.1 +0.8**
KOLS pmax pmax
comp=Z,328nm,1.0s,mb5.9
KOLS Kolonicke sedl 37.39 305 *eP* **P 03 44 40.1 +0.8**
KOLS *e*PP PP 03 46 08.5 +0.7
KOLS *e*SS SS 03 53 00.4 -5.5
ATHU Athens Univers 37.40 287 P **P 03 44 43.3 +3.7**
ATHU Athens Univers 37.40 287 P **P 03 44 43.3 +3.7**
ATHU Athens Univers 37.40 287 P **P 03 44 43.3 +3.7**
VLY Voula,Athens 37.42 287 P **P 03 44 39.3 -0.5**
VLY Voula,Athens 37.42 287 P **P 03 44 39.3 -0.5**
VLY Voula,Athens 37.42 287 P **P 03 44 39.3 -0.5**
HORT Hortiatis 37.42 291 P **P 03 44 39.6 -0.2**
HORT Hortiatis 37.42 291 P **P 03 44 39.6 -0.2**
HORT Hortiatis 37.42 291 P **P 03 44 39.6 -0.2**
ATH Athens Observa 37.45 287 *eP* **P 03 44 40.0 -0.1**
ATH Athens Observa 37.45 287 P **P 03 44 39.9 -0.2**
ATH Athens Observa 37.45 287 P **P 03 44 39.9 -0.2**
ATH Athens Observa 37.45 287 P **P 03 44 39.9 -0.2**
ATH Athens Observa 37.45 287 P **P 03 44 39.9 -0.2**
KNT Kendrikon 37.48 292 P **P 03 44 40.1 -0.2**
KNT Kendrikon 37.48 292 P **P 03 44 40.1 -0.2**
KNT Kendrikon 37.48 292 P **P 03 44 40.1 -0.2**
KNT Kendrikon 37.48 292 P **P 03 44 40.1 -0.2**
THE Thessaloniki 37.52 291 P **P 03 44 39.7 -0.9**
THE Thessaloniki 37.52 291 P **P 03 44 39.7 -0.9**
THE Thessaloniki 37.52 291 P **P 03 44 39.7 -0.9**
THE Thessaloniki 37.52 291 P **P 03 44 39.7 -0.9**
NEO Neokhori 37.56 289 *eP* **P 03 44 39.6 -1.3**
NEO Neokhori 37.56 289 P **P 03 44 40.4 -0.5**
NEO Neokhori 37.56 289 P **P 03 44 40.4 -0.5**
NEO Neokhori 37.56 289 P **P 03 44 40.4 -0.5**
LVZ Lovozero 37.57 338 *eP* **P 03 44 40.9 +0.3**
LVZ Lovozero 37.57 338 *deP* **P 03 44 41.3 +0.7**
LVZ pmax pmax
comp=Z,238nm,1.0s,mb5.8
LVZ Lovozero 37.57 338 P **P 03 44 41.4 +0.8**
comp=Z,1μm,0.8s,mb6.6,SNR=15
XOR Xorichti 37.57 289 P **P 03 44 40.9 -0.1**
XOR Xorichti 37.57 289 P **P 03 44 40.9 -0.1**
XOR Xorichti 37.57 289 P **P 03 44 40.9 -0.1**
FINES FINESS Array B 37.60 326 P **P 03 44 41.0 +0.1**
comp=Z,120nm,0.7s,mb5.6,baz=107,slow=10,SNR=202
FINES pP pP 03 45 14.4 -0.7
comp=Z,83nm,0.6s,baz=104,slow=9.3,SNR=5.2
FINES sP sP 03 45 31.2 -2.0
comp=Z,82nm,0.8s,baz=106,slow=12,SNR=2.8
FINES LR LR 04 01 05.4
comp=Z,4μm,19.2s,baz=114,slow=37
FINES FINESS Array B 37.60 326 P **P 03 44 41.0 +0.1**
FINES pP pP 03 45 14.4 -0.7
FINES sP sP 03 45 31.2 -2.0
FINES FINESS Array B 37.60 326 P **P 03 44 41.1 +0.2**
FINES *PP pP 03 45 14.4 -0.7
FINES *SP sP 03 45 31.2 -2.0
FINES pmax pmax
comp=Z,120nm,0.7s
FINES MLR MLR
comp=Z,4μm,19.3s
SMIA Simia 37.65 289 P **P 03 44 41.5 -0.2**
SMIA Simia 37.65 289 P **P 03 44 41.5 -0.2**
VAM Vamos 37.70 283 *eP* **P 03 44 41.5 -0.7**
KAF Kangasniemi 37.74 327 *eP* **P 03 44 42.1 0.0**
KAF Kangasniemi 37.74 327 *ep* **P 03 44 42.1 0.0**
APA Apatity 37.74 337⇑*iP* **P 03 44 42.6 +0.5**
APA *i* 03 46 10.0
APA *i* S **S 03 50 20.0 -0.4**
APA *i* *SS sS 03 51 22.0 +1.8
APA pmax pmax
comp=Z,240nm,1.3s,mb5.7
APA MLR MLR
comp=Z,11μm,14.0s
FYTO Fytoko, Volos 37.75 290 P **P 03 44 50.3 +7.7**
FYTO Fytoko, Volos 37.75 290 P **P 03 44 50.3 +7.7**
FYTO Fytoko, Volos 37.75 290 P **P 03 44 50.3 +7.7**
ATAL Atalanti 37.83 288 P **P 03 44 42.7 -0.6**
ATAL Atalanti 37.83 288 P **P 03 44 42.7 -0.6**
ATAL Atalanti 37.83 288 P **P 03 44 42.7 -0.6**
LKR Lokris 37.86 288 *eP* **P 03 44 42.3 -1.2**
LKR Lokris 37.86 288 P **P 03 44 42.5 -1.0**
LKR Lokris 37.86 288 P **P 03 44 42.5 -1.0**
LKR Lokris 37.86 288 P **P 03 44 42.5 -1.0**
GRG Griva 37.89 292 P **P 03 44 42.9 -0.8**
GRG Griva 37.89 292 P **P 03 44 42.9 -0.8**
GRG Griva 37.89 292 P **P 03 44 42.9 -0.8**
GRG Griva 37.89 292 P **P 03 44 42.9 -0.8**
BZS Buzias 37.92 300 P **P 03 44 44.5 +0.6**
BZS Buzias 37.92 300⇑*iP* **P 03 44 44.4 +0.5**
CRVS Cervenica-Dubn 37.92 305 *eP* **P 03 44 44.1 +0.3**
CRVS pmax pmax
comp=Z,472nm,2.4s,mb5.7
CRVS Cervenica-Dubn 37.92 305 *eP* **P 03 44 44.1 +0.3**
CRVS *e*PP PP 03 46 16.3 +2.7
CRVS *e*S **S 03 50 27.0 +3.5**
CRVS *e*SS SS 03 53 00.1 -16
BSI Banda Aceh 37.94 138 P **P 03 44 43.2 -1.2**
comp=Z,3μmcomp=Z,170nm,1.7s,mb5.4
GVD Gavdhos 37.95 282 *eP* **P 03 44 43.2 -1.0**
comp=Z,546nm,0.9s,mb6.2
LIT Litokhoron 37.97 291 P **P 03 44 43.5 -0.8**
LIT Litokhoron 37.97 291 P **P 03 44 43.5 -0.8**
LIT Litokhoron 37.97 291 P **P 03 44 43.5 -0.8**
LIT Litokhoron 37.97 291 P **P 03 44 43.5 -0.8**
STHS Stebnicka Huta 38.07 306 *eP* **P 03 44 45.5 +0.4**
STHS pmax pmax
comp=Z,167nm,0.8s,mb5.7
STHS Stebnicka Huta 38.07 306 *eP* **P 03 44 45.5 +0.4**
QIZ Qiongzhong 38.12 106 P **P 03 44 46.3 +0.4**
QIZ pP pP 03 45 17.3 -2.8
QIZ sP sP 03 45 34.0 -4.1
QIZ S **S 03 50 28.3 +1.1**
QIZ ScS ScS 03 54 43.3 +2.9
QIZ pmax pmax
comp=Z,120nm,1.8s,mb5.2
QIZ pmax pmax
comp=Z,730nm,5.9s
QIZ Qiongzhong 38.12 106 *eP* **P 03 44 46.1 +0.2**
comp=Z,100nm,1.0s,mb5.4
TIM Timisoara 38.19 300 P **P 03 44 48.3 +2.2**
VLI Veliai 38.35 285 *eP* **P 03 44 44.7 -2.9**
VLI Veliai 38.35 285 P **P 03 44 45.5 -2.1**
VLI Veliai 38.35 285 P **P 03 44 45.5 -2.1**
VLI Veliai 38.35 285 P **P 03 44 45.5 -2.1**
THL Klokotos Trika 38.43 290 P **P 03 44 47.1 -1.1**
THL Klokotos Trika 38.43 290 P **P 03 44 47.1 -1.1**
BEL Belsk 38.45 310 *i* P **P 03 44 48.5 +0.4**
comp=Z,3μm,1.3s,mb6.8
BEL *e*pP pP 03 45 21.7 -0.7
BEL *e*PP PP 03 46 17.7 -1.6
BEL *e*S **S 03 50 33.3 +2.0**
BEL LMZ 04 03 45.2
comp=Z,2μm,18.3s
BEL Belsk 38.45 310⇑*iP* **P 03 44 48.5 +0.3**
BEL *e**PP pP 03 45 21.7 -0.7
BEL *e* 03 46 17.7
BEL *e*S **S 03 50 33.3 +2.0**
BEL MLR MLR
comp=Z,2μm,18.3s
KZN Kozani 38.47 291 *eP* **P 03 44 47.3 -1.3**
KZN Kozani 38.47 291 P **P 03 44 48.0 -0.6**
KZN Kozani 38.47 291 P **P 03 44 48.0 -0.6**
KZN Kozani 38.47 291 P **P 03 44 48.0 -0.6**
KZN Kozani 38.47 291 P **P 03 44 48.0 -0.6**
KECS Kecovo 38.57 304 *eP* **P 03 44 49.9 +0.6**
KECS pmax pmax
comp=Z,89nm,0.9s,mb5.4
KECS Kecovo 38.57 304 *eP* **P 03 44 49.9 +0.6**
KECS *e*PP PP 03 46 25.6 +4.9
KALE Kalithea 38.57 288 P **P 03 44 47.5 -1.9**
KALE Kalithea 38.57 288 P **P 03 44 47.5 -1.9**
KALE Kalithea 38.57 288 P **P 03 44 47.5 -1.9**
NIE Niedzica 38.68 306 *i* P **P 03 44 51.3 +1.2**
NIE *e*pP pP 03 45 25.7 +1.3
NIE *e*PP PP 03 46 25.3 +3.4
NIE Niedzica 38.68 306⇑*iP* **P 03 44 51.3 +1.2**
NIE *e**PP pP 03 45 25.7 +1.3
NIE *e* 03 46 25.3
FNA Florina 38.68 292 P **P 03 44 49.7 -0.6**
FNA Florina 38.68 292 P **P 03 44 49.7 -0.6**
FNA Florina 38.68 292 P **P 03 44 49.7 -0.6**
FNA Florina 38.68 292 P **P 03 44 49.7 -0.6**
EVR Evrytania 38.71 289 *eP* **P 03 44 51.1 +0.5**
EVR Evrytania 38.71 289 P **P 03 44 50.3 -0.3**
EVR Evrytania 38.71 289 P **P 03 44 50.3 -0.3**
EVR Evrytania 38.71 289 P **P 03 44 50.3 -0.3**
GZH Guangzhou 38.72 98 P **P 03 44 50.8 0.0**
GZH S **S 03 50 38.3 +2.3**
GZH pmax pmax
comp=Z,2μm,4.9s
LAKA Lakka 38.73 288 P **P 03 44 48.8 -2.0**
LAKA Lakka 38.73 288 P **P 03 44 48.8 -2.0**
LAKA Lakka 38.73 288 P **P 03 44 48.8 -2.0**
MEV Metsovon 38.98 291 P **P 03 44 53.2 +0.4**
MEV Metsovon 38.98 291 P **P 03 44 53.2 +0.4**
MEV Metsovon 38.98 291 P **P 03 44 53.2 +0.4**
PSZ Piszkesteto 38.98 304 *eP* **P 03 44 53.4 +0.7**
comp=Z,323nm,1.1s,mb5.9
PSZ *e*PP PP 03 46 24.8 -0.4
PSZ Piszkesteto 38.98 304 P **P 03 44 53.9 +1.2**
PSZ Piszkesteto 38.98 304⇑*eP* **P 03 44 53.5 +0.8**
PSZ *e*pP pP 03 45 27.4 +0.4
PSZ Piszkesteto 38.98 304⇑*iP* **P 03 44 54.0 +1.3**
NEST Nestorio 38.99 292 P **P 03 44 52.0 -0.9**
NEST Nestorio 38.99 292 P **P 03 44 52.0 -0.9**
OJC Ojcow 39.01 307 *i* P **P 03 44 53.0 +0.1**
OJC *e*pP pP 03 45 27.0 -0.3
OJC *e*PP PP 03 46 26.2 +0.7
OJC *i* S **S 03 50 42.1 +2.3**
OJC L 04 04 17.8
comp=Z,2.0nm,17.1s
OJC Ojcow 39.01 307⇑*iP* **P 03 44 53.0 +0.1**
OJC *e**PP pP 03 45 27.0 -0.3
OJC *e* 03 46 26.2
OJC *i* S **S 03 50 42.1 +2.3**
OJC MLR MLR
comp=Z,2μm,17.1s
ITM Ithomi 39.02 286 *eP* **P 03 44 51.1 -2.1**
ITM Ithomi 39.02 286 P **P 03 44 51.3 -1.9**
ITM Ithomi 39.02 286 P **P 03 44 51.3 -1.9**
ITM Ithomi 39.02 286 P **P 03 44 51.3 -1.9**
DIVS Divibare 39.21 298 P **P 03 44 54.4 -0.3**
DIVS Divibare 39.21 298 P **P 03 44 54.4 -0.3**
PYL PYLOS 39.23 286 P **P 03 44 50.7 -4.2**
PYL PYLOS 39.23 286 P **P 03 44 50.7 -4.2**
JAN Janina 39.29 290 *eP* **P 03 44 54.5 -0.9**
JAN Janina 39.29 290 P **P 03 44 54.6 -0.8**
JAN Janina 39.29 290 P **P 03 44 54.6 -0.8**
JAN Janina 39.29 290 P **P 03 44 54.6 -0.8**
JAN Janina 39.29 290 P **P 03 44 54.6 -0.8**
NJ2 Nanjing 39.42 82 *eP* **P 03 44 58.0 +1.5**
NJ2 S **S 03 50 51.5 +5.2**
NJ2 pmax pmax
comp=Z,240nm,1.0s,mb5.8
NJ2 pmax pmax
comp=Z,860nm,6.1s
NJ2 LR LR
comp=N,880nm,19.8s
NJ2 LR LR
comp=E,830nm,18.2s
NJ2 LR LR
comp=Z,1μm,13.8s
PVY Plav 39.44 295⇑*iP* **P 03 44 55.7 -0.8**
IVA Berane 39.44 296⇑*iP* **P 03 44 57.2 +0.6**
LIKS Likavka 39.47 305 *eP* **P 03 44 57.6 +0.9**
LIKS pmax pmax
comp=Z,185nm,0.9s,mb5.7
LIKS Likavka 39.47 305 *eP* **P 03 44 57.6 +0.9**
BUD Budapest 39.59 303⇑*eP* **P 03 44 58.2 +0.5**
BUD *e*pP pP 03 45 31.8 -0.4
VYHS Vyhne 39.67 305 *eP* **P 03 44 58.7 +0.3**
VYHS pmax pmax
comp=Z,215nm,1.4s,mb5.6
VYHS Vyhne 39.67 305 *eP* **P 03 44 58.7 +0.3**
VYHS *e*PP PP 03 46 37.7 +5.1
VYHS *e*S **S 03 50 45.0 -4.6**
VYHS *e*SS SS 03 53 54.7 +3.3
DL2 Dalian 39.68 71 P **P 03 45 00.5 +1.9**
DL2 pP pP 03 45 34.0 +1.0
DL2 S **S 03 50 53.5 +3.5**
DL2 pmax pmax
comp=Z,80nm,1.2s,mb5.2
DL2 pmax pmax
comp=Z,530nm,3.9s
IGT Igoumenitsa 39.71 290 P **P 03 44 57.4 -1.4**
IGT Igoumenitsa 39.71 290 P **P 03 44 57.4 -1.4**
IGT Igoumenitsa 39.71 290 P **P 03 44 57.4 -1.4**
IGT Igoumenitsa 39.71 290 P **P 03 44 57.4 -1.4**
TIR Tirane 39.71 293 *eP* **P 03 44 57.8 -1.1**
comp=Z,272nm,1.7s,mb5.6
TIR Tirane 39.71 293 *eP* **P 03 44 57.8 -1.0**
TIR pmax pmax
comp=Z,272nm,1.7s,mb5.6
PLE Pljevlja 39.74 296⇑*iP* **P 03 45 00.5 +1.4**
VLS Valsamata 39.81 288 *eP* **P 03 44 57.7 -2.0**
VLS Valsamata 39.81 288 P **P 03 44 57.7 -2.0**
VLS Valsamata 39.81 288 P **P 03 44 57.7 -2.0**
VLS Valsamata 39.81 288 P **P 03 44 57.7 -2.0**
VLS Valsamata 39.81 288 P **P 03 44 57.7 -2.0**
SRN Sarande 39.88 291 P **P 03 44 58.5 -1.8**
SRN Sarande 39.88 291 P **P 03 44 58.5 -1.8**
SRN Sarande 39.88 291 P **P 03 44 58.5 -1.8**
PKSM Moragy 39.94 301 P **P 03 45 01.2 +0.5**
PKSM Moragy 39.94 301⇑*iP* **P 03 45 01.0 +0.3**
KOLL Kolacno 39.95 305 *eP* **P 03 45 01.6 +0.9**
KOLL Kolacno 39.95 305 *eP* **P 03 45 01.6 +0.9**
TTG Podgorica 39.97 295⇑*iP* **P 03 45 00.1 -0.9**
RAC Raciborz 40.05 307 *eP* **P 03 45 02.1 +0.6**
RAC *e**PP pP 03 45 33.3 -2.7
RAC *e* 03 46 35.6
RAC *e*S **S 03 50 55.7 +0.5**
ULC Ulcinj 40.06 294⇑*iP* **P 03 45 01.4 -0.3**
KEK Kerkira 40.07 291 *eP* **P 03 44 59.9 -1.9**
OKC Ostrava-Krasne 40.08 307⇑*iP* **P 03 45 02.0 +0.2**
OKC *e**PP pP 03 45 37.6 +1.4
OKC *e*S **S 03 50 57.2 +1.4**
OKC *e* 03 51 59.3
OKC MLR MLR
comp=Z,1μm,12.1s
OKC Ostrava-Krasne 40.08 307⇑*iP* **P 03 45 02.0 +0.2**
OKC *e*pP pP 03 45 37.6 +1.4
OKC *e*S **S 03 50 57.2 +1.4**
OKC *e*XS sS 03 51 59.3 +3.3
OKC AMS AMS 04 04 50.0
comp=Z,1μm,12.1s
NKY Niksic 40.11 296⇑*iP* **P 03 45 01.0 -1.1**
UPM Unac-Piva 40.11 296⇑*iP* **P 03 45 01.7 -0.4**
BUM Brajici-Budva 40.26 295⇑*iP* **P 03 45 02.2 -1.2**
BRY Bratogost 40.42 296 *eP* **P 03 45 02.1 -2.6**
MORC Moravsky Berou 40.47 307 *eP* **P 03 45 05.5 +0.5**
comp=Z,515nm,1.0s,mb6.1
MORC Moravsky Berou 40.47 307⇑*iP* **P 03 45 05.9 +0.9**
MORC Moravsky Berou 40.47 307⇑*iP* **P 03 45 05.8 +0.8**
HCY Herceg Novi 40.53 295⇑*iP* **P 03 45 04.6 -1.0**
SNY Shenyang 40.56 66⇓*iP* **P 03 45 06.8 +1.0**
SNY pP pP 03 45 39.8 -0.5
SNY S **S 03 50 57.5 -5.5**
SNY pmax pmax
comp=Z,56nm,1.2s,mb5.1
SNY pmax pmax
comp=Z,760nm,5.0s
SNY LR LR
comp=N,1μm,18.2s
SNY LR LR
comp=E,840nm,14.1s
SNY LR LR
comp=Z,1μm,13.3s
SMOL Smolenice 40.60 305 *eP* **P 03 45 06.6 +0.5**
SMOL Smolenice 40.60 305 *eP* **P 03 45 06.6 +0.5**
GKP Gorka Klasztor 40.68 312 *i P* **P 03 45 06.8 +0.1**
comp=Z,4μm,1.0s,mb7.0
GKP *e*pP pP 03 45 40.5 -0.7
GKP *e*S **S 03 51 06.4 +1.7**
GKP LMZ 04 04 57.5
comp=Z,4μm,17.1s
GKP Gorka Klasztor 40.68 312⇑*iP* **P 03 45 06.8 +0.1**
GKP *e**PP pP 03 45 40.5 -0.7
GKP *e*S **S 03 51 06.4 +1.8**
GKP MLR MLR
comp=Z,4μm,17.1s
TPTI 40.83 138 P **P 03 45 08.4 +0.1**
comp=Z,809nm,1.1s,mb6.3
KEV Kevo 40.91 338 *eP* **P 03 45 08.5 +0.2**
comp=Z,149nm,0.8s,mb5.7
KEV Kevo 40.91 338 *eP* **P 03 45 08.6 +0.3**
KEV Kevo 40.91 338 *ep* **P 03 45 08.6 +0.3**
CLNS Chul'man 40.93 43 *eP* **P 03 45 08.8 +0.2**
CLNS *e* 03 54 56.1
CLNS pmax pmax
comp=Z,96nm,1.0s,mb5.4
CLNS pmax pmax
comp=E,75nm,1.2s
CLNS pmax pmax
comp=N,23nm,1.0s
VRAC Vranov 41.11 306⇑*iP* **P 03 45 11.3 +1.1**
VRAC Vranov 41.11 306⇑*iP* **P 03 45 11.3 +1.1**
KULM Kulim 41.16 132 P **P 03 45 12.4 +1.4**
KULM Kulim 41.16 132 *eP* **P 03 45 12.1 +1.1**
comp=N,360nm,1.5s,mb5.8
KULM Kulim 41.16 132 P **P 03 45 12.1 +1.1**
comp=N,3μmcomp=N,168nm,1.7s,mb5.4
SOP Sopron 41.24 303⇑*e* **P 03 45 11.6 +0.3**
SOP *e* pP 03 45 45.6 -0.3
DPC Dobruska-Polom 41.24 307⇑*iP* **P 03 45 11.9 +0.6**
DPC *e**PP pP 03 45 45.6 -0.3
DPC *e* 03 46 56.9
DPC *e*S **S 03 51 15.9 +2.9**
DPC *e* 03 54 10.6
DPC MLR MLR
comp=Z,2μm,14.3s
DPC Dobruska-Polom 41.24 307⇑*iP* **P 03 45 11.9 +0.6**
DPC *e*pP pP 03 45 45.6 -0.3
DPC *e*PP PP 03 46 56.9 +7.3
DPC *e*S **S 03 51 15.9 +2.9**
DPC *ex* x 03 54 10.6
DPC AMS AMS 04 05 30.0
comp=Z,2μm,14.3s
KSP Ksiaz 41.25 308 *i P* **P 03 45 11.8 +0.5**
comp=Z,1μm,2.0s,mb6.1
KSP *e*pP pP 03 45 45.4 -0.5
KSP *e*PP PP 03 46 54.1 +4.5
KSP *e*S **S 03 51 15.8 +2.8**
KSP LMZ 04 05 54.1
comp=Z,2μm,17.4s
KSP Ksiaz 41.25 308 *i P* **P 03 45 11.5 +0.2**
KSP *e*PP PP 03 46 50.3 +0.7

KSP eS **S** **03 51 12.5 -0.5**
KSP Ksiaz 41.25 308⇑ iP **P** **03 45 11.5 +0.2**
KSP e 03 46 50.3
KSP eS **S** **03 51 12.5 -0.5**
ARCES ARCESS Array B 41.25 338 P **P** **03 45 11.7 +0.6**
comp=Z,236nm,0.8s,mb5.9,baz=108,slow=7.8,SNR=164
ARCES pP pP 03 45 46.1 +0.4
comp=Z,129nm,0.8s,baz=111,slow=6.8,SNR=5.5
ARCES sP sP 03 46 05.8 +2.0
comp=Z,118nm,0.8s,baz=108,slow=6.5,SNR=3.4
ARCES LR LR 04 03 23.2
comp=Z,8μm,18.8s,baz=164,slow=37
ARCES ARCESS Array B 41.25 338 P **P** **03 45 11.7 +0.6**
ARCES pP pP 03 45 46.1 +0.4
ARCES sP sP 03 46 05.8 +2.0
ARCES ARCESS Array B 41.25 338 P **P** **03 45 11.7 +0.6**
ARCES *PP pP 03 45 46.1 +0.4
ARCES *SP sP 03 46 05.8 +2.1
ARCES pmax pmax
comp=Z,236nm,0.8s
ARCES MLR MLR
comp=Z,8μm,18.8s
ARE0 ARCESS Array S 41.25 338 eP **P** **03 45 11.7 +0.6**
TSI Tuntungan 41.39 136 P **P** **03 45 14.3 +1.4**
comp=Z,204nm,1.4s,mb5.6
TSI Tuntungan 41.39 136 P **P** **03 45 14.3 +1.4**
comp=Z,204nm,1.4s,mb5.6
UPC Upice 41.44 308⇑ iP **P** **03 45 13.0 +0.2**
UPC e*PP pP 03 45 48.4 +0.9
UPC e 03 46 58.6
UPC Upice 41.44 308⇑ iP **P** **03 45 13.0 +0.2**
UPC ePP pP 03 45 48.4 +0.9
UPC ePP PP 03 46 58.6 +6.9
KOGS Kog 41.57 302 i P **P** **03 45 14.1 +0.1**
KOGS epP pP 03 45 48.6 0.0
CN2 Changchun 41.59 62 eP **P** **03 45 14.5 +0.3**
CN2 epP pP 03 45 49.5 +0.6
CN2 PcP PcP 03 47 08.0 -0.2
CN2 eScP ScP 03 50 41.0 -2.4
CN2 eS **S** **03 51 18.3 +0.1**
CN2 pmax pmax
comp=Z,30nm,1.2s,mb4.8
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,13.0s
CN2 LR LR
comp=E,900nm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
SISC Sisak 41.60 300 P **P** **03 45 14.7 +0.4**
SSE Sheshan 41.62 82 P **P** **03 45 16.3 +1.7**
SSE pP pP 03 45 50.5 +1.2
SSE S **S** **03 51 21.0 +2.1**
SSE sS sS 03 52 19.3 -0.2
SSE ScS ScS 03 55 04.3 +3.4
SSE pmax pmax
comp=Z,340nm,1.1s,mb5.9
SSE pmax pmax
comp=Z,760nm,3.8s
SSE LR LR
comp=N,900nm,13.0s
SSE LR LR
comp=E,650nm,13.0s
SSE LR LR
comp=Z,1μm,16.7s
CONA Conrad Observa 41.69 304 i P **P** **03 45 15.2 +0.3**
comp=Z,531nm,1.0s,mb6.1,SNR=493
CONA Conrad Observa 41.69 304 i P **P** **03 45 15.2 +0.3**
comp=Z,531nm,1.0s,mb6.1
TREC Trest 41.83 306⇑ iP **P** **03 45 16.6 +0.5**
TREC e*PP pP 03 45 51.2 +0.4
TREC eS **S** **03 51 23.9 +2.2**
TREC MLR MLR
comp=Z,1μm,16.9s
TREC Trest 41.83 306⇑ iP **P** **03 45 16.6 +0.5**
TREC epP pP 03 45 51.2 +0.4
TREC eS **S** **03 51 23.9 +2.2**
TREC eSS SS 03 54 40.1 +6.1
TREC AMS AMS 04 06 00.0
comp=Z,1μm,16.9s
ARSA Arzberg 41.98 303⇑ iP **P** **03 45 17.4 +0.1**
comp=Z,178nm,1.2s,mb5.6,SNR=58
ARSA Arzberg 41.98 303⇑ iP **P** **03 45 17.4 +0.1**
comp=Z,178nm,1.2s,mb5.6
IPM Ipoh 42.03 132 P **P** **03 45 19.0 +1.0**
IPM Ipoh 42.03 132 eP **P** **03 45 18.6 +0.5**
comp=Z,241nm,0.8s,mb5.9
IPM Ipoh 42.03 132 P **P** **03 45 18.4 +0.3**
comp=Z,5μmcomp=Z,349nm,1.4s,mb5.8
QZH Quanzhou 42.05 92⇑ iP **P** **03 45 18.0 -0.2**
QZH S **S** **03 51 21.0 -4.5**
QZH sS sS 03 52 27.0 +0.9
QZH pmax pmax
comp=Z,350nm,1.3s,mb5.8
QZH pmax pmax
comp=Z,1μm,5.0s
QZH LR LR
comp=N,2μm,8.5s
QZH LR LR
comp=E,570nm,8.3s
QZH LR LR
comp=Z,2μm,10.2s
BSD Bornholm Skovb 42.12 315⇑ iP **P** **03 45 17.4 -0.9**
comp=Z,679nm,0.9s,mb6.3
BSD i pP 03 45 51.2 -1.9
PSI Prapat 42.17 136 P **P** **03 45 19.0 -0.2**
comp=Z,3μmcomp=Z,199nm,1.6s,mb5.5
PSI Prapat 42.17 136 P **P** **03 45 19.4 +0.2**
comp=Z,3μmcomp=Z,199nm,1.6s,mb5.5
PVCC Panska Ves 42.35 308⇑ iP **P** **03 45 21.0 +0.7**
PVCC e 03 47 09.9
PVCC eS **S** **03 51 30.9 +1.6**
PVCC MLR MLR
comp=Z,2μm,12.1s
PVCC Panska Ves 42.35 308⇑ iP **P** **03 45 21.0 +0.7**
PVCC ePP PP 03 47 09.9 +8.4
PVCC ex x 03 47 51.7
PVCC eS **S** **03 51 30.9 +1.6**
PVCC AMS AMS 04 06 10.0
comp=Z,2μm,12.1s
BOJS Bojanci 42.38 300 i P **P** **03 45 20.8 +0.3**
BOJS epP pP 03 45 55.3 -0.1
BOJS i sP sP 03 46 10.5 -2.8
BOJS ePcP PcP 03 47 08.2 -2.7
BOJS e 03 47 37.9
BOJS e 03 47 50.3
BOJS eScP ScP 03 50 45.1 -1.4
BOJS eS **S** **03 51 32.2 +2.5**
BOJS esS sS 03 52 40.4 +10
BOJS eSS SS 03 54 49.0 +4.3
SOKA Soboth 42.38 302⇓ iP **P** **03 45 20.7 +0.2**
comp=Z,303nm,0.9s,mb5.9
SOKA Soboth 42.38 302⇓ iP **P** **03 45 20.7 +0.2**
comp=Z,303nm,0.9s,mb5.9
PRU Pruhonice 42.40 307⇑ iP **P** **03 45 21.1 +0.4**
PRU e*PP pP 03 45 56.0 +0.5
PRU e 03 47 02.1
PRU eS **S** **03 51 29.5 -0.5**
PRU e 03 52 30.4
PRU MLR MLR
comp=Z,2μm,18.4s
PRU Pruhonice 42.40 307⇑ iP **P** **03 45 21.1 +0.4**
PRU epP pP 03 45 56.0 +0.5
PRU ePP PP 03 47 02.1 +0.1
PRU ex x 03 47 51.0
PRU eS **S** **03 51 29.5 -0.5**
PRU eXS sS 03 52 30.4 -0.3
PRU eSS SS 03 54 52.7 +7.6
PRU AMS AMS 04 06 10.0
comp=Z,2μm,18.4s
PRA Prague 42.47 307 ⇑P **P** **03 45 22.0 +0.8**
PRA pP pP 03 45 52.0 -4.0
PRA PP PP 03 47 04.0 +1.3
OBKA Obir 42.73 302⇑ iP **P** **03 45 23.8 +0.5**
comp=Z,254nm,1.4s,mb5.7,SNR=32
OBKA Obir 42.73 302⇑ iP **P** **03 45 23.8 +0.5**
comp=Z,254nm,1.4s,mb5.7
BRG Berggiesshubel 42.73 308⇑ iP **P** **03 45 24.0 +0.6**
comp=Z,770nm,1.0s,mb6.3
BRG i pP pP 03 45 58.7 +0.5
comp=Z,359nm,1.4s
BRG PP PP 03 47 06.6 +1.0
comp=Z,247nm,1.4s

BRG pPP 03 47 56.0
BRG SCP ScP 03 50 46.6 -1.2
comp=Z,118nm,1.5s
BRG S **S** **03 51 40.0 +5.1**
BRG sS sS 03 52 40.0 +4.4
BRG SCS ScS 03 55 01.0 -6.1
BRG
comp=Z,3μm,15.0s
BRG
comp=N,920nm,11.6s
BRG
comp=E,2μm,11.6s
BRG Berggiesshubel 42.73 308 eP **P** **03 45 23.5 +0.1**
comp=Z,771nm,1.0s,mb6.3
BRG Berggiesshubel 42.73 308⇑ iP **P** **03 45 24.0 +0.6**
BRG i *PP pP 03 45 58.7 +0.5
BRG 03 47 06.6
BRG S **S** **03 51 40.0 +5.1**
BRG *SS sS 03 52 40.0 +4.4
BRG 03 55 01.0
BRG pmax pmax
comp=Z,770nm,0.9s,mb6.3
BRG MLR MLR
comp=Z,3μm,15.0s
BRG MLR MLR
comp=N,920nm,11.6s
BRG MLR MLR
comp=E,2μm,11.6s
MOA Molln 42.76 304 i P **P** **03 45 23.8 +0.1**
comp=E,358nm,1.0s,mb6.0,SNR=83
MOA Molln 42.76 304 i P **P** **03 45 23.8 +0.1**
comp=E,358nm,1.0s,mb6.0
RUE Ruedersdorf 42.77 311 eP **P** **03 45 24.0 +0.3**
comp=E,1μm,1.0s,mb6.4
NVLJ Novalja 42.78 299 P **P** **03 45 22.4 -1.4**
LJU Ljubljana 42.80 301 i P **P** **03 45 24.6 +0.6**
LJU epP pP 03 45 59.0 +0.2
LJU eScP ScP 03 50 46.8 -1.4
LJU eS **S** **03 51 36.8 +0.7**
LJU eSS SS 03 54 59.6 +6.5
CUC Castrocucco 43.00 292 eP **P** **03 45 25.6 0.0**
comp=E,438nm,1.3s,mb5.9
RGN Rugen 43.03 314 eP **P** **03 45 26.5 +0.8**
comp=E,3μm,1.0s,mb6.9
RGN epP pP 03 46 00.9 +0.3
GEC2 GERESS Array S 43.04 305 eP **P** **03 45 25.9 +0.1**
comp=Z,213nm,1.2s,mb5.7
GEC2 GERESS Array S 43.04 305 eP **P** **03 45 25.9 +0.1**
GEC2 pmax pmax
comp=Z,213nm,1.2s,mb5.7
GERES GERESS Array B 43.04 305 P **P** **03 45 26.1 +0.3**
comp=Z,63nm,0.9s,mb5.2,baz=91,slow=6.7,SNR=186
GERES pP pP 03 46 00.6 -0.1
comp=Z,24nm,0.9s,baz=101,slow=6.9,SNR=3.5
GERES PP PP 03 47 15.0 +6.1
comp=Z,80nm,1.0s,baz=88,slow=9.5,SNR=8.4
GERES ScP ScP 03 50 46.4 -2.7
comp=Z,18nm,1.1s,baz=64,slow=6.1,SNR=4.7
GERES GERESS Array B 43.04 305 P **P** **03 45 26.1 +0.3**
GERES pP pP 03 46 00.6 -0.1
GERES PP PP 03 47 15.0 +6.1
GERES ScP ScP 03 50 46.4 -2.7
GERES GERESS Array B 43.04 305 P **P** **03 45 26.1 +0.3**
GERES *PP pP 03 46 00.6 -0.1
GERES 03 47 15.0
GERES pmax pmax
comp=Z,63nm,0.9s
KHC Kasperske Hory 43.09 306 eP **P** **03 45 26.4 +0.1**
comp=Z,284nm,1.4s,mb5.7
KHC Kasperske Hory 43.09 306⇑ iP **P** **03 45 26.3 0.0**
KHC e*PP pP 03 46 01.0 -0.2
KHC e 03 47 11.7
KHC e 03 47 57.7
KHC eS **S** **03 51 42.9 +2.8**
KHC e 03 55 02.0
KHC Kasperske Hory 43.09 306⇑ iP **P** **03 45 26.3 0.0**
KHC epP pP 03 46 01.0 -0.2
KHC ePP PP 03 47 11.7 +2.3
KHC ex x 03 47 57.7
KHC eS **S** **03 51 42.9 +2.8**
KHC eSS SS 03 55 02.0 +3.5
KHC AMS AMS 04 07 00.0
comp=Z,1μm,9.8s
SBSI Sibolga 43.18 137 P **P** **03 45 31.0 +3.6**
comp=Z,9μmcomp=Z,536nm,1.6s,mb5.9
SKDS Skadanscina 43.23 301 i P **P** **03 45 27.1 -0.4**
SKDS i PcP PcP 03 47 12.2 -1.5
VOY Vojsko 43.24 301 eP **P** **03 45 27.6 +0.1**
VOY e pP 03 46 02.5 +0.1
VOY e 03 46 37.2
VOY e 03 47 16.7
CLL Collm 43.30 309 eP **P** **03 45 27.6 -0.3**
comp=Z,461nm,1.0s,mb6.1
CLL Collm 43.30 309⇑ iP **P** **03 45 28.0 +0.1**
CLL i *PP pP 03 46 02.8 0.0
CLL eS **S** **03 51 43.0 -0.1**
CLL pmax pmax
comp=Z,463nm,1.0s,mb6.1
CLL Collm 43.30 309⇑ iP **P** **03 45 28.0 +0.1**
comp=Z,463nm,1.0s,mb6.1
CLL i pP pP 03 46 02.8 0.0
CLL esP sP 03 46 19.0 -1.7
CLL ePP PP 03 47 11.0 -0.6
CLL e 03 48 03.0
CLL eS **S** **03 51 43.0 -0.1**
comp=N,900nm,20.5s
CLL eS **S** **03 51 43.0 -0.1**
comp=E,900nm,27.1s
CLL esS sS 03 52 43.0 -1.0
CLL eSS SS 03 54 42.0 -20
CLL e 03 57 25.0
CADS Cadrg 43.32 302 i P **P** **03 45 28.2 +0.1**
CADS epP pP 03 46 02.6 -0.5
CADS ePcP PcP 03 47 12.7 -1.3
CADS eScP ScP 03 50 48.1 -2.2
MYKA Terra Mystica 43.33 302⇑ iP **P** **03 45 28.0 -0.2**
comp=E,134nm,1.0s,mb5.5
MYKA Terra Mystica 43.33 302⇑ iP **P** **03 45 28.0 -0.2**
comp=E,134nm,1.0s,mb5.5
TRI Trieste 43.38 301 eP **P** **03 45 28.3 -0.3**
comp=E,110nm,0.8s,mb5.5
TRI Trieste 43.38 301 eP **P** **03 45 28.3 -0.3**
TRI pmax pmax
comp=Z,110nm,0.8s,mb5.5
MSEY Mahe Island 43.40 203 eP **P** **03 45 30.2 +1.1**
comp=Z,229nm,1.2s,mb5.7
MSEY ePP PP 03 47 14.4 +1.0
MSEY Mahe Island 43.40 203 eP **P** **03 45 30.2 +1.1**
MSEY e 03 47 14.4
MSEY pmax pmax
comp=Z,229nm,1.2s,mb5.7
MSEY Mahe Island 43.40 203 P **P** **03 45 30.5 +1.4**
SNR=6.3
MSEY Mahe Island 43.40 203 P **P** **03 45 30.5 +1.4**
comp=Z,1μm,1.2s,mb6.4,SNR=6.3
KBA Koelnbreinsper 43.48 303 i P **P** **03 45 29.5 +0.1**
comp=Z,180nm,1.4s,mb5.5,SNR=35
KBA Koelnbreinsper 43.48 303 i P **P** **03 45 29.5 +0.1**
comp=Z,180nm,1.4s,mb5.5
KBA Koelnbreinsper 43.48 303 i P **P** **03 45 29.5 +0.1**
KBA pmax pmax
comp=Z,180nm,1.4s,mb5.5
WET Wettzell 43.55 306 eP **P** **03 45 30.1 +0.2**
comp=Z,166nm,1.4s,mb5.5
WET Wettzell 43.55 306 eP **P** **03 45 30.1 +0.2**
WET pmax pmax
comp=Z,166nm,1.4s,mb5.5
COP Copenhagen 43.55 315⇑ iP **P** **03 45 30.4 +0.5**
comp=Z,699nm,0.9s,mb6.3
COP e 03 45 57.6
COP i pP 03 46 04.4 -0.4
COP i S **S** **03 51 49.6 +2.9**
COP
comp=Z,880nm,24.0s
TANN Tannenbergstha 43.71 308 eP **P** **03 45 31.5 +0.3**
comp=Z,397nm,1.2s,mb5.9
NKC Novy Kostel 43.73 308⇑ iP **P** **03 45 31.9 +0.6**
NKC e*PP pP 03 46 06.5 +0.2
NKC eS **S** **03 51 51.7 +2.3**
NKC MLR MLR
comp=Z,3μm,13.6s
NKC Novy Kostel 43.73 308⇑ iP **P** **03 45 31.9 +0.6**
NKC epP pP 03 46 06.5 +0.2
NKC eS **S** **03 51 51.7 +2.3**

NKC AMS AMS 04 07 00.0
comp=Z,3μm,13.6s
RJOB Jochberg 43.76 304 eP **P** **03 45 31.4 -0.2**
comp=Z,198nm,1.3s,mb5.6
INCN Inchon 43.85 71 eP **P** **03 45 33.6 +1.1**
comp=Z,383nm,1.7s,mb5.8
INCN Inchon 43.85 71 P **P** **03 45 33.8 +1.3**
SNR=8.0
ROTZ Rotzenmuhle 43.93 307 eP **P** **03 45 33.8 +0.9**
comp=Z,633nm,1.3s,mb6.1
ROTZ epP pP 03 46 09.1 +1.2
YAK Yakutsk 44.00 35 eP **P** **03 45 33.0 -0.3**
comp=Z,459nm,0.9s,mb6.1
YAK epP pP 03 46 09.5 +1.2
YAK Yakutsk 44.00 35c iP **P** **03 45 32.8 -0.5**
YAK e*PP pP 03 46 07.9 -0.4
YAK e 03 47 15.0
YAK e 03 47 19.3
YAK ePPP 03 47 57.5
YAK eS **S** **03 51 51.2 -1.7**
YAK e*SS sS 03 52 49.2 -4.7
YAK eSS SS 03 55 08.0 -7.5
YAK eSSS 03 56 11.4
YAK pmax pmax
comp=Z,281nm,0.9s,mb5.9
YAK pmax pmax
comp=E,66nm,1.5s
YAK smax
comp=N,827nm,1.9s
YAK smax
comp=E,1μm,1.7s
ABTA Abfaltersbach 44.09 302⇑ iP **P** **03 45 33.3 -0.9**
comp=E,95nm,1.0s,mb5.4,SNR=34
ABTA Abfaltersbach 44.09 302⇑ iP **P** **03 45 33.3 -0.9**
comp=E,95nm,1.0s,mb5.4
MNSI Mandailing Nat 44.19 137 P **P** **03 45 35.8 +0.4**
comp=E,8μmcomp=E,699nm,1.1s,mb6.2
MNSI Mandailing Nat 44.19 137 P **P** **03 45 35.8 +0.4**
comp=E,8μmcomp=E,699nm,1.1s,mb6.2
MOX Moxa 44.23 308 eP **P** **03 45 35.5 +0.2**
comp=Z,514nm,1.1s,mb6.1
MOX Moxa 44.23 308 eP **P** **03 45 35.5 +0.2**
MOX pmax pmax
comp=Z,514nm,1.1s,mb6.1
AQU L'Aquila 44.25 296 eP **P** **03 45 35.9 +0.3**
comp=Z,170nm,1.1s,mb5.6
AQU L'Aquila 44.25 296 eP **P** **03 45 35.9 +0.3**
AQU pmax pmax
comp=Z,135nm,1.1s,mb5.5
AQU L'Aquila 44.25 296⇑ iP **P** **03 45 35.5 -0.1**
TATO Taipei 44.37 90 eP **P** **03 45 38.5 +1.7**
comp=Z,181nm,1.3s,mb5.5
MDJ Mudanjiang 44.38 61 P **P** **03 45 36.0 -0.6**
MDJ pP pP 03 46 07.5 -4.2
MDJ sP sP 03 46 23.0 -6.6
MDJ PcP PcP 03 47 18.3 +0.7
MDJ PP PP 03 47 23.3 +0.1
MDJ ScP ScP 03 50 54.3 -0.4
MDJ PcS PcS 03 51 11.0 0.0
MDJ S **S** **03 51 59.3 +0.3**
MDJ sS sS 03 52 54.5 -5.6
MDJ ScS ScS 03 55 17.8 +0.1
MDJ pmax pmax
comp=Z,47nm,1.8s,mb4.8
MDJ pmax pmax
comp=Z,420nm,3.5s
MDJ Mudanjiang 44.38 61 eP **P** **03 45 35.7 -0.9**
comp=Z,24nm,0.8s,mb4.9
MDJ ePcP PcP 03 47 17.4 -0.2
MDJ eScP ScP 03 50 52.6 -2.1
YHNB Yeheng 44.42 91 eP **P** **03 45 39.2 +2.0**
comp=Z,261nm,1.2s,mb5.7
TPUB Ta-pu 44.46 93 eP **P** **03 45 39.4 +1.9**
comp=Z,320nm,1.4s,mb5.8
SSLB Suanglung 44.49 92 eP **P** **03 45 40.1 +2.4**
comp=Z,527nm,1.3s,mb6.0
NB2 NORSAR Subarra 44.49 323 P **P** **03 45 37.1 -0.2**
comp=Z,976nm,0.8s,mb6.5,baz=95,slow=7.9
NOA NORSAR Array B 44.49 323 P **P** **03 45 36.5 -0.8**
comp=Z,695nm,0.8s,mb6.4,baz=96,slow=7.8,SNR=2010
NOA pP pP 03 46 11.6 -0.8
comp=Z,104nm,0.8s,baz=97,slow=8.1,SNR=2.5
NOA LR LR 04 07 14.4
comp=Z,2μm,18.1s,baz=105,slow=40
NOA NORSAR Array B 44.49 323 P **P** **03 45 36.5 -0.8**
NOA pP pP 03 46 11.6 -0.8
NOA NORSAR Array B 44.49 323 P **P** **03 45 36.5 -0.8**
NOA *PP pP 03 46 11.6 -0.8
NOA pmax pmax
comp=Z,695nm,0.8s
NOA MLR MLR
comp=Z,2μm,18.1s
GRF Grafenberg Arr 44.57 307 eP **P** **03 45 39.0 +1.0**
comp=Z,1μm,1.6s,mb6.2
GRF Grafenberg Arr 44.57 307 eP **P** **03 45 39.0 +1.0**
GRF pmax pmax
comp=Z,1μm,1.6s,mb6.2
GRFO Grafenberg 44.57 307 eP **P** **03 45 39.2 +1.2**
comp=Z,921nm,1.4s,mb6.2
GRFO Grafenberg 44.57 307 eP **P** **03 45 39.2 +1.2**
GRFO pmax pmax
comp=Z,921nm,1.4s,mb6.2
WTTA Wattenberg 44.60 303⇑ iP **P** **03 45 37.7 -0.6**
comp=Z,249nm,1.2s,mb5.7,SNR=51
WTTA Wattenberg 44.60 303⇑ iP **P** **03 45 37.8 -0.6**
comp=Z,249nm,1.2s,mb5.7
WTTA Wattenberg 44.60 303⇑ iP **P** **03 45 37.8 -0.5**
WTTA pmax pmax
comp=Z,249nm,1.2s,mb5.7
WATA Walderalm 44.63 303⇓ iP **P** **03 45 37.9 -0.7**
comp=Z,154nm,1.1s,mb5.5,SNR=61
WATA Walderalm 44.63 303⇓ iP **P** **03 45 37.9 -0.7**
comp=Z,154nm,1.1s,mb5.5
WATA Walderalm 44.63 303⇓ iP **P** **03 45 37.9 -0.7**
WATA pmax pmax
comp=Z,154nm,1.1s,mb5.5
NAO01 NORSAR Array S 44.64 323 eP **P** **03 45 38.0 -0.4**
comp=Z,0.8nm,0.5s
KSAR Wonju Array Be 44.81 71 P **P** **03 45 41.0 +0.9**
KSAR pP pP 03 46 15.6 +0.3
KSAR PcP PcP 03 47 19.1 -0.2
KSAR ScP ScP 03 50 53.8 -2.9
KSAR Wonju Array Be 44.81 71 P **P** **03 45 41.1 +0.9**
KSAR *PP pP 03 46 15.6 +0.3
KSAR 03 47 19.1
NACB Ninganchiao 44.83 91 eP **P** **03 45 42.3 +1.9**
comp=Z,504nm,1.5s,mb5.9
KSRS Korea Array 44.84 71 P **P** **03 45 41.0 +0.7**
comp=Z,111nm,1.2s,mb5.4,baz=276,slow=7.0,SNR=79
KSRS pP pP 03 46 15.6 +0.1
comp=Z,21nm,1.0s,baz=283,slow=7.5,SNR=2.6
KSRS PcP PcP 03 47 19.1 -0.3
comp=Z,68nm,1.0s,baz=280,slow=3.8,SNR=11
KSRS ScP ScP 03 50 53.8 -3.0
comp=Z,20nm,1.1s,baz=280,slow=4.2,SNR=7.2
KSRS LR LR 04 07 43.8
comp=Z,920nm,18.2s,baz=296,slow=40
KSRS Korea Array 44.84 71 P **P** **03 45 41.1 +0.7**
KSRS *PP pP 03 46 15.6 +0.1
KSRS 03 47 19.1
KSRS pmax pmax
comp=Z,111nm,1.2s,mb5.4
KSRS MLR MLR
comp=Z,920nm,18.2s
CLZ Clausthal 44.90 310 eP **P** **03 45 40.8 +0.2**
comp=Z,880nm,1.2s,mb6.3
CLZ Clausthal 44.90 310 eP **P** **03 45 40.8 +0.2**
CLZ pmax pmax
comp=Z,880nm,1.2s,mb6.3
MOTA Moosalm 44.95 304 i P **P** **03 45 40.2 -0.9**
comp=Z,85nm,0.7s,mb5.5,SNR=77
MOTA Moosalm 44.95 304 i P **P** **03 45 40.1 -0.9**
comp=Z,85nm,0.7s,mb5.5
MOTA Moosalm 44.95 304 i P **P** **03 45 40.2 -0.9**
MOTA pmax pmax
comp=Z,85nm,0.7s,mb5.5
YULB Yu-li 44.96 92 eP **P** **03 45 43.6 +2.2**
comp=Z,396nm,1.4s,mb5.8
TWG Pinlang 45.05 93 eP **P** **03 45 45.2 +3.0**
comp=Z,1μm,1.4s,mb6.3
KLR Kul'dur 45.14 54 deP **P** **03 45 39.0 -3.5**
KLR eS **S** **03 52 04.5 -5.2**
KLR e 03 53 10.5
KLR eSS SS 03 55 13.8 -21
KLR pmax pmax
comp=E,100nm,1.6s

KLR pmax pmax
comp=Z,230nm,1.6s,mb5.6
KLR pmax pmax
comp=Z,1µm,7.5s
KLR MLR MLR
comp=Z,4µm,13.0s
RETA Reutte 45.16 304⇑*i*P P 03 45 41.7 -1.0
comp=Z,113nm,1.1s,mb5.4,SNR=38
RETA Reutte 45.16 304⇑*i*P P 03 45 41.7 -1.0
comp=Z,113nm,1.1s,mb5.4
KONO Kongsberg 45.20 321 *e*P P 03 45 42.7 -0.1
comp=Z,604nm,0.9s,mb6.2
KONO Kongsberg 45.20 321 *e*P P 03 45 42.7 -0.1
KONO pmax pmax
comp=Z,604nm,0.9s,mb6.2
UBBA Unterbreizbach 45.23 309 *e*P P 03 45 43.1 -0.1
comp=Z,660nm,1.7s,mb6.0
FETA Feichten 45.25 303⇑*i*P P 03 45 42.4 -1.1
comp=Z,147nm,1.1s,mb5.5,SNR=75
FETA Feichten 45.25 303⇑*i*P P 03 45 42.4 -1.1
comp=Z,147nm,1.1s,mb5.5
KGM Kluang 45.36 131 P **P 03 45 46.0 +1.3**
MUD Monsted U'grnd 45.38 317⇑*i*P P 03 45 44.7 +0.4
comp=Z,367nm,1.0s,mb6.0
MUD *i*S **S 03 52 18.3 +5.3**
MUD
comp=Z,3µm,14.0s
BKNI Bangkinang 45.39 135 P **P 03 45 45.3 +0.4**
BKNI Bangkinang 45.39 135 P **P 03 45 45.3 +0.4**
comp=Z,1µm,1.2s,mb6.3
PPI Padang Panjang 45.68 137 P **P 03 45 47.4 +0.2**
comp=Z,8µmcomp=Z,631nm,1.2s,mb6.1
PPI Padang Panjang 45.68 137 P **P 03 45 47.4 +0.2**
comp=Z,8µmcomp=Z,631nm,1.2s,mb6.1
DAVA Damuels 45.78 304 *i*P **P 03 45 47.0 -0.7**
comp=Z,291nm,0.7s,mb6.0,SNR=194
DAVA Damuels 45.78 304 *i*P **P 03 45 47.0 -0.7**
comp=Z,291nm,0.7s,mb6.0
MYKOM Kota Tinggi 45.86 131 P **P 03 45 50.1 +1.5**
MYKOM Kota Tinggi 45.86 131 P **P 03 45 49.9 +1.3**
comp=Z,5µmcomp=Z,330nm,1.5s,mb5.8
STU Stuttgart 46.01 306 *e*P P 03 45 49.4 +0.1
comp=Z,368nm,1.1s,mb5.9
STU Stuttgart 46.01 306 *e*P P 03 45 49.6 +0.3
comp=Z,366nm,1.2s,mb5.9
STU *e*ScP ScP 03 50 59.7 -1.6
STU Stuttgart 46.01 306 *e*P P 03 45 49.6 +0.3
STU pmax pmax
comp=Z,366nm,1.2s,mb5.9
USRK Ussuriysk Arra 46.16 61 P **P 03 45 50.9 +0.2**
comp=Z,25nm,0.9s,mb4.8,baz=274,slow=5.9,SNR=32
USRK pP pP 03 46 27.6 +1.6
comp=Z,8.9nm,0.7s,baz=299,slow=9.4,SNR=3.6
USRK sP sP 03 46 46.6 +2.9
comp=Z,5.6nm,0.6s,baz=299,slow=8.8,SNR=1.8
USRK PcP PcP 03 47 22.6 -1.3
comp=Z,18nm,0.9s,baz=274,slow=6.5,SNR=5.9
USRK ScP ScP 03 51 00.7 -1.4
comp=Z,11nm,1.1s,baz=298,slow=4.2,SNR=3.1
USRK LR LR 04 06 54.3
comp=Z,754nm,18.2s,baz=84,slow=38
TUE Stuetta 46.28 303 *e*P P 03 45 51.0 -0.6
comp=Z,411nm,1.8s,mb5.8
TNS Taunus Mts 46.28 308 *e*P P 03 45 51.7 +0.2
comp=Z,335nm,1.1s,mb5.9
TNS Taunus Mts 46.28 308 *e*P P 03 45 51.7 +0.2
TNS pmax pmax
comp=Z,335nm,1.1s,mb5.9
VLA Vladivostok 46.32 62*d i*P **P 03 45 52.5 +0.6**
VLA pmax pmax
comp=Z,273nm,1.2s,mb5.8
BFO Black Forest 46.64 305 *e*P P 03 45 53.7 -0.6
comp=Z,206nm,1.2s,mb5.6
BFO Black Forest 46.64 305 *e*P P 03 45 53.8 -0.5
comp=Z,242nm,1.3s,mb5.7
BFO Black Forest 46.64 305 *e*P P 03 45 53.8 -0.5
BFO pmax pmax
comp=Z,242nm,1.3s,mb5.7
BFO Black Forest 46.64 305 P **P 03 45 54.4 +0.1**
comp=Z,703nm,1.1s,mb6.2,SNR=52
BUG Bochum--Univer 46.87 310 *e*P P 03 45 56.0 0.0
comp=Z,653nm,1.1s,mb6.2
LANF Langenberg 46.88 306 *e*P P 03 45 56.4 +0.3
STR Strasbourg 46.97 306 *e*P P 03 45 57.0 +0.1
CDF Champ du Feu 47.32 306 *e*P P 03 45 59.1 -0.5
comp=Z,236nm,1.0s,mb5.5
CDF *e*pP pP 03 46 34.5 -0.6
CDF Champ du Feu 47.32 306 *e*P P 03 45 59.1 -0.5
comp=Z,236nm,1.0s,mb5.8
CDF *e*pP pP 03 46 34.5 -0.6
CDF Champ du Feu 47.32 306 *e*P P 03 45 59.1 -0.5
CDF *e**PP pP 03 46 34.5 -0.6
CDF pmax pmax
comp=Z,236nm,1.0s,mb5.8
PGF Pioggiola 47.37 297 *e*P P 03 45 59.2 -0.9
comp=Z,273nm,0.9s,mb5.6
PGF Pioggiola 47.37 297 *e*P P 03 45 59.2 -0.9
comp=Z,273nm,0.9s,mb5.9
PGF Pioggiola 47.37 297 *e*P P 03 45 59.2 -0.9
PGF pmax pmax
comp=Z,273nm,0.9s,mb5.9
HABR Khabarovsk 47.41 54 *e*P P 03 45 58.4 -1.8
HABR *e**PP pP 03 46 32.7 -3.0
HABR *e* 03 47 26.7
HABR *e*S **S 03 52 41.1 -1.0**
HABR *e**SS sS 03 53 40.6 -3.2
HABR *e* 03 55 36.0
HABR *e*SS SS 03 56 12.7 +1.2
HABR pmax pmax
comp=N,48nm,1.5s
HABR pmax pmax
comp=Z,152nm,1.4s,mb5.4
HABR pmax pmax
comp=Z,1µm,4.3s
HABR pmax pmax
comp=E,86nm,1.0s
HABR MLR MLR
comp=Z,685nm,21.0s
ECH Echery 47.43 305 *e*P P 03 45 59.9 -0.6
comp=Z,140nm,1.1s,mb5.5
ECH Echery 47.43 305 *e*P P 03 45 59.9 -0.5
ECH pmax pmax
comp=Z,140nm,1.1s,mb5.5
ECH Echery 47.43 305 *e*P P 03 46 00.1 -0.3
MOF Molkenrain 47.52 305 *e*P P 03 46 00.7 -0.4
SPB4 Spitsbergen Ar 47.60 347 *e*P P 03 46 02.6 +1.2
KRJI Kerinci 47.62 137 P **P 03 46 03.5 +1.3**
comp=Z,2µm,1.1s,mb6.7
KRJI Kerinci 47.62 137 P **P 03 46 03.5 +1.3**
comp=Z,2µm,1.1s,mb6.7
HINF Hinteralfeld 47.71 305⇑*i*P P 03 46 01.8 -0.8
comp=Z,792nm,1.3s,mb5.9
HINF Hinteralfeld 47.71 305⇑*i*P P 03 46 01.8 -0.8
comp=Z,792nm,1.3s,mb6.2
HINF Hinteralfeld 47.71 305⇑*i*P P 03 46 01.8 -0.8
HINF pmax pmax
comp=Z,793nm,1.3s,mb6.2
MEM Membach 47.77 309 P **P 03 46 03.3 +0.3**
comp=Z,238nm,1.2s,mb5.7
LOMF Lomont 47.81 304 *e*P P 03 46 02.5 -0.9
WLF Walferdange 47.84 307 P **P 03 46 04.3 +0.8**
comp=Z,485nm,1.2s,mb6.0
WLF Walferdange 47.84 307 *e*P P 03 46 03.9 +0.4
comp=Z,723nm,1.3s,mb6.2
WLF Walferdange 47.84 307 *e*P P 03 46 04.0 +0.5
comp=Z,722nm,1.0s,mb6.3
WLF *e*pP pP 03 46 40.4 +1.3
WLF Walferdange 47.84 307 *e*P P 03 46 04.0 +0.5
WLF *e**PP pP 03 46 40.4 +1.3
WLF pmax pmax
comp=Z,722nm,1.0s,mb6.3
VSL Villasalto 47.92 293 *e*P P 03 46 02.8 -1.5
comp=Z,222nm,1.7s,mb5.5
BEBN Eben Emael 47.95 309 P **P 03 46 04.4 0.0**
HAU Haudompre 48.01 305⇑*i*P P 03 46 04.4 -0.4
comp=Z,546nm,1.1s,mb5.8
HAU *e*pP pP 03 46 40.1 -0.3
HAU *e*R
comp=Z,712nm,19.8s
HAU Haudompre 48.01 305⇑*i*P P 03 46 04.4 -0.4
comp=Z,546nm,1.1s,mb6.1
HAU *e*pP pP 03 46 40.1 -0.3
HAU Haudompre 48.01 305⇑*i*P P 03 46 04.4 -0.4
HAU *e**PP pP 03 46 40.1 -0.3
HAU pmax pmax
comp=Z,546nm,1.1s,mb6.1
SAOF Saorge 48.05 300 *e*P P 03 46 05.3 +0.1
OG01 Vacheresse 48.12 303 *e*P P 03 46 05.7 -0.1
AUTN L'Aution 48.13 300 *e*P P 03 46 06.1 +0.2
SBF Sospel 48.16 300 *e*P P 03 46 05.8 -0.3
comp=Z,413nm,0.9s,mb5.7
SBF *e*pP pP 03 46 41.3 -0.4
SBF Sospel 48.16 300 *e*P P 03 46 05.8 -0.3
comp=Z,413nm,0.9s,mb6.1
SBF *e*pP pP 03 46 41.3 -0.4
SBF Sospel 48.16 300 *e*P P 03 46 05.8 -0.3
SBF *e**PP pP 03 46 41.3 -0.4
SBF pmax pmax
comp=Z,413nm,0.9s,mb6.1
THEF They Montfort 48.20 306 *e*P P 03 46 06.1 -0.2
REVF Revere 48.24 299 *e*P P 03 46 06.5 -0.2
BCLA Clavier 48.25 309 P **P 03 46 06.7 0.0**
comp=Z,124nm,1.7s,mb5.3
LPG La Plagne 48.26 302⇑*i*P P 03 46 06.9 +0.1
comp=Z,437nm,0.9s,mb5.8
LPG *e*pP pP 03 46 43.0 +0.6
LPG La Plagne 48.26 302⇑*i*P P 03 46 06.9 +0.1
comp=Z,437nm,0.9s,mb6.1
LPG *e*pP pP 03 46 43.0 +0.6
LPG La Plagne 48.26 302⇑*i*P P 03 46 06.9 +0.1
LPG *e**PP pP 03 46 43.0 +0.6
LPG pmax pmax
comp=Z,437nm,0.9s,mb6.1
TOUF Mont Tournerai 48.26 300 *e*P P 03 46 07.1 +0.3
LPL La Plagne 48.26 302⇑*i*P P 03 46 06.9 0.0
comp=Z,169nm,0.7s,mb5.5
LPL La Plagne 48.26 302⇑*i*P P 03 46 06.9 0.0
comp=Z,169nm,0.7s,mb5.8
LPL La Plagne 48.26 302⇑*i*P P 03 46 06.9 0.0
LPL pmax pmax
comp=Z,169nm,0.7s,mb5.8
MVIF Mont Vial 48.35 300 *e*P P 03 46 07.4 -0.2
BNI Bardonecchia 48.41 301 *e*P P 03 46 07.5 -0.5
comp=Z,127nm,1.0s,mb5.5
BNI Bardonecchia 48.41 301 *e*P P 03 46 07.5 -0.5
BNI pmax pmax
comp=Z,127nm,1.0s,mb5.5
MBDF Montbardon 48.42 301⇑*i*P P 03 46 07.5 -0.6
comp=Z,213nm,0.8s,mb5.5
MBDF Montbardon 48.42 301⇑*i*P P 03 46 07.5 -0.6
comp=Z,213nm,0.8s,mb5.8
MBDF Montbardon 48.42 301⇑*i*P P 03 46 07.5 -0.6
MBDF pmax pmax
comp=Z,213nm,0.8s,mb5.8
SURF Saint Ours 48.45 300 *e*P P 03 46 08.3 0.0
CABF La Chapelle 48.46 303⇑*i*P P 03 46 08.2 -0.2
comp=Z,1µm,1.4s,mb6.1
CABF La Chapelle 48.46 303⇑*i*P P 03 46 08.2 -0.2
comp=Z,1µm,1.4s,mb6.4
CABF La Chapelle 48.46 303⇑*i*P P 03 46 08.2 -0.2
CABF pmax pmax
comp=Z,1µm,1.4s,mb6.4
JNU Nakatsue 48.55 75 *e*P P 03 46 09.4 +0.2
comp=Z,171nm,1.1s,mb5.6
CALN Calern 48.57 300 *e*P P 03 46 09.1 -0.2
KBS Kingsbay 48.71 347 *e*P P 03 46 10.8 +1.0
comp=Z,411nm,1.0s,mb6.0
KBS *e*pP pP 03 46 46.7 +1.2
KBS Kingsbay 48.71 347*ce*P P 03 46 11.0 +1.1
KBS pmax pmax
comp=Z,513nm,1.2s,mb6.0
DOU Dourbes 48.75 308 P **P 03 46 10.6 +0.1**
comp=Z,256nm,1.5s,mb5.6
GDM Grand'Maison 48.76 302 *e*P P 03 46 10.2 -0.5
MEZF Maizieres J'vi 48.76 306⇑*i*P P 03 46 10.7 +0.1
comp=Z,2µm,1.5s,mb6.3,baz=72
MEZF *e*pP pP 03 46 46.4 +0.1
MEZF Maizieres J'vi 48.76 306⇑*i*P P 03 46 10.7 +0.1
comp=Z,2µm,1.5s,mb6.6
MEZF *e*pP pP 03 46 46.4 +0.1
UCC Uccle 48.78 309 P **P 03 46 10.2 -0.5**
comp=Z,102nm,1.4s,mb5.3
KMBO Kilima Mbogo 48.82 228 P **P 03 46 13.0 +1.5**
SNR=77
SNF Seneffe 48.88 309 P **P 03 46 11.5 0.0**
comp=Z,336nm,1.5s,mb5.8
LMR La Mourre 48.95 299⇑*i*P P 03 46 11.1 -1.0
comp=Z,178nm,1.2s,mb5.2
LMR La Mourre 48.95 299⇑*i*P P 03 46 11.1 -1.0
comp=Z,178nm,1.3s,mb5.5
LMR La Mourre 48.95 299⇑*i*P P 03 46 11.1 -1.0
LMR pmax pmax
comp=Z,178nm,1.3s,mb5.5
ORIF Oris-en-Rattie 48.99 301 *e*P P 03 46 11.3 -1.1
comp=Z,124nm,0.9s,mb5.2
ORIF *e*R
comp=Z,999nm,19.8s
ORIF Oris-en-Rattie 48.99 301 *e*P P 03 46 11.3 -1.1
comp=Z,124nm,0.9s,mb5.5
ORIF Oris-en-Rattie 48.99 301 *e*P P 03 46 11.3 -1.1
ORIF pmax pmax
comp=Z,125nm,0.9s,mb5.5
BAIF Baives 49.00 308⇑*i*P P 03 46 12.8 +0.4
comp=Z,1µm,1.1s,mb6.2
BAIF *e*pP pP 03 46 48.5 +0.3
BAIF Baives 49.00 308⇑*i*P P 03 46 12.8 +0.4
comp=Z,1µm,1.1s,mb6.5
BAIF Baives 49.00 308⇑*i*P P 03 46 12.8 +0.4
BAIF pmax pmax
comp=Z,1µm,1.1s,mb6.5
GRN Grenoble 49.00 302 *e*P P 03 46 12.1 -0.4
JOW Kunigami 49.01 84 *e*P P 03 46 12.8 0.0
comp=Z,132nm,1.2s,mb5.4
KEST Kesra 49.13 289 P **P 03 46 14.1 +0.5**
comp=Z,55nm,0.9s,mb5.2,baz=357,slow=1.8,SNR=65
KEST pP pP 03 46 48.1 -1.3
comp=Z,34nm,0.8s,baz=278,slow=3.4,SNR=2.9
KEST Kesra 49.13 289 *e*P P 03 46 14.2 +0.5
KEST pP pP 03 46 48.1 -1.3
TAVF Tavernes 49.19 300 *e*P P 03 46 13.5 -0.5
STOF St-Etienne Org 49.20 300 *e*P P 03 46 14.1 +0.1
SMRF Simiane la Rot 49.44 300 *e*P P 03 46 15.5 -0.3
comp=Z,440nm,1.6s,mb5.5
SMRF Simiane la Rot 49.44 300 *e*P P 03 46 15.5 -0.3
comp=Z,440nm,1.6s,mb5.8
BERF Bertagne 49.53 299 *e*P P 03 46 16.1 -0.4
KSI Kapahiang 49.53 137 P **P 03 46 16.3 -0.6**
comp=Z,2µm,1.0s,mb6.7
KSI Kapahiang 49.53 137 P **P 03 46 16.5 -0.4**
comp=Z,2µm,1.0s,mb6.7
TREF Trevaresse 49.66 300 *e*P P 03 46 17.6 +0.1
PRAF Pradon 49.76 300 *e*P P 03 46 18.0 -0.3
LOR Lormes 49.81 305⇑*i*P P 03 46 17.7 -0.9
comp=Z,531nm,1.5s,mb5.7,baz=78
LOR *e*pP pP 03 46 53.6 -0.8
LOR *e*R
comp=Z,781nm,19.5s
LOR Lormes 49.81 305⇑*i*P P 03 46 17.7 -0.9
comp=Z,531nm,1.5s,mb6.0
LOR *e*pP pP 03 46 53.6 -0.8
LOR Lormes 49.81 305⇑*i*P P 03 46 17.7 -0.9
LOR *e**PP pP 03 46 53.6 -0.8
LOR pmax pmax
comp=Z,531nm,1.5s,mb6.0
SSB Saint Sauveur 49.82 302 *e*P P 03 46 18.4 -0.3
comp=Z,312nm,1.4s,mb5.8
SSB Saint Sauveur 49.82 302 *e*P P 03 46 18.4 -0.3
SSB pmax pmax
comp=Z,409nm,1.4s,mb5.9
VIVF Saint-Julien-I 49.84 301⇑*i*P P 03 46 18.7 -0.1
comp=Z,401nm,1.0s,mb5.7
VIVF *e*pP pP 03 46 54.4 -0.3
VIVF Saint-Julien-I 49.84 301⇑*i*P P 03 46 18.7 -0.1
comp=Z,401nm,1.0s,mb6.0
VIVF *e*pP pP 03 46 54.4 -0.3
VIVF Saint-Julien-I 49.84 301⇑*i*P P 03 46 18.7 -0.1
VIVF *e**PP pP 03 46 54.4 -0.3
VIVF pmax pmax
comp=Z,401nm,1.0s,mb6.0
SMF Signal de Mont 49.96 304⇑*i*P P 03 46 19.3 -0.5
comp=Z,698nm,0.9s,mb6.0
SMF Signal de Mont 49.96 304⇑*i*P P 03 46 19.3 -0.5
comp=Z,698nm,0.9s,mb6.3
SMF Signal de Mont 49.96 304⇑*i*P P 03 46 19.3 -0.5
SMF pmax pmax
comp=Z,698nm,0.9s,mb6.3
SSF Saint Saulge 50.09 305⇑*i*P P 03 46 20.0 -0.7
comp=Z,852nm,1.5s,mb5.9
SSF Saint Saulge 50.09 305⇑*i*P P 03 46 20.0 -0.7
comp=Z,852nm,1.5s,mb6.2
SSF Saint Saulge 50.09 305⇑*i*P P 03 46 20.0 -0.7
SSF pmax pmax
comp=Z,852nm,1.5s,mb6.2
KSM Kuching 50.22 125 P **P 03 46 23.6 +1.6**
KSM Kuching 50.22 125 *e*P P 03 46 23.5 +1.4
comp=Z,294nm,1.2s,mb5.8
KSM Kuching 50.22 125 P **P 03 46 23.4 +1.3**
comp=Z,3µmcomp=Z,219nm,1.5s,mb5.6
AVF Avril sur Loir 50.25 304⇑*i*P P 03 46 21.4 -0.5
comp=Z,697nm,1.0s,mb6.0
AVF Avril sur Loir 50.25 304⇑*i*P P 03 46 21.4 -0.5
comp=Z,697nm,1.0s,mb6.2
AVF Avril sur Loir 50.25 304⇑*i*P P 03 46 21.4 -0.5
AVF pmax pmax
comp=Z,697nm,1.0s,mb6.2
PLDF La Plantade 50.27 303 *e*P P 03 46 21.9 -0.2
CMAH Djebel Manchou 50.29 290 P **P 03 46 22.2 -0.2**
MNAI Manna 50.32 137 P **P 03 46 23.0 +0.2**
MNAI Manna 50.32 137 P **P 03 46 23.0 +0.2**
comp=Z,800nm,1.5s,mb6.1
ABSA Djebel Ababsia 50.37 290 P **P 03 46 22.8 -0.2**
AEU East Anglia Un 50.37 312⇑*e*P P 03 46 22.5 -0.2
PPBI Pangkal Pinang 50.37 132 P **P 03 46 23.7 +0.5**
comp=Z,8µmcomp=Z,782nm,1.1s,mb6.3
LASF Ste Croix 50.60 301⇑*i*P P 03 46 24.5 -0.1
comp=Z,672nm,1.1s,mb5.9
LASF *e*pP pP 03 47 00.1 -0.4
LASF Ste Croix 50.60 301⇑*i*P P 03 46 24.5 -0.1
comp=Z,672nm,1.1s,mb6.2
LASF *e*pP pP 03 47 00.1 -0.4
LRW Lerwick 50.61 322⇑*e*P P 03 46 23.4 -1.0
LRW AMB AMB 03 46 25.4
comp=Z,723nm,0.9s,mb6.3
BGF Bois d'Agland 50.65 304⇑*i*P P 03 46 24.3 -0.6
comp=Z,301nm,1.0s,mb5.6
BGF Bois d'Agland 50.65 304⇑*i*P P 03 46 24.3 -0.6
comp=Z,301nm,1.0s,mb5.9
BGF Bois d'Agland 50.65 304⇑*i*P P 03 46 24.3 -0.6
BGF pmax pmax
comp=Z,301nm,1.0s,mb5.9
CAEH 'Ain El Ouahch 50.67 291 P **P 03 46 24.2 -1.0**
ELSH Elham, Standar 50.72 310 *e*P P 03 46 24.7 -0.7
ELSH AMB AMB 03 46 26.7
comp=Z,1µm,1.0s,mb6.6
LBL Lubilhac 50.72 302 *e*P P 03 46 25.5 +0.1
SBUM Sibu 50.79 122 P **P 03 46 28.2 +1.8**
SBUM Sibu 50.79 122 P **P 03 46 27.9 +1.5**
comp=Z,3µmcomp=Z,184nm,1.5s,mb5.5
CKFL Kef-Lekhel 50.90 290 P **P 03 46 26.2 -0.7**
KKM Kota Kinabalu 51.11 115 *e*P P 03 46 30.4 +1.6
comp=Z,564nm,1.3s,mb6.0
KKM Kota Kinabalu 51.11 115 P **P 03 46 30.7 +1.9**
comp=Z,5µmcomp=Z,331nm,1.5s,mb5.8
CASM Ain Smara 51.12 290 P **P 03 46 27.9 -0.7**
FRNF Fournols 51.14 303 *e*P P 03 46 28.8 +0.2
CTEI Djebel Teioual 51.25 290 P **P 03 46 29.5 -0.1**
LWLI Liwa 51.47 136 P **P 03 46 29.2 -2.2**
comp=Z,10µmcomp=Z,885nm,1.0s,mb6.3
CAF Calviac 51.60 302⇑*i*P P 03 46 32.1 0.0
comp=Z,280nm,0.9s,mb5.6
CAF Calviac 51.60 302⇑*i*P P 03 46 32.1 0.0
comp=Z,280nm,0.9s,mb5.9
CAF Calviac 51.60 302⇑*i*P P 03 46 32.1 0.0
CAF pmax pmax
comp=Z,280nm,0.9s,mb5.9
SJAF Saint Jean de 51.74 299 *e*P P 03 46 32.3 -0.8
TPI Tanjungpandan 51.76 131 P **P 03 46 34.1 +0.5**
comp=Z,5µmcomp=Z,370nm,1.4s,mb5.8
KLI Kotabumi 51.80 135 P **P 03 46 31.5 -2.3**
comp=Z,206nm,1.2s,mb5.6
LRDF Laroque-de-Fa 51.85 300 *e*P P 03 46 33.0 -0.9
RJF Les Rejaudoux 51.87 303⇑*i*P P 03 46 34.1 +0.1
comp=Z,923nm,1.5s,mb5.9
RJF *e*pP pP 03 47 09.7 -0.4
RJF *e*R
comp=Z,823nm,21.0s
RJF Les Rejaudoux 51.87 303⇑*i*P P 03 46 34.1 +0.1
comp=Z,923nm,1.5s,mb6.2
RJF *e*pP pP 03 47 09.7 -0.4
RJF Les Rejaudoux 51.87 303⇑*i*P P 03 46 34.1 +0.1
RJF *e**PP pP 03 47 09.7 -0.4
RJF pmax pmax
comp=Z,923nm,1.5s,mb6.2
KBI1 Birley Grange 51.89 313⇑*e*P P 03 46 32.7 -1.3
FILF Fillols 51.95 299 *e*P P 03 46 34.5 -0.1
CKHR Kef el Ahmar 51.95 290 P **P 03 46 34.3 -0.4**
MTLF Montolieu 51.95 300⇑*i*P P 03 46 34.4 -0.3
comp=Z,233nm,1.0s,mb5.5
MTLF *e*pP pP 03 47 09.6 -1.2
MTLF Montolieu 51.95 300⇑*i*P P 03 46 34.4 -0.3
comp=Z,233nm,1.0s,mb5.8
MTLF *e*pP pP 03 47 09.6 -1.2
MTLF Montolieu 51.95 300⇑*i*P P 03 46 34.4 -0.3
MTLF *e**PP pP 03 47 09.6 -1.2
MTLF pmax pmax
comp=Z,233nm,1.0s,mb5.8
XAL Allendale 51.96 315⇑*i*P P 03 46 34.0 -0.5
SET Setif 51.97 291 P **P 03 46 35.0 +0.1**
ESY Stoneypath 51.98 317⇑*i*P P 03 46 34.0 -0.7
MCD Coleburn Disti 52.03 319⇑*i*P P 03 46 35.1 +0.1
STKI Sintang 52.04 125 P **P 03 46 37.3 +1.6**
comp=Z,7µmcomp=Z,297nm,1.5s,mb5.7
LDF La Druitiere 52.09 307 *e*P P 03 46 34.7 -0.9
comp=Z,242nm,1.0s,mb5.5
LDF *e*pP pP 03 47 10.0 -1.7
LDF La Druitiere 52.09 307 *e*P P 03 46 34.7 -0.9
comp=Z,242nm,1.0s,mb5.8
LDF *e*pP pP 03 47 10.0 -1.7
LDF La Druitiere 52.09 307 *e*P P 03 46 34.7 -0.9
LDF *e**PP pP 03 47 10.0 -1.7
LDF pmax pmax
comp=Z,242nm,1.0s,mb5.8
SDKM Sandakan 52.10 115 P **P 03 46 37.2 +1.1**
KWE Weaver Farm 52.12 313⇑*e*P P 03 46 34.6 -1.2
WOL Wolverton 52.13 311 *e*P P 03 46 35.4 -0.4
WOL AMB AMB 03 46 37.0
comp=Z,1µm,1.3s,mb6.4
CARF Carcanieres 52.22 299 *e*P P 03 46 35.6 -1.0
EBL Broad Law 52.25 317⇑*e*P P 03 46 35.3 -1.4
FLN La Foliniere 52.28 307⇑*i*P P 03 46 36.1 -0.9
comp=Z,528nm,0.9s,mb5.8,baz=74
FLN *e*R
comp=Z,2µm,18.8s
FLN La Foliniere 52.28 307⇑*i*P P 03 46 36.1 -0.9
comp=Z,528nm,0.9s,mb6.2
FLN La Foliniere 52.28 307⇑*i*P P 03 46 36.1 -0.9
FLN pmax pmax
comp=Z,528nm,0.9s,mb6.2
EDI Edinburgh 52.30 317 *e*P P 03 46 35.5 -1.6
EDI AMB AMB 03 46 37.1
comp=Z,625nm,1.0s,mb6.2
SSW Stow on the Wo 52.36 312⇑*e*P P 03 46 36.0 -1.5
VALF Valcebollere 52.38 299 *e*P P 03 46 37.6 -0.2
ESK Eskdalemuir 52.43 316 *e*P P 03 46 36.4 -1.6
ESK AMB AMB 03 46 37.8
comp=Z,593nm,1.1s,mb6.1
ESK Eskdalemuir 52.43 316 *e*P P 03 46 37.5 -0.5
comp=Z,674nm,1.1s,mb6.2
ESK Eskdalemuir 52.43 316 *i*P P 03 46 37.8 -0.2
ESK Eskdalemuir 52.43 316 P **P 03 46 38.0 0.0**
comp=Z,3µm,1.1s,mb6.8,SNR=66
BLSI Bandar Lampung 52.43 135 P **P 03 46 36.1 -2.4**
comp=Z,4µmcomp=Z,413nm,1.1s,mb6.0
SWN1 Swindon 52.43 311 *e*P P 03 46 37.5 -0.5
SWN1 AMB AMB 03 46 39.2
comp=Z,1µm,1.2s,mb6.5
MVH1 Achvaich 52.46 319⇑*e*P P 03 46 37.1 -1.1
LFF La Frestale 52.50 303⇑*i*P P 03 46 38.6 -0.1
comp=Z,379nm,0.9s,mb5.8
LFF La Frestale 52.50 303⇑*i*P P 03 46 38.6 -0.1
comp=Z,379nm,0.9s,mb6.1
LFF La Frestale 52.50 303⇑*i*P P 03 46 38.6 -0.1
LFF pmax pmax
comp=Z,379nm,0.9s,mb6.1
MBAR Mbarara 52.51 235 P **P 03 46 38.8 -0.3**
comp=Z,432nm,0.9s,mb6.2,SNR=53
KESW Keswick, Cumbr 52.52 315⇑*e*P P 03 46 37.9 -0.8
KESW AMB AMB 03 46 39.9
comp=Z,665nm,1.2s,mb6.3
GRR Gorron 52.61 307⇑*i*P P 03 46 38.5 -1.0
comp=Z,639nm,1.0s,mb6.0
GRR Gorron 52.61 307⇑*i*P P 03 46 38.5 -1.0
comp=Z,639nm,1.0s,mb6.3
GRR Gorron 52.61 307⇑*i*P P 03 46 38.5 -1.0
GRR pmax pmax
comp=Z,639nm,1.0s,mb6.3
MFF Saint Martin d 52.63 305⇑*i*P P 03 46 38.7 -0.9

comp=Z,440nm,1.1s,mb5.8
MFF *e*pP pP 03 47 14.6 -1.2
MFF Saint Martin d 52.63 305⇑*i*P P 03 46 38.7 -0.9
comp=Z,440nm,1.1s,mb6.1
MFF *e*pP pP 03 47 14.6 -1.2
MFF Saint Martin d 52.63 305⇑*i*P P 03 46 38.7 -0.9
MFF *e**PP pP 03 47 14.6 -1.2
MFF pmax pmax
comp=Z,440nm,1.1s,mb6.1
MDO Dochfour 52.65 319⇑*i*P P 03 46 38.9 -0.7
XDE Dent Fell 52.76 315⇑*e*P P 03 46 40.1 -0.3
YSS Yuzh-Sakhalins 52.82 55 *e*P P 03 46 41.5 +0.5
comp=Z,231nm,1.0s,mb5.9
YSS Yuzh-Sakhalins 52.82 55⇑*i*P P 03 46 40.8 -0.2
YSS *e* pP 03 47 18.0 +0.8
YSS *e*S S 03 53 51.0 -6.0
YSS pmax pmax
comp=Z,190nm,1.0s,mb5.8
YSS MLR MLR
comp=Z,1μm,16.0s
SALF Salau 52.85 300 *e*P P 03 46 39.7 -1.6
HLM1 Long Mynd 52.85 313⇑*e*P P 03 46 39.4 -1.7
HLM1 AMB AMB 03 46 41.1
comp=Z,401nm,1.2s,mb6.0
EAB Aberfoyle 52.88 317⇑*e*P P 03 46 40.3 -1.0
MAJO Matsushiro 52.92 68 *e*P P 03 46 41.5 -0.4
comp=Z,160nm,1.1s,mb5.7
MAJO *e*pP pP 03 47 18.6 +0.5
MAJO *e*ScP ScP 03 51 29.6 -1.5
MAJO Matsushiro 52.92 68 *e*P P 03 46 41.5 -0.4
MAJO *e**PP pP 03 47 18.7 +0.6
MAJO pmax pmax
comp=Z,160nm,1.1s,mb5.7
MAT Matsushiro 52.92 68 P P 03 46 41.0 -0.9
MAT S S 03 53 59.0 +0.3
MJAR Matsushiro Arr 52.92 68 P P 03 46 42.4 +0.5
comp=Z,104nm,1.1s,mb5.5,baz=284,slow=9.9,SNR=113
MJAR pP pP 03 47 19.3 +1.1
comp=Z,25nm,0.8s,baz=278,slow=11,SNR=3.2
MJAR ScP ScP 03 51 29.3 -1.8
comp=Z,16nm,1.1s,baz=282,slow=6.3,SNR=7.0
MJAR P3KP 04 15 55.2
comp=Z,1.2nm,0.3s,baz=98,slow=25,SNR=3.9
MJAR Matsushiro Arr 52.92 68 P P 03 46 42.4 +0.5
MJAR pP pP 03 47 19.3 +1.1
MJAR ScP ScP 03 51 29.3 -1.8
MJAR PKKKP 04 15 55.2
MJAR Matsushiro Arr 52.92 68 P P 03 46 42.4 +0.5
MJAR *PP pP 03 47 19.3 +1.2
MJAR pmax pmax
comp=Z,104nm,1.1s
FOEL Foel Wylfa 52.95 313 *e*P P 03 46 40.0 -1.8
FOEL AMB AMB 03 46 42.1
comp=Z,410nm,1.4s,mb6.0
HGH Gray Hill 53.01 311⇑*i*P P 03 46 41.1 -1.2
PGBU Glenifferbraes 53.04 317 *e*P P 03 46 41.9 -0.5
PGBU AMB AMB 03 46 43.6
comp=Z,709nm,1.0s,mb6.3
MCH1 Michaelchurch 53.04 312 *e*P P 03 46 41.7 -0.8
MCH1 AMB AMB 03 46 43.3
comp=Z,1μm,1.0s,mb6.5
SOFL Sornfelli, Far 53.13 325 *e*P P 03 46 42.2 -0.8
SOFL AMB AMB 03 46 43.5
comp=Z,290nm,1.0s,mb6.0
KAC Achnashellach 53.13 319⇑*i*P P 03 46 42.2 -0.9
JSA Saint Aubin 53.24 308 *e*P P 03 46 41.7 -2.4
JSA AMB AMB 03 46 43.4
comp=Z,213nm,1.7s,mb5.6
KPL Plockton 53.35 319⇑*e*P P 03 46 44.5 -0.2
KPL AMB AMB 03 46 45.6
comp=Z,649nm,1.1s,mb6.3
EPF Esparros 53.35 300⇑*i*P P 03 46 43.6 -1.4
comp=Z,123nm,0.9s,mb5.3
EPF Esparros 53.35 300⇑*i*P P 03 46 43.6 -1.4
comp=Z,123nm,0.9s,mb5.6
EPF Esparros 53.35 300⇑*i*P P 03 46 43.6 -1.4
EPF pmax pmax
comp=Z,123nm,0.9s,mb5.6
MYLDM Lahad Datu 53.37 114 P P 03 46 48.0 +2.6
comp=Z,4μmcomp=Z,202nm,1.8s,mb5.6
GAL1 Galloway 53.37 316⇑*e*P P 03 46 44.2 -0.7
GAL1 AMB AMB 03 46 45.9
comp=Z,395nm,1.2s,mb6.0
RESF Ens 53.43 300 *e*P P 03 46 45.2 -0.3
TSM Tawau 53.50 115 P P 03 46 47.3 +0.9
LABF Labassere 53.53 300 *e*P P 03 46 45.0 -1.3
VIEF Viey 53.62 300 *e*P P 03 46 46.7 -0.2
CGJI Cibinong 53.70 136 P P 03 46 45.1 -2.7
comp=Z,6μmcomp=Z,470nm,0.7s,mb6.3
SGMF Saint Gilles 53.74 307⇑*i*P P 03 46 47.2 -0.5
comp=Z,930nm,1.2s,mb6.1
SGMF Saint Gilles 53.74 307⇑*i*P P 03 46 47.2 -0.5
comp=Z,930nm,1.2s,mb6.4
SGMF Saint Gilles 53.74 307⇑*i*P P 03 46 47.2 -0.5
SGMF pmax pmax
comp=Z,930nm,1.2s,mb6.4
HEX Exmoor 53.76 311⇑*i*P P 03 46 46.3 -1.5
REYF Montagne du Re 53.85 301 *e*P P 03 46 48.9 +0.3
ETSF Etsaut 54.02 300 *e*P P 03 46 49.6 -0.2
comp=Z,209nm,0.8s,mb5.6
ETSF *e*pP pP 03 47 25.2 -1.0
ETSF Etsaut 54.02 300 *e*P P 03 46 49.6 -0.2
comp=Z,209nm,0.8s,mb5.9
ETSF Etsaut 54.02 300 *e*P P 03 46 49.6 -0.2
ETSF pmax pmax
comp=Z,209nm,0.8s,mb5.9
COCO West Island 54.09 148 *e*P P 03 46 51.9 +1.4
comp=Z,1μm,1.4s,mb6.4
COCO West Island 54.09 148 *i*P P 03 46 52.7 +2.1
COCO West Island 54.09 148 P P 03 46 52.6 +2.0
comp=Z,9μmcomp=Z,577nm,1.6s,mb6.1
COCO West Island 54.09 148 P P 03 46 52.3 +1.7
comp=Z,3μm,1.3s,mb6.8,SNR=6.5
COCO West Island 54.09 148 P P 03 46 52.7 +2.2
SNR=12
ROSF Rostrenen 54.18 308⇑*i*P P 03 46 50.2 -0.7
comp=Z,753nm,1.0s,mb6.1
ROSF Rostrenen 54.18 308⇑*i*P P 03 46 50.2 -0.7
comp=Z,753nm,1.0s,mb6.4
ROSF Rostrenen 54.18 308⇑*i*P P 03 46 50.2 -0.7
ROSF pmax pmax
comp=Z,753nm,1.0s,mb6.4
HTL Hartland 54.20 311 *e*P P 03 46 49.5 -1.5
HTL AMB AMB 03 46 50.8
comp=Z,302nm,1.6s,mb5.8
QUIF Quistinic 54.23 307⇑*i*P P 03 46 50.4 -0.8
comp=Z,608nm,1.2s,mb5.9
QUIF *e*pP pP 03 47 26.2 -1.4
QUIF Quistinic 54.23 307⇑*i*P P 03 46 50.4 -0.8
comp=Z,608nm,1.2s,mb6.2
QUIF *e*pP pP 03 47 26.2 -1.4
QUIF Quistinic 54.23 307⇑*i*P P 03 46 50.4 -0.8
QUIF *e**PP pP 03 47 26.2 -1.4
QUIF pmax pmax
comp=Z,608nm,1.2s,mb6.2
PBKI Pangkalan Bun 54.25 127 P P 03 46 53.5 +1.7
comp=Z,8μmcomp=Z,795nm,1.2s,mb6.3
SJPF Ste Jean 54.41 301⇑*i*P P 03 46 52.3 -0.4
comp=Z,136nm,1.0s,mb5.3
SJPF Ste Jean 54.41 301⇑*i*P P 03 46 52.3 -0.4
comp=Z,136nm,1.0s,mb5.6
SJPF Ste Jean 54.41 301⇑*i*P P 03 46 52.3 -0.4
SJPF pmax pmax
comp=Z,136nm,1.0s,mb5.6
SEY Seymchan 54.45 34 *e*P P 03 46 53.4 +0.8
BST Brest 54.69 308 *e*P P 03 46 54.2 -0.4
DSB Dublin 54.72 314 *e*P P 03 46 53.8 -0.9
comp=Z,102nm,0.9s,mb5.5
DLF Lyons Farm 54.80 314⇓*i*P P 03 46 55.1 -0.1
DAG Danmarks Havn 54.84 344⇑*i*P P 03 46 55.7 +0.5
comp=Z,320nm,1.1s,mb6.0
DAG *i* S S 03 54 27.6 +4.2
DAG
comp=Z,1μm,19.0s
EBNR Beni Rached 54.84 292 P P 03 46 56.0 +0.2
LEM Lembang 54.98 134 P P 03 47 01.2 +4.2
ECHA Ech Chlef 55.02 292 P P 03 46 57.0 -0.1
EANR 'Ain N'Sour 55.29 292 P P 03 46 58.3 -0.8
ETRT Tiaret 55.36 291 P P 03 46 59.5 -0.1
CISI Cisompet, Garu 55.68 134 P P 03 47 00.4 -1.6
comp=Z,5μmcomp=Z,214nm,1.2s,mb5.8
CART Cartagena 56.22 295 *e*P P 03 47 04.6 -1.0
comp=Z,274nm,1.0s,mb6.0
CART *e*pP pP 03 47 42.0 -0.3
CTBH Cotabato--PC H 56.38 108⇑*e*P P 03 47 08.3 +1.2

BJII Banjamegara 56.62 132 P P 03 47 07.2 -1.5
comp=Z,111nm,1.5s,mb5.5
SMRI Semarang 56.83 131 P P 03 47 09.9 -0.3
comp=Z,250nm,1.2s,mb5.9
XMIS Christmas Isla 56.87 138 *e*P P 03 47 09.5 -0.9
XMIS Christmas Isla 56.87 138 *e*P P 03 47 09.6 -0.8
comp=Z,2μm,1.2s,mb6.9
SCO Scoresbysund 57.16 336⇑*i*P P 03 47 13.0 +1.2
comp=Z,79nm,0.9s,mb5.5
SCO
comp=Z,2μm,17.0s
DAV Davao City (W) 57.50 107 *e*P P 03 47 16.8 +1.9
DAV Davao City (W) 57.50 107⇓*i*P P 03 47 17.4 +2.4
DAV Davao City (W) 57.50 107 P P 03 47 17.4 +2.5
SNR=7.8
ESDC Sonseca Array 57.56 298 P P 03 47 14.4 -0.7
comp=Z,57nm,0.9s,mb5.4,baz=60,slow=7.4,SNR=148
ESDC pP pP 03 47 51.1 -0.7
comp=Z,70nm,0.9s,baz=59,slow=7.4,SNR=7.1
ESDC PKPPKP 04 17 00.1
comp=Z,2.3nm,1.0s,baz=276,slow=3.1,SNR=6.5
ESDC PKP2bc 04 17 10.2
comp=Z,1.7nm,0.9s,baz=301,slow=1.6,SNR=5.9
ESDC PKP2ab 04 17 25.9
comp=Z,1.2nm,1.0s,baz=266,slow=5.1,SNR=4.0
ESDC Sonseca Array 57.56 298 P P 03 47 14.4 -0.7
ESDC pP pP 03 47 51.1 -0.7
ESDC P'P' 04 17 00.1
ESDC ⇑*e* 04 17 10.2
ESDC P'P'ab 04 17 25.9
ESLA Sonseca Array 57.56 298 *e*P P 03 47 14.4 -0.7
comp=Z,83nm,1.4s,mb5.4
ESLA *e*pP pP 03 47 51.8 -0.1
TAM Tamanrasset 57.62 276 *e*P P 03 47 14.9 -0.7
comp=Z,312nm,1.5s,mb5.9
TAM Tamanrasset 57.62 276 *e*P P 03 47 15.0 -0.7
TAM pmax pmax
comp=Z,312nm,1.5s,mb5.9
KBKI Kotabaru 57.66 123 P P 03 47 17.3 +1.2
comp=Z,7μmcomp=Z,632nm,1.0s,mb6.4
MRIV Mauritius Mete 57.85 195 *e*P P 03 47 17.1 0.0
PCJI Pacitan 58.18 131 P P 03 47 17.2 -2.4
comp=Z,124nm,1.3s,mb5.6
BILL Bilibino 58.66 26 *e*P P 03 47 22.7 +0.5
comp=Z,192nm,1.1s,mb5.8
BILL *e*pP pP 03 47 59.8 +0.7
BILL Bilibino 58.66 26⇑*e*P P 03 47 22.7 +0.5
BILL *i* *PP pP 03 47 59.3 +0.2
BILL *e* 03 48 08.4
BILL *e* 03 49 34.0
BILL *e*S S 03 55 12.8 -0.9
BILL *e*SS SS 03 59 04.7 -3.7
BILL pmax pmax
comp=Z,173nm,1.6s,mb5.6
BILL MLR MLR
comp=Z,2μm,19.0s
PBRG Braganca 58.69 301 *e*P P 03 47 22.4 -0.5
comp=Z,164nm,1.6s,mb5.6
PBRG *e*pP pP 03 47 59.3 -0.5
BORG Borgarnes 58.72 330 *e*P P 03 47 24.9 +2.2
comp=Z,379nm,1.3s,mb6.1
BORG Borgarnes 58.72 330 *e*P P 03 47 24.9 +2.2
BORG pmax pmax
comp=Z,379nm,1.3s
BORG Borgarnes 58.72 330 P P 03 47 25.3 +2.6
comp=Z,1μm,0.9s,mb6.8,SNR=9.4
RER Riviere de l'E 59.07 197 *e*P P 03 47 27.2 +1.6
comp=Z,741nm,0.9s,mb6.5
ALE Alert 59.13 354 P P 03 47 26.0 +0.6
comp=Z,513nm,0.9s,mb6.4,SNR=43
MVO Moncorvo 59.14 301 *i*P P 03 47 25.5 -0.5
comp=Z,182nm,1.4s,mb5.7
MVO *e*pP pP 03 48 02.1 -0.9
ABPO Ambohimpanom 59.57 206 *e*P P 03 47 30.4 +1.4
comp=Z,342nm,1.0s,mb6.1
ABPO Ambohimpanom 59.57 206 *e*P P 03 47 30.4 +1.4
ABPO pmax pmax
comp=Z,342nm,1.0s,mb6.1
ABPO Ambohimpanom 59.57 206 P P 03 47 30.5 +1.5
comp=Z,979nm,0.9s,mb6.6,SNR=31
PVRL Vila Real 59.57 301 *e*P P 03 47 28.0 -1.0
comp=Z,182nm,1.7s,mb5.6
PVRL *e*pP pP 03 48 05.5 -0.5
POLO Lamas de Olo 59.59 301 *e*P P 03 47 28.8 -0.3
comp=Z,53nm,1.5s,mb5.2
POLO *e*pP pP 03 48 06.9 +0.8
PCAB Cabril 59.62 302 *e*P P 03 47 29.6 +0.4
comp=Z,330nm,1.4s,mb6.0
PCAB *e*pP pP 03 48 06.1 -0.2
PGAV Gavieira, Arco 59.68 302 *e*P P 03 47 29.8 +0.1
comp=Z,264nm,1.6s,mb5.8
PGAV *e*pP pP 03 48 05.7 -1.0
GTOI Gorontalo 59.73 114 P P 03 47 29.3 -1.1
comp=Z,5μmcomp=Z,275nm,1.5s,mb5.9
MTE Manteigas 59.80 300 *e*P P 03 47 30.6 +0.1
comp=Z,378nm,1.5s,mb6.0
MTE *e*pP pP 03 48 07.0 -0.6
MTE Manteigas 59.80 300 *e*P P 03 47 30.5 0.0
MTE *e*pP pP 03 48 07.5 -0.1
PVIS Viseu 59.92 300 *i*P P 03 47 31.0 -0.3
comp=Z,268nm,1.5s,mb5.8
PVIS *e*pP pP 03 48 08.3 -0.1
PETK Petropavlovsk- 59.98 44 P P 03 47 30.5 -1.0
comp=Z,18nm,0.9s,mb4.9,baz=270,slow=2.1,SNR=12
PETK pP pP 03 48 09.4 +0.8
comp=Z,18nm,0.9s,baz=252,slow=3.8,SNR=2.8
PETK Petropavlovsk- 59.98 44 P P 03 47 30.5 -1.0
PETK pP pP 03 48 09.4 +0.8
PETK Petropavlovsk- 59.98 44 P P 03 47 30.5 -1.0
PETK *PP pP 03 48 09.4 +0.8
PETK pmax pmax
comp=Z,18nm,0.9s,mb4.9
PCBR Castelo Branco 59.98 299 *e*P P 03 47 31.2 -0.6
comp=Z,160nm,1.9s,mb5.5
PCBR *e*pP pP 03 48 08.6 -0.3
PMRV Marv??o 60.09 299 *i*P P 03 47 32.0 -0.5
comp=Z,240nm,1.6s,mb5.8
PMRV *e*pP pP 03 48 08.8 -0.8
PBAR Barrancos 60.36 297 *i*P P 03 47 33.3 -1.1
comp=Z,351nm,1.6s,mb5.9
PBAR *e*pP pP 03 48 10.7 -0.8
PESTR Estremoz 60.47 298 *i*P P 03 47 34.5 -0.6
comp=Z,179nm,1.7s,mb5.6
PESTR *e*pP pP 03 48 11.7 -0.5
PET Petropavlovsk 60.55 44 *e*P P 03 47 33.7 -1.7
PET *e*S S 03 55 39.3 +0.9
PET pmax pmax
comp=Z,94nm,1.1s,mb5.5
PET MLR MLR
comp=Z,900nm,21.0s
PET MLR MLR
comp=Z,1μm,19.0s
PTOM Tomar 60.73 299 *e*P P 03 47 36.7 -0.2
comp=Z,320nm,1.8s,mb5.8
PTOM *e*pP pP 03 48 13.6 -0.4
PMTG Montargil 60.83 299 *e*P P 03 47 35.6 -1.9
comp=Z,150nm,1.8s,mb5.5
PMTG *e*pP pP 03 48 11.8 -2.9
EVO Evora 60.91 298⇑*i*P P 03 47 38.0 -0.1
comp=Z,482nm,1.4s,mb5.8
EVO *e*R
comp=Z,403nm,20.0s
EVO Evora 60.91 298 *i*P P 03 47 37.7 -0.3
comp=Z,246nm,1.9s,mb5.7
EVO *e*pP pP 03 48 13.9 -1.3
EVOP Sao Brissos 60.99 298⇑*i*P P 03 47 38.0 -0.6
comp=Z,482nm,1.4s,mb6.1
EVOP Sao Brissos 60.99 298⇑*i*P P 03 47 38.0 -0.6
EVOP pmax pmax
comp=Z,482nm,1.4s,mb6.1
PBEJ Beja 61.02 298 *i*P P 03 47 38.4 -0.4
comp=Z,204nm,1.7s,mb5.7
PBEJ *e*pP pP 03 48 15.5 -0.5
SUMG Summit 61.17 341 *e*P P 03 47 40.8 +1.5
comp=Z,407nm,0.9s,mb6.3
SUMG *e*pP pP 03 48 17.1 +0.6
SUMG Summit 61.17 341 *e*P P 03 47 40.8 +1.5
SUMG *e**PP pP 03 48 17.1 +0.6
SUMG pmax pmax
comp=Z,407nm,0.9s
SUMG Summit 61.17 341⇑*i*P P 03 47 40.8 +1.5
comp=Z,399nm,0.9s,mb6.2
PVAQ Vaqueiros 61.17 297 *i*P P 03 47 39.0 -0.9
comp=Z,277nm,1.3s,mb5.9
PVAQ *e*pP pP 03 48 15.9 -1.2
PCVE Castro Verde 61.31 297 *i*P P 03 47 40.0 -0.8

comp=Z,194nm,1.6s,mb5.7
PCVE *e*pP pP 03 48 17.0 -1.0
KAPI Kappang 61.35 122 *e*P P 03 47 39.6 -1.7
comp=Z,198nm,1.2s,mb5.8
KAPI Kappang 61.35 122 P P 03 47 40.0 -1.3
SNR=30
PBDV Barranco-do-Ve 61.40 297 *i*P P 03 47 41.0 -0.4
comp=Z,356nm,1.2s,mb6.1
PBDV *e*pP pP 03 48 18.4 -0.2
PNCL Nicolau / Gran 61.45 298 *i*P P 03 47 41.4 -0.3
comp=Z,223nm,1.6s,mb5.7
PNCL *e*pP pP 03 48 18.4 -0.6
PMAFR Mafra 61.62 299 *e*P P 03 47 42.0 -0.9
comp=Z,319nm,1.7s,mb5.9
PMAFR *e*pP pP 03 48 19.6 -0.5
PTEO Sao Teotonio 61.84 297 *e*P P 03 47 44.1 -0.2
comp=Z,255nm,2.1s,mb5.7
PTEO *e*pP pP 03 48 20.6 -1.0
MORF Marmelete 61.89 297 *e*P P 03 47 43.9 -0.8
comp=Z,180nm,1.5s,mb5.7
PFVI Vila Bisbo 62.09 297 *e*P P 03 47 45.6 -0.4
comp=Z,257nm,1.7s,mb5.8
PFVI *e*pP pP 03 48 22.6 -0.7
MSKU Masuku 65.38 248 LR LR 04 16 12.6
comp=Z,770nm,18.5s,baz=171,slow=35
TORD Torodi Ar. Bea 65.79 269 P P 03 48 08.0 -2.4
comp=Z,265nm,0.8s,mb6.1,baz=46,slow=5.0,SNR=815
TORD pP pP 03 48 47.1 -1.1
comp=Z,91nm,0.8s,baz=46,slow=5.8,SNR=4.1
TORD PKPPKP 04 16 45.7
comp=Z,15nm,1.2s,baz=268,slow=3.2,SNR=17
TORD Torodi Ar. Bea 65.79 269 P P 03 48 08.0 -2.4
TORD pP pP 03 48 47.1 -1.1
TORD P'P' 04 16 45.7
SFJD Kangerlussuaq 67.86 339 *e*P P 03 48 22.8 0.0
comp=Z,216nm,1.1s,mb5.8
SFJD Kangerlussuaq 67.86 339 *e*P P 03 48 22.8 0.0
SFJD pmax pmax
comp=Z,216nm,1.1s,mb5.8
SFJD Kangerlussuaq 67.86 339⇑*i*P P 03 48 22.6 -0.2
comp=Z,81nm,0.9s,mb5.5
SFJD
comp=Z,1μm,18.0s
FX1 Attu Island--F 68.42 40 *e*P P 03 48 26.2 -0.3
FX1 Attu Island--F 68.42 40 *e*P P 03 48 26.2 -0.3
GAMB Gambell 68.56 25 *e*P P 03 48 27.3 +0.2
comp=Z,61nm,1.2s,mb5.2
TNA Tin City 68.61 23 *e*P P 03 48 27.8 +0.3
comp=Z,72nm,1.1s,mb5.3
RES Resolute Bay 68.79 356 S S 03 57 22.3 +3.6
comp=Z,1.9nm,0.8s,baz=198,slow=17,SNR=3.9
RES LR LR 04 20 11.0
comp=Z,598nm,19.2s,baz=188,slow=37
COLD Coldfoot 72.04 16 *e*P P 03 48 48.4 +0.2
comp=Z,49nm,1.1s,mb5.2
COLD *e*pP pP 03 49 27.0 +0.5
MBWA Marble Bar 73.42 133 *e*P P 03 48 56.5 -0.4
MBWA Marble Bar 73.42 133 *e*P P 03 48 57.0 0.0
comp=Z,324nm,1.2s,mb5.9
MBWA *e*pP pP 03 49 36.5 +1.1
MBWA Marble Bar 73.42 133 P P 03 48 56.9 0.0
comp=Z,5μmcomp=Z,305nm,1.9s,mb5.7
MBWA Marble Bar 73.42 133 P P 03 48 57.4 +0.5
SNR=26
INK Inuvik 73.98 9 S S 03 58 19.2 +0.8
comp=Z,19nm,1.1s,baz=180,slow=27,SNR=26
INK PKKPbc PKKPbc 04 08 38.9 +9.0
comp=Z,1.3nm,0.6s,baz=176,slow=0.4,SNR=4.4
INK Inuvik 73.98 9 PKKPbc PKKPbc 04 08 38.9 +9.0
COLA College 74.54 16 *e*P P 03 49 02.9 0.0
comp=Z,234nm,0.9s,mb5.8
COLA *e*pP pP 03 49 41.9 +0.4
COLA College 74.54 16 *e*P P 03 49 02.9 0.0
COLA *e**PP pP 03 49 41.9 +0.4
COLA pmax pmax
comp=Z,234nm,0.9s,mb5.8
LBTB Lobatse 74.66 222 P P 03 49 05.0 +0.9
comp=Z,458nm,1.1s,mb6.0,baz=42,slow=5.5,SNR=224
LBTB pP pP 03 49 44.1 +1.4
comp=Z,103nm,0.8s,baz=54,slow=6.5,SNR=3.6
LBTB Lobatse 74.66 222 *e*P P 03 49 04.9 +0.8
comp=Z,1μm,1.4s,mb6.3
LBTB pP pP 03 49 44.1 +1.4
LBTB *e*pP pP 03 49 45.5 +2.7
LBTB Lobatse 74.66 222 P P 03 49 05.0 +0.9
LBTB *PP pP 03 49 44.1 +1.4
LBTB pmax pmax
comp=Z,458nm,1.1s,mb6.0
DBIC Dimbokro 74.77 267 P P 03 49 03.1 -2.0
comp=Z,69nm,0.8s,mb5.3,baz=32,slow=7.0,SNR=88
DBIC LR LR 04 24 40.7
comp=Z,536nm,20.1s,baz=40,slow=38
DBIC Dimbokro 74.77 267 *e*P P 03 49 03.4 -1.6
comp=Z,142nm,1.0s,mb5.5
DBIC Dimbokro 74.77 267 *e*P P 03 49 03.4 -1.7
DBIC pmax pmax
comp=Z,142nm,1.0s
FITZ Fitzroy Crossi 74.78 127 S S 03 58 29.2 +0.6
comp=Z,4.3nm,1.2s,baz=194,slow=18,SNR=5.7
FITZ Fitzroy Crossi 74.78 127 *e*P P 03 49 04.5 -0.4
FITZ *e* pP 03 49 47.0 +3.4
FITZ Fitzroy Crossi 74.78 127 *e*P P 03 49 05.2 +0.2
comp=Z,316nm,1.1s,mb5.9
FITZ *e*pP pP 03 49 45.0 +1.5
FITZ S S 03 58 29.2 +0.6
ILAR Eielson Array 74.84 16 P P 03 49 04.1 -0.5
comp=Z,76nm,1.0s,mb5.3,baz=319,slow=4.3,SNR=337
ILAR pP pP 03 49 42.1 -1.2
comp=Z,33nm,1.0s,baz=313,slow=5.0,SNR=4.6
ILAR PKKPbc PKKPbc 04 08 25.4 -2.6
comp=Z,1.5nm,1.1s,baz=206,slow=2.7,SNR=4.7
ILAR PKPPKP 04 16 30.8
comp=Z,2.1nm,1.0s,baz=168,slow=1.9,SNR=4.6
ILAR Eielson Array 74.84 16 P P 03 49 04.1 -0.5
ILAR pP pP 03 49 42.1 -1.2
ILAR PKKPbc PKKPbc 04 08 25.4 -2.6
ILAR P'P' 04 16 30.8
ILAR Eielson Array 74.84 16 P P 03 49 04.1 -0.5
ILAR *PP pP 03 49 42.1 -1.2
ILAR pmax pmax
comp=Z,76nm,1.0s
PPLA Purkeypile 75.15 19 *e*P P 03 49 06.3 -0.1
comp=Z,556nm,1.8s,mb5.9
PPLA *e*pP pP 03 49 44.2 -0.9
LIC Lamto 75.16 267⇑*i*P P 03 49 05.6 -1.7
comp=Z,288nm,1.0s,mb5.5,baz=55
LIC *e*R
comp=Z,671nm,22.5s
LIC Lamto 75.16 267⇑*i*P P 03 49 05.6 -1.7
comp=Z,288nm,1.0s,mb5.9
FRB Frobisher Bay 75.17 343 S S 03 58 32.4 +0.7
comp=Z,4.6nm,1.1s,baz=243,slow=16,SNR=3.4
TRF Thorofare Moun 75.17 18 *e*P P 03 49 06.0 -0.6
comp=Z,60nm,0.9s,mb5.2
MCK McKinley 75.26 17 *e*P P 03 49 06.1 -0.9
comp=Z,52nm,0.8s,mb5.2
MCK McKinley 75.26 17 *e*P P 03 49 06.1 -1.0
MCK pmax pmax
comp=Z,56nm,0.8s,mb5.2
SVW2 Sparrevohn 75.66 21 *e*P P 03 49 10.3 +0.9
comp=Z,99nm,1.4s,mb5.2
EGAK Eagle 76.02 14 *e*P P 03 49 11.5 +0.2
comp=Z,131nm,1.1s,mb5.5
DOT Dot Lake 76.44 15 *e*P P 03 49 13.7 0.0
comp=Z,107nm,1.1s,mb5.4
DOT *e*pP pP 03 49 52.5 0.0
PAX Paxson 76.72 16 *e*P P 03 49 15.3 0.0
comp=Z,185nm,1.1s,mb5.6
PAX *e*pP pP 03 49 54.0 -0.1
PAX Paxson 76.72 16 *e*P P 03 49 15.3 0.0
PAX *e**PP pP 03 49 54.0 -0.1
PAX pmax pmax
comp=Z,185nm,1.1s,mb5.6
RSO Redoubt South 77.00 21 *e*P P 03 49 17.1 +0.2
PMR Palmer 77.03 18 *e*P P 03 49 16.9 -0.2
comp=Z,210nm,1.5s,mb5.5
PMR Palmer 77.03 18 *e*P P 03 49 16.9 -0.2
PMR pmax pmax
comp=Z,210nm,1.5s,mb5.5
MENT Mentasta 77.14 16 *e*P P 03 49 18.1 +0.5
RC01 Rabbit Creek A 77.30 19 *e*P P 03 49 18.2 -0.4
comp=Z,104nm,1.0s,mb5.4
RC01 *e*pP pP 03 49 57.0 -0.5
SLKM Skilak Lake 77.66 20 *e*P P 03 49 19.8 -0.8
SLKM *e*pP pP 03 49 58.3 -1.2
SLKM Skilak Lake 77.66 20 *e*P P 03 49 19.8 -0.8

SLKM e*PP pP 03 49 58.3 -1.2
BOSA Boshof 77.72 220 P **P 03 49 21.6 +0.3**
comp=Z,425nm,0.9s,mb6.1,baz=40,slow=6.2,SNR=310
BOSA pP pP 03 50 01.6 +1.3
comp=Z,55nm,0.7s,baz=28,slow=9.6,SNR=1.6
BOSA Boshof 77.72 220 eP **P 03 49 21.7 +0.4**
comp=Z,611nm,0.9s,mb6.2
BOSA pP pP 03 50 01.6 +1.3
BOSA Boshof 77.72 220 eP **P 03 49 21.7 +0.4**
BOSA *PP pP 03 50 01.6 +1.4
BOSA pmax pmax
comp=Z,611nm,0.9s,mb6.2
SEW Seward 78.21 19 eP **P 03 49 23.2 -0.5**
comp=Z,309nm,1.6s,mb5.7
DIV Divide 78.26 17 eP **P 03 49 24.3 +0.4**
comp=Z,107nm,1.0s,mb5.4
BMRM Bremner River 78.68 17 eP **P 03 49 26.9 +0.7**
comp=Z,251nm,1.2s,mb5.7
RAGM Ragged Mountai 79.17 17 eP **P 03 49 30.1 +1.2**
comp=Z,157nm,1.0s,mb5.6
KDAK Kodiak Island 79.25 22 eP **P 03 49 30.5 +1.2**
comp=Z,363nm,1.2s,mb5.9
KDAK Kodiak Island 79.25 22 eP **P 03 49 30.5 +1.1**
KDAK pmax pmax
comp=Z,363nm,1.2s,mb5.9
KDAK Kodiak Island 79.25 22 P **P 03 49 29.6 +0.2**
comp=Z,1µm,1.4s,mb6.3,SNR=12
OHAK Old Harbor 79.50 23 eP **P 03 49 31.4 +0.7**
comp=Z,365nm,1.4s,mb5.8
KLBR Kellerberrin 80.54 141 eP **P 03 49 35.2 -1.4**
comp=Z,190nm,1.0s,mb5.7
PNL Peninsula 81.00 15 eP **P 03 49 39.9 +1.2**
comp=Z,188nm,1.0s,mb5.7
YKA Yellowknife Ar 81.33 3 P **P 03 49 40.3 0.0**
comp=Z,138nm,0.9s,mb5.6,baz=347,slow=5.1,SNR=679
YKA pP pP 03 50 18.9 -0.6
comp=Z,37nm,0.9s,baz=351,slow=5.3,SNR=2.6
YKA S S 03 59 38.2 +0.7
comp=Z,5.4nm,1.1s,baz=354,slow=10,SNR=8.1
YKA PKKPbc PKKPbc 04 08 11.2 -2.8
comp=Z,2.3nm,0.6s,baz=166,slow=2.7,SNR=32
YKA PKP2bc 04 15 56.5
comp=Z,0.3nm,0.7s,baz=135,slow=2.3,SNR=3.9
YKA PKPPKP 04 16 20.4
comp=Z,0.8nm,0.9s,baz=172,slow=2.6,SNR=7.9
YKA LR LR 04 29 56.3
comp=Z,122nm,18.9s,baz=190,slow=38
YKA Yellowknife Ar 81.33 3 P **P 03 49 40.4 0.0**
YKA pP pP 03 50 18.9 -0.7
YKA S S 03 59 38.2 +0.7
YKA PKKPbc PKKPbc 04 08 11.2 -2.8
YKA ⇑e 04 15 56.5
YKA P'P' 04 16 20.4
YKA Yellowknife Ar 81.33 3 P **P 03 49 40.4 0.0**
YKA *PP pP 03 50 18.9 -0.7
YKA S S 03 59 38.3 +0.8
NWAO Narrogin (SRO) 81.35 142 eP **P 03 49 39.9 -0.9**
comp=Z,382nm,1.6s,mb5.8
NWAO epP pP 03 50 19.8 -0.2
NWAO Narrogin (SRO) 81.35 142 eP **P 03 49 39.9 -0.9**
NWAO e*PP pP 03 50 19.8 -0.3
NWAO pmax pmax
comp=Z,382nm,1.6s
NWAO Narrogin (SRO) 81.35 142 P **P 03 49 40.1 -0.7**
SNR=11
WRA Warramunga Arr 81.88 122 P **P 03 49 42.7 -1.2**
comp=Z,298nm,0.9s,mb5.9,baz=325,slow=4.9,SNR=390
WRA S S 03 59 40.0 -4.4
comp=Z,5.1nm,1.1s,baz=318,slow=12,SNR=5.6
WRA PKKP PKKPbc 04 08 04.2 -8.7
comp=Z,2.4nm,0.9s,baz=138,slow=1.1,SNR=9.0
WRA PKKPbc PKKPbc 04 08 13.1 +0.2
comp=Z,15nm,0.9s,baz=132,slow=1.9,SNR=38
WRA PKPPKP 04 16 16.5
comp=Z,8.1nm,1.0s,baz=127,slow=1.5,SNR=16
WRA Warramunga Arr 81.88 122 P **P 03 49 42.7 -1.2**
WRA S S 03 59 40.0 -4.3
WRA PKKP PKKPbc 04 08 04.2 -8.7
WRA PKKPbc PKKPbc 04 08 13.1 +0.1
WRA P'P' 04 16 16.5
WRA Warramunga Arr 81.88 122 P **P 03 49 42.7 -1.2**
WRA S S 03 59 40.0 -4.3
WRA pmax pmax
comp=Z,298nm,0.9s
WRA smax
comp=N,5.0nm,1.1s
WRAB Tennant Creek 81.88 122 eP **P 03 49 43.2 -0.7**
comp=N,618nm,1.1s,mb6.2
WRAB Tennant Creek 81.88 122 eP **P 03 49 43.2 -0.7**
WRAB pmax pmax
comp=Z,618nm,1.1s,mb6.2
WRAB Tennant Creek 81.88 122 P **P 03 49 42.8 -1.1**
comp=Z,9µmcomp=Z,969nm,1.1s,mb6.3
WRAB Tennant Creek 81.88 122 P **P 03 49 43.0 -0.9**
comp=Z,3µm,0.9s,mb6.9
WB2 Warramunga Arr 81.89 122 eP **P 03 49 43.2 -0.7**
SKAG Skagway 82.00 13 eP **P 03 49 45.1 +1.2**
comp=Z,263nm,1.2s,mb5.7
SCHQ Schefferville 82.21 337 P **P 03 49 45.5 +0.3**
comp=Z,99nm,0.9s,mb5.5,baz=39,slow=5.8,SNR=59
SCHQ pP pP 03 50 25.1 +0.7
comp=Z,30nm,0.8s,baz=22,slow=6.4,SNR=2.2
SCHQ LR LR 04 25 45.6
comp=Z,1µm,21.9s,baz=28,slow=35
SCHQ Schefferville 82.21 337 eP **P 03 49 45.4 +0.3**
comp=Z,648nm,1.7s,mb6.0
SCHQ pP pP 03 50 25.1 +0.7
SUR Sutherland 83.04 221 P **P 03 49 50.7 +1.1**
comp=Z,195nm,0.9s,mb5.8,baz=35,slow=4.2,SNR=60
SUR Sutherland 83.04 221 eP **P 03 49 50.7 +1.1**
comp=Z,262nm,0.9s,mb6.0
SUR Sutherland 83.04 221 P **P 03 49 51.2 +1.6**
SNR=5.3
SUR Sutherland 83.04 221 P **P 03 49 50.8 +1.2**
comp=Z,2µm,1.0s,mb6.7,SNR=29
DLBC Dease Lake 83.87 11 PKKPbc PKKPbc 04 08 08.8 +0.7
comp=Z,5.7nm,1.1s,baz=178,slow=3.1,SNR=5.3
DLBC Dease Lake 83.87 11 PKKPbc PKKPbc 04 08 08.8 +0.7
AS31 Alice Springs 84.14 125 eP **P 03 49 54.5 -1.0**
ASAR Alice Springs 84.14 125 P **P 03 49 54.4 -1.0**
comp=Z,199nm,0.9s,mb5.8,baz=321,slow=5.2,SNR=690
ASAR S S 03 59 58.8 -8.3
comp=Z,1.7nm,1.0s,baz=311,slow=5.4,SNR=4.0
ASAR PKKPbc PKKPbc 04 08 07.6 -0.2
comp=Z,6.3nm,0.9s,baz=130,slow=2.4,SNR=26
ASAR PKPPKP 04 16 09.9
comp=Z,5.0nm,0.9s,baz=132,slow=2.8,SNR=9.0
ASAR Alice Springs 84.14 125 P **P 03 49 54.4 -1.0**
ASAR S S 03 59 58.8 -8.3
ASAR PKKPbc PKKPbc 04 08 07.6 -0.2
ASAR P'P' 04 16 09.9
ASAR Alice Springs 84.14 125 P **P 03 49 54.4 -1.0**
ASAR S S 03 59 58.8 -8.2
ASAR pmax pmax
comp=Z,199nm,0.9s
ASAR smax
comp=N,2.0nm,1.0s
SIT Sitka 84.25 14 eP **P 03 49 56.7 +1.2**
comp=N,163nm,1.1s,mb5.7
SIT Sitka 84.25 14 eP **P 03 49 56.7 +1.2**
SIT pmax pmax
comp=Z,163nm,1.1s,mb5.7
COEN Coen 84.30 112 eP **P 03 49 55.8 -0.6**
comp=Z,1µm,1.0s,mb6.7
PMG Port Moresby 84.51 106 P **P 03 49 57.5 0.0**
baz=324,slow=4.3
PMG pP pP 03 50 39.1 +2.0
comp=Z,44nm,0.8s,baz=268,slow=4.9,SNR=3.2
PMG Port Moresby 84.51 106 eP **P 03 49 57.1 -0.4**
comp=Z,219nm,1.1s,mb5.8
PMG pP pP 03 50 39.1 +2.0
PMG Port Moresby 84.51 106 P **P 03 49 57.5 0.0**
PMG *PP pP 03 50 39.1 +2.1
PMG Port Moresby 84.51 106 P **P 03 49 57.2 -0.3**
comp=Z,3µmcomp=Z,204nm,1.4s,mb5.7
FORT Forrest 85.56 134 eP **P 03 50 01.8 -0.5**
FORT Forrest 85.56 134 eP **P 03 50 01.9 -0.5**
comp=Z,438nm,1.0s,mb6.1
FORT epP pP 03 50 43.7 +1.8
FFC Flin Flon 89.03 356 eP **P 03 50 18.5 -0.3**
comp=Z,342nm,1.0s,mb6.2
FFC eS S 04 00 54.4 +1.0
FFC Flin Flon 89.03 356 eP **P 03 50 18.5 -0.3**
FFC eS S 04 00 54.4 +1.0
FFC pmax pmax
comp=Z,342nm,1.0s,mb6.2
FFC Flin Flon 89.03 356 P **P 03 50 18.0 -0.8**
comp=Z,2µm,1.0s,mb6.9
CTA Charters Tower 90.44 115 eP **P 03 50 25.1 -0.7**
CTAO Charters Tower 90.44 115 eP **P 03 50 25.3 -0.6**
comp=Z,381nm,1.0s,mb6.3
CTAO Charters Tower 90.44 115 eP **P 03 50 25.3 -0.5**
CTAO pmax pmax
comp=Z,381nm,1.0s,mb6.3
CTAO Charters Tower 90.44 115 P **P 03 50 24.9 -0.9**
PKME Peaks-Kenny Pk 91.17 333 eP **P 03 50 30.5 +1.6**
BBOO Buckleboo 91.79 130 eP **P 03 50 30.5 -1.3**
comp=Z,2µm,1.2s,mb7.1
ULM Lac du Bonnet 92.95 352 P **P 03 50 36.9 -0.1**
comp=Z,116nm,0.9s,mb6.0,baz=8.3,slow=4.8,SNR=136
ULM pP pP 03 51 16.2 -0.7
comp=Z,26nm,1.1s,baz=27,slow=5.8,SNR=1.9
ULM PKKP PKKPbc 04 07 43.3 -2.8
comp=Z,5.2nm,0.9s,baz=210,slow=0.8,SNR=5.6
ULM LR LR 04 35 48.8
comp=Z,969nm,18.9s,baz=212,slow=38
ULM Lac du Bonnet 92.95 352 eP **P 03 50 36.3 -0.7**
comp=Z,131nm,1.0s,mb6.0
ULM pP pP 03 51 16.2 -0.7
ULM PKKP PKKPbc 04 07 43.3 -2.8
ULM Lac du Bonnet 92.95 352 P **P 03 50 36.9 -0.1**
ULM *PP pP 03 51 16.2 -0.8
ULM 04 07 43.3
ULM pmax pmax
comp=Z,116nm,0.9s
ULM MLR MLR
comp=Z,969nm,19.0s
LONY Lake Ozonia 93.56 336 eP **P 03 50 40.2 +0.2**
comp=Z,113nm,1.3s,mb5.8
MDV Middlebury 93.64 335 eP **P 03 50 40.3 0.0**
A05A Maple Falls 94.16 9 ⇑P **P 03 50 42.1 -0.5**
baz=94,SNR=5.9
ACCN Adirondack Com 94.35 335 eP **P 03 50 43.1 -0.4**
comp=Z,31nm,1.1s,mb5.4
EYMN Ely 94.59 348 eP **P 03 50 44.8 +0.2**
comp=Z,161nm,1.0s,mb6.2
STKA Stephens Creek 94.68 126 P **P 03 50 43.5 -1.6**
comp=Z,7.5nm,0.4s,mb5.3,baz=309,slow=4.9,SNR=39
STKA pP pP 03 51 26.9 +1.8
comp=Z,7.8nm,0.8s,baz=12,slow=8.5,SNR=1.8
STKA PKKP PKKPbc 04 07 41.6 -0.3
comp=Z,5.2nm,1.0s,baz=122,slow=7.5,SNR=4.3
STKA Stephens Creek 94.68 126 eP **P 03 50 43.5 -1.6**
STKA Stephens Creek 94.68 126 eP **P 03 50 43.5 -1.6**
comp=Z,39nm,2.1s,mb5.3
STKA pP pP 03 51 26.9 +1.8
STKA PKKP PKKPbc 04 07 41.6 -0.3
STKA Stephens Creek 94.68 126 P **P 03 50 43.5 -1.6**
STKA *PP pP 03 51 26.9 +1.8
STKA pmax pmax
comp=Z,8.0nm,0.4s
RPW Rockport 94.77 8 eP **P 03 50 45.2 -0.2**
A12A Yaak River Ran 94.82 4 ⇓P **P 03 50 45.7 +0.1**
baz=94,SNR=57
AGMN Agassiz Nation 94.87 351 eP **P 03 50 45.5 -0.4**
AGMN ePP PP 03 54 37.4 +1.7
A14A Double T Ranch 94.90 3 ⇑P **P 03 50 45.8 -0.2**
baz=94,SNR=88
A15A Johnson Ranch, 94.92 3 ⇓P **P 03 50 45.7 -0.4**
baz=94,SNR=134
A24A Westby 94.93 357 ⇑P **P 03 50 46.7 +0.6**
baz=94,SNR=26
A23A Redstone 94.93 357 ⇓P **P 03 50 46.3 +0.2**
baz=94,SNR=16
A22A Carney Farms, 94.93 358 ⇑P **P 03 50 46.4 +0.3**
baz=94,SNR=21
A21A Bergtoll Ranch 94.95 359 ⇓P **P 03 50 46.4 +0.1**
baz=94,SNR=57
JCW Jim Creek 94.97 9 eP **P 03 50 46.9 +0.6**
A16A West Butte Ran 94.98 2 ⇓P **P 03 50 45.9 -0.5**
baz=94,SNR=78
A17A Triple J Farms 95.00 1 ⇓P **P 03 50 46.5 +0.1**
baz=95,SNR=114
A18A Metzger Ranch, 95.04 1 ⇑P **P 03 50 46.6 0.0**
baz=95,SNR=161
A20A Cobblestone Ra 95.08 359 ⇑P **P 03 50 47.3 +0.5**
baz=95,SNR=99
NLW Nelson Butte 95.27 8 P **P 03 50 48.2 +0.5**
B12A Libby 95.28 4 ⇑P **P 03 50 48.1 +0.3**
baz=95,SNR=36
NEW Newport 95.38 6 ⇓P **P 03 50 48.5 +0.3**
baz=95,SNR=34
NEW Newport 95.38 6 eP **P 03 50 48.4 +0.2**
NEW ePP PP 03 54 38.8 -0.8
NEW Newport 95.38 6 eP **P 03 50 48.4 +0.2**
NEW e 03 54 38.8
DGMT Dagmar 95.39 357 ⇓P **P 03 50 48.9 +0.7**
baz=95,SNR=39
DGMT Dagmar 95.39 357 eP **P 03 50 49.4 +1.1**
comp=Z,181nm,1.0s,mb6.3
B23A Brockton 95.43 357 ⇓P **P 03 50 48.6 +0.2**
baz=95,SNR=30
GNW Green Mountain 95.48 9 eP **P 03 50 50.0 +1.3**
comp=Z,56nm,1.1s,mb5.7
B19A Brinkman Farms 95.51 0 ⇑P **P 03 50 49.0 +0.2**
baz=95,SNR=80
B14A Marquette Ranc 95.51 3 ⇑P **P 03 50 48.8 0.0**
baz=95,SNR=50
B16A M & M Farms, S 95.52 2 ⇓P **P 03 50 48.7 -0.1**
baz=95,SNR=26
B21A Ellsworth Farm 95.52 359 ⇓P **P 03 50 49.2 +0.4**
baz=95,SNR=18
B20A Solberg Farm, 95.52 359 ⇓P **P 03 50 49.1 +0.3**
baz=95,SNR=146
B18A Beardsley Farm 95.57 1 ⇑P **P 03 50 48.9 -0.2**
baz=95,SNR=82
B15A Bradely Ranch, 95.59 2 ⇑P **P 03 50 49.0 -0.2**
baz=95,SNR=115
B22A Reddig Ranch S 95.62 358 ⇑P **P 03 50 49.8 +0.5**
baz=95,SNR=21
B17A L&G Farms, Che 95.66 1 ⇓P **P 03 50 49.4 0.0**
baz=95,SNR=94
MDND Maddock 95.70 354 ⇓P **P 03 50 49.3 -0.4**
baz=95,SNR=10
ETW Entiat 95.74 8 eP **P 03 50 50.1 +0.3**
BLMT Blacktail Moun 95.81 4 eP **P 03 50 51.3 +1.1**
EGMT Eagleton 95.94 1 ⇑P **P 03 50 50.6 -0.1**
baz=96,SNR=53
EGMT Eagleton 95.94 1 eP **P 03 50 51.1 +0.4**
comp=Z,117nm,1.0s,mb6.2
BSMT Bassoo Peak 95.95 4 eP **P 03 50 51.6 +0.8**
YBMT Yellow Bay 95.98 3 eP **P 03 50 50.7 -0.2**
C12B Naegeli Ranch, 96.05 4 ⇑P **P 03 50 51.7 +0.4**
baz=96,SNR=44
JTMT Jette 96.08 4 eP **P 03 50 51.9 +0.5**
C23A Lambert 96.10 357 ⇓P **P 03 50 52.2 +0.7**
baz=96,SNR=57
OD2 Odessa Site #2 96.11 7 eP **P 03 50 51.1 -0.4**
C21A Desert Coulee 96.12 359 ⇑P **P 03 50 52.0 +0.4**
baz=96,SNR=114
C15A Salmond Ranch, 96.12 3 ⇑P **P 03 50 51.5 -0.1**
baz=96,SNR=51
C16A Fuhringer Ranc 96.12 2 ⇓P **P 03 50 51.5 -0.1**
baz=96,SNR=56
TBM Table Mountain 96.14 8 P **P 03 50 52.0 +0.3**
C22A Vida 96.17 358 ⇓P **P 03 50 52.5 +0.6**
baz=96,SNR=98
GLMI Grayling 96.20 343 eP **P 03 50 52.5 +0.5**
comp=Z,144nm,0.9s,mb6.3
C19A Slack Wire Ran 96.23 0 ⇑P **P 03 50 52.2 +0.2**
baz=96,SNR=56
C20A Veseth Ranch, 96.25 359 ⇓P **P 03 50 52.2 0.0**
baz=96,SNR=60
RCS Mount Rainier- 96.30 9 P **P 03 50 53.5 +1.1**
C17A Wharram Farm, 96.32 1 ⇑P **P 03 50 52.5 0.0**
baz=96,SNR=75
SWMT Swartz Lake 96.33 3 eP **P 03 50 52.4 -0.1**
C24A Savage 96.34 357 ⇓P **P 03 50 53.1 +0.6**
baz=96,SNR=7.9
E03A Lebam 96.38 10 ⇑P **P 03 50 53.2 +0.4**
baz=96
LON Longmire 96.41 9 eP **P 03 50 53.5 +0.6**
comp=Z,30nm,0.9s,mb5.6
LON Longmire 96.41 9 eP **P 03 50 53.5 +0.6**
LON pmax pmax
comp=Z,29nm,0.9s,mb5.6
WPW White Pass 96.49 9 P **P 03 50 54.2 +0.9**
D13A Huson 96.72 4 ⇑P **P 03 50 54.0 -0.3**
baz=96,SNR=7.5
D23A Lindsay 96.73 357 ⇓P **P 03 50 55.1 +0.8**
baz=96,SNR=36
D24A Glendive 96.75 357 ⇑P **P 03 50 55.0 +0.6**
baz=96,SNR=16
D18A Linhart Farms, 96.77 1 ⇓P **P 03 50 54.6 +0.1**
baz=96,SNR=24
D22A Cohagen 96.78 358 ⇓P **P 03 50 54.9 +0.3**
baz=96,SNR=52
D17A Six Diamond Ra 96.80 1 ⇑P **P 03 50 55.0 +0.3**
baz=96,SNR=82
D19A Cripps Ranch, 96.80 360 ⇓P **P 03 50 54.8 +0.1**
baz=96,SNR=68
D15A Lincoln 96.86 2 ⇑P **P 03 50 54.9 0.0**
baz=96,SNR=13
D20A Manuel Ranch, 96.87 359 ⇑P **P 03 50 55.0 +0.1**
baz=96,SNR=25
D21A La Casta Ranch 96.88 359 ⇓P **P 03 50 55.3 +0.3**
baz=96,SNR=50
D16A Dana Ranch, Ca 96.90 2 ⇓P **P 03 50 55.3 +0.1**
baz=96,SNR=24
MSO Missoula 97.01 3 ⇑P **P 03 50 55.4 -0.2**
baz=97,SNR=17
MSO Missoula 97.01 3 eP **P 03 50 55.8 +0.1**
comp=Z,28nm,1.3s,mb5.4
HAWA Hanford 97.02 7 eP **P 03 50 56.4 +0.7**
comp=Z,74nm,2.3s,mb5.6
E09A Wood Farm, Sta 97.03 6 ⇓P **P 03 50 55.9 +0.2**
baz=97,SNR=22
EIDS Eidsvold 97.18 116 eP **P 03 50 55.5 -1.1**
comp=Z,59nm,1.3s,mb5.8
HRY Holter Researc 97.21 2 eP **P 03 50 57.5 +1.0**
HRY epP pP 03 51 37.6 +1.0
LAO LASA Array 97.24 358 ⇓P **P 03 50 57.4 +0.7**
baz=97,SNR=30
LAO LASA Array 97.24 358 eP **P 03 50 57.2 +0.5**
comp=Z,134nm,0.9s,mb6.3
LAO e pP 03 51 38.4 +1.7
E24A Baker 97.30 357 ⇑P **P 03 50 57.4 +0.4**
baz=97,SNR=11
E13A Victor 97.39 4 ⇓P **P 03 50 56.9 -0.4**
baz=97,SNR=16
E16A East Helena 97.39 2 ⇓P **P 03 50 58.0 +0.7**
baz=97,SNR=50
E18A Harlowton 97.39 1 ⇑P **P 03 50 57.9 +0.6**
baz=97,SNR=32
E23A Ismay 97.40 357 ⇑P **P 03 50 58.4 +1.0**
baz=97,SNR=34
E21A Keefer Ranch, 97.41 359 ⇑P **P 03 50 57.5 +0.1**
baz=97
E14A Clinton 97.45 3 ⇓P **P 03 50 57.6 0.0**
baz=97,SNR=24
SPMN St. Paul 97.45 349 ⇑P **P 03 50 56.9 -0.7**
baz=97
E20A Meyer Farm, Mu 97.46 359 ⇓P **P 03 50 57.8 +0.2**
baz=97,SNR=55
E15A Deer Lodge 97.47 3 ⇓P **P 03 50 57.9 +0.2**
baz=97
E22A Miles City 97.48 358 ⇓P **P 03 50 58.3 +0.5**
baz=97,SNR=14
E17A Martinsdale 97.48 1 ⇑P **P 03 50 58.2 +0.4**
baz=97
E19A Rath Farm, Rou 97.50 360 ⇓P **P 03 50 58.2 +0.3**
baz=97,SNR=52
F24A Ekalaka 98.02 357 ⇑P **P 03 51 00.7 +0.6**
baz=98,SNR=29
F13A Darby 98.03 4 ⇑P **P 03 51 00.3 +0.1**
baz=98,SNR=33
G06A Carlson Farm, 98.04 8 ⇓P **P 03 51 00.9 +0.6**
baz=98
F17A Fitzpatrick Pl 98.05 1 ⇓P **P 03 51 00.8 +0.6**
baz=98,SNR=40
F14A Wisdom 98.06 3 ⇓P **P 03 51 00.8 +0.5**
baz=98,SNR=17
F18A Big Timber 98.06 1 ⇓P **P 03 51 01.1 +0.7**
baz=98,SNR=29
F15A Butte 98.06 3 ⇑P **P 03 51 00.6 +0.3**
baz=98,SNR=23
LRM Limekiln Ridge 98.08 2 eP **P 03 51 00.4 0.0**
F19A Roth Farm, Mol 98.11 0 ⇓P **P 03 51 01.1 +0.6**
baz=98,SNR=50
F21A Absaloka Mine, 98.13 359 ⇑P **P 03 51 00.7 +0.1**
baz=98
F16A Kennard Place, 98.14 2 ⇑P **P 03 51 01.1 +0.3**
baz=98,SNR=29
F22A Rosebud 98.15 358 ⇑P **P 03 51 01.0 +0.2**
baz=98,SNR=6.8
F20A Billings 98.16 359 ⇓P **P 03 51 01.3 +0.5**
baz=98,SNR=18
GCMT Greycliff 98.17 1 eP **P 03 51 02.3 +1.4**
comp=Z,31nm,1.0s,mb5.7
F23A Volborg 98.18 358 ⇓P **P 03 51 01.1 +0.2**
baz=98,SNR=17
SSPA Standing Stone 98.20 337 eP **P 03 51 00.9 -0.2**
comp=Z,32nm,1.2s,mb5.6
BOZ Bozeman (W) 98.28 2 ⇑P **P 03 51 01.9 +0.6**
baz=98,SNR=14
DLMT Dillon 98.53 3 eP **P 03 51 02.9 +0.4**
comp=Z,54nm,1.4s,mb5.8
G24A Alzada 98.54 357 ⇓Pdiff **P 03 51 02.8 +0.3**
baz=98
G14A Jackson 98.62 3 ⇓Pdiff **P 03 51 03.0 +0.1**
baz=98
G17A Pierce Place, 98.63 1 ⇑Pdiff **P 03 51 03.4 +0.5**
baz=98
G18A Lazy EL Ranch, 98.65 0 ⇓Pdiff **P 03 51 02.8 -0.2**
baz=98
G16A Moss Hill, Enn 98.69 2 ⇑Pdiff **P 03 51 03.5 +0.3**
baz=98
G23A Biddle 98.70 357 ⇑Pdiff **P 03 51 03.2 0.0**
baz=98
G22A Birney 98.71 358 ⇓Pdiff **P 03 51 03.5 +0.2**
baz=98
G21A Lodge Grass 98.73 359 ⇑Pdiff **P 03 51 03.4 +0.1**
baz=98
G15A Dillon 98.73 3 ⇑Pdiff **P 03 51 03.8 +0.5**
baz=98
G20A Bridger 98.74 360 ⇓Pdiff **P 03 51 03.6 +0.2**
baz=98
BMO Blue Mountains 98.76 6 eP **P 03 51 02.2 -1.2**
comp=Z,4.8nm,1.0s,mb4.9
RLMT Red Lodge 98.84 0 ⇑Pdiff **P 03 51 04.4 +0.6**
baz=98
BRSD Miller 99.02 353 ⇑Pdiff **P 03 51 04.5 -0.2**
baz=99
MCMT McKenzie Canyo 99.06 3 eP **P 03 51 06.0 +1.2**
comp=Z,6.6nm,1.0s,mb5.0
QLMT Earthquake Lak 99.10 2 eP **P 03 51 06.0 +1.0**
H24A Dirks Ranch, A 99.12 357 ⇑Pdiff **P 03 51 05.2 +0.1**
baz=99
H14A Leadore 99.25 3 ⇑Pdiff Pdif 03 51 06.2 +0.5
baz=99
H13A Challis 99.26 4 ⇓Pdiff Pdif 03 51 05.8 0.0
baz=99
H15A Lima 99.28 3 ⇑Pdiff Pdif 03 51 06.0 +0.1
baz=99
H19A Powell 99.30 0 ⇓Pdiff Pdif 03 51 06.2 +0.2
baz=99
I07A Izee 99.31 8 ⇑Pdiff Pdif 03 51 06.4 +0.4
baz=99
H21A Big Horn, Sher 99.32 359 ⇑Pdiff Pdif 03 51 06.7 +0.6
baz=99
H22A Clearmont 99.34 358 ⇓Pdiff Pdif 03 51 06.8 +0.6
baz=99
H23A Clabaugh Cattl 99.34 357 ⇑Pdiff Pdif 03 51 05.8 -0.4
baz=99
H20A Greybull 99.47 359 ⇑Pdiff Pdif 03 51 06.9 +0.1
baz=99
YFT Old Faithful 99.50 1 ePdif Pdif 03 51 10.5 +3.6
comp=Z,28nm,1.2s
H17A Grant Village 99.56 1 ⇓Pdiff Pdif 03 51 07.1 0.0
baz=99
I15A Monteview 99.90 3 ⇑Pdiff Pdif 03 51 09.0 +0.4
baz=100
I13A Wildhorse Cree 99.91 4 ⇑Pdiff Pdif 03 51 09.1 +0.4
baz=100
I19A Meeteetse 99.93 0 ⇓Pdiff Pdif 03 51 09.5 +0.7
baz=100
I14A Mackay 99.93 3 ⇑Pdiff Pdif 03 51 09.8 +1.0
baz=100
I23A Meade Ranch, G 99.94 357 ⇑Pdiff Pdif 03 51 09.6 +0.7
baz=100
I24A Kuemmerle Ranc 100.01 357 ⇓Pdiff Pdif 03 51 09.5 +0.3
baz=100
I20A Worland 100.01 359 ⇓Pdiff Pdif 03 51 10.0 +0.8
baz=100
I17A Pilgrim Ck. 100.03 1 ⇓Pdiff Pdif 03 51 10.6 +1.3
baz=100
I22A 9 Mile Ranch, 100.04 358 ⇓Pdiff Pdif 03 51 10.0 +0.7
baz=100
I16A Newdale 100.06 2 ⇓Pdiff Pdif 03 51 10.8 +1.5
baz=100

J08A	Circle Bar Ran	100.13	7	⇓Pdiff	Pdif	03 51 10.2	+0.5
	baz=100						
I21A	Big Trails, Te	100.14	359	⇑Pdiff	Pdif	03 51 10.1	+0.3
	baz=100						
HLID	Hailey	100.25	4	⇓Pdiff	Pdif	03 51 10.7	+0.5
	baz=100						
I18A	Diamond G Ranc	100.26	1	⇑Pdiff	Pdif	03 51 10.9	+0.6
	baz=100						
MFID	Camas Ranch	100.30	5	⇑Pdiff	Pdif	03 51 11.1	+0.6
	baz=100						
J13A	Cove Ranch, Pi	100.42	4	⇓Pdiff	Pdif	03 51 11.7	+0.7
	baz=100						
SNOW	Snow King Moun	100.48	1	*e*Pdif	Pdif	03 51 13.4	+2.1
J15A	Blackfoot	100.50	3	⇓Pdiff	Pdif	03 51 12.6	+1.2
	baz=100						
J23A	Dilts Ranch, B	100.50	358	⇑Pdiff	Pdif	03 51 11.3	0.0
	baz=100						
J22A	Midwest	100.52	358	⇓Pdiff	Pdif	03 51 11.2	-0.3
	baz=100						
J14A	Carey	100.53	3	⇑Pdiff	Pdif	03 51 12.2	+0.7
	baz=100						
J24A	Dixon Ranch, L	100.54	357	⇑Pdiff	Pdif	03 51 11.9	+0.3
	baz=100						
ARMA	Armidale	100.56	120	*e*P	Pdif	03 51 11.0	-0.6
J21A	Lysite	100.61	359	⇓Pdiff	Pdif	03 51 12.4	+0.6
	baz=100						
J20A	Shoshoni	100.61	359	⇑Pdiff	Pdif	03 51 12.5	+0.7
	baz=100						
J19A	Crowheart	100.70	0	⇓Pdiff	Pdif	03 51 13.3	+1.1
	baz=100						
SFIN	Scholer Farm	101.00	343	⇓Pdiff	Pdif	03 51 14.3	+0.8
	baz=101						
K27A	Flueckinger Fa	101.03	355	⇓Pdiff	Pdif	03 51 13.8	+0.1
	baz=101						
K26A	Motz Farm, Whi	101.09	356	⇓Pdiff	Pdif	03 51 13.9	0.0
	baz=101						
K19A	Absolon Red Bu	101.14	360	⇑Pdiff	Pdif	03 51 14.6	+0.5
	baz=101						
K23A	Bowen Ranch, D	101.15	358	⇓Pdiff	Pdif	03 51 14.6	+0.3
	baz=101						
AHID	Auburn Hatcher	101.17	2	*e*Pdif	Pdif	03 51 17.4	+3.1
BW06	Boulder Array	101.20	0	⇑Pdiff	Pdif	03 51 14.5	+0.1
	baz=101						
K15A	Arbon	101.21	3	⇓Pdiff	Pdif	03 51 15.6	+1.1
	baz=101						
K25A	Mack Ranch, Ha	101.22	356	⇑Pdiff	Pdif	03 51 15.2	+0.7
	baz=101						
K22A	Casper	101.28	358	⇑Pdiff	Pdif	03 51 14.7	-0.2
	baz=101						
K20A	Yellowstone Ra	101.31	360	⇑Pdiff	Pdif	03 51 15.0	+0.1
	baz=101						
K21A	Alcova	101.32	359	⇑Pdiff	Pdif	03 51 15.2	+0.2
	baz=101						
K18A	Toltan Ranch,	101.32	1	⇑Pdiff	Pdif	03 51 15.3	+0.3
	baz=101						
K14A	Jones Ranch, D	101.32	3	⇑Pdiff	Pdif	03 51 15.8	+0.8
	baz=101						
L23A	Garrett	101.80	358	⇑Pdiff	Pdif	03 51 17.2	+0.1
	baz=101						
L14A	Malta	101.83	3	⇓Pdiff	Pdif	03 51 18.1	+0.8
	baz=101						
L17A	Cokeville	101.84	1	⇑Pdiff	Pdif	03 51 17.8	+0.5
	baz=101						
L19A	Farson	101.86	0	⇓Pdiff	Pdif	03 51 18.0	+0.6
	baz=101						
L15A	Malad City	101.90	3	⇑Pdiff	Pdif	03 51 18.6	+1.1
	baz=102						
L22A	Ellis Ranch, M	101.90	358	⇓Pdiff	Pdif	03 51 18.0	+0.5
	baz=102						
L16A	Fish Haven	101.92	2	⇓Pdiff	Pdif	03 51 18.3	+0.7
	baz=102						
BGNE	Belgrade	101.93	352	⇑Pdiff	Pdif	03 51 17.9	+0.2
	baz=102						
L20A	Wamsutter	101.96	360	⇓Pdiff	Pdif	03 51 18.3	+0.5
	baz=102						
L21A	Rawlins	101.99	359	⇑Pdiff	Pdif	03 51 18.3	+0.3
	baz=102						
L18A	Fontenelle, Gr	102.03	1	⇓Pdiff	Pdif	03 51 18.7	+0.6
	baz=102						
M27A	Reverse DX Ran	102.21	355	⇓Pdiff	Pdif	03 51 19.4	+0.5
	baz=102						
M26A	McRoberts Ranc	102.32	356	⇓Pdiff	Pdif	03 51 19.5	+0.1
	baz=102						
M21A	Separation Pea	102.34	359	⇓Pdiff	Pdif	03 51 20.0	+0.5
	baz=102						
M25A	Palm-Egli Farm	102.40	356	⇓Pdiff	Pdif	03 51 20.4	+0.6
	baz=102						
M24A	Cheyenne	102.41	357	⇓Pdiff	Pdif	03 51 20.6	+0.8
	baz=102						
M15A	Larsen Ranch,	102.43	3	⇓Pdiff	Pdif	03 51 20.9	+1.0
	baz=102						
M23A	Laramie	102.44	358	⇑Pdiff	Pdif	03 51 20.8	+0.8
	baz=102						
M19A	Rock Springs	102.46	0	⇓Pdiff	Pdif	03 51 20.8	+0.7
	baz=102						
M20A	Sweetwater, Wa	102.47	359	⇓Pdiff	Pdif	03 51 21.2	+1.1
	baz=102						
M17A	Scullys Gap (B	102.47	1	⇓Pdiff	Pdif	03 51 20.9	+0.8
	baz=102						
M18A	Lyman	102.53	1	⇓Pdiff	Pdif	03 51 21.3	+1.0
	baz=102						
M22A	Cedar Creek Ra	102.53	358	⇑Pdiff	Pdif	03 51 20.6	+0.2
	baz=102						
PHWY	Pilot Hill	102.60	357	*e*Pdif	Pdif	03 51 22.0	+1.3
OGNE	Ogallala	102.76	355	⇑Pdiff	Pdif	03 51 21.5	+0.1
	baz=102						
N27A	Anderson Farm,	102.94	355	⇓Pdiff	Pdif	03 51 22.6	+0.5
	baz=102						
N26A	Koester Ranch,	102.96	356	⇑Pdiff	Pdif	03 51 22.7	+0.5
	baz=102						
N18A	Larsen Ranch,	102.98	1	⇑Pdiff	Pdif	03 51 22.7	+0.3
	baz=102						
ELK	Elko	103.00	5	*e*Pdif	Pdif	03 51 24.2	+1.7
ELK	Elko	103.00	5	*e*P	Pdif	03 51 24.2	+1.8
N17A	Moffit Pass	103.00	1	⇓Pdiff	Pdif	03 51 22.8	+0.3
	baz=103						
N23A	Red Feather La	103.02	358	⇑Pdiff	Pdif	03 51 23.1	+0.6
	baz=103						
N16A	Rees Ranch, Co	103.04	2	⇑Pdiff	Pdif	03 51 23.5	+0.8
	baz=103						
N24A	Carr	103.05	357	⇑Pdiff	Pdif	03 51 23.4	+0.7
	baz=103						
N19A	John Jarvie Ra	103.07	0	⇓Pdiff	Pdif	03 51 23.6	+0.8
	baz=103						
N20A	Spence Gulch,	103.13	359	⇓Pdiff	Pdif	03 51 24.1	+1.1
	baz=103						
N22A	Wattenberg Ran	103.13	358	⇓Pdiff	Pdif	03 51 24.1	+1.1
	baz=103						
N21A	Black Mountain	103.19	359	⇑Pdiff	Pdif	03 51 24.4	+1.1
	baz=103						
O26A	Horse Wrangler	103.55	356	⇓Pdiff	Pdif	03 51 25.6	+0.7
	baz=103						
O19A	Miners Draw (B	103.67	0	⇑Pdiff	Pdif	03 51 26.2	+0.8
	baz=103						
DUG	Dugway	103.68	3	⇓Pdiff	Pdif	03 51 26.6	+1.1
	baz=103						
O18A	Roosevelt	103.69	1	⇑Pdiff	Pdif	03 51 26.6	+1.1
	baz=103						
O23A	Lake Granby, G	103.70	358	⇑Pdiff	Pdif	03 51 27.1	+1.6
	baz=103						
O16A	Springville	103.72	2	⇑Pdiff	Pdif	03 51 26.7	+1.1
	baz=103						
O25A	Wiggins	103.72	356	⇑Pdiff	Pdif	03 51 26.4	+0.7
	baz=103						
O17A	Robinson Place	103.75	1	⇓Pdiff	Pdif	03 51 26.7	+1.0
	baz=103						
O24A	Longmont	103.76	357	⇓Pdiff	Pdif	03 51 26.8	+1.0
	baz=103						
O22A	Kremmling	103.77	358	⇓Pdiff	Pdif	03 51 26.1	+0.2
	baz=103						
O20A	White River Ci	103.83	359	⇓Pdiff	Pdif	03 51 26.8	+0.7
	baz=103						
WCN	Washoe City	104.00	9	⇓Pdiff	Pdif	03 51 27.9	+1.0
	baz=104						
ISCO	Idaho Springs	104.10	357	⇑Pdiff	Pdif	03 51 28.4	+1.1
	baz=104						
P26A	Davis Ranch, A	104.23	356	⇑Pdiff	Pdif	03 51 28.4	+0.5
	baz=104						
P16A	Fountain Green	104.31	2	⇓Pdiff	Pdif	03 51 29.5	+1.2
	baz=104						
KMSC	Kings Mountain	104.32	337	⇑Pdiff	Pdif	03 51 28.7	+0.4
	baz=104						
P25A	Willow Gulch B	104.32	356	⇑Pdiff	Pdif	03 51 29.4	+1.1
	baz=104						
P15A	Leamington	104.33	3	⇓Pdiff	Pdif	03 51 29.3	+1.0
	baz=104						
P19A	Cripple Cowboy	104.33	0	⇓Pdiff	Pdif	03 51 29.2	+0.8
	baz=104						
P22A	Eagle	104.34	358	⇑Pdiff	Pdif	03 51 28.9	+0.5
	baz=104						
P21A	Newcastle	104.43	359	⇓Pdiff	Pdif	03 51 29.6	+0.8
	baz=104						
P20A	De Beque	104.46	360	⇑Pdiff	Pdif	03 51 29.5	+0.6
	baz=104						
P17A	Butcher Ranch,	104.47	1	⇓Pdiff	Pdif	03 51 29.3	+0.3
	baz=104						
P23A	Jefferson	104.53	358	⇓Pdiff	Pdif	03 51 29.9	+0.6
	baz=104						
CBKS	Cedar Bluff	104.67	353	⇓Pdiff	Pdif	03 51 30.5	+0.6
	baz=104						
KSCO	Kaye Shedlock'	104.73	355	⇑Pdiff	Pdif	03 51 30.7	+0.6
	baz=104						
SRU	San Rafael	104.84	1	*e*Pdif	Pdif	03 51 32.1	+1.5
SRU	San Rafael	104.84	1	*e*P	Pdif	03 51 32.1	+1.5
Q18A	Rafter H Ranch	104.85	1	⇑Pdiff	Pdif	03 51 31.4	+0.7
	baz=104						
Q26A	Hugo	104.87	356	⇑Pdiff	Pdif	03 51 31.2	+0.5
	baz=104						
Q24A	Divide	104.92	357	⇓Pdiff	Pdif	03 51 31.6	+0.6
	baz=104						
Q25A	Bedland, Calha	104.92	356	⇑Pdiff	Pdif	03 51 31.5	+0.5
	baz=104						
Q23A	Hartsel	105.00	358	⇓Pdiff	Pdif	03 51 32.2	+0.8
	baz=105						
Q19A	Hogan Spring (	105.00	0	⇓Pdiff	Pdif	03 51 32.1	+0.7
	baz=105						
Q20A	Ridgley Place,	105.00	360	⇓Pdiff	Pdif	03 51 31.9	+0.6
	baz=105						
Q16A	Castle Valley	105.02	2	⇓Pdiff	Pdif	03 51 32.6	+1.2
	baz=105						
NVAR	Mina Array Bea	105.03	8	Pdiff	Pdif	03 51 32.9	+1.4
	comp=Z,7.1nm,0.9s,baz=355,slow=2.8,SNR=22						
NVAR				pPdiff		03 52 14.8	
	comp=Z,1.6nm,0.7s,baz=7.1,slow=3.8,SNR=2.2						
NVAR				PKiKP	PKiKP	03 55 45.1	-0.3
	comp=Z,4.6nm,0.9s,baz=233,slow=0.5,SNR=7.6						
NVAR				PKKPbc	PKKPbc	04 07 12.5	+0.1
	comp=Z,3.5nm,0.9s,baz=197,slow=6.4,SNR=14						
NVAR				PKPPKP		04 15 32.9	
	comp=Z,1.1nm,0.9s,baz=197,slow=2.7,SNR=7.0						
NVAR	Mina Array Bea	105.03	8	Pdif	Pdif	03 51 32.9	+1.4
NVAR				*e*		03 52 14.8	
NVAR				PKiKP	PKiKP	03 55 45.1	-0.3
NVAR				PKKPbc	PKKPbc	04 07 12.5	+0.1
NVAR				P'P'		04 15 32.9	
Q22A	Crested Butte,	105.08	358	⇓Pdiff	Pdif	03 51 32.8	+1.1
	baz=105						
Q21A	Lamborn Mesa,	105.12	359	⇓Pdiff	Pdif	03 51 32.9	+1.1
	baz=105						
CMB	Columbia Colle	105.17	9	*e*Pdif	Pdif	03 51 35.0	+2.9
CMB	Columbia Colle	105.17	9	*e*P	Pdif	03 51 35.0	+2.9
R11A	Troy Canyon, C	105.36	5	⇑Pdiff	Pdif	03 51 33.8	+0.8
	baz=105						
R26A	Arlington	105.49	356	⇑PKiKP	PKiKP	03 55 46.2	0.0
	baz=105						
R17A	Hanksville Air	105.52	1	⇓PKiKP	PKiKP	03 55 46.3	0.0
	baz=105						
R13A	O'Grain Ranch,	105.63	4	⇓PKiKP	PKiKP	03 55 46.3	-0.2
	baz=105						
R25A	Fountain Ranch	105.69	356	⇑PKiKP	PKiKP	03 55 45.8	-0.9
	baz=105						
R22A	Saguache, Gunn	105.70	358	⇓PKiKP	PKiKP	03 55 46.3	-0.4
	baz=105						
R23A	Moffat	105.72	357	⇓PKiKP	PKiKP	03 55 46.5	-0.1
	baz=105						
R20A	Redvale	105.77	360	⇑PKiKP	PKiKP	03 55 46.8	0.0
	baz=105						
MTUM	Tungsten Hills	106.06	8	*e*Pdif	Pdif	03 51 39.4	+3.3
S20A	Disappointment	106.13	360	⇑PKiKP	PKiKP	03 55 47.6	+0.1
	baz=106						
SDCO	Great Sand Dun	106.15	357	⇓PKiKP	PKiKP	03 55 47.6	+0.1
	baz=106						
SDCO	Great Sand Dun	106.15	357	*e*Pdif	Pdif	03 51 37.8	+1.4
S25A	Robets Cordova	106.18	356	⇓PKiKP	PKiKP	03 55 47.7	+0.1
	baz=106						
S22A	4UR Ranch, Cre	106.19	358	⇓PKiKP	PKiKP	03 55 47.2	-0.4
	baz=106						
S24A	Houchin Ranch,	106.24	357	⇑PKiKP	PKiKP	03 55 47.6	0.0
	baz=106						
S18A	Hurst Farm, Bl	106.26	1	⇓PKiKP	PKiKP	03 55 47.6	-0.1
	baz=106						
S21A	Coal Bank Pass	106.29	359	⇑PKiKP	PKiKP	03 55 47.9	+0.1
	baz=106						
CCUT	Cedar City	106.29	4	*e*Pdif	Pdif	03 51 39.5	+2.4
GRAC	Grapevine Rang	106.54	7	⇓PKiKP	PKiKP	03 55 48.3	+0.1
	baz=106						
T25A	Trinidad	106.70	356	⇑PKiKP	PKiKP	03 55 48.9	+0.4
	baz=106						
T18A	Mexican Hat	106.82	1	⇑PKiKP	PKiKP	03 55 48.5	-0.3
	baz=106						
DZM	Mont Dzumac	106.89	105	*e*PP	PP	03 55 59.4	-8.8
	comp=Z,115nm,26.7s						
T22A	Edith	106.92	358	⇓PKiKP	PKiKP	03 55 48.9	0.0
	baz=106						
FURC	Furnace Creek,	107.11	7	⇓PKiKP	PKiKP	03 55 49.9	+0.6
	baz=107						
U17A	Shonto	107.34	1	⇓PKiKP	PKiKP	03 55 50.3	+0.6
	baz=107						
U25A	Circle Dot Ran	107.44	356	⇑PKiKP	PKiKP	03 55 50.0	+0.1
	baz=107						
U15A	North Rim	107.46	3	⇓PKiKP	PKiKP	03 55 50.4	+0.5
	baz=107						
U24A	Moreno Valley	107.47	357	⇑PKiKP	PKiKP	03 55 50.3	+0.3
	baz=107						
U21A	Nageezi	107.52	359	⇑PKiKP	PKiKP	03 55 50.0	0.0
	baz=107						
U20A	Newcomb	107.58	360	⇓PKiKP	PKiKP	03 55 50.0	-0.2
	baz=107						
U19A	Dine' College,	107.66	0	⇑PKiKP	PKiKP	03 55 50.2	-0.2
	baz=107						
SYO	Syowa Base	107.67	191	⇑*e*P	PKiKP	03 55 41.0	-8.1
SYO	Syowa Base	107.67	191	⇑*e*P	PKiKP	03 55 47.1	-2.0
SHOC	Shoshone	107.73	6	⇑PKiKP	PKiKP	03 55 50.5	+0.1
	baz=107						
U16A	Tuba City	107.78	2	⇑PKiKP	PKiKP	03 55 50.9	+0.3
	baz=107						
V24A	Rampart Ranch,	108.15	357	⇓PKiKP	PKiKP	03 55 50.8	-0.4
	baz=108						
V20A	Brimhall	108.16	360	⇓PKiKP	PKiKP	03 55 51.3	+0.1
	baz=108						
V23A	Ortiz Mt. (NFS	108.17	358	⇑PKiKP	PKiKP	03 55 51.2	-0.1
	baz=108						
TUQ	Turquoise Moun	108.22	6	⇑PKiKP	PKiKP	03 55 51.6	+0.2
	baz=108						
V18A	Ganado	108.24	1	⇓PKiKP	PKiKP	03 55 51.6	+0.2
	baz=108						
V19A	Window Rock	108.24	0	⇑PKiKP	PKiKP	03 55 51.6	+0.2
	baz=108						
GSC	Goldstone	108.28	7	⇑PKiKP	PKiKP	03 55 52.1	+0.6
	baz=108						
GSC	Goldstone	108.28	7	*e*Pdif	Pdif	03 51 49.9	+4.0
GSC	Goldstone	108.28	7	*e*P	Pdif	03 51 49.9	+4.0
WUAZ	Wupatki	108.40	2	⇓PKiKP	PKiKP	03 55 51.4	-0.3
	baz=108						
EDW2	Edwards Air Fo	108.57	8	⇓PKiKP	PKiKP	03 55 52.1	+0.1
	baz=108						
WMOK	Wichita Mounta	108.59	351	*e*Pdif	Pdif	03 51 48.2	+0.9
WMOK	Wichita Mounta	108.59	351	*e*P	Pdif	03 51 48.2	+0.9
W27A	Bowe Ranch, En	108.68	355	⇑PKiKP	PKiKP	03 55 52.2	-0.1
	baz=108						
W13A	Hualapai Mount	108.70	4	⇑PKiKP	PKiKP	03 55 52.2	-0.1
	baz=108						
W23A	Werner Place,	108.75	358	⇓PKiKP	PKiKP	03 55 52.3	-0.1
	baz=108						
HEC	Hector,Ludlow	108.79	6	⇓PKiKP	PKiKP	03 55 52.3	-0.2
	baz=108						
W20A	Ramah	108.83	360	⇑PKiKP	PKiKP	03 55 52.2	-0.3
	baz=108						
W21A	San Fidel	108.83	359	⇑PKiKP	PKiKP	03 55 52.3	-0.2
	baz=108						
W19A	Sanders	108.84	0	⇓PKiKP	PKiKP	03 55 52.2	-0.3
	baz=108						
ANMO	Albuquerque	108.97	358	Pdiff	Pdif	03 51 51.5	+2.5
	comp=Z,4.7nm,0.9s,baz=12,slow=4.8,SNR=11						
ANMO				PKKPbc	PKKPbc	04 06 59.6	-0.5
	comp=Z,1.9nm,1.0s,baz=191,slow=5.2,SNR=4.1						
ANMO				PKKPab	PKKPab	04 07 13.6	-3.5
	comp=Z,5.0nm,1.1s,baz=180,slow=6.1,SNR=6.8						
ANMO	Albuquerque	108.97 358		Pdif	Pdif	03 51 51.5	+2.5
ANMO				PKKPbc	PKKPbc	04 06 59.6	-0.5
ANMO				PKKPab	PKKPab	04 07 13.6	-3.5
ANMO	Albuquerque	108.97 358		P	Pdif	03 51 51.5	+2.5
ANMO						04 06 59.7	
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
X23A	Hourglass Bar	109.33	358	⇓PKiKP	PKiKP	03 55 53.3	-0.2
	baz=109						
X20A	Quemado	109.41	360	⇓PKiKP	PKiKP	03 55 53.7	0.0
	baz=109						
X18A	Snowflake	109.42	1	⇑PKiKP	PKiKP	03 55 53.8	+0.2
	baz=109						
PDMCI	Parker Dam,Lak	109.48	5	⇑PKiKP	PKiKP	03 55 53.7	-0.1
	baz=109						
X16A	Lo Mia Camp, P	109.50	2	⇑PKiKP	PKiKP	03 55 53.6	-0.2
	baz=109						
X19A	St. Johns	109.52	0	⇑PKiKP	PKiKP	03 55 53.5	-0.3
	baz=109						
IRM	Iron Mountain	109.55	5	⇓PKiKP	PKiKP	03 55 53.8	-0.1
	baz=109						
BELC	Belle Mtn. Jos	109.64	6	⇓PKiKP	PKiKP	03 55 54.1	0.0
	baz=109						
MSTX	Muleshoe	109.75	355	⇓PKiKP	PKiKP	03 55 53.8	-0.5
	baz=109						
Y27A	Causey	109.86	355	⇑PKiKP	PKiKP	03 55 53.9	-0.6
	baz=109						
Y14A	Wickenburg	109.91	4	⇑PKiKP	PKiKP	03 55 54.1	-0.5
	baz=110						
Y25A	Mesa, Roswell	109.92	356	⇑PKiKP	PKiKP	03 55 54.4	-0.2
	baz=110						
MURC	Murrieta	109.92	7	⇑PKiKP	PKiKP	03 55 54.7	0.0
	baz=110						
Y24A	Capitan	109.95	357	⇓PKiKP	PKiKP	03 55 54.5	-0.2
	baz=110						
Y23A	Lovelace Mesa,	109.97	357	⇑PKiKP	PKiKP	03 55 54.6	-0.1
	baz=110						
PFO	Pinyon Flat Ob	109.99	7	⇓PKiKP	PKiKP	03 55 54.8	0.0
	baz=110						
Y22A	Socorro	109.99	358	⇑PKiKP	PKiKP	03 55 54.5	-0.2
	baz=110						
Y19A	Nutrioso	109.99	0	⇑PKiKP	PKiKP	03 55 54.4	-0.4
	baz=110						
Y12C	Blythe	110.00	5	⇑PKiKP	PKiKP	03 55 54.3	-0.5
	baz=110						
BC3	Big Chuckawall	110.03	6	⇑PKiKP	PKiKP	03 55 54.7	-0.1
	baz=110						
Y20A	Horse Springs,	110.04	360	⇓PKiKP	PKiKP	03 55 54.9	0.0
	baz=110						
Y17A	Roosevelt	110.23	2	⇓PKiKP	PKiKP	03 55 55.0	-0.2
	baz=110						
Z27A	Tatum	110.43	355	⇓PKiKP	PKiKP	03 55 54.9	-0.7
	baz=110						
Z14A	Wintersburg	110.48	4	⇓PKiKP	PKiKP	03 55 55.2	-0.5
	baz=110						
Z26A	Caprock	110.53	356	⇑PKiKP	PKiKP	03 55 55.0	-0.7
	baz=110						
Z24A	Sheeppen Canyo	110.54	357	⇓PKiKP	PKiKP	03 55 55.6	-0.2
	baz=110						
Z25A	Roswell	110.56	356	⇓PKiKP	PKiKP	03 55 55.1	-0.7
	baz=110						
Z13A	Yuma Proving G	110.61	4	⇓PKiKP	PKiKP	03 55 55.1	-0.9
	baz=110						
Z21A	St. Cloud Mine	110.63	359	⇓PKiKP	PKiKP	03 55 55.3	-0.7
	baz=110						
Z17A	San Carlos Hig	110.64	1	⇑PKiKP	PKiKP	03 55 55.8	-0.2
	baz=110						
Z23A	Rita Site, Whi	110.64	358	⇑PKiKP	PKiKP	03 55 55.6	-0.4
	baz=110						
Z22A	Elephant Butte	110.67	358	⇓PKiKP	PKiKP	03 55 55.7	-0.4
	baz=110						
MONP	Monument Peak	110.70	7	⇓PKiKP	PKiKP	03 55 56.1	0.0
	baz=110						
SWSC	Sam W. Stewart	110.71	6	⇑PKiKP	PKiKP	03 55 56.0	-0.1
	baz=110						
Z20A	Nine Sixteen R	110.83	360	⇓PKiKP	PKiKP	03 55 56.1	-0.2
	baz=110						
114A	Black Gap (USA	111.10	4	⇓PKiKP	PKiKP	03 55 55.9	-1.0
	baz=111						
125A	Gardner Draw,	111.17	356	⇓PKiKP	PKiKP	03 55 56.2	-0.9
	baz=111						
120A	U Bar Ranch, L	111.40	360	⇑PKiKP	PKiKP	03 55 57.2	-0.3
	baz=111						
121A	Cookes Peak, D	111.41	359	⇓PKiKP	PKiKP	03 55 57.1	-0.4
	baz=111						
TUC	Tucson	111.61	2	*e*PKPdf	PKiKP	03 55 57.9	0.0
TUC	Tucson	111.61	2	*e*PKIKP	PKiKP	03 55 57.9	0.0
225A	Deer Hill, Car	111.73	356	⇓PKiKP	PKiKP	03 55 57.8	-0.3
	baz=111						
227A	Bennet, Jal	111.73	355	⇓PKiKP	PKiKP	03 55 57.8	-0.3
	baz=111						
226A	Malaga, Loving	111.73	356	⇑PKiKP	PKiKP	03 55 57.3	-0.8
	baz=111						
222A	Williams Famil	111.82	358	⇑PKiKP	PKiKP	03 55 57.6	-0.6
	baz=111						
214A	Organ Pipe Nat	111.89	4	⇑PKiKP	PKiKP	03 55 58.3	-0.1
	baz=112						
218A	Dragoon	111.96	1	⇓PKiKP	PKiKP	03 55 58.0	-0.5
	baz=112						
220A	Playas Peak, P	112.04	360	⇑PKiKP	PKiKP	03 55 58.3	-0.4
	baz=112						
MNTX	Cornudas Mount	112.17	357	⇑PKiKP	PKiKP	03 55 58.4	-0.5
	baz=112						
MNTX	Cornudas Mount	112.17	357	*e*PKPdf	PKiKP	03 55 58.8	-0.1
328A	Wristen Ranch,	112.32	354	⇓PKiKP	PKiKP	03 55 58.5	-0.8
	baz=112						
324A	Moseley Ranch,	112.42	357	⇑PKiKP	PKiKP	03 55 58.5	-0.9
	baz=112						
326A	Caldwell Ranch

SNAA	**Sanae**	**119.34**	**200**	*e*PKPdf	PKPdf	03 56 10.1	-1.2
SNAA	**Sanae**	**119.34**	**200**	*e*PKIKP	PKPdf	03 56 10.1	-1.2
TEIG	**Tepich**	**120.39**	**337**	*e*PKPdf	PKPdf	03 56 14.4	-0.6
RPZ	**Rata Peaks**	**120.54**	**124**	PKP	PKPdf	03 56 13.5	-0.9
	comp=Z,50nm,1.0s,baz=80,slow=2.6,SNR=18						
RPZ				PP	PP	03 57 45.9	+1.4
	comp=Z,27nm,1.2s,baz=311,slow=10,SNR=3.8						
RPZ	**Rata Peaks**	**120.54**	**124**	*e*PKPdf	PKPdf	03 56 13.1	-1.3
RPZ				PKP	PKPdf	03 56 13.5	-0.9
RPZ				PP	PP	03 57 45.9	+1.4
KHZ	**Kahutara**	**121.73**	**122**	*e*PKPdf	PKPdf	03 56 15.5	-1.3
SNZO	**South Karori**	**122.12**	**120**	*e*PKPdf	PKPdf	03 56 15.8	-1.7
SDV	**Santo Domingo**	**122.35**	**314**	*e*PKPdf	PKPdf	03 56 17.6	-1.3
URZ	**Urewera**	**122.66**	**116**	PKP	PKPdf	03 56 16.4	-2.3
	comp=Z,93nm,0.8s,baz=337,slow=3.5,SNR=28						
URZ	**Urewera**	**122.66**	**116**	*e*PKPdf	PKPdf	03 56 16.0	-2.7
URZ				PKP	PKPdf	03 56 16.4	-2.3
VNDA	**Vanda**	**125.39**	**165**	*e*PKPdf	PKPdf	03 56 21.5	-1.3
VNDA				*e*PP	PP	03 58 14.9	-1.2
VNDA	**Vanda**	**125.39**	**165**	*e*PKIKP	PKPdf	03 56 21.5	-1.3
VNDA				*e*		03 58 14.9	
TGUH	**Tegucigalpa,Un**	**125.81**	**334**	*e*PKPdf	PKPdf	03 56 25.5	0.0
SPB	**Sao Paulo**	**126.05**	**266**	*e*PKPdf	PKPdf	03 56 25.9	+0.2
QSPA	**South Pole Qui**	**126.21**	**180**	PKP	PKPdf	03 56 23.8	-0.5
	comp=Z,110nm,1.0s,baz=276,slow=1.2,SNR=98						
QSPA				PP	PP	03 58 20.0	-1.4
	comp=Z,30nm,1.0s,baz=252,slow=3.3,SNR=3.2						
QSPA				SKKPbc		04 09 20.5	
	comp=Z,6.3nm,1.0s,baz=274,slow=2.7,SNR=4.1						
QSPA	**South Pole Qui**	**126.21**	**180**	PKP	PKPdf	03 56 23.8	-0.5
QSPA				PP	PP	03 58 20.0	-1.4
QSPA				SKKPbc		04 09 20.5	
SBA	**Scott Base**	**126.47**	**165**	*e*PKPdf	PKPdf	03 56 25.3	+0.4
SBA	**Scott Base**	**126.47**	**165**	*e*PKIKP	PKPdf	03 56 25.3	+0.4
BCIP	**Isla Barro Col**	**127.06**	**323**	*e*PKPdf	PKPdf	03 56 26.9	-1.1
ROSC	**El Rosal**	**127.74**	**314**	PKhKP	PKPpre	03 56 25.7	
	comp=Z,182nm,0.9s,baz=166,slow=4.5,SNR=11						
ROSC				PKP	PKPdf	03 56 29.6	+0.3
	comp=Z,170nm,0.9s,baz=98,slow=4.5,SNR=83						
ROSC	**El Rosal**	**127.74**	**314**	PKPpre	PKPpre	03 56 25.7	
ROSC				PKP	PKPdf	03 56 29.6	+0.3
ROSC				*e*PKPdf	PKPdf	03 56 29.9	+0.6
SAML	**Samuel**	**130.37**	**292**	*e*PKPdf	PKPdf	03 56 33.7	-0.5
SIV	**San Ignacio**	**133.04**	**283**	SKKPbc		04 09 02.4	
	comp=Z,1.6nm,1.0s,baz=250,slow=2.5,SNR=3.4						
RAR	**Rarotonga**	**133.45**	**85**	PKP	PKPdf	03 56 38.2	-1.5
	comp=Z,37nm,0.9s,baz=287,slow=3.5,SNR=3.8						
RAR				SKPbc	SKPbc	03 59 52.2	-1.2
	comp=Z,27nm,0.9s,baz=256,slow=6.8,SNR=4.1						
RAR	**Rarotonga**	**133.45**	**85**	PKP	PKPdf	03 56 38.2	-1.5
RAR				SKPbc	SKPbc	03 59 52.2	-1.2
RAR	**Rarotonga**	**133.45**	**85**	PKIKP	PKPdf	03 56 38.2	-1.5
RAR				pmax	pmax		
	comp=Z,37nm,0.9s						
OTAV	**Otavalo**	**133.86**	**315**	*e*PKPdf	PKPdf	03 56 41.5	+0.6
CPUP	**Villa Florida**	**135.28**	**268**	PKhKP	PKPpre	03 56 28.4	
	comp=Z,3.7nm,1.0s,baz=265,slow=1.8,SNR=7.2						
CPUP				PKP	PKPdf	03 56 41.9	-1.2
	comp=Z,43nm,0.8s,baz=44,slow=2.9,SNR=87						
CPUP				SKPbc	SKPbc	03 59 57.6	-1.6
	comp=Z,2.8nm,0.7s,baz=65,slow=6.0,SNR=3.7						
CPUP	**Villa Florida**	**135.28**	**268**	PKPpre	PKPpre	03 56 28.4	
CPUP				PKP	PKPdf	03 56 41.9	-1.2
CPUP				SKPbc	SKPbc	03 59 57.6	-1.6
CPUP	**Villa Florida**	**135.28**	***i***	PKHKP	PKPpre	03 56 28.4	
CPUP						03 56 41.9	
CPUP				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,43nm,0.8s						
LPAZ	**La Paz**	**138.71**	**288**	PKhKP	PKPpre	03 56 39.8	
	comp=Z,2.3nm,0.8s,baz=28,slow=7.0,SNR=7.0						
LPAZ				PKP	PKPdf	03 56 49.5	-0.1
	comp=Z,38nm,0.9s,baz=49,slow=3.9,SNR=48						
LPAZ				PP	PP	03 59 40.5	-2.0
	comp=Z,11nm,1.2s,baz=56,slow=7.7,SNR=3.9						
LPAZ				SKPbc	SKPbc	04 00 08.9	-0.7
	comp=Z,8.3nm,0.9s,baz=4.5,slow=4.0,SNR=3.8						
LPAZ				SKKPbc		04 08 44.0	
	comp=Z,6.9nm,1.1s,baz=248,slow=2.9,SNR=5.6						
LPAZ	**La Paz**	**138.71**	**288**	PKPpre	PKPpre	03 56 39.8	
LPAZ				PKP	PKPdf	03 56 49.5	-0.1
LPAZ				*e*PKPdf	PKPdf	03 56 50.0	+0.4
LPAZ				*e*PP	PP	03 59 38.2	-4.3
LPAZ				PP	PP	03 59 40.5	-2.0
LPAZ				SKPbc	SKPbc	04 00 08.9	-0.7
LPAZ				SKKPbc		04 08 44.0	
LPAZ	**La Paz**	**138.71**	**288**	*i* PKHKP	PKPpre	03 56 39.8	
LPAZ						03 56 49.6	
LPAZ						03 59 40.5	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,38nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,11nm,1.2s						
PMOR	**Pomariorio Ree**	**139.29**	**69**	*e*PKiKP	PKiKP	03 56 53.0	0.0
	comp=Z,177nm,1.1s						
PPT2	**Papeete2**	**139.56**	**73**	*e*PKiKP	PKiKP	03 56 53.7	+0.1
	comp=Z,239nm,1.1s						
PPT2				*e*SKPdf	SKPdf	04 00 13.3	+2.3
	comp=Z,114nm,1.4s						
PAE	**Paea**	**139.60**	**73**	*e*PKiKP	PKiKP	03 56 53.5	-0.1
	comp=Z,26nm,1.2s						
TIAR	**Tiarei**	**139.72**	**73**	*e*PKiKP	PKiKP	03 56 53.8	-0.1
	comp=Z,71nm,0.9s						
PMSA	**Palmer Station**	**141.17**	**209**	PKhKP	PKPpre	03 56 45.7	
	comp=Z,31nm,0.8s,baz=73,slow=3.0,SNR=4.5						
PMSA				SKPbc	SKPbc	04 00 12.6	-1.9
	comp=Z,51nm,1.1s,baz=63,slow=2.3,SNR=3.2						
PMSA	**Palmer Station**	**141.17**	**209**	PKPpre	PKPpre	03 56 45.7	
PMSA				SKPbc	SKPbc	04 00 12.6	-1.9
NNA	**Nana**	**142.26**	**302**	*e*PKPdf	PKPdf	03 56 56.1	0.0
NNA	**Nana**	**142.26**	**302**	*e*PKIKP	PKPdf	03 56 56.1	0.0
TBI	**Tubuai**	**142.77**	**81**	*e*PKiKP	PKiKP	03 57 00.6	+0.6
	comp=Z,525nm,1.1s						
TRQA	**Tornquist**	**142.91**	**253**	*e*PKPdf	PKPdf	03 56 55.1	-1.5
LCO	**Las Campanas**	**147.18**	**272**	*e*PKPdf	PKPdf	03 57 04.8	+0.6
FCH	**Farellones**	**148.30**	**264**	⇑*i*P	PKPdf	03 57 05.7	-0.2
LMEL	**Las Melosas**	**148.38**	**263**	⇑*i*P	PKPdf	03 57 05.9	-0.1
LMEL	**Las Melosas**	**148.38**	**263**	⇑*i*P	PKPdf	03 57 05.9	-0.1
CLCH	**Cerro Calan**	**148.52**	**264**	⇑*i*P	PKPdf	03 57 06.3	0.0
PLCA	**Paso Flores**	**149.86**	**250**	PKP	PKPdf	03 57 08.2	0.0
	comp=Z,36nm,0.9s,baz=137,slow=2.5,SNR=51						
PLCA				PKPbc	PKPbc	03 57 13.8	+0.6
	comp=Z,168nm,0.8s,baz=109,slow=2.7,SNR=79						
PLCA	**Paso Flores**	**149.86**	**250**	*e*PKPdf	PKPdf	03 57 08.0	-0.2
PLCA				PKP	PKPdf	03 57 08.2	0.0
PLCA				*e*PKPbc	PKPbc	03 57 13.6	+0.4
PLCA				PKPbc	PKPbc	03 57 13.8	+0.6
PLCA	**Paso Flores**	**149.86**	**250**	PKHKP	PKPdf	03 57 08.2	0.0
PLCA				pmax	pmax		
	comp=Z,36nm,0.9s						
CCHI	**Chillan**	**150.51**	**258**	*e*P	PKPdf	03 57 08.9	-0.4
CCHI	**Chillan**	**150.51**	**258**	*e*P	PKPdf	03 57 08.9	-0.4
COYC	**Coyhaique**	**150.95**	**240**	*e*P	PKPdf	03 57 09.0	-0.7
COYC	**Coyhaique**	**150.95**	**240**	*e*P	PKPdf	03 57 09.0	-0.7
RKT	**Rikitea**	**153.88**	**67**	*e*PKIKP	PKPdf	03 57 15.3	+0.5
RKT	**Rikitea**	**153.88**	**67**	*e*PKiKP	PKiKP	03 57 23.1	+0.2
	comp=Z,45nm,1.1s						
RPN	**Rapa Nui**	**170.74**	**2**	PKP	PKPdf	03 57 32.4	+1.0
	comp=Z,71nm,0.8s,baz=340,slow=2.3,SNR=4.3						
RPN	**Rapa Nui**	**170.74**	**2**	PKP	PKPdf	03 57 32.4	+1.0
RPN	**Rapa Nui**	**170.74**	**2**	PKIKP	PKPdf	03 57 32.4	+1.1
RPN				pmax	pmax		
	comp=Z,71nm,0.8s						

*ISCJB **29** 03:38:45.3±0.8, 40°.34N×0°.03×25°.76E±0°.06, h20km±9km, Error ellipse: s-maj=8.0km s-min=5.7km az=16.2*
*ATH **29** 03:38:45.0, 40°.32N×25°.88E, h28km±1km, MD2.8/4*
*CSEM **29** 03:38:45.5±0.3, 40°.33N×25°.81E, h25km±3km, MD2.8, Error ellipse: s-maj=8.0km s-min=7.3km az=151.0*
*ISK **29** 03:38:45.0, 40°.33N×25°.80E, h11km, MD2.8*
ISC 29 03:38:45.6±0.6, 40°.34N±0°.03×25°.79E±0°.05, h19km±6km, n21, σ0°82/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.48**	**35**	*e*PG	**Pg**	**03 38 55.0**	**-0.4**
ENEZ				*e*SG	**Sg**	**03 39 02.2**	**+0.2**
ENEZ	**Enez**	**0.48**	**35**	*e*Pg	**Pg**	**03 38 55.0**	**-0.4**
ENEZ				*e*Sg	**Sg**	**03 39 02.2**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.52**	**84**	*e*PG	**Pg**	**03 38 55.8**	**-0.4**
GELI				*e*SG	**Sg**	**03 39 02.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.52**	**84**	*e*Pg	**Pg**	**03 38 55.8**	**-0.4**
GELI				*e*Sg	**Sg**	**03 39 02.8**	**-0.4**
ALN	**Alexandroupoli**	**0.59**	**19**	*e*PN	**Pn**	**03 38 57.2**	**-1.8**
ALN				*e*SN	**Sg**	**03 39 05.6**	**+0.3**
ALN	**Alexandroupoli**	**0.59**	**19**	*e*Pn	**Pn**	**03 38 57.2**	**-1.8**
ALN				*e*Sn	**Sg**	**03 39 05.6**	**+0.3**
ERIK	**Erikli-Kesan**	**0.64**	**59**	*e*PG	**Pg**	**03 38 58.0**	**-0.3**
ERIK				*e*SG	**Sg**	**03 39 07.7**	**+0.8**
ERIK	**Erikli-Kesan**	**0.64**	**59**	*e*Pg	**Pg**	**03 38 58.0**	**-0.3**
ERIK				*e*Sg	**Sg**	**03 39 07.7**	**+0.8**
LIA	**Limnos Island**	**0.64**	**227**	*e*PN	**Pn**	**03 38 58.9**	**-0.8**
LIA				*e*SN	**Sg**	**03 39 08.5**	**+1.5**
LIA	**Limnos Island**	**0.64**	**227**	*e*Pn	**Pn**	**03 38 58.9**	**-0.8**
LIA				*e*Sn	**Sg**	**03 39 08.5**	**+1.5**
EZN	**Ezine**	**0.66**	**141**	*e*PG	**Pg**	**03 38 57.7**	**-0.9**
EZN				*e*SG	**Sg**	**03 39 07.3**	**-0.1**
EZN	**Ezine**	**0.66**	**141**	*e*Pg	**Pg**	**03 38 57.7**	**-0.9**
EZN				*e*Sg	**Sg**	**03 39 07.3**	**-0.1**
RDO	**Rodhopi**	**0.83**	**347**	*e*PN	**Pn**	**03 39 01.7**	**-0.6**
RDO				*e*SN	**Sn**	**03 39 14.5**	**+0.6**
RDO	**Rodhopi**	**0.83**	**347**	*e*Pn	**Pn**	**03 39 01.7**	**-0.6**
RDO				*e*Sn	**Sn**	**03 39 14.5**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.11**	**71**	*e*PN	**Pn**	**03 39 07.1**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.11**	**71**	*e*Pn	**Pn**	**03 39 07.1**	**+1.0**
GONE	**Gonen-Balikesi**	**1.48**	**101**	*e*PN	**Pn**	**03 39 12.4**	**+1.2**
EDRB	**Edirne**	**1.67**	**25**	*e*PN	**Pn**	**03 39 14.6**	**+0.8**
EDRB	**Edirne**	**1.67**	**25**	*e*Pn	**Pn**	**03 39 14.6**	**+0.8**
NVR	**Nevrokopi**	**1.78**	**305**	*e*PB	**Pb**	**03 39 16.8**	**-0.8**
NVR	**Nevrokopi**	**1.78**	**305**	*e*Pb	**Pb**	**03 39 16.8**	**-0.8**

*ISK **29** 03:47:32.5, 40°.31N×25°.86E, h14km, MD2.7*
*ATH **29** 03:47:32.2, 40°.28N×25°.96E, h33km±6km, MD2.8/4*
*ISCJB **29** 03:47:33.9±0.6, 40°.31N±0°.03×25°.90E±0°.05, h23km±9km, Error ellipse: s-maj=6.1km s-min=5.3km az=2.9*
*CSEM **29** 03:47:33.1±0.3, 40°.32N×25°.88E, h20km, MD2.7, Error ellipse: s-maj=5.9km s-min=5.1km az=17.0*
ISC 29 03:47:33.6±0.5, 40°.31N±0°.03×25°.90E±0°.04, h18km±7km, n25, σ0°56/36, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.45**	**79**	*e*PG	**Pg**	**03 47 42.6**	**-0.1**
GELI				*e*SG	**Sg**	**03 47 49.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.45**	**79**	*e*Pg	**Pg**	**03 47 42.6**	**-0.2**
GELI				*e*Sg	**Sg**	**03 47 49.4**	**+0.5**
ENEZ	**Enez**	**0.47**	**25**	*e*PG	**Pg**	**03 47 42.3**	**-0.8**
ENEZ				*e*SG	**Sg**	**03 47 50.1**	**+0.6**
ENEZ	**Enez**	**0.47**	**25**	*e*Pg	**Pg**	**03 47 42.3**	**-0.8**
ENEZ				*e*Sg	**Sg**	**03 47 50.1**	**+0.7**
EZN	**Ezine**	**0.59**	**146**	*e*PG	**Pg**	**03 47 44.6**	**-0.7**
EZN				*e*SG	**Sg**	**03 47 53.9**	**+0.8**
EZN	**Ezine**	**0.59**	**146**	*e*Pg	**Pg**	**03 47 44.6**	**-0.6**
EZN				*e*Sg	**Sg**	**03 47 53.9**	**+0.8**
ERIK	**Erikli-Kesan**	**0.59**	**52**	*e*PG	**Pg**	**03 47 45.0**	**-0.4**
ERIK	**Erikli-Kesan**	**0.59**	**52**	*e*Pg	**Pg**	**03 47 45.0**	**-0.3**
ALN	**Alexandroupoli**	**0.60**	**11**	*e*PN	**Pg**	**03 47 45.0**	**-0.4**
ALN				*e*SN	**Sg**	**03 47 53.8**	**+0.4**
ALN	**Alexandroupoli**	**0.60**	**11**	*e*Pn	**Pg**	**03 47 45.0**	**-0.4**
LPK	**Lapseki**	**0.66**	**84**	*e*PG	**Pg**	**03 47 46.1**	**-0.6**
LPK	**Lapseki**	**0.66**	**84**	*e*Pg	**Pg**	**03 47 46.1**	**-0.6**
LIA	**Limnos Island**	**0.69**	**233**	*e*PN	**Pg**	**03 47 46.7**	**-0.4**
LIA				*e*SN	**Sg**	**03 47 56.8**	**+0.6**
LIA	**Limnos Island**	**0.69**	**233**	*e*Pn	**Pg**	**03 47 46.7**	**-0.4**
LIA				*e*Sn	**Sg**	**03 47 56.8**	**+0.6**
RDO	**Rodhopi**	**0.88**	**342**	*e*PN	**Pg**	**03 47 49.7**	**-1.0**
RDO				*e*SN	**Sg**	**03 48 03.3**	**+1.0**
RDO	**Rodhopi**	**0.88**	**342**	*e*Pn	**Pg**	**03 47 49.7**	**-1.0**
RDO				*e*Sn	**Sg**	**03 48 03.3**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.05**	**69**	*e*PG	**Pg**	**03 47 53.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.05**	**69**	*e*Pg	**Pg**	**03 47 53.7**	**-0.2**
KRBG	**Karabiga-Canak**	**1.07**	**85**	*e*PN	**Pg**	**03 47 54.4**	**0.0**
KRBG	**Karabiga-Canak**	**1.07**	**85**	*e*Pn	**Pg**	**03 47 54.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**100**	*e*PN	**Pn**	**03 47 58.7**	**+0.5**
EDRB	**Edirne**	**1.66**	**22**	*e*PN	**Pn**	**03 48 02.1**	**+0.2**
EDRB	**Edirne**	**1.66**	**22**	*e*Pn	**Pn**	**03 48 02.1**	**+0.2**
NVR	**Nevrokopi**	**1.86**	**305**	*e*PN	**Pn**	**03 48 04.5**	**-0.1**
NVR	**Nevrokopi**	**1.86**	**305**	*e*Pn	**Pn**	**03 48 04.5**	**-0.1**

IDC 29 03:48:31.0±9.1, 31°.57S×176°.56W, h63km±73km, mb3.5/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=60.2km s-min=44.7km az=41.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.46**	**216**	P	Pn	03 50 30.2	-0.5
	0.3nm,0.3s,baz=275,slow=7.4,SNR=6.0						
URZ				S	Sn	03 52 06.9	+2.2
	1.5nm,0.3s,baz=298,slow=23,SNR=10						
ASAR	**Alice Springs**	**44.29**	**267**	P	P	03 56 34.6	0.0
	0.9nm,0.7s,baz=100,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**45.38**	**273**	P	P	03 56 42.6	-0.7
	0.7nm,0.3s,baz=111,slow=8.1,SNR=7.4						
FINES	**FINESS Array B**	**146.66**	**340**	PKPbc	PKPbc	04 08 05.2	+0.5
	2.5nm,0.7s,baz=29,slow=3.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**161.59**	**175**	PKPab	PKPab	04 09 08.7	-1.4
	0.9nm,0.9s,baz=231,slow=4.2,SNR=3.4						

*ISK **29** 03:50:33.8, 37°.90N×29°.18E, h3km, MD3.0*
*ISCJB **29** 03:50:34.4±0.6, 37°.91N±0°.03×29°.20E±0°.04, h2km±6km, Error ellipse: s-maj=4.8km s-min=4.5km az=156.8*
*DDA **29** 03:50:34.1, 37°.87N×29°.25E, h7km±2km, Md3.0*
*CSEM **29** 03:50:34.3±0.1, 37°.90N×29°.24E, h2km, MD3.0, Error ellipse: s-maj=3.0km s-min=2.5km az=68.0*
ISC 29 03:50:34.8±0.5, 37°.91N±0°.03×29°.22E±0°.04, h3km±5km, n32, σ0°72/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**224**	*e*PG	**Pg**	**03 50 38.8**	**0.0**
DENT	**Denizli**	**0.21**	**224**	*e*Pg	**Pg**	**03 50 38.8**	**0.0**
DNZL	**Cakiroluk**	**0.26**	**213**	*e*P	**Pg**	**03 50 39.4**	**-0.3**
DNZL				*i* S	**Sg**	**03 50 43.3**	**+0.3**
DNZL	**Cakiroluk**	**0.26**	**213**	*e*P	**Pg**	**03 50 39.4**	**-0.3**
DNZL				*i* S	**Sg**	**03 50 43.3**	**+0.3**
KHAL	**Karahalli**	**0.51**	**25**	*i* P	**Pg**	**03 50 44.3**	**-0.2**
KHAL	**Karahalli**	**0.51**	**25**	*i* P	**Pg**	**03 50 44.3**	**-0.2**
GOLH	**Golhisar**	**0.72**	**158**	*e*P	**Pg**	**03 50 47.2**	**-1.3**
GOLH	**Golhisar**	**0.72**	**158**	*e*P	**Pg**	**03 50 47.2**	**-1.4**
KULA	**Kula-Manisa**	**0.75**	**324**	*e*PG	**Pg**	**03 50 48.6**	**-0.6**
KULA				*e*SG	**Sg**	**03 50 59.8**	**+0.9**
KULA	**Kula-Manisa**	**0.75**	**324**	*e*Pg	**Pg**	**03 50 48.6**	**-0.5**
KULA				*e*Sg	**Sg**	**03 50 59.8**	**+0.9**
GLHS	**Glhisar (BURDU**	**0.78**	**164**	*e*PG	**Pg**	**03 50 49.7**	**0.0**
GLHS				*e*SG	**Sg**	**03 51 01.5**	**+1.6**
GLHS	**Glhisar (BURDU**	**0.78**	**164**	*e*Pg	**Pg**	**03 50 49.7**	**0.0**
GLHS				*e*Sg	**Sg**	**03 51 01.5**	**+1.7**
ISP	**Isparta**	**1.03**	**94**	*e*PG	**Pg**	**03 50 54.2**	**-0.3**
ISP				*e*SG	**Sg**	**03 51 11.2**	**+3.3**
ISP	**Isparta**	**1.03**	**94**	*e*Pg	**Pg**	**03 50 54.2**	**-0.3**
YER	**Yerkesik**	**1.07**	**224**	*e*PG	**Pg**	**03 50 54.6**	**-0.7**
YER				*e*SG	**Sg**	**03 51 09.7**	**+0.5**
YER	**Yerkesik**	**1.07**	**224**	*e*Pg	**Pg**	**03 50 54.6**	**-0.7**
YER				*e*Sg	**Sg**	**03 51 09.7**	**+0.5**
AYDN	**Tasoluk**	**1.09**	**257**	*i* P	**Pg**	**03 50 55.5**	**-0.2**
AYDN	**Tasoluk**	**1.09**	**257**	*i* P	**Pg**	**03 50 55.5**	**-0.2**
BCK	**Bucak**	**1.17**	**112**	*e*PN	**Pn**	**03 50 57.6**	**-0.5**
BCK				*e*SN	**Sn**	**03 51 15.0**	**+0.4**
BCK	**Bucak**	**1.17**	**112**	*e*Pn	**Pn**	**03 50 57.6**	**-0.5**
BCK				*e*Sn	**Sn**	**03 51 15.0**	**+0.4**
DEMI	**Demirci**	**1.20**	**341**	*e*P	**Pg**	**03 50 57.8**	**0.0**
DEMI	**Demirci**	**1.20**	**341**	*e*P	**Pg**	**03 50 57.8**	**0.0**
ELL	**Elmali**	**1.28**	**154**	*e*PN	**Pn**	**03 50 58.8**	**-0.7**
ELL	**Elmali**	**1.28**	**154**	*e*Pn	**Pn**	**03 50 58.8**	**-0.7**
AKHS	**Akhisar**	**1.47**	**312**	*i* P	**Pn**	**03 51 02.7**	**+0.5**
AKHS				*i* S	**Sb**	**03 51 25.8**	**+3.9**
AKHS	**Akhisar**	**1.47**	**312**	*i* P	**Pn**	**03 51 02.7**	**+0.5**
AKHS				*i* S	**Sb**	**03 51 25.8**	**+3.9**
DAT	**Datca**	**1.76**	**229**	*e*PN	**Pn**	**03 51 05.7**	**-0.4**
DAT				*e*SN	**Sn**	**03 51 29.2**	**+0.1**
DAT	**Datca**	**1.76**	**229**	*e*Pn	**Pn**	**03 51 05.7**	**-0.4**
DAT				*e*Sn	**Sn**	**03 51 29.2**	**+0.1**
BLCB	**Balcova**	**1.78**	**286**	*e*PN	**Pn**	**03 51 06.4**	**-0.1**
BLCB	**Balcova**	**1.78**	**286**	*e*Pn	**Pn**	**03 51 06.4**	**-0.1**
GONE	**Gonen-Balikesi**	**2.45**	**331**	*e*PN	**Pn**	**03 51 15.6**	**0.0**
GONE	**Gonen-Balikesi**	**2.45**	**331**	*e*Pn	**Pn**	**03 51 15.6**	**0.0**

*NEIC **29** 04:00:04.8, 32°.50S×71°.78W, h6km±3km, MD4.0, ML3.1, 7C-5D, Near coast of central Chile*
GUC 29 04:00:04.8±0.8, 32°.50S×71°.78W, h6km±3km, MD4.0, ML3.1, 7C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.54**	**168**	*i* P	Pg	04 00 15.6	+0.5
IHA				*i* S	Sg	04 00 23.7	+1.5
IHA	**Instituto Hidr**	**0.54**	**168**	*i* P	Pg	04 00 15.6	+0.5
IHA				*i* S	Sg	04 00 23.7	+1.5
CHNG	**Los Chungos**	**0.66**	**21**	⇓*i*P	Pg	04 00 19.1	+1.6
CHNG				*i* S	Sg	04 00 28.6	+2.5
CHNG	**Los Chungos**	**0.66**	**21**	⇓*i*P	Pg	04 00 19.1	+1.6
CHNG				*i* S	Sg	04 00 28.6	+2.5
PTCH	**Petorca**	**0.76**	**72**	⇓*i*P	Pg	04 00 19.8	+0.5
PTCH				*i* S	Sg	04 00 30.9	+1.8
PTCH	**Petorca**	**0.76**	**72**	⇓*i*P	Pg	04 00 19.8	+0.5
PTCH				*i* S	Sg	04 00 30.9	+1.8
PTCH				AML	AML	04 00 33.4	
	comp=N,2μm,0.3s						
ROCH	**El Roble**	**0.80**	**126**	⇑*i*P	Pg	04 00 20.5	+0.3
ROCH				S	Sg	04 00 32.7	+2.1
ROCH	**El Roble**	**0.80**	**126**	⇑*i*P	Pg	04 00 20.5	+0.3
ROCH				⇓*i*P		04 00 20.6	
ROCH				*i* S	Sg	04 00 32.7	+2.1
ROCH				*i* S	Sg	04 00 32.7	+2.1
ROCH				AML	AML	04 00 34.7	
	comp=E,1μm,0.3s						
LCCH	**Las Cruces**	**0.99**	**170**	*e*P	Pg	04 00 23.2	-0.6
LCCH				*i* S	Sg	04 00 36.9	+0.3
LCCH	**Las Cruces**	**0.99**	**170**	*e*P	Pg	04 00 23.2	-0.6
LCCH				*i* S	Sg	04 00 36.9	+0.3
JACH	**Jahuel**	**1.02**	**101**	⇑*i*P	Pg	04 00 23.9	-0.4
JACH	**Jahuel**	**1.02**	**101**	⇑*i*P	Pg	04 00 23.9	-0.4
PEL	**Peldehue**	**1.12**	**125**	⇑*i*P	Pg	04 00 25.9	-0.4
PEL				*i* S	Sg	04 00 41.5	+0.6
PEL				AML	AML	04 00 43.3	
	comp=E,2μm,0.4s						
RCDM	**Rinconada Maip**	**1.28**	**141**	*e*P	Pn	04 00 26.8	-2.3
RCDM				*i* S	Sb	04 00 44.7	-1.3
RCDM	**Rinconada Maip**	**1.28**	**141**	*e*P	Pn	04 00 26.8	-2.3
RCDM				*i* S	Sb	04 00 44.7	-1.3
RCDM				AML	AML	04 00 46.5	
	comp=E,724nm,0.1s						
SAN	**Santiago**	**1.33**	**136**	*e*P	Pn	04 00 29.1	-0.8
SAN			

MYKA ⇓*i*Sg **Sg** **04 10 23.8 0.0**
144nm,0.1s
MYKA Terra Mystica 0.51 238 ⇑*i*Pg **Pg** **04 10 17.4 +0.2**
MYKA *i* Sg **Sg** **04 10 23.8 0.0**
MYKA Terra Mystica 0.51 238 Pg **Pg** **04 10 17.4 +0.2**
208nm,0.1s
MYKA Sg **Sg** **04 10 23.8 +0.1**
144nm,0.1s
SOKA Soboth 0.58 113 ⇑*i*Pg **Pg** **04 10 18.2 -0.4**
25nm,0.1s
SOKA ⇑*i*Sg **Sg** **04 10 25.5 -0.6**
76nm,0.1s
SOKA Soboth 0.58 113 ⇑*i*Pg **Pg** **04 10 18.2 -0.4**
SOKA *i* Sg **Sg** **04 10 25.4 -0.6**
SOKA Soboth 0.58 113 Pg **Pg** **04 10 18.2 -0.4**
25nm,0.1s
SOKA Sg **Sg** **04 10 25.5 -0.5**
76nm,0.1s
GORS Gorjuse 0.61 197 ⇓*i*Pg **Pg** **04 10 19.2 0.0**
GORS *i* Sg **Sg** **04 10 26.9 -0.3**
GORS
comp=Z,262nm,0.2s
GORS Gorjuse 0.61 197 Pg **Pg** **04 10 19.2 -0.1**
GORS *i* Sg **Sg** **04 10 26.9 -0.3**
comp=Z,262nm,0.2s
ACOM Acomizza, Ital 0.62 236 ⇑*e*Pg **Pg** **04 10 19.9 +0.4**
ACOM *e*Sg **Sg** **04 10 28.0 +0.4**
ACOM Acomizza, Ital 0.62 236 *e*Pg **Pg** **04 10 19.9 +0.4**
ACOM *e*Sg **Sg** **04 10 28.0 +0.4**
KBA Koelnbreinsper 0.65 286 *e*Pg **Pg** **04 10 20.8 +0.8**
comp=Z,20nm,0.1s,SNR=16
KBA ⇓*i*Sg **Sg** **04 10 29.7 +1.3**
comp=Z,79nm,0.1s
KBA Koelnbreinsper 0.65 286 *e*Pg **Pg** **04 10 20.8 +0.8**
KBA *i* Sg **Sg** **04 10 29.7 +1.3**
KBA Koelnbreinsper 0.65 286 *e*Pg **Pg** **04 10 20.9 +0.9**
KBA *e*Sg **Sg** **04 10 29.8 +1.4**
KBA Koelnbreinsper 0.65 286 Pg **Pg** **04 10 20.8 +0.8**
comp=Z,20nm,0.1s,SNR=16
KBA Sg **Sg** **04 10 29.7 +1.3**
comp=Z,79nm,0.1s
CRNS Crni Vrh 0.82 180 *i* Pg **Pg** **04 10 23.2 -0.1**
PLRO Paularo 0.84 246 ⇑*e*Pg **Pg** **04 10 23.7 0.0**
PLRO *e*Sg **Sg** **04 10 35.2 +0.6**
PLRO Paularo 0.84 246 *e*Pg **Pg** **04 10 23.7 0.0**
PLRO *e*Sg **Sg** **04 10 35.2 +0.6**
DRE Drenchia 0.84 210 ⇑*e*Pg **Pg** **04 10 23.5 -0.2**
DRE *e*Sg **Sg** **04 10 34.5 -0.2**
DRE Drenchia 0.84 210 *e*Pg **Pg** **04 10 23.5 -0.2**
DRE *e*Sg **Sg** **04 10 34.5 -0.1**
VNDS Vrh nad Dolski 0.86 159 ⇓*i*Pg **Pg** **04 10 23.6 -0.4**
VNDS
comp=Z,30nm,0.1s
LJU Ljubljana 0.88 168 ⇓*i*Pg **Pg** **04 10 24.1 -0.2**
LJU Ljubljana 0.88 168 ⇓*i*Pg **Pg** **04 10 24.1 -0.3**
VOY Vojsko 0.91 196 ⇑*i*Pg **Pg** **04 10 24.3 -0.6**
VOY *e*Sg **Sg** **04 10 36.3 -0.3**
VOY Vojsko 0.91 196 *i*Pg **Pg** **04 10 24.3 -0.6**
VOY *e*Sg **Sg** **04 10 36.3 -0.3**
ARSA Arzberg 0.93 68 *e*Pg **Pg** **04 10 25.2 -0.2**
comp=Z,8.6nm,0.1s,SNR=95
ARSA ⇓*i*Sg **Sg** **04 10 38.1 +0.6**
comp=Z,25nm,0.1s
ARSA Arzberg 0.93 68 *e*Pg **Pg** **04 10 25.2 -0.2**
ARSA *i* Sg **Sg** **04 10 38.1 +0.6**
ARSA Arzberg 0.93 68 *e*Pg **Pg** **04 10 25.2 -0.2**
ARSA *e*Sg **Sg** **04 10 37.5 0.0**
ARSA Arzberg 0.93 68 Pg **Pg** **04 10 25.2 -0.2**
comp=Z,8.6nm,0.1s,SNR=95
ARSA Sg **Sg** **04 10 37.5 +0.1**
VINO Villanova 0.93 227 ⇑*e*Pg **Pg** **04 10 25.2 -0.2**
VINO *e*Sg **Sg** **04 10 37.6 0.0**
VINO Villanova 0.93 227 *e*Pg **Pg** **04 10 25.2 -0.2**
VINO *e*Sg **Sg** **04 10 37.6 +0.1**
MOA Molln 0.95 0 ⇑*e*Pg **Pg** **04 10 26.5 +0.8**
comp=Z,11nm,0.1s,SNR=72
MOA ⇑*i*Sg **Sg** **04 10 40.8 +2.8**
comp=Z,26nm,0.2s
MOA Molln 0.95 0 ⇑*e*Pg **Pg** **04 10 26.5 +0.8**
MOA *i* Sg **Sg** **04 10 40.8 +2.8**
MOA Molln 0.95 0 *e*Pg **Pg** **04 10 26.8 +1.1**
MOA Molln 0.95 0 Pg **Pg** **04 10 26.5 +0.8**
comp=Z,11nm,0.1s,SNR=72
MOA Sg **Sg** **04 10 40.8 +2.8**
comp=Z,26nm,0.2s
ZOU Zoufplan 0.95 249 ⇑*e*Pg **Pg** **04 10 25.8 0.0**
ZOU *e*Sg **Sg** **04 10 38.8 +0.7**
BAD Bernadia 0.97 227 ⇑*e*Pg **Pg** **04 10 25.7 -0.3**
BAD *e*Sg **Sg** **04 10 39.7 +1.1**
BAD Bernadia 0.97 227 *e*Pg **Pg** **04 10 25.7 -0.4**
BAD *e*Sg **Sg** **04 10 38.8 +0.2**
FUSE Fusea 0.99 241 ⇑*e*Pg **Pg** **04 10 26.4 -0.1**
FUSE *e*Sg **Sg** **04 10 40.1 +0.6**
FUSE Fusea 0.99 241 *e*Pg **Pg** **04 10 26.5 -0.1**
FUSE *e*Sg **Sg** **04 10 40.1 +0.6**
SABO M.te Sabotino 1.03 207 ⇑*e*Pg **Pg** **04 10 26.5 -0.7**
SABO *e*Sg **Sg** **04 10 40.2 -0.3**
SABO M.te Sabotino 1.03 207 *e*Pg **Pg** **04 10 26.5 -0.7**
SABO *e*Sg **Sg** **04 10 40.2 -0.4**
MPRI Monte Prat 1.10 233 ⇓*e*Pg **Pg** **04 10 28.3 -0.3**
MPRI *e*Sg **Sg** **04 10 43.3 +0.5**
MPRI Monte Prat 1.10 233 *e*Pg **Pg** **04 10 28.3 -0.3**
MPRI *e*Sg **Sg** **04 10 43.3 +0.5**
BGLD Berchtesgaden 1.13 312 ⇑*i*Pg **Pg** **04 10 29.5 +0.2**
BGLD ⇑*i*Sg **Sg** **04 10 45.9 +1.9**
BGLD Berchtesgaden 1.13 312 Pg **Pg** **04 10 29.5 +0.2**
BGLD Sg **Sg** **04 10 45.9 +1.9**
CSMI Casera Mimoias 1.17 251 ⇓*e*Pg **Pg** **04 10 29.7 -0.3**
CSMI Casera Mimoias 1.17 251 *e*Pg **Pg** **04 10 29.7 -0.3**
ABTA Abfaltersbach 1.21 263 ⇓*e*Pn **Pn** **04 10 30.3 -1.3**
SNR=13
ABTA ⇓*i*Sn **Sn** **04 10 48.2 -0.5**
ABTA Abfaltersbach 1.21 263 ⇓*e*Pn **Pn** **04 10 30.4 -1.3**
ABTA *i* Sn **Sn** **04 10 48.2 -0.5**
ABTA Abfaltersbach 1.21 263 ⇓*e*Pn **Pn** **04 10 30.4 -1.2**
ABTA Sn **Sn** **04 10 48.2 -0.5**
TRI Trieste 1.24 196 ⇓*e*Pg **Pg** **04 10 29.5 -1.8**
TRI Trieste 1.24 196 *e*Pg **Pg** **04 10 29.9 -1.4**
TRI *e*S **Sg** **04 10 46.8 -0.6**
TRI Trieste 1.24 196 *e*Pg **Pg** **04 10 29.9 -1.4**
TRI *e*S **Sg** **04 10 46.8 -0.6**
MLNI Malnisio 1.36 237 ⇑*e*Pg **Pg** **04 10 33.4 -0.3**
MLNI *e*Sg **Sg** **04 10 53.2 +1.8**
MLNI Malnisio 1.36 237 *e*Pg **Pg** **04 10 33.4 -0.3**
MLNI *e*Sg **Sg** **04 10 53.2 +1.8**
CIMO Cimolais 1.39 245 ⇑*e*Pg **Pg** **04 10 33.3 -0.8**
CIMO *e*Sg **Sg** **04 10 54.9 +2.8**
CIMO Cimolais 1.39 245 *e*Pg **Pg** **04 10 33.3 -0.8**
CIMO *e*Sg **Sg** **04 10 54.9 +2.8**
CONA Conrad Observa 1.50 46 ⇑*e*Pg **Pg** **04 10 36.3 +0.1**
comp=Z,6.6nm,0.3s,SNR=39
CONA ⇑*i*Sg **Sg** **04 10 58.3 +2.7**
comp=Z,21nm,0.3s
CONA Conrad Observa 1.50 46 ⇑*e*Pg **Pg** **04 10 36.4 +0.1**
CONA *i* Sg **Sg** **04 10 58.2 +2.7**
CONA Conrad Observa 1.50 46 Pg **Pg** **04 10 36.3 +0.1**
comp=Z,6.6nm,0.3s,SNR=39
CONA *i* Sg **Sg** **04 10 58.2 +2.6**
POLC Polcenigo 1.50 235 *e*Pg **Pg** **04 10 36.0 -0.2**
POLC *e*Sg **Sg** **04 10 57.9 +2.2**
CAE Caneva 1.55 235 ⇑*e*Pg **Pg** **04 10 37.5 +0.3**
CAE *e*Sg **Sg** **04 10 59.2 +2.1**
CAE Caneva 1.55 235 *e*Pg **Pg** **04 10 37.5 +0.3**
CAE *e*Sg **Sg** **04 10 59.2 +2.0**
AGOR Agordo 1.65 249 *e*Pg **Pg** **04 10 38.7 -0.4**
VARN Col Varnada, M 1.75 239 ⇑*e*Pg **Pg** **04 10 40.2 -0.7**
VARN *e*Sg **Sg** **04 11 04.0 +0.5**
VARN Col Varnada, M 1.75 239 *e*Pg **Pg** **04 10 40.2 -0.8**
VARN *e*Sg **Sg** **04 11 04.1 +0.5**
SCE Schlegeis 1.75 275 ⇓*i*Pn **Pn** **04 10 40.4 +1.3**
SCE Schlegeis 1.75 275 Pn **Pn** **04 10 40.4 +1.3**
WTTA Wattenberg 1.83 282 ⇑*e*Pg **Pg** **04 10 41.9 -0.7**
comp=Z,12nm,0.1s,SNR=51
WTTA ⇑*i*Sn **Sn** **04 11 04.0 0.0**
WTTA ⇑*i*Sg **Sg** **04 11 09.0 +2.7**
comp=Z,40nm,0.3s
WTTA Wattenberg 1.83 282 ⇑*e*Pg **Pg** **04 10 41.9 -0.7**
WTTA *i* Sn **Sn** **04 11 04.0 0.0**
WTTA *i* Sg **Sg** **04 11 09.0 +2.7**
WTTA Wattenberg 1.83 282 *e*Pn **Pn** **04 10 41.9 +1.8**
WTTA Wattenberg 1.83 282 Pg **Pg** **04 10 41.9 -0.7**
comp=Z,12nm,0.1s,SNR=51
WTTA Sn **Sn** **04 11 04.0 0.0**
WTTA Sg **Sg** **04 11 09.0 +2.7**
comp=Z,40nm,0.3s
WATA Walderalm 1.88 284 ⇑*e*Pg **Pg** **04 10 43.1 -0.5**
comp=Z,14nm,0.2s,SNR=12
WATA Walderalm 1.88 284 ⇑*e*Pg **Pg** **04 10 43.1 -0.5**
WATA Walderalm 1.88 284 Pg **Pg** **04 10 43.1 -0.5**
comp=Z,14nm,0.2s,SNR=12
GEC2 GERESS Array S 1.98 349 *e*Pn **Pn** **04 10 43.7 +1.4**
GEC2 *e*Sg **Sg** **04 11 12.7 +1.5**
GEC2 GERESS Array S 1.98 349 Pn **Pn** **04 10 43.7 +1.5**
GEC2 Sg **Sg** **04 11 12.7 +1.6**
MOTA Moosalm 2.20 283 ⇓*e*Pg **Pg** **04 10 49.5 -0.2**
comp=Z,5.3nm,0.2s,SNR=12
MOTA ⇓*i*Sg **Sg** **04 11 21.0 +2.8**
comp=Z,38nm,0.5s
MOTA Moosalm 2.20 283 ⇓*e*Pg **Pg** **04 10 49.5 -0.2**
MOTA *i* Sg **Sg** **04 11 21.0 +2.8**
MOTA Moosalm 2.20 283 Pg **Pg** **04 10 49.5 -0.2**
comp=Z,5.3nm,0.2s,SNR=12
MOTA Sg **Sg** **04 11 21.0 +2.8**
comp=Z,38nm,0.5s
KHC Kasperske Hory 2.28 349 *e*Pn **Pn** **04 10 48.2 +1.9**
KHC *e*S **Sn** **04 11 21.8 +6.8**
KHC Kasperske Hory 2.28 349 *e*PN **Pn** **04 10 47.4 +1.1**
KHC *e*PG **Pg** **04 10 49.1 -2.1**
KHC *ex* x 04 10 56.0
KHC *e*SG **Sg** **04 11 19.4 -1.3**
comp=Z,20nm,0.3s
KHC Kasperske Hory 2.28 349 Pn **Pn** **04 10 47.4 +1.1**
KHC Kasperske Hory 2.28 349 Pg **Pg** **04 10 49.1 -2.1**
KHC Sg **Sg** **04 11 19.4 -1.3**
comp=Z,20nm,0.3s
DDS Dosso del Somm 2.36 245 *e*Pn **Pn** **04 10 51.1 +3.7**
DDS Dosso del Somm 2.36 245 *e*Pn **Pn** **04 10 51.1 +3.7**
NVLJ Novalja 2.38 169 *e*Pn **Pn** **04 10 48.3 +0.6**
NVLJ Sn **Sn** **04 11 20.0 +2.5**
NVLJ Novalja 2.38 169 *e*Pn **Pn** **04 10 48.3 +0.6**
NVLJ Sn **Sn** **04 11 20.0 +2.5**
WET Wettzell 2.43 338 *e*Pn **Pn** **04 10 50.9 +2.6**
WET *e*Sg **Sg** **04 11 26.6 +1.1**
RETA Reutte 2.46 285 ⇓*e*Pg **Pg** **04 10 54.5 0.0**
comp=Z,10.0nm,0.2s,SNR=26
RETA Reutte 2.46 285 ⇓*e*Pg **Pg** **04 10 54.5 0.0**
RETA Reutte 2.46 285 Pg **Pg** **04 10 54.5 -0.1**
comp=Z,10.0nm,0.2s,SNR=26
SMOL Smolenice 2.68 52 *e*PN **Pn** **04 10 53.5 +1.7**
SMOL *e*PG **Pg** **04 11 00.1 +1.2**
SMOL *e*SN **Sn** **04 11 25.8 +0.9**
SMOL Smolenice 2.68 52 *e*Pn **Pn** **04 10 53.5 +1.7**
SMOL *e*Sn **Sn** **04 11 25.8 +0.9**
DAVA Damuels 3.02 279 *e*Pn **Pn** **04 10 58.6 +2.1**
DAVA *e*Sg **Sg** **04 11 46.3 +1.9**
DAVA Damuels 3.02 279 Pn **Pn** **04 10 58.6 +2.1**
DAVA Sg **Sg** **04 11 46.3 +1.9**
PRU Pruhonice 3.09 3 *e*PG **Pg** **04 11 03.5 -3.3**
PRU *e*SG **Sg** **04 11 46.1 -0.8**
comp=Z,13nm,0.4s
PRU Pruhonice 3.09 3 Pg **Pg** **04 11 03.5 -3.3**
PRU Sg **Sg** **04 11 46.1 -0.8**
comp=Z,13nm,0.4s
KOLL Kolacno 3.26 58 *e*PN **Pn** **04 10 59.4 -0.4**
KOLL Kolacno 3.26 58 *e*Pn **Pn** **04 10 59.4 -0.4**
TUE Stuetta 3.41 265 *e*Pn **Pn** **04 11 05.7 +3.8**
TUE Stuetta 3.41 265 *e*Pn **Pn** **04 11 05.7 +3.8**
GRFO Grafenberg 3.45 325 *e*Pn **Pn** **04 11 05.4 +3.0**
GRFO *e*S **Sn** **04 11 48.7 +4.7**
GRFO Grafenberg 3.45 325 *e*Pn **Pn** **04 11 05.4 +3.0**
GRFO *e*S **Sn** **04 11 48.7 +4.7**
VYHS Vyhne 3.48 61 *e*PN **Pn** **04 11 02.2 -0.6**
VYHS *e*PG **Pg** **04 11 16.4 +2.3**
VYHS *e*SN **Sn** **04 11 44.9 +0.3**
VYHS Vyhne 3.48 61 *e*Pn **Pn** **04 11 02.2 -0.6**
VYHS *e*Sn **Sn** **04 11 45.0 +0.4**
NKC Novy Kostel 3.54 341 *e*PN **Pn** **04 11 02.5 -1.2**
NKC *e*PG **Pg** **04 11 10.2 -5.2**
NKC *e*SG **Sg** **04 12 00.3 -1.0**
comp=Z,17nm,0.4s
NKC Novy Kostel 3.54 341 Pn **Pn** **04 11 02.5 -1.2**
NKC Sg **Sg** **04 12 00.3 -1.0**
comp=Z,17nm,0.4s
MORC Moravsky Berou 3.62 36 *e*Pn **Pn** **04 11 07.3 +2.6**
MORC *e*S **Sg** **04 12 02.1 -1.6**
MORC Moravsky Berou 3.62 36 *e*Pn **Pn** **04 11 07.3 +2.6**
PVCC Panska Ves 3.63 3 *e*SG **Sg** **04 12 02.7 -1.6**
comp=Z,17nm,0.4s
PVCC Panska Ves 3.63 3 Sg **Sg** **04 12 02.7 -1.6**
comp=Z,17nm,0.4s
DPC Dobruska-Polom 3.71 21 *e*PG **Pg** **04 11 14.0 -4.6**
DPC *e*SG **Sg** **04 12 04.6 -2.1**
comp=Z,5.1nm,0.4s
DPC Dobruska-Polom 3.71 21 Pg **Pg** **04 11 14.0 -4.6**
DPC Sg **Sg** **04 12 04.6 -2.1**
comp=Z,5.1nm,0.4s
TANN Tannenbergstha 3.71 342 *e*Pn **Pn** **04 11 07.9 +1.9**
TANN *e*Pg **Pg** **04 11 18.7 0.0**
TANN Tannenbergstha 3.71 342 Pn **Pn** **04 11 07.9 +1.9**
UPC Upice 3.79 17 *e*SG **Sg** **04 12 06.9 -2.3**
UPC Upice 3.79 17 Sg **Sg** **04 12 06.9 -2.3**
BRG Berggiesshubel 3.98 357 PG **Pg** **04 11 22.6 -1.2**
BRG SG **Sg** **04 12 15.7 +0.4**
comp=Z,8.7nm,0.8s
BRG Berggiesshubel 3.98 357 *e*Pg **Pg** **04 11 23.5 -0.2**
BRG *e*Sg **Sg** **04 12 15.8 +0.4**
BRG Berggiesshubel 3.98 357 Pg **Pg** **04 11 23.5 -0.3**
BRG Sg **Sg** **04 12 15.8 +0.5**
MOX Moxa 4.13 336 *e*Pn **Pn** **04 11 13.3 +1.5**
MOX Moxa 4.13 336 Pn **Pn** **04 11 13.3 +1.5**
BFO Black Forest 4.26 292 *e*Pn **Pn** **04 11 14.7 +1.2**
BFO *e*Pg **Pg** **04 11 28.9 -0.2**
BFO Black Forest 4.26 292 Pn **Pn** **04 11 14.7 +1.2**
CLL Collm 4.49 350 *e*Sg **Sg** **04 12 31.8 +0.3**
CLL Collm 4.49 350 *e*Pn **Pn** **04 11 19.0 +2.3**
CLL *e*Sg **Sg** **04 12 29.0 -2.6**
comp=Z,18nm,0.9s
CLL Collm 4.49 350 Sg **Sg** **04 12 31.8 +0.2**
CDF Champ du Feu 4.96 290 *e*Pn **Pn** **04 11 23.3 +0.2**
CDF Champ du Feu 4.96 290 *e*Pg **Pg** **04 11 41.7 -0.8**
CDF *e*Sn **Sn** **04 12 18.3 -2.7**
CDF *e*Sg **Sg** **04 12 46.3 -0.3**
comp=Z,3.3nm,0.4s
CDF Champ du Feu 4.96 290 *e*Pn **Pn** **04 11 23.3 +0.2**
CDF *e*Pg **Pg** **04 11 41.7 -0.8**
CDF *e*Sn **Sn** **04 12 18.3 -2.7**
CDF *e*Sg **Sg** **04 12 46.3 -0.3**
CDF Champ du Feu 4.96 290 *e*Pn **Pn** **04 11 23.3 +0.2**
CDF Champ du Feu 4.96 290 *e*Pg **Pg** **04 11 41.7 -0.8**
CDF *e*Sn **Sn** **04 12 18.3 -2.7**
CDF *e*Sg **Sg** **04 12 46.3 -0.3**
comp=Z,1.6nm,0.4s
HINF Hinteralfeld 5.12 283 *e*Pn **Pn** **04 11 25.0 -0.3**
HINF Hinteralfeld 5.12 283 *e*Pg **Pg** **04 11 44.1 -1.4**
HINF *e*Sn **Sn** **04 12 21.6 -3.4**
HINF *e*Sg **Sg** **04 12 50.6 -1.2**
comp=Z,10nm,0.8s
HINF Hinteralfeld 5.12 283 *e*Pn **Pn** **04 11 25.0 -0.3**
HINF *e*Pg **Pg** **04 11 44.1 -1.4**
HINF *e*Sn **Sn** **04 12 21.6 -3.4**
HINF *e*Sg **Sg** **04 12 50.6 -1.2**
HINF Hinteralfeld 5.12 283 *e*Pn **Pn** **04 11 25.0 -0.3**
HINF Hinteralfeld 5.12 283 *e*Pg **Pg** **04 11 44.1 -1.4**
HINF *e*Sn **Sn** **04 12 21.6 -3.4**
HINF *e*Sg **Sg** **04 12 50.6 -1.2**
comp=Z,5.1nm,0.8s
LPG La Plagne 5.40 258 *e*Pn **Pn** **04 11 28.1 -1.1**
LPG La Plagne 5.40 258 *e*P **Pn** **04 11 32.2 +3.0**
LPG *e*Sn **Sn** **04 12 26.5 -5.5**
comp=Z,0.5nm,0.3s
LPG La Plagne 5.40 258 *e*Pn **Pn** **04 11 28.1 -1.1**
LPG *e*Sn **Sn** **04 12 26.5 -5.5**
LPG La Plagne 5.40 258 *e*Pn **Pn** **04 11 28.1 -1.1**
LPL La Plagne 5.41 258 *e*Pn **Pn** **04 11 27.9 -1.4**
LPL La Plagne 5.41 258 *e*P **Pn** **04 11 32.2 +2.9**
LPL *e*Sn **Sn** **04 12 26.9 -5.3**
comp=Z,1.2nm,0.5s
LPL La Plagne 5.41 258 *e*Pn **Pn** **04 11 27.9 -1.4**
LPL *e*Sn **Sn** **04 12 26.9 -5.3**
LPL La Plagne 5.41 258 *e*Pn **Pn** **04 11 27.9 -1.4**
HAU Haudompre 5.48 285 *e*Pn **Pn** **04 11 30.0 -0.3**
HAU Haudompre 5.48 285 *e*Pg **Pg** **04 11 51.0 -1.5**
HAU *e*Sn **Sn** **04 12 30.5 -3.5**
HAU *e*Sg **Sg** **04 13 02.0 -1.5**
comp=Z,4.0nm,0.3s
HAU Haudompre 5.48 285 *e*Pn **Pn** **04 11 30.0 -0.3**
HAU *e*Pg **Pg** **04 11 51.0 -1.5**
HAU *e*Sn **Sn** **04 12 30.5 -3.5**
HAU *e*Sg **Sg** **04 13 02.0 -1.5**
HAU Haudompre 5.48 285 *e*Pn **Pn** **04 11 30.0 -0.3**
HAU Haudompre 5.48 285 *e*Pg **Pg** **04 11 51.0 -1.5**
HAU *e*Sg **Sg** **04 13 02.0 -1.5**
comp=Z,2.0nm,0.3s
CABF La Chapelle 5.62 270 *e*Pn **Pn** **04 11 31.3 -1.0**
CABF *e*Sn **Sn** **04 12 32.6 -4.9**
comp=Z,6.9nm,0.9s
CABF La Chapelle 5.62 270 *e*Pn **Pn** **04 11 31.3 -1.0**
CABF *e*Sn **Sn** **04 12 32.6 -4.9**
CABF La Chapelle 5.62 270 *e*Pn **Pn** **04 11 31.3 -1.0**
MBDF Montbardon 5.67 250 *e*Pn **Pn** **04 11 31.1 -1.8**
MBDF *e*Sn **Sn** **04 12 32.2 -6.4**
comp=Z,0.4nm,0.3s
MBDF Montbardon 5.67 250 *e*Pn **Pn** **04 11 31.1 -1.8**
MBDF *e*Sn **Sn** **04 12 32.2 -6.4**
MBDF Montbardon 5.67 250 *e*Pn **Pn** **04 11 31.1 -1.8**
ORIF Oris-en-Rattie 6.17 254 *e*Pn **Pn** **04 11 38.2 -1.7**
ORIF Oris-en-Rattie 6.17 254 *e*P **Pn** **04 11 42.8 +2.9**
ORIF *e*Sn **Sn** **04 12 44.7 -6.4**
comp=Z,1.7nm,0.5s
ORIF Oris-en-Rattie 6.17 254 *e*Pn **Pn** **04 11 38.2 -1.7**
ORIF *e*Sn **Sn** **04 12 44.7 -6.4**
ORIF Oris-en-Rattie 6.17 254 *e*Pn **Pn** **04 11 38.2 -1.7**
MEZF Maizieres J'vi 6.42 288 *e*Pn **Pn** **04 11 42.7 -0.5**
MEZF *e*Sn **Sn** **04 12 53.0 -4.1**
MEZF *e*Sg **Sg** **04 13 31.4 -2.2**
comp=Z,5.7nm,0.5s
MEZF Maizieres J'vi 6.42 288 *e*Pn **Pn** **04 11 42.7 -0.5**
MEZF *e*Sn **Sn** **04 12 53.0 -4.1**
MEZF *e*Sg **Sg** **04 13 31.4 -2.2**
MEZF Maizieres J'vi 6.42 288 *e*Pn **Pn** **04 11 42.7 -0.5**
MEZF *e*Sg **Sg** **04 13 31.4 -2.2**
comp=Z,2.8nm,0.5s
VIVF Saint-Julien-I 7.00 256 *e*Pn **Pn** **04 11 49.3 -1.9**
VIVF *e*Sn **Sn** **04 13 04.5 -6.9**
comp=Z,0.4nm,0.3s
VIVF Saint-Julien-I 7.00 256 *e*Pn **Pn** **04 11 49.3 -1.9**
VIVF *e*Sn **Sn** **04 13 04.5 -6.9**
VIVF Saint-Julien-I 7.00 256 *e*Pn **Pn** **04 11 49.3 -1.9**
LOR Lormes 7.11 277 *e*Pn **Pn** **04 11 51.8 -0.9**
LOR *e*Sn **Sn** **04 13 08.8 -5.4**
comp=Z,0.6nm,0.3s
LOR Lormes 7.11 277 *e*Pn **Pn** **04 11 51.8 -0.9**
LOR *e*Sn **Sn** **04 13 08.8 -5.4**
LOR Lormes 7.11 277 *e*Pn **Pn** **04 11 51.8 -0.9**
SSF Saint Saulge 7.36 275 *e*Pn **Pn** **04 11 54.8 -1.3**
SSF *e*Sn **Sn** **04 13 14.5 -5.7**
comp=Z,0.6nm,0.4s
SSF Saint Saulge 7.36 275 *e*Pn **Pn** **04 11 54.8 -1.3**
SSF *e*Sn **Sn** **04 13 14.5 -5.7**
SSF Saint Saulge 7.36 275 *e*Pn **Pn** **04 11 54.8 -1.3**
BAIF Baives 7.39 299 *e*Pn **Pn** **04 11 56.4 -0.1**
BAIF *e*Sn **Sn** **04 13 17.0 -4.0**
comp=Z,0.5nm,0.3s
BAIF Baives 7.39 299 *e*Pn **Pn** **04 11 56.4 -0.1**
BAIF *e*Sn **Sn** **04 13 17.0 -4.0**
BAIF Baives 7.39 299 *e*Pn **Pn** **04 11 56.4 -0.1**

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*NNC **29** 04:11:50.9±4.5, 39°.56N×73°.64E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=36.5km s-min=23.5km az=177.0
ISC 29 04:11:43.9±3.3, 39°.9N±0°.2×73°.3E±0°.2, h10km, n9,
σ0°90/11, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.25**	**6**	P		**Pn**	**04 12 34.0**	**-1.0**
	SNR=34							
AML				P			04 12 34.0	
	SNR=34							
UCH	**Uchtor**	**3.47**	**16**	P		**Pn**	**04 12 38.2**	**+0.3**
	SNR=7.2							
UCH				P			04 12 38.2	
	SNR=7.2							
KZA	**Kyzart**	**3.52**	**25**	P		**Pn**	**04 12 39.9**	**+1.1**
	SNR=30							
KZA				P			04 12 39.9	
	SNR=30							
EKS2	**Erkin-Say**	**3.79**	**6**	P		**Pn**	**04 12 42.1**	**-0.2**
	SNR=13							
EKS2				P			04 12 42.1	
	SNR=13							
AAK	**Ala-Archa**	**3.85**	**14**	P		**Pn**	**04 12 43.2**	**0.0**
	SNR=12							
AAK				P			04 12 43.2	
	SNR=12							
KBK	**Karagaybulak**	**3.97**	**18**	P		**Pn**	**04 12 44.9**	**0.0**
	SNR=23							
KBK				P			04 12 44.9	
	SNR=23							
TKM2	**Tokmak 2**	**4.40**	**23**	⇑Pn		**Pn**	**04 12 49.8**	**-0.9**
	8.9nm,0.6s							
TKM2				⇓Lg			04 13 46.7	
	16nm,0.6s							
KK31	**Karatay Array**	**4.70**	**335**	Pn		**Pn**	**04 12 57.0**	**+2.1**
	0.8nm,0.3s,baz=139,slow=12,SNR=30							
KK31				Pg		**Pg**	**04 13 08.3**	**-5.6**
	7.2nm,0.7s,baz=147,slow=15,SNR=11							
KK31				⇓Sn		**Sn**	**04 13 49.3**	**0.0**
	3.5nm,0.3s,baz=144,slow=25,SNR=5.4							
KK31				⇑Lg			04 14 04.2	
	7.4nm,0.4s							
AB31	**Akbulak array**	**14.09**	**322**	⇑P		**Pn**	**04 15 02.4**	**-1.0**
	0.6nm,0.6s,baz=130,slow=14,SNR=8.4							

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*ISCJB **29** 04:34:24.9±0.5, 42°.89N±0°.04×143°.85E±0°.06,*
h122km±3km, mb3.6/7, Error ellipse: s-maj=8.0km
s-min=5.8km az=142.3
*NEIC **29** 04:34:26.0, 42°.92N×143°.80E, h117km, MG3.6(JMA),*
After JMA.
*JMA **29** 04:34:25.9±0.1, 42°.92N×143°.80E, h117km±1km, M3.6*
JMA Felt I J1.
*IDC **29** 04:34:26.4±2.2, 42°.84N×143°.75E, h123km±13km, mb3.4/7,*
mb1 3.5/8, mb1mx3.3/22, mbtmp3.4/8, Error ellipse:
s-maj=26.0km s-min=20.5km az=142.0
ISC 29 04:34:25.9±0.5, 42°.88N±0°.04×143°.85E±0°.05, h116km±3km,
n36, σ0°67/50, mb3.6/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.03**	**329**	P		**Pn**	**04 34 42.4**	**+0.6**
JOB				*e*S		**Sn**	**04 34 54.4**	**+0.6**
JAR	**Ashorobuto**	**0.42**	**352**	P		**Pn**	**04 34 43.1**	**+0.1**
JAR				*e*S		**Sn**	**04 34 55.8**	**0.0**
JCH	**Churui**	**0.45**	**234**	P		**Pn**	**04 34 43.1**	**0.0**
JCH				*e*S		**Sn**	**04 34 55.3**	**-0.8**
JAK	**Akkeshi**	**0.63**	**79**	P		**Pn**	**04 34 44.4**	**+0.1**
JNK	**Nakash**	**0.95**	**42**	P		**Pn**	**04 34 47.1**	**0.0**
JNK				*e*S		**Sn**	**04 35 03.1**	**0.0**
JFR	**Furan**	**0.96**	**287**	P		**Pn**	**04 34 46.7**	**-0.5**
JEM	**Erimo**	**1.01**	**211**	P		**Pn**	**04 34 48.7**	**+1.0**
ERM	**Erimo**	**1.01**	**211**	*e*Pn		**Pn**	**04 34 48.6**	**+1.0**
ERM				*e*S		**Sn**	**04 35 08.7**	**+4.5**
JNBK	**Urakawa-nobuka**	**1.01**	**234**	P		**Pn**	**04 34 47.6**	**-0.1**
JNBK				*e*S		**Sn**	**04 35 03.6**	**-0.6**
JTKR	**Abashiri--Toko**	**1.09**	**2**	P		**Pn**	**04 34 48.6**	**+0.1**
JTKR				*e*S		**Sn**	**04 35 05.2**	**-0.4**
JBT2	**Biratori 2**	**1.10**	**265**	P		**Pn**	**04 34 48.4**	**-0.2**
JMP	**Maruseppu**	**1.18**	**342**	P		**Pn**	**04 34 49.3**	**-0.2**
JMP				*e*S		**Sn**	**04 35 06.6**	**-0.7**
JKK2	**Kamakawa 2**	**1.28**	**321**	P		**Pn**	**04 34 50.5**	**0.0**
JKK2				*e*S		**Sn**	**04 35 09.0**	**-0.2**
JRA	**Rausu**	**1.40**	**41**	P		**Pn**	**04 34 52.4**	**+0.5**
JRA				*e*S		**Sn**	**04 35 12.5**	**+0.7

MJAR	Matsushiro Arr	7.68	216	P		Pn	04 36 14.1	-0.9
SONM	Songino Array	26.60	294	P		P	04 39 53.7	+0.6
1.1nm,0.7s,mb3.5,baz=82,slow=8.3,SNR=8.2								
SONM	Songino Array	26.60	294	P		P	04 39 53.7	+0.6
ZALV	Zalesovo Beam	39.60	307	P		P	04 41 45.6	0.0
0.4nm,0.4s,mb3.6,baz=77,slow=6.4,SNR=4.5								
ZALV	Zalesovo Beam	39.60	307	P		P	04 41 45.6	0.0
MKAR	Makanchi Array	42.85	297	P		P	04 42 11.7	-0.6
0.3nm,0.6s,mb3.2,baz=72,slow=10,SNR=4.0								
MKAR	Makanchi Array	42.85	297	P		P	04 42 11.7	-0.5
ILAR	Eielson Array	43.60	36	P		P	04 42 17.9	-0.2
0.5nm,0.5s,mb3.5,baz=258,slow=5.7,SNR=13								
ILAR	Eielson Array	43.60	36	P		P	04 42 17.9	-0.2
YKA	Yellowknife Ar	57.84	33	P		P	04 44 07.0	+2.2
0.3nm,0.6s,mb3.5,baz=304,slow=7.1,SNR=4.6								
YKA	Yellowknife Ar	57.84	33	P		P	04 44 07.0	+2.2
FINES	FINESS Array B	64.53	332	P		P	04 44 49.0	-0.9
2.1nm,0.6s,mb4.1,baz=54,slow=9.7,SNR=11								
FINES	FINESS Array B	64.53	332	P		P	04 44 49.0	-0.9
NB2	NORSAR Subarra	69.51	338	P		P	04 45 20.2	-1.2
comp=Z,0.5nm,0.5s,mb3.6,baz=34,slow=6.5								
NOA	NORSAR Array B	69.51	338	P		P	04 45 20.5	-0.9
comp=Z,0.7nm,0.5s,mb3.8,baz=34,slow=6.4,SNR=4.2								
NOA	NORSAR Array B	69.51	338	P		P	04 45 20.5	-0.9

*ATH **29** 04:36:50.3, 40°.35N×25°.85E, h10km, MD2.7/3*
*ISCJB **29** 04:36:52.7±0.9, 40°.30N±0°.04×25°.67E±0°.06, h10km, Error ellipse: s-maj=7.4km s-min=5.7km az=24.6*
*ISK **29** 04:36:53.2, 40°.30N×25°.80E, h5km, MD2.9*
*CSEM **29** 04:36:53.1±0.3, 40°.28N×25°.69E, h5km, MD2.9, Error ellipse: s-maj=6.4km s-min=4.4km az=128.0*

ISC 29 04:36:53.1±1.1, 40°.29N±0°.05×25°.67E±0°.07, h5km±7km, n27, σ0=63/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.54	224	ePB	Pg	04 37 03.4	-0.1
LIA	Limnos Island	0.54	224	ePb	Pg	04 37 03.4	-0.1
ENEZ	Enez	0.58	39	ePG	Pg	04 37 04.2	0.0
ENEZ				eSG	Sg	04 37 12.7	+1.0
ENEZ	Enez	0.58	39	ePg	Pg	04 37 04.2	0.0
ENEZ				eSg	Sg	04 37 12.7	+1.0
GELI	Tayfur-Gelibol	0.62	80	ePG	Pg	04 37 04.6	-0.4
GELI				eSG	Sg	04 37 12.7	-0.4
GELI	Tayfur-Gelibol	0.62	80	ePg	Pg	04 37 04.6	-0.4
GELI				eSg	Sg	04 37 12.7	-0.4
ALN	Alexandroupoli	0.67	25	ePB	Pb	04 37 01.0	-6.2
EZN	Ezine	0.68	133	ePG	Pg	04 37 06.2	0.0
EZN				eSG	Sg	04 37 16.2	+1.1
EZN	Ezine	0.68	133	ePg	Pg	04 37 06.2	0.0
EZN				eSg	Sg	04 37 16.2	+1.2
ERIK	Erikli-Kesan	0.74	59	ePG	Pg	04 37 07.1	-0.3
ERIK				eSG	Sg	04 37 17.1	0.0
ERIK	Erikli-Kesan	0.74	59	ePg	Pg	04 37 07.1	-0.3
ERIK				eSg	Sg	04 37 17.1	0.0
LPK	Lapseki	0.83	84	ePG	Pg	04 37 08.2	-0.9
LPK	Lapseki	0.83	84	ePg	Pg	04 37 08.2	-0.9
RDO	Rodhopi	0.86	353	ePB	Pb	04 37 06.0	-4.5
RDO	Rodhopi	0.86	353	ePb	Pb	04 37 06.0	-4.5
RKY	Sarkoy-Tekirda	1.21	70	ePN	Pn	04 37 15.8	-0.9
RKY	Sarkoy-Tekirda	1.21	70	ePn	Pn	04 37 15.8	-0.9
KRBG	Karabiga-Canak	1.25	85	ePN	Pn	04 37 16.2	-0.8
KRBG	Karabiga-Canak	1.25	85	ePn	Pn	04 37 16.3	-0.8
GONE	Gonen-Balikesi	1.56	98	ePN	Pn	04 37 21.6	+0.1
GONE	Gonen-Balikesi	1.56	98	ePn	Pn	04 37 21.6	+0.2
EDC	Edincik	1.68	87	ePN	Pn	04 37 23.2	+0.2
EDC	Edincik	1.68	87	ePn	Pn	04 37 23.3	+0.3
EDRB	Edirne	1.75	27	ePN	Pn	04 37 25.0	+0.9
EDRB	Edirne	1.75	27	ePn	Pn	04 37 25.0	+0.9
SLVT	Silivri	2.14	63	ePN	Pn	04 37 29.9	+0.5
SLVT	Silivri	2.14	63	ePn	Pn	04 37 30.0	+0.6

*ISCJB **29** 04:39:33.7±1.0, 40°.33N±0°.04×25°.75E±0°.06, h7km±8km, Error ellipse: s-maj=8.1km s-min=7.5km az=0.8*
*ATH **29** 04:39:33.8, 40°.29N×25°.93E, h32km±10km, MD2.9/5*
*ISK **29** 04:39:34.4, 40°.33N×25°.81E, h5km, MD2.7*
*CSEM **29** 04:39:34.7±0.2, 40°.34N×25°.78E, h10km, MD2.7, Error ellipse: s-maj=5.0km s-min=4.6km az=173.0*

ISC 29 04:39:34.8±0.8, 40°.34N±0°.04×25°.77E±0°.05, h11km±6km, n29, σ0=68/37, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	Enez	0.49	36	ePG	Pg	04 39 44.0	-0.3
ENEZ				eSG	Sg	04 39 51.7	+0.9
ENEZ	Enez	0.49	36	ePg	Pg	04 39 44.0	-0.3
ENEZ				eSg	Sg	04 39 51.7	+0.9
GELI	Tayfur-Gelibol	0.54	84	ePG	Pg	04 39 45.1	-0.2
GELI				eSG	Sg	04 39 52.5	+0.1
GELI	Tayfur-Gelibol	0.54	84	ePg	Pg	04 39 45.1	-0.2
GELI				eSg	Sg	04 39 52.5	+0.1
ALN	Alexandroupoli	0.59	21	ePN	Pg	04 39 46.5	+0.2
ALN	Alexandroupoli	0.59	21	ePn	Pg	04 39 46.5	+0.2
LIA	Limnos Island	0.63	226	ePN	Pg	04 39 47.9	+0.8
LIA	Limnos Island	0.63	226	ePn	Pg	04 39 47.9	+0.8
ERIK	Erikli-Kesan	0.65	60	ePG	Pg	04 39 47.2	-0.2
ERIK				eSG	Sg	04 39 55.6	-0.4
ERIK	Erikli-Kesan	0.65	60	ePg	Pg	04 39 47.2	-0.2
ERIK				eSg	Sg	04 39 55.7	-0.3
EZN	Ezine	0.67	140	ePG	Pg	04 39 46.8	-0.9
EZN	Ezine	0.67	140	ePg	Pg	04 39 46.8	-0.9
LPK	Lapseki	0.76	87	ePG	Pg	04 39 49.3	-0.1
LPK	Lapseki	0.76	87	ePg	Pg	04 39 49.3	-0.1
RDO	Rodhopi	0.82	348	ePN	Pn	04 39 51.0	-1.2
RDO				eSN	Sn	04 40 04.1	-0.3
RDO	Rodhopi	0.82	348	ePn	Pn	04 39 51.0	-1.2
RDO				eSn	Sn	04 40 04.1	-0.3
RKY	Sarkoy-Tekirda	1.12	72	ePN	Pn	04 39 56.1	-0.3
RKY	Sarkoy-Tekirda	1.12	72	ePn	Pn	04 39 56.1	-0.3
KRBG	Karabiga-Canak	1.17	87	ePN	Pn	04 39 56.2	-0.8
KRBG	Karabiga-Canak	1.17	87	ePn	Pn	04 39 56.2	-0.8
GONE	Gonen-Balikesi	1.50	101	ePN	Pn	04 40 02.3	+0.8
GONE	Gonen-Balikesi	1.50	101	ePn	Pn	04 40 02.3	+0.8
EDC	Edincik	1.60	89	ePN	Pn	04 40 03.8	+0.9
EDC	Edincik	1.60	89	ePn	Pn	04 40 03.8	+0.9
EDRB	Edirne	1.67	26	ePN	Pn	04 40 04.9	+1.0
EDRB	Edirne	1.67	26	ePn	Pn	04 40 04.9	+1.0
NVR	Nevrokopi	1.76	305	ePB	Pb	04 40 06.2	-0.9
NVR	Nevrokopi	1.76	305	ePN	Pn	04 40 06.0	+0.8
NVR	Nevrokopi	1.76	305	ePn	Pn	04 40 06.0	+0.8

*ISCJB **29** 04:43:25.9±0.4, 40°.37N±0°.02×25°.79E±0°.02, h1km±4km, Error ellipse: s-maj=3.2km s-min=2.9km az=22.9*
*ISK **29** 04:43:26.8, 40°.36N×25°.88E, h4km, MD3.1*
*THE **29** 04:43:26.6, 40°.36N×25°.80E, h5km±2km, ML2.6/5, Error ellipse: s-maj=2.6km s-min=0.9km az=86.0*
*SOF **29** 04:43:26.0, 40°.40N×25°.75E, h8km, MD2.9*
*CSEM **29** 04:43:26.3±0.1, 40°.37N×25°.78E, h2km, MD3.1, Error ellipse: s-maj=2.7km s-min=2.2km az=8.0*
*DDA **29** 04:43:27.6, 40°.33N×25°.95E, h8km±5km, Md3.0*
*ATH **29** 04:43:27.1, 40°.40N×25°.73E, h13km±2km, MD3.1/5*

ISC 29 04:43:26.6±0.4, 40°.37N±0°.02×25°.79E±0°.02, h3km±3km, n86, σ0=76/122, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	Enez	0.46	37	ePG	Pg	04 43 35.8	+0.4
ENEZ				eSG	Sg	04 43 42.4	+1.0
ENEZ	Enez	0.46	37	ePg	Pg	04 43 35.8	+0.4
ENEZ				eSg	Sg	04 43 42.4	+1.0
GELI	Tayfur-Gelibol	0.53	87	ePG	Pg	04 43 36.4	-0.2
GELI				eSG	Sg	04 43 43.7	+0.2
GELI	Tayfur-Gelibol	0.53	87	ePg	Pg	04 43 36.4	-0.2
GELI				eSg	Sg	04 43 43.7	+0.3
ALN	Alexandroupoli	0.56	20	ePB	Pg	04 43 37.6	+0.2
ALN				eSB	Sg	04 43 45.7	+1.0
ALN	Alexandroupoli	0.56	20	P	Pg	04 43 37.6	+0.2
ALN				S	Sg	04 43 45.7	+1.0
ALN	Alexandroupoli	0.56	20	P	Pg	04 43 37.6	+0.2
ALN				S	Sg	04 43 45.7	+1.0
BOZC	Bozcaada	0.56	159	⇓iPg	Pg	04 43 37.9	+0.5
BOZC				iSg	Sg	04 43 44.5	-0.2
ERIK	Erikli-Kesan	0.63	61	ePG	Pg	04 43 38.6	-0.1
ERIK				eSG	Sg	04 43 47.1	+0.3
ERIK	Erikli-Kesan	0.63	61	ePg	Pg	04 43 38.6	0.0
ERIK				eSg	Sg	04 43 47.1	+0.3
LIA	Limnos Island	0.66	225	ePG	Pg	04 43 39.3	+0.1
LIA				eSB	Sg	04 43 49.2	+1.4
LIA	Limnos Island	0.66	225	P	Pg	04 43 39.6	+0.4
LIA				S	Sg	04 43 49.1	+1.3
LIA	Limnos Island	0.66	225	ePg	Pg	04 43 39.3	+0.1
LIA	Limnos Island	0.66	225	P	Pg	04 43 39.6	+0.4
LIA				S	Sg	04 43 49.1	+1.3
EZN	Ezine	0.68	143	ePG	Pg	04 43 39.6	0.0
EZN				eSG	Sg	04 43 49.0	+0.6
EZN	Ezine	0.68	143	ePg	Pg	04 43 39.6	0.0
EZN				eSg	Sg	04 43 49.0	+0.6
LPK	Lapseki	0.74	89	ePG	Pg	04 43 39.9	-0.9
LPK				eSG	Sg	04 43 50.2	-0.2
LPK	Lapseki	0.74	89	ePg	Pg	04 43 39.9	-0.9
LPK				eSg	Sg	04 43 50.2	-0.2
RDO	Rodhopi	0.80	346	ePB	Pg	04 43 41.8	-0.1
RDO				eSB	Sg	04 43 52.2	-0.1
RDO	Rodhopi	0.80	346	P	Pg	04 43 42.0	+0.1
RDO				S	Sg	04 43 53.0	+0.7
RDO	Rodhopi	0.80	346	P	Pg	04 43 42.0	+0.1
RDO				eSb	Sg	04 43 52.2	-0.1
RDO				S	Sg	04 43 53.0	+0.7
RKY	Sarkoy-Tekirda	1.11	73	ePG	Pg	04 43 47.5	-0.3
RKY				eSG	Sg	04 44 02.1	+0.1
RKY	Sarkoy-Tekirda	1.11	73	ePg	Pg	04 43 47.5	-0.3
RKY				eSg	Sg	04 44 02.2	+0.1
SART	Tekirdag	1.11	73	eP	Pg	04 43 46.0	-1.8
SART				eS	Sg	04 44 01.1	-1.0
SART	Tekirdag	1.11	73	eP	Pg	04 43 46.0	-1.8
SART				eS	Sg	04 44 01.1	-1.1
KRBG	Karabiga-Canak	1.15	88	ePN	Pn	04 43 48.0	-1.5
KRBG	Karabiga-Canak	1.15	88	ePn	Pn	04 43 48.0	-1.6
KAVA	Kavala	1.15	303	P	Pg	04 43 48.5	-0.2
KAVA				S	Sg	04 44 04.7	+1.0
KAVA	Kavala	1.15	303	P	Pg	04 43 48.5	-0.2
KAVA				S	Sg	04 44 04.7	+1.0
PRK	Paraskevi	1.18	161	P	Pg	04 43 48.6	-0.6
PRK				S	Sg	04 44 04.7	+0.2
PRK	Paraskevi	1.18	161	P	Pg	04 43 48.6	-0.6
PRK				S	Sg	04 44 04.7	+0.2
AYVA	Ayvalik	1.27	146	iP	Pg	04 43 50.4	-0.4
AYVA				iS	Sg	04 44 07.2	-0.1
AYVA	Ayvalik	1.27	146	iP	Pg	04 43 50.4	-0.4
AYVA				iS	Sg	04 44 07.2	0.0
KDZ	Kurdzhali	1.31	348	iP	Pg	04 43 50.3	-1.4
KDZ	Kurdzhali	1.31	348	iP	Pg	04 43 50.3	-1.4
OUR	Ouranopolis	1.38	269	P	Pn	04 43 50.8	-1.9
OUR	Ouranopolis	1.38	269	P	Pn	04 43 50.8	-1.9
TKR	Tekirdag	1.47	64	ePN	Pn	04 43 53.1	-0.8
TKR	Tekirdag	1.47	64	ePn	Pn	04 43 53.1	-0.8
GONE	Gonen-Balikesi	1.49	102	ePN	Pn	04 43 54.0	-0.2
GONE	Gonen-Balikesi	1.49	102	ePn	Pn	04 43 54.0	-0.2
RZN	Rozhen	1.55	329	P	Pn	04 43 54.0	-1.0
RZN				Pg	Pg	04 43 56.2	0.0
RZN	Rozhen	1.55	329	P	Pn	04 43 54.0	-1.0
EDC	Edincik	1.59	90	ePN	Pn	04 43 55.3	-0.2
EDC	Edincik	1.59	90	ePn	Pn	04 43 55.3	-0.2
EDRB	Edirne	1.64	26	ePN	Pn	04 43 56.9	+0.6
EDRB	Edirne	1.64	26	ePn	Pn	04 43 56.9	+0.6
CRLT	Corlu	1.66	62	ePN	Pn	04 43 56.8	+0.2
CRLT				eSN	Sn	04 44 18.3	-0.1
CRLT	Corlu	1.66	62	ePn	Pn	04 43 56.8	+0.2
CRLT				eSn	Sn	04 44 18.3	-0.1
DIM	Dimitrovgrad	1.69	354	P	Pn	04 43 57.5	+0.5
DIM	Dimitrovgrad	1.69	354	P	Pn	04 43 57.5	+0.5
NVR	Nevrokopi	1.76	304	ePN	Pn	04 43 58.4	+0.5
NVR	Nevrokopi	1.76	304	P	Pn	04 43 56.9	-1.0
NVR	Nevrokopi	1.76	304	ePb	Pb	04 43 56.4	-3.0
NVR	Nevrokopi	1.76	304	P	Pn	04 43 56.9	-1.0
PLG	Polygyros	1.79	271	ePN	Pn	04 43 59.0	+0.7
PLG	Polygyros	1.79	271	P	Pn	04 43 56.7	-1.6
PLG				S	Sn	04 44 22.1	+0.6
PLG	Polygyros	1.79	271	P	Pn	04 43 56.7	-1.6
PLG	Polygyros	1.79	271	ePn	Pn	04 43 59.0	+0.7
PLG				S	Sn	04 44 22.1	+0.6
SRS	Serrai	1.83	295	P	Pn	04 43 58.4	-0.4
SRS	Serrai	1.83	295	P	Pn	04 43 58.4	-0.4
KCTX	Karacabey (Bur	1.97	92	ePN	Pn	04 44 00.8	0.0
KCTX	Karacabey (Bur	1.97	92	ePn	Pn	04 44 00.8	+0.1
MMB	Musomiste	1.98	309	P	Pn	04 44 00.8	-0.1
MMB	Musomiste	1.98	309	P	Pn	04 44 00.8	-0.1
SLVT	Silivri	2.03	64	ePN	Pn	04 44 01.8	+0.2
SLVT	Silivri	2.03	64	ePn	Pn	04 44 01.8	+0.2
JMB	Yambol	2.18	16	eP	Pn	04 44 08.9	+5.2
CTYL	Yal??k??y-??at	2.19	59	ePN	Pn	04 44 04.5	+0.7
CTYL	Yal??k??y-??at	2.19	59	ePn	Pn	04 44 04.6	+0.7
BLCB	Balcova	2.21	153	ePN	Pn	04 44 04.9	+0.9
BLCB	Balcova	2.21	153	ePn	Pn	04 44 04.9	+0.9
CTKS	Kestanelik-??a	2.24	66	ePN	Pn	04 44 05.0	+0.6
CTKS	Kestanelik-??a	2.24	66	ePn	Pn	04 44 05.0	+0.5
ARMT	Armutlu	2.35	84	ePN	Pn	04 44 06.7	+0.6
ARMT	Armutlu	2.35	84	ePn	Pn	04 44 06.7	+0.6
MDNY	Mudanya-Bursa	2.37	89	ePN	Pn	04 44 07.0	+0.8
MDNY	Mudanya-Bursa	2.37	89	ePn	Pn	04 44 07.0	+0.8
BGKT	Bogazkoy	2.41	69	ePN	Pn	04 44 07.4	+0.6
BGKT	Bogazkoy	2.41	69	ePn	Pn	04 44 07.4	+0.6
ISK	Istanbul-Kandi	2.58	73	ePN	Pn	04 44 09.9	+0.7
ISK	Istanbul-Kandi	2.58	73	ePn	Pn	04 44 09.9	+0.7
KLYT	Kilyos	2.62	69	ePN	Pn	04 44 09.7	-0.1
KLYT	Kilyos	2.62	69	ePn	Pn	04 44 09.7	-0.1
HRT	Hereke	2.99	80	ePN	Pn	04 44 15.7	+0.9
HRT	Hereke	2.99	80	ePn	Pn	04 44 15.7	+0.9

*ISK **29** 04:49:04.1, 40°.33N×25°.84E, h8km, MD3.0*
*CSEM **29** 04:49:04.7±0.1, 40°.34N×25°.84E, h12km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.5km az=24.0*
*ATH **29** 04:49:04.5, 40°.35N×25°.82E, h28km, MD2.9/6*
*ISCJB **29** 04:49:04.2±0.4, 40°.33N±0°.02×25°.84E±0°.03, h9km±4km, Error ellipse: s-maj=3.9km s-min=3.2km az=168.4*
*THE **29** 04:49:05.3, 40°.33N×25°.82E, h13km±1km, ML2.2/4, Error ellipse: s-maj=1.8km s-min=0.9km az=13.0*
*DDA **29** 04:49:05.8, 40°.32N×25°.98E, h7km±3km, Md3.0*

ISC 29 04:49:04.8±0.4, 40°.33N±0°.02×25°.83E±0°.03, h13km±4km, n56, σ0=69/83, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	Enez	0.47	31	ePG	Pg	04 49 14.0	-0.1
ENEZ				eSG	Sg	04 49 21.0	+0.6
ENEZ	Enez	0.47	31	ePg	Pg	04 49 14.0	-0.1
ENEZ				eSg	Sg	04 49 21.0	+0.7
GELI	Tayfur-Gelibol	0.49	82	ePG	Pg	04 49 14.3	-0.1
GELI				eSG	Sg	04 49 21.7	+0.6
GELI	Tayfur-Gelibol	0.49	82	ePg	Pg	04 49 14.4	-0.1
GELI				eSg	Sg	04 49 21.7	+0.6
BOZC	Bozcaada	0.52	161	⇓iP	Pg	04 49 15.3	+0.4
BOZC				iS	Sg	04 49 22.4	+0.6
ALN	Alexandroupoli	0.59	16	ePN	Pg	04 49 16.2	0.0
ALN				eSN	Sg	04 49 24.6	+0.6
ALN	Alexandroupoli	0.59	16	P	Pg	04 49 16.2	0.0
ALN				S	Sg	04 49 24.7	+0.7
ALN	Alexandroupoli	0.59	16	P	Pg	04 49 16.2	0.0
ALN				S	Sg	04 49 24.7	+0.7
ERIK	Erikli-Kesan	0.62	57	ePG	Pg	04 49 16.4	-0.5
ERIK				eSG	Sg	04 49 25.4	+0.4
ERIK	Erikli-Kesan	0.62	57	ePg	Pg	04 49 16.4	-0.4
ERIK				eSg	Sg	04 49 25.4	+0.4
EZN	Ezine	0.63	143	ePG	Pg	04 49 16.7	-0.4
EZN	Ezine	0.63	143	ePg	Pg	04 49 16.7	-0.4
LIA	Limnos Island	0.66	229	ePN	Pg	04 49 18.0	+0.4
LIA				eSN	Sg	04 49 27.4	+1.1
LIA	Limnos Island	0.66	229	P	Pg	04 49 17.9	+0.3
LIA				S	Sg	04 49 27.2	+0.9
LIA	Limnos Island	0.66	229	P	Pg	04 49 17.9	+0.3
LIA				S	Sg	04 49 27.2	+0.9
LPK	Lapseki	0.71	87	ePG	Pg	04 49 17.3	-1.3
LPK	Lapseki	0.71	87	ePg	Pg	04 49 17.3	-1.2
RDO	Rodhopi	0.84	345	ePN	Pg	04 49 20.9	-0.2
RDO	Rodhopi	0.84	345	P	Pg	04 49 20.8	-0.3
RDO				S	Sg	04 49 33.3	+1.2
RDO	Rodhopi	0.84	345	P	Pg	04 49 20.8	-0.3
RDO				S	Sg	04 49 33.3	+1.2
RKY	Sarkoy-Tekirda	1.08	71	ePN	Pg	04 49 24.8	-0.9
RKY	Sarkoy-Tekirda	1.08	71	ePn	Pg	04 49 24.8	-0.9
SART	Tekirdag	1.09	70	eP	Pg	04 49 24.3	-1.4
SART				eS	Sg	04 49 39.4	-0.4
SART	Tekirdag	1.09	70	eP	Pg	04 49 24.3	-1.4
SART				eS	Sg	04 49 39.4	-0.5
KRBG	Karabiga-Canak	1.12	86	ePN	Pg	04 49 25.4	-1.0
KRBG	Karabiga-Canak	1.12	86	ePn	Pg	04 49 25.4	-0.9
PRK	Paraskevi	1.14	163	ePN	Pg	04 49 26.6	-0.1
PRK				eSN	Sn	04 49 41.9	0.0
PRK	Paraskevi	1.14	163	P	Pg	04 49 26.6	-0.1
PRK				S	Sg	04 49 41.2	-0.2
PRK	Paraskevi	1.14	163	P	Pg	04 49 26.6	-0.1
PRK				S	Sg	04 49 41.2	-0.2
PRK				eSn	Sn	04 49 41.9	0.0
KAVA	Kavala	1.20	304	P	Pn	04 49 27.1	-0.2
KAVA				S	Sb	04 49 42.6	-0.3
KAVA	Kavala	1.20	304	P	Pn	04 49 27.1	-0.2
KAVA				S	Sb	04 49 42.6	-0.3
AYVA	Ayvalik	1.22	147	eP	Pn	04 49 27.7	+0.2
AYVA				eS	Sb	04 49 43.4	+0.1
AYVA	Ayvalik	1.22	147	eP	Pn	04 49 27.7	+0.2
AYVA				eS	Sb	04 49 43.4	+0.1
OUR	Ouranopolis	1.42	271	P	Pn	04 49 29.7	-0.5
OUR	Ouranopolis	1.42	271	P	Pn	04 49 29.7	-0.5
GONE	Gonen-Balikesi	1.45	101	ePN	Pn	04 49 31.2	+0.5
GONE	Gonen-Balikesi	1.45	101	ePn	Pn	04 49 31.2	+0.5
TKR	Tekirdag	1.45	63	ePN	Pn	04 49 30.3	-0.5
TKR	Tekirdag	1.45	63	ePn	Pn	04 49 30.3	-0.4
EDC	Edincik	1.55	89	ePN	Pn	04 49 32.7	+0.5
EDC	Edincik	1.55	89	ePn	Pn	04 49 32.7	+0.6
EDRB	Edirne	1.66	24	ePN	Pn	04 49 34.3	+0.7
EDRB	Edirne	1.66	24	ePn	Pn	04 49 34.3	+0.7
NVR	Nevrokopi	1.81	305	ePN	Pn	04 49 35.7	+0.1
NVR				eSN	Sn	04 49 57.9	-0.5
NVR	Nevrokopi	1.81	305	P	Pn	04 49 35.8	+0.2
NVR	Nevrokopi	1.81	305	ePn	Pn	04 49 35.7	+0.1
NVR				eSn	Sn	04 49 57.8	-0.6
PLG	Polygyros	1.82	272	ePB	Pb	04 49 35.7	-2.3
PLG	Polygyros	1.82	272	ePb	Pb	04 49 35.7	-2.3
SRS	Serrai	1.87	295	P	Pn	04 49 36.5	0.0
SRS	Serrai	1.87	295	P	Pn	04 49 36.5	0.0
PLD	Plovdiv	1.96	335	P	Pn	04 49 38.1	+0.3
PLD	Plovdiv	1.96	335	P	Pn	04 49 38.1	+0.3
SLVT	Silivri	2.02	63	ePN	Pn	04 49 39.5	+1.1
SLVT	Silivri	2.02	63	ePn	Pn	04 49 39.5	+1.0
BLCB	Balcova	2.16	154	ePN	Pn	04 49 41.6	+1.1
BLCB	Balcova	2.16	154	ePn	Pn	04 49 41.6	+1.1

*IDC **29** 04:55:45.0±2.0, 52°.24S×159°.27E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.3/12, mbtmp4.3/6, ML4.4/1, MS3.9/8, Ms1 3.8/8, ms1mx3.6/18, Error ellipse: s-maj=52.8km s-min=40.3km az=22.0*

ISC 29 04:55:41.6±2.0, 52°.75S±0°.2×160°.0E±0°.2, h10km, n20, σ1=12/18, mb4.2/5, MS3.8/6, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYZ	Scrubby Hill	8.55	48	PN	Pn	04 57 44.8	-0.6
SYZ				SN	Sn	04 59 15.0	-6.8
WHZ	Wether Hill Ro	8.55	41	PN	Pn	04 57 45.3	-0.1
WHZ				eSN	Sn	04 59 22.1	+0.2
DCZ	Deep Cove	8.61	36	ePN	Pn	04 57 51.2	+5.1
MLZ	Mavora Lakes	9.10	40	PN	Pn	04 57 53.4	+0.6
MLZ				eSN	Sn	04 59 36.7	+1.5
TUZ	Tuapeka	9.22	47	PN	Pn	04 57 54.5	0.0
TUZ				SN	Sn	04 59 34.5	-3.7
EAZ	Earnscleugh	9.65	43	ePN	Pn	04 58 00.2	-0.2
JCZ	Jackson Bay	10.40	38	ePN	Pn	04 58 13.1	+2.5
RPZ	Rata Peaks	11.61	44	Pn	Pn	04 58 32.3	+5.0
2.4nm,0.3s,baz=193,slow=9.5,SNR=4.8							
RPZ				Sn	Sn	05 00 34.5	-2.3
0.8nm,0.3s,baz=67,slow=18,SNR=3.8							
RPZ				LR	LR	05 02 26.8	
comp=Z,858nm,18.5s,baz=42,slow=35							
URZ	Urewera	18.70	46	LR	LR	05 07 15.8	
comp=Z

BOZ	Bozeman (W)	1.45	322	⇑P		Pn	05 06 57.9 -0.1
	baz=1.5,SNR=6.6						
BOZ	Bozeman (W)	1.45	322	*e*Pn		Pn	05 06 56.1 -1.9
F18A	Big Timber	1.47	18	⇓Pg		Pg	05 06 59.2 +0.2
	baz=1.5,SNR=16						
J19A	Crowheart	1.56	142	⇑Pg		Pg	05 07 00.1 -0.5
	baz=1.5,SNR=36						
J19A				⇓S		Sn	05 07 20.2 -0.1
	baz=1.5						
F16A	Kennard Place,	1.56	325	⇑Pb		Pb	05 07 00.5 +0.1
	baz=1.6,SNR=24						
I15A	Monteview	1.61	252	⇑Pb		Pb	05 07 01.0 -0.1
	baz=1.6,SNR=7.3						
H15A	Lima	1.64	275	⇓Pg		Pg	05 07 02.5 +0.5
	baz=1.7						
G15A	Dillon	1.65	294	⇓Pb		Pb	05 07 02.0 +0.1
	baz=1.7,SNR=10.0						
F19A	Roth Farm, Mol	1.68	36	⇓Pg		Pg	05 07 02.8 -0.1
	baz=1.7						
G20A	Bridger	1.69	64	⇑Pb		Pb	05 07 01.5 -1.0
	baz=1.7,SNR=69						
G20A				⇓S		Sn	05 07 23.2 -0.2
	baz=1.7						
H20A	Greybull	1.69	90	⇑Pb		Pb	05 07 01.3 -1.2
	baz=1.7,SNR=15						
H20A				⇓S		Sn	05 07 23.5 0.0
	baz=1.7						
I20A	Worland	1.70	108	⇑Pb		Pb	05 07 01.6 -1.1
	baz=1.7,SNR=53						
I20A				⇓S		Sn	05 07 23.8 +0.1
	baz=1.7						
DLMT	Dillon	1.80	299	*e*Pn		Pn	05 07 01.9 -1.0
DLMT				*e*Sn		Sn	05 07 25.0 -1.3
MCMT	McKenzie Canyo	1.80	281	*e*Pn		Pn	05 07 03.3 +0.5
MCMT				*e*Sg		Sg	05 07 29.2 +0.5
AHID	Auburn Hatcher	1.82	197	*e*Pn		Pn	05 07 04.8 +1.7
AHID				*e*Sn		Sn	05 07 25.7 -0.9
BW06	Boulder Array	1.83	161	⇑Pb		Pb	05 07 04.6 -0.3
	baz=1.8						
BW06				⇑Sb		Sb	05 07 28.6 +0.3
	baz=1.8						
J15A	Blackfoot	1.86	234	⇑Pb		Pb	05 07 05.3 -0.2
	baz=1.9						
LRM	Limekiln Ridge	1.98	312	*e*Pn		Pn	05 07 08.5 +3.3
LRM				*e*Sn		Sn	05 07 31.6 +1.0
E17A	Martinsdale	1.99	350	⇓Pg		Pg	05 07 08.8 -0.1
	baz=2.0						
K19A	Absolon Red Bu	2.01	146	⇓Pb		Pb	05 07 07.3 -0.6
	baz=2.0						
K19A				⇓Sb		Sb	05 07 33.6 +0.2
	baz=2.0						
J20A	Shoshoni	2.01	124	⇓Pb		Pb	05 07 07.3 -0.7
	baz=2.0						
J20A				⇓Sb		Sb	05 07 33.3 0.0
	baz=2.0						
F15A	Butte	2.02	312	⇓Pb		Pb	05 07 08.4 +0.3
	baz=2.0						
F15A				⇑Sb		Sb	05 07 35.5 +2.0
	baz=2.0						
F20A	Billings	2.03	50	⇑Pb		Pb	05 07 08.3 -0.1
	baz=2.0						
F20A				⇓Sb		Sb	05 07 34.9 +0.9
	baz=2.0						
E18A	Harlowton	2.08	9	⇑P		Pn	05 07 07.6 +0.9
	baz=2.1,SNR=19						
E18A				⇓Sb		Sb	05 07 37.5 +1.9
	baz=2.1						
H14A	Leadore	2.15	274	⇓Pb		Pb	05 07 10.5 +0.1
	baz=2.2						
E16A	East Helena	2.23	336	⇓Pb		Pb	05 07 12.7 +1.0
	baz=2.3						
E19A	Rath Farm, Rou	2.25	29	⇓Pb		Pb	05 07 11.6 -0.4
	baz=2.2						
E19A				⇓Sb		Sb	05 07 41.0 +0.7
	baz=2.2						
I14A	Mackay	2.30	257	⇓Pb		Pb	05 07 12.6 -0.3
	baz=2.3						
I21A	Big Trails, Te	2.31	106	⇓Pb		Pb	05 07 11.5 -1.7
	baz=2.3						
I21A				⇓S		Sn	05 07 40.7 +1.9
	baz=2.3						
G21A	Lodge Grass	2.35	71	⇓Pb		Pb	05 07 13.2 -0.6
	baz=2.3						
G21A				⇑Sb		Sb	05 07 43.7 +0.4
	baz=2.3						
K20A	Yellowstone Ra	2.36	141	⇑Sb		Sb	05 07 44.1 +0.6
	baz=2.3						
H21A	Big Horn, Sher	2.38	86	⇑Pb		Pb	05 07 13.5 -0.7
	baz=2.3						
H21A				⇓Sb		Sb	05 07 44.2 +0.3
	baz=2.3						
J21A	Lysite	2.40	118	⇓Pb		Pb	05 07 13.8 -0.9
	baz=2.4						
J21A				⇓Sb		Sb	05 07 45.0 +0.2
	baz=2.4						
HRY	Holter Researc	2.44	335	*e*Pn		Pn	05 07 11.0 -0.5
HRY				*e*Sn		Sn	05 07 42.1 +0.3
L19A	Farson	2.51	163	⇓Sb		Sb	05 07 49.5 +1.6
	baz=2.5						
L18A	Fontenelle, Gr	2.59	175	⇓Sb		Sb	05 07 52.5 +2.4
	baz=2.6						
HLID	Hailey	3.07	254	*e*Pn		Pn	05 07 20.1 -0.2
HLID				*e*Sg		Sg	05 08 06.2 -3.1
EGMT	Eagleton	3.54	7	*e*Pn		Pn	05 07 25.8 -1.0
EGMT				*e*Pg		Pg	05 07 36.4 -2.2
EGMT				*e*Sn		Sn	05 08 08.0 -1.2
EGMT				*e*Sg		Sg	05 08 23.1 -1.4

*IDC **29** 05:14:06.2±5.9, 15°.40S×168°.12E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=154.6km s-min=40.2km az=118.0*
*ISCJB **29** 05:14:32.6±2.9, 16°.1S±0°.2×167°.8E±0°.2, h236km±28km, mb3.9/7, Error ellipse: s-maj=38.2km s-min=30.7km az=160.0*
*NEIC **29** 05:14:33.0±3.0, 16°.07S×167°.87E, h228km±28km, mb4.5/3, Error ellipse: s-maj=32.0km s-min=26.1km az=160.0*
ISC 29 05:14:32.5±2.9, 16°.1S±0°.2×167°.9E±0°.2, h221km±28km, n16, σ0°79/16, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.14	192	*e*P	Pn	05 16 00.9	-0.9
DZM	Mont Dzumac	6.14	192	*e*Pn	Pn	05 16 02.2	+0.4
	26nm,0.5s						
NOUC	Port Laguerre	6.20	193	*e*P	Pn	05 16 02.7	+0.2
STKA	Stephens Creek	28.60	232	P	P	05 20 09.6	+1.3
	1.5nm,0.7s,mb3.7,baz=74,slow=11,SNR=3.8						
STKA	Stephens Creek	28.60	232	P	P	05 20 09.6	+1.3
WB2	Warramunga Arr	32.07	258	*e*P	P	05 20 38.5	-0.4
WRA	Warramunga Arr	32.08	258	P	P	05 20 38.6	-0.3
	0.5nm,0.3s,mb3.6,baz=83,slow=7.6,SNR=4.5						
WRA	Warramunga Arr	32.08	258	P	P	05 20 38.6	-0.3
ASAR	Alice Springs	32.76	251	P	P	05 20 45.0	+0.2
	2.0nm,0.6s,mb3.8,baz=76,slow=9.2,SNR=18						
ASAR	Alice Springs	32.76	251	P	P	05 20 45.0	+0.2
QSPA	South Pole Qui	73.99	180	*e*P	P	05 25 42.4	-0.7
	3.5nm,0.8s,mb4.0						
CMAR	Chiang Mai Arr	76.00	294	P	P	05 25 56.0	+0.3
	1.7nm,0.7s,mb3.8,baz=127,slow=4.6,SNR=9.3						
CMAR	Chiang Mai Arr	76.00	294	P	P	05 25 56.0	+0.3
SONM	Songino Array	83.89	323	P	P	05 26 35.9	-1.3
	0.5nm,0.6s,mb3.4,baz=139,slow=6.3,SNR=4.4						
SONM	Songino Array	83.89	323	P	P	05 26 35.9	-1.3
COLD	Coldfoot	88.55	15	*e*P	P	05 27 00.6	+1.2
	4.1nm,0.4s,mb4.6						

IDC 29 05:15:53.0±13.0, 24°.23N×143°.29E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/24, mbtmp3.7/6, Error ellipse: s-maj=386.7km s-min=44.1km az=179.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	52.30	320	P	P	05 25 06.9	+0.7
	0.4nm,0.4s,baz=91,slow=8.6,SNR=3.8						
MKAR	Makanchi Array	53.08	311	P	P	05 25 11.3	-0.7
	0.4nm,0.9s,baz=88,slow=8.8,SNR=3.3						
KURK	Kurchatov	55.71	316	P	P	05 25 30.8	-0.4
	0.6nm,0.7s,baz=94,slow=7.7,SNR=6.8						
BVAR	Borovoye Array	60.83	319	P	P	05 26 06.2	-0.6
	0.1nm,0.3s,baz=79,slow=7.5,SNR=3.6						
AKTO	Aktyubinsk	68.78	317	P	P	05 27 00.5	+1.7
	0.9nm,0.5s,baz=123,slow=6.1,SNR=3.9						
YKA	Yellowknife Ar	74.18	28	P	P	05 27 31.1	0.0
	0.4nm,0.5s,baz=291,slow=5.6,SNR=7.0						

IDC 29 05:21:30.7±2.6, 2°.53S×138°.97E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/13, mbtmp3.3/3, Error ellipse: s-maj=418.9km s-min=30.2km az=107.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.89	194	P	Pn	05 25 40.6	-0.4
	0.2nm,0.3s,baz=14,slow=12,SNR=6.3						
ASAR	Alice Springs	21.58	193	P	P	05 26 22.4	+0.4
	0.4nm,0.4s,baz=19,slow=11,SNR=7.4						
ILAR	Eielson Array	85.56	24	P	P	05 34 10.6	0.0
	0.2nm,0.5s,baz=270,slow=4.5,SNR=3.8						

NNC 29 05:27:42.6±15.0, 36°.96N×70°.79E, h0km, mb3.8, mpv3.6, 3C-2D, Error ellipse: s-maj=132.5km s-min=98.0km az=169.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.14	358	⇑P	Pn	05 29 16.3	+1.8
	3.8nm,0.3s,baz=180,slow=13,SNR=127						
KK31				⇓S	Sn	05 30 28.8	+3.4
	1.4nm,0.3s,baz=184,slow=29,SNR=9.0						
TKM2	Tokmak 2	7.00	30	⇑P	Pn	05 29 26.9	+0.6
	1.1nm,0.5s						
TKM2				⇑S	Sn	05 30 44.1	-2.5
	3.3nm,1.1s						
AB31	Akbulak array	14.60	331	⇓P	Pn	05 31 07.8	-2.5
	0.3nm,0.3s,baz=308,slow=8.0,SNR=15						

*SOF **29** 05:29:27.5, 40°.33N×25°.66E, h2km, MD2.5*
*ISCJB **29** 05:29:28.5±0.3, 40°.33N±0°.02×25°.83E±0°.03, h10km, Error ellipse: s-maj=3.1km s-min=2.7km az=13.8*
*ISK **29** 05:29:28.5, 40°.31N×25°.87E, h6km, MD2.8*
*THE **29** 05:29:29.4, 40°.36N×25°.81E, h11km±1km, ML2.4/4, Error ellipse: s-maj=1.6km s-min=0.8km az=12.0*
*ATH **29** 05:29:29.1, 40°.35N×25°.85E, h5km±1km, MD3.2/6*
*CSEM **29** 05:29:29.0±0.1, 40°.34N×25°.83E, h10km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.9km az=32.0*
ISC 29 05:29:29.1±0.4, 40°.34N±0°.02×25°.84E±0°.02, h4km±4km, n59, σ0°95/88, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	Enez	0.46	31	*e*PG	Pg	05 29 37.9	-0.1
ENEZ				*e*SG	Sg	05 29 45.6	+1.7
ENEZ	Enez	0.46	31	*e*Pg	Pg	05 29 37.9	0.0
ENEZ				*e*Sg	Sg	05 29 45.6	+1.7
GELI	Tayfur-Gelibol	0.48	83	*e*PG	Pg	05 29 38.6	+0.2
GELI				*e*SG	Sg	05 29 45.1	+0.3
GELI	Tayfur-Gelibol	0.48	83	*e*Pg	Pg	05 29 38.6	+0.1
GELI				*e*Sg	Sg	05 29 45.1	+0.3
ALN	Alexandroupoli	0.57	16	*e*PB	Pg	05 29 40.1	-0.1
ALN				*e*SB	Sg	05 29 48.1	+0.5
ALN	Alexandroupoli	0.57	16	P	Pg	05 29 40.2	0.0
ALN				S	Sg	05 29 48.7	+1.1
ALN	Alexandroupoli	0.57	16	P	Pg	05 29 40.2	0.0
ALN				*e*Sb	Sg	05 29 48.1	+0.5
ALN				S	Sg	05 29 48.7	+1.1
ERIK	Erikli-Kesan	0.61	57	*e*PG	Pg	05 29 40.6	-0.1
ERIK				*e*SG	Sg	05 29 49.2	+0.6
ERIK	Erikli-Kesan	0.61	57	*e*Pg	Pg	05 29 40.7	-0.1
ERIK				*e*Sg	Sg	05 29 49.2	+0.5
EZN	Ezine	0.64	144	*e*PG	Pg	05 29 40.7	-0.6
EZN				*e*SG	Sg	05 29 48.8	-0.8
EZN	Ezine	0.64	144	*e*Pg	Pg	05 29 40.7	-0.6
EZN				*e*Sg	Sg	05 29 48.8	-0.8
LIA	Limnos Island	0.67	229	*e*PB	Pg	05 29 42.3	+0.2
LIA				*e*SB	Sb	05 29 52.2	-0.9
LIA	Limnos Island	0.67	229	P	Pg	05 29 42.3	+0.2
LIA				S	Sg	05 29 51.7	+0.9
LIA	Limnos Island	0.67	229	P	Pg	05 29 42.3	+0.2
LIA				S	Sg	05 29 51.7	+0.9
LIA				*e*Sb	Sb	05 29 52.2	-0.9
LPK	Lapseki	0.70	87	*e*PG	Pg	05 29 41.9	-0.7
LPK	Lapseki	0.70	87	*e*Pg	Pg	05 29 41.9	-0.7
RDO	Rodhopi	0.83	344	*e*PG	Pg	05 29 44.8	-0.4
RDO				*e*SB	Sg	05 29 56.2	+0.2
RDO	Rodhopi	0.83	344	P	Pg	05 29 44.6	-0.6
RDO				S	Sg	05 29 56.1	+0.1
RDO	Rodhopi	0.83	344	*e*Pg	Pg	05 29 44.8	-0.4
RDO				S	Sg	05 29 56.1	+0.1
RKY	Sarkoy-Tekirda	1.07	71	*e*PG	Pg	05 29 49.3	-0.4
RKY	Sarkoy-Tekirda	1.07	71	*e*Pg	Pg	05 29 49.3	-0.4
KRBG	Karabiga-Canak	1.11	87	*e*PN	Pg	05 29 50.2	-0.3
KRBG	Karabiga-Canak	1.11	87	*e*Pn	Pg	05 29 50.2	-0.3
PRK	Paraskevi	1.15	163	*e*PN	Pg	05 29 50.9	-0.2
PRK				*e*SB	Sb	05 30 07.3	+0.7
PRK	Paraskevi	1.15	163	P	Pg	05 29 51.0	-0.1
PRK				S	Sg	05 30 06.6	+0.7
PRK	Paraskevi	1.15	163	P	Pg	05 29 51.0	-0.1
PRK				S	Sg	05 30 06.6	+0.7
PRK				*e*Sb	Sb	05 30 07.3	+0.7
KAVA	Kavala	1.20	303	P	Pg	05 29 51.2	-1.0
KAVA				S	Sg	05 30 07.3	-0.5
KAVA	Kavala	1.20	303	P	Pg	05 29 51.2	-1.0
KAVA				S	Sg	05 30 07.3	-0.5
KDZ	Kurdzhali	1.34	346	P	Pn	05 29 53.3	-1.3
KDZ	Kurdzhali	1.34	346	P	Pn	05 29 53.3	-1.3
TKR	Tekirdag	1.44	63	*e*PN	Pn	05 29 55.9	-0.1
TKR	Tekirdag	1.44	63	*e*Pn	Pn	05 29 55.9	-0.1
GONE	Gonen-Balikesi	1.44	101	*e*PN	Pn	05 29 55.7	-0.3
GONE	Gonen-Balikesi	1.44	101	*e*Pn	Pn	05 29 55.7	-0.3
EDC	Edincik	1.54	89	*e*PN	Pn	05 29 57.3	-0.1
EDC	Edincik	1.54	89	*e*Pn	Pn	05 29 57.3	-0.1
RZN	Rozhen	1.59	328	P	Pn	05 29 57.6	-0.4
RZN	Rozhen	1.59	328	P	Pn	05 29 57.6	-0.4
EDRB	Edirne	1.65	24	*e*PN	Pn	05 29 58.6	-0.2
EDRB	Edirne	1.65	24	*e*Pn	Pn	05 29 58.6	-0.2
DIM	Dimitrovgrad	1.72	352	P	Pn	05 30 01.1	+1.3
DIM	Dimitrovgrad	1.72	352	P	Pn	05 30 01.1	+1.3
NVR	Nevrokopi	1.81	304	*e*PN	Pn	05 30 03.0	+2.0
NVR				*e*SN	Sg	05 30 28.1	+0.9
NVR	Nevrokopi	1.81	304	P	Pn	05 29 59.9	-1.1
NVR	Nevrokopi	1.81	304	P	Pn	05 29 59.9	-1.1
PLG	Polygyros	1.83	272	*e*PN	Pg	05 30 03.7	-0.5
PLG				*e*SN	Sg	05 30 27.9	-0.1
PLG	Polygyros	1.83	272	*e*Pn	Pg	05 30 03.8	-0.4
PLG				*e*Sn	Sn	05 30 26.9	+2.0
SRS	Serrai	1.88	295	P	Pn	05 29 59.8	-2.2
SRS	Serrai	1.88	295	P	Pn	05 29 59.8	-2.2
SOH	Sokhos	1.96	285	*e*PN	Pn	05 30 05.9	+2.9
SOH				*e*SN	Sn	05 30 32.2	+4.2
SOH	Sokhos	1.96	285	*e*Pn	Pn	05 30 05.9	+2.9
CHOS	Chios island	1.96	175	*e*PN	Pn	05 30 05.9	+2.8
CHOS	Chios island	1.96	175	*e*Pn	Pn	05 30 05.9	+2.8
MMB	Musomiste	2.03	309	P	Pn	05 30 02.0	-2.0
MMB	Musomiste	2.03	309	P	Pn	05 30 02.0	-2.0
CTKS	Kestanelik-??a	2.21	65	*e*PN	Pn	05 30 06.5	0.0
CTKS	Kestanelik-??a	2.21	65	*e*PN	Pn	05 30 06.5	0.0
BGKT	Bogazkoy	2.38	68	*e*PN	Pn	05 30 08.1	-0.7
BGKT	Bogazkoy	2.38	68	*e*Pn	Pn	05 30 08.1	-0.7

*ISK **29** 05:31:50.6, 37°.95N×29°.19E, h6km, MD2.6*
*ISCJB **29** 05:31:51.2±0.7, 37°.91N±0°.03×29°.20E±0°.06, h10km, Error ellipse: s-maj=7.1km s-min=4.3km az=25.8*
*DDA **29** 05:31:51.1, 37°.89N×29°.21E, h7km±5km, Md2.5*
*CSEM **29** 05:31:51.3±0.3, 37°.90N×29°.18E, h8km, MD2.6, Error ellipse: s-maj=9.0km s-min=6.1km az=116.0*
ISC 29 05:31:51.9±0.7, 37°.91N±0°.04×29°.20E±0°.06, h3km±15km, n16, σ0°83/26, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.21	221	*e*PG	Pg	05 31 55.4	-0.4
DENT	Denizli	0.21	221	*e*Pg	Pg	05 31 55.4	-0.5
DNZL	Cakiroluk	0.25	209	⇑*i*P	Pg	05 31 56.3	-0.5
DNZL				*i* S	Sg	05 31 59.6	-0.5
DNZL	Cakiroluk	0.25	209	*i* P	Pg	05 31 56.3	-0.5
DNZL				*i* S	Sg	05 31 59.6	-0.5
KHAL	Karahalli	0.51	26	*e*P	Pg	05 32 02.6	+0.9
KHAL				*e*S	Sg	05 32 08.7	+0.4
KHAL	Karahalli	0.51	26	*e*P	Pg	05 32 02.6	+0.9
KHAL				*e*S	Sg	05 32 08.7	+0.3
GOLH	Golhisar	0.73	157	*e*P	Pg	05 32 04.2	-1.7
GOLH				*e*S	Sg	05 32 15.8	+0.4
GOLH	Golhisar	0.73	157	*e*P	Pg	05 32 04.2	-1.7
GOLH				*e*S	Sg	05 32 15.8	+0.5
GLHS	Glhisar (BURDU	0.79	163	*e*PG	Pg	05 32 07.5	+0.5
GLHS				*e*SG	Sg	05 32 18.7	+1.5
GLHS	Glhisar (BURDU	0.79	163	*e*Pg	Pg	05 32 07.5	+0.5
GLHS				*e*Sg	Sg	05 32 18.7	+1.5
ISP	Isparta	1.05	94	*e*PG	Pg	05 32 10.8	-1.2
ISP	Isparta	1.05	94	*e*Pg	Pg	05 32 10.8	-1.2
YER	Yerkesik	1.07	224	*e*PN	Pg	05 32 12.1	-0.2
YER				*e*SN	Sg	05 32 27.0	+0.9
YER	Yerkesik	1.07	224	*e*Pn	Pg	05 32 12.1	-0.2
YER				*e*Sn	Sg	05 32 27.0	+0.9
ELL	Elmali	1.29	154	*e*PN	Pn	05 32 16.6	-0.2
ELL	Elmali	1.29	154	*e*Pn	Pn	05 32 16.6	-0.2

*NEIC **29** 05:34:52.2±5.8, 6°.24S×129°.17E, h85km±61km, Error ellipse: s-maj=51.8km s-min=23.8km az=217.0*
*IDC **29** 05:34:53.5±13.0, 6°.31S×129°.31E, h105km±141km, mb3.6/2, mb1 3.3/5, mb1mx3.2/16, mbtmp3.3/5, ML3.5/3, Error ellipse: s-maj=97.6km s-min=51.3km az=38.0*
ISC 29 05:35:09.1±3.4, 7°.2S±0°.2×128°.8E±0°.2, h276km±42km, n13, σ0°71/17, mb3.7/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.29	196	P	Pn	05 37 44.1	+0.7
	0.1nm,0.3s,baz=23,slow=12,SNR=7.8						
FITZ				S	S	05 39 47.7	-2.0
	0.7nm,0.3s,baz=90,slow=22,SNR=7.3						
FITZ	Fitzroy Crossi	11.29	196	*e*Pn	Pn	05 37 44.1	+0.7
FITZ				*e*Sn	S	05 39 50.6	+0.9
WRAB	Tennant Creek	13.77	158	*e*Pn	Pn	05 38 12.4	-1.2
WRA	Warramunga Arr	13.78	158	P	Pn	05 38 14.1	+0.3
	0.3nm,0.3s,baz=342,slow=10,SNR=7.8						
WRA				S	S	05 40 46.4	+0.3
	0.3nm,0.3s,baz=334,slow=22,SNR=5.0						
WRA	Warramunga Arr	13.78	158	P	Pn	05 38 14.1	+0.3
WRA				S	S	05 40 46.4	+0.4
WB2	Warramunga Arr	13.78	158	*e*Pn	Pn	05 38 14.1	+0.2
ASAR	Alice Springs	17.11	164	P	P	05 38 55.4	+4.9
	0.2nm,0.3s,baz=339,slow=9.9,SNR=11						
ASAR	Alice Springs	17.11	164	P	P	05 38 55.4	+4.9
MK31	Makanchi Array	67.73	327	*e*P	P	05 45 37.3	+0.2
MKAR	Makanchi Array	67.73	327	P	P	05 45 36.9	-0.1
	0.6nm,0.4s,mb3.7,baz=115,slow=8.2,SNR=18						
MKAR	Makanchi Array	67.73	327	P	P	05 45 36.9	-0.1
KURK	Kurchatov	72.06	329	P	P	05 46 03.1	-0.1
	0.8nm,0.5s,mb3.6,baz=126,slow=5.0,SNR=13						
KURK	Kurchatov	72.06	329	*e*P	P	05 46 03.2	0.0

*IDC **29** 05:54:49.1±1.2, 5°.50N×125°.01E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=77.0km s-min=24.1km az=71.0*
*NEIC **29** 05:54:53.8±0.6, 5°.55N×125°.12E, h35km, mb3.8/1, Error ellipse: s-maj=28.3km s-min=11.4km az=78.0*
*ISCJB **29** 05:54:54.3±0.9, 5°.61N±0°.08×125°.37E±0°.08, h63km±10km, mb3.7/6, Error ellipse: s-maj=14.1km s-min=12.3km az=135.8*
*MAN **29** 05:54:59, 5°.86N×125°.28E, h30km, mb4.8, ML3.7, MS3.8*
ISC 29 05:54:55.4±1.1, 5°.61N±0°.08×125°.38E±0°.08, h50km±11km, n19, σ1°17/25, mb3.7/6, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.64	318	⇑*e*P	Pn	05 55 07.6	-0.7
GSPH				*i* S	Sn	05 55 17.3	-0.4
DAV	Davao City (W)	1.47	8	*e*Pn	Pn	05 55 18.4	-1.0
DAV				*e*Sn	Sn	05 55 43.1	+5.6
DMPH	Davao City--Mi	1.47	5	⇑*e*P	Pn	05 55 20.4	+0.9
DMPH				*e*S	Sn	05 55 36.2	-1.5
MATI	Mati	1.59	33	*e*P	Pn	05 55 19.1	-2.1
MATI				*e*S	Sn	05 55 41.8	+1.2
CTBH	Cotabato--PC H	1.96	325	⇓*i*P	Pn	05 55 27.5	+1.3
BUKP	Musuan	2.28	352	*e*P	Pn	05 55 32.1	+1.6
BUKP				*e*S	Sn	05 56 07.1	+10
CGP	Cagayan de Oro	2.91	347	⇓*e*P	Pn	05 55 45.0	+5.8
CGP				*e*S	Sn	05 56 21.7	+8.8
PAGZ	Pagadian	2.98	318	*e*P	Pn	05 55 41.5	+1.3
WRAB	Tennant Creek	26.87	161	*e*P	P	06 00 30.9	-0.7
	2.9nm,1.0s,mb3.8						
WRA	Warramunga Arr	26.88	161	P	P	06 00 31.8	+0.1
	0.4nm,0.3s,mb3.4,baz=341,slow=10,SNR=3.8						
WRA	Warramunga Arr	26.88	161	P	P	06 00 31.8	+0.1
ASAR	Alice Springs	30.26	164	P	P	06 01 02.2	+0.4
	0.2nm,0.4s,mb3.2,baz=342,slow=7.3,SNR=5.1						
ASAR	Alice Springs	30.26	164	P	P	06 01 02.2	+0.4
MK31	Makanchi Array	55.25	325	*e*P	P	06 04 23.0	-0.6
MKAR	Makanchi Array	55.25	325	P	P	06 04 22.9	-0.6
	0.2nm,0.3s,mb3.6,baz=117,slow=6.9,SNR=7.7						
MKAR	Makanchi Array	55.25	325	P	P	06 04 22.9	-0.6
TKM2	Tokmak 2	57.46	318	*e*P	P	06 04 38.1	-1.2
	4.1nm,0.6s,mb4.6						
ILAR	Eielson Array	84.00	26	P	P	06 07 22.8	+2.6
	0.2nm,0.5s,mb3.5,baz=253,slow=5.1,SNR=6.3						
ILAR	Eielson Array	84.00	26	P	P	06 07 22.8	+2.6

**IDC 29 06:10:20.8±8.0, 4°.67S×102°.70E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/19, mbtmp3.3/2, Error ellipse

*IDC **29** 06:18:20.9±0.5, 32.°29N×105.°12E, h0km, mb4.7/23, mb1 4.8/26, mb1mx4.8/29, mbtmp4.7/26, ML4.2/3, MS3.7/12, Ms1 3.7/12, ms1mx3.6/27, Error ellipse: s-maj=15.8km s-min=11.1km az=42.0*

*ISCJB **29** 06:18:20.6±0.8, 32.°27N±0.°02×105.°17E±0.°02, h9km±5km, mb4.9/99, MS3.9/14, Error ellipse: s-maj=3.4km s-min=3.2km az=163.5*

*BJI **29** 06:18:21.5, 32.°31N×105.°21E, h10km, mB4.9/23, mb4.9/38, ML4.9/22, Ms4.7/52, Ms7 4.4/47*

*NEIC **29** 06:18:22.6±0.1, 32.°28N×105.°10E, h10km, mb5.0/66, Error ellipse: s-maj=3.9km s-min=3.2km az=181.0*

NEIC Felt [III] at Chengdu and Mianyang and [II] at Chongqing. Also felt at Heyang.

*MOS **29** 06:18:24.1±0.9, 32.°27N×105.°18E, h33km, mb5.2/62, Error ellipse: s-maj=6.9km s-min=4.4km az=115.8*

*DJA **29** 06:18:25, 32.°24N×105.°44E, h10km, mb5.0/11*

ISC 29 06:18:21.9±0.7, 32.°30N±0.°02×105.°15E±0.°02, h4km±4km, h4km±2.4km: pP-P, n396, σ1°09/404, mb4.9/99, MS3.9/14, 13C-9D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.82**	**221**	Pn	**Pn**	**06 18 54.8**	**+0.8**
CD2				Pg	**Pg**	**06 18 56.5**	**-0.4**
CD2				Sn	**Sn**	**06 19 17.0**	**-0.6**
CD2				Sg	**Sg**	**06 19 21.3**	**+0.8**
CD2				smax			
	comp=N,35μm,0.5s						
CD2				smax			
	comp=E,25μm,0.7s						
XAN	**Xi'an**	**3.61**	**60**	Pn	**Pn**	**06 19 20.0**	**+1.5**
XAN				Pg	**Pg**	**06 19 28.3**	**-2.7**
XAN				Sn	**Sn**	**06 20 04.8**	**+3.3**
XAN				Sg	**Sg**	**06 20 15.5**	**-2.2**
XAN				smax			
	comp=N,5μm,0.7s						
XAN				smax			
	comp=E,2μm,0.8s						
XAN				LR	LR		
	comp=N,3μm,6.5s						
XAN				LR	LR		
	comp=E,2μm,7.6s						
XAN				LR	LR		
	comp=Z,2μm,8.6s						
LZH	**Lanzhou**	**3.93**	**344**	⇓Pn	**Pn**	**06 19 25.8**	**+2.8**
LZH				Pg	**Pg**	**06 19 35.0**	**-2.3**
LZH				Sn	**Sn**	**06 20 11.8**	**+2.2**
LZH				Sg	**Sg**	**06 20 24.0**	**-4.2**
LZH				smax			
	comp=N,5μm,0.8s						
LZH				smax			
	comp=E,7μm,0.7s						
LZH				LR	LR		
	comp=N,14μm,7.0s						
LZH				LR	LR		
	comp=E,20μm,7.8s						
LZH				LR	LR		
	comp=Z,18μm,8.9s						
ENH	**Enshi**	**4.22**	**117**	*e*Pn	**Pn**	**06 19 28.7**	**+1.7**
ENH				*e*Sg	**Sg**	**06 20 40.0**	**+2.4**
GYA	**Guiyang**	**5.97**	**167**	Pn	**Pn**	**06 19 54.3**	**+3.3**
GYA				Sn	**Sn**	**06 20 56.8**	**-3.0**
GYA				Sg	**Sg**	**06 21 24.3**	**-9.2**
GYA				smax			
	comp=N,1μm,0.8s						
GYA				smax			
	comp=E,2μm,0.9s						
GYA				LR	LR		
	comp=N,3μm,6.0s						
GYA				LR	LR		
	comp=E,3μm,4.4s						
GYA				LR	LR		
	comp=Z,3μm,4.7s						
KMI	**Kunming**	**7.46**	**197**	Pn	**Pn**	**06 20 12.3**	**+0.8**
KMI				Sn	**Sn**	**06 21 36.8**	**+0.3**
KMI				smax			
	comp=N,190nm,1.6s						
KMI				smax			
	comp=E,230nm,1.8s						
KMI				LR	LR		
	comp=N,2μm,11.4s						
KMI				LR	LR		
	comp=E,4μm,12.1s						
KMI				LR	LR		
	comp=Z,1μm,8.9s						
WHN	**Wuhan**	**8.05**	**100**	⇓P	**Pn**	**06 20 19.5**	**-0.1**
WHN				S	**Sn**	**06 21 48.3**	**-2.8**
WHN				LR	LR		
	comp=N,14μm,4.5s						
WHN				LR	LR		
	comp=E,6μm,1.9s						
WHN				LR	LR		
	comp=Z,8μm,6.7s						
GTA	**Gaotai**	**8.31**	**330**	*e*P	**Pn**	**06 20 23.5**	**+0.3**
GTA				pP		06 20 27.8	
GTA				sP		06 20 30.8	
GTA				S	**Sn**	**06 21 57.3**	**-0.2**
GTA				pmax	pmax		
	comp=Z,13nm,0.8s						
GTA				pmax	pmax		
	comp=Z,120nm,4.8s						
GTA				LR	LR		
	comp=N,4μm,9.3s						
GTA				LR	LR		
	comp=E,2μm,8.6s						
GTA				LR	LR		
	comp=Z,3μm,9.7s						
BTO	**Baotou**	**9.17**	**24**	*e*P	**Pn**	**06 20 34.8**	**-0.1**
BTO				LR	LR		
	comp=N,600nm,7.0s						
BTO				LR	LR		
	comp=E,900nm,8.7s						
HHC	**Hu-ho-hao-te**	**9.97**	**29**	*e*P	**Pn**	**06 20 44.3**	**-1.5**
HHC				sP		06 20 50.5	
HHC				S	**Sn**	**06 22 37.5**	**-0.6**
HHC				SS		06 22 50.8	
HHC				PcS	PcS	06 30 26.8	-4.1
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,6.3s						
HHC				LR	LR		
	comp=N,1μm,6.1s						
HHC				LR	LR		
	comp=E,2μm,6.4s						
HHC				LR	LR		
	comp=Z,2μm,9.7s						
TIA	**Tai'an**	**10.65**	**65**	P	**Pn**	**06 20 55.5**	**+0.3**
TIA				pmax	pmax		
	comp=Z,20nm,0.9s						
TIA				LR	LR		
	comp=N,1μm,10.3s						
TIA				LR	LR		
	comp=E,2μm,8.8s						
TIA				LR	LR		
	comp=Z,2μm,11.3s						
NJ2	**Nanjing**	**11.61**	**88**	*e*P	**Pn**	**06 21 09.0**	**+0.6**
NJ2				S	**Sn**	**06 23 15.5**	**-3.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,210nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,9.9s						
NJ2				LR	LR		
	comp=E,3μm,8.6s						
NJ2				LR	LR		
	comp=Z,3μm,10.3s						
GZH	**Guangzhou**	**11.69**	**140**	P	**Pn**	**06 21 06.0**	**-3.5**
GZH				S	**Sn**	**06 23 06.5**	**-14**
GZH				LR	LR		
	comp=N,2μm,8.3s						
GZH				LR	LR		
	comp=E,2μm,7.6s						
BJI	**Beijing**	**11.78**	**46**	P	**Pn**	**06 21 16.3**	**+5.6**
BJI				pmax	pmax		
	comp=Z,18nm,1.0s						
BJI				LR	LR		
	comp=N,1μm,8.3s						
BJI				LR	LR		
	comp=E,1μm,8.0s						
LSA	**Lhasa**	**12.29**	**262**	*e*Pn	**Pn**	**06 21 21.1**	**+3.3**
	comp=E,22nm,0.8s						
LSA	**Lhasa**	**12.29**	**262**	*e*P	**Pn**	**06 21 21.1**	**+3.4**
LSA				pmax	pmax		
	comp=Z,22nm,0.8s						
SHL	**Shillong**	**13.41**	**243**	*e*PKP	**Pn**	**06 21 32.0**	**-1.0**
SHL				*e*S	Sx	06 25 37.0	
SSE	**Sheshan**	**13.71**	**91**	P	**Pn**	**06 21 34.5**	**-2.5**
SSE				S	**Sn**	**06 24 06.5**	**-3.3**
SSE				pmax	pmax		
	comp=Z,26nm,0.8s						
SSE				pmax	pmax		
	comp=Z,160nm,4.2s						
SSE				LR	LR		
	comp=N,2μm,8.4s						
SSE				LR	LR		
	comp=E,1μm,8.4s						
SSE				LR	LR		
	comp=Z,2μm,13.3s						
QIZ	**Qiongzhong**	**13.87**	**161**	P	**Pn**	**06 21 40.3**	**+1.0**
QIZ				S	**Sn**	**06 24 15.0**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,45nm,2.2s						
QIZ				LR	LR		
	comp=N,2μm,9.5s						
QIZ				LR	LR		
	comp=Z,3μm,9.9s						
QZH	**Quanzhou**	**13.88**	**118**	P	**Pn**	**06 21 45.0**	**+5.5**
QZH				S	**Sn**	**06 24 23.5**	**+9.4**
QZH				LR	LR		
	comp=N,7μm,8.8s						
QZH				LR	LR		
	comp=E,9μm,8.4s						
QZH				LR	LR		
	comp=Z,13μm,9.8s						
CHG	**Chiang Mai**	**14.54**	**204**	⇓P	**Pn**	**06 21 48.6**	**+0.1**
	comp=Z,19nm,0.7s						
CHG				S	Sx	06 25 41.9	
CHG				S	Sx	06 25 41.9	
CHTO	**Chiang Mai**	**14.54**	**204**	*e*Pn	**Pn**	**06 21 48.9**	**+0.4**
CHTO	**Chiang Mai**	**14.54**	**204**	*e*P	**Pn**	**06 21 48.9**	**+0.4**
CHTO	**Chiang Mai**	**14.54**	**204**	P	**Pn**	**06 21 51.2**	**+2.7**
	comp=Z,308nmcomp=Z,16nm,0.9s						
CM31	**Chiang Mai Arr**	**14.87**	**204**	*e*Pn	**Pn**	**06 21 53.7**	**+0.6**
	comp=Z,22nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.87**	**204**	Pn	**Pn**	**06 21 53.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=14,slow=12,SNR=19						
CMAR				Lg		06 26 08.8	
	comp=Z,0.4nm,0.3s,baz=16,slow=32,SNR=2.6						
CMAR				LR	LR	06 28 18.6	
	comp=Z,624nm,21.1s,baz=191,slow=40						
CMAR	**Chiang Mai Arr**	**14.87**	**204**	Pn	**Pn**	**06 21 53.5**	**+0.5**
CMAR				Lg		06 26 08.8	
CMAR	**Chiang Mai Arr**	**14.87**	**204**	P	**Pn**	**06 21 53.5**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**15.55**	**3**	Pn	**Pn**	**06 22 01.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=42						
SONM				Lg		06 26 33.7	
	comp=Z,0.2nm,0.3s,baz=199,slow=29,SNR=4.6						
SONM				LR	LR	06 28 51.4	
	comp=Z,157nm,20.0s,baz=177,slow=40						
SONM	**Songino Array**	**15.55**	**3**	Pn	**Pn**	**06 22 01.9**	**+0.1**
SONM				Lg		06 26 33.7	
SONM	**Songino Array**	**15.55**	**3**	P	**Pn**	**06 22 01.9**	**+0.1**
ULN	**Ulaanbaatar**	**15.62**	**5**	*e*Pn	**Pn**	**06 22 02.6**	**-0.1**
	comp=Z,22nm,1.0s						
ULN				*e*S	**Sn**	**06 25 12.3**	**+16**
ULN	**Ulaanbaatar**	**15.62**	**5**	*e*P	**Pn**	**06 22 02.6**	**-0.1**
ULN				pmax	pmax		
	comp=Z,22nm,1.0s						
ULN	**Ulaanbaatar**	**15.62**	**5**	P	**Pn**	**06 22 04.3**	**+1.6**
	comp=Z,26nm,1.3s						
TAPN	**Taplejung**	**15.92**	**256**	*e*P	**Pn**	**06 22 06.5**	**-0.3**
	comp=Z,147nm,1.1s						
TAPN	**Taplejung**	**15.92**	**256**	*e*P	**Pn**	**06 22 06.5**	**-0.3**
	comp=Z,147nm,1.1s						
BDT	**Bhumibol Dam**	**15.99**	**202**	⇑P	**Pn**	**06 22 14.0**	**+6.3**
	comp=Z,24nm,0.9s						
YHNB	**Yeheng**	**16.15**	**114**	*e*P	**Pn**	**06 22 13.4**	**+3.7**
	comp=Z,26nm,0.8s						
SSLB	**Suanglung**	**16.31**	**117**	*e*Pn	**Pn**	**06 22 11.6**	**-0.2**
	comp=Z,32nm,0.8s						
ODAN	**Odare**	**16.37**	**255**	*e*P	**Pn**	**06 22 11.4**	**-1.2**
	comp=Z,67nm,0.7s						
ODAN	**Odare**	**16.37**	**255**	*e*P	**Pn**	**06 22 11.4**	**-1.2**
	comp=Z,67nm,0.6s						
YULB	**Yu-li**	**16.79**	**118**	*e*Pn	**Pn**	**06 22 16.9**	**-1.0**
RAMN	**Ramite**	**16.98**	**256**	*e*P	**Pn**	**06 22 18.5**	**-1.9**
	comp=Z,111nm,0.9s						
RAMN	**Ramite**	**16.98**	**256**	*e*P	**Pn**	**06 22 18.5**	**-1.9**
	comp=Z,111nm,0.9s						
JIRN	**Jiri**	**17.07**	**259**	*e*P	**Pn**	**06 22 21.1**	**-0.3**
	comp=Z,28nm,0.7s						
JIRN	**Jiri**	**17.07**	**259**	*e*P	**Pn**	**06 22 21.1**	**-0.3**
	comp=Z,28nm,0.7s						
NST	**Nakhon Sawan**	**17.17**	**197**	P	**Pn**	**06 22 21.3**	**-1.4**
GUN	**Gumba**	**17.24**	**260**	*e*P	**Pn**	**06 22 22.8**	**-0.8**
	comp=Z,155nm,0.9s						
GUN	**Gumba**	**17.24**	**260**	*e*P	**Pn**	**06 22 22.8**	**-0.8**
	comp=Z,155nm,0.9s						
SNY	**Shenyang**	**17.48**	**52**	⇓P	**Pn**	**06 22 27.8**	**+1.3**
SNY				S	**Sn**	**06 25 44.5**	**+3.0**
SNY				pmax	pmax		
	comp=Z,11nm,1.2s						
SNY				pmax	pmax		
	comp=Z,240nm,4.0s						
SNY				LR	LR		
	comp=N,600nm,10.1s						
SNY				LR	LR		
	comp=E,640nm,14.7s						
SNY				LR	LR		
	comp=Z,650nm,17.3s						
PKI	**Pulchoki**	**17.75**	**260**	*e*P	**Pn**	**06 22 28.2**	**-1.7**
	comp=Z,86nm,0.6s						
PKI	**Pulchoki**	**17.75**	**260**	*e*P	**Pn**	**06 22 28.2**	**-1.7**
	comp=Z,86nm,0.6s						
PKI	**Pulchoki**	**17.75**	**260**	*e*P	**Pn**	**06 22 28.2**	**-1.7**
PKI				pmax	pmax		
	comp=Z,86nm,0.6s						
KKN	**Kakani**	**17.78**	**261**	*e*P	**Pn**	**06 22 29.6**	**-0.7**
	comp=Z,108nm,0.9s						
KKN	**Kakani**	**17.78**	**261**	*e*P	**Pn**	**06 22 29.6**	**-0.7**
	comp=Z,108nm,0.9s						
KKN	**Kakani**	**17.78**	**261**	*e*P	**Pn**	**06 22 29.6**	**-0.7**
KKN				pmax	pmax		
	comp=Z,108nm,0.9s						
WMQ	**Urumqi**	**17.89**	**315**	*e*P	**Pn**	**06 22 33.0**	**+1.5**
WMQ				pP	pP	06 22 36.8	+3.5
WMQ				sP	sP	06 22 40.0	+6.2
WMQ				PP		06 22 48.0	
WMQ				S	**Sn**	**06 25 50.0**	**-1.2**
WMQ				sS	sS	06 25 56.0	-3.8
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,220nm,6.6s						
WMQ				LR	LR		
	comp=N,1μm,12.0s						
WMQ				LR	LR		
	comp=E,1μm,8.8s						
WMQ				LR	LR		
	comp=Z,480nm,13.4s						
DMN	**Daman**	**17.98**	**260**	*e*P	**Pn**	**06 22 31.0**	**-1.8**
	comp=Z,203nm,0.9s						
DMN	**Daman**	**17.98**	**260**	*e*P	**Pn**	**06 22 31.0**	**-1.8**
	comp=Z,203nm,0.9s						
ZAK	**Zakamensk**	**18.12**	**356**	⇑*i*P	**Pn**	**06 22 36.8**	**+2.5**
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s						
GKN	**Gorkha**	**18.25**	**262**	*e*P	**Pn**	**06 22 35.2**	**-0.9**
	comp=Z,148nm,0.7s						
GKN	**Gorkha**	**18.25**	**262**	*e*P	**Pn**	**06 22 35.2**	**-0.9**
	comp=Z,148nm,0.7s						
DANN	**Dangsing**	**18.88**	**264**	*e*P	**Pn**	**06 22 42.0**	**-1.8**
	comp=Z,131nm,0.8s						
DANN	**Dangsing**	**18.88**	**264**	*e*P	**Pn**	**06 22 42.0**	**-1.8**
	comp=Z,131nm,0.8s						
KOLN	**Koldanda**	**19.19**	**262**	*e*P	**Pn**	**06 22 44.7**	**-2.9**
	comp=Z,80nm,0.7s						
KOLN	**Koldanda**	**19.19**	**262**	*e*P	**Pn**	**06 22 44.7**	**-2.9**
	comp=Z,80nm,0.7s						
KSAR	**Wonju Array Be**	**19.33**	**68**	P	**Pn**	**06 22 49.4**	**+0.3**
KSAR	**Wonju Array Be**	**19.33**	**68**	P	**Pn**	**06 22 49.4**	**+0.3**
KSRS	**Korea Array**	**19.36**	**68**	P	**Pn**	**06 22 49.4**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=254,slow=10,SNR=47						
KSRS				LR	LR	06 29 34.8	
	comp=Z,123nm,20.9s,baz=265,slow=35						
KSRS	**Korea Array**	**19.36**	**68**	P	**Pn**	**06 22 49.4**	**-0.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TLY	**Talaya**	**19.40**	**357**	*e*P	**Pn**	**06 22 51.2**	**+1.3**
TLY				*e*S	**Sn**	**06 26 22.0**	**-5.7**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,217nm,14.0s						
MOY	**Mondy**	**19.59**	**352**	*e*P	**Pn**	**06 22 53.0**	**+0.8**
MOY				pmax	pmax		
	comp=Z,35nm,1.5s						
PYUN	**Piuthan**	**19.60**	**263**	*e*P	**Pn**	**06 22 48.3**	**-4.2**
PYUN	**Piuthan**	**19.60**	**263**	*e*P	**Pn**	**06 22 48.3**	**-4.2**
CN2	**Changchun**	**19.62**	**48**	⇓*i*P	**Pn**	**06 22 53.5**	**+0.9**
CN2				*e*sP	sP	06 23 03.3	+10
CN2				*e*S	**Sn**	**06 26 28.5**	**-4.8**
CN2				pmax	pmax		
	comp=Z,70nm,1.0s						
CN2				LR	LR		
	comp=N,700nm,10.0s						
CN2				LR	LR		
	comp=E,700nm,10.0s						
CN2				LR	LR		
	comp=Z,500nm,11.0s						
IRK	**Irkutsk**	**19.94**	**358**	*e*P	**Pn**	**06 22 55.7**	**-0.6**
IRK				pmax	pmax		
	comp=Z,114nm,1.6s						
HIA	**Hailar**	**20.17**	**29**	*e*P	**P**	**06 22 58.8**	**+1.6**
	comp=Z,28nm,0.9s						
HIA	**Hailar**	**20.17**	**29**	*e*P	**P**	**06 22 58.8**	**+1.6**
HIA				pmax	pmax		
	comp=Z,28nm,0.9s						
NNT	**Nongplab**	**20.24**	**195**	P	**P**	**06 22 59.4**	**+1.3**
JOW	**Kunigami**	**20.82**	**99**	P	**P**	**06 23 05.2**	**+0.8**
	comp=Z,53nm,0.7s,baz=265,slow=8.4,SNR=8.7						
JOW				LR	LR	06 31 44.6	
	comp=Z,273nm,18.8s,MS3.6,baz=321,slow=39						
JOW	**Kunigami**	**20.82**	**99**	P	**P**	**06 23 05.2**	**+0.8**
JNU	**Nakatsue**	**21.65**	**81**	*e*P	**P**	**06 23 14.4**	**+1.1**
	comp=Z,14nm,1.0s,mb4.3						
MDJ	**Mudanjiang**	**22.65**	**50**	P	**P**	**06 23 23.5**	**-0.4**
MDJ				pP		06 23 26.3	
MDJ				sP	sP	06 23 28.0	+2.4
MDJ				PcP	PcP	06 27 16.5	-0.1
MDJ				S	**S**	**06 27 30.5**	**-2.4**
MDJ				ScP	ScP	06 30 54.0	-1.1
MDJ				PcS	PcS	06 30 55.3	-0.1
MDJ				ScS	ScS	06 34 39.5	-0.9
MDJ				pmax	pmax		
	comp=Z,49nm,1.5s,mb4.7						
MDJ				pmax	pmax		
	comp=Z,140nm,4.8s						
MDJ	**Mudanjiang**	**22.65**	**50**	*e*P	**P**	**06 23 25.2**	**+1.3**
	comp=Z,116nm,1.3s,mb5.2						
MK31	**Makanchi Array**	**22.70**	**316**	*e*P	**P**	**06 23 25.3**	**+0.8**
MK31	**Makanchi Array**	**22.70**	**316**	*c*eP	**P**	**06 23 25.0**	**+0.6**
MK31				pmax	pmax		
	comp=Z,89nm,1.0s,mb5.2						
MKAR	**Makanchi Array**	**22.70**	**316**	P	**P**	**06 23 25.2**	**+0.7**
	comp=Z,25nm,0.8s,mb4.7,baz=109,slow=12,SNR=92						
MKAR				ScP	ScP	06 30 52.5	-2.6
	comp=Z,1.3nm,0.9s,baz=142,slow=4.1,SNR=3.9						
MKAR	**Makanchi Array**	**22.70**	**316**	*e*P	**P**	**06 23 25.2**	**+0.8**
MKAR				ScP	ScP	06 30 52.5	-2.6
MKAR	**Makanchi Array**	**22.70**	**316**	P	**P**	**06 23 25.2**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,25nm,0.8s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
DDI	**Dehra Dun**	**23.22**	**272**	*e*PKP	**P**	**06 23 30.0**	**0.0**
USRK	**Ussuriysk Arra**	**24.09**	**53**	P	**P**	**06 23 38.6**	**+0.2**
	comp=N,17nm,0.9s,mb4.5,baz=249,slow=9.6,SNR=23						
BHK	**Bhakra**	**24.40**	**276**	*ex*	**P**	**06 23 43.2**	**+1.9**
KSH	**Kashi**	**24.64**	**295**	P	**P**	**06 23 47.0**	**+3.6**
KSH				pP		06 23 51.3	
KSH				sP	sP	06 23 53.5	+8.4
KSH				PP		06 24 25.5	
KSH				S	**S**	**06 28 06.0**	**+0.6**
KSH				sS	sS	06 28 13.5	+6.2
KSH				SS		06 29 04.5	
KSH				ScP	ScP	06 30 59.3	-1.2
KSH				PcS	PcS	06 31 02.8	+1.9
KSH				pmax	pmax		
	comp=Z,85nm,1.7s,mb5.0						
KSH				LR	LR		
	comp=N,310nm,8.4s						
KSH				LR	LR		
	comp=E,490nm,10.5s						
KSH				LR	LR		
	comp=Z,600nm,11.4s,MS4.3						
ULHL	**Ulahol**	**24.95**	**302**	P	**P**	**06 23 48.4**	**+2.1**
	SNR=6.9						
ULHL				P		06 23 48.4	
	SNR=6.9						
TKM2	**Tokmak 2**	**25.58**	**303**	P	**P**	**06 23 53.5**	**+1.5**
	SNR=29						
TKM2				P	pP	06 23 53.5	+0.3
	SNR=29						
TKM2	**Tokmak 2**	**25.58**	**303**	*e*P	**P**	**06 23 53.3**	**+1.3**
	comp=Z,24nm,0.8s,mb4.8						
TKM2	**Tokmak 2**	**25.58**	**303**	*i* P	**P**	**06 23 53.4**	**+1.4**
KZA	**Kyzart**	**25.63**	**301**	P	**P**	**06 23 57.7**	**+5.2**
	SNR=29						
KZA				P	pP	06 23 57.7	+4.0
	SNR=29						
KBK	**Karagaybulak**	**25.98**	**302**	P	**P**	**06 23 57.4**	**+1.8**
	SNR=18						
KBK				P	pP	06 23 57.4	+0.6
	SNR=18						
ZAA0	**Zalesovo Array**	**26.06**	**332**	*e*P	**P**	**06 23 56.5**	**+0.3**
ZALV	**Zalesovo Beam**	**26.06**	**332**	P	**P**	**06 23 56.5**	**+0.3**
	comp=Z,15nm,0.8s,mb4.6,baz=130,slow=9.6,SNR=28						
ZALV	**Zalesovo Beam**	**26.06**	**332**	P	**P**	**06 23 56.5**	**+0.3**
ZALV	**Zalesovo Beam**	**26.06**	**332**	P	**P**	**06 23 56.5**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
KLR	**Kul'dur**	**26.11**	**42**	*e*P	**P**	**06 23 53.4**	**-3.2**
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s,MS5.0						
UCH	**Uchtor**	**26.20**	**301**	P	**P**	**06 24 02.8**	**+5.1**
	SNR=7.5						
UCH				P	pP	06 24 02.8	+4.0
	SNR=7.5						
BOD	**Bodaibo**	**26.23**	**11**	*e*P	**P**	**06 23 58.9**	**+1.2**
BOD				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.3						
FRU	**Bishkek**	**26.26**	**302**	*e*P	**P**	**06 24 00.0**	**+1.9**
FRU				*e*		06 24 40.0	
AAK	**Ala-Archa**	**26.30**	**302**	P	**P**	**06 24 02.0**	**+3.5**
	SNR=7.9						
AAK				P	pP	06 24 02.0	+2.3
	SNR=7.9						
AAK	**Ala-Archa**	**26.30**	**302**	*e*P	**P**	**06 23 59.7**	**+1.2**
	comp=Z,65nm,1.0s,mb5.1						
AAK	**Ala-Archa**	**26.30**	**302**	*i* P	**P**	**06 24 00.3**	**+1.8**
AAK	**Ala-Archa**	**26.30**	**302**	P	**P**	**06 24 02.9**	**+4.4**
	comp=Z,72nm,1.2s,mb5.1						
AAK	**Ala-Archa**	**26.30**	**302**	P	**P**	**06 24 01.1**	**+2.6**
	comp=Z,70nm,1.0s,mb5.2,SNR=6.7						
USP	**Ospenovka**	**26.45**	**303**	P	**P**	**06 24 00.5**	**+0.7**
	SNR=24						
USP				P	pP	06 24 00.5	-0.5
	SNR=24						
AML	**Almayashu**	**26.78**	**300**	P	**P**	**06 24 04.5**	**+1.7**
	SNR=19						
AML				P	pP	06 24 04.5	+0.5
	SNR=19						
EKS2	**Erkin-Say**	**26.83**	**302**	P	**P**	**06 24 07.2**	**+4.0**
	SNR=6.2						
EKS2				P	pP	06 24 07.2	+2.8
	SNR=6.2						
EKS2	**Erkin-Say**	**26.83**	**302**	*e*P	**P**	**06 24 04.4**	**+1.2**
	comp=Z,9.4nm,0.9s,mb4.3						
EKS2	**Erkin-Say**	**26.83**	**302**	*e*P	**P**	**06 24 04.4**	**+1.2**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**26.86**	**321**	P	**P**	**06 24 02.3**	**-1.1**
	comp=Z,18nm,1.1s,mb4.5,baz=129,slow=8.2,SNR=73						
KURK				PcP	PcP	06 27 25.2	-0.6
	comp=Z,4.4nm,0.6s,baz=116,slow=1.9,SNR=10						
KURK	**Kurchatov**	**26.86**	**321**	*e*P	**P**	**06 24 03.5**	**+0.1**
KURK				PcP	PcP	06 27 25.2	-0.6
KURK	**Kurchatov**	**26.86**	**321**	*de*P	**P**	**06 24 04.0**	**+0.6**
KURK				pmax	pmax		

comp=Z,29nm,1.0s,mb4.8
KURK Kurchatov 26.86 321 P **P 06 24 03.9 +0.5**
comp=Z,214nm,1.0s,mb5.6,SNR=11
AJM Ajmer 27.16 266 *ex* **P 06 24 08.0 +1.6**
NVS Novosibirsk 27.35 332 *eP* **P 06 24 08.2 +0.4**
MAJO Matsushiro 27.52 72 *eP* **P 06 24 08.3 -1.2**
MAJO Matsushiro 27.52 72 *eP* **P 06 24 08.3 -1.2**
MAT Matsushiro 27.52 72 P **P 06 24 08.2 -1.3**
MJAR Matsushiro Arr 27.52 72 P **P 06 24 09.1 -0.4**
comp=Z,6.2nm,0.7s,mb4.4,baz=273,slow=11,SNR=19
MJAR LR LR 06 36 20.7
comp=Z,108nm,18.0s,MS3.5,baz=270,slow=39
MJAR Matsushiro Arr 27.52 72 P **P 06 24 09.1 -0.4**
MJAR Matsushiro Arr 27.52 72 P **P 06 24 09.1 -0.4**
MJAR pmax pmax
comp=Z,6.0nm,0.7s
MJAR MLR MLR
comp=Z,108nm,18.0s
HABR Khabarovsk 27.69 46 *eP* **P 06 24 09.4 -1.5**
HABR *e**PP pP 06 24 18.9 +6.8
HABR PPP 06 25 03.8
HABR *e* 06 27 26.0
HABR *eS* **S 06 28 49.7 -3.8**
HABR *SS sS 06 29 06.0 +11
HABR pmax pmax
comp=Z,101nm,2.2s,mb5.1
HABR pmax pmax
comp=E,207nm,3.8s
HABR pmax pmax
comp=N,95nm,2.9s
HABR MLR MLR
comp=Z,381nm,20.0s,MS4.0
KKM Kota Kinabalu 28.09 156 *eP* **P 06 24 15.1 +0.3**
comp=Z,28nm,0.8s,mb4.9
HYB Hyderabad 28.22 245 *i* P **P 06 24 15.0 -0.9**
KK31 Karatay Array 29.27 302 *ceP* **P 06 24 25.3 +0.3**
KK31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
KKAR Karatay Array 29.27 302 *eP* **P 06 24 25.4 +0.4**
KKAR Karatay Array 29.27 302 *eP* **P 06 24 25.4 +0.4**
MYLDM Lahad Datu 29.73 152 P **P 06 24 32.2 +2.9**
comp=Z,36nm,1.4s,mb4.9
KBL Kabul 30.13 284 *eP* **P 06 24 34.4 +1.7**
comp=Z,17nm,1.0s,mb4.7
KBL Kabul 30.13 284 *eP* **P 06 24 34.4 +1.6**
KBL pmax pmax
comp=Z,17nm,1.0s,mb4.7
ASAJ Asahikawa 31.44 57 LR LR 06 38 49.0
comp=Z,137nm,18.2s,MS3.7,baz=323,slow=39
DAV Davao City (W) 31.49 138 LR LR 06 39 15.4
comp=Z,210nm,19.8s,MS3.8,baz=319,slow=40
BVA0 Borovoye Array 32.43 320 *i* P **P 06 24 52.1 -0.7**
BVAR Borovoye Array 32.43 320 P **P 06 24 52.7 -0.1**
comp=Z,5.7nm,0.8s,mb4.4,baz=113,slow=12,SNR=16
BVAR PcP PcP 06 27 38.9 -1.1
comp=Z,3.5nm,0.7s,baz=144,slow=3.7,SNR=6.0
BVAR Borovoye Array 32.43 320 P **P 06 24 52.7 -0.1**
BVAR PcP PcP 06 27 38.9 -1.1
BVAR Borovoye Array 32.43 320 P **P 06 24 52.7 -0.1**
BVAR 06 27 38.9
BVAR pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 32.50 320 *eP* **P 06 24 53.7 +0.3**
comp=Z,10.0nm,0.8s,mb4.8
BRVK Borovoye 32.50 320 *c iP* **P 06 24 53.7 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
YAK Yakutsk 33.68 21 *eP* **P 06 25 02.4 -1.2**
YAK pmax pmax
comp=Z,23nm,1.2s,mb5.0
AB31 Akbulak array 37.57 310 *ceP* **P 06 25 37.4 +0.2**
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
ABKAR Akbulak array 37.57 310 *eP* **P 06 25 37.7 +0.5**
comp=Z,2.2nm,0.5s,mb4.1
AKTO Aktyubinsk 38.99 312 P **P 06 25 49.5 +0.3**
comp=Z,4.8nm,0.7s,mb4.4,baz=98,slow=8.3,SNR=14
AKTO PcP PcP 06 27 58.8 -0.7
comp=Z,2.1nm,0.5s,baz=87,slow=6.8,SNR=3.8
AKTO Aktyubinsk 38.99 312 P **P 06 25 49.5 +0.3**
AKTO PcP PcP 06 27 58.8 -0.7
AKTO Aktyubinsk 38.99 312 P **P 06 25 49.5 +0.3**
AKTO 06 27 58.8
AKTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
SVE Sverdlovsk 39.09 322 ⇓ *iP* **P 06 25 51.4 +1.5**
SVE pmax pmax
comp=Z,50nm,1.2s,mb5.1
KAPI Kappang 39.62 157 *eP* **P 06 25 54.1 -0.7**
comp=Z,34nm,0.9s,mb5.1
ARU Arti 40.05 321 *eP* **P 06 25 58.1 +0.2**
comp=Z,24nm,0.9s,mb4.9
ARU Arti 40.05 321 *d iP* **P 06 25 58.5 +0.6**
ARU *e* 06 27 31.3
ARU *e*PPP 06 27 56.9
ARU S **S 06 32 04.9 +0.7**
ARU SS SS 06 34 55.7 -5.3
ARU pmax pmax
comp=Z,48nm,1.2s,mb5.1
ARU Arti 40.05 321 P **P 06 25 58.0 +0.1**
comp=Z,371nm,1.0s,mb6.1,SNR=11
SOKR Solikamsk 41.92 325 ⇓ *iP* **P 06 26 18.6 +5.4**
SOKR pmax pmax
comp=Z,40nm,1.2s,mb4.9
SEY Seymchan 42.61 30 *eP* **P 06 26 19.3 +0.4**
PEA0B Petropavlovsk- 42.71 45 *eP* **P 06 26 19.8 -0.1**
PETK Petropavlovsk- 42.71 45 P **P 06 26 20.1 +0.3**
comp=Z,30nm,0.8s,mb5.1,baz=217,slow=6.1,SNR=26
PETK Petropavlovsk- 42.71 45 P **P 06 26 20.1 +0.3**
PETK Petropavlovsk- 42.71 45 P **P 06 26 20.1 +0.3**
PETK pmax pmax
comp=Z,30nm,0.8s,mb5.1
GNI Garni 48.55 297 *eP* **P 06 27 10.2 +4.0**
GNI pmax pmax
comp=Z,20nm,1.7s
ZEI Tsey 48.73 301 *eP* **P 06 27 07.7 +0.2**
ZEI pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
MIB Mutribah 49.08 283 *eP* **P 06 27 09.5 -0.9**
MIB AMb AMB 06 27 15.3
comp=Z,47nm,1.4s,mb5.3
NAY Al-Naaiem 49.33 283 *eP* **P 06 27 11.3 -1.1**
NAY AMb AMB 06 27 17.2
comp=Z,22nm,0.7s,mb5.3
VRHR Novokhopersk 49.40 312 *eP* **P 06 27 12.0 -0.6**
VRHR pmax pmax
comp=N,2.0nm,0.4s
VRHR pmax pmax
comp=E,7.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
KIV Kislovodsk 49.42 303 *eP* **P 06 27 14.6 +1.8**
KIV pmax pmax
comp=Z,31nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,138nm,16.0s,MS4.0
BILL Bilibino 49.72 26 P **P 06 27 15.0 +0.3**
BILL *e* 06 29 06.8
BILL pmax pmax
comp=Z,11nm,0.8s,mb4.9
KLMR Klimovskoe 50.60 325 *eP* **P 06 27 20.2 -1.3**
KLMR pmax pmax
comp=Z,48nm,1.1s,mb5.3
VSR Storozhevoye 50.94 312 *eP* **P 06 27 23.2 -1.0**
VSR pmax pmax
comp=E,9.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VSR pmax pmax
comp=N,1.0nm,0.2s
MOS Moscow 51.57 318 *eP* **P 06 27 31.0 +2.1**
MOS pmax pmax
comp=Z,68nm,1.0s,mb5.5
FX1 Attu Island--F 52.04 45 LR LR 06 48 58.1
comp=Z,118nm,18.9s,MS3.9,baz=192,slow=35
OBN Obninsk 52.20 317 *eP* **P 06 27 33.7 +0.1**
OBN *e* 06 28 44.0
OBN *e* 06 29 36.0
OBN pmax pmax
comp=Z,51nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.2
ANN Anapa 52.99 304 *eP* **P 06 27 34.6 -5.0**
ANN *e**PP pP 06 27 44.7 +3.8
ANN *e* 06 28 46.1
ANN *eS* **S 06 34 59.9 -10**
ANN pmax pmax
comp=Z,37nm,0.8s,mb5.4
FITZ Fitzroy Crossi 53.82 156 *eP* **P 06 27 45.4 -0.5**
FITZ Fitzroy Crossi 53.82 156 *eP* **P 06 27 45.6 -0.3**
comp=Z,15nm,1.0s,mb4.9
JOF Joensuu 54.50 327 *eP* **P 06 27 50.2 -0.2**
JOF pmax pmax
comp=Z,15nm,0.9s,mb5.0
JOF Joensuu 54.50 327 *ep* **P 06 27 50.2 -0.2**
comp=Z,15nm,0.9s,mb5.0
MBWA Marble Bar 54.95 163 *eP* **P 06 27 53.8 -0.3**
SIM Simferopol' 55.26 305 P **P 06 27 58.7 +2.5**
SIM pmax pmax
comp=Z,22nm,0.6s,mb5.4
KEV Kevo 56.01 336 *eP* **P 06 28 00.9 -0.3**
KEV Kevo 56.01 336 *ep* **P 06 28 00.9 -0.3**
ARCES ARCESS Array B 56.54 336 P **P 06 28 04.7 -0.3**
comp=Z,8.7nm,0.9s,mb4.8,baz=90,slow=6.1,SNR=7.3
ARCES ARCESS Array B 56.54 336 P **P 06 28 04.7 -0.3**
ARCES ARCESS Array B 56.54 336 P **P 06 28 04.7 -0.3**
ARCES pmax pmax
comp=Z,9.0nm,0.9s
KAF Kangasniemi 56.89 327 *eP* **P 06 28 07.0 -0.5**
KAF Kangasniemi 56.89 327 *ep* **P 06 28 07.0 -0.5**
BR131 Keskin Array S 56.94 299 *eP* **P 06 28 08.1 -0.2**
comp=Z,3.9nm,0.7s,mb4.5
BRTR Keskin Array B 56.94 299 P **P 06 28 08.1 -0.2**
comp=Z,2.2nm,0.8s,mb4.3,baz=94,slow=7.0,SNR=14
BRTR LR LR 06 53 36.2
comp=Z,54nm,19.1s,MS3.7,baz=280,slow=37
BRTR Keskin Array B 56.94 299 P **P 06 28 08.1 -0.2**
BRTR Keskin Array B 56.94 299 P **P 06 28 08.1 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,54nm,19.1s
FINES FINESS Array B 57.08 326 P **P 06 28 08.6 -0.3**
comp=Z,6.4nm,0.7s,mb4.8,baz=89,slow=7.3,SNR=22
FINES FINESS Array B 57.08 326 P **P 06 28 08.6 -0.3**
FINES FINESS Array B 57.08 326 P **P 06 28 08.6 -0.3**
FINES pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 57.23 313 P **P 06 28 09.6 -0.5**
comp=Z,3.5nm,0.5s,mb4.7,baz=68,slow=6.5,SNR=9.9
AKASG Malin Array Be 57.23 313 P **P 06 28 09.6 -0.5**
AKASG Malin Array Be 57.23 313 P **P 06 28 09.6 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 57.23 313 *eP* **P 06 28 09.1 -1.1**
AKBB Malin Array Si 57.23 313 *eP* **P 06 28 09.1 -1.0**
KIEV Kiev 57.24 313 *eP* **P 06 28 09.5 -0.7**
comp=Z,7.8nm,0.9s,mb4.7
KIEV Kiev 57.24 313 *eP* **P 06 28 09.5 -0.7**
KIEV pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
PMG Port Moresby 57.68 129 *ceP* **P 06 28 14.4 +0.6**
PMG pmax pmax
comp=Z,19nm,1.0s
NACGM Naroch 57.81 318 *e* **P 06 28 11.0 -3.2**
GAMB Gambell 58.58 31 *eP* **P 06 28 19.4 0.0**
comp=Z,16nm,1.1s,mb5.0
COEN Coen 58.65 136 *eP* **P 06 28 20.5 0.0**
COEN Coen 58.65 136 *eP* **P 06 28 20.6 +0.1**
comp=Z,211nm,1.0s,mb6.1
WRAB Tennant Creek 58.98 148 *eP* **P 06 28 22.6 -0.1**
comp=Z,37nm,0.8s,mb5.5
WRAB Tennant Creek 58.98 148 *eP* **P 06 28 22.6 -0.1**
WRAB pmax pmax
comp=Z,37nm,0.8s,mb5.5
WRAB Tennant Creek 58.98 148 P **P 06 28 22.0 -0.7**
comp=Z,315nm,0.7s,SNR=21
WRA Warramunga Arr 58.98 148 P **P 06 28 22.6 -0.1**
comp=Z,22nm,0.6s,mb5.4,baz=342,slow=7.6,SNR=146
WRA Warramunga Arr 58.98 148 P **P 06 28 22.6 -0.1**
WRA Warramunga Arr 58.98 148 P **P 06 28 22.7 0.0**
WRA pmax pmax
comp=Z,22nm,0.6s
WB2 Warramunga Arr 58.99 148 *eP* **P 06 28 22.6 -0.1**
TNA Tin City 59.84 29 *eP* **P 06 28 28.0 -0.1**
comp=Z,7.7nm,0.9s,mb4.7
LVV L'vov 60.67 313 *eP* **P 06 28 33.7 -0.4**
KWP Kalwaria Pacla 61.55 313 *eP* **P 06 28 40.0 -0.1**
comp=Z,36nm,1.0s,mb5.5
KWP Kalwaria Pacla 61.55 313 *eP* **P 06 28 40.0 -0.1**
KWP pmax pmax
comp=Z,37nm,1.0s,mb5.5
AS31 Alice Springs 62.06 150 *eP* **P 06 28 43.7 0.0**
ASAR Alice Springs 62.06 150 P **P 06 28 43.8 +0.1**
comp=Z,14nm,0.7s,mb5.2,baz=332,slow=6.7,SNR=189
ASAR Alice Springs 62.06 150 P **P 06 28 43.8 +0.1**
ASAR Alice Springs 62.06 150 P **P 06 28 43.8 +0.1**
ASAR pmax pmax
comp=Z,14nm,0.7s
UZH Uzhgorod 62.12 312 *eP* **P 06 28 46.8 +2.9**
CRVS Cervenica-Dubn 62.55 312 *eP* **P 06 28 53.1 +6.3**
CRVS Cervenica-Dubn 62.55 312 *epP* pP 06 28 53.1 +5.0
OJC Ojcow 63.16 314 *eP* **P 06 28 50.3 -0.5**
OJC Ojcow 63.16 314 *eP* **P 06 28 50.3 -0.5**
KECS Kecovo 63.30 312 *eP* **P 06 28 51.0 -0.8**
KECS Kecovo 63.30 312 *eP* **P 06 28 51.0 -0.8**
NB2 NORSAR Subarra 64.14 327 P **P 06 28 55.6 -1.5**
comp=Z,3.8nm,0.6s,mb4.6,baz=70,slow=6.9
NOA NORSAR Array B 64.14 327 P **P 06 28 55.8 -1.3**
comp=Z,8.4nm,0.8s,mb4.8,baz=71,slow=6.6,SNR=16
NOA NORSAR Array B 64.14 327 P **P 06 28 55.8 -1.2**
NOA NORSAR Array B 64.14 327 P **P 06 28 55.8 -1.3**
NOA pmax pmax
comp=Z,8.0nm,0.8s
OKC Ostrava-Krasne 64.29 314 *eP* **P 06 29 00.9 +2.6**
OKC Ostrava-Krasne 64.29 314 *eP* **P 06 29 00.9 +2.6**
VYHS Vyhne 64.33 313 *eP* **P 06 28 58.5 -0.1**
VYHS pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
VYHS Vyhne 64.33 313 *eP* **P 06 28 58.5 -0.1**
MORC Moravsky Berou 64.68 314 *eP* **P 06 29 00.9 +0.2**
comp=Z,7.7nm,1.1s,mb4.7
MORC Moravsky Berou 64.68 314 *eP* **P 06 29 01.0 +0.2**
MORC pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
DPC Dobruska-Polom 65.21 315 *eP* **P 06 29 03.3 -0.9**
DPC Dobruska-Polom 65.21 315 *eP* **P 06 29 03.3 -0.9**
DPC *epP* pP 06 29 07.4 +1.9
CTA Charters Tower 65.27 137 *eP* **P 06 29 04.3 -0.7**
CTAO Charters Tower 65.27 137 *eP* **P 06 29 04.9 0.0**
comp=Z,30nm,1.5s,mb5.1
CTAO Charters Tower 65.27 137 *eP* **P 06 29 04.9 -0.1**
CTAO pmax pmax
comp=Z,30nm,1.5s,mb5.1
UPC Upice 65.33 315 *eP* **P 06 29 05.6 +0.5**
UPC *e* 06 29 10.8
UPC Upice 65.33 315 *eP* **P 06 29 05.6 +0.5**
UPC *epP* pP 06 29 10.8 +4.4
COLD Coldfoot 66.02 24 *eP* **P 06 29 09.0 -0.2**
comp=Z,6.4nm,0.7s,mb4.8
TREC Trest 66.10 314 *eP* **P 06 29 10.3 +0.3**
TREC Trest 66.10 314 *eP* **P 06 29 10.3 +0.3**
PVCC Panska Ves 66.18 316 *eP* **P 06 29 07.7 -2.8**
PVCC *e* 06 29 14.2
PVCC Panska Ves 66.18 316 *eP* **P 06 29 07.7 -2.8**
PVCC *epP* pP 06 29 14.2 +2.4
FORT Forrest 66.38 159 *eP* **P 06 29 12.0 +0.1**
PRU Pruhonice 66.40 315 *eP* **P 06 29 11.8 -0.2**
PRU Pruhonice 66.40 315 *eP* **P 06 29 11.8 -0.2**
BRG Berggiesshubel 66.42 316 *eP* **P 06 29 11.7 -0.4**
comp=Z,8.8nm,1.1s,mb4.7
BRG Berggiesshubel 66.42 316 *eP* **P 06 29 11.7 -0.4**
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
HNR Honiara 66.72 119 LR LR 06 56 04.1
comp=Z,53nm,18.5s,MS3.8,baz=49,slow=34
CLL Collm 66.80 317 *eP* **P 06 29 14.0 -0.5**
CLL Collm 66.80 317 *eP* **P 06 29 14.0 -0.5**
PPLA Purkeypile 67.19 29 *eP* **P 06 29 17.4 +0.6**
comp=Z,22nm,0.6s,mb5.4
KHC Kasperske Hory 67.32 315 *eP* **P 06 29 18.9 +1.1**
KHC Kasperske Hory 67.32 315 *eP* **P 06 29 18.9 +1.1**
GERES GERESS Array B 67.36 314 P **P 06 29 17.5 -0.5**
comp=Z,0.9nm,0.6s,mb4.0,baz=33,slow=5.1,SNR=5.2
GERES GERESS Array B 67.36 314 P **P 06 29 17.5 -0.5**
GERES GERESS Array B 67.36 314 P **P 06 29 17.5 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.6s
TRF Thorofare Moun 67.71 28 *eP* **P 06 29 20.2 +0.2**
comp=Z,8.7nm,0.8s,mb4.8
COLA College 67.97 26 *eP* **P 06 29 21.4 -0.2**
comp=Z,50nm,1.1s,mb5.5
COLA College 67.97 26 *eP* **P 06 29 21.4 -0.2**
COLA pmax pmax
comp=Z,50nm,1.1s,mb5.5
RSO Redoubt South 68.04 31 *eP* **P 06 29 22.7 +0.5**
comp=Z,53nm,0.9s,mb5.6
MCK McKinley 68.11 27 *eP* **P 06 29 22.3 -0.3**
comp=Z,10nm,0.7s,mb5.0
MCK McKinley 68.11 27 *eP* **P 06 29 22.3 -0.2**
MCK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ILAR Eielson Array 68.38 26 P **P 06 29 23.0 -1.2**
comp=Z,3.0nm,0.6s,mb4.5,baz=293,slow=3.9,SNR=46
ILAR LR LR 07 01 58.8
comp=Z,94nm,18.3s,MS4.1,baz=315,slow=38
ILAR Eielson Array 68.38 26 P **P 06 29 23.0 -1.2**
ILAR Eielson Array 68.38 26 P **P 06 29 23.0 -1.2**
ILAR pmax pmax
comp=Z,3.0nm,0.6s
ILAR MLR MLR
comp=Z,94nm,18.3s
GRF Grafenberg Arr 68.49 316 *eP* **P 06 29 28.6 +3.4**
RC01 Rabbit Creek A 69.06 30 *eP* **P 06 29 28.3 -0.2**
PMR Palmer 69.07 30 *eP* **P 06 29 27.9 -0.6**
comp=Z,19nm,0.6s,mb5.2
PMR Palmer 69.07 30 *eP* **P 06 29 27.9 -0.7**
PMR pmax pmax
comp=Z,19nm,0.6s,mb5.2
WTTA Wattenberg 69.27 313 ⇑ *iP* **P 06 29 29.7 -0.4**
comp=Z,9.3nm,1.2s,mb4.6
WTTA Wattenberg 69.27 313 ⇑ *iP* **P 06 29 29.7 -0.4**
comp=Z,9.3nm,1.2s,mb4.6
WTTA Wattenberg 69.27 313 ⇑ *iP* **P 06 29 29.7 -0.4**
WTTA pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
SML Sawmill 69.29 29 *eP* **P 06 29 29.7 -0.2**
comp=Z,8.4nm,0.8s,mb4.7
SML Sawmill 69.29 29 *eP* **P 06 29 29.7 -0.2**
SML pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KDAK Kodiak Island 69.35 34 *i* P **P 06 29 30.1 -0.3**
FETA Feichten 69.93 313 ⇑ *isP* **P 06 29 36.7 +2.5**
comp=Z,18nm,1.9s,mb4.7
FETA Feichten 69.93 313 ⇑ *iP* **P 06 29 36.7 +2.5**
comp=Z,18nm,1.9s,mb4.7
DOT Dot Lake 70.02 26 *eP* **P 06 29 33.5 -0.9**
comp=Z,4.2nm,0.7s,mb4.5
EGAK Eagle 70.45 25 *eP* **P 06 29 36.5 -0.5**
comp=Z,7.2nm,0.8s,mb4.7
TUE Stuetta 71.03 313 *eP* **P 06 29 39.7 -1.2**
comp=Z,9.7nm,1.0s,mb4.7
BMRM Bremner River 71.26 29 *eP* **P 06 29 42.5 +0.5**
comp=Z,45nm,0.8s,mb5.5
CDF Champ du Feu 71.39 316 *eP* **P 06 29 42.3 -0.7**
CDF Champ du Feu 71.39 316 *eP* **P 06 29 42.3 -0.7**
CDF Champ du Feu 71.39 316 *eP* **P 06 29 42.3 -0.7**
KMBO Kilima Mbogo 72.05 257 *eP* **P 06 29 47.9 +0.3**
comp=Z,39nm,1.9s,mb5.0
KMBO Kilima Mbogo 72.05 257 *eP* **P 06 29 47.9 +0.3**
KMBO pmax pmax
comp=Z,39nm,1.9s
EIDS Eidsvold 72.16 137 *eP* **P 06 29 48.0 +0.2**
BAIF Baives 72.37 318 *eP* **P 06 29 48.5 -0.4**
BAIF Baives 72.37 318 *eP* **P 06 29 48.5 -0.4**
BAIF Baives 72.37 318 *eP* **P 06 29 48.5 -0.4**
SUMG Summit 72.44 349 *i* P **P 06 29 49.3 +0.3**
comp=Z,5.8nm,0.9s,mb4.5
RES Resolute Bay 72.47 5 *eP* **P 06 29 49.1 0.0**
comp=Z,9.5nm,1.0s,mb4.7
RES Resolute Bay 72.47 5 *eP* **P 06 29 49.1 0.0**
RES pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
STKA Stephens Creek 72.53 148 P **P 06 29 49.6 -0.3**
comp=Z,16nm,0.7s,mb5.0,baz=328,slow=6.1,SNR=24
STKA Stephens Creek 72.53 148 *eP* **P 06 29 49.5 -0.4**
STKA Stephens Creek 72.53 148 P **P 06 29 49.6 -0.3**
STKA Stephens Creek 72.53 148 P **P 06 29 49.7 -0.2**
STKA pmax pmax
comp=Z,16nm,0.7s
CABF La Chapelle 72.95 315 *eP* **P 06 29 52.5 +0.1**
CABF La Chapelle 72.95 315 *eP* **P 06 29 52.5 +0.1**
CABF La Chapelle 72.95 315 *eP* **P 06 29 52.5 +0.1**
PGF Pioggiola 73.07 310 *eP* **P 06 29 52.9 -0.3**
comp=Z,120nm,1.2s,mb5.4
PGF Pioggiola 73.07 310 *eP* **P 06 29 52.9 -0.3**
comp=Z,120nm,1.2s,mb5.7
PGF Pioggiola 73.07 310 *eP* **P 06 29 52.9 -0.3**
PGF pmax pmax
comp=Z,120nm,1.2s,mb5.7
LPG La Plagne 73.08 313 *eP* **P 06 29 53.5 +0.3**
comp=Z,27nm,0.7s,mb5.0
LPG La Plagne 73.08 313 *eP* **P 06 29 53.5 +0.3**
comp=Z,27nm,0.7s,mb5.3
LPG La Plagne 73.08 313 *eP* **P 06 29 53.5 +0.3**
LPG pmax pmax
comp=Z,27nm,0.7s,mb5.3
LPL La Plagne 73.09 313 *eP* **P 06 29 53.3 0.0**
comp=Z,19nm,0.7s,mb4.9
LPL La Plagne 73.09 313 *eP* **P 06 29 53.3 0.0**
comp=Z,19nm,0.6s,mb5.2
LPL La Plagne 73.09 313 *eP* **P 06 29 53.3 0.0**
LPL pmax pmax
comp=Z,19nm,0.6s,mb5.2
MBDF Montbardon 73.45 313 *eP* **P 06 29 54.7 -0.7**
MBDF Montbardon 73.45 313 *eP* **P 06 29 54.7 -0.7**
MBDF Montbardon 73.45 313 *eP* **P 06 29 54.7 -0.7**
SBF Sospel 73.45 312 *eP* **P 06 29 54.7 -0.7**
comp=Z,65nm,1.0s,mb5.2
SBF Sospel 73.45 312 *eP* **P 06 29 54.7 -0.7**
comp=Z,65nm,1.0s,mb5.5
SBF Sospel 73.45 312 *eP* **P 06 29 54.7 -0.7**
SBF pmax pmax
comp=Z,65nm,1.0s,mb5.5
ORIF Oris-en-Rattie 73.91 313 *eP* **P 06 29 57.7 -0.4**
comp=Z,24nm,0.9s,mb4.8
ORIF *eR*
comp=Z,102nm,21.2s
ORIF Oris-en-Rattie 73.91 313 *eP* **P 06 29 57.7 -0.4**
comp=Z,24nm,0.9s,mb5.1
ORIF Oris-en-Rattie 73.91 313 *eP* **P 06 29 57.7 -0.4**
ORIF pmax pmax
comp=Z,24nm,0.9s,mb5.1
CMSA Cobar Meteorol 74.17 145 *eP* **P 06 30 00.1 +0.5**
SSF Saint Saulge 74.27 316 *eP* **P 06 29 59.2 -0.9**
comp=Z,16nm,1.1s,mb4.6
SSF Saint Saulge 74.27 316 *eP* **P 06 29 59.2 -0.9**
comp=Z,16nm,1.1s,mb4.9
SSF Saint Saulge 74.27 316 *eP* **P 06 29 59.2 -0.9**
SSF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SMF Signal de Mont 74.28 315 *eP* **P 06 29 59.4 -0.8**
comp=Z,27nm,1.0s,mb4.8
SMF Signal de Mont 74.28 315 *eP* **P 06 29 59.4 -0.8**
comp=Z,27nm,1.0s,mb5.1
SMF Signal de Mont 74.28 315 *eP* **P 06 29 59.4 -0.8**
SMF pmax pmax
comp=Z,27nm,1.0s,mb5.1
LMR La Mourre 74.29 311 *eP* **P 06 29 59.6 -0.8**
LMR La Mourre 74.29 311 *eP* **P 06 29 59.6 -0.8**
LMR La Mourre 74.29 311 *eP* **P 06 29 59.6 -0.8**
AVF Avril sur Loir 74.50 316 *eP* **P 06 30 00.6 -0.9**
comp=Z,24nm,1.1s,mb4.7
AVF Avril sur Loir 74.50 316 *eP* **P 06 30 00.6 -0.9**
comp=Z,24nm,1.1s,mb5.0
AVF Avril sur Loir 74.50 316 *eP* **P 06 30 00.6 -0.9**
AVF pmax pmax
comp=Z,24nm,1.1s,mb5.0
VIVF Saint-Julien-l 74.68 314 *eP* **P 06 30 01.7 -0.9**
VIVF Saint-Julien-l 74.68 314 *eP* **P 06 30 01.7 -0.9**
VIVF Saint-Julien-l 74.68 314 *eP* **P 06 30 01.7 -0.9**
LDF La Druitiere 75.55 319 *eP* **P 06 30 06.7 -0.8**
LDF La Druitiere 75.55 319 *eP* **P 06 30 06.7 -0.8**
LDF La Druitiere 75.55 319 *eP* **P 06 30 06.7 -0.8**
SKAG Skagway 75.87 27 *eP* **P 06 30 09.9 +0.8**
comp=Z,40nm,0.9s,mb5.3
GRR Gorron 76.08 319 *eP* **P 06 30 09.8 -0.7**
GRR Gorron 76.08 319 *eP* **P 06 30 09.8 -0.7**
GRR Gorron 76.08 319 *eP* **P 06 30 09.8 -0.7**
CAF Calviac 76.23 315 *eP* **P 06 30 10.6 -0.9**
CAF Calviac 76.23 315 *eP* **P 06 30 10.6 -0.9**
CAF Calviac 76.23 315 *eP* **P 06 30 10.6 -0.9**
RJF Les Rejaudoux 76.36 315 *eP* **P 06 30 11.2 -1.0**
RJF *eR*

comp=Z,114nm,18.2s
RJF Les Rejaudoux 76.36 315 *e*P **P 06 30 11.2 -1.0**
RJF Les Rejaudoux 76.36 315 *e*P **P 06 30 11.2 -1.0**
YKA Yellowknife Ar 80.29 18 P **P 06 30 33.4 -0.2**
comp=Z,16nm,0.5s,mb5.2,baz=328,slow=5.1,SNR=276
YKA PKKPbc PKKPbc 06 49 13.4 -3.2
comp=Z,0.8nm,0.6s,baz=148,slow=2.2,SNR=12
YKA LR LR 07 06 17.3
comp=Z,8.4nm,19.6s,MS3.1,baz=340,slow=36
YKA Yellowknife Ar 80.29 18 P **P 06 30 33.4 -0.2**
YKA PKKPbc PKKPbc 06 49 13.4 -3.2
YKA Yellowknife Ar 80.29 18 P **P 06 30 33.4 -0.2**
YKA 06 49 13.4
YKA pmax pmax
comp=Z,16nm,0.5s
YKA MLR MLR
comp=Z,8.0nm,19.6s
ESDC Sonseca Array 82.87 313 P **P 06 30 47.7 0.0**
comp=Z,0.1nm,0.3s,baz=37,slow=5.0,SNR=3.9
ESDC Sonseca Array 82.87 313 P **P 06 30 47.7 0.0**
FFC Flin Flon 90.23 15 *e*P **P 06 31 23.1 -0.4**
comp=Z,16nm,0.8s,mb5.4
FFC Flin Flon 90.23 15 *e*P **P 06 31 23.1 -0.4**
FFC pmax pmax
comp=Z,16nm,0.8s,mb5.4
FFC Flin Flon 90.23 15 P **P 06 31 23.1 -0.4**
comp=Z,134nm,0.8s,SNR=9.5
ETW Entiat 90.59 29 *e*P **P 06 31 26.2 +0.8**
comp=Z,24nm,1.2s,mb5.4
BSMT Bassoo Peak 92.54 26 *e*P **P 06 31 35.6 +1.3**
comp=Z,3.9nm,1.0s,mb4.8
SCHQ Schefferville 92.95 355 P **P 06 31 35.5 -0.6**
comp=Z,6.7nm,0.9s,mb5.1,baz=48,slow=4.5,SNR=7.9
SCHQ Schefferville 92.95 355 P **P 06 31 35.5 -0.6**
TORD Torodi Ar. Bea 94.12 288 P **P 06 31 41.3 -0.9**
comp=Z,0.5nm,0.6s,mb4.1,baz=41,slow=4.0,SNR=5.9
TORD Torodi Ar. Bea 94.12 288 P **P 06 31 41.3 -0.9**
EGMT Eagleton 94.14 23 *e*P **P 06 31 41.9 +0.2**
comp=Z,7.3nm,1.1s,mb5.0
HRY Holter Researc 94.57 25 *e*P **P 06 31 44.5 +0.8**
comp=Z,2.6nm,0.8s,mb4.7
ULM Lac du Bonnet 95.73 13 P **P 06 31 47.5 -1.5**
comp=Z,3.2nm,0.8s,mb4.8,baz=1.6,slow=3.2,SNR=5.7
ULM Lac du Bonnet 95.73 13 P **P 06 31 47.5 -1.5**
ULM Lac du Bonnet 95.73 13 P **P 06 31 47.5 -1.4**
ULM pmax pmax
comp=Z,3.0nm,0.8s
RSSD Black Hills 99.42 21 *e*P **P 06 32 06.6 +0.9**
comp=Z,2.4nm,0.9s,mb4.7
RSSD Black Hills 99.42 21 *e*P **P 06 32 06.6 +0.9**
RSSD pmax pmax
comp=Z,2.0nm,0.9s,mb4.7
SYO Syowa Base 111.70 201⇑ *e*X 06 33 09.6
CNNC Cliffs of the 112.76 3 *e*PKPdf PKiKP 06 36 60.0 -0.1
TXAR Lajitas Array 112.88 27 PKiKP PKiKP 06 37 00.0 -0.4
comp=Z,0.3nm,0.7s,baz=181,slow=1.2,SNR=4.2
TXAR PP PP 06 37 48.3 +1.0
comp=Z,1.1nm,1.1s,baz=338,slow=5.6,SNR=5.0
TXAR Lajitas Array 112.88 27 PKiKP PKiKP 06 37 00.0 -0.4
TXAR PP PP 06 37 48.3 +1.0
TXAR Lajitas Array 112.88 27 *i* PKIKP PKiKP 06 37 00.0 -0.5
TXAR 06 37 48.3
TXAR pmax pmax
comp=Z,1.0nm,1.1s
QSPA South Pole Qui 122.07 180 *e*PKPdf PKPdf 06 37 15.9 -0.5
VNA2 Neumayer--Watz 127.51 203 *e* PKPdf 06 37 28.3 +1.2
baz=78,slow=1.6
VNA1 Neumayer--Stat 127.84 203 *e* PKPdf 06 37 28.9 +1.2
ROSC El Rosal 143.05 359 *e*PKPdf PKPdf 06 37 55.0 -2.8
OTAV Otavalo 147.46 7 *e*PKPdf PKPdf 06 38 08.3 +3.0
SAML Samuel 154.37 332 *e*PKPdf PKPdf 06 38 15.8 -0.1
SAML *e*PKPbc PKPbc 06 38 23.4 -0.9
SAML *e*PKPab PKPab 06 38 37.5 -0.6
SIV San Ignacio 159.50 319 PKP PKPdf 06 38 21.2 -1.1
comp=Z,1.1nm,0.8s,baz=146,slow=2.9,SNR=4.7
SIV PKPab PKPab 06 38 59.8 -0.5
comp=Z,1.0nm,0.7s,baz=1.9,slow=3.1,SNR=3.2
SIV San Ignacio 159.50 319 PKP PKPdf 06 38 21.2 -1.1
SIV PKPab PKPab 06 38 59.8 -0.5
LPAZ La Paz 162.94 337 PKP PKPdf 06 38 26.6 +0.5
comp=Z,1.4nm,0.8s,baz=5.4,slow=5.2,SNR=4.5
LPAZ La Paz 162.94 337 PKP PKPdf 06 38 26.6 +0.5
LPAZ La Paz 162.94 337 PKIKP PKPdf 06 38 26.6 +0.6
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
CFAA Coronel Fontan 174.34 275 PKP PKPdf 06 38 32.6 -0.5
comp=Z,0.2nm,0.9s,baz=9.9,slow=1.9,SNR=4.4
CFAA Coronel Fontan 174.34 275 PKP PKPdf 06 38 32.6 -0.5

*ISK **29** 06:19:06.0,37°.61N×35°.68E,h12km,MD2.5*
*ISCJB **29** 06:19:08.3±0.6,37°.50N±0°.04×35°.73E±0°.04,h10km,Error ellipse: s-maj=6.1km s-min=4.6km az=177.7*
*CSEM **29** 06:19:08.2±0.3,37°.44N×35°.73E,h15km,MD2.5,Error ellipse: s-maj=8.9km s-min=7.0km az=175.0*
ISC 29 06:19:08.6±0.6,37°.50N±0°.05×35°.74E±0°.05,h13km±6km, n10,σ0°99/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.07**	**104**	*e*PG	**Pg**	**06 19 10.7**	**-0.6**
KOZT				*e*SG	**Sg**	**06 19 13.4**	**+0.2**
CEYT	**Ceyhan**	**0.49**	**179**	*e*PG	**Pg**	**06 19 17.6**	**-0.6**
CEYT				*e*SG	**Sg**	**06 19 27.0**	**+2.3**
CEYT	**Ceyhan**	**0.49**	**179**	*e*Pg	**Pg**	**06 19 17.6**	**-0.6**
GULE	**Gulek**	**0.79**	**255**	*i* P	**Pg**	**06 19 22.9**	**-1.1**
GULE				*i* S	**Sg**	**06 19 35.1**	**+0.8**
GULE	**Gulek**	**0.79**	**255**	*i* P	**Pg**	**06 19 22.9**	**-1.0**
GULE				*i* S	**Sg**	**06 19 35.1**	**+0.8**
KMRS	**Kahramanmaras**	**0.93**	**89**	*e*PG	**Pg**	**06 19 26.1**	**-0.4**
KMRS				*e*SG	**Sg**	**06 19 38.8**	**+0.2**
MERS	**Mersin**	**1.16**	**237**	*e*PN	**Pn**	**06 19 28.4**	**-2.0**
MERS				*e*SN	**Sn**	**06 19 46.0**	**0.0**
MERS	**Mersin**	**1.16**	**237**	*e*Pn	**Pn**	**06 19 28.4**	**-2.0**
MERS				*e*Sn	**Sn**	**06 19 46.0**	**0.0**
AVNT	**Avonos**	**1.46**	**332**	*i* P	**Pn**	**06 19 35.4**	**+0.8**
AVNT	**Avonos**	**1.46**	**332**	*i* P	**Pn**	**06 19 35.4**	**+0.9**
AVNT				*i* S	**Sn**	**06 19 54.2**	**+0.8**

*ISK **29** 06:27:59.7,40°.30N×25°.88E,h10km,MD2.7*
*DDA **29** 06:27:59.6,40°.36N×25°.85E,h7km±2km,Md2.8*
*ISCJB **29** 06:28:00.2±1.1,40°.33N±0°.03×25°.88E±0°.08,h10km,Error ellipse: s-maj=9.1km s-min=4.0km az=10.9*
*CSEM **29** 06:28:00.4±0.5,40°.31N×25°.88E,h12km,MD2.7,Error ellipse: s-maj=9.0km s-min=4.5km az=93.0*
ISC 29 06:28:00.2±1.3,40°.33N±0°.03×25°.83E±0°.10,h8km±7km, n23,σ0°83/36,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**31**	*e*PG	**Pg**	**06 28 09.7**	**+0.3**
ENEZ				*e*SG	**Sg**	**06 28 17.0**	**+1.4**
ENEZ	**Enez**	**0.47**	**31**	*e*Pg	**Pg**	**06 28 09.7**	**+0.3**
ENEZ				*e*Sg	**Sg**	**06 28 17.0**	**+1.4**
GELI	**Tayfur-Gelibol**	**0.49**	**82**	*e*PG	**Pg**	**06 28 09.3**	**-0.5**
GELI				*e*SG	**Sg**	**06 28 16.6**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.49**	**82**	*e*Pg	**Pg**	**06 28 09.3**	**-0.5**
GELI				*e*Sg	**Sg**	**06 28 16.7**	**+0.4**
BOZC	**Bozcaada**	**0.52**	**161**	*i* P	**Pg**	**06 28 10.0**	**-0.2**
BOZC				*i* S	**Sg**	**06 28 18.3**	**+1.4**
ERIK	**Erikli-Kesan**	**0.62**	**56**	*e*PG	**Pg**	**06 28 12.3**	**+0.1**
ERIK				*e*SG	**Sg**	**06 28 20.9**	**+0.6**
ERIK	**Erikli-Kesan**	**0.62**	**56**	*e*Pg	**Pg**	**06 28 12.3**	**+0.1**
ERIK				*e*Sg	**Sg**	**06 28 20.9**	**+0.6**
EZN	**Ezine**	**0.63**	**143**	*e*PG	**Pg**	**06 28 11.7**	**-0.6**
EZN				*e*SG	**Sg**	**06 28 20.0**	**-0.6**
EZN	**Ezine**	**0.63**	**143**	*e*Pg	**Pg**	**06 28 11.7**	**-0.6**
EZN				*e*Sg	**Sg**	**06 28 20.0**	**-0.5**
LPK	**Lapseki**	**0.71**	**86**	*e*PG	**Pg**	**06 28 13.2**	**-0.6**
LPK	**Lapseki**	**0.71**	**86**	*e*Pg	**Pg**	**06 28 13.2**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.09**	**70**	*e*PG	**Pg**	**06 28 20.5**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.09**	**70**	*e*Pg	**Pg**	**06 28 20.5**	**-0.6**
SART	**Tekirdag**	**1.09**	**70**	*i* P	**Pg**	**06 28 19.1**	**-2.0**
SART				*i* S	**Sg**	**06 28 35.4**	**+0.2**
SART	**Tekirdag**	**1.09**	**70**	*i* P	**Pg**	**06 28 19.1**	**-2.0**
SART				*i* S	**Sg**	**06 28 35.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.12**	**86**	*e*PN	**Pg**	**06 28 21.1**	**-0.6**
KRBG	**Karabiga-Canak**	**1.12**	**86**	*e*Pn	**Pg**	**06 28 21.1**	**-0.6**
AYVA	**Ayvalik**	**1.22**	**147**	*i* P	**Pn**	**06 28 23.1**	**-0.3**
AYVA				*i* S	**Sb**	**06 28 40.9**	**+1.7**
AYVA	**Ayvalik**	**1.22**	**147**	*i* P	**Pn**	**06 28 23.1**	**-0.4**
AYVA				*i* S	**Sb**	**06 28 40.9**	**+1.7**
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*PN	**Pn**	**06 28 26.2**	**-0.5**
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*Pn	**Pn**	**06 28 26.2**	**-0.5**
EDRB	**Edirne**	**1.67**	**24**	*e*PN	**Pn**	**06 28 29.9**	**+0.2**
EDRB	**Edirne**	**1.67**	**24**	*e*Pn	**Pn**	**06 28 29.9**	**+0.2**

*ISCJB **29** 06:34:08.5±1.0,48°.41N±0°.09×154°.3E±0°.1,h79km±8km, mb4.0/20,Error ellipse: s-maj=19.4km s-min=6.6km az=45.0*
*MOS **29** 06:34:08.6±0.9,48°.43N×154°.30E,h81km,mb4.0/10,Error ellipse: s-maj=18.0km s-min=9.3km az=64.7*
*IDC **29** 06:34:09.4±2.5,48°.36N×154°.33E,h74km±22km,mb3.7/16, mb1 3.9/20,mb1mx3.8/28,mbtmp3.7/20,MS3.4/1, Ms1 3.4/1,ms1mx2.2/27,Error ellipse: s-maj=21.1km s-min=12.4km az=155.0*
*NEIC **29** 06:34:10.6±1.0,48°.38N×154°.29E,h84km±8km,mb4.3/5, Error ellipse: s-maj=16.5km s-min=7.2km az=138.0*
ISC 29 06:34:09.6±0.9,48°.39N±0°.09×154°.3E±0°.1,h72km±7km, n77,σ0°95/77,mb4.0/20,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.58**	**27**	*e*PN	**Pn**	**06 34 48.5**	**-0.6**
SKR				*e*S	**Sn**	**06 35 18.1**	**-1.3**
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,250nm,1.0s
SKR smax
comp=E,150nm,0.5s
SKR smax
comp=N,450nm,1.0s
PEA0B Petropavlovsk- 5.20 23 *e*Pn **Pn 06 35 25.4 +0.8**
PETK Petropavlovsk- 5.20 23 P **Pn 06 35 25.1 +0.5**
comp=N,2.6nm,0.3s,baz=184,slow=13,SNR=26
PETK S **Sn 06 36 36.0 +13**
baz=244,slow=19,SNR=2.2
PETK Petropavlovsk- 5.20 23 P **Pn 06 35 25.1 +0.5**
PETK S **Sn 06 36 36.0 +13**
PETK Petropavlovsk- 5.20 23 *e*PN **Pn 06 35 24.4 -0.2**
PETK pmax pmax
comp=Z,3.0nm,0.3s
ASAJ Asahikawa 9.16 247 P **Pn 06 36 19.8 +0.9**
comp=Z,1.6nm,0.3s,baz=81,slow=16,SNR=9.2
ASAJ Asahikawa 9.16 247 P **Pn 06 36 19.8 +0.9**
ASAJ Asahikawa 9.16 247 PN **Pn 06 36 19.8 +1.0**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ERM Erimo 10.12 235 *e*Pn **Pn 06 36 34.9 +3.0**
ERM *e*Sn **Sn 06 38 21.8 -1.7**
ERM Erimo 10.12 235 *e*PN **Pn 06 36 34.9 +3.1**
USRK Ussuriysk Arra 15.96 263 P **Pn 06 37 50.6 +1.2**
comp=Z,0.2nm,0.3s,baz=56,slow=13,SNR=5.3
MJA0 Matsu Arr-Jizo 16.70 231 *e*P **Pn 06 37 59.6 +0.8**
MJAR Matsushiro Arr 16.72 231 P **Pn 06 37 57.8 -1.2**
comp=Z,0.4nm,0.3s,baz=32,slow=9.5,SNR=5.5
MJAR Matsushiro Arr 16.72 231 P **Pn 06 37 57.8 -1.2**
MJAR Matsushiro Arr 16.72 231 P **Pn 06 37 57.8 -1.3**
BILL Bilibino 20.61 13 *e*P **P 06 38 42.7 +0.2**
BILL pmax pmax
comp=Z,3.0nm,0.8s
KSRS Korea Array 22.08 250 P **P 06 38 57.6 -0.8**
comp=Z,3.7nm,0.6s,mb3.9,baz=42,slow=10,SNR=8.0
KSRS Korea Array 22.08 250 *e*P **P 06 38 59.7 +1.3**
KSRS pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
KSAR Wonju Array Be 22.11 250 P **P 06 38 57.6 -1.1**
KSAR Wonju Array Be 22.11 250 P **P 06 38 57.7 -1.1**
SONM Songino Array 31.58 287 PcP PcP 06 43 15.3 -0.3
comp=Z,0.5nm,0.8s,baz=78,slow=1.4,SNR=4.5
SONM Songino Array 31.58 287 PcP PcP 06 43 15.3 -0.3
COLD Coldfoot 33.53 36 *e*P **P 06 40 44.7 +2.9**
comp=Z,2.2nm,0.3s,mb4.5
ILAR Eielson Array 34.77 40 P **P 06 40 52.0 -0.5**
comp=Z,1.3nm,1.1s,mb3.7,baz=266,slow=11,SNR=6.4
ILAR Eielson Array 34.77 40 P **P 06 40 52.0 -0.5**
ILAR Eielson Array 34.77 40 P **P 06 40 52.0 -0.5**
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ZALV Zalesovo Beam 42.32 305 P **P 06 41 53.8 -2.0**
comp=Z,0.5nm,0.3s,mb3.7,baz=74,slow=11,SNR=2.9
ZALV PcP PcP 06 43 48.3 +0.3
comp=Z,1.6nm,0.8s,baz=77,slow=3.2,SNR=6.9
ZALV Zalesovo Beam 42.32 305 P **P 06 41 53.8 -2.0**
ZALV PcP PcP 06 43 48.3 +0.3
ZALV Zalesovo Beam 42.32 305 P **P 06 41 53.8 -2.0**
ZALV 06 43 48.3
ZALV pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
MKAR Makanchi Array 46.91 297 P **P 06 42 33.4 +0.9**
comp=Z,0.2nm,0.6s,mb3.0,baz=60,slow=6.8,SNR=2.9
MKAR PcP PcP 06 44 04.2 +0.2
comp=Z,0.5nm,0.7s,baz=56,slow=4.5,SNR=4.4
MKAR LR LR 07 02 47.9
comp=Z,43nm,19.0s,baz=173,slow=37
MKAR Makanchi Array 46.91 297 P **P 06 42 33.4 +0.9**
MKAR PcP PcP 06 44 04.2 +0.2
MKAR Makanchi Array 46.91 297 P **P 06 42 33.4 +0.9**
MKAR 06 44 04.2
MKAR MLR MLR
comp=Z,43nm,19.0s
KURK Kurchatov 47.14 303 P **P 06 42 34.7 +0.6**
comp=Z,2.9nm,0.7s,mb4.1,baz=65,slow=8.3,SNR=20
KURK PcP PcP 06 44 04.8 +0.1
comp=Z,1.1nm,0.8s,baz=67,slow=3.5,SNR=7.9
KURK Kurchatov 47.14 303 P **P 06 42 34.7 +0.6**
KURK PcP PcP 06 44 04.8 +0.1
KURK Kurchatov 47.14 303 P **P 06 42 34.7 +0.6**
KURK 06 44 04.8
KURK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
RES Resolute Bay 49.03 19 P **P 06 42 48.4 0.0**
comp=Z,2.7nm,0.8s,mb4.2,baz=295,slow=5.9,SNR=12
RES Resolute Bay 49.03 19 P **P 06 42 48.4 0.0**
RES Resolute Bay 49.03 19 P **P 06 42 48.4 0.0**
RES pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
YKA Yellowknife Ar 49.13 38 P **P 06 42 49.4 +0.1**
comp=Z,1.0nm,0.8s,mb3.8,baz=298,slow=7.6,SNR=7.8
YKA Yellowknife Ar 49.13 38 P **P 06 42 49.5 +0.1**
YKA Yellowknife Ar 49.13 38 P **P 06 42 49.5 +0.1**
BVAR Borovoye Array 50.45 309 P **P 06 42 59.1 -0.3**
comp=Z,2.7nm,0.5s,mb4.5,baz=57,slow=7.1,SNR=15
BVAR Borovoye Array 50.45 309 P **P 06 42 59.1 -0.3**
BVAR Borovoye Array 50.45 309 P **P 06 42 59.1 -0.3**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
CMAR Chiang Mai Arr 53.54 256 P **P 06 43 23.4 +0.5**
comp=Z,0.9nm,0.3s,mb4.2,baz=40,slow=6.9,SNR=5.8
CMAR Chiang Mai Arr 53.54 256 P **P 06 43 23.4 +0.5**
CMAR Chiang Mai Arr 53.54 256 P **P 06 43 23.4 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 58.00 310 *e*P **P 06 43 53.8 -0.5**
comp=Z,1.2nm,0.6s,mb4.1
FFC Flin Flon 58.97 41 *i* P **P 06 44 01.8 +0.8**
NVAR Mina Array Bea 60.98 64 P **P 06 44 14.8 -0.2**
comp=Z,1.5nm,0.8s,mb4.1,baz=284,slow=6.5,SNR=9.8
NVAR Mina Array Bea 60.98 64 P **P 06 44 14.8 -0.2**
FINES FINESS Array B 62.90 335 P **P 06 44 27.0 -0.5**
comp=Z,2.5nm,0.8s,mb4.2,baz=33,slow=6.1,SNR=6.7
FINES FINESS Array B 62.90 335 P **P 06 44 27.0 -0.5**
FINES FINESS Array B 62.90 335 P **P 06 44 27.0 -0.5**
FINES pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 70.63 327 P **P 06 45 16.1 -0.7**
comp=Z,0.7nm,0.4s,mb3.8,baz=33,slow=6.5,SNR=3.7
AKASG Malin Array Be 70.63 327 P **P 06 45 16.1 -0.7**
AKASG Malin Array Be 70.63 327 P **P 06 45 16.1 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KWP Kalwaria Pacla 73.82 330 *e*P **P 06 45 32.0 -3.9**
comp=Z,15nm,0.5s,mb5.0
KWP Kalwaria Pacla 73.82 330 *e*P **P 06 45 32.0 -3.9**
ASAR Alice Springs 74.02 199 P **P 06 45 36.3 -0.9**
comp=Z,0.4nm,0.7s,mb3.3,baz=9.4,slow=6.0,SNR=4.9
ASAR Alice Springs 74.02 199 P **P 06 45 36.3 -0.9**
ASAR Alice Springs 74.02 199 P **P 06 45 36.3 -0.9**
CLL Collm 75.30 336 *i* P **P 06 45 44.7 +0.3**
TXAR Lajitas Array 76.00 62 P **P 06 45 48.3 -0.5**
comp=Z,1.3nm,0.7s,mb3.8,baz=297,slow=3.8,SNR=17
TXAR Lajitas Array 76.00 62 P **P 06 45 48.3 -0.5**
TXAR Lajitas Array 76.00 62 P **P 06 45 48.3 -0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 77.11 335 *e*P **P 06 45 55.0 +0.3**
GERES GERESS Array B 77.33 335 P **P 06 45 56.3 +0.4**
comp=Z,1.2nm,0.6s,mb3.8,baz=23,slow=4.8,SNR=9.5
GERES GERESS Array B 77.33 335 P **P 06 45 56.3 +0.4**
GERES GERESS Array B 77.33 335 P **P 06 45 56.3 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 77.74 317 *e*P **P 06 45 58.9 +0.5**
comp=Z,1.4nm,0.7s,mb3.8
BRTR Keskin Array B 77.74 317 P **P 06 45 59.0 +0.6**
comp=Z,2.3nm,0.8s,mb4.0,baz=55,slow=4.1,SNR=11
BRTR Keskin Array B 77.74 317 P **P 06 45 59.0 +0.6**
BRTR Keskin Array B 77.74 317 *e*P **P 06 45 58.9 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
TUE Stuetta 80.70 336 *e*P **P 06 46 14.7 +0.3**
comp=Z,3.3nm,0.7s,mb4.3
CPUP Villa Florida 146.95 60 PKPbc PKPbc 06 53 42.8 -0.8
comp=Z,0.3nm,0.4s,baz=57,slow=6.2,SNR=3.2
CPUP Villa Florida 146.95 60 PKPbc PKPbc 06 53 42.8 -0.8

*ISCJB **29** 07:05:36.9±0.8,38°.39N±0°.06×39°.07E±0°.06,h13km±5km, Error ellipse: s-maj=10.2km s-min=7.7km az=7.7*
*ISK **29** 07:05:36.5,38°.44N×39°.07E,h15km,MD2.5*
*CSEM **29** 07:05:36.4±0.3,38°.41N×39°.07E,h14km±3km,MD2.8, Error ellipse: s-maj=9.3km s-min=5.5km az=159.0*
*DDA **29** 07:05:37.0,38°.38N×39°.01E,h7km±3km,Md2.8*
ISC 29 07:05:36.8±0.8,38°.39N±0°.06×39°.07E±0°.06,h16km±5km, n14,σ0°68/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.12**	**328**	*i* P	**Pg**	**07 05 40.2**	**-0.2**
ELZG				*i* S	**Sg**	**07 05 42.8**	**-0.1**
ELZG	**Elazig**	**0.12**	**328**	*i* P	**Pg**	**07 05 40.2**	**-0.2**
ELZG				*i* S	**Sg**	**07 05 42.8**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.19**	**95**	*e*PG	**Pg**	**07 05 41.4**	**0.0**
SVRC				*e*SG	**Sg**	**07 05 45.1**	**+0.8**
SVRC	**Sivrice-ELAZID**	**0.19**	**95**	*e*Pg	**Pg**	**07 05 41.4**	**+0.1**
SVRC				*e*Sg	**Sg**	**07 05 45.2**	**+0.8**
MALT	**Malatya**	**0.51**	**261**	*e*PG	**Pg**	**07 05 47.2**	**+0.2**
MALT	**Malatya**	**0.51**	**261**	*e*Pg	**Pg**	**07 05 47.2**	**+0.2**
PTK	**Pertek**	**0.56**	**27**	*e*PG	**Pg**	**07 05 47.1**	**-0.8**
PTK	**Pertek**	**0.56**	**27**	*e*Pg	**Pg**	**07 05 47.1**	**-0.8**
AKCD	**Akcadag**	**0.91**	**264**	*i* P	**Pb**	**07 05 53.5**	**-0.7**
AKCD				*i* S	**Sb**	**07 06 06.5**	**+0.4**
AKCD	**Akcadag**	**0.91**	**264**	*i* P	**Pb**	**07 05 53.5**	**-0.7**
AKCD				*i* S	**Sb**	**07 06 06.5**	**+0.5**
KEMA	**Kemaliye**	**0.98**	**333**	*i* P	**Pb**	**07 05 54.7**	**-0.8**
KEMA				*i* S	**Sb**	**07 06 09.8**	**+1.5**
KEMA	**Kemaliye**	**0.98**	**333**	*i* P	**Pb**	**07 05 54.7**	**-0.8**
KEMA				*i* S	**Sb**	**07 06 09.8**	**+1.6**
ILIC	**ilic-Erzincan**	**1.13**	**340**	*e*PN	**Pn**	**07 05 57.6**	**-0.4**
ILIC	**ilic-Erzincan**	**1.13**	**340**	*e*Pn	**Pn**	**07 05 57.6**	**-0.4**

IDC 29 07:38:04.4±3.4,48°.45N×154°.41E,h87km±29km,mb3.3/5, mb1 3.6/8,mb1mx3.3/25,mbtmp3.4/8,Error ellipse: s-maj=55.7km s-min=22.6km az=151.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk- 5.11 23** P Pn 07 39 17.4 -0.9
1.7nm,0.3s,baz=194,slow=14,SNR=26
PETK S Sn 07 40 23.1 +7.2
baz=161,slow=20,SNR=1.8
ASAJ Asahikawa 9.26 246 P Pn 07 40 15.4 +0.6
0.7nm,0.3s,baz=112,slow=29,SNR=5.9
USRK Ussuriysk Arra 16.04 263 P Pn 07 41 44.7 +0.1
0.1nm,0.3s,baz=58,slow=13,SNR=4.4
ILAR Eielson Array 34.67 40 P P 07 44 46.7 +1.6
0.3nm,0.9s,baz=280,slow=9.5,SNR=4.4
YKA Yellowknife Ar 49.04 38 P P 07 46 41.8 -0.1
0.4nm,0.7s,baz=298,slow=7.4,SNR=5.2
NVAR Mina Array Bea 60.88 64 P P 07 48 07.8 +0.2
0.3nm,0.6s,baz=305,slow=6.5,SNR=4.3
TXAR Lajitas Array 75.90 62 P P 07 49 41.1 -0.3
0.4nm,0.6s,baz=294,slow=4.1,SNR=9.9
BRTR Keskin Array B 77.74 317 P P 07 49 51.6 0.0
1.1nm,0.9s,baz=43,slow=3.0,SNR=3.6

*ISK **29** 07:38:48.3,40°.30N×25°.82E,h8km,MD2.6*
*DDA **29** 07:38:49.0,40°.37N×25°.82E,h7km±2km,Md3.0*
*CSEM **29** 07:38:49.5±0.2,40°.35N×25°.85E,h8km,MD2.6,Error ellipse: s-maj=4.2km s-min=4.0km az=150.0*
*ISCJB **29** 07:38:50.1±0.4,40°.35N±0°.02×25°.90E±0°.03,h10km,Error ellipse: s-maj=3.3km s-min=2.9km az=6.1*
*ATH **29** 07:38:50.5,40°.35N×25°.84E,h11km±1km,MD3.3/7*
ISC 29 07:38:50.4±0.5,40°.35N±0°.02×25°.88E±0°.04,h1km±6km, n33,σ0°92/56,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.44**	**28**	*e*PG	**Pg**	**07 38 58.7**	**-0.2**
ENEZ				*e*SG	**Sg**	**07 39 05.7**	**+1.0**
ENEZ	**Enez**	**0.44**	**28**	*e*Pg	**Pg**	**07 38 58.7**	**-0.2**
ENEZ				*e*Sg	**Sg**	**07 39 05.7**	**+1.1**
GELI	**Tayfur-Gelibol**	**0.46**	**83**	*e*PG	**Pg**	**07 38 59.3**	**+0.1**
GELI				*e*SG	**Sg**	**07 39 07.0**	**+1.9**
GELI	**Tayfur-Gelibol**	**0.46**	**83**	*e*Pg	**Pg**	**07 38 59.3**	**+0.2**
GELI				*e*Sg	**Sg**	**07 39 07.0**	**+1.9**
BOZC	**Bozcaada**	**0.52**	**165**	*i* P	**Pg**	**07 39 00.2**	**-0.1**
BOZC				*i* S	**Sg**	**07 39 08.0**	**+1.0**
ALN	**Alexandroupoli**	**0.57**	**13**	*e*PB	**Pg**	**07 39 01.1**	**-0.1**
ALN				*e*SB	**Sg**	**07 39 08.9**	**+0.3**
ALN	**Alexandroupoli**	**0.57**	**13**	*e*Pb	**Pg**	**07 39 01.1**	**-0.1**
ALN				*e*Sb	**Sg**	**07 39 08.9**	**+0.3**
ERIK	**Erikli-Kesan**	**0.58**	**56**	*e*PG	**Pg**	**07 39 01.6**	**+0.1**
ERIK	**Erikli-Kesan**	**0.58**	**56**	*e*Pg	**Pg**	**07 39 01.6**	**+0.1**
EZN	**Ezine**	**0.62**	**146**	*e*PG	**Pg**	**07 39 00.3**	**-1.9**
EZN	**Ezine**	**0.62**	**146**	*e*Pg	**Pg**	**07 39 00.3**	**-2.0**
LPK	**Lapseki**	**0.67**	**87**	*e*PG	**Pg**	**07 39 02.2**	**-1.1**
LPK				*e*SG	**Sg**	**07 39 12.3**	**+0.3**
LPK	**Lapseki**	**0.67**	**87**	*e*Pg	**Pg**	**07 39 02.2**	**-1.1**
LPK				*e*Sg	**Sg**	**07 39 12.3**	**+0.3**
LIA	**Limnos Island**	**0.70**	**230**	*e*PG	**Pg**	**07 39 03.3**	**-0.4**
LIA				*e*SB	**Sg**	**07 39 13.2**	**+0.5**
LIA	**Limnos Island**	**0.70**	**230**	*e*Pg	**Pg**	**07 39 03.3**	**-0.4**
LIA				*e*Sb	**Sg**	**07 39 13.2**	**+0.5**
RDO	**Rodhopi**	**0.84**	**342**	*e*PG	**Pg**	**07 39 05.7**	**-0.8**
RDO				*e*SB	**Sg**	**07 39 17.9**	**+0.5**
RDO	**Rodhopi**	**0.84**	**342**	*e*Pb	**Pg**	**07 39 05.5**	**-1.0**
RDO				*e*Sb	**Sg**	**07 39 18.1**	**+0.7**
SART	**Tekirdag**	**1.05**	**70**	*i* P	**Pg**	**07 39 09.2**	**-1.3**
SART				*i* S	**Sg**	**07 39 24.8**	**+0.7**
SART	**Tekirdag**	**1.05**	**70**	*i* P	**Pg**	**07 39 09.2**	**-1.3**
SART				*i* S	**Sg**	**07 39 24.8**	**+0.7**
KRBG	**Karabiga-Canak**	**1.08**	**87**	*e*PN	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**23.27**	**303**	LR	LR	07 59 48.6	
	comp=Z,66nm,18.3s,baz=195,slow=32						
ASAR	**Alice Springs**	**41.80**	**260**	P	P	07 55 20.2	-0.4
	0.4nm,0.4s,baz=96,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**42.10**	**266**	P	P	07 55 23.3	+0.2
	0.4nm,0.4s,baz=102,slow=7.9,SNR=2.3						
BRTR	**Keskin Array B**	**146.87**	**308**	PKPbc	PKPbc	08 07 13.0	-0.5
	1.0nm,0.9s,baz=77,slow=4.7,SNR=4.1						

IDC 29 07:55:29.6±1.6, 0°.95N×125°.98E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=175.1km s-min=21.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.32**	**159**	P	P	08 00 28.7	-0.4
	0.4nm,0.4s,baz=337,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**25.65**	**163**	P	P	08 01 01.6	+0.4
	0.4nm,0.5s,baz=344,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**59.42**	**327**	P	P	08 05 34.6	+0.6
	0.4nm,0.5s,baz=133,slow=8.5,SNR=5.2						
KURK	**Kurchatov**	**63.69**	**329**	P	P	08 06 02.4	-0.4
	1.3nm,0.6s,baz=126,slow=5.9,SNR=8.5						

*ISCJB **29** 07:57:04.9±1.4, 40°.35N±0°.05×25°.8E±0°.1, h5km±11km, Error ellipse: s-maj=13.0km s-min=7.6km az=5.5*
*ISK **29** 07:57:04.4, 40°.30N×25°.80E, h9km, MD2.6*
*DDA **29** 07:57:05.1, 40°.36N×25°.81E, h7km±2km, Md2.9*
*CSEM **29** 07:57:05.2±0.7, 40°.33N×25°.81E, h12km, MD2.6, Error ellipse: s-maj=15.0km s-min=7.8km az=81.0*

ISC 29 07:57:05.2±1.7, 40°.36N±0°.05×25°.8E±0°.1, h3km±20km, n13, σ0°75/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**37**	*e*PG	**Pg**	**07 57 14.7**	**+0.4**
ENEZ	**Enez**	**0.47**	**37**	*e*Pg	**Pg**	**07 57 14.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.53**	**86**	*e*PG	**Pg**	**07 57 15.4**	**0.0**
GELI				*e*SG	**Sg**	**07 57 23.0**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.53**	**86**	*e*Pg	**Pg**	**07 57 15.4**	**0.0**
GELI				*e*Sg	**Sg**	**07 57 23.0**	**+0.7**
BOZC	**Bozcaada**	**0.56**	**158**	*i* P	**Pg**	**07 57 16.4**	**+0.5**
BOZC				*i* S	**Sg**	**07 57 24.1**	**+1.0**
ERIK	**Erikli-Kesan**	**0.64**	**61**	*e*PG	**Pg**	**07 57 17.3**	**-0.2**
ERIK	**Erikli-Kesan**	**0.64**	**61**	*e*Pg	**Pg**	**07 57 17.3**	**-0.2**
EZN	**Ezine**	**0.68**	**142**	*e*PG	**Pg**	**07 57 17.9**	**-0.3**
EZN				*e*SG	**Sg**	**07 57 25.7**	**-1.2**
EZN	**Ezine**	**0.68**	**142**	*e*Pg	**Pg**	**07 57 17.9**	**-0.3**
EZN				*e*Sg	**Sg**	**07 57 25.7**	**-1.3**
SART	**Tekirdag**	**1.12**	**72**	*i* P	**Pg**	**07 57 25.0**	**-1.6**
SART				*i* S	**Sg**	**07 57 41.6**	**+0.5**
SART	**Tekirdag**	**1.12**	**72**	*i* P	**Pg**	**07 57 25.0**	**-1.6**
SART				*i* S	**Sg**	**07 57 41.6**	**+0.5**
EDRB	**Edirne**	**1.66**	**26**	*e*PN	**Pn**	**07 57 35.2**	**+0.1**
EDRB	**Edirne**	**1.66**	**26**	*e*Pn	**Pn**	**07 57 35.2**	**+0.1**

*ISCJB **29** 08:14:02.2±2.1, 42°.73N±0°.04×16°.3E±0°.3, h10km, Error ellipse: s-maj=32.0km s-min=5.2km az=0.7*
*ROM **29** 08:14:02.3±0.3, 42°.83N×16°.03E, h10km, Md2.6/3, Ml3.1/1, Error ellipse: s-maj=9.5km s-min=2.7km az=98.0*
*CSEM **29** 08:14:02.1±0.7, 42°.76N×16°.26E, h2km, MD2.6/3, Error ellipse: s-maj=30.2km s-min=4.5km az=90.0*

ISC 29 08:14:02.6±2.3, 42°.74N±0°.04×16°.3E±0°.3, h10km, n8, σ0°67/16, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**1.07**	**196**	Pg	**Pg**	**08 14 23.0**	**-0.2**
MSAG				Sg	**Sg**	**08 14 38.3**	**+1.2**
	332nm,0.4s						
MSAG	**Monte S. Angel**	**1.07**	**196**	Pg	**Pg**	**08 14 23.0**	**-0.2**
MSAG				Sg	**Sg**	**08 14 38.3**	**+1.2**
	332nm,0.4s						
SGRT	**San Giovanni R**	**1.07**	**203**	Pg	**Pg**	**08 14 22.8**	**-0.4**
SGRT				Sg	**Sg**	**08 14 37.8**	**+0.6**
SGRT	**San Giovanni R**	**1.07**	**203**	Pg	**Pg**	**08 14 22.8**	**-0.4**
SGRT				Sg	**Sg**	**08 14 37.8**	**+0.6**
RGNG	**Rignano Grg**	**1.20**	**207**	Pg	**Pg**	**08 14 24.5**	**-1.0**
RGNG				Sg	**Sg**	**08 14 40.4**	**-0.7**
RGNG	**Rignano Grg**	**1.20**	**207**	Pg	**Pg**	**08 14 24.5**	**-1.0**
RGNG				Sg	**Sg**	**08 14 40.4**	**-0.7**
NVLJ	**Novalja**	**2.10**	**331**	*i* Pn	**Pn**	**08 14 38.1**	**+0.4**
NVLJ				Sn	**Sn**	**08 15 04.0**	**+0.2**
NVLJ	**Novalja**	**2.10**	**331**	*i* Pn	**Pn**	**08 14 38.0**	**+0.3**
NVLJ				Sn	**Sn**	**08 15 04.0**	**+0.2**

*IDC **29** 08:14:53.1±1.7, 8°.70S×124°.13E, h0km, mb3.3/1, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, ML3.9/4, Error ellipse: s-maj=92.2km s-min=23.5km az=59.0*
*ISCJB **29** 08:14:54.9±0.8, 9°.4S±0°.1×123°.3E±0°.2, h33km, Error ellipse: s-maj=31.1km s-min=8.4km az=150.9*
*NEIC **29** 08:14:57.5±0.6, 8°.75S×124°.05E, h35km, Error ellipse: s-maj=32.9km s-min=7.5km az=53.0*

ISC 29 08:14:57.6±0.8, 9°.3S±0°.1×123°.5E±0°.2, h35km, n15, σ1°25/21, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.62**	**319**	**Pn**	**Pn**	**08 16 20.9**	**+2.3**
	1.0nm,0.3s,baz=235,slow=19,SNR=4.7						
KAPI	**Kappang**	**5.62**	**319**	*e*Pn	**Pn**	**08 16 18.6**	**0.0**
FITZ	**Fitzroy Crossi**	**9.02**	**167**	Pn	**Pn**	**08 17 10.6**	**+5.2**
	1.1nm,0.3s,baz=358,slow=11,SNR=42						
FITZ				Sn	**Sn**	**08 18 45.2**	**-0.7**
	5.4nm,0.3s,baz=225,slow=5.1,SNR=18						
FITZ	**Fitzroy Crossi**	**9.02**	**167**	Pn	**Pn**	**08 17 10.6**	**+5.2**
FITZ				Sn	**Sn**	**08 18 45.2**	**-0.7**
WRA	**Warramunga Arr**	**14.93**	**136**	Pn	**Pn**	**08 18 26.0**	**-0.1**
	0.8nm,0.3s,baz=312,slow=15,SNR=17						
WRA				Sn	**Sn**	**08 21 00.1**	**-10**
	1.1nm,0.3s,baz=316,slow=24,SNR=6.5						
WRA	**Warramunga Arr**	**14.93**	**136**	Pn	**Pn**	**08 18 26.0**	**-0.1**
WRA				Sn	**Sn**	**08 21 00.1**	**-10**
WRAB	**Tennant Creek**	**14.93**	**136**	*e*Pn	**Pn**	**08 18 25.3**	**-0.8**
	1.2nm,0.4s						
WB2	**Warramunga Arr**	**14.94**	**136**	*e*Pn	**Pn**	**08 18 25.6**	**-0.6**
AS31	**Alice Springs**	**17.45**	**146**	*e*P	**Pn**	**08 19 01.0**	**+2.8**
ASAR	**Alice Springs**	**17.45**	**146**	P	**Pn**	**08 19 00.3**	**+2.0**
	0.4nm,0.3s,baz=318,slow=12,SNR=42						
ASAR				S	**S**	**08 22 03.9**	**-15**
	0.4nm,0.3s,baz=318,slow=20,SNR=12						
ASAR	**Alice Springs**	**17.45**	**146**	P	**Pn**	**08 19 00.3**	**+2.0**
ASAR				S	**S**	**08 22 03.9**	**-15**
STKA	**Stephens Creek**	**28.08**	**146**	*e*P	**P**	**08 20 33.6**	**-12**
MK31	**Makanchi Array**	**66.79**	**331**	*e*P	**P**	**08 25 44.4**	**-1.1**
MKAR	**Makanchi Array**	**66.79**	**331**	P	**P**	**08 25 44.9**	**-0.6**
	0.2nm,0.6s,baz=128,slow=6.6,SNR=3.4						
MKAR	**Makanchi Array**	**66.79**	**331**	P	**P**	**08 25 44.9**	**-0.6**

*ATH **29** 08:27:39.4, 40°.36N×25°.77E, h28km, MD3.2/7*
*ISCJB **29** 08:27:39.1±0.3, 40°.38N±0°.02×25°.73E±0°.02, h8km±3km, Error ellipse: s-maj=3.0km s-min=2.2km az=30.3*
*ISK **29** 08:27:39.9, 40°.35N×25°.83E, h6km, MD3.2*
*THE **29** 08:27:40.7, 40°.35N×25°.73E, h12km±1km, ML3.3/9, Error ellipse: s-maj=1.9km s-min=0.9km az=85.0*
*DDA **29** 08:27:40.0, 40°.33N×25°.82E, h25km±1km, Md3.2*
*CSEM **29** 08:27:40.0±0.1, 40°.33N×25°.74E, h9km, MD3.2, Error ellipse: s-maj=2.6km s-min=1.9km az=21.0*
*BEO **29** 08:27:43.0±1.2, 40°.41N×25°.75E, h26km±7km, ML3.5/3*
*SOF **29** 08:27:43.3, 40°.55N×25°.28E, h3km, MD3.3*

ISC 29 08:27:40.0±0.3, 40°.35N±0°.02×25°.74E±0°.02, h9km±2km, n155, σ0°84/207, 11C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.50**	**39**	*e*PG	**Pg**	**08 27 49.5**	**-0.1**
ENEZ	**Enez**	**0.50**	**39**	*e*Pg	**Pg**	**08 27 49.6**	**-0.1**
BOZC	**Bozcaada**	**0.56**	**155**	*i* P	**Pg**	**08 27 51.1**	**+0.3**
BOZC				*i* S	**Sg**	**08 27 58.4**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.56**	**85**	*e*PG	**Pg**	**08 27 50.5**	**-0.4**
GELI				*e*SG	**Sg**	**08 27 57.3**	**-0.9**
GELI	**Tayfur-Gelibol**	**0.56**	**85**	*e*Pg	**Pg**	**08 27 50.5**	**-0.4**
GELI				*e*Sg	**Sg**	**08 27 57.3**	**-0.9**
ALN	**Alexandroupoli**	**0.59**	**23**	*e*PN	**Pg**	**08 27 51.4**	**-0.1**
ALN				*e*SN	**Sg**	**08 27 59.6**	**+0.3**
ALN	**Alexandroupoli**	**0.59**	**23**	P	**Pg**	**08 27 51.5**	**0.0**
ALN				S	**Sg**	**08 27 59.6**	**+0.3**
ALN	**Alexandroupoli**	**0.59**	**23**	P	**Pg**	**08 27 51.5**	**0.0**
ALN				S	**Sg**	**08 27 59.6**	**+0.3**
LIA	**Limnos Island**	**0.62**	**224**	*e*PN	**Pg**	**08 27 52.5**	**+0.5**
LIA				*e*SN	**Sg**	**08 28 01.8**	**+1.7**
LIA	**Limnos Island**	**0.62**	**224**	P	**Pg**	**08 27 52.7**	**+0.7**
LIA				S	**Sg**	**08 28 01.9**	**+1.8**
LIA	**Limnos Island**	**0.62**	**224**	*e*Pn	**Pg**	**08 27 52.5**	**+0.5**
LIA				S	**Sg**	**08 28 01.9**	**+1.8**
ERIK	**Erikli-Kesan**	**0.67**	**61**	*e*PG	**Pg**	**08 27 52.2**	**-0.8**
ERIK				*e*SG	**Sg**	**08 28 00.9**	**-0.8**
ERIK	**Erikli-Kesan**	**0.67**	**61**	*e*Pg	**Pg**	**08 27 52.2**	**-0.7**
ERIK				*e*Sg	**Sg**	**08 28 00.9**	**-0.8**
EZN	**Ezine**	**0.69**	**139**	*e*PG	**Pg**	**08 27 52.7**	**-0.5**
EZN	**Ezine**	**0.69**	**139**	*e*Pg	**Pg**	**08 27 52.7**	**-0.6**
LPK	**Lapseki**	**0.78**	**88**	*e*PG	**Pg**	**08 27 53.7**	**-1.3**
LPK	**Lapseki**	**0.78**	**88**	*e*Pg	**Pg**	**08 27 53.7**	**-1.3**
RDO	**Rodhopi**	**0.81**	**349**	*e*PN	**Pg**	**08 27 55.6**	**0.0**
RDO				*e*SN	**Sg**	**08 28 06.7**	**+0.5**
RDO	**Rodhopi**	**0.81**	**349**	P	**Pg**	**08 27 55.8**	**+0.2**
RDO				S	**Sg**	**08 28 06.8**	**+0.6**
RDO	**Rodhopi**	**0.81**	**349**	P	**Pg**	**08 27 55.8**	**+0.2**
RDO				*e*Sn	**Sg**	**08 28 06.6**	**+0.4**
KAVA	**Kavala**	**1.14**	**305**	P	**Pg**	**08 28 01.4**	**-0.4**
KAVA				S	**Sg**	**08 28 17.0**	**+0.4**
KAVA	**Kavala**	**1.14**	**305**	P	**Pg**	**08 28 01.4**	**-0.4**
KAVA				S	**Sg**	**08 28 17.0**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.15**	**72**	*e*PN	**Pg**	**08 28 00.8**	**-1.2**
RKY	**Sarkoy-Tekirda**	**1.15**	**72**	*e*Pn	**Pg**	**08 28 00.8**	**-1.2**
SART	**Tekirdag**	**1.15**	**72**	*i* P	**Pg**	**08 27 59.6**	**-2.4**
SART				*i* S	**Sg**	**08 28 17.0**	**0.0**
SART	**Tekirdag**	**1.15**	**72**	*i* P	**Pg**	**08 27 59.6**	**-2.4**
SART				*i* S	**Sg**	**08 28 17.0**	**+0.1**
PRK	**Paraskevi**	**1.17**	**160**	P	**Pb**	**08 28 02.3**	**-0.1**
PRK				S	**Sb**	**08 28 17.7**	**0.0**
PRK	**Paraskevi**	**1.17**	**160**	P	**Pb**	**08 28 02.3**	**-0.1**
PRK				S	**Sb**	**08 28 17.7**	**0.0**
KRBG	**Karabiga-Canak**	**1.19**	**87**	*e*PN	**Pn**	**08 28 01.7**	**-1.1**
KRBG	**Karabiga-Canak**	**1.19**	**87**	*e*Pn	**Pn**	**08 28 01.7**	**-1.1**
AYVA	**Ayvalik**	**1.27**	**145**	*i* P	**Pn**	**08 28 03.6**	**-0.3**
AYVA				*i* S	**Sb**	**08 28 20.3**	**-0.1**
AYVA	**Ayvalik**	**1.27**	**145**	*i* P	**Pn**	**08 28 03.6**	**-0.3**
AYVA				*i* S	**Sb**	**08 28 20.3**	**-0.2**
KDZ	**Kurdzhali**	**1.32**	**349**	P	**Pn**	**08 28 04.9**	**+0.3**
KDZ	**Kurdzhali**	**1.32**	**349**	P	**Pn**	**08 28 04.9**	**+0.3**
OUR	**Ouranopolis**	**1.35**	**270**	P	**Pn**	**08 28 03.9**	**-1.0**
OUR	**Ouranopolis**	**1.35**	**270**	P	**Pn**	**08 28 03.9**	**-1.0**
TKR	**Tekirdag**	**1.51**	**64**	*e*PN	**Pn**	**08 28 07.2**	**+0.1**
TKR	**Tekirdag**	**1.51**	**64**	*e*Pn	**Pn**	**08 28 07.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.52**	**101**	*e*PN	**Pn**	**08 28 07.7**	**+0.4**
GONE	**Gonen-Balikesi**	**1.52**	**101**	*e*Pn	**Pn**	**08 28 07.7**	**+0.4**
RZN	**Rozhen**	**1.55**	**330**	*i* P	**Pn**	**08 28 07.6**	**-0.1**
RZN	**Rozhen**	**1.55**	**330**	*i* P	**Pn**	**08 28 07.6**	**-0.1**
EDC	**Edincik**	**1.62**	**89**	*e*PN	**Pn**	**08 28 09.3**	**+0.6**
EDC	**Edincik**	**1.62**	**89**	*e*Pn	**Pn**	**08 28 09.3**	**+0.6**
BNT	**Bandirma**	**1.66**	**89**	*e*PN	**Pn**	**08 28 08.8**	**-0.5**
BNT	**Bandirma**	**1.66**	**89**	*e*Pn	**Pn**	**08 28 08.8**	**-0.5**
EDRB	**Edirne**	**1.68**	**26**	*e*PN	**Pn**	**08 28 09.1**	**-0.4**
EDRB	**Edirne**	**1.68**	**26**	*e*Pn	**Pn**	**08 28 09.1**	**-0.4**
DIM	**Dimitrovgrad**	**1.71**	**355**	P	**Pn**	**08 28 12.4**	**+2.5**
DIM	**Dimitrovgrad**	**1.71**	**355**	P	**Pn**	**08 28 12.4**	**+2.5**
NVR	**Nevrokopi**	**1.74**	**306**	*e*PN	**Pn**	**08 28 10.1**	**-0.3**
NVR				*e*SN	**Sn**	**08 28 32.5**	**-0.2**
NVR	**Nevrokopi**	**1.74**	**306**	P	**Pn**	**08 28 10.1**	**-0.3**
NVR				S	**Sn**	**08 28 32.9**	**+0.2**
NVR	**Nevrokopi**	**1.74**	**306**	P	**Pn**	**08 28 10.1**	**-0.3**
NVR				*e*Sn	**Sn**	**08 28 32.5**	**-0.2**
NVR				S	**Sn**	**08 28 32.9**	**+0.2**
PLG	**Polygyros**	**1.75**	**272**	*e*PN	**Pn**	**08 28 09.8**	**-0.7**
PLG				*e*SN	**Sn**	**08 28 31.9**	**-1.1**
PLG	**Polygyros**	**1.75**	**272**	P	**Pn**	**08 28 09.9**	**-0.6**
PLG				S	**Sn**	**08 28 32.0**	**-1.0**
PLG	**Polygyros**	**1.75**	**272**	P	**Pn**	**08 28 09.9**	**-0.6**
PLG				S	**Sn**	**08 28 32.0**	**-1.0**
SRS	**Serrai**	**1.81**	**296**	P	**Pn**	**08 28 10.8**	**-0.4**
SRS				S	**Sn**	**08 28 33.7**	**-0.5**
SRS	**Serrai**	**1.81**	**296**	P	**Pn**	**08 28 10.8**	**-0.4**
SRS				S	**Sn**	**08 28 33.7**	**-0.5**
SOH	**Sokhos**	**1.88**	**285**	P	**Pn**	**08 28 11.8**	**-0.5**
SOH	**Sokhos**	**1.88**	**285**	P	**Pn**	**08 28 11.8**	**-0.5**
PLD	**Plovdiv**	**1.92**	**336**	*e*Pn	**Pn**	**08 28 13.3**	**+0.5**
PLD	**Plovdiv**	**1.92**	**336**	P	**Pn**	**08 28 13.1**	**+0.3**
PLD	**Plovdiv**	**1.92**	**336**	P	**Pn**	**08 28 13.1**	**+0.3**
MMB	**Musomiste**	**1.96**	**310**	*i* P	**Pn**	**08 28 13.0**	**-0.4**
MMB	**Musomiste**	**1.96**	**310**	*i* P	**Pn**	**08 28 13.0**	**-0.4**
CHOS	**Chios island**	**1.97**	**173**	*e*PN	**Pn**	**08 28 13.1**	**-0.5**
CHOS	**Chios island**	**1.97**	**173**	P	**Pn**	**08 28 13.2**	**-0.4**
CHOS	**Chios island**	**1.97**	**173**	P	**Pn**	**08 28 13.2**	**-0.4**
KCTX	**Karacabey (Bur**	**2.00**	**92**	*e*PN	**Pn**	**08 28 13.7**	**-0.2**
KCTX	**Karacabey (Bur**	**2.00**	**92**	*e*Pn	**Pn**	**08 28 13.7**	**-0.2**
HORT	**Hortiatis**	**2.03**	**278**	P	**Pn**	**08 28 14.1**	**-0.2**
HORT				S	**Sn**	**08 28 38.7**	**-1.1**
HORT	**Hortiatis**	**2.03**	**278**	P	**Pn**	**08 28 14.1**	**-0.2**
HORT				S	**Sn**	**08 28 38.7**	**-1.1**
SLVT	**Silivri**	**2.07**	**64**	*e*PN	**Pn**	**08 28 15.8**	**+0.9**
SLVT	**Silivri**	**2.07**	**64**	*e*Pn	**Pn**	**08 28 15.8**	**+0.9**
AKHS	**Akhisar**	**2.17**	**132**	*i* P	**Pn**	**08 28 16.1**	**-0.2**
AKHS				*i* S	**Sn**	**08 28 42.9**	**-0.4**
AKHS	**Akhisar**	**2.17**	**132**	*i* P	**Pn**	**08 28 16.1**	**-0.2**
AKHS				*i* S	**Sn**	**08 28 42.9**	**-0.4**
XOR	**Xorichti**	**2.19**	**244**	P	**Pn**	**08 28 15.4**	**-1.2**
XOR	**Xorichti**	**2.19**	**244**	P	**Pn**	**08 28 15.4**	**-1.2**
BLCB	**Balcova**	**2.20**	**152**	*e*PN	**Pn**	**08 28 17.9**	**+1.1**
BLCB	**Balcova**	**2.20**	**152**	*e*Pn	**Pn**	**08 28 17.9**	**+1.2**
JMB	**Yambol**	**2.21**	**16**	*e*Pn	**Pn**	**08 28 17.8**	**+1.0**
JMB				*i* Sn	**Sn**	**08 28 43.1**	**-1.1**
JMB				*i* Sg	**Sg**	**08 28 50.9**	**-0.1**
JMB	**Yambol**	**2.21**	**16**	P	**Pn**	**08 28 17.4**	**+0.6**
JMB	**Yambol**	**2.21**	**16**	P	**Pn**	**08 28 22.6**	**+5.8**
JMB	**Yambol**	**2.21**	**16**	P	**Pn**	**08 28 17.4**	**+0.6**
JMB	**Yambol**	**2.21**	**16**	*e*Pn	**Pn**	**08 28 17.8**	**+1.0**
JMB				*i* Sg	**Sg**	**08 28 50.9**	**-0.1**
DURS	**Dursunbey**	**2.23**	**109**	*i* P	**Pn**	**08 28 16.9**	**-0.1**
DURS				*i* S	**Sn**	**08 28 48.3**	**+3.7**
DURS	**Dursunbey**	**2.23**	**109**	*i* P	**Pn**	**08 28 16.9**	**-0.1**
DURS				*i* S	**Sn**	**08 28 48.3**	**+3.6**
CTYL	**Yal??k??y-??at**	**2.23**	**59**	*e*PN	**Pn**	**08 28 17.9**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.23**	**59**	*e*Pn	**Pn**	**08 28 18.0**	**+0.9**
CTKS	**Kestanelik-??a**	**2.28**	**66**	*e*PN	**Pn**	**08 28 18.4**	**+0.7**
CTKS	**Kestanelik-??a**	**2.28**	**66**	*e*Pn	**Pn**	**08 28 18.4**	**+0.7**
KNT	**Kendrikon**	**2.31**	**292**	P	**Pn**	**08 28 18.2**	**0.0**
KNT				S	**Sn**	**08 28 47.1**	**+0.5**
KNT	**Kendrikon**	**2.31**	**292**	P	**Pn**	**08 28 18.2**	**0.0**
KNT				S	**Sn**	**08 28 47.1**	**+0.5**
ARMT	**Armutlu**	**2.39**	**84**	*e*PN	**Pn**	**08 28 19.9**	**+0.6**
ARMT	**Armutlu**	**2.39**	**84**	*e*Pn	**Pn**	**08 28 19.9**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.40**	**88**	*e*PN	**Pn**	**08 28 20.1**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.40**	**88**	*e*Pn	**Pn**	**08 28 20.1**	**+0.7**
BGKT	**Bogazkoy**	**2.45**	**69**	*e*PN	**Pn**	**08 28 20.8**	**+0.8**
BGKT	**Bogazkoy**	**2.45**	**69**	*e*Pn	**Pn**	**08 28 20.8**	**+0.7**
PGB	**Panagyurishte**	**2.50**	**332**	P	**Pn**	**08 28 26.0**	**+5.2**
LIT	**Litokhoron**	**2.50**	**265**	*e*PN	**Pn**	**08 28 20.8**	**0.0**
LIT	**Litokhoron**	**2.50**	**265**	*e*Pn	**Pn**	**08 28 20.8**	**0.0**
KKB	**Krupnik**	**2.52**	**308**	P	**Pn**	**08 28 20.9**	**-0.1**
KKB	**Krupnik**	**2.52**	**308**	P	**Pn**	**08 28 20.9**	**-0.1**
VAY	**Valandovo**	**2.59**	**293**	*e*PN	**Pg**	**08 28 28.5**	**-1.2**
VAY				*e*SN	**Sg**	**08 29 03.8**	**+0.5**
GRG	**Griva**	**2.61**	**285**	P	**Pn**	**08 28 22.6**	**+0.3**
GRG				S	**Sn**	**08 28 53.3**	**-0.9**
GRG	**Griva**	**2.61**	**285**	P	**Pn**	**08 28 22.6**	**+0.3**
GRG				S	**Sn**	**08 28 53.3**	**-0.9**
ISK	**Istanbul-Kandi**	**2.62**	**73**	*e*PN	**Pn**	**08 28 22.4**	**0.0**
ISK	**Istanbul-Kandi**	**2.62**	**73**	*e*Pn	**Pn**	**08 28 22.5**	**0.0**
KLYT	**Kilyos**	**2.66**	**69**	*e*PN	**Pn**	**08 28 22.9**	**-0.2**
KLYT	**Kilyos**	**2.66**	**69**	*e*Pn	**Pn**	**08 28 22.9**	**-0.1**
KULA	**Kula-Manisa**	**2.91**	**128**	*e*PN	**Pn**	**08 28 26.6**	**+0.2**
KULA	**Kula-Manisa**	**2.91**	**128**	*e*Pn	**Pn**	**08 28 26.7**	**+0.3**
VTS	**Vitosha**	**2.94**	**320**	*e*Pn	**Pn**	**08 28 27.6**	**+0.8**
VTS				*e*Sn	**Sn**	**08 29 01.6**	**-0.6**
VTS				*e*Sg	**Sg**	**08 29 15.1**	**+0.7**
VTS	**Vitosha**	**2.94**	**320**	P	**Pn**	**08 28 27.6**	**+0.8**
VTS	**Vitosha**	**2.94**	**320**	P	**Pn**	**08 28 27.7**	**+0.9**
VTS	**Vitosha**	**2.94**	**320**	‖*i*P	**Pn**	**08 28 26.6**	**-0.2**
VTS	**Vitosha**	**2.94**	**320**	S	**Sg**	**08 29 16.0**	**+1.6**
VTS	**Vitosha**	**2.94**	**320**	P	**Pn**	**08 28 27.6**	**+0.8**
VTS				*e*Sn	**Sn**	**08 29 01.6**	**-0.6**
VTS				*e*Sg	**Sg**	**08 29 15.1**	**+0.7**
MPEP	**Malo Peshtene**	**3.36**	**334**	P	**Pn**	**08 28 33.5**	**+0.9**
KRUS	**Krusevo**	**3.56**	**288**	*e*Pn	**Pn**	**08 28 35.4**	**+0.1**
KRUS	**Krusevo**	**3.56**	**288**	*e*Pn	**Pn**	**08 28 35.3**	**0.0**
BORA	**Eskisehir**	**3.64**	**96**	*i* P	**Pn**	**08 28 36.5**	**0.0**
BORA	**Eskisehir**	**3.64**	**96**	*i* P	**Pn**	**08 28 36.5**	**0.0**
ZAPS	**Zavoj**	**3.73**	**323**	*e*Pn	**Pn**	**08 28 39.6**	**+1.9**
BARS	**Barje**	**3.84**	**311**	*i* Pn	**Pn**	**08 28 39.9**	**+0.7**
BARS				*e*Sn	**Sn**	**08 29 22.5**	**-1.9**
BARS	**Barje**	**3.84**	**311**	*i* Pn	**Pn**	**08 28 39.9**	**+0.7**
BARS				*e*Sn	**Sn**	**08 29 22.5**	**-1.9**
SELS	**Selova**	**4.49**	**311**	‖*i*Pn	**Pn**	**08 28 48.2**	**0.0**
VOIR		**5.11**	**355**	‖*i*P	**Pn**	**08 28 57.3**	**+0.6**
VOIR		**5.11**	**355**	‖*i*P	**Pn**	**08 28 57.3**	**+0.6**
CFR	**Carcaliu**	**5.14**	**19**	⇑*i*P	**Pn**	**08 28 57.5**	**+0.5**
CFR	**Carcaliu**	**5.14**	**19**	⇑*i*P	**Pn**	**08 28 57.5**	**+0.5**
MLR	**Muntele Rosu**	**5.14**	**2**	⇑*i*P	**Pn**	**08 28 58.7**	**+1.6**
MLR	**Muntele Rosu**	**5.14**	**2**	S	**Sg**	**08 30 18.8**	**-6.2**
MLR	**Muntele Rosu**	**5.14**	**2**	⇑*i*P	**Pn**	**08 28 58.7**	**+1.6**
GRUS	**Gruza**	**5.15**	**315**	⇑*i*Pn	**Pn**	**08 28 57.3**	**+0.2**
LOT	**Lotru**	**5.30**	**345**	⇑*i*P	**Pn**	**08 29 00.6**	**+1.4**
LOT	**Lotru**	**5.30**	**345**	⇑*i*P	**Pn**	**08 29 00.6**	**+1.4**
LOT				S	**Sn**	**08 29 58.5**	**-1.9**
TLCR		**5.34**	**24**	⇑*i*P	**Pn**	**08 29 00.3**	**+0.5**
TLCR		**5.34**	**24**	⇑*i*P	**Pn**	**08 29 00.3**	**+0.5**
GZR	**Gura Zlata**	**5.49**	**338**	‖*i*P	**Pn**	**08 29 01.8**	**-0.1**
GZR	**Gura Zlata**	**5.49**	**338**	‖*i*P	**Pn**	**08 29 01.8**	**-0.1**
VRI	**Vrincioaia**	**5.56**	**7**	‖*i*P	**Pn**	**08 29 03.8**	**+0.9**
VRI	**Vrincioaia**	**5.56**	**7**	‖*i*P	**Pn**	**08 29 03.8**	**+0.9**
DOPR	**Dopca**	**5.62**	**357**	‖*i*P	**Pn**	**08 29 04.7**	**+1.0**
DOPR	**Dopca**	**5.62**	**357**	‖*i*P	**Pn**	**08 29 04.7**	**+1.0**
DIVS	**Divibare**	**5.68**	**313**	*e*Pn	**Pn**	**08 29 04.6**	**+0.1**
DIVS	**Divibare**	**5.68**	**313**	*e*Pn	**Pn**	**08 29 04.6**	**+0.1**
BZS	**Buzias**	**6.07**	**331**	*e*Pn	**Pn**	**08 29

CMAR	Chiang Mai Arr	71.66	48	P	P	09 45 04.1	-0.2
WRA	Warramunga Arr	72.80	102	P	P	09 45 11.1	-0.2
0.9nm,0.5s,mb4.0,baz=232,slow=5.2,SNR=6.9							
WRA	Warramunga Arr	72.80	102	P	P	09 45 11.1	-0.2
BRTR	Keskin Array B	78.73	346	LR	LR	10 21 06.7	
comp=Z,40nm,18.7s,MS3.8,baz=318,slow=36							
CTA	Charters Tower	81.81	109	LR	LR	10 16 11.2	
comp=Z,108nm,18.6s,MS4.2,baz=228,slow=31							
KEST	Kesra	82.73	327	LR	LR	10 24 28.6	
comp=Z,73nm,19.9s,MS4.0,baz=226,slow=37							
PLCA	Paso Flores	85.49	220	LR	LR	10 19 15.3	
comp=Z,51nm,19.4s,MS3.9,baz=191,slow=32							
CPUP	Villa Florida	87.57	238	LR	LR	10 18 57.0	
comp=Z,43nm,18.7s,MS3.9,baz=352,slow=31							
AKTO	Aktyubinsk	87.97	4	LR	LR	10 20 34.6	
comp=Z,62nm,19.2s,MS4.0,baz=222,slow=32							
MKAR	Makanchi Array	88.61	21	LR	LR	10 21 19.9	
comp=Z,43nm,20.8s,MS3.8,baz=177,slow=32							
URZ	Urewera	89.46	140	LR	LR	10 18 33.5	
comp=Z,97nm,19.1s,MS4.2,baz=226,slow=30							
AKASG	Malin Array Be	90.14	346	LR	LR	10 26 27.6	
comp=Z,40nm,18.6s,MS3.9,baz=275,slow=35							
KURK	Kurchatov	91.29	17	P	P	09 46 45.6	-1.8
0.5nm,0.7s,mb4.0,baz=214,slow=4.7,SNR=6.7							
KURK	Kurchatov	91.29	17	P	P	09 46 45.6	-1.8
BVAR	Borovoye Array	91.88	11	LR	LR	10 24 10.4	
comp=Z,59nm,18.0s,MS4.1,baz=349,slow=33							
GERES	GERESS Array B	92.38	336	LR	LR	10 28 04.5	
comp=Z,57nm,18.4s,MS4.0,baz=81,slow=35							
ZALV	Zalesovo Beam	95.78	19	LR	LR	10 26 32.3	
comp=Z,45nm,18.6s,MS4.0,baz=45,slow=33							
SONM	Songino Array	98.34	34	LR	LR	10 28 09.9	
comp=Z,113nm,19.7s,MS4.4,baz=253,slow=33							
HNR	Honiara	98.76	109	LR	LR	10 24 38.2	
comp=Z,63nm,19.7s,MS4.1,baz=164,slow=31							
TBI	Tubuai	116.23	159	eLR	LR	10 27 40.2	
144nm,22.8s							
PPT2	Papeete2	121.62	157	eLR	LR	10 30 09.7	
81nm,22.2s							
TAOE	Nuku Hiva Isla	132.48	165	eLR	LR	10 35 14.3	
320nm,30.1s							
INK	Inuvik	149.24	3	PKPbc	PKPbc	09 53 30.3	+0.3
1.3nm,0.7s,baz=279,slow=1.7,SNR=3.1							
INK	Inuvik	149.24	3	PKPbc	PKPbc	09 53 30.3	+0.3
ILAR	Eielson Array	150.85	16	PKPbc	PKPbc	09 53 32.8	-1.2
0.6nm,0.7s,baz=311,slow=3.0,SNR=6.9							
ILAR				PKPab	PKPab	09 53 41.8	+0.5
1.0nm,1.0s,baz=332,slow=3.4,SNR=6.1							
ILAR	Eielson Array	150.85	16	PKPbc	PKPbc	09 53 32.8	-1.2
ILAR				PKPab	PKPab	09 53 41.8	+0.5
TXAR	Lajitas Array	157.50	256	PKPab	PKPab	09 54 11.4	+0.8
0.4nm,0.8s,baz=122,slow=3.4,SNR=4.5							
TXAR	Lajitas Array	157.50	256	PKPab	PKPab	09 54 11.4	+0.8

*DDA **29** 09:43:38.7, 37°.89N×29°.23E, h7km±1km, Md2.8*
*ISCJB **29** 09:43:39.2±0.5, 37°.90N±0°.03×29°.08E±0°.06, h10km, Error ellipse: s-maj=6.7km s-min=3.7km az=177.8*
*ISK **29** 09:43:39.2, 37°.90N×29°.04E, h7km, MD2.6*
*CSEM **29** 09:43:39.3±0.2, 37°.91N×29°.13E, h2km, MD2.6, Error ellipse: s-maj=7.5km s-min=4.1km az=91.0*

ISC 29 09:43:39.7±0.5, 37°.91N±0°.02×29°.11E±0°.06, h4km±15km, n20, σ0°96/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.17	201	ePG	Pg	09 43 42.8	-0.1
DENT	Denizli	0.17	201	ePg	Pg	09 43 42.8	-0.2
DNZL	Cakiroluk	0.23	192	iP	Pg	09 43 43.8	-0.3
DNZL				iS	Sg	09 43 52.6	+5.6
DNZL	Cakiroluk	0.23	192	iP	Pg	09 43 43.8	-0.3
KHAL	Karahalli	0.55	33	iP	Pg	09 43 49.0	-1.2
KHAL	Karahalli	0.55	33	iP	Pg	09 43 49.0	-1.2
KULA	Kula-Manisa	0.70	330	ePG	Pg	09 43 53.0	0.0
KULA				eSG	Sg	09 44 02.6	+0.4
KULA	Kula-Manisa	0.70	330	ePg	Pg	09 43 53.0	-0.1
KULA				eSg	Sg	09 44 02.6	+0.5
GLHS	Glhisar (BURDU	0.82	157	ePG	Pg	09 43 55.6	+0.3
GLHS				eSG	Sg	09 44 07.0	+1.2
GLHS	Glhisar (BURDU	0.82	157	ePg	Pg	09 43 55.6	+0.3
GLHS				eSg	Sg	09 44 07.0	+1.1
YER	Yerkesik	1.01	220	ePG	Pg	09 43 58.2	-0.9
YER				eSG	Sg	09 44 11.8	-0.5
YER	Yerkesik	1.01	220	ePg	Pg	09 43 58.2	-0.9
YER				eSg	Sg	09 44 11.8	-0.5
ISP	Isparta	1.12	94	ePN	Pg	09 44 02.1	+0.8
ISP	Isparta	1.12	94	ePn	Pg	09 44 02.1	+0.9
DEMI	Demirci	1.17	345	iP	Pg	09 44 03.4	+1.3
DEMI				iS	Sg	09 44 19.4	+2.1
DEMI	Demirci	1.17	345	iP	Pg	09 44 03.4	+1.3
DEMI				iS	Sg	09 44 19.4	+2.1
GDZ	Gediz	1.21	14	iP	Pg	09 44 01.5	-1.4
GDZ				iS	Sg	09 44 17.4	-1.3
GDZ	Gediz	1.21	14	iP	Pg	09 44 01.5	-1.4
GDZ				iS	Sg	09 44 17.4	-1.2
ELL	Elmali	1.32	151	ePN	Pn	09 44 04.9	-0.1
ELL	Elmali	1.32	151	ePn	Pn	09 44 04.9	0.0

*ISCJB **29** 10:07:10.6±3.3, 5°.9S±0°.2×147°.4E±0°.1, h78km±31km, mb3.9/4, Error ellipse: s-maj=35.3km s-min=15.4km az=147.7*
*NEIC **29** 10:07:11.8±2.3, 5°.85S×147°.46E, h76km±21km, mb4.2/1, Error ellipse: s-maj=29.3km s-min=9.7km az=151.0*
*IDC **29** 10:07:13.3±5.0, 5°.98S×147°.54E, h86km±47km, mb3.8/4, mb1 4.1/6, mb1mx3.7/16, mbtmp3.9/6, ML4.0/2, Error ellipse: s-maj=50.5km s-min=28.3km az=132.0*

ISC 29 10:07:10.9±2.6, 5°.8S±0°.2×147°.4E±0°.1, h67km±26km, n19, σ0°88/19, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.57	184	P	Pn	10 08 05.0	+1.2
28nm,0.3s,baz=355,slow=5.8,SNR=83							
PMG				S	Sn	10 08 44.5	-0.2
14nm,0.3s,baz=288,slow=20,SNR=2.6							
PMG	Port Moresby	3.57	184	P	Pn	10 08 05.0	+1.2
PMG				S	Sn	10 08 44.5	-0.2
COEN	Coen	9.09	207	ePn	Pn	10 09 20.3	+1.0
45nm,0.8s							
HNR	Honiara	12.95	107	Pn	Pn	10 10 11.3	-0.7
WRAB	Tennant Creek	18.91	221	eP	Pn	10 11 26.2	-1.3
11nm,0.7s							
WB2	Warramunga Arr	18.91	221	eP	Pn	10 11 26.3	-1.3
WRA	Warramunga Arr	18.92	221	P	Pn	10 11 26.6	-1.1
1.2nm,0.3s,baz=40,slow=12,SNR=51							
WRA	Warramunga Arr	18.92	221	P	Pn	10 11 26.6	-1.1
AS31	Alice Springs	21.98	215	eP	P	10 11 59.6	+0.1
ASAR	Alice Springs	21.98	215	P	P	10 11 59.9	+0.4
2.0nm,0.3s,mb3.9,baz=53,slow=9.1,SNR=134							
ASAR	Alice Springs	21.98	215	P	P	10 11 59.9	+0.4
FITZ	Fitzroy Crossi	24.49	238	P	P	10 12 25.1	+1.1
10nm,0.6s,mb4.4,baz=52,slow=8.6,SNR=43							
FITZ	Fitzroy Crossi	24.49	238	P	P	10 12 25.1	+1.1
STKA	Stephens Creek	26.48	191	P	P	10 12 42.5	+0.6
2.2nm,0.7s,mb3.7,baz=12,slow=14,SNR=7.1							
STKA	Stephens Creek	26.48	191	P	P	10 12 42.5	+0.6
ILAR	Eielson Array	85.17	23	P	P	10 19 39.8	+0.3
0.6nm,0.7s,mb3.6,baz=248,slow=4.5,SNR=12							
ILAR	Eielson Array	85.17	23	P	P	10 19 39.8	+0.3
TORD	Torodi Ar. Bea	145.43	285	PKPbc	PKPbc	10 26 42.3	-0.1
0.4nm,0.7s,baz=66,slow=4.7,SNR=3.4							
TORD	Torodi Ar. Bea	145.43	285	PKPbc	PKPbc	10 26 42.3	-0.1

IDC 29 10:13:17.6±1.7, 6°.81S×128°.70E, h0km, mb3.6/3, mb1 3.6/6, mb1mx3.5/16, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=90.3km s-min=25.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.61	195	Pn	Pn	10 16 03.6	-1.1
0.1nm,0.3s,baz=12,slow=12,SNR=5.2							
FITZ				Sn	Sn	10 17 59.3	-16
0.2nm,0.3s,baz=267,slow=19,SNR=3.2							
WRA	Warramunga Arr	14.16	158	Pn	Pn	10 16 39.4	-0.1
0.2nm,0.3s,baz=341,slow=13,SNR=4.7							
WRA				Sn	Sn	10 19 02.4	-15
0.4nm,0.3s,baz=337,slow=23,SNR=4.6							
ASAR	Alice Springs	17.49	164	P	Pn	10 17 24.1	+1.0
0.1nm,0.3s,baz=343,slow=11,SNR=7.4							
ASAR				S	Sn	10 20 25.2	-13
0.1nm,0.3s,baz=320,slow=17,SNR=4.1							
MKAR	Makanchi Array	67.36	327	P	P	10 24 15.3	+0.7
0.3nm,0.5s,baz=120,slow=8.0,SNR=4.6							
ZALV	Zalesovo Beam	70.85	334	P	P	10 24 35.7	-0.4
0.3nm,0.4s,baz=126,slow=7.3,SNR=2.2							
KURK	Kurchatov	71.69	329	P	P	10 24 41.2	-0.1
0.4nm,0.6s,baz=122,slow=4.8,SNR=5.9							

JMA 29 10:13:25.7, 34°.89N×137°.99E, h18km±1km, M2.6, 1C-1D Broadband fault plane solution: P waves. NP1: ϕ_s58.00000°, δ86.00000°, λ136.00000°. **NP2:** ϕ_s152.00000°, δ46.00000°, λ6.00000°. **Principal axes:** T Plg33.0000°, Azm5.0000°; N Plg46.0000°, Azm233.0000°; P Plg26.0000°, Azm113.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKKG	Kakegawa	0.10	188	P	Pg	10 13 29.1	-0.3
JKKG				S	Sg	10 13 31.6	-0.3
JHMK	Hamakita	0.20	249	P	Pg	10 13 30.3	-0.4
JHMK				S	Sg	10 13 33.5	-0.6
HMMJ	Hamamatsu 2	0.22	261	⇓P	Pg	10 13 30.8	-0.2
HMMJ				S	Sg	10 13 34.4	-0.2
SHZ3	Shizuoka 3	0.25	46	⇑P	Pg	10 13 31.4	0.0
SHZ3				S	Sg	10 13 35.3	-0.1
MAT	Matsushiro	1.66	6	P	Pn	10 13 54.8	+0.9
MAT				S	Sn	10 14 15.9	+1.2

*ISCJB **29** 10:17:03.7±0.6, 14°.35N±0°.05×93°.39W±0°.03, h33km, mb3.6/4 Error ellipse: s-maj=7.0km s-min=4.1km az=9.6*
*MEX **29** 10:17:03.7±1.1, 14°.21N×93°.35W, h16km±20km, MD4.4*
*IDC **29** 10:17:09.0±2.9, 14°.65N×93°.15W, h48km±21km, mb3.5/4, mb1 3.9/7, mb1mx3.6/23, mbtmp3.6/7, ML3.9/4, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=33.8km s-min=16.6km az=26.0*
*NEIC **29** 10:17:09.6±1.7, 14°.73N×93°.06W, h52km±16km, Error ellipse: s-maj=31.6km s-min=10.6km az=220.0*

ISC 29 10:17:05.8±0.7, 14°.40N±0°.05×93°.31W±0°.03, h35km, n33, σ1°32/45, mb3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.13	63	iP	Pn	10 17 22.3	-2.9
THIG				iS	Sn	10 17 38.4	-1.0
PCIG		1.30	4	iP	Pn	10 17 25.6	-1.9
PCIG				iS	Sn	10 17 43.3	-0.4
CCIG	Comitan	2.19	31	iP	Pn	10 17 40.5	+0.8
CCIG				iS	Sn	10 18 06.7	+1.1
TGIG		2.37	4	iP	Pn	10 17 42.7	+0.4
TGIG				iS	Sn	10 18 11.9	+1.8
HUIG	Huatulco	3.03	297	iP	Pn	10 17 49.2	-2.1
HUIG				iS	Sn	10 18 22.4	-3.9
CMIG	Matias Romero	3.08	331	P	Pn	10 17 52.0	+0.1
12nm,0.3s,baz=148,slow=13,SNR=242							
CMIG				S	Sn	10 18 27.9	+0.4
13nm,0.3s,baz=0.0,slow=20,SNR=5.5							
CMIG	Matias Romero	3.08	331	P	Pn	10 17 52.0	+0.1
CMIG				S	Sn	10 18 27.9	+0.4
CMIG	Matias Romero	3.08	331	iP	Pn	10 17 51.5	-0.4
CMIG				iS	Sn	10 18 28.0	+0.5
VHO	Vista Hermosa	4.24	309	iP	Pn	10 18 07.0	-0.9
VHO				iS	Sn	10 18 56.5	+0.4
PNIG	Pinotepa	5.05	294	iP	Pn	10 18 17.4	-1.7
PNIG				iS	Sn	10 19 15.9	-0.4
TPIG	Tehuac#an	5.58	316	iS	Sn	10 19 29.9	+0.6
TGUH	Tegucigalpa,Un	5.86	93	ePn	Pn	10 18 30.8	+0.5
PPM	Popocatepetl	6.89	313	eP	Pn	10 18 44.3	-0.1
PPM				iS	Sn	10 20 02.8	+1.2
CAIG	El Cayaco	7.20	292	eP	Pn	10 18 48.6	0.0
CAIG				iS	Sn	10 20 08.0	-1.2
TEIG	Tepich	7.53	39	P	Pn	10 18 51.2	-1.9
12nm,0.3s,baz=231,slow=1.9,SNR=57							
TEIG				S	Sn	10 20 14.6	-2.6
3.0nm,0.3s,baz=338,slow=19,SNR=4.3							
TEIG				LR	LR	10 21 57.6	
comp=Z,82nm,21.2s,baz=133,slow=40							
TEIG	Tepich	7.53	39	P	Pn	10 18 51.2	-1.9
TEIG				S	Sn	10 20 14.7	-2.6
ZIIG	Zihuatanejo	8.47	293	eP	Pn	10 19 06.5	+0.5
ZIIG				iS	Sn	10 20 44.8	+4.4
JTS	JuntasAbangare	9.13	116	P	Pn	10 19 18.6	+3.5
0.7nm,0.3s,baz=313,slow=19,SNR=3.6							
JTS	JuntasAbangare	9.13	116	P	Pn	10 19 18.6	+3.5
BCIP	Isla Barro Col	14.17	110	Pn	Pn	10 20 26.1	+1.9
TXAR	Lajitas Array	17.68	329	P	Pn	10 21 12.3	+2.9
0.0nm,0.3s,baz=156,slow=12,SNR=6.3							
TXAR	Lajitas Array	17.68	329	P	Pn	10 21 12.3	+2.9
TKL	Tuckaleechee C	22.84	20	LR	LR	10 33 46.3	
comp=Z,56nm,18.3s,baz=280,slow=44							
ANMO	Albuquerque	23.65	332	P	P	10 22 15.0	+1.0
0.6nm,0.8s,mb3.1,baz=126,slow=8.7,SNR=3.6							
ANMO	Albuquerque	23.65	332	P	P	10 22 15.0	+1.0
NVAR	Mina Array Bea	32.57	322	P	P	10 23 36.5	+2.7
1.2nm,0.8s,mb3.9,baz=134,slow=8.9,SNR=10							
NVAR	Mina Array Bea	32.57	322	P	P	10 23 36.5	+2.7
YKA	Yellowknife Ar	50.35	347	P	P	10 25 58.5	-0.5
0.6nm,0.6s,mb3.8,baz=153,slow=7.5,SNR=4.7							
YKA	Yellowknife Ar	50.35	347	P	P	10 25 58.5	-0.5
ILAR	Eielson Array	61.98	337	P	P	10 27 22.2	+0.2
0.6nm,0.8s,mb3.8,baz=139,slow=4.2,SNR=6.2							
ILAR	Eielson Array	61.98	337	P	P	10 27 22.2	+0.2
CMAR	Chiang Mai Arr	145.19	339	PKPbc	PKPbc	10 36 39.6	-0.6
0.8nm,0.3s,baz=337,slow=3.8,SNR=7.1							
CMAR	Chiang Mai Arr	145.19	339	PKPbc	PKPbc	10 36 39.6	-0.6

*ISCJB **29** 10:18:02.9±0.5, 37°.88N±0°.03×29°.23E±0°.04, h13km±7km, Error ellipse: s-maj=5.7km s-min=4.1km az=19.2*
*DDA **29** 10:18:02.8, 37°.89N×29°.25E, h7km±3km, Md2.9*
*ISK **29** 10:18:03.9, 37°.91N×29°.19E, h7km, MD2.6*
*CSEM **29** 10:18:03.1±0.2, 37°.89N×29°.27E, h2km, MD2.6, Error ellipse: s-maj=5.8km s-min=3.6km az=102.0*

ISC 29 10:18:03.3±0.5, 37°.88N±0°.03×29°.23E±0°.04, h18km±6km, n22, σ0°85/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.20	231	ePG	Pg	10 18 08.3	+0.1
DENT	Denizli	0.20	231	ePg	Pg	10 18 08.3	+0.1
DNZL	Cakiroluk	0.24	217	iP	Pg	10 18 08.0	-0.8
DNZL				iS	Sg	10 18 12.1	-0.5
DNZL	Cakiroluk	0.24	217	iP	Pg	10 18 08.0	-0.8
DNZL				iS	Sg	10 18 12.1	-0.5
KHAL	Karahalli	0.53	23	iP	Pg	10 18 13.7	-0.3
KHAL				iS	Sg	10 18 20.5	-0.6
KHAL	Karahalli	0.53	23	iP	Pg	10 18 13.7	-0.3
KHAL				iS	Sg	10 18 20.5	-0.6
GOLH	Golhisar	0.70	158	iP	Pg	10 18 15.4	-1.6
GOLH				iS	Sg	10 18 27.0	+0.8
GOLH	Golhisar	0.70	158	iP	Pg	10 18 15.4	-1.6
GOLH				iS	Sg	10 18 27.0	+0.7
KULA	Kula-Manisa	0.77	325	ePG	Pg	10 18 18.9	+0.4
KULA				eSG	Sg	10 18 29.2	+0.4
KULA	Kula-Manisa	0.77	325	ePg	Pg	10 18 18.9	+0.4
KULA				eSg	Sg	10 18 29.2	+0.4
MANT	Manisa	0.81	319	iP	Pg	10 18 19.6	+0.6
MANT				iS	Sg	10 18 29.5	-0.2
MANT	Manisa	0.81	319	iP	Pg	10 18 19.6	+0.5
MANT				iS	Sg	10 18 29.5	-0.2
YER	Yerkesik	1.06	226	ePG	Pg	10 18 24.5	+0.6
YER				eSG	Sg	10 18 39.5	+1.8
YER	Yerkesik	1.06	226	ePg	Pg	10 18 24.5	+0.7
YER				eSg	Sg	10 18 39.5	+1.8
AYDN	Tasoluk	1.09	259	iP	Pg	10 18 23.9	-0.6
AYDN				iS	Sg	10 18 37.8	-1.0
AYDN	Tasoluk	1.09	259	iP	Pg	10 18 23.9	-0.6
AYDN				iS	Sg	10 18 37.8	-1.0
GDZ	Gediz	1.22	9	iP	Pn	10 18 25.7	+0.1
GDZ				iS	Sb	10 18 39.6	-1.7
GDZ	Gediz	1.22	9	iP	Pn	10 18 25.7	+0.2
GDZ				iS	Sb	10 18 39.7	-1.7
DEMI	Demirci	1.23	341	iP	Pn	10 18 26.1	+0.5
DEMI				iS	Sb	10 18 41.7	+0.2
DEMI	Demirci	1.23	341	iP	Pn	10 18 26.1	+0.5
DEMI				iS	Sb	10 18 41.7	+0.2
ALT	Altintas	1.36	30	ePN	Pg	10 18 29.8	+0.2
ALT				eSN	Sg	10 18 48.9	+1.6
ALT	Altintas	1.36	30	ePn	Pg	10 18 29.8	+0.2

*ISK **29** 10:42:10.9, 37°.89N×29°.18E, h17km, MD2.7*
*ISCJB **29** 10:42:11.5±0.5, 37°.90N±0°.02×29°.17E±0°.06, h11km±9km, Error ellipse: s-maj=7.4km s-min=4.2km az=0.2*
*DDA **29** 10:42:11.3, 37°.90N×29°.23E, h3km±3km, Md2.8*
*CSEM **29** 10:42:11.3±0.2, 37°.90N×29°.17E, h10km, MD2.7, Error ellipse: s-maj=5.5km s-min=3.1km az=95.0*

ISC 29 10:42:11.8±0.6, 37°.90N±0°.03×29°.17E±0°.06, h13km±8km, n16, σ0°71/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.18	217	ePG	Pg	10 42 15.7	-0.2
DENT				eSG	Sg	10 42 19.2	+0.4
DENT	Denizli	0.18	217	ePg	Pg	10 42 15.7	-0.3
DENT				eSg	Sg	10 42 19.2	+0.4
DNZL	Cakiroluk	0.23	206	iP	Pg	10 42 16.4	-0.4
DNZL				iS	Sg	10 42 20.3	+0.2
DNZL	Cakiroluk	0.23	206	iP	Pg	10 42 16.4	-0.4
DNZL				iS	Sg	10 42 20.3	+0.1
KHAL	Karahalli	0.53	28	iP	Pg	10 42 22.1	-0.2
KHAL				iS	Sg	10 42 29.3	-0.1
KHAL	Karahalli	0.53	28	iP	Pg	10 42 22.1	-0.2
KHAL				iS	Sg	10 42 29.3	-0.1
GOLH	Golhisar	0.73	155	iP	Pg	10 42 24.7	-1.3
GOLH				iS	Sg	10 42 37.0	+1.5
GOLH	Golhisar	0.73	155	iP	Pg	10 42 24.7	-1.3
GOLH				iS	Sg	10 42 37.0	+1.4
KULA	Kula-Manisa	0.73	327	ePG	Pg	10 42 25.2	-0.9
KULA				eSG	Sg	10 42 36.8	+1.0
KULA	Kula-Manisa	0.73	327	ePg	Pg	10 42 25.2	-0.9
KULA				eSg	Sg	10 42 36.8	+1.1
GLHS	Glhisar (BURDU	0.79	161	ePG	Pg	10 42 26.5	-0.6
GLHS				eSG	Sg	10 42 37.8	+0.4
GLHS	Glhisar (BURDU	0.79	161	ePg	Pg	10 42 26.5	-0.6
GLHS				eSg	Sg	10 42 37.8	+0.4
YER	Yerkesik	1.04	223	ePG	Pg	10 42 30.8	-1.1
YER				eSG	Sg	10 42 46.0	+0.6
YER	Yerkesik	1.04	223	ePg	Pg	10 42 30.8	-1.1
YER				eSg	Sg	10 42 46.0	+0.5
GDZ	Gediz	1.21	11	iP	Pn	10 42 34.9	+0.5
GDZ				iS	Sb	10 42 50.4	+0.2
GDZ	Gediz	1.21	11	iP	Pn	10 42 34.9	+0.4
GDZ				iS	Sb	10 42 50.4	+0.2

*ISCJB **29** 10:45:12.6±0.7, 24°.54N±0°.04×122°.74E±0°.02, h94km±7km, Error ellipse: s-maj=6.9km s-min=3.2km az=176.5*
*JMA **29** 10:45:12.4±0.2, 24°.80N×122°.78E, h91km±3km, M2.2*
*TAP **29** 10:45:12.3, 24°.61N×122°.68E, h103km, ML3.4, C*

ISC 29 10:45:13.1±0.7, 24°.54N±0°.04×122°.74E±0°.02, h92km±7km, n35, σ0°70/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.26	106	P	Pn	10 45 26.6	0.0
YOJ				S	Sn	10 45 37.4	+0.8
TWC	Suao	0.81	275	P	Pn	10 45 30.4	-0.5
baz=272							
TWC				S	Sn	10 45 43.3	-1.0
baz=272							
ENA	Nanau	0.91	263	P	Pn	10 45 32.0	0.0
baz=253							
ENA				eS	Sn	10 45 46.4	+0.3
baz=253							
IRIF	Iriomote-Funau	0.93	102	P	Pn	10 45 31.9	-0.2
IRIF				S	Sn	10 45 46.6	+0.2
TWE	Neicheng	0.99	281	P	Pn	10 45 32.5	-0.4
baz=273							
TWE				eS	Sn	10 45 47.0	-0.7
baz=273							
NWF	Wu-fen Shan	1.02	302	eP	Pn	10 45 33.1	0.0
baz=299							
NWF				eS	Sn	10 45 48.3	+0.1
baz=299							
ENTT	Nioudou	1.07	276	P	Pn	10 45 33.8	0.0
baz=268							
ENTT				eS	Sn	10 45 49.7	+0.5
baz=268							
HATJ	Hateruma jima	1.09	116	P	Pn	10 45 35.0	+1.1
HATJ				eS	Sn	10 45 50.4	+0.8
TWD	Chiawan	1.13	247	P	Pn	10 45 33.9	-0.6
baz=236							
TWD				eS	Sn	10 45 50.5	-0.1
baz=236							
TWA	Mucha	1.14	293	eP	Pn	10 45 34.2	-0.3
baz=282							
JKRS	Kuro-shima	1.20	104	P	Pn	10 45 35.5	+0.2
JKRS				S	Sn	10 45 52.6	+0.7
NNS	Nan Shan	1.25	266	iP	Pn	10 45 35.7	-0.1
baz=256							
NNS				eS	Sn	10 45 52.6	-0.3
baz=256							
NSK	Sanguang	1.26	277	P	Pn	10 45 35.9	-0.1
baz=266							
NSK				S	Sn	10 45 52.9	-0.4
baz=266							
JIJ	Ishigaki jima	1.29	97	P	Pn	10 45 36.0	-0.4
JIJ				S	Sn	10 45 53.2	-0.8
TWS1	Kuangyinshan	1.32	295	eP	Pn	10 45 37.8	+1.0
baz=287							
ESL	Shilin	1.39	239	P	Pn	10 45 37.1	-0.5
baz=234							
ESL				eS	Sn	10 45 55.5	-0.6
baz=234							
WHF	Hehuan Shan	1.40	254	iP	Pn	10 45 37.9	+0.2
baz=250							
WHF				eS	Sn	10 45 56.5	+0.2
baz=250							
TWT	Tachien	1.45	259	eP	Pn	10 45 38.9	+0.5
baz=255							

	baz=218							
TWG				*e*S		**Sn**	**10 46 16.4**	**-0.5**
	baz=218							
WTP	**Ta-pu**	**2.33**	**237**	*e*P		**Pn**	**10 45 50.3**	**+0.6**
	baz=233							
WTP				*e*S		**Sn**	**10 46 18.0**	**+0.3**
	baz=233							
CHN1	**Nanshi**	**2.43**	**237**	*e*P		**Pn**	**10 45 52.3**	**+1.3**
	baz=233							
CHN1				*e*S		**Sn**	**10 46 20.1**	**0.0**
	baz=233							
LAY	**Lan-yu**	**2.71**	**204**	*e*P		**Pn**	**10 45 53.9**	**-1.0**
	baz=197							

*DDA **29** 10:57:01.9, 37°.88N×29°.26E, h7km±4km, Md2.8*
*ISCJB **29** 10:57:02.8±0.6, 37°.88N±0°.03×29°.27E±0°.07, h10km±6km, Error ellipse: s-maj=8.8km s-min=5.6km az=11.2*
*CSEM **29** 10:57:02.4±0.3, 37°.88N×29°.21E, h12km, MD2.4, Error ellipse: s-maj=8.0km s-min=5.1km az=101.0*
*ISK **29** 10:57:02.2, 37°.56N×29°.23E, h8km, MD2.4*
ISC 29 10:57:02.7±0.6**, 37°.86N**±0°.04×**29°.23E**±0°.06**, h17**km±7km**, n17**,σ1s**04**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**234**	PG	**Pg**	**10 57 07.0**	**-0.3**
DENT				SG	**Sg**	**10 57 12.0**	**+1.6**
DENT	**Denizli**	**0.19**	**234**	*i* Pg	**Pg**	**10 57 07.0**	**-0.3**
DENT				*i* Sg	**Sg**	**10 57 12.0**	**+1.6**
DNZL	**Cakiroluk**	**0.23**	**219**	*i* P	**Pg**	**10 57 07.4**	**-0.4**
DNZL				*i* S	**Sg**	**10 57 11.1**	**-0.2**
DNZL	**Cakiroluk**	**0.23**	**219**	*i* P	**Pg**	**10 57 07.4**	**-0.4**
DNZL				*i* S	**Sg**	**10 57 11.1**	**-0.3**
KHAL	**Karahalli**	**0.55**	**22**	*i* P	**Pg**	**10 57 12.8**	**-0.8**
KHAL				*i* S	**Sg**	**10 57 20.6**	**-0.3**
KHAL	**Karahalli**	**0.55**	**22**	*i* P	**Pg**	**10 57 12.8**	**-0.7**
KHAL				*i* S	**Sg**	**10 57 20.6**	**-0.3**
GOLH	**Golhisar**	**0.68**	**157**	*i* P	**Pg**	**10 57 15.2**	**-0.9**
GOLH				*i* S	**Sg**	**10 57 27.8**	**+2.7**
GOLH	**Golhisar**	**0.68**	**157**	*i* P	**Pg**	**10 57 15.2**	**-0.8**
GOLH				*i* S	**Sg**	**10 57 27.8**	**+2.8**
KULA	**Kula-Manisa**	**0.79**	**326**	*e*PG	**Pg**	**10 57 22.4**	**+4.3**
ISP	**Isparta**	**1.03**	**92**	PG	**Pg**	**10 57 23.3**	**+0.8**
ISP	**Isparta**	**1.03**	**92**	*i* Pg	**Pg**	**10 57 23.3**	**+0.7**
YER	**Yerkesik**	**1.05**	**226**	*e*PG	**Pg**	**10 57 20.0**	**-2.9**
GDZ	**Gediz**	**1.24**	**9**	*i* P	**Pn**	**10 57 25.0**	**-0.2**
GDZ				*i* S	**Sb**	**10 57 41.4**	**0.0**
GDZ	**Gediz**	**1.24**	**9**	*i* P	**Pn**	**10 57 25.0**	**-0.3**
GDZ				*i* S	**Sb**	**10 57 41.3**	**-0.1**
ELL	**Elmali**	**1.24**	**154**	PG	**Pg**	**10 57 21.2**	**-5.4**
DEMI	**Demirci**	**1.24**	**341**	*i* P	**Pn**	**10 57 25.7**	**+0.4**
DEMI				*i* S	**Sb**	**10 57 42.3**	**+0.8**
DEMI	**Demirci**	**1.24**	**341**	*i* P	**Pn**	**10 57 25.7**	**+0.4**
DEMI				*i* S	**Sb**	**10 57 42.3**	**+0.8**

*IDC **29** 11:52:29.6±2.4, 7°.75S×106°.10E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/21, mbtmp3.7/8, MS3.7/2, Ms1 3.7/2, ms1mx2.9/32, Error ellipse: s-maj=132.3km s-min=18.3km az=51.0*
*DJA **29** 11:52:34, 7°.83S×106°.26E, h16km, MLv4.0/10*
ISC 29 11:52:33.8±1.5**, 7°.85S**±0°.05×**106°.19E**±0°.07**, h22**km±11km**, n19**,σ1s**00**/21**, mb3.6**/8**, MS3.8**/2**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.92**	**24**	P	**Pb**	**11 52 50.2**	**-0.8**
SKJI				S	**Sb**	**11 53 01.8**	**-1.0**
CGJI	**Cibinong**	**1.32**	**338**	P	**Pn**	**11 52 58.2**	**+1.2**
CGJI				S	**Sn**	**11 53 14.2**	**+0.3**
CISI	**Cisompet, Garu**	**1.64**	**80**	P	**Pn**	**11 53 00.4**	**-0.9**
CISI				S	**Sn**	**11 53 15.5**	**-6.3**
SBJI	**Serang**	**1.72**	**358**	P	**Pn**	**11 53 03.5**	**+1.1**
TNG	**Tangerang**	**1.73**	**15**	P	**Pn**	**11 53 02.7**	**+0.1**
TNG				P		11 53 02.4	
TNG				S	**Sn**	**11 53 24.9**	**+1.0**
LEM	**Lembang**	**1.75**	**55**	P	**Pn**	**11 53 03.5**	**+0.7**
LEM				S	**Sn**	**11 53 25.0**	**+0.6**
RBSI	**Rajabasa**	**2.04**	**347**	P	**Pn**	**11 53 08.6**	**+1.8**
XMIS	**Christmas Isla**	**2.67**	**191**	P	**Pn**	**11 53 16.5**	**+1.0**
WRA	**Warramunga Arr**	**29.80**	**117**	P	**P**	**11 58 39.5**	**+0.2**
	0.2nm,0.3s,mb3.3,baz=293,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**30.87**	**124**	P	**P**	**11 58 49.4**	**+0.6**
	0.1nm,0.4s,mb3.0,baz=303,slow=7.9,SNR=6.5						
STKA	**Stephens Creek**	**40.69**	**131**	P	**P**	**12 00 13.1**	**+0.3**
	3.7nm,1.1s,mb3.9,baz=294,slow=6.8,SNR=4.6						
KSRS	**Korea Array**	**49.44**	**23**	LR	LR	12 20 59.6	
	comp=Z,79nm,18.2s,MS3.8,baz=37,slow=35						
SONM	**Songino Array**	**55.44**	**0**	P	**P**	**12 02 05.8**	**-0.7**
	0.2nm,0.5s,mb3.4,baz=183,slow=7.8,SNR=3.7						
SONM				PcP	PcP	12 03 03.9	-2.7
	0.3nm,0.7s,baz=198,slow=4.2,SNR=4.4						
MKAR	**Makanchi Array**	**58.41**	**341**	P	**P**	**12 02 25.8**	**-1.9**
	0.6nm,0.7s,mb3.7,baz=145,slow=7.5,SNR=6.8						
KURK	**Kurchatov**	**63.02**	**341**	P	**P**	**12 02 57.5**	**-1.5**
	0.8nm,0.9s,mb3.9,baz=155,slow=6.2,SNR=7.2						
ZALV	**Zalesovo Beam**	**64.15**	**346**	P	**P**	**12 03 04.9**	**-1.5**
	0.3nm,0.3s,mb3.7,baz=145,slow=5.3,SNR=2.9						
BVAR	**Borovoye Array**	**67.83**	**338**	P	**P**	**12 03 29.3**	**-0.7**
	1.5nm,0.6s,mb4.2,baz=132,slow=8.3,SNR=14						
LBTB	**Lobatse**	**78.23**	**246**	LR	LR	12 31 48.4	
	comp=Z,48nm,20.7s,MS3.8,baz=38,slow=30						
TXAR	**Lajitas Array**	**144.73**	**49**	PKP	PKPdf	12 12 09.2	-0.4
	0.1nm,0.5s,baz=204,slow=2.0,SNR=5.2						

*SOF **29** 12:02:23.6, 40°.34N×25°.59E, h2km, MD3.0*
*ISCJB **29** 12:02:23.7±0.4, 40°.36N±0°.02×25°.80E±0°.02, h6km±3km, Error ellipse: s-maj=3.3km s-min=2.3km az=138.7*
*ATH **29** 12:02:24.0, 40°.35N×25°.82E, h27km, MD3.2/5*
*THE **29** 12:02:24.6, 40°.35N×25°.84E, h8km±1km, ML3.0/4, Error ellipse: s-maj=1.3km s-min=0.3km az=101.0*
*ISK **29** 12:02:24.0, 40°.37N×25°.93E, h5km, MD3.1*
*DDA **29** 12:02:24.4, 40°.34N×25°.90E, h21km±1km, Md3.2*
*CSEM **29** 12:02:24.0±0.1, 40°.35N×25°.82E, h2km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.0km az=38.0*
*BEO **29** 12:02:26.9±1.5, 40°.39N×25°.84E, h21km±7km, ML3.1/3*
ISC 29 12:02:24.4±0.4**, 40°.35N**±0°.02×**25°.82E**±0°.02**, h6**km±3km**, n116**,σ0s**90**/155**, 4C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.46**	**33**	*e*PG	**Pg**	**12 02 33.3**	**0.0**
ENEZ				*e*SG	**Sg**	**12 02 39.6**	**+0.3**
ENEZ	**Enez**	**0.46**	**33**	*e*Pg	**Pg**	**12 02 33.3**	**0.0**
ENEZ				*e*Sg	**Sg**	**12 02 39.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.50**	**84**	*e*PG	**Pg**	**12 02 33.5**	**-0.5**
GELI				*e*SG	**Sg**	**12 02 40.2**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.50**	**84**	*e*Pg	**Pg**	**12 02 33.5**	**-0.5**
GELI				*e*Sg	**Sg**	**12 02 40.2**	**-0.3**
BOZC	**Bozcaada**	**0.54**	**161**	*i* P	**Pg**	**12 02 35.1**	**+0.3**
BOZC				*i* S	**Sg**	**12 02 42.5**	**+0.7**
ALN	**Alexandroupoli**	**0.57**	**17**	*e*PN	**Pg**	**12 02 35.5**	**+0.1**
ALN				*e*SN	**Sg**	**12 02 43.8**	**+0.9**
ALN	**Alexandroupoli**	**0.57**	**17**	P	**Pg**	**12 02 35.5**	**+0.1**
ALN				S	**Sg**	**12 02 43.7**	**+0.8**
ALN	**Alexandroupoli**	**0.57**	**17**	P	**Pg**	**12 02 35.5**	**+0.1**
ALN				S	**Sg**	**12 02 43.7**	**+0.8**
ERIK	**Erikli-Kesan**	**0.62**	**58**	*e*PG	**Pg**	**12 02 35.7**	**-0.5**
ERIK				*e*SG	**Sg**	**12 02 44.3**	**0.0**
ERIK	**Erikli-Kesan**	**0.62**	**58**	*e*Pg	**Pg**	**12 02 35.7**	**-0.5**
ERIK				*e*Sg	**Sg**	**12 02 44.3**	**0.0**
EZN	**Ezine**	**0.65**	**143**	*e*PG	**Pg**	**12 02 36.9**	**+0.1**
EZN	**Ezine**	**0.65**	**143**	*e*Pg	**Pg**	**12 02 36.9**	**0.0**
LIA	**Limnos Island**	**0.67**	**228**	*e*PN	**Pg**	**12 02 37.6**	**+0.4**
LIA				*e*SN	**Sg**	**12 02 46.9**	**+1.0**
LIA	**Limnos Island**	**0.67**	**228**	P	**Pg**	**12 02 37.6**	**+0.4**
LIA				S	**Sg**	**12 02 47.4**	**+1.5**
LIA	**Limnos Island**	**0.67**	**228**	P	**Pg**	**12 02 37.6**	**+0.4**
LIA				S	**Sg**	**12 02 47.4**	**+1.5**
LPK	**Lapseki**	**0.72**	**88**	*e*PG	**Pg**	**12 02 37.2**	**-1.0**
LPK	**Lapseki**	**0.72**	**88**	*e*Pg	**Pg**	**12 02 37.2**	**-1.0**
RDO	**Rodhopi**	**0.82**	**345**	*e*PN	**Pg**	**12 02 40.0**	**-0.2**
RDO				*e*SN	**Sg**	**12 02 51.6**	**+0.6**
RDO	**Rodhopi**	**0.82**	**345**	P	**Pg**	**12 02 40.0**	**-0.2**
RDO				S	**Sg**	**12 02 52.4**	**+1.4**
RDO	**Rodhopi**	**0.82**	**345**	P	**Pg**	**12 02 40.0**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.09**	**71**	*e*PG	**Pg**	**12 02 44.4**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.09**	**71**	*e*Pg	**Pg**	**12 02 44.4**	**-0.8**
SART	**Tekirdag**	**1.09**	**71**	*i* P	**Pg**	**12 02 43.7**	**-1.5**
SART				*i* S	**Sg**	**12 02 59.2**	**-0.2**
SART	**Tekirdag**	**1.09**	**71**	*i* P	**Pg**	**12 02 43.7**	**-1.6**
KRBG	**Karabiga-Canak**	**1.13**	**87**	*e*PG	**Pg**	**12 02 45.0**	**-1.0**
KRBG	**Karabiga-Canak**	**1.13**	**87**	*e*Pg	**Pg**	**12 02 45.0**	**-1.0**
PRK	**Paraskevi**	**1.16**	**162**	*e*PN	**Pn**	**12 02 46.1**	**-1.0**
PRK				*e*SN	**Sn**	**12 03 01.9**	**-1.3**
PRK	**Paraskevi**	**1.16**	**162**	P	**Pg**	**12 02 46.0**	**-0.5**
PRK				S	**Sg**	**12 03 02.5**	**+1.0**
PRK	**Paraskevi**	**1.16**	**162**	P	**Pg**	**12 02 46.0**	**-0.5**
PRK				*e*Sn	**Sn**	**12 03 01.9**	**-1.3**
PRK				S	**Sg**	**12 03 02.5**	**+1.0**
KAVA	**Kavala**	**1.19**	**303**	P	**Pg**	**12 02 46.6**	**-0.6**
KAVA	**Kavala**	**1.19**	**303**	P	**Pg**	**12 02 46.6**	**-0.6**
AYVA	**Ayvalik**	**1.24**	**147**	*i* P	**Pg**	**12 02 47.4**	**-0.7**
AYVA				*i* S	**Sg**	**12 03 03.6**	**-0.6**
AYVA	**Ayvalik**	**1.24**	**147**	*i* P	**Pg**	**12 02 47.4**	**-0.7**
AYVA				*i* S	**Sg**	**12 03 03.6**	**-0.5**
KDZ	**Kurdzhali**	**1.33**	**347**	P	**Pn**	**12 02 49.2**	**-0.4**
KDZ	**Kurdzhali**	**1.33**	**347**	P	**Pn**	**12 02 49.2**	**-0.4**
TKR	**Tekirdag**	**1.45**	**63**	*e*PN	**Pn**	**12 02 51.5**	**+0.3**
TKR	**Tekirdag**	**1.45**	**63**	*e*Pn	**Pn**	**12 02 51.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.46**	**101**	*e*PN	**Pn**	**12 02 51.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.46**	**101**	*e*Pn	**Pn**	**12 02 51.6**	**+0.3**
BALY	**Balya**	**1.51**	**113**	*i* P	**Pn**	**12 02 51.9**	**0.0**
BALY				*i* S	**Sn**	**12 03 12.1**	**+0.2**
BALY	**Balya**	**1.51**	**113**	*i* P	**Pn**	**12 02 51.9**	**0.0**
EDC	**Edincik**	**1.56**	**89**	*e*PN	**Pn**	**12 02 52.7**	**0.0**
EDC	**Edincik**	**1.56**	**89**	*e*Pn	**Pn**	**12 02 52.7**	**0.0**
RZN	**Rozhen**	**1.58**	**328**	*i* P	**Pn**	**12 02 52.3**	**-0.6**
RZN	**Rozhen**	**1.58**	**328**	*i* P	**Pn**	**12 02 52.3**	**-0.6**
BNT	**Bandirma**	**1.60**	**89**	*e*PN	**Pn**	**12 02 53.1**	**-0.2**
BNT	**Bandirma**	**1.60**	**89**	*e*Pn	**Pn**	**12 02 53.1**	**-0.2**
EDRB	**Edirne**	**1.65**	**25**	*e*PN	**Pn**	**12 02 54.1**	**+0.2**
EDRB	**Edirne**	**1.65**	**25**	*e*Pn	**Pn**	**12 02 54.1**	**+0.2**
DIM	**Dimitrovgrad**	**1.71**	**353**	P	**Pn**	**12 02 56.4**	**+1.6**
DIM	**Dimitrovgrad**	**1.71**	**353**	P	**Pn**	**12 02 56.4**	**+1.6**
NVR	**Nevrokopi**	**1.79**	**305**	*e*PB	**Pb**	**12 02 55.0**	**-2.6**
NVR				*e*SN	**Sn**	**12 03 18.1**	**-0.8**
NVR	**Nevrokopi**	**1.79**	**305**	P	**Pn**	**12 02 55.3**	**-0.6**
NVR	**Nevrokopi**	**1.79**	**305**	*e*Pb	**Pb**	**12 02 55.0**	**-2.6**
NVR	**Nevrokopi**	**1.79**	**305**	P	**Pn**	**12 02 55.3**	**-0.6**
NVR				*e*Sn	**Sn**	**12 03 18.1**	**-0.8**
PLG	**Polygyros**	**1.82**	**272**	*e*PB	**Pb**	**12 02 55.3**	**-2.8**
PLG	**Polygyros**	**1.82**	**272**	*e*Pb	**Pb**	**12 02 55.3**	**-2.8**
KCTX	**Karacabey (Bur**	**1.94**	**92**	*e*PN	**Pn**	**12 02 57.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.94**	**92**	*e*Pn	**Pn**	**12 02 57.7**	**-0.2**
SOH	**Sokhos**	**1.94**	**285**	*e*PN	**Pn**	**12 02 57.7**	**-0.2**
SOH	**Sokhos**	**1.94**	**285**	*e*Pn	**Pn**	**12 02 57.7**	**-0.2**
PLD	**Plovdiv**	**1.95**	**335**	*e*Pn	**Pn**	**12 02 58.9**	**+0.9**
PLD				*e*SN	**Sn**	**12 03 21.9**	**-0.9**
PLD				*i* Sg	**Sg**	**12 03 27.6**	**+0.7**
PLD	**Plovdiv**	**1.95**	**335**	P	**Pn**	**12 02 57.3**	**-0.7**
PLD	**Plovdiv**	**1.95**	**335**	P	**Pn**	**12 03 01.1**	**+3.1**
PLD	**Plovdiv**	**1.95**	**335**	P	**Pn**	**12 02 57.3**	**-0.7**
PLD	**Plovdiv**	**1.95**	**335**	*e*Pn	**Pn**	**12 02 58.9**	**+0.9**
PLD				*e*Sn	**Sn**	**12 03 21.9**	**-0.9**
PLD				*i* Sg	**Sg**	**12 03 27.6**	**+0.7**
MMB	**Musomiste**	**2.01**	**309**	P	**Pn**	**12 02 57.9**	**-1.0**
MMB	**Musomiste**	**2.01**	**309**	P	**Pn**	**12 02 57.9**	**-1.0**
SLVT	**Silivri**	**2.01**	**63**	*e*PN	**Pn**	**12 02 59.5**	**+0.5**
SLVT	**Silivri**	**2.01**	**63**	*e*Pn	**Pn**	**12 02 59.5**	**+0.6**
AKHS	**Akhisar**	**2.13**	**133**	*i* P	**Pn**	**12 03 00.3**	**-0.2**
AKHS				*i* S	**Sn**	**12 03 27.3**	**+0.1**
AKHS	**Akhisar**	**2.13**	**133**	*i* P	**Pn**	**12 03 00.3**	**-0.2**
ELBA	**Catalca**	**2.13**	**67**	*i* P	**Pn**	**12 02 58.1**	**-2.4**
ELBA	**Catalca**	**2.13**	**67**	*i* P	**Pn**	**12 02 58.2**	**-2.4**
DURS	**Dursunbey**	**2.17**	**109**	*i* P	**Pn**	**12 03 01.1**	**0.0**
DURS				*i* S	**Sn**	**12 03 29.7**	**+1.5**
DURS	**Dursunbey**	**2.17**	**109**	*i* P	**Pn**	**12 03 01.1**	**0.0**
DURS				*i* S	**Sn**	**12 03 29.7**	**+1.4**
BLCB	**Balcova**	**2.18**	**154**	*e*PN	**Pn**	**12 03 02.7**	**+1.5**
BLCB	**Balcova**	**2.18**	**154**	*e*Pn	**Pn**	**12 03 02.7**	**+1.5**
CTYL	**Yal??k??y-??at**	**2.18**	**58**	*e*PN	**Pn**	**12 03 01.9**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.18**	**58**	*e*Pn	**Pn**	**12 03 01.9**	**+0.7**
CTKS	**Kestanelik-??a**	**2.22**	**66**	*e*PN	**Pn**	**12 03 02.5**	**+0.7**
CTKS	**Kestanelik-??a**	**2.22**	**66**	*e*Pn	**Pn**	**12 03 02.5**	**+0.7**
ARMT	**Armutlu**	**2.33**	**84**	*e*PN	**Pn**	**12 03 04.1**	**+0.8**
ARMT	**Armutlu**	**2.33**	**84**	*e*Pn	**Pn**	**12 03 04.1**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.34**	**89**	*e*PN	**Pn**	**12 03 04.2**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.34**	**89**	*e*Pn	**Pn**	**12 03 04.3**	**+0.9**
BGKT	**Bogazkoy**	**2.39**	**69**	*e*PN	**Pn**	**12 03 04.7**	**+0.6**
BGKT	**Bogazkoy**	**2.39**	**69**	*e*Pn	**Pn**	**12 03 04.7**	**+0.6**
PGB	**Panagyurishte**	**2.53**	**331**	P	**Pn**	**12 03 10.7**	**+4.7**
PGB	**Panagyurishte**	**2.53**	**331**	P	**Pn**	**12 03 10.7**	**+4.7**
KKB	**Krupnik**	**2.57**	**307**	P	**Pn**	**12 03 06.2**	**-0.3**
KKB	**Krupnik**	**2.57**	**307**	P	**Pn**	**12 03 06.2**	**-0.3**
DEMI	**Demirci**	**2.59**	**119**	*i* P	**Pn**	**12 03 07.1**	**+0.3**
DEMI				*i* S	**Sn**	**12 03 39.2**	**+0.7**
DEMI	**Demirci**	**2.59**	**119**	*i* P	**Pn**	**12 03 07.1**	**+0.3**
DEMI				*i* S	**Sn**	**12 03 39.2**	**+0.7**
KLYT	**Kilyos**	**2.60**	**69**	*e*PN	**Pn**	**12 03 08.1**	**+1.1**
KLYT	**Kilyos**	**2.60**	**69**	*e*Pn	**Pn**	**12 03 08.1**	**+1.1**
VTS	**Vitosha**	**2.98**	**320**	*e*Pn	**Pn**	**12 03 12.6**	**+0.4**
VTS				*e*Sn	**Sn**	**12 03 47.7**	**-0.5**
VTS				*e*Sg	**Sg**	**12 04 01.1**	**+1.0**
VTS	**Vitosha**	**2.98**	**320**	P	**Pn**	**12 03 13.0**	**+0.8**
VTS	**Vitosha**	**2.98**	**320**	‖*i*P	**Pn**	**12 03 21.3**	**+9.1**
VTS	**Vitosha**	**2.98**	**320**	*e*Pn	**Pn**	**12 03 12.6**	**+0.4**
VTS	**Vitosha**	**2.98**	**320**	P	**Pn**	**12 03 13.0**	**+0.8**
VTS				*e*Sn	**Sn**	**12 03 47.7**	**-0.5**
VTS				*e*Sg	**Sg**	**12 04 01.1**	**+1.0**
GDZ	**Gediz**	**3.09**	**113**	*i* P	**Pn**	**12 03 12.3**	**-1.4**
GDZ				*i* S	**Sn**	**12 03 60.9**	**+9.0**
GDZ	**Gediz**	**3.09**	**113**	*i* P	**Pn**	**12 03 12.3**	**-1.4**
MPEP	**Malo Peshtene**	**3.38**	**333**	P	**Pn**	**12 03 18.3**	**+0.6**
ZAPS	**Zavoj**	**3.77**	**322**	*e*Pn	**Pn**	**12 03 24.4**	**+1.3**
BARS	**Barje**	**3.89**	**311**	*e*Pn	**Pn**	**12 03 24.9**	**+0.2**
TIRR	**Tirgusor**	**4.53**	**24**	‖*i*P	**Sn**	**12 04 24.8**	**-1.7**
VOIR		**5.12**	**354**	‖*i*P	**Pn**	**12 03 44.4**	**+2.9**
VOIR		**5.12**	**354**	‖*i*P	**Pn**	**12 03 44.4**	**+2.9**
MLR	**Muntele Rosu**	**5.14**	**1**	‖*i*P	**Pn**	**12 03 47.8**	**+5.9**
GRUS	**Gruza**	**5.19**	**315**	*e*Pn	**Pn**	**12 03 42.4**	**-0.2**
GRUS	**Gruza**	**5.19**	**315**	*e*Pn	**Pn**	**12 03 42.4**	**-0.2**
GZR	**Gura Zlata**	**5.51**	**337**	‖*i*P	**Pn**	**12 03 46.3**	**-0.7**
GZR	**Gura Zlata**	**5.51**	**337**	‖*i*P	**Pn**	**12 03 46.3**	**-0.7**
VRI	**Vrincioaia**	**5.55**	**7**	‖*i*P	**Pn**	**12 03 48.7**	**+1.1**
VRI	**Vrincioaia**	**5.55**	**7**	‖*i*P	**Pn**	**12 03 48.7**	**+1.1**

*MOS **29** 12:07:41.7±1.0, 48°.20N×154°.48E, h55km, mb4.9/21, Error ellipse: s-maj=11.4km s-min=6.1km az=81.6*
*KRSC **29** 12:07:42.8±2.9, 47°.87N×156°.73E, h10km±10km, ML4.9*
*ISCJB **29** 12:07:43.3±0.7, 48°.24N±0°.06×154°.60E±0°.08, h49km±5km, mb4.4/47, MS3.9/4, Error ellipse: s-maj=12.6km s-min=4.3km az=140.0*
*SKHL **29** 12:07:43.5±1.5, 47°.95N×155°.00E, h93km±4km, mb5.3/2, msh6.0/2*
*NEIC **29** 12:07:45.5±0.6, 48°.20N×154°.47E, h56km±5km, mb4.8/25, Error ellipse: s-maj=10.2km s-min=4.6km az=142.0*
*IDC **29** 12:07:45.4±3.2, 48°.25N×154°.34E, h51km±28km, mb3.8/24, mb1 4.0/26, mb1mx4.0/31, mbtmp3.8/26, ML4.0/2, MS3.8/3, Ms1 3.8/3, ms1mx2.9/41, Error ellipse: s-maj=17.1km s-min=11.8km az=148.0*
*BJI **29** 12:07:46.3, 48°.20N×154°.60E, h64km, mB4.7/5, mb4.2/6*
ISC 29 12:07:46.1±0.6**, 48°.29N**±0°.06×**154°.52E**±0°.09**, h57**km±4km**, n202**,σ1s**05**/214**, mb4.4**/47**, MS3.9**/4**, 6C-12D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**23**	*e*PN	**Pn**	**12 08 27.5**	**+1.6**
SKR				*e*S	**Sn**	**12 08 59.4**	**+3.0**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,160nm,0.4s						
SKR				smax			
	comp=N,1μm,0.3s						
SKR				smax			
	comp=E,920nm,0.3s						
SKR	**Severo-Kuril's**	**2.62**	**23**	*e*P	**Pn**	**12 08 27.5**	**+1.6**
SKR				AMB	AMB	12 08 30.0	
	comp=E,80nm,0.4s						
SKR				AMB	AMB	12 08 30.0	
	comp=E,160nm,0.4s						
SKR				*e*S	**Sn**	**12 08 59.4**	**+3.0**
SKR				A		12 09 06.6	
	comp=E,1μm,0.3s						
SKR				A		12 09 06.6	
	comp=E,920nm,0.3s						
SKR				A		12 09 06.6	
	comp=E,230nm,0.4s						
GRL	**Gorelyy**	**4.84**	**27**	*e*P	**Pn**	**12 08 56.9**	**+0.7**
GRL				*e*S	**Sn**	**12 09 50.8**	**-0.1**
RUS	**Russkaya**	**4.88**	**30**	*e*P	**Pn**	**12 08 55.4**	**-1.4**
RUS				*i* S	**Sn**	**12 09 48.2**	**-3.6**
RUS	**Russkaya**	**4.88**	**30**	PN	**Pn**	**12 08 55.4**	**-1.4**
PEA0B	**Petropavlovsk-**	**5.24**	**21**	*e*Pn	**Pn**	**12 09 03.2**	**+1.6**
PETK	**Petropavlovsk-**	**5.24**	**21**	P	**Pn**	**12 09 02.7**	**+1.0**
	comp=E,9.1nm,0.3s,baz=184,slow=12,SNR=123						
PETK				LR	LR	12 11 15.4	
	comp=E,109nm,21.5s,baz=5.5,slow=40						
PETK	**Petropavlovsk-**	**5.24**	**21**	P	**Pn**	**12 09 02.7**	**+1.0**
PETK	**Petropavlovsk-**	**5.24**	**21**	*e*PN	**Pn**	**12 09 03.2**	**+1.5**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PET	**Petropavlovsk**	**5.42**	**27**	*e*P	**Pn**	**12 09 04.2**	**-0.1**
PET				*i* S	**Sn**	**12 10 03.6**	**-1.7**
PET	**Petropavlovsk**	**5.42**	**27**	*e*P	**Pn**	**12 09 04.2**	**0.0**
	comp=Z,30nm,0.4s						
PET	**Petropavlovsk**	**5.42**	**27**	*e*PN	**Pn**	**12 09 04.4**	**+0.1**
PET				pmax	pmax		
	comp=Z,33nm,0.5s						
PET	**Petropavlovsk**	**5.42**	**27**	*e*P	**Pn**	**12 09 04.3**	**0.0**
KUR	**Kuril'sk**	**5.50**	**239**	PN	**Pn**	**12 09 06.0**	**+0.7**
KUR				S	**Sn**	**12 10 09.0**	**+1.9**
KUR				pmax	pmax		
	comp=Z,640nm,0.9s						
KUR				smax			
	comp=N,320nm,0.8s						
KUR				smax			
	comp=E,320nm,0.8s						
KUR	**Kuril'sk**	**5.50**	**239**	*e*P	**Pn**	**12 09 06.0**	**+0.7**
KUR				AMB	AMB	12 09 07.9	
	comp=E,640nm,0.9s						
KUR				*e*S	**Sn**	**12 10 09.0**	**+1.9**
KUR				A		12 10 33.7	
	comp=E,320nm,0.8s						
SDLR	**Sedlovina**	**5.71**	**27**	*e*P	**Pn**	**12 09 08.2**	**0.0**
SDLR				*e*S	**Sn**	**12 10 10.8**	**-1.6**
SPN	**Mys Shipunski**	**5.95**	**34**	P	**Pn**	**12 09 09.2**	**-2.3**
SPN				*i* S	**Sn**	**12 10 12.7**	**-5.5**
SPN	**Mys Shipunski**	**5.95**	**34**	PN	**Pn**	**12 09 09.2**	**-2.3**
TUMR	**Tumrok**	**7.83**	**24**	P	**Pn**	**12 09 38.4**	**+1.3**
YSS	**Yuzh-Sakhalins**	**8.06**	**265**	*e*Pn	**Pn**	**12 09 40.8**	**+0.4**
	comp=E,50nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.06**	**265**	‖*i*PN	**Pn**	**12 09 41.5**	**+1.1**
YSS				*e*		12 11 14.2	
YSS	**Yuzh-Sakhalins**	**8.06**	**265**

RES	**Resolute Bay**	**49.08**	**19**	P	**P**	**12 16 27.4**	**+0.4**
RES	**Resolute Bay**	**49.08**	**19**	P	**P**	**12 16 27.4**	**+0.5**
RES				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
YKA	**Yellowknife Ar**	**49.12**	**38**	P	**P**	**12 16 28.5**	**+1.0**
	comp=Z,1.2nm,0.9s,mb3.9,baz=298,slow=7.5,SNR=4.3						
YKA	**Yellowknife Ar**	**49.12**	**38**	P	**P**	**12 16 28.5**	**+1.0**
YKA	**Yellowknife Ar**	**49.12**	**38**	P	**P**	**12 16 28.5**	**+1.0**
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**12 16 38.0**	**-0.9**
	comp=Z,4.7nm,0.5s,mb4.7,baz=58,slow=7.5,SNR=34						
BVAR				PcP	PcP	12 17 55.2	-0.6
	comp=Z,1.3nm,0.6s,baz=45,slow=2.2,SNR=4.9						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**12 16 38.0**	**-0.9**
BVAR				PcP	PcP	12 17 55.2	-0.6
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**12 16 38.0**	**-1.0**
BVAR						12 17 55.2	
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BRVK	**Borovoye**	**50.66**	**309**	*e*P	**P**	**12 16 38.1**	**-1.2**
	comp=Z,5.4nm,0.6s,mb4.7						
BRVK	**Borovoye**	**50.66**	**309**	*e*P	**P**	**12 16 38.1**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CMAR	**Chiang Mai Arr**	**53.66**	**256**	P	**P**	**12 17 01.8**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=32,slow=7.7,SNR=16						
CMAR				PcP	PcP	12 18 08.2	+0.6
	comp=Z,0.5nm,0.4s,baz=17,slow=4.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**53.66**	**256**	P	**P**	**12 17 01.8**	**-0.1**
CMAR				PcP	PcP	12 18 08.2	+0.6
CMAR	**Chiang Mai Arr**	**53.66**	**256**	P	**P**	**12 17 01.8**	**-0.1**
CMAR						12 18 08.3	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**58.18**	**310**	*e*P	**P**	**12 17 32.7**	**-1.1**
	comp=Z,2.6nm,0.6s,mb4.4						
AKTO	**Aktyubinsk**	**58.41**	**312**	P	**P**	**12 17 34.5**	**-0.9**
	comp=Z,0.6nm,0.4s,mb4.0,baz=69,slow=10.0,SNR=3.9						
AKTO	**Aktyubinsk**	**58.41**	**312**	P	**P**	**12 17 34.5**	**-0.9**
AKTO	**Aktyubinsk**	**58.41**	**312**	P	**P**	**12 17 34.5**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**60.89**	**64**	P	**P**	**12 17 53.9**	**+1.3**
	comp=Z,0.6nm,0.4s,mb4.1,baz=294,slow=7.6,SNR=8.4						
NVAR	**Mina Array Bea**	**60.89**	**64**	P	**P**	**12 17 53.9**	**+1.3**
FINES	**FINESS Array B**	**63.05**	**335**	P	**P**	**12 18 05.5**	**-1.4**
	comp=Z,4.0nm,1.0s,mb4.5,baz=25,slow=8.0,SNR=5.4						
FINES	**FINESS Array B**	**63.05**	**335**	P	**P**	**12 18 05.5**	**-1.4**
FINES	**FINESS Array B**	**63.05**	**335**	P	**P**	**12 18 05.5**	**-1.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PDAR	**Pinedale Array**	**63.08**	**55**	P	**P**	**12 18 07.9**	**+0.6**
	comp=Z,0.4nm,0.9s,mb3.5,baz=287,slow=7.4,SNR=2.5						
PDAR	**Pinedale Array**	**63.08**	**55**	P	**P**	**12 18 07.9**	**+0.6**
NOA	**NORSAR Array B**	**67.08**	**342**	P	**P**	**12 18 32.6**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=28,slow=6.7,SNR=3.6						
NOA	**NORSAR Array B**	**67.08**	**342**	P	**P**	**12 18 32.6**	**-0.3**
NOA	**NORSAR Array B**	**67.08**	**342**	P	**P**	**12 18 32.6**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**70.28**	**200**	P	**P**	**12 18 51.9**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=16,slow=6.4,SNR=10.0						
WRA	**Warramunga Arr**	**70.28**	**200**	P	**P**	**12 18 51.9**	**-1.3**
WRA	**Warramunga Arr**	**70.28**	**200**	P	**P**	**12 18 51.9**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**70.80**	**327**	P	**P**	**12 18 55.1**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=33,slow=6.6,SNR=4.6						
AKASG				LR	LR	12 50 05.6	
	comp=Z,180nm,19.3s,MS4.3,baz=130,slow=36						
AKASG	**Malin Array Be**	**70.80**	**327**	P	**P**	**12 18 55.1**	**-1.0**
AKASG	**Malin Array Be**	**70.80**	**327**	*e*P	**P**	**12 18 55.8**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**71.52**	**24**	P	**P**	**12 19 01.2**	**+0.7**
	comp=Z,5.0nm,0.9s,mb4.4,baz=310,slow=7.9,SNR=2.8						
SCHQ	**Schefferville**	**71.52**	**24**	P	**P**	**12 19 01.2**	**+0.7**
ASAR	**Alice Springs**	**73.97**	**200**	P	**P**	**12 19 15.0**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.8,baz=13,slow=5.1,SNR=18						
ASAR	**Alice Springs**	**73.97**	**200**	P	**P**	**12 19 15.0**	**-0.2**
ASAR	**Alice Springs**	**73.97**	**200**	P	**P**	**12 19 15.0**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STHS	**Stebnicka Huta**	**74.66**	**330**	*e*P	**P**	**12 19 19.9**	**+0.8**
STHS	**Stebnicka Huta**	**74.66**	**330**	*e*P	**P**	**12 19 19.9**	**+0.8**
BUR08	**Bucovina Ar. S**	**74.81**	**327**	*e*P	**P**	**12 19 19.3**	**-0.6**
CLL	**Collm**	**75.45**	**336**	⇓*i*P	**P**	**12 19 23.6**	**0.0**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CLL	**Collm**	**75.45**	**336**	⇓*i*P	**P**	**12 19 23.6**	**0.0**
	comp=Z,7.0nm,0.8s,mb4.6						
KECS	**Kecovo**	**75.72**	**330**	*e*P	**P**	**12 19 24.9**	**-0.3**
KECS	**Kecovo**	**75.72**	**330**	*e*P	**P**	**12 19 24.9**	**-0.3**
TXAR	**Lajitas Array**	**75.92**	**62**	P	**P**	**12 19 27.2**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=297,slow=4.0,SNR=12						
TXAR	**Lajitas Array**	**75.92**	**62**	P	**P**	**12 19 27.2**	**+0.6**
TXAR	**Lajitas Array**	**75.92**	**62**	P	**P**	**12 19 27.3**	**+0.7**
VYHS	**Vyhne**	**76.24**	**331**	*e*P	**P**	**12 19 28.9**	**+0.7**
VYHS	**Vyhne**	**76.24**	**331**	*e*P	**P**	**12 19 28.9**	**+0.7**
KHC	**Kasperske Hory**	**77.26**	**335**	*e*P	**P**	**12 19 33.7**	**-0.2**
	comp=Z,4.0nm,0.7s,mb4.5						
KHC	**Kasperske Hory**	**77.26**	**335**	*e*P	**P**	**12 19 34.0**	**+0.1**
KHC	**Kasperske Hory**	**77.26**	**335**	*e*P	**P**	**12 19 34.0**	**+0.1**
GERES	**GERESS Array B**	**77.49**	**335**	P	**P**	**12 19 35.3**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=35,slow=5.3,SNR=12						
GERES	**GERESS Array B**	**77.49**	**335**	P	**P**	**12 19 35.3**	**+0.1**
GERES	**GERESS Array B**	**77.49**	**335**	P	**P**	**12 19 35.3**	**+0.2**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BR131	**Keskin Array S**	**77.92**	**317**	*e*P	**P**	**12 19 36.6**	**-1.1**
	comp=Z,4.4nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**77.92**	**317**	P	**P**	**12 19 38.0**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.4,baz=56,slow=2.1,SNR=16						
BRTR	**Keskin Array B**	**77.92**	**317**	P	**P**	**12 19 38.0**	**+0.2**
BRTR	**Keskin Array B**	**77.92**	**317**	*e*P	**P**	**12 19 37.9**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BAIF	**Baives**	**78.75**	**341**	*e*P	**P**	**12 19 42.0**	**-0.1**
	comp=Z,24nm,1.2s,mb4.7						
BAIF	**Baives**	**78.75**	**341**	*e*P	**P**	**12 19 42.0**	**-0.1**
	comp=Z,24nm,1.2s,mb5.0						
BAIF	**Baives**	**78.75**	**341**	*e*P	**P**	**12 19 42.0**	**-0.1**
BAIF				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
SOKA	**Soboth**	**79.04**	**333**	⇓*i*P	**P**	**12 19 43.8**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.5						
SOKA	**Soboth**	**79.04**	**333**	⇓*i*P	**P**	**12 19 43.8**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.5						
KBA	**Koelnbreinsper**	**79.19**	**334**	⇑*i*P	**P**	**12 19 45.5**	**+0.9**
	comp=Z,13nm,0.8s,mb4.9						
KBA	**Koelnbreinsper**	**79.19**	**334**	⇑*i*P	**P**	**12 19 45.5**	**+0.9**
	comp=Z,13nm,0.8s,mb4.9						
KBA	**Koelnbreinsper**	**79.19**	**334**	⇑*i*P	**P**	**12 19 45.5**	**+1.0**
KBA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
WATA	**Walderalm**	**79.45**	**335**	⇓*i*P	**P**	**12 19 46.6**	**+0.6**
	comp=Z,3.5nm,0.5s,mb4.5						
WATA	**Walderalm**	**79.45**	**335**	⇓*i*P	**P**	**12 19 46.6**	**+0.6**
	comp=Z,3.5nm,0.5s,mb4.5						
WATA	**Walderalm**	**79.45**	**335**	⇓*i*P	**P**	**12 19 46.6**	**+0.6**
WATA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
WTTA	**Wattenberg**	**79.50**	**335**	⇓*i*P	**P**	**12 19 47.2**	**+0.9**
	comp=Z,11nm,0.7s,mb4.9						
WTTA	**Wattenberg**	**79.50**	**335**	⇓*i*P	**P**	**12 19 47.2**	**+0.9**
	comp=Z,11nm,0.7s,mb4.9						
WTTA	**Wattenberg**	**79.50**	**335**	⇓*i*P	**P**	**12 19 47.2**	**+0.9**
WTTA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
MOTA	**Moosalm**	**79.58**	**336**	⇑*i*P	**P**	**12 19 47.1**	**+0.5**
	comp=Z,11nm,0.9s,mb4.8						
MOTA	**Moosalm**	**79.58**	**336**	⇑*i*P	**P**	**12 19 47.1**	**+0.5**
	comp=Z,11nm,0.9s,mb4.8						
MOTA	**Moosalm**	**79.58**	**336**	⇑*i*P	**P**	**12 19 47.1**	**+0.4**
MOTA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
CDF	**Champ du Feu**	**79.59**	**338**	*e*P	**P**	**12 19 46.8**	**+0.1**
	comp=Z,9.9nm,0.9s,mb4.4						
CDF	**Champ du Feu**	**79.59**	**338**	*e*P	**P**	**12 19 46.8**	**+0.1**
	comp=Z,9.9nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**79.59**	**338**	*e*P	**P**	**12 19 46.8**	**+0.1**
CDF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MEZF	**Maizieres J'vi**	**80.03**	**340**	*e*P	**P**	**12 19 49.4**	**+0.3**
	comp=Z,11nm,0.6s,mb4.7						
MEZF	**Maizieres J'vi**	**80.03**	**340**	*e*P	**P**	**12 19 49.4**	**+0.3**
	comp=Z,11nm,0.6s,mb5.0						
HAU	**Haudompre**	**80.19**	**339**	*e*P	**P**	**12 19 49.8**	**-0.2**
	comp=Z,9.7nm,0.7s,mb4.5						
HAU	**Haudompre**	**80.19**	**339**	*e*P	**P**	**12 19 49.8**	**-0.2**
	comp=Z,9.7nm,0.7s,mb4.8						
HAU	**Haudompre**	**80.19**	**339**	*e*P	**P**	**12 19 49.8**	**-0.2**
HAU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
TUE	**Stuetta**	**80.86**	**336**	*e*P	**P**	**12 19 53.3**	**-0.3**
	comp=Z,6.8nm,0.8s,mb4.6						
FLN	**La Foliniere**	**80.94**	**344**	*e*P	**P**	**12 19 53.9**	**-0.1**
FLN	**La Foliniere**	**80.94**	**344**	*e*P	**P**	**12 19 53.9**	**-0.1**
FLN	**La Foliniere**	**80.94**	**344**	*e*P	**P**	**12 19 53.9**	**-0.1**
GRR	**Gorron**	**81.37**	**344**	*e*P	**P**	**12 19 56.3**	**0.0**
	comp=Z,23nm,1.0s,mb4.8						
GRR	**Gorron**	**81.37**	**344**	*e*P	**P**	**12 19 56.3**	**0.0**
	comp=Z,23nm,1.0s,mb5.1						
GRR	**Gorron**	**81.37**	**344**	*e*P	**P**	**12 19 56.3**	**0.0**
GRR				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
LOR	**Lormes**	**81.46**	**340**	*e*P	**P**	**12 19 56.7**	**-0.1**
	comp=Z,14nm,0.8s,mb4.6						
LOR	**Lormes**	**81.46**	**340**	*e*P	**P**	**12 19 56.7**	**-0.1**
	comp=Z,14nm,0.8s,mb4.9						
LOR	**Lormes**	**81.46**	**340**	*e*P	**P**	**12 19 56.7**	**-0.1**
LOR				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CABF	**La Chapelle**	**81.56**	**339**	*e*P	**P**	**12 19 57.6**	**+0.3**
CABF	**La Chapelle**	**81.56**	**339**	*e*P	**P**	**12 19 57.6**	**+0.3**
CABF	**La Chapelle**	**81.56**	**339**	*e*P	**P**	**12 19 57.6**	**+0.3**
SSF	**Saint Saulge**	**81.74**	**340**	*e*P	**P**	**12 19 58.1**	**-0.1**
	comp=Z,16nm,1.1s,mb4.6						
SSF	**Saint Saulge**	**81.74**	**340**	*e*P	**P**	**12 19 58.1**	**-0.1**
	comp=Z,16nm,1.1s,mb4.9						
SSF	**Saint Saulge**	**81.74**	**340**	*e*P	**P**	**12 19 58.1**	**-0.1**
SSF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
ROSF	**Rostrenen**	**81.85**	**345**	*e*P	**P**	**12 19 59.2**	**+0.4**
	comp=Z,50nm,1.2s,mb5.0						
ROSF	**Rostrenen**	**81.85**	**345**	*e*P	**P**	**12 19 59.2**	**+0.4**
	comp=Z,50nm,1.2s,mb5.3						
ROSF	**Rostrenen**	**81.85**	**345**	*e*P	**P**	**12 19 59.2**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
AVF	**Avril sur Loir**	**82.03**	**340**	*e*P	**P**	**12 19 59.8**	**0.0**
	comp=Z,7.4nm,0.8s,mb4.4						
AVF	**Avril sur Loir**	**82.03**	**340**	*e*P	**P**	**12 19 59.8**	**0.0**
	comp=Z,7.4nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**82.03**	**340**	*e*P	**P**	**12 19 59.8**	**0.0**
AVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SMF	**Signal de Mont**	**82.06**	**340**	*e*P	**P**	**12 20 00.0**	**+0.1**
SMF	**Signal de Mont**	**82.06**	**340**	*e*P	**P**	**12 20 00.0**	**+0.1**
SMF	**Signal de Mont**	**82.06**	**340**	*e*P	**P**	**12 20 00.0**	**+0.1**
LPL	**La Plagne**	**82.42**	**338**	*e*P	**P**	**12 20 02.9**	**+1.1**
LPL	**La Plagne**	**82.42**	**338**	*e*P	**P**	**12 20 02.9**	**+1.1**
LPL	**La Plagne**	**82.42**	**338**	*e*P	**P**	**12 20 02.9**	**+1.1**
LPG	**La Plagne**	**82.44**	**338**	*e*P	**P**	**12 20 03.1**	**+1.2**
	comp=Z,12nm,0.9s,mb4.5						
LPG	**La Plagne**	**82.44**	**338**	*e*P	**P**	**12 20 03.1**	**+1.2**
	comp=Z,12nm,0.9s,mb4.8						
LPG	**La Plagne**	**82.44**	**338**	*e*P	**P**	**12 20 03.1**	**+1.2**
LPG				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
MMAI	**Mount Meron Ar**	**82.50**	**312**	P	**P**	**12 20 03.0**	**+0.5**
	comp=Z,7.1nm,0.7s,mb4.8,baz=32,slow=5.8,SNR=5.6						
MMAI	**Mount Meron Ar**	**82.50**	**312**	P	**P**	**12 20 03.0**	**+0.5**
TCF	**Toulx Ste Croi**	**82.76**	**341**	*e*P	**P**	**12 20 03.8**	**+0.2**
TCF	**Toulx Ste Croi**	**82.76**	**341**	*e*P	**P**	**12 20 03.8**	**+0.2**
TCF	**Toulx Ste Croi**	**82.76**	**341**	*e*P	**P**	**12 20 03.8**	**+0.2**
MFF	**Saint Martin d**	**82.95**	**343**	*e*P	**P**	**12 20 04.7**	**+0.1**
	comp=Z,14nm,0.9s,mb4.7						
MFF	**Saint Martin d**	**82.95**	**343**	*e*P	**P**	**12 20 04.7**	**+0.1**
	comp=Z,14nm,0.9s,mb5.0						
MFF	**Saint Martin d**	**82.95**	**343**	*e*P	**P**	**12 20 04.7**	**+0.1**
MFF				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
MBDF	**Montbardon**	**83.15**	**337**	*e*P	**P**	**12 20 06.4**	**+0.8**
	comp=Z,25nm,1.1s,mb4.8						
MBDF	**Montbardon**	**83.15**	**337**	*e*P	**P**	**12 20 06.4**	**+0.8**
	comp=Z,25nm,1.1s,mb5.2						
MBDF	**Montbardon**	**83.15**	**337**	*e*P	**P**	**12 20 06.4**	**+0.8**
MBDF				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
ORIF	**Oris-en-Rattie**	**83.19**	**338**	*e*P	**P**	**12 20 05.3**	**-0.6**
	comp=Z,15nm,1.0s,mb4.7						
ORIF	**Oris-en-Rattie**	**83.19**	**338**	*e*P	**P**	**12 20 05.3**	**-0.6**
	comp=Z,15nm,1.0s,mb5.0						
ORIF	**Oris-en-Rattie**	**83.19**	**338**	*e*P	**P**	**12 20 05.3**	**-0.6**
ORIF				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
VIVF	**Saint-Julien-l**	**83.55**	**339**	*e*P	**P**	**12 20 07.4**	**-0.3**
VIVF	**Saint-Julien-l**	**83.55**	**339**	*e*P	**P**	**12 20 07.4**	**-0.3**
VIVF	**Saint-Julien-l**	**83.55**	**339**	*e*P	**P**	**12 20 07.4**	**-0.3**

IDC ***29*** *12:11:43.9±0.6, 1.°11S×67.°61E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.2/28, mbtmp4.2/20, MS4.3/24, Ms1 4.3/24, ms1mx4.2/32, Error ellipse: s-maj=16.7km s-min=15.3km az=153.0*

BJI ***29*** *12:11:43.5, 1.°11S×67.°60E, h4km, mB5.1/26, mb4.8/38, Ms4.8/31, Ms7 4.5/29*

ISCJB ***29*** *12:11:44.3±0.4, 1.°20S±0.°06×67.°53E±0.°05, h14km, mb4.7/54, MS4.4/36, Error ellipse: s-maj=9.4km s-min=6.3km az=155.0*

NEIC ***29*** *12:11:45.5±0.3, 1.°19S×67.°56E, h10km, mb5.2/18, Error ellipse: s-maj=8.6km s-min=6.3km az=148.0*

GCMT ***29*** *12:11:47.9±0.2, 1.°26S×67.°47E, h14km±1km, MW5.2, Moment Tensor Solution. s62,c88; s96,c182; Moment tensor: Scale 1016Nm; Mrr=0.78±.17; Mθθ=7.64±.18; Mφφ=8.42±.19; Mrθ=-1.11±.36; Mrφ=-2.12±.15; Mθφ=1.62±.37; Best double couple: M0=8.50000×1016 NP1:φs=38.00000°, δ78.00000°, λ2.00000°. NP2:φs=307.00000°, δ88.00000°, λ168.00000°. Principal axes: T 9.0100, Plg10.0000°, Azm262.0000°; N -0.9900, Plg77.0000°, Azm118.0000°; P -8.0300, Plg7.0000°, Azm353.0000°; Data Used: II IU IC CN G.*

DJA ***29*** *12:11:56, 0.°84S×68.°48E, h10km, mb5.0/6*

ISC 29 12:11:46.1±1.5, 1.°21S±0.°06×67.°56E±0.°05, h12km±9km**, h15**km±.9km**:pP-P, n123,** σ1s**13/117, mb4.7**/54**, MS4.4**/36**, 1D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDM	**Hanimaadhoo**	**9.71**	**35**	P	**Pn**	**12 14 05.2**	**-0.5**
	3.0nm7μm838nm,0.9s						
MSEY	**Mahe Island**	**12.54**	**254**	*e*Pn	**Pn**	**12 14 43.9**	**-0.6**
	301nm,0.9s						
HYB	**Hyderabad**	**21.45**	**30**	*i* P	**P**	**12 16 33.5**	**-0.8**
HYB				*es*P	sP	12 16 37.5	-2.0
HYB				*es*S	**S**	**12 20 36.0**	**+3.8**
OPO	**Ambohidratompo**	**26.40**	**228**	LR	LR	12 25 22.0	
	comp=Z,451nm,20.8s,MS4.0,baz=229,slow=31						
ATD	**Arta Tunnel**	**27.63**	**298**	LR	LR	12 26 12.6	
	comp=Z,518nm,19.4s,MS4.1,baz=122,slow=31						
KMBO	**Kilima Mbogo**	**30.30**	**270**	*e*P	**P**	**12 17 57.3**	**-0.3**
	38nm,2.4s,mb4.7						
MNSI	**Mandailing Nat**	**32.08**	**87**	P	**P**	**12 18 15.7**	**+2.4**
	19nm,1.3s,mb4.8						
KOLN	**Koldanda**	**32.68**	**27**	*e*P	**P**	**12 18 18.5**	**+0.2**
KOLN	**Koldanda**	**32.68**	**27**	*e*P	**P**	**12 18 18.5**	**+0.2**
DANN	**Dangsing**	**33.25**	**27**	*e*P	**P**	**12 18 24.4**	**+1.1**
DANN	**Dangsing**	**33.25**	**27**	*e*P	**P**	**12 18 24.4**	**+1.1**
DMN	**Daman**	**33.25**	**29**	*e*P	**P**	**12 18 24.1**	**+0.8**
	52nm,1.0s,mb5.4						
DMN	**Daman**	**33.25**	**29**	*e*P	**P**	**12 18 24.1**	**+0.8**
	52nm,1.0s,mb5.4						
GKN	**Gorkha**	**33.36**	**28**	*e*P	**P**	**12 18 24.6**	**+0.4**
	39nm,1.0s,mb5.3						
GKN	**Gorkha**	**33.36**	**28**	*e*P	**P**	**12 18 24.6**	**+0.4**
	39nm,1.0s,mb5.3						
PKI	**Pulchoki**	**33.37**	**30**	*e*P	**P**	**12 18 24.3**	**0.0**
PKI	**Pulchoki**	**33.37**	**30**	*e*P	**P**	**12 18 24.3**	**0.0**
RAMN	**Ramite**	**33.47**	**32**	*e*P	**P**	**12 18 26.1**	**+0.9**
	60nm,1.0s,mb5.5						
RAMN	**Ramite**	**33.47**	**32**	*e*P	**P**	**12 18 26.1**	**+0.9**
	60nm,1.0s,mb5.5						
KKN	**Kakani**	**33.49**	**29**	*e*P	**P**	**12 18 25.4**	**0.0**
	29nm,0.8s,mb5.2						
KKN	**Kakani**	**33.49**	**29**	*e*P	**P**	**12 18 25.4**	**0.0**
	29nm,0.8s,mb5.3						
KULM	**Kulim**	**33.68**	**79**	*e*P	**P**	**12 18 27.1**	**-0.2**
	28nm,1.1s,mb5.1						
KULM	**Kulim**	**33.68**	**79**	P	**P**	**12 18 28.3**	**+1.1**
	23nm,1.1s,mb5.0						
ODAN	**Odare**	**33.83**	**33**	*e*P	**P**	**12 18 29.0**	**+0.7**
	76nm,0.8s,mb5.7						
ODAN	**Odare**	**33.83**	**33**	*e*P	**P**	**12 18 29.0**	**+0.7**
	76nm,0.8s,mb5.7						
JIRN	**Jiri**	**33.84**	**31**	*e*P	**P**	**12 18 28.8**	**+0.4**
	7.7nm,1.0s,mb4.6						
JIRN	**Jiri**	**33.84**	**31**	*e*P	**P**	**12 18 28.8**	**+0.4**
	7.7nm,1.0s,mb4.6						
GUN	**Gumba**	**33.88**	**30**	*e*P	**P**	**12 18 29.5**	**+0.7**
	52nm,0.9s,mb5.5						
GUN	**Gumba**	**33.88**	**30**	*e*P	**P**	**12 18 29.5**	**+0.7**
	52nm,0.9s,mb5.5						
TAPN	**Taplejung**	**34.39**	**33**	*e*P	**P**	**12 18 33.9**	**+0.7**
	79nm,1.0s,mb5.6						
TAPN	**Taplejung**	**34.39**	**33**	*e*P	**P**	**12 18 33.9**	**+0.7**
	79nm,1.0s,mb5.6						
RST	**Umm Al-Ruwaisa**	**36.31**	**329**	*e*P	**P**	**12 18 51.8**	**+2.1**
RST				AMb	AMB	12 18 53.2	
	comp=Z,4.2nm,1.0s,mb4.3						
MIB	**Mutribah**	**36.38**	**330**	*e*P	**P**	**12 18 48.4**	**-1.9**
MIB				AMb	AMB	12 18 56.6	
	comp=Z,20nm,0.9s,mb5.0						
CM31	**Chiang Mai Arr**	**36.53**	**56**	*e*P	**P**	**12 18 51.7**	**-0.1**
	comp=Z,9.0nm,0.8s,mb4.7						
CMAR	**Chiang Mai Arr**	**36.53**	**56**	P	**P**	**12 18 51.8**	**0.0**
	comp=Z,8.4nm,0.9s,mb4.6,baz=243,slow=10,SNR=59						
CMAR				LR	LR	12 33 28.2	
	comp=Z,419nm,18.0s,MS4.3,baz=240,slow=36						
CMAR	**Chiang Mai Arr**	**36.53**	**56**	P	**P**	**12 18 51.8**	**0.0**
CHTO	**Chiang Mai**	**36.70**	**56**	*e*P	**P**	**12 18 52.7**	**-0.6**
	comp=Z,25nm,1.0s,mb5.0						
CHTO	**Chiang Mai**	**36.70**	**56**	P	**P**	**12 18 53.4**	**+0.2**
	comp=Z,34nm,1.4s,mb5.0						
KSH	**Kashi**	**41.26**	**10**	P	**P**	**12 19 27.5**	**-3.6**
KSH				pP	pP	12 19 31.3	-3.6
KSH				sP	sP	12 19 34.8	-1.6
KSH				PP	PP	12 21 04.5	-2.0
KSH				PcP	PcP	12 21 30.0	+0.2
KSH				ScP	ScP	12 25 17.0	-2.8
KSH				PcS	PcS	12 25 18.5	-2.4
KSH				S	**S**	**12 25 36.5**	**-8.3**
KSH				SS	SS	12 28 32.3	-16
KSH				ScS	ScS	12 29 30.5	-4.9
KSH				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
KSH				pmax	pmax		
	comp=Z,210nm,4.9s						
KSH				LR	LR		
	comp=N,280nm,7.0s						
KSH				LR	LR		
	comp=E,330nm,9.7s						
KSH				LR	LR		
	comp=Z,450nm,6.7s						
KMI	**Kunming**	**42.96**	**50**	P	**P**	**12 19 46.0**	**+0.8**
KMI				pP	pP	12 19 50.3	+1.2
KMI				sP	sP	12 19 51.8	+1.2
KMI				PP	PP	12 21 25.3	+0.3
KMI				S	**S**	**12 26 10.3**	**0.0**
KMI				sS	sS	12 26 18.0	+1.3
KMI				SS	SS	12 29 19.5	-2.8
KMI				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
KMI				pmax	pmax		

GTA LR LR
comp=Z,350nm,16.2s,MS4.5
LZH Lanzhou 50.17 39 *eP* **P 12 20 44.8 +3.2**
LZH pP pP 12 20 50.3 +4.7
LZH sP sP 12 20 53.0 +5.9
LZH *e*S **S 12 27 59.5 +6.1**
LZH sS sS 12 28 07.0 +7.1
LZH pmax pmax
comp=Z,20nm,1.2s,mb5.0
LZH pmax pmax
comp=Z,130nm,4.8s
LZH LR LR
comp=N,260nm,12.4s,MS4.6
LZH LR LR
comp=E,330nm,15.1s,MS4.6
LZH LR LR
comp=Z,430nm,14.9s,MS4.6
ABKAR Akbulak array 50.70 354 *eP* **P 12 20 43.8 -1.5**
BR131 Keskin Array S 51.21 326 *eP* **P 12 20 48.8 -0.6**
comp=Z,6.7nm,0.9s,mb4.6
BRTR Keskin Array B 51.21 326 P P 12 20 48.4 -1.0
comp=Z,2.5nm,0.8s,mb4.2,baz=142,slow=9.3,SNR=8.3
BRTR Keskin Array B 51.21 326 P P 12 20 48.4 -1.0
AKTO Aktyubinsk 52.09 352 P P 12 20 54.1 -1.7
comp=Z,5.6nm,0.7s,mb4.6,baz=164,slow=9.7,SNR=23
AKTO Aktyubinsk 52.09 352 P P 12 20 54.1 -1.7
XAN Xi'an 52.31 44 P P 12 20 56.8 -0.9
XAN S **S 12 28 28.5 +5.5**
XAN pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
XAN pmax pmax
comp=Z,18nm,4.6s
XAN LR LR
comp=N,270nm,17.4s,MS4.3
XAN LR LR
comp=E,74nm,17.8s,MS4.3
XAN LR LR
comp=Z,84nm,19.1s,MS3.8
KURK Kurchatov 52.58 9 P P 12 20 57.5 -2.0
comp=Z,2.4nm,0.8s,mb4.2,baz=205,slow=7.6,SNR=12
KURK LR LR 12 43 15.3
comp=Z,333nm,20.9s,MS4.4,baz=205,slow=36
KURK Kurchatov 52.58 9 P P 12 20 57.5 -2.0
BVAR Borovoye Array 54.09 2 P P 12 21 08.9 -1.6
comp=Z,0.7nm,0.6s,mb3.8,baz=197,slow=4.5,SNR=5.0
BVAR LR LR 12 44 29.1
comp=Z,232nm,18.5s,MS4.3,baz=195,slow=36
BVAR Borovoye Array 54.09 2 P P 12 21 08.9 -1.6
WHN Wuhan 54.55 51 P P 12 21 13.5 -0.8
WHN S **S 12 28 52.8 -0.9**
WHN LR LR
comp=Z,570nm,22.2s,MS4.6
ZAA0 Zalesovo Array 56.81 12 *eP* **P 12 21 28.8 -1.2**
ZALV Zalesovo Beam 56.81 12 P P 12 21 29.6 -0.4
comp=Z,2.0nm,0.6s,mb4.3,baz=209,slow=7.1,SNR=11
ZALV LR LR 12 46 23.2
comp=Z,250nm,21.3s,MS4.3,baz=212,slow=37
ZALV Zalesovo Beam 56.81 12 P P 12 21 29.6 -0.4
HHC Hu-ho-hao-te 57.87 38 *eP* **P 12 21 39.0 +1.2**
HHC sP sP 12 21 46.0 +2.7
HHC PcP PcP 12 22 30.8 +0.6
HHC PP PP 12 23 49.5 +3.3
HHC ScP ScP 12 26 29.3 -1.0
HHC S **S 12 29 37.3 -0.1**
HHC ScS ScS 12 31 24.5 -2.9
HHC SS SS 12 33 29.8 +1.4
HHC pmax pmax
comp=Z,11nm,0.7s,mb5.0
HHC pmax pmax
comp=Z,140nm,5.5s
HHC LR LR
comp=N,250nm,16.8s,MS4.6
HHC LR LR
comp=E,350nm,17.1s,MS4.6
HHC LR LR
comp=Z,220nm,17.5s,MS4.3
DAV Davao City (W) 58.47 81 LR LR 12 45 43.3
comp=Z,158nm,21.3s,MS4.1,baz=222,slow=35
SONM Songino Array 59.39 29 P P 12 21 48.1 -0.1
comp=Z,3.7nm,0.9s,mb4.4,baz=225,slow=7.1,SNR=30
SONM LR LR 12 47 32.3
comp=Z,591nm,19.5s,MS4.7,baz=206,slow=36
SONM Songino Array 59.39 29 P P 12 21 48.1 -0.1
ULN Ulaanbaatar 59.73 30 P P 12 21 56.7 +6.1
SSE Sheshan 60.14 53 P P 12 21 53.8 0.0
SSE S **S 12 30 05.3 -2.0**
SSE pmax pmax
comp=Z,15nm,0.7s,mb5.1
SSE pmax pmax
comp=Z,120nm,3.7s
SSE LR LR
comp=N,150nm,21.7s,MS4.1
SSE LR LR
comp=E,63nm,21.7s,MS4.1
SSE LR LR
comp=Z,120nm,38.9s
BJI Beijing 60.40 41 P P 12 21 55.0 -0.4
BJI S **S 12 30 12.0 +1.8**
BJI pmax pmax
comp=Z,13nm,0.4s,mb5.3
BJI LR LR
comp=N,330nm,17.4s
BJI LR LR
comp=E,210nm,23.8s
BJI LR LR
comp=Z,100nm,38.6s
AKASG Malin Array Be 61.15 333 P P 12 21 57.9 -2.3
comp=Z,0.8nm,0.6s,mb4.0,baz=143,slow=5.5,SNR=4.2
AKASG Malin Array Be 61.15 333 P P 12 21 57.9 -2.4
CRVS Cervenica-Dubn 63.79 328 *eP* **P 12 22 19.1 +1.2**
VYHS Vyhne 64.97 327 *eP* **P 12 22 24.2 -1.5**
TORD Torodi Ar. Bea 66.83 285 P P 12 22 38.4 +0.1
comp=Z,0.7nm,0.9s,mb3.7,baz=79,slow=3.1,SNR=4.2
TORD LR LR 12 52 15.9
comp=Z,500nm,18.1s,MS4.8,baz=95,slow=36
TORD Torodi Ar. Bea 66.83 285 P P 12 22 38.4 +0.1
KSAR Wonju Array Be 67.59 48 P P 12 22 41.3 -1.4
KSRS Korea Array 67.62 48 P P 12 22 41.3 -1.6
comp=Z,2.7nm,1.1s,mb4.2,baz=243,slow=8.0,SNR=4.4
KSRS LR LR 12 54 13.9
comp=Z,254nm,18.4s,MS4.5,baz=51,slow=38
WRA Warramunga Arr 67.80 111 P P 12 22 43.6 -0.8
comp=Z,5.9nm,0.9s,mb4.6,baz=284,slow=6.2,SNR=31
WRA Warramunga Arr 67.80 111 P P 12 22 43.6 -0.8
WRAB Tennant Creek 67.80 111 *eP* **P 12 22 44.0 -0.4**
comp=Z,18nm,1.2s,mb5.0
WB2 Warramunga Arr 67.81 111 *eP* **P 12 22 43.8 -0.7**
ASAR Alice Springs 67.91 115 P P 12 22 44.4 -0.7
comp=Z,2.3nm,0.7s,mb4.3,baz=285,slow=6.3,SNR=27
ASAR Alice Springs 67.91 115 P P 12 22 44.4 -0.7
AS31 Alice Springs 67.91 115 *eP* **P 12 22 44.3 -0.7**
CN2 Changchun 68.26 41 *eP* **P 12 22 49.3 +2.4**
CN2 *e*S S 12 31 49.0 +1.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CN2 LR LR
comp=N,300nm,18.0s,MS4.7
CN2 LR LR
comp=E,300nm,18.0s,MS4.7
CN2 LR LR
comp=Z,300nm,20.0s,MS4.5
DAVOX Davos/Dischmat 69.38 322 P P 12 22 54.5 +0.8
comp=Z,2.9nm,0.7s,mb4.3,baz=136,slow=9.6,SNR=2.9
DAVOX Davos/Dischmat 69.38 322 P P 12 22 54.5 +0.8
CLL Collm 69.66 327 *e*(pP) pP 12 22 59.0 -0.4
CLL *e*SSS 12 40 12.0
FINES FINESS Array B 70.03 340 LR LR 12 54 18.2
comp=Z,150nm,19.5s,MS4.2,baz=329,slow=36
SENIN Lac Senin/Sane 70.83 320 *eP* **P 12 23 04.0 +1.4**
comp=Z,89nm,2.3s,mb5.3
MDJ Mudanjiang 71.33 42 P P 12 23 05.5 -0.2
MDJ pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
MDJ pmax pmax
comp=Z,140nm,4.9s
DBIC Dimbokro 72.68 277 P P 12 23 13.6 -0.9
comp=Z,5.0nm,0.8s,mb4.5,baz=81,slow=5.8,SNR=5.8
DBIC LR LR 12 52 29.2
comp=Z,292nm,21.6s,MS4.5,baz=69,slow=34
DBIC Dimbokro 72.68 277 P P 12 23 13.6 -0.9
USRK Ussuriysk Arra 72.80 43 LR LR 12 56 19.4
comp=Z,83nm,19.0s,MS4.0,baz=242,slow=37
HFS Hagfors 73.92 335 LR LR 12 58 26.1
comp=Z,177nm,21.3s,MS4.3,baz=291,slow=38
MJAR Matsushiro Arr 75.27 52 P P 12 23 28.8 -0.4
comp=Z,1.8nm,0.9s,mb4.0,baz=245,slow=6.1,SNR=5.5
MJAR LR LR 12 57 02.7
comp=Z,160nm,19.8s,MS4.3,baz=245,slow=36
MJAR Matsushiro Arr 75.27 52 P P 12 23 28.8 -0.4
NOA NORSAR Array B 75.44 335 LR LR 12 59 18.1
comp=Z,166nm,18.7s,MS4.4,baz=180,slow=38
ARCES ARCESS Array B 76.03 346 LR LR 12 55 18.7
comp=Z,382nm,19.0s,MS4.7,baz=194,slow=34
ESDC Sonseca Array 76.63 311 P P 12 23 38.4 +1.5
comp=Z,1.0nm,0.7s,mb3.9,baz=84,slow=5.3,SNR=5.8
ESDC Sonseca Array 76.63 311 P P 12 23 38.4 +1.5
ASAJ Asahikawa 80.13 45 LR LR 12 57 13.9
comp=Z,58nm,21.9s,MS3.9,baz=240,slow=34
BBTS Babate 84.59 285 LR LR 12 59 01.1
comp=Z,349nm,21.4s,MS4.7,baz=224,slow=34
QSPA South Pole Qui 88.78 180 P P 12 24 40.6 +1.3
comp=Z,1.8nm,0.5s,mb4.6,baz=258,slow=7.3,SNR=4.6
QSPA South Pole Qui 88.78 180 P P 12 24 40.6 +1.3
PETK Petropavlovsk- 91.04 37 LR LR 13 05 25.4
comp=Z,136nm,20.2s,MS4.4,baz=127,slow=35
PDAR Pinedale Array 138.55 357 PKP PKPdf 12 31 12.1 +0.1
comp=Z,0.2nm,0.5s,baz=43,slow=1.6,SNR=3.2
PDAR Pinedale Array 138.55 357 PKP PKPdf 12 31 12.1 +0.1
NVAR Mina Array Bea 142.57 8 PKP PKPdf 12 31 21.2 +1.7
comp=Z,0.6nm,0.7s,baz=342,slow=4.3,SNR=2.9
NVAR Mina Array Bea 142.57 8 PKP PKPdf 12 31 21.2 +1.7
TXAR Lajitas Array 150.81 344 PKPbc PKPbc 12 31 38.9 -0.3
comp=Z,3.1nm,0.9s,baz=46,slow=2.6,SNR=16
TXAR Lajitas Array 150.81 344 PKPbc PKPbc 12 31 38.9 -0.3

*NNC **29** 12:50:10.3±5.8, 40°.42N×71°.94E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=56.6km s-min=24.9km az=174.0*
ISC 29 12:50:06.7±2.7, 40°.1N±0°.2×72°.0E±0°.1, h10km, n11, σ1§26/12, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=59	**2.44**	**31**	P	**Pn**	**12 50 44.9**	**-1.7**
AML	SNR=59			P		12 50 44.9	
UCH	**Uchtor** SNR=13	**2.89**	**41**	P	**Sn**	**12 51 25.6**	**-1.9**
UCH	SNR=13			P		12 51 25.6	
EKS2	**Erkin-Say** SNR=13	**2.93**	**27**	P	**Pn**	**12 50 52.1**	**-1.2**
EKS2	SNR=13			P		12 50 52.1	
KZA	**Kyzart** SNR=5.5	**3.19**	**50**	P	**Pn**	**12 50 58.1**	**+1.3**
KZA	SNR=5.5			P		12 50 58.1	
AAK	**Ala-Archa** SNR=17	**3.19**	**36**	P	**Pn**	**12 50 56.1**	**-0.8**
AAK	SNR=17			P		12 50 56.1	
KK31	**Karatay Array** 8.5nm,0.4s,baz=159,slow=16,SNR=129	**3.24**	**341**	⇓Pn	**Pn**	**12 50 58.4**	**+0.9**
KK31	24nm,0.3s,baz=155,slow=30,SNR=4.2			⇑Lg		12 51 39.8	
KBK	**Karagaybulak** SNR=17	**3.42**	**40**	P	**Pn**	**12 51 00.3**	**+0.2**
KBK	SNR=17			P		12 51 00.3	
CHMS	**Chumysh** SNR=9.1	**3.60**	**34**	P	**Pn**	**12 51 04.2**	**+1.7**
CHMS	SNR=9.1			P		12 51 04.2	
USP	**Ospenovka** SNR=8.0	**3.72**	**30**	P	**Pn**	**12 51 03.9**	**-0.3**
USP	SNR=8.0			P		12 51 03.9	
TKM2	**Tokmak 2** 6.2nm,0.5s	**3.94**	**42**	⇓Pn	**Pn**	**12 51 06.7**	**-0.5**
TKM2	27nm,0.8s			⇑Sn	**Sn**	**12 51 56.3**	**+2.8**
AB31	**Akbulak array** 0.4nm,0.5s,baz=129,slow=15,SNR=4.2	**12.56**	**321**	⇑P	**Pn**	**12 53 05.2**	**0.0**

*ISCJB **29** 12:54:43.9±1.1, 32°.2N±0°.2×40°.3W±0°.1, h10km, mb3.8/13, MS3.6/7, Error ellipse: s-maj=33.5km s-min=14.1km az=1.3*
*IDC **29** 12:54:44.2±1.4, 32°.20N×40°.24W, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.9/27, mbtmp3.8/13, MS3.6/7, Ms1 3.6/7, ms1mx3.3/29, Error ellipse: s-maj=42.4km s-min=18.1km az=1.0*
*NEIC **29** 12:54:45.5±0.8, 32°.16N×40°.24W, h10km, Error ellipse: s-maj=24.0km s-min=10.0km az=181.0*
ISC 29 12:54:45.8±1.1, 32°.2N±0°.2×40°.2W±0°.1, h10km, n30, σ0§45/27, mb3.8/13, MS3.6/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate** comp=Z,254nm,18.2s,MS3.8,baz=37,slow=31	**27.77**	**123**	LR	LR	13 09 11.4	
DBIC	**Dimbokro** comp=Z,119nm,20.7s,MS3.8,baz=322,slow=32	**41.59**	**120**	LR	LR	13 17 15.4	
TORD	**Torodi Ar. Bea** 2.2nm,1.1s,mb3.8,baz=301,slow=6.1,SNR=6.3	**42.75**	**106**	P	**P**	**13 02 43.3**	**-0.2**
TORD	comp=Z,73nm,20.3s,MS3.6,baz=15,slow=32			LR	LR	13 17 49.9	
TORD	**Torodi Ar. Bea**	**42.75**	**106**	P	**P**	**13 02 43.4**	**-0.2**
GERES	**GERESS Array B** 0.6nm,0.7s,mb3.5,baz=271,slow=9.6,SNR=2.7	**43.29**	**51**	P	**P**	**13 02 47.7**	**+0.2**
GERES	**GERESS Array B**	**43.29**	**51**	P	**P**	**13 02 47.7**	**+0.2**
NOA	**NORSAR Array B** 0.8nm,0.7s,mb3.6,baz=252,slow=7.9,SNR=2.5	**43.91**	**33**	P	**P**	**13 02 52.3**	**0.0**
NOA	comp=Z,33nm,19.9s,MS3.2,baz=240,slow=30			LR	LR	13 16 58.9	
NOA	**NORSAR Array B**	**43.91**	**33**	P	**P**	**13 02 52.3**	**0.0**
FINES	**FINESS Array B** 3.7nm,1.0s,mb4.3,baz=254,slow=8.1,SNR=3.7	**51.04**	**34**	P	**P**	**13 03 47.6**	**-0.2**
FINES	**FINESS Array B**	**51.04**	**34**	P	**P**	**13 03 47.6**	**-0.2**
AKASG	**Malin Array Be** 0.3nm,0.3s,mb3.7,baz=275,slow=6.4,SNR=4.1	**53.24**	**48**	P	**P**	**13 04 03.5**	**-0.8**
AKASG	**Malin Array Be**	**53.24**	**48**	P	**P**	**13 04 03.5**	**-0.8**
TXAR	**Lajitas Array** 0.5nm,0.8s,mb3.5,baz=79,slow=4.7,SNR=5.1	**53.88**	**285**	P	**P**	**13 04 09.7**	**+0.4**
TXAR	**Lajitas Array**	**53.88**	**285**	P	**P**	**13 04 09.7**	**+0.4**
PDAR	**Pinedale Array** 1.9nm,0.9s,mb4.1,baz=82,slow=6.6,SNR=8.5	**54.61**	**302**	P	**P**	**13 04 14.7**	**+0.2**
PDAR	comp=Z,111nm,19.2s,MS4.0,baz=11,slow=36			LR	LR	13 27 38.3	
PDAR	**Pinedale Array**	**54.61**	**302**	P	**P**	**13 04 14.7**	**+0.2**
PD02	**Pinedale Array**	**54.62**	**302**	*e*P	**P**	**13 04 14.4**	**-0.1**
YKA	**Yellowknife Ar** 0.4nm,0.7s,mb3.5,baz=86,slow=7.8,SNR=5.6	**54.86**	**327**	P	**P**	**13 04 15.5**	**-0.4**
YKA	0.2nm,0.4s,baz=89,slow=5.0,SNR=3.8			PcP	PcP	13 05 17.9	0.0
YKA	comp=Z,16nm,21.5s,MS3.0,baz=10.0,slow=32			LR	LR	13 24 14.1	
YKA	**Yellowknife Ar**	**54.86**	**327**	P	**P**	**13 04 15.5**	**-0.4**
YKA				PcP	PcP	13 05 17.9	0.0
NVAR	**Mina Array Bea** 0.7nm,0.9s,mb3.8,baz=74,slow=9.8,SNR=4.6	**62.24**	**300**	P	**P**	**13 05 07.1**	**-0.8**
NVAR	**Mina Array Bea**	**62.24**	**300**	P	**P**	**13 05 07.0**	**-0.8**
ILAR	**Eielson Array** 0.6nm,1.0s,mb3.6,baz=78,slow=4.7,SNR=3.8	**67.98**	**334**	P	**P**	**13 05 45.0**	**+0.3**
ILAR	0.6nm,0.9s,baz=58,slow=4.5,SNR=5.3			PcP	PcP	13 06 11.4	+0.5
ILAR	**Eielson Array**	**67.98**	**334**	P	**P**	**13 05 45.0**	**+0.3**
ILAR				PcP	PcP	13 06 11.4	+0.5
AKTO	**Aktyubinsk** 3.1nm,0.8s,mb4.3,baz=316,slow=8.9,SNR=13	**70.74**	**42**	P	**P**	**13 06 02.2**	**+0.3**
AKTO	**Aktyubinsk**	**70.74**	**42**	P	**P**	**13 06 02.2**	**+0.3**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,mb3.8,baz=302,slow=8.3,SNR=6.6	**81.96**	**29**	P	**P**	**13 07 06.5**	**+1.0**
ZALV	**Zalesovo Beam**	**81.96**	**29**	P	**P**	**13 07 06.5**	**+1.0**
MKAR	**Makanchi Array** 1.1nm,1.1s,mb4.0,baz=328,slow=5.1,SNR=4.4	**85.86**	**36**	P	**P**	**13 07 25.8**	**+0.1**
MKAR	**Makanchi Array**	**85.86**	**36**	P	**P**	**13 07 25.8**	**+0.1**
BOSA	**Boshof** comp=Z,61nm,21.7s,MS4.0,baz=165,slow=31	**86.75**	**127**	LR	LR	13 38 57.1	

*NEIC **29** 13:02:03.3, 17°.02N×100°.10W, h19km, MD3.4(MEX), After MEX.*
MEX 29 13:02:03.5±0.7, 17°.03N×100°.10W, h20km±10km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**275**	*i* P	Pb	13 02 06.9	-1.3
CAIG				*e*S	Sb	13 02 10.7	-0.7
CAIG	**El Cayaco**	**0.17**	**275**	*i* P	Pb	13 02 06.9	-1.3
CAIG				*e*S	Sb	13 02 10.7	-0.7
ACX	**Acapulco**	**0.28**	**126**	*i* P	Pb	13 02 08.0	-1.9
ACX				*e*S	Sb	13 02 12.4	-1.7
ACX	**Acapulco**	**0.28**	**126**	*i* P	Pb	13 02 08.0	-1.9
ACX				*e*S	Sb	13 02 12.4	-1.7
MEIG	**Mezcala**	**1.00**	**27**	*i* P	Pb	13 02 19.2	-2.9
MEIG				*e*S	Sb	13 02 31.1	-3.7
MEIG	**Mezcala**	**1.00**	**27**	*i* P	Pb	13 02 19.2	-2.9
MEIG				*e*S	Sb	13 02 31.1	-3.7
ZIIG	**Zihuatanejo**	**1.43**	**294**	*i* P	Pn	13 02 25.5	-2.7
ZIIG				*e*S	Sn	13 02 42.4	-4.1
ZIIG	**Zihuatanejo**	**1.43**	**294**	*i* P	Pn	13 02 25.5	-2.7
ZIIG				*e*S	Sn	13 02 42.4	-4.1
PLIG	**Platanillo**	**1.46**	**23**	*i* P	Pn	13 02 26.4	-2.4
PLIG				*e*S	Sn	13 02 44.0	-3.4
PLIG	**Platanillo**	**1.46**	**23**	*i* P	Pn	13 02 26.4	-2.4
PLIG				*e*S	Sn	13 02 44.0	-3.4

*IDC **29** 13:09:20.1±5.3, 24°.05S×179°.82E, h495km±61km, mb3.1/5, mb1 3.5/6, mb1mx3.2/15, mbtmp3.1/6, Error ellipse: s-maj=35.3km s-min=25.4km az=4.0*
*ISCJB **29** 13:09:21.2±1.3, 24°.14S±0°.08×179°.8E±0°.1, h521km±16km, mb3.7/6, Error ellipse: s-maj=19.6km s-min=13.0km az=8.7*
*NEIC **29** 13:09:22.0±1.1, 24°.13S×179°.87E, h523km±13km, mb4.6/1, Error ellipse: s-maj=18.7km s-min=14.5km az=139.0*
ISC 29 13:09:21.4±1.2, 24°.26S±0°.08×179°.9E±0°.1, h517km±15km, n23, σ0§99/20, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.72**	**345**	*e*P	**P**	**13 11 04.4**	**-1.1**
DZM	**Mont Dzumac**	**12.57**	**277**	*e*P	**P**	**13 12 08.3**	**+2.3**
URZ	**Urewera** 1.1nm,0.3s,baz=72,slow=9.6,SNR=8.9	**14.16**	**189**	P	**P**	**13 12 23.5**	**+1.1**
URZ	0.2nm,0.3s,baz=240,slow=20,SNR=3.3			S	**S**	**13 14 50.5**	**-1.1**
URZ	**Urewera**	**14.16**	**189**	P	**P**	**13 12 23.5**	**+1.1**
URZ				S	**S**	**13 14 50.5**	**-1.1**
CTAO	**Charters Tower** 6.1nm,0.3s,mb4.6	**31.39**	**271**	*e*P	**P**	**13 15 00.3**	**+0.5**
AS31	**Alice Springs**	**41.89**	**261**	*e*P	**P**	**13 16 26.1**	**-0.2**
ASAR	**Alice Springs** 0.6nm,0.4s,mb3.5,baz=94,slow=8.1,SNR=32	**41.89**	**261**	P	**P**	**13 16 26.6**	**+0.2**
ASAR	**Alice Springs**	**41.89**	**261**	P	**P**	**13 16 26.6**	**+0.2**
WB2	**Warramunga Arr**	**42.28**	**267**	*e*P	**P**	**13 16 29.1**	**-0.4**
WRAB	**Tennant Creek**	**42.29**	**267**	*e*P	**P**	**13 16 29.0**	**-0.5**
WRA	**Warramunga Arr** 1.2nm,0.4s,mb3.8,baz=102,slow=8.3,SNR=39	**42.29**	**267**	P	**P**	**13 16 29.1**	**-0.5**
WRA	**Warramunga Arr**	**42.29**	**267**	P	**P**	**13 16 29.1**	**-0.5**
NVAR	**Mina Array Bea** 0.3nm,0.5s,mb3.1,baz=242,slow=5.7,SNR=3.1	**85.07**	**44**	P	**P**	**13 21 02.7**	**+0.4**
NVAR	**Mina Array Bea**	**85.07**	**44**	P	**P**	**13 21 02.7**	**+0.4**
TXAR	**Lajitas Array** 0.5nm,0.7s,mb3.6,baz=207,slow=5.8,SNR=8.9	**90.70**	**58**	P	**P**	**13 21 30.4**	**+1.3**
TXAR	**Lajitas Array**	**90.70**	**58**	P	**P**	**13 21 30.4**	**+1.4**
ILAR	**Eielson Array** 0.7nm,1.1s,mb3.6,baz=227,slow=6.1,SNR=2.7	**92.40**	**14**	P	**P**	**13 21 34.7**	**-1.3**
ILAR	**Eielson Array**	**92.40**	**14**	P	**P**	**13 21 34.7**	**-1.3**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=160,slow=1.6,SNR=3.0	**112.33**	**313**	PKiKP	PKiKP	13 26 57.4	-0.7
MKAR	**Makanchi Array**	**112.33**	**313**	PKiKP	PKiKP	13 26 57.4	-0.7
CLL	**Collm** comp=Z,4.0nm,0.9s	**151.17**	**343**	*i* PKPbc	PKPbc	13 28 15.6	-0.1
TORD	**Torodi Ar. Bea** comp=Z,0.1nm,0.4s,baz=127,slow=3.4,SNR=2.7	**168.82**	**189**	PKPab	PKPab	13 29 45.4	+1.8
TORD	**Torodi Ar. Bea**	**168.82**	**189**	PKPab	PKPab	13 29 45.4	+1.8

IDC 29 13:18:33.7±6.4, 23°.29S×178°.42W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=180.5km s-min=101.6km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 3.4nm,1.1s,baz=78,slow=9.7,SNR=5.0	**36.30**	**247**	P	P	13 25 39.3	+0.2
ASAR	**Alice Springs** 0.2nm,0.3s,baz=88,slow=7.9,SNR=12	**43.57**	**260**	P	P	13 26 39.0	-0.7
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=104,slow=8.2,SNR=20	**43.90**	**265**	P	P	13 26 42.7	+0.3
HFS	**Hagfors** 0.8nm,0.4s,baz=45,slow=2.2,SNR=6.5	**142.21**	**350**	PKP	PKPdf	13 38 07.1	-0.4

*ISCJB **29** 13:19:47.8±0.6, 37°.90N±0°.03×29°.21E±0°.06, h10km±8km, Error ellipse: s-maj=7.8km s-min=4.7km az=20.5*
*CSEM **29** 13:19:47.6±0.2, 37°.90N×29°.22E, h10km, MD2.7, Error ellipse: s-maj=6.6km s-min=4.2km az=104.0*
*DDA **29** 13:19:47.6, 37°.90N×29°.22E, h7km±4km, Md2.7*
ISC 29 13:19:48.0±0.6, 37°.91N±0°.03×29°.18E±0°.05, h12km±12km, n16, σ0§67/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**217**	*e*PG	**Pg**	**13 19 53.4**	**+1.2**
DENT	**Denizli**	**0.19**	**217**	*e*Pg	**Pg**	**13 19 53.4**	**+1.2**
DNZL	**Cakiroluk**	**0.24**	**206**	*i* P	**Pg**	**13 19 52.8**	**-0.3**
DNZL				*i* S	**Sg**	**13 19 56.7**	**+0.3**
DNZL	**Cakiroluk**	**0.24**	**206**	*i* P	**Pg**	**13 19 52.8**	**-0.2**
DNZL				*i* S	**Sg**	**13 19 56.7**	**+0.3**
KHAL	**Karahalli**	**0.52**	**28**	*i* P	**Pg**	**13 19 57.4**	**-0.8**
KHAL				*i* S	**Sg**	**13 20 05.3**	**+0.2**
KHAL	**Karahalli**	**0.52**	**28**	*i* P	**Pg**	**13 19 57.4**	**-0.8**
KHAL				*i* S	**Sg**	**13 20 05.3**	**+0.2**
GOLH	**Golhisar**	**0.73**	**156**	*i* P	**Pg**	**13 20 00.9**	**-1.3**
GOLH				*i* S	**Sg**	**13 20 12.8**	**+1.0**
GOLH	**Golhisar**	**0.73**	**156**	*i* P	**Pg**	**13 20 00.9**	**-1.3**
GOLH				*i* S	**Sg**	**13 20 12.8**	**+1.0**
GLHS	**Glhisar (BURDU**	**0.79**	**161**	*e*PG	**Pg**	**13 20 02.8**	**-0.5**
GLHS				*e*SG	**Sg**	**13 20 13.6**	**0.0**
GLHS	**Glhisar (BURDU**	**0.79**	**161**	*e*Pg	**Pg**	**13 20 02.8**	**-0.5**
GLHS				*e*Sg	**Sg**	**13 20 13.6**	**0.0**
YER	**Yerkesik**	**1.05**	**223**	*e*PG	**Pg**	**13 20 07.5**	**-0.7**
YER	**Yerkesik**	**1.05**	**223**	*e*Pg	**Pg**	**13 20 07.5**	**-0.7**
AYDN	**Tasoluk**	**1.06**	**257**	*i* P	**Pg**	**13 20 08.8**	**+0.5**
AYDN				*i* S	**Sg**	**13 20 21.7**	**-0.5**
AYDN	**Tasoluk**	**1.06**	**257**	*i* P	**Pg**	**13 20 08.9**	**+0.5**
AYDN				*i* S	**Sg**	**13 20 21.7**	**-0.5**
GDZ	**Gediz**	**1.20**	**11**	*i* P	**Pb**	**13 20 11.1**	**+0.4**
GDZ				*i* S	**Sb**	**13 20 26.6**	**+0.3**
GDZ	**Gediz**	**1.20**	**11**	*i* P	**Pb**	**13 20 11.1**	**+0.4**
GDZ				*i* S	**Sb**	**13 20 26.5**	**+0.3**

*ISCJB **29** 13:41:41.8±0.5, 40°.35N±0°.02×25°.86E±0°.03, h4km±4km, Error ellipse: s-maj=3.7km s-min=3.1km az=144.4*
*SOF **29** 13:41:41.1, 40°.34N×25°.65E, h2km, MD2.7*
*DDA **29** 13:41:41.8, 40°.36N×25°.87E, h30km±3km, Md3.1*
*THE **29** 13:41:42.4, 40°.36N×25°.83E, h2km±7km, ML2.4/4, Error ellipse: s-maj=7.8km s-min=0.4km az=47.0*
*CSEM **29** 13:41:42.4±0.1, 40°.35N×25°.85E, h10km, MD3.1, Error ellipse: s-maj=3.7km s-min=3.0km az=26.0*
*ISK **29** 13:41:42.5, 40°.33N×25°.94E, h6km, MD3.1*
*ATH **29** 13:41:42.2, 40°.34N×25°.87E, h20km±2km, MD3.1/5*
ISC 29 13:41:42.4±0.4, 40°.35N±0°.02×25°.85E±0°.03, h7km±3km, n75, σ0§86/101, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.45**	**30**	*e*PG	**Pg**	**13 41 50.9**	**-0.3**
ENEZ				*e*SG	**Sg**	**13 41 58.8**	**+1.8**
ENEZ	**Enez**	**0.45**	**30**	*e*Pg	**Pg**	**13 41 50.9**	**-0.2**
ENEZ				*e*Sg	**Sg**	**13 41 58.8**	**+1.8**
GELI	**Tayfur-Gelibol**	**0.48**	**84**	*e*PG	**Pg**	**13 41 51.2**	**-0.4**
GELI				*e*SG	**Sg**	**13 41 57.4**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.48**	**84**	*e*Pg	**Pg**	**13 41 51.2**	**-0.4**
GELI				*e*Sg	**Sg**	**13 41 57.4**	**-0.4**
BOZC	**Bozcaada**	**0.53**	**163**	*i* P	**Pg**	**13 41 52.7**	**+0.2**
BOZC				*i* S	**Sg**	**13 42 00.0**	**+0.7**
ALN	**Alexandroupoli**	**0.57**	**15**	*e*PN	**Pg**	**13 41 53.2**	**-0.2**
ALN				*e*SN	**Sg**	**13 42 01.5**	**+0.7**
ALN	**Alexandroupoli**	**0.57**	**15**	P	**Pg**	**13 41 53.2**	**-0.2**
ALN				S	**S

ALN				S	Sg	13 42 00.9	+0.1
ERIK	**Erikli-Kesan**	**0.60**	**57**	*e*PG	**Pg**	13 41 53.8	-0.1
ERIK	**Erikli-Kesan**	**0.60**	**57**	*e*Pg	**Pg**	13 41 53.8	-0.1
EZN	**Ezine**	**0.63**	**145**	*e*PG	**Pg**	13 41 54.6	+0.1
EZN	**Ezine**	**0.63**	**145**	*e*Pg	**Pg**	13 41 54.6	+0.1
LIA	**Limnos Island**	**0.68**	**229**	*e*PN	**Pg**	13 41 56.0	+0.6
LIA				*e*SN	**Sg**	13 42 05.1	+0.8
LIA	**Limnos Island**	**0.68**	**229**	P	**Pg**	13 41 55.3	-0.1
LIA				S	**Sg**	13 42 04.9	+0.6
LIA	**Limnos Island**	**0.68**	**229**	P	**Pg**	13 41 55.3	-0.1
LIA	**Limnos Island**	**0.68**	**229**	*e*Pn	**Pg**	13 41 56.0	+0.6
LIA				S	**Sg**	13 42 04.9	+0.6
LPK	**Lapseki**	**0.69**	**87**	*e*PG	**Pg**	13 41 54.5	-1.2
LPK	**Lapseki**	**0.69**	**87**	*e*Pg	**Pg**	13 41 54.5	-1.2
RDO	**Rodhopi**	**0.83**	**343**	*e*PB	**Pg**	13 41 58.0	-0.4
RDO				*e*SN	**Sg**	13 42 10.7	+1.5
RDO	**Rodhopi**	**0.83**	**343**	P	**Pg**	13 41 57.7	-0.7
RDO	**Rodhopi**	**0.83**	**343**	P	**Pg**	13 41 57.7	-0.7
RDO				*e*Sn	**Sg**	13 42 11.1	+1.9
SART	**Tekirdag**	**1.07**	**71**	*i* P	**Pg**	13 42 01.3	-1.5
SART				*i* S	**Sg**	13 42 16.4	-0.4
SART	**Tekirdag**	**1.07**	**71**	*i* P	**Pg**	13 42 01.3	-1.6
SART				*i* S	**Sg**	13 42 16.4	-0.3
KRBG	**Karabiga-Canak**	**1.10**	**87**	*e*PG	**Pg**	13 42 03.1	-0.5
KRBG	**Karabiga-Canak**	**1.10**	**87**	*e*Pg	**Pg**	13 42 03.1	-0.5
PRK	**Paraskevi**	**1.15**	**163**	*e*PN	**Pn**	13 42 04.1	-0.7
PRK				*e*SN	**Sn**	13 42 19.3	-1.4
PRK	**Paraskevi**	**1.15**	**163**	P	**Pg**	13 42 04.0	-0.3
PRK				S	**Sg**	13 42 20.8	+1.6
PRK	**Paraskevi**	**1.15**	**163**	*e*Sn	**Sn**	13 42 19.3	-1.4
PRK				S	**Sg**	13 42 20.8	+1.6
KAVA	**Kavala**	**1.21**	**303**	P	**Pg**	13 42 04.5	-1.0
KAVA				S	**Sg**	13 42 21.8	+0.6
KAVA	**Kavala**	**1.21**	**303**	P	**Pg**	13 42 04.5	-1.0
KAVA				S	**Sg**	13 42 21.8	+0.6
AYVA	**Ayvalik**	**1.22**	**148**	*i* P	**Pg**	13 42 04.9	-0.8
AYVA				*i* S	**Sg**	13 42 21.7	+0.1
KDZ	**Kurdzhali**	**1.34**	**346**	*i* P	**Pn**	13 42 06.6	-1.0
KDZ	**Kurdzhali**	**1.34**	**346**	*i* P	**Pn**	13 42 06.6	-1.0
TKR	**Tekirdag**	**1.43**	**63**	*e*PN	**Pn**	13 42 09.1	+0.3
TKR	**Tekirdag**	**1.43**	**63**	*e*Pn	**Pn**	13 42 09.1	+0.3
GONE	**Gonen-Balikesi**	**1.44**	**101**	*e*PN	**Pn**	13 42 09.1	+0.3
GONE	**Gonen-Balikesi**	**1.44**	**101**	*e*Pn	**Pn**	13 42 09.1	+0.3
BALY	**Balya**	**1.48**	**113**	*i* P	**Pn**	13 42 09.4	-0.1
BALY				*i* S	**Sn**	13 42 29.7	+0.5
BALY	**Balya**	**1.48**	**113**	*i* P	**Pn**	13 42 09.4	-0.1
BALY				*i* S	**Sn**	13 42 29.7	+0.5
EDC	**Edincik**	**1.54**	**89**	*e*PN	**Pn**	13 42 09.5	-0.7
EDC	**Edincik**	**1.54**	**89**	*e*Pn	**Pn**	13 42 09.5	-0.7
BNT	**Bandirma**	**1.58**	**89**	*e*PN	**Pn**	13 42 10.6	-0.2
BNT	**Bandirma**	**1.58**	**89**	*e*Pn	**Pn**	13 42 10.6	-0.2
RZN	**Rozhen**	**1.59**	**328**	P	**Pn**	13 42 10.3	-0.7
RZN	**Rozhen**	**1.59**	**328**	P	**Pn**	13 42 10.3	-0.7
EDRB	**Edirne**	**1.64**	**24**	*e*PN	**Pn**	13 42 11.6	-0.1
EDRB	**Edirne**	**1.64**	**24**	*e*Pn	**Pn**	13 42 11.6	-0.1
BALB	**Balikesir**	**1.71**	**114**	*e*PN	**Pn**	13 42 12.0	-0.6
BALB	**Balikesir**	**1.71**	**114**	*e*Pn	**Pn**	13 42 12.0	-0.6
DIM	**Dimitrovgrad**	**1.72**	**352**	P	**Pn**	13 42 14.1	+1.4
DIM	**Dimitrovgrad**	**1.72**	**352**	P	**Pn**	13 42 14.1	+1.4
NVR	**Nevrokopi**	**1.81**	**304**	*e*PN	**Pn**	13 42 14.3	+0.3
NVR	**Nevrokopi**	**1.81**	**304**	*e*Pb	**Pb**	13 42 13.3	-2.6
PLG	**Polygyros**	**1.84**	**272**	*e*PN	**Pn**	13 42 14.6	+0.2
PLG	**Polygyros**	**1.84**	**272**	*e*Pn	**Pn**	13 42 14.6	+0.2
KCTX	**Karacabey (Bur**	**1.92**	**92**	*e*PN	**Pn**	13 42 15.5	0.0
KCTX	**Karacabey (Bur**	**1.92**	**92**	*e*Pn	**Pn**	13 42 15.5	+0.1
PLD	**Plovdiv**	**1.96**	**334**	*e*Pn	**Pn**	13 42 19.4	+3.4
MMB	**Musomiste**	**2.03**	**308**	P	**Pn**	13 42 16.3	-0.7
MMB	**Musomiste**	**2.03**	**308**	P	**Pn**	13 42 16.3	-0.7
DURS	**Dursunbey**	**2.15**	**109**	*i* P	**Pn**	13 42 18.6	-0.1
DURS				*i* S	**Sn**	13 42 46.5	+1.0
DURS	**Dursunbey**	**2.15**	**109**	*i* P	**Pn**	13 42 18.5	-0.1
DURS				*i* S	**Sn**	13 42 46.5	+1.0
BLCB	**Balcova**	**2.16**	**154**	*e*PN	**Pn**	13 42 19.9	+1.1
BLCB	**Balcova**	**2.16**	**154**	*e*Pn	**Pn**	13 42 19.9	+1.1
CTKS	**Kestanelik-??a**	**2.20**	**65**	*e*PN	**Pn**	13 42 20.0	+0.7
CTKS	**Kestanelik-??a**	**2.20**	**65**	*e*Pn	**Pn**	13 42 20.0	+0.6
BGKT	**Bogazkoy**	**2.37**	**68**	*e*PN	**Pn**	13 42 22.7	+1.1
BGKT	**Bogazkoy**	**2.37**	**68**	*e*Pn	**Pn**	13 42 22.7	+1.0
YLV	**Yalova**	**2.69**	**84**	*e*PN	**Pn**	13 42 27.3	+1.2
YLV	**Yalova**	**2.69**	**84**	*e*Pn	**Pn**	13 42 27.3	+1.2
KULA	**Kula-Manisa**	**2.84**	**129**	*e*PN	**Pn**	13 42 28.8	+0.7
KULA	**Kula-Manisa**	**2.84**	**129**	*e*Pn	**Pn**	13 42 28.8	+0.7
GDZ	**Gediz**	**3.07**	**113**	*i* P	**Pn**	13 42 30.5	-0.8
GDZ				*i* S	**Sn**	13 43 16.8	+8.6
GDZ	**Gediz**	**3.07**	**113**	*i* P	**Pn**	13 42 30.5	-0.8
BARS	**Barje**	**3.91**	**311**	*e*Pn	**Pn**	13 42 42.2	-0.6

*IDC **29** 13:44:12.8±1.5, 2°.74S×139°.69E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.7/13, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=67.6km s-min=24.6km az=96.0*
*ISCJB **29** 13:44:18.3±5.3, 2°.8S±0°.2×139°.5E±0°.3, h50km±53km, mb3.5/4, Error ellipse: s-maj=45.5km s-min=27.7km az=15.9*
*NEIC **29** 13:44:18.8±0.9, 2°.73S×139°.36E, h35km, Error ellipse: s-maj=33.5km s-min=11.4km az=89.0*

ISC 29 13:44:22.6±2.6, 2°.9S±0°.1×139°.5E±0°.3, h77km±28km, n14, σ0°66/18, mb3.4/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**11.58**	**162**	*e*P	**Pn**	13 47 05.4	+0.4
WRAB	**Tennant Creek**	**17.69**	**196**	*e*P	**Pn**	13 48 24.5	+0.5
WB2	**Warramunga Arr**	**17.70**	**196**	*e*P	**Pn**	13 48 23.4	-0.6
WRA	**Warramunga Arr**	**17.70**	**196**	P	**Pn**	13 48 22.8	-1.3
	0.3nm,0.3s,baz=16,slow=13,SNR=24						
WRA				S	**S**	13 51 30.5	-12
	0.3nm,0.3s,baz=14,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**17.70**	**196**	P	**Pn**	13 48 22.8	-1.3
WRA				S	**S**	13 51 30.5	-12
AS31	**Alice Springs**	**21.37**	**194**	*e*P	**P**	13 49 04.5	+0.6
ASAR	**Alice Springs**	**21.37**	**194**	P	**P**	13 49 04.2	+0.4
	1.5nm,0.5s,mb3.6,baz=23,slow=10,SNR=16						
ASAR				S	**S**	13 52 57.0	+0.2
	0.9nm,0.8s,baz=10,slow=26,SNR=4.0						
ASAR	**Alice Springs**	**21.37**	**194**	P	**P**	13 49 04.2	+0.4
ASAR				S	**S**	13 52 57.0	+0.2
SONM	**Songino Array**	**58.22**	**334**	P	**P**	13 54 09.6	+0.8
	0.1nm,0.4s,mb3.2,baz=141,slow=7.4,SNR=2.5						
SONM	**Songino Array**	**58.22**	**334**	P	**P**	13 54 09.6	+0.8
MKAR	**Makanchi Array**	**70.42**	**322**	P	**P**	13 55 28.4	-0.2
	0.2nm,0.5s,mb3.2,baz=102,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**70.42**	**322**	P	**P**	13 55 28.4	-0.2
ILAR	**Eielson Array**	**85.65**	**24**	P	**P**	13 56 51.8	-0.7
	0.7nm,0.7s,mb3.7,baz=262,slow=4.1,SNR=9.7						
ILAR	**Eielson Array**	**85.65**	**24**	P	**P**	13 56 51.8	-0.7

IDC 29 13:55:01.3±4.8, 15°.96S×174°.89W, h0km, mb4.4/4, mb1 4.6/4, mb1mx3.9/17, mbtmp4.4/4, Error ellipse: s-maj=163.5km s-min=59.5km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.12**	**258**	P	P	14 02 15.1	+1.2
	1.4nm,0.5s,baz=74,slow=10,SNR=4.4						
STKA	**Stephens Creek**	**42.52**	**240**	P	P	14 02 59.0	+0.3
	1.2nm,0.5s,baz=95,slow=10,SNR=6.8						
WRA	**Warramunga Arr**	**48.32**	**257**	P	P	14 03 44.0	-0.9
	5.4nm,0.5s,baz=93,slow=6.7,SNR=143						
ASAR	**Alice Springs**	**48.57**	**252**	P	P	14 03 46.1	-0.7
	10nm,0.4s,baz=86,slow=7.9,SNR=463						
BRTR	**Keskin Array B**	**145.67**	**319**	PKPbc	PKPbc	14 14 42.0	-0.3
	0.6nm,0.5s,baz=56,slow=3.6,SNR=3.2						

IDC 29 13:58:34.1±59.0, 16°.43S×177°.44W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/34, Error ellipse: s-maj=1084.0km s-min=167.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.62**	**258**	LR	LR	14 16 26.9	
	comp=Z,75nm,18.1s,baz=52,slow=31						
STKA	**Stephens Creek**	**40.16**	**240**	P	P	14 06 13.4	+1.2
	3.2nm,1.0s,baz=92,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**45.82**	**258**	P	P	14 06 57.4	-0.9
	0.3nm,0.2s,baz=96,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**46.09**	**253**	P	P	14 07 00.1	-0.2
	2.3nm,0.3s,baz=91,slow=7.3,SNR=52						

*ISK **29** 14:06:25.6, 37°.86N×29°.26E, h6km, MD2.7*
*ISCJB **29** 14:06:26.2±0.5, 37°.89N±0°.03×29°.24E±0°.04, h8km±7km, Error ellipse: s-maj=5.7km s-min=4.6km az=1.0*
*DDA **29** 14:06:26.4, 37°.91N×29°.25E, h7km±2km, Md3.0*
*CSEM **29** 14:06:26.1±0.2, 37°.89N×29°.27E, h10km, MD2.7, Error ellipse: s-maj=4.0km s-min=3.0km az=105.0*

ISC 29 14:06:26.5±0.5, 37°.89N±0°.03×29°.24E±0°.04, h12km±6km, n22, σ0°77/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**231**	*e*PG	**Pg**	14 06 30.9	-0.2
DENT				*e*SG	**Sg**	14 06 33.5	-0.7
DENT	**Denizli**	**0.21**	**231**	*e*Pg	**Pg**	14 06 30.9	-0.2
DENT				*e*Sg	**Sg**	14 06 33.5	-0.7
DNZL	**Cakiroluk**	**0.25**	**218**	*i* P	**Pg**	14 06 32.0	+0.3
DNZL				*i* S	**Sg**	14 06 35.9	+0.6
DNZL	**Cakiroluk**	**0.25**	**218**	*i* P	**Pg**	14 06 32.0	+0.2
DNZL				*i* S	**Sg**	14 06 35.9	+0.6
KHAL	**Karahalli**	**0.52**	**22**	*i* P	**Pg**	14 06 35.8	-0.9
KHAL				*i* S	**Sg**	14 06 43.6	0.0
KHAL	**Karahalli**	**0.52**	**22**	*i* P	**Pg**	14 06 35.8	-0.9
KHAL				*i* S	**Sg**	14 06 43.7	0.0
GOLH	**Golhisar**	**0.70**	**159**	*i* P	**Pg**	14 06 39.9	-0.1
GOLH				*i* S	**Sg**	14 06 50.9	+1.7
GOLH	**Golhisar**	**0.70**	**159**	*i* P	**Pg**	14 06 39.9	-0.1
GOLH				*i* S	**Sg**	14 06 50.9	+1.7
KULA	**Kula-Manisa**	**0.78**	**324**	*e*PG	**Pg**	14 06 41.7	+0.1
KULA				*e*SG	**Sg**	14 06 53.2	+1.4
KULA	**Kula-Manisa**	**0.78**	**324**	*e*Pg	**Pg**	14 06 41.7	+0.1
KULA				*e*Sg	**Sg**	14 06 53.2	+1.5
ISP	**Isparta**	**1.01**	**93**	*e*PG	**Pg**	14 06 44.9	-1.2
ISP	**Isparta**	**1.01**	**93**	*e*Pg	**Pg**	14 06 44.9	-1.2
YER	**Yerkesik**	**1.07**	**226**	*e*PG	**Pg**	14 06 46.5	-0.6
YER	**Yerkesik**	**1.07**	**226**	*e*Pg	**Pg**	14 06 46.5	-0.6
AYDN	**Tasoluk**	**1.10**	**259**	*i* P	**Pg**	14 06 48.0	+0.3
AYDN				*i* S	**Sg**	14 07 01.6	-0.6
AYDN	**Tasoluk**	**1.10**	**259**	*i* P	**Pg**	14 06 48.0	+0.2
AYDN				*i* S	**Sg**	14 07 01.6	-0.6
GDZ	**Gediz**	**1.21**	**9**	*i* P	**Pn**	14 06 48.9	-0.4
GDZ				*i* S	**Sb**	14 07 05.7	+0.6
GDZ	**Gediz**	**1.21**	**9**	*i* P	**Pn**	14 06 48.9	-0.4
GDZ				*i* S	**Sb**	14 07 05.7	+0.7
DEMI	**Demirci**	**1.23**	**340**	*i* P	**Pn**	14 06 50.4	+0.9
DEMI				*i* S	**Sb**	14 07 04.4	-0.9
DEMI	**Demirci**	**1.23**	**340**	*i* P	**Pn**	14 06 50.3	+0.8
DEMI				*i* S	**Sb**	14 07 04.4	-1.0
SHUT	**Suhut-Afyon**	**1.23**	**57**	*e*PN	**Pn**	14 06 50.1	+0.7
ELL	**Elmali**	**1.25**	**155**	*e*PN	**Pn**	14 06 49.1	-0.7

*ISK **29** 14:18:27.7, 40°.88N×31°.60E, h7km, MD2.7*
*DDA **29** 14:18:27.9, 40°.85N×31°.54E, h14km±2km, Md3.0*
*ISCJB **29** 14:18:28.6±0.6, 40°.90N±0°.04×31°.49E±0°.05, h13km±6km, Error ellipse: s-maj=7.3km s-min=4.7km az=143.3*
*CSEM **29** 14:18:28.4±0.2, 40°.89N×31°.51E, h10km, MD2.7, Error ellipse: s-maj=6.2km s-min=4.2km az=156.0*

ISC 29 14:18:28.9±0.6, 40°.91N±0°.04×31°.50E±0°.05, h11km±6km, n20, σ0°87/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZE	**Karadeniz Ereo**	**0.41**	**354**	*e*PG	**Pg**	14 18 37.4	+0.3
KDZE				*e*SG	**Sg**	14 18 43.6	+1.0
KDZE	**Karadeniz Ereo**	**0.41**	**354**	*e*Pg	**Pg**	14 18 37.4	+0.3
KDZE				*e*Sg	**Sg**	14 18 43.6	+1.1
HENT	**Hendek**	**0.46**	**260**	*i* P	**Pg**	14 18 37.9	-0.1
HENT				*i* S	**Sg**	14 18 44.7	+0.5
HENT	**Hendek**	**0.46**	**260**	*i* P	**Pg**	14 18 37.9	-0.1
HENT				*i* S	**Sg**	14 18 44.7	+0.5
MDUB	**Mudurnu**	**0.49**	**208**	*e*PG	**Pg**	14 18 38.0	-0.5
MDUB				*e*SG	**Sg**	14 18 45.7	+0.6
MDUB	**Mudurnu**	**0.49**	**208**	*e*Pg	**Pg**	14 18 38.0	-0.5
MDUB				*e*Sg	**Sg**	14 18 45.7	+0.7
SAFT	**Safranbolu**	**0.96**	**69**	*e*PG	**Pg**	14 18 45.4	-2.0
SAFT	**Safranbolu**	**0.96**	**69**	*e*Pg	**Pg**	14 18 45.4	-2.0
ESKT	**Eskisehir**	**1.47**	**200**	*i* P	**Pn**	14 18 54.3	-1.0
ESKT				*i* S	**Sn**	14 19 09.4	-5.1
SEYT	**Eskypehyr**	**1.47**	**200**	*i* P	**Pn**	14 18 54.3	-1.0
SEYT				*i* S	**Sn**	14 19 09.4	-5.1
ELDT	**Eldivan**	**1.52**	**105**	*i* P	**Pn**	14 18 56.5	+0.5
ELDT				*i* S	**Sn**	14 19 16.8	+1.0
ELDT	**Eldivan**	**1.52**	**105**	*i* P	**Pn**	14 18 56.5	+0.5
ELDT				*i* S	**Sn**	14 19 16.8	+1.0
BALT	**Daday**	**1.56**	**66**	*i* P	**Pn**	14 18 56.4	0.0
BALT				*i* S	**Sn**	14 19 16.7	+0.1
BALT	**Daday**	**1.56**	**66**	*i* P	**Pn**	14 18 56.4	-0.1
BALT				*i* S	**Sn**	14 19 16.7	+0.1
TOS	**Tosya**	**1.91**	**85**	*e*PN	**Pn**	14 19 00.2	-1.2
TOS				*e*SN	**Sn**	14 19 24.6	-0.8
TOS	**Tosya**	**1.91**	**85**	*e*Pn	**Pn**	14 19 00.2	-1.2
TOS				*e*Sn	**Sn**	14 19 24.6	-0.9
ULDT	**Uludag**	**1.96**	**248**	*i* P	**Pn**	14 19 01.3	-0.7
ULDT				*i* S	**Sn**	14 19 26.4	-0.1
ULDT	**Uludag**	**1.96**	**248**	*i* P	**Pn**	14 19 01.3	-0.7
ULDT				*i* S	**Sn**	14 19 26.4	-0.1
CDAG	**Cicekdag**	**2.54**	**119**	*i* P	**Pn**	14 19 10.6	+0.5
CDAG				*i* S	**Sn**	14 19 42.6	+1.7
CDAG	**Cicekdag**	**2.54**	**119**	*i* P	**Pn**	14 19 10.6	+0.6
CDAG				*i* S	**Sn**	14 19 42.6	+1.7

*TIF **29** 14:23:46.2, 43°.36N×46°.05E, h13km±1km*
*ISCJB **29** 14:23:48.4±0.8, 43°.43N±0°.05×46°.32E±0°.07, h32km±8km, Error ellipse: s-maj=10.8km s-min=5.6km az=41.9*
*MOS **29** 14:23:48.0±1.7, 43°.35N×46°.22E, h24km, mb4.3/1, Error ellipse: s-maj=12.4km s-min=7.6km az=9.3*
*CSEM **29** 14:23:48.4±0.4, 43°.40N×46°.11E, h15km, mb4.3, Error ellipse: s-maj=9.7km s-min=4.0km az=21.0*

ISC 29 14:23:48.5±0.8, 43°.44N±0°.05×46°.34E±0°.06, h28km±7km, n42, σ1°30/68, 5C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.43**	**150**	*e*PG	**Pb**	14 23 59.8	+2.1
DLMR				*e*S	**Sb**	14 24 05.8	+1.8
DLMR				pmax	pmax		
	comp=Z,173nm,0.2s						
DLMR	**Dylym**	**0.43**	**150**	*e*Pg	**Pb**	14 23 59.8	+2.1
	comp=Z,173nm,0.2s						
DLMR				*e*Sg	**Sb**	14 24 05.8	+1.8
GRO	**Groznyy**	**0.45**	**254**	⇑*i*PG	**Pb**	14 23 54.1	-3.9
GRO	**Groznyy**	**0.45**	**254**	*i* Pg	**Pb**	14 23 54.1	-3.9
DBC	**Dubki**	**0.56**	**139**	*i* PG	**Pb**	14 23 57.1	-2.7
DBC				*i* S	**Sb**	14 24 04.9	-2.5
BUJR	**Buynaksk**	**0.84**	**137**	*e*PG	**Pn**	14 24 05.5	+1.1
BUJR				*e*S	**Sn**	14 24 17.0	+1.2
BUJR	**Buynaksk**	**0.84**	**137**	*e*Pg	**Pn**	14 24 05.5	+1.1
BUJR				*e*Sg	**Sn**	14 24 17.0	+1.2
TRKR	**Terskaya**	**1.20**	**284**	⇑*i*PG	**Pn**	14 24 10.1	+0.7
TRKR				*i* S	**Sn**	14 24 27.0	+2.3
TRKR	**Terskaya**	**1.20**	**284**	*i* Pg	**Pn**	14 24 10.1	+0.7
VLKR	**Vladikavkaz**	**1.28**	**252**	*e*PG	**Pn**	14 24 09.2	-1.2
VLKR				*e*S	**Sn**	14 24 24.9	-1.7
VLKR	**Vladikavkaz**	**1.28**	**252**	*e*Pg	**Pn**	14 24 09.2	-1.2
VLKR				*e*Sg	**Sn**	14 24 24.9	-1.7
KMKR	**Kumukh**	**1.43**	**157**	*e*PG	**Pn**	14 24 12.0	-0.5
KMKR				*e*S	**Sn**	14 24 30.0	-0.3
KMKR				pmax	pmax		
	comp=Z,56nm,0.2s						
KMSR	**Komsomolskaya**	**1.49**	**268**	⇓*i*PG	**Pn**	14 24 13.6	+0.2
KMSR				*i* S	**Sn**	14 24 33.2	+1.3
KMSR	**Komsomolskaya**	**1.49**	**268**	*i* Pg	**Pn**	14 24 13.6	+0.2
KMSR				*i* Sg	**Sn**	14 24 33.2	+1.3
ARNR	**Ardon**	**1.52**	**261**	*e*PG	**Pn**	14 24 13.5	-0.3
ARNR				*e*S	**Sn**	14 24 33.0	+0.3
ARNR	**Ardon**	**1.52**	**261**	*e*Pg	**Pn**	14 24 13.5	-0.3
ARNR				*e*Sg	**Sn**	14 24 33.0	+0.3
PRTR	**Priterechnaya**	**1.52**	**282**	⇑*i*PG	**Pn**	14 24 15.2	+1.3
PRTR				*e*S	**Sn**	14 24 35.9	+3.2
PRTR	**Priterechnaya**	**1.52**	**282**	*i* Pg	**Pn**	14 24 15.2	+1.3
LACR	**Lac**	**1.62**	**248**	⇓*i*PG	**Pn**	14 24 12.7	-2.4
KORR	**Kora**	**1.70**	**259**	⇑*i*PG	**Pn**	14 24 16.2	0.0
KORR				*i* S	**Sn**	14 24 37.7	+0.7
KORR	**Kora**	**1.70**	**259**	*i* Pg	**Pn**	14 24 16.2	0.0
KORR				*i* Sg	**Sn**	14 24 37.7	+0.7
LSNR	**Lesken**	**1.85**	**266**	*e*PN	**Pn**	14 24 18.8	+0.5
LSNR				*i* Sg	**Sn**	14 24 42.2	+1.5
ZEI	**Tsey**	**1.91**	**250**	*e*PN	**Pn**	14 24 17.5	-1.6
ZEI	**Tsey**	**1.91**	**250**	*e*Pn	**Pn**	14 24 17.5	-1.6
TBLG	**Delisi**	**2.08**	**215**	PN	**Pn**	14 24 21.0	-0.5
TBLG	**Delisi**	**2.08**	**215**	P	**Pn**	14 24 21.0	-0.5
TBLG				S	**Sn**	14 24 46.3	-0.1
TBLG	**Delisi**	**2.08**	**215**	P	**Pn**	14 24 21.0	-0.5
TBLG				S	**Sn**	14 24 46.3	-0.1
MTA	**Mtatsminda**	**2.09**	**214**	P	**Pn**	14 24 21.2	-0.4
MTA				S	**Sn**	14 24 46.5	-0.1
MTA	**Mtatsminda**	**2.09**	**214**	P	**Pn**	14 24 21.2	-0.4
MTA				S	**Sn**	14 24 46.5	-0.1
DIGR	**Digorskoe uzhe**	**2.09**	**256**	⇓*i*PN	**Pn**	14 24 20.7	-0.9
DIGR	**Digorskoe uzhe**	**2.09**	**256**	*i* Pn	**Pn**	14 24 20.7	-0.9
ONI	**Oni**	**2.28**	**249**	P	**Pn**	14 24 23.0	-1.2
ONI				S	**Sn**	14 24 50.1	-1.3
ONI	**Oni**	**2.28**	**249**	P	**Pn**	14 24 23.0	-1.3
ONI				S	**Sn**	14 24 50.1	-1.3
BEYR	**Belyy Ugol+**	**2.61**	**284**	*e*PN	**Pn**	14 24 28.0	-0.8
BEYR	**Belyy Ugol+**	**2.61**	**284**	*e*Pn	**Pn**	14 24 28.0	-0.8
SHAR	**Shatzhatmas**	**2.68**	**278**	⇓*e*PN	**Pn**	14 24 28.5	-1.3
SHAR	**Shatzhatmas**	**2.68**	**278**	*e*Pn	**Pn**	14 24 28.5	-1.3
KIV	**Kislovodsk**	**2.70**	**282**	⇑*e*PN	**Pn**	14 24 29.2	-0.8
KIV	**Kislovodsk**	**2.70**	**282**	*e*Pn	**Pn**	14 24 29.2	-0.8
AKH	**Akhalkalaki**	**2.93**	**227**	P	**Pn**	14 24 33.8	+0.7
AKH				S	**Sn**	14 25 09.6	+2.3
AKH	**Akhalkalaki**	**2.93**	**227**	P	**Pn**	14 24 33.8	+0.7
AKH				S	**Sn**	14 25 09.6	+2.3

*DDA **29** 14:35:20.9, 37°.91N×29°.23E, h7km±4km, Md3.0*
*ISCJB **29** 14:35:21.1±0.4, 37°.89N±0°.02×29°.20E±0°.03, h8km±7km, Error ellipse: s-maj=4.7km s-min=3.7km az=39.5*
*ISK **29** 14:35:21.2, 37°.87N×29°.19E, h6km, MD2.9*
*CSEM **29** 14:35:21.2±0.1, 37°.89N×29°.22E, h2km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.4km az=112.0*

ISC 29 14:35:21.6±0.4, 37°.89N±0°.03×29°.19E±0°.03, h13km±5km, n26, σ0°91/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**222**	*e*PG	**Pg**	14 35 25.5	-0.2
DENT				*e*SG	**Sg**	14 35 27.3	-1.3
DENT	**Denizli**	**0.18**	**222**	*e*Pg	**Pg**	14 35 25.5	-0.2
DENT				*e*Sg	**Sg**	14 35 27.3	-1.3
DNZL	**Cakiroluk**	**0.23**	**209**	*i* P	**Pg**	14 35 26.4	-0.1
DNZL				*i* S	**Sg**	14 35 30.3	+0.5
DNZL	**Cakiroluk**	**0.23**	**209**	*i* P	**Pg**	14 35 26.4	-0.1
DNZL				*i* S	**Sg**	14 35 30.3	+0.5
KHAL	**Karahalli**	**0.54**	**27**	*i* P	**Pg**	14 35 31.4	-0.7
KHAL				*i* S	**Sg**	14 35 38.2	-1.1

LPAZ **La Paz** 6.71 4 *eP* Pn 14 41 53.1 +0.4
CFAA **Coronel Fontan** 8.56 178 P Pn 14 42 14.3 -3.3
comp=N,2.3nm,0.3s,baz=350,slow=13,SNR=94
CFAA S Sn 14 43 42.5 -10
comp=N,0.8nm,0.3s,baz=1.9,slow=8.8,SNR=1.1
CFAA LR LR 14 45 03.1
comp=N,35nm,18.2s,baz=358,slow=33
CFAA **Coronel Fontan** 8.56 178 P Pn 14 42 14.3 -3.3
CFAA S Sn 14 43 42.5 -10
SIV **San Ignacio** 9.97 47 P Pn 14 42 32.8 -4.1
comp=N,69nm,0.3s,baz=238,slow=12,SNR=439
SIV S Sn 14 44 15.6 -11
comp=N,1.2nm,0.3s,baz=306,slow=20,SNR=1.8
SIV **San Ignacio** 9.97 47 P Pn 14 42 32.8 -4.1
SIV S Sn 14 44 15.6 -11
CPUP **Villa Florida** 10.77 110 P Pn 14 42 45.9 -1.9
comp=N,4.2nm,0.3s,baz=275,slow=12,SNR=32
CPUP LR LR 14 47 23.4
comp=N,202nm,20.6s,baz=291,slow=40
CPUP **Villa Florida** 10.77 110 P Pn 14 42 45.9 -1.9
NNA **Nana** 13.49 323 P Pn 14 43 29.6 +5.8
comp=N,1.4nm,0.3s,baz=196,slow=8.4,SNR=4.7
NNA **Nana** 13.49 323 *eP* Pn 14 43 29.5 +5.7
comp=N,7.1nm,0.6s
SAML **Samuel** 14.93 21 *eP* Pn 14 43 37.8 -4.5
comp=N,16nm,0.8s
TRQA **Tornquist** 16.03 161 *eP* Pn 14 43 52.7 -3.3
comp=N,30nm,0.6s
PLCA **Paso Flores** 17.73 185 P Pn 14 44 15.8 -1.1
comp=N,1.3nm,0.3s,baz=11,slow=15,SNR=33
PLCA PcP PcP 14 48 49.9 +0.8
comp=N,0.4nm,0.3s,baz=0.2,slow=2.1,SNR=8.8
PLCA pPcP 14 49 17.3
comp=N,0.2nm,0.3s,baz=270,slow=6.3,SNR=5.4
PLCA LR LR 14 52 26.6
comp=N,88nm,19.2s,baz=120,slow=41
PLCA **Paso Flores** 17.73 185 *eP* Pn 14 44 14.7 -2.2
comp=N,56nm,1.4s
PLCA PcP PcP 14 48 49.9 +0.9
PLCA pPcP 14 49 17.3
ATAH **Atahualpa** 18.39 328 P P 14 44 22.1 -1.5
comp=N,0.2nm,0.3s,baz=158,slow=19,SNR=2.7
ATAH **Atahualpa** 18.39 328 P P 14 44 22.1 -1.5
SPB **Sao Paulo** 19.46 96 *eP* P 14 44 33.6 -1.6
comp=N,57nm,0.8s
CAM4 **Nova Friburgo** 24.03 94⇑*iP* P 14 45 30.7 +8.6
CAM4 *i* 14 45 34.8
CAM4 *i* 14 45 36.3
OTAV **Otavalo** 25.02 336 *eP* P 14 45 31.4 +0.2
comp=N,4.1nm,0.7s,mb4.0
ROSC **El Rosal** 28.27 348 LR LR 14 57 24.8
comp=N,48nm,20.3s,baz=205,slow=36
SDV **Santo Domingo** 31.77 356 *eP* P 14 46 28.0 -3.2
comp=N,5.3nm,0.8s,mb4.3
RCBR **Riachuelo** 35.86 67 *eP* P 14 47 05.8 -0.9
comp=N,51nm,1.2s,mb5.3
CELP **Cerrillos** 40.89 3 *eP* P 14 47 45.3 -3.4
LRS **Lares** 41.10 3 *eP* P 14 47 45.8 -4.6
PMSA **Palmer Station** 41.85 177 P P 14 47 56.1 0.0
comp=N,7.6nm,0.6s,mb4.6,baz=14,slow=6.2,SNR=4.1
PMSA **Palmer Station** 41.85 177 P P 14 47 56.1 0.0
VNA3 **Neumayer Olymp** 58.55 161 *e* P 14 50 02.4 +0.5
VNA1 **Neumayer--Stat** 58.77 160 *e* P 14 50 04.3 +0.9
KMSC **Kings Mountain** 59.09 348 ⇑P P 14 50 05.7 -0.4
baz=59
VNA2 **Neumayer--Watz** 59.13 160 *e* P 14 50 06.5 +0.6
TKL **Tuckaleechee C** 60.10 346 P P 14 50 11.4 -1.5
comp=N,14nm,0.8s,mb5.0,baz=155,slow=7.8,SNR=17
TKL pP pP 14 50 36.9 -1.4
comp=N,7.2nm,0.8s,baz=151,slow=10,SNR=3.8
TKL sP sP 14 50 46.4 -3.2
comp=N,9.6nm,0.8s,baz=175,slow=9.1,SNR=4.0
TKL LR LR 15 19 34.6
comp=N,43nm,18.6s,baz=155,slow=39
TKL **Tuckaleechee C** 60.10 346 *eP* P 14 50 10.9 -2.1
TKL pP pP 14 50 36.9 -1.4
TKL sP sP 14 50 46.4 -3.2
PLAL **Pickwick Lake** 60.57 342 *eP* P 14 50 13.7 -2.5
comp=N,18nm,1.0s,mb5.0
SNAA **Sanae** 60.76 161 *e* P 14 50 16.8 -0.2
SNAA **Sanae** 60.76 161 *eP* P 14 50 16.6 -0.5
comp=N,33nm,1.0s,mb5.3
JCT **Junction City** 61.05 329 ⇑P P 14 50 18.4 -1.1
baz=61,SNR=5.7
JCT **Junction City** 61.05 329 *eP* P 14 50 17.9 -1.6
comp=N,9.6nm,0.7s,mb4.9
WVT **Waverly** 61.57 342 *eP* P 14 50 20.3 -2.6
comp=N,20nm,0.8s,mb5.2
628A **Black Gap, Mar** 61.75 326 ⇓P P 14 50 23.8 -0.5
baz=62,SNR=6.5
MIAR **Mount Ida** 61.97 337 *eP* P 14 50 23.8 -1.8
comp=N,28nm,1.3s,mb5.1
627A **Terlingua Ranc** 61.98 326 ⇑P P 14 50 25.2 -0.7
baz=62
TXAR **Lajitas Array** 62.03 325 P P 14 50 25.3 -0.8
comp=N,0.8nm,0.6s,mb3.9,baz=153,slow=8.5,SNR=18
TXAR pP pP 14 50 50.9 -0.8
comp=N,0.9nm,0.5s,baz=153,slow=8.3,SNR=6.2
TXAR sP sP 14 51 03.6 +0.7
comp=N,0.8nm,0.6s,baz=147,slow=7.9,SNR=3.3
TXAR PKP2bc 15 19 41.7
comp=N,0.4nm,0.8s,baz=264,slow=1.1,SNR=4.1
TXAR **Lajitas Array** 62.03 325 P P 14 50 25.3 -0.8
TXAR pP pP 14 50 50.9 -0.8
TXAR sP sP 14 51 03.6 +0.7
TXAR ⇑*e* 15 19 41.7
528A **Cox Ranch, San** 62.24 327 ⇓P P 14 50 26.8 -0.8
baz=62
626A **Big Bend Ranch** 62.45 325 ⇓P P 14 50 28.7 -0.3
baz=63,SNR=13
428A **Kincaid Ranch,** 62.65 327 ⇓P P 14 50 30.0 -0.2
baz=63
527A **Woodward Ranch** 62.65 326 ⇑P P 14 50 29.4 -0.9
baz=63,SNR=5.8
526A **Mary Lane Ranc** 62.83 326 ⇓P P 14 50 31.1 -0.4
baz=63,SNR=11
427A **Hayter Ranch,** 63.11 327 ⇑P P 14 50 32.7 -0.6
baz=63
328A **Wristen Ranch,** 63.24 327 ⇓P P 14 50 33.5 -0.7
baz=64,SNR=5.2
426A **McDonald Obser** 63.28 326 ⇑P P 14 50 34.0 -0.5
baz=64,SNR=6.2
SIUC **Southern Illin** 63.45 342 *eP* P 14 50 33.0 -2.3
comp=N,12nm,0.6s,mb5.0
425A **Indio Mountain** 63.88 325 ⇑P P 14 50 37.7 -0.6
baz=64,SNR=13
227A **Bennet, Jal** 63.99 327 ⇓P P 14 50 38.5 -0.6
baz=64
TUL1 **Tulsa** 64.01 336 ⇓P P 14 50 38.6 -0.5
baz=64
325A **Bean Ranch, Si** 64.33 326 ⇑P P 14 50 40.8 -0.5
baz=65,SNR=17
ACSO **Alum Creek Sta** 64.34 348 *eP* P 14 50 39.5 -1.7
comp=N,22nm,1.1s,mb4.9
226A **Malaga, Loving** 64.44 327 ⇓P P 14 50 41.7 -0.4
baz=65,SNR=5.6
127A **Arkansas Junct** 64.56 328 ⇑P P 14 50 42.4 -0.5
baz=65
324A **Moseley Ranch,** 64.65 325 ⇓P P 14 50 42.2 -1.3
baz=65,SNR=14
GDL2 **Guadalupe Moun** 64.68 327 *eP* P 14 50 43.0 -0.6
comp=N,5.5nm,0.6s,mb4.6
GDL2 *ep*P pP 14 51 08.9 -0.3
MNTX **Cornudas Mount** 64.80 326 ⇑P P 14 50 42.9 -1.5
baz=65,SNR=7.4
MNTX **Cornudas Mount** 64.80 326 *eP* P 14 50 42.4 -2.0
comp=N,4.8nm,1.1s,mb4.2
MNTX *ep*P pP 14 51 08.5 -1.6
225A **Deer Hill, Car** 64.84 326 ⇓P P 14 50 44.2 -0.5
baz=65,SNR=7.4
126A **Clayton Basin,** 64.87 327 ⇓P P 14 50 44.2 -0.6
baz=65
Z27A **Tatum** 65.01 328 ⇑P P 14 50 44.7 -1.1
baz=65
125A **Gardner Draw,** 65.20 327 ⇓P P 14 50 45.7 -1.2
baz=66,SNR=6.4
MSTX **Muleshoe** 65.34 329 ⇑P P 14 50 46.9 -0.9
baz=66
Z26A **Caprock** 65.35 328 ⇓P P 14 50 47.5 -0.5
baz=66,SNR=10
Y27A **Causey** 65.45 329 ⇓P P 14 50 47.4 -1.2
baz=66
AMTX **Amarillo** 65.59 330 ⇓P P 14 50 48.7 -0.7
baz=66
Z25A **Roswell** 65.72 327 ⇑P P 14 50 49.6 -0.7
baz=66
Y26A **Elida** 65.80 328 ⇓P P 14 50 50.6 -0.2
baz=66
222A **Williams Famil** 66.03 325 ⇓P P 14 50 52.3 0.0
baz=66
Z24A **Sheeppen Canyo** 66.09 327 ⇑P P 14 50 52.5 -0.1
baz=66,SNR=5.7
Y25A **Mesa, Roswell** 66.23 328 ⇑P P 14 50 52.6 -1.0
baz=66,SNR=5.9
X26A **CR and CF Fran** 66.31 329 ⇓P P 14 50 53.3 -0.7
baz=67,SNR=8.4
Z23A **Rita Site, Whi** 66.48 326 ⇑P P 14 50 55.0 -0.1
baz=67
Y24A **Capitan** 66.60 327 ⇓P P 14 50 56.0 +0.2
baz=67
220A **Playas Peak, P** 66.64 324 ⇑P P 14 50 56.5 +0.3
baz=67,SNR=6.8
X25A **Clemmons Ranch** 66.70 328 ⇑P P 14 50 55.4 -1.1
baz=67,SNR=6.3
121A **Cookes Peak, D** 66.72 324 ⇓P P 14 50 56.9 +0.2
baz=67
W26A **Owens Ranch, T** 66.72 329 ⇑P P 14 50 56.8 +0.2
baz=67,SNR=5.7
MDV **Middlebury** 66.82 356 *eP* P 14 50 56.5 -0.6
comp=N,904nm,0.4s
Z22A **Elephant Butte** 66.85 326 ⇓P P 14 50 57.8 +0.3
baz=67,SNR=11
Y23A **Lovelace Mesa,** 66.92 327 ⇓P P 14 50 57.7 -0.2
baz=67
318A **Bisbee** 67.11 322 ⇑P P 14 50 59.1 -0.1
baz=67,SNR=5.5
X24A **Lazy VL Ranch,** 67.11 328 ⇑P P 14 50 58.8 -0.3
baz=67,SNR=5.4
W25A **X Bar L Ranch,** 67.16 329 ⇑P P 14 50 59.1 -0.3
baz=68,SNR=6.5
QSPA **South Pole Qui** 67.18 180 *eP* P 14 50 59.8 +0.9
comp=N,18nm,0.6s,mb5.1
QSPA *ep*P pP 14 51 25.4 +0.7
120A **U Bar Ranch, L** 67.19 324 ⇓P P 14 51 00.1 +0.5
baz=68
Z21A **St. Cloud Mine** 67.26 325 ⇑P P 14 51 00.7 +0.6
baz=68,SNR=5.9
BNM **Barren Site** 67.38 326 *eP* P 14 51 00.8 -0.1
comp=N,3.9nm,1.0s,mb4.2
BNM *ep*P pP 14 51 25.5 -1.2
Y22A **Socorro** 67.38 326 ⇓P P 14 51 01.1 +0.3
baz=68
LPM **Los Pinos Moun** 67.51 327 *eP* P 14 51 01.8 +0.2
comp=N,3.0nm,0.8s,mb4.2
218A **Dragoon** 67.54 323 ⇓P P 14 51 02.1 +0.2
baz=68,SNR=7.0
LENM **Lemitar** 67.57 326 *eP* P 14 51 01.9 -0.1
comp=N,4.2nm,1.0s,mb4.2
Z20A **Nine Sixteen R** 67.60 324 ⇓P P 14 51 03.0 +0.7
baz=68,SNR=5.5
W24A **Lazy 6 Ranch,** 67.61 328 ⇓P P 14 51 01.6 -0.7
baz=68,SNR=7.8
119A **Ashpeak Ranch,** 67.72 324 ⇑P P 14 51 03.0 0.0
baz=68
V25A **Rancho No Teng** 67.73 329 ⇓P P 14 51 02.9 -0.2
baz=68,SNR=8.6
U26A **Atchley Ranch,** 67.78 330 ⇑P P 14 51 02.9 -0.4
baz=68,SNR=11
Y21A **Point of Rocks** 67.81 326 ⇑P P 14 51 04.4 +0.9
baz=68,SNR=9.1
ANMO **Albuquerque** 67.92 327 *eP* P 14 51 04.2 -0.1
comp=N,3.5nm,0.6s,mb4.4
ANMO *ep*P pP 14 51 30.0 -0.1
MSNY **Massena** 67.93 355 *eP* P 14 51 03.4 -0.6
comp=N,373nm,0.8s
W23A **Werner Place,** 67.94 327 ⇑P P 14 51 04.6 +0.3
baz=68,SNR=5.7
V24A **Rampart Ranch,** 67.96 328 ⇓P P 14 51 04.4 -0.1
baz=68,SNR=6.4
CBKS **Cedar Bluff** 68.08 334 ⇑P P 14 51 04.8 -0.3
baz=68,SNR=7.6
CBKS **Cedar Bluff** 68.08 334 *eP* P 14 51 04.3 -0.8
comp=N,33nm,1.0s,mb5.1
CBKS *e* pP 14 51 30.1 -0.9
CBKS *es*P sP 14 51 40.9 -1.3
U25A **Circle Dot Ran** 68.09 329 ⇑P P 14 51 05.5 +0.2
baz=68,SNR=10
Y20A **Horse Springs,** 68.10 325 ⇑P P 14 51 05.7 +0.4
baz=68,SNR=5.5
Z19A **T-Link Ranch,** 68.10 324 ⇓P P 14 51 05.7 +0.3
baz=68
TUC **Tucson** 68.20 322 *eP* P 14 51 05.5 -0.6
comp=N,9.7nm,1.3s,mb4.5
TUC *ep*P pP 14 51 32.0 +0.1
X21A **Alamocita Cree** 68.20 326 ⇑P P 14 51 06.6 +0.6
baz=68,SNR=8.9
W22A **Albuquerque** 68.22 327 ⇓P P 14 51 06.9 +0.8
baz=68
Z18A **Geronimo** 68.37 323 ⇓P P 14 51 07.6 +0.6
baz=69
V23A **Ortiz Mt. (NFS** 68.42 328 ⇓P P 14 51 08.1 +0.8
baz=69
JFWS **Jewell Farm** 68.57 343 *eP* P 14 51 06.3 -1.8
JFWS *e* pP 14 51 32.2 -1.8
Y19A **Nutrioso** 68.60 324 ⇓P P 14 51 09.5 +1.0
baz=69,SNR=12
X20A **Quemado** 68.65 325 ⇑P P 14 51 09.4 +0.6
baz=69
W21A **San Fidel** 68.66 326 ⇓P P 14 51 09.5 +0.6
baz=69,SNR=6.7
T25A **Trinidad** 68.69 330 ⇓P P 14 51 09.5 +0.5
baz=69
Z17A **San Carlos Hig** 68.77 323 ⇓P P 14 51 10.4 +0.8
baz=69
U23A **El Rito** 68.89 328 ⇑P P 14 51 10.6 +0.4
baz=69
Y18A **Canyon Day Jun** 68.89 324 ⇓P P 14 51 11.2 +1.0
baz=69
DBIC **Dimbokro** 68.91 73 P P 14 51 10.0 -0.9
comp=N,30nm,0.7s,mb5.2,baz=219,slow=6.2,SNR=40
DBIC pP pP 14 51 36.1 -0.6
comp=N,11nm,0.6s,baz=218,slow=5.7,SNR=4.3
DBIC sP sP 14 51 46.8 -1.2
comp=N,29nm,1.0s,baz=227,slow=6.4,SNR=5.5
DBIC LR LR 15 19 26.5
comp=N,48nm,19.1s,baz=156,slow=34
DBIC **Dimbokro** 68.91 73 *eP* P 14 51 09.9 -0.9
comp=N,25nm,0.7s,mb5.2
DBIC *ep*P pP 14 51 35.4 -1.4
DBIC pP pP 14 51 36.1 -0.6
DBIC *es*P sP 14 51 46.6 -1.4
DBIC sP sP 14 51 46.8 -1.2
R27A **Eads** 68.91 332 ⇑P P 14 51 10.2 -0.1
baz=69
T24A **Torres, Weston** 68.94 329 ⇑P P 14 51 10.8 +0.3
baz=69
X19A **St. Johns** 68.98 325 ⇑P P 14 51 10.9 +0.1
baz=69
W20A **Ramah** 69.10 326 ⇓P P 14 51 11.8 +0.3
baz=69,SNR=6.8
214A **Organ Pipe Nat** 69.11 321 ⇑P P 14 51 11.8 +0.1
baz=69
S25A **Robets Cordova** 69.13 330 ⇑P P 14 51 11.8 +0.1
baz=69,SNR=8.0
R26A **Arlington** 69.21 331 ⇑P P 14 51 11.9 -0.3
baz=70,SNR=11
Y17A **Roosevelt** 69.27 323 ⇑P P 14 51 13.2 +0.6
baz=70,SNR=7.7
T23A **Casias Ranch,** 69.38 329 ⇑P P 14 51 13.9 +0.7
baz=70
X18A **Snowflake** 69.41 324 ⇑P P 14 51 14.0 +0.5
baz=70
KSCO **Kaye Shedlock'** 69.44 332 ⇓P P 14 51 13.7 +0.1
baz=70
S24A **Houchin Ranch,** 69.47 330 ⇓P P 14 51 14.4 +0.6
baz=70,SNR=5.8
W19A **Sanders** 69.56 325 ⇑P P 14 51 14.9 +0.5
baz=70,SNR=7.0
V20A **Brimhall** 69.61 326 ⇓P P 14 51 14.8 +0.1
baz=70
U21A **Nageezi** 69.69 327 ⇑P P 14 51 15.7 +0.5
baz=70,SNR=7.7
SDCO **Great Sand Dun** 69.69 330 ⇑P P 14 51 15.5 +0.3
baz=70,SNR=14
SDCO **Great Sand Dun** 69.69 330 *eP* P 14 51 15.2 +0.1
comp=N,9.2nm,1.0s,mb4.6
SDCO *ep*P pP 14 51 40.4 -0.7
SDCO *es*P sP 14 51 52.7 +0.4
BGNE **Belgrade** 69.71 337 ⇓P P 14 51 14.5 -0.7
baz=70,SNR=8.6
W18A **Petrified Fore** 69.74 325 ⇑P P 14 51 15.9 +0.4
baz=70
Q26A **Hugo** 69.76 332 ⇓P P 14 51 15.8 +0.2
baz=70
T22A **Edith** 69.78 328 ⇓P P 14 51 16.2 +0.6
baz=70
V19A **Window Rock** 69.84 326 ⇑P P 14 51 16.5 +0.4
baz=70,SNR=6.5
R24A **Sanders Place,** 69.90 330 ⇓P P 14 51 16.9 +0.5
baz=70,SNR=6.9
T21A **Navajo Lake** 70.07 328 ⇓P P 14 51 18.0 +0.6
baz=70
Q25A **Bedland, Calha** 70.07 331 ⇓P P 14 51 16.9 -0.5
baz=70
U20A **Newcomb** 70.08 327 ⇓P P 14 51 17.7 +0.2
baz=70,SNR=8.7
X16A **Lo Mia Camp, P** 70.14 323 ⇓P P 14 51 18.8 +0.8
baz=70,SNR=7.6
R23A **Moffat** 70.20 330 ⇑P P 14 51 19.0 +0.7
baz=70,SNR=8.8
P26A **Davis Ranch, A** 70.21 332 ⇓P P 14 51 18.6 +0.4
baz=70
W17A **Winslow** 70.23 324 ⇑P P 14 51 19.1 +0.6
baz=70
113A **Mohawk Valley,** 70.25 321 ⇑P P 14 51 19.5 +0.8
baz=70
V18A **Ganado** 70.30 325 ⇑P P 14 51 19.2 +0.3
baz=71
S22A **4UR Ranch, Cre** 70.32 329 ⇓P P 14 51 19.4 +0.4
baz=71,SNR=5.3
O27A **Beecher Island** 70.36 333 ⇓P P 14 51 19.6 +0.4
baz=71
U19A **Dine' College,** 70.37 326 ⇓P P 14 51 19.3 0.0
baz=71
Z13A **Yuma Proving G** 70.50 321 ⇓P P 14 51 20.6 +0.4
baz=71
P25A **Willow Gulch B** 70.53 331 ⇑P P 14 51 20.8 +0.6
baz=71,SNR=6.9
Y14A **Wickenburg** 70.66 322 ⇓P P 14 51 21.3 +0.2
baz=71
T19A **Beclabito** 70.69 327 ⇑P P 14 51 21.7 +0.4
baz=71,SNR=5.7
V17A **Tonalea, Kykot** 70.69 325 ⇑P P 14 51 21.9 +0.6
baz=71,SNR=8.2
MVCO **Mesa Verde** 70.72 327 ⇑P P 14 51 21.8 +0.4
baz=71
MVCO **Mesa Verde** 70.72 327 *eP* P 14 51 21.2 -0.2
comp=N,5.9nm,0.7s,mb4.5
MVCO *ep*P pP 14 51 46.5 -1.0
S21A **Coal Bank Pass** 70.72 328 ⇓P P 14 51 21.7 +0.3
baz=71,SNR=6.0
OGNE **Ogallala** 70.81 334 ⇓P P 14 51 21.9 0.0
baz=71
WUAZ **Wupatki** 70.92 324 ⇑P P 14 51 23.4 +0.7
baz=71,SNR=11
WUAZ **Wupatki** 70.92 324 *eP* P 14 51 23.1 +0.4
comp=N,32nm,1.0s,mb5.1
WUAZ *ep*P pP 14 51 49.1 +0.4
O25A **Wiggins** 71.00 332 ⇓P P 14 51 23.8 +0.8
baz=71
S20A **Disappointment** 71.13 328 ⇓P P 14 51 24.7 +0.8
baz=71,SNR=7.9
R21A **Cimarron** 71.16 329 ⇑P P 14 51 24.6 +0.6
baz=72,SNR=5.6
P23A **Jefferson** 71.16 330 ⇓P P 14 51 25.1 +1.1
baz=72
ECSD **EROS Data Cent** 71.23 339 *eP* P 14 51 22.5 -1.9
comp=N,16nm,1.3s,mb4.7
ECSD *ep*P pP 14 51 48.6 -1.8
Q22A **Crested Butte,** 71.25 329 ⇑P P 14 51 25.4 +0.8
baz=72
U16A **Tuba City** 71.26 325 ⇑P P 14 51 25.5 +0.7
baz=72
T18A **Mexican Hat** 71.36 326 ⇑P P 14 51 25.6 +0.3
baz=72,SNR=16
U17A **Shonto** 71.36 325 ⇑P P 14 51 26.3 +1.0
baz=72
Y12C **Blythe** 71.40 321 ⇑P P 14 51 26.0 +0.4
baz=72
ISCO **Idaho Springs** 71.40 331 ⇑P P 14 51 25.7 +0.2
baz=72,SNR=5.6
ISCO **Idaho Springs** 71.40 331 *eP* P 14 51 25.6 +0.1
comp=N,2.6nm,0.7s,mb4.2
ISCO *ep*P pP 14 51 51.5 -0.1
R20A **Redvale** 71.42 328 ⇑P P 14 51 26.6 +0.9
baz=72,SNR=5.7
M27A **Reverse DX Ran** 71.45 334 ⇓P P 14 51 26.0 +0.3
baz=72
PV01 **Paradox Valley** 71.47 328 *eP* P 14 51 26.2 +0.2
comp=N,300nm,0.7s
SMCO **Snowmass** 71.53 329 *eP* P 14 51 26.9 +0.6
comp=N,6.0nm,0.8s,mb4.5
Q21A **Lamborn Mesa,** 71.54 329 ⇑P P 14 51 26.5 +0.2
baz=72
T17A **Navajo Res., N** 71.73 326 ⇓P P 14 51 28.3 +0.8
baz=72,SNR=7.0
P22A **Eagle** 71.76 330 ⇑P P 14 51 28.0 +0.3
baz=72
S18A **Hurst Farm, Bl** 71.84 326 ⇓P P 14 51 28.7 +0.5
baz=72,SNR=15
BC3 **Big Chuckawall** 71.87 320 ⇓P P 14 51 28.7 +0.3
baz=72,SNR=5.3
O23A **Lake Granby, G** 71.87 331 ⇑P P 14 51 28.9 +0.6
baz=72,SNR=6.8
MONP **Monument Peak** 71.92 319 ⇑P P 14 51 29.2 +0.5
baz=72
BAR **Barrett** 71.92 319 *eP* P 14 51 29.1 +0.3
comp=N,22nm,0.9s,mb5.0
BAR *ep*P pP 14 51 54.9 0.0
R19A **Curley Farm, L** 71.94 327 ⇑P P 14 51 28.8 0.0
baz=72
Q20A **Ridgley Place,** 71.98 328 ⇓P P 14 51 29.0 +0.1
baz=72
W13A **Hualapai Mount** 72.00 322 ⇑P P 14 51 29.7 +0.6
baz=72,SNR=5.1
P21A **Newcastle** 72.03 329 ⇑P P 14 51 29.9 +0.7
baz=72,SNR=9.9
IRM **Iron Mountain** 72.05 321 ⇓P P 14 51 30.5 +1.0
baz=72
U15A **North Rim** 72.09 324 ⇑P P 14 51 30.3 +0.6
baz=72,SNR=9.0
O22A **Kremmling** 72.12 330 ⇑P P 14 51 30.1 +0.3
baz=72,SNR=8.1
L26A **Underwood Farm** 72.16 334 ⇓P P 14 51 30.7 +0.8
baz=72
S17A **Black Ridge (B** 72.21 326 ⇓P P 14 51 31.2 +0.8
baz=72
R18A **Canyonlands Na** 72.33 327 ⇑P P 14 51 31.1 0.0
baz=73,SNR=5.7
K27A **Flueckinger Fa** 72.38 335 ⇓P P 14 51 31.8 +0.5
baz=73
M24A **Cheyenne** 72.42 332 ⇓P P 14 51 32.3 +0.8
baz=73,SNR=6.0
PFO **Pinyon Flat Ob** 72.44 320 ⇑P P 14 51 32.2 +0.4
baz=73
BELC **Belle Mtn. Jos** 72.44 320 ⇓P P 14 51 32.2 +0.4
baz=73
N23A **Red Feather La** 72.44 331 ⇓P P 14 51 32.3 +0.6
baz=73
N22A **Wattenberg Ran** 72.59 331 ⇓P P 14 51 33.3 +0.7
baz=73,SNR=5.2
LDFC **Landfair** 72.68 321 *eP* P 14 51 32.6 -0.6
comp=N,10nm,0.8s,mb4.7
S16A **Weppner Ranch,** 72.69 326 ⇑P P 14 51 33.9 +0.6
baz=73
R17A **Hanksville Air** 72.76 327 ⇓P P 14 51 33.9 +0.3
baz=73,SNR=13
M23A **Laramie** 72.81 332 ⇑P P 14 51 34.4 +0.6
baz=73,SNR=6.9
P19A **Cripple Cowboy** 72.84 328 ⇓P P 14 51 34.5 +0.4
baz=73,SNR=12
MURC **Murrieta** 72.88 319 ⇓P P 14 51 34.7 +0.2
baz=73
O20A **White River Ci** 72.88 329 ⇓P P 14 51 34.9 +0.6
baz=73,SNR=8.0
Q18A **Rafter H Ranch** 73.00 327 ⇑P P 14 51 35.4 +0.4
baz=73
N21A **Black Mountain** 73.04 330 ⇑P P 14 51 36.3 +1.1
baz=73
M22A **Cedar Creek Ra** 73.14 331 ⇓P P 14 51 36.4 +0.6
baz=73
SRU **San Rafael** 73.20 327 *eP* P 14 51 36.1 -0.1
comp=N,9.2nm,0.9s,mb4.6
SRU *ep*P pP 14 52 02.2 -0.1
HEC **Hector,Ludlow** 73.21 321 ⇓P P 14 51 37.0 +0.7
baz=74,SNR=6.3
Q16A **Castle Valley** 73.38 327 ⇓P P 14 51 38.4 +1.1
baz=74
TUQ **Turquoise Moun** 73.40 321 ⇑P P 14 51 37.9 +0.4
baz=74
R15A **Junction** 73.41 325 ⇑P P 14 51 38.0 +0.5
baz=74
O19A **Miners Draw (B** 73.43 329 ⇓P P 14 51 37.7 +0.2

baz=74,SNR=6.9
N20A Spence Gulch, 73.44 330 ⇑P P 14 51 37.9 +0.3
baz=74
CCUT Cedar City 73.50 324 *e*P **P 14 51 39.1 +1.1**
comp=N,18nm,0.9s,mb4.8
CCUT *e*pP pP 14 52 05.2 +1.0
L22A Ellis Ranch, M 73.57 332 ⇓P **P 14 51 39.1 +0.7**
baz=74
P17A Butcher Ranch, 73.58 327 ⇑P **P 14 51 39.1 +0.7**
baz=74
MSU Marysvale 73.59 326 *e*P **P 14 51 39.0 +0.6**
comp=N,7.3nm,0.9s,mb4.4
MSU *e*pP pP 14 52 05.4 +0.7
BFSC Mount Baldy Ra 73.59 319 ⇓P **P 14 51 39.2 +0.6**
baz=74
M21A Separation Pea 73.65 331 ⇑P **P 14 51 39.2 +0.5**
baz=74
ARUT Antelope Range 73.72 324 *e*P **P 14 51 40.1 +0.8**
comp=N,7.4nm,0.8s,mb4.5
ARUT *e*pP pP 14 52 06.5 +1.0
K23A Bowen Ranch, D 73.81 332 ⇑P **P 14 51 40.3 +0.6**
baz=74
GSC Goldstone 73.82 321 ⇑P **P 14 51 40.1 +0.1**
baz=74
GSC Goldstone 73.82 321 *e*P **P 14 51 39.9 0.0**
comp=N,3.7nm,1.0s,mb4.1
GSC *e*pP pP 14 52 06.2 +0.1
MWC Mount Wilson 73.82 319 *e*P **P 14 51 39.8 -0.1**
comp=N,4.7nm,0.5s,mb4.5
MWC *e*pP pP 14 52 06.4 +0.2
J24A Dixon Ranch, L 73.88 333 ⇓P **P 14 51 40.9 +0.8**
baz=74
N19A John Jarvie Ra 73.92 329 ⇓P **P 14 51 40.6 +0.2**
baz=74,SNR=9.9
N19A ⇓P 14 51 41.1
baz=74
M20A Sweetwater, Wa 73.93 330 ⇓P **P 14 51 40.8 +0.3**
baz=74
L21A Rawlins 73.93 331 ⇓P **P 14 51 40.8 +0.4**
baz=74,SNR=8.9
K22A Casper 74.11 332 ⇓P **P 14 51 41.8 +0.4**
baz=74
O17A Robinson Place 74.13 328 ⇓P **P 14 51 43.0 +1.4**
baz=74
P16A Fountain Green 74.15 327 ⇓P **P 14 51 42.6 +0.9**
baz=74
EDW2 Edwards Air Fo 74.23 320 ⇓P **P 14 51 42.3 0.0**
baz=74
RSSD Black Hills 74.28 334 *e*P **P 14 51 42.5 +0.1**
comp=N,8.4nm,0.6s,mb4.7
RSSD *e*pP pP 14 52 08.4 -0.3
R13A O'Grain Ranch, 74.29 324 ⇑P **P 14 51 43.3 +0.7**
baz=75
L20A Wamsutter 74.41 330 ⇓P **P 14 51 43.5 +0.3**
baz=75
K21A Alcova 74.42 331 ⇓P **P 14 51 43.6 +0.4**
baz=75,SNR=10.0
P15A Leamington 74.43 326 ⇓P **P 14 51 44.3 +0.9**
baz=75
LRMC Laurel Mountai 74.46 320 ⇑P **P 14 51 44.3 +0.6**
baz=75
O16A Springville 74.52 327 ⇓P **P 14 51 44.7 +0.8**
baz=75
FURC Furnace Creek, 74.67 321 ⇑P **P 14 51 45.2 +0.4**
baz=75,SNR=5.4
J22A Midwest 74.71 332 ⇓P **P 14 51 44.9 0.0**
baz=75,SNR=8.4
MPMC Manual Prospec 74.75 321 ⇓P **P 14 51 45.7 +0.4**
baz=75,SNR=5.2
N17A Moffit Pass 74.75 328 ⇑P **P 14 51 45.9 +0.7**
baz=75,SNR=18
JLU Jordanelle 74.80 328 *e*P **P 14 51 45.2 -0.3**
comp=N,3.1nm,0.7s,mb4.2
JLU *e*pP pP 14 52 12.0 +0.2
K20A Yellowstone Ra 74.92 331 ⇑P **P 14 51 46.2 +0.1**
baz=75
L19A Farson 74.95 330 ⇓P **P 14 51 47.0 +0.7**
baz=75
SYO Syowa Base 74.99 159⇑*e*P **P 14 51 44.6 -1.6**
SYO Syowa Base 74.99 159⇑*e*PcP PcP 14 51 55.2 -4.3
H24A Dirks Ranch, A 75.01 334 ⇓P **P 14 51 46.6 0.0**
baz=75,SNR=15
ISA Isabella 75.06 320 ⇓P **P 14 51 47.8 +0.7**
baz=75,SNR=9.5
ISA Isabella 75.06 320 *e*P **P 14 51 47.5 +0.4**
comp=N,6.9nm,0.8s,mb4.4
ISA *e*pP pP 14 52 13.8 +0.4
J21A Lysite 75.07 332 ⇓P **P 14 51 47.6 +0.6**
baz=75
M17A Scullys Gap (B 75.08 329 ⇓P **P 14 51 47.0 -0.1**
baz=75
I22A 9 Mile Ranch, 75.10 333 ⇑P **P 14 51 47.3 +0.1**
baz=75,SNR=8.7
L18A Fontenelle, Gr 75.13 329 ⇓P **P 14 51 47.5 +0.2**
baz=75,SNR=9.3
DUG Dugway 75.17 326 ⇓P **P 14 51 48.2 +0.5**
baz=76
DUG Dugway 75.17 326 *e*P **P 14 51 47.7 +0.1**
K19A Absolon Red Bu 75.28 331 ⇓P **P 14 51 47.9 -0.3**
baz=76,SNR=5.7
R11A Troy Canyon, C 75.29 324 ⇑P **P 14 51 49.3 +0.9**
baz=76,SNR=8.0
PKM Peak Mountain 75.35 319 ⇓P **P 14 51 49.3 +0.5**
baz=76,SNR=5.8
CWC Cottonwood Cre 75.36 321 ⇓P **P 14 51 49.4 +0.6**
baz=76
J20A Shoshoni 75.36 331 ⇑P **P 14 51 49.4 +0.7**
baz=76
I21A Big Trails, Te 75.38 332 ⇓P **P 14 51 48.7 0.0**
baz=76,SNR=15
G24A Alzada 75.44 335 ⇓P **P 14 51 49.0 0.0**
baz=76,SNR=11
VES Vestal, Richgr 75.54 320 ⇑P **P 14 51 50.1 +0.2**
baz=76
BW06 Boulder Array 75.56 330 ⇑P **P 14 51 49.9 +0.1**
baz=76
PDAR Pinedale Array 75.56 330 P **P 14 51 49.3 -0.5**
comp=N,1.4nm,0.4s,mb4.0,baz=132,slow=7.8,SNR=12
PDAR pP pP 14 52 15.5 -0.6
comp=N,1.7nm,0.7s,baz=127,slow=7.1,SNR=4.8
PDAR sP sP 14 52 27.1 -0.2
comp=N,1.6nm,0.6s,baz=141,slow=6.9,SNR=3.3
PDAR Pinedale Array 75.56 330 P **P 14 51 49.3 -0.5**
PDAR pP pP 14 52 15.5 -0.6
PDAR sP sP 14 52 27.1 -0.2
PD02 Pinedale Array 75.57 330 *e*P **P 14 51 49.3 -0.6**
PD01 Pinedale Array 75.58 330 *e*P **P 14 51 49.3 -0.6**
H22A Clearmont 75.61 333 ⇓P **P 14 51 50.2 +0.1**
baz=76
HWUT Hardware Ranch 75.61 328 *e*P **P 14 51 49.7 -0.4**
comp=N,7.4nm,0.6s,mb4.6
HWUT *e*pP pP 14 52 15.9 -0.6
K18A Toltan Ranch, 75.68 330 ⇓P **P 14 51 51.0 +0.5**
baz=76,SNR=7.8
G23A Biddle 75.72 334 ⇓P **P 14 51 50.5 -0.1**
baz=76,SNR=5.2
J19A Crowheart 75.72 331 ⇑P **P 14 51 50.8 +0.1**
baz=76,SNR=8.9
SMMC Simmler 75.73 319 ⇑P **P 14 51 50.9 0.0**
baz=76
MDND Maddock 75.84 339 ⇑P **P 14 51 51.0 -0.3**
baz=76,SNR=8.1
I20A Worland 75.85 332 ⇑P **P 14 51 51.3 -0.1**
baz=76
L16A Fish Haven 75.86 329 ⇓P **P 14 51 51.6 +0.1**
baz=76
F24A Ekalaka 75.88 335 ⇑P **P 14 51 51.2 -0.3**
baz=76,SNR=7.7
H21A Big Horn, Sher 75.93 333 ⇓P **P 14 51 51.6 -0.2**
baz=76,SNR=8.2
M15A Larsen Ranch, 75.94 328 ⇑P **P 14 51 51.6 -0.3**
baz=76,SNR=8.9
G22A Birney 76.10 334 ⇓P **P 14 51 52.2 -0.6**
baz=76
F23A Volborg 76.15 334 ⇓P **P 14 51 52.9 -0.2**
baz=76,SNR=13
H20A Greybull 76.23 332 ⇓P **P 14 51 53.4 -0.1**
baz=76,SNR=6.1
I19A Meeteetse 76.30 331 ⇑P **P 14 51 54.1 +0.1**
baz=77,SNR=9.3
L15A Malad City 76.32 328 ⇑P **P 14 51 53.9 -0.2**
baz=77,SNR=9.8
I18A Diamond G Ranc 76.41 331 ⇑P **P 14 51 54.9 +0.3**
baz=77,SNR=12
E24A Baker 76.42 336 ⇓P **P 14 51 54.6 0.0**
baz=77,SNR=11
G21A Lodge Grass 76.48 333 ⇑P **P 14 51 54.8 -0.1**
baz=77,SNR=12
F22A Rosebud 76.54 334 ⇑P **P 14 51 55.1 -0.2**
baz=77
LOHW Long Hollow 76.70 330 *e*P **P 14 51 56.3 +0.1**
comp=N,8.0nm,0.3s,mb4.9
LOHW *e*pP pP 14 52 22.6 0.0
E23A Ismay 76.75 335 ⇓P **P 14 51 56.1 -0.3**
baz=77
L14A Malta 76.76 327 ⇓P **P 14 51 56.8 +0.2**
baz=77
H19A Powell 76.80 332 ⇓P **P 14 51 57.0 +0.2**
baz=77,SNR=6.8
RRI2 Red Ridge 76.83 329 *e*P **P 14 51 57.3 +0.4**
comp=N,10nm,0.8s,mb4.6
RRI2 *e*pP pP 14 52 23.5 +0.1
ULM Lac du Bonnet 76.84 342 P **P 14 51 55.5 -1.4**
comp=N,17nm,0.6s,mb5.0,baz=155,slow=5.8,SNR=51
ULM pP pP 14 52 21.8 -1.5
comp=N,7.0nm,0.5s,baz=166,slow=6.3,SNR=5.8
ULM sP sP 14 52 32.2 -2.2
comp=N,6.1nm,0.7s,baz=166,slow=4.4,SNR=3.4
ULM Lac du Bonnet 76.84 342 *e*P **P 14 51 55.3 -1.5**
comp=N,9.2nm,0.5s,mb4.8
ULM *e*pP pP 14 52 21.5 -1.8
ULM pP pP 14 52 21.8 -1.5
ULM sP sP 14 52 32.2 -2.2
NVAR Mina Array Bea 76.86 322 P **P 14 51 57.6 +0.3**
comp=N,1.6nm,0.7s,mb3.9,baz=151,slow=6.3,SNR=12
NVAR pP pP 14 52 24.1 +0.4
comp=N,4.7nm,0.8s,baz=149,slow=6.8,SNR=12
NVAR Mina Array Bea 76.86 322 P **P 14 51 57.6 +0.3**
NVAR pP pP 14 52 24.1 +0.4
G20A Bridger 76.90 332 ⇑P **P 14 51 57.0 -0.4**
baz=77,SNR=14
I17A Pilgrim Ck. 76.92 330 ⇑P **P 14 51 58.1 +0.6**
baz=77,SNR=6.3
F21A Absaloka Mine, 76.93 333 ⇓P **P 14 51 57.9 +0.4**
baz=77
E22A Miles City 76.96 334 ⇑P **P 14 51 56.9 -0.7**
baz=77
LAO LASA Array 77.27 334 ⇓P **P 14 51 59.4 0.0**
baz=78,SNR=6.0
LAO LASA Array 77.27 334 *e*P **P 14 51 59.0 -0.3**
comp=N,14nm,0.8s,mb4.8
D23A Lindsay 77.27 335 ⇓P **P 14 51 59.7 +0.4**
baz=78,SNR=7.5
RLMT Red Lodge 77.28 332 ⇓P **P 14 51 59.4 0.0**
baz=78,SNR=9.7
RLMT Red Lodge 77.28 332 *e*P **P 14 51 59.7 +0.3**
comp=N,11nm,1.0s,mb4.6
RLMT *e*pP pP 14 52 25.3 -0.6
F20A Billings 77.34 333 ⇑P **P 14 51 59.8 0.0**
baz=78
J15A Blackfoot 77.39 329 ⇓P **P 14 52 00.0 -0.1**
baz=78,SNR=9.0
E21A Keefer Ranch, 77.49 334 ⇑P **P 14 52 00.6 0.0**
baz=78
SCHQ Schefferville 77.55 1 P **P 14 51 59.9 -0.8**
comp=N,15nm,0.7s,mb4.8,baz=202,slow=5.6,SNR=15
SCHQ sP sP 14 52 36.2 -2.0
comp=N,5.4nm,0.7s,baz=204,slow=5.9,SNR=2.3
SCHQ Schefferville 77.55 1 P **P 14 51 59.9 -0.8**
SCHQ sP sP 14 52 36.2 -2.0
G18A Lazy EL Ranch, 77.56 332 ⇑P **P 14 52 01.1 +0.1**
baz=78,SNR=12
TORD Torodi Ar. Bea 77.61 70 P **P 14 52 01.1 -0.8**
comp=N,135nm,0.6s,mb5.8,baz=255,slow=5.4,SNR=928
TORD pP pP 14 52 27.4 -1.0
comp=N,12nm,0.6s,baz=256,slow=5.3,SNR=2.4
TORD sP sP 14 52 38.3 -1.2
comp=N,20nm,0.7s,baz=250,slow=5.2,SNR=3.2
TORD Torodi Ar. Bea 77.61 70 P **P 14 52 01.1 -0.8**
TORD pP pP 14 52 27.4 -1.0
TORD sP sP 14 52 38.3 -1.2
D22A Cohagen 77.63 335 ⇑P **P 14 52 01.7 +0.4**
baz=78,SNR=14
YMR Madison River 77.68 331 *e*P **P 14 52 01.9 +0.3**
comp=N,34nm,1.3s,mb4.9
YMR *e*pP pP 14 52 28.6 +0.5
F19A Roth Farm, Mol 77.72 332 ⇓P **P 14 52 02.0 +0.1**
baz=78,SNR=14
C23A Lambert 77.78 336 ⇑P **P 14 52 02.2 0.0**
baz=78
J14A Carey 77.86 328 ⇑P **P 14 52 03.4 +0.6**
baz=78,SNR=9.8
I15A Monteview 77.87 329 ⇓P **P 14 52 03.6 +0.8**
baz=78
D21A La Casta Ranch 77.88 334 ⇓P **P 14 52 02.9 +0.1**
baz=78,SNR=11
E20A Meyer Farm, Mu 77.89 333 ⇓P **P 14 52 03.2 +0.4**
baz=78,SNR=15
DGMT Dagmar 77.97 337 ⇑P **P 14 52 03.6 +0.4**
baz=78,SNR=8.2
DGMT Dagmar 77.97 337 *e*P **P 14 52 03.1 -0.1**
comp=N,27nm,0.9s,mb5.0
DGMT *e*pP pP 14 52 29.2 -0.5
GCMT Greycliff 77.98 332 *e*P **P 14 52 03.2 -0.2**
comp=N,9.7nm,0.8s,mb4.6
GCMT *e*pP pP 14 52 29.8 0.0
C22A Vida 78.00 335 ⇓P **P 14 52 03.2 -0.2**
baz=78,SNR=6.5
G17A Pierce Place, 78.08 331 ⇑P **P 14 52 04.9 +0.9**
baz=78
F18A Big Timber 78.09 332 ⇓P **P 14 52 04.1 +0.2**
baz=78,SNR=19
E19A Rath Farm, Rou 78.13 333 ⇑P **P 14 52 04.1 0.0**
baz=78,SNR=33
J13A Cove Ranch, Pi 78.23 328 ⇓P **P 14 52 05.2 +0.4**
baz=78,SNR=5.7
B23A Brockton 78.26 336 ⇓P **P 14 52 04.8 0.0**
baz=79,SNR=7.2
I14A Mackay 78.28 329 ⇑P **P 14 52 05.8 +0.8**
baz=79,SNR=12
A24A Westby 78.28 337 ⇓P **P 14 52 05.1 +0.2**
baz=79,SNR=6.3
D20A Manuel Ranch, 78.37 334 ⇑P **P 14 52 05.5 +0.1**
baz=79,SNR=7.7
H15A Lima 78.41 330 ⇓P **P 14 52 05.8 0.0**
baz=79
HLID Hailey 78.47 328 ⇓P **P 14 52 06.9 +0.8**
baz=79,SNR=20
HLID Hailey 78.47 328 *e*P **P 14 52 06.1 0.0**
comp=N,18nm,1.1s,mb4.7
HLID *e*pP pP 14 52 33.0 +0.4
F17A Fitzpatrick Pl 78.50 331 ⇓P **P 14 52 06.7 +0.4**
baz=79,SNR=9.8
B22A Reddig Ranch S 78.50 336 ⇑P **P 14 52 06.4 +0.3**
baz=79
C21A Desert Coulee 78.54 335 ⇓P **P 14 52 06.2 -0.1**
baz=79,SNR=14
I13A Wildhorse Cree 78.59 328 ⇑P **P 14 52 07.5 +0.8**
baz=79,SNR=7.6
MCMT McKenzie Canyo 78.67 330 *e*P **P 14 52 07.8 +0.7**
comp=N,5.4nm,0.9s,mb4.4
MCMT *e*pP pP 14 52 34.2 +0.5
E18A Harlowton 78.69 332 ⇓P **P 14 52 07.2 0.0**
baz=79,SNR=5.1
D19A Cripps Ranch, 78.73 333 ⇓P **P 14 52 07.3 -0.1**
baz=79,SNR=8.4
BOZ Bozeman (W) 78.73 331 *e*P **P 14 52 05.2 -2.3**
comp=N,5.3nm,1.2s,mb4.2
H14A Leadore 78.75 329 ⇑P **P 14 52 08.1 +0.5**
baz=79
G15A Dillon 78.76 330 ⇓P **P 14 52 08.2 +0.5**
baz=79,SNR=6.0
C20A Veseth Ranch, 78.81 334 ⇑P **P 14 52 07.5 -0.4**
baz=79,SNR=7.2
F16A Kennard Place, 78.84 331 ⇑P **P 14 52 08.1 +0.1**
baz=79
DLMT Dillon 78.96 330 *e*P **P 14 52 07.8 -0.9**
comp=N,17nm,1.4s,mb4.7
B21A Ellsworth Farm 79.00 335 ⇑P **P 14 52 09.1 +0.2**
baz=79
E17A Martinsdale 79.02 332 ⇓P **P 14 52 09.4 +0.3**
baz=79,SNR=8.9
A22A Carney Farms, 79.04 336 ⇓P **P 14 52 09.3 +0.3**
baz=79,SNR=11
MFID Camas Ranch 79.07 327 ⇓P **P 14 52 09.5 +0.1**
baz=79
H13A Challis 79.14 329 ⇓P **P 14 52 10.3 +0.6**
baz=79,SNR=18
D18A Linhart Farms, 79.14 333 ⇑P **P 14 52 09.8 +0.1**
baz=79
LRM Limekiln Ridge 79.24 330 *e*P **P 14 52 10.3 0.0**
comp=N,56nm,1.0s,mb5.3
LRM *e*pP pP 14 52 37.0 +0.3
C19A Slack Wire Ran 79.25 334 ⇑P **P 14 52 09.5 -0.8**
baz=80,SNR=6.5
G14A Jackson 79.27 330 ⇑P **P 14 52 11.1 +0.7**
baz=80
F15A Butte 79.27 330 ⇓P **P 14 52 11.0 +0.5**
baz=80,SNR=11
B20A Solberg Farm, 79.40 335 ⇓P **P 14 52 10.8 -0.3**
baz=80,SNR=6.7
A21A Bergtoll Ranch 79.42 335 ⇓P **P 14 52 10.8 -0.4**
baz=80,SNR=8.2
E16A East Helena 79.44 331 ⇑P **P 14 52 11.3 +0.1**
baz=80
D17A Six Diamond Ra 79.48 332 ⇑P **P 14 52 11.7 +0.2**
baz=80,SNR=11
HRY Holter Researc 79.64 331 *e*P **P 14 52 12.5 +0.1**
comp=N,4.2nm,0.8s,mb4.3
HRY *e*pP pP 14 52 38.7 -0.3
F14A Wisdom 79.65 330 ⇑P **P 14 52 13.4 +0.9**
baz=80,SNR=7.0
A20A Cobblestone Ra 79.72 335 ⇑P **P 14 52 12.5 -0.3**
baz=80,SNR=29
D16A Dana Ranch, Ca 79.76 332 ⇑P **P 14 52 13.6 +0.6**
baz=80,SNR=15
EGMT Eagleton 79.77 333 ⇓P **P 14 52 12.9 -0.2**
baz=80
EGMT Eagleton 79.77 333 *e*P **P 14 52 12.4 -0.6**
comp=N,14nm,1.1s,mb4.7
E15A Deer Lodge 79.78 331 ⇓P **P 14 52 13.5 +0.3**
baz=80
B19A Brinkman Farms 79.78 334 ⇓P **P 14 52 13.0 -0.2**
baz=80,SNR=8.0
C17A Wharram Farm, 79.89 333 ⇓P **P 14 52 13.5 -0.2**
baz=80,SNR=8.6
B18A Beardsley Farm 80.08 334 ⇓P **P 14 52 14.5 -0.2**
baz=80,SNR=14
E14A Clinton 80.16 330 ⇓P **P 14 52 15.6 +0.4**
baz=80,SNR=6.8
D15A Lincoln 80.20 331 ⇑P **P 14 52 15.8 +0.4**
baz=80
J08A Circle Bar Ran 80.38 326 ⇓P **P 14 52 17.0 +0.6**
baz=81
B17A L&G Farms, Che 80.42 333 ⇑P **P 14 52 16.0 -0.6**
baz=81,SNR=5.1
C16A Fuhringer Ranc 80.44 332 ⇓P **P 14 52 16.6 -0.1**
baz=81,SNR=10.0
E13A Victor 80.50 330 ⇓P **P 14 52 17.7 +0.6**
baz=81,SNR=11
A18A Metzger Ranch, 80.52 334 ⇓P **P 14 52 16.4 -0.7**
baz=81,SNR=10
MSO Missoula 80.68 330 ⇓P **P 14 52 18.1 +0.1**
baz=81
C15A Salmond Ranch, 80.80 332 ⇑P **P 14 52 18.8 +0.3**
baz=81,SNR=19
BMO Blue Mountains 80.84 327 *e*P **P 14 52 18.9 0.0**
comp=N,8.5nm,1.3s,mb4.4
BMO *e*pP pP 14 52 44.6 -0.9
A17A Triple J Farms 80.89 333 ⇑P **P 14 52 18.7 -0.3**
baz=81,SNR=15
B16A M & M Farms, S 80.90 333 ⇑P **P 14 52 18.8 -0.3**
baz=81
D13A Huson 81.11 330 ⇑P **P 14 52 20.4 +0.1**
baz=81,SNR=14
B15A Bradely Ranch, 81.19 332 ⇑P **P 14 52 20.3 -0.3**
baz=82,SNR=12
SWMT Swartz Lake 81.21 331 *e*P **P 14 52 20.7 -0.1**
comp=N,6.7nm,1.0s,mb4.4
SWMT *e*pP pP 14 52 47.2 -0.3
A16A West Butte Ran 81.26 333 ⇑P **P 14 52 20.9 -0.1**
baz=82,SNR=42
I07A Izee 81.42 326 ⇑P **P 14 52 22.0 0.0**
baz=82
YBMT Yellow Bay 81.48 331 *e*P **P 14 52 22.6 +0.3**
comp=N,5.1nm,0.6s,mb4.5
YBMT *e*pP pP 14 52 48.8 -0.1
JTMT Jette 81.52 331 *e*P **P 14 52 22.4 0.0**
comp=N,3.9nm,0.6s,mb4.4
JTMT *e*pP pP 14 52 49.1 0.0
B14A Marquette Ranc 81.53 332 ⇓P **P 14 52 21.8 -0.6**
baz=82
A15A Johnson Ranch, 81.77 332 ⇑P **P 14 52 23.1 -0.6**
baz=82
BSMT Bassoo Peak 81.82 331 *e*P **P 14 52 24.0 0.0**
comp=N,17nm,1.2s,mb4.7
BSMT *e*pP pP 14 52 50.4 -0.3
C12B Naegeli Ranch, 82.03 330 ⇑P **P 14 52 25.1 0.0**
baz=82,SNR=7.1
A14A Double T Ranch 82.06 332 ⇑P **P 14 52 24.6 -0.6**
baz=82
E09A Wood Farm, Sta 82.43 328 ⇓P **P 14 52 26.7 -0.6**
baz=83
BOSA Boshof 82.49 118 P **P 14 52 28.1 -0.1**
comp=N,38nm,0.8s,mb5.3,baz=250,slow=5.4,SNR=56
BOSA Boshof 82.49 118 P **P 14 52 28.1 -0.1**
B12A Libby 82.64 331 ⇑P **P 14 52 28.1 -0.1**
baz=83,SNR=5.4
PBDV Barranco-do-Ve 82.78 45 *e*P **P 14 52 29.6 +0.4**
comp=N,73nm,1.4s,mb5.3
PNCL Nicolau / Gran 82.91 44 *e*P **P 14 52 30.0 +0.1**
PCVE Castro Verde 82.94 44 *e*P **P 14 52 30.3 +0.3**
PVAQ Vaqueiros 83.01 45 *e*P **P 14 52 30.7 +0.3**
A12A Yaak River Ran 83.01 331 ⇑P **P 14 52 30.0 -0.1**
baz=83,SNR=16
NEW Newport 83.19 330 ⇑P **P 14 52 30.3 -0.8**
baz=84
PBEJ Beja 83.28 44 *e*P **P 14 52 32.0 +0.2**
OD2 Odessa Site #2 83.33 328 *e*P **P 14 52 31.4 -0.4**
comp=N,25nm,1.0s,mb5.0
OD2 *e*pP pP 14 52 57.8 -0.8
PMTG Montargil 83.66 43 *e*P **P 14 52 33.7 -0.1**
PTOM Tomar 83.87 42 *e*P **P 14 52 34.8 0.0**
comp=N,67nm,1.6s,mb5.2
PBAR Barrancos 83.89 44 *e*P **P 14 52 35.0 0.0**
LBTB Lobatse 84.13 115 *e*P **P 14 52 36.6 -0.1**
comp=N,42nm,0.8s,mb5.3
ETW Entiat 84.27 328 *e*P **P 14 52 36.3 -0.3**
comp=N,9.5nm,0.7s,mb4.7
ETW *e*pP pP 14 53 03.0 -0.4
MTE Manteigas 84.87 42 *e*P **P 14 52 39.8 0.0**
TAM Tamanrasset 85.26 63 *e*P **P 14 52 42.0 -0.1**
comp=N,23nm,1.2s,mb5.0
TAM *e*pP pP 14 53 08.5 -0.5
PCAB Cabril 85.35 41 *e*P **P 14 52 41.6 -0.6**
MVO Moncorvo 85.64 42 *e*P **P 14 52 43.5 -0.1**
A05A Maple Falls 86.07 328 ⇑P **P 14 52 44.7 -0.9**
baz=86
ESDC Sonseca Array 86.72 44 P **P 14 52 48.7 -0.3**
comp=N,2.8nm,0.7s,mb4.3,baz=240,slow=4.5,SNR=16
ESDC pP pP 14 53 14.7 -1.2
comp=N,2.2nm,1.0s,baz=239,slow=5.0,SNR=2.7
ESDC Sonseca Array 86.72 44 P **P 14 52 48.7 -0.3**
ESDC pP pP 14 53 14.7 -1.2
YKA Yellowknife Ar 92.71 340 P **P 14 53 15.4 -1.0**
comp=N,7.8nm,0.8s,mb5.1,baz=136,slow=4.6,SNR=98
YKA pP pP 14 53 42.4 -1.2
comp=N,5.8nm,0.6s,baz=138,slow=4.5,SNR=14
YKA sP sP 14 53 53.0 -1.5
comp=N,2.4nm,0.6s,baz=134,slow=4.7,SNR=3.5
YKA Yellowknife Ar 92.71 340 P **P 14 53 15.4 -1.1**
YKA pP pP 14 53 42.4 -1.2
YKA sP sP 14 53 53.0 -1.5
KEST Kesra 93.99 53 P **P 14 53 22.4 -0.7**
comp=N,1.3nm,0.7s,mb4.3,baz=173,slow=8.1,SNR=3.3
KEST Kesra 93.99 53 P **P 14 53 22.4 -0.7**
DLBC Dease Lake 95.67 332 P **P 14 53 30.1 -0.1**
comp=N,1.7nm,0.5s,mb4.7,baz=98,slow=8.9,SNR=3.7
DLBC pP pP 14 53 55.2 -2.1
comp=N,3.5nm,1.0s,baz=149,slow=5.9,SNR=2.5
DLBC Dease Lake 95.67 332 P **P 14 53 30.1 -0.1**
DLBC pP pP 14 53 55.2 -2.1
ILAR Eielson Array 105.73 334 PP PP 14 58 35.7 -3.3
comp=N,0.2nm,0.6s,baz=90,slow=7.1,SNR=4.1
ILAR PKKPbc PKKPbc 15 09 50.5 -3.1
comp=N,0.5nm,0.7s,baz=273,slow=2.8,SNR=4.1
ILAR Eielson Array 105.73 334 PP PP 14 58 35.7 -3.3
ILAR PKKPbc PKKPbc 15 09 50.5 -3.1
AKASG Malin Array Be 112.33 43 PKiKP PKiKP 14 58 38.9 -1.2
comp=N,1.2nm,0.5s,baz=271,slow=2.8,SNR=6.1
AKASG Malin Array Be 112.33 43 PKiKP PKiKP 14 58 38.9 -1.2
BRTR Keskin Array B 113.47 55 PKiKP PKiKP 14 58 42.0 -0.6
comp=N,1.6nm,0.7s,baz=198,slow=2.5,SNR=6.4
BRTR PP PP 14 59 36.3 +0.6
comp=N,1.9nm,1.1s,baz=296,slow=6.7,SNR=4.1
BRTR Keskin Array B 113.47 55 PKiKP PKiKP 14 58 42.0 -0.6
BRTR PP PP 14 59 36.3 +0.6
STKA Stephens Creek 118.23 209 PKKPbc PKKPbc 15 09 09.6 -1.6
comp=N,1.8nm,0.6s,baz=325,slow=4.7,SNR=6.8
STKA PKKPab PKKPab 15 09 14.1 -2.2
comp=N,2.7nm,1.0s,baz=208,slow=5.8,SNR=3.1
STKA PKKP PKKPdf 15 09 31.1 -7.9

comp=N,2.3nm,0.9s,baz=194,slow=14,SNR=2.9
STKA Stephens Creek 118.23 209 PKKPbc PKKPbc 15 09 09.6 -1.6
STKA PKKPab PKKPab 15 09 14.1 -2.2
STKA PKKP PKKPdf 15 09 31.1 -7.9
ASAR Alice Springs 128.69 207 PKP PKPdf 14 59 11.7 -0.7
comp=N,3.8nm,0.7s,baz=133,slow=1.8,SNR=60
ASAR pPKP pPKPdf 14 59 39.5 -1.2
comp=N,3.4nm,0.9s,baz=161,slow=2.3,SNR=5.9
ASAR PKKP 15 09 17.8
comp=N,0.2nm,0.6s,baz=359,slow=1.6,SNR=4.9
ASAR Alice Springs 128.69 207 PKP PKPdf 14 59 11.7 -0.7
ASAR pPKP pPKPdf 14 59 39.5 -1.2
ASAR PKKP 15 09 17.8
WRA Warramunga Arr 131.78 209 PKhKP PKPpre 14 59 03.6
comp=N,0.3nm,0.9s,baz=146,slow=3.2,SNR=5.2
WRA PKP PKPdf 14 59 18.1 -0.3
comp=N,3.8nm,0.6s,baz=152,slow=1.6,SNR=71
WRA pPKP pPKPdf 14 59 45.6 -1.0
comp=N,4.5nm,1.1s,baz=171,slow=1.4,SNR=5.1
WRA SKPbc SKPbc 15 02 35.2 +0.3
comp=N,1.7nm,1.0s,baz=151,slow=3.4,SNR=4.8
WRA Warramunga Arr 131.78 209 PKPpre PKPpre 14 59 03.6
WRA PKP PKPdf 14 59 32.2 -2.1
WRA pPKP pPKPdf 14 59 45.6 -1.0
WRA SKPbc SKPbc 15 02 35.2 +0.3
ABKAR Akbulak array 132.06 44 *e*PKPdf PKPdf 14 59 17.8 -0.1
ABKAR *e*pPKPdf pPKPdf 14 59 45.7 -0.4
PETK Petropavlovsk- 133.94 323 PKP PKPdf 14 59 21.9 +0.5
comp=N,2.4nm,0.8s,baz=108,slow=4.7,SNR=3.2
PETK Petropavlovsk- 133.94 323 PKP PKPdf 14 59 21.9 +0.5
KKAR Karatay Array 140.80 49 PKPdf PKPdf 14 59 32.2 -2.1
KURK Kurchatov 142.43 34 *e*PKPpre PKPpre 14 59 32.6
ZAA0 Zalesovo Array 143.20 26 *e*PKPpre PKPpre 14 59 33.7
ZALV Zalesovo Beam 143.20 26 PKhKP PKPpre 14 59 34.5
comp=N,13nm,0.6s,baz=309,slow=3.9,SNR=76
ZALV pPKP pPKPdf 15 00 03.2 -3.3
comp=N,7.0nm,0.7s,baz=301,slow=4.0,SNR=2.6
ZALV Zalesovo Beam 143.20 26 PKPpre PKPpre 14 59 34.5
ZALV pPKP pPKPdf 15 00 03.2 -3.3
EKS2 Erkin-Say 143.21 49 P PKPdf 14 59 39.8 +1.1
SNR=5.6
EKS2 P 14 59 39.8
SNR=5.6
EKS2 Erkin-Say 143.21 49 *e*PKPpre PKPpre 14 59 34.2
AML Almayashu 143.34 50 P PKPdf 14 59 37.2 -1.6
SNR=10
AML P 14 59 37.2
SNR=10
AAK Ala-Archa 143.72 48 P PKPdf 14 59 37.9 -1.6
SNR=18
AAK P 14 59 37.9
SNR=18
AAK Ala-Archa 143.72 48 *e*PKPdf PKPdf 14 59 38.0 -1.5
KBK Karagaybulak 144.02 48 P PKPdf 14 59 38.8 -1.3
SNR=22
KBK P 14 59 38.8
SNR=22
TKM2 Tokmak 2 144.37 48 P PKPdf 14 59 39.8 -0.8
SNR=28
TKM2 P 14 59 39.8
SNR=28
TKM2 Tokmak 2 144.37 48 *e*PKPdf PKPdf 14 59 39.5 -1.1
KZA Kyzart 144.44 49 P PKPdf 14 59 41.0 +0.2
SNR=21
KZA P 14 59 41.0
SNR=21
POO Poona 144.68 90 *e*PKP PKPdf 14 59 39.0 -2.9
ULHL Ulahol 145.06 48 P PKPbc 14 59 42.9 +1.3
SNR=5.5
ULHL P 14 59 42.9
SNR=5.5
KSH Kashi 145.81 53 PKPbc PKPbc 14 59 43.5 -0.5
KSH pPKP pPKPdf 15 00 10.3 -1.3
KSH sPKP 15 00 21.5
KSH PP PP 15 03 10.5 +4.5
KSH PKS 15 03 18.0
KSH SKS SKSdf 15 06 40.5 -2.4
KSH SKKS SKKSac 15 09 49.3 +1.0
KSH AMB AMB
comp=Z,100nm,4.9s
KSH LR LR
comp=N,120nm,5.7s
KSH LR LR
comp=E,99nm,4.2s
KSH LR LR
comp=Z,170nm,5.3s
MK31 Makanchi Array 146.68 37 *e*PKPbc PKPbc 14 59 44.6 -1.7
MKAR Makanchi Array 146.68 37 PKPbc PKPbc 14 59 44.6 -1.6
comp=Z,41nm,0.8s,baz=318,slow=2.2,SNR=139
MKAR pPKPbc pPKPbc 15 00 12.2 -2.1
comp=Z,12nm,0.8s,baz=318,slow=1.6,SNR=5.0
MKAR Makanchi Array 146.68 37 PKPbc PKPbc 14 59 44.6 -1.6
MKAR pPKPbc pPKPbc 15 00 12.2 -2.0
HYB Hyderabad 148.73 94 *i* PKP PKPdf 14 59 51.5 +2.8
DDI Dehra Dun 149.42 69 *e*PKP PKPdf 14 59 49.0 -0.5
WMQ Urumqi 151.51 38 P PKPdf 14 59 58.5 +6.2
WMQ pmax pmax
comp=Z,30nm,0.9s
WMQ pmax pmax
comp=Z,170nm,5.0s
USRK Ussuriysk Arra 152.92 326 PKP PKPdf 14 59 54.2 -0.2
comp=Z,2.4nm,0.8s,baz=180,slow=3.2,SNR=4.9
USRK PKPbc PKPbc 15 00 01.3 -0.5
comp=Z,6.5nm,0.9s,baz=59,slow=3.1,SNR=8.9
USRK pPKPbc pPKPbc 15 00 29.0 -0.9
comp=Z,7.0nm,0.9s,baz=30,slow=0.5,SNR=6.2
MJAR Matsushiro Arr 153.21 306 PKPbc PKPbc 15 00 01.9 -0.8
comp=Z,4.4nm,0.8s,baz=101,slow=1.2,SNR=14
MJAR PKPab PKPab 15 00 14.4 -0.4
comp=Z,3.5nm,0.7s,baz=84,slow=3.4,SNR=7.7
MJAR pPKPbc pPKPbc 15 00 29.7 -1.1
comp=Z,5.4nm,0.8s,baz=115,slow=1.6,SNR=7.0
MJAR pPKPab pPKPab 15 00 41.3 -0.8
comp=Z,6.8nm,0.8s,baz=95,slow=2.0,SNR=5.9
MJAR Matsushiro Arr 153.21 306 PKPbc PKPbc 15 00 01.9 -0.8
MJAR PKPab PKPab 15 00 14.4 -0.4
MJAR pPKPbc pPKPbc 15 00 29.7 -1.1
MJAR pPKPab pPKPab 15 00 41.3 -0.8
MAT Matsushiro 153.21 306 PKP PKPbc 15 00 01.5 -1.1
SONM Songino Array 154.92 8 PKP PKPdf 14 59 57.6 +0.5
comp=Z,3.5nm,0.7s,baz=297,slow=1.0,SNR=38
SONM PKPbc PKPbc 15 00 05.9 0.0
comp=Z,3.6nm,0.6s,baz=304,slow=1.4,SNR=18
SONM PKPab PKPab 15 00 21.5 0.0
comp=Z,3.0nm,0.7s,baz=327,slow=4.6,SNR=11
SONM pPKPbc pPKPbc 15 00 33.6 -0.5
comp=Z,1.4nm,0.7s,baz=293,slow=1.1,SNR=2.0
SONM sPKPab 15 00 59.2
comp=Z,2.4nm,0.8s,baz=314,slow=3.6,SNR=4.3
SONM PP PP 15 03 54.4 -2.6
comp=Z,0.8nm,1.0s,baz=353,slow=9.0,SNR=4.1
SONM Songino Array 154.92 8 PKP PKPdf 14 59 57.6 +0.5
SONM PKPbc PKPbc 15 00 05.9 0.0
SONM PKPab PKPab 15 00 21.5 0.0
SONM pPKPbc pPKPbc 15 00 33.6 -0.5
SONM sPKPab 15 00 59.2
SONM PP PP 15 03 54.4 -2.6
ULN Ulaanbaatar 154.97 7 PKPdf PKPdf 14 59 56.0 -1.2
ULN *e*PKPbc PKPbc 15 00 05.9 -0.1
CN2 Changchun 156.25 334 *e*PKP PKPdf 14 59 58.8 -0.2
KSRS Korea Array 159.78 319 PKP PKPdf 15 00 03.7 +0.1
comp=Z,3.9nm,1.0s,baz=80,slow=1.7,SNR=7.1
KSRS pPKP pPKPdf 15 00 31.4 -0.6
comp=Z,4.2nm,1.1s,baz=38,slow=0.8,SNR=4.3
KSRS PKPab PKPab 15 00 43.5 +0.6
comp=Z,1.7nm,0.8s,baz=65,slow=4.0,SNR=3.5
KSRS pPKPab pPKPab 15 01 09.9 -0.2
comp=Z,2.8nm,0.9s,baz=61,slow=4.1,SNR=3.7
KSAR Wonju Array Be 159.81 319 PKP PKPdf 15 00 03.7 +0.1
KSAR pPKP pPKPdf 15 00 31.4 -0.6
KSAR PKPab PKPab 15 00 43.5 +0.4
KSAR pPKPab pPKPab 15 01 09.9 -0.4
LSA Lhasa 160.69 66 *e*PKPdf PKPdf 15 00 05.6 +0.7
GTA Gaotai 160.93 28 *e*PKP PKPdf 15 00 05.5 +0.7
GTA pPKP pPKPdf 15 00 33.5 +0.3
GTA sPKP 15 00 47.5
HHC Hu-ho-hao-te 162.22 360 *e*PKP PKPdf 15 00 05.0 -1.1
HHC pPKP pPKPdf 15 00 32.0 -2.5
HHC sPKP 15 00 42.5
HHC PKS 15 03 37.3
HHC PP PP 15 04 39.3 +2.6
HHC SKS SKSdf 15 06 59.3 -2.2
HHC SS SS 15 24 48.5 +0.5
HHC AMB AMB
comp=Z,73nm,5.4s
HHC LR LR
comp=N,160nm,17.8s
HHC LR LR
comp=E,200nm,18.0s
HHC LR LR
comp=Z,120nm,20.0s
LZH Lanzhou 165.43 25 *e*PKP PKPdf 15 00 08.3 -0.9
LZH pPKP pPKPdf 15 00 35.0 -2.6
LZH sPKP 15 00 45.8
CMAR Chiang Mai Arr 167.50 109 PKP PKPdf 15 00 11.1 -0.1
comp=Z,1.6nm,1.0s,baz=276,slow=1.8,SNR=12
CMAR pPKP pPKPdf 15 00 39.1 -0.6
comp=Z,0.8nm,0.9s,baz=312,slow=1.4,SNR=2.9
CMAR PKPab PKPab 15 01 16.7 -0.8
comp=Z,4.0nm,0.9s,baz=249,slow=5.2,SNR=17
CMAR PP PP 15 05 06.0 -0.2
comp=Z,1.4nm,1.1s,baz=252,slow=5.9,SNR=8.0
CMAR Chiang Mai Arr 167.50 109 PKP PKPdf 15 00 11.2 -0.1
CMAR pPKP pPKPdf 15 00 39.1 -0.6
CMAR PKPab PKPab 15 01 16.7 -0.8
CMAR PP PP 15 05 06.0 -0.2
KMI Kunming 171.82 73 PKP PKPdf 15 00 11.0 -2.6
GYA Guiyang 174.51 51 *e*PKP PKPdf 15 00 13.0 -1.7
GYA pPKP pPKPdf 15 00 41.8 -1.3
GYA sPKP 15 00 52.5
GYA PKPab PKPab 15 01 48.5 +0.2
GYA PKS 15 03 44.8
GYA PP PP 15 05 42.0 +1.6
GYA AMB AMB
comp=Z,110nm,8.0s

*ISCJB **29** 14:43:50.8±1.4, 34°.14N±0°.03×25°.67E±0°.05, h17km±14km, Error ellipse: s-maj=7.0km s-min=3.9km az=154.4*
*ATH **29** 14:43:51.5, 34°.17N×25°.64E, h30km±1km, MD3.6/12*
*CSEM **29** 14:43:51.5±0.1, 34°.21N×25°.67E, h10km, MD3.6, Error ellipse: s-maj=4.9km s-min=2.6km az=58.0*
*HLW **29** 14:43:55.5, 34°.27N×25°.69E, h33km±19km, Md3.9, Ml2.8*
ISC 29 14:43:52.4±1.7, 34°.20N±0°.03×25°.66E±0°.05, h18km±12km, n47, σ0°.70/58, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.67**	**2**	*e*PN	**Pn**	**14 44 05.4**	**-1.7**
XRY	**Khrisi**	**0.67**	**2**	*e*Pn	**Pn**	**14 44 05.4**	**-1.7**
ZKR	**Zakros**	**1.02**	**26**	*e*PN	**Pn**	**14 44 11.1**	**-0.8**
ZKR				*e*SN	**Sn**	**14 44 26.5**	**+0.7**
ZKR	**Zakros**	**1.02**	**26**	*e*Pn	**Pn**	**14 44 11.1**	**-0.8**
ZKR				*e*Sn	**Sn**	**14 44 26.5**	**+0.7**
NPS	**Neapolis**	**1.06**	**358**	*e*PN	**Pn**	**14 44 12.1**	**-0.4**
NPS				*e*SN	**Sn**	**14 44 26.9**	**+0.1**
NPS	**Neapolis**	**1.06**	**358**	*e*Pn	**Pn**	**14 44 12.1**	**-0.4**
NPS				*e*Sn	**Sn**	**14 44 26.9**	**+0.1**
SIVA	**Sivas**	**1.08**	**319**	*e*PN	**Pn**	**14 44 12.4**	**-0.3**
SIVA				*e*SN	**Sn**	**14 44 27.0**	**-0.2**
SIVA	**Sivas**	**1.08**	**319**	*e*Pn	**Pn**	**14 44 12.4**	**-0.3**
SIVA				*e*Sn	**Sn**	**14 44 27.0**	**-0.2**
GVD	**Gavdhos**	**1.45**	**297**	*e*PN	**Pn**	**14 44 17.9**	**+0.1**
GVD				*e*SN	**Sn**	**14 44 36.0**	**-0.3**
GVD	**Gavdhos**	**1.45**	**297**	*e*Pn	**Pn**	**14 44 17.9**	**+0.1**
GVD				*e*Sn	**Sn**	**14 44 36.0**	**-0.3**
VAM	**Vamos**	**1.70**	**315**	*e*PN	**Pn**	**14 44 21.8**	**+0.5**
VAM	**Vamos**	**1.70**	**315**	*e*Pn	**Pn**	**14 44 21.8**	**+0.5**
KARP	**Karpathos**	**1.82**	**42**	*e*PB	**Pb**	**14 44 23.7**	**-1.6**
KARP				*e*SN	**Sn**	**14 44 46.1**	**+0.5**
KARP	**Karpathos**	**1.82**	**42**	*e*Pb	**Pb**	**14 44 23.9**	**-1.4**
KARP				*e*Sn	**Sn**	**14 44 45.7**	**+0.1**
SLUM		**2.73**	**188**	AMP		14 45 00.0	
comp=N,50μm,0.4s,logA/T=5.1,baz=189							
ARG	**Arkhangelos**	**2.85**	**44**	*e*PN	**Pn**	**14 44 37.8**	**+0.8**
ARG	**Arkhangelos**	**2.85**	**44**	*e*Pn	**Pn**	**14 44 37.8**	**+0.8**
APE	**Apeiranthos**	**2.86**	**358**	*e*PN	**Pn**	**14 44 38.5**	**+1.2**
APE	**Apeiranthos**	**2.86**	**358**	*e*Pn	**Pn**	**14 44 38.5**	**+1.2**
HMAT	**Matruh**	**3.33**	**158**	S	**Sn**	**14 45 23.1**	**+0.4**
baz=159							
HMAT	**Matruh**	**3.33**	**158**	S	**Sn**	**14 45 23.1**	**+0.4**
VLI	**Veliai**	**3.35**	**319**	*e*PN	**Pn**	**14 44 44.2**	**+0.2**
VLI	**Veliai**	**3.35**	**319**	*e*Pn	**Pn**	**14 44 44.2**	**+0.2**
DID	**Didima**	**3.84**	**330**	*e*PN	**Pn**	**14 44 50.9**	**+0.2**
DID				*e*SN	**Sn**	**14 45 35.0**	**-0.4**
DID	**Didima**	**3.84**	**330**	*e*Pn	**Pn**	**14 44 50.5**	**-0.2**
ITM	**Ithomi**	**4.25**	**315**	*e*PN	**Pn**	**14 44 56.9**	**+0.6**
VIL1	**Vilia, Western**	**4.38**	**335**	*e*PN	**Pn**	**14 44 58.6**	**+0.5**
SWA2		**4.95**	**182**	P	**Pn**	**14 45 07.1**	**+1.3**
baz=183							
SWA2				S	**Sn**	**14 46 00.9**	**-1.7**
baz=183							
SWA2		**4.95**	**182**	S	**Sn**	**14 46 00.9**	**-1.7**
HBRG	**Burj al 'Arab**	**5.05**	**135**	P	**Pn**	**14 45 07.8**	**+0.4**
baz=135							
HNAT	**Natroun**	**6.20**	**136**	P	**Pn**	**14 45 23.5**	**+0.3**
baz=136							
HNAT	**Natroun**	**6.20**	**136**	P	**Pn**	**14 45 23.5**	**+0.3**
AYT	**Al 'Ayyat**	**6.47**	**132**	P	**Pn**	**14 45 26.8**	**0.0**
baz=133							
AYT	**Al 'Ayyat**	**6.47**	**132**	P	**Pn**	**14 45 26.8**	**0.0**
KOT	**Kottamia**	**6.75**	**127**	P	**Pn**	**14 45 30.9**	**+0.3**
baz=128							
KOT	**Kottamia**	**6.75**	**127**	P	**Pn**	**14 45 30.9**	**+0.3**
HSAF	**As Saff**	**6.78**	**131**	P	**Pn**	**14 45 30.9**	**-0.2**
baz=131							
HSAF	**As Saff**	**6.78**	**131**	P	**Pn**	**14 45 30.9**	**-0.2**
GLL	**Jalalah**	**6.90**	**130**	P	**Pn**	**14 45 32.9**	**+0.1**
baz=130							
GLL	**Jalalah**	**6.90**	**130**	P	**Pn**	**14 45 32.9**	**+0.1**
HHAG	**Hagoal**	**6.91**	**126**	P	**Pn**	**14 45 33.0**	**+0.1**
baz=126							
HHAG	**Hagoal**	**6.91**	**126**	P	**Pn**	**14 45 32.9**	**0.0**
HFRF	**Wahat Farafira**	**7.39**	**161**	P	**Pn**	**14 45 40.0**	**+0.5**
baz=161							
HFRF	**Wahat Farafira**	**7.39**	**161**	P	**Pn**	**14 45 40.0**	**+0.5**
SUZ		**7.48**	**124**	P	**Pn**	**14 45 40.3**	**-0.4**
baz=124							
SUZ		**7.48**	**124**	P	**Pn**	**14 45 40.3**	**-0.4**
HNKL	**Nakhl**	**8.24**	**119**	P	**Pn**	**14 45 50.3**	**-0.9**
baz=119							

*NEIC **29** 14:47:28.1±1.9, 46°.70N×152°.89E, h62km±15km, Error ellipse: s-maj=40.0km s-min=12.5km az=131.0*
*IDC **29** 14:47:29.6±3.5, 46°.79N×152°.91E, h76km±29km, mb3.3/5, mb1 3.4/8, mb1mx3.2/26, mbtmp3.3/8, Error ellipse: s-maj=42.2km s-min=21.7km az=119.0*
*ISCJB **29** 14:47:32.1±1.9, 46°.7N±0°.2×151°.9E±0°.2, h102km±18km, mb3.6/4, Error ellipse: s-maj=38.3km s-min=15.4km az=140.2*
ISC 29 14:47:32.6±1.8, 46°.7N±0°.2×152°.0E±0°.2, h87km±16km, n29, σ1°.15/33, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.56**	**235**	P	**Pn**	**14 48 51.6**	**-1.2**
NEM2				*e*S	**Sn**	**14 49 55.8**	**+0.5**
JRA	**Rausu**	**5.60**	**243**	P	**Pn**	**14 48 55.7**	**+2.4**
JNK	**Nakash**	**6.03**	**242**	P	**Pn**	**14 49 00.3**	**+1.1**
JAK	**Akkeshi**	**6.39**	**237**	P	**Pn**	**14 49 03.0**	**-1.1**
JAK				*e*S	**Sn**	**14 50 14.8**	**-0.7**
JMP	**Maruseppu**	**6.67**	**249**	P	**Pn**	**14 49 11.8**	**+3.9**
JAR	**Ashorobuto**	**6.77**	**243**	P	**Pn**	**14 49 10.4**	**+1.2**
JOB	**Onbets**	**6.95**	**240**	P	**Pn**	**14 49 11.9**	**+0.2**
ASAJ	**Asahikawa**	**7.12**	**252**	P	**Pn**	**14 49 18.6**	**+4.6**
0.5nm,0.3s,baz=74,slow=15,SNR=4.7							
ASAJ	**Asahikawa**	**7.12**	**252**	*e*P	**Pn**	**14 49 18.5**	**+4.5**
PETK	**Petropavlovsk-**	**7.38**	**28**	P	**Pn**	**14 49 10.0**	**-7.5**
0.1nm,0.3s,baz=183,slow=13,SNR=2.4							
PETK	**Petropavlovsk-**	**7.38**	**28**	P	**Pn**	**14 49 10.0**	**-7.5**
JCH	**Churui**	**7.41**	**240**	P	**Pn**	**14 49 17.7**	**-0.2**
JCH				*e*S	**Sn**	**14 50 40.7**	**+0.4**
ERM	**Erimo**	**7.89**	**237**	*e*P	**Pn**	**14 49 25.2**	**+0.7**
JBT2	**Biratori 2**	**7.92**	**244**	P	**Pn**	**14 49 25.9**	**+1.0**
JNBK	**Urakawa-nobuka**	**7.97**	**240**	P	**Pn**	**14 49 24.9**	**-0.6**
JKB	**Kayabe**	**9.23**	**243**	P	**Pn**	**14 49 41.7**	**-1.1**
JKB				*e*S	**Sn**	**14 51 23.8**	**-1.1**
JANG	**Nango**	**9.91**	**234**	P	**Pn**	**14 49 49.1**	**-2.9**
OFUJ	**Ofunato**	**10.75**	**229**	*e*S	**Sn**	**14 51 54.3**	**-7.6**
USRK	**Ussuriysk Arra**	**14.28**	**267**	P	**Pn**	**14 50 57.2**	**+6.8**
0.2nm,0.3s,baz=78,slow=12,SNR=3.6							
KSRS	**Korea Array**	**20.07**	**251**	P	**P**	**14 52 03.8**	**+5.0**
1.2nm,1.0s,baz=68,slow=13,SNR=3.2							
KSAR	**Wonju Array Be**	**20.10**	**251**	P	**P**	**14 52 03.8**	**+4.6**
CMAR	**Chiang Mai Arr**	**51.63**	**255**	P	**P**	**14 56 32.7**	**+2.4**
0.3nm,0.6s,mb3.5,baz=51,slow=6.9,SNR=4.2							
CMAR	**Chiang Mai Arr**	**51.63**	**255**	P	**P**	**14 56 32.7**	**+2.4**
FINES	**FINESS Array B**	**63.76**	**334**	P	**P**	**14 57 53.8**	**-0.9**
6.3nm,1.2s,mb4.3,baz=29,slow=6.3,SNR=8.9							
FINES	**FINESS Array B**	**63.76**	**334**	P	**P**	**14 57 53.8**	**-0.9**
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**14 58 21.4**	**-0.6**
0.6nm,0.7s,mb3.5,baz=28,slow=6.4,SNR=4.0							
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**14 58 21.4**	**-0.6**
ASAR	**Alice Springs**	**71.93**	**197**	P	**P**	**14 58 46.3**	**0.0**
0.3nm,0.9s,mb3.1,baz=10,slow=5.7,SNR=7.3							
ASAR	**Alice Springs**	**71.93**	**197**	P	**P**	**14 58 46.3**	**0.0**

MAN 29 14:48:47, 8°.99N×123°.62E, h94km, mb3.7, ML2.5, MS2.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.74**	**19**	*e*P	Pn	14 49 07.1	+2.9
TBP				*e*S	Sn	14 49 19.8	+2.7
PAGZ	**Pagadian**	**1.16**	**192**	*e*P	Pn	14 49 10.2	+1.4
PAGZ				*e*S	Sn	14 49 24.9	-0.3
MSLP	**Maasin**	**1.67**	**47**	*e*P	Pn	14 49 14.5	-0.6
BUKP	**Musuan**	**1.81**	**128**	*e*P	Pn	14 49 18.7	+1.8

*TIR **29** 14:59:07.8, 42°.06N×20°.04E, h0km, ML3.3*
*BEO **29** 14:59:36.9±0.9, 41°.77N×20°.47E, h0km, ML2.2/3*
*ISCJB **29** 14:59:37.1±0.8, 41°.71N±0°.04×20°.41E±0°.06, h10km, Error ellipse: s-maj=6.6km s-min=5.4km az=143.7*
*CSEM **29** 14:59:37.1±1.1, 41°.79N×20°.40E, h2km, ML3.3, Error ellipse: s-maj=35.1km s-min=13.2km az=104.0*
ISC 29 14:59:37.7±0.8, 41°.72N±0°.04×20°.41E±0°.06, h10km, n9, σ1°.08/17, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.51**	**310**	*e*PG	**Pg**	**14 59 49.7**	**+2.1**
PUK				*i* SG	**Sg**	**14 59 57.5**	**+3.3**
PUK	**Puka**	**0.51**	**310**	*e*Pg	**Pg**	**14 59 49.7**	**+2.1**
PUK				*i* Sg	**Sg**	**14 59 57.5**	**+3.3**
TIR	**Tirane**	**0.55**	**228**	*e*PG	**Pg**	**14 59 48.0**	**-0.4**
TIR				*i* SG	**Sg**	**14 59 55.1**	**-0.6**
TIR	**Tirane**	**0.55**	**228**	*e*Pg	**Pg**	**14 59 48.7**	**+0.3**
TIR				*e*Sg	**Sg**	**14 59 55.2**	**-0.5**
TIR	**Tirane**	**0.55**	**228**	*e*Pg	**Pg**	**14 59 48.7**	**+0.3**
TIR				*e*Sg	**Sg**	**14 59 55.2**	**-0.5**
KRUS	**Krusevo**	**0.72**	**119**	*e*Pg	**Sg**	**15 00 00.9**	**0.0**
PDG	**Podgorica**	**1.12**	**310**	*e*Pg	**Pg**	**14 59 58.9**	**-0.3**
PDG				*e*Sg	**Sg**	**15 00 12.4**	**-1.3**
DIVS	**Divibare**	**2.40**	**353**	*e*Pn	**Pn**	**15 00 17.1**	**+0.1**
DIVS				*e*Sg	**Sb**	**15 00 49.8**	**-0.8**
DIVS	**Divibare**	**2.40**	**353**	*e*Pn	**Pn**	**15 00 17.1**	**+0.1**
DIVS				*e*Sg	**Sb**	**15 00 49.8**	**-0.8**

*ISCJB **29** 15:07:08.5±2.3, 34°.47N±0°.04×90°.59E±0°.05, h6km±16km, mb3.6/13, MS3.9/16, Error ellipse: s-maj=7.7km s-min=6.5km az=13.7*
*IDC **29** 15:07:08.8±0.8, 34°.32N×90°.63E, h0km, mb3.7/13, mb1 3.9/17, mb1mx3.8/29, mbtmp3.7/17, ML3.3/4, MS3.8/21, Ms1 3.8/21, ms1mx3.7/33, Error ellipse: s-maj=30.9km s-min=15.7km az=52.0*
*BJI **29** 15:07:08.1, 34°.28N×90°.52E, h15km, mB4.5/8, mb4.1/10, Ms4.5/9, Ms7 4.1/8*
*NEIC **29** 15:07:13.3±1.8, 34°.49N×90°.55E, h25km±15km, mb3.7/6, Error ellipse: s-maj=7.7km s-min=5.1km az=93.0*
ISC 29 15:07:12.3±2.6, 34°.52N±0°.04×90°.57E±0°.05, h16km±18km, n79, σ1°.11/75, mb3.6/13, MS3.9/16, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.83**	**174**	Pg	**Pn**	**15 08 28.0**	**+3.7**
LSA				Sg	**Sb**	**15 09 39.3**	**+5.0**
LSA	**Lhasa**	**4.83**	**174**	*e*P	**Pn**	**15 08 25.9**	**+1.6**
TAPN	**Taplejung**	**7.56**	**200**	*e*P	**Pn**	**15 09 00.4**	**-1.3**
20nm,0.9s							
TAPN	**Taplejung**	**7.56**	**200**	*e*P	**Pn**	**15 09 00.4**	**-1.3**
GUN	**Gumba**	**7.71**	**213**	*e*P	**Pn**	**15 09 04.6**	**+0.7**
16nm,0.7s							
GUN	**Gumba**	**7.71**	**213**	*e*P	**Pn**	**15 09 04.6**	**+0.7**
JIRN	**Jiri**	**7.80**	**210**	*e*P	**Pn**	**15 09 06.2**	**+1.1**
8.3nm,0.8s							
JIRN	**Jiri**	**7.80**	**210**	*e*P	**Pn**	**15 09 06.2**	**+1.1**
KKN	**Kakani**	**8.10**	**215**	*e*P	**Pn**	**15 09 09.7**	**+0.6**
KKN	**Kakani**	**8.10**	**215**	*e*P	**Pn**	**15 09 09.7**	**+0.6**
ODAN	**Odare**	**8.11**	**201**	*e*P	**Pn**	**15 09 08.4**	**-0.9**
20nm,0.5s							
ODAN	**Odare**	**8.11**	**201**	*e*P	**Pn**	**15 09 08.4**	**-0.9**
PKI	**Pulchoki**	**8.22**	**214**	*e*P	**Pn**	**15 09 10.8**	**0.0**
18nm,0.7s							
PKI	**Pulchoki**	**8.22**	**214**	*e*P	**Pn**	**15 09 10.8**	**0.0**
GKN	**Gorkha**	**8.24**	**220**	*e*P	**Pn**	**15 09 11.8**	**+0.6**
GKN	**Gorkha**	**8.24**	**220**	*e*P	**Pn**	**15 09 11.8**	**+0.6**
RAMN	**Ramite**	**8.28**	**205**	*e*P	**Pn**	**15 09 10.8**	**-0.9**
52nm,0.9s							
RAMN	**Ramite**	**8.28**	**205**	*e*P	**Pn**	**15 09 10.8**	**-0.9**
DMN	**Daman**	**8.33**	**216**	*e*P	**Pn**	**15 09 12.4**	**+0.1**
DMN	**Daman**	**8.33**	**216**	*e*P	**Pn**	**15 09 12.4**	**+0.1**
DANN	**Dangsing**	**8.46**	**225**	*e*P	**Pn**	**15 09 13.4**	**-0.8**
7.0nm,0.7s							
DANN	**Dangsing**	**8.46**	**225**	*e*P	**Pn**	**15 09 13.4**	**-0.8**
7.0nm,0.6s							
GTA	**Gaotai**	**8.86**	**54**	*e*P	**Pn**	**15 09 20.0**	**+0.4**
GTA				pP		15 09 24.0	
GTA				sP		15 09 27.5	
GTA				S	**Sn**	**15 11 12.0**	**+13**
GTA				sS		15 11 17.0	
GTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,91nm,4.3s							
GTA				LR	LR		
comp=N,1μm,15.9s							
GTA				LR	LR		
comp=E,970nm,13.5s							
GTA				LR	LR		
comp=Z,1μm,10.5s							
KOLN	**Koldanda**	**8.99**	**223**	*e*P	**Pn**	**15 09 21.4**	**0.0**
comp=Z,7.1nm,0.6s							
KOLN	**Koldanda**	**8.99**	**223**	*e*P	**Pn**	**15 09 21.4**	**0.0**
comp=Z,7.1nm,0.6s							
LZH	**Lanzhou**	**10.96**	**78**	*e*P	**Pn**	**15 09 44.8**	**-3.5**
LZH				PP		15 09 54.0	
LZH				*e*S	**Sn**	**15 11 53.0**	**+2.4**
LZH				pmax	pmax		
comp=Z,32nm,1.2s							
LZH				pmax	pmax		
comp=Z,120nm,6.2s							
LZH				LR	LR		
comp=N,2μm,9.7s							
LZH				LR	LR		
comp=E,2μm,9.4s							
LZH				LR	LR		
comp=Z,2μm,10.7s							
MK31	**Makanchi Array**	**13.77**	**335**	*e*P	**Pn**	**15 10 25.8**	**-0.8**
MKAR	**Makanchi Array**	**13.77**	**335**	Pn	**Pn**	**15 10 26.6**	**0.0**
comp=Z,0.1nm,0.3s,baz=150,slow=14,SNR=13							
MKAR				LR	LR	15 16 00.1	
comp=Z,216nm,22.0s,baz=150,slow=38							
MKAR	**Makan

HHC			S	Sn	15 14 34.3	-1.9
HHC			SS		15 14 57.3	
HHC			PcP	PcP	15 15 50.3	-5.6
HHC			pmax	pmax		
	comp=Z,11nm,0.6s					
HHC			pmax	pmax		
	comp=Z,120nm,5.6s					
HHC			LR	LR		
	comp=N,670nm,10.2s					
HHC			LR	LR		
	comp=E,430nm,8.0s					
HHC			LR	LR		
	comp=Z,350nm,12.9s					
KKAR	**Karatay Array**	**17.80 305**	*e*P	**Pn**	**15 11 20.0**	**+0.9**
	comp=Z,4.4nm,0.8s					
SONM	**Songino Array**	**17.81 37**	P	**Pn**	**15 11 20.7**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=228,slow=12,SNR=8.4					
SONM			LR	LR	15 18 57.3	
	comp=Z,402nm,21.8s,baz=220,slow=40					
SONM	**Songino Array**	**17.81 37**	P	**Pn**	**15 11 20.7**	**+1.4**
ULN	**Ulaanbaatar**	**18.16 38**	*e*P	**Pn**	**15 11 24.6**	**+1.0**
	comp=Z,4.9nm,1.0s					
KURK	**Kurchatov**	**18.38 335**	P	**Pn**	**15 11 24.8**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=150,slow=12,SNR=28					
KURK			LR	LR	15 19 15.7	
	comp=Z,253nm,19.4s,baz=135,slow=39					
KURK	**Kurchatov**	**18.38 335**	*e*P	**Pn**	**15 11 24.8**	**-1.4**
ZAA0	**Zalesovo Array**	**19.84 350**	*e*P	**Pn**	**15 11 42.6**	**-1.2**
ZALV	**Zalesovo Beam**	**19.84 350**	P	**Pn**	**15 11 42.7**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=172,slow=11,SNR=10					
ZALV			LR	LR	15 20 05.9	
	comp=Z,110nm,19.5s,baz=184,slow=39					
ZALV	**Zalesovo Beam**	**19.84 350**	P	**Pn**	**15 11 42.7**	**-1.1**
BVAR	**Borovoye Array**	**23.41 328**	P	**P**	**15 12 21.2**	**+0.8**
	comp=Z,0.9nm,0.6s,mb3.4,baz=153,slow=9.7,SNR=6.6					
BVAR			LR	LR	15 22 43.4	
	comp=Z,447nm,18.5s,MS4.0,baz=132,slow=40					
BVAR	**Borovoye Array**	**23.41 328**	P	**P**	**15 12 21.2**	**+0.8**
ABKAR	**Akbulak array**	**26.91 312**	*e*P	**P**	**15 12 53.4**	**+1.0**
	comp=Z,1.8nm,0.9s,mb3.6					
AKTO	**Aktyubinsk**	**28.51 314**	P	**P**	**15 13 07.8**	**+1.2**
	comp=Z,0.8nm,0.6s,mb3.6,baz=88,slow=9.0,SNR=4.0					
AKTO			LR	LR	15 25 50.4	
	comp=Z,235nm,20.4s,MS3.8,baz=114,slow=39					
AKTO	**Aktyubinsk**	**28.51 314**	P	**P**	**15 13 07.8**	**+1.2**
KSRS	**Korea Array**	**30.24 73**	LR	LR	15 26 12.8	
	comp=Z,164nm,18.9s,MS3.7,baz=99,slow=38					
USRK	**Ussuriysk Arra**	**33.16 60**	LR	LR	15 28 17.4	
	comp=Z,252nm,18.6s,MS4.0,baz=79,slow=38					
MJAR	**Matsushiro Arr**	**38.51 73**	LR	LR	15 31 35.6	
	comp=Z,67nm,18.5s,MS3.5,baz=105,slow=38					
BRTR	**Keskin Array B**	**45.05 294**	P	**P**	**15 15 28.0**	**+0.8**
	comp=Z,1.6nm,0.8s,mb3.9,baz=98,slow=7.4,SNR=3.5					
BRTR	**Keskin Array B**	**45.05 294**	P	**P**	**15 15 28.0**	**+0.8**
AKASG	**Malin Array Be**	**46.60 310**	P	**P**	**15 15 39.7**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.0,baz=78,slow=7.2,SNR=4.4					
AKASG	**Malin Array Be**	**46.60 310**	P	**P**	**15 15 39.6**	**+0.4**
FINES	**FINESS Array B**	**48.27 324**	P	**P**	**15 15 52.8**	**+0.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=183,slow=29,SNR=4.1					
FINES			LR	LR	15 38 12.1	
	comp=Z,261nm,19.0s,MS4.2,baz=157,slow=38					
FINES	**FINESS Array B**	**48.27 324**	P	**P**	**15 15 52.8**	**+0.7**
PETK	**Petropavlovsk-**	**49.94 47**	LR	LR	15 39 15.8	
	comp=Z,150nm,18.3s,MS4.0,baz=104,slow=38					
NOA	**NORSAR Array B**	**55.46 324**	P	**P**	**15 16 45.0**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.7,baz=84,slow=7.4,SNR=3.8					
NOA			LR	LR	15 42 23.7	
	comp=Z,214nm,18.0s,MS4.3,baz=90,slow=38					
NOA	**NORSAR Array B**	**55.46 324**	P	**P**	**15 16 45.0**	**-0.8**
GERES	**GERESS Array B**	**56.81 310**	P	**P**	**15 16 57.1**	**+1.5**
	comp=Z,0.2nm,0.4s,mb3.5,baz=90,slow=5.0,SNR=3.0					
GERES			LR	LR	15 46 30.9	
	comp=Z,84nm,18.0s,MS3.9,baz=98,slow=42					
GERES	**GERESS Array B**	**56.81 310**	P	**P**	**15 16 57.1**	**+1.5**
WRA	**Warramunga Arr**	**68.30 136**	P	**P**	**15 18 10.8**	**-1.8**
	comp=Z,1.3nm,1.1s,mb3.9,baz=329,slow=5.7,SNR=4.0					
WRA	**Warramunga Arr**	**68.30 136**	P	**P**	**15 18 10.8**	**-1.8**
ASAR	**Alice Springs**	**71.00 138**	P	**P**	**15 18 27.9**	**-1.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=324,slow=6.3,SNR=10					
ASAR	**Alice Springs**	**71.00 138**	P	**P**	**15 18 27.9**	**-1.3**
ILAR	**Eielson Array**	**71.38 22**	P	**P**	**15 18 30.1**	**-0.9**
	comp=Z,0.4nm,1.0s,mb3.3,baz=311,slow=6.9,SNR=2.8					
ILAR			LR	LR	15 56 28.0	
	comp=Z,64nm,19.8s,MS3.9,baz=356,slow=41					
ILAR	**Eielson Array**	**71.38 22**	P	**P**	**15 18 30.1**	**-0.9**
ESDC	**Sonseca Array**	**72.04 306**	LR	LR	15 55 58.0	
	comp=Z,59nm,20.6s,MS3.8,baz=75,slow=41					
YKA	**Yellowknife Ar**	**81.22 12**	P	**P**	**15 19 27.9**	**+1.0**
	comp=Z,0.1nm,0.3s,mb3.3,baz=330,slow=3.6,SNR=4.1					
YKA			LR	LR	15 59 04.6	
	comp=Z,7.2nm,19.6s,MS3.0,baz=20,slow=38					
YKA	**Yellowknife Ar**	**81.22 12**	P	**P**	**15 19 27.9**	**+1.0**
TORD	**Torodi Ar. Bea**	**81.76 280**	P	**P**	**15 19 28.9**	**-1.7**
	comp=Z,0.4nm,0.7s,mb3.4,baz=35,slow=5.9,SNR=2.9					
TORD			LR	LR	15 59 37.8	
	comp=Z,52nm,19.1s,MS3.9,baz=175,slow=38					
TORD	**Torodi Ar. Bea**	**81.76 280**	P	**P**	**15 19 28.9**	**-1.7**
BOSA	**Boshof**	**88.03 233**	LR	LR	15 56 31.1	
	comp=Z,59nm,18.5s,MS4.0,baz=346,slow=34					
SCHQ	**Schefferville**	**88.91 347**	LR	LR	16 02 32.8	
	comp=Z,88nm,20.9s,MS4.2,baz=288,slow=37					
DBIC	**Dimbokro**	**90.72 279**	LR	LR	16 05 12.2	
	comp=Z,86nm,20.1s,MS4.2,baz=232,slow=38					

*NEIC **29** 15:20:51.4, 34°.44S×70°.74W, h103km, MD3.6(GUC), After GUC.*

GUC 29 15:20:51.4±0.7, 34°.44S×70°.74W, h103km±4km, MD3.6, ML3.0, 13C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.34**	**19**	⇑*i*P		Pn	15 21 06.8	+0.3
CACH				*i*S		Sn	15 21 18.9	+1.1
CACH	**El Canelo**	**0.34**	**19**	⇑*i*P		Pn	15 21 06.8	+0.3
CACH				*i*S		Sn	15 21 18.9	+1.1
CHCH	**Chadas Angostu**	**0.51**	**8**	⇑*i*P		Pn	15 21 07.8	+0.2
CHCH				*i*S		Sn	15 21 20.1	+0.6
CHCH	**Chadas Angostu**	**0.51**	**8**	⇑*i*P		Pn	15 21 07.8	+0.2
CHCH				*i*S		Sn	15 21 20.1	+0.6
LMEL	**Las Melosas**	**0.74**	**37**	⇑*i*P		Pn	15 21 09.7	+0.3
LMEL				*i*S		Sn	15 21 24.0	+1.2
LMEL	**Las Melosas**	**0.74**	**37**	⇑*i*P		Pn	15 21 09.7	+0.3
LMEL				*i*S		Sn	15 21 24.0	+1.2
LMEL				AML		AML	15 21 29.6	
	comp=N,493nm,0.2s							
LNV	**Longovilo**	**0.74**	**311**	⇑*i*P		Pn	15 21 09.8	+0.4
LNV				*i*S		Sn	15 21 23.4	+0.5
LNV	**Longovilo**	**0.74**	**311**	⇑*i*P		Pn	15 21 09.8	+0.4
LNV				*i*S		Sn	15 21 23.4	+0.5
ANTU	**Antumapu**	**0.87**	**6**	*e*P		Pn	15 21 11.1	+0.4
ANTU				*i*S		Sn	15 21 25.9	+0.7
ANTU	**Antumapu**	**0.87**	**6**	*e*P		Pn	15 21 11.1	+0.4
ANTU				*i*S		Sn	15 21 25.9	+0.7
ANTU				AML		AML	15 21 26.3	
	comp=N,347nm,0.3s							
RCDM	**Rinconada Maip**	**0.95**	**356**	⇓*i*P		Pn	15 21 11.7	+0.2
RCDM				*i*S		Sn	15 21 27.2	+0.6
RCDM	**Rinconada Maip**	**0.95**	**356**	⇓*i*P		Pn	15 21 11.7	+0.2
RCDM				*i*S		Sn	15 21 27.2	+0.6
RCDM				AML		AML	15 21 28.4	
	comp=E,675nm,0.1s							
CLCH	**Cerro Calan**	**1.05**	**9**	⇑*i*P		Pn	15 21 13.1	+0.5
CLCH				*i*S		Sn	15 21 29.3	+0.8
CLCH				AML		AML	15 21 30.0	
	comp=E,370nm,0.4s							
TALC	**Talca**	**1.21**	**217**	⇑*i*P		Pn	15 21 14.7	+0.3
TALC				*i*S		Sn	15 21 31.9	+0.3
TALC	**Talca**	**1.21**	**217**	⇑*i*P		Pn	15 21 14.7	+0.3
TALC				*i*S		Sn	15 21 31.9	+0.3
PEL	**Peldehue**	**1.29**	**2**	⇑*i*P		Pn	15 21 15.7	+0.3
PEL				*i*S		Sn	15 21 34.4	+1.0
PEL				AML		AML	15 21 35.1	
	comp=N,663nm,0.3s							
ROCH	**El Roble**	**1.48**	**351**	⇑*i*P		Pn	15 21 18.2	+0.6
ROCH				*i*S		Sn	15 21 38.3	+0.9
ROCH				AML		AML	15 21 42.8	
	comp=E,206nm,0.6s							

MEX 29 15:21:01.2±0.4, 17°.14N×100°.97W, h20km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.66**	**315**	*i*P		Pb	15 21 12.2	-1.9
ZIIG				*i*S		Sb	15 21 20.1	-2.6
CAIG	**El Cayaco**	**0.68**	**98**	*i*P		Pb	15 21 12.0	-2.4
CAIG				*e*S		Sb	15 21 21.2	-2.2
ACX	**Acapulco**	**1.10**	**104**	*i*P		Pn	15 21 17.5	-4.0
ACX				*e*S		Sb	15 21 30.6	-4.9

*NEIC **29** 15:43:54.2, 38°.04S×176°.47E, h132km, MG3.5(WEL), After WEL.*

WEL 29 15:43:54.0±0.3, 38°.03S×176°.48E, h135km±2km, ML3.5/14, 1C-1D, Error ellipse: s-maj=2.1km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RRRZ	**Republican Roa**	**0.31**	**175**	PN		Pn	15 44 12.8	+0.2
RRRZ				SN		Sn	15 44 27.7	+0.8
RRRZ	**Republican Roa**	**0.31**	**175**	Pn		Pn	15 44 12.8	+0.2
PRRZ	**Plateau Road**	**0.47**	**188**	Pn		Pn	15 44 13.5	+0.2
PRRZ				SN		Sn	15 44 28.6	+0.5
PRRZ	**Plateau Road**	**0.47**	**188**	Pn		Pn	15 44 13.5	+0.2
URZ	**Urewera**	**0.55**	**115**	⇓PN		Pn	15 44 13.4	-0.4
URZ				SN		Sn	15 44 28.5	-0.3
URZ	**Urewera**	**0.55**	**115**	Pn		Pn	15 44 13.4	-0.3
URZ				Sn		Sn	15 44 28.5	-0.3
TOZ	**Tahuroa Road**	**0.83**	**291**	Pn		Pn	15 44 15.9	+0.2
TOZ	**Tahuroa Road**	**0.83**	**291**	Pn		Pn	15 44 15.9	+0.2
MWZ	**Matawai**	**0.88**	**111**	Pn		Pn	15 44 16.2	0.0
MWZ				SN		Sn	15 44 32.8	-0.3
MWZ	**Matawai**	**0.88**	**111**	Pn		Pn	15 44 16.2	0.0
RAHZ	**Arahi**	**1.00**	**152**	PN		Pn	15 44 17.9	+0.6
RAHZ	**Arahi**	**1.00**	**152**	Pn		Pn	15 44 17.9	+0.6
NMHZ	**Naumai**	**1.10**	**167**	PN		Pn	15 44 19.1	+0.9
NMHZ	**Naumai**	**1.10**	**167**	Pn		Pn	15 44 19.1	+1.0
BKZ	**Black Stump Fm**	**1.13**	**180**	⇑PN		Pn	15 44 18.3	-0.2
BKZ				SN		Sn	15 44 36.6	-0.7
OTVZ	**Oturere**	**1.30**	**209**	PN		Pn	15 44 20.5	+0.3
OTVZ	**Oturere**	**1.30**	**209**	Pn		Pn	15 44 20.5	+0.3
NGZ	**Ngauruhoe**	**1.33**	**211**	PN		Pn	15 44 20.8	+0.3
NGZ	**Ngauruhoe**	**1.33**	**211**	Pn		Pn	15 44 20.9	+0.3
KNZ	**Kokohu**	**1.36**	**137**	PN		Pn	15 44 20.8	0.0
KNZ	**Kokohu**	**1.36**	**137**	Pn		Pn	15 44 20.8	0.0
TUVZ	**Tukino**	**1.40**	**207**	PN		Pn	15 44 21.4	+0.2
TUVZ	**Tukino**	**1.40**	**207**	Pn		Pn	15 44 21.4	+0.2
MCHZ	**McNeill Hill**	**1.42**	**173**	PN		Pn	15 44 21.8	+0.3
MCHZ	**McNeill Hill**	**1.42**	**173**	Pn		Pn	15 44 21.8	+0.3
CNGZ	**Carnagh Statio**	**1.43**	**109**	PN		Pn	15 44 22.2	+0.6
CNGZ	**Carnagh Statio**	**1.43**	**109**	Pn		Pn	15 44 22.2	+0.6
WNVZ	**Wahianoa**	**1.47**	**208**	PN		Pn	15 44 22.0	0.0
WNVZ	**Wahianoa**	**1.47**	**208**	Pn		Pn	15 44 22.0	0.0
MOVZ	**Moawhango**	**1.49**	**202**	PN		Pn	15 44 21.6	-0.6
MOVZ	**Moawhango**	**1.49**	**202**	Pn		Pn	15 44 21.6	-0.6
BHHZ	**Black Hill Sta**	**1.49**	**193**	PN		Pn	15 44 21.8	-0.4
BHHZ	**Black Hill Sta**	**1.49**	**193**	Pn		Pn	15 44 21.8	-0.4
PKVZ	**Pokaka**	**1.54**	**215**	PN		Pn	15 44 22.7	0.0
PKVZ	**Pokaka**	**1.54**	**215**	Pn		Pn	15 44 22.7	0.0
MTVZ	**Mangateitei**	**1.57**	**210**	PN		Pn	15 44 23.0	-0.1
MTVZ	**Mangateitei**	**1.57**	**210**	Pn		Pn	15 44 23.0	-0.1
CKHZ	**Cape Kidnapper**	**1.69**	**164**	PN		Pn	15 44 24.5	+0.1
CKHZ	**Cape Kidnapper**	**1.69**	**164**	Pn		Pn	15 44 24.5	+0.1
KAHZ	**Kahuranaki**	**1.79**	**170**	PN		Pn	15 44 25.5	-0.1
KAHZ	**Kahuranaki**	**1.79**	**170**	Pn		Pn	15 44 25.5	-0.1
PNHZ	**Pukenui**	**1.89**	**187**	PN		Pn	15 44 25.8	-1.0
PNHZ	**Pukenui**	**1.89**	**187**	Pn		Pn	15 44 25.9	-1.0
PXZ	**Pawanui**	**2.02**	**172**	PN		Pn	15 44 27.6	-0.8
PXZ	**Pawanui**	**2.02**	**172**	Pn		Pn	15 44 27.6	-0.8
WPHZ	**Waipukurau**	**2.03**	**181**	PN		Pn	15 44 27.5	-1.0
WPHZ	**Waipukurau**	**2.03**	**181**	Pn		Pn	15 44 27.5	-1.0
TSZ	**Takapari Road**	**2.07**	**191**	PN		Pn	15 44 27.6	-1.3
TSZ	**Takapari Road**	**2.07**	**191**	Pn		Pn	15 44 27.6	-1.3
WAZ	**Wanganui**	**2.08**	**214**	PN		Pn	15 44 28.5	-0.6
WAZ	**Wanganui**	**2.08**	**214**	Pn		Pn	15 44 28.5	-0.6
PRHZ	**Porangahau**	**2.24**	**177**	PN		Pn	15 44 29.9	-1.1
PRHZ	**Porangahau**	**2.24**	**177**	Pn		Pn	15 44 29.9	-1.1
DVHZ	**Dannevirke**	**2.28**	**186**	PN		Pn	15 44 29.9	-1.6
DVHZ	**Dannevirke**	**2.28**	**186**	Pn		Pn	15 44 29.9	-1.6
POWZ	**Post Office Ro**	**2.42**	**193**	PN		Pn	15 44 31.7	-1.6
POWZ	**Post Office Ro**	**2.42**	**193**	Pn		Pn	15 44 31.7	-1.6
BFZ	**Birch Farm**	**2.65**	**184**	PN		Pn	15 44 34.4	-1.8
MRZ	**Mangatainoka R**	**2.72**	**195**	PN		Pn	15 44 34.7	-2.3
MRZ				SN		Sn	15 45 06.8	-3.5
TIWZ	**Tintock**	**2.78**	**189**	PN		Pn	15 44 35.8	-2.1
TIWZ	**Tintock**	**2.78**	**189**	Pn		Pn	15 44 35.8	-2.0
HOWZ	**Holdsworth Sta**	**2.96**	**194**	PN		Pn	15 44 37.5	-2.7
HOWZ	**Holdsworth Sta**	**2.96**	**194**	Pn		Pn	15 44 37.5	-2.7
OGWZ	**Otaki Gorge**	**2.96**	**200**	PN		Pn	15 44 37.7	-2.5
OGWZ	**Otaki Gorge**	**2.96**	**200**	Pn		Pn	15 44 37.7	-2.5
KIW	**Kapiti Island**	**3.08**	**203**	PN		Pn	15 44 38.7	-2.9
KIW	**Kapiti Island**	**3.08**	**203**	Pn		Pn	15 44 38.7	-2.9
TMWZ	**Te Maipa**	**3.11**	**188**	PN		Pn	15 44 39.5	-2.6
TMWZ	**Te Maipa**	**3.11**	**188**	Pn		Pn	15 44 39.5	-2.6
MTW	**Mount Morrison**	**3.21**	**193**	PN		Pn	15 44 40.3	-3.1
MTW	**Mount Morrison**	**3.21**	**193**	Pn		Pn	15 44 40.3	-3.1
CAW	**Cannon Point**	**3.26**	**199**	PN		Pn	15 44 41.0	-3.1
CAW	**Cannon Point**	**3.26**	**199**	Pn		Pn	15 44 41.0	-3.1
WEL	**Wellington**	**3.51**	**202**	PN		Pn	15 44 43.9	-3.3
WEL	**Wellington**	**3.51**	**202**	Pn		Pn	15 44 43.9	-3.3
MSWZ	**Moikau Station**	**3.51**	**195**	PN		Pn	15 44 43.8	-3.5
MSWZ	**Moikau Station**	**3.51**	**195**	Pn		Pn	15 44 43.8	-3.5
SNZO	**South Karori**	**3.55**	**202**	PN		Pn	15 44 44.1	-3.7
SNZO	**South Karori**	**3.55**	**202**	Pn		Pn	15 44 44.1	-3.7
TCW	**Tory Channel**	**3.60**	**207**	PN		Pn	15 44 45.2	-3.4
TCW	**Tory Channel**	**3.60**	**207**	Pn		Pn	15 44 45.2	-3.4
PLWZ	**Palliser**	**3.66**	**195**	PN		Pn	15 44 45.5	-3.8
PLWZ	**Palliser**	**3.66**	**195**	Pn		Pn	15 44 45.5	-3.8
QRZ	**Quartz Range**	**4.14**	**226**	PN		Pn	15 44 52.5	-3.2
QRZ	**Quartz Range**	**4.14**	**226**	Pn		Pn	15 44 52.5	-3.2
KHZ	**Kahutara**	**4.92**	**206**	PN		Pn	15 45 01.7	-4.3
KHZ	**Kahutara**	**4.92**	**206**	Pn		Pn	15 45 01.7	-4.3
LTZ	**Lake Taylor**	**5.73**	**213**	PN		Pn	15 45 11.8	-5.0
LTZ	**Lake Taylor**	**5.73**	**213**	Pn		Pn	15 45 11.8	-5.0
MQZ	**McQueen's Vall**	**6.37**	**206**	SN		Sn	15 46 26.1	-11
MQZ	**McQueen's Vall**	**6.37**	**206**	Sn		Sn	15 46 26.1	-11

*ISCJB **29** 15:44:15.2±0.8, 36°.15N±0°.04×70°.2E±0°.1, h10km, Error ellipse: s-maj=15.7km s-min=5.4km az=169.7*
*NNC **29** 15:44:20.4±9.7, 36°.50N×70°.08E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=86.1km s-min=61.1km az=157.0*

ISC 29 15:44:16.9±0.8, 36°.11N±0°.04×70°.1E±0°.1, h10km, n12, σ0=98/16, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.71**	**147**	P		**Pn**	**15 45 01.9**	**+1.4**
CEP				S		**Sn**	**15 45 33.0**	**-0.3**
THW	**Thamme Wali**	**3.56**	**158**	P		**Pn**	**15 45 13.7**	**+1.4**
THW				S		**Sn**	**15 45 53.0**	**-1.4**
AML	**Almayashu**	**6.62**	**24**	P		**Pn**	**15 45 54.5**	**+0.3**
	SNR=19							
AML				P			15 45 54.5	
	SNR=19							
KK31	**Karatay Array**	**6.99**	**2**	⇓P		**Pn**	**15 45 59.9**	**+0.6**
	2.2nm,0.3s,baz=181,slow=13,SNR=94							
KK31				⇓S		**Sn**	**15 47 13.5**	**-5.4**
	1.5nm,0.4s,baz=177,slow=23,SNR=3.0							
EKS2	**Erkin-Say**	**7.13**	**22**	P		**Pn**	**15 46 01.7**	**+0.5**
	SNR=6.1							
EKS2				P			15 46 01.7	
	SNR=6.1							
KZA	**Kyzart**	**7.17**	**32**	P		**Pn**	**15 46 00.9**	**-0.9**
	SNR=6.1							
KZA				P			15 46 00.9	
	SNR=6.1							
AAK	**Ala-Archa**	**7.34**	**26**	P		**Pn**	**15 46 03.8**	**-0.3**
	SNR=10							
AAK				P			15 46 03.8	
	SNR=10							
CHMS	**Chumysh**	**7.75**	**26**	P		**Pn**	**15 46 09.3**	**-0.4**
	SNR=11							
CHMS				P			15 46 09.3	
	SNR=11							
TKM2	**Tokmak 2**	**8.01**	**30**	P		**Pn**	**15 46 12.3**	**-1.0**
	SNR=7.1							
TKM2				P			15 46 12.3	
	SNR=7.1							
TKM2	**Tokmak 2**	**8.01**	**30**	⇓P		**Pn**	**15 46 11.8**	**-1.4**
	3.2nm,0.7s							
TKM2				⇑S		**Sn**	**15 47 47.0**	**+3.2**
	3.6nm,1.0s							
AB31	**Akbulak array**	**15.10**	**334**	⇑P		**Pn**	**15 47 49.7**	**-0.5**
	2.0nm,0.4s,baz=151,slow=14,SNR=66							
AKTO	**Aktyubinsk**	**16.78**	**332**	⇑P		**Pn**	**15 48 11.9**	**0.0**
	0.2nm,0.6s							

IDC 29 15:52:57.7±3.5, 30°.65S×176°.42W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=80.4km s-min=38.3km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.28**	**213**	Pn		Pn	15 55 10.9	-1.8
	0.2nm,0.3s,baz=144,slow=22,SNR=1.4							
URZ				Sn		Sn	15 56 58.1	+0.4
	0.6nm,0.3s,baz=164,slow=22,SNR=5.7							
STKA	**Stephens Creek**	**35.75**	**257**	P		P	16 00 00.2	+1.8
	1.2nm,0.6s,baz=100,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**44.45**	**266**	P		P	16 01 10.5	-0.2
	0.3nm,0.5s,baz=105,slow=7.4,SNR=8.5							
WRA	**Warramunga Arr**	**45.47**	**272**	P		P	16 01 18.2	-0.6
	1.0nm,0.5s,baz=111,slow=7.9,SNR=13							
FINES	**FINESS Array B**	**145.84**	**341**	PKPbc		PKPbc	16 12 37.3	-0.9
	1.2nm,0.8s,baz=36,slow=7.1,SNR=3.3							

*NIED **29** 15:58:00, 28°.70N×129°.50E, h20km, Mw3.6 Best double couple: M0=2.65000×10^14 NP1:φ0=281.00000°, δ68.00000°, λ-119.00000°. NP2:φ0=157.00000°, δ36.00000°, λ-40.00000°.*

JMA 29 15:58:24.9±0.1, 28°.70N×129°.54E, h18km±2km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.29**	**169**	P		Pg	15 58 31.1	-0.2
JAM				S		Sg	15 58 35.0	-0.7
JZK	**Kikaishima**	**0.54**	**135**	P		Pg	15 58 35.3	-0.4
JZK				S		Sg	15 58 42.8	-0.2
JTK	**Tokunoshima**	**1.05**	**210**	P		Pb	15 58 44.0	-0.5
JTK				*e*S		Sb	15 58 58.1	+0.2
JNN	**Nakanoshima**	**1.17**	**14**	P		Pn	15 58 45.6	-0.8
JKC	**Kuchinoerabu**	**1.85**	**18**	P		Pn	15 58 55.2	-0.5
JKC				*e*S		Sn	15 59 16.5	-2.1
JIH	**Iheya**	**2.17**	**220**	P		Pn	15 59 00.6	+0.5
JIH				*e*S		Sn	15 59 26.0	-0.4
JOW	**Kunigami**	**2.17**	**211**	P		Pn	15 59 00.9	+0.7
JTN	**Tanegashima 3**	**2.32**	**32**	P		Pn	15 59 03.5	+1.4
JAGN	**Aguni-jima**	**2.93**	**225**	P		Pn	15 59 11.6	+1.0
JAGN				*e*S		Sn	15 59 45.6	+0.3
JKE	**Kume jima 2**	**3.40**	**227**	P		Pn	15 59 18.3	+1.2
JKE				*e*S		Sn	15 59 57.0	0.0

IDC 29 16:04:37.9±3.4, 30°.58S×176°.66W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=78.4km s-min=38.1km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.22**	**212**	Pn		Pn	16 06 51.0	-1.2
	0.1nm,0.3s,baz=259,slow=17,SNR=1.5							
URZ				Sn		Sn	16 08 36.2	-0.5
	0.7nm,0.3s,baz=121,slow=18,SNR=1.5							
STKA	**Stephens Creek**	**35.56**	**257**	P		P	16 11 38.8	+1.9
	2.0nm,0.8s,baz=108,slow=13,SNR=2.8							
ASAR	**Alice Springs**	**44.25**	**267**	P		P	16 12 48.5	-0.7
	0.4nm,0.7s,baz=95,slow=7.0,SNR=7.4							
WRA	**Warramunga Arr**	**45.26**	**272**	P		P	16 12 57.0	-0.3
	2.1nm,0.8s,baz=111,slow=7.7,SNR=14		

TWS1	Kuangyinshan	1.19	303	*i* P	Pn	16 13 23.5	-0.1
	baz=304						
TWS1				S	Sn	16 13 38.4	-0.9
	baz=304						
HATJ	Hateruma jima	1.24	108	P	Pn	16 13 25.2	+1.0
HATJ				S	Sn	16 13 41.8	+1.4
TWT	Tachien	1.24	261	⇓*i*P	Pn	16 13 24.9	+0.7
	baz=261						
TWT				S	Sn	16 13 40.7	+0.2
	baz=261						
NCU	National Centr	1.32	294	*e*P	Pn	16 13 25.5	+0.3
	baz=294						
NCU				*e*S	Sn	16 13 42.5	+0.3
	baz=294						
JKRS	Kuro-shima	1.38	98	P	Pn	16 13 26.6	+0.6
JKRS				S	Sn	16 13 44.7	+1.1
NSTT	Nanjuang	1.39	278	⇓*i*P	Pn	16 13 26.4	+0.2
	baz=278						
NSTT				S	Sn	16 13 43.8	-0.2
	baz=278						
EHY	Hungye	1.44	230	⇓*e*P	Pn	16 13 26.0	-0.8
	baz=229						
EHY				*e*S	Sn	16 13 43.1	-2.0
	baz=229						
HSN	Hsinchu	1.45	284	*e*P	Pn	16 13 27.0	+0.1
	baz=286						
HSN				*e*S	Sn	16 13 44.7	-0.7
	baz=286						
JIJ	Ishigaki jima	1.48	93	P	Pn	16 13 27.4	0.0
JIJ				S	Sn	16 13 45.8	-0.3
YULB	Yu-li	1.53	227	*e*Pn	Pn	16 13 27.0	-1.0
TWF1	Yuli	1.56	226	⇓*i*P	Pn	16 13 27.9	-0.6
	baz=234						
TWF1				*e*S	Sn	16 13 46.4	-1.5
	baz=234						
SSLB	Suanglung	1.57	246	*e*Pn	Pn	16 13 28.2	-0.3
SMLT	Sun Moon Lake	1.58	250	⇓*i*P	Pn	16 13 29.2	+0.5
	baz=245						
SMLT				*e*S	Sn	16 13 48.8	+0.3
	baz=245						
TWQ1	Liyutan	1.59	267	⇓*i*P	Pn	16 13 29.2	+0.4
	baz=277						
TWQ1				*e*S	Sn	16 13 49.2	+0.5
	baz=277						
NSY	Sanyi	1.60	269	*e*P	Pn	16 13 29.6	+0.6
	baz=269						
NSY				*e*S	Sn	16 13 49.3	+0.4
	baz=269						
TYC	Yuchr	1.61	251	*e*P	Pn	16 13 29.5	+0.4
	baz=246						
TYC				*e*S	Sn	16 13 49.9	+0.8
	baz=246						
CHKT	Chengkung	1.71	218	*e*P	Pn	16 13 29.3	-1.1
	baz=212						
CHKT				*e*S	Sn	16 13 48.9	-2.5
	baz=212						
TCU	Taichung	1.71	260	*e*P	Pn	16 13 31.0	+0.6
	baz=271						
TCU				*e*S	Sn	16 13 51.4	0.0
	baz=271						
YUS	Yu-Shan	1.72	237	*e*P	Pn	16 13 31.3	+0.8
	baz=230						
YUS				*e*S	Sn	16 13 51.4	-0.3
	baz=230						
WNT	Mingjian	1.77	252	P	Pn	16 13 32.3	+1.1
	baz=252						
WNT				*e*S	Sn	16 13 54.4	+1.5
	baz=252						
ALS	Alishan	1.82	240	⇓P	Pn	16 13 32.7	+0.8
	baz=233						
ALS				*e*S	Sn	16 13 54.9	+0.7
	baz=233						
ELDTW	Lidau	1.86	228	⇓P	Pn	16 13 31.8	-0.6
	baz=227						
ELDTW				*e*S	Sn	16 13 52.9	-2.2
	baz=227						
CHN5	Tsauling	1.88	244	*e*P	Pn	16 13 33.6	+0.9
	baz=237						
CHN5				*e*S	Sn	16 13 56.8	+1.2
	baz=237						
WGK	Gukeng	1.94	247	*e*P	Pn	16 13 34.5	+1.0
	baz=260						
WGK				*e*S	Sn	16 13 58.4	+1.4
	baz=260						
JTJ	Tarama	2.00	84	P	Pn	16 13 34.7	+0.5
JTJ				*e*S	Sn	16 13 59.0	+0.7
STYT	Tauyuan	2.06	232	*e*P	Pn	16 13 35.5	+0.4
	baz=228						
STYT				*e*S	Sn	16 14 00.0	+0.2
	baz=228						
TPUB	Ta-pu	2.07	237	*e*Pn	Pn	16 13 35.8	+0.6
TPUB				*e*Sn	Sn	16 14 01.3	+1.1
TWG	Pinlang	2.09	220	*e*P	Pn	16 13 34.6	-0.9
	baz=219						
TWG				*e*S	Sn	16 13 58.8	-1.9
	baz=219						
TWG	Pinlang	2.09	220	*e*Pn	Pn	16 13 34.1	-1.4
TTN	Taitung	2.10	217	*e*P	Pn	16 13 35.6	0.0
	baz=212						
TTN				*e*S	Sn	16 14 01.3	+0.4
	baz=212						
WTP	Ta-pu	2.11	236	*e*P	Pn	16 13 36.5	+0.7
	baz=236						
WTP				*e*S	Sn	16 14 01.4	+0.2
	baz=236						
WTCT	Ta-ch'eng	2.12	255	*e*P	Pn	16 13 36.2	+0.2
	baz=255						
WTCT				*e*S	Sn	16 14 01.1	-0.3
	baz=255						
CHY	Chiayi	2.14	244	*e*P	Pn	16 13 37.2	+1.1
	baz=257						
CHY				*e*S	Sn	16 14 01.4	-0.3
	baz=257						
CHN1	Nanshi	2.21	236	*e*P	Pn	16 13 38.2	+1.0
	baz=236						
CHN1				*e*S	Sn	16 14 04.6	+1.0
	baz=236						
WSF	Szhu	2.25	249	*e*P	Pn	16 13 38.3	+0.7
	baz=260						
WSF				*e*S	Sn	16 14 04.6	+0.2
	baz=260						
ECL	Taimali	2.33	218	*e*P	Pn	16 13 37.6	-1.2
	baz=218						
ECL				*e*S	Sn	16 14 03.9	-2.7
	baz=218						
CHN8	Yiju	2.38	243	*e*P	Pn	16 13 39.6	+0.2
	baz=244						
CHN8				*e*S	Sn	16 14 07.8	+0.2
	baz=244						
CHN3	Shinhua	2.40	236	*e*P	Pn	16 13 40.4	+0.8
	baz=247						
CHN3				*e*S	Sn	16 14 09.2	+1.2
	baz=247						
SSD	Sandimen	2.42	226	*e*P	Pn	16 13 40.7	+0.8
	baz=226						
SSD				*e*S	Sn	16 14 08.3	-0.3
	baz=226						
SCLT	Jiali	2.48	240	*e*P	Pn	16 13 41.7	+1.0
	baz=240						
SCLT				*e*S	Sn	16 14 10.0	+0.1
	baz=240						
TWM1	Shoushan	2.51	230	*e*P	Pn	16 13 42.1	+0.9
	baz=230						
LAY	Lan-yu	2.56	201	*e*P	Pn	16 13 41.2	-0.6
	baz=199						
EAST	Anshuo	2.56	217	*e*P	Pn	16 13 41.7	-0.2
	baz=217						
EAST				*e*S	Sn	16 14 09.7	-2.3
	baz=217						
JOGS	Gusukube	2.65	83	*e*S	Sn	16 14 14.1	0.0
SCZT	Fangliau	2.70	221	*e*P	Pn	16 13 44.9	+1.1
	baz=233						
SCZT				*e*S	Sn	16 14 15.3	-0.2
	baz=233						
KNM	Kinmen	3.72	270	*e*P	Pn	16 13 59.1	+1.5
	baz=271						
JKE	Kume jima 2	4.29	63	P	Pn	16 14 05.8	+0.4
JIH	Iheya	5.55	61	P	Pn	16 14 22.0	-0.6
JOW	Kunigami	5.71	64	P	Pn	16 14 23.5	-1.3
	2.7nm,0.3s,baz=132,slow=12,SNR=41						
JOW				S	Sn	16 15 26.9	-2.0
	0.6nm,0.3s,baz=26,slow=17,SNR=1.2						
JOW	Kunigami	5.71	64	*e*Pn	Pn	16 14 23.3	-1.5
JOW				S	Sn	16 15 26.9	-2.0
JOW	Kunigami	5.71	64	P	Pn	16 14 23.5	-1.3
JOW				*e*S	Sn	16 15 27.5	-1.5
JTK	Tokunoshima	6.67	59	P	Pn	16 14 36.2	-1.7
JAM	Amami Oshima	7.48	57	P	Pn	16 14 46.7	-2.2
KSAR	Wonju Array Be	13.74	18	P	Pn	16 16 16.7	+2.7
KSRS	Korea Array	13.77	18	P	Pn	16 16 16.7	+2.4
	0.2nm,0.3s,baz=199,slow=12,SNR=5.7						
USRK	Ussuriysk Arra	21.17	19	P	P	16 17 39.9	-1.9
	1.6nm,0.7s,mb3.5,baz=210,slow=11,SNR=3.4						
WRA	Warramunga Arr	45.60	164	P	P	16 21 14.6	-1.0
	0.5nm,0.8s,mb3.3,baz=345,slow=8.5,SNR=5.4						
WRA	Warramunga Arr	45.60	164	P	P	16 21 14.6	-1.0
ASAR	Alice Springs	49.09	166	P	P	16 21 41.9	-0.8
	0.2nm,0.7s,mb3.2,baz=333,slow=9.9,SNR=4.3						
ASAR	Alice Springs	49.09	166	P	P	16 21 41.9	-0.8

DJA 29 16:37:05,1°.30N×126°.48E,h65km,MLv3.6/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.03	121	P	Pn	16 37 24.8	+1.2
TNTI				S	Sn	16 37 39.3	+1.8
MNI	Manado	1.65	275	P	Pn	16 37 31.9	+0.1
MNI				S	Sn	16 37 54.1	+2.1
LBMI	Labuha	2.18	152	P	Pn	16 37 38.7	-0.3
LBMI				S	Sn	16 38 03.8	-1.1
KMSI	Cibinong	2.60	254	P	Pn	16 37 44.9	+0.2
KMSI				S	Sn	16 38 15.4	+0.2
GTOI	Gorontalo	3.53	259	P	Pn	16 37 58.6	+1.2
LUWI	Luwuk	4.38	238	P	Pn	16 38 10.8	+1.8
LUWI				S	Sn	16 39 01.5	+2.7
MRSI	Marisa	4.61	260	P	Pn	16 38 22.5	+10

*ISK **29** 16:46:46.7,38°.22N×38°.67E,h9km,MD3.5*
*ISCJB **29** 16:46:47.2±0.5,38°.22N±0°.02×38°.69E±0°.02,h1km±4km, Error ellipse: s-maj=3.7km s-min=3.1km az=155.2*
*DDA **29** 16:46:47.2,38°.21N×38°.70E,h15km±1km,Md3.2*
*CSEM **29** 16:46:47.1±0.2,38°.20N×38°.67E,h5km,MD3.5,Error ellipse: s-maj=4.4km s-min=3.6km az=148.0*

ISC 29 16:46:47.8±0.4,38°.22N±0°.02×38°.67E±0°.02,h4km±4km, n52,σ1°18/76,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	Malatya	0.22	296	PG	Pg	16 46 51.4	-0.6
MALT				*e*SG	Sg	16 46 55.9	+1.0
MALT	Malatya	0.22	296	*i* Pg	Pg	16 46 51.4	-0.6
MALT				*e*Sg	Sg	16 46 55.9	+1.0
MYA	Malataya	0.22	299	PG	Pg	16 46 51.8	-0.4
MYA	Malataya	0.22	299	*i* Pg	Pg	16 46 51.8	-0.4
ELZG	Elazig	0.37	41	*i* P	Pg	16 46 55.3	+0.3
ELZG				*i* S	Sg	16 47 01.0	+1.2
ELZG	Elazig	0.37	41	*i* P	Pg	16 46 55.3	+0.3
ELZG				*i* S	Sg	16 47 01.0	+1.2
SVRC	Sivrice-ELAZID	0.52	72	*e*PG	Pg	16 46 57.7	-0.2
SVRC				*e*SG	Sg	16 47 05.7	+1.0
SVRC	Sivrice-ELAZID	0.52	72	*e*Pg	Pg	16 46 57.7	-0.2
SVRC				*e*Sg	Sg	16 47 05.7	+1.0
AKCD	Akcadag	0.60	278	*i* P	Pg	16 46 59.5	+0.2
AKCD				*i* S	Sg	16 47 08.9	+1.9
AKCD	Akcadag	0.60	278	*i* P	Pg	16 46 59.5	+0.2
AKCD				*i* S	Sg	16 47 08.9	+1.9
URFA	Urfa	0.79	171	*e*PG	Pg	16 47 01.3	-1.6
URFA				*e*SG	Sg	16 47 14.1	+1.0
URFA	Urfa	0.79	171	*e*Pg	Pg	16 47 01.3	-1.6
URFA				*e*Sg	Sg	16 47 14.1	+1.0
ATAB	Bozova	0.81	202	*i* P	Pg	16 47 02.0	-1.3
ATAB				*i* S	Sg	16 47 16.0	+2.2
ATAB	Bozova	0.81	202	*i* P	Pg	16 47 02.0	-1.3
ATAB				*i* S	Sg	16 47 16.0	+2.3
PTK	Pertek	0.88	40	*e*PG	Pg	16 47 03.1	-1.5
PTK	Pertek	0.88	40	*e*Pg	Pg	16 47 03.1	-1.6
KEMA	Kemaliye	1.06	352	*i* P	Pg	16 47 07.3	-0.8
KEMA				*i* S	Sg	16 47 22.9	+1.0
KEMA	Kemaliye	1.06	352	*i* P	Pg	16 47 07.3	-0.8
KEMA				*i* S	Sg	16 47 22.9	+1.0
DIYA	Diyarbakir	1.18	104	*i* P	Pg	16 47 10.2	-0.3
DIYA				*i* S	Sg	16 47 25.4	-0.4
DIYA	Diyarbakir	1.18	104	*i* P	Pg	16 47 10.2	-0.3
DIYA				*i* S	Sg	16 47 25.4	-0.3
GZT	Gaziantep	1.23	226	*i* P	Pg	16 47 11.2	-0.2
GZT				*i* S	Sg	16 47 27.2	-0.2
ILIC	ilic-Erzincan	1.23	356	*e*PN	Pn	16 47 11.0	-0.9
ILIC	ilic-Erzincan	1.23	356	*e*Pn	Pn	16 47 11.0	-0.9
GAZ	Gaziantep	1.56	228	*e*PN	Pn	16 47 15.4	-1.0
GAZ	Gaziantep	1.56	228	*e*Pn	Pn	16 47 15.4	-1.0
BINT	Bingol	1.57	65	*e*Pn	Pn	16 47 17.8	+1.3
KMRS	Kahramanmaras	1.57	244	*e*PN	Pn	16 47 15.3	-1.3
KMRS	Kahramanmaras	1.57	244	*e*Pn	Pn	16 47 15.3	-1.3
ERZN	Erzincan	1.59	31	*e*PN	Pn	16 47 16.5	-0.3
SARI	SarD1z-Kayseri	1.62	287	*e*PN	Pn	16 47 19.2	+2.0
EZC	Erzincan	1.62	19	*e*Pn	Pn	16 47 16.5	-0.7
BNGB	Bing¨¶l	1.75	63	*e*PN	Pn	16 47 17.8	-1.2
PINB	Pinarbasi	1.84	285	*i* P	Pn	16 47 21.8	+1.5
PINB				*i* S	Sn	16 47 47.5	+3.5
PINB	Pinarbasi	1.84	285	*i* P	Pn	16 47 21.8	+1.6
MARD	Mardin	1.90	118	*i* P	Pn	16 47 20.1	-0.9
MARD				*i* S	Sn	16 47 45.9	+0.6
KUZU	Kuzuini	1.92	222	*i* P	Pn	16 47 25.1	+3.8
KUZU				*i* S	Sn	16 47 48.9	+2.9
KELT	Kelkit	1.98	13	*i* P	Pn	16 47 22.5	+0.4
KELT				*i* S	Sn	16 47 49.3	+1.9
KELT	Kelkit	1.98	13	*i* P	Pn	16 47 22.5	+0.3
KELT				*i* S	Sn	16 47 49.3	+1.9
BEST	Besiri	2.08	98	*i* P	Pn	16 47 24.5	+1.0
BEST				*i* S	Sn	16 47 51.8	+2.1
BNN	Bunyan	2.31	287	*e*PN	Pn	16 47 25.5	-1.1
BNN	Bunyan	2.31	287	*e*Pn	Pn	16 47 25.5	-1.1
GUMT	Gumushane	2.32	15	*e*PN	Pn	16 47 25.7	-1.2
GUMT	Gumushane	2.32	15	*e*Pn	Pn	16 47 25.7	-1.2
KOZT	Kozan	2.37	253	*e*PN	Pn	16 47 26.6	-1.0
RSDY	Resadiye-TOKAT	2.41	335	*e*PN	Pn	16 47 26.7	-1.4
RSDY	Resadiye-TOKAT	2.41	335	*e*Pn	Pn	16 47 26.7	-1.4
BAYT	Ayd¨¨-ntepe-Bay	2.45	27	*e*PN	Pn	16 47 27.8	-0.8
BAYT	Ayd¨¨-ntepe-Bay	2.45	27	*e*Pn	Pn	16 47 27.8	-0.8
EZM	Erzurum	2.69	50	*e*PN	Pn	16 47 30.8	-1.1
YAYL	Yayladag	2.99	224	*i* P	Pn	16 47 34.5	-1.6
YAYL				*i* S	Sn	16 48 21.2	+8.8
YAYL	Yayladag	2.99	224	*i* P	Pn	16 47 34.5	-1.6
CUKT	Cukurca	4.03	102	*e*PN	Pn	16 47 51.0	+0.7

*IDC **29** 16:50:40.3±2.7,46°.13N×154°.33E,h0km,mb3.4/5, mb1 3.7/6,mb1mx3.4/24,mbtmp3.4/6,Error ellipse: s-maj=67.2km s-min=32.3km az=171.0*
*ISCJB **29** 16:50:45.4±1.7,46°.6N±0°.3×154°.2E±0°.2,h33km,mb3.4/5, Error ellipse: s-maj=38.7km s-min=19.7km az=159.1*
*NEIC **29** 16:50:46.8±1.7,46°.43N×154°.25E,h35km,Error ellipse: s-maj=40.3km s-min=20.8km az=160.0*

ISC 29 16:50:47.0±1.7,46°.5N±0°.3×154°.2E±0°.2,h35km,n13, σ0°99/13,mb3.4/5,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.03	17	Pn	Pn	16 52 26.3	-1.0
	0.4nm,0.3s,baz=194,slow=15,SNR=9.7						
PETK	Petropavlovsk-	7.03	17	Pn	Pn	16 52 26.3	-1.0
ILAR	Eielson Array	36.30	38	P	P	16 57 47.4	+0.7
	0.3nm,0.7s,mb3.3,baz=245,slow=7.8,SNR=6.8						
ILAR	Eielson Array	36.30	38	P	P	16 57 47.4	+0.7
MK31	Makanchi Array	47.77	298	*e*P	P	16 59 19.9	-0.5
MKAR	Makanchi Array	47.77	298	P	P	16 59 20.3	-0.1
	0.4nm,0.7s,mb3.5,baz=68,slow=8.0,SNR=4.8						
MKAR	Makanchi Array	47.77	298	P	P	16 59 20.3	-0.1
YKA	Yellowknife Ar	50.70	37	P	P	16 59 43.9	+1.4
	0.1nm,0.4s,mb3.1,baz=270,slow=9.3,SNR=2.5						
YKA	Yellowknife Ar	50.70	37	P	P	16 59 43.9	+1.4
FINES	FINESS Array B	64.64	335	P	P	17 01 21.5	+1.0
	0.7nm,0.6s,mb3.9,baz=53,slow=9.8,SNR=3.9						
FINES	FINESS Array B	64.64	335	P	P	17 01 21.5	+1.0
TXAR	Lajitas Array	76.96	61	P	P	17 02 34.3	-1.6
	0.2nm,0.7s,mb3.2,baz=294,slow=6.8,SNR=3.1						
TXAR	Lajitas Array	76.96	61	P	P	17 02 34.3	-1.6

MAN 29 16:53:45,16°.47N×120°.13E,h35km,mb4.1,ML2.9,MS2.6, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.23	248	*e*P	Pn	16 53 54.8	+2.7
BOLP				*e*S	Sn	16 53 58.5	+1.5
BCPH	Baguio City Da	0.44	101	⇑*i*P	Pn	16 53 57.5	+2.7
SCZP	Santa Cruz	0.72	197	*e*P	Pn	16 54 00.1	+1.4
SCZP				*e*S	Sn	16 54 10.9	+2.3

*ISCJB **29** 17:10:47.8±1.3,18°.38S±0°.08×69°.1W±0°.2,h147km±11km, mb3.5/2,Error ellipse: s-maj=28.6km s-min=13.3km az=4.2*
*NEIC **29** 17:10:47.9±1.4,18°.29S×69°.10W,h133km±12km,Error ellipse: s-maj=24.8km s-min=13.6km az=98.0*
*IDC **29** 17:10:49.4±4.8,18°.33S×68°.98W,h143km±34km,mb3.6/2, mb1 3.7/4,mb1mx3.4/16,mbtmp3.5/4,Error ellipse: s-maj=57.8km s-min=35.7km az=36.0*

ISC 29 17:10:48.6±1.3,18°.38S±0°.08×69°.1W±0°.2,h142km±11km, n17,σ0°76/13,mb3.5/2,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.29	24	P	Pn	17 11 27.1	+0.3
	9.7nm,0.3s,baz=222,slow=6.8,SNR=148						
LPAZ				S	Sn	17 11 56.4	+0.4
	2.0nm,0.3s,baz=79,slow=11,SNR=2.3						
LPAZ	La Paz	2.29	24	*e*P	Pn	17 11 26.8	+0.1
LPAZ				S	Sn	17 11 56.4	+0.4
LVC	Limon Verde	4.21	177	*e*P	Pn	17 11 51.0	-0.5
SIV	San Ignacio	8.04	74	P	Pn	17 12 41.5	-1.2
	1.4nm,0.3s,baz=269,slow=12,SNR=25						
SIV	San Ignacio	8.04	74	P	Pn	17 12 41.5	-1.2
SAML	Samuel	11.00	32	*e*P	Pn	17 13 18.1	-4.1
CPUP	Villa Florida	13.46	128	*e*P	Pn	17 13 55.3	+1.3
TORD	Torodi Ar. Bea	76.51	71	P	P	17 22 23.4	-0.1
	0.6nm,0.5s,mb3.5,baz=250,slow=5.0,SNR=4.7						
TORD	Torodi Ar. Bea	76.51	71	P	P	17 22 23.4	-0.1
YKA	Yellowknife Ar	88.20	341	P	P	17 23 23.2	+0.1
	0.5nm,0.5s,mb3.6,baz=135,slow=5.0,SNR=8.0						
YKA	Yellowknife Ar	88.20	341	P	P	17 23 23.2	+0.1
ASAR	Alice Springs	132.55	209	PKP	PKPdf	17 29 47.4	+0.3
	0.3nm,0.9s,baz=139,slow=2.1,SNR=3.8						
ASAR	Alice Springs	132.55	209	PKP	PKPdf	17 29 47.4	+0.3
WRA	Warramunga Arr	135.50	212	PKP	PKPdf	17 29 53.6	+0.8
	0.3nm,1.0s,baz=146,slow=1.6,SNR=3.7						
WRA	Warramunga Arr	135.50	212	PKP	PKPdf	17 29 53.6	+0.9
SONM	Songino Array	150.40	6	PKPbc	PKPbc	17 30 24.4	+1.1
	0.4nm,0.5s,baz=320,slow=1.4,SNR=4.3						
SONM	Songino Array	150.40	6	PKPbc	PKPbc	17 30 24.4	+1.1

IDC 29 17:13:08.9±3.5,0°.63S×101°.79E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/21,mbtmp3.6/3,Error ellipse: s-maj=205.4km s-min=67.5km az=42.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.19	123	P	P	17 20 22.6	+0.5
	0.3nm,0.4s,baz=303,slow=9.2,SNR=11						
ASAR	Alice Springs	38.66	129	P	P	17 20 34.3	-0.2
	0.5nm,0.5s,baz=305,slow=8.0,SNR=19						
ASAR				PcP	PcP	17 22 46.5	-0.4
	0.3nm,0.5s,baz=301,slow=2.9,SNR=5.2						
STKA	Stephens Creek	48.76	134	P	P	17 21 55.2	-0.5
	1.3nm,0.6s,baz=317,slow=8.9,SNR=5.4						
TXAR	Lajitas Array	142.53	38	PKP	PKPdf	17 32 45.3	+0.7
	0.1nm,0.4s,baz=250,slow=1.8,SNR=4.5						

*IDC **29** 17:49:20.1±2.4,2°.28S×130°.20E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.4/16,mbtmp3.4/3,ML3.1/1,Error ellipse: s-maj=141.4km s-min=28.5km az=70.0*
*DJA **29** 17:49:26,2°.60S×129°.61E,h10km,MLv3.2/5*

ISC 29 17:49:29.5±1.1,2°.8S±0°.1×129°.63E±0°.09,h35km,n8, σ1°33/8,mb3.4/2,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.90	231	P	Pn	17 49 44.9	-0.7
AAI	Ambon	1.69	238	P	Pn	17 49 58.6	+2.0
NLAI	Namlea	2.57	260	P	Pn	17 50 09.0	+0.4
FAKI	Fak Fak	2.62	93	P	Pn	17 50 10.7	+1.4
LBMI	Labuha	3.00	315	P	Pn	17 50 13.7	-0.9
WRA	Warramunga Arr	17.67	165	P	Pn	17 53 30.4	-2.6
	0.1nm,0.3s,baz=348,slow=12,SNR=6.0						
ASAR	Alice Springs	21.18	169	P	P	17 54 12.2	+0.4
	1.4nm,0.5s,mb3.5,baz=345,slow=10,SNR=38						
MKAR	Makanchi Array	64.52	326	P	P	17 59 58.3	-4.5
	0.2nm,0.6s,mb3.3,baz=122,slow=5.4,SNR=3.8						

*ISCJB **29** 18:24:26.4±0.4,36°.44N±0°.03×71°.10E±0°.05,h154km±5km, mb3.7/12,Error ellipse: s-maj=6.7km s-min=4.0km az=166.9*
*NEIC **29** 18:24:27.0±0.7,36°.43N×71°.11E,h144km±9km,mb4.7/18, Error ellipse: s-maj=9.3km s-min=5.6km az=55.0*
*NNC **29** 18:24:30.7±2.7,36°.76N×70°.99E,h134km±28km,mb3.4, mpv4.4,Error ellipse: s-maj=21.6km s-min=14.3km az=5.0*
*IDC **29** 18:24:32.6±4.7,36°.45N×71°.05E,h200km±46km,mb3.3/11, mb1 3.5/14,mb1mx3.3/28,mbtmp3.4/14,Error ellipse: s-maj=22.3km s-min=12.5km az=17.0*

ISC 29 18:24:27.4±0.4,36°.42N±0°.03×71°.11E±0°.05,h148km±5km, n98,σ1°15/107,mb3.7/13,2C-9D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.52	223	*e*P	Pn	18 25 09.3	+0.5
CEP	Cherat	2.67	166	P	Pn	18 25 12.4	+1.8
CEP				S	Sn	18 25 43.0	-0.9
CHCP	Chirah Chowk	3.27	147	P	Pn	18 25 20.3	+2.1
THW	Thamme Wali	3.66	172	⇓P	Pn	18 25 24.5	+1.3
SARP	Sargodha	4.67	163	P	Pn	18 25 37.2	+0.7
AML	Almayashu	6.04	19	P	Pn	18 25 54.5	-0.1
	SNR=89						
AML				P		18 25 54.5	
	SNR=89						
UCH	Uchtor	6.37	23	P	Pn	18 26 02.1	+3.1
	SNR=5.5						
UCH				P		18 26 02.1	
	SNR=5.5						
KZA	Kyzart	6.50	28	P	Pn	18 26 00.2	-0.5
	SNR=12						
KZA				P		18 26 00.2	
	SNR=12						
EKS2	Erkin-Say	6.56	17	P	Pn	18 26 01.7	+0.2
	SNR=24						
EKS2				P		18 26 01.7	
	SNR=24						
EKS2	Erkin-Say	6.56	17	*e*P	Pn	18 26 01.4	-0.2
	18nm,0.6s						
KK31	Karatay Array	6.69	356	⇓P	Pn	18 26 02.7	-0.5
	7.1nm,0.3

USP				P		18 26 11.9	
	SNR=13						
TKM2	**Tokmak 2**	**7.36**	**27**	P	**Pn**	**18 26 11.8**	**-0.3**
	SNR=32						
TKM2				P		18 26 11.8	
	SNR=32						
TKM2	**Tokmak 2**	**7.36**	**27**	⇑P	**Pn**	**18 26 11.8**	**-0.3**
	comp=N,21nm,0.5s						
TKM2				⇓S	**Sn**	**18 27 31.9**	**-2.3**
	comp=N,14nm,0.6s						
TKM2	**Tokmak 2**	**7.36**	**27**	*e*P	**Pn**	**18 26 11.5**	**-0.6**
	comp=N,31nm,0.5s						
DDI	**Dehra Dun**	**8.41**	**134**	*ex*	x	18 27 20.0	
KHET	**Khetri**	**9.22**	**153**	*e*PKP	**Pn**	**18 26 34.6**	**-2.5**
KHET				*e*S	**Sn**	**18 28 11.7**	**-7.7**
KUDL	**Kundal**	**9.42**	**150**	*e*PKP	**Pn**	**18 26 38.1**	**-1.7**
KUDL				*e*S	**Sn**	**18 28 15.4**	**-8.9**
AGRA	**Agra**	**10.85**	**146**	*e*S	**Sn**	**18 28 49.1**	**-9.5**
MK31	**Makanchi Array**	**13.30**	**35**	P	**Pn**	**18 27 30.2**	**-0.2**
	comp=N,4.1nm,0.6s,baz=225,slow=11,SNR=26						
MK31	**Makanchi Array**	**13.30**	**35**	*e*P	**Pn**	**18 27 31.5**	**+1.2**
MKAR	**Makanchi Array**	**13.30**	**35**	P	**Pn**	**18 27 30.1**	**-0.3**
	comp=N,0.3nm,0.3s,baz=226,slow=15,SNR=17						
MKAR	**Makanchi Array**	**13.30**	**35**	P	**Pn**	**18 27 30.1**	**-0.3**
DANN	**Dangsing**	**13.37**	**123**	*e*P	**Pn**	**18 27 30.7**	**-0.7**
	comp=N,26nm,0.5s						
DANN	**Dangsing**	**13.37**	**123**	*e*P	**Pn**	**18 27 30.7**	**-0.7**
	comp=N,26nm,0.5s						
KOLN	**Koldanda**	**13.65**	**126**	*e*P	**Pn**	**18 27 33.2**	**-1.7**
	comp=N,21nm,0.7s						
KOLN	**Koldanda**	**13.65**	**126**	*e*P	**Pn**	**18 27 33.2**	**-1.7**
	comp=N,21nm,0.7s						
GKN	**Gorkha**	**14.19**	**122**	*e*P	**Pn**	**18 27 40.9**	**-0.8**
	comp=N,56nm,0.4s						
GKN	**Gorkha**	**14.19**	**122**	*e*P	**Pn**	**18 27 40.9**	**-0.8**
	comp=N,56nm,0.4s						
DMN	**Daman**	**14.76**	**123**	*e*P	**Pn**	**18 27 49.2**	**+0.3**
	comp=N,31nm,0.6s						
DMN	**Daman**	**14.76**	**123**	*e*P	**Pn**	**18 27 49.2**	**+0.3**
	comp=N,31nm,0.6s						
KKN	**Kakani**	**14.76**	**122**	*e*P	**Pn**	**18 27 48.1**	**-0.8**
	comp=N,42nm,0.6s						
KKN	**Kakani**	**14.76**	**122**	*e*P	**Pn**	**18 27 48.1**	**-0.8**
	comp=N,42nm,0.6s						
PKI	**Pulchoki**	**14.99**	**122**	*e*P	**Pn**	**18 27 51.2**	**-0.6**
	comp=N,24nm,0.4s						
PKI	**Pulchoki**	**14.99**	**122**	*e*P	**Pn**	**18 27 51.2**	**-0.6**
	comp=N,24nm,0.4s						
GUN	**Gumba**	**15.10**	**120**	*e*P	**Pn**	**18 27 54.2**	**+1.0**
	comp=N,22nm,0.4s						
GUN	**Gumba**	**15.10**	**120**	*e*P	**Pn**	**18 27 54.2**	**+1.0**
	comp=N,22nm,0.4s						
KURBB	**Kurchatov Arra**	**15.17**	**18**	⇓P	**Pn**	**18 27 55.3**	**+1.5**
	comp=N,0.9nm,0.6s						
AB31	**Akbulak array**	**15.20**	**331**	P	**Pn**	**18 27 52.1**	**-2.1**
	comp=N,3.4nm,0.6s,baz=145,slow=12,SNR=88						
ABKAR	**Akbulak array**	**15.20**	**331**	*e*P	**Pn**	**18 27 51.5**	**-2.6**
	comp=N,5.1nm,0.6s						
KURK	**Kurchatov**	**15.28**	**18**	P	**Pn**	**18 27 51.5**	**-3.7**
	comp=N,0.1nm,0.3s,baz=205,slow=11,SNR=9.2						
KURK	**Kurchatov**	**15.28**	**18**	⇓P	**Pn**	**18 27 56.4**	**+1.2**
	comp=N,3.5nm,0.8s						
KURK	**Kurchatov**	**15.28**	**18**	*e*P	**Pn**	**18 27 52.1**	**-3.0**
JIRN	**Jiri**	**15.47**	**120**	*e*P	**Pn**	**18 27 58.7**	**+0.9**
	comp=N,11nm,0.5s						
JIRN	**Jiri**	**15.47**	**120**	*e*P	**Pn**	**18 27 58.7**	**+0.9**
	comp=N,11nm,0.5s						
RAMN	**Ramite**	**16.20**	**121**	*e*P	**Pn**	**18 28 06.3**	**-0.4**
	comp=N,13nm,0.4s						
RAMN	**Ramite**	**16.20**	**121**	*e*P	**Pn**	**18 28 06.3**	**-0.4**
	comp=N,13nm,0.4s						
ZRNK	**Zerenda**	**16.59**	**356**	⇓P	**Pn**	**18 28 12.7**	**+1.5**
	comp=N,2.2nm,0.5s						
BVA0	**Borovoye Array**	**16.61**	**358**	P	**Pn**	**18 28 11.5**	**+0.1**
	comp=N,0.4nm,0.6s,baz=272,slow=34,SNR=22						
BVAR	**Borovoye Array**	**16.61**	**358**	P	**Pn**	**18 28 12.1**	**+0.7**
	comp=N,0.6nm,0.3s,baz=160,slow=9.9,SNR=19						
BVAR				S	**S**	**18 31 09.6**	**-6.4**
	comp=N,0.3nm,0.3s,baz=168,slow=22,SNR=7.3						
BVAR	**Borovoye Array**	**16.61**	**358**	P	**Pn**	**18 28 12.2**	**+0.7**
BVAR				S	**S**	**18 31 09.6**	**-6.4**
BRVK	**Borovoye**	**16.65**	**358**	*e*P	**Pn**	**18 28 13.0**	**+1.1**
	comp=N,5.2nm,0.5s						
TAPN	**Taplejung**	**16.73**	**118**	*e*P	**Pn**	**18 28 15.0**	**+1.9**
	comp=N,23nm,0.5s						
TAPN	**Taplejung**	**16.73**	**118**	*e*P	**Pn**	**18 28 15.0**	**+1.9**
	comp=N,23nm,0.5s						
ODAN	**Odare**	**16.80**	**120**	*e*P	**Pn**	**18 28 15.6**	**+1.6**
	comp=N,22nm,0.6s						
ODAN	**Odare**	**16.80**	**120**	*e*P	**Pn**	**18 28 15.6**	**+1.6**
	comp=N,22nm,0.6s						
AKTO	**Aktyubinsk**	**16.89**	**330**	P	**Pn**	**18 28 14.1**	**-0.7**
	comp=N,0.6nm,0.3s,baz=127,slow=10,SNR=54						
AKTO				S	**S**	**18 31 13.4**	**-9.1**
	comp=N,0.1nm,0.3s,baz=350,slow=21,SNR=2.4						
AKTO	**Aktyubinsk**	**16.89**	**330**	⇑P	**Pn**	**18 28 14.3**	**-0.5**
	comp=N,1.8nm,0.7s						
AKTO	**Aktyubinsk**	**16.89**	**330**	P	**Pn**	**18 28 14.1**	**-0.7**
AKTO				S	**S**	**18 31 13.4**	**-9.1**
ZAA0	**Zalesovo Array**	**19.95**	**24**	*e*P	**P**	**18 28 47.5**	**-0.2**
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**18 28 47.5**	**-0.2**
	comp=N,2.0nm,0.3s,baz=221,slow=11,SNR=46						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**18 28 47.5**	**-0.2**
UMR	**Umm Al-Rimmam**	**20.76**	**257**	*e*P	**P**	**18 28 56.5**	**-0.1**
UMR				AMb	AMB	18 28 59.4	
	comp=Z,18nm,0.7s						
MIB	**Mutribah**	**20.95**	**258**	*e*P	**P**	**18 28 58.3**	**-0.3**
MIB				AMb	AMB	18 28 59.5	
	comp=Z,18nm,0.9s						
GNI	**Garni**	**21.00**	**288**	P	**P**	**18 29 01.2**	**+2.1**
	comp=Z,2.6nm,0.5s,mb3.8,baz=303,slow=2.8,SNR=5.7						
GNI	**Garni**	**21.00**	**288**	*e*P	**P**	**18 29 01.0**	**+1.9**
	comp=Z,28nm,1.5s,mb4.4						
RDF	**Al-Radifah**	**21.16**	**256**	*e*P	**P**	**18 29 00.9**	**0.0**
RDF				AMb	AMB	18 29 03.2	
	comp=Z,34nm,0.8s,mb4.7						
NAY	**Al-Naaiem**	**21.26**	**257**	*e*P	**P**	**18 29 01.4**	**-0.5**
NAY				AMb	AMB	18 29 02.6	
	comp=Z,19nm,1.5s,mb4.2						
SONM	**Songino Array**	**28.31**	**55**	P	**P**	**18 30 08.3**	**+1.4**
	comp=Z,0.3nm,0.8s,mb3.1,baz=274,slow=7.9,SNR=3.5						
SONM	**Songino Array**	**28.31**	**55**	P	**P**	**18 30 08.3**	**+1.4**
BRTR	**Keskin Array B**	**29.54**	**288**	P	**P**	**18 30 19.4**	**+1.4**
	comp=Z,0.4nm,0.7s,mb3.3,baz=108,slow=11,SNR=2.3						
BRTR	**Keskin Array B**	**29.54**	**288**	P	**P**	**18 30 19.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**30.34**	**119**	P	**P**	**18 30 27.2**	**+2.0**
	comp=Z,0.6nm,0.7s,mb3.4,baz=300,slow=8.2,SNR=8.0						
CMAR	**Chiang Mai Arr**	**30.34**	**119**	P	**P**	**18 30 27.2**	**+2.0**
AKASG	**Malin Array Be**	**33.06**	**309**	P	**P**	**18 30 48.4**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.1,baz=81,slow=7.2,SNR=11						
AKASG	**Malin Array Be**	**33.06**	**309**	P	**P**	**18 30 48.4**	**-0.3**
JOF	**Joensuu**	**35.98**	**330**	*ep*	**P**	**18 31 13.8**	**+0.2**
FINES	**FINESS Array B**	**37.60**	**326**	P	**P**	**18 31 27.4**	**+0.1**
	comp=Z,2.1nm,0.8s,mb3.8,baz=120,slow=10,SNR=9.3						
FINES	**FINESS Array B**	**37.60**	**326**	P	**P**	**18 31 27.4**	**+0.1**
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**18 32 23.2**	**-0.5**
	comp=Z,1.7nm,0.6s,mb3.9,baz=96,slow=7.8,SNR=7.3						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**18 32 23.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	**P**	**18 34 54.9**	**-2.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=49,slow=5.9,SNR=10						
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	**P**	**18 34 54.9**	**-2.1**
YKA	**Yellowknife Ar**	**81.32**	**3**	P	**P**	**18 36 27.3**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.1,baz=352,slow=5.2,SNR=5.4						
YKA	**Yellowknife Ar**	**81.32**	**3**	P	**P**	**18 36 27.3**	**+0.4**
WRA	**Warramunga Arr**	**81.87**	**122**	P	**P**	**18 36 29.5**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.5,baz=325,slow=5.0,SNR=8.1						
WRA	**Warramunga Arr**	**81.87**	**122**	P	**P**	**18 36 29.5**	**-0.8**
WRAB	**Tennant Creek**	**81.88**	**122**	*e*P	**P**	**18 36 29.8**	**-0.5**
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**18 36 41.2**	**-0.7**
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**18 36 41.2**	**-0.7**

*ISCJB **29** 18:24:40.0±0.3, 46°.49N±0°.02×10°.56E±0°.02, h10km, Error ellipse: s-maj=2.8km s-min=2.1km az=28.8*
*VIE **29** 18:24:40.0±0.2, 46°.48N×10°.56E, h10km±1km, mb2.0/7, ML2.2/10, Error ellipse: s-maj=1.6km s-min=1.2km az=179.0 14 km E of Bormio*
*ROM **29** 18:24:40.3±0.1, 46°.49N×10°.54E, h10km±1km, Md2.1/10, Ml2.0/5, Error ellipse: s-maj=2.3km s-min=1.0km az=153.0*
*CSEM **29** 18:24:40.2±0.1, 46°.49N×10°.57E, h5km, ML2.9/7, Error ellipse: s-maj=1.7km s-min=1.3km az=22.0*
*ZUR **29** 18:24:40.3, 46°.46N×10°.52E, h10km±3km, ML2.1/3*
ISC 29 18:24:40.7±0.3,**46°.49N**±0°.02×**10°.57E**±0°.03,**h4**km±5km,
n60,σ0**66/98,18C-6D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRMO	**Bormio**	**0.13**	**266**	⇑*i*Pg	**Pg**	**18 24 43.8**	**+0.4**
BRMO				Sg	**Sg**	**18 24 45.7**	**+0.6**
	644nm,0.1s						
BRMO	**Bormio**	**0.13**	**266**	⇑*i*Pg	**Pg**	**18 24 43.8**	**+0.4**
BRMO				Sg	**Sg**	**18 24 45.7**	**+0.6**
	644nm,0.1s						
FUORN	**Ofenpass-Fuorn**	**0.25**	**303**	⇑*i*Pg	**Pg**	**18 24 45.7**	**+0.1**
	544nm,0.3s						
FUORN				*e*Sg	**Sg**	**18 24 49.3**	**+0.5**
	544nm,0.3s						
FUORN	**Ofenpass-Fuorn**	**0.25**	**303**	⇑*i*Pg	**Pg**	**18 24 45.7**	**+0.1**
FUORN				Sg	**Sg**	**18 24 49.5**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**0.25**	**303**	⇑*i*Pg	**Pg**	**18 24 45.7**	**+0.1**
	544nm,0.3s						
FUORN				*e*Sg	**Sg**	**18 24 49.3**	**+0.5**
	544nm,0.3s						
BERNI	**Berninapass**	**0.38**	**259**	⇑*i*Pg	**Pg**	**18 24 48.0**	**-0.1**
	344nm,0.1s						
BERNI	**Berninapass**	**0.38**	**259**	⇑*i*Pg	**Pg**	**18 24 48.0**	**-0.1**
BERNI				Sg	**Sg**	**18 24 53.3**	**+0.2**
BERNI	**Berninapass**	**0.38**	**259**	⇑*i*Pg	**Pg**	**18 24 48.0**	**-0.1**
	344nm,0.1s						
BERNI				Sg	**Sg**	**18 24 53.3**	**+0.2**
MABI	**Malga Bissina**	**0.43**	**185**	Pg	**Pg**	**18 24 48.8**	**-0.2**
	54nm,0.3s						
MABI	**Malga Bissina**	**0.43**	**185**	Pg	**Pg**	**18 24 48.8**	**-0.2**
	54nm,0.3s						
APPI	**Appiano**	**0.46**	**90**	Pg	**Pg**	**18 24 49.6**	**+0.1**
APPI	**Appiano**	**0.46**	**90**	Pg	**Pg**	**18 24 49.6**	**+0.1**
RNI	**Roncone**	**0.51**	**174**	⇓*e*Pg	**Pg**	**18 24 50.4**	**-0.1**
RNI				*e*Sg	**Sg**	**18 24 56.5**	**-0.5**
RNI	**Roncone**	**0.51**	**174**	*e*Pg	**Pg**	**18 24 50.3**	**-0.1**
RNI				*e*Sg	**Sg**	**18 24 56.5**	**-0.5**
FETA	**Feichten**	**0.55**	**12**	⇑*e*Pg	**Pg**	**18 24 51.2**	**-0.1**
	SNR=16						
FETA				⇑*i*Sg	**Sg**	**18 24 58.4**	**0.0**
FETA	**Feichten**	**0.55**	**12**	Pg	**Pg**	**18 24 51.2**	**-0.1**
	SNR=16						
FETA				Sg	**Sg**	**18 24 58.4**	**0.0**
DAVOX	**Davos/Dischmat**	**0.56**	**302**	*e*Pg	**Pg**	**18 24 50.8**	**-0.7**
	93nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.56**	**302**	Pg	**Pg**	**18 24 51.3**	**-0.1**
DAVOX				Sg	**Sg**	**18 24 59.2**	**+0.5**
DAVOX	**Davos/Dischmat**	**0.56**	**302**	Pg	**Pg**	**18 24 51.3**	**-0.1**
DAVOX				Sg	**Sg**	**18 24 59.2**	**+0.5**
PANI	**Panarotta**	**0.67**	**130**	*e*Pg	**Pg**	**18 24 54.4**	**+0.7**
PANI				*e*Sg	**Sg**	**18 25 03.1**	**+0.7**
PANI	**Panarotta**	**0.67**	**130**	*e*Pg	**Pg**	**18 24 54.3**	**+0.7**
PANI				*e*Sg	**Sg**	**18 25 03.1**	**+0.7**
DDS	**Dosso del Somm**	**0.74**	**144**	⇓*e*Pg	**Pg**	**18 24 54.9**	**0.0**
DDS				*e*Sg	**Sg**	**18 25 05.0**	**+0.4**
DDS	**Dosso del Somm**	**0.74**	**144**	*e*Pg	**Pg**	**18 24 54.9**	**-0.1**
DDS				*e*Sg	**Sg**	**18 25 05.0**	**+0.4**
VDL	**Val di Lei**	**0.77**	**270**	⇑*i*Pg	**Pg**	**18 24 51.2**	**-4.3**
	80nm,0.2s						
TUE	**Stuetta**	**0.84**	**270**	Pg	**Pg**	**18 24 55.7**	**-1.2**
TUE				Sg	**Sg**	**18 25 07.7**	**-0.1**
	22nm,0.2s						
TUE	**Stuetta**	**0.84**	**270**	Pg	**Pg**	**18 24 55.7**	**-1.2**
TUE				Sg	**Sg**	**18 25 07.7**	**-0.1**
	22nm,0.2s						
CTI	**Castel Tesino**	**0.87**	**120**	Pg	**Pg**	**18 24 57.2**	**-0.2**
CTI				Sg	**Sg**	**18 25 08.9**	**+0.3**
	56nm,0.2s						
CTI	**Castel Tesino**	**0.87**	**120**	Pg	**Pg**	**18 24 57.2**	**-0.2**
CTI				Sg	**Sg**	**18 25 08.9**	**+0.3**
	56nm,0.2s						
ROVR	**Rover˜¤ Verone**	**0.91**	**157**	Pg	**Pg**	**18 24 58.1**	**0.0**
ROVR				Sg	**Sg**	**18 25 10.2**	**+0.3**
ROVR	**Rover˜¤ Verone**	**0.91**	**157**	Pg	**Pg**	**18 24 58.1**	**0.0**
ROVR				Sg	**Sg**	**18 25 10.2**	**+0.3**
MDI	**Monti di Nese**	**0.92**	**220**	Pg	**Pg**	**18 24 58.1**	**-0.3**
MDI	**Monti di Nese**	**0.92**	**220**	Pg	**Pg**	**18 24 58.1**	**-0.3**
DAVA	**Damuels**	**0.93**	**330**	⇑*i*Pg	**Pg**	**18 24 57.6**	**-1.0**
DAVA				⇓*i*Sg	**Sg**	**18 25 11.0**	**+0.3**
	28nm,0.3s						
DAVA	**Damuels**	**0.93**	**330**	Pg	**Pg**	**18 24 57.6**	**-1.0**
DAVA				Sg	**Sg**	**18 25 11.0**	**+0.4**
	28nm,0.3s						
MOTA	**Moosalm**	**0.94**	**23**	*e*Pg	**Pg**	**18 24 58.3**	**-0.4**
	SNR=15						
MOTA				⇑*i*Sg	**Sg**	**18 25 10.7**	**-0.2**
	2.4nm,0.1s						
MOTA	**Moosalm**	**0.94**	**23**	Pg	**Pg**	**18 24 58.3**	**-0.4**
	SNR=15						
MOTA				Sg	**Sg**	**18 25 10.7**	**-0.1**
	2.4nm,0.1s						
AGOR	**Agordo**	**1.04**	**101**	*e*Pg	**Pg**	**18 25 00.5**	**-0.3**
AGOR	**Agordo**	**1.04**	**101**	Pg	**Pg**	**18 25 00.4**	**-0.3**
AGOR				Sg	**Sg**	**18 25 14.1**	**-0.2**
	28nm,0.6s						
AGOR	**Agordo**	**1.04**	**101**	Pg	**Pg**	**18 25 00.4**	**-0.3**
AGOR				Sg	**Sg**	**18 25 14.1**	**-0.2**
	28nm,0.6s						
CGRP	**Cima Grappa**	**1.05**	**125**	*e*Pg	**Pg**	**18 25 01.0**	**+0.2**
CGRP				*e*Sg	**Sg**	**18 25 14.2**	**-0.2**
CGRP	**Cima Grappa**	**1.05**	**125**	*e*Pg	**Pg**	**18 25 01.0**	**+0.2**
CGRP				*e*Sg	**Sg**	**18 25 14.2**	**-0.2**
AFL	**Alpe Faloria**	**1.11**	**87**	⇓*e*Pg	**Pg**	**18 25 01.8**	**-0.3**
AFL	**Alpe Faloria**	**1.11**	**87**	*e*Pg	**Pg**	**18 25 01.8**	**-0.3**
VARN	**Col Varnada, M**	**1.18**	**114**	*e*Pg	**Pg**	**18 25 02.3**	**-0.9**
VARN	**Col Varnada, M**	**1.18**	**114**	*e*Pg	**Pg**	**18 25 02.3**	**-0.9**
CIMO	**Cimolais**	**1.31**	**97**	⇓*e*Pg	**Pn**	**18 25 05.0**	**-0.8**
CIMO	**Cimolais**	**1.31**	**97**	*e*Pg	**Pn**	**18 25 05.0**	**-0.8**
ABTA	**Abfaltersbach**	**1.37**	**78**	⇓*e*Pn	**Pn**	**18 25 05.4**	**-1.2**
	SNR=20						
ABTA				⇑*i*Pg	**Pg**	**18 25 06.2**	**-0.7**
ABTA				⇑*i*Sn	**Sn**	**18 25 24.4**	**-0.7**
ABTA	**Abfaltersbach**	**1.37**	**78**	Pn	**Pn**	**18 25 05.4**	**-1.2**
	SNR=20						
POLC	**Polcenigo**	**1.42**	**108**	*e*Pg	**Pn**	**18 25 07.9**	**+0.6**
ZOU	**Zoufplan**	**1.66**	**87**	*e*Pg	**Pn**	**18 25 11.7**	**+1.0**
FUSE	**Fusea**	**1.69**	**92**	⇓*e*Pg	**Pn**	**18 25 12.3**	**+1.3**
FUSE	**Fusea**	**1.69**	**92**	*e*Pg	**Pn**	**18 25 12.3**	**+1.3**
VINO	**Villanova**	**1.89**	**96**	*e*Pn	**Pb**	**18 25 15.6**	**-0.3**
VINO				*e*Sn	**Sb**	**18 25 40.6**	**+0.7**
VINO	**Villanova**	**1.89**	**96**	*e*Pn	**Pb**	**18 25 15.6**	**-0.3**
VINO				*e*Sn	**Sb**	**18 25 40.6**	**+0.7**
KBA	**Koelnbreinsper**	**2.00**	**72**	⇑*e*Pn	**Pn**	**18 25 14.0**	**-1.3**
	SNR=13						
KBA				⇑*i*Sn	**Sn**	**18 25 40.7**	**-0.1**
KBA	**Koelnbreinsper**	**2.00**	**72**	Pn	**Pn**	**18 25 14.0**	**-1.3**
	SNR=13						
KBA				Sn	**Sn**	**18 25 40.7**	**-0.1**
ACOM	**Acomizza, Ital**	**2.04**	**87**	*e*Pn	**Pn**	**18 25 18.4**	**+2.5**
ACOM	**Acomizza, Ital**	**2.04**	**87**	*e*Pn	**Pn**	**18 25 18.4**	**+2.6**
KHC	**Kasperske Hory**	**3.34**	**36**	*e*PN	**Pg**	**18 25 44.5**	**-0.1**
KHC				*ex*	x	18 26 15.5	
KHC				*e*SN	**Sg**	**18 26 29.0**	**+1.2**

*IDC **29** 18:28:27.3±1.1, 13°.25N×120°.11E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, MS4.2/3, Ms1 4.2/3, ms1mx3.0/41, Error ellipse: s-maj=24.1km s-min=12.9km az=118.0*
*ISCJB **29** 18:28:30.1±0.8, 13°.26N±0°.09×120°.2E±0°.2, h33km, mb3.8/6, MS4.3/3, Error ellipse: s-maj=25.7km s-min=12.2km az=170.4*
*NEIC **29** 18:28:32.2±0.6, 13°.33N×120°.34E, h35km, mb3.9/2, Error ellipse: s-maj=20.9km s-min=9.0km az=80.0*
ISC 29 18:28:32.4±0.8,**13°.32N**±0°.09×**120°.4E**±0°.2,**h35**km,**n16,**
σ0**26/13,mb3.8/6,MS4.3/3,Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.96**	**36**	Pg	**Pn**	**18 28 49.5**	**+0.1**
	270nm,0.3s,baz=179,slow=20,SNR=14						
TGY				Lg		18 29 06.2	
	269nm,0.3s,baz=194,slow=19,SNR=10						
TGY	**Tagaytay City**	**0.96**	**36**	Pg	**Pn**	**18 28 49.5**	**+0.1**
TGY				Lg		18 29 06.2	
WRAB	**Tennant Creek**	**35.80**	**157**	*e*P	**P**	**18 35 28.4**	**-0.1**
	1.0nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**35.81**	**157**	P	**P**	**18 35 28.4**	**-0.1**
	0.6nm,0.4s,mb3.9,baz=332,slow=9.9,SNR=15						
WRA	**Warramunga Arr**	**35.81**	**157**	P	**P**	**18 35 28.4**	**-0.1**
WB2	**Warramunga Arr**	**35.81**	**157**	*e*P	**P**	**18 35 28.3**	**-0.3**
ULN	**Ulaanbaatar**	**36.18**	**345**	*e*P	**P**	**18 35 31.4**	**-0.1**
	0.4nm,0.4s,mb3.7						
SONM	**Songino Array**	**36.32**	**344**	P	**P**	**18 35 32.5**	**-0.2**
	0.4nm,0.5s,mb3.6,baz=170,slow=9.8,SNR=6.7						
SONM	**Songino Array**	**36.32**	**344**	P	**P**	**18 35 32.5**	**-0.2**
ASAR	**Alice Springs**	**39.08**	**160**	P	**P**	**18 35 56.8**	**+0.6**
	0.8nm,0.6s,mb3.6,baz=338,slow=6.9,SNR=25						
ASAR	**Alice Springs**	**39.08**	**160**	P	**P**	**18 35 56.8**	**+0.6**
KURK	**Kurchatov**	**50.31**	**327**	P	**P**	**18 37 25.7**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=133,slow=8.1,SNR=5.4						
KURK	**Kurchatov**	**50.31**	**327**	*e*P	**P**	**18 37 25.7**	**+0.2**
ASF	**Jabal al Asfar**	**77.56**	**300**	LR	LR	19 17 58.0	
	comp=Z,161nm,18.4s,MS4.4,baz=167,slow=38						
BRTR	**Keskin Array B**	**79.11**	**308**	LR	LR	19 20 33.5	
	comp=Z,179nm,18.9s,MS4.4,baz=105,slow=40						
EIL	**Elat**	**79.59**	**298**	LR	LR	19 17 18.7	
	comp=Z,79nm,18.6s,MS4.1,baz=272,slow=37						

*IDC **29** 18:29:37.0±8.5, 29°.59N×137°.21E, h338km±163km, mb2.6/3, mb1 2.7/4, mb1mx2.5/24, mbtmp2.5/4, Error ellipse: s-maj=272.3km s-min=27.0km az=67.0*
*ISCJB **29** 18:29:39.8±0.7, 30°.18N±0°.09×139°.2E±0°.3, h461km±15km, mb2.7/3, Error ellipse: s-maj=38.1km s-min=10.5km az=165.8*
*JMA **29** 18:29:42.0±0.3, 30°.49N×139°.13E, h475km, M2.9*
ISC 29 18:29:41.0±0.7,**30°.20N**±0°.09×**139°.3E**±0°.3,**h457**km±16km,
n12,σ0**92/15,mb2.7/3,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.93**	**8**	P	**P**	**18 30 49.3**	**+1.4**
CBIJ	**Chichi jima**	**4.00**	**140**	S	**S**	**18 31 56.8**	**-1.2**
	baz=287,slow=20						
BSO1	**Boso 1**	**4.66**	**17**	P	**P**	**18 31 03.4**	**+1.1**
BSO1				*e*S	**S**	**18 32 09.4**	**+0.7**
JRY	**Ryogami san**	**5.81**	**357**	P	**P**	**18 31 13.8**	**+0.4**
JWT	**Wachi**	**6.04**	**328**	P	**P**	**18 31 15.4**	**-0.4**
JAG	**Ashikaga**	**6.21**	**1**	P	**P**	**18 31 16.6**	**-0.9**
JAG				*e*S	**S**	**18 32 31.1**	**-5.4**
JNG	**Nsakai**	**6.27**	**351**	P	**P**	**18 31 18.4**	**+0.3**
MJAR	**Matsushiro Arr**	**6.39**	**352**	P	**P**	**18 31 18.7**	**-0.6**
	0.2nm,0.3s,baz=177,slow=11,SNR=4.1						
JHO	**Hitachi**	**6.48**	**9**	P	**P**	**18 31 21.3**	**+1.0**
JHO				*e*S	**S**	**18 32 39.7**	**-1.9**
KURK	**Kurchatov**	**49.02**	**313**	P	**P**	**18 37 43.7**	**-0.8**
	0.4nm,1.0s,mb2.7,baz=108,slow=8.9,SNR=2.9						
WRA	**Warramunga Arr**	**50.08**	**186**	P	**P**	**18 37 53.0**	**+0.3**
	0.4nm,0.7s,mb2.9,baz=1.7,slow=7.9,SNR=6.2						
ASAR	**Alice Springs**	**53.81**	**186**	P	**P**	**18 38 20.2**	**+0.5**
	0.1nm,0.4s,mb2.5,baz=360,slow=5.9,SNR=4.7						

IDC 29 18:38:04.4±4.8,**2°.32S**×**139°.55E,h0**km,**mb3.2**/2,
mb1 3.4/3,**mb1mx3.3**/13,**mbtmp3.3**/3,**ML3.3**/1,**Error ellipse: s-maj=191.7km s-min=28.7km az=88.0,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.24**	**196**	P	Pn	18 42 19.7	+0.6
	0.1nm,0.3s,baz=18,slow=12,SNR=13						
ASAR	**Alice Springs**	**21

SNR=23
AJM Ajmer 9.76 70 *e*PKP **Pn 19 00 52.0 -0.5**
AJM *ex* x 19 02 51.0
POO Poona 10.03 117 *e*PKP **Pn 19 00 56.3 -0.1**
POO AMb AMB 19 01 06.0
comp=Z,17nm,0.5s
POO *e*S **Sn 19 02 40.7 -8.4**
IDAH Dahanechah 10.14 338 *e*P **Pn 19 00 54.8 -3.1**
IKOO Kooshah 10.20 333 *e*P **Pn 19 00 55.6 -3.0**
ITEG Tejag 10.71 333 *e*P **Pn 19 01 02.6 -3.0**
KAD Karad 10.96 122 *e*PKP **Pn 19 01 08.8 -0.3**
KAD AMb AMB 19 01 24.5
comp=Z,26nm,0.6s
RBK Rabkut 11.24 240 P **Pn 19 01 13.2 +0.3**
SNR=104
RBK P 19 01 13.5
SNR=28
RBK Rabkut 11.24 240 P **Pn 19 01 13.2 +0.3**
SNR=104
IBAF Bafgh 11.34 318 *e*P **Pn 19 01 12.7 -1.5**
IBAF Bafgh 11.34 318 *e*P **Pn 19 01 12.7 -1.5**
THW Thamme Wali 11.36 33 P **Pn 19 01 12.5 -2.0**
ISRV Sarvestan 11.77 303 *e*P **Pn 19 01 17.3 -2.8**
IMEH Mehriz 11.81 315 *e*P **Pn 19 01 17.7 -3.0**
KBL Kabul 11.81 19 *e*P **Pn 19 01 19.4 -1.3**
comp=Z,33nm,1.0s
KBL Kabul 11.81 19 *e*P **Pn 19 01 19.4 -1.3**
KBL pmax pmax
comp=Z,33nm,1.0s
KBL Kabul 11.81 19 *e*P **Pn 19 01 19.4 -1.3**
comp=Z,33nm,1.0s
BHPL Bhopal 11.93 88 *e*PKP **Pn 19 01 22.0 -0.4**
IPAR Pars 12.04 305 *e*P **Pn 19 01 21.8 -2.0**
IPAR Pars 12.04 305 *e*P **Pn 19 01 21.8 -2.0**
ABTO Aybut 12.05 242 P **Pn 19 01 22.4 -1.7**
SNR=58
ABTO P 19 01 23.9
SNR=11
ABTO Aybut 12.05 242 P **Pn 19 01 23.9 -0.1**
SNR=11
CEP Cherat 12.28 31 P **Pn 19 01 25.0 -2.1**
CEP S **Sn 19 03 42.0 -2.1**
ICHK Chekchek 12.50 317 *e*P **Pn 19 01 28.1 -2.0**
ICHK Chekchek 12.50 317 *e*P **Pn 19 01 28.1 -2.0**
NDI New Delhi 12.63 63 *e*PKP **Pn 19 01 30.9 -1.1**
NDI *e*S **Sn 19 03 41.1 -12**
CHCP Chirah Chowk 12.83 35 P **Pn 19 01 31.9 -2.7**
BHK Bhakra 13.30 50 *e*PKP **Pn 19 01 37.8 -3.2**
IMOG Moghan 13.42 342 *e*P **Pn 19 01 40.3 -2.3**
IMOG Moghan 13.42 342 *e*P **Pn 19 01 40.3 -2.3**
IMYA Miami 13.44 345 *e*P **Pn 19 01 39.7 -3.2**
SMLA Simla 13.68 53 *i* P **Pn 19 01 44.5 -1.8**
SMLA *i* x x 19 04 07.2
NGP Nagpur 13.71 97 *e*PKP **Pn 19 01 42.7 -4.0**
NGP *ex* x 19 01 52.6
comp=Z,38nm,1.3s
NGP *e*S **Sn 19 04 17.2 -1.9**
DDI Dehra Dun 13.97 57 *e*PKP **Pn 19 01 48.0 -2.2**
DDI *ex* x 19 04 14.0
IAKL Akhelmad 14.05 341 *e*P **Pn 19 01 51.9 +0.7**
IAKL Akhelmad 14.05 341 *e*P **Pn 19 01 51.9 +0.7**
IZEF Zefreh 14.26 314 *e*P **Pn 19 01 54.2 +0.1**
IKRD Kardeh 14.28 340 *e*P **Pn 19 01 47.7 -6.7**
HYB Hyderabad 14.50 112 *i* P **Pn 19 01 54.5 -3.0**
HYB *e*S **Sn 19 04 40.0 +1.5**
ISFR Sfrayin 14.70 339 *e*P **Pn 19 02 08.2 +8.1**
ISFR Sfrayin 14.70 339 *e*P **Pn 19 02 08.2 +8.1**
IKLH Kolahrood 15.02 314 *e*P **Pn 19 02 06.4 +1.9**
IPIR Pirpir 15.11 311 *e*P **Pn 19 02 06.4 +0.7**
QRN Al-Qurain 15.77 293 *e*P **Pn 19 02 11.9 -2.5**
QRN AMb AMB 19 02 14.4
comp=Z,152nm,0.6s
IKIA Kiasar 15.80 326 *e*P **Pn 19 02 16.7 +2.0**
IKIA Kiasar 15.80 326 *e*P **Pn 19 02 16.7 +2.0**
IFIR Firoozkooh 15.87 323 *e*P **Pn 19 02 16.3 +0.7**
KBD Kabd 16.08 295 *e*P **Pn 19 02 15.8 -2.6**
KBD AMb AMB 19 02 21.9
comp=Z,40nm,0.6s
KBD Kabd 16.08 295 *e*P **Pn 19 02 15.8 -2.6**
comp=Z,40nm,0.6s
RDF Al-Radifah 16.13 294 *e*P **Pn 19 02 16.8 -2.2**
RDF AMb AMB 19 02 32.2
comp=Z,171nm,0.8s
RDF Al-Radifah 16.13 294 *e*P **Pn 19 02 16.8 -2.2**
comp=Z,171nm,0.8s
IDMV Damavand 16.23 321 *e*P **Pn 19 02 21.0 +0.7**
NAY Al-Naaiem 16.48 294 *e*P **Pn 19 02 21.0 -2.4**
NAY AMb AMB 19 02 23.3
comp=Z,175nm,0.7s
NAY Al-Naaiem 16.48 294 *e*P **Pn 19 02 21.0 -2.5**
comp=Z,175nm,0.7s
KOLN Koldanda 17.82 72 *e*P **Pn 19 02 40.2 -0.1**
comp=Z,44nm,0.8s
KOLN Koldanda 17.82 72 *e*P **Pn 19 02 40.2 -0.1**
comp=Z,44nm,0.8s
KOLN Koldanda 17.82 72 *e*P **Pn 19 02 40.2 -0.1**
comp=Z,44nm,0.8s
DANN Dangsing 18.07 70 *e*P **Pn 19 02 43.4 0.0**
comp=Z,135nm,1.0s
DANN Dangsing 18.07 70 *e*P **Pn 19 02 43.4 0.0**
comp=Z,135nm,1.0s
DANN Dangsing 18.07 70 *e*P **Pn 19 02 43.4 0.0**
comp=Z,135nm,1.0s
MDRS Chennai 18.17 122 *ex* x 19 06 23.2
IKOM Komasi 18.29 310 *e*P **Pn 19 02 46.5 +0.5**
IKOM Komasi 18.29 310 *e*P **Pn 19 02 46.5 +0.5**
GKN Gorkha 18.77 72 *e*P **Pn 19 02 52.1 +0.2**
comp=Z,38nm,0.8s
GKN Gorkha 18.77 72 *e*P **Pn 19 02 52.1 +0.2**
comp=Z,38nm,0.8s
GKN Gorkha 18.77 72 *e*P **Pn 19 02 52.1 +0.2**
comp=Z,38nm,0.8s
IVIS Veis 18.94 310 *e*P **Pn 19 02 53.4 -0.6**
IVIS Veis 18.94 310 *e*P **Pn 19 02 53.4 -0.6**
TRD Trivandrum 19.05 139⇑ *ex* x 19 06 49.0
DMN Daman 19.12 73 *e*P **Pn 19 02 55.5 -0.6**
comp=Z,77nm,0.9s
DMN Daman 19.12 73 *e*P **Pn 19 02 55.5 -0.6**
comp=Z,77nm,0.9s
DMN Daman 19.12 73 *e*P **Pn 19 02 55.5 -0.6**
comp=Z,77nm,0.9s
KKN Kakani 19.30 73 *e*P **Pn 19 02 59.0 +0.7**
comp=Z,38nm,0.6s
KKN Kakani 19.30 73 *e*P **Pn 19 02 59.0 +0.7**
comp=Z,38nm,0.6s
KKN Kakani 19.30 73 *e*P **Pn 19 02 59.0 +0.7**
KKN pmax pmax
comp=Z,38nm,0.6s
KKN Kakani 19.30 73 *e*P **Pn 19 02 59.0 +0.7**
comp=Z,38nm,0.6s
IDHR Dehrash 19.36 310 *e*P **Pn 19 02 58.3 -0.7**
IDHR Dehrash 19.36 310 *e*P **Pn 19 02 58.3 -0.7**
PKI Pulchoki 19.38 73 *e*P **Pn 19 02 59.3 0.0**
comp=Z,63nm,0.9s
PKI Pulchoki 19.38 73 *e*P **Pn 19 02 59.3 0.0**
comp=Z,63nm,0.9s
PKI Pulchoki 19.38 73 *e*P **Pn 19 02 59.3 0.0**
PKI pmax pmax
comp=Z,63nm,0.9s
PKI Pulchoki 19.38 73 *e*P **Pn 19 02 59.3 0.0**
comp=Z,63nm,0.9s
GUN Gumba 19.84 72 *e*P **Pn 19 03 04.9 +0.1**
comp=Z,153nm,0.9s
GUN Gumba 19.84 72 *e*P **Pn 19 03 04.9 +0.1**
comp=Z,153nm,0.9s
GUN Gumba 19.84 72 *e*P **Pn 19 03 04.9 +0.1**
comp=Z,153nm,0.9s
JIRN Jiri 20.08 73 *e*P **P 19 03 07.6 +1.8**
comp=Z,15nm,0.6s
JIRN Jiri 20.08 73 *e*P **P 19 03 07.6 +1.8**
comp=Z,15nm,0.6s
JIRN Jiri 20.08 73 *e*P **P 19 03 07.6 +1.8**
comp=Z,15nm,0.6s
BHD Baghdad 20.18 304 *ex* **P 19 03 04.5 -2.4**
BHD *ex* x 19 06 46.0
BHD Baghdad 20.18 304 *e*P **P 19 03 04.5 -2.4**
AML Almayashu 20.22 20 P **P 19 03 08.0 +0.8**
SNR=17
AML P 19 03 08.0
SNR=17
KK31 Karatay Array 20.29 13 *i* P **P 19 03 07.9 -0.1**
KK31 pmax pmax
comp=Z,51nm,1.0s
KK31 Karatay Array 20.29 13 *i* P **P 19 03 07.9 -0.1**
comp=Z,51nm,1.0s
KKAR Karatay Array 20.29 13 *e*P **P 19 03 07.3 -0.7**
comp=Z,13nm,0.6s
KKAR Karatay Array 20.29 13 *e*P **P 19 03 07.3 -0.7**
KKAR pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 20.29 13 *e*P **P 19 03 07.3 -0.7**
comp=Z,13nm,0.6s
RAMN Ramite 20.36 75 *e*P **P 19 03 10.0 +1.1**
comp=Z,52nm,0.7s
RAMN Ramite 20.36 75 *e*P **P 19 03 10.0 +1.1**
comp=Z,52nm,0.7s
RAMN Ramite 20.36 75 *e*P **P 19 03 10.0 +1.1**
comp=Z,52nm,0.7s
UCH Uchtor 20.57 22 P **P 19 03 13.7 +2.6**
SNR=5.5
UCH P 19 03 13.7
SNR=5.5
KZA Kyzart 20.70 23 P **P 19 03 13.5 +1.1**
SNR=15
KZA P 19 03 13.5
SNR=15
EKS2 Erkin-Say 20.72 20 P **P 19 03 14.3 +1.7**
SNR=25
EKS2 P 19 03 14.3
SNR=25
EKS2 Erkin-Say 20.72 20 *e*P **P 19 03 14.0 +1.3**
comp=Z,23nm,0.7s
EKS2 Erkin-Say 20.72 20 *e*P **P 19 03 14.0 +1.3**
EKS2 pmax pmax
comp=Z,23nm,0.7s
EKS2 Erkin-Say 20.72 20 *e*P **P 19 03 14.0 +1.3**
comp=Z,23nm,0.7s
AAK Ala-Archa 20.93 21 P **P 19 03 17.4 +2.5**
SNR=20
AAK P 19 03 17.4
SNR=20
AAK Ala-Archa 20.93 21 *e*P **P 19 03 14.3 -0.5**
comp=Z,93nm,0.6s
AAK Ala-Archa 20.93 21 *c i*P **P 19 03 15.3 +0.4**
AAK pmax pmax
comp=Z,113nm,1.2s
AAK MLR MLR
comp=Z,346nm,14.0s,MS3.9
AAK Ala-Archa 20.93 21 P **P 19 03 15.4 +0.6**
SNR=26
AAK Ala-Archa 20.93 21 P **P 19 03 15.4 +0.5**
SNR=26
IHRS Heris 21.02 319 *e*P **P 19 03 17.4 +1.4**
IHRS Heris 21.02 319 *e*P **P 19 03 17.4 +1.4**
ODAN Odare 21.06 76 *e*P **P 19 03 18.1 +1.6**
comp=Z,78nm,0.7s,mb5.2
ODAN Odare 21.06 76 *e*P **P 19 03 18.1 +1.6**
comp=Z,78nm,0.7s,mb5.2
ODAN Odare 21.06 76 *e*P **P 19 03 18.1 +1.6**
comp=Z,78nm,0.7s,mb5.2
KBK Karagaybulak 21.10 22 P **P 19 03 17.8 +1.1**
SNR=31
KBK P 19 03 17.8
SNR=31
FRU Bishkek 21.15 21 *e*P **P 19 03 18.0 +0.8**
FRU *e* 19 03 38.0
FRU pmax pmax
comp=Z,160nm,1.8s,mb5.0
FRU Bishkek 21.15 21 *e*P **P 19 03 18.0 +0.8**
comp=Z,160nm,1.8s,mb5.0
ULHL Ulahol 21.21 25 P **P 19 03 19.7 +1.8**
SNR=6.7
ULHL P 19 03 19.7
SNR=6.7
CHMS Chumysh 21.34 21 P **P 19 03 19.6 +0.3**
SNR=15
CHMS P 19 03 19.6
SNR=15
TAPN Taplejung 21.38 75 *e*P **P 19 03 21.5 +1.5**
comp=Z,100nm,0.9s,mb5.2
TAPN Taplejung 21.38 75 *e*P **P 19 03 21.5 +1.5**
comp=Z,100nm,0.9s,mb5.2
TAPN Taplejung 21.38 75 *e*P **P 19 03 21.5 +1.5**
comp=Z,100nm,0.9s,mb5.2
USP Ospenovka 21.50 20 P **P 19 03 21.3 +0.3**
SNR=20
USP P 19 03 21.3
SNR=20
TKM2 Tokmak 2 21.56 23 P **P 19 03 28.7 +7.0**
SNR=6.2
TKM2 P 19 03 28.7
SNR=6.2
TKM2 Tokmak 2 21.56 23 *e*P **P 19 03 21.5 -0.2**
comp=Z,30nm,0.9s,mb4.7
TKM2 Tokmak 2 21.56 23 *e*P **P 19 03 21.5 -0.2**
TKM2 pmax pmax
comp=Z,30nm,0.9s,mb4.7
TKM2 Tokmak 2 21.56 23 *e*P **P 19 03 21.5 -0.2**
comp=Z,30nm,0.9s,mb4.7
IMRD Marand 22.09 318 *e*P **P 19 03 29.0 +1.6**
IMRD Marand 22.09 318 *e*P **P 19 03 29.0 +1.6**
GNI Garni 23.57 320 P **P 19 03 45.1 +2.1**
comp=Z,11nm,0.8s,mb4.4,baz=124,slow=2.7,SNR=13
GNI Garni 23.57 320 P **P 19 03 45.1 +2.1**
GNI Garni 23.57 320 P **P 19 03 45.2 +2.2**
GNI Garni 23.57 320 P **P 19 03 45.3 +2.3**
SNR=12
GNI Garni 23.57 320 P **P 19 03 45.2 +2.2**
ATD Arta Tunnel 23.70 244 P **P 19 03 47.2 +2.8**
comp=Z,8.5nm,0.8s,mb4.2,baz=117,slow=6.8,SNR=3.1
ATD LR LR 19 12 18.5
comp=Z,132nm,20.6s,MS3.4,baz=47,slow=35
ATD Arta Tunnel 23.70 244 P **P 19 03 47.2 +2.8**
ATD Arta Tunnel 23.70 244 P **P 19 03 47.2 +2.8**
MTA Mtatsminda 24.54 323 P **P 19 03 51.7 -0.2**
TBLG Delisi 24.60 323 *e*P **P 19 03 53.4 +1.0**
TBLG Delisi 24.60 323 P **P 19 03 53.4 +1.0**
TBLG Delisi 24.60 323 *e*P **P 19 03 53.4 +1.0**
LSA Lhasa 24.67 70 P **P 19 03 54.5 +1.3**
SHL Shillong 25.05 79 *ex* **P 19 04 00.0 +3.2**
SHL *ex* x 19 09 11.0
AKH Akhalkalaki 25.10 321 P **P 19 03 59.8 +2.8**
GOR Gori 25.12 322 P **P 19 03 59.3 +2.1**
ZEI Tsey 25.76 324 *e*P **P 19 04 07.3 +4.4**
ZEI pmax pmax
comp=Z,42nm,1.8s,mb4.7
ASF Jabal al Asfar 25.83 296 P **P 19 04 06.6 +2.8**
comp=Z,4.7nm,0.7s,mb4.2,baz=331,slow=6.2,SNR=6.5
ASF Jabal al Asfar 25.83 296 P **P 19 04 06.6 +2.8**
ASF Jabal al Asfar 25.83 296 P **P 19 04 06.6 +2.9**
ONI Oni 25.88 323 P **P 19 04 04.1 0.0**
AB31 Akbulak array 26.05 353 *i* P **P 19 04 06.1 +0.6**
AB31 pmax pmax
comp=Z,45nm,1.0s,mb5.0
AB31 Akbulak array 26.05 353 *i* P **P 19 04 06.1 +0.6**
comp=Z,45nm,1.0s,mb5.0
ABKAR Akbulak array 26.05 353 *e*P **P 19 04 06.0 +0.5**
comp=Z,37nm,0.9s,mb4.9
ABKAR Akbulak array 26.05 353 *e*P **P 19 04 06.0 +0.5**
comp=Z,37nm,0.9s,mb4.9
EIL Elat 27.07 290 P **P 19 04 17.9 +2.9**
comp=Z,2.9nm,0.7s,mb3.9,baz=113,slow=7.7,SNR=3.4
EIL Elat 27.07 290 P **P 19 04 17.9 +2.9**
KIV Kislovodsk 27.21 324 *e*P **P 19 04 17.8 +1.8**
comp=Z,110nm,1.2s,mb5.3
KIV Kislovodsk 27.21 324 *e*P **P 19 04 18.3 +2.3**
KIV *e*S **S 19 08 57.8 +3.0**
KIV pmax pmax
comp=Z,61nm,1.1s,mb5.0
KIV Kislovodsk 27.21 324 *e*P **P 19 04 17.8 +1.8**
comp=Z,110nm,1.2s,mb5.3
MMAI Mount Meron Ar 27.25 297 P **P 19 04 18.7 +2.1**
comp=Z,6.9nm,0.8s,mb4.2,baz=112,slow=6.4,SNR=2.9
MMAI Mount Meron Ar 27.25 297 P **P 19 04 18.7 +2.1**
MMAI Mount Meron Ar 27.25 297 P **P 19 04 18.7 +2.2**
MK31 Makanchi Array 27.41 27 *e*P **P 19 04 17.3 -0.5**
MK31 Makanchi Array 27.41 27 *i* P **P 19 04 17.1 -0.7**
MK31 pmax pmax
comp=Z,23nm,1.0s,mb4.7
MK31 Makanchi Array 27.41 27 *e*P **P 19 04 17.3 -0.5**
MKAR Makanchi Array 27.41 27 P **P 19 04 17.3 -0.5**
comp=Z,9.8nm,0.8s,mb4.4,baz=211,slow=8.7,SNR=24
MKAR LR LR 19 17 22.6
comp=Z,138nm,21.9s,MS3.5,baz=216,slow=41
MKAR Makanchi Array 27.41 27 P **P 19 04 17.3 -0.5**
MKAR Makanchi Array 27.41 27 *i* P **P 19 04 17.6 -0.2**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 27.41 27 *i* P **P 19 04 17.6 -0.2**
comp=Z,10.0nm,0.8s,mb4.4
AKTK Aktyubinsk 27.45 351 P **P 19 04 18.4 +0.3**
comp=Z,3.0nm,0.9s,mb3.8
AKTO Aktyubinsk 27.45 351 P **P 19 04 18.7 +0.5**
comp=Z,7.0nm,0.7s,mb4.3,baz=177,slow=7.3,SNR=20
AKTO LR LR 19 16 53.3
comp=Z,152nm,19.6s,MS3.6,baz=308,slow=40
AKTO Aktyubinsk 27.45 351 P **P 19 04 18.7 +0.5**
AKTO Aktyubinsk 27.45 351 P **P 19 04 18.4 +0.3**
AKTO pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
AKTO Aktyubinsk 27.45 351 P **P 19 04 18.7 +0.6**
WMQ Urumqi 27.94 38 *e*P **P 19 04 23.0 +0.4**
KURK Kurchatov 29.42 18 P **P 19 04 34.7 -0.9**
comp=Z,2.6nm,0.6s,mb4.1,baz=214,slow=8.8,SNR=37
KURK LR LR 19 18 59.0
comp=Z,345nm,20.3s,MS4.0,baz=215,slow=42
KURK Kurchatov 29.42 18 P **P 19 04 35.5 -0.2**
comp=Z,7.0nm,1.1s,mb4.3
KURK Kurchatov 29.42 18 P **P 19 04 35.5 -0.2**
KURK pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
KURK Kurchatov 29.42 18 P **P 19 04 36.0 +0.4**
SNR=6.5
KURK Kurchatov 29.42 18 P **P 19 04 36.0 +0.3**
SNR=6.5
ZRNK Zerenda 29.71 6 P **P 19 04 38.7 +0.5**
ZRNK pmax pmax
comp=Z,19nm,1.6s,mb4.6
ZRNK Zerenda 29.71 6 P **P 19 04 38.7 +0.5**
comp=Z,19nm,1.6s,mb4.6
BVAR Borovoye Array 29.93 7 P **P 19 04 41.1 +0.9**
comp=Z,2.0nm,0.7s,mb4.0,baz=176,slow=11,SNR=12
BVAR LR LR 19 19 09.5
comp=Z,428nm,19.9s,MS4.1,baz=48,slow=41
BVAR Borovoye Array 29.93 7 P **P 19 04 41.1 +0.9**
BVAR Borovoye Array 29.93 7 P **P 19 04 41.1 +1.0**
BVAR Borovoye Array 29.93 7 P **P 19 04 41.1 +1.0**
BRVK Borovoye 29.95 7 *e*P **P 19 04 39.7 -0.6**
comp=Z,5.5nm,0.8s,mb4.3
BRVK Borovoye 29.95 7 *e*P **P 19 04 39.7 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
BRVK Borovoye 29.95 7 *e*P **P 19 04 39.7 -0.6**
comp=Z,5.4nm,0.8s,mb4.3
BR131 Keskin Array S 30.69 309 *e*P **P 19 04 47.5 +0.5**
comp=Z,2.6nm,0.8s,mb4.1
BR131 Keskin Array S 30.69 309 *e*P **P 19 04 47.5 +0.5**
comp=Z,2.5nm,0.8s,mb4.1
BRTR Keskin Array B 30.69 309 P **P 19 04 47.5 +0.4**
comp=Z,3.1nm,0.7s,mb4.2,baz=116,slow=6.8,SNR=17
BRTR Keskin Array B 30.69 309 P **P 19 04 47.5 +0.4**
BRTR Keskin Array B 30.69 309 P **P 19 04 47.5 +0.5**
BRTR Keskin Array B 30.69 309 P **P 19 04 47.5 +0.5**
CHTO Chiang Mai 32.46 91 *e*P **P 19 05 03.7 +0.8**
comp=Z,4.9nm,0.8s,mb4.4
CHTO Chiang Mai 32.46 91 *e*P **P 19 05 03.7 +0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
CHTO Chiang Mai 32.46 91 P **P 19 05 04.6 +1.8**
SNR=7.6
CHTO Chiang Mai 32.46 91 *e*P **P 19 05 03.7 +0.8**
comp=Z,4.9nm,0.8s,mb4.4
CMAR Chiang Mai Arr 32.55 92 P **P 19 05 04.8 +1.2**
comp=Z,1.9nm,0.9s,mb4.0,baz=279,slow=9.2,SNR=12
CMAR PcP PcP 19 07 51.2 +0.8
comp=Z,0.7nm,0.8s,baz=289,slow=5.6,SNR=2.7
CMAR LR LR 19 17 46.2
comp=Z,142nm,20.6s,MS3.6,baz=130,slow=36
CMAR Chiang Mai Arr 32.55 92 P **P 19 05 04.8 +1.2**
CMAR PcP PcP 19 07 51.1 +0.8
CMAR Chiang Mai Arr 32.55 92 P **P 19 05 04.8 +1.2**
CMAR 19 07 51.2
CMAR Chiang Mai Arr 32.55 92 P **P 19 05 04.8 +1.2**
VRHR Novokhopersk 32.81 333 *e*P **P 19 05 05.3 -0.3**
VRHR pmax pmax
comp=N,6.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.7s
VRHR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
VRHR Novokhopersk 32.81 333 *e*P **P 19 05 05.3 -0.3**
ARU Arti 33.28 354 *e*P **P 19 05 10.0 +0.4**
comp=Z,7.8nm,0.8s,mb4.7
ARU Arti 33.28 354 *d i*P **P 19 05 11.7 +2.1**
ARU *e* 19 06 22.8
ARU PPP 19 06 33.5
ARU S **S 19 10 35.9 +6.2**
ARU pmax pmax
comp=Z,24nm,2.5s,mb4.7
ARU Arti 33.28 354 *e*P **P 19 05 10.0 +0.4**
comp=Z,7.8nm,0.8s,mb4.7
SVE Sverdlovsk 33.51 356⇑ *i*P **P 19 05 12.3 +0.7**
SVE pmax pmax
comp=Z,20nm,1.0s,mb5.0
SVE Sverdlovsk 33.51 356 *i* P **P 19 05 12.3 +0.7**
comp=Z,20nm,1.0s,mb5.0
GTA Gaotai 33.90 54 *e*P **P 19 05 15.8 +0.6**
GTA pP pP 19 05 20.0 +1.7
GTA sP sP 19 05 23.3 +3.8
GTA pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
GTA pmax pmax
comp=Z,70nm,5.0s
GTA LR LR
comp=N,270nm,13.5s,MS4.3
GTA LR LR
comp=E,310nm,14.2s,MS4.3
GTA LR LR
comp=Z,280nm,12.3s,MS4.2
VSR Storozhevoye 33.95 331 *e*P **P 19 05 15.9 +0.4**
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,9.0nm,0.7s
VSR pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
VSR Storozhevoye 33.95 331 *e*P **P 19 05 15.9 +0.4**
ZAA0 Zalesovo Array 34.15 22 *e*P **P 19 05 16.4 -0.8**
ZALV Zalesovo Beam 34.15 22 P **P 19 05 16.6 -0.5**
comp=Z,6.8nm,0.7s,mb4.7,baz=227,slow=9.9,SNR=31
ZALV LR LR 19 21 41.2
comp=Z,92nm,19.5s,MS3.5,baz=244,slow=41
ZALV Zalesovo Beam 34.15 22 P **P 19 05 16.6 -0.5**
ZALV Zalesovo Beam 34.15 22 P **P 19 05 16.7 -0.5**
ZALV Zalesovo Beam 34.15 22 P **P 19 05 16.7 -0.5**
NVS Novosibirsk 34.39 19 *e*P **P 19 05 18.6 -0.7**
NVS Novosibirsk 34.39 19 *e*P **P 19 05 18.6 -0.7**
LZH Lanzhou 36.24 60 *e*P **P 19 05 36.8 +1.4**
LZH pP pP 19 05 43.3 +4.8
LZH sP sP 19 05 47.3 +7.5
LZH pmax pmax
comp=Z,26nm,1.2s,mb5.0
LZH pmax pmax
comp=Z,100nm,4.1s
LZH LR LR
comp=N,290nm,14.3s,MS4.3
LZH LR LR
comp=E,200nm,12.4s,MS4.3
LZH LR LR
comp=Z,330nm,16.5s,MS4.2
SOKR Solikamsk 36.55 353⇓ *i*P **P 19 05 39.5 +1.8**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
SOKR MLR MLR
comp=Z,230nm,18.0s,MS4.0
SOKR Solikamsk 36.55 353 *i* P **P 19 05 39.5 +1.8**
comp=Z,230nm,18.0s
VRI Vrincioaia 37.79 316⇑ **P 19 05 49.6 +1.2**
VRI Vrincioaia 37.79 316⇑ *i*P **P 19 05 49.6 +1.2**
VRI Vrincioaia 37.79 316 P **P 19 05 49.6 +1.2**
PLOR Plostina 37.83 316⇑ P **P 19 05 50.2 +1.4**
PLOR Plostina 37.83 316⇑ *i*P **P 19 05 50.2 +1.4**
PLOR Plostina 37.83 316 P **P 19 05 50.2 +1.4**
OBN Obninsk 37.84 334⇓ *e*P **P 19 05 50.7 +2.0**
OBN *e**PP pP 19 05 56.0 +4.2
OBN *e* 19 07 14.4
OBN *e*SS SS 19 14 21.2 -4.4
OBN pmax pmax
comp=Z,15nm,1.7s,mb4.5
OBN MLR MLR
comp=Z,100nm,22.0s,MS3.6
OBN Obninsk 37.84 334 *e*P **P 19 05 50.7 +2.0**
comp=Z,15nm,1.7s,mb4.5
MLR Muntele Rosu 38.15 315 ⇓P **P 19 05 53.6 +2.1**
MLR Muntele Rosu 38.15 315 ⇓ *i*P **P 19 05 53.6 +2.1**
MLR Muntele Rosu 38.15 315 P **P 19 05 53.6 +2.1**

AKASG Malin Array Be 38.55 324 P **P 19 05 54.5 -0.3**
comp=Z,7.9nm,0.7s,mb4.6,baz=124,slow=7.5,SNR=21
AKASG Malin Array Be 38.55 324 P **P 19 05 54.5 -0.3**
AKASG Malin Array Be 38.55 324 *i* P **P 19 05 54.9 +0.1**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 38.55 324 *i* P **P 19 05 54.9 +0.1**
comp=Z,8.0nm,0.7s,mb4.6
AKBB Malin Array Si 38.55 324 *e*P **P 19 05 54.6 -0.3**
AKBB Malin Array Si 38.55 324 *e*P **P 19 05 54.6 -0.2**
AKBB Malin Array Si 38.55 324 *e*P **P 19 05 54.6 -0.2**
KIEV Kiev 38.56 324 *e*P **P 19 05 54.6 -0.3**
comp=Z,13nm,0.8s,mb4.7
KIEV Kiev 38.56 324 *e*P **P 19 05 54.6 -0.3**
KIEV pmax pmax
comp=Z,13nm,0.8s,mb4.7
KIEV Kiev 38.56 324 *e*P **P 19 05 54.6 -0.3**
comp=Z,13nm,0.8s,mb4.7
DOPR Dopca 38.69 315 ⇑*i*P **P 19 05 56.9 +0.9**
DOPR Dopca 38.69 315 ⇑*i*P **P 19 05 56.9 +0.9**
VOIR 38.71 314 ⇓P **P 19 05 56.6 +0.3**
VOIR 38.71 314 ⇓*i*P **P 19 05 56.5 +0.2**
VOIR 38.71 314 ⇓*i*P **P 19 05 56.5 +0.2**
VTS Vitosha 39.06 309 ⇓P **P 19 06 00.4 +1.2**
VTS Vitosha 39.06 309 ⇓*i*P **P 19 06 00.4 +1.2**
VTS Vitosha 39.06 309 ⇓*i*P **P 19 06 00.4 +1.2**
BURAR Bucovina Array 39.44 318 ⇑P **P 19 06 03.6 +1.3**
BURAR Bucovina Array 39.44 318 ⇑*i*P **P 19 06 03.6 +1.3**
BURAR Bucovina Array 39.44 318 ⇑*i*P **P 19 06 03.6 +1.3**
BUR08 Bucovina Ar. S 39.46 318 *e*P **P 19 06 03.1 +0.6**
MOY Mondy 39.78 35 *e*P **P 19 06 05.8 +0.7**
BARS Barje 40.11 309 *e*P **P 19 06 08.7 +0.7**
XAN Xi'an 40.15 64 P **P 19 06 07.8 -0.7**
XAN pP pP 19 06 14.5 +2.9
XAN pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
XAN pmax pmax
comp=Z,27nm,5.2s
BOLS Boljevac 40.29 311 *e*P **P 19 06 08.9 -0.5**
ZAK Zakamensk 40.41 38 *e*P **P 19 06 08.6 -1.7**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.0
DRGR 40.71 315 ⇑P **P 19 06 14.0 +1.1**
DRGR 40.71 315 ⇑*i*P **P 19 06 14.0 +1.1**
DRGR 40.71 315 ⇑*i*P **P 19 06 14.0 +1.1**
BZS Buzias 41.05 313 ⇓P **P 19 06 16.4 +0.7**
BZS Buzias 41.05 313 ⇓*i*P **P 19 06 16.4 +0.7**
BZS Buzias 41.05 313 ⇓*i*P **P 19 06 16.4 +0.7**
GRUS Gruza 41.17 311 *e*P **P 19 06 17.3 +0.6**
TLY Talaya 41.22 37 *e*P **P 19 06 17.8 +0.8**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
TLY MLR MLR
comp=Z,119nm,18.0s,MS3.8
KLMR Klimovskoe 41.22 342 *e*P **P 19 06 14.2 -2.7**
KLMR pmax pmax
comp=Z,56nm,1.5s,mb5.0
SONM Songino Array 41.23 43 P **P 19 06 17.9 +0.8**
comp=Z,4.3nm,1.0s,mb4.0,baz=247,slow=5.7,SNR=30
SONM LR LR 19 26 23.1
comp=Z,193nm,18.5s,MS4.0,baz=216,slow=41
SONM Songino Array 41.23 43 P **P 19 06 17.9 +0.8**
SONM Songino Array 41.23 43 P **P 19 06 17.9 +0.8**
TRPA Tarpa 41.30 317 ⇓*i*P **P 19 06 18.7 +1.0**
TRPA Tarpa 41.30 317 ⇓*i*P **P 19 06 18.7 +1.0**
IVAS Ivanjica 41.48 310 *e*P **P 19 06 20.1 +0.8**
UZH Uzhgorod 41.64 318 *e*P **P 19 06 21.3 +0.8**
UZH *i* 19 06 31.0
ULN Ulaanbaatar 41.65 43 *e*P **P 19 06 21.9 +1.3**
comp=Z,6.1nm,1.1s,mb4.1
ULN Ulaanbaatar 41.65 43 *e*P **P 19 06 21.9 +1.3**
ULN pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
DIVS Divibare 41.73 311 *e*P **P 19 06 21.7 +0.4**
KOLS Kolonicke sedl 41.77 318 *e*P **P 19 06 23.2 +1.7**
KOLS pmax pmax
comp=Z,13nm,0.9s,mb4.6
KOLS Kolonicke sedl 41.77 318 *e*P **P 19 06 23.2 +1.7**
KOLS Kolonicke sedl 41.77 318 *e*P **P 19 06 23.2 +1.7**
comp=Z,13nm,0.9s,mb4.5
CRVS Cervenica-Dubn 42.25 318 *e*P **P 19 06 26.1 +0.6**
CRVS pmax pmax
comp=Z,5.0nm,1.2s,mb4.0
CRVS Cervenica-Dubn 42.25 318 *e*P **P 19 06 26.1 +0.6**
CRVS Cervenica-Dubn 42.25 318 *e*P **P 19 06 26.1 +0.6**
comp=Z,4.7nm,1.2s,mb4.0
STHS Stebnicka Huta 42.57 319 *e*P **P 19 06 32.4 +4.3**
STHS pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
STHS Stebnicka Huta 42.57 319 *e*P **P 19 06 32.4 +4.3**
KECS Kecovo 42.71 317 *e*P **P 19 06 31.1 +1.9**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KECS Kecovo 42.71 317 *e*P **P 19 06 31.1 +1.9**
KECS Kecovo 42.71 317 *e*P **P 19 06 31.1 +1.9**
comp=Z,5.0nm,0.8s,mb4.3
OJC Ojcow 43.74 319 *e*P **P 19 06 38.1 +0.6**
OJC Ojcow 43.74 319 *e*P **P 19 06 38.1 +0.6**
OJC Ojcow 43.74 319 *e*P **P 19 06 38.1 +0.6**
VYHS Vyhne 43.75 317 *e*P **P 19 06 38.1 +0.5**
VYHS pmax pmax
comp=Z,7.0nm,1.7s,mb4.1
VYHS Vyhne 43.75 317 *e*P **P 19 06 38.1 +0.5**
VYHS Vyhne 43.75 317 *e*P **P 19 06 38.1 +0.5**
comp=Z,7.1nm,1.7s,mb4.1
CUC Castrocucco 44.00 304 *e*P **P 19 06 40.8 +1.0**
comp=Z,19nm,0.8s,mb4.9
OKC Ostrava-Krasne 44.61 318 *e*P **P 19 06 44.9 +0.4**
OKC Ostrava-Krasne 44.61 318 *e*P **P 19 06 44.9 +0.4**
OKC Ostrava-Krasne 44.61 318 P **P 19 06 44.9 +0.4**
MORC Moravsky Berou 44.96 318 ⇓P **P 19 06 47.6 +0.3**
MORC Moravsky Berou 44.96 318 ⇓*i*P **P 19 06 47.6 +0.3**
MORC Moravsky Berou 44.96 318 ⇓*i*P **P 19 06 47.6 +0.3**
JOF Joensuu 45.32 339 *e*P **P 19 06 49.7 -0.2**
JOF Joensuu 45.32 339 *ep* **P 19 06 49.7 -0.2**
JOF Joensuu 45.32 339 *e*P **P 19 06 49.7 -0.2**
ARSA Arzberg 45.55 314 ⇑*i*P **P 19 06 52.6 +0.6**
comp=Z,4.9nm,0.8s,mb4.5
ARSA Arzberg 45.55 314 ⇑*i*P **P 19 06 52.6 +0.6**
comp=Z,4.9nm,0.8s,mb4.5
ARSA Arzberg 45.55 314 P **P 19 06 52.6 +0.6**
comp=Z,4.9nm,0.8s,mb4.5
SOKA Soboth 45.74 313 ⇑*i*P **P 19 06 53.9 +0.4**
comp=Z,6.2nm,1.0s,mb4.5
SOKA Soboth 45.74 313 ⇑*i*P **P 19 06 53.9 +0.4**
comp=Z,6.2nm,1.0s,mb4.5
SOKA Soboth 45.74 313 P **P 19 06 53.9 +0.4**
comp=Z,6.2nm,1.0s,mb4.5
DPC Dobruska-Polom 45.88 318 *e*P **P 19 06 54.2 -0.4**
DPC Dobruska-Polom 45.88 318 *e*P **P 19 06 54.2 -0.4**
DPC *ex* x 19 07 13.5
DPC Dobruska-Polom 45.88 318 P **P 19 06 54.2 -0.4**
KSP Ksiaz 46.05 319 *e*P **P 19 06 56.6 +0.6**
KSP Ksiaz 46.05 319 *e*P **P 19 06 56.6 +0.6**
KSP Ksiaz 46.05 319 *e*P **P 19 06 56.6 +0.6**
FINES FINESS Array B 46.18 336 P **P 19 06 56.5 -0.2**
comp=Z,2.1nm,0.6s,mb4.3,baz=138,slow=9.5,SNR=10
FINES LR LR 19 27 20.3
comp=Z,169nm,18.3s,MS4.0,baz=335,slow=37
FINES FINESS Array B 46.18 336 P **P 19 06 56.5 -0.2**
FINES FINESS Array B 46.18 336 P **P 19 06 56.5 -0.3**
KAF Kangasniemi 46.51 336 *e*P **P 19 06 58.6 -0.7**
KAF Kangasniemi 46.51 336 *ep* **P 19 06 58.6 -0.7**
KAF Kangasniemi 46.51 336 *e*P **P 19 06 58.6 -0.7**
MOA Molln 46.52 315 ⇑*i*P **P 19 06 59.9 +0.3**
comp=Z,7.9nm,1.1s,mb4.5
MOA Molln 46.52 315 ⇑*i*P **P 19 06 59.9 +0.3**
comp=Z,7.9nm,1.1s,mb4.6
MOA Molln 46.52 315 P **P 19 06 59.9 +0.3**
comp=Z,7.9nm,1.1s,mb4.5
PRU Pruhonice 46.88 317 *e*P **P 19 07 02.5 +0.1**
PRU Pruhonice 46.88 317 *e*P **P 19 07 02.5 +0.1**
PRU Pruhonice 46.88 317 P **P 19 07 02.5 +0.1**
GERES GERESS Array B 47.12 316 P **P 19 07 04.3 0.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=101,slow=7.2,SNR=15
GERES PcP PcP 19 08 36.3 +0.2
comp=Z,0.8nm,0.7s,baz=50,slow=1.5,SNR=2.7
GERES LR LR 19 28 34.3
comp=Z,73nm,18.1s,MS3.7,baz=111,slow=38
GERES GERESS Array B 47.12 316 P **P 19 07 04.3 0.0**
GERES PcP PcP 19 08 36.3 +0.2
GERES GERESS Array B 47.12 316 P **P 19 07 04.3 0.0**
GERES 19 08 36.3
KHC Kasperske Hory 47.26 316 *e*P **P 19 07 05.6 +0.1**

KHC Kasperske Hory 47.26 316 *e*P **P 19 07 05.6 +0.1**
KHC Kasperske Hory 47.26 316 P **P 19 07 05.6 +0.1**
ABTA Abfaltersbach 47.45 313 ⇑*i*P **P 19 07 07.0 0.0**
comp=Z,15nm,1.1s,mb4.8
ABTA Abfaltersbach 47.45 313 ⇑*i*P **P 19 07 07.0 0.0**
comp=Z,15nm,1.1s,mb4.8
ABTA Abfaltersbach 47.45 313 P **P 19 07 07.0 +0.1**
comp=Z,15nm,1.1s,mb4.8
BRG Berggiesshubel 47.49 318 *e*P **P 19 07 07.8 +0.6**
comp=Z,6.7nm,1.3s,mb4.4
BRG Berggiesshubel 47.49 318 *e*P **P 19 07 07.8 +0.6**
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
WTTA Wattenberg 48.13 313 ⇑*i*P **P 19 07 12.0 -0.2**
comp=Z,10nm,0.7s,mb5.0
WTTA Wattenberg 48.13 313 ⇑*i*P **P 19 07 12.0 -0.2**
comp=Z,10nm,0.7s,mb5.0
WTTA Wattenberg 48.13 313 ⇑*i*P **P 19 07 12.0 -0.3**
WTTA pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
WTTA Wattenberg 48.13 313 P **P 19 07 12.0 -0.3**
comp=Z,10nm,0.7s,mb5.0
CLL Collm 48.18 319 *e*P **P 19 07 12.0 -0.5**
CLL *e*S **S 19 14 12.0 +0.5**
CLL pmax pmax
comp=Z,15nm,1.1s,mb4.9
CLL Collm 48.18 319 *e*P **P 19 07 12.0 -0.5**
CLL *i* Pmax pP 19 07 13.3 -2.4
comp=Z,15nm,1.1s
CLL *i* pP pP 19 07 15.9 +0.2
CLL *e*S **S 19 14 12.0 +0.5**
CLL *e*SSS 19 18 48.0
CLL Lm 19 32 00.0
comp=N,200nm,18.2s
CLL Lm 19 32 00.0
comp=E,100nm,19.8s
CLL Lm 19 32 00.0
comp=Z,100nm,20.1s
MOTA Moosalm 48.51 313 ⇑*i*P **P 19 07 14.1 -1.0**
comp=Z,4.6nm,0.7s,mb4.6
MOTA Moosalm 48.51 313 ⇑*i*P **P 19 07 14.1 -1.0**
comp=Z,4.6nm,0.7s,mb4.6
MOTA Moosalm 48.51 313 ⇑*i*P **P 19 07 14.1 -1.0**
MOTA pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MOTA Moosalm 48.51 313 P **P 19 07 14.1 -1.0**
comp=Z,4.6nm,0.7s,mb4.6
FETA Feichten 48.70 313 ⇓*i*P **P 19 07 16.4 -0.3**
comp=Z,13nm,0.9s,mb5.0
FETA Feichten 48.70 313 ⇓*i*P **P 19 07 16.4 -0.3**
comp=Z,13nm,0.9s,mb5.0
FETA Feichten 48.70 313 P **P 19 07 16.4 -0.2**
comp=Z,13nm,0.9s,mb5.0
RETA Reutte 48.76 313 ⇓*i*P **P 19 07 16.3 -0.8**
comp=Z,6.5nm,0.6s,mb4.9
RETA Reutte 48.76 313 ⇓*i*P **P 19 07 16.3 -0.8**
comp=Z,6.5nm,0.6s,mb4.8
RETA Reutte 48.76 313 P **P 19 07 16.3 -0.8**
comp=Z,6.5nm,0.6s,mb4.9
GRF Grafenberg Arr 48.89 316 *e*P **P 19 07 18.7 +0.7**
GRF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KEST Kesra 48.91 298 P **P 19 07 20.4 +2.0**
comp=Z,3.5nm,1.0s,mb4.3,baz=282,slow=0.8,SNR=4.8
KEST Kesra 48.91 298 P **P 19 07 20.4 +2.0**
BOD Bodaibo 49.28 33 *e*P **P 19 07 20.1 -0.8**
BOD pmax pmax
comp=Z,6.0nm,2.4s,mb4.2
DAVA Damuels 49.32 313 ⇑*i*P **P 19 07 20.9 -0.4**
comp=Z,17nm,0.8s,mb5.1
DAVA Damuels 49.32 313 ⇑*i*P **P 19 07 20.9 -0.4**
comp=Z,17nm,0.8s,mb5.1
DAVA Damuels 49.32 313 P **P 19 07 20.9 -0.4**
comp=Z,17nm,0.8s,mb5.1
SBF Sospel 50.62 308 *e*P **P 19 07 30.6 -0.7**
comp=Z,123nm,1.2s,mb5.4
SBF Sospel 50.62 308 *e*P **P 19 07 30.6 -0.7**
comp=Z,123nm,1.2s,mb5.7
SBF Sospel 50.62 308 *e*P **P 19 07 30.6 -0.7**
SBF Sospel 50.62 308 *e*P **P 19 07 30.6 -0.7**
comp=Z,62nm,1.2s,mb5.4
MBDF Montbardon 51.16 309 *e*P **P 19 07 35.4 0.0**
comp=Z,19nm,0.9s,mb4.7
MBDF Montbardon 51.16 309 *e*P **P 19 07 35.4 0.0**
comp=Z,19nm,0.9s,mb5.0
MBDF Montbardon 51.16 309 *e*P **P 19 07 35.4 0.0**
MBDF pmax pmax
comp=Z,19nm,0.9s,mb5.0
MBDF Montbardon 51.16 309 *e*P **P 19 07 35.4 0.0**
comp=Z,9.5nm,0.9s,mb4.7
CDF Champ du Feu 51.22 314 *e*P **P 19 07 34.6 -1.1**
comp=Z,8.2nm,0.9s,mb4.3
CDF Champ du Feu 51.22 314 *e*P **P 19 07 34.6 -1.1**
comp=Z,8.2nm,0.9s,mb4.7
CDF Champ du Feu 51.22 314 *e*P **P 19 07 34.6 -1.1**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CDF Champ du Feu 51.22 314 *e*P **P 19 07 34.6 -1.1**
comp=Z,4.1nm,0.9s,mb4.3
LPG La Plagne 51.24 310 *e*P **P 19 07 35.1 -0.8**
comp=Z,34nm,1.3s,mb4.8
LPG La Plagne 51.24 310 *e*P **P 19 07 35.1 -0.8**
comp=Z,34nm,1.3s,mb5.1
LPG La Plagne 51.24 310 *e*P **P 19 07 35.1 -0.8**
LPG pmax pmax
comp=Z,35nm,1.3s,mb5.1
LPG La Plagne 51.24 310 *e*P **P 19 07 35.1 -0.8**
comp=Z,17nm,1.3s,mb4.8
HINF Hinteralfeld 51.42 313 *e*P **P 19 07 36.3 -1.0**
HINF Hinteralfeld 51.42 313 *e*P **P 19 07 36.3 -1.0**
HINF Hinteralfeld 51.42 313 *e*P **P 19 07 36.3 -1.0**
HINF Hinteralfeld 51.42 313 *e*P **P 19 07 36.3 -1.0**
ARCES ARCESS Array B 51.62 344 P **P 19 07 38.4 0.0**
comp=Z,15nm,0.9s,mb4.9,baz=139,slow=9.4,SNR=15
ARCES LR LR 19 32 30.8
comp=Z,174nm,19.5s,MS4.1,baz=31,slow=40
ARCES ARCESS Array B 51.62 344 P **P 19 07 38.4 0.0**
ARCES ARCESS Array B 51.62 344 P **P 19 07 38.4 0.0**
HAU Haudompre 51.78 313 *e*P **P 19 07 38.9 -1.1**
HAU *e*R
comp=Z,76nm,19.5s
HAU Haudompre 51.78 313 *e*P **P 19 07 38.9 -1.1**
HAU Haudompre 51.78 313 *e*P **P 19 07 38.9 -1.1**
HAU Haudompre 51.78 313 *e*P **P 19 07 38.9 -1.1**
CABF La Chapelle 51.80 312 *e*P **P 19 07 39.9 -0.3**
comp=Z,48nm,1.2s,mb5.0
CABF La Chapelle 51.80 312 *e*P **P 19 07 39.9 -0.3**
comp=Z,48nm,1.2s,mb5.3
CABF La Chapelle 51.80 312 *e*P **P 19 07 39.9 -0.3**
CABF pmax pmax
comp=Z,48nm,1.2s,mb5.3
CABF La Chapelle 51.80 312 *e*P **P 19 07 39.9 -0.3**
comp=Z,24nm,1.2s,mb5.0
NB2 NORSAR Subarra 52.22 330 P **P 19 07 42.0 -1.0**
comp=Z,1.6nm,0.7s,mb4.1,baz=109,slow=7.4
NOA NORSAR Array B 52.22 330 P **P 19 07 42.5 -0.5**
comp=Z,2.1nm,0.8s,mb4.1,baz=110,slow=7.5,SNR=6.0
NOA LR LR 19 35 18.0
comp=Z,115nm,19.2s,MS3.9,baz=220,slow=42
NOA NORSAR Array B 52.22 330 P **P 19 07 42.5 -0.5**
NOA NORSAR Array B 52.22 330 P **P 19 07 42.5 -0.5**
VIVF Saint-Julien-l 52.66 309 *e*P **P 19 07 45.7 -0.8**
VIVF Saint-Julien-l 52.66 309 *e*P **P 19 07 45.7 -0.8**
VIVF Saint-Julien-l 52.66 309 *e*P **P 19 07 45.7 -0.8**
VIVF Saint-Julien-l 52.66 309 *e*P **P 19 07 45.7 -0.8**
MEZF Maizieres J'vi 52.70 314 *e*P **P 19 07 46.5 -0.3**
comp=Z,35nm,1.1s,mb4.9
MEZF Maizieres J'vi 52.70 314 *e*P **P 19 07 46.5 -0.3**
comp=Z,35nm,1.1s,mb5.2
MEZF Maizieres J'vi 52.70 314 *e*P **P 19 07 46.5 -0.3**
comp=Z,17nm,1.1s,mb4.9
SMF Signal de Mont 53.35 312 *e*P **P 19 07 51.0 -0.6**
comp=Z,23nm,1.0s,mb4.8
SMF Signal de Mont 53.35 312 *e*P **P 19 07 51.0 -0.6**
comp=Z,23nm,1.0s,mb5.1
SMF Signal de Mont 53.35 312 *e*P **P 19 07 51.0 -0.6**
SMF pmax pmax
comp=Z,23nm,1.0s,mb5.1
SMF Signal de Mont 53.35 312 *e*P **P 19 07 51.0 -0.6**
comp=Z,11nm,1.0s,mb4.8
LOR Lormes 53.38 312 *e*P **P 19 07 50.9 -1.0**
comp=Z,14nm,1.1s,mb4.5
LOR *e*R
comp=Z,99nm,22.0s
LOR Lormes 53.38 312 *e*P **P 19 07 50.9 -1.0**
comp=Z,14nm,1.0s,mb4.8

LOR Lormes 53.38 312 *e*P **P 19 07 50.9 -1.0**
LOR pmax pmax
comp=Z,14nm,1.0s,mb4.8
LOR Lormes 53.38 312 *e*P **P 19 07 50.9 -1.0**
comp=Z,6.8nm,1.1s,mb4.5
CN2 Changchun 53.51 52 *e*P **P 19 07 59.5 +6.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SSF Saint Saulge 53.61 312 *e*P **P 19 07 52.7 -0.8**
comp=Z,18nm,1.1s,mb4.6
SSF Saint Saulge 53.61 312 *e*P **P 19 07 52.7 -0.8**
comp=Z,18nm,1.1s,mb4.9
SSF Saint Saulge 53.61 312 *e*P **P 19 07 52.7 -0.8**
SSF pmax pmax
comp=Z,18nm,1.1s,mb4.9
SSF Saint Saulge 53.61 312 *e*P **P 19 07 52.7 -0.8**
comp=Z,9.1nm,1.1s,mb4.6
TAM Tamanrasset 53.86 282 *e*P **P 19 07 57.3 +1.6**
comp=Z,9.5nm,0.9s,mb4.7
TAM Tamanrasset 53.86 282 *e*P **P 19 07 57.3 +1.6**
TAM pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BGF Bois d'Agland 54.03 311 *e*P **P 19 07 56.0 -0.6**
BGF Bois d'Agland 54.03 311 *e*P **P 19 07 56.0 -0.6**
BGF Bois d'Agland 54.03 311 *e*P **P 19 07 56.0 -0.6**
BGF Bois d'Agland 54.03 311 *e*P **P 19 07 56.0 -0.6**
MTLF Montolieu 54.38 307 *e*P **P 19 07 59.0 -0.2**
comp=Z,36nm,1.3s,mb4.8
MTLF Montolieu 54.38 307 *e*P **P 19 07 59.0 -0.2**
comp=Z,36nm,1.3s,mb5.1
MTLF Montolieu 54.38 307 *e*P **P 19 07 59.0 -0.2**
MTLF pmax pmax
comp=Z,36nm,1.3s,mb5.1
MTLF Montolieu 54.38 307 *e*P **P 19 07 59.0 -0.2**
comp=Z,18nm,1.3s,mb4.8
LFF La Frestale 55.45 309 *e*P **P 19 08 06.8 -0.2**
LFF La Frestale 55.45 309 *e*P **P 19 08 06.8 -0.2**
LFF La Frestale 55.45 309 *e*P **P 19 08 06.8 -0.2**
LFF La Frestale 55.45 309 *e*P **P 19 08 06.8 -0.2**
KSAR Wonju Array Be 55.53 60 P **P 19 08 06.7 -0.9**
KSAR Wonju Array Be 55.53 60 P **P 19 08 06.7 -1.0**
KSRS Korea Array 55.56 60 P **P 19 08 06.7 -1.2**
comp=Z,6.5nm,1.0s,mb4.6,baz=263,slow=7.2,SNR=8.3
KSRS LR LR 19 31 50.5
comp=Z,91nm,18.8s,MS3.9,baz=100,slow=36
EPF Esparros 55.76 307 *e*P **P 19 08 09.2 0.0**
EPF Esparros 55.76 307 *e*P **P 19 08 09.2 0.0**
EPF Esparros 55.76 307 *e*P **P 19 08 09.2 0.0**
EPF Esparros 55.76 307 *e*P **P 19 08 09.2 0.0**
LDF La Druitiere 56.13 314 *e*P **P 19 08 10.7 -1.1**
comp=Z,6.0nm,0.7s,mb4.4
LDF La Druitiere 56.13 314 *e*P **P 19 08 10.7 -1.1**
comp=Z,6.0nm,0.7s,mb4.7
LDF La Druitiere 56.13 314 *e*P **P 19 08 10.7 -1.1**
LDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LDF La Druitiere 56.13 314 *e*P **P 19 08 10.7 -1.1**
comp=Z,3.0nm,0.7s,mb4.4
ETSF Etsaut 56.42 307 *e*P **P 19 08 13.8 -0.1**
comp=Z,27nm,1.0s,mb4.9
ETSF Etsaut 56.42 307 *e*P **P 19 08 13.8 -0.1**
comp=Z,27nm,1.0s,mb5.2
ETSF Etsaut 56.42 307 *e*P **P 19 08 13.8 -0.1**
ETSF pmax pmax
comp=Z,27nm,1.0s,mb5.2
ETSF Etsaut 56.42 307 *e*P **P 19 08 13.8 -0.1**
comp=Z,13nm,1.0s,mb4.9
SJPF Ste Jean 56.90 307 *e*P **P 19 08 17.0 -0.3**
SJPF Ste Jean 56.90 307 *e*P **P 19 08 17.0 -0.3**
SJPF Ste Jean 56.90 307 *e*P **P 19 08 17.0 -0.3**
SJPF Ste Jean 56.90 307 *e*P **P 19 08 17.0 -0.3**
SGMF Saint Gilles 57.75 313 *e*P **P 19 08 22.5 -0.7**
SGMF Saint Gilles 57.75 313 *e*P **P 19 08 22.5 -0.7**
SGMF Saint Gilles 57.75 313 *e*P **P 19 08 22.5 -0.7**
SGMF Saint Gilles 57.75 313 *e*P **P 19 08 22.5 -0.7**
YAK Yakutsk 58.02 30 *e*P **P 19 08 22.7 -2.2**
YAK pmax pmax
comp=Z,12nm,1.0s,mb4.9
QUIF Quistinic 58.16 313 *e*P **P 19 08 25.1 -1.0**
comp=Z,34nm,1.1s,mb5.0
QUIF Quistinic 58.16 313 *e*P **P 19 08 25.1 -1.0**
comp=Z,34nm,1.1s,mb5.3
QUIF Quistinic 58.16 313 *e*P **P 19 08 25.1 -1.0**
QUIF pmax pmax
comp=Z,34nm,1.1s,mb5.3
QUIF Quistinic 58.16 313 *e*P **P 19 08 25.1 -1.0**
comp=Z,17nm,1.1s,mb5.0
USRK Ussuriysk Arra 58.23 51 LR LR 19 38 05.6
comp=Z,73nm,21.3s,MS3.8,baz=166,slow=41
ESDC Sonseca Array 59.20 303 P **P 19 08 33.3 -0.2**
comp=Z,1.6nm,0.7s,mb4.2,baz=69,slow=7.0,SNR=10
ESDC Sonseca Array 59.20 303 P **P 19 08 33.3 -0.2**
TORD Torodi Ar. Bea 60.06 272 P **P 19 08 40.1 +0.3**
comp=Z,6.6nm,0.9s,mb4.7,baz=66,slow=6.1,SNR=41
TORD LR LR 19 37 23.4
comp=Z,225nm,19.5s,MS4.3,baz=100,slow=39
TORD Torodi Ar. Bea 60.06 272 P **P 19 08 40.1 +0.3**
EVO Evora 62.47 303 *e*P **P 19 08 55.8 0.0**
comp=Z,45nm,1.5s,mb5.1
EVO *e*R
comp=Z,62nm,21.2s
EVOP Sao Brissos 62.56 303 *e*P **P 19 08 55.8 -0.6**
comp=Z,45nm,1.5s,mb5.4
EVOP Sao Brissos 62.56 303 *e*P **P 19 08 55.8 -0.6**
EVOP pmax pmax
comp=Z,45nm,1.5s,mb5.4
EVOP Sao Brissos 62.56 303 *e*P **P 19 08 55.8 -0.6**
comp=Z,22nm,1.5s,mb5.1
MJAR Matsushiro Arr 63.84 59 LR LR 19 39 20.1
comp=Z,104nm,18.1s,MS4.0,baz=55,slow=38
BOSA Boshof 64.02 218 P **P 19 09 05.8 -0.2**
comp=Z,4.1nm,0.6s,mb4.6,baz=62,slow=9.4,SNR=12
BOSA LR LR 19 36 45.4
comp=Z,73nm,18.4s,MS3.9,baz=213,slow=36
BOSA Boshof 64.02 218 P **P 19 09 05.8 -0.2**
BOSA Boshof 64.02 218 P **P 19 09 05.8 -0.3**
DAG Danmarks Havn 65.82 345 *i* P **P 19 09 16.6 -0.5**
comp=Z,8.2nm,1.0s,mb4.7
DBIC Dimbokro 68.39 268 P **P 19 09 35.4 +0.9**
comp=Z,2.6nm,0.7s,mb4.4,baz=78,slow=9.7,SNR=3.9
DBIC LR LR 19 40 15.3
comp=Z,127nm,19.8s,MS4.2,baz=56,slow=37
DBIC Dimbokro 68.39 268 P **P 19 09 35.4 +0.9**
DBIC Dimbokro 68.39 268 P **P 19 09 35.4 +0.8**
LIC Lamto 68.72 268 *e*P **P 19 09 37.0 +0.4**
comp=Z,42nm,1.1s,mb5.0
LIC *e*R
comp=Z,211nm,20.2s
LIC Lamto 68.72 268 *e*P **P 19 09 37.0 +0.4**
comp=Z,42nm,1.1s,mb5.3
LIC Lamto 68.72 268 *e*P **P 19 09 37.0 +0.4**
comp=Z,21nm,1.1s,mb5.0
SUMG Summit 71.66 342 *e*P **P 19 09 54.9 +1.3**
comp=Z,5.8nm,0.8s,mb4.6
SUMG Summit 71.66 342 *e*P **P 19 09 54.9 +1.3**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 71.66 342 *i* P **P 19 09 55.0 +1.4**
comp=Z,6.5nm,0.8s,mb4.6
SUMG Summit 71.66 342 *i* P **P 19 09 55.0 +1.4**
comp=Z,6.5nm,0.8s,mb4.6
BILL Bilibino 72.84 23 *e*P **P 19 10 01.0 +0.2**
BILL *e**PP pP 19 10 08.1 +4.1
BILL *e* 19 12 39.9
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BILL MLR MLR
comp=Z,700nm,19.0s,MS5.0
PETK Petropavlovsk- 73.53 39 LR LR 19 48 21.0
comp=Z,84nm,19.4s,MS4.0,baz=102,slow=41
WRA Warramunga Arr 80.61 116 P **P 19 10 44.7 -0.7**
comp=Z,2.6nm,0.9s,mb4.2,baz=316,slow=4.7,SNR=30
WRA Warramunga Arr 80.61 116 P **P 19 10 44.7 -0.7**
WRA Warramunga Arr 80.61 116 P **P 19 10 44.7 -0.7**
WRAB Tennant Creek 80.61 116 *e*P **P 19 10 44.8 -0.6**
comp=Z,12nm,0.9s,mb4.8
WRAB Tennant Creek 80.61 116 *e*P **P 19 10 44.8 -0.6**
WRAB pmax pmax
comp=Z,12nm,0.9s,mb4.8
WB2 Warramunga Arr 80.62 116 *e*P **P 19 10 44.6 -0.8**
ASAR Alice Springs 82.07 120 P **P 19 10 52.3 -0.8**
comp=Z,3.4nm,1.0s,mb4.2,baz=302,slow=5.6,SNR=31
ASAR Alice Springs 82.07 120 P **P 19 10 52.3 -0.8**
ASAR Alice Springs 82.07 120 P **P 19 10 52.3 -0.8**
COLD Coldfoot 86.02 13 P **P 19 11 12.3 -0.2**
comp=Z,6.3nm,1.0s,mb4.8

INK	Inuvik	87.62	7	P	P	19 11 19.5	-0.8
	comp=Z,1.5nm,0.5s,mb4.5,baz=358,slow=3.2,SNR=4.8						
INK	Inuvik	87.62	7	P	P	19 11 19.5	-0.8
INK	Inuvik	87.62	7	P	P	19 11 19.5	-0.8
ILAR	Eielson Array	88.83	13	LR	LR	19 55 14.1	
	comp=Z,150nm,18.2s,MS4.5,baz=356,slow=38						
YKA	Yellowknife Ar	94.41 360		P	P	19 11 51.3	-0.7
	comp=Z,0.8nm,0.8s,mb4.2,baz=350,slow=4.7,SNR=6.4						
YKA				LR	LR	20 01 26.6	
	comp=Z,9.3nm,19.8s,MS3.2,baz=245,slow=40						
YKA	Yellowknife Ar	94.41 360		P	P	19 11 51.4	-0.7
YKA	Yellowknife Ar	94.41 360		P	P	19 11 51.4	-0.6
HNR	Honiara	98.70	97	LR	LR	20 02 07.8	
	comp=Z,82nm,18.4s,MS4.3,baz=217,slow=39						
TXAR	Lajitas Array	126.34 347		PKP	PKPdf	19 17 36.1	+0.4
	comp=Z,0.3nm,0.6s,baz=124,slow=1.6,SNR=4.6						
TXAR	Lajitas Array	126.34 347		PKP	PKPdf	19 17 36.1	+0.4
TXAR	Lajitas Array	126.34 347		PKIKP	PKPdf	19 17 36.1	+0.4

*ISCJB **29** 19:04:19.8±0.8, 30°.47S±0°.05×179°.3W±0°.1, h194km±8km, mb3.8/6, Error ellipse: s-maj=18.5km s-min=8.1km az=9.4*
*NEIC **29** 19:04:22.0±0.8, 30°.25S×178°.90W, h224km±8km, mb4.5/2, Error ellipse: s-maj=16.4km s-min=12.0km az=107.0*
*IDC **29** 19:04:24.2±4.2, 30°.11S×178°.97W, h241km±33km, mb3.5/5, mb1 3.6/5, mb1mx3.4/15, mbtmp3.5/5, Error ellipse: s-maj=36.2km s-min=26.1km az=157.0*
ISC 29 19:04:20.7±0.8, 30°.48S±0°.05×179°.2W±0°.1, h188km±8km, n72, σ0°96/37, mb4.0/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.68	43	eP	Pn	19 04 55.8	+0.7
PUZ	Puketiti	7.85	195	ePN	Pn	19 06 10.9	-1.0
PUZ				SN	Sn	19 07 41.2	+1.2
MWZ	Matawai	8.28	198	ePN	Pn	19 06 16.9	-0.5
URZ	Urewera	8.32	200	P	Pn	19 06 18.9	+0.8
	1.7nm,0.3s,baz=213,slow=24,SNR=13						
URZ				S	Sn	19 07 51.2	-0.1
	5.0nm,0.3s,baz=213,slow=9.5,SNR=2.9						
URZ	Urewera	8.32	200	eP	Pn	19 06 22.8	+4.8
URZ				S	Sn	19 07 51.2	-0.1
URZ	Urewera	8.32	200	ePN	Pn	19 06 17.9	-0.2
URZ				SN	Sn	19 07 52.2	+0.9
KNZ	Kokohu	8.89	196	ePN	Pn	19 06 25.8	+0.3
NMHZ	Naumai	9.19	200	PN	Pn	19 06 28.0	-1.4
BKZ	Black Stump Fm	9.35	201	PN	Pn	19 06 27.2	-4.2
BHHZ	Black Hill Sta	9.77	202	ePN	Pn	19 06 35.9	-1.1
MOVZ	Moawhango	9.80	203	PN	Pn	19 06 38.2	+0.7
KAHZ	Kahuranaki	9.82	198	PN	Pn	19 06 37.7	+0.1
PXZ	Pawanui	10.04	197	ePN	Px	19 06 38.3	
PXZ				SN	Sx	19 08 28.0	
PNHZ	Pukenui	10.12	200	ePN	Px	19 06 38.4	
WPHZ	Waipukurau	10.19	199	ePN	Px	19 06 41.7	
PRHZ	Porangahau	10.33	198	ePN	Px	19 06 40.4	
TSZ	Takapari Road	10.33	201	ePN	Px	19 06 44.3	
DVHZ	Dannevirke	10.49	200	ePN	Px	19 06 45.9	
BFZ	Birch Farm	10.82	199	PN	Px	19 06 47.3	
MRZ	Mangatainoka R	10.99	201	ePN	Px	19 06 48.9	
HOWZ	Holdsworth Sta	11.23	201	ePN	Px	19 06 52.4	
OGWZ	Otaki Gorge	11.27	202	PN	Px	19 06 52.4	
TMWZ	Te Maipa	11.31	199	PN	Px	19 06 54.0	
KIW	Kapiti Island	11.39	203	ePN	Px	19 06 52.6	
CAW	Cannon Point	11.56	202	PN	Px	19 06 55.6	
MSWZ	Moikau Station	11.78	201	ePN	Px	19 06 59.8	
SNZO	South Karori	11.86	203	PN	Px	19 06 59.1	
TUWZ	Tuamarina	12.23	205	ePN	Px	19 07 04.6	
NNZ	Nelson	12.27	207	ePN	Px	19 07 06.5	
QRZ	Quartz Range	12.29	211	ePN	Px	19 07 07.2	
THZ	Tophouse	12.92	207	ePN	Px	19 07 13.9	
THZ				SN	Sx	19 09 37.0	
MSVF	Nonsavu	12.93	348	eP	Pn	19 07 17.8	0.0
KHZ	Kahutara	13.24	204	eP	Px	19 07 19.5	
KHZ	Kahutara	13.24	204	ePN	Px	19 07 16.4	
LTZ	Lake Taylor	14.03	207	PN	Px	19 07 27.6	
WVZ	Waitaha Valley	14.90	210	ePN	Px	19 07 39.6	
RPZ	Rata Peaks	15.29	208	P	Px	19 07 43.7	
	0.5nm,0.3s,baz=48,slow=22,SNR=2.0						
RPZ				S	Sx	19 10 28.0	
	1.2nm,0.3s,baz=209,slow=18,SNR=9.4						
RPZ	Rata Peaks	15.29	208	P	Px	19 07 43.7	
RPZ				S	Sx	19 10 28.0	
ODZ	Otahua Downs	16.57	206	eP	Pn	19 08 01.4	-0.9
ODZ	Otahua Downs	16.57	206	PN	Pn	19 08 01.3	-1.0
CTA	Charters Tower	32.76	280	P	P	19 10 36.0	-0.1
	2.8nm,0.4s,mb4.4,baz=108,slow=8.2,SNR=8.4						
CTA	Charters Tower	32.76	280	P	P	19 10 36.0	-0.1
CTAO	Charters Tower	32.76	280	eP	P	19 10 35.6	-0.4
	3.1nm,0.4s,mb4.4						
STKA	Stephens Creek	33.41	257	P	P	19 10 44.2	+2.6
	1.8nm,0.7s,mb3.9,baz=76,slow=17,SNR=5.1						
STKA	Stephens Creek	33.41	257	P	P	19 10 44.2	+2.6
ASAR	Alice Springs	42.03	268	P	P	19 11 54.7	+0.8
	0.3nm,0.4s,mb3.2,baz=105,slow=7.4,SNR=9.3						
ASAR				ScP	ScP	19 17 10.9	-7.0
	0.7nm,0.8s,baz=116,slow=3.7,SNR=7.6						
ASAR	Alice Springs	42.03	268	P	P	19 11 54.7	+0.8
ASAR				ScP	ScP	19 17 10.9	-7.0
WB2	Warramunga Arr	43.02	273	eP	P	19 12 02.0	+0.1
WRAB	Tennant Creek	43.02	273	P	P	19 12 02.1	+0.1
WRA	Warramunga Arr	43.03	273	P	P	19 12 01.2	-0.7
	0.5nm,0.3s,mb3.6,baz=110,slow=8.2,SNR=16						
WRA	Warramunga Arr	43.03	273	P	P	19 12 01.2	-0.7
QSPA	South Pole Qui	59.63	180	eP	P	19 14 06.1	+1.8
	19nm,1.1s,mb4.8						
SNAA	Sanae	78.10	179	e	P	19 15 57.6	-0.7
VNA3	Neumayer Olymp	78.29	177	e	P	19 15 59.2	-0.1
VNA2	Neumayer--Watz	78.71	177	e	P	19 16 01.8	+0.1
	baz=184,slow=4.9						
VNA1	Neumayer--Stat	78.95	177	e	P	19 16 03.4	+0.5
PETK	Petropavlovsk-	85.63	346	P	P	19 16 34.7	-2.9
	1.6nm,0.6s,mb3.9,baz=181,slow=5.9,SNR=6.0						
PETK	Petropavlovsk-	85.63	346	P	P	19 16 34.7	-2.9
MKAR	Makanchi Array	117.01	310	PKP	PKPdf	19 22 39.5	-3.3
	0.1nm,0.5s,baz=178,slow=2.6,SNR=3.0						
MKAR	Makanchi Array	117.01	310	PKP	PKPdf	19 22 39.5	-3.3
KURK	Kurchatov	120.33	314	PKP	PKPdf	19 22 45.8	-3.2
	0.4nm,0.6s,baz=104,slow=1.9,SNR=6.8						
KURK	Kurchatov	120.33	314	PKP	PKPdf	19 22 45.8	-3.2
FINES	FINESS Array B	144.85	339	PKP	PKPdf	19 23 30.2	-4.3
	5.5nm,0.8s,baz=46,slow=4.0,SNR=19						
FINES	FINESS Array B	144.85	339	PKP	PKPdf	19 23 30.2	-4.3
NOA	NORSAR Array B	148.66	350	PKPbc	PKPbc	19 23 41.3	-3.6
	1.2nm,0.7s,baz=17,slow=4.2,SNR=4.5						
NOA	NORSAR Array B	148.66	350	PKPbc	PKPbc	19 23 41.3	-3.6
AKASG	Malin Array Be	150.71	322	PKPbc	PKPbc	19 23 45.7	-4.4
	2.6nm,0.6s,baz=48,slow=3.0,SNR=9.1						
AKASG	Malin Array Be	150.71	322	PKPbc	PKPbc	19 23 45.7	-4.4
GERES	GERESS Array B	159.18	335	PKPab	PKPab	19 24 30.7	-3.3
	0.3nm,0.7s,baz=356,slow=4.3,SNR=2.7						
GERES	GERESS Array B	159.18	335	PKPab	PKPab	19 24 30.7	-3.3
TORD	Torodi Ar. Bea	162.73	183	PKPab	PKPab	19 24 49.1	-1.2
	1.7nm,0.8s,baz=180,slow=3.7,SNR=10.0						
TORD	Torodi Ar. Bea	162.73	183	PKPab	PKPab	19 24 49.1	-1.2

*IDC **29** 19:10:21.9±1.4, 61°.93N×150°.86W, h48km±20km, mb3.3/4, mb1 3.5/7, mb1mx3.3/25, mbtmp3.3/7, ML2.9/3, Error ellipse: s-maj=27.7km s-min=10.1km az=109.0*
*ISCJB **29** 19:10:22.4±0.3, 61°.91N±0°.03×150°.64W±0°.06, h76km±3km, mb3.9/6, Error ellipse: s-maj=4.4km s-min=4.1km az=33.3*
*NEIC **29** 19:10:24.5, 61°.91N×150°.67W, h60km, ML3.5(PMR), ML3.2(AEIC), After AEIC.*
ISC 29 19:10:23.6±0.3, 61°.90N±0°.02×150°.65W±0°.05, h68km±4km, n65, σ0°66/75, mb3.9/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.42	282	P	Pn	19 10 34.8	-0.7
SKT				S	Sn	19 10 43.6	-0.6
SUA	Susitna One	0.44	186	P	Pn	19 10 35.6	0.0
SUA				S	Sn	19 10 44.8	+0.4
TRAP	Trapper Creek	0.48	23	P	Pn	19 10 35.6	-0.4
TRAP				S	Sn	19 10 45.1	0.0
STLK	Strandline Lak	0.69	235	P	Pn	19 10 38.0	-0.3
PMR	Palmer	0.78	112	P	Pn	19 10 38.9	-0.3
PMR				S	Sn	19 10 51.2	+0.4
GHO	Glory Hole Cre	0.83	98	P	Pn	19 10 40.0	+0.2
RC01	Rabbit Creek A	0.92	151	P	Pn	19 10 40.5	-0.4
RC01				S	Sn	19 10 54.4	+0.6
CKL	Chakachamna La	1.07	230	P	Pn	19 10 42.8	0.0
SPNW	Spurr Northwes	1.09	240	P	Pn	19 10 43.1	+0.1
SML	Sawmill	1.10	94	P	Pn	19 10 43.3	+0.1
SML				S	Sn	19 10 58.2	+0.4
BKG	Blockade Glaci	1.14	224	P	Pn	19 10 43.9	+0.2
PPLA	Purkeypile	1.23	325	P	Pn	19 10 44.6	-0.3
SLKM	Skilak Lake	1.41	171	P	Pn	19 10 47.3	+0.1
TRF	Thorofare Moun	1.57	6	P	Pn	19 10 49.5	+0.2
SCM	Sheep Creek Mo	1.57	91	P	Pn	19 10 49.6	+0.2
RDN	Redoubt North	1.73	217	P	Pn	19 10 52.2	+0.8
RND	Reindeer	1.73	28	P	Pn	19 10 51.7	+0.3
RSO	Redoubt South	1.77	216	P	Pn	19 10 53.0	+1.0
SEW	Seward	1.89	162	P	Pn	19 10 54.1	+0.5
DHY	Denali Highway	1.93	51	P	Pn	19 10 54.5	+0.3
MCK	McKinley	2.00	22	P	Pn	19 10 55.7	+0.6
BRLK	Bradley Lake	2.15	183	P	Pn	19 10 57.9	+0.8
ILW	Iliamna West	2.21	214	P	Pn	19 10 58.8	+0.9
KLU	Klutina	2.29	98	P	Pn	19 10 58.7	-0.3
FID	Port Fidalgo	2.32	118	P	Pn	19 10 58.3	-1.1
DIV	Divide	2.46	106	P	Pn	19 11 00.8	-0.6
SVW2	Sparrevohn	2.50	253	eP	Pn	19 11 01.7	-0.2
PAX	Paxson	2.64	64	P	Pn	19 11 04.6	+0.9
TT01	Tatalina	2.70	294	P	Pn	19 11 04.2	-0.3
TTA	Tatalina	2.70	295	eP	Pn	19 11 04.5	-0.1
NEA	Nenana	2.78	14	P	Pn	19 11 05.8	+0.1
CCB	Clear Creek Bu	3.04	24	P	Pn	19 11 09.3	+0.1
BMRM	Bremner River	3.05	105	P	Pn	19 11 08.5	-0.9
MLY	Manley	3.15	359	P	Pn	19 11 10.7	+0.1
GOAT	Goat Mountain	3.15	112	P	Pn	19 11 10.9	+0.1
COLA	College	3.24	22	P	Pn	19 11 12.0	0.0
MDM	Murphy Dome	3.26	18	P	Pn	19 11 12.3	+0.1
IL1	Eielson Array	3.35	29	P	Pn	19 11 13.6	+0.2
ILAR	Eielson Array	3.35	29	P	Pn	19 11 13.6	+0.2
	1.3nm,0.3s,baz=214,slow=14,SNR=49						
ILAR				S	Sn	19 11 50.6	-1.2
	7.0nm,0.3s,baz=228,slow=17,SNR=11						
ILAR				Lg		19 12 10.9	
	9.5nm,0.3s,baz=206,slow=28,SNR=9.1						
ILAR	Eielson Array	3.35	29	P	Pn	19 11 13.6	+0.2
ILAR				S	Sn	19 11 50.6	-1.2
ILAR				Lg		19 12 10.9	
MENT	Mentasta	3.39	69	eP	Pn	19 11 15.0	+1.1
DOT	Dot Lake	3.50	57	eP	Pn	19 11 16.0	+0.6
BERG	Berg Lake	3.69	111	P	Pn	19 11 16.8	-1.3
KHIT	Khitrov Hills	3.87	109	P	Pn	19 11 20.6	+0.1
BALM	Baldy	4.08	99	P	Pn	19 11 22.6	-0.7
BARK	Barkley Ridge	4.23	107	P	Pn	19 11 24.9	-0.5
KDAK	Kodiak Island	4.24	194	P	Pn	19 11 24.8	-0.9
	0.4nm,0.3s,baz=333,slow=14,SNR=6.6						
KDAK				S	Sn	19 12 12.3	-1.5
	0.6nm,0.3s,baz=304,slow=15,SNR=1.4						
KDAK	Kodiak Island	4.24	194	P	Pn	19 11 24.8	-0.9
KDAK				S	Sn	19 12 12.3	-1.5
IM3	Indian Mountai	4.32	343	P	Pn	19 11 26.6	-0.1
EGAK	Eagle	5.16	52	eP	Pn	19 11 32.3	-5.7
	16nm,0.6s						
COLD	Coldfoot	5.36	2	eP	Pn	19 11 40.9	+0.1
	5.4nm,0.5s						
DAWY	Dawson	5.57	62	P	Pn	19 11 43.5	-0.3
TNA	Tin City	8.49	303	eP	Pn	19 12 24.3	+0.8
	8.2nm,0.5s						
YKA	Yellowknife Ar	16.69	72	P	Pn	19 14 12.4	-0.2
	0.1nm,0.3s,baz=283,slow=10,SNR=9.2						
YKA	Yellowknife Ar	16.69	72	P	Pn	19 14 12.4	-0.2
SLMT	Seeley Lake	25.60	108	eP	P	19 15 47.4	+1.4
	25nm,0.7s,mb4.8						
MSO	Missoula	25.71	109	eP	P	19 15 44.9	-2.2
	9.2nm,0.6s,mb4.4						
NVAR	Mina Array Bea	30.75	125	P	P	19 16 33.9	+1.8
	0.6nm,0.6s,mb3.5,baz=309,slow=10,SNR=3.6						
NVAR	Mina Array Bea	30.75	125	P	P	19 16 33.9	+1.8
SONM	Songino Array	54.60	306	P	P	19 19 45.0	+0.6
	0.9nm,0.7s,mb3.9,baz=58,slow=5.6,SNR=8.7						
SONM	Songino Array	54.60	306	P	P	19 19 45.0	+0.6
ZALV	Zalesovo Beam	56.51	324	P	P	19 19 57.6	-0.5
	0.2nm,0.3s,mb3.6,baz=28,slow=6.5,SNR=2.1						
ZALV	Zalesovo Beam	56.51	324	P	P	19 19 57.6	-0.5
MKAR	Makanchi Array	63.65	322	P	P	19 20 46.1	-0.9
	0.3nm,0.8s,mb3.1,baz=13,slow=6.1,SNR=3.7						
MKAR				pP	pP	19 21 01.7	-3.2
	0.3nm,0.6s,baz=64,slow=5.5,SNR=3.6						
MKAR	Makanchi Array	63.65	322	P	P	19 20 46.1	-0.9
MKAR				pP	pP	19 21 01.7	-3.2

*NEIC **29** 19:14:49.0, 44°.52N×110°.37W, h2km, ML3.1(SLC), After SLC.*
*ISCJB **29** 19:14:50.1±0.2, 44°.51N±0°.01×110°.39W±0°.02, h10km, Error ellipse: s-maj=2.0km s-min=1.8km az=155.7*
ISC 29 19:14:50.4±0.2, 44°.51N±0°.01×110°.38W±0°.02, h10km, n92, σ1°10/119, 41C-40D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	Lake	0.05	345	ePg	Pg	19 14 49.9	-2.6
H17A	Grant Village	0.18	230	P	Pg	19 14 53.1	-1.2
	baz=0.2,SNR=826						
H17A				↓S	Sg	19 14 55.8	-1.2
	baz=0.2						
YNR	Norris Junctio	0.29	314	ePg	Pg	19 14 55.0	-1.3
YFT	Old Faithful	0.33	260	ePg	Pg	19 14 56.4	-0.6
YMR	Madison River	0.45	291	ePg	Pg	19 14 58.4	-0.7
I17A	Pilgrim Ck.	0.61	193	↑P	Pg	19 15 01.2	-1.0
	baz=0.6,SNR=46						
I17A				↑S	Sg	19 15 10.0	-0.2
	baz=0.6						
QLMT	Earthquake Lak	0.81	293	ePg	Pg	19 15 04.9	-1.2
G17A	Pierce Place,	0.85	343	↑P	Pg	19 15 05.2	-1.6
	baz=0.8,SNR=22						
I18A	Diamond G Ranc	0.91	153	↓P	Pg	19 15 06.2	-1.7
	baz=0.9,SNR=162						
I18A				↑S	Sg	19 15 18.6	-1.0
	baz=0.9						
LOHW	Long Hollow	0.91	190	ePg	Pg	19 15 06.4	-1.6
G18A	Lazy EL Ranch,	0.99	36	↑P	Pg	19 15 07.7	-1.9
	baz=1.0,SNR=48						
RLMT	Red Lodge	1.00	52	↓P	Pg	19 15 07.6	-2.0
	baz=1.0,SNR=13						
RLMT				↑S	Sg	19 15 21.8	-0.9
	baz=1.0						
RLMT	Red Lodge	1.00	52	ePg	Pg	19 15 07.5	-2.2
H19A	Powell	1.01	81	↓P	Pg	19 15 08.2	-1.7
	baz=1.0,SNR=62						
H19A				↓S	Sg	19 15 21.9	-1.1
	baz=1.0						
SNOW	Snow King Moun	1.08	195	ePg	Pg	19 15 10.1	-1.2
DCID1	Drake Creek	1.09	213	ePg	Pg	19 15 10.2	-1.1
I19A	Meeteetse	1.10	115	P	Pb	19 15 09.9	-1.7
	baz=1.1,SNR=72						
I19A				↑S	Sg	19 15 24.8	-1.2
	baz=1.1						
G16A	Moss Hill, Enn	1.24	306	↓P	Pn	19 15 13.0	-0.8
	baz=1.2						
RRI2	Red Ridge	1.35	211	eP	Pn	19 15 14.8	-0.5
GCMT	Greycliff	1.37	21	eP	Pn	19 15 15.7	0.0
F17A	Fitzpatrick Pl	1.41	352	↑P	Pn	19 15 16.1	0.0
	baz=1.4,SNR=100						
F17A				↑S	Sn	19 15 35.0	+0.3
	baz=1.4						
BOZ	Bozeman (W)	1.44	322	↑P	Pn	19 15 16.4	-0.1
	baz=1.4,SNR=11						
BOZ				↓S	Sn	19 15 36.5	+1.0
	baz=1.4						
BOZ	Bozeman (W)	1.44	322	eP	Pn	19 15 16.1	-0.4
F18A	Big Timber	1.47	18	↑P	Pn	19 15 16.8	-0.1
	baz=1.5						
J16A	Bone	1.52	216	↓P	Pn	19 15 17.7	0.0
	baz=1.5						
J16A				↓S	Sn	19 15 38.2	+0.7
	baz=1.5						
F16A	Kennard Place,	1.55	326	↓Pb	Pb	19 15 18.7	-0.5
	baz=1.5						
J19A	Crowheart	1.57	142	↓Pn	Pn	19 15 18.7	+0.4
	baz=1.6,SNR=22						
J19A				↓S	Sn	19 15 39.2	+0.4
	baz=1.6						
I15A	Monteview	1.60	252	↑P	Pn	19 15 18.7	0.0
	baz=1.6,SNR=8.3						
H15A	Lima	1.62	274	↑Pb	Pb	19 15 19.9	-0.5
	baz=1.6,SNR=32						
G15A	Dillon	1.64	294	↓Pb	Pb	19 15 20.3	-0.4
	baz=1.6,SNR=31						
F19A	Roth Farm, Mol	1.68	37	↑P	Pn	19 15 19.5	-0.4
	baz=1.7,SNR=45						
F19A				↓S	Sn	19 15 42.1	+0.7
	baz=1.7						
G20A	Bridger	1.69	65	↓P	Pn	19 15 19.6	-0.4
	baz=1.7,SNR=82						
H20A	Greybull	1.70	90	↓P	Pn	19 15 19.7	-0.5
	baz=1.7,SNR=17						
H20A				↓S	Sn	19 15 42.8	+0.8
	baz=1.7						
I20A	Worland	1.71	108	↓P	Pn	19 15 19.9	-0.4
	baz=1.7,SNR=76						
I20A				↓S	Sn	19 15 43.2	+0.9
	baz=1.7						
DLMT	Dillon	1.79	299	ePn	Pn	19 15 22.9	+1.5
MCMT	McKenzie Canyo	1.79	281	ePn	Pn	19 15 22.9	+1.6
K17A	Gardner Place,	1.80	193	↑Pb	Pb	19 15 23.0	-0.6
	baz=1.8						
AHID	Auburn Hatcher	1.82	197	ePn	Pn	19 15 23.2	+1.4
PD01	Pinedale Array	1.83	161	ePn	Pn	19 15 22.8	+0.9
PD02	Pinedale Array	1.83	161	eP	Pn	19 15 22.8	+0.9
BW06	Boulder Array	1.84	161	↑Pb	Pb	19 15 23.3	-0.9
	baz=1.9,SNR=23						
BW06				↑S	Sn	19 15 46.8	+1.4
	baz=1.9						
BW06	Boulder Array	1.84	161	ePn	Pn	19 15 23.2	+1.1
J15A	Blackfoot	1.85	234	↑Pb	Pb	19 15 23.8	-0.5
	baz=1.9						
K18A	Toltan Ranch,	1.89	172	↓Pg	Pg	19 15 25.4	-1.3
	baz=1.9						
K16A	Soda Springs	1.90	208	↓Pg	Pg	19 15 25.7	-1.1
	baz=1.9						
LRM	Limekiln Ridge	1.96	313	ePn	Pn	19 15 25.9	+2.1
E17A	Martinsdale	1.98	350	↑Pg	Pg	19 15 27.2	-1.2
	baz=2.0						
F15A	Butte	2.00	312	↓Pb	Pb	19 15 26.2	-0.6
	baz=2.0,SNR=22						
F15A				↓Sb	Sb	19 15 53.5	+1.7
	baz=2.0						
K19A	Absolon Red Bu	2.02	146	↑P	Pn	19 15 24.8	+0.3
	baz=2.0						
K19A				↑S	Sn	19 15 51.3	+1.5
	baz=2.0						
J20A	Shoshoni	2.02	124	↑Pb	Pb	19 15 26.2	-1.1
	baz=2.0,SNR=20						
J20A				↓Sb	Sb	19 15 53.2	+0.7
	baz=2.0						
F20A	Billings	2.04	50	↓Pb	Pb	19 15 26.3	-1.2
	baz=2.0,SNR=17						
E18A	Harlowton	2.08	9	↑P	Pn	19 15 26.3	+0.9
	baz=2.1,SNR=115						
H14A	Leadore	2.14	274	↑Pb	Pb	19 15 28.5	-0.7
	baz=2.1,SNR=10						
E16A	East Helena	2.22	336	↓P	Pn	19 15 27.1	-0.1
	baz=2.2,SNR=34						
E19A	Rath Farm, Rou	2.25	29	↓P	Pn	19 15 28.6	+0.9
	baz=2.2,SNR=17						
E19A				↑Sb	Sb	19 15 60.0	+1.0
	baz=2.2						
I14A	Mackay	2.28	256	↓P	Pn	19 15 29.6	+1.4
	baz=2.3,SNR=9.2						
I21A	Big Trails, Te	2.33	106	↓P	Pn	19 15 29.5	+0.7
	baz=2.3,SNR=47						
I21A				↓S	Sn	19 15 58.6	+1.2
	baz=2.3						
G21A	Lodge Grass	2.37	71	↑P	Pn	19 15 29.4	+0.2
	baz=2.3,SNR=5.3						
G21A				↑Sb	Sb	19 16 03.0	+0.6
	baz=2.3						
K20A	Yellowstone Ra	2.37	141	↓Sb	Sb	19 16 03.5	+1.0
	baz=2.4						
H21A	Big Horn, Sher	2.39	86	↑P	Pn	19 15 29.9	+0.4
	baz=2.4						
H21A				↑Sb	Sb	19 16 03.9	+0.9
	baz=2.4						
J21A	Lysite	2.42	118	↓Pb	Pb	19 15 32.5	-1.5
	baz=2.4						
J21A				↑Sb	Sb	19 16 04.1	+0.3
	baz=2.4						
HRY	Holter Researc	2.42	336	ePn	Pn	19 15 30.6	+0.5
HRY				ePg	Pg	19 15 35.1	-1.7
L17A	Cokeville	2.44	189	↓Pb	Pb	19 15 33.8	-0.5
	baz=2.4						
E15A	Deer Lodge	2.49	321	↑P	Pn	19 15 31.7	+0.7
	baz=2.5,SNR=14						
L19A	Farson	2.52	162	↑Pb	Pb	19 15 34.3	-1.5
	baz=2.5,SNR=29						
L19A				↑Sb	Sb	19 16 08.9	+2.0
	baz=2.5						
E20A	Meyer Farm, Mu	2.54	38	↑Pb	Pb	19 15 34.8	-1.4
	baz=2.5,SNR=12						
E20A				↓Sb	Sb	19 16 08.6	+1.1
	baz=2.5						
J14A	Carey	2.56	243	↑P	Pn	19 15 32.9	+1.0
	baz=2.6,SNR=9.2						
L18A	Fontenelle, Gr	2.60	174	↑Sb	Sb	19 16 10.8	+1.8
	baz=2.6						
D16A	Dana Ranch, Ca	2.65	342	↑P	Pn	19 15 33.7	+0.6
	ba

BEST eS Sg 19 28 09.3 +2.0
KOPT Kop Dagi 1.41 312 eP Pg 19 27 53.6 -0.1
KOPT eS Sg 19 28 15.7 +3.6
KOPT Kop Dagi 1.41 312 eP Pg 19 27 53.6 -0.1
SIRN S˘–rnak 1.63 164 eP Pg 19 27 57.0 -1.0
SIRN eS Sg 19 28 18.7 -0.4
SIRN S˘–rnak 1.63 164 eP Pg 19 27 57.0 -0.9
SIRN eS Sg 19 28 18.7 -0.4
BAYT Ayd˘–ntepe-Bay 1.87 315 ePN Pn 19 27 59.3 +0.2
BAYT Ayd˘–ntepe-Bay 1.87 315 ePn Pn 19 27 59.3 +0.2
PTK Pertek 1.93 265 ePN Pn 19 27 59.8 -0.2
PTK Pertek 1.93 265 ePn Pn 19 27 59.8 -0.2

NEIC 29 19:28:55.0, 44°.52N×110°.38W, h0km, ML2.5(SLC), After SLC.
ISCJB 29 19:28:57.0±0.3, 44°.49N±0°.02×110°.38W±0°.04, h10km, Error ellipse: s-maj=3.8km s-min=3.4km az=150.6
ISC 29 19:28:56.9±0.3, 44°.50N±0°.02×110°.36W±0°.03, h10km, n29, σ0s.96/35, 10C-11D, Yellowstone region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LKWY Lake 0.07 336 ePg Pg 19 28 57.2 -2.0
H17A Grant Village 0.19 236 ⇓P Pg 19 29 00.3 -0.7
baz=0.2
H17A ⇓S Sg 19 29 03.1 -0.5
baz=0.2
YNR Norris Junctio 0.31 313 ePg Pg 19 29 02.2 -0.9
YFT Old Faithful 0.34 262 ePg Pg 19 29 03.2 -0.5
YMR Madison River 0.46 291 ePg Pg 19 29 05.8 -0.1
I17A Pilgrim Ck. 0.60 195 ⇓P Pg 19 29 08.4 -0.2
baz=0.6,SNR=10
I17A ⇑S Sg 19 29 17.5 +1.1
baz=0.6
I18A Diamond G Ranc 0.89 154 ⇓P Pg 19 29 13.6 -0.5
baz=0.9,SNR=16
I18A ⇑S Sg 19 29 26.3 +0.7
baz=0.9
LOHW Long Hollow 0.91 191 ePg Pg 19 29 13.4 -1.0
G18A Lazy EL Ranch, 0.99 35 ⇓P Pg 19 29 15.4 -0.6
baz=1.0,SNR=12
H19A Powell 1.00 80 ⇑P Pg 19 29 15.4 -0.7
baz=1.0,SNR=16
H19A ⇓S Sg 19 29 29.1 +0.1
baz=1.0
SNOW Snow King Moun 1.08 195 eP Pg 19 29 17.7 0.0
DCID1 Drake Creek 1.08 214 eP Pb 19 29 13.5 -4.2
I19A Meeteetse 1.09 115 ⇓P Pb 19 29 17.2 -0.6
baz=1.1,SNR=9.3
I19A ⇓S Sg 19 29 31.8 -0.1
baz=1.1
RRI2 Red Ridge 1.35 211 eP Pn 19 29 16.4 -5.4
GCMT Greycliff 1.38 21 eP Pn 19 29 23.4 +1.2
F17A Fitzpatrick Pl 1.42 352 ⇑P Pn 19 29 23.6 +0.8
baz=1.4,SNR=12
F18A Big Timber 1.48 18 ⇑P Pn 19 29 24.3 +0.8
baz=1.5,SNR=28
J19A Crowheart 1.56 142 ⇓Pb Pb 19 29 26.0 +0.2
baz=1.6,SNR=9.9
J19A ⇑S Sn 19 29 46.4 +1.5
baz=1.6
G15A Dillon 1.65 294 ⇑Pb Pb 19 29 27.6 +0.2
baz=1.6
G20A Bridger 1.69 64 ⇑P Pn 19 29 26.8 +0.4
baz=1.7,SNR=13
I20A Worland 1.70 108 ⇓Pb Pb 19 29 27.9 -0.3
baz=1.7
MCMT McKenzie Canyo 1.81 281 eP Pn 19 29 29.7 +1.6
DLMT Dillon 1.81 299 eP Pn 19 29 30.9 +2.9
PD02 Pinedale Array 1.82 161 ePg Pg 19 29 30.2 -1.6
BW06 Boulder Array 1.83 161 ⇑Pb Pb 19 29 30.6 +0.2
baz=1.8
LRM Limekiln Ridge 1.98 312 eP Pn 19 29 33.3 +2.8
E17A Martinsdale 1.99 350 ⇓Pb Pb 19 29 33.4 +0.2
baz=2.0,SNR=6.6
E18A Harlowton 2.09 8 ⇑Pb Pb 19 29 34.6 -0.3
baz=2.1
HRY Holter Researc 2.44 335 ePg Pg 19 29 42.5 -1.2

NEIC 29 19:29:38.0, 44°.51N×110°.38W, h0km, ML2.9(SLC), After SLC.
ISCJB 29 19:29:41.0±0.3, 44°.45N±0°.02×110°.36W±0°.02, h10km, Error ellipse: s-maj=2.4km s-min=2.2km az=137.4
ISC 29 19:29:41.1±0.3, 44°.46N±0°.02×110°.35W±0°.02, h10km, n46, σ1s.26/64, 22C-25D, Yellowstone region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LKWY Lake 0.11 342 ePg Pg 19 29 40.2 -3.7
H17A Grant Village 0.17 249 P Pg 19 29 42.9 -2.0
baz=0.2,SNR=469
H17A ⇑S Sg 19 29 45.7 -1.6
baz=0.2
YFT Old Faithful 0.35 269 ePg Pg 19 29 45.8 -2.2
YNR Norris Junctio 0.35 318 ePg Pg 19 29 44.6 -3.5
YMR Madison River 0.49 296 ePg Pg 19 29 48.8 -1.9
I17A Pilgrim Ck. 0.56 197 ⇑P Pg 19 29 51.5 -0.5
baz=0.6,SNR=14
I17A ⇑S Sg 19 29 59.8 +0.5
baz=0.6
I18A Diamond G Ranc 0.85 153 P Pg 19 29 56.4 -1.1
baz=0.9,SNR=33
I18A ⇓S Sg 19 30 08.3 -0.2
baz=0.9
QLMT Earthquake Lak 0.86 296 eP Pg 19 29 55.8 -1.8
LOHW Long Hollow 0.86 192 ePg Pg 19 29 56.4 -1.3
LOHW eS Sg 19 30 11.3 +2.3
G17A Pierce Place, 0.91 342 ⇑P Pg 19 29 57.6 -1.0
baz=0.8
G17A ⇓S Sg 19 30 10.6 +0.2
baz=0.8
H19A Powell 1.00 77 ⇑P Pg 19 29 58.1 -2.2
baz=1.0,SNR=16
H19A ⇑S Sg 19 30 12.1 -1.3
baz=1.0
RLMT Red Lodge 1.02 49 ePg Pg 19 29 57.3 -3.4
G18A Lazy EL Ranch, 1.03 33 P Pg 19 29 59.0 -1.8
baz=1.0,SNR=14
G18A ⇓S Sg 19 30 13.3 -0.9
baz=1.0
SNOW Snow King Moun 1.04 196 eP Pg 19 30 00.1 -1.0
I19A Meeteetse 1.06 113 ⇑P Pg 19 29 59.6 -1.9
baz=1.1,SNR=9.2
I19A ⇑S Sg 19 30 14.3 -1.0
baz=1.1
G16A Moss Hill, Enn 1.29 307 ⇓S Sb 19 30 23.9 +1.8
baz=1.2
RRI2 Red Ridge 1.31 213 P Pn 19 30 04.0 -1.5
GCMT Greycliff 1.42 20 eP Pn 19 30 06.9 0.0
F17A Fitzpatrick Pl 1.47 352 ⇓P Pn 19 30 07.5 0.0
baz=1.4,SNR=22
F17A ⇓S Sn 19 30 28.3 +1.5
baz=1.4
J16A Bone 1.49 218 ⇑P Pn 19 30 08.9 +0.9
baz=1.5
J16A ⇑S Sn 19 30 29.4 +2.0
baz=1.5
F18A Big Timber 1.52 17 ⇑P Pn 19 30 07.8 -0.5
baz=1.5,SNR=40
J19A Crowheart 1.52 141 ⇓P Pn 19 30 08.3 0.0
baz=1.6,SNR=16
J19A ⇓S Sn 19 30 28.8 +0.7
baz=1.6
I15A Monteview 1.60 254 ⇑P Pn 19 30 10.0 +0.6
baz=1.6
F16A Kennard Place, 1.60 326 ⇓P Pn 19 30 09.5 -0.1
baz=1.5
F16A ⇓S Sn 19 30 32.4 +2.1
baz=1.5
H15A Lima 1.65 276 ⇓P Pn 19 30 10.8 +0.8
baz=1.6,SNR=11
I20A Worland 1.68 107 ⇑P Pn 19 30 09.9 -0.6
baz=1.7,SNR=6.2
I20A ⇑S Sn 19 30 32.8 +0.7
baz=1.7
G15A Dillon 1.68 296 ⇑P Pn 19 30 10.4 -0.1
baz=1.6,SNR=7.7
G15A ⇓S Sn 19 30 34.3 +2.2
baz=1.6
H20A Greybull 1.68 88 ⇑P Pn 19 30 09.8 -0.8
baz=1.7
H20A ⇓S Sn 19 30 32.5 +0.3
baz=1.7
G20A Bridger 1.70 63 ⇑P Pn 19 30 09.8 -1.0
baz=1.7
G20A ⇓S Sn 19 30 32.7 +0.1
baz=1.7
F19A Roth Farm, Mol 1.71 35 ⇓P Pn 19 30 10.9 -0.1
baz=1.7
F19A ⇑Sb Sb 19 30 35.8 +1.5
baz=1.7
PD02 Pinedale Array 1.77 161 ePg Pg 19 30 12.4 -2.7
BW06 Boulder Array 1.79 161 ⇑P Pn 19 30 12.3 +0.4
baz=1.8,SNR=12
BW06 ⇓S Sn 19 30 36.7 +2.0
baz=1.8
MCMT McKenzie Canyo 1.82 283 ePn Pn 19 30 13.4 +1.0
K19A Absolon Red Bu 1.96 146 ⇑Sb Sb 19 30 42.5 +1.1
baz=2.0
J20A Shoshoni 1.98 123 ⇓Sb Sb 19 30 42.6 +0.9
baz=2.0
LRM Limekiln Ridge 2.02 313 eP Pn 19 30 16.0 +0.8
F15A Butte 2.05 313 ⇓P Pn 19 30 16.1 +0.4
baz=2.0,SNR=6.7
F20A Billings 2.06 48 ⇓Sb Sb 19 30 44.7 +0.5
baz=2.0
E18A Harlowton 2.13 8 ⇑P Pn 19 30 16.7 0.0
baz=2.1,SNR=16
E16A East Helena 2.28 336 ⇑Sb Sb 19 30 53.3 +2.8
baz=2.2
E19A Rath Farm, Rou 2.29 28 ⇓Sb Sb 19 30 52.0 +1.3
baz=2.2
I21A Big Trails, Te 2.29 105 ⇓S Sn 19 30 48.7 +1.4
baz=2.3
K20A Yellowstone Ra 2.32 140 ⇓Sb Sb 19 30 53.4 +1.8
baz=2.4
G21A Lodge Grass 2.37 70 ⇑Sb Sb 19 30 53.3 +0.3
baz=2.4
H21A Big Horn, Sher 2.37 85 ⇓Sb Sb 19 30 53.7 +0.5
baz=2.4
J21A Lysite 2.38 117 ⇓Sb Sb 19 30 54.0 +0.7
baz=2.4

IDC 29 19:40:58.2±2.4, 30°.33S×176°.67W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/16, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=71.7km s-min=38.0km az=138.0
NEIC 29 19:41:03.2±1.4, 30°.43S×176°.72W, h35km, mb4.3/1, Error ellipse: s-maj=28.5km s-min=15.6km az=93.0
ISC 29 19:41:04.6±4.9, 30°.5S±0°.1×176°.9W±0°.7, h35km, n16, σ0s.87/14, mb4.0/4, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 1.50 324 P Pn 19 41 27.5 -1.4
URZ Urewera 9.20 211 Pn Pn 19 43 13.9 -0.8
0.6nm,0.3s,baz=297,slow=6.8,SNR=2.8
URZ Sn Sn 19 44 56.6 -0.4
1.2nm,0.3s,baz=101,slow=19,SNR=6.5
URZ Urewera 9.20 211 Pn Pn 19 43 13.9 -0.8
URZ Sn Sn 19 44 56.6 -0.4
STKA Stephens Creek 35.37 257 P P 19 47 58.6 +1.7
2.6nm,1.1s,mb4.1,baz=96,slow=12,SNR=4.9
STKA Stephens Creek 35.37 257 eP P 19 47 58.5 +1.6
AS31 Alice Springs 44.03 267 P P 19 49 08.4 -0.7
ASAR Alice Springs 44.04 267 P P 19 49 09.1 0.0
0.8nm,0.7s,mb3.6,baz=105,slow=7.1,SNR=14
ASAR Alice Springs 44.04 267 P P 19 49 09.1 0.0
WB2 Warramunga Arr 45.02 272 eP P 19 49 17.4 +0.4
WRAB Tennant Creek 45.03 272 eP P 19 49 17.8 +0.7
2.8nm,0.6s,mb4.3
WRA Warramunga Arr 45.03 272 P P 19 49 17.5 +0.5
2.2nm,0.5s,mb4.2,baz=111,slow=7.9,SNR=35
WRA Warramunga Arr 45.03 272 P P 19 49 17.5 +0.5
FINES FINESS Array B 145.53 341 PKPbc PKPbc 20 00 37.2 -1.2
2.1nm,0.8s,baz=57,slow=5.1,SNR=6.1
FINES FINESS Array B 145.53 341 PKPbc PKPbc 20 00 37.2 -1.2
AKASG Malin Array Be 151.92 323 PKPbc PKPbc 20 00 54.0 -1.4
0.7nm,0.6s,baz=49,slow=3.5,SNR=4.4
AKASG Malin Array Be 151.92 323 PKPbc PKPbc 20 00 54.0 -1.4

SKHL 29 19:41:51.9±0.3, 52°.90N×142°.70E, h10km, mb4.2/3, 2C, Sakhalin Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OKH Okha 0.67 12 ⇑iPg Pg 19 42 07.1 +2.3
OKH AMB AMB 19 42 07.4
800nm,0.3s
OKH ⇑iSg Sg 19 42 18.0 +4.5
OKH A 19 42 19.2
900nm,0.5s
NKL Nikolayevsk 1.25 282 iPg Pg 19 42 16.8 +1.0
NKL AMB AMB 19 42 17.3
31nm,0.4s
NKL AMB AMB 19 42 17.3
70nm,0.4s
NKL AMB AMB 19 42 17.3
62nm,0.4s
NKL eSg Sg 19 42 34.0 +2.0
NKL A 19 42 35.8
500nm,0.4s
TYV Tymovskoe 2.04 181 ePg Pg 19 42 31.8 +0.8
TYV AMB AMB 19 42 43.0
13nm,0.8s
TYV eSg Sg 19 43 00.5 +3.1
TYV A 19 43 07.0
12nm,0.6s
GRNR Gornyy 4.44 244 eSg Sg 19 44 21.0 +6.7
EKMR Ekimchan 5.89 276 ePg Pg 19 43 48.5 +3.8
EKMR AMB AMB 19 43 49.5
3.0nm,0.4s
EKMR eSg Sg 19 45 10.0 +9.1
EKMR A 19 45 15.0
6.0nm,0.5s

CSEM 29 19:45:52.8±0.2, 44°.61N×10°.33E, h20km, ML2.6/17, Error ellipse: s-maj=3.7km s-min=3.5km az=179.0
LDG 29 19:45:53.0±0.2, 44°.57N×10°.53E, h20km, Ml2.7/15, Error ellipse: s-maj=4.5km s-min=4.0km az=118.0
NEIC 29 19:45:54.1±0.8, 44°.66N×10°.12E, h10km, ML2.7(LDG), Error ellipse: s-maj=10.6km s-min=8.8km az=146.0
ROM 29 19:45:52.7±0.1, 44°.57N×10°.33E, h24km±2km, Md2.5/12, Ml2.6/9, 3D, Error ellipse: s-maj=2.7km s-min=2.4km az=66.0, Northern Italy

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ERBM Eremo 0.16 158 Pg Pb 19 45 57.8 0.0
ERBM Sg Sb 19 46 02.3 +1.0
1μm,1.4s
ERBM Eremo 0.16 158 Pg Pb 19 45 57.8 0.0
ERBM Sg Sb 19 46 02.3 +1.0
1μm,1.4s
PRMA PARMA 0.19 357 Pg Pb 19 45 57.6 -0.6
PRMA Sg Sb 19 46 02.8 +0.9
332nm,0.3s
PRMA PARMA 0.19 357 Pg Pb 19 45 57.6 -0.6
PRMA Sg Sb 19 46 02.8 +0.9
332nm,0.3s
GSCL Gusciola 0.29 140 Pg Pb 19 45 59.6 +0.2
GSCL Sg Sb 19 46 04.3 +0.3
142nm,0.6s
GSCL Gusciola 0.29 140 Pg Pb 19 45 59.6 +0.2
GSCL Sg Sb 19 46 04.3 +0.3
142nm,0.6s
NOVE Novellara 0.36 50 Pg Pb 19 46 00.4 -0.1
NOVE Sg Sb 19 46 07.5 +1.6
690nm,0.5s
NOVE Novellara 0.36 50 Pg Pb 19 46 00.4 -0.1
NOVE Sg Sb 19 46 07.5 +1.6
690nm,0.5s
BDI Bagni Di Lucca 0.54 159 Pg Pb 19 46 03.8 +0.2
BDI Sg Sb 19 46 12.3 +1.3
204nm,0.8s
BDI Bagni Di Lucca 0.54 159 Pg Pb 19 46 03.8 +0.2
BDI Sg Sb 19 46 12.3 +1.3
204nm,0.8s
SC2M Scurtabo 0.59 254 Pg Pb 19 46 04.3 -0.1
SC2M Scurtabo 0.59 254 Pg Pb 19 46 04.3 -0.1
BOB Bobbio (Coli) 0.66 288 Pg Pb 19 46 05.8 +0.3
BOB Bobbio (Coli) 0.66 288 Pg Pb 19 46 05.8 +0.3
SALO Salr 1.06 7 Pg Pn 19 46 12.5 +0.5
272nm,0.7s
SALO Salr 1.06 7 Pg Pn 19 46 12.5 +0.5
272nm,0.7s
ROVR Rover¨¤ Verone 1.20 26 Pg Pn 19 46 14.1 +0.2
ROVR Sg Sn 19 46 30.9 +1.5
198nm,0.4s
ROVR Rover¨¤ Verone 1.20 26 Pg Pn 19 46 14.1 +0.2
ROVR Sg Sn 19 46 30.9 +1.5
198nm,0.4s
PCP Piancastagn 1.27 269 Pg Pn 19 46 17.3 +2.3
PCP Piancastagn 1.27 269 Pg Pn 19 46 17.3 +2.3
MDI Monti di Nese 1.28 340 Pg Pn 19 46 15.7 +0.6
MDI Sg Sn 19 46 33.5 +2.0
161nm,0.3s
MDI Monti di Nese 1.28 340 Pg Pn 19 46 15.7 +0.6
MDI Sg Sn 19 46 33.5 +2.0
161nm,0.3s
MABI Malga Bissina 1.49 5 Pg Pn 19 46 18.6 +0.7
55nm,0.4s
CTI Castel Tesino 1.75 32 Pg Pn 19 46 21.7 +0.2
86nm,0.5s
APPI Appiano 2.01 18 Pg Pn 19 46 26.1 +1.0
TUE Stuetta 2.02 340 ePn Pn 19 46 26.6 +1.3
TUE Stuetta 2.02 340 ePn Pn 19 46 26.6 +1.4
SBF Sospel 2.20 252 ePn Pn 19 46 28.4 +0.8
SBF eSn Sn 19 46 55.9 +1.9
58nm,0.6s
SBF Sospel 2.20 252 ePn Pn 19 46 28.4 +0.8
SBF eSn Sn 19 46 55.9 +1.9
SBF Sospel 2.20 252 ePn Pn 19 46 28.4 +0.8
SBF eSn Sn 19 46 55.9 +1.9
29nm,0.6s
FETA Feichten 2.47 6 ⇓iPn Pn 19 46 33.8 +2.4
FETA Feichten 2.47 6 ⇓iPn Pn 19 46 33.8 +2.4
FETA Feichten 2.47 6 ⇓iPn Pn 19 46 33.8 +2.4
MBDF Montbardon 2.54 275 ePn Pn 19 46 33.3 +0.9
MBDF eSn Sn 19 47 02.8 +0.2
19nm,0.6s
MBDF Montbardon 2.54 275 ePn Pn 19 46 33.3 +0.9
MBDF eSn Sn 19 47 02.8 +0.2
MBDF Montbardon 2.54 275 ePn Pn 19 46 33.3 +0.9
MBDF eSn Sn 19 47 02.8 +0.2
9.4nm,0.6s
LPG La Plagne 2.70 291 ePn Pn 19 46 35.2 +0.7
LPG eSn Sn 19 47 06.2 -0.2
15nm,0.6s
LPG La Plagne 2.70 291 ePn Pn 19 46 35.2 +0.7
LPG eSn Sn 19 47 06.2 -0.2
LPG La Plagne 2.70 291 ePn Pn 19 46 35.2 +0.7
LPG eSn Sn 19 47 06.2 -0.2
7.6nm,0.6s
LPL La Plagne 2.72 292 ePn Pn 19 46 35.9 +1.1
LPL eSn Sn 19 47 06.7 -0.2
9.8nm,0.5s
LPL La Plagne 2.72 292 ePn Pn 19 46 35.9 +1.1
LPL eSn Sn 19 47 06.7 -0.2
LPL La Plagne 2.72 292 ePn Pn 19 46 35.9 +1.1
LPL eSn Sn 19 47 06.7 -0.2
4.9nm,0.5s
LMR La Mourre 3.02 247 ePn Pn 19 46 39.2 +0.2
LMR eSn Sn 19 47 15.0 +0.6
9.5nm,0.4s
LMR La Mourre 3.02 247 ePn Pn 19 46 39.2 +0.2
LMR eSn Sn 19 47 15.0 +0.6
LMR La Mourre 3.02 247 ePn Pn 19 46 39.2 +0.2
LMR eSn Sn 19 47 15.0 +0.6
4.8nm,0.4s
ORIF Oris-en-Rattie 3.19 278 ePn Pn 19 46 43.7 +2.4
ORIF eSn Sn 19 47 17.7 -0.8
13nm,0.6s
ORIF Oris-en-Rattie 3.19 278 ePn Pn 19 46 43.7 +2.4
ORIF eSn Sn 19 47 17.7 -0.8
ORIF Oris-en-Rattie 3.19 278 ePn Pn 19 46 43.7 +2.4
ORIF eSn Sn 19 47 17.7 -0.8
6.5nm,0.6s
NVLJ Novalja 3.25 89 ePn Pn 19 46 42.6 +0.5
NVLJ Sn Sn 19 47 19.2 -0.7
NVLJ Novalja 3.25 89 ePn Pn 19 46 42.5 +0.4
NVLJ Sn Sn 19 47 19.1 -0.8
SMRF Simiane la Rot 3.46 262 ePn Pn 19 46 47.4 +2.3
SMRF eSn Sn 19 47 25.5 +0.2
1.1nm,0.4s
SMRF Simiane la Rot 3.46 262 ePn Pn 19 46 47.4 +2.3
SMRF eSn Sn 19 47 25.5 +0.2
SMRF Simiane la Rot 3.46 262 ePn Pn 19 46 47.4 +2.3
SMRF eSn Sn 19 47 25.5 +0.2
0.6nm,0.4s
CABF La Chapelle 3.61 306 ePn Pn 19 46 48.7 +1.7
CABF eSn Sn 19 47 24.6 -4.2
1.4nm,0.4s
CABF La Chapelle 3.61 306 ePn Pn 19 46 48.7 +1.7
CABF eSn Sn 19 47 24.6 -4.2
CABF La Chapelle 3.61 306 ePn Pn 19 46 48.7 +1.7
CABF eSn Sn 19 47 24.6 -4.2
0.7nm,0.4s
VIVF Saint-Julien-l 4.04 276 ePn Pn 19 46 54.2 +1.2
VIVF eSn Sn 19 47 38.0 -1.5
2.0nm,0.4s
VIVF Saint-Julien-l 4.04 276 ePn Pn 19 46 54.2 +1.2
VIVF eSn Sn 19 47 38.0 -1.5
VIVF Saint-Julien-l 4.04 276 ePn Pn 19 46 54.2 +1.2
VIVF eSn Sn 19 47 38.0 -1.5
1.0nm,0.4s
HINF Hinteralfeld 4.04 325 ePn Pn 19 46 53.4 +0.4
HINF eSn Sn 19 47 38.0 -1.6
2.5nm,0.3s
HINF Hinteralfeld 4.04 325 ePn Pn 19 46 53.4 +0.4
HINF eSn Sn 19 47 38.0 -1.6
HINF Hinteralfeld 4.04 325 ePn Pn 19 46 53.4 +0.4
HINF eSn Sn 19 47 38.0 -1.6
1.2nm,0.3s
CDF Champ du Feu 4.38 332 ePn Pn 19 46 58.0 +0.3
CDF eSn Sn 19 47 42.8 -5.1
1.6nm,0.3s
CDF Champ du Feu 4.38 332 ePn Pn 19 46 58.0 +0.3
CDF eSn Sn 19 47 42.8 -5.1
CDF Champ du Feu 4.38 332 ePn Pn 19 46 58.0 +0.3
HAU Haudompre 4.41 323 ePn Pn 19 46 58.7 +0.7
HAU eSn Sn 19 47 46.4 -2.1
5.2nm,0.3s
HAU Haudompre 4.41 323 ePn Pn 19 46 58.7 +0.7
HAU eSn Sn 19 47 46.4 -2.1
HAU Haudompre 4.41 323 ePn Pn 19 46 58.7 +0.7
HAU eSn Sn 19 47 46.4 -2.1
2.6nm,0.3s
KHC Kasperske Hory 5.08 25 ePN Pn 19 47 07.0 -0.2
KHC eSN Sn 19 48 03.0 -2.0
KHC ex x 19 48 34.0
KHC Kasperske Hory 5.08 25 Pn Pn 19 47 07.0 -0.2
KHC Sn Sn 19 48 03.0 -2.0
LOR Lormes 5.26 303 ePn Pn 19 47 10.4 +0.7
LOR eSn Sn 19 48 09.9 +0.4
3.3nm,0.4s
LOR Lormes 5.26 303 ePn Pn 19 47 10.4 +0.7
LOR eSn Sn 19 48 09.9 +0.4
LOR Lormes 5.26 303 ePn Pn 19 47 10.4 +0.7
LOR eSn Sn 19 48 09.9 +0.4
1.6nm,0.4s
MEZF Maizieres J'vi 5.36 319 ePn Pn 19 47 12.0 +0.9
MEZF eSn Sn 19 48 08.0 -3.9
0.9nm,0.2s
MEZF Maizieres J'vi 5.36 319 ePn Pn 19 47 12.0 +0.9
MEZF eSn Sn 19 48 08.0 -3.9
MEZF Maizieres J'vi 5.36 319 ePn Pn 19 47 12.0 +0.9
MEZF eSn Sn 19 48 08.0 -3.9
0.4nm,0.2s
SSF Saint Saulge 5.38 300 ePn Pn 19 47 11.7 +0.3
SSF eSn Sn 19 48 10.6 -1.9
1.5nm,0.4s
SSF Saint Saulge 5.38 300 ePn Pn 19 47 11.7 +0.3
SSF eSn Sn 19 48 10.6 -1.9
SSF Saint Saulge 5.38 300 ePn Pn 19 47 11.7 +0.3
SSF eSn Sn 19 48 10.6 -1.9
0.8nm,0.4s

PLV 29 19:46:49.8±2.7, 22°.16N×102°.10E, h8km±31km, MD3.0
ISCJB 29 19:49:50.8±0.6, 22°.32N±0°.06×102°.10E±0°.09, h10km, mb3.6/6, Error ellipse: s-maj=13.6km s-min=5.5km az=34.7
IDC 29 19:49:51.6±1.0, 22°.44N×102°.30E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/24, mbtmp3.6/7, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/36, Error ellipse: s-maj=26.5km s-min=16.1km az=93.0
NEIC 29 19:49:52.9±0.4, 22°.40N×102°.21E, h10km, Error ellipse:

s-maj=10.8km s-min=7.3km az=99.0

ISC 29 19:49:52.9±0.6, 22°.36N±0°.06×102°.18E±0°.09, h10km, n22, σ0°.79/26, mb3.6/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGV	**Tuan Giao**	**1.39**	**123**	*e*Pn	Px	19 47 14.7	
TGV				*e*Pg	Px	19 47 16.3	
TGV				*e*Sg	Sx	19 47 35.1	
SLVN	**Son La**	**1.90**	**122**	*e*Pg	Px	19 47 25.0	
	baz=298,slow=22						
SLVN				*e*Sg	Sx	19 47 48.3	
CHG	**Chiang Mai**	**4.65**	**221**	PN	**Pn**	**19 51 04.1**	**+0.9**
CHG				PG	**Pg**	**19 51 21.5**	**-0.5**
CHG				SG	**Sg**	**19 52 23.1**	**+0.9**
CHTO	**Chiang Mai**	**4.65**	**221**	*e*P	**Pn**	**19 51 03.9**	**+0.7**
CM31	**Chiang Mai Arr**	**4.93**	**219**	*e*Pn	**Pn**	**19 51 07.7**	**+0.7**
CM31				*e*Pg	**Pg**	**19 51 26.1**	**-1.2**
CM31				*e*Sg	**Sg**	**19 52 31.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**4.93**	**219**	Pn	**Pn**	**19 51 07.6**	**+0.6**
	0.5nm,0.3s,baz=31,slow=12,SNR=21						
CMAR				Pg	**Pg**	**19 51 25.7**	**-1.6**
	2.3nm,0.3s,baz=40,slow=16,SNR=64						
CMAR				Lg		19 52 31.5	
	1.7nm,0.3s,baz=43,slow=31,SNR=8.3						
CMAR	**Chiang Mai Arr**	**4.93**	**219**	Pn	**Pn**	**19 51 07.6**	**+0.6**
CMAR				Pg	**Pg**	**19 51 25.7**	**-1.6**
CMAR				Lg		19 52 31.5	
NST	**Nakhon Sawan**	**6.93**	**197**	P	**Pg**	**19 52 02.2**	**-3.4**
SONM	**Songino Array**	**25.64**	**7**	P	**P**	**19 55 21.9**	**-0.6**
	1.5nm,0.8s,mb3.5,baz=187,slow=10,SNR=12						
SONM	**Songino Array**	**25.64**	**7**	P	**P**	**19 55 21.9**	**-0.6**
MKAR	**Makanchi Array**	**29.20**	**331**	P	**P**	**19 55 55.0**	**+0.5**
	0.6nm,0.7s,mb3.4,baz=143,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**29.20**	**331**	P	**P**	**19 55 55.0**	**+0.5**
KURK	**Kurchatov**	**33.75**	**333**	P	**P**	**19 56 34.7**	**+0.2**
	0.7nm,0.8s,mb3.6,baz=130,slow=9.3,SNR=7.8						
KURK	**Kurchatov**	**33.75**	**333**	P	**P**	**19 56 34.7**	**+0.2**
ZALV	**Zalesovo Beam**	**34.17**	**342**	P	**P**	**19 56 37.8**	**-0.4**
	1.0nm,0.7s,mb3.9,baz=138,slow=6.9,SNR=6.2						
ZALV				LR	LR	20 11 51.5	
	comp=Z,27nm,19.1s,baz=301,slow=39						
ZALV	**Zalesovo Beam**	**34.17**	**342**	P	**P**	**19 56 37.8**	**-0.4**
WRAB	**Tennant Creek**	**52.48**	**141**	P	**P**	**19 59 06.1**	**-0.1**
WRA	**Warramunga Arr**	**52.48**	**141**	P	**P**	**19 59 06.3**	**0.0**
	0.7nm,0.7s,mb3.7,baz=332,slow=8.0,SNR=5.5						
WRA	**Warramunga Arr**	**52.48**	**141**	P	**P**	**19 59 06.3**	**0.0**
WB2	**Warramunga Arr**	**52.49**	**141**	*e*P	**P**	**19 59 06.8**	**+0.5**
ASAR	**Alice Springs**	**55.18**	**144**	P	**P**	**19 59 26.4**	**+0.5**
	0.4nm,0.9s,mb3.5,baz=321,slow=6.6,SNR=5.0						
ASAR	**Alice Springs**	**55.18**	**144**	P	**P**	**19 59 26.4**	**+0.5**

IDC 29 19:52:41.4±0.8, 31°.73N×104°.14E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/28, mbtmp3.7/11, ML2.8/2, Error ellipse: s-maj=33.9km s-min=16.4km az=58.0

NEIC 29 19:52:43.2±0.5, 31°.75N×104°.14E, h10km, mb4.0/8, Error ellipse: s-maj=9.4km s-min=8.3km az=159.0

ISC 29 19:52:44.4±2.4, 31°.80N±0°.06×104°.17E±0°.07, h17km±15km, n49, σ1s02/50, mb3.8/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**4.29**	**357**	*e*Pg	**Pg**	**19 54 01.5**	**-5.0**
LZH				Sg	**Sg**	**19 55 01.0**	**-1.0**
LZH				smax			
	comp=N,54nm,0.9s						
LZH				smax			
	comp=E,77nm,0.7s						
LZH				LR	LR		
	comp=N,250nm,5.3s						
LZH				LR	LR		
	comp=E,260nm,5.7s						
LZH				LR	LR		
	comp=Z,340nm,7.8s						
CMAR	**Chiang Mai Arr**	**14.10**	**201**	Pn	**Pn**	**19 56 03.4**	**0.0**
	comp=Z,0.0nm,0.3s,baz=9.2,slow=12,SNR=2.4						
CMAR	**Chiang Mai Arr**	**14.10**	**201**	Pn	**Pn**	**19 56 03.4**	**0.0**
TAPN	**Taplejung**	**14.99**	**257**	*e*P	**Pn**	**19 56 19.2**	**+3.7**
	comp=Z,3.2nm,0.5s						
ODAN	**Odare**	**15.43**	**256**	*e*P	**Pn**	**19 56 22.8**	**+1.5**
RAMN	**Ramite**	**16.05**	**257**	*e*P	**Pn**	**19 56 29.4**	**0.0**
	comp=Z,4.2nm,0.6s						
RAMN	**Ramite**	**16.05**	**257**	*e*P	**Pn**	**19 56 29.4**	**0.0**
	comp=Z,4.2nm,0.6s						
SONM	**Songino Array**	**16.11**	**5**	Pn	**Pn**	**19 56 32.0**	**+2.1**
	comp=Z,0.0nm,0.3s,baz=186,slow=11,SNR=3.7						
SONM	**Songino Array**	**16.11**	**5**	Pn	**Pn**	**19 56 32.0**	**+2.1**
JIRN	**Jiri**	**16.15**	**260**	*e*P	**Pn**	**19 56 32.5**	**+1.9**
JIRN	**Jiri**	**16.15**	**260**	*e*P	**Pn**	**19 56 32.5**	**+1.9**
GUN	**Gumba**	**16.33**	**261**	*e*P	**Pn**	**19 56 34.2**	**+1.3**
GUN	**Gumba**	**16.33**	**261**	*e*P	**Pn**	**19 56 34.2**	**+1.3**
PKI	**Pulchoki**	**16.83**	**260**	*e*P	**Pn**	**19 56 39.6**	**+0.3**
	comp=Z,12nm,0.8s						
PKI	**Pulchoki**	**16.83**	**260**	*e*P	**Pn**	**19 56 39.6**	**+0.3**
	comp=Z,12nm,0.8s						
KKN	**Kakani**	**16.87**	**261**	*e*P	**Pn**	**19 56 39.4**	**-0.4**
	comp=Z,4.4nm,0.4s						
KKN	**Kakani**	**16.87**	**261**	*e*P	**Pn**	**19 56 39.4**	**-0.4**
	comp=Z,4.4nm,0.4s						
DMN	**Daman**	**17.07**	**261**	*e*P	**Pn**	**19 56 42.1**	**-0.2**
	comp=Z,7.8nm,0.7s						
DMN	**Daman**	**17.07**	**261**	*e*P	**Pn**	**19 56 42.1**	**-0.2**
	comp=Z,7.8nm,0.7s						
GKN	**Gorkha**	**17.35**	**262**	*e*P	**Pn**	**19 56 44.9**	**-0.9**
	comp=Z,5.4nm,0.5s						
GKN	**Gorkha**	**17.35**	**262**	*e*P	**Pn**	**19 56 44.9**	**-0.9**
	comp=Z,5.4nm,0.5s						
DANN	**Dangsing**	**17.99**	**264**	*e*P	**Pn**	**19 56 51.5**	**-2.2**
DANN	**Dangsing**	**17.99**	**264**	*e*P	**Pn**	**19 56 51.5**	**-2.2**
KOLN	**Koldanda**	**18.29**	**263**	*e*P	**Pn**	**19 56 54.1**	**-3.3**
	comp=Z,3.1nm,0.5s						
KOLN	**Koldanda**	**18.29**	**263**	*e*P	**Pn**	**19 56 54.1**	**-3.3**
	comp=Z,3.1nm,0.5s						
KSAR	**Wonju Array Be**	**20.29**	**67**	P	**P**	**19 57 20.6**	**+1.2**
KSRS	**Korea Array**	**20.32**	**67**	P	**P**	**19 57 20.6**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=260,slow=11,SNR=4.9						
MK31	**Makanchi Array**	**22.50**	**318**	*e*P	**P**	**19 57 43.5**	**+0.6**
MKAR	**Makanchi Array**	**22.50**	**318**	P	**P**	**19 57 43.3**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.4,baz=117,slow=14,SNR=14						
MKAR	**Makanchi Array**	**22.50**	**318**	P	**P**	**19 57 43.4**	**+0.5**
ZAA0	**Zalesovo Array**	**26.12**	**334**	P	**P**	**19 58 16.9**	**-0.4**
ZALV	**Zalesovo Beam**	**26.12**	**334**	P	**P**	**19 58 17.5**	**+0.2**
	comp=Z,0.9nm,0.4s,mb3.7,baz=127,slow=9.5,SNR=6.8						
ZALV	**Zalesovo Beam**	**26.12**	**334**	P	**P**	**19 58 17.5**	**+0.2**
KURK	**Kurchatov**	**26.73**	**322**	P	**P**	**19 58 23.0**	**+0.3**
	comp=Z,1.1nm,0.9s,mb3.4,baz=131,slow=8.8,SNR=7.0						
KURK	**Kurchatov**	**26.73**	**322**	P	**P**	**19 58 23.1**	**+0.3**
KKAR	**Karatay Array**	**28.82**	**303**	P	**P**	**19 58 42.1**	**+0.5**
BRVK	**Borovoye**	**32.35**	**321**	*e*P	**P**	**19 59 11.1**	**-1.5**
	comp=Z,1.3nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**20 02 28.1**	**-0.8**
	comp=Z,3.6nm,1.0s,mb4.4,baz=126,slow=9.7,SNR=4.9						
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**20 02 28.1**	**-0.8**
WRAB	**Tennant Creek**	**59.02**	**147**	*e*P	**P**	**20 02 42.8**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**59.02**	**147**	P	**P**	**20 02 42.7**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.9,baz=341,slow=7.8,SNR=18						
WRA	**Warramunga Arr**	**59.02**	**147**	P	**P**	**20 02 42.7**	**-0.7**
WB2	**Warramunga Arr**	**59.03**	**147**	*e*P	**P**	**20 02 42.9**	**-0.5**
ASAR	**Alice Springs**	**62.06**	**149**	P	**P**	**20 03 03.5**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.6,baz=338,slow=6.7,SNR=8.4						
ASAR	**Alice Springs**	**62.06**	**149**	P	**P**	**20 03 03.5**	**-0.6**
GERES	**GERESS Array B**	**67.10**	**314**	P	**P**	**20 03 37.1**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=105,slow=6.5,SNR=2.9						
GERES	**GERESS Array B**	**67.10**	**314**	P	**P**	**20 03 37.1**	**+0.3**
YKA	**Yellowknife Ar**	**81.02**	**17**	P	**P**	**20 04 57.0**	**-0.9**
	comp=Z,0.2nm,0.4s,mb4.3,baz=327,slow=4.8,SNR=4.6						
YKA	**Yellowknife Ar**	**81.02**	**17**	P	**P**	**20 04 57.0**	**-0.9**

IDC 29 20:07:44.0±44.0, 15°.68S×170°.48W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=870.9km s-min=184.6km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.35**	**241**	P	P	20 16 12.7	+0.7
	3.1nm,1.1s,baz=78,slow=10,SNR=7.4						
WRA	**Warramunga Arr**	**52.52**	**257**	P	P	20 16 58.4	-1.0
	0.5nm,0.7s,baz=98,slow=7.0,SNR=8.5						
ASAR	**Alice Springs**	**52.70**	**252**	P	P	20 17 00.9	+0.2
	3.5nm,0.5s,baz=90,slow=8.0,SNR=106						

ISCJB 29 20:16:08.1±0.8, 35°.72N±0°.07×28°.65E±0°.07, h33km, Error ellipse: s-maj=11.5km s-min=5.5km az=36.1

CSEM 29 20:16:09.4±0.2, 35°.77N×28°.60E, h30km, ML3.8, Error ellipse: s-maj=8.6km s-min=3.8km az=36.0

ATH 29 20:16:09.9, 36°.08N×28°.36E, h68km±2km

HLW 29 20:16:12.9, 35°.66N×28°.56E, h33km±16km, Md3.8

ISC 29 20:16:09.7±0.8, 35°.79N±0°.07×28°.59E±0°.07, h35km, n20, σ0s60/28, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.57**	**318**	*e*P	**Pn**	**20 16 21.0**	**-0.3**
ARG				*e*S	**Sn**	**20 16 29.3**	**-0.1**
ARG	**Arkhangelos**	**0.57**	**318**	*e*P	**Pn**	**20 16 21.0**	**-0.3**
ARG				*e*S	**Sn**	**20 16 29.3**	**-0.1**
KARP	**Karpathos**	**1.19**	**259**	*e*P	**Pn**	**20 16 30.7**	**+0.9**
KARP				*e*S	**Sn**	**20 16 45.7**	**+0.9**
KARP	**Karpathos**	**1.19**	**259**	*e*P	**Pn**	**20 16 30.7**	**+0.9**
KARP				*e*S	**Sn**	**20 16 45.7**	**+0.9**
NPS	**Neapolis**	**2.49**	**259**	*e*P	**Pn**	**20 16 48.2**	**+0.5**
NPS				*e*S	**Sn**	**20 17 15.4**	**-1.4**
NPS	**Neapolis**	**2.49**	**259**	*e*P	**Pn**	**20 16 48.3**	**+0.6**
NPS				*e*S	**Sn**	**20 17 15.4**	**-1.4**
HNAT	**Natroun**	**6.37**	**164**	P	**Pn**	**20 17 41.2**	**+0.1**
	baz=163						
HNAT	**Natroun**	**6.37**	**164**	P	**Pn**	**20 17 41.2**	**+0.1**
HHAG	**Hagoal**	**6.53**	**152**	P	**Pn**	**20 17 43.4**	**+0.2**
	baz=151						
HHAG	**Hagoal**	**6.53**	**152**	P	**Pn**	**20 17 43.4**	**+0.2**
GLL	**Jalalah**	**6.73**	**156**	P	**Pn**	**20 17 45.7**	**-0.3**
	baz=155						
GLL	**Jalalah**	**6.73**	**156**	P	**Pn**	**20 17 45.7**	**-0.3**
SUZ		**6.92**	**148**	P	**Pn**	**20 17 49.0**	**+0.4**
	baz=147						
SUZ				S	**Sn**	**20 19 01.5**	**-4.7**
	baz=147						
SUZ		**6.92**	**148**	P	**Pn**	**20 17 49.0**	**+0.4**
SWA2		**7.05**	**203**	P	**Pn**	**20 17 49.8**	**-0.6**
	baz=204						
SWA2				S	**Sn**	**20 19 03.6**	**-5.7**
	baz=204						
SWA2		**7.05**	**203**	P	**Pn**	**20 17 49.8**	**-0.5**
HNKL	**Nakhl**	**7.39**	**141**	P	**Pn**	**20 17 55.1**	**-0.1**
	baz=139						
HNKL	**Nakhl**	**7.39**	**141**	P	**Pn**	**20 17 55.1**	**0.0**
HKAT	**Jabal Katrina**	**8.57**	**146**	P	**Pn**	**20 18 10.9**	**-0.3**
	baz=145						
HKAT	**Jabal Katrina**	**8.57**	**146**	P	**Pn**	**20 18 10.9**	**-0.3**

DDA 29 20:18:11.6, 37°.05N×39°.12E, h7km±4km, Md3.4

ISK 29 20:18:15.6, 37°.25N×38°.85E, h8km, MD3.5

ISCJB 29 20:18:16.1±0.7, 37°.23N±0°.04×38°.85E±0°.04, h9km±5km, Error ellipse: s-maj=6.5km s-min=5.7km az=166.2

CSEM 29 20:18:17.6±0.4, 37°.31N×38°.80E, h10km, MD3.5, Error ellipse: s-maj=9.5km s-min=5.6km az=158.0

ISC 29 20:18:18.0±0.6, 37°.32N±0°.03×38°.76E±0°.04, h10km±4km, n57, σ0s95/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.13**	**21**	PG	**Pg**	**20 18 19.6**	**-1.4**
URFA				*e*SG	**Sg**	**20 18 24.4**	**+1.2**
URFA	**Urfa**	**0.13**	**21**	*i* Pg	**Pg**	**20 18 19.6**	**-1.5**
URFA				*e*Sg	**Sg**	**20 18 24.4**	**+1.2**
ATAB	**Bozova**	**0.40**	**292**	*i* P	**Pg**	**20 18 26.0**	**+0.1**
ATAB	**Bozova**	**0.40**	**292**	*i* P	**Pg**	**20 18 26.0**	**+0.1**
GZT	**Gaziantep**	**0.96**	**272**	*i* P	**Pg**	**20 18 35.5**	**-0.9**
GZT				*i* S	**Sg**	**20 18 54.5**	**+5.6**
MALT	**Malatya**	**1.03**	**345**	*e*PN	**Pn**	**20 18 38.2**	**-0.3**
MALT				*e*SN	**Sn**	**20 18 53.7**	**+0.7**
MALT	**Malatya**	**1.03**	**345**	*e*Pn	**Pn**	**20 18 38.2**	**-0.3**
MALT				*e*Sn	**Sn**	**20 18 53.7**	**+0.8**
MYA	**Malataya**	**1.04**	**345**	*e*PN	**Pn**	**20 18 37.6**	**-1.0**
MYA				*e*SN	**Sn**	**20 18 52.9**	**-0.4**
MYA	**Malataya**	**1.04**	**345**	*e*Pn	**Pn**	**20 18 37.7**	**-1.0**
MYA				*e*Sn	**Sn**	**20 18 52.9**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.14**	**22**	*e*PN	**Pn**	**20 18 38.2**	**-1.9**
SVRC	**Sivrice-ELAZID**	**1.14**	**22**	*e*Pn	**Pn**	**20 18 38.2**	**-1.9**
AKCD	**Akcadag**	**1.18**	**326**	*i* P	**Pb**	**20 18 41.1**	**+0.6**
AKCD				*i* S	**Sb**	**20 19 01.4**	**+5.6**
AKCD	**Akcadag**	**1.18**	**326**	*i* P	**Pb**	**20 18 41.1**	**+0.6**
AKCD				*i* S	**Sb**	**20 19 01.4**	**+5.6**
ELZG	**Elazig**	**1.19**	**8**	*i* P	**Pb**	**20 18 39.4**	**-1.3**
ELZG				*i* S	**Sb**	**20 18 57.5**	**+1.4**
ELZG	**Elazig**	**1.19**	**8**	*i* P	**Pb**	**20 18 39.4**	**-1.3**
ELZG				*i* S	**Sb**	**20 18 57.5**	**+1.4**
DIYA	**Diyarbakir**	**1.23**	**60**	*i* P	**Pn**	**20 18 34.7**	**-6.7**
DIYA				*i* S	**Sb**	**20 18 50.1**	**-7.3**
GAZ	**Gaziantep**	**1.25**	**264**	*e*PN	**Pn**	**20 18 40.1**	**-1.4**
GAZ	**Gaziantep**	**1.25**	**264**	*e*Pn	**Pn**	**20 18 40.1**	**-1.4**
KMRS	**Kahramanmaras**	**1.50**	**278**	*e*PN	**Pn**	**20 18 44.4**	**-0.5**
KMRS	**Kahramanmaras**	**1.50**	**278**	*e*Pn	**Pn**	**20 18 44.4**	**-0.5**
PTK	**Pertek**	**1.65**	**17**	*e*PN	**Pn**	**20 18 45.8**	**-1.2**
PTK	**Pertek**	**1.65**	**17**	*e*Pn	**Pn**	**20 18 45.8**	**-1.2**
BINT	**Bingol**	**2.06**	**41**	*e*Pn	**Pn**	**20 18 54.7**	**+1.9**
BEST	**Besiri**	**2.07**	**73**	*i* P	**Pn**	**20 18 46.3**	**-6.5**
BEST				*i* S	**Sn**	**20 19 13.0**	**-5.7**
SARI	**SarD1z-Kayseri**	**2.12**	**310**	*e*PN	**Pn**	**20 18 54.4**	**+0.8**
SARI	**SarD1z-Kayseri**	**2.12**	**310**	*e*Pn	**Pn**	**20 18 54.4**	**+0.9**
ILIC	**ilic-Erzincan**	**2.13**	**356**	*e*PN	**Pn**	**20 18 53.6**	**-0.1**
ILIC	**ilic-Erzincan**	**2.13**	**356**	*e*Pn	**Pn**	**20 18 53.6**	**-0.1**
BNGB	**Bing¶ll**	**2.25**	**42**	*e*PN	**Pn**	**20 18 54.7**	**-0.7**
KOZT	**Kozan**	**2.34**	**275**	*e*PN	**Pn**	**20 18 56.8**	**+0.2**
KOZT	**Kozan**	**2.34**	**275**	*e*Pn	**Pn**	**20 18 56.8**	**+0.2**
ERZN	**Erzincan**	**2.38**	**18**	*e*PN	**Pn**	**20 18 57.1**	**-0.1**
CEYT	**Ceyhan**	**2.43**	**264**	*e*PN	**Pn**	**20 18 58.2**	**+0.4**
CEYT	**Ceyhan**	**2.43**	**264**	*e*Pn	**Pn**	**20 18 58.2**	**+0.4**
EZC	**Erzincan**	**2.47**	**11**	*e*Pn	**Pn**	**20 18 57.1**	**-1.3**
BNN	**Bunyan**	**2.76**	**304**	*e*PN	**Pn**	**20 19 03.0**	**+0.7**
BNN	**Bunyan**	**2.76**	**304**	*e*Pn	**Pn**	**20 19 03.0**	**+0.6**
GUMT	**Gumushane**	**3.18**	**10**	*e*PN	**Pn**	**20 19 09.0**	**+0.8**
GUMT	**Gumushane**	**3.18**	**10**	*e*Pn	**Pn**	**20 19 09.0**	**+0.8**
BAYT	**Ayd¨–ntepe-Bay**	**3.25**	**19**	*e*PN	**Pn**	**20 19 09.5**	**+0.4**
BAYT	**Ayd¨–ntepe-Bay**	**3.25**	**19**	*e*Pn	**Pn**	**20 19 09.5**	**+0.4**
RSDY	**Resadiye-TOKAT**	**3.27**	**340**	*e*PN	**Pn**	**20 19 09.8**	**+0.4**
RSDY	**Resadiye-TOKAT**	**3.27**	**340**	*e*Pn	**Pn**	**20 19 09.8**	**+0.5**
EZM	**Erzurum**	**3.29**	**37**	*e*PN	**Pn**	**20 19 09.5**	**-0.1**
MERS	**Mersin**	**3.42**	**264**	*e*PN	**Pn**	**20 19 11.9**	**+0.5**
MERS	**Mersin**	**3.42**	**264**	*e*Pn	**Pn**	**20 19 11.9**	**+0.5**
GEVA	**Gevas**	**3.54**	**72**	*i* P	**Pn**	**20 19 07.5**	**-5.6**
GEVA				*i* S	**Sn**	**20 19 59.4**	**+4.4**
GEVA	**Gevas**	**3.54**	**72**	*i* P	**Pn**	**20 19 07.5**	**-5.6**
CUKT	**Cukurca**	**3.86**	**90**	*e*PN	**Pn**	**20 19 16.8**	**-0.7**
CUKT	**Cukurca**	**3.86**	**90**	*e*Pn	**Pn**	**20 19 16.8**	**-0.7**
AGRB	**Hanur-Agry**	**4.01**	**55**	*e*PN	**Pn**	**20 19 19.5**	**0.0**
AGRB	**Hanur-Agry**	**4.01**	**55**	*e*Pn	**Pn**	**20 19 19.5**	**0.0**
CORM	**Corum**	**4.31**	**313**	*e*PN	**Pn**	**20 19 25.6**	**+2.0**
CORM	**Corum**	**4.31**	**313**	*e*Pn	**Pn**	**20 19 25.6**	**+2.0**
CLDR	**Caldiran**	**4.45**	**64**	*e*PN	**Pn**	**20 19 24.7**	**-0.8**
CLDR	**Caldiran**	**4.45**	**64**	*e*Pn	**Pn**	**20 19 24.7**	**-0.8**
BHD	**Baghdad**	**6.12**	**130**	*ex*	**Pg**	**20 20 16.3**	**+1.1**
BHD				*ex*	**Sb**	**20 21 18.6**	**+0.7**

IDC 29 20:23:33.9±4.7, 4°.88S×152°.18E, h145km±37km, mb3.2/10, mb1 3.4/11, mb1mx3.3/19, mbtmp3.2/11, MS2.7/1, Ms1 2.7/1, ms1mx2.6/9, Error ellipse: s-maj=49.0km s-min=23.3km az=110.0

ISCJB 29 20:23:34.4±3.7, 4°.8S±0°.2×152°.0E±0°.3, h155km±29km, mb3.4/11, Error ellipse: s-maj=52.4km s-min=23.3km az=25.7

NEIC 29 20:23:34.6±2.3, 4°.90S×152°.23E, h155km±17km, mb3.8/1, Error ellipse: s-maj=33.6km s-min=13.0km az=111.0

ISC 29 20:23:34.7±3.5, 4°.9S±0°.2×152°.1E±0°.3, h149km±26km, n27, σ0s54/26, mb3.4/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.67**	**227**	P	**Pn**	**20 25 11.1**	**+0.7**
	2.1nm,0.3s,baz=19,slow=7.7,SNR=9.6						
PMG				S	**Sn**	**20 26 24.7**	**-0.8**
	6.0nm,0.3s,baz=345,slow=23,SNR=11						
PMG	**Port Moresby**	**6.67**	**227**	*e*Pn	**Pn**	**20 25 11.1**	**+0.7**
PMG				S	**Sn**	**20 26 24.7**	**-0.8**
HNR	**Honiara**	**9.00**	**121**	LR	LR	20 28 19.2	
	comp=Z,50nm,20.9s,baz=117,slow=32						
WRAB	**Tennant Creek**	**22.88**	**228**	*e*P	**P**	**20 28 26.2**	**+0.7**
	1.4nm,0.3s,mb3.9						
WB2	**Warramunga Arr**	**22.89**	**228**	*e*P	**P**	**20 28 25.4**	**-0.1**
WRA	**Warramunga Arr**	**22.89**	**228**	P	**P**	**20 28 26.0**	**+0.3**
	0.9nm,0.3s,mb3.7,baz=50,slow=10,SNR=36						
WRA	**Warramunga Arr**	**22.89**	**228**	P	**P**	**20 28 26.0**	**+0.3**
ASAR	**Alice Springs**	**25.65**	**221**	P	**P**	**20 28 51.0**	**+0.3**
	0.1nm,0.3s,mb2.9,baz=51,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**25.65**	**221**	P	**P**	**20 28 51.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**29.03**	**241**	P	**P**	**20 29 20.4**	**-0.6**
	1.2nm,0.5s,mb3.9,baz=30,slow=6.5,SNR=4.0						
FITZ	**Fitzroy Crossi**	**29.03**	**241**	*e*P	**P**	**20 29 20.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**57.28**	**295**	P	**P**	**20 33 07.5**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=108,slow=6.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**57.28**	**295**	P	**P**	**20 33 07.5**	**+0.2**
SONM	**Songino Array**	**66.01**	**328**	P	**P**	**20 34 06.1**	**+1.0**
	0.6nm,0.6s,mb3.6,baz=142,slow=5.2,SNR=12						
SONM	**Songino Array**	**66.01**	**328**	P	**P**	**20 34 06.1**	**+1.0**
MKAR	**Makanchi Array**	**79.92**	**319**	P	**P**	**20 35 27.2**	**+0.1**
	0.5nm,0.9s,mb3.2,baz=93,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**79.92**	**319**	P	**P**	**20 35 27.2**	**+0.1**
ZALV	**Zalesovo Beam**	**80.82**	**326**	P	**P**	**20 35 31.5**	**-0.2**
	0.4nm,0.5s,mb3.3,baz=107,slow=8.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**80.82**	**326**	P	**P**	**20 35 31.5**	**-0.2**
ILAR	**Eielson Array**	**82.47**	**22**	P	**P**	**20 35 39.4**	**-0.8**
	0.2nm,0.5s,mb3.0,baz=258,slow=5.3,SNR=5.0						
ILAR	**Eielson Array**	**82.47**	**22**	P	**P**	**20 35 39.4**	**-0.8**
KURK	**Kurchatov**	**83.39**	**322**	P	**P**	**20 35 44.9**	**-0.3**
	0.3nm,0.9s,mb3.0,baz=123,slow=6.8,SNR=3.0						
KURK	**Kurchatov**	**83.39**	**322**	P	**P**	**20 35 44.9**	**-0.3**
BVAR	**Borovoye Array**	**88.88**	**323**	P	**P**	**20 36 11.3**	**-0.6**
	0.5nm,0.5s,mb3.7,baz=110,slow=7.8,SNR=3.7						
BVAR	**Borovoye Array**	**88.88**	**323**	P	**P**	**20 36 11.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**149.67**	**288**	PKPbc	PKPbc	20 43 07.6	-0.2
	0.4nm,0.6s,baz=89,slow=2.2,SNR=11						
TORD	**Torodi Ar. Bea**	**149.67**	**288**	PKPbc	PKPbc	20 43 07.6	-0.2

MEX 29 20:23:58.7±1.0, 18°.83N×104°.49W, h6km±13km, MD4.0, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.59**	**55**	*i* P	Pg	20 24 08.7	-1.4
R15V				*i* S	Sg	20 24 17.6	-0.1
CJM	**Chamela**	**0.84**	**322**	*i* P	Pg	20 24 13.2	-1.7
CJM				*i* S	Sg	20 24 24.1	-1.7
EZ5V		**1.06**	**53**	*i* P	Pg	20 24 17.2	-1.8
EZ5V				*i* S	Sg	20 24 30.9	-1.8
MMIG	**Aquila**	**1.22**	**116**	*i* P	Pg	20 24 18.7	-3.3
MMIG				*i* S	Sg	20 24 33.7	-4.1
SFJM	**Santa Fe**	**2.14**	**40**	*i* P	Pn	20 24 35.0	0.0
SFJM				*i* S	Sn	20 25 00.0	-1.9
ANIG	**Ahuacatlan**	**2.21**	**359**	*i* P	Pn	20 24 33.3	-2.6
ANIG				*i* S	Sn	20 24 59.5	-4.

SOH	**Sokhos**	**0.90 241**	*e*PN	Pn	20 40 24.9	+0.2
SOH			*e*SN	Sn	20 40 37.6	+0.7
SOH	**Sokhos**	**0.90 241**	*e*Pn	Pn	20 40 24.9	+0.2
SOH			*e*Sn	Sn	20 40 38.6	+1.7
PLG	**Polygyros**	**1.14 219**	*e*PN	Pn	20 40 29.2	+1.2
PLG			*e*SN	Sn	20 40 44.3	+1.5
PLG	**Polygyros**	**1.14 219**	*e*Pn	Pn	20 40 29.2	+1.2
PLG			*e*Sn	Sn	20 40 44.3	+1.5
ALN	**Alexandroupoli**	**1.30 106**	*e*PN	Pn	20 40 32.5	+2.2
ALN			*e*SN	Sn	20 40 50.2	+3.3
ALN	**Alexandroupoli**	**1.30 106**	*e*Pn	Pn	20 40 32.5	+2.2
ALN			*e*Sn	Sn	20 40 50.2	+3.3
VAY	**Valandovo**	**1.37 273**	*e*Pg	Pn	20 40 39.8	+8.5
VAY			*e*Sg	Sn	20 40 53.9	+5.2

MAN 29 20:46:11.12″75N×123″58E, h32km, mb4.1, ML2.9, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.01**	**34**	*e*P	Pn	20 46 30.0	+1.1
PVCP				*e*S	Sn	20 46 41.7	-0.3
AUQP	**San Andres**	**1.05**	**303**	*e*P	Pn	20 46 30.8	+1.3
CNP	**Cataraman**	**1.08**	**103**	*e*P	Pn	20 46 31.1	+1.1
RCP	**Roxas**	**1.44**	**215⇑**	*e*P	Pn	20 46 34.3	-0.6
RCP				*e*S	Sn	20 46 53.3	+0.6
BOAC	**Boac**	**1.83**	**293**	*e*P	Pn	20 46 41.1	+0.8
GUIM	**Jordan**	**2.33**	**205**	*e*P	Pn	20 46 48.5	+1.4

MAN 29 20:48:01.17″53N×120″79E, h33km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.14**	**328**	*e*P	Pb	20 48 08.7	+1.7
ABRA				*e*S	Sb	20 48 13.5	+2.4
APYP	**Conner**	**0.54**	**53**	*e*P	Pb	20 48 13.4	+1.1
APYP				*e*S	Sb	20 48 22.2	+2.2
CAUP	**Cauayan**	**1.15**	**120**	*e*P	Pn	20 48 22.7	+1.9
BCPH	**Baguio City Da**	**1.16**	**190⇑**	*i*P	Pn	20 48 19.0	-1.9
BOLP	**Bolinao**	**1.42**	**216**	*e*P	Pn	20 48 26.2	+1.7
BALP	**Baler**	**1.94**	**157**	*e*P	Pn	20 48 31.5	-0.1

NEIC 29 21:12:23.2, 53°38N×165°17W, h30km, ML3.5(PMR), ML3.3(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.83**	**335**	P	Pn	21 12 37.3	-1.6
AKA				S	Sb	21 12 48.5	-1.4
AKUT	**Akutan**	**0.83**	**335**	P	Pn	21 12 37.2	-1.7
AKUT				S	Sb	21 12 48.3	-1.6
UNV	**Unalaska Valle**	**0.92**	**301**	P	Pn	21 12 38.5	-1.5
UNV				S	Sn	21 12 50.3	-1.9
MREP	**Makushin Rep't**	**1.03**	**295**	P	Pn	21 12 40.5	-1.1
MREP				S	Sn	21 12 54.0	-0.9
MSOM	**Makushin Julie**	**1.14**	**293**	P	Pn	21 12 42.0	-1.1
MCIR	**Makushin Cirqu**	**1.17**	**300**	P	Pn	21 12 42.8	-0.7
MCIR				S	Sn	21 12 57.7	-0.7
BRPK	**Brown Peak**	**1.52**	**33**	P	Pn	21 12 46.2	-2.1
FALS	**False Pass**	**1.80**	**34**	P	Pn	21 12 50.7	-1.5
DRIA	**Deer Island**	**2.33**	**46**	P	Pn	21 12 58.3	-1.2
DT1	**Dutton Round H**	**2.42**	**43**	P	Pn	21 12 59.8	-0.9
DTNA	**Dutton South F**	**2.46**	**43**	P	Pn	21 13 00.4	-0.8
DOL	**Dolgoi Island**	**2.63**	**46**	P	Pn	21 13 02.4	-1.1
PS4A	**Pavlof South-4**	**2.76**	**43**	P	Pn	21 13 04.9	-0.5
SDPT	**Sand Point**	**3.38**	**52**	P	Pn	21 13 12.5	-1.3

IDC 29 21:14:13.2±8.1, 19°51S×176°81W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=223.3km s-min=74.8km az=125.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.23**	**243**	P	P	21 21 43.3	-0.1
	3.8nm,1.0s,baz=93,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**45.84**	**256**	P	P	21 22 37.3	0.0
	1.6nm,0.8s,baz=94,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**45.85**	**261**	P	P	21 22 37.4	-0.1
	0.2nm,0.3s,baz=97,slow=7.1,SNR=13						
CMAR	**Chiang Mai Arr**	**90.84**	**289**	P	P	21 27 19.1	+0.1
	0.4nm,0.8s,baz=117,slow=3.4,SNR=6.9						

IDC 29 21:20:47.6±10.0, 3°95N×123°15E, h557km±163km, mb3.0/7, mb1 3.1/7, mb1mx2.8/21, mbtmp3.0/7, Error ellipse: s-maj=82.6km s-min=29.0km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.05**	**174**	P	P	21 25 01.9	0.0
	2.7nm,1.0s,baz=357,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**26.17**	**156**	P	P	21 25 37.6	-0.8
	2.2nm,0.3s,baz=335,slow=9.7,SNR=65						
ASAR	**Alice Springs**	**29.39**	**160**	P	P	21 26 06.5	+0.1
	1.1nm,0.4s,baz=337,slow=7.3,SNR=32						
STKA	**Stephens Creek**	**39.72**	**155**	P	P	21 27 33.4	+0.9
	2.2nm,1.0s,baz=329,slow=8.2,SNR=4.4						
SONM	**Songino Array**	**46.03**	**344**	P	P	21 28 22.2	+0.7
	0.4nm,0.8s,baz=162,slow=9.0,SNR=4.5						
MKAR	**Makanchi Array**	**55.38**	**327**	P	P	21 29 30.2	+0.8
	0.5nm,0.3s,baz=122,slow=8.0,SNR=17						
KURK	**Kurchatov**	**59.67**	**329**	P	P	21 29 56.9	-1.7
	1.0nm,0.3s,baz=128,slow=6.0,SNR=3.2						

IDC 29 21:29:48.2±5.1, 15°99S×176°05W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/17, mbtmp4.2/4, Error ellipse: s-maj=148.1km s-min=100.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.54**	**240**	P	P	21 37 37.5	-0.2
	1.3nm,0.4s,baz=89,slow=12,SNR=6.7						
WRA	**Warramunga Arr**	**47.23**	**257**	P	P	21 38 23.2	-0.1
	0.7nm,0.5s,baz=92,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**47.51**	**252**	P	P	21 38 25.4	0.0
	8.4nm,0.6s,baz=89,slow=8.2,SNR=200						
ASAR				PcP	PcP	21 39 55.8	0.0
	0.2nm,0.4s,baz=96,slow=4.1,SNR=4.3						
FITZ	**Fitzroy Crossi**	**55.60**	**259**	P	P	21 39 26.1	-0.1
	0.9nm,0.5s,baz=51,slow=8.5,SNR=3.3						

*TRN **29** 21:32:59.0, 18°73N×64°47W, h31km, MD2.8(RSPR)*
*NEIC **29** 21:33:01.7, 18°80N×64°45W, h27km, MD2.8(RSPR), After RSPR.*

RSPR 29 21:33:01.7, 18°80N×64°45W, h27km±4km, MD2.8/6, 12C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.13**	**123⇓**	*e*P	Pb	21 33 06.2	-0.6
ABV				*e*S	Sb	21 33 10.4	+0.1
ABV	**Anegada**	**0.13**	**123⇓**	*e*P	Pb	21 33 06.2	-0.6
ABV				*e*S	Sb	21 33 10.4	+0.1
TBVI	**Tortola**	**0.41**	**203⇓**	*e*P	Pb	21 33 09.0	-1.6
TBVI				*e*S	Sb	21 33 15.5	-1.2
TBVI	**Tortola**	**0.41**	**203⇓**	*e*P	Pb	21 33 09.0	-1.6
TBVI				*e*S	Sb	21 33 15.5	-1.2
TBVI	**Tortola**	**0.41**	**203⇓**	*e*P	Pb	21 33 09.0	-1.6
TBVI				*e*S	Sb	21 33 15.5	-1.2
STVI	**Saint Thomas**	**0.66**	**227⇑**	*e*P	Pb	21 33 12.4	-2.2
STVI	**Saint Thomas**	**0.66**	**227⇑**	*e*P	Pb	21 33 12.4	-2.2
STVI				*e*S	Sb	21 33 21.9	-1.5
STVI	**Saint Thomas**	**0.66**	**227⇑**	*e*P	Pb	21 33 12.4	-2.2
STVI				*e*S	Sb	21 33 21.9	-1.5
CDVI	**St. Croix**	**1.09**	**196⇑**	*e*P	Pn	21 33 19.7	-1.5
CDVI	**St. Croix**	**1.09**	**196⇑**	*e*P	Pn	21 33 19.7	-1.5
CDVI				*e*S	Sn	21 33 33.4	-2.0
CDVI	**St. Croix**	**1.09**	**196⇑**	*e*P	Pn	21 33 17.9	-3.3
CDVI				*e*S	Sn	21 33 33.4	-2.0
MTP	**Monte Pirata**	**1.26**	**236⇑**	*e*P	Pn	21 33 21.1	-2.5
MTP	**Monte Pirata**	**1.26**	**236⇑**	*e*P	Pn	21 33 21.1	-2.5
MTP				*e*S	Sn	21 33 37.4	-2.3
MTP	**Monte Pirata**	**1.26**	**236⇑**	*e*P	Pn	21 33 21.1	-2.5
MTP				*e*S	Sn	21 33 37.4	-2.3
CBYP	**Canovanas**	**1.44**	**249⇑**	*e*P	Pn	21 33 24.7	-1.3
CBYP	**Canovanas**	**1.44**	**249⇑**	*e*P	Pn	21 33 24.7	-1.3
CBYP				*e*S	Sn	21 33 42.0	-2.0
CBYP	**Canovanas**	**1.44**	**249⇑**	*e*P	Pn	21 33 24.7	-1.3
CBYP				*e*S	Sn	21 33 42.0	-2.0
HUMP	**Col San Antoni**	**1.48**	**244**	*e*S	Sn	21 33 42.5	-2.7
HUMP	**Col San Antoni**	**1.48**	**244**	*e*S	Sn	21 33 42.5	-2.7

*ISK **29** 21:41:54.5, 38°47N×39°07E, h5km, MD3.0*
*ISCJB **29** 21:41:55.6±0.6, 38°46N±0°03×39°07E±0°03, h4km±5km, Error ellipse: s-maj=5.3km s-min=4.0km az=170.1*
*DDA **29** 21:41:55.4, 38°42N×39°05E, h7km±1km, Md3.0*
*CSEM **29** 21:41:55.6±0.2, 38°47N×39°08E, h2km, MD3.0, Error ellipse: s-maj=6.0km s-min=4.8km az=171.0*

ISC 29 21:41:56.0±0.5, 38°45N±0°03×39°08E±0°03, h3km±5km, n33, σ1§02/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.09**	**300**	*i*P	Pg	21 41 58.6	+0.9
ELZG				*i*S	Sg	21 42 00.9	+1.9
ELZG	**Elazig**	**0.09**	**300**	*i*P	Pg	21 41 58.6	+0.8
ELZG				*i*S	Sg	21 42 00.9	+1.9
SVRC	**Sivrice-ELAZID**	**0.19**	**113**	PG	Pg	21 41 59.1	-0.6
SVRC	**Sivrice-ELAZID**	**0.19**	**113**	*i*Pg	Pg	21 41 59.1	-0.6
PTK	**Pertek**	**0.50**	**29**	*e*PG	Pg	21 42 04.3	-1.4
PTK				*e*SG	Sg	21 42 12.2	+0.1
PTK	**Pertek**	**0.50**	**29**	*e*Pg	Pg	21 42 04.3	-1.3
PTK				*e*Sg	Sg	21 42 12.2	0.0
MYA	**Malataya**	**0.53**	**256**	*e*PG	Pg	21 42 05.5	-0.7
MYA				*e*SG	Sg	21 42 12.8	-0.3
MYA	**Malataya**	**0.53**	**256**	*e*Pg	Pg	21 42 05.5	-0.7
MYA				*e*Sg	Sg	21 42 12.8	-0.3
MALT	**Malatya**	**0.53**	**255**	*e*PG	Pg	21 42 06.1	-0.1
MALT				*e*SG	Sg	21 42 13.3	+0.1
MALT	**Malatya**	**0.53**	**255**	*e*Pg	Pg	21 42 06.1	-0.1
MALT				*e*Sg	Sg	21 42 13.3	+0.2
AKCD	**Akcadag**	**0.93**	**261**	*i*P	Pg	21 42 12.6	-1.1
AKCD				*i*S	Sg	21 42 25.9	+0.1
AKCD	**Akcadag**	**0.93**	**261**	*i*P	Pg	21 42 12.6	-1.1
AKCD				*i*S	Sg	21 42 25.9	+0.2
KEMA	**Kemaliye**	**0.94**	**331**	*i*P	Pg	21 42 13.5	-0.4
KEMA				*i*S	Sg	21 42 27.2	+1.1
KEMA	**Kemaliye**	**0.94**	**331**	*i*P	Pg	21 42 13.5	-0.5
KEMA				*i*S	Sg	21 42 27.2	+1.1
DIYA	**Diyarbakir**	**0.97**	**123**	*i*P	Pg	21 42 14.4	-0.3
DIYA				*i*S	Sg	21 42 28.2	+0.8
DIYA	**Diyarbakir**	**0.97**	**123**	*i*P	Pg	21 42 14.4	-0.3
DIYA				*i*S	Sg	21 42 28.2	+0.9
ILIC	**ilic-Erzincan**	**1.07**	**338**	*e*PG	Pg	21 42 15.2	-1.4
ILIC				*e*SG	Sg	21 42 30.5	-0.1
ILIC	**ilic-Erzincan**	**1.07**	**338**	*e*Pg	Pg	21 42 15.3	-1.3
ILIC				*e*Sg	Sg	21 42 30.5	-0.1
DARE	**Darende-Malaty**	**1.12**	**297**	*e*PN	Pg	21 42 18.4	+1.0
DARE	**Darende-Malaty**	**1.12**	**297**	*e*Pn	Pg	21 42 18.4	+1.0
BINT	**Bingol**	**1.18**	**69**	*e*Pn	Pn	21 42 21.2	+1.8
BNGB	**Bing¶ll**	**1.36**	**66**	*e*PN	Pn	21 42 21.1	-0.8
BEST	**Besiri**	**1.81**	**107**	*i*P	Pn	21 42 27.9	-0.2
BEST				*i*S	Sn	21 42 53.5	+1.8
SARI	**SarD1z-Kayseri**	**1.88**	**278**	*e*PN	Pn	21 42 31.4	+2.3
SARI	**SarD1z-Kayseri**	**1.88**	**278**	*e*Pn	Pn	21 42 31.4	+2.3
GAZ	**Gaziantep**	**1.96**	**230**	*e*PN	Pn	21 42 29.7	-0.4
GAZ	**Gaziantep**	**1.96**	**230**	*e*Pn	Pn	21 42 29.7	-0.4
KMRS	**Kahramanmaras**	**1.97**	**242**	*e*PN	Pn	21 42 30.0	-0.2
KMRS	**Kahramanmaras**	**1.97**	**242**	*e*Pn	Pn	21 42 30.0	-0.3
GUMT	**Gumushane**	**2.03**	**9**	*e*PN	Pn	21 42 29.8	-1.3
GUMT	**Gumushane**	**2.03**	**9**	*e*Pn	Pn	21 42 29.8	-1.3
BNN	**Bunyan**	**2.56**	**280**	*e*PN	Pn	21 42 37.0	-1.5
BNN	**Bunyan**	**2.56**	**280**	*e*Pn	Pn	21 42 37.0	-1.5

*IDC **29** 21:51:30.4±2.9, 28°26N×52°30E, h0km, mb3.8/3, mb1 3.7/4, mb1mx3.3/25, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=67.4km s-min=31.4km az=148.0*
*KISR **29** 21:51:30.7±0.3, 28°31N×52°12E, h34km±227km, ML3.0*
*TEH **29** 21:51:30.9, 28°15N×51°96E, h5km*
*ISCJB **29** 21:51:32.6±1.1, 28°37N±0°08×52°30E±0°06, h10km, mb3.8/3, Error ellipse: s-maj=12.2km s-min=5.9km az=157.4*

ISC 29 21:51:34.0±1.1, 28°34N±0°08×52°33E±0°06, h10km, n14, σ1§44/19, mb3.8/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMEH	**Mehriz**	**3.63**	**33**	*e*Pn	Pn	21 52 32.2	+1.9
IMEH				*e*		21 52 35.6	
	comp=Z,362nm,0.2s						
ISAD	**Sadrabad**	**3.75**	**18**	*e*Pn	Pn	21 52 33.4	+1.5
ISAD				*e*		21 53 47.1	
	comp=Z,450nm,0.4s						
RDF	**Al-Radifah**	**4.24**	**279**	*e*P	Pn	21 52 38.5	-0.1
RDF				*e*S	Sn	21 53 29.3	+1.1
RDF				AML	AML	21 53 33.3	
	comp=Z,12nm,0.5s						
ICHK	**Chekchek**	**4.29**	**24**	*e*Pn	Pn	21 52 41.1	+1.8
ICHK				*e*		21 52 43.2	
	comp=Z,408nm,0.2s						
IBAF	**Bafgh**	**4.29**	**40**	*e*	Pn	21 52 41.4	+2.1
	comp=Z,117nm,0.1s						
IPIR	**Pirpir**	**4.51**	**344**	*e*Pn	Pn	21 52 40.4	-1.9
IPIR				*e*Sn	Sn	21 53 32.7	-2.0
IZEF	**Zefreh**	**4.54**	**0**	*e*Pn	Pn	21 52 43.3	+0.5
IZEF				*e*		21 53 06.6	
	comp=Z,69nm,0.2s						
IZEF				*e*Sn	Sn	21 53 35.8	+0.2
NAY	**Al-Naaiem**	**4.55**	**283**	*e*P	Pn	21 52 43.0	+0.1
NAY				*e*S	Sn	21 53 37.2	+1.2
NAY				AML	AML	21 53 40.4	
	comp=Z,9.8nm,0.5s						
MIB	**Mutribah**	**4.60**	**290**	*e*P	Pn	21 52 43.7	+0.1
MIB				*e*S	Sn	21 53 38.7	+1.6
MIB				AML	AML	21 53 41.0	
	comp=Z,28nm,0.5s						
IKLH	**Kolahrood**	**5.01**	**353**	*e*Pn	Pn	21 52 48.2	-1.0
IKLH				*e*		21 54 31.0	
	comp=Z,149nm,0.5s						
BRTR	**Keskin Array B**	**19.17**	**311**	P	Pn	21 55 56.4	-2.0
	comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=4.2						
ZALV	**Zalesovo Beam**	**34.88**	**34**	P	P	21 58 24.1	-1.2
	comp=Z,0.7nm,0.6s,mb3.8,baz=224,slow=10.0,SNR=2.7						
FINES	**FINESS Array B**	**37.44**	**340**	P	P	21 58 45.2	-1.9
	comp=Z,3.6nm,0.9s,mb4.2,baz=141,slow=9.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**49.35**	**263**	P	P	22 00 21.6	-2.3
	comp=Z,0.2nm,0.5s,mb3.4,baz=59,slow=8.8,SNR=9.5						

*ISK **29** 22:14:43.4, 39°41N×26°27E, h5km, MD3.0*
*ATH **29** 22:14:43.7, 39°41N×26°38E, h14km±1km, MD3.2/5*
*DDA **29** 22:14:43.4, 39°43N×26°28E, h6km±4km, Md2.9*
*ISCJB **29** 22:14:44.5±0.4, 39°41N±0°02×26°30E±0°04, h10km, Error ellipse: s-maj=4.0km s-min=3.0km az=171.7*
*CSEM **29** 22:14:44.4±0.2, 39°41N×26°29E, h5km, MD3.2, Error ellipse: s-maj=4.3km s-min=3.3km az=75.0*

ISC 29 22:14:44.7±0.5, 39°41N±0°02×26°32E±0°04, h5km±4km, n54, σ0§84/74, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.17**	**192**	*e*PG	Pg	22 14 48.0	-0.1
PRK				*e*SG	Sg	22 14 51.3	+1.0
PRK	**Paraskevi**	**0.17**	**192**	*e*Pg	Pg	22 14 48.0	-0.1
PRK				*e*Sg	Sg	22 14 51.3	+1.0
EZN	**Ezine**	**0.41**	**1**	PG	Pg	22 14 52.0	-0.7
EZN				*e*SG	Sg	22 14 58.4	+0.4
EZN	**Ezine**	**0.41**	**1**	*i*Pg	Pg	22 14 52.0	-0.6
EZN				*e*Sg	Sg	22 14 58.4	+0.4
GELI	**Tayfur-Gelibol**	**0.99**	**7**	*e*PG	Pg	22 15 03.4	-0.3
GELI				*e*SG	Sg	22 15 17.0	+0.4
GELI	**Tayfur-Gelibol**	**0.99**	**7**	*e*Pg	Pg	22 15 03.4	-0.3
GELI				*e*Sg	Sg	22 15 17.0	+0.4
LIA	**Limnos Island**	**1.00**	**299**	*e*PG	Pg	22 15 03.3	-0.6
LIA				*e*SB	Sg	22 15 18.0	+1.1
LIA	**Limnos Island**	**1.00**	**299**	*e*Pg	Pg	22 15 03.3	-0.6
LIA				*e*Sb	Sg	22 15 18.0	+1.1
LPK	**Lapseki**	**1.02**	**19**	*e*PG	Pg	22 15 03.2	-1.0
LPK	**Lapseki**	**1.02**	**19**	*e*Pg	Pg	22 15 03.2	-1.0
CHOS	**Chios island**	**1.05**	**191**	*e*PN	Pg	22 15 04.1	-0.6
CHOS				*e*SB	Sg	22 15 18.2	-0.1
CHOS	**Chios island**	**1.05**	**191**	*e*Pn	Pg	22 15 04.1	-0.6
CHOS				*e*Sb	Sg	22 15 18.2	-0.1
BALY	**Balya**	**1.06**	**72**	*i*P	Pg	22 15 04.5	-0.4
BALY				*i*S	Sg	22 15 18.9	+0.3
BALY	**Balya**	**1.06**	**72**	*i*P	Pg	22 15 04.5	-0.5
BALY				*i*S	Sg	22 15 18.9	+0.2
BLCB	**Balcova**	**1.17**	**151**	*e*PN	Pn	22 15 06.7	-1.0
BLCB				*e*SN	Sn	22 15 22.6	-1.4
BLCB	**Balcova**	**1.17**	**151**	*e*Pn	Pn	22 15 06.7	-1.0
BLCB				*e*Sn	Sn	22 15 22.6	-1.4
BALB	**Balikesir**	**1.23**	**79**	*e*PN	Pn	22 15 08.1	-0.4
BALB	**Balikesir**	**1.23**	**79**	*e*Pn	Pn	22 15 08.1	-0.4
GONE	**Gonen-Balikesi**	**1.23**	**59**	*e*PN	Pn	22 15 07.8	-0.7
GONE	**Gonen-Balikesi**	**1.23**	**59**	*e*Pn	Pn	22 15 07.8	-0.7
KRBG	**Karabiga-Canak**	**1.23**	**37**	*e*PN	Pn	22 15 08.6	0.0
KRBG	**Karabiga-Canak**	**1.23**	**37**	*e*Pn	Pn	22 15 08.6	0.0
ERIK	**Erikli-Kesan**	**1.26**	**7**	*e*PN	Pn	22 15 08.4	-0.6
ERIK	**Erikli-Kesan**	**1.26**	**7**	*e*Pn	Pn	22 15 08.4	-0.6
AKS	**Akhisar**	**1.28**	**114**	*e*PN	Pn	22 15 08.6	-0.6
AKS	**Akhisar**	**1.28**	**114**	*e*Pn	Pn	22 15 08.6	-0.6
ENEZ	**Enez**	**1.33**	**355**	*e*PN	Pn	22 15 09.2	-0.6
ENEZ	**Enez**	**1.33**	**355**	*e*Pn	Pn	22 15 09.2	-0.7
RKY	**Sarkoy-Tekirda**	**1.43**	**27**	*e*PN	Pn	22 15 11.1	-0.2
RKY	**Sarkoy-Tekirda**	**1.43**	**27**	*e*Pn	Pn	22 15 11.1	-0.2
ALN	**Alexandroupoli**	**1.50**	**352**	*e*PB	Pb	22 15 12.2	-0.8
ALN				*e*SB	Sb	22 15 32.1	-0.1
ALN	**Alexandroupoli**	**1.50**	**352**	*e*Pb	Pb	22 15 12.3	-0.7
ALN				*e*Sb	Sb	22 15 32.1	-0.1
EDC	**Edincik**	**1.51**	**51**	*e*PN	Pn	22 15 13.1	+0.7
EDC	**Edincik**	**1.51**	**51**	*e*Pn	Pn	22 15 13.1	+0.7
DURS	**Dursunbey**	**1.68**	**83**	*i*P	Pn	22 15 14.7	0.0
DURS				*i*S	Sn	22 15 33.5	-3.1
DURS	**Dursunbey**	**1.68**	**83**	*i*P	Pn	22 15 14.7	0.0
DURS				*i*S	Sn	22 15 33.5	-3.1
KCTX	**Karacabey (Bur**	**1.79**	**61**	*e*PN	Pn	22 15 16.1	-0.1
KCTX	**Karacabey (Bur**	**1.79**	**61**	*e*Pn	Pn	22 15 16.1	-0.1
RDO	**Rodhopi**	**1.83**	**341**	*e*PN	Pn	22 15 16.8	0.0
RDO	**Rodhopi**	**1.83**	**341**	*e*Pn	Pn	22 15 16.4	-0.4
DEMI	**Demirci**	**1.90**	**100**	*i*P	Pn	22 15 19.5	+1.8
DEMI				*i*S	Sn	22 15 44.1	+2.1
DEMI	**Demirci**	**1.90**	**100**	*i*P	Pn	22 15 19.5	+1.8
DEMI				*i*S	Sn	22 15 44.1	+2.1
KULA	**Kula-Manisa**	**2.04**	**115**	*e*PN	Pn	22 15 20.1	+0.6
KULA	**Kula-Manisa**	**2.04**	**115**	*e*Pn	Pn	22 15 20.2	+0.6
MDNY	**Mudanya-Bursa**	**2.19**	**63**	*e*PN	Pn	22 15 22.5	+0.8
MDNY	**Mudanya-Bursa**	**2.19**	**63**	*e*Pn	Pn	22 15 22.5	+0.7
ARMT	**Armutlu**	**2.27**	**59**	*e*PN	Pn	22 15 23.8	+1.0
ARMT	**Armutlu**	**2.27**	**59**	*e*Pn	Pn	22 15 23.8	+1.0
PLG	**Polygyros**	**2.41**	**294**	*e*PN	Pn	22 15 25.6	+0.9
PLG	**Polygyros**	**2.41**	**294**	*e*Pn	Pn	22 15 25.9	+1.2
EDRB	**Edirne**	**2.45**	**7**	*e*PN	Pn	22 15 25.3	-0.1
EDRB	**Edirne**	**2.45**	**7**	*e*Pn	Pn	22 15 25.3	0.0
YLV	**Yalova**	**2.61**	**63**	*e*PN	Pn	22 15 28.7	+1.1
YLV	**Yalova**	**2.61**	**63**	*e*Pn	Pn	22 15 28.7	+1.2

*ISK **29** 22:34:21.0, 40°30N×25°82E, h2km, MD2.8*
*DDA **29** 22:34:22.0, 40°35N×25°82E, h6km±4km, Md2.8*
*ISCJB **29** 22:34:22.7±0.4, 40°36N±0°02×25°82E±0°03, h10km, Error ellipse: s-maj=3.8km s-min=2.9km az=174.4*
*ATH **29** 22:34:22.7, 40°35N×25°87E, h3km±2km, MD3.4/8*
*CSEM **29** 22:34:22.5±0.2, 40°35N×25°86E, h2km, MD2.8, Error ellipse: s-maj=3.8km s-min=3.4km az=70.0*

ISC 29 22:34:22.8±0.5, 40°34N±0°02×25°86E±0°03, h1km±5km, n51, σ1§02/71, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.45**	**30**	*e*PG	Pg	22 34 30.9	-0.7
ENEZ				*e*SG	Sg	22 34 39.7	+2.3
ENEZ	**Enez**	**0.45**	**30**	*e*Pg	Pg	22 34 30.9	-0.6
GELI	**Tayfur-Gelibol**	**0.48**	**83**	*e*PG	Pg	22 34 30.9	-1.0
GELI				*e*SG	Sg	22 34 39.7	+1.6
GELI	**Tayfur-Gelibol**	**0.48**	**83**	*e*Pg	Pg	22 34 30.9	-1.0
GELI				*e*Sg	Sg	22 34 39.7	+1.6
BOZC	**Bozcaada**	**0.52**	**163**	*i*P	Pg	22 34 31.5	-1.3
BOZC				*i*S	Sg	22 34 41.0	+1.5
ALN	**Alexandroupoli**	**0.57**	**15**	*e*PG	Pg	22 34 33.3	-0.5
ALN				*e*SG	Sg	22 34 41.2	-0.1
ALN	**Alexandroupoli**	**0.57**	**15**	*e*Pg	Pg	22 34 33.3	-0.5
ALN				*e*Sg	Sg	22 34 41.2	-0.

*ISCJB **29** 22:46:28.9±0.6, 39.°50N±0.°03×34.°00E±0.°04, h14km±11km, Error ellipse: s-maj=5.5km s-min=4.7km az=164.4*
*ISK **29** 22:46:28.9, 39.°51N×33.°99E, h11km, MD2.7*
*DDA **29** 22:46:29.8, 39.°52N×34.°01E, h7km±1km, Md2.8*
*CSEM **29** 22:46:29.6±0.2, 39.°52N×34.°02E, h2km, MD2.7, Error ellipse: s-maj=5.8km s-min=4.2km az=176.0*

ISC 29 22:46:29.8±0.6, 39.°50N±0.°03×34.°00E±0.°04, h13km±11km, n20, σ0°67/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.26**	**241**	PG	**Pg**	**22 46 34.9**	**-0.3**
KAMT				*e*SG	**Sg**	22 46 38.4	-0.5
KAMT	**Kaman**	**0.26**	**241**	*i* Pg	**Pg**	**22 46 34.9**	**-0.3**
KAMT				*e*Sg	**Sg**	22 46 38.4	-0.4
BBAL	**Bala**	**0.68**	**274**	*i* P	**Pg**	**22 46 43.4**	**+0.4**
BBAL				*i* S	**Sg**	**22 46 53.3**	**+1.3**
BBAL	**Bala**	**0.68**	**274**	*i* P	**Pg**	**22 46 43.4**	**+0.3**
BBAL				*i* S	**Sg**	**22 46 53.3**	**+1.3**
AFSR	**Af ar-Bala (A**	**0.72**	**266**	*e*PG	**Pg**	**22 46 42.8**	**-1.0**
AFSR				*e*SG	**Sg**	**22 46 53.9**	**+0.6**
AFSR	**Af ar-Bala (A**	**0.72**	**266**	*e*Pg	**Pg**	**22 46 42.8**	**-1.0**
AFSR				*e*Sg	**Sg**	**22 46 53.9**	**+0.6**
CORM	**Corum**	**0.83**	**35**	*e*PG	**Pg**	**22 46 45.4**	**-0.5**
CORM				*e*SG	**Sg**	**22 46 57.3**	**+0.4**
CORM	**Corum**	**0.83**	**35**	*e*Pg	**Pg**	**22 46 45.4**	**-0.5**
CORM				*e*Sg	**Sg**	**22 46 57.3**	**+0.4**
AVNT	**Avonos**	**0.98**	**137**	*i* P	**Pg**	**22 46 48.9**	**+0.3**
AVNT				*i* S	**Sg**	**22 47 02.1**	**+0.8**
AVNT	**Avonos**	**0.98**	**137**	*i* P	**Pg**	**22 46 48.9**	**+0.3**
AVNT				*i* S	**Sg**	**22 47 02.1**	**+0.8**
YOZ	**Yozgat**	**1.03**	**82**	*e*PG	**Pg**	**22 46 49.1**	**-0.5**
YOZ	**Yozgat**	**1.03**	**82**	*e*Pg	**Pg**	**22 46 49.1**	**-0.5**
LOD	**Lodumlu**	**1.03**	**293**	*e*PG	**Pg**	**22 46 48.6**	**-1.1**
LOD	**Lodumlu**	**1.03**	**293**	*e*Pg	**Pg**	**22 46 48.6**	**-1.1**
ELDT	**Eldivan**	**1.09**	**336**	*i* P	**Pg**	**22 46 50.1**	**-0.6**
ELDT				*i* S	**Sg**	**22 47 05.8**	**+0.9**
ELDT	**Eldivan**	**1.09**	**336**	*i* P	**Pg**	**22 46 50.1**	**-0.6**
ELDT				*i* S	**Sg**	**22 47 05.8**	**+0.9**
BNN	**Bunyan**	**1.57**	**114**	*e*PN	**Pn**	**22 46 57.5**	**+0.1**
BNN	**Bunyan**	**1.57**	**114**	*e*Pn	**Pn**	**22 46 57.5**	**+0.1**
KDHN	**Kadinhani**	**1.76**	**237**	*i* P	**Pg**	**22 47 03.1**	**-0.6**
KDHN				*i* S	**Sg**	**22 47 26.8**	**+0.3**
KDHN	**Kadinhani**	**1.76**	**237**	*i* P	**Pg**	**22 47 03.1**	**-0.5**
KDHN				*i* S	**Sg**	**22 47 26.8**	**+0.3**

*IDC **29** 23:12:18.9±19.0, 18.°30S×175.°22W, h136km±161km, mb3.8/7, mb1 4.0/7, mb1mx3.7/18, mbtmp3.8/7, Error ellipse: s-maj=120.7km s-min=52.9km az=138.0*
*ISCJB **29** 23:12:31.5±3.1, 18.°6S±0.°2×175.°4W±0.°2, h268km±22km, mb3.8/8, Error ellipse: s-maj=38.3km s-min=27.9km az=11.2*
*NEIC **29** 23:12:31.3±2.2, 18.°69S×175.°30W, h255km±16km, mb4.1/4, Error ellipse: s-maj=23.3km s-min=16.9km az=111.0*

ISC 29 23:12:30.9±3.1, 18.°7S±0.°2×175.°2W±0.°2, h254km±22km, n24, σ0°66/18, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.44**	**277**	*e*Pn	**Pn**	**23 14 04.8**	**+0.2**
	31nm,0.9s						
URZ	**Urewera**	**20.64**	**197**	*e*P	**P**	**23 16 51.4**	**+0.1**
	6.3nm,0.5s						
ARMA	**Armidale**	**32.21**	**242**	*e*P	**P**	**23 18 35.1**	**-0.6**
CTA	**Charters Tower**	**36.30**	**261**	P	**P**	**23 19 10.4**	**-0.3**
	1.5nm,0.3s,mb3.9,baz=87,slow=12,SNR=4.1						
CTA	**Charters Tower**	**36.30**	**261**	P	**P**	**23 19 10.4**	**-0.3**
STKA	**Stephens Creek**	**40.93**	**243**	P	**P**	**23 19 50.0**	**+0.9**
	1.6nm,0.5s,mb3.7,baz=69,slow=14,SNR=6.9						
WRAB	**Tennant Creek**	**47.45**	**260**	*e*P	**P**	**23 20 40.0**	**-0.7**
	2.6nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**47.46**	**260**	P	**P**	**23 20 40.0**	**-0.8**
	1.5nm,0.4s,mb3.6,baz=95,slow=6.6,SNR=11						
WRA	**Warramunga Arr**	**47.46**	**260**	P	**P**	**23 20 40.0**	**-0.8**
AS31	**Alice Springs**	**47.49**	**255**	*e*P	**P**	**23 20 40.7**	**-0.3**
ASAR	**Alice Springs**	**47.49**	**255**	P	**P**	**23 20 41.2**	**+0.2**
	13nm,0.5s,mb4.5,baz=91,slow=8.5,SNR=277						
ASAR	**Alice Springs**	**47.49**	**255**	P	**P**	**23 20 41.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**55.87**	**260**	P	**P**	**23 21 43.2**	**+0.3**
	2.3nm,0.5s,mb3.9,baz=108,slow=8.7,SNR=14						
FITZ	**Fitzroy Crossi**	**55.87**	**260**	*e*P	**P**	**23 21 43.5**	**+0.6**
	3.0nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**85.97**	**12**	P	**P**	**23 24 41.5**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=230,slow=5.7,SNR=4.3						
ILAR	**Eielson Array**	**85.97**	**12**	P	**P**	**23 24 41.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**91.97**	**289**	P	**P**	**23 25 12.9**	**+1.5**
	0.9nm,1.0s,mb3.7,baz=129,slow=2.9,SNR=6.3						
CMAR	**Chiang Mai Arr**	**91.97**	**289**	P	**P**	**23 25 12.9**	**+1.5**
BVAR	**Borovoye Array**	**119.32**	**321**	PKP	PKPdf	23 30 50.1	+0.3
	0.4nm,0.4s,baz=95,slow=3.0,SNR=4.3						
BVAR	**Borovoye Array**	**119.32**	**321**	PKP	PKPdf	23 30 50.1	+0.3
BRTR	**Keskin Array B**	**147.42**	**316**	PKPbc	PKPbc	23 31 45.9	+0.8
	0.8nm,0.7s,baz=153,slow=5.0,SNR=2.9						
BRTR	**Keskin Array B**	**147.42**	**316**	PKPbc	PKPbc	23 31 45.9	+0.8
GERES	**GERESS Array B**	**149.03**	**348**	PKPbc	PKPbc	23 31 49.8	+0.9
	0.2nm,0.6s,baz=12,slow=5.0,SNR=3.8						
GERES	**GERESS Array B**	**149.03**	**348**	PKPbc	PKPbc	23 31 49.8	+0.9

*ISCJB **29** 23:19:60.0±0.7, 37.°87N±0.°03×29.°21E±0.°06, h10km, Error ellipse: s-maj=7.5km s-min=3.4km az=28.7*
*DDA **29** 23:19:59.6, 37.°88N×29.°23E, h7km±2km, Md2.7*
*CSEM **29** 23:19:59.6±0.3, 37.°87N×29.°27E, h5km, MD2.6, Error ellipse: s-maj=7.0km s-min=3.4km az=121.0*
*ISK **29** 23:20:00.1, 37.°93N×29.°15E, h19km, MD2.6*

ISC 29 23:20:00.2±0.8, 37.°88N±0.°03×29.°23E±0.°07, h12km±11km, n18, σ0°60/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**232**	*e*PG	**Pg**	**23 20 05.4**	**+0.9**
DENT	**Denizli**	**0.20**	**232**	*e*Pg	**Pg**	**23 20 05.4**	**+0.9**
DNZL	**Cakiroluk**	**0.24**	**218**	*i* P	**Pg**	**23 20 04.6**	**-0.6**
DNZL				*i* S	**Sg**	**23 20 08.3**	**-0.3**
DNZL	**Cakiroluk**	**0.24**	**218**	*i* P	**Pg**	**23 20 04.6**	**-0.6**
DNZL				*i* S	**Sg**	**23 20 08.3**	**-0.3**
KHAL	**Karahalli**	**0.53**	**23**	*i* P	**Pg**	**23 20 10.2**	**-0.4**
KHAL				*i* S	**Sg**	**23 20 17.8**	**+0.1**
KHAL	**Karahalli**	**0.53**	**23**	*i* P	**Pg**	**23 20 10.2**	**-0.4**
KHAL				*i* S	**Sg**	**23 20 17.8**	**+0.2**
KULA	**Kula-Manisa**	**0.78**	**325**	*e*PG	**Pg**	**23 20 14.5**	**-0.7**
KULA				*e*SG	**Sg**	**23 20 24.6**	**-0.9**
KULA	**Kula-Manisa**	**0.78**	**325**	*e*Pg	**Pg**	**23 20 14.5**	**-0.7**
KULA				*e*Sg	**Sg**	**23 20 24.6**	**-0.8**
YER	**Yerkesik**	**1.06**	**226**	*e*PG	**Pg**	**23 20 19.8**	**-0.8**
YER				*e*SG	**Sg**	**23 20 35.1**	**+0.8**
YER	**Yerkesik**	**1.06**	**226**	*e*Pg	**Pg**	**23 20 19.8**	**-0.8**
YER				*e*Sg	**Sg**	**23 20 35.1**	**+0.7**
AYDN	**Tasoluk**	**1.09**	**259**	*i* P	**Pg**	**23 20 20.9**	**-0.3**
AYDN				*i* S	**Sg**	**23 20 35.8**	**+0.3**
AYDN	**Tasoluk**	**1.09**	**259**	*i* P	**Pg**	**23 20 20.9**	**-0.3**
AYDN				*i* S	**Sg**	**23 20 35.8**	**+0.3**
GDZ	**Gediz**	**1.22**	**9**	*i* P	**Pb**	**23 20 22.5**	**-0.8**
GDZ				*i* S	**Sg**	**23 20 40.3**	**+0.7**
GDZ	**Gediz**	**1.22**	**9**	*i* P	**Pb**	**23 20 22.5**	**-0.7**
GDZ				*i* S	**Sg**	**23 20 40.3**	**+0.7**
DEMI	**Demirci**	**1.23**	**341**	*i* P	**Pb**	**23 20 23.9**	**+0.5**
DEMI				*i* S	**Sg**	**23 20 40.5**	**+0.6**
DEMI	**Demirci**	**1.23**	**341**	*i* P	**Pb**	**23 20 23.9**	**+0.5**
DEMI				*i* S	**Sg**	**23 20 40.5**	**+0.6**
SHUT	**Suhut-Afyon**	**1.24**	**57**	*e*PN	**Pn**	**23 20 23.5**	**+0.2**
SHUT	**Suhut-Afyon**	**1.24**	**57**	*e*Pn	**Pn**	**23 20 23.5**	**+0.2**

*ISCJB **29** 23:27:19.1±0.8, 28.°2S±0.°2×63.°2E±0.°2, h10km, mb4.2/12, MS3.7/2, Error ellipse: s-maj=28.4km s-min=15.6km az=33.1*
*IDC **29** 23:27:19.2±1.2, 28.°21S×63.°16E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/21, mbtmp4.1/9, MS3.5/3, Ms1 3.5/3, ms1mx3.1/26, Error ellipse: s-maj=43.5km s-min=22.7km az=36.0*
*NEIC **29** 23:27:20.9±0.5, 28.°20S×63.°16E, h10km, mb4.2/4, Error ellipse: s-maj=18.1km s-min=10.1km az=211.0*

ISC 29 23:27:21.0±0.8, 28.°2S±0.°2×63.°2E±0.°2, h10km, n35, σ0°26/26, mb4.2/12, MS3.7/2, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.51**	**300**	LR	LR	23 36 31.5	

	comp=Z,115nm,19.9s,baz=180,slow=32						
CM31	**Chiang Mai Arr**	**57.87**	**41**	*e*P	**P**	**23 37 13.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**57.87**	**41**	P	**P**	**23 37 13.4**	**+0.3**
	1.5nm,0.7s,mb4.1,baz=226,slow=7.3,SNR=15						
CMAR	**Chiang Mai Arr**	**57.87**	**41**	P	**P**	**23 37 13.4**	**+0.3**
ASAR	**Alice Springs**	**62.96**	**104**	P	**P**	**23 37 48.0**	**0.0**
	2.6nm,0.6s,mb4.5,baz=248,slow=6.3,SNR=44						
ASAR	**Alice Springs**	**62.96**	**104**	P	**P**	**23 37 48.0**	**0.0**
AS31	**Alice Springs**	**62.96**	**104**	*e*P	**P**	**23 37 47.9**	**-0.2**
WRA	**Warramunga Arr**	**64.70**	**100**	P	**P**	**23 37 59.9**	**+0.3**
	3.4nm,0.7s,mb4.5,baz=247,slow=5.8,SNR=12						
WRA	**Warramunga Arr**	**64.70**	**100**	P	**P**	**23 37 59.9**	**+0.3**
WB2	**Warramunga Arr**	**64.71**	**100**	*e*P	**P**	**23 37 59.8**	**+0.2**
WRAB	**Tennant Creek**	**64.71**	**100**	*e*P	**P**	**23 37 60.0**	**+0.3**
	3.7nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**66.56**	**115**	P	**P**	**23 38 10.8**	**-0.7**
	2.4nm,0.8s,mb4.3,baz=315,slow=8.6,SNR=4.2						
STKA	**Stephens Creek**	**66.56**	**115**	*e*P	**P**	**23 38 11.1**	**-0.4**
	0.5nm,0.8s,mb3.6						
KKAR	**Karatay Array**	**71.27**	**6**	*e*P	**P**	**23 38 40.3**	**0.0**
	2.6nm,1.0s,mb4.1						
TORD	**Torodi Ar. Bea**	**72.28**	**296**	P	**P**	**23 38 47.4**	**+0.4**
	0.6nm,0.8s,mb3.6,baz=137,slow=4.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**72.28**	**296**	P	**P**	**23 38 47.4**	**+0.4**
DBIC	**Dimbokro**	**74.11**	**287**	LR	LR	00 10 13.8	
	comp=Z,32nm,18.5s,MS3.6,baz=219,slow=35						
DBIC	**Dimbokro**	**74.11**	**287**	P	**P**	**23 38 58.0**	**+0.1**
MKAR	**Makanchi Array**	**76.62**	**13**	P	**P**	**23 39 11.1**	**-0.4**
	1.6nm,0.8s,mb4.0,baz=193,slow=5.0,SNR=14						
MKAR	**Makanchi Array**	**76.62**	**13**	P	**P**	**23 39 11.1**	**-0.4**
ZAA0	**Zalesovo Array**	**83.93**	**13**	*e*P	**P**	**23 39 50.7**	**0.0**
ZALV	**Zalesovo Beam**	**83.93**	**13**	P	**P**	**23 39 50.6**	**-0.1**
	3.8nm,0.7s,mb4.6,baz=204,slow=4.3,SNR=23						
ZALV	**Zalesovo Beam**	**83.93**	**13**	P	**P**	**23 39 50.6**	**-0.1**
AKASG	**Malin Array Be**	**84.10**	**339**	P	**P**	**23 39 51.4**	**-0.3**
	2.9nm,1.1s,mb4.3,baz=147,slow=4.4,SNR=4.4						
AKASG	**Malin Array Be**	**84.10**	**339**	P	**P**	**23 39 51.4**	**-0.3**
SONM	**Songino Array**	**85.07**	**28**	P	**P**	**23 39 56.7**	**0.0**
	0.6nm,0.7s,mb3.8,baz=207,slow=5.8,SNR=6.1						
SONM	**Songino Array**	**85.07**	**28**	P	**P**	**23 39 56.7**	**0.0**
ULN	**Ulaanbaatar**	**85.36**	**28**	*e*P	**P**	**23 39 57.9**	**-0.2**
	0.9nm,0.6s,mb4.1						
RCBR	**Riachuelo**	**95.22**	**261**	LR	LR	00 15 33.8	
	comp=Z,29nm,19.2s,MS3.8,baz=347,slow=30						
ILAR	**Eielson Array**	**138.78**	**19**	PKP	PKPdf	23 46 48.2	+1.6
	0.5nm,0.8s,baz=281,slow=3.4,SNR=4.8						
ILAR	**Eielson Array**	**138.78**	**19**	PKP	PKPdf	23 46 48.2	+1.6
YKA	**Yellowknife Ar**	**145.67**	**358**	PKPbc	PKPbc	23 46 59.1	-0.1
	2.6nm,0.8s,baz=353,slow=3.1,SNR=15						
YKA	**Yellowknife Ar**	**145.67**	**358**	PKPbc	PKPbc	23 46 59.1	-0.1
ULM	**Lac du Bonnet**	**152.82**	**330**	PKPbc	PKPbc	23 47 16.6	-1.4
	1.9nm,0.7s,baz=27,slow=2.3,SNR=3.8						
ULM	**Lac du Bonnet**	**152.82**	**330**	PKPbc	PKPbc	23 47 16.6	-1.4

DJA 29 23:34:58, 2.°75S×139.°88E, h10km, MLv3.8/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.86**	**74**	P	Pg	23 35 14.0	-0.5
JAY				S	Sg	23 35 27.4	+1.7
SMPI	**Sarmi**	**1.39**	**303**	P	Pn	23 35 24.0	+0.5
WAMI	**Wamena**	**1.62**	**226**	P	Pn	23 35 26.4	-0.3
WAMI				S	Sn	23 35 50.5	+2.9

*KRSC **29** 23:36:44.6±3.0, 48.°03N×155.°79E, h10km±10km, ML4.8*
*ISCJB **29** 23:36:45.8±0.8, 48.°31N±0.°05×154.°44E±0.°07, h54km±6km, mb4.6/87, MS3.5/11, Error ellipse: s-maj=10.8km s-min=5.3km az=141.0*
*SKHL **29** 23:36:47.4±2.2, 48.°10N×154.°95E, h64km±30km, mb5.0/3, msh5.0/1*
*MOS **29** 23:36:47.8±0.9, 48.°29N×154.°32E, h71km, mb4.9/43, Error ellipse: s-maj=10.4km s-min=5.9km az=93.2*
*NEIC **29** 23:36:48.5±0.6, 48.°30N×154.°35E, h65km±4km, mb4.8/52, Error ellipse: s-maj=6.8km s-min=3.7km az=147.0*
*IDC **29** 23:36:49.2±2.4, 48.°30N×154.°34E, h74km±21km, mb4.0/21, mb1 4.2/25, mb1mx4.1/29, mbtmp4.0/25, MS3.6/10, Ms1 3.6/10, ms1mx3.3/29, Error ellipse: s-maj=15.4km s-min=10.6km az=148.0*
*SZGRF **29** 23:36:49.2, 49.°24N×154.°35E, h33km, mb4.4, Kuril Islands, Russia*

ISC 29 23:36:48.6±0.7, 48.°32N±0.°05×154.°39E±0.°07, h63km±5km, n311, σ0°80/319, mb4.6/87, 24C-31D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**25**	*e*PN	**Pn**	**23 37 31.0**	**+2.6**
SKR				*e*S	**Sn**	**23 38 02.1**	**+3.1**
SKR				pmax	pmax		
	comp=N,150nm,0.5s						
SKR				pmax	pmax		
	comp=E,100nm,0.5s						
SKR				pmax	pmax		
	comp=Z,450nm,0.5s						
SKR				smax			
	comp=N,950nm,0.6s						
SKR				smax			
	comp=E,610nm,0.6s						
SKR				smax			
	comp=N,2μm,2.0s						
SKR	**Severo-Kuril's**	**2.62**	**25**	*e*P	**Pn**	**23 37 31.0**	**+2.6**
SKR				AMB	AMB	23 37 34.5	
	comp=N,150nm,0.5s						
SKR				AMB	AMB	23 37 34.5	
	comp=N,100nm,0.5s						
SKR				AMB	AMB	23 37 34.5	
	comp=N,450nm,0.5s						
SKR				*e*S	**Sn**	**23 38 02.1**	**+3.1**
SKR				A		23 38 09.5	
	comp=N,950nm,0.6s						
SKR				A		23 38 09.5	
	comp=N,610nm,0.6s						
SKR				A		23 38 09.5	
	comp=N,190nm,0.4s						
SKR				A		23 38 13.0	
	comp=N,2μm,2.0s						
GRL	**Gorelyy**	**4.84**	**28**	*e*P	**Pn**	**23 37 58.2**	**-0.6**
RUS	**Russkaya**	**4.89**	**31**	*e*P	**Pn**	**23 37 57.1**	**-2.3**
RUS				*e*S	**Sn**	**23 38 49.9**	**-4.7**
RUS	**Russkaya**	**4.89**	**31**	PN	**Pn**	**23 37 57.1**	**-2.3**
PEA0B	**Petropavlovsk-**	**5.23**	**22**	*e*Pn	**Pn**	**23 38 04.4**	**+0.3**
PEA0B				*e*Sn	**Sn**	**23 39 03.7**	**+0.7**
PETK	**Petropavlovsk-**	**5.23**	**22**	P	**Pn**	**23 38 04.7**	**+0.6**
	comp=N,8.1nm,0.3s,baz=182,slow=13,SNR=43						
PETK				S	**Sn**	**23 39 19.3**	**+16**
	comp=N,0.7nm,0.3s,baz=165,slow=19,SNR=2.8						
PETK	**Petropavlovsk-**	**5.23**	**22**	P	**Pn**	**23 38 04.7**	**+0.6**
PETK				S	**Sn**	**23 39 19.3**	**+16**
PETK	**Petropavlovsk-**	**5.23**	**22**	PN	**Pn**	**23 38 04.7**	**+0.6**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PET	**Petropavlovsk**	**5.43**	**28**	P	**Pn**	**23 38 05.7**	**-1.1**
PET				*e*S	**Sn**	**23 39 04.7**	**-3.2**
PET	**Petropavlovsk**	**5.43**	**28**	*e*Pn	**Pn**	**23 38 06.2**	**-0.6**
PET				*e*Sn	**Sn**	**23 39 06.5**	**-1.4**
PET	**Petropavlovsk**	**5.43**	**28**	*e*PN	**Pn**	**23 38 05.8**	**-1.0**
PET				*e*S	**Sn**	**23 39 07.6**	**-0.3**
PET				pmax	pmax		
	comp=Z,500nm,0.6s						
PET				smax			
	comp=N,126nm,0.5s						
PET				smax			
	comp=E,199nm,0.6s						
PET	**Petropavlovsk**	**5.43**	**28**	*e*P	**Pn**	**23 38 05.6**	**-1.2**
KUR	**Kuril'sk**	**5.44**	**238**	PN	**Pn**	**23 38 12.5**	**+5.5**
KUR				pmax	pmax		
	comp=N,140nm,0.9s						
KUR				pmax	pmax		
	comp=E,110nm,0.9s						
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
KUR	**Kuril'sk**	**5.44**	**238**	*e*P	**Pn**	**23 38 12.5**	**+5.5**
KUR				AMB	AMB	23 38 26.0	
	comp=Z,140nm,0.9s						
KUR				AMB	AMB	23 38 26.0	
	comp=Z,110nm,0.9s						
KUR				AMB	AMB	23 38 26.0	
	comp=Z,280nm,0.9s						
KUR				*e*S	**Sn**	**23 39 18.0**	**+10**
KUR				A		23 39 23.0	
	comp=Z,180nm,1.0s						
KUR				A		23 39 23.0	
	comp=Z,530nm,1.0s						
SDLR	**Sedlovina**	**5.72**	**28**	P	**Pn**	**23 38 09.5**	**-1.3**
SDLR				S	**Sn**	**23 39 11.3**	**-3.7**
SPN	**Mys Shipunski**	**5.97**	**35**	S	**Sn**	**23 39 15.6**	**-5.5**
TUMR	**Tumrok**	**7.83**	**25**	P	**Pn**	**23 38 39.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.98**	**264**	*e*Pn	**Pn**	**23 38 41.3**	**-0.4**
YSS	**Yuzh-Sakhalins**	**7.98**	**264**	*e*PN	**Pn**	**23 38 43.0**	**+1.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.98**	**264**	*e*P	**Pn**	**23 38 43.0**	**+1.3**
YSS				AMB	AMB	23 38 45.0	
	comp=Z,30nm,0.8s						
ASAJ	**Asahikawa**	**9.19**	**247**	P	**Pn**	**23 38 59.0**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=63,slow=17,SNR=15						
ASAJ				LR	LR	23 42 15.9	
	comp=Z,152nm,18.4s,baz=332,slow=36						
ASAJ	**Asahikawa**	**9.19**	**247**	*e*Pn	**Pn**	**23 38 59.8**	**+1.5**
ASAJ	**Asahikawa**	**9.19**	**247**	PN	**Pn**	**23 38 59.0**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KBTR	**Krutoberegovo**	**9.43**	**30**	P	**Pn**	**23 38 58.7**	**-2.8**
KBTR	**Krutoberegovo**	**9.43**	**30**	PN	**Pn**	**23 38 58.7**	**-2.8**
ERM	**Erimo**	**10.13**	**236**	*i* PN	**Pn**	**23 39 13.8**	**+2.7**
ERM	**Erimo**	**10.13**	**236**	*e*P	**Pn**	**23 39 13.8**	**+2.7**
USRK	**Ussuriysk Arra**	**16.01**	**263**	P	**Pn**	**23 40 30.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=70,slow=13,SNR=10.0						
MJAR	**Matsushiro Arr**	**16.73**	**231**	P	**Pn**	**23 40 37.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=22,slow=11,SNR=5.8						
MJAR	**Matsushiro Arr**	**16.73**	**231**	P	**Pn**	**23 40 37.9**	**-0.7**
MJAR	**Matsushiro Arr**	**16.73**	**231**	P	**Pn**	**23 40 37.9**	**-0.7**
CLNS	**Chul'man**	**19.71**	**307**	*e*P	**Pn**	**23 41 16.4**	**+1.9**
CLNS				pmax	pmax		
	comp=N,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,18nm,1.0s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
BILL	**Bilibino**	**20.66**	**13**	*e*P	**P**	**23 41 20.8**	**-1.9**
	comp=E,5.0nm,0.7s						
BILL	**Bilibino**	**20.66**	**13**	*e*P	**P**	**23 41 20.8**	**-1.9**
BILL				*e*SP	sP	23 41 46.4	+2.2
BILL				MLR	MLR		
	comp=Z,100nm,22.0s						
KSRS	**Korea Array**	**22.12**	**250**	P	**P**	**23 41 37.2**	**-1.3**
	comp=Z,7.3nm,0.7s,mb4.2,baz=44,slow=10,SNR=12						
KSRS	**Korea Array**	**22.12**	**250**	P	**P**	**23 41 37.3**	**-1.2**
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
KSAR	**Wonju Array Be**	**22.15**	**250**	P	**P**	**23 41 37.2**	**-1.6**
KSAR	**Wonju Array Be**	**22.15**	**250**	P	**P**	**23 41 37.3**	**-1.6**
TNA	**Tin City**	**26.25**	**35**	*e*P	**P**	**23 42 18.0**	**+0.7**
	comp=Z,11nm,0.8s,mb4.4						
SONM	**Songino Array**	**31.66**	**287**	P	**P**	**23 43 05.4**	**0.0**
	comp=Z,0.3nm,1.0s,baz=79,slow=7.5,SNR=2.8						
SONM				PcP	PcP	23 45 55.9	-0.1
	comp=Z,1.0nm,0.7s,baz=87,slow=1.8,SNR=7.7						
SONM				LR	LR	23 56 44.2	
	comp=Z,99nm,18.9s,baz=84,slow=38						
SONM	**Songino Array**	**31.66**	**287**	P	**P**	**23 43 05.4**	**0.0**
SONM				PcP	PcP	23 45 55.9	-0.1
SONM	**Songino Array**	**31.66**	**287**	P	**P**	**23 43 05.4**	**-0.1**
SONM						23 45 55.9	
SONM				MLR	MLR		
	comp=Z,99nm,18.9s						
TLY	**Talaya**	**32.26**	**295**	*e*P	**P**	**23 43 15.9**	**+5.2**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
TLY				MLR	MLR		
	comp=Z,40nm,13.0s						
COLD	**Coldfoot**	**33.55**	**35**	*e*P	**P**	**23 43 22.2**	**+0.5**
	comp=Z,5.9nm,0.8s,mb4.6						
MCK	**McKinley**	**33.90**	**42**	*e*P	**P**	**23 43 24.9**	**+0.1**
	comp=Z,17nm,1.3s,mb4.8						
MCK	**McKinley**	**33.90**	**42**	*e*P	**P**	**23 43 24.9**	**+0.1**
MCK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
SML	**Sawmill**	**34.24**	**45**	*e*P	**P**	**23 43 28.2**	**+0.4**
	comp=Z,5.7nm,0.8s,mb4.5						
SML	**Sawmill**	**34.24**	**45**	*e*P	**P**	**23 43 28.2**	**+0.4**
SML				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
COLA	**College**	**34.37**	**40**	*e*P	**P**	**23 43 28.8**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8						
**CO

BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CHTO Chiang Mai 53.32 257 *eP* **P 23 46 01.1 -0.2**
comp=Z,4.3nm,0.8s,mb4.4
CHTO Chiang Mai 53.32 257 *eP* **P 23 46 01.1 -0.1**
CHTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CMAR Chiang Mai Arr 53.58 256 P **P 23 46 03.5 +0.4**
comp=Z,2.2nm,0.7s,mb4.2,baz=34,slow=7.2,SNR=20
CMAR PcP PcP 23 47 08.1 -0.9
comp=Z,1.1nm,0.8s,baz=20,slow=2.2,SNR=7.5
CMAR Chiang Mai Arr 53.58 256 P **P 23 46 03.5 +0.4**
CMAR PcP PcP 23 47 08.1 -0.9
CMAR Chiang Mai Arr 53.58 256 P **P 23 46 03.5 +0.4**
CMAR 23 47 08.1
CMAR pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 54.44 317 *eP* **P 23 46 07.6 -1.3**
comp=Z,4.9nm,0.6s,mb4.6
ARU Arti 54.44 317 *d iP* **P 23 46 07.8 -1.1**
ARU 23 48 07.0
ARU S **S 23 53 40.8 -1.6**
ARU SS SS 23 57 30.2 +5.5
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ABKAR Akbulak array 58.09 310 *eP* **P 23 46 34.1 -0.8**
FFC Flin Flon 58.98 41 *eP* **P 23 46 41.6 +0.6**
comp=Z,5.0nm,0.9s,mb4.5
FFC Flin Flon 58.98 41 *i P* **P 23 46 42.1 +1.0**
SUMG Summit 59.07 4 *eP* **P 23 46 41.9 +0.4**
SUMG Summit 59.07 4 *eP* **P 23 46 41.9 +0.5**
SUMG Summit 59.07 4 *i P* **P 23 46 42.2 +0.8**
comp=Z,7.9nm,0.8s,mb4.8
NVAR Mina Array Bea 60.95 64 P **P 23 46 55.4 +0.5**
comp=Z,2.5nm,0.7s,mb4.5,baz=293,slow=7.7,SNR=19
NVAR PcP PcP 23 47 38.2 +0.5
comp=Z,0.8nm,0.7s,baz=304,slow=5.3,SNR=3.8
NVAR LR LR 00 08 05.5
comp=Z,76nm,20.2s,baz=180,slow=31
NVAR Mina Array Bea 60.95 64 P **P 23 46 55.4 +0.5**
NVAR PcP PcP 23 47 38.2 +0.6
FINES FINESS Array B 62.98 335 P **P 23 47 07.0 -1.0**
comp=Z,2.4nm,0.5s,mb4.6,baz=27,slow=7.6,SNR=22
FINES FINESS Array B 62.98 335 P **P 23 47 07.0 -1.0**
FINES FINESS Array B 62.98 335 P **P 23 47 07.0 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
PD01 Pinedale Array 63.11 55 *eP* **P 23 47 09.1 -0.1**
BW06 Boulder Array 63.13 55 *eP* **P 23 47 10.1 +0.7**
comp=Z,3.9nm,0.9s,mb4.5
PDAR Pinedale Array 63.13 55 P **P 23 47 09.7 +0.3**
comp=Z,2.6nm,0.8s,mb4.4,baz=298,slow=2.0,SNR=17
PDAR Pinedale Array 63.13 55 P **P 23 47 09.7 +0.3**
CCUT Cedar City 64.46 62 *eP* **P 23 47 19.1 +0.9**
comp=Z,2.7nm,0.9s,mb4.3
SRU San Rafael 65.05 59 *eP* **P 23 47 23.4 +1.4**
comp=Z,9.9nm,0.6s,mb5.0
SRU San Rafael 65.05 59 *eP* **P 23 47 23.4 +1.4**
SRU pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
RSSD Black Hills 65.16 51 *eP* **P 23 47 23.0 +0.4**
comp=Z,3.8nm,0.7s,mb4.5
RSSD Black Hills 65.16 51 *eP* **P 23 47 23.0 +0.4**
RSSD pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
NB2 NORSAR Subarra 67.02 342 P **P 23 47 33.8 -0.4**
comp=Z,0.9nm,0.6s,mb4.0,baz=24,slow=6.5
NOA NORSAR Array B 67.02 342 P **P 23 47 34.0 -0.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=26,slow=6.3,SNR=5.7
NOA LR LR 00 24 35.2
comp=Z,23nm,19.3s,baz=205,slow=43
NOA NORSAR Array B 67.02 342 P **P 23 47 34.0 -0.2**
NOA NORSAR Array B 67.02 342 P **P 23 47 34.0 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.8s
ECSD EROS Data Cent 69.18 47 *eP* **P 23 47 47.7 -0.3**
comp=Z,6.2nm,0.9s,mb4.5
WRA Warramunga Arr 70.28 200 P **P 23 47 53.5 -1.5**
comp=Z,1.8nm,0.8s,mb4.1,baz=18,slow=6.7,SNR=6.9
WRA Warramunga Arr 70.28 200 P **P 23 47 53.5 -1.5**
WRA Warramunga Arr 70.28 200 P **P 23 47 53.5 -1.5**
WRA pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 70.72 327 P **P 23 47 56.0 -1.3**
comp=Z,2.9nm,0.6s,mb4.4,baz=33,slow=6.1,SNR=8.0
AKASG Malin Array Be 70.72 327 P **P 23 47 56.0 -1.3**
AKASG Malin Array Be 70.72 327 *ceP* **P 23 47 56.4 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
FITZ Fitzroy Crossi 70.94 209 P **P 23 47 57.3 -1.7**
comp=Z,3.8nm,0.8s,mb4.4,baz=76,slow=4.2,SNR=3.5
FITZ Fitzroy Crossi 70.94 209 P **P 23 47 57.3 -1.7**
SCHQ Schefferville 71.52 24 P **P 23 48 01.6 -0.6**
comp=Z,6.3nm,0.8s,mb4.6,baz=223,slow=2.1,SNR=4.1
SCHQ Schefferville 71.52 24 P **P 23 48 01.6 -0.5**
ASAR Alice Springs 73.98 200 P **P 23 48 16.6 -0.4**
comp=Z,1.1nm,0.8s,mb3.9,baz=20,slow=5.4,SNR=9.2
ASAR Alice Springs 73.98 200 P **P 23 48 16.6 -0.4**
ASAR Alice Springs 73.98 200 P **P 23 48 16.6 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 74.58 330 *eP* **P 23 48 21.2 +0.9**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
STHS Stebnicka Huta 74.58 330 *eP* **P 23 48 21.2 +0.9**
KOLS Kolonicke sedl 74.66 330 *eP* **P 23 48 22.1 +1.3**
KOLS Kolonicke sedl 74.66 330 *eP* **P 23 48 22.1 +1.3**
BUR08 Bucovina Ar. S 74.73 327 *eP* **P 23 48 20.8 -0.4**
BURAR Bucovina Array 74.75 327 ⇓*P* **P 23 48 21.2 -0.1**
BURAR Bucovina Array 74.75 327 ⇓*iP* **P 23 48 21.2 -0.1**
KSP Ksiaz 74.88 334 *eP* **P 23 48 21.9 -0.1**
KSP Ksiaz 74.88 334 *eP* **P 23 48 21.9 -0.1**
CRVS Cervenica-Dubn 74.95 330 *eP* **P 23 48 22.1 -0.4**
CRVS Cervenica-Dubn 74.95 330 *eP* **P 23 48 22.1 -0.4**
UPC Upice 75.25 334 *i P* **P 23 48 24.4 +0.2**
UPC Upice 75.25 334 *i P* **P 23 48 24.4 +0.2**
DPC Dobruska-Polom 75.30 334 *i P* **P 23 48 24.8 +0.3**
DPC Dobruska-Polom 75.30 334 *i P* **P 23 48 24.8 +0.3**
CLL Collm 75.38 336 *eP* **P 23 48 24.8 -0.1**
comp=Z,4.0nm,0.7s,mb4.5
CLL Collm 75.38 336 ⇓*iP* **P 23 48 24.7 -0.2**
CLL *e**PP pP 23 48 48.0 +5.8
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CLL Collm 75.38 336 ⇓*iP* **P 23 48 24.7 -0.2**
comp=Z,10.0nm,0.8s,mb4.8
CLL *e*(sP) sP 23 48 48.0 -1.2
BRG Berggiesshubel 75.52 335 *i P* **P 23 48 25.2 -0.5**
comp=Z,3.9nm,0.9s,mb4.3
BRG Berggiesshubel 75.52 335 *eP* **P 23 48 25.6 -0.1**
comp=Z,2.0nm,0.7s,mb4.2
BRG Berggiesshubel 75.52 335 *i P* **P 23 48 25.2 -0.5**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLZ Clausthal 75.58 338 *eP* **P 23 48 26.5 +0.4**
comp=Z,2.0nm,0.7s,mb4.2
CLZ Clausthal 75.58 338 *eP* **P 23 48 26.5 +0.4**
CLZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KECS Kecovo 75.64 330 *eP* **P 23 48 26.4 0.0**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 75.64 330 *eP* **P 23 48 26.4 0.0**
TXAR Lajitas Array 75.98 62 P **P 23 48 28.8 +0.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=300,slow=4.2,SNR=38
TXAR Lajitas Array 75.98 62 P **P 23 48 28.8 +0.1**
TXAR Lajitas Array 75.98 62 P **P 23 48 28.8 +0.1**
TXAR pmax pmax
comp=Z,3.0nm,0.7s
PRU Pruhonice 76.14 335 *i P* **P 23 48 29.2 -0.1**
PRU Pruhonice 76.14 335 *i P* **P 23 48 29.2 -0.1**
VYHS Vyhne 76.17 331 *eP* **P 23 48 29.7 +0.3**
VYHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
VYHS Vyhne 76.17 331 *eP* **P 23 48 29.7 +0.3**
MLR Muntele Rosu 76.27 325 ⇓*P* **P 23 48 30.8 +0.7**
MLR Muntele Rosu 76.27 325 ⇓*iP* **P 23 48 30.8 +0.7**
TANN Tannenbergstha 76.34 336 *eP* **P 23 48 30.8 +0.4**
comp=Z,1.0nm,0.6s,mb3.9
DRGR 76.34 328 ⇓*P* **P 23 48 29.3 -1.2**
DRGR 76.34 328 ⇓*iP* **P 23 48 29.3 -1.2**
MOX Moxa 76.36 337 *eP* **P 23 48 30.4 -0.1**
comp=Z,2.0nm,0.7s,mb4.2
MOX Moxa 76.36 337 *eP* **P 23 48 30.4 -0.1**
MOX pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SMOL Smolenice 76.60 332 *eP* **P 23 48 32.8 +0.9**
SMOL Smolenice 76.60 332 *eP* **P 23 48 32.8 +0.9**
VOIR 76.65 326 ⇓*P* **P 23 48 32.7 +0.5**
VOIR 76.65 326 ⇓*iP* **P 23 48 32.7 +0.5**
ROTZ Rotzenmuhle 77.00 336 *eP* **P 23 48 34.5 +0.4**
KHC Kasperske Hory 77.19 335 *i P* **P 23 48 35.6 +0.4**
KHC Kasperske Hory 77.19 335 *i P* **P 23 48 35.6 +0.4**
GRF Grafenberg Arr 77.33 336 *eP* **P 23 48 36.4 +0.4**
comp=Z,8.0nm,0.6s,mb4.8
GRF Grafenberg Arr 77.33 336 *eP* **P 23 48 36.4 +0.4**
GRF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
WET Wettzell 77.38 335 *eP* **P 23 48 36.7 +0.5**
WET Wettzell 77.38 335 *eP* **P 23 48 36.7 +0.5**
GEC2 GERESS Array S 77.41 335 *eP* **P 23 48 36.4 0.0**
GEC2 GERESS Array S 77.41 335 *eP* **P 23 48 36.4 0.0**
GERES GERESS Array B 77.41 335 P **P 23 48 36.5 +0.1**
comp=Z,2.6nm,0.6s,mb4.3,baz=33,slow=5.2,SNR=27
GERES LR LR 00 24 08.2
comp=Z,60nm,18.7s,baz=31,slow=37
GERES GERESS Array B 77.41 335 P **P 23 48 36.5 +0.1**
GERES GERESS Array B 77.41 335 P **P 23 48 36.5 +0.1**
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES MLR MLR
comp=Z,60nm,18.7s
GZR Gura Zlata 77.52 327 ⇓*P* **P 23 48 36.9 -0.2**
GZR Gura Zlata 77.52 327 ⇓*iP* **P 23 48 36.9 -0.2**
CSNA Conrad Observa 77.60 333 ⇑*iP* **P 23 48 37.8 +0.3**
comp=Z,3.8nm,0.7s,mb4.5
CSNA Conrad Observa 77.60 333 ⇑*iP* **P 23 48 37.8 +0.3**
comp=Z,3.8nm,0.7s,mb4.4
BZS Buzias 77.74 328 ⇓*P* **P 23 48 37.8 -0.5**
BZS Buzias 77.74 328 ⇓*iP* **P 23 48 37.8 -0.5**
MEM Membach 77.77 340 P **P 23 48 38.6 +0.2**
BR131 Keskin Array S 77.83 317 *eP* **P 23 48 38.6 -0.3**
comp=Z,4.1nm,0.8s,mb4.4
BRTR Keskin Array B 77.83 317 P **P 23 48 39.2 +0.3**
comp=Z,5.9nm,0.8s,mb4.5,baz=63,slow=3.2,SNR=20
BRTR Keskin Array B 77.83 317 P **P 23 48 39.2 +0.3**
BRTR Keskin Array B 77.83 317 *ceP* **P 23 48 39.2 +0.3**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BCLA Clavier 78.11 340 P **P 23 48 40.4 +0.1**
PKSM Moragy 78.24 330 ⇓*P* **P 23 48 39.9 -1.2**
PKSM Moragy 78.24 330 ⇓*iP* **P 23 48 39.9 -1.2**
MIB Mutribah 78.57 302 *eP* **P 23 48 42.8 -0.4**
MIB AMb AMB 23 48 43.7
comp=Z,21nm,0.6s,mb5.2
RJOB Jochberg 78.67 335 *eP* **P 23 48 44.0 +0.6**
comp=Z,3.0nm,0.8s,mb4.3
BAIF Baives 78.69 341 *eP* **P 23 48 43.4 -0.1**
comp=Z,8.6nm,0.9s,mb4.4
BAIF Baives 78.69 341 *eP* **P 23 48 43.4 -0.1**
comp=Z,8.6nm,0.9s,mb4.7
BAIF Baives 78.69 341 *eP* **P 23 48 43.4 -0.1**
BAIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
STU Stuttgart 78.70 337 *eP* **P 23 48 43.6 0.0**
comp=Z,2.0nm,0.8s,mb4.1
FUR Furstenfeldbru 78.71 336 *eP* **P 23 48 44.2 +0.6**
FUR Furstenfeldbru 78.71 336 *eP* **P 23 48 44.2 +0.6**
SOKA Soboth 78.97 333 ⇓*iP* **P 23 48 45.3 +0.2**
comp=Z,6.7nm,0.8s,mb4.6
SOKA Soboth 78.97 333 ⇓*iP* **P 23 48 45.3 +0.2**
comp=Z,6.7nm,0.8s,mb4.6
NAY Al-Naaiem 79.05 302 *eP* **P 23 48 45.2 -0.7**
NAY AMb AMB 23 48 53.7
comp=Z,11nm,1.6s,mb4.5
KBA Koelnbreinsper 79.11 334 ⇓*iP* **P 23 48 46.7 +0.8**
comp=Z,16nm,0.7s,mb5.1
KBA Koelnbreinsper 79.11 334 ⇓*iP* **P 23 48 46.7 +0.8**
comp=Z,16nm,0.7s,mb5.0
KBA Koelnbreinsper 79.11 334 ⇓*iP* **P 23 48 46.7 +0.8**
KBA pmax pmax
comp=Z,16nm,0.7s,mb5.1
RDF Al-Radifah 79.11 301 *eP* **P 23 48 46.3 +0.1**
RDF AMb AMB 23 48 58.5
comp=Z,39nm,1.3s,mb5.2
BFO Black Forest 79.33 338 *eP* **P 23 48 47.1 +0.1**
comp=Z,3.0nm,0.8s,mb4.3
BFO Black Forest 79.33 338 *eP* **P 23 48 47.1 +0.1**
BFO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WTTA Wattenberg 79.43 335 ⇓*iP* **P 23 48 48.2 +0.6**
comp=Z,13nm,0.6s,mb5.0
WTTA Wattenberg 79.43 335 ⇓*iP* **P 23 48 48.2 +0.6**
comp=Z,13nm,0.6s,mb5.0
WTTA Wattenberg 79.43 335 ⇓*iP* **P 23 48 48.2 +0.6**
WTTA pmax pmax
comp=Z,13nm,0.6s,mb5.0
RETA Reutte 79.47 336 ⇓*iP* **P 23 48 47.8 0.0**
comp=Z,7.0nm,0.8s,mb4.6
RETA Reutte 79.47 336 ⇓*iP* **P 23 48 47.9 0.0**
comp=Z,7.0nm,0.8s,mb4.6
MOTA Moosalm 79.51 336 ⇑*iP* **P 23 48 48.4 +0.4**
comp=Z,18nm,1.1s,mb4.9
MOTA Moosalm 79.51 336 ⇑*iP* **P 23 48 48.4 +0.4**
comp=Z,18nm,1.1s,mb4.9
MOTA Moosalm 79.51 336 ⇑*iP* **P 23 48 48.4 +0.4**
MOTA pmax pmax
comp=Z,18nm,1.1s,mb4.9
CDF Champ du Feu 79.52 338 *eP* **P 23 48 48.1 0.0**
comp=Z,11nm,0.8s,mb4.5
CDF Champ du Feu 79.52 338 *eP* **P 23 48 48.1 0.0**
comp=Z,11nm,0.8s,mb4.8
CDF Champ du Feu 79.52 338 *eP* **P 23 48 48.1 0.0**
CDF pmax pmax
comp=Z,11nm,0.8s,mb4.8
PAGF Fort de Pagny 79.76 339 ⇑*iP* **P 23 48 49.7 +0.4**
comp=Z,9.0nm,0.8s,mb4.4
PAGF Fort de Pagny 79.76 339 ⇑*iP* **P 23 48 49.7 +0.4**
comp=Z,9.0nm,0.8s,mb4.8
VTS Vitosha 79.77 326 ⇓*P* **P 23 48 49.5 0.0**
VTS Vitosha 79.77 326 ⇓*iP* **P 23 48 49.5 0.0**
DAVA Damuels 79.89 336 ⇑*iP* **P 23 48 50.2 +0.1**
comp=Z,8.0nm,0.9s,mb4.7
DAVA Damuels 79.89 336 ⇑*iP* **P 23 48 50.2 +0.1**
comp=Z,9.8nm,0.9s,mb4.7
FETA Feichten 79.91 336 ⇑*iP* **P 23 48 50.6 +0.4**
comp=Z,4.1nm,0.9s,mb4.4
FETA Feichten 79.91 336 ⇑*iP* **P 23 48 50.6 +0.4**
comp=Z,4.1nm,0.9s,mb4.4
MEZF Maizieres J'vi 79.97 340 ⇑*iP* **P 23 48 50.7 +0.2**
comp=Z,21nm,0.9s,mb4.8
MEZF Maizieres J'vi 79.97 340 ⇑*iP* **P 23 48 50.7 +0.2**
comp=Z,21nm,0.9s,mb5.1
HAU Haudompre 80.12 339 *eP* **P 23 48 51.2 -0.1**
comp=Z,9.7nm,0.8s,mb4.5
HAU *e*R
comp=Z,86nm,19.0s
HAU Haudompre 80.12 339 *eP* **P 23 48 51.2 -0.1**
comp=Z,9.7nm,0.8s,mb4.8
HAU Haudompre 80.12 339 *eP* **P 23 48 51.2 -0.1**
HAU pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HINF Hinteralfeld 80.18 338 *eP* **P 23 48 51.3 -0.3**
comp=Z,3.4nm,0.7s,mb4.1
HINF Hinteralfeld 80.18 338 *eP* **P 23 48 51.3 -0.3**
comp=Z,3.4nm,0.7s,mb4.4
HINF Hinteralfeld 80.18 338 *eP* **P 23 48 51.3 -0.3**
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SFTF Sexfontaines 80.25 340 ⇑*iP* **P 23 48 52.0 0.0**
comp=Z,37nm,0.8s,mb5.0
SFTF Sentaines 80.25 340 ⇑*iP* **P 23 48 52.0 0.0**
comp=Z,37nm,0.8s,mb5.4
TUE Stuetta 80.79 336 *eP* **P 23 48 54.2 -0.7**
comp=Z,12nm,0.8s,mb4.9
FLN La Foliniere 80.88 343 *eP* **P 23 48 55.2 -0.2**
comp=Z,18nm,0.9s,mb4.7
FLN *e*R
comp=Z,53nm,17.2s
FLN La Foliniere 80.88 343 *eP* **P 23 48 55.2 -0.2**
comp=Z,18nm,0.9s,mb5.0
FLN La Foliniere 80.88 343 *eP* **P 23 48 55.2 -0.2**
FLN pmax pmax
comp=Z,18nm,0.9s,mb5.0
LDF La Druitiere 80.97 343 *eP* **P 23 48 55.5 -0.4**
comp=Z,6.0nm,0.8s,mb4.3
LDF La Druitiere 80.97 343 *eP* **P 23 48 55.5 -0.4**
comp=Z,6.0nm,0.8s,mb4.6
LDF La Druitiere 80.97 343 *eP* **P 23 48 55.5 -0.4**
LDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRR Gorron 81.31 344 *eP* **P 23 48 57.7 0.0**
GRR Gorron 81.31 344 *eP* **P 23 48 57.7 0.0**
GRR Gorron 81.31 344 *eP* **P 23 48 57.7 0.0**
LOR Lormes 81.40 340 *eP* **P 23 48 58.1 0.0**
comp=Z,14nm,0.8s,mb4.7
LOR *e*R
comp=Z,84nm,19.0s
LOR Lormes 81.40 340 *eP* **P 23 48 58.1 0.0**
comp=Z,14nm,0.8s,mb4.9
LOR Lormes 81.40 340 *eP* **P 23 48 58.1 0.0**
LOR pmax pmax
comp=Z,14nm,0.8s,mb4.9
CABF La Chapelle 81.49 339 *eP* **P 23 48 58.9 +0.3**
comp=Z,11nm,0.9s,mb4.5
CABF La Chapelle 81.49 339 *eP* **P 23 48 58.9 +0.3**
comp=Z,11nm,0.9s,mb4.8
CABF La Chapelle 81.49 339 *eP* **P 23 48 58.9 +0.3**
CABF pmax pmax
comp=Z,11nm,0.9s,mb4.8
SSF Saint Saulge 81.67 340 ⇑*iP* **P 23 48 59.5 -0.1**
comp=Z,16nm,0.9s,mb4.6
SSF Saint Saulge 81.67 340 ⇑*iP* **P 23 48 59.5 -0.1**
comp=Z,16nm,0.9s,mb4.9
SSF Saint Saulge 81.67 340 ⇑*iP* **P 23 48 59.5 -0.1**
SSF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SGMF Saint Gilles 81.75 345 *eP* **P 23 49 00.1 +0.1**
comp=Z,12nm,0.6s,mb4.7
SGMF Saint Gilles 81.75 345 *eP* **P 23 49 00.1 +0.1**
comp=Z,12nm,0.6s,mb5.0
SGMF Saint Gilles 81.75 345 *eP* **P 23 49 00.1 +0.1**
SGMF pmax pmax
comp=Z,12nm,0.6s,mb5.0
ROSF Rostrenen 81.79 345 *eP* **P 23 49 00.3 +0.1**
ROSF Rostrenen 81.79 345 *eP* **P 23 49 00.3 +0.1**
ROSF Rostrenen 81.79 345 *eP* **P 23 49 00.3 +0.1**
AVF Avril sur Loir 81.96 340 *eP* **P 23 49 01.1 0.0**
comp=Z,29nm,1.0s,mb4.8
AVF Avril sur Loir 81.96 340 *eP* **P 23 49 01.1 0.0**
comp=Z,29nm,1.0s,mb5.2
AVF Avril sur Loir 81.96 340 *eP* **P 23 49 01.1 0.0**
AVF pmax pmax
comp=Z,29nm,1.0s,mb5.2
SMF Signal de Mont 81.99 340 *eP* **P 23 49 01.3 0.0**
comp=Z,30nm,1.2s,mb4.8
SMF Signal de Mont 81.99 340 *eP* **P 23 49 01.3 0.0**
comp=Z,30nm,1.2s,mb5.1
SMF Signal de Mont 81.99 340 *eP* **P 23 49 01.3 0.0**
SMF pmax pmax
comp=Z,30nm,1.2s,mb5.1
BGF Bois d'Agland 82.30 341 *eP* **P 23 49 02.9 0.0**
BGF Bois d'Agland 82.30 341 *eP* **P 23 49 02.9 0.0**
BGF Bois d'Agland 82.30 341 *eP* **P 23 49 02.9 0.0**
LPL La Plagne 82.35 338 *eP* **P 23 49 04.2 +1.0**
comp=Z,27nm,0.9s,mb4.8
LPL La Plagne 82.35 338 *eP* **P 23 49 04.2 +1.0**
comp=Z,27nm,0.9s,mb5.2
LPL La Plagne 82.35 338 *eP* **P 23 49 04.2 +1.0**
LPL pmax pmax
comp=Z,27nm,0.9s,mb5.2
LPG La Plagne 82.37 338 *eP* **P 23 49 04.4 +1.1**
comp=Z,26nm,0.9s,mb4.8
LPG La Plagne 82.37 338 *eP* **P 23 49 04.4 +1.1**
comp=Z,26nm,0.9s,mb5.2
LPG La Plagne 82.37 338 *eP* **P 23 49 04.4 +1.1**
LPG pmax pmax
comp=Z,26nm,0.9s,mb5.2
MFF Saint Martin d 82.89 343 *eP* **P 23 49 06.1 +0.2**
comp=Z,7.7nm,0.7s,mb4.6
MFF Saint Martin d 82.89 343 *eP* **P 23 49 06.1 +0.2**
comp=Z,7.7nm,0.6s,mb4.9
MFF Saint Martin d 82.89 343 *eP* **P 23 49 06.1 +0.2**
MFF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
MBDF Montbardon 83.08 337 *eP* **P 23 49 07.9 +0.9**
comp=Z,7.5nm,0.8s,mb4.5
MBDF Montbardon 83.08 337 *eP* **P 23 49 07.9 +0.9**
comp=Z,7.5nm,0.8s,mb4.8
MBDF Montbardon 83.08 337 *eP* **P 23 49 07.9 +0.9**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 83.13 338 *eP* **P 23 49 08.1 +0.9**
comp=Z,23nm,1.0s,mb4.8
ORIF *e*R
comp=Z,64nm,17.0s
ORIF Oris-en-Rattie 83.13 338 *eP* **P 23 49 08.1 +0.9**
comp=Z,23nm,1.0s,mb5.2
ORIF Oris-en-Rattie 83.13 338 *eP* **P 23 49 08.1 +0.9**
ORIF pmax pmax
comp=Z,23nm,1.0s,mb5.2
CAN Canberra 83.41 184 *eP* **P 23 49 07.8 -0.6**
comp=Z,25nm,0.6s,mb5.4
CAN Canberra 83.41 184 *eP* **P 23 49 07.8 -0.7**
VIVF Saint-Julien-l 83.48 339 *eP* **P 23 49 09.6 +0.6**
comp=Z,19nm,1.0s,mb4.8
VIVF Saint-Julien-l 83.48 339 *eP* **P 23 49 09.6 +0.6**
comp=Z,19nm,1.0s,mb5.1
VIVF Saint-Julien-l 83.48 339 *eP* **P 23 49 09.6 +0.6**
VIVF pmax pmax
comp=Z,19nm,1.0s,mb5.1
SBF Sospel 83.71 337 *eP* **P 23 49 11.0 +0.8**
comp=Z,48nm,1.0s,mb5.3
SBF Sospel 83.71 337 *eP* **P 23 49 11.0 +0.8**
comp=Z,48nm,1.0s,mb5.6
SBF Sospel 83.71 337 *eP* **P 23 49 11.0 +0.8**
CAF Calviac 84.02 341 *eP* **P 23 49 11.4 -0.4**
CAF Calviac 84.02 341 *eP* **P 23 49 11.4 -0.4**
CAF Calviac 84.02 341 *eP* **P 23 49 11.4 -0.4**
LFF La Frestale 84.29 342 *eP* **P 23 49 12.9 -0.3**
LFF La Frestale 84.29 342 *eP* **P 23 49 12.9 -0.3**
LFF La Frestale 84.29 342 *eP* **P 23 49 12.9 -0.3**
EPF Esparros 86.20 341 *eP* **P 23 49 23.2 +0.5**
EPF Esparros 86.20 341 *eP* **P 23 49 23.2 +0.5**
EPF Esparros 86.20 341 *eP* **P 23 49 23.2 +0.5**
ETSF Etsaut 86.52 342 *eP* **P 23 49 24.7 +0.4**
comp=Z,5.0nm,0.7s,mb4.6
ETSF Etsaut 86.52 342 *eP* **P 23 49 24.7 +0.4**
comp=Z,5.0nm,0.7s,mb4.8
ETSF Etsaut 86.52 342 *eP* **P 23 49 24.7 +0.4**
ETSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
ESDC Sonseca Array 90.30 343 P **P 23 49 39.8 -2.5**
comp=Z,0.4nm,0.6s,mb3.9,baz=360,slow=4.3,SNR=4.8
ESDC Sonseca Array 90.30 343 P **P 23 49 39.8 -2.5**
TORD Torodi Ar. Bea 114.17 331 PKP PKiKP 23 55 17.8 -3.1
comp=Z,0.4nm,0.8s,baz=14,slow=2.2,SNR=3.3
TORD Torodi Ar. Bea 114.17 331 PKP PKiKP 23 55 17.8 -3.1
CPUP Villa Florida 146.93 60 PKPbc PKPbc 23 56 21.8 -1.9
comp=Z,1.8nm,0.7s,baz=23,slow=1.8,SNR=6.7
CPUP Villa Florida 146.93 60 PKPbc PKPbc 23 56 21.8 -1.9

NEIC ***30*** *00:36:39.0, 44°.52N×110°.36W, h1km, ML2.8(SLC), After SLC.*
ISCJB ***30*** *00:36:40.5±0.2, 44°.47N±0°.02×110°.40W±0°.02, h10km, Error ellipse: s-maj=2.3km s-min=2.1km az=138.8*
ISC 30 00:36:40.6±0.2, **44°.47N**±0°.01×**110°.39W**±0°.02, **h10**km, **n56,**
σ0**99**/83, **32C-29D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.09**	**353**	⇑*iPg*	**Pg**	**00 36 41.2**	**-1.9**
H17A	**Grant Village**	**0.16**	**240**	P	**Pg**	**00 36 44.1**	**0.0**
	baz=0.2,SNR=156						
H17A				⇓S	**Sg**	**00 36 46.9**	**+0.4**
	baz=0.2						
YNR	**Norris Junctio**	**0.32**	**319**	*e*Pg	**Pg**	**00 36 46.0**	**-1.0**
YFT	**Old Faithful**	**0.32**	**266**	*e*Pg	**Pg**	**00 36 47.2**	**+0.2**
YMR	**Madison River**	**0.46**	**295**	Pg	**Pg**	**00 36 48.6**	**-1.0**
H18A	**Shoshone NF, C**	**0.55**	**68**	P	**Pg**	**00 36 50.0**	**-1.4**
	baz=0.5,SNR=48						
I17A	**Pilgrim Ck.**	**0.57**	**194**	⇑P	**Pg**	**00 36 52.0**	**+0.4**
	baz=0.6						
I17A				⇓S	**Sg**	**00 36 59.6**	**+0.4**
	baz=0.6						
QLMT	**Earthquake Lak**	**0.83**	**296**	*e*Pg	**Pg**	**00 36 56.0**	**-0.5**
I18A	**Diamond G Ranc**	**0.88**	**152**	⇑P	**Pg**	**00 36 57.1**	**-0.3**
	baz=0.9,SNR=100						
I18A				⇓S	**Sg**	**00 37 08.8**	**0.0**
	baz=0.9						
LOHW	**Long Hollow**	**0.88**	**190**	*e*Pg	**Pg**	**00 36 57.5**	**0.0**
G17A	**Pierce Place,**	**0.88**	**344**	⇓P	**Pg**	**00 36 58.0**	**+0.4**
	baz=0.8						
G17A				⇑S	**Sg**	**00 37 09.4**	**+0.2**
	baz=0.8						

H19A	Powell	1.02	78	⇑P	Pg	00 36 58.8	-1.4
	baz=1.0,SNR=46						
H19A				⇓S	Sg	00 37 12.3	-1.2
	baz=1.0						
G18A	Lazy EL Ranch,	1.02	34	⇓P	Pg	00 36 59.1	-1.2
	baz=1.0						
G18A				⇓Sb	Sb	00 37 14.5	+0.6
	baz=1.0						
SNOW	Snow King Moun	1.05	195	eP	Pg	00 37 00.5	-0.2
DCID1	Drake Creek	1.05	214	eP	Pg	00 37 00.7	-0.1
I19A	Meeteetse	1.09	113	⇑P	Pb	00 37 00.3	-1.2
	baz=1.1,SNR=16						
I19A				⇑S	Sg	00 37 14.9	-0.8
	baz=1.1						
RRI2	Red Ridge	1.31	211	eP	Pn	00 37 06.0	+1.0
GCMT	Greycliff	1.41	21	eP	Pn	00 37 06.8	+0.4
F17A	Fitzpatrick Pl	1.44	352	⇓P	Pn	00 37 07.3	+0.5
	baz=1.4						
F17A				⇓S	Sn	00 37 26.9	+1.2
	baz=1.4						
F18A	Big Timber	1.51	18	⇑P	Pn	00 37 07.8	+0.1
	baz=1.5,SNR=34						
F18A				⇓S	Sn	00 37 28.8	+1.5
	baz=1.5						
J19A	Crowheart	1.55	141	⇓P	Pn	00 37 08.5	+0.3
	baz=1.6,SNR=38						
J19A				⇓S	Sn	00 37 29.6	+1.4
	baz=1.6						
I15A	Monteview	1.58	253	⇑P	Pn	00 37 10.1	+1.4
	baz=1.6						
H15A	Lima	1.62	276	⇑P	Pn	00 37 10.5	+1.3
	baz=1.6,SNR=9.6						
G15A	Dillon	1.65	296	⇑P	Pn	00 37 10.6	+1.0
	baz=1.6,SNR=8.7						
G15A				⇓Sb	Sb	00 37 34.8	+2.9
	baz=1.6						
I20A	Worland	1.71	107	⇓P	Pn	00 37 10.5	+0.1
	baz=1.7,SNR=56						
I20A				⇑S	Sn	00 37 33.1	+0.9
	baz=1.7						
H20A	Greybull	1.71	89	⇑P	Pn	00 37 10.5	+0.1
	baz=1.7,SNR=10						
H20A				⇓S	Sn	00 37 32.7	+0.4
	baz=1.7						
F19A	Roth Farm, Mol	1.71	36	⇑Pb	Pb	00 37 11.3	-0.8
	baz=1.7,SNR=12						
F19A				⇓Sb	Sb	00 37 34.7	+0.9
	baz=1.7						
G20A	Bridger	1.71	63	⇓P	Pn	00 37 10.4	-0.1
	baz=1.7,SNR=40						
G20A				⇓S	Sn	00 37 32.9	+0.5
	baz=1.7						
AHID	Auburn Hatcher	1.79	197	ePg	Pg	00 37 13.7	-1.1
MCMT	McKenzie Canyo	1.79	282	ePn	Pn	00 37 10.8	-0.7
MCMT				ePg	Pg	00 37 14.5	-0.5
PD01	Pinedale Array	1.79	161	ePg	Pg	00 37 13.4	-1.6
PD01				eSg	Sg	00 37 37.4	-0.8
PD02	Pinedale Array	1.80	160	ePg	Pg	00 37 13.3	-1.7
PD02				eSg	Sg	00 37 36.9	-1.4
BW06	Boulder Array	1.81	160	⇓Pb	Pb	00 37 13.7	-0.1
	baz=1.9						
BW06				⇑Sb	Sb	00 37 37.9	+1.4
	baz=1.9						
K19A	Absolon Red Bu	1.99	145	⇑Pb	Pb	00 37 16.5	-0.4
	baz=2.0						
K19A				⇑Sb	Sb	00 37 42.8	+1.1
	baz=2.0						
J20A	Shoshoni	2.00	123	⇑Pb	Pb	00 37 16.3	-0.8
	baz=2.0						
J20A				⇓Sb	Sb	00 37 42.9	+0.8
	baz=2.0						
E17A	Martinsdale	2.02	351	⇓Pb	Pb	00 37 17.5	+0.2
	baz=2.0						
F15A	Butte	2.02	313	⇑Pb	Pb	00 37 17.7	+0.3
	baz=2.0						
F20A	Billings	2.06	49	⇓Pb	Pb	00 37 17.7	-0.5
	baz=2.0						
E18A	Harlowton	2.12	9	⇑P	Pn	00 37 17.1	+1.1
	baz=2.1,SNR=24						
E19A	Rath Farm, Rou	2.28	29	⇑Pb	Pb	00 37 21.2	-0.7
	baz=2.2						
I21A	Big Trails, Te	2.32	105	⇑Pb	Pb	00 37 20.7	-1.9
	baz=2.3,SNR=72						
I21A				⇑S	Sn	00 37 49.4	+2.0
	baz=2.3						
K20A	Yellowstone Ra	2.35	140	⇓Sb	Sb	00 37 53.8	+1.9
	baz=2.4						
G21A	Lodge Grass	2.38	71	⇓Pb	Pb	00 37 22.5	-1.0
	baz=2.3						
G21A				⇑Sb	Sb	00 37 53.1	+0.2
	baz=2.3						
H21A	Big Horn, Sher	2.40	85	⇓Sb	Sb	00 37 53.7	+0.4
	baz=2.4						
J21A	Lysite	2.41	117	⇓Pb	Pb	00 37 23.3	-0.7
	baz=2.4						
J21A				⇑Sb	Sb	00 37 54.5	+0.9
	baz=2.4						
L19A	Farson	2.49	162	⇓Pb	Pb	00 37 25.1	-0.3
	baz=2.5						
L19A				⇑Sb	Sb	00 37 59.2	+3.2
	baz=2.5						
L18A	Fontenelle, Gr	2.56	174	⇓Sb	Sb	00 38 02.0	+3.9
	baz=2.6						
E20A	Meyer Farm, Mu	2.58	37	⇑Pb	Pb	00 37 25.9	-0.9
	baz=2.5						
D17A	Six Diamond Ra	2.69	356	⇑P	Pn	00 37 24.5	+0.6
	baz=2.6						
I13A	Wildhorse Cree	2.74	260	⇓Pb	Pb	00 37 29.3	-0.4
	baz=2.8						
I22A	9 Mile Ranch,	2.87	100	⇑Pb	Pb	00 37 30.2	-1.6
	baz=2.9						
I22A				⇑Sb	Sb	00 38 07.5	+0.6
	baz=2.9						
H22A	Clearmont	2.89	86	⇑Sb	Sb	00 38 08.4	+0.9
	baz=2.9						
K21A	Alcova	2.93	128	⇑Sb	Sb	00 38 09.9	+1.2
	baz=2.9						
HLID	Hailey	3.05	254	Pn	Pn	00 37 29.1	+0.3
HLID				ePg	Pg	00 37 36.3	-2.6
RSSD	Black Hills	4.57	92	eP	Pb	00 38 00.5	-0.4
SMCO	Snowmass	5.87	153	ePg	Pg	00 38 28.9	-4.1

IDC 30 01:03:31.3±6.0, 3°30S×140°82E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.6/13, mbtmp3.8/3, Error ellipse: s-maj=226.0km s-min=31.7km az=89.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.71	200	P	Pn	01 07 38.4	-1.2
	0.5nm,0.3s,baz=24,slow=12,SNR=6.9						
ASAR	Alice Springs	21.33	198	P	P	01 08 20.7	+0.7
	4.7nm,0.8s,baz=27,slow=9.4,SNR=39						
MKAR	Makanchi Array	71.54	322	P	P	01 14 54.4	+0.1
	0.4nm,0.9s,baz=104,slow=6.1,SNR=4.7						

IDC 30 01:12:04.0±2.4, 9°49N×83°97W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.5/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/29, Error ellipse: s-maj=86.7km s-min=15.1km az=30.0

ISCJB 30 01:12:08.8±0.7, 9°39N±0°09×84°16W±0°06, h45km±7km, mb3.4/4, Error ellipse: s-maj=16.6km s-min=5.2km az=29.9

CASC 30 01:12:09.5±2.4, 9°45N×84°19W, h25km±5km, MD3.9

ISC 30 01:12:08.9±0.9, 9°38N±0°08×84°20W±0°05, h28km±5km, n33, σ0°79/36, mb3.4/4, 6C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	Quepos	0.06	39	⇓iP	Pb	01 12 14.5	+0.7
BUS	Buena Vista	0.47	68	⇓eP	Pb	01 12 19.3	+0.4
LAJ	Bijagual	0.49	10	⇓iP	Pb	01 12 19.0	-0.2
SJS	Escuela Geolog	0.58	151	eP	Pb	01 12 19.9	-0.7
URSC	Urasca	0.62	43	⇓iP	Pb	01 12 20.8	-0.5
CGA2	Cerro Gallo 2	0.69	338	⇑iP	Pb	01 12 21.5	-0.9
JCR	Jicaral	1.01	298	⇑eP	Pn	01 12 26.1	-1.1
JTS	JuntasAbangare	1.17	321	Pg	Pn	01 12 28.6	-0.8
	514nm,0.3s,baz=133,slow=13,SNR=2984						
JTS				Lg		01 12 44.1	
	950nm,0.3s,baz=349,slow=21,SNR=50						
CASO	Castillo	1.17	334	⇑iP	Pn	01 12 29.1	-0.4
ACR	Cerro Adams	1.25	125	⇑eP	Pn	01 12 30.5	0.0
AMAS	Alto Masis	1.45	328	iP	Pn	01 12 33.4	+0.1
AMAS				iS	Sn	01 12 52.6	+1.1
CUI	Cuipilapa	1.59	323	iP	Pn	01 12 35.4	+0.3
CUI				iS	Sn	01 12 55.1	+0.4
BRU2	Volcan	1.60	111	⇑iP	Pn	01 12 36.5	+1.2
BRU2				eS	Sn	01 13 00.8	+5.7
COLC	Colonia	1.61	322	iP	Pn	01 12 35.7	+0.1
GUAB	Guayabo de Bag	1.66	323	iP	Pn	01 12 37.2	+1.0
LIM1	Limonal	1.67	322	iP	Pn	01 12 36.5	+0.1
MESS	Mesas	1.67	324	iP	Pn	01 12 36.5	+0.2
MESS				iS	Sn	01 12 57.0	+0.2
GPS2	Hotel Rincˆ±n	1.77	320	iP	Pn	01 12 37.7	0.0
GPS3	Bodega del ICE	1.78	320	iP	Pn	01 12 37.7	-0.2
NY14	Universidad de	1.82	314	iP	Pn	01 12 39.2	+0.8
LAPC	Finca la Perla	1.84	319	iP	Pn	01 12 38.5	-0.1
BUEV	Buena Vista	1.84	320	iP	Pn	01 12 38.4	-0.3
GB1A	Borinquen Arri	1.85	321	iP	Pn	01 12 39.1	+0.3
GBS3	Finca Las Im¯¡	1.86	319	iP	Pn	01 12 38.9	-0.1
GBS2	Las Lilas	1.90	320	iP	Pn	01 12 40.4	+0.9
BCIP	Isla Barro Col	4.32	92	eP	Pn	01 13 14.0	+1.2
BCIP				eS	Sn	01 14 01.9	-0.3
ROSC	El Rosal	10.78	114	LR	LR	01 19 00.7	
	comp=Z,49nm,19.7s,baz=34,slow=39						
CMIG	Matias Romero	12.91	308	Pn	Pn	01 15 07.8	-2.9
	0.2nm,0.3s,baz=145,slow=12,SNR=4.8						
CMIG				LR	LR	01 19 49.3	
	comp=Z,57nm,20.9s,baz=188,slow=36						
PTP	Ponta Puerca	20.07	62	eP	x	01 12 38.5	
PTP				eS	x	01 13 03.6	
TXAR	Lajitas Array	26.96	320	P	P	01 17 48.8	+0.5
	0.3nm,0.6s,mb3.0,baz=138,slow=10,SNR=5.0						
NVAR	Mina Array Bea	42.10	319	P	P	01 19 58.4	-0.2
	0.3nm,0.6s,mb3.1,baz=121,slow=8.5,SNR=2.6						
NVAR				PcP	PcP	01 21 53.2	+0.2
	0.6nm,0.7s,baz=141,slow=4.4,SNR=4.1						
ESDC	Sonseca Array	76.58	51	P	P	01 23 55.9	-1.2
	1.1nm,0.8s,mb3.8,baz=279,slow=6.8,SNR=6.1						
TORD	Torodi Ar. Bea	83.95	78	P	P	01 24 34.5	-2.7
	0.3nm,0.8s,mb3.5,baz=297,slow=6.3,SNR=2.7						

ISK 30 01:26:20.2, 37°40N×38°68E, h12km, MD2.6

CSEM 30 01:26:20.9±0.4, 37°40N×38°64E, h10km, MD2.6, Error ellipse: s-maj=9.2km s-min=5.9km az=161.0

ISCJB 30 01:26:21.4±0.7, 37°43N±0°04×38°69E±0°04, h10km±6km, Error ellipse: s-maj=7.7km s-min=4.6km az=156.4

DDA 30 01:26:22.0, 37°45N×38°68E, h6km±5km, Md2.8

ISC 30 01:26:21.7±0.7, 37°40N±0°05×38°69E±0°04, h9km±5km, n23, σ1°17/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.11	68	PG	Pg	01 26 23.8	-0.6
URFA				eSG	Sg	01 26 26.3	+0.2
URFA	Urfa	0.11	68	iPg	Pg	01 26 23.8	-0.5
URFA				eSg	Sg	01 26 26.3	+0.2
ATAB	Bozova	0.32	283	iP	Pg	01 26 27.9	-0.1
ATAB				iS	Sg	01 26 32.8	+0.4
ATAB	Bozova	0.32	283	iP	Pg	01 26 27.9	-0.2
ATAB				iS	Sg	01 26 32.8	+0.4
GZT	Gaziantep	0.90	268	iP	Pg	01 26 38.7	-0.2
GZT				iS	Sg	01 26 53.5	+2.8
MALT	Malatya	0.94	347	ePG	Pg	01 26 37.9	-1.8
MALT				eSG	Sg	01 26 52.8	+0.9
MALT	Malatya	0.94	347	ePg	Pg	01 26 37.9	-1.8
MALT				eSg	Sg	01 26 52.8	+0.9
MYA	Malataya	0.95	347	ePG	Pg	01 26 39.2	-0.8
MYA	Malataya	0.95	347	ePg	Pg	01 26 39.2	-0.7
SVRC	Sivrice-ELAZID	1.09	26	ePN	Pg	01 26 41.8	-0.9
SVRC				eSN	Sg	01 26 56.9	0.0
SVRC	Sivrice-ELAZID	1.09	26	ePn	Pg	01 26 41.8	-0.9
SVRC				eSn	Sg	01 26 56.9	0.0
ELZG	Elazig	1.12	12	iP	Pg	01 26 43.0	-0.2
ELZG				iS	Sg	01 26 58.9	+1.1
ELZG	Elazig	1.12	12	iP	Pg	01 26 43.0	-0.2
ELZG				iS	Sg	01 26 58.8	+1.0
GAZ	Gaziantep	1.20	260	ePN	Pn	01 26 43.5	-1.2
GAZ	Gaziantep	1.20	260	ePn	Pn	01 26 43.5	-1.2
DIYA	Diyarbakir	1.25	65	iP	Pn	01 26 46.0	+0.7
DIYA				iS	Sb	01 27 04.1	+2.4
DIYA	Diyarbakir	1.25	65	iP	Pn	01 26 46.0	+0.7
DIYA				iS	Sb	01 27 04.1	+2.5
KMRS	Kahramanmaras	1.43	275	ePN	Pn	01 26 45.9	-1.9
KMRS	Kahramanmaras	1.43	275	ePn	Pn	01 26 45.9	-1.9
KUZU	Kuzuini	1.44	245	iP	Pn	01 26 51.6	+3.7
KUZU				iS	Sn	01 27 10.6	+3.7
KUZU	Kuzuini	1.44	245	iP	Pn	01 26 51.6	+3.7
PTK	Pertek	1.59	20	ePN	Pn	01 26 49.2	-0.8
PTK	Pertek	1.59	20	ePn	Pn	01 26 49.2	-0.8

NIED 30 01:31:00, 24°70N×122°40E, h107km, Mw4.8 Best double couple: M0 1.73000×10^16 NP1:φs 175.00000°, δ77.00000°, λ17.00000°. NP2:φs 81.00000°, δ73.00000°, λ167.00000°.

MOS 30 01:31:24.6±1.1, 24°84N×122°36E, h87km, mb4.9/21, Error ellipse: s-maj=11.0km s-min=6.2km az=106.5

BJI 30 01:31:25.7, 24°73N×122°39E, h95km, mB4.9/28, mb4.7/49

ISCJB 30 01:31:26.4±0.1, 24°76N±0°02×122°36E±0°01, h104km±1km, mb4.5/65, Error ellipse: s-maj=2.9km s-min=1.9km az=162.2

IDC 30 01:31:27.7±0.7, 24°84N×122°46E, h104km±5km, mb4.1/25, mb1 4.2/27, mb1mx4.2/31, mbtmp4.1/27, MS3.5/15, Ms1 3.5/15, ms1mx3.3/30, Error ellipse: s-maj=10.9km s-min=10.0km az=57.0

TAP 30 01:31:27.9, 24°70N×122°34E, h95km, ML5.1, B

NEIC 30 01:31:27.4±0.4, 24°75N×122°35E, h101km±4km, mb4.9/32, Error ellipse: s-maj=6.1km s-min=5.8km az=148.0

NEIC Felt at Taipei. Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien and T'ao-yuan; [1 TAP] in Miao-li, Nan-t'ou and T'ai-pei.

JMA 30 01:31:28.2±0.2, 24°73N×122°38E, h92km±2km, M4.7

TEH 30 01:31:28.0, 24°66N×122°30E, h100km

GCMT 30 01:31:30.5±0.4, 24°82N×122°25E, h98km±3km, MW4.9, Moment Tensor Solution. s28,c32; s69,c100; Moment tensor: Scale 10^16 Nm; Mrr 1.00±.09; Mθθ -0.45±.12; Mφφ -0.56±.13; Mrθ 1.22±.06; Mθφ -2.06±.09; Mφr -0.68±.07; Best double couple: M0 2.60000×10^16 NP1:φs 186.00000°, δ58.00000°, λ26.00000°. NP2:φs 82.00000°, δ68.00000°, λ145.00000°. Principal axes: T 2.6700, Plg39.0000°, Azm41.0000°; N -0.0700, Plg50.0000°, Azm234.0000°; P -2.6000, Plg6.0000°, Azm136.0000°; Data Used: II IU IC G CN.

ISC 30 01:31:27.4±0.1, 24°75N±0°02×122°36E±0°01, h99km±1km, h108km±2.8km: pP-P, n325, σ1°05/393, mb4.5/65, 13C-26D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.42	308	⇑iP	Pn	01 31 43.0	+0.5
	baz=308						
TWB1				S	Sn	01 31 53.3	-0.5
	baz=308						
TWC	Suao	0.48	253	⇓iP	Pn	01 31 42.9	0.0
	baz=258						
TWC				eS	Sn	01 31 52.5	-2.1
	baz=258						
ILA	Ilan	0.55	272	⇓P	Pn	01 31 44.0	+0.6
	baz=277						
ILA				eS	Sn	01 31 54.4	-1.0
	baz=277						
NWF	Wu-fen Shan	0.61	301	⇑iP	Pn	01 31 44.7	+0.8
	baz=300						
NWF				eS	Sn	01 31 55.6	-0.6
	baz=300						
TWE	Neicheng	0.63	267	⇓iP	Pn	01 31 44.5	+0.5
	baz=274						
TWE				eS	Sn	01 31 55.9	-0.6
	baz=274						
ENA	Nanau	0.65	240	⇓iP	Pn	01 31 44.6	+0.4
	baz=239						
YOJ	Yonaguni jima	0.66	116	⇓iP	Pn	01 31 44.5	+0.1
	baz=117						
YOJ				S	Sn	01 31 56.6	-0.4
	baz=117						
YOJ	Yonaguni jima	0.66	116	P	Pn	01 31 44.4	0.0
YOJ				S	Sn	01 31 56.6	-0.5
EHP	Heping Village	0.71	232	P	Pn	01 31 44.8	0.0
	baz=227						
EHP				eS	Sn	01 31 57.7	-0.2
	baz=227						
ENTT	Nioudou	0.73	261	⇓iP	Pn	01 31 45.6	+0.7
	baz=271						
TWA	Mucha	0.74	288	⇑P	Pn	01 31 45.4	+0.4
	baz=285						
TWA				S	Sn	01 31 57.6	-0.7
	baz=285						
TAP1	Taipei	0.81	291	P	Pn	01 31 46.3	+0.6
	baz=294						
TAP1				S	Sn	01 31 58.8	-0.6
	baz=294						
TATO	Taipei	0.82	286	ePn	Pn	01 31 45.9	+0.1
TATO				eS	Sn	01 31 58.4	-1.3
TWY	Chenhua	0.86	307	iP	Pn	01 31 47.1	+0.8
	baz=303						
TWY				iS	Sn	01 32 00.9	+0.5
	baz=303						
YHNB	Yeheng	0.90	265	ePn	Pn	01 31 47.1	+0.5
YHNB				eS	Sn	01 32 01.1	+0.1
NACB	Ninganchiao	0.90	230	ePn	Pn	01 31 45.9	-0.8
NACB				eS	Sn	01 32 00.3	-0.9
NSK	Sanguang	0.91	265	⇓iP	Pn	01 31 47.5	+0.7
	baz=275						
NSK				S	Sn	01 32 00.9	-0.4
	baz=275						
TWS1	Kuangyinshan	0.92	292	iP	Pn	01 31 47.5	+0.7
	baz=295						
TWS1				S	Sn	01 32 01.2	-0.3
	baz=295						
NNS	Nan Shan	0.95	251	⇓iP	Pn	01 31 47.7	+0.6
	baz=249						
NNS				eS	Sn	01 32 01.5	-0.5
	baz=249						
TWD	Chiawan	0.96	226	⇓iP	Pn	01 31 46.9	-0.4
	baz=227						
TWD				S	Sn	01 32 01.3	-1.0
	baz=227						
HWA	Hwalien	1.03	222	eP	Pn	01 31 47.8	-0.3
	baz=222						
NCU	National Centr	1.08	282	eP	Pn	01 31 49.5	+0.9
	baz=276						
NCU				eS	Sn	01 32 04.8	+0.2
	baz=276						
WHF	Hehuan Shan	1.16	239	⇓iP	Pn	01 31 50.2	+0.6
	baz=240						
WHF				S	Sn	01 32 05.9	-0.3
	baz=240						
ESF	Shoufeng Towns	1.17	222	eP	Pn	01 31 48.7	-0.9
	baz=222						
TWT	Tachien	1.18	245	⇓iP	Pn	01 31 50.9	+1.2
	baz=240						
TWT				eS	Sn	01 32 07.2	+0.6
	baz=240						
NSTT	Nanjuang	1.24	265	P	Pn	01 31 50.9	+0.5
	baz=266						
NSTT				S	Sn	01 32 07.4	-0.4
	baz=266						
ESL	Shilin	1.26	222	⇓iP	Pn	01 31 49.9	-0.8
	baz=231						
ESL				eS	Sn	01 32 06.1	-2.1
	baz=231						
HSN	Hsinchu	1.26	273	eP	Pn	01 31 50.7	+0.1
	baz=276						
HSN				eS	Sn	01 32 07.9	-0.4
	baz=276						
TEGC	Jichi Village	1.28	216	eP	Pn	01 31 50.3	-0.6
	baz=210						
IRIF	Iriomote-Funau	1.32	108	P	Pn	01 31 51.4	0.0
IRIF				S	Sn	01 32 09.5	0.0
NSY	Sanyi	1.49	257	P	Pn	01 31 54.2	+0.8
	baz=258						
NSY				eS	Sn	01 32 13.3	+0.2
	baz=258						
HATJ	Hateruma jima	1.49	117	P	Pn	01 31 54.1	+0.6
HATJ				S	Sn	01 32 12.8	-0.5
TWQ1	Liyutan	1.50	255	⇓iP	Pn	01 31 54.2	+0.7
	baz=256						
TWQ1				eS	Sn	01 32 12.7	-0.7
	baz=256						
EHY	Hungye	1.56	217	⇓iP	Pn	01 31 53.1	-1.2
	baz=225						
SMLT	Sun Moon Lake	1.58	237	⇓iP	Pn	01 31 55.5	+0.9
	baz=233						
SMLT				eS	Sn	01 32 17.2	+1.9
	baz=233						
JKRS	Kuro-shima	1.59	108	P	Pn	01 31 55.6	+0.9
JKRS				S	Sn	01 32 15.6	+0.1
SSLB	Suanglung	1.60	233	ePn	Pn	01 31 54.9	+0.1
SSLB				eS	Sn	01 32 16.6	+1.0
TYC	Yuchr	1.61	239	⇓iP	Pn	01 31 55.9	+1.0
	baz=239						
TYC				eS	Sn	01 32 17.2	+1.4
	baz=239						
TCU	Taichung	1.64	249	eP	Pn	01 31 55.8	+0.4
	baz=250						
TCU				eS	Sn	01 32 16.0	-0.7
	baz=250						
YULB	Yu-li	1.66	216	ePn	Pn	01 31 54.2	-1.4
YULB				eS	Sn	01 32 24.9	+7.8
JIJ	Ishigaki jima	1.67	103	P	Pn	01 31 56.2	+0.5
JIJ				S	Sn	01 32 17.0	-0.3
TWF1	Yuli	1.70	215	⇓iP	Pn	01 31 55.0	-1.1
	baz=222						
WNT	Mingjian	1.75	241	P	Pn	01 31 57.3	+0.5
	baz=241						
WNT				S	Sn	01 32 20.1	+1.0
	baz=241						
YUS	Yu-Shan	1.80	226	⇓iP	Pn	01 31 58.1	+0.9
	baz=219						
YUS				eS	Sn	01 32 21.4	+1.3
	baz=219						
CHKT	Chengkung	1.88	209	P	Pn	01 31 57.2	-1.1
	baz=202						
CHKT				eS	Sn	01 32 18.8	-3.1
	baz=202						
ALS	Alishan	1.88	229	⇓iP	Pn	01 31 59.7	+1.3
	baz=223						
ALS				eS	Sn	01 32 22.5	+0.5
	baz=223						
CHN5	Tsauling	1.92	233	⇓iP	Pn	01 31 59.7	+0.9
	baz=244						
WGK	Gukeng	1.95	237	eP	Pn	01 31 59.9	+0.6
	baz=248						
WGK				eS	Sn	01 32 24.9	+1.3
	baz=248						
ELDTW	Lidau	1.98	218	⇓P	Pn	01 31 58.9	-0.8
	baz=215						
WTCT	Ta-ch'eng	2.09	245	eP	Pn	01 32 01.2	+0.2
	baz=253						
WTCT				eS	Sn	01 32 25.3	-1.5
	baz=253						
JTJ	Tarama	2.14	92	P	Pn	01 32 02.8	+1.1
JTJ				eS	Sn	01 32 28.5	+0.6
TPUB	Ta-pu	2.14	228	ePn	Pn	01 32 02.2	+0.5
TPUB				eS	Sn	01 32 30.9	+3.0
STYT	Tauyuan	2.15	223	⇓iP	Pn	01 32 02.7	+0.8
	baz=215						
STYT				eS	Sn	01 32 28.8	+0.5
	baz=215						
CHY	Chiayi	2.16	235	eP	Pn	01 32 01.9	-0.1
	baz=245						
CHY				eS	Sn	01 32 28.2	-0.3
	baz=245						
WTP	Ta-pu	2.19	227	⇓P	Pn	01 32 03.1	+0.8
	baz=227						
WTP				eS	Sn	01 32 29.2	+0.1
	baz=227						
WSF	Szhu	2.24	241	eP	Pn	01 32 03.1	+0.1
	baz=241						
WSF				eS	Sn	01 32 29.8	-0.5
	baz=241						
TWG	Pinlang	2.25	212	eP	Pn	01 32 01.8	-1.4
	baz=211						
TWG				eS	Sn	01 32 27.8	-2.9
	baz=211						
TWG	Pinlang	2.25	212	ePn	Pn	01 32 01.6	-1.7
TWG				eS	Sn	01 32 28.3	-2.3
TTN	Taitung	2.28	209	eP	Pn	01 32 02.1	-1.4
	baz=216						
TTN				eS	Sn	01 32 30.

baz=235
CHN3 Shinhua 2.47 228 *e*P **Pn 01 32 06.5 +0.5**
baz=227
ECL Taimali 2.50 211 *e*P **Pn 01 32 04.9 -1.6**
baz=210
SCLT Jiali 2.52 232 *e*P **Pn 01 32 07.0 +0.2**
baz=241
SCLT *e*S **Sn 01 32 37.6 +0.6**
baz=241
SSD Sandimen 2.55 219⇓*e*P **Pn 01 32 08.0 +0.9**
baz=218
TAI1 Yung-k'ang 2.59 229 *e*P **Pn 01 32 08.4 +0.8**
baz=240
TWM1 Shoushan 2.61 223 *e*P **Pn 01 32 09.2 +1.3**
baz=223
SGLT Jiouru 2.64 221 *e*P **Pn 01 32 09.2 +0.9**
baz=220
JMJ Miyako jima 2 2.67 88 *e*P **Pn 01 32 09.7 +1.0**
baz=88
JMJ Miyako jima 2 2.67 88 P **Pn 01 32 09.9 +1.2**
JMJ *e*S **Sn 01 32 40.8 +0.3**
EAST Anshuo 2.73 211 *e*P **Pn 01 32 08.5 -1.0**
baz=205
EAST *e*S **Sn 01 32 39.5 -2.5**
baz=205
TAW Tawu 2.73 210 *e*P **Pn 01 32 07.8 -1.7**
baz=204
JOGS Gusukube 2.77 89 P **Pn 01 32 11.6 +1.5**
JOGS *e*S **Sn 01 32 44.1 +1.2**
LAY Lan-yu 2.80 195 *e*P **Pn 01 32 08.9 -1.5**
baz=189
PNG Penghu 2.82 246 *e*P **Pn 01 32 09.8 -0.8**
baz=246
PNG *e*S **Sn 01 32 41.5 -2.4**
baz=246
SCZT Fangliau 2.85 214 *e*P **Pn 01 32 11.5 +0.3**
baz=213
SCZT *e*S **Sn 01 32 44.0 -0.9**
baz=213
TWP Hsiaoliuchiu 3.01 218 *e*P **Pn 01 32 12.7 -0.6**
baz=216
HEN Hengchun 3.11 209 *e*P **Pn 01 32 14.4 -0.2**
baz=218
TWK1 Hengchun 3.14 207 *e*P **Pn 01 32 14.4 -0.5**
baz=215
TWK1 *e*S **Sn 01 32 52.5 +0.9**
baz=215
QZH Quanzhou 3.42 274 *i* P **Pn 01 32 17.0 -1.8**
QZH S **Sn 01 32 49.5 -9.0**
QZH smax
comp=N,38μm,1.0s
QZH smax
comp=E,16μm,0.8s
KNM Kinmen 3.59 265 *e*P **Pn 01 32 22.1 +1.2**
baz=265
JKE Kume jima 2 4.30 68 P **Pn 01 32 32.1 +1.5**
JKE *e*S **Sn 01 33 20.9 +1.3**
JAGN Aguni-jima 4.77 66 P **Pn 01 32 38.3 +1.3**
JAGN *e*S **Sn 01 33 31.7 +0.6**
NAH1 Naha 5.03 72 P **Pn 01 32 42.0 +1.5**
NAH1 *e*S **Sn 01 33 37.6 +0.1**
JJT2 Tamagusuku 2 5.07 73 *e*S **Sn 01 33 39.7 +1.4**
JIH Iheya 5.54 65 P **Pn 01 32 47.8 +0.4**
JIH *e*S **Sn 01 33 50.0 +0.2**
JOW Kunigami 5.72 68 P **Pn 01 32 49.8 -0.1**
comp=E,52nm,0.3s,baz=245,slow=10,SNR=68
JOW S **Sn 01 33 52.9 -1.4**
comp=E,28nm,0.3s,baz=114,slow=19,SNR=9.6
JOW Kunigami 5.72 68 *e*P **Pn 01 32 49.6 -0.3**
baz=70
JOW Kunigami 5.72 68 *e*Pn **Pn 01 32 49.6 -0.3**
JOW *e*S **Sn 01 33 53.5 -0.7**
JOW Kunigami 5.72 68 P **Pn 01 32 49.7 -0.2**
JOW *e*S **Sn 01 33 52.6 -1.6**
JTK Tokunoshima 6.65 62 P **Pn 01 33 01.7 -0.7**
JTK *e*S **Sn 01 34 14.3 -2.4**
JAM Amami Oshima 7.44 59 P **Pn 01 33 12.0 -1.3**
JAM *e*S **Sn 01 34 33.5 -2.6**
JZK Kikaishima 7.69 61 P **Pn 01 33 15.8 -0.8**
NJ2 Nanjing 7.90 338 *e*P **Pn 01 33 19.5 +0.1**
NJ2 sP 01 33 45.5
NJ2 S **Sn 01 34 46.5 -0.6**
NJ2 LR LR
comp=N,720nm,8.4s
NJ2 LR LR
comp=E,450nm,7.2s
NJ2 LR LR
comp=Z,590nm,7.2s
JMZ Minamidaito 2 8.09 81 P **Pn 01 33 20.1 -2.0**
JMZ *e*S **Sn 01 34 43.7 -8.3**
GZH Guangzhou 8.41 260 P **Pn 01 33 22.5 -3.9**
GZH smax
comp=N,4μm,1.3s
GZH smax
comp=E,4μm,1.2s
WHN Wuhan 9.14 311⇑P **Pn 01 33 36.8 +0.4**
WHN S **Sn 01 35 16.3 -1.2**
WHN LR LR
comp=N,3μm,6.2s
WHN LR LR
comp=E,2μm,8.0s
WHN LR LR
comp=Z,2μm,5.3s
JNU Nakatsue 11.19 40 *e*Pn **Pn 01 34 06.8 +2.6**
ENH Enshi 12.67 299 *e*P **Pn 01 34 24.4 +0.4**
comp=Z,81nm,1.4s
QIZ Qiongzhong 12.93 246 P **Pn 01 34 27.5 +0.1**
QIZ S **Sn 01 36 49.5 -0.2**
QIZ pmax pmax
comp=Z,120nm,4.5s
QIZ LR LR
comp=Z,400nm,18.2s
KSAR Wonju Array Be 13.50 19 P **Pn 01 34 38.4 +3.6**
KSAR Wonju Array Be 13.50 19 P **Pn 01 34 38.4 +3.6**
KSRS Korea Array 13.53 19 P **Pn 01 34 38.4 +3.3**
comp=Z,0.9nm,0.3s,baz=201,slow=13,SNR=59
KSRS LR LR 01 39 46.2
comp=Z,56nm,21.9s,baz=302,slow=37
GYA Guiyang 14.26 280⇑*i*P **Pn 01 34 48.0 +3.3**
GYA pP 01 35 01.5
GYA S **Sn 01 37 23.5 +1.7**
GYA sS 01 37 43.5
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,110nm,4.4s
GYA LR LR
comp=N,730nm,11.5s
GYA LR LR
comp=E,320nm,12.3s
GYA LR LR
comp=Z,320nm,10.6s
XAN Xi'an 14.91 311 P **Pn 01 34 53.0 0.0**
XAN pmax pmax
comp=Z,20nm,1.3s
XAN pmax pmax
comp=Z,46nm,3.4s
XAN LR LR
comp=N,290nm,6.1s
XAN LR LR
comp=E,80nm,6.3s
XAN LR LR
comp=Z,94nm,7.2s
BJT Baijiatuau 16.09 343 *e*Pn **Pn 01 35 08.6 +1.0**
comp=Z,33nm,0.3s
BJT Baijiatuau 16.09 343 *e*P **Pn 01 35 08.6 +1.0**
BJT pmax pmax
comp=Z,33nm,0.3s
BJI Beijing 16.11 343 P **Pn 01 35 09.3 +1.4**
BJI S **S 01 38 08.5 -4.5**
BJI pmax pmax
comp=Z,13nm,0.9s
BJI pmax pmax
comp=Z,120nm,3.3s
BJI LR LR
comp=N,220nm,17.2s
BJI LR LR
comp=E,190nm,15.7s
BJI LR LR
comp=Z,170nm,24.1s
SNY Shenyang 17.06 3⇑P **Pn 01 35 22.5 +2.9**
SNY pP pP 01 35 36.5 -1.9
SNY S **S 01 38 33.3 +3.3**
SNY pmax pmax
comp=Z,49nm,0.8s
SNY LR LR
comp=N,480nm,3.3s
SNY LR LR
comp=E,290nm,3.6s
SNY LR LR
comp=Z,370nm,4.1s
CD2 Chengdu 17.55 295 *e*P **Pn 01 35 25.8 +0.1**
CD2 pP pP 01 35 41.0 -2.9
CD2 S **S 01 38 34.0 -7.5**
CD2 sS sS 01 38 57.5 -15
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=N,400nm,8.2s
CD2 LR LR
comp=E,440nm,12.0s
CD2 LR LR
comp=Z,280nm,13.2s
KMI Kunming 17.80 275 P **Pn 01 35 31.5 +2.8**
KMI pP pP 01 35 43.0 -3.7
KMI S **S 01 38 48.8 +1.5**
KMI pmax pmax
comp=Z,12nm,1.2s
KMI pmax pmax
comp=Z,180nm,3.2s
KMI LR LR
comp=N,400nm,8.7s
KMI LR LR
comp=E,90nm,7.9s
KMI LR LR
comp=Z,320nm,10.3s
DAV Davao City (W) 17.85 170 LR LR 01 42 10.2
comp=Z,226nm,18.8s,baz=238,slow=36
MAJO Matsushiro 17.98 45 *e*P **Pn 01 35 30.3 -0.5**
comp=Z,29nm,1.1s
MAJO Matsushiro 17.98 45 *e*P **Pn 01 35 30.3 -0.5**
MAJO pmax pmax
comp=Z,29nm,1.1s
MAT Matsushiro 17.98 45 P **Pn 01 35 28.6 -2.2**
MAT S **S 01 38 50.6 -0.5**
MJAR Matsushiro Arr 17.98 45 P **Pn 01 35 28.8 -1.9**
comp=Z,0.5nm,0.3s,baz=232,slow=9.6,SNR=16
MJAR LR LR 01 42 16.8
comp=Z,151nm,21.7s,baz=200,slow=36
MJAR Matsushiro Arr 17.98 45 P **Pn 01 35 28.8 -1.9**
MJAR Matsushiro Arr 17.98 45 P **Pn 01 35 28.8 -2.0**
CBIJ Chichi jima 17.99 78 P **Pn 01 35 30.2 -0.8**
comp=Z,6.7nm,0.3s,baz=280,slow=9.7,SNR=6.4
CBIJ Chichi jima 17.99 78 P **Pn 01 35 30.2 -0.8**
HHC Hu-ho-hao-te 18.41 333 *e*P **Pn 01 35 38.0 +2.1**
HHC pP pP 01 35 54.3 +1.0
HHC PP 01 35 57.3
HHC sP sP 01 36 07.5 +1.6
HHC S **S 01 38 56.8 -3.0**
HHC sS sS 01 39 21.3 -9.1
HHC SS 01 39 25.3
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.2s
HHC LR LR
comp=N,150nm,9.1s
HHC LR LR
comp=E,230nm,10.1s
HHC LR LR
comp=Z,190nm,10.9s
BTO Baotou 18.88 330 *e*P **Pn 01 35 41.8 +0.3**
CN2 Changchun 19.17 7⇑P **Pn 01 35 43.8 -1.1**
CN2 *e*pP pP 01 36 01.0 -0.7
CN2 *e*sP sP 01 36 14.5 +0.3
CN2 *e*S **S 01 39 10.5 -4.4**
CN2 pmax pmax
comp=Z,120nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
LZH Lanzhou 19.52 310 *e*P **Pn 01 35 49.0 -0.1**
LZH pP pP 01 36 06.8 +1.2
LZH PP 01 36 11.3
LZH sP sP 01 36 20.0 +1.9
LZH *e*S **S 01 39 19.3 -2.7**
LZH sS sS 01 39 45.0 -8.0
LZH *e*SS 01 39 50.3
LZH pmax pmax
comp=Z,68nm,1.3s
LZH pmax pmax
comp=Z,210nm,5.4s
LZH LR LR
comp=N,380nm,10.2s
LZH LR LR
comp=E,430nm,11.6s
LZH LR LR
comp=Z,540nm,12.7s
VLA Vladivostok 19.93 21 *i* P **Pn 01 35 52.2 -1.6**
VLA pmax pmax
comp=Z,128nm,1.6s
MDJ Mudanjiang 20.67 15 P **P 01 36 00.8 +1.6**
MDJ pP 01 36 18.5
MDJ sP sP 01 36 30.0 -0.7
MDJ S **S 01 39 47.5 +2.9**
MDJ pmax pmax
comp=Z,12nm,1.1s
MDJ pmax pmax
comp=Z,48nm,2.6s
USRK Ussuriysk Arra 20.94 20 P **P 01 36 02.0 -0.1**
comp=Z,16nm,0.9s,baz=202,slow=8.0,SNR=17
USRK LR LR 01 45 13.4
comp=Z,48nm,20.3s,baz=182,slow=40
CMAR Chiang Mai Arr 22.63 259 P **P 01 36 22.0 +1.7**
comp=Z,1.3nm,0.6s,mb3.5,baz=65,slow=7.6,SNR=6.7
CMAR PcP PcP 01 40 10.4 +0.7
comp=Z,1.3nm,0.4s,baz=41,slow=1.0,SNR=11
CMAR ScP ScP 01 43 38.5 0.0
comp=Z,0.6nm,0.4s,baz=57,slow=3.3,SNR=7.3
CMAR LR LR 01 45 21.1
comp=Z,157nm,19.0s,baz=330,slow=37
CMAR Chiang Mai Arr 22.63 259 P **P 01 36 22.0 +1.7**
CMAR PcP PcP 01 40 10.4 +0.7
CMAR ScP ScP 01 43 38.5 0.0
CMAR Chiang Mai Arr 22.63 259 P **P 01 36 22.0 +1.7**
CMAR 01 40 10.4
GTA Gaotai 23.96 313 *e*P **P 01 36 34.0 +1.6**
GTA pP 01 36 55.3
GTA sP sP 01 37 06.8 +0.9
GTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.1
GTA pmax pmax
comp=Z,110nm,4.0s
GTA LR LR
comp=N,120nm,7.6s
GTA LR LR
comp=E,160nm,9.3s
GTA LR LR
comp=Z,140nm,10.0s
ERM Erimo 24.35 40 *e*P **P 01 36 34.1 -1.8**
comp=Z,17nm,0.6s,mb4.5
ERM Erimo 24.35 40 *e*P **P 01 36 34.2 -1.8**
ERM pmax pmax
comp=Z,17nm,0.6s,mb4.5
HIA Hailar 24.55 356 *e*P **P 01 36 38.4 +0.7**
comp=Z,28nm,0.8s,mb4.8
HIA Hailar 24.55 356 *e*P **P 01 36 38.4 +0.7**
HIA pmax pmax
comp=Z,28nm,0.8s
ASAJ Asahikawa 25.41 36 P **P 01 36 44.0 -1.6**
comp=Z,14nm,0.8s,mb4.5,baz=250,slow=13,SNR=12
ASAJ LR LR 01 47 22.4
comp=Z,104nm,18.8s,baz=168,slow=38
ASAJ Asahikawa 25.41 36 P **P 01 36 44.0 -1.6**
KLR Kul'dur 25.52 14 *e*P **P 01 36 44.2 -2.3**
ULN Ulaanbaatar 26.06 336 *e*P **P 01 36 51.7 +0.3**
comp=Z,34nm,1.2s,mb4.7
ULN *e*PcP PcP 01 40 17.1 +0.4
ULN Ulaanbaatar 26.06 336 *e*P **P 01 36 51.7 +0.3**
ULN *e* 01 40 17.1
ULN pmax pmax
comp=Z,34nm,1.2s,mb4.7
SONM Songino Array 26.28 335 P **P 01 36 53.8 +0.4**
comp=Z,29nm,0.9s,mb4.7,baz=152,slow=8.5,SNR=136
SONM pP pP 01 37 16.9 +1.5
comp=Z,18nm,1.2s,baz=154,slow=11,SNR=3.6
SONM PcP PcP 01 40 17.2 0.0
comp=Z,2.7nm,0.9s,baz=130,slow=2.3,SNR=6.7
SONM ScP ScP 01 43 47.6 -0.5
comp=Z,0.6nm,0.9s,baz=151,slow=3.3,SNR=3.7
SONM LR LR 01 48 46.8
comp=Z,94nm,18.1s,baz=119,slow=40
SONM Songino Array 26.28 335 P **P 01 36 53.8 +0.4**
SONM pP pP 01 37 16.9 +1.5
SONM PcP PcP 01 40 17.2 0.0
SONM ScP ScP 01 43 47.6 -0.5
SONM Songino Array 26.28 335 P **P 01 36 53.8 +0.4**
SONM *PP pP 01 37 16.9 +1.6
SONM 01 40 17.2
YSS Yuzh-Sakhalins 27.49 31 *e*P **P 01 37 06.5 +2.3**
comp=Z,70nm,1.2s,mb5.1
YSS Yuzh-Sakhalins 27.49 31⇑*i*P **P 01 37 06.0 +1.8**
YSS *e* pP 01 37 32.0 +5.7
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.0
ZAK Zakamensk 29.54 335 *e*P **P 01 37 21.5 -0.9**
ZAK *e* 01 40 22.7
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb3.9
KAPI Kappang 29.70 185 LR LR 01 48 16.3
comp=Z,88nm,21.4s,baz=247,slow=34
TLY Talaya 30.46 337 *e*P **P 01 37 30.7 +0.3**
comp=Z,41nm,1.5s,mb4.8
TLY Talaya 30.46 337 *e*P **P 01 37 29.6 -0.9**
TLY pmax pmax
comp=Z,25nm,1.6s,mb4.6
MOY Mondy 31.45 334 *e*P **P 01 37 39.3 +0.1**
BOD Bodaibo 33.58 352 *e*P **P 01 37 55.8 -1.9**
WMQ Urumqi 34.04 313 *e*P **P 01 38 04.3 +2.4**
WMQ pP pP 01 38 26.5 +2.1
WMQ sP sP 01 38 38.0 +2.2
WMQ pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
WMQ pmax pmax
comp=Z,170nm,5.2s
MK31 Makanchi Array 38.68 315 *e*P **P 01 38 41.5 +0.2**
MK31 *e*pP pP 01 39 06.9 +2.8
MK31 Makanchi Array 38.68 315 *e*P **P 01 38 41.5 +0.1**
MK31 *e*PP pP 01 39 06.9 +2.7
MKAR Makanchi Array 38.68 315 P **P 01 38 41.3 -0.1**
comp=Z,8.5nm,0.7s,mb4.7,baz=104,slow=9.4,SNR=66
MKAR pP pP 01 39 06.0 +1.8
comp=Z,4.8nm,0.6s,baz=103,slow=10,SNR=6.5
MKAR PcP PcP 01 40 51.2 -0.2
comp=Z,2.3nm,0.6s,baz=91,slow=4.8,SNR=7.2
MKAR ScP ScP 01 44 29.3 -1.3
comp=Z,2.1nm,0.8s,baz=106,slow=5.5,SNR=14
MKAR LR LR 01 56 06.9
comp=Z,47nm,18.7s,baz=108,slow=38
MKAR Makanchi Array 38.68 315 *e*P **P 01 38 41.7 +0.4**
MKAR pP pP 01 39 06.0 +1.8
MKAR PcP PcP 01 40 51.2 -0.2
MKAR ScP ScP 01 44 29.3 -1.3
MKAR Makanchi Array 38.68 315 *e*P **P 01 38 41.7 +0.3**
MKAR *PP pP 01 39 06.0 +1.8
MKAR 01 40 51.2
MKAR 01 44 29.3
PETK Petropavlovsk- 38.80 34 LR LR 01 53 52.2
comp=Z,80nm,21.9s,baz=242,slow=35
ZAA0 Zalesovo Array 40.36 326 *e*P **P 01 38 54.0 -1.1**
ZAA0 *e*pP pP 01 39 19.3 +1.2
ZALV Zalesovo Beam 40.36 326 P **P 01 38 54.0 -1.2**
comp=Z,6.4nm,0.5s,mb4.7,baz=108,slow=7.9,SNR=31
ZALV pP pP 01 39 19.4 +1.3
comp=Z,6.5nm,0.7s,baz=116,slow=8.1,SNR=5.1
ZALV PcP PcP 01 40 55.2 -1.4
comp=Z,2.5nm,0.6s,baz=112,slow=4.1,SNR=4.5
ZALV ScP ScP 01 44 34.5 -2.4
comp=Z,2.6nm,0.8s,baz=113,slow=3.9,SNR=11
ZALV LR LR 01 55 04.4
comp=Z,41nm,19.4s,baz=135,slow=35
ZALV Zalesovo Beam 40.36 326 P **P 01 38 54.0 -1.2**
ZALV pP pP 01 39 19.4 +1.3
ZALV PcP PcP 01 40 55.2 -1.4
ZALV ScP ScP 01 44 34.5 -2.4
ZALV Zalesovo Beam 40.36 326 P **P 01 38 54.0 -1.2**
ZALV *PP pP 01 39 19.4 +1.3
ZALV 01 40 55.2
KSH Kashi 41.49 302 P **P 01 39 09.3 +4.6**
KSH pP pP 01 39 32.5 +4.8
KSH sP sP 01 39 43.8 +4.8
KSH PP PP 01 40 50.5 +8.2
KSH ScP ScP 01 44 44.5 +2.8
KSH PcS PcS 01 44 54.3 +2.4
KSH S **S 01 45 19.5 +6.6**
KSH sS sS 01 45 59.0 +6.5
KSH SS SS 01 48 22.8 +1.9
KSH ScS ScS 01 49 00.0 +1.8
KSH pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
KSH pmax pmax
comp=Z,89nm,4.1s
KSH LR LR
comp=N,160nm,5.0s
KSH LR LR
comp=E,150nm,6.8s
KSH LR LR
comp=Z,220nm,5.9s
NVS Novosibirsk 41.61 327 *e*P **P 01 39 01.1 -4.3**
PMG Port Moresby 41.69 142 *i* P **P 01 39 08.1 +1.6**
PMG pmax pmax
comp=Z,12nm,1.1s
TKM2 Tokmak 2 42.26 307 *e*P **P 01 39 12.1 +1.2**
comp=Z,16nm,0.8s,mb4.8
TKM2 *e*pP pP 01 39 37.7 +3.7
TKM2 Tokmak 2 42.26 307 *e*P **P 01 39 12.1 +1.2**
TKM2 *e*PP pP 01 39 37.7 +3.7
TKM2 pmax pmax
comp=Z,16nm,0.8s,mb4.8
KURK Kurchatov 42.35 319 *e*P **P 01 39 11.0 -0.5**
comp=Z,16nm,0.9s,mb4.7
KURK Kurchatov 42.35 319*c i*P **P 01 39 10.8 -0.7**
KURK pmax pmax
comp=Z,26nm,1.7s,mb4.7
AAK Ala-Archa 43.02 307 *e*P **P 01 39 18.8 +1.8**
comp=Z,19nm,0.8s,mb4.9
AAK Ala-Archa 43.02 307⇑*e*P **P 01 39 18.0 +1.0**
AAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
COEN Coen 43.51 150 *e*P **P 01 39 22.9 +1.7**
comp=Z,69nm,0.6s,mb5.6
EKS2 Erkin-Say 43.55 307 *e*P **P 01 39 23.0 +1.7**
comp=Z,3.3nm,0.8s,mb4.1
EKS2 Erkin-Say 43.55 307 *e*P **P 01 39 23.0 +1.7**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
WRAB Tennant Creek 45.92 164 *e*P **P 01 39 40.0 -0.3**
comp=Z,9.2nm,0.6s,mb4.7
WRAB Tennant Creek 45.92 164 *e*P **P 01 39 40.0 -0.3**
WRAB pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
WRA Warramunga Arr 45.93 164 P **P 01 39 40.4 +0.1**
comp=Z,7.0nm,0.5s,mb4.7,baz=347,slow=8.6,SNR=23
WRA PcP PcP 01 41 15.6 -0.2
comp=Z,3.8nm,0.9s,baz=343,slow=3.8,SNR=6.5
WRA Warramunga Arr 45.93 164 P **P 01 39 40.4 +0.1**
WRA PcP PcP 01 41 15.6 -0.2
WRA Warramunga Arr 45.93 164 P **P 01 39 40.4 +0.1**
WRA 01 41 15.6
WB2 Warramunga Arr 45.93 164 *e*P **P 01 39 40.1 -0.3**
KKAR Karatay Array 45.98 307 *e*P **P 01 39 41.2 +0.6**
comp=Z,1.1nm,0.4s,mb3.9
KKAR *e*ScP ScP 01 44 59.6 -0.3
KKAR Karatay Array 45.98 307 *e*P **P 01 39 41.2 +0.6**
KBL Kabul 46.89 295 *e*P **P 01 39 48.6 +0.8**
comp=Z,17nm,0.8s,mb4.8
KBL *e*ScP ScP 01 45 03.6 -0.3
KBL Kabul 46.89 295 *e*P **P 01 39 48.6 +0.8**
KBL pmax pmax
comp=Z,17nm,0.8s,mb4.8
BRVK Borovoye 47.99 320 *e*P **P 01 39 55.9 -0.2**
comp=Z,8.9nm,1.0s,mb4.5
BRVK *e*pP pP 01 40 21.9 +2.4
BRVK *e*ScP ScP 01 45 07.0 -1.1
BRVK Borovoye 47.99 320⇑*e*P **P 01 39 55.8 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
AS31 Alice Springs 49.41 166 *e*P **P 01 40 09.3 +2.1**
ASAR Alice Springs 49.42 166 P **P 01 40 07.7 +0.4**
comp=Z,3.5nm,0.8s,mb4.3,baz=348,slow=6.5,SNR=17

ASAR pP pP 01 40 30.4 -0.6
comp=Z,4.2nm,0.9s,baz=343,slow=6.4,SNR=7.5
ASAR pP PcP 01 41 27.7 -0.5
comp=Z,3.4nm,0.9s,baz=353,slow=3.9,SNR=7.7
ASAR Alice Springs 49.42 166 P **P 01 40 07.7 +0.4**
ASAR pP pP 01 40 30.4 -0.6
ASAR PcP PcP 01 41 27.7 -0.5
ASAR Alice Springs 49.42 166 P **P 01 40 07.7 +0.5**
ASAR *PP pP 01 40 30.4 -0.5
ASAR 01 41 27.7
HNR Honiara 49.98 128 LR LR 01 59 06.2
comp=Z,86nm,20.6s,baz=309,slow=33
BILL Bilibino 50.79 20 *e*P **P 01 40 16.6 -0.5**
comp=Z,3.8nm,0.8s,mb4.5
BILL *e*PcP PcP 01 41 32.8 +0.2
BILL Bilibino 50.79 20‖ *e*P **P 01 40 17.1 0.0**
BILL *i* *PP pP 01 40 49.2 +8.3
BILL *e* 01 42 10.2
BILL *e*S **S 01 47 23.9 -1.2**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.6
ABKAR Akbulak array 53.81 314 *e*P **P 01 40 39.7 0.0**
comp=Z,3.3nm,0.5s,mb4.6
ABKAR *e* 01 41 08.5
AKTO Aktyubinsk 55.12 315 P **P 01 40 49.7 +0.5**
comp=Z,1.3nm,0.5s,mb4.2,baz=81,slow=6.8,SNR=5.5
AKTO Aktyubinsk 55.12 315 P **P 01 40 49.7 +0.5**
AKTO Aktyubinsk 55.12 315 P **P 01 40 49.7 +0.5**
IKRD Kardeh 55.25 299 *e*P **P 01 40 46.4 -4.0**
ARU Arti 55.30 323 *d i*P **P 01 40 49.8 -0.6**
ARU S **S 01 48 27.7 +1.1**
ARU pmax pmax
comp=Z,16nm,1.7s,mb4.8
ITEG Tejag 55.59 294 *e*P **P 01 40 54.2 +1.3**
STKA Stephens Creek 59.24 161 P **P 01 41 19.8 +1.5**
comp=Z,1.7nm,0.5s,mb4.4,baz=356,slow=7.7,SNR=7.3
STKA Stephens Creek 59.24 161 P **P 01 41 19.8 +1.5**
STKA Stephens Creek 59.24 161 P **P 01 41 19.8 +1.5**
IZEF Zefreh 60.90 295 *e*P **P 01 41 31.0 +1.1**
IPAR Pars 60.97 292 *e*P **P 01 41 30.4 0.0**
IKLH Kolahrood 61.43 296 *e*P **P 01 41 34.7 +1.3**
IPIR Pirpir 62.13 295 *e*P **P 01 41 39.2 +1.1**
IDHR Dehrash 65.32 298 *e*P **P 01 41 59.0 -0.1**
KBD Kabd 65.65 292 *e*P **P 01 42 01.0 -0.3**
KBD AMb AMB 01 42 10.6
comp=Z,18nm,1.4s,mb4.7
MIB Mutribah 65.78 293 *e*P **P 01 42 01.9 -0.3**
MIB AMb AMB 01 42 02.6
comp=Z,22nm,0.7s,mb5.1
RDF Al-Radifah 65.84 292 *e*P **P 01 42 02.9 +0.4**
RDF AMb AMB 01 42 03.7
comp=Z,38nm,0.8s,mb5.3
NAY Al-Naaiem 66.01 292 *e*P **P 01 42 03.1 -0.6**
NAY AMb AMB 01 42 05.7
comp=Z,16nm,1.1s,mb4.7
PPLA Purkeypile 66.23 30 *e*P **P 01 42 04.6 +0.2**
comp=Z,3.7nm,0.6s,mb4.4
KDAK Kodiak Island 66.83 35 P **P 01 42 07.4 -0.9**
comp=Z,4.8nm,0.8s,mb4.4,baz=260,slow=6.1,SNR=4.2
KDAK Kodiak Island 66.83 35 P **P 01 42 07.4 -0.9**
KDAK Kodiak Island 66.83 35 P **P 01 42 07.4 -0.9**
OBN Obninsk 67.72 322‖ *e*P **P 01 42 12.9 -1.1**
OBN *e**PP pP 01 42 40.3 +1.4
OBN *e* 01 44 45.1
OBN *e*S S 01 51 01.1 -2.5
OBN pmax pmax
comp=Z,15nm,1.7s,mb4.5
ILAR Eielson Array 68.22 27 P **P 01 42 15.6 -1.4**
comp=Z,1.0nm,0.7s,mb3.8,baz=258,slow=5.7,SNR=30
ILAR pP pP 01 42 40.8 -1.2
comp=Z,0.9nm,0.7s,baz=285,slow=5.1,SNR=3.9
ILAR LR LR 02 14 08.4
comp=Z,31nm,20.1s,baz=321,slow=38
ILAR Eielson Array 68.22 27 P **P 01 42 15.6 -1.4**
ILAR pP pP 01 42 40.8 -1.2
ILAR Eielson Array 68.22 27 P **P 01 42 15.6 -1.3**
ILAR *PP pP 01 42 40.8 -1.1
SPITS Spitsbergen Ar 69.16 348 P **P 01 42 21.3 -1.3**
comp=Z,9.2nm,0.8s,mb4.6,baz=78,slow=12,SNR=6.0
SPITS Spitsbergen Ar 69.16 348 P **P 01 42 21.3 -1.3**
SPITS Spitsbergen Ar 69.16 348 P **P 01 42 21.3 -1.3**
ARCES ARCESS Array B 69.41 338 P **P 01 42 23.8 -0.5**
comp=Z,12nm,1.1s,mb4.6,baz=72,slow=9.6,SNR=6.4
ARCES ARCESS Array B 69.41 338 P **P 01 42 23.8 -0.5**
ARCES ARCESS Array B 69.41 338 P **P 01 42 23.8 -0.5**
FINES FINESS Array B 71.50 330 P **P 01 42 36.8 -0.2**
comp=Z,2.2nm,0.5s,mb4.2,baz=53,slow=5.4,SNR=13
FINES LR LR 02 16 14.1
comp=Z,51nm,19.3s,baz=126,slow=38
FINES FINESS Array B 71.50 330 P **P 01 42 36.8 -0.2**
FINES FINESS Array B 71.50 330 P **P 01 42 36.8 -0.3**
DAWY Dawson 71.55 27 *e*P **P 01 42 36.9 -0.4**
INK Inuvik 72.30 22 P **P 01 42 41.1 -0.7**
comp=Z,6.9nm,0.8s,mb4.5,baz=298,slow=8.1,SNR=14
INK Inuvik 72.30 22 *e*P **P 01 42 41.2 -0.6**
INK Inuvik 72.30 22 *e*P **P 01 42 41.2 -0.6**
AKASG Malin Array Be 73.16 318 P **P 01 42 46.3 -0.9**
comp=Z,1.0nm,0.5s,mb3.9,baz=71,slow=5.6,SNR=3.2
AKASG Malin Array Be 73.16 318 P **P 01 42 46.2 -0.9**
AKASG Malin Array Be 73.16 318 P **P 01 42 46.3 -0.8**
BRTR Keskin Array B 73.69 307 P **P 01 42 50.6 +0.1**
comp=Z,3.3nm,0.8s,mb4.1,baz=97,slow=5.8,SNR=14
BRTR Keskin Array B 73.69 307 P **P 01 42 50.6 +0.1**
BRTR Keskin Array B 73.69 307 *ce*P **P 01 42 50.4 -0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 77.59 331 P **P 01 43 12.0 -0.3**
comp=Z,2.0nm,0.7s,mb4.0,baz=93,slow=8.7,SNR=10
HFS Hagfors 77.59 331 P **P 01 43 12.0 -0.3**
HFS Hagfors 77.59 331 P **P 01 43 12.0 -0.3**
DLBC Dease Lake 77.92 31 P **P 01 43 14.2 +0.1**
comp=Z,2.1nm,0.6s,mb4.0,baz=305,slow=5.2,SNR=3.4
DLBC Dease Lake 77.92 31 P **P 01 43 14.2 +0.1**
RES Resolute Bay 77.93 9 P **P 01 43 13.0 -1.0**
comp=Z,2.8nm,0.7s,mb4.1,baz=280,slow=4.7,SNR=18
RES Resolute Bay 77.93 9 *e*P **P 01 43 12.8 -1.2**
comp=Z,1.9nm,0.6s,mb4.0
RES Resolute Bay 77.93 9 *e*P **P 01 43 12.8 -1.2**
RES pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
NB2 NORSAR Subarra 78.22 332 P **P 01 43 15.2 -0.6**
comp=Z,7.9nm,1.2s,mb4.3,baz=60,slow=5.6
NOA NORSAR Array B 78.22 332 P **P 01 43 15.1 -0.8**
comp=Z,4.0nm,0.9s,mb4.1,baz=60,slow=5.6,SNR=6.3
NOA LR LR 02 18 53.3
comp=Z,30nm,18.8s,baz=180,slow=36
NOA NORSAR Array B 78.22 332 P **P 01 43 15.1 -0.7**
NOA NORSAR Array B 78.22 332 P **P 01 43 15.1 -0.7**
CRVS Cervenica-Dubn 78.49 319 *e*P **P 01 43 16.9 -0.7**
CRVS Cervenica-Dubn 78.49 319 *e*P **P 01 43 16.8 -0.8**
VYHS Vyhne 80.24 319 *e*P **P 01 43 27.5 +0.4**
VYHS pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
VYHS Vyhne 80.24 319 *e*P **P 01 43 27.5 +0.4**
YKA Yellowknife Ar 82.03 23 P **P 01 43 34.9 -1.3**
comp=Z,3.8nm,0.8s,mb4.3,baz=313,slow=4.9,SNR=41
YKA Yellowknife Ar 82.03 23 P **P 01 43 34.9 -1.3**
YKA Yellowknife Ar 82.03 23 P **P 01 43 34.9 -1.4**
GERES GERESS Array B 83.08 321 P **P 01 43 41.7 -0.3**
comp=Z,1.0nm,0.9s,mb3.6,baz=326,slow=4.7,SNR=6.0
GERES GERESS Array B 83.08 321 P **P 01 43 41.7 -0.3**
GERES GERESS Array B 83.08 321 P **P 01 43 41.7 -0.3**
KMBO Kilima Mbogo 86.02 267 *e*P **P 01 43 58.6 +1.1**
comp=Z,20nm,2.1s,mb4.7
KMBO Kilima Mbogo 86.02 267 *e*P **P 01 43 58.6 +1.2**
KMBO pmax pmax
comp=Z,21nm,2.1s
CDF Champ du Feu 86.92 323 *e*P **P 01 44 00.5 -0.7**
CDF Champ du Feu 86.92 323 *e*P **P 01 44 00.5 -0.7**
CDF Champ du Feu 86.92 323 *e*P **P 01 44 00.5 -0.7**
HINF Hinteralfeld 87.49 322 *e*P **P 01 44 02.8 -1.2**
HINF Hinteralfeld 87.49 322 *e*P **P 01 44 02.8 -1.2**
HINF Hinteralfeld 87.49 322 *e*P **P 01 44 02.8 -1.2**
BAIF Baives 87.60 325 *e*P **P 01 44 03.2 -1.2**
BAIF Baives 87.60 325 *e*P **P 01 44 03.2 -1.2**
BAIF Baives 87.60 325 *e*P **P 01 44 03.2 -1.2**
SFTF Sexfontaines 88.26 324 *e*P **P 01 44 06.6 -1.0**
SFTF Sexfontaines 88.26 324 *e*P **P 01 44 06.6 -1.0**
CABF La Chapelle 88.61 322 *e*P **P 01 44 08.4 -0.9**
CABF La Chapelle 88.61 322 *e*P **P 01 44 08.4 -0.9**
CABF La Chapelle 88.61 322 *e*P **P 01 44 08.4 -0.9**
LPG La Plagne 88.88 321 *e*P **P 01 44 10.1 -0.5**
comp=Z,18nm,1.1s,mb4.7
LPG La Plagne 88.88 321 *e*P **P 01 44 10.1 -0.5**
comp=Z,18nm,1.1s,mb5.0
LPG La Plagne 88.88 321 *e*P **P 01 44 10.1 -0.5**
LPG pmax pmax
comp=Z,18nm,1.1s,mb5.0
SSF Saint Saulge 89.77 323 *e*P **P 01 44 13.5 -1.2**
comp=Z,15nm,1.4s,mb4.7
SSF Saint Saulge 89.77 323 *e*P **P 01 44 13.5 -1.2**
comp=Z,15nm,1.4s,mb4.9
SSF Saint Saulge 89.77 323 *e*P **P 01 44 13.5 -1.2**
SSF pmax pmax
comp=Z,15nm,1.4s,mb4.9
SMF Signal de Mont 89.84 323 *e*P **P 01 44 14.0 -1.1**
comp=Z,22nm,1.3s,mb4.8
SMF Signal de Mont 89.84 323 *e*P **P 01 44 14.0 -1.1**
comp=Z,22nm,1.3s,mb5.1
SMF Signal de Mont 89.84 323 *e*P **P 01 44 14.0 -1.1**
SMF pmax pmax
comp=Z,22nm,1.3s,mb5.1
AVF Avril sur Loir 90.02 323 *e*P **P 01 44 14.6 -1.3**
comp=Z,9.8nm,1.1s,mb4.5
AVF Avril sur Loir 90.02 323 *e*P **P 01 44 14.6 -1.3**
comp=Z,9.8nm,1.1s,mb4.8
AVF Avril sur Loir 90.02 323 *e*P **P 01 44 14.6 -1.3**
AVF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
YBH Yreka Blue Hor 90.62 43 *e*P **P 01 44 20.0 +1.2**
comp=Z,28nm,1.4s,mb5.2
YBH Yreka Blue Hor 90.62 43 *e*P **P 01 44 20.0 +1.2**
YBH pmax pmax
comp=Z,28nm,1.4s
WALA Waterton Lakes 91.06 33 *e*P **P 01 44 21.0 +0.3**
comp=Z,0.7nm,1.2s,mb3.7
RJF Les Rejaudoux 91.94 323 *e*P **P 01 44 24.6 -0.3**
RJF Les Rejaudoux 91.94 323 *e*P **P 01 44 24.6 -0.3**
RJF Les Rejaudoux 91.94 323 *e*P **P 01 44 24.6 -0.3**
MOD Modoc 91.99 42 *e*P **P 01 44 26.0 +0.9**
comp=Z,18nm,1.0s,mb5.2
SWMT Swartz Lake 92.03 34 *e*P **P 01 44 25.9 +0.7**
SGMF Saint Gilles 92.18 327 *e*P **P 01 44 24.1 -1.8**
comp=Z,73nm,1.3s,mb5.5
SGMF Saint Gilles 92.18 327 *e*P **P 01 44 24.1 -1.8**
comp=Z,73nm,1.3s
SGMF Saint Gilles 92.18 327 *e*P **P 01 44 24.1 -1.8**
FFC Flin Flon 92.18 24 *e*P **P 01 44 25.2 -0.5**
comp=Z,10nm,1.1s,mb5.0
FFC Flin Flon 92.18 24 *e*P **P 01 44 25.3 -0.4**
FFC pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
SLMT Seeley Lake 92.47 34 *e*P **P 01 44 27.4 +0.2**
LRM Limekiln Ridge 93.95 35 *e*P **P 01 44 35.0 +1.0**
CMB Columbia Colle 94.21 45 *e*P **P 01 44 35.5 0.0**
comp=Z,11nm,1.1s,mb5.1
CMB Columbia Colle 94.21 45 *e*P **P 01 44 35.5 +0.1**
CMB pmax pmax
comp=Z,11nm,1.1s,mb5.1
HLID Hailey 94.38 38 *e*P **P 01 44 37.1 +1.1**
comp=Z,5.2nm,0.8s,mb4.9
NVAR Mina Array Bea 95.29 43 P **P 01 44 40.8 +0.4**
comp=Z,4.2nm,0.8s,mb4.9,baz=285,slow=4.7,SNR=27
NVAR Mina Array Bea 95.29 43 P **P 01 44 40.8 +0.4**
PDAR Pinedale Array 97.55 36 P **P 01 44 48.4 -2.1**
comp=Z,0.5nm,0.9s,mb4.0,baz=29,slow=2.1,SNR=3.0
PDAR Pinedale Array 97.55 36 P **P 01 44 48.4 -2.1**
TXAR Lajitas Array 110.39 42 PKiKP PKiKP 01 49 48.0 -0.4
comp=Z,0.5nm,0.9s,baz=344,slow=2.9,SNR=5.3
TXAR Lajitas Array 110.39 42 PKiKP PKiKP 01 49 48.0 -0.4
TXAR Lajitas Array 110.39 42 PKiKP PKiKP 01 49 48.0 -0.4
TORD Torodi Ar. Bea 110.95 296 PKiKP PKiKP 01 49 48.7 -1.1
comp=Z,0.4nm,0.6s,baz=26,slow=2.7,SNR=4.8
TORD Torodi Ar. Bea 110.95 296 PKiKP PKiKP 01 49 48.7 -1.1
VNA2 Neumayer--Watz 125.76 198 *e* PKPdf 01 50 16.7 +0.2
baz=78,slow=1.7
VNA1 Neumayer--Stat 126.15 198 *e* PKPdf 01 50 17.7 +0.4
SDV Santo Domingo 144.25 22 *e*PKPdf PKPdf 01 50 49.9 -2.7
ROSC El Rosal 146.39 31 PKPbc PKPbc 01 50 56.4 -1.2
comp=Z,8.6nm,0.6s,baz=307,slow=4.3,SNR=6.7
ROSC El Rosal 146.39 31 *e*PKPbc PKPbc 01 50 57.1 -0.5
OTAV Otavalo 148.01 42 *e*PKPbc PKPbc 01 51 01.7 -0.5
LPAZ La Paz 167.07 51 PKP PKPdf 01 51 23.1 +0.9
comp=Z,2.9nm,1.0s,baz=289,slow=1.5,SNR=4.6
LPAZ PKPab PKPab 01 52 26.2 -0.5
comp=Z,2.9nm,0.9s,baz=14,slow=2.8,SNR=4.1
LPAZ La Paz 167.07 51 PKP PKPdf 01 51 23.1 +0.9
LPAZ PKPab PKPab 01 52 26.2 -0.5
LPAZ La Paz 167.07 51 PKIKP PKPdf 01 51 23.1 +0.9
LPAZ 01 52 26.2

*ISCJB **30** 01:43:58.7±0.5, 40°.34N±0°.02×25°.79E±0°.03, h7km±4km, Error ellipse: s-maj=4.0km s-min=3.8km az=31.2*
*ATH **30** 01:43:58.8, 40°.33N×25°.81E, h22km±1km, MD3.4/8*
*DDA **30** 01:43:58.9, 40°.36N×25°.89E, h6km±1km, Md3.1*
*ISK **30** 01:43:59.8, 40°.34N×25°.89E, h10km, MD2.7*
*CSEM **30** 01:43:59.5±0.3, 40°.38N×25°.81E, h18km, MD2.7, Error ellipse: s-maj=5.4km s-min=5.3km az=93.0*
ISC 30 01:43:59.2±0.5, **40°.33N**±0°.02×**25°.78E**±0°.03, **h10**km±4km, **n37**, σ0°**78**/59, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.49**	**35**	PG	**Pg**	**01 44 08.6**	**-0.2**
ENEZ				*e*SG	**Sg**	**01 44 16.3**	**+1.0**
ENEZ	**Enez**	**0.49**	**35**	*i* Pg	**Pg**	**01 44 08.6**	**-0.2**
ENEZ				*e*Sg	**Sg**	**01 44 16.3**	**+1.0**
GELI	**Tayfur-Gelibol**	**0.53**	**83**	*e*PG	**Pg**	**01 44 09.2**	**-0.3**
GELI				*e*SG	**Sg**	**01 44 16.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.53**	**83**	*e*Pg	**Pg**	**01 44 09.2**	**-0.3**
GELI				*e*Sg	**Sg**	**01 44 16.1**	**-0.4**
ALN	**Alexandroupoli**	**0.60**	**19**	*e*PN	**Pg**	**01 44 10.5**	**-0.3**
ALN				*e*SN	**Sg**	**01 44 18.4**	**-0.2**
ALN	**Alexandroupoli**	**0.60**	**19**	*e*Pn	**Pg**	**01 44 10.5**	**-0.3**
LIA	**Limnos Island**	**0.63**	**227**	*e*PN	**Pg**	**01 44 11.9**	**+0.5**
LIA				*e*SN	**Sg**	**01 44 20.6**	**+1.0**
LIA	**Limnos Island**	**0.63**	**227**	*e*Pn	**Pg**	**01 44 12.0**	**+0.6**
LIA				*e*Sn	**Sg**	**01 44 20.6**	**+1.0**
ERIK	**Erikli-Kesan**	**0.65**	**58**	*e*PG	**Pg**	**01 44 11.6**	**-0.2**
ERIK				*e*SG	**Sg**	**01 44 19.7**	**-0.6**
ERIK	**Erikli-Kesan**	**0.65**	**58**	*e*Pg	**Pg**	**01 44 11.6**	**-0.1**
ERIK				*e*Sg	**Sg**	**01 44 19.7**	**-0.6**
EZN	**Ezine**	**0.65**	**140**	*e*PG	**Pg**	**01 44 12.0**	**+0.2**
EZN	**Ezine**	**0.65**	**140**	*e*Pg	**Pg**	**01 44 12.0**	**+0.2**
LPK	**Lapseki**	**0.75**	**87**	*e*PG	**Pg**	**01 44 12.9**	**-0.7**
LPK	**Lapseki**	**0.75**	**87**	*e*Pg	**Pg**	**01 44 12.9**	**-0.7**
RDO	**Rodhopi**	**0.84**	**347**	*e*PN	**Pg**	**01 44 15.1**	**-0.2**
RDO				*e*SN	**Sg**	**01 44 27.1**	**+0.9**
RDO	**Rodhopi**	**0.84**	**347**	*e*Pn	**Pg**	**01 44 15.1**	**-0.2**
RDO				*e*Sn	**Sg**	**01 44 27.5**	**+1.3**
PRK	**Paraskevi**	**1.15**	**161**	*e*PN	**Pn**	**01 44 20.8**	**-0.5**
PRK				*e*SN	**Sn**	**01 44 36.0**	**-1.0**
PRK	**Paraskevi**	**1.15**	**161**	*e*Pn	**Pn**	**01 44 20.8**	**-0.5**
PRK				*e*Sn	**Sn**	**01 44 36.0**	**-1.0**
KRBG	**Karabiga-Canak**	**1.16**	**86**	*e*PG	**Pg**	**01 44 20.8**	**-0.6**
KRBG	**Karabiga-Canak**	**1.16**	**86**	*e*Pg	**Pg**	**01 44 20.8**	**-0.6**
AYVA	**Ayvalik**	**1.24**	**145**	*i* P	**Pn**	**01 44 22.0**	**-0.5**
AYVA				*i* S	**Sb**	**01 44 39.4**	**+0.7**
AYVA	**Ayvalik**	**1.24**	**145**	*i* P	**Pn**	**01 44 22.0**	**-0.5**
AYVA				*i* S	**Sb**	**01 44 39.3**	**+0.7**
GONE	**Gonen-Balikesi**	**1.48**	**100**	*e*PN	**Pn**	**01 44 26.9**	**+1.0**
GONE				*e*SN	**Sn**	**01 44 45.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.48**	**100**	*e*Pn	**Pn**	**01 44 26.9**	**+1.0**
GONE				*e*Sn	**Sn**	**01 44 45.0**	**-0.4**
BALY	**Balya**	**1.53**	**112**	*i* P	**Pn**	**01 44 26.3**	**-0.2**
BALY				*i* S	**Sn**	**01 44 46.6**	**+0.2**
BALY	**Balya**	**1.53**	**112**	*i* P	**Pn**	**01 44 26.3**	**-0.2**
BALY				*i* S	**Sn**	**01 44 46.6**	**+0.2**
EDRB	**Edirne**	**1.68**	**25**	*e*PN	**Pn**	**01 44 30.0**	**+1.4**
EDRB				*e*SN	**Sn**	**01 44 50.5**	**+0.3**
BALB	**Balikesir**	**1.75**	**113**	*e*PN	**Pn**	**01 44 30.5**	**+0.9**
BALB	**Balikesir**	**1.75**	**113**	*e*Pn	**Pn**	**01 44 30.5**	**+0.9**
NVR	**Nevrokopi**	**1.78**	**306**	*e*PN	**Pn**	**01 44 30.3**	**+0.3**
NVR				*e*SB	**Sb**	**01 44 53.7**	**-0.5**
NVR	**Nevrokopi**	**1.78**	**306**	*e*Pb	**Pb**	**01 44 30.0**	**-1.8**
NVR				*e*Sb	**Sb**	**01 44 53.7**	**-0.5**
PLG	**Polygyros**	**1.79**	**272**	*e*PB	**Pb**	**01 44 29.9**	**-2.1**
PLG	**Polygyros**	**1.79**	**272**	*e*Pb	**Pb**	**01 44 29.9**	**-2.1**
SOH	**Sokhos**	**1.92**	**286**	*e*PN	**Pn**	**01 44 32.3**	**+0.5**
SOH	**Sokhos**	**1.92**	**286**	*e*Pn	**Pn**	**01 44 32.3**	**+0.5**
CHOS	**Chios island**	**1.95**	**174**	*e*PN	**Pn**	**01 44 33.2**	**+0.8**
CHOS	**Chios island**	**1.95**	**174**	*e*Pn	**Pn**	**01 44 33.2**	**+0.8**

CASC 30 01:53:50.8±2.6, **8°.92N**×**83°.97W**, **h2**km±12km, **MD3.9,**

2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.54**	**339‖**	*e*P	Pg	01 54 02.2	+1.0
QCR				*e*S	Sg	01 54 11.0	+2.7
BUS	**Buena Vista**	**0.67**	**18‖**	*e*P	Pg	01 54 05.5	+1.9
ACR	**Cerro Adams**	**0.83**	**108‖**	*e*P	Pg	01 54 07.4	+0.7
ACR				*e*S	Sg	01 54 18.9	+1.4
URSC	**Urasca**	**0.93**	**11**	*e*P	Pg	01 54 09.7	+1.0
LAJ	**Bijagual**	**0.95**	**351‖**	*e*P	Pg	01 54 07.9	-1.3
LAJ				*e*S	Sg	01 54 23.0	+1.5
SJS	**Escuela Geolog**	**1.02**	**355**	*e*P	Pg	01 54 10.5	+0.1
CGA2	**Cerro Gallo 2**	**1.20**	**336**	*e*P	Pg	01 54 12.7	-1.1
BRU2	**Volcan**	**1.27**	**95**	*e*P	Pg	01 54 14.4	-0.6
BRU2				*e*S	Sg	01 54 33.0	+1.5
JCR	**Jicaral**	**1.46**	**309**	*e*P	Pn	01 54 20.1	+1.8
PTP	**Ponta Puerca**	**20.08**	**61**	*e*P	x	01 54 13.7	
PTP				*e*S	x	01 54 34.2	

*IDC **30** 01:54:33.9±1.6, 1°.28S×120°.38E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=74.3km s-min=25.2km az=65.0*
*ISCJB **30** 01:54:36.9±0.7, 1°.06S±0°.06×119°.73E±0°.07, h85km±14km, mb3.1/3, Error ellipse: s-maj=12.8km s-min=8.4km az=40.6*
*DJA **30** 01:54:37, 1°.11S×119°.74E, h105km, MLv3.9/12*
ISC 30 01:54:38.0±0.7, **1°.07S**±0°.06×**119°.73E**±0°.07, **h81**km±13km, **n17**, σ0°**94**/19, **mb3.1**/3, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.93**	**85**	P	**Pn**	**01 55 09.0**	**+0.1**
TTSI	**Tana Toraja**	**1.97**	**177**	P	**Pn**	**01 55 09.5**	**0.0**
MJSI	**Majene**	**2.58**	**197**	P	**Pn**	**01 55 18.0**	**+0.4**
SMKI	**Samarinda**	**2.59**	**284**	P	**Pn**	**01 55 18.0**	**+0.1**
MRSI	**Marisa**	**2.69**	**55**	P	**Pn**	**01 55 20.8**	**+1.6**
SPSI	**Sidrap Palu**	**2.88**	**179**	P	**Pn**	**01 55 21.6**	**-0.1**
SPSI				S	**Sn**	**01 55 56.3**	**+1.0**
LUWI	**Luwuk**	**3.04**	**90**	P	**Pn**	**01 55 22.5**	**-1.4**
GTOI	**Gorontalo**	**3.69**	**63**	P	**Pn**	**01 55 32.0**	**-0.7**
KAPI	**Kappang**	**3.92**	**180**	Pn	**Pn**	**01 55 32.9**	**-2.9**
2.4nm,0.3s,baz=6.3,slow=9.2,SNR=7.0							
KAPI				Sn	**Sn**	**01 56 08.4**	**-12**
0.8nm,0.3s,baz=180,slow=20,SNR=2.4							
KAPI	**Kappang**	**3.92**	**180**	P	**Pn**	**01 55 36.0**	**+0.2**
KDI	**Kendari**	**4.07**	**135**	P	**Pn**	**01 55 38.6**	**+0.7**
KBKI	**Kotabaru**	**4.19**	**238**	P	**Pn**	**01 55 39.3**	**-0.3**
BKSI	**Bulukumba**	**4.24**	**175**	P	**Pn**	**01 55 37.2**	**-3.1**
KMSI	**Cibinong**	**4.55**	**69**	P	**Pn**	**01 55 44.7**	**+0.2**
WRA	**Warramunga Arr**	**23.58**	**144**	P	**P**	**01 59 40.8**	**-0.6**
0.3nm,0.3s,mb3.1,baz=323,slow=11,SNR=4.9							
ASAR	**Alice Springs**	**26.34**	**150**	P	**P**	**02 00 07.4**	**+0.9**
0.3nm,0.7s,mb2.8,baz=340,slow=13,SNR=3.5							
MKAR	**Makanchi Array**	**57.86**	**330**	P	**P**	**02 04 30.9**	**+10**
0.3nm,0.6s,mb3.5,baz=132,slow=8.5,SNR=4.9							

*NEIC **30** 02:00:45.5, 17°.22N×100°.34W, h28km, MD3.5(MEX), After MEX.*
MEX 30 02:00:45.4±0.6, **17°.22N**×**100°.34W**, **h30**km±7km, **MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**158**	*i* P	Pb	02 00 49.9	-1.6
CAIG				*e*S	Sb	02 00 54.3	-1.3
CAIG	**El Cayaco**	**0.18**	**158**	*i* P	Pb	02 00 49.9	-1.6
CAIG				*e*S	Sb	02 00 54.3	-1.3
ACX	**Acapulco**	**0.58**	**127**	*i* P	Pb	02 00 54.8	-2.3
ACX				*e*S	Sb	02 01 01.6	-3.5
ACX	**Acapulco**	**0.58**	**127**	*i* P	Pb	02 00 54.8	-2.3
ACX				*e*S	Sb	02 01 01.6	-3.5
MEIG	**Mezcala**	**0.98**	**44**	*i* P	Pn	02 01 01.0	-2.1
MEIG				*e*S	Sn	02 01 12.7	-3.3
MEIG	**Mezcala**	**0.98**	**44**	*i* P	Pn	02 01 01.0	-2.1
MEIG				*e*S	Sn	02 01 12.7	-3.3
ZIIG	**Zihuatanejo**	**1.14**	**290**	*i* P	Pn	02 01 03.0	-2.3
ZIIG				*e*S	Sn	02 01 17.1	-2.9
ZIIG	**Zihuatanejo**	**1.14**	**290**	*i* P	Pn	02 01 03.0	-2.3
ZIIG				*e*S	Sn	02 01 17.1	-2.9
PLIG	**Platanillo**	**1.41**	**34**	*i* P	Pn	02 01 07.8	-1.2
PLIG				*e*S	Sn	02 01 24.0	-2.6
PLIG	**Platanillo**	**1.41**	**34**	*i* P	Pn	02 01 07.8	-1.2
PLIG				*e*S	Sn	02 01 24.0	-2.6

*ISCJB **30** 02:12:32.1±0.6, 34°.32N±0°.04×26°.63E±0°.08, h33km, Error ellipse: s-maj=10.0km s-min=5.1km az=179.1*
*HLW **30** 02:12:33.7, 34°.50N×26°.57E, h33km±15km, Md3.4, Ml3.1*
*CSEM **30** 02:12:33.6±0.2, 34°.38N×26°.58E, h60km, ML3.1, Error ellipse: s-maj=7.2km s-min=4.3km az=77.0*
*ATH **30** 02:12:37.3, 36°.03N×26°.07E, h16km±5km, MD3.4/4*
ISC 30 02:12:33.6±0.6, **34°.38N**±0°.04×**26°.56E**±0°.08, **h35**km, **n24,** σ0°**74**/32, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.18**	**319**	*e*PN	**Pn**	**02 12 53.5**	**0.0**
NPS				*e*SN	**Sn**	**02 13 04.8**	**-3.6**
NPS	**Neapolis**	**1.18**	**319**	*e*Pn	**Pn**	**02 12 53.5**	**0.0**
NPS				*e*Sn	**Sn**	**02 13 04.8**	**-3.6**
KARP	**Karpathos**	**1.27**	**23**	*e*PN	**Pn**	**02 12 56.2**	**+1.4**
KARP				*e*SN	**Sn**	**02 13 10.4**	**-0.2**
KARP	**Karpathos**	**1.27**	**23**	*e*Pn	**Pn**	**02 12 56.3**	**+1.5**
KARP				*e*Sn	**Sn**	**02 13 10.4**	**-0.2**
VAM	**Vamos**	**2.20**	**299**	*e*PN	**Pn**	**02 13 07.7**	**+0.2**
VAM	**Vamos**	**2.20**	**299**	*e*Pn	**Pn**	**02 13 07.7**	**+0.2**
ARG	**Arkhangelos**	**2.24**	**34**	*e*PN	**Pn**	**02 13 08.4**	**+0.3**
ARG	**Arkhangelos**	**2.24**	**34**	*e*Pn	**Pn**	**02 13 08.4**	**+0.3**
HMAT	**Matruh**	**3.30**	**172**	P	**Pn**	**02 13 23.5**	**+0.8**
baz=172							
HMAT				S	**Sn**	**02 14 01.8**	**+1.0**
baz=172							
HMAT	**Matruh**	**3.30**	**172**	P	**

GUMO	Guam	0.32	165	*e*Pg		Pn	02 20 46.4 -0.3
GUMO				*e*S		Sn	02 21 04.7 -1.0
WRA	Warramunga Arr	35.16	197	P		P	02 26 58.2 -0.4
1.2nm,0.5s,mb3.8,baz=18,slow=9.6,SNR=5.4							
WRA	Warramunga Arr	35.16	197	P		P	02 26 58.2 -0.4
ASAR	Alice Springs	38.82	196	P		P	02 27 29.6 +0.3
0.2nm,0.5s,mb3.0,baz=14,slow=13,SNR=5.0							
ASAR	Alice Springs	38.82	196	P		P	02 27 29.6 +0.3
STKA	Stephens Creek	45.61	184	P		P	02 28 24.0 -0.1
1.0nm,0.5s,mb3.7,baz=14,slow=10,SNR=3.8							
STKA	Stephens Creek	45.61	184	P		P	02 28 24.0 -0.1
SONM	Songino Array	46.44	325	P		P	02 28 30.4 +0.1
0.4nm,0.5s,mb3.3,baz=128,slow=6.6,SNR=4.8							
SONM	Songino Array	46.44	325	P		P	02 28 30.4 +0.1
MKAR	Makanchi Array	61.21	316	P		P	02 30 17.9 +0.3
0.5nm,0.4s,mb3.7,baz=91,slow=8.6,SNR=16							
MKAR	Makanchi Array	61.21	316	P		P	02 30 17.9 +0.3
ZALV	Zalesovo Beam	61.33	324	P		P	02 30 18.0 -0.1
0.7nm,0.4s,mb3.8,baz=133,slow=6.3,SNR=5.7							
ZALV	Zalesovo Beam	61.33	324	P		P	02 30 18.0 -0.1
ILAR	Eielson Array	68.33	25	P		P	02 31 01.5 -1.7
0.3nm,0.5s,mb3.3,baz=246,slow=6.1,SNR=7.9							
ILAR	Eielson Array	68.33	25	P		P	02 31 01.5 -1.7
YKA	Yellowknife Ar	82.63	27	P		P	02 32 25.6 +1.0
0.1nm,0.4s,mb2.9,baz=85,slow=34,SNR=1.9							
YKA	Yellowknife Ar	82.63	27	P		P	02 32 25.6 +1.0
NVAR	Mina Array Bea	86.79	51	P		P	02 32 46.6 +0.6
0.7nm,0.7s,mb3.6,baz=273,slow=5.7,SNR=5.7							
NVAR	Mina Array Bea	86.79	51	P		P	02 32 46.6 +0.6

ISCJB ***30*** *02:21:55.3±2.8, 20°.3S±0°.1×178°.1W±0°.1, h525km±34km, mb4.0/21, Error ellipse: s-maj=20.7km s-min=14.7km az=163.5*
IDC ***30*** *02:21:58.3±2.4, 20°.40S×177°.96W, h556km±27km, mb3.5/16, mb1 3.7/17, mb1mx3.6/21, mbtmp3.5/17, Error ellipse: s-maj=18.7km s-min=13.1km az=153.0*
NEIC ***30*** *02:22:01.1±2.3, 20°.57S×177°.96W, h595km±26km, mb4.2/5, Error ellipse: s-maj=17.0km s-min=16.1km az=185.0*
ISC 30 02:21:56.4±2.9, 20°.3S±0°.1×178°.0W±0°.1, h527km±34km, n76, σ0§84/45, mb4.0/21, 9C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.39	192	P	P	02 25 37.1	-1.8
5.5nm,0.3s,baz=354,slow=4.0,SNR=28							
URZ	Urewera	18.39	192	P	P	02 25 37.1	-1.8
HNR	Honiara	23.84	294	P	P	02 26 33.0	+4.7
67nm,0.4s,baz=220,slow=6.5,SNR=4.6							
HNR	Honiara	23.84	294	P	P	02 26 33.0	+4.7
RPZ	Rata Peaks	25.08	199	P	P	02 26 38.4	-0.4
5.0nm,0.5s,mb4.4,baz=1.6,slow=4.5,SNR=6.3							
RPZ	Rata Peaks	25.08	199	P	P	02 26 38.4	-0.4
CTA	Charters Tower	33.49	264	P	P	02 27 52.7	+0.5
3.8nm,0.4s,mb4.3,baz=97,slow=10,SNR=10.0							
CTA	Charters Tower	33.49	264	P	P	02 27 52.7	+0.5
PMG	Port Moresby	35.28	283	*e*P	P	02 28 07.5	+0.3
12nm,0.9s,mb4.4,baz=73,slow=5.1,SNR=5.7							
PMG	Port Moresby	35.28	283	*e*P	P	02 28 07.9	+0.7
AS31	Alice Springs	44.55	257	*e*P	P	02 29 22.1	+0.6
ASAR	Alice Springs	44.55	257	P	P	02 29 22.1	+0.6
5.5nm,0.6s,mb4.2,baz=88,slow=8.5,SNR=45							
ASAR				PcP	PcP	02 30 52.9	-0.4
1.4nm,0.7s,baz=105,slow=4.5,SNR=6.4							
ASAR				S	S	02 35 16.9	-1.8
0.7nm,0.8s,baz=86,slow=17,SNR=5.2							
ASAR	Alice Springs	44.55	257	P	P	02 29 22.1	+0.6
ASAR				PcP	PcP	02 30 52.9	-0.4
ASAR				S	S	02 35 16.9	-1.8
WB2	Warramunga Arr	44.60	262	*e*P	P	02 29 21.8	0.0
WRAB	Tennant Creek	44.60	262	*e*P	P	02 29 21.8	-0.1
4.2nm,0.4s,mb4.3							
WRA	Warramunga Arr	44.61	262	P	P	02 29 21.6	-0.3
4.6nm,0.5s,mb4.3,baz=97,slow=8.8,SNR=21							
WRA	Warramunga Arr	44.61	262	P	P	02 29 21.6	-0.3
FITZ	Fitzroy Crossi	53.04	262	P	P	02 30 24.5	0.0
2.0nm,0.6s,mb3.6,baz=319,slow=22,SNR=7.0							
FITZ	Fitzroy Crossi	53.04	262	P	P	02 30 24.5	0.0
QSPA	South Pole Qui	69.77	180	*e*P	P	02 32 14.7	+1.7
2.6nm,0.8s,mb3.8							
MJAR	Matsushiro Arr	70.03	324	P	P	02 32 14.5	-0.6
1.6nm,0.4s,mb3.9,baz=153,slow=5.9,SNR=6.9							
MJAR	Matsushiro Arr	70.03	324	P	P	02 32 14.5	-0.6
ASAJ	Asahikawa	73.54	332	P	P	02 32 35.2	-0.2
3.2nm,0.5s,mb4.0,baz=6.8,slow=32,SNR=4.2							
ASAJ	Asahikawa	73.54	332	P	P	02 32 35.2	-0.2
PETK	Petropavlovsk-	76.07	345	P	P	02 32 48.4	-1.0
5.1nm,0.7s,mb4.0,baz=153,slow=10.0,SNR=4.8							
PETK	Petropavlovsk-	76.07	345	P	P	02 32 48.4	-1.0
USRK	Ussuriysk Arra	78.78	326	P	P	02 33 05.0	+0.7
3.1nm,0.7s,mb3.7,baz=96,slow=3.4,SNR=8.0							
NVAR	Mina Array Bea	80.89	43	P	P	02 33 15.9	+0.3
0.9nm,0.9s,mb3.2,baz=221,slow=9.9,SNR=6.1							
NVAR	Mina Array Bea	80.89	43	P	P	02 33 15.9	+0.3
GAMB	Gambell	83.94	3	*e*P	P	02 33 30.4	0.0
3.5nm,0.6s,mb4.1							
TXAR	Lajitas Array	86.96	57	P	P	02 33 46.3	+0.6
0.5nm,0.6s,mb3.3,baz=221,slow=7.1,SNR=9.1							
TXAR	Lajitas Array	86.96	57	P	P	02 33 46.3	+0.6
COLA	College	88.01	12	*e*P	P	02 33 48.4	-1.3
2.7nm,0.8s,mb4.0							
ILAR	Eielson Array	88.12	13	P	P	02 33 49.0	-1.3
1.8nm,0.8s,mb3.8,baz=215,slow=5.4,SNR=17							
ILAR	Eielson Array	88.12	13	P	P	02 33 49.0	-1.3
PDAR	Pinedale Array	88.83	43	P	P	02 33 54.0	-0.2
0.7nm,0.6s,mb3.7,baz=206,slow=4.9,SNR=5.2							
PDAR	Pinedale Array	88.83	43	P	P	02 33 54.0	-0.2
WALA	Waterton Lakes	89.43	36	*e*P	P	02 33 57.9	+1.1
CMAR	Chiang Mai Arr	90.03	290	P	P	02 34 01.0	+0.7
1.9nm,0.7s,mb4.0,baz=128,slow=2.8,SNR=12							
CMAR	Chiang Mai Arr	90.03	290	P	P	02 34 01.0	+0.7
CHTO	Chiang Mai	90.16	290	P	P	02 34 01.9	+1.0
2.5nm,0.8s,mb4.1							
SONM	Songino Array	95.58	319	P	P	02 34 24.6	-0.5
0.2nm,0.5s,mb3.6,baz=121,slow=4.2,SNR=3.3							
SONM	Songino Array	95.58	319	P	P	02 34 24.6	-0.5
ZALV	Zalesovo Beam	110.32	321	PKiKP	PKiKP	02 39 26.3	-1.9
0.5nm,0.5s,baz=151,slow=3.3,SNR=3.1							
ZALV	Zalesovo Beam	110.32	321	PKiKP	PKiKP	02 39 26.3	-1.9
MKAR	Makanchi Array	111.04	313	PKiKP	PKiKP	02 39 28.1	-1.7
0.4nm,0.6s,baz=86,slow=1.4,SNR=4.7							
MKAR	Makanchi Array	111.04	313	PKiKP	PKiKP	02 39 28.1	-1.7
KURK	Kurchatov	113.83	317	PKP	PKiKP	02 39 33.3	-1.6
1.0nm,0.9s,baz=90,slow=1.9,SNR=6.2							
KURK	Kurchatov	113.83	317	PKP	PKiKP	02 39 33.3	-1.6
BVAR	Borovoye Array	118.91	320	PKP	PKPdf	02 39 43.3	-1.4
1.3nm,0.5s,baz=281,slow=0.8,SNR=9.2							
BVAR	Borovoye Array	118.91	320	PKP	PKPdf	02 39 43.3	-1.4
ARCES	ARCESS Array B	128.72	350	PKP	PKPdf	02 40 02.6	-0.4
12nm,1.1s,baz=31,slow=3.7,SNR=3.6							
ARCES	ARCESS Array B	128.72	350	PKP	PKPdf	02 40 02.6	-0.4
FINES	FINESS Array B	135.57	344	PKP	PKPdf	02 40 13.4	-2.7
1.2nm,0.7s,baz=242,slow=4.1,SNR=5.4							
FINES	FINESS Array B	135.57	344	PKP	PKPdf	02 40 13.4	-2.7
AKASG	Malin Array Be	142.82	331	PKhKP	PKPpre	02 40 25.2	
2.5nm,0.4s,baz=44,slow=4.3,SNR=19							
AKASG	Malin Array Be	142.82	331	PKPpre	PKPpre	02 40 25.2	
KWP	Kalwaria Pacla	146.39	335	*e*PKPbc	PKPbc	02 40 37.5	-0.6
BR131	Keskin Array S	146.69	313	*e*PKPbc	PKPbc	02 40 38.6	-0.6
BRTR	Keskin Array B	146.69	313	PKPbc	PKPbc	02 40 38.6	-0.6
4.5nm,1.0s,baz=140,slow=4.2,SNR=15							
BRTR	Keskin Array B	146.69	313	PKPbc	PKPbc	02 40 38.6	-0.6
BUR08	Bucovina Ar. S	146.86	331	*e*PKPbc	PKPbc	02 40 39.4	0.0
CLL	Collm	147.86	347	⇓*i*PKPbc	PKPbc	02 40 41.3	-0.6
comp=Z,9.0nm,0.9s							
CLL				⇑*i*PKPab	PKPab	02 40 45.4	-0.9
comp=Z,5.0nm,0.8s							
UPC	Upice	147.87	343	⇑*e*PKP	PKPbc	02 40 41.5	-0.4
DPC	Dobruska-Polom	147.93	343	⇑*e*PKP	PKPbc	02 40 42.0	-0.1
DPC				*e*PKPab	PKPab	02 40 46.8	+0.2
PVCC	Panska Ves	148.23	345	⇑*e*PKP	PKPbc	02 40 42.3	-0.5
PRU	Pruhonice	148.73	344	⇑*e*PKP	PKPbc	02 40 43.5	-0.6
NKC	Novy Kostel	148.99	347	⇑*e*PKP	PKPbc	02 40 44.4	-0.3
KHC	Kasperske Hory	149.76	345	⇑*e*PKP	PKPbc	02 40 46.3	-0.3
KHC				*e*PKPab	PKPab	02 40 53.7	-0.5
GERES	GERESS Array B	150.00	344	PKPbc	PKPbc	02 40 46.8	-0.4
comp=Z,1.5nm,0.7s,baz=31,slow=3.1,SNR=15							
GERES				PKPab	PKPab	02 40 54.3	-0.9
comp=Z,0.3nm,0.4s,baz=38,slow=6.8,SNR=5.1							
GERES	GERESS Array B	150.00	344	PKPbc	PKPbc	02 40 46.8	-0.4
GERES				PKPab	PKPab	02 40 54.3	-0.9
CONA	Conrad Observa	150.23	341	⇑*i*PKiKP	PKPbc	02 40 47.7	-0.1
comp=Z,3.2nm,0.6s							
WTTA	Wattenberg	151.97	346	⇓*i*PKiKP	PKPbc	02 40 51.1	-0.6
comp=Z,1.7nm,0.4s							
ABTA	Abfaltersbach	152.24	344	⇑*i*PKiKP	PKPbc	02 40 51.2	-1.2
comp=Z,3.2nm,0.5s							
TORD	Torodi Ar. Bea	172.89	178	PKP	PKPdf	02 41 03.1	-2.7
comp=Z,0.3nm,0.8s,baz=354,slow=1.4,SNR=3.8							
TORD	Torodi Ar. Bea	172.89	178	PKP	PKPdf	02 41 03.1	-2.7

NEIC ***30*** *02:30:44.5, 54°.63N×156°.81W, h14km, ML3.2(AEIC), After AEIC.*
IDC ***30*** *02:31:03.8±5.3, 55°.40N×152°.17W, h0km, mb2.8/2, mb1 3.5/5, mb1mx3.3/28, mbtmp3.1/5, ML3.6/2, Error ellipse: s-maj=97.0km s-min=28.2km az=68.0*
ISC 30 02:30:42.3±3.1, 54°.7N±0°.2×156°.8W±0°.1, h7km±24km, n20, σ1§00/24, mb2.9/2, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	1.86	331	*e*Pn	Pn	02 31 14.2	-0.3
VNHG	Veniaminof 1	2.04	320	P	Pn	02 31 17.9	+0.9
VNWF	Veniaminof 8	2.15	314	P	Pn	02 31 19.8	+1.3
SDPT	Sand Point	2.21	289	P	Pn	02 31 18.9	-0.5
ANNE	Aniakchak Nort	2.34	343	P	Pn	02 31 21.3	+0.1
PS4A	Pavlof South-4	2.98	285	P	Pn	02 31 30.1	+0.2
PS4A				S	Sn	02 32 05.0	-0.8
DTNA	Dutton South F	3.17	281	P	Pn	02 31 33.0	+0.4
DTNA				S	Sn	02 32 10.3	-0.4
DT1	Dutton Round H	3.19	280	P	Pn	02 31 33.3	+0.5
OHAK	Old Harbor	3.23	36	P	Pn	02 31 32.9	-0.4
OHAK				S	Sn	02 32 14.0	+2.0
KABR	Katmai Barrier	3.61	16	P	Pn	02 31 39.1	+0.5
KDAK	Kodiak Island	3.90	35	Pn	Pn	02 31 41.5	-1.1
0.4nm,0.3s,baz=280,slow=18,SNR=3.9							
KDAK				Sn	Sn	02 32 21.8	-6.8
1.3nm,0.3s,baz=266,slow=17,SNR=3.6							
KDAK	Kodiak Island	3.90	35	P	Pn	02 31 42.7	0.0
ILAR	Eielson Array	11.27	22	Pn	Pn	02 33 20.9	-2.7
0.2nm,0.3s,baz=212,slow=14,SNR=11							
ILAR	Eielson Array	11.27	22	Pn	Pn	02 33 20.9	-2.7
INK	Inuvik	17.44	29	Pn	Pn	02 34 45.1	-0.5
0.2nm,0.3s,baz=237,slow=17,SNR=7.7							
INK	Inuvik	17.44	29	Pn	Pn	02 34 45.1	-0.5
YKA	Yellowknife Ar	22.96	53	P	P	02 35 40.9	-6.0
0.1nm,0.5s,mb2.5,baz=271,slow=9.7,SNR=2.5							
YKA	Yellowknife Ar	22.96	53	P	P	02 35 40.9	-6.0
TXAR	Lajitas Array	45.50	102	P	P	02 39 05.5	+3.3
0.2nm,0.6s,mb3.2,baz=305,slow=5.2,SNR=5.0							
TXAR	Lajitas Array	45.50	102	P	P	02 39 05.5	+3.3

ISCJB ***30*** *02:31:23.7±0.9, 43°.19N±0°.04×126°.62W±0°.09, h10km, mb3.5/3, MS3.0/2, Error ellipse: s-maj=9.6km s-min=5.6km az=166.6*
NEIC ***30*** *02:31:25.8±1.5, 43°.17N×126°.53W, h10km, ML3.0, Error ellipse: s-maj=21.3km s-min=9.1km az=72.0*
IDC ***30*** *02:31:26.5±2.1, 43°.44N×126°.12W, h0km, mb3.4/4, mb1 3.9/7, mb1mx3.6/27, mbtmp3.6/7, ML3.4/3, MS3.1/2, Ms1 3.2/2, ms1mx2.6/23, Error ellipse: s-maj=39.6km s-min=17.7km az=53.0*
ISC 30 02:31:24.5±2.1, 43°.17N±0°.05×126°.6W±0°.1, h2km±18km, n30, σ1§26/35, mb3.5/3, MS3.0/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.68	99	*e*Pn	Pn	02 31 53.1	-1.8
KRMB	Red Mountain	2.58	129	*e*Pn	Pn	02 32 05.4	-1.9
KRMB				*e*S	Sn	02 32 37.1	-2.1
HUMO	Hull Mountain	2.73	101	*e*Pn	Pn	02 32 08.3	-1.0
HUMO				*e*S	Sn	02 32 43.9	+1.1
COR	Corvallis	2.77	58	*e*Pn	Pn	02 32 09.3	-0.5
COR				*e*S	Sn	02 32 43.3	-0.5
HEBO	Mount Hebo	2.89	44	*e*Pn	Pn	02 32 10.6	-0.9
HEBO				*e*S	Sn	02 32 44.6	-2.2
KHMM	Horse Mountain	3.13	136	*e*Pn	Pn	02 32 13.5	-1.3
YBH	Yreka Blue Hor	3.21	115	*e*Pn	Pn	02 32 15.9	0.0
YBH				*e*S	Sn	02 32 55.7	+1.0
WDC	Whiskeytown Da	3.98	129	*e*Pn	Pn	02 32 27.6	+1.2
MOD	Modoc	4.81	103	*e*Pn	Pn	02 32 34.7	-3.3
LON	Longmire	4.93	42	*e*Pn	Pn	02 32 40.1	+0.5
LON				*e*S	Sn	02 33 38.5	+1.3
WVOR	Wild Horse Val	5.90	94	*e*Pn	Pn	02 32 52.1	-0.8
12nm,0.8s							
PGC	Sidney	5.90	21	*e*Pn	Pn	02 32 52.2	-0.7
ETW	Entiat	6.25	43	*e*Pn	Pn	02 32 59.0	+1.3
20nm,0.7s							
OD2	Odessa Site #2	6.98	50	*e*Pn	Pn	02 33 08.4	+0.8
10.0nm,0.7s							
NVAR	Mina Array Bea	7.87	124	Pn	Pn	02 33 22.2	+2.3
0.2nm,0.3s,baz=302,slow=13,SNR=7.2							
NVAR	Mina Array Bea	7.87	124	Pn	Pn	02 33 22.2	+2.3
HLID	Hailey	8.88	83	*e*Pn	Pn	02 33 35.5	+1.7
5.8nm,0.6s							
PDAR	Pinedale Array	12.49	86	Pn	Pn	02 34 23.6	+0.4
0.1nm,0.3s,baz=279,slow=12,SNR=15							
PDAR	Pinedale Array	12.49	86	Pn	Pn	02 34 23.6	+0.4
ANMO	Albuquerque	17.63	111	P	Pn	02 35 32.7	+1.5
0.1nm,0.3s,baz=316,slow=11,SNR=9.9							
ANMO	Albuquerque	17.63	111	P	Pn	02 35 32.7	+1.6
YKA	Yellowknife Ar	20.60	16	P	P	02 36 04.6	0.0
1.2nm,0.9s,baz=205,slow=10,SNR=8.3							
YKA	Yellowknife Ar	20.60	16	P	P	02 36 04.6	0.0
ULM	Lac du Bonnet	22.11	61	P	P	02 36 20.4	-0.5
7.2nm,0.8s,mb4.1,baz=273,slow=6.7,SNR=8.3							
ULM	Lac du Bonnet	22.11	61	P	P	02 36 20.4	-0.5
TXAR	Lajitas Array	22.98	119	P	P	02 36 32.2	+1.8
0.8nm,0.8s,mb3.2,baz=299,slow=6.6,SNR=9.0							
TXAR	Lajitas Array	22.98	119	P	P	02 36 32.2	+1.8
ILAR	Eielson Array	24.49	339	P	P	02 36 44.6	-0.1
1.0nm,0.9s,mb3.2,baz=149,slow=8.0,SNR=8.7							
ILAR				LR	LR	02 44 18.0	
comp=Z,41nm,19.5s,MS2.9,baz=113,slow=32							
ILAR	Eielson Array	24.49	339	P	P	02 36 44.6	-0.1
INK	Inuvik	25.46	354	LR	LR	02 46 14.9	
comp=Z,47nm,18.6s,MS3.0,baz=328,slow=35							

JMA 30 02:37:03.7±0.4, 29°.77N×142°.88E, h37km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.73	193	*e*S	Sn	02 38 18.7	+1.8
BSO1	Boso 1	5.13	342	*e*S	Sn	02 39 19.9	+4.0
BSO2	Boso 2	5.28	341	*e*S	Sn	02 39 23.0	+3.3
BSO3	Boso 3	5.40	339	*e*S	Sn	02 39 25.8	+3.1
BSO4	Boso 4	5.63	338	*e*S	Sn	02 39 32.6	+4.3
JHU	Hanno	6.78	334	*e*S	Sn	02 39 59.5	+3.0
JRY	Ryogami san	7.07	333	P	Pn	02 38 47.7	+3.1
JAG	Ashikaga	7.23	337	P	Pn	02 38 50.1	+3.3
JAG				*e*S	Sn	02 40 09.1	+1.4

ISCJB ***30*** *02:47:48.8±0.5, 37°.68N±0°.03×37°.48E±0°.03, h3km±7km, Error ellipse: s-maj=5.6km s-min=4.0km az=154.1*
ISK ***30*** *02:47:48.2, 37°.63N×37°.48E, h5km, MD3.0*
DDA ***30*** *02:47:49.0, 37°.68N×37°.48E, h7km±5km, Md3.2*
CSEM ***30*** *02:47:49.3±0.2, 37°.66N×37°.49E, h10km, MD3.0, Error ellipse: s-maj=6.5km s-min=4.8km az=153.0*
ISC 30 02:47:49.3±0.5, 37°.69N±0°.03×37°.47E±0°.03, h5km±6km, n31, σ0§91/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	Gaziantep	0.34	167	*i*P	Pg	02 47 55.2	-0.8
GZT				*i*S	Sg	02 48 00.6	+0.1
KMRS	Kahramanmaras	0.49	248	*e*PG	Pg	02 47 58.0	-0.7
KMRS				*e*SG	Sg	02 48 04.5	-0.6
KMRS	Kahramanmaras	0.49	248	*e*Pg	Pg	02 47 58.0	-0.7
KMRS				*e*Sg	Sg	02 48 04.5	-0.6
ATAB	Bozova	0.69	108	*i*P	Pg	02 48 02.1	-0.5
ATAB				*i*S	Sg	02 48 12.4	+0.8
ATAB	Bozova	0.69	108	*i*P	Pg	02 48 02.1	-0.5
ATAB				*i*S	Sg	02 48 12.4	+0.8
AKCD	Akcadag	0.70	31	*i*P	Pg	02 48 03.1	+0.2
AKCD				*i*S	Sg	02 48 13.3	+1.3
AKCD	Akcadag	0.70	31	*i*P	Pg	02 48 03.1	+0.2
AKCD				*i*S	Sg	02 48 13.3	+1.3
KUZU	Kuzuini	0.97	199	*i*P	Pg	02 48 08.2	+0.3
KUZU				*i*S	Sg	02 48 21.3	+0.8
KUZU	Kuzuini	0.97	199	*i*P	Pg	02 48 08.2	+0.3
KUZU				*i*S	Sg	02 48 21.3	+0.9
MALT	Malatya	0.98	50	*e*PG	Pg	02 48 07.8	-0.4
MALT	Malatya	0.98	50	*e*Pg	Pg	02 48 07.8	-0.4
MYA	Malataya	0.99	50	*e*PG	Pg	02 48 07.7	-0.6
MYA	Malataya	0.99	50	*e*Pg	Pg	02 48 07.7	-0.6
URFA	Urfa	1.10	103	*e*PN	Pg	02 48 09.3	-1.1
URFA				*e*SN	Sg	02 48 25.1	+0.3
URFA	Urfa	1.10	103	*e*Pn	Pg	02 48 09.3	-1.2
URFA				*e*Sn	Sg	02 48 25.1	+0.3
SARI	SarD1z-Kayseri	1.16	329	*e*PN	Pn	02 48 10.6	-1.5
SARI	SarD1z-Kayseri	1.16	329	*e*Pn	Pn	02 48 10.6	-1.6
PINB	Pinarbasi	1.29	320	*i*P	Pn	02 48 15.1	+1.1
PINB				*i*S	Sg	02 48 31.0	+0.1
PINB	Pinarbasi	1.29	320	*i*P	Pn	02 48 15.1	+1.1
PINB				*i*S	Sg	02 48 31.0	0.0
KOZT	Kozan	1.32	261	*e*PN	Pn	02 48 14.2	-0.2
ELZG	Elazig	1.44	56	*i*P	Pn	02 48 17.0	+1.0
ELZG				*i*S	Sb	02 48 33.7	-1.6
ELZG	Elazig	1.44	56	*i*P	Pn	02 48 17.0	+1.0
ELZG				*i*S	Sb	02 48 33.7	-1.6
SVRC	Sivrice-ELAZID	1.61	64	*e*PN	Pn	02 48 18.2	-0.1
SVRC	Sivrice-ELAZID	1.61	64	*e*Pn	Pn	02 48 18.2	-0.1
BNN	Bunyan	1.73	313	*e*PN	Pn	02 48 20.6	+0.7
BNN	Bunyan	1.73	313	*e*Pn	Pn	02 48 20.6	+0.7
KEMA	Kemaliye	1.77	27	*i*P	Pn	02 48 22.6	+2.1
KEMA				*i*S	Sn	02 48 41.6	-1.8
KEMA	Kemaliye	1.77	27	*i*P	Pn	02 48 22.6	+2.1
KEMA				*i*S	Sn	02 48 41.7	-1.7
PTK	Pertek	1.93	51	*e*PN	Pn	02 48 23.4	+0.6
ILIC	ilic-Erzincan	1.96	26	*e*PN	Pn	02 48 23.7	+0.6
ILIC	ilic-Erzincan	1.96	26	*e*Pn	Pn	02 48 23.7	+0.5

IDC ***30*** *02:56:04.0±0.8, 8°.82S×157°.55E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.2/17, mbtmp4.1/11, ML4.1/2, MS3.9/3, Ms1 3.9/3, ms1mx3.2/21, Error ellipse: s-maj=27.7km s-min=18.9km az=140.0*
ISCJB ***30*** *02:56:08.2±0.6, 8°.77S±0°.09×157°.28E±0°.06, h33km, mb4.0/10, MS3.8/3, Error ellipse: s-maj=13.3km s-min=8.7km az=171.5*
NEIC ***30*** *02:56:09.1±0.5, 8°.88S×157°.53E, h35km, mb4.0/3, Error ellipse: s-maj=13.7km s-min=9.1km az=142.0*
ISC 30 02:56:09.4±0.7, 8°.9S±0°.1×157°.5E±0°.1, h35km, n25, σ0§84/27, mb4.0/10, MS3.8/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.50	103	Pn	Pn	02 56 43.9	-3.7
26nm,0.3s,baz=203,slow=7.7,SNR=4.7							
HNR				Sn	Sn	02 57 23.0	+6.0
209nm,0.3s,baz=311,slow=22,SNR=12							
HNR	Honiara	2.50	103	*e*Pn	Pn	02 56 45.9	-1.7
HNR				*e*S	Sn	02 57 26.9	+10
CTA	Charters Tower	15.57	223	Pn	Pn	02 59 46.2	-0.1
0.6nm,0.3s,baz=49,slow=15,SNR=3.0							
CTA	Charters Tower	15.57	223	Pn	Pn	02 59 46.2	-0.1
EIDS	Eidsvold	17.52	200	*e*Pn	Pn	03 00 11.0	0.0
16nm,1.1s							
WRAB	Tennant Creek	24.93	241	*e*P	P	03 01 29.5	0.0
3.8nm,0.6s,mb4.1							
WB2	Warramunga Arr	24.93	241	*e*P	P	03 01 28.9	-0.6
WRA	Warramunga Arr	24.94	241	P	P	03 01 29.2	-0.4
5.1nm,0.8s,mb4.1,baz=66,slow=9.4,SNR=11							
WRA				LR	LR	03 10 46.3	
comp=Z,177nm,18.

EKS2 *e*S **Sn** **03 12 12.5 -2.0**
EKS2 Erkin-Say 6.44 18 *e*PN **Pn** **03 11 01.7 +0.7**
KK31 Karatay Array 6.54 357 P **Pn** **03 11 02.0 -0.3**
comp=E,18nm,0.5s,baz=185,slow=13,SNR=411
KK31 S **Sn** **03 12 11.0 -5.8**
comp=E,118nm,0.6s,baz=181,slow=22,SNR=18
KKAR Karatay Array 6.54 357 *e*Pn **Pn** **03 11 02.3 +0.1**
KKAR *e*S **Sn** **03 12 11.4 -5.3**
KKAR Karatay Array 6.54 357 *e*PN **Pn** **03 11 02.3 0.0**
AAK Ala-Archa 6.62 23 P **Pn** **03 11 04.4 +1.0**
SNR=31
AAK P 03 11 04.4
SNR=31
AAK Ala-Archa 6.62 23 *e*Pn **Pn** **03 11 04.2 +0.9**
AAK *e*S **Sn** **03 12 15.3 -3.3**
AAK Ala-Archa 6.62 23 *d i*PN **Pn** **03 11 04.0 +0.7**
AAK pmax pmax
comp=Z,67nm,0.7s
KBK Karagaybulak 6.79 25 P **Pn** **03 11 06.7 +1.2**
SNR=59
KBK P 03 11 06.7
SNR=59
BHK Bhakra 6.81 137 *e*x x 03 12 03.0
FRU Bishkek 6.84 23 *e*PN **Pn** **03 11 06.5 +0.3**
FRU *e*S **Sn** **03 12 24.0 +0.2**
FRU smax
comp=E,160nm,2.0s
ULHL Ulahol 6.96 34 P **Pn** **03 11 08.4 +0.7**
SNR=11
ULHL P 03 11 08.4
SNR=11
CHMS Chumysh 7.03 23 P **Pn** **03 11 08.7 0.0**
SNR=31
CHMS P 03 11 08.7
SNR=31
SDNR Sundarnagar 7.06 134 *e*PKP **Pn** **03 11 08.0 -1.2**
SDNR *e*x x 03 12 20.4
USP Ospenovka 7.20 21 P **Pn** **03 11 10.7 -0.2**
SNR=22
USP P 03 11 10.7
SNR=22
TKM2 Tokmak 2 7.25 28 P **Pn** **03 11 12.5 +0.9**
SNR=123
TKM2 P 03 11 12.5
SNR=123
TKM2 Tokmak 2 7.25 28 ⇓P **Pn** **03 11 12.1 +0.5**
comp=E,116nm,0.6s
TKM2 ⇑S **Sn** **03 12 31.9 -1.7**
comp=E,34nm,0.8s
TKM2 Tokmak 2 7.25 28 *e*Pn **Pn** **03 11 12.4 +0.8**
TKM2 Tokmak 2 7.25 28 *i* PN **Pn** **03 11 12.4 +0.8**
SMLA Simla 7.45 135 *i* P **Pn** **03 11 13.4 -0.8**
SMLA *i* S **Sn** **03 12 33.9 -4.5**
SMLA ⇓AML AML 03 12 36.7
comp=E,2μm,0.3s
SMLA AML AML 03 12 36.8
comp=N,995nm,0.2s
DDI Dehra Dun 8.55 135 *e*x x 03 11 21.0
DDI *e*x x 03 13 05.0
NDI New Delhi 9.43 145 *e*PKP **Pn** **03 11 38.1 -2.1**
NDI *e*S **Sn** **03 13 18.2 -7.4**
AYAN Aya Nagar 9.56 146 *e*PKP **Pn** **03 11 41.0 -0.9**
AYAN *e*S **Sn** **03 13 21.7 -7.0**
KUDL Kundal 9.58 150 *e*PKP **Pn** **03 11 41.2 -0.9**
KUDL *e*S **Sn** **03 13 21.3 -7.9**
AJM Ajmer 10.52 162 *e*x **Pn** **03 11 52.0 -2.3**
AGRA Agra 11.00 146 *e*PKP **Pn** **03 11 59.1 -1.4**
AGRA *e*S Sn 03 13 35.5 -28
AGRA AML AML 03 13 37.9
comp=N,45nm,0.6s
AGRA AML AML 03 13 41.0
comp=E,48nm,0.3s
MK31 Makanchi Array 13.22 36 P **Pn** **03 12 28.7 +0.1**
comp=E,3.7nm,0.7s,baz=222,slow=13,SNR=22
MK31 Makanchi Array 13.22 36 *e*Pn **Pn** **03 12 29.9 +1.4**
MK31 Makanchi Array 13.22 36 *e*P **Pn** **03 12 29.9 +1.3**
MKAR Makanchi Array 13.22 36 P **Pn** **03 12 29.1 +0.5**
comp=E,0.3nm,0.3s,baz=215,slow=10,SNR=18
MKAR Makanchi Array 13.22 36 *e*Pn **Pn** **03 12 29.9 +1.4**
MKAR Makanchi Array 13.22 36 P **Pn** **03 12 29.1 +0.5**
DANN Dangsing 13.50 124 *e*P **Pn** **03 12 31.9 -0.4**
DANN Dangsing 13.50 124 *e*P **Pn** **03 12 31.9 -0.4**
KOLN Koldanda 13.78 126 *e*P **Pn** **03 12 33.6 -2.2**
comp=E,17nm,0.4s
KOLN Koldanda 13.78 126 *e*P **Pn** **03 12 33.6 -2.2**
comp=E,17nm,0.4s
GKN Gorkha 14.32 123 *e*P **Pn** **03 12 42.5 +0.1**
GKN Gorkha 14.32 123 *e*P **Pn** **03 12 42.5 +0.1**
BHPL Bhopal 14.38 156 *e*PKP **Pn** **03 12 42.5 -0.8**
BHPL *e*x x 03 15 13.3
WMQ Urumqi 14.64 55 *e*P **Pn** **03 12 49.8 +3.6**
DMN Daman 14.89 123 *e*P **Pn** **03 12 49.5 +0.1**
DMN Daman 14.89 123 *e*P **Pn** **03 12 49.5 +0.1**
KKN Kakani 14.89 122 *e*P **Pn** **03 12 49.5 0.0**
comp=E,56nm,0.6s
KKN Kakani 14.89 122 *e*P **Pn** **03 12 49.5 0.0**
comp=E,56nm,0.6s
KKN Kakani 14.89 122 *e*P **Pn** **03 12 49.5 0.0**
KKN pmax pmax
comp=Z,56nm,0.6s
AB31 Akbulak array 15.04 331 ⇓P **Pn** **03 12 49.3 -1.7**
comp=Z,14nm,0.8s,baz=144,slow=12,SNR=272
AB31 ⇑S **S** **03 15 27.6 -10**
comp=Z,6.3nm,0.8s,baz=153,slow=23,SNR=7.6
ABKAR Akbulak array 15.04 331 *e*Pn **Pn** **03 12 49.4 -1.6**
ABKAR *e*S **S** **03 15 28.3 -10**
KURBB Kurchatov Arra 15.05 19 P **Pn** **03 12 49.6 -1.6**
comp=Z,1.1nm,0.7s
PKI Pulchoki 15.12 122 *e*P **Pn** **03 12 52.2 0.0**
comp=Z,52nm,0.6s
PKI Pulchoki 15.12 122 *e*P **Pn** **03 12 52.2 0.0**
comp=Z,52nm,0.6s
PKI Pulchoki 15.12 122 *e*P **Pn** **03 12 52.2 0.0**
PKI pmax pmax
comp=Z,52nm,0.6s
KURK Kurchatov 15.16 19 P **Pn** **03 12 50.5 -2.0**
comp=Z,0.2nm,0.3s,baz=210,slow=10,SNR=23
KURK Kurchatov 15.16 19 ⇑P **Pn** **03 12 53.4 +1.0**
comp=Z,16nm,2.2s
KURK Kurchatov 15.16 19 *e*Pn **Pn** **03 12 53.7 +1.2**
KURK Kurchatov 15.16 19 *e*P **Pn** **03 12 53.7 +1.2**
GUN Gumba 15.23 120 *e*P **Pn** **03 12 53.6 0.0**
GUN Gumba 15.23 120 *e*P **Pn** **03 12 53.6 0.0**
JIRN Jiri 15.60 120 *e*P **Pn** **03 12 58.7 +0.6**
comp=Z,17nm,0.4s
JIRN Jiri 15.60 120 *e*P **Pn** **03 12 58.7 +0.6**
comp=Z,17nm,0.4s
RAMN Ramite 16.33 122 *e*P **Pn** **03 13 06.9 0.0**
comp=Z,24nm,0.3s
RAMN Ramite 16.33 122 *e*P **Pn** **03 13 06.9 0.0**
comp=Z,24nm,0.3s
ZRNK Zerenda 16.44 356 ⇓P **Pn** **03 13 07.6 -0.4**
comp=Z,15nm,0.7s
BVA0 Borovoye Array 16.46 359 P **Pn** **03 13 07.7 -0.5**
comp=Z,1.1nm,0.6s,baz=160,slow=14,SNR=58
BVAR Borovoye Array 16.46 359 P **Pn** **03 13 08.1 -0.1**
comp=Z,2.6nm,0.3s,baz=155,slow=11,SNR=28
BVAR S **S** **03 16 07.4 -2.3**
comp=Z,0.4nm,0.3s,baz=167,slow=20,SNR=4.5
BVAR Borovoye Array 16.46 359 P **Pn** **03 13 08.1 -0.1**
BVAR S **S** **03 16 07.4 -2.3**
BVAR Borovoye Array 16.46 359 P **Pn** **03 13 08.1 -0.1**
BRVK Borovoye 16.50 358 ⇓P **Pn** **03 13 08.2 -0.5**
comp=Z,29nm,1.3s
BRVK Borovoye 16.50 358 *e*Pn **Pn** **03 13 08.6 -0.1**
comp=Z,11nm,0.9s
BRVK Borovoye 16.50 358 *c i*P **Pn** **03 13 08.5 -0.1**
BRVK pmax pmax
comp=Z,17nm,1.2s
AKTO Aktyubinsk 16.73 330 P **Pn** **03 13 11.1 -0.4**
comp=Z,4.0nm,0.3s,baz=138,slow=10,SNR=154
AKTO Aktyubinsk 16.73 330 ⇑P **Pn** **03 13 10.8 -0.7**
comp=Z,7.3nm,0.8s
AKTO ⇓S **S** **03 16 11.6 -3.7**
comp=Z,1.6nm,0.9s
AKTO Aktyubinsk 16.73 330 P **Pn** **03 13 11.1 -0.4**
AKTO Aktyubinsk 16.73 330 P **Pn** **03 13 11.1 -0.4**
AKTO pmax pmax
comp=Z,4.0nm,0.3s
TAPN Taplejung 16.86 118 *e*P **Pn** **03 13 14.0 +0.8**
comp=Z,28nm,0.8s
TAPN Taplejung 16.86 118 *e*P **Pn** **03 13 14.0 +0.8**
comp=Z,28nm,0.8s
ODAN Odare 16.93 120 *e*P **Pn** **03 13 14.9 +0.8**
comp=Z,28nm,0.7s
ODAN Odare 16.93 120 *e*P **Pn** **03 13 14.9 +0.8**
comp=Z,28nm,0.7s
LSA Lhasa 18.17 106 *e*P **P** **03 13 30.3 +3.9**
comp=Z,6.1nm,0.6s
LSA Lhasa 18.17 106 *e*P **P** **03 13 30.3 +3.9**
LSA pmax pmax
comp=Z,6.0nm,0.6s
ZAA0 Zalesovo Array 19.84 25 *e*P **P** **03 13 44.4 +0.2**
ZALV Zalesovo Beam 19.84 25 P **P** **03 13 44.4 +0.2**
comp=Z,1.2nm,0.3s,baz=221,slow=11,SNR=66
ZALV Zalesovo Beam 19.84 25 P **P** **03 13 44.4 +0.2**
ZALV Zalesovo Beam 19.84 25 P **P** **03 13 44.4 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
NVS Novosibirsk 20.11 21 *e*P **P** **03 13 47.0 0.0**
NVS *e*S **S** **03 17 18.4 -3.6**
NVS pmax pmax
comp=Z,17nm,1.2s
NVS pmax pmax
comp=N,15nm,1.3s
NVS smax
comp=N,8.0nm,1.3s
NVS smax
comp=E,29nm,1.9s
GNI Garni 20.90 288 P **P** **03 13 54.2 -1.3**
comp=E,1.0nm,0.4s,baz=252,slow=20,SNR=2.1
GNI Garni 20.90 288 P **P** **03 13 54.2 -1.3**
GNI Garni 20.90 288 *i* P **P** **03 13 54.7 -0.9**
GNI pmax pmax
comp=Z,15nm,1.4s
MIB Mutribah 20.92 258 *e*P **P** **03 13 56.7 +0.8**
MIB AMb AMB 03 13 57.9
comp=Z,25nm,1.2s
NAY Al-Naaiem 21.23 257 *e*P **P** **03 13 58.1 -1.1**
NAY AMb AMB 03 14 02.2
comp=Z,11nm,1.9s,mb4.1
ARU Arti 21.58 341 *e*P **P** **03 14 02.5 -0.1**
comp=Z,14nm,0.8s,mb4.5
ARU Arti 21.58 341 *d i*P **P** **03 14 02.8 +0.3**
ARU S **S** **03 17 49.3 +0.9**
ARU pmax pmax
comp=Z,29nm,1.2s,mb4.7
BHD Baghdad 22.08 269 *e*x **P** **03 14 10.5 +2.8**
BHD *e*x x 03 18 03.0
KIV Kislovodsk 22.78 298 ⇑*e*P **P** **03 14 13.5 -0.6**
KIV *e**PP 03 14 51.5
KIV *e*S **S** **03 18 08.7 +0.5**
KIV pmax pmax
comp=Z,19nm,2.0s,mb4.3
LZH Lanzhou 26.37 81 *e*P **P** **03 14 49.8 +3.1**
LZH pP pP 03 15 28.3 +2.8
LZH sP sP 03 15 50.3 +2.5
LZH pmax pmax
comp=Z,16nm,1.1s,mb4.6
LZH pmax pmax
comp=Z,49nm,4.8s
VSR Storozhevoye 26.98 313 *e*P **P** **03 14 51.5 -0.4**
VSR *e**SP sP 03 15 54.9 +1.8
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
VSR pmax pmax
comp=N,4.0nm,0.6s
SONM Songino Array 28.28 55 P **P** **03 15 04.4 +0.9**
comp=N,1.1nm,0.8s,mb3.5,baz=257,slow=9.8,SNR=11
SONM Songino Array 28.28 55 P **P** **03 15 04.4 +0.9**
SONM Songino Array 28.28 55 P **P** **03 15 04.4 +0.9**
KMI Kunming 29.39 104 P **P** **03 15 16.3 +2.8**
KMI pmax pmax
comp=Z,130nm,5.6s
BRTR Keskin Array B 29.44 288 P **P** **03 15 14.2 +0.4**
comp=Z,0.2nm,0.4s,mb3.1,baz=195,slow=28,SNR=4.2
BRTR Keskin Array B 29.44 288 P **P** **03 15 14.2 +0.4**
BRTR Keskin Array B 29.44 288 *ce*P **P** **03 15 16.0 +2.2**
OBN Obninsk 29.90 319 ⇑*e*P **P** **03 15 17.7 0.0**
OBN *e*S **S** **03 19 59.7 -0.8**
OBN *e*SS SS 03 21 57.7 -18
OBN pmax pmax
comp=Z,23nm,1.3s,mb4.7
CMAR Chiang Mai Arr 30.46 119 P **P** **03 15 24.1 +1.1**
comp=Z,0.7nm,0.3s,mb3.8,baz=299,slow=7.9,SNR=4.7
CMAR Chiang Mai Arr 30.46 119 P **P** **03 15 24.1 +1.1**
CMAR Chiang Mai Arr 30.46 119 P **P** **03 15 24.2 +1.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KLMR Klimovskoe 31.43 331 *e*P **P** **03 15 25.1 -6.0**
KLMR pmax pmax
comp=Z,15nm,1.1s,mb4.5
HHC Hu-ho-hao-te 31.72 70 *e*P **P** **03 15 40.0 +6.2**
HHC pP pP 03 16 14.5 +1.2
HHC sP sP 03 16 36.5 +1.1
HHC PP PP 03 16 52.0 +2.6
HHC S **S** **03 20 36.0 +6.9**
HHC SS SS 03 22 41.5 -12
HHC ScS ScS 03 25 50.0 +6.0
HHC pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
HHC pmax pmax
comp=Z,84nm,6.2s
HHC LR LR
comp=N,150nm,15.5s
HHC LR LR
comp=E,210nm,15.9s
HHC LR LR
comp=Z,99nm,17.2s
GYA Guiyang 31.85 98 *e*P **P** **03 15 39.0 +3.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
AKASG Malin Array Be 32.92 309 P **P** **03 15 44.0 -0.2**
comp=Z,2.5nm,0.4s,mb4.1,baz=80,slow=7.2,SNR=15
AKASG Malin Array Be 32.92 309 P **P** **03 15 44.0 -0.2**
AKASG Malin Array Be 32.92 309 P **P** **03 15 44.1 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
KIEV Kiev 32.93 309 *e*P **P** **03 15 43.9 -0.4**
comp=Z,11nm,1.2s,mb4.2
KIEV Kiev 32.93 309 ⇓*e*P **P** **03 15 43.9 -0.4**
PLOR Plostina 34.27 300 ⇓P **P** **03 15 57.4 +1.5**
PLOR Plostina 34.27 300 ⇓*i*P **P** **03 15 57.4 +1.5**
MLR Muntele Rosu 34.77 299 ⇑P **P** **03 16 02.4 +2.2**
MLR Muntele Rosu 34.77 299 ⇑*i*P **P** **03 16 02.3 +2.1**
BURAR Bucovina Array 35.27 303 ⇓P **P** **03 16 05.1 +0.7**
BURAR Bucovina Array 35.27 303 ⇓*i*P **P** **03 16 05.1 +0.7**
BJI Beijing 35.31 70 P **P** **03 16 06.5 +1.6**
BJI pmax pmax
comp=Z,9.0nm,0.5s,mb4.6
JOF Joensuu 35.82 330 *e*P **P** **03 16 08.7 -0.2**
JOF pmax pmax
comp=Z,8.0nm,0.3s,mb4.7
JOF Joensuu 35.82 330 *ep* **P** **03 16 08.7 -0.2**
comp=Z,7.6nm,0.3s,mb4.7
DRGR 36.98 301 ⇓P **P** **03 16 19.9 +0.9**
DRGR 36.98 301 ⇓*i*P **P** **03 16 19.9 +0.9**
KWP Kalwaria Pacla 36.99 306 *e*P **P** **03 16 19.8 +0.8**
comp=Z,233nm,2.9s,mb5.2
KWP Kalwaria Pacla 36.99 306 *e*P **P** **03 16 19.8 +0.8**
KWP Kalwaria Pacla 36.99 306 ⇑*i*P **P** **03 16 21.2 +2.2**
GZR Gura Zlata 37.00 299 ⇑*i*P **P** **03 16 19.3 +0.1**
FINES FINESS Array B 37.44 326 P **P** **03 16 22.8 +0.2**
comp=Z,11nm,0.8s,mb4.5,baz=118,slow=9.4,SNR=39
FINES FINESS Array B 37.44 326 P **P** **03 16 22.8 +0.2**
FINES FINESS Array B 37.44 326 P **P** **03 16 22.8 +0.2**
FINES pmax pmax
comp=Z,11nm,0.8s
KAF Kangasniemi 37.58 327 *e*P **P** **03 16 22.5 -1.3**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
KAF Kangasniemi 37.58 327 *ep* **P** **03 16 22.5 -1.3**
comp=Z,1.0nm,0.4s,mb3.7
BZS Buzias 37.80 300 ⇑P **P** **03 16 26.7 +0.8**
BZS Buzias 37.80 300 ⇑*i*P **P** **03 16 26.7 +0.8**
NJ2 Nanjing 39.44 82 *e*P **P** **03 16 45.3 +5.6**
NJ2 pmax pmax
comp=Z,20nm,0.5s,mb4.9
KEV Kevo 40.75 338 *e*P **P** **03 16 49.7 -0.2**
comp=Z,738nm,2.4s
KEV Kevo 40.75 338 *e*P **P** **03 16 49.7 -0.2**
KEV Kevo 40.75 338 *ep* **P** **03 16 49.4 -0.5**
comp=Z,1.4nm,0.3s,mb3.9
ARCES ARCESS Array B 41.09 338 P **P** **03 16 53.3 +0.6**
comp=Z,11nm,0.6s,mb4.5,baz=113,slow=8.7,SNR=36
ARCES ARCESS Array B 41.09 338 P **P** **03 16 53.3 +0.6**
ARCES ARCESS Array B 41.09 338 P **P** **03 16 53.3 +0.6**
ARCES pmax pmax
comp=Z,11nm,0.6s
ARE0 ARCESS Array S 41.09 338 *e*P **P** **03 16 52.9 +0.2**
CN2 Changchun 41.55 63 *e*P **P** **03 17 03.5 +6.7**
CN2 *ep*P pP 03 17 39.0 +1.1
CN2 *e*S **S** **03 23 07.3 +9.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
NB2 NORSAR Subarra 44.34 323 P **P** **03 17 17.7 -1.2**
comp=Z,7.6nm,0.6s,mb4.2,baz=98,slow=7.9
NOA NORSAR Array B 44.34 323 P **P** **03 17 18.4 -0.5**
comp=Z,8.1nm,0.7s,mb4.2,baz=96,slow=7.8,SNR=31
NOA NORSAR Array B 44.34 323 P **P** **03 17 18.4 -0.5**
NOA NORSAR Array B 44.34 323 P **P** **03 17 18.5 -0.4**
NOA pmax pmax
comp=Z,8.0nm,0.7s
MDJ Mudanjiang 44.35 61 P **P** **03 17 20.5 +1.3**
MDJ pmax pmax
comp=Z,8.0nm,2.1s,mb3.7
MDJ pmax pmax
comp=Z,79nm,4.0s
GRFO Grafenberg 44.44 307 *e*P **P** **03 17 22.6 +2.7**
comp=Z,147nm,2.7s,mb4.8
GRFO Grafenberg 44.44 307 *e*P **P** **03 17 22.6 +2.7**
GRFO pmax pmax
comp=Z,147nm,2.7s,mb4.8
FUORN Ofenpass-Fuorn 45.51 303 *e*P **P** **03 17 29.3 +1.0**
comp=Z,16nm,1.6s,mb4.1
DAVA Damuels 45.66 304 ⇑*i*P **P** **03 17 29.1 -0.3**
comp=Z,8.1nm,1.1s,mb4.0
DAVA Damuels 45.66 304 ⇑*i*P **P** **03 17 29.1 -0.3**
comp=Z,8.1nm,1.1s,mb4.0
SENIN Lac Senin/Sane 47.57 303 *e*P **P** **03 17 44.8 +0.4**
comp=Z,77nm,2.5s,mb4.6
KEST Kesra 49.04 288 P **P** **03 17 56.0 +0.2**
comp=Z,1.3nm,0.8s,mb3.3,baz=42,slow=3.4,SNR=5.2
KEST Kesra 49.04 288 P **P** **03 17 56.0 +0.2**
MJAR Matsushiro Arr 52.91 69 LR LR 03 41 03.0
comp=Z,104nm,18.2s,baz=175,slow=36
ESDC Sonseca Array 57.45 298 P **P** **03 18 55.3 -1.6**
comp=Z,0.2nm,0.4s,mb3.1,baz=52,slow=7.7,SNR=5.6
ESDC Sonseca Array 57.45 298 P **P** **03 18 55.3 -1.6**
BILL Bilibino 58.54 26 ⇓*e*P **P** **03 19 05.0 +1.0**
BILL *e* 03 21 20.5
BILL *e*S **S** **03 26 45.1 -6.9**
BILL pmax pmax
comp=Z,7.0nm,1.6s,mb4.0
TORD Torodi Ar. Bea 65.75 269 P **P** **03 19 50.2 -2.5**
comp=Z,3.5nm,0.7s,mb4.1,baz=50,slow=5.7,SNR=80
TORD Torodi Ar. Bea 65.75 269 P **P** **03 19 50.2 -2.5**
INK Inuvik 73.83 9 P **P** **03 20 41.8 +0.5**
comp=Z,4.6nm,0.6s,mb4.3,baz=4.9,slow=7.2,SNR=10
INK Inuvik 73.83 9 *e*P **P** **03 20 41.3 +0.1**
comp=Z,2.1nm,0.5s,mb4.0
INK Inuvik 73.83 9 P **P** **03 20 41.8 +0.6**
INK pmax pmax
comp=Z,5.0nm,0.6s
COLA College 74.41 16 *e*P **P** **03 20 44.9 +0.3**
comp=Z,7.9nm,1.1s,mb4.3
COLA College 74.41 16 *e*P **P** **03 20 44.9 +0.3**
COLA pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
ILAR Eielson Array 74.71 16 P **P** **03 20 45.7 -0.6**
comp=Z,1.9nm,0.9s,mb3.7,baz=320,slow=4.7,SNR=17
ILAR Eielson Array 74.71 16 P **P** **03 20 45.7 -0.6**
ILAR Eielson Array 74.71 16 P **P** **03 20 45.7 -0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 74.73 267 P **P** **03 20 44.9 -2.4**
comp=Z,1.8nm,0.7s,mb3.8,baz=99,slow=20,SNR=4.1
DBIC Dimbokro 74.73 267 P **P** **03 20 44.9 -2.3**
DBIC Dimbokro 74.73 267 P **P** **03 20 44.9 -2.4**
DBIC pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 77.81 220 P **P** **03 21 03.2 -1.0**
comp=Z,1.7nm,0.8s,mb3.8,baz=27,slow=5.9,SNR=3.9
BOSA Boshof 77.81 220 P **P** **03 21 03.2 -1.0**
BOSA Boshof 77.81 220 P **P** **03 21 03.2 -1.0**
BOSA pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
YKA Yellowknife Ar 81.18 3 P **P** **03 21 21.8 -0.2**
comp=Z,2.7nm,0.5s,mb4.1,baz=350,slow=5.5,SNR=43
YKA Yellowknife Ar 81.18 3 P **P** **03 21 21.8 -0.2**
YKA Yellowknife Ar 81.18 3 P **P** **03 21 21.8 -0.2**
YKA pmax pmax
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 82.00 122 P **P** **03 21 25.1 -1.8**
comp=Z,0.6nm,0.3s,mb3.6,baz=318,slow=5.5,SNR=4.9
WRA Warramunga Arr 82.00 122 P **P** **03 21 25.1 -1.8**
WRA Warramunga Arr 82.00 122 P **P** **03 21 25.1 -1.8**
WRA pmax pmax
comp=Z,1.0nm,0.3s
ASAR Alice Springs 84.27 125 P **P** **03 21 37.2 -1.2**
comp=Z,0.9nm,0.6s,mb3.7,baz=310,slow=4.9,SNR=12
ASAR Alice Springs 84.27 125 P **P** **03 21 37.2 -1.2**
ASAR Alice Springs 84.27 125 P **P** **03 21 37.2 -1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 135.24 268 PKP PKPdf 03 28 23.7 -1.4
comp=Z,0.8nm,0.8s,baz=33,slow=9.5,SNR=4.0
CPUP Villa Florida 135.24 268 PKP PKPdf 03 28 23.7 -1.4
CPUP Villa Florida 135.24 268 PKIKP PKPdf 03 28 23.7 -1.4
CPUP pmax pmax
comp=Z,1.0nm,0.8s
PLCA Paso Flores 149.87 250 PKPbc PKPbc 03 28 54.5 -0.8
comp=Z,1.1nm,0.6s,baz=247,slow=14,SNR=4.1
PLCA Paso Flores 149.87 250 PKPbc PKPbc 03 28 54.5 -0.8

BJI ***30*** *03:20:50.1, 4˚.93N×125˚.89E, h133km, mB5.0/31, mb4.9/43*
ISCJB ***30*** *03:20:54.9±0.3, 5˚.45N±0˚.02×125˚.81E±0˚.03, h139km±2km, mb5.0/132, Error ellipse: s-maj=4.5km s-min=2.8km az=172.7*
MAN ***30*** *03:20:54, 5˚.33N×125˚.67E, h112km, mb5.6, ML4.7, MS5.0*
MAN INTENSITY II - BANGA SOUTH COTABATO; TACURONG SULTAN KUDARAT; INTENSITY I - GENERAL SANTOS CITY.
IDC ***30*** *03:20:55.6±0.9, 5˚.42N×125˚.52E, h134km±7km, mb4.7/33, mb1 4.8/34, mb1mx4.8/34, mbtmp4.7/34, MS3.8/11, Ms1 3.9/11, ms1mx3.5/34, Error ellipse: s-maj=13.3km s-min=6.5km az=77.0*
GCMT ***30*** *03:20:55.9±0.2, 5˚.37N×125˚.80E, h137km±1km, MW5.1, Moment Tensor Solution. s53,c65; s87,c132; Moment tensor: Scale 10^16Nm; Mrr=3.78±.16; Mθθ1.27±.24; Mφφ2.51±.29; Mrθ2.82±.13; Mrφ1.97±.18; Mθφ3.21±.16; Best double couple: M0=5.80000×10^16 NP1:φ=32.00000°, δ=21.00000°, λ=-97.00000°. NP2:φ=220.00000°, δ=69.00000°, λ=-87.00000°. Principal axes: T 5.8400, Plg24.0000°, Azm308.0000°; N -0.1600, Plg3.0000°, Azm39.0000°; P -5.6900, Plg66.0000°, Azm135.0000°; Data Used: II IU IC G CN.*
MOS ***30*** *03:20:56.1±1.3, 5˚.40N×125˚.63E, h152km, mb5.1/34 Error ellipse: s-maj=12.2km s-min=5.7km az=114.5*
DJA ***30*** *03:20:56.4±0.3, 5˚N±3˚×12˚6E±˚, h125km±3km, M5.2/6, mB5.7/38, mb5.3/66, MLv5.9/9, Mw(mB)5.2/38*
NEIC ***30*** *03:20:56.6±0.7, 5˚.42N×125˚.71E, h141km±6km, mb5.2/67, Error ellipse: s-maj=5.9km s-min=3.8km az=69.0*
NEIC Felt [II PIVS] at Banga, Malita and Tacurong; [I PIVS] at Davao, General Santos, Koronadal and Matan-ao.
ISC 30 03:20:56.0±0.3, 5˚.44N±0˚.02×125˚.81E±0˚.03, h134km±2km, h137km±1.9km:pP-P,n409,σ1919/414, mb5.0/132, 21C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.56**	**17**	*e*P	**Pn**	**03 21 24.1**	**-1.0**
DAV	**Davao City (W)**	**1.63**	**352**	P	**Pn**	**03 21 25.7**	**-0.2**
	296nm,0.3s,baz=118,slow=1.3,SNR=86						
DAV				S	**Sn**	**03 21 54.0**	**+5.3**
	4μm,0.3s,baz=301,slow=21,SNR=14						
DAV				LR	LR	03 22 04.4	
	comp=Z,6μm,20.8s,baz=216,slow=42						
DAV	**Davao City (W)**	**1.63**	**352**	*e*Pn	**Pn**	**03 21 25.8**	**-0.1**
DAV				*e*S	**Sn**	**03 21 48.8**	**+0.1**

DAV S **Sn** **03 21 54.0 +5.3**
DAV Davao City (W) 1.63 352 P **Pn** **03 21 25.8 -0.1**
DAV Davao City (W) 1.63 352 P **Pn** **03 21 25.9 0.0**
SNR=131
DMPH Davao City--Mi 1.66 350⇑ *e*P **Pn** **03 21 25.8 -0.3**
DMPH *e*S **Sn** **03 21 50.3 +1.1**
SGSI Sangihe 1.77 189 P **Pn** **03 21 25.8 -1.7**
BUKP Musuan 2.53 343 *e*P **Pn** **03 21 36.7 -0.1**
CGP Cagayan de Oro 3.19 340⇑ *i*P **Pn** **03 21 45.9 +0.6**
CGP *i*S **Sn** **03 22 24.1 +0.8**
PAGZ Pagadian 3.39 315 *e*P **Pn** **03 21 46.9 -1.0**
IPIL Ipil 3.97 306 *e*P **Pn** **03 21 54.2 -1.3**
ZMPH Zamboanga City 4.01 292⇑ *i*P **Pn** **03 21 53.9 -2.1**
ZMPH *i*S **Sn** **03 22 40.3 -2.4**
MNI Manado 4.09 194 P **Pn** **03 21 56.0 -1.1**
SNPH Sibulan 4.64 327⇑ *i*P **Pn** **03 22 06.2 +1.8**
SNPH *i*S **Sn** **03 23 05.7 +8.1**
TNTI Ternate 4.89 161 P **Pn** **03 22 05.8 -2.0**
KMSI Cibinong 5.17 201 P **Pn** **03 22 11.1 -0.4**
23nm2μm,1.0s
LLP Lapu-Lapu 5.17 339⇑ *i*P **Pn** **03 22 11.4 -0.1**
LLP *e*S **Sn** **03 23 10.9 +0.5**
GTOI Gorontalo 5.53 210 P **Pn** **03 22 14.2 -2.2**
3.4nm926nm,0.8s
PLP Palo 5.74 352⇓ *e*P **Pn** **03 22 19.4 +0.2**
PLP *e*S **Sn** **03 23 20.9 -3.2**
MRSI Marisa 6.26 218 P **Pn** **03 22 25.6 -0.6**
3.7nm9μm427nm,0.7s
LBMI Labuha 6.27 164 P **Pn** **03 22 24.7 -1.6**
13nm822nm,0.9s
RCP Roxas 6.79 334 *e*P **Pn** **03 22 33.4 +0.2**
LUWI Luwuk 7.12 205 P **Pn** **03 22 39.9 +2.2**
MYLDM Lahad Datu 7.28 268 P **Pn** **03 22 42.5 +2.6**
MYLDM Lahad Datu 7.28 268 P **Pn** **03 22 41.9 +2.0**
2.2nm7μm587nm,1.2s
APSI Ampana 7.55 213 P **Pn** **03 22 44.2 +0.6**
TSM Tawau 7.99 262 P **Pn** **03 22 50.6 +1.2**
SDKM Sandakan 8.57 272 P **Pn** **03 22 57.8 +0.5**
NLAI Namlea 8.72 171 P **Pn** **03 22 56.4 -2.9**
295nm,0.7s
MSAI Masohi 9.27 160 P **Pn** **03 23 06.2 -0.4**
998nm41nm,0.7s
AAI Ambon 9.38 165 P **Pn** **03 23 06.3 -1.8**
8μm282nm,0.7s
KKM Kota Kinabalu 9.56 274 P **Pn** **03 23 11.2 +0.7**
KKM Kota Kinabalu 9.56 274 *e*Pn **Pn** **03 23 10.8 +0.3**
KKM *e*S **Sn** **03 25 00.5 +4.1**
KKM Kota Kinabalu 9.56 274 P **Pn** **03 23 11.0 +0.4**
121nm,1.0s
TGY Tagaytay City 9.85 331 P **Pn** **03 23 15.7 +1.3**
40nm,0.3s,baz=62,slow=22,SNR=11
TGY Tagaytay City 9.85 331 P **Pn** **03 23 15.7 +1.3**
TGY Tagaytay City 9.85 331 P **Pn** **03 23 15.7 +1.3**
KDI Kendari 9.87 199 P **Pn** **03 23 12.4 -2.2**
1μm91nm,1.0s
TTSI Tana Toraja 10.34 215 P **Pn** **03 23 22.2 +1.3**
3μm247nm,1.2s
FAKI Fak Fak 10.51 142 P **Pn** **03 23 24.6 +1.5**
SPSI Sidrap Palu 11.12 213 P **Pn** **03 23 31.9 +0.6**
1μm138nm,1.2s
MJSI Majene 11.24 218 P **Pn** **03 23 34.3 +1.5**
3μm145nm,1.2s
KAPI Kappang 12.02 210 P **Pn** **03 23 42.0 -1.1**
3.9nm,0.3s,baz=34,slow=6.5,SNR=26
KAPI Kappang 12.02 210 *e*Pn **Pn** **03 23 41.6 -1.5**
KAPI Kappang 12.02 210 P **Pn** **03 23 42.0 -1.1**
1μm117nm,0.8s
KAPI Kappang 12.02 210 P **Pn** **03 23 42.2 -0.9**
SNR=8.5
BKSI Bulukumba 12.11 208 P **Pn** **03 23 44.1 -0.2**
1μm138nm,1.1s
BAKI Biak 12.22 122 P **Pn** **03 23 51.6 +5.9**
BTM Bintulu 12.88 261 P **Pn** **03 23 55.2 +0.8**
KBKI Kotabaru 12.97 228 P **Pn** **03 23 59.9 +4.4**
3μm152nm,1.0s
SBUM Sibu 13.88 258 P **Pn** **03 24 09.3 +2.2**
SBUM Sibu 13.88 258 P **Pn** **03 24 09.0 +1.9**
964nm122nm,0.9s
BBKI Banjar Baru 14.08 231 P **Pn** **03 24 12.9 +3.2**
PLKI Palangkaraya 14.09 238 P **Pn** **03 24 15.1 +5.3**
525nm,0.9s
MMRI Maumere 14.43 194 P **Pn** **03 24 13.6 -0.6**
2μm205nm,1.1s
SMPI Sarmi 14.85 119 P **Pn** **03 24 29.2 +10**
STKI Sintang 15.27 250 P **Pn** **03 24 28.9 +4.2**
61nm,1.1s
KSM Kuching 15.96 256 P **Pn** **03 24 37.0 +3.7**
KSM Kuching 15.96 256 *e*Pn **Pn** **03 24 35.0 +1.8**
49nm,0.8s
KSM Kuching 15.96 256 P **Pn** **03 24 37.0 +3.7**
66nm,0.9s
PBKI Pangkalan Bun 16.28 241 P **Pn** **03 24 42.9 +5.8**
250nm,1.0s
JAY Jayapura 16.85 118 P **Pn** **03 24 46.4 +2.3**
53nm,0.9s
MTNI Mataram 16.97 215 P **Pn** **03 24 46.1 +0.6**
9μm220nm,0.9s
KHKI Kahang-Kahang 17.07 217 P **Pn** **03 24 47.6 +0.8**
89nm,0.9s
KMMI Kalianget 17.14 224 P **Pn** **03 24 48.7 +1.1**
3μm205nm,1.0s
NBBI Negara 17.68 219 P Px 03 25 08.8
BYJI Banyuwangi 17.73 220 P **Pn** **03 24 55.2 +0.5**
233nm,0.9s
TWG Pinlang 17.87 346 *e*P **Pn** **03 24 53.6 -2.6**
56nm,0.6s
BLJI Banyuglugur 17.89 223 P **Pn** **03 24 57.7 +1.1**
72nm,0.9s
JAGI Jajag, Banyuwa 18.06 220 P **P** **03 24 58.0 +0.8**
127nm,1.0s
YULB Yu-li 18.37 347 *e*P **P** **03 24 58.8 -1.8**
37nm,0.8s
GMJI Gumukmas 18.38 222 P **P** **03 25 03.7 +3.0**
92nm,1.0s
TPUB Ta-pu 18.44 345 *e*P **P** **03 25 00.2 -1.1**
102nm,0.9s
SSLB Suanglung 18.83 346 *e*P **P** **03 25 04.5 -1.1**
51nm,0.5s
SSLB *e*S **S** **03 28 39.3 +6.6**
KRKI Karangkates 18.97 225 P **P** **03 25 09.2 +2.0**
349nm,1.1s
SJI Sawahan 19.17 227 P **P** **03 25 10.6 +1.2**
229nm,0.9s
PWJI Pagerwojo 19.34 226 P **P** **03 25 15.5 +4.3**
78nm,0.9s
YHNB Yeheng 19.59 348 *e*P **P** **03 25 13.6 -0.1**
35nm,0.6s
TPI Tanjungpandan 19.88 246 P **P** **03 25 17.3 +0.2**
1μm151nm,0.9s
GUMO Guam 20.45 65 LR LR 03 32 03.5
comp=Z,306nm,19.1s,baz=236,slow=32
BJII Banjamegara 20.47 232 P **P** **03 25 25.2 +1.8**
2μm221nm,1.1s
QZH Quanzhou 20.59 341 P **P** **03 25 23.5 -1.1**
QZH S **S** **03 29 08.0 +0.6**
QIZ Qiongzhong 20.61 312 P **P** **03 25 24.8 0.0**
QIZ sP sP 03 26 06.0 +0.3
QIZ S **S** **03 29 09.0 +1.1**
QIZ pmax pmax
comp=Z,56nm,1.0s
PPBI Pangkal Pinang 21.05 249 P **P** **03 25 29.3 -0.3**
comp=Z,85nm,1.0s,mb5.0
GZH Guangzhou 21.27 327 P **P** **03 25 35.5 +3.7**
GZH S **S** **03 29 24.0 +3.3**
GZH pmax pmax
comp=Z,190nm,0.8s,mb5.5
JOW Kunigami 21.40 6 P **P** **03 25 35.1 +1.9**
comp=Z,90nm,0.6s,mb5.3,baz=176,slow=9.3,SNR=12
JOW Kunigami 21.40 6 *e*P **P** **03 25 34.6 +1.4**
comp=Z,600nm,2.5s,mb5.5
LEM Lembang 21.87 236 P **P** **03 25 39.4 +1.1**
comp=Z,3μmcomp=Z,191nm,1.4s,mb5.3
MYKOM Kota Tinggi 22.21 261 P **P** **03 25 42.2 +0.3**
MYKOM Kota Tinggi 22.21 261 P **P** **03 25 42.3 +0.4**
comp=Z,1μmcomp=Z,100nm,1.0s,mb5.2
CBJI Citeko 22.29 238 P **P** **03 25 45.3 +2.5**
comp=Z,487nm,1.0s,mb5.9
KGM Kluang 22.69 262 P **P** **03 25 47.2 +0.5**
KLI Kotabumi 23.29 244 P **P** **03 25 53.0 +0.9**
comp=Z,226nm,1.4s,mb5.4
FITZ Fitzroy Crossi 23.39 180 P **P** **03 25 52.0 -1.0**
comp=Z,75nm,0.7s,mb5.2,baz=9.7,slow=8.9,SNR=113
FITZ Fitzroy Crossi 23.39 180 *e*P **P** **03 25 51.8 -1.2**
FITZ *e*S **S** **03 29 59.4 +3.3**
FITZ Fitzroy Crossi 23.39 180 *e*P **P** **03 25 51.9 -1.0**
comp=Z,88nm,0.8s,mb5.2
FITZ Fitzroy Crossi 23.39 180 P **P** **03 25 52.1 -0.9**
comp=Z,1μmcomp=Z,128nm,0.8s,mb5.4
LWLI Liwa 24.08 245 P **P** **03 26 00.2 +0.9**
comp=Z,432nm,0.9s,mb6.0
IPM Ipoh 24.71 269 P **P** **03 26 04.9 -0.1**
IPM Ipoh 24.71 269 *e*P **P** **03 26 04.6 -0.4**
comp=Z,72nm,1.0s,mb5.2
IPM Ipoh 24.71 269 P **P** **03 26 04.8 -0.2**
comp=Z,798nmcomp=Z,77nm,0.9s,mb5.2
KSI Kapahiang 24.89 249 P **P** **03 26 09.2 +2.5**
comp=Z,5μmcomp=Z,239nm,1.1s,mb5.6
KULM Kulim 25.05 271 P **P** **03 26 08.3 +0.2**
KULM Kulim 25.05 271 *e*P **P** **03 26 08.0 -0.1**
comp=Z,67nm,0.9s,mb5.2
KULM Kulim 25.05 271 P **P** **03 26 08.1 0.0**
comp=Z,914nmcomp=Z,86nm,1.0s,mb5.2
SNG Songkhla 25.09 275 P **P** **03 26 08.0 -0.6**
comp=Z,100nm,0.8s,mb5.4
BKNI Bangkinang 25.25 259 P **P** **03 26 10.5 +0.6**
comp=Z,164nm,1.2s,mb5.4
COEN Coen 25.86 138 *e*P **P** **03 26 15.2 -0.2**
comp=Z,405nm,0.9s,mb6.0
COEN *e*ScP ScP 03 33 09.3 +0.6
COEN Coen 25.86 138 P **P** **03 26 15.2 -0.2**
comp=Z,109nm,1.1s,mb5.4
PMG Port Moresby 25.89 125 P **P** **03 26 16.3 +0.6**
comp=Z,124nm,0.8s,mb5.6,baz=332,slow=5.9,SNR=68
PMG ScP ScP 03 33 09.9 +1.0
comp=Z,21nm,1.1s,baz=330,slow=7.4,SNR=7.8
PMG Port Moresby 25.89 125 *e*P **P** **03 26 16.4 +0.6**
comp=Z,146nm,0.8s,mb5.7
PMG ScP ScP 03 33 09.9 +1.0
PMG Port Moresby 25.89 125 *d i*P **P** **03 26 16.2 +0.5**
PMG pmax pmax
comp=Z,258nm,1.3s
PMG Port Moresby 25.89 125 P **P** **03 26 16.1 +0.4**
comp=Z,2μmcomp=Z,199nm,0.9s,mb5.8
PPI Padang Panjang 26.04 258 P **P** **03 26 17.0 -0.1**
comp=Z,129nm,1.1s,mb5.5
WRAB Tennant Creek 26.58 162 *e*P **P** **03 26 20.6 -1.2**
comp=Z,168nm,1.5s,mb5.5
WRAB *e*S **S** **03 30 45.3 -1.4**
WRAB Tennant Creek 26.58 162 *e*P **P** **03 26 20.6 -1.2**
WRAB *e*S **S** **03 30 45.3 -1.4**
WRAB pmax pmax
comp=Z,167nm,1.5s,mb5.5
WRAB Tennant Creek 26.58 162 P **P** **03 26 20.5 -1.3**
comp=Z,2μmcomp=Z,119nm,1.0s,mb5.5
WRAB Tennant Creek 26.58 162 P **P** **03 26 20.0 -1.8**
comp=Z,393nm,0.8s,mb6.1,SNR=55
MNSI Mandailing Nat 26.59 261 P **P** **03 26 21.5 -0.5**
comp=Z,34nm,0.9s,mb5.0
WRA Warramunga Arr 26.59 162 P **P** **03 26 20.6 -1.2**
comp=Z,51nm,0.7s,mb5.3,baz=342,slow=10,SNR=101
WRA S **S** **03 30 40.3 -6.5**
comp=Z,2.5nm,0.8s,baz=332,slow=16,SNR=5.3
WRA ScP ScP 03 33 10.1 -0.7
comp=Z,9.4nm,0.7s,baz=341,slow=3.2,SNR=10
WRA Warramunga Arr 26.59 162 P **P** **03 26 20.6 -1.2**
WRA S **S** **03 30 40.3 -6.5**
WRA ScP ScP 03 33 10.1 -0.7
WRA Warramunga Arr 26.59 162 P **P** **03 26 20.7 -1.2**
WRA S **S** **03 30 40.3 -6.5**
WB2 Warramunga Arr 26.59 162 *e*P **P** **03 26 20.6 -1.3**
CBIJ Chichi jima 26.59 34 P **P** **03 26 21.8 -0.1**
baz=239,slow=4.3,SNR=22
CBIJ LR LR 03 37 23.4
comp=Z,118nm,19.5s,baz=129,slow=37
CBIJ Chichi jima 26.59 34 P **P** **03 26 21.8 -0.1**
PSI Prapat 26.94 265 P **P** **03 26 24.7 -0.5**
comp=Z,504nmcomp=Z,46nm,1.2s,mb5.0
MBWA Marble Bar 27.10 193 *e*P **P** **03 26 24.8 -1.7**
comp=Z,51nm,0.8s,mb5.2
MBWA Marble Bar 27.10 193 P **P** **03 26 25.1 -1.4**
comp=Z,94nm,1.0s,mb5.4
NST Nakhon Sawan 27.17 294 ⇓P **P** **03 26 27.8 +0.6**
comp=Z,283nm,0.8s,mb6.0
NJ2 Nanjing 27.26 347 *e*P **P** **03 26 36.3 +8.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
GYA Guiyang 27.77 321 P **P** **03 26 32.8 +0.4**
GYA pP pP 03 27 02.3 +1.4
GYA PP PP 03 27 27.0 -11
GYA S **S** **03 31 04.0 -1.4**
GYA PcS PcS 03 33 27.0 -0.9
GYA ScS ScS 03 37 05.5 -1.2
GYA pmax pmax
comp=Z,20nm,0.7s,mb5.0
GYA pmax pmax
comp=Z,110nm,3.7s
CHRT Chiangrai 29.09 302 ⇑P **P** **03 26 43.0 -1.2**
comp=Z,182nm,1.0s,mb5.8
ENH Enshi 29.09 330 *e*P **P** **03 26 44.4 +0.2**
comp=Z,40nm,1.0s,mb5.1
CM31 Chiang Mai Arr 29.23 299 *e*P **P** **03 26 44.8 -0.8**
comp=Z,23nm,0.8s,mb5.0
CMAR Chiang Mai Arr 29.23 299 P **P** **03 26 46.0 +0.5**
comp=Z,28nm,0.8s,mb5.0,baz=117,slow=7.2,SNR=143
CMAR ScP ScP 03 33 17.9 -1.1
comp=Z,7.8nm,0.9s,baz=129,slow=1.5,SNR=20
CMAR LR LR 03 38 45.7
comp=Z,168nm,18.6s,baz=149,slow=37
CMAR Chiang Mai Arr 29.23 299 P **P** **03 26 46.0 +0.5**
CMAR ScP ScP 03 33 17.9 -1.1
CMAR Chiang Mai Arr 29.23 299 P **P** **03 26 46.1 +0.6**
CHTO Chiang Mai 29.37 299 *e*P **P** **03 26 46.3 -0.4**
comp=Z,28nm,0.8s,mb5.0
CHTO Chiang Mai 29.37 299 *e*P **P** **03 26 46.3 -0.4**
CHTO pmax pmax
comp=Z,28nm,0.8s,mb5.0
CHTO Chiang Mai 29.37 299 P **P** **03 26 46.6 -0.1**
comp=Z,43nm,1.1s,mb5.1
CHTO Chiang Mai 29.37 299 P **P** **03 26 47.1 +0.4**
SNR=11
KMI Kunming 29.53 314 P **P** **03 26 49.3 +1.2**
KMI pP pP 03 27 17.0 +0.2
KMI sP sP 03 27 35.3 +3.1
KMI PP PP 03 27 50.3 -7.1
KMI S **S** **03 31 31.8 -1.4**
KMI sS sS 03 32 24.0 +0.5
KMI pmax pmax
comp=Z,24nm,0.9s,mb4.9
KMI pmax pmax
comp=Z,160nm,4.4s
KMI LR LR
comp=N,170nm,13.1s
KMI LR LR
comp=E,170nm,14.6s
KMI LR LR
comp=Z,220nm,18.6s
AS31 Alice Springs 29.99 165 *e*P **P** **03 26 51.4 -0.7**
ASAR Alice Springs 29.99 165 P **P** **03 26 51.4 -0.7**
comp=Z,26nm,0.7s,mb5.1,baz=349,slow=7.8,SNR=264
ASAR PcP PcP 03 29 51.0 -0.4
comp=Z,10nm,0.8s,baz=352,slow=3.0,SNR=6.8
ASAR S **S** **03 31 43.4 +3.1**
comp=Z,4.7nm,0.9s,baz=347,slow=20,SNR=5.1
ASAR ScP ScP 03 33 20.4 -0.9
comp=Z,6.9nm,0.6s,baz=343,slow=2.6,SNR=18
ASAR Alice Springs 29.99 165 P **P** **03 26 51.4 -0.7**
ASAR PcP PcP 03 29 51.0 -0.4
ASAR S **S** **03 31 43.4 +3.1**
ASAR ScP ScP 03 33 20.4 -0.9
ASAR Alice Springs 29.99 165 P **P** **03 26 51.4 -0.7**
ASAR 03 29 51.0
ASAR S **S** **03 31 43.4 +3.1**
ASAR 03 33 20.4
BSI Banda Aceh 30.37 272 P **P** **03 26 56.3 +0.7**
comp=Z,40nm,1.4s,mb5.0
KSAR Wonju Array Be 31.91 3 P **P** **03 27 09.7 +0.9**
KSAR ScP ScP 03 33 26.6 -0.8
KSAR Wonju Array Be 31.91 3 P **P** **03 27 09.7 +0.9**
KSRS Korea Array 31.92 3 P **P** **03 27 09.7 +0.8**
comp=Z,24nm,0.7s,mb5.0,baz=185,slow=10,SNR=48
KSRS ScP ScP 03 33 26.6 -0.8
comp=Z,3.1nm,0.9s,baz=197,slow=3.4,SNR=4.0
KSRS LR LR 03 40 00.0
comp=Z,112nm,19.3s,baz=342,slow=36
CTA Charters Tower 32.37 142 P **P** **03 27 14.2 +1.1**
comp=Z,50nm,0.7s,mb5.3,baz=322,slow=11,SNR=82
CTA ScP ScP 03 33 29.4 +0.1
comp=Z,6.2nm,0.9s,baz=316,slow=6.1,SNR=4.7
CTA Charters Tower 32.37 142 *e*P **P** **03 27 14.1 +1.0**
CTA Charters Tower 32.37 142 P **P** **03 27 14.2 +1.1**
CTA ScP ScP 03 33 29.4 +0.1
CTA Charters Tower 32.37 142 P **P** **03 27 14.2 +1.1**
CTAO Charters Tower 32.37 142 *e*P **P** **03 27 14.2 +1.1**
comp=Z,61nm,0.8s,mb5.4
CTAO Charters Tower 32.37 142 *e*P **P** **03 27 14.2 +1.1**
CTAO pmax pmax
comp=Z,61nm,0.8s,mb5.4
CTAO Charters Tower 32.37 142 P **P** **03 27 13.9 +0.8**
comp=Z,1μmcomp=Z,104nm,0.9s,mb5.6
XAN Xi'an 32.48 333 P **P** **03 27 12.8 -1.1**
XAN pP pP 03 27 39.8 -3.0
XAN pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
XAN pmax pmax
comp=Z,23nm,4.9s
CD2 Chengdu 32.73 323 P **P** **03 27 16.5 +0.4**
CD2 pP pP 03 27 46.8 +1.8
CD2 sP sP 03 28 03.3 +2.9
CD2 PP PP 03 28 31.5 -1.3
CD2 PcP PcP 03 29 58.5 -0.1
CD2 S **S** **03 32 22.0 -0.9**
CD2 sS sS 03 33 15.3 +1.8
CD2 PcS PcS 03 33 42.5 -1.5
CD2 pmax pmax
comp=Z,50nm,0.8s,mb5.3
CD2 pmax pmax
comp=Z,100nm,5.4s
MAJO Matsushiro 32.98 19 *e*P **P** **03 27 18.0 -0.2**
comp=Z,319nm,2.6s,mb5.6
MAJO Matsushiro 32.98 19 *e*P **P** **03 27 18.0 -0.1**
MAJO pmax pmax
comp=Z,319nm,2.6s,mb5.6
MAT Matsushiro 32.98 19 P **P** **03 27 17.7 -0.4**
MAT S **S** **03 32 27.2 +0.6**
MJAR Matsushiro Arr 32.98 19 P **P** **03 27 18.1 0.0**
comp=Z,12nm,0.7s,mb4.7,baz=199,slow=9.7,SNR=32
MJAR ScP ScP 03 33 31.9 +0.7
comp=Z,2.7nm,0.7s,baz=186,slow=4.7,SNR=5.1
MJAR Matsushiro Arr 32.98 19 P **P** **03 27 18.1 0.0**
MJAR ScP ScP 03 33 31.9 +0.7
MJAR Matsushiro Arr 32.98 19 P **P** **03 27 18.1 0.0**
BJI Beijing 35.52 347 P **P** **03 27 41.5 +1.5**
BJI S **S** **03 33 09.0 +3.3**
BJI pmax pmax
comp=Z,12nm,0.5s,mb4.8
BJI pmax pmax
comp=Z,130nm,3.5s
BJI LR LR
comp=N,190nm,34.0s
BJI LR LR
comp=E,200nm,34.4s
BJI LR LR
comp=Z,210nm,30.1s
FORT Forrest 36.08 177⇓ *i*P **P** **03 27 44.3 -0.6**
FORT Forrest 36.08 177 *e*P **P** **03 27 44.3 -0.6**
comp=Z,189nm,0.7s,mb5.8
LZH Lanzhou 36.57 329 ⇑P **P** **03 27 49.0 0.0**
LZH pP pP 03 28 19.5 +1.1
LZH sP sP 03 28 36.0 +2.3
LZH PP PP 03 29 18.5 +3.4
LZH PcP PcP 03 30 09.8 +0.2
LZH S **S** **03 33 21.0 -0.8**
LZH ScP ScP 03 33 42.0 -2.1
LZH sS sS 03 34 15.0 +2.1
LZH pmax pmax
comp=Z,47nm,1.1s,mb5.0
LZH pmax pmax
comp=Z,250nm,5.2s
LZH LR LR
comp=N,410nm,11.0s
LZH LR LR
comp=E,400nm,14.2s
LZH LR LR
comp=Z,560nm,16.1s
HHC Hu-ho-hao-te 37.49 342 *e*P **P** **03 27 57.8 +1.0**
HHC pP pP 03 28 28.8 +2.6
HHC sP sP 03 28 45.3 +3.8
HHC PP PP 03 29 30.8 +5.7
HHC PcP PcP 03 30 13.0 +0.6
HHC S **S** **03 33 36.3 +0.6**
HHC sS sS 03 34 30.5 +3.6
HHC ScS ScS 03 37 53.0 -2.9
HHC pmax pmax
comp=Z,13nm,0.9s,mb4.6
HHC pmax pmax
comp=Z,130nm,7.1s
HHC LR LR
comp=N,220nm,15.4s
HHC LR LR
comp=E,260nm,15.0s
HHC LR LR
comp=Z,230nm,17.1s
KLBR Kellerberrin 37.62 191 *e*P **P** **03 27 56.5 -1.4**
comp=Z,55nm,0.9s,mb5.2
SHL Shillong 38.13 305⇑ *i*P **P** **03 28 04.5 +2.1**
SHL *i*S **S** **03 33 46.0 +0.2**
CN2 Changchun 38.20 360 *e*P **P** **03 28 05.3 +2.6**
CN2 *e*pP pP 03 28 36.3 +4.1
CN2 *e*S **S** **03 33 49.3 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,300nm,14.0s
USRK Ussuriysk Arra 38.98 7 P **P** **03 28 10.2 +1.0**
comp=Z,18nm,0.7s,mb4.8,baz=189,slow=6.9,SNR=26
NWAO Narrogin (SRO) 39.02 191 P **P** **03 28 08.8 -0.8**
comp=Z,46nm,0.6s,mb5.3,baz=13,slow=9.1,SNR=40
NWAO Narrogin (SRO) 39.02 191 *e*P **P** **03 28 08.5 -1.1**
comp=Z,73nm,0.9s,mb5.3
NWAO Narrogin (SRO) 39.02 191 *e*P **P** **03 28 08.5 -1.1**
NWAO pmax pmax
comp=Z,73nm,0.9s
NWAO Narrogin (SRO) 39.02 191 P **P** **03 28 08.8 -0.8**
SNR=5.4
MDJ Mudanjiang 39.16 4 P **P** **03 28 12.3 +1.7**
MDJ pP pP 03 28 39.3 -1.0
MDJ sP sP 03 28 55.0 -0.5
MDJ PP PP 03 29 46.3 +3.1
MDJ PcP PcP 03 30 17.8 +0.3
MDJ S **S** **03 34 05.0 +4.4**
MDJ PcS PcS 03 34 08.0 +0.9
MDJ ScS ScS 03 38 06.0 +0.6
MDJ pmax pmax
comp=Z,40nm,0.7s,mb5.2
MDJ pmax pmax
comp=Z,150nm,3.8s
MDJ Mudanjiang 39.16 4 *e*P **P** **03 28 12.1 +1.5**
comp=Z,40nm,0.8s,mb5.1
EIDS Eidsvold 39.26 142 *e*P **P** **03 28 11.5 -0.3**
comp=Z,78nm,0.8s,mb5.4
BBOO Buckleboo 39.27 166 *e*P **P** **03 28 11.6 -0.1**
comp=Z,3μm,0.6s
BBOO *e*PP PP 03 29 42.1 -2.5
STKA Stephens Creek 40.05 159 P **P** **03 28 18.2 +0.1**
comp=Z,103nm,0.8s,mb5.5,baz=333,slow=7.8,SNR=117
STKA ScP ScP 03 33 57.0 -0.4
comp=Z,5.6nm,1.1s,baz=336,slow=10,SNR=3.0
STKA Stephens Creek 40.05 159 *e*P **P** **03 28 18.1 -0.1**
STKA Stephens Creek 40.05 159 *e*P **P** **03 28 18.3 +0.1**
comp=Z,24nm,0.8s,mb4.9
STKA ScP ScP 03 33 57.0 -0.4
STKA Stephens Creek 40.05 159 *e*P **P** **03 28 18.3 +0.1**
STKA pmax pmax
comp=Z,24nm,0.8s
LSA Lhasa 40.63 311 P **P** **03 28 24.0 +0.9**
LSA Lhasa 40.63 311 *e*P **P** **03 28 24.8 +1.8**
comp=Z,64nm,0.6s,mb5.4
LSA Lhasa 40.63 311 *e*P **P** **03 28 24.8 +1.8**
LSA pmax pmax
comp=Z,64nm,0.6s,mb5.4
GTA Gaotai 41.16 329 *e*P **P** **03 28 26.8 -0.5**
GTA pP pP 03 28 54.8 -2.3
GTA sP sP 03 29 10.5 -1.8
GTA ScP ScP 03 33 59.8 -1.9
GTA S **S** **03 34 28.5 -2.1**
GTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
GTA pmax pmax
comp=Z,90nm,5.7s
GTA LR LR

comp=N,170nm,11.6s
GTA LR LR
comp=E,180nm,16.4s
GTA LR LR
comp=Z,280nm,18.5s
ASAJ Asahikawa 41.25 18 P **P 03 28 28.5 +0.6**
comp=Z,13nm,0.5s,mb4.8,baz=229,slow=10,SNR=11
ASAJ Asahikawa 41.25 18 *e*P **P 03 28 28.6 +0.8**
TAPN Taplejung 42.27 305 *e*P **P 03 28 36.9 +0.4**
comp=Z,247nm,0.6s,mb6.0
TAPN Taplejung 42.27 305 *e*P **P 03 28 36.9 +0.4**
comp=Z,247nm,0.6s,mb6.0
ODAN Odare 42.34 304 *e*P **P 03 28 37.4 +0.3**
comp=Z,380nm,0.7s,mb6.2
ODAN Odare 42.34 304 *e*P **P 03 28 37.4 +0.3**
comp=Z,380nm,0.7s,mb6.1
RAMN Ramite 43.02 304 *e*P **P 03 28 43.1 +0.5**
comp=Z,370nm,0.6s,mb6.2
RAMN Ramite 43.02 304 *e*P **P 03 28 43.1 +0.5**
comp=Z,370nm,0.6s,mb6.2
ARMA Armidale 43.39 147 *e*P **P 03 28 46.1 +0.7**
ARMA Armidale 43.39 147 *e*P **P 03 28 46.2 +0.7**
comp=Z,54nm,0.8s,mb5.2
JIRN Jiri 43.63 305 *e*P **P 03 28 48.1 +0.6**
comp=Z,147nm,0.6s,mb5.8
JIRN Jiri 43.63 305 *e*P **P 03 28 48.1 +0.6**
comp=Z,147nm,0.6s,mb5.8
KLR Kul'dur 43.92 6 *e*P **P 03 28 44.0 -5.4**
GUN Gumba 43.99 305 *e*P **P 03 28 50.8 +0.5**
comp=Z,596nm,0.6s
GUN Gumba 43.99 305 *e*P **P 03 28 50.8 +0.5**
comp=Z,596nm,0.6s
PKI Pulchoki 44.24 304 *e*P **P 03 28 52.2 -0.1**
comp=Z,101nm,0.6s,mb5.6
PKI Pulchoki 44.24 304 *e*P **P 03 28 52.2 -0.1**
comp=Z,101nm,0.6s,mb5.6
PKI Pulchoki 44.24 304 *e*P **P 03 28 52.2 -0.1**
KKN Kakani 44.43 305 *e*P **P 03 28 53.8 0.0**
comp=Z,121nm,0.6s,mb5.7
KKN Kakani 44.43 305 *e*P **P 03 28 53.8 0.0**
comp=Z,121nm,0.6s,mb5.7
KKN Kakani 44.43 305 *e*P **P 03 28 53.8 0.0**
DMN Daman 44.50 304 *e*P **P 03 28 54.5 +0.1**
comp=Z,146nm,0.7s,mb5.7
DMN Daman 44.50 304 *e*P **P 03 28 54.5 +0.1**
comp=Z,146nm,0.7s,mb5.7
GKN Gorkha 45.04 305 *e*P **P 03 28 58.4 -0.2**
comp=Z,105nm,0.6s,mb5.6
GKN Gorkha 45.04 305 *e*P **P 03 28 58.4 -0.2**
comp=Z,105nm,0.6s,mb5.6
ULN Ulaanbaatar 45.22 342 *e*P **P 03 28 58.8 -0.8**
comp=Z,14nm,1.0s,mb4.5
ULN *e*ScP ScP 03 34 16.8 -1.1
ULN Ulaanbaatar 45.22 342 *e*P **P 03 28 58.8 -0.9**
ULN pmax pmax
comp=Z,14nm,1.0s,mb4.5
ULN Ulaanbaatar 45.22 342 P **P 03 29 02.0 +2.3**
comp=Z,21nm,1.4s,mb4.6
SONM Songino Array 45.39 342 P **P 03 29 00.3 -0.8**
comp=Z,2.4nm,0.6s,mb4.0,baz=158,slow=8.2,SNR=12
SONM ScP ScP 03 34 17.0 -1.6
comp=Z,3.3nm,0.9s,baz=147,slow=3.8,SNR=7.4
SONM LR LR 03 50 17.5
comp=Z,178nm,18.9s,baz=177,slow=39
SONM Songino Array 45.39 342 P **P 03 29 00.3 -0.8**
SONM ScP ScP 03 34 17.0 -1.6
SONM Songino Array 45.39 342 P **P 03 29 00.3 -0.8**
KOLN Koldanda 45.80 304 *e*P **P 03 29 05.1 +0.4**
comp=Z,377nm,0.6s,mb6.2
KOLN Koldanda 45.80 304 *e*P **P 03 29 05.1 +0.4**
comp=Z,377nm,0.6s,mb6.2
DANN Dangsing 45.88 305 *e*P **P 03 29 05.6 +0.3**
comp=Z,488nm,0.6s,mb6.3
DANN Dangsing 45.88 305 *e*P **P 03 29 05.6 +0.3**
comp=Z,488nm,0.6s,mb6.3
CAN Canberra 46.04 153 *e*P **P 03 29 07.8 +1.4**
comp=Z,98nm,0.8s,mb5.5
CAN Canberra 46.04 153 *e*P **P 03 29 07.8 +1.4**
CAN pmax pmax
comp=Z,98nm,0.8s,mb5.5
CNB Canberra Magne 46.20 153 *e*P **P 03 29 08.7 +1.1**
TOO Toolangi 46.56 158 *e*P **P 03 29 11.7 +1.4**
HYB Hyderabad 47.69 289 *i* P **P 03 29 18.0 -1.5**
HYB *e*pP pP 03 29 48.0 -2.1
NOUC Port Laguerre 48.17 126 *e*P **P 03 29 23.5 +0.3**
MOY Mondy 50.47 340 *e*P **P 03 29 40.4 +0.3**
WMQ Urumqi 50.80 325 P **P 03 29 44.0 +1.3**
WMQ pP pP 03 30 16.5 +2.8
WMQ sP sP 03 30 32.3 +3.8
WMQ PP PP 03 31 43.3 +3.0
WMQ S **S 03 36 47.5 -0.9**
WMQ SS SS 03 40 21.8 -2.9
WMQ pmax pmax
comp=Z,16nm,0.8s,mb4.7
WMQ pmax pmax
comp=Z,200nm,4.6s
WMQ LR LR
comp=N,190nm,20.8s
WMQ LR LR
comp=E,180nm,23.6s
WMQ LR LR
comp=Z,150nm,26.0s
DDI Dehra Dun 51.24 305 *ex* **P 03 29 44.0 -2.2**
CLNS Chul'man 51.26 359 *e*P **P 03 29 46.6 +0.7**
CLNS *e**PP pP 03 30 20.0 +3.1
CLNS *e* 03 30 57.7
CLNS *e* 03 31 44.3
CLNS *e*S **S 03 36 56.0 +1.8**
CLNS *e**SS sS 03 37 55.6 +7.8
CLNS *e* 03 39 21.5
CLNS pmax pmax
comp=Z,32nm,0.7s,mb5.1
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=N,15nm,0.7s
CLNS pmax pmax
comp=Z,6.0nm,1.3s,mb4.1
CLNS pmax pmax
comp=N,10.0nm,1.3s
CLNS pmax pmax
comp=E,9.0nm,1.2s
CLNS smax
comp=E,103nm,14.1s
CLNS smax
comp=N,119nm,14.4s
BOD Bodaibo 53.05 352 *e*P **P 03 29 58.1 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
PETK Petropavlovsk- 54.21 23 P **P 03 30 09.3 +1.6**
comp=Z,12nm,0.7s,mb4.8,baz=192,slow=3.9,SNR=19
PETK LR LR 03 49 44.7
comp=Z,76nm,21.2s,baz=335,slow=32
PETK Petropavlovsk- 54.21 23 P **P 03 30 09.3 +1.6**
PETK Petropavlovsk- 54.21 23 P **P 03 30 09.3 +1.6**
MK31 Makanchi Array 55.63 325 *e*P **P 03 30 17.0 -1.0**
MK31 *e*ScP ScP 03 34 59.2 -3.4
MK31 Makanchi Array 55.63 325 *ce*P **P 03 30 17.0 -1.0**
MK31 pmax pmax
comp=Z,19nm,0.4s,mb5.3
MKAR Makanchi Array 55.63 325 P **P 03 30 16.9 -1.1**
comp=Z,29nm,0.4s,mb5.4,baz=120,slow=7.4,SNR=383
MKAR ScP ScP 03 34 59.2 -3.4
comp=Z,5.5nm,0.8s,baz=115,slow=5.5,SNR=9.0
MKAR LR LR 03 52 55.3
comp=Z,76nm,21.0s,baz=126,slow=35
MKAR Makanchi Array 55.63 325 P **P 03 30 16.9 -1.1**
MKAR ScP ScP 03 34 59.2 -3.4
MKAR Makanchi Array 55.63 325 *ce*P **P 03 30 16.8 -1.2**
MKAR pmax pmax
comp=Z,29nm,0.4s
KSH Kashi 56.19 315 P **P 03 30 24.0 +1.9**
KSH pP pP 03 30 56.8 +3.2
KSH sP sP 03 31 12.5 +4.1
KSH PcP PcP 03 31 19.0 +0.6
KSH PP PP 03 32 32.5 +3.7
KSH ScP ScP 03 35 04.8 -0.5
KSH PcS PcS 03 35 18.8 -0.1
KSH S **S 03 38 00.8 -0.5**
KSH sS sS 03 38 58.0 +2.3
KSH ScS ScS 03 39 55.5 -2.9
KSH pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
KSH pmax pmax
comp=Z,75nm,3.5s
KSH LR LR
comp=N,140nm,4.3s
KSH LR LR
comp=E,190nm,4.4s
KSH LR LR
comp=Z,110nm,5.4s
MSVF Nonsavu 56.46 115 *e*P **P 03 30 26.2 +1.8**
comp=Z,53nm,1.1s,mb5.3
MSVF Nonsavu 56.46 115 *e*P **P 03 30 26.2 +1.8**
MSVF pmax pmax
comp=Z,53nm,1.1s,mb5.3
YAK Yakutsk 56.54 2 *e*P **P 03 30 24.4 +0.3**
comp=Z,99nm,0.8s,mb5.7
YAK Yakutsk 56.54 2 *e*P **P 03 30 24.3 +0.1**
YAK *e**PP pP 03 30 56.6 +0.9
YAK *e* 03 31 20.6
YAK *e* 03 32 34.4
YAK *e*S **S 03 38 05.1 0.0**
YAK *e* 03 39 54.6
YAK pmax pmax
comp=Z,63nm,0.8s,mb5.5
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,13nm,0.5s,mb5.0
YAK pmax pmax
comp=N,5.0nm,0.3s
YAK pmax pmax
comp=E,6.0nm,0.6s
YAK smax
comp=N,166nm,3.7s
YAK smax
comp=E,177nm,3.5s
TKM2 Tokmak 2 57.86 318 *e*P **P 03 30 33.7 -0.1**
comp=E,14nm,1.1s,mb4.7
TKM2 Tokmak 2 57.86 318 *e*P **P 03 30 33.7 -0.1**
TKM2 pmax pmax
comp=Z,14nm,1.1s,mb4.7
AAK Ala-Archa 58.48 317 *e*P **P 03 30 38.6 +0.5**
comp=Z,220nm,2.0s,mb5.6
AAK Ala-Archa 58.48 317 *c i*P **P 03 30 38.8 +0.7**
AAK pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
ZAA0 Zalesovo Array 58.65 333 *e*P **P 03 30 37.3 -1.8**
ZALV Zalesovo Beam 58.65 333 P **P 03 30 37.3 -1.8**
comp=Z,7.1nm,0.4s,mb4.8,baz=119,slow=6.7,SNR=55
ZALV LR LR 03 56 28.4
comp=Z,70nm,20.6s,baz=80,slow=36
ZALV PKP2bc 04 00 23.3
comp=Z,0.4nm,0.3s,baz=285,slow=2.3,SNR=4.0
ZALV Zalesovo Beam 58.65 333 P **P 03 30 37.3 -1.8**
ZALV ⇑*e* 04 00 23.3
ZALV Zalesovo Beam 58.65 333 P **P 03 30 37.3 -1.8**
EKS2 Erkin-Say 58.97 317 *e*P **P 03 30 42.1 +0.6**
comp=Z,9.4nm,0.8s,mb4.7
EKS2 Erkin-Say 58.97 317 *e*P **P 03 30 42.1 +0.5**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
KBL Kabul 59.76 307 *e*P **P 03 30 47.2 0.0**
comp=Z,17nm,0.9s,mb4.9
KBL Kabul 59.76 307 *e*P **P 03 30 47.2 +0.1**
KBL pmax pmax
comp=Z,17nm,0.9s,mb4.9
KURK Kurchatov 59.81 327 P **P 03 30 45.8 -1.4**
comp=Z,20nm,0.5s,mb5.2,baz=128,slow=6.4,SNR=175
KURK Kurchatov 59.81 327 *e*P **P 03 30 45.3 -1.9**
comp=Z,37nm,0.5s,mb5.5
KURK Kurchatov 59.81 327 *c i*P **P 03 30 45.6 -1.5**
KURK pmax pmax
comp=Z,24nm,0.6s,mb5.2
KURK Kurchatov 59.81 327 P **P 03 30 45.9 -1.2**
SNR=6.3
KURK Kurchatov 59.81 327 P **P 03 30 45.6 -1.5**
comp=Z,441nm,0.5s,SNR=20
NVS Novosibirsk 59.94 333 *e*P **P 03 30 45.8 -2.1**
SEY Seymchan 60.59 14⇓*e*P **P 03 30 54.6 +2.4**
KK31 Karatay Array 61.36 317 *ce*P **P 03 30 57.0 -0.8**
KK31 pmax pmax
comp=Z,11nm,0.6s,mb4.9
KKAR Karatay Array 61.36 317 *e*P **P 03 30 56.9 -1.0**
KKAR Karatay Array 61.36 317 *e*P **P 03 30 56.9 -0.9**
RPZ Rata Peaks 63.68 145 *e*P **P 03 31 13.4 +0.3**
comp=Z,28nm,0.6s,mb5.2,baz=292,slow=2.7,SNR=16
RPZ Rata Peaks 63.68 145 *e*P **P 03 31 13.5 +0.4**
comp=Z,34nm,0.8s,mb5.2
ODZ Otahua Downs 64.28 146 *e*P **P 03 31 18.0 +0.9**
comp=Z,106nm,0.8s,mb5.7
URZ Urewera 64.41 137 P **P 03 31 18.8 +0.7**
comp=Z,18nm,0.8s,mb4.9,baz=54,slow=19,SNR=7.7
URZ Urewera 64.41 137 P **P 03 31 18.8 +0.7**
BVA0 Borovoye Array 65.39 327 *i* P **P 03 31 22.7 -1.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BVAR Borovoye Array 65.39 327 P **P 03 31 23.4 -0.8**
comp=Z,4.7nm,0.5s,mb4.6,baz=98,slow=3.2,SNR=32
BVAR Borovoye Array 65.39 327 P **P 03 31 23.4 -0.8**
BVAR Borovoye Array 65.39 327 P **P 03 31 23.4 -0.7**
BRVK Borovoye 65.46 327 *e*P **P 03 31 23.5 -1.1**
comp=Z,22nm,0.9s,mb5.0
BRVK Borovoye 65.46 327 *ce*P **P 03 31 23.7 -0.9**
BRVK pmax pmax
comp=Z,22nm,1.2s,mb4.9
BRVK Borovoye 65.46 327 P **P 03 31 23.0 -1.6**
comp=Z,123nm,0.8s,mb5.8,SNR=5.4
BRVK Borovoye 65.46 327 P **P 03 31 23.1 -1.5**
SNR=5.6
BILL Bilibino 68.15 15 *e*P **P 03 31 41.1 -0.2**
comp=Z,5.6nm,0.8s,mb4.3
BILL Bilibino 68.15 15⇑*e*P **P 03 31 41.4 +0.1**
BILL *e**PP pP 03 32 20.3 +6.4
BILL *e* 03 34 15.0
BILL pmax pmax
comp=Z,14nm,1.7s,mb4.4
AB31 Akbulak array 70.25 321 *ce*P **P 03 31 53.6 -1.1**
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
ABKAR Akbulak array 70.25 321 *e*P **P 03 31 53.4 -1.3**
comp=Z,8.2nm,0.6s,mb4.6
AKTO Aktyubinsk 71.75 321 P **P 03 32 02.7 -1.0**
comp=Z,16nm,0.7s,mb4.9,baz=101,slow=9.0,SNR=66
AKTO Aktyubinsk 71.75 321 P **P 03 32 02.7 -1.0**
AKTO Aktyubinsk 71.75 321 *i* P **P 03 32 03.4 -0.3**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
SVE Sverdlovsk 72.03 328⇑*e*P **P 03 32 06.3 +1.1**
SVE *e*PPP 03 36 36.0
SVE *e*S S 03 41 08.9 -7.0
SVE *e* 03 41 48.8
SVE pmax pmax
comp=Z,21nm,0.9s,mb4.9
CASY Casey 72.40 186 *e*P **P 03 32 07.0 -0.2**
ARU Arti 73.01 328 *e*P **P 03 32 09.4 -1.6**
comp=Z,16nm,0.7s,mb4.8
ARU Arti 73.01 328 *c i*P **P 03 32 09.9 -1.1**
ARU *e* 03 34 52.4
ARU S S 03 41 26.5 -0.6
ARU pmax pmax
comp=Z,13nm,0.6s,mb4.8
ARU Arti 73.01 328 P **P 03 32 09.3 -1.7**
comp=Z,137nm,0.6s,mb5.9,SNR=5.6
GAMB Gambell 73.22 24 *e*P **P 03 32 12.9 +0.8**
comp=Z,13nm,0.9s,mb4.7
MIR Mirnyy 75.61 193⇓*i*P **P 03 32 25.2 -0.6**
MIR pmax pmax
comp=Z,103nm,1.0s,mb5.4
QRN Al-Qurain 76.79 298 *e*P **P 03 32 30.9 -2.5**
MIB Mutribah 77.32 299 *e*P **P 03 32 33.4 -2.9**
MIB AMb AMB 03 32 35.7
comp=Z,45nm,0.8s,mb5.2
NAY Al-Naaiem 77.39 299 *e*P **P 03 32 33.5 -3.3**
NAY AMb AMB 03 32 35.6
comp=Z,17nm,0.9s,mb4.7
TTA Tatalina 79.80 27 *e*P **P 03 32 50.6 +1.4**
comp=Z,17nm,1.0s,mb4.6
TTA Tatalina 79.80 27 *e*P **P 03 32 50.6 +1.4**
TTA pmax pmax
comp=Z,17nm,1.0s,mb4.6
BHD Baghdad 79.88 303 *ex* **P 03 32 50.5 +0.2**
BHD *ex* x 03 42 45.0
ZEI Tsey 80.39 312 *e*P **P 03 32 50.0 -2.8**
ZEI pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
OHAK Old Harbor 80.52 33 *e*P **P 03 32 54.3 +1.1**
comp=Z,30nm,0.8s,mb5.0
KDAK Kodiak Island 80.94 32 P **P 03 32 56.2 +0.8**
comp=Z,24nm,0.8s,mb4.9,baz=248,slow=6.2,SNR=14
KDAK Kodiak Island 80.94 32 *i* P **P 03 32 56.5 +1.1**
OPO Ambohidratompo 81.00 250 P **P 03 32 54.4 -2.1**
comp=Z,1.6nm,0.3s,mb4.1,baz=89,slow=6.4,SNR=7.5
OPO Ambohidratompo 81.00 250 P **P 03 32 54.4 -2.1**
RSO Redoubt South 81.07 30 *e*P **P 03 32 56.5 +0.5**
comp=Z,49nm,0.7s,mb5.2
PPLA Purkeypile 81.54 27 *e*P **P 03 32 59.3 +0.8**
comp=Z,15nm,0.9s,mb4.6
TRF Thorofare Moun 82.43 27 *e*P **P 03 33 03.8 +0.7**
comp=Z,32nm,1.0s,mb4.9
TRF *e* pP 03 33 38.4 +1.5
RC01 Rabbit Creek A 82.58 29 *e*P **P 03 33 04.2 +0.3**
comp=Z,34nm,0.8s,mb5.1
COLD Coldfoot 82.68 23 *e*P **P 03 33 05.8 +1.4**
comp=Z,21nm,0.8s,mb4.9
COLD *e* pP 03 33 35.9 -2.1
SEW Seward 82.69 30 *e*P **P 03 33 04.8 +0.3**
comp=Z,35nm,1.0s,mb5.0
PMR Palmer 82.89 29 *e*P **P 03 33 05.4 -0.1**
comp=Z,28nm,1.0s,mb4.9
PMR *e* pP 03 33 40.5 +1.3
PMR Palmer 82.89 29 *e*P **P 03 33 05.4 -0.1**
PMR *e* pP 03 33 40.6 +1.3
PMR pmax pmax
comp=Z,28nm,1.0s,mb5.0
MCK McKinley 83.05 27 *e*P **P 03 33 06.6 +0.3**
comp=Z,56nm,1.0s,mb5.2
MCK *e* pP 03 33 41.8 +1.7
MCK McKinley 83.05 27 *e*P **P 03 33 06.6 +0.3**
MCK *e* pP 03 33 41.8 +1.7
MCK pmax pmax
comp=Z,56nm,1.0s,mb5.2
SML Sawmill 83.28 28 *e*P **P 03 33 08.3 +0.8**
comp=Z,14nm,1.0s,mb4.6
SML *e* pP 03 33 43.2 +1.9
SML Sawmill 83.28 28 *e*P **P 03 33 08.3 +0.8**
SML *e* pP 03 33 43.2 +1.9
SML pmax pmax
comp=Z,14nm,1.0s,mb4.7
KLMR Klimovskoe 83.47 331 *e*P **P 03 33 05.5 -3.0**
KLMR pmax pmax
comp=Z,42nm,1.3s,mb5.0
COLA College 83.55 25 *e*P **P 03 33 08.8 0.0**
comp=Z,15nm,0.8s,mb4.8
COLA College 83.55 25 *e*P **P 03 33 08.8 0.0**
COLA pmax pmax
comp=Z,15nm,0.8s,mb4.8
VSR Storozhevoye 83.69 321 *e*P **P 03 33 08.3 -1.5**
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
VSR pmax pmax
comp=N,1.0nm,0.4s
ILAR Eielson Array 83.96 25 P **P 03 33 09.8 -1.1**
comp=N,9.7nm,0.8s,mb4.6,baz=244,slow=4.7,SNR=99
ILAR PKKP PKKPbc 03 51 23.8 -4.3
comp=N,0.6nm,0.9s,baz=111,slow=2.3,SNR=5.1
ILAR Eielson Array 83.96 25 P **P 03 33 09.8 -1.1**
ILAR PKKP PKKPbc 03 51 23.8 -4.3
ILAR Eielson Array 83.96 25 P **P 03 33 09.9 -1.0**
DIV Divide 84.51 29 *e*P **P 03 33 15.2 +1.4**
comp=N,19nm,0.9s,mb4.8
DIV *e* pP 03 33 47.8 +0.2
PAX Paxson 84.61 27 *e*P **P 03 33 15.3 +1.1**
comp=N,31nm,1.4s,mb4.8
PAX Paxson 84.61 27 *e*P **P 03 33 15.3 +1.1**
PAX pmax pmax
comp=Z,31nm,1.4s,mb4.8
VNDA Vanda 85.23 173 *e*P **P 03 33 16.4 -0.6**
comp=Z,18nm,1.1s,mb4.7
VNDA Vanda 85.23 173 *e*P **P 03 33 16.5 -0.5**
VNDA pmax pmax
comp=Z,18nm,1.1s
ASF Jabal al Asfar 86.22 302 P **P 03 33 22.2 -0.7**
comp=Z,2.2nm,0.5s,mb4.1,baz=273,slow=5.5,SNR=5.7
ASF Jabal al Asfar 86.22 302 P **P 03 33 22.2 -0.7**
ASF Jabal al Asfar 86.22 302 P **P 03 33 22.2 -0.7**
EGAK Eagle 86.41 25 *e*P **P 03 33 23.2 +0.1**
comp=Z,7.7nm,0.6s,mb4.6
JOF Joensuu 87.25 333 *e*P **P 03 33 25.1 -2.1**
JOF pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
JOF Joensuu 87.25 333 *ep* **P 03 33 25.1 -2.1**
comp=Z,6.1nm,0.4s,mb4.8
DAWY Dawson 87.25 26 *e*P **P 03 33 27.9 +0.7**
MMAI Mount Meron Ar 87.41 303 P **P 03 33 28.1 -0.5**
comp=Z,1.2nm,0.4s,mb4.1,baz=68,slow=9.1,SNR=6.6
MMAI Mount Meron Ar 87.41 303 P **P 03 33 28.1 -0.5**
KEV Kevo 87.98 340 *e*P **P 03 33 30.0 -0.6**
KEV Kevo 87.98 340 *ep* **P 03 33 30.0 -0.6**
comp=Z,0.6nm,0.4s
BR131 Keskin Array S 88.23 310 *e*P **P 03 33 30.5 -1.9**
comp=Z,4.0nm,0.7s,mb4.4
BRTR Keskin Array B 88.23 310 P **P 03 33 29.2 -3.2**
comp=Z,3.0nm,0.5s,mb4.4,baz=131,slow=4.1,SNR=32
BRTR Keskin Array B 88.23 310 P **P 03 33 29.2 -3.2**
BRTR Keskin Array B 88.23 310 P **P 03 33 29.2 -3.2**
ARCES ARCESS Array B 88.53 340 P **P 03 33 30.8 -2.4**
comp=Z,3.9nm,0.7s,mb4.5,baz=64,slow=5.5,SNR=13
ARCES LR LR 04 17 06.4
comp=Z,98nm,18.6s,baz=204,slow=38
ARCES ARCESS Array B 88.53 340 P **P 03 33 30.8 -2.4**
ARCES ARCESS Array B 88.53 340 P **P 03 33 30.8 -2.4**
INK Inuvik 88.92 21 P **P 03 33 34.4 -0.6**
comp=Z,6.1nm,1.0s,mb4.5,baz=278,slow=4.6,SNR=8.5
INK Inuvik 88.92 21 *e*P **P 03 33 34.8 -0.2**
INK Inuvik 88.92 21 *e*P **P 03 33 34.8 -0.2**
KAF Kangasniemi 89.66 332 *e*P **P 03 33 34.7 -3.9**
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
KAF Kangasniemi 89.66 332 *ep* **P 03 33 34.7 -3.9**
comp=Z,3.3nm,0.3s,mb4.7
FINES FINESS Array B 89.90 332 P **P 03 33 37.3 -2.4**
comp=Z,1.7nm,0.4s,mb4.3,baz=57,slow=7.0,SNR=27
FINES LR LR 04 17 54.6
comp=Z,116nm,20.3s,baz=66,slow=38
FINES FINESS Array B 89.90 332 P **P 03 33 37.3 -2.4**
FINES FINESS Array B 89.90 332 P **P 03 33 37.3 -2.4**
AKASG Malin Array Be 89.99 321 P **P 03 33 39.1 -1.3**
comp=Z,0.4nm,0.4s,baz=66,slow=5.2,SNR=4.1
AKASG Malin Array Be 89.99 321 P **P 03 33 39.1 -1.3**
AKASG Malin Array Be 89.99 321 *ce*P **P 03 33 40.0 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KIEV Kiev 90.00 321 *i* P **P 03 33 41.8 +1.3**
BUR08 Bucovina Ar. S 93.12 318 *e*P **P 03 33 53.3 -1.7**
SYO Syowa Base 93.68 201⇑*e*P **P 03 33 55.0 -2.0**
CRVS Cervenica-Dubn 95.28 320 *e*P **P 03 34 06.0 +1.2**
CRVS Cervenica-Dubn 95.28 320 *e*P **P 03 34 06.0 +1.2**
QSPA South Pole Qui 95.34 180 P **P 03 34 04.3 -0.2**
comp=Z,9.4nm,0.9s,mb5.0,baz=336,slow=2.1,SNR=14
QSPA PP PP 03 37 56.5 +0.1
comp=Z,1.4nm,0.3s,baz=46,slow=2.8,SNR=3.5
QSPA South Pole Qui 95.34 180 P **P 03 34 04.3 -0.2**
QSPA PP PP 03 37 56.5 +0.1
NB2 NORSAR Subarra 96.85 334 P **P 03 34 08.8 -2.9**
comp=Z,1.0nm,0.6s,mb4.3,baz=66,slow=4.6
NOA NORSAR Array B 96.85 334 P **P 03 34 08.7 -3.0**
comp=Z,1.1nm,0.6s,mb4.3,baz=66,slow=4.5,SNR=4.5
NOA LR LR 04 22 22.4
comp=Z,47nm,18.9s,baz=120,slow=38
NOA NORSAR Array B 96.85 334 P **P 03 34 08.7 -3.0**
NOA NORSAR Array B 96.85 334 P **P 03 34 08.7 -3.0**
YKA Yellowknife Ar 98.33 24 P **P 03 34 18.4 +0.1**
comp=Z,2.5nm,0.8s,mb4.7,baz=300,slow=4.7,SNR=37
YKA PP PP 03 38 19.8 +0.4
comp=Z,0.2nm,0.4s,baz=295,slow=7.4,SNR=4.0
YKA PKKPbc PKKPbc 03 50 46.9 -4.6
comp=Z,1.5nm,0.7s,baz=114,slow=2.3,SNR=18
YKA Yellowknife Ar 98.33 24 P **P 03 34 18.4 +0.1**
YKA PP PP 03 38 19.8 +0.4
YKA PKKPbc PKKPbc 03 50 47.0 -4.6
YKA Yellowknife Ar 98.33 24 P **P 03 34 18.4 +0.1**
YKA 03 38 19.8
NVAR Mina Array Bea 106.44 47 Pdiff Pdif 03 34 56.2 +1.7
comp=Z,0.9nm,0.8s,baz=267,slow=5.4,SNR=6.9
NVAR PKiKP PKiKP 03 39 06.2 +0.8
comp=Z,0.8nm,0.7s,baz=238,slow=1.6,SNR=7.9
NVAR PKKPbc PKKPbc 03 50 25.9 -1.0
comp=Z,1.0nm,0.7s,baz=136,slow=3.6,SNR=10
NVAR Mina Array Bea 106.44 47 Pdif Pdif 03 34 56.2 +1.7
NVAR PKiKP PKiKP 03 39 06.2 +0.8

NVAR PKKPbc PKKPbc 03 50 25.9 -1.0
PDAR Pinedale Array 110.67 40 PKiKP PKiKP 03 39 14.1 +0.9
comp=Z,0.2nm,0.3s,baz=329,slow=1.7,SNR=3.7
PDAR PKKPbc PKKPbc 03 50 09.5 -4.2
comp=Z,0.9nm,0.8s,baz=125,slow=6.2,SNR=6.5
PDAR PKKP PKKPbc 03 50 20.8 +7.0
comp=Z,2.4nm,0.7s,baz=121,slow=7.1,SNR=16
PDAR Pinedale Array 110.67 40 PKiKP PKiKP 03 39 14.1 +0.9
PDAR PKKPbc PKKPbc 03 50 09.5 -4.2
PDAR PKKP PKKPbc 03 50 20.8 +7.0
ULM Lac du Bonnet 113.90 28 PKP PKiKP 03 39 18.0 -1.1
comp=Z,1.8nm,0.7s,baz=257,slow=5.1,SNR=3.8
ULM PKKP PKKPdf 03 50 22.3 -2.2
comp=Z,2.8nm,0.9s,baz=72,slow=7.8,SNR=3.4
ULM Lac du Bonnet 113.90 28 PKP PKiKP 03 39 18.0 -1.1
ULM PKKP PKKPdf 03 50 22.3 -2.2
ULM Lac du Bonnet 113.90 28 PKIKP PKiKP 03 39 18.0 -1.1
SCHQ Schefferville 119.03 8 PKP PKPdf 03 39 28.2 -0.6
comp=Z,1.1nm,0.4s,baz=124,slow=19,SNR=8.8
SCHQ Schefferville 119.03 8 PKP PKPdf 03 39 28.2 -0.6
TXAR Lajitas Array 121.26 51 PKP PKPdf 03 39 34.5 +0.5
comp=Z,1.9nm,0.7s,baz=250,slow=1.1,SNR=30
TXAR SKP 03 42 56.4
comp=Z,0.8nm,0.9s,baz=343,slow=2.6,SNR=4.0
TXAR PKKPbc PKKPbc 03 49 34.5 -1.9
comp=Z,1.1nm,0.7s,baz=129,slow=6.9,SNR=16
TXAR Lajitas Array 121.26 51 PKP PKPdf 03 39 34.5 +0.5
TXAR SKP 03 42 56.4
TXAR PKKPbc PKKPbc 03 49 34.5 -1.9
TXAR Lajitas Array 121.26 51 PKIKP PKPdf 03 39 34.5 +0.6
TORD Torodi Ar. Bea 121.51 289 PKP PKPdf 03 39 33.0 -1.8
comp=Z,6.1nm,0.7s,baz=55,slow=1.6,SNR=48
TORD SKP 03 42 55.2
comp=Z,3.6nm,0.8s,baz=60,slow=1.5,SNR=10
TORD PKKPbc PKKPbc 03 49 36.1 +1.0
comp=Z,2.7nm,0.9s,baz=277,slow=3.6,SNR=14
TORD Torodi Ar. Bea 121.51 289 PKP PKPdf 03 39 33.0 -1.8
TORD SKP 03 42 55.2
TORD PKKPbc PKKPbc 03 49 36.1 +1.0
JCT Junction City 123.62 48 *e*PKPdf PKPdf 03 39 38.8 +0.3
JCT Junction City 123.62 48 *e*PKIKP PKPdf 03 39 38.8 +0.3
DBIC Dimbokro 129.31 283 PKP PKPdf 03 39 49.0 -0.8
comp=Z,5.2nm,0.9s,baz=77,slow=3.7,SNR=6.8
DBIC SKPbc 03 42 56.1
comp=Z,6.5nm,0.7s,baz=39,slow=3.3,SNR=12
DBIC Dimbokro 129.31 283 PKP PKPdf 03 39 49.0 -0.8
DBIC SKPbc 03 42 56.1
DBIC Dimbokro 129.31 283 PKIKP PKPdf 03 39 49.0 -0.8
PLCA Paso Flores 141.92 160 PKhKP PKPpre 03 40 07.0
comp=Z,3.0nm,0.8s,baz=187,slow=7.0,SNR=5.5
PLCA PKP PKPdf 03 40 13.3 +0.9
comp=Z,5.5nm,0.8s,baz=232,slow=2.2,SNR=10
PLCA SKPbc SKPbc 03 43 38.0 +0.3
comp=Z,1.3nm,0.5s,baz=196,slow=7.6,SNR=3.9
PLCA Paso Flores 141.92 160 PKPpre PKPpre 03 40 07.0
PLCA PKP PKPdf 03 40 13.3 +0.9
PLCA SKPbc SKPbc 03 43 38.0 +0.3
PLCA Paso Flores 141.92 160 PKIKP PKPpre 03 40 07.0
TRQA Tornquist 146.77 169 *e*PKPbc PKPbc 03 40 22.4 -0.4
LCO Las Campanas 151.83 148 *e*PKPdf PKPdf 03 40 30.2 +1.0
LCO *e*PKPbc PKPbc 03 40 36.4 +0.7
ROSC El Rosal 157.44 63 PKP PKPdf 03 40 38.1 +0.6
comp=Z,6.7nm,0.7s,baz=97,slow=24,SNR=5.9
ROSC El Rosal 157.44 63 PKP PKPdf 03 40 38.1 +0.6
SDV Santo Domingo 158.29 49 *e*PKPdf PKPdf 03 40 38.7 +0.2
SDV *e*PKPab PKPab 03 41 13.8 +0.6
CPUP Villa Florida 159.01 172 PKP PKPdf 03 40 38.9 -0.1
comp=Z,3.1nm,0.8s,baz=66,slow=1.5,SNR=9.8
CPUP PKPab PKPab 03 41 16.1 +0.3
comp=Z,7.0nm,0.8s,baz=167,slow=4.4,SNR=12
CPUP Villa Florida 159.01 172 PKP PKPdf 03 40 38.9 -0.1
CPUP PKPab PKPab 03 41 16.1 +0.3
CPUP Villa Florida 159.01 172 PKIKP PKPdf 03 40 38.9 -0.1
CPUP 03 41 16.1
SAML Samuel 170.43 112 *e*PKPdf PKPdf 03 40 49.0 -0.1
SAML *e*PKPab PKPab 03 42 07.9 +1.2

IDC 30 03:35:39.5±1.3, 37°.68S×50°.93E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=47.5km s-min=35.4km az=98.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**52.51**	**180**	P	P	03 44 53.9	+0.2
	1.3nm,0.4s,baz=280,slow=6.1,SNR=3.6						
ASAR	**Alice Springs**	**70.62**	**105**	P	P	03 46 56.9	0.0
	1.2nm,1.1s,baz=231,slow=5.8,SNR=8.8						
CMAR	**Chiang Mai Arr**	**71.81**	**48**	P	P	03 47 03.7	-0.2
	0.6nm,0.3s,baz=225,slow=6.3,SNR=4.3						
WRA	**Warramunga Arr**	**73.02**	**102**	P	P	03 47 11.9	+0.5
	0.9nm,0.9s,baz=230,slow=5.4,SNR=3.8						
ILAR	**Eielson Array**	**150.89**	**16**	PKPbc	PKPbc	03 55 32.9	0.0
	1.2nm,0.9s,baz=316,slow=3.7,SNR=10						
YKA	**Yellowknife Ar**	**153.61**	**345**	PKPbc	PKPbc	03 55 39.1	0.0
	0.1nm,0.5s,baz=12,slow=2.8,SNR=5.1						

IDC 30 03:41:24.4±1.0, 37°.37S×51°.28E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/17, mbtmp4.1/6, MS3.4/2, Ms1 3.4/2, ms1mx3.0/22, Error ellipse: s-maj=53.8km s-min=23.8km az=17.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.07**	**348**	LR	LR	03 51 48.4	
	comp=Z,134nm,19.3s,baz=176,slow=33						
DBIC	**Dimbokro**	**68.21**	**297**	P	P	03 52 27.2	+0.3
	2.7nm,0.9s,baz=109,slow=2.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**68.49**	**307**	P	P	03 52 28.8	+0.1
	2.1nm,1.1s,baz=124,slow=4.5,SNR=7.3						
ASAR	**Alice Springs**	**70.43**	**105**	P	P	03 52 40.7	0.0
	0.7nm,0.7s,baz=230,slow=6.0,SNR=9.4						
CMAR	**Chiang Mai Arr**	**71.39**	**48**	P	P	03 52 46.7	+0.3
	1.0nm,0.7s,baz=236,slow=7.3,SNR=6.1						
WRA	**Warramunga Arr**	**72.81**	**102**	P	P	03 52 55.4	+0.3
	0.4nm,0.4s,baz=226,slow=4.8,SNR=4.4						
KEST	**Kesra**	**82.48**	**327**	LR	LR	04 33 53.4	
	comp=Z,22nm,20.9s,baz=220,slow=38						
ZALV	**Zalesovo Beam**	**95.45**	**19**	P	P	03 54 49.7	-0.5
	0.5nm,0.4s,baz=190,slow=4.0,SNR=3.6						
INK	**Inuvik**	**148.89**	**3**	PKPbc	PKPbc	04 01 12.9	0.0
	0.7nm,0.6s,baz=33,slow=6.1,SNR=3.7						
ILAR	**Eielson Array**	**150.51**	**16**	PKPbc	PKPbc	04 01 16.4	-0.6
	1.7nm,0.9s,baz=318,slow=3.0,SNR=13						
YKA	**Yellowknife Ar**	**153.38**	**345**	PKPbc	PKPbc	04 01 23.1	-0.4
	0.6nm,0.8s,baz=34,slow=2.5,SNR=7.2						
TXAR	**Lajitas Array**	**157.63**	**256**	PKPab	PKPab	04 01 54.6	-0.3
	0.4nm,0.9s,baz=121,slow=4.8,SNR=4.0						

*NIED **30** 03:53:00, 43°.80N×148°.20E, h35km, Mw3.7 Best double couple: M0=4.67000×10^14 NP1:φ1=58.00000°, δ1=67.00000°, λ1=72.00000°. NP2:φ2=277.00000°, δ2=29.00000°, λ2=126.00000°.*
*JMA **30** 03:53:47.5±0.5, 43°.82N×148°.16E, h0km, M4.2*
*IDC **30** 03:53:47.6±2.3, 44°.49N×148°.27E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/23, mbtmp3.6/9, ML3.4/1, Error ellipse: s-maj=68.9km s-min=20.3km az=174.0*
*ISCJB **30** 03:53:49.7±1.3, 44°.1N±0°.1×148°.3E±0°.1, h40km±13km, mb3.6/8, Error ellipse: s-maj=22.6km s-min=10.6km az=150.9*
*MOS **30** 03:53:52.0±1.1, 44°.17N×148°.13E, h58km, mb4.1/5, Error ellipse: s-maj=22.5km s-min=16.3km az=140.0*
*NEIC **30** 03:53:52.9±1.2, 44°.25N×148°.23E, h45km±10km, MG4.2(JMA), Error ellipse: s-maj=23.8km s-min=9.2km az=153.0*

ISC 30 03:53:51.7±1.2, 44°.1N±0°.1×148°.2E±0°.1, h39km±12km, n43, σ0°99/47, mb3.6/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.70**	**269**	*d* iPN	**Pn**	**03 54 18.4**	**-0.4**
YUK				*i* S	**Sn**	**03 54 39.7**	**+0.3**
YUK				pmax	pmax		
	comp=E,162nm,0.2s						
YUK				pmax	pmax		
	comp=Z,295nm,0.1s						
YUK				pmax	pmax		
	comp=N,117nm,0.2s						
YUK				smax			
	comp=N,407nm,0.2s						
YUK				smax			
	comp=E,698nm,0.2s						
NEM2	**Nemuro 2**	**1.94**	**249**	P	**Pn**	**03 54 20.1**	**-2.0**
NEM2				*e*S	**Sn**	**03 54 44.3**	**-0.9**
JRA	**Rausu**	**2.24**	**267**	P	**Pn**	**03 54 26.2**	**0.0**
JNK	**Nakash**	**2.58**	**260**	P	**Pn**	**03 54 30.4**	**-0.6**
JAK	**Akkeshi**	**2.79**	**248**	P	**Pn**	**03 54 32.7**	**-1.0**
JTKR	**Abashiri--Toko**	**3.11**	**269**	P	**Pn**	**03 54 38.9**	**+0.7**
JAR	**Ashorobuto**	**3.33**	**258**	P	**Pn**	**03 54 41.4**	**+0.3**
JCH	**Churui**	**3.84**	**249**	P	**Pn**	**03 54 48.0**	**-0.2**
ASAJ	**Asahikawa**	**4.05**	**272**	Pn	**Pn**	**03 54 52.7**	**+1.6**
	comp=E,2.0nm,0.3s,baz=37,slow=16,SNR=14						
ASAJ	**Asahikawa**	**4.05**	**272**	Pn	**Pn**	**03 54 52.7**	**+1.6**
ASAJ	**Asahikawa**	**4.05**	**272**	PN	**Pn**	**03 54 52.7**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**4.25**	**243**	*e*Pn	**Pn**	**03 54 55.7**	**+1.8**
ERM				*e*S	**Sn**	**03 55 44.0**	**+1.7**
ERM	**Erimo**	**4.25**	**243**	*i* PN	**Pn**	**03 54 55.7**	**+1.8**
JNBK	**Urakawa-nobuka**	**4.39**	**248**	P	**Pn**	**03 54 56.2**	**+0.4**
JKB	**Kayabe**	**5.71**	**250**	P	**Pn**	**03 55 14.3**	**+0.3**
JKB				*e*S	**Sn**	**03 56 16.4**	**-1.8**
JOT	**Ohata**	**5.94**	**245**	P	**Pn**	**03 55 16.7**	**-0.3**
PETK	**Petropavlovsk-**	**10.98**	**31**	Pn	**Pn**	**03 56 25.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=203,slow=14,SNR=5.3						
PETK	**Petropavlovsk-**	**10.98**	**31**	Pn	**Pn**	**03 56 25.3**	**-0.7**
PETK	**Petropavlovsk-**	**10.98**	**31**	*e*PN	**Pn**	**03 56 29.1**	**+3.1**
SONM	**Songino Array**	**29.05**	**292**	P	**P**	**03 59 49.2**	**+1.2**
	comp=Z,0.2nm,0.5s,mb3.1,baz=68,slow=8.8,SNR=3.4						
SONM	**Songino Array**	**29.05**	**292**	P	**P**	**03 59 49.2**	**+1.2**
SONM	**Songino Array**	**29.05**	**292**	P	**P**	**03 59 49.2**	**+1.2**
ILAR	**Eielson Array**	**40.75**	**36**	P	**P**	**04 01 28.1**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.2,baz=269,slow=8.6,SNR=9.2						
ILAR	**Eielson Array**	**40.75**	**36**	P	**P**	**04 01 28.1**	**-0.3**
ILAR	**Eielson Array**	**40.75**	**36**	P	**P**	**04 01 28.1**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.11**	**298**	P	**P**	**04 02 03.9**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.4,baz=76,slow=9.1,SNR=5.7						
MKAR	**Makanchi Array**	**45.11**	**298**	P	**P**	**04 02 03.9**	**0.0**
MKAR	**Makanchi Array**	**45.11**	**298**	*e*P	**P**	**04 02 05.8**	**+1.9**
YKA	**Yellowknife Ar**	**55.09**	**34**	P	**P**	**04 03 19.2**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=298,slow=6.6,SNR=4.2						
YKA	**Yellowknife Ar**	**55.09**	**34**	P	**P**	**04 03 19.2**	**0.0**
YKA	**Yellowknife Ar**	**55.09**	**34**	P	**P**	**04 03 19.2**	**0.0**
FINES	**FINESS Array B**	**64.92**	**333**	P	**P**	**04 04 25.2**	**-1.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=40,slow=7.5,SNR=10						
FINES	**FINESS Array B**	**64.92**	**333**	P	**P**	**04 04 25.2**	**-1.5**
FINES	**FINESS Array B**	**64.92**	**333**	P	**P**	**04 04 25.2**	**-1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**66.74**	**59**	P	**P**	**04 04 39.3**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=292,slow=5.7,SNR=3.7						
NVAR	**Mina Array Bea**	**66.74**	**59**	P	**P**	**04 04 39.3**	**+0.6**
NB2	**NORSAR Subarra**	**69.56**	**339**	P	**P**	**04 04 55.0**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**69.56**	**339**	P	**P**	**04 04 55.6**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=31,slow=6.4,SNR=7.5						
NOA	**NORSAR Array B**	**69.56**	**339**	P	**P**	**04 04 55.6**	**-0.5**
NOA	**NORSAR Array B**	**69.56**	**339**	P	**P**	**04 04 55.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**81.81**	**57**	P	**P**	**04 06 06.9**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=300,slow=4.0,SNR=17						
TXAR	**Lajitas Array**	**81.81**	**57**	P	**P**	**04 06 06.9**	**+0.2**
TXAR	**Lajitas Array**	**81.81**	**57**	P	**P**	**04 06 06.9**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 30 03:55:06.0±1.1, 37°.41S×51°.19E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/17, mbtmp4.1/5, Error ellipse: s-maj=56.5km s-min=27.1km az=19.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**68.46**	**307**	P	P	04 06 10.3	+0.2
	1.6nm,1.0s,baz=137,slow=3.0,SNR=7.8						
ASAR	**Alice Springs**	**70.49**	**105**	P	P	04 06 22.8	+0.1
	0.5nm,0.6s,baz=230,slow=6.3,SNR=6.7						
CMAR	**Chiang Mai Arr**	**71.47**	**48**	P	P	04 06 28.9	+0.3
	0.8nm,0.3s,baz=237,slow=8.9,SNR=5.0						
WRA	**Warramunga Arr**	**72.88**	**102**	P	P	04 06 37.4	+0.2
	1.1nm,0.8s,baz=238,slow=6.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**95.51**	**19**	P	P	04 08 31.8	-0.4
	0.4nm,0.5s,baz=198,slow=9.3,SNR=4.0						
INK	**Inuvik**	**148.94**	**3**	PKPbc	PKPbc	04 14 54.2	-0.5
	1.3nm,0.9s,baz=27,slow=4.6,SNR=4.1						
ILAR	**Eielson Array**	**150.57**	**16**	PKPbc	PKPbc	04 14 58.4	-0.4
	1.4nm,0.9s,baz=320,slow=3.6,SNR=10						
YKA	**Yellowknife Ar**	**153.40**	**345**	PKPbc	PKPbc	04 15 05.0	-0.3
	0.4nm,0.8s,baz=27,slow=2.5,SNR=4.7						
TXAR	**Lajitas Array**	**157.55**	**256**	PKPab	PKPab	04 15 36.1	-0.2
	0.4nm,0.9s,baz=149,slow=5.3,SNR=4.0						

IDC 30 03:59:18.2±1.5, 37°.56S×51°.21E, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.8/17, mbtmp4.1/5, Error ellipse: s-maj=75.0km s-min=27.7km az=16.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**68.25**	**297**	P	P	04 10 21.3	+0.3
	5.0nm,0.8s,baz=144,slow=8.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**68.57**	**307**	P	P	04 10 23.2	+0.2
	2.0nm,1.0s,baz=140,slow=5.2,SNR=10						
ASAR	**Alice Springs**	**70.43**	**105**	P	P	04 10 34.7	+0.2
	0.1nm,0.4s,baz=229,slow=5.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**71.56**	**48**	P	P	04 10 42.1	+0.9
	0.8nm,0.3s,baz=232,slow=6.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**95.65**	**19**	P	P	04 12 43.9	-1.1
	0.6nm,0.6s,baz=193,slow=5.9,SNR=3.4						
INK	**Inuvik**	**149.09**	**3**	PKPbc	PKPbc	04 19 06.8	-0.4
	1.4nm,0.7s,baz=355,slow=4.1,SNR=3.7						
ILAR	**Eielson Array**	**150.72**	**16**	PKPbc	PKPbc	04 19 10.8	-0.5
	1.1nm,0.9s,baz=317,slow=3.4,SNR=10						
YKA	**Yellowknife Ar**	**153.56**	**345**	PKPbc	PKPbc	04 19 17.4	-0.4
	0.3nm,0.8s,baz=36,slow=2.3,SNR=6.0						

*SOF **30** 04:37:32.3, 40°.37N×25°.78E, h10km, MD3.0*
*ISK **30** 04:37:33.4, 40°.34N×25°.81E, h4km, MD3.7, ML3.7*
*ATH **30** 04:37:33.4, 40°.37N×25°.79E, h28km, MD3.5/9*
*ISCJB **30** 04:37:33.0±0.3, 40°.36N±0°.01×25°.74E±0°.02, h5km±2km, Error ellipse: s-maj=2.6km s-min=1.9km az=26.9*
*DDA **30** 04:37:33.5, 40°.36N×25°.83E, h22km±1km, Md3.1*
*CSEM **30** 04:37:33.6±0.1, 40°.34N×25°.72E, h5km, MD3.7, Error ellipse: s-maj=2.3km s-min=1.6km az=28.0*
*THE **30** 04:37:34.2, 40°.37N×25°.78E, h9km, ML3.0/11, Error ellipse: s-maj=0.8km s-min=0.4km az=70.0*

ISC 30 04:37:33.8±0.3, 40°.35N±0°.01×25°.75E±0°.02, h5km±2km, n171, σ0°82/253, 7C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.50**	**38**	PG	**Pg**	**04 37 43.0**	**-0.3**
ENEZ				SG	**Sg**	**04 37 50.1**	**+0.3**
ENEZ	**Enez**	**0.50**	**38**	*i* Pg	**Pg**	**04 37 43.1**	**-0.3**
ENEZ				*i* Sg	**Sg**	**04 37 50.1**	**+0.2**
BOZC	**Bozcaada**	**0.56**	**155**	*i* P	**Pg**	**04 37 44.9**	**+0.4**
BOZC				*i* S	**Sg**	**04 37 52.5**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.56**	**85**	PG	**Pg**	**04 37 44.3**	**-0.2**
GELI				SG	**Sg**	**04 37 52.2**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.56**	**85**	*i* Pg	**Pg**	**04 37 44.3**	**-0.3**
GELI				*i* Sg	**Sg**	**04 37 52.2**	**+0.4**
ALN	**Alexandroupoli**	**0.59**	**22**	*e*PN	**Pg**	**04 37 44.9**	**-0.4**
ALN				*e*SN	**Sg**	**04 37 53.0**	**0.0**
ALN	**Alexandroupoli**	**0.59**	**22**	P	**Pg**	**04 37 44.9**	**-0.4**
ALN				S	**Sg**	**04 37 52.7**	**-0.3**
ALN	**Alexandroupoli**	**0.59**	**22**	P	**Pg**	**04 37 44.9**	**-0.4**
ALN				S	**Sg**	**04 37 52.7**	**-0.3**
LIA	**Limnos Island**	**0.62**	**224**	*e*PN	**Pg**	**04 37 46.7**	**+0.9**
LIA				*e*SN	**Sg**	**04 37 56.6**	**+2.7**
LIA	**Limnos Island**	**0.62**	**224**	P	**Pg**	**04 37 46.8**	**+1.0**
LIA				S	**Sg**	**04 37 56.3**	**+2.4**
LIA	**Limnos Island**	**0.62**	**224**	*e*Pn	**Pg**	**04 37 46.7**	**+0.9**
LIA				S	**Sg**	**04 37 56.3**	**+2.4**
ERIK	**Erikli-Kesan**	**0.67**	**61**	PG	**Pg**	**04 37 46.6**	**-0.1**
ERIK				SG	**Sg**	**04 37 54.8**	**-0.6**
ERIK	**Erikli-Kesan**	**0.67**	**61**	*i* Pg	**Pg**	**04 37 46.6**	**-0.1**
ERIK				*i* Sg	**Sg**	**04 37 54.8**	**-0.5**
EZN	**Ezine**	**0.69**	**139**	PG	**Pg**	**04 37 46.7**	**-0.3**
EZN				SG	**Sg**	**04 37 55.8**	**-0.1**
EZN	**Ezine**	**0.69**	**139**	*i* Pg	**Pg**	**04 37 46.7**	**-0.3**
EZN				*i* Sg	**Sg**	**04 37 55.8**	**-0.1**
LPK	**Lapseki**	**0.78**	**88**	*e*PG	**Pg**	**04 37 47.4**	**-1.3**
LPK	**Lapseki**	**0.78**	**88**	*e*Pg	**Pg**	**04 37 47.4**	**-1.3**
RDO	**Rodhopi**	**0.81**	**349**	*e*PN	**Pg**	**04 37 49.1**	**-0.3**
RDO				*e*SN	**Sg**	**04 38 00.1**	**+0.1**
RDO	**Rodhopi**	**0.81**	**349**	P	**Pg**	**04 37 49.2**	**-0.2**
RDO				S	**Sg**	**04 38 00.8**	**+0.8**
RDO	**Rodhopi**	**0.81**	**349**	P	**Pg**	**04 37 49.2**	**-0.2**
RDO				S	**Sg**	**04 38 00.8**	**+0.8**
KAVA	**Kavala**	**1.14**	**305**	P	**Pg**	**04 37 55.4**	**-0.3**
KAVA				S	**Sg**	**04 38 11.7**	**+1.2**
KAVA	**Kavala**	**1.14**	**305**	P	**Pg**	**04 37 55.4**	**-0.3**
KAVA				S	**Sg**	**04 38 11.7**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.14**	**72**	*e*PN	**Pg**	**04 37 54.7**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.14**	**72**	*e*Pn	**Pg**	**04 37 54.7**	**-1.0**
SART	**Tekirdag**	**1.15**	**72**	*i* P	**Pg**	**04 37 53.4**	**-2.4**
SART				*i* S	**Sg**	**04 38 08.2**	**-2.5**
SART	**Tekirdag**	**1.15**	**72**	*i* P	**Pg**	**04 37 53.4**	**-2.4**
SART				*i* S	**Sg**	**04 38 08.2**	**-2.4**
PRK	**Paraskevi**	**1.17**	**160**	*e*PN	**Pn**	**04 37 56.0**	**-0.8**
PRK				*e*SN	**Sn**	**04 38 12.2**	**-0.9**
PRK	**Paraskevi**	**1.17**	**160**	P	**Pg**	**04 37 56.1**	**-0.2**
PRK				S	**Sg**	**04 38 12.4**	**+0.9**
PRK	**Paraskevi**	**1.17**	**160**	P	**Pg**	**04 37 56.1**	**-0.2**
PRK				*e*Sn	**Sn**	**04 38 12.2**	**-0.9**
KRBG	**Karabiga-Canak**	**1.19**	**87**	*e*PN	**Pn**	**04 37 55.4**	**-1.6**
KRBG	**Karabiga-Canak**	**1.19**	**87**	*e*Pn	**Pn**	**04 37 55.4**	**-1.6**
AYVA	**Ayvalik**	**1.27**	**145**	*i* P	**Pg**	**04 37 57.4**	**-0.7**
AYVA				*i* S	**Sg**	**04 38 14.4**	**-0.2**
AYVA	**Ayvalik**	**1.27**	**145**	*i* P	**Pg**	**04 37 57.4**	**-0.7**
AYVA				*i* S	**Sg**	**04 38 14.4**	**-0.1**
KDZ	**Kurdzhali**	**1.32**	**349**	*i* P	**Pn**	**04 37 57.9**	**-1.0**
KDZ	**Kurdzhali**	**1.32**	**349**	*i* P	**Pn**	**04 37 57.9**	**-1.0**
OUR	**Ouranopolis**	**1.35**	**270**	P	**Pn**	**04 37 58.3**	**-0.9**
OUR				S	**Sb**	**04 38 17.5**	**+0.4**
OUR	**Ouranopolis**	**1.35**	**270**	P	**Pn**	**04 37 58.3**	**-0.9**
OUR				S	**Sb**	**04 38 17.5**	**+0.4**
TKR	**Tekirdag**	**1.50**	**64**	*e*PN	**Pn**	**04 38 01.6**	**+0.2**
TKR				*e*SN	**Sn**	**04 38 21.5**	**+0.1**
TKR	**Tekirdag**	**1.50**	**64**	*e*Pn	**Pn**	**04 38 01.6**	**+0.2**
TKR				*e*Sn	**Sn**	**04 38 21.5**	**+0.1**
GONE	**Gonen-Balikesi**	**1.52**	**101**	*e*PN	**Pn**	**04 38 01.2**	**-0.4**
GONE				*e*SN	**Sn**	**04 38 21.9**	**+0.3**
GONE	**Gonen-Balikesi**	**1.52**	**101**	*e*Pn	**Pn**	**04 38 01.2**	**-0.3**
GONE				*e*Sn	**Sn**	**04 38 21.9**	**+0.3**
RZN	**Rozhen**	**1.55**	**330**	*i* P	**Pn**	**04 38 01.9**	**-0.1**
RZN	**Rozhen**	**1.55**	**330**	*i* P	**Pn**	**04 38 01.9**	**-0.1**
BALY	**Balya**	**1.56**	**112**	*i* P	**Pn**	**04 38 01.3**	**-0.8**
BALY				*i* S	**Sn**	**04 38 22.5**	**-0.2**
BALY	**Balya**	**1.56**	**112**	*i* P	**Pn**	**04 38 01.3**	**-0.9**
BALY				*i* S	**Sn**	**04 38 22.5**	**-0.2**
EDC	**Edincik**	**1.62**	**89**	*e*PN	**Pn**	**04 38 03.2**	**+0.2**
EDC				*e*SN	**Sn**	**04 38 24.0**	**-0.1**
EDC	**Edincik**	**1.62**	**89**	*e*Pn	**Pn**	**04 38 03.2**	**+0.3**
EDC				*e*Sn	**Sn**	**04 38 24.0**	**-0.1**
PAIG	**Paliouri**	**1.64**	**256**	P	**Pn**	**04 38 02.8**	**-0.4**
PAIG	**Paliouri**	**1.64**	**256**	P	**Pn**	**04 38 02.8**	**-0.4**
BNT	**Bandirma**	**1.66**	**89**	*e*PN	**Pn**	**04 38 03.3**	**-0.2**
BNT	**Bandirma**	**1.66**	**89**	*e*Pn	**Pn**	**04 38 03.3**	**-0.2**
EDRB	**Edirne**	**1.68**	**26**	*e*PN	**Pn**	**04 38 04.0**	**+0.2**
EDRB				*e*SN	**Sn**	**04 38 26.4**	**+0.8**
EDRB	**Edirne**	**1.68**	**26**	*e*Pn	**Pn**	**04 38 04.0**	**+0.2**
EDRB				*e*Sn	**Sn**	**04 38 26.4**	**+0.8**
CRLT	**Corlu**	**1.70**	**62**	*e*PN	**Pn**	**04 38 04.8**	**+0.7**
CRLT				*e*SN	**Sn**	**04 38 26.7**	**+0.5**
CRLT	**Corlu**	**1.70**	**62**	*e*Pn	**Pn**	**04 38 04.8**	**+0.7**
CRLT				*e*Sn	**Sn**	**04 38 26.7**	**+0.5**
DIM	**Dimitrovgrad**	**1.71**	**355**	*i* P	**Pn**	**04 38 02.8**	**-1.4**
DIM	**Dimitrovgrad**	**1.71**	**355**	*i* P	**Pn**	**04 38 02.8**	**-1.4**
NVR	**Nevrokopi**	**1.75**	**306**	*e*PN	**Pn**	**04 38 04.2**

GEMT	Gemlik	2.63	87	*e*Pn	Pn	04 38 17.6	+0.7
DEMI	Demirci	2.64	119	*i* P	Pn	04 38 16.3	-0.6
DEMI				*i* S	Sn	04 38 49.7	+0.4
DEMI	Demirci	2.64	119	*i* P	Pn	04 38 16.3	-0.6
DEMI				*i* S	Sn	04 38 49.7	+0.4
KLYT	Kilyos	2.66	69	*e*Pn	Pn	04 38 17.9	+0.6
KLYT	Kilyos	2.66	69	*e*Pn	Pn	04 38 17.9	+0.6
SMG	Samos	2.77	162	*e*PN	Pn	04 38 18.0	-0.8
SMG				*e*SN	Sn	04 38 51.6	-0.9
SMG	Samos	2.77	162	*e*Pn	Pn	04 38 18.0	-0.8
SMG				*e*Sn	Sn	04 38 51.6	-0.9
YLV	Yalova	2.78	84	*e*PN	Pn	04 38 19.8	+0.9
YLV	Yalova	2.78	84	*e*Pn	Pn	04 38 19.8	+0.9
KULA	Kula-Manisa	2.91	128	*e*PN	Pn	04 38 21.0	+0.4
KULA	Kula-Manisa	2.91	128	*e*Pn	Pn	04 38 21.0	+0.3
VTS	Vitosha	2.94	320	*i* P	Pn	04 38 21.6	+0.4
VTS	Vitosha	2.94	320	⇑*i*P	Pn	04 38 22.0	+0.8
VTS	Vitosha	2.94	320	*i* P	Pn	04 38 21.6	+0.4
HRT	Hereke	3.02	80	*e*PN	Pn	04 38 23.4	+1.1
HRT	Hereke	3.02	80	*e*Pn	Pn	04 38 23.4	+1.1
ADVT	Abdulvahap	3.05	87	*e*PN	Pn	04 38 23.4	+0.8
ADVT	Abdulvahap	3.05	87	*e*Pn	Pn	04 38 23.4	+0.8
SILT	Sile	3.07	74	*e*PN	Pn	04 38 23.7	+0.8
SILT	Sile	3.07	74	*e*Pn	Pn	04 38 23.7	+0.8
GDZ	Gediz	3.14	112	*i* P	Pn	04 38 22.9	-1.0
GDZ				*i* S	Sn	04 39 10.7	+8.9
GDZ	Gediz	3.14	112	*i* P	Pn	04 38 22.9	-1.0
KRUS	Krusevo	3.56	288	*e*Pn	Pn	04 38 29.4	-0.3
KRUS	Krusevo	3.56	288	*e*Pn	Pn	04 38 29.3	-0.3
ALT	Altintas	3.60	110	*e*PN	Pn	04 38 30.6	+0.3
ALT	Altintas	3.60	110	*e*Pn	Pn	04 38 30.6	+0.3
GULT	Gulveren	3.64	87	*e*PN	Pn	04 38 31.8	+1.0
GULT	Gulveren	3.64	87	*e*Pn	Pn	04 38 31.8	+1.0
YER	Yerkesik	3.77	147	*e*PN	Pn	04 38 33.1	+0.6
YER	Yerkesik	3.77	147	*e*Pn	Pn	04 38 33.1	+0.5
BARS	Barje	3.84	311	*e*Pn	Pn	04 38 33.9	+0.4
DAT	Datca	3.89	158	*e*PN	Pn	04 38 35.2	+1.1
DAT	Datca	3.89	158	*e*Pn	Pn	04 38 35.2	+1.0
ESKT	Eskisehir	4.01	100	*e*PN	Pn	04 38 36.2	+0.4
ESKT	Eskisehir	4.01	100	*e*Pn	Pn	04 38 36.2	+0.4
SHUT	Suhut-Afyon	4.13	114	*e*PN	Pn	04 38 38.1	+0.6
SHUT	Suhut-Afyon	4.13	114	*e*Pn	Pn	04 38 38.1	+0.6
MDUB	Mudurnu	4.16	87	*e*PN	Pn	04 38 39.7	+1.7
MDUB	Mudurnu	4.16	87	*e*Pn	Pn	04 38 39.7	+1.8
BOLS	Boljevac	4.48	322	*e*Pn	Pn	04 38 40.4	-1.9
SVRH	Sivrihisar-ESK	4.53	100	*e*PN	Pn	04 38 44.7	+1.6
SVRH	Sivrihisar-ESK	4.53	100	*e*Pn	Pn	04 38 44.7	+1.7
ELL	Elmali	4.85	136	*e*PN	Pn	04 38 49.1	+1.7
ELL	Elmali	4.85	136	*e*Pn	Pn	04 38 49.1	+1.7
VOIR		5.11	354	⇑*i*P	Pn	04 38 50.4	-0.6
VOIR		5.11	354	⇑*i*P	Pn	04 38 50.4	-0.6
MLR	Muntele Rosu	5.14	2	⇑*i*P	Pn	04 38 51.9	+0.5
MLR	Muntele Rosu	5.14	2	⇑*i*P	Pn	04 38 51.9	+0.5
GRUS	Gruza	5.15	315	*e*Pn	Pn	04 38 51.4	-0.1
GZR	Gura Zlata	5.49	338	⇑*i*P	Pn	04 38 55.7	-0.5
GZR	Gura Zlata	5.49	338	⇑*i*P	Pn	04 38 55.7	-0.5
PLOR	Plostina	5.54	7	⇓*i*P	Pn	04 38 56.6	-0.2
PLOR	Plostina	5.54	7	⇓*i*P	Pn	04 38 56.6	-0.2
VRI	Vrincioaia	5.56	7	⇓*i*P	Pn	04 38 58.3	+1.2
VRI	Vrincioaia	5.56	7	⇓*i*P	Pn	04 38 58.3	+1.2
DOPR	Dopca	5.62	357	⇓*i*P	Pn	04 38 58.3	+0.3
DOPR	Dopca	5.62	357	⇓*i*P	Pn	04 38 58.3	+0.3
DIVS	Divibare	5.68	313	*e*Pn	Pn	04 38 58.2	-0.6
BZS	Buzias	6.07	331	⇓*i*P	Pn	04 39 03.9	-0.3
BZS	Buzias	6.07	331	⇓*i*P	Pn	04 39 03.9	-0.3
BURAR	Bucovina Array	7.28	357	⇓*i*P	Pn	04 39 21.8	+1.2
BURAR	Bucovina Array	7.28	357	⇓*i*P	Pn	04 39 21.8	+1.2

CASC 30 04:44:09.4±2.6, 7°.35N×82°.57W, h24km±24km, MD3.6, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	1.43	335	*e*P	Pn	04 44 33.1	-0.8
ACR				*e*S	Sn	04 44 52.2	+0.3
BRU2	Volcan	1.44	355	*e*P	Pn	04 44 33.6	-0.4
BRU2				*e*S	Sn	04 44 56.0	+3.7
BUS	Buena Vista	2.49	332	*e*P	Pn	04 44 49.6	+1.1
BUS				*e*S	Sn	04 45 20.1	+2.0
QCR	Quepos	2.60	323	⇑*e*P	Pn	04 44 50.2	+0.2
URSC	Urasca	2.75	334	*e*P	Pn	04 44 53.4	+1.4
PTP	Ponta Puerca	19.73	55	*e*P	x	04 44 25.8	

IDC 30 04:52:56.8±9.2, 17°.11S×179°.03W, h510km±109km, mb2.8/6, mb1 3.2/6, mb1mx3.0/16, mbtmp2.8/6, Error ellipse: s-maj=94.7km s-min=30.9km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.50	240	P	P	04 59 34.5	-0.4
	1.2nm,0.5s,baz=157,slow=20,SNR=3.6						
WRA	Warramunga Arr	44.20	259	P	P	05 00 20.5	+0.1
	0.4nm,0.4s,baz=96,slow=6.1,SNR=3.4						
ASAR	Alice Springs	44.45	253	P	P	05 00 22.2	0.0
	3.7nm,0.6s,baz=89,slow=8.1,SNR=101						
NVAR	Mina Array Bea	79.27	44	P	P	05 04 09.7	+0.7
	0.2nm,0.6s,baz=220,slow=8.3,SNR=2.9						
ILAR	Eielson Array	85.25	13	P	P	05 04 38.4	-0.4
	0.2nm,0.4s,baz=226,slow=5.0,SNR=4.9						
TXAR	Lajitas Array	86.07	58	P	P	05 04 43.5	-0.1
	0.2nm,0.7s,baz=255,slow=3.5,SNR=3.4						
BRTR	Keskin Array B	143.81	315	PKP	PKPdf	05 11 33.9	0.0
	0.4nm,0.6s,baz=128,slow=4.9,SNR=3.1						
GERES	GERESS Array B	146.70	345	PKPbc	PKPbc	05 11 40.4	-0.7
	0.3nm,0.5s,baz=31,slow=3.1,SNR=4.8						

IDC 30 04:53:12.3±7.6, 17°.38S×178°.91W, h538km±86km, mb3.2/8, mb1 3.4/8, mb1mx3.2/18, mbtmp3.2/8, Error ellipse: s-maj=54.7km s-min=31.3km az=145.0
ISCJB 30 04:53:14.0±1.5, 17°.4S±0°.4×179°.0W±0°.2, h573km±14km, mb3.7/8, Error ellipse: s-maj=68.1km s-min=19.3km az=153.2
NEIC 30 04:53:14.5±1.1, 17°.43S×178°.97W, h567km±9km, Error ellipse: s-maj=45.3km s-min=13.0km az=153.0
ISC 30 04:53:14.8±1.5, 17°.4S±0°.4×179°.0W±0°.2, h568km±13km, n22, σ0s28/18, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.82	262	*e*P	P	04 54 30.3	0.0
CTA	Charters Tower	32.97	260	P	P	04 59 03.7	+0.1
	1.6nm,0.4s,mb3.9,baz=105,slow=14,SNR=3.5						
CTA	Charters Tower	32.97	260	P	P	04 59 03.7	+0.1
PMG	Port Moresby	33.80	279	P	P	04 59 11.2	+0.4
	4.4nm,0.5s,mb4.3,baz=98,slow=14,SNR=3.3						
PMG	Port Moresby	33.80	279	P	P	04 59 11.2	+0.4
STKA	Stephens Creek	38.39	240	P	P	04 59 48.1	-0.1
	1.1nm,0.4s,mb3.7,baz=98,slow=11,SNR=7.5						
STKA	Stephens Creek	38.39	240	P	P	04 59 48.1	-0.1
WRA	Warramunga Arr	44.16	259	P	P	05 00 33.8	-0.3
	0.8nm,0.4s,mb3.6,baz=95,slow=8.0,SNR=6.4						
WRA	Warramunga Arr	44.16	259	P	P	05 00 33.8	-0.3
AS31	Alice Springs	44.38	254	*e*P	P	05 00 35.7	0.0
ASAR	Alice Springs	44.38	254	P	P	05 00 35.8	+0.1
	11nm,0.6s,mb4.6,baz=91,slow=7.8,SNR=67						
ASAR	Alice Springs	44.38	254	P	P	05 00 35.8	+0.1
NVAR	Mina Array Bea	79.44	44	P	P	05 04 22.9	+0.2
	0.4nm,0.7s,mb2.9,baz=225,slow=9.1,SNR=4.8						
NVAR	Mina Array Bea	79.44	44	P	P	05 04 22.9	+0.2
ILAR	Eielson Array	85.49	13	P	P	05 04 52.0	-0.6
	0.2nm,0.4s,mb3.0,baz=223,slow=5.5,SNR=5.9						
ILAR	Eielson Array	85.49	13	P	P	05 04 52.0	-0.6
TXAR	Lajitas Array	86.20	58	P	P	05 04 57.1	+0.3
	0.3nm,0.7s,mb3.0,baz=218,slow=6.9,SNR=5.6						
TXAR	Lajitas Array	86.20	58	P	P	05 04 57.1	+0.3
BRTR	Keskin Array B	143.99	315	PKP	PKPdf	05 11 47.4	+1.1
	0.7nm,0.9s,baz=29,slow=1.6,SNR=3.3						
BRTR	Keskin Array B	143.99	315	PKP	PKPdf	05 11 47.4	+1.1
GERES	GERESS Array B	146.94	345	PKPbc	PKPbc	05 11 53.9	-0.1
	0.3nm,0.4s,baz=354,slow=2.7,SNR=4.6						
GERES	GERESS Array B	146.94	345	PKPbc	PKPbc	05 11 53.9	-0.1

ISCJB 30 04:55:00.2±0.7, 40°.39N±0°.03×25°.74E±0°.06, h12km±6km, Error ellipse: s-maj=7.5km s-min=5.2km az=1.0
ATH 30 04:55:00.2, 40°.38N×25°.78E, h29km±1km, MD3.3/5
CSEM 30 04:55:01.0±0.2, 40°.47N×25°.62E, h39km±2km, MD3.3,
Error ellipse: s-maj=7.3km s-min=6.0km az=36.0
DDA 30 04:55:02.2, 40°.31N×25°.92E, h7km±1km, Md2.5
ISC 30 04:55:00.5±0.7, 40°.39N±0°.03×25°.74E±0°.06, h15km±6km, n14, σ0s88/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	Alexandroupoli	0.56	25	*e*PN	Pg	04 55 11.6	0.0
ALN				*e*SN	Sg	04 55 19.6	+0.6
ALN	Alexandroupoli	0.56	25	*e*Pn	Pg	04 55 11.6	0.0
ALN				*e*Sn	Sg	04 55 19.6	+0.6
BOZC	Bozcaada	0.60	156	*i* P	Pg	04 55 11.6	-0.7
BOZC				*i* S	Sg	04 55 19.0	-1.2
LIA	Limnos Island	0.65	221	*e*PN	Pg	04 55 13.5	+0.3
LIA				*e*SN	Sg	04 55 23.5	+1.7
LIA	Limnos Island	0.65	221	*e*Pn	Pg	04 55 13.5	+0.3
LIA				*e*Sn	Sg	04 55 23.5	+1.7
RDO	Rodhopi	0.77	349	*e*PN	Pn	04 55 15.9	-0.9
PRK	Paraskevi	1.22	160	*e*PN	Pn	04 55 22.9	0.0
PRK				*e*SN	Sn	04 55 38.8	-0.2
PRK	Paraskevi	1.22	160	*e*Pn	Pn	04 55 22.9	0.0
PRK				*e*Sn	Sn	04 55 38.8	-0.2
AYVA	Ayvalik	1.31	145	*i* P	Pn	04 55 24.4	+0.3
AYVA				*i* S	Sb	04 55 40.5	-0.7
AYVA	Ayvalik	1.31	145	*i* P	Pn	04 55 24.4	+0.2
AYVA				*i* S	Sb	04 55 40.5	-0.8
BALY	Balya	1.58	114	*i* P	Pn	04 55 29.1	+1.1
BALY				*i* S	Sn	04 55 49.4	+1.2
BALY	Balya	1.58	114	*i* P	Pn	04 55 29.1	+1.1
BALY				*i* S	Sn	04 55 49.4	+1.2
NVR	Nevrokopi	1.71	305	*e*PB	Pb	04 55 30.4	-1.3
NVR	Nevrokopi	1.71	305	*e*Pb	Pb	04 55 30.4	-1.3

NEIC 30 04:55:57.9, 24°.05S×68°.10W, h148km, MG4.0(GUC), After GUC.
GUC 30 04:55:57.9±0.7, 24°.05S×68°.10W, h148km±6km, ML4.0, 7C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.14	355	⇑*i*P	Pn	04 56 25.0	+1.3
SPCH				*i* S	Sn	04 56 45.1	+1.8
SPCH	San Pedro de A	1.14	355	⇑*i*P	Pn	04 56 25.0	+1.3
SPCH				*i* S	Sn	04 56 45.1	+1.8
SPCH				AML	AML	04 56 45.7	
	comp=N,2μm,0.5s						
LVC	Limon Verde	1.61	332	⇓*i*P	Pn	04 56 30.4	+2.0
LVC				*i* S	Sn	04 56 54.5	+2.7
LVC	Limon Verde	1.61	332	⇓*i*P	Pn	04 56 30.4	+2.0
LVC				*i* S	Sn	04 56 54.5	+2.7
LVC				AML	AML	04 56 56.5	
	comp=E,536nm,0.4s						
CEN1	Los Morros	2.03	288	⇑*i*P	Pn	04 56 35.3	+2.1
CEN1				*i* S	Sn	04 57 03.4	+3.1
CEN1				AML	AML	04 57 05.0	
	comp=E,762nm,0.6s						
ANCH	Antofagasta	2.15	279	⇑*i*P	Pn	04 56 35.1	+0.6
ANCH				*i* S	Sn	04 57 03.4	+0.7
ANCH	Antofagasta	2.15	279	⇑*i*P	Pn	04 56 35.1	+0.6
ANCH				*i* S	Sn	04 57 03.4	+0.7
ANCH				AML	AML	04 57 04.7	
	comp=E,1μm,0.5s						
PB04	Plate Boundary	2.18	324	⇓*i*P	Pn	04 56 40.6	+5.6
PB04				*i* S	Sn	04 57 13.4	+10
PB04				AML	AML	04 57 16.5	
	comp=N,513nm,0.4s						
MECH	Mejillones	2.35	293	*i* P	Pn	04 56 38.1	+1.1
MECH				*i* S	Sn	04 57 08.7	+1.5
MECH	Mejillones	2.35	293	*i* P	Pn	04 56 38.1	+1.1
MECH				*i* S	Sn	04 57 08.7	+1.5
MECH				AML	AML	04 57 10.3	
	comp=N,1μm,0.3s						
MACH	Maria Elena	2.39	320	⇑*i*P	Pn	04 56 39.3	+1.7
MACH				*i* S	Sn	04 57 10.3	+2.2
MACH	Maria Elena	2.39	320	⇑*i*P	Pn	04 56 39.3	+1.7
MACH				*i* S	Sn	04 57 10.3	+2.2
PB09	Plate Boundary	2.47	335	⇓*i*P	Pn	04 56 41.2	+2.6
PB09				*i* S	Sn	04 57 13.6	+3.7
PB09				AML	AML	04 57 14.6	
	comp=N,718nm,0.4s						
PB07	Plate Boundary	2.83	324	⇓*i*P	Pn	04 56 44.6	+1.5
PB07				*i* S	Sn	04 57 20.2	+2.3
PB07				AML	AML	04 57 25.6	
	comp=E,293nm,0.5s						
PB01	Plate Boundary	3.25	337	*e*P	Pn	04 56 49.9	+1.5
PB01				*i* S	Sn	04 57 29.5	+2.0
PB01				AML	AML	04 57 31.1	
	comp=E,178nm,0.3s						
LCO	Las Campanas	5.47	205	*e*Pn	Pn	04 57 12.7	-4.8
LCO				*e*Sn	Sn	04 58 12.2	-7.3

ISCJB 30 05:06:48.8±1.3, 41°.67N±0°.07×74°.40E±0°.06, h10km, Error ellipse: s-maj=9.7km s-min=6.3km az=177.2
KNET 30 05:06:49.0±0.8, 41°.74N×74°.42E, h10km±5km, ml2.6, Error ellipse: s-maj=4.4km s-min=2.6km az=178.0
NNC 30 05:06:52.5±2.5, 41°.89N×74°.43E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=33.3km s-min=12.9km az=147.0
ISC 30 05:06:49.6±1.4, 41°.70N±0°.07×74°.40E±0°.05, h10km, n13, σ0s66/20, 7C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	Uchtor	0.53	9	P	Pg	05 06 59.9	0.0
	SNR=28						
UCH				⇓P		05 06 60.0	
	91nm,0.2s,SNR=28						
UCH				⇓S	Sg	05 07 07.3	+0.3
	264nm,0.2s						
AML	Almayashu	0.68	309	⇓P	Pg	05 07 02.2	-0.5
	43nm,0.1s,SNR=181						
AML				P		05 07 02.3	
	SNR=181						
AML				⇓S	Sg	05 07 11.7	+0.1
	79nm,0.1s						
KZA	Kyzart	0.74	59	P	Pg	05 07 03.0	-0.9
	SNR=29						
KZA				⇑P		05 07 03.0	
	41nm,0.1s,SNR=29						
KZA				⇓S	Sg	05 07 13.0	-0.5
	155nm,0.3s						
AAK	Ala-Archa	0.93	4	P	Pg	05 07 07.2	-0.4
	53nm,0.1s,SNR=43						
AAK				P		05 07 07.2	
	SNR=43						
AAK				⇑S	Sg	05 07 19.8	+0.1
	347nm,0.2s						
KBK	Karagaybulak	1.04	23	P	Pg	05 07 09.0	-0.5
	80nm,0.1s,SNR=164						
KBK				P		05 07 09.0	
	SNR=164						
KBK				⇓S	Sg	05 07 23.0	0.0
	332nm,0.3s						
EKS2	Erkin-Say	1.06	334	P	Pg	05 07 09.5	-0.6
	SNR=50						
EKS2				P		05 07 09.5	
	SNR=50						
CHMS	Chumysh	1.32	11	P	Pn	05 07 14.0	-0.1
	SNR=59						
CHMS				⇓P		05 07 14.0	
	32nm,0.1s,SNR=59						
CHMS				⇓S	Sb	05 07 31.5	0.0
	41nm,0.2s						
TKM2	Tokmak 2	1.51	36	P	Pn	05 07 16.9	+0.2
	SNR=19						
TKM2				P		05 07 16.9	
	40nm,0.2s,SNR=19						
TKM2	Tokmak 2	1.51	36	⇓P	Pn	05 07 17.0	+0.3
	21nm,0.5s						
TKM2				⇑S	Sn	05 07 36.5	+0.2
	70nm,0.5s						
USP	Ospenovka	1.56	3	⇓P	Pn	05 07 18.3	+0.8
	61nm,0.3s,SNR=26						
USP				P		05 07 18.4	
	SNR=26						
KNDC	Almaty	2.43	51	⇑Pn	Pn	05 07 33.8	+4.5
	51nm,0.3s						
KNDC				⇑Lg		05 08 06.4	
	43nm,0.5s						
KK31	Karatay Array	3.20	297	⇓Pn	Pn	05 07 47.8	+7.9
	0.5nm,0.2s,baz=118,slow=12,SNR=52						
KK31				⇑Lg		05 08 29.7	
	3.3nm,0.3s,baz=108,slow=28,SNR=8.9						
MK31	Makanchi Array	7.61	45	⇑Pn	Pn	05 08 43.3	+2.8
	5.1nm,1.3s,baz=224,slow=15,SNR=10						
MK31				⇓Lg		05 10 51.4	
	1.7nm,0.8s,baz=222,slow=30,SNR=3.6						

SOF 30 05:17:05.1, 40°.45N×26°.00E, h0km, MD2.7
ISK 30 05:17:06.0, 40°.34N×25°.81E, h8km, MD3.1
ATH 30 05:17:06.4, 40°.38N×25°.80E, h29km±1km, MD3.0/4
ISCJB 30 05:17:06.4±0.4, 40°.36N±0°.02×25°.79E±0°.02, h8km±3km, Error ellipse: s-maj=3.5km s-min=2.8km az=137.4
CSEM 30 05:17:06.6±0.1, 40°.35N×25°.78E, h10km, MD3.1, Error ellipse: s-maj=2.5km s-min=2.1km az=31.0
DDA 30 05:17:07.6, 40°.34N×25°.90E, h7km±2km, Md2.9
THE 30 05:17:07.4, 40°.37N×25°.78E, h12km, ML2.6/8, Error ellipse: s-maj=0.8km s-min=0.4km az=66.0
ISC 30 05:17:06.8±0.4, 40°.36N±0°.02×25°.78E±0°.03, h10km±3km, n95, σ0s75/135, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	Enez	0.47	37	PG	Pg	05 17 16.0	0.0
ENEZ				*e*SG	Sg	05 17 22.4	+0.2
ENEZ	Enez	0.47	37	*i* Pg	Pg	05 17 16.0	0.0
ENEZ				*e*Sg	Sg	05 17 22.4	+0.2
GELI	Tayfur-Gelibol	0.53	86	*e*PG	Pg	05 17 17.1	0.0
GELI				*e*SG	Sg	05 17 24.5	+0.4
GELI	Tayfur-Gelibol	0.53	86	*e*Pg	Pg	05 17 17.1	0.0
GELI				*e*Sg	Sg	05 17 24.5	+0.4
BOZC	Bozcaada	0.56	158	*i* P	Pg	05 17 17.8	+0.2
BOZC				*i* S	Sg	05 17 25.6	+0.6
ALN	Alexandroupoli	0.57	20	*e*PN	Pg	05 17 17.9	-0.1
ALN				*e*SN	Sg	05 17 26.2	+0.7
ALN	Alexandroupoli	0.57	20	*e*PN	Pg	05 17 17.9	-0.1
ALN				*e*SN	Sg	05 17 25.9	+0.4
ALN	Alexandroupoli	0.57	20	P	Pg	05 17 17.9	-0.1
ALN				S	Sg	05 17 26.3	+0.8
ALN	Alexandroupoli	0.57	20	P	Pg	05 17 17.9	-0.1
ALN				S	Sg	05 17 26.3	+0.8
ERIK	Erikli-Kesan	0.64	61	*e*PG	Pg	05 17 19.4	+0.2
ERIK				*e*SG	Sg	05 17 27.8	+0.2
ERIK	Erikli-Kesan	0.64	61	*e*Pg	Pg	05 17 19.4	+0.2
ERIK				*e*Sg	Sg	05 17 27.8	+0.2
LIA	Limnos Island	0.65	225	*e*PN	Pg	05 17 19.8	+0.4
LIA				*e*SN	Sg	05 17 29.7	+1.8
LIA	Limnos Island	0.65	225	*e*PN	Pg	05 17 20.1	+0.7
LIA	Limnos Island	0.65	225	P	Pg	05 17 20.0	+0.6
LIA				S	Sg	05 17 29.4	+1.5
LIA	Limnos Island	0.65	225	*e*Pn	Pg	05 17 20.1	+0.7
LIA				S	Sg	05 17 29.4	+1.5
EZN	Ezine	0.68	142	*e*PG	Pg	05 17 18.6	-1.3
EZN	Ezine	0.68	142	*e*Pg	Pg	05 17 18.6	-1.3
LPK	Lapseki	0.75	89	*e*PG	Pg	05 17 20.0	-1.3
LPK	Lapseki	0.75	89	*e*Pg	Pg	05 17 20.0	-1.3
RDO	Rodhopi	0.81	347	*e*PN	Pg	05 17 22.2	-0.2
RDO				*e*SN	Sg	05 17 33.1	+0.2
RDO	Rodhopi	0.81	347	*e*PN	Pg	05 17 22.2	-0.2
RDO				*e*SN	Sg	05 17 33.5	+0.6
RDO	Rodhopi	0.81	347	P	Pg	05 17 22.2	-0.2
RDO				S	Sg	05 17 34.2	+1.3
RDO	Rodhopi	0.81	347	P	Pg	05 17 22.2	-0.2
RDO				*e*Sn	Sg	05 17 33.5	+0.6
RDO				S	Sg	05 17 34.2	+1.3
RKY	Sarkoy-Tekirda	1.11	72	*e*PN	Pg	05 17 27.2	-1.0
RKY	Sarkoy-Tekirda	1.11	72	*e*Pn	Pg	05 17 27.2	-1.0
KAVA	Kavala	1.16	304	P	Pb	05 17 28.6	-0.3
KAVA				S	Sb	05 17 44.6	+0.7
KAVA	Kavala	1.16	304	P	Pb	05 17 28.6	-0.3
KAVA				S	Sb	05 17 44.6	+0.7
KRBG	Karabiga-Canak	1.16	88	*e*PN	Pn	05 17 27.7	-1.5
KRBG	Karabiga-Canak	1.16	88	*e*Pn	Pn	05 17 27.7	-1.4
PRK	Paraskevi	1.17	161	*e*PN	Pn	05 17 29.0	-0.3
PRK				*e*SN	Sn	05 17 45.1	-0.3
PRK	Paraskevi	1.17	161	*e*PN	Pn	05 17 28.3	-1.0
PRK				*e*SN	Sn	05 17 45.1	-0.3
PRK	Paraskevi	1.17	161	P	Pb	05 17 29.2	0.0
PRK				S	Sb	05 17 45.2	+0.7
PRK	Paraskevi	1.17	161	*e*Pb	Pb	05 17 27.9	-1.3
PRK	Paraskevi	1.17	161	P	Pb	05 17 29.2	0.0
PRK				*e*Sn	Sn	05 17 45.1	-0.3
AYVA	Ayvalik	1.26	146	*i* P	Pn	05 17 30.5	0.0
AYVA				*i* S	Sb	05 17 47.3	+0.3
AYVA	Ayvalik	1.26	146	*i* P	Pn	05 17 30.5	0.0
AYVA				*i* S	Sb	05 17 47.3	+0.3
KDZ	Kurdzhali	1.32	348	*i* Pg	Pg	05 17 30.7	-1.4
KDZ	Kurdzhali	1.32	348	*i* Pg	Pg	05 17 30.7	-1.4
KDZ	Kurdzhali	1.32	348	*i* Pg	Pg	05 17 30.7	-1.4
OUR	Ouranopolis	1.38	270	P	Pn	05 17 31.1	-1.0
OUR				S	Sb	05 17 50.2	-0.1
OUR	Ouranopolis	1.38	270	P	Pn	05 17 31.1	-1.0
OUR				S	Sb	05 17 50.2	-0.1
TKR	Tekirdag	1.48	64	*e*PN	Pn	05 17 33.5	0.0
TKR	Tekirdag	1.48	64	*e*Pn	Pn	05 17 33.5	0.0
GONE	Gonen-Balikesi	1.49	101	*e*PN	Pn	05 17

*ISCJB **30** 05:26:54.0±1.7, 17°.64S±0°.1×178°.5W±0°.1, h593km±12km, mb4.1/21, Error ellipse: s-maj=25.6km s-min=12.4km az=144.0*
*NEIC **30** 05:26:54.4±0.9, 17°.59S×178°.38W, h588km±9km, mb4.4/11, Error ellipse: s-maj=20.1km s-min=10.0km az=145.0*
*IDC **30** 05:26:55.9±2.8, 17.64S×178.38W, h604km±30km, mb3.4/11, mb1 3.7/11, mb1mx3.5/16, mbtmp3.4/11, Error ellipse: s-maj=32.3km s-min=13.2km az=149.0*
ISC 30 05:26:54.7±1.1, 17°.65±0°.1×178°.4W±0°.1, h586km±12km, n91, σ0s81/46, mb4.1/21, 2C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.37	267	*e*Pn	P	05 28 14.7	-0.2
OUZ	Omahuta	18.95	200	*e*P	P	05 30 40.0	+0.6
	12nm,0.8s						
EIDS	Eidsvold	29.37	249	*e*P	P	05 32 11.2	-0.6
	3.6nm,0.7s,mb4.1						
ARMA	Armidale	30.10	239	*e*P	P	05 32 18.5	+0.5
ARMA	Armidale	30.10	239	*e*P	P	05 32 18.2	+0.2
	4.2nm,0.5s,mb4.3						
CTA	Charters Tower	33.49	260	*e*P	P	05 32 47.0	+0.1
CTAO	Charters Tower	33.49	260	*e*P	P	05 32 46.7	-0.2
	6.0nm,0.8s,mb4.3						
CNB	Canberra Magne	33.62	232	*e*P	P	05 32 48.3	+0.5
PMG	Port Moresby	34.40	279	P	P	05 32 56.2	+1.6
	28nm,0.8s,mb5.0,baz=68,slow=6.3,SNR=18						
PMG	Port Moresby	34.40	279	*e*P	P	05 32 56.0	+1.4
	31nm,0.9s,mb4.9						
COEN	Coen	37.09	270	*e*P	P	05 33 17.9	+1.1
	126nm,0.7s						
STKA	Stephens Creek	38.78	241	P	P	05 33 30.1	-0.1
	6.3nm,0.6s,mb4.3,baz=83,slow=9.2,SNR=13						
STKA	Stephens Creek	38.78	241	*e*P	P	05 33 30.6	+0.4
STKA	Stephens Creek	38.78	241	*e*P	P	05 33 30.4	+0.2
	1.9nm,0.9s,mb3.6						
WB2	Warramunga Arr	44.67	259	*e*P	P	05 34 15.7	-1.0
WRAB	Tennant Creek	44.67	259	*e*P	P	05 34 16.2	-0.4
	6.2nm,0.5s,mb4.4						
WRA	Warramunga Arr	44.68	259	P	P	05 34 16.0	-0.8
	6.6nm,0.5s,mb4.4,baz=93,slow=7.3,SNR=44						
WRA				PcP	PcP	05 35 46.3	-0.1
	0.5nm,0.3s,baz=105,slow=2.3,SNR=5.1						
WRA	Warramunga Arr	44.68	259	P	P	05 34 16.0	-0.8
WRA				PcP	PcP	05 35 46.3	-0.1
AS31	Alice Springs	44.87	254	*e*P	P	05 34 18.1	-0.1
ASAR	Alice Springs	44.87	254	P	P	05 34 18.2	+0.1
	44nm,0.6s,mb5.2,baz=88,slow=8.3,SNR=608						
ASAR				PcP	PcP	05 35 47.1	+0.1
	1.6nm,0.5s,baz=106,slow=3.4,SNR=6.3						
ASAR				S	S	05 40 13.8	-0.4
	0.8nm,1.0s,baz=92,slow=14,SNR=4.7						
ASAR	Alice Springs	44.87	254	P	P	05 34 18.2	+0.1
ASAR				PcP	PcP	05 35 47.1	+0.1
ASAR				S	S	05 40 13.8	-0.4
FORT	Forrest	50.14	244	*e*P	P	05 34 56.7	-0.7
FORT	Forrest	50.14	244	*e*P	P	05 34 56.4	-1.0
	15nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	53.07	260	*e*P	P	05 35 18.8	+0.1
FITZ	Fitzroy Crossi	53.07	260	*e*P	P	05 35 19.0	+0.4
	19nm,1.5s,mb4.2						
MBWA	Marble Bar	58.14	256	*e*P	P	05 35 53.0	-0.7
	6.5nm,0.6s,mb3.9						
KLBR	Kellerberrin	58.97	243	*e*P	P	05 35 58.4	-0.6
	10nm,0.8s,mb4.0						
MJAR	Matsushiro Arr	67.64	323	P	P	05 36 53.7	-0.5
	2.0nm,0.6s,mb3.7,baz=152,slow=5.8,SNR=6.8						
MJAR	Matsushiro Arr	67.64	323	P	P	05 36 53.7	-0.5
PETK	Petropavlovsk-	73.36	345	P	P	05 37 27.7	+0.3
	1.5nm,0.6s,mb3.7,baz=140,slow=7.4,SNR=3.6						
PETK	Petropavlovsk-	73.36	345	P	P	05 37 27.7	+0.3
NVAR	Mina Array Bea	79.20	44	P	P	05 38 00.2	+0.4
	0.7nm,0.7s,mb3.1,baz=223,slow=8.8,SNR=6.5						
NVAR	Mina Array Bea	79.20	44	P	P	05 38 00.2	+0.4
ENH	Enshi	84.08	304	*e*P	P	05 38 28.3	+3.4
	10nm,0.4s,mb4.7						
ILAR	Eielson Array	85.57	13	P	P	05 38 30.1	-1.1
	0.7nm,0.4s,mb3.6,baz=222,slow=5.4,SNR=19						
ILAR	Eielson Array	85.57	13	P	P	05 38 30.1	-1.1
TXAR	Lajitas Array	85.83	58	P	P	05 38 34.1	+0.8
	0.7nm,0.7s,mb3.4,baz=217,slow=5.8,SNR=12						
TXAR	Lajitas Array	85.83	58	P	P	05 38 34.1	+0.8
PDAR	Pinedale Array	87.12	43	P	P	05 38 39.0	-0.1
	0.6nm,0.6s,mb3.5,baz=204,slow=3.3,SNR=4.8						
PDAR	Pinedale Array	87.12	43	P	P	05 38 39.0	-0.1
CMAR	Chiang Mai Arr	88.77	290	P	P	05 38 49.2	+1.9
	1.0nm,0.5s,mb3.9,baz=110,slow=3.2,SNR=8.5						
CMAR	Chiang Mai Arr	88.77	290	P	P	05 38 49.2	+1.9
YKA	Yellowknife Ar	94.04	25	P	P	05 39 09.3	-1.3
	0.3nm,0.7s,mb3.5,baz=239,slow=3.9,SNR=5.9						
YKA	Yellowknife Ar	94.04	25	P	P	05 39 09.3	-1.3
MKAR	Makanchi Array	108.90	314	PKiKP	PKiKP	05 44 17.0	-1.1
	0.2nm,0.5s,baz=176,slow=1.5,SNR=6.5						
MKAR	Makanchi Array	108.90	314	PKiKP	PKiKP	05 44 17.0	-1.1
KURK	Kurchatov	111.58	318	PKiKP	PKiKP	05 44 21.6	-1.5
	0.3nm,0.8s,baz=80,slow=1.5,SNR=5.0						
KURK	Kurchatov	111.58	318	PKiKP	PKiKP	05 44 21.6	-1.5
BVAR	Borovoye Array	116.59	321	PKP	PKPdf	05 44 31.6	-1.0
	0.5nm,0.5s,baz=59,slow=9.1,SNR=3.0						
BVAR	Borovoye Array	116.59	321	PKP	PKPdf	05 44 31.6	-1.0
ARCES	ARCESS Array B	126.00	350	PKP	PKPdf	05 44 48.5	-1.7
	6.5nm,1.1s,baz=19,slow=4.1,SNR=4.1						
ARCES	ARCESS Array B	126.00	350	PKP	PKPdf	05 44 48.5	-1.7
FINES	FINESS Array B	132.87	344	PKP	PKPdf	05 45 03.2	-0.2
	3.3nm,1.0s,baz=24,slow=10,SNR=4.0						
FINES	FINESS Array B	132.87	344	PKP	PKPdf	05 45 03.2	-0.2
KWP	Kalwaria Pacla	143.77	337	||*i*P	PKPdf	05 45 23.1	-0.6
BUR08	Bucovina Ar. S	144.31	332	*e*PKPdf	PKPdf	05 45 25.4	+0.8
BURAR	Bucovina Array	144.32	332	||*i*P	PKPdf	05 45 25.8	+1.1
STHS	Stebnicka Huta	144.49	338	*e*PKP	PKPdf	05 45 25.8	+0.9
BRTR	Keskin Array B	144.55	315	PKP	PKPdf	05 45 25.6	+0.3
	2.6nm,0.7s,baz=120,slow=3.9,SNR=20						
BRTR	Keskin Array B	144.55	315	PKP	PKPdf	05 45 25.6	+0.3
KSP	Ksiaz	144.80	344	*e*PKP	PKPdf	05 45 26.0	+0.6
CRVS	Cervenica-Dubn	144.84	337	*e*PKP	PKPdf	05 45 26.7	+1.2
TRPA	Tarpa	145.05	335	||*i*P	PKPbc	05 45 26.9	+0.1
UPC	Upice	145.18	344	*e*PKP	PKPbc	05 45 27.6	+0.5
DPC	Dobruska-Polom	145.24	343	*e*PKP	PKPbc	05 45 27.7	+0.4
BRG	Berggiesshubel	145.35	346	*i*P	PKPbc	05 45 27.6	0.0
	5.1nm,0.9s						
PVCC	Panska Ves	145.52	345	*e*PKP	PKPbc	05 45 28.1	0.0
KECS	Kecovo	145.54	338	*e*PKP	PKPbc	05 45 27.8	-0.4
PRU	Pruhonice	146.03	345	*e*PKP	PKPbc	05 45 29.4	-0.2
VYHS	Vyhne	146.11	339	*e*PKP	PKPbc	05 45 30.4	+0.6
KOLL	Kolacno	146.18	340	*e*PKP	PKPbc	05 45 30.8	+0.8
KHC	Kasperske Hory	147.06	345	*e*PKP	PKPbc	05 45 31.7	-0.7
GERES	GERESS Array B	147.30	345	PKPbc	PKPbc	05 45 33.0	-0.1
	2.1nm,0.5s,baz=22,slow=2.8,SNR=29						
GERES	GERESS Array B	147.30	345	PKPbc	PKPbc	05 45 33.0	-0.1
BAIF	Baives	147.53	357	*e*PKP1	PKPbc	05 45 33.4	-0.2
	31nm,1.1s						
CONA	Conrad Observa	147.55	342	||*i*PKiKP	PKPbc	05 45 34.4	+0.7
	4.2nm,0.7s						
FLN	La Foliniere	148.85	3	*e*PKP1	PKPbc	05 45 36.3	-0.6
CDF	Champ du Feu	148.90	353	*e*PKP1	PKPbc	05 45 36.9	-0.1
	7.5nm,0.7s						
PAGF	Fort de Pagny	148.92	355	*e*PKP1	PKPbc	05 45 37.2	+0.1
	2.3nm,0.6s						
LDF	La Drutiiere	149.04	2	*e*PKP1	PKPbc	05 45 36.6	-0.8
	3.3nm,0.5s						
GRR	Gorron	149.21	3	*e*PKP1	PKPbc	05 45 37.3	-0.5
WTTA	Wattenberg	149.26	347	||*i*PKiKP	PKPbc	05 45 38.0	+0.1
	6.2nm,0.6s						
SFTF	Sexfontaines	149.33	355	*e*PKP1	PKPbc	05 45 38.0	-0.1
	5.6nm,0.4s						
HAU	Haudompre	149.41	354	*e*PKP1	PKPbc	05 45 38.0	-0.3
	4.4nm,0.5s						
HINF	Hinteralfeld	149.54	353	*e*PKP1	PKPbc	05 45 38.1	-0.5
FETA	Feichten	149.69	348	||*i*PKiKP	PKPbc	05 45 39.2	+0.3
	3.8nm,0.8s						
LOR	Lormes	150.34	357	*e*PKP1	PKPbc	05 45 40.2	-0.3
	9.2nm,0.7s						
SSF	Saint Saulge	150.56	357	*e*PKP1	PKPbc	05 45 40.8	-0.2
	4.5nm,0.6s						
MFF	Saint Martin d	151.03	2	*e*PKP1	PKPbc	05 45 41.5	-0.6
BGF	Bois d'Agland	151.09	358	*e*PKP1	PKPbc	05 45 41.9	-0.3
LPL	La Plagne	151.82	352	*e*PKP1	PKPbc	05 45 44.4	+0.5

*IDC **30** 05:38:50.6±0.8, 4°.70S×101°.83E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.1/23, mbtmp4.2/13, MS3.3/2, Ms1 3.4/2, ms1mx2.7/36, Error ellipse: s-maj=29.7km s-min=16.3km az=54.0*

*NEIC **30** 05:38:55.9±0.5, 4°.79S×101°.84E, h35km, mb4.7/8, Error ellipse: s-maj=21.6km s-min=7.7km az=50.0*
*ISCJB **30** 05:38:58.7±1.4, 4°.60S±0°.10×102°.1E±0°.1, h72km±10km, mb4.4/18, Error ellipse: s-maj=23.4km s-min=6.5km az=139.5*
*DJA **30** 05:38:58, 4°.61S×102°.13E, h10km, MLv4.7/10*
ISC 30 05:39:00.1±1.2, 4°.59S±0°.09×102°.1E±0°.1, h66km±10km, n71, σ1s03/67, mb4.4/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.87	75	P	Pn	05 39 14.8	-2.0
KSI	Kapahiang	1.04	27	P	Pn	05 39 16.5	-2.5
KSI				S	Sn	05 39 32.5	-0.5
LWLI	Liwa	1.99	103	P	Pn	05 39 32.8	+1.3
LWLI				S	Sn	05 39 56.8	+1.4
KRJI	Kerinci	2.56	345	P	Pn	05 39 39.0	-0.3
KRJI				S	Sn	05 40 13.7	+4.3
KLI	Kotabumi	2.75	96	P	Px	05 39 56.6	
CGJI	Cibinong	4.09	120	P	Pn	05 39 59.3	-1.0
RGRI	Rengat	4.21	3	P	Pn	05 40 04.7	+2.8
PPI	Padang Panjang	4.44	337	P	Pn	05 40 06.6	+1.5
PPBI	Pangkal Pinang	4.68	59	P	Pn	05 40 09.7	+1.4
CBJI	Citeko	5.06	111	P	Pn	05 40 21.9	+8.5
	2.7nm320nm,0.5s						
CISI	Cisompet, Garu	6.39	118	P	Pn	05 40 31.1	-0.6
	0.7nm2µm94nm,0.9s						
UGM	Wanagama	8.99	112	P	Pn	05 41 08.1	+0.8
	157nm,2.0s						
PWJI	Pagerwojo	10.22	110	P	Pn	05 41 22.1	-2.0
KAPI	Kappang	17.58	92	LR	LR	05 50 24.1	
	comp=Z,89nm,19.2s,baz=173,slow=39						
CMAR	Chiang Mai Arr	23.11	352	P	P	05 44 00.7	0.0
	2.5nm,0.5s,mb3.8,baz=184,slow=8.9,SNR=17						
CMAR				LR	LR	05 53 45.3	
	comp=Z,61nm,18.5s,baz=180,slow=39						
CMAR	Chiang Mai Arr	23.11	352	P	P	05 44 00.7	0.0
ODAN	Odare	34.35	336	*e*P	P	05 45 40.2	-0.6
ODAN	Odare	34.35	336	*e*P	P	05 45 40.2	-0.6
TAPN	Taplejung	34.66	337	*e*P	P	05 45 42.9	-0.6
	19nm,0.8s,mb5.0						
TAPN	Taplejung	34.66	337	*e*P	P	05 45 42.9	-0.6
	19nm,0.8s,mb5.0						
RAMN	Ramite	34.75	335	*e*P	P	05 45 43.8	-0.5
RAMN	Ramite	34.75	335	*e*P	P	05 45 43.8	-0.5
WRAB	Tennant Creek	34.90	119	*e*P	P	05 45 46.1	+0.5
	13nm,1.4s,mb4.6						
JIRN	Jiri	35.55	335	*e*P	P	05 45 51.7	+0.6
JIRN	Jiri	35.55	335	*e*P	P	05 45 51.7	+0.6
PKI	Pulchoki	35.80	334	*e*P	P	05 45 53.8	+0.5
PKI	Pulchoki	35.80	334	*e*P	P	05 45 53.8	+0.5
GUN	Gumba	35.90	335	*e*P	P	05 45 54.6	+0.5
	21nm,0.7s,mb5.2						
GUN	Gumba	35.90	335	*e*P	P	05 45 54.6	+0.5
	21nm,0.7s,mb5.2						
DMN	Daman	35.97	334	*e*P	P	05 45 55.6	+0.9
DMN	Daman	35.97	334	*e*P	P	05 45 55.6	+0.9
ASAR	Alice Springs	36.05	125	P	P	05 45 55.5	+0.1
	0.7nm,0.7s,mb3.7,baz=294,slow=8.4,SNR=8.3						
ASAR	Alice Springs	36.05	125	P	P	05 45 55.5	+0.1
KKN	Kakani	36.05	334	*e*P	P	05 45 55.9	+0.5
KKN	Kakani	36.05	334	*e*P	P	05 45 55.9	+0.5
GKN	Gorkha	36.52	334	*e*P	P	05 46 00.5	+1.1
GKN	Gorkha	36.52	334	*e*P	P	05 46 00.5	+1.1
KOLN	Koldanda	36.79	332	*e*P	P	05 46 02.2	+0.5
KOLN	Koldanda	36.79	332	*e*P	P	05 46 02.2	+0.5
DANN	Dangsing	37.21	333	*e*P	P	05 46 06.6	+1.3
	15nm,0.4s,mb5.3						
DANN	Dangsing	37.21	333	*e*P	P	05 46 06.6	+1.3
	15nm,0.4s,mb5.3						
CTA	Charters Tower	45.62	114	P	P	05 47 14.7	+0.4
	2.0nm,0.6s,mb4.0,baz=305,slow=10.0,SNR=4.5						
CTA	Charters Tower	45.62	114	P	P	05 47 14.7	+0.4
CTAO	Charters Tower	45.62	114	*e*P	P	05 47 14.7	+0.4
	1.5nm,0.6s,mb3.9						
STKA	Stephens Creek	45.87	131	P	P	05 47 16.6	+0.5
	1.4nm,0.6s,mb3.9,baz=306,slow=12,SNR=5.4						
STKA	Stephens Creek	45.87	131	*e*P	P	05 47 17.5	+1.3
	1.2nm,1.1s,mb3.5						
SONM	Songino Array	52.33	4	P	P	05 48 05.5	+0.4
	4.9nm,0.6s,mb4.7,baz=187,slow=9.6,SNR=60						
SONM				PcP	PcP	05 49 15.5	0.0
	1.3nm,0.7s,baz=178,slow=3.3,SNR=4.0						
SONM	Songino Array	52.33	4	P	P	05 48 05.5	+0.4
SONM				PcP	PcP	05 49 15.5	0.0
MK31	Makanchi Array	54.08	343	*e*P	P	05 48 17.4	-0.6
MKAR	Makanchi Array	54.08	343	P	P	05 48 17.5	-0.5
	5.0nm,0.7s,mb4.7,baz=146,slow=8.2,SNR=59						
MKAR	Makanchi Array	54.08	343	P	P	05 48 17.5	-0.5
OPO	Ambohidratompo	55.35	251	P	P	05 48 23.6	-4.1
	1.6nm,0.3s,mb4.5,baz=117,slow=6.6,SNR=3.7						
OPO	Ambohidratompo	55.35	251	P	P	05 48 23.6	-4.1
USRK	Ussuriysk Arra	55.50	26	P	P	05 48 27.4	-0.9
	3.2nm,0.6s,mb4.6,baz=207,slow=5.1,SNR=12						
KURK	Kurchatov	58.67	343	P	P	05 48 49.6	-1.0
	2.8nm,0.8s,mb4.4,baz=158,slow=6.2,SNR=21						
KURK	Kurchatov	58.67	343	*e*P	P	05 48 50.0	-0.6
	5.1nm,1.0s,mb4.5						
ZAA0	Zalesovo Array	60.09	348	*e*P	P	05 48 59.4	-1.0
ZALV	Zalesovo Beam	60.09	348	P	P	05 48 59.5	-0.9
	6.6nm,0.6s,mb4.8,baz=168,slow=5.1,SNR=38						
ZALV	Zalesovo Beam	60.09	348	P	P	05 48 59.5	-0.9
BVAR	Borovoye Array	63.33	339	P	P	05 49 20.8	-1.3
	2.1nm,0.5s,mb4.3,baz=147,slow=8.8,SNR=15						
BVAR	Borovoye Array	63.33	339	P	P	05 49 20.8	-1.3
ABKAR	Akbulak array	64.91	331	*e*P	P	05 49 31.4	-1.2
	1.7nm,0.6s,mb4.0						
BRTR	Keskin Array B	76.61	312	P	P	05 50 43.4	-0.5
	2.0nm,0.9s,mb3.9,baz=133,slow=7.6,SNR=7.2						
BRTR	Keskin Array B	76.61	312	P	P	05 50 43.4	-0.5
GERES	GERESS Array B	92.37	319	P	P	05 52 04.1	+0.6
	0.6nm,0.8s,mb3.9,baz=132,slow=7.4,SNR=4.5						
GERES	GERESS Array B	92.37	319	P	P	05 52 04.1	+0.6
WMOK	Wichita Mounta	144.29	30	*e*PKPdf	PKPdf	05 58 27.0	-2.3
TXAR	Lajitas Array	145.34	42	PKPbc	PKPbc	05 58 31.7	+0.6
	4.6nm,0.7s,baz=297,slow=1.2,SNR=63						
TXAR	Lajitas Array	145.34	42	PKPbc	PKPbc	05 58 31.7	+0.6
MIAR	Mount Ida	146.83	24	*e*PKPbc	PKPbc	05 58 35.4	-0.1
JCT	Junction City	146.98	36	*e*PKPbc	PKPbc	05 58 36.3	+0.3

*DDA **30** 05:44:08.7, 37°.90N×29°.23E, h7km±3km, Md2.7*
*ISCJB **30** 05:44:09.6±0.6, 37°.91N±0°.03×29°.20E±0°.05, h6km±7km, Error ellipse: s-maj=6.2km s-min=4.9km az=165.1*
*ISK **30** 05:44:09.6, 37°.93N×29°.24E, h6km, MD2.8*
*CSEM **30** 05:44:09.2±0.3, 37°.91N×29°.23E, h2km, MD2.8, Error ellipse: s-maj=7.6km s-min=6.2km az=89.0*
ISC 30 05:44:09.8±0.5, 37°.92N±0°.03×29°.20E±0°.05, h4km±10km, n24, σ0s97/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.21	220	PG	Pg	05 44 15.0	+1.1
DENT	Denizli	0.21	220	*i*Pg	Pg	05 44 15.0	+1.1
DNZL	Cakiroluk	0.26	209	*i*P	Pg	05 44 13.9	-0.9
DNZL				*i*S	Sg	05 44 17.7	-0.5
DNZL	Cakiroluk	0.26	209	*i*P	Pg	05 44 13.9	-0.9
DNZL				*i*S	Sg	05 44 17.7	-0.5
GOLH	Golhisar	0.73	157	*i*P	Pg	05 44 20.4	-3.5
GOLH				*i*S	Sg	05 44 33.4	-0.1
GOLH	Golhisar	0.73	157	*i*P	Pg	05 44 20.4	-3.5
GOLH				*i*S	Sg	05 44 33.4	0.0
KULA	Kula-Manisa	0.73	325	*e*PG	Pg	05 44 24.4	+0.5
KULA				*e*SG	Sg	05 44 35.1	+1.6
KULA	Kula-Manisa	0.73	325	*e*Pg	Pg	05 44 24.4	+0.4
KULA				*e*Sg	Sg	05 44 35.1	+1.6
GLHS	Glhisar (BURDU	0.79	163	*e*PG	Pg	05 44 25.6	+0.5
GLHS				*e*SG	Sg	05 44 37.0	+1.6
GLHS	Glhisar (BURDU	0.79	163	*e*Pg	Pg	05 44 25.6	+0.5
GLHS				*e*Sg	Sg	05 44 37.0	+1.7
ISP	Isparta	1.05	95	*e*PG	Pg	05 44 28.8	-1.1
ISP	Isparta	1.05	95	*e*Pg	Pg	05 44 28.8	-1.1
YER	Yerkesik	1.07	223	*e*PN	Pg	05 44 30.8	+0.4
YER	Yerkesik	1.07	223	*e*Pn	Pg	05 44 30.8	+0.5
AYDN	Tasoluk	1.08	257	*i*P	Pg	05 44 29.6	-0.9
AYDN				*i*S	Sg	05 44 43.6	-1.0
AYDN	Tasoluk	1.08	257	*i*P	Pg	05 44 29.6	-0.9
AYDN				*i*S	Sg	05 44 43.6	-0.9
GDZ	Gediz	1.19	10	*i*P	Pg	05 44 31.3	-1.4
GDZ				*i*S	Sg	05 44 48.8	+0.7
GDZ	Gediz	1.19	10	*i*P	Pg	05 44 31.3	-1.4
GDZ				*i*S	Sg	05 44 48.8	+0.7
SHUT	Suhut-Afyon	1.24	59	*e*PN	Pn	05 44 33.5	-0.4
SHUT	Suhut-Afyon	1.24	59	*e*Pn	Pn	05 44 33.5	-0.4
ELL	Elmali	1.29	154	*e*PN	Pn	05 44 35.5	+0.8
ELL	Elmali	1.29	154	*e*Pn	Pn	05 44 35.5	+0.9
ALT	Altintas	1.34	32	*e*PN	Pn	05 44 35.0	-0.4
ALT	Altintas	1.34	32	*e*Pn	Pn	05 44 35.0	-0.3

*ISCJB **30** 06:09:09.4±0.4, 38°.41N±0°.02×39°.01E±0°.03, h4km±4km, Error ellipse: s-maj=3.6km s-min=3.5km az=20.1*
*CSEM **30** 06:09:09.7±0.2, 38°.42N×39°.03E, h8km, MD3.4, Error ellipse: s-maj=4.2km s-min=3.7km az=129.0*
*ISK **30** 06:09:09.1, 38°.42N×39°.04E, h6km, MD3.2*
*DDA **30** 06:09:09.3, 38°.41N×39°.00E, h17km±1km, Md3.4*
ISC 30 06:09:10.1±0.4, 38°.41N±0°.02×39°.02E±0°.03, h6km±3km, n39, σ0s94/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.09	343	*i*P	Pg	06 09 13.0	+0.9
ELZG				*i*S	Sg	06 09 15.2	+1.8
ELZG	Elazig	0.09	343	*i*P	Pg	06 09 13.0	+0.9
ELZG				*i*S	Sg	06 09 15.2	+1.7
SVRC	Sivrice-ELAZID	0.23	99	PG	Pg	06 09 13.8	-0.8
SVRC				*e*SG	Sg	06 09 17.5	-0.2
SVRC	Sivrice-ELAZID	0.23	99	*i*Pg	Pg	06 09 13.8	-0.8
SVRC				*e*Sg	Sg	06 09 17.5	-0.2
MYA	Malataya	0.47	259	*e*PG	Pg	06 09 19.2	0.0
MYA	Malataya	0.47	259	*e*Pg	Pg	06 09 19.2	0.0
PTK	Pertek	0.56	32	*e*PG	Pg	06 09 19.9	-0.9
PTK				*e*SG	Sg	06 09 28.1	-0.1
PTK	Pertek	0.56	32	*e*Pg	Pg	06 09 19.9	-1.0
PTK				*e*Sg	Sg	06 09 28.1	-0.1
AKCD	Akcadag	0.87	263	*i*P	Pg	06 09 26.2	-0.5
AKCD				*i*S	Sg	06 09 36.9	-1.1
AKCD	Akcadag	0.87	263	*i*P	Pg	06 09 26.2	-0.5
AKCD				*i*S	Sg	06 09 36.9	-1.1
KEMA	Kemaliye	0.95	335	*i*P	Pg	06 09 27.6	-0.6
KEMA				*i*S	Sg	06 09 40.8	+0.2
KEMA	Kemaliye	0.95	335	*i*P	Pg	06 09 27.6	-0.6
KEMA				*i*S	Sg	06 09 40.8	+0.3
URFA	Urfa	0.98	189	*e*PG	Pg	06 09 27.9	-1.0
URFA				*e*SG	Sg	06 09 43.0	+1.3
URFA	Urfa	0.98	189	*e*Pg	Pg	06 09 28.0	-0.9
URFA				*e*Sg	Sg	06 09 43.0	+1.3
DIYA	Diyarbakir	1.00	119	*i*P	Pg	06 09 29.1	-0.2
DIYA				*i*S	Sg	06 09 43.1	+0.9
DIYA	Diyarbakir	1.00	119	*i*P	Pg	06 09 29.0	-0.2
DIYA				*i*S	Sg	06 09 43.1	+0.9
ILIC	ilic-Erzincan	1.09	341	*e*PN	Pg	06 09 30.5	-0.6
ILIC				*e*SN	Sg	06 09 46.1	+0.8
ILIC	ilic-Erzincan	1.09	341	*e*Pn	Pg	06 09 30.5	-0.6
ILIC				*e*Sn	Sg	06 09 46.1	+0.8
ATAB	Bozova	1.10	211	*i*P	Pg	06 09 30.2	-1.0
ATAB				*i*S	Sg	06 09 45.7	+0.2
ATAB	Bozova	1.10	211	*i*P	Pg	06 09 30.2	-1.0
ATAB				*i*S	Sg	06 09 45.7	+0.2
ERZN	Erzincan	1.29	25	*e*PN	Pn	06 09 33.6	-1.0
EZC	Erzincan	1.36	11	*e*Pn	Pn	06 09 33.6	-2.0
GZT	Gaziantep	1.56	228	*i*P	Pn	06 09 37.1	-1.3
GZT				*i*S	Sn	06 09 59.6	+0.8
MARD	Mardin	1.77	128	*i*P	Pn	06 09 40.2	-1.1
MARD			

DDEM	**Demirkent**	**1.86 184**	*i* P		**Pn**	**06 14 31.3**	**-1.0**
DDEM	**Demirkent**	**1.86 184**	*i* P		**Pn**	**06 14 31.3**	**-1.0**
DDEM			*i* S		**Sn**	**06 14 55.9**	**0.0**
TBLG	**Delisi**	**2.32 115**	PN		**Pb**	**06 14 41.8**	**-0.4**
TBLG			*i* S		**Sb**	**06 15 11.7**	**+0.9**
TBLG	**Delisi**	**2.32 115**	P		**Pb**	**06 14 41.8**	**-0.4**
TBLG			S		**Sb**	**06 15 11.7**	**+0.8**
TBLG	**Delisi**	**2.32 115**	P		**Pb**	**06 14 41.8**	**-0.4**
TBLG			S		**Sb**	**06 15 11.7**	**+0.9**
MTA	**Mtatsminda**	**2.37 116**	P		**Pn**	**06 14 40.7**	**+1.4**
MTA			S		**Sn**	**06 15 11.1**	**+2.8**
MTA	**Mtatsminda**	**2.37 116**	P		**Pn**	**06 14 40.7**	**+1.5**
MTA			S		**Sn**	**06 15 11.1**	**+2.8**
GNI	**Garni**	**3.35 140**	*i* PN		**Pb**	**06 15 00.4**	**+0.6**
GNI			*i* S		**Sg**	**06 15 50.7**	**+2.9**
GNI			pmax	pmax			
	comp=Z,22nm,3.1s						
GNI			smax				
	comp=Z,47nm,2.0s						
ANN	**Anapa**	**3.85 304**	*e*PN		**Pn**	**06 15 00.3**	**+0.7**
ANN			*e*S		**Sn**	**06 15 47.0**	**+2.1**
ANN			pmax	pmax			
	comp=Z,10.0nm,0.8s						
ANN	**Anapa**	**3.85 304**	*e*Pn		**Pn**	**06 15 00.3**	**+0.7**
	comp=Z,10.0nm,0.8s						
ANN			*e*Sn		**Sn**	**06 15 47.0**	**+2.1**
BRTR	**Keskin Array B**	**6.95 247**	*i* P		**Pn**	**06 15 47.7**	**+5.6**
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**20.99 338**	*i* P		**P**	**06 18 46.5**	**+3.0**

NEIC ***30*** *06:17:17.1,61°.37N×139°.75W,h10km,ML2.7(AEIC), ML2.7(PGC),After PGC.*

PGC 30 06:17:17.1±5.5,61°.37N×139.75W,h10km,ML2.7/4,4D, 138km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada,Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABL	**Table Mountain**	**1.15**	**217**	P	Pb	06 17 35.7	-3.4
TABL				S	Sb	06 17 50.5	-3.5
HYT	**Haines Junctio**	**1.22**	**116**	P	Pn	06 17 39.4	-0.8
HYT				S	Sb	06 17 55.3	-0.7
HYT	**Haines Junctio**	**1.22**	**116**	⇑P	Pn	06 17 39.4	-0.8
HYT				⇓S	Sb	06 17 55.3	-0.7
BALM	**Baldy**	**1.30**	**256**	P	Pn	06 17 38.2	-3.0
SAMH	**Samovar Hills**	**1.34**	**203**	P	Pn	06 17 40.4	-1.4
BAGL	**Bagley Icefiel**	**1.44**	**233**	P	Pn	06 17 40.8	-2.5
BAGL				S	Sn	06 17 58.9	-3.2
ISLE	**Juniper Island**	**1.48**	**240**	P	Pn	06 17 41.3	-2.4
ISLE				S	Sn	06 18 00.1	-3.0
BARK	**Barkley Ridge**	**1.65**	**235**	P	Pn	06 17 44.7	-1.4
BARK				S	Sn	06 18 06.3	-1.0
PNL	**Peninsula**	**1.71**	**174**	P	Pn	06 17 46.4	-0.6
WRG	**White River Gl**	**1.74**	**221**	P	Pn	06 17 47.5	+0.2
KHIT	**Khitrov Hills**	**1.94**	**243**	P	Pn	06 17 49.6	-0.5
BCA3	**Beaver Creek A**	**1.95**	**332**	P	Pn	06 17 48.8	-1.4
BERG	**Berg Lake**	**2.17**	**245**	P	Pn	06 17 52.7	-0.4
BMRM	**Bremner River**	**2.38**	**262**	P	Pn	06 17 54.8	-1.4
WHY	**Whitehorse**	**2.48**	**105**	Pn	Pn	06 17 56.7	-0.8
WHY				Sg	Sg	06 18 34.0	-2.6
WHY	**Whitehorse**	**2.48**	**105**	⇓Pn	Pn	06 17 56.7	-0.8
WHY				⇑Sg	Sg	06 18 34.0	-2.6
PLBC	**Pleasant Camp**	**2.55**	**137**	Pn	Pn	06 17 58.9	+0.5
PLBC				Pg	Pg	06 18 02.8	-3.2
PLBC				Sg	Sg	06 18 36.1	-2.8
PLBC	**Pleasant Camp**	**2.55**	**137**	⇓Pn	Pn	06 17 58.9	+0.5
PLBC				⇑Pg	Pg	06 18 02.8	-3.2
PLBC				⇓Sg	Sg	06 18 36.1	-2.8
DAWY	**Dawson**	**2.71**	**3**	Pn	Pn	06 18 00.4	-0.3
DAWY				Sg	Sg	06 18 41.3	-2.8
DAWY	**Dawson**	**2.71**	**3**	⇑Pn	Pn	06 18 00.4	-0.3
DAWY				⇑Sg	Sg	06 18 41.3	-2.8
KLU	**Klutina**	**2.97**	**275**	P	Pn	06 18 04.1	0.0
EGAK	**Eagle**	**3.48**	**350**	P	Pn	06 18 11.4	+0.2
DLBC	**Dease Lake**	**5.71**	**117**	⇑Sg	Sg	06 20 14.2	-5.9
INK	**Inuvik**	**7.45**	**18**	⇑Sg	Sg	06 21 08.1	-7.8

MOS ***30*** *06:18:29.7±0.8,42°.73N×41°.73E,h11km,mb4.3/5,Error ellipse: s-maj=7.4km s-min=6.5km az=167.6*
CSEM ***30*** *06:18:30.4±0.1,42°.74N×41°.84E,h2km,mb4.3,Error ellipse: s-maj=3.5km s-min=2.9km az=157.0*
IDC ***30*** *06:18:30.3±0.9,42°.86N×41°.75E,h0km,mb3.4/9, mb1 3.5/12,mb1mx3.5/30,mbtmp3.5/12,ML3.1/2,Error ellipse: s-maj=17.7km s-min=11.9km az=43.0*
ISCJB ***30*** *06:18:30.0±0.6,42°.76N±0°.02×41°.78E±0°.02,h7km±4km, mb3.4/8,Error ellipse: s-maj=3.2km s-min=2.6km az=150.5*
TIF ***30*** *06:18:30.0,42°.80N×41°.93E,h11km*
DDA ***30*** *06:18:38.0,42°.28N×41°.45E,h6km,Md3.7*

ISC 30 06:18:30.6±0.5,42°.74N±0°.02×41°.84E±0°.02,h2km±4km, n117,σ1§14/165,mb3.4/8,4C-2D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.57**	**344**	⇓*i*PG	**Pg**	**06 18 42.4**	**+0.8**
DOMR				*i* S	**Sg**	**06 18 50.8**	**+1.8**
DOMR	**Dombai**	**0.57**	**344**	*i* Pg	**Pg**	**06 18 42.4**	**+0.8**
DOMR				*i* Sg	**Sg**	**06 18 50.8**	**+1.8**
SHAR	**Shatzhatmas**	**1.17**	**31**	*e*PG	**Pg**	**06 18 52.5**	**-0.6**
SHAR				*i* S	**Sg**	**06 19 08.0**	**-0.3**
SHAR	**Shatzhatmas**	**1.17**	**31**	*e*Pg	**Pg**	**06 18 52.5**	**-0.6**
SHAR				*i* Sg	**Sg**	**06 19 08.0**	**-0.3**
ONI	**Oni**	**1.20**	**97**	P	**Pg**	**06 18 52.1**	**-1.4**
ONI				S	**Sg**	**06 19 07.6**	**-1.5**
DIGR	**Digorskoe uzhe**	**1.29**	**82**	⇑*i*PG	**Pn**	**06 18 53.8**	**-1.8**
DIGR				*i* S	**Sg**	**06 19 11.1**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.29**	**82**	*i* Pg	**Pn**	**06 18 53.8**	**-1.8**
DIGR				*i* Sg	**Sg**	**06 19 11.1**	**-1.0**
KIV	**Kislovodsk**	**1.36**	**27**	⇑*e*PG	**Pn**	**06 18 55.1**	**-1.5**
KIV				*i* S	**Sg**	**06 19 14.7**	**+0.3**
KIV			pmax	pmax			
	comp=Z,482nm,1.0s						
KIV	**Kislovodsk**	**1.36**	**27**	*e*Pg	**Pn**	**06 18 55.1**	**-1.5**
	comp=Z,482nm,1.0s						
KIV				*i* Sg	**Sg**	**06 19 14.7**	**+0.3**
DBOC	**Borcka**	**1.40**	**185**	*i* P	**Pn**	**06 18 56.2**	**-0.8**
DBOC				*i* S	**Sg**	**06 19 15.3**	**-0.2**
DBOC	**Borcka**	**1.40**	**185**	*i* P	**Pn**	**06 18 56.2**	**-0.9**
DBOC				*i* S	**Sg**	**06 19 15.3**	**-0.2**
ZEI	**Tsey**	**1.52**	**88**	*e*PG	**Pn**	**06 18 58.8**	**+0.1**
ZEI				*e*S	**Sn**	**06 19 18.4**	**-0.6**
ZEI	**Tsey**	**1.52**	**88**	*e*Pg	**Pn**	**06 18 58.8**	**+0.1**
ZEI				*e*Sg	**Sn**	**06 19 18.4**	**-0.6**
LSNR	**Lesken**	**1.55**	**69**	*e*PN	**Pn**	**06 19 00.2**	**+1.1**
LSNR				*e*S	**Sg**	**06 19 21.0**	**+0.8**
LSNR	**Lesken**	**1.55**	**69**	*e*Pn	**Pn**	**06 19 00.2**	**+1.1**
LSNR				*e*Sg	**Sg**	**06 19 21.0**	**+0.8**
ARTV	**Artvin**	**1.56**	**177**	*i* P	**Pn**	**06 18 57.5**	**-1.7**
ARTV				*i* S	**Sn**	**06 19 17.3**	**-2.6**
ARTV	**Artvin**	**1.56**	**177**	*i* P	**Pn**	**06 18 57.5**	**-1.7**
ARTV				*i* S	**Sn**	**06 19 17.3**	**-2.6**
KUBR	**Kubataba**	**1.56**	**47**	⇑*e*PN	**Pn**	**06 19 00.3**	**+0.9**
KUBR				*i* S	**Sn**	**06 19 20.2**	**0.0**
KUBR	**Kubataba**	**1.56**	**47**	*e*Pn	**Pn**	**06 19 00.3**	**+0.9**
KUBR				*i* Sg	**Sn**	**06 19 20.2**	**0.0**
DAGI	**Agillar**	**1.66**	**178**	*i* P	**Pn**	**06 18 59.9**	**-0.8**
DAGI				*i* S	**Sn**	**06 19 22.4**	**-0.2**
KORR	**Kora**	**1.67**	**77**	⇑*i*PN	**Pn**	**06 19 01.9**	**+1.0**
KORR				*e*S	**Sg**	**06 19 23.8**	**-0.6**
KORR	**Kora**	**1.67**	**77**	*i* Pn	**Pn**	**06 19 01.9**	**+1.0**
KORR				*e*Sg	**Sg**	**06 19 23.8**	**-0.6**
PZAR	**Pazar-Rize**	**1.71**	**204**	*e*PN	**Pn**	**06 19 00.2**	**-1.2**
PZAR				*e*SN	**Sn**	**06 19 21.5**	**-2.3**
PZAR	**Pazar-Rize**	**1.71**	**204**	*e*Pn	**Pn**	**06 19 00.2**	**-1.2**
PZAR				*e*Sn	**Sn**	**06 19 21.5**	**-2.3**
SOC	**Sochi**	**1.77**	**299**	*e*PN	**Pn**	**06 19 02.7**	**+0.6**
SOC				*e*		06 19 04.7	
SOC				*e*		06 19 25.0	
SOC			pmax	pmax			
	comp=Z,38nm,0.6s						
SOC			pmax	pmax			
	comp=Z,275nm,0.6s						
SOC			smax				
	comp=N,1μm,0.5s						
SOC			smax				
	comp=E,1μm,0.6s						
SOC	**Sochi**	**1.77**	**299**	*e*Pn	**Pn**	**06 19 02.7**	**+0.6**
	comp=E,38nm,0.6s						
SOC	**Sochi**	**1.77**	**299**	*e*Pg	**Pg**	**06 19 04.7**	**+0.3**
	comp=E,275nm,0.6s						
AKH	**Akhalkalaki**	**1.81**	**137**	P	**Pn**	**06 19 03.3**	**+0.5**
AKH				S	**Sn**	**06 19 27.3**	**+1.0**
AKH	**Akhalkalaki**	**1.81**	**137**	P	**Pn**	**06 19 03.3**	**+0.5**
AKH				S	**Sn**	**06 19 27.3**	**+1.0**
LACR	**Lac**	**1.81**	**86**	⇓*i*PN	**Pn**	**06 19 03.6**	**+0.8**
LACR	**Lac**	**1.81**	**86**	*i* Pn	**Pn**	**06 19 03.6**	**+0.8**
GOR	**Gori**	**1.84**	**113**	*e*PN	**Pn**	**06 19 03.3**	**+0.1**
GOR	**Gori**	**1.84**	**113**	P	**Pn**	**06 19 03.4**	**+0.1**
GOR				S	**Sn**	**06 19 28.2**	**+1.1**
GOR	**Gori**	**1.84**	**113**	*e*Pn	**Sn**	**06 19 03.3**	**+0.1**
GOR				S	**Sn**	**06 19 28.2**	**+1.1**
DDEM	**Demirkent**	**1.85**	**182**	*i* P	**Pn**	**06 19 02.8**	**-0.5**
DDEM				*i* S	**Sn**	**06 19 29.2**	**+2.0**
DDEM	**Demirkent**	**1.85**	**182**	*i* P	**Pn**	**06 19 02.8**	**-0.4**
DDEM				*i* S	**Sn**	**06 19 29.2**	**+2.0**
ARNR	**Ardon**	**1.85**	**75**	*e*PN	**Pn**	**06 19 04.9**	**+1.6**
ARNR	**Ardon**	**1.85**	**75**	*e*Pn	**Pn**	**06 19 04.9**	**+1.6**
KMSR	**Komsomolskaya**	**1.91**	**70**	*e*PN	**Pn**	**06 19 06.0**	**+1.9**
KMSR	**Komsomolskaya**	**1.91**	**70**	*e*Pn	**Pn**	**06 19 06.0**	**+1.9**
KARS	**Kars**	**2.31**	**156**	*e*PN	**Pn**	**06 19 12.7**	**+3.1**
KARS	**Kars**	**2.31**	**156**	*e*Pn	**Pn**	**06 19 12.7**	**+3.1**
KTUT	**Trabzon**	**2.34**	**222**	*e*PN	**Pn**	**06 19 08.1**	**-1.9**
KTUT				*e*SN	**Sn**	**06 19 35.9**	**-3.4**
MACK	**Trabzon**	**2.37**	**221**	*i* P	**Pn**	**06 19 09.8**	**-0.7**
MACK				*i* S	**Sn**	**06 19 39.8**	**-0.2**
TBLG	**Delisi**	**2.38**	**114**	PN	**Pn**	**06 19 10.6**	**0.0**
TBLG				S	**Sn**	**06 19 40.9**	**+0.6**
TBLG	**Delisi**	**2.38**	**114**	P	**Pn**	**06 19 10.6**	**0.0**
TBLG				S	**Sn**	**06 19 40.9**	**+0.6**
TBLG	**Delisi**	**2.38**	**114**	P	**Pn**	**06 19 10.6**	**0.0**
TBLG				S	**Sn**	**06 19 40.9**	**+0.6**
MTA	**Mtatsminda**	**2.43**	**114**	*e*PN	**Pn**	**06 19 11.4**	**+0.1**
MTA	**Mtatsminda**	**2.43**	**114**	P	**Pn**	**06 19 11.4**	**+0.1**
MTA				S	**Sn**	**06 19 41.9**	**+0.3**
MTA	**Mtatsminda**	**2.43**	**114**	P	**Pn**	**06 19 11.4**	**+0.1**
MTA				S	**Sn**	**06 19 41.9**	**+0.3**
HOMI	**Horasan**	**2.69**	**179**	*i* P	**Pn**	**06 19 16.4**	**+1.5**
HOMI				*i* S	**Sg**	**06 19 58.1**	**+1.0**
ERZM	**Erzurum**	**2.85**	**187**	*i* P	**Pn**	**06 19 18.4**	**+1.4**
ERZM	**Erzurum**	**2.85**	**187**	*i* P	**Pn**	**06 19 18.5**	**+1.4**
EZM	**Erzurum**	**2.85**	**187**	*e*PN	**Pn**	**06 19 18.8**	**+1.7**
GUMT	**Gumushane**	**2.88**	**219**	*e*PN	**Pn**	**06 19 16.9**	**-0.6**
GUMT	**Gumushane**	**2.88**	**219**	*e*Pn	**Pn**	**06 19 17.0**	**-0.5**
KOPT	**Kop Dagi**	**2.90**	**201**	*i* P	**Pn**	**06 19 19.8**	**+2.0**
KELT	**Kelkit**	**3.23**	**218**	*i* P	**Pn**	**06 19 22.1**	**-0.3**
KELT				*i* S	**Sn**	**06 20 01.6**	**+0.2**
KELT	**Kelkit**	**3.23**	**218**	*i* P	**Pn**	**06 19 22.1**	**-0.2**
KELT				*i* S	**Sn**	**06 20 01.6**	**+0.2**
AGRB	**Hanur-Agry**	**3.28**	**164**	*e*PN	**Pn**	**06 19 26.4**	**+3.5**
AGRB	**Hanur-Agry**	**3.28**	**164**	*e*Pn	**Pn**	**06 19 26.5**	**+3.6**
GNI	**Garni**	**3.38**	**139**	Pn	**Pn**	**06 19 29.4**	**+5.0**
	comp=E,3.7nm,0.3s,baz=311,slow=2.7,SNR=16						
GNI				Lg		06 20 20.0	
	comp=E,4.5nm,0.3s,baz=261,slow=15,SNR=5.1						
GNI	**Garni**	**3.38**	**139**	*i* PN	**Pn**	**06 19 31.2**	**+6.8**
GNI			pmax	pmax			
	comp=Z,25nm,0.9s						
SUSE	**Susehri**	**3.72**	**228**	*i* P	**Pn**	**06 19 29.4**	**+0.3**
SUSE				*i* S	**Sn**	**06 20 15.0**	**+1.6**
SUSE	**Susehri**	**3.72**	**228**	*i* P	**Pn**	**06 19 29.4**	**+0.4**
SUSE				*i* S	**Sn**	**06 20 15.0**	**+1.6**
ANN	**Anapa**	**3.80**	**304**	*e*PN	**Pn**	**06 19 30.4**	**+0.3**
ANN				*e*S	**Sn**	**06 20 17.8**	**+2.5**
ANN				*e*SS		06 20 29.9	
ANN			pmax	pmax			
	comp=Z,59nm,1.5s						
ANN	**Anapa**	**3.80**	**304**	*e*Pn	**Pn**	**06 19 30.4**	**+0.3**
	comp=Z,59nm,1.5s						
ANN				*e*Sn	**Sn**	**06 20 17.8**	**+2.5**
ILIC	**ilic-Erzincan**	**4.11**	**218**	*e*PN	**Pn**	**06 19 34.5**	**+0.2**
ILIC	**ilic-Erzincan**	**4.11**	**218**	*e*Pn	**Pn**	**06 19 34.5**	**+0.1**
RSDY	**Resadiye-TOKAT**	**4.11**	**237**	*e*PN	**Pn**	**06 19 33.6**	**-0.8**
RSDY	**Resadiye-TOKAT**	**4.11**	**237**	*e*Pn	**Pn**	**06 19 33.6**	**-0.8**
PTK	**Pertek**	**4.27**	**207**	*e*PN	**Pn**	**06 19 36.3**	**-0.2**
PTK	**Pertek**	**4.27**	**207**	*e*Pn	**Pn**	**06 19 36.3**	**-0.2**
SUDU	**Sudak**	**5.39**	**296**	*e*PN	**Pn**	**06 19 51.6**	**-0.4**
SUDU				*e*S	**Sn**	**06 20 52.5**	**-2.1**
SUDU			pmax	pmax			
	comp=Z,2.0nm,0.2s						
SUDU			smax				
	comp=N,8.0nm,0.4s						
SUDU			smax				
	comp=E,17nm,0.3s						
SUDU	**Sudak**	**5.39**	**296**	*e*Pn	**Pn**	**06 19 51.6**	**-0.4**
	comp=E,2.0nm,0.2s						
SUDU				*e*Sn	**Sn**	**06 20 52.5**	**-2.1**
	comp=E,8.0nm,0.4s						
YAL	**Yalta**	**5.84**	**290**	*e*P	**Pn**	**06 19 56.8**	**-1.4**
YAL			pmax	pmax			
	comp=Z,23nm,0.2s						
YAL	**Yalta**	**5.84**	**290**	*e*P	**Pn**	**06 19 56.8**	**-1.4**
	comp=Z,23nm,0.2s						
SEV	**Sevastopol'**	**6.20**	**290**	*e*P	**Pn**	**06 20 03.1**	**+0.1**
SEV				*e*S	**Sn**	**06 21 14.8**	**+0.4**
SEV			pmax	pmax			
	comp=Z,1.0nm,0.2s						
SEV			smax				
	comp=N,4.0nm,0.3s						
SEV			smax				
	comp=E,1.0nm,0.3s						
SEV	**Sevastopol'**	**6.20**	**290**	*e*P	**Pn**	**06 20 03.1**	**+0.1**
	comp=E,1.0nm,0.2s						
SEV				*e*S	**Sn**	**06 21 14.8**	**+0.4**
BRTR	**Keskin Array B**	**6.87**	**247**	Pn	**Pn**	**06 20 12.8**	**+0.5**
	comp=E,0.4nm,0.3s,baz=40,slow=10,SNR=10.0						
BRTR	**Keskin Array B**	**6.87**	**247**	*i* P	**Pn**	**06 20 14.1**	**+1.8**
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.3s						
BRTR	**Keskin Array B**	**6.87**	**247**	*i* P	**Pn**	**06 20 14.1**	**+1.8**
	comp=Z,1.0nm,0.3s						
VSR	**Storozhevoye**	**8.67**	**349**	*e*P	**Pn**	**06 20 36.8**	**-0.2**
VSR			pmax	pmax			
	comp=N,8.0nm,0.6s						
VSR			pmax	pmax			
	comp=E,3.0nm,0.6s						
VSR			pmax	pmax			
	comp=Z,7.0nm,0.6s						
VSR	**Storozhevoye**	**8.67**	**349**	*e*P	**Pn**	**06 20 36.8**	**-0.2**
AKTO	**Aktyubinsk**	**13.51**	**50**	Pn	**Pn**	**06 21 40.1**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=225,slow=5.7,SNR=2.7						
AKTO	**Aktyubinsk**	**13.51**	**50**	P	**Pn**	**06 21 40.1**	**-3.0**
KBN	**Korca**	**15.87**	**269**	*e*PN	**Pn**	**06 22 16.0**	**+1.1**
KBN	**Korca**	**15.87**	**269**	*e*Pn	**Pn**	**06 22 16.0**	**+1.1**
SVE	**Sverdlovsk**	**18.51**	**34**	*e*P	**Pn**	**06 22 48.9**	**+0.9**
SVE			pmax	pmax			
	comp=Z,21nm,1.4s						
SVE	**Sverdlovsk**	**18.51**	**34**	*e*P	**Pn**	**06 22 48.9**	**+0.9**
	comp=Z,21nm,1.4s						
GERES	**GERESS Array B**	**20.48**	**297**	P	**P**	**06 23 09.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=98,slow=9.8,SNR=9.4						
GERES	**GERESS Array B**	**20.48**	**297**	P	**P**	**06 23 09.1**	**-0.3**
GERES			pmax	pmax			
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**20.48**	**297**	P	**P**	**06 23 09.1**	**-0.3**
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**20.98**	**339**	P	**P**	**06 23 14.4**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=131,slow=11,SNR=7.5						
FINES	**FINESS Array B**	**20.98**	**339**	P	**P**	**06 23 14.4**	**-0.4**
FINES			pmax	pmax			
	comp=Z,4.0nm,0.7s						
FINES	**FINESS Array B**	**20.98**	**339**	P	**P**	**06 23 14.4**	**-0.4**
	comp=Z,4.0nm,0.7s						
BVAR	**Borovoye Array**	**21.60**	**52**	P	**P**	**06 23 21.5**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.0,baz=225,slow=14,SNR=3.6						
BVAR	**Borovoye Array**	**21.60**	**52**	P	**P**	**06 23 21.5**	**0.0**
BVAR	**Borovoye Array**	**21.60**	**52**	P	**P**	**06 23 21.5**	**0.0**
DAVOX	**Davos/Dischmat**	**22.96**	**291**	P	**P**	**06 23 34.6**	**-1.4**
	comp=Z,3.1nm,0.8s,mb3.8,baz=103,slow=10,SNR=6.4						
HFS	**Hagfors**	**24.42**	**325**	P	**P**	**06 23 48.3**	**-1.9**
	comp=Z,2.4nm,0.8s,mb3.7,baz=134,slow=12,SNR=4.2						
HFS	**Hagfors**	**24.42**	**325**	P	**P**	**06 23 48.3**	**-1.8**
HFS			pmax	pmax			
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**24.42**	**325**	P	**P**	**06 23 48.3**	**-1.8**
	comp=Z,2.0nm,0.8s,mb3.6						
MBDF	**Montbardon**	**25.30**	**287**	*e*P	**P**	**06 23 59.2**	**+0.9**
	comp=Z,32nm,1.1s,mb4.5						
MBDF	**Montbardon**	**25.30**	**287**	*e*P	**P**	**06 23 59.2**	**+0.9**
	comp=Z,32nm,1.1s						
KURK	**Kurchatov**	**26.22**	**59**	P	**P**	**06 24 05.1**	**-1.5**
	comp=Z,0.3nm,0.5s,mb3.1,baz=280,slow=9.6,SNR=5.7						
KURK	**Kurchatov**	**26.22**	**59**	P	**P**	**06 24 05.1**	**-1.5**
KURK	**Kurchatov**	**26.22**	**59**	P	**P**	**06 24 05.1**	**-1.5**
MKAR	**Makanchi Array**	**28.78**	**68**	P	**P**	**06 24 29.0**	**-0.5**
	comp=Z,0.1nm,0.5s,mb2.8,baz=285,slow=5.9,SNR=2.4						
MKAR	**Makanchi Array**	**28.78**	**68**	P	**P**	**06 24 29.0**	**-0.6**
MKAR	**Makanchi Array**	**28.78**	**68**	P	**P**	**06 24 29.0**	**-0.6**
SONM	**Songino Array**	**44.53**	**60**	P	**P**	**06 26 43.0**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.2,baz=298,slow=10.0,SNR=4.3						
SONM	**Songino Array**	**44.53**	**60**	P	**P**	**06 26 43.0**	**-0.4**
SONM	**Songino Array**	**44.53**	**60**	P	**P**	**06 26 43.0**	**-0.4**
YKA	**Yellowknife Ar**	**73.42**	**349**	P	**P**	**06 30 02.9**	**-0.8**
	comp=Z,0.3nm,0.7s,mb3.3,baz=7.4,slow=6.2,SNR=4.0						
YKA	**Yellowknife Ar**	**73.42**	**349**	P	**P**	**06 30 02.9**	**-0.8**
YKA	**Yellowknife Ar**	**73.42**	**349**	P	**P**	**06 30 02.9**	**-0.8**

ISCJB ***30*** *06:20:32.9±0.2,34°.62N±0°.02×19°.74E±0°.03,h10km, mb4.0/12,Error ellipse: s-maj=3.0km s-min=2.4km az=4.2*
IDC ***30*** *06:20:33.9±0.9,34°.51N×19°.67E,h0km,mb4.0/10, mb1 4.0/18,mb1mx3.9/34,mbtmp3.9/18,ML4.1/8,MS3.2/3, Ms1 3.2/3,ms1mx2.6/40,Error ellipse: s-maj=21.4km s-min=15.1km az=143.0*
CSEM ***30*** *06:20:35.3±0.1,34°.59N×19°.73E,h12km,Ms3.9,Error ellipse: s-maj=4.2km s-min=3.1km az=76.0*
NEIC ***30*** *06:20:37.0±3.1,34°.63N×19°.62E,h18km±21km,mb4.1/7, ML4.5(THE),Error ellipse: s-maj=8.4km s-min=5.2km az=176.0*
PDG ***30*** *06:20:37.3±0.2,34°.91N×18°.69E,h12km±11km,MD5.3/6, ML5.2/9,Error ellipse: s-maj=294.4km s-min=22.4km az=90.0*
THE ***30*** *06:20:41.6,34°.89N×19°.89E,h121km±8km,ML4.5/10, Error ellipse: s-maj=8.9km s-min=1.6km az=62.0*
HLW ***30*** *06:20:42.6,34°.63N×20°.06E,h32km±19km,Md4.6,Ml4.5*
VIE ***30*** *06:20:48.5±0.6,35°.70N×19°.66E,h10km,mb3.6/9,Ms3.9/7, Error ellipse: s-maj=11.2km s-min=4.2km az=70.0 337 km SW of Patras*

ISC 30 06:20:35.4±0.2,34°.62N±0°.02×19°.73E±0°.02,h10km,n296, σ1§24/379,mb4.0/12,33C-22D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**2.80**	**35**	P	**Pn**	**06 21 21.3**	**+1.1**
PYL				S	**Sn**	**06 21 53.5**	**-0.5**
PYL	**PYLOS**	**2.80**	**35**	P	**Pn**	**06 21 21.3**	**+1.1**
PYL				S	**Sn**	**06 21 53.5**	**-0.5**
ITM	**Ithomi**	**3.12**	**34**	P	**Pn**	**06 21 26.1**	**+1.5**
ITM				S	**Sn**	**06 22 02.1**	**+0.3**
ITM	**Ithomi**	**3.12**	**34**	P	**Pn**	**06 21 26.1**	**+1.5**
ITM	**Ithomi**	**3.12**	**34**	P	**Pn**	**06 21 26.1**	**+1.5**
ITM				S	**Sn**	**06 22 02.1**	**+0.3**
KYTH	**Kithira**	**3.17**	**57**	P	**Pn**	**06 21 27.3**	**+2.0**
KYTH	**Kithira**	**3.17**	**57**	P	**Pn**	**06 21 27.3**	**+2.0**
KYTH	**Kithira**	**3.17**	**57**	P	**Pn**	**06 21 27.3**	**+2.0**
VLI	**Veliai**	**3.35**	**50**	P	**Pn**	**06 21 30.1**	**+2.4**
VLI				S	**Sn**	**06 22 07.1**	**-0.4**
VLI	**Veliai**	**3.35**	**50**	P	**Pn**	**06 21 30.1**	**+2.4**
VLI	**Veliai**	**3.35**	**50**	P	**Pn**	**06 21 30.1**	**+2.4**
VLI				S	**Sn**	**06 22 07.1**	**-0.4**
VLX	**Vlachokerasia**	**3.49**	**37**	P	**Pn**	**06 21 31.6**	**+2.0**
VLX				S	**Sn**	**06 22 09.7**	**-1.2**
VLX	**Vlachokerasia**	**3.49**	**37**	P	**Pn**	**06 21 31.6**	**+2.0**
VLX				S	**Sn**	**06 22 09.7**	**-1.2**
GVD	**Gavdhos**	**3.59**	**85**	*e*Pn	**Pn**	**06 21 31.4**	**+0.3**
GVD				*e*Sn	**Sn**	**06 22 07.2**	**-6.4**
GVD	**Gavdhos**	**3.59**	**85**	*e*Pn	**Pn**	**06 21 31.4**	**+0.3**
GVD				*e*Sn	**Sn**	**06 22 07.2**	**-6.4**
**

FNA S Sn 06 23 18.6 -1.5
FNA Florina 6.29 11 P Pn 06 22 09.4 +1.2
FNA S Sn 06 23 18.6 -1.5
LZLA Zalla 6.32 198 eP Pn 06 22 08.4 -0.3
SNR=22
LJFR Jufra 6.43 212 eP Pn 06 22 09.8 -0.3
SNR=22
PE1 Pezze di Greco 6.44 344 eP Pn 06 22 09.4 -0.8
BIA Bitola 6.51 11 ePn Pn 06 22 12.4 +1.2
BIA eSn Sn 06 23 24.6 -0.9
BIA Bitola 6.51 11 ePn Pn 06 22 12.4 +1.2
BIA eSn Sn 06 23 24.6 -0.9
LSHF Shwairf 6.55 227 eP Pn 06 22 12.6 +0.9
SNR=22
GRG Griva 6.67 18 P Pn 06 22 14.6 +1.2
GRG Griva 6.67 18 P Pn 06 22 14.6 +1.2
GRG Griva 6.67 18 P Pn 06 22 14.6 +1.2
TIR Tirane 6.72 1 ePn Pn 06 22 15.1 +1.1
70nm,0.8s
TIR eSn Sn 06 23 30.1 -0.5
TIR Tirane 6.72 1 ePn Pn 06 22 15.1 +1.1
70nm,0.8s
TIR eSn Sn 06 23 30.1 -0.5
SOH Sokhos 6.83 24 P Pn 06 22 17.0 +1.5
SOH Sokhos 6.83 24 P Pn 06 22 17.0 +1.5
SOH Sokhos 6.83 24 P Pn 06 22 17.0 +1.5
KRUS Krusevo 6.84 10 ePn Pn 06 22 16.2 +0.5
KRUS Krusevo 6.84 10 ePn Pn 06 22 16.2 +0.4
BAI Bari 6.86 342 eP Pn 06 22 16.6 +0.6
KNT Kendrikon 7.00 20 P Pn 06 22 19.4 +1.6
KNT Kendrikon 7.00 20 P Pn 06 22 19.4 +1.6
CDT Castel del Mon 7.01 338 eP Pn 06 22 17.3 -0.7
VAY Valandovo 7.06 18 ePn Pn 06 22 19.0 +0.3
VAY eSn Sn 06 23 35.9 -3.0
VAY Valandovo 7.06 18 ePn Pn 06 22 19.0 +0.3
VAY eSn Sn 06 23 35.9 -3.0
HMAT Matruh 7.12 118 P Pn 06 22 19.5 -0.1
baz=118
HMAT S Sn 06 23 32.8 -7.8
baz=118
HMAT Matruh 7.12 118 P Pn 06 22 19.5 -0.1
SWA2 7.24 136 P Pn 06 22 21.5 +0.3
baz=138
SWA2 S Sn 06 23 37.2 -6.3
baz=138
SWA2 7.24 136 P Pn 06 22 21.5 +0.3
ULC Ulcinj 7.34 357 ⇓iPn Pn 06 22 22.2 -0.4
ULC eSn Sn 06 23 40.8 -5.2
ULC Ulcinj 7.34 357 ⇓iPn Pn 06 22 22.2 -0.4
PUK Puka 7.41 1 ePN Pn 06 22 23.0 -0.6
PUK Puka 7.41 1 ePn Pn 06 22 23.0 -0.6
SKO Skopje 7.46 10 eSn Sn 06 23 45.5 -3.4
SKO Skopje 7.46 10 eSn Sn 06 23 45.4 -3.5
MMB Musomiste 7.64 23 iP Pn 06 22 28.2 +1.5
MMB Musomiste 7.64 23 iP Pn 06 22 28.2 +1.5
MS1 Monte Sant'Ang 7.68 338 eP Pn 06 22 27.6 +0.4
BUM Brajici-Budva 7.70 355 ⇓iPn Pn 06 22 26.9 -0.6
BUM eSn Sn 06 23 48.6 -6.1
BCI Bajram Curri 7.74 2 ePN Pn 06 22 28.0 -0.1
BCI Bajram Curri 7.74 2 ePn Pn 06 22 28.0 -0.1
PDG Podgorica 7.81 357 ⇑iPn Pn 06 22 28.3 -0.7
TTG Podgorica 7.81 357 ⇑iPn Pn 06 22 28.3 -0.7
TTG eSn Sn 06 23 51.5 -5.9
HCY Herceg Novi 7.88 353 ⇑iPn Pn 06 22 28.9 -1.0
HCY eSn Sn 06 23 51.7 -7.4
HCY Herceg Novi 7.88 353 ⇑iPn Pn 06 22 28.9 -1.0
PVY Plav 7.97 1 ⇑iPn Pn 06 22 31.4 +0.2
PVY eSn Sn 06 23 57.3 -4.0
PVY Plav 7.97 1 ⇑iPn Pn 06 22 31.4 +0.2
NKY Niksic 8.20 356 ⇑iPn Pn 06 22 33.8 -0.6
NKY eSn Sn 06 24 01.1 -6.0
NKY Niksic 8.20 356 ⇑iPn Pn 06 22 33.8 -0.6
BEY Berane 8.24 1 ⇑iPn Pn 06 22 35.6 +0.7
IVA Berane 8.24 1 ⇑iPn Pn 06 22 35.6 +0.7
IVA eSn Sn 06 24 03.9 -4.2
BRY Bratogost 8.32 354 ⇑iPn Pn 06 22 34.8 -1.2
BRY eSn Sn 06 24 02.9 -7.2
BRY Bratogost 8.32 354 ⇑iPn Pn 06 22 34.8 -1.2
BARS Barje 8.35 11 ⇑iPn Pn 06 22 36.2 -0.2
VTS Vitosha 8.41 18 iP Pn 06 22 38.7 +1.4
VTS Vitosha 8.41 18 ⇑iP Pn 06 22 38.5 +1.2
VTS Vitosha 8.41 18 ⇑iP Pn 06 22 38.5 +1.2
KEST Kesra 8.57 280 Pn Pn 06 22 40.2 +0.7
0.5nm,0.3s,baz=37,slow=18,SNR=16
KEST Sn Sn 06 24 10.7 -5.6
0.9nm,0.3s,baz=76,slow=22,SNR=12
KEST LR LR 06 26 45.9
comp=Z,52nm,18.6s,baz=117,slow=44
KEST Kesra 8.57 280 Pn Pn 06 22 40.2 +0.7
KEST Sn Sn 06 24 10.7 -5.6
KEST Kesra 8.57 280 Pn Pn 06 22 40.2 +0.7
UPM Unac-Piva 8.60 356 ⇑iPn Pn 06 22 39.6 -0.2
UPM eSn Sn 06 24 10.5 -6.3
UPM Unac-Piva 8.60 356 ⇑iPn Pn 06 22 39.6 -0.2
GRUS Gruza 9.29 4 ⇑iPn Pn 06 22 48.6 -0.7
HBRG Burj al 'Arab 9.43 113 P Pn 06 22 50.5 -0.8
baz=113
HBRG S Sn 06 24 27.6 -10
baz=113
DIVS Divibare 9.47 1 ⇑iPn Pn 06 22 50.9 -0.9
LUMB Murzuk 9.48 208 eP Pn 06 22 50.8 -1.2
SNR=22
VSL Villasalto 9.60 303 ePn Pn 06 22 54.4 +0.8
VSL Villasalto 9.60 303 ePn Pn 06 22 54.4 +0.9
TRUS Trudelj 9.61 3 ⇑iPn Pn 06 22 52.1 -1.5
LGHD Ghdames 9.84 245 eP Pn 06 22 55.0 -1.9
28nm,0.4s,SNR=22
AWBH 10.04 126 P Pn 06 22 58.4 -1.2
baz=127
AWBH 10.04 126 P Pn 06 22 58.4 -1.2
HFRF Wahat Farafira 10.47 133 P Pn 06 23 04.8 -0.8
baz=134
HFRF S Sn 06 24 53.2 -10
baz=134
HFRF Wahat Farafira 10.47 133 P Pn 06 23 04.8 -0.8
HNAT Natroun 10.48 115 P Pn 06 23 04.8 -0.9
baz=116
HNAT Natroun 10.48 115 P Pn 06 23 04.8 -0.9
FGSL Fruska Gora 10.53 0 ⇑iPn Pn 06 23 04.3 -1.9
NVLJ Novalja 10.61 341 ePn Pn 06 23 06.8 -0.6
NVLJ Sn Sn 06 24 57.6 -8.7
NVLJ Novalja 10.61 341 ePn Pn 06 23 06.8 -0.6
AYT Al 'Ayyat 10.85 114 P Pn 06 23 09.6 -1.1
baz=114
AYT Al 'Ayyat 10.85 114 P Pn 06 23 09.6 -1.1
GZR Gura Zlata 11.01 11 ⇓iP Pn 06 23 11.6 -1.3
GZR Gura Zlata 11.01 11 ⇓iP Pn 06 23 11.6 -1.3
BZS Buzias 11.08 7 ⇓iP Pn 06 23 11.9 -1.9
BZS Buzias 11.08 7 ⇓iP Pn 06 23 11.9 -1.9
HSAF As Saff 11.19 113 P Pn 06 23 14.5 -0.9
baz=114
HSAF As Saff 11.19 113 P Pn 06 23 14.5 -0.9
KOT Kottamia 11.26 111 P Pn 06 23 15.4 -0.9
baz=112
KOT S Sn 06 25 11.2 -11
baz=112
KOT Kottamia 11.26 111 P Pn 06 23 15.4 -0.9
GLL Jalalah 11.33 113 P Pn 06 23 16.2 -1.1
baz=113
GLL Jalalah 11.33 113 P Pn 06 23 16.2 -1.1
BOJS Bojanci 11.40 344 ePn Pn 06 23 18.1 0.0
BOJS eSn Sn 06 25 17.5 -8.0
BOJS Bojanci 11.40 344 Pn Pn 06 23 18.1 -0.1
HHAG Hagoal 11.45 111 S Sn 06 25 15.7 -11
baz=111
VOIR 11.54 19 ⇓iP Pn 06 23 21.6 +1.4
VOIR 11.54 19 ⇓iP Pn 06 23 21.6 +1.4
LEGS Legarje 11.80 345 ePn Pn 06 23 23.6 -0.1
LEGS Legarje 11.80 345 ePn Pn 06 23 23.6 -0.1
MLR Muntele Rosu 11.85 22 Pn Pn 06 23 26.7 +2.3
0.2nm,0.3s,baz=191,slow=18,SNR=7.7
MLR Muntele Rosu 11.85 22 Pn Pn 06 23 26.7 +2.3
MLR Muntele Rosu 11.85 22 ⇑iP Pn 06 23 26.6 +2.2
SUZ 12.07 110 P Pn 06 23 26.2 -1.2
baz=110
SUZ 12.07 110 P Pn 06 23 26.2 -1.2
BR131 Keskin Array S 12.21 61 ePn Pn 06 23 32.7 +3.5
1.1nm,0.4s
BRTR Keskin Array B 12.21 61 Pn Pn 06 23 30.2 +0.9
0.4nm,0.3s,baz=241,slow=16,SNR=7.1
BRTR Keskin Array B 12.21 61 Pn Pn 06 23 30.2 +0.9
BRTR Keskin Array B 12.21 61 Pn Pn 06 23 30.2 +1.0

HDK1 Dakhla 12.32 135 P Pn 06 23 30.4 -0.5
baz=135
HDK1 Dakhla 12.32 135 P Pn 06 23 30.4 -0.5
PLOR Plostina 12.39 23 ⇑iP Pn 06 23 32.5 +0.7
PLOR Plostina 12.39 23 ⇑iP Pn 06 23 32.5 +0.7
OBKA Obir 12.51 343 ⇑iPn Pn 06 23 32.5 -0.9
OBKA ⇓iSn Sn 06 25 42.5 -10
OBKA Obir 12.51 343 ⇑iPn Pn 06 23 32.5 -0.9
OBKA iSn Sn 06 25 42.5 -10
OBKA Obir 12.51 343 Pn Pn 06 23 32.5 -0.8
SOKA Soboth 12.56 345 ⇓iPn Pn 06 23 33.3 -0.7
SOKA ⇓iSn Sn 06 25 43.3 -11
SOKA Soboth 12.56 345 ⇓iPn Pn 06 23 33.3 -0.7
SOKA iSn Sn 06 25 43.3 -11
SOKA Soboth 12.56 345 Pn Pn 06 23 33.3 -0.7
GRB Gharib 12.81 116 P Pn 06 23 36.4 -1.2
baz=116
GRB Gharib 12.81 116 P Pn 06 23 36.4 -1.2
HNKL Nakhl 12.93 107 P Pn 06 23 38.1 -1.1
baz=107
HNKL Nakhl 12.93 107 P Pn 06 23 38.1 -1.1
ARSA Arzberg 13.01 347 ⇓iPn Pn 06 23 39.4 -0.8
SNR=12
ARSA ⇑iSn Sn 06 25 53.5 -11
ARSA Arzberg 13.01 347 ⇓iPn Pn 06 23 39.4 -0.8
ARSA iSn Sn 06 25 53.5 -11
ARSA Arzberg 13.01 347 Pn Pn 06 23 39.4 -0.8
SNR=12
HDK2 Wahat Dakhilah 13.03 140 P Pn 06 23 39.8 -0.7
baz=140
HDK2 AMP 06 26 20.5
comp=N,60μm,0.2s,logA/T=5.4,baz=140
HDK2 Wahat Dakhilah 13.03 140 P Pn 06 23 39.8 -0.7
MMAI Mount Meron Ar 13.13 93 Pn Pn 06 23 38.9 -3.0
comp=N,10nm,0.3s,baz=274,slow=12,SNR=15
MMAI Sn Sn 06 25 53.5 -15
comp=N,21nm,0.3s,baz=308,slow=14,SNR=10
MMAI Mount Meron Ar 13.13 93 Pn Pn 06 23 38.9 -3.0
MMAI Sn Sn 06 25 53.5 -15
MMAI Mount Meron Ar 13.13 93 Pn Pn 06 23 38.9 -3.0
ABTA Abfaltersbach 13.29 338 ⇓iPn Pn 06 23 42.3 -1.7
ABTA ⇑iSn Sn 06 26 01.7 -10
ABTA Abfaltersbach 13.29 338 ⇓iPn Pn 06 23 42.3 -1.7
ABTA iSn Sn 06 26 01.7 -10
ABTA Abfaltersbach 13.29 338 Pn Pn 06 23 42.3 -1.7
PSZ Piszkesteto 13.29 0 ePn Pn 06 23 44.3 +0.4
PSZ eSn Sn 06 26 03.9 -7.8
PSZ Piszkesteto 13.29 0 ePn Pn 06 23 44.3 +0.3
KBA Koelnbreinsper 13.35 341 ⇑iPn Pn 06 23 44.3 -0.4
KBA ⇑iSn Sn 06 26 02.7 -10
KBA Koelnbreinsper 13.35 341 ⇑iPn Pn 06 23 44.3 -0.4
KBA iSn Sn 06 26 02.7 -10
KBA Koelnbreinsper 13.35 341 Pn Pn 06 23 44.3 -0.5
CONA Conrad Observa 13.61 349 ⇑iPn Pn 06 23 47.5 -0.9
CONA ⇓iSn Sn 06 26 07.2 -12
CONA Conrad Observa 13.61 349 ⇑iPn Pn 06 23 47.5 -0.9
CONA iSn Sn 06 26 07.2 -12
CONA Conrad Observa 13.61 349 Pn Pn 06 23 47.5 -0.9
EIL Elat 13.80 107 Pn Pn 06 23 49.0 -2.2
comp=N,1.0nm,0.3s,baz=278,slow=12,SNR=9.1
EIL Sn Sn 06 26 09.0 -16
comp=N,5.3nm,0.3s,baz=233,slow=24,SNR=8.0
EIL Elat 13.80 107 Pn Pn 06 23 49.0 -2.2
EIL Sn Sn 06 26 09.0 -16
EIL Elat 13.80 107 Pn Pn 06 23 49.0 -2.1
MOA Molln 13.84 344 ⇓iPn Pn 06 23 50.6 -0.9
SNR=14
MOA ⇓iSn Sn 06 26 15.0 -10
MOA Molln 13.84 344 ⇓iPn Pn 06 23 50.5 -0.9
MOA iSn Sn 06 26 15.0 -10
MOA Molln 13.84 344 Pn Pn 06 23 50.6 -0.9
SNR=14
KECS Kecovo 13.86 2 ePN Pn 06 23 53.0 +1.2
KECS e 06 26 15.1
KECS Kecovo 13.86 2 eP Pn 06 23 53.0 +1.2
VYHS Vyhne 13.88 358 ePN Pn 06 23 53.1 +1.1
VYHS e 06 26 16.7
VYHS Vyhne 13.88 358 eP Pn 06 23 53.1 +1.1
DAVOX Davos/Dischmat 14.25 331 LR LR 06 30 09.7
comp=N,55nm,18.6s,baz=267,slow=40
ASF Jabal al Asfar 14.55 95 Pn Pn 06 24 00.3 -1.0
comp=N,0.7nm,0.3s,baz=176,slow=8.1,SNR=6.5
ASF Sn Sn 06 26 27.5 -15
comp=N,2.6nm,0.3s,baz=34,slow=20,SNR=6.8
ASF Jabal al Asfar 14.55 95 Pn Pn 06 24 00.3 -1.0
ASF Sn Sn 06 26 27.5 -15
LPG La Plagne 14.70 322 eP Pn 06 24 03.3 0.0
comp=N,14nm,0.8s
LPG La Plagne 14.70 322 eP Pn 06 24 03.3 0.0
comp=N,14nm,0.8s
LPL La Plagne 14.73 322 eP Pn 06 24 03.4 -0.2
comp=N,23nm,1.0s
LPL La Plagne 14.73 322 eP Pn 06 24 03.4 -0.2
comp=N,23nm,1.0s
ORIF Oris-en-Rattie 14.79 318 eP Pn 06 24 04.3 -0.1
comp=N,20nm,1.0s
GERES GERESS Array B 14.90 344 Pn Pn 06 24 06.7 +0.7
comp=N,0.3nm,0.3s,baz=166,slow=13,SNR=11
GERES Sn Sn 06 26 40.0 -11
comp=N,0.9nm,0.3s,baz=160,slow=24,SNR=11
GERES GERESS Array B 14.90 344 Pn Pn 06 24 06.7 +0.7
GERES Sn Sn 06 26 40.0 -11
GERES GERESS Array B 14.90 344 Pn Pn 06 24 06.7 +0.7
KHC Kasperske Hory 15.20 344 eP Pn 06 24 11.0 +1.1
KHC ex x 06 26 48.5
CABF La Chapelle 15.81 323 eP Pn 06 24 19.2 +1.3
comp=N,32nm,1.0s
CABF La Chapelle 15.81 323 eP Pn 06 24 19.2 +1.3
comp=N,32nm,1.0s
CABF La Chapelle 15.81 323 eP Pn 06 24 19.2 +1.3
comp=N,32nm,1.0s
HINF Hinteralfeld 16.33 328 eP Pn 06 24 23.3 -1.4
comp=N,16nm,1.0s
HINF Hinteralfeld 16.33 328 eP Pn 06 24 23.3 -1.4
comp=N,16nm,1.0s
CDF Champ du Feu 16.61 330 eP Pn 06 24 27.4 -0.8
CDF Champ du Feu 16.61 330 eP Pn 06 24 27.4 -0.8
TAM Tamanrasset 17.13 230 eP Pn 06 24 36.6 +1.7
comp=N,5.7nm,1.1s
TAM Tamanrasset 17.13 230 eP Pn 06 24 36.7 +1.8
comp=N,5.7nm,1.1s
CLL Collm 17.38 346 epP pP 06 24 43.0 +1.1
SSF Saint Saulge 17.43 320 eP Pn 06 24 38.8 +0.3
SSF Saint Saulge 17.43 320 eP Pn 06 24 38.8 +0.3
SSF Saint Saulge 17.43 320 eP Pn 06 24 38.8 +0.3
BGF Bois d'Agland 17.47 318 eP Pn 06 24 36.7 -2.3
comp=N,33nm,1.2s
BGF Bois d'Agland 17.47 318 eP Pn 06 24 36.7 -2.3
comp=N,33nm,1.2s
KIEV Kiev 17.49 20 eP Pn 06 24 37.8 -1.4
comp=N,6.4nm,0.8s
KIEV Kiev 17.49 20 eP Pn 06 24 37.8 -1.4
comp=N,6.4nm,0.8s
AKASG Malin Array Be 17.50 20 Pn Pn 06 24 37.7 -1.6
comp=N,0.9nm,0.3s,baz=210,slow=12,SNR=6.9
AKASG Malin Array Be 17.50 20 Pn Pn 06 24 37.7 -1.6
AKASG Malin Array Be 17.50 20 Pn Pn 06 24 37.7 -1.6
ESDC Sonseca Array 19.53 292 P Pn 06 25 02.4 -1.8
comp=N,0.4nm,0.3s,baz=92,slow=11,SNR=12
ESDC Sonseca Array 19.53 292 P Pn 06 25 02.4 -1.8
ESDC Sonseca Array 19.53 292 P Pn 06 25 02.4 -1.8
LDF La Druitiere 20.30 319 eP P 06 25 10.2 -1.0
comp=N,6.7nm,0.8s
LDF La Druitiere 20.30 319 eP P 06 25 10.2 -1.0
comp=N,6.7nm,0.8s
LDF La Druitiere 20.30 319 eP P 06 25 10.2 -1.0
comp=N,6.7nm,0.8s
BHD Baghdad 20.48 87 ex P 06 25 16.3 +2.9
BHD ex x 06 29 04.7
GNI Garni 20.60 67 P P 06 25 18.8 +4.3
comp=N,4.2nm,0.4s,baz=239,slow=3.1,SNR=4.2
GNI Garni 20.60 67 eP P 06 25 18.5 +4.0
comp=N,9.5nm,0.7s
RST Umm Al-Ruwaisa 23.63 95 eP P 06 25 51.5 +4.6
RST AMb AMB 06 25 54.9
comp=Z,5.5nm,0.8s,mb4.0
MIB Mutribah 23.81 94 eP P 06 25 48.7 +0.2
MIB AMb AMB 06 25 50.6
comp=Z,20nm,0.9s,mb4.6
HFS Hagfors 25.83 353 P P 06 26 07.2 +0.6
comp=Z,2.5nm,0.9s,mb3.8,baz=165,slow=18,SNR=3.4
HFS Hagfors 25.83 353 P P 06 26 07.2 +0.6
HFS Hagfors 25.83 353 P P 06 26 07.2 +0.6
TORD Torodi Ar. Bea 26.91 222 P P 06 26 16.1 -0.6

comp=Z,1.3nm,0.9s,mb3.5,baz=34,slow=7.8,SNR=8.0
TORD Torodi Ar. Bea 26.91 222 P P 06 26 16.1 -0.6
TORD Torodi Ar. Bea 26.91 222 P P 06 26 16.1 -0.6
FINES FINESS Array B 27.15 7 P P 06 26 19.4 +0.9
comp=Z,2.5nm,0.9s,mb3.8,baz=177,slow=9.7,SNR=4.4
FINES FINESS Array B 27.15 7 P P 06 26 19.4 +0.9
FINES FINESS Array B 27.15 7 P P 06 26 19.4 +0.9
ARCES ARCESS Array B 35.12 4 P P 06 27 30.6 +2.0
comp=Z,4.2nm,0.9s,mb4.3,baz=45,slow=1.9,SNR=7.8
ARCES ARCESS Array B 35.12 4 P P 06 27 30.6 +2.0
DBIC Dimbokro 35.88 225 P P 06 27 34.1 -1.6
comp=Z,1.7nm,0.6s,mb4.2,baz=15,slow=10,SNR=4.2
DBIC Dimbokro 35.88 225 P P 06 27 34.1 -1.6
DBIC Dimbokro 35.88 225 P P 06 27 34.2 -1.5
BVAR Borovoye Array 39.96 47 P P 06 28 11.7 +2.0
comp=Z,0.6nm,0.6s,mb3.5,baz=270,slow=5.9,SNR=4.6
BVAR Borovoye Array 39.96 47 P P 06 28 11.7 +2.0
KURK Kurchatov 44.97 50 P P 06 28 50.5 -0.1
comp=Z,1.6nm,0.5s,mb4.1,baz=277,slow=8.7,SNR=6.4
KURK Kurchatov 44.97 50 P P 06 28 50.5 -0.1
KURK Kurchatov 44.97 50 P P 06 28 50.5 0.0
MK31 Makanchi Array 47.78 55 eP P 06 29 13.5 +0.9
MK31 Makanchi Array 47.78 55 eP P 06 29 13.5 +0.9
MKAR Makanchi Array 47.78 55 P P 06 29 13.2 +0.6
comp=Z,1.3nm,0.5s,mb4.2,baz=267,slow=7.5,SNR=18
MKAR Makanchi Array 47.78 55 P P 06 29 13.2 +0.6
MKAR Makanchi Array 47.78 55 P P 06 29 13.2 +0.6
ZALV Zalesovo Beam 48.59 46 P P 06 29 20.6 +1.9
comp=Z,9.1nm,1.0s,mb4.8,baz=272,slow=8.6,SNR=11
ZALV Zalesovo Beam 48.59 46 P P 06 29 20.6 +1.9
SONM Songino Array 63.24 49 P P 06 31 05.4 +1.5
comp=Z,0.3nm,0.7s,mb3.5,baz=276,slow=5.7,SNR=3.5
SONM Songino Array 63.24 49 P P 06 31 05.4 +1.5
SONM Songino Array 63.24 49 P P 06 31 05.4 +1.5
SIV San Ignacio 91.61 252 LR LR 07 14 56.2
comp=Z,54nm,19.2s,slow=36

ISCJB ***30*** *06:59:39.2±0.3,23°.77N±0°.02×122°.03E±0°.02,h33km,*
Error ellipse: s-maj=3.0km s-min=2.2km az=153.2
TAP ***30*** *06:59:39.4,23°.79N×121°.98E,h36km,ML3.1,C*
JMA ***30*** *06:59:39.7±0.3,23°.78N×122°.09E,h67km*
ISC 30 06:59:39.7±0.3,23.78N±0°.02×122.01E±0°.02,h35km,n42,
σ0s93/79,5C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.42**	**298**	⇑P	**Pn**	**06 59 48.1**	**-1.2**
baz=296							
HWA				eS	**Sn**	**06 59 54.4**	**-1.4**
baz=296							
TWD	**Chiawan**	**0.48**	**308**	⇑iP	**Pn**	**06 59 48.9**	**-1.2**
baz=311							
TWD				S	**Sn**	**06 59 55.9**	**-1.5**
baz=311							
ESL	**Shilin**	**0.53**	**274**	iP	**Pn**	**06 59 49.3**	**-1.5**
baz=267							
ESL				eS	**Sn**	**06 59 56.6**	**-1.9**
baz=267							
EHY	**Hungye**	**0.69**	**247**	⇑iP	**Pn**	**06 59 51.9**	**-1.0**
baz=259							
EHY				S	**Sn**	**07 00 01.0**	**-1.4**
baz=259							
ENA	**Nanau**	**0.69**	**339**	P	**Pn**	**06 59 52.2**	**-0.7**
baz=334							
ENA				eS	**Sn**	**07 00 01.8**	**-0.7**
baz=334							
WHF	**Hehuan Shan**	**0.78**	**298**	⇑iP	**Pn**	**06 59 53.3**	**-0.8**
baz=291							
WHF				S	**Sn**	**07 00 03.9**	**-0.7**
baz=291							
TWF1	**Yuli**	**0.78**	**237**	P	**Pn**	**06 59 53.5**	**-0.7**
baz=227							
TWF1				eS	**Sn**	**07 00 04.0**	**-0.6**
baz=227							
TWC	**Suao**	**0.84**	**350**	eP	**Pn**	**06 59 54.6**	**-0.4**
baz=352							
TWC				S	**Sn**	**07 00 06.0**	**-0.2**
baz=352							
NNS	**Nan Shan**	**0.88**	**319**	P	**Pn**	**06 59 55.1**	**-0.5**
baz=320							
NNS				eS	**Sn**	**07 00 06.8**	**-0.3**
baz=320							
TWT	**Tachien**	**0.90**	**302**	P	**Pn**	**06 59 55.7**	**-0.1**
baz=302							
TWT				S	**Sn**	**07 00 07.5**	**-0.1**
baz=302							
CHKT	**Chengkung**	**0.90**	**221**	eP	**Pn**	**06 59 55.6**	**-0.2**
baz=211							
CHKT				eS	**Sn**	**07 00 05.0**	**-2.6**
baz=211							
ENTT	**Nioudou**	**0.95**	**335**	eP	**Pn**	**06 59 56.1**	**-0.4**
baz=336							
ENTT				eS	**Sn**	**07 00 08.9**	**+0.1**
baz=336							
TWE	**Neicheng**	**0.99**	**342**	eP	**Pn**	**06 59 56.6**	**-0.5**
baz=344							
TWE				eS	**Sn**	**07 00 10.1**	**+0.3**
baz=344							
YUS	**Yu-Shan**	**1.01**	**254**	⇑iP	**Pn**	**06 59 57.6**	**+0.2**
baz=252							
YUS				S	**Sn**	**07 00 10.0**	**-0.4**
baz=252							
SMLT	**Sun Moon Lake**	**1.02**	**276**	eP	**Pn**	**06 59 57.3**	**-0.2**
baz=276							
SMLT				eS	**Sn**	**07 00 10.2**	**-0.5**
baz=276							
TYC	**Yuchr**	**1.06**	**277**	P	**Pn**	**06 59 57.9**	**-0.2**
baz=283							
TYC				eS	**Sn**	**07 00 11.2**	**-0.5**
baz=283							
NSK	**Sanguang**	**1.07**	**326**	P	**Pn**	**06 59 58.1**	**-0.1**
baz=327							
NSK				S	**Sn**	**07 00 11.7**	**-0.3**
baz=327							
ELDTW	**Lidau**	**1.09**	**238**	eP	**Pn**	**06 59 59.4**	**+1.1**
baz=236							
YOJ	**Yonaguni jima**	**1.14**	**53**	P	**Pn**	**06 59 59.4**	**+0.3**
YOJ				eS	**Sn**	**07 00 13.7**	**+0.2**
ALS	**Alishan**	**1.14**	**257**	iP	**Pn**	**06 59 59.6**	**+0.5**
baz=264							
ALS				S	**Sn**	**07 00 13.9**	**+0.4**
baz=264							
TWB1	**Santiao Chiao**	**1.23**	**359**	eP	**Pn**	**07 00 01.2**	**+0.9**
baz=1.0							
CHN5	**Tsauling**	**1.24**	**262**	P	**Pn**	**07 00 01.3**	**+0.8**
baz=261							
CHN5				eS	**Sn**	**07 00 16.5**	**+0.6**
baz=261							
NSTT	**Nanjuang**	**1.25**	**313**	eP	**Pn**	**07 00 01.5**	**+0.8**
baz=313							
NSTT				eS	**Sn**	**07 00 16.8**	**+0.4**
baz=313							
TWA	**Mucha**	**1.26**	**342**	eP	**Pn**	**07 00 01.2**	**+0.5**
baz=333							
TWA				eS	**Sn**	**07 00 17.3**	**+0.9**
baz=333							
TWQ1	**Liyutan**	**1.27**	**297**	eP	**Pn**	**07 00 01.8**	**+0.9**
baz=297							
TWQ1				eS	**Sn**	**07 00 16.0**	**-0.7**
baz=297							
TCU	**Taichung**	**1.28**	**287**	eP	**Pn**	**07 00 02.1**	**+1.1**
baz=287							
TCU				eS	**Sn**	**07 00 19.3**	**+2.4**
baz=287							
TWG	**Pinlang**	**1.29**	**222**	eP	**Pn**	**07 00 00.1**	**-1.0**
baz=231							
TWG				eS	**Sn**	**07 00 14.1**	**-3.0**
baz=231							
NWF	**Wu-fen Shan**	**1.30**	**351**	eP	**Pn**	**07 00 03.1**	**+1.7**
baz=352							
NWF				eS	**Sn**	**07 00 18.6**	**+1.0**
baz=352							
STYT	**Tauyuan**	**1.30**	**242**	eP	**Pn**	**07 00 02.6**	**+1.2**
baz=233							
STYT				eS	**Sn**	**07 00 17.4**	**-0.2**
baz=233							
NSY	**Sanyi**	**1.31**	**299**	eP	**Pn**	**07 00 01.8**	**+0.4**
baz=299							
CHN4	**Tsaushan**	**1.37**	**252**	eP	**Pn**	**07 00 03.1**	**+0.8**
baz=251							
CHN4				eS	**Sn**	**07 00 20.8**	**+1.6**
baz=251							
WTP	**Ta-pu**	**1.39**	**248**	eP	**Pn**	**07 00 03.4**	**+0.9**
baz=246							
WTP				eS	**Sn**	**07 00 20.3**	**+0.6**
baz=246							

TWS1	**Kuangyinshan**	**1.42**	**338**	*e*P	**Pn**	**07 00 03.8 +0.8**
	baz=339					
TWS1				*e*S	**Sn**	**07 00 21.4 +0.8**
	baz=339					
CHN1	**Nanshi**	**1.48**	**247**	*e*P	**Pn**	**07 00 05.2 +1.3**
	baz=246					
CHN1				*e*S	**Sn**	**07 00 23.7 +1.6**
	baz=246					
SSD	**Sandimen**	**1.63**	**231**	*e*P	**Pn**	**07 00 04.9 -1.0**
	baz=222					
HATJ	**Hateruma jima**	**1.66**	**80**	P	**Pn**	**07 00 06.0 -0.3**
HATJ				S	**Sn**	**07 00 26.3 -0.2**
IRIF	**Iriomote-Funau**	**1.67**	**70**	P	**Pn**	**07 00 06.5 +0.2**
IRIF				S	**Sn**	**07 00 26.6 +0.1**
TWM1	**Shoushan**	**1.74**	**237**	*e*P	**Pn**	**07 00 07.5 +0.1**
	baz=236					
JKRS	**Kuro-shima**	**1.88**	**76**	P	**Pn**	**07 00 09.7 +0.4**
JKRS				S	**Sn**	**07 00 32.5 +0.6**
SCZT	**Fangliau**	**1.90**	**223**	*e*P	**Pn**	**07 00 11.5 +2.0**
	baz=218					
SCZT				*e*S	**Sn**	**07 00 34.1 +1.8**
	baz=218					
JIJ	**Ishigaki jima**	**2.03**	**73**	P	**Pn**	**07 00 10.9 -0.5**
JIJ				S	**Sn**	**07 00 34.1 -1.5**
JTJ	**Tarama**	**2.60**	**70**	P	**Pn**	**07 00 19.1 -0.1**
JTJ				*e*S	**Sn**	**07 00 48.7 -0.9**

TRN 30 07:08:45.3, 13°.78N×60°.42W, h30km, MD3.2, M2.8(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.51**	**262**	*e*S	Sb	07 09 06.3	+3.2
SLB	**Belfond**	**0.60**	**275**	*e*P	Pb	07 09 00.8	+3.3
SLB				*e*S	Sb	07 09 10.4	+4.7
MVM	**Montagne Vaucl**	**0.90**	**329**	*e*P	Pn	07 09 01.7	-0.2
MVM				*e*S	Sn	07 09 13.6	-0.3
SVV	**Soufriere Volc**	**0.90**	**240**	*e*S	Sn	07 09 15.8	+1.9
SVB	**Belmont**	**0.95**	**238**	*e*P	Pn	07 09 05.3	+2.7
SVB				*e*S	Sn	07 09 16.8	+1.6
FDF	**Fort de France**	**1.19**	**323**	*e*P	Pn	07 09 07.0	+1.1
FDF				*e*S	Sn	07 09 21.5	+0.5

GUC 30 07:17:59.8±0.6, 31°.84S×71°.21W, h49km±3km, MD3.7, ML3.1, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.25**	**260**	⇑*i*P	Pn	07 18 08.7	+0.3
CHNG				*i* S	Sn	07 18 14.9	+0.5
CHNG				AML	AML	07 18 16.3	
	comp=E,2μm,0.2s						
PTCH	**Petorca**	**0.48**	**151**	*e*P	Pn	07 18 11.4	+0.6
PTCH				*i* S	Sn	07 18 19.6	+0.9
PTCH				AML	AML	07 18 20.6	
	comp=E,4μm,0.1s						
CMCH	**Combarbala**	**0.69**	**15**	⇑*i*P	Pn	07 18 13.8	+0.5
CMCH				*i* S	Sn	07 18 24.2	+1.1
CMCH				AML	AML	07 18 24.5	
	comp=E,2μm,0.2s						
JACH	**Jahuel**	**0.99**	**148**	⇑*i*P	Pn	07 18 18.2	+0.8
JACH				*i* S	Sn	07 18 31.7	+1.4
ROCH	**El Roble**	**1.14**	**172**	⇑*i*P	Pn	07 18 19.9	+0.5
ROCH				*i* S	Sn	07 18 35.4	+1.4
ROCH				AML	AML	07 18 37.0	
	comp=N,690nm,0.4s						
OVCH	**Ovalle**	**1.23**	**0**	*e*P	Pn	07 18 21.4	+0.8
OVCH				*e*S	Sn	07 18 37.3	+1.3
IHA	**Instituto Hidr**	**1.24**	**197**	*e*P	Pn	07 18 20.8	+0.1
PEL	**Peldehue**	**1.37**	**161**	⇑*i*P	Pn	07 18 23.3	+0.7
PEL				*i* S	Sn	07 18 40.9	+1.3
PEL				AML	AML	07 18 43.1	
	comp=E,583nm,0.3s						
CLCH	**Cerro Calan**	**1.65**	**160**	⇓*i*P	Pn	07 18 27.3	+0.9
CLCH				*i* S	Sn	07 18 47.8	+1.4
CLCH				AML	AML	07 18 50.3	
	comp=N,280nm,0.5s						
FCH	**Farellones**	**1.68**	**153**	⇓*i*P	Pn	07 18 25.8	-0.9
TLL	**Tololo Astrono**	**1.70**	**12**	*e*P	Pn	07 18 28.5	+1.4
TLL				*e*S	Sn	07 18 49.8	+2.2
TLL				AML	AML	07 18 58.4	
	comp=E,144nm,0.6s						
ANTU	**Antumapu**	**1.79**	**164**	*e*P	Pn	07 18 29.0	+0.8
ANTU				*i* S	Sn	07 18 51.1	+1.3
ANTU				AML	AML	07 18 56.5	
	comp=E,270nm,0.3s						
TACH	**Talagante**	**1.82**	**173**	*e*P	Pn	07 18 29.5	+0.8
PCH	**Pirque**	**1.87**	**162**	*e*P	Pn	07 18 30.2	+0.9
CHCH	**Chadas Angostu**	**2.14**	**168**	*e*P	Pn	07 18 33.7	+0.7
CHCH				*i* S	Sn	07 18 59.5	+1.1
CACH	**El Canelo**	**2.33**	**167**	*e*P	Pn	07 18 37.0	+1.3

*CSEM **30** 07:26:31.1, 12°.21N×44°.53E, h2km, ML3.9, After DHMR*

DHMR 30 07:26:25.7±1.6, 11°.96N×44°.57E, h6km±7km, ML4.0, 1C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.91**	**26**	*i* P	Pg	07 26 42.4	-0.8
ADEN				*i* S	Sg	07 26 56.4	+1.4
ADEN				AML	AML	07 27 02.1	
	comp=E,7μm,0.6s						
ADEN	**Aden**	**0.91**	**26**	*i* P	Pg	07 26 44.2	+1.0
ADEN				*i* S	Sg	07 26 55.1	+0.1
	comp=E,3μm,0.6s						
TRBA	**At Turbah**	**1.34**	**341**	⇑*i*P	Pn	07 26 50.5	-0.4
TRBA				*i* S	Sb	07 27 09.1	+0.5
TRBA				AML	AML	07 27 14.6	
	comp=N,3μm,0.3s						
LBOS		**2.01**	**19**	*i* P	Pn	07 27 01.1	+0.9
LBOS				*i* S	Sn	07 27 28.8	+3.1
UDYN	**Al 'Udayn**	**2.08**	**344**	*i* P	Pn	07 27 03.0	+1.9
UDYN				*i* S	Sn	07 27 31.1	+3.8
UDYN				AML	AML	07 27 36.9	
	comp=Z,1μm,0.8s						
BDHA	**Al Bayda'**	**2.23**	**26**	*i* P	Pn	07 27 04.2	+1.1
BDHA				*i* S	Sn	07 27 36.0	+5.0
BDHA				AML	AML	07 27 51.6	
	comp=N,1μm,0.5s						
BDHA	**Al Bayda'**	**2.23**	**26**	*i* P	Pn	07 27 07.9	+4.8
BDHA				*i* S	Sn	07 27 36.0	+5.0
	comp=N,683nm,0.5s						
DHBB	**Dhamar BB**	**2.60**	**356**	*i* P	Pn	07 27 11.2	+2.9
DHBB				*i* S	Sn	07 27 46.8	+6.6
HAJJ	**Hajjah**	**3.84**	**346**	*i* P	Pn	07 27 28.4	+3.1
HAJJ				*i* S	Sn	07 28 16.5	+5.8
HAJJ	**Hajjah**	**3.84**	**346**	*i* P	Pn	07 27 30.3	+5.0
HAJJ				*i* S	Sn	07 28 15.9	+5.2

*ISCJB **30** 07:38:16.8±0.4, 0°.11N±0°.04×123°.72E±0°.04, h144km±4km, mb4.3/21, Error ellipse: s-maj=7.1km s-min=6.0km az=20.1*

*IDC **30** 07:38:17.9±0.9, 0°.14N×123°.66E, h140km±9km, mb3.9/14, mb1 4.0/16, mb1mx3.9/21, mbtmp3.9/16, Error ellipse: s-maj=20.2km s-min=9.5km az=73.0*

*DJA **30** 07:38:19, 0°.11S×123°.80E, h104km, MLv4.6/10*

*NEIC **30** 07:38:21.4±1.5, 0°.04N×123°.60E, h177km±16km, mb4.6/9, Error ellipse: s-maj=16.9km s-min=6.2km az=63.0*

ISC 30 07:38:18.1±0.4, 0°.07N±0°.04×123°.74E±0°.04, h138km±4km, n69, σ1°19/70, mb4.3/21, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.56**	**25**	P	**Pn**	**07 38 39.3**	**+0.8**
GTOI	**Gorontalo**	**0.92**	**308**	P	**Pn**	**07 38 42.3**	**+1.2**
LUWI	**Luwuk**	**1.47**	**221**	P	**Pn**	**07 38 44.1**	**-2.3**
MNI	**Manado**	**1.75**	**39**	P	**Pn**	**07 38 52.2**	**+2.5**
MRSI	**Marisa**	**1.85**	**283**	P	**Pn**	**07 38 48.8**	**-1.9**
TNTI	**Ternate**	**3.69**	**79**	P	**Pn**	**07 39 15.0**	**+0.9**
TNTI				S	**Sn**	**07 39 56.5**	**0.0**
LBMI	**Labuha**	**3.82**	**101**	P	**Pn**	**07 39 15.8**	**0.0**
LBMI				S	**Sn**	**07 39 59.0**	**-0.7**
KDI	**Kendari**	**4.15**	**196**	P	**Pn**	**07 39 18.7**	**-1.4**
NLAI	**Namlea**	**4.70**	**134**	P	**Pn**	**07 39 28.1**	**+0.8**
NLAI				S	**Sn**	**07 40 19.0**	**-1.8**
TTSI	**Tana Toraja**	**4.99**	**232**	P	**Pn**	**07 39 30.8**	**-0.5**
SPSI	**Sidrap Palu**	**5.64**	**225**	P	**Pn**	**07 39 40.2**	**+0.3**
	0.3nm812nm70nm,0.7s						
KAPI	**Kappang**	**6.43**	**218**	P	**Pn**	**07 39 51.7**	**+1.2**
	3.4nm,0.3s,baz=53,slow=8.5,SNR=7.3						
KAPI	**Kappang**	**6.43**	**218**	*e*Pn	**Pn**	**07 39 51.3**	**+0.8**
BKSI	**Bulukumba**	**6.46**	**214**	P	**Pn**	**07 39 50.0**	**-0.9**
	30nm,1.0s						
TSM	**Tawau**	**7.21**	**306**	P	**Pn**	**07 40 01.8**	**+0.8**
MYLDM	**Lahad Datu**	**7.29**	**314**	P	**Pn**	**07 40 06.5**	**+4.4**
MYLDM	**Lahad Datu**	**7.29**	**314**	P	**Pn**	**07 40 04.8**	**+2.6**
	129nm,0.8s						
SDKM	**Sandakan**	**8.57**	**310**	P	**Pn**	**07 40 22.6**	**+3.4**
FAKI	**Fak Fak**	**9.01**	**109**	P	**Pn**	**07 40 24.7**	**-0.4**
	19nm,1.1s						
KKM	**Kota Kinabalu**	**9.58**	**308**	*e*Pn	**Pn**	**07 40 35.8**	**+3.1**
	36nm,0.4s						
KKM	**Kota Kinabalu**	**9.58**	**308**	P	**Pn**	**07 40 35.9**	**+3.1**
FITZ	**Fitzroy Crossi**	**18.15**	**174**	P	**P**	**07 42 19.6**	**-0.3**
	1.3nm,0.3s,baz=4.2,slow=8.0,SNR=32						
FITZ	**Fitzroy Crossi**	**18.15**	**174**	*e*P	**P**	**07 42 20.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**18.15**	**174**	P	**P**	**07 42 19.6**	**-0.3**
WRAB	**Tennant Creek**	**22.43**	**153**	*e*P	**P**	**07 43 05.7**	**-0.1**
	7.9nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**22.43**	**153**	P	**P**	**07 43 05.2**	**-0.6**
	9.0nm,0.4s,mb4.5,baz=334,slow=10,SNR=41						
WRA				pP		07 43 32.8	
	2.9nm,0.8s,baz=335,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**22.43**	**153**	P	**P**	**07 43 05.2**	**-0.6**
WRA				pP		07 43 32.8	
WB2	**Warramunga Arr**	**22.44**	**153**	*e*P	**P**	**07 43 05.8**	**-0.1**
COEN	**Coen**	**23.76**	**127**	*e*P	**P**	**07 43 18.8**	**+0.8**
COEN	**Coen**	**23.76**	**127**	*e*P	**P**	**07 43 18.2**	**+0.2**
	73nm,0.7s,mb5.3						
PMG	**Port Moresby**	**25.14**	**113**	P	**P**	**07 43 31.0**	**+0.4**
	6.2nm,0.7s,mb4.3,baz=293,slow=7.7,SNR=3.3						
PMG	**Port Moresby**	**25.14**	**113**	*e*P	**P**	**07 43 31.9**	**+1.2**
	5.6nm,0.7s,mb4.2						
AS31	**Alice Springs**	**25.57**	**158**	*e*P	**P**	**07 43 35.5**	**+1.1**
ASAR	**Alice Springs**	**25.57**	**158**	P	**P**	**07 43 35.0**	**+0.5**
	2.7nm,0.4s,mb4.2,baz=338,slow=12,SNR=41						
ASAR				pP		07 44 05.0	+1.5
	2.4nm,0.8s,baz=340,slow=13,SNR=2.2						
ASAR				ScP	ScP	07 50 27.4	-1.5
	0.4nm,0.6s,baz=335,slow=2.5,SNR=6.8						
ASAR	**Alice Springs**	**25.57**	**158**	P	**P**	**07 43 35.0**	**+0.5**
ASAR				pP	pP	07 44 05.0	+1.5
ASAR				ScP	ScP	07 50 27.4	-1.5
CTAO	**Charters Tower**	**29.79**	**134**	*e*P	**P**	**07 44 12.7**	**+0.6**
	3.9nm,0.9s,mb4.1						
CMAR	**Chiang Mai Arr**	**30.45**	**308**	P	**P**	**07 44 17.6**	**-0.3**
	0.6nm,0.5s,mb3.6,baz=141,slow=8.1,SNR=6.3						
CMAR	**Chiang Mai Arr**	**30.45**	**308**	P	**P**	**07 44 17.6**	**-0.3**
FORT	**Forrest**	**30.95**	**173**	*e*P	**P**	**07 44 22.1**	**0.0**
FORT	**Forrest**	**30.95**	**173**	*e*P	**P**	**07 44 22.2**	**0.0**
	20nm,0.5s,mb5.1						
NWAO	**Narrogin (SRO)**	**33.38**	**190**	P	**P**	**07 44 43.1**	**-0.3**
	4.3nm,0.7s,mb4.3,baz=13,slow=14,SNR=6.9						
NWAO	**Narrogin (SRO)**	**33.38**	**190**	P	**P**	**07 44 43.1**	**-0.3**
STKA	**Stephens Creek**	**35.98**	**154**	P	**P**	**07 45 06.9**	**+1.2**
	9.8nm,0.4s,mb4.8,baz=332,slow=8.3,SNR=47						
STKA	**Stephens Creek**	**35.98**	**154**	*e*P	**P**	**07 45 06.6**	**+0.8**
STKA	**Stephens Creek**	**35.98**	**154**	*e*P	**P**	**07 45 06.7**	**+0.9**
	2.7nm,0.8s,mb3.9						
CMSA	**Cobar Meteorol**	**37.69**	**149**	*e*P	**P**	**07 45 21.8**	**+1.6**
MJAR	**Matsushiro Arr**	**38.70**	**19**	P	**P**	**07 45 27.6**	**-1.0**
	3.4nm,0.8s,mb4.0,baz=195,slow=9.3,SNR=8.5						
MJAR	**Matsushiro Arr**	**38.70**	**19**	P	**P**	**07 45 27.6**	**-1.0**
ARMA	**Armidale**	**40.28**	**141**	*e*P	**P**	**07 45 44.0**	**+2.2**
ARMA	**Armidale**	**40.28**	**141**	*e*P	**P**	**07 45 43.9**	**+2.1**
	5.9nm,0.4s,mb4.6						
ARPS	**Mount Arapiles**	**40.31**	**157**	*e*P	**P**	**07 45 43.1**	**+1.2**
	43nm,0.8s,mb5.1						
YNG	**Young**	**41.26**	**148**	*e*P	**P**	**07 45 51.7**	**+1.9**
USRK	**Ussuriysk Arra**	**44.55**	**8**	P	**P**	**07 46 16.0**	**-0.1**
	1.8nm,0.3s,mb4.1,baz=194,slow=6.5,SNR=21						
SONM	**Songino Array**	**49.91**	**345**	P	**P**	**07 46 56.5**	**-1.1**
	0.9nm,0.7s,mb3.5,baz=161,slow=8.0,SNR=8.9						
SONM				pP	pP	07 47 27.1	-2.3
	0.6nm,0.7s,baz=165,slow=7.0,SNR=3.2						
SONM	**Songino Array**	**49.91**	**345**	P	**P**	**07 46 56.5**	**-1.1**
SONM				pP	pP	07 47 27.1	-2.3
MK31	**Makanchi Array**	**58.95**	**328**	*e*P	**P**	**07 48 02.7**	**-0.2**
MKAR	**Makanchi Array**	**58.95**	**328**	P	**P**	**07 48 01.6**	**-1.2**
	3.9nm,0.6s,mb4.4,baz=121,slow=8.6,SNR=42						
MKAR				PcP	PcP	07 48 49.0	-1.6
	1.5nm,0.4s,baz=165,slow=3.0,SNR=17						
MKAR	**Makanchi Array**	**58.95**	**328**	P	**P**	**07 48 01.6**	**-1.2**
MKAR				PcP	PcP	07 48 49.0	-1.6
PETK	**Petropavlovsk-**	**59.94**	**23**	P	**P**	**07 48 10.1**	**+0.6**
	5.4nm,1.0s,mb4.3,baz=228,slow=1.4,SNR=5.1						
PETK	**Petropavlovsk-**	**59.94**	**23**	P	**P**	**07 48 10.1**	**+0.6**
ZALV	**Zalesovo Beam**	**62.56**	**335**	P	**P**	**07 48 26.0**	**-1.2**
	0.9nm,0.5s,mb3.9,baz=121,slow=5.5,SNR=7.2						
ZALV	**Zalesovo Beam**	**62.56**	**335**	P	**P**	**07 48 26.0**	**-1.2**
KURK	**Kurchatov**	**63.29**	**330**	*e*P	**P**	**07 48 30.3**	**-1.8**
	8.3nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**07 50 58.6**	**-1.5**
	0.5nm,0.5s,mb3.5,baz=244,slow=5.3,SNR=9.7						
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**07 50 58.6**	**-1.5**
ARCES	**ARCESS Array B**	**92.83**	**340**	P	**P**	**07 51 12.2**	**-2.5**
	2.8nm,0.9s,mb4.4,baz=70,slow=7.1,SNR=4.7						
ARCES	**ARCESS Array B**	**92.83**	**340**	P	**P**	**07 51 12.2**	**-2.5**
TORD	**Torodi Ar. Bea**	**121.11**	**285**	PKhKP	PKPpre	07 56 49.4	
	0.2nm,0.5s,baz=113,slow=2.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**121.11**	**285**	PKPpre	PKPpre	07 56 49.4	

IDC 30 08:00:25.5±1.1, 30°.47S×74°.58E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/19, mbtmp4.0/6, MS3.6/5, Ms1 3.6/5, ms1mx3.2/26, Error ellipse: s-maj=47.6km s-min=25.4km az=8.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**27.52**	**289**	LR	LR	08 14 23.7	
	comp=Z,140nm,20.8s,baz=15,slow=30						
BOSA	**Boshof**	**42.68**	**260**	P	P	08 08 24.1	0.0
	1.5nm,0.7s,baz=121,slow=7.9,SNR=5.5						
BOSA				LR	LR	08 22 27.3	
	comp=Z,67nm,18.7s,baz=166,slow=31						
FITZ	**Fitzroy Crossi**	**47.78**	**87**	LR	LR	08 26 56.2	
	comp=Z,22nm,20.2s,baz=292,slow=33						
ASAR	**Alice Springs**	**52.75**	**98**	P	P	08 09 41.4	-1.1
	0.9nm,0.6s,baz=252,slow=6.4,SNR=22						
WRA	**Warramunga Arr**	**54.54**	**94**	P	P	08 09 55.8	+0.2
	3.0nm,0.7s,baz=249,slow=7.4,SNR=8.4						
STKA	**Stephens Creek**	**56.49**	**110**	LR	LR	08 30 34.6	
	comp=Z,118nm,19.3s,baz=26,slow=32						
PMG	**Port Moresby**	**70.31**	**89**	P	P	08 11 42.5	+1.2
	2.3nm,0.3s,baz=243,slow=4.5,SNR=3.5						
MKAR	**Makanchi Array**	**77.22**	**5**	P	P	08 12 20.3	-0.8
	0.5nm,0.8s,baz=181,slow=6.1,SNR=5.2						
SONM	**Songino Array**	**83.03**	**21**	P	P	08 12 53.2	+0.8
	0.2nm,0.4s,baz=210,slow=5.1,SNR=4.5						
DBIC	**Dimbokro**	**84.32**	**281**	LR	LR	08 46 02.0	
	comp=Z,50nm,18.3s,baz=280,slow=32						
YKA	**Yellowknife Ar**	**147.42**	**8**	PKPbc	PKPbc	08 20 10.4	-0.1
	0.4nm,0.6s,baz=323,slow=3.7,SNR=8.9						

GUC 30 08:36:51.0±0.7, 32°.65S×71°.65W, h20km±16km, MD3.5, ML3.0, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.37**	**179**	⇑*i*P	Pg	08 36 58.8	-0.1
IHA				*i* S	Sg	08 37 04.5	+0.3
ROCH	**El Roble**	**0.62**	**121**	⇓*i*P	Pb	08 37 03.2	-0.1
ROCH				*i* S	Sb	08 37 12.3	+0.7
ROCH				AML	AML	08 37 13.3	
	comp=E,1μm,0.5s						
PTCH	**Petorca**	**0.72**	**58**	*e*P	Pb	08 37 05.0	0.0
PTCH				*e*S	Sb	08 37 14.7	+0.3
PTCH				AML	AML	08 37 19.5	
	comp=E,610nm,0.1s						
CHNG	**Los Chungos**	**0.78**	**9**	⇑*i*P	Pb	08 37 05.2	-0.7
CHNG				*i* S	Sb	08 37 16.1	0.0
CHNG				AML	AML	08 37 17.5	
	comp=E,327nm,0.4s						
LCCH	**Las Cruces**	**0.82**	**175**	⇓*i*P	Pb	08 37 05.6	-1.1
JACH	**Jahuel**	**0.89**	**92**	⇓*i*P	Pb	08 37 07.3	-0.5
JACH				*i* S	Sb	08 37 19.5	+0.3
PEL	**Peldehue**	**0.95**	**121**	⇑*i*P	Pb	08 37 08.3	-0.5
PEL				*i* S	Sb	08 37 21.1	+0.2
PEL				AML	AML	08 37 22.2	
	comp=E,2μm,0.7s						
SAN	**Santiago**	**1.15**	**134**	*e*P	Pn	08 37 11.2	-0.8
SAN				*e*S	Sb	08 37 26.5	-0.2
SAN				AML	AML	08 37 28.6	
	comp=N,432nm,0.7s						
STL	**Santa Lucia**	**1.15**	**133**	⇑*i*P	Pn	08 37 10.9	-1.1
STL				*i* S	Sb	08 37 25.7	-1.1
TACH	**Talagante**	**1.16**	**149**	⇑*i*P	Pn	08 37 11.1	-1.0
TACH				*e*S	Sb	08 37 26.9	-0.2
CLCH	**Cerro Calan**	**1.19**	**129**	⇓*i*P	Pn	08 37 12.0	-0.6
CLCH				*i* S	Sb	08 37 27.9	-0.1
CLCH				AML	AML	08 37 28.9	
	comp=E,457nm,0.5s						
ANTU	**Antumapu**	**1.25**	**137**	⇑*i*P	Pn	08 37 12.9	-0.4
ANTU				*i* S	Sb	08 37 29.1	-0.5
ANTU				AML	AML	08 37 33.4	
	comp=N,485nm,0.4s						
FCH	**Farellones**	**1.32**	**121**	⇓*i*P	Pn	08 37 10.7	-3.7
FCH				*i* S	Sn	08 37 28.4	-3.1
PCH	**Pirque**	**1.35**	**136**	⇑*i*P	Pn	08 37 14.5	-0.3
PCH				*i* S	Sn	08 37 32.2	0.0
CHCH	**Chadas Angostu**	**1.52**	**147**	*e*P	Pn	08 37 17.5	+0.3
CHCH				*e*S	Sn	08 37 37.3	+0.8
CMCH	**Combarbala**	**1.57**	**21**	*e*P	Pn	08 37 17.7	-0.2
CMCH				*e*S	Sn	08 37 38.3	+0.7
CMCH				AML	AML	08 37 42.5	
	comp=N,1μm,0.5s						
LMEL	**Las Melosas**	**1.70**	**135**	⇑*i*P	Pn	08 37 20.2	+0.7
LMEL				*i* S	Sn	08 37 42.1	+1.4
LMEL				AML	AML	08 37 46.1	
	comp=N,489nm,0.2s						
CACH	**El Canelo**	**1.70**	**149**	*e*P	Pn	08 37 20.9	+1.2
CACH				*e*S	Sn	08 37 43.8	+3.0

MEX 30 08:56:59.6±0.5, 17°.91N×100°.67W, h32km±11km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.82**	**248**	*i* P	Pn	08 57 12.6	-2.3
ZIIG				*e*S	Sn	08 57 23.3	-2.7
CAIG	**El Cayaco**	**0.94**	**156**	*i* P	Pn	08 57 14.4	-2.2
CAIG				*e*S	Sn	08 57 25.7	-3.3
ACX	**Acapulco**	**1.29**	**143**	*i* P	Pn	08 57 19.4	-2.1
ACX				*e*S	Sn	08 57 34.5	-3.3
MMIG	**Aquila**	**2.57**	**279**	*i* P	Pn	08 57 37.6	-1.5
MMIG				*e*S	Sn	08 58 06.4	-2.9

*NEIC **30** 09:39:12.9, 38°.47S×175°.35E, h214km, MG3.6(WEL), After WEL.*

WEL 30 09:39:12.9±0.4, 38°.46S×175°.34E, h214km±3km, ML3.6/9, Error ellipse: s-maj=6.0km s-min=4.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**1.00**	**161**	PN	Pn	09 39 44.2	+0.2
MOVZ				SN	S	09 40 07.7	-0.8
MOVZ	**Moawhango**	**1.00**	**161**	Pn	Pn	09 39 44.2	+0.2
BKZ	**Black Stump Fm**	**1.15**	**128**	PN	Pn	09 39 45.3	+0.3
BKZ				SN	S	09 40 10.0	-0.1
BKZ	**Black Stump Fm**	**1.15**	**128**	Pn	Pn	09 39 45.3	+0.3
BKZ				Sn	S	09 40 10.0	-0.1
BHHZ	**Black Hill Sta**	**1.17**	**151**	PN	Pn	09 39 45.1	0.0
BHHZ				SN	S	09 40 09.7	-0.8
BHHZ	**Black Hill Sta**	**1.17**	**151**	Pn	Pn	09 39 45.1	0.0
BHHZ				Sn	S	09 40 09.7	-0.8
WAZ	**Wanganui**	**1.32**	**192**	PN	Pn	09 39 46.3	0.0
WAZ				SN	S	09 40 12.5	-0.1
WAZ	**Wanganui**	**1.32**	**192**	Pn	Pn	09 39 46.3	0.0
URZ	**Urewera**	**1.41**	**82**	PN	Pn	09 39 46.8	-0.3
URZ				SN	S	09 40 13.5	-0.1
URZ	**Urewera**	**1.41**	**82**	Pn	Pn	09 39 46.8	-0.3
RAHZ	**Arahi**	**1.44**	**109**	PN	Pn	09 39 48.1	+0.8
RAHZ	**Arahi**	**1.44**	**109**	Pn	Pn	09 39 48.1	+0.8
MCHZ	**McNeill Hill**	**1.45**	**133**	PN	Pn	09 39 48.2	+0.9
MCHZ	**McNeill Hill**	**1.45**	**133**	Pn	Pn	09 39 48.2	+0.9
PNHZ	**Pukenui**	**1.60**	**155**	PN	Pn	09 39 48.5	-0.1
PNHZ	**Pukenui**	**1.60**	**155**	Pn	Pn	09 39 48.5	-0.1
TSZ	**Takapari Road**	**1.67**	**163**	PN	Pn	09 39 48.8	-0.4
TSZ	**Takapari Road**	**1.67**	**163**	Pn	Pn	09 39 48.9	-0.4
MWZ	**Matawai**	**1.73**	**87**	PN	Pn	09 39 49.7	-0.1
MWZ	**Matawai**	**1.73**	**87**	Pn	Pn	09 39 49.7	-0.1
KAHZ	**Kahuranaki**	**1.79**	**139**	PN	Pn	09 39 50.6	+0.2
KAHZ	**Kahuranaki**	**1.79**	**139**	Pn	Pn	09 39 50.6	+0.2
WPHZ	**Waipukurau**	**1.82**	**152**	PN	Pn	09 39 50.3	-0.3
WPHZ	**Waipukurau**	**1.82**	**152**	Pn	Pn	09 39 50.3	-0.3

2.6nm,0.4s,mb4.0,baz=295,slow=10,SNR=12
WRA ScP ScP 09 54 07.8 0.0
0.4nm,0.4s,baz=305,slow=2.4,SNR=4.9
WRA Warramunga Arr 28.68 121 P **P 09 47 49.9 -0.2**
WRA ScP ScP 09 54 07.8 0.0
WRAB Tennant Creek 28.68 121 *e*P **P 09 47 50.7 +0.5**
3.5nm,0.4s,mb4.1
WB2 Warramunga Arr 28.68 121 *e*P **P 09 47 50.5 +0.3**
ASAR Alice Springs 30.06 128 P **P 09 48 02.9 +0.6**
3.3nm,0.3s,mb4.3,baz=303,slow=8.2,SNR=99
ASAR ScP ScP 09 54 12.9 +0.7
0.6nm,0.5s,baz=305,slow=2.6,SNR=12
ASAR Alice Springs 30.06 128 P **P 09 48 02.9 +0.6**
ASAR ScP ScP 09 54 12.9 +0.7
AS31 Alice Springs 30.06 128 *e*P **P 09 48 02.8 +0.6**
COEN Coen 35.09 105 *e*P **P 09 48 45.2 -0.7**
STKA Stephens Creek 40.17 134 P **P 09 49 28.9 +0.9**
5.5nm,0.4s,mb4.2,baz=310,slow=8.5,SNR=24
STKA Stephens Creek 40.17 134 *e*P **P 09 49 28.1 +0.1**
STKA Stephens Creek 40.17 134 P **P 09 49 28.9 +0.9**
SONM Songino Array 53.87 358 P **P 09 51 14.1 +1.1**
0.9nm,0.6s,mb3.3,baz=175,slow=8.1,SNR=4.9
SONM Songino Array 53.87 358 P **P 09 51 14.1 +1.1**
MK31 Makanchi Array 57.65 339 *e*P **P 09 51 39.2 -0.6**
MKAR Makanchi Array 57.65 339 P **P 09 51 39.4 -0.4**
0.9nm,0.6s,mb3.4,baz=143,slow=7.5,SNR=12
MKAR pP pP 09 52 41.6 +0.6
0.4nm,0.7s,baz=140,slow=7.4,SNR=4.5
MKAR Makanchi Array 57.65 339 P **P 09 51 39.4 -0.4**
MKAR pP pP 09 52 41.6 +0.6
KURK Kurchatov 62.26 339 P **P 09 52 09.5 -1.4**
0.5nm,0.4s,mb3.5,baz=153,slow=6.1,SNR=4.8
KURK Kurchatov 62.26 339 *e*P **P 09 52 09.5 -1.4**
ZALV Zalesovo Beam 63.15 345 P **P 09 52 15.8 -0.8**
0.5nm,0.3s,mb3.6,baz=169,slow=2.0,SNR=3.8
ZALV Zalesovo Beam 63.15 345 P **P 09 52 15.8 -0.8**
BVAR Borovoye Array 67.21 336 P **P 09 52 41.9 -0.8**
1.1nm,0.5s,mb3.8,baz=146,slow=11,SNR=6.5
BVAR Borovoye Array 67.21 336 P **P 09 52 41.9 -0.8**

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*ISCJB **30** 10:04:22.2±0.5, 5°.97S±0°.04×129°.84E±0°.05, h170km±6km, mb4.2/12, Error ellipse: s-maj=8.7km s-min=6.0km az=149.9*
*NEIC **30** 10:04:22.6±1.9, 5°.92S×129°.75E, h156km±21km, mb4.4/1, Error ellipse: s-maj=16.4km s-min=10.4km az=224.0*
*DJA **30** 10:04:24, 5°.88S×130°.00E, h150km, MLv4.6/7*
*IDC **30** 10:04:25.1±0.8, 5°.89S×129°.77E, h180km±8km, mb3.7/10, mb1 3.9/13, mb1mx3.8/17, mbtmp3.8/13, Error ellipse: s-maj=19.6km s-min=12.0km az=68.0*
ISC 30 10:04:23.3±0.5, 5°.96S±0°.04×129°.84E±0°.05, h161km±6km, h179km±3.5km: pP-P, n53, σ1.9±22/64, mb4.2/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.75**	**341**	P	**Pn**	**10 05 09.4**	**+1.3**
MSAI				S	**Sn**	**10 05 43.1**	**+0.3**
TLE	**Tual**	**2.90**	**84**	P	**Pn**	**10 05 11.9**	**+2.0**
TLE				S	**Sn**	**10 05 43.1**	**-2.8**
NLAI	**Namlea**	**3.84**	**315**	P	**Pn**	**10 05 26.1**	**+4.2**
NLAI				S	**Sn**	**10 06 12.8**	**+5.3**
FAKI	**Fak Fak**	**3.86**	**39**	P	**Pn**	**10 05 20.9**	**-1.2**
FAKI				S	**Sn**	**10 06 03.1**	**-4.7**
LBMI	**Labuha**	**5.78**	**336**	P	**Pn**	**10 05 48.4**	**+1.1**
	0.8nm3μm255nm,1.0s						
KDI	**Kendari**	**7.47**	**285**	P	**Pn**	**10 06 09.4**	**-0.2**
	0.1nm21nm,0.9s						
KAPI	**Kappang**	**10.09**	**275**	P	**Pn**	**10 06 43.3**	**-1.1**
	0.7nm,0.3s,baz=65,slow=19,SNR=2.2						
KAPI	**Kappang**	**10.09**	**275**	P	**Pn**	**10 06 43.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**12.74**	**198**	P	**Pn**	**10 07 17.0**	**-1.9**
	1.5nm,0.3s,baz=41,slow=14,SNR=28						
FITZ				S	**Sn**	**10 09 33.1**	**-7.0**
	1.7nm,0.3s,baz=83,slow=19,SNR=7.6						
FITZ	**Fitzroy Crossi**	**12.74**	**198**	*e*P	**Pn**	**10 07 16.6**	**-2.3**
FITZ				*e*S	**Sn**	**10 09 30.3**	**-10**
FITZ	**Fitzroy Crossi**	**12.74**	**198**	*e*Pn	**Pn**	**10 07 17.9**	**-1.0**
	8.5nm,0.6s						
FITZ				S	**Sn**	**10 09 33.1**	**-7.0**
FITZ				*e*Sn	**Sn**	**10 09 34.9**	**-5.2**
FITZ	**Fitzroy Crossi**	**12.74**	**198**	P	**Pn**	**10 07 18.6**	**-0.3**
	16nm,1.1s						
WRAB	**Tennant Creek**	**14.56**	**163**	*e*Pn	**Pn**	**10 07 40.6**	**-1.3**
	15nm,0.7s						
WRAB				*e*Sn	**Sn**	**10 10 13.0**	**-11**
WRAB	**Tennant Creek**	**14.56**	**163**	P	**Pn**	**10 07 41.0**	**-0.8**
	41nm,1.0s						
WRA	**Warramunga Arr**	**14.57**	**163**	P	**Pn**	**10 07 39.9**	**-2.1**
	1.7nm,0.3s,baz=340,slow=13,SNR=24						
WRA				S	**Sn**	**10 10 14.3**	**-10**
	3.7nm,0.3s,baz=334,slow=22,SNR=8.9						
WRA	**Warramunga Arr**	**14.57**	**163**	P	**Pn**	**10 07 39.9**	**-2.1**
WRA				S	**Sn**	**10 10 14.3**	**-10**
COEN	**Coen**	**15.34**	**122**	*e*P	**Pn**	**10 07 51.7**	**+0.2**
COEN	**Coen**	**15.34**	**122**	*e*Pn	**Pn**	**10 07 52.6**	**+1.1**
	64nm,0.8s						
COEN				*e*Sn	**Sn**	**10 10 35.4**	**-7.2**
COEN	**Coen**	**15.34**	**122**	P	**Pn**	**10 07 52.2**	**+0.7**
PMG	**Port Moresby**	**17.50**	**102**	P	**Pn**	**10 08 18.8**	**+1.2**
	1.9nm,0.3s,baz=290,slow=5.9,SNR=34						
PMG	**Port Moresby**	**17.50**	**102**	*e*P	**Pn**	**10 08 19.1**	**+1.5**
	35nm,0.8s						
AS31	**Alice Springs**	**18.03**	**168**	*e*P	**P**	**10 08 23.8**	**+1.6**
AS31				*e*S	**S**	**10 11 39.4**	**-1.2**
ASAR	**Alice Springs**	**18.03**	**168**	P	**P**	**10 08 23.9**	**+1.7**
	4.6nm,0.3s,baz=345,slow=9.9,SNR=456						
ASAR				S	**S**	**10 11 34.8**	**-5.8**
	0.9nm,0.3s,baz=345,slow=21,SNR=10						
ASAR	**Alice Springs**	**18.03**	**168**	P	**P**	**10 08 23.9**	**+1.7**
ASAR				S	**S**	**10 11 34.8**	**-5.8**
CTA	**Charters Tower**	**21.25**	**133**	P	**P**	**10 08 57.9**	**+1.0**
	3.6nm,0.6s,mb3.9,baz=300,slow=11,SNR=3.6						
CTA	**Charters Tower**	**21.25**	**133**	P	**P**	**10 08 57.9**	**+1.0**
FORT	**Forrest**	**24.74**	**184**	*e*P	**P**	**10 09 30.5**	**+0.6**
KLBR	**Kellerberrin**	**27.90**	**202**	*e*P	**P**	**10 09 58.3**	**+0.1**
	8.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**28.03**	**158**	P	**P**	**10 10 00.2**	**+0.8**
	1.9nm,0.4s,mb4.2,baz=338,slow=9.4,SNR=4.8						
STKA	**Stephens Creek**	**28.03**	**158**	*e*P	**P**	**10 10 00.0**	**+0.6**
STKA	**Stephens Creek**	**28.03**	**158**	*e*P	**P**	**10 10 00.4**	**+1.0**
NWAO	**Narrogin (SRO)**	**29.29**	**202**	P	**P**	**10 10 10.9**	**+0.5**
	4.2nm,0.6s,mb4.3,baz=41,slow=11,SNR=4.9						
NWAO	**Narrogin (SRO)**	**29.29**	**202**	P	**P**	**10 10 10.9**	**+0.5**
HNR	**Honiara**	**30.02**	**98**	P	**P**	**10 10 18.7**	**+1.4**
	31nm,0.5s,mb5.3,baz=200,slow=16,SNR=1.3						
HNR	**Honiara**	**30.02**	**98**	P	**P**	**10 10 18.7**	**+1.4**
MJAR	**Matsushiro Arr**	**43.00**	**10**	P	**P**	**10 12 04.4**	**-2.3**
	3.7nm,0.7s,mb4.1,baz=188,slow=9.8,SNR=11						
MJAR	**Matsushiro Arr**	**43.00**	**10**	P	**P**	**10 12 04.4**	**-2.3**
USRK	**Ussuriysk Arra**	**49.97**	**2**	P	**P**	**10 13 00.5**	**-0.3**
	2.3nm,0.6s,mb4.0,baz=201,slow=7.5,SNR=9.8						
SONM	**Songino Array**	**57.41**	**341**	P	**P**	**10 13 55.0**	**+0.1**
	0.6nm,0.5s,mb3.7,baz=157,slow=7.4,SNR=5.4						
SONM				pP	pP	10 14 37.0	+4.7
	0.7nm,0.9s,baz=147,slow=5.5,SNR=2.8						
SONM	**Songino Array**	**57.41**	**341**	P	**P**	**10 13 55.0**	**+0.1**
SONM				pP	pP	10 14 37.0	+4.7
PETK	**Petropavlovsk-**	**63.39**	**18**	P	**P**	**10 14 35.6**	**+0.3**
	1.8nm,0.5s,mb4.1,baz=196,slow=6.3,SNR=5.3						
PETK	**Petropavlovsk-**	**63.39**	**18**	P	**P**	**10 14 35.6**	**+0.3**
MK31	**Makanchi Array**	**67.28**	**327**	*e*P	**P**	**10 15 00.6**	**+0.1**
MKAR	**Makanchi Array**	**67.28**	**327**	P	**P**	**10 15 00.5**	**+0.1**
	2.2nm,0.6s,mb4.2,baz=125,slow=7.6,SNR=31						
MKAR				pP	pP	10 15 42.5	+3.5
	0.8nm,0.8s,baz=123,slow=8.0,SNR=2.3						
MKAR	**Makanchi Array**	**67.28**	**327**	P	**P**	**10 15 00.5**	**+0.1**
MKAR				pP	pP	10 15 42.5	+3.5
ZALV	**Zalesovo Beam**	**70.59**	**334**	P	**P**	**10 15 20.1**	**-0.7**
	0.8nm,0.5s,mb3.7,baz=139,slow=5.7,SNR=5.2						
ZALV				pP	pP	10 16 01.6	+1.9
	0.5nm,0.6s,baz=126,slow=7.5,SNR=1.9						
ZALV	**Zalesovo Beam**	**70.59**	**334**	P	**P**	**10 15 20.1**	**-0.7**
ZALV				pP	pP	10 16 01.6	+2.0
ILAR	**Eielson Array**	**92.48**	**25**	P	**P**	**10 17 13.3**	**-2.3**
	0.6nm,0.7s,mb3.8,baz=253,slow=4.8,SNR=11						
ILAR	**Eielson Array**	**92.48**	**25**	P	**P**	**10 17 13.3**	**-2.3**
YKA	**Yellowknife Ar**	**106.89**	**26**	PKiKP	PKiKP	10 22 28.8	-0.6
	0.1nm,0.6s,baz=293,slow=1.4,SNR=3.8						
YKA	**Yellowknife Ar**	**106.89**	**26**	PKiKP	PKiKP	10 22 28.8	-0.6
TXAR	**Lajitas Array**	**124.53**	**58**	PKP	PKPdf	10 23 03.8	-0.3
	0.1nm,0.3s,baz=41,slow=4.5,SNR=4.1						
TXAR	**Lajitas Array**	**124.53**	**58**	PKP	PKPdf	10 23 03.8	-0.3

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*ISCJB **30** 10:39:37.6±2.1, 16°.87N±0°.06×147°.0E±0°.2, h65km±18km, mb3.8/15, Error ellipse: s-maj=24.0km s-min=9.3km az=1.4*
*IDC **30** 10:39:38.0±0.8, 16°.90N×147°.03E, h52km±7km, mb3.7/14, mb1 3.9/15, mb1mx3.8/24, mbtmp3.7/15, MS3.3/6, Ms1 3.3/6, ms1mx3.0/31, Error ellipse: s-maj=19.6km s-min=10.4km az=110.0*
*NEIC **30** 10:39:39.2±1.3, 16°.83N×147°.02E, h65km±11km, mb4.2/2, Error ellipse: s-maj=15.7km s-min=6.5km az=90.0*
ISC 30 10:39:39.4±1.8, 16°.85N±0°.05×147°.0E±0°.1, h67km±15km, h52km±4.8km: pP-P, n38, σ0.9±64/40, mb3.8/15, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.86**	**213**	P	**Pn**	**10 40 35.2**	**-1.1**
	28nm,0.3s,baz=79,slow=3.4,SNR=13						
GUMO				S	**Sn**	**10 41 21.3**	**+0.9**
	28nm,0.3s,baz=36,slow=22,SNR=4.9						
GUMO				LR	LR	10 42 06.8	
	comp=Z,245nm,18.7s,baz=26,slow=38						
GUMO	**Guam**	**3.86**	**213**	*e*Pn	**Pn**	**10 40 35.0**	**-1.3**
GUMO				*e*Sn	**Sn**	**10 41 20.5**	**+0.1**
GUMO				S	**Sn**	**10 41 21.3**	**+0.9**
CBIJ	**Chichi jima**	**11.15**	**337**	P	**Pn**	**10 42 16.9**	**+1.1**
CBIJ				S	**Sn**	**10 44 13.8**	**-5.0**
CBIJ	**Chichi jima**	**11.15**	**337**	P	**Pn**	**10 42 16.9**	**+1.1**
CBIJ				S	**Sn**	**10 44 13.8**	**-5.0**
MJAR	**Matsushiro Arr**	**21.12**	**340**	P	**P**	**10 44 18.2**	**-0.4**
	2.4nm,0.6s,mb3.7,baz=175,slow=12,SNR=11						
MJAR	**Matsushiro Arr**	**21.12**	**340**	P	**P**	**10 44 18.2**	**-0.4**
DAV	**Davao City (W)**	**23.11**	**248**	LR	LR	10 51 51.1	
	comp=Z,159nm,21.9s,baz=236,slow=32						
PMG	**Port Moresby**	**26.09**	**180**	P	**P**	**10 45 06.8**	**-0.2**
	1.7nm,0.4s,mb3.8,baz=3.2,slow=23,SNR=3.2						
PMG	**Port Moresby**	**26.09**	**180**	*e*P	**P**	**10 45 06.7**	**-0.3**
	1.9nm,0.4s,mb3.9						
KSRS	**Korea Array**	**26.56**	**324**	P	**P**	**10 45 10.8**	**-0.3**
	1.6nm,0.8s,mb3.6,baz=146,slow=8.3,SNR=3.3						
KSAR	**Wonju Array Be**	**26.57**	**324**	P	**P**	**10 45 10.8**	**-0.4**
WRAB	**Tennant Creek**	**38.62**	**199**	*e*P	**P**	**10 46 55.9**	**-0.4**
	3.5nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**38.63**	**199**	*e*P	**P**	**10 46 56.2**	**-0.2**
WRA	**Warramunga Arr**	**38.63**	**199**	P	**P**	**10 46 56.4**	**0.0**
	3.1nm,0.8s,mb4.2,baz=22,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**38.63**	**199**	P	**P**	**10 46 56.4**	**0.0**
AS31	**Alice Springs**	**42.26**	**198**	*e*P	**P**	**10 47 27.1**	**+0.8**
ASAR	**Alice Springs**	**42.26**	**198**	P	**P**	**10 47 26.4**	**+0.1**
	0.5nm,0.4s,mb3.6,baz=20,slow=7.9,SNR=15						
ASAR	**Alice Springs**	**42.26**	**198**	P	**P**	**10 47 26.4**	**+0.1**
SONM	**Songino Array**	**45.38**	**322**	P	**P**	**10 47 51.8**	**+0.6**
	0.2nm,0.3s,mb3.3,baz=120,slow=4.9,SNR=4.9						
SONM	**Songino Array**	**45.38**	**322**	P	**P**	**10 47 51.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**45.76**	**280**	P	**P**	**10 47 55.1**	**+0.6**
	0.9nm,0.7s,mb3.6,baz=79,slow=6.0,SNR=6.2						
CMAR				pP	pP	10 48 06.9	-4.4
	1.2nm,0.8s,baz=72,slow=6.2,SNR=3.4						
CMAR				LR	LR	11 05 10.9	
	comp=Z,26nm,20.3s,baz=180,slow=34						
CMAR	**Chiang Mai Arr**	**45.76**	**280**	P	**P**	**10 47 55.1**	**+0.6**
CMAR				pP	pP	10 48 06.9	-4.4
ZALV	**Zalesovo Beam**	**60.25**	**323**	P	**P**	**10 49 40.0**	**-0.6**
	0.8nm,0.6s,mb4.0,baz=90,slow=8.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.25**	**323**	P	**P**	**10 49 40.0**	**-0.6**
MKAR	**Makanchi Array**	**60.66**	**315**	P	**P**	**10 49 43.6**	**+0.1**
	0.2nm,0.5s,mb3.4,baz=87,slow=12,SNR=4.1						
MKAR				pP	pP	10 49 57.9	-3.1
	0.4nm,0.5s,baz=93,slow=8.9,SNR=4.4						
MKAR				LR	LR	11 16 09.9	
	comp=Z,24nm,20.1s,baz=236,slow=36						
MKAR	**Makanchi Array**	**60.66**	**315**	P	**P**	**10 49 43.6**	**+0.1**
MKAR				pP	pP	10 49 57.9	-3.1
ILAR	**Eielson Array**	**64.74**	**26**	P	**P**	**10 50 09.3**	**-1.0**
	2.1nm,0.6s,mb4.2,baz=252,slow=6.1,SNR=47						
ILAR	**Eielson Array**	**64.74**	**26**	P	**P**	**10 50 09.3**	**-1.0**
YKA	**Yellowknife Ar**	**79.02**	**28**	P	**P**	**10 51 36.0**	**+0.1**
	2.5nm,0.7s,mb4.2,baz=284,slow=5.6,SNR=35						
YKA				pP	pP	10 51 51.8	-2.3
	0.7nm,0.5s,baz=284,slow=5.6,SNR=5.4						
YKA				LR	LR	11 24 52.2	
	comp=Z,5.3nm,21.9s,baz=195,slow=34						
YKA	**Yellowknife Ar**	**79.02**	**28**	P	**P**	**10 51 36.0**	**+0.2**
YKA				pP	pP	10 51 51.8	-2.3
NVAR	**Mina Array Bea**	**83.27**	**52**	P	**P**	**10 52 00.2**	**+1.3**
	0.9nm,0.7s,mb3.7,baz=261,slow=7.4,SNR=10.0						
NVAR	**Mina Array Bea**	**83.27**	**52**	P	**P**	**10 52 00.2**	**+1.3**
PDAR	**Pinedale Array**	**88.20**	**46**	P	**P**	**10 52 23.5**	**+0.2**
	0.4nm,0.6s,mb3.6,baz=270,slow=1.8,SNR=3.7						
PDAR				LR	LR	11 32 17.4	
	comp=Z,49nm,18.2s,baz=249,slow=36						
PDAR	**Pinedale Array**	**88.20**	**46**	P	**P**	**10 52 23.5**	**+0.2**
FINES	**FINESS Array B**	**89.09**	**336**	P	**P**	**10 52 26.5**	**-0.6**
	2.2nm,0.8s,mb4.2,baz=77,slow=6.0,SNR=3.4						
FINES	**FINESS Array B**	**89.09**	**336**	P	**P**	**10 52 26.5**	**-0.6**
LPAZ	**La Paz**	**146.31**	**94**	PKPbc	PKPbc	10 59 15.4	+2.0
LPAZ	**La Paz**	**146.31**	**94**	PKPbc	PKPbc	10 59 15.4	+2.0

MEX 30 10:42:58.2±1.1, 15°.77N×92°.68W, h180km±11km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.52**	**262**	*i* P	Pn	10 43 21.0	-2.1
PCIG				*i* S	Sn	10 43 40.0	-2.1
CCIG	**Comitan**	**0.73**	**46**	*e*P	Pn	10 43 23.3	-0.8
CCIG				*i* S	Sn	10 43 42.3	-1.8
THIG		**0.95**	**155**	*i* P	Pn	10 43 26.1	+0.5
THIG				*i* S	Sn	10 43 43.4	-3.3
TGIG		**1.08**	**337**	*i* P	Pn	10 43 24.8	-1.8
TGIG				*i* S	Sn	10 43 46.9	-1.7
CMIG	**Matias Romero**	**2.48**	**302**	*i* P	Pn	10 43 39.2	-1.5
CMIG				*i* S	Sn	10 44 12.4	-1.3
HUIG	**Huatulco**	**3.30**	**270**	*e*P	Pn	10 43 52.2	+1.7
HUIG				*i* S	Sn	10 44 29.3	-1.9
VHO	**Vista Hermosa**	**4.09**	**289**	*i* P	Pn	10 44 00.9	+0.4
VHO				*i* S	Sn	10 44 48.8	-0.4
PNIG	**Pinotepa**	**5.27**	**277**	*i* P	Pn	10 44 14.8	-0.9
PNIG				*i* S	Sn	10 45 15.7	-0.7
PPM	**Popocatepetl**	**6.55**	**301**	*e*P	Pn	10 44 33.0	+0.6
PPM				*i* S	Sn	10 45 46.6	-1.1

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*ISCJB **30** 11:03:59.9±1.1, 67°.52N±0°.03×33°.8E±0°.2, h0km, Error ellipse: s-maj=8.7km s-min=4.7km az=175.7*
*CSEM **30** 11:03:59.1±0.5, 67°.59N×34°.17E, h1km, ML2.0, Error ellipse: s-maj=11.6km s-min=6.3km az=82.0, Mining explosion.*
*HEL **30** 11:04:01.0±0.2, 67°.63N×33°.99E, h0km, ML2.1, ML2.0(NAO), Explosion*
*NAO **30** 11:04:01.5±1.4, 67°.59N×33°.85E, ML2.0*
*IDC **30** 11:04:04.3±1.9, 67°.73N×33°.58E, h0km, mb1 3.5/5, mb1mx3.2/28, mbtmp3.6/5, ML2.9/5, Error ellipse: s-maj=19.3km s-min=9.7km az=83.0*
ISC 30 11:04:00.7±1.0, 67°.57N±0°.03×33°.9E±0°.1, h0km, n30, σ1.9±01/51, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.33**	**277**	Pg	**Pg**	**11 04 08.0**	**+0.9**
	baz=93,slow=16						
APA0				Lg		11 04 12.8	
	baz=80,slow=37						
APA0				Rg		11 04 14.2	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.33**	**277**	*i* P	**Pg**	**11 04 08.0**	**+0.9**
APA0				*i* S	**Sg**	**11 04 12.8**	**+1.5**
APA0				*e*RG		11 04 14.2	
APA0	**Apatity Array**	**0.33**	**277**	P	**Pg**	**11 04 07.9**	**+0.9**
APA0				Lg		11 04 12.8	
	baz=80,slow=36,SNR=157						
APA0				S	**Sg**	**11 04 12.8**	**+1.5**
VRF	**Varrio**	**1.63**	**278**	*e*P	**Pn**	**11 04 30.8**	**+0.2**
	baz=90						
VRF				*e*SG	**Sg**	**11 04 52.4**	**-0.7**
VRF				MSG		11 04 52.4	
	comp=Z,24nm,0.2s						
VRF	**Varrio**	**1.63**	**278**	P	**Pn**	**11 04 30.7**	**+0.1**
VRF				Sg	**Sg**	**11 04 52.3**	**-0.8**
	comp=Z,24nm,0.2s						
KU6	**Riekki**	**2.21**	**227**	*e*PB	**Pb**	**11 04 40.7**	**-0.7**
	baz=46						
KU6				*e*SG	**Sg**	**11 05 10.9**	**-0.6**
KU6				MSG		11 05 10.9	
	comp=Z,9.7nm,0.4s						
KU6	**Riekki**	**2.21**	**227**	Pb	**Pb**	**11 04 40.7**	**-0.7**
KU6				Sg	**Sg**	**11 05 10.9**	**-0.6**
	comp=Z,9.7nm,0.4s						
MSF	**Maaselka**	**2.54**	**231**	*e*PB	**Pb**	**11 04 46.3**	**-0.7**
MSF				*e*SG	**Sg**	**11 05 20.7**	**-1.3**
MSF				MSG		11 05 20.7	
	comp=Z,2.8nm,0.4s						
MSF	**Maaselka**	**2.54**	**231**	Pb	**Pb**	**11 04 46.3**	**-0.7**
RNF	**Rovaniemi**	**3.21**	**256**	*e*P	**Pn**	**11 04 53.6**	**+1.2**
	baz=59						
RNF				*e*SB	**Sb**	**11 05 38.8**	**+0.6**
RNF				MSG		11 05 38.8	
	comp=Z,9.6nm,0.4s						
RNF	**Rovaniemi**	**3.21**	**256**	P	**Pn**	**11 04 53.6**	**+1.2**
RNF				Sb	**Sb**	**11 05 38.8**	**+0.6**
	comp=Z,9.6nm,0.4s						
KEV	**Kevo**	**3.33**	**314**	*e*P	**Pn**	**11 04 54.9**	**+1.0**
KEV				*e*SB	**Sb**	**11 05 41.5**	**+0.1**
KEV				MSG		11 05 41.5	
	comp=Z,6.0nm,0.2s						
KEV	**Kevo**	**3.33**	**314**	P	**Pn**	**11 04 54.9**	**+1.0**
KEV				Sb	**Sb**	**11 05 41.5**	**0.0**
	comp=Z,6.0nm,0.2s						
ARA0	**ARCESS Array S**	**3.65**	**307**	Pn	**Pn**	**11 04 58.4**	**+0.1**
	baz=122,slow=16						
ARA0				Pg	**Pg**	**11 05 06.2**	**-4.2**
	baz=116,slow=16						
ARA0				Sn	**Sn**	**11 05 40.7**	**-1.2**
	baz=125,slow=22						
ARA0				Lg		11 05 50.7	
	baz=120,slow=37						
ARA0	**ARCESS Array S**	**3.65**	**307**	*e*P	**Pn**	**11 04 58.4**	**+0.1**
ARA0				*e*PG	**Pg**	**11 05 06.2**	**-4.2**
ARA0				*e*S	**Sn**	**11 05 40.7**	**-1.2**
ARA0				*e*SB	**Sb**	**11 05 50.7**	**+0.1**
ARA0	**ARCESS Array S**	**3.65**	**307**	P	**Pn**	**11 04 58.3**	**0.0**
ARA0	**ARCESS Array S**	**3.65**	**307**	Pn	**Pn**	**11 04 58.4**	**+0.1**
	baz=122,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**3.65**	**307**	Pn	**Pn**	**11 04 58.7**	**+0.4**
	comp=Z,4.6nm,0.3s,baz=121,slow=15,SNR=195						
ARCES				Pg	**Pg**	**11 05 06.8**	**-3.6**
	comp=Z,1.6nm,0.3s,baz=120,slow=16,SNR=6.9						
ARCES				Sn	**Sn**	**11 05 41.5**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=121,slow=23,SNR=8.2						
ARCES				Lg		11 05 51.5	
	comp=Z,6.2nm,0.3s,baz=113,slow=28,SNR=12						
HEF	**Hetta**	**3.93**	**287**	*e*P	**Pn**	**11 05 03.0**	**+0.9**
	baz=98						
HEF	**Hetta**	**3.93**	**287**	P	**Pn**	**11 05 03.0**	**+0.9**
FIA0	**FINESS Array S**	**7.00**	**212**	Pn	**Pn**	**11 05 44.6**	**+0.3**
	baz=20,slow=14						
FIA0				Lg		11 07 35.7	
	baz=22,slow=28						
FIA0	**FINESS Array S**	**7.00**	**212**	*e*P	**Pn**	**11 05 44.6**	**+0.3**
FIA0				*e*SG	**Sg**	**11 07 35.7**	**-10**
FIA0	**FINESS Array S**	**7.00**	**212**	P	**Pn**	**11 05 44.6**	**+0.3**
FINES	**FINESS Array B**	**7.00**	**212**	Pn	**Pn**	**11 05 46.3**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=1.4						
FINES				Sn	**Sn**	**11 07 06.3**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=37,slow=21,SNR=3.1						
FINES				Lg		11 07 37.6	
	comp=Z,0.4nm,0.3s,baz=27,slow=25,SNR=6.4						
HFS	**Hagfors**	**11.55**	**239**	Pn	**Pn**	**11 06 45.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=52,slow=12,SNR=1.3						
HFS				Sn	**Sn**	**11 08 50.2**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=343,slow=4.6,SNR=2.9						
HFS				Lg		11 10 00.9	
	comp=Z,0.1nm,0.3s,baz=18,slow=10.0,SNR=3.1						
NOA	**NORSAR Array B**	**11.74**	**247**	Pn	**Pn**	**11 06 48.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=40,slow=10,SNR=1.7						
NOA				Lg		11 10 08.9	
	comp=Z,0.1nm,0.3s,baz=327,slow=11,SNR=2.6						
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**	**11 06 46.1**	**-3.1**
	baz=141,slow=18						
SPA0	**Spitsbergen Ar**	**11.74**	**342**	*e*P	**Pn**	**11 06 46.1**	**-3.1**
SPA0	**Spitsbergen Ar**	**11.74**	**342**	P	**Pn**	**11 06 46.1**	**-3.1**
	baz=141,slow=18,SNR=47						
SPITS	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**

ALN	Alexandroupoli	0.55	19	P		Pg	11 13 37.1	+0.5
ALN				S		Sg	11 13 44.9	+1.1
ALN	Alexandroupoli	0.55	19	P		Pg	11 13 37.1	+0.5
ALN				S		Sg	11 13 44.9	+1.1
BOZC	Bozcaada	0.57	161	⇑iPg		Pg	11 13 37.4	+0.4
BOZC				*i* Sg		Sg	11 13 45.1	+0.6
ERIK	Erikli-Kesan	0.61	61	*e*PG		Pg	11 13 37.4	-0.4
ERIK				*e*SG		Sg	11 13 46.2	+0.5
ERIK	Erikli-Kesan	0.61	61	*e*Pg		Pg	11 13 37.4	-0.4
ERIK				*e*Sg		Sg	11 13 46.3	+0.5
EZN	Ezine	0.68	144	*e*PG		Pg	11 13 39.0	-0.1
EZN	Ezine	0.68	144	*e*Pg		Pg	11 13 39.0	-0.1
LIA	Limnos Island	0.68	225	*e*PN		Pg	11 13 39.3	+0.2
LIA				*e*SN		Sg	11 13 48.7	+0.7
LIA	Limnos Island	0.68	225	*e*Pn		Pg	11 13 39.3	+0.2
LPK	Lapseki	0.72	90	*e*PG		Pg	11 13 39.6	-0.3
LPK	Lapseki	0.72	90	*e*Pg		Pg	11 13 39.7	-0.3
RDO	Rodhopi	0.79	345	*e*PN		Pn	11 13 41.5	+0.2
RDO				*e*SN		Sg	11 13 53.1	+1.5
RDO	Rodhopi	0.79	345	P		Pg	11 13 41.5	+0.2
RDO				S		Sg	11 13 52.9	+1.3
RDO	Rodhopi	0.79	345	P		Pg	11 13 41.5	+0.2
RDO				S		Sg	11 13 52.9	+1.3
RDO				*e*Sn		Sn	11 13 53.2	-2.1
RKY	Sarkoy-Tekirda	1.09	73	*e*PG		Pg	11 13 46.3	-0.5
RKY				*e*SG		Sg	11 14 00.7	-0.2
RKY	Sarkoy-Tekirda	1.09	73	*e*Pg		Pg	11 13 46.3	-0.6
RKY				*e*Sg		Sg	11 14 00.7	-0.3
SART	Tekirdag	1.09	73	*e*P		Pg	11 13 45.3	-1.6
SART				*e*S		Sg	11 14 00.1	-0.9
SART	Tekirdag	1.09	73	*e*P		Pg	11 13 45.3	-1.6
SART				*e*S		Sg	11 14 00.1	-0.9
KRBG	Karabiga-Canak	1.14	89	*e*PN		Pg	11 13 47.4	-0.4
KRBG	Karabiga-Canak	1.14	89	*e*Pn		Pg	11 13 47.4	-0.4
KAVA	Kavala	1.16	302	P		Pb	11 13 48.0	-0.2
KAVA				S		Sg	11 14 04.2	+0.8
KAVA	Kavala	1.16	302	P		Pb	11 13 48.0	-0.2
KAVA				S		Sg	11 14 04.2	+0.8
PRK	Paraskevi	1.19	162	*e*PN		Pn	11 13 48.3	-0.4
PRK				*e*SN		Sn	11 14 04.6	-0.4
PRK	Paraskevi	1.19	162	P		Pb	11 13 48.5	-0.1
PRK				S		Sb	11 14 05.2	+1.1
PRK	Paraskevi	1.19	162	*e*Pn		Pn	11 13 48.3	-0.4
PRK				*e*Sn		Sn	11 14 04.6	-0.4
PRK				S		Sb	11 14 05.2	+1.1
MFT	Murefte	1.19	70	*e*PN		Pn	11 13 48.7	-0.1
MFT	Murefte	1.19	70	*e*Pn		Pn	11 13 48.7	-0.1
AYVA	Ayvalik	1.27	147	*e*P		Pn	11 13 49.8	0.0
AYVA				*e*S		Sb	11 14 05.7	-0.7
AYVA	Ayvalik	1.27	147	*e*P		Pn	11 13 49.8	0.0
AYVA				*e*S		Sb	11 14 05.7	-0.7
GONE	Gonen-Balikesi	1.47	102	*e*PN		Pn	11 13 53.4	+0.7
GONE	Gonen-Balikesi	1.47	102	*e*Pn		Pn	11 13 53.4	+0.7
EDC	Edincik	1.57	91	*e*PN		Pn	11 13 54.6	+0.7
EDC				*e*SN		Sn	11 14 14.7	+0.3
EDC	Edincik	1.57	91	*e*Pn		Pn	11 13 54.6	+0.6
EDC				*e*Sn		Sn	11 14 14.7	+0.3
BNT	Bandirma	1.61	90	*e*PN		Pn	11 13 54.0	-0.6
BNT	Bandirma	1.61	90	*e*Pn		Pn	11 13 54.0	-0.6
EDRB	Edirne	1.63	25	*e*PN		Pn	11 13 55.3	+0.5
EDRB	Edirne	1.63	25	*e*Pn		Pn	11 13 55.3	+0.5
BALB	Balikesir	1.75	114	*e*PN		Pn	11 13 56.3	-0.2
BALB	Balikesir	1.75	114	*e*Pn		Pn	11 13 56.3	-0.2
NVR	Nevrokopi	1.77	304	*e*PN		Pn	11 13 56.4	-0.3
NVR				*e*SN		Sn	11 14 18.9	-0.4
NVR	Nevrokopi	1.77	304	P		Pn	11 13 56.5	-0.2
NVR				S		Sn	11 14 19.9	+0.6
NVR	Nevrokopi	1.77	304	P		Pn	11 13 56.5	-0.2
PLG	Polygyros	1.81	271	*e*PN		Pn	11 13 56.3	-1.0
PLG				*e*SN		Sn	11 14 18.8	-1.5
PLG	Polygyros	1.81	271	P		Pn	11 13 56.5	-0.8
PLG				S		Sn	11 14 21.1	+0.8
PLG	Polygyros	1.81	271	P		Pn	11 13 56.5	-0.8
PLG				*e*Sn		Sn	11 14 18.8	-1.5
PLG				S		Sn	11 14 21.1	+0.8
SRS	Serrai	1.84	294	P		Pn	11 13 57.1	-0.6
SRS				S		Sn	11 14 21.6	+0.5
SRS	Serrai	1.84	294	P		Pn	11 13 57.1	-0.6
AOS	Alonnisos	1.92	232	P		Pn	11 13 58.1	-0.7
AOS				S		Sn	11 14 23.3	+0.3
AOS	Alonnisos	1.92	232	P		Pn	11 13 58.1	-0.7
AOS				S		Sn	11 14 23.3	+0.3
SOH	Sokhos	1.92	284	*e*PB		Pn	11 13 58.2	-0.6
SOH				*e*SN		Sn	11 14 22.8	-0.3
SOH	Sokhos	1.92	284	*e*Pb		Pn	11 13 58.2	-0.6
SOH				*e*Sn		Sn	11 14 23.0	-0.1
CHOS	Chios island	2.00	174	*e*PN		Pn	11 13 59.7	-0.2
CHOS				*e*SN		Sn	11 14 25.1	+0.1
CHOS	Chios island	2.00	174	P		Pn	11 13 59.8	-0.1
CHOS				S		Sn	11 14 25.8	+0.8
CHOS	Chios island	2.00	174	*e*Pn		Pn	11 13 59.7	-0.2
CHOS				*e*Sn		Sn	11 14 25.3	+0.3
CHOS				S		Sn	11 14 25.8	+0.8
HORT	Hortiatis	2.08	277	P		Pn	11 14 01.0	0.0
HORT				S		Sn	11 14 27.7	+0.7
HORT	Hortiatis	2.08	277	P		Pn	11 14 01.0	0.0
HORT				S		Sn	11 14 27.7	+0.7
DURS	Dursunbey	2.19	110	*e*P		Pg	11 14 06.3	-1.6
DURS				*e*S		Sn	11 14 31.4	+1.7
DURS	Dursunbey	2.19	110	*e*P		Pg	11 14 06.3	-1.7
DURS				*e*S		Sn	11 14 31.5	+1.8
CTKS	Kestanelik-??a	2.22	66	*e*PN		Pn	11 14 03.8	+0.8
CTKS	Kestanelik-??a	2.22	66	*e*Pn		Pn	11 14 03.8	+0.9
KNT	Kendrikon	2.35	290	P		Pn	11 14 04.5	-0.2
KNT	Kendrikon	2.35	290	P		Pn	11 14 04.5	-0.2
LIT	Litokhoron	2.56	265	*e*PN		Pn	11 14 07.4	-0.2
LIT	Litokhoron	2.56	265	*e*Pn		Pn	11 14 07.4	-0.2
VAY	Valandovo	2.63	292	*e*Pn		Pg	11 14 16.1	-0.3
VAY				*e*Sn		Sb	11 14 45.6	0.0
VTS	Vitosha	2.95	319	⇓*i*P		Pg	11 14 21.1	-1.4
BARS	Barje	3.86	310	⇑*i*Pn		Pn	11 14 25.7	+0.2
MLR	Muntele Rosu	5.11	1	⇑*i*P		Pn	11 14 49.5	+6.9
GRUS	Gruza	5.16	314	⇑*i*Pn		Pn	11 14 43.7	+0.3
DOPR	Dopca	5.59	357	⇑*i*P		Pn	11 14 50.0	+0.7
DOPR	Dopca	5.59	357	⇑*i*P		Pn	11 14 50.0	+0.7
BZS	Buzias	6.07	331	⇑*i*P		Pn	11 14 55.8	0.0
BZS	Buzias	6.07	331	⇑*i*P		Pn	11 14 55.8	0.0

ISK ***30*** *11:13:49.6, 41.°41N×35.°84E, h5km, MD2.8*
ISCJB ***30*** *11:13:50.8±1.2, 41.°41N±0.°06×35.°87E±0.°06, h6km±6km, Error ellipse: s-maj=11.1km s-min=5.0km az=30.8*
CSEM ***30*** *11:13:51.0±0.6, 41.°39N×35.°82E, h2km, MD2.9, Error ellipse: s-maj=12.5km s-min=5.3km az=32.0*
DDA ***30*** *11:13:51.6, 41.°28N×35.°85E, h6km±3km, Md2.9*
ISC 30 11:13:50.9±1.2, 41.°41N±0.°06×35.°87E±0.°05, h2km±8km, n19, σ0°93/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVZ	Havza	0.35	198	*i* P	Pg	11 13 57.2	-0.4
HAVZ				*i* S	Sg	11 14 02.6	+0.5
HAVZ	Havza	0.35	198	*i* P	Pg	11 13 57.2	-0.4
HAVZ				*i* S	Sg	11 14 02.6	+0.4
KVT	Kavak	0.35	157	*e*PG	Pg	11 13 57.9	+0.2
KVT				*e*SG	Sg	11 14 04.2	+1.9
BYBT	Boyabat	0.83	275	*e*PG	Pg	11 14 06.3	-0.4
BYBT				*e*SG	Sg	11 14 18.8	+1.3
BYBT	Boyabat	0.83	275	*e*Pg	Pg	11 14 06.3	-0.5
BYBT				*e*Sg	Sg	11 14 18.8	+1.3
ERBA	Erbaa	0.99	137	*e*P	Pg	11 14 09.6	-0.3
ERBA				*e*S	Sg	11 14 22.3	-0.4
ERBA	Erbaa	0.99	137	*e*P	Pg	11 14 09.6	-0.2
ERBA				*e*S	Sg	11 14 22.3	-0.4
CTKT	Corum	1.13	226	*e*P	Pg	11 14 10.7	-1.9
CTKT				*e*S	Sg	11 14 26.7	-0.5
CTKT	Corum	1.13	226	*e*P	Pg	11 14 10.7	-1.8
CTKT				*e*S	Sg	11 14 26.7	-0.5
TOKA	Tokat	1.18	157	*e*P	Pg	11 14 15.1	+1.6
TOKA				*e*S	Sg	11 14 27.4	-1.3
TOKA	Tokat	1.18	157	*e*P	Pg	11 14 15.1	+1.6
TOKA				*e*S	Sg	11 14 27.4	-1.4
TOS	Tosya	1.44	256	*e*PN	Pn	11 14 17.8	-0.2
TOS				*e*SN	Sn	11 14 38.1	+0.7
TOS	Tosya	1.44	256	*e*Pn	Pn	11 14 17.8	-0.1
TOS				*e*Sn	Sn	11 14 38.1	+0.7
BZK	Bozkurt	1.50	292	*e*PN	Pn	11 14 18.6	-0.2
BZK	Bozkurt	1.50	292	*e*Pn	Pn	11 14 18.6	-0.2
CORM	Corum	1.55	218	*e*PN	Pn	11 14 18.6	-0.9
CORM	Corum	1.55	218	*e*Pn	Pn	11 14 18.6	-0.8
YOZ	Yozgat	1.81	193	*e*PN	Pn	11 14 23.4	+0.3
YOZ	Yozgat	1.81	193	*e*Pn	Pn	11 14 23.5	+0.4

ISCJB ***30*** *11:17:08.8±0.7, 36.°03N±0.°04×26.°12E±0.°04, h83km±10km, Error ellipse: s-maj=6.7km s-min=5.9km az=12.5*
ATH ***30*** *11:17:08.6, 36.°05N×26.°12E, h75km±1km, ML3.4*
CSEM ***30*** *11:17:09.4±0.1, 36.°01N×26.°14E, h80km, ML3.7/1, Error ellipse: s-maj=2.8km s-min=2.2km az=36.0*
THE ***30*** *11:17:10.0, 35.°99N×26.°12E, h88km±4km, ML3.7/1, Error ellipse: s-maj=4.1km s-min=0.7km az=171.0*
ISC 30 11:17:09.9±0.7, 36.°02N±0.°04×26.°13E±0.°04, h75km±12km, n61, σ0°38/77, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR1	Thera Island	0.64	303	P	Pn	11 17 24.8	+0.3
THR1	Thera Island	0.64	303	P	Pn	11 17 24.8	+0.3
THR6	Thira Island,	0.68	300	P	Pn	11 17 25.3	+0.4
THR6	Thira Island,	0.68	300	P	Pn	11 17 25.3	+0.4
THR2	Thira island,	0.70	307	P	Pn	11 17 25.6	+0.5
THR2	Thira island,	0.70	307	P	Pn	11 17 25.6	+0.5
NPS	Neapolis	0.87	209	*e*P	Pn	11 17 26.4	-0.6
NPS				*e*S	Sn	11 17 39.2	-0.5
NPS	Neapolis	0.87	209	P	Pn	11 17 26.4	-0.6
NPS				S	Sn	11 17 39.6	-0.1
NPS	Neapolis	0.87	209	P	Pn	11 17 26.4	-0.6
NPS				*e*S	Sn	11 17 39.2	-0.5
ZKR	Zakros	0.91	175	*e*P	Pn	11 17 27.3	-0.2
ZKR				*e*S	Sn	11 17 41.1	+0.5
ZKR	Zakros	0.91	175	P	Pn	11 17 27.4	-0.1
ZKR				S	Sn	11 17 40.7	+0.1
ZKR	Zakros	0.91	175	*e*P	Pn	11 17 27.3	-0.2
ZKR				*e*S	Sn	11 17 41.1	+0.5
KARP	Karpathos	0.97	119	*e*P	Pn	11 17 28.1	-0.1
KARP				*e*S	Sn	11 17 42.2	+0.4
KARP	Karpathos	0.97	119	P	Pn	11 17 28.1	-0.1
KARP				S	Sn	11 17 42.3	+0.5
KARP	Karpathos	0.97	119	P	Pn	11 17 28.1	-0.1
KARP				*e*S	Sn	11 17 42.2	+0.4
APE	Apeiranthos	1.15	336	*e*P	Pn	11 17 30.0	-0.5
APE				*e*S	Sn	11 17 45.2	-0.7
APE	Apeiranthos	1.15	336	*e*P	Pn	11 17 30.0	-0.5
APE				*e*S	Sn	11 17 45.2	-0.7
SIVA	Sivas	1.47	227	*e*P	Pn	11 17 35.1	+0.5
SIVA				*e*S	Sn	11 17 53.8	+0.6
SIVA	Sivas	1.47	227	P	Pn	11 17 34.6	0.0
SIVA				S	Sn	11 17 53.3	+0.1
SIVA	Sivas	1.47	227	P	Pn	11 17 34.6	0.0
SIVA				*e*S	Sn	11 17 53.8	+0.6
ARG	Arkhangelos	1.63	83	*e*P	Pn	11 17 36.5	-0.2
ARG	Arkhangelos	1.63	83	P	Pn	11 17 36.8	+0.1
ARG				S	Sn	11 17 57.1	+0.1
ARG	Arkhangelos	1.63	83	*e*P	Pn	11 17 36.5	-0.2
ARG				S	Sn	11 17 57.1	+0.1
VAM	Vamos	1.68	249	*e*P	Pn	11 17 37.1	-0.3
VAM	Vamos	1.68	249	P	Pn	11 17 36.6	-0.8
VAM	Vamos	1.68	249	*e*P	Pn	11 17 36.9	-0.5
SMG	Samos	1.78	18	*e*P	Pn	11 17 38.6	0.0
SMG	Samos	1.78	18	*e*P	Pn	11 17 38.6	0.0
GVD	Gavdhos	2.04	235	*e*P	Pn	11 17 42.1	-0.1
GVD	Gavdhos	2.04	235	*e*P	Pn	11 17 42.1	-0.1
KYTH	Kithira	2.51	277	*e*P	Pn	11 17 48.7	+0.2
KYTH	Kithira	2.51	277	*e*P	Pn	11 17 48.7	+0.2
VLY	Voula,Athens	2.61	315	*e*P	Pn	11 17 49.9	+0.1
VLY	Voula,Athens	2.61	315	*e*P	Pn	11 17 49.9	+0.1
VLI	Veliai	2.67	286	*e*P	Pn	11 17 50.2	-0.4
VLI	Veliai	2.67	286	*e*P	Pn	11 17 49.7	-0.9
PTL	Penteli	2.71	319	*e*P	Pn	11 17 51.3	+0.1
PTL	Penteli	2.71	319	*e*P	Pn	11 17 51.5	+0.3
NAIG	Nisos Aigina	2.73	310	*e*P	Pn	11 17 51.3	-0.2
NAIG	Nisos Aigina	2.73	310	*e*P	Pn	11 17 51.3	-0.2
ATH	Athens Observa	2.74	316	*e*P	Pn	11 17 51.9	+0.3
ATH	Athens Observa	2.74	316	*e*P	Pn	11 17 51.9	+0.3
DID	Didima	2.75	303	*e*P	Pn	11 17 51.5	-0.2
DID	Didima	2.75	303	*e*P	Pn	11 17 51.5	-0.2
KSL	Kastellorizon	2.80	86	*e*P	Pn	11 17 52.5	+0.1
KSL	Kastellorizon	2.80	86	*e*P	Pn	11 17 51.5	-0.9
VIL1	Vilia, Western	3.10	315	*e*P	Pn	11 17 56.6	+0.2
LTK	Loutraki	3.22	309	*e*P	Pn	11 17 58.3	+0.2
LTK	Loutraki	3.22	309	*e*P	Pn	11 17 58.3	+0.2
VLX	Vlachokerasia	3.30	295	*e*P	Pn	11 17 59.0	-0.1
VLX	Vlachokerasia	3.30	295	*e*P	Pn	11 17 58.7	-0.4
ITM	Ithomi	3.57	290	*e*P	Pn	11 18 02.9	0.0
ITM	Ithomi	3.57	290	*e*P	Pn	11 18 02.7	-0.2
GUR	Goura	3.58	303	*e*P	Pn	11 18 03.0	0.0
GUR	Goura	3.58	303	*e*P	Pn	11 18 03.0	0.0
LKR	Lokris	3.62	317	*e*P	Pn	11 18 03.5	0.0
LKR	Lokris	3.62	317	*e*P	Pn	11 18 03.5	0.0
AGG	Agios Georgios	4.25	316	*e*P	Pn	11 18 12.9	+0.8
AGG	Agios Georgios	4.25	316	*e*P	Pn	11 18 12.9	+0.8
THL	Klokotos Trika	4.81	319	*e*P	Pn	11 18 20.1	+0.4
THL	Klokotos Trika	4.81	319	*e*P	Pn	11 18 20.1	+0.4

ISCJB ***30*** *11:41:44.9±0.6, 54.°0N±0.°2×167.°0W±0.°2, h107km±5km, mb3.6/4, Error ellipse: s-maj=32.1km s-min=7.6km az=151.9*
NEIC ***30*** *11:41:47.3, 53.°85N×166.°97W, h95km, MG3.2(AEIC), After AEIC.*
IDC ***30*** *11:41:51.7±9.9, 54.°17N×166.°00W, h110km±64km, mb3.3/4, mb1 3.6/6, mb1mx3.2/29, mbtmp3.3/6, Error ellipse: s-maj=78.0km s-min=47.0km az=64.0*
ISC 30 11:41:45.8±0.6, 54.°0N±0.°2×167.°1W±0.°2, h100km±6km, n27, σ0°71/32, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCIR	Makushin Cirqu	0.11	110	P	Pn	11 42 00.6	+0.9
MSOM	Makushin Julie	0.18	159	P	Pn	11 41 59.8	-0.1
MREP	Makushin Rep't	0.26	134	P	Pn	11 41 59.9	-0.3
UNV	Unalaska Valle	0.36	113	P	Pn	11 41 59.8	-0.8
UNV				S	Sn	11 42 10.9	-0.9
AKUT	Akutan	0.77	79	P	Pn	11 42 03.7	-0.1
AKUT				S	Sn	11 42 17.4	0.0
AKA	Akutan	0.78	78	P	Pn	11 42 03.8	0.0
AKA				S	Sn	11 42 17.6	+0.2
OKRE	Okmok R'deer P	0.81	235	P	Pn	11 42 04.3	+0.2
OKWE	Okmok W'ng Wal	0.87	234	P	Pn	11 42 05.0	+0.2
OKWR	Okmok West Rim	0.88	231	P	Pn	11 42 05.2	+0.3
OKSP	Okmok Steeple	1.04	225	P	Pn	11 42 06.3	-0.3
NIKO	Nikolski	1.48	227	P	Pn	11 42 11.8	+0.1
FALS	False Pass	2.30	66	P	Pn	11 42 23.0	+0.9
DRIA	Deer Island	2.96	69	P	Pn	11 42 31.2	+0.2
DT1	Dutton Round H	3.00	66	P	Pn	11 42 31.9	+0.5
PS4A	Pavlof South-4	3.31	64	P	Pn	11 42 37.4	+1.8
KDAK	Kodiak Island	8.98	59	P	Pn	11 43 49.7	-2.6
	1.4nm,0.3s,baz=214,slow=6.6,SNR=29						
KDAK				S	Sn	11 45 22.6	-8.8
	0.3nm,0.3s,baz=341,slow=20,SNR=1.4						
KDAK	Kodiak Island	8.98	59	P	Pn	11 43 49.7	-2.6
KDAK				S	Sn	11 45 22.6	-8.8
ILAR	Eielson Array	14.83	35	P	Pn	11 45 09.8	-0.1
	0.1nm,0.3s,baz=233,slow=10,SNR=7.5						
ILAR	Eielson Array	14.83	35	P	Pn	11 45 09.8	-0.1
INK	Inuvik	21.23	35	P	P	11 46 22.1	-1.0
	2.3nm,0.5s,mb3.8,baz=233,slow=7.1,SNR=14						
INK	Inuvik	21.23	35	P	P	11 46 22.1	-1.0
YKA	Yellowknife Ar	28.14	51	P	P	11 47 27.9	0.0
	0.6nm,0.3s,mb3.6,baz=274,slow=9.0,SNR=20						
YKA	Yellowknife Ar	28.14	51	P	P	11 47 27.9	0.0
PDAR	Pinedale Array	38.77	83	P	P	11 49 00.1	-0.1
	0.6nm,0.7s,mb3.5,baz=316,slow=3.8,SNR=5.4						
PDAR	Pinedale Array	38.77	83	P	P	11 49 00.1	-0.1
TXAR	Lajitas Array	51.37	92	P	P	11 50 40.2	+0.3
	0.2nm,0.5s,mb3.4,baz=305,slow=6.5,SNR=3.8						
TXAR	Lajitas Array	51.37	92	P	P	11 50 40.2	+0.3

IDC ***30*** *11:44:10.2±2.4, 29.°93N×113.°38W, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/24, mbtmp3.0/4, ML3.3/2, MS3.2/1, Ms1 3.3/1, ms1mx2.4/18, Error ellipse: s-maj=40.7km s-min=12.0km az=24.0*
ISCJB ***30*** *11:44:11.5±1.5, 30.°2N±0.°1×113.°21W±0.°07, h10km, Error ellipse: s-maj=17.6km s-min=7.5km az=18.7*
NEIC ***30*** *11:44:13.0±1.8, 30.°11N×113.°22W, h10km, ML3.0, Error ellipse: s-maj=24.3km s-min=10.3km az=23.0*
ISC 30 11:44:12.7±1.4, 30.°1N±0.°1×113.°32W±0.°07, h10km, n15, σ1°07/20, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	Tucson	3.12	44	*e*Pn	Pn	11 45 00.5	-1.4
TUC				*e*Sn	Sn	11 45 41.1	+1.9
GLA	Glamis	3.24	337	*e*Pn	Pn	11 45 04.2	+0.5
PFO	Pinyon Flat Ob	4.42	324	*e*Pn	Pn	11 45 19.4	-0.5
WUAZ	Wupatki	5.68	16	*e*Pn	Pn	11 45 36.4	-0.7
	8.4nm,0.7s						
CCUT	Cedar City	7.46	360	*e*Pn	Pn	11 46 01.7	+0.1
	7.0nm,0.7s						
ANMO	Albuquerque	7.57	48	Pn	Pn	11 46 02.1	-1.0
	0.1nm,0.3s,baz=238,slow=16,SNR=4.5						
ANMO				Sn	Sn	11 47 27.8	-1.2
	0.1nm,0.3s,baz=222,slow=17,SNR=1.9						
ANMO				Lg		11 48 11.9	
	0.4nm,0.3s,baz=345,slow=18,SNR=7.1						
ANMO	Albuquerque	7.57	48	Pn	Pn	11 46 02.1	-1.0
ANMO				Sn	Sn	11 47 27.8	-1.2
ANMO				Lg		11 48 11.9	
ARUT	Antelope Range	7.70	359	*e*Pn	Pn	11 46 05.7	+0.8
	10nm,0.4s						
TXAR	Lajitas Array	8.43	93	Pn	Pn	11 46 14.8	-0.2
	0.2nm,0.3s,baz=262,slow=14,SNR=10						
TXAR				Sn	Sn	11 47 51.4	+1.2
	0.1nm,0.3s,baz=268,slow=19,SNR=2.7						
TXAR				Lg		11 48 38.9	
	0.7nm,0.3s,baz=286,slow=28,SNR=10						
TXAR	Lajitas Array	8.43	93	Pn	Pn	11 46 14.8	-0.2
TXAR				Sn	Sn	11 47 51.4	+1.3
TXAR				Lg		11 48 38.9	
NVAR	Mina Array Bea	9.30	335	Pn	Pn	11 46 29.1	+2.3
	baz=167,slow=16,SNR=2.7						
NVAR				LR	LR	11 49 35.8	
	comp=Z,174nm,21.7s,baz=115,slow=35						
NVAR	Mina Array Bea	9.30	335	Pn	Pn	11 46 29.1	+2.3
AHID	Auburn Hatcher	12.80	7	*e*Pn	Pn	11 47 14.0	-0.7
	222nm,0.2s						
ILAR	Eielson Array	40.54	339	P	P	11 51 51.1	-0.6
	0.3nm,0.7s,baz=151,slow=7.3,SNR=7.4						
ILAR	Eielson Array	40.54	339	P	P	11 51 51.1	-0.6

NNC 30 11:49:20.4±2.3, 48.°55N×77.°55E, h0km, mb2.7, mpv3.8, 3C-4D, Error ellipse: s-maj=24.5km s-min=11.6km az=77.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.17	17	⇓Pn	Pn	11 49 58.5	+0.7
	0.5nm,0.7s,baz=200,slow=17						
KURBB				⇓Sn	Sn	11 50 26.1	+0.8
	1.3nm,0.8s						
KURBB				⇑Rg		11 50 40.8	
	3.7nm,1.8s						
KURK	Kurchatov	2.28	17	⇑Pn	Pn	11 50 00.3	+1.1
	4.0nm,0.8s						
KURK				⇑Sn	Sn	11 50 28.6	+0.7
	3.1nm,0.6s						
KURK				⇓Rg		11 50 44.1	
	18nm,1.4s						
MK31	Makanchi Array	3.65	117	Pn	Pn	11 50 20.5	+2.4
	2μm,0.1s,baz=91,slow=35,SNR=18						
MK31				⇓Lg		11 51 10.5	
	0.4nm,0.4s,baz=308,slow=27,SNR=5.7						

IDC ***30*** *12:35:28.6±1.8, 0.°46N×125.°08E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=184.1km s-min=23.9km az=64.0*
ISCJB ***30*** *12:35:32.8±1.2, 1.°1N±0.°1×126.°43E±0.°08, h60km±12km, mb3.5/3, Error ellipse: s-maj=22.9km s-min=9.4km az=29.9*
DJA ***30*** *12:35:32, 1.°14N×126.°50E, h64km, MLv3.8/5*
ISC 30 12:35:33.7±1.2, 1.°1N±0.°1×126.°45E±0.°09, h50km±14km, n9, σ0°82/10, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.97	110	P	Pn	12 35 51.6	+0.6
MNI	Manado	1.65	282	P	Pn	12 35 58.8	-1.4
LBMI	Labuha	2.03	149	P	Pn	12 36 05.3	-

ellipse: s-maj=13.9km s-min=7.1km az=60.7
*ISCJB **30** 12:51:10.2±0.8, 48°.23N±0°.08×154°.5E±0°.1, h53km±7km, mb3.9/22, MS3.2/3, Error ellipse: s-maj=16.9km s-min=4.9km az=136.1*
*KRSC **30** 12:51:11.6±2.4, 48°.05N×156°.07E, h10km±10km, ML4.6*
*NEIC **30** 12:51:11.9±1.3, 48°.22N×154°.44E, h52km±11km, mb4.2/1, Error ellipse: s-maj=17.5km s-min=8.4km az=140.0*

ISC 30 12:51:12.8±0.7, 48°.26N±0°.07×154°.5E±0°.1, h59km±6km, n98, σ1§19/106, mb3.8/22, MS3.2/3, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.64**	**23**	*e*P	**Pn**	**12 51 57.0**	**+4.0**
SKR				*e*S	**Sn**	**12 52 26.5**	**+2.7**
SKR				pmax	pmax		
	comp=Z,100nm,0.5s						
SKR				pmax	pmax		
	comp=N,70nm,0.3s						
SKR				smax			
	comp=E,710nm,0.2s						
SKR				smax			
	comp=N,290nm,0.5s						
SKR	**Severo-Kuril's**	**2.64**	**23**	*e*P	**Pn**	**12 51 57.0**	**+4.0**
SKR				AMB	AMB	12 51 59.0	
	comp=N,70nm,0.2s						
SKR				AMB	AMB	12 51 59.0	
	comp=N,100nm,0.5s						
SKR				A		12 52 36.4	
	comp=N,710nm,0.2s						
SKR				A		12 52 36.4	
	comp=N,290nm,0.5s						
SKR				A		12 52 36.4	
	comp=N,310nm,0.8s						
GRL	**Gorelyy**	**4.87**	**27**	P	**Pn**	**12 52 23.8**	**+0.5**
RUS	**Russkaya**	**4.90**	**30**	*e*P	**Pn**	**12 52 22.8**	**-1.1**
RUS				*e*S	**Sn**	**12 53 15.1**	**-4.1**
RUS	**Russkaya**	**4.90**	**30**	PN	**Pn**	**12 52 22.8**	**-1.1**
PEA0B	**Petropavlovsk-**	**5.26**	**22**	*e*Pn	**Pn**	**12 52 30.6**	**+1.8**
PETK	**Petropavlovsk-**	**5.26**	**22**	Pn	**Pn**	**12 52 26.6**	**-2.2**
	comp=N,5.4nm,0.3s,baz=186,slow=13,SNR=87						
PETK	**Petropavlovsk-**	**5.26**	**22**	Pn	**Pn**	**12 52 26.6**	**-2.2**
PETK	**Petropavlovsk-**	**5.26**	**22**	*e*PN	**Pn**	**12 52 30.5**	**+1.8**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PET	**Petropavlovsk**	**5.45**	**27**	P	**Pn**	**12 52 31.5**	**+0.2**
PET	**Petropavlovsk**	**5.45**	**27**	*e*PN	**Pn**	**12 52 31.7**	**+0.4**
PET				*e*S	**Sn**	**12 53 33.1**	**+0.5**
PET				pmax	pmax		
	comp=Z,18nm,0.6s						
PET				smax			
	comp=E,73nm,0.7s						
PET				smax			
	comp=N,46nm,0.5s						
PET	**Petropavlovsk**	**5.45**	**27**	*e*P	**Pn**	**12 52 31.6**	**+0.3**
KUR	**Kuril'sk**	**5.47**	**239**	*e*PN	**Pn**	**12 52 33.0**	**+1.4**
KUR				pmax	pmax		
	comp=Z,210nm,0.8s						
KUR	**Kuril'sk**	**5.47**	**239**	*e*P	**Pn**	**12 52 33.0**	**+1.4**
KUR				AMB	AMB	12 52 35.6	
	comp=Z,210nm,0.8s						
KUR				*e*S	**Sn**	**12 53 46.0**	**+13**
KUR				A		12 53 48.6	
	comp=Z,370nm,1.0s						
KUR				A		12 53 48.6	
	comp=Z,210nm,0.8s						
SDLR	**Sedlovina**	**5.74**	**27**	*e*P	**Pn**	**12 52 35.4**	**+0.1**
SDLR				S	**Sn**	**12 53 37.1**	**-2.6**
NLC	**Nalytchevo**	**5.80**	**30**	S	**Sn**	**12 53 36.0**	**-5.2**
SPN	**Mys Shipunski**	**5.98**	**34**	P	**Pn**	**12 52 37.4**	**-1.2**
SPN				S	**Sn**	**12 53 39.1**	**-6.5**
SPN	**Mys Shipunski**	**5.98**	**34**	PN	**Pn**	**12 52 37.4**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**7.33**	**238***c*	*i*PN	**Pn**	**12 52 57.7**	**+0.5**
YUK				*e*S	**Sn**	**12 54 19.7**	**+0.8**
YUK				pmax	pmax		
	comp=E,132nm,0.4s						
YUK				pmax	pmax		
	comp=N,82nm,0.4s						
YUK				pmax	pmax		
	comp=Z,169nm,0.4s						
YUK				MLR	MLR		
	comp=E,212nm,10.0s						
YUK				MLR	MLR		
	comp=Z,229nm,10.0s						
YUK	**Yuzh-Kuril'sk**	**7.33**	**238**⇑	*i*P	**Pn**	**12 52 57.7**	**+0.5**
YUK				AMB	AMB	12 52 59.7	
	comp=Z,82nm,0.4s						
YUK				AMB	AMB	12 52 59.7	
	comp=Z,132nm,0.4s						
YUK				AMB	AMB	12 52 59.7	
	comp=Z,196nm,0.4s						
YUK				*e*S	**Sn**	**12 54 19.7**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.04**	**265**⇑	*e*PN	**Pn**	**12 53 09.0**	**+2.2**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.04**	**265**	*e*P	**Pn**	**12 53 09.0**	**+2.2**
YSS				AMB	AMB	12 53 10.2	
	comp=Z,40nm,0.9s						
ASAJ	**Asahikawa**	**9.23**	**248**	Pn	**Pn**	**12 53 23.1**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=65,slow=14,SNR=9.0						
ASAJ				LR	LR	12 56 35.6	
	comp=Z,124nm,18.5s,baz=1.7,slow=36						
ASAJ	**Asahikawa**	**9.23**	**248**	Pn	**Pn**	**12 53 23.1**	**-0.1**
ASAJ	**Asahikawa**	**9.23**	**248**	PN	**Pn**	**12 53 23.1**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBTR	**Krutoberegovo**	**9.45**	**30**	P	**Pn**	**12 53 25.7**	**-0.3**
KBTR	**Krutoberegovo**	**9.45**	**30**	PN	**Pn**	**12 53 25.7**	**-0.3**
ERM	**Erimo**	**10.15**	**236**	*e*PN	**Pn**	**12 53 34.6**	**-1.1**
ERM	**Erimo**	**10.15**	**236**	*e*P	**Pn**	**12 53 34.6**	**-1.1**
USRK	**Ussuriysk Arra**	**16.07**	**264**	Pn	**Pn**	**12 54 52.8**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=60,slow=12,SNR=3.5						
USRK				LR	LR	13 00 53.0	
	comp=Z,39nm,21.3s,baz=271,slow=37						
MJA0	**Matsu Arr-Jizo**	**16.73**	**232**	*e*P	**Pn**	**12 55 00.3**	**-2.7**
MJAR	**Matsushiro Arr**	**16.75**	**232**	Pn	**Pn**	**12 54 59.9**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=7.6						
MJAR	**Matsushiro Arr**	**16.75**	**232**	Pn	**Pn**	**12 54 59.9**	**-3.4**
MJAR	**Matsushiro Arr**	**16.75**	**232**	P	**Pn**	**12 54 59.9**	**-3.4**
KSRS	**Korea Array**	**22.16**	**251**	P	**P**	**12 56 01.9**	**-1.7**
	comp=Z,6.0nm,0.8s,mb4.1,baz=47,slow=9.5,SNR=13						
KSRS				LR	LR	13 04 16.6	
	comp=Z,38nm,20.4s,MS2.8,baz=55,slow=36						
KSRS	**Korea Array**	**22.16**	**251**	*e*P	**P**	**12 56 03.6**	**0.0**
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
KSAR	**Wonju Array Be**	**22.19**	**251**	P	**P**	**12 56 01.9**	**-2.0**
KSAR	**Wonju Array Be**	**22.19**	**251**	P	**P**	**12 56 01.9**	**-2.0**
SONM	**Songino Array**	**31.74**	**288**	P	**P**	**12 57 31.9**	**+1.1**
	comp=Z,0.4nm,1.0s,mb3.2,baz=74,slow=11,SNR=3.2						
SONM				LR	LR	13 10 49.9	
	comp=Z,74nm,18.5s,MS3.4,baz=147,slow=37						
SONM	**Songino Array**	**31.74**	**288**	P	**P**	**12 57 31.9**	**+1.1**
SONM	**Songino Array**	**31.74**	**288**	P	**P**	**12 57 31.9**	**+1.1**
SONM				MLR	MLR		
	comp=Z,74nm,18.5s						
COLA	**College**	**34.37**	**40**	*e*P	**P**	**12 57 52.9**	**-0.7**
	comp=Z,5.9nm,0.6s,mb4.7						
COLA	**College**	**34.37**	**40**	*e*P	**P**	**12 57 52.9**	**-0.7**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
ILAR	**Eielson Array**	**34.78**	**40**	P	**P**	**12 57 58.2**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=251,slow=6.9,SNR=4.8						
ILAR	**Eielson Array**	**34.78**	**40**	P	**P**	**12 57 58.2**	**+1.1**
ILAR	**Eielson Array**	**34.78**	**40**	P	**P**	**12 57 58.2**	**+1.1**
INK	**Inuvik**	**39.87**	**33**	P	**P**	**12 58 40.8**	**+0.6**
	comp=Z,1.0nm,0.9s,mb3.5,baz=278,slow=7.1,SNR=3.4						
INK	**Inuvik**	**39.87**	**33**	P	**P**	**12 58 40.8**	**+0.6**
INK	**Inuvik**	**39.87**	**33**	P	**P**	**12 58 40.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**42.50**	**305**	P	**P**	**12 59 01.1**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.7,baz=59,slow=7.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**42.50**	**305**	P	**P**	**12 59 01.1**	**-0.7**
ZALV	**Zalesovo Beam**	**42.50**	**305**	*e*P	**P**	**12 59 01.1**	**-0.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
MKAR	**Makanchi Array**	**47.09**	**297**	P	**P**	**12 59 38.5**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=64,slow=7.1,SNR=9.7						
MKAR				PcP	PcP	13 01 09.5	+0.1
	comp=Z,0.2nm,0.5s,baz=67,slow=3.5,SNR=3.6						
MKAR	**Makanchi Array**	**47.09**	**297**	P	**P**	**12 59 38.5**	**+0.2**
MKAR				PcP	PcP	13 01 09.5	+0.1
MKAR	**Makanchi Array**	**47.09**	**297**	*e*P	**P**	**12 59 40.1**	**+1.7**
KURK	**Kurchatov**	**47.31**	**303**	P	**P**	**12 59 41.0**	**+0.8**
	comp=Z,2.6nm,0.6s,mb4.3,baz=67,slow=8.5,SNR=12						
KURK				LR	LR	13 18 25.8	
	comp=Z,35nm,19.7s,MS3.3,baz=240,slow=35						
KURK	**Kurchatov**	**47.31**	**303**	*e*P	**P**	**12 59 40.1**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.2						
KURK	**Kurchatov**	**47.31**	**303***c*	*i*P	**P**	**12 59 40.3**	**+0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
YKA	**Yellowknife Ar**	**49.15**	**38**	P	**P**	**12 59 54.8**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=298,slow=7.3,SNR=5.0						
YKA	**Yellowknife Ar**	**49.15**	**38**	P	**P**	**12 59 54.8**	**+0.7**
YKA	**Yellowknife Ar**	**49.15**	**38**	P	**P**	**12 59 54.8**	**+0.7**
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**13 00 05.4**	**0.0**
	comp=Z,3.5nm,0.4s,mb4.7,baz=58,slow=7.4,SNR=36						
BVAR				PcP	PcP	13 01 22.8	+0.7
	comp=Z,0.8nm,0.6s,baz=44,slow=3.3,SNR=4.2						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**13 00 05.4**	**0.0**
BVAR				PcP	PcP	13 01 22.8	+0.7
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**13 00 05.4**	**0.0**
BVAR						13 01 22.8	
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BRVK	**Borovoye**	**50.66**	**309**	*i*P	**P**	**13 00 05.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CMAR	**Chiang Mai Arr**	**53.63**	**256**	P	**P**	**13 00 29.3**	**+1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=33,slow=7.5,SNR=11						
CMAR	**Chiang Mai Arr**	**53.63**	**256**	P	**P**	**13 00 29.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**53.63**	**256**	P	**P**	**13 00 29.3**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**60.92**	**64**	P	**P**	**13 01 19.3**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.9,baz=303,slow=7.6,SNR=5.8						
NVAR	**Mina Array Bea**	**60.92**	**64**	P	**P**	**13 01 19.3**	**0.0**
FINES	**FINESS Array B**	**63.07**	**335**	P	**P**	**13 01 32.9**	**-0.4**
	comp=Z,0.9nm,0.4s,mb4.2,baz=32,slow=7.6,SNR=8.6						
FINES	**FINESS Array B**	**63.07**	**335**	P	**P**	**13 01 32.9**	**-0.4**
FINES	**FINESS Array B**	**63.07**	**335**	P	**P**	**13 01 32.9**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**67.09**	**342**	P	**P**	**13 01 58.2**	**-1.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=28,slow=6.6,SNR=3.9						
NOA	**NORSAR Array B**	**67.09**	**342**	P	**P**	**13 01 58.2**	**-1.2**
NOA	**NORSAR Array B**	**67.09**	**342**	P	**P**	**13 01 58.2**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**70.25**	**200**	P	**P**	**13 02 19.5**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=14,slow=6.3,SNR=4.2						
WRA	**Warramunga Arr**	**70.25**	**200**	P	**P**	**13 02 19.5**	**0.0**
WRA	**Warramunga Arr**	**70.25**	**200**	P	**P**	**13 02 19.5**	**0.0**
AKASG	**Malin Array Be**	**70.80**	**327**	P	**P**	**13 02 21.1**	**-1.5**
	comp=Z,0.7nm,0.3s,mb4.0,baz=35,slow=6.5,SNR=4.9						
AKASG	**Malin Array Be**	**70.80**	**327**	P	**P**	**13 02 21.1**	**-1.5**
AKASG	**Malin Array Be**	**70.80**	**327**	P	**P**	**13 02 21.1**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.94**	**200**	P	**P**	**13 02 41.2**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=11,slow=5.9,SNR=4.2						
ASAR	**Alice Springs**	**73.94**	**200**	P	**P**	**13 02 41.2**	**-0.3**
ASAR	**Alice Springs**	**73.94**	**200**	*e*P	**P**	**13 02 42.2**	**+0.7**
CLL	**Collm**	**75.47**	**336**	*i*P	**P**	**13 02 50.6**	**+0.5**
CLL	**Collm**	**75.47**	**336**	*i*P	**P**	**13 02 50.6**	**+0.5**
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**13 02 54.4**	**+1.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=296,slow=3.8,SNR=4.9						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**13 02 54.4**	**+1.2**
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**13 02 54.4**	**+1.2**
GERES	**GERESS Array B**	**77.50**	**335**	P	**P**	**13 03 02.6**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=37,slow=5.2,SNR=8.6						
GERES	**GERESS Array B**	**77.50**	**335**	P	**P**	**13 03 02.6**	**+1.0**
GERES	**GERESS Array B**	**77.50**	**335**	P	**P**	**13 03 02.6**	**+1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.92**	**317**	P	**P**	**13 03 05.4**	**+1.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=39,slow=2.2,SNR=7.5						
BRTR	**Keskin Array B**	**77.92**	**317**	P	**P**	**13 03 05.4**	**+1.3**
BRTR	**Keskin Array B**	**77.92**	**317**	*e*P	**P**	**13 03 05.4**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MMAI	**Mount Meron Ar**	**82.50**	**312**	P	**P**	**13 03 27.8**	**-1.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=51,slow=5.7,SNR=3.1						
MMAI	**Mount Meron Ar**	**82.50**	**312**	P	**P**	**13 03 27.8**	**-1.1**

*ISCJB **30** 12:52:03.6±3.5, 4°.77S±0°.05×127°.40E±0°.06, h3km±25km, Error ellipse: s-maj=10.8km s-min=7.9km az=26.5*
*IDC **30** 12:52:06.7±1.5, 4°.88S×127°.46E, h0km, mb3.7/2, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.4/4, Error ellipse: s-maj=38.0km s-min=24.9km az=47.0*
*DJA **30** 12:52:07, 4°.64S×127°.30E, h37km, MLv3.2/4*
*NEIC **30** 12:52:11.4±1.0, 4°.95S×127°.37E, h35km, mb3.9/2, Error ellipse: s-maj=19.3km s-min=11.3km az=216.0*

ISC 30 12:52:06.3±5.6, 4°.74S±0°.05×127°.50E±0°.08, h11km±41km, n18, σ1§43/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.25**	**34**	P	**Pn**	**12 52 28.4**	**-1.3**
AAI				S	**Sb**	**12 52 46.1**	**+0.1**
NLAI	**Namlea**	**1.54**	**345**	P	**Pn**	**12 52 30.7**	**-2.9**
MSAI	**Masohi**	**1.99**	**46**	P	**Pn**	**12 52 40.9**	**+1.1**
KAPI	**Kappang**	**7.72**	**268**	Pn	**Pn**	**12 53 60.0**	**+1.3**
	0.7nm,0.3s,baz=90,slow=10,SNR=3.6						
KAPI	**Kappang**	**7.72**	**268**	*e*Pn	**Pn**	**12 53 59.9**	**+1.2**
KAPI				*e*Sn	**Sn**	**12 55 26.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**13.41**	**188**	Pn	**Pn**	**12 55 17.2**	**+0.6**
	0.1nm,0.3s,baz=13,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**13.41**	**188**	Pn	**Pn**	**12 55 17.2**	**+0.6**
WRAB	**Tennant Creek**	**16.51**	**157**	*e*P	**Pn**	**12 56 00.1**	**+2.1**
	7.5nm,1.2s						
WRA	**Warramunga Arr**	**16.52**	**157**	Pn	**Pn**	**12 55 57.2**	**-0.9**
	0.1nm,0.3s,baz=340,slow=13,SNR=10						
WRA	**Warramunga Arr**	**16.52**	**157**	Pn	**Pn**	**12 55 57.2**	**-0.9**
AS31	**Alice Springs**	**19.81**	**162**	*e*P	**Pn**	**12 56 37.7**	**-0.7**
ASAR	**Alice Springs**	**19.81**	**162**	P	**Pn**	**12 56 36.4**	**-2.0**
	0.1nm,0.3s,baz=338,slow=11,SNR=21						
ASAR	**Alice Springs**	**19.81**	**162**	P	**Pn**	**12 56 36.4**	**-2.0**
PMG	**Port Moresby**	**20.05**	**104**	P	**P**	**12 56 43.5**	**+3.8**
	7.7nm,0.8s,baz=298,slow=4.2,SNR=11						
PMG	**Port Moresby**	**20.05**	**104**	*e*P	**P**	**12 56 42.8**	**+3.1**
	8.1nm,0.8s						
COCO	**West Island**	**31.20**	**254**	*e*P	**P**	**12 58 24.9**	**-0.9**
	167nm,0.6s						
MKAR	**Makanchi Array**	**64.98**	**327**	P	**P**	**13 02 49.0**	**+2.8**
	0.3nm,0.7s,baz=120,slow=5.3,SNR=4.3						
MKAR	**Makanchi Array**	**64.98**	**327**	P	**P**	**13 02 49.0**	**+2.8**

*ISCJB **30** 12:54:18.4±0.4, 36°.50N±0°.03×70°.98E±0°.06, h163km±7km, mb3.2/2, Error ellipse: s-maj=8.3km s-min=4.5km az=168.0*
*IDC **30** 12:54:18.5±15.0, 36°.36N×71°.07E, h149km±145km, mb3.3/3, mb1 3.3/7, mb1mx3.0/29, mbtmp3.2/7, ML3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/29, Error ellipse: s-maj=93.6km s-min=48.2km az=25.0*
*NEIC **30** 12:54:19.6±0.6, 36°.45N×71°.06E, h155km±8km, mb4.3/13, Error ellipse: s-maj=9.0km s-min=4.6km az=68.0*
*NNC **30** 12:54:24.4±3.1, 36°.88N×70°.72E, h168km±30km, mb2.9, mpv4.0, Error ellipse: s-maj=25.9km s-min=14.8km az=26.0*

ISC 30 12:54:19.5±0.4, 36°.49N±0°.03×71°.01E±0°.07, h156km±7km, n55, σ0§89/63, mb3.2/2, 2C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.52**	**220**	*e*Pn	**Pn**	**12 55 01.6**	**+0.6**
KBL				*e*Sn	**Sn**	**12 55 33.0**	**-0.2**
CEP	**Cherat**	**2.75**	**164**	⇓P	**Pn**	**12 55 04.4**	**+0.4**
CEP				S	**Sn**	**12 55 32.0**	**-6.4**
THW	**Thamme Wali**	**3.73**	**171**	⇓P	**Pn**	**12 55 16.5**	**+0.1**
EKS2	**Erkin-Say**	**6.53**	**18**	*e*Pn	**Pn**	**12 55 53.5**	**+0.4**
	4.4nm,0.7s						
EKS2				*e*Sn	**Sn**	**12 57 04.1**	**-2.4**
KK31	**Karatay Array**	**6.62**	**357**	⇓P	**Pn**	**12 55 54.3**	**0.0**
	5.2nm,0.3s,baz=181,slow=13,SNR=357						
KK31				S	**Sn**	**12 57 05.8**	**-3.0**
	6.5nm,0.5s,baz=191,slow=9.9,SNR=14						
KKAR	**Karatay Array**	**6.62**	**357**	*e*Pn	**Pn**	**12 55 54.3**	**0.0**
	8.6nm,0.3s						
KKAR				*e*Sn	**Sn**	**12 57 07.3**	**-1.5**
AAK	**Ala-Archa**	**6.70**	**23**	*e*Pn	**Pn**	**12 55 55.9**	**+0.5**
	23nm,0.6s						
AAK				*e*Sn	**Sn**	**12 57 11.6**	**+0.8**
TKM2	**Tokmak 2**	**7.33**	**27**	⇑P	**Pn**	**12 56 04.7**	**+0.9**
	6.2nm,0.6s						
TKM2				⇓S	**Sn**	**12 57 26.3**	**+0.4**
	8.5nm,1.0s						
TKM2	**Tokmak 2**	**7.33**	**27**	*e*Pn	**Pn**	**12 56 05.2**	**+1.4**
	3.3nm,0.4s						
NDI	**New Delhi**	**9.37**	**144**	*e*PKP	Px	12 57 06.0	
MK31	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**12 57 25.6**	**+3.6**
	1.3nm,0.6s,baz=210,slow=11,SNR=14						
MK31	**Makanchi Array**	**13.30**	**36**	*e*Pn	**Pn**	**12 57 22.1**	**+0.1**
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**12 57 22.2**	**+0.1**
	0.1nm,0.3s,baz=226,slow=15,SNR=9.6						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**12 57 22.2**	**+0.1**
DANN	**Dangsing**	**13.47**	**123**	*e*P	**Pn**	**12 57 22.8**	**-1.6**
DANN	**Dangsing**	**13.47**	**123**	*e*P	**Pn**	**12 57 22.8**	**-1.6**
KOLN	**Koldanda**	**13.75**	**126**	*e*P	**Pn**	**12 57 23.9**	**-4.0**
	3.9nm,0.4s						
KOLN	**Koldanda**	**13.75**	**126**	*e*P	**Pn**	**12 57 23.9**	**-4.0**
	3.9nm,0.4s						
GKN	**Gorkha**	**14.29**	**122**	*e*P	**Pn**	**12 57 34.3**	**-0.4**
	32nm,0.5s						
GKN	**Gorkha**	**14.29**	**122**	*e*P	**Pn**	**12 57 34.3**	**-0.4**
	32nm,0.5s						
DMN	**Daman**	**14.86**	**123**	*e*P	**Pn**	**12 57 41.3**	**-0.5**
	6.3nm,0.4s						
DMN	**Daman**	**14.86**	**123**	*e*P	**Pn**	**12 57 41.3**	**-0.5**
	6.3nm,0.4s						
KKN	**Kakani**	**14.86**	**122**	*e*P	**Pn**	**12 57 41.7**	**-0.2**
	18nm,0.6s						
KKN	**Kakani**	**14.86**	**122**	*e*P	**Pn**	**12 57 41.7**	**-0.2**
	18nm,0.6s						
PKI	**Pulchoki**	**15.09**	**122**	*e*P	**Pn**	**12 57 44.4**	**-0.3**
	14nm,0.6s						
PKI	**Pulchoki**	**15.09**	**122**	*e*P	**Pn**	**12 57 44.4**	**-0.3**
	14nm,0.6s						
AB31	**Akbulak array**	**15.10**	**331**	P	**Pn**	**12 57 43.4**	**-1.2**
	0.5nm,0.3s,baz=145,slow=13,SNR=34						
AB31				⇑S	**S**	**13 00 24.1**	**-8.7**
	3.7nm,1.1s,baz=147,slow=25,SNR=4.8						
ABKAR	**Akbulak array**	**15.10**	**331**	*e*Pn	**Pn**	**12 57 45.5**	**+0.9**
	1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**15.13**	**19**	⇓P	**Pn**	**12 57 45.9**	**+0.9**
	0.3nm,0.6s						
GUN	**Gumba**	**15.20**	**120**	*e*P	**Pn**	**12 57 46.1**	**0.0**
	8.6nm,0.4s						
GUN	**Gumba**	**15.20**	**120**	*e*P	**Pn**	**12 57 46.1**	**0.0**
	8.6nm,0.4s						
KURK	**Kurchatov**	**15.24**	**19**	P	**Pn**	**12 57 45.9**	**-0.5**
	0.1nm,0.3s,baz=206,slow=11,SNR=9.5						
KURK	**Kurchatov**	**15.24**	**19**	⇓P	**Pn**	**12 57 47.5**	**+1.1**
	4.2nm,1.3s						
KURK	**Kurchatov**	**15.24**	**19**	P	**Pn**	**12 57 45.9**	**-0.5**
JIRN	**Jiri**	**15.57**	**120**	*e*P	**Pn**	**12 57 50.7**	**+0.1**
	3.1nm,0.4s						
JIRN	**Jiri**	**15.57**	**120**	*e*P	**Pn**	**12 57 50.7**	**+0.1**
	3.1nm,0.4s						
RAMN	**Ramite**	**16.30**	**121**	*e*P	**Pn**	**12 57 58.7**	**-0.8**
	9.1nm,0.6s						
RAMN	**Ramite**	**16.30**	**121**	*e*P	**Pn**	**12 57 58.7**	**-0.8**
	9.1nm,0.6s						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**12 58 03.0**	**+0.8**
	0.2nm,0.3s,baz=159,slow=11,SNR=5.0						
BVAR				LR	LR	13 05 25.7	
	comp=Z,33nm,21.1s,baz=178,slow=40						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**12 58 03.0**	**+0.8**
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**Pn**	**12 58 05.7**	**+0.4**
	0.2nm,0.3s,baz=136,slow=8.3,SNR=12						
AKTO	**Aktyubinsk**	**16.80**	**330**	⇓P	**Pn**	**12 58 05.5**	**+0.2**
	0.7nm,0.8s						
AKTO				⇓S	**S**	**13 01 05.3**	**-6.5**
	0.2nm,0.7s						
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**Pn**	**12 58 05.7**	**+0.4**
TAPN	**Taplejung**	**16.83**	**118**	*e*P	**Pn**	**12 58 07.6**	**+1.6**
	11nm,0.5s						
TAPN	**Taplejung**	**16.83**	**118**	*e*P	**Pn**	**12 58 07.6**	**+1.6**
	11nm,0.5s						
ODAN	**Odare**	**16.90**	**120**	*e*P	**Pn**	**12 58 07

MSCL	Scilla	0.93 171	Pg	Pn	13 21 08.9	-0.2
	220nm,0.2s					
MSCL	Scilla	0.93 171	P	Pn	13 21 08.9	-0.2
	220nm,0.2s					
BULG	Bulgheria - Ca	0.94 349	Pg	Pn	13 21 09.8	+0.7
BULG	Bulgheria - Ca	0.94 349	P	Pn	13 21 09.8	+0.7
PLAC	Placanica	0.95 137	⇓iPg	Pn	13 21 09.7	+0.4
PLAC			Sg	S	13 21 35.9	-1.3
	174nm,0.4s					
PLAC	Placanica	0.95 137	⇓iP	Pn	13 21 09.7	+0.4
PLAC			S	S	13 21 35.9	-1.3
	174nm,0.4s					
PIPA	Pietrapaola	0.99 70	⇓iPg	Pn	13 21 10.2	+0.8
	381nm,0.2s					
PIPA	Pietrapaola	0.99 70	⇓iP	Pn	13 21 10.2	+0.8
	381nm,0.2s					
SIRI	Monte Sirino -	1.05 11	Pg	Pn	13 21 09.8	+0.1
	82nm,0.6s					
SIRI	Monte Sirino -	1.05 11	P	Pn	13 21 09.8	+0.1
	82nm,0.6s					
SCHR	S. Chirico Rap	1.11 19	⇓iPg	Pn	13 21 10.9	+0.9
	51nm,0.8s					
ORI	Oriolo Calabro	1.12 35	Pg	Pn	13 21 10.7	+0.6
	313nm,0.4s					
ORI	Oriolo Calabro	1.12 35	P	Pn	13 21 10.7	+0.6
	313nm,0.4s					
SOI	Samo	1.13 162	Pg	Pn	13 21 10.4	+0.1
	123nm,0.7s					
SOI	Samo	1.13 162	P	Pn	13 21 10.4	+0.1
	123nm,0.7s					
MTTG	Motta San Giov	1.15 177	Pg	Pn	13 21 10.9	+0.5
MTTG	Motta San Giov	1.15 177	P	Pn	13 21 10.9	+0.5
MPAZ	Palizzi	1.23 165	Pg	Pn	13 21 11.2	+0.3
	241nm,0.3s					
MPAZ	Palizzi	1.23 165	P	Pn	13 21 11.2	+0.3
	241nm,0.3s					
MMME	Mongiuffi-Meli	1.24 193	Pg	Pn	13 21 11.5	+0.5
	169nm,0.3s					
MMME	Mongiuffi-Meli	1.24 193	P	Pn	13 21 11.5	+0.5
	169nm,0.3s					
CRAC	Craco	1.37 27	Pg	Pn	13 21 12.4	+0.7
CRAC	Craco	1.37 27	P	Pn	13 21 12.4	+0.7
MNO	Monte Soro	1.41 211	Pg	Pn	13 21 13.2	+1.1
	43nm,0.1s					
MNO	Monte Soro	1.41 211	P	Pn	13 21 13.2	+1.1
	43nm,0.1s					
GIB	Gibilmanna	1.70 227	Pg	Pn	13 21 13.4	-0.8
GIB	Gibilmanna	1.70 227	Pg	Pn	13 21 13.4	-0.8
ECNV	Catenanuova	1.70 205	Pg	Pn	13 21 16.3	+2.0
	181nm,0.4s					
ECNV	Catenanuova	1.70 205	Pg	Pn	13 21 16.3	+2.0
	181nm,0.4s					
ALJA	Alia	2.02 227	Pg	Pn	13 21 17.9	+1.0
ALJA	Alia	2.02 227	Pg	Pn	13 21 17.9	+1.0
HVZN	Vizzini	2.09 200	Pg	Pn	13 21 18.1	+0.5
HVZN	Vizzini	2.09 200	Pg	Pn	13 21 18.1	+0.5
HAVL	Avola	2.22 190	Pg	Pn	13 21 18.7	-0.1
HAVL	Avola	2.22 190	P	Pn	13 21 18.7	-0.1
VSL	Villasalto	4.84 276	eP	Pn	13 21 47.6	-0.2
VSL	Villasalto	4.84 276	eP	Pn	13 21 47.6	-0.2
PGF	Pioggiola	6.05 306	eP	Pn	13 22 03.1	+0.6
	156nm,1.5s					
PGF	Pioggiola	6.05 306	eP	Pn	13 22 03.1	+0.6
	156nm,1.5s					
PGF	Pioggiola	6.05 306	eP	Pn	13 22 03.1	+0.6
	155nm,1.5s					
TRI	Trieste	6.70 349	eP	Pn	13 22 12.6	+2.1
TRI	Trieste	6.70 349	eP	Pn	13 22 12.6	+2.1
MBDF	Montbardon	8.62 313	eP	Pn	13 22 35.6	+0.9
	13nm,0.9s					
MBDF	Montbardon	8.62 313	eP	Pn	13 22 35.6	+0.9
	13nm,0.9s					
MBDF	Montbardon	8.62 313	eP	Pn	13 22 35.6	+0.9
	13nm,0.9s					
FETA	Feichten	8.64 337	⇑iPn	Pn	13 22 37.0	+2.1
	10nm,0.6s					
FETA	Feichten	8.64 337	⇑iP	Pn	13 22 37.0	+2.1
	10nm,0.6s					
FETA	Feichten	8.64 337	P	Pn	13 22 37.0	+2.1
	10nm,0.6s					
TUE	Stuetta	8.64 330	eP	Pn	13 22 35.5	+0.6
	3.6nm,0.6s					
TUE	Stuetta	8.64 330	eP	Pn	13 22 35.5	+0.6
	3.6nm,0.6s					
WATA	Walderalm	8.69 342	⇑iPn	Pn	13 22 35.7	+0.2
	3.9nm,0.5s					
WATA	Walderalm	8.69 342	⇑iP	Pn	13 22 35.8	+0.2
	3.9nm,0.5s					
WATA	Walderalm	8.69 342	P	Pn	13 22 35.7	+0.1
	3.9nm,0.5s					
DAVOX	Davos/Dischmat	8.70 333	P	Pn	13 22 38.4	+2.7
	1.0nm,0.3s,baz=132,slow=11,SNR=6.5					
DAVOX	Davos/Dischmat	8.70 333	P	Pn	13 22 38.4	+2.7
DAVOX	Davos/Dischmat	8.70 333	P	Pn	13 22 38.4	+2.7
MOTA	Moosalm	8.82 340	⇑iPn	Pn	13 22 36.3	-0.9
	4.8nm,0.8s					
MOTA	Moosalm	8.82 340	⇑iP	Pn	13 22 36.3	-0.9
	4.8nm,0.8s					
BNI	Bardonecchia	8.88 315	eP	Pn	13 22 42.2	+4.2
LPG	La Plagne	9.12 317	eP	Pn	13 22 41.5	+0.5
LPG	La Plagne	9.12 317	eP	Pn	13 22 41.5	+0.5
LPG	La Plagne	9.12 317	eP	Pn	13 22 41.5	+0.5
GERES	GERESS Array B	9.79 353	P	Pn	13 22 49.0	-0.4
	0.1nm,0.3s,baz=167,slow=12,SNR=5.5					
GERES	GERESS Array B	9.79 353	P	Pn	13 22 49.0	-0.4
MLR	Muntele Rosu	9.93 47	P	Pn	13 22 55.3	+4.1
	0.0nm,0.3s,baz=236,slow=14,SNR=2.8					
MLR	Muntele Rosu	9.93 47	P	Pn	13 22 55.3	+4.1
KECS	Kecovo	9.97 19	eSg	S	13 24 46.7	+3.0
VRAC	Vranov	10.18 4	P	Pn	13 22 54.8	+0.6
	0.1nm,0.3s,baz=194,slow=11,SNR=3.6					
VRAC	Vranov	10.18 4	P	Pn	13 22 54.8	+0.6
CABF	La Chapelle	10.21 320	eP	Pn	13 22 53.4	-1.3
	14nm,0.7s					
CABF	La Chapelle	10.21 320	eP	Pn	13 22 53.4	-1.3
	14nm,0.7s					
HINF	Hinteralfeld	10.74 327	eP	Pn	13 23 00.4	-0.9
HINF	Hinteralfeld	10.74 327	eP	Pn	13 23 00.4	-0.9
CDF	Champ du Feu	11.04 330	eP	Pn	13 23 03.7	-1.3
	8.5nm,0.8s					
CDF	Champ du Feu	11.04 330	eP	Pn	13 23 03.7	-1.3
	8.5nm,0.8s					
BRG	Berggiesshubel	11.78 355	iP	Pn	13 23 18.0	+3.8
	5.1nm,0.8s					
BGF	Bois d'Agland	11.93 312	eP	Pn	13 23 15.7	-0.4
BGF	Bois d'Agland	11.93 312	eP	Pn	13 23 15.7	-0.4
BGF	Bois d'Agland	11.93 312	eP	Pn	13 23 15.7	-0.4
RJF	Les Rejaudoux	12.12 305	eP	Pn	13 23 20.0	+1.6
RJF	Les Rejaudoux	12.12 305	eP	Pn	13 23 20.0	+1.6
RJF	Les Rejaudoux	12.12 305	eP	Pn	13 23 20.0	+1.6
ETSF	Etsaut	12.77 292	eP	Pn	13 23 27.0	+0.5
	7.4nm,0.7s					
ETSF	Etsaut	12.77 292	eP	Pn	13 23 27.0	+0.5
	7.4nm,0.7s					
ETSF	Etsaut	12.77 292	eP	Pn	13 23 27.0	+0.5
	7.0nm,0.7s					
SJPF	Ste Jean	13.29 293	eP	Pn	13 23 33.9	+1.0
	8.7nm,0.9s					
SJPF	Ste Jean	13.29 293	eP	Pn	13 23 33.9	+1.0
	8.7nm,0.9s					
SJPF	Ste Jean	13.29 293	eP	Pn	13 23 33.9	+1.0
	8.0nm,0.9s					
MFF	Saint Martin d	13.73 308	eP	Pn	13 23 38.2	0.0
MFF	Saint Martin d	13.73 308	eP	Pn	13 23 38.2	0.0
MFF	Saint Martin d	13.73 308	eP	Pn	13 23 38.2	0.0
BRTR	Keskin Array B	13.95 82	P	Pn	13 23 44.6	+3.7
	0.1nm,0.3s,baz=268,slow=12,SNR=5.5					
BRTR	Keskin Array B	13.95 82	P	Pn	13 23 44.6	+3.7
BRTR	Keskin Array B	13.95 82	P	Pn	13 23 44.6	+3.7
LDF	La Druitiere	14.73 315	eP	Pn	13 23 48.6	-1.6
	6.1nm,0.5s					
LDF	La Druitiere	14.73 315	eP	Pn	13 23 48.6	-1.6
	6.1nm,0.5s					
LDF	La Druitiere	14.73 315	eP	Pn	13 23 48.6	-1.6
	6.0nm,0.5s					
AKASG	Malin Array Be	15.02 35	P	Pn	13 23 52.7	-0.9
	1.1nm,0.3s,baz=229,slow=11,SNR=3.6					
AKASG	Malin Array Be	15.02 35	P	Pn	13 23 52.7	-0.9
GRR	Gorron	15.03 313	eP	Pn	13 23 52.1	-1.7
GRR	Gorron	15.03 313	eP	Pn	13 23 52.1	-1.7
GRR	Gorron	15.03 313	eP	Pn	13 23 52.1	-1.7
ESDC	Sonseca Array	15.14 278	P	Pn	13 23 59.0	+3.7
	0.3nm,0.3s,baz=75,slow=11,SNR=7.3					
ESDC	Sonseca Array	15.14 278	P	Pn	13 23 59.0	+3.7
SGMF	Saint Gilles	15.95 311	eP	Pn	13 24 03.0	-1.7
SGMF	Saint Gilles	15.95 311	eP	Pn	13 24 03.0	-1.7
SGMF	Saint Gilles	15.95 311	eP	Pn	13 24 03.0	-1.7
MMAI	Mount Meron Ar	17.12 105	P	P	13 24 20.4	+4.1
	0.8nm,0.3s,baz=309,slow=8.4,SNR=3.6					
MMAI	Mount Meron Ar	17.12 105	P	P	13 24 20.4	+4.1
MMAI	Mount Meron Ar	17.12 105	P	P	13 24 20.5	+4.2
HFS	Hagfors	21.04 357	P	P	13 24 55.5	-2.4
	2.3nm,0.4s,mb3.9,baz=171,slow=9.5,SNR=28					
HFS	Hagfors	21.04 357	P	P	13 24 55.5	-2.4
HFS	Hagfors	21.04 357	P	P	13 24 55.5	-2.4
NB2	NORSAR Subarra	22.09 354	P	P	13 25 06.2	-1.3
	comp=Z,2.5nm,0.4s,mb3.9,baz=172,slow=10					
NB2	NORSAR Subarra	22.09 354	P	P	13 25 06.2	-1.3
	comp=Z,2.5nm,0.4s,mb3.9,SNR=5.6					
NOA	NORSAR Array B	22.09 354	P	P	13 25 06.3	-1.2
	comp=Z,0.9nm,0.5s,mb3.4,baz=159,slow=9.3,SNR=7.6					
NOA	NORSAR Array B	22.09 354	P	P	13 25 06.3	-1.2
NOA	NORSAR Array B	22.09 354	P	P	13 25 06.3	-1.2
FINES	FINESS Array B	23.24 13	P	P	13 25 17.5	-0.5
	comp=Z,3.3nm,0.3s,mb4.1,baz=187,slow=8.2,SNR=38					
FINES	FINESS Array B	23.24 13	P	P	13 25 17.5	-0.5
FINES	FINESS Array B	23.24 13	P	P	13 25 17.5	-0.5
KAF	Kangasniemi	23.91 12	ep	P	13 25 22.0	-2.1
	comp=Z,0.5nm,0.3s,mb3.3					
ARCES	ARCESS Array B	30.91 7	P	P	13 26 24.9	-1.3
	comp=Z,3.7nm,0.9s,mb3.9,baz=196,slow=9.0,SNR=17					
ARCES	ARCESS Array B	30.91 7	P	P	13 26 24.9	-1.3
ARCES	ARCESS Array B	30.91 7	P	P	13 26 24.9	-1.2
MKAR	Makanchi Array	48.06 58	P	P	13 28 48.4	+1.1
	comp=Z,0.3nm,0.4s,mb3.0,baz=279,slow=7.7,SNR=15					
MKAR	Makanchi Array	48.06 58	P	P	13 28 48.4	+1.1
MKAR	Makanchi Array	48.06 58	P	P	13 28 48.4	+1.1
SCHQ	Schefferville	55.11 316	P	P	13 29 38.1	-1.0
	comp=Z,3.1nm,0.9s,mb3.7,baz=74,slow=18,SNR=3.6					
SCHQ	Schefferville	55.11 316	P	P	13 29 38.1	-1.0
SCHQ	Schefferville	55.11 316	P	P	13 29 38.1	-1.0
SONM	Songino Array	62.78 49	P	P	13 30 32.8	+1.0
	comp=Z,0.3nm,0.6s,mb3.1,baz=274,slow=5.7,SNR=2.9					
SONM	Songino Array	62.78 49	P	P	13 30 32.8	+1.0
SONM	Songino Array	62.78 49	P	P	13 30 32.8	+1.0
YKA	Yellowknife Ar	71.11 338	P	P	13 31 23.4	-0.4
	comp=Z,0.3nm,0.4s,mb3.3,baz=36,slow=5.4,SNR=7.2					
YKA	Yellowknife Ar	71.11 338	P	P	13 31 23.4	-0.4
YKA	Yellowknife Ar	71.11 338	P	P	13 31 23.4	-0.4
ULM	Lac du Bonnet	72.59 321	P	P	13 31 32.6	-0.2
	comp=Z,1.3nm,0.5s,mb3.8,baz=43,slow=5.7,SNR=2.9					
ULM	Lac du Bonnet	72.59 321	P	P	13 31 32.6	-0.2
ULM	Lac du Bonnet	72.59 321	P	P	13 31 32.6	-0.2

*ISCJB **30** 13:44:30.4±0.8, 1°.3S±0°.2×67°.6E±0°.1, h10km, mb3.7/6, Error ellipse: s-maj=32.1km s-min=14.3km az=159.3*
*IDC **30** 13:44:30.7±1.5, 1°.32S×67°.53E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/34, Error ellipse: s-maj=49.1km s-min=28.7km az=137.0*
*NEIC **30** 13:44:32.5±0.6, 1°.34S×67°.59E, h10km, mb4.2/1, Error ellipse: s-maj=25.4km s-min=11.2km az=160.0*
ISC 30 13:44:32.6±0.8, 1°.3S±0°.2×67°.6E±0°.1, h10km, n13, σ0s32/12, mb3.7/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	Mahe Island	12.54	254	eP	Pn	13 47 31.7	+0.4
OPO	Ambohidratompo	26.34	228	P	P	13 50 08.4	-0.6
	2.1nm,0.4s,mb4.0,baz=41,slow=5.9,SNR=3.8						
OPO	Ambohidratompo	26.34	228	P	P	13 50 08.4	-0.6
ATD	Arta Tunnel	27.72	298	LR	LR	13 59 43.1	
	comp=Z,38nm,18.4s,baz=56,slow=33						
CMAR	Chiang Mai Arr	36.58	56	P	P	13 51 38.9	-0.1
	0.5nm,0.8s,mb3.4,baz=242,slow=10,SNR=5.3						
CMAR	Chiang Mai Arr	36.58	56	P	P	13 51 38.9	-0.1
SONM	Songino Array	59.49	29	P	P	13 54 35.8	-0.1
	0.3nm,0.8s,mb3.4,baz=232,slow=7.0,SNR=3.2						
SONM	Songino Array	59.49	29	P	P	13 54 35.8	-0.1
WRA	Warramunga Arr	67.72	111	P	P	13 55 31.0	+0.1
	0.6nm,0.7s,mb3.7,baz=288,slow=6.2,SNR=4.2						
WRA	Warramunga Arr	67.72	111	P	P	13 55 31.0	+0.2
WRAB	Tennant Creek	67.72	111	eP	P	13 55 30.9	0.0
	1.3nm,0.7s,mb4.1						
ASAR	Alice Springs	67.82	115	P	P	13 55 31.7	+0.3
	0.4nm,0.7s,mb3.5,baz=287,slow=6.7,SNR=6.1						
ASAR	Alice Springs	67.82	115	P	P	13 55 31.7	+0.3

*BJI **30** 13:54:39.0, 66°.40N×157°.50W, h7km, mB4.7/6, mb4.6/11, Ms4.5/5, Ms7 4.2/5*
*ISCJB **30** 13:54:40.8±0.4, 66°.44N±0°.04×157°.63W±0°.08, h10km, mb4.8/6, MS4.0/4, Error ellipse: s-maj=6.3km s-min=4.3km az=23.4*
*NEIC **30** 13:54:41.6, 66°.42N×157°.50W, h5km, ML4.3(PMR), ML4.2(AEIC), After AEIC.*
*IDC **30** 13:54:55.2±0.9, 65°.73N×158°.53W, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/29, mbtmp3.5/10, ML3.6/4, MS3.3/3, Ms1 3.4/3, ms1mx2.8/38, Error ellipse: s-maj=27.9km s-min=12.4km az=30.0*
ISC 30 13:54:42.7±0.4, 66°.42N±0°.04×157°.64W±0°.08, h10km, n64, σ0s99/48, mb4.8/6, MS4.0/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM3	Indian Mountai	1.64	104	P	Pn	13 55 09.9	-1.6
IMA2	Indian Mountai	1.64	101	eP	Pn	13 55 11.2	-0.3
GCSA	Galena City Sc	1.71	169	P	Pn	13 55 11.6	-0.9
GCSA				S	Sn	13 55 34.2	-0.2
COLD	Coldfoot	3.05	71	P	Pn	13 55 30.1	-0.7
COLD				S	Sn	13 56 08.8	+1.4
MLY	Manley	3.18	113	P	Pn	13 55 31.2	-1.3
CHUM	Lake Minchumin	3.40	136	P	Pn	13 55 35.6	0.0
CHUM				S	Sn	13 56 17.3	+1.3
TTA	Tatalina	3.58	168	eP	Pn	13 55 38.5	+0.4
TT01	Tatalina	3.60	168	P	Pn	13 55 38.7	+0.3
NEA	Nenana	4.02	113	P	Pn	13 55 43.2	-0.9
MDM	Murphy Dome	4.16	106	P	Pn	13 55 45.6	-0.5
MDM				S	Sn	13 56 36.7	+2.0
PPLA	Purkeypile	4.25	144	P	Pn	13 55 47.4	+0.1
TNA	Tin City	4.29	263	P	Pn	13 55 47.9	0.0
TRF	Thorofare Moun	4.32	130	P	Pn	13 55 48.1	-0.3
COLA	College	4.34	106	P	Pn	13 55 47.8	-0.8
CCB	Clear Creek Bu	4.46	109	P	Pn	13 55 49.2	-1.1
MCK	McKinley	4.57	122	P	Pn	13 55 50.8	-0.9
IL1	Eielson Array	4.76	105	P	Pn	13 55 53.3	-1.0
ILAR	Eielson Array	4.76	105	Pn	Pb	13 56 07.6	+1.6
	13nm,0.3s,baz=294,slow=14,SNR=42						
ILAR				LR	LR	13 58 16.7	
	comp=Z,316nm,20.7s,baz=322,slow=40						
ILAR	Eielson Array	4.76	105	Pn	Pb	13 56 07.6	+1.6
SKT	Skwentna	5.20	146	P	Pn	13 56 00.5	+0.1
SVW2	Sparrevohn	5.42	169	eP	Pn	13 56 05.8	+2.3
DHY	Denali Highway	5.53	123	P	Pn	13 56 04.7	-0.2
PMR	Palmer	6.12	138	eP	Pn	13 56 13.4	+0.4
SML	Sawmill	6.17	134	ePn	Pn	13 56 12.6	-1.0
	16nm,0.7s						
PAX	Paxson	6.26	118	Pn	Pn	13 56 14.8	-0.1
	16nm,0.6s						
RSO	Redoubt South	6.37	158	ePn	Pn	13 56 16.0	-0.4
	101nm,0.6s						
DOT	Dot Lake	6.38	110	ePn	Pn	13 56 09.8	-6.8
	11nm,0.7s						
RC01	Rabbit Creek A	6.40	143	ePn	Pn	13 56 16.5	-0.3
	21nm,0.6s						
GAMB	Gambell	6.50	252	Pg	Pg	13 56 40.2	-6.7
	18nm,0.6s						
EGAK	Eagle	7.02	96	P	Pn	13 56 25.3	0.0
DAWY	Dawson	8.01	99	P	Pn	13 56 38.6	-0.3
KDAK	Kodiak Island	8.99	162	Pn	Pn	13 56 54.8	+2.5
	0.2nm,0.3s,baz=342,slow=20,SNR=3.4						
KDAK	Kodiak Island	8.99	162	Pn	Pn	13 56 54.8	+2.5
INK	Inuvik	9.46	68	Pn	Px	13 57 13.7	
	0.2nm,0.3s,baz=256,slow=18,SNR=3.6						
INK				LR	LR	14 02 27.1	
	comp=Z,78nm,18.4s,baz=196,slow=45						
INK	Inuvik	9.46	68	Pn	Px	13 57 13.7	
BILL	Bilibino	13.94	293	eP	Px	13 58 16.7	
DLBC	Dease Lake	14.96	109	Pn	Px	13 58 29.9	
	0.2nm,0.3s,baz=294,slow=16,SNR=5.4						
DLBC	Dease Lake	14.96	109	Pn	Px	13 58 29.9	
YKA	Yellowknife Ar	18.67	82	Pn	Px	13 59 14.9	
	0.1nm,0.3s,baz=300,slow=11,SNR=3.3						
YKA	Yellowknife Ar	18.67	82	Pn	Px	13 59 14.9	
RES	Resolute Bay	21.32	41	P	P	13 59 30.5	+1.3
FRB	Frobisher Bay	34.63	51	LR	LR	14 17 44.2	
	comp=Z,100nm,18.0s,MS3.6,baz=260,slow=39						
NVAR	Mina Array Bea	35.80	122	P	Px	14 01 56.4	
	0.2nm,0.5s,baz=353,slow=6.4,SNR=3.1						
NVAR	Mina Array Bea	35.80	122	P	Px	14 01 56.4	
CN2	Changchun	45.78	280	eP	P	14 03 02.5	-1.4
TXAR	Lajitas Array	49.25	111	P	Px	14 03 45.7	
	0.2nm,0.5s,baz=325,slow=5.5,SNR=7.3						
TXAR	Lajitas Array	49.25	111	P	Px	14 03 45.7	
SONM	Songino Array	49.58	298	P	Px	14 03 49.1	
	0.8nm,1.0s,baz=34,slow=10,SNR=3.5						
SONM	Songino Array	49.58	298	P	Px	14 03 49.1	
ZALV	Zalesovo Beam	51.06	318	P	Px	14 03 59.5	
	0.3nm,0.3s,baz=28,slow=6.7,SNR=4.0						
ZALV	Zalesovo Beam	51.06	318	P	Px	14 03 59.5	
BJI	Beijing	52.61	285	P	P	14 03 55.5	-0.7
BJI				S	S	14 11 23.5	+0.5
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BJI				pmax	pmax		
	comp=Z,150nm,4.5s						
BJI				LR	LR		
	comp=N,190nm,15.7s,MS4.5						
BJI				LR	LR		
	comp=E,260nm,15.2s,MS4.5						
BJI				LR	LR		
	comp=Z,28nm,17.4s,MS3.4						
HHC	Hu-ho-hao-te	53.68	290	eP	P	14 04 05.0	+0.9
HHC				PcP	PcP	14 05 12.3	+2.1
HHC				PP	PP	14 06 07.3	+2.8
HHC				ScP	ScP	14 09 09.0	+1.3
HHC				S	S	14 11 37.0	-0.6
HHC				ScS	ScS	14 13 52.8	-0.3
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
HHC				pmax	pmax		
	comp=Z,93nm,4.8s						
HHC				LR	LR		
	comp=N,170nm,16.5s,MS4.3						
HHC				LR	LR		
	comp=E,170nm,16.3s,MS4.3						
HHC				LR	LR		
	comp=Z,190nm,17.4s,MS4.2						
BVAR	Borovoye Array	55.45	327	P	Px	14 04 33.3	
	comp=Z,0.6nm,0.6s,baz=38,slow=7.5,SNR=4.7						
BVAR	Borovoye Array	55.45	327	P	Px	14 04 33.3	
KURK	Kurchatov	55.62	320	P	Px	14 04 35.1	
	comp=Z,0.2nm,0.5s,baz=292,slow=42,SNR=3.3						
KURK	Kurchatov	55.62	320	P	Px	14 04 35.1	
MKAR	Makanchi Array	58.21	316	P	Px	14 04 52.4	
	comp=Z,0.4nm,0.8s,baz=38,slow=8.0,SNR=4.5						
MKAR	Makanchi Array	58.21	316	P	Px	14 04 52.4	
NJ2	Nanjing	58.52	278	eP	P	14 04 38.5	-0.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
WMQ	Urumqi	59.32	310	eP	P	14 04 46.8	+2.6
LZH	Lanzhou	60.75	293	eP	P	14 04 53.5	-0.6
LZH				sP	sP	14 05 00.5	+2.0
LZH				ePP	PP	14 07 09.8	+2.3
LZH				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.0						
LZH				pmax	pmax		
	comp=Z,45nm,6.7s						
LZH				LR	LR		
	comp=N,190nm,16.2s						
LZH				LR	LR		
	comp=Z,210nm,18.7s,MS4.3						
GYA	Guiyang	68.29	286	eP	P	14 05 44.0	+0.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KMI	Kunming	71.00	289	P	P	14 06 01.0	+0.8
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						

IDC 30 13:55:11.0±0.8, 65°.60N×158°.54W, h0km, mb3.8/7, mb1 4.0/11, mb1mx3.8/29, mbtmp3.9/11, ML3.8/4, Error ellipse: s-maj=25.0km s-min=10.3km az=21.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	4.98	94	Pn	Pn	13 56 23.4	-3.4
	18nm,0.3s,baz=294,slow=14,SNR=20						
ILAR				Sn	Sn	13 57 18.4	-6.6
	8.9nm,0.3s,baz=291,slow=18,SNR=6.3						
ILAR				Lg		13 57 41.0	
	16nm,0.3s,baz=283,slow=26,SNR=13						
KDAK	Kodiak Island	8.34	157	Pn	Pn	13 57 08.3	-4.6
	0.6nm,0.3s,baz=329,slow=17,SNR=4.4						
INK	Inuvik	10.14	63	Pn	Pn	13 57 35.1	-2.5
	1.1nm,0.3s,baz=294,slow=6.7,SNR=11						
YKA	Yellowknife Ar	19.17	79	Pn	Pn	13 59 31.3	-5.1
	0.1nm,0.3s,baz=296,slow=10,SNR=8.8						
NVAR	Mina Array Bea	35.70	120	P	P	14 02 12.2	+1.5
	1.0nm,0.7s,baz=326,slow=7.2,SNR=7.9						
TXAR	Lajitas Array	49.30	110	P	P	14 04 01.4	+0.1
	0.9nm,0.8s,baz=324,slow=6.1,SNR=8.3						
SONM	Songino Array	49.65	298	P	P	14 04 05.2	+1.4
	1.1nm,1.0s,baz=26,slow=7.7,SNR=5.5						
ZALV	Zalesovo Beam	51.42	317	P	P	14 04 16.9	-0.2
	1.0nm,0.6s,baz=28,slow=7.6,SNR=6.6						
BVAR	Borovoye Array	55.94	327	P	P	14 04 49.0	-1.2
	1.2nm,0.6s,baz=23,slow=8.0,SNR=8.3						
KURK	Kurchatov	56.02	320	P	P	14 04 51.9	+1.1
	1.8nm,1.0s,baz=26,slow=6.8,

KORR				*e*S	Sn	14 04 59.1	-0.5
KORR	**Kora**	**1.66**	**77**	*e*Pg	Pn	14 04 38.9	+1.0
KORR				*e*Sg	Sn	14 04 59.1	-0.5
DAGI	**Agillar**	**1.67**	**179**	*i* P	Pn	14 04 37.1	-0.9
DAGI				*i* S	Sn	14 04 59.5	-0.2
SOC	**Sochi**	**1.78**	**299**	*e*PN	Pn	14 04 40.9	+1.3
SOC				*e*		14 04 43.3	
SOC				*e*		14 05 08.7	
SOC				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SOC				pmax	pmax		
	comp=Z,114nm,0.6s						
SOC	**Sochi**	**1.78**	**299**	*e*Pn	Pn	14 04 40.9	+1.3
	comp=Z,7.0nm,0.4s						
SOC	**Sochi**	**1.78**	**299**	*e*Pg	Pg	14 04 43.3	+1.0
	comp=Z,114nm,0.6s						
LACR	**Lac**	**1.80**	**87**	*e*PN	Pn	14 04 40.8	+1.0
LACR	**Lac**	**1.80**	**87**	*e*Pn	Pn	14 04 40.8	+1.0
AKH	**Akhalkalaki**	**1.81**	**137**	P	Pn	14 04 40.9	+0.9
AKH				S	Sn	14 05 05.0	+1.8
AKH	**Akhalkalaki**	**1.81**	**137**	P	Pn	14 04 40.9	+1.0
AKH				S	Sn	14 05 05.0	+1.8
ARNR	**Ardon**	**1.83**	**75**	*e*PN	Pn	14 04 41.7	+1.4
ARNR				*e*S	Sn	14 05 04.2	+0.3
ARNR	**Ardon**	**1.83**	**75**	*e*Pn	Pn	14 04 41.7	+1.4
ARNR				*e*Sg	Sn	14 05 04.2	+0.3
GOR	**Gori**	**1.83**	**114**	P	Sn	14 05 05.0	+1.1
GOR	**Gori**	**1.83**	**114**	S	Sn	14 05 05.0	+1.1
DDEM	**Demirkent**	**1.85**	**183**	*i* P	Pn	14 04 39.8	-0.8
DDEM				*i* S	Sn	14 05 06.1	+1.7
DDEM	**Demirkent**	**1.85**	**183**	*i* P	Pn	14 04 39.8	-0.8
DDEM				*i* S	Sn	14 05 06.1	+1.7
TBLG	**Delisi**	**2.37**	**114**	*e*PN	Pn	14 04 50.4	+2.8
TBLG				S	Sn	14 05 20.4	+3.4
TBLG	**Delisi**	**2.37**	**114**	P	Pn	14 04 50.4	+2.8
TBLG				S	Sn	14 05 20.4	+3.4
TBLG	**Delisi**	**2.37**	**114**	P	Pn	14 04 50.4	+2.8
TBLG				S	Sn	14 05 20.4	+3.4
HOMI	**Horasan**	**2.70**	**179**	*i* P	Pn	14 04 56.1	+3.9
HOMI				*i* S	Sb	14 05 37.7	+7.4
KELT	**Kelkit**	**3.25**	**218**	*i* P	Pn	14 04 58.3	-1.5
KELT				*i* S	Sn	14 05 38.5	-0.3
KELT	**Kelkit**	**3.25**	**218**	*i* P	Pn	14 04 58.3	-1.5
KELT				*i* S	Sn	14 05 38.5	-0.3
GNI	**Garni**	**3.38**	**139**	*e*PN	Pb	14 05 12.8	+4.3
SUSE	**Susehri**	**3.74**	**229**	*i* P	Pn	14 05 05.2	-1.3
SUSE				*i* S	Sn	14 05 50.4	-0.5
SUSE	**Susehri**	**3.74**	**229**	*i* P	Pn	14 05 05.2	-1.3
SUSE				*i* S	Sn	14 05 50.4	-0.5
ERBA	**Erbaa**	**4.34**	**243**	*i* P	Pn	14 05 14.1	-0.7
ERBA				*i* S	Sn	14 06 05.8	0.0
ERBA	**Erbaa**	**4.34**	**243**	*i* P	Pn	14 05 14.1	-0.7
ERBA				*i* S	Sn	14 06 05.8	0.0
BRTR	**Keskin Array B**	**6.89**	**247**	*i* P	Pn	14 05 56.4	+6.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						

NIED ***30*** *14:25:00, 37.°40N×138.°60E, h8km, Mw3.8 Best double couple: M0=5.53000×10^14 NP1:φ=210.00000°, δ=50.00000°, λ=103.00000°. NP2:φ=11.00000°, δ=42.00000°, λ=75.00000°.*
IDC ***30*** *14:25:09.7±0.6, 37.°45N×138.°42E, h0km, mb3.7/11, mb1 4.0/12, mb1mx3.8/25, mbtmp3.7/12, ML1.6/1, Error ellipse: s-maj=21.2km s-min=9.0km az=95.0*
ISCJB ***30*** *14:25:11.5±0.3, 37.°39N±0.°03×138.°60E±0.°03, h26km±3km, mb3.7/11, Error ellipse: s-maj=4.7km s-min=4.0km az=137.3*
JMA ***30*** *14:25:12.1±0.1, 37.°39N×138.°47E, h17km±2km, M3.9*
JMA Felt III J1.
NEIC ***30*** *14:25:13.9±1.3, 37.°29N×138.°47E, h29km±10km, MG3.9(JMA), Error ellipse: s-maj=12.2km s-min=9.9km az=101.0*

ISC 30 14:25:11.8±0.4, 37.°37N±0.°02×138.°61E±0.°03, h16km±3km, n44, σ0=91/55, mb3.7/11, 2C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.18**	**27**	⇑P	Pg	14 25 16.5	+0.3
JIZZ				S	Sg	14 25 20.4	+1.2
JHK	**Hiroka**	**0.35**	**111**	⇓P	Pg	14 25 19.1	+0.1
JHK				S	Sg	14 25 24.1	+0.2
JJN	**Nakama**	**0.44**	**233**	P	Pg	14 25 21.6	+0.9
JJN				S	Sg	14 25 28.1	+1.4
JSD	**Sado**	**0.72**	**338**	⇓P	Pg	14 25 24.7	-1.1
JSD				S	Sg	14 25 34.3	-1.1
JNS	**Sasagawa**	**0.72**	**52**	P	Pg	14 25 25.3	-0.6
JNS				S	Sg	14 25 35.2	-0.2
JKT	**Katashina**	**0.79**	**139**	⇑P	Pg	14 25 26.9	-0.4
JKT				S	Sg	14 25 37.6	-0.1
JFY	**Yanaizu**	**0.88**	**87**	P	Pb	14 25 27.9	-0.8
JFY				S	Sb	14 25 39.4	-0.7
MAJO	**Matsushiro**	**0.89**	**201**	*e*Pg	Pg	14 25 28.2	-0.8
MAJO				*e*S	Sb	14 25 40.1	-0.3
MAT	**Matsushiro**	**0.89**	**201**	P	Pb	14 25 28.2	-0.7
MAT				S	Sb	14 25 40.4	-0.1
MAT	**Matsushiro**	**0.89**	**201**	P	Pb	14 25 28.3	-0.6
MAT				S	Sb	14 25 40.1	-0.4
MJAR	**Matsushiro Arr**	**0.89**	**201**	Pg	Pg	14 25 28.4	-0.6
	69nm,0.3s,baz=16,slow=16,SNR=1113						
MJAR				Lg		14 25 40.7	
	169nm,0.3s,baz=17,slow=28,SNR=53						
MJAR	**Matsushiro Arr**	**0.89**	**201**	Pg	Pg	14 25 28.4	-0.6
MJAR				Lg		14 25 40.7	
JSZ	**Suzu**	**0.99**	**275**	⇓P	Pb	14 25 29.6	-1.0
JSZ				S	Sb	14 25 43.1	-0.4
ASAJ	**Asahikawa**	**7.39**	**23**	Pn	Pn	14 27 01.9	+3.0
	0.5nm,0.3s,baz=84,slow=17,SNR=5.4						
ASAJ	**Asahikawa**	**7.39**	**23**	*e*P	Pn	14 27 02.8	+3.8
USRK	**Ussuriysk Arra**	**8.46**	**326**	Pn	Pn	14 27 13.4	-0.3
	0.1nm,0.3s,baz=133,slow=13,SNR=2.7						
KSRS	**Korea Array**	**8.50**	**274**	Pn	Pn	14 27 16.7	+2.4
	1.7nm,0.3s,baz=88,slow=15,SNR=28						
KSAR	**Wonju Array Be**	**8.53**	**274**	Pn	Pn	14 27 16.7	+2.0
SONM	**Songino Array**	**25.74**	**304**	P	P	14 30 41.0	-0.4
	0.6nm,0.9s,mb3.1,baz=82,slow=12,SNR=2.8						
SONM	**Songino Array**	**25.74**	**304**	P	P	14 30 41.0	-0.4
MK31	**Makanchi Array**	**42.03**	**301**	*e*P	P	14 33 01.5	-0.9
MKAR	**Makanchi Array**	**42.03**	**301**	P	P	14 33 01.2	-1.3
	0.4nm,0.9s,mb3.0,baz=84,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**42.03**	**301**	P	P	14 33 01.2	-1.3
KURK	**Kurchatov**	**43.95**	**308**	P	P	14 33 17.0	-1.0
	0.4nm,0.8s,mb3.2,baz=84,slow=8.8,SNR=3.3						
KURK	**Kurchatov**	**43.95**	**308**	P	P	14 33 17.0	-1.0
ILAR	**Eielson Array**	**50.41**	**32**	P	P	14 34 08.2	+0.1
	0.5nm,0.6s,mb3.7,baz=219,slow=7.0,SNR=6.2						
ILAR	**Eielson Array**	**50.41**	**32**	P	P	14 34 08.2	+0.1
INK	**Inuvik**	**55.10**	**27**	P	P	14 34 43.5	+0.8
WB2	**Warramunga Arr**	**57.15**	**185**	*e*P	P	14 34 57.4	-0.4
WRA	**Warramunga Arr**	**57.15**	**185**	P	P	14 34 57.7	-0.1
	3.6nm,0.6s,mb4.6,baz=0.4,slow=7.3,SNR=46						
WRA				PcP	PcP	14 35 53.2	+0.9
	0.6nm,0.7s,baz=355,slow=5.0,SNR=4.9						
WRA	**Warramunga Arr**	**57.15**	**185**	P	P	14 34 57.7	-0.1
WRA				PcP	PcP	14 35 53.2	+0.9
AS31	**Alice Springs**	**60.87**	**185**	*e*P	P	14 35 23.9	+0.3
ASAR	**Alice Springs**	**60.87**	**185**	P	P	14 35 23.8	+0.2
	0.6nm,0.6s,mb3.9,baz=15,slow=13,SNR=17						
ASAR	**Alice Springs**	**60.87**	**185**	P	P	14 35 23.8	+0.2
YKA	**Yellowknife Ar**	**64.63**	**29**	P	P	14 35 48.9	+0.6
	0.2nm,0.7s,mb3.3,baz=307,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**64.63**	**29**	P	P	14 35 48.9	+0.6
FINES	**FINESS Array B**	**67.46**	**331**	P	P	14 36 05.5	-0.9
	3.9nm,1.0s,mb4.4,baz=41,slow=9.6,SNR=3.0						
FINES	**FINESS Array B**	**67.46**	**331**	P	P	14 36 05.5	-0.9
NVAR	**Mina Array Bea**	**76.56**	**52**	P	P	14 37 03.2	+1.8
	1.4nm,0.9s,mb3.9,baz=295,slow=5.4,SNR=8.3						
NVAR	**Mina Array Bea**	**76.56**	**52**	P	P	14 37 03.2	+1.8
PDAR	**Pinedale Array**	**79.01**	**44**	P	P	14 37 16.1	+1.2
	0.7nm,0.7s,mb3.7,baz=258,slow=2.6,SNR=6.2						
PDAR	**Pinedale Array**	**79.01**	**44**	P	P	14 37 16.1	+1.2
TXAR	**Lajitas Array**	**91.67**	**51**	P	P	14 38 19.6	+1.1
	0.3nm,0.7s,mb3.8,baz=310,slow=3.3,SNR=5.9						
TXAR	**Lajitas Array**	**91.67**	**51**	P	P	14 38 19.6	+1.1

NIED ***30*** *14:52:00, 42.°40N×143.°80E, h77km, Mw3.7 Best double couple: M0=3.69000×10^14 NP1:φ=127.00000°, δ=86.00000°, λ=80.00000°. NP2:φ=17.00000°, δ=11.00000°, λ=159.00000°.*
ISCJB ***30*** *14:52:15.8±0.4, 42.°39N±0.°04×143.°91E±0.°05, h91km±3km, mb3.7/14, Error ellipse: s-maj=8.2km s-min=4.8km az=139.1*
JMA ***30*** *14:52:17.0±0.1, 42.°41N×143.°83E, h84km±2km, M3.7*
JMA Felt I J1.
IDC ***30*** *14:52:17.7±2.0, 42.°37N×143.°85E, h93km±15km, mb3.4/12, mb1 3.6/15, mb1mx3.5/26, mbtmp3.4/15, Error ellipse: s-maj=18.7km s-min=16.1km az=113.0*
NEIC ***30*** *14:52:17.2±0.6, 42.°39N×143.°88E, h88km±5km, mb4.0/3, Error ellipse: s-maj=9.9km s-min=7.3km az=127.0*

ISC 30 14:52:16.9±0.4, 42.°40N±0.°04×143.°92E±0.°05, h84km±3km, n53, σ0=74/67, mb3.7/14, 3C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.46**	**297**	⇑P	Pn	14 52 30.6	-0.2
JCH				*e*S	Sn	14 52 40.1	-0.9
JOB	**Onbets**	**0.51**	**353**	⇓P	Pn	14 52 31.5	+0.4
JOB				*e*S	Sn	14 52 42.1	+0.5
JEM	**Erimo**	**0.69**	**236**	P	Pn	14 52 32.8	0.0
ERM	**Erimo**	**0.69**	**236**	*e*Pn	Pn	14 52 33.5	+0.7
ERM				*e*Sn	Sn	14 52 45.6	+1.1
JAK	**Akkeshi**	**0.82**	**44**	⇓P	Pn	14 52 34.5	+0.3
JAK				*e*S	Sn	14 52 47.7	+0.6
JNBK	**Urakawa-nobuka**	**0.88**	**262**	⇑P	Pn	14 52 34.7	-0.1
JNBK				*e*S	Sn	14 52 47.6	-0.5
JAR	**Ashorobuto**	**0.90**	**353**	P	Pn	14 52 35.1	0.0
JAR				*e*S	Sn	14 52 48.2	-0.4
JBT2	**Biratori 2**	**1.21**	**289**	⇑P	Pn	14 52 38.1	-0.6
JBT2				*e*S	Sn	14 52 54.1	-1.0
JFR	**Furan**	**1.24**	**308**	P	Pn	14 52 38.4	-0.7
JNK	**Nakash**	**1.32**	**26**	⇓P	Pn	14 52 39.9	-0.2
JNK				*e*S	Sn	14 52 56.8	-0.7
JTKR	**Abashiri--Toko**	**1.57**	**360**	⇓P	Pn	14 52 43.5	+0.2
JTKR				*e*S	Sn	14 53 03.0	-0.2
NEM2	**Nemuro 2**	**1.65**	**54**	P	Pn	14 52 43.8	-0.5
NEM2				*e*S	Sn	14 53 03.1	-1.9
JMP	**Maruseppu**	**1.66**	**346**	⇓P	Pn	14 52 44.3	-0.1
JMP				*e*S	Sn	14 53 04.7	-0.5
JAB	**Ashibetsu**	**1.66**	**312**	P	Pn	14 52 45.6	+1.1
JKK2	**Kamakawa 2**	**1.70**	**330**	⇓P	Pn	14 52 45.1	+0.1
JRA	**Rausu**	**1.77**	**29**	⇓P	Pn	14 52 46.4	+0.5
JRA				*e*S	Sn	14 53 08.7	+0.9
ASAJ	**Asahikawa**	**1.97**	**331**	P	Pn	14 52 49.1	+0.6
	5.2nm,0.3s,baz=158,slow=12,SNR=72						
ASAJ				S	Sn	14 53 14.6	+2.1
	18nm,0.3s,baz=209,slow=19,SNR=14						
ASAJ	**Asahikawa**	**1.97**	**331**	*e*P	Pn	14 52 49.1	+0.6
ASAJ				S	Sn	14 53 14.6	+2.1
MAJO	**Matsushiro**	**7.33**	**219**	*e*P	Pn	14 54 01.3	+0.1
MJAR	**Matsushiro Arr**	**7.33**	**219**	P	Pn	14 54 00.8	-0.4
	1.1nm,0.3s,baz=21,slow=16,SNR=20						
MJAR	**Matsushiro Arr**	**7.33**	**219**	P	Pn	14 54 00.8	-0.4
USRK	**Ussuriysk Arra**	**8.88**	**286**	P	Pn	14 54 23.1	+0.8
	0.1nm,0.3s,baz=86,slow=9.2,SNR=3.0						
PETK	**Petropavlovsk-**	**14.13**	**36**	P	Pn	14 55 32.5	-0.5
	0.1nm,0.3s,baz=222,slow=12,SNR=2.5						
PETK	**Petropavlovsk-**	**14.13**	**36**	P	Pn	14 55 32.5	-0.5
HIA	**Hailar**	**18.15**	**301**	P	Pn	14 56 21.9	-1.1
	1.6nm,0.4s						
SONM	**Songino Array**	**26.84**	**295**	P	P	14 57 51.0	+1.7
	0.6nm,0.6s,mb3.3,baz=85,slow=9.2,SNR=5.8						
SONM	**Songino Array**	**26.84**	**295**	P	P	14 57 51.0	+1.7
ZALV	**Zalesovo Beam**	**39.94**	**308**	P	P	14 59 42.6	+0.1
	0.7nm,0.4s,mb3.9,baz=88,slow=8.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**39.94**	**308**	P	P	14 59 42.6	+0.1
MK31	**Makanchi Array**	**43.12**	**298**	*e*P	P	15 00 08.5	-0.1
MKAR	**Makanchi Array**	**43.12**	**298**	P	P	15 00 07.9	-0.7
	0.2nm,0.5s,mb3.1,baz=84,slow=9.7,SNR=8.9						
MKAR	**Makanchi Array**	**43.12**	**298**	P	P	15 00 07.9	-0.7
ILAR	**Eielson Array**	**43.96**	**35**	P	P	15 00 15.3	+0.2
	0.9nm,0.8s,mb3.6,baz=257,slow=5.6,SNR=10						
ILAR	**Eielson Array**	**43.96**	**35**	P	P	15 00 15.3	+0.2
KURK	**Kurchatov**	**44.33**	**304**	*e*P	P	15 00 18.0	-0.2
	1.9nm,0.4s,mb4.2						
INK	**Inuvik**	**48.75**	**29**	*e*P	P	15 00 53.0	+0.5
ABKAR	**Akbulak array**	**56.05**	**308**	*e*P	P	15 01 46.5	-0.3
	0.7nm,0.4s,mb4.0						
YKA	**Yellowknife Ar**	**58.22**	**32**	P	P	15 02 03.2	+1.3
	0.2nm,0.5s,mb3.4,baz=306,slow=7.4,SNR=5.3						
YKA	**Yellowknife Ar**	**58.22**	**32**	P	P	15 02 03.2	+1.3
WRA	**Warramunga Arr**	**62.66**	**190**	P	P	15 02 31.9	-0.6
	0.4nm,0.8s,mb3.4,baz=7.2,slow=6.6,SNR=2.9						
WRA	**Warramunga Arr**	**62.66**	**190**	P	P	15 02 31.9	-0.6
FINES	**FINESS Array B**	**64.98**	**332**	P	P	15 02 46.6	-0.7
	2.2nm,0.6s,mb4.2,baz=44,slow=8.4,SNR=11						
FINES	**FINESS Array B**	**64.98**	**332**	P	P	15 02 46.6	-0.7
NOA	**NORSAR Array B**	**69.98**	**338**	P	P	15 03 18.6	-0.2
	1.3nm,0.8s,mb3.8,baz=71,slow=8.1,SNR=3.2						
NOA	**NORSAR Array B**	**69.98**	**338**	P	P	15 03 18.6	-0.2
HFS	**Hagfors**	**69.99**	**336**	P	P	15 03 18.0	-0.9
	1.2nm,0.6s,mb3.9,baz=75,slow=6.3,SNR=4.7						
HFS	**Hagfors**	**69.99**	**336**	P	P	15 03 18.0	-0.9
NVAR	**Mina Array Bea**	**70.30**	**56**	P	P	15 03 22.3	+1.1
	0.3nm,0.6s,mb3.3,baz=282,slow=7.1,SNR=4.2						
NVAR	**Mina Array Bea**	**70.30**	**56**	P	P	15 03 22.3	+1.1
AKASG	**Malin Array Be**	**71.23**	**322**	P	P	15 03 25.9	-0.7
	0.8nm,0.5s,mb3.8,baz=45,slow=6.9,SNR=3.3						
AKASG	**Malin Array Be**	**71.23**	**322**	P	P	15 03 25.9	-0.7
TXAR	**Lajitas Array**	**85.36**	**54**	P	P	15 04 45.2	+0.3
	0.3nm,0.6s,mb3.4,baz=288,slow=3.0,SNR=5.4						
TXAR	**Lajitas Array**	**85.36**	**54**	P	P	15 04 45.2	+0.3

ISCJB ***30*** *14:57:13.8±0.3, 14.°86N±0.°06×45.°09W±0.°06, h10km, mb4.5/39, MS4.1/18, Error ellipse: s-maj=9.4km s-min=6.9km az=43.8*
IDC ***30*** *14:57:13.6±0.6, 14.°87N×45.°11W, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.2/26, mbtmp4.1/18, MS4.0/16, Ms1 4.0/16, ms1mx3.8/27, Error ellipse: s-maj=15.9km s-min=15.2km az=80.0*
BJI ***30*** *14:57:13.5, 14.°90N×44.°90W, h10km, mB5.3/6, Ms5.3/7, Ms7 5.0/7*
NEIC ***30*** *14:57:15.2±0.3, 14.°84N×45.°05W, h10km, mb4.8/22, Error ellipse: s-maj=9.2km s-min=7.8km az=221.0*

ISC 30 14:57:15.6±0.3, 14.°82N±0.°06×45.°04W±0.°06, h10km, n266, σ0=54/253, mb4.5/39, MS4.1/18, 96C-92D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**22.43**	**156**	P	P	15 02 15.5	+0.8
	6.5nm,1.0s,mb4.0,baz=342,slow=13,SNR=3.7						
RCBR				LR	LR	15 08 47.0	
	comp=Z,535nm,18.6s,MS4.0,baz=333,slow=31						
RCBR	**Riachuelo**	**22.43**	**156**	P	P	15 02 15.5	+0.8
SDDR	**Presa de Saban**	**25.44**	**283**	*e*P	P	15 02 44.1	+0.3
	28nm,1.1s,mb4.7						
SDV	**Santo Domingo**	**25.72**	**260**	*e*P	P	15 02 47.4	+1.0
	19nm,1.1s,mb4.5						
BBTS	**Babate**	**27.57**	**87**	LR	LR	15 10 56.7	
	comp=Z,490nm,20.8s,MS4.1,baz=73,slow=30						
SAML	**Samuel**	**29.69**	**218**	*e*P	P	15 03 21.3	-0.6
	8.2nm,0.9s,mb4.5						
SIV	**San Ignacio**	**34.47**	**208**	P	P	15 04 03.9	+0.1
	2.0nm,0.9s,mb4.0,baz=46,slow=11,SNR=5.7						
SIV	**San Ignacio**	**34.47**	**208**	P	P	15 04 03.9	+0.1
LPAZ	**La Paz**	**38.41**	**217**	P	P	15 04 38.8	+1.3
	3.4nm,0.8s,mb4.1,baz=19,slow=9.6,SNR=13						
LPAZ	**La Paz**	**38.41**	**217**	*e*P	P	15 04 38.7	+1.2
	11nm,1.2s,mb4.5						
ATAH	**Atahualpa**	**39.62**	**239**	P	P	15 04 45.4	-2.3
	3.2nm,0.6s,mb4.2,baz=60,slow=17,SNR=3.6						
ATAH	**Atahualpa**	**39.62**	**239**	P	P	15 04 45.4	-2.3
DBIC	**Dimbokro**	**40.25**	**97**	P	P	15 04 54.4	+1.4
	2.5nm,0.8s,mb4.0,baz=264,slow=10,SNR=2.2						
DBIC				LR	LR	15 18 14.5	
	comp=Z,273nm,19.1s,MS4.1,baz=263,slow=31						
DBIC	**Dimbokro**	**40.25**	**97**	P	P	15 04 54.4	+1.4
CPUP	**Villa Florida**	**42.62**	**196**	P	P	15 05 11.4	-0.7
	4.1nm,0.8s,mb4.2,baz=6.6,slow=7.7,SNR=8.1						
CPUP	**Villa Florida**	**42.62**	**196**	P	P	15 05 11.4	-0.7
SCHQ	**Schefferville**	**43.37**	**342**	P	P	15 05 17.5	-0.4
	6.2nm,0.9s,mb4.3,baz=133,slow=8.6,SNR=4.2						
SCHQ				LR	LR	15 20 28.6	
	comp=Z,293nm,21.0s,MS4.2,baz=41,slow=32						
SCHQ	**Schefferville**	**43.37**	**342**	P	P	15 05 17.5	-0.5
ESDC	**Sonseca Array**	**43.59**	**47**	P	P	15 05 21.0	+1.0
	0.2nm,0.3s,baz=215,slow=4.9,SNR=4.2						
ESDC	**Sonseca Array**	**43.59**	**47**	P	P	15 05 21.0	+1.0
TORD	**Torodi Ar. Bea**	**45.32**	**86**	P	P	15 05 33.2	-1.0
	2.8nm,0.9s,mb4.1,baz=290,slow=5.8,SNR=9.5						
TORD				LR	LR	15 21 29.6	
	comp=Z,312nm,19.9s,MS4.2,baz=265,slow=32						
TORD	**Torodi Ar. Bea**	**45.32**	**86**	P	P	15 05 33.2	-1.0
WMOK	**Wichita Mounta**	**52.02**	**303**	*e*P	P	15 06 24.8	-0.7
	13nm,1.4s,mb4.7						
JCT	**Junction City**	**52.40**	**297**	⇑P	P	15 06 28.2	-0.2
	baz=52						
ULM	**Lac du Bonnet**	**54.05**	**322**	P	P	15 06 38.5	-1.7
	4.0nm,0.8s,mb4.4,baz=123,slow=9.1,SNR=7.6						
ULM				LR	LR	15 26 24.3	
	comp=Z,281nm,18.8s,MS4.3,baz=132,slow=32						
ULM	**Lac du Bonnet**	**54.05**	**322**	P	P	15 06 38.5	-1.7
428A	**Kincaid Ranch,**	**54.90**	**297**	⇓P	P	15 06 46.5	-0.2
	baz=55						
528A	**Cox Ranch, San**	**54.96**	**297**	⇓P	P	15 06 46.5	-0.7
	baz=55						
628A	**Black Gap, Mar**	**55.02**	**296**	⇓P	P	15 06 47.5	-0.1
	baz=55						
328A	**Wristen Ranch,**	**55.05**	**298**	⇓P	P	15 06 47.5	-0.2
	baz=55						
MSTX	**Muleshoe**	**55.21**	**301**	⇓P	P	15 06 48.6	-0.4
	baz=55						
627A	**Terlingua Ranc**	**55.45**	**296**	⇓P	P	15 06 50.6	-0.1
	baz=56						
227A	**Bennet, Jal**	**55.49**	**299**	⇓P	P	15 06 50.9	-0.1
	baz=56						
427A	**Hayter Ranch,**	**55.52**	**297**	⇓P	P	15 06 50.9	-0.4
	baz=56						
Z27A	**Tatum**	**55.52**	**300**	⇓P	P	15 06 51.0	-0.2
	baz=56						
Y27A	**Causey**	**55.53**	**301**	⇑P	P	15 06 51.0	-0.2
	baz=56						
527A	**Woodward Ranch**	**55.67**	**296**	⇓P	P	15 06 51.1	-1.3
	baz=56,SNR=6.2						
TXAR	**Lajitas Array**	**55.69**	**296**	P	P	15 06 52.1	-0.4
	2.3nm,1.0s,mb4.2,baz=108,slow=4.1,SNR=9.2						
TXAR				LR	LR	15 31 07.8	
	comp=Z,155nm,20.2s,MS4.1,baz=5.0,slow=37						
TXAR	**Lajitas Array**	**55.69**	**296**	P	P	15 06 52.1	-0.4
R27A	**Eads**	**55.74**	**306**	⇓P	P	15 06 52.7	0.0
	baz=56						
426A	**McDonald Obser**	**56.05**	**297**	⇑P	P	15 06 54.4	-0.6
	baz=56,SNR=10						
526A	**Mary Lane Ranc**	**56.08**	**296**	⇑P	P	15 06 55.1	-0.1
	baz=56,SNR=8.3						
W26A	**Owens Ranch, T**	**56.13**	**302**	⇑P	P	15 06 55.3	-0.3
	baz=56						
Z26A	**Caprock**	**56.16**	**300**	⇓P	P	15 06 54.6	-1.1
	baz=56,SNR=5.5						
S26A	**Kim**	**56.18**	**305**	⇓P	P	15 06 55.7	-0.1
	baz=56						
R26A	**Arlington**	**56.25**	**306**	⇓P	P	15 06 56.3	0.0
	baz=56						
U26A	**Atchley Ranch,**	**56.25**	**304**	⇑P	P	15 06 56.4	0.0
	baz=56						
GDL2	**Guadalupe Moun**	**56.41**	**299**	*e*P	P	15 06 57.0	-0.6
	20nm,1.3s,mb5.0						
O26A	**Horse Wrangler**	**56.43**	**309**	⇑P	P	15 06 57.7	+0.1
	baz=56						
125A	**Gardner Draw,**	**56.69**	**299**	⇓P	P	15 06 59.3	-0.3
	baz=57						
U25A	**Circle Dot Ran**	**56.78**	**304**	⇓P	P	15 06 59.6	-0.5
	baz=57,SNR=7.8						
225A	**Deer Hill, Car**	**56.80**	**299**	⇑P	P	15 07 00.1	-0.3
	baz=57						
Y25A	**Mesa, Roswell**	**56.80**	**301**	⇑P	P	15 06 59.8	-0.5
	baz=57						
425A	**Indio Mountain**	**56.88**	**297**	⇑P	P	15 07 00.4	-0.5
	baz=57,SNR=12						
325A	**Bean Ranch, Si**	**56.89**	**298**	⇑P	P	15 07 00.9	-0.2
	baz=57,SNR=20						
V25A	**Rancho No Teng**	**56.90**	**303**	⇓P	P	15 07 00.6	-0.4
	baz=57						
S25A	**Robets Cordova**	**56.94**	**305**	⇓P

baz=60,SNR=7.7
A22A Carney Farms, 59.91 318 ⇑P P 15 07 21.7 -0.1
baz=60
220A Playas Peak, P 59.94 298 ⇓P P 15 07 22.6 +0.3
baz=60,SNR=12
X20A Quemado 59.98 301 ⇓P P 15 07 22.6 +0.1
baz=60
W20A Ramah 60.01 302 ⇑P P 15 07 22.9 +0.2
baz=60
V20A Brimhall 60.01 303 ⇓P P 15 07 22.9 +0.2
baz=60
Z20A Nine Sixteen R 60.01 300 ⇑P P 15 07 22.7 -0.1
baz=60
120A U Bar Ranch, L 60.04 299 ⇑P P 15 07 23.5 +0.5
baz=60,SNR=5.2
S20A Disappointment 60.05 305 ⇓P P 15 07 23.3 +0.3
baz=60
U20A Newcomb 60.09 304 ⇑P P 15 07 23.4 +0.2
baz=60
Q20A Ridgley Place, 60.09 307 ⇓P P 15 07 23.3 +0.1
baz=60
R20A Redvale 60.10 306 ⇑P P 15 07 23.7 +0.4
baz=60
PLCA Paso Flores 60.13 202 LR LR 15 34 24.4
comp=Z,79nm,18.7s,MS3.9,baz=350,slow=37
O20A White River Ci 60.16 308 ⇑P P 15 07 23.8 +0.1
baz=60
PV01 Paradox Valley 60.24 306 *e*P P 15 07 25.7 +1.5
2μm,1.5s
N20A Spence Gulch, 60.25 309 ⇑P P 15 07 24.0 -0.3
baz=60
J20A Shoshoni 60.41 312 ⇓P P 15 07 25.1 -0.3
baz=60
L20A Wamsutter 60.43 310 ⇑P P 15 07 25.5 0.0
baz=60
T19A Beclabito 60.52 304 ⇑P P 15 07 26.6 +0.4
baz=61
I20A Worland 60.52 312 ⇑P P 15 07 26.2 +0.1
baz=61
Y19A Nutrioso 60.59 301 ⇑P P 15 07 26.9 +0.2
baz=61
X19A St. Johns 60.63 301 ⇓P P 15 07 27.2 +0.2
baz=61
U19A Dine' College, 60.64 303 ⇓P P 15 07 27.2 +0.2
baz=61
S19A Harvey Farm, M 60.66 305 ⇓P P 15 07 27.8 +0.7
baz=61,SNR=6.6
P19A Cripple Cowboy 60.68 307 ⇑P P 15 07 26.9 -0.3
baz=61
W19A Sanders 60.73 302 ⇓P P 15 07 27.4 -0.3
baz=61
G20A Bridger 60.77 314 ⇓P P 15 07 27.4 -0.3
baz=61
R19A Curley Farm, L 60.80 306 ⇑P P 15 07 28.0 -0.1
baz=61
O19A Miners Draw (B 60.85 308 ⇑P P 15 07 28.7 +0.3
baz=61
D20A Manuel Ranch, 61.01 316 ⇑P P 15 07 29.4 +0.1
baz=61
W18A Petrified Fore 61.02 302 ⇓P P 15 07 29.7 0.0
baz=61
NOA NORSAR Array B 61.08 28 LR LR 15 30 45.9
comp=Z,37nm,19.4s,MS3.5,baz=0.0,slow=33
J19A Crowheart 61.10 311 ⇓P P 15 07 30.3 +0.2
baz=61
I19A Meeteetse 61.16 312 ⇑P P 15 07 30.3 0.0
baz=61
X18A Snowflake 61.18 301 ⇑P P 15 07 29.9 -0.8
baz=61
A20A Cobblestone Ra 61.18 318 ⇓P P 15 07 29.9 -0.6
baz=61
L19A Farson 61.20 310 ⇑P P 15 07 30.5 -0.2
baz=61
T18A Mexican Hat 61.21 304 ⇑P P 15 07 31.1 +0.2
baz=61,SNR=8.0
H19A Powell 61.23 313 ⇑P P 15 07 31.1 +0.2
baz=61
R18A Canyonlands Na 61.30 306 ⇓P P 15 07 31.8 +0.3
baz=61
F19A Roth Farm, Mol 61.37 314 ⇓P P 15 07 31.9 +0.1
baz=61
PDAR Pinedale Array 61.41 311 P P 15 07 31.6 -0.5
3.0nm,1.1s,mb4.3,baz=96,slow=6.0,SNR=11
PDAR LR LR 15 31 01.0
comp=Z,297nm,20.2s,MS4.4,baz=118,slow=33
PDAR Pinedale Array 61.41 311 P P 15 07 31.6 -0.5
PD02 Pinedale Array 61.42 311 *e*P P 15 07 31.7 -0.6
PD01 Pinedale Array 61.44 311 *e*P P 15 07 31.8 -0.5
L18A Fontenelle, Gr 61.68 310 ⇑P P 15 07 34.4 +0.4
baz=62
G18A Lazy EL Ranch, 61.72 314 ⇑P P 15 07 34.2 0.0
baz=62
A19A Klindworth Far 61.72 318 ⇓P P 15 07 34.4 +0.2
baz=62
C19A Slack Wire Ran 61.72 316 ⇓P P 15 07 34.3 +0.1
baz=62
K18A Toltan Ranch, 61.76 311 ⇓P P 15 07 34.4 -0.1
baz=62
B19A Brinkman Farms 61.77 317 ⇓P P 15 07 34.7 +0.2
baz=62
U17A Shonto 61.82 304 ⇑P P 15 07 35.4 +0.4
baz=62
V17A Tonalea, Kykot 61.90 303 ⇑P P 15 07 35.7 +0.2
baz=62,SNR=10
Y17A Roosevelt 61.91 300 ⇓P P 15 07 35.6 -0.1
baz=62
R17A Hanksville Air 61.94 306 ⇑P P 15 07 36.1 +0.3
baz=62
T17A Navajo Res., N 61.95 304 ⇑P P 15 07 36.3 +0.4
baz=62,SNR=11
S17A Black Ridge (B 61.98 305 ⇓P P 15 07 36.5 +0.4
baz=62,SNR=6.0
M17A Scullys Gap (B 62.11 309 ⇓P P 15 07 36.8 -0.1
baz=62,SNR=5.0
E18A Harlowton 62.13 315 ⇓P P 15 07 36.6 -0.3
baz=62
D18A Linhart Farms, 62.15 316 ⇑P P 15 07 37.6 +0.6
baz=62
U16A Tuba City 62.19 303 ⇑P P 15 07 38.1 +0.6
baz=62
EGMT Eagleton 62.24 317 ⇓P P 15 07 37.9 +0.3
baz=62
I17A Pilgrim Ck. 62.28 312 ⇓P P 15 07 38.1 +0.2
baz=62
B18A Beardsley Farm 62.31 317 ⇑P P 15 07 37.4 -0.7
baz=62
L17A Cokeville 62.32 310 ⇓P P 15 07 38.2 -0.1
baz=62
WUAZ Wupatki 62.37 303 ⇓P P 15 07 39.5 +0.8
baz=62,SNR=5.6
WUAZ Wupatki 62.37 303 *e*P P 15 07 40.1 +1.4
19nm,1.4s,mb5.0
X16A Lo Mia Camp, P 62.41 301 ⇓P P 15 07 39.7 +0.6
baz=62
DAU Daniels Canyon 62.48 308 *e*P P 15 07 40.9 +1.5
S16A Weppner Ranch, 62.61 305 ⇓P P 15 07 40.6 +0.3
baz=63
L16A Fish Haven 62.73 310 ⇓P P 15 07 41.2 +0.2
baz=63
D17A Six Diamond Ra 62.74 316 ⇑P P 15 07 41.2 +0.2
baz=63
RRI2 Red Ridge 62.76 311 *e*P P 15 07 39.5 -1.6
24nm,1.4s,mb5.1
E17A Martinsdale 62.77 315 ⇑P P 15 07 41.6 +0.4
baz=63
HWUT Hardware Ranch 62.80 309 *e*P P 15 07 40.4 -1.1
9.5nm,1.0s,mb4.9
K16A Soda Springs 62.91 311 ⇑P P 15 07 42.2 0.0
baz=63
J16A Bone 62.96 311 ⇓P P 15 07 42.6 0.0
baz=63
B17A L&G Farms, Che 62.97 317 ⇑P P 15 07 42.6 +0.1
baz=63
A17A Triple J Farms 63.00 318 ⇑P P 15 07 42.5 -0.2
baz=63
U15A North Rim 63.13 304 ⇓P P 15 07 44.3 +0.5
baz=63,SNR=8.0
G16A Moss Hill, Enn 63.28 313 ⇓P P 15 07 43.8 -0.8
baz=63
E16A East Helena 63.34 315 ⇑P P 15 07 44.5 -0.4
baz=63
L15A Malad City 63.44 310 ⇑P P 15 07 45.4 -0.3
baz=64,SNR=7.1
M15A Larsen Ranch, 63.45 309 ⇑P P 15 07 45.8 0.0
baz=64,SNR=6.6
C16A Fuhringer Ranc 63.53 316 ⇓P P 15 07 46.3 +0.1
baz=64
J15A Blackfoot 63.57 311 ⇑P P 15 07 46.5 -0.1
baz=64
A16A West Butte Ran 63.59 318 ⇑P P 15 07 46.6 +0.1
baz=64
B16A M & M Farms, S 63.59 317 ⇓P P 15 07 46.3 -0.3
baz=64
K15A Arbon 63.59 310 ⇑P P 15 07 46.9 +0.2
baz=64
114A Black Gap (USA 63.62 299 ⇓P P 15 07 46.9 -0.3
baz=64
DUG Dugway 63.66 308 ⇑P P 15 07 47.7 +0.5
baz=64
Z14A Wintersburg 63.66 300 ⇓P P 15 07 47.7 +0.4
baz=64
G15A Dillon 63.76 313 ⇑P P 15 07 48.2 +0.4
baz=64
F15A Butte 63.83 314 ⇑P P 15 07 48.4 +0.2
baz=64
D15A Lincoln 63.97 315 ⇓P P 15 07 49.4 +0.3
baz=64
K14A Jones Ranch, D 64.06 310 ⇑P P 15 07 49.7 -0.1
baz=64
ARUT Antelope Range 64.07 305 P P 15 07 50.2 +0.2
13nm,1.4s,mb4.8
L14A Malta 64.07 310 ⇓P P 15 07 49.4 -0.5
baz=64
C15A Salmond Ranch, 64.11 316 ⇓P P 15 07 49.8 -0.2
baz=64
B15A Bradely Ranch, 64.14 317 ⇑P P 15 07 50.2 -0.1
baz=64
Z13A Yuma Proving G 64.26 300 ⇓P P 15 07 50.9 -0.4
baz=64
I14A Mackay 64.35 312 ⇓P P 15 07 51.8 +0.2
baz=64
J14A Carey 64.36 311 ⇑P P 15 07 51.9 +0.1
baz=64
W13A Hualapai Mount 64.42 302 ⇓P P 15 07 52.3 0.0
baz=64
F14A Wisdom 64.44 314 ⇑P P 15 07 52.1 -0.1
baz=64
R13A O'Grain Ranch, 64.50 305 ⇓P P 15 07 53.0 +0.2
baz=65
PDMCI Parker Dam,Lak 64.64 301 ⇓P P 15 07 54.3 +0.5
baz=65
I13A Wildhorse Cree 64.83 312 ⇑P P 15 07 54.9 +0.1
baz=65,SNR=5.4
J13A Cove Ranch, Pi 64.84 311 ⇑P P 15 07 55.0 +0.1
baz=65
H13A Challis 64.97 312 ⇑P P 15 07 56.1 +0.4
baz=65
HLID Hailey 65.02 311 ⇓P P 15 07 56.0 -0.1
baz=65
HLID Hailey 65.02 311 *e*P P 15 07 55.9 -0.2
3.2nm,1.0s,mb4.3
E13A Victor 65.06 315 ⇓P P 15 07 56.4 +0.2
baz=65
F13A Darby 65.10 314 ⇑P P 15 07 56.8 +0.3
baz=65
LDFC Landfair 65.42 302 *e*P P 15 07 59.3 +0.4
13nm,1.0s,mb4.9
IRM Iron Mountain 65.48 301 ⇑P P 15 07 59.7 +0.4
baz=66
I12A Atlanta 65.55 312 ⇓P P 15 07 59.7 +0.1
baz=66
BSMT Bassoo Peak 65.58 316 *e*P P 15 08 00.4 +0.8
3.1nm,1.0s,mb4.3
BC3 Big Chuckawall 65.75 300 ⇓P P 15 08 00.8 -0.2
baz=66
R11A Troy Canyon, C 65.77 306 ⇑P P 15 08 01.0 0.0
baz=66
MFID Camas Ranch 66.04 311 ⇑P P 15 08 02.9 +0.2
baz=66
TUQ Turquoise Moun 66.08 302 ⇓P P 15 08 03.4 +0.3
baz=66
BELC Belle Mtn. Jos 66.19 301 ⇑P P 15 08 04.3 +0.5
baz=66
A12A Yaak River Ran 66.24 317 ⇑P P 15 08 04.1 +0.3
baz=66
HEC Hector,Ludlow 66.43 302 ⇓P P 15 08 05.9 +0.5
baz=66
MONP Monument Peak 66.59 300 ⇓P P 15 08 07.3 +0.8
baz=67
GSC Goldstone 66.81 302 ⇓P P 15 08 08.2 +0.4
baz=67
NEW Newport 67.17 316 ⇑P P 15 08 10.1 +0.4
baz=67
MPMC Manual Prospec 67.33 303 ⇓P P 15 08 11.3 +0.2
baz=67
LRMC Laurel Mountai 67.52 303 ⇑P P 15 08 12.3 0.0
baz=68
YKA Yellowknife Ar 67.54 332 P P 15 08 10.1 -1.8
2.4nm,1.0s,mb4.2,baz=102,slow=7.1,SNR=19
YKA LR LR 15 35 26.1
comp=Z,30nm,18.4s,MS3.5,baz=180,slow=34
YKA Yellowknife Ar 67.54 332 P P 15 08 10.1 -1.8
BFSC Mount Baldy Ra 67.56 301 ⇑P P 15 08 12.2 -0.3
baz=68
E09A Wood Farm, Sta 67.79 314 ⇑P P 15 08 14.1 +0.3
baz=68
EDW2 Edwards Air Fo 67.80 302 ⇑P P 15 08 14.2 +0.2
baz=68
NVAR Mina Array Bea 67.90 306 P P 15 08 16.0 +1.4
1.1nm,1.0s,mb3.8,baz=97,slow=7.6,SNR=3.9
NVAR LR LR 15 33 24.2
comp=Z,182nm,21.8s,MS4.3,baz=218,slow=32
NVAR Mina Array Bea 67.90 306 P P 15 08 16.0 +1.4
ISA Isabella 68.15 303 ⇓P P 15 08 16.3 0.0
baz=68
ISA Isabella 68.15 303 *e*P P 15 08 16.1 -0.1
11nm,1.4s,mb4.7
OD2 Odessa Site #2 68.20 315 *e*P P 15 08 15.0 -1.3
16nm,1.1s,mb5.0
ARCES ARCESS Array B 69.44 21 LR LR 15 35 18.7
comp=Z,87nm,18.1s,MS4.0,baz=332,slow=33
BRTR Keskin Array B 72.05 53 P P 15 08 39.8 -0.3
2.8nm,1.1s,mb4.1,baz=294,slow=3.7,SNR=4.2
BRTR LR LR 15 39 25.6
comp=Z,20nm,18.6s,MS3.4,baz=85,slow=35
BRTR Keskin Array B 72.05 53 P P 15 08 39.8 -0.3
INK Inuvik 75.78 337 *e*P P 15 08 59.9 -1.5
10nm,1.2s,mb4.6
BOSA Boshof 80.47 123 P P 15 09 27.6 -0.5
3.1nm,0.9s,mb4.3,baz=18,slow=6.0,SNR=4.7
BOSA LR LR 15 37 09.8
comp=Z,120nm,19.0s,MS4.3,baz=346,slow=30
BOSA Boshof 80.47 123 P P 15 09 27.6 -0.5
ILAR Eielson Array 81.68 335 P P 15 09 33.1 -0.8
5.4nm,1.0s,mb4.4,baz=74,slow=4.3,SNR=27
ILAR LR LR 15 43 04.1
comp=Z,114nm,18.3s,MS4.3,baz=107,slow=34
ILAR Eielson Array 81.68 335 P P 15 09 33.1 -0.8
ABKAR Akbulak array 88.38 39 *e*P P 15 10 07.4 -0.5
1.6nm,0.7s,mb4.4
VNA3 Neumayer Olymp 89.17 169 *e* P 15 10 11.1 +0.2
VNA2 Neumayer--Watz 89.33 168 *e* P 15 10 11.9 +0.2
SNAA Sanae 90.83 168 *e* P 15 10 17.8 -0.9
SNAA Sanae 90.83 168 *e*P P 15 10 17.5 -1.2
3.4nm,1.0s,mb4.6
HHC Hu-ho-hao-te 120.51 20 *e*PKP PKPdf 15 16 04.8 -3.0
HHC PP PP 15 17 33.8 +0.4
HHC PKS 15 19 39.8
HHC SKS SKSdf 15 23 14.0 -6.2
HHC SKKS SKKSac 15 24 25.0 -10
HHC SS SS 15 33 57.0 -4.9
HHC AMB AMB
comp=Z,79nm,4.2s
HHC LR LR
comp=N,250nm,20.0s,MS5.0
HHC LR LR
comp=E,280nm,20.8s,MS5.0
HHC LR LR
comp=Z,470nm,22.6s,MS5.1
MDJ Mudanjiang 120.65 4 PKP PKPdf 15 16 06.3 -1.7
LZH Lanzhou 121.44 29 *e*PKP PKPdf 15 16 09.5 -0.3
LZH sPKP 15 16 14.3
LZH LR LR
comp=N,140nm,18.0s,MS4.8
LZH LR LR
comp=E,150nm,18.2s,MS4.8
LZH LR LR
comp=Z,200nm,20.3s,MS4.8
BJI Beijing 122.69 17 PKP PKPdf 15 16 10.0 -2.1
BJI SS SS 15 34 27.5 -2.1
BJI LR LR
comp=N,290nm,14.8s
BJI LR LR
comp=E,400nm,22.6s
BJI LR LR
comp=Z,470nm,28.2s
KMI Kunming 129.37 39 PKP PKPdf 15 16 23.5 -1.8
GYA Guiyang 130.60 34 *e*Pdif Pdif 15 13 15.0 -2.0
GYA PKP PKPdf 15 16 25.3 -2.3
GYA PP PP 15 18 43.0 +1.8
GYA AMB AMB
comp=Z,90nm,7.9s
NJ2 Nanjing 130.90 18 *e*PKP PKPdf 15 16 23.5 -4.5
CMAR Chiang Mai Arr 131.50 48 PKP PKPdf 15 16 27.6 -1.8
comp=Z,0.7nm,0.7s,baz=289,slow=3.7,SNR=6.2
CMAR Chiang Mai Arr 131.50 48 PKP PKPdf 15 16 27.6 -1.8

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*IDC **30** 15:10:55.4±7.5, 31°.34N×70°.01E, h0km, mb3.3/3, mb1 3.3/4, mb1mx3.1/27, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=254.0km s-min=35.6km az=87.0*
*ISCJB **30** 15:10:59.5±1.9, 31°.6N±0°.2×70°.5E±0°.2, h33km, mb3.2/2, Error ellipse: s-maj=32.8km s-min=8.0km az=140.8*
*NEIC **30** 15:11:00.9±1.6, 31°.47N×70°.32E, h35km, Error ellipse: s-maj=28.4km s-min=7.3km az=51.0*
ISC 30 15:11:01.0±1.9, 31°.5N±0°.1×70°.3E±0°.2, h35km, n33, σ1º05/33, mb3.2/2, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.24**	**341**	*e*Pn	**Pn**	**15 11 48.6**	**-0.7**
KKAR	**Karatay Array**	**11.61**	**1**	*e*P	**Pn**	**15 13 43.1**	**-1.1**
AAK	**Ala-Archa**	**11.63**	**16**	*e*P	**Pn**	**15 13 44.3**	**-0.1**
DANN	**Dangsing**	**12.08**	**102**	*e*P	**Pn**	**15 13 53.7**	**+3.1**
DANN	**Dangsing**	**12.08**	**102**	*e*P	**Pn**	**15 13 53.7**	**+3.1**
KOLN	**Koldanda**	**12.14**	**104**	*e*P	**Pn**	**15 13 52.5**	**+1.0**
5.0nm,0.4s							
KOLN	**Koldanda**	**12.14**	**104**	*e*P	**Pn**	**15 13 52.5**	**+1.0**
5.0nm,0.4s							
GKN	**Gorkha**	**12.92**	**102**	*e*P	**Pn**	**15 14 02.2**	**0.0**
3.2nm,0.3s							
GKN	**Gorkha**	**12.92**	**102**	*e*P	**Pn**	**15 14 02.2**	**0.0**
3.2nm,0.3s							
DMN	**Daman**	**13.45**	**103**	*e*P	**Pn**	**15 14 09.1**	**-0.2**
DMN	**Daman**	**13.45**	**103**	*e*P	**Pn**	**15 14 09.1**	**-0.2**
KKN	**Kakani**	**13.53**	**102**	*e*P	**Pn**	**15 14 10.1**	**-0.4**
9.9nm,0.7s							
KKN	**Kakani**	**13.53**	**102**	*e*P	**Pn**	**15 14 10.1**	**-0.4**
9.9nm,0.7s							
PKI	**Pulchoki**	**13.71**	**103**	*e*P	**Pn**	**15 14 12.3**	**-0.6**
PKI	**Pulchoki**	**13.71**	**103**	*e*P	**Pn**	**15 14 12.3**	**-0.6**
GUN	**Gumba**	**13.99**	**101**	*e*P	**Pn**	**15 14 16.4**	**-0.4**
GUN	**Gumba**	**13.99**	**101**	*e*P	**Pn**	**15 14 16.4**	**-0.4**
JIRN	**Jiri**	**14.33**	**101**	*e*P	**Pn**	**15 14 20.9**	**-0.5**
1.3nm,0.4s							
JIRN	**Jiri**	**14.33**	**101**	*e*P	**Pn**	**15 14 20.9**	**-0.5**
1.3nm,0.4s							
RAMN	**Ramite**	**14.92**	**103**	*e*P	**Pn**	**15 14 25.7**	**-3.7**
RAMN	**Ramite**	**14.92**	**103**	*e*P	**Pn**	**15 14 25.7**	**-3.7**
ODAN	**Odare**	**15.61**	**103**	*e*P	**Pn**	**15 14 33.4**	**-5.0**
ODAN	**Odare**	**15.61**	**103**	*e*P	**Pn**	**15 14 33.4**	**-5.0**
TAPN	**Taplejung**	**15.71**	**101**	*e*P	**Pn**	**15 14 36.3**	**-3.4**
TAPN	**Taplejung**	**15.71**	**101**	*e*P	**Pn**	**15 14 36.3**	**-3.4**
MKAR	**Makanchi Array**	**17.87**	**28**	P	**Pn**	**15 15 08.2**	**+1.5**
0.1nm,0.3s,baz=206,slow=11,SNR=5.1							
MKAR	**Makanchi Array**	**17.87**	**28**	P	**Pn**	**15 15 08.2**	**+1.5**
KURK	**Kurchatov**	**20.20**	**15**	P	**P**	**15 15 32.1**	**-0.4**
0.4nm,0.6s,baz=205,slow=10,SNR=5.4							
KURK	**Kurchatov**	**20.20**	**15**	P	**P**	**15 15 32.1**	**-0.4**
ZALV	**Zalesovo Beam**	**24.77**	**21**	P	**P**	**15 16 20.6**	**+1.5**
0.5nm,0.4s,mb3.4,baz=202,slow=10,SNR=3.2							
ZALV	**Zalesovo Beam**	**24.77**	**21**	P	**P**	**15 16 20.6**	**+1.5**
ASAR	**Alice Springs**	**81.89**	**124**	P	**P**	**15 23 17.8**	**+0.7**
0.2nm,0.8s,mb3.1,baz=307,slow=5.6,SNR=4.5							
ASAR	**Alice Springs**	**81.89**	**124**	P	**P**	**15 23 17.8**	**+0.7**

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*ISCJB **30** 15:16:23.3±0.3, 42°.77N±0°.02×41°.87E±0°.03, h10km, Error ellipse: s-maj=3.3km s-min=2.5km az=36.0*
*TIF **30** 15:16:23.3, 42°.80N×41°.98E, h12km*
*CSEM **30** 15:16:23.1±0.2, 42°.71N×41°.90E, h2km, mb3.9, Error ellipse: s-maj=4.4km s-min=3.3km az=133.0*
*MOS **30** 15:16:24.5±0.9, 42°.79N×41°.88E, h7km, mb3.9/1, Error ellipse: s-maj=13.0km s-min=9.3km az=135.8*
ISC 30 15:16:24.0±0.3, 42°.75N±0°.02×41°.92E±0°.03, h10km, n38, σ0º97/65, 5C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.59**	**339**	⇓*i*PG	**Pg**	**15 16 35.2**	**-0.2**
DOMR				*i* S	**Sg**	**15 16 42.9**	**-0.2**
DOMR	**Dombai**	**0.59**	**339**	*i* Pg	**Pg**	**15 16 35.2**	**-0.2**
DOMR				*i* Sg	**Sg**	**15 16 42.9**	**-0.2**
SHAR	**Shatzhatmas**	**1.14**	**29**	⇑*e*PG	**Pg**	**15 16 45.1**	**-0.8**
SHAR				*i* S	**Sb**	**15 17 00.5**	**-0.1**
SHAR	**Shatzhatmas**	**1.14**	**29**	*e*Pg	**Pg**	**15 16 45.1**	**-0.8**
SHAR				*i* Sg	**Sb**	**15 17 00.5**	**-0.1**
ONI	**Oni**	**1.14**	**97**	P	**Pb**	**15 16 45.1**	**-0.7**
ONI				S	**Sb**	**15 17 00.3**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.23**	**82**	⇑*i*PG	**Pg**	**15 16 46.5**	**-1.2**
DIGR				*e*S	**Sb**	**15 17 01.7**	**-1.6**
DIGR	**Digorskoe uzhe**	**1.23**	**82**	*i* Pg	**Pg**	**15 16 46.5**	**-1.2**
DIGR				*e*Sg	**Sb**	**15 17 01.7**	**-1.6**
KIV	**Kislovodsk**	**1.33**	**25**	*de*PG	**Pg**	**15 16 49.4**	**-0.2**
KIV				*e*		15 17 06.7	
KIV				pmax	pmax		
comp=Z,80nm,1.2s							
KIV				smax			
comp=N,52nm,0.5s							
KIV	**Kislovodsk**	**1.33**	**25**	*e*Pg	**Pg**	**15 16 49.4**	**-0.2**
comp=N,80nm,1.2s							
KIV				*e*Sg	**Sg**	**15 17 06.7**	**-0.2**
comp=N,52nm,0.5s							
DBOC	**Borcka**	**1.41**	**188**	*i* P	**Pn**	**15 16 48.8**	**-0.9**
DBOC	**Borcka**	**1.41**	**188**	*i* P	**Pn**	**15 16 48.8**	**-0.9**
DBOC				*i* S	**Sn**	**15 17 08.7**	**+0.3**
BEYR	**Belyy Ugol+**	**1.43**	**27**	⇑*e*PG	**Pn**	**15 16 49.8**	**-0.1**
BEYR				*e*S	**Sn**	**15 17 08.9**	**+0.2**
BEYR	**Belyy Ugol+**	**1.43**	**27**	*e*Pg	**Pn**	**15 16 49.8**	**-0.1**
BEYR				*e*Sg	**Sn**	**15 17 08.9**	**+0.2**
ZEI	**Tsey**	**1.46**	**88**	⇑*i*PG	**Pg**	**15 16 51.7**	**-0.3**
ZEI				*e*S	**Sg**	**15 17 10.9**	**0.0**
ZEI	**Tsey**	**1.46**	**88**	*i* Pg	**Pg**	**15 16 51.7**	**-0.3**
ZEI				*e*Sg	**Sg**	**15 17 10.9**	**0.0**
LSNR	**Lesken**	**1.49**	**69**	*e*PG	**Pg**	**15 16 52.6**	**+0.1**
LSNR				*e*S	**Sg**	**15 17 12.1**	**+0.2**
LSNR	**Lesken**	**1.49**	**69**	*e*Pg	**Pg**	**15 16 52.6**	**+0.1**
LSNR				*e*Sg	**Sg**	**15 17 12.1**	**+0.2**
KUBR	**Kubataba**	**1.52**	**45**	*e*PG	**Pg**	**15 16 53.7**	**+0.6**
KUBR				*e*S	**Sg**	**15 17 13.7**	**+1.0**
KUBR	**Kubataba**	**1.52**	**45**	*e*Pg	**Pg**	**15 16 53.7**	**+0.6**
KUBR				*e*Sg	**Sg**	**15 17 13.7**	**+1.0**
ARTV	**Artvin**	**1.56**	**180**	*i* P	**Pn**	**15 16 50.2**	**-1.5**
ARTV	**Artvin**	**1.56**	**180**	*i* P	**Pn**	**15 16 50.2**	**-1.6**
ARTV				*i* S	**Sn**	**15 17 12.3**	**+0.3**
KORR	**Kora**	**1.61**	**77**	*e*PN	**Pn**	**15 16 54.4**	**+1.9**
KORR				*e*S	**Sg**	**15 17 15.4**	**-0.5**
KORR	**Kora**	**1.61**	**77**	*e*Pn	**Pn**	**15 16 54.4**	**+1.9**
KORR				*e*Sg	**Sg**	**15 17 15.4**	**-0.5**
DAGI	**Agillar**	**1.67**	**180**	*i* P	**Pn**	**15 16 52.4**	**-0.8**
LACR	**Lac**	**1.75**	**87**	⇑*i*PN	**Pn**	**15 16 56.1**	**+1.7**
LACR	**Lac**	**1.75**	**87**	*i* Pn	**Pn**	**15 16 56.1**	**+1.7**
AKH	**Akhalkalaki**	**1.78**	**138**	P	**Pn**	**15 16 56.0**	**+1.2**
AKH				S	**Sn**	**15 17 20.0**	**+2.7**
ARNR	**Ardon**	**1.79**	**75**	*e*PN	**Pn**	**15 16 57.3**	**+2.4**
ARNR				*e*S	**Sg**	**15 17 20.5**	**-1.0**
ARNR	**Ardon**	**1.79**	**75**	*e*Pn	**Pn**	**15 16 57.3**	**+2.4**
ARNR				*e*Sg	**Sg**	**15 17 20.5**	**-1.0**
SOC	**Sochi**	**1.82**	**298**	*e*PN	**Pn**	**15 16 56.3**	**+1.0**
SOC				*e*		15 16 58.3	
SOC				*e*		15 17 23.3	
SOC				pmax	pmax		
comp=Z,27nm,0.8s							
SOC				pmax	pmax		
comp=Z,66nm,0.6s							
SOC	**Sochi**	**1.82**	**298**	*e*Pn	**Pn**	**15 16 56.3**	**+1.0**
comp=Z,27nm,0.8s							
SOC	**Sochi**	**1.82**	**298**	*e*Pg	**Pg**	**15 16 58.3**	**-0.5**
comp=Z,66nm,0.6s							
SOC				*e*Sg	**Sg**	**15 17 23.3**	**+0.9**
DDEM	**Demirkent**	**1.86**	**184**	*i* P	**Pn**	**15 16 55.3**	**-0.5**
DDEM	**Demirkent**	**1.86**	**184**	*i* P	**Pn**	**15 16 55.3**	**-0.5**
DDEM				*i* S	**Sn**	**15 17 21.4**	**+2.1**
KELT	**Kelkit**	**3.28**	**219**	*i* P	**Pn**	**15 17 14.1**	**-1.2**
KELT	**Kelkit**	**3.28**	**219**	*i* P	**Pn**	**15 17 14.1**	**-1.3**
KELT				*i* S	**Sn**	**15 17 53.9**	**-0.5**

SUSE	**Susehri**	**3.77 229**	*i* P		**Pn**	**15 17 21.4**	**-0.8**
SUSE	**Susehri**	**3.77 229**	*i* P		**Pn**	**15 17 21.4**	**-0.8**
SUSE			*i* S		**Sn**	**15 18 06.2**	**-0.4**

IDC 30 15:30:20.1±12.0, 5°.25S×129°.39E, h211km±131km, mb3.1/2, mb1 3.4/5, mb1mx3.1/16, mbtmp3.2/5, Error ellipse: s-maj=102.0km s-min=31.2km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.29**	**196**	P	Pn	15 33 21.1	+0.2
	0.3nm,0.3s,baz=18,slow=13,SNR=8.7						
WRA	**Warramunga Arr**	**15.38**	**162**	P	Pn	15 33 45.6	-1.0
	0.4nm,0.3s,baz=342,slow=12,SNR=41						
WRA				S	S	15 36 33.9	-3.1
	0.3nm,0.3s,baz=341,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**18.82**	**167**	P	P	15 34 25.1	+0.9
	0.4nm,0.3s,baz=350,slow=12,SNR=58						
CMAR	**Chiang Mai Arr**	**38.15**	**309**	P	P	15 37 19.6	+0.2
	0.4nm,0.5s,baz=136,slow=7.3,SNR=5.4						
MKAR	**Makanchi Array**	**66.43**	**327**	P	P	15 40 46.5	-0.1
	0.5nm,0.5s,baz=121,slow=8.3,SNR=20						

*IDC **30** 15:38:22.2±1.3, 7°.05N×77°.28W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.5/20, mbtmp3.8/3, ML2.8/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/31, Error ellipse: s-maj=68.4km s-min=26.0km az=49.0*

*ISCJB **30** 15:38:27.7±1.4, 7°.3N±0°.2×77°.1W±0°.1, h45km±18km, mb3.8/2, Error ellipse: s-maj=32.4km s-min=11.4km az=38.0*

*NEIC **30** 15:38:28.3±1.1, 7°.07N×77°.17W, h44km±12km, Error ellipse: s-maj=21.9km s-min=10.1km az=218.0*

ISC 30 15:38:29.1±4.4, 7°.3N±0°.2×77°.1W±0°.1, h35km±35km, n14, σ0°78/12, mb3.8/2, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**3.25**	**305**	*e*P	**Pn**	**15 39 18.2**	**+0.6**
ROSC	**El Rosal**	**3.71**	**131**	Pn	**Pn**	**15 39 20.1**	**-3.8**
	17nm,0.3s,baz=279,slow=13,SNR=17						
ROSC				Sn	**Sn**	**15 40 07.2**	**+0.7**
	4.3nm,0.3s,baz=71,slow=22,SNR=4.8						
ROSC	**El Rosal**	**3.71**	**131**	*e*P	**Pn**	**15 39 22.5**	**-1.5**
ROSC				Sn	**Sn**	**15 40 07.2**	**+0.7**
SDV	**Santo Domingo**	**6.63**	**76**	*e*P	**Pn**	**15 40 04.3**	**+0.2**
	16nm,0.4s						
TEIG	**Tepich**	**16.77**	**321**	LR	LR	15 48 22.2	
	comp=Z,22nm,20.8s,baz=21,slow=36						
SAML	**Samuel**	**21.32**	**139**	P	**P**	**15 43 09.1**	**-4.0**
LPAZ	**La Paz**	**25.09**	**159**	P	**P**	**15 43 58.2**	**+7.6**
YKA	**Yellowknife Ar**	**61.48**	**341**	P	**P**	**15 48 41.6**	**-0.3**
	0.7nm,0.5s,mb4.0,baz=132,slow=7.0,SNR=10						
YKA	**Yellowknife Ar**	**61.48**	**341**	P	**P**	**15 48 41.6**	**-0.3**
ILAR	**Eielson Array**	**74.85**	**335**	P	**P**	**15 50 05.7**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=116,slow=4.3,SNR=7.6						
ILAR	**Eielson Array**	**74.85**	**335**	P	**P**	**15 50 05.7**	**-0.1**
AS31	**Alice Springs**	**146.07**	**238**	*e*PKPdf	PKPdf	15 58 03.7	-1.7
ASAR	**Alice Springs**	**146.07**	**238**	PKPbc	PKPbc	15 58 03.4	-2.9
	0.6nm,0.8s,baz=117,slow=3.4,SNR=17						
ASAR	**Alice Springs**	**146.07**	**238**	PKPbc	PKPbc	15 58 03.4	-2.9

*NIED **30** 15:48:00, 35°.50N×141°.10E, h32km, Mw4.7 Best double couple: M0 1.11000×10^16 NP1:φs 10.00000°, δ88.00000°, λ73.00000°. NP2:φs 274.00000°, δ17.00000°, λ174.00000°.*

*MOS **30** 15:48:30.6±0.8, 35°.38N×140°.73E, h33km, mb5.0/63, MS4.0/13, Error ellipse: s-maj=9.7km s-min=4.8km az=116.2*

*JMA **30** 15:48:32.5±0.1, 35°.53N×140°.94E, h43km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs 144.00000°, δ63.00000°, λ-79.00000°. NP2: φs 301.00000°, δ29.00000°, λ-110.00000°. Principal axes: T Plg17.0000°, Azm226.0000°; N Plg10.0000°, Azm319.0000°; P Plg70.0000°, Azm77.0000°;*

JMA Felt II J1.

*ISCJB **30** 15:48:33.2±0.4, 35°.42N±0°.03×140°.72E±0°.04, h54km±3km, mb4.8/134, MS4.1/28 Error ellipse: s-maj=5.0km s-min=4.9km az=141.8*

*BJI **30** 15:48:33.4, 35°.61N×140°.63E, h58km, mB5.0/33, mb4.9/50, Ms4.4/38, Ms7 4.1/36*

*IDC **30** 15:48:33.3±0.6, 35°.40N×140°.70E, h41km±5km, mb4.3/26, mb1 4.4/29, mb1mx4.4/33, mbtmp4.3/29, ML4.2/2, MS4.0/23, Ms1 4.0/23, ms1mx3.8/38, Error ellipse: s-maj=12.8km s-min=10.7km az=92.0*

*NEIC **30** 15:48:33.1±0.2, 35°.40N×140°.71E, mb5.1/66, MW4.6(NIED), Error ellipse: s-maj=4.4km s-min=4.1km az=121.0*

NEIC Recorded [2 JMA] in Chiba and Ibaraki; [1 JMA] in Kanagawa and Tochigi.

*SZGRF **30** 15:48:44.1, 35°.82N×139°.82E, h33km, mb4.7, Near south coast of eastern Honshu, Japan*

ISC 30 15:48:33.8±0.4, 35°.47N±0°.03×140°.79E±0°.04, h45km±3km, h51km±4.8km: pP-P, n450, σ0°98/457, mb4.8/134, MS4.1/28, 63C-23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.24**	**14**	⇑P	**Pn**	**15 48 39.9**	**-2.0**
CHOJ				S	**Sn**	**15 48 45.2**	**-2.4**
JCN	**Nagara**	**0.48**	**264**	⇑P	**Pn**	**15 48 45.8**	**+1.3**
JCN				*e*S	**Sn**	**15 48 53.5**	**+1.4**
KTR	**Katsuura**	**0.50**	**230**	P	**Pn**	**15 48 45.0**	**+0.2**
BSO4	**Boso 4**	**0.61**	**217**	⇑P	**Pn**	**15 48 46.4**	**+0.3**
BSO4				*e*S	**Sn**	**15 48 56.9**	**+2.0**
BSO3	**Boso 3**	**0.71**	**199**	⇑P	**Pn**	**15 48 47.2**	**-0.2**
BSO1	**Boso 1**	**0.83**	**169**	P	**Pn**	**15 48 47.8**	**-1.3**
JYT	**Yasato**	**0.89**	**328**	⇓P	**Pn**	**15 48 49.1**	**-0.8**
JIM2	**Oshima 3**	**1.34**	**236**	P	**Pn**	**15 48 55.8**	**-0.3**
JIM2				*e*S	**Sn**	**15 49 14.6**	**+1.9**
JOD2	**Odawara 2**	**1.40**	**262**	⇑P	**Pn**	**15 48 57.5**	**+0.6**
JAG	**Ashikaga**	**1.44**	**312**	⇑P	**Pn**	**15 48 56.8**	**-0.6**
MJAR	**Matsushiro Arr**	**2.35**	**298**	P	**Pn**	**15 49 10.3**	**+0.5**
	92nm,0.3s,baz=99,slow=14,SNR=1037						
MJAR				LR	LR	15 50 16.3	
	comp=Z,4μm,20.4s,baz=80,slow=45						
MJAR	**Matsushiro Arr**	**2.35**	**298**	P	**Pn**	**15 49 10.3**	**+0.5**
MJAR	**Matsushiro Arr**	**2.35**	**298**	P	**Pn**	**15 49 10.4**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,92nm,0.3s						
MAJO	**Matsushiro**	**2.35**	**298**	*e*P	**Pn**	**15 49 11.6**	**+1.8**
MAJO	**Matsushiro**	**2.35**	**298**	*e*P	**Pn**	**15 49 11.6**	**+1.8**
MAT	**Matsushiro**	**2.35**	**298**	P	**Pn**	**15 49 11.5**	**+1.7**
MAT				S	**Sn**	**15 49 33.7**	**-3.7**
ERM	**Erimo**	**6.79**	**15**	*e*Pn	**Pn**	**15 50 07.7**	**-3.1**
	comp=Z,49nm,0.4s						
ERM	**Erimo**	**6.79**	**15**	*d i*P	**Pn**	**15 50 07.8**	**-3.0**
ERM	**Erimo**	**6.79**	**15**	Pn	**Pn**	**15 50 07.0**	**-3.8**
	comp=Z,622nm,0.5s,SNR=15						
CBIJ	**Chichi jima**	**8.44**	**171**	P	**Pn**	**15 50 30.1**	**-3.4**
	comp=Z,45nm,0.3s,baz=88,slow=23,SNR=20						
CBIJ				S	**Sn**	**15 51 59.1**	**-8.2**
	baz=288,slow=20						
CBIJ	**Chichi jima**	**8.44**	**171**	P	**Pn**	**15 50 30.1**	**-3.4**
CBIJ				S	**Sn**	**15 51 59.1**	**-8.2**
JNU	**Nakatsue**	**8.53**	**257**	*e*P	**Pn**	**15 50 38.1**	**+3.4**
	comp=Z,17nm,1.0s						
ASAJ	**Asahikawa**	**8.74**	**9**	P	**Pn**	**15 50 34.3**	**-3.3**
	comp=Z,8.2nm,0.3s,baz=227,slow=9.8,SNR=50						
ASAJ				S	**Sn**	**15 52 11.5**	**-3.2**
	comp=Z,1.5nm,0.3s,baz=72,slow=20,SNR=4.4						
ASAJ				LR	LR	15 55 04.9	
	comp=Z,452nm,20.2s,baz=181,slow=44						
ASAJ	**Asahikawa**	**8.74**	**9**	*e*Pn	**Pn**	**15 50 33.8**	**-3.7**
	comp=Z,12nm,0.6s						
ASAJ				S	**Sn**	**15 52 11.5**	**-3.2**
ASAJ	**Asahikawa**	**8.74**	**9**	P	**Pn**	**15 50 34.3**	**-3.3**
ASAJ				S	**Sn**	**15 52 11.5**	**-3.2**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**9.40**	**23**	*c i*P	**Pn**	**15 50 43.9**	**-2.6**
YUK				pmax	pmax		
	comp=N,96nm,0.4s						
YUK				pmax	pmax		
	comp=E,65nm,0.4s						
YUK				pmax	pmax		
	comp=Z,118nm,0.5s						
VLA	**Vladivostok**	**10.28**	**321**	*e*P	**Pn**	**15 50 59.8**	**+1.2**
KSRS	**Korea Array**	**10.55**	**285**	P	**Pn**	**15 51 03.0**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=98,slow=13,SNR=28						
KSRS				LR	LR	15 55 12.4	
	comp=Z,1μm,20.8s,baz=119,slow=38						
KSRS	**Korea Array**	**10.55**	**285**	P	**Pn**	**15 51 03.0**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,1μm,20.8s						
KSAR	**Wonju Array Be**	**10.58**	**284**	P	**Pn**	**15 51 03.0**	**+0.3**
KSAR	**Wonju Array Be**	**10.58**	**284**	P	**Pn**	**15 51 03.0**	**+0.3**
USRK	**Ussuriysk Arra**	**11.02**	**325**	P	**Pn**	**15 51 10.1**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=141,slow=12,SNR=13						
USRK				LR	LR	15 55 07.0	
	comp=Z,689nm,19.7s,baz=304,slow=36						
YSS	**Yuzh-Sakhalins**	**11.56**	**7**	*e*P	**Pn**	**15 51 12.6**	**-3.5**
	comp=Z,38nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.56**	**7**	*e*P	**Pn**	**15 51 14.5**	**-1.6**
YSS				pmax	pmax		
	comp=N,50nm,0.9s						
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s						
MDJ	**Mudanjiang**	**12.52**	**320**	P	**Pn**	**15 51 29.5**	**+0.4**
MDJ				S	**Sn**	**15 53 46.3**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,13nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,360nm,4.7s						
MDJ				LR	LR		
	comp=N,560nm,33.9s						
MDJ				LR	LR		
	comp=E,400nm,22.9s						
MDJ				LR	LR		
	comp=Z,660nm,31.6s						
HABR	**Khabarovsk**	**13.67**	**344**	*e*P	**Pn**	**15 51 42.5**	**-2.3**
HABR				*e*S	**Sn**	**15 54 13.2**	**-1.8**
HABR				pmax	pmax		
	comp=E,45nm,2.3s						
HABR				pmax	pmax		
	comp=Z,45nm,1.7s						
HABR				pmax	pmax		
	comp=N,54nm,2.3s						
JOW	**Kunigami**	**13.74**	**235**	LR	LR	15 56 51.9	
	comp=N,378nm,20.8s,baz=10,slow=37						
CN2	**Changchun**	**14.44**	**310**	*e*P	**Pn**	**15 51 57.0**	**+1.7**
CN2				*e*pP		15 52 07.0	
CN2				*e*sP	sP	15 52 16.0	-1.4
CN2				*e*S	**Sn**	**15 54 35.5**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,19.0s						
CN2				LR	LR		
	comp=E,600nm,19.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
SNY	**Shenyang**	**14.86**	**300**	⇓P	**Pn**	**15 52 05.3**	**+4.5**
SNY				S	Sn	15 55 11.0	+27
SNY				pmax	pmax		
	comp=Z,24nm,1.2s						
SNY				LR	LR		
	comp=N,380nm,12.6s						
SNY				LR	LR		
	comp=E,590nm,20.7s						
SNY				LR	LR		
	comp=Z,710nm,20.4s						
DL2	**Dalian**	**15.65**	**288**	P	**Pn**	**15 52 12.5**	**+1.4**
DL2				pmax	pmax		
	comp=Z,30nm,0.6s						
DL2				pmax	pmax		
	comp=Z,110nm,4.3s						
DL2				LR	LR		
	comp=E,450nm,23.7s						
DL2				LR	LR		
	comp=Z,500nm,23.1s						
NJ2	**Nanjing**	**18.55**	**266**	*e*P	**Pn**	**15 52 47.0**	**-0.3**
NJ2				pP	pP	15 52 59.3	+2.0
NJ2				PP		15 53 02.3	
NJ2				S	**S**	**15 56 08.0**	**-7.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				LR	LR		
	comp=N,420nm,10.7s						
NJ2				LR	LR		
	comp=E,500nm,11.5s						
NJ2				LR	LR		
	comp=Z,430nm,18.0s						
BJI	**Beijing**	**19.96**	**291**	P	**Pn**	**15 53 01.0**	**-3.1**
BJI				S	**S**	**15 56 41.3**	**-2.9**
BJI				pmax	pmax		
	comp=Z,46nm,1.3s						
BJI				pmax	pmax		
	comp=Z,170nm,5.2s						
BJI				LR	LR		
	comp=N,290nm,14.6s						
BJI				LR	LR		
	comp=E,390nm,21.7s						
BJT	**Baijiatuau**	**19.97**	**290**	*e*P	**Pn**	**15 52 59.6**	**-4.5**
	comp=E,61nm,0.7s						
BJT	**Baijiatuau**	**19.97**	**290**	*e*P	**Pn**	**15 52 59.6**	**-4.5**
BJT				pmax	pmax		
	comp=Z,61nm,0.7s						
HIA	**Hailar**	**20.68**	**318**	P	**P**	**15 53 07.4**	**-2.4**
	comp=Z,16nm,1.1s						
HIA	**Hailar**	**20.68**	**318**	P	**P**	**15 53 07.4**	**-2.4**
HIA				pmax	pmax		
	comp=Z,16nm,1.1s						
PETK	**Petropavlovsk-**	**21.29**	**29**	P	**P**	**15 53 18.8**	**+2.4**
	comp=Z,9.7nm,1.0s,mb4.1,baz=184,slow=13,SNR=3.0						
PETK	**Petropavlovsk-**	**21.29**	**29**	P	**P**	**15 53 18.8**	**+2.4**
PETK	**Petropavlovsk-**	**21.29**	**29**	P	**P**	**15 53 18.8**	**+2.5**
PETK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.1						
TPUB	**Ta-pu**	**21.30**	**241**	*e*P	**P**	**15 53 14.6**	**-2.1**
WHN	**Wuhan**	**22.68**	**265**	P	**P**	**15 53 29.3**	**-2.0**
WHN				pmax	pmax		
	comp=Z,63nm,0.6s,mb5.2						
WHN				LR	LR		
	comp=N,1μm,15.9s,MS4.7						
WHN				LR	LR		
	comp=E,2μm,14.0s,MS4.7						
WHN				LR	LR		
	comp=Z,1μm,15.9s,MS4.5						
HHC	**Hu-ho-hao-te**	**23.54**	**292**	*e*P	**P**	**15 53 38.0**	**-1.9**
HHC				pP		15 53 52.5	
HHC				PP		15 54 11.5	
HHC				PcP	PcP	15 57 25.0	+0.8
HHC				S	**S**	**15 57 43.0**	**-7.5**
HHC				SS		15 58 34.0	
HHC				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.6						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
HHC				LR	LR		
	comp=N,300nm,12.2s,MS4.1						
HHC				LR	LR		
	comp=E,280nm,14.1s,MS4.1						
HHC				LR	LR		
	comp=Z,200nm,16.1s,MS3.7						
CLNS	**Chul'man**	**23.92**	**338**	*e*P	**P**	**15 53 44.0**	**+0.7**
CLNS				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.5						
CLNS				pmax	pmax		
	comp=N,19nm,1.2s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.1s						
XAN	**Xi'an**	**26.16**	**276**	P	**P**	**15 54 02.5**	**-1.4**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
XAN				pmax	pmax		
	comp=Z,24nm,4.5s						
ENH	**Enshi**	**26.73**	**268**	*e*P	**P**	**15 54 07.0**	**-2.1**
	comp=Z,64nm,0.9s,mb5.2						
YAK	**Yakutsk**	**27.49**	**349**	*e*P	**P**	**15 54 14.4**	**-1.0**
	comp=Z,50nm,1.0s,mb5.0						
YAK	**Yakutsk**	**27.49**	**349**	*e*P	**P**	**15 54 14.5**	**-1.0**
YAK				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.6						
YAK				pmax	pmax		
	comp=N,22nm,1.5s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
SONM	**Songino Array**	**28.27**	**307**	P	**P**	**15 54 22.2**	**-0.4**
	comp=E,3.8nm,0.6s,mb4.2,baz=111,slow=9.4,SNR=41						
SONM				LR	LR	16 05 57.8	
	comp=E,276nm,20.2s,MS3.9,baz=104,slow=37						
SONM	**Songino Array**	**28.27**	**307**	P	**P**	**15 54 22.2**	**-0.4**
SONM	**Songino Array**	**28.27**	**307**	P	**P**	**15 54 22.2**	**-0.4**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,277nm,20.2s						
SEY	**Seymchan**	**28.42**	**11**	*e*P	**P**	**15 54 24.8**	**+1.0**
BOD	**Bodaibo**	**28.60**	**330**	⇓*i*P	**P**	**15 54 24.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
FX1	**Attu Island--F**	**28.68**	**43**	LR	LR	16 07 15.9	
	comp=Z,165nm,18.1s,MS3.7,baz=64,slow=39						
LZH	**Lanzhou**	**29.86**	**282**	*e*P	**P**	**15 54 36.0**	**-0.9**
LZH				pP	pP	15 54 50.5	+1.6
LZH				PP	PP	15 55 34.3	-10
LZH				*e*S	**S**	**15 59 26.3**	**-4.5**
LZH				*e*SS	SS	16 01 03.5	-35
LZH				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.2						
LZH				pmax	pmax		
	comp=Z,180nm,5.8s						
LZH				LR	LR		
	comp=N,360nm,15.2s,MS4.5						
LZH				LR	LR		
	comp=E,730nm,16.0s,MS4.5						
LZH				LR	LR		
	comp=Z,790nm,17.0s,MS4.4						
GYA	**Guiyang**	**30.49**	**262**	⇑*i*P	**P**	**15 54 42.0**	**-0.5**
GYA				pP	pP	15 54 56.5	+2.0
GYA				PP	PP	15 55 42.8	-9.0
GYA				S	**S**	**15 59 36.5**	**-4.3**
GYA				PcS	PcS	16 01 24.8	0.0
GYA				ScS	ScS	16 05 12.0	-4.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,630nm,16.5s,MS4.5						
GYA				LR	LR		
	comp=E,520nm,17.3s,MS4.5						
GYA				LR	LR		
	comp=Z,620nm,16.6s,MS4.3						
ZAK	**Zakamensk**	**30.87**	**311**	*e*P	**P**	**15 54 45.1**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
CD2	**Chengdu**	**31.20**	**272**	P	**P**	**15 54 47.5**	**-1.3**
CD2				pP	pP	15 55 02.5	+1.8
CD2				PP	PP	15 55 51.5	-8.2
CD2				S	**S**	**15 59 45.5**	**-6.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.1						
CD2				pmax	pmax		
	comp=Z,100nm,4.8s						
CD2				LR	LR		
	comp=N,570nm,16.8s,MS4.6						
CD2				LR	LR		
	comp=E,980nm,18.0s,MS4.6						
CD2				LR	LR		
	comp=Z,1μm,18.0s,MS4.6						
GTA	**Gaotai**	**32.57**	**289**	*e*P	**P**	**15 55 00.5**	**-0.2**
GTA				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
KMI	**Kunming**	**34.25**	**263**	P	**P**	**15 55 15.0**	**-0.5**
KMI				pP	pP	15 55 30.8	+3.3
KMI				PP	PP	15 56 32.8	-0.8
KMI				S	**S**	**16 00 35.0**	**-4.3**
KMI				SS	SS	16 02 45.0	-24
KMI				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
KMI				pmax	pmax		
	comp=Z,150nm,4.3s						
KMI				LR	LR		
	comp=N,240nm,15.5s,MS4.4						
KMI				LR	LR		
	comp=E,480nm,15.8s,MS4.4						
KMI				LR	LR		
	comp=Z,500nm,14.8s,MS4.4						
BILL	**Bilibino**	**35.66**	**16**	*e*P	**P**	**15 55 26.8**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.5						
BILL	**Bilibino**	**35.66**	**16**	⇓*e*P	**P**	**15 55 27.2**	**0.0**
BILL						15 56 43.7	
BILL				pmax	pmax		
	comp=Z,16nm,2.5s,mb4.5						
BILL				MLR	MLR		
	comp=Z,200nm,22.0s,MS3.8						
CHTO	**Chiang Mai**	**40.43**	**257**	*e*P	**P**	**15 56 07.0**	**-0.9**
	comp=Z,4.4nm,0.9s,mb4.2						
CHTO	**Chiang Mai**	**40.43**	**257**	*e*P	**P**	**15 56 07.0**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
CM31	**Chiang Mai Arr**	**40.63**	**257**	*e*P	**P**	**15 56 06.7**	**-2.8**
	comp=Z,1.8nm,0.5s,mb4.0						
CMAR	**Chiang Mai Arr**	**40.63**	**257**	P	**P**	**15 56 09.1**	**-0.4**
	comp=Z,2.1nm,0.7s,mb3.9,baz=50,slow=7.6,SNR=18						
CMAR				PcP	PcP	15 58 11.8	+0.9
	comp=Z,1.3nm,1.0s,baz=44,slow=2.7,SNR=5.1						
CMAR				LR	LR	16 14 41.0	
	comp=Z,244nm,19.6s,MS4.1,baz=264,slow=39						
CMAR	**Chiang Mai Arr**	**40.63**	**257**	P	**P**	**15 56 09.1**	**-0.4**
CMAR				PcP	PcP	15 58 11.8	+0.9
CMAR	**Chiang Mai Arr**	**40.63**	**257**	P	**P**	**15 56 09.1**	**-0.4**
CMAR						15 58 11.8	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,244nm,19.6s						
WMQ	**Urumqi**	**41.11**	**298**	P	**P**	**15 56 13.8**	**+0.6**
WMQ				pP	pP	15 56 29.0	+3.5
WMQ				sP	sP	15 56 36.3	+5.5
WMQ				PP	PP	15 57 52.3	+3.8
WMQ				S	**S**	**16 02 21.3**	**-1.7**
WMQ				ScS	ScS	16 06 10.5	-3.1
WMQ				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.1						
WMQ				pmax	pmax		
	comp=Z,160nm,5.0s						
WMQ				LR	LR		
	comp=N,180nm,30.0s						
WMQ				LR	LR		
	comp=E,190nm,21.6s						
WMQ				LR	LR		
	comp=Z,230nm,23.0s						
LSA	**Lhasa**	**41.87**	**277**	P	**P**	**15 56 21.3**	**+1.7**
LSA	**Lhasa**	**41.87**	**277**	*e*P	**P**	**15 56 20.3**	**+0.7**
	comp=Z,22nm,0.8s,mb4.8						
LSA	**Lhasa**	**41.87**	**277**	*e*P	**P**	**15 56 20.3**	**+0.7**
LSA				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.8						
ZAA0	**Zalesovo Array**	**42.61**	**314**	*e*P	**P**	**15 56 24.7**	**-0.5**
ZALV	**Zalesovo Beam**	**42.61**	**314**	P	**P**	**15 56 25.4**	**+0.1**
	comp=Z,9.5nm,0.6s,mb4.7,baz=89,slow=7.2,SNR=57						
ZALV				PcP	PcP	15 58 16.6	-0.1
	comp=Z,1.3nm,0.5s,baz=64,slow=3.4,SNR=3.8						
ZALV				LR	LR	16 14 10.3	
	comp=Z,65nm,21.6s,MS3.5,baz=72,slow=36						
ZALV	**Zalesovo Beam**	**42.61**	**314**	P	**P**	**15 56 25.4**	**+0.1**
ZALV				PcP	PcP	15 58 16.6	-0.1
ZALV	**Zalesovo Beam**	**42.61**	**314**	P	**P**	**15 56 25.4**	**+0.1**
ZALV						15 58 16.6	
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
ZALV				MLR	MLR		
	comp=Z,65nm,21.6s,MS3.5						
NVS	**Novosibirsk**	**43.56**	**315**	*e*P	**P**	**15 56 31.3**	**-1.7**
NVS				*e*S	**S**	**16 02 55.2**	**-3.6**
NVS				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=E,19nm,1.1s						
NVS				smax			
	comp=E,48nm,4.0s						
KSM	**Kuching**	**44.11**	**227**	*e*P	**P**	**15 56 36.7**	**-1.2**
	comp=E,3.4nm,0.4s,mb4.4			

comp=E,208nm,22.0s,MS4.0,baz=102,slow=37
MKAR Makanchi Array 44.53 303 P **P 15 56 41.0 +0.1**
MKAR Makanchi Array 44.53 303 P **P 15 56 41.1 +0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR MLR MLR
comp=Z,208nm,22.0s
TAPN Taplejung 45.56 275 *e*P **P 15 56 49.4 +0.1**
comp=Z,22nm,0.3s,mb5.5
TAPN Taplejung 45.56 275 *e*P **P 15 56 49.4 +0.1**
comp=Z,22nm,0.3s,mb5.6
ODAN Odare 46.02 275 *e*P **P 15 56 52.7 -0.3**
comp=Z,22nm,0.6s,mb5.2
ODAN Odare 46.02 275 *e*P **P 15 56 52.7 -0.3**
comp=Z,22nm,0.6s,mb5.3
KURK Kurchatov 46.51 309 P **P 15 56 56.6 +0.2**
comp=Z,12nm,0.5s,mb5.1,baz=87,slow=8.0,SNR=52
KURK Kurchatov 46.51 309 *e*P **P 15 56 56.0 -0.5**
comp=Z,25nm,0.8s,mb5.2
KURK Kurchatov 46.51 309 *ce*P **P 15 56 56.3 -0.2**
KURK pmax pmax
comp=Z,47nm,1.2s,mb5.3
KURK Kurchatov 46.51 309 P **P 15 56 56.5 0.0**
comp=Z,211nm,0.6s,SNR=17
RAMN Ramite 46.62 275 *e*P **P 15 56 57.5 -0.2**
comp=Z,65nm,0.7s,mb5.7
RAMN Ramite 46.62 275 *e*P **P 15 56 57.5 -0.2**
comp=Z,65nm,0.7s,mb5.7
JIRN Jiri 46.67 276 *e*P **P 15 56 58.5 +0.5**
comp=Z,21nm,0.7s,mb5.2
JIRN Jiri 46.67 276 *e*P **P 15 56 58.5 +0.5**
comp=Z,21nm,0.7s,mb5.2
GUN Gumba 46.82 277 *e*P **P 15 56 59.7 +0.5**
comp=Z,66nm,0.7s,mb5.7
GUN Gumba 46.82 277 *e*P **P 15 56 59.7 +0.5**
comp=Z,66nm,0.7s,mb5.7
PKI Pulchoki 47.34 277 *e*P **P 15 57 03.2 -0.1**
comp=Z,45nm,1.0s,mb5.4
PKI Pulchoki 47.34 277 *e*P **P 15 57 03.2 -0.1**
comp=Z,45nm,1.0s,mb5.3
PKI Pulchoki 47.34 277 *e*P **P 15 57 03.2 -0.1**
KKN Kakani 47.35 277 *e*P **P 15 57 03.5 +0.1**
comp=Z,85nm,1.0s,mb5.6
KKN Kakani 47.35 277 *e*P **P 15 57 03.5 +0.1**
comp=Z,85nm,1.0s,mb5.6
KKN Kakani 47.35 277 *e*P **P 15 57 03.5 +0.1**
DMN Daman 47.57 277 *e*P **P 15 57 05.0 -0.1**
comp=Z,27nm,0.8s,mb5.3
DMN Daman 47.57 277 *e*P **P 15 57 05.0 -0.1**
comp=Z,27nm,0.8s,mb5.3
GKN Gorkha 47.79 277 *e*P **P 15 57 06.9 +0.1**
comp=Z,73nm,0.7s,mb5.8
GKN Gorkha 47.79 277 *e*P **P 15 57 06.9 +0.1**
comp=Z,73nm,0.6s,mb5.9
HNR Honiara 48.19 154 LR LR 16 12 46.1
comp=Z,156nm,21.9s,MS4.0,baz=330,slow=30
DANN Dangsing 48.36 278 *e*P **P 15 57 11.9 +0.7**
comp=Z,185nm,0.8s
DANN Dangsing 48.36 278 *e*P **P 15 57 11.9 +0.7**
comp=Z,185nm,0.8s
KDAK Kodiak Island 48.60 41 P **P 15 57 13.7 +1.1**
comp=Z,7.8nm,0.7s,mb4.8,baz=36,slow=7.8,SNR=4.2
KDAK LR LR 16 18 06.6
comp=Z,162nm,18.7s,MS4.0,baz=265,slow=36
KDAK Kodiak Island 48.60 41 P **P 15 57 13.7 +1.1**
KDAK Kodiak Island 48.60 41 P **P 15 57 13.7 +1.1**
KDAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KDAK MLR MLR
comp=Z,163nm,18.7s,MS4.0
KOLN Koldanda 48.72 278 *e*P **P 15 57 14.2 +0.2**
comp=Z,35nm,0.8s,mb5.5
KOLN Koldanda 48.72 278 *e*P **P 15 57 14.2 +0.2**
comp=Z,35nm,0.8s,mb5.4
COEN Coen 49.21 177 *e*P **P 15 57 17.9 +0.3**
COEN Coen 49.21 177 *e*P **P 15 57 17.6 0.0**
comp=Z,44nm,0.8s,mb5.5
COLD Coldfoot 49.76 28 *e*P **P 15 57 21.9 +0.6**
TKM2 Tokmak 2 49.94 299 P **P 15 57 24.2 +1.1**
SNR=24
TKM2 P 15 57 24.2
SNR=24
TKM2 Tokmak 2 49.94 299 *e*P **P 15 57 23.8 +0.8**
comp=Z,14nm,0.5s,mb5.3
TKM2 Tokmak 2 49.94 299 *i*P **P 15 57 24.1 +1.1**
PMR Palmer 50.18 36 *e*P **P 15 57 25.2 +0.6**
comp=Z,1.9nm,0.6s,mb4.3
PMR Palmer 50.18 36 *e*P **P 15 57 25.2 +0.6**
PMR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KZA Kyzart 50.41 298 P **P 15 57 28.4 +1.8**
SNR=15
KZA P 15 57 28.4
SNR=15
KBK Karagaybulak 50.47 299 P **P 15 57 27.9 +0.8**
SNR=24
KBK P 15 57 27.9
SNR=24
CHMS Chumysh 50.52 300 P **P 15 57 30.4 +3.0**
SNR=8.1
CHMS P 15 57 30.4
SNR=8.1
KSH Kashi 50.59 295 P **P 15 57 32.0 +4.0**
KSH pP pP 15 57 47.0 +6.4
KSH sP sP 15 57 54.5 +8.7
KSH PcP PcP 15 58 48.5 +3.3
KSH PP PP 15 59 29.5 +5.5
KSH ScP ScP 16 02 37.3 -0.3
KSH PcS PcS 16 02 44.5 +2.0
KSH S **S** **16 04 42.8 +3.5**
KSH sS sS 16 05 09.8 +10
KSH ScS ScS 16 07 14.3 -0.8
KSH SS SS 16 08 15.5 +1.9
KSH pmax pmax
comp=Z,13nm,0.8s,mb4.9
KSH pmax pmax
comp=Z,110nm,5.8s
KSH LR LR
comp=N,110nm,5.9s
KSH LR LR
comp=E,130nm,5.2s
KSH LR LR
comp=Z,170nm,6.0s
USP Ospenovka 50.63 300 P **P 15 57 28.7 +0.4**
SNR=15
USP P 15 57 28.7
SNR=15
COLA College 50.67 32 *e*P **P 15 57 28.9 +0.7**
comp=Z,5.1nm,0.8s,mb4.5
COLA College 50.67 32 *e*P **P 15 57 28.9 +0.7**
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AAK Ala-Archa 50.80 299 P **P 15 57 30.0 +0.5**
SNR=11
AAK P 15 57 30.0
SNR=11
AAK Ala-Archa 50.80 299 *e*P **P 15 57 29.4 -0.1**
comp=Z,38nm,0.7s,mb5.4
AAK Ala-Archa 50.80 299 *d*iP **P 15 57 30.0 +0.5**
ILAR Eielson Array 51.08 32 P **P 15 57 31.8 +0.4**
comp=Z,3.1nm,0.7s,mb4.3,baz=264,slow=5.7,SNR=40
ILAR Eielson Array 51.08 32 P **P 15 57 31.8 +0.4**
ILAR Eielson Array 51.08 32 P **P 15 57 31.8 +0.5**
ILAR pmax pmax
comp=Z,3.0nm,0.7s
EKS2 Erkin-Say 51.30 300 P **P 15 57 36.4 +3.1**
SNR=6.2
EKS2 P 15 57 36.4
SNR=6.2
EKS2 Erkin-Say 51.30 300 P **P 15 57 32.4 -0.9**
comp=Z,8.3nm,0.8s,mb4.7
EKS2 Erkin-Say 51.30 300 P **P 15 57 32.4 -0.9**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRVK Borovoye 51.31 313 *e*P **P 15 57 32.4 -0.8**
comp=Z,9.0nm,0.8s,mb4.8
BRVK Borovoye 51.31 313 *de*P **P 15 57 33.5 +0.3**
BRVK pmax pmax
comp=Z,16nm,1.2s,mb4.8
AML Almayashu 51.50 299 P **P 15 57 36.3 +1.4**
SNR=40
AML P 15 57 36.3
SNR=40
KKAR Karatay Array 53.48 301 *e*P **P 15 57 49.1 -0.3**
comp=Z,16nm,0.9s,mb4.9
KKAR Karatay Array 53.48 301 *e*P **P 15 57 49.1 -0.3**
KKAR pmax pmax
comp=Z,15nm,0.9s,mb4.9
FITZ Fitzroy Crossi 55.18 198 *e*P **P 15 58 02.2 +0.2**
FITZ Fitzroy Crossi 55.18 198 *e*P **P 15 58 01.6 -0.3**
comp=Z,16nm,1.1s,mb5.0
WRAB Tennant Creek 55.44 187 *e*P **P 15 58 02.7 -1.0**
comp=Z,23nm,1.1s,mb5.1
WRAB Tennant Creek 55.44 187 *e*P **P 15 58 02.7 -1.1**
WRAB pmax pmax
comp=Z,23nm,1.1s,mb5.1
WRAB Tennant Creek 55.44 187 P **P 15 58 03.2 -0.6**
comp=Z,107nm,1.3s,mb5.7,SNR=23
WB2 Warramunga Arr 55.45 187 *e*P **P 15 58 02.8 -1.1**
WRA Warramunga Arr 55.45 187 P **P 15 58 03.0 -0.8**
comp=Z,15nm,0.9s,mb5.0,baz=5.9,slow=7.8,SNR=114
WRA Warramunga Arr 55.45 187 P **P 15 58 03.0 -0.8**
WRA Warramunga Arr 55.45 187 P **P 15 58 03.1 -0.7**
WRA pmax pmax
comp=Z,15nm,0.9s
CTA Charters Tower 55.50 174 P **P 15 58 03.9 -0.3**
comp=Z,4.4nm,0.6s,mb4.2,baz=23,slow=9.3,SNR=3.6
CTA Charters Tower 55.50 174 P **P 15 58 03.9 -0.3**
CTA Charters Tower 55.50 174 P **P 15 58 03.9 -0.3**
CTA pmax pmax
comp=Z,1.0nm,0.6s
SVE Sverdlovsk 55.99 319 *e*P **P 15 58 08.4 +1.0**
SVE pmax pmax
comp=Z,17nm,0.8s,mb5.1
INK Inuvik 56.01 27 P **P 15 58 08.2 +0.9**
comp=Z,2.8nm,0.6s,mb4.5,baz=306,slow=6.0,SNR=16
INK pP pP 15 58 19.9 -0.1
comp=Z,2.5nm,0.6s,baz=301,slow=6.9,SNR=6.2
INK LR LR 16 26 49.8
comp=Z,65nm,18.4s,MS3.8,baz=231,slow=41
INK Inuvik 56.01 27 *e*P **P 15 58 07.8 +0.5**
comp=Z,3.1nm,0.7s,mb4.5
INK pP pP 15 58 19.9 -0.1
INK Inuvik 56.01 27 P **P 15 58 08.3 +1.0**
INK *PP pP 15 58 19.9 -0.1
INK pmax pmax
comp=Z,3.0nm,0.6s
INK MLR MLR
comp=Z,65nm,18.4s
ARU Arti 57.20 319 *e*P **P 15 58 15.4 -0.6**
comp=Z,32nm,0.9s,mb5.3
ARU Arti 57.20 319 *c i*P **P 15 58 15.8 -0.2**
ARU 15 59 08.6
ARU S **S** **16 06 09.7 +1.6**
ARU SS SS 16 09 58.9 +1.9
ARU pmax pmax
comp=Z,24nm,0.8s,mb5.3
ARU Arti 57.20 319 P **P 15 58 15.4 -0.6**
comp=Z,196nm,0.6s,SNR=10
KBL Kabul 57.51 292 *e*P **P 15 58 17.9 -0.7**
comp=Z,8.1nm,0.8s,mb4.8
KBL Kabul 57.51 292 *e*P **P 15 58 17.9 -0.6**
KBL pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
HYB Hyderabad 57.66 269 *i*P **P 15 58 18.5 -1.3**
ABKAR Akbulak array 58.56 311 *e*P **P 15 58 25.3 -0.3**
comp=Z,9.3nm,0.5s,mb5.1
AS31 Alice Springs 59.17 187 *e*P **P 15 58 29.4 -0.7**
ASAR Alice Springs 59.18 187 P **P 15 58 29.4 -0.6**
comp=Z,2.3nm,0.8s,mb4.2,baz=358,slow=5.4,SNR=38
ASAR Alice Springs 59.18 187 P **P 15 58 29.4 -0.6**
ASAR Alice Springs 59.18 187 P **P 15 58 29.5 -0.6**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
MBWA Marble Bar 59.76 203 *e*P **P 15 58 33.7 -0.4**
MBWA Marble Bar 59.76 203 *e*P **P 15 58 33.8 -0.3**
DLBC Dease Lake 60.17 37 LR LR 16 22 59.3
comp=Z,82nm,20.8s,MS3.9,baz=258,slow=34
POO Poona 60.93 273 *e*PKP **P 15 58 41.0 -1.4**
EIDS Eidsvold 61.29 169 *e*P **P 15 58 50.4 +5.9**
SPITS Spitsbergen Ar 61.95 349 P **P 15 58 47.9 -0.6**
comp=Z,4.5nm,0.7s,mb4.7,baz=77,slow=18,SNR=5.1
SPITS Spitsbergen Ar 61.95 349 P **P 15 58 47.9 -0.5**
SPITS Spitsbergen Ar 61.95 349 P **P 15 58 47.9 -0.5**
SPITS pmax pmax
comp=Z,5.0nm,0.7s
RMQ Roma 62.08 172 *e*P **P 15 58 50.4 +0.6**
comp=Z,11nm,1.1s,mb4.9
DZM Mont Dzumac 62.18 153 *e*LR LR 16 17 14.3
comp=Z,201nm,28.7s
RES Resolute Bay 64.24 14 P **P 15 59 03.7 +0.1**
comp=Z,5.5nm,0.5s,mb4.8
RES Resolute Bay 64.24 14 *e*P **P 15 59 03.1 -0.5**
comp=Z,19nm,1.2s,mb5.0
RES Resolute Bay 64.24 14 P **P 15 59 03.7 +0.1**
RES pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
KEV Kevo 64.72 339 *e*P **P 15 59 06.3 -0.5**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KEV Kevo 64.72 339 *ep* **P 15 59 06.3 -0.5**
comp=Z,0.8nm,0.3s,mb4.2
KLMR Klimovskoe 64.81 328 *e*P **P 15 59 00.0 -7.5**
KLMR pmax pmax
comp=Z,34nm,1.6s,mb5.1
MEEK Meekatharra 65.23 202 *e*P **P 15 59 10.9 +0.3**
ARCES ARCESS Array B 65.28 340 P **P 15 59 10.5 +0.1**
comp=Z,2.9nm,0.5s,mb4.6,baz=56,slow=7.9,SNR=19
ARCES LR LR 16 30 40.0
comp=Z,192nm,21.9s,MS4.2,baz=264,slow=39
ARCES ARCESS Array B 65.28 340 P **P 15 59 10.5 0.0**
ARCES ARCESS Array B 65.28 340 P **P 15 59 10.5 +0.1**
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES MLR MLR
comp=Z,192nm,21.9s
YKA Yellowknife Ar 65.41 30 P **P 15 59 11.5 +0.2**
comp=Z,1.1nm,0.7s,mb4.0,baz=301,slow=6.6,SNR=16
YKA pP pP 15 59 23.4 -0.9
comp=Z,1.9nm,0.8s,baz=300,slow=6.4,SNR=11
YKA LR LR 16 28 13.0
comp=Z,8.2nm,18.4s,MS3.0,baz=95,slow=36
YKA Yellowknife Ar 65.41 30 P **P 15 59 11.6 +0.2**
YKA pP pP 15 59 23.4 -0.9
YKA Yellowknife Ar 65.41 30 P **P 15 59 11.6 +0.2**
YKA *PP pP 15 59 23.4 -0.9
FORT Forrest 66.98 192 *e*P **P 15 59 21.1 -0.7**
comp=Z,17nm,0.5s,mb5.3
STKA Stephens Creek 67.00 179 P **P 15 59 21.6 -0.3**
comp=Z,2.1nm,0.6s,mb4.4,baz=292,slow=23,SNR=6.8
STKA Stephens Creek 67.00 179 P **P 15 59 21.6 -0.3**
STKA Stephens Creek 67.00 179 P **P 15 59 21.6 -0.2**
STKA pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 67.10 332 *e*P **P 15 59 21.6 -0.6**
JOF pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
JOF Joensuu 67.10 332 *ep* **P 15 59 21.6 -0.6**
comp=Z,4.3nm,0.3s,mb5.0
DAG Danmarks Havn 67.28 355 *i*P **P 15 59 22.0 -1.2**
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
DAG Danmarks Havn 67.28 355 *i*P **P 15 59 22.0 -1.2**
comp=Z,4.0nm,0.8s,mb4.5
OBN Obninsk 69.04 323⇓*e*P **P 15 59 34.4 -0.1**
OBN *e* 16 02 04.5
OBN pmax pmax
comp=Z,40nm,2.5s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
KAF Kangasniemi 69.46 333 *e*P **P 15 59 35.6 -1.4**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KAF Kangasniemi 69.46 333 *ep* **P 15 59 35.6 -1.4**
comp=Z,3.5nm,0.4s,mb4.6
VSR Storozhevoye 69.77 319 *e*P **P 15 59 38.7 -0.4**
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
YNG Young 69.77 173 *e*P **P 15 59 39.3 +0.2**
FINES FINESS Array B 69.96 332 P **P 15 59 40.0 0.0**
comp=Z,6.7nm,0.5s,mb4.9,baz=57,slow=6.0,SNR=56
FINES pP pP 15 59 52.7 -0.4
comp=Z,5.9nm,0.8s,baz=101,slow=8.0,SNR=4.1
FINES LR LR 16 31 43.4
comp=Z,112nm,18.8s,MS4.1,baz=156,slow=37
FINES FINESS Array B 69.96 332 P **P 15 59 40.0 0.0**
FINES pP pP 15 59 52.7 -0.4
FINES FINESS Array B 69.96 332 P **P 15 59 40.0 0.0**
FINES *PP pP 15 59 52.7 -0.4
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES MLR MLR
comp=Z,112nm,18.8s
ZEI Tsey 71.41 310 *e*P **P 15 59 48.1 -1.1**
ZEI pmax pmax
comp=Z,11nm,1.0s,mb4.7
NWAO Narrogin (SRO) 71.53 201 P **P 15 59 48.8 -1.1**
NWAO Narrogin (SRO) 71.53 201 P **P 15 59 48.8 -1.1**
NWAO Narrogin (SRO) 71.53 201 P **P 15 59 48.8 -1.1**
KIV Kislovodsk 71.55 311 *e*P **P 15 59 50.4 +0.3**
comp=Z,25nm,0.8s,mb5.2
KIV Kislovodsk 71.55 311⇓*e*P **P 15 59 50.9 +0.9**
KIV *e*S S 16 09 01.9 -3.8
KIV pmax pmax
comp=Z,50nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
KIV Kislovodsk 71.55 311 P **P 15 59 50.2 +0.2**
comp=Z,246nm,0.7s,SNR=5.2
GNI Garni 72.23 307 *e*P **P 15 59 55.5 +1.2**
comp=Z,11nm,0.8s,mb4.8
GNI Garni 72.23 307 *e*P **P 15 59 55.5 +1.3**
GNI pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 72.24 360 *e*P **P 15 59 55.0 +1.2**
comp=Z,5.9nm,1.0s,mb4.5
SUMG Summit 72.24 360 *i*P **P 15 59 55.2 +1.5**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 72.24 360 *i*P **P 15 59 55.2 +1.5**
comp=Z,6.7nm,0.9s,mb4.6
IZAR Zarasai 73.45 328 *e*P **P 16 00 00.7 -0.4**
IZAR AMB AMB 16 00 02.0
comp=Z,4.6nm,0.6s,mb4.6
SCO Scoresbysund 73.61 354 *e*P **P 16 00 02.3 +0.5**
SCO pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SCO Scoresbysund 73.61 354 *i*P **P 16 00 02.3 +0.5**
comp=Z,2.4nm,0.7s,mb4.2
ISAL Salakas 73.62 327 *e*P **P 16 00 01.6 -0.5**
ISAL AMB AMB 16 00 03.2
comp=Z,8.2nm,0.6s,mb4.8
IIGN Ignalina 73.71 327 *e*P **P 16 00 02.1 -0.6**
SWMT Swartz Lake 73.77 43 *e*P **P 16 00 04.5 +1.4**
ANN Anapa 74.25 314 *e*P **P 16 00 11.6 +5.6**
ANN pmax pmax
comp=Z,82nm,1.9s,mb5.3
AKASG Malin Array Be 75.22 322 P **P 16 00 11.2 -0.3**
comp=Z,10nm,0.6s,mb5.0,baz=47,slow=6.0,SNR=40
AKASG LR LR 16 36 14.3
comp=Z,229nm,19.4s,MS4.5,baz=60,slow=38
AKASG Malin Array Be 75.22 322 P **P 16 00 11.2 -0.3**
AKASG Malin Array Be 75.22 322 P **P 16 00 11.2 -0.3**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG MLR MLR
comp=Z,229nm,19.4s
AKBB Malin Array Si 75.22 322 *e*P **P 16 00 10.9 -0.6**
AKBB Malin Array Si 75.22 322 *e*P **P 16 00 10.9 -0.6**
KIEV Kiev 75.23 322 *e*P **P 16 00 11.0 -0.6**
comp=Z,5.9nm,0.6s,mb4.7
KIEV Kiev 75.23 322 *d i*P **P 16 00 11.2 -0.4**
FFC Flin Flon 75.29 32 *e*P **P 16 00 11.8 -0.1**
comp=Z,7.0nm,1.1s,mb4.5
FFC Flin Flon 75.29 32 *ce*P **P 16 00 13.4 +1.5**
NB2 NORSAR Subarra 75.43 337 P **P 16 00 12.3 -0.2**
comp=Z,9.4nm,0.6s,mb4.9,baz=41,slow=5.9
NOA NORSAR Array B 75.43 337 P **P 16 00 12.3 -0.2**
comp=Z,10nm,0.7s,mb4.9,baz=40,slow=5.8,SNR=37
NOA LR LR 16 36 21.0
comp=Z,204nm,18.4s,MS4.5,baz=110,slow=38
NOA NORSAR Array B 75.43 337 P **P 16 00 12.3 -0.2**
NOA NORSAR Array B 75.43 337 P **P 16 00 12.3 -0.2**
NOA pmax pmax
comp=Z,10.0nm,0.7s
NOA MLR MLR
comp=Z,204nm,18.4s
HRY Holter Researc 75.44 43 *e*P **P 16 00 14.5 +1.6**
comp=Z,4.4nm,0.7s,mb4.5
LRM Limekiln Ridge 75.62 44 *e*P **P 16 00 15.3 +1.4**
comp=Z,54nm,0.8s,mb5.5
DLMT Dillon 75.81 44 *e*P **P 16 00 15.8 +0.8**
comp=Z,5.8nm,1.0s,mb4.5
MIB Mutribah 75.94 297 *e*P **P 16 00 15.4 -0.6**
MIB AMb AMB 16 00 16.1
comp=Z,27nm,0.8s,mb5.2
KBD Kabd 76.02 296 *e*P **P 16 00 16.0 -0.5**
RDF Al-Radifah 76.25 296 *e*P **P 16 00 18.0 +0.1**
RDF AMb AMB 16 00 18.9
comp=Z,69nm,0.7s,mb5.7
NAY Al-Naaiem 76.31 296 *e*P **P 16 00 17.6 -0.5**
NAY AMb AMB 16 00 18.3
comp=Z,20nm,0.9s,mb5.1
NVAR Mina Array Bea 76.33 53 P **P 16 00 20.0 +1.8**
comp=Z,1.2nm,0.7s,mb4.0,baz=298,slow=5.9,SNR=11
NVAR Mina Array Bea 76.33 53 P **P 16 00 20.0 +1.8**
BSD Bornholm Skovb 78.58 332 *i*P **P 16 00 29.9 -0.4**
BSD pmax pmax
comp=Z,13nm,0.8s,mb4.9
BSD Bornholm Skovb 78.58 332 *i*P **P 16 00 29.9 -0.4**
comp=Z,13nm,0.8s,mb4.9
KWP Kalwaria Pacla 79.10 324⇓P **P 16 00 34.3 +1.0**
KWP Kalwaria Pacla 79.10 324⇓*i*P **P 16 00 34.3 +1.0**
TESR 79.20 320⇓*i*P **P 16 00 34.3 +0.4**
BUR08 Bucovina Ar. S 79.21 322 *e*P **P 16 00 34.1 +0.2**
BURAR Bucovina Array 79.22 322⇓P **P 16 00 34.7 +0.7**
BURAR Bucovina Array 79.22 322⇓*i*P **P 16 00 34.7 +0.7**
BR131 Keskin Array S 79.50 311 *e*P **P 16 00 36.3 +0.5**
comp=Z,6.9nm,0.9s,mb4.6
BRTR Keskin Array B 79.50 311 P **P 16 00 35.3 -0.4**
comp=Z,6.2nm,0.9s,mb4.5,baz=129,slow=4.5,SNR=14
BRTR LR LR 16 40 42.7
comp=Z,54nm,20.1s,MS3.9,baz=181,slow=39
BRTR Keskin Array B 79.50 311 P **P 16 00 35.3 -0.4**
BRTR Keskin Array B 79.50 311 *ce*P **P 16 00 36.2 +0.5**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
VRI Vrincioaia 79.58 320⇓P **P 16 00 37.4 +1.4**
VRI Vrincioaia 79.58 320⇓*i*P **P 16 00 37.4 +1.4**
KOLS Kolonicke sedl 79.78 324 *e*P **P 16 00 38.2 +1.2**
KOLS pmax pmax
comp=Z,12nm,1.3s,mb4.7
KOLS Kolonicke sedl 79.78 324 *e*P **P 16 00 38.2 +1.2**
STHS Stebnicka Huta 79.94 325 *e*P **P 16 00 38.8 +0.9**
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
STHS Stebnicka Huta 79.94 325 *e*P **P 16 00 38.8 +0.9**
UZH Uzhgorod 79.98 324 *e*P **P 16 00 37.5 -0.6**
OJC Ojcow 80.05 326 *e*P **P 16 00 38.1 -0.4**
OJC Ojcow 80.05 326 *e*P **P 16 00 38.1 -0.4**
MSU Marysvale 80.17 50 *e*P **P 16 00 42.3 +3.0**
MSU Marysvale 80.17 50 *e*P **P 16 00 42.3 +2.9**
CRVS Cervenica-Dubn 80.19 324 *e*P **P 16 00 39.0 -0.3**
CRVS pmax pmax
comp=Z,11nm,1.5s,mb4.6
CRVS Cervenica-Dubn 80.19 324 *e*P **P 16 00 39.0 -0.3**
TRPA Tarpa 80.20 323⇑*i*P **P 16 00 40.0 +0.7**
MLR Muntele Rosu 80.25 320⇓P **P 16 00 41.3 +1.7**
MLR Muntele Rosu 80.25 320⇓*i*P **P 16 00 41.3 +1.7**
KECS Kecovo 80.95 324 *e*P **P 16 00 44.6 +1.3**
KECS pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
KECS Kecovo 80.95 324 *e*P **P 16 00 44.6 +1.3**
OKC Ostrava-Krasne 81.07 326 *e*P **P 16 00 44.1 +0.2**
OKC Ostrava-Krasne 81.07 326⇑*e*P **P 16 00 44.1 +0.2**
KSP Ksiaz 81.16 328 *e*P **P 16 00 44.8 +0.4**
KSP Ksiaz 81.16 328 *e*P **P 16 00 44.8 +0.4**
MORC Moravsky Berou 81.39 327⇑P **P 16 00 46.2 +0.6**
MORC Moravsky Berou 81.39 327⇑*i*P **P 16 00 46.2 +0.6**
DPC Dobruska-Polom 81.51 328⇑*i*P **P 16 00 46.9 +0.7**
DPC Dobruska-Polom 81.51 328⇑*i*P **P 16 00 46.9 +0.7**
UPC Upice 81.53 328⇑*i*P **P 16 00 46.8 +0.5**
UPC Upice 81.53 328⇑*i*P **P 16 00 46.8 +0.5**
PSZ Piszkesteto 81.63 324⇓P **P 16 00 48.1 +1.2**
PSZ Piszkesteto 81.63 324⇓*i*P **P 16 00 48.1 +1.2**
VYHS Vyhne 81.72 325 *e*P **P 16 00 48.0 +0.6**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VYHS Vyhne 81.72 325 *e*P **P 16 00 48.0 +0.6**
PVCC Panska Ves 82.13 329⇑*i*P **P 16 00 50.2 +0.7**
PVCC Panska Ves 82.13 329⇑*i*P **P 16 00 50.2 +0.7**
BRG Berggiesshubel 82.13 329 *i*P **P 16 00 49.6 0.0**
comp=Z,6.4nm,0.8s,mb4.6

BRG Berggiesshubel 82.13 329 *e*P **P 16 00 49.8 +0.3**
comp=Z,2.0nm,0.7s,mb4.2
BRG Berggiesshubel 82.13 329 *i* P **P 16 00 49.6 +0.1**
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VRAC Vranov 82.15 327 ⇑P **P 16 00 50.2 +0.6**
VRAC Vranov 82.15 327 ⇑*i*P **P 16 00 50.2 +0.6**
CLL Collm 82.19 330 *e*P **P 16 00 49.8 0.0**
comp=Z,7.0nm,0.8s,mb4.6
CLL Collm 82.19 330 ⇑*i*P **P 16 00 49.8 0.0**
CLL *e**PP pP 16 00 59.0 -4.1
CLL pmax pmax
comp=Z,13nm,0.8s,mb4.9
CLL Collm 82.19 330 ⇑*i*P **P 16 00 49.8 0.0**
comp=Z,13nm,0.8s,mb4.9
CLL *e*(pP) pP 16 00 59.0 -4.1
CLL L 16 40 00.0
comp=Z,100nm,19.1s
BZS Buzias 82.40 322 ⇑P **P 16 00 50.9 -0.1**
BZS Buzias 82.40 322 ⇑*i*P **P 16 00 50.9 -0.1**
PRU Pruhonice 82.55 328 ⇑*i*P **P 16 00 52.1 +0.4**
PRU Pruhonice 82.55 328 ⇑*i*P **P 16 00 52.1 +0.4**
CLZ Clausthal 82.83 332 *e*P **P 16 00 53.8 +0.7**
comp=Z,5.0nm,0.9s,mb4.5
CLZ Clausthal 82.83 332 *e*P **P 16 00 53.8 +0.7**
CLZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MOX Moxa 83.27 330 *e*P **P 16 00 55.7 +0.3**
comp=Z,2.0nm,0.7s,mb4.3
MOX Moxa 83.27 330 *e*P **P 16 00 55.7 +0.3**
MOX pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
PKSM Moragy 83.45 324 ⇑P **P 16 00 56.8 +0.4**
PKSM Moragy 83.45 324 ⇑*i*P **P 16 00 56.8 +0.4**
CONA Conrad Observa 83.50 326 ⇑*i*PcP **P 16 00 57.5 +0.8**
comp=Z,14nm,1.4s,mb4.8
CONA Conrad Observa 83.50 326 ⇑*i*P **P 16 00 57.5 +0.8**
comp=Z,14nm,1.4s,mb4.8
KHC Kasperske Hory 83.60 328 *e*P **P 16 00 56.8 -0.3**
comp=Z,3.8nm,0.8s,mb4.6
KHC Kasperske Hory 83.60 328 ⇑*i*P **P 16 00 57.5 +0.3**
KHC Kasperske Hory 83.60 328 ⇑*i*P **P 16 00 57.5 +0.3**
VTS Vitosha 83.66 319 ⇓P **P 16 00 58.7 +1.1**
VTS Vitosha 83.66 319 ⇓*i*P **P 16 00 58.7 +1.1**
ROTZ Rotzenmuhle 83.70 329 *e*P **P 16 00 58.4 +0.7**
comp=Z,3.0nm,0.7s,mb4.5
GEC2 GERESS Array S 83.77 328 *e*P **P 16 00 58.2 +0.2**
comp=Z,2.0nm,0.8s,mb4.3
GEC2 GERESS Array S 83.77 328 *e*P **P 16 00 58.2 +0.2**
GEC2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
GERES GERESS Array B 83.77 328 P **P 16 00 57.7 -0.3**
comp=Z,2.0nm,0.7s,mb4.4,baz=36,slow=5.4,SNR=19
GERES PP PP 16 04 09.4 -1.3
comp=Z,0.6nm,0.8s,baz=30,slow=3.2,SNR=3.8
GERES LR LR 16 40 26.1
comp=Z,81nm,20.6s,MS4.1,baz=301,slow=37
GERES GERESS Array B 83.77 328 P **P 16 00 57.7 -0.3**
GERES PP PP 16 04 09.4 -1.3
GERES GERESS Array B 83.77 328 P **P 16 00 57.7 -0.3**
GERES 16 04 09.4
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,81nm,20.6s
UBBA Unterbreizbach 83.78 331 *e*P **P 16 00 59.1 +1.1**
comp=Z,2.0nm,0.7s,mb4.4
WET Wettzell 83.89 329 *e*P **P 16 00 59.1 +0.4**
comp=Z,3.0nm,1.0s,mb4.4
WET Wettzell 83.89 329 *e*P **P 16 00 59.1 +0.4**
WET pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
PMOR Pomariorio Rese 84.03 113 *e*T 17 33 20.9
comp=Z,6.8nm,0.2s
GRF Grafenberg Arr 84.16 330 *e*P **P 16 01 00.8 +0.8**
comp=Z,8.0nm,0.8s,mb4.9
GRF Grafenberg Arr 84.16 330 *e*P **P 16 01 00.8 +0.8**
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
PPT2 Papeete2 84.41 116 *e*LR LR 16 27 39.2
comp=Z,198nm,25.5s
SOKA Soboth 84.80 326 ⇑*i*PcP **P 16 01 03.6 +0.2**
comp=Z,19nm,1.3s,mb5.0
SOKA Soboth 84.80 326 ⇑*i*P **P 16 01 03.6 +0.2**
comp=Z,19nm,1.3s,mb5.1
FUR Furstenfeldbru 85.33 329 *e*P **P 16 01 06.7 +0.8**
comp=Z,10.0nm,0.7s,mb5.0
FUR Furstenfeldbru 85.33 329 *e*P **P 16 01 06.7 +0.8**
FUR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MYKA Terra Mystica 85.47 327 ⇑*i*P **P 16 01 06.1 -0.6**
comp=Z,5.9nm,0.6s,mb4.9
MYKA Terra Mystica 85.47 327 ⇑*i*P **P 16 01 06.1 -0.6**
comp=Z,5.9nm,0.6s,mb4.9
VISS Visnje 85.55 325 *i* P **P 16 01 06.8 -0.3**
BOJS Bojanci 85.58 325 *i* P **P 16 01 07.0 -0.2**
STU Stuttgart 85.71 330 *e*P **P 16 01 08.0 +0.2**
comp=Z,8.0nm,0.7s,mb5.1
JAVS Javornik 85.84 326 *i* P **P 16 01 07.8 -0.7**
TAOE Nuku Hiva Isla 86.29 104 *e*LR LR 16 28 32.3
comp=Z,273nm,27.1s
GIVF Givet 86.32 333 *e*P **P 16 01 10.2 -0.6**
GIVF Givet 86.32 333 *e*P **P 16 01 10.2 -0.6**
GIVF Givet 86.32 333 *e*P **P 16 01 10.2 -0.6**
BFO Black Forest 86.41 330 *e*P **P 16 01 11.3 0.0**
comp=Z,4.0nm,0.7s,mb4.8
BFO Black Forest 86.41 330 *e*P **P 16 01 10.4 -0.9**
comp=Z,26nm,1.4s,mb5.3
BFO Black Forest 86.41 330 *e*P **P 16 01 11.3 0.0**
BFO pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
BAIF Baives 86.58 334 *e*P **P 16 01 11.7 -0.4**
comp=Z,7.6nm,0.9s,mb4.6
BAIF Baives 86.58 334 *e*P **P 16 01 11.7 -0.4**
comp=Z,7.6nm,0.9s,mb4.9
BAIF Baives 86.58 334 *e*P **P 16 01 11.7 -0.4**
BAIF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
CDF Champ du Feu 86.77 331 ⇑*i*P **P 16 01 12.8 -0.2**
comp=Z,21nm,0.9s,mb5.0
CDF Champ du Feu 86.77 331 ⇑*i*P **P 16 01 12.8 -0.2**
comp=Z,21nm,0.9s,mb5.4
CDF Champ du Feu 86.77 331 ⇑*i*P **P 16 01 12.8 -0.2**
CDF pmax pmax
comp=Z,21nm,0.9s,mb5.4
SCHQ Schefferville 86.97 16 P **P 16 01 14.4 +0.5**
comp=Z,3.1nm,0.9s,mb4.5,baz=8.2,slow=2.1,SNR=4.8
SCHQ LR LR 16 49 53.8
comp=Z,99nm,18.2s,MS4.2,baz=288,slow=42
SCHQ Schefferville 86.97 16 P **P 16 01 14.4 +0.5**
DAVOX Davos/Dischmat 87.00 329 P **P 16 01 13.8 -0.4**
comp=Z,1.5nm,0.6s,mb4.4,baz=339,slow=12,SNR=5.3
DAVOX Davos/Dischmat 87.00 329 P **P 16 01 13.8 -0.4**
DAVOX Davos/Dischmat 87.00 329 P **P 16 01 13.8 -0.4**
PAGF Fort de Pagny 87.25 332 ⇑*i*P **P 16 01 15.3 -0.1**
comp=Z,6.2nm,0.7s,mb4.7
PAGF Fort de Pagny 87.25 332 ⇑*i*P **P 16 01 15.3 -0.1**
comp=Z,6.2nm,0.7s,mb5.0
HINF Hinteralfeld 87.42 331 *e*P **P 16 01 15.4 -0.8**
comp=Z,3.7nm,0.7s,mb4.4
HINF Hinteralfeld 87.42 331 *e*P **P 16 01 15.4 -0.8**
comp=Z,3.7nm,0.7s,mb4.7
HINF Hinteralfeld 87.42 331 *e*P **P 16 01 15.4 -0.8**
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
HAU Haudompre 87.46 331 *e*P **P 16 01 15.6 -0.8**
comp=Z,8.3nm,0.7s,mb4.8
HAU *e*R
comp=Z,101nm,20.5s
HAU Haudompre 87.46 331 *e*P **P 16 01 15.6 -0.8**
comp=Z,8.3nm,0.7s,mb5.1
HAU Haudompre 87.46 331 *e*P **P 16 01 15.6 -0.8**
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
MEZF Maizieres J'vi 87.56 332 *e*P **P 16 01 16.7 -0.1**
MEZF Maizieres J'vi 87.56 332 *e*P **P 16 01 16.7 -0.1**
SFTF Sexfontaines 87.80 332 *e*P **P 16 01 17.8 -0.2**
comp=Z,25nm,0.9s,mb5.2
SFTF Sexfontaines 87.80 332 *e*P **P 16 01 17.8 -0.2**
comp=Z,25nm,0.9s,mb5.4
TBI Tubuai 88.17 120 *e*LR LR 16 29 25.0
comp=Z,153nm,27.5s
TBI *e*T 17 38 25.9
comp=Z,6.1nm,0.3s
CABF La Chapelle 88.70 331 *e*P **P 16 01 21.6 -0.7**
comp=Z,3.9nm,0.7s,mb4.6
CABF La Chapelle 88.70 331 *e*P **P 16 01 21.6 -0.7**
CABF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
FLN La Foliniere 89.32 336 *e*P **P 16 01 24.0 -1.2**
FLN *e*R
comp=Z,158nm,21.5s
FLN La Foliniere 89.32 336 *e*P **P 16 01 24.0 -1.2**
FLN La Foliniere 89.32 336 *e*P **P 16 01 24.0 -1.2**
LPL La Plagne 89.33 330 ⇑*i*P **P 16 01 25.2 -0.1**
LPL La Plagne 89.33 330 ⇑*i*P **P 16 01 25.2 -0.1**
LPL La Plagne 89.33 330 ⇑*i*P **P 16 01 25.2 -0.1**
LPG La Plagne 89.33 330 ⇑*i*P **P 16 01 25.4 +0.1**
comp=Z,11nm,0.8s,mb5.0
LPG La Plagne 89.33 330 ⇑*i*P **P 16 01 25.4 +0.1**
comp=Z,11nm,0.8s,mb5.2
LPG La Plagne 89.33 330 ⇑*i*P **P 16 01 25.4 +0.1**
LPG pmax pmax
comp=Z,11nm,0.8s,mb5.2
SSF Saint Saulge 89.33 332 *e*P **P 16 01 24.8 -0.5**
comp=Z,6.4nm,0.8s,mb4.7
SSF Saint Saulge 89.33 332 *e*P **P 16 01 24.8 -0.5**
comp=Z,6.4nm,0.8s,mb5.0
SSF Saint Saulge 89.33 332 *e*P **P 16 01 24.8 -0.5**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
LDF La Druitiere 89.34 335 *e*P **P 16 01 24.8 -0.5**
comp=Z,4.6nm,0.6s,mb4.7
LDF La Druitiere 89.34 335 *e*P **P 16 01 24.8 -0.5**
comp=Z,4.6nm,0.6s,mb5.0
LDF La Druitiere 89.34 335 *e*P **P 16 01 24.8 -0.5**
LDF pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
SMF Signal de Mont 89.55 332 *e*P **P 16 01 26.1 -0.2**
SMF Signal de Mont 89.55 332 *e*P **P 16 01 26.1 -0.2**
SMF Signal de Mont 89.55 332 *e*P **P 16 01 26.1 -0.2**
AVF Avril sur Loir 89.62 332 ⇑*i*P **P 16 01 26.2 -0.4**
comp=Z,20nm,0.8s,mb5.2
AVF Avril sur Loir 89.62 332 ⇑*i*P **P 16 01 26.2 -0.4**
comp=Z,20nm,0.8s,mb5.5
AVF Avril sur Loir 89.62 332 ⇑*i*P **P 16 01 26.2 -0.4**
AVF pmax pmax
comp=Z,20nm,0.8s,mb5.5
GRR Gorron 89.77 336 *e*P **P 16 01 26.4 -0.9**
GRR Gorron 89.77 336 *e*P **P 16 01 26.4 -0.9**
GRR Gorron 89.77 336 *e*P **P 16 01 26.4 -0.9**
MBDF Montbardon 89.95 329 ⇑*i*P **P 16 01 27.4 -0.8**
comp=Z,5.7nm,0.6s,mb4.8
MBDF Montbardon 89.95 329 ⇑*i*P **P 16 01 27.4 -0.8**
comp=Z,5.7nm,0.6s,mb5.1
MBDF Montbardon 89.95 329 ⇑*i*P **P 16 01 27.4 -0.8**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
BGF Bois d'Agland 90.00 332 *e*P **P 16 01 28.3 -0.1**
BGF Bois d'Agland 90.00 332 *e*P **P 16 01 28.3 -0.1**
BGF Bois d'Agland 90.00 332 *e*P **P 16 01 28.3 -0.1**
ORIF Oris-en-Rattie 90.16 330 *e*P **P 16 01 28.9 -0.3**
ORIF *e*R
comp=Z,126nm,18.2s
ORIF Oris-en-Rattie 90.16 330 *e*P **P 16 01 28.9 -0.3**
ORIF Oris-en-Rattie 90.16 330 *e*P **P 16 01 28.9 -0.3**
VIVF Saint-Julien-l 90.70 330 *e*P **P 16 01 31.4 -0.3**
comp=Z,33nm,1.2s,mb5.2
VIVF Saint-Julien-l 90.70 330 *e*P **P 16 01 31.4 -0.3**
comp=Z,33nm,1.2s,mb5.5
VIVF Saint-Julien-l 90.70 330 *e*P **P 16 01 31.4 -0.3**
VIVF pmax pmax
comp=Z,33nm,1.2s,mb5.5
MFF Saint Martin d 91.06 334 ⇑*i*P **P 16 01 33.5 +0.2**
comp=Z,22nm,1.0s,mb5.1
MFF Saint Martin d 91.06 334 ⇑*i*P **P 16 01 33.5 +0.2**
comp=Z,22nm,1.0s,mb5.4
MFF Saint Martin d 91.06 334 ⇑*i*P **P 16 01 33.5 +0.2**
MFF pmax pmax
comp=Z,22nm,1.0s,mb5.4
LMR La Mourre 91.19 328 *e*P **P 16 01 33.3 -0.7**
LMR La Mourre 91.19 328 *e*P **P 16 01 33.3 -0.7**
LMR La Mourre 91.19 328 *e*P **P 16 01 33.3 -0.7**
TXAR Lajitas Array 91.48 52 P **P 16 01 36.6 +1.0**
comp=Z,0.7nm,0.6s,mb4.2,baz=287,slow=3.0,SNR=11
TXAR pP pP 16 01 48.5 -0.6
comp=Z,1.3nm,0.8s,baz=293,slow=2.9,SNR=7.9
TXAR LR LR 16 37 56.2
comp=Z,71nm,19.5s,MS4.1,baz=0.0,slow=32
TXAR Lajitas Array 91.48 52 P **P 16 01 36.6 +1.0**
TXAR pP pP 16 01 48.5 -0.6
TXAR Lajitas Array 91.48 52 P **P 16 01 36.7 +1.1**
TXAR *PP pP 16 01 48.5 -0.5
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR MLR MLR
comp=Z,71nm,19.5s
RJF Les Rejaudoux 91.56 333 *e*P **P 16 01 35.8 +0.1**
comp=Z,12nm,0.8s,mb5.0
RJF *e*R
comp=Z,146nm,23.0s
RJF Les Rejaudoux 91.56 333 *e*P **P 16 01 35.8 +0.1**
comp=Z,12nm,0.8s,mb5.3
RJF Les Rejaudoux 91.56 333 *e*P **P 16 01 35.8 +0.1**
RJF pmax pmax
comp=Z,12nm,0.8s,mb5.3
CAF Calviac 91.67 332 ⇑*i*P **P 16 01 36.7 +0.5**
comp=Z,12nm,0.9s,mb4.9
CAF Calviac 91.67 332 ⇑*i*P **P 16 01 36.7 +0.5**
comp=Z,12nm,0.9s,mb5.2
CAF Calviac 91.67 332 ⇑*i*P **P 16 01 36.7 +0.5**
CAF pmax pmax
comp=Z,12nm,0.9s,mb5.2
LFF La Frestale 92.16 333 *e*P **P 16 01 38.7 +0.3**
comp=Z,15nm,0.7s,mb5.1
LFF La Frestale 92.16 333 *e*P **P 16 01 38.7 +0.3**
comp=Z,15nm,0.7s,mb5.4
LFF La Frestale 92.16 333 *e*P **P 16 01 38.7 +0.3**
LFF pmax pmax
comp=Z,15nm,0.7s,mb5.4
KEST Kesra 95.95 322 LR LR 16 48 41.8
comp=Z,44nm,20.8s,MS3.9,baz=212,slow=38
TORD Torodi Ar. Bea 118.06 314 PKP PKPdf 16 07 15.8 -0.5
comp=Z,0.9nm,0.6s,baz=38,slow=2.0,SNR=5.3
TORD Torodi Ar. Bea 118.06 314 PKP PKPdf 16 07 15.8 -0.5
VNA2 Neumayer--Watz 140.68 196 *e* PKPdf 16 07 54.6 -2.7
baz=103,slow=2.2
VNA2 *e* 16 07 58.6
VNA3 Neumayer Olymp 140.93 195 *e* PKPdf 16 07 55.1 -2.6
VNA3 *e* 16 07 59.4
SAML Samuel 145.71 45 *e*PKP PKPdf 16 08 07.9 0.0
LPAZ La Paz 147.91 61 PKPbc PKPbc 16 08 15.9 +1.4
comp=Z,2.9nm,0.7s,baz=341,slow=1.9,SNR=12
LPAZ La Paz 147.91 61 *e*PKPbc PKPbc 16 08 15.6 +1.1

ISCJB ***30*** *16:53:55.0±0.7, 51°.44N±0°.04×16°.11E±0°.03, h0km, Error ellipse: s-maj=5.4km s-min=2.8km az=10.4*
CSEM ***30*** *16:53:56.0±0.4, 51°.49N×16°.07E, h2km, ML3.2/7, Error ellipse: s-maj=7.2km s-min=3.7km az=1.0*
WAR ***30*** *16:53:57.4, 51°.49N×16°.09E, ML2.5, Mining Induced*
PRU ***30*** *16:53:57.2, 51°.45N×16°.11E, h0km*
VIE ***30*** *16:53:58.2±0.4, 51°.32N×16°.12E, h0km, mb2.3/4, ML2.7/4, Error ellipse: s-maj=2.5km s-min=2.3km az=173.0 66 km WNW of Wroclaw Suspected Mining induced.*
ISC 30 16:53:55.9±0.7, 51°.51N±0°.04×16°.08E±0°.03, h0km, n34, σ0=81/65, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pg**	**16 54 09.3**	**+0.4**
KSP				*e*Sg	**Sg**	**16 54 18.1**	**+0.5**
KSP	**Ksiaz**	**0.68**	**169**	*i* Pg	**Pg**	**16 54 09.4**	**+0.5**
KSP				*i* Sg	**Sg**	**16 54 18.1**	**+0.4**
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pg**	**16 54 09.3**	**+0.4**
KSP				*e*Sg	**Sg**	**16 54 18.1**	**+0.4**
UPC	**Upice**	**1.00**	**183**	*e*PG	**Pg**	**16 54 15.3**	**+0.2**
UPC	**Upice**	**1.00**	**183**	Pg	**Pg**	**16 54 15.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.17**	**172**	*e*PG	**Pg**	**16 54 18.2**	**-0.1**
DPC				*e*SG	**Sg**	**16 54 32.8**	**-0.6**
DPC	**Dobruska-Polom**	**1.17**	**172**	Pg	**Pg**	**16 54 18.2**	**-0.1**
DPC				Sg	**Sg**	**16 54 32.8**	**-0.6**
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pg**	**16 54 22.1**	**0.0**
PVCC				*e*SG	**Sg**	**16 54 40.0**	**+0.1**
PVCC	**Panska Ves**	**1.37**	**225**	Pg	**Pg**	**16 54 22.1**	**0.0**
PVCC				Sg	**Sg**	**16 54 40.0**	**+0.1**
BRG	**Berggiesshubel**	**1.49**	**246**	PN	**Pn**	**16 54 23.7**	**-0.1**
BRG				PG	**Pg**	**16 54 24.8**	**+0.4**
BRG				SG	**Sg**	**16 54 45.0**	**+1.3**
PRU	**Pruhonice**	**1.81**	**213**	*e*PN	**Pn**	**16 54 28.0**	**-0.2**
PRU				*e*PG	**Pg**	**16 54 29.7**	**-0.8**
PRU				*e*SG	**Sg**	**16 54 53.6**	**-0.4**
PRU	**Pruhonice**	**1.81**	**213**	Pn	**Pn**	**16 54 28.0**	**-0.2**
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**16 54 30.0**	**0.0**
CLL				*e*Pg	**Pg**	**16 54 32.0**	**-1.0**
CLL				*e*		16 54 37.0	
CLL				*i* Sg	**Sg**	**16 54 58.3**	**+0.2**
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*PG	**Pg**	**16 54 35.9**	**-0.7**
OKC				*e*SG	**Sg**	**16 55 02.3**	**-1.9**
OKC	**Ostrava-Krasne**	**2.13**	**141**	Pg	**Pg**	**16 54 35.9**	**-0.7**
OKC				Sg	**Sg**	**16 55 02.3**	**-1.9**
TREC	**Trest**	**2.25**	**190**	*e*PN	**Pn**	**16 54 35.5**	**+1.2**
TREC				*e*PG	**Pg**	**16 54 38.0**	**-1.0**
TREC	**Trest**	**2.25**	**190**	Pn	**Pn**	**16 54 35.5**	**+1.2**
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	**Pn**	**16 54 40.4**	**+0.8**
NKC				*e*PG	**Pg**	**16 54 45.4**	**-0.9**
NKC				*e*SG	**Sg**	**16 55 21.7**	**+1.3**
NKC	**Novy Kostel**	**2.63**	**242**	Pn	**Pn**	**16 54 40.4**	**+0.8**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**16 54 46.9**	**-0.4**
OJC				*e*Sg	**Sg**	**16 55 22.0**	**-0.1**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**16 54 46.9**	**-0.4**
OJC				*e*Sg	**Sg**	**16 55 22.0**	**-0.1**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**16 54 43.0**	**+0.2**
KHC				*e*PG	**Pg**	**16 54 49.1**	**-1.8**
KHC				*e*SN	**Sn**	**16 55 18.0**	**0.0**
KHC				*e*SG	**Sg**	**16 55 27.3**	**-0.8**
KHC	**Kasperske Hory**	**2.87**	**215**	Pn	**Pn**	**16 54 43.0**	**+0.2**
KHC	**Kasperske Hory**	**2.87**	**215**	Pg	**Pg**	**16 54 49.1**	**-1.8**
KHC				Sn	**Sn**	**16 55 18.0**	**0.0**
KHC				Sg	**Sg**	**16 55 27.3**	**-0.8**
VYHS	**Vyhne**	**3.50**	**148**	*e*PN	**Pn**	**16 54 51.0**	**-0.5**
VYHS				*e*		16 55 02.7	
VYHS	**Vyhne**	**3.50**	**148**	*e*Pn	**Pn**	**16 54 51.1**	**-0.4**
VYHS				*e*Sg	**Sg**	**16 55 50.7**	**+2.4**
CONA	**Conrad Observa**	**3.59**	**182**	⇓*i*Pn	**Pn**	**16 54 52.4**	**-0.3**
CONA				⇓*i*Sg	**Sg**	**16 55 50.8**	**-0.3**
CONA	**Conrad Observa**	**3.59**	**182**	Pn	**Pn**	**16 54 52.4**	**-0.3**
CONA				Sg	**Sg**	**16 55 50.8**	**-0.3**
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**16 54 56.9**	**+0.6**
MOA				⇓*i*Sg	**Sg**	**16 56 00.0**	**+0.6**
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	**16 54 56.9**	**+0.6**
MOA				Sg	**Sg**	**16 56 00.0**	**+0.6**
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*PN	**Pn**	**16 54 57.4**	**+0.3**
STHS				*e*		16 55 11.6	
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*Pn	**Pn**	**16 54 57.4**	**+0.3**
STHS				*e*Sg	**Sg**	**16 56 02.6**	**+1.3**
KECS	**Kecovo**	**4.15**	**135**	*e*SG	**Sg**	**16 56 09.6**	**+0.4**
KECS	**Kecovo**	**4.15**	**135**	*e*Sg	**Sg**	**16 56 09.6**	**+0.4**

IDC ***30*** *16:59:56.4±5.2, 8°.27N×93°.76E, h66km±44km, mb3.7/19, mb1 3.9/20, mb1mx3.8/27, mbtmp3.7/20, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/36, Error ellipse: s-maj=34.3km s-min=13.6km az=52.0*
ISCJB ***30*** *16:59:59.4±3.2, 8°.3N±0°.1×93°.9E±0°.1, h110km±27km, mb4.0/28, Error ellipse: s-maj=28.2km s-min=9.9km az=136.8*
NEIC ***30*** *17:00:01.3±1.7, 8°.37N×93°.95E, h110km±14km, mb4.4/11, Error ellipse: s-maj=15.3km s-min=5.5km az=47.0*
ISC 30 17:00:01.7±2.7, 8°.4N±0°.1×94°.0E±0°.1, h115km±23km, n84, σ0=61/75, mb4.0/28, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.14**	**25**	*e*P	**Pn**	**17 02 38.7**	**+1.0**
	5.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.14**	**25**	P	**Pn**	**17 02 37.1**	**-0.5**
	0.2nm,0.3s,baz=215,slow=14,SNR=29						
CMAR	**Chiang Mai Arr**	**11.14**	**25**	P	**Pn**	**17 02 37.1**	**-0.5**
CHTO	**Chiang Mai**	**11.46**	**24**	P	**Pn**	**17 02 40.5**	**-1.4**
	2.8nm,0.6s						
ODAN	**Odare**	**19.43**	**342**	*e*P	**P**	**17 04 19.2**	**+0.1**
ODAN	**Odare**	**19.43**	**342**	*e*P	**P**	**17 04 19.2**	**+0.1**
RAMN	**Ramite**	**19.77**	**340**	*e*P	**P**	**17 04 23.8**	**+1.0**
	14nm,0.3s						
RAMN	**Ramite**	**19.77**	**340**	*e*P	**P**	**17 04 23.8**	**+1.0**
	14nm,0.3s						
TAPN	**Taplejung**	**19.80**	**343**	*e*P	**P**	**17 04 22.8**	**-0.3**
	47nm,0.8s						
TAPN	**Taplejung**	**19.80**	**343**	*e*P	**P**	**17 04 22.8**	**-0.3**
	47nm,0.8s						
JIRN	**Jiri**	**20.56**	**340**	*e*P	**P**	**17 04 31.5**	**+0.2**
JIRN	**Jiri**	**20.56**	**340**	*e*P	**P**	**17 04 31.5**	**+0.2**
PKI	**Pulchoki**	**20.75**	**338**	*e*P	**P**	**17 04 34.6**	**+1.2**
PKI	**Pulchoki**	**20.75**	**338**	*e*P	**P**	**17 04 34.6**	**+1.2**
GUN	**Gumba**	**20.89**	**340**	*e*P	**P**	**17 04 34.3**	**-0.6**
	9.1nm,0.5s						
GUN	**Gumba**	**20.89**	**340**	*e*P	**P**	**17 04 34.3**	**-0.6**
	9.1nm,0.5s						
DMN	**Daman**	**20.90**	**337**	*e*P	**P**	**17 04 35.3**	**+0.3**
DMN	**Daman**	**20.90**	**337**	*e*P	**P**	**17 04 35.3**	**+0.3**
KKN	**Kakani**	**21.00**	**338**	*e*P	**P**	**17 04 36.2**	**+0.2**
KKN	**Kakani**	**21.00**	**338**	*e*P	**P**	**17 04 36.2**	**+0.2**
LSA	**Lhasa**	**21.39**	**353**	*e*P	**P**	**17 04 39.5**	**-0.7**
	6.6nm,0.3s,mb4.4						
GKN	**Gorkha**	**21.43**	**337**	*e*P	**P**	**17 04 41.1**	**+0.4**
	8.5nm,0.2s,mb4.7						
GKN	**Gorkha**	**21.43**	**337**	*e*P	**P**	**17 04 41.1**	**+0.4**
	8.5nm,0.2s,mb4.7						
KOLN	**Koldanda**	**21.65**	**334**	*e*P	**P**	**17 04 43.3**	**+0.3**
	3.3nm,0.4s,mb4.0						
KOLN	**Koldanda**	**21.65**	**334**	*e*P	**P**	**17 04 43.3**	**+0.3**
	3.3nm,0.4s,mb4.0						
DANN	**Dangsing**	**22.09**	**335**	*e*P	**P**	**17 04 48.5**	**+0.8**
	7.2nm,0.4s,mb4.4						
DANN	**Dangsing**	**22.09**	**335**	*e*P	**P**	**17 04 48.5**	**+0.8**
	7.2nm,0.4s,mb4.4						
MK31	**Makanchi Array**	**39.58**	**347**	*e*P	**P**	**17 07 21.2**	**-0.4**
MKAR	**Makanchi Array**	**39.58**	**347**	P	**P**	**17 07 21.3**	**-0.3**
	0.7nm,0.6s,mb3.7,baz=166,slow=8.2,SNR=15						
MKAR				PcP	PcP	17 09 27.6	+0.9
	0.6nm,0.8s,baz=194,slow=3.1,SNR=3.8						
MKAR	**Makanchi Array**	**39.58**	**347**	P	**P**	**17 07 21.3**	**-0.3**
MKAR				PcP	PcP	17 09 27.6	+0.9
SONM	**Songino Array**	**40.73**	**13**	P	**P**	**17 07 32.0**	**+0.9**
	0.4nm,0.3s,mb3.7,baz=203,slow=7.9,SNR=14						
SONM				PcP	PcP	17 09 31.3	+0.9
	0.2nm,0.5s,baz=196,slow=6.4,SNR=3.3						
SONM				LR	LR	17 25 23.5	
	comp=Z,71nm,18.9s,baz=302,slow=37						
SONM	**Songino Array**	**40.73**	**13**	P	**P**	**17 07 32.0**	**+0.9**
SONM				PcP	PcP	17 09 31.3	+0.9
KURK	**Kurchatov**	**44.10**	**346**	P	**P**	**17 07 57.9**	**-0.5**
	0.6nm,0.5s,mb3.6,baz=165,slow=7.1,SNR=11						
KURK				PcP	PcP	17 09 42.4	+0.8
	0.7nm,0.5s,baz=163,slow=2.9,SNR=9.6						
KURK	**Kurchatov**	**44.10**	**346**	*e*P	**P**	**17 07 58.8**	**+0.5**
KURK				PcP	PcP	17 09 42.4	+0.8
ZAA0	**Zalesovo Array**	**46.06**	**353**	*e*P	**P**	**17 08 13.9**	**+0.1**
ZALV	**Zalesovo Beam**	**46.06**	**353**	P	**P**	**17 08 14.0**	**+0.2**
	2.2nm,0.4s,mb4.3,baz=177,slow=7.7,SNR=14						
ZALV	**Zalesovo Beam**	**46.06**	**353**	P	**P**	**17 08 14.0**	**+0.2**
RDF	**Al-Radifah**	**48.12**	**301**	*e*P	**P**	**17 08 30.7**	**+0.4**
RDF				AMb	AMB	17 08 31.2	
	comp=Z,17nm,0.4s						
NAY	**Al-Naaiem**	**48.47**	**302**	*e*P	**P**	**17 08 32.5**	**-0.5**
NAY				AMb	AMB	17 08 33.8	
	comp=Z,6.9nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**48.48**	**341**	P	**P**	**17 08 32.1**	**-0.5**
	comp=Z,0.1nm,0.4s,mb3.0,baz=107,slow=1.

comp=Z,0.3nm,0.3s,baz=313,slow=2.9,SNR=10
WRA Warramunga Arr 48.68 126 P **P 17 08 34.8 +0.2**
WRA PcP PcP 17 09 58.8 +0.5
WRAB Tennant Creek 48.69 126 *eP* **P 17 08 34.7 0.0**
comp=Z,1.3nm,0.5s,mb4.1
WB2 Warramunga Arr 48.69 126 *eP* **P 17 08 34.8 0.0**
MJAR Matsushiro Arr 48.97 48 PcP PcP 17 09 59.3 +0.2
comp=Z,2.5nm,0.9s,baz=245,slow=3.7,SNR=4.9
MJAR Matsushiro Arr 48.97 48 PcP PcP 17 09 59.3 +0.2
ABKAR Akbulak array 49.73 331 *eP* **P 17 08 41.8 -0.3**
comp=Z,0.7nm,0.4s,mb3.9
AS31 Alice Springs 50.36 130 *eP* **P 17 08 47.5 +0.2**
ASAR Alice Springs 50.36 130 P **P 17 08 47.1 -0.2**
comp=Z,0.6nm,0.5s,mb3.8,baz=303,slow=7.8,SNR=22
ASAR PcP PcP 17 10 05.6 +1.2
comp=Z,0.5nm,0.6s,baz=310,slow=3.2,SNR=8.6
ASAR Alice Springs 50.36 130 P **P 17 08 47.1 -0.2**
ASAR PcP PcP 17 10 05.6 +1.2
AKTO Aktyubinsk 51.44 331 P **P 17 08 53.9 -1.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=225,slow=7.1,SNR=3.5
AKTO PcP PcP 17 10 08.6 +0.7
comp=Z,0.4nm,0.5s,baz=243,slow=1.0,SNR=4.4
AKTO Aktyubinsk 51.44 331 P **P 17 08 53.9 -1.1**
AKTO PcP PcP 17 10 08.6 +0.7
BRTR Keskin Array B 61.98 311 P **P 17 10 08.5 -1.3**
comp=Z,1.0nm,0.6s,mb4.0,baz=133,slow=8.0,SNR=6.3
BRTR Keskin Array B 61.98 311 P **P 17 10 08.5 -1.3**
JOF Joensuu 70.34 334 *ep* **P 17 11 02.0 -0.7**
comp=Z,0.7nm,0.4s,mb3.8
FINES FINESS Array B 72.20 332 P **P 17 11 13.6 -0.3**
comp=Z,1.0nm,0.3s,mb4.1,baz=105,slow=7.3,SNR=13
FINES FINESS Array B 72.20 332 P **P 17 11 13.6 -0.3**
KAF Kangasniemi 72.28 333 *ep* **P 17 11 08.1 -6.3**
comp=Z,0.8nm,0.3s,mb4.0
KEV Kevo 74.33 341 *ep* pP 17 11 57.6 +2.5
comp=Z,0.9nm,0.3s
ARCES ARCESS Array B 74.75 340 P **P 17 11 28.5 -0.3**
comp=Z,7.3nm,1.1s,mb4.3,baz=103,slow=6.8,SNR=6.1
ARCES ARCESS Array B 74.75 340 P **P 17 11 28.5 -0.3**
GERES GERESS Array B 77.35 318 P **P 17 11 43.5 -0.4**
comp=Z,1.5nm,0.6s,mb3.9,baz=96,slow=5.3,SNR=16
GERES GERESS Array B 77.35 318 P **P 17 11 43.5 -0.4**
NOA NORSAR Array B 79.23 331 P **P 17 11 53.6 -0.4**
comp=Z,0.3nm,0.3s,mb3.6,baz=95,slow=4.5,SNR=3.6
NOA NORSAR Array B 79.23 331 P **P 17 11 53.6 -0.4**
SPITS Spitsbergen Ar 79.33 348 P **P 17 11 54.7 +0.4**
comp=Z,1.5nm,0.4s,mb4.1,baz=100,slow=13,SNR=12
SPITS Spitsbergen Ar 79.33 348 P **P 17 11 54.7 +0.4**
DAVOX Davos/Dischmat 79.92 316 P **P 17 11 58.5 +0.5**
comp=Z,2.1nm,0.4s,mb4.3,baz=125,slow=4.5,SNR=4.4
DAVOX Davos/Dischmat 79.92 316 P **P 17 11 58.5 +0.5**
KEST Kesra 80.83 305 P **P 17 12 03.5 +0.3**
comp=Z,1.5nm,0.9s,mb3.8,baz=174,slow=9.2,SNR=3.3
KEST Kesra 80.83 305 P **P 17 12 03.5 +0.3**
TORD Torodi Ar. Bea 90.32 283 P **P 17 12 50.4 -0.2**
comp=Z,0.7nm,0.6s,mb4.0,baz=71,slow=3.2,SNR=5.0
TORD Torodi Ar. Bea 90.32 283 P **P 17 12 50.4 -0.2**
ESDC Sonseca Array 90.78 310 P **P 17 12 53.0 +0.8**
comp=Z,0.6nm,0.4s,mb4.0,baz=63,slow=4.3,SNR=3.9
ESDC Sonseca Array 90.78 310 P **P 17 12 53.0 +0.8**
ILAR Eielson Array 94.36 22 P **P 17 13 08.9 +0.7**
comp=Z,0.2nm,0.6s,mb3.6,baz=302,slow=5.3,SNR=3.9
ILAR Eielson Array 94.36 22 P **P 17 13 08.9 +0.7**
PDAR Pinedale Array 124.78 21 PKP PKPdf 17 18 49.2 +0.9
comp=Z,0.4nm,0.7s,baz=77,slow=4.1,SNR=2.8
PDAR Pinedale Array 124.78 21 PKP PKPdf 17 18 49.2 +0.9
PLCA Paso Flores 144.94 201 PKP PKPdf 17 19 26.8 +1.1
comp=Z,4.2nm,0.7s,baz=198,slow=6.6,SNR=9.8
PLCA Paso Flores 144.94 201 PKP PKPdf 17 19 26.8 +1.1
CPUP Villa Florida 147.41 233 PKPbc PKPbc 17 19 33.4 +0.4
comp=Z,0.4nm,0.3s,baz=186,slow=8.1,SNR=3.3
CPUP Villa Florida 147.41 233 PKPbc PKPbc 17 19 33.4 +0.4

*DJA **30** 17:27:40,0.20N×94.08E,h335km,mb4.9/8*
*BJI **30** 17:28:12.4,0.51N×96.69E,h37km,mB5.0/5,mb4.6/11, Ms4.2/1,Ms7 4.0/1*
*IDC **30** 17:28:14.6±1.3,1.15N×96.99E,h0km,mb4.3/10, mb1 4.4/11,mb1mx4.1/22,mbtmp4.3/11,ML4.2/1,Error ellipse: s-maj=46.5km s-min=16.5km az=61.0*
*NEIC **30** 17:28:20.6±2.3,1.23N×97.18E,h35km±18km,mb4.5/22, Error ellipse: s-maj=20.7km s-min=7.1km az=47.0*
*ISCJB **30** 17:28:21.5±1.5,1.28N±0.08×97.24E±0.09,h59km±11km, mb4.4/30,Error ellipse: s-maj=19.1km s-min=7.6km az=141.6*
ISC 30 17:28:22.9±1.4,1.28N±0.08×97.24E±0.10,h53km±11km, n79,σ0.92/77,mb4.4/30,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.97**	**358**	P	**Pn**	**17 28 54.6**	**+0.7**
TSI	**Tuntungan** 6μm319nm,1.1s	**2.57**	**31**	P	**Pn**	**17 29 02.2**	**+0.1**
PPI	**Padang Panjang** 2μm99nm,0.6s	**3.59**	**119**	P	**Pn**	**17 29 15.8**	**-0.3**
BKNI	**Bangkinang** 2μm148nm,0.8s	**3.91**	**104**	P	**Pn**	**17 29 21.2**	**+0.8**
IPM	**Ipoh**	**4.94**	**50**	P	**Pn**	**17 29 35.3**	**+0.8**
IPM	**Ipoh** 20nm,0.6s	**4.94**	**50**	*e*Pn	**Pn**	**17 29 34.7**	**+0.1**
IPM	**Ipoh** 34nm,0.8s	**4.94**	**50**	P	**Pn**	**17 29 35.2**	**+0.6**
KULM	**Kulim**	**5.24**	**40**	P	**Pn**	**17 29 38.4**	**-0.3**
KULM	**Kulim** 55nm,1.1s	**5.24**	**40**	*e*Pn	**Pn**	**17 29 37.9**	**-0.8**
KULM	**Kulim** 37nm,0.9s	**5.24**	**40**	P	**Pn**	**17 29 38.0**	**-0.7**
KGM	**Kluang**	**6.12**	**83**	P	**Pn**	**17 29 51.3**	**+0.6**
TPI	**Tanjungpandan** 1μm67nm,0.8s	**11.15**	**111**	P	**Pn**	**17 30 45.9**	**-14**
CM31	**Chiang Mai Arr** 3.0nm,0.8s	**17.16**	**5**	*e*Pn	**Pn**	**17 32 17.2**	**-1.8**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=197,slow=11,SNR=22	**17.16**	**5**	P	**Pn**	**17 32 17.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**17.16**	**5**	P	**Pn**	**17 32 17.1**	**-2.0**
CHTO	**Chiang Mai** 3.1nm,0.9s	**17.51**	**5**	*e*Pn	**Pn**	**17 32 20.6**	**-2.7**
KKM	**Kota Kinabalu** 5.0nm,0.7s	**19.51**	**75**	*e*P	**Pn**	**17 32 46.6**	**-1.1**
KMI	**Kunming**	**24.30**	**12**	P	**P**	**17 33 36.8**	**+1.4**
KMI	comp=Z,17nm,1.3s			pmax	pmax		
KMI	comp=Z,300nm,5.3s			pmax	pmax		
KMI	comp=N,280nm,14.7s			LR	LR		
KMI	comp=E,320nm,13.9s			LR	LR		
KMI	comp=Z,360nm,14.7s			LR	LR		
SHL	**Shillong**	**24.70**	**348**	*e*PKP	**P**	**17 33 43.0**	**+3.9**
ODAN	**Odare**	**27.14**	**340**	*e*P	**P**	**17 34 01.6**	**+0.4**
ODAN	**Odare** comp=Z,19nm,0.6s,mb4.8	**27.14**	**340**	*e*P	**P**	**17 34 01.6**	**+0.4**
TAPN	**Taplejung** comp=Z,32nm,0.8s,mb4.9	**27.49**	**341**	*e*P	**P**	**17 34 05.2**	**+0.9**
TAPN	**Taplejung** comp=Z,32nm,0.8s,mb4.9	**27.49**	**341**	*e*P	**P**	**17 34 05.2**	**+0.9**
RAMN	**Ramite** comp=Z,10nm,0.6s,mb4.5	**27.50**	**339**	*e*P	**P**	**17 34 04.9**	**+0.5**
RAMN	**Ramite** comp=Z,10nm,0.6s,mb4.5	**27.50**	**339**	*e*P	**P**	**17 34 04.9**	**+0.5**
JIRN	**Jiri** comp=Z,5.3nm,0.7s,mb4.3	**28.29**	**339**	*e*P	**P**	**17 34 12.3**	**+0.8**
JIRN	**Jiri** comp=Z,5.3nm,0.7s,mb4.3	**28.29**	**339**	*e*P	**P**	**17 34 12.3**	**+0.8**
PKI	**Pulchoki**	**28.50**	**338**	*e*P	**P**	**17 34 14.9**	**+1.6**
PKI	**Pulchoki**	**28.50**	**338**	*e*P	**P**	**17 34 14.9**	**+1.6**
GUN	**Gumba** comp=Z,17nm,0.7s,mb4.9	**28.63**	**339**	*e*P	**P**	**17 34 15.0**	**+0.5**
GUN	**Gumba** comp=Z,17nm,0.7s,mb4.9	**28.63**	**339**	*e*P	**P**	**17 34 15.0**	**+0.5**
DMN	**Daman** comp=Z,12nm,0.9s,mb4.7	**28.65**	**337**	*e*P	**P**	**17 34 16.1**	**+1.4**
DMN	**Daman** comp=Z,12nm,0.9s,mb4.6	**28.65**	**337**	*e*P	**P**	**17 34 16.1**	**+1.4**
KKN	**Kakani** comp=Z,11nm,0.7s,mb4.7	**28.75**	**338**	*e*P	**P**	**17 34 15.4**	**-0.1**
KKN	**Kakani** comp=Z,11nm,0.7s,mb4.7	**28.75**	**338**	*e*P	**P**	**17 34 15.4**	**-0.1**
GKN	**Gorkha** comp=Z,5.8nm,0.4s,mb4.7	**29.19**	**337**	*e*P	**P**	**17 34 19.6**	**+0.2**
GKN	**Gorkha** comp=Z,5.8nm,0.4s,mb4.7	**29.19**	**337**	*e*P	**P**	**17 34 19.6**	**+0.2**
KOLN	**Koldanda** comp=Z,7.9nm,0.6s,mb4.6	**29.41**	**335**	*e*P	**P**	**17 34 21.8**	**+0.4**
KOLN	**Koldanda** comp=Z,7.9nm,0.6s,mb4.6	**29.41**	**335**	*e*P	**P**	**17 34 21.8**	**+0.4**
DANN	**Dangsing**	**29.85**	**336**	*e*P	**P**	**17 34 26.4**	**+1.1**
DANN	**Dangsing**	**29.85**	**336**	*e*P	**P**	**17 34 26.4**	**+1.1**
ENH	**Enshi**	**31.09**	**21**	P	**P**	**17 34 34.8**	**-1.5**
GTA	**Gaotai**	**38.03**	**3**	*e*P	**P**	**17 35 35.8**	**-0.2**
GTA	comp=Z,8.0nm,0.8s,mb4.5			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,2.1nm,0.6s,mb4.0,baz=303,slow=9.0,SNR=31	**42.04**	**122**	P	**P**	**17 36 08.9**	**-0.7**
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**17 36 08.9**	**-0.7**
WRAB	**Tennant Creek** comp=Z,2.6nm,0.6s,mb4.0	**42.04**	**122**	*e*P	**P**	**17 36 09.3**	**-0.3**
AS31	**Alice Springs**	**43.41**	**127**	*e*P	**P**	**17 36 20.1**	**-0.5**
ASAR	**Alice Springs** comp=Z,1.8nm,0.8s,mb3.9,baz=299,slow=7.8,SNR=36	**43.41**	**127**	P	**P**	**17 36 20.5**	**-0.1**
ASAR	**Alice Springs**	**43.41**	**127**	P	**P**	**17 36 20.5**	**-0.1**
JNU	**Nakatsue** comp=Z,16nm,1.5s,mb4.6	**44.72**	**41**	P	**P**	**17 36 32.8**	**+1.8**
KSAR	**Wonju Array Be**	**45.73**	**35**	P	**P**	**17 36 39.3**	**+0.4**
KSRS	**Korea Array** comp=Z,4.7nm,0.9s,mb4.4,baz=219,slow=9.1,SNR=8.4	**45.76**	**35**	P	**P**	**17 36 39.3**	**+0.1**
TKM2	**Tokmak 2** comp=Z,2.8nm,0.9s,mb4.2	**45.76**	**338**	*e*P	**P**	**17 36 38.7**	**-0.4**
AAK	**Ala-Archa**	**45.95**	**337**	*e*P	**P**	**17 36 40.1**	**-0.4**
EKS2	**Erkin-Say** comp=Z,2.1nm,0.7s,mb4.2	**46.26**	**336**	*e*P	**P**	**17 36 43.2**	**+0.2**
SONM	**Songino Array** comp=Z,2.5nm,0.7s,mb4.3,baz=189,slow=8.8,SNR=29	**47.05**	**8**	P	**P**	**17 36 49.5**	**+0.4**
SONM				PcP	PcP	17 38 20.0	-0.5
SONM	**Songino Array** comp=Z,0.6nm,0.4s,baz=195,slow=3.9,SNR=9.3	**47.05**	**8**	P	**P**	**17 36 49.5**	**+0.4**
SONM				PcP	PcP	17 38 20.0	-0.5
MK31	**Makanchi Array**	**47.18**	**346**	*e*P	**P**	**17 36 49.8**	**-0.3**
MKAR	**Makanchi Array** comp=Z,2.7nm,0.5s,mb4.4,baz=161,slow=9.0,SNR=67	**47.18**	**346**	P	**P**	**17 36 50.0**	**-0.1**
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**17 36 50.0**	**-0.1**
KKAR	**Karatay Array** comp=Z,1.7nm,0.8s,mb4.1	**48.01**	**334**	*e*P	**P**	**17 36 56.0**	**-0.7**
HIA	**Hailar** comp=Z,7.4nm,0.8s,mb4.7	**51.55**	**19**	*e*P	**P**	**17 37 23.5**	**+0.1**
KURK	**Kurchatov** comp=Z,3.8nm,0.9s,mb4.3	**51.73**	**345**	*e*P	**P**	**17 37 24.0**	**-0.7**
MDJ	**Mudanjiang** comp=Z,14nm,1.1s,mb4.8	**51.78**	**29**	P	**P**	**17 37 27.2**	**+1.9**
USRK	**Ussuriysk Arra** comp=Z,6.5nm,0.8s,mb4.6,baz=223,slow=4.0,SNR=9.1	**52.69**	**31**	P	**P**	**17 37 32.7**	**+0.7**
STKA	**Stephens Creek** comp=Z,1.9nm,0.6s,mb4.2,baz=314,slow=11,SNR=7.5	**53.37**	**132**	P	**P**	**17 37 37.7**	**+0.5**
STKA	**Stephens Creek** comp=Z,0.5nm,0.6s,mb3.6	**53.37**	**132**	*e*P	**P**	**17 37 37.7**	**+0.4**
ZAA0	**Zalesovo Array**	**53.49**	**351**	*e*P	**P**	**17 37 37.2**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,4.8nm,0.3s,mb4.8,baz=183,slow=6.0,SNR=34	**53.49**	**351**	P	**P**	**17 37 37.5**	**-0.2**
ZALV	**Zalesovo Beam**	**53.49**	**351**	P	**P**	**17 37 37.5**	**-0.2**
BRVK	**Borovoye** comp=Z,6.0nm,1.0s,mb4.6	**56.26**	**341**	*e*P	**P**	**17 37 56.3**	**-1.4**
ABKAR	**Akbulak array** comp=Z,3.4nm,0.7s,mb4.5	**57.47**	**332**	*e*P	**P**	**17 38 05.1**	**-1.3**
BR131	**Keskin Array S**	**69.09**	**312**	*e*P	**P**	**17 39 17.4**	**-6.1**
FINES	**FINESS Array B** comp=Z,2.7nm,0.9s,mb4.2,baz=148,slow=11,SNR=3.8	**79.95**	**332**	P	**P**	**17 40 24.8**	**-1.3**
FINES	**FINESS Array B**	**79.95**	**332**	P	**P**	**17 40 24.8**	**-1.3**
ARCES	**ARCESS Array B** comp=Z,3.4nm,0.8s,mb4.3,baz=88,slow=3.8,SNR=4.7	**82.48**	**340**	P	**P**	**17 40 39.0**	**-0.4**
ARCES	**ARCESS Array B**	**82.48**	**340**	P	**P**	**17 40 39.0**	**-0.4**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.7s,baz=102,slow=0.9,SNR=3.8	**143.58**	**32**	PKP	PKPdf	17 47 50.1	-2.4
TXAR	**Lajitas Array**	**143.58**	**32**	PKP	PKPdf	17 47 50.1	-2.4

IDC 30 17:33:05.1±14.0,37.02S×96.05W,h0km,mb3.6/4, mb1 4.0/4,mb1mx3.9/12,mbtmp3.6/4,MS2.9/3,Ms1 3.0/3, ms1mx2.9/24,Error ellipse: s-maj=379.1km s-min=51.2km az=6.0,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** comp=Z,7.9nm,19.6s,baz=253,slow=31	**23.55**	**85**	LR	LR	17 45 19.5	
LPAZ	**La Paz** 1.3nm,0.7s,baz=226,slow=5.9,SNR=4.3	**32.19**	**58**	P	P	17 39 35.5	+0.7
LPAZ				LR	LR	17 49 29.6	
CPUP	**Villa Florida** comp=Z,35nm,21.6s,baz=85,slow=31	**34.42**	**83**	LR	LR	17 51 01.6	
TXAR	**Lajitas Array** 0.5nm,0.9s,baz=179,slow=8.8,SNR=3.9	**66.39**	**353**	P	P	17 43 55.9	+0.1
NVAR	**Mina Array Bea** 0.5nm,0.9s,baz=183,slow=6.1,SNR=3.8	**77.84**	**342**	P	P	17 45 04.8	+0.8
PDAR	**Pinedale Array** 0.7nm,1.0s,baz=121,slow=4.3,SNR=3.7	**80.36**	**350**	P	P	17 45 17.9	+0.1

*MOS **30** 17:43:47.1±1.1,10.60S×161.17E,h33km,mb5.3/32, MS4.8/4,Error ellipse: s-maj=9.0km s-min=8.0km az=82.5*
*BJI **30** 17:43:49.9,10.45S×161.54E,h62km,mB5.2/35,mb4.8/40, Ms5.1/32,Ms7 4.8/33*
*IDC **30** 17:43:49.5±2.1,10.58S×161.25E,h39km±17km,mb4.5/24, mb1 4.7/25,mb1mx4.7/25,mbtmp4.5/25,ML4.7/1,MS4.8/24, Ms1 4.8/24,ms1mx4.7/31,Error ellipse: s-maj=14.4km s-min=11.3km az=123.0*
*GCMT **30** 17:43:49.6±0.1,10.69S×161.24E,h26km,MW5.4, Moment Tensor Solution. s89,c136; s82,c136; Moment tensor: Scale 10^{17}Nm; M_{rr}1.09±.03; $M_{\theta\theta}$-0.21±.02; $M_{\phi\phi}$-0.88±.02; $M_{r\theta}$0.02±.04; $M_{r\phi}$0.57±.02; $M_{\theta r}$-1.20±.04; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s311.00000°, δ26.00000°,λ54.00000°. NP2:ϕ_s170.00000°,δ69.00000°, λ106.00000°. Principal axes: T 1.6900, Plg63.0000°, Azm106.0000°; N -0.0500, Plg15.0000°, Azm344.0000°; P -1.6400, Plg22.0000°, Azm248.0000°; Data Used: II IU G IC.*
*ISCJB **30** 17:43:49.1±1.0,10.64S±0.04×161.15E±0.03,h46km±9km, mb5.0/115,MS4.8/39 Error ellipse: s-maj=6.8km s-min=4.8km az=179.0*
*DJA **30** 17:43:50,10.78S×161.45E,h36km,mb5.2/29*
*NEIC **30** 17:43:51.2±1.0,10.62S×161.16E,h58km±9km,mb5.2/60, Error ellipse: s-maj=6.0km s-min=5.4km az=136.0*
ISC 30 17:43:51.4±0.8,10.66S±0.04×161.21E±0.03,h53km±6km, h59km±1.7km:pP-P,n451,σ0.87/424,mb5.0/114,MS4.8/39, 75C-87D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 280nm,0.3s,baz=152,slow=3.1,SNR=132	**1.74**	**314**	Pn	**Pn**	**17 44 17.3**	**-2.0**
HNR	840nm,0.3s,baz=162,slow=10,SNR=9.8			Sn	**Sn**	**17 44 42.2**	**+2.0**
HNR	comp=Z,27μm,19.7s,baz=211,slow=45			LR	LR	17 45 07.5	
HNR	**Honiara**	**1.74**	**314**	*e*Pn	**Pn**	**17 44 16.9**	**-2.3**
HNR				Sn	**Sn**	**17 44 42.2**	**+1.9**
HNR	**Honiara**	**1.74**	**314**	*e*P	**Pn**	**17 44 17.0**	**-2.3**
HNR						17 44 42.2	
NOUC	**Port Laguerre**	**12.38**	**157**	*e*P	**Pn**	**17 46 42.4**	**-2.6**
NOUC				*e*S	**Sn**	**17 48 52.4**	**-9.1**
DZM	**Mont Dzumac** 231nm,1.3s	**12.41**	**157**	*e*P	**Pn**	**17 46 43.3**	**-2.1**
DZM	6μm,24.1s			*e*LR	LR	17 49 40.0	
DZM	**Mont Dzumac**	**12.41**	**157**	*e*P	**Pn**	**17 46 42.3**	**-3.1**
PMG	**Port Moresby** 0.3nm,0.3s,baz=103,slow=6.3,SNR=25	**13.89**	**274**	Pn	**Pn**	**17 47 08.1**	**+2.5**
PMG	**Port Moresby** 105nm,1.0s	**13.89**	**274**	*e*P	**Pn**	**17 47 07.4**	**+1.7**
PMG	**Port Moresby**	**13.89**	**274**	*de*P	**Pn**	**17 47 07.6**	**+2.0**
PMG	comp=Z,125nm,1.7s			pmax	pmax		
PMG	**Port Moresby** comp=Z,2μmcomp=Z,108nm,1.1s	**13.89**	**274**	P	**Pn**	**17 47 08.1**	**+2.5**
CTA	**Charters Tower** comp=Z,1.8nm,0.3s,baz=60,slow=14,SNR=38	**17.18**	**235**	P	**Pn**	**17 47 48.5**	**+0.6**
CTA	**Charters Tower**	**17.18**	**235**	*e*P	**Pn**	**17 47 48.4**	**+0.5**
CTA	**Charters Tower**	**17.18**	**235**	P	**Pn**	**17 47 48.5**	**+0.6**
CTA	**Charters Tower**	**17.18**	**235**	P	**Pn**	**17 47 48.5**	**+0.6**
CTAO	**Charters Tower** comp=Z,255nm,1.4s	**17.18**	**235**	*e*Pn	**Pn**	**17 47 46.3**	**-1.6**
CTAO	**Charters Tower**	**17.18**	**235**	*e*P	**Pn**	**17 47 46.3**	**-1.6**
CTAO	comp=Z,255nm,1.4s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,2μcomp=Z,155nm,1.6s	**17.18**	**235**	P	**Pn**	**17 47 48.3**	**+0.4**
EIDS	**Eidsvold** comp=Z,165nm,1.4s	**17.50**	**212**	*e*Pn	**Pn**	**17 47 52.1**	**+0.4**
MSVF	**Nonsavu** comp=Z,95nm,1.1s	**17.77**	**115**	*e*Pn	**Pn**	**17 47 53.4**	**-1.7**
MSVF	**Nonsavu**	**17.77**	**115**	*e*P	**Pn**	**17 47 53.4**	**-1.8**
MSVF	comp=Z,95nm,1.1s			pmax	pmax		
MSVF	**Nonsavu** comp=Z,432nm,0.9s,SNR=11	**17.77**	**115**	P	**Pn**	**17 47 55.9**	**+0.7**
COEN	**Coen**	**17.92**	**258**	*e*P	**Pn**	**17 47 59.9**	**+2.9**
COEN	**Coen** comp=Z,758nm,1.2s	**17.92**	**258**	*e*Pn	**Pn**	**17 47 58.4**	**+1.4**
COEN				*e*S	**S**	**17 51 19.1**	**-1.0**
COEN	**Coen** comp=Z,4μcomp=Z,114nm,1.4s	**17.92**	**258**	P	**Pn**	**17 48 00.1**	**+3.1**
MTSU	**Mount Surprise** comp=Z,230nm,1.0s	**17.96**	**244**	*e*P	**Pn**	**17 47 58.4**	**+1.0**
ARMA	**Armidale**	**21.59**	**203**	*e*P	**P**	**17 48 37.1**	**+0.3**
ARMA	**Armidale** comp=Z,121nm,1.5s,mb5.1	**21.59**	**203**	*e*P	**P**	**17 48 36.5**	**-0.3**
JAY	**Jayapura** comp=Z,2μcomp=Z,58nm,1.0s,mb5.0	**21.90**	**290**	P	**P**	**17 48 40.2**	**-0.1**
SMPI	**Sarmi**	**23.94**	**290**	P	**P**	**17 49 01.0**	**+0.1**
SMPI	**Sarmi** comp=Z,4μcomp=Z,290nm,1.2s,mb5.6	**23.94**	**290**	P	**P**	**17 49 02.2**	**+1.3**
OUZ	**Omahuta** comp=Z,43nm,1.3s,mb4.8	**26.93**	**157**	*e*P	**P**	**17 49 27.8**	**+0.1**
WRAB	**Tennant Creek** comp=Z,73nm,1.2s,mb5.1	**27.46**	**247**	*e*P	**P**	**17 49 31.6**	**-1.0**
WRAB	**Tennant Creek**	**27.46**	**247**	*e*P	**P**	**17 49 31.7**	**-1.0**
WRAB	comp=Z,73nm,1.2s,mb5.1			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,2μcomp=Z,100nm,1.5s,mb5.1	**27.46**	**247**	P	**P**	**17 49 33.4**	**+0.7**
WRAB	**Tennant Creek** comp=Z,270nm,1.0s,mb5.7,SNR=7.1	**27.46**	**247**	P	**P**	**17 49 33.6**	**+0.9**
WB2	**Warramunga Arr**	**27.46**	**247**	*e*P	**P**	**17 49 32.1**	**-0.6**
WRA	**Warramunga Arr** comp=Z,16nm,0.9s,mb4.6,baz=74,slow=9.5,SNR=42	**27.47**	**247**	P	**P**	**17 49 32.5**	**-0.2**
WRA	comp=Z,4.9nm,1.2s,baz=74,slow=16,SNR=4.7			S	**S**	**17 54 12.9**	**+3.0**
WRA	**Warramunga Arr**	**27.47**	**247**	P	**P**	**17 49 32.5**	**-0.2**
WRA				S	**S**	**17 54 12.9**	**+3.0**
WRA	**Warramunga Arr**	**27.47**	**247**	P	**P**	**17 49 32.6**	**-0.2**
WRA				S	**S**	**17 54 12.9**	**+3.0**
STKA	**Stephens Creek** comp=Z,5.7nm,0.8s,mb4.2,baz=28,slow=12,SNR=9.1	**27.83**	**218**	P	**P**	**17 49 36.2**	**+0.4**
STKA	comp=Z,6μm,18.1s,MS5.2,baz=38,slow=36			LR	LR	18 00 23.6	
STKA	**Stephens Creek**	**27.83**	**218**	*e*P	**P**	**17 49 35.5**	**-0.3**
STKA	**Stephens Creek** comp=Z,4.8nm,1.0s,mb4.1	**27.83**	**218**	*e*P	**P**	**17 49 34.5**	**-1.3**
STKA	**Stephens Creek**	**27.83**	**218**	*e*P	**P**	**17 49 34.5**	**-1.3**
GUMO	**Guam** comp=Z,3μm,19.6s,MS4.8,baz=140,slow=35	**29.04**	**326**	LR	LR	18 00 46.3	
AS31	**Alice Springs**	**29.04**	**240**	*e*P	**P**	**17 49 45.7**	**-1.1**
ASAR	**Alice Springs** comp=Z,9.5nm,1.1s,mb4.5,baz=70,slow=9.4,SNR=43	**29.05**	**240**	P	**P**	**17 49 45.9**	**-0.9**
ASAR	comp=Z,0.9nm,0.8s,baz=53,slow=3.7,SNR=4.6			ScP	ScP	17 56 34.0	+2.5
ASAR	**Alice Springs**	**29.05**	**240**	P	**P**	**17 49 45.9**	**-0.9**
ASAR				ScP	ScP	17 56 34.0	+2.5
ASAR	**Alice Springs**	**29.05**	**240**	P	**P**	**17 49 45.9**	**-0.9**
TOO	**Toolangi**	**30.30**	**205**	*e*P	**P**	**17 49 58.6**	**+0.9**
URZ	**Urewera** comp=Z,9.2nm,0.7s,mb4.7,baz=265,slow=1.0,SNR=7.6	**30.96**	**155**	P	**P**	**17 50 04.4**	**+0.9**
URZ				LR	LR	18 00 42.2	
URZ	**Urewera** comp=Z,1μm,18.5s,MS4.6,baz=128,slow=33	**30.96**	**155**	P	**P**	**17 50 04.4**	**+0.9**
BBOO	**Buckleboo**	**31.96**	**223**	*e*P	**P**	**17 50 12.7**	**+0.3**
BBOO	**Buckleboo** comp=Z,706nm,0.9s	**31.96**	**223**	*e*P	**P**	**17 50 12.3**	**-0.1**
RPZ	**Rata Peaks** comp=Z,14nm,0.9s,mb4.9,baz=154,slow=4.5,SNR=5.4	**34.02**	**167**	P	**P**	**17 50 29.6**	**-0.7**
RPZ	**Rata Peaks**	**34.02**	**167**	P	**P**	**17 50 29.6**	**-0.7**
NLAI	**Namlea** comp=Z,1μcomp=Z,59nm,1.5s,mb5.3	**34.62**	**280**	P	**P**	**17 50 38.7**	**+2.9**
LBMI	**Labuha** comp=Z,2μcomp=Z,100nm,1.1s,mb5.7	**34.94**	**284**	P	**P**	**17 50 40.7**	**+2.1**
FITZ	**Fitzroy Crossi** comp=Z,9.9nm,0.9s,mb4.8,baz=70,slow=6.2,SNR=15	**35.19**	**254**	P	**P**	**17 50 40.5**	**-0.1**
FITZ	comp=Z,1μm,19.9s,MS4.7,baz=79,slow=35			LR	LR	18 04 32.2	
FITZ	**Fitzroy Crossi**	**35.19**	**254**	*e*P	**P**	**17 50 40.1**	**-0.6**
FITZ	**Fitzroy Crossi** comp=Z,15nm,0.8s,mb5.0	**35.19**	**254**	*e*P	**P**	**17 50 40.1**	**-0.6**
FITZ	**Fitzroy Crossi** comp=Z,23nm,1.5s,mb4.9	**35.19**	**254**	P	**P**	**17 50 40.1**	**-0.6**
FORT	**Forrest** comp=Z,59nm,1.2s,mb5.3	**36.69**	**232**	*e*P	**P**	**17 50 50.9**	**-2.4**
MMRI	**Maumere** comp=Z,119nm,1.3s,mb5.5	**38.45**	**270**	P	**P**	**17 51 25.2**	**+17**
KMSI	**Cibinong** comp=Z,6μcomp=Z,643nm,1.3s,mb6.2	**38.66**	**284**	P	**P**	**17 51 11.7**	**+1.4**
KMSI	**Cibinong** comp=Z,6μcomp=Z,643nm,1.3s,mb6.2	**38.66**	**284**	P	**P**	**17 51 11.8**	**+1.5**
KDI	**Kendari** comp=Z,806nmcomp=Z,14nm,2.2s,mb4.3	**38.82**	**277**	P	**P**	**17 51 12.2**	**+0.6**
KDI	**Kendari** comp=Z,806nmcomp=Z,14nm,2.2s,mb4.3	**38.82**	**277**	P	**

KSM	**Kuching**	52.04	280	P	P	17 52 57.1 +0.9
	comp=Z,565nmcomp=Z,26nm,1.6s,mb4.9					
YUK	**Yuzh-Kuril'sk**	56.19	347	*i* P	P	17 53 25.5 -0.3
YUK				*i*		17 54 19.2
YUK				*i*		17 55 33.5
YUK				*i* S	S	18 01 14.6 +3.2
YUK				MLR	MLR	
	comp=Z,973nm,18.0s,MS4.9					
KSRS	**Korea Array**	57.13	329	P	P	17 53 33.2 +0.5
	comp=Z,5.1nm,1.0s,mb4.5,baz=144,slow=7.1,SNR=7.2					
KSRS				LR	LR	18 14 09.0
	comp=Z,792nm,21.8s,MS4.8,baz=129,slow=32					
KSAR	**Wonju Array Be**	57.14	329	P	P	17 53 33.2 +0.4
KSAR	**Wonju Array Be**	57.14	329	P	P	17 53 33.2 +0.4
TAOE	**Nuku Hiva Isla**	57.76	94	*e*S	S	18 01 46.0 +13
	comp=Z,435nm,24.8s					
TAOE				*e*LR	LR	18 10 56.8
	comp=Z,2μm,24.2s,baz=269					
QIZ	**Qiongzhong**	58.59	300	P	P	17 53 41.3 -2.0
QIZ				pP	pP	17 53 56.5 -1.4
QIZ				sP	sP	17 54 02.8 -1.1
QIZ				S	S	18 01 43.5 -0.3
QIZ				pmax	pmax	
	comp=Z,54nm,2.8s,mb5.1					
QIZ				LR	LR	
	comp=Z,850nm,26.1s,MS4.8					
NJ2	**Nanjing**	58.68	318	*e*P	P	17 53 45.3 +1.7
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.6s,mb5.0					
YSS	**Yuzh-Sakhalins**	59.68	345	*e*P	P	17 53 45.5 -4.7
	comp=Z,86nm,1.5s,mb5.6					
YSS	**Yuzh-Sakhalins**	59.68	345	*e*P	P	17 53 45.5 -4.7
YSS				pmax	pmax	
	comp=Z,86nm,1.5s,mb5.6					
USRK	**Ussuriysk Arra**	60.70	336	P	P	17 53 57.3 +0.1
	comp=Z,24nm,1.0s,mb5.3,baz=135,slow=6.2,SNR=15					
USRK				LR	LR	18 16 00.6
	comp=Z,342nm,18.9s,MS4.5,baz=83,slow=32					
WHN	**Wuhan**	60.86	314	P	P	17 54 04.3 +5.7
WHN				S	S	18 02 17.3 +4.7
WHN				LR	LR	
	comp=N,2μm,22.8s,MS5.2					
WHN				LR	LR	
	comp=E,880nm,21.3s,MS5.2					
WHN				LR	LR	
	comp=Z,2μm,20.4s,MS5.2					
UBT	**Ubonrachathani**	61.31	294	P	P	17 54 04.0 +2.0
IPM	**Ipoh**	61.77	281	*e*P	P	17 54 03.9 -1.3
	comp=Z,43nm,1.2s,mb5.5					
IPM	**Ipoh**	61.77	281	P	P	17 54 06.4 +1.3
	comp=Z,610nmcomp=Z,44nm,0.9s,mb5.6					
RKT	**Rikitea**	61.90	111	*e*S	S	18 02 36.0 +10
	comp=Z,302nm,31.8s					
RKT				*e*LQ		18 10 06.8
	comp=Z,832nm,34.0s					
RKT				*e*LR	LR	18 12 51.6
	comp=Z,2μm,23.8s,baz=284					
MDJ	**Mudanjiang**	62.02	335	P	P	17 54 07.0 +0.8
MDJ				pP	pP	17 54 21.0 +0.1
MDJ				sP	sP	17 54 27.3 +0.4
MDJ				PcP	PcP	17 54 46.5 +0.3
MDJ				PP	PP	17 56 25.5 +2.2
MDJ				S	S	18 02 29.3 +2.5
MDJ				SS	SS	18 06 32.8 +2.4
MDJ				pmax	pmax	
	comp=Z,15nm,0.9s,mb5.1					
MDJ				pmax	pmax	
	comp=Z,280nm,3.7s					
MDJ				LR	LR	
	comp=N,630nm,11.6s,MS5.0					
MDJ				LR	LR	
	comp=E,320nm,13.0s,MS5.0					
MDJ				LR	LR	
	comp=Z,570nm,23.2s					
KULM	**Kulim**	62.33	282	*e*P	P	17 54 07.0 -1.9
	comp=Z,22nm,1.0s,mb5.2					
KULM	**Kulim**	62.33	282	P	P	17 54 14.9 +6.0
	comp=Z,27nm,1.2s,mb5.2					
CN2	**Changchun**	63.20	332	*e*P	P	17 54 13.3 -0.8
CN2				*e*pP	pP	17 54 29.5 +0.7
CN2				*e*S	S	18 02 39.5 -2.2
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s,mb5.1					
CN2				pmax	pmax	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,1μm,16.0s,MS5.1					
CN2				LR	LR	
	comp=E,400nm,16.0s,MS5.1					
CN2				LR	LR	
	comp=Z,900nm,21.0s,MS4.9					
HABR	**Khabarovsk**	63.26	341	*e*P	P	17 54 12.2 -2.1
HABR				*e*'PP	pP	17 54 30.5 +1.4
HABR				*e*		17 54 48.7
HABR				S	S	18 02 39.4 -2.8
HABR				*e*'SS	sS	18 03 10.7 +3.8
HABR				*e*		18 03 58.0
HABR				SS	SS	18 06 46.7 -3.0
HABR				pmax	pmax	
	comp=E,16nm,1.3s					
HABR				pmax	pmax	
	comp=Z,17nm,1.3s,mb5.0					
HABR				pmax	pmax	
	comp=N,5.0nm,1.1s					
HABR				MLR	MLR	
	comp=Z,497nm,18.0s,MS4.7					
PSI	**Prapat**	63.40	279	P	P	17 54 22.2 +6.2
	comp=Z,22nm,1.4s,mb5.1					
PETK	**Petropavlovsk-**	63.58	358	P	P	17 54 16.0 -0.4
	comp=Z,7.5nm,0.9s,mb4.7,baz=115,slow=8.8,SNR=4.5					
PETK				LR	LR	18 16 45.4
	comp=Z,821nm,21.6s,MS4.9,baz=176,slow=31					
PETK	**Petropavlovsk-**	63.58	358	P	P	17 54 16.0 -0.4
PETK	**Petropavlovsk-**	63.58	358	P	P	17 54 16.0 -0.4
ENH	**Enshi**	64.24	311	*e*P	P	17 54 26.2 +5.0
	comp=Z,11nm,0.9s,mb4.9					
GYA	**Guiyang**	64.55	306⇑	*i*P	P	17 54 24.3 +1.0
GYA				pP	pP	17 54 40.5 +2.4
GYA				sP	sP	17 54 46.8 +2.7
GYA				PP	PP	17 56 49.3 +3.3
GYA				ScP		17 58 54.0
GYA				S	S	18 02 57.8 -1.2
GYA				sS	sS	18 03 23.5 -0.4
GYA				SS	SS	18 07 11.0 +0.4
GYA				pmax	pmax	
	comp=Z,20nm,1.0s,mb5.1					
GYA				pmax	pmax	
	comp=Z,120nm,5.0s					
GYA				LR	LR	
	comp=N,600nm,18.5s,MS5.0					
GYA				LR	LR	
	comp=E,580nm,19.3s,MS5.0					
GYA				LR	LR	
	comp=Z,650nm,18.6s,MS4.8					
NST	**Nakhon Sawan**	65.88	293	P	P	17 54 32.1 0.0
XAN	**Xi'an**	66.61	314	P	P	17 54 36.5 0.0
XAN				pmax	pmax	
	comp=Z,2.0nm,1.0s,mb4.1					
XAN				pmax	pmax	
	comp=Z,29nm,4.2s					
VNDA	**Vanda**	66.85	180	*e*P	P	17 54 37.3 0.0
	comp=Z,31nm,1.5s,mb5.1					
VNDA	**Vanda**	66.85	180	*e*P	P	17 54 37.3 0.0
VNDA				pmax	pmax	
	comp=Z,31nm,1.5s					
KMI	**Kunming**	67.14	303	P	P	17 54 40.5 +0.5
KMI				PcP	PcP	17 55 10.8 +3.0
KMI				PP	PP	17 57 10.0 +1.3
KMI				S	S	18 03 30.5 -0.2
KMI				SS	SS	18 07 48.8 -2.2
KMI				pmax	pmax	
	comp=Z,16nm,1.2s,mb4.9					
KMI				pmax	pmax	
	comp=Z,310nm,4.9s					
KMI				LR	LR	
	comp=N,480nm,18.5s,MS4.8					
KMI				LR	LR	
	comp=E,220nm,21.9s,MS4.8					
KMI				LR	LR	
	comp=Z,490nm,18.5s,MS4.8					
SBA	**Scott Base**	67.24	179	P	P	17 54 41.1 +1.3
SBA	**Scott Base**	67.24	179	P	P	17 54 41.1 +1.3
CHRT	**Chiangrai**	67.64	297	⇑P	P	17 54 42.5 -0.8
	comp=Z,184nm,1.0s,mb6.1					
CM31	**Chiang Mai Arr**	67.89	295	*e*P	P	17 54 44.1 -0.8
	comp=Z,20nm,1.0s,mb5.1					
CMAR	**Chiang Mai Arr**	67.89	295	P	P	17 54 45.1 +0.3
	comp=Z,0.8nm,0.3s,mb4.2,baz=120,slow=5.3,SNR=5.7					
CMAR				LR	LR	18 20 21.1
	comp=Z,249nm,20.3s,MS4.4,baz=262,slow=32					
CMAR	**Chiang Mai Arr**	67.89	295	P	P	17 54 45.1 +0.3
CMAR	**Chiang Mai Arr**	67.89	295	P	P	17 54 45.1 +0.2
CHG	**Chiang Mai**	68.01	295	P	P	17 54 46.0 +0.4
CHTO	**Chiang Mai**	68.01	295	*e*P	P	17 54 45.1 -0.5
	comp=Z,38nm,1.3s,mb5.3					
CHTO	**Chiang Mai**	68.01	295	*e*P	P	17 54 45.1 -0.5
CHTO				pmax	pmax	
	comp=Z,38nm,1.3s,mb5.3					
CHTO	**Chiang Mai**	68.01	295	P	P	17 54 46.5 +0.9
	comp=Z,18nm,1.2s,mb5.0					
HHC	**Hu-ho-hao-te**	68.71	322	*e*P	P	17 54 50.3 +0.8
HHC				pP	pP	17 55 06.5 +2.1
HHC				sP	sP	17 55 13.8 +3.4
HHC				PP	PP	17 57 24.5 +2.5
HHC				S	S	18 03 47.5 -1.3
HHC				sS	sS	18 04 15.3 +1.5
HHC				ScS	ScS	18 04 41.5 -3.7
HHC				pmax	pmax	
	comp=Z,31nm,0.7s,mb5.3					
HHC				pmax	pmax	
	comp=Z,150nm,7.7s					
HHC				LR	LR	
	comp=N,460nm,18.2s,MS4.8					
HHC				LR	LR	
	comp=E,380nm,19.2s,MS4.8					
HHC				LR	LR	
	comp=Z,390nm,21.4s,MS4.6					
CD2	**Chengdu**	68.86	309⇓	*i*P	P	17 54 51.3 +0.6
CD2				pP	pP	17 55 07.8 +2.2
CD2				sP	sP	17 55 14.8 +3.2
CD2				PP	PP	17 57 28.3 +4.8
CD2				S	S	18 03 54.5 +3.5
CD2				sS	sS	18 04 22.5 +6.4
CD2				pmax	pmax	
	comp=Z,20nm,0.8s,mb5.1					
CD2				pmax	pmax	
	comp=Z,290nm,8.4s					
CD2				LR	LR	
	comp=N,480nm,19.2s,MS5.0					
CD2				LR	LR	
	comp=E,870nm,21.6s,MS5.0					
CD2				LR	LR	
	comp=Z,590nm,25.2s,MS4.7					
HIA	**Hailar**	69.90	332	*e*P	P	17 54 54.9 -1.8
	comp=Z,31nm,1.3s,mb5.1					
HIA	**Hailar**	69.90	332	*e*P	P	17 54 54.9 -1.8
HIA				pmax	pmax	
	comp=Z,31nm,1.3s					
LZH	**Lanzhou**	71.24	314	*e*P	P	17 55 07.0 +1.8
LZH				pP	pP	17 55 23.5 +3.4
LZH				sP	sP	17 55 30.5 +4.4
LZH				PP	PP	17 57 48.0 +4.1
LZH				*e*S	S	18 04 18.8 +0.2
LZH				sS	sS	18 04 47.0 +3.2
LZH				pmax	pmax	
	comp=Z,17nm,1.4s,mb4.8					
LZH				pmax	pmax	
	comp=Z,120nm,6.7s					
LZH				LR	LR	
	comp=N,420nm,15.2s,MS5.0					
LZH				LR	LR	
	comp=E,400nm,16.0s,MS5.0					
LZH				LR	LR	
	comp=Z,520nm,17.6s,MS4.8					
MIR	**Mirnyy**	71.67	203⇓	*i*P	P	17 55 08.4 +1.2
MIR				pmax	pmax	
	comp=Z,48nm,1.4s,mb5.2					
CLNS	**Chul'man**	73.63	340	*e*P	P	17 55 20.0 +1.1
CLNS				pmax	pmax	
	comp=Z,13nm,1.0s,mb4.8					
CLNS				pmax	pmax	
	comp=N,8.0nm,1.2s					
CLNS				pmax	pmax	
	comp=E,7.0nm,1.0s					
SEY	**Seymchan**	73.68	356	*e*P	P	17 55 18.3 -0.8
CIT	**Chita**	74.65	332	*e*P	P	17 55 25.8 +0.8
CIT				*e*	pP	17 55 37.0 -3.1
GTA	**Gaotai**	75.61	315	*e*P	P	17 55 31.5 +0.6
GTA				pP	pP	17 55 47.3 +1.4
GTA				sP	sP	17 55 55.0 +3.1
GTA				S	S	18 05 09.3 +1.3
GTA				sS	sS	18 05 34.3 +0.9
GTA				SS	SS	18 09 58.0 -2.5
GTA				pmax	pmax	
	comp=Z,9.0nm,1.2s,mb4.6					
GTA				pmax	pmax	
	comp=Z,230nm,6.6s					
GTA				LR	LR	
	comp=N,410nm,19.5s,MS4.9					
GTA				LR	LR	
	comp=E,390nm,20.0s,MS4.9					
GTA				LR	LR	
	comp=Z,520nm,19.9s,MS4.8					
SONM	**Songino Array**	75.77	325	P	P	17 55 31.5 0.0
	comp=Z,6.6nm,0.6s,mb4.7,baz=135,slow=3.6,SNR=41					
SONM				LR	LR	18 30 49.1
	comp=Z,588nm,18.4s,MS4.9,baz=118,slow=37					
SONM	**Songino Array**	75.77	325	P	P	17 55 31.5 0.0
SONM	**Songino Array**	75.77	325	P	P	17 55 31.5 0.0
SHL	**Shillong**	76.43	300	*e*PKP	P	17 55 39.0 +3.2
YAK	**Yakutsk**	76.53	345	*e*P	P	17 55 33.9 -1.7
	comp=Z,60nm,1.1s,mb5.4					
YAK	**Yakutsk**	76.53	345	*e*P	P	17 55 34.0 -1.5
YAK				*e*	pP	17 55 44.5 -6.1
YAK				pmax	pmax	
	comp=Z,45nm,1.2s,mb5.3					
YAK				pmax	pmax	
	comp=E,2.0nm,1.0s					
YAK				pmax	pmax	
	comp=N,12nm,1.3s					
GAMB	**Gambell**	77.05	12	*e*P	P	17 55 37.1 -1.3
	comp=N,19nm,1.5s,mb4.8					
KDAK	**Kodiak Island**	77.92	23	P	P	17 55 42.8 -0.6
	comp=N,15nm,0.9s,mb4.9,baz=53,slow=0.7,SNR=6.2					
KDAK	**Kodiak Island**	77.92	23	P	P	17 55 42.8 -0.6
KDAK	**Kodiak Island**	77.92	23	*c*eP	P	17 55 43.6 +0.2
BOD	**Bodaibo**	78.33	336	*e*P	P	17 55 44.1 -1.6
BOD				pmax	pmax	
	comp=Z,10.0nm,1.7s,mb4.5					
BILL	**Bilibino**	78.58	2⇑	*e*P	P	17 55 46.2 -0.7
BILL				*e*		17 58 39.5
BILL				*e*S	S	18 05 43.5 +4.4
BILL				pmax	pmax	
	comp=Z,31nm,0.9s,mb5.2					
ZAK	**Zakamensk**	78.87	326	*e*P	P	17 55 48.4 -0.4
ZAK				pmax	pmax	
	comp=Z,13nm,1.3s,mb4.7					
QSPA	**South Pole Qui**	79.34	180	P	P	17 55 51.6 +0.6
	comp=Z,19nm,0.9s,mb5.0,baz=12,slow=1.9,SNR=42					
QSPA	**South Pole Qui**	79.34	180	*e*P	P	17 55 51.0 0.0
	comp=Z,39nm,1.1s,mb5.2					
TLY	**Talaya**	79.37	328	*e*P	P	17 55 50.7 -0.8
TLY	**Talaya**	79.37	328	*e*P	P	17 55 51.2 -0.3
TLY				*e*		17 55 57.6
TLY				pmax	pmax	
	comp=Z,18nm,1.1s,mb4.9					
TLY				MLR	MLR	
	comp=Z,408nm,19.0s,MS4.8					
TNA	**Tin City**	79.40	13	*e*P	P	17 55 50.2 -1.2
	comp=Z,9.5nm,1.0s,mb4.7					
RSO	**Redoubt South**	79.72	21	*e*P	P	17 55 48.9 -4.4
	comp=Z,33nm,0.8s,mb5.3					
TTA	**Tatalina**	80.41	18	*e*P	P	17 55 56.1 -0.8
	comp=Z,24nm,1.1s,mb5.0					
TTA	**Tatalina**	80.41	18	*e*P	P	17 55 56.1 -0.8
TTA				pmax	pmax	
	comp=Z,24nm,1.1s,mb5.0					
TAPN	**Taplejung**	80.54	300	*e*P	P	17 55 58.7 +0.3
	comp=Z,65nm,1.5s,mb5.3					
TAPN	**Taplejung**	80.54	300	*e*P	P	17 55 58.7 +0.3
	comp=Z,65nm,1.5s,mb5.3					
ODAN	**Odare**	80.67	300	*e*P	P	17 55 58.5 -0.6
	comp=Z,40nm,1.1s,mb5.2					
ODAN	**Odare**	80.67	300	*e*P	P	17 55 58.5 -0.6
	comp=Z,40nm,1.1s,mb5.3					
SLKM	**Skilak Lake**	80.67	22	*e*P	P	17 55 57.4 -0.9
SLKM	**Skilak Lake**	80.67	22	*e*P	P	17 55 57.4 -0.9
MOY	**Mondy**	80.77	327	*e*P	P	17 55 59.2 +0.1
RAMN	**Ramite**	81.37	299	*e*P	P	17 56 02.2 -0.7
RAMN	**Ramite**	81.37	299	*e*P	P	17 56 02.2 -0.7
JIRN	**Jiri**	81.92	300	*e*P	P	17 56 05.1 -0.6
JIRN	**Jiri**	81.92	300	*e*P	P	17 56 05.1 -0.6
GUN	**Gumba**	82.25	300	*e*P	P	17 56 07.8 +0.3
	comp=Z,70nm,1.4s,mb5.4					
GUN	**Gumba**	82.25	300	*e*P	P	17 56 07.8 +0.3
	comp=Z,70nm,1.4s,mb5.4					
PKI	**Pulchoki**	82.56	300	*e*P	P	17 56 09.0 -0.1
PKI	**Pulchoki**	82.56	300	*e*P	P	17 56 09.0 -0.1
PKI	**Pulchoki**	82.56	300	*e*P	P	17 56 09.0 -0.1
TRF	**Thorofare Moun**	82.62	20	*e*P	P	17 56 06.8 -1.7
	comp=Z,20nm,1.0s,mb5.1					
KKN	**Kakani**	82.73	300	*e*P	P	17 56 09.9 -0.1
KKN	**Kakani**	82.73	300	*e*P	P	17 56 09.9 -0.1
KKN	**Kakani**	82.73	300	*e*P	P	17 56 09.9 -0.1
DMN	**Daman**	82.83	300	*e*P	P	17 56 10.6 +0.1
	comp=Z,99nm,1.1s,mb5.7					
DMN	**Daman**	82.83	300	*e*P	P	17 56 10.6 +0.1
	comp=Z,99nm,1.1s,mb5.8					
MCK	**McKinley**	83.26	20	*e*P	P	17 56 10.8 -1.1
	comp=Z,43nm,1.1s,mb5.4					
MCK	**McKinley**	83.26	20	*e*P	P	17 56 10.8 -1.1
MCK				pmax	pmax	
	comp=Z,43nm,1.1s,mb5.4					
GKN	**Gorkha**	83.33	300	*e*P	P	17 56 12.2 -0.9
	comp=Z,96nm,1.3s,mb5.7					
GKN	**Gorkha**	83.33	300	*e*P	P	17 56 12.2 -0.9
	comp=Z,96nm,1.3s,mb5.7					
KOLN	**Koldanda**	84.16	300	*e*P	P	17 56 16.2 -1.1
	comp=Z,22nm,0.8s,mb5.3					
KOLN	**Koldanda**	84.16	300	*e*P	P	17 56 16.2 -1.1
	comp=Z,22nm,0.8s,mb5.3					
DANN	**Dangsing**	84.17	300	*e*P	P	17 56 16.8 -0.6
DANN	**Dangsing**	84.17	300	*e*P	P	17 56 16.8 -0.6
COLA	**College**	84.36	19	*e*P	P	17 56 15.3 -2.1
	comp=Z,16nm,0.9s,mb5.1					
COLA	**College**	84.36	19	*e*P	P	17 56 15.4 -2.1
COLA				pmax	pmax	
	comp=Z,16nm,0.9s,mb5.2					
MENT	**Mentasta**	84.61	22	*e*P	P	17 56 17.7 -1.1
ILAR	**Eielson Array**	84.61	20	P	P	17 56 17.4 -1.3
	comp=Z,7.1nm,1.0s,mb4.8,baz=254,slow=4.2,SNR=32					
ILAR				LR	LR	18 30 17.9
	comp=Z,721nm,19.4s,MS5.1,baz=245,slow=33					
ILAR	**Eielson Array**	84.61	20	P	P	17 56 17.4 -1.3
ILAR	**Eielson Array**	84.61	20	P	P	17 56 17.5 -1.3
DOT	**Dot Lake**	84.90	21	*e*P	P	17 56 19.8 -0.5
	comp=Z,4.1nm,0.9s,mb4.6					
COLD	**Coldfoot**	85.19	17	*e*P	P	17 56 20.8 -0.8
	comp=Z,2.4nm,0.4s,mb4.7					
WMQ	**Urumqi**	85.69	316	P	P	17 56 24.5 -0.1
WMQ				pP	pP	17 56 41.5 +1.5
WMQ				sP	sP	17 56 48.3 +2.4
WMQ				PP	PP	17 59 44.8 +0.4
WMQ				S	S	18 06 50.0 -3.0
WMQ				SS	SS	18 12 30.3 -0.4
WMQ				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb5.0					
WMQ				pmax	pmax	
	comp=Z,200nm,4.8s					
WMQ				LR	LR	
	comp=N,310nm,20.2s,MS4.8					
WMQ				LR	LR	
	comp=E,330nm,23.2s,MS4.8					
WMQ				LR	LR	
	comp=Z,370nm,23.8s,MS4.7					
EGAK	**Eagle**	86.59	21	*e*P	P	17 56 28.3 -0.3
	comp=Z,31nm,1.2s,mb5.4					
BBB	**Bella Bella**	86.82	36	LR	LR	18 36 44.3
	comp=Z,397nm,18.2s,MS4.9,baz=52,slow=37					
DAWY	**Dawson**	86.85	22	*e*P	P	17 56 29.4 -0.5
HUMO	**Hull Mountain**	86.93	46	*e*P	P	17 56 30.7 -0.1
	comp=Z,13nm,0.9s,mb5.2					
PKM	**Peak Mountain**	87.14	54	⇓P	P	17 56 32.3 +0.3
	baz=87					
CMB	**Columbia Colle**	87.52	51	*e*P	P	17 56 33.3 -0.4
	comp=Z,6.7nm,0.9s,mb4.9					
CMB	**Columbia Colle**	87.52	51	*e*P	P	17 56 33.3 -0.5
CMB				pmax	pmax	
	comp=Z,7.0nm,0.9s,mb4.9					
SCI	**San Clemente I**	87.69	56	⇓P	P	17 56 35.8 +1.2
	baz=88					
CIS	**Catalina Islan**	87.91	56	⇓P	P	17 56 35.6 -0.1
	baz=88					
DLBC	**Dease Lake**	88.23	29	LR	LR	18 28 56.4
	comp=Z,508nm,20.9s,MS4.9,baz=233,slow=31					
WCN	**Washoe City**	88.33	50	⇓P	P	17 56 37.9 +0.3
	baz=88					
MWC	**Mount Wilson**	88.38	55	*e*P	P	17 56 37.3 -0.6
	comp=Z,28nm,1.0s,mb5.4					
MWC	**Mount Wilson**	88.38	55	*e*P	P	17 56 37.3 -0.6
MWC				pmax	pmax	
	comp=Z,28nm,1.0s,mb5.5					
ISA	**Isabella**	88.40	53	⇑P	P	17 56 38.1 +0.1
	baz=88,SNR=6.6					
K05A	**Summer Lake**	88.42	46	⇓P	P	17 56 38.0 +0.1
	baz=88					
EDW2	**Edwards Air Fo**	88.59	54	⇑P	P	17 56 38.8 -0.1
	baz=89,SNR=6.2					
MOD	**Modoc**	88.62	47	*e*P	P	17 56 38.6 -0.3
	comp=Z,8.1nm,0.9s,mb5.0					
BFSC	**Mount Baldy Ra**	88.71	55	⇑P	P	17 56 39.2 -0.3
	baz=89,SNR=5.1					
CWC	**Cottonwood Cre**	88.90	53	⇓P	P	17 56 40.1 -0.2
	baz=89,SNR=7.2					
MURC	**Murrieta**	88.93	56	⇓P	P	17 56 40.4 -0.1
	baz=89					
TIN	**Tinemaha**	88.93	52	⇑P	P	17 56 41.0 +0.5
	baz=89					
LRMC	**Laurel Mountai**	88.98	54	⇑P	P	17 56 41.2 +0.5
	baz=89,SNR=13					
NVAR	**Mina Array Bea**	89.21	51	P	P	17 56 42.2 +0.5
	comp=Z,4.2nm,0.8s,mb4.8,baz=238,slow=6.2,SNR=25					
NVAR				LR	LR	18 32 29.9
	comp=Z,790nm,18.6s,MS5.2,baz=111,slow=33					
NVAR	**Mina Array Bea**	89.21	51	P	P	17 56 42.2 +0.5
MPMC	**Manual Prospec**	89.27	53	⇓P	P	17 56 42.0 -0.1
	baz=89,SNR=14					
MONP	**Monument Peak**	89.40	57	⇓P	P	17 56 42.8 0.0
	baz=90,SNR=14					
PFO	**Pinyon Flat Ob**	89.54	56	⇑P	P	17 56 44.1 +0.8
	baz=90					
GRAC	**Grapevine Rang**	89.59	52	⇑P	P	17 56 44.2 +0.7
	baz=90					
DVTC	**Desert V Tower**	89.61	57	⇑P	P	17 56 44.1 +0.3
	baz=90					
GSC	**Goldstone**	89.64	54	⇓P	P	17 56 44.2 +0.4
	baz=90					
I07A	**Izee**	89.76	45	⇑P	P	17 56 44.6 +0.4
	baz=90					
FURC	**Furnace Creek,**	89.86	53	⇑P	P	17 56 44.9 +0.1
	baz=90,SNR=8.2					
HEC	**Hector,Ludlow**	89.91	55	⇑P	P	17 56 44.8 -0.3
	baz=90					
SWSC	**Sam W. Stewart**	89.93	57	⇑P	P	17 56 45.6 +0.4
	baz=90					
WVOR	**Wild Horse Val**	89.95	47	*e*P	P	17 56 45.7 +0.6
	comp=Z,35nm,1.3s,mb5.5					
WVOR	**Wild Horse Val**	89.95	47	*e*P	P	17 56 45.7 +0.6
WVOR				pmax	pmax	
	comp=Z,35nm,1.3s,mb5.5					
BELC	**Belle Mtn. Jos**	89.99	56	⇑P	P	17 56 45.5 0.0
	baz=90,SNR=17					
SHOC	**Shoshone**	90.19	54	⇓P	P	17 56 46.3 -0.1
	baz=90					
MK31	**Makanchi Array**	90.21	318	*e*P	P	17 56 44.9 -1.3
MK31	**Makanchi Array**	90.21	318	*e*P	P	17 56 44.9 -1.3
MKAR	**Makanchi Array**	90.21	318	P	P	17 56 44.9 -1.3
	comp=Z,4.5nm,0.8s,mb4.8,baz=92,slow=6.3,SNR=49					
MKAR				LR	LR	18 36 25.6
	comp=Z,298nm,19.7s,MS4.7,baz=274,slow=35					
MKAR	**Makanchi Array**	90.21	318	P	P	17 56 44.9 -1.2
MKAR	**Makanchi Array**	90.21	318	*c*eP	P	17 56 44.9 -1.3
MKAR				pmax	pmax	
	comp=Z,5.0nm,0.8s

comp=Z,3.4nm,1.0s,mb4.6,baz=117,slow=5.8,SNR=13
ZALV LR LR 18 38 27.6
comp=Z,241nm,18.2s,MS4.7,baz=286,slow=36
ZALV Zalesovo Beam 90.66 325 P **P 17 56 46.0 -2.1**
ZALV Zalesovo Beam 90.66 325 P **P 17 56 46.0 -2.1**
IRM Iron Mountain 90.72 56 ⇓P **P 17 56 48.7 -0.1**
baz=91
GLA Glamis 90.75 57 ⇑P **P 17 56 49.2 +0.2**
baz=91
SYO Syowa Base 90.82 198⇓*e*PcP PcP 17 56 52.3 +2.6
LDFC Landfair 90.94 55 *e*P **P 17 56 50.4 +0.5**
comp=Z,42nm,1.3s,mb5.6
INK Inuvik 91.02 20 P **P 17 56 48.8 -0.6**
comp=Z,3.1nm,1.1s,mb4.5,baz=249,slow=4.3,SNR=3.8
INK LR LR 18 33 32.8
comp=Z,847nm,19.7s,MS5.2,baz=229,slow=33
INK Inuvik 91.02 20 P **P 17 56 48.8 -0.6**
INK Inuvik 91.02 20 P **P 17 56 48.8 -0.6**
OD2 Odessa Site #2 91.14 42 *e*P **P 17 56 50.2 -0.3**
comp=Z,26nm,1.2s,mb5.4
Y12C Blythe 91.14 56 ⇓P **P 17 56 51.3 +0.5**
baz=91
R11A Troy Canyon, C 91.27 51 ⇑P **P 17 56 51.6 +0.3**
baz=91
E09A Wood Farm, Sta 91.30 43 ⇓P **P 17 56 51.3 0.0**
baz=91
BMO Blue Mountains 91.47 45 *e*P **P 17 56 50.9 -1.2**
comp=Z,16nm,1.5s,mb5.1
BMO Blue Mountains 91.47 45 *e*P **P 17 56 50.9 -1.2**
BMO pmax pmax
comp=Z,16nm,1.5s,mb5.1
113A Mohawk Valley, 91.56 57 ⇓P **P 17 56 52.8 0.0**
baz=92
PDMCI Parker Dam,Lak 91.56 56 ⇓P **P 17 56 53.3 +0.5**
baz=92
Z13A Yuma Proving G 91.74 57 ⇑P **P 17 56 53.4 -0.2**
baz=92
F10A Beach Ranch, E 91.79 44 ⇓P **P 17 56 53.6 +0.1**
baz=92
NVS Novosibirsk 91.80 326 *e*P **P 17 56 50.9 -2.5**
NVS *e*S SKSac 18 07 21.0 -0.6
NVS pmax pmax
comp=Z,22nm,1.7s,mb5.2
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS smax
comp=E,19nm,2.1s
W13A Hualapai Mount 91.93 55 ⇓P **P 17 56 54.5 0.0**
baz=92
MFID Camas Ranch 92.19 46 ⇓P **P 17 56 55.6 +0.1**
baz=92
214A Organ Pipe Nat 92.19 58 ⇑P **P 17 56 56.1 +0.3**
baz=92
114A Black Gap (USA 92.29 57 ⇓P **P 17 56 56.7 +0.5**
baz=92
Z14A Wintersburg 92.35 57 ⇓P **P 17 56 56.6 +0.1**
baz=92
NEW Newport 92.38 41 ⇑P **P 17 56 56.0 -0.2**
baz=92
NEW Newport 92.38 41 *e*P **P 17 56 55.7 -0.6**
comp=E,13nm,1.1s,mb5.2
NEW Newport 92.38 41 *e*P **P 17 56 55.7 -0.5**
NEW pmax pmax
comp=Z,13nm,1.1s
R13A O'Grain Ranch, 92.48 52 ⇓P **P 17 56 57.5 +0.5**
baz=93
I12A Atlanta 92.76 46 ⇓P **P 17 56 58.1 0.0**
baz=93
ARUT Antelope Range 92.81 52 *e*P **P 17 56 59.1 +0.6**
comp=Z,16nm,1.3s,mb5.3
ARUT Antelope Range 92.81 52 *e*P **P 17 56 59.1 +0.6**
ARUT pmax pmax
comp=Z,16nm,1.3s,mb5.3
KSH Kashi 93.05 309 P **P 17 57 01.5 +2.0**
KSH pP pP 17 57 18.5 +3.5
KSH sP sP 17 57 25.5 +4.6
KSH PP PP 18 00 49.8 +6.5
KSH SKS 18 07 29.5
KSH S S 18 08 02.5 +0.5
KSH sS sS 18 08 31.8 +3.6
KSH SS SS 18 14 25.5 +7.7
KSH pmax pmax
comp=Z,4.0nm,1.3s,mb4.7
KSH pmax pmax
comp=Z,230nm,5.1s
KSH LR LR
comp=N,110nm,6.4s
KSH LR LR
comp=E,110nm,5.4s
KSH LR LR
comp=Z,130nm,6.9s
F12A Elk City 93.08 44 ⇓P **P 17 56 59.3 -0.2**
baz=93
H12A Diamond D Ranc 93.11 45 ⇑P **P 17 56 59.6 -0.1**
baz=93
HLID Hailey 93.22 46 ⇓P **P 17 57 01.2 +1.0**
baz=93
HLID Hailey 93.22 46 *e*P **P 17 57 00.7 +0.5**
comp=Z,12nm,1.2s,mb5.2
J13A Cove Ranch, Pi 93.36 47 ⇓P **P 17 57 01.8 +0.9**
baz=93
U15A North Rim 93.46 54 ⇑P **P 17 57 01.9 +0.5**
baz=94
I13A Wildhorse Cree 93.50 46 ⇓P **P 17 57 02.1 +0.6**
baz=94
KURK Kurchatov 93.51 321 LR LR 18 37 42.9
comp=Z,412nm,19.7s,MS4.9,baz=120,slow=35
KURK Kurchatov 93.51 321 *e*P **P 17 56 58.4 -3.0**
comp=Z,20nm,1.4s,mb5.4
KURK Kurchatov 93.51 321*de*P **P 17 57 00.2 -1.2**
KURK pmax pmax
comp=Z,11nm,1.5s,mb5.1
H13A Challis 93.53 45 ⇑P **P 17 57 01.9 +0.3**
baz=94
F13A Darby 93.72 44 ⇑P **P 17 57 02.2 -0.3**
baz=94
DUG Dugway 93.75 50 ⇑P **P 17 57 03.3 +0.5**
baz=94
DUG Dugway 93.75 50 P **P 17 57 01.6 -1.1**
comp=Z,7.3nm,1.4s,mb4.9
DUG Dugway 93.75 50 P **P 17 57 01.6 -1.1**
DUG pmax pmax
comp=Z,7.0nm,1.4s,mb4.9
L14A Malta 93.78 48 ⇑P **P 17 57 03.1 +0.3**
baz=94
X16A Lo Mia Camp, P 93.78 56 ⇓P **P 17 57 03.5 +0.5**
baz=94
J14A Carey 93.82 47 ⇓P **P 17 57 03.9 +0.9**
baz=94
K14A Jones Ranch, D 93.92 48 ⇓P **P 17 57 04.0 +0.5**
baz=94
MSU Marysvale 93.93 52 *e*P **P 17 57 05.2 +1.6**
comp=Z,3.7nm,1.0s,mb4.8
MSU Marysvale 93.93 52 *e*P **P 17 57 05.2 +1.6**
MSU pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
TUC Tucson 93.95 58 *e*P **P 17 57 03.7 -0.2**
comp=Z,4.6nm,1.0s,mb4.9
TUC Tucson 93.95 58 *e*P **P 17 57 03.7 -0.1**
TUC pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
E13A Victor 93.95 44 ⇓P **P 17 57 04.0 +0.5**
baz=94
I14A Mackay 93.98 46 ⇑P **P 17 57 04.3 +0.6**
baz=94
WUAZ Wupatki 94.03 55 ⇓P **P 17 57 04.2 +0.1**
baz=94
HVU Hansel Valley 94.07 48 *e*P **P 17 57 04.7 +0.6**
comp=Z,8.1nm,1.1s,mb5.1
HVU Hansel Valley 94.07 48 *e*P **P 17 57 04.7 +0.5**
HVU pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
Y17A Roosevelt 94.14 57 ⇑P **P 17 57 04.8 +0.1**
baz=94
H14A Leadore 94.17 46 ⇓P **P 17 57 04.8 +0.3**
baz=94
G14A Jackson 94.22 45 ⇓P **P 17 57 05.0 +0.2**
baz=94
F14A Wisdom 94.39 44 ⇑P **P 17 57 06.1 +0.5**
baz=94
K15A Arbon 94.41 48 ⇓P **P 17 57 05.9 +0.1**
baz=94
218A Dragoon 94.51 58 ⇓P **P 17 57 06.9 +0.4**
baz=95
V17A Tonalea, Kykot 94.51 55 ⇑P **P 17 57 06.5 +0.1**
baz=95
MCMT McKenzie Canyo 94.57 45 *e*P **P 17 57 06.7 +0.3**
comp=Z,2.1nm,1.1s,mb4.5
H15A Lima 94.67 46 ⇑P **P 17 57 07.6 +0.7**
baz=95
T17A Navajo Res., N 94.73 53 ⇑P **P 17 57 07.7 +0.3**
baz=95
Y18A Canyon Day Jun 94.82 57 ⇓P **P 17 57 08.3 +0.5**
baz=95
DLMT Dillon 94.84 45 *e*P **P 17 57 07.2 -0.4**
comp=Z,8.7nm,1.1s,mb5.1
S17A Black Ridge (B 94.84 53 ⇓P **P 17 57 08.5 +0.7**
baz=95
G15A Dillon 94.88 45 ⇓P **P 17 57 08.2 +0.4**
baz=95
F15A Butte 95.00 44 ⇑P **P 17 57 08.3 -0.1**
baz=95
E15A Deer Lodge 95.00 44 ⇑P **P 17 57 08.5 +0.2**
baz=95
X18A Snowflake 95.01 56 ⇓P **P 17 57 09.2 +0.5**
baz=95
K16A Soda Springs 95.12 48 ⇑P **P 17 57 09.5 +0.5**
baz=95
C15A Salmond Ranch, 95.25 43 ⇓P **P 17 57 08.9 -0.5**
baz=95
119A Ashpeak Ranch, 95.26 58 ⇓P **P 17 57 09.3 -0.5**
baz=95
W18A Petrified Fore 95.28 55 ⇑P **P 17 57 10.0 +0.2**
baz=95
I16A Newdale 95.37 47 ⇓P **P 17 57 10.7 +0.6**
baz=95
G16A Moss Hill, Enn 95.37 45 ⇓P **P 17 57 10.3 +0.3**
baz=95
B15A Bradely Ranch, 95.38 42 ⇑P **P 17 57 09.5 -0.4**
baz=96
S18A Hurst Farm, Bl 95.48 53 ⇓P **P 17 57 10.2 -0.5**
baz=96
T18A Mexican Hat 95.49 53 ⇑P **P 17 57 11.1 +0.3**
baz=96
W19A Sanders 95.56 55 ⇑P **P 17 57 11.0 -0.1**
baz=96
F16A Kennard Place, 95.58 45 ⇑P **P 17 57 11.5 +0.5**
baz=96
E16A East Helena 95.67 44 ⇑P **P 17 57 11.5 +0.2**
baz=96
R18A Canyonlands Na 95.67 52 ⇓P **P 17 57 11.9 +0.3**
baz=96
C16A Fuhringer Ranc 95.83 43 ⇓P **P 17 57 11.5 -0.6**
baz=96
U19A Dine' College, 95.89 54 ⇓P **P 17 57 13.1 +0.5**
baz=96
Z20A Nine Sixteen R 95.90 58 ⇓P **P 17 57 12.6 -0.2**
baz=96
A16A West Butte Ran 96.11 41 ⇓P **P 17 57 13.0 -0.3**
baz=96
G17A Pierce Place, 96.12 45 ⇓P **P 17 57 14.9 +1.4**
baz=96
X20A Quemado 96.20 56 ⇓P **P 17 57 15.1 +1.0**
baz=96
Y20A Horse Springs, 96.20 57 ⇓P **P 17 57 14.9 +0.8**
baz=96
E17A Martinsdale 96.22 44 ⇑P **P 17 57 14.0 +0.2**
baz=96
F17A Fitzpatrick Pl 96.27 45 ⇑P **P 17 57 14.7 +0.6**
baz=96
W20A Ramah 96.28 56 ⇓P **P 17 57 14.8 +0.4**
baz=96
D17A Six Diamond Ra 96.44 43 ⇓P **P 17 57 14.9 0.0**
baz=96
C17A Wharram Farm, 96.46 43 ⇑P **P 17 57 14.5 -0.4**
baz=96
B17A L&G Farms, Che 96.54 42 ⇑P **P 17 57 14.7 -0.6**
baz=97
PDAR Pinedale Array 96.59 48 P **P 17 57 16.1 +0.5**
comp=Z,1.5nm,0.8s,mb4.5,baz=234,slow=2.2,SNR=12
PDAR LR LR 18 35 33.7
comp=Z,514nm,18.5s,MS5.0,baz=277,slow=32
PDAR Pinedale Array 96.59 48 P **P 17 57 16.1 +0.5**
YKA Yellowknife Ar 96.69 28 P **P 17 57 13.7 -1.9**
comp=Z,1.9nm,0.8s,mb4.6,baz=257,slow=4.6,SNR=26
YKA LR LR 18 32 58.3
comp=Z,49nm,21.1s,MS4.0,baz=20,slow=30
YKA Yellowknife Ar 96.69 28 P **P 17 57 13.7 -1.9**
YKA Yellowknife Ar 96.69 28 P **P 17 57 13.7 -1.9**
A17A Triple J Farms 96.70 42 ⇓P **P 17 57 16.3 +0.3**
baz=97
X21A Alamocita Cree 96.76 56 ⇓P **P 17 57 17.3 +0.7**
baz=97
S20A Disappointment 96.78 53 ⇑P **P 17 57 16.7 +0.1**
baz=97
Y21A Point of Rocks 96.79 57 ⇓P **P 17 57 17.7 +0.9**
baz=97
R20A Redvale 96.82 53 ⇓P **P 17 57 17.5 +0.7**
baz=97
E18A Harlowton 96.88 44 ⇓P **P 17 57 17.5 +0.7**
baz=97
F18A Big Timber 96.92 45 ⇓P **P 17 57 17.6 +0.5**
baz=97
G18A Lazy EL Ranch, 96.95 45 ⇓P **P 17 57 18.0 +0.8**
baz=97
U21A Nageezi 97.14 54 ⇑P **P 17 57 18.8 +0.4**
baz=97
SNAA Sanae 97.16 185 *e* **P 17 57 16.6 -1.1**
SNAA *e* pP 17 57 32.8 -0.4
SNAA Sanae 97.16 185 *e*P **P 17 57 16.0 -1.7**
comp=Z,7.2nm,1.4s,mb4.9
SNAA Sanae 97.16 185 *e*P **P 17 57 16.0 -1.7**
SNAA pmax pmax
comp=Z,7.0nm,1.4s
EGMT Eagleton 97.19 43 ⇓P **P 17 57 18.3 +0.1**
baz=97
EGMT Eagleton 97.19 43 P **P 17 57 17.7 -0.6**
comp=Z,11nm,1.0s,mb5.2
B18A Beardsley Farm 97.22 42 ⇓P **P 17 57 18.2 -0.2**
baz=97
H19A Powell 97.26 46 ⇑P **P 17 57 18.7 0.0**
baz=97
Z22A Elephant Butte 97.27 58 ⇓P **P 17 57 19.1 +0.1**
baz=97
F19A Roth Farm, Mol 97.45 45 ⇑P **P 17 57 19.4 -0.1**
baz=98
C19A Slack Wire Ran 97.62 43 ⇑P **P 17 57 19.9 -0.3**
baz=98
E19A Rath Farm, Rou 97.64 44 ⇓P **P 17 57 20.5 +0.2**
baz=98
D19A Cripps Ranch, 97.66 44 ⇓P **P 17 57 20.4 0.0**
baz=98
U22A Llaves 97.78 54 ⇑P **P 17 57 21.6 +0.4**
baz=98
B19A Brinkman Farms 97.78 42 ⇑P **P 17 57 21.0 +0.1**
baz=98
N21A Black Mountain 97.83 50 ⇓P **P 17 57 21.7 +0.4**
baz=98
ANMO Albuquerque 97.92 56 LR LR 18 32 14.1
comp=Z,469nm,21.9s,MS4.9,baz=332,slow=30
A19A Klindworth Far 97.97 42 ⇑P **P 17 57 21.3 -0.4**
baz=98
S22A 4UR Ranch, Cre 97.98 53 ⇑P **P 17 57 22.2 +0.2**
baz=98
VNA3 Neumayer Olymp 98.05 183 *e* **P 17 57 21.1 -0.6**
E20A Meyer Farm, Mu 98.09 44 ⇓P **P 17 57 22.4 +0.1**
baz=98
Y23A Lovelace Mesa, 98.12 57 ⇑P **P 17 57 23.1 +0.4**
baz=98
D20A Manuel Ranch, 98.16 44 ⇓P **P 17 57 22.5 -0.1**
baz=98
VNA2 Neumayer--Watz 98.24 184 *e* **P 17 57 22.2 -0.4**
VNA2 *e* pP 17 57 39.1 +1.0
324A Moseley Ranch, 98.28 60 ⇑Pdiff **P 17 57 23.6 0.0**
baz=98
U23A El Rito 98.31 55 ⇓Pdiff **P 17 57 23.5 -0.1**
baz=98
C20A Veseth Ranch, 98.32 43 ⇓Pdiff **P 17 57 23.5 +0.2**
baz=98
224A Cornudas Mount 98.32 59 ⇑Pdiff **P 17 57 24.0 +0.3**
baz=98
B20A Solberg Farm, 98.39 42 ⇓Pdiff **P 17 57 23.4 -0.2**
baz=98
A20A Cobblestone Ra 98.50 42 ⇓Pdiff **P 17 57 23.6 -0.6**
baz=99
325A Bean Ranch, Si 98.70 60 ⇑Pdiff **P 17 57 24.8 -0.6**
baz=99
E21A Keefer Ranch, 98.82 44 ⇓Pdiff **P 17 57 25.2 -0.4**
baz=99
BVAR Borovoye Array 98.91 322 LR LR 18 43 55.3
comp=Z,394nm,20.2s,MS4.9,baz=84,slow=36
D21A La Casta Ranch 98.93 44 ⇑Pdiff **P 17 57 25.8 -0.2**
baz=99
V24A Rampart Ranch, 98.97 55 ⇑Pdiff **P 17 57 26.9 +0.4**
baz=99
BRVK Borovoye 98.98 322*ce*P **P 17 57 25.1 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,1.2s,mb4.7
125A Gardner Draw, 99.12 58 ⇑Pdiff **P 17 57 26.5 -0.8**
baz=99
A21A Bergtoll Ranch 99.17 42 ⇑Pdiff **P 17 57 27.0 -0.1**
baz=99
M23A Laramie 99.25 49 ⇑Pdiff **P 17 57 27.9 +0.2**
baz=99
426A McDonald Obser 99.42 61 ⇑Pdiff **P 17 57 28.9 +0.2**
baz=100
TXAR Lajitas Array 99.57 62 P Pdif 17 57 28.8 0.0
comp=Z,0.4nm,0.8s,baz=208,slow=4.3,SNR=4.3
TXAR PP PP 18 01 31.9 -2.0
comp=Z,1.1nm,1.0s,baz=244,slow=8.2,SNR=4.4
TXAR LR LR 18 38 52.0
comp=Z,631nm,18.2s,MS5.2,baz=80,slow=33
TXAR Lajitas Array 99.57 62 P Pdif 17 57 28.8 0.0
TXAR PP PP 18 01 31.9 -2.0
TXAR Lajitas Array 99.57 62 P Pdif 17 57 28.8 0.0
TXAR 18 01 31.9
W25A X Bar L Ranch, 99.58 56 ⇓Pdiff Pdif 17 57 29.6 +0.7
baz=100
U25A Circle Dot Ran 99.74 55 ⇑Pdiff Pdif 17 57 30.3 +0.7
baz=100
Z26A Caprock 99.76 58 ⇑Pdiff Pdif 17 57 30.1 +0.5
baz=100
A22A Carney Farms, 99.83 42 ⇑Pdiff Pdif 17 57 30.1 +0.1
baz=100
S25A Robets Cordova 99.85 53 ⇑Pdiff Pdif 17 57 30.7 +0.6
baz=100
ARCES ARCESS Array B 114.80 344 PKP PKiKP 18 02 24.2 -1.3
comp=Z,2.1nm,0.8s,baz=108,slow=2.9,SNR=3.4
ARCES ARCESS Array B 114.80 344 PKP PKiKP 18 02 24.2 -1.3
ARCES ARCESS Array B 114.80 344 PKIKP PKiKP 18 02 24.2 -1.3
AKASG Malin Array Be 124.05 325 PKP PKPdf 18 02 40.9 -2.9
comp=Z,0.4nm,0.4s,baz=53,slow=2.2,SNR=3.5
AKASG Malin Array Be 124.05 325 PKP PKPdf 18 02 40.9 -2.9
AKASG Malin Array Be 124.05 325 PKIKP PKPdf 18 02 40.9 -2.9
LPAZ La Paz 124.33 118 PKP PKPdf 18 02 46.1 +0.8
comp=Z,1.7nm,0.7s,baz=301,slow=1.6,SNR=6.4
LPAZ La Paz 124.33 118 PKP PKPdf 18 02 46.1 +0.8
LPAZ La Paz 124.33 118 PKIKP PKPdf 18 02 46.2 +0.8
CPUP Villa Florida 127.52 135 PKP PKPdf 18 02 50.5 -0.8
comp=Z,0.6nm,0.4s,baz=285,slow=2.0,SNR=6.0
CPUP Villa Florida 127.52 135 PKP PKPdf 18 02 50.5 -0.8
CPUP Villa Florida 127.52 135 PKIKP PKPdf 18 02 50.5 -0.8
BRG Berggiesshubel 131.76 333 *e*(P) pPKPdf 18 03 12.1 -2.4
comp=Z,4.2nm,1.2s
BRG *e* 18 03 20.0
comp=Z,3.5nm,1.3s
BRG Berggiesshubel 131.76 333 *e*PKIKP pPKPdf 18 03 12.1 -2.4
BRG *e* 18 03 20.0
BRG pmax pmax
comp=Z,4.0nm,1.2s
CLL Collm 131.87 334 *e*PKIKP PKPdf 18 03 04.0 +5.3
CLL MLR MLR
comp=Z,400nm,21.6s,MS5.1
CLL Collm 131.87 334 *e*PKSdf 18 06 32.0
CLL *e*PPS 18 17 22.0
CLL *e*SS SS 18 22 58.0 +7.2
CLL *e* 18 29 48.0
CLL Lm 19 02 00.0
comp=Z,400nm,21.6s
GERES GERESS Array B 133.29 331 PKP PKPdf 18 03 02.0 +0.6
comp=Z,0.7nm,0.9s,baz=172,slow=2.7,SNR=5.0
GERES GERESS Array B 133.29 331 PKP PKPdf 18 03 02.0 +0.6
GERES GERESS Array B 133.29 331 PKIKP PKPdf 18 03 02.0 +0.5
KEST Kesra 144.30 319 PKP PKPdf 18 03 19.5 -2.5
comp=Z,3.6nm,1.0s,baz=154,slow=1.9,SNR=4.5
KEST Kesra 144.30 319 PKP PKPdf 18 03 19.5 -2.5
ESDC Sonseca Array 148.24 338 PKPbc PKPbc 18 03 30.3 -1.6
comp=Z,0.2nm,0.3s,baz=76,slow=4.4,SNR=3.0
ESDC Sonseca Array 148.24 338 PKPbc PKPbc 18 03 30.3 -1.6
TORD Torodi Ar. Bea 159.80 279 PKP PKPdf 18 03 43.5 -2.0
comp=Z,2.7nm,1.1s,baz=101,slow=1.1,SNR=7.4
TORD Torodi Ar. Bea 159.80 279 PKP PKPdf 18 03 43.5 -2.0

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*IDC **30** 17:48:58.6±1.2, 10°.72S×161°.39E, h0km, mb3.9/8, mb1 4.1/8, mb1mx4.0/16, mbtmp3.9/8, Error ellipse: s-maj=31.4km s-min=24.0km az=162.0*
*NEIC **30** 17:49:04.9±4.1, 10°.60S×161°.29E, h41km±31km, mb4.2/2, Error ellipse: s-maj=42.8km s-min=18.3km az=116.0*
*ISCJB **30** 17:49:06.2±3.4, 10°.55±0°.1×161°.3E±0°.2, h60km±25km, mb3.8/9, Error ellipse: s-maj=33.7km s-min=18.0km az=25.8*

ISC 30 17:49:06.5±3.4, 10°.5S±0°.1×161°.3E±0°.2, h50km±26km, n24, σ1°.21/26, mb3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.72**	**308**	Pn		**Pn**	**17 49 33.6**	**-0.3**
	102nm,0.3s,baz=170,slow=3.6,SNR=9.4							
HNR				Sn		**Sn**	**17 49 57.6**	**+2.8**
	290nm,0.3s,baz=326,slow=18,SNR=7.7							
HNR	**Honiara**	**1.72**	**308**	*e*Pn		**Pn**	**17 49 32.0**	**-2.0**
HNR				*e*Sn		**Sn**	**17 49 54.3**	**-0.5**
CTA	**Charters Tower**	**17.37**	**235**	P		**Pn**	**17 53 07.0**	**+1.5**
	0.5nm,0.3s,baz=67,slow=13,SNR=7.4							
CTA	**Charters Tower**	**17.37**	**235**	P		**Pn**	**17 53 07.0**	**+1.5**
CTAO	**Charters Tower**	**17.37**	**235**	*e*Pn		**Pn**	**17 53 05.8**	**+0.4**
	13nm,0.8s							
WRAB	**Tennant Creek**	**27.63**	**247**	*e*P		**P**	**17 54 51.5**	**+1.9**
	3.9nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**27.64**	**247**	P		**P**	**17 54 49.3**	**-0.4**
	2.2nm,0.6s,mb3.9,baz=75,slow=9.4,SNR=5.2							
WRA	**Warramunga Arr**	**27.64**	**247**	P		**P**	**17 54 49.3**	**-0.4**
STKA	**Stephens Creek**	**28.02**	**218**	P		**P**	**17 54 48.6**	**-4.4**
ASAR	**Alice Springs**	**29.23**	**240**	P		**P**	**17 55 01.0**	**-2.8**
	0.7nm,0.6s,mb3.6,baz=65,slow=9.7,SNR=4.6							
ASAR	**Alice Springs**	**29.23**	**240**	P		**P**	**17 55 01.0**	**-2.8**
CMAR	**Chiang Mai Arr**	**67.92**	**295**	P		**P**	**18 00 00.8**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=129,slow=4.6,SNR=4.2							
CMAR	**Chiang Mai Arr**	**67.92**	**295**	P		**P**	**18 00 00.8**	**+0.3**
SONM	**Songino Array**	**75.70**	**325**	P		**P**	**18 00 47.5**	**+0.9**
	0.5nm,0.7s,mb3.6,baz=134,slow=5.2,SNR=4.7							
SONM	**Songino Array**	**75.70**	**325**	P		**P**	**18 00 47.5**	**+0.9**
ILAR	**Eielson Array**	**84.42**	**20**	P		**P**	**18 01 33.1**	**-0.1**
	0.8nm,1.0s,mb3.8,baz=244,slow=5.3,SNR=5.3							
ILAR	**Eielson Array**	**84.42**	**20**	P		**P**	**18 01 33.1**	**-0.1**
NVAR	**Mina Array Bea**	**89.02**	**51**	P		**P**	**18 01 57.6**	**+1.3**
	0.2nm,0.3s,mb3.9,baz=244,slow=5.5,SNR=3.3							
NVAR	**Mina Array Bea**	**89.02**	**51**	P		**P**	**18 01 57.6**	**+1.3**
MK31	**Makanchi Array**	**90.17**	**318**	*e*P		**P**	**18 02 00.3**	**-1.1**
MKAR	**Makanchi Array**	**90.17**	**318**	P		**P**	**18 02 00.8**	**-0.7**
	0.5nm,0.5s,mb4.1,baz=94,slow=6.1,SNR=13							
MKAR	**Makanchi Array**	**90.17**	**318**	P		**P**	**18 02 00.8**	**-0.7**
YKA	**Yellowknife Ar**	**96.50**	**28**	P		**P**	**18 02 30.0**	**-0.2**
	0.2nm,0.6s,mb3.7,baz=261,slow=4.5,SNR=2.8							
YKA	**Yellowknife Ar**	**96.50**	**28**	P		**P**	**18 02 30.0**	**-0.2**

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*IDC **30** 17:51:07.4±0.6, 10°.59S×161°.29E, h0km, mb4.4/19, mb1 4.6/20, mb1mx4.6/22, mbtmp4.5/20, ML4.6/1, Error ellipse: s-maj=19.8km s-min=15.0km az=111.0*
*ISCJB **30** 17:51:12.5±1.1, 10°.66S±0°.05×161°.38E±0°.06, h53km±9km, mb4.7/46, MS4.8/8, Error ellipse: s-maj=9.5km s-min=7.6km az=168.2*
*NEIC **30** 17:51:15.0±1.1, 10°.62S×161°.32E, h61km±10km, mb4.8/25, Error ellipse: s-maj=8.1km s-min=7.4km az=106.0*

ISC 30 17:51:14.4±1.0, 10°.66S±0°.05×161°.38E±0°.06, h55km±8km, h62km±.6km:pP-P, n114, σ0°.99/114, mb4.7/46, MS4.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.86**	**311**	Pn		**Pn**	**17 51 42.5**	**-1.4**
	182nm,0.3s,baz=122,slow=9.5,SNR=3.0							
HNR				Sn		**Sn**	**17 52 05.4**	**-1.0**
	622nm,0.3s,baz=76,slow=23,SNR=3.7							
HNR	**Honiara**	**1.86**	**311**	Pn		**Pn**	**17 51 42.5**	**-1.4**
HNR				Sn		**Sn**	**17 52 05.4**	**-1.0**
HNR				*e*Sn		**Sn**	**17 52 09.0**	**+2.6**
DZM	**Mont Dzumac**	**12.34**	**157**	*e*LR		LR	17 56 49.1	
	748nm,25.6s							
PMG	**Port Moresby**	**14.06**	**274**	Pn		**Pn**	**17 54 33.9**	**+3.1**
	0.3nm,0.3s,baz=82,slow=4.9,SNR=7.8							
PMG	**Port Moresby**	**14.06**	**274**	*e*Pn		**Pn**	**17 54 32.9**	**+2.1**
	30nm,1.0s							
CTA	**Charters Tower**	**17.32**	**235**	P		**Pn**	**17 55 11.9**	**-0.6**
	1.4nm,0.3s,baz=64,slow=13,SNR=27							

CTA	Charters Tower	17.32 235	P	Pn	17 55 11.9	-0.6
CTAO	Charters Tower	17.32 235	eP	Pn	17 55 13.1	+0.6
	51nm,0.8s					
EIDS	Eidsvold	17.59 212	eP	Pn	17 55 16.1	+0.4
	43nm,1.2s					
MSVF	Nonsavu	17.62 115	Pn	Pn	17 55 15.8	-0.4
	27nm,1.1s					
COEN	Coen	18.08 258	eP	Pn	17 55 23.4	+1.5
COEN	Coen	18.08 258	eP	Pn	17 55 22.9	+1.1
	206nm,1.0s					
MTSU	Mount Surprise	18.11 244	eP	Pn	17 55 23.4	+1.3
	75nm,0.8s					
RMQ	Roma	19.74 215	eP	Pn	17 55 41.0	-0.7
	136nm,0.9s					
ARMA	Armidale	21.65 203	eP	P	17 56 00.9	+0.6
WRAB	Tennant Creek	27.61 247	eP	P	17 56 55.8	-1.1
	39nm,1.1s,mb5.0					
WB2	Warramunga Arr	27.61 247	eP	P	17 56 56.3	-0.6
WRA	Warramunga Arr	27.63 247	P	P	17 56 56.5	-0.5
	11nm,0.8s,mb4.5,baz=75,slow=9.4,SNR=15					
WRA	Warramunga Arr	27.63 247	P	P	17 56 56.5	-0.5
STKA	Stephens Creek	27.93 218	P	P	17 56 58.8	-0.7
	2.6nm,0.8s,mb3.9,baz=47,slow=15,SNR=2.7					
STKA	Stephens Creek	27.93 218	eP	P	17 57 00.7	+1.1
STKA	Stephens Creek	27.93 218	eP	P	17 56 58.8	-0.8
ASAR	Alice Springs	29.19 240	P	P	17 57 10.0	-0.9
	4.2nm,1.0s,mb4.1,baz=62,slow=10.0,SNR=7.5					
ASAR	Alice Springs	29.19 240	P	P	17 57 10.0	-0.9
URZ	Urewera	30.89 155	P	P	17 57 27.6	+1.9
	3.8nm,0.7s,mb4.4,baz=291,slow=8.6,SNR=5.0					
URZ	Urewera	30.89 155	P	P	17 57 27.6	+1.9
BBOO	Buckleoo	32.07 223	eP	P	17 57 36.6	+0.4
FITZ	Fitzroy Crossi	35.35 254	P	P	17 58 04.1	-0.8
	4.5nm,0.6s,mb4.6,baz=84,slow=8.8,SNR=3.9					
FITZ	Fitzroy Crossi	35.35 254	eP	P	17 58 04.2	-0.7
FITZ	Fitzroy Crossi	35.35 254	P	P	17 58 04.1	-0.8
MBWA	Marble Bar	41.27 250	P	P	17 58 53.5	-1.2
	28nm,1.0s,mb4.8					
KKM	Kota Kinabalu	47.93 288	eP	P	17 59 50.8	+3.0
	27nm,0.8s,mb5.3					
PPT2	Papeete2	47.95 104	eLR	LR	18 13 29.7	
	374nm,23.2s					
TBI	Tubuai	48.46 112	eLR	LR	18 13 39.6	
	124nm,33.8s					
MJAR	Matsushiro Arr	51.77 336	P	P	18 00 15.6	-1.0
	2.8nm,0.7s,mb4.3,baz=169,slow=8.7,SNR=7.9					
MJAR	Matsushiro Arr	51.77 336	P	P	18 00 15.6	-1.0
MAJO	Matsushiro	51.77 336	eP	P	18 00 15.2	-1.4
MAT	Matsushiro	51.77 336	P	P	18 00 15.4	-1.2
KSM	Kuching	52.21 280	eP	P	18 00 20.3	0.0
	10nm,0.7s,mb4.9					
ASAJ	Asahikawa	57.12 344	P	P	18 00 56.1	+0.8
	12nm,0.8s,mb5.0,baz=205,slow=18,SNR=4.2					
ASAJ	Asahikawa	57.12 344	eP	P	18 00 54.6	-0.7
	15nm,0.9s,mb5.0					
KSRS	Korea Array	57.22 329	P	P	18 00 56.6	+0.5
	2.7nm,1.0s,mb4.2,baz=141,slow=7.4,SNR=4.7					
KSAR	Wonju Array Be	57.23 329	P	P	18 00 56.6	+0.5
QIZ	Qiongzhong	58.74 300	P	P	18 01 08.3	+1.2
QIZ			S	S	18 09 09.5	+1.1
QIZ			LR	LR		
	comp=Z,980nm,27.1s,MS4.8					
NJ2	Nanjing	58.79 318	eP	P	18 01 09.0	+1.8
NJ2			pP	pP	18 01 25.5	+3.3
NJ2			sP	sP	18 01 32.8	+4.4
NJ2			PP	PP	18 03 23.8	+5.9
NJ2			S	S	18 09 09.0	+0.3
NJ2			sS	sS	18 09 36.0	+2.2
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0					
NJ2			LR	LR		
	comp=N,540nm,15.0s,MS4.9					
NJ2			LR	LR		
	comp=E,510nm,17.9s,MS4.9					
NJ2			LR	LR		
	comp=Z,640nm,17.9s,MS4.8					
USRK	Ussuriysk Arra	60.76 336	P	P	18 01 21.4	+0.8
	comp=Z,7.9nm,0.9s,mb4.8,baz=123,slow=7.0,SNR=8.3					
RKT	Rikitea	61.74 111	eLR	LR	18 19 48.5	
	comp=Z,305nm,26.2s					
MDJ	Mudanjiang	62.09 335	eP	P	18 01 29.6	+0.2
KULM	Kulim	62.50 282	P	P	18 01 36.7	+3.9
	comp=Z,5.1nm,0.8s,mb4.7					
CN2	Changchun	63.28 332	eP	P	18 01 41.8	+4.4
CN2			epP	pP	18 01 58.0	+5.5
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,700nm,18.0s,MS5.0					
CN2			LR	LR		
	comp=E,500nm,18.0s,MS5.0					
CN2			LR	LR		
	comp=Z,700nm,18.0s,MS4.9					
GYA	Guiyang	64.69 306	P	P	18 01 49.3	+2.3
GYA			pP	pP	18 02 06.0	+3.9
GYA			sP	sP	18 02 12.8	+4.5
GYA			PP	PP	18 04 14.0	+4.0
GYA			ScP		18 06 17.5	
GYA			S	S	18 10 23.5	+0.1
GYA			sS	sS	18 10 51.0	+2.2
GYA			SS	SS	18 14 38.0	+2.5
GYA			pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1					
GYA			pmax	pmax		
	comp=Z,110nm,5.0s					
GYA			LR	LR		
	comp=N,460nm,18.7s,MS4.8					
GYA			LR	LR		
	comp=E,420nm,19.0s,MS4.8					
GYA			LR	LR		
	comp=Z,490nm,18.8s,MS4.7					
BJI	Beijing	65.55 323	P	P	18 01 53.5	+1.2
BJI			S	S	18 10 35.5	+2.0
BJI			pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9					
BJI			pmax	pmax		
	comp=Z,130nm,5.1s					
BJI			LR	LR		
	comp=N,540nm,23.7s,MS4.9					
BJI			LR	LR		
	comp=E,570nm,20.6s,MS4.9					
BJI			LR	LR		
	comp=Z,830nm,26.4s					
VNDA	Vanda	66.85 180	eP	P	18 02 00.5	+0.4
	comp=Z,3.0nm,0.8s,mb4.4					
KMI	Kunming	67.28 303	P	P	18 02 04.5	+0.8
KMI			PP	PP	18 04 32.8	+0.1
KMI			S	S	18 10 56.0	+0.9
KMI			SS	SS	18 15 20.5	+4.6
KMI			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7					
KMI			pmax	pmax		
	comp=Z,61nm,3.4s					
KMI			LR	LR		
	comp=N,150nm,18.9s,MS4.6					
KMI			LR	LR		
	comp=E,350nm,21.9s,MS4.6					
KMI			LR	LR		
	comp=Z,470nm,22.5s,MS4.7					
CM31	Chiang Mai Arr	68.04 295	eP	P	18 02 09.2	+0.6
	comp=Z,7.3nm,0.9s,mb4.7					
CMAR	Chiang Mai Arr	68.04 295	P	P	18 02 09.2	+0.6
	comp=Z,3.4nm,0.8s,mb4.4,baz=119,slow=4.9,SNR=15					
CMAR	Chiang Mai Arr	68.04 295	P	P	18 02 09.2	+0.6
CHTO	Chiang Mai	68.16 295	eP	P	18 02 09.3	0.0
	comp=Z,7.3nm,1.1s,mb4.6					
HHC	Hu-ho-hao-te	68.81 322	eP	P	18 02 14.8	+1.8
HHC			pP	pP	18 02 31.0	+2.8
HHC			sP	sP	18 02 38.3	+3.9
HHC			PP	PP	18 04 49.8	+4.1
HHC			S	S	18 11 13.3	+0.6
HHC			sS	sS	18 11 41.8	+3.4
HHC			ScS	ScS	18 12 07.0	-1.7
HHC			pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9					
HHC			pmax	pmax		
	comp=Z,180nm,4.9s					
HHC			LR	LR		
	comp=N,300nm,15.7s,MS4.8					
HHC			LR	LR		
	comp=E,380nm,16.6s,MS4.8					
HHC			LR	LR		
	comp=Z,390nm,19.0s,MS4.7					
CD2	Chengdu	68.99 309	eP	P	18 02 15.3	+1.0
CD2			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8					
SONM	Songino Array	75.86 325	P	P	18 02 55.2	+0.3
	comp=Z,3.8nm,0.9s,mb4.3,baz=141,slow=5.5,SNR=9.0					
SONM	Songino Array	75.86 325	P	P	18 02 55.2	+0.3
YAK	Yakutsk	76.57 345	eP	P	18 02 58.1	-0.4
	comp=Z,12nm,0.7s,mb5.0					
KDAK	Kodiak Island	77.86 23	P	P	18 03 06.5	+0.6
	comp=Z,9.1nm,0.7s,mb4.8,baz=301,slow=5.9,SNR=3.4					
KDAK	Kodiak Island	77.86 23	P	P	18 03 06.5	+0.6
BILL	Bilibino	78.57 2	eP	P	18 03 09.4	-0.2
	comp=Z,11nm,1.0s,mb4.8					
QSPA	South Pole Qui	79.34 180	P	P	18 03 14.9	+1.1
	comp=Z,6.0nm,0.9s,mb4.5,baz=23,slow=2.2,SNR=12					
QSPA	South Pole Qui	79.34 180	eP	P	18 03 14.7	+0.9
	comp=Z,11nm,1.2s,mb4.7					
TAPN	Taplejung	80.68 300	eP	P	18 03 20.6	-1.4
	comp=Z,11nm,1.2s,mb4.7					
TAPN	Taplejung	80.68 300	eP	P	18 03 20.6	-1.4
	comp=Z,11nm,1.2s,mb4.7					
ODAN	Odare	80.81 300	eP	P	18 03 21.4	-1.3
ODAN	Odare	80.81 300	eP	P	18 03 21.4	-1.3
RAMN	Ramite	81.52 299	eP	P	18 03 25.8	-0.6
RAMN	Ramite	81.52 299	eP	P	18 03 25.8	-0.6
JIRN	Jiri	82.06 300	eP	P	18 03 27.9	-1.4
	comp=Z,1.6nm,0.4s,mb4.3					
JIRN	Jiri	82.06 300	eP	P	18 03 27.9	-1.4
	comp=Z,1.6nm,0.4s,mb4.3					
GUN	Gumba	82.40 300	eP	P	18 03 30.4	-0.7
GUN	Gumba	82.40 300	eP	P	18 03 30.4	-0.7
TRF	Thorofare Moun	82.56 20	eP	P	18 03 31.4	+0.3
	comp=Z,8.2nm,1.0s,mb4.7					
PKI	Pulchoki	82.71 300	eP	P	18 03 32.4	-0.3
PKI	Pulchoki	82.71 300	eP	P	18 03 32.4	-0.3
KKN	Kakani	82.88 300	eP	P	18 03 33.1	-0.4
	comp=Z,8.7nm,0.8s,mb4.8					
KKN	Kakani	82.88 300	eP	P	18 03 33.1	-0.4
	comp=Z,8.7nm,0.8s,mb4.8					
DMN	Daman	82.97 300	eP	P	18 03 34.2	+0.1
	comp=Z,28nm,1.1s,mb5.2					
DMN	Daman	82.97 300	eP	P	18 03 34.2	+0.1
	comp=Z,28nm,1.1s,mb5.2					
MCK	McKinley	83.20 20	eP	P	18 03 34.7	+0.3
	comp=Z,27nm,1.1s,mb5.2					
GKN	Gorkha	83.48 300	eP	P	18 03 36.0	-0.7
	comp=Z,21nm,0.8s,mb5.2					
GKN	Gorkha	83.48 300	eP	P	18 03 36.0	-0.7
	comp=Z,21nm,0.8s,mb5.2					
KOLN	Koldanda	84.30 300	eP	P	18 03 40.2	-0.7
	comp=Z,12nm,0.7s,mb5.2					
KOLN	Koldanda	84.30 300	eP	P	18 03 40.2	-0.7
	comp=Z,12nm,0.7s,mb5.2					
DANN	Dangsing	84.32 300	eP	P	18 03 40.4	-0.5
DANN	Dangsing	84.32 300	eP	P	18 03 40.4	-0.5
ILAR	Eielson Array	84.56 20	P	P	18 03 41.5	+0.2
	comp=Z,1.7nm,0.9s,mb4.2,baz=259,slow=4.4,SNR=12					
ILAR	Eielson Array	84.56 20	P	P	18 03 41.5	+0.2
WMQ	Urumqi	85.81 316	eP	P	18 03 48.0	0.0
WMQ			LR	LR		
	comp=N,130nm,17.8s,MS4.6					
WMQ			LR	LR		
	comp=E,170nm,18.2s,MS4.6					
WMQ			LR	LR		
	comp=Z,160nm,17.8s,MS4.5					
NVAR	Mina Array Bea	89.08 51	P	P	18 04 05.8	+1.9
	comp=Z,1.5nm,0.8s,mb4.3,baz=241,slow=7.8,SNR=8.3					
NVAR	Mina Array Bea	89.08 51	P	P	18 04 05.8	+1.9
WVOR	Wild Horse Val	89.83 47	eP	P	18 04 07.2	-0.1
	comp=Z,3.9nm,0.3s,mb5.2					
MK31	Makanchi Array	90.32 318	eP	P	18 04 08.7	-0.8
MKAR	Makanchi Array	90.32 318	P	P	18 04 08.7	-0.8
	comp=Z,1.2nm,0.5s,mb4.5,baz=96,slow=5.4,SNR=15					
MKAR	Makanchi Array	90.32 318	P	P	18 04 08.7	-0.8
ZALV	Zalesovo Beam	90.75 325	P	P	18 04 09.8	-1.5
	comp=Z,0.4nm,0.4s,mb4.1,baz=108,slow=4.8,SNR=4.1					
ZALV	Zalesovo Beam	90.75 325	P	P	18 04 09.8	-1.5
KSH	Kashi	93.18 309	eP	P	18 04 22.3	-0.6
KSH			pP	pP	18 04 39.5	+0.7
KSH			sP	sP	18 04 45.8	+1.0
KSH			PP	PP	18 08 07.3	+0.2
KSH			SKS		18 14 48.5	
KSH			S	S	18 15 19.0	-6.8
KSH			pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.3					
KSH			pmax	pmax		
	comp=Z,71nm,4.8s					
KSH			LR	LR		
	comp=N,120nm,4.9s					
KSH			LR	LR		
	comp=E,120nm,4.4s					
KSH			LR	LR		
	comp=Z,150nm,5.4s					
KURK	Kurchatov	93.62 321	P	P	18 04 19.9	-4.7
PDAR	Pinedale Array	96.46 48	P	P	18 04 38.2	+0.4
	comp=Z,0.5nm,0.9s,mb3.9,baz=222,slow=2.2,SNR=2.8					
PDAR	Pinedale Array	96.46 48	P	P	18 04 38.2	+0.4
YKA	Yellowknife Ar	96.62 28	P	P	18 04 37.4	-0.7
	comp=Z,1.2nm,0.9s,mb4.3,baz=254,slow=4.5,SNR=9.9					
YKA	Yellowknife Ar	96.62 28	P	P	18 04 37.4	-0.7
SNAA	Sanae	97.18 185	eP	P	18 04 39.0	-1.6
VNA3	Neumayer Olymp	98.06 183	e	P	18 04 44.6	0.0
VNA2	Neumayer--Watz	98.25 184	e	P	18 04 43.9	-1.5
LPAZ	La Paz	124.18 118	PKP	PKPdf	18 10 11.3	+3.5
	comp=Z,0.6nm,0.5s,baz=275,slow=2.9,SNR=3.2					
LPAZ	La Paz	124.18 118	PKP	PKPdf	18 10 11.3	+3.5

CASC 30 18:00:12.6±1.4, 13°.41N×90°.45W, h28km±4km, MD3.4, ML3.6, 3C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.76	360⇑	eP	Pb	18 00 27.0	-0.2
SBLS	San Blas	0.91	62	eP	Pn	18 00 29.5	0.0
SBLS				eS	Sb	18 00 42.5	+0.9
RTR	El Retiro	0.92	58⇑	eP	Pn	18 00 29.8	+0.2
RTR				eS	Sb	18 00 42.7	+0.9
SNJE	San Jose	0.94	61⇑	eP	Pn	18 00 30.0	0.0
SNJE				eS	Sb	18 00 42.8	+0.4
PCG	Pacaya	0.99	351	eP	Pn	18 00 30.3	-0.3
RBDL	Robledal	1.02	47	eP	Pn	18 00 30.9	-0.1
FUG	Fuego 3	1.09	340	eP	Pn	18 00 31.0	-1.1
NBG	Las Nubes	1.17	5	eP	Pn	18 00 34.1	+1.0
NBG				eS	Sn	18 00 50.3	+2.1
BOQS	Boqueron	1.18	74	eP	Pn	18 00 33.8	+0.4
BOQS				eS	Sn	18 00 49.7	+1.2
SNET	Serv Nac Est T	1.22	77	eP	Pn	18 00 34.1	+0.3
SNET				AML	AML	18 00 52.5	
	comp=Z,1μm,0.3s						
LFRS	El Faro	1.37	81	eP	Pn	18 00 36.4	+0.6
LFRS				eS	Sn	18 00 53.8	+0.7
JAT	Jato	1.46	308	eP	Pn	18 00 36.5	-0.7
SNVI	San Vicente	1.58	83	eP	Pn	18 00 39.2	+0.4

*ISCJB **30** 18:01:08.3±0.6, 41°.04N±0°.03×143°.35E±0°.06, h33km, mb3.5/6, Error ellipse: s-maj=6.9km s-min=3.6km az=31.7*
*JMA **30** 18:01:08.2±0.1, 41°.03N×143°.29E, h33km, M3.2*
*IDC **30** 18:01:11.4±2.9, 40°.99N×143°.19E, h46km±27km, mb3.3/6, mb1 3.3/8, mb1mx3.2/25, mbtmp3.3/8, ML2.6/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/29, Error ellipse: s-maj=31.5km s-min=21.1km az=97.0*
*NEIC **30** 18:01:11.0±1.1, 41°.07N×143°.20E, h40km±11km, Error ellipse: s-maj=21.0km s-min=9.2km az=115.0*

ISC 30 18:01:10.1±0.6, 41°.09N±0°.03×143°.28E±0°.06, h35km, n31, σ0§88/42, mb3.5/6, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	Erimo	0.93	354	ePn	Pn	18 01 26.1	-0.6
ERM				eSn	Sn	18 01 38.6	-0.2
JEM	Erimo	0.93	354	P	Pn	18 01 26.1	-0.6
JEM				eS	Sn	18 01 38.6	-0.2
JNBK	Urakawa-nobuka	1.25	342	P	Pn	18 01 30.9	-0.2
JNBK				eS	Sn	18 01 48.0	+1.2
JANG	Nango	1.52	243	⇑P	Pn	18 01 33.5	-1.2
JANG				eS	Sn	18 01 52.0	-1.3
JCH	Churui	1.53	2	P	Pn	18 01 34.5	-0.4
JCH				eS	Sn	18 01 53.3	-0.2
JTM	Tenmabayashi	1.70	261	P	Pn	18 01 37.0	-0.3
JTM				eS	Sn	18 01 57.9	+0.1
JOT	Ohata	1.71	281	P	Pn	18 01 36.7	-0.6
JOT				eS	Sn	18 01 57.7	-0.2
JKB	Kayabe	1.87	296	P	Pn	18 01 39.1	-0.4
JKB				eS	Sn	18 02 02.1	+0.2
JAK	Akkeshi	2.18	28	P	Pn	18 01 43.2	-0.6
JAK				eS	Sn	18 02 08.4	-1.2
JOM	Ohasama	2.22	224	P	Pn	18 01 44.5	+0.2
JOM				eS	Sn	18 02 10.9	+0.4
JEW	Eniwo	2.22	323	P	Pn	18 01 46.0	+1.6
JEW				eS	Sn	18 02 14.5	+3.9
JAR	Ashorobuto	2.24	9	P	Pn	18 01 44.0	-0.6
JAR				S	Sn	18 02 09.8	-1.2
ASAJ	Asahikawa	3.07	351	P	Pn	18 01 57.9	+1.9
	0.5nm,0.3s,baz=212,slow=13,SNR=4.7						
ASAJ	Asahikawa	3.07	351	P	Pn	18 01 57.9	+1.9
MJAR	Matsushiro Arr	6.02	223	P	Pn	18 02 36.7	0.0
	0.2nm,0.3s,baz=30,slow=12,SNR=5.1						
MJAR	Matsushiro Arr	6.02	223	P	Pn	18 02 36.7	0.0
MAJO	Matsushiro	6.02	223	Pn	Pn	18 02 37.6	+1.0
PET	Petropavlovsk	15.84	36	P	Pn	18 04 52.1	+1.9
SONM	Songino Array	26.98	297	P	P	18 06 48.5	+0.1
	0.2nm,0.7s,mb2.8,baz=92,slow=7.6,SNR=2.7						
SONM	Songino Array	26.98	297	P	P	18 06 48.5	+0.1
ZALV	Zalesovo Beam	40.38	309	P	P	18 08 45.9	+1.6
	1.0nm,0.4s,mb3.9,baz=97,slow=8.1,SNR=5.4						
ZALV	Zalesovo Beam	40.38	309	P	P	18 08 45.9	+1.6
MKAR	Makanchi Array	43.32	299	P	P	18 09 07.9	-0.5
	0.2nm,0.5s,mb3.1,baz=84,slow=11,SNR=7.1						
MKAR	Makanchi Array	43.32	299	P	P	18 09 07.9	-0.5
INK	Inuvik	50.13	29	P	P	18 10 02.7	+1.3
	0.3nm,0.5s,mb3.6,baz=242,slow=15,SNR=2.5						
INK	Inuvik	50.13	29	P	P	18 10 02.7	+1.3
RES	Resolute Bay	58.32	15	LR	LR	18 38 26.3	
	comp=Z,114nm,19.8s,baz=239,slow=38						
ASAR	Alice Springs	65.01	189	P	P	18 11 45.9	-0.6
	0.3nm,0.8s,mb3.4,baz=355,slow=6.5,SNR=3.1						
ASAR	Alice Springs	65.01	189	P	P	18 11 45.9	-0.6
FINES	FINESS Array B	65.91	332	P	P	18 11 51.7	-0.3
	1.0nm,0.6s,mb4.0,baz=64,slow=6.3,SNR=4.2						
FINES	FINESS Array B	65.91	332	P	P	18 11 51.7	-0.3

*BJI **30** 18:09:16.7, 11°.10S×118°.94E, h60km, mB5.1/30, mb5.1/51, Ms4.9/26, Ms7 4.5/25*
*NEIC **30** 18:09:24.8±0.9, 10°.25S×118°.46E, h49km±9km, mb5.2/39, Error ellipse: s-maj=9.0km s-min=4.7km az=56.0*
NEIC Felt [III] at Waingapu.
*IDC **30** 18:09:24.2±0.8, 10°.13S×118°.44E, h36km±6km, mb4.8/21, mb1 4.8/23, mb1mx4.8/24, mbtmp4.8/23, ML4.9/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/29, Error ellipse: s-maj=20.3km s-min=10.8km az=59.0*
*ISCJB **30** 18:09:25.4±0.4, 10°.41S±0°.03×118°.49E±0°.02, h78km±3km, mb5.1/78, Error ellipse: s-maj=5.4km s-min=3.6km az=23.2*
*DJA **30** 18:09:26.8±0.3, 10°.5S±3°×11°.8E±°, h49km±4km, M5.3/6, mB5.7/34, mb5.5/56, MLv5.9/17, Mw(mB)5.2/34*

ISC 30 18:09:27.1±0.3, 10°.40S±0°.03×118°.51E±0°.02, h76km±3km, h61km±1.6km: pP-P, n235, σ1§17/243, mb5.1/78, 25C-1D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.91	68	P	Pn	18 09 56.2	-1.5
WSI				S	Sn	18 10 18.9	-2.0
MTNI	Mataram	2.89	307	P	Pn	18 10 10.3	-0.7
MTNI				S	Sn	18 10 44.1	-0.6
KHKI	Kahang-Kahang	3.50	305	P	Pn	18 10 19.2	0.0
KHKI				S	Sn	18 10 59.4	-0.1
IGBI	Denpasar	3.67	295	P	Pn	18 10 20.7	-0.8
IGBI				S	Sn	18 11 02.1	-1.5
MMRI	Maumere	4.08	65	P	Pn	18 10 25.6	-1.5
NBBI	Negara	4.33	297	P	Pn	18 10 30.1	-0.5
BKSI	Bulukumba	5.29	18	P	Pn	18 10 43.3	-0.4
	13nm2μm,0.6s						
GMJI	Gumukmas	5.42	292	P	Pn	18 10 43.7	-1.8
	6.8nm737nm,0.8s						
KAPI	Kappang	5.49	13	Pn	Pn	18 10 45.3	-1.0
	80nm,0.3s,baz=198,slow=8.2,SNR=265						
KAPI				Sn	Sn	18 11 40.7	-7.5
	255nm,0.3s,baz=87,slow=24,SNR=13						
KAPI				LR	LR	18 13 45.4	
	comp=Z,350nm,18.2s,baz=202,slow=50						
KAPI	Kappang	5.49	13	ePn	Pn	18 10 45.0	-1.4
	15nm,1.4s						
KAPI				Sn	Sn	18 11 40.7	-7.5
KAPI				eSn	Sn	18 11 42.3	-5.8
KAPI	Kappang	5.49	13	P	Pn	18 10 45.2	-1.2
	5.4nm986nm,0.7s						
KAPI	Kappang	5.49	13	P	Pn	18 10 45.6	-0.8
	SNR=19						
BLJI	Banyuglugur	5.52	298	P	Pn	18 10 45.7	-1.1
	7.1nm886nm,0.5s						
KMMI	Kalianget	5.58	306	P	Pn	18 10 49.1	+1.4
	2.0nm5μm499nm,0.6s						
KRKI	Karangkates	6.38	290	P	Pn	18 10 57.6	-0.9
	18nm1μm,0.7s						
SPSI	Sidrap Palu	6.51	11	P	Pn	18 11 00.5	+0.1
	4μm321nm,0.6s						
MJSI	Majene	6.82	4	P	Pn	18 11 05.2	+0.7
	10nm2μm,0.6s						
PWJI	Pagerwojo	7.02	289	P	Pn	18 11 05.5	-1.9
	5.1nm320nm,0.5s						
SJI	Sawahan	7.16	291	P	Pn	18 11 06.9	-2.3
	4.6nm400nm,0.6s						
TTSI	Tana Toraja	7.42	10	P	Pn	18 11 14.1	+1.3
	4μm543nm,0.7s						
KBKI	Kotabaru	7.42	342	P	Pn	18 11 12.9	+0.1
	4μm290nm,0.6s						
PCJI	Pacitan	7.56	286	P	Pn	18 11 15.0	+0.4
	4.6nm535nm,0.4s						
KDI	Kendari	7.59	33	P	Pn	18 11 15.7	+0.7
	0.3nm891nm82nm,0.9s						
BBKI	Banjar Baru	7.79	332	P	Pn	18 11 18.8	+1.0
	2.6nm6μm779nm,1.0s						
BJII	Banjamegara	9.21	289	P	Pn	18 11 38.8	+1.6
	2μm190nm,1.0s						
SMKI	Samarinda	9.97	352	P	Pn	18 11 49.7	+2.1
	396nm,0.8s						
LUWI	Luwuk	10.21	25	P	Pn	18 11 52.5	+1.6
	98nm,1.0s						
PBKI	Pangkalan Bun	10.22	318	P	Pn	18 11 52.8	+1.8
	2μm211nm,1.2s						
FITZ	Fitzroy Crossi	10.32	139	Pn	Pn	18 11 52.2	-0.1
	7.2nm,0.3s,baz=326,slow=8.0,SNR=133						
FITZ				Sn	Sn	18 13 37.0	-9.3
	42nm,0.3s,baz=192,slow=18,SNR=15						
FITZ				LR	LR	18 15 44.3	
	comp=Z,475nm,21.7s,baz=334,slow=36						
FITZ	Fitzroy Crossi	10.32	139	eP	Pn	18 11 52.1	-0.2
FITZ				eS	Sn	18 13 38.7	-7.6
FITZ	Fitzroy Crossi	10.32	139	ePn	Pn

2μm236nm,0.6s
MYLDM **Lahad Datu** 15.47 360 P Pn 18 13 04.3 +3.3
2μm221nm,0.9s
KKM **Kota Kinabalu** 16.49 352 P Pn 18 13 15.0 +1.2
2μm207nm,0.7s
KSI **Kapahiang** 17.15 292 P Pn 18 13 19.8 -2.2
241nm,0.7s
WRA **Warramunga Arr** 17.97 124 P Pn 18 13 31.4 -0.6
4.4nm,0.3s,baz=303,slow=14,SNR=236
WRA S S 18 16 36.4 -17
9.9nm,0.3s,baz=294,slow=22,SNR=9.4
WRA LR LR 18 20 41.7
comp=Z,387nm,21.0s,baz=65,slow=37
WRA **Warramunga Arr** 17.97 124 P Pn 18 13 31.4 -0.6
WRA S S 18 16 36.4 -17
WRAB **Tennant Creek** 17.98 124 eP Pn 18 13 31.3 -0.7
51nm,0.6s
WRAB **Tennant Creek** 17.98 124 P Pn 18 13 31.7 -0.3
146nm,0.8s
WRAB **Tennant Creek** 17.98 124 P Pn 18 13 31.0 -1.0
509nm,0.7s,SNR=98
WB2 **Warramunga Arr** 17.98 124 eP Pn 18 13 31.1 -1.1
WB2 eSn Sn 18 16 35.4 -17
KRJI **Kerinci** 18.83 295 P Pn 18 13 43.3 +0.9
869nm,0.7s
BAKI **Biak** 19.74 64 P Pn 18 13 53.7 +0.6
4μm374nm,0.9s
AS31 **Alice Springs** 19.74 134 eP Pn 18 13 53.0 -0.1
AS31 eS S 18 17 23.6 -5.8
ASAR **Alice Springs** 19.74 134 P Pn 18 13 53.2 +0.2
2.8nm,0.3s,baz=308,slow=9.7,SNR=386
ASAR S S 18 17 20.0 -9.5
1.1nm,0.3s,baz=314,slow=26,SNR=4.9
ASAR **Alice Springs** 19.74 134 P Pn 18 13 53.2 +0.2
ASAR S S 18 17 20.0 -9.5
BKNI **Bangkinang** 20.38 300 P P 18 14 00.3 +2.4
2μm182nm,1.0s
PPI **Padang Panjang** 20.54 298 P P 18 14 00.8 +1.2
106nm,1.0s
KLBR **Kellerberrin** 21.10 182 eP P 18 14 13.3 +7.8
91nm,1.1s,mb5.0
KLBR eS S 18 17 49.0 -7.1
COCO **West Island** 21.33 263 P P 18 14 13.3 +5.3
SMPI **Sarmi** 21.74 69 P P 18 14 11.5 -0.9
104nm,1.0s,mb5.1
MNSI **Mandailing Nat** 21.87 299 P P 18 14 15.5 +1.7
30nm,1.0s,mb4.6
FORT **Forrest** 22.14 158 eP P 18 14 16.3 -0.3
FORT eS S 18 17.7 +1.5
FORT **Forrest** 22.14 158 eP P 18 14 19.1 +2.6
97nm,0.7s,mb5.2
FORT eS S 18 18 13.8 -2.4
NWAO **Narrogin (SRO)** 22.45 183 P P 18 14 22.3 +2.4
20nm,0.9s,mb4.5,baz=354,slow=12,SNR=11
NWAO S S 18 18 22.2 +1.0
42nm,0.6s,baz=156,slow=6.1,SNR=3.6
NWAO **Narrogin (SRO)** 22.45 183 eP P 18 14 21.5 +1.7
35nm,0.6s,mb4.9
NWAO eS S 18 18 19.6 -1.7
NWAO S S 18 18 22.2 +1.0
IPM **Ipoh** 22.83 309 P P 18 14 25.4 +1.4
30nm,0.8s,mb4.7
JAY **Jayapura** 23.39 72 P P 18 14 28.9 -0.5
83nm,0.8s,mb5.1
PSI **Prapat** 23.49 303 P P 18 14 30.0 -0.3
937nm70nm,1.2s,mb4.9
KULM **Kulim** 23.64 310 eP P 18 14 30.8 -0.9
7.5nm,0.6s,mb4.2
TSI **Tuntungan** 24.18 304 P P 18 14 39.2 +2.6
4μm302nm,0.7s,mb5.7
COEN **Coen** 24.37 101 eP P 18 14 39.4 +1.1
4.1nm,0.4s,mb4.1
COEN eS S 18 18 59.5 +6.9
COEN **Coen** 24.37 101 P P 18 14 39.3 +1.0
120nm,1.1s,mb5.1
TGY **Tagaytay City** 24.46 6 P P 18 14 39.0 0.0
653nm,0.7s,mb6.0,baz=184,slow=4.1,SNR=26
TGY **Tagaytay City** 24.46 6 P P 18 14 39.0 0.0
TPTI **25.20 301** P P 18 14 45.7 -0.2
59nm,1.2s,mb4.9
PMG **Port Moresby** 28.24 91 P P 18 15 14.9 +1.7
4.9nm,0.5s,mb4.3,baz=301,slow=6.4,SNR=6.2
PMG **Port Moresby** 28.24 91 eP P 18 15 12.9 -0.3
40nm,0.9s,mb5.0
PMG **Port Moresby** 28.24 91 P P 18 15 15.7 +2.5
40nm,0.9s,mb5.0
CTA **Charters Tower** 28.41 113 P P 18 15 16.9 +2.3
15nm,0.6s,mb4.7,baz=283,slow=10,SNR=18
CTA **Charters Tower** 28.41 113 eP P 18 15 16.6 +1.9
CTA **Charters Tower** 28.41 113 P P 18 15 16.9 +2.3
CTAO **Charters Tower** 28.41 113 eP P 18 15 16.6 +2.0
18nm,0.7s,mb4.7
CTAO **Charters Tower** 28.41 113 P P 18 15 17.3 +2.6
27nm,1.2s,mb4.7
STKA **Stephens Creek** 30.21 138 P P 18 15 33.2 +2.7
10nm,0.6s,mb4.7,baz=310,slow=9.3,SNR=45
STKA **Stephens Creek** 30.21 138 ⇓iP P 18 15 33.1 +2.6
STKA **Stephens Creek** 30.21 138 eP P 18 15 33.0 +2.5
1.3nm,0.6s
QIZ **Qiongzhong** 30.46 344 eP P 18 15 32.2 -0.6
CM31 **Chiang Mai Arr** 34.56 326 eP P 18 16 08.4 -0.3
3.6nm,0.4s,mb4.5
CMAR **Chiang Mai Arr** 34.56 326 P P 18 16 08.7 0.0
6.2nm,0.6s,mb4.6,baz=152,slow=6.3,SNR=62
CMAR PcP PcP 18 18 44.8 +2.8
2.6nm,0.7s,baz=180,slow=2.9,SNR=5.8
CMAR **Chiang Mai Arr** 34.56 326 P P 18 16 08.7 0.0
CMAR PcP PcP 18 18 44.8 +2.8
CHG **Chiang Mai** 34.85 326 P P 18 16 11.5 +0.4
CHTO **Chiang Mai** 34.85 326 eP P 18 16 10.4 -0.8
13nm,1.0s,mb4.7
CHTO **Chiang Mai** 34.85 326 P P 18 16 11.5 +0.4
CHRT **Chiangrai** 35.28 328 ⇑P P 18 16 13.5 -1.3
276nm,1.0s,mb6.0
ARMA **Armidale** 36.67 128 eP P 18 16 30.8 +4.1
JOW **Kunigami** 38.20 14 P P 18 16 38.2 -1.3
41nm,0.9s,mb5.2,baz=184,slow=16,SNR=4.4
JOW **Kunigami** 38.20 14 P P 18 16 38.2 -1.3
GYA **Guiyang** 38.40 343 P P 18 16 42.0 +0.8
GYA pP pP 18 16 57.3 -2.3
GYA sP sP 18 17 04.0 -4.4
GYA PP PP 18 18 16.0 +5.5
GYA S S 18 22 33.8 +3.2
GYA ScS ScS 18 26 45.0 0.0
GYA pmax pmax
comp=Z,20nm,0.8s,mb5.0
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,480nm,16.7s
GYA LR LR
comp=E,460nm,17.0s
GYA LR LR
comp=Z,450nm,16.8s
KMI **Kunming** 38.50 337 P P 18 16 43.0 +0.9
KMI pP pP 18 16 57.5 -3.0
KMI sP sP 18 17 04.3 -5.0
KMI pmax pmax
comp=Z,19nm,0.9s,mb4.9
KMI pmax pmax
comp=Z,140nm,6.0s
KMI LR LR
comp=N,170nm,19.1s
KMI LR LR
comp=E,220nm,19.1s
HNR **Honiara** 40.81 92 P P 18 17 01.7 +0.2
WHN **Wuhan** 40.90 355 ⇑P P 18 17 01.8 -0.1
WHN pmax pmax
comp=Z,59nm,0.5s,mb5.7
ENH **Enshi** 41.35 348 eP P 18 17 04.4 -1.2
comp=Z,49nm,0.6s,mb5.5
NJ2 **Nanjing** 42.21 0 eP P 18 17 12.5 -0.1
NJ2 pP pP 18 17 27.5 -3.7
NJ2 sP sP 18 17 36.3 -3.6
NJ2 PP PP 18 18 52.5 +0.7
NJ2 S S 18 23 25.5 -1.8
NJ2 pmax pmax
comp=Z,130nm,0.7s,mb5.8
NJ2 pmax pmax
comp=Z,520nm,6.2s
NJ2 LR LR
comp=N,740nm,12.2s
NJ2 LR LR
comp=E,570nm,13.3s
NJ2 LR LR
comp=Z,660nm,15.4s

CD2 **Chengdu** 43.44 341 eP P 18 17 23.8 +1.2
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
SHL **Shillong** 44.16 324 iP P 18 17 31.0 +2.6
XAN **Xi'an** 45.12 349 P P 18 17 34.5 -1.4
XAN pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
XAN pmax pmax
comp=Z,79nm,5.6s
LSA **Lhasa** 47.79 327 P P 18 17 57.5 +0.6
LSA **Lhasa** 47.79 327 eP P 18 17 57.4 +0.5
comp=Z,20nm,0.6s,mb5.1
ODAN **Odare** 47.79 321⇑iP P 18 17 56.8 -0.2
comp=Z,95nm,0.8s,mb5.7
ODAN **Odare** 47.79 321⇑iP P 18 17 56.8 -0.2
comp=Z,95nm,0.8s,mb5.7
TAPN **Taplejung** 47.95 322⇑iP P 18 17 58.4 +0.2
comp=Z,177nm,0.9s,mb5.9
TAPN **Taplejung** 47.95 322⇑iP P 18 17 58.4 +0.2
comp=Z,177nm,0.9s,mb5.9
HYB **Hyderabad** 48.19 305 iP P 18 17 59.0 -1.2
LZH **Lanzhou** 48.26 344 eP P 18 18 00.0 -0.4
LZH pP pP 18 18 15.3 -4.1
LZH sP sP 18 18 22.5 -5.5
LZH ePP PP 18 19 53.0 -0.6
LZH eS S 18 24 55.0 +0.6
LZH pmax pmax
comp=Z,20nm,1.5s,mb4.7
LZH pmax pmax
comp=Z,93nm,6.2s
LZH LR LR
comp=N,300nm,14.6s
LZH LR LR
comp=E,300nm,15.2s
LZH LR LR
comp=Z,350nm,16.1s
RAMN **Ramite** 48.34 321⇑iP P 18 18 01.2 -0.1
comp=Z,96nm,0.8s,mb5.7
RAMN **Ramite** 48.34 321⇑iP P 18 18 01.2 -0.1
comp=Z,96nm,0.8s,mb5.7
KSAR **Wonju Array Be** 48.39 10 P P 18 18 01.1 -0.4
KSAR PcP PcP 18 19 28.4 +1.6
KSRS **Korea Array** 48.41 10 P P 18 18 01.1 -0.5
comp=Z,13nm,0.6s,mb5.0,baz=189,slow=9.5,SNR=54
KSRS PcP PcP 18 19 28.4 +1.5
comp=Z,3.2nm,0.7s,baz=182,slow=3.4,SNR=4.9
JIRN **Jiri** 49.10 321⇑iP P 18 18 07.1 0.0
comp=Z,66nm,0.7s,mb5.7
JIRN **Jiri** 49.10 321⇑iP P 18 18 07.1 0.0
comp=Z,66nm,0.7s,mb5.7
GUN **Gumba** 49.48 321⇑iP P 18 18 09.9 0.0
comp=Z,182nm,0.8s,mb6.1
GUN **Gumba** 49.48 321⇑iP P 18 18 09.9 0.0
comp=Z,182nm,0.8s,mb6.1
PKI **Pulchoki** 49.53 320⇑iP P 18 18 09.8 -0.5
comp=Z,73nm,0.9s,mb5.6
PKI **Pulchoki** 49.53 320⇑iP P 18 18 09.8 -0.5
comp=Z,73nm,0.9s,mb5.6
DMN **Daman** 49.74 320⇑iP P 18 18 11.6 -0.4
comp=Z,131nm,0.9s,mb5.9
DMN **Daman** 49.74 320⇑iP P 18 18 11.6 -0.4
comp=Z,131nm,0.9s,mb5.9
KKN **Kakani** 49.76 321⇑iP P 18 18 11.6 -0.5
comp=Z,67nm,0.9s,mb5.6
KKN **Kakani** 49.76 321⇑iP P 18 18 11.6 -0.5
comp=Z,67nm,0.9s,mb5.6
BJT **Baijiatuau** 50.20 358 eP P 18 18 14.2 -1.0
comp=Z,40nm,0.4s,mb5.7
BJI **Beijing** 50.22 358 P P 18 18 14.5 -0.8
BJI pmax pmax
comp=Z,66nm,0.6s,mb5.7
MJAR **Matsushiro Arr** 50.23 21 P P 18 18 13.7 -1.8
comp=Z,22nm,0.8s,mb5.1,baz=198,slow=9.8,SNR=42
MJAR **Matsushiro Arr** 50.23 21 P P 18 18 13.7 -1.8
MAJO **Matsushiro** 50.24 21 eP P 18 18 12.3 -3.2
comp=Z,20nm,0.8s,mb5.1
MAT **Matsushiro** 50.24 21 P P 18 18 13.1 -2.4
GKN **Gorkha** 50.31 320⇑iP P 18 18 15.8 -0.5
comp=Z,113nm,0.9s,mb5.8
GKN **Gorkha** 50.31 320⇑iP P 18 18 15.8 -0.5
comp=Z,113nm,0.9s,mb5.8
KOLN **Koldanda** 50.81 319⇑iP P 18 18 19.5 -0.5
comp=Z,82nm,0.8s,mb5.8
KOLN **Koldanda** 50.81 319⇑iP P 18 18 19.5 -0.5
comp=Z,82nm,0.8s,mb5.8
DANN **Dangsing** 51.11 320⇑iP P 18 18 21.9 -0.4
comp=Z,189nm,0.8s,mb6.2
DANN **Dangsing** 51.11 320⇑iP P 18 18 21.9 -0.4
comp=Z,189nm,0.8s,mb6.2
HHC **Hu-ho-hao-te** 51.39 353 eP P 18 18 25.0 +0.9
HHC pP pP 18 18 40.5 -2.7
HHC sP sP 18 18 47.8 -4.0
HHC PP PP 18 20 24.5 +2.5
HHC S S 18 25 39.0 +1.1
HHC sS sS 18 26 06.0 -4.5
HHC ScS ScS 18 28 06.5 -0.7
HHC pmax pmax
comp=Z,25nm,0.7s,mb5.3
HHC pmax pmax
comp=Z,150nm,8.2s
HHC LR LR
comp=N,190nm,15.3s
HHC LR LR
comp=E,180nm,15.7s
HHC LR LR
comp=Z,260nm,17.1s
SNY **Shenyang** 52.17 5 ⇑P P 18 18 28.5 -1.4
SNY pmax pmax
comp=Z,47nm,1.0s,mb5.5
GTA **Gaotai** 52.51 342 eP P 18 18 32.8 +0.3
GTA pP pP 18 18 48.0 -3.7
GTA sP sP 18 18 55.5 -4.8
GTA S S 18 25 53.5 +0.1
GTA sS sS 18 26 21.8 -4.3
GTA SS SS 18 29 31.5 -1.3
GTA pmax pmax
comp=Z,22nm,0.8s,mb5.2
GTA pmax pmax
comp=Z,150nm,4.7s
GTA LR LR
comp=N,240nm,14.5s
GTA LR LR
comp=E,270nm,15.2s
GTA LR LR
comp=Z,220nm,13.8s
CN2 **Changchun** 54.30 6 eP P 18 18 44.0 -1.5
CN2 ePP pP 18 19 00.0 -4.8
CN2 eS S 18 26 16.0 -1.5
CN2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,14.0s
CN2 LR LR
comp=E,300nm,14.0s
CN2 LR LR
comp=Z,300nm,15.0s
MDJ **Mudanjiang** 55.66 10 P P 18 18 54.8 -0.5
MDJ pmax pmax
comp=Z,26nm,1.1s,mb5.2
MDJ pmax pmax
comp=Z,370nm,4.5s
MDJ **Mudanjiang** 55.66 10 eP P 18 18 53.4 -1.9
comp=Z,16nm,0.7s,mb5.2
USRK **Ussuriysk Arra** 55.70 12 P P 18 18 54.2 -1.3
comp=Z,16nm,0.5s,mb5.3,baz=189,slow=6.7,SNR=109
RPZ **Rata Peaks** 56.13 136 P P 18 19 00.5 +1.7
comp=Z,11nm,0.8s,mb5.0,baz=248,slow=1.4,SNR=7.4
RPZ **Rata Peaks** 56.13 136 P P 18 19 00.5 +1.7
SONM **Songino Array** 58.96 351 P P 18 19 18.1 -0.3
comp=Z,24nm,0.6s,mb5.4,baz=167,slow=8.1,SNR=240
SONM **Songino Array** 58.96 351 P P 18 19 18.1 -0.3
HIA **Hailar** 59.41 1 eP P 18 19 20.3 -1.2
comp=Z,17nm,0.8s,mb5.1
WMQ **Urumqi** 60.80 335 P P 18 19 31.3 +0.2
WMQ pP pP 18 19 47.3 -3.5
WMQ sP sP 18 19 54.3 -5.0
WMQ pmax pmax
comp=Z,33nm,0.9s,mb5.4
WMQ pmax pmax
comp=Z,170nm,4.8s
YSS **Yuzh-Sakhalins** 61.06 19 P P 18 19 32.5 -0.3
TLY **Talaya** 63.14 350 eP P 18 19 46.0 -0.7
KSH **Kashi** 63.44 324 P P 18 19 48.5 -0.4
KSH pP pP 18 20 06.0 -2.7

KSH sP sP 18 20 12.5 -4.7
KSH PcP PcP 18 20 25.8 +0.7
KSH PP PP 18 22 10.3 +0.9
KSH ScP ScP 18 24 21.5 +0.6
KSH PcS 18 24 27.5
KSH S S 18 28 14.5 -1.5
KSH ScS ScS 18 29 32.5 -2.8
KSH pmax pmax
comp=Z,47nm,0.6s,mb5.6
KSH LR LR
comp=N,120nm,5.5s
KSH LR LR
comp=E,140nm,5.8s
KSH LR LR
comp=Z,250nm,6.9s
KBL **Kabul** 64.74 316 eP P 18 19 56.4 -1.2
comp=Z,48nm,0.8s,mb5.4
MK31 **Makanchi Array** 65.47 334 eP P 18 20 01.6 -0.4
MKAR **Makanchi Array** 65.47 334 P P 18 20 01.8 -0.2
comp=Z,28nm,0.7s,mb5.2,baz=155,slow=6.5,SNR=438
MKAR **Makanchi Array** 65.47 334 P P 18 20 01.8 -0.2
KZA **Kyzart** 65.56 326 P P 18 20 03.8 +1.1
SNR=28
KZA P 18 20 03.8
SNR=28
TKM2 **Tokmak 2** 65.94 327 P P 18 20 05.2 0.0
SNR=28
TKM2 P 18 20 05.2
SNR=28
TKM2 **Tokmak 2** 65.94 327 eP P 18 20 04.6 -0.5
comp=Z,17nm,0.7s,mb5.0
KBK **Karagaybulak** 66.11 326 P P 18 20 06.8 +0.5
SNR=28
KBK P 18 20 06.8
SNR=28
AAK **Ala-Archa** 66.35 326 P P 18 20 08.5 +0.8
SNR=32
AAK P 18 20 08.5
SNR=32
AAK **Ala-Archa** 66.35 326 eP P 18 20 07.8 0.0
comp=Z,101nm,0.7s,mb5.8
AAK **Ala-Archa** 66.35 326 P P 18 20 08.6 +0.8
SNR=8.8
CHMS **Chumysh** 66.45 326 P P 18 20 08.2 -0.2
SNR=6.0
CHMS P 18 20 08.2
SNR=6.0
AML **Almayashu** 66.46 325 P P 18 20 09.4 +1.0
SNR=52
AML P 18 20 09.4
SNR=52
EKS2 **Erkin-Say** 66.76 326 P P 18 20 11.1 +0.7
SNR=32
EKS2 P 18 20 11.1
SNR=32
USP **Ospenovka** 66.77 326 P P 18 20 10.4 0.0
SNR=21
USP P 18 20 10.4
SNR=21
JMDO **Jabal Madar** 67.55 299 P P 18 20 17.8 +2.0
SNR=6.4
SMDO **Samad** 67.85 300 P P 18 20 19.3 +1.6
SNR=6.6
HOQ **Hoqain** 68.68 300 P P 18 20 23.8 +1.0
SNR=7.6
KKAR **Karatay Array** 68.89 324 eP P 18 20 22.9 -0.9
comp=Z,4.1nm,0.4s,mb4.6
KURK **Kurchatov** 70.03 334 P P 18 20 29.9 -0.6
comp=Z,8.3nm,0.6s,mb4.8,baz=142,slow=5.6,SNR=126
KURK **Kurchatov** 70.03 334 eP P 18 20 29.9 -0.7
comp=Z,27nm,1.1s,mb5.0
KURK **Kurchatov** 70.03 334 P P 18 20 30.4 -0.2
SNR=8.4
HATD **Hatta, Dubai** 70.14 301 P P 18 20 34.1 +2.2
SNR=5.9
ZAA0 **Zalesovo Array** 70.17 340 eP P 18 20 29.8 -1.5
ZALV **Zalesovo Beam** 70.17 340 P P 18 20 30.1 -1.2
comp=Z,28nm,0.6s,mb5.3,baz=141,slow=4.6,SNR=163
ZALV **Zalesovo Beam** 70.17 340 P P 18 20 30.1 -1.2
VNDA **Vanda** 70.69 171 eP P 18 20 38.3 +4.0
comp=Z,9.0nm,1.3s,mb4.4
PEA0B **Petropavlovsk-** 71.54 24 eP P 18 20 40.1 +0.4
PETK **Petropavlovsk-** 71.54 24 P P 18 20 40.3 +0.6
comp=Z,17nm,0.8s,mb5.0,baz=220,slow=5.1,SNR=18
PETK **Petropavlovsk-** 71.54 24 P P 18 20 40.3 +0.6
SBA **Scott Base** 71.70 170 P P 18 20 39.8 -0.6
YAK **Yakutsk** 72.73 5 eP P 18 20 45.8 -0.8
comp=Z,14nm,0.8s,mb4.8
ABKT **Ailbek** 74.06 314 P P 18 20 56.7 +1.7
comp=Z,122nm,0.7s,mb5.7,SNR=10
BVAR **Borovoye Array** 75.29 332 P P 18 21 01.4 -0.4
comp=Z,4.3nm,0.7s,mb4.3,baz=134,slow=7.4,SNR=28
BVAR **Borovoye Array** 75.29 332 P P 18 21 01.4 -0.4
BRVK **Borovoye** 75.36 332 eP P 18 21 01.2 -1.0
comp=Z,12nm,1.1s,mb4.5
ABKAR **Akbulak array** 78.42 325 eP P 18 21 19.3 -0.1
comp=Z,14nm,0.6s,mb4.9
QSPA **South Pole Qui** 79.61 180 P P 18 21 28.5 +3.0
comp=Z,6.6nm,1.0s,mb4.4
AKTO **Aktyubinsk** 80.09 326 P P 18 21 28.8 +0.3
comp=Z,9.3nm,0.7s,mb4.7,baz=108,slow=5.6,SNR=35
AKTO **Aktyubinsk** 80.09 326 P P 18 21 28.8 +0.3
KMBO **Kilima Mbogo** 81.19 270 eP P 18 21 36.2 +0.9
comp=Z,3.1nm,0.8s,mb4.2
GNI **Garni** 84.51 312 P P 18 21 51.8 0.0
comp=Z,4.0nm,0.7s,mb4.5,baz=122,slow=5.5,SNR=3.1
GNI **Garni** 84.51 312 P P 18 21 48.5 -3.4
BILL **Biiibino** 85.26 16 eP P 18 21 54.9 -0.1
comp=Z,2.4nm,0.7s,mb4.2
SNAA **Sanae** 89.53 196 e pP 18 22 34.7 -1.8
VNA2 **Neumayer--Watz** 91.17 195 e pP 18 22 40.0 -4.1
VNA3 **Neumayer Olymp** 91.55 195 e pP 18 22 40.6 -5.3
BRTR **Keskin Array B** 92.65 310 P P 18 22 31.4 +0.7
comp=Z,2.2nm,0.8s,mb4.5,baz=114,slow=4.5,SNR=10.0
BRTR pP pP 18 22 42.8 -8.8
comp=Z,1.8nm,0.7s,baz=145,slow=7.5,SNR=5.6
BRTR **Keskin Array B** 92.65 310 P P 18 22 31.4 +0.7
BRTR pP pP 18 22 42.8 -8.8
AKASG **Malin Array Be** 97.50 320 P P 18 22 51.4 -1.2
comp=Z,1.0nm,0.6s,mb4.4,baz=84,slow=4.7,SNR=4.1
AKASG **Malin Array Be** 97.50 320 P P 18 22 51.4 -1.2
COLD **Coldfoot** 100.01 23 eP Pdif 18 23 04.1 +0.4
comp=Z,1.4nm,0.6s
FINES **FINESS Array B** 100.21 331 P Pdif 18 23 04.5 -0.1
comp=Z,4.0nm,0.9s,baz=12,slow=7.1,SNR=3.5
FINES **FINESS Array B** 100.21 331 P Pdif 18 23 04.5 -0.1
ILAR **Eielson Array** 101.29 26 P Pdif 18 23 08.9 -0.6
comp=Z,0.3nm,1.0s,baz=263,slow=5.3,SNR=5.2
ILAR **Eielson Array** 101.29 26 P Pdif 18 23 08.9 -0.6
YKA **Yellowknife Ar** 115.66 24 PKP PKPdf 18 28 01.5 +1.3
comp=Z,0.4nm,0.5s,baz=268,slow=1.8,SNR=6.7
YKA pPKP pPKPdf 18 28 13.6 -8.3
comp=Z,0.4nm,0.4s,baz=302,slow=1.9,SNR=5.1
YKA **Yellowknife Ar** 115.66 24 PKP PKPdf 18 28 01.5 +1.3
YKA pPKP pPKPdf 18 28 13.6 -8.3
TORD **Torodi Ar. Bea** 118.22 279 PKP PKPdf 18 28 08.9 +2.4
comp=Z,1.0nm,0.6s,baz=69,slow=1.9,SNR=6.6
TORD pPKP pPKPdf 18 28 21.2 -7.0
comp=Z,1.1nm,0.4s,baz=33,slow=1.3,SNR=6.8
TORD **Torodi Ar. Bea** 118.22 279 PKP PKPdf 18 28 08.9 +2.4
TORD pPKP pPKPdf 18 28 21.2 -7.0
ESDC **Sonseca Array** 121.44 310 PKP PKPdf 18 28 14.5 +2.5
comp=Z,0.5nm,0.5s,baz=32,slow=3.0,SNR=4.1
ESDC **Sonseca Array** 121.44 310 PKP PKPdf 18 28 14.5 +2.4
NVAR **Mina Array Bea** 122.27 51 PKP PKPdf 18 28 17.7 +4.0
comp=Z,0.3nm,0.6s,baz=274,slow=1.4,SNR=2.5
NVAR pPKP pPKPdf 18 28 30.0 -5.3
comp=Z,0.7nm,0.7s,baz=220,slow=2.2,SNR=4.2
NVAR **Mina Array Bea** 122.27 51 PKP PKPdf 18 28 17.7 +4.0
NVAR pPKP pPKPdf 18 28 30.0 -5.3
SSPA **Standing Stone** 146.57 23 ePKPbc PKPbc 18 29 01.0 +0.9
CMIG **Matias Romero** 146.93 75 PKPbc PKPbc 18 29 04.7 +2.9
comp=Z,1.9nm,0.6s,baz=297,slow=4.5,SNR=4.7
CMIG **Matias Romero** 146.93 75 PKPbc PKPbc 18 29 04.7 +2.9
LRAL **Lakeview Retre** 147.47 42 ePKPdf PKPdf 18 29 02.1 +1.7
TKL **Tuckaleechee C** 147.72 35 ePKPbc PKPbc 18 29 05.5 +1.9
comp=Z,5.7nm,0.5s,baz=0.0,slow=0.0,SNR=10
TKL **Tuckaleechee C** 147.72 35 ePKPbc PKPbc 18 29 05.2 +1.7
GOGA **Godfrey** 149.47 38 ePKPbc PKPbc 18 29 09.4 +1.4
LPAZ **La Paz** 152.69 166 PKPab PKPab 18 29 32.1 +5.4
comp=Z,0.8nm,0.4s,baz=124,slow=3.6,SNR=3.6
LPAZ **La Paz** 152.69 166 PKPab PKPab 18 29 32.1 +5.4

IDC 30 18:18:39.6±2.2, 10°.69S×161°.71E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML4.0/1, Error

ellipse: s-maj=47.4km s-min=40.2km az=59.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.14**	**306**	Pn	Pn	18 19 16.3	-0.3
	44nm,0.3s,baz=169,slow=4.1,SNR=16						
HNR				Sn	Sn	18 19 45.0	+1.1
	86nm,0.3s,baz=162,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**27.92**	**247**	P	P	18 24 31.9	+0.2
	0.9nm,0.7s,baz=79,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	**68.35**	**295**	P	P	18 29 43.5	+0.2
	0.4nm,0.8s,baz=127,slow=6.4,SNR=4.1						
SONM	**Songino Array**	**76.08**	**325**	P	P	18 30 29.9	+0.9
	0.7nm,0.6s,baz=142,slow=6.8,SNR=6.4						
MKAR	**Makanchi Array**	**90.57**	**318**	P	P	18 31 43.0	-0.7
	0.4nm,0.5s,baz=90,slow=6.4,SNR=15						

*IDC **30** 18:25:32.1±1.2,6.76S×129.80E,h0km,mb3.6/4, mb1 4.0/7,mb1mx3.8/16,mbtmp3.8/7,ML4.3/3,Error ellipse: s-maj=59.7km s-min=19.0km az=69.0*
*NEIC **30** 18:25:33.1±0.6,6.71S×130.03E,h10km,mb3.7/2,Error ellipse: s-maj=17.8km s-min=7.3km az=70.0*
*ISCJB **30** 18:25:34.4±0.8,6.77S±0.09×130.0E±0.2,h33km,mb3.4/4, Error ellipse: s-maj=24.5km s-min=10.1km az=160.5*
ISC 30 18:25:36.7±0.8,6.78S±0.09×130.0E±0.2,h35km,n23, σ0.53/22,mb3.4/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.04**	**200**	Pn	**Pn**	**18 28 25.1**	**-0.7**
	1.6nm,0.3s,baz=48,slow=12,SNR=52						
FITZ				Sn	Sx	18 30 25.0	
	3.1nm,0.3s,baz=82,slow=17,SNR=7.1						
FITZ	**Fitzroy Crossi**	**12.04**	**200**	*eP*	**Pn**	**18 28 25.1**	**-0.7**
FITZ				*eS*	Sx	18 30 25.0	
FITZ	**Fitzroy Crossi**	**12.04**	**200**	Pn	**Pn**	**18 28 25.1**	**-0.7**
FITZ				Sn	Sx	18 30 25.0	
WRAB	**Tennant Creek**	**13.74**	**163**	*ePn*	**Pn**	**18 28 48.5**	**-0.5**
	5.9nm,0.6s						
WRAB				*eSn*	Sx	18 31 09.1	
WRA	**Warramunga Arr**	**13.75**	**163**	Pn	**Pn**	**18 28 48.7**	**-0.4**
	1.7nm,0.3s,baz=340,slow=13,SNR=63						
WRA				Sn	Sx	18 31 10.6	
	3.1nm,0.3s,baz=335,slow=22,SNR=10						
WRA	**Warramunga Arr**	**13.75**	**163**	Pn	**Pn**	**18 28 48.7**	**-0.4**
WRA				Sn	Sx	18 31 10.6	
WB2	**Warramunga Arr**	**13.75**	**163**	*ePn*	**Pn**	**18 28 49.0**	**-0.2**
WB2				*eSn*	Sx	18 31 10.1	
COEN	**Coen**	**14.78**	**120**	*ePn*	**Pn**	**18 29 10.0**	**+6.7**
	104nm,0.9s						
AS31	**Alice Springs**	**17.20**	**168**	*ePn*	**Pn**	**18 29 34.2**	**-0.2**
AS31				*eSn*	Sx	18 32 37.2	
ASAR	**Alice Springs**	**17.20**	**168**	P	**Pn**	**18 29 35.2**	**+0.9**
	1.0nm,0.3s,baz=338,slow=9.6,SNR=45						
ASAR				S	Sx	18 32 35.7	
	1.0nm,0.3s,baz=346,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**17.20**	**168**	P	**Pn**	**18 29 35.2**	**+0.9**
ASAR				S	Sx	18 32 35.7	
MBWA	**Marble Bar**	**17.42**	**214**	*ePn*	**Pn**	**18 29 37.6**	**+0.6**
	22nm,1.1s						
MBWA				*eSn*	Sx	18 32 29.9	
STKA	**Stephens Creek**	**27.21**	**158**	P	**P**	**18 31 18.3**	**+1.0**
	1.4nm,0.4s,mb3.8,baz=327,slow=11,SNR=10						
STKA	**Stephens Creek**	**27.21**	**158**	*eP*	**P**	**18 31 18.2**	**+0.9**
STKA	**Stephens Creek**	**27.21**	**158**	*eP*	**P**	**18 31 18.1**	**+0.8**
	0.3nm,0.5s,mb3.1						
CMAR	**Chiang Mai Arr**	**39.59**	**310**	P	**P**	**18 33 05.1**	**+0.1**
	0.3nm,0.7s,mb3.1,baz=141,slow=7.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**39.59**	**310**	P	**P**	**18 33 05.1**	**+0.1**
SONM	**Songino Array**	**58.23**	**341**	P	**P**	**18 35 27.4**	**-0.1**
	0.2nm,0.3s,mb3.6,baz=150,slow=6.3,SNR=3.2						
SONM	**Songino Array**	**58.23**	**341**	P	**P**	**18 35 27.4**	**-0.1**
KURK	**Kurchatov**	**72.33**	**329**	P	**P**	**18 36 58.4**	**-0.4**
	0.2nm,0.3s,mb3.5,baz=125,slow=4.8,SNR=4.8						
KURK	**Kurchatov**	**72.33**	**329**	P	**P**	**18 36 58.4**	**-0.4**
VNA2	**Neumayer--Watz**	**97.45**	**193**	*eP*	pP	18 39 18.0	+0.4
	baz=319,slow=14						
VNA3	**Neumayer Olymp**	**97.70**	**192**	*eP*	**P**	**18 39 14.4**	**+6.8**

*ISCJB **30** 18:26:19.2±1.6,6.58S±0.10×154.87E±0.05,h84km±16km, mb4.4/25,Error ellipse: s-maj=16.0km s-min=8.0km az=2.7*
*IDC **30** 18:26:20.5±2.7,6.49S×154.85E,h80km±28km,mb4.0/12, mb1 4.2/15,mb1mx4.1/20,mbtmp4.1/15,MS3.3/1, Ms1 3.3/1,ms1mx2.6/21,Error ellipse: s-maj=27.7km s-min=13.5km az=178.0*
*NEIC **30** 18:26:20.2±1.3,6.54S×154.89E,h80km±12km,mb4.6/13, Error ellipse: s-maj=11.6km s-min=9.2km az=189.0*
ISC 30 18:26:21.3±1.3,6.61S±0.10×154.90E±0.05,h90km±13km, n73,σ1.08/73,mb4.4/25,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.73**	**120**	P	**Pn**	**18 27 43.2**	**-0.7**
	28nm,0.3s,baz=234,slow=2.9,SNR=27						
HNR				S	**Sn**	**18 28 51.4**	**+3.0**
	baz=217,slow=20,SNR=2.5						
HNR				LR	LR	18 29 42.8	
	comp=Z,268nm,20.3s,baz=224,slow=35						
HNR	**Honiara**	**5.73**	**120**	P	**Pn**	**18 27 43.2**	**-0.7**
HNR				*eSn*	**Sn**	**18 28 49.9**	**+1.6**
PMG	**Port Moresby**	**8.15**	**250**	P	**Pn**	**18 28 15.8**	**-1.1**
	9.0nm,0.3s,baz=81,slow=6.0,SNR=44						
PMG				S	**Sn**	**18 29 48.5**	**+1.0**
	4.3nm,0.3s,baz=41,slow=22,SNR=15						
PMG	**Port Moresby**	**8.15**	**250**	*ePn*	**Pn**	**18 28 15.2**	**-1.8**
	48nm,0.6s						
PMG				*eSn*	**Sn**	**18 29 47.7**	**+0.2**
CTA	**Charters Tower**	**15.81**	**211**	P	**Pn**	**18 29 59.5**	**+0.8**
	0.3nm,0.3s,baz=37,slow=13,SNR=17						
CTA	**Charters Tower**	**15.81**	**211**	*eP*	**Pn**	**18 29 59.0**	**+0.3**
CTA	**Charters Tower**	**15.81**	**211**	P	**Pn**	**18 29 59.5**	**+0.8**
CTAO	**Charters Tower**	**15.81**	**211**	*eP*	**Pn**	**18 29 59.8**	**+1.0**
	24nm,0.9s						
DZM	**Mont Dzumac**	**18.99**	**145**	*eP*	**Pn**	**18 30 35.2**	**-2.3**
DZM	**Mont Dzumac**	**18.99**	**145**	*eP*	**Pn**	**18 30 36.0**	**-1.4**
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**18 31 49.4**	**+0.2**
	3.6nm,0.6s,mb4.0,baz=62,slow=8.5,SNR=18						
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**18 31 49.4**	**+0.2**
KSM	**Kuching**	**45.23**	**279**	P	**P**	**18 34 32.7**	**+2.6**
KSRS	**Korea Array**	**50.56**	**332**	P	**P**	**18 35 11.3**	**+0.5**
	2.2nm,0.8s,mb4.2,baz=141,slow=8.1,SNR=5.1						
KSAR	**Wonju Array Be**	**50.57**	**332**	P	**P**	**18 35 11.3**	**+0.5**
KULM	**Kulim**	**55.42**	**281**	P	**P**	**18 35 42.4**	**-4.6**
PETK	**Petropavlovsk-**	**59.54**	**2**	P	**P**	**18 36 17.1**	**+2.0**
	16nm,0.8s,mb5.1,baz=176,slow=9.6,SNR=11						
PETK	**Petropavlovsk-**	**59.54**	**2**	P	**P**	**18 36 17.1**	**+2.0**
CM31	**Chiang Mai Arr**	**60.53**	**295**	*eP*	**P**	**18 36 18.5**	**-4.1**
	2.9nm,0.8s,mb4.4						
CMAR	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**18 36 23.4**	**+0.8**
	2.3nm,0.7s,mb4.3,baz=124,slow=5.7,SNR=18						
CMAR	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**18 36 23.4**	**+0.8**
CHTO	**Chiang Mai**	**60.65**	**296**	*eP*	**P**	**18 36 22.8**	**-0.6**
	3.1nm,1.0s,mb4.3						
HIA	**Hailar**	**63.54**	**335**	*eP*	**P**	**18 36 42.6**	**+0.5**
	4.9nm,0.8s,mb4.4						
SONM	**Songino Array**	**68.97**	**327**	P	**P**	**18 37 15.7**	**-1.2**
	1.0nm,0.7s,mb3.8,baz=146,slow=5.1,SNR=9.6						
SONM	**Songino Array**	**68.97**	**327**	P	**P**	**18 37 15.7**	**-1.2**
VNDA	**Vanda**	**70.96**	**178**	*eP*	**P**	**18 37 27.7**	**-0.9**
TAPN	**Taplejung**	**73.12**	**301**	*eP*	**P**	**18 37 40.7**	**-1.8**
TAPN	**Taplejung**	**73.12**	**301**	*eP*	**P**	**18 37 40.7**	**-1.8**
ODAN	**Odare**	**73.26**	**300**	*eP*	**P**	**18 37 43.5**	**+0.2**
	15nm,0.6s,mb5.0						
ODAN	**Odare**	**73.26**	**300**	*eP*	**P**	**18 37 43.5**	**+0.2**
	15nm,0.6s,mb5.0						
RAMN	**Ramite**	**73.96**	**300**	*eP*	**P**	**18 37 48.5**	**+1.1**
	4.4nm,0.5s,mb4.4						
RAMN	**Ramite**	**73.96**	**300**	*eP*	**P**	**18 37 48.5**	**+1.1**
	4.4nm,0.5s,mb4.4						
JIRN	**Jiri**	**74.51**	**301**	*eP*	**P**	**18 37 50.0**	**-0.5**
	3.2nm,0.5s,mb4.3						
JIRN	**Jiri**	**74.51**	**301**	*eP*	**P**	**18 37 50.0**	**-0.5**
	3.2nm,0.5s,mb4.3						
GUN	**Gumba**	**74.84**	**301**	*eP*	**P**	**18 37 52.4**	**-0.1**
	15nm,0.7s,mb4.8						
GUN	**Gumba**	**74.84**	**301**	*eP*	**P**	**18 37 52.4**	**-0.1**
	15nm,0.7s,mb4.8						
PKI	**Pulchoki**	**75.15**	**301**	*eP*	**P**	**18 37 54.2**	**0.0**
PKI	**Pulchoki**	**75.15**	**301**	*eP*	**P**	**18 37 54.2**	**0.0**
KKN	**Kakani**	**75.32**	**301**	*eP*	**P**	**18 37 55.3**	**+0.1**
	7.5nm,0.6s,mb4.6						
KKN	**Kakani**	**75.32**	**301**	*eP*	**P**	**18 37 55.3**	**+0.1**
	7.5nm,0.6s,mb4.6						
DMN	**Daman**	**75.42**	**301**	*eP*	**P**	**18 37 56.6**	**+0.8**
	8.0nm,0.6s,mb4.6						
DMN	**Daman**	**75.42**	**301**	*eP*	**P**	**18 37 56.6**	**+0.8**
	8.0nm,0.6s,mb4.6						
GKN	**Gorkha**	**75.92**	**301**	*eP*	**P**	**18 37 58.0**	**-0.7**
GKN	**Gorkha**	**75.92**	**301**	*eP*	**P**	**18 37 58.0**	**-0.7**
KOLN	**Koldanda**	**76.75**	**300**	*eP*	**P**	**18 38 05.0**	**+1.7**
	7.6nm,0.7s,mb4.6						
KOLN	**Koldanda**	**76.75**	**300**	*eP*	**P**	**18 38 05.0**	**+1.7**
	7.6nm,0.7s,mb4.5						
DANN	**Dangsing**	**76.76**	**301**	*eP*	**P**	**18 38 03.2**	**-0.2**
DANN	**Dangsing**	**76.76**	**301**	*eP*	**P**	**18 38 03.2**	**-0.2**
MCK	**McKinley**	**81.74**	**22**	P	**P**	**18 38 28.2**	**-1.5**
	53nm,1.9s,mb5.0						
ILAR	**Eielson Array**	**83.06**	**22**	P	**P**	**18 38 35.5**	**-1.0**
	0.9nm,0.6s,mb3.8,baz=240,slow=6.1,SNR=15						
ILAR	**Eielson Array**	**83.06**	**22**	P	**P**	**18 38 35.5**	**-1.0**
MK31	**Makanchi Array**	**83.06**	**319**	*eP*	**P**	**18 38 36.0**	**-0.9**
MKAR	**Makanchi Array**	**83.06**	**319**	P	**P**	**18 38 36.3**	**-0.7**
	2.0nm,0.5s,mb4.2,baz=96,slow=7.1,SNR=20						
MKAR	**Makanchi Array**	**83.06**	**319**	P	**P**	**18 38 36.3**	**-0.7**
QSPA	**South Pole Qui**	**83.36**	**180**	P	**P**	**18 38 38.5**	**+0.5**
ZAA0	**Zalesovo Array**	**83.81**	**326**	*eP*	**P**	**18 38 40.3**	**-0.3**
ZALV	**Zalesovo Beam**	**83.81**	**326**	P	**P**	**18 38 39.0**	**-1.7**
	2.2nm,0.5s,mb4.2,baz=101,slow=4.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**83.81**	**326**	P	**P**	**18 38 39.0**	**-1.7**
KURK	**Kurchatov**	**86.47**	**322**	P	**P**	**18 38 53.1**	**-0.9**
	0.9nm,0.5s,mb4.0,baz=100,slow=4.9,SNR=19						
KURK	**Kurchatov**	**86.47**	**322**	P	**P**	**18 38 53.1**	**-0.9**
AAK	**Ala-Archa**	**87.42**	**313**	*eP*	**P**	**18 39 00.3**	**+1.5**
	3.2nm,0.6s,mb4.4						
INK	**Inuvik**	**89.40**	**21**	P	**P**	**18 39 08.3**	**+0.7**
	0.9nm,0.6s,mb4.0,baz=241,slow=1.5,SNR=3.6						
INK	**Inuvik**	**89.40**	**21**	P	**P**	**18 39 08.3**	**+0.7**
NVAR	**Mina Array Bea**	**91.56**	**52**	P	**P**	**18 39 20.4**	**+2.1**
	1.8nm,0.9s,mb4.3,baz=253,slow=6.1,SNR=8.7						
NVAR	**Mina Array Bea**	**91.56**	**52**	P	**P**	**18 39 20.4**	**+2.0**
BVAR	**Borovoye Array**	**91.94**	**323**	P	**P**	**18 39 19.8**	**+0.1**
	0.8nm,0.6s,mb4.2,baz=103,slow=5.7,SNR=6.9						
BVAR	**Borovoye Array**	**91.94**	**323**	P	**P**	**18 39 19.8**	**+0.1**
YKA	**Yellowknife Ar**	**96.05**	**28**	P	**P**	**18 39 37.8**	**-0.5**
	1.4nm,0.6s,mb4.5,baz=266,slow=4.5,SNR=21						
YKA	**Yellowknife Ar**	**96.05**	**28**	P	**P**	**18 39 37.9**	**-0.5**
GERES	**GERESS Array B**	**126.68**	**329**	PKP	PKPdf	18 45 15.4	+1.0
	0.1nm,0.3s,baz=347,slow=1.8,SNR=3.6						
GERES	**GERESS Array B**	**126.68**	**329**	PKP	PKPdf	18 45 15.4	+1.0
TORD	**Torodi Ar. Bea**	**152.83**	**286**	PKPbc	PKPbc	18 46 08.5	-0.5
	0.6nm,0.4s,baz=82,slow=2.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**152.83**	**286**	PKPbc	PKPbc	18 46 08.5	-0.5

*JMA **30** 18:44:15.1±0.3,31.95N×141.81E,h0km,M3.8*
*IDC **30** 18:44:17.4±4.1,31.57N×141.32E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.5/23,mbtmp3.5/5,ML3.2/1,Error ellipse: s-maj=155.7km s-min=18.3km az=69.0*
ISC 30 18:44:16.5±2.9,31.84N±0.06×141.9E±0.2,h13km±20km, n14,σ0.78/17,mb3.5/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.18**	**306**	P	**Pn**	**18 44 51.3**	**-1.1**
BSO1	**Boso 1**	**2.91**	**345**	P	**Pn**	**18 45 02.1**	**-0.5**
BSO1				*eS*	**Sn**	**18 45 37.1**	**-0.3**
BSO3	**Boso 3**	**3.18**	**339**	P	**Pn**	**18 45 05.7**	**-0.5**
JOD2	**Odawara 2**	**4.15**	**326**	P	**Pn**	**18 45 19.0**	**-0.5**
JOD2				*eS*	**Sn**	**18 46 07.8**	**-0.1**
JHU	**Hanno**	**4.56**	**332**	P	**Pn**	**18 45 25.6**	**+0.4**
JYT	**Yasato**	**4.60**	**342**	P	**Pn**	**18 45 26.6**	**+0.8**
CBIJ	**Chichi jima**	**4.73**	**177**	Pn	**Pn**	**18 45 27.6**	**+0.1**
	baz=286,slow=20						
CBIJ				Sn	**Sn**	**18 46 21.6**	**-0.7**
	baz=287,slow=20						
JRY	**Ryogami san**	**4.86**	**330**	P	**Pn**	**18 45 30.2**	**+0.9**
JHO	**Hitachi**	**4.89**	**347**	P	**Pn**	**18 45 28.6**	**-1.1**
MJAR	**Matsushiro Arr**	**5.60**	**328**	Pn	**Pn**	**18 45 40.1**	**+0.6**
	0.7nm,0.3s,baz=153,slow=11,SNR=12						
SONM	**Songino Array**	**31.27**	**311**	P	**P**	**18 50 38.9**	**+2.9**
	0.3nm,0.5s,mb3.4,baz=122,slow=9.0,SNR=8.5						
MKAR	**Makanchi Array**	**47.38**	**306**	P	**P**	**18 52 50.3**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=85,slow=9.6,SNR=10						
WRA	**Warramunga Arr**	**51.99**	**189**	P	**P**	**18 53 25.5**	**0.0**
	0.4nm,0.3s,mb3.8,baz=5.7,slow=7.6,SNR=24						
ASAR	**Alice Springs**	**55.72**	**189**	P	**P**	**18 53 53.5**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=10,slow=5.3,SNR=6.2						

*IDC **30** 19:03:40.0±5.9,10.52S×161.34E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.7/18,mbtmp3.8/6,ML3.9/1,Error ellipse: s-maj=165.7km s-min=30.6km az=121.0*
*NEIC **30** 19:03:47.0±8.0,10.62S×161.28E,h50km±41km,mb3.5/1, Error ellipse: s-maj=101.7km s-min=13.9km az=107.0*
ISC 30 19:03:39.6±6.6,10.7S±0.1×161.7E±0.2,h10km±41km,n15, σ0.54/16,mb3.6/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.13**	**307**	*ePn*	**Pn**	**19 04 15.1**	**-0.3**
HNR				*eSn*	**Sn**	**19 04 42.0**	**+0.1**
CTA	**Charters Tower**	**17.51**	**236**	P	**Pn**	**19 07 44.9**	**+0.8**
	0.3nm,0.3s,baz=50,slow=7.9,SNR=5.2						
CTA	**Charters Tower**	**17.51**	**236**	P	**Pn**	**19 07 44.9**	**+0.8**
CTAO	**Charters Tower**	**17.51**	**236**	*ePn*	**Pn**	**19 07 44.8**	**+0.7**
	3.2nm,0.8s						
WRAB	**Tennant Creek**	**27.84**	**248**	P	**P**	**19 09 28.4**	**-1.2**
WRA	**Warramunga Arr**	**27.85**	**248**	P	**P**	**19 09 30.1**	**+0.4**
	0.6nm,0.7s,mb3.4,baz=76,slow=9.4,SNR=5.5						
WRA	**Warramunga Arr**	**27.85**	**248**	P	**P**	**19 09 30.1**	**+0.4**
ASAR	**Alice Springs**	**29.39**	**240**	P	**P**	**19 09 43.2**	**-0.2**
	0.1nm,0.3s,mb3.0,baz=64,slow=10.0,SNR=5.8						
ASAR	**Alice Springs**	**29.39**	**240**	P	**P**	**19 09 43.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**35.60**	**254**	P	**P**	**19 10 37.6**	**-0.2**
	2.6nm,1.0s,mb4.1,baz=70,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**35.60**	**254**	P	**P**	**19 10 37.6**	**-0.2**
SONM	**Songino Array**	**76.08**	**325**	P	**P**	**19 15 28.1**	**+0.6**
	0.4nm,0.7s,mb3.4,baz=129,slow=5.9,SNR=3.7						
SONM	**Songino Array**	**76.08**	**325**	P	**P**	**19 15 28.1**	**+0.6**
MKAR	**Makanchi Array**	**90.57**	**318**	P	**P**	**19 16 42.0**	**-0.1**
	0.3nm,0.5s,mb3.9,baz=96,slow=5.9,SNR=11						
MKAR	**Makanchi Array**	**90.57**	**318**	P	**P**	**19 16 42.0**	**-0.1**

*BJI **30** 19:49:50.6,4.82S×101.24E,h46km,mB6.2/66,mb5.6/63, Ms6.3/76,Ms7 6.0/71*
*ISCJB **30** 19:49:51.5±0.6,4.30S±0.02×101.15E±0.02,h22km±4km, mb5.5/182,MS5.9/240,Error ellipse: s-maj=4.4km s-min=2.7km az=35.1*
*NEIC **30** 19:49:52.6±0.2,4.30S×101.22E,h20km,mb5.7/86,ME5.9, MS5.9/174,MW5.9,MW5.8,Error ellipse: s-maj=6.3km s-min=4.2km az=54.0 Broadband fault plane solution: P waves. NP1:φs125.00000°,δ80.00000°,λ90.00000°. NP2:φs305.00000°,δ10.00000°,λ90.00000°. Principal axes: T Plg55.0000°, Azm35.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm215.0000°; Moment Tensor Solution. s89 Moment tensor: Scale 10^17 Nm; Mrr5.34; Mθθ-3.01; Mφφ-2.33; Mrθ4.88; Mrφ3.01; Mθφ-2.82; Best double couple: M0 7.90000×10^17 NP1:φs321.00000°, δ23.00000°,λ106.00000°. NP2:φs123.00000°,δ68.00000°, λ83.00000°. Principal axes: T 7.7800, Plg66.0000°, Azm21.0000°; N 0.2300, Plg6.0000°, Azm125.0000°; P -8.0100, Plg22.0000°, Azm218.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*MOS **30** 19:49:53.7±1.2,4.18S×101.26E,h33km,mb5.8/60, MS5.8/73 Error ellipse: s-maj=8.3km s-min=4.5km az=115.4*
*DJA **30** 19:49:53.4±0.7,4.S±2.×10^1E±.°,h16km±6km,M5.9/7, mB6.2/78,mb5.7/87,MLv6.3/24,Mw(mB)5.8/78,Mwp6.3/1*
*IDC **30** 19:49:53.9±0.4,4.26S×101.20E,h25km±2km,mb5.0/35, mb1 5.1/36,mb1mx5.0/37,mbtmp5.0/36,ML4.8/1,MS5.7/17, Ms1 5.7/17,ms1mx5.5/33,Error ellipse: s-maj=12.6km s-min=6.7km az=46.0*
*GCMT **30** 19:49:56.6±0.1,4.63S×100.89E,h23km,MW5.9,Moment Tensor Solution. s97,c200; s68,c88; Moment tensor: Scale 10^17Nm; Mrr5.35±.08; Mθθ-2.80±.05; Mφφ-2.55±.06; Mrθ6.83±.17; Mθφ3.33±.05; Mφr-3.40±.13; Best double couple: M0 9.50000×10^17 NP1:φs329.00000°,δ20.00000°, λ118.00000°. NP2:φs120.00000°,δ72.00000°,λ80.00000°. Principal axes: T 9.3900, Plg62.0000°, Azm15.0000°; N 0.2700, Plg9.0000°, Azm123.0000°; P -9.6600, Plg27.0000°, Azm218.0000°; Data Used: II IU IC G. Surface waves: sta= 90, comp=163, per= 50.*
ISC 30 19:49:54.7±0.6,4.30S±0.02×101.14E±0.02,h31km±4km, h29km±.6km:pP-P,n1199,σ1.05/690,mb5.5/182,MS5.9/240, 297C-184D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.58**	**66**	P	**Pn**	**19 50 21.0**	**+0.4**
MNAI	**Manna**	**1.81**	**92**	P	**Pn**	**19 50 23.8**	**+0.1**
KRJI	**Kerinci**	**2.22**	**8**	P	**Pn**	**19 50 29.7**	**+0.3**
LWLI	**Liwa**	**2.99**	**104**	P	**Pn**	**19 50 39.8**	**-0.2**
PDSI	**Padang**	**3.44**	**349**	P	**Pn**	**19 50 46.0**	**-0.2**
KLI	**Kotabumi**	**3.74**	**99**	P	**Pn**	**19 50 51.2**	**+0.8**
PPI	**Padang Panjang**	**3.89**	**349**	P	**Pn**	**19 50 52.3**	**-0.1**
RGRI	**Rengat**	**4.10**	**17**	P	**Pn**	**19 50 56.4**	**+1.1**
BKNI	**Bangkinang**	**4.60**	**359**	P	**Pn**	**19 51 02.5**	**+0.4**
CGJI	**Cibinong**	**5.08**	**117**	P	**Pn**	**19 51 07.1**	**-1.6**
	6.9nm1µm,0.7s						
SBJI	**Serang**	**5.28**	**110**	P	**Pn**	**19 51 13.8**	**+2.2**
	12nm735nm,0.9s						
MNSI	**Mandailing Nat**	**5.30**	**343**	P	**Pn**	**19 51 11.2**	**-0.6**
	13nm812nm,0.9s						
TNG	**Tangerang**	**5.79**	**109**	P	**Pn**	**19 51 19.5**	**+1.0**
	16nm3µm,1.1s						
TNG				P		19 51 20.2	
	20nm4µm,1.3s						
SKJI	**Sukabumi**	**6.02**	**117**	P	**Pn**	**19 51 22.5**	**+0.8**
	11nm1µm,0.7s						
CBJI	**Citeko**	**6.06**	**111**	P	**Pn**	**19 51 24.7**	**+2.5**
	20nm7µm,0.9s						
MYKOM	**Kota Tinggi**	**6.63**	**24**	P	**Pn**	**19 51 32.9**	**+2.8**
MYKOM	**Kota Tinggi**	**6.63**	**24**	P	**Pn**	**19 51 31.3**	**+1.2**
	14nm686nm,1.2s						
KGM	**Kluang**	**6.64**	**19**	P	**Pn**	**19 51 32.7**	**+2.5**
LEM	**Lembang**	**6.91**	**112**	P	**Pn**	**19 51 35.0**	**+1.0**
	6.7nm2µm,1.1s						
CISI	**Cisompet, Garu**	**7.38**	**116**	P	**Pn**	**19 51 38.3**	**-2.1**
	5.3nm2µm,1.1s						
PSI	**Prapat**	**7.40**	**343**	P	**Pn**	**19 51 38.8**	**-1.8**
	3.1nm192nm,0.6s						
XMIS	**Christmas Isla**	**7.59**	**144**	*eP*	**Pn**	**19 51 36.4**	**-6.9**
XMIS				*eS*	**Sn**	**19 52 52.9**	**-15**
XMIS	**Christmas Isla**	**7.59**	**144**	P	**Pn**	**19 51 43.2**	**-0.1**
	12nm838nm,1.6s						
TSI	**Tuntungan**	**8.17**	**342**	P	**Pn**	**19 51 50.1**	**-1.1**
	955nm,1.3s						
TPTI		**8.49**	**332**	P	**Pn**	**19 51 55.8**	**+0.1**
	4.2nm980nm,0.6s						
IPM	**Ipoh**	**8.72**	**359**	P	**Pn**	**19 51 59.9**	**+1.1**
IPM	**Ipoh**	**8.72**	**359⇑**	*ePn*	**Pn**	**19 51 59.6**	**+0.8**
	148nm,0.6s						
IPM	**Ipoh**	**8.72**	**359**	P	**Pn**	**19 52 00.1**	**+1.3**
	1.4nm234nm,1.3s						
COCO	**West Island**	**8.92**	**208**	*ePn*	**Pn**	**19 51 56.6**	**-4.9**
	1µm,0.6s						
COCO				*eSn*	**Sn**	**19 53 28.4**	**-13**
COCO	**West Island**	**8.92**	**208**	*i* P	**Pn**	**19 51 57.1**	**-4.4**
COCO	**West Island**	**8.92**	**208**	P	**Pn**	**19 51 57.0**	**-4.5**
	5.3nm2µm,0.9s						
COCO	**West Island**	**8.92**	**208**	Pn	**Pn**	**19 51 57.1**	**-4.4**
	10µm,0.6s,SNR=22						
BJII	**Banjamegara**	**9.04**	**110**	P	**Pn**	**19 52 03.3**	**+0.2**
	7µm200nm,1.6s						
KULM	**Kulim**	**9.54**	**357**	P	**Pn**	**19 52 11.3**	**+1.3**
KULM	**Kulim**	**9.54**	**357⇑**	*ePn*	**Pn**	**19 52 09.7**	**-0.3**
	484nm,1.0s						
KULM	**Kulim**	**9.54**	**357**	P	**Pn**	**19 52 10.1**	**+0.1**
	406nm,1.5s						
SMRI	**Semarang**	**9.64**	**107**	P	**Pn**	**19 52 13.3**	**+1.8**
	601nm,1.0s						
YOGI	**Yogyakarta**	**9

CMAR Chiang Mai Arr 22.72 355 P **P** **19 54 51.8 -2.3**
comp=Z,63nm,0.7s,mb5.2,baz=184,slow=10,SNR=161
CMAR PcP PcP 19 58 47.4 +1.5
comp=Z,3.9nm,0.7s,baz=216,slow=3.5,SNR=6.0
CMAR pPcP 19 58 55.5
comp=Z,8.9nm,0.8s,baz=210,slow=3.3,SNR=4.3
CMAR LR LR 20 05 32.0
comp=Z,45μm,18.0s,MS6.0,baz=182,slow=41
CMAR Chiang Mai Arr 22.72 355 P **P** **19 54 51.8 -2.3**
CMAR PcP PcP 19 58 47.4 +1.5
CMAR pPcP 19 58 55.5
CMAR Chiang Mai Arr 22.72 355 P **P** **19 54 51.8 -2.3**
CMAR 19 58 47.4
CMAR 19 58 55.5
CHTO Chiang Mai 23.07 355⇑ *e*P **P** **19 54 54.7 -3.2**
comp=Z,198nm,1.1s,mb5.5
CHTO *e*S **S** **19 59 21.9 +15**
CHTO *e*ScP ScP 20 01 59.4 -23
CHTO LR LR
comp=Z,35μm,19.0s,MS5.8
CHTO Chiang Mai 23.07 355⇑ *e*P **P** **19 54 54.7 -3.1**
CHTO pmax pmax
comp=Z,198nm,1.1s,mb5.5
CHTO MLR MLR
comp=Z,35μm,19.0s,MS5.8
CHTO Chiang Mai 23.07 355 P **P** **19 54 56.8 -1.0**
comp=Z,7μmcomp=Z,98nm,1.4s,mb5.0
CHTO Chiang Mai 23.07 355 P **P** **19 54 57.8 -0.1**
SNR=44
KMSI Cibinong 23.33 79 P **P** **19 55 04.3 +3.6**
comp=Z,778nm,1.0s,mb6.1
MNI Manado 24.36 77 P **P** **19 55 12.2 +2.0**
comp=Z,7μmcomp=Z,465nm,1.0s,mb5.9
MBWA Marble Bar 24.63 134 *e*P **P** **19 55 13.1 +0.4**
comp=Z,98nm,1.1s,mb5.2
MBWA *e*S **S** **19 59 39.9 +7.6**
MBWA LR LR
comp=Z,29μm,20.0s,MS5.8
MBWA Marble Bar 24.63 134 P **P** **19 55 13.4 +0.8**
comp=Z,3μmcomp=Z,102nm,1.8s,mb5.1
QIZ Qiongzhong 24.71 20 P **P** **19 55 14.0 +0.6**
QIZ S **S** **19 59 36.0 +2.5**
QIZ pmax pmax
comp=Z,110nm,1.9s,mb5.1
QIZ pmax pmax
comp=Z,6μm,8.1s
QIZ LR LR
comp=N,16μm,15.5s,MS5.7
QIZ LR LR
comp=E,5μm,15.5s,MS5.7
QIZ LR LR
comp=Z,24μm,22.6s
QIZ Qiongzhong 24.71 20 *e*P **P** **19 55 13.3 0.0**
comp=Z,280nm,1.3s,mb5.6
QIZ LR LR
comp=Z,24μm,21.0s,MS5.7
LBMI Labuha 26.58 83 P **P** **19 55 30.8 +0.4**
comp=Z,7μmcomp=Z,345nm,1.0s,mb5.8
RCP Roxas 26.65 54⇑ *e*P **P** **19 55 30.9 -0.1**
TNTI Ternate 26.68 80 P **P** **19 55 32.2 +0.9**
comp=Z,3μmcomp=Z,171nm,1.2s,mb5.4
BUKP Musuan 26.75 63 *e*P **P** **19 55 31.4 -0.6**
TGY Tagaytay City 26.83 47 P **P** **19 55 33.2 +0.6**
comp=Z,78nm,0.3s,mb5.7,baz=174,slow=8.5,SNR=4.9
TGY Tagaytay City 26.83 47 P **P** **19 55 33.2 +0.6**
TGY Tagaytay City 26.83 47 P **P** **19 55 33.2 +0.6**
DAV Davao City (W) 26.88 65 P **P** **19 55 32.3 -0.8**
comp=Z,47nm,0.3s,mb5.5,baz=245,slow=12,SNR=8.6
DAV Davao City (W) 26.88 65 P **P** **19 55 32.3 -0.8**
DAV LR LR
comp=Z,17μm,20.0s,MS5.6
DAV Davao City (W) 26.88 65⇑ *e*P **P** **19 55 32.6 -0.4**
SCZP Santa Cruz 27.26 43 *e*P **P** **19 55 35.9 -0.5**
TRD Trivandrum 27.27 298⇓ *i*P **P** **19 55 50.0 +13**
TRD *i*S S 20 00 40.0 +26
FITZ Fitzroy Crossi 27.61 122 P **P** **19 55 39.0 -0.6**
comp=Z,31nm,0.8s,mb5.0,baz=291,slow=6.3,SNR=79
FITZ S **S** **20 00 14.9 -4.6**
comp=Z,3.8nm,0.7s,baz=79,slow=5.2,SNR=1.5
FITZ LR LR 20 07 17.9
comp=Z,5μm,20.0s,MS5.1,baz=310,slow=38
FITZ Fitzroy Crossi 27.61 122 *e*P **P** **19 55 37.9 -1.7**
FITZ *e*S S 20 00 57.0 +38
FITZ Fitzroy Crossi 27.61 122 *e*P **P** **19 55 38.8 -0.8**
comp=Z,89nm,0.9s,mb5.4
FITZ S **S** **20 00 14.9 -4.6**
FITZ Fitzroy Crossi 27.61 122 P **P** **19 55 39.0 -0.6**
comp=Z,2μmcomp=Z,109nm,1.0s,mb5.4
BOLP Bolinao 27.69 42 *e*P **P** **19 55 30.4 -10**
BCPH Baguio City Da 28.14 43⇑ *i*P **P** **19 55 35.9 -8.4**
DGAR Diego Garcia 28.70 262 PFAKE 19 56 00.0 +11
DGAR LR LR
comp=Z,12μm,19.0s,MS5.5
BWNR Bhubaneshwar 28.71 329 *ex* **P** **19 55 46.0 -3.4**
PVCP Virac 28.95 52 *e*P **P** **19 55 51.4 -0.1**
ABRA Dolores 29.13 41 *e*P **P** **19 55 53.0 -0.1**
KMI Kunming 29.29 3 P **P** **19 55 55.8 +1.4**
KMI PP PP 19 56 52.5 -8.5
KMI S **S** **20 00 48.3 +2.6**
KMI pmax pmax
comp=Z,140nm,1.3s,mb5.5
KMI pmax pmax
comp=Z,2μm,6.4s
KMI LR LR
comp=N,24μm,16.1s,MS6.2
KMI LR LR
comp=E,38μm,13.3s,MS6.2
KMI LR LR
comp=Z,32μm,18.1s,MS6.0
HKC Hong Kong Obse 29.35 25⇑ *i*P **P** **19 55 54.0 -1.0**
HKC S **S** **20 00 48.0 +1.2**
CAUP Cauayan 29.38 44 *e*P **P** **19 55 54.9 -0.4**
CAL Calcutta 29.47 335 *e*PKP **P** **19 55 55.9 -0.2**
CAL *ex* x 20 00 58.2
APYP Conner 29.63 41 *e*P **P** **19 55 58.6 +1.1**
GZH Guangzhou 29.71 23 P **P** **19 56 04.5 +6.3**
GZH S S 20 01 14.5 +22
GZH LR LR
comp=N,24μm,17.3s,MS6.0
GZH LR LR
comp=E,17μm,15.9s,MS6.0
GZH LR LR
comp=Z,27μm,18.6s,MS5.9
IMP Imphal 29.75 347 *e*PKP **P** **19 55 58.0 -0.5**
IMP *ex* x 20 01 15.0
SHL Shillong 31.02 344 *e*PKP **P** **19 56 10.0 +0.3**
SHL *i*S **S** **20 01 15.0 +2.1**
HYB Hyderabad 31.04 315 *i*P **P** **19 56 09.0 -1.0**
HYB *e*pP pP 19 56 15.0 -3.9
HYB *e*S **S** **20 01 14.0 +0.7**
HYB LR LR 20 10 00.0
comp=Z,16nm,20.0s
GYA Guiyang 31.04 10⇑ *i*P **P** **19 56 12.8 +2.9**
GYA PP PP 19 57 15.5 -4.9
GYA S **S** **20 01 17.0 +3.8**
GYA SS SS 20 03 04.8 -22
GYA pmax pmax
comp=Z,80nm,1.0s,mb5.5
GYA pmax pmax
comp=Z,10μm,5.9s
GYA LR LR
comp=N,18μm,18.7s,MS5.9
GYA LR LR
comp=E,16μm,19.0s,MS5.9
GYA LR LR
comp=Z,20μm,17.8s,MS5.8
FAKI Fak Fak 31.07 89 P **P** **19 56 08.5 -1.9**
comp=Z,3μmcomp=Z,91nm,1.2s,mb5.5
KLBR Kellerberrin 31.31 152 *e*P **P** **19 56 07.8 -4.5**
comp=Z,25nm,1.0s,mb5.0
TLE Tual 31.50 94 P **P** **19 56 13.9 -0.3**
comp=Z,5μmcomp=Z,251nm,1.1s,mb5.9
NWAO Narrogin (SRO) 32.20 154 P **P** **19 56 20.3 +0.2**
comp=Z,27nm,0.8s,mb5.1,baz=323,slow=9.7,SNR=13
NWAO pP pP 19 56 27.8 -1.3
comp=Z,37nm,0.8s,baz=314,slow=9.5,SNR=8.6
NWAO LR LR 20 08 56.5
comp=Z,23μm,19.7s,MS5.9,baz=328,slow=36
NWAO Narrogin (SRO) 32.20 154 *e*P **P** **19 56 19.9 -0.2**
comp=Z,33nm,0.8s,mb5.2
NWAO pP pP 19 56 27.8 -1.3
NWAO Narrogin (SRO) 32.20 154 *e*P **P** **19 56 19.9 -0.2**
NWAO *PP pP 19 56 27.8 -1.3
NWAO pmax pmax
comp=Z,33nm,0.8s

NGP Nagpur 33.30 320 *i*P **P** **19 56 28.6 -1.2**
NGP *i*x x 20 01 45.8
TPUB Ta-pu 33.38 34 *e*P **P** **19 56 29.9 -0.5**
comp=Z,142nm,1.2s,mb5.8
QZH Quanzhou 33.66 29⇑ *i*P **P** **19 56 30.0 -2.9**
QZH PP PP 19 57 43.3 -6.1
QZH S **S** **20 01 53.0 -1.0**
QZH pmax pmax
comp=Z,3μm,5.5s
QZH LR LR
comp=N,27μm,14.0s,MS6.2
QZH LR LR
comp=E,25μm,14.9s,MS6.2
QZH LR LR
comp=Z,34μm,14.8s,MS6.2
ODAN Odare 33.71 338 *e*P **P** **19 56 34.7 +1.4**
comp=Z,380nm,0.9s,mb6.3
ODAN Odare 33.71 338 *e*P **P** **19 56 34.7 +1.4**
comp=Z,380nm,0.9s,mb6.3
YULB Yu-li 33.83 35 *e*P **P** **19 56 33.0 -1.3**
comp=Z,49nm,1.1s,mb5.3
TAPN Taplejung 34.04 338 *e*P **P** **19 56 38.0 +1.9**
comp=Z,656nm,0.9s,mb6.5
TAPN Taplejung 34.04 338 *e*P **P** **19 56 38.0 +1.9**
comp=Z,656nm,0.9s,mb6.6
RAMN Ramite 34.10 336 *e*P **P** **19 56 38.5 +1.8**
comp=Z,449nm,1.0s,mb6.3
RAMN Ramite 34.10 336 *e*P **P** **19 56 38.5 +1.8**
comp=Z,449nm,1.0s,mb6.3
KAD Karad 34.20 310 *e*PKP **P** **19 56 38.3 +0.6**
JBP Jabalpur 34.23 324 *e*PKP **P** **19 56 38.4 +0.5**
JBP *ex* x 20 02 03.0
NACB Ninganchiao 34.61 34 *e*P **P** **19 56 38.8 -2.3**
YHNB Yeheng 34.88 33 *e*P **P** **19 56 42.2 -1.2**
YHNB LR LR
comp=Z,11μm,20.0s,MS5.6
JIRN Jiri 34.90 336 *e*P **P** **19 56 45.4 +1.8**
comp=Z,578nm,1.1s,mb6.4
JIRN Jiri 34.90 336 *e*P **P** **19 56 45.4 +1.8**
comp=Z,578nm,1.1s,mb6.4
ALBI Allahabad 34.91 328 *ex* **P** **19 56 48.5 +4.7**
CD2 Chengdu 35.10 4⇑ *i*P **P** **19 56 44.8 -0.5**
CD2 PP PP 19 58 03.8 -1.6
CD2 S **S** **20 02 14.5 -1.6**
CD2 pmax pmax
comp=Z,290nm,0.8s,mb6.3
CD2 pmax pmax
comp=Z,3μm,7.2s
CD2 LR LR
comp=N,45μm,13.2s,MS6.5
CD2 LR LR
comp=E,49μm,16.8s,MS6.5
CD2 LR LR
comp=Z,40μm,12.0s,MS6.4
PKI Pulchoki 35.14 335 *e*P **P** **19 56 46.8 +1.1**
PKI Pulchoki 35.14 335 *e*P **P** **19 56 46.8 +1.1**
PKI Pulchoki 35.14 335 *e*P **P** **19 56 46.8 +1.1**
LSA Lhasa 35.14 345 P **P** **19 56 46.5 +0.8**
LSA S **S** **20 02 17.8 +1.0**
LSA LR LR
comp=E,18μm,4.8s
LSA LR LR
comp=Z,10μm,5.6s
LSA Lhasa 35.14 345 *e*P **P** **19 56 46.5 +0.9**
comp=Z,318nm,1.4s,mb6.1
LSA LR LR
comp=Z,13μm,21.0s,MS5.6
LSA Lhasa 35.14 345 *e*P **P** **19 56 46.5 +0.8**
LSA pmax pmax
comp=Z,317nm,1.4s,mb6.0
LSA MLR MLR
comp=Z,13μm,21.0s,MS5.6
TATO Taipei 35.18 33 PFAKE 19 57 00.0 +14
TATO LR LR
comp=Z,9μm,21.0s,MS5.5
POO Poona 35.19 311 *e*PKP **P** **19 56 46.3 +0.1**
POO *ex* x 20 02 19.8
GUN Gumba 35.24 336 *e*P **P** **19 56 48.1 +1.5**
comp=Z,590nm,0.8s,mb6.6
GUN Gumba 35.24 336 *e*P **P** **19 56 48.1 +1.5**
comp=Z,590nm,0.8s,mb6.6
ENH Enshi 35.29 13 *e*P **P** **19 56 45.5 -1.5**
comp=Z,124nm,0.6s,mb6.0
ENH *e*S **S** **20 02 21.6 +2.6**
ENH LR LR
comp=Z,15μm,19.0s,MS5.8
DMN Daman 35.30 335 *e*P **P** **19 56 48.2 +1.1**
comp=Z,443nm,1.1s,mb6.3
DMN Daman 35.30 335 *e*P **P** **19 56 48.2 +1.1**
comp=Z,443nm,1.1s,mb6.3
KKN Kakani 35.38 335 *e*P **P** **19 56 48.8 +1.0**
KKN Kakani 35.38 335 *e*P **P** **19 56 48.8 +1.0**
KKN Kakani 35.38 335 *e*P **P** **19 56 48.8 +1.0**
GKN Gorkha 35.84 335 *e*P **P** **19 56 52.9 +1.2**
comp=Z,783nm,1.2s,mb6.5
GKN Gorkha 35.84 335 *e*P **P** **19 56 52.9 +1.2**
comp=Z,783nm,1.2s,mb6.5
BHPL Bhopal 35.85 321 *e*PKP **P** **19 56 52.2 +0.3**
BHPL *ex* x 20 02 27.6
WRA Warramunga Arr 35.87 118 P **P** **19 56 51.1 -1.1**
comp=Z,28nm,0.9s,mb5.2,baz=290,slow=11,SNR=75
WRA S **S** **20 02 28.8 +0.5**
comp=Z,9.8nm,0.9s,baz=295,slow=16,SNR=7.7
WRA P3KPbc 20 27 40.1
comp=Z,0.4nm,0.6s,baz=106,slow=4.3,SNR=4.7
WRA Warramunga Arr 35.87 118 P **P** **19 56 51.1 -1.1**
WRA S **S** **20 02 28.8 +0.5**
WRA *e* 20 27 40.1
WRA Warramunga Arr 35.87 118 P **P** **19 56 51.1 -1.0**
WRA S **S** **20 02 28.8 +0.5**
WRAB Tennant Creek 35.88 118⇑ *i*P **P** **19 56 51.2 -1.0**
comp=Z,71nm,0.7s,mb5.7
WRAB *e*S **S** **20 02 28.1 -0.3**
WRAB LR LR
comp=Z,19μm,22.0s,MS5.8
WRAB Tennant Creek 35.88 118⇑ *i*P **P** **19 56 51.2 -1.0**
WRAB *e*S **S** **20 02 28.2 -0.2**
WRAB pmax pmax
comp=Z,71nm,0.7s,mb5.7
WRAB MLR MLR
comp=Z,19μm,22.0s,MS5.8
WRAB Tennant Creek 35.88 118 P **P** **19 56 51.5 -0.7**
comp=Z,3μmcomp=Z,116nm,1.2s,mb5.7
WRAB Tennant Creek 35.88 118 P **P** **19 56 51.0 -1.2**
comp=Z,370nm,0.6s,mb6.5,SNR=68
WB2 Warramunga Arr 35.88 118⇑ *i*P **P** **19 56 51.1 -1.1**
WB2 *e*S **S** **20 02 28.4 -0.1**
KOLN Koldanda 36.10 333 *e*P **P** **19 56 55.1 +1.2**
comp=Z,315nm,0.7s,mb6.3
KOLN Koldanda 36.10 333 *e*P **P** **19 56 55.1 +1.2**
comp=Z,315nm,0.7s,mb6.3
DANN Dangsing 36.52 334 *e*P **P** **19 56 58.6 +1.0**
DANN Dangsing 36.52 334 *e*P **P** **19 56 58.6 +1.0**
FORT Forrest 36.56 139 *e*P **P** **19 56 57.2 -0.7**
FORT Forrest 36.56 139⇑ *e*P **P** **19 56 57.1 -0.7**
comp=Z,61nm,0.7s,mb5.5
WHN Wuhan 36.88 19⇓ P **P** **19 57 00.5 0.0**
WHN PP PP 19 58 28.8 +3.8
WHN S **S** **20 02 40.0 -3.4**
WHN pmax pmax
comp=Z,46nm,0.6s,mb5.5
WHN pmax pmax
comp=Z,5μm,7.9s
WHN LR LR
comp=N,34μm,13.0s,MS6.5
WHN LR LR
comp=E,42μm,16.2s,MS6.5
WHN LR LR
comp=Z,54μm,15.6s,MS6.4
AS31 Alice Springs 37.00 124⇑ *i*P **P** **19 57 01.2 -0.5**
AS31 *e*S **S** **20 02 49.0 +3.5**
ASAR Alice Springs 37.00 124 P **P** **19 57 01.4 -0.4**
comp=Z,26nm,1.0s,mb5.0,baz=297,slow=7.5,SNR=96
ASAR S **S** **20 02 47.0 +1.5**
comp=Z,2.9nm,0.9s,baz=287,slow=12,SNR=4.0
ASAR P3KPbc 20 27 35.9
comp=Z,0.3nm,0.7s,baz=111,slow=4.7,SNR=4.6
ASAR Alice Springs 37.00 124 P **P** **19 57 01.4 -0.4**
ASAR S **S** **20 02 47.0 +1.5**
ASAR *e* 20 27 35.9
ASAR Alice Springs 37.00 124 P **P** **19 57 01.4 -0.3**
ASAR S **S** **20 02 47.0 +1.5**
SMPI Sarmi 37.58 88 P **P** **19 57 06.7 -0.1**
comp=Z,3μmcomp=Z,133nm,0.9s,mb5.7
AGRA Agra 38.53 326 *e*PKP **P** **19 57 13.5 -1.1**

AGRA AMb AMB 19 57 24.4
comp=Z,143nm,0.6s,mb5.8
XAN Xi'an 38.84 10 P **P** **19 57 15.8 -1.2**
XAN PP PP 19 58 47.0 +0.6
XAN S **S** **20 03 09.5 -3.4**
XAN pmax pmax
comp=Z,62nm,1.3s,mb5.2
XAN pmax pmax
comp=Z,740nm,7.5s
XAN LR LR
comp=N,29μm,13.7s,MS6.2
XAN LR LR
comp=E,8μm,17.6s,MS6.2
XAN LR LR
comp=Z,18μm,14.2s,MS6.0
JAY Jayapura 39.53 89 P **P** **19 57 23.0 -0.2**
comp=Z,52nm,1.0s,mb5.2
SONA Sohna 39.80 326 *e*PKP **P** **19 57 25.6 +0.4**
SONA AMb AMB 19 57 35.0
comp=Z,122nm,1.0s,mb5.6
NJ2 Nanjing 39.88 24 *e*P **P** **19 57 24.8 -1.0**
NJ2 PP PP 19 59 00.0 +2.1
NJ2 S **S** **20 03 29.0 +0.2**
NJ2 pmax pmax
comp=Z,70nm,1.1s,mb5.3
NJ2 pmax pmax
comp=Z,790nm,5.4s
NJ2 LR LR
comp=N,24μm,17.8s,MS6.2
NJ2 LR LR
comp=E,18μm,16.8s,MS6.2
NJ2 LR LR
comp=Z,22μm,20.1s,MS6.0
AJM Ajmer 39.93 321 *e*PKP **P** **19 57 25.0 -1.3**
AYAN Aya Nagar 39.96 326 *e*PKP **P** **19 57 26.1 -0.3**
AYAN AMb AMB 19 57 36.2
comp=Z,108nm,1.1s,mb5.5
SSE Sheshan 40.06 27 P **P** **19 57 28.3 +1.0**
SSE PP PP 19 59 01.0 +1.2
SSE S **S** **20 03 36.0 +4.5**
SSE pmax pmax
comp=Z,98nm,1.2s,mb5.4
SSE pmax pmax
comp=Z,2μm,10.5s
SSE LR LR
comp=N,25μm,15.0s,MS6.2
SSE LR LR
comp=E,15μm,15.0s,MS6.2
SSE LR LR
comp=Z,14μm,11.8s,MS6.0
NDI New Delhi 40.06 326 *e*PKP **P** **19 57 25.7 -1.7**
NDI *e*PKP 19 57 28.0
NDI AMb AMB 19 58 06.9
comp=Z,221nm,2.4s,mb5.5
NDI *ex* x 20 03 28.0
LZH Lanzhou 40.26 3⇑ P **P** **19 57 29.5 +0.7**
LZH PP PP 19 59 06.5 +4.6
LZH PcP PcP 19 59 33.5 +1.2
LZH S **S** **20 03 33.0 -1.2**
LZH SS SS 20 06 30.0 -3.4
LZH pmax pmax
comp=Z,590nm,1.4s,mb6.1
LZH pmax pmax
comp=Z,4μm,9.2s
LZH LR LR
comp=N,28μm,16.4s,MS6.5
LZH LR LR
comp=E,39μm,15.1s,MS6.5
LZH LR LR
comp=Z,42μm,17.5s,MS6.3
KHET Khetri 40.40 324 *e*PKP **P** **19 57 30.2 0.0**
KHET AMb AMB 19 57 43.1
comp=Z,119nm,1.2s,mb5.5
DDI Dehra Dun 40.91 329⇑ *i*P **P** **19 57 34.0 -0.3**
DDI *ex* x 20 03 44.5
KKR Kurukshetra 41.27 327 *e*PKP **P** **19 57 38.5 +1.1**
SMLA Simla 42.01 329 *i*P **P** **19 57 42.7 -0.6**
SDNR Sundarnagar 42.41 329 *e*PKP **P** **19 57 47.0 +0.4**
SDNR *ex* x 20 04 07.0
COEN Coen 42.52 106⇑ *i*P **P** **19 57 45.4 -2.4**
comp=Z,293nm,1.0s,mb6.0
COEN Coen 42.52 106 P **P** **19 57 46.0 -1.8**
comp=Z,2μmcomp=Z,71nm,2.1s,mb5.0
BHK Bhakra 42.63 328 *ex* x 19 57 53.8
TIA Tai'an 42.99 19 P **P** **19 57 50.0 -1.2**
TIA pP pP 19 58 00.0 -0.4
TIA pmax pmax
comp=Z,80nm,1.5s,mb5.2
TIA pmax pmax
comp=Z,2μm,7.4s
TIA LR LR
comp=N,10μm,22.6s,MS6.3
TIA LR LR
comp=E,37μm,18.6s,MS6.3
TIA LR LR
comp=Z,10μm,22.6s,MS5.7
TIY Taiyuan 43.10 13 *e*P **P** **19 57 52.0 -0.1**
TIY S **S** **20 04 15.0 -1.3**
TIY pmax pmax
comp=Z,2μm,7.2s
TIY LR LR
comp=N,16μm,15.3s,MS6.2
TIY LR LR
comp=E,20μm,14.9s,MS6.2
TIY LR LR
comp=Z,21μm,18.6s,MS6.1
BBOO Buckleboo 43.21 135 *e*P **P** **19 57 51.7 -1.4**
comp=Z,712nm,1.0s,mb6.3
GTA Gaotai 43.51 359⇑ P **P** **19 57 56.0 +0.6**
GTA PP PP 19 59 36.8 -0.2
GTA S **S** **20 04 21.0 -1.2**
GTA SS SS 20 07 31.0 -6.7
GTA ScS ScS 20 07 51.3 -1.7
GTA pmax pmax
comp=Z,47nm,1.0s,mb5.2
GTA pmax pmax
comp=Z,3μm,5.5s
GTA LR LR
comp=N,17μm,15.7s,MS6.2
GTA LR LR
comp=E,13μm,15.2s,MS6.2
GTA LR LR
comp=Z,26μm,15.7s,MS6.2
THN Thein Dam 43.79 328 *ex* **P** **19 57 54.6 -3.2**
MRIV Mauritius Mete 45.33 246 *e*P **P** **19 58 08.9 -1.4**
BTO Baotou 45.42 9 *e*P **P** **19 58 10.0 -0.6**
MSEY Mahe Island 45.52 268 PFAKE 19 58 20.0 +8.1
MSEY LR LR
comp=Z,10μm,19.0s,MS5.8
HHC Hu-ho-hao-te 45.93 11 *e*P **P** **19 58 15.3 +0.6**
HHC PcP PcP 19 59 52.3 +1.0
HHC PP PP 20 00 03.3 +0.5
HHC S **S** **20 04 59.5 +2.1**
HHC SS SS 20 08 16.8 -5.8
HHC pmax pmax
comp=Z,70nm,1.2s,mb5.5
HHC pmax pmax
comp=Z,3μm,6.9s
HHC LR LR
comp=N,40μm,15.1s,MS6.5
HHC LR LR
comp=E,14μm,16.5s,MS6.5
HHC LR LR
comp=Z,38μm,15.3s,MS6.5
PMG Port Moresby 45.94 99 P **P** **19 58 13.9 -1.3**
comp=Z,70nm,0.9s,mb5.6,baz=315,slow=5.2,SNR=43
PMG S **S** **20 04 54.9 -3.3**
comp=Z,1.4nm,0.5s,baz=191,slow=19,SNR=3.9
PMG Port Moresby 45.94 99⇑ *i*P **P** **19 58 13.4 -1.8**
comp=Z,176nm,1.3s,mb5.8
PMG S **S** **20 04 54.9 -3.3**
PMG LR LR
comp=Z,10μm,22.0s,MS5.7
PMG Port Moresby 45.94 99 *ce*P **P** **19 58 13.7 -1.5**
PMG pmax pmax
comp=Z,246nm,1.7s
PMG Port Moresby 45.94 99 P **P** **19 58 13.7 -1.5**
comp=Z,4μmcomp=Z,153nm,1.1s,mb5.8
BJT Baijiatuau 46.22 16 *e*P **P** **19 58 16.9 0.0**
comp=Z,113nm,0.5s,mb6.0
BJT LR LR
comp=Z,17μm,20.0s,MS6.0
BJT Baijiatuau 46.22 16 *e*P **P** **19 58 16.9 0.0**
BJT pmax pmax
comp=Z,113nm,0.5s
BJT MLR MLR

comp=Z,17μm,20.0s
BJI Beijing 46.24 16 P **P** **19 58 17.3 +0.2**
BJI pmax pmax
comp=Z,170nm,0.5s,mb6.2
BJI pmax pmax
comp=Z,3μm,4.6s
BJI LR LR
comp=N,21μm,17.8s,MS6.3
BJI LR LR
comp=E,22μm,19.1s,MS6.3
BJI LR LR
comp=Z,12μm,20.3s,MS5.8
CTA Charters Tower 46.61 114 P **P** **19 58 20.1 -0.3**
comp=Z,120nm,1.2s,mb5.7,baz=290,slow=9.2,SNR=33
CTA S **S** **20 05 07.7 -0.1**
comp=Z,1.8nm,0.7s,baz=27,slow=23,SNR=7.1
CTA Charters Tower 46.61 114⇑ *i*P **P** **19 58 19.8 -0.6**
CTA *e*S **S** **20 05 05.0 -2.8**
CTA Charters Tower 46.61 114 P **P** **19 58 20.1 -0.3**
CTA S **S** **20 05 07.7 -0.1**
CTA Charters Tower 46.61 114 P **P** **19 58 20.1 -0.3**
CTA S **S** **20 05 07.7 -0.1**
CTAO Charters Tower 46.61 114⇑ *i*P **P** **19 58 19.7 -0.7**
comp=Z,140nm,1.0s,mb5.8
CTAO LR LR
comp=Z,11μm,22.0s,MS5.8
CTAO Charters Tower 46.61 114⇑ *i*P **P** **19 58 19.7 -0.7**
CTAO pmax pmax
comp=Z,140nm,1.0s,mb5.8
CTAO MLR MLR
comp=Z,11μm,22.0s,MS5.8
CTAO Charters Tower 46.61 114 P **P** **19 58 20.3 -0.1**
comp=Z,2μmcomp=Z,101nm,1.1s,mb5.7
JNU Nakatsue 46.67 35 *e*P **P** **19 58 19.6 -1.0**
comp=Z,189nm,1.4s,mb5.8
STKA Stephens Creek 46.78 131 P **P** **19 58 21.4 -0.2**
comp=Z,29nm,0.8s,mb5.2,baz=303,slow=7.6,SNR=36
STKA S **S** **20 05 02.8 -7.2**
comp=Z,2.3nm,0.9s,baz=225,slow=19,SNR=2.1
STKA LR LR 20 17 43.4
comp=Z,12μm,21.3s,MS5.8,baz=297,slow=36
STKA Stephens Creek 46.78 131⇑ *i*P **P** **19 58 21.3 -0.3**
STKA Stephens Creek 46.78 131 *e*P **P** **19 58 19.9 -1.7**
comp=Z,13nm,0.8s,mb4.9
STKA S **S** **20 05 02.8 -7.2**
STKA Stephens Creek 46.78 131 *e*P **P** **19 58 19.9 -1.7**
STKA S **S** **20 05 02.8 -7.1**
STKA pmax pmax
comp=Z,13nm,0.8s
GUMO Guam 46.89 67 PFAKE 19 58 30.0 +7.3
GUMO LR LR
comp=Z,4μm,20.0s,MS5.3
DL2 Dalian 46.98 22 P **P** **19 58 22.0 -0.9**
DL2 S **S** **20 05 14.5 +2.1**
DL2 pmax pmax
comp=Z,50nm,1.6s,mb5.2
DL2 pmax pmax
comp=Z,1μm,7.3s
DL2 LR LR
comp=N,6μm,18.3s,MS5.8
DL2 LR LR
comp=E,7μm,18.0s,MS5.8
DL2 LR LR
comp=Z,8μm,17.8s,MS5.7
RER Riviere de l'E 47.13 245 PFAKE 19 58 40.0 +16
RER LR LR
comp=Z,5μm,20.0s,MS5.5
INCN Inchon 47.86 27 *e*P **P** **19 58 28.5 -1.3**
comp=Z,45nm,0.9s,mb5.5
INCN LR LR
comp=Z,8μm,21.0s,MS5.7
KSAR Wonju Array Be 48.41 29 P **P** **19 58 33.8 -0.3**
KSAR Wonju Array Be 48.41 29 P **P** **19 58 33.8 -0.3**
KSRS Korea Array 48.44 29 P **P** **19 58 33.8 -0.5**
comp=Z,67nm,1.0s,mb5.6,baz=240,slow=8.9,SNR=86
KBL Kabul 49.06 324⇑ *i*P **P** **19 58 38.1 -1.0**
comp=Z,24nm,0.6s,mb5.4
KBL *e*S **S** **20 05 40.7 -1.3**
KBL Kabul 49.06 324⇑ *i*P **P** **19 58 38.1 -1.0**
KBL *e*S **S** **20 05 40.7 -1.3**
KBL pmax pmax
comp=Z,24nm,0.6s,mb5.4
WBK Wadi Bani Khal 49.12 305 P **P** **19 58 43.2 +3.4**
SNR=24
KSH Kashi 49.39 334 P **P** **19 58 40.5 -1.0**
KSH PcP PcP 20 00 04.8 +1.1
KSH PP PP 20 00 34.8 -1.1
KSH PcS PcS 20 03 59.5 -0.7
KSH S **S** **20 05 43.3 -3.2**
KSH SS SS 20 09 10.8 -7.9
KSH pmax pmax
comp=Z,230nm,1.6s,mb6.0
KSH pmax pmax
comp=Z,2μm,4.4s
KSH LR LR
comp=N,13μm,23.1s,MS6.1
KSH LR LR
comp=E,14μm,19.7s,MS6.1
KSH LR LR
comp=Z,16μm,21.3s,MS6.0
WMQ Urumqi 49.41 347 P **P** **19 58 42.5 +0.9**
WMQ PP PP 20 00 37.3 +1.3
WMQ S **S** **20 05 48.0 +1.4**
WMQ SS SS 20 09 15.5 -3.4
WMQ pmax pmax
comp=Z,420nm,1.0s,mb6.4
WMQ pmax pmax
comp=Z,4μm,4.8s
WMQ LR LR
comp=N,12μm,19.0s,MS6.1
WMQ LR LR
comp=E,15μm,19.4s,MS6.1
WMQ LR LR
comp=Z,11μm,20.8s,MS5.8
JMDO Jabal Madar 49.73 304 P **P** **19 58 45.3 +0.9**
SNR=18
SMDO Samad 50.08 305 P **P** **19 58 48.2 +1.1**
SNR=31
SNY Shenyang 50.25 22 ⇑P **P** **19 58 47.0 -1.1**
SNY PP PP 20 00 45.5 +1.8
SNY S **S** **20 05 54.8 -3.7**
SNY pmax pmax
comp=Z,2μm,6.6s
SNY LR LR
comp=N,12μm,17.4s,MS6.1
SNY LR LR
comp=E,10μm,15.3s,MS6.1
SNY LR LR
comp=Z,16μm,16.2s,MS6.1
BSY Bisya 50.64 304 P **P** **19 58 52.9 +1.6**
SNR=37
HOQ Hoqain 50.92 305 P **P** **19 58 55.2 +1.7**
SNR=21
ARQ Araqi 51.46 304 P **P** **19 58 58.6 +1.1**
SNR=7.0
KZA Kyzart 51.82 336 P **P** **19 59 00.9 +1.1**
SNR=38
KZA P 19 59 00.9
SNR=38
PAF Port-aux-Franc 51.99 205 PFAKE 19 59 10.0 +9.0
PAF LR LR
comp=Z,15μm,20.0s,MS6.0
SONM Songino Array 52.12 4 P **P** **19 59 02.9 +0.9**
comp=Z,114nm,0.8s,mb5.9,baz=185,slow=8.4,SNR=546
SONM PcP PcP 20 00 14.0 +0.5
comp=Z,16nm,0.7s,baz=185,slow=5.8,SNR=3.9
SONM S **S** **20 06 26.3 +2.2**
comp=Z,0.6nm,1.0s,baz=193,slow=5.9,SNR=3.8
SONM Songino Array 52.12 4 P **P** **19 59 02.9 +0.9**
SONM PcP PcP 20 00 14.0 +0.5
SONM S **S** **20 06 26.3 +2.2**
SONM Songino Array 52.12 4 P **P** **19 59 02.9 +1.0**
SONM 20 00 14.0
SONM S **S** **20 06 26.3 +2.2**
EIDS Eidsvold 52.24 119⇑ *i*P **P** **19 59 03.4 +0.1**
comp=Z,116nm,1.2s,mb5.7
TKM2 Tokmak 2 52.38 336 P **P** **19 59 04.3 +0.3**
SNR=91
TKM2 P 19 59 04.3
SNR=91
TKM2 Tokmak 2 52.38 336⇑ *i*P **P** **19 59 04.4 +0.4**
comp=Z,109nm,0.9s,mb5.8
TKM2 *e*PP PP 20 01 10.0 +7.0
TKM2 *e*S **S** **20 06 38.3 +10**
TKM2 LR LR
comp=Z,14μm,20.0s,MS6.0
TKM2 Tokmak 2 52.38 336 *i*P **P** **19 59 04.2 +0.2**
KBK Karagaybulak 52.43 336 P **P** **19 59 05.5 +1.1**
SNR=38
KBK P 19 59 05.5
SNR=38
AML Almayashu 52.52 334 P **P** **19 59 05.7 +0.6**
SNR=52
AML P 19 59 05.7
SNR=52
AAK Ala-Archa 52.59 335 P **P** **19 59 06.4 +0.8**
SNR=21
AAK P 19 59 06.4
SNR=21
AAK Ala-Archa 52.59 335⇑ *i*P **P** **19 59 05.9 +0.4**
comp=Z,365nm,1.3s,mb6.2
AAK *e*PP PP 20 01 10.1 +5.2
AAK *e*S **S** **20 06 15.5 -15**
AAK LR LR
comp=Z,17μm,21.0s,MS6.1
AAK Ala-Archa 52.59 335 *i*P **P** **19 59 06.1 +0.5**
AAK Ala-Archa 52.59 335 P **P** **19 59 06.0 +0.4**
comp=Z,10μmcomp=Z,234nm,2.8s,mb5.6
AAK Ala-Archa 52.59 335 P **P** **19 59 06.0 +0.4**
comp=Z,184nm,1.0s,mb6.0,SNR=22
AAK Ala-Archa 52.59 335 P **P** **19 59 06.6 +1.0**
SNR=45
CN2 Changchun 52.65 22 *e*P **P** **19 59 05.0 -1.0**
CN2 *e*S **S** **20 06 31.5 0.0**
CN2 SS SS 20 10 09.0 -1.4
CN2 pmax pmax
comp=Z,100nm,1.2s,mb5.6
CN2 pmax pmax
comp=Z,2μm,10.0s
CN2 LR LR
comp=N,16μm,18.0s,MS6.2
CN2 LR LR
comp=E,12μm,18.0s,MS6.2
CN2 LR LR
comp=Z,8μm,19.0s,MS5.8
FRU Bishkek 52.71 336⇑ *i*P **P** **19 59 06.5 +0.1**
FRU *i*S **S** **20 06 34.0 +1.7**
FRU pmax pmax
comp=Z,1μm,3.0s
FRU smax
comp=E,2μm,4.2s
FRU MLR MLR
comp=Z,16μm,20.0s,MS6.1
CHMS Chumysh 52.79 336 P **P** **19 59 07.2 +0.2**
SNR=18
CHMS P 19 59 07.2
SNR=18
EKS2 Erkin-Say 52.92 335 P **P** **19 59 08.8 +0.8**
SNR=108
EKS2 P 19 59 08.8
SNR=108
EKS2 Erkin-Say 52.92 335⇑ *i*P **P** **19 59 08.4 +0.4**
comp=Z,109nm,0.8s,mb5.8
EKS2 *e*PP PP 20 01 11.4 +3.5
EKS2 *e*S **S** **20 06 35.7 +0.5**
EKS2 LR LR
comp=Z,10μm,21.0s,MS5.8
EKS2 Erkin-Say 52.92 335⇑ *i*P **P** **19 59 08.4 +0.4**
EKS2 *e* 20 01 11.4
EKS2 *e*S **S** **20 06 35.7 +0.5**
EKS2 pmax pmax
comp=Z,109nm,0.8s,mb5.8
EKS2 MLR MLR
comp=Z,10μm,21.0s,MS5.8
USP Ospenovka 53.12 336 P **P** **19 59 09.6 +0.2**
SNR=38
USP P 19 59 09.6
SNR=38
MAJO Matsushiro 53.37 37 *e*P **P** **19 59 09.2 -2.2**
comp=Z,135nm,1.3s,mb5.7
MAJO LR LR
comp=Z,6μm,21.0s,MS5.6
MAJO Matsushiro 53.37 37 *e*P **P** **19 59 09.2 -2.2**
MAJO pmax pmax
comp=Z,135nm,1.3s,mb5.7
MAJO MLR MLR
comp=Z,6μm,21.0s,MS5.6
MAT Matsushiro 53.37 37 P **P** **19 59 09.6 -1.8**
MAT S **S** **20 06 45.0 +3.5**
MJAR Matsushiro Arr 53.37 37 P **P** **19 59 10.0 -1.4**
comp=Z,68nm,1.1s,mb5.5,baz=213,slow=7.9,SNR=61
MJAR Matsushiro Arr 53.37 37 P **P** **19 59 10.0 -1.4**
MJAR Matsushiro Arr 53.37 37 P **P** **19 59 10.0 -1.4**
MK31 Makanchi Array 53.54 344⇑ *i*P **P** **19 59 12.0 -0.4**
MK31 *e*S **S** **20 06 46.8 +3.3**
MK31 Makanchi Array 53.54 344⇑ *i*P **P** **19 59 12.0 -0.5**
MK31 *e*S **S** **20 06 46.8 +3.3**
MKAR Makanchi Array 53.54 344 P **P** **19 59 12.4 0.0**
comp=Z,67nm,0.7s,mb5.7,baz=147,slow=7.7,SNR=699
MKAR S **S** **20 06 43.6 +0.2**
comp=Z,0.4nm,0.8s,baz=159,slow=4.3,SNR=2.2
MKAR LR LR 20 26 00.7
comp=Z,5μm,21.0s,MS5.6,baz=356,slow=40
MKAR PKP2bc 20 29 43.5
comp=Z,0.7nm,1.0s,baz=282,slow=1.1,SNR=3.8
MKAR Makanchi Array 53.54 344 P **P** **19 59 12.4 0.0**
MKAR S **S** **20 06 43.6 +0.2**
MKAR ⇑*e* 20 29 43.5
MKAR Makanchi Array 53.54 344 P **P** **19 59 12.5 0.0**
MKAR S **S** **20 06 43.7 +0.2**
CAN Canberra 53.84 131 *e*P **P** **19 59 15.0 +0.1**
comp=Z,60nm,1.1s,mb5.4
CAN LR LR
comp=Z,22μm,21.0s,MS6.2
CAN Canberra 53.84 131 *e*P **P** **19 59 15.0 +0.1**
CAN pmax pmax
comp=Z,60nm,1.1s,mb5.4
CAN MLR MLR
comp=Z,22μm,21.0s,MS6.2
ARMA Armidale 54.15 125 *e*P **P** **19 59 18.6 +1.3**
ARMA Armidale 54.15 125⇑ *i*P **P** **19 59 18.5 +1.2**
comp=Z,60nm,1.1s,mb5.4
ZAK Zakamensk 54.50 2 *e*P **P** **19 59 19.4 0.0**
ZAK pmax pmax
comp=Z,31nm,0.9s,mb5.2
OPO Ambohidratompo 54.54 250 LR LR 20 17 11.9
comp=Z,9μm,21.9s,MS5.8,baz=83,slow=30
ABPO Ambohimpanom 54.56 250 *e*P **P** **19 59 20.7 +0.2**
comp=Z,34nm,1.0s,mb5.3
ABPO LR LR
comp=Z,7μm,22.0s,MS5.7
ABPO Ambohimpanom 54.56 250 *e*P **P** **19 59 20.7 +0.2**
ABPO pmax pmax
comp=Z,34nm,1.0s,mb5.3
ABPO MLR MLR
comp=Z,7μm,22.0s,MS5.7
KKAR Karatay Array 54.71 333⇑ *i*P **P** **19 59 20.1 -1.0**
comp=Z,11nm,0.6s,mb5.1
KKAR Karatay Array 54.71 333⇑ *i*P **P** **19 59 20.1 -1.0**
KKAR pmax pmax
comp=Z,11nm,0.6s,mb5.1
VLA Vladivostok 54.77 27⇓ *i*P **P** **19 59 21.4 -0.1**
VLA *i* 20 00 21.5
VLA *e* 20 01 22.7
VLA pmax pmax
comp=Z,159nm,1.6s,mb5.8
MDJ Mudanjiang 54.97 25 P **P** **19 59 22.8 -0.1**
MDJ PcP PcP 20 00 25.0 +0.5
MDJ PP PP 20 01 25.8 -0.5
MDJ PcS PcS 20 04 23.0 -1.2
MDJ S **S** **20 07 05.0 +2.2**
MDJ SS SS 20 10 45.5 -1.4
MDJ pmax pmax
comp=Z,32nm,1.0s,mb5.3
MDJ pmax pmax
comp=Z,2μm,7.6s
MDJ LR LR
comp=N,12μm,15.9s,MS6.2
MDJ LR LR
comp=E,9μm,15.4s,MS6.2
MDJ LR LR
comp=Z,6μm,19.4s,MS5.7
MDJ Mudanjiang 54.97 25⇑ *e*P **P** **19 59 22.6 -0.3**
comp=Z,127nm,1.3s,mb5.8
MDJ LR LR
comp=Z,9μm,22.0s,MS5.8
USRK Ussuriysk Arra 55.67 27 P **P** **19 59 27.7 -0.3**
comp=Z,94nm,0.7s,mb5.9,baz=214,slow=5.4,SNR=206
USRK pP pP 19 59 35.3 -2.1
comp=Z,119nm,0.6s,baz=217,slow=5.3,SNR=20
USRK LR LR 20 24 59.9
comp=Z,10μm,19.8s,MS5.9,baz=149,slow=38
HIA Hailar 55.75 15⇑ *i*P **P** **19 59 27.5 -1.0**
comp=Z,118nm,1.5s,mb5.7
HIA LR LR
comp=Z,18μm,20.0s,MS6.1
HIA Hailar 55.75 15⇑ *i*P **P** **19 59 27.5 -0.9**
HIA pmax pmax
comp=Z,119nm,1.5s
HIA MLR MLR
comp=Z,18μm,20.0s
MOY Mondy 55.75 360 *e*P **P** **19 59 28.1 -0.3**
MOY pmax pmax
comp=Z,193nm,4.0s
TLY Talaya 55.81 2⇑ *i*P **P** **19 59 29.6 +0.8**
comp=Z,100nm,1.3s,mb5.7
TLY LR LR
comp=Z,7μm,19.0s,MS5.8
TLY Talaya 55.81 2 *e*P **P** **19 59 29.6 +0.8**
TLY *e* 20 00 34.6
TLY *e*S **S** **20 07 11.4 -2.4**
TLY *e* 20 09 09.8
TLY pmax pmax
comp=Z,54nm,0.9s,mb5.6
TLY MLR MLR
comp=Z,16μm,16.0s,MS6.2
TLY Talaya 55.81 2 P **P** **19 59 30.3 +1.5**
SNR=9.9
TLY Talaya 55.81 2 P **P** **19 59 29.3 +0.5**
comp=Z,325nm,1.1s,mb6.3,SNR=10
TAU Tasmania Unive 56.09 140⇑ *e*P **P** **19 59 29.9 -1.2**
TAU LR LR
comp=Z,12μm,20.0s,MS6.0
TAU Tasmania Unive 56.09 140⇑ *e*P **P** **19 59 29.9 -1.2**
TAU MLR MLR
comp=Z,12μm,20.0s,MS6.0
IRK Irkutsk 56.39 2 *e*P **P** **19 59 33.7 +0.7**
IRK *e* 20 07 26.5
IRK pmax pmax
comp=Z,232nm,2.3s,mb5.8
CIT Chita 57.09 9 *e*P **P** **19 59 37.8 -0.2**
CIT *e* pP 19 59 48.4 +1.0
CIT *e* 20 07 34.4
CIT pmax pmax
comp=Z,451nm,3.6s
ABKT Ailbek 57.94 320 P **P** **19 59 44.7 +0.5**
comp=Z,207nm,1.0s,mb6.1,SNR=11
KURK Kurchatov 58.12 343 P **P** **19 59 44.6 -0.7**
comp=Z,45nm,0.9s,mb5.5,baz=160,slow=6.7,SNR=201
KURK S **S** **20 07 44.0 -0.4**
comp=Z,0.8nm,0.8s,baz=157,slow=9.9,SNR=5.0
KURK Kurchatov 58.12 343 P **P** **19 59 44.6 -0.7**
KURK S **S** **20 07 44.0 -0.4**
KURK LR LR
comp=Z,14μm,20.0s,MS6.1
KURK Kurchatov 58.12 343 *ce*P **P** **19 59 45.0 -0.2**
KURK pmax pmax
comp=Z,98nm,0.8s,mb5.9
KURK Kurchatov 58.12 343 P **P** **19 59 45.4 +0.2**
SNR=68
KURK Kurchatov 58.12 343 P **P** **19 59 45.2 0.0**
comp=Z,573nm,0.9s,mb6.6,SNR=60
HNR Honiara 58.55 98⇑ *i*P **P** **19 59 47.2 -1.7**
comp=Z,619nm,1.3s,mb6.5
HNR *e*ScP ScP 20 04 38.2 +0.5
HNR LR LR
comp=Z,6μm,21.0s,MS5.7
HNR Honiara 58.55 98⇑ *i*P **P** **19 59 47.2 -1.7**
HNR pmax pmax
comp=Z,619nm,1.3s,mb6.5
HNR MLR MLR
comp=Z,6μm,21.0s,MS5.7
DHBB Dhamar BB 59.29 290 *e*P **P** **19 59 57.8 +3.8**
ZAA0 Zalesovo Array 59.63 349⇑ *i*P **P** **19 59 55.0 -0.6**
ZAA0 *e*S **S** **20 08 02.3 -1.5**
ZALV Zalesovo Beam 59.63 349 P **P** **19 59 55.2 -0.4**
comp=Z,88nm,0.8s,mb5.8,baz=193,slow=5.1,SNR=233
ZALV S **S** **20 08 03.4 -0.5**
comp=Z,3.2nm,1.0s,baz=148,slow=14,SNR=4.7
ZALV LR LR 20 29 39.3
comp=Z,7μm,19.0s,MS5.8,baz=266,slow=40
ZALV Zalesovo Beam 59.63 349 P **P** **19 59 55.2 -0.4**
ZALV S **S** **20 08 03.4 -0.5**
ZALV Zalesovo Beam 59.63 349 P **P** **19 59 55.3 -0.3**
ZALV S **S** **20 08 03.4 -0.4**
ERM Erimo 59.84 35 *e*P **P** **19 59 57.1 -0.3**
comp=Z,120nm,1.2s,mb5.8
ERM LR LR
comp=Z,4μm,21.0s,MS5.5
ERM Erimo 59.84 35 *e*P **P** **19 59 58.8 +1.5**
HABR Khabarovsk 60.32 25 *i*P **P** **19 59 59.7 -0.8**
HABR *e* 20 00 42.9
HABR *e* 20 02 12.2
HABR *e*S **S** **20 08 15.2 +2.3**
HABR *e**SS sS 20 08 19.7 -8.8
HABR *e* 20 09 49.1
HABR *e*SS SS 20 12 13.2 +2.2
HABR pmax pmax
comp=Z,1μm,3.5s
HABR MLR MLR
comp=E,15μm,18.0s,MS6.3
HABR MLR MLR
comp=N,14μm,18.0s,MS6.3
HABR MLR MLR
comp=Z,12μm,20.0s,MS6.0
NVS Novosibirsk 60.78 348⇑ *i*P **P** **20 00 01.8 -1.7**
NVS *e*S **S** **20 08 11.1 -7.5**
NVS pmax pmax
comp=Z,274nm,1.9s,mb6.1
NVS pmax pmax
comp=N,176nm,2.1s
NVS pmax pmax
comp=E,107nm,2.1s
NVS smax
comp=N,163nm,2.1s
NVS smax
comp=E,120nm,2.2s
ASAJ Asahikawa 60.88 33 *e*P **P** **20 00 03.5 -0.9**
comp=E,58nm,1.2s,mb5.6
KBD Kabd 61.10 307 *e*P **P** **20 00 06.5 +0.2**
KBD AMb AMB 20 00 17.9
comp=Z,113nm,1.7s,mb5.7
UMR Umm Al-Rimmam 61.24 307 *e*P **P** **20 00 07.0 -0.2**
UMR AMb AMB 20 00 18.2
comp=Z,182nm,1.3s,mb6.0
NAY Al-Naaiem 61.49 307 *e*P **P** **20 00 08.3 -0.6**
NAY AMb AMB 20 00 11.5
comp=Z,22nm,0.9s,mb5.3
MIB Mutribah 61.64 307 *e*P **P** **20 00 09.6 -0.3**
MIB AMb AMB 20 00 16.9
comp=Z,60nm,0.8s,mb5.8
CASY Casey 62.22 176 *e*P **P** **20 00 12.1 -1.0**
comp=Z,23nm,0.8s,mb5.4
CASY LR LR
comp=Z,11μm,20.0s,MS6.0
MIR Mirnyy 62.40 184 *e*P **P** **20 00 21.0 +6.7**
MIR *e* 20 00 56.0
MIR *e*S **S** **20 08 40.0 +1.2**
MIR pmax pmax
comp=Z,41nm,1.0s,mb5.5
MIR pmax pmax
comp=Z,1μm,7.0s
MIR smax
comp=N,1μm,12.0s
MIR smax
comp=E,1μm,12.0s
YUK Yuzh-Kuril'sk 62.65 35*c* *i*P **P** **20 00 01.7 -15**
YUK *i* 20 00 50.9
YUK pmax pmax
comp=E,243nm,1.5s
YUK pmax pmax
comp=Z,348nm,1.3s,mb6.3
YUK pmax pmax
comp=N,302nm,1.3s
YUK pmax pmax
comp=Z,2μm,3.5s
YUK MLR MLR
comp=N,2μm,20.0s,MS5.4
YUK MLR MLR
comp=E,2μm,21.0s,MS5.4
YUK MLR MLR
comp=Z,5μm,21.0s,MS5.6
BVAR Borovoye Array 62.72 340 P **P** **20 00 15.8 -0.8**
comp=Z,42nm,0.7s,mb5.7,baz=143,slow=8.8,SNR=269
BVAR pP pP 20 00 23.9 -2.2
comp=Z,30nm,0.5s,baz=143,slow=9.0,SNR=17
BVAR Borovoye Array 62.72 340 P **P** **20 00 15.8 -0.8**
BVAR pP pP 20 00 23.9 -2.2

BVAR Borovoye Array 62.72 340 P **P** **20 00 15.8 -0.8**
BVAR *PP pP 20 00 23.9 -2.2
BOD Bodaibo 62.78 8⇓*iP* **P** **20 00 16.4 -0.5**
BOD pmax pmax
comp=Z,78nm,1.9s,mb5.5
BRVK Borovoye 62.79 340⇑*iP* **P** **20 00 16.0 -1.0**
comp=Z,45nm,0.8s,mb5.7
BRVK *e*PP PP 20 02 35.4 -0.1
BRVK *e*S **S** **20 08 35.1 -8.9**
BRVK LR LR
comp=Z,8μm,19.0s,MS5.9
BRVK Borovoye 62.79 340*ce*P **P** **20 00 15.9 -1.2**
BRVK pmax pmax
comp=Z,64nm,1.7s,mb5.5
BRVK Borovoye 62.79 340 P **P** **20 00 16.6 -0.5**
comp=Z,305nm,0.6s,mb6.6,SNR=34
BRVK Borovoye 62.79 340 P **P** **20 00 16.7 -0.3**
SNR=28
YSS Yuzh-Sakhalins 62.84 31⇑*iP* **P** **20 00 16.9 -0.7**
comp=Z,212nm,1.0s,mb6.2
YSS LR LR
comp=Z,2μm,19.0s,MS5.3
YSS Yuzh-Sakhalins 62.84 31⇑*iP* **P** **20 00 17.0 -0.5**
YSS *e**SP sP 20 00 25.5 -5.2
YSS *e*S **S** **20 08 56.0 +11**
YSS pmax pmax
comp=Z,230nm,1.2s,mb6.2
YSS pmax pmax
comp=N,2μm,4.0s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS smax
comp=E,1μm,12.0s
YSS MLR MLR
comp=Z,4μm,20.0s,MS5.6
YSS MLR MLR
comp=N,6μm,17.0s,MS6.0
YSS MLR MLR
comp=E,6μm,19.0s,MS6.0
KMBO Kilima Mbogo 63.88 271 *e*P **P** **20 00 25.8 +0.7**
comp=E,10.0nm,1.0s,mb4.8
KMBO LR LR
comp=Z,4μm,19.0s,MS5.6
KMBO Kilima Mbogo 63.88 271 *e*P **P** **20 00 25.8 +0.7**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KMBO MLR MLR
comp=Z,4μm,19.0s
CLNS Chul'man 63.93 14 *e*P **P** **20 00 24.0 -0.6**
CLNS *e* 20 00 57.3
CLNS *e* 20 02 41.8
CLNS *e*PPP 20 04 17.0
CLNS *e*S **S** **20 09 00.6 +2.4**
CLNS pmax pmax
comp=Z,58nm,1.4s,mb5.4
CLNS pmax pmax
comp=E,25nm,1.3s
CLNS pmax pmax
comp=N,37nm,1.6s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS pmax pmax
comp=N,18nm,1.2s
CLNS pmax pmax
comp=Z,15nm,1.3s,mb4.9
CLNS smax
comp=N,1μm,14.6s
CLNS smax
comp=E,921nm,15.9s
CLNS MLR MLR
comp=Z,4μm,20.0s,MS5.6
CLNS MLR MLR
comp=N,6μm,21.0s,MS5.9
CLNS MLR MLR
comp=E,7μm,20.0s,MS5.9
ABKAR Abkulak array 64.19 331⇑*iP* **P** **20 00 25.4 -1.0**
comp=E,31nm,0.6s,mb5.5
DZM Mont Dzumac 65.52 112 *e*P **P** **20 00 34.6 -1.1**
comp=E,78nm,1.4s,mb5.5
DZM *e*S S 20 09 16.7 -2.4
comp=E,7μm,26.6s
DZM *e*LR LR 20 20 19.0
comp=E,17μm,24.7s
DZM Mont Dzumac 65.52 112 *e*P **P** **20 00 32.6 -3.1**
DZM Mont Dzumac 65.52 112 *e*P **P** **20 00 35.6 0.0**
comp=E,76nm,1.4s,mb5.5
AKTO Aktyubinsk 65.91 331 P **P** **20 00 36.8 -0.8**
comp=E,10nm,0.8s,mb5.0,baz=126,slow=8.1,SNR=21
AKTO Aktyubinsk 65.91 331 P **P** **20 00 36.8 -0.8**
AKTO Aktyubinsk 65.91 331 P **P** **20 00 36.8 -0.8**
MAK Makhachkala 67.45 320*c iP* **P** **20 00 47.7 +0.1**
MAK *e* 20 03 18.2
MAK *e*PPP 20 04 58.8
MAK *i* S S 20 09 42.3 +0.6
MAK *e*SS SS 20 14 08.0 +5.4
MAK pmax pmax
comp=Z,198nm,1.2s,mb6.0
MAK MLR MLR
comp=Z,4μm,18.0s,MS5.6
HAKT HAKKARI 67.58 314⇑*iP* **P** **20 00 47.6 -0.9**
DRV Dumont d'Urvil 67.81 164 P **P** **20 00 59.0 +10**
DRV S S 20 09 49.0 +3.7
DRV L 20 17 00.0
GNI Garni 67.97 316 P **P** **20 00 51.3 +0.4**
comp=Z,9.4nm,0.9s,mb4.8,baz=99,slow=18,SNR=3.1
GNI Garni 67.97 316⇑*iP* **P** **20 00 51.2 +0.3**
comp=Z,73nm,1.1s,mb5.6
GNI LR LR
comp=Z,3μm,19.0s,MS5.5
GNI Garni 67.97 316 *e*P **P** **20 00 49.3 -1.6**
GNI pmax pmax
comp=Z,27nm,1.7s
DYDN Diyadin 68.43 316⇑*iP* **P** **20 00 54.7 +0.9**
SIRN S¨–rnak 68.50 313⇑*iP* **P** **20 00 54.3 0.0**
WAKE Wake Island 68.53 67 PFAKE 20 01 10.0 +15
WAKE LR LR
comp=Z,3μm,19.0s,MS5.6
TBLG Delisi 68.68 318 P **P** **20 00 55.4 +0.1**
TBLG Delisi 68.68 318 P **P** **20 00 55.4 +0.1**
TUTA Tutak 68.99 315⇑*iP* **P** **20 00 58.2 +0.9**
DIGO Kars 69.03 316⇑*iP* **P** **20 00 57.0 -0.5**
GOR Gori 69.21 318 P **P** **20 01 02.4 +3.8**
SVE Sverdlovsk 69.23 338⇓*iP* **P** **20 00 58.3 -0.1**
SVE *e* 20 03 34.0
SVE *e*PPP 20 05 15.6
SVE *e*S S 20 10 00.7 -1.7
SVE *e* 20 10 50.3
SVE *e*SS SS 20 14 28.9 -0.6
SVE pmax pmax
comp=Z,195nm,1.4s,mb5.8
SVE MLR MLR
comp=N,6μm,22.0s,MS6.0
SVE MLR MLR
comp=E,8μm,22.0s,MS6.0
SVE MLR MLR
comp=Z,13μm,21.0s,MS6.2
AKH Akhalkalaki 69.37 317 P **P** **20 00 59.6 0.0**
MARD Mardin 69.62 312⇑*iP* **P** **20 01 00.7 -0.6**
YAK Yakutsk 69.68 14⇑*iP* **P** **20 00 59.4 -1.6**
comp=Z,85nm,0.7s,mb5.8
YAK LR LR
comp=Z,9μm,20.0s,MS6.0
YAK Yakutsk 69.68 14 *e*P **P** **20 00 58.7 -2.3**
YAK *e**PP pP 20 01 08.8 -1.9
YAK *e* 20 01 19.1
YAK *e* 20 03 35.0
YAK *e*S S 20 10 07.2 -0.2
YAK *e**SS sS 20 10 36.2 +13
YAK *e* 20 10 56.2
YAK *e*SS SS 20 14 37.6 +1.5
YAK pmax pmax
comp=Z,171nm,1.5s,mb5.8
YAK pmax pmax
comp=N,79nm,1.5s
YAK pmax pmax
comp=E,77nm,1.6s
YAK pmax pmax
comp=Z,317nm,4.2s
YAK pmax pmax
comp=N,263nm,4.4s
YAK pmax pmax
comp=E,528nm,5.1s
YAK smax
comp=N,558nm,4.4s
YAK smax
comp=E,495nm,4.2s
YAK MLR MLR
comp=E,11μm,19.0s,MS6.4
YAK MLR MLR
comp=N,14μm,17.0s,MS6.4
YAK MLR MLR
comp=Z,22μm,17.0s,MS6.5
ZEI Tsey 69.70 319 *e*P **P** **20 01 02.4 +0.8**
ZEI pmax pmax
comp=Z,14nm,0.7s,mb5.0
ARU Arti 69.76 336⇑*iP* **P** **20 01 00.9 -0.7**
comp=Z,227nm,1.4s,mb5.9
ARU LR LR
comp=Z,8μm,22.0s,MS5.9
ARU Arti 69.76 336*c iP* **P** **20 01 01.2 -0.5**
ARU 20 01 23.5
ARU *e* 20 03 32.2
ARU *e*PPP 20 05 13.9
ARU S S 20 10 08.3 -0.3
ARU 20 10 59.1
ARU SSS 20 17 45.8
ARU pmax pmax
comp=Z,76nm,1.7s,mb5.3
ARU MLR MLR
comp=Z,9μm,23.0s,MS5.9
ARU Arti 69.76 336 P **P** **20 01 01.3 -0.4**
comp=Z,463nm,1.4s,mb6.2,SNR=12
HOMI Horasan 69.89 315⇑*iP* **P** **20 01 03.4 +0.5**
ONI Oni 69.92 318 P **P** **20 01 03.1 +0.2**
BNGL BINGOL 69.99 314⇑*iP* **P** **20 01 03.5 0.0**
DIYA Diyarbakir 70.34 313⇑*iP* **P** **20 01 06.2 +0.5**
ARTV Artvin 70.34 316⇑*iP* **P** **20 01 05.0 -0.6**
DDEM Demirkent 70.35 316⇑*iP* **P** **20 01 06.0 +0.4**
MBAR Mbarara 70.42 271 PFAKE 20 01 20.0 +13
MBAR LR LR
comp=Z,457nm,21.0s,MS4.7
DBAD Bademkaya 70.44 316⇑*iP* **P** **20 01 06.4 +0.3**
ASF Jabal al Asfar 70.85 306 P **P** **20 01 09.1 +0.2**
comp=Z,12nm,0.8s,mb4.9,baz=17,slow=2.8,SNR=12
ASF Jabal al Asfar 70.85 306 P **P** **20 01 09.1 +0.2**
ASF Jabal al Asfar 70.85 306 P **P** **20 01 09.1 +0.2**
KOPT Kop Dagi 70.87 315⇑*iP* **P** **20 01 09.4 +0.6**
KIV Kislovodsk 71.02 319⇑*iP* **P** **20 01 09.5 -0.2**
comp=Z,121nm,1.3s,mb5.7
KIV LR LR
comp=Z,4μm,20.0s,MS5.6
KIV Kislovodsk 71.02 319⇓*iP* **P** **20 01 09.2 -0.5**
KIV *e* 20 03 45.5
KIV *i* S S 20 10 24.1 +0.3
KIV pmax pmax
comp=Z,27nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,3μm,20.0s,MS5.6
KIV Kislovodsk 71.02 319 P **P** **20 01 10.7 +1.0**
comp=Z,272nm,0.8s,mb6.2,SNR=6.6
ATAB Bozova 71.52 312⇑*iP* **P** **20 01 12.6 -0.3**
EIL Elat 71.72 303 P **P** **20 01 14.8 +0.5**
comp=Z,17nm,0.8s,mb5.0,baz=24,slow=3.5,SNR=11
EIL Elat 71.72 303 P **P** **20 01 14.8 +0.5**
KELT Kelkit 71.80 315⇑*iP* **P** **20 01 13.8 -0.6**
TARA Tarawa 71.94 87 PFAKE 20 01 30.0 +14
TARA LR LR
comp=Z,542nm,21.0s,MS4.8
KEMA Kemaliye 72.02 314⇑*iP* **P** **20 01 16.1 +0.3**
MMAI Mount Meron Ar 72.31 306 P **P** **20 01 19.1 +1.4**
comp=Z,12nm,0.8s,mb4.9,baz=96,slow=8.5,SNR=13
MMAI pP pP 20 01 26.7 -0.6
comp=Z,10nm,0.7s,baz=94,slow=7.6,SNR=7.3
MMAI Mount Meron Ar 72.31 306 P **P** **20 01 19.1 +1.4**
MMAI pP pP 20 01 26.7 -0.6
BHL Bhannes 72.38 307 *e*P **P** **20 01 19.0 +0.9**
RPZ Rata Peaks 72.56 134 *e*P **P** **20 01 18.2 -0.8**
comp=Z,73nm,1.2s,mb5.5
SOKR Solikamsk 72.61 338*c iP* **P** **20 01 19.2 +0.3**
SOKR 20 01 31.9
SOKR PPP 20 05 44.8
SOKR S S 20 10 40.7 -0.8
SOKR SS SS 20 15 20.2 -1.1
SOKR pmax pmax
comp=Z,70nm,0.8s,mb5.6
SOKR MLR MLR
comp=Z,11μm,22.0s,MS6.1
SOC Sochi 72.82 318*c iP* **P** **20 01 19.5 -1.0**
SOC *e* 20 04 01.1
SOC *e*S S 20 10 42.2 -2.3
SOC *e* 20 11 23.6
SOC pmax pmax
comp=Z,47nm,0.8s,mb5.5
SOC MLR MLR
comp=Z,4μm,20.0s,MS5.7
SCER sogukcermik 73.22 314⇑*iP* **P** **20 01 23.1 +0.2**
PINB Pinarbasi 73.34 312⇑*iP* **P** **20 01 23.4 -0.3**
PETK Petropavlovsk- 74.22 32 P **P** **20 01 27.9 -0.7**
comp=Z,13nm,0.7s,mb5.0,baz=208,slow=3.9,SNR=12
PETK pP pP 20 01 35.8 -2.4
comp=Z,16nm,0.7s,baz=211,slow=2.4,SNR=8.8
PETK Petropavlovsk- 74.22 32 P **P** **20 01 27.9 -0.7**
PETK pP pP 20 01 35.8 -2.4
PETK Petropavlovsk- 74.22 32 P **P** **20 01 27.9 -0.6**
PETK *PP pP 20 01 35.8 -2.4
CSS Prodhromos 74.53 308 *e*P **P** **20 01 30.7 0.0**
comp=Z,78nm,1.1s,mb5.5
CSS LR LR
comp=Z,7μm,21.0s,MS5.9
HAVZ Havza 74.65 315⇑*iP* **P** **20 01 31.4 +0.1**
PET Petropavlovsk 74.68 32 PFAKE 20 01 40.0 +8.8
PET LR LR
comp=Z,4μm,19.0s,MS5.8
PET Petropavlovsk 74.68 32 *e*P **P** **20 01 30.8 -0.4**
PET *e* 20 04 17.8
PET *e*S S 20 11 03.8 -1.3
PET pmax pmax
comp=Z,112nm,1.5s,mb5.6
PET pmax pmax
comp=Z,2μm,18.2s
PET pmax pmax
comp=Z,900nm,18.0s
PET MLR MLR
comp=Z,4μm,19.0s,MS5.7
ANN Anapa 74.80 319 *e*P **P** **20 01 27.7 -4.4**
ANN *e* 20 04 16.7
ANN *e*S S 20 11 03.2 -3.7
ANN pmax pmax
comp=Z,1μm,10.4s
ANN MLR MLR
comp=Z,2μm,23.0s,MS5.4
SNZO South Karori 74.83 132 PFAKE 20 01 40.0 +7.6
SNZO LR LR
comp=Z,13μm,22.0s,MS6.2
LBTB Lobatse 75.10 245 *e*P **P** **20 01 34.1 -0.2**
comp=Z,19nm,0.9s,mb5.0
LBTB LR LR
comp=Z,9μm,21.0s,MS6.0
LBTB Lobatse 75.10 245 *e*P **P** **20 01 34.1 -0.1**
LBTB pmax pmax
comp=Z,19nm,0.9s,mb5.0
LBTB MLR MLR
comp=Z,9μm,21.0s,MS6.0
CDAG Cicekdag 75.14 313⇑*iP* **P** **20 01 33.8 -0.3**
BOSA Boshof 75.57 242 P **P** **20 01 37.1 +0.3**
comp=Z,5.4nm,0.6s,mb4.7,baz=91,slow=3.8,SNR=15
BOSA LR LR 20 29 09.6
comp=Z,8μm,19.9s,MS6.0,baz=87,slow=31
BOSA Boshof 75.57 242 *e*P **P** **20 01 36.7 -0.2**
comp=Z,27nm,0.9s,mb5.2
BOSA Boshof 75.57 242 *e*P **P** **20 01 36.7 -0.2**
BOSA pmax pmax
comp=Z,27nm,0.9s,mb5.2
BR131 Keskin Array S 75.71 313 *e*P **P** **20 01 36.3 -1.1**
comp=Z,10nm,0.6s,mb4.9
BR131 LR LR
comp=Z,3μm,19.0s,MS5.7
BRTR Keskin Array B 75.71 313 P **P** **20 01 36.3 -1.1**
comp=Z,9.1nm,0.8s,mb4.8,baz=135,slow=6.9,SNR=38
BRTR pP pP 20 01 45.3 -1.8
comp=Z,15nm,0.6s,baz=134,slow=7.0,SNR=22
BRTR LR LR 20 38 36.7
comp=Z,4μm,19.5s,MS5.7,baz=319,slow=39
BRTR Keskin Array B 75.71 313 P **P** **20 01 36.3 -1.1**
BRTR pP pP 20 01 45.3 -1.8
BRTR Keskin Array B 75.71 313 P **P** **20 01 36.3 -1.1**
BRTR *PP pP 20 01 45.3 -1.8
BBAL Bala 76.03 312⇑*iP* **P** **20 01 38.7 -0.5**
SYO Syowa Base 76.07 199⇓*i*pP pP 20 01 45.0 -3.6
SYO Syowa Base 76.07 199⇑*e*PcP PcP 20 01 54.3 +3.3
MSVF Nonsavu 76.24 107 *e*P **P** **20 01 40.6 -0.3**
comp=Z,49nm,1.1s,mb5.3
MSVF LR LR
comp=Z,5μm,22.0s,MS5.8
MSVF Nonsavu 76.24 107 *e*P **P** **20 01 40.6 -0.3**
MSVF pmax pmax
comp=Z,49nm,1.1s,mb5.3
MSVF MLR MLR
comp=Z,5μm,22.0s,MS5.8
VSR Storozhevoye 76.31 325 *e*P **P** **20 01 39.4 -1.1**
VSR *e**PP pP 20 01 47.3 -3.0
VSR *e*S S 20 11 18.8 -4.4
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s,mb5.3
VSR smax
comp=N,730nm,3.0s
VSR smax
comp=E,450nm,3.0s
VSR smax
comp=Z,40nm,3.0s
VSR MLR MLR
comp=N,1μm,23.0s,MS5.7
VSR MLR MLR
comp=E,5μm,23.0s,MS5.7
VSR MLR MLR
comp=Z,6μm,23.0s,MS5.9
URZ Urewera 76.33 128 LR LR 20 35 50.6
comp=Z,5μm,19.6s,MS5.8,baz=92,slow=36
KDHN Kadinhani 76.48 311⇑*iP* **P** **20 01 40.8 -1.0**
VOR Voronezh 76.50 326 P **P** **20 01 43.0 +1.3**
VOR pmax pmax
comp=Z,260nm,2.0s,mb5.8
SIM Simferopol' 77.06 318*ce*P **P** **20 01 44.5 -0.5**
SIM *e* pP 20 01 54.0 -0.7
SIM *e* 20 04 35.0
SIM *i* S S 20 11 30.0 -1.7
SIM *i* 20 11 43.0
SIM *e*PS 20 12 10.0
SIM pmax pmax
comp=Z,39nm,0.7s,mb5.5
SEY Seymchan 77.33 21*ce*P **P** **20 01 46.2 +0.1**
ISP Isparta 77.50 310 PFAKE 20 02 00.0 +12
ISP LR LR
comp=Z,4μm,20.0s,MS5.7
FUNA Funafuti 77.58 98 PFAKE 20 02 00.0 +11
FUNA LR LR
comp=Z,6μm,19.0s,MS6.0
BORA Eskisehir 78.10 312⇑*iP* **P** **20 01 49.9 -1.0**
GDZ Gediz 78.62 311⇑*iP* **P** **20 01 52.1 -1.6**
MOS Moscow 79.05 329 *e*P **P** **20 01 54.7 -1.0**
MOS *i* pP 20 02 03.5 -2.0
MOS *e* 20 04 55.1
MOS *e*S S 20 11 48.6 -4.0
MOS *e* 20 12 03.6
MOS *e* 20 12 16.6
MOS pmax pmax
comp=Z,66nm,1.3s,mb5.4
MOS MLR MLR
comp=E,8μm,23.0s
MOS MLR MLR
comp=Z,8μm,23.0s,MS6.0
OBN Obninsk 79.34 328 *e*P **P** **20 01 56.5 -0.8**
comp=Z,143nm,1.2s,mb5.8
OBN LR LR
comp=Z,6μm,20.0s,MS6.0
OBN Obninsk 79.34 328⇑*iP* **P** **20 01 57.1 -0.2**
OBN *e* 20 04 52.9
OBN *i* S S 20 11 54.5 -1.3
OBN pmax pmax
comp=Z,122nm,2.5s,mb5.4
SUR Sutherland 79.55 238 *e*P **P** **20 02 00.4 +1.3**
comp=Z,31nm,0.9s,mb5.2
SUR LR LR
comp=Z,3μm,20.0s,MS5.6
VNDA Vanda 79.70 169 *e*P **P** **20 02 00.1 +1.1**
comp=Z,46nm,1.3s,mb5.2
VNDA LR LR
comp=Z,4μm,19.0s,MS5.8
VNDA Vanda 79.70 169 *e*P **P** **20 02 00.1 +1.1**
VNDA pmax pmax
comp=Z,46nm,1.3s
VNDA MLR MLR
comp=Z,4μm,19.0s
RAO Raoul Island 80.01 119 PFAKE 20 02 10.0 +8.4
RAO LR LR
comp=Z,4μm,20.0s,MS5.8
KLMR Klimovskoe 80.38 334 *e*P **P** **20 01 59.6 -3.3**
KLMR pmax pmax
comp=Z,749nm,7.8s
KLMR pmax pmax
comp=Z,166nm,1.4s,mb5.8
KLMR MLR MLR
comp=Z,4μm,22.0s,MS5.7
SBA Scott Base 80.79 169 *e*P **P** **20 02 06.8 +1.9**
comp=Z,153nm,1.9s,mb5.6
SBA LR LR
comp=Z,3μm,22.0s,MS5.6
SBA Scott Base 80.79 169 *e*P **P** **20 02 06.8 +1.9**
SBA pmax pmax
comp=Z,153nm,1.9s,mb5.6
SBA MLR MLR
comp=Z,3μm,22.0s,MS5.6
TIRR Tirgusor 80.79 316 ⇓P **P** **20 02 05.3 -0.1**
TIRR Tirgusor 80.79 316⇓*iP* **P** **20 02 05.3 -0.1**
PRD Provadia 81.18 315 *i* P **P** **20 02 06.2 -1.3**
KIS Kishinev 81.20 319⇓*iP* **P** **20 02 08.0 +0.4**
comp=Z,900nm,10.0s
KIS Kishinev 81.20 319 *e*PP PP 20 05 13.0 -0.3
KIS Kishinev 81.20 319 *e*PPP 20 07 26.0
KIS *e*S S 20 12 12.0 -3.7
LEOM Leova 81.44 318 P **P** **20 02 18.3 +9.5**
AKASG Malin Array Be 81.99 322 P **P** **20 02 10.4 -1.2**
comp=Z,6.0nm,0.7s,mb4.7,baz=90,slow=4.8,SNR=18
AKASG pP pP 20 02 18.9 -2.5
comp=Z,9.2nm,0.7s,baz=90,slow=4.8,SNR=12
AKASG PP PP 20 05 27.8 +8.1
comp=Z,3.0nm,0.9s,baz=97,slow=7.8,SNR=6.2
AKASG LR LR 20 46 52.4
comp=Z,2μm,19.2s,MS5.6,baz=75,slow=42
AKASG Malin Array Be 81.99 322 P **P** **20 02 10.4 -1.2**
AKASG pP pP 20 02 18.9 -2.5
AKASG PP PP 20 05 27.8 +8.1
AKASG Malin Array Be 81.99 322 P **P** **20 02 10.5 -1.1**
AKASG *PP pP 20 02 18.9 -2.5
AKASG 20 05 27.8
AKBB Malin Array Si 81.99 322 *e*P **P** **20 02 09.8 -1.8**
AKBB Malin Array Si 81.99 322 *e*P **P** **20 02 09.8 -1.9**
KIEV Kiev 82.00 322 *e*P **P** **20 02 09.0 -2.7**
comp=Z,17nm,0.9s,mb5.0
KIEV LR LR
comp=Z,4μm,19.0s,MS5.8
KIEV Kiev 82.00 322 *e*P **P** **20 02 10.9 -0.8**
ISR Istrita 82.25 316 ⇑P **P** **20 02 13.7 +0.6**
ISR Istrita 82.25 316⇑*iP* **P** **20 02 13.7 +0.6**
VRI Vrincioaia 82.31 317 ⇑P **P** **20 02 13.8 +0.4**
VRI Vrincioaia 82.31 317⇑*iP* **P** **20 02 13.8 +0.4**
PLOR Plostina 82.35 317 ⇑P **P** **20 02 14.0 +0.3**
PLOR Plostina 82.35 317⇑*iP* **P** **20 02 13.9 +0.2**
TESR 82.52 318⇑*iP* **P** **20 02 14.7 +0.2**
MLR Muntele Rosu 82.75 317 P **P** **20 02 16.0 +0.3**
comp=Z,3.4nm,0.8s,mb4.4,baz=179,slow=7.8,SNR=18
MLR Muntele Rosu 82.75 317 P **P** **20 02 16.0 +0.3**
MLR Muntele Rosu 82.75 317 P **P** **20 02 16.0 +0.3**
MLR Muntele Rosu 82.75 317⇑*iP* **P** **20 02 16.1 +0.4**
RZN Rozhen 82.77 313 *i* P **P** **20 02 14.6 -1.3**
MMB Musomiste 83.47 313 *i* P **P** **20 02 19.1 -0.5**
BURAR Bucovina Array 83.73 319 ⇑P **P** **20 02 21.7 +1.0**
BURAR Bucovina Array 83.73 319⇑*iP* **P** **20 02 21.7 +1.0**
KKB Krupnik 84.00 313 *i* P **P** **20 02 20.8 -1.5**
VTS Vitosha 84.05 313 ⇓P **P** **20 02 22.1 -0.4**
VTS Vitosha 84.05 313 *i* P **P** **20 02 21.7 -0.8**
VTS Vitosha 84.05 313⇓*iP* **P** **20 02 22.1 -0.4**
LOT Lotru 84.23 316⇓*iP* **P** **20 02 23.6 +0.2**
VAY Valandovo 84.27 312 *e*P **P** **20 02 22.1 -1.5**
MIDW Midway 84.53 61 PFAKE 20 02 40.0 +15
MIDW LR LR
comp=Z,2μm,19.0s,MS5.5
JOF Joensuu 84.77 334 *e*P **P** **20 02 25.8 +0.1**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5

JOF Joensuu 84.77 334 *ep* **P 20 02 25.8 +0.1**
comp=Z,2.3nm,0.5s,mb4.6
BMR Baia Mare 84.88 318 ⇑P **P 20 02 27.2 +0.6**
BMR Baia Mare 84.88 318 ⇑*i*P **P 20 02 27.2 +0.6**
GZR Gura Zlata 84.90 316 P **P 20 02 36.6 +10**
BILL Biiibino 84.91 20 *eP* **P 20 02 24.6 -1.7**
comp=Z,54nm,1.0s,mb5.6
BILL LR LR
comp=Z,5μm,19.0s,MS5.9
BILL Biiibino 84.91 20⇓*eP* **P 20 02 24.8 -1.5**
BILL *e* 20 05 39.0
BILL *i* S S 20 12 51.1 -1.4
BILL pmax pmax
comp=Z,88nm,1.7s,mb5.6
BILL MLR MLR
comp=Z,7μm,21.0s,MS6.0
LVV L'vov 84.99 321 *eP* **P 20 02 26.1 -1.0**
LVV *e* 20 05 45.7
LVV *e* 20 07 37.9
LVV *e*S S 20 12 51.7 -2.4
LVV *e*PS 20 13 47.5
LVV *e*SS SS 20 18 27.9 +0.3
LVV *e*SSS 20 21 52.9
IIGN Ignalina 85.01 326 *eP* **P 20 02 26.9 -0.2**
IIGN AMB AMB 20 02 37.5
comp=Z,32nm,1.3s,mb5.3
IZAR Zarasai 85.10 327 *eP* **P 20 02 27.3 -0.1**
IZAR AMB AMB 20 02 37.7
comp=Z,20nm,1.7s,mb5.0
ISAL Salakas 85.12 327 *eP* **P 20 02 27.4 -0.2**
ISAL AMB AMB 20 02 37.9
comp=Z,22nm,1.4s,mb5.1
BIA Bitola 85.14 312 *eP* **P 20 02 24.1 -4.0**
DRGR 85.22 318 ⇑P **P 20 02 28.7 +0.4**
DRGR 85.22 318 ⇑*i*P **P 20 02 28.7 +0.4**
SKO Skopje 85.22 313 *eP* **P 20 02 30.7 +2.2**
KRUS Krusevo 85.26 312 *eP* **P 20 02 26.8 -1.8**
LVZ Lovozero 85.32 340 *eP* **P 20 02 26.6 -1.7**
comp=Z,33nm,0.6s,mb5.6
LVZ LR LR
comp=Z,10μm,22.0s,MS6.2
LVZ Lovozero 85.32 340 *eP* **P 20 02 26.7 -1.6**
LVZ pmax pmax
comp=Z,33nm,0.6s,mb5.6
LVZ MLR MLR
comp=Z,10μm,22.0s,MS6.2
VSU Vasula 85.56 329*c i*P **P 20 02 29.9 +0.2**
VSU pmax pmax
comp=Z,30nm,1.0s,mb5.5
TRPA Tarpa 85.60 319 ⇑*i*P **P 20 02 30.4 +0.2**
APA Apatity 85.63 339 ⇓*i*P **P 20 02 36.0 +6.1**
APA *i* 20 02 52.0
APA *i* 20 12 46.0
APA *i* SS SS 20 18 43.0 +6.8
APA pmax pmax
comp=Z,39nm,1.0s,mb5.6
APA MLR MLR
comp=Z,8μm,22.0s,MS6.1
QSPA South Pole Qui 85.67 180 *eP* **P 20 02 31.4 +1.4**
comp=Z,22nm,1.1s,mb5.3
QSPA LR LR
comp=Z,7μm,19.0s,MS6.1
BZS Buzias 85.75 316 ⇑P **P 20 02 30.7 -0.3**
BZS Buzias 85.75 316 ⇑*i*P **P 20 02 30.7 -0.3**
MAIT Maitri 85.77 199 *eP* **P 20 02 33.8 +3.2**
MAIT *e* 20 02 39.4
KWP Kalwaria Pacla 85.79 320 *eP* **P 20 02 31.2 +0.2**
KWP *e*S S 20 13 00.2 -1.8
KWP LMZ 20 47 40.6
comp=Z,4μm,23.1s
KWP Kalwaria Pacla 85.79 320 *eP* **P 20 02 30.1 -1.0**
comp=Z,64nm,1.0s,mb5.8
KWP LR LR
comp=Z,4μm,22.0s,MS5.7
KWP Kalwaria Pacla 85.79 320 *eP* **P 20 02 30.1 -1.0**
KWP pmax pmax
comp=Z,64nm,1.0s,mb5.8
KWP MLR MLR
comp=Z,4μm,22.0s,MS5.7
UZH Uzhgorod 85.86 319 *eP* **P 20 02 35.0 +3.5**
UZH *e* 20 02 40.0
UZH *e* 20 02 47.4
UZH *e* 20 05 51.0
UZH *i* S S 20 13 08.0 +5.3
UZH *e*PS 20 14 05.0
UZH *e*SS SS 20 18 42.0 +1.6
KOLS Kolonicke sedl 85.93 320 *eP* **P 20 02 32.6 +0.8**
KOLS Kolonicke sedl 85.93 320 *eP* **P 20 02 32.6 +0.8**
TIR Tirane 86.28 312 PFAKE 20 02 40.0 +6.3
TIR LR LR
comp=Z,3μm,20.0s,MS5.8
SUW Suwalki 86.41 325 *eP* **P 20 02 33.9 -0.2**
SUW *e*S S 20 13 08.7 +0.9
SUW LMZ 20 44 52.9
comp=Z,2μm,26.3s
SUW Suwalki 86.41 325 *eP* **P 20 02 33.5 -0.6**
comp=Z,156nm,1.1s,mb6.2
SUW Suwalki 86.41 325 *eP* **P 20 02 33.5 -0.5**
SUW pmax pmax
comp=Z,156nm,1.1s,mb6.2
CRVS Cervenica-Dubn 86.45 319 *eP* **P 20 02 34.0 -0.4**
CRVS Cervenica-Dubn 86.45 319 *eP* **P 20 02 34.0 -0.4**
FINES FINESS Array B 86.67 332 P **P 20 02 35.2 +0.1**
comp=Z,7.3nm,0.7s,mb5.0,baz=111,slow=5.6,SNR=24
FINES pP pP 20 02 43.0 -1.9
comp=Z,7.3nm,0.5s,baz=122,slow=7.5,SNR=6.6
FINES LR LR 20 47 27.9
comp=Z,6μm,20.9s,MS6.0,baz=0.8,slow=40
FINES FINESS Array B 86.67 332 P **P 20 02 35.2 +0.1**
FINES pP pP 20 02 43.0 -1.9
FINES FINESS Array B 86.67 332 P **P 20 02 35.2 +0.1**
FINES *PP pP 20 02 43.1 -1.9
STHS Stebnicka Huta 86.69 320 *eP* **P 20 02 35.8 +0.3**
STHS Stebnicka Huta 86.69 320 *eP* **P 20 02 35.8 +0.3**
KAF Kangasniemi 86.74 333 *eP* **P 20 02 35.2 -0.3**
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb5.3
KAF Kangasniemi 86.74 333 *ep* **P 20 02 35.2 -0.3**
comp=Z,8.4nm,0.4s,mb5.3
KECS Kecovo 87.02 319 *eP* **P 20 02 37.2 +0.1**
KECS Kecovo 87.02 319 *eP* **P 20 02 37.2 +0.1**
NIE Niedzica 87.29 320 *eP* **P 20 02 39.3 +0.9**
NIE e pP 20 02 47.9 -0.4
NIE Niedzica 87.29 320 *eP* **P 20 02 39.3 +0.9**
NIE *e* pP 20 02 47.9 -0.4
PSZ Piszkesteto 87.31 318 *eP* **P 20 02 38.2 -0.4**
comp=Z,103nm,1.7s,mb5.8
PSZ LR LR
comp=Z,2μm,19.0s,MS5.6
PSZ Piszkesteto 87.31 318 *eP* **P 20 02 38.2 -0.4**
PSZ pmax pmax
comp=Z,103nm,1.7s,mb5.8
PSZ MLR MLR
comp=Z,2μm,19.0s,MS5.6
PSZ Piszkesteto 87.31 318⇑*e*PcP PcP 20 02 38.8 -1.8
PSZ Piszkesteto 87.31 318⇑*i*P **P 20 02 38.6 0.0**
BEL Belsk 87.41 322 *eP* **P 20 02 39.0 +0.1**
BEL *ep*P pP 20 02 48.9 +0.1
BEL *e*S S 20 13 21.3 +3.7
BEL LMZ 20 46 03.9
comp=Z,6μm,23.7s
BEL Belsk 87.41 322 *eP* **P 20 02 39.0 +0.1**
BEL *e**PP pP 20 02 48.9 +0.1
BEL *e*S S 20 13 21.3 +3.8
BEL MLR MLR
comp=Z,6μm,23.7s,MS5.9
OJC Ojcow 87.75 321 *eP* **P 20 02 41.2 +0.6**
OJC *ep*P pP 20 02 43.8 -6.7
OJC e pP 20 02 49.7 -0.8
OJC *e*S S 20 13 22.4 +1.5
OJC *e*SS SS 20 19 11.8 +3.8
OJC L 20 48 51.5
comp=Z,2.9nm,20.1s
OJC Ojcow 87.75 321 *eP* **P 20 02 41.2 +0.6**
OJC *e* pP 20 02 49.7 -0.8
OJC *e*S S 20 13 22.4 +1.5
OJC *e*SS SS 20 19 11.8 +3.8
OJC MLR MLR
comp=Z,3μm,20.1s,MS5.7
BUD Budapest 87.82 318⇑*e*PcP PcP 20 02 40.7 -2.2
PKSM Moragy 87.89 316 ⇓P **P 20 02 41.1 -0.3**
PKSM Moragy 87.89 316 ⇓*i*P **P 20 02 41.1 -0.3**
VYHS Vyhne 88.10 319 *eP* **P 20 02 42.3 0.0**
VYHS Vyhne 88.10 319 *eP* **P 20 02 42.2 -0.1**
TIP Timpagrande 88.34 309 PFAKE 20 02 50.0 +6.3
TIP LR LR
comp=Z,2μm,21.0s,MS5.6
KOLL Kolacno 88.40 319 *eP* **P 20 02 44.5 +0.8**
KOLL Kolacno 88.40 319 *eP* **P 20 02 44.5 +0.8**
KEV Kevo 88.56 340 PFAKE 20 03 00.0 +16
KEV LR LR
comp=Z,10μm,22.0s,MS6.2
KEV Kevo 88.56 340 *eP* **P 20 02 45.8 +1.7**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.8
KEV Kevo 88.56 340 *ep* **P 20 02 45.8 +1.7**
comp=Z,1.5nm,0.4s,mb4.7
OKC Ostrava-Krasne 88.74 320 *i*P **P 20 02 45.6 +0.3**
OKC *e* pP 20 02 54.1 -1.1
OKC *e* 20 13 30.8
OKC MLR MLR
comp=Z,2μm,18.0s,MS5.6
OKC Ostrava-Krasne 88.74 320⇑*i*P **P 20 02 45.6 +0.3**
OKC *ep*P pP 20 02 54.1 -1.1
OKC *e*S S 20 13 30.8 +0.4
OKC AMS AMS 20 49 50.0
comp=Z,2μm,18.0s
CEL Celeste 88.91 308 *eP* **P 20 02 49.3 +2.9**
comp=Z,62nm,1.1s,mb5.8
CEL LR LR
comp=Z,2μm,20.0s,MS5.5
ARCES ARCESS Array B 89.01 340 P **P 20 02 46.7 +0.5**
comp=Z,16nm,0.8s,mb5.4,baz=98,slow=3.7,SNR=20
ARCES pP pP 20 02 55.1 -0.9
comp=Z,14nm,0.5s,baz=92,slow=7.3,SNR=8.6
ARCES LR LR 20 47 03.7
comp=Z,10μm,21.9s,MS6.2,baz=104,slow=38
ARCES ARCESS Array B 89.01 340 P **P 20 02 46.7 +0.5**
ARCES pP pP 20 02 55.1 -0.9
ARCES ARCESS Array B 89.01 340 P **P 20 02 46.7 +0.5**
ARCES *PP pP 20 02 55.1 -1.0
MORC Moravsky Berou 89.12 320 *eP* **P 20 02 47.4 +0.2**
comp=Z,90nm,1.5s,mb5.9
MORC Moravsky Berou 89.12 320 ⇑P **P 20 02 47.4 +0.3**
MORC Moravsky Berou 89.12 320 ⇑*i*P **P 20 02 47.4 +0.3**
CUC Castrocucco 89.16 310 *eP* **P 20 02 47.2 -0.3**
CUC LR LR
comp=Z,2μm,22.0s,MS5.5
VRAC Vranov 89.68 319 P **P 20 02 49.8 +0.1**
comp=Z,1.8nm,0.8s,mb4.4,baz=98,slow=13,SNR=3.6
VRAC pP pP 20 02 58.2 -1.4
comp=Z,2.5nm,0.7s,baz=96,slow=8.5,SNR=3.4
VRAC Vranov 89.68 319 P **P 20 02 49.8 +0.1**
VRAC pP pP 20 02 58.2 -1.4
VRAC Vranov 89.68 319 P **P 20 02 49.8 +0.1**
VRAC *PP pP 20 02 58.2 -1.4
WDD Wield Dalam 89.75 306 PFAKE 20 03 00.0 +10
WDD LR LR
comp=Z,3μm,19.0s,MS5.7
GKP Gorka Klasztor 89.77 323 *eP* **P 20 02 50.5 +0.4**
GKP *e*S S 20 13 38.8 -1.1
GKP LMZ 20 49 12.1
comp=Z,4μm,24.9s
GKP Gorka Klasztor 89.77 323 *eP* **P 20 02 50.5 +0.4**
GKP *e*S S 20 13 38.7 -1.1
GKP MLR MLR
comp=Z,4μm,24.9s,MS5.8
DPC Dobruska-Polom 89.97 320⇑*i*P **P 20 02 52.0 +0.9**
DPC *e* pP 20 03 00.5 -0.5
DPC *e* 20 13 43.3
DPC MLR MLR
comp=Z,4μm,21.6s,MS5.8
DPC Dobruska-Polom 89.97 320⇑*i*P **P 20 02 52.0 +0.9**
DPC *ep*P pP 20 03 00.5 -0.5
DPC *e*S S 20 13 43.3 +1.5
DPC AMS AMS 20 52 20.0
comp=Z,4μm,21.6s
CSNA Conrad Observa 90.00 318⇑*i*P **P 20 02 51.2 -0.1**
comp=Z,19nm,1.7s,mb5.1
CSNA Conrad Observa 90.00 318⇑*i*P **P 20 02 51.1 -0.1**
comp=Z,19nm,1.7s,mb5.1
KSP Ksiaz 90.05 321 *eP* **P 20 02 52.4 +0.9**
KSP *ep*P pP 20 03 02.2 +0.9
KSP *e*S S 20 13 43.7 +1.2
KSP LMZ 20 47 58.8
comp=Z,3μm,22.9s
KSP Ksiaz 90.05 321 *eP* **P 20 02 52.2 +0.8**
KSP *ep*P pP 20 03 01.0 -0.3
KSP *e*PP PP 20 06 16.0 -8.9
KSP *e*S S 20 13 41.0 -1.5
KSP LM 20 47 59.0
comp=Z,6.8nm,23.0s
KSP Ksiaz 90.05 321⇑*e*P **P 20 02 52.2 +0.8**
KSP *e**PP pP 20 03 01.0 -0.3
KSP *e*S S 20 13 41.0 -1.5
KSP MLR MLR
comp=Z,7μm,23.0s,MS6.0
ARSA Arzberg 90.15 317⇑*i*P **P 20 02 51.3 -0.7**
comp=Z,57nm,1.7s,mb5.6
ARSA Arzberg 90.15 317⇑*i*P **P 20 02 51.3 -0.7**
comp=Z,57nm,1.7s,mb5.6
BOJS Bojanci 90.16 315 *eP* **P 20 02 51.6 -0.5**
UPC Upice 90.19 320 *i*P **P 20 02 52.2 +0.1**
UPC *e* pP 20 03 01.8 -0.2
UPC Upice 90.19 320⇑*i*P **P 20 02 52.2 +0.1**
UPC *ep*P pP 20 03 01.8 -0.2
SNAA Sanae 90.32 198 *e* **P 20 02 54.9 +2.6**
SNAA *e* 20 03 01.4
SNAA Sanae 90.32 198 *eP* **P 20 02 52.5 +0.2**
comp=Z,18nm,0.9s,mb5.4
SNAA Sanae 90.32 198 *eP* **P 20 02 52.5 +0.2**
SNAA pmax pmax
comp=Z,18nm,0.9s
TREC Trest 90.39 319 *i*P **P 20 02 53.4 +0.3**
TREC *e* pP 20 03 02.1 -0.9
TREC *e* 20 13 46.0
TREC MLR MLR
comp=Z,3μm,18.4s,MS5.8
TREC Trest 90.39 319⇑*i*P **P 20 02 53.4 +0.3**
TREC *ep*P pP 20 03 02.1 -0.9
TREC *e*S S 20 13 46.0 +0.2
TREC AMS AMS 20 53 20.0
comp=Z,3μm,18.4s
SOKA Soboth 90.43 317⇓*i*PcP **P 20 02 54.0 +0.7**
comp=Z,77nm,1.9s,mb5.7
SOKA Soboth 90.43 317⇓*i*P **P 20 02 54.0 +0.7**
comp=Z,77nm,1.9s,mb5.7
VISS Visnje 90.47 316 *eP* **P 20 02 52.6 -0.9**
JOHN Johnston Islan 90.58 73 PFAKE 20 03 10.0 +15
JOHN LR LR
comp=Z,43μm,20.0s,MS6.9
LJU Ljubljana 90.71 316 *eP* **P 20 02 54.4 -0.3**
JAVS Javornik 91.02 316 *eP* **P 20 02 58.0 +1.9**
PRU Pruhonice 91.08 320 *i*P **P 20 02 56.9 +0.7**
PRU *e* pP 20 03 05.5 -0.6
PRU *e* 20 06 33.7
PRU *e* 20 15 02.0
PRU MLR MLR
comp=Z,2μm,18.8s,MS5.7
PRU Pruhonice 91.08 320⇑*i*P **P 20 02 56.9 +0.7**
PRU *ep*P pP 20 03 05.5 -0.6
PRU *e*PP PP 20 06 33.7 +0.7
PRU *ex* x 20 13 38.4
PRU *e*SP SP 20 15 02.0 +2.3
PRU AMS AMS 20 53 00.0
comp=Z,2μm,18.8s
PVCC Panska Ves 91.11 320 *i*P **P 20 02 57.1 +0.7**
PVCC *e* pP 20 03 05.7 -0.6
PVCC *e* 20 13 54.3
PVCC *e* 20 15 03.2
PVCC MLR MLR
comp=Z,3μm,22.4s,MS5.7
PVCC Panska Ves 91.11 320⇑*i*P **P 20 02 57.1 +0.7**
PVCC *ep*P pP 20 03 05.7 -0.6
PVCC *e*S S 20 13 54.3 +2.0
PVCC *e*SP SP 20 15 03.2 +3.2
PVCC AMS AMS 20 52 40.0
comp=Z,3μm,22.4s
PRA Prague 91.15 320 ⇑P **P 20 02 57.0 +0.4**
PRA pP pP 20 03 07.0 +0.5
PRA PP PP 20 06 37.0 +3.4
PRA S S 20 13 55.0 +2.3
PRA AMS AMS 20 46 00.0
VOY Vojsko 91.15 316 *eP* **P 20 02 56.6 -0.1**
VOY *e* pP 20 03 05.9 -0.7
VOY *e* 20 03 19.5
VOY *e* 20 03 34.7
AQU L'Aquila 91.20 312 PFAKE 20 03 10.0 +13
AQU LR LR
comp=Z,2μm,19.0s,MS5.6
TRI Trieste 91.22 316 PFAKE 20 03 10.0 +13
TRI LR LR
comp=Z,2μm,21.0s,MS5.5
BSD Bornholm Skovb 91.33 325 *i*P **P 20 02 56.9 -0.4**
BSD *e* 20 13 53.6
BSD pmax pmax
comp=Z,16nm,1.0s,mb5.3
BSD MLR MLR
comp=Z,4μm,22.0s,MS5.8
BSD Bornholm Skovb 91.33 325 *i*P **P 20 02 56.9 -0.4**
comp=Z,16nm,1.0s,mb5.3
BSD
comp=Z,3μm,22.0s
GERES GERESS Array B 91.52 319 P **P 20 02 58.6 +0.3**
comp=Z,4.6nm,0.8s,mb4.9,baz=91,slow=4.1,SNR=42
GERES pP pP 20 03 07.4 -0.8
comp=Z,7.5nm,0.6s,baz=98,slow=3.4,SNR=23
GERES GERESS Array B 91.52 319 P **P 20 02 58.6 +0.3**
GERES pP pP 20 03 07.4 -0.8
GERES GERESS Array B 91.52 319 P **P 20 02 58.7 +0.4**
GERES *PP pP 20 03 07.4 -0.8
BRG Berggiesshubel 91.53 321 *i*P **P 20 02 58.7 +0.4**
comp=Z,6.1nm,0.9s,mb4.9
BRG *i* pP 20 03 08.1 -0.2
comp=Z,92nm,1.9s
BRG *e* 20 03 15.4
comp=Z,30nm,1.4s
BRG PP PP 20 06 39.4 +2.7
comp=Z,18nm,1.5s
BRG S S 20 13 58.0 +1.9
BRG PS PS 20 15 12.0 +3.0
BRG SS SS 20 19 21.0 -42
BRG
comp=Z,4μm,19.7s
BRG
comp=N,2μm,19.8s
BRG
comp=E,3μm,19.8s
BRG Berggiesshubel 91.53 321 *i*P **P 20 02 58.7 +0.3**
BRG *i* pP 20 03 08.1 -0.1
BRG *e* 20 03 15.4
BRG 20 06 39.4
BRG S S 20 13 58.0 +1.9
BRG PS PS 20 15 12.0 +3.0
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
BRG MLR MLR
comp=Z,4μm,19.7s,MS5.8
BRG MLR MLR
comp=N,2μm,19.8s,MS5.9
BRG MLR MLR
comp=E,3μm,19.8s,MS5.9
KHC Kasperske Hory 91.62 319 *eP* **P 20 02 58.6 -0.2**
comp=E,6.8nm,0.8s,mb5.0
KHC *e* pP 20 03 07.5 -1.1
KHC Kasperske Hory 91.62 319 *eP* **P 20 02 58.6 -0.2**
KHC *e* pP 20 03 07.6 -1.1
KHC pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
KHC Kasperske Hory 91.62 319⇑*i*P **P 20 02 58.8 0.0**
KHC *ep*P pP 20 03 07.4 -1.3
KHC *e*PP PP 20 06 41.5 +4.1
KHC *e*S S 20 13 55.0 -2.0
KHC *ex* x 20 15 12.0
KHC AMS AMS 20 54 10.0
comp=Z,3μm,15.8s
RUE Ruedersdorf 91.77 322 *eP* **P 20 02 59.6 +0.2**
comp=Z,69nm,1.3s,mb5.8
CLL Collm 92.16 321 *eP* **P 20 03 01.0 -0.2**
CLL *i* pP 20 03 09.9 -1.2
CLL *e*S S 20 14 02.0 +0.3
CLL pmax pmax
comp=Z,31nm,1.3s,mb5.5
CLL MLR MLR
comp=Z,3μm,20.0s,MS5.8
CLL Collm 92.16 321 *eP* **P 20 03 01.0 -0.2**
CLL *i* sP sP 20 03 09.9 -4.8
comp=Z,31nm,1.3s
CLL *e*(PP) 20 06 55.0
CLL *e*PPP 20 08 54.0
CLL *e*SKKSac SKKSac 20 13 40.0 -9.3
CLL *e*S S 20 14 02.0 +0.3
CLL *e*PS PS 20 15 17.0 +1.1
CLL *e*SS SS 20 20 24.0 +12
CLL *e*SSSS 20 27 18.0
CLL LmH 20 51 00.0
comp=N,5μm,19.6s
CLL LmH 20 51 00.0
comp=E,2μm,18.9s
CLL LmV 20 51 00.0
comp=Z,3μm,20.0s
HFS Hagfors 92.42 330 P **P 20 03 02.4 +0.2**
comp=Z,5.6nm,0.7s,mb5.0,baz=145,slow=5.3,SNR=7.8
HFS Hagfors 92.42 330 P **P 20 03 02.4 +0.2**
HFS Hagfors 92.42 330 P **P 20 03 02.4 +0.2**
NKC Novy Kostel 92.44 320 *eP* **P 20 03 04.2 +1.7**
NKC *e* 20 03 11.4
NKC *e* 20 14 04.0
NKC *e* 20 15 16.4
NKC MLR MLR
comp=Z,4μm,18.2s,MS5.9
NKC Novy Kostel 92.44 320⇑*eP* **P 20 03 04.2 +1.7**
NKC *ep*P pP 20 03 11.4 -1.0
NKC *e*S S 20 14 04.0 -0.3
NKC *e*SP SP 20 15 16.4 +1.6
NKC AMS AMS 20 53 00.0
comp=Z,4μm,18.2s
COP Copenhagen 92.79 325 *i*P **P 20 03 06.0 +2.0**
COP *i* 20 08 49.3
COP pmax pmax
comp=Z,12nm,0.9s,mb5.3
COP MLR MLR
comp=Z,2μm,17.0s,MS5.7
COP Copenhagen 92.79 325 *i*P **P 20 03 06.0 +2.0**
comp=Z,12nm,0.9s,mb5.3
COP
comp=Z,2μm,17.0s
WTTA Wattenberg 92.79 317⇑*i*PcP **P 20 03 04.7 +0.5**
comp=Z,35nm,1.9s,mb5.5
WTTA Wattenberg 92.79 317⇑*i*P **P 20 03 04.7 +0.5**
comp=Z,35nm,1.9s,mb5.5
WTTA Wattenberg 92.79 317⇑*i*P **P 20 03 04.7 +0.4**
WTTA pmax pmax
comp=Z,35nm,1.9s,mb5.5
NB2 NORSAR Subarra 93.70 331 P **P 20 03 07.0 -1.1**
comp=Z,24nm,1.4s,mb5.4,baz=95,slow=5.1
NOA NORSAR Array B 93.70 331 P **P 20 03 08.1 0.0**
comp=Z,2.9nm,1.0s,mb4.7,baz=95,slow=4.5,SNR=4.3
NOA pP pP 20 03 16.3 -1.7
comp=Z,5.0nm,0.9s,baz=93,slow=4.7,SNR=6.1
NOA PP PP 20 06 58.8 +5.4
comp=Z,1.0nm,0.8s,baz=90,slow=8.0,SNR=3.4
NOA LR LR 20 51 55.3
comp=Z,3μm,20.6s,MS5.7,baz=70,slow=40
NOA NORSAR Array B 93.70 331 P **P 20 03 08.1 0.0**
NOA pP pP 20 03 16.3 -1.7
NOA PP PP 20 06 58.8 +5.4
NOA NORSAR Array B 93.70 331 P **P 20 03 08.1 0.0**
NOA *PP pP 20 03 16.3 -1.7
NOA 20 06 58.8
NAO01 NORSAR Array S 93.85 331 PFAKE 20 03 20.0 +11
NAO01 LR LR
comp=Z,6μm,21.0s,MS6.0
KEST Kesra 93.94 305 LR LR 20 49 54.6
comp=Z,2μm,18.2s,MS5.5,baz=184,slow=38
DAVOX Davos/Dischmat 93.97 316 P **P 20 03 09.9 +0.2**
comp=Z,3.0nm,0.8s,mb4.8,baz=47,slow=14,SNR=4.1
DAVOX Davos/Dischmat 93.97 316 P **P 20 03 09.9 +0.2**
DAVOX Davos/Dischmat 93.97 316 P **P 20 03 09.9 +0.2**
DAVA Damuels 93.99 317⇓*i*PcP **P 20 03 10.1 +0.3**
comp=Z,35nm,1.7s,mb5.5
DAVA Damuels 93.99 317⇓*i*P **P 20 03 10.1 +0.3**
comp=Z,35nm,1.7s,mb5.5
KBS Kingsbay 94.04 349 PFAKE 20 03 20.0 +11
KBS LR LR
comp=Z,7μm,19.0s,MS6.2
VSL Villasalto 94.07 309 PFAKE 20 03 20.0 +10
VSL LR LR
comp=Z,1μm,19.0s,MS5.3
TUE Stuetta 94.33 316 PFAKE 20 03 20.0 +8.7
TUE LR LR

comp=Z,3µm,20.0s,MS5.8
KONO Kongsberg 94.47 329 PFAKE 20 03 20.0 +8.3
KONO LR LR
comp=Z,6µm,20.0s,MS6.0
MUD Monsted U'grnd 94.65 326 *i* P **P 20 03 14.4 +1.8**
MUD MLR MLR
comp=Z,4µm,18.0s,MS6.0
MUD Monsted U'grnd 94.65 326 *i* P **P 20 03 14.4 +1.8**
MUD
comp=Z,4µm,18.0s
BFO Black Forest 95.06 318 PFAKE 20 03 30.0 +15
BFO LR LR
comp=Z,2µm,20.0s,MS5.6
ECH Echery 95.84 318 PFAKE 20 03 30.0 +12
ECH LR LR
comp=Z,3µm,21.0s,MS5.7
LPG La Plagne 96.12 315 *e*P **P 20 03 20.0 +0.4**
comp=Z,20nm,1.2s,mb5.1
LPG La Plagne 96.12 315 *e*P **P 20 03 20.0 +0.4**
comp=Z,20nm,1.2s,mb5.4
LPG La Plagne 96.12 315 *e*P **P 20 03 20.0 +0.4**
LPG pmax pmax
comp=Z,20nm,1.2s,mb5.4
BNI Bardonecchia 96.18 315 PFAKE 20 03 30.0 +10
BNI LR LR
comp=Z,3µm,19.0s,MS5.8
WLF Walferdange 96.49 319 PFAKE 20 03 30.0 +8.9
WLF LR LR
comp=Z,3µm,20.0s,MS5.8
TAM Tamanrasset 96.83 292 *e*P **P 20 03 23.6 +0.3**
comp=Z,2.8nm,1.1s,mb4.6
TAM LR LR
comp=Z,3µm,19.0s,MS5.7
TAM Tamanrasset 96.83 292 *e*P **P 20 03 23.6 +0.3**
TAM pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
TAM MLR MLR
comp=Z,3µm,19.0s,MS5.7
SSB Saint Sauveur 97.68 315 PFAKE 20 03 40.0 +13
SSB LR LR
comp=Z,2µm,21.0s,MS5.5
TORD Torodi Ar. Bea 100.16 283 P Pdif 20 03 38.5 +1.1
comp=Z,0.2nm,0.5s,baz=76,slow=6.1,SNR=2.6
TORD Torodi Ar. Bea 100.16 283 P Pdif 20 03 38.5 +1.1
COLD Coldfoot 101.12 22 *e*Pdif Pdif 20 03 40.7 -1.1
comp=Z,9.3nm,1.2s
XMAS Kiritimati 101.53 89 PFAKE 20 04 00.0 +16
XMAS LR LR
comp=Z,2µm,21.0s,MS5.7
ESK Eskdalemuir 101.68 326 PFAKE 20 04 00.0 +16
ESK LR LR
comp=Z,3µm,22.0s,MS5.8
KDAK Kodiak Island 102.28 32 PFAKE 20 04 00.0 +13
KDAK LR LR
comp=Z,4µm,21.0s,MS5.9
MCK McKinley 102.59 25 *e*Pdif Pdif 20 03 47.2 -1.1
MCK McKinley 102.59 25 *e*P Pdif 20 03 47.2 -1.1
COLA College 102.71 24 PFAKE 20 04 00.0 +11
COLA LR LR
comp=Z,3µm,20.0s,MS5.8
ILAR Eielson Array 103.13 24 Pdiff Pdif 20 03 50.0 -0.8
comp=Z,0.3nm,0.6s,baz=287,slow=4.3,SNR=4.8
ILAR PP PP 20 07 51.7 -14
comp=Z,1.5nm,1.1s,baz=306,slow=6.8,SNR=4.9
ILAR PKKP PKKPbc 20 19 53.5 +4.5
comp=Z,0.6nm,0.8s,baz=103,slow=2.0,SNR=6.8
ILAR Eielson Array 103.13 24 Pdif Pdif 20 03 50.0 -0.8
ILAR PP PP 20 07 51.7 -14
ILAR PKKP PKKPbc 20 19 53.5 +4.5
ILAR Eielson Array 103.13 24 P Pdif 20 03 50.0 -0.7
ESLA Sonseca Array 104.36 310 PFAKE 20 04 10.0 +14
ESLA LR LR
comp=Z,10µm,21.0s,MS6.3
SCO Scoresbysund 104.67 343 *e*P Pdif 20 04 00.4 +2.9
SCO MLR MLR
comp=Z,4µm,17.0s,MS6.1
SCO Scoresbysund 104.67 343 *i* P Pdif 20 04 00.4 +2.9
SCO
comp=Z,4µm,17.0s
PAB San Pablo 104.67 310 PFAKE 20 04 10.0 +12
PAB LR LR
comp=Z,2µm,19.0s,MS5.6
SHEL Horse Pasture 104.97 252 PFAKE 20 08 30.0 +15
SHEL LR LR
comp=Z,6µm,19.0s,MS6.1
EGAK Eagle 105.42 23 PFAKE 20 08 30.0 +16
EGAK LR LR
comp=Z,6µm,21.0s,MS6.1
TRIS Tristan da Cun 105.83 230 PFAKE 20 08 30.0 +14
TRIS LR LR
comp=Z,3µm,22.0s,MS5.9
TBI Tubuai 105.96 116 *e*Sdif Sdif 20 15 53.9 -5.1
comp=Z,2µm,28.0s
TBI Tubuai 105.96 116 *e*PS PS 20 17 44.6 -1.0
comp=Z,819nm,25.5s
TBI *e*SS SS 20 23 24.3 -2.0
comp=Z,4µm,27.2s
TBI *e*LR LR 20 38 59.5
comp=Z,8µm,23.0s
DBIC Dimbokro 106.36 276 PFAKE 20 08 30.0 +13
DBIC LR LR
comp=Z,4µm,19.0s,MS6.0
SFS San Fernando 106.49 307 PFAKE 20 08 30.0 +13
SFS LR LR
comp=Z,4µm,19.0s,MS5.9
PPT2 Papeete2 106.96 110 *e*PP PP 20 08 24.7 -10
comp=Z,375nm,25.5s
PPT2 *e*Sdif Sdif 20 16 01.4 -5.9
comp=Z,3µm,25.0s
PPT2 *e*SP SP 20 17 48.3 -3.8
comp=Z,1µm,27.2s
PPT2 *e*LR LR 20 39 32.7
comp=Z,4µm,22.2s
MTE Manteigas 106.98 311 PFAKE 20 08 30.0 +12
MTE LR LR
comp=Z,2µm,22.0s,MS5.7
BORG Borgarnes 107.28 338 PFAKE 20 08 30.0 +12
BORG LR LR
comp=Z,4µm,19.0s,MS6.0
RTC Rabat Centre 107.31 304 PFAKE 20 08 30.0 +11
RTC LR LR
comp=Z,3µm,19.0s,MS5.8
SUMG Summit 107.45 348 *e*P Pdif 20 04 15.8 +5.9
SUMG *i* 20 08 41.3
SUMG Summit 107.45 348 *i* P Pdif 20 04 15.8 +5.9
SUMG
comp=Z,3µm,19.0s
PMSA Palmer Station 110.23 187 PFAKE 20 08 30.0 +6.8
PMSA LR LR
comp=Z,6µm,22.0s,MS6.1
WRAK Wrangell Islan 113.06 29 PFAKE 20 08 40.0 +11
WRAK LR LR
comp=Z,3µm,20.0s,MS5.9
SFJD Kangerlussuaq 114.44 348 PFAKE 20 08 40.0 +8.9
SFJD LR LR
comp=Z,4µm,20.0s,MS6.1
YKA Yellowknife Ar 116.22 18 PKP PKPdf 20 08 33.7 -0.9
comp=Z,0.7nm,0.7s,baz=329,slow=2.0,SNR=9.8
YKA PP PP 20 09 34.4 -5.3
comp=Z,1.3nm,1.0s,baz=331,slow=7.1,SNR=4.5
YKA PKKPbc PKKPbc 20 19 05.1 -1.5
comp=Z,0.3nm,0.8s,baz=135,slow=3.4,SNR=5.8
YKA Yellowknife Ar 116.22 18 PKP PKPdf 20 08 33.8 -0.9
YKA PP PP 20 09 34.5 -5.3
YKA PKKPbc PKKPbc 20 19 05.1 -1.5
YKA Yellowknife Ar 116.22 18 PKIKP PKPdf 20 08 33.8 -0.9
TAOE Nuku Hiva Isla 117.52 102 *e*PP PP 20 09 38.2 -13
comp=Z,468nm,26.8s
TAOE Nuku Hiva Isla 117.52 102 *e*PS PS 20 19 34.3 -1.8
comp=Z,1µm,24.1s
TAOE *e*LR LR 20 44 22.2
comp=Z,5µm,24.0s
RKT Rikitea 118.86 119 *e*PP PP 20 09 54.5 -5.2
comp=Z,240nm,27.2s
RKT *e*SP SP 20 19 41.3 -2.5
comp=Z,530nm,26.2s
RKT *e*SS SS 20 26 15.4 -2.2
comp=Z,3µm,27.2s
RKT *e*LR LR 20 45 04.4
comp=Z,5µm,22.0s
FRB Frobisher Bay 120.20 355 PKP PKPdf 20 08 41.4 -0.9
comp=Z,2.0nm,0.8s,baz=66,slow=6.7,SNR=1.7
FRB Frobisher Bay 120.20 355 PKP PKPdf 20 08 41.4 -0.9
FRB Frobisher Bay 120.20 355 PKIKP PKPdf 20 08 41.4 -0.9
EFI East Falkland 121.48 195 PFAKE 20 09 00.0 +15
EFI LR LR

comp=Z,4µm,21.0s,MS6.0
NLWA Neilton Lookou 122.25 35 PFAKE 20 09 00.0 +13
NLWA LR LR
comp=Z,3µm,21.0s,MS5.9
A05A Maple Falls 122.32 32 ⇑PKiKP PKiKP 20 08 46.7 -0.3
baz=122
E03A Lebam 122.89 35 ⇑PKiKP PKiKP 20 08 48.1 -0.1
baz=123
ETW Entiat 124.09 33 *e*PKPdf PKPdf 20 08 47.7 -2.5
OD2 Odessa Site #2 125.09 32 *e*PKPdf PKPdf 20 08 52.3 +0.1
RSW Rattlesnake Hi 125.22 34 *e*PKPdf PKPdf 20 08 52.0 -0.5
HAWA Hanford 125.26 34 *e*PKPdf PKPdf 20 08 52.7 +0.1
HAWA LR LR
comp=Z,2µm,20.0s,MS5.8
G06A Carlson Farm, 125.32 35 ⇑PKiKP PKiKP 20 08 52.7 -0.3
baz=125
NEW Newport 125.35 30 ⇓PKiKP PKiKP 20 08 52.5 -0.5
baz=125
NEW Newport 125.35 30 *e*PKPdf PKPdf 20 08 51.1 -1.5
NEW LR LR
comp=Z,4µm,21.0s,MS6.1
NEW Newport 125.35 30 *e*PKIKP PKPdf 20 08 51.2 -1.5
NEW MLR MLR
comp=Z,4µm,21.0s
HUMO Hull Mountain 125.38 39 *e*PKPdf PKPdf 20 08 53.0 +0.1
A12A Yaak River Ran 125.63 29 ⇑PKiKP PKiKP 20 08 53.4 -0.1
baz=126
E09A Wood Farm, Sta 125.94 33 ⇓PKiKP PKiKP 20 08 53.9 -0.4
baz=126
LNOR Lincton Mounta 126.26 33 *e*PKPdf PKPdf 20 08 53.2 -1.3
LNOR Lincton Mounta 126.26 33 *e*PKIKP PKPdf 20 08 53.2 -1.3
FFC Flin Flon 126.35 16 *e*PKPdf PKPdf 20 08 52.1 -2.2
FFC LR LR
comp=Z,5µm,20.0s,MS6.2
FFC Flin Flon 126.35 16 *e*PKIKP PKPdf 20 08 52.2 -2.2
FFC MLR MLR
comp=Z,5µm,20.0s,MS6.2
I07A Izee 126.65 36 ⇓PKiKP PKiKP 20 08 55.1 -0.7
baz=126
A14A Double T Ranch 126.67 28 ⇓PKiKP PKiKP 20 08 55.0 -0.6
baz=126
F10A Beach Ranch, E 126.77 33 ⇓PKiKP PKiKP 20 08 55.1 -0.8
baz=127
BSMT Bassoo Peak 126.79 30 *e*PKPdf PKPdf 20 08 55.1 -0.3
A15A Johnson Ranch, 126.98 27 ⇓PKiKP PKiKP 20 08 55.4 -0.8
baz=127
B14A Marquette Ranc 127.17 28 ⇓PKiKP PKiKP 20 08 55.9 -0.7
baz=127
MOD Modoc 127.42 38 *e*PKPdf PKPdf 20 08 56.5 -0.3
SWMT Swartz Lake 127.42 29 *e*PKPdf PKPdf 20 08 57.0 +0.4
SWMT *e*PP PP 20 10 59.5 +3.2
BMO Blue Mountains 127.44 34 *e*PKPdf PKPdf 20 08 55.0 -1.8
BMO LR LR
comp=Z,2µm,20.0s,MS5.8
BMO Blue Mountains 127.44 34 *e*PKIKP PKPdf 20 08 55.0 -1.8
BMO MLR MLR
comp=Z,2µm,20.0s,MS5.8
B15A Bradely Ranch, 127.54 28 ⇓PKiKP PKiKP 20 08 56.6 -0.8
baz=127
J08A Circle Bar Ran 127.68 36 ⇑PKiKP PKiKP 20 08 57.1 -0.8
baz=128
SLMT Seeley Lake 127.85 29 *e*P PKPdf 20 08 56.9 -0.6
B16A M & M Farms, S 127.86 27 ⇑PKiKP PKiKP 20 08 57.3 -0.7
baz=128
C15A Salmond Ranch, 127.90 28 ⇑PKiKP PKiKP 20 08 57.5 -0.6
baz=128
A17A Triple J Farms 127.92 26 ⇓PKiKP PKiKP 20 08 57.7 -0.5
baz=128
F12A Elk City 127.96 32 ⇑PKiKP PKiKP 20 08 57.5 -0.8
baz=128
E13A Victor 128.05 31 ⇓PKiKP PKiKP 20 08 57.7 -0.8
baz=128
WVOR Wild Horse Val 128.13 37 *e*PKPdf PKPdf 20 08 58.7 +0.6
WVOR *e*PP PP 20 11 02.6 +1.4
WVOR LR LR
comp=Z,3µm,21.0s,MS5.9
WVOR Wild Horse Val 128.13 37 *e*PKIKP PKPdf 20 08 58.7 +0.5
WVOR *e* 20 11 02.6
WVOR MLR MLR
comp=Z,3µm,21.0s,MS5.9
CHMT Chamberlain Mo 128.20 30 *e*PKPdf PKPdf 20 08 57.2 -1.0
C16A Fuhringer Ranc 128.29 28 ⇓PKiKP PKiKP 20 08 58.0 -0.9
baz=128
A18A Metzger Ranch, 128.31 26 ⇓PKiKP PKiKP 20 08 58.1 -0.8
baz=128
B17A L&G Farms, Che 128.36 27 ⇑PKiKP PKiKP 20 08 58.2 -0.8
baz=128
E14A Clinton 128.42 30 ⇑PKiKP PKiKP 20 08 58.8 -0.5
baz=128
F13A Darby 128.42 31 ⇓PKiKP PKiKP 20 08 58.4 -0.8
baz=128
D15A Lincoln 128.46 29 ⇓PKiKP PKiKP 20 08 58.8 -0.4
baz=128
B18A Beardsley Farm 128.74 26 ⇓PKiKP PKiKP 20 08 59.2 -0.6
baz=129
A19A Klindworth Far 128.77 25 ⇑PKiKP PKiKP 20 08 58.9 -0.9
baz=129
E15A Deer Lodge 128.84 30 ⇓PKiKP PKiKP 20 08 59.3 -0.8
baz=129
C17A Wharram Farm, 128.86 27 ⇓PKiKP PKiKP 20 08 59.4 -0.7
baz=129
F14A Wisdom 128.90 31 ⇓PKiKP PKiKP 20 08 59.7 -0.5
baz=129
D16A Dana Ranch, Ca 128.94 28 ⇑PKiKP PKiKP 20 08 59.7 -0.6
baz=129
G13A Cobalt 128.94 32 ⇓PKiKP PKiKP 20 08 59.6 -0.7
baz=129
H12A Diamond D Ranc 128.97 33 ⇓PKiKP PKiKP 20 08 59.9 -0.5
baz=129
EGMT Eagleton 129.03 26 ⇓PKiKP PKiKP 20 08 59.8 -0.6
baz=129
EGMT Eagleton 129.03 26 *e*PKPdf PKPdf 20 09 00.5 +0.9
EGMT LR LR
comp=Z,3µm,21.0s,MS6.0
HRY Holter Researc 129.03 29 *e*PKPdf PKPdf 20 09 00.3 +0.6
B19A Brinkman Farms 129.05 25 ⇑PKiKP PKiKP 20 08 59.9 -0.5
baz=129
A20A Cobblestone Ra 129.15 24 ⇓PKiKP PKiKP 20 08 59.8 -0.8
baz=129
MFID Camas Ranch 129.17 34 ⇑PKiKP PKiKP 20 09 00.3 -0.5
baz=129
MFID Camas Ranch 129.17 34 *e*P PKPdf 20 09 00.3 +0.2
WCN Washoe City 129.19 41 ⇓PKiKP PKiKP 20 09 00.6 -0.4
baz=129
WCN Washoe City 129.19 41 *e*PKPdf PKPdf 20 09 01.1 +0.9
WCN Washoe City 129.19 41 *e*PKIKP PKPdf 20 09 01.2 +0.9
E16A East Helena 129.23 29 ⇓PKiKP PKiKP 20 09 00.5 -0.4
baz=129
G14A Jackson 129.24 31 ⇑PKiKP PKiKP 20 09 00.3 -0.6
baz=129
D17A Six Diamond Ra 129.25 28 ⇓PKiKP PKiKP 20 09 00.4 -0.4
baz=129
H13A Challis 129.28 32 ⇑PKiKP PKiKP 20 09 00.3 -0.7
baz=129
I12A Atlanta 129.31 34 ⇑PKiKP PKiKP 20 09 00.6 -0.5
baz=129
F15A Butte 129.32 30 ⇑PKiKP PKiKP 20 09 00.7 -0.4
baz=129
LRM Limekiln Ridge 129.36 30 *e*PKPdf PKPdf 20 09 01.3 +0.9
LRM *e*PP PP 20 11 08.3 -0.7
B20A Solberg Farm, 129.45 25 ⇑PKiKP PKiKP 20 09 00.8 -0.4
baz=129
A21A Bergtoll Ranch 129.47 24 ⇑PKiKP PKiKP 20 09 00.4 -0.8
baz=129
C19A Slack Wire Ran 129.56 26 ⇓PKiKP PKiKP 20 09 01.0 -0.4
baz=129
DLMT Dillon 129.60 31 *e*PKPdf PKPdf 20 09 01.8 +0.9
DLMT *e*PP PP 20 11 10.8 +0.2
D18A Linhart Farms, 129.62 27 ⇓PKiKP PKiKP 20 09 00.7 -0.9
baz=130
E17A Martinsdale 129.68 28 ⇓PKiKP PKiKP 20 09 01.4 -0.3
baz=130
H14A Leadore 129.72 32 ⇑PKiKP PKiKP 20 09 01.3 -0.6
baz=130
I13A Wildhorse Cree 129.79 33 ⇓PKiKP PKiKP 20 09 02.1 +0.1
baz=130
F16A Kennard Place, 129.79 30 ⇑PKiKP PKiKP 20 09 01.6 -0.4
baz=130
G15A Dillon 129.79 31 ⇑PKiKP PKiKP 20 09 01.7 -0.3
baz=130
MCMT McKenzie Canyo 129.84 31 *e*PKPdf PKPdf 20 09 02.2 +0.8
HLID Hailey 129.86 33 ⇑PKiKP PKiKP 20 09 01.8 -0.4
baz=130
HLID Hailey 129.86 33 *e*PKPdf PKPdf 20 09 01.8 +0.4
HLID LR LR
comp=Z,3µm,20.0s,MS6.0

A22A Carney Farms, 129.87 23 ⇓PKiKP PKiKP 20 09 01.5 -0.5
baz=130
B21A Ellsworth Farm 129.88 24 ⇓PKiKP PKiKP 20 09 01.4 -0.7
baz=130
BOZ Bozeman (W) 129.89 30 *e*PKPdf PKPdf 20 09 02.3 +0.9
BOZ LR LR
comp=Z,3µm,19.0s,MS5.9
BOZ Bozeman (W) 129.89 30 *e*PKIKP PKPdf 20 09 02.3 +0.9
BOZ MLR MLR
comp=Z,3µm,19.0s,MS5.9
C20A Veseth Ranch, 130.02 25 ⇑PKiKP PKiKP 20 09 02.1 -0.3
baz=130
E18A Harlowton 130.04 28 ⇓PKiKP PKiKP 20 09 01.9 -0.5
baz=130
D19A Cripps Ranch, 130.06 26 ⇓PKiKP PKiKP 20 09 02.0 -0.5
baz=130
H15A Lima 130.09 31 ⇑PKiKP PKiKP 20 09 02.1 -0.5
baz=130
G16A Moss Hill, Enn 130.10 30 ⇓PKiKP PKiKP 20 09 02.1 -0.5
baz=130
J13A Cove Ranch, Pi 130.10 33 ⇓PKiKP PKiKP 20 09 02.3 -0.4
baz=130
I14A Mackay 130.14 32 ⇑PKiKP PKiKP 20 09 02.4 -0.3
baz=130
BMN Battle Mountai 130.16 38 PFAKE 20 09 10.0 +7.9
BMN LR LR
comp=Z,2µm,20.0s,MS5.7
F17A Fitzpatrick Pl 130.17 29 ⇓PKiKP PKiKP 20 09 02.6 -0.2
baz=130
A23A Redstone 130.29 22 ⇓PKiKP PKiKP 20 09 02.2 -0.6
baz=130
B22A Reddig Ranch S 130.39 24 ⇑PKiKP PKiKP 20 09 02.6 -0.5
baz=130
D20A Manuel Ranch, 130.45 26 ⇑PKiKP PKiKP 20 09 02.8 -0.4
baz=130
G17A Pierce Place, 130.56 29 ⇑PKiKP PKiKP 20 09 03.3 -0.2
baz=130
QLMT Earthquake Lak 130.57 30 *e*PKPdf PKPdf 20 09 03.1 +0.4
QLMT *e*SKP 20 12 23.4
I15A Monteview 130.60 32 ⇑PKiKP PKiKP 20 09 03.5 -0.2
baz=130
NVAR Mina Array Bea 130.61 41 PKP PKPdf 20 09 03.6 +0.6
comp=Z,2.6nm,0.7s,baz=291,slow=2.2,SNR=25
NVAR pPKP pPKPdf 20 09 13.2 +0.1
comp=Z,2.8nm,0.7s,baz=273,slow=1.7,SNR=9.2
NVAR SKPab 20 12 27.7
comp=Z,4.9nm,1.1s,baz=249,slow=5.0,SNR=6.2
NVAR Mina Array Bea 130.61 41 PKP PKPdf 20 09 03.6 +0.6
NVAR pPKP pPKPdf 20 09 13.2 +0.1
NVAR SKPab 20 12 27.7
F18A Big Timber 130.62 28 ⇓PKiKP PKiKP 20 09 03.4 -0.3
baz=130
E19A Rath Farm, Rou 130.64 27 ⇑PKiKP PKiKP 20 09 03.4 -0.2
baz=130
A24A Westby 130.65 22 ⇑PKiKP PKiKP 20 09 03.3 -0.3
baz=130
B23A Brockton 130.65 23 ⇑PKiKP PKiKP 20 09 03.5 -0.1
baz=130
C22A Vida 130.88 24 ⇓PKiKP PKiKP 20 09 03.9 -0.2
baz=131
E20A Meyer Farm, Mu 130.90 27 ⇓PKiKP PKiKP 20 09 04.1 -0.1
baz=131
YMR Madison River 130.91 30 *e*PKPdf PKPdf 20 09 04.5 +1.1
DGMT Dagmar 130.95 22 ⇓PKiKP PKiKP 20 09 04.0 -0.2
baz=131
DGMT Dagmar 130.95 22 *e*PKPdf PKPdf 20 09 03.9 +0.6
DGMT LR LR
comp=Z,3µm,20.0s,MS6.0
D21A La Casta Ranch 130.96 25 ⇓PKiKP PKiKP 20 09 04.2 -0.1
baz=131
F19A Roth Farm, Mol 131.02 28 ⇓PKiKP PKiKP 20 09 03.6 -0.8
baz=131
YNR Norris Junctio 131.02 30 *e*PKPdf PKPdf 20 09 02.2 -1.4
J15A Blackfoot 131.04 32 ⇑PKiKP PKiKP 20 09 04.2 -0.4
baz=131
SMMC Simmler 131.08 46 ⇓PKiKP PKiKP 20 09 04.1 -0.8
baz=131
RCTC Rector, Farmer 131.11 44 ⇑PKiKP PKiKP 20 09 04.2 -0.7
baz=131
C23A Lambert 131.12 23 ⇓PKiKP PKiKP 20 09 04.1 -0.5
baz=131
G18A Lazy EL Ranch, 131.13 29 ⇓PKiKP PKiKP 20 09 04.2 -0.5
baz=131
I16A Newdale 131.21 31 ⇓PKiKP PKiKP 20 09 04.3 -0.6
baz=131
K14A Jones Ranch, D 131.21 34 ⇑PKiKP PKiKP 20 09 04.6 -0.4
baz=131
D22A Cohagen 131.24 25 ⇓PKiKP PKiKP 20 09 04.4 -0.4
baz=131
LKWY Lake 131.27 30 PFAKE 20 09 20.0 +16
LKWY LR LR
comp=Z,7µm,20.0s,MS6.3
H17A Grant Village 131.30 30 ⇑PKiKP PKiKP 20 09 04.6 -0.5
baz=131
E21A Keefer Ranch, 131.33 26 ⇓PKiKP PKiKP 20 09 04.8 -0.3
baz=131
PKM Peak Mountain 131.41 46 ⇓PKiKP PKiKP 20 09 05.0 -0.6
baz=131
RLMT Red Lodge 131.41 29 PFAKE 20 09 20.0 +16
RLMT LR LR
comp=Z,4µm,20.0s,MS6.1
F20A Billings 131.43 27 ⇓PKiKP PKiKP 20 09 04.7 -0.6
baz=131
K15A Arbon 131.47 33 ⇓PKiKP PKiKP 20 09 05.3 -0.2
baz=131
L14A Malta 131.51 34 ⇓PKiKP PKiKP 20 09 05.4 -0.2
baz=131
H18A Shoshone NF, C 131.55 29 ⇓PKiKP PKiKP 20 09 05.2 -0.3
baz=131
J16A Bone 131.56 32 ⇓PKiKP PKiKP 20 09 05.4 -0.2
baz=131
LAO LASA Array 131.58 25 *e*PKPdf PKPdf 20 09 04.0 -0.6
LAO *e*SKP 20 12 25.8
LAO LR LR
comp=Z,3µm,19.0s,MS6.0
C24A Savage 131.64 23 ⇑PKiKP PKiKP 20 09 05.4 -0.2
baz=132
I17A Pilgrim Ck. 131.64 31 ⇓PKiKP PKiKP 20 09 05.6 -0.2
baz=132
RRI2 Red Ridge 131.66 32 *e*PKPdf PKPdf 20 09 05.1 +0.3
RRI2 *e*PP PP 20 11 25.2 +1.2
RRI2 *e*SKP 20 12 27.5
G20A Bridger 131.84 28 ⇓PKiKP PKiKP 20 09 05.6 -0.6
baz=132
LOHW Long Hollow 131.85 31 *e*PKPdf PKPdf 20 09 05.1 -0.1
K16A Soda Springs 131.88 32 ⇓PKiKP PKiKP 20 09 05.9 -0.4
baz=132
H19A Powell 131.88 29 ⇓PKiKP PKiKP 20 09 06.0 -0.2
baz=132
E22A Miles City 131.90 25 ⇑PKiKP PKiKP 20 09 05.7 -0.5
baz=132
REDW Red Top Meadow 131.90 31 *e*PKPdf PKPdf 20 09 03.3 -2.0
REDW *e*SKP 20 12 30.5
HVU Hansel Valley 131.94 34 *e*PKPdf PKPdf 20 09 06.3 +0.9
HVU *e*SKP 20 12 30.6
HVU Hansel Valley 131.94 34 *e*PKIKP PKPdf 20 09 06.3 +0.9
J17A Brown Place, J 131.97 31 ⇓PKiKP PKiKP 20 09 05.8 -0.6
baz=132
ISA Isabella 131.97 44 ⇑PKiKP PKiKP 20 09 06.0 -0.7
baz=132
BSC Santa Cruz Isl 131.98 47 ⇓PKiKP PKiKP 20 09 06.1 -0.6
baz=132
L15A Malad City 132.01 34 ⇓PKiKP PKiKP 20 09 06.0 -0.6
baz=132
D24A Glendive 132.01 23 ⇓PKiKP PKiKP 20 09 05.9 -0.5
baz=132
E23A Ismay 132.12 25 ⇑PKiKP PKiKP 20 09 06.2 -0.4
baz=132
AHID Auburn Hatcher 132.19 32 PFAKE 20 09 20.0 +14
AHID LR LR
comp=Z,2µm,20.0s,MS5.9
DAC Darwin (Calif) 132.26 43 PFAKE 20 09 20.0 +14
DAC LR LR
comp=Z,2µm,19.0s,MS5.8
F22A Rosebud 132.28 26 ⇓PKiKP PKiKP 20 09 06.1 -0.9
baz=132
K17A Gardner Place, 132.29 32 ⇑PKiKP PKiKP 20 09 06.2 -0.9
baz=132
G21A Lodge Grass 132.29 27 ⇑PKiKP PKiKP 20 09 06.1 -0.9
baz=132
BLG Laguna Peak 132.34 46 ⇓PKiKP PKiKP 20 09 07.0 -0.5
baz=132
M15A Larsen Ranch, 132.34 34 ⇓PKiKP PKiKP 20 09 06.7 -0.5
baz=132
I19A Meeteetse 132.35 29 ⇑PKiKP PKiKP 20 09 06.7 -0.5
baz=132
R11A Troy Canyon, C 132.41 40 ⇑PKiKP PKiKP 20 09 07.2 -0.3

baz=132
J18A Kendall Valley 132.43 31 ⇓PKiKP PKiKP 20 09 06.9 -0.5
baz=132
MPMC Manual Prospec 132.44 43 ⇓PKiKP PKiKP 20 09 07.6 -0.1
baz=132
E24A Baker 132.47 24 ⇓PKiKP PKiKP 20 09 07.0 -0.4
baz=132
L16A Fish Haven 132.53 33 ⇑PKiKP PKiKP 20 09 07.4 -0.2
baz=132
LRMC Laurel Mountai 132.62 44 ⇓PKiKP PKiKP 20 09 07.7 -0.3
baz=132
FURC Furnace Creek, 132.65 42 ⇑PKiKP PKiKP 20 09 07.6 -0.5
baz=132
F23A Volborg 132.70 25 ⇑PKiKP PKiKP 20 09 07.2 -0.6
baz=132
G22A Birney 132.71 26 ⇓PKiKP PKiKP 20 09 07.3 -0.6
baz=132
EDW2 Edwards Air Fo 132.72 45 ⇓PKiKP PKiKP 20 09 07.4 -0.8
baz=133
HWUT Hardware Ranch 132.73 33 *e*PKPdf PKPdf 20 09 06.7 -0.2
HWUT *e*PP PP 20 11 30.0 -0.9
HWUT *e*SKP 20 12 34.1
HWUT LR LR
comp=Z,2μm,20.0s,MS5.8
L17A Cokeville 132.77 33 ⇑PKiKP PKiKP 20 09 07.5 -0.6
baz=133
I20A Worland 132.83 29 ⇓PKiKP PKiKP 20 09 07.4 -0.8
baz=133
K18A Toltan Ranch, 132.83 31 ⇓PKiKP PKiKP 20 09 07.5 -0.7
baz=133
J19A Crowheart 132.88 30 ⇑PKiKP PKiKP 20 09 07.6 -0.7
baz=133
M16A Huntsville 132.89 34 ⇓PKiKP PKiKP 20 09 07.8 -0.6
baz=133
DUG Dugway 132.96 36 ⇑PKiKP PKiKP 20 09 07.8 -0.8
baz=133
DUG Dugway 132.96 36 *e*PKPdf PKPdf 20 09 08.9 +1.5
DUG *e*SKP 20 12 29.8
DUG LR LR
comp=Z,2μm,19.0s,MS5.9
DUG Dugway 132.96 36 *e*PKIKP PKPdf 20 09 08.9 +1.5
DUG MLR MLR
comp=Z,2μm,19.0s,MS5.9
PD01 Pinedale Array 132.97 31 *e*PKPpre PKPpre 20 08 57.9
PD01 *e*SKP 20 12 41.5
PD02 Pinedale Array 132.97 31 *e*PKPdf PKPdf 20 09 06.5 -0.9
PD02 *e*SKP 20 12 34.7
BW06 Boulder Array 132.99 31 PFAKE 20 09 20.0 +13
BW06 LR LR
comp=Z,3μm,20.0s,MS6.0
PDAR Pinedale Array 132.99 31 PKP PKPdf 20 09 06.7 -0.7
comp=Z,0.6nm,0.6s,baz=67,slow=3.0,SNR=8.4
PDAR pPKP pPKPdf 20 09 17.4 -0.1
comp=Z,1.3nm,0.6s,baz=191,slow=1.5,SNR=4.3
PDAR Pinedale Array 132.99 31 PKP PKPdf 20 09 06.7 -0.7
PDAR pPKP pPKPdf 20 09 17.4 -0.1
F24A Ekalaka 133.00 24 ⇑PKiKP PKiKP 20 09 07.8 -0.6
baz=133
MDND Maddock 133.10 19 ⇑PKiKP PKiKP 20 09 08.4 -0.2
baz=133
O15A The Old Anders 133.10 35 ⇓PKiKP PKiKP 20 09 08.6 -0.2
baz=133
G23A Biddle 133.12 26 ⇑PKiKP PKiKP 20 09 08.3 -0.4
baz=133
H22A Clearmont 133.17 27 ⇓PKiKP PKiKP 20 09 07.8 -1.1
baz=133
SCI San Clemente I 133.26 47 ⇑PKiKP PKiKP 20 09 08.7 -0.6
baz=133
N16A Rees Ranch, Co 133.29 34 ⇓PKiKP PKiKP 20 09 09.0 -0.2
baz=133
M17A Scullys Gap (B 133.31 33 ⇑PKiKP PKiKP 20 09 08.5 -0.7
baz=133
GSC Goldstone 133.32 44 ⇑PKiKP PKiKP 20 09 08.6 -0.9
baz=133
GSC Goldstone 133.32 44 *e*PKPdf PKPdf 20 09 09.2 +1.0
GSC *e*SKP 20 12 35.6
GSC Goldstone 133.32 44 *e*PKIKP PKPdf 20 09 09.2 +1.0
L18A Fontenelle, Gr 133.34 32 ⇓PKiKP PKiKP 20 09 09.2 -0.1
baz=133
SHOC Shoshone 133.35 43 ⇑PKiKP PKiKP 20 09 08.7 -0.8
baz=133
RRX Edison Barstow 133.41 44 ⇑PKiKP PKiKP 20 09 08.9 -0.7
baz=133
G24A Alzada 133.43 25 ⇓PKiKP PKiKP 20 09 08.6 -0.7
baz=133
JLU Jordanelle 133.47 34 *e*PKPdf PKPdf 20 09 11.9 +3.6
R13A O'Grain Ranch, 133.53 39 ⇑PKiKP PKiKP 20 09 09.2 -0.6
baz=133
L19A Farson 133.57 31 ⇓PKiKP PKiKP 20 09 08.9 -0.8
baz=133
M18A Lyman 133.67 33 ⇓PKiKP PKiKP 20 09 09.2 -0.7
baz=134
P15A Leamington 133.68 36 ⇓PKiKP PKiKP 20 09 09.8 -0.3
baz=134
K20A Yellowstone Ra 133.68 30 ⇑PKiKP PKiKP 20 09 09.0 -1.0
baz=134
O16A Springville 133.71 35 ⇑PKiKP PKiKP 20 09 09.6 -0.5
baz=134
DAU Daniels Canyon 133.71 34 *e*PKPdf PKPdf 20 09 09.9 +1.1
DAU Daniels Canyon 133.71 34 *e*PKIKP PKPdf 20 09 09.9 +1.1
AGMN Agassiz Nation 133.81 16 PFAKE 20 09 20.0 +11
AGMN LR LR
comp=Z,4μm,22.0s,MS6.0
TUQ Turquoise Moun 133.85 43 ⇓PKiKP PKiKP 20 09 09.8 -0.7
baz=134
HEC Hector,Ludlow 133.90 44 ⇓PKiKP PKiKP 20 09 09.5 -1.1
baz=134
MURC Murrieta 133.93 46 ⇑PKiKP PKiKP 20 09 09.9 -0.8
baz=134
P16A Fountain Green 134.01 36 ⇓PKiKP PKiKP 20 09 09.9 -0.8
baz=134
J22A Midwest 134.02 28 ⇓PKiKP PKiKP 20 09 09.6 -1.0
baz=134
M19A Rock Springs 134.10 32 ⇑PKiKP PKiKP 20 09 09.7 -1.1
baz=134
ARUT Antelope Range 134.10 39 *e*PKPpre PKPpre 20 09 02.2
ARUT Antelope Range 134.10 39 *e*PKIKP PKPdf 20 09 02.2 -7.4
O17A Robinson Place 134.15 34 ⇑PKiKP PKiKP 20 09 10.3 -0.7
baz=134
L20A Wamsutter 134.16 31 ⇑PKiKP PKiKP 20 09 10.1 -0.8
baz=134
N18A Larsen Ranch, 134.20 33 ⇑PKiKP PKiKP 20 09 10.4 -0.7
baz=134
K21A Alcova 134.24 29 ⇓PKiKP PKiKP 20 09 10.1 -1.0
baz=134
MVU Marysvale 134.41 37 PFAKE 20 09 20.0 +10
MVU LR LR
comp=Z,3μm,20.0s,MS6.0
MSU Marysvale 134.42 37 *e*PKPdf PKPdf 20 09 11.5 +1.3
MSU *e*PP PP 20 11 36.9 -5.0
MSU *e*SKP 20 12 38.9
MSU Marysvale 134.42 37 *e*PKIKP PKPdf 20 09 11.5 +1.3
MSU *e* 20 11 36.9
J23A Dilts Ranch, B 134.46 27 ⇓PKiKP PKiKP 20 09 10.6 -0.8
baz=134
PFO Pinyon Flat Ob 134.46 46 ⇑PKiKP PKiKP 20 09 11.0 -0.8
baz=134
PFO Pinyon Flat Ob 134.46 46 *e*PKPdf PKPdf 20 09 10.1 -0.3
PFO *e*PP PP 20 11 36.2 -6.3
PFO *e*SKP 20 12 37.0
PFO LR LR
comp=Z,2μm,21.0s,MS5.8
PFO Pinyon Flat Ob 134.46 46 *e*PKIKP PKPdf 20 09 10.1 -0.3
PFO MLR MLR
comp=Z,2μm,21.0s,MS5.8
TMUT Trail Mountain 134.48 36 *e*PKPdf PKPdf 20 09 11.2 +0.9
O18A Roosevelt 134.51 34 ⇓PKiKP PKiKP 20 09 11.2 -0.5
baz=134
N19A John Jarvie Ra 134.52 32 ⇓PKiKP PKiKP 20 09 11.0 -0.7
baz=134
PLCA Paso Flores 134.54 189 PFAKE 20 09 20.0 +10
PLCA LR LR
comp=Z,4μm,19.0s,MS6.2
R15A Junction 134.55 38 ⇑PKiKP PKiKP 20 09 11.5 -0.4
baz=134
BELC Belle Mtn. Jos 134.58 45 ⇓PKiKP PKiKP 20 09 11.5 -0.5
baz=134
K22A Casper 134.58 29 ⇑PKiKP PKiKP 20 09 10.9 -0.9
baz=134
M20A Sweetwater, Wa 134.61 31 ⇑PKiKP PKiKP 20 09 11.4 -0.5
baz=134
P17A Butcher Ranch, 134.63 35 ⇑PKiKP PKiKP 20 09 11.5 -0.4
baz=134
L21A Rawlins 134.68 30 ⇓PKiKP PKiKP 20 09 11.5 -0.5
baz=134
Q16A Castle Valley 134.75 36 ⇑PKiKP PKiKP 20 09 11.9 -0.3
baz=135
P18A Preston Nutter 134.81 35 ⇓PKiKP PKiKP 20 09 11.5 -0.9
baz=135
MONP Monument Peak 134.86 46 ⇓PKiKP PKiKP 20 09 12.0 -0.7
baz=135
J24A Dixon Ranch, L 134.92 27 ⇑PKiKP PKiKP 20 09 11.5 -0.9
baz=135
M21A Separation Pea 134.95 30 ⇑PKiKP PKiKP 20 09 11.6 -0.9
baz=135
O19A Miners Draw (B 134.97 33 ⇑PKiKP PKiKP 20 09 12.2 -0.4
baz=135
SRU San Rafael 135.00 35 *e*PKPdf PKPdf 20 09 12.5 +1.2
SRU *e*SKP 20 12 40.7
SRU San Rafael 135.00 35 *e*PKIKP PKPdf 20 09 12.5 +1.2
TRQA Tornquist 135.04 199 PFAKE 20 09 20.0 +8.6
TRQA LR LR
comp=Z,2μm,19.0s,MS5.9
N20A Spence Gulch, 135.05 32 ⇓PKiKP PKiKP 20 09 12.3 -0.4
baz=135
IRM Iron Mountain 135.08 44 ⇑PKiKP PKiKP 20 09 12.4 -0.7
baz=135
BC3 Big Chuckawall 135.15 45 ⇓PKiKP PKiKP 20 09 12.7 -0.4
baz=135
EYMN Ely 135.18 12 PFAKE 20 09 20.0 +8.7
EYMN LR LR
comp=Z,6μm,21.0s,MS6.3
DVTC Desert V Tower 135.21 46 ⇓PKiKP PKiKP 20 09 13.0 -0.3
baz=135
Q18A Rafter H Ranch 135.23 35 ⇓PKiKP PKiKP 20 09 12.7 -0.5
baz=135
S16A Weppner Ranch, 135.28 38 ⇓PKiKP PKiKP 20 09 13.1 -0.3
baz=135
SWSC Sam W. Stewart 135.28 46 ⇑PKiKP PKiKP 20 09 13.1 -0.4
baz=135
R17A Hanksville Air 135.35 36 ⇑PKiKP PKiKP 20 09 13.1 -0.4
baz=135
W13A Hualapai Mount 135.42 42 ⇑PKiKP PKiKP 20 09 13.2 -0.5
baz=135
M22A Cedar Creek Ra 135.48 30 ⇑PKiKP PKiKP 20 09 13.1 -0.5
baz=135
N21A Black Mountain 135.49 31 ⇓PKiKP PKiKP 20 09 13.2 -0.4
baz=135
P19A Cripple Cowboy 135.51 34 ⇓PKiKP PKiKP 20 09 13.3 -0.4
baz=135
O20A White River Ci 135.56 33 ⇑PKiKP PKiKP 20 09 13.3 -0.5
baz=135
U15A North Rim 135.66 39 ⇑PKiKP PKiKP 20 09 13.5 -0.6
baz=136
PDMCI Parker Dam,Lak 135.70 43 ⇑PKiKP PKiKP 20 09 13.8 -0.5
baz=136
Y12C Blythe 135.74 44 ⇑PKiKP PKiKP 20 09 13.7 -0.7
baz=136
S17A Black Ridge (B 135.81 37 ⇑PKiKP PKiKP 20 09 13.8 -0.6
baz=136
Q19A Hogan Spring (135.83 34 ⇓PKiKP PKiKP 20 09 13.9 -0.5
baz=136
K25A Mack Ranch, Ha 135.84 27 ⇑PKiKP PKiKP 20 09 13.7 -0.6
baz=136
R18A Canyonlands Na 135.85 36 ⇓PKiKP PKiKP 20 09 14.1 -0.4
baz=136
GLA Glamis 135.91 45 ⇓PKiKP PKiKP 20 09 14.2 -0.6
baz=136
O21A Pagoda 135.91 32 ⇑PKiKP PKiKP 20 09 14.1 -0.4
baz=136
P20A De Beque 135.93 33 ⇑PKiKP PKiKP 20 09 14.2 -0.4
baz=136
RCBR Riachuelo 135.94 257 PFAKE 20 09 30.0 +16
RCBR LR LR
comp=Z,4μm,20.0s,MS6.2
N22A Wattenberg Ran 136.00 30 ⇓PKiKP PKiKP 20 09 14.2 -0.5
baz=136
N23A Red Feather La 136.19 30 ⇑PKiKP PKiKP 20 09 14.0 -1.1
baz=136
T17A Navajo Res., N 136.23 38 ⇑PKiKP PKiKP 20 09 14.6 -0.7
baz=136
S18A Hurst Farm, Bl 136.26 36 ⇑PKiKP PKiKP 20 09 14.5 -0.8
baz=136
R19A Curley Farm, L 136.28 35 ⇓PKiKP PKiKP 20 09 14.8 -0.5
baz=136
M24A Cheyenne 136.30 28 ⇑PKiKP PKiKP 20 09 14.6 -0.7
baz=136
Q20A Ridgley Place, 136.37 34 ⇓PKiKP PKiKP 20 09 14.7 -0.8
baz=136
PV04 Paradox Valley 136.42 35 *e*PKPdf PKPdf 20 09 14.1 +0.2
PV04 *e*SKP 20 12 48.8
P21A Newcastle 136.42 32 ⇓PKiKP PKiKP 20 09 14.9 -0.7
baz=136
U17A Shonto 136.57 38 ⇑PKiKP PKiKP 20 09 15.3 -0.7
baz=136
U16A Tuba City 136.57 39 ⇑PKiKP PKiKP 20 09 15.2 -0.8
baz=136
Z13A Yuma Proving G 136.65 44 ⇑PKiKP PKiKP 20 09 15.5 -0.8
baz=136
Y14A Wickenburg 136.68 43 ⇓PKiKP PKiKP 20 09 15.6 -0.7
baz=136
M25A Palm-Egli Farm 136.69 28 ⇑PKiKP PKiKP 20 09 15.3 -0.8
baz=136
T18A Mexican Hat 136.70 37 ⇓PKiKP PKiKP 20 09 15.4 -0.8
baz=136
O23A Lake Granby, G 136.72 31 ⇑PKiKP PKiKP 20 09 15.5 -0.7
baz=136
S19A Harvey Farm, M 136.73 36 ⇓PKiKP PKiKP 20 09 15.7 -0.6
baz=137
PV01 Paradox Valley 136.79 35 *e*PKPdf PKPdf 20 09 14.1 -0.5
PV01 *e*SKP 20 12 46.8
WUAZ Wupatki 136.81 40 ⇓PKiKP PKiKP 20 09 16.0 -0.5
baz=137
WUAZ Wupatki 136.81 40 *e*PKPdf PKPdf 20 09 11.5 -3.2
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.8
113A Mohawk Valley, 136.81 45 ⇑PKiKP PKiKP 20 09 16.3 -0.3
baz=137
Q21A Lamborn Mesa, 136.85 33 ⇓PKiKP PKiKP 20 09 15.8 -0.7
baz=137
R20A Redvale 136.86 35 ⇑PKiKP PKiKP 20 09 16.4 -0.2
baz=137
Z14A Wintersburg 137.05 44 ⇓PKiKP PKiKP 20 09 16.6 -0.5
baz=137
RPN Rapa Nui 137.07 138 PFAKE 20 09 30.0 +15
RPN LR LR
comp=Z,3μm,19.0s,MS6.0
V17A Tonalea, Kykot 137.11 39 ⇓PKiKP PKiKP 20 09 16.4 -0.7
baz=137
S20A Disappointment 137.12 35 ⇑PKiKP PKiKP 20 09 16.5 -0.6
baz=137
ISCO Idaho Springs 137.18 31 *e*PKPpre PKPpre 20 09 08.6
ISCO *e*PP PP 20 12 02.3 +3.4
ISCO LR LR
comp=Z,2μm,19.0s,MS6.0
ISCO Idaho Springs 137.18 31 *e*PKIKP PKPdf 20 09 08.6 -6.7
ISCO *e* 20 12 02.3
ISCO MLR MLR
comp=Z,2μm,19.0s,MS6.0
Q22A Crested Butte, 137.19 33 ⇑PKiKP PKiKP 20 09 16.8 -0.4
baz=137
R21A Cimarron 137.19 34 ⇑PKiKP PKiKP 20 09 16.7 -0.5
baz=137
P23A Jefferson 137.38 31 ⇓PKiKP PKiKP 20 09 17.0 -0.5
baz=137
T19A Beclabito 137.41 37 ⇑PKiKP PKiKP 20 09 17.0 -0.7
baz=137
X16A Lo Mia Camp, P 137.44 41 ⇓PKiKP PKiKP 20 09 17.3 -0.5
baz=137
114A Black Gap (USA 137.44 44 ⇑PKiKP PKiKP 20 09 17.3 -0.6
baz=137
SPMN St. Paul 137.45 15 ⇓PKiKP PKiKP 20 09 16.7 -0.8
baz=137
MVCO Mesa Verde 137.46 36 ⇑PKiKP PKiKP 20 09 17.1 -0.7
baz=137
MVCO Mesa Verde 137.46 36 PFAKE 20 09 30.0 +14
MVCO LR LR
comp=Z,3μm,20.0s,MS6.0
W17A Winslow 137.50 40 ⇑PKiKP PKiKP 20 09 17.4 -0.6
baz=137
S21A Coal Bank Pass 137.56 35 ⇓PKiKP PKiKP 20 09 17.5 -0.5
baz=137
U19A Dine' College, 137.66 37 ⇑PKiKP PKiKP 20 09 17.6 -0.6
baz=138
ECSD EROS Data Cent 137.71 19 *e*PKPdf PKPdf 20 09 12.8 -3.3
ECSD *e*PP PP 20 12 00.1 -1.8
ECSD *e*SKP 20 12 49.8
ECSD LR LR
comp=Z,5μm,19.0s,MS6.3
R22A Saguache, Gunn 137.73 33 ⇓PKiKP PKiKP 20 09 17.7 -0.6
baz=138
Q23A Hartsel 137.73 32 ⇓PKiKP PKiKP 20 09 17.7 -0.6
baz=138
P24A Kohler Place, 137.75 30 ⇓PKiKP PKiKP 20 09 17.7 -0.6
baz=138
X17A Forest Lakes 137.90 41 ⇓PKiKP PKiKP 20 09 18.0 -0.8
baz=138
214A Organ Pipe Nat 137.93 45 ⇑PKiKP PKiKP 20 09 18.2 -0.7
baz=138
OGNE Ogallala 138.00 26 PFAKE 20 09 30.0 +13
OGNE LR LR
comp=Z,3μm,20.0s,MS6.0
U20A Newcomb 138.01 37 ⇑PKiKP PKiKP 20 09 18.5 -0.5
baz=138
S22A 4UR Ranch, Cre 138.04 34 ⇑PKiKP PKiKP 20 09 18.6 -0.3
baz=138
W18A Petrified Fore 138.10 39 ⇓PKiKP PKiKP 20 09 18.5 -0.6
baz=138
P25A Willow Gulch B 138.12 30 ⇑PKiKP PKiKP 20 09 18.7 -0.4
baz=138
V19A Window Rock 138.14 38 ⇓PKiKP PKiKP 20 09 18.6 -0.6
baz=138
T21A Navajo Lake 138.17 35 ⇑PKiKP PKiKP 20 09 18.8 -0.5
baz=138
Y17A Roosevelt 138.27 42 ⇑PKiKP PKiKP 20 09 18.5 -1.0
baz=138
W19A Sanders 138.32 39 ⇓PKiKP PKiKP 20 09 18.9 -0.8
baz=138
X18A Snowflake 138.34 40 ⇓PKiKP PKiKP 20 09 18.8 -0.9
baz=138
PKME Peaks-Kenny Pk 138.35 350 PFAKE 20 09 30.0 +13
PKME LR LR
comp=Z,7μm,19.0s,MS6.4
O27A Beecher Island 138.40 28 ⇑PKiKP PKiKP 20 09 18.9 -0.7
baz=138
V20A Brimhall 138.44 37 ⇓PKiKP PKiKP 20 09 19.1 -0.7
baz=138
P26A Davis Ranch, A 138.49 29 ⇑PKiKP PKiKP 20 09 19.1 -0.7
baz=138
U21A Nageezi 138.49 36 ⇑PKiKP PKiKP 20 09 19.7 -0.2
baz=138
T22A Edith 138.51 35 ⇓PKiKP PKiKP 20 09 19.4 -0.6
baz=138
Q25A Bedland, Calha 138.54 30 ⇓PKiKP PKiKP 20 09 19.5 -0.5
baz=138
R24A Sanders Place, 138.61 32 ⇓PKiKP PKiKP 20 09 19.8 -0.3
baz=138
SPB Sao Paulo 138.68 226 PFAKE 20 09 30.0 +11
SPB LR LR
comp=Z,2μm,19.0s,MS6.0
Y18A Canyon Day Jun 138.75 41 ⇑PKiKP PKiKP 20 09 19.8 -0.7
baz=139
Z17A San Carlos Hig 138.76 42 ⇓PKiKP PKiKP 20 09 20.0 -0.6
baz=139
SDCO Great Sand Dun 138.76 33 *e*PKPdf PKPdf 20 09 17.9 -0.4
SDCO LR LR
comp=Z,4μm,21.0s,MS6.1
X19A St. Johns 138.82 39 ⇑PKiKP PKiKP 20 09 20.2 -0.5
baz=139
W20A Ramah 138.86 38 ⇑PKiKP PKiKP 20 09 20.1 -0.6
baz=139
Q26A Hugo 138.90 30 ⇓PKiKP PKiKP 20 09 20.2 -0.5
baz=139
V21A Milan 138.93 37 ⇓PKiKP PKiKP 20 09 20.5 -0.4
baz=139
T23A Casias Ranch, 138.99 34 ⇑PKiKP PKiKP 20 09 20.6 -0.4
baz=139
U22A Llaves 138.99 35 ⇑PKiKP PKiKP 20 09 20.0 -0.9
baz=139
S24A Houchin Ranch, 139.00 32 ⇓PKiKP PKiKP 20 09 20.2 -0.7
baz=139
R25A Fountain Ranch 139.11 31 ⇓PKiKP PKiKP 20 09 20.2 -0.9
baz=139
TUC Tucson 139.14 43 *e*PKPpre PKPpre 20 09 11.7
TUC *e*PKPdf PKPdf 20 09 19.9 +0.7
TUC LR LR
comp=Z,2μm,22.0s,MS5.9
TUC Tucson 139.14 43 *e*PKHKP PKPpre 20 09 11.7
TUC *e* 20 09 19.9
TUC MLR MLR
comp=Z,2μm,22.0s,MS5.9
Y19A Nutrioso 139.15 40 ⇓PKiKP PKiKP 20 09 20.7 -0.6
baz=139
X20A Quemado 139.25 39 ⇑PKiKP PKiKP 20 09 20.9 -0.6
baz=139
V22A San Miguel Ran 139.28 36 ⇑PKiKP PKiKP 20 09 21.1 -0.4
baz=139
GLMI Grayling 139.32 6 PFAKE 20 09 30.0 +11
GLMI LR LR
comp=Z,3μm,19.0s,MS6.1
W21A San Fidel 139.39 37 ⇑PKiKP PKiKP 20 09 21.0 -0.8
baz=139
S25A Robets Cordova 139.39 32 ⇑PKiKP PKiKP 20 09 20.6 -1.2
baz=139
U23A El Rito 139.40 35 ⇓PKiKP PKiKP 20 09 20.8 -1.0
baz=139
R26A Arlington 139.41 30 ⇑PKiKP PKiKP 20 09 20.6 -1.2
baz=139
T24A Torres, Weston 139.50 33 ⇓PKiKP PKiKP 20 09 21.2 -0.7
baz=139
LONY Lake Ozonia 139.67 355 PFAKE 20 09 30.0 +10
LONY LR LR
comp=Z,5μm,21.0s,MS6.3
SADO Sadowa 139.70 0 PP PP 20 12 12.6 -1.3
comp=Z,6.9nm,1.0s,baz=354,slow=8.2,SNR=3.7
SADO Sadowa 139.70 0 PP PP 20 12 12.6 -1.3
Y20A Horse Springs, 139.73 39 ⇑PKiKP PKiKP 20 09 21.8 -0.7
baz=140
R27A Eads 139.75 30 ⇑PKiKP PKiKP 20 09 20.9 -1.6
baz=140
X21A Alamocita Cree 139.75 38 ⇑PKiKP PKiKP 20 09 21.6 -1.0
baz=140
LBNH Lisbon 139.76 352 PFAKE 20 09 30.0 +10
LBNH LR LR
comp=Z,4μm,20.0s,MS6.2
T25A Trinidad 139.79 32 ⇑PKiKP PKiKP 20 09 21.6 -0.9
baz=140
V23A Ortiz Mt. (NFS 139.82 35 ⇓PKiKP PKiKP 20 09 22.1 -0.5
baz=140
218A Dragoon 139.84 43 ⇓PKiKP PKiKP 20 09 21.9 -0.9
baz=140
119A Ashpeak Ranch, 139.86 41 ⇑PKiKP PKiKP 20 09 22.2 -0.6
baz=140
S26A Kim 139.92 31 ⇑PKiKP PKiKP 20 09 21.6 -1.2
baz=140
Z20A Nine Sixteen R 140.11 40 ⇑PKiKP PKiKP 20 09 22.4 -1.0
baz=140
Y21A Point of Rocks 140.11 39 ⇑PKiKP PKiKP 20 09 22.5 -0.8
baz=140
S27A Las Animas 140.16 30 ⇓PKiKP PKiKP 20 09 22.3 -1.0
baz=140
ANMO Albuquerque 140.21 36 PKhKP PKPpre 20 09 17.3
comp=Z,1.7nm,0.6s,baz=1.1,slow=4.7,SNR=5.8
ANMO SKPbc SKPbc 20 12 57.5 +2.4
comp=Z,2.2nm,0.9s,baz=297,slow=4.7,SNR=4.2
ANMO Albuquerque 140.21 36 *e*PKPpre PKPpre 20 09 14.5
ANMO PKPpre PKPpre 20 09 17.3
ANMO SKPbc SKPbc 20 12 57.5 +2.4
ANMO LR LR
comp=Z,3μm,20.0s,MS6.1
ANMO Albuquerque 140.21 36 *e*PKHKP PKPpre 20 09 14.5
ANMO *e* 20 09 17.3
ANMO MLR MLR
comp=Z,3μm,20.0s
JFWS Jewell Farm 140.24 13 PFAKE 20 09 30.0 +9.2
JFWS LR LR
comp=Z,4μm,20.0s,MS6.1
W23A Werner Place, 140.25 36 ⇑PKiKP PKiKP 20 09 22.8 -0.8
baz=140
NCB Newcomb 140.28 355 PFAKE 20 09 30.0 +9.2
NCB LR LR
comp=Z,5μm,21.0s,MS6.2
U25A Circle Dot Ran 140.34 33 ⇑PKiKP PKiKP 20 09 22.8 -0.9
baz=140
V24A Rampart Ranch, 140.35 35 ⇓PKiKP PKiKP 20 09 22.8 -0.9
baz=140
SCIA State Center 140.42 17 PFAKE 20 09 30.0 +8.9
SCIA LR LR
comp=Z,5μm,22.0s,MS6.2
120A U Bar Ranch, L 140.44 41 ⇑PKiKP PKiKP 20 09 23.1 -0.9
baz=140
Y22D IRIS PASSCAL I 140.53 38 ⇓PKiKP PKiKP 20 09 23.2 -1.0
baz=140
LPM Los Pinos Moun 140.55 37 *e*PKPdf PKPdf 20 09 22.5 +0.9
LPM *e*SKP 20 12 55.0
Z21A St. Cloud Mine 140.57 39 ⇓PKiKP PKiKP 20 09 23.4 -0.9
baz=140
Y22A Socorro 140.60 38 ⇑PKiKP PKiKP 20 09 23.2 -1.1
baz=140
X23A Hourglass Bar 140.63 37 ⇓PKiKP PKiKP 20 09 23.3 -1.0
baz=140

V25A	Rancho No Teng	140.64	34	⇑PKiKP	PKiKP	20 09 23.3	-1.0
	baz=140							
W24A	Lazy 6 Ranch,	140.65	35	⇑PKiKP	PKiKP	20 09 23.4	-0.9
	baz=140							
BNM	Barren Site	140.66	38	*e*PKPpre	PKPpre	20 09 17.2		
U26A	Atchley Ranch,	140.71	32	⇓PKiKP	PKiKP	20 09 22.9	-1.5
	baz=140							
319A	Douglas	140.72	43	⇑PKiKP	PKiKP	20 09 23.0	-1.7
	baz=141							
T27A	Campo	140.73	31	⇓PKiKP	PKiKP	20 09 22.8	-1.7
	baz=141							
CBKS	Cedar Bluff	140.75	26	PFAKE		20 09 30.0	+8.1
CBKS				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
220A	Playas Peak, P	140.91	42	⇓PKiKP	PKiKP	20 09 24.0	-1.0
	baz=141						
121A	Cookes Peak, D	141.00	40	⇑PKiKP	PKiKP	20 09 23.8	-1.4
	baz=141						
Z22A	Elephant Butte	141.05	39	⇑PKiKP	PKiKP	20 09 23.6	-1.6
	baz=141						
X24A	Lazy VL Ranch,	141.09	36	⇑PKiKP	PKiKP	20 09 23.8	-1.5
	baz=141						
Y23A	Lovelace Mesa,	141.16	37	⇑PKiKP	PKiKP	20 09 24.1	-1.4
	baz=141						
W25A	X Bar L Ranch,	141.18	34	⇑PKiKP	PKiKP	20 09 24.0	-1.4
	baz=141						
221A	Mesquite Ranch	141.34	41	⇑PKiKP	PKiKP	20 09 24.4	-1.5
	baz=141						
122A	Conniff Cattle	141.40	40	⇓PKiKP	PKiKP	20 09 24.6	-1.4
	baz=141						
Z23A	Rita Site, Whi	141.50	38	⇑PKiKP	PKiKP	20 09 24.8	-1.3
	baz=141						
Y24A	Capitan	141.53	37	⇓PKiKP	PKiKP	20 09 24.7	-1.5
	baz=141						
X25A	Clemmons Ranch	141.56	35	⇑PKiKP	PKiKP	20 09 24.6	-1.7
	baz=141						
W26A	Owens Ranch, T	141.66	34	⇓PKiKP	PKiKP	20 09 24.7	-1.8
	baz=142						
222A	Williams Famil	141.72	40	⇓PKiKP	PKiKP	20 09 25.0	-1.6
	baz=142						
KSU1	Kansas State U	141.79	23	*e*PKPdf	PKPdf	20 09 18.8	-5.0
KSU1				LR	LR		
	comp=Z,6μm,21.0s,MS6.3						
123A	Bell Site, Whi	141.90	39	⇓PKPdf	PKPdf	20 09 20.8	-3.3
	baz=142						
AAM	Ann Arbor	141.92	6	PFAKE		20 09 40.0	+16
AAM				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
Y25A	Mesa, Roswell	141.97	36	⇑PKPdf	PKPdf	20 09 20.7	-3.5
	baz=142						
Z24A	Sheeppen Canyo	141.99	37	⇑PKPdf	PKPdf	20 09 20.6	-3.6
	baz=142						
X26A	CR and CF Fran	142.03	34	⇑PKPdf	PKPdf	20 09 20.8	-3.4
	baz=142						
W27A	Bowe Ranch, En	142.07	33	⇑PKPdf	PKPdf	20 09 20.8	-3.5
	baz=142						
BINY	Binghamton	142.18	357	PFAKE		20 09 40.0	+16
BINY				LR	LR		
	comp=Z,6μm,20.0s,MS6.4						
ERPA	Erie	142.33	1	PFAKE		20 09 40.0	+15
ERPA				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
X27A	F and S Farms,	142.36	34	⇑PKPdf	PKPdf	20 09 22.1	-2.8
	baz=142						
Z25A	Roswell	142.41	37	⇑PKPdf	PKPdf	20 09 22.3	-2.7
	baz=142						
Y26A	Elida	142.48	35	⇓PKPdf	PKPdf	20 09 22.5	-2.6
	baz=142						
HDIL	Hopedale	142.70	13	PFAKE		20 09 40.0	+15
HDIL				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
224A	Cornudas Mount	142.74	39	⇓PKPdf	PKPdf	20 09 23.3	-2.3
	baz=143						
Z26A	Caprock	142.85	36	⇓PKPdf	PKPdf	20 09 23.1	-2.6
	baz=143						
125A	Gardner Draw,	142.88	37	⇑PKPdf	PKPdf	20 09 23.7	-2.1
	baz=143						
Y27A	Causey	142.88	35	⇑PKPdf	PKPdf	20 09 23.3	-2.6
	baz=143						
AMTX	Amarillo	142.94	32	PFAKE		20 09 40.0	+14
AMTX				LR	LR		
	comp=Z,4μm,21.0s,MS6.2						
MSTX	Muleshoe	143.04	34	⇓PKPdf	PKPdf	20 09 23.6	-2.5
	baz=143						
MNTX	Cornudas Mount	143.08	39	*e*PKPdf	PKPdf	20 09 22.3	-3.9
MNTX				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
CPUP	Villa Florida	143.10	213	PKP	PKPdf	20 09 24.8	-1.6
	comp=Z,1.4nm,0.6s,baz=150,slow=5.6,SNR=5.9						
CPUP	Villa Florida	143.10	213	PKP	PKPdf	20 09 24.8	-1.6
CPUP				LR	LR		
	comp=Z,506nm,19.0s,MS5.3						
CPUP	Villa Florida	143.10	213	PKIKP	PKPdf	20 09 24.8	-1.6
CPUP				MLR	MLR		
	comp=Z,506nm,19.0s						
225A	Deer Hill, Car	143.16	38	⇓PKPdf	PKPdf	20 09 24.5	-1.8
	baz=143						
324A	Moseley Ranch,	143.19	40	⇑PKPdf	PKPdf	20 09 24.4	-2.0
	baz=143						
Z27A	Tatum	143.27	35	⇓PKPdf	PKPdf	20 09 24.3	-2.2
	baz=143						
126A	Clayton Basin,	143.27	37	⇓PKPdf	PKPdf	20 09 24.7	-1.8
	baz=143						
SFIN	Scholer Farm	143.32	11	⇑PKPdf	PKPdf	20 09 24.1	-2.3
	baz=143						
325A	Bean Ranch, Si	143.56	39	⇑PKPdf	PKPdf	20 09 26.0	-1.1
	baz=143						
CLNB	Carlsbad	143.62	37	*e*PKPdf	PKPdf	20 09 25.0	-2.2
226A	Malaga, Loving	143.63	38	⇓PKPdf	PKPdf	20 09 25.8	-1.4
	baz=144						
ACSO	Alum Creek Sta	144.04	5	*e*PKPdf	PKPdf	20 09 24.2	-3.5
ACSO				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
SLM	Saint Louis	144.29	15	*e*PKPdf	PKPdf	20 09 23.7	-4.5
SLM	Saint Louis	144.29	15	*e*PKHKP	PKPpre	20 09 23.7	
WMOK	Wichita Mounta	144.53	29	*e*PKPdf	PKPdf	20 09 26.3	-2.4
WMOK				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
WMOK	Wichita Mounta	144.53	29	*e*PKIKP	PKPdf	20 09 26.3	-2.4
WMOK				MLR	MLR		
	comp=Z,4μm,20.0s,MS6.2						
BLO	Bloomington	144.60	10	*e*PKPdf	PKPdf	20 09 26.3	-2.4
BLO	Bloomington	144.60	10	*e*PKIKP	PKPdf	20 09 26.3	-2.4
OLIL	Olney	144.71	13	*e*PKPdf	PKPdf	20 09 27.1	-1.7
TLL	Tololo Astrono	144.87	192	*e*P	PKPdf	20 09 29.0	-0.4
TLL	Tololo Astrono	144.87	192	*e*PKIKP	PKPdf	20 09 29.0	-0.4
TLL	Tololo Astrono	144.87	192	*e*P	PKPdf	20 09 29.0	-0.4
SIUC	Southern Illin	145.42	15	*e*PKPdf	PKPdf	20 09 29.5	-0.6
USIN	University of	145.54	12	*e*PKPdf	PKPdf	20 09 28.6	-1.7
WCI	Wyandotte Cave	145.56	10	*e*PKPdf	PKPdf	20 09 29.8	-0.6
WCI	Wyandotte Cave	145.56	10	*e*PKIKP	PKPdf	20 09 29.8	-0.5
TXAR	Lajitas Array	145.76	41	PKPbc	PKPbc	20 09 31.8	+0.4
	comp=Z,34nm,0.8s,baz=300,slow=1.4,SNR=215						
TXAR				pPKPbc	pPKPbc	20 09 42.3	+0.8
	comp=Z,54nm,0.7s,baz=280,slow=0.4,SNR=22						
TXAR	Lajitas Array	145.76	41	PKPbc	PKPbc	20 09 31.8	+0.4
TXAR				pPKPbc	pPKPbc	20 09 42.3	+0.8
TXAR	Lajitas Array	145.76	41	PKP2	PKPab	20 09 31.8	+0.1
LCO	Las Campanas	145.97	193	*e*PKPdf	PKPdf	20 09 31.7	+0.4
LCO				LR	LR		
	comp=Z,5μm,19.0s,MS6.3						
CBN	Corbin	146.23	358	PFAKE		20 09 40.0	+8.5
CBN				LR	LR		
	comp=Z,4μm,22.0s,MS6.2						
UTMT	University of	146.81	15	*e*PKPdf	PKPdf	20 09 32.3	-0.2
MIAR	Mount Ida	146.95	23	*e*PKPdf	PKPdf	20 09 34.5	+1.6
MIAR				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
UALR	University of	147.20	21	*e*PKPdf	PKPdf	20 09 34.8	+1.5
BLA	Blacksburg	147.22	2	*e*PKPdf	PKPdf	20 09 34.0	+0.8
BLA				LR	LR		
	comp=Z,3μm,21.0s,MS6.1						
WVT	Waverly	147.26	14	*e*PKPdf	PKPdf	20 09 34.2	+0.9
JCT	Junction City	147.31	35	*e*PKPdf	PKPdf	20 09 33.9	+0.4
JCT				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
PLAL	Pickwick Lake	148.30	14	*e*PKPdf	PKPdf	20 09 32.0	-3.0
PLAL				*e*PKPbc	PKPbc	20 09 37.2	-1.2
PLAL				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
TKL	Tuckaleechee C	148.47	8	PKPbc	PKPbc	20 09 38.5	-0.4
	comp=Z,39nm,0.6s,baz=128,slow=3.0,SNR=39						
TKL	Tuckaleechee C	148.47	8	*e*PKPdf	PKPdf	20 09 36.1	+0.8
TKL				*e*PKPbc	PKPbc	20 09 38.0	-0.8
TKL				PKPbc	PKPbc	20 09 38.5	-0.4
TKL	Tuckaleechee C	148.47	8	*e*PKIKP	PKPdf	20 09 36.1	+0.8
TKL						20 09 38.5	
SWET	Sewanee	148.55	11	*e*PKPdf	PKPdf	20 09 38.0	+2.5
CPCT	Cooper Cave	148.57	9	*e*PKPdf	PKPdf	20 09 38.5	+3.0
NATX	Nacogdoches	148.91	27	*e*PKPbc	PKPbc	20 09 39.5	-0.6
NATX				LR	LR		
	comp=Z,5μm,19.0s,MS6.3						
BBSR	BB Station	149.09	336	PFAKE		20 09 50.0	+14
BBSR				LR	LR		
	comp=Z,3μm,19.0s,MS6.1						
CNNC	Cliffs of the	149.20	358	PFAKE		20 09 50.0	+14
CNNC				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
HKT	Hockley	149.86	30	*e*PKPdf	PKPdf	20 09 37.9	+0.2
JSC	Jenkinsville	150.09	4	*e*PKPbc	PKPbc	20 09 42.4	-0.5
VBMS	Vicksburg	150.15	20	*e*PKPbc	PKPbc	20 09 42.7	-0.5
VBMS				LR	LR		
	comp=Z,4μm,21.0s,MS6.2						
LRAL	Lakeview Retre	150.42	14	*e*PKPbc	PKPbc	20 09 42.6	-1.2
LRAL				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
KVTX	Kingsville	150.61	36	PFAKE		20 09 50.0	+11
KVTX				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
GOGA	Godfrey	150.72	8	*e*PKPbc	PKPbc	20 09 43.3	-1.2
GOGA				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
COW	Cow Castle Cre	151.02	3	*e*PKPbc	PKPbc	20 09 43.1	-2.1
NHSC	New Hope	151.32	2	*e*PKPdf	PKPdf	20 09 39.4	-0.4
NHSC				*e*PKPbc	PKPbc	20 09 46.4	+0.5
NHSC				*e*PKPab	PKPab	20 09 53.6	-0.1
NHSC				LR	LR		
	comp=Z,4μm,19.0s,MS6.3						
LVC	Limon Verde	151.54	200	*e*PKPdf	PKPdf	20 09 42.3	+1.8
LVC				*e*PKPbc	PKPbc	20 09 47.5	+0.8
LVC				LR	LR		
	comp=Z,2μm,20.0s,MS6.0						
BRAL	Brewton	152.33	15	PFAKE		20 09 50.0	+8.5
BRAL				LR	LR		
	comp=Z,5μm,20.0s,MS6.3						
DWPF	Disney	156.20	6	*e*PKPab	PKPab	20 10 14.8	+0.3
LPAZ	La Paz	156.96	207	PKP	PKPdf	20 09 48.5	+0.3
	comp=Z,0.8nm,0.7s,baz=74,slow=4.2,SNR=3.0						
LPAZ	La Paz	156.96	207	*e*PKPdf	PKPdf	20 09 48.6	+0.4
LPAZ				*e*PKPbc	PKPdf	20 09 57.4	+9.1
LPAZ				LR	LR		
	comp=Z,3μm,20.0s,MS6.2						
LPAZ	La Paz	156.96	207	*e*PKIKP	PKPdf	20 09 48.6	+0.4
LPAZ				*e*		20 09 57.4	
LPAZ				MLR	MLR		
	comp=Z,3μm,20.0s						
ANWB	Willy Bob	158.65	310	PFAKE		20 10 00.0	+10
ANWB				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
BBGH	Gun Hill	159.02	296	PFAKE		20 10 00.0	+9.2
BBGH				LR	LR		
	comp=Z,4μm,19.0s,MS6.3						
SAML	Samuel	159.57	230	*e*PKPdf	PKPdf	20 09 49.6	-1.9
SAML				*e*PKPbc	PKPdf	20 09 59.8	+8.3
SAML				LR	LR		
	comp=Z,5μm,20.0s,MS6.3						
FDF	Fort de France	159.71	302	PFAKE		20 10 00.0	+8.4
FDF				LR	LR		
	comp=Z,2μm,20.0s,MS6.0						
GRGR	Grenville	161.29	296	PFAKE		20 10 00.0	+6.7
GRGR				LR	LR		
	comp=Z,2μm,20.0s						
TEIG	Tepich	161.71	29	PFAKE		20 10 00.0	+6.4
TEIG				LR	LR		
	comp=Z,4μm,20.0s						
SDDR	Presa de Saban	163.64	334	PFAKE		20 10 10.0	+14
SDDR				LR	LR		
	comp=Z,4μm,22.0s						
NNA	Nana	163.69	187	PFAKE		20 10 10.0	+14
NNA				LR	LR		
	comp=Z,3μm,20.0s						
GTBY	Guantanamo Bay	164.05	347	PFAKE		20 10 10.0	+14
GTBY				LR	LR		
	comp=Z,3μm,21.0s						
MTDJ	Mount Denham	166.10	355	PFAKE		20 10 10.0	+12
MTDJ				LR	LR		
	comp=Z,3μm,20.0s						
TGUH	Tegucigalpa,Un	167.24	40	PFAKE		20 10 10.0	+11
TGUH				LR	LR		
	comp=Z,3μm,20.0s						
SDV	Santo Domingo	170.65	300	PFAKE		20 10 10.0	+9.1
SDV				LR	LR		
	comp=Z,2μm,19.0s						
JTS	JuntasAbangare	171.52	45	PFAKE		20 10 10.0	+8.7
JTS				LR	LR		
	comp=Z,3μm,20.0s						
BCIP	Isla Barro Col	175.07	11	PFAKE		20 10 10.0	+7.3
BCIP				LR	LR		
	comp=Z,4μm,20.0s						
OTAV	Otavalo	175.94	186	*e*PKPdf	PKPdf	20 10 02.1	-0.9
OTAV				*e*		20 10 10.9	
OTAV				*e*PKPab	PKPab	20 11 45.2	+3.6
OTAV				LR	LR		
	comp=Z,3μm,21.0s						

CSEM ***30*** *20:01:30.3±0.3, 32°.51N×16°.70W, h20km, ML2.9, Error ellipse: s-maj=11.1km s-min=6.0km az=79.0*
MDD ***30*** *20:01:31.4±0.5, 32°.56N×16°.70W, h27km±17km, mb4.5/5, Error ellipse: s-maj=23.0km s-min=6.1km az=127.0, PRXIMO*
INMG ***30*** *20:01:34.2±1.0, 32°.56N×16°.69W, h5km±6km, MD2.4, ML2.9, Error ellipse: s-maj=3.4km s-min=2.5km az=98.0*

ISC 30 20:01:29.8±0.7, 32°.48N±0°.08×16°.65W±0°.07, h27km±18km, n23, σ1.9±38/44, 1C-1D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FUL	Funchal	0.26	305	*i* P		Pb	20 01 37.3	+0.8
FUL				*i* S		Sb	20 01 40.1	-1.0
FUL				A			20 01 40.8	
	4μm,0.1s							
FUL	Funchal	0.26	305	⇓P		Pb	20 01 37.3	+0.8
FUL				S		Sb	20 01 40.1	-1.0
	2μm,0.1s							
FUL	Funchal	0.26	305	*i* S		Sb	20 01 40.1	-1.0
	4μm,0.1s							
PMAR	Madeira	0.33	317	*e*P		Pb	20 01 38.1	+0.6
PMAR				*i* S		Sb	20 01 41.6	-1.1
PMAR				A			20 01 43.1	
	6μm,0.2s							
PMAR	Madeira	0.33	317	P		Pb	20 01 38.1	+0.6
PMAR				S		Sb	20 01 41.6	-1.1
	3μm,0.2s							
PMAR	Madeira	0.33	317	*e*P		Pb	20 01 38.1	+0.6
PMAR				*i* S		Sb	20 01 41.6	-1.1
	6μm,0.2s							
PMOZ	Porto Moniz, M	0.58	306	*e*P		Pb	20 01 42.0	+0.6
PMOZ				*e*S		Sb	20 01 48.3	-1.0
PMOZ				A			20 01 49.5	
	1μm,0.1s							
PMPS	Porto Santo	0.63	25	*i* P		Pb	20 01 42.9	+0.6
PMPS				*e*S		Sb	20 01 50.1	-0.7
PMPS				A			20 01 54.4	
	269nm,0.2s							
PMPS	Porto Santo	0.63	25	⇑P		Pb	20 01 42.9	+0.6
PMPS				S		Sb	20 01 50.1	-0.7
	134nm,0.2s							
PMPS	Porto Santo	0.63	25	*e*S		Sb	20 01 50.1	-0.7
	269nm,0.2s							
PMPST	Porto Santo, M	0.65	24	*i* P		Pb	20 01 43.2	+0.5
PMPST				*i* S		Sb	20 01 50.3	-1.1
PMPST				A			20 01 52.9	
	240nm,0.1s							
EBAJ	Bajamar	3.94	176	P		Pn	20 02 30.4	+2.0
	3.2nm,0.2s,SNR=4.0							
EBAJ				S		Sn	20 03 13.4	-0.3
	0.7nm,0.1s,SNR=4.0							
EBAJ	Bajamar	3.94	176	P		Pn	20 02 30.4	+2.0
	3.2nm,0.2s,SNR=4.0							
EBAJ				S		Sn	20 03 13.4	-0.3
	0.7nm,0.1s,SNR=4.0							
EHIG	Higuera	4.04	195	P		Pn	20 02 32.0	+2.2
	11nm,0.2s,SNR=7.9							
EHIG				S		Sn	20 03 16.0	-0.2
	9.6nm,0.1s,SNR=7.9							
EHIG	Higuera	4.04	195	P		Pn	20 02 32.0	+2.2
	11nm,0.2s,SNR=7.9							
EHIG				S		Sn	20 03 16.0	-0.2
	9.6nm,0.1s,SNR=7.9							
CCAN	Las Canadas	4.25	180	P		Pn	20 02 34.2	+1.6
	2.1nm,0.1s,SNR=7.9							
CCAN				S		Sn	20 03 18.9	-2.4
	0.6nm,0.1s,SNR=7.9							
CCAN	Las Canadas	4.25	180	P		Pn	20 02 34.2	+1.5
	2.1nm,0.1s,SNR=7.9							
CCAN				S		Sn	20 03 18.9	-2.4
	0.6nm,0.1s,SNR=7.9							
EGOM	La Gomera	4.33	187	P		Pn	20 02 34.6	+0.7
	3.2nm,0.1s,SNR=10							
EGOM				S		Sn	20 03 21.4	-2.1
	2.2nm,0.1s,SNR=7.9							
EGOM	La Gomera	4.33	187	P		Pn	20 02 34.6	+0.7
	3.2nm,0.1s,SNR=10							
EGOM				S		Sn	20 03 21.4	-2.1
	2.2nm,0.1s,SNR=7.9							
CFUE	Fuerteventura	4.48	148	P		Pn	20 02 38.8	+2.9
	8.1nm,0.2s,SNR=7.9							
CFUE				S		Sn	20 03 25.2	-1.8
	2.1nm,0.1s,SNR=7.9							
CFUE	Fuerteventura	4.48	148	P		Pn	20 02 38.8	+2.9
	8.1nm,0.2s,SNR=7.9							
CFUE				S		Sn	20 03 25.2	-1.9
	2.1nm,0.1s,SNR=7.9							
CFTV	Fuerteventura	4.62	151	P		Pn	20 02 39.9	+2.1
	0.5nm,0.1s,SNR=7.9							
CFTV				S		Sn	20 03 28.8	-1.7
	1.6nm,0.2s,SNR=4.0							
CFTV	Fuerteventura	4.62	151	P		Pn	20 02 39.9	+2.1
	0.5nm,0.1s,SNR=7.9							
CFTV				S		Sn	20 03 28.8	-1.7
	1.6nm,0.2s,SNR=4.0							

ISCJB ***30*** *20:05:27.7±0.6, 4°.31S±0°.10×101°.3E±0°.1, h27km, mb4.3/25, Error ellipse: s-maj=19.6km s-min=7.3km az=137.6*
NEIC ***30*** *20:05:27.1±0.5, 4°.31S×101°.25E, h10km, mb4.5/14, Error ellipse: s-maj=16.1km s-min=5.8km az=50.0*
IDC ***30*** *20:05:30.1±1.3, 4°.26S×101°.19E, h27km±4km, mb3.9/12, mb1 3.9/12, mb1mx3.8/22, mbtmp3.9/12, Error ellipse: s-maj=47.5km s-min=13.9km az=55.0*

ISC 30 20:05:30.3±0.6, 4°.26S±0°.09×101°.3E±0°.1, h28km, h28km±.3km: pP-P, n59, σ0.93/57, mb4.3/25, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	9.51	356	*e*P		Pn	20 07 43.5	-1.9
KKM	Kota Kinabalu	18.06	56	*e*Pn		Pn	20 09 40.7	+1.4
CM31	Chiang Mai Arr	22.69	354	*e*P		P	20 10 28.9	-0.8
	7.1nm,1.0s,mb4.0							
CMAR	Chiang Mai Arr	22.69	354	P		P	20 10 28.2	-1.5
	3.5nm,0.8s,mb3.8,baz=184,slow=8.9,SNR=22							
CMAR	Chiang Mai Arr	22.69	354	P		P	20 10 28.2	-1.5
CHTO	Chiang Mai	23.05	354	*e*P		P	20 10 32.6	-0.8
	3.1nm,0.9s,mb3.7							
FITZ	Fitzroy Crossi	27.49	122	P		P	20 11 13.7	-0.7
	1.8nm,0.7s,mb3.7,baz=338,slow=11,SNR=3.4							
FITZ	Fitzroy Crossi	27.49	122	P		P	20 11 13.7	-0.7
ODAN	Odare	33.74	337	*e*P		P	20 12 10.4	+0.9
	11nm,0.7s,mb4.9							
ODAN	Odare	33.74	337	*e*P		P	20 12 10.4	+0.9
	11nm,0.7s,mb4.9							
TAPN	Taplejung	34.06	338	*e*P		P	20 12 13.4	+1.2
	15nm,0.9s,mb4.9							
TAPN	Taplejung	34.06	338	*e*P		P	20 12 13.4	+1.2
	15nm,0.9s,mb4.9							
RAMN	Ramite	34.13	336	*e*P		P	20 12 14.1	+1.2
	6.6nm,0.7s,mb4.7							
RAMN	Ramite	34.13	336	*e*P		P	20 12 14.1	+1.2
	6.6nm,0.7s,mb4.7							
JIRN	Jiri	34.93	336	*e*P		P	20 12 21.0	+1.2
	6.8nm,0.7s,mb4.7							
JIRN	Jiri	34.93	336	*e*P		P	20 12 21.0	+1.2
	6.8nm,0.7s,mb4.7							
ENH	Enshi	35.22	12	*e*P		P	20 12 21.9	-0.3
	18nm,1.2s,mb4.9							
GUN	Gumba	35.27	336	*e*P		P	20 12 23.9	+1.2
	11nm,0.7s,mb4.9							
GUN	Gumba	35.27	336	*e*P		P	20 12 23.9	+1.2
	11nm,0.7s,mb4.9							
DMN	Daman	35.33	335	*e*P		P	20 12 24.3	+1.1
	9.9nm,1.0s,mb4.7							
DMN	Daman	35.33	335	*e*P		P	20 12 24.3	+1.1
	9.9nm,1.0s,mb4.7							
KKN	Kakani	35.42	335	*e*P		P	20 12 24.7	+0.7
KKN	Kakani	35.42	335	*e*P		P	20 12 24.7	+0.7
WRA	Warramunga Arr	35.75	119	P		P	20 12 27.0	0.0
	0.7nm,0.5s,mb3.8,baz=302,slow=9.0,SNR=10							
WRA	Warramunga Arr	35.75	119	P		P	20 12 27.0	0.0
WRAB	Tennant Creek	35.75	119	*e*P		P	20 12 26.7	-0.3
GKN	Gorkha	35.88	334	*e*P		P	20 12 28.3	+0.4
GKN	Gorkha	35.88	334	*e*P		P	20 12 28.3	+0.4
KOLN	Koldanda	36.14	333	*e*P		P	20 12 30.5	+0.4
KOLN	Koldanda	36.14	333	*e*P		P	20 12 30.5	+0.4
AS31	Alice Springs	36.88	125	P		P	20 12 36.2	-0.4
ASAR	Alice Springs	36.88	125	P		P	20 12 37.3	+0.7
	0.4nm,0.5s,mb3.5,baz=299,slow=7.5,SNR=5.8							
ASAR	Alice Springs	36.88	125	P		P	20 12 37.3	+0.7
PMG	Port Moresby	45.78	99	P		P	20 13 48.7	-1.1
STKA	Stephens Creek	46.68	131	P		P	20 13 58.2	+1.5
	1.2nm,0.7s,mb3.9,baz=323,slow=10,SNR=3.2							
STKA	Stephens Creek	46.68	131	*e*P		P	20 13 55.1	-1.6
KSAR	Wonju Array Be	48.30	28	P		P	20 14 09.9	+0.9
KSRS	Korea Array	48.33	29	P		P	20 14 09.9	+0.6
	2.3nm,0.9s,mb4.2,baz=218,slow=9.6,SNR=4.5							
KBL	Kabul	49.12	324	P		P	20 14 15.2	-0.2
SONM	Songino Array	52.07	4	P		P	20 14 38.7	+1.2
	3.0nm,0.8s,mb4.3,baz=185,slow=9.2,SNR=25							
SONM			

SFJM *i* S Sn 20 09 59.0 -1.8
R15V **0.96 188** *i* P Pn 20 09 40.7 -1.2
R15V *e*S Sn 20 09 59.6 -2.9
ANIG **Ahuacatlan** **1.12 325** *i* P Pn 20 09 40.7 -2.5
ANIG *e*S Sn 20 10 02.6 -2.1
CJM **Chamela** **1.30 241** *i* P Pn 20 09 43.6 -1.1
CJM *i* S Sn 20 10 05.7 -1.6
MMIG **Aquila** **1.89 166** *i* P Pn 20 09 48.4 -2.1
MMIG *e*S Sn 20 10 14.8 -3.0

IDC 30 20:19:16.5±2.3, 9°34N×127°47E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=228.3km s-min=22.0km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.87**	**167**	P	P	20 25 25.8	-0.1
	0.3nm,0.5s,baz=349,slow=9.9,SNR=9.5						
ASAR	**Alice Springs**	**33.40**	**169**	P	P	20 25 56.9	0.0
	0.6nm,1.1s,baz=357,slow=7.2,SNR=3.5						
ASAR				PcP	PcP	20 28 38.9	+0.2
	0.4nm,0.5s,baz=354,slow=2.6,SNR=5.2						
MKAR	**Makanchi Array**	**53.48**	**323**	P	P	20 28 38.2	-0.3
	0.3nm,0.6s,baz=124,slow=7.4,SNR=6.1						
ZALV	**Zalesovo Beam**	**56.01**	**331**	P	P	20 28 56.9	+0.1
	0.5nm,0.4s,baz=116,slow=6.6,SNR=5.2						

*IDC **30** 20:29:07.2±3.1, 21°11S×176°64W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=161.0km s-min=36.9km az=150.0*

NEIC 30 20:29:19.1±1.1, 21°65S×176°54W, h100km, mb4.5/1, Error ellipse: s-maj=27.7km s-min=21.1km az=112.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.43**	**197**	Pn	Pn	20 33 15.7	-0.1
CTA	**Charters Tower**	**34.75**	**266**	P	P	20 36 00.3	+0.4
	1.8nm,0.8s,baz=117,slow=11,SNR=4.2						
CTA	**Charters Tower**	**34.75**	**266**	P	P	20 36 00.3	+0.4
CTAO	**Charters Tower**	**34.75**	**266**	*e*P	P	20 36 00.3	+0.4
	9.6nm,1.4s						
STKA	**Stephens Creek**	**38.54**	**246**	P	P	20 36 33.5	+1.5
	0.8nm,0.5s,baz=85,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**38.54**	**246**	P	P	20 36 33.3	+1.3
ASAR	**Alice Springs**	**45.59**	**258**	P	P	20 37 29.1	-0.4
	1.1nm,0.7s,baz=94,slow=8.0,SNR=16						
ASAR	**Alice Springs**	**45.59**	**258**	P	P	20 37 29.1	-0.4
WRA	**Warramunga Arr**	**45.80**	**263**	P	P	20 37 29.6	-1.5
	0.1nm,0.3s,baz=96,slow=7.6,SNR=9.9						
WRA	**Warramunga Arr**	**45.80**	**263**	P	P	20 37 29.6	-1.5
AKASG	**Malin Array Be**	**144.68**	**331**	PKP	PKPdf	20 48 43.0	-0.8
	1.5nm,0.4s,baz=43,slow=4.3,SNR=11						
AKASG	**Malin Array Be**	**144.68**	**331**	PKP	PKPdf	20 48 43.0	-0.8
BRTR	**Keskin Array B**	**148.62**	**312**	PKPbc	PKPbc	20 48 55.3	+0.7
	1.0nm,0.5s,baz=146,slow=5.5,SNR=7.0						
BRTR	**Keskin Array B**	**148.62**	**312**	PKPbc	PKPbc	20 48 55.3	+0.7
GERES	**GERESS Array B**	**151.66**	**346**	PKPbc	PKPbc	20 49 02.4	+0.8
	0.7nm,0.9s,baz=40,slow=2.3,SNR=4.0						
GERES	**GERESS Array B**	**151.66**	**346**	PKPbc	PKPbc	20 49 02.4	+0.8

*ISCJB **30** 20:32:36.9±0.3, 4°35S±0°04×101°13E±0°04, h10km, mb4.9/63, Error ellipse: s-maj=6.9km s-min=4.5km az=44.3*

*IDC **30** 20:32:37.1±0.9, 4°27S×101°16E, h0km, mb4.5/17, mb1 4.5/18, mb1mx4.4/24, mbtmp4.5/18, ML3.7/1, Error ellipse: s-maj=31.5km s-min=12.6km az=51.0*

*NEIC **30** 20:32:38.0±0.3, 4°37S×101°19E, h10km, mb5.1/35, Error ellipse: s-maj=11.4km s-min=6.3km az=57.0*

*MOS **30** 20:32:40.9±1.2, 4°11S×101°36E, h33km, mb5.2/24, Error ellipse: s-maj=13.4km s-min=7.4km az=112.1*

*DJA **30** 20:32:41.0±0.3, 4°5±3°×10°1E±°, h10km, M5.0/5, mb4.9/25, MLv5.0/16*

*BJI **30** 20:32:44.2, 4°40S×100°80E, h60km, mB5.3/4, mb4.8/18, Ms4.8/2, Ms7 4.6/2*

ISC 30 20:32:38.9±0.3, 4°34S±0°04×101°16E±0°04, h10km, n216, σ1°28/184, mb4.9/63, 4C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.58**	**64**	P	**Pg**	**20 33 08.2**	**-1.1**
MNAI	**Manna**	**1.79**	**91**	P	**Pg**	**20 33 14.2**	**+0.9**
KRJI	**Kerinci**	**2.26**	**8**	P	**Pg**	**20 33 20.4**	**-1.8**
LWLI	**Liwa**	**2.96**	**103**	P	**Pn**	**20 33 29.9**	**+3.8**
KLI	**Kotabumi**	**3.72**	**98**	P	**Pn**	**20 33 41.0**	**+4.5**
PPI	**Padang Panjang**	**3.93**	**349**	P	**Pn**	**20 33 40.1**	**+0.7**
BKNI	**Bangkinang**	**4.64**	**358**	P	**Pn**	**20 33 52.8**	**+3.7**
CGJI	**Cibinong**	**5.04**	**117**	P	**Pn**	**20 34 00.0**	**+5.3**
	144nm,1.0s						
MNSI	**Mandailing Nat**	**5.34**	**343**	P	**Pn**	**20 33 59.9**	**+1.1**
	0.6nm72nm,0.8s						
PPBI	**Pangkal Pinang**	**5.42**	**67**	P	**Pn**	**20 34 01.8**	**+2.0**
	0.4nm62nm,0.9s						
CBJI	**Citeko**	**6.03**	**110**	P	**Pn**	**20 34 16.2**	**+8.0**
	2.2nm695nm,1.0s						
MYKOM	**Kota Tinggi**	**6.66**	**24**	P	**Pn**	**20 34 18.6**	**+1.7**
	0.2nm52nm,0.9s						
LEM	**Lembang**	**6.88**	**111**	P	**Pn**	**20 34 23.1**	**+3.1**
	0.6nm188nm,1.2s						
CISI	**Cisompet, Garu**	**7.35**	**116**	P	**Pn**	**20 34 31.4**	**+5.1**
	1.2nm192nm,0.8s						
PSI	**Prapat**	**7.44**	**342**	P	**Pn**	**20 34 28.3**	**+0.7**
	0.1nm28nm,1.0s						
TPTI		**8.54**	**332**	P	**Pn**	**20 34 44.4**	**+1.7**
	0.7nm122nm,0.6s						
IPM	**Ipoh**	**8.76**	**359**	*e*Pn	**Pn**	**20 34 47.5**	**+1.7**
	18nm,0.7s						
IPM	**Ipoh**	**8.76**	**359**	P	**Pn**	**20 34 49.0**	**+3.2**
	32nm,1.2s						
COCO	**West Island**	**8.89**	**209**	*e*Pn	**Pn**	**20 34 47.9**	**+0.3**
	120nm,0.8s						
COCO	**West Island**	**8.89**	**209**	*i* P	**Pn**	**20 34 48.9**	**+1.3**
COCO	**West Island**	**8.89**	**209**	P	**Pn**	**20 34 49.0**	**+1.4**
	1.4nm377nm,0.8s						
KULM	**Kulim**	**9.58**	**357**	*e*Pn	**Pn**	**20 34 57.6**	**+0.5**
	39nm,1.1s						
KULM	**Kulim**	**9.58**	**357**	P	**Pn**	**20 34 57.9**	**+0.9**
	30nm,1.2s						
KSM	**Kuching**	**10.81**	**58**	Pn	**Pn**	**20 35 15.9**	**+2.0**
	7.6nm,0.7s						
KSM	**Kuching**	**10.81**	**58**	P	**Pn**	**20 35 18.4**	**+4.5**
	14nm,1.1s						
BSI	**Banda Aceh**	**11.39**	**329**	P	**Pn**	**20 35 23.8**	**+1.9**
	65nm,1.0s						
SBUM	**Sibu**	**12.95**	**59**	P	**Pn**	**20 35 47.9**	**+4.8**
	24nm,0.9s						
KKM	**Kota Kinabalu**	**18.23**	**56**	*e*Pn	**Pn**	**20 36 51.8**	**-0.5**
	21nm,0.9s						
KAPI	**Kappang**	**18.54**	**93**	P	**Pn**	**20 36 53.9**	**-2.2**
	0.3nm,0.3s,baz=206,slow=9.3,SNR=2.5						
KAPI	**Kappang**	**18.54**	**93**	P	**Pn**	**20 36 53.9**	**-2.2**
SPSI	**Sidrap Palu**	**18.56**	**90**	P	**Pn**	**20 37 00.5**	**+4.1**
	26nm,1.1s						
TTSI	**Tana Toraja**	**18.66**	**87**	P	**Pn**	**20 37 02.1**	**+4.5**
	38nm,1.1s						
MYLDM	**Lahad Datu**	**19.73**	**62**	P	**Pn**	**20 37 13.2**	**+2.7**
	66nm,0.9s						
MRSI	**Marisa**	**21.30**	**78**	P	**P**	**20 37 30.9**	**+4.8**
	75nm,1.0s,mb5.0						
KDI	**Kendari**	**21.40**	**90**	P	**P**	**20 37 30.4**	**+3.2**
	44nm,1.1s,mb4.7						
LUWI	**Luwuk**	**21.83**	**82**	P	**P**	**20 37 36.8**	**+5.1**
	83nm,0.9s,mb5.2						
CM31	**Chiang Mai Arr**	**22.76**	**355**	*e*P	**P**	**20 37 41.9**	**+0.4**
	27nm,0.9s,mb4.7						
CMAR	**Chiang Mai Arr**	**22.76**	**355**	P	**P**	**20 37 39.3**	**-2.2**
	7.9nm,0.9s,mb4.1,baz=185,slow=8.4,SNR=37						
CMAR	**Chiang Mai Arr**	**22.76**	**355**	P	**P**	**20 37 39.3**	**-2.2**
CMAR				pPcP	**S**	**20 41 46.9**	**-4.0**
CMAR	**Chiang Mai Arr**	**22.76**	**355**	P	**P**	**20 37 39.3**	**-2.2**
CMAR	**Chiang Mai Arr**	**22.76**	**355**	pPcP	**S**	**20 41 46.9**	**-4.0**
	1.5nm,0.8s,baz=228,slow=2.8,SNR=6.5						
CHG	**Chiang Mai**	**23.11**	**355**	⇑P	**P**	**20 37 49.4**	**+4.1**
	15nm,1.0s,mb4.4						
CHG				S		20 37 50.4	
CHG				S		20 37 50.4	
CHTO	**Chiang Mai**	**23.11**	**355**	*e*P	**P**	**20 37 44.2**	**-1.1**
	20nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**23.11**	**355**	*e*P	**P**	**20 37 44.2**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**23.11**	**355**	P	**P**	**20 37 44.9**	**-0.4**
	comp=Z,22nm,1.0s,mb4.5						
CHRT	**Chiangrai**	**24.10**	**357**	⇓P	**P**	**20 37 53.0**	**-1.9**
	comp=Z,205nm,1.0s,mb5.5						
MDRS	**Chennai**	**27.03**	**310**	*ex*	**P**	**20 38 23.2**	**+1.6**
MDRS				*ex*	x	20 42 35.2	
MDRS				*ex*	x	20 48 39.2	
MDRS				*ex*	x	20 50 05.2	
FITZ	**Fitzroy Crossi**	**27.57**	**122**	P	**P**	**20 38 26.5**	**0.0**
	comp=Z,8.5nm,0.8s,mb4.4,baz=256,slow=8.3,SNR=4.9						
FITZ	**Fitzroy Crossi**	**27.57**	**122**	*e*P	**P**	**20 38 29.6**	**+3.2**
FITZ	**Fitzroy Crossi**	**27.57**	**122**	P	**P**	**20 38 26.5**	**0.0**
ODAN	**Odare**	**33.76**	**337**	*e*P	**P**	**20 39 21.8**	**+0.9**
	comp=Z,64nm,0.8s,mb5.6						
ODAN	**Odare**	**33.76**	**337**	*e*P	**P**	**20 39 21.8**	**+0.9**
	comp=Z,64nm,0.8s,mb5.6						
TAPN	**Taplejung**	**34.08**	**338**	*e*P	**P**	**20 39 24.8**	**+1.1**
	comp=Z,120nm,0.9s,mb5.8						
TAPN	**Taplejung**	**34.08**	**338**	*e*P	**P**	**20 39 24.8**	**+1.1**
	comp=Z,120nm,0.9s,mb5.8						
RAMN	**Ramite**	**34.15**	**336**	*e*P	**P**	**20 39 25.5**	**+1.2**
	comp=Z,75nm,1.0s,mb5.6						
RAMN	**Ramite**	**34.15**	**336**	*e*P	**P**	**20 39 25.5**	**+1.2**
	comp=Z,75nm,1.0s,mb5.6						
JIRN	**Jiri**	**34.94**	**336**	*e*P	**P**	**20 39 32.1**	**+0.9**
	comp=Z,83nm,0.9s,mb5.7						
JIRN	**Jiri**	**34.94**	**336**	*e*P	**P**	**20 39 32.1**	**+0.9**
	comp=Z,83nm,0.9s,mb5.7						
PKI	**Pulchoki**	**35.18**	**335**	*e*P	**P**	**20 39 33.9**	**+0.6**
	comp=Z,32nm,1.0s,mb5.2						
PKI	**Pulchoki**	**35.18**	**335**	*e*P	**P**	**20 39 33.9**	**+0.6**
	comp=Z,32nm,1.0s,mb5.2						
PKI	**Pulchoki**	**35.18**	**335**	*e*P	**P**	**20 39 33.9**	**+0.6**
PKI				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
LSA	**Lhasa**	**35.18**	**345**	*e*P	**P**	**20 39 34.4**	**+1.1**
	comp=Z,7.8nm,0.8s,mb4.7						
LSA	**Lhasa**	**35.18**	**345**	*e*P	**P**	**20 39 34.4**	**+1.1**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
GUN	**Gumba**	**35.29**	**336**	*e*P	**P**	**20 39 35.1**	**+0.9**
	comp=Z,113nm,0.9s,mb5.8						
GUN	**Gumba**	**35.29**	**336**	*e*P	**P**	**20 39 35.1**	**+0.9**
	comp=Z,113nm,0.9s,mb5.8						
ENH	**Enshi**	**35.33**	**13**	*e*P	**P**	**20 39 31.9**	**-2.6**
	comp=Z,12nm,0.7s,mb4.9						
DMN	**Daman**	**35.34**	**335**	*e*P	**P**	**20 39 35.7**	**+1.0**
	comp=Z,30nm,0.9s,mb5.2						
DMN	**Daman**	**35.34**	**335**	*e*P	**P**	**20 39 35.7**	**+1.0**
	comp=Z,30nm,0.9s,mb5.2						
KKN	**Kakani**	**35.43**	**335**	*e*P	**P**	**20 39 36.0**	**+0.6**
	comp=Z,90nm,1.2s,mb5.6						
KKN	**Kakani**	**35.43**	**335**	*e*P	**P**	**20 39 36.0**	**+0.6**
	comp=Z,90nm,1.2s,mb5.6						
KKN	**Kakani**	**35.43**	**335**	*e*P	**P**	**20 39 36.0**	**+0.6**
WRA	**Warramunga Arr**	**35.84**	**118**	P	**P**	**20 39 38.6**	**-0.4**
	comp=Z,6.2nm,0.9s,mb4.6,baz=292,slow=9.9,SNR=17						
WRA	**Warramunga Arr**	**35.84**	**118**	P	**P**	**20 39 38.6**	**-0.4**
WRA	**Warramunga Arr**	**35.84**	**118**	P	**P**	**20 39 38.7**	**-0.4**
WRAB	**Tennant Creek**	**35.84**	**118**	*e*P	**P**	**20 39 38.1**	**-1.0**
	comp=Z,7.5nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**35.84**	**118**	*e*P	**P**	**20 39 38.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**35.84**	**118**	P	**P**	**20 39 43.8**	**+4.7**
	comp=Z,109nm,1.2s,mb5.7						
WRAB	**Tennant Creek**	**35.84**	**118**	P	**P**	**20 39 41.0**	**+1.9**
	comp=Z,70nm,0.7s,mb5.7,SNR=5.8						
WB2	**Warmunga Arr**	**35.85**	**118**	*e*P	**P**	**20 39 38.4**	**-0.8**
GKN	**Gorkha**	**35.89**	**335**	*e*P	**P**	**20 39 40.5**	**+1.2**
	comp=Z,88nm,1.1s,mb5.6						
GKN	**Gorkha**	**35.89**	**335**	*e*P	**P**	**20 39 40.5**	**+1.2**
	comp=Z,88nm,1.1s,mb5.6						
KOLN	**Koldanda**	**36.14**	**333**	*e*P	**P**	**20 39 42.2**	**+0.7**
	comp=Z,31nm,0.8s,mb5.3						
KOLN	**Koldanda**	**36.14**	**333**	*e*P	**P**	**20 39 42.2**	**+0.7**
	comp=Z,31nm,0.8s,mb5.3						
DANN	**Dangsing**	**36.57**	**334**	*e*P	**P**	**20 39 46.0**	**+0.8**
	comp=Z,96nm,1.1s,mb5.6						
DANN	**Dangsing**	**36.57**	**334**	*e*P	**P**	**20 39 46.0**	**+0.8**
	comp=Z,96nm,1.1s,mb5.5						
WHN	**Wuhan**	**36.91**	**19**	P	**P**	**20 39 55.0**	**+7.0**
ASAR	**Alice Springs**	**36.96**	**124**	P	**P**	**20 39 49.0**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.1,baz=296,slow=7.5,SNR=17						
ASAR				PcP	PcP	20 42 10.0	+0.1
	comp=Z,1.0nm,0.8s,baz=316,slow=2.6,SNR=2.6						
ASAR	**Alice Springs**	**36.96**	**124**	P	**P**	**20 39 49.0**	**+0.4**
ASAR	**Alice Springs**	**36.96**	**124**	P	**P**	**20 39 49.1**	**+0.5**
AS31	**Alice Springs**	**36.96**	**124**	*e*P	**P**	**20 39 49.0**	**+0.3**
XAN	**Xi'an**	**38.87**	**10**	P	**P**	**20 40 03.3**	**-1.3**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LZH	**Lanzhou**	**40.29**	**3**	⇑P	**P**	**20 40 20.0**	**+3.6**
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH				pmax	pmax		
	comp=Z,100nm,7.5s						
LZH				LR	LR		
	comp=N,310nm,14.0s						
LZH				LR	LR		
	comp=E,300nm,14.3s						
LZH				LR	LR		
	comp=Z,330nm,18.1s						
GTA	**Gaotai**	**43.55**	**358**	*e*P	**P**	**20 40 43.3**	**+0.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
MTSU	**Mount Surprise**	**44.35**	**112**	*e*P	**P**	**20 40 48.9**	**-0.9**
	comp=Z,11nm,0.6s,mb4.8						
PMG	**Port Moresby**	**45.91**	**99**	P	**P**	**20 41 01.3**	**-0.9**
	comp=Z,11nm,0.8s,mb4.9,baz=246,slow=6.4,SNR=3.9						
PMG	**Port Moresby**	**45.91**	**99**	*e*P	**P**	**20 41 00.5**	**-1.8**
	comp=Z,5.8nm,0.8s,mb4.6						
PMG	**Port Moresby**	**45.91**	**99**	*e*P	**P**	**20 41 00.5**	**-1.8**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTA	**Charters Tower**	**46.58**	**114**	P	**P**	**20 41 07.5**	**+0.1**
	comp=Z,6.7nm,1.0s,mb4.5,baz=265,slow=12,SNR=3.0						
CTA	**Charters Tower**	**46.58**	**114**	P	**P**	**20 41 07.5**	**+0.1**
CTA	**Charters Tower**	**46.58**	**114**	P	**P**	**20 41 07.6**	**+0.2**
CTAO	**Charters Tower**	**46.58**	**114**	*e*P	**P**	**20 41 07.0**	**-0.4**
	comp=Z,15nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**46.58**	**114**	*e*P	**P**	**20 41 07.0**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**46.58**	**114**	P	**P**	**20 41 12.0**	**+4.6**
STKA	**Stephens Creek**	**46.74**	**131**	P	**P**	**20 41 09.7**	**+1.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=298,slow=4.6,SNR=4.2						
STKA	**Stephens Creek**	**46.74**	**131**	*e*P	**P**	**20 41 08.5**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**46.74**	**131**	*e*P	**P**	**20 41 08.5**	**0.0**
KSAR	**Wonju Array Be**	**48.44**	**29**	P	**P**	**20 41 21.6**	**0.0**
KSAR				pP	pP	20 41 33.2	+8.5
KSAR	**Wonju Array Be**	**48.44**	**29**	P	**P**	**20 41 21.6**	**0.0**
KSAR				*PP	pP	20 41 33.3	+8.5
KSRS	**Korea Array**	**48.47**	**29**	P	**P**	**20 41 21.6**	**-0.2**
	comp=Z,10.0nm,0.9s,mb4.9,baz=223,slow=8.3,SNR=7.7						
KBL	**Kabul**	**49.10**	**325**	*e*P	**P**	**20 41 24.9**	**-1.9**
	comp=Z,3.3nm,0.8s,mb4.4						
KBL	**Kabul**	**49.10**	**325**	*e*P	**P**	**20 41 24.9**	**-1.8**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WMQ	**Urumqi**	**49.45**	**347**	P	**P**	**20 41 29.5**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.6						
CMSA	**Cobar Meteorol**	**49.75**	**128**	*e*P	**P**	**20 41 32.6**	**+0.8**
SONM	**Songino Array**	**52.16**	**4**	P	**P**	**20 41 50.1**	**+0.6**
	comp=Z,16nm,0.8s,mb5.0,baz=183,slow=9.2,SNR=44						
SONM				PcP	PcP	20 43 01.0	-0.3
	comp=Z,2.2nm,0.7s,baz=176,slow=5.8,SNR=3.2						
SONM	**Songino Array**	**52.16**	**4**	P	**P**	**20 41 50.1**	**+0.6**
SONM				PcP	PcP	20 43 01.0	-0.3
SONM	**Songino Array**	**52.16**	**4**	P	**P**	**20 41 50.1**	**+0.5**
SONM						20 43 01.0	
TKM2	**Tokmak 2**	**52.43**	**336**	*e*P	**P**	**20 41 51.1**	**-0.6**
	comp=Z,13nm,0.8s,mb4.9						
TKM2	**Tokmak 2**	**52.43**	**336**	*e*P	**P**	**20 41 51.1**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**52.64**	**335**	*e*P	**P**	**20 41 51.9**	**-1.3**
AAK	**Ala-Archa**	**52.64**	**335**	*e*P	**P**	**20 41 54.7**	**+1.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CN2	**Changchun**	**52.68**	**22**	*e*P	**P**	**20 41 52.3**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
EKS2	**Erkin-Say**	**52.96**	**335**	*e*P	**P**	**20 41 55.9**	**+0.2**
	comp=Z,16nm,0.9s,mb4.9						
EKS2	**Erkin-Say**	**52.96**	**335**	*e*P	**P**	**20 41 55.9**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
MJAR	**Matsushiro Arr**	**53.39**	**37**	P	**P**	**20 41 57.4**	**-1.6**
	comp=Z,6.5nm,0.8s,mb4.6,baz=220,slow=7.3,SNR=3.4						
MJAR	**Matsushiro Arr**	**53.39**	**37**	P	**P**	**20 41 57.4**	**-1.6**
MJAR	**Matsushiro Arr**	**53.39**	**37**	P	**P**	**20 41 57.4**	**-1.5**
MK31	**Makanchi Array**	**53.58**	**344**	*e*P	**P**	**20 41 59.6**	**-0.6**
MK31	**Makanchi Array**	**53.58**	**344**	*e*P	**P**	**20 41 59.6**	**-0.5**
MKAR	**Makanchi Array**	**53.58**	**344**	P	**P**	**20 41 59.9**	**-0.2**
	comp=Z,9.3nm,0.7s,mb4.9,baz=148,slow=8.3,SNR=62						
MKAR	**Makanchi Array**	**53.58**	**344**	P	**P**	**20 41 59.9**	**-0.2**
MKAR	**Makanchi Array**	**53.58**	**344**	*ce*P	**P**	**20 41 59.9**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ZAK	**Zakamensk**	**54.54**	**2**	*e*P	**P**	**20 42 06.2**	**-0.8**
ZAK				*e*		20 42 18.0	
ZAK				*e*		20 43 14.4	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
KKAR	**Karatay Array**	**54.75**	**333**	P	**P**	**20 42 07.1**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.2						
KKAR	**Karatay Array**	**54.75**	**333**	P	**P**	**20 42 07.1**	**-1.6**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
MDJ	**Mudanjiang**	**54.99**	**25**	*e*P	**P**	**20 42 09.7**	**-0.8**
USRK	**Ussuriysk Arra**	**55.70**	**27**	P	**P**	**20 42 14.9**	**-0.6**
	comp=Z,31nm,0.9s,mb5.3,baz=216,slow=6.7,SNR=16						
HIA	**Hailar**	**55.78**	**15**	P	**P**	**20 42 12.7**	**-3.3**
HIA	**Hailar**	**55.78**	**15**	P	**P**	**20 42 12.7**	**-3.3**
KURK	**Kurchatov**	**58.17**	**343**	P	**P**	**20 42 32.0**	**-0.9**
	comp=Z,7.3nm,0.9s,mb4.7,baz=162,slow=6.3,SNR=30						
KURK	**Kurchatov**	**58.17**	**343**	*e*P	**P**	**20 42 31.9**	**-1.0**
	comp=Z,19nm,0.9s,mb5.1						
KURK	**Kurchatov**	**58.17**	**343**	*e*P	**P**	**20 42 32.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
ZAA0	**Zalesovo Array**	**59.67**	**349**	*e*P	**P**	**20 42 42.0**	**-1.3**
ZALV	**Zalesovo Beam**	**59.67**	**349**	P	**P**	**20 42 42.5**	**-0.8**
	comp=Z,9.9nm,0.8s,mb4.9,baz=176,slow=4.5,SNR=27						
ZALV	**Zalesovo Beam**	**59.67**	**349**	P	**P**	**20 42 42.5**	**-0.8**
ZALV	**Zalesovo Beam**	**59.67**	**349**	P	**P**	**20 42 42.5**	**-0.8**
NVS	**Novosibirsk**	**60.83**	**348**	*e*P	pP	20 42 59.2	+4.8
NVS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=N,6.0nm,1.0s						
BOD	**Bodaibo**	**62.82**	**8**	*e*P	**P**	**20 43 03.3**	**-1.3**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**62.83**	**340**	*e*P	**P**	**20 43 02.3**	**-2.4**
	comp=Z,7.1nm,0.8s,mb4.8						
BRVK	**Borovoye**	**62.83**	**340**	*e*P	**P**	**20 43 03.7**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**62.86**	**31**	P	**P**	**20 43 04.9**	**-0.2**
	comp=Z,23nm,0.8s,mb5.4						
YSS	**Yuzh-Sakhalins**	**62.86**	**31**	P	**P**	**20 43 04.9**	**-0.2**
YSS				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.4						
ABKAR	**Akbulak array**	**64.24**	**331**	*e*P	**P**	**20 43 12.5**	**-1.6**
	comp=Z,28nm,1.0s,mb5.2						
YAK	**Yakutsk**	**69.71**	**14**	*e*P	**P**	**20 43 45.9**	**-2.8**
	comp=Z,16nm,0.9s,mb4.9						
YAK	**Yakutsk**	**69.71**	**14**	*e*P	**P**	**20 43 45.9**	**-2.8**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ZEI	**Tsey**	**69.75**	**319**	*e*P	**P**	**20 43 53.5**	**+4.2**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ARU	**Arti**	**69.80**	**336**	*e*P	**P**	**20 43 47.6**	**-1.7**
	comp=Z,17nm,1.0s,mb4.9						
ARU	**Arti**	**69.80**	**336**	P	pP	20 44 00.6	+8.0
KIV	**Kislovodsk**	**71.06**	**319**	⇓*e*P	**P**	**20 43 56

TXAR	Lajitas Array	145.78	41	PKIKP	PKPdf	20 52 19.5	+0.9
MIAR	Mount Ida	146.98	23	*e*PKPdf	PKPdf	20 52 20.0	-0.5
MIAR	Mount Ida	146.98	23	*e*PKP2	PKPdf	20 52 20.0	-0.5
JCT	Junction City	147.33	35	*e*PKPdf	PKPbc	20 52 22.6	-1.0
JCT	Junction City	147.33	35	*e*PKP2	PKPbc	20 52 22.6	-0.9
PLAL	Pickwick Lake	148.33	15	*e*PKPdf	PKPdf	20 52 18.7	-4.0
TKL	Tuckaleechee C	148.51	8	*e*PKPdf	PKPdf	20 52 22.2	-0.8
TKL	Tuckaleechee C	148.51	8	*e*PKIKP	PKPdf	20 52 22.2	-0.8
HKT	Hockley	149.88	30	*e*PKPdf	PKPdf	20 52 23.1	-2.3
HKT	Hockley	149.88	30	*e*PKIKP	PKPdf	20 52 23.1	-2.3
LRAL	Lakeview Retre	150.45	14	*e*PKPdf	PKPdf	20 52 25.1	-1.1
LRAL				*e*PKPbc	PKPbc	20 52 29.4	-2.0

IDC 30 20:32:45.3±0.4, 4°33.S×101°.14E, h24km±2km, mb4.4/21, mb1 4.4/22, mb1mx4.4/25, mbtmp4.4/22, ML4.1/1, MS4.4/1, Ms1 4.6/1, ms1mx3.4/27, Error ellipse: s-maj=12.6km s-min=9.8km az=46.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGRI	Rengat	4.13	17	P	Px	20 33 58.3	
KAPI	Kappang	18.56	93	P	Pn	20 37 00.9	0.0
	0.7nm,0.3s,baz=266,slow=13,SNR=4.2						
CMAR	Chiang Mai Arr	22.75	355	P	P	20 37 46.1	+0.3
	18nm,0.9s,baz=184,slow=8.5,SNR=46						
CMAR				PcP	PcP	20 41 38.0	+0.5
	0.5nm,0.6s,baz=225,slow=3.5,SNR=3.7						
CMAR				LR	LR	20 46 21.5	
	comp=Z,908nm,19.1s,baz=186,slow=36						
CMAR	Chiang Mai Arr	22.75	355	PcP	PcP	20 41 38.0	+0.5
CMAR	Chiang Mai Arr	22.75	355		PcP	20 41 38.1	+0.5
FITZ	Fitzroy Crossi	27.60	122	P	P	20 38 30.8	-0.2
	8.5nm,0.8s,baz=310,slow=6.6,SNR=12						
FITZ	Fitzroy Crossi	27.60	122	pP	pP	20 38 37.9	-0.2
	9.6nm,0.7s,baz=295,slow=5.4,SNR=6.4						
FITZ	Fitzroy Crossi	27.60	122	pP	pP	20 38 37.9	-0.2
WRA	Warramunga Arr	35.86	118	P	P	20 39 42.8	-0.8
	5.6nm,0.9s,baz=300,slow=8.8,SNR=17						
WRA	Warramunga Arr	35.86	118	pP	pP	20 39 50.5	-0.2
	5.5nm,0.7s,baz=303,slow=9.2,SNR=13						
WRA	Warramunga Arr	35.86	118	*PP	pP	20 39 50.5	-0.3
WRA	Warramunga Arr	35.86	118	pP	pP	20 39 50.5	-0.2
ASAR	Alice Springs	36.99	124	P	P	20 39 52.5	-0.6
	2.5nm,0.8s,baz=299,slow=7.7,SNR=22						
ASAR				PcP	PcP	20 42 14.3	+0.2
	1.1nm,0.8s,baz=315,slow=2.7,SNR=4.5						
ASAR				pPcP		20 42 22.4	
	1.7nm,0.9s,baz=304,slow=2.3,SNR=5.7						
ASAR	Alice Springs	36.99	124		PcP	20 42 14.3	+0.2
ASAR	Alice Springs	36.99	124	PcP	PcP	20 42 14.3	+0.2
ASAR				pPcP		20 42 22.4	
ASAR	Alice Springs	36.99	124	pP	pP	20 40 00.3	0.0
	4.1nm,0.7s,baz=296,slow=7.9,SNR=16						
ASAR	Alice Springs	36.99	124	pP	pP	20 40 00.3	0.0
ASAR	Alice Springs	36.99	124	*PP	pP	20 40 00.3	0.0
PMG	Port Moresby	45.94	99	P	P	20 41 06.7	0.0
	6.3nm,0.7s,baz=136,slow=11,SNR=4.6						
PMG	Port Moresby	45.94	99	P	P	20 41 06.6	-0.1
	55nm,0.9s						
CTA	Charters Tower	46.60	114	P	P	20 41 11.7	-0.1
	7.6nm,0.9s,baz=282,slow=6.5,SNR=7.0						
STKA	Stephens Creek	46.77	131	P	P	20 41 14.1	+1.1
	3.8nm,0.5s,baz=314,slow=7.1,SNR=15						
STKA	Stephens Creek	46.77	131	*e*P	P	20 41 13.9	+0.9
KSRS	Korea Array	48.47	29	P	P	20 41 26.1	+0.1
	11nm,0.9s,baz=218,slow=8.5,SNR=15						
KSRS				pP	pP	20 41 33.2	-0.2
	9.2nm,0.9s,baz=224,slow=8.0,SNR=6.9						
SONM	Songino Array	52.15	4	P	P	20 41 54.4	+0.7
	16nm,0.8s,baz=185,slow=8.5,SNR=53						
SONM				PcP	PcP	20 43 05.2	0.0
	2.2nm,0.7s,baz=184,slow=3.8,SNR=2.4						
SONM				pPcP		20 43 13.2	
	3.7nm,0.8s,baz=190,slow=4.4,SNR=5.4						
SONM	Songino Array	52.15	4	PcP	PcP	20 43 05.2	0.0
SONM				pPcP		20 43 13.2	
MJAR	Matsushiro Arr	53.39	37	P	P	20 42 01.5	-1.6
	6.5nm,0.8s,baz=222,slow=8.0,SNR=11						
MJAR	Matsushiro Arr	53.39	37	pP	pP	20 42 09.6	-1.0
	3.2nm,0.8s,baz=220,slow=9.1,SNR=5.7						
MJAR	Matsushiro Arr	53.39	37	*PP	pP	20 42 09.6	-1.0
MJAR	Matsushiro Arr	53.39	37	pP	pP	20 42 09.6	-1.0
MKAR	Makanchi Array	53.56	344	P	P	20 42 04.8	+0.6
	11nm,0.7s,baz=148,slow=8.3,SNR=50						
MKAR	Makanchi Array	53.56	344	pP	pP	20 42 12.1	+0.5
	22nm,0.7s,baz=145,slow=8.2,SNR=30						
MKAR	Makanchi Array	53.56	344	pP	pP	20 42 12.1	+0.5
OPO	Ambohidratompo	54.52	250	P	P	20 42 13.0	+1.2
	1.8nm,0.9s,baz=91,slow=10,SNR=4.0						
OPO				pP	pP	20 42 20.8	+1.6
	2.1nm,0.8s,baz=113,slow=23,SNR=4.9						
OPO	Ambohidratompo	54.52	250	P	P	20 42 13.0	+1.2
OPO				pP	pP	20 42 20.8	+1.6
USRK	Ussuriysk Arra	55.69	27	P	P	20 42 19.9	+0.3
	21nm,0.8s,baz=222,slow=5.5,SNR=24						
USRK				pP	pP	20 42 27.3	+0.1
	19nm,0.7s,baz=218,slow=5.4,SNR=14						
KURK	Kurchatov	58.15	343	P	P	20 42 36.6	-0.4
	7.4nm,0.9s,baz=161,slow=6.7,SNR=29						
KURK	Kurchatov	58.15	343	pP	pP	20 42 44.0	-0.4
	12nm,0.8s,baz=162,slow=6.5,SNR=20						
KURK	Kurchatov	58.15	343	pP	pP	20 42 44.0	-0.4
ZALV	Zalesovo Beam	59.65	349	P	P	20 42 47.0	-0.3
	8.9nm,0.7s,baz=191,slow=5.3,SNR=26						
ZALV	Zalesovo Beam	59.65	349	pP	pP	20 42 54.5	-0.3
	16nm,0.6s,baz=175,slow=6.4,SNR=22						
ZALV	Zalesovo Beam	59.65	349	pP	pP	20 42 54.5	-0.3
ZALV	Zalesovo Beam	59.65	349	*PP	pP	20 42 54.6	-0.3
ASAJ	Asahikawa	60.90	33	P	P	20 42 56.0	-0.1
	15nm,1.1s,baz=260,slow=16,SNR=3.8						
ASAJ				pP	pP	20 43 04.0	+0.3
	7.1nm,0.7s,baz=215,slow=16,SNR=1.7						
ASAJ	Asahikawa	60.90	33	P	P	20 42 56.0	-0.1
ASAJ				pP	pP	20 43 04.0	+0.3
LBTB	Lobatse	75.08	245	P	P	20 44 25.9	+0.1
	1.9nm,0.9s,baz=68,slow=19,SNR=2.7						
LBTB				pP	pP	20 44 33.2	-0.2
	3.0nm,0.9s,baz=106,slow=10,SNR=3.8						
LBTB	Lobatse	75.08	245	P	P	20 44 25.9	+0.1
LBTB				pP	pP	20 44 33.2	-0.2
LBTB	Lobatse	75.08	245	P	P	20 44 25.9	+0.2
LBTB				*PP	pP	20 44 33.2	-0.3
BOSA	Boshof	75.55	242	P	P	20 44 27.7	-0.6
	1.6nm,0.8s,baz=253,slow=19,SNR=3.5						
BOSA	Boshof	75.55	242	pP	pP	20 44 35.8	-0.2
	4.7nm,0.9s,baz=110,slow=9.5,SNR=4.5						
BOSA	Boshof	75.55	242	pP	pP	20 44 35.8	-0.2
BOSA	Boshof	75.55	242	*PP	pP	20 44 35.8	-0.3
BRTR	Keskin Array B	75.72	313	P	P	20 44 28.4	-0.7
	2.1nm,1.0s,baz=125,slow=7.2,SNR=5.8						
BRTR	Keskin Array B	75.72	313	pP	pP	20 44 35.9	-1.0
	1.9nm,0.7s,baz=128,slow=7.9,SNR=6.2						
BRTR	Keskin Array B	75.72	313	pP	pP	20 44 35.9	-1.0
AKASG	Malin Array Be	82.01	322	pP	pP	20 45 10.8	-0.4
	1.5nm,0.7s,baz=99,slow=5.8,SNR=3.4						
AKASG	Malin Array Be	82.01	322	pP	pP	20 45 10.8	-0.4
AKASG	Malin Array Be	82.01	322	P	pP	20 45 10.8	-0.3
FINES	FINESS Array B	86.69	332	P	P	20 45 26.9	+0.1
	1.4nm,0.6s,baz=338,slow=2.1,SNR=5.8						
FINES	FINESS Array B	86.69	332	pP	pP	20 45 34.7	+0.1
	3.5nm,0.9s,baz=106,slow=6.2,SNR=1.8						
FINES	FINESS Array B	86.69	332	*PP	pP	20 45 34.7	0.0
FINES	FINESS Array B	86.69	332	pP	pP	20 45 34.7	+0.1
ARCES	ARCESS Array B	89.03	340	pP	pP	20 45 45.8	+0.1
	3.6nm,0.8s,baz=93,slow=7.5,SNR=1.4						
ARCES	ARCESS Array B	89.03	340	pP	pP	20 45 45.8	+0.1
ARCES	ARCESS Array B	89.03	340	P	pP	20 45 45.8	+0.1
SNAA	Sanae	90.29	198	*e*	pP	20 45 50.1	-1.6
GERES	GERESS Array B	91.54	319	P	P	20 45 50.5	+0.4
	0.7nm,0.8s,baz=70,slow=7.7,SNR=5.4						
GERES	GERESS Array B	91.54	319	pP	pP	20 45 58.2	+0.4
	1.1nm,0.7s,baz=88,slow=4.5,SNR=7.1						
GERES	GERESS Array B	91.54	319	pP	pP	20 45 58.2	+0.4
GERES	GERESS Array B	91.54	319	*PP	pP	20 45 58.2	+0.3
VNA2	Neumayer--Watz	91.91	198	*e*	pP	20 46 00.4	+1.2
	baz=39,slow=2.3						
INK	Inuvik	106.50	18	P		20 50 52.8	
YKA	Yellowknife Ar	116.24	18	PKP	PKPdf	20 51 24.8	-1.6
	0.3nm,0.7s,baz=323,slow=1.0,SNR=3.5						
YKA				pPKP	pPKPdf	20 51 33.6	-0.8
	1.0nm,1.0s,baz=318,slow=1.9,SNR=3.3						
YKA	Yellowknife Ar	116.24	18		pPKPdf	20 51 33.6	-0.8
YKA	Yellowknife Ar	116.24	18	PKP	PKPdf	20 51 24.8	-1.5
YKA				pPKP	pPKPdf	20 51 33.6	-0.8
NVAR	Mina Array Bea	130.63	41	pPKP	pPKPdf	20 52 04.2	+1.4
	1.2nm,0.8s,baz=277,slow=1.9,SNR=7.5						
PDAR	Pinedale Array	133.01	31	pPKP	pPKPdf	20 52 07.9	+0.8
	0.4nm,0.6s,baz=96,slow=1.5,SNR=3.1						
PDAR	Pinedale Array	133.01	31	pPKP	pPKPdf	20 52 07.9	+0.8
TXAR	Lajitas Array	145.78	41	PKPbc	PKPbc	20 52 23.7	+0.6
	12nm,1.0s,baz=262,slow=1.8,SNR=33						
TXAR				pPKPbc	pPKPbc	20 52 31.6	+0.6
	9.3nm,0.8s,baz=325,slow=1.1,SNR=16						
TXAR	Lajitas Array	145.78	41		pPKPbc	20 52 31.7	+0.6
TXAR	Lajitas Array	145.78	41	pPKPbc	pPKPbc	20 52 31.6	+0.6

IDC 30 20:48:41.9±5.3, 29°.61S×137°.74E, h0km, ML2.5/2, Error ellipse: s-maj=164.6km s-min=17.9km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	4.02	125	Pn	Pn	20 49 44.2	-0.5
	0.2nm,0.3s,baz=301,slow=12,SNR=5.7						
STKA				Sn	Sn	20 50 35.2	+2.7
	0.7nm,0.3s,baz=258,slow=19,SNR=6.8						
STKA				Lg		20 50 49.2	
	0.9nm,0.3s,baz=349,slow=8.3,SNR=4.5						
ASAR	Alice Springs	6.84	329	Pn	Pn	20 50 24.3	+0.8
	0.1nm,0.3s,baz=176,slow=8.0,SNR=7.1						
ASAR				Sn	Sn	20 51 42.3	+0.3
	0.1nm,0.3s,baz=156,slow=25,SNR=4.5						
WRA	Warramunga Arr	10.11	341	Pn	Pn	20 51 08.0	-0.3
	0.1nm,0.3s,baz=163,slow=14,SNR=3.9						

*IDC **30** 20:51:32.0±0.5, 8°.47S×75°.55W, h0km, mb4.1/15, mb1 4.3/20, mb1mx4.2/24, mbtmp4.1/20, ML3.4/4, Error ellipse: s-maj=17.9km s-min=10.8km az=50.0*
*ISCJB **30** 20:51:32.1±0.3, 8°.42S±0°.04×75°.45W±0°.06, h10km, mb4.4/25, Error ellipse: s-maj=8.5km s-min=5.4km az=169.3*
*NEIC **30** 20:51:35.5±0.3, 8°.49S×75°.54W, h25km, mb4.7/18, Error ellipse: s-maj=8.9km s-min=5.3km az=68.0*
NEIC Felt at Campoverde and Pucallpa.

ISC 30 20:51:33.8±0.3, 8°.46S±0°.04×75°.49W±0°.06, h10km, n93, σ0°.79/81, mb4.4/25, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.16	294	Pn	Pn	20 52 22.4	-1.3
	4.6nm,0.3s,baz=99,slow=8.8,SNR=21						
ATAH				Pg	Pg	20 52 27.8	-6.7
	21nm,0.3s,baz=158,slow=5.4,SNR=55						
ATAH				Lg		20 53 10.0	
	55nm,0.3s,baz=232,slow=23,SNR=11						
ATAH	Atahualpa	3.16	294	Pn	Pn	20 52 22.4	-1.3
ATAH				Pg	Pg	20 52 27.8	-6.7
ATAH				Lg		20 53 10.0	
NNA	Nana	3.75	201	Pn	Pn	20 52 32.0	+0.3
	10nm,0.3s,baz=6.4,slow=12,SNR=18						
NNA				Pg	Pg	20 52 39.5	-6.1
	18nm,0.3s,baz=14,slow=17,SNR=45						
NNA				Sn	Sn	20 53 19.3	+3.4
	11nm,0.3s,baz=158,slow=19,SNR=4.0						
NNA	Nana	3.75	201	*e*Pn	Pn	20 52 31.3	-0.4
NNA				Pg	Pg	20 52 39.5	-6.1
NNA				Sn	Sn	20 53 19.3	+3.4
NNA	Nana	3.75	201	Pn	Pn	20 52 32.2	+0.5
	2μm,0.6s,SNR=7.3						
OTAV	Otavalo	9.13	341	*e*Pn	Pn	20 53 46.2	+0.5
	10.0nm,0.9s						
LPAZ	La Paz	10.59	138	Pn	Pn	20 54 06.3	+0.6
	0.3nm,0.3s,baz=329,slow=14,SNR=8.7						
LPAZ				Lg		20 57 08.2	
	0.6nm,0.3s,baz=196,slow=9.3,SNR=4.8						
LPAZ	La Paz	10.59	138	*e*Pn	Pn	20 54 05.9	+0.2
LPAZ				Lg		20 57 08.2	
SAML	Samuel	12.18	93	*e*Pn	Pn	20 54 27.2	-0.3
	0.7nm,0.3s						
SAML				*e*Sn	Sn	20 56 38.4	-5.0
ROSC	El Rosal	13.28	5	Pn	Pn	20 54 43.1	+0.5
	0.9nm,0.3s,baz=270,slow=20,SNR=2.6						
ROSC	El Rosal	13.28	5	Pn	Pn	20 54 43.1	+0.6
LVC	Limon Verde	15.43	157	*e*Pn	Pn	20 55 11.5	-0.1
	9.1nm,0.7s						
SIV	San Ignacio	15.95	119	Pn	Pn	20 55 18.1	-0.4
	2.8nm,0.3s,baz=303,slow=12,SNR=68						
SIV				Lg		20 59 48.2	
	0.8nm,0.3s,baz=40,slow=22,SNR=4.5						
SIV	San Ignacio	15.95	119	Pn	Pn	20 55 18.1	-0.4
SIV				Lg		20 59 48.2	
SDV	Santo Domingo	17.90	16	*e*Pn	Pn	20 55 42.2	-0.9
	12nm,0.8s						
BCIP	Isla Barro Col	18.04	346	Pn	Pn	20 55 37.8	-7.0
	67nm,1.2s						
JTS	JuntasAbangare	20.87	333	P	P	20 56 16.5	+0.3
LCO	Las Campanas	20.93	168	*e*P	P	20 56 15.2	-1.6
	21nm,0.9s						
CFAA	Coronel Fontan	24.00	165	P	P	20 56 48.1	-0.6
	0.7nm,0.8s,baz=347,slow=8.7,SNR=7.5						
CFAA	Coronel Fontan	24.00	165	P	P	20 56 48.1	-0.6
CPUP	Villa Florida	24.76	138	P	P	20 56 55.7	-0.1
	2.8nm,0.6s,mb4.0,baz=311,slow=9.0,SNR=10						
CPUP	Villa Florida	24.76	138	*e*P	P	20 56 54.8	-1.0
	12nm,0.5s,mb4.7						
BBGH	Gun Hill	26.67	37	*e*P	P	20 57 11.7	-1.5
FDF	Fort de France	27.08	32	P	P	20 57 12.9	-3.9
PLCA	Paso Flores	32.44	173	P	P	20 58 04.3	+0.2
	4.0nm,0.9s,mb4.3,baz=358,slow=11,SNR=5.1						
PLCA	Paso Flores	32.44	173	*e*P	P	20 58 03.3	-0.8
	5.1nm,0.9s,mb4.3						
WVT	Waverly	45.85	346	*e*P	P	20 59 52.0	-4.2
	22nm,0.8s,mb5.1						
TXAR	Lajitas Array	46.35	325	P	P	21 00 00.8	+0.5
	1.0nm,0.7s,mb3.9,baz=150,slow=9.2,SNR=8.0						
TXAR	Lajitas Array	46.35	325	P	P	21 00 00.8	+0.5
ANMO	Albuquerque	52.16	328	P	P	21 00 45.2	+0.6
	1.0nm,0.6s,mb3.9,baz=178,slow=15,SNR=2.5						
ANMO	Albuquerque	52.16	328	P	P	21 00 45.2	+0.6
PDAR	Pinedale Array	59.70	331	P	P	21 01 39.1	+0.6
	0.8nm,0.6s,mb3.9,baz=128,slow=9.7,SNR=4.1						
PDAR	Pinedale Array	59.70	331	P	P	21 01 39.1	+0.6
HWUT	Hardware Ranch	59.81	329	*e*P	P	21 01 38.5	-0.8
NVAR	Mina Array Bea	61.35	323	P	P	21 01 50.3	+0.4
	1.2nm,0.8s,mb4.0,baz=136,slow=5.5,SNR=7.0						
NVAR	Mina Array Bea	61.35	323	P	P	21 01 50.3	+0.4
HLID	Hailey	62.67	329	*e*P	P	21 01 58.5	-0.2
	1.7nm,0.9s,mb4.2						
DBIC	Dimbokro	72.00	80	P	P	21 02 58.5	0.0
	2.5nm,0.6s,mb4.3,baz=300,slow=10,SNR=7.0						
DBIC	Dimbokro	72.00	80	*e*P	P	21 02 58.0	-0.5
	9.7nm,1.2s,mb4.6						
FRB	Frobisher Bay	72.19	3	P	P	21 02 57.9	-0.7
	4.1nm,0.7s,mb4.5,baz=204,slow=7.8,SNR=5.8						
FRB	Frobisher Bay	72.19	3	P	P	21 02 57.9	-0.7
VNA1	Neumayer--Stat	74.61	161	*e*	P	21 03 12.9	+0.1
VNA2	Neumayer--Watz	74.97	162	*e*	P	21 03 15.6	+0.7
SNAA	Sanae	76.59	162	*e*	P	21 03 24.1	0.0
SNAA	Sanae	76.59	162	*e*P	P	21 03 23.4	-0.7
	3.5nm,0.9s,mb4.3						
YKA	Yellowknife Ar	76.88	342	P	P	21 03 25.1	-0.7
	0.9nm,0.6s,mb3.9,baz=136,slow=6.3,SNR=15						
YKA	Yellowknife Ar	76.88	342	P	P	21 03 25.1	-0.7
TORD	Torodi Ar. Bea	79.59	75	P	P	21 03 41.7	-0.2
	1.5nm,0.6s,mb4.1,baz=269,slow=4.7,SNR=19						
TORD	Torodi Ar. Bea	79.59	75	P	P	21 03 41.7	-0.2
ESDC	Sonseca Array	81.43	48	P	P	21 03 52.7	+1.4
	0.8nm,0.6s,mb3.8,baz=265,slow=4.9,SNR=4.7						
ESDC	Sonseca Array	81.43	48	P	P	21 03 52.7	+1.4
QSPA	South Pole Qui	81.65	180	*e*P	P	21 03 52.3	+0.6
	9.5nm,1.0s,mb4.7						
RES	Resolute Bay	83.86	355	P	P	21 04 02.4	-0.7
	1.3nm,0.6s,mb4.2,baz=160,slow=8.8,SNR=6.5						
RES	Resolute Bay	83.86	355	P	P	21 04 02.4	-0.7
SUMG	Summit	84.35	11	*e*P	P	21 04 05.6	-0.1
	6.3nm,0.8s,mb4.8						
SUMG	Summit	84.35	11	*i* P	P	21 04 06.0	+0.3
	7.1nm,0.9s,mb4.8						
SJPF	Ste Jean	84.44	45	*e*P	P	21 04 06.4	-0.4
	10nm,0.8s,mb4.7						
SJPF	Ste Jean	84.44	45	*e*P	P	21 04 06.4	-0.4
	10nm,0.8s,mb5.0						
ETSF	Etsaut	84.85	45	*e*P	P	21 04 09.4	+0.6
ETSF	Etsaut	84.85	45	*e*P	P	21 04 09.4	+0.6
TAM	Tamanrasset	85.05	66	*e*P	P	21 04 12.0	+1.7
	2.4nm,0.8s,mb4.4						
EPF	Esparros	85.52	45	*e*P	P	21 04 13.3	+1.1
	32nm,1.4s,mb5.0						
EPF	Esparros	85.52	45	*e*P	P	21 04 13.3	+1.1
	32nm,1.4s,mb5.4						
INK	Inuvik	86.61	342	P	P	21 04 16.4	-0.7
	0.9nm,0.6s,mb4.2,baz=201,slow=3.1,SNR=3.9						
INK	Inuvik	86.61	342	P	P	21 04 16.4	-0.7
VNDA	Vanda	88.48	191	P	P	21 04 25.5	-0.5
	0.7nm,0.8s,mb3.9						
ILAR	Eielson Array	89.82	336	P	P	21 04 32.2	-0.1
	1.9nm,1.0s,mb4.4,baz=135,slow=3.6,SNR=15						
ILAR	Eielson Array	89.82	336	P	P	21 04 32.2	-0.1
ORIF	Oris-en-Rattie	89.85	45	*e*P	P	21 04 33.3	+0.3
	58nm,1.4s,mb5.4						
ORIF	Oris-en-Rattie	89.85	45	*e*P	P	21 04 33.3	+0.3
	58nm,1.4s						
LPL	La Plagne	90.56	44	*e*P	P	21 04 37.3	+1.0
LPL	La Plagne	90.56	44	*e*P	P	21 04 37.3	+1.0
LPG	La Plagne	90.57	44	*e*P	P	21 04 37.0	+0.7
	12nm,1.0s,mb4.9						
LPG	La Plagne	90.57	44	*e*P	P	21 04 37.0	+0.7
	12nm,1.0s,mb5.2						
STKA	Stephens Creek	126.48	220	PKP	PKPdf	21 10 37.6	-0.2
	3.1nm,0.6s,baz=134,slow=3.1,SNR=13						
STKA	Stephens Creek	126.48	220	PKP	PKPdf	21 10 37.6	-0.2
ZALV	Zalesovo Beam	131.95	16	PKP	PKPdf	21 10 47.2	-0.2
	1.1nm,0.5s,baz=285,slow=2.8,SNR=8.7						
ZALV	Zalesovo Beam	131.95	16	PKP	PKPdf	21 10 47.2	-0.2
AS31	Alice Springs	137.05	221	*e*P	PKPdf	21 10 57.1	-0.8
ASAR	Alice Springs	137.05	221	PKP	PKPdf	21 10 56.9	-1.1
	3.5nm,0.7s,baz=128,slow=2.0,SNR=27						
ASAR	Alice Springs	137.05	221	PKP	PKPdf	21 10 56.9	-1.1
MKAR	Makanchi Array	137.34	23	PKP	PKPdf	21 10 58.0	+0.2
	0.6nm,0.7s,baz=9.5,slow=3.0,SNR=6.2						
MKAR	Makanchi Array	137.34	23	PKP	PKPdf	21 10 58.0	+0.2
WRA	Warramunga Arr	139.27	226	PKP	PKPdf	21 11 01.8	-0.3
	3.1nm,0.6s,baz=121,slow=2.0,SNR=39						
WRA	Warramunga Arr	139.27	226	PKP	PKPdf	21 11 01.8	-0.3
CN2	Changchun	140.34	336	*e*PKP	PKPdf	21 11 00.5	-2.9
SONM	Songino Array	140.73	358	PKhKP	PKPpre	21 11 00.1	
	0.1nm,0.4s,baz=346,slow=1.3,SNR=3.6						
SONM	Songino Array	140.73	358	PKPpre	PKPpre	21 11 00.1	
WMQ	Urumqi	141.84	20	*e*PKP	PKPdf	21 11 04.5	-1.6
HHC	Hu-ho-hao-te	147.14	350	*e*PKPbc	PKPdf	21 11 11.5	-3.9
HHC				PKS		21 14 46.0	
HHC				SKS	SKSdf	21 18 16.8	-7.6
HHC				SKKS	SKKSac	21 21 28.5	-5.8
HHC				SS	SS	21 33 40.5	-1.2
HHC				LR	LR		
	comp=Z,210nm,20.4s						
GTA	Gaotai	148.90	7	*e*PKPbc	PKPbc	21 11 22.5	+0.3
GTA				pPKP	pPKPdf	21 11 26.5	+4.8
GTA				sPKP		21 11 30.0	
LZH	Lanzhou	152.50	1	*e*PKPbc	PKPdf	21 11 23.8	-0.2
LZH				pPKP	pPKPdf	21 11 30.8	+3.4
LZH				sPKP		21 11 33.0	
LZH				LR	LR		
	comp=N,120nm,18.0s						
LZH				LR	LR		
	comp=E,120nm,17.8s						
LZH				LR	LR		
	comp=Z,170nm,20.0s						
NJ2	Nanjing	153.01	332	*e*PKPbc	PKPdf	21 11 21.3	-3.5

*IDC **30** 21:40:54.0±1.7, 15°.63S×173°.17W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/17, mbtmp3.8/6, MS4.2/1, Ms1 4.2/1, ms1mx3.3/34, Error ellipse: s-maj=110.7km s-min=23.3km az=148.0*
*ISCJB **30** 21:41:15.5±3.2, 15°.5S±0°.2×173°.5W±0°.2, h191km±28km, mb3.4/7, Error ellipse: s-maj=39.7km s-min=22.5km az=142.1*
*NEIC **30** 21

IDC 30 22:18:29.1±3.3, 25.°49S×66.°48W, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.6/13, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/21, Error ellipse: s-maj=89.7km s-min=48.1km az=72.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	9.28	350	Pn	Pn	22 20 44.7	+0.4
	1.1nm,0.3s,baz=174,slow=7.2,SNR=17						
SIV	San Ignacio	10.71	29	Pn	Pn	22 21 04.1	+0.2
	0.3nm,0.3s,baz=236,slow=13,SNR=7.1						
ATAH	Atahualpa	21.51	326	LR	LR	22 31 35.8	
	comp=Z,159nm,21.1s,baz=99,slow=37						
TORD	Torodi Ar. Bea	76.66	68	P	P	22 30 22.3	0.0
	0.2nm,0.3s,baz=247,slow=4.7,SNR=6.8						
MKAR	Makanchi Array	147.34	41	PKPbc	PKPbc	22 38 14.0	-0.5
	0.2nm,0.4s,baz=325,slow=3.1,SNR=5.4						

*ISCJB **30** 22:47:22.2±0.6, 40.°12N±0.°04×23.°99E±0.°04, h9km±5km, Error ellipse: s-maj=6.1km s-min=5.0km az=5.1*
*THE **30** 22:47:22.9, 40.°15N×23.°96E, h9km±1km, ML2.3/5, Error ellipse: s-maj=1.0km s-min=0.6km az=299.0*
*CSEM **30** 22:47:22.3±0.1, 40.°14N×23.°98E, h10km, ML2.3/5, Error ellipse: s-maj=2.0km s-min=1.6km az=23.0*
*ATH **30** 22:47:23.0, 40.°18N×24.°03E, h4km, MD3.2/4*

ISC 30 22:47:22.4±0.6, 40.°13N±0.°03×23.°98E±0.°04, h13km±5km, n27, σ0.°26/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.20	1	P	Pg	22 47 27.0	+0.1
OUR				S	Sg	22 47 29.9	-0.1
OUR	Ouranopolis	0.20	1	P	Pg	22 47 27.0	+0.1
OUR				S	Sg	22 47 29.9	-0.1
PAIG	Paliouri	0.31	228	P	Pg	22 47 28.9	+0.1
PAIG				S	Sg	22 47 33.2	+0.2
PAIG	Paliouri	0.31	228	P	Pg	22 47 28.9	+0.1
PAIG				S	Sg	22 47 33.2	+0.2
PLG	Polygyros	0.47	301	ePG	Pg	22 47 31.9	+0.1
PLG				eSG	Sg	22 47 38.2	+0.1
PLG	Polygyros	0.47	301	P	Pg	22 47 31.8	0.0
PLG				S	Sg	22 47 38.1	0.0
PLG	Polygyros	0.47	301	P	Pg	22 47 31.8	0.0
PLG				S	Sg	22 47 38.1	0.0
HORT	Hortiatis	0.82	305	P	Pg	22 47 37.7	-0.5
HORT	Hortiatis	0.82	305	P	Pg	22 47 37.7	-0.5
SOH	Sokhos	0.84	325	ePB	Pb	22 47 38.6	-0.2
SOH				eSG	Sg	22 47 49.7	+0.1
SOH	Sokhos	0.84	325	P	Pg	22 47 38.4	-0.2
SOH				S	Sg	22 47 49.7	+0.1
SOH	Sokhos	0.84	325	ePb	Pb	22 47 38.6	-0.2
SOH				S	Sg	22 47 49.7	+0.1
KAVA	Kavala	0.95	25	P	Pb	22 47 40.5	-0.3
KAVA				S	Sg	22 47 53.6	+0.3
KAVA	Kavala	0.95	25	P	Pb	22 47 40.5	-0.3
KAVA				S	Sg	22 47 53.6	+0.3
LIA	Limnos Island	0.95	104	ePG	Pg	22 47 40.8	-0.1
LIA				eSG	Sg	22 47 53.5	+0.2
LIA	Limnos Island	0.95	104	ePg	Pg	22 47 40.8	-0.1
LIA				eSg	Sg	22 47 53.5	+0.2
SRS	Serrai	1.02	343	P	Pb	22 47 41.9	-0.1
SRS	Serrai	1.02	343	P	Pb	22 47 41.9	-0.1
LIT	Litokhoron	1.14	269	P	Pb	22 47 44.1	+0.1
LIT	Litokhoron	1.14	269	P	Pb	22 47 44.1	+0.1
NVR	Nevrokopi	1.22	356	ePB	Pb	22 47 44.9	-0.4
NVR				eSB	Sb	22 48 01.3	+0.4
NVR	Nevrokopi	1.22	356	P	Pn	22 47 44.8	-0.3
NVR	Nevrokopi	1.22	356	P	Pn	22 47 44.8	-0.3
NVR				eSb	Sb	22 48 01.3	+0.4
KNT	Kendrikon	1.32	322	P	Pn	22 47 46.5	0.0
KNT				S	Sb	22 48 04.3	+0.6
KNT	Kendrikon	1.32	322	P	Pn	22 47 46.5	0.0
KNT				S	Sb	22 48 04.3	+0.6
RDO	Rodhopi	1.56	49	P	Pn	22 47 49.9	+0.1
RDO	Rodhopi	1.56	49	P	Pn	22 47 49.9	+0.1

*IDC **30** 23:02:00.7±1.4, 10.°65S×161.°52E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/17, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=33.0km s-min=25.5km az=136.0*
*ISCJB **30** 23:02:04.6±3.3, 10.°75S±0.°09×161.°5E±0.°2, h38km±25km, mb3.7/8, Error ellipse: s-maj=27.7km s-min=14.3km az=6.7*
*NEIC **30** 23:02:06.0±0.7, 10.°68S×161.°50E, h35km, mb3.9/3, Error ellipse: s-maj=16.3km s-min=9.7km az=121.0*

ISC 30 23:02:04.5±5.9, 10.°69S±0.°09×161.°5E±0.°1, h24km±40km, n23, σ0.°58/25, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.00	308	Pn	Pn	23 02 36.2	-0.7
	52nm,0.3s,baz=173,slow=11,SNR=17						
HNR				Sn	Sn	23 03 01.2	+0.1
	136nm,0.3s,baz=186,slow=15,SNR=7.2						
HNR	Honiara	2.00	308	Pn	Pn	23 02 36.2	-0.7
HNR				Sn	Sn	23 03 01.2	+0.1
CTA	Charters Tower	17.44	236	P	Pn	23 06 06.3	+0.1
	0.2nm,0.3s,baz=66,slow=16,SNR=3.2						
CTA	Charters Tower	17.44	236	P	Pn	23 06 06.3	+0.1
CTAO	Charters Tower	17.44	236	ePn	Pn	23 06 06.4	+0.2
	3.2nm,0.6s						
COEN	Coen	18.23	258	eP	Pn	23 06 17.6	+1.5
	14nm,0.7s						
ARMA	Armidale	21.69	204	P	P	23 06 53.1	-0.5
WRAB	Tennant Creek	27.75	247	eP	P	23 07 51.4	-0.1
	1.9nm,0.7s,mb3.8						
WB2	Warramunga Arr	27.75	247	eP	P	23 07 51.3	-0.2
WRA	Warramunga Arr	27.77	247	P	P	23 07 52.1	+0.5
	1.0nm,0.6s,mb3.6,baz=76,slow=9.6,SNR=8.1						
WRA	Warramunga Arr	27.77	247	P	P	23 07 52.1	+0.5
ASAR	Alice Springs	29.32	240	P	P	23 08 04.7	-0.8
	0.2nm,0.4s,mb3.2,baz=62,slow=9.9,SNR=6.2						
ASAR	Alice Springs	29.32	240	P	P	23 08 04.7	-0.8
CMAR	Chiang Mai Arr	68.20	295	P	P	23 13 03.1	-0.3
	0.5nm,0.7s,mb3.6,baz=108,slow=4.8,SNR=3.6						
CMAR	Chiang Mai Arr	68.20	295	P	P	23 13 03.1	-0.3
SONM	Songino Array	75.98	325	P	P	23 13 49.2	-0.2
	0.5nm,0.7s,mb3.6,baz=139,slow=4.3,SNR=4.9						
SONM	Songino Array	75.98	325	P	P	23 13 49.2	-0.2
ILAR	Eielson Array	84.53	20	P	P	23 14 35.5	+0.4
	0.6nm,0.9s,mb3.7,baz=249,slow=4.9,SNR=4.1						
ILAR	Eielson Array	84.53	20	P	P	23 14 35.5	+0.4
MKAR	Makanchi Array	90.45	318	P	P	23 15 03.7	-0.4
	0.4nm,0.4s,mb4.1,baz=90,slow=6.8,SNR=10						
MKAR	Makanchi Array	90.45	318	P	P	23 15 03.7	-0.4
YKA	Yellowknife Ar	96.56	28	P	P	23 15 32.5	+0.7
	0.2nm,0.5s,mb3.8,baz=264,slow=4.6,SNR=3.3						
YKA	Yellowknife Ar	96.56	28	P	P	23 15 32.5	+0.7

*ISCJB **30** 23:12:55.5±1.2, 14.°09N±0.°09×92.°07W±0.°07, h51km±20km, Error ellipse: s-maj=18.2km s-min=4.8km az=36.2*
*NEIC **30** 23:12:57.0, 14.°06N×92.°21W, h10km, MD4.3(MEX), After MEX.*
*MEX **30** 23:12:57.4±0.5, 14.°05N×92.°17W, h17km±36km, MD4.3*
*CASC **30** 23:12:58.5±1.5, 13.°89N×91.°65W, h0km±7km, MD3.6*

ISC 30 23:12:56.3±1.5, 14.°10N±0.°08×92.°07W±0.°07, h33km±10km, n19, σ0.°83/32, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.47	63	↓iP	Pb	23 13 08.6	+2.2
THIG		0.82	347	iP	Pn	23 13 10.7	-0.9
THIG				eS	Sb	23 13 21.6	-1.4
THIG		0.82	347	iP	Pn	23 13 10.7	-0.9
THIG				eS	Sb	23 13 21.6	-1.4
FUG	Fuego 3	1.24	74	eP	Pn	23 13 16.8	-0.5
PCG	Pacaya	1.45	78	↓eP	Pn	23 13 20.3	+0.1
PCG				eS	Sn	23 13 37.1	-0.9
IXG	Ixpaco	1.57	87	eP	Pn	23 13 22.0	+0.1
IXG				eS	Sn	23 13 40.3	-0.8
NBG	Las Nubes	1.74	74	eP	Pn	23 13 24.7	+0.5
PCIG		1.94	325	iP	Pn	23 13 26.8	-0.1
PCIG				eS	Sn	23 13 48.6	-1.6
PCIG		1.94	325	iP	Pn	23 13 26.8	-0.1
PCIG				eS	Sn	23 13 48.6	-1.6
CCIG	Comitan	2.17	358	iP	Pn	23 13 30.9	+0.8
CCIG				eS	Sn	23 13 57.5	+1.7
CCIG	Comitan	2.17	358	iP	Pn	23 13 30.9	+0.8
CCIG				eS	Sn	23 13 57.5	+1.7
RBDL	Robledal	2.31	89	eP	Pn	23 13 31.8	-0.2
RTR	El Retiro	2.36	95	eP	Pn	23 13 32.9	+0.2
RTR				eS	Sn	23 14 00.4	-0.3
SBLS	San Blas	2.39	96	eP	Pn	23 13 33.2	+0.1
SBLS				eS	Sn	23 14 01.2	-0.1
SNJE	San Jose	2.41	95	eP	Pn	23 13 33.9	+0.6
BOQS	Boqueron	2.73	97	eP	Pn	23 13 38.4	+0.5
BOQS				eS	Sn	23 14 09.6	-0.3
TGIG		2.85	339	iP	Pn	23 13 39.3	-0.1
TGIG				eS	Sn	23 14 13.7	+1.2
TGIG		2.85	339	iP	Pn	23 13 39.3	-0.1
TGIG				eS	Sn	23 14 13.7	+1.2
SNVI	San Vicente	3.18	98	eP	Pn	23 13 44.1	+0.2

*ISCJB **30** 23:19:33.8±0.8, 20.°80S±0.°06×67.°7W±0.°1, h175km±9km, mb3.4/4, Error ellipse: s-maj=16.8km s-min=9.9km az=178.0*
*NEIC **30** 23:19:34.7±0.7, 20.°73S×67.°72W, h164km±8km, mb3.7/1, Error ellipse: s-maj=13.0km s-min=8.8km az=98.0*
*IDC **30** 23:19:38.3±7.8, 20.°58S×67.°51W, h191km±52km, mb3.2/4, mb1 3.6/6, mb1mx3.4/14, mbtmp3.4/6, Error ellipse: s-maj=91.8km s-min=21.0km az=23.0*

ISC 30 23:19:34.6±0.8, 20.°82S±0.°06×67.°7W±0.°1, h167km±9km, n25, σ1.°13/22, mb3.4/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.12	212	ePn	Pn	23 20 11.0	-1.1
LVC				eSn	Sn	23 20 34.1	-7.0
LPAZ	La Paz	4.53	355	P	Pn	23 20 44.8	+2.6
	1.6nm,0.3s,baz=164,slow=6.8,SNR=29						
LPAZ				S	Sn	23 21 36.7	+1.8
	0.4nm,0.3s,baz=191,slow=5.2,SNR=4.2						
LPAZ	La Paz	4.53	355	ePn	Pn	23 20 42.5	+0.4
LPAZ				eSn	Sn	23 21 33.5	-1.4
SIV	San Ignacio	7.90	54	P	Pn	23 21 26.0	-0.6
	8.5nm,0.3s,baz=247,slow=12,SNR=127						
SIV	San Ignacio	7.90	54	P	Pn	23 21 26.0	-0.6
LCO	Las Campanas	8.60	198	ePn	Pn	23 21 38.9	+3.1
CPUP	Villa Florida	10.97	122	P	Pn	23 22 09.4	+2.5
SAML	Samuel	12.57	21	ePn	Pn	23 22 27.4	-0.5
TRQA	Tornquist	17.88	165	eP	Pn	23 23 32.1	-0.7
	3.9nm,0.9s						
ROSC	El Rosal	26.34	345	eP	P	23 24 54.6	-0.6
RCBR	Riachuelo	34.23	69	eP	P	23 26 04.0	-0.7
TXAR	Lajitas Array	60.74	324	P	P	23 29 28.6	-0.1
	0.1nm,0.5s,mb2.9,baz=146,slow=8.3,SNR=3.3						
TXAR	Lajitas Array	60.74	324	P	P	23 29 28.6	-0.1
PDAR	Pinedale Array	74.10	329	P	P	23 30 53.0	+0.7
	0.2nm,0.5s,mb3.1,baz=123,slow=6.6,SNR=2.3						
PDAR	Pinedale Array	74.10	329	P	P	23 30 53.0	+0.7
TORD	Torodi Ar. Bea	76.05	70	P	P	23 31 03.9	-0.2
	1.4nm,0.4s,mb4.0,baz=255,slow=5.5,SNR=40						
TORD	Torodi Ar. Bea	76.05	70	P	P	23 31 03.9	-0.2
YKA	Yellowknife Ar	90.93	340	P	P	23 32 19.4	+0.5
	0.3nm,0.4s,mb3.6,baz=128,slow=4.2,SNR=9.0						
YKA	Yellowknife Ar	90.93	340	P	P	23 32 19.4	+0.5
ZALV	Zalesovo Beam	140.85	26	PKP	PKPdf	23 38 44.7	+0.4
	0.3nm,0.3s,baz=320,slow=3.9,SNR=3.6						
ZALV	Zalesovo Beam	140.85	26	PKP	PKPdf	23 38 44.7	+0.4
MKAR	Makanchi Array	144.41	36	PKP	PKPdf	23 38 50.7	-0.1
	0.9nm,0.5s,baz=323,slow=3.5,SNR=19						
MKAR	Makanchi Array	144.41	36	PKP	PKPdf	23 38 50.7	-0.1
SONM	Songino Array	152.63	9	PKPbc	PKPbc	23 39 12.1	+0.9
	0.3nm,0.4s,baz=312,slow=1.7,SNR=6.3						
SONM	Songino Array	152.63	9	PKPbc	PKPbc	23 39 12.1	+0.9

*CSEM **30** 23:32:50.5, 37.°38N×24.°71W, h5km, ML3.4, After PDA*

PDA 30 23:32:50.5±1.1, 37.°38N×24.°71W, h5km, MD3.8, ML3.4, Error ellipse: s-maj=7.3km s-min=2.4km az=82.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.47	217	eP	Pg	23 32 58.7	-0.8
PSMN				eS	Sg	23 33 04.6	-1.0
PSMN				A		23 33 07.1	
	519nm,0.3s						
PSMN	Pico do Norte,	0.47	217	eP	Pg	23 32 58.7	-0.8
PSMN				eS	Sg	23 33 04.6	-1.0
PSMA	Santa Maria	0.51	221	eP	Pg	23 32 59.1	-1.1
PSMA				eS	Sg	23 33 05.9	-0.9
PSMA				A		23 33 06.2	
	222nm,0.2s						
BART	Pico Bartolome	0.54	318	eP	Pg	23 32 59.6	-1.3
BART				eS	Sg	23 33 06.4	-1.5
BART	Pico Bartolome	0.54	318	eP	Pg	23 32 59.6	-1.3
BART				eS	Sg	23 33 06.4	-1.5
CMLA	Cha da Macela	0.75	301	iP	Pg	23 33 02.8	-2.2
CMLA				eS	Sg	23 33 12.2	-2.5
CMLA				A		23 33 14.9	
	1μm,0.3s						
CMLA				A		23 33 15.7	
	3μm,0.3s						
GRON	Grota Negra	0.76	301	iP	Pg	23 33 01.5	-3.6
GRON				eS	Sg	23 33 10.1	-4.9
GRON				A		23 33 11.1	
	418nm,0.1s						
PDA	Ponta Delgada	0.84	296	eP	Pg	23 33 04.0	-2.7
PDA				eS	Sg	23 33 14.4	-3.2
PDA				A		23 33 15.5	
	1μm,0.1s						
PDA	Ponta Delgada	0.84	296	eP	Pg	23 33 04.0	-2.7
PDA				eS	Sg	23 33 14.4	-3.2
PMAN	Manadas	2.95	296	eS	Sn	23 34 05.5	-8.2
PMAN				A		23 34 08.9	
	71nm,0.2s						
PMAN	Manadas	2.95	296	eS	Sn	23 34 05.5	-8.2
ROSA	Rosais	3.09	297	eP	Pn	23 33 35.6	-4.3
ROSA				eS	Sn	23 34 09.2	-8.1
ROSA				A		23 34 15.5	
	65nm,0.3s						
ROSA	Rosais	3.09	297	eP	Pn	23 33 35.6	-4.3
ROSA				eS	Sn	23 34 09.2	-8.1
PICO	Pico	3.14	292	eP	Pn	23 33 37.5	-3.1
PICO				eS	Sn	23 34 09.9	-8.6
PICO	Pico	3.14	292	eP	Pn	23 33 37.5	-3.1
PICO				eS	Sn	23 34 09.9	-8.6
PCAN	Candelaria	3.18	291	eP	Pn	23 33 36.8	-4.3
PCAN	Candelaria	3.18	291	eP	Pn	23 33 36.8	-4.3
HOR	Horta	3.30	292	eP	Pn	23 33 38.5	-4.3
HOR				eS	Sn	23 34 14.0	-8.5
HOR	Horta	3.30	292	eP	Pn	23 33 38.5	-4.3
HOR				eS	Sn	23 34 14.0	-8.5
CALA	Caldeira	3.38	292	eP	Pn	23 33 39.8	-4.0
CALA				eS	Sn	23 34 16.3	-7.9
CALA	Caldeira	3.38	292	eP	Pn	23 33 39.8	-4.0
CALA				eS	Sn	23 34 16.3	-7.9
PCED	Cedros	3.39	293	eP	Pn	23 33 40.0	-4.0
PCED				eS	Sn	23 34 16.7	-7.9
PCED				A		23 34 22.1	
	81nm,0.4s						
PCED	Cedros	3.39	293	eP	Pn	23 33 40.0	-4.0
PCED				eS	Sn	23 34 16.7	-7.9

*IDC **30** 23:36:53.9±0.8, 51.°12N×160.°83E, h0km, mb3.6/12, mb1 3.8/13, mb1mx3.7/24, mbtmp3.6/13, ML3.5/1, Error ellipse: s-maj=22.5km s-min=17.8km az=170.0*
*MOS **30** 23:36:57.4±0.7, 51.°21N×160.°94E, h43km, mb4.1/10, Error ellipse: s-maj=18.7km s-min=9.0km az=105.8*
*ISCJB **30** 23:36:58.6±1.1, 51.°27N±0.°06×160.°85E±0.°09, h51km±10km, mb3.7/17, Error ellipse: s-maj=10.6km s-min=9.1km az=171.2*
*NEIC **30** 23:36:59.5±1.2, 51.°16N×160.°73E, h39km±10km, mb4.1/5, Error ellipse: s-maj=10.6km s-min=7.4km az=135.0*
*KRSC **30** 23:37:00.2±1.0, 51.°57N×160.°85E, h41km±41km, ML4.0*

ISC 30 23:36:59.4±1.2, 51.°22N±0.°07×160.°81E±0.°09, h40km±10km, n77, σ0.°97/91, mb3.7/17, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.87	311	P	Pn	23 37 30.0	+1.1
RUS				iS	Sn	23 37 51.9	+0.6
RUS	Russkaya	1.87	311	PN	Pn	23 37 30.0	+1.1
RUS				S	Sn	23 37 51.9	+0.6
SPN	Mys Shipunski	1.94	346	P	Pn	23 37 29.0	-0.9
SPN				iS	Sn	23 37 49.9	-3.1
SPN	Mys Shipunski	1.94	346	PN	Pn	23 37 29.0	-0.9
SPN				S	Sn	23 37 49.9	-3.1
NLC	Nalytchevo	2.15	336	P	Pn	23 37 32.3	-0.5
NLC				iS	Sn	23 37 55.6	-2.6
NLC	Nalytchevo	2.15	336	PN	Pn	23 37 32.3	-0.5
NLC				S	Sn	23 37 55.6	-2.6
GRL	Gorelyy	2.16	309	P	Pn	23 37 34.2	+1.4
GRL				iS	Sn	23 37 58.8	+0.5
PET	Petropavlovsk	2.25	324	P	Pn	23 37 34.3	+0.3
PET				iS	Sn	23 37 59.2	-1.2
PET	Petropavlovsk	2.25	324	ePn	Pn	23 37 34.0	-0.1
PET				eSn	Sn	23 38 00.5	+0.1
PET	Petropavlovsk	2.25	324	ePN	Pn	23 37 34.4	+0.4
PET				eS	Sn	23 38 02.1	+1.7
PET				smax			
	comp=E,121nm,0.5s						
SDLR	Sedlovina	2.38	331	P	Pn	23 37 35.8	0.0
AVH	Avacha	2.41	329	P	Pn	23 37 36.8	+0.5
AVH				iS	Sn	23 38 03.1	-1.5
PEA0B	Petropavlovsk-	2.69	316	ePn	Pn	23 37 40.4	+0.2
PEA0B				eSn	Sn	23 38 12.0	+0.5
PETK	Petropavlovsk-	2.69	316	Pn	Pn	23 37 40.5	+0.3
	comp=E,7.3nm,0.3s,baz=133,slow=18,SNR=34						
PETK				Sn	Sn	23 38 14.8	+3.3
	comp=E,14nm,0.3s,baz=137,slow=20,SNR=13						
PETK	Petropavlovsk-	2.69	316	Pn	Pn	23 37 40.5	+0.3
PETK				Sn	Sn	23 38 14.8	+3.3
PETK	Petropavlovsk-	2.69	316	ePN	Pn	23 37 40.4	+0.2
PETK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
TUMR	Tumrok	4.09	355	eP	Pn	23 37 59.1	-0.2
KMNR	Kamenistaya	4.56	356	P	Pn	23 38 06.5	+0.7
KBTR	Krutoberegovo	5.14	13	P	Pn	23 38 12.2	-1.5
KBTR	Krutoberegovo	5.14	13	PN	Pn	23 38 12.2	-1.5
SRDR	Sredinnyy	5.15	353	P	Pn	23 38 14.3	+0.4
SEY	Seymchan	12.59	342	ePN	Pn	23 39 46.9	-8.8
MAJO	Matsushiro	21.80	236	eP	P	23 41 47.6	-0.3
	comp=Z,7.5nm,0.9s,mb4.1						
MAJO	Matsushiro	21.80	236	eP	P	23 41 47.6	-0.3
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
MJAR	Matsushiro Arr	21.80	236	P	P	23 41 47.4	-0.5
	comp=Z,2.8nm,1.0s,mb3.6,baz=46,slow=12,SNR=3.2						
MJAR	Matsushiro Arr	21.80	236	P	P	23 41 47.4	-0.5
MJAR	Matsushiro Arr	21.80	236	P	P	23 41 47.4	-0.5
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HIA	Hailar	26.10	282	eP	P	23 42 28.9	-0.2
	comp=Z,3.5nm,0.4s,mb4.2						
HIA	Hailar	26.10	282	eP	P	23 42 28.9	-0.3
HIA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
INCN	Inchon	27.75	254	eP	P	23 42 43.7	-0.4
TATO	Taipei	39.83	244	P	P	23 44 28.2	-0.5
YHNB	Yeheng	40.13	244	eP	P	23 44 30.5	-0.8
NACB	Ninganchiao	40.39	243	eP	P	23 44 32.5	-0.9
ZALV	Zalesovo Beam	44.19	305	P	P	23 45 04.1	+0.2
	comp=Z,0.3nm,0.5s,mb3.3,baz=46,slow=4.2,SNR=2.8						
ZALV	Zalesovo Beam	44.19	305	P	P	23 45 04.1	+0.2
ZALV	Zalesovo Beam	44.19	305	P	P	23 45 04.1	+0.1
YKA	Yellowknife Ar	44.26	41	P	P	23 45 04.2	-0.3
	comp=Z,0.3nm,0.7s,mb3.1,baz=296,slow=7.8,SNR=3.3						
YKA	Yellowknife Ar	44.26	41	P	P	23 45 04.2	-0.3
YKA	Yellowknife Ar	44.26	41	P	P	23 45 04.2	-0.3
KURK	Kurchatov	49.12	304	eP	P	23 45 42.4	-0.2
	comp=Z,1.5nm,0.7s,mb4.1						
KURK	Kurchatov	49.12	304	eP	P	23 45 40.1	-2.5
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
MKAR	Makanchi Array	49.39	298	P	P	23 45 45.1	+0.4
	comp=Z,0.1nm,0.4s,mb3.2,baz=57,slow=8.4,SNR=6.0						
MKAR	Makanchi Array	49.39	298	P	P	23 45 45.1	+0.4
MKAR	Makanchi Array	49.39	298	eP	P	23 45 45.1	+0.3
BRVK	Borovoye	51.95	310	eP	P	23 46 04.1	+0.1
BRVK	Borovoye	51.95	310	eP	P	23 46 04.1	+0.2
NVAR	Mina Array Bea	55.98	69	P	P	23 46 35.7	+2.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=297,slow=6.8,SNR=3.7						
NVAR	Mina Array Bea	55.98	69	P	P	23 46 35.7	+2.2
AAK	Ala-Archa	56.33	298	eP	P	23 46 36.3	+0.3
AAK	Ala-Archa	56.33	298	eP	P	23 46 36.3	+0.3
EKS2	Erkin-Say	56.71	298	eP	P	23 46 38.5	-0.2
	comp=Z,0.7nm,0.5s,mb4.0						
EKS2	Erkin-Say	56.71	298	eP	P	23 46 38.5	-0.2
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	Pinedale Array	58.06	60	P	P	23 46 50.4	+2.2
	comp=Z,0.3nm,0.7s,mb3.4,baz=324,slow=4.5,SNR=3.6						
PDAR	Pinedale Array	58.06	60	P	P	23 46 50.4	+2.2
CMAR	Chiang Mai Arr	58.26	260	P	P	23 46 51.7	+1.8
	comp=Z,0.6nm,0.9s,mb3.6,baz=32,slow=8.4,SNR=4.6						
CMAR	Chiang Mai Arr	58.26	260	P	P	23 46 51.7	+1.8
CMAR	Chiang Mai Arr	58.26	260	P	P	23 46 51.7	+1.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	62.02	337	P	P	23 47 15.7	+0.6
	comp=Z,1.9nm,1.0s,mb4.2,baz=15,slow=7.9,SNR=4.3						
FINES	FINESS Array B	62.02	337	P	P	23 47 15.7	+0.6
FINES	FINESS Array B	62.02	337	P	P	23 47 15.7	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	Malin Array Be	70.45	330	P	P	23 48 09.3	+0.1
	comp=Z,0.7nm,0.4s,mb4.0,baz=27,slow=5.7,SNR=3.8						
AKASG	Malin Array Be	70.45	330	P	P	23 48 09.3	+0.1
AKASG	Malin Array Be	70.45	330	P	P	23 48 09.3	+0.1
AKASG				pmax	pmax		

FSR				AML	AML	23 40 14.3
	comp=N,948nm,0.3s					
FCH	**Farellones**	**0.77**	**346**	⇑*i*P	Pb	23 40 00.0 -3.9
FCH				*i* S	Sb	23 40 11.8 -2.2
FCH				AML	AML	23 40 13.2
	comp=N,3μm,0.2s					
CLCH	**Cerro Calan**	**0.78**	**330**	⇑*i*P	Pb	23 40 04.0 -0.2
CLCH				*i* S	Sb	23 40 15.1 +0.7
CLCH				AML	AML	23 40 17.6
	comp=E,7μm,0.6s					
SAN	**Santiago**	**0.79**	**322**	⇑*i*P	Pb	23 40 03.9 -0.5
SAN				*i* S	Sb	23 40 14.9 +0.2
SAN	**Santiago**	**0.79**	**322**	⇑*i*P	Pb	23 40 03.9 -0.5
SAN				*i* S	Sb	23 40 14.9 +0.2
SAN				AML	AML	23 40 15.8
	comp=N,2μm,0.2s					
STL	**Santa Lucia**	**0.79**	**323**	*e*P	Pb	23 40 03.6 -0.8
STL				*i* S	Sb	23 40 14.9 +0.1
TACH	**Talagante**	**0.83**	**300**	⇑*i*P	Pb	23 40 04.5 -0.6
TACH				*i* S	Sb	23 40 16.1 +0.1
TACH	**Talagante**	**0.83**	**300**	⇑*i*P	Pb	23 40 04.5 -0.6
TACH				*i* S	Sb	23 40 16.1 +0.1
RCDM	**Rinconada Maip**	**0.84**	**314**	*e*P	Pb	23 40 05.8 +0.5
RCDM				*i* S	Sb	23 40 17.2 +0.9
RCDM	**Rinconada Maip**	**0.84**	**314**	*e*P	Pb	23 40 05.8 +0.5
RCDM				*i* S	Sb	23 40 17.2 +0.9
RCDM				AML	AML	23 40 17.5
	comp=N,3μm,0.2s					
PEL	**Peldehue**	**1.06**	**331**	⇓*i*P	Pb	23 40 08.6 -0.3
PEL				*i* S	Sb	23 40 23.5 +1.0
PEL				AML	AML	23 40 24.1
	comp=N,4μm,0.4s					
LNV	**Longovilo**	**1.12**	**276**	⇑*i*P	Pn	23 40 09.3 -0.6
LNV	**Longovilo**	**1.12**	**276**	⇑*i*P	Pn	23 40 09.3 -0.6
ROCH	**El Roble**	**1.35**	**324**	⇓*i*P	Pn	23 40 13.5 +0.4
ROCH				*i* S	Sn	23 40 32.2 +1.6
ROCH				AML	AML	23 40 36.8
	comp=N,2μm,0.5s					
JACH	**Jahuel**	**1.46**	**343**	*e*P	Pn	23 40 15.0 +0.5
JACH	**Jahuel**	**1.46**	**343**	*e*P	Pn	23 40 15.0 +0.5
IHA	**Instituto Hidr**	**1.68**	**308**	*e*P	Pn	23 40 18.9 +1.4
IHA	**Instituto Hidr**	**1.68**	**308**	*e*P	Pn	23 40 18.9 +1.4
TALC	**Talca**	**1.84**	**224**	*e*P	Pn	23 40 22.0 +2.1
TALC				*i* S	Sn	23 40 46.5 +3.8
TALC	**Talca**	**1.84**	**224**	*e*P	Pn	23 40 22.0 +2.1
TALC				*i* S	Sn	23 40 46.5 +3.8
PTCH	**Petorca**	**1.94**	**338**	*e*P	Pn	23 40 23.6 +2.3
PTCH				*i* S	Sn	23 40 50.1 +4.9
PTCH	**Petorca**	**1.94**	**338**	*e*P	Pn	23 40 23.6 +2.3
PTCH				*i* S	Sn	23 40 50.1 +4.9
PTCH				AML	AML	23 40 53.7
	comp=N,1μm,0.3s					
CHNG	**Los Chungos**	**2.49**	**331**	⇓*i*P	Pn	23 40 31.6 +2.8
CHNG				*i* S	Sn	23 41 04.6 +5.8
CHNG	**Los Chungos**	**2.49**	**331**	⇓*i*P	Pn	23 40 31.6 +2.8
CHNG				*i* S	Sn	23 41 04.6 +5.8
CMCH	**Combarbala**	**3.00**	**345**	*e*P	Pn	23 40 41.0 +5.2

MAN 31 00:06:06, 17°31N×121°90E, h28km, mb4.6, ML3.5, MS3.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.37**	**191**	*e*P	Pb	00 06 16.1	+1.8
CAUP				*e*S	Sb	00 06 21.3	+1.4
PALP	**Palanan**	**0.56**	**116**	*e*P	Pb	00 06 18.2	+0.8
SGCP	**Mt. Cagua**	**0.94**	**9**	*e*P	Pn	00 06 23.8	+0.4
ABRA	**Dolores**	**1.18**	**287**	*e*P	Pn	00 06 26.7	+0.1
ABRA				*e*S	Sn	00 06 41.5	-0.2
BCPH	**Baguio City Da**	**1.56**	**234**	⇑*i*P	Pn	00 06 33.4	+1.5
BCPH				*i* S	Sn	00 06 51.2	0.0
BALP	**Baler**	**1.59**	**191**	*e*P	Pn	00 06 32.1	-0.1
BOLP	**Bolinao**	**2.11**	**244**	*e*P	Pn	00 06 41.2	+1.8
AUQP	**San Andres**	**4.03**	**169**	*e*P	Pn	00 06 58.3	-7.6
PVCP	**Virac**	**4.29**	**149**	*e*P	Pn	00 07 11.3	+2.0

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*IDC **31** 00:06:23.9±1.8, 4°38S×101°25E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, MS3.4/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=64.2km s-min=16.9km az=58.0*
*NEIC **31** 00:06:25.6±0.3, 4°36S×101°24E, h10km, mb4.1/6, Error ellipse: s-maj=8.5km s-min=5.2km az=67.0*
*ISCJB **31** 00:06:26.6±0.5, 4°38S±0°06×101°21E±0°08, h33km, mb4.0/14, MS3.5/2, Error ellipse: s-maj=11.8km s-min=7.5km az=157.8*
ISC 31 00:06:29.1±0.5, 4°37S±0°06×101°25E±0°08, h35km, n40, σ0s43/35, mb4.0/14, MS3.5/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**8.91**	**209**	Pn	**Pn**	**00 08 35.8**	**+0.4**
KULM	**Kulim**	**9.61**	**356**	*e*Pn	**Pn**	**00 08 45.2**	**+0.1**
KKM	**Kota Kinabalu**	**18.17**	**55**	*e*Pn	**Pn**	**00 10 38.9**	**0.0**
KAPI	**Kappang**	**18.45**	**93**	P	**Pn**	**00 10 43.1**	**+0.9**
CM31	**Chiang Mai Arr**	**22.80**	**354**	*e*P	**P**	**00 11 28.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**22.80**	**354**	P	**P**	**00 11 29.1**	**+0.2**
2.6nm,0.8s,mb3.7,baz=184,slow=8.5,SNR=20							
CMAR	**Chiang Mai Arr**	**22.80**	**354**	P	**P**	**00 11 29.1**	**+0.2**
QIZ	**Qiongzhong**	**24.74**	**20**	*e*P	**P**	**00 11 47.4**	**0.0**
FITZ	**Fitzroy Crossi**	**27.48**	**122**	P	**P**	**00 12 11.9**	**-0.4**
2.2nm,0.7s,mb3.8,baz=328,slow=11,SNR=3.5							
FITZ	**Fitzroy Crossi**	**27.48**	**122**	*e*P	**P**	**00 12 12.2**	**-0.1**
1.2nm,0.8s,mb3.5							
NWAO	**Narrogin (SRO)**	**32.10**	**154**	*e*P	**P**	**00 12 52.9**	**-0.1**
7.3nm,1.0s,mb4.5							
LSA	**Lhasa**	**35.23**	**345**	*e*P	**P**	**00 13 21.1**	**+0.8**
WRA	**Warramunga Arr**	**35.75**	**118**	P	**P**	**00 13 24.3**	**-0.6**
0.3nm,0.4s,mb3.6,baz=304,slow=9.1,SNR=13							
WRA	**Warramunga Arr**	**35.75**	**118**	P	**P**	**00 13 24.3**	**-0.6**
WRAB	**Tennant Creek**	**35.75**	**118**	*e*P	**P**	**00 13 25.2**	**+0.3**
5.5nm,1.0s,mb4.4							
WB2	**Warramunga Arr**	**35.76**	**118**	*e*P	**P**	**00 13 24.7**	**-0.3**
ASAR	**Alice Springs**	**36.87**	**124**	P	**P**	**00 13 34.4**	**-0.1**
0.4nm,0.6s,mb3.4,baz=292,slow=7.3,SNR=5.4							
ASAR	**Alice Springs**	**36.87**	**124**	P	**P**	**00 13 34.4**	**-0.1**
COEN	**Coen**	**42.40**	**106**	P	**P**	**00 14 20.3**	**-0.3**
STKA	**Stephens Creek**	**46.66**	**131**	*e*P	**P**	**00 14 54.5**	**+0.1**
0.3nm,0.6s,mb3.4							
KSAR	**Wonju Array Be**	**48.42**	**28**	P	**P**	**00 15 08.5**	**+0.5**
KSRS	**Korea Array**	**48.45**	**29**	P	**P**	**00 15 08.5**	**+0.3**
2.1nm,0.7s,mb4.3,baz=218,slow=7.6,SNR=4.6							
SONM	**Songino Array**	**52.18**	**4**	P	**P**	**00 15 36.7**	**+0.5**
3.2nm,0.9s,mb4.3,baz=187,slow=9.3,SNR=22							
SONM				PcP	PcP	00 16 47.8	+0.2
0.8nm,0.5s,baz=187,slow=3.6,SNR=6.8							
SONM	**Songino Array**	**52.18**	**4**	P	**P**	**00 15 36.7**	**+0.5**
SONM				PcP	PcP	00 16 47.8	+0.2
ULN	**Ulaanbaatar**	**52.26**	**5**	*e*P	**P**	**00 15 36.9**	**0.0**
3.4nm,1.3s,mb4.1							
EKS2	**Erkin-Say**	**53.02**	**335**	*e*P	**P**	**00 15 42.8**	**+0.3**
MK31	**Makanchi Array**	**53.63**	**344**	*e*P	**P**	**00 15 46.6**	**-0.3**
MKAR	**Makanchi Array**	**53.63**	**344**	P	**P**	**00 15 46.8**	**-0.1**
1.9nm,0.7s,mb4.1,baz=154,slow=9.1,SNR=20							
MKAR	**Makanchi Array**	**53.63**	**344**	P	**P**	**00 15 46.8**	**-0.1**
USRK	**Ussuriysk Arra**	**55.68**	**26**	P	**P**	**00 16 01.3**	**-0.6**
3.7nm,0.8s,mb4.5,baz=224,slow=5.4,SNR=5.8							
TLY	**Talaya**	**55.87**	**2**	*e*P	**P**	**00 16 03.0**	**0.0**
KURK	**Kurchatov**	**58.22**	**343**	*e*P	**P**	**00 16 18.7**	**-1.0**
1.4nm,0.8s,mb4.0							
ZALV	**Zalesovo Beam**	**59.72**	**349**	P	**P**	**00 16 29.2**	**-0.8**
1.3nm,0.5s,mb4.2,baz=160,slow=4.6,SNR=9.6							
ZALV				LR	LR	00 46 15.1	
comp=Z,14nm,18.4s,MS3.1,baz=75,slow=40							
ZALV	**Zalesovo Beam**	**59.72**	**349**	P	**P**	**00 16 29.2**	**-0.8**
ASAJ	**Asahikawa**	**60.88**	**33**	LR	LR	00 44 04.5	
comp=Z,63nm,18.9s,MS3.8,baz=129,slow=37							
LBTB	**Lobatse**	**75.17**	**245**	P	**P**	**00 18 08.7**	**+0.3**
NVAR	**Mina Array Bea**	**130.59**	**41**	PKP	PKPdf	00 25 38.6	+1.9
0.3nm,0.6s,baz=264,slow=0.9,SNR=2.8							
NVAR	**Mina Array Bea**	**130.59**	**41**	PKP	PKPdf	00 25 38.6	+1.9
TXAR	**Lajitas Array**	**145.74**	**41**	PKPbc	PKPbc	00 26 06.0	+0.9
0.7nm,0.4s,baz=251,slow=1.1,SNR=21							
TXAR	**Lajitas Array**	**145.74**	**41**	PKPbc	PKPbc	00 26 06.0	+0.9

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*IDC **31** 00:40:21.6±1.8, 32°23N×139°48E, h105km±34km, mb3.4/4, mb1 3.5/5, mb1mx3.1/24, mbtmp3.3/5, Error ellipse: s-maj=86.0km s-min=10.5km az=69.0*
*ISCJB **31** 00:40:22.3±0.6, 32°56N±0°05×140°26E±0°08, h152km±5km, mb3.6/7, Error ellipse: s-maj=11.4km s-min=7.7km az=176.2*
*NEIC **31** 00:40:22.6±0.7, 32°54N×140°35E, h139km±7km, mb4.0/6, Error ellipse: s-maj=12.0km s-min=6.4km az=84.0*
*JMA **31** 00:40:24.4±0.1, 32°63N×140°24E, h143km±1km, M3.6*
ISC 31 00:40:23.5±0.6, 32°58N±0°05×140°28E±0°08, h146km±5km, n33, σ0s70/46, mb3.6/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.66**	**324**	P	**Pn**	**00 40 45.7**	**+0.4**
JHJ2				*e*S	**Sn**	**00 41 02.0**	**0.0**
JKO	**Kozu shima**	**1.87**	**330**	P	**Pn**	**00 40 57.2**	**+0.4**
BSO1	**Boso 1**	**2.15**	**16**	P	**Pn**	**00 41 01.1**	**+0.9**
BSO1				*e*S	**Sn**	**00 41 28.6**	**+0.2**
BSO2	**Boso 2**	**2.20**	**10**	*e*S	**Sn**	**00 41 30.1**	**+0.5**
BSO3	**Boso 3**	**2.23**	**5**	P	**Pn**	**00 41 01.5**	**+0.4**
BSO3				*e*S	**Sn**	**00 41 29.3**	**-0.7**
JIM2	**Oshima 3**	**2.25**	**342**	P	**Pn**	**00 41 01.6**	**+0.3**
JIM2				*e*S	**Sn**	**00 41 29.1**	**-1.4**
BSO4	**Boso 4**	**2.41**	**1**	P	**Pn**	**00 41 04.2**	**+0.9**
BSO4				*e*S	**Sn**	**00 41 34.3**	**+0.4**
JIZS	**Izushimoda**	**2.43**	**332**	P	**Pn**	**00 41 04.0**	**+0.4**
JIZS				*e*S	**Sn**	**00 41 34.8**	**+0.3**
TK02	**Tokai 2**	**2.51**	**304**	P	**Pn**	**00 41 04.8**	**+0.2**
TK04	**Tokai 4**	**2.70**	**313**	P	**Pn**	**00 41 07.4**	**+0.5**
JOD2	**Odawara 2**	**2.85**	**340**	P	**Pn**	**00 41 09.3**	**+0.5**
JOD2				*e*S	**Sn**	**00 41 43.8**	**-0.1**
MJAR	**Matsushiro Arr**	**4.31**	**337**	P	**Pn**	**00 41 27.3**	**-0.3**
0.9nm,0.3s,baz=168,slow=11,SNR=8.6							
MJAR				S	**Sn**	**00 42 17.1**	**-0.4**
1.1nm,0.3s,baz=166,slow=26,SNR=3.0							
MJAR	**Matsushiro Arr**	**4.31**	**337**	P	**Pn**	**00 41 27.3**	**-0.3**
MJAR				S	**Sn**	**00 42 17.1**	**-0.4**
MAJO	**Matsushiro**	**4.31**	**337**	*e*Pn	**Pn**	**00 41 27.3**	**-0.3**
MAJO				*e*Sn	**Sn**	**00 42 17.1**	**-0.5**
MAT	**Matsushiro**	**4.31**	**337**	P	**Pn**	**00 41 27.0**	**-0.7**
MAT				*e*S	**Sn**	**00 42 14.5**	**-3.1**
CBIJ	**Chichi jima**	**5.71**	**163**	P	**Pn**	**00 41 44.4**	**-1.9**
baz=319,slow=20							
CBIJ				S	**Sn**	**00 42 45.0**	**-6.0**
20nm,0.3s,baz=288,slow=22,SNR=8.7							
CBIJ	**Chichi jima**	**5.71**	**163**	P	**Pn**	**00 41 44.4**	**-1.9**
CBIJ				S	**Sn**	**00 42 45.0**	**-6.0**
ASAJ	**Asahikawa**	**11.66**	**8**	*e*Pn	**Pn**	**00 43 04.7**	**-0.6**
YSS	**Yuzh-Sakhalins**	**14.48**	**7**	*e*P	**Pn**	**00 43 41.7**	**+0.2**
TATO	**Taipei**	**18.11**	**250**	*e*P	**P**	**00 44 25.2**	**+0.9**
37nm,0.8s							
PET	**Petropavlovsk**	**24.35**	**28**	*e*P	**P**	**00 45 28.1**	**+0.6**
74nm,1.4s							
CM31	**Chiang Mai Arr**	**39.61**	**259**	*e*P	**P**	**00 47 41.7**	**+0.8**
MKAR	**Makanchi Array**	**45.82**	**306**	P	**P**	**00 48 30.4**	**-0.2**
0.5nm,0.4s,mb3.5,baz=88,slow=9.5,SNR=17							
MKAR	**Makanchi Array**	**45.82**	**306**	P	**P**	**00 48 30.4**	**-0.2**
KURK	**Kurchatov**	**48.05**	**311**	P	**P**	**00 48 46.9**	**-0.9**
0.3nm,0.4s,mb3.2,baz=90,slow=8.5,SNR=6.0							
KURK	**Kurchatov**	**48.05**	**311**	*e*P	**P**	**00 48 47.7**	**-0.1**
0.8nm,0.5s,mb3.6							
TKM2	**Tokmak 2**	**51.03**	**301**	*e*P	**P**	**00 49 11.3**	**+0.8**
0.9nm,0.7s,mb3.5							
WRAB	**Tennant Creek**	**52.52**	**187**	*e*P	**P**	**00 49 21.3**	**-0.4**
1.0nm,0.6s,mb3.7							
WRA	**Warramunga Arr**	**52.53**	**187**	P	**P**	**00 49 21.4**	**-0.4**
0.7nm,0.4s,mb3.8,baz=4.2,slow=7.3,SNR=30							
WRA	**Warramunga Arr**	**52.53**	**187**	P	**P**	**00 49 21.4**	**-0.4**
BRVK	**Borovoye**	**53.02**	**315**	*e*P	**P**	**00 49 24.7**	**-0.3**
1.8nm,0.9s,mb3.8							
ASAR	**Alice Springs**	**56.26**	**187**	P	**P**	**00 49 48.5**	**-0.2**
0.7nm,0.5s,mb3.8,baz=4.6,slow=6.8,SNR=15							
ASAR	**Alice Springs**	**56.26**	**187**	P	**P**	**00 49 48.5**	**-0.2**

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*ISCJB **31** 01:19:51.5±0.6, 18°26S±0°07×66°9W±0°1, h276km±6km, mb3.5/10, Error ellipse: s-maj=16.9km s-min=10.6km az=1.2*
*IDC **31** 01:19:52.2±1.6, 18°16S×66°81W, h264km±9km, mb3.1/5, mb1 3.4/8, mb1mx3.2/17, mbtmp3.0/8, Error ellipse: s-maj=33.7km s-min=18.3km az=28.0*
*NEIC **31** 01:19:52.2±0.6, 18°26S×66°84W, h271km±7km, mb3.7/5, Error ellipse: s-maj=14.8km s-min=9.0km az=104.0*
ISC 31 01:19:52.4±0.6, 18°25S±0°07×66°8W±0°1, h269km±6km, n26, σ0s79/26, mb3.5/10, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.31**	**327**	P	**Pn**	**01 20 40.2**	**+0.9**
24nm,0.3s,baz=114,slow=5.0,SNR=367							
LPAZ				S	**S**	**01 21 15.7**	**-0.7**
4.2nm,0.3s,baz=9.8,slow=15,SNR=10							
LPAZ	**La Paz**	**2.31**	**327**	P	**Pn**	**01 20 40.2**	**+0.9**
LPAZ				S	**S**	**01 21 15.7**	**-0.7**
LVC	**Limon Verde**	**4.75**	**204**	*e*Pn	**Pn**	**01 21 05.5**	**-0.3**
SIV	**San Ignacio**	**5.95**	**69**	P	**Pn**	**01 21 20.5**	**+0.2**
0.6nm,0.3s,baz=259,slow=13,SNR=12							
SIV	**San Ignacio**	**5.95**	**69**	P	**Pn**	**01 21 20.5**	**+0.2**
SAML	**Samuel**	**9.90**	**21**	*e*Pn	**Pn**	**01 22 10.0**	**+0.3**
LCO	**Las Campanas**	**11.28**	**198**	*e*Pn	**Pn**	**01 22 26.2**	**-0.4**
4.6nm,0.6s							
CFAA	**Coronel Fontan**	**13.36**	**185**	P	**Pn**	**01 22 52.6**	**+0.6**
0.2nm,0.3s,baz=12,slow=11,SNR=15							
CFAA	**Coronel Fontan**	**13.36**	**185**	P	**Pn**	**01 22 52.6**	**+0.6**
TXAR	**Lajitas Array**	**59.17**	**322**	P	**P**	**01 29 25.0**	**-0.5**
0.2nm,0.5s,mb2.8,baz=153,slow=8.9,SNR=5.5							
TXAR	**Lajitas Array**	**59.17**	**322**	P	**P**	**01 29 25.0**	**-0.5**
WMOK	**Wichita Mounta**	**60.82**	**330**	*e*P	**P**	**01 29 33.8**	**-2.7**
5.4nm,0.8s,mb4.1							
SDCO	**Great Sand Dun**	**66.52**	**327**	*e*P	**P**	**01 30 14.1**	**+0.6**
1.2nm,0.7s,mb3.7							
BW06	**Boulder Array**	**72.33**	**328**	*e*P	**P**	**01 30 49.2**	**+0.3**
0.5nm,0.4s,mb3.5							
PDAR	**Pinedale Array**	**72.33**	**328**	P	**P**	**01 30 48.6**	**-0.2**
0.5nm,0.4s,mb3.5,baz=125,slow=9.2,SNR=10							
PDAR	**Pinedale Array**	**72.33**	**328**	P	**P**	**01 30 48.6**	**-0.2**
HWUT	**Hardware Ranch**	**72.52**	**326**	*e*P	**P**	**01 30 50.0**	**0.0**
1.2nm,0.6s,mb3.7							
LOHW	**Long Hollow**	**73.47**	**328**	*e*P	**P**	**01 30 55.8**	**+0.3**
0.5nm,0.4s,mb3.5							
NVAR	**Mina Array Bea**	**74.20**	**320**	P	**P**	**01 31 01.2**	**+1.4**
0.4nm,0.7s,mb3.2,baz=132,slow=6.7,SNR=3.5							
NVAR	**Mina Array Bea**	**74.20**	**320**	P	**P**	**01 31 01.2**	**+1.4**
TORD	**Torodi Ar. Bea**	**74.43**	**70**	P	**P**	**01 31 00.5**	**-1.1**
0.4nm,0.7s,mb3.2,baz=251,slow=5.5,SNR=6.3							
TORD	**Torodi Ar. Bea**	**74.43**	**70**	P	**P**	**01 31 00.5**	**-1.2**
YKA	**Yellowknife Ar**	**88.81**	**340**	P	**P**	**01 32 15.7**	**+0.3**
0.7nm,0.6s,mb3.7,baz=129,slow=4.6,SNR=11							
YKA	**Yellowknife Ar**	**88.81**	**340**	P	**P**	**01 32 15.7**	**+0.3**
SONM	**Songino Array**	**149.98**	**9**	PKPbc	PKPbc	01 39 11.3	+0.4
0.6nm,0.5s,baz=352,slow=2.0,SNR=6.6							
SONM				PKPab	PKPab	01 39 18.8	+1.2
0.3nm,0.9s,baz=329,slow=4.6,SNR=3.6							
SONM	**Songino Array**	**149.98**	**9**	PKPbc	PKPbc	01 39 11.3	+0.4
SONM				PKPab	PKPab	01 39 18.8	+1.2

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*IDC **31** 01:31:27.4±1.1, 37°14N×21°86E, h0km, mb3.7/7, mb1 3.7/8, mb1mx3.5/26, mbtmp3.6/8, ML2.4/1, Error ellipse: s-maj=42.0km s-min=17.3km az=121.0*
*ISCJB **31** 01:31:29.7±0.6, 37°23N±0°02×21°52E±0°04, h6km±4km, mb3.6/8, Error ellipse: s-maj=5.0km s-min=3.6km az=151.9*
*THE **31** 01:31:30.9, 37°25N×21°59E, h8km, ML3.4/8, Error ellipse: s-maj=0.6km s-min=0.3km az=203.0*
*ATH **31** 01:31:30.3, 37°25N×21°57E, h15km, ML3.0*
*CSEM **31** 01:31:30.8±0.3, 37°18N×21°59E, h20km, ML3.4/8, Error ellipse: s-maj=7.4km s-min=5.8km az=55.0*
*NEIC **31** 01:31:33.5±2.1, 37°17N×21°81E, h49km±21km, mb3.8/1, Error ellipse: s-maj=23.1km s-min=11.4km az=139.0*
ISC 31 01:31:30.7±0.5, 37°23N±0°02×21°57E±0°04, h12km±3km, n92, σ1s06/120, mb3.6/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.29**	**99**	*e*PB	**Pg**	**01 31 36.7**	**0.0**
ITM				*e*SB	**Sg**	**01 31 40.8**	**+0.1**
ITM	**Ithomi**	**0.29**	**99**	P	**Pg**	**01 31 36.4**	**-0.3**
ITM				S	**Sg**	**01 31 40.6**	**-0.1**
ITM	**Ithomi**	**0.29**	**99**	P	**Pg**	**01 31 36.4**	**-0.3**
ITM	**Ithomi**	**0.29**	**99**	*e*Pb	**Pg**	**01 31 36.7**	**0.0**
ITM				*e*Sb	**Sg**	**01 31 40.5**	**-0.2**
PYL	**PYLOS**	**0.36**	**157**	*e*PB	**Pg**	**01 31 38.0**	**+0.1**
PYL				*e*SB	**Sg**	**01 31 43.6**	**+0.9**
PYL	**PYLOS**	**0.36**	**157**	P	**Pg**	**01 31 37.9**	**0.0**
PYL				S	**Sg**	**01 31 43.5**	**+0.8**
PYL	**PYLOS**	**0.36**	**157**	*e*Pb	**Pg**	**01 31 38.0**	**+0.1**
PYL				S	**Sg**	**01 31 43.5**	**+0.8**
VLX	**Vlachokerasia**	**0.67**	**77**	*e*PN	**Pg**	**01 31 43.3**	**-0.3**
VLX				*e*SN	**Sg**	**01 31 52.1**	**-0.3**
VLX	**Vlachokerasia**	**0.67**	**77**	P	**Pg**	**01 31 43.0**	**-0.6**
VLX				S	**Sg**	**01 31 52.2**	**-0.2**
VLX	**Vlachokerasia**	**0.67**	**77**	P	**Pg**	**01 31 43.0**	**-0.6**
VLX	**Vlachokerasia**	**0.67**	**77**	*e*Pn	**Pg**	**01 31 43.3**	**-0.3**
VLX				S	**Sg**	**01 31 52.2**	**-0.2**
RLS	**Riolos of Patr**	**0.83**	**355**	*e*PN	**Pg**	**01 31 46.1**	**-0.7**
RLS	**Riolos of Patr**	**0.83**	**355**	P	**Pg**	**01 31 46.4**	**-0.4**
RLS	**Riolos of Patr**	**0.83**	**355**	P	**Pg**	**01 31 46.4**	**-0.4**
RLS	**Riolos of Patr**	**0.83**	**355**	*e*Pn	**Pg**	**01 31 46.9**	**+0.1**
GUR	**Goura**	**0.94**	**41**	*e*PN	**Pg**	**01 31 47.5**	**-1.3**
GUR	**Goura**	**0.94**	**41**	P	**Pg**	**01 31 47.5**	**-1.3**
GUR				S	**Sg**	**01 32 01.4**	**+0.3**
GUR	**Goura**	**0.94**	**41**	P	**Pg**	**01 31 47.5**	**-1.3**
GUR				S	**Sg**	**01 32 01.4**	**+0.3**
LAKA	**Lakka**	**1.06**	**18**	P	**Pg**	**01 31 50.2**	**-1.0**
LAKA				S	**Sg**	**01 32 05.1**	**+0.1**
LAKA	**Lakka**	**1.06**	**18**	P	**Pg**	**01 31 50.2**	**-1.0**
LAKA				S	**Sg**	**01 32 05.1**	**+0.1**
UPR	**University Cam**	**1.07**	**9**	*e*PN	**Pg**	**01 31 50.2**	**-1.1**
UPR	**University Cam**	**1.07**	**9**	P	**Pg**	**01 31 51.0**	**-0.3**
UPR				S	**Sg**	**01 32 05.5**	**+0.3**
UPR	**University Cam**	**1.07**	**9**	*e*Pn	**Pg**	**01 31 51.2**	**-0.1**
UPR				S	**Sg**	**01 32 05.5**	**+0.3**
KFL	**Anninata**	**1.07**	**325**	P	**Pg**	**01 31 50.9**	**-0.5**
KFL				S	**Sg**	**01 32 06.5**	**+1.1**
KFL	**Anninata**	**1.07**	**325**	P	**Pg**	**01 31 50.9**	**-0.5**
KFL				S	**Sg**	**01 32 06.5**	**+1.1**
THAL	**Thalero**	**1.19**	**47**	P	**Pn**	**01 31 52.7**	**-0.4**
THAL				S	**Sb**	**01 32 09.2**	**+0.7**
THAL	**Thalero**	**1.19**	**47**	P	**Pn**	**01 31 52.7**	**-0.4**
THAL				S	**Sb**	**01 32 09.2**	**+0.7**
VLI	**Veliai**	**1.21**	**114**	*e*PN	**Pn**	**01 31 53.6**	**+0.2**
VLI	**Veliai**	**1.21**	**114**	P	**Pn**	**01 31 53.5**	**+0.1**
VLI				S	**Sb**	**01 32 10.4**	**+1.3**
VLI	**Veliai**	**1.21**	**114**	P	**Pn**	**01 31 53.5**	**+0.1**
VLS	**Valsamata**	**1.22**	**321**	*e*PN	**Pn**	**01 31 53.2**	**-0.4**
VLS	**Valsamata**	**1.22**	**321**	P	**Pn**	**01 31 53.2**	**-0.4**
VLS				S	**Sb**	**01 32 10.9**	**+1.4**
VLS	**Valsamata**	**1.22**	**321**	*e*Pn	**Pn**	**01 31 53.3**	**-0.3**
VLS				S	**Sb**	**01 32 10.9**	**+1.4**
EFP	**Efpalio**	**1.23**	**13**	*e*PN	**Pn**	**01 31 53.3**	**-0.4**
EFP	**Efpalio**	**1.23**	**13**	P	**Pn**	**01 31 53.5**	**-0.2**
EFP				S	**Sb**	**01 32 10.1**	**+0.5**
EFP	**Efpalio**	**1.23**	**13**	P	**Pn**	**01 31 53.5**	**-0.2**
EFP				S	**Sb**	**01 32 10.1**	**+0.5**
KALE	**Kalithea**	**1.25**	**21**	P	**Pn**	**01 31 53.2**	**-0.8**
KALE				S	**Sb**	**01 32 11.0**	**+0.8**
KALE	**Kalithea**	**1.25**	**21**	P	**Pn**	**01 31 53.2**	**-0.8**
KALE				S	**Sb**	**01 32 11.0**	**+0.8**
DID	**Didima**	**1.36**	**78**	*e*PN	**Pn**	**01 31 56.1**	**+0.6**
DID	**Didima**	**1.36**	**78**	P	**Pn**	**01 31 55.1**	**-0.4**
DID	**Didima**	**1.36**	**78**	P	**Pn**	**01 31 55.1**	**-0.4**
DID	**Didima**	**1.36**	**78**	*e*Pn	**Pn**	**01 31 56.1**	**+0.6**
LTK	**Loutraki**	**1.37**	**54**	*e*PN	**Pn**	**01 31 55.6**	**0.0**
LTK	**Loutraki

EDRB	**Edirne**	**1.67**	**25**	*e*Pn	**Pn**	**02 57 06.7**	**-0.2**
DURS	**Dursunbey**	**2.19**	**109**	*i* P	**Pn**	**02 57 14.5**	**+0.5**
DURS				*i* S	**Sn**	**02 57 45.7**	**+4.2**
DURS	**Dursunbey**	**2.19**	**109**	*i* P	**Pn**	**02 57 14.5**	**+0.4**
DURS				*i* S	**Sn**	**02 57 45.7**	**+4.2**

*ISK **31** 03:06:10.8, 40°.31N×25°.80E, h10km, MD2.7*
*ISCJB **31** 03:06:11.1±1.3, 40°.37N±0°.04×25°.75E±0°.09, h5km±6km, Error ellipse: s-maj=11.3km s-min=5.9km az=9.8*
*CSEM **31** 03:06:11.3±0.6, 40°.37N×25°.77E, h5km, MD2.7, Error ellipse: s-maj=11.2km s-min=5.6km az=89.0*
*DDA **31** 03:06:13.0, 40°.34N×25°.91E, h6km±1km, Md2.7*

ISC 31 03:06:11.5±1.4,**40°.36N**±0°.04×**25°.74E**±0°.09,**h7**km±6km, **n19**, σ0**:82**/31, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.49**	**40**	*e*PG	**Pg**	**03 06 21.2**	**+0.3**
ENEZ				*e*SG	**Sg**	**03 06 29.4**	**+2.0**
ENEZ	**Enez**	**0.49**	**40**	*e*Pg	**Pg**	**03 06 21.2**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.56**	**86**	*e*PG	**Pg**	**03 06 20.7**	**-1.6**
GELI				*e*SG	**Sg**	**03 06 29.7**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.56**	**86**	*e*Pg	**Pg**	**03 06 20.7**	**-1.6**
GELI				*e*Sg	**Sg**	**03 06 29.7**	**+0.1**
BOZC	**Bozcaada**	**0.57**	**155**	*i* P	**Pg**	**03 06 23.0**	**+0.5**
BOZC				*i* S	**Sg**	**03 06 30.9**	**+1.0**
ERIK	**Erikli-Kesan**	**0.67**	**62**	*e*PG	**Pg**	**03 06 23.0**	**-1.3**
ERIK				*e*SG	**Sg**	**03 06 32.9**	**-0.1**
ERIK	**Erikli-Kesan**	**0.67**	**62**	*e*Pg	**Pg**	**03 06 23.0**	**-1.3**
ERIK				*e*Sg	**Sg**	**03 06 32.9**	**0.0**
EZN	**Ezine**	**0.70**	**140**	*e*PG	**Pg**	**03 06 23.9**	**-1.0**
EZN	**Ezine**	**0.70**	**140**	*e*Pg	**Pg**	**03 06 23.9**	**-1.0**
AYVA	**Ayvalik**	**1.28**	**145**	*i* P	**Pn**	**03 06 36.0**	**+0.3**
AYVA				*i* S	**Sb**	**03 06 52.5**	**0.0**
AYVA	**Ayvalik**	**1.28**	**145**	*i* P	**Pn**	**03 06 36.0**	**+0.2**
AYVA				*i* S	**Sb**	**03 06 52.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.52**	**101**	*e*PN	**Pn**	**03 06 38.6**	**-0.5**
GONE	**Gonen-Balikesi**	**1.52**	**101**	*e*Pn	**Pn**	**03 06 38.6**	**-0.5**
BALY	**Balya**	**1.57**	**113**	*i* P	**Pn**	**03 06 40.2**	**+0.5**
BALY				*i* S	**Sn**	**03 07 00.7**	**+0.4**
BALY	**Balya**	**1.57**	**113**	*i* P	**Pn**	**03 06 40.2**	**+0.5**
BALY				*i* S	**Sn**	**03 07 00.7**	**+0.4**
EDRB	**Edirne**	**1.67**	**27**	*e*PN	**Pn**	**03 06 40.8**	**-0.2**
EDRB	**Edirne**	**1.67**	**27**	*e*Pn	**Pn**	**03 06 40.8**	**-0.3**
DURS	**Dursunbey**	**2.23**	**109**	*i* P	**Pn**	**03 06 53.5**	**+4.7**
DURS				*i* S	**Sn**	**03 07 16.5**	**-0.1**
DURS	**Dursunbey**	**2.23**	**109**	*i* P	**Pn**	**03 06 53.5**	**+4.6**
DURS				*i* S	**Sn**	**03 07 16.5**	**-0.2**

*IDC **31** 03:21:34.4±1.0, 38°.99N×106°.12E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.5/26, mbtmp3.6/8, ML3.1/2, Error ellipse: s-maj=41.0km s-min=15.8km az=62.0*
*NEIC **31** 03:21:36.0±0.7, 38°.99N×106°.12E, h10km, mb3.7/3, Error ellipse: s-maj=22.5km s-min=11.8km az=55.0*
*ISCJB **31** 03:21:37.0±0.9, 38°.97N±0°.07×106°.1E±0°.2, h33km, mb3.7/7, Error ellipse: s-maj=18.1km s-min=10.6km az=174.2*

ISC 31 03:21:39.7±0.9,**38°.89N**±0°.08×**105°.9E**±0°.2,**h35**km,**n19**, σ0**:95**/21, **mb3.7**/**7**, **Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.94**	**2**	Pn	**Pn**	**03 23 44.6**	**-1.6**
	0.2nm,0.3s,baz=181,slow=14,SNR=5.3						
SONM				Sn	**Sn**	**03 25 26.9**	**+1.2**
	0.1nm,0.3s,baz=183,slow=24,SNR=3.1						
SONM				Lg		03 26 15.2	
	0.4nm,0.3s,baz=186,slow=30,SNR=6.5						
SONM	**Songino Array**	**8.94**	**2**	Pn	**Pn**	**03 23 44.6**	**-1.6**
SONM				Sn	**Sn**	**03 25 26.9**	**+1.2**
SONM				Lg		03 26 15.2	
MK31	**Makanchi Array**	**18.99**	**302**	*e*P	**Pn**	**03 25 58.6**	**-0.4**
MKAR	**Makanchi Array**	**18.99**	**302**	P	**Pn**	**03 25 59.0**	**+0.1**
	0.1nm,0.3s,baz=106,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**18.99**	**302**	P	**Pn**	**03 25 59.0**	**+0.1**
ZALV	**Zalesovo Beam**	**20.82**	**323**	P	**P**	**03 26 16.7**	**-1.1**
	0.6nm,0.4s,baz=122,slow=11,SNR=5.2						
ZALV	**Zalesovo Beam**	**20.82**	**323**	P	**P**	**03 26 16.7**	**-1.1**
KURK	**Kurchatov**	**22.55**	**311**	P	**P**	**03 26 37.2**	**+0.8**
	1.2nm,0.7s,mb3.5,baz=110,slow=11,SNR=8.8						
KURK	**Kurchatov**	**22.55**	**311**	*e*P	**P**	**03 26 37.0**	**+0.6**
	2.1nm,0.8s,mb3.6						
BVAR	**Borovoye Array**	**28.12**	**312**	P	**P**	**03 27 28.9**	**+0.8**
	0.8nm,0.5s,mb3.6,baz=105,slow=9.1,SNR=6.5						
BVAR	**Borovoye Array**	**28.12**	**312**	P	**P**	**03 27 28.9**	**+0.9**
BRVK	**Borovoye**	**28.19**	**312**	*e*P	**P**	**03 27 29.1**	**+0.4**
	1.2nm,0.6s,mb3.7						
ABKAR	**Akbulak array**	**34.14**	**303**	*e*P	**P**	**03 28 21.6**	**+0.6**
	0.2nm,0.4s,mb3.4						
NOA	**NORSAR Array B**	**59.00**	**326**	P	**P**	**03 31 33.6**	**-1.8**
	0.8nm,0.8s,mb3.8,baz=63,slow=6.9,SNR=3.6						
NOA	**NORSAR Array B**	**59.00**	**326**	P	**P**	**03 31 33.6**	**-1.8**
WRA	**Warramunga Arr**	**64.30**	**150**	P	**P**	**03 32 11.3**	**-0.2**
	0.6nm,0.8s,mb3.7,baz=325,slow=8.5,SNR=3.4						
WRA	**Warramunga Arr**	**64.30**	**150**	P	**P**	**03 32 11.3**	**-0.2**
ASAR	**Alice Springs**	**67.52**	**152**	P	**P**	**03 32 33.0**	**+0.9**
	0.8nm,0.5s,mb4.0,baz=338,slow=6.6,SNR=14						
ASAR	**Alice Springs**	**67.52**	**152**	P	**P**	**03 32 33.0**	**+0.9**

*NEIC **31** 03:23:59.8, 17°.18N×94°.42W, h57km, MD3.9(MEX), After MEX.*

MEX 31 03:24:00.7±0.9,**17°.18N**×**94°.45W**,**h53**km±10km,**MD3.9**, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.43**	**258**	*i* P	Pn	03 24 09.8	-1.6
CMIG				*i* S	Sn	03 24 17.5	-1.4
CMIG	**Matias Romero**	**0.43**	**258**	*i* P	Pn	03 24 09.8	-1.6
CMIG				*i* S	Sn	03 24 17.5	-1.4
TGIG		**1.33**	**107**	*i* P	Pn	03 24 22.3	-0.6
TGIG				*i* S	Sn	03 24 36.2	-3.4
TGIG		**1.33**	**107**	*i* P	Pn	03 24 22.3	-0.6
TGIG				*i* S	Sn	03 24 36.4	-3.2
HUIG	**Huatulco**	**2.12**	**229**	*i* P	Pn	03 24 33.1	-0.7
HUIG				*e*S	Sn	03 24 56.1	-2.9
HUIG	**Huatulco**	**2.12**	**229**	*i* P	Pn	03 24 33.0	-0.8
HUIG				*i* S	Sn	03 24 56.5	-2.5
VHO	**Vista Hermosa**	**2.19**	**267**	*i* P	Pn	03 24 32.5	-2.1
VHO				*e*S	Sn	03 24 59.2	-1.3
VHO	**Vista Hermosa**	**2.19**	**267**	*i* P	Pn	03 24 32.5	-2.1
VHO				*e*S	Sn	03 24 59.2	-1.3
UTMO	**Huajuapan**	**3.27**	**282**	*i* P	Pn	03 24 48.4	-1.1
UTMO				*e*S	Sn	03 25 25.5	-1.6
UTMO	**Huajuapan**	**3.27**	**282**	*i* P	Pn	03 24 48.4	-1.1
UTMO				*e*S	Sn	03 25 25.5	-1.6
PNIG	**Pinotepa**	**3.61**	**258**	*i* P	Pn	03 24 53.2	-0.9
PNIG				*e*S	Sn	03 25 34.0	-1.5
PNIG	**Pinotepa**	**3.61**	**258**	*i* P	Pn	03 24 53.2	-0.9
PNIG				*e*S	Sn	03 25 34.0	-1.5

IDC 31 04:03:25.4±83.0,**12°.49S**×**170°.88E**,**h0**km,**mb3.6**/3, **mb1 3.8**/3,**mb1mx3.5**/16,**mbtmp3.6**/3,**Error ellipse: s-maj=1424.0km s-min=142.8km az=65.0**,**Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.11**	**230**	P	P	04 10 03.5	+0.3
	2.5nm,0.9s,baz=46,slow=8.9,SNR=4.1						
WRA	**Warramunga Arr**	**35.81**	**253**	P		04 10 26.9	+0.2
	0.2nm,0.3s,baz=86,slow=8.4,SNR=2.8						
ASAR	**Alice Springs**	**36.76**	**247**	P	P	04 10 34.5	-0.4
	0.2nm,0.3s,baz=78,slow=9.7,SNR=5.1						

*DDA **31** 04:57:30.8, 37°.02N×29°.19E, h6km±6km, Md2.9*
*ISCJB **31** 04:57:31.6±0.8, 36°.98N±0°.06×29°.21E±0°.04, h11km±7km, Error ellipse: s-maj=10.0km s-min=5.9km az=0.0*
*ISK **31** 04:57:31.6, 36°.97N×29°.21E, h11km, MD2.9*
*CSEM **31** 04:57:31.7±0.6, 36°.99N×29°.22E, h12km, MD2.9, Error ellipse: s-maj=14.6km s-min=8.2km az=9.0*

ISC 31 04:57:32.2±0.8,**36°.99N**±0°.06×**29°.21E**±0°.04,**h12**km±7km, **n16**, σ0**:99**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.28**	**54**	*e*PG	**Pg**	**04 57 38.3**	**+0.3**
GLHS				*e*SG	**Sg**	**04 57 42.5**	**+0.7**
GLHS	**Glhisar (BURDU**	**0.28**	**54**	*e*Pg	**Pg**	**04 57 38.3**	**+0.3**
GLHS				*e*Sg	**Sg**	**04 57 42.5**	**+0.6**
GOLH	**Golhisar**	**0.37**	**49**	*i* P	**Pg**	**04 57 37.8**	**-1.8**
GOLH				*i* S	**Sg**	**04 57 44.6**	**0.0**
GOLH	**Golhisar**	**0.37**	**49**	*i* P	**Pg**	**04 57 37.8**	**-1.8**
GOLH				*i* S	**Sg**	**04 57 44.6**	**0.0**
TURN	**Turunc**	**0.50**	**256**	*i* P	**Pg**	**04 57 47.0**	**+4.9**
TURN				*i* S	**Sg**	**04 57 57.7**	**+8.9**
TURN	**Turunc**	**0.50**	**256**	*i* P	**Pg**	**04 57 47.0**	**+4.9**
TURN				*i* S	**Sg**	**04 57 57.7**	**+8.9**
ELL	**Elmali**	**0.61**	**113**	*e*PG	**Pg**	**04 57 43.1**	**-0.9**
ELL				*e*SG	**Sg**	**04 57 53.1**	**+1.0**
ELL	**Elmali**	**0.61**	**113**	*e*Pg	**Pg**	**04 57 43.1**	**-1.0**
ELL				*e*Sg	**Sg**	**04 57 53.1**	**+1.0**
YER	**Yerkesik**	**0.76**	**281**	*e*PG	**Pg**	**04 57 47.0**	**+0.1**
YER				*e*SG	**Sg**	**04 57 57.4**	**+0.5**
YER	**Yerkesik**	**0.76**	**281**	*e*Pg	**Pg**	**04 57 47.0**	**+0.1**
YER				*e*Sg	**Sg**	**04 57 57.4**	**+0.6**
KULA	**Kula-Manisa**	**1.58**	**344**	*e*PN	**Pn**	**04 57 59.6**	**-0.4**
KULA	**Kula-Manisa**	**1.58**	**344**	*e*Pn	**Pn**	**04 57 59.6**	**-0.4**
MANT	**Manisa**	**1.58**	**341**	*i* P	**Pn**	**04 57 58.2**	**-1.9**
MANT				*i* S	**Sn**	**04 58 21.2**	**+0.7**
MANT	**Manisa**	**1.58**	**341**	*i* P	**Pn**	**04 57 58.2**	**-1.9**
MANT				*i* S	**Sn**	**04 58 21.2**	**+0.8**
ALT	**Altintas**	**2.18**	**19**	*e*PN	**Pn**	**04 58 09.7**	**+1.4**
ALT	**Altintas**	**2.18**	**19**	*e*Pn	**Pn**	**04 58 09.7**	**+1.5**

*NEIC **31** 05:06:31.6, 17°.41N×95°.41W, h68km, MD3.7(MEX), After MEX.*

MEX 31 05:06:31.7±0.4,**17°.44N**×**95°.41W**,**h65**km±10km,**MD3.8**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.61**	**124**	*i* P	Pn	05 06 43.9	-1.4
CMIG				*e*S	Sn	05 06 53.5	-1.7
CMIG	**Matias Romero**	**0.61**	**124**	*i* P	Pn	05 06 43.9	-1.4
CMIG				*e*S	Sn	05 06 53.5	-1.7
OXX	**Oaxaca**	**1.30**	**254**	*i* P	Pn	05 06 52.8	-1.2
OXX				*e*S	Sn	05 07 08.8	-1.7
OXX	**Oaxaca**	**1.30**	**254**	*i* P	Pn	05 06 52.8	-1.2
OXX				*e*S	Sn	05 07 08.8	-1.7
VHO	**Vista Hermosa**	**1.31**	**254**	*i* P	Pn	05 06 52.5	-1.6
VHO				*e*S	Sn	05 07 08.8	-2.1
VHO	**Vista Hermosa**	**1.31**	**254**	*i* P	Pn	05 06 52.5	-1.6
VHO				*e*S	Sn	05 07 08.8	-2.1
HUIG	**Huatulco**	**1.79**	**202**	*i* P	Pn	05 06 59.4	-1.1
HUIG				*e*S	Sn	05 07 19.2	-3.1
HUIG	**Huatulco**	**1.79**	**202**	*i* P	Pn	05 06 59.4	-1.1
HUIG				*e*S	Sn	05 07 19.2	-3.1
UTMO	**Huajuapan**	**2.31**	**280**	*i* P	Pn	05 07 06.1	-1.4
UTMO				*e*S	Sn	05 07 33.5	-1.4
UTMO	**Huajuapan**	**2.31**	**280**	*i* P	Pn	05 07 06.1	-1.4
UTMO				*e*S	Sn	05 07 33.5	-1.4
PNIG	**Pinotepa**	**2.80**	**249**	*i* P	Pn	05 07 12.7	-1.5
PNIG				*e*S	Sn	05 07 45.7	-1.1
PNIG	**Pinotepa**	**2.80**	**249**	*i* P	Pn	05 07 12.7	-1.5
PNIG				*e*S	Sn	05 07 45.7	-1.1

*ISCJB **31** 05:17:42.3±0.3, 44°.53N±0°.02×110°.38W±0°.03, h10km, Error ellipse: s-maj=3.1km s-min=3.0km az=11.5*
*NEIC **31** 05:17:43.0, 44°.53N×110°.37W, h1km, ML2.5(SLC), After SLC.*

ISC 31 05:17:42.7±0.3,**44°.53N**±0°.02×**110°.37W**±0°.03,**h10**km,**n33**, σ1**:01**/45, **9C-10D**, **Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.04**	**325**	*e*Pg	**Pg**	**05 17 43.0**	**-1.6**
H17A	**Grant Village**	**0.20**	**227**	P	**Pg**	**05 17 46.1**	**-0.8**
	baz=0.2,SNR=362						
H17A				⇑S	**Sg**	**05 17 48.9**	**-0.8**
	baz=0.2						
YNR	**Norris Junctio**	**0.29**	**310**	*e*Pg	**Pg**	**05 17 47.7**	**-0.8**
YNR				*e*Sg	**Sg**	**05 17 51.5**	**-0.9**
YFT	**Old Faithful**	**0.34**	**257**	*e*Pg	**Pg**	**05 17 49.1**	**-0.4**
YMR	**Madison River**	**0.45**	**288**	*e*Pg	**Pg**	**05 17 51.4**	**0.0**
YMR				*e*Sg	**Sg**	**05 17 58.1**	**+0.7**
FLWY	**Flagg Ranch**	**0.51**	**208**	*e*Pg	**Pg**	**05 17 52.2**	**-0.3**
FLWY				*e*Sg	**Sg**	**05 17 59.5**	**+0.3**
H18A	**Shoshone NF, C**	**0.52**	**74**	⇑P	**Pg**	**05 17 52.1**	**-0.8**
	baz=0.5,SNR=39						
H18A				⇑S	**Sg**	**05 17 59.3**	**-0.5**
	baz=0.5						
I17A	**Pilgrim Ck.**	**0.63**	**194**	⇓P	**Pg**	**05 17 54.1**	**-0.8**
	baz=0.6,SNR=53						
I17A				⇑S	**Sg**	**05 18 02.3**	**-0.8**
	baz=0.6						
H16A	**Russell Place,**	**0.65**	**286**	⇓P	**Pg**	**05 17 54.7**	**-0.5**
	baz=0.6,SNR=37						
QLMT	**Earthquake Lak**	**0.81**	**292**	*e*Pg	**Pg**	**05 17 57.9**	**-0.4**
QLMT				*e*Sg	**Sg**	**05 18 04.7**	**-4.3**
MOOW	**Moose Ponds**	**0.83**	**199**	*e*Pg	**Pg**	**05 17 58.1**	**-0.6**
I18A	**Diamond G Ranc**	**0.92**	**154**	⇑P	**Pg**	**05 17 59.2**	**-1.2**
	baz=0.9,SNR=46						
LOHW	**Long Hollow**	**0.94**	**191**	*e*Pg	**Pg**	**05 18 00.1**	**-0.5**
G18A	**Lazy EL Ranch,**	**0.97**	**36**	⇓P	**Pg**	**05 18 01.0**	**-0.3**
	baz=1.0,SNR=28						
RLMT	**Red Lodge**	**0.98**	**53**	*e*Pg	**Pg**	**05 18 00.7**	**-0.8**
RLMT				*e*Sg	**Sg**	**05 18 07.5**	**-6.8**
H19A	**Powell**	**1.00**	**82**	⇑P	**Pg**	**05 18 00.9**	**-0.9**
	baz=1.0,SNR=39						
I19A	**Meeteetse**	**1.10**	**116**	⇑P	**Pb**	**05 18 02.7**	**-1.2**
	baz=1.1,SNR=21						
I19A				⇑S	**Sg**	**05 18 17.3**	**-0.9**
	baz=1.1						
SNOW	**Snow King Moun**	**1.11**	**195**	*e*Pg	**Pg**	**05 18 04.0**	**+0.1**
SNOW				*e*Sg	**Sg**	**05 18 10.7**	**-7.5**
J17A	**Brown Place, J**	**1.20**	**192**	⇓P	**Pb**	**05 18 04.8**	**-0.5**
	baz=1.2,SNR=12						
REDW	**Red Top Meadow**	**1.22**	**197**	*e*Pg	**Pg**	**05 18 06.1**	**0.0**
J18A	**Kendall Valley**	**1.34**	**169**	⇓P	**Pn**	**05 18 07.5**	**0.0**
	baz=1.3,SNR=32						
GCMT	**Greycliff**	**1.35**	**21**	*e*Pg	**Pg**	**05 18 09.6**	**+1.0**
RRI2	**Red Ridge**	**1.37**	**210**	*e*Pn	**Pn**	**05 18 07.7**	**-0.1**
F18A	**Big Timber**	**1.45**	**18**	⇓P	**Pn**	**05 18 09.9**	**+1.0**
	baz=1.5,SNR=18						
J19A	**Crowheart**	**1.58**	**143**	⇓S	**Sn**	**05 18 32.2**	**+1.0**
	baz=1.6						
G15A	**Dillon**	**1.64**	**294**	⇓P	**Pn**	**05 18 12.7**	**+1.2**
	baz=1.6,SNR=6.9						
G20A	**Bridger**	**1.68**	**65**	⇑P	**Pn**	**05 18 12.8**	**+0.8**
	baz=1.7,SNR=15						
H20A	**Greybull**	**1.69**	**91**	⇓P	**Pn**	**05 18 12.7**	**+0.5**
	baz=1.7						
I20A	**Worland**	**1.71**	**109**	⇓P	**Pn**	**05 18 12.9**	**+0.4**
	baz=1.7,SNR=32						
DLMT	**Dillon**	**1.79**	**298**	*e*Pn	**Pn**	**05 18 15.8**	**+2.3**
MCMT	**McKenzie Canyo**	**1.79**	**280**	*e*Pn	**Pn**	**05 18 16.4**	**+2.8**
PD01	**Pinedale Array**	**1.84**	**162**	*e*Pn	**Pn**	**05 18 15.9**	**+1.6**
PD01				*e*Sn	**Sn**	**05 18 40.0**	**+2.3**
PD02	**Pinedale Array**	**1.85**	**161**	*e*Pn	**Pn**	**05 18 16.3**	**+2.0**
PD02				*e*Sn	**Sn**	**05 18 40.9**	**+3.2**

*IDC **31** 05:26:04.0±2.6, 34°.90N×137°.90E, h127km±31km, mb3.3/4, mb1 3.3/4, mb1mx3.1/24, mbtmp3.3/4, Error ellipse: s-maj=52.4km s-min=24.9km az=57.0*
*ISCJB **31** 05:26:04.1±0.6, 35°.31N±0°.05×138°.75E±0°.06, h169km±4km, mb3.4/4, Error ellipse: s-maj=8.8km s-min=7.7km az=154.0*
*JMA **31** 05:26:04.6±0.1, 35°.26N×138°.75E, h168km±1km, M2.8*

ISC 31 05:26:05.1±0.6,**35°.31N**±0°.05×**138°.75E**±0°.06,**h165**km±4km, **n20**, σ0**:56**/29, **mb3.4**/**4**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYN	**Shimob**	**0.25**	**319**	P	**Pn**	**05 26 27.4**	**+0.1**
JOD2	**Odawara 2**	**0.28**	**99**	P	**Pn**	**05 26 27.3**	**-0.1**
JOD2				S	**Sn**	**05 26 44.9**	**+0.5**
SHZ3	**Shizuoka 3**	**0.50**	**241**	P	**Pn**	**05 26 28.2**	**0.0**
SHZ3				*e*S	**Sn**	**05 26 45.6**	**-0.2**
JIZS	**Izushimoda**	**0.60**	**170**	P	**Pn**	**05 26 28.2**	**-0.5**
JRY	**Ryogami san**	**0.72**	**10**	P	**Pn**	**05 26 30.1**	**+0.8**
JRY				S	**Sn**	**05 26 49.0**	**+1.0**
JAG	**Ashikaga**	**1.25**	**27**	P	**Pn**	**05 26 33.4**	**-0.1**
JAG				S	**Sn**	**05 26 54.9**	**-0.5**
MJAR	**Matsushiro Arr**	**1.31**	**341**	P	**Pn**	**05 26 33.2**	**-0.8**
	3.1nm,0.3s,baz=173,slow=11,SNR=40						
MJAR				S	**Sn**	**05 26 56.4**	**+0.1**
	2.0nm,0.3s,baz=195,slow=23,SNR=6.7						
MAT	**Matsushiro**	**1.31**	**341**	P	**Pn**	**05 26 34.0**	**0.0**
MAT				S	**Sn**	**05 26 56.6**	**+0.3**
MAT	**Matsushiro**	**1.31**	**341**	P	**Pn**	**05 26 34.1**	**+0.1**
MAT				*e*S	**Sn**	**05 26 56.2**	**-0.1**
TK02	**Tokai 2**	**1.58**	**211**	*e*S	**Sn**	**05 27 02.0**	**+1.0**
JGM	**Miyama**	**1.70**	**284**	P	**Pn**	**05 26 37.7**	**-0.2**
JGM				*e*S	**Sn**	**05 27 02.1**	**-1.0**
JIE	**Ise**	**1.91**	**242**	P	**Pn**	**05 26 39.2**	**-1.0**
BSO1	**Boso 1**	**1.94**	**109**	P	**Pn**	**05 26 40.0**	**-0.6**
BSO1				*e*S	**Sn**	**05 27 07.2**	**-0.6**
JKG	**Kaga**	**2.19**	**297**	P	**Pn**	**05 26 43.7**	**+0.4**
TTO1	**TONANKAI O.B.S**	**2.33**	**225**	P	**Pn**	**05 26 44.9**	**-0.2**
JHJ2	**Mitsune**	**2.36**	**158**	P	**Pn**	**05 26 46.4**	**+1.0**
ZALV	**Zalesovo Beam**	**41.52**	**314**	P	**P**	**05 33 36.1**	**+0.3**
	1.0nm,0.5s,mb3.8,baz=88,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**43.23**	**303**	P	**P**	**05 33 50.2**	**+0.5**
	0.6nm,0.6s,mb3.4,baz=84,slow=10.0,SNR=9.0						
KURK	**Kurchatov**	**45.32**	**309**	P	**P**	**05 34 06.7**	**+0.3**
	0.2nm,0.3s,mb3.2,baz=83,slow=6.8,SNR=5.4						
WRA	**Warramunga Arr**	**55.10**	**185**	P	**P**	**05 35 19.6**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=0.3,slow=7.7,SNR=3.1						

IDC 31 06:08:27.1±2.1,**5°.04N**×**126°.20E**,**h0**km,**mb3.5**/4, **mb1 3.7**/4,**mb1mx3.4**/19,**mbtmp3.5**/4,**Error ellipse: s-maj=255.1km s-min=23.8km az=64.0**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.09**	**162**	P	P	06 14 01.2	-1.4
	0.6nm,0.7s,baz=343,slow=10.0,SNR=2.9						
STKA	**Stephens Creek**	**39.54**	**159**	P	P	06 16 01.1	+1.2
	1.8nm,0.9s,baz=319,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**56.18**	**325**	P	P	06 18 09.5	+0.7
	0.2nm,0.6s,baz=118,slow=8.2,SNR=4.1						
KURK	**Kurchatov**	**60.36**	**327**	P	P	06 18 37.3	-0.6
	0.4nm,0.6s,baz=127,slow=5.9,SNR=6.8						

*ISCJB **31** 06:17:05.6±0.4, 30°.40N±0°.05×67°.44E±0°.04, h10km, mb4.0/23, MS2.9/1, Error ellipse: s-maj=7.5km s-min=4.4km az=28.8*
*IDC **31** 06:17:06.3±0.7, 30°.45N×67°.44E, h0km, mb3.9/18, mb1 4.0/19, mb1mx3.9/30, mbtmp3.9/19, ML4.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/41, Error ellipse: s-maj=18.3km s-min=17.3km az=48.0*
*NEIC **31** 06:17:07.7±0.4, 30°.45N×67°.50E, h10km, mb4.4/9, Error ellipse: s-maj=8.2km s-min=5.1km az=215.0*
*MOS **31** 06:17:09.9±1.1, 30°.54N×67°.57E, h33km, mb4.5/12, Error ellipse: s-maj=13.0km s-min=6.5km az=80.5*

ISC 31 06:17:07.5±0.4,**30°.41N**±0°.05×**67°.40E**±0°.04,**h10**km,**n108**, σ1**:03**/113, **mb4.0**/23, **MS2.9**/1, **5C**, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.35**	**18**	*e*Pn	**Pn**	**06 18 16.6**	**+3.0**
KBL	**Kabul**	**4.35**	**18**	*e*P	**Pn**	**06 18 16.6**	**+3.0**
THW	**Thamme Wali**	**4.40**	**56**	P	**Pn**	**06 18 15.7**	**+1.4**
CEP	**Cherat**	**5.12**	**47**	P	**Pn**	**06 18 26.5**	**+2.3**
CEP				S	**Sn**	**06 19 27.0**	**+3.7**
AJM	**Ajmer**	**7.48**	**120**	*e*PKP	**Pn**	**06 18 58.0**	**+1.4**
AJM				*e*S	**Sn**	**06 20 21.0**	**-0.5**
NDI	**New Delhi**	**8.72**	**99**	*e*x	**Pn**	**06 19 18.0**	**+4.3**
NDI				*e*x	**Sn**	**06 20 53.0**	**+1.0**
DDI	**Dehra Dun**	**9.20**	**88**	*e*x	**Pn**	**06 19 22.0**	**+1.7**
KK31	**Karatay Array**	**12.91**	**10**	*ce*P	**Pn**	**06 20 10.1**	**-0.9**
KKAR	**Karatay Array**	**12.91**	**10**	*e*Pn	**Pn**	**06 20 09.9**	**-1.0**
	1.8nm,0.4s						
KKAR	**Karatay Array**	**12.91**	**10**	*e*P	**Pn**	**06 20 09.9**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
EKS2	**Erkin-Say**	**13.25**	**21**	*e*Pn	**Pn**	**06 20 15.6**	**0.0**
	comp=Z,75nm,0.7s						
EKS2	**Erkin-Say**	**13.25**	**21**	*e*P	**Pn**	**06 20

comp=Z,3.0nm,0.8s,mb3.7
KURK Kurchatov 21.95 19 P **P 06 21 59.1 -2.0**
comp=Z,3.6nm,0.8s,mb3.9,baz=208,slow=9.9,SNR=34
KURK Kurchatov 21.95 19 P **P 06 21 59.1 -2.0**
KURK Kurchatov 21.95 19 P **P 06 21 59.1 -2.0**
KURK pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
ZEI Tsey 22.46 310 *e*P **P 06 22 13.9 +7.2**
ZEI pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
ZRNK Zerenda 22.55 3 *i* P **P 06 22 07.1 -0.4**
ZRNK pmax pmax
comp=Z,23nm,2.2s,mb4.2
BVA0 Borovoye Array 22.70 5 *i* P **P 06 22 10.1 +1.0**
BVAR Borovoye Array 22.70 5 P **P 06 22 09.1 0.0**
comp=Z,4.0nm,0.6s,mb4.0,baz=169,slow=8.9,SNR=19
BVAR LR LR 06 32 21.7
comp=Z,79nm,20.3s,baz=331,slow=40
BVAR Borovoye Array 22.70 5 P **P 06 22 09.1 0.0**
BVAR Borovoye Array 22.70 5 P **P 06 22 09.1 0.0**
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR MLR MLR
comp=Z,79nm,20.3s
BRVK Borovoye 22.73 4 *e*P **P 06 22 08.3 -1.0**
comp=Z,5.7nm,0.8s,mb4.0
BRVK Borovoye 22.73 4 *e*P **P 06 22 10.0 +0.6**
BRVK pmax pmax
comp=Z,13nm,1.7s,mb4.1
ZAA0 Zalesovo Array 26.68 23 *e*P **P 06 22 47.0 +0.5**
ZALV Zalesovo Beam 26.68 23 P **P 06 22 47.0 +0.5**
comp=Z,6.0nm,0.5s,mb4.3,baz=224,slow=11,SNR=32
ZALV Zalesovo Beam 26.68 23 P **P 06 22 47.0 +0.5**
ZALV Zalesovo Beam 26.68 23 P **P 06 22 47.0 +0.5**
ZALV pmax pmax
comp=Z,6.0nm,0.5s,mb4.4
NVS Novosibirsk 26.93 20 *e*P **P 06 22 49.5 +0.9**
CMAR Chiang Mai Arr 30.98 105 P **P 06 23 24.5 -0.5**
comp=Z,0.3nm,0.3s,mb3.6,baz=313,slow=8.5,SNR=3.8
CMAR Chiang Mai Arr 30.98 105 P **P 06 23 24.5 -0.5**
CMAR Chiang Mai Arr 30.98 105 P **P 06 23 24.5 -0.6**
SONM Songino Array 34.45 49 P **P 06 23 54.7 -0.5**
comp=Z,0.3nm,0.6s,mb3.4,baz=245,slow=8.3,SNR=2.8
SONM Songino Array 34.45 49 P **P 06 23 54.7 -0.5**
SONM Songino Array 34.45 49 P **P 06 23 54.7 -0.5**
AKASG Malin Array Be 34.86 317 P **P 06 23 58.3 -0.4**
comp=Z,1.2nm,0.6s,mb4.0,baz=92,slow=8.8,SNR=4.0
AKASG Malin Array Be 34.86 317 P **P 06 23 58.3 -0.4**
AKASG Malin Array Be 34.86 317 P **P 06 23 58.3 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 41.11 331 P **P 06 24 51.9 +0.7**
comp=Z,1.9nm,0.7s,mb3.8,baz=134,slow=11,SNR=7.1
FINES FINESS Array B 41.11 331 P **P 06 24 51.9 +0.7**
FINES FINESS Array B 41.11 331 P **P 06 24 51.9 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 44.28 310 P **P 06 25 17.9 +0.7**
comp=Z,0.3nm,0.6s,mb3.2,baz=98,slow=7.3,SNR=3.8
GERES GERESS Array B 44.28 310 P **P 06 25 17.9 +0.7**
GERES GERESS Array B 44.28 310 P **P 06 25 17.9 +0.7**
ARCES ARCESS Array B 45.76 341 P **P 06 25 30.1 +1.4**
comp=Z,2.5nm,0.7s,mb4.3,baz=116,slow=8.4,SNR=9.2
ARCES ARCESS Array B 45.76 341 P **P 06 25 30.1 +1.4**
ARCES ARCESS Array B 45.76 341 P **P 06 25 30.1 +1.4**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
YAK Yakutsk 50.68 33 *e*P **P 06 26 06.7 -0.1**
YAK pmax pmax
comp=Z,11nm,0.6s,mb5.0
ESDC Sonseca Array 57.77 300 P **P 06 26 58.5 -0.3**
comp=Z,0.3nm,0.4s,mb3.7,baz=67,slow=6.8,SNR=6.7
ESDC Sonseca Array 57.77 300 P **P 06 26 58.5 -0.3**
TORD Torodi Ar. Bea 62.61 270 P **P 06 27 32.9 +0.6**
comp=Z,1.2nm,0.6s,mb4.2,baz=58,slow=6.2,SNR=10.0
TORD Torodi Ar. Bea 62.61 270 P **P 06 27 32.9 +0.6**
BILL Bilibino 65.38 24 *e*P **P 06 27 50.4 +0.7**
BILL *e*SS SS 06 40 38.9 -7.1
BILL pmax pmax
comp=Z,35nm,1.7s,mb5.1
BOSA Boshof 71.14 219 P **P 06 28 27.3 +1.0**
comp=Z,3.9nm,0.9s,mb4.3,baz=27,slow=4.5,SNR=3.8
BOSA Boshof 71.14 219 P **P 06 28 27.3 +1.0**
BOSA Boshof 71.14 219 P **P 06 28 27.3 +1.0**
BOSA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
INK Inuvik 80.36 8 P **P 06 29 18.4 -0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=9.0,slow=7.6,SNR=5.9
INK Inuvik 80.36 8 P **P 06 29 18.4 -0.1**
INK Inuvik 80.36 8 P **P 06 29 18.4 -0.1**
INK pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 81.42 14 P **P 06 29 23.5 -0.7**
comp=Z,0.3nm,0.6s,mb3.4,baz=309,slow=4.9,SNR=7.1
ILAR Eielson Array 81.42 14 P **P 06 29 23.5 -0.7**
ILAR Eielson Array 81.42 14 P **P 06 29 23.5 -0.8**
WRA Warramunga Arr 81.51 119 P **P 06 29 26.1 +0.7**
comp=Z,0.5nm,0.8s,mb3.5,baz=320,slow=4.8,SNR=4.6
WRA Warramunga Arr 81.51 119 P **P 06 29 26.1 +0.7**
WRA Warramunga Arr 81.51 119 P **P 06 29 26.1 +0.7**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 83.41 122 P **P 06 29 36.4 +1.1**
comp=Z,0.5nm,0.5s,mb3.8,baz=304,slow=5.2,SNR=9.6
ASAR Alice Springs 83.41 122 P **P 06 29 36.4 +1.1**
ASAR Alice Springs 83.41 122 P **P 06 29 36.4 +1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 87.41 1 P **P 06 29 55.7 +1.1**
comp=Z,1.4nm,0.8s,mb4.2,baz=351,slow=4.8,SNR=16
YKA Yellowknife Ar 87.41 1 P **P 06 29 55.8 +1.1**
YKA Yellowknife Ar 87.41 1 P **P 06 29 55.7 +1.0**
YKA pmax pmax
comp=Z,1.0nm,0.8s

*IDC **31** 06:31:36.8±6.7,20°.06S×178°.38W,h591^{km}±86^{km}, mb3.0/7, mb1 3.4/8, mb1mx3.2/16, mbtmp3.1/8, Error ellipse: s-maj=44.6km s-min=24.8km az=3.0*
*ISCJB **31** 06:31:37.3±1.3,20°.2S±0°.2×178°.5W±0°.2, h613^{km}±15^{km}, mb3.5/8, Error ellipse: s-maj=28.4km s-min=19.1km az=140.5*
*NEIC **31** 06:31:37.9±1.1,20°.15S×178°.42W,h607^{km}±11^{km}, mb3.7/1, Error ellipse: s-maj=22.2km s-min=14.5km az=140.0*
ISC 31 06:31:38.0±1.3,20°.2S±0°.2×178°.4W±0°.2, h605^{km}±14^{km}, n26,σ0°76/19, mb3.5/8, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.11**	**305**	⇑*i*P	**P**	**06 33 04.8**	**+0.1**
URZ	**Urewera**	**18.44**	**191**	P	**P**	**06 35 16.4**	**-0.8**
	1.4nm,0.3s,baz=12,slow=20,SNR=7.0						
URZ	**Urewera**	**18.44**	**191**	P	**P**	**06 35 16.4**	**-0.8**
ASAR	**Alice Springs**	**44.20**	**256**	P	**P**	**06 38 56.0**	**+0.9**
	1.4nm,0.5s,mb3.7,baz=91,slow=7.6,SNR=22						
ASAR	**Alice Springs**	**44.20**	**256**	P	**P**	**06 38 56.0**	**+0.9**
WB2	**Warramunga Arr**	**44.23**	**262**	*e*P	**P**	**06 38 55.3**	**-0.1**
WRAB	**Tennant Creek**	**44.24**	**262**	*e*P	**P**	**06 38 55.8**	**+0.3**
	1.1nm,0.4s,mb3.7						
WRA	**Warramunga Arr**	**44.24**	**262**	P	**P**	**06 38 55.8**	**+0.3**
	1.0nm,0.3s,mb3.8,baz=97,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**44.24**	**262**	P	**P**	**06 38 55.8**	**+0.3**
MJAR	**Matsushiro Arr**	**69.70**	**324**	P	**P**	**06 41 47.2**	**-1.2**
	1.0nm,0.3s,mb3.7,baz=156,slow=6.3,SNR=5.1						
MJAR	**Matsushiro Arr**	**69.70**	**324**	P	**P**	**06 41 47.2**	**-1.2**
NVAR	**Mina Array Bea**	**81.06**	**44**	P	**P**	**06 42 52.1**	**+0.9**
	0.2nm,0.4s,mb2.9,baz=231,slow=7.8,SNR=3.7						
NVAR	**Mina Array Bea**	**81.06**	**44**	P	**P**	**06 42 52.1**	**+0.9**
TXAR	**Lajitas Array**	**87.22**	**58**	P	**P**	**06 43 22.4**	**+0.9**
	0.6nm,1.0s,mb3.3,baz=222,slow=1.7,SNR=4.5						
TXAR	**Lajitas Array**	**87.22**	**58**	P	**P**	**06 43 22.4**	**+0.9**
ILAR	**Eielson Array**	**88.08**	**13**	P	**P**	**06 43 23.4**	**-1.3**
	0.6nm,0.5s,mb3.6,baz=214,slow=5.4,SNR=16						
ILAR	**Eielson Array**	**88.08**	**13**	P	**P**	**06 43 23.4**	**-1.3**
PDAR	**Pinedale Array**	**89.00**	**43**	P	**P**	**06 43 29.4**	**-0.1**
	0.3nm,0.6s,mb3.3,baz=168,slow=0.8,SNR=2.8						
PDAR	**Pinedale Array**	**89.00**	**43**	P	**P**	**06 43 29.4**	**-0.1**
AKASG	**Malin Array Be**	**142.53**	**331**	PKhKP	PKPpre	06 49 59.1	
	1.2nm,0.5s,baz=42,slow=4.0,SNR=6.9						
AKASG	**Malin Array Be**	**142.53**	**331**	PKPpre	PKPpre	06 49 59.1	
BRTR	**Keskin Array B**	**146.31**	**312**	PKPbc	PKPbc	06 50 11.6	-0.6
	0.6nm,0.6s,baz=59,slow=3.9,SNR=3.8						
BRTR	**Keskin Array B**	**146.31**	**312**	PKPbc	PKPbc	06 50 11.6	-0.6
CLL	**Collm**	**147.65**	**347**	*e*PKPbc	PKPbc	06 50 15.0	-0.3
GERES	**GERESS Array B**	**149.77**	**344**	PKPbc	PKPbc	06 50 20.1	-0.5
	0.5nm,0.6s,baz=29,slow=3.0,SNR=6.1						
GERES	**GERESS Array B**	**149.77**	**344**	PKPbc	PKPbc	06 50 20.1	-0.5

MAN 31 06:34:38,9°.11N×122°.81E,h12^{km}, mb4.0, ML2.8, MS2.4, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.48**	**61**	⇑*i*P	Pg	06 34 48.4	+0.9
SNPH				*i* S	Sg	06 34 54.5	+0.6
TBP	**Tagbilaran**	**1.19**	**61**	*e*P	Pn	06 35 00.6	+0.1
TBP				*e*S	Sb	06 35 17.2	+1.3
PAGZ	**Pagadian**	**1.37**	**156**	*e*P	Pn	06 35 02.6	-0.4
PAGZ				*e*S	Sn	06 35 16.8	-4.3
GUIM	**Jordan**	**1.53**	**352**	*e*P	Pn	06 35 05.0	-0.2
GUIM				*e*S	Sn	06 35 26.0	+1.1

*IDC **31** 06:52:10.0±2.7, 15°.50N×95°.68W, h0^{km}, mb3.3/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.4/5, ML3.8/2, Error ellipse: s-maj=48.6km s-min=19.6km az=134.0*
*ISCJB **31** 06:52:11.8±1.4, 15°.43N±0°.08×95°.59W±0°.05, h28^{km}±8^{km}, mb3.3/3, Error ellipse: s-maj=12.6km s-min=7.9km az=1.1*
*NEIC **31** 06:52:14.6, 15°.44N×95°.68W, h9^{km}, MD4.2(MEX), After MEX.*
*MEX **31** 06:52:14.5±0.5, 15°.43N×95°.67W, h10^{km}±19^{km}, MD4.2*
ISC 31 06:52:12.7±1.3, 15°.50N±0°.08×95°.58W±0°.04, h17^{km}±6^{km}, n27,σ0°81/45, mb3.3/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.57**	**298**	*i* P	**Pg**	**06 52 23.8**	**-0.3**
HUIG				*e*S	**Sg**	**06 52 31.3**	**-0.4**
HUIG	**Huatulco**	**0.57**	**298**	*i* P	**Pg**	**06 52 23.8**	**-0.3**
HUIG				*e*S	**Sg**	**06 52 31.3**	**-0.4**
CMIG	**Matias Romero**	**1.72**	**23**	Pn	**Pn**	**06 52 42.0**	**+0.2**
	35nm,0.3s,baz=205,slow=10,SNR=184						
CMIG				Lg		06 53 05.8	
	113nm,0.3s,baz=191,slow=5.2,SNR=17						
CMIG	**Matias Romero**	**1.72**	**23**	Pn	**Pn**	**06 52 42.0**	**+0.2**
CMIG				*i* P		06 52 42.4	
CMIG				*e*S	**Sn**	**06 53 03.8**	**+0.4**
CMIG				Lg		06 53 05.8	
CMIG	**Matias Romero**	**1.72**	**23**	*i* P	**Pn**	**06 52 42.4**	**+0.6**
CMIG				*e*S	**Sn**	**06 53 03.8**	**+0.4**
VHO	**Vista Hermosa**	**1.91**	**325**	*i* P	**Pn**	**06 52 45.2**	**+0.7**
VHO				*i* S	**Sn**	**06 53 07.7**	**-0.5**
VHO	**Vista Hermosa**	**1.91**	**325**	*i* P	**Pn**	**06 52 44.2**	**-0.3**
VHO				*i* S	**Sn**	**06 53 07.7**	**-0.5**
OXX	**Oaxaca**	**1.92**	**325**	*i* P	**Pn**	**06 52 44.2**	**-0.4**
OXX				*e*S	**Sn**	**06 53 07.1**	**-1.1**
OXX	**Oaxaca**	**1.92**	**325**	*i* P	**Pn**	**06 52 44.2**	**-0.4**
OXX				*e*S	**Sn**	**06 53 07.1**	**-1.1**
PNIG	**Pinotepa**	**2.60**	**290**	*i* P	**Pn**	**06 52 54.0**	**0.0**
PNIG				*i* S	**Sn**	**06 53 23.3**	**-1.9**
PNIG	**Pinotepa**	**2.60**	**290**	*i* P	**Pn**	**06 52 54.0**	**0.0**
PNIG				*i* S	**Sn**	**06 53 23.3**	**-1.9**
UTMO	**Huajuapan**	**3.15**	**318**	*i* P	**Pn**	**06 53 01.8**	**+0.4**
UTMO				*e*S	**Sn**	**06 53 39.2**	**+0.6**
UTMO	**Huajuapan**	**3.15**	**318**	*i* P	**Pn**	**06 53 01.8**	**+0.4**
UTMO				*e*S	**Sn**	**06 53 39.2**	**+0.6**
TPIG	**Tehuac#an**	**3.36**	**330**	*i* P	**Pn**	**06 53 05.4**	**+0.9**
TPIG				*e*S	**Sn**	**06 53 45.1**	**+1.0**
TPIG	**Tehuac#an**	**3.36**	**330**	*i* P	**Pn**	**06 53 05.4**	**+0.9**
TPIG				*e*S	**Sn**	**06 53 45.1**	**+1.0**
ACX	**Acapulco**	**4.33**	**289**	*i* P	**Pn**	**06 53 18.9**	**+1.2**
ACX				*e*S	**Sn**	**06 54 08.3**	**+0.5**
ACX	**Acapulco**	**4.33**	**289**	*i* P	**Pn**	**06 53 18.9**	**+1.2**
ACX				*e*S	**Sn**	**06 54 08.3**	**+0.5**
TEIG	**Tepich**	**8.39**	**55**	Pn	**Pn**	**06 54 13.3**	**-0.3**
	3.3nm,0.3s,baz=238,slow=19,SNR=20						
TEIG				Sn	**Sn**	**06 55 44.8**	**-3.2**
	1.5nm,0.3s,baz=323,slow=20,SNR=3.2						
TEIG	**Tepich**	**8.39**	**55**	Pn	**Pn**	**06 54 13.3**	**-0.4**
TEIG				Sn	**Sn**	**06 55 44.9**	**-3.2**
TXAR	**Lajitas Array**	**15.65**	**333**	Pn	**Pn**	**06 55 53.1**	**+0.6**
	0.0nm,0.3s,baz=156,slow=14,SNR=4.6						
TXAR	**Lajitas Array**	**15.65**	**333**	Pn	**Pn**	**06 55 53.1**	**+0.6**
NVAR	**Mina Array Bea**	**30.36**	**323**	P	**P**	**06 58 23.2**	**-0.5**
	0.1nm,0.4s,mb2.9,baz=141,slow=10,SNR=2.5						
NVAR	**Mina Array Bea**	**30.36**	**323**	P	**P**	**06 58 23.2**	**-0.5**
YKA	**Yellowknife Ar**	**48.82**	**348**	P	**P**	**07 00 57.1**	**+0.3**
	0.3nm,0.7s,mb3.4,baz=156,slow=7.9,SNR=4.4						
YKA	**Yellowknife Ar**	**48.82**	**348**	P	**P**	**07 00 57.1**	**+0.3**
ILAR	**Eielson Array**	**60.11**	**337**	P	**P**	**07 02 18.7**	**-0.1**
	0.4nm,0.8s,mb3.5,baz=134,slow=6.5,SNR=5.8						
ILAR	**Eielson Array**	**60.11**	**337**	P	**P**	**07 02 18.7**	**-0.1**

IDC 31 06:54:11.4±2.1, 11°.19S×165°.46E, h0^{km}, mb3.7/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.7/6, MS3.2/2, Ms1 3.2/2, ms1mx2.8/26, Error ellipse: s-maj=107.4km s-min=25.1km az=143.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.70**	**287**	LR	LR	06 57 12.1	
	comp=Z,88nm,20.6s,baz=266,slow=32						
DZM	**Mont Dzumac**	**10.86**	**175**	*e*P	Pn	06 56 49.2	+1.0
CTA	**Charters Tower**	**20.49**	**242**	P	P	06 58 51.4	+0.3
	2.2nm,0.6s,baz=65,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**30.15**	**223**	LR	LR	07 11 41.2	
	comp=Z,134nm,19.2s,baz=22,slow=35						
WRA	**Warramunga Arr**	**31.17**	**250**	P	P	07 00 32.4	0.0
	3.9nm,1.1s,baz=80,slow=9.4,SNR=9.0						
ASAR	**Alice Springs**	**32.48**	**243**	P	P	07 00 43.3	-0.6
	0.3nm,0.5s,baz=63,slow=10,SNR=6.8						
ILAR	**Eielson Array**	**83.73**	**19**	P	P	07 06 40.9	-1.1
	0.2nm,0.5s,baz=237,slow=5.0,SNR=4.7						
NVAR	**Mina Array Bea**	**86.33**	**50**	P	P	07 06 56.3	+0.7
	0.3nm,0.7s,baz=238,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**93.43**	**317**	P	P	07 07 30.7	+1.9
	0.3nm,0.7s,baz=94,slow=5.2,SNR=3.5						

*IDC **31** 07:06:57.8±1.3, 7°.95S×110°.13E, h0^{km}, mb3.7/9, mb1 3.8/10, mb1mx3.8/18, mbtmp3.7/10, ML3.9/1, Error ellipse: s-maj=78.6km s-min=14.4km az=51.0*
*ISCJB **31** 07:07:00.3±0.9, 8°.0S±0°.3×110°.2E±0°.3, h33^{km}, mb3.8/11, Error ellipse: s-maj=54.5km s-min=9.0km az=139.1*
*NEIC **31** 07:07:01.9±0.9, 8°.21S×109°.97E, h35^{km}, mb4.1/2, Error ellipse: s-maj=52.8km s-min=9.4km az=50.0*
NEIC Felt [III] at Bantul and Gamping.
*DJA **31** 07:07:02, 8°.08S×110°.41E, h5^{km}, MLv4.7/14*
ISC 31 07:07:02.3±0.9, 8°.2S±0°.2×110°.0E±0°.3, h35^{km}, n31, σ1°02/27, mb3.8/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.97**	**145**	*e*Pn	**Pn**	**07 10 41.9**	**-2.5**
FITZ	**Fitzroy Crossi**	**18.12**	**125**	P	**Pn**	**07 11 10.1**	**-1.2**
	0.3nm,0.3s,baz=314,slow=12,SNR=6.5						
FITZ				S	S	07 14 16.0	-21
	0.2nm,0.3s,baz=261,slow=19,SNR=3.8						
FITZ	**Fitzroy Crossi**	**18.12**	**125**	P	**Pn**	**07 11 10.1**	**-1.2**
FITZ				S	S	07 14 16.0	-21
WRA	**Warramunga Arr**	**26.29**	**119**	P	**P**	**07 12 36.0**	**+1.3**
	1.3nm,0.5s,mb3.7,baz=292,slow=11,SNR=8.1						
WRA	**Warramunga Arr**	**26.29**	**119**	P	**P**	**07 12 36.0**	**+1.3**
WRAB	**Tennant Creek**	**26.30**	**119**	*e*P	**P**	**07 12 34.8**	**0.0**
WB2	**Warramunga Arr**	**26.30**	**119**	*e*P	**P**	**07 12 34.8**	**-0.1**
AS31	**Alice Springs**	**27.59**	**127**	*e*P	**P**	**07 12 47.0**	**+0.6**
ASAR	**Alice Springs**	**27.59**	**127**	P	**P**	**07 12 46.6**	**+0.2**
	2.1nm,0.9s,mb3.8,baz=305,slow=8.2,SNR=18						
ASAR	**Alice Springs**	**27.59**	**127**	P	**P**	**07 12 46.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**28.61**	**338**	P	**P**	**07 12 55.6**	**+0.2**
	0.6nm,0.7s,mb3.5,baz=170,slow=8.2,SNR=2.8						
CMAR	**Chiang Mai Arr**	**28.61**	**338**	P	**P**	**07 12 55.6**	**+0.2**
STKA	**Stephens Creek**	**37.66**	**133**	P	**P**	**07 14 15.8**	**+1.6**
	13nm,0.4s,mb5.0,baz=309,slow=8.0,SNR=58						
STKA	**Stephens Creek**	**37.66**	**133**	*e*P	**P**	**07 14 15.6**	**+1.4**
	3.4nm,0.7s,mb4.2						
SONM	**Songino Array**	**55.83**	**357**	P	**P**	**07 16 36.3**	**+0.3**
	0.3nm,0.5s,mb3.6,baz=173,slow=7.5,SNR=2.5						
SONM	**Songino Array**	**55.83**	**357**	P	**P**	**07 16 36.3**	**+0.3**
MKAR	**Makanchi Array**	**60.02**	**338**	P	**P**	**07 17 05.0**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=149,slow=7.6,SNR=9.1						
MKAR	**Makanchi Array**	**60.02**	**338**	P	**P**	**07 17 05.0**	**-0.4**
KURK	**Kurchatov**	**64.63**	**338**	P	**P**	**07 17 34.6**	**-1.6**
	0.2nm,0.3s,mb3.6,baz=154,slow=5.1,SNR=5.9						
KURK	**Kurchatov**	**64.63**	**338**	P	**P**	**07 17 34.6**	**-1.5**
ZALV	**Zalesovo Beam**	**65.42**	**344**	P	**P**	**07 17 41.3**	**0.0**
	0.2nm,0.3s,mb3.6,baz=145,slow=5.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**65.42**	**344**	P	**P**	**07 17 41.3**	**0.0**
BVAR	**Borovoye Array**	**69.62**	**336**	P	**P**	**07 18 07.0**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=131,slow=4.4,SNR=2.9						
BVAR	**Borovoye Array**	**69.62**	**336**	P	**P**	**07 18 07.0**	**-0.8**
ABKAR	**Akbulak array**	**71.95**	**328**	*e*P	**P**	**07 18 22.0**	**-0.1**
	0.8nm,0.6s,mb3.8						
BRTR	**Keskin Array B**	**84.83**	**311**	P	**P**	**07 19 35.3**	**+1.8**
	0.8nm,0.8s,mb3.9,baz=131,slow=5.9,SNR=2.8						
BRTR	**Keskin Array B**	**84.83**	**311**	P	**P**	**07 19 35.3**	**+1.8**
PDAR	**Pinedale Array**	**131.08**	**39**	PKP	PKPdf	07 26 12.1	+1.5
	0.2nm,0.4s,baz=355,slow=1.0,SNR=2.2						
PDAR	**Pinedale Array**	**131.08**	**39**	PKP	PKPdf	07 26 12.1	+1.5
TXAR	**Lajitas Array**	**141.99**	**52**	PKhKP	PKPpre	07 26 28.7	
	0.2nm,0.7s,baz=5.7,slow=0.9,SNR=3.1						
TXAR	**Lajitas Array**	**141.99**	**52**	PKPpre	PKPpre	07 26 28.7	

*IDC **31** 07:28:32.8±2.2, 30°.28N×50°.03E, h0^{km}, mb3.5/6, mb1 3.6/8, mb1mx3.4/28, mbtmp3.5/8, ML3.2/2, Error ellipse: s-maj=53.7km s-min=22.6km az=163.0*
*ISCJB **31** 07:28:35.6±0.4, 30°.37N±0°.03×50°.06E±0°.03, h10^{km}, mb3.3/6, Error ellipse: s-maj=4.9km s-min=3.8km az=149.4*
*KISR **31** 07:28:35.7±0.4, 30°.11N×50°.18E, h34^{km}±54^{km}, ML2.9*
*TEH **31** 07:28:36.9, 30°.25N×49°.87E, h28^{km}*
*CSEM **31** 07:28:36.1±0.3, 30°.30N×50°.08E, h2^{km}, ML3.2, Error ellipse: s-maj=10.9km s-min=5.4km az=124.0*
ISC 31 07:28:36.7±0.4, 30°.35N±0°.03×50°.03E±0°.03, h10^{km}, n28, σ1°36/36, mb3.3/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**2.04**	**329**	*e*Pg	**Pg**	**07 29 17.7**	**+1.8**
SHGR				*e*Sg	**Sg**	**07 29 41.8**	**-0.6**
KBD	**Kabd**	**2.35**	**241**	*e*P	**Pn**	**07 29 15.8**	**+0.5**
KBD				*e*S	**Sn**	**07 29 45.8**	**+1.6**
KBD				AML	AML	07 29 47.9	
	comp=Z,46nm,0.3s						
KBD	**Kabd**	**2.35**	**241**	*e*P	**Pn**	**07 29 15.8**	**+0.5**
KBD				*e*S	**Sn**	**07 29 45.8**	**+1.6**
IPIR	**Pirpir**	**2.44**	**17**	*e*Pn	**Pn**	**07 29 17.0**	**+0.5**
IPIR				*e*Sg	**Sg**	**07 29 57.7**	**+2.7**
IPIR				*e*		07 29 57.9	
	comp=Z,1μm,0.2s						
QRN	**Al-Qurain**	**2.44**	**230**	*e*P	**Pn**	**07 29 16.2**	**-0.4**
QRN				*e*S	**Sn**	**07 29 46.9**	**+0.3**
QRN				AML	AML	07 29 51.3	
	comp=Z,78nm,0.3s						
IPAR	**Pars**	**2.66**	**100**	*e*Pn	**Pn**	**07 29 19.5**	**-0.1**
IPAR				*e*		07 30 20.9	
	comp=Z,672nm,0.5s						
NAY	**Al-Naaiem**	**2.67**	**246**	*e*P	**Pn**	**07 29 20.5**	**+0.9**
NAY				*e*S	**Sn**	**07 29 53.9**	**+1.9**
NAY				AML	AML	07 29 55.3	
	comp=Z,32nm,0.5s						
NAY	**Al-Naaiem**	**2.67**	**246**	*e*P	**Pn**	**07 29 20.5**	**+0.8**
NAY				*e*S	**Sn**	**07 29 53.9**	**+1.9**
IGAR	**Gharneh**	**2.67**	**40**	*e*Pn	**Pn**	**07 29 20.6**	**+0.9**
IGAR				*e*		07 29 28.8	
	comp=Z,428nm,0.1s						
ISRV	**Sarvestan**	**2.84**	**109**	*e*Pn	**Pn**	**07 29 22.0**	**-0.1**
ISRV				*e*Sg	**Sg**	**07 30 09.2**	**+1.1**
IZEF	**Zefreh**	**3.20**	**37**	*e*Pn	**Pn**	**07 29 27.7**	**+0.6**
IZEF				*e*		07 29 42.0	
	comp=Z,304nm,0.3s						
IKLH	**Kolahrood**	**3.23**	**24**	*e*Pn	**Pn**	**07 29 28.3**	**+0.8**
IKLH				*e*		07 29 42.0	
	comp=Z,423nm,0.3s						
NASN	**Na'in**	**3.40**	**43**	*e*Pn	**Pn**	**07 29 30.8**	**+1.1**
ISAD	**Sadrabad**	**3.50**	**63**	*e*Pn	**Pn**	**07 29 31.7**	**+0.6**
ISAD				*e*		07 30 32.6	
	comp=Z,558nm,0.2s						
ASAO	**Ashtian**	**4.18**	**360**	*e*Pn	**Pn**	**07 29 42.5**	**+2.0**
ICHK	**Chekchek**	**4.19**	**62**	*e*Pn	**Pn**	**07 29 40.7**	**+0.1**
ICHK				*e*		07 30 31.2	
	comp=Z,254nm,0.1s						
ISFB	**Sefidab**	**4.40**	**25**	*e*Pn	**Pn**	**07 29 43.4**	**-0.1**
IBAF	**Bafgh**	**4.91**	**74**	*e*Pn	**Pn**	**07 29 48.6**	**-1.9**
IBAF				*e*		07 30 07.6	
	comp=Z,86nm,0.3s						
IDHR	**Dehrash**	**5.32**	**326**	*e*Pn	**Pn**	**07 29 54.0**	**-2.1**
IDHR				*e*		07 31 01.6	
	comp=Z,670nm,0.1s						
DAMV	**Damavand**	**5.51**	**17**	*e*Pn	**Pn**	**07 29 59.8**	**+1.1**
ASF	**Jabal al Asfar**	**11.39**	**283**	Pn	**Pn**	**07 31 16.0**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=101,slow=10,SNR=2.3						
BRTR	**Keskin Array B**	**16.34**	**309**	Pn	**Pn**	**07 32

MWZ	**Matawai**	**6.33**	**192**	PN	**Pn**	**08 25 16.5**	**+0.3**
MWZ				*e*SN	**S**	**08 26 35.2**	**+0.2**
URZ	**Urewera**	**6.34**	**195**	P	**Pn**	**08 25 15.8**	**-0.5**
URZ	8.4nm,0.3s,baz=4.0,slow=4.5,SNR=72			S	**S**	**08 26 36.7**	**+1.6**
URZ	**Urewera**	**6.34**	**195**	PN	**Pn**	**08 25 16.4**	**+0.1**
URZ	1.9nm,0.3s,baz=53,slow=20,SNR=12			*e*SN	**S**	**08 26 36.2**	**+1.0**
CNGZ	**Carnagh Statio**	**6.39**	**187**	PN	**Pn**	**08 25 16.9**	**0.0**
KNZ	**Kokohu**	**6.98**	**190**	PN	**Pn**	**08 25 23.9**	**+0.5**
KNZ				*e*SN	**S**	**08 26 48.4**	**+0.3**
BHHZ	**Black Hill Sta**	**7.76**	**198**	PN	**P**	**08 25 32.2**	**0.0**
KAHZ	**Kahuranaki**	**7.87**	**193**	PN	**P**	**08 25 34.6**	**+1.2**
PXZ	**Pawanui**	**8.10**	**193**	PN	**Pn**	**08 25 35.3**	**-0.6**
PXZ				*e*SN	**S**	**08 27 11.4**	**+0.2**
PNHZ	**Pukenui**	**8.13**	**196**	PN	**P**	**08 25 36.3**	**+0.1**
TCW	**Tory Channel**	**9.88**	**202**	PN	**P**	**08 25 55.5**	**-0.1**
THZ	**Tophouse**	**10.84**	**206**	PN	**Pn**	**08 26 07.0**	**-0.4**
THZ				*e*SN	**S**	**08 28 06.5**	**-0.6**
ASAR	**Alice Springs**	**40.63**	**270**	P	**P**	**08 30 43.0**	**+0.5**
	0.5nm,0.6s,mb3.0,baz=108,slow=7.4,SNR=8.9						
WRA	**Warramunga Arr**	**41.78**	**276**	P	**P**	**08 30 51.4**	**-0.4**
	0.5nm,0.3s,mb3.3,baz=113,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**145.86**	**337**	PKPbc	PKPbc	08 42 27.2	-4.3
	5.7nm,0.9s,baz=48,slow=2.1,SNR=8.5						

CSEM ***31*** *08:41:27.2, 37°.33N×20°.49E, h11km, MD3.5, After ATH*
ATH 31 08:41:27.2, 37°.33N×20°.50E, h11km±1km, MD3.5/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.85**	**5**	*e*PB	Pb	08 41 43.7	-0.3
VLS				*e*SB	Sb	08 41 55.7	+0.3
VLS	**Valsamata**	**0.85**	**5**	*e*Pb	Pb	08 41 43.7	-0.3
VLS				*e*Sb	Sb	08 41 55.7	+0.3
RLS	**Riolos of Patr**	**1.06**	**46**	*e*PG	Pg	08 41 47.1	-0.4
RLS				*e*SB	Sb	08 42 01.8	+0.5
RLS	**Riolos of Patr**	**1.06**	**46**	*e*Pg	Pg	08 41 47.1	-0.4
RLS				*e*Sb	Sb	08 42 01.8	+0.5
PYL	**PYLOS**	**1.08**	**113**	*e*PB	Pb	08 41 47.7	-0.2
PYL				*e*SB	Sb	08 42 02.8	+0.7
PYL	**PYLOS**	**1.08**	**113**	*e*Pb	Pb	08 41 47.7	-0.2
PYL				*e*Sb	Sb	08 42 02.8	+0.7
ITM	**Ithomi**	**1.15**	**97**	*e*PG	Pg	08 41 48.7	-0.6
ITM				*e*SB	Sb	08 42 05.2	+1.3
ITM	**Ithomi**	**1.15**	**97**	*e*Pg	Pg	08 41 48.6	-0.7
ITM				*e*Sb	Sb	08 42 05.2	+1.3
VLX	**Vlachokerasia**	**1.50**	**88**	*e*PB	Pb	08 41 55.4	+0.4
VLX				*e*SB	Sb	08 42 16.1	+2.1
VLX	**Vlachokerasia**	**1.50**	**88**	*e*Pb	Pb	08 41 55.4	+0.4
VLX				*e*Sb	Sb	08 42 16.1	+2.1
EFP	**Efpalio**	**1.56**	**45**	*e*PB	Pb	08 41 56.8	+0.7
EFP	**Efpalio**	**1.56**	**45**	*e*Pb	Pb	08 41 56.8	+0.7
GUR	**Goura**	**1.58**	**67**	*e*PB	Pb	08 41 57.3	+0.8
GUR	**Goura**	**1.58**	**67**	*e*Pb	Pb	08 41 57.3	+0.8
EVR	**Evrytania**	**1.89**	**33**	*e*PN	Pn	08 42 01.3	+1.9
EVR	**Evrytania**	**1.89**	**33**	*e*Pn	Pn	08 42 01.3	+1.9
VLI	**Veliai**	**2.04**	**107**	*e*PN	Pn	08 42 03.8	+2.3
VLI	**Veliai**	**2.04**	**107**	*e*Pn	Pn	08 42 03.8	+2.3
LTK	**Loutraki**	**2.08**	**70**	*e*PN	Pn	08 42 04.4	+2.5
LTK	**Loutraki**	**2.08**	**70**	*e*Pn	Pn	08 42 04.4	+2.5
DID	**Didima**	**2.19**	**85**	*e*PN	Pn	08 42 06.1	+2.6
DID	**Didima**	**2.19**	**85**	*e*Pn	Pn	08 42 06.1	+2.6

BJI ***31*** *08:47:54.5, 46°.98N×154°.33E, h9km, mB5.0/28, mb4.7/36, Ms4.6/28, Ms7 4.3/28*
SKHL ***31*** *08:47:55.8±1.1, 46°.29N×154°.48E, h72km±26km, mb5.2/4, Ms4.5/2*
IDC ***31*** *08:47:59.0±0.6, 46°.57N×153°.30E, h0km, mb4.3/18, mb1 4.5/21, mb1mx4.4/27, mbtmp4.3/21, ML3.4/3, MS4.0/21, Ms1 4.1/21, ms1mx3.7/54, Error ellipse: s-maj=18.4km s-min=13.4km az=143.0*
NIED ***31*** *08:48:00, 46°.70N×153°.50E, h8km, Mw4.6 Best double couple: M0=8.62000×10^15 NP1:φ=53.00000°, δ=81.00000°, λ=109.00000°. NP2:φ=166.00000°, δ=21.00000°, λ=24.00000°.*
NEIC ***31*** *08:48:01.3±0.5, 46°.61N×153°.48E, h13km±3km, mb4.9/33, Error ellipse: s-maj=10.7km s-min=5.8km az=148.0*
ISCJB ***31*** *08:48:02.8±0.3, 46°.54N±0°.05×153°.38E±0°.06, h33km, mb4.6/73, MS4.2/29, Error ellipse: s-maj=9.0km s-min=3.7km az=142.9*
MOS ***31*** *08:48:03.9±1.1, 46°.61N×153°.34E, h42km, mb4.7/37, MS4.1/10, Error ellipse: s-maj=8.8km s-min=6.2km az=99.2*
SZGRF ***31*** *08:48:12.1, 48°.56N×152°.09E, h33km, mb4.2, Kuril Islands, Russia*
ISC 31 08:48:04.9±0.6, 46°.56N±0°.05×153°.43E±0°.07, h35km±4km, h24km±8.0km: pP-P, n313, σ1°.09/318, mb4.6/73, MS4.2/29, 29C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.11**	**253**	⇓*i*PN	**Pn**	**08 49 05.5**	**+0.4**
KUR				*e*S	**Sn**	**08 49 57.0**	**+5.2**
KUR				pmax	pmax		
	comp=Z,430nm,0.7s						
KUR				pmax	pmax		
	comp=N,90nm,0.3s						
KUR				pmax	pmax		
	comp=E,110nm,0.8s						
KUR				smax			
	comp=N,1μm,1.0s						
KUR				smax			
	comp=E,230nm,0.6s						
KUR	**Kuril'sk**	**4.11**	**253**	⇓*i*P	**Pn**	**08 49 05.5**	**+0.4**
KUR				AMB	AMB	08 49 06.3	
	comp=E,430nm,0.7s						
KUR				AMB	AMB	08 49 06.3	
	comp=E,110nm,0.8s						
KUR				AMB	AMB	08 49 06.3	
	comp=E,90nm,0.3s						
KUR				*e*S	**Sn**	**08 49 57.0**	**+5.2**
KUR				A		08 50 10.0	
	comp=E,6μm,4.0s						
KUR				A		08 50 10.0	
	comp=E,4μm,4.0s						
KUR				A		08 50 12.2	
	comp=E,1μm,0.8s						
KUR				A		08 50 12.2	
	comp=E,230nm,0.8s						
SKR	**Severo-Kuril's**	**4.49**	**22**	*e*PN	**Pn**	**08 49 02.4**	**-8.0**
SKR				MLR	MLR		
	comp=Z,3μm,10.0s						
SKR	**Severo-Kuril's**	**4.49**	**22**	*e*P	**Pn**	**08 49 02.4**	**-8.0**
YUK	**Yuzh-Kuril'sk**	**5.91**	**247**	*c i*PN	**Pn**	**08 49 29.4**	**-0.4**
YUK				S	**Sn**	**08 50 40.4**	**+4.2**
YUK				pmax	pmax		
	comp=N,77nm,0.5s						
YUK				pmax	pmax		
	comp=Z,191nm,0.5s						
YUK				pmax	pmax		
	comp=E,75nm,0.5s						
YUK				smax			
	comp=E,170nm,0.6s						
YUK				smax			
	comp=N,126nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.91**	**247**	⇑*i*P	**Pn**	**08 49 29.4**	**-0.4**
YUK				AMB	AMB	08 49 46.9	
	comp=N,77nm,0.5s						
YUK				AMB	AMB	08 49 46.9	
	comp=N,75nm,0.5s						
YUK				AMB	AMB	08 49 46.9	
	comp=N,191nm,0.5s						
YUK				*e*S	**Sn**	**08 50 40.4**	**+4.2**
YUK				A		08 50 45.0	
	comp=N,350nm,0.6s						
YUK				A		08 50 45.0	
	comp=N,190nm,0.6s						
NEM2	**Nemuro 2**	**6.32**	**242**	P	**Pn**	**08 49 32.6**	**-2.9**
NEM2				*e*S	**Sn**	**08 50 40.5**	**-5.9**
JRA	**Rausu**	**6.42**	**249**	P	**Pn**	**08 49 37.2**	**+0.3**
JNK	**Nakash**	**6.85**	**247**	P	**Pn**	**08 49 41.8**	**-0.9**
PEA0B	**Petropavlovsk-**	**7.11**	**21**	*e*Pn	**Pn**	**08 49 47.1**	**+0.8**
PETK	**Petropavlovsk-**	**7.11**	**21**	Pn	**Pn**	**08 49 45.5**	**-0.7**
	comp=N,1.8nm,0.3s,baz=183,slow=14,SNR=17						
PETK	**Petropavlovsk-**	**7.11**	**21**	Pn	**Pn**	**08 49 45.5**	**-0.7**
PETK	**Petropavlovsk-**	**7.11**	**21**	PN	**Pn**	**08 49 45.5**	**-0.8**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JAK	**Akkeshi**	**7.16**	**243**	P	**Pn**	**08 49 43.8**	**-3.3**
JAK				*e*S	**Sn**	**08 51 00.3**	**-6.9**
JTKR	**Abashiri--Toko**	**7.20**	**252**	P	**Pn**	**08 49 47.4**	**-0.2**
PET	**Petropavlovsk**	**7.30**	**26**	*e*PN	**Pn**	**08 49 51.1**	**+2.3**
YSS	**Yuzh-Sakhalins**	**7.34**	**277**	*e*Pn	**Pn**	**08 49 51.6**	**+2.0**
YSS	**Yuzh-Sakhalins**	**7.34**	**277**	⇑*e*PN	**Pn**	**08 49 57.3**	**+7.8**
YSS				pmax	pmax		
	comp=Z,190nm,1.6s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.34**	**277**	*e*P	**Pn**	**08 49 57.3**	**+7.8**
YSS				AMB	AMB	08 50 01.9	
	comp=E,190nm,1.6s						
YSS				AMS	AMS	08 52 30.0	
	comp=E,2μm,17.0s						
YSS				AMS	AMS	08 52 30.0	
	comp=E,2μm,16.0s						
JMP	**Maruseppu**	**7.55**	**254**	P	**Pn**	**08 49 54.0**	**+1.7**
JAR	**Ashorobuto**	**7.59**	**248**	P	**Pn**	**08 49 51.9**	**-1.1**
JOB	**Onbets**	**7.75**	**245**	P	**Pn**	**08 49 52.9**	**-2.2**
JKK2	**Kamakawa 2**	**8.01**	**254**	P	**Pn**	**08 49 59.1**	**+0.5**
ASAJ	**Asahikawa**	**8.02**	**256**	Pn	**Pn**	**08 50 00.1**	**+1.3**
	comp=E,2.5nm,0.3s,baz=101,slow=9.2,SNR=14						
ASAJ				LR	LR	08 52 52.7	
	comp=E,631nm,19.1s,baz=305,slow=37						
ASAJ	**Asahikawa**	**8.02**	**256**	*e*Pn	**Pn**	**08 50 00.3**	**+1.5**
ASAJ	**Asahikawa**	**8.02**	**256**	PN	**Pn**	**08 50 00.1**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,631nm,19.1s						
ASAJ	**Asahikawa**	**8.02**	**256**	P	**Pn**	**08 50 00.3**	**+1.6**
JCH	**Churui**	**8.20**	**245**	P	**Pn**	**08 49 58.7**	**-2.5**
JCH				*e*S	**Sn**	**08 51 26.3**	**-6.3**
TYV	**Tymovskoe**	**8.32**	**305**	*e*P	**Pn**	**08 50 04.5**	**+1.6**
TYV				AMB	AMB	08 50 14.6	
	comp=Z,22nm,1.0s						
TYV				AMB	AMB	08 50 14.6	
	comp=Z,79nm,1.0s						
TYV				AMB	AMB	08 50 14.6	
	comp=Z,88nm,1.0s						
TYV				*e*rx	rx	08 52 12.0	
TYV				AMS	AMS	08 53 38.0	
	comp=Z,2μm,16.0s						
JFR	**Furan**	**8.41**	**250**	P	**Pn**	**08 50 05.1**	**+0.9**
JEM	**Erimo**	**8.66**	**242**	P	**Pn**	**08 50 09.3**	**+1.8**
JBT2	**Biratori 2**	**8.75**	**248**	P	**Pn**	**08 50 06.9**	**-1.9**
JNBK	**Urakawa-nobuka**	**8.76**	**245**	P	**Pn**	**08 50 05.7**	**-3.2**
JEW	**Eniwo**	**9.31**	**251**	P	**Pn**	**08 50 16.9**	**+0.5**
JKB	**Kayabe**	**10.05**	**247**	P	**Pn**	**08 50 23.5**	**-3.1**
JSH	**Shimam**	**10.32**	**253**	P	**Pn**	**08 50 30.2**	**-0.1**
JTM	**Tenmabayashi**	**10.65**	**242**	P	**Pn**	**08 50 31.0**	**-3.8**
JOM	**Ohasama**	**11.36**	**236**	P	**Pn**	**08 50 41.1**	**-3.4**
FX1	**Attu Island--F**	**14.22**	**56**	LR	LR	08 55 23.2	
	comp=Z,300nm,19.2s,baz=92,slow=31						
MJAR	**Matsushiro Arr**	**15.14**	**234**	Pn	**Pn**	**08 51 31.3**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=25,slow=13,SNR=7.8						
MJAR	**Matsushiro Arr**	**15.14**	**234**	Pn	**Pn**	**08 51 31.3**	**-4.7**
MJAR	**Matsushiro Arr**	**15.14**	**234**	P	**Pn**	**08 51 31.3**	**-4.7**
MAJO	**Matsushiro**	**15.14**	**234**	*e*Pn	**Pn**	**08 51 37.6**	**+1.6**
	comp=Z,534nm,2.8s						
MAJO	**Matsushiro**	**15.14**	**234**	*e*P	**Pn**	**08 51 37.7**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,534nm,2.8s						
MAT	**Matsushiro**	**15.14**	**234**	P	**Pn**	**08 51 40.1**	**+4.1**
MAT				*e*S	**S**	**08 54 38.8**	**+0.1**
MAT	**Matsushiro**	**15.14**	**234**	P	**Pn**	**08 51 40.4**	**+4.4**
USRK	**Ussuriysk Arra**	**15.24**	**269**	Pn	**Pn**	**08 51 36.0**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=67,slow=12,SNR=20						
USRK				LR	LR	08 57 22.0	
	comp=Z,215nm,18.3s,baz=158,slow=37						
VLA	**Vladivostok**	**15.65**	**265**	⇑*e*P	**Pn**	**08 51 44.2**	**+1.6**
VLA				pmax	pmax		
	comp=Z,69nm,1.2s						
MDJ	**Mudanjiang**	**16.79**	**272**	P	**Pn**	**08 52 00.5**	**+3.5**
MDJ				pP	pP	08 52 04.3	-3.8
MDJ				sP	sP	08 52 06.0	-6.6
MDJ				S	**S**	**08 55 15.0**	**+2.8**
MDJ				PcP	PcP	08 56 41.8	-1.9
MDJ				ScP	ScP	09 00 15.5	0.0
MDJ				PcS	PcS	09 00 17.5	-2.0
MDJ				ScS	ScS	09 03 55.8	+1.0
MDJ				pmax	pmax		
	comp=Z,13nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.2s						
MDJ				LR	LR		
	comp=N,370nm,6.3s						
MDJ				LR	LR		
	comp=E,220nm,8.7s						
MDJ				LR	LR		
	comp=Z,550nm,15.8s						
ZEA	**Zeya**	**18.18**	**303**	*e*P	**Pn**	**08 52 14.8**	**+0.6**
ZEA				AMB	AMB	08 52 20.7	
	comp=Z,18nm,1.2s						
CN2	**Changchun**	**19.88**	**272**	*e*P	**Pn**	**08 52 37.5**	**+2.8**
CN2				*e*sP	sP	08 52 44.5	-2.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,17.0s						
CN2				LR	LR		
	comp=E,500nm,17.0s						
CN2				LR	LR		
	comp=Z,500nm,20.0s						
CLNS	**Chul'man**	**20.31**	**311**	*e*P	**P**	**08 52 37.2**	**-0.2**
CLNS				*e*		08 52 51.1	
CLNS				*e*S	**S**	**08 56 13.6**	**-9.4**
CLNS				*e*		08 56 55.9	
CLNS				pmax	pmax		
	comp=Z,13nm,1.5s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.2s						
CLNS				pmax	pmax		
	comp=N,11nm,1.3s						
CLNS				smax			
	comp=N,7.0nm,1.1s						
CLNS				smax			
	comp=E,2.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,306nm,10.0s						
CLNS				MLR	MLR		
	comp=E,926nm,16.0s						
CLNS				MLR	MLR		
	comp=Z,828nm,12.0s,MS4.3						
YAK	**Yakutsk**	**20.60**	**327**	*e*P	**P**	**08 52 40.5**	**0.0**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**20.95**	**253**	P	**P**	**08 52 44.5**	**0.0**
	comp=Z,12nm,0.9s,baz=56,slow=10,SNR=16						
KSRS				LR	LR	08 59 32.9	
	comp=Z,212nm,21.8s,MS3.5,baz=45,slow=33						
KSRS	**Korea Array**	**20.95**	**253**	P	**P**	**08 52 44.6**	**0.0**
KSRS				pmax	pmax		
	comp=Z,12nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,212nm,21.8s,MS3.5						
KSAR	**Wonju Array Be**	**20.98**	**253**	P	**P**	**08 52 44.5**	**-0.4**
KSAR	**Wonju Array Be**	**20.98**	**253**	P	**P**	**08 52 44.6**	**-0.3**
SNY	**Shenyang**	**21.85**	**268**	⇑P	**P**	**08 52 54.3**	**+0.1**
SNY				S	**S**	**08 57 01.5**	**+8.0**
SNY				LR	LR		
	comp=N,450nm,5.4s						
SNY				LR	LR		
	comp=E,510nm,14.3s						
SNY				LR	LR		
	comp=Z,380nm,14.9s,MS3.9						
BILL	**Bilibino**	**22.53**	**13**	*e*P	**P**	**08 52 59.5**	**-1.6**
BILL				*i* S	**S**	**08 57 04.0**	**-2.1**
BILL				pmax	pmax		
	comp=Z,23nm,2.5s,mb4.2						
BILL				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.0						
BOD	**Bodaibo**	**26.28**	**310**	*e*P	**P**	**08 53 32.8**	**-3.8**
BJI	**Beijing**	**27.70**	**270**	P	**P**	**08 53 51.5**	**+2.0**
BJI				S	**S**	**08 58 38.3**	**+9.1**
BJI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
BJI				pmax	pmax		
	comp=Z,140nm,5.5s						
BJI				LR	LR		
	comp=N,360nm,12.3s,MS4.4						
BJI				LR	LR		
	comp=E,570nm,16.6s,MS4.4						
BJI				LR	LR		
	comp=Z,250nm,17.9s,MS3.8						
NJ2	**Nanjing**	**30.15**	**254**	*e*P	**P**	**08 54 10.5**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
HHC	**Hu-ho-hao-te**	**30.53**	**275**	⇓P	**P**	**08 54 14.8**	**+0.2**
HHC				sP	sP	08 54 22.0	-7.0
HHC				PP	PP	08 55 17.3	-6.4
HHC				PcP	PcP	08 57 10.8	-2.0
HHC				S	**S**	**08 59 19.5**	**+5.9**
HHC				ScP	ScP	09 00 52.5	+0.1
HHC				SS	SS	09 01 04.0	-20
HHC				ScS	ScS	09 04 47.8	-0.7
HHC				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.3						
HHC				pmax	pmax		
	comp=Z,130nm,5.9s						
HHC				LR	LR		
	comp=N,460nm,12.7s,MS4.5						
HHC				LR	LR		
	comp=E,350nm,11.2s,MS4.5						
HHC				LR	LR		
	comp=Z,330nm,13.4s,MS4.2						
ULN	**Ulaanbaatar**	**31.17**	**290**	*e*P	**P**	**08 54 21.0**	**+0.8**
	comp=Z,5.4nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**31.17**	**290**	*e*P	**P**	**08 54 21.0**	**+0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**31.60**	**290**	P	**P**	**08 54 23.0**	**-1.0**
	comp=Z,1.0nm,0.9s,mb3.7,baz=59,slow=8.8,SNR=4.8						
SONM				LR	LR	09 07 59.6	
	comp=Z,312nm,19.6s,MS4.0,baz=74,slow=38						
SONM	**Songino Array**	**31.60**	**290**	P	**P**	**08 54 23.0**	**-1.0**
SONM	**Songino Array**	**31.60**	**290**	P	**P**	**08 54 23.0**	**-1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,312nm,19.6s						
TLY	**Talaya**	**32.46**	**298**	*e*P	**P**	**08 54 33.5**	**+2.0**
TLY				*e*S	**S**	**08 59 43.9**	**+0.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
TLY				MLR	MLR		
	comp=Z,358nm,15.0s,MS4.2						
ZAK	**Zakamensk**	**32.96**	**295**	*e*P	**P**	**08 54 33.9**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
WHN	**Wuhan**	**34.10**	**256**	*e*P	**P**	**08 54 44.8**	**-1.2**
WHN				LR	LR		
	comp=Z,600nm,13.2s,MS4.5						
ILAR	**Eielson Array**	**36.56**	**38**	P	**P**	**08 55 06.1**	**-0.7**
	comp=Z,1.7nm,1.1s,mb3.8,baz=274,slow=7.2,SNR=7.9						
ILAR	**Eielson Array**	**36.56**	**38**	P	**P**	**08 55 06.1**	**-0.7**
ILAR	**Eielson Array**	**36.56**	**38**	P	**P**	**08 55 06.1**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
LZH	**Lanzhou**	**38.11**	**272**	⇑P	**P**	**08 55 20.8**	**+0.5**
LZH				pP	pP	08 55 25.3	-5.3
LZH				sP	sP	08 55 27.8	-7.0
LZH				PP	PP	08 56 52.5	+4.9
LZH				*e*S	**S**	**09 01 16.5**	**+5.8**
LZH				sS	sS	09 01 24.3	-3.4
LZH				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
LZH				pmax	pmax		
	comp=Z,160nm,5.2s						
LZH				LR	LR		
	comp=N,590nm,15.0s,MS4.6						
LZH				LR	LR		
	comp=E,280nm,12.7s,MS4.6						
LZH				LR	LR		
	comp=Z,720nm,17.5s,MS4.5						
CD2	**Chengdu**	**41.08**	**266**	*e*P	**P**	**08 55 45.8**	**+0.8**
CD2				pP	pP	08 55 50.3	-5.1
CD2				sP	sP	08 55 52.8	-6.8
CD2				PP	PP	08 57 25.8	+5.7
CD2				S	**S**	**09 02 02.5**	**+7.1**
CD2				sS	sS	09 02 10.3	-2.1
CD2				SS	SS	09 05 03.3	+4.9
CD2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
CD2				pmax	pmax		
	comp=Z,100nm,5.4s						
CD2				LR	LR		
	comp=N,270nm,10.8s						
CD2				LR	LR		
	comp=E,680nm,18.0s						
CD2				LR	LR		
	comp=Z,230nm,13.2s,MS4.2						
INK	**Inuvik**	**41.69**	**32**	P	**P**	**08 55 50.0**	**+0.5**
	comp=Z,1.7nm,1.0s,mb3.6,baz=261,slow=12,SNR=2.2						
INK	**Inuvik**	**41.69**	**32**	P	**P**	**08 55 50.0**	**+0.5**
INK	**Inuvik**	**41.69**	**32**	P	**P**	**08 55 50.1**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GYA	**Guiyang**	**41.89**	**258**	P	**P**	**08 55 54.0**	**+2.3**
GYA				PP	PP	08 57 36.3	+7.4
GYA				PcP	PcP	08 57 47.0	+0.1
GYA				ScP	ScP	09 01 35.8	+1.5
GYA				S	**S**	**09 02 15.5**	**+8.1**
GYA				SS	SS	09 05 20.8	+6.3
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,17.7s,MS4.6						
GYA				LR	LR		
	comp=E,460nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=Z,450nm,17.8s,MS4.4						
ZALV	**Zalesovo Beam**	**42.90**	**306**	P	**P**	**08 55 57.0**	**-2.5**
	comp=Z,0.9nm,0.5s,mb3.8,baz=62,slow=8.4,SNR=5.9						
ZALV				PcP	PcP	08 57 48.7	-1.1
	comp=Z,1.1nm,0.7s,baz=67,slow=3.7,SNR=3.7						
ZALV				LR	LR	09 15 08.1	
	comp=Z,469nm,18.6s,MS4.4,baz=282,slow=38						
ZALV	**Zalesovo Beam**	**42.90**	**306**	P	**P**	**08 55 57.0**	**-2.5**
ZALV				PcP	PcP	08 57 48.7	-1.1
ZALV	**Zalesovo Beam**	**42.90**	**306**	P	**P**	**08 55 57.0**	**-2.6**
ZALV						08 57 48.7	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
ZALV				MLR	MLR		
	comp=Z,469nm,18.7s,MS4.4						
NVS	**Novosibirsk**	**43.48**	**308**	*e*P	**P**	**08 55 58.6**	**-5.6**
NVS				pmax	pmax		
	comp=Z,46nm,2.7s,mb4.7						
NVS				pmax	pmax		
	comp=E,21nm,2.1s						
WMQ	**Urumqi**	**45.20**	**292**	*e*P	**P**	**08 56 19.0**	**+0.9**
WMQ				pP	pP	08 56 23.5	-5.1
WMQ				sP	sP	08 56 26.0	-6.8
WMQ				S	**S**	**09 03 01.5**	**+6.1**
WMQ				SS	SS	09 06 17.5	-1.0
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,180nm,4.6s						
WMQ				LR	LR		
	comp=N,200nm,17.8s,MS4.2						
WMQ				LR	LR		

comp=Z,9.3nm,1.0s,mb4.8
KURK Kurchatov 47.65 304 *e*P **P** **08 56 35.2 -2.1**
KURK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
YKA Yellowknife Ar 50.95 37 P **P** **08 57 02.3 +0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=296,slow=7.1,SNR=17
YKA Yellowknife Ar 50.95 37 P **P** **08 57 02.4 +0.1**
YKA Yellowknife Ar 50.95 37 P **P** **08 57 02.3 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 51.15 310 LR LR 09 20 34.7
comp=Z,256nm,18.6s,MS4.3,baz=67,slow=38
BRVK Borovoye 51.19 310 *e*P **P** **08 57 02.6 -1.6**
comp=Z,6.2nm,0.9s,mb4.5
BRVK Borovoye 51.19 310 *e*P **P** **08 57 02.6 -1.6**
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CHTO Chiang Mai 52.29 257 *e*P **P** **08 57 13.3 +0.4**
comp=Z,16nm,0.9s,mb5.0
CHTO *ep*P pP 08 57 27.1 +3.7
CHTO Chiang Mai 52.29 257 *e*P **P** **08 57 13.3 +0.4**
CHTO *e**PP pP 08 57 27.1 +3.6
CHTO pmax pmax
comp=Z,16nm,0.9s,mb5.0
CMAR Chiang Mai Arr 52.54 257 P **P** **08 57 15.4 +0.7**
comp=Z,4.6nm,0.7s,mb4.5,baz=36,slow=7.6,SNR=33
CMAR LR LR 09 22 44.6
comp=Z,28nm,20.2s,MS3.3,baz=60,slow=40
CMAR Chiang Mai Arr 52.54 257 P **P** **08 57 15.4 +0.7**
CMAR Chiang Mai Arr 52.54 257 P **P** **08 57 15.4 +0.7**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR MLR MLR
comp=Z,28nm,20.2s
TKM2 Tokmak 2 53.28 296 *e*P **P** **08 57 19.7 -0.2**
comp=Z,4.9nm,1.1s,mb4.3
TKM2 Tokmak 2 53.28 296 *e*P **P** **08 57 19.7 -0.2**
TKM2 pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
USP Ospenovka 53.77 297 P **P** **08 57 22.6 -0.9**
SNR=18
USP P 08 57 22.6
SNR=18
KBK Karagaybulak 53.82 296 P **P** **08 57 23.8 -0.1**
SNR=5.7
KBK P 08 57 23.8
SNR=5.7
KZA Kyzart 53.95 296 P **P** **08 57 25.6 +0.7**
SNR=8.7
KZA P 08 57 25.6
SNR=8.7
AAK Ala-Archa 54.12 297 P **P** **08 57 25.7 -0.3**
SNR=5.9
AAK P 08 57 25.7
SNR=5.9
AAK Ala-Archa 54.12 297 *e*P **P** **08 57 25.3 -0.7**
comp=Z,24nm,0.8s,mb5.2
AAK Ala-Archa 54.12 297 *e*P **P** **08 57 25.3 -0.7**
AAK pmax pmax
comp=Z,25nm,0.8s,mb5.2
TAPN Taplejung 54.33 274 *e*P **P** **08 57 28.9 +1.1**
comp=Z,7.3nm,0.3s,mb5.1
EKS2 Erkin-Say 54.54 297 P **P** **08 57 29.0 -0.1**
SNR=7.6
EKS2 P 08 57 29.0
SNR=7.6
EKS2 Erkin-Say 54.54 297 *e*P **P** **08 57 28.9 -0.3**
comp=Z,5.7nm,0.8s,mb4.7
EKS2 Erkin-Say 54.54 297 *e*P **P** **08 57 28.9 -0.2**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ODAN Odare 54.86 273 *e*P **P** **08 57 32.0 +0.4**
comp=Z,7.4nm,0.2s,mb5.3
KSH Kashi 54.93 293 *e*P **P** **08 57 36.0 +4.0**
KSH pP pP 08 57 41.0 -1.6
KSH sP sP 08 57 43.0 -3.8
KSH PcP PcP 08 58 35.5 +1.9
KSH PP PP 08 59 42.0 +7.1
KSH ScP ScP 09 02 31.5 +2.3
KSH PcS PcS 09 02 34.8 +1.4
KSH S **S** **09 05 19.3 +8.3**
KSH sS sS 09 05 27.5 -1.1
KSH ScS ScS 09 07 21.3 +3.1
KSH SS SS 09 09 04.3 +10
KSH pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KSH pmax pmax
comp=Z,170nm,6.4s
KSH LR LR
comp=N,200nm,5.6s
KSH LR LR
comp=E,260nm,5.9s
KSH LR LR
comp=Z,360nm,5.8s
JIRN Jiri 55.18 275 *e*P **P** **08 57 34.8 +0.9**
comp=Z,14nm,0.9s,mb5.0
JIRN Jiri 55.18 275 *e*P **P** **08 57 34.8 +0.9**
comp=Z,14nm,0.9s,mb5.0
GUN Gumba 55.24 275 *e*P **P** **08 57 35.0 +0.7**
comp=Z,22nm,0.7s,mb5.3
GUN Gumba 55.24 275 *e*P **P** **08 57 35.0 +0.7**
comp=Z,22nm,0.7s,mb5.3
RAMN Ramite 55.35 274 *e*P **P** **08 57 35.7 +0.5**
comp=Z,22nm,0.6s,mb5.4
RAMN Ramite 55.35 274 *e*P **P** **08 57 35.7 +0.5**
comp=Z,22nm,0.6s,mb5.4
KKN Kakani 55.72 276 *e*P **P** **08 57 38.9 +1.0**
KKN Kakani 55.72 276 *e*P **P** **08 57 38.9 +1.0**
KKN Kakani 55.72 276 *e*P **P** **08 57 38.9 +1.0**
PKI Pulchoki 55.77 275 *e*P **P** **08 57 38.9 +0.7**
PKI Pulchoki 55.77 275 *e*P **P** **08 57 38.9 +0.7**
PKI Pulchoki 55.77 275 *e*P **P** **08 57 38.9 +0.7**
DMN Daman 55.96 276 *e*P **P** **08 57 40.4 +0.9**
comp=Z,38nm,0.9s,mb5.4
DMN Daman 55.96 276 *e*P **P** **08 57 40.4 +0.9**
comp=Z,38nm,0.9s,mb5.4
GKN Gorkha 56.03 276 *e*P **P** **08 57 40.6 +0.6**
GKN Gorkha 56.03 276 *e*P **P** **08 57 40.6 +0.6**
HNR Honiara 56.04 172 LR LR 09 19 33.0
comp=Z,95nm,19.8s,MS3.9,baz=276,slow=34
KKAR Karatay Array 56.28 299 *e*P **P** **08 57 40.5 -1.2**
KKAR Karatay Array 56.28 299 *e*P **P** **08 57 40.5 -1.1**
DANN Dangsing 56.41 277 *e*P **P** **08 57 43.9 +1.1**
comp=Z,40nm,0.9s,mb5.5
DANN Dangsing 56.41 277 *e*P **P** **08 57 43.9 +1.1**
comp=Z,40nm,0.9s,mb5.5
DAG Danmarks Havn 56.84 358 *i*P **P** **08 57 44.5 -0.6**
DAG pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
DAG Danmarks Havn 56.84 358 *i*P **P** **08 57 44.5 -0.6**
comp=Z,3.6nm,1.0s,mb4.4
KOLN Koldanda 56.89 277 *e*P **P** **08 57 46.8 +0.6**
KOLN Koldanda 56.89 277 *e*P **P** **08 57 46.8 +0.6**
ARCES ARCESS Array B 58.10 341 P **P** **08 57 53.7 -0.4**
comp=Z,6.4nm,1.0s,mb4.6,baz=37,slow=8.1,SNR=3.8
ARCES LR LR 09 28 30.8
comp=Z,198nm,18.1s,MS4.3,baz=49,slow=42
ARCES ARCESS Array B 58.10 341 P **P** **08 57 53.7 -0.4**
ARCES ARCESS Array B 58.10 341 P **P** **08 57 53.7 -0.4**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ABKAR Akbulak array 58.72 310 *e*P **P** **08 57 57.5 -1.2**
AKTO Aktyubinsk 59.02 312 LR LR 09 25 45.3
comp=Z,281nm,20.1s,MS4.4,baz=232,slow=38
DDI Dehra Dun 59.05 283 *ex* **P** **08 58 00.0 -1.3**
SUMG Summit 60.87 4 *e*P **P** **08 58 13.9 +0.7**
comp=Z,20nm,1.1s,mb5.2
SUMG Summit 60.87 4 *i*P **P** **08 58 14.0 +0.9**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 60.87 4 *i*P **P** **08 58 14.0 +0.9**
comp=Z,13nm,0.9s,mb5.0
HLID Hailey 61.43 56 *e*P **P** **08 58 17.3 -0.1**
comp=Z,8.2nm,0.8s,mb4.9
JOF Joensuu 61.60 334 *e*P **P** **08 58 16.4 -1.8**
JOF Joensuu 61.60 334 *ep* **P** **08 58 16.4 -1.8**
BOZ Bozeman (W) 61.70 53 *e*P **P** **08 58 18.7 -0.4**
BOZ *ep*P pP 08 58 31.3 +1.4
BOZ Bozeman (W) 61.70 53 *e*P **P** **08 58 18.7 -0.4**
BOZ *e**PP pP 08 58 31.3 +1.4
NVAR Mina Array Bea 62.33 62 P **P** **08 58 24.5 +1.0**
comp=Z,2.0nm,0.8s,mb4.3,baz=294,slow=6.6,SNR=11
NVAR Mina Array Bea 62.33 62 P **P** **08 58 24.5 +1.0**
KBL Kabul 62.34 292 *e*P **P** **08 58 23.0 -0.6**
comp=Z,12nm,0.9s,mb5.0
KBL Kabul 62.34 292 *e*P **P** **08 58 23.0 -0.6**
KBL pmax pmax
comp=Z,12nm,0.9s,mb5.0
YFT Old Faithful 62.89 53 *e*P **P** **08 58 19.2 -7.8**
comp=Z,1μm,0.8s
FLWY Flagg Ranch 63.20 53 *e*P **P** **08 58 22.1 -7.1**
comp=Z,410nm,0.6s
SCO Scoresbysund 63.22 358 *i*P **P** **08 58 28.9 0.0**
SCO pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
SCO Scoresbysund 63.22 358 *i*P **P** **08 58 28.9 0.0**
comp=Z,2.5nm,1.0s,mb4.3
FINES FINESS Array B 64.31 335 P **P** **08 58 34.6 -1.5**
comp=Z,3.6nm,0.6s,mb4.6,baz=41,slow=7.4,SNR=20
FINES LR LR 09 30 44.0
comp=Z,311nm,18.1s,MS4.5,baz=158,slow=40
FINES FINESS Array B 64.31 335 P **P** **08 58 34.6 -1.5**
FINES FINESS Array B 64.31 335 P **P** **08 58 34.6 -1.6**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES MLR MLR
comp=Z,311nm,18.1s
PV04 Paradox Valley 67.95 57 *e*P **P** **08 59 03.0 +3.0**
PV04 *ep*P pP 08 59 12.3 +1.4
WRA Warramunga Arr 68.41 199 P **P** **08 59 01.0 -1.8**
comp=Z,3.6nm,0.9s,mb4.4,baz=17,slow=6.7,SNR=11
WRA Warramunga Arr 68.41 199 P **P** **08 59 01.0 -1.8**
WRA Warramunga Arr 68.41 199 P **P** **08 59 01.0 -1.8**
WRA pmax pmax
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 68.48 341 P **P** **08 59 02.0 -0.9**
comp=Z,24nm,1.2s,mb5.1,baz=30,slow=6.5
NOA NORSAR Array B 68.48 341 P **P** **08 59 02.4 -0.5**
comp=Z,4.1nm,0.8s,mb4.5,baz=27,slow=6.5,SNR=9.2
NOA LR LR 09 33 39.4
comp=Z,103nm,19.8s,MS4.1,baz=260,slow=40
NOA NORSAR Array B 68.48 341 P **P** **08 59 02.4 -0.5**
NOA NORSAR Array B 68.48 341 P **P** **08 59 02.4 -0.5**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,103nm,19.8s
SMCO Snowmass 68.53 55 *e*P **P** **08 59 04.4 +0.8**
ISCO Idaho Springs 68.87 54 *e*P **P** **08 59 06.1 +0.4**
ISCO Idaho Springs 68.87 54 *e*P **P** **08 59 06.1 +0.4**
MVCO Mesa Verde 68.99 58 *ep*P **P** **08 59 10.4 +3.9**
DZM Mont Dzumac 69.31 167 *e*LR LR 09 00 28.5
comp=Z,135nm,23.4s
ECSD EROS Data Cent 70.86 46 *ep*P **P** **08 59 20.1 +2.3**
AKASG Malin Array Be 71.83 326 P **P** **08 59 21.2 -2.3**
comp=Z,6.1nm,0.6s,mb4.7,baz=33,slow=6.1,SNR=20
AKASG LR LR 09 32 56.3
comp=Z,170nm,18.4s,MS4.3,baz=15,slow=38
AKASG Malin Array Be 71.83 326 P **P** **08 59 21.2 -2.3**
AKASG Malin Array Be 71.83 326 *ce*P **P** **08 59 22.3 -1.2**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 71.84 326 *e*P **P** **08 59 22.3 -1.3**
comp=Z,16nm,1.0s,mb4.9
KIEV Kiev 71.84 326 *i*P **P** **08 59 22.2 -1.4**
AS31 Alice Springs 72.10 199 *e*P **P** **08 59 25.1 -0.2**
ASAR Alice Springs 72.10 199 P **P** **08 59 24.9 -0.4**
comp=Z,2.3nm,0.7s,mb4.2,baz=12,slow=6.2,SNR=28
ASAR Alice Springs 72.10 199 P **P** **08 59 24.9 -0.4**
ASAR Alice Springs 72.10 199 P **P** **08 59 25.0 -0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
GNI Garni 72.82 311 LR LR 09 34 45.3
comp=Z,122nm,19.9s,MS4.2,baz=73,slow=39
LVV L'vov 74.47 329 *e*P **P** **08 59 39.2 0.0**
BUR08 Bucovina Ar. S 75.85 327 *e*P **P** **08 59 46.5 -0.7**
BURAR Bucovina Array 75.87 327 ⇓P **P** **08 59 47.2 -0.1**
BURAR Bucovina Array 75.87 327 ⇓*i*P **P** **08 59 47.2 -0.1**
TESR 76.23 325 ⇑*i*P **P** **08 59 49.7 +0.4**
TRPA Tarpa 76.42 329 ⇑*i*P **P** **08 59 50.2 -0.2**
UPC Upice 76.55 334 *e*P **P** **08 59 52.7 +1.6**
UPC Upice 76.55 334 *e*P **P** **08 59 52.7 +1.6**
DPC Dobruska-Polom 76.59 333 *e*P **P** **08 59 52.5 +1.2**
DPC Dobruska-Polom 76.59 333 *e*P **P** **08 59 52.5 +1.2**
MORC Moravsky Berou 76.71 332 *e*P **P** **08 59 52.2 +0.2**
comp=Z,7.2nm,1.0s,mb4.6
MORC Moravsky Berou 76.71 332 *e*P **P** **08 59 52.2 +0.2**
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MORC Moravsky Berou 76.71 332 ⇓*i*P **P** **08 59 50.0 -2.0**
VRI Vrincioaia 76.73 325 ⇑P **P** **08 59 56.0 +3.8**
VRI Vrincioaia 76.73 325 ⇑*i*P **P** **08 59 56.0 +3.8**
CLL Collm 76.73 336 *e*P **P** **08 59 51.5 -0.6**
comp=Z,3.0nm,0.8s,mb4.3
CLL Collm 76.73 336 *e*P **P** **08 59 51.0 -1.1**
CLL *e* pP 09 00 03.0 -0.1
CLL *e* 09 00 05.0
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLL Collm 76.73 336 *e*P **P** **08 59 51.0 -1.1**
comp=Z,11nm,1.0s,mb4.7
CLL *e*PcP PcP 09 00 03.0 -0.3
CLL *e* 09 00 05.0
BRG Berggiesshubel 76.84 335 *e*P PcP 09 00 06.1 +2.3
comp=Z,2.6nm,0.8s
BRG Berggiesshubel 76.84 335 *e*P **P** **08 59 52.6 -0.1**
comp=Z,1.0nm,0.7s,mb3.9
BRG Berggiesshubel 76.84 335 *e*P PcP 09 00 06.1 +2.3
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PVCC Panska Ves 76.97 334 *e*P **P** **08 59 54.5 +1.1**
PVCC Panska Ves 76.97 334 *e*P **P** **08 59 54.5 +1.1**
CLZ Clausthal 76.97 337 *e*P **P** **08 59 54.2 +0.8**
CLZ Clausthal 76.97 337 *e*P **P** **08 59 54.2 +0.8**
MLR Muntele Rosu 77.35 325 LR LR 09 35 24.4
comp=Z,28nm,19.3s,MS3.6,baz=108,slow=37
MLR Muntele Rosu 77.35 325 ⇑P **P** **08 59 56.6 +0.9**
MLR Muntele Rosu 77.35 325 ⇑*i*P **P** **08 59 56.6 +0.9**
TXAR Lajitas Array 77.39 61 P **P** **08 59 56.6 +0.4**
comp=Z,3.8nm,0.8s,mb4.4,baz=302,slow=3.9,SNR=23
TXAR Lajitas Array 77.39 61 *e*P **P** **08 59 56.6 +0.4**
TXAR Lajitas Array 77.39 61 P **P** **08 59 56.6 +0.4**
TXAR pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 77.42 333 LR LR 09 39 26.1
comp=Z,239nm,18.5s,MS4.5,baz=44,slow=40
VRAC Vranov 77.42 333 ⇑P **P** **08 59 55.2 -0.8**
VRAC Vranov 77.42 333 ⇑*i*P **P** **08 59 55.2 -0.8**
PRU Pruhonice 77.45 334 *e*P **P** **08 59 56.4 +0.2**
PRU Pruhonice 77.45 334 *e*P **P** **08 59 56.4 +0.2**
DRGR 77.49 328 ⇓P **P** **08 59 56.4 0.0**
DRGR 77.49 328 ⇓*i*P **P** **08 59 56.4 0.0**
TANN Tannenbergstha 77.68 336 *e*P **P** **08 59 57.7 +0.3**
comp=Z,1.0nm,0.8s,mb3.8
MOX Moxa 77.71 336 *e*P **P** **08 59 57.6 0.0**
comp=Z,1.0nm,0.9s,mb3.8
MOX Moxa 77.71 336 *e*P **P** **08 59 57.6 0.0**
MOX pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
VOIR 77.74 326 ⇓P **P** **08 59 58.2 +0.3**
VOIR 77.74 326 ⇓*i*P **P** **08 59 58.2 +0.3**
UBBA Unterbreizbach 78.00 337 *e*P **P** **08 59 59.2 0.0**
comp=Z,1.0nm,1.0s,mb3.7
ROTZ Rotzenmuhle 78.34 336 *e*P **P** **09 00 01.5 +0.4**
comp=Z,2.0nm,0.9s,mb4.0
KHC Kasperske Hory 78.50 334 *e*P **P** **09 00 01.9 -0.1**
comp=Z,18nm,1.7s,mb4.7
KHC Kasperske Hory 78.50 334 *e*P **P** **09 00 01.9 -0.1**
KHC pmax pmax
comp=Z,18nm,1.7s,mb4.7
KHC Kasperske Hory 78.50 334 *e*P **P** **09 00 02.1 +0.1**
KHC *ex* x 09 00 15.8
BR131 Keskin Array S 78.68 317 *e*P **P** **09 00 02.4 -0.7**
comp=Z,2.0nm,0.7s,mb4.2
BRTR Keskin Array B 78.68 317 P **P** **09 00 03.5 +0.3**
comp=Z,3.7nm,1.0s,mb4.3,baz=41,slow=2.7,SNR=10
BRTR Keskin Array B 78.68 317 P **P** **09 00 03.5 +0.3**
BRTR Keskin Array B 78.68 317 *ce*P **P** **09 00 04.1 +0.9**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
GRF Grafenberg Arr 78.68 336 *e*P **P** **09 00 03.4 +0.4**
GRFO Grafenberg 78.68 336 *e*P **P** **09 00 01.6 -1.4**
comp=Z,18nm,1.3s,mb4.8
GRFO *ep*P pP 09 00 19.2 +5.2
GRFO Grafenberg 78.68 336 *e*P **P** **09 00 01.6 -1.4**
GRFO *e**PP pP 09 00 19.3 +5.2
GRFO pmax pmax
comp=Z,17nm,1.3s,mb4.8
WET Wettzell 78.70 335 *e*P **P** **09 00 03.6 +0.5**
comp=Z,2.0nm,0.9s,mb4.0
WET Wettzell 78.70 335 *e*P **P** **09 00 03.6 +0.5**
WET pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
GEC2 GERESS Array S 78.72 334 *e*P **P** **09 00 03.5 +0.3**
comp=Z,1.0nm,1.1s,mb3.7
GEC2 GERESS Array S 78.72 334 *e*P **P** **09 00 03.5 +0.3**
GERES GERESS Array B 78.72 334 P **P** **09 00 03.1 -0.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=38,slow=5.0,SNR=11
GERES LR LR 09 39 29.1
comp=Z,132nm,18.1s,MS4.3,baz=354,slow=39
GERES GERESS Array B 78.72 334 P **P** **09 00 03.1 -0.1**
GERES GERESS Array B 78.72 334 P **P** **09 00 03.1 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,132nm,18.1s
JCT Junction City 78.85 57 *ep*P **P** **09 00 08.3 +4.1**
JCT Junction City 78.85 57 *e*P **P** **09 00 08.3 +4.1**
CONA Conrad Observa 78.86 332 ⇑*i*P **P** **09 00 04.3 +0.3**
comp=Z,4.8nm,0.9s,mb4.4
CONA Conrad Observa 78.86 332 ⇑*i*P **P** **09 00 04.3 +0.3**
comp=Z,4.8nm,0.9s,mb4.4
BZS Buzias 78.89 328 ⇓P **P** **09 00 03.8 -0.4**
BZS Buzias 78.89 328 ⇓*i*P **P** **09 00 03.8 -0.4**
TNS Taunus Mts 78.95 338 *e*P **P** **09 00 05.2 +0.8**
TNS Taunus Mts 78.95 338 *e*P **P** **09 00 05.2 +0.8**
RJOB Jochberg 79.98 334 *e*P **P** **09 00 11.0 +0.9**
comp=Z,1.0nm,0.7s,mb3.9
BAIF Baives 80.14 340 *e*P **P** **09 00 10.2 -0.7**
BAIF Baives 80.14 340 *e*P **P** **09 00 10.2 -0.7**
BAIF Baives 80.14 340 *e*P **P** **09 00 10.2 -0.7**
SOKA Soboth 80.23 332 ⇑*i*P **P** **09 00 11.0 -0.5**
comp=Z,5.5nm,0.9s,mb4.5
SOKA Soboth 80.23 332 ⇑*i*P **P** **09 00 11.0 -0.5**
comp=Z,5.5nm,0.9s,mb4.5
BFO Black Forest 80.71 337 *e*P **P** **09 00 14.2 +0.2**
comp=Z,2.0nm,0.8s,mb4.1
BFO Black Forest 80.71 337 *e*P **P** **09 00 13.1 -1.0**
comp=Z,33nm,1.9s,mb4.9
BFO Black Forest 80.71 337 *e*P **P** **09 00 14.2 +0.2**
BFO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
WTTA Wattenberg 80.75 335 ⇑*ip*P **P** **09 00 15.4 +1.1**
comp=Z,10nm,0.9s,mb4.8
WTTA Wattenberg 80.75 335 ⇑*i*P **P** **09 00 15.4 +1.1**
comp=Z,10nm,0.9s,mb4.8
WTTA Wattenberg 80.75 335 ⇑*i*P **P** **09 00 15.4 +1.1**
WTTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MOTA Moosalm 80.84 335 ⇑*i*P **P** **09 00 14.9 +0.2**
comp=Z,12nm,1.1s,mb4.7
MOTA Moosalm 80.84 335 ⇑*i*P **P** **09 00 14.9 +0.2**
comp=Z,12nm,1.1s,mb4.8
MOTA Moosalm 80.84 335 ⇑*i*P **P** **09 00 14.9 +0.2**
MOTA pmax pmax
comp=Z,12nm,1.1s,mb4.7
VTS Vitosha 80.85 325 ⇓P **P** **09 00 15.4 +0.5**
VTS Vitosha 80.85 325 ⇓*i*P **P** **09 00 15.4 +0.5**
CDF Champ du Feu 80.92 338 *e*P **P** **09 00 14.4 -0.7**
comp=Z,24nm,1.3s,mb4.7
CDF Champ du Feu 80.92 338 *e*P **P** **09 00 14.4 -0.7**
comp=Z,24nm,1.3s,mb5.0
CDF Champ du Feu 80.92 338 *e*P **P** **09 00 14.4 -0.7**
CDF pmax pmax
comp=Z,24nm,1.3s,mb5.0
PAGF Fort de Pagny 81.18 339 *e*P **P** **09 00 16.1 -0.4**
comp=Z,15nm,1.3s,mb4.5
PAGF Fort de Pagny 81.18 339 *e*P **P** **09 00 16.1 -0.4**
comp=Z,15nm,1.3s,mb4.8
DAVA Damuels 81.24 336 ⇑*ip*P **P** **09 00 17.6 +0.7**
comp=Z,9.5nm,1.2s,mb4.6
DAVA Damuels 81.24 336 ⇑*i*P **P** **09 00 17.6 +0.7**
comp=Z,9.5nm,1.3s,mb4.6
MEZF Maizieres J'vi 81.39 339 *e*P **P** **09 00 17.2 -0.4**
MEZF Maizieres J'vi 81.39 339 *e*P **P** **09 00 17.2 -0.4**
HAU Haudompre 81.53 338 *e*P **P** **09 00 18.5 +0.1**
HAU Haudompre 81.53 338 *e*P **P** **09 00 18.5 +0.1**
HAU Haudompre 81.53 338 *e*P **P** **09 00 18.5 +0.1**
SFTF Sexfontaines 81.67 339 *e*P **P** **09 00 18.3 -0.8**
comp=Z,30nm,1.0s,mb4.9
SFTF Sexfontaines 81.67 339 *e*P **P** **09 00 18.3 -0.8**
comp=Z,30nm,1.0s,mb5.2
PPT2 Papeete2 81.89 126 *e*LR LR 09 25 38.9
comp=Z,155nm,23.2s
TUE Stuetta 82.13 336 *e*P **P** **09 00 22.1 +0.6**
comp=Z,7.1nm,1.0s,mb4.5
LOR Lormes 82.83 340 *e*P **P** **09 00 24.3 -0.9**
LOR Lormes 82.83 340 *e*P **P** **09 00 24.3 -0.9**
LOR Lormes 82.83 340 *e*P **P** **09 00 24.3 -0.9**
SSF Saint Saulge 83.11 340 *e*P **P** **09 00 25.9 -0.7**
SSF Saint Saulge 83.11 340 *e*P **P** **09 00 25.9 -0.7**
SSF Saint Saulge 83.11 340 *e*P **P** **09 00 25.9 -0.7**
AVF Avril sur Loir 83.40 340 *e*P **P** **09 00 27.6 -0.6**
comp=Z,63nm,1.5s,mb5.1
AVF Avril sur Loir 83.40 340 *e*P **P** **09 00 27.6 -0.6**
comp=Z,63nm,1.5s,mb5.4
AVF Avril sur Loir 83.40 340 *e*P **P** **09 00 27.6 -0.6**
SMF Signal de Mont 83.42 339 *e*P **P** **09 00 27.7 -0.6**
comp=Z,55nm,1.3s,mb5.1
SMF Signal de Mont 83.42 339 *e*P **P** **09 00 27.7 -0.6**
comp=Z,55nm,1.3s,mb5.4
SMF Signal de Mont 83.42 339 *e*P **P** **09 00 27.7 -0.6**
LHS Liberty Hill 85.72 42 *e*P **P** **09 00 31.2 -8.9**
LHS Liberty Hill 85.72 42 *e*P **P** **09 00 31.2 -8.9**
KEST Kesra 91.94 331 LR LR 09 47 44.9
comp=Z,45nm,18.8s,MS3.9,baz=230,slow=39
PLCA Paso Flores 147.97 96 PKPbc PKPbc 09 07 45.4 -0.5
comp=Z,2.8nm,1.1s,baz=312,slow=6.9,SNR=2.8
PLCA Paso Flores 147.97 96 PKPbc PKPbc 09 07 45.4 -0.5

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*ISCJB **31** 08:59:21.8±0.5, 44°.53N±0°.03×110°.39W±0°.03, h10km,*
Error ellipse: s-maj=4.8km s-min=3.2km az=8.5
*NEIC **31** 08:59:21.0, 44°.52N×110°.36W, h0km, ML2.5(SLC), After SLC.*

ISC 31 08:59:22.1±0.5, **44°.52N**±0°.03×**110°.38W**±0°.03, **h10**km, **n21,**
σ0°64/30, 12C-10D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H17A	**Grant Village**	**0.19**	**229**	P	**Pg**	**08 59 26.1**	**0.0**
	baz=0.2,SNR=156						
H17A				⇑S	**Sg**	**08 59 28.9**	**+0.1**
	baz=0.2						
YMR	**Madison River**	**0.45**	**290**	*e*Pg	**Pg**	**08 59 31.4**	**+0.5**
H18A	**Shoshone NF, C**	**0.53**	**73**	⇓P	**Pg**	**08 59 31.9**	**-0.6**
	baz=0.5						
I17A	**Pilgrim Ck.**	**0.62**	**193**	⇓P	**Pg**	**08 59 33.9**	**-0.1**
	baz=0.6,SNR=19						
H16A	**Russell Place,**	**0.65**	**287**	⇑P	**Pg**	**08 59 34.8**	**+0.2**
	baz=0.7,SNR=24						
H16A				⇓S	**Sg**	**08 59 42.9**	**-0.3**
	baz=0.7						
QLMT	**Earthquake Lak**	**0.81**	**293**	*e*Pg	**Pg**	**08 59 37.7**	**-0.1**
MOOW	**Moose Ponds**	**0.81**	**199**	*e*Pg	**Pg**	**08 59 37.3**	**-0.5**
I18A	**Diamond G Ranc**	**0.91**	**153**	⇑P	**Pg**	**08 59 39.1**	**-0.6**
	baz=0.9,SNR=20						
I18A				⇑S	**Sg**	**08 59 51.0**	**-0.5**
	baz=0.9						
LOHW	**Long Hollow**	**0.92**	**190**	*e*Pg	**Pg**	**08 59 39.3**	**-0.5**
H19A	**Powell**	**1.01**	**81**	⇑P	**Pg**	**08 59 40.8**	**-0.7**
	baz=1.0,SNR=6.5						
H19A				⇑S	**Sg**	**08 59 54.5**	**0.0**
	baz=1.0						
I19A	**Meeteetse**	**1.10**	**115**	⇑P	**Pb**	**08 59 42.3**	**-1.0**
	baz=1.1,SNR=9.6						
I19A				⇑S	**Sg**	**08 59 56.9**	**-0.8**
	baz=1.1						
J17A	**Brown Place, J**	**1.18**	**192**	⇑P	**Pb**	**08 59 44.3**	**-0.3**
	baz=1.2,SNR=18						
REDW	**Red Top Meadow**	**1.21**	**197**	*e*P	**Pn**	**08 59 45.0**	**0.0**
J18A	**Kendall Valley**	**1.33**	**169**	⇓P	**Pn**	**08 59 46.9**	**+0.1**
	baz=1.3						
J18A				⇓S	**Sb**	**09 00 04.3**	**0.0**
	baz=1.3						
RRI2	**Red Ridge**	**1.35**	**210**	*e*P	**Pn**	**08 59 48.5**	**+1.5**
J19A	**Crowheart**	**1.58**	**142**	⇑Pg	**Pg**	**08 59 51.4**	**-1.0**
	baz=1.6,SNR=6.5						
J19A				⇑S	**Sn**	**09 00 11.7**	**+1.2**
	baz=1.6						
H20A	**Greybull**	**1.70**	**90**	⇓P	**Pn**	**08 59 52.1**	**+0.3**
	baz=1.7,SNR=17						
H20A				⇓S	**Sn**	**09 00 14.7**	**+1.0**
	baz=1.7						
I20A	**Worland**	**1.71**	**109**	⇑Pb	**Pb**	**08 59 53.3**	**-0.4**
	baz=1.7,SNR=10						
I20A				⇓S	**Sn**	**09 00 15.2**	**+1.2**

baz=1.7
J20A **Shoshoni** 2.03 124 ⇓Sb Sb 09 00 25.0 +0.7
baz=2.0
K19A **Absolon Red Bu** 2.03 146 ⇓Sb Sb 09 00 24.9 +0.6
baz=2.0
HLID **Hailey** 3.06 253 *e*Pg Pg 09 00 15.7 -5.1

*ISCJB **31** 09:01:48.0±1.2, 5°.9N±0°.1×126°.7E±0°.3, h124km±12km, mb3.5/7, Error ellipse: s-maj=45.4km s-min=15.8km az=160.0*
*IDC **31** 09:01:49.8±2.0, 5°.91N×126°.69E, h124km±18km, mb3.3/7, mb1 3.5/7, mb1mx3.2/20, mbtmp3.3/7, MS3.9/1, Ms1 3.9/1, ms1mx2.7/16, Error ellipse: s-maj=59.4km s-min=13.8km az=69.0*
*MAN **31** 09:02:04, 6°.88N×126°.12E, h22km, mb4.2, ML3.0, MS2.8*
ISC 31 09:01:48.6±1.3, 5°.9N±0°.1×126°.7E±0°.2, h112km±13km, n12, σ0°75/15, mb3.5/7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.13**	**335**	*e*P	**Pn**	**09 02 10.8**	**-0.5**
MATI				*e*S	**Sn**	**09 02 17.7**	**-11**
DAV	**Davao City (W)**	**1.63**	**315**	P	**Pn**	**09 02 16.7**	**-0.3**
	14nm,0.3s,baz=42,slow=16,SNR=3.8						
DAV				S	**Sn**	**09 02 41.1**	**+2.4**
	139nm,0.3s,baz=114,slow=20,SNR=14						
DMPH	**Davao City--Mi**	**1.69**	**313**	⇓*e*P	**Pn**	**09 02 17.0**	**-0.7**
DMPH				*i*S	**Sn**	**09 02 39.5**	**-0.5**
BUKP	**Musuan**	**2.57**	**319**	*e*P	**Pn**	**09 02 29.3**	**+0.3**
BUKP				*e*S	**Sn**	**09 02 40.0**	**-20**
FITZ	**Fitzroy Crossi**	**23.89**	**183**	P	**P**	**09 06 52.3**	**+0.2**
	1.3nm,0.8s,mb3.3,baz=354,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**26.76**	**164**	P	**P**	**09 07 17.9**	**-0.2**
	1.0nm,0.3s,mb3.8,baz=347,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**30.22**	**167**	P	**P**	**09 07 48.8**	**0.0**
	0.4nm,0.3s,mb3.5,baz=344,slow=7.4,SNR=16						
STKA	**Stephens Creek**	**40.16**	**160**	P	**P**	**09 09 14.2**	**+0.4**
	2.2nm,0.5s,mb4.3,baz=342,slow=7.9,SNR=12						
PETK	**Petropavlovsk-**	**53.41**	**23**	LR	LR	09 33 44.6	
	comp=Z,119nm,19.3s,baz=32,slow=36						
MKAR	**Makanchi Array**	**55.79**	**324**	P	**P**	**09 11 13.3**	**-0.7**
	0.3nm,0.4s,mb3.6,baz=118,slow=7.5,SNR=9.5						
KURK	**Kurchatov**	**59.92**	**327**	P	**P**	**09 11 42.3**	**-0.5**
	0.2nm,0.5s,mb3.5,baz=126,slow=7.0,SNR=2.4						
ILAR	**Eielson Array**	**83.14**	**26**	P	**P**	**09 14 02.8**	**+0.9**
	0.1nm,0.5s,mb2.9,baz=251,slow=5.5,SNR=3.6						

*NEIC **31** 09:02:28.0, 44°.53N×110°.36W, h4km, mb4.0/1, ML3.6(SLC), After SLC.*
*ISCJB **31** 09:02:30.0±0.1, 44°.53N±0°.01×110°.35W±0°.02, h10km, mb3.7/2, MS3.4/2, Error ellipse: s-maj=1.9km s-min=1.6km az=148.5*
*IDC **31** 09:02:30.1±1.0, 44°.48N×110°.23W, h0km, mb3.7/1, mb1 3.7/5, mb1mx3.5/27, mbtmp3.4/5, ML2.5/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/49, Error ellipse: s-maj=16.4km s-min=7.4km az=77.0*
ISC 31 09:02:30.8±0.2, 44°.51N±0°.01×110°.35W±0°.02, h10km, n166, σ1°34/188, mb3.7/2, MS3.4/2, 45C-57D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.07**	**326**	*e*Pg	**Pg**	**09 02 29.8**	**-3.2**
H17A	**Grant Village**	**0.20**	**235**	P	**Pg**	**09 02 32.8**	**-2.2**
	baz=0.2,SNR=336						
H17A				⇑S	**Sg**	**09 02 36.4**	**-1.4**
	baz=0.2						
YNR	**Norris Junctio**	**0.31**	**311**	*e*Pg	**Pg**	**09 02 34.6**	**-2.5**
YFT	**Old Faithful**	**0.35**	**261**	*e*Pg	**Pg**	**09 02 35.9**	**-1.9**
YMR	**Madison River**	**0.47**	**290**	*e*Pg	**Pg**	**09 02 38.2**	**-1.8**
FLWY	**Flagg Ranch**	**0.50**	**211**	*e*Pg	**Pg**	**09 02 38.9**	**-1.6**
H18A	**Shoshone NF, C**	**0.52**	**71**	P	**Pg**	**09 02 38.7**	**-2.2**
	baz=0.5,SNR=351						
I17A	**Pilgrim Ck.**	**0.61**	**196**	P	**Pg**	**09 02 41.0**	**-1.7**
	baz=0.6,SNR=926						
I17A				⇓S	**Sg**	**09 02 49.9**	**-0.8**
	baz=0.6						
H16A	**Russell Place,**	**0.67**	**287**	⇓P	**Pg**	**09 02 41.5**	**-2.3**
	baz=0.7,SNR=333						
MOOW	**Moose Ponds**	**0.81**	**201**	*e*Pg	**Pg**	**09 02 44.5**	**-1.9**
MOOW				*e*Sg	**Sg**	**09 02 54.7**	**-2.3**
QLMT	**Earthquake Lak**	**0.84**	**293**	*e*Pg	**Pg**	**09 02 44.7**	**-2.2**
G17A	**Pierce Place,**	**0.86**	**341**	⇓P	**Pg**	**09 02 45.4**	**-2.0**
	baz=0.8,SNR=55						
I18A	**Diamond G Ranc**	**0.89**	**154**	P	**Pg**	**09 02 45.9**	**-2.2**
	baz=0.9,SNR=750						
I18A				⇓S	**Sg**	**09 02 58.4**	**-1.3**
	baz=0.9						
LOHW	**Long Hollow**	**0.92**	**192**	*e*Pg	**Pg**	**09 02 46.2**	**-2.2**
LOHW				*e*Sg	**Sg**	**09 02 59.9**	**-0.4**
G18A	**Lazy EL Ranch,**	**0.98**	**34**	⇓P	**Pg**	**09 02 47.3**	**-2.4**
	baz=1.0,SNR=271						
RLMT	**Red Lodge**	**0.98**	**51**	*e*Pg	**Pg**	**09 02 47.1**	**-2.7**
H19A	**Powell**	**0.99**	**80**	P	**Pg**	**09 02 47.6**	**-2.2**
	baz=1.0,SNR=489						
H19A				⇑S	**Sg**	**09 03 00.4**	**-2.2**
	baz=1.0						
I16A	**Newdale**	**1.03**	**233**	⇓P	**Pg**	**09 02 48.9**	**-1.8**
	baz=1.0,SNR=48						
I19A	**Meeteetse**	**1.08**	**115**	⇑P	**Pb**	**09 02 49.1**	**-2.5**
	baz=1.1,SNR=772						
I19A				⇓S	**Sg**	**09 03 04.2**	**-1.4**
	baz=1.1						
SNOW	**Snow King Moun**	**1.09**	**196**	*e*Pg	**Pg**	**09 02 49.9**	**-1.8**
DCID1	**Drake Creek**	**1.10**	**214**	*e*Pg	**Pg**	**09 02 50.1**	**-1.7**
J17A	**Brown Place, J**	**1.18**	**193**	⇑P	**Pb**	**09 02 51.2**	**-2.0**
	baz=1.2,SNR=1000						
J17A				⇑S	**Sb**	**09 03 07.5**	**-1.0**
	baz=1.2						
REDW	**Red Top Meadow**	**1.20**	**198**	*e*Pg	**Pg**	**09 02 52.4**	**-1.5**
G16A	**Moss Hill, Enn**	**1.26**	**305**	⇓P	**Pn**	**09 02 52.9**	**-1.6**
	baz=1.2,SNR=17						
J18A	**Kendall Valley**	**1.32**	**170**	⇑P	**Pn**	**09 02 53.4**	**-1.8**
	baz=1.3,SNR=474						
J18A				⇑S	**Sb**	**09 03 11.6**	**-1.0**
	baz=1.3						
RRI2	**Red Ridge**	**1.36**	**211**	*e*Pn	**Pn**	**09 02 55.0**	**-0.8**
GCMT	**Greycliff**	**1.37**	**20**	*e*Pn	**Pn**	**09 02 55.0**	**-1.0**
F17A	**Fitzpatrick Pl**	**1.41**	**351**	⇓P	**Pn**	**09 02 55.5**	**-1.1**
	baz=1.4,SNR=148						
BOZ	**Bozeman (W)**	**1.46**	**322**	*e*Pn	**Pn**	**09 02 55.9**	**-1.2**
F18A	**Big Timber**	**1.47**	**18**	⇑P	**Pn**	**09 02 56.2**	**-1.1**
	baz=1.4,SNR=360						
J16A	**Bone**	**1.54**	**217**	⇓P	**Pn**	**09 02 57.5**	**-0.8**
	baz=1.5,SNR=197						
J19A	**Crowheart**	**1.56**	**143**	⇑P	**Pn**	**09 02 57.5**	**-1.0**
	baz=1.6,SNR=683						
J19A				⇑S	**Sn**	**09 03 18.7**	**0.0**
	baz=1.6						
F16A	**Kennard Place,**	**1.56**	**325**	⇑P	**Pn**	**09 02 57.7**	**-1.0**
	baz=1.5						
I15A	**Monteview**	**1.62**	**252**	⇑P	**Pn**	**09 02 58.6**	**-0.8**
	baz=1.6,SNR=95						
H15A	**Lima**	**1.64**	**275**	⇑P	**Pn**	**09 02 59.4**	**-0.3**
	baz=1.6,SNR=211						
G15A	**Dillon**	**1.66**	**294**	⇓P	**Pn**	**09 02 59.3**	**-0.6**
	baz=1.6,SNR=214						
F19A	**Roth Farm, Mol**	**1.67**	**36**	⇑P	**Pn**	**09 02 59.5**	**-0.7**
	baz=1.7,SNR=134						
G20A	**Bridger**	**1.68**	**64**	⇑P	**Pn**	**09 02 59.1**	**-1.1**
	baz=1.7,SNR=314						
H20A	**Greybull**	**1.68**	**90**	⇓P	**Pn**	**09 02 59.2**	**-1.1**
	baz=1.7,SNR=192						
H20A				⇑S	**Sn**	**09 03 22.1**	**+0.3**
	baz=1.7						
I20A	**Worland**	**1.69**	**109**	⇑P	**Pn**	**09 02 59.5**	**-0.9**
	baz=1.7,SNR=574						
I20A				⇑S	**Sn**	**09 03 22.4**	**+0.4**
	baz=1.7						
K17A	**Gardner Place,**	**1.81**	**193**	⇓Pb	**Pb**	**09 03 02.2**	**-1.7**
	baz=1.8,SNR=145						
DLMT	**Dillon**	**1.81**	**299**	*e*Pn	**Pn**	**09 03 03.0**	**+1.0**
MCMT	**McKenzie Canyo**	**1.81**	**281**	*e*Pn	**Pn**	**09 03 03.3**	**+1.3**
PD01	**Pinedale Array**	**1.82**	**162**	*e*Pn	**Pn**	**09 03 01.8**	**-0.4**
PD01				*e*Sn	**Sn**	**09 03 26.3**	**+1.1**
PD02	**Pinedale Array**	**1.82**	**162**	*e*Pn	**Pn**	**09 03 02.5**	**+0.3**
PD02				*e*Sn	**Sn**	**09 03 25.7**	**+0.5**
AHID	**Auburn Hatcher**	**1.83**	**198**	*e*Pn	**Pn**	**09 03 02.8**	**+0.5**
AHID				*e*Sn	**Sn**	**09 03 28.5**	**+3.1**
BW06	**Boulder Array**	**1.83**	**162**	*e*Pn	**Pn**	**09 03 02.7**	**+0.3**
BW06				*e*Sn	**Sn**	**09 03 26.4**	**+0.9**
PDAR	**Pinedale Array**	**1.83**	**161**	Pn	**Pn**	**09 03 03.0**	**+0.7**
	157nm,0.3s,baz=356,slow=15,SNR=680						
PDAR				Lg		09 03 26.1	
	113nm,0.3s,baz=7.5,slow=28,SNR=40						
PDAR	**Pinedale Array**	**1.83**	**161**	Pn	**Pn**	**09 03 03.0**	**+0.7**
PDAR				Lg		09 03 26.1	
J15A	**Blackfoot**	**1.87**	**234**	⇑P	**Pn**	**09 03 02.4**	**-0.4**
	baz=1.9,SNR=120						
K18A	**Toltan Ranch,**	**1.89**	**173**	⇓Pb	**Pb**	**09 03 03.6**	**-1.7**
	baz=1.9						
K16A	**Soda Springs**	**1.90**	**209**	⇓Pb	**Pb**	**09 03 03.9**	**-1.7**
	baz=1.9,SNR=64						
LRM	**Limekiln Ridge**	**1.98**	**312**	*e*Pn	**Pn**	**09 03 05.7**	**+1.3**
E17A	**Martinsdale**	**1.98**	**350**	⇓P	**Pn**	**09 03 04.3**	**-0.1**
	baz=2.0,SNR=177						
J20A	**Shoshoni**	**2.00**	**124**	⇓Pb	**Pb**	**09 03 05.4**	**-1.9**
	baz=2.0,SNR=121						
J20A				⇓Sb	**Sb**	**09 03 32.3**	**0.0**
	baz=2.0						
K19A	**Absolon Red Bu**	**2.01**	**147**	⇓Pb	**Pb**	**09 03 05.5**	**-1.8**
	baz=2.0,SNR=313						
K19A				⇑Sb	**Sb**	**09 03 32.3**	**0.0**
	baz=2.0						
E18A	**Harlowton**	**2.08**	**8**	⇑P	**Pn**	**09 03 05.7**	**-0.1**
	baz=2.1,SNR=181						
I14A	**Mackay**	**2.31**	**256**	⇓P	**Pn**	**09 03 09.6**	**+0.7**
	baz=2.3,SNR=74						
I21A	**Big Trails, Te**	**2.31**	**107**	⇓P	**Pn**	**09 03 09.3**	**+0.4**
	baz=2.3,SNR=272						
G14A	**Jackson**	**2.33**	**289**	⇑P	**Pn**	**09 03 10.0**	**+0.9**
	baz=2.3						
G21A	**Lodge Grass**	**2.35**	**71**	⇑P	**Pn**	**09 03 09.7**	**+0.4**
	baz=2.3,SNR=43						
K20A	**Yellowstone Ra**	**2.36**	**141**	⇓P	**Pn**	**09 03 10.0**	**+0.4**
	baz=2.4,SNR=97						
K20A				⇑Sb	**Sb**	**09 03 43.1**	**+0.7**
	baz=2.4						
H21A	**Big Horn, Sher**	**2.37**	**86**	⇓Pb	**Pb**	**09 03 10.8**	**-2.7**
	baz=2.4,SNR=30						
H21A				⇓Sb	**Sb**	**09 03 42.9**	**+0.2**
	baz=2.4						
J21A	**Lysite**	**2.40**	**118**	⇓Pb	**Pb**	**09 03 12.1**	**-2.0**
	baz=2.4,SNR=51						
J21A				⇑Sb	**Sb**	**09 03 43.9**	**+0.3**
	baz=2.4						
K15A	**Arbon**	**2.42**	**222**	⇓P	**Pn**	**09 03 11.1**	**+0.8**
	baz=2.4						
HRY	**Holter Researc**	**2.44**	**335**	*e*Pn	**Pn**	**09 03 08.9**	**-1.7**
L17A	**Cokeville**	**2.44**	**189**	⇓P	**Pn**	**09 03 11.2**	**+0.6**
	baz=2.5						
F14A	**Wisdom**	**2.50**	**302**	⇓P	**Pn**	**09 03 12.2**	**+0.7**
	baz=2.5						
E15A	**Deer Lodge**	**2.50**	**321**	⇓P	**Pn**	**09 03 12.2**	**+0.6**
	baz=2.5,SNR=6.5						
L19A	**Farson**	**2.51**	**163**	⇑Pb	**Pb**	**09 03 13.9**	**-2.1**
	baz=2.5,SNR=166						
L19A				⇓Sb	**Sb**	**09 03 48.3**	**+1.3**
	baz=2.5						
E20A	**Meyer Farm, Mu**	**2.53**	**37**	⇓P	**Pn**	**09 03 12.8**	**+0.9**
	baz=2.5,SNR=44						
J14A	**Carey**	**2.58**	**244**	⇑P	**Pn**	**09 03 13.5**	**+1.0**
	baz=2.6						
L18A	**Fontenelle, Gr**	**2.59**	**175**	⇓Sb	**Sb**	**09 03 51.0**	**+1.7**
	baz=2.6						
L16A	**Fish Haven**	**2.62**	**198**	⇓P	**Pn**	**09 03 13.6**	**+0.5**
	baz=2.6,SNR=22						
F21A	**Absaloka Mine,**	**2.63**	**59**	⇓Pb	**Pb**	**09 03 15.7**	**-2.3**
	baz=2.6,SNR=25						
D17A	**Six Diamond Ra**	**2.65**	**355**	⇑P	**Pn**	**09 03 13.1**	**-0.6**
	baz=2.6,SNR=41						
I13A	**Wildhorse Cree**	**2.77**	**259**	⇓P	**Pn**	**09 03 16.3**	**+1.0**
	baz=2.8,SNR=58						
H13A	**Challis**	**2.79**	**272**	⇑P	**Pn**	**09 03 16.6**	**+1.1**
	baz=2.8,SNR=9.5						
I22A	**9 Mile Ranch,**	**2.85**	**101**	⇓Sb	**Sb**	**09 03 56.5**	**0.0**
	baz=2.9						
L20A	**Wamsutter**	**2.90**	**149**	⇑Sb	**Sb**	**09 03 59.4**	**+1.3**
	baz=2.9						
L15A	**Malad City**	**2.91**	**211**	⇑P	**Pn**	**09 03 18.0**	**+0.8**
	baz=2.9,SNR=19						
E14A	**Clinton**	**2.92**	**312**	⇓P	**Pn**	**09 03 17.9**	**+0.6**
	baz=2.9						
K21A	**Alcova**	**2.93**	**129**	⇓P	**Pn**	**09 03 18.4**	**+1.0**
	baz=2.9,SNR=102						
K21A				⇓Sb	**Sb**	**09 03 59.0**	**+0.1**
	baz=2.9						
D15A	**Lincoln**	**2.95**	**330**	⇑P	**Pn**	**09 03 18.0**	**+0.3**
	baz=2.9,SNR=6.7						
G22A	**Birney**	**2.97**	**75**	⇓P	**Pn**	**09 03 18.3**	**+0.4**
	baz=3.0,SNR=17						
J13A	**Cove Ranch, Pi**	**2.98**	**249**	⇓P	**Pn**	**09 03 19.2**	**+1.2**
	baz=3.0,SNR=38						
J22A	**Midwest**	**3.00**	**110**	⇑P	**Pn**	**09 03 20.0**	**+1.6**
	baz=3.0,SNR=119						
D20A	**Manuel Ranch,**	**3.01**	**30**	⇓P	**Pn**	**09 03 19.2**	**+0.7**
	baz=3.0,SNR=32						
HWUT	**Hardware Ranch**	**3.04**	**198**	*e*Pn	**Pn**	**09 03 20.5**	**+1.6**
HLID	**Hailey**	**3.08**	**254**	⇓P	**Pn**	**09 03 20.5**	**+1.0**
	baz=3.1,SNR=74						
HLID	**Hailey**	**3.08**	**254**	*e*Pn	**Pn**	**09 03 21.5**	**+2.0**
F13A	**Darby**	**3.10**	**296**	⇓P	**Pn**	**09 03 20.4**	**+0.7**
	baz=3.1						
C17A	**Wharram Farm,**	**3.14**	**355**	⇓P	**Pn**	**09 03 19.3**	**-1.0**
	baz=3.1,SNR=11						
F22A	**Rosebud**	**3.16**	**65**	⇑P	**Pn**	**09 03 21.0**	**+0.5**
	baz=3.2,SNR=60						
H12A	**Diamond D Ranc**	**3.22**	**272**	⇑P	**Pn**	**09 03 22.2**	**+0.8**
	baz=3.2,SNR=6.9						
HVU	**Hansel Valley**	**3.25**	**214**	*e*Pn	**Pn**	**09 03 24.9**	**+3.1**
E13A	**Victor**	**3.32**	**307**	⇓P	**Pn**	**09 03 23.3**	**+0.5**
	baz=3.3						
K22A	**Casper**	**3.34**	**122**	⇑P	**Pn**	**09 03 23.6**	**+0.5**
	baz=3.4,SNR=43						
C19A	**Slack Wire Ran**	**3.35**	**15**	⇑P	**Pn**	**09 03 23.7**	**+0.5**
	baz=3.3						
MSO	**Missoula**	**3.42**	**314**	*e*Pn	**Pn**	**09 03 25.0**	**+0.8**
C16A	**Fuhringer Ranc**	**3.43**	**344**	⇑P	**Pn**	**09 03 23.6**	**-0.7**
	baz=3.4,SNR=6.5						
EGMT	**Eagleton**	**3.54**	**6**	*e*Pn	**Pn**	**09 03 26.6**	**+0.8**
N18A	**Larsen Ranch,**	**3.57**	**172**	⇑P	**Pn**	**09 03 26.5**	**+0.3**
	baz=3.6						
G23A	**Biddle**	**3.59**	**77**	⇑P	**Pn**	**09 03 27.1**	**+0.5**
	baz=3.6,SNR=49						
C15A	**Salmond Ranch,**	**3.62**	**335**	⇓P	**Pn**	**09 03 27.3**	**+0.4**
	baz=3.6						
LAO	**LASA Array**	**3.62**	**52**	*e*Pn	**Pn**	**09 03 29.2**	**+2.2**
RWWY	**Rawlins**	**3.64**	**140**	*e*Pn	**Pn**	**09 03 29.9**	**+2.8**
E22A	**Miles City**	**3.65**	**57**	⇑P	**Pn**	**09 03 28.3**	**+1.0**
	baz=3.6,SNR=21						
F23A	**Volborg**	**3.70**	**69**	⇓P	**Pn**	**09 03 28.3**	**+0.2**
	baz=3.7,SNR=21						
N19A	**John Jarvie Ra**	**3.71**	**166**	⇑P	**Pn**	**09 03 28.4**	**+0.2**
	baz=3.7,SNR=12						
SWMT	**Swartz Lake**	**3.93**	**321**	*e*Pn	**Pn**	**09 03 32.3**	**+1.2**
CTU	**Camp Tracy**	**3.95**	**196**	*e*Pn	**Pn**	**09 03 28.4**	**-3.0**
JLU	**Jordanelle**	**3.99**	**192**	*e*Pn	**Pn**	**09 03 34.3**	**+2.3**
C14A	**Swan Lake**	**4.03**	**325**	⇑P	**Pn**	**09 03 33.1**	**+0.6**
	baz=4.0,SNR=11						
E23A	**Ismay**	**4.06**	**59**	⇓P	**Pn**	**09 03 33.4**	**+0.4**
	baz=4.0,SNR=9.1						
H24A	**Dirks Ranch, A**	**4.14**	**85**	⇑P	**Pn**	**09 03 34.1**	**0.0**
	baz=4.1,SNR=40						
DAU	**Daniels Canyon**	**4.15**	**190**	*e*Pb	**Pb**	**09 03 36.0**	**-7.9**
L23A	**Garrett**	**4.15**	**124**	⇓P	**Pn**	**09 03 34.8**	**+0.6**
	baz=4.2,SNR=23						
YBMT	**Yellow Bay**	**4.21**	**324**	*e*Pn	**Pn**	**09 03 37.3**	**+2.3**
JTMT	**Jette**	**4.24**	**321**	*e*Pn	**Pn**	**09 03 36.5**	**+1.1**
G24A	**Alzada**	**4.29**	**77**	⇓P	**Pn**	**09 03 36.3**	**+0.2**
	baz=4.3,SNR=8.5						
F24A	**Ekalaka**	**4.38**	**70**	⇓P	**Pn**	**09 03 37.6**	**+0.2**
	baz=4.4,SNR=5.2						
BSMT	**Bassoo Peak**	**4.55**	**319**	*e*Pn	**Pn**	**09 03 41.4**	**+1.8**
RSSD	**Black Hills**	**4.55**	**93**	*e*Pn	**Pn**	**09 03 40.7**	**+1.0**
A19A	**Klindworth Far**	**4.56**	**13**	⇓P	**Pn**	**09 03 40.2**	**+0.5**
	baz=4.5,SNR=5.8						
M23A	**Laramie**	**4.56**	**130**	⇑P	**Pn**	**09 03 40.9**	**+1.2**
	baz=4.6,SNR=28						
O20A	**White River Ci**	**4.64**	**160**	⇓P	**Pn**	**09 03 41.9**	**+1.0**
	baz=4.7,SNR=14						
DUG	**Dugway**	**4.68**	**204**	⇓P	**Pn**	**09 03 42.9**	**+1.4**
	baz=4.7,SNR=6.5						
DUG	**Dugway**	**4.68**	**204**	*e*Pn	**Pn**	**09 03 43.6**	**+2.1**
PHWY	**Pilot Hill**	**4.81**	**130**	*e*Pn	**Pn**	**09 03 45.8**	**+2.5**
N23A	**Red Feather La**	**4.86**	**137**	⇓P	**Pn**	**09 03 45.3**	**+1.4**
	baz=4.9,SNR=22						
BMO	**Blue Mountains**	**4.97**	**276**	*e*Pn	**Pn**	**09 03 47.0**	**+1.5**
K25A	**Mack Ranch, Ha**	**5.08**	**110**	⇓P	**Pn**	**09 03 47.7**	**+0.8**
	baz=5.1,SNR=7.7						
ELK	**Elko**	**5.21**	**225**	*e*Pn	**Pn**	**09 03 53.2**	**+4.4**
TMUT	**Trail Mountain**	**5.25**	**187**	*e*Pn	**Pn**	**09 03 51.8**	**+2.5**
SRU	**San Rafael**	**5.40**	**181**	*e*Pn	**Pn**	**09 03 53.9**	**+2.5**
DGMT	**Dagmar**	**5.81**	**45**	*e*Pn	**Pn**	**09 03 59.0**	**+2.1**
ISCO	**Idaho Springs**	**5.88**	**142**	*e*Pn	**Pn**	**09 04 00.2**	**+2.3**
SMCO	**Snowmass**	**5.89**	**154**	*e*Pn	**Pn**	**09 03 59.4**	**+1.2**
MSU	**Marysvale**	**6.15**	**194**	*e*Pn	**Pn**	**09 04 05.5**	**+3.8**
PV04	**Paradox Valley**	**6.21**	**169**	*e*Pn	**Pn**	**09 04 04.7**	**+2.3**
OD2	**Odessa Site #2**	**6.50**	**299**	*e*Pn	**Pn**	**09 04 08.0**	**+1.5**
	9.3nm,1.1s						
PV01	**Paradox Valley**	**6.51**	**168**	*e*Pg	**Pg**	**09 04 33.0**	**-2.4**
	71nm,0.6s						
BMN	**Battle Mountai**	**6.51**	**234**	*e*Pb	**Pb**	**09 04 25.4**	**+1.3**
BMN				*e*Pg	**Pg**	**09 04 36.0**	**+0.6**
OGNE	**Ogallala**	**7.08**	**117**	*e*Pn	**Pn**	**09 04 15.1**	**+0.7**
ARUT	**Antelope Range**	**7.11**	**200**	*e*Pn	**Pn**	**09 04 18.2**	**+3.4**
	7.1nm,0.7s						
CCUT	**Cedar City**	**7.32**	**199**	*e*Pn	**Pn**	**09 04 22.8**	**+5.1**
MVCO	**Mesa Verde**	**7.42**	**168**	*e*Pn	**Pn**	**09 04 20.3**	**+1.1**
SDCO	**Great Sand Dun**	**7.68**	**150**	*e*Pn	**Pn**	**09 04 25.1**	**+2.4**
NVAR	**Mina Array Bea**	**8.52**	**227**	Pn	**Pn**	**09 04 38.5**	**+4.4**
	0.1nm,0.3s,baz=39,slow=12,SNR=8.3						
NVAR	**Mina Array Bea**	**8.52**	**227**	Pn	**Pn**	**09 04 38.5**	**+4.4**
WUAZ	**Wupatki**	**9.02**	**185**	*e*Pn	**Pn**	**09 04 43.9**	**+2.9**
ANMO	**Albuquerque**	**10.00**	**161**	Pn	**Pn**	**09 04 58.3**	**+3.8**
	0.1nm,0.3s,baz=346,slow=8.3,SNR=1.8						
ANMO				Pg	Pn	09 05 34.7	+40
	0.1nm,0.3s,baz=342,slow=13,SNR=2.0						
ANMO				LR	LR	09 08 57.3	
	comp=Z,94nm,19.6s,baz=209,slow=39						
ANMO	**Albuquerque**	**10.00**	**161**	Pn	**Pn**	**09 04 58.3**	**+3.8**
ANMO				Pg	Pn	09 05 34.7	+40
AGMN	**Agassiz Nation**	**10.70**	**64**	*e*Pn	**Pn**	**09 05 04.5**	**+0.5**
ULM	**Lac du Bonnet**	**11.36**	**55**	Pn	**Pn**	**09 05 11.3**	**-1.7**
	0.3nm,0.3s,baz=248,slow=16,SNR=4.3						
ULM				Pg	Pn	09 05 57.2	+44
	0.6nm,0.3s,baz=242,slow=16,SNR=6.3						
ULM	**Lac du Bonnet**	**11.36**	**55**	Pn	**Pn**	**09 05 11.3**	**-1.7**
ULM				Pg	Pn	09 05 57.2	+44
TXAR	**Lajitas Array**	**16.05**	**158**	Pn	**Pn**	**09 06 17.8**	**+1.2**
	0.0nm,0.3s,baz=340,slow=7.7,SNR=6.5						
TXAR	**Lajitas Array**	**16.05**	**158**	Pn	**Pn**	**09 06 17.8**	**+1.2**
YKA	**Yellowknife Ar**	**18.19**	**354**	P	**Pn**	**09 06 42.3**	**-0.8**
	0.0nm,0.3s,baz=171,slow=12,SNR=4.4						
YKA	**Yellowknife Ar**	**18.19**	**354**	P	**Pn**	**09 06 42.3**	**-0.8**
DLBC	**Dease Lake**	**18.46**	**326**	LR	LR	09 14 41.3	
	comp=Z,287nm,18.1s,baz=90,slow=40						
LRAL	**Lakeview Retre**	**21.43**	**114**	*e*P	**P**	**09 07 19.2**	**+0.2**
	5.5nm,0.8s,mb3.9						
TKL	**Tuckaleechee C**	**22.09**	**104**	LR	LR	09 17 13.2	
	comp=Z,168nm,19.4s,MS3.5,baz=285,slow=40						
ILAR	**Eielson Array**	**28.65**	**328**	P	**P**	**09 08 29.1**	**+1.9**
	0.9nm,0.9s,mb3.5,baz=125,slow=7.8,SNR=7.9						
ILAR				LR	LR	09 20 14.7	
	comp=Z,88nm,19.9s,MS3.4,baz=137,slow=37						
ILAR	**Eielson Array**	**28.65**	**328**	P	**P**	**09 08 29.1**	**+1.9**

*NEIC **31** 09:05:59.0, 44°.52N×110°.37W, h0km, ML2.6(SLC), After SLC.*
*ISCJB **31** 09:06:00.6±0.3, 44°.52N±0°.02×110°.40W±0°.03, h10km, Error ellipse: s-maj=3.4km s-min=2.8km az=20.2*
ISC 31 09:06:00.7±0.3, 44°.51N±0°.02×110°.39W±0°.03, h10km, n32, σ0°70/39, 15C-13D, Yellowstone region

| Code | Station Name | Δ° |

MHGZ			SN	S	09 21 48.1	-0.6
NMHZ	Naumai	6.50 195	PN	Pn	09 20 33.3	+1.1
BKZ	Black Stump Fm	6.63 197	PN	Pn	09 20 33.9	+0.2
BKZ			eSN	S	09 21 56.1	+1.8
MCHZ	McNeill Hill	6.85 195	PN	Pn	09 20 37.0	+0.8
CKHZ	Cape Kidnapper	6.98 192	PN	Pn	09 20 38.0	+0.4
BHHZ	Black Hill Sta	7.05 199	PN	Pn	09 20 37.2	-1.2
MOVZ	Moawhango	7.06 201	PN	Pn	09 20 39.2	+0.6
MTVZ	Mangateitei	7.13 203	PN	Pn	09 20 40.7	+1.4
KAHZ	Kahuranaki	7.15 193	PN	Pn	09 20 39.8	+0.3
PXZ	Pawanui	7.38 193	PN	Pn	09 20 40.7	-1.5
PXZ			eSN	S	09 22 08.0	-1.9
PNHZ	Pukenui	7.42 197	PN	Pn	09 20 42.3	-0.3
WPHZ	Waipukurau	7.50 195	PN	Pn	09 20 43.6	0.0
TSZ	Takapari Road	7.61 198	PN	Pn	09 20 44.7	-0.1
WAZ	Wanganui	7.63 204	PN	Pn	09 20 46.1	+1.1
PRHZ	Porangahau	7.66 194	PN	Pn	09 20 44.6	-0.8
DVHZ	Dannevirke	7.79 196	PN	Pn	09 20 46.2	-0.6
POWZ	Post Office Ro	7.97 198	PN	Pn	09 20 48.7	-0.3
BFZ	Birch Farm	8.13 195	PN	Pn	09 20 50.6	-0.3
MRZ	Mangatainoka R	8.28 198	PN	Pn	09 20 51.6	-0.9
MRZ			eSN	S	09 22 28.0	-0.9
HOWZ	Holdsworth Sta	8.52 198	PN	Pn	09 20 54.3	-0.9
OGWZ	Otaki Gorge	8.54 200	PN	Pn	09 20 54.5	-1.0
KIW	Kapiti Island	8.65 201	PN	Pn	09 20 56.5	-0.4
MTW	Mount Morrison	8.76 198	PN	Pn	09 20 57.2	-0.9
CAW	Cannon Point	8.83 200	PN	Pn	09 20 58.3	-0.7
TCW	Tory Channel	9.17 203	PN	Pn	09 21 02.1	-0.8
NNZ	Nelson	9.49 207	PN	Pn	09 21 06.1	-0.6
QRZ	Quartz Range	9.51 211	PN	Pn	09 21 07.3	+0.5
BSWZ	Blackbirch Sta	9.75 203	PN	Pn	09 21 09.6	-0.1
THZ	Tophouse	10.14 207	PN	Pn	09 21 13.8	-0.5
THZ			eSN	S	09 23 10.5	+1.5
KHZ	Kahutara	10.49 203	PN	Pn	09 21 17.4	-1.0
KHZ			eSN	S	09 23 17.5	+0.9
DSZ	Denniston Nort	10.57 211	PN	Pn	09 21 19.0	-0.3
MQZ	McQueen's Vall	11.94 203	PN	Pn	09 21 34.6	-0.7
FOZ	Fox Glacier	12.96 212	PN	Pn	09 21 46.2	-1.0
ODZ	Otahua Downs	13.80 206	PN	P	09 21 58.4	+3.6
ASAR	Alice Springs	40.51 271	P	P	09 25 58.4	-0.1
	0.6nm,0.6s,mb3.1,baz=105,slow=8.0,SNR=12					
WRA	Warramunga Arr	41.73 277	P	P	09 26 07.7	-0.6
	2.7nm,0.3s,mb4.0,baz=114,slow=8.0,SNR=84					
QSPA	South Pole Qui	57.28 180	P	P	09 28 05.0	+1.7
	0.6nm,0.6s,mb3.1,baz=41,slow=11,SNR=4.2					
FINES	FINESS Array B	146.46 337	PKPbc	PKPbc	09 37 45.3	-5.6
	3.0nm,0.9s,baz=38,slow=2.5,SNR=7.0					

KRSC 31 09:22:02.1±0.8, 55°.72N×161°.05E, h175km±34km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	Kamenistaya	0.46	275	i P	Pn	09 22 27.5	+1.4
KMNR				i S	Sn	09 22 45.5	+1.0
KPT	Kopyto	0.53	298	P	Pn	09 22 27.5	+1.2
KLY	Klyuchi	0.64	340	eP	Pn	09 22 27.6	+0.7
KLY				eS	Sn	09 22 45.8	-0.2
TUMR	Tumrok	0.68	230	i P	Pn	09 22 28.6	+1.5
KOZ	Kozyrevsk	0.74	298	P	Pn	09 22 28.4	+0.9
SMKR	Semkarok	0.90	15	eP	Pn	09 22 29.6	+1.2
SMKR				i S	Sn	09 22 49.8	+1.0
SRKR	Sorokina	0.94	4	eP	Pn	09 22 30.2	+1.5
SRDR	Sredinnyy	0.96	309	i P	Pn	09 22 29.6	+0.7
KBTR	Krutoberegovo	1.11	63	i P	Pn	09 22 30.9	+0.8
KBTR				i S	Sn	09 22 51.6	0.0
ESO	Esso	1.34	280	i P	Pn	09 22 32.8	+0.7
SDLR	Sedlovina	2.75	208	eP	Pn	09 22 48.8	+1.3
BKI	Bering	2.85	98	i P	Pn	09 22 50.9	+2.3
BKI				i S	Sn	09 23 25.8	+1.1

*ISK **31** 09:39:25.4, 41°.05N×34°.52E, h5km, MD3.2*
*ISCJB **31** 09:39:26.5±0.5, 41°.03N±0°.04×34°.54E±0°.04, h10km, Error ellipse: s-maj=5.2km s-min=3.8km az=162.0*
*DDA **31** 09:39:26.2, 41°.01N×34°.52E, h7km±5km, Md2.8*
*CSEM **31** 09:39:26.3±0.2, 41°.03N×34°.55E, h2km, MD3.2, Error ellipse: s-maj=3.7km s-min=3.1km az=165.0*

ISC 31 09:39:26.8±0.5, 41°.02N±0°.04×34°.53E±0°.04, h3km±8km, n27, σ0°81/36, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	Tosya	0.39	272	ePG	Pg	09 39 33.7	-0.6
TOS				eSG	Sg	09 39 40.1	+0.9
TOS	Tosya	0.39	272	ePg	Pg	09 39 33.7	-0.5
TOS				eSg	Sg	09 39 40.1	+0.9
CTKT	Corum	0.45	154	i P	Pg	09 39 34.5	-0.9
CTKT				i S	Sg	09 39 40.9	-0.3
CTKT	Corum	0.45	154	i P	Pg	09 39 34.5	-0.9
CTKT				i S	Sg	09 39 40.8	-0.3
KAST	KASTAMONU	0.65	316	eP	Pg	09 39 38.3	-1.1
KAST	KASTAMONU	0.65	316	eP	Pg	09 39 38.3	-1.0
CANT	Cankiri	0.81	239	ePG	Pg	09 39 42.2	-0.1
CANT				eSG	Sg	09 39 54.4	+1.7
DIKM	Dikmen	0.83	41	ePG	Pg	09 39 42.3	-0.5
DIKM				eSG	Sg	09 39 54.3	+0.8
DIKM	Dikmen	0.83	41	ePg	Pg	09 39 42.3	-0.5
DIKM				eSg	Sg	09 39 54.3	+0.7
CORM	Corum	0.85	175	ePG	Pg	09 39 42.8	-0.3
CORM	Corum	0.85	175	ePg	Pg	09 39 42.8	-0.3
HAVZ	Havza	0.90	86	eP	Pg	09 39 43.1	-1.0
HAVZ				i S	Sg	09 39 57.8	+2.1
HAVZ	Havza	0.90	86	eP	Pg	09 39 43.1	-1.0
HAVZ				i S	Sg	09 39 57.8	+2.1
ELDT	Eldivan	0.99	238	eP	Pg	09 39 45.7	-0.2
ELDT	Eldivan	0.99	238	eP	Pg	09 39 45.7	-0.2
KVT	Kavak	1.15	87	ePN	Pg	09 39 48.7	-0.1
KVT	Kavak	1.15	87	ePn	Pg	09 39 48.7	-0.1
CDAG	Cicekdag	1.40	185	⇑iP	Pn	09 39 53.2	-0.1
CDAG	Cicekdag	1.40	185	i P	Pn	09 39 53.2	-0.1
SAFT	Safranbolu	1.41	279	ePN	Pn	09 39 53.0	-0.4
SAFT	Safranbolu	1.41	279	ePn	Pn	09 39 53.1	-0.3
YOZ	Yozgat	1.51	156	ePN	Pn	09 39 55.2	+0.4
YOZ	Yozgat	1.51	156	ePn	Pn	09 39 55.2	+0.5
KAMT	Kaman	1.77	201	ePN	Pn	09 39 59.0	+0.7
KAMT	Kaman	1.77	201	ePn	Pn	09 39 59.0	+0.7
AFSR	Af´ar-Bala (A	1.93	216	ePN	Pn	09 39 59.9	-0.6
AFSR	Af´ar-Bala (A	1.93	216	ePn	Pn	09 39 59.9	-0.7

*ISCJB **31** 09:57:41.7±1.4, 6°.3S±0°.1×155°.03E±0°.10, h244km±16km, mb3.7/16, Error ellipse: s-maj=20.2km s-min=12.4km az=145.4*
*IDC **31** 09:57:42.9±2.3, 6°.34S×155°.12E, h246km±25km, mb3.4/15, mb1 3.6/18, mb1mx3.6/19, mbtmp3.5/18, Error ellipse: s-maj=21.9km s-min=13.4km az=122.0*
*NEIC **31** 09:57:42.6±1.2, 6°.28S×155°.06E, h239km±14km, mb4.3/2, Error ellipse: s-maj=16.0km s-min=10.0km az=144.0*

ISC 31 09:57:42.7±1.4, 6°.3S±0°.1×155°.06E±0°.09, h240km±16km, n38, σ0°84/41, mb3.7/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.77	123	P	Pn	09 59 08.0	+0.2
	5.4nm,0.3s,baz=284,slow=4.2,SNR=3.2						
HNR	Honiara	5.77	123	P	Pn	09 59 08.0	+0.2
PMG	Port Moresby	8.43	248	P	Pn	09 59 42.1	+0.6
	0.9nm,0.3s,baz=63,slow=9.0,SNR=7.6						
PMG				S	S	10 01 22.1	+4.9
	0.6nm,0.3s,baz=24,slow=20,SNR=4.5						
PMG	Port Moresby	8.43	248	ePn	Pn	09 59 40.6	-0.9
	32nm,0.7s						
PMG				S	S	10 01 22.1	+4.9
PMG				eSn	S	10 01 23.1	+5.9
COEN	Coen	13.97	236	ePn	Pn	10 00 50.7	-0.2
	106nm,1.4s						
CTA	Charters Tower	16.18	211	P	P	10 01 17.4	+1.1
	0.4nm,0.3s,baz=40,slow=13,SNR=6.3						
CTA	Charters Tower	16.18	211	P	P	10 01 17.4	+1.1
WRAB	Tennant Creek	24.27	234	eP	P	10 02 38.7	+0.3
	3.7nm,0.7s,mb4.1						
WB2	Warramunga Arr	24.28	234	eP	P	10 02 38.9	+0.5
WRA	Warramunga Arr	24.29	234	P	P	10 02 39.1	+0.6
	1.9nm,0.4s,mb4.1,baz=57,slow=10,SNR=31						
WRA	Warramunga Arr	24.29	234	P	P	10 02 39.1	+0.6
ASAR	Alice Springs	26.70	227	P	P	10 02 59.9	-0.3
	0.2nm,0.3s,mb3.2,baz=58,slow=10.0,SNR=5.1						
ASAR	Alice Springs	26.70	227	P	P	10 02 59.9	-0.3
STKA	Stephens Creek	28.42	205	P	P	10 03 12.7	-2.6
	2.9nm,1.1s,mb3.8,baz=345,slow=12,SNR=6.4						
STKA	Stephens Creek	28.42	205	P	P	10 03 12.7	-2.6
FITZ	Fitzroy Crossi	31.01	245	P	P	10 03 37.5	-0.9
	3.9nm,0.6s,mb4.2,baz=81,slow=8.0,SNR=12						
FITZ	Fitzroy Crossi	31.01	245	P	P	10 03 37.5	-0.9
MJAR	Matsushiro Arr	45.42	341	P	P	10 05 36.2	-1.6
	1.3nm,0.6s,mb3.5,baz=169,slow=7.6,SNR=9.2						
MJAR	Matsushiro Arr	45.42	341	P	P	10 05 36.2	-1.6
KSRS	Korea Array	50.33	332	P	P	10 06 14.9	-0.4
	1.0nm,0.6s,mb3.3,baz=151,slow=7.9,SNR=6.1						
KSAR	Wonju Array Be	50.34	332	P	P	10 06 14.9	-0.5
USRK	Ussuriysk Arra	54.37	340	P	P	10 06 44.9	0.0
	1.7nm,0.7s,mb3.7,baz=138,slow=5.2,SNR=7.8						
PETK	Petropavlovsk-	59.19	2	P	P	10 07 19.3	+0.8
	11nm,1.2s,mb4.4,baz=178,slow=9.5,SNR=3.0						
PETK	Petropavlovsk-	59.19	2	P	P	10 07 19.3	+0.8
CMAR	Chiang Mai Arr	60.53	295	P	P	10 07 29.6	+1.3
	1.2nm,0.7s,mb3.6,baz=127,slow=5.0,SNR=7.9						
CMAR	Chiang Mai Arr	60.53	295	P	P	10 07 29.6	+1.3
SONM	Songino Array	68.76	327	P	P	10 08 22.1	+1.3
	1.0nm,0.5s,mb3.7,baz=139,slow=6.1,SNR=7.6						
SONM	Songino Array	68.76	327	P	P	10 08 22.1	+1.3
ILAR	Eielson Array	82.68	22	P	P	10 09 39.1	0.0
	0.3nm,0.9s,mb3.0,baz=232,slow=5.4,SNR=3.5						
ILAR	Eielson Array	82.68	22	P	P	10 09 39.1	0.0
MKAR	Makanchi Array	82.91	319	P	P	10 09 41.2	+0.5
	1.6nm,0.8s,mb3.8,baz=101,slow=5.5,SNR=22						
MKAR	Makanchi Array	82.91	319	P	P	10 09 41.2	+0.5
ZALV	Zalesovo Beam	83.62	326	P	P	10 09 43.6	-0.6
	0.9nm,0.6s,mb3.7,baz=112,slow=5.2,SNR=4.9						
ZALV	Zalesovo Beam	83.62	326	P	P	10 09 43.6	-0.6
NVAR	Mina Array Bea	91.22	52	P	P	10 10 21.2	+0.1
	0.2nm,0.6s,mb3.2,baz=245,slow=7.7,SNR=2.7						
NVAR	Mina Array Bea	91.22	52	P	P	10 10 21.1	+0.1
YKA	Yellowknife Ar	95.67	28	P	P	10 10 40.5	-0.3
	0.3nm,0.8s,mb3.6,baz=271,slow=5.0,SNR=4.7						
YKA	Yellowknife Ar	95.67	28	P	P	10 10 40.5	-0.3

*TRN **31** 10:04:06.3, 19°.08N×64°.78W, h51km, MD3.3(RSPR)*
*NEIC **31** 10:04:07.5, 19°.04N×64°.72W, h71km, MD3.3(RSPR), After RSPR.*

RSPR 31 10:04:07.5, 19°.04N×64°.72W, h71km±5km, MD3.3/4, 5C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.48	131	⇑eP	Pn	10 04 19.2	-1.0
ABV				eS	Sn	10 04 29.4	-0.2
ABV	Anegada	0.48	131	⇑eP	Pn	10 04 19.2	-1.0
ABV				eS	Sn	10 04 29.4	-0.2
STVI	Saint Thomas	0.72	198	⇓eP	Pn	10 04 21.9	-0.9
STVI	Saint Thomas	0.72	198	⇓eP	Pn	10 04 21.9	-0.9
STVI				eS	Sn	10 04 33.4	-0.7
STVI	Saint Thomas	0.72	198	⇓eP	Pn	10 04 21.9	-0.9
STVI				eS	Sn	10 04 33.4	-0.7
MTP	Monte Pirata	1.23	220	⇑eP	Pn	10 04 28.8	-0.3
MTP	Monte Pirata	1.23	220	⇑eP	Pn	10 04 28.8	-0.3
MTP				eS	Sn	10 04 44.8	-0.3
MTP	Monte Pirata	1.23	220	⇑eP	Pn	10 04 28.8	-0.3
MTP				eS	Sn	10 04 44.8	-0.3
CBYP	Canovanas	1.33	235	eS	Sn	10 04 46.6	-0.7
CBYP	Canovanas	1.33	235	ePn	Pn	10 04 29.0	-1.2
CBYP				eSn	Sn	10 04 47.0	-0.3
CBYP	Canovanas	1.33	235	eS	Sn	10 04 46.6	-0.7
HUMP	Col San Antoni	1.40	230	⇓eP	Pn	10 04 30.6	-0.6
HUMP	Col San Antoni	1.40	230	⇓eP	Pn	10 04 30.6	-0.6
HUMP	Col San Antoni	1.40	230	⇓eP	Pn	10 04 30.6	-0.6

*ISK **31** 10:12:35.0, 38°.46N×40°.56E, h5km, MD2.8*
*ISCJB **31** 10:12:36.4±0.6, 38°.48N±0°.03×40°.57E±0°.04, h3km±6km, Error ellipse: s-maj=5.7km s-min=4.6km az=179.2*
*DDA **31** 10:12:36.1, 38°.55N×40°.48E, h8km±6km, Md2.9*
*CSEM **31** 10:12:37.9±0.6, 38°.48N×40°.48E, h8km, MD2.8, Error ellipse: s-maj=12.1km s-min=8.4km az=105.0*

ISC 31 10:12:37.1±0.5, 38°.49N±0°.03×40°.58E±0°.04, h14km±6km, n17, σ1°07/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.39	350	i Pg	Pg	10 12 46.5	+1.5
BNGB	Bing¶ll	0.51	9	PG	Pg	10 12 46.5	-0.6
BNGL	BINGOL	0.64	44	i P	Pg	10 12 49.3	-0.4
BNGL				i S	Sg	10 12 57.9	-0.3
DIYA	Diyarbakir	0.67	213	i P	Pg	10 12 50.4	+0.2
DIYA				i S	Sg	10 12 59.1	0.0
DIYA	Diyarbakir	0.67	213	i P	Pg	10 12 50.4	+0.2
DIYA				i S	Sg	10 12 59.1	0.0
BEST	Besiri	0.81	137	i P	Pg	10 12 53.4	+0.5
BEST				i S	Sg	10 13 05.2	+1.8
SVRC	Sivrice-ELAZID	1.00	264	ePG	Pg	10 12 55.2	-1.3
SVRC				eSG	Sg	10 13 09.3	-0.3
SVRC	Sivrice-ELAZID	1.00	264	ePg	Pg	10 12 55.2	-1.3
SVRC				eSg	Sg	10 13 09.3	-0.4
PTK	Pertek	1.01	294	ePG	Pg	10 12 55.0	-1.6
PTK				eSG	Sg	10 13 10.7	+0.9
PTK	Pertek	1.01	294	ePg	Pg	10 12 55.1	-1.5
PTK				eSg	Sg	10 13 10.7	+0.8
MARD	Mardin	1.19	172	i P	Pn	10 12 56.8	-2.4
MARD				i S	Sb	10 13 13.6	-1.0
ELZG	Elazig	1.25	271	i P	Pn	10 12 59.7	-0.5
ELZG				i S	Sb	10 13 16.4	-0.1
ELZG	Elazig	1.25	271	i P	Pn	10 12 59.7	-0.5
ELZG				i S	Sb	10 13 16.4	0.0
MALT	Malatya	1.70	265	ePN	Pn	10 13 06.7	+0.3
MALT	Malatya	1.70	265	ePn	Pn	10 13 06.7	+0.4
MYA	Malataya	1.70	265	ePN	Pn	10 13 07.0	+0.7
MYA				eSN	Sn	10 13 30.3	+2.4
MYA	Malataya	1.70	265	ePn	Pn	10 13 07.0	+0.7
MYA				eSn	Sn	10 13 30.3	+2.4

CASC 31 10:16:15.8±2.9, 7°.90N×83°.01W, h12km±13km, MD3.8, 3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.76	348	⇓eP	Pg	10 16 29.6	-1.0
ACR				eS	Sg	10 16 39.7	-0.9
BRU2	Volcan	0.94	19	⇓iP	Pg	10 16 33.4	-0.5
BRU2				eS	Sg	10 16 48.5	+2.3
CNI	Changuinola	1.58	18	eP	Pn	10 16 23.7	-20
BUS	Buena Vista	1.80	336	eP	Pn	10 16 46.6	-0.2
BUS				eS	Sn	10 17 10.6	+1.0
QCR	Quepos	1.90	323	eP	Pn	10 16 46.4	-1.6
QCR				eS	Sn	10 17 14.5	+2.6
PTP	Ponta Puerca	19.79	57	⇓iP	x	10 16 23.7	
PTP				eS	x	10 16 28.6	

*IDC **31** 11:14:31.8±2.3, 4°.46S×128°.70E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=174.5km s-min=29.1km az=68.0*

NEIC 31 11:14:36.6±2.5, 4°.44S×128°.90E, h35km, mb3.9/1, Error ellipse: s-maj=266.0km s-min=13.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	16.29	161	ePn	Pn	11 18 23.0	+0.2
	14nm,1.5s						
WRAB				eSn	Sn	11 21 09.2	-13
WRA	Warramunga Arr	16.30	161	Pn	Pn	11 18 23.0	+0.2
	0.4nm,0.3s,baz=343,slow=12,SNR=4.7						
WRA				Sn	Sn	11 21 12.2	-10
	0.3nm,0.3s,baz=337,slow=22,SNR=3.3						
WRA	Warramunga Arr	16.30	161	Pn	Pn	11 18 23.0	+0.2
WRA				Sn	Sn	11 21 12.2	-10
WB2	Warramunga Arr	16.30	161	ePn	Pn	11 18 22.7	-0.2
WB2				eSn	Sn	11 21 09.5	-13
AS31	Alice Springs	19.71	166	eP	Pn	11 19 03.1	-1.6
ASAR	Alice Springs	19.71	166	P	Pn	11 19 03.3	-1.5
	0.4nm,0.3s,baz=349,slow=11,SNR=54						
ASAR	Alice Springs	19.71	166	P	Pn	11 19 03.3	-1.5
MKAR	Makanchi Array	65.50	327	P	P	11 25 16.4	+0.1
	0.3nm,0.6s,baz=117,slow=7.6,SNR=5.8						
MKAR	Makanchi Array	65.50	327	P	P	11 25 16.4	+0.1

*NEIC **31** 11:15:44.0, 44°.52N×110°.37W, h1km, ML2.7(SLC), After SLC.*
*ISCJB **31** 11:15:45.8±0.2, 44°.50N±0°.02×110°.38W±0°.02, h10km, Error ellipse: s-maj=2.4km s-min=2.2km az=162.4*

ISC 31 11:15:45.9±0.2, 44°.50N±0°.02×110°.36W±0°.02, h10km, n51, σ1°02/71, 26C-17D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	Lake	0.07	337	ePg	Pg	11 15 46.0	-2.1
LKWY				eSg	Sg	11 15 47.9	-1.9
H17A	Grant Village	0.19	236	⇑P	Pg	11 15 49.2	-0.7
	baz=0.2,SNR=471						
H17A				⇑S	Sg	11 15 52.1	-0.4
	baz=0.2						
YFT	Old Faithful	0.34	262	ePg	Pg	11 15 52.0	-0.6
YMR	Madison River	0.46	292	ePg	Pg	11 15 54.3	-0.7
FLWY	Flagg Ranch	0.48	210	ePg	Pg	11 15 55.2	-0.1
FLWY				eSg	Sg	11 16 04.0	+2.3
H18A	Shoshone NF, C	0.53	70	⇑P	Pg	11 15 55.1	-1.1
	baz=0.5,SNR=41						
I17A	Pilgrim Ck.	0.60	195	⇓P	Pg	11 15 57.3	-0.3
	baz=0.6,SNR=34						
I17A				⇓S	Sg	11 16 05.3	-0.1
	baz=0.6						
H16A	Russell Place,	0.67	288	⇑P	Pg	11 15 57.9	-0.9
	baz=0.6						
H16A				⇑S	Sg	11 16 07.8	+0.4
	baz=0.6						
MOOW	Moose Ponds	0.80	200	ePg	Pg	11 16 00.8	-0.5
QLMT	Earthquake Lak	0.83	294	ePg	Pg	11 15 59.8	-2.1
QLMT				Sg	Sg	11 16 11.9	-0.8
G17A	Pierce Place,	0.86	342	⇑P	Pg	11 16 02.3	-0.2
	baz=0.8,SNR=14						
G17A				⇓S	Sg	11 16 14.0	+0.1
	baz=0.8						
I18A	Diamond G Ranc	0.89	154	⇑P	Pg	11 16 02.1	-0.9
	baz=0.9,SNR=28						
I18A				⇓S	Sg	11 16 14.8	+0.2
	baz=0.9						
LOHW	Long Hollow	0.91	191	ePg	Pg	11 16 02.6	-0.7
G18A	Lazy EL Ranch,	0.99	35	⇓P	Pg	11 16 04.0	-1.1
	baz=1.0,SNR=40						
RLMT	Red Lodge	1.00	51	ePg	Pg	11 16 03.3	-1.7
RLMT				eS	Sg	11 16 18.7	+0.6
H19A	Powell	1.00	80	⇑P	Pg	11 16 04.0	-1.1
	baz=1.0,SNR=48						
H19A				⇑S	Sg	11 16 17.6	-0.4
	baz=1.0						
I16A	Newdale	1.02	233	⇑P	Pg	11 16 05.1	-0.4
	baz=1.0						
SNOW	Snow King Moun	1.08	195	ePg	Pg	11 16 05.7	-0.9
DCID1	Drake Creek	1.08	214	ePg	Pg	11 16 06.3	-0.4
I19A	Meeteetse	1.09	115	⇑P	Pb	11 16 05.5	-1.3
	baz=1.1,SNR=52						
I19A				⇑S	Sg	11 16 20.2	-0.7
	baz=1.1						
J17A	Brown Place, J	1.17	193	⇓P	Pb	11 16 07.9	-0.2
	baz=1.2,SNR=23						
REDW	Red Top Meadow	1.19	197	ePg	Pg	11 16 09.0	+0.2
G16A	Moss Hill, Enn	1.26	306	⇓P	Pn	11 16 09.3	-0.3
	baz=1.2						
J18A	Kendall Valley	1.31	169	P	Pn	11 16 10.4	+0.1
	baz=1.3,SNR=58						
J18A				⇑S	Sb	11 16 27.5	0.0
	baz=1.3						
RRI2	Red Ridge	1.34	211	ePg	Pg	11 16 09.9	-1.8
GCMT	Greycliff	1.38	21	ePg	Pg	11 16 11.1	-1.3
F17A	Fitzpatrick Pl	1.42	352	⇓P	Pn	11 16 12.4	+0.6
	baz=1.4,SNR=28						
F18A	Big Timber	1.48	18	⇑P	Pn	11 16 13.0	+0.5
	baz=1.5,SNR=47						
F18A				⇓S	Sn	11 16 33.8	+1.9
	baz=1.5						
J16A	Bone	1.52	217	⇑P	Pn	11 16 13.8	+0.6
	baz=1.5						
J19A	Crowheart	1.56	142	⇑Pb	Pb	11 16 14.5	-0.2
	baz=1.6						
J19A				⇑S	Sn	11 16 35.1	+1.3
	baz=1.6						
F16A	Kennard Place,	1.56	326	⇓P	Pn	11 16 14.5	+0.8
	baz=1.5,SNR=10						
F16A				⇓S	Sn	11 16 35.8	+1.8
	baz=1.5						
I15A	Monteview	1.61	253	⇓P	Pn	11 16 15.1	+0.8
	baz=1.6						
H15A	Lima	1.64	275	⇓P	Pn	11 16 15.5	+0.8
	baz=1.6,SNR=7.7						
G15A	Dillon	1.65	294	⇑P	Pn	11 16 15.7	+0.8
	baz=1.6,SNR=23						
F19A	Roth Farm, Mol	1.69	36	⇓P	Pn	11 16 15.8	+0.5
	baz=1.7,SNR=17						
G20A	Bridger	1.69	64	⇑P	Pn	11 16 15.6	+0.1
	baz=1.7,SNR=37						
H20A	Greybull	1.69	90	P	Pn	11 16 15.7	+0.2
	baz=1.7,SNR=23						
H20A				⇑S	Sn	11 16 38.1	+1.0
	baz=1.7						
I20A	Worland	1.70	108	⇑P	Pn	11 16 15.8	+0.2
	baz=1.7,SNR=33						
I20A				⇓S	Sn	11 16 38.6	+1.3
	baz=1.7						
K17A	Gardner Place,	1.79	193	⇓Pb	Pb	11 16 18.7	-0.1
	baz=1.8						
MCMT	McKenzie Canyo	1.81	281	ePn	Pn	11 16 17.3	+0.3
DLMT	Dillon	1.81	299	ePn	Pn	11 16 18.9	+1.9
PD01	P

WRA Warramunga Arr 12.15 341 Pn **Pn** **11 42 17.6 +0.1**
0.1nm,0.3s,baz=160,slow=15,SNR=4.0
WRA Sn **Sn** **11 44 30.4 -2.7**
0.1nm,0.3s,baz=164,slow=23,SNR=4.5
WRA Warramunga Arr 12.15 341 Pn **Pn** **11 42 17.6 +0.1**
WRA Sn **Sn** **11 44 30.4 -2.7**
WRB Tennant Creek 12.16 341 Pn **Pn** **11 42 18.8 +1.2**

MOS ***31*** *11:39:51.5±1.0,4°.99N×127°.45E,h33km,mb5.7/58, MS4.5/8,Error ellipse: s-maj=10.0km s-min=4.6km az=115.6*
BJI ***31*** *11:39:51.5,4°.41N×127°.59E,h77km,mB5.3/39,mb5.1/62, Ms4.8/50,Ms7 4.6/49*
MAN ***31*** *11:39:52,4°.76N×127°.33E,h16km,mb5.8,ML4.8,MS5.3*
NEIC ***31*** *11:39:53.5±0.1,4°.92N×127°.44E,h39km,mb5.5/72, MW5.4,Error ellipse: s-maj=5.2km s-min=3.3km az=67.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^{17}Nm; M_{rr}1.08; $M_{\theta\theta}$0.32; $M_{\phi\phi}$-1.40; $M_{r\theta}$-0.42; $M_{\theta\phi}$0.70; $M_{\phi r}$-0.75; Best double couple: $M_0$1.70000×10^{17} NP1: ϕ_s311.00000°,δ42.00000°,λ41.00000°. NP2: ϕ_s188.00000°,δ64.00000°,λ125.00000°. Principal axes: T 1.5900, Plg56.0000°, Azm144.0000°; N 0.1900, Plg30.0000°, Azm351.0000°; P -1.7700, Plg12.0000°, Azm253.0000°;*
ISCJB ***31*** *11:39:55.5±0.5,4°.93N±0°.02×127°.46E±0°.03,h71km±3km, mb5.3/154 Error ellipse: s-maj=5.5km s-min=3.6km az=159.8*
GCMT ***31*** *11:39:56.7±0.1,5°.02N×127°.33E,h61km±1km,MW5.4, Moment Tensor Solution. s80,c119; s95,c176; Moment tensor: Scale 10^{17}Nm; M_{rr}0.91±.02; $M_{\theta\theta}$0.44±.02; $M_{\phi\phi}$-1.36±.02; $M_{r\theta}$-0.41±.02; $M_{\theta\phi}$0.75±.02; $M_{\phi r}$-0.10±.02; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s192.00000°, δ55.00000°,λ139.00000°. NP2:ϕ_s308.00000°,δ57.00000°, λ42.00000°. Principal axes: T 1.2500, Plg52.0000°, Azm161.0000°; N 0.3800, Plg38.0000°, Azm339.0000°; P -1.6300, Plg1.0000°, Azm70.0000°; Data Used: II IU IC G CN.*
IDC ***31*** *11:39:57.5±1.1,4°.89N×127°.35E,h74km±9km,mb4.9/28, mb1 4.9/30,mb1mx4.9/30,mbtmp4.9/30,MS4.4/24, Ms1 4.4/24,ms1mx4.3/32 Error ellipse: s-maj=14.6km s-min=6.9km az=79.0*
DJA ***31*** *11:39:59,4°.96N×127°.40E,h79km,mb5.4/41*
ISC 31 11:39:57.7±0.4,4°.92N±0°.02×127°.43E±0°.03,h76km±3km, **h75**km±1.6km:**pP-P,n503,**σ1º**02**/461**,mb5.3**/154**,31C-41D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.33**	**330**	*e*P	**Pn**	**11 40 32.4**	**-1.5**
MATI				*e*S	**Sn**	**11 40 55.5**	**-6.1**
DAV	**Davao City (W)**	**2.82**	**319**	P	**Pn**	**11 40 39.7**	**-0.8**
307nm,0.3s,baz=104,slow=1.3,SNR=59							
DAV				S	**Sn**	**11 41 06.3**	**-7.2**
661nm,0.3s,baz=325,slow=19,SNR=8.7							
DAV	**Davao City (W)**	**2.82**	**319**	*e*Pn	**Pn**	**11 40 40.2**	**-0.3**
DAV				S	**Sn**	**11 41 06.3**	**-7.2**
DMPH	**Davao City--Mi**	**2.88**	**318**	⇑*i*P	**Pn**	**11 40 40.7**	**-0.6**
DMPH				*i* S	**Sn**	**11 41 31.4**	**+16**
BUKP	**Musuan**	**3.77**	**321**	*e*P	**Pn**	**11 40 53.0**	**-0.4**
BUKP				*e*S	Px	11 41 22.9	
CTBH	**Cotabato--PC H**	**3.91**	**306**	⇓*e*P	**Pn**	**11 40 53.2**	**-2.1**
CGP	**Cagayan de Oro**	**4.44**	**322**	⇑P	**Pn**	**11 41 04.2**	**+1.6**
CGP				*e*S	**Sn**	**11 41 57.9**	**+4.8**
PAGZ	**Pagadian**	**4.96**	**306**	*e*P	**Pn**	**11 41 09.4**	**-0.4**
IPIL	**Ipil**	**5.61**	**301**	*e*P	**Pn**	**11 41 18.8**	**+0.3**
ZMPH	**Zamboanga City**	**5.71**	**291**	⇓*e*P	**Pn**	**11 41 18.6**	**-1.3**
MSLP	**Maasin**	**5.77**	**334**	*e*P	**Pn**	**11 41 22.2**	**+1.4**
TBP	**Tagbilaran**	**5.92**	**323**	*e*P	**Pn**	**11 41 21.9**	**-0.9**
SNPH	**Sibulan**	**6.05**	**317**	⇓*e*P	**Pn**	**11 41 28.9**	**+4.3**
LLP	**Lapu-Lapu**	**6.37**	**328**	*e*P	**Pn**	**11 41 28.2**	**-0.7**
LLP				*e*S	**Sn**	**11 42 38.1**	**-2.1**
PLP	**Palo**	**6.66**	**339**	⇓*e*P	**Pn**	**11 41 33.4**	**+0.4**
OCLP	**Ormoc**	**6.70**	**336**	*e*P	**Pn**	**11 41 36.0**	**+2.5**
GUIM	**Jordan**	**7.42**	**320**	*e*P	**Pn**	**11 41 43.9**	**+0.6**
RCP	**Roxas**	**8.06**	**325**	⇓*e*P	**Pn**	**11 41 52.3**	**+0.2**
MYLDM	**Lahad Datu**	**8.90**	**272**	P	**Pn**	**11 42 05.9**	**+2.3**
PVCP	**Virac**	**9.21**	**340**	*e*P	**Pn**	**11 42 07.1**	**-0.6**
TSM	**Tawau**	**9.55**	**267**	P	**Pn**	**11 42 13.0**	**+0.6**
SDKM	**Sandakan**	**10.22**	**274**	P	**Pn**	**11 42 22.6**	**+1.0**
BATP	**Bataraza**	**10.31**	**292**	*e*P	**Pn**	**11 42 22.3**	**-0.5**
KDM	**Kudat**	**10.73**	**281**	P	**Pn**	**11 42 30.4**	**+1.9**
TGY	**Tagaytay City**	**11.14**	**325**	P	**Pn**	**11 42 38.3**	**+4.2**
15nm,0.3s,baz=143,slow=10,SNR=5.7							
TGY	**Tagaytay City**	**11.14**	**325**	P	**Pn**	**11 42 38.3**	**+4.2**
TGY	**Tagaytay City**	**11.14**	**325**	P	**Pn**	**11 42 38.3**	**+4.1**
KKM	**Kota Kinabalu**	**11.22**	**276**	P	**Pn**	**11 42 36.2**	**+0.9**
KKM	**Kota Kinabalu**	**11.22**	**276**	*e*Pn	**Pn**	**11 42 35.9**	**+0.6**
KKM				*e*Sn	**Sn**	**11 44 29.4**	**-10**
KAPI	**Kappang**	**12.50**	**218**	P	**Pn**	**11 42 53.2**	**+0.5**
2.0nm,0.3s,baz=355,slow=9.0,SNR=11							
KAPI				LR	LR	11 48 26.1	
comp=Z,3μm,19.2s,baz=56,slow=41							
KAPI	**Kappang**	**12.50**	**218**	*e*Pn	**Pn**	**11 42 52.3**	**-0.4**
KAPI				*e*Sn	**Sn**	**11 45 05.9**	**-4.2**
CAUP	**Cauayan**	**13.15**	**336**	*e*P	**Pn**	**11 42 58.6**	**-2.7**
BTM	**Bintulu**	**14.41**	**264**	P	**Pn**	**11 43 18.7**	**+0.7**
SBUM	**Sibu**	**15.38**	**261**	P	**Pn**	**11 43 31.5**	**+1.1**
KSM	**Kuching**	**17.43**	**259**	P	**Pn**	**11 43 56.2**	**+0.1**
KSM	**Kuching**	**17.43**	**259**	*e*Pn	**Pn**	**11 43 55.1**	**-1.0**
274nm,1.0s							
GUMO	**Guam**	**19.23**	**62**	P	**Pn**	**11 44 19.7**	**+2.1**
baz=178,slow=8.2,SNR=4.4							
GUMO				LR	LR	11 51 28.0	
comp=Z,861nm,19.3s,baz=216,slow=36							
GUMO	**Guam**	**19.23**	**62**	P	**Pn**	**11 44 19.8**	**+2.1**
GUMO	**Guam**	**19.23**	**62**	P	**Pn**	**11 44 19.8**	**+2.2**
YULB	**Yu-li**	**19.29**	**343**	*e*P	**Pn**	**11 44 16.2**	**-2.2**
36nm,0.8s							
TPUB	**Ta-pu**	**19.42**	**341**	*e*P	**Pn**	**11 44 18.8**	**-1.0**
130nm,0.8s							
SSLB	**Suanglung**	**19.77**	**342**	*e*P	**Pn**	**11 44 22.3**	**-1.6**
84nm,1.0s							
YHNB	**Yeheng**	**20.48**	**344**	*e*P	**P**	**11 44 29.6**	**+0.2**
58nm,0.8s							
QZH	**Quanzhou**	**21.64**	**338**	P	**P**	**11 44 44.8**	**+2.9**
QZH				S	**S**	**11 48 33.0**	**-4.3**
QZH				pmax	pmax		
comp=Z,230nm,0.9s,mb5.5							
QZH				LR	LR		
comp=Z,3μm,26.7s							
JOW	**Kunigami**	**21.80**	**2**	P	**P**	**11 44 45.6**	**+2.1**
comp=Z,30nm,0.8s,mb4.7,baz=191,slow=16,SNR=2.4							
JOW				LR	LR	11 51 52.5	
comp=Z,2μm,21.6s,baz=135,slow=33							
JOW	**Kunigami**	**21.80**	**2**	P	**P**	**11 44 45.6**	**+2.1**
QIZ	**Qiongzhong**	**22.16**	**311**	P	**P**	**11 44 48.8**	**+1.3**
QIZ				pP		11 45 02.8	
QIZ				sP	sP	11 45 12.0	-0.7
QIZ				S	**S**	**11 48 49.0**	**+1.7**
QIZ				pmax	pmax		
comp=Z,41nm,1.8s,mb4.5							
QIZ				pmax	pmax		
comp=Z,310nm,5.4s							
QIZ				LR	LR		
comp=N,2μm,15.9s							
QIZ				LR	LR		
comp=Z,1μm,19.2s							
FITZ	**Fitzroy Crossi**	**22.95**	**184**	P	**P**	**11 44 55.4**	**-0.3**
comp=Z,308nm,0.9s,mb5.6,baz=16,slow=8.0,SNR=94							
FITZ				S	**S**	**11 48 58.6**	**-1.4**
comp=Z,12nm,0.7s,baz=307,slow=10,SNR=2.4							
FITZ				ScP	ScP	11 52 14.7	-0.3
comp=Z,9.4nm,0.7s,baz=59,slow=5.9,SNR=4.5							
FITZ	**Fitzroy Crossi**	**22.95**	**184**	*e*P	**P**	**11 44 55.3**	**-0.4**
FITZ				*e*S	**S**	**11 49 04.2**	**+4.1**
FITZ				*e*SCP	ScP	11 52 15.6	+0.6
FITZ	**Fitzroy Crossi**	**22.95**	**184**	P	**P**	**11 44 55.4**	**-0.3**
FITZ				S	**S**	**11 48 58.6**	**-1.4**
FITZ				ScP	ScP	11 52 14.7	-0.3
KTGM	**Kuala Trenggan**	**24.20**	**272**	P	**P**	**11 45 07.2**	**-0.2**
KGM	**Kluang**	**24.24**	**264**	P	**P**	**11 45 08.6**	**+0.9**
PMG	**Port Moresby**	**24.27**	**126**	P	**P**	**11 45 08.8**	**+0.8**
comp=Z,10.0nm,0.7s,mb4.3,baz=313,slow=7.0,SNR=6.4							
PMG	**Port Moresby**	**24.27**	**126**	*e*P	**P**	**11 45 07.7**	**-0.3**
comp=Z,42nm,1.0s,mb4.7							
PMG	**Port Moresby**	**24.27**	**126**	⇓*e*P	**P**	**11 45 08.9**	**+0.9**
PMG				pmax	pmax		
comp=Z,11nm,0.7s							
COEN	**Coen**	**24.41**	**140**	*e*P	**P**	**11 45 08.4**	**-0.8**
comp=Z,212nm,0.8s,mb5.5							
WRAB	**Tennant Creek**	**25.62**	**165**	*e*P	**P**	**11 45 19.5**	**-0.6**
comp=Z,695nm,0.8s,mb6.1							
WRAB	**Tennant Creek**	**25.62**	**165**	*e*P	**P**	**11 45 19.5**	**-0.6**
WRAB	**Tennant Creek**	**25.62**	**165**	P	**P**	**11 45 19.7**	**-0.4**
comp=Z,5μm,0.7s,SNR=26							
WRA	**Warramunga Arr**	**25.62**	**165**	P	**P**	**11 45 19.0**	**-1.2**
baz=342,slow=9.9,SNR=106							
WRA				S	**S**	**11 49 41.5**	**-1.6**
comp=Z,10nm,0.9s,baz=340,slow=14,SNR=3.7							
WRA				ScP	ScP	11 52 22.0	-0.3
comp=Z,14nm,0.9s,baz=343,slow=3.1,SNR=5.5							
WRA	**Warramunga Arr**	**25.62**	**165**	P	**P**	**11 45 19.0**	**-1.2**
WRA				S	**S**	**11 49 41.5**	**-1.6**
WRA				ScP	ScP	11 52 22.0	-0.3
WRA	**Warramunga Arr**	**25.62**	**165**	P	**P**	**11 45 19.0**	**-1.2**
WRA				S	**S**	**11 49 41.5**	**-1.5**
WB2	**Warramunga Arr**	**25.63**	**165**	*e*P	**P**	**11 45 19.1**	**-1.1**
CBIJ	**Chichi jima**	**26.16**	**31**	P	**P**	**11 45 24.3**	**-0.7**
baz=269,slow=7.9,SNR=4.5							
CBIJ				LR	LR	11 53 39.2	
comp=Z,1μm,20.6s,baz=329,slow=31							
CBIJ	**Chichi jima**	**26.16**	**31**	P	**P**	**11 45 24.3**	**-0.7**
IPM	**Ipoh**	**26.32**	**270**	P	**P**	**11 45 27.7**	**+1.1**
IPM	**Ipoh**	**26.32**	**270**	*e*P	**P**	**11 45 26.1**	**-0.5**
comp=Z,54nm,0.8s,mb5.0							
KULM	**Kulim**	**26.68**	**272**	P	**P**	**11 45 30.0**	**+0.1**
KULM	**Kulim**	**26.68**	**272**	*e*P	**P**	**11 45 28.3**	**-1.6**
comp=Z,196nm,1.7s,mb5.4							
SSE	**Sheshan**	**26.69**	**348**	*e*P	**P**	**11 45 28.8**	**-0.9**
SSE				pP	pP	11 45 43.3	-4.1
SSE				S	**S**	**11 49 59.8**	**+0.1**
SSE				pmax	pmax		
comp=Z,27nm,0.6s,mb5.0							
SSE				pmax	pmax		
comp=Z,200nm,4.1s							
SSE				LR	LR		
comp=N,600nm,24.4s							
SSE				LR	LR		
comp=E,510nm,24.4s							
SSE				LR	LR		
comp=Z,710nm,20.6s							
SNG	**Songkhla**	**26.76**	**276**	P	**P**	**11 45 28.0**	**-2.6**
comp=Z,100nm,0.8s,mb5.4							
MBWA	**Marble Bar**	**27.00**	**196**	*e*P	**P**	**11 45 32.8**	**+0.3**
comp=Z,311nm,1.2s,mb5.7							
NJ2	**Nanjing**	**28.16**	**344**	*e*P	**P**	**11 45 46.0**	**+3.1**
NJ2				pP	pP	11 45 59.5	-1.2
NJ2				sP	sP	11 46 08.3	-1.3
NJ2				PP	PP	11 46 37.5	-10
NJ2				S	**S**	**11 50 27.5**	**+4.6**
NJ2				pmax	pmax		
comp=Z,60nm,1.2s,mb5.0							
NJ2				pmax	pmax		
comp=Z,120nm,7.8s							
NJ2				LR	LR		
comp=N,590nm,21.9s							
NJ2				LR	LR		
comp=E,520nm,23.5s							
NJ2				LR	LR		
comp=Z,760nm,23.2s							
JNU	**Nakatsue**	**28.24**	**6**	*e*P	**P**	**11 45 44.0**	**+0.4**
comp=Z,38nm,0.9s,mb4.9							
WHN	**Wuhan**	**28.31**	**336**	P	**P**	**11 45 46.0**	**+1.8**
WHN				LR	LR		
comp=N,2μm,16.7s							
WHN				LR	LR		
comp=E,2μm,21.6s							
WHN				LR	LR		
comp=Z,3μm,24.4s							
NST	**Nakhon Sawan**	**28.86**	**294**	P	**P**	**11 45 48.2**	**-1.1**
AS31	**Alice Springs**	**29.11**	**168**	*e*P	**P**	**11 45 50.8**	**-0.6**
ASAR	**Alice Springs**	**29.11**	**168**	P	**P**	**11 45 50.7**	**-0.6**
comp=Z,55nm,0.6s,mb5.3,baz=352,slow=6.6,SNR=146							
ASAR				S	**S**	**11 50 37.5**	**-0.4**
comp=Z,5.9nm,0.8s,baz=354,slow=16,SNR=2.8							
ASAR				ScP	ScP	11 52 32.3	-0.5
comp=Z,14nm,0.9s,baz=342,slow=3.2,SNR=12							
ASAR	**Alice Springs**	**29.11**	**168**	P	**P**	**11 45 50.7**	**-0.6**
ASAR				S	**S**	**11 50 37.5**	**-0.4**
ASAR				ScP	ScP	11 52 32.3	-0.5
ASAR	**Alice Springs**	**29.11**	**168**	P	**P**	**11 45 50.7**	**-0.6**
ASAR				S	**S**	**11 50 37.5**	**-0.4**
ASAR						11 52 32.3	
GYA	**Guiyang**	**29.20**	**319**	⇑*i*P	**P**	**11 45 54.5**	**+2.3**
GYA				pP	pP	11 46 13.0	+3.0
GYA				sP	sP	11 46 22.3	+3.4
GYA				PP	PP	11 46 51.8	-7.6
GYA				S	**S**	**11 50 40.5**	**+1.1**
GYA				sS	sS	11 51 11.0	+0.9
GYA				SS	SS	11 52 16.0	-30
GYA				ScP	ScP	11 52 33.3	+0.2
GYA				ScS	ScS	11 56 26.8	-0.7
GYA				pmax	pmax		
comp=Z,30nm,0.8s,mb5.0							
GYA				pmax	pmax		
comp=Z,140nm,4.9s							
GYA				LR	LR		
comp=N,880nm,17.9s							
GYA				LR	LR		
comp=E,760nm,18.2s							
GYA				LR	LR		
comp=Z,950nm,17.6s							
ENH	**Enshi**	**30.37**	**328**	*e*P	**P**	**11 46 02.4**	**-0.1**
comp=Z,60nm,1.0s,mb5.2							
CHRT	**Chiangrai**	**30.74**	**301**	⇓P	**P**	**11 46 04.0**	**-1.9**
comp=Z,132nm,1.0s,mb5.6							
CM31	**Chiang Mai Arr**	**30.90**	**298**	*e*P	**P**	**11 46 07.1**	**-0.3**
comp=Z,6.5nm,0.6s,mb4.5							
CMAR	**Chiang Mai Arr**	**30.90**	**298**	P	**P**	**11 46 07.0**	**-0.4**
comp=Z,6.5nm,0.7s,mb4.5,baz=112,slow=6.9,SNR=41							
CMAR				ScP	ScP	11 52 39.3	+0.5
comp=Z,3.1nm,0.9s,baz=117,slow=1.4,SNR=7.8							
CMAR				PKiKP	PKiKP	11 56 33.1	-0.1
comp=Z,0.7nm,0.8s,baz=248,slow=0.6,SNR=4.9							
CMAR				LR	LR	11 59 33.8	
comp=Z,583nm,18.3s,baz=118,slow=38							
CMAR	**Chiang Mai Arr**	**30.90**	**298**	P	**P**	**11 46 07.0**	**-0.4**
CMAR				ScP	ScP	11 52 39.3	+0.5
CMAR				PKiKP	PKiKP	11 56 33.1	-0.1
CMAR	**Chiang Mai Arr**	**30.90**	**298**	P	**P**	**11 46 07.0**	**-0.4**
CMAR				*i*		11 56 33.1	
CTA	**Charters Tower**	**30.98**	**144**	P	**P**	**11 46 08.9**	**+0.9**
comp=Z,8.9nm,0.6s,mb4.7,baz=307,slow=10.0,SNR=8.8							
CTA				PcP	PcP	11 49 04.5	+1.8
comp=Z,10.0nm,0.8s,baz=306,slow=2.4,SNR=3.6							
CTA				ScP	ScP	11 52 40.3	+1.3
comp=Z,10nm,1.0s,baz=24,slow=7.2,SNR=3.6							
CTA	**Charters Tower**	**30.98**	**144**	*e*P	**P**	**11 46 08.2**	**+0.2**
CTA				*e*SCP	ScP	11 52 38.3	-0.7
CTA	**Charters Tower**	**30.98**	**144**	P	**P**	**11 46 08.9**	**+0.9**
CTA				PcP	PcP	11 49 04.5	+1.8
CTA				ScP	ScP	11 52 40.3	+1.3
CTA	**Charters Tower**	**30.98**	**144**	P	**P**	**11 46 08.9**	**+0.9**
CTA						11 49 04.5	
CHG	**Chiang Mai**	**31.04**	**299**	⇑P	**P**	**11 46 08.0**	**-0.5**
comp=Z,10nm,0.9s,mb4.6							
CHTO	**Chiang Mai**	**31.04**	**299**	*e*P	**P**	**11 46 07.5**	**-1.1**
comp=Z,15nm,0.7s,mb4.8							
CHTO				*e*PcP	PcP	11 49 05.3	+2.4
CHTO	**Chiang Mai**	**31.04**	**299**	*e*P	**P**	**11 46 07.5**	**-1.0**
CHTO				*e*		11 49 05.3	
CHTO				pmax	pmax		
comp=Z,15nm,0.7s,mb4.8							
KMI	**Kunming**	**31.06**	**313**	⇓P	**P**	**11 46 09.3**	**+0.6**
KMI				pP	pP	11 46 29.0	+2.4
KMI				sP	sP	11 46 36.5	+1.1
KMI				S	**S**	**11 51 07.5**	**-1.1**
KMI				sS	sS	11 51 39.5	+0.1
KMI				SS	SS	11 53 05.5	-19
KMI				pmax	pmax		
comp=Z,38nm,1.1s,mb5.0							
KMI				pmax	pmax		
comp=Z,260nm,4.7s							
KMI				LR	LR		
comp=N,790nm,20.1s							
KMI				LR	LR		
comp=E,630nm,21.8s							
KMI				LR	LR		
comp=Z,1μm,18.7s							
KSAR	**Wonju Array Be**	**32.37**	**1**	P	**P**	**11 46 20.6**	**+0.7**
KSAR				PcP	PcP	11 49 08.6	+2.5
KSAR				ScP	ScP	11 52 43.4	0.0
KSAR	**Wonju Array Be**	**32.37**	**1**	P	**P**	**11 46 20.7**	**+0.7**
KSAR						11 49 08.6	
KSRS	**Korea Array**	**32.38**	**1**	P	**P**	**11 46 20.6**	**+0.6**
comp=Z,7.7nm,0.8s,mb4.5,baz=178,slow=9.7,SNR=20							
KSRS				PcP	PcP	11 49 08.6	+2.4
comp=Z,4.4nm,0.8s,baz=193,slow=2.5,SNR=5.3							
KSRS				ScP	ScP	11 52 43.4	-0.1
comp=Z,5.5nm,0.9s,baz=182,slow=2.8,SNR=10							
KSRS				LR	LR	12 01 11.7	
comp=Z,253nm,18.8s,baz=90,slow=39							
MJAR	**Matsushiro Arr**	**32.99**	**16**	P	**P**	**11 46 24.4**	**-1.0**
comp=Z,5.2nm,0.7s,mb4.5,baz=191,slow=9.0,SNR=21							
MJAR				PcP	PcP	11 49 08.5	+0.7
comp=Z,3.1nm,0.8s,baz=172,slow=2.8,SNR=3.7							
MJAR				ScP	ScP	11 52 45.4	-0.1
comp=Z,4.4nm,1.2s,baz=192,slow=4.4,SNR=4.2							
MJAR				LR	LR	11 57 24.0	
comp=Z,1μm,21.4s,baz=205,slow=32							
MJAR	**Matsushiro Arr**	**32.99**	**16**	P	**P**	**11 46 24.4**	**-1.0**
MJAR				PcP	PcP	11 49 08.5	+0.7
MJAR				ScP	ScP	11 52 45.4	-0.1
MJAR	**Matsushiro Arr**	**32.99**	**16**	P	**P**	**11 46 24.5**	**-0.9**
MJAR						11 49 08.5	
MAJO	**Matsushiro**	**32.99**	**16**	*e*P	**P**	**11 46 25.1**	**-0.3**
comp=Z,34nm,1.1s,mb5.1							
MAJO	**Matsushiro**	**32.99**	**16**	*e*P	**P**	**11 46 25.1**	**-0.3**
MAJO				pmax	pmax		
comp=Z,34nm,1.1s,mb5.1							
MAT	**Matsushiro**	**32.99**	**16**	P	**P**	**11 46 23.7**	**-1.7**
MAT				*e*S	**S**	**11 51 35.6**	**-2.7**
XAN	**Xi'an**	**33.69**	**332**	P	**P**	**11 46 31.0**	**-0.6**
XAN				pP	pP	11 46 48.8	-0.7
XAN				sP	sP	11 46 58.3	-0.1
XAN				PP	PP	11 47 44.5	-4.7
XAN				pmax	pmax		
comp=Z,33nm,1.1s,mb5.1							
XAN				LR	LR		
comp=E,150nm,15.0s							
XAN				LR	LR		
comp=Z,260nm,16.8s							
CD2	**Chengdu**	**34.12**	**322**	*e*P	**P**	**11 46 35.3**	**0.0**
CD2				pP	pP	11 46 53.3	-0.1
CD2				sP	sP	11 47 02.3	+0.1
CD2				PP	PP	11 47 52.0	-2.0
CD2				PcP	PcP	11 49 10.8	-0.4
CD2				S	**S**	**11 51 55.3**	**-0.7**
CD2				sS	sS	11 52 26.3	-0.7
CD2				PcS	PcS	11 52 56.0	-1.5
CD2				ScS	ScS	11 56 48.8	-3.2
CD2				pmax	pmax		
comp=Z,40nm,0.8s,mb5.3							
CD2				pmax	pmax		
comp=Z,310nm,12.0s							
CD2				LR	LR		
comp=N,1μm,26.2s							
CD2				LR	LR		
comp=E,2μm,16.8s							
CD2				LR	LR		
comp=Z,1μm,33.6s							
DL2	**Dalian**	**34.24**	**352**	P	**P**	**11 46 38.0**	**+1.8**
DL2				pmax	pmax		
comp=Z,40nm,1.3s,mb5.1							
QLP	**Quilpie**	**35.29**	**153**	*e*P	**P**	**11 46 44.1**	**-1.4**
QLP				*e*SCP	ScP	11 52 55.1	+1.2
HNR	**Honiara**	**35.40**	**114**	LR	LR	11 59 40.6	
comp=Z,502nm,21.2s,baz=298,slow=33							
FORT	**Forrest**	**35.50**	**179**	*e*P	**P**	**11 46 47.2**	**0.0**
FORT	**Forrest**	**35.50**	**179**	*e*P	**P**	**11 46 47.0**	**-0.2**
comp=Z,668nm,0.8s,mb6.6							
BJT	**Baijiatuau**	**36.39**	**345**	*e*P	**P**	**11 46 54.7**	**+0.1**
comp=Z,99nm,0.8s,mb5.8							
BJT				*e*PcP	PcP	11 49 22.8	+5.2
BJT	**Baijiatuau**	**36.39**	**345**	*e*P	**P**	**11 46 54.7**	**0.0**
BJT				*e*		11 49 22.8	
BJT				pmax	pmax		
comp=Z,99nm,0.8s							
BJI	**Beijing**	**36.41**	**345**	P	**P**	**11 46 54.8**	**0.0**
BJI				S	**S**	**11 52 35.3**	**+4.4**
BJI				pmax	pmax		
comp=Z,110nm,0.9s,mb5.8							
BJI				pmax	pmax		
comp=Z,220nm,3.6s							
BJI				LR	LR		
comp=N,510nm,20.5s							
BJI				LR	LR		
comp=E,390nm,10.8s							
BJI				LR	LR		
comp=Z,350nm,35.1s							
SNY	**Shenyang**	**36.91**	**355**	⇓P	**P**	**11 46 59.5**	**+0.4**
SNY				S	**S**	**11 52 33.5**	**-4.9**
SNY				pmax	pmax		
comp=Z,16nm,0.9s,mb5.0							
SNY				LR	LR		
comp=N,560nm,17.4s							
SNY				LR	LR		
comp=E,760nm,16.1s							
SNY				LR	LR		
comp=Z,730nm,29.6s							
KLBR	**Kellerberrin**	**37.46**	**194**	*e*P	**P**	**11 47 04.2**	**+0.3**
comp=Z,29nm,0.6s,mb5.4							
IMP	**Imphal**	**37.74**	**305**	*e*PKP	**P**	**11 47 06.0**	**-0.4**
LZH	**Lanzhou**	**37.85**	**328**	⇑P	**P**	**11 47 07.8**	**+0.7**
LZH				pP	pP	11 47 26.3	+0.9
LZH				sP	sP	11 47 35.0	+0.8
LZH				PP	PP	11 48 40.0	+5.0
LZH				S	**S**	**11 52 54.3**	**+1.4**
LZH				sS	sS	11 53 25.3	+1.1
LZH				SS	SS	11 55 35.0	-7.1
LZH				pmax	pmax		
comp=Z,93nm,1.4s,mb5.4							
LZH				pmax	pmax		
comp=Z,280nm,4.5s							
LZH				LR	LR		
comp=N,980nm,13.5s							
LZH				LR	LR		
comp=E,620nm,14.0s							
LZH				LR	LR		
comp=Z,2μm,18.0s							
EIDS	**Eidsvold**	**37.87**	**144**	*e*P	**P**	**11 47 06.3**	**-1.1**
comp

NWAO *es*P sP 11 47 43.2 +0.5
NWAO Narrogin (SRO) 38.86 194 *e*P **P** **11 47 15.6 0.0**
NWAO *e**PP pP 11 47 33.8 -0.1
NWAO pmax pmax
comp=Z,171nm,1.4s
STKA Stephens Creek 39.00 161 P **P** **11 47 16.8 -0.1**
comp=Z,491nm,0.7s,mb6.5,baz=336,slow=8.0,SNR=180
STKA LR LR 12 04 27.2
comp=Z,342nm,20.2s,baz=136,slow=38
STKA Stephens Creek 39.00 161 *e*P **P** **11 47 19.3 +2.5**
STKA Stephens Creek 39.00 161 P **P** **11 47 16.8 -0.1**
comp=Z,14nm,0.7s,mb4.9
STKA *e*PP PP 11 48 45.9 -1.8
STKA Stephens Creek 39.00 161 P **P** **11 47 16.8 0.0**
STKA *e* 11 48 45.9
STKA pmax pmax
comp=Z,14nm,0.7s
USRK Ussuriysk Arra 39.33 5 P **P** **11 47 19.4 0.0**
comp=Z,4.7nm,0.8s,mb4.4,baz=176,slow=7.4,SNR=11
USRK LR LR 12 01 47.3
comp=Z,325nm,21.1s,baz=351,slow=33
MDJ Mudanjiang 39.58 2 P **P** **11 47 22.5 +1.0**
MDJ pP pP 11 47 38.0 -1.8
MDJ sP sP 11 47 44.5 -4.1
MDJ PP PP 11 48 53.5 -0.3
MDJ PcP PcP 11 49 22.5 -4.9
MDJ ScP ScP 11 53 10.3 +0.7
MDJ PcS PcS 11 53 18.5 +1.2
MDJ S **S** **11 53 23.3 +4.6**
MDJ ScS ScS 11 57 23.0 +1.0
MDJ pmax pmax
comp=Z,24nm,1.6s,mb4.8
MDJ pmax pmax
comp=Z,130nm,5.7s
MDJ LR LR
comp=N,660nm,25.9s
MDJ LR LR
comp=E,360nm,16.8s
MDJ LR LR
comp=Z,820nm,35.7s
MDJ Mudanjiang 39.58 2 *e*P **P** **11 47 22.1 +0.6**
comp=Z,11nm,0.9s,mb4.7
SHL Shillong 39.76 305 *e*PKP **P** **11 47 23.0 -0.2**
SHL *ex* x 11 53 22.0
RKGY Rocky Gully 40.53 193 *e*P **P** **11 47 31.3 +1.8**
comp=Z,27nm,0.7s,mb5.2
ASAJ Asahikawa 41.26 17 P **P** **11 47 37.0 +1.7**
comp=Z,22nm,0.7s,mb5.1,baz=232,slow=16,SNR=12
ASAJ Asahikawa 41.26 17 P **P** **11 47 37.0 +1.7**
ARMA Armidale 42.09 148 *e*P **P** **11 47 42.1 -0.2**
ARMA Armidale 42.09 148 *e*P **P** **11 47 42.2 0.0**
comp=Z,63nm,0.7s,mb5.5
ARMA *e*ScP ScP 11 53 22.5 +2.7
LSA Lhasa 42.20 310 P **P** **11 47 42.0 -1.3**
LSA pmax pmax
comp=Z,30nm,1.2s,mb4.9
LSA Lhasa 42.20 310 *e*P **P** **11 47 43.9 +0.7**
comp=Z,24nm,0.8s,mb5.0
LSA Lhasa 42.20 310 *e*P **P** **11 47 43.9 +0.6**
LSA pmax pmax
comp=Z,24nm,0.8s,mb5.0
YUK Yuzh-Kuril'sk 42.20 20 P pP 11 47 55.1 -6.4
YUK *e* 11 49 41.5
YUK S **S** **11 54 01.4 +3.8**
YUK pmax pmax
comp=Z,148nm,5.4s
GTA Gaotai 42.45 328 *e*P **P** **11 47 45.5 +0.3**
GTA pP pP 11 48 03.8 +0.1
GTA sP sP 11 48 12.8 +0.4
GTA S **S** **11 54 02.5 +1.0**
GTA sS sS 11 54 34.5 +1.4
GTA SS SS 11 57 07.5 -6.0
GTA ScS ScS 11 57 39.8 +0.2
GTA pmax pmax
comp=Z,23nm,1.3s,mb4.8
GTA pmax pmax
comp=Z,170nm,5.5s
GTA LR LR
comp=N,690nm,18.8s
GTA LR LR
comp=E,760nm,23.3s
GTA LR LR
comp=Z,1μm,22.1s
HABR Khabarovsk 43.88 7 P **P** **11 47 54.3 -2.2**
HABR *e**PP pP 11 48 10.0 -5.1
HABR *e* 11 49 39.9
HABR *e*PPP 11 50 13.7
HABR S **S** **11 54 21.4 -0.7**
HABR *e* 11 57 47.2
HABR MLR MLR
comp=Z,331nm,17.0s
TAPN Taplejung 43.90 305 *e*P **P** **11 47 56.8 -0.2**
comp=Z,281nm,1.0s,mb5.9
TAPN Taplejung 43.90 305 *e*P **P** **11 47 56.8 -0.2**
comp=Z,281nm,1.0s,mb6.0
ODAN Odare 43.97 304 *e*P **P** **11 47 57.3 -0.3**
comp=Z,309nm,0.9s,mb6.0
ODAN Odare 43.97 304 *e*P **P** **11 47 57.3 -0.3**
comp=Z,309nm,0.9s,mb6.0
RAMN Ramite 44.66 304 *e*P **P** **11 48 02.9 -0.2**
comp=Z,280nm,1.0s,mb6.0
RAMN Ramite 44.66 304 *e*P **P** **11 48 02.9 -0.2**
comp=Z,280nm,1.0s,mb6.0
HIA Hailar 44.67 353 *e*P **P** **11 48 02.6 -0.2**
comp=Z,25nm,1.0s,mb4.9
HIA Hailar 44.67 353 *e*P **P** **11 48 02.6 -0.2**
HIA pmax pmax
comp=Z,25nm,1.0s
CAN Canberra 44.87 155 *e*P **P** **11 48 05.2 +0.6**
comp=Z,114nm,0.9s,mb5.6
CAN Canberra 44.87 155 *e*P **P** **11 48 05.2 +0.6**
CAN pmax pmax
comp=Z,114nm,0.9s,mb5.6
JIRN Jiri 45.26 305 *e*P **P** **11 48 07.9 0.0**
comp=Z,138nm,1.0s,mb5.6
JIRN Jiri 45.26 305 *e*P **P** **11 48 07.9 0.0**
comp=Z,138nm,1.0s,mb5.6
TOO Toolangi 45.50 160 *e*P **P** **11 48 10.4 +0.9**
GUN Gumba 45.61 305 *e*P **P** **11 48 10.4 -0.2**
comp=Z,289nm,0.9s,mb6.0
GUN Gumba 45.61 305 *e*P **P** **11 48 10.4 -0.2**
comp=Z,289nm,0.9s,mb6.0
PKI Pulchoki 45.87 304 *e*P **P** **11 48 11.9 -0.8**
PKI Pulchoki 45.87 304 *e*P **P** **11 48 11.9 -0.8**
PKI Pulchoki 45.87 304 *e*P **P** **11 48 11.9 -0.8**
KKN Kakani 46.06 304 *e*P **P** **11 48 13.4 -0.8**
comp=Z,159nm,1.0s,mb5.7
KKN Kakani 46.06 304 *e*P **P** **11 48 13.4 -0.8**
comp=Z,159nm,1.0s,mb5.7
KKN Kakani 46.06 304 *e*P **P** **11 48 13.4 -0.8**
KKN pmax pmax
comp=Z,159nm,1.0s,mb5.7
DMN Daman 46.13 304 *e*P **P** **11 48 14.1 -0.7**
comp=Z,213nm,1.1s,mb5.8
DMN Daman 46.13 304 *e*P **P** **11 48 14.1 -0.7**
comp=Z,213nm,1.1s,mb5.8
ULN Ulaanbaatar 46.22 341 *e*P **P** **11 48 15.6 +0.5**
comp=Z,55nm,1.0s,mb5.2
ULN *e*ScP ScP 11 53 38.0 +1.7
ULN Ulaanbaatar 46.22 341 *e*P **P** **11 48 15.6 +0.5**
ULN pmax pmax
comp=Z,55nm,1.0s,mb5.2
SONM Songino Array 46.41 340 P **P** **11 48 17.0 +0.5**
comp=Z,11nm,0.6s,mb4.7,baz=158,slow=8.2,SNR=32
SONM PcP PcP 11 49 50.8 +0.6
comp=Z,8.7nm,0.8s,baz=155,slow=3.6,SNR=3.5
SONM ScP ScP 11 53 38.8 +1.6
comp=Z,1.5nm,0.7s,baz=146,slow=4.1,SNR=3.8
SONM LR LR 12 10 49.2
comp=Z,277nm,18.2s,baz=150,slow=40
SONM Songino Array 46.41 340 P **P** **11 48 17.0 +0.5**
SONM PcP PcP 11 49 50.8 +0.6
SONM ScP ScP 11 53 38.8 +1.6
SONM Songino Array 46.41 340 P **P** **11 48 17.0 +0.5**
SONM 11 49 50.8
DZM Mont Dzumac 46.66 127 *e*P **P** **11 48 17.6 -1.3**
comp=Z,48nm,0.8s,mb5.2
DZM *e*S **S** **11 55 17.0 +14**
comp=Z,323nm,28.2s
DZM *e*LR LR 12 02 05.9
comp=Z,2μm,31.2s
DZM Mont Dzumac 46.66 127 *e*P **P** **11 48 18.0 -1.0**
comp=Z,26nm,0.8s,mb5.0
DZM *e*PcP PcP 11 49 52.4 +0.7
DZM *e*ScP ScP 11 53 41.8 +3.1

GKN Gorkha 46.66 304 *e*P **P** **11 48 18.1 -0.8**
GKN Gorkha 46.66 304 *e*P **P** **11 48 18.1 -0.8**
KOLN Koldanda 47.44 304 *e*P **P** **11 48 24.6 -0.3**
comp=Z,94nm,0.3s,mb6.0
DANN Dangsing 47.51 304 *e*P **P** **11 48 25.1 -0.4**
comp=Z,227nm,0.8s,mb6.0
DANN Dangsing 47.51 304 *e*P **P** **11 48 25.1 -0.4**
comp=Z,227nm,0.8s,mb6.0
ALBI Allahabad 48.17 300 *ex* **P** **11 48 27.5 -3.1**
HYB Hyderabad 49.39 289 ‖ *i*P **P** **11 48 39.0 -1.1**
ZAK Zakamensk 49.65 340 *e*P **P** **11 48 41.1 -0.4**
ZAK *e* 11 50 02.8
TLY Talaya 50.63 341 *e*P **P** **11 48 48.9 0.0**
comp=Z,52nm,1.0s,mb5.5
TLY *e*pP pP 11 49 06.2 -1.7
TLY Talaya 50.63 341 *e*P **P** **11 48 51.3 +2.4**
TLY *e*S **S** **11 55 56.8 -1.1**
TLY pmax pmax
comp=Z,50nm,1.0s,mb5.5
TLY MLR MLR
comp=Z,188nm,20.0s
TLY Talaya 50.63 341 P **P** **11 48 49.8 +0.9**
comp=Z,280nm,1.0s,mb6.2,SNR=7.7
TAU Tasmania Unive 50.91 161 *e*P **P** **11 48 51.7 +0.6**
comp=Z,66nm,1.0s,mb5.6
TAU Tasmania Unive 50.91 161 *e*P **P** **11 48 51.7 +0.6**
TAU pmax pmax
comp=Z,66nm,1.0s,mb5.6
TAU Tasmania Unive 50.91 161 P **P** **11 48 54.2 +3.1**
comp=Z,491nm,0.9s,mb6.5,SNR=5.0
IRK Irkutsk 50.91 342 *e*P **P** **11 48 51.8 +0.8**
IRK pmax pmax
comp=Z,50nm,1.4s,mb5.3
MOY Mondy 51.52 339 *e*P **P** **11 48 56.0 +0.5**
MOY pmax pmax
comp=Z,98nm,2.4s,mb5.4
CLNS Chul'man 51.81 358 *e*P **P** **11 48 57.0 -0.6**
CLNS *e* 11 50 57.4
CLNS *e*S **S** **11 56 21.8 +7.8**
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=Z,13nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,1.2s
CLNS smax
comp=N,228nm,15.1s
CLNS smax
comp=E,204nm,13.2s
AGRA Agra 52.04 301 *e*PKP **P** **11 48 58.5 -1.5**
AGRA AMb AMB 11 49 02.2
comp=Z,48nm,0.4s,mb5.9
WMQ Urumqi 52.16 324 P **P** **11 49 00.8 +0.3**
WMQ pP pP 11 49 19.8 +0.2
WMQ sP sP 11 49 28.5 +0.3
WMQ PP PP 11 51 01.0 +1.4
WMQ S **S** **11 56 18.0 -1.3**
WMQ SS SS 11 59 54.8 -2.9
WMQ pmax pmax
comp=Z,30nm,0.6s,mb5.5
WMQ pmax pmax
comp=Z,270nm,4.2s
WMQ LR LR
comp=N,1μm,21.2s
WMQ LR LR
comp=E,870nm,25.0s
WMQ LR LR
comp=Z,1μm,26.0s
DDI Dehra Dun 52.86 305 *e*PKP **P** **11 49 05.0 -0.9**
DDI *ex* x 11 50 10.4
NDI New Delhi 53.07 302 *e*PKP **P** **11 49 07.5 0.0**
AYAN Aya Nagar 53.09 302 *e*PKP **P** **11 49 05.6 -2.0**
AYAN AMb AMB 11 49 09.7
comp=Z,30nm,1.3s,mb5.2
KUDL Kundal 53.53 301 *e*PKP **P** **11 49 08.8 -2.1**
KUDL AMb AMB 11 49 10.9
comp=Z,66nm,0.9s,mb5.7
KKR Kurukshetra 53.77 304 *e*PKP **P** **11 49 11.9 -0.7**
BOD Bodaibo 53.80 351 *e*P **P** **11 49 11.9 -0.4**
BOD pmax pmax
comp=Z,26nm,1.0s,mb5.2
RTK Rohtak 53.84 303 *e*PKP **P** **11 49 12.2 -0.9**
RTK AMb AMB 11 49 13.2
comp=Z,64nm,0.3s,mb6.2
POO Poona 53.98 289 ‖ *i*P **P** **11 49 13.0 -1.3**
comp=Z,80nm,1.0s,mb5.7
PEA0B Petropavlovsk- 54.07 22 *e*P **P** **11 49 15.4 +1.1**
PETK Petropavlovsk- 54.07 22 P **P** **11 49 15.5 +1.1**
comp=Z,49nm,0.7s,mb5.7,baz=193,slow=7.4,SNR=44
PETK LR LR 12 08 41.1
comp=Z,326nm,20.4s,baz=217,slow=32
PETK Petropavlovsk- 54.07 22 P **P** **11 49 15.5 +1.1**
PETK Petropavlovsk- 54.07 22 P **P** **11 49 15.5 +1.2**
KHET Khetri 54.09 301 *e*PKP **P** **11 49 13.4 -1.6**
KHET AMb AMB 11 49 15.1
comp=Z,48nm,1.0s,mb5.5
PET Petropavlovsk 54.37 23 *e*P **P** **11 49 17.6 +1.1**
PET pmax pmax
comp=Z,29nm,0.7s,mb5.4
MSVF Nonsavu 54.78 116 *e*P **P** **11 49 20.0 -0.1**
comp=Z,33nm,0.9s,mb5.4
MSVF Nonsavu 54.78 116 *e*P **P** **11 49 20.0 -0.1**
MSVF pmax pmax
comp=Z,33nm,0.9s,mb5.4
MK31 Makanchi Array 56.99 324 *e*P **P** **11 49 35.5 +0.1**
MK31 Makanchi Array 56.99 324 *e*P **P** **11 49 35.6 +0.2**
MKAR Makanchi Array 56.99 324 P **P** **11 49 35.5 +0.1**
comp=Z,39nm,0.6s,mb5.7,baz=115,slow=7.2,SNR=733
MKAR ScP ScP 11 54 23.1 +0.2
comp=Z,2.6nm,0.9s,baz=125,slow=4.2,SNR=4.5
MKAR LR LR 12 16 13.6
comp=Z,564nm,18.9s,baz=248,slow=38
MKAR PKPPKP 12 19 22.2
comp=Z,1.0nm,1.0s,baz=270,slow=2.9,SNR=5.1
MKAR Makanchi Array 56.99 324 P **P** **11 49 35.5 +0.1**
MKAR ScP ScP 11 54 23.1 +0.2
MKAR P'P' 12 19 22.2
MKAR Makanchi Array 56.99 324 *ce*P **P** **11 49 35.5 +0.1**
MKAR pmax pmax
comp=Z,39nm,0.6s
YAK Yakutsk 57.01 1 *e*P **P** **11 49 35.0 -0.3**
comp=Z,66nm,0.8s,mb5.7
YAK Yakutsk 57.01 1 *e*P **P** **11 49 34.6 -0.6**
YAK pmax pmax
comp=Z,62nm,0.9s,mb5.6
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,31nm,1.1s
KSH Kashi 57.71 314 P **P** **11 49 42.3 +1.7**
KSH pP pP 11 50 01.3 +1.3
KSH sP sP 11 50 11.0 +2.5
KSH PcP PcP 11 50 34.8 +2.0
KSH PP PP 11 51 52.5 +3.2
KSH ScP ScP 11 54 26.0 -0.3
KSH PcS PcS 11 54 35.0 +0.9
KSH S **S** **11 57 32.5 -1.2**
KSH ScS ScS 11 59 21.0 -2.3
KSH SS SS 12 01 24.8 -0.5
KSH pmax pmax
comp=Z,30nm,1.3s,mb5.2
KSH pmax pmax
comp=Z,180nm,3.4s
KSH LR LR
comp=N,220nm,6.2s
KSH LR LR
comp=E,230nm,5.9s
KSH LR LR
comp=Z,330nm,9.5s
ULHL Ulahol 58.62 317 P **P** **11 49 47.8 +0.9**
SNR=16
ULHL P 11 49 47.8
SNR=16
KZA Kyzart 59.22 317 P **P** **11 49 52.7 +1.6**
SNR=28
KZA P 11 49 52.7
SNR=28
TKM2 Tokmak 2 59.33 318 P **P** **11 49 52.1 +0.2**
SNR=35

TKM2 P 11 49 52.1
SNR=35
TKM2 Tokmak 2 59.33 318 *e*P **P** **11 49 52.1 +0.3**
comp=Z,21nm,0.8s,mb5.2
TKM2 Tokmak 2 59.33 318 *i*P **P** **11 49 52.0 +0.2**
KBK Karagaybulak 59.66 317 P **P** **11 49 55.3 +1.2**
SNR=25
KBK P 11 49 55.3
SNR=25
UCH Uchtor 59.78 317 P **P** **11 49 56.7 +1.7**
SNR=7.3
UCH P 11 49 56.7
SNR=7.3
ZAA0 Zalesovo Array 59.86 332 *e*P **P** **11 49 54.2 -1.1**
ZAA0 *e*S **S** **11 58 01.2 +0.1**
ZALV Zalesovo Beam 59.86 332 P **P** **11 49 54.2 -1.0**
comp=Z,27nm,0.8s,mb5.3,baz=125,slow=5.7,SNR=84
ZALV LR LR 12 19 00.6
comp=Z,220nm,20.8s,baz=134,slow=39
ZALV PKPPKP 12 19 20.3
comp=Z,0.3nm,0.3s,baz=29,slow=3.3,SNR=3.7
ZALV Zalesovo Beam 59.86 332 P **P** **11 49 54.2 -1.0**
ZALV P'P' 12 19 20.3
ZALV Zalesovo Beam 59.86 332 P **P** **11 49 54.3 -0.9**
CHMS Chumysh 59.93 318 P **P** **11 49 56.4 +0.4**
SNR=14
CHMS P 11 49 56.4
SNR=14
FRU Bishkek 59.95 317 *i*P **P** **11 49 56.0 -0.1**
AAK Ala-Archa 59.96 317 P **P** **11 49 57.2 +1.1**
SNR=15
AAK P 11 49 57.2
SNR=15
AAK Ala-Archa 59.96 317 *e*P **P** **11 49 56.9 +0.7**
comp=Z,203nm,1.4s,mb6.0
AAK Ala-Archa 59.96 317 *c i*P **P** **11 49 56.8 +0.7**
AAK pmax pmax
comp=Z,94nm,2.3s,mb5.4
AAK Ala-Archa 59.96 317 P **P** **11 49 57.3 +1.2**
comp=Z,74nm,0.9s,mb5.7,SNR=13
USP Ospenovka 60.20 318 P **P** **11 49 57.7 -0.1**
SNR=70
USP P 11 49 57.7
SNR=70
AML Almayashu 60.31 316 P **P** **11 49 59.6 +1.1**
SNR=43
AML P 11 49 59.6
SNR=43
EKS2 Erkin-Say 60.45 317 P **P** **11 49 59.9 +0.3**
SNR=46
EKS2 P 11 49 59.9
SNR=46
EKS2 Erkin-Say 60.45 317 *e*P **P** **11 49 59.9 +0.3**
comp=Z,40nm,0.9s,mb5.5
EKS2 Erkin-Say 60.45 317 *e*P **P** **11 49 59.9 +0.3**
EKS2 pmax pmax
comp=Z,40nm,0.9s,mb5.5
FX1 Attu Island--F 60.71 30 P **P** **11 50 01.5 +0.4**
comp=Z,43nm,0.8s,mb5.5,baz=46,slow=14,SNR=5.5
FX1 Attu Island--F 60.71 30 P **P** **11 50 01.5 +0.4**
FX1 Attu Island--F 60.71 30 P **P** **11 50 01.5 +0.4**
SEY Seymchan 60.72 13 ‖ *e*P **P** **11 50 01.1 +0.1**
KURK Kurchatov 61.12 327 P **P** **11 50 03.8 -0.1**
comp=Z,100nm,0.7s,mb5.9,baz=125,slow=6.4,SNR=491
KURK Kurchatov 61.12 327 *e*P **P** **11 50 03.9 0.0**
comp=Z,143nm,0.8s,mb6.0
KURK *e*pP pP 11 50 24.2 +0.8
KURK Kurchatov 61.12 327 *c i*P **P** **11 50 03.5 -0.4**
KURK pmax pmax
comp=Z,269nm,1.4s,mb6.1
KURK Kurchatov 61.12 327 P **P** **11 50 03.3 -0.6**
comp=Z,993nm,1.1s,SNR=96
NVS Novosibirsk 61.14 333 ‖ *i*P **P** **11 50 02.7 -1.2**
NVS *e* 11 50 46.6
NVS *i*S **S** **11 58 15.1 -2.3**
NVS *e* 11 59 42.0
NVS pmax pmax
comp=Z,141nm,1.2s,mb5.9
NVS pmax pmax
comp=N,62nm,1.3s
NVS pmax pmax
comp=E,61nm,1.3s
NVS smax
comp=N,44nm,2.0s
NVS smax
comp=E,38nm,2.0s
KBL Kabul 61.37 307 *e*P **P** **11 50 05.5 -0.5**
comp=E,17nm,0.8s,mb5.1
KBL Kabul 61.37 307 *e*P **P** **11 50 05.5 -0.4**
KBL pmax pmax
comp=Z,17nm,0.8s,mb5.1
RPZ Rata Peaks 62.33 146 P **P** **11 50 11.8 -0.3**
comp=Z,44nm,0.7s,mb5.6,baz=319,slow=3.7,SNR=16
RPZ Rata Peaks 62.33 146 P **P** **11 50 11.8 -0.3**
comp=Z,15nm,0.8s,mb5.1
KK31 Karatay Array 62.85 316 *i*P **P** **11 50 15.4 -0.3**
KK31 pmax pmax
comp=Z,20nm,0.7s,mb5.2
KKAR Karatay Array 62.85 316 *e*P **P** **11 50 15.7 0.0**
comp=Z,22nm,0.7s,mb5.2
KKAR Karatay Array 62.85 316 *e*P **P** **11 50 15.7 0.0**
KKAR pmax pmax
comp=Z,22nm,0.7s,mb5.2
URZ Urewera 62.94 138 P **P** **11 50 19.0 +2.8**
comp=Z,7.4nm,0.7s,mb4.7,baz=309,slow=6.5,SNR=4.7
URZ Urewera 62.94 138 P **P** **11 50 19.0 +2.8**
VOSK Vostochnaya 66.26 326 P **P** **11 50 35.9 -1.8**
VOSK pmax pmax
comp=Z,156nm,1.1s,mb5.8
BVA0 Borovoye Array 66.71 327 *i*P **P** **11 50 40.2 -0.4**
BVA0 pmax pmax
comp=Z,40nm,1.3s,mb5.1
BVAR Borovoye Array 66.71 327 P **P** **11 50 40.5 -0.1**
comp=Z,114nm,0.9s,mb5.7,baz=115,slow=9.7,SNR=172
BVAR PKPPKP 12 19 08.8
comp=Z,0.3nm,0.5s,baz=291,slow=4.5,SNR=2.9
BVAR LR LR 12 20 46.7
comp=Z,342nm,21.8s,baz=324,slow=37
BVAR Borovoye Array 66.71 327 P **P** **11 50 40.5 -0.1**
BVAR P'P' 12 19 08.8
BVAR Borovoye Array 66.71 327 P **P** **11 50 40.5 -0.1**
BRVK Borovoye 66.79 327 *e*P **P** **11 50 41.0 0.0**
comp=Z,206nm,1.0s,mb5.9
BRVK Borovoye 66.79 327 *c i*P **P** **11 50 40.9 -0.1**
BRVK pmax pmax
comp=Z,199nm,1.0s,mb5.9
BRVK Borovoye 66.79 327 P **P** **11 50 41.6 +0.6**
comp=Z,976nm,0.9s,mb6.6,SNR=66
ZRNK Zerenda 67.45 326 P **P** **11 50 45.1 -0.1**
ZRNK pmax pmax
comp=Z,246nm,1.0s,mb6.0
BILL Biilibino 68.23 15 *e*P **P** **11 50 49.0 -0.9**
comp=Z,7.1nm,0.7s,mb4.6
BILL Bilibino 68.23 15 *e*P **P** **11 50 48.9 -1.0**
BILL *i* 11 51 14.9
BILL *e*S S 11 59 54.5 +10
BILL pmax pmax
comp=Z,16nm,1.4s,mb4.7
BILL MLR MLR
comp=Z,300nm,20.0s
ABKT Ailbek 70.70 308 P **P** **11 51 06.8 +1.1**
comp=Z,240nm,1.0s,mb6.0,SNR=15
AB31 Akbulak array 71.68 320 *i*P **P** **11 51 11.1 -0.3**
AB31 pmax pmax
comp=Z,69nm,0.8s,mb5.5
ABKAR Akbulak array 71.68 320 *e*P **P** **11 51 11.1 -0.2**
comp=Z,65nm,0.9s,mb5.5
UNV Unalaska Valle 72.05 35 *e*P **P** **11 51 13.3 -0.2**
comp=Z,40nm,0.8s,mb5.3
CASY Casey 72.08 187 *e*P **P** **11 51 13.9 +0.6**
CASY Casey 72.08 187 *e*P **P** **11 51 14.0 +0.7**
comp=Z,134nm,0.8s,mb5.8
MRIV Mauritius Mete 73.05 247 *e*P **P** **11 51 20.1 0.0**
MRIV *e*PP PP 11 54 04.3 +0.5
AKTO Aktyubinsk 73.17 321 P **P** **11 51 20.5 +0.3**
comp=Z,96nm,0.8s,mb5.7,baz=101,slow=7.6,SNR=202
AKTO LR LR 12 26 10.3
comp=Z,369nm,20.5s,baz=109,slow=38
AKTO Aktyubinsk 73.17 321 P **P** **11 51 20.5 +0.3**
AKTO Aktyubinsk 73.17 321 P **P** **11 51 20.5 +0.3**
SVE Sverdlovsk 73.32 328 ‖ *i*P **P** **11 51 20.9 -0.1**
SVE *e*S S 12 00 39.9 -3.7
SVE *e* 12 01 22.3
SVE pmax pmax
comp=Z,167nm,1.1s,mb5.8
ARU Arti 74.31 327 *e*P **P** **11 51 25.8 -1.0**

comp=Z,100nm,0.9s,mb5.5
ARU Arti 74.31 327 *d* iP **P 11 51 26.9 +0.1**
ARU 11 54 12.6
ARU S S 12 00 58.4 +3.6
ARU SS SS 12 05 50.5 +8.5
ARU pmax pmax
comp=Z,181nm,1.7s,mb5.5
ARU Arti 74.31 327 P **P 11 51 26.5 -0.3**
comp=Z,621nm,0.7s,mb6.5,SNR=14
RAR Rarotonga 75.86 113 LR LR 12 18 41.7
comp=Z,259nm,20.9s,baz=93,slow=31
SOKR Solikamsk 76.03 330 ⇓ *i* P **P 11 51 38.1 +1.6**
SOKR pmax pmax
comp=Z,200nm,4.9s
SOKR MLR MLR
comp=Z,310nm,19.0s
MIB Mutribah 78.98 299 *e*P **P 11 51 52.6 -1.1**
MIB AMb AMB 11 51 54.6
comp=Z,137nm,0.9s,mb5.8
RST Umm Al-Ruwaisa 79.28 299 *e*P **P 11 51 58.1 +2.9**
RST AMb AMB 11 51 60.0
comp=Z,26nm,1.1s,mb5.0
TTA Tatalina 79.53 27 *e*P **P 11 51 56.1 +0.1**
comp=Z,19nm,1.2s,mb4.8
TTA Tatalina 79.53 27 *e*P **P 11 51 56.1 +0.2**
TTA pmax pmax
comp=Z,19nm,1.2s,mb4.8
KDAK Kodiak Island 80.52 32 P **P 11 52 02.0 +0.7**
comp=Z,8.3nm,0.5s,mb4.8,baz=239,slow=7.5,SNR=12
KDAK Kodiak Island 80.52 32 *e*P **P 11 52 01.1 -0.2**
comp=Z,172nm,1.6s,mb5.6
KDAK Kodiak Island 80.52 32 *e*P **P 11 52 01.1 -0.3**
KDAK pmax pmax
comp=Z,172nm,1.6s,mb5.6
KDAK Kodiak Island 80.52 32 *i* P **P 11 52 02.2 +0.8**
PPLA Purkeypile 81.26 27 *e*P **P 11 52 05.5 +0.3**
comp=Z,13nm,0.9s,mb4.8
GNI Garni 81.26 310 LR LR 12 30 40.7
comp=Z,119nm,21.3s,baz=311,slow=38
GNI Garni 81.26 310 *e*P **P 11 52 06.9 +1.1**
comp=Z,99nm,1.3s,mb5.5
GNI Garni 81.26 310 *c i*P **P 11 52 06.7 +0.9**
GNI pmax pmax
comp=Z,117nm,1.7s
ZEI Tsey 81.94 312 *e*P **P 11 52 10.3 +1.1**
ZEI pmax pmax
comp=Z,106nm,1.1s,mb5.6
SLKM Skilak Lake 81.97 30 *e*P **P 11 52 07.9 -1.1**
SLKM Skilak Lake 81.97 30 *e*P **P 11 52 07.9 -1.1**
TRF Thorofare Moun 82.17 27 *e*P **P 11 52 09.6 -0.4**
comp=Z,26nm,1.1s,mb5.0
TRF *ep*P pP 11 52 32.1 +1.7
RC01 Rabbit Creek A 82.25 29 *e*P **P 11 52 10.0 -0.5**
comp=Z,18nm,0.8s,mb4.9
RC01 *e*PcP PcP 11 52 16.3 +0.7
RC01 *ep*P pP 11 52 31.2 +0.2
ABPO Ambohimpanom 82.37 250 *e*P **P 11 52 12.2 +0.3**
comp=Z,42nm,0.8s,mb5.3
ABPO Ambohimpanom 82.37 250 *e*P **P 11 52 12.2 +0.2**
ABPO pmax pmax
comp=Z,42nm,0.8s,mb5.3
COLD Coldfoot 82.53 23 *e*P **P 11 52 13.2 +1.4**
comp=Z,36nm,1.2s,mb5.1
PMR Palmer 82.57 29 *e*P **P 11 52 11.3 -0.9**
comp=Z,11nm,0.6s,mb4.9
PMR Palmer 82.57 29 *e*P **P 11 52 11.3 -0.8**
PMR pmax pmax
comp=Z,11nm,0.6s,mb4.9
MCK McKinley 82.79 26 *e*P **P 11 52 12.7 -0.5**
comp=Z,57nm,1.0s,mb5.4
MCK McKinley 82.79 26 *e*P **P 11 52 12.7 -0.5**
MCK pmax pmax
comp=Z,57nm,1.0s,mb5.4
KIV Kislovodsk 82.83 314 *d i*P **P 11 52 14.7 +0.8**
KIV *i* 11 52 22.9
KIV pmax pmax
comp=Z,66nm,1.0s,mb5.4
KIV MLR MLR
comp=Z,300nm,21.0s
KIV Kislovodsk 82.83 314 P **P 11 52 14.7 +0.8**
comp=Z,368nm,0.7s,mb6.3,SNR=10
COLA College 83.33 25 *e*P **P 11 52 15.7 -0.3**
comp=Z,10nm,0.8s,mb4.7
COLA College 83.33 25 *e*P **P 11 52 15.7 -0.3**
COLA pmax pmax
comp=Z,11nm,0.8s,mb4.7
VRHR Novokhopersk 83.56 321 *e*P **P 11 52 17.0 -0.5**
VRHR *e* 12 02 30.6
VRHR *e*S S 12 02 32.4 -1.0
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,70nm,0.7s,mb5.6
VRHR smax
comp=N,140nm,1.9s
VRHR smax
comp=E,250nm,1.9s
VRHR smax
comp=Z,80nm,1.9s
ILAR Eielson Array 83.73 25 P **P 11 52 16.6 -1.4**
comp=Z,7.1nm,1.0s,mb4.4,baz=254,slow=5.2,SNR=40
ILAR PKKPbc PKKPbc 12 10 35.2 -2.0
comp=Z,1.3nm,0.9s,baz=78,slow=1.2,SNR=9.2
ILAR LR LR 12 26 32.5
comp=Z,212nm,19.5s,baz=101,slow=33
ILAR Eielson Array 83.73 25 P **P 11 52 16.6 -1.4**
ILAR PKKPbc PKKPbc 12 10 35.2 -2.0
ILAR Eielson Array 83.73 25 P **P 11 52 16.7 -1.4**
DIV Divide 84.17 29 *e*P **P 11 52 20.5 +0.1**
comp=Z,64nm,1.2s,mb5.3
DIV *e*PP PP 11 55 32.2 -3.2
PAX Paxson 84.33 27 *e*P **P 11 52 21.1 0.0**
comp=Z,40nm,1.3s,mb5.1
PAX Paxson 84.33 27 *e*P **P 11 52 21.1 0.0**
PAX pmax pmax
comp=Z,40nm,1.3s,mb5.1
VNDA Vanda 84.51 173 *e*P **P 11 52 20.0 -1.7**
comp=Z,25nm,1.0s,mb5.1
VNDA Vanda 84.51 173 *e*P **P 11 52 20.0 -1.8**
VNDA pmax pmax
comp=Z,25nm,1.0s
KLMR Klimovskoe 84.72 331 *e*P **P 11 52 21.7 -1.4**
KLMR pmax pmax
comp=Z,109nm,1.1s,mb5.7
PPT2 Papeete2 84.82 108 *e*S S 12 02 54.4 +7.2
comp=Z,118nm,24.5s
PPT2 *e*LR LR 12 19 40.1
comp=Z,619nm,27.5s
SOC Sochi 84.99 313 *e*P **P 11 52 23.8 -1.1**
SOC pmax pmax
comp=Z,72nm,0.9s,mb5.6
VSR Storozhevoye 85.11 321 *e*P **P 11 52 24.9 -0.4**
VSR *e*S S 12 02 44.8 -4.1
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,50nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s,mb5.7
VSR smax
comp=N,240nm,1.9s
VSR smax
comp=E,140nm,1.9s
VSR smax
comp=Z,180nm,1.9s
MENT Mentasta 85.13 27 *e*P **P 11 52 25.2 +0.1**
SBA Scott Base 85.41 172 *e*P **P 11 52 27.1 +0.8**
comp=Z,12nm,0.9s,mb4.8
SBA Scott Base 85.41 172 *e*P **P 11 52 27.1 +0.8**
SBA pmax pmax
comp=Z,12nm,0.9s,mb4.8
TBI Tubuai 85.62 114 *e*S S 12 03 02.9 +7.9
comp=Z,134nm,27.2s
TBI *e*LQ 12 16 26.1
comp=Z,466nm,36.2s
TBI *e*LR LR 12 20 10.7
comp=Z,620nm,31.0s
MOS Moscow 85.86 325 *e*P **P 11 52 28.5 -0.4**
MOS *e**PP pP 11 52 46.6 -2.9
MOS *e*S S 12 02 52.9 -3.1
MOS pmax pmax
comp=Z,130nm,0.8s,mb5.9
OBN Obninsk 86.50 325 *e*P **P 11 52 32.6 +0.6**
comp=Z,61nm,0.8s,mb5.6
OBN *ep*P pP 11 52 53.0 +0.3
OBN Obninsk 86.50 325 ⇑ *i*P **P 11 52 32.6 +0.5**
OBN *i* S S 12 02 52.8 -9.4
OBN pmax pmax
comp=Z,82nm,1.0s,mb5.6
OBN MLR MLR
comp=Z,200nm,15.0s
OBN Obninsk 86.50 325 P **P 11 52 32.8 +0.7**
comp=Z,527nm,0.7s,mb6.6,SNR=6.8
LVZ Lovozero 86.53 338 *c e*P **P 11 52 34.4 +2.4**
LVZ pmax pmax
comp=Z,105nm,2.4s,mb5.3
ANN Anapa 86.57 315 *e*P **P 11 52 31.8 -0.9**
ANN *e**PP pP 11 52 50.1 -3.2
ANN *e* 11 55 52.4
ANN *e*S S 12 02 51.4 -12
ANN pmax pmax
comp=Z,203nm,1.1s,mb6.0
JOF Joensuu 88.44 333 *e*P **P 11 52 39.6 -1.7**
JOF pmax pmax
comp=Z,18nm,0.6s,mb5.3
JOF Joensuu 88.44 333 *e p* **P 11 52 39.6 -1.7**
comp=Z,18nm,0.6s,mb5.3
INK Inuvik 88.81 22 P **P 11 52 41.4 -1.4**
comp=Z,5.1nm,1.0s,mb4.5,baz=263,slow=5.5,SNR=7.2
INK Inuvik 88.81 22 P **P 11 52 41.4 -1.4**
comp=Z,1.7nm,0.8s,mb4.1
INK *ep*P pP 11 53 02.9 -0.7
INK Inuvik 88.81 22 P **P 11 52 41.4 -1.5**
INK pmax pmax
comp=Z,2.0nm,0.8s
SIM Simferopol' 88.91 315 *e*P **P 11 52 44.3 +0.5**
SIM pmax pmax
comp=Z,40nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,200nm,19.0s
ARCES ARCESS Array B 89.58 340 P **P 11 52 45.6 -0.9**
comp=Z,22nm,0.9s,mb5.3,baz=85,slow=5.0,SNR=27
ARCES LR LR 12 35 36.1
comp=Z,244nm,19.1s,baz=249,slow=37
ARCES ARCESS Array B 89.58 340 P **P 11 52 45.6 -0.9**
ARCES ARCESS Array B 89.58 340 P **P 11 52 45.6 -0.9**
BR131 Keskin Array S 89.81 310 *e*P **P 11 52 47.3 -0.9**
comp=Z,23nm,1.0s,mb5.3
BRTR Keskin Array B 89.81 310 P **P 11 52 47.6 -0.6**
comp=Z,24nm,1.0s,mb5.3,baz=108,slow=4.0,SNR=28
BRTR LR LR 12 39 08.8
comp=Z,113nm,21.1s,baz=287,slow=40
BRTR Keskin Array B 89.81 310 P **P 11 52 47.6 -0.6**
BRTR Keskin Array B 89.81 310 *c e*P **P 11 52 47.5 -0.7**
BRTR pmax pmax
comp=Z,24nm,1.0s
KMBO Kilima Mbogo 90.27 269 *e*P **P 11 52 52.1 +1.2**
comp=Z,38nm,1.4s,mb5.3
KMBO Kilima Mbogo 90.27 269 *e*P **P 11 52 52.1 +1.2**
KMBO pmax pmax
comp=Z,38nm,1.4s
KAF Kangasniemi 90.87 333 *e*P **P 11 52 52.1 -0.5**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
KAF Kangasniemi 90.87 333 *e p* **P 11 52 52.1 -0.5**
comp=Z,10nm,0.5s,mb5.2
FINES FINESS Array B 91.12 332 P **P 11 52 52.3 -1.4**
comp=Z,8.3nm,0.7s,mb5.0,baz=83,slow=4.3,SNR=21
FINES LR LR 12 43 16.0
comp=Z,346nm,18.6s,baz=341,slow=42
FINES FINESS Array B 91.12 332 P **P 11 52 52.3 -1.4**
FINES FINESS Array B 91.12 332 P **P 11 52 52.3 -1.5**
AKASG Malin Array Be 91.42 321 P **P 11 52 54.3 -1.1**
comp=Z,11nm,0.7s,mb5.1,baz=66,slow=5.2,SNR=33
AKASG LR LR 12 39 53.8
comp=Z,207nm,19.6s,baz=20,slow=39
AKASG Malin Array Be 91.42 321 P **P 11 52 54.3 -1.1**
AKASG Malin Array Be 91.42 321 P **P 11 52 54.3 -1.1**
VSU Vasula 91.42 329 ⇑ *i*P **P 11 52 54.7 -0.5**
VSU pmax pmax
comp=Z,35nm,0.7s,mb5.6
KIEV Kiev 91.43 321 ⇑ *e*P **P 11 52 54.6 -0.8**
TLCR 92.60 316 ⇑ P **P 11 53 01.6 +0.6**
TLCR 92.60 316 ⇑ *i*P **P 11 53 01.6 +0.6**
TIRR Tirgusor 93.00 315 ⇓ P **P 11 53 03.0 +0.1**
TIRR Tirgusor 93.00 315 ⇓ *i*P **P 11 53 03.0 +0.1**
TAOE Nuku Hiva Isla 93.13 99 *e*LR LR 12 23 37.5
comp=Z,1μm,26.9s
PETR 93.60 316 ⇓ *i*P **P 11 53 07.5 +1.9**
SYO Syowa Base 93.78 201 ⇑ *e*P **P 11 53 05.2 -0.7**
GRER 93.84 316 ⇓ *i*P **P 11 53 08.7 +2.0**
TESR 93.85 317 ⇓ *i*P **P 11 53 07.1 +0.4**
VRI Vrincioaia 93.92 317 ⇓ P **P 11 53 07.8 +0.7**
VRI Vrincioaia 93.92 317 ⇓ *i*P **P 11 53 07.8 +0.7**
PLOR Plostina 93.98 317 ⇓ P **P 11 53 08.3 +1.0**
PLOR Plostina 93.98 317 ⇓ *i*P **P 11 53 08.3 +1.0**
ISR Istrita 94.19 316 ⇓ P **P 11 53 09.8 +1.5**
ISR Istrita 94.19 316 ⇓ *i*P **P 11 53 09.8 +1.5**
SUW Suwalki 94.36 325 *e*P **P 11 53 08.3 -0.6**
comp=Z,65nm,1.1s,mb5.9
SUW Suwalki 94.36 325 *e*P **P 11 53 08.3 -0.6**
SUW pmax pmax
comp=Z,65nm,1.1s,mb5.9
MLR Muntele Rosu 94.53 316 ⇓ P **P 11 53 10.4 +0.5**
MLR Muntele Rosu 94.53 316 ⇓ *i*P **P 11 53 10.4 +0.5**
BURAR Bucovina Array 94.58 318 ⇑ P **P 11 53 11.1 +1.0**
BURAR Bucovina Array 94.58 318 ⇑ *i*P **P 11 53 11.1 +1.0**
BUR08 Bucovina Ar. S 94.59 318 *e*P **P 11 53 10.7 +0.6**
BUR08 *ep*P pP 11 53 31.9 +1.0
LVV L'vov 94.86 321 *e*P **P 11 53 13.8 +2.5**
VOIR 95.16 316 ⇓ P **P 11 53 12.7 -0.1**
VOIR 95.16 316 ⇓ *i*P **P 11 53 12.7 -0.1**
HUMR Humele 95.40 315 ⇓ *i*P **P 11 53 13.8 -0.1**
KWP Kalwaria Pacla 95.73 321 *e*P **P 11 53 15.5 +0.2**
comp=Z,22nm,1.0s,mb5.5
KWP Kalwaria Pacla 95.73 321 ⇓ P **P 11 53 16.2 +0.9**
KWP Kalwaria Pacla 95.73 321 ⇓ *i*P **P 11 53 16.1 +0.8**
LOT Lotru 96.04 317 ⇓ *i*P **P 11 53 17.3 +0.5**
KOLS Kolonicke sedl 96.19 320 *e*P **P 11 53 20.3 +2.9**
KOLS pmax pmax
comp=Z,12nm,1.3s,mb5.2
KOLS Kolonicke sedl 96.19 320 *e*P **P 11 53 20.3 +2.9**
TRPA Tarpa 96.22 319 ⇑ *i*P **P 11 53 18.1 +0.6**
UZH Uzhgorod 96.25 320 ⇓ *i*P **P 11 53 18.8 +1.1**
UZH *e* 11 53 30.2
DRGR 96.43 318 ⇓ P **P 11 53 19.0 +0.5**
DRGR 96.43 318 ⇓ *i*P **P 11 53 19.0 +0.5**
CRVS Cervenica-Dubn 96.71 320 *e*P **P 11 53 20.4 +0.7**
CRVS pmax pmax
comp=Z,18nm,1.0s,mb5.5
CRVS Cervenica-Dubn 96.71 320 *e*P **P 11 53 20.4 +0.7**
STHS Stebnicka Huta 96.71 321 *e*P **P 11 53 21.9 +2.2**
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
STHS Stebnicka Huta 96.71 321 *e*P **P 11 53 21.9 +2.2**
VTS Vitosha 97.08 314 ⇓ P **P 11 53 21.9 +0.3**
VTS Vitosha 97.08 314 ⇓ *i*P **P 11 53 21.9 +0.3**
OJC Ojcow 97.39 322 *e*P **P 11 53 23.0 +0.2**
OJC Ojcow 97.39 322 *e*P **P 11 53 23.0 +0.2**
KECS Kecovo 97.45 320 *e*P **P 11 53 23.7 +0.6**
KECS pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
KECS Kecovo 97.45 320 *e*P **P 11 53 23.7 +0.6**
BZS Buzias 97.46 317 ⇑ P **P 11 53 23.3 +0.1**
BZS Buzias 97.46 317 ⇑ *i*P **P 11 53 23.3 +0.1**
PSZ Piszkesteto 97.98 320 ⇑ P **P 11 53 25.3 -0.2**
PSZ Piszkesteto 97.98 320 ⇑ *i*P **P 11 53 25.3 -0.2**
NOA NORSAR Array B 98.04 334 P **P 11 53 24.1 -1.3**
comp=Z,4.6nm,0.8s,mb5.1,baz=65,slow=4.6,SNR=11
NOA PKKPbc PKKPbc 12 09 59.3 -1.6
comp=Z,1.1nm,0.8s,baz=79,slow=3.2,SNR=3.3
NOA LR LR 12 41 14.7
comp=Z,301nm,21.5s,baz=65,slow=38
NOA NORSAR Array B 98.04 334 P **P 11 53 24.1 -1.3**
NOA PKKPbc PKKPbc 12 09 59.3 -1.6
NOA NORSAR Array B 98.04 334 P **P 11 53 24.2 -1.2**
YKA Yellowknife Ar 98.13 24 P **P 11 53 25.4 -0.4**
comp=Z,0.6nm,0.7s,mb4.2,baz=292,slow=3.9,SNR=6.1
YKA PKKPbc PKKPbc 12 09 57.6 -3.0
comp=Z,1.0nm,0.7s,baz=112,slow=2.0,SNR=12
YKA Yellowknife Ar 98.13 24 P **P 11 53 25.4 -0.4**
YKA PKKPbc PKKPbc 12 09 57.6 -3.0
YKA Yellowknife Ar 98.13 24 P **P 11 53 25.4 -0.4**
VYHS Vyhne 98.50 320 *e*P **P 11 53 28.6 +0.8**
VYHS pmax pmax
comp=Z,4.0nm,1.5s,mb4.7
VYHS Vyhne 98.50 320 PDIF **P 11 53 28.6 +0.8**
OKC Ostrava-Krasne 98.52 322 *e*P **P 11 53 28.8 +1.0**
OKC Ostrava-Krasne 98.52 322 *e*PDIFF **P 11 53 28.8 +1.0**
RKT Rikitea 98.89 113 *e*LQ 12 21 32.0
comp=Z,368nm,34.0s
RKT *e*LR LR 12 26 13.4
comp=Z,757nm,38.8s
MORC Moravsky Berou 98.91 322 ⇑ P **P 11 53 30.6 +1.0**
MORC Moravsky Berou 98.91 322 ⇑ *i*P **P 11 53 30.6 +1.0**
KSP Ksiaz 99.32 323 *e*P **P 11 53 31.8 +0.4**
KSP Ksiaz 99.32 323 *e*P **P 11 53 31.8 +0.4**
DPC Dobruska-Polom 99.47 323 *e*P Pdif 11 53 33.2 +1.3
DPC *e* 11 53 46.3
DPC Dobruska-Polom 99.47 323 *e*PDIFF Pdif 11 53 33.2 +1.3
DPC *ex* x 11 53 46.3
UPC Upice 99.60 323 *e*P Pdif 11 53 33.6 +1.1
UPC Upice 99.60 323 *e*PDIFF Pdif 11 53 33.6 +1.1
VRAC Vranov 99.65 322 ⇑ P Pdif 11 53 35.2 +2.5
VRAC Vranov 99.65 322 ⇑ *i*P Pdif 11 53 35.2 +2.5
TREC Trest 100.33 322 *e*P Pdif 11 53 37.0 +1.2
TREC Trest 100.33 322 *e*PDIFF Pdif 11 53 37.0 +1.2
PRU Pruhonice 100.67 323 *e*P Pdif 11 53 38.5 +1.2
PRU Pruhonice 100.67 323 *e*PDIFF Pdif 11 53 38.5 +1.2
PRU *ep*P 11 53 53.4
BRG Berggiesshubel 100.70 324 *i* P Pdif 11 53 38.8 +1.3
comp=Z,8.7nm,1.0s
BRG *e* 11 53 53.7
comp=Z,14nm,1.3s
BRG Berggiesshubel 100.70 324 *i* P Pdif 11 53 38.8 +1.4
BRG pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 101.09 324 *e*P Pdif 11 53 39.0 -0.2
CLL MLR MLR
comp=Z,300nm,18.1s
CLL Collm 101.09 324 *e*Pdif Pdif 11 53 39.0 -0.2
CLL *es*Pdif 11 53 55.0
CLL *e*PP PP 11 57 45.0 -3.3
CLL *e* 12 05 48.0
CLL *e*PS PS 12 06 55.0 +2.7
CLL *e*SS SS 12 12 36.0 +24
CLL LmV 12 44 00.0
comp=Z,300nm,18.1s
CLL LmH 12 45 00.0
comp=Z,200nm,18.4s
KHC Kasperske Hory 101.56 322 *e*P Pdif 11 53 42.2 +0.9
KHC Kasperske Hory 101.56 322 *e*PDIFF Pdif 11 53 42.2 +0.9
KHC *ep*P 11 53 57.4
GERES GERESS Array B 101.59 322 P Pdif 11 53 41.6 +0.3
comp=Z,3.3nm,0.9s,baz=71,slow=5.8,SNR=17
GERES GERESS Array B 101.59 322 P Pdif 11 53 41.6 +0.3
GERES GERESS Array B 101.59 322 P Pdif 11 53 41.7 +0.3
NVAR Mina Array Bea 105.60 48 Pdiff Pdif 11 54 00.3 +1.1
comp=Z,0.5nm,0.9s,baz=280,slow=2.7,SNR=3.1
NVAR PKKPbc PKKPbc 12 09 37.5 -0.5
comp=Z,1.0nm,0.8s,baz=143,slow=3.2,SNR=8.2
NVAR Mina Array Bea 105.60 48 Pdif Pdif 11 54 00.3 +1.1
NVAR PKKPbc PKKPbc 12 09 37.5 -0.5
LPG La Plagne 107.28 321 *e*PP PP 11 58 32.1 -2.3
comp=Z,70nm,1.6s
LPL La Plagne 107.28 321 *e*PP PP 11 58 32.4 -2.0
PDAR Pinedale Array 110.00 41 PKKPbc PKKPbc 12 09 21.9 -2.5
comp=Z,1.4nm,0.8s,baz=104,slow=3.8,SNR=9.6
PDAR PKKPab PKKPab 12 09 33.8 -1.8
comp=Z,2.7nm,0.8s,baz=124,slow=6.5,SNR=12
PDAR Pinedale Array 110.00 41 PKKPbc PKKPbc 12 09 21.9 -2.5
PDAR PKKPab PKKPab 12 09 33.8 -1.8
RSSD Black Hills 112.83 38 *e*PKPdf PKiKP 11 58 26.0 0.0
RSSD Black Hills 112.83 38 *e*PKIKP PKiKP 11 58 26.0 0.0
ULM Lac du Bonnet 113.59 29 PKiKP PKiKP 11 58 26.3 -1.0
comp=Z,1.4nm,0.7s,baz=270,slow=1.0,SNR=2.6
ULM Lac du Bonnet 113.59 29 PKiKP PKiKP 11 58 26.3 -1.0
ULM Lac du Bonnet 113.59 29 PKIKP PKiKP 11 58 26.3 -1.0
SCHQ Schefferville 119.29 9 PKP PKPdf 11 58 37.4 -0.7
comp=Z,6.1nm,0.9s,baz=313,slow=1.5,SNR=7.5
SCHQ Schefferville 119.29 9 PKP PKPdf 11 58 37.4 -0.7
KSU1 Kansas State U 120.25 39 *e*PKPdf PKPdf 11 58 40.5 0.0
TXAR Lajitas Array 120.32 52 PKP PKPdf 11 58 41.3 +0.4
comp=Z,1.3nm,0.7s,baz=286,slow=0.7,SNR=22
TXAR PKKPab PKKPab 12 08 48.8 -1.3
comp=Z,1.3nm,1.0s,baz=121,slow=4.8,SNR=9.9
TXAR Lajitas Array 120.32 52 PKP PKPdf 11 58 41.3 +0.4
TXAR PKKPab PKKPab 12 08 48.8 -1.3
TXAR Lajitas Array 120.32 52 PKIKP PKPdf 11 58 41.3 +0.4
JCT Junction City 122.75 49 *e*PKPdf PKPdf 11 58 45.7 +0.2
JCT Junction City 122.75 49 *e*PKIKP PKPdf 11 58 45.7 +0.2
TORD Torodi Ar. Bea 123.20 289 PKP PKPdf 11 58 46.2 -0.5
comp=Z,12nm,0.8s,baz=86,slow=2.8,SNR=50
TORD PKKPbc PKKPbc 12 08 36.7 -0.4
comp=Z,1.0nm,0.8s,baz=260,slow=3.6,SNR=4.1
TORD Torodi Ar. Bea 123.20 289 PKP PKPdf 11 58 46.2 -0.5
TORD PKKPbc PKKPbc 12 08 36.7 -0.4
MIAR Mount Ida 124.93 41 *e*PKPdf PKPdf 11 58 49.9 +0.3
MIAR Mount Ida 124.93 41 *e*PKIKP PKPdf 11 58 49.9 +0.3
PLAL Pickwick Lake 128.12 37 *e*PKPdf PKPdf 11 58 53.2 -2.5
USHA Ushuaia 128.61 168 PKP PKPdf 11 58 57.5 +1.6
comp=Z,15nm,0.9s,baz=143,slow=3.7,SNR=4.3
USHA Ushuaia 128.61 168 PKP PKPdf 11 58 57.5 +1.6
DBIC Dimbokro 131.00 283 PKP PKPdf 11 59 02.2 +0.5
comp=Z,4.9nm,0.8s,baz=65,slow=2.4,SNR=6.5
DBIC SKPab 12 02 19.8
comp=Z,18nm,0.9s,baz=63,slow=3.9,SNR=8.4
DBIC Dimbokro 131.00 283 PKP PKPdf 11 59 02.2 +0.5
DBIC SKPab 12 02 19.8
DBIC Dimbokro 131.00 283 PKIKP PKPdf 11 59 02.3 +0.6
LIC Lamto 131.26 283 *e*PKIKP PKPdf 11 59 02.9 +0.7
comp=Z,23nm,0.8s
LIC Lamto 131.26 283 *e*PKPdf PKPdf 11 59 02.9 +0.7
PLCA Paso Flores 140.86 158 PKhKP PKPpre 11 59 15.6
comp=Z,4.3nm,0.8s,baz=234,slow=4.2,SNR=9.7
PLCA Paso Flores 140.86 158 *e*PKPdf PKPpre 11 59 15.6
PLCA Paso Flores 140.86 158 *e*PKIKP PKPpre 11 59 15.6
JTS JuntasAbangare 144.38 65 PKP PKPdf 11 59 25.8 -0.4
JTS JuntasAbangare 144.38 65 *e*PKPdf PKPdf 11 59 25.3 -1.0
JTS PKP PKPdf 11 59 25.8 -0.4
JTS JuntasAbangare 144.38 65 *e*PKIKP PKPdf 11 59 25.3 -0.9
TRQA Tornquist 145.92 167 *e*PKPbc PKPbc 11 59 29.1 +0.1
BCIP Isla Barro Col 149.43 63 *e*PKPbc PKPbc 11 59 39.1 -0.1
BCIP *e*PKPab PKPab 11 59 45.1 +0.9
CFAA Coronel Fontan 149.65 153 PKP PKPdf 11 59 35.2 +0.6
comp=Z,3.2nm,0.6s,baz=224,slow=3.0,SNR=11
CFAA PKPbc PKPbc 11 59 39.0 -0.2
comp=Z,3.2nm,0.6s,baz=219,slow=3.5,SNR=27
CFAA Coronel Fontan 149.65 153 PKP PKPdf 11 59 35.2 +0.6
CFAA PKPbc PKPbc 11 59 39.0 -0.2
SDDR Presa de Saban 149.93 37 *e*PKPbc PKPbc 11 59 40.6 +0.3
LCO Las Campanas 150.52 146 *e*PKPdf PKPdf 11 59 37.6 +1.5
LCO Las Campanas 150.52 146 *e*P PKPbc 11 59 42.0 +0.6
MTP Monte Pirata 153.79 29 *e*PKPbc PKPbc 11 59 49.3 +0.3
ATAH Atahualpa 154.22 96 PKP PKPdf 11 59 44.1 +2.2
comp=Z,7.3nm,0.8s,baz=166,slow=4.2,SNR=4.3
ATAH PKPbc PKPbc 11 59 51.5 +1.4
comp=Z,19nm,0.7s,baz=329,slow=1.3,SNR=12
ATAH Atahualpa 154.22 96 PKP PKPdf 11 59 44.1 +2.2
ATAH PKPbc PKPbc 11 59 51.5 +1.4
LVC Limon Verde 156.36 140 *e*PKPdf PKPdf 11 59 45.4 +0.8
SDV Santo Domingo 157.36 53 *e*PKPdf PKPdf 11 59 46.8 +0.7
CPUP Villa Florida 158.23 168 PKP PKPdf 11 59 48.5 +1.7
comp=Z,5.9nm,0.8s,baz=68,slow=1.1,SNR=13
CPUP PKPab PKPab 12 00 22.6 +1.8
comp=Z,11nm,0.9s,baz=181,slow=4.9,SNR=6.9
CPUP Villa Florida 158.23 168 PKP PKPdf 11 59 48.5 +1.7
CPUP PKPab PKPab 12 00 22.6 +1.8
CPUP Villa Florida 158.23 168 PKIKP PKPdf 11 59 48.5 +1.7
CPUP *e* 12 00 22.7
LPAZ La Paz 161.00 128 PKP PKPdf 11 59 52.5 +2.2
comp=Z,3.1nm,0.7s,baz=297,slow=2.9,SNR=9.6
LPAZ PKPab PKPab 12 00 35.0 +1.7
comp=Z,10nm,0.8s,baz=244,slow=2.2,SNR=5.6
LPAZ La Paz 161.00 128 *e*PKPdf PKPdf 11 59 51.7 +1.5
LPAZ PKP PKPdf 11 59 52.5 +2.2
LPAZ PKPab PKPab 12 00 35.0 +1.7
LPAZ La Paz 161.00 128 *e*PKIKP PKPdf 11 59 51.7 +1.5
SAML Samuel 168.73 111 *e*PKPdf PKPdf 11 59 57.8 +0.9

CSEM ***31*** *12:07:25.8±0.3, 44°.64N×10°.65E, h2km, ML2.8/5, Error ellipse: s-maj=6.7km s-min=4.4km az=93.0*
ISCJB ***31*** *12:07:26.4±0.5, 44°.55N±0°.04×10°.53E±0°.09, h23km±7km, Error ellipse: s-maj=11.2km s-min=5.5km az=160.1*
ROM ***31*** *12:07:26.0±0.1, 44°.57N×10°.50E, h21km±2km, Md2.1/6, Ml2.2/6, Error ellipse: s-maj=4.3km s-min=1.9km az=86.0*
ISC 31 12:07:26.7±0.5, 44°.56N±0°.04×10°.51E±0°.09, h20km±7km, n18, σ0°64/32, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.15**	**206**	Pg	**Pb**	**12 07 30.6**	**-0.6**
ERBM				Sg	**Sb**	**12 07 35.0**	**+0.7**
349nm,0.2s							
ERBM	**Eremo**	**0.15**	**206**	Pg	**Pb**	**12 07 30.6**	**-0.6**
ERBM				Sg	**Sb**	**12 07 35.0**	**+0.7**
349nm,0.2s							
GSCL	**Gusciola**	**0.21**	**164**	Pg	**Pb**	**12 07 32.0**	**0.0**
61nm,0.6s							
GSCL	**Gusciola**	**0.21**	**164**	Pg	**Pb**	**12 07 32.0**	**0.0**
61nm,0.6s							
PRMA	**PARMA**	**0.25**	**327**	Pg	**Pb**	**12 07 31.2**	**-1.4**
PRMA				Sg	**Sb**	**12 07 36.8**	**+0.2**
69nm,0.3s							
PRMA	**PARMA**	**0.25**	**327**	Pg	**Pb**	**12 07 31.2**	**-1.4**
PRMA				Sg	**Sb**	**12 07 36.8**	**+0.2**
69nm,0.3s							
PZZT	**Monte Pizzetto**	**0.49**	**149**	Pg	**Pb**	**12 07 36.4**	**-0.3**
PZZT	**Monte Pizzetto**	**0.49**	**149**	Pg	**Pb**	**12 07 36.4**	**-0.3**
BDI	**Bagni Di Lucca**	**0.50**	**172**	Pg	**Pb**	**12 07 36.3**	**-0.4**
BDI				Sg	**Sb**	**12 07 44.2**	**+0.7**
35nm,0.4s							
BDI	**Bagni Di Lucca**	**0.50**	**172**	Pg	**Pb**	**12 07 36.3**	**-0.4**
BDI				Sg	**Sb**	**12 07 44.2**	**+0.7**
35nm,0.4s							
ROVR	**Rover¯¤ Verone**	**1.16**	**20**	Pg	**Pn**	**12 07 47.2**	**-0.6**
ROVR				Sg	**Sb**	**12 08 03.6**	**+0.9**
128nm,0.2s							
ROVR	**Rover¯¤ Verone**	**1.16**	**20**	Pg	**Pn**	**12 07 47.2**	**-0.6**
ROVR				Sg	**Sb**	**12 08 03.6**	**+0.9**
128nm,0.2s							
MDI	**Monti di Nese**	**1.34**	**336**	Pg	**Pn**	**12 07 50.2**	**-0.1**
MDI				Sg	**Sn**	**12 08 08.2**	**+0.7**
36nm,0.3s							
MDI	**Monti di Nese**	**1.34**	**336**	Pg	**Pn**	**12 07 50.2**	**-0.1**
MDI				Sg	**Sn**	**12 08 08.2**	**+0.7**
36nm,0.3s							
CTI	**Castel Tesino**	**1.70**	**28**	Pg	**Pn**	**12 07 54.8**	**-0.3**
CTI				Sg	**Sn**	**12 08 16.2**	**0.0**
45nm,0.2s							
CTI	**Castel Tesino**	**1.70**	**28**	Pg	**Pn**	**12 07 54.8**	**-0.3**
CTI				Sg	**Sn**	**12 08 16.2**	**0.0**
45nm,0.2s							
NVLJ	**Novalja**	**3.12**	**88**	*e*Pn	**Pn**	**12 08 15.7**	**+1.1**
NVLJ				Sn	**Sn**	**12 08 50.7**	**-0.6**
NVLJ	**Novalja**	**3.12**	**88**	*e*Pn	**Pn**	**12 08 15.7**	**+1.0**
NVLJ				Sn	**Sn**	**12 08 50.7**	**-0.6**

IDC 31 12:20:16.8±17.0, 23°.13S×174°.66W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=313.7km s-min=134.1km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.39**	**267**	P	P	12 27 23.6	+0.5
4.0nm,0.3s,baz=90,slow=10.0,SNR=16							
STKA	**Stephens Creek**	**39.55**	**247**	P	P	12 27 49.7	0.0
0.7nm,0.3s,baz=96,slow=9.2,SNR=7.5							
ASAR	**Alice Springs**	**46.99**	**259**	P	P	12 28 49.3	-0.6
0.9nm,0.5s,baz=95,slow=6.9,SNR=28							
WRA	**Warramunga Arr**	**47.36**	**264**	P	P	12 28 52.0	-0.8
2.0nm,0.4s,baz=103,slow=8.2,SNR=11							
FITZ	**Fitzroy Crossi**	**55.78**	**263**	P	P	12 29 56.6	+0.7
1.4nm,0.7s,baz=93,slow=7.2,SNR=4.4							

*ISCJB **31** 12:24:21.7±3.8, 4°.8S±0°.3×150°.7E±0°.3, h97km±33km, mb3.8/6, Error ellipse: s-maj=58.2km s-min=26.6km az=44.3.*
*IDC **31** 12:24:22.5±5.0, 4°.95S×150°.91E, h94km±44km, mb3.6/4, mb1 3.8/6, mb1mx3.5/17, mbtmp3.6/6, Error ellipse: s-maj=80.0km s-min=30.2km az=132.0*
*NEIC **31** 12:24:22.9±2.4, 4°.87S×150°.82E, h97km±20km, mb3.8/3, Error ellipse: s-maj=28.6km s-min=18.5km az=129.0*
ISC 31 12:24:22.9±3.4, 4°.9S±0°.3×150°.8E±0°.3, h97km±29km, n17, σ0°30/17, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.79**	**219**	P	**Pn**	**12 25 46.4**	**0.0**
1.4nm,0.3s,baz=34,slow=12,SNR=11							
PMG				S	**Sn**	**12 26 51.6**	**0.0**
6.0nm,0.3s,baz=127,slow=20,SNR=16							
PMG	**Port Moresby**	**5.79**	**219**	P	**Pn**	**12 25 46.4**	**0.0**
PMG				S	**Sn**	**12 26 51.6**	**0.0**
CTA	**Charters Tower**	**15.77**	**196**	P	**Pn**	**12 27 59.8**	**+0.3**
0.2nm,0.3s,baz=18,slow=14,SNR=5.2							
CTA	**Charters Tower**	**15.77**	**196**	P	**Pn**	**12 27 59.8**	**+0.3**
CTAO	**Charters Tower**	**15.77**	**196**	*e*Pn	**Pn**	**12 27 59.6**	**+0.1**
3.5nm,0.8s							
WRAB	**Tennant Creek**	**21.95**	**226**	*e*P	**P**	**12 29 08.7**	**-0.1**
3.1nm,0.8s,mb3.7							
WRA	**Warramunga Arr**	**21.96**	**226**	P	**P**	**12 29 08.2**	**-0.7**
1.1nm,0.4s,mb3.6,baz=50,slow=9.7,SNR=10.0							
WRA	**Warramunga Arr**	**21.96**	**226**	P	**P**	**12 29 08.2**	**-0.7**
ASAR	**Alice Springs**	**24.81**	**220**	P	**P**	**12 29 35.9**	**-0.1**
1.1nm,0.5s,mb3.6,baz=56,slow=8.3,SNR=19							
ASAR	**Alice Springs**	**24.81**	**220**	P	**P**	**12 29 35.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.91**	**240**	P	**P**	**12 30 04.5**	**+0.4**
6.4nm,0.6s,mb4.3,baz=52,slow=8.8,SNR=15							
FITZ	**Fitzroy Crossi**	**27.91**	**240**	P	**P**	**12 30 04.5**	**+0.4**
MBWA	**Marble Bar**	**34.24**	**239**	*e*P	**P**	**12 31 00.0**	**+0.3**
4.1nm,0.7s,mb4.4							
ILAR	**Eielson Array**	**82.97**	**22**	P	**P**	**12 36 36.8**	**-0.1**
0.2nm,0.6s,mb3.1,baz=249,slow=5.0,SNR=6.4							
ILAR	**Eielson Array**	**82.97**	**22**	P	**P**	**12 36 36.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**148.46**	**287**	PKPbc	PKPbc	12 43 59.9	+0.6
0.4nm,0.7s,baz=71,slow=2.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**148.46**	**287**	PKPbc	PKPbc	12 43 59.9	+0.6

IDC 31 12:29:19.9±2.5, 9°.92S×66°.00E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, MS3.7/5, Ms1 3.8/5, ms1mx3.4/24, Error ellipse: s-maj=75.3km s-min=33.2km az=62.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**20.14**	**243**	LR	LR	12 39 36.4	
comp=Z,182nm,20.3s,baz=3.7,slow=31							
POO	**Poona**	**29.31**	**15**	*ex*	P	12 34 20.0	-64
CMAR	**Chiang Mai Arr**	**43.03**	**49**	P	P	12 37 21.2	-0.4
0.7nm,0.8s,baz=241,slow=9.2,SNR=5.6							
CMAR				LR	LR	12 53 48.5	
comp=Z,105nm,19.1s,baz=351,slow=34							
FITZ	**Fitzroy Crossi**	**58.23**	**105**	LR	LR	12 59 32.5	
comp=Z,107nm,21.6s,baz=338,slow=31							
MKAR	**Makanchi Array**	**58.30**	**13**	P	P	12 39 17.0	+0.6
0.3nm,0.7s,baz=202,slow=9.2,SNR=4.4							
MKAR				LR	LR	13 02 42.2	
comp=Z,54nm,19.1s,baz=69,slow=34							
ZALV	**Zalesovo Beam**	**65.59**	**12**	P	P	12 40 05.2	-0.1
0.3nm,0.3s,baz=222,slow=5.6,SNR=5.2							
ASAR	**Alice Springs**	**65.92**	**111**	P	P	12 40 08.1	0.0
0.2nm,0.6s,baz=279,slow=6.0,SNR=4.3							
WRA	**Warramunga Arr**	**66.42**	**107**	P	P	12 40 11.8	+0.4
0.7nm,0.9s,baz=275,slow=5.6,SNR=4.7							
KSRS	**Korea Array**	**74.61**	**47**	LR	LR	13 11 44.5	
comp=Z,45nm,18.2s,baz=235,slow=34							
NVAR	**Mina Array Bea**	**151.35**	**7**	PKPbc	PKPbc	12 49 15.8	-0.2
0.7nm,0.8s,baz=336,slow=2.0,SNR=5.6							

IDC 31 12:38:20.5±4.8, 22°.55N×94°.14E, h100km±39km, mb3.1/3, mb1 3.2/4, mb1mx3.0/24, mbtmp3.0/4, Error ellipse: s-maj=97.7km s-min=24.4km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.07**	**131**	P	Pn	12 39 47.8	0.0
0.3nm,0.3s,baz=308,slow=13,SNR=14							
MKAR	**Makanchi Array**	**26.02**	**341**	P	P	12 43 44.1	+0.1
0.4nm,0.9s,baz=153,slow=8.2,SNR=3.8							
WRA	**Warramunga Arr**	**57.66**	**134**	P	P	12 48 00.5	-0.1
0.3nm,0.6s,baz=320,slow=7.1,SNR=2.7							
ASAR	**Alice Springs**	**60.04**	**137**	P	P	12 48 17.3	+0.2
0.4nm,0.6s,baz=320,slow=7.0,SNR=8.8							

*DDA **31** 13:01:35.6, 37°.15N×30°.75E, h5km±2km, Md3.2*
*ISCJB **31** 13:01:37.9±0.5, 37°.24N±0°.03×30°.58E±0°.05, h13km±6km,*
Error ellipse: s-maj=7.0km s-min=4.2km az=16.0
*ISK **31** 13:01:37.5, 37°.22N×30°.49E, h9km, MD2.8*
*CSEM **31** 13:01:37.7±0.2, 37°.19N×30°.53E, h5km, MD2.8, Error ellipse: s-maj=5.8km s-min=3.9km az=112.0*
ISC 31 13:01:38.3±0.5, 37°.23N±0°.03×30°.53E±0°.06, h14km±5km, n24, σ1°02/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.23**	**13**	*e*PG	**Pg**	**13 01 42.2**	**-1.1**
BCK				*e*SG	**Sg**	**13 01 46.7**	**-0.1**
BCK	**Bucak**	**0.23**	**13**	*e*Pg	**Pg**	**13 01 42.3**	**-1.1**
BCK				*e*Sg	**Sg**	**13 01 46.7**	**-0.2**
KORT	**Korkueli**	**0.27**	**211**	*i* P	**Pg**	**13 01 43.8**	**-0.2**
KORT				*i* S	**Sg**	**13 01 50.3**	**+2.4**
KORT	**Korkueli**	**0.27**	**211**	*i* P	**Pg**	**13 01 43.8**	**-0.2**
KORT				*i* S	**Sg**	**13 01 50.3**	**+2.4**
ANTB	**Antalya**	**0.35**	**163**	*e*PG	**Pg**	**13 01 44.3**	**-1.1**
ANTB				*e*SG	**Sg**	**13 01 51.0**	**+0.8**
ANTB	**Antalya**	**0.35**	**163**	*e*Pg	**Pg**	**13 01 44.3**	**-1.1**
ISP	**Isparta**	**0.59**	**360**	*e*PG	**Pg**	**13 01 50.4**	**+0.6**
ISP				*e*SG	**Sg**	**13 01 59.5**	**+1.8**
ISP	**Isparta**	**0.59**	**360**	*e*Pg	**Pg**	**13 01 50.4**	**+0.6**
ISP				*e*Sg	**Sg**	**13 01 59.5**	**+1.9**
ELL	**Elmali**	**0.69**	**226**	*e*PG	**Pg**	**13 01 50.2**	**-1.6**
ELL	**Elmali**	**0.69**	**226**	*e*Pg	**Pg**	**13 01 50.2**	**-1.6**
GOLH	**Golhisar**	**0.77**	**271**	*i* P	**Pg**	**13 01 52.2**	**-1.1**
GOLH				*i* S	**Sg**	**13 02 08.6**	**+5.2**
GOLH	**Golhisar**	**0.77**	**271**	*i* P	**Pg**	**13 01 52.2**	**-1.0**
AKAS	**Kas**	**1.24**	**217**	*i* P	**Pn**	**13 02 00.9**	**-0.3**
AKAS				*i* S	**Sg**	**13 02 27.9**	**+9.5**
AKAS	**Kas**	**1.24**	**217**	*i* P	**Pn**	**13 02 00.9**	**-0.3**
SHUT	**Suhut-Afyon**	**1.32**	**1**	*e*PN	**Pg**	**13 02 03.8**	**+0.1**
SHUT	**Suhut-Afyon**	**1.32**	**1**	*e*Pn	**Pg**	**13 02 03.8**	**+0.2**
KHAL	**Karahalli**	**1.40**	**324**	*i* P	**Pg**	**13 02 05.3**	**+0.1**
KHAL				*i* S	**Sg**	**13 02 28.9**	**+5.5**
KHAL	**Karahalli**	**1.40**	**324**	*i* P	**Pg**	**13 02 05.3**	**+0.1**
HDMB	**Hadim**	**1.59**	**99**	*e*PN	**Pn**	**13 02 06.2**	**+0.2**
HDMB	**Hadim**	**1.59**	**99**	*e*Pn	**Pn**	**13 02 06.2**	**+0.2**
KONT	**Konya--Tatoy**	**1.62**	**63**	*e*PN	**Pn**	**13 02 07.3**	**+0.9**
KONT	**Konya--Tatoy**	**1.62**	**63**	*e*Pn	**Pn**	**13 02 07.3**	**+0.9**
KDHN	**Kadinhani**	**1.80**	**44**	*i* P	**Pn**	**13 02 09.3**	**+0.4**
KDHN				*i* S	**Sg**	**13 02 34.8**	**-1.4**
KDHN	**Kadinhani**	**1.80**	**44**	*i* P	**Pn**	**13 02 09.3**	**+0.5**
KDHN				*i* S	**Sg**	**13 02 34.8**	**-1.4**

*ISCJB **31** 13:52:43.5±0.8, 24°.13S±0°.05×179°.76W±0°.10, h493km±10km, mb4.0/15, Error ellipse: s-maj=13.9km s-min=7.1km az=177.4*
*IDC **31** 13:52:43.1±3.5, 24°.05S×179°.64W, h481km±36km, mb3.6/12, mb1 3.8/13, mb1mx3.7/17, mbtmp3.6/13, Error ellipse: s-maj=22.8km s-min=14.9km az=65.0*
*NEIC **31** 13:52:44.1±0.8, 24°.08S×179°.66W, h496km±8km, mb4.3/5, Error ellipse: s-maj=12.0km s-min=11.0km az=110.0*
ISC 31 13:52:45.4±0.9, 24°.25S±0°.05×179°.71W±0°.10, h506km±10km, n90, σ1°01/55, mb4.0/15, 6C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.24**	**163**	*e*Pn	**P**	**13 54 15.5**	**+0.8**
972nm,0.3s							
MSVF	**Nonsavu**	**6.81**	**342**	*e*P	**P**	**13 54 26.2**	**-3.8**
7.7nm,0.6s							
DZM	**Mont Dzumac**	**12.92**	**277**	*e*P	**P**	**13 55 34.8**	**+1.2**
PUZ	**Puketiti**	**13.89**	**187**	PN	**P**	**13 55 43.1**	**-0.6**
PUZ				*e*SN	**S**	**13 58 07.7**	**-3.0**
URZ	**Urewera**	**14.23**	**190**	P	**P**	**13 55 45.7**	**-1.5**
4.4nm,0.3s,baz=304,slow=0.7,SNR=19							
URZ				S	**S**	**13 58 18.5**	**+1.4**
0.8nm,0.3s,baz=27,slow=16,SNR=7.2							
URZ	**Urewera**	**14.23**	**190**	*e*P	**P**	**13 55 45.8**	**-1.4**
URZ				S	**S**	**13 58 18.5**	**+1.4**
URZ	**Urewera**	**14.23**	**190**	*e*PN	**P**	**13 55 45.1**	**-2.1**
PXZ	**Pawanui**	**16.00**	**190**	PN	**P**	**13 56 03.9**	**-1.8**
PXZ				*e*SN	**S**	**13 58 46.5**	**-4.4**
NNZ	**Nelson**	**17.89**	**197**	PN	**P**	**13 56 25.1**	**+1.0**
NNZ				*e*SN	**S**	**13 59 22.5**	**-0.2**
THZ	**Tophouse**	**18.52**	**198**	PN	**P**	**13 56 30.0**	**0.0**
THZ				*e*SN	**S**	**13 59 32.9**	**-0.1**
RPZ	**Rata Peaks**	**20.85**	**199**	P	**P**	**13 56 51.6**	**+0.5**
20nm,0.6s,baz=347,slow=3.2,SNR=15							
RPZ	**Rata Peaks**	**20.85**	**199**	*e*P	**P**	**13 56 51.6**	**+0.5**
ARMA	**Armidale**	**26.15**	**250**	*e*P	**P**	**13 57 40.3**	**+1.6**
ARMA	**Armidale**	**26.15**	**250**	*e*P	**P**	**13 57 40.5**	**+1.8**
EIDS	**Eidsvold**	**26.52**	**261**	*e*P	**P**	**13 57 42.5**	**+0.6**
CTA	**Charters Tower**	**31.74**	**271**	*e*P	**P**	**13 58 27.8**	**+0.3**
CTAO	**Charters Tower**	**31.74**	**271**	*e*P	**P**	**13 58 27.7**	**+0.2**
8.1nm,0.3s,mb4.6							
STKA	**Stephens Creek**	**34.84**	**249**	P	**P**	**13 58 54.5**	**+0.9**
1.3nm,0.3s,mb3.8,baz=82,slow=7.0,SNR=33							
STKA				PcP	PcP	14 01 13.4	+0.7
2.2nm,0.6s,baz=88,slow=6.3,SNR=5.0							
STKA	**Stephens Creek**	**34.84**	**249**	*e*P	**P**	**13 58 54.2**	**+0.6**
STKA	**Stephens Creek**	**34.84**	**249**	*e*P	**P**	**13 58 54.1**	**+0.5**
0.3nm,0.3s,mb3.2							
STKA				PcP	PcP	14 01 13.4	+0.8
AS31	**Alice Springs**	**42.24**	**261**	*e*P	**P**	**13 59 53.8**	**0.0**
ASAR	**Alice Springs**	**42.24**	**261**	P	**P**	**13 59 53.9**	**0.0**
2.3nm,0.3s,mb4.1,baz=96,slow=6.8,SNR=148							
ASAR				PcP	PcP	14 01 36.0	-0.3
1.4nm,1.0s,baz=100,slow=5.2,SNR=4.2							
ASAR				S	**S**	**14 05 35.8**	**-1.6**
0.6nm,0.8s,baz=94,slow=14,SNR=3.6							
ASAR	**Alice Springs**	**42.24**	**261**	P	**P**	**13 59 53.9**	**0.0**
ASAR				PcP	PcP	14 01 36.0	-0.3
ASAR				S	**S**	**14 05 35.8**	**-1.6**
WB2	**Warramunga Arr**	**42.64**	**266**	*e*P	**P**	**13 59 56.2**	**-0.8**
WRAB	**Tennant Creek**	**42.64**	**266**	*e*P	**P**	**13 59 56.0**	**-1.1**
6.6nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**42.65**	**266**	P	**P**	**13 59 56.5**	**-0.6**
7.9nm,0.5s,mb4.4,baz=97,slow=8.4,SNR=85							
WRA				PcP	PcP	14 01 38.2	+0.4
1.2nm,0.8s,baz=104,slow=3.0,SNR=4.2							
WRA				S	**S**	**14 05 43.5**	**+0.1**
0.6nm,0.7s,baz=102,slow=1.1,SNR=4.0							
WRA	**Warramunga Arr**	**42.65**	**266**	P	**P**	**13 59 56.5**	**-0.6**
WRA				PcP	PcP	14 01 38.2	+0.4
WRA				S	**S**	**14 05 43.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.07**	**266**	*e*P	**P**	**14 01 00.4**	**-0.4**
QSPA	**South Pole Qui**	**65.84**	**180**	P	**P**	**14 02 42.1**	**+2.5**
2.8nm,0.6s,mb4.1,baz=26,slow=1.4,SNR=30							
QSPA	**South Pole Qui**	**65.84**	**180**	P	**P**	**14 02 42.1**	**+2.5**
MJAR	**Matsushiro Arr**	**72.33**	**325**	P	**P**	**14 03 17.9**	**-1.5**
3.4nm,0.8s,mb4.0,baz=147,slow=5.2,SNR=12							
MJAR	**Matsushiro Arr**	**72.33**	**325**	P	**P**	**14 03 17.9**	**-1.5**
KSM	**Kuching**	**72.43**	**280**	*e*P	**P**	**14 03 20.2**	**-0.3**
7.6nm,1.0s,mb4.2							
KSRS	**Korea Array**	**78.68**	**320**	P	**P**	**14 03 54.8**	**0.0**
3.2nm,0.7s,mb4.0,baz=130,slow=5.9,SNR=9.5							
KSAR	**Wonju Array Be**	**78.69**	**320**	P	**P**	**14 03 54.8**	**0.0**
PETK	**Petropavlovsk-**	**79.50**	**346**	P	**P**	**14 03 57.6**	**-1.0**
5.4nm,0.7s,mb4.2,baz=130,slow=7.2,SNR=7.5							
PETK	**Petropavlovsk-**	**79.50**	**346**	P	**P**	**14 03 57.6**	**-1.0**
USRK	**Ussuriysk Arra**	**81.19**	**327**	P	**P**	**14 04 08.0**	**+0.3**
3.0nm,0.6s,mb4.0,baz=157,slow=4.3,SNR=17							
NVAR	**Mina Array Bea**	**84.81**	**44**	P	**P**	**14 04 26.0**	**-0.1**
0.2nm,0.4s,mb3.1,baz=238,slow=5.2,SNR=2.8							
NVAR	**Mina Array Bea**	**84.81**	**44**	P	**P**	**14 04 26.0**	**-0.1**
ENH	**Enshi**	**86.86**	**305**	*e*P	**P**	**14 04 36.5**	**+0.4**
7.3nm,0.8s,mb4.5							
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P	**P**	**14 04 52.0**	**+1.5**
2.4nm,0.8s,mb4.0,baz=139,slow=3.2,SNR=18							
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P	**P**	**14 04 52.0**	**+1.5**
TXAR	**Lajitas Array**	**90.39**	**58**	P	**P**	**14 04 53.0**	**+0.4**
0.5nm,0.8s,mb3.4,baz=193,slow=5.1,SNR=4.1							
TXAR	**Lajitas Array**	**90.39**	**58**	P	**P**	**14 04 53.0**	**+0.4**
ZALV	**Zalesovo Beam**	**112.39**	**320**	PKiKP	PKiKP	14 10 21.5	-1.6
0.7nm,0.4s,baz=113,slow=1.4,SNR=6.0							
ZALV	**Zalesovo Beam**	**112.39**	**320**	PKiKP	PKiKP	14 10 21.5	-1.5
MK31	**Makanchi Array**	**112.58**	**313**	*e*PKiKP	PKiKP	14 10 22.3	-1.4
MKAR	**Makanchi Array**	**112.58**	**313**	PKiKP	PKiKP	14 10 22.5	-1.2
0.6nm,0.4s,baz=227,slow=1.8,SNR=32							
MKAR	**Makanchi Array**	**112.58**	**313**	PKiKP	PKiKP	14 10 22.5	-1.2
KURK	**Kurchatov**	**115.63**	**316**	PKP	PKPdf	14 10 28.1	-1.3
1.8nm,0.6s,baz=110,slow=1.8,SNR=25							
KURK	**Kurchatov**	**115.63**	**316**	PKP	PKPdf	14 10 28.1	-1.3
KKAR	**Karatay Array**	**120.28**	**307**	*e*PKPdf	PKPdf	14 10 37.7	-0.9
BVAR	**Borovoye Array**	**120.87**	**319**	PKP	PKPdf	14 10 38.6	-0.8
2.8nm,0.4s,baz=123,slow=2.0,SNR=35							
BVAR	**Borovoye Array**	**120.87**	**319**	PKP	PKPdf	14 10 38.6	-0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**128.73**	**316**	PKP	PKPdf	14 10 54.2	-0.3
1.9nm,0.6s,baz=103,slow=5.7,SNR=9.6							
AKTO	**Aktyubinsk**	**128.73**	**316**	PKP	PKPdf	14 10 54.2	-0.3
ARCES	**ARCESS Array B**	**132.28**	**348**	PKP	PKPdf	14 10 59.3	-1.4
5.3nm,0.9s,baz=61,slow=2.3,SNR=13							
ARCES	**ARCESS Array B**	**132.28**	**348**	PKP	PKPdf	14 10 59.3	-1.4
FINES	**FINESS Array B**	**138.86**	**341**	PKhKP	PKPpre	14 11 02.6	
3.6nm,0.8s,baz=48,slow=4.3,SNR=8.6							
FINES				PKP	PKPdf	14 11 12.4	-0.8
2.6nm,0.6s,baz=81,slow=3.5,SNR=10							
FINES	**FINESS Array B**	**138.86**	**341**	PKPpre	PKPpre	14 11 02.6	
FINES				PKP	PKPdf	14 11 12.4	-0.8
NB2	**NORSAR Subarra**	**142.46**	**351**	PKP	PKPpre	14 11 15.3	
comp=Z,1.0nm,0.6s,baz=14,slow=3.1							
NOA	**NORSAR Array B**	**142.46**	**351**	PKhKP	PKPpre	14 11 14.9	
comp=Z,1.5nm,0.7s,baz=16,slow=5.0,SNR=7.1							
NOA	**NORSAR Array B**	**142.46**	**351**	PKPpre	PKPpre	14 11 14.9	
AKASG	**Malin Array Be**	**145.40**	**327**	PKPbc	PKPbc	14 11 24.8	-1.4
comp=Z,2.1nm,0.3s,baz=45,slow=4.0,SNR=15							
AKASG	**Malin Array Be**	**145.40**	**327**	PKPbc	PKPbc	14 11 24.8	-1.4
ASF	**Jabal al Asfar**	**146.91**	**292**	PKPbc	PKPbc	14 11 31.7	+0.6
comp=Z,3.1nm,0.9s,baz=11,slow=5.2,SNR=5.1							
ASF	**Jabal al Asfar**	**146.91**	**292**	PKPbc	PKPbc	14 11 31.7	+0.6
BRTR	**Keskin Array B**	**148.00**	**307**	PKPbc	PKPbc	14 11 33.1	-0.5
comp=Z,2.4nm,0.6s,baz=116,slow=3.4,SNR=5.6							
BRTR	**Keskin Array B**	**148.00**	**307**	PKPbc	PKPbc	14 11 33.1	-0.5
BUR08	**Bucovina Ar. S**	**149.39**	**326**	*e*PKPbc	PKPbc	14 11 37.5	+0.7
OJC	**Ojcow**	**149.96**	**335**	*e*PX	PKPbc	14 11 37.7	-0.3
STHS	**Stebnicka Huta**	**149.99**	**332**	*e*PKP	PKPbc	14 11 38.6	+0.5
CRVS	**Cervenica-Dubn**	**150.29**	**331**	*e*PKP	PKPbc	14 11 39.0	+0.2
NIE	**Niedzica**	**150.38**	**333**	*e*PX	PKPdf	14 11 35.4	+2.2
KSP	**Ksiaz**	**150.70**	**339**	*i* PKPdf	PKPbc	14 11 39.8	+0.1
OKC	**Ostrava-Krasne**	**150.90**	**336⇑**	*e*PKP	PKPbc	14 11 39.3	-0.9
KECS	**Kecovo**	**151.03**	**332**	*e*PKP	PKPbc	14 11 39.5	-1.1
UPC	**Upice**	**151.08**	**339⇑**	*e*PKP	PKPbc	14 11 40.5	-0.1
DPC	**Dobruska-Polom**	**151.12**	**339⇑**	*e*PKP	PKPbc	14 11 40.9	+0.2
CLL	**Collm**	**151.26**	**343⇓**	*i* PKPbc	PKPbc	14 11 40.6	-0.4
comp=Z,15nm,0.7s							
CLL				*i* PKPab	PKPab	14 11 50.3	-1.0
BRG	**Berggiesshubel**	**151.40**	**342**	*i* P	PKPbc	14 11 41.0	-0.3
comp=Z,12nm,0.5s							
PVCC	**Panska Ves**	**151.52**	**341⇑**	*e*PKP	PKPbc	14 11 41.5	-0.1
VYHS	**Vyhne**	**151.71**	**333**	*e*PKP	PKPbc	14 11 41.9	-0.2
PRU	**Pruhonice**	**152.00**	**340⇑**	*e*PKP	PKPbc	14 11 42.3	-0.4
KHC	**Kasperske Hory**	**153.06**	**341⇑**	*e*PKP	PKPbc	14 11 44.5	-0.5
KHC				*e*PKPAB	PKPab	14 11 58.6	-0.4
GERES	**GERESS Array B**	**153.27**	**340**	PKPbc	PKPbc	14 11 45.1	-0.4
comp=Z,0.8nm,0.6s,baz=38,slow=2.4,SNR=8.1							
GERES	**GERESS Array B**	**153.27**	**340**	PKPbc	PKPbc	14 11 45.1	-0.4
TORD	**Torodi Ar. Bea**	**168.88**	**187**	PKP	PKPdf	14 11 53.7	-1.1
comp=Z,1.0nm,0.9s,baz=121,slow=0.9,SNR=5.0							
TORD				PKPab	P

YUK Yuzh-Kuril'sk 9.41 40d *i*P **Pn 13 56 30.7 -1.9**
YUK *i* S **S 13 58 09.7 -8.9**
YUK pmax pmax
comp=N,142nm,0.5s
YUK pmax pmax
comp=E,75nm,0.5s
YUK pmax pmax
comp=Z,408nm,0.5s
MDJ Mudanjiang 9.66 324 *e*P **Pn 13 56 36.4 +0.7**
comp=Z,23nm,0.7s
YSS Yuzh-Sakhalins 10.62 20 *e*P **Pn 13 56 45.5 -2.3**
comp=Z,272nm,0.4s
YSS Yuzh-Sakhalins 10.62 20⇑ *e*P **Pn 13 56 45.1 -2.7**
YSS *e*S **S 13 58 38.0 -8.7**
YSS pmax pmax
comp=N,250nm,0.5s
YSS pmax pmax
comp=Z,230nm,0.5s
YSS smax
comp=E,80nm,0.9s
CN2 Changchun 11.41 310 *e*P **Pn 13 56 57.3 -0.5**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,90nm,3.0s
BJT Baijiatuau 16.98 287 *e*P **P 13 58 05.1 +2.0**
comp=Z,54nm,0.8s
BJT Baijiatuau 16.98 287 *e*P **P 13 58 05.1 +1.9**
BJT pmax pmax
comp=Z,54nm,0.8s
HIA Hailar 17.77 319 *e*P **P 13 58 09.9 -1.7**
comp=Z,8.4nm,0.7s
HIA Hailar 17.77 319 *e*P **P 13 58 09.9 -1.7**
HIA pmax pmax
comp=Z,8.0nm,0.7s
PETK Petropavlovsk- 21.34 35 P **P 13 58 51.4 +2.0**
comp=Z,6.5nm,1.0s,mb4.1,baz=253,slow=13,SNR=3.4
PETK Petropavlovsk- 21.34 35 P **P 13 58 51.4 +2.0**
PETK Petropavlovsk- 21.34 35 P **P 13 58 51.4 +2.0**
PETK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
CLNS Chul'man 21.53 341 *e*P **P 13 58 50.8 -0.3**
CLNS pmax pmax
comp=Z,12nm,0.8s,mb4.5
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=N,4.0nm,0.8s
ENH Enshi 24.26 262 *e*P **P 13 59 15.6 -0.8**
comp=N,18nm,0.5s,mb5.0
GUMO Guam 24.27 162 P **P 13 59 18.3 +1.9**
comp=N,115nm,1.1s,baz=179,slow=12,SNR=6.3
GUMO Guam 24.27 162 P **P 13 59 18.3 +1.9**
GUMO Guam 24.27 162 P **P 13 59 18.3 +1.8**
ULN Ulaanbaatar 24.80 305 *e*P **P 13 59 17.8 -3.2**
comp=N,4.7nm,0.6s,mb4.3
ULN Ulaanbaatar 24.80 305 *e*P **P 13 59 17.8 -3.2**
ULN pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
SONM Songino Array 25.23 305 P **P 13 59 24.0 -0.8**
comp=Z,7.8nm,0.8s,mb4.4,baz=100,slow=8.2,SNR=21
SONM ScP ScP 14 06 06.2 -0.1
comp=Z,0.6nm,0.7s,baz=107,slow=2.0,SNR=4.0
SONM Songino Array 25.23 305 P **P 13 59 24.0 -0.8**
SONM ScP ScP 14 06 06.2 -0.1
SONM Songino Array 25.23 305 P **P 13 59 24.0 -0.8**
SONM pmax pmax
comp=Z,8.0nm,0.8s
YAK Yakutsk 25.48 351 *e*P **P 13 59 26.5 -0.4**
comp=Z,20nm,0.8s,mb4.8
YAK Yakutsk 25.48 351 *e*P **P 13 59 25.7 -1.2**
YAK pmax pmax
comp=Z,14nm,0.7s,mb4.7
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.2s
BOD Bodaibo 25.93 331 *e*P **P 13 59 29.4 -1.6**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ZAK Zakamensk 27.85 309 *e*P **P 13 59 46.7 -1.5**
ZAK *e* pP 14 00 38.2 +1.5
CMAR Chiang Mai Arr 38.53 252 P **P 14 01 20.1 -0.4**
comp=Z,0.5nm,0.6s,mb3.2,baz=41,slow=8.4,SNR=6.2
CMAR PcP PcP 14 03 28.2 +0.3
comp=Z,0.9nm,0.9s,baz=56,slow=2.3,SNR=5.0
CMAR Chiang Mai Arr 38.53 252 P **P 14 01 20.1 -0.4**
CMAR PcP PcP 14 03 28.2 +0.3
CMAR Chiang Mai Arr 38.53 252 P **P 14 01 20.1 -0.4**
CMAR 14 03 28.2
ZAA0 Zalesovo Array 39.62 312 *e*P **P 14 01 28.0 -1.0**
ZALV Zalesovo Beam 39.62 312 P **P 14 01 28.1 -0.9**
comp=Z,2.2nm,0.3s,mb4.0,baz=91,slow=7.4,SNR=27
ZALV PcP PcP 14 03 30.4 -0.3
comp=Z,1.5nm,0.7s,baz=99,slow=3.7,SNR=5.2
ZALV ScP ScP 14 06 55.1 -0.5
comp=Z,0.9nm,0.8s,baz=93,slow=5.0,SNR=4.3
ZALV Zalesovo Beam 39.62 312 P **P 14 01 28.1 -0.9**
ZALV PcP PcP 14 03 30.4 -0.3
ZALV ScP ScP 14 06 55.1 -0.5
ZALV Zalesovo Beam 39.62 312 P **P 14 01 28.1 -0.9**
ZALV 14 03 30.4
ZALV pmax pmax
comp=Z,2.0nm,0.3s,mb4.0
NVS Novosibirsk 40.59 314⇑ *i*P **P 14 01 35.8 -1.2**
NVS *e* 14 03 14.0
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS pmax pmax
comp=Z,15nm,1.3s,mb4.3
NVS pmax pmax
comp=N,15nm,2.5s
MK31 Makanchi Array 41.48 302 *e*P **P 14 01 43.5 -0.8**
MK31 Makanchi Array 41.48 302 *e*P **P 14 01 43.6 -0.7**
MKAR Makanchi Array 41.48 302 P **P 14 01 43.5 -0.8**
comp=N,4.3nm,0.7s,mb4.0,baz=89,slow=9.4,SNR=57
MKAR PcP PcP 14 03 37.0 0.0
comp=N,0.4nm,0.6s,baz=76,slow=6.1,SNR=2.9
MKAR ScP ScP 14 07 03.1 +0.1
comp=N,0.4nm,0.7s,baz=94,slow=4.3,SNR=2.9
MKAR Makanchi Array 41.48 302 P **P 14 01 43.5 -0.8**
MKAR PcP PcP 14 03 37.0 +0.1
MKAR ScP ScP 14 07 03.1 +0.1
MKAR Makanchi Array 41.48 302 P **P 14 01 43.5 -0.8**
MKAR 14 03 37.0
MKAR pmax pmax
comp=Z,4.0nm,0.7s
TAPN Taplejung 42.85 272 *e*P **P 14 01 55.9 +0.3**
comp=Z,4.9nm,0.5s,mb4.2
TAPN Taplejung 42.85 272 *e*P **P 14 01 55.9 +0.3**
comp=Z,4.9nm,0.5s,mb4.2
ODAN Odare 43.32 271 *e*P **P 14 01 58.9 -0.5**
comp=Z,5.8nm,0.6s,mb4.2
ODAN Odare 43.32 271 *e*P **P 14 01 58.9 -0.5**
comp=Z,5.8nm,0.6s,mb4.2
KSM Kuching 43.41 222 *e*P **P 14 02 00.6 +0.3**
comp=Z,7.1nm,0.7s,mb4.2
KURK Kurchatov 43.48 308 P **P 14 02 00.5 +0.2**
comp=Z,17nm,0.4s,mb4.8,baz=79,slow=7.5,SNR=284
KURK PcP PcP 14 03 43.2 -0.3
comp=Z,0.2nm,0.4s,baz=89,slow=3.8,SNR=4.5
KURK Kurchatov 43.48 308 *e*P **P 14 01 59.4 -0.9**
comp=Z,26nm,0.6s,mb4.8
KURK PcP PcP 14 03 43.2 -0.3
KURK Kurchatov 43.48 308 P **P 14 02 00.5 +0.2**
KURK 14 03 43.2
KURK pmax pmax
comp=Z,17nm,0.4s,mb4.8
RAMN Ramite 43.91 272 *e*P **P 14 02 04.0 -0.1**
comp=Z,12nm,0.7s,mb4.3
RAMN Ramite 43.91 272 *e*P **P 14 02 04.0 -0.1**
comp=Z,12nm,0.7s,mb4.3
JIRN Jiri 43.93 273 *e*P **P 14 02 04.5 +0.3**
comp=Z,5.3nm,0.7s,mb4.0
JIRN Jiri 43.93 273 *e*P **P 14 02 04.5 +0.3**
comp=Z,5.3nm,0.7s,mb4.0
GUN Gumba 44.07 274 *e*P **P 14 02 06.3 +0.9**
comp=Z,12nm,0.6s,mb4.5
GUN Gumba 44.07 274 *e*P **P 14 02 06.3 +0.9**
comp=Z,12nm,0.6s,mb4.4
PKI Pulchoki 44.59 273 *e*P **P 14 02 10.0 +0.5**
PKI Pulchoki 44.59 273 *e*P **P 14 02 10.0 +0.5**
PKI Pulchoki 44.59 273 *e*P **P 14 02 10.0 +0.5**
KKN Kakani 44.60 274 *e*P **P 14 02 10.2 +0.7**
comp=Z,12nm,0.7s,mb4.4
KKN Kakani 44.60 274 *e*P **P 14 02 10.2 +0.7**
comp=Z,12nm,0.7s,mb4.3
KKN Kakani 44.60 274 *e*P **P 14 02 10.2 +0.7**
KKN pmax pmax
comp=Z,12nm,0.7s,mb4.3
DMN Daman 44.82 274 *e*P **P 14 02 12.4 +1.1**
comp=Z,10nm,0.8s,mb4.2
DMN Daman 44.82 274 *e*P **P 14 02 12.4 +1.1**
comp=Z,10nm,0.8s,mb4.2
GKN Gorkha 45.02 274 *e*P **P 14 02 13.0 +0.1**
comp=Z,23nm,0.8s,mb4.6
GKN Gorkha 45.02 274 *e*P **P 14 02 13.0 +0.1**
comp=Z,23nm,0.8s,mb4.6
KAPI Kappang 45.03 205 P **P 14 02 11.8 -1.2**
comp=Z,21nm,0.6s,mb4.7,baz=37,slow=9.4,SNR=12
KAPI Kappang 45.03 205 P **P 14 02 11.8 -1.2**
DANN Dangsing 45.57 275 *e*P **P 14 02 18.0 +0.8**
comp=Z,38nm,0.6s,mb4.9
DANN Dangsing 45.57 275 *e*P **P 14 02 18.0 +0.8**
comp=Z,38nm,0.6s,mb4.9
KOLN Koldanda 45.95 275 *e*P **P 14 02 20.4 +0.3**
KOLN Koldanda 45.95 275 *e*P **P 14 02 20.4 +0.3**
TKM2 Tokmak 2 46.89 297 P **P 14 02 28.0 +0.9**
SNR=23
TKM2 P 14 02 28.0
SNR=23
TKM2 Tokmak 2 46.89 297 *e*P **P 14 02 27.9 +0.7**
comp=Z,9.7nm,0.7s,mb4.2
TKM2 Tokmak 2 46.89 297 *e*P **P 14 02 27.9 +0.8**
TKM2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
KZA Kyzart 47.35 296 P **P 14 02 32.5 +1.7**
SNR=13
KZA P 14 02 32.5
SNR=13
KBK Karagaybulak 47.42 297 P **P 14 02 32.0 +0.8**
SNR=23
KBK P 14 02 32.0
SNR=23
CHMS Chumysh 47.47 298 P **P 14 02 31.8 +0.2**
SNR=6.6
CHMS P 14 02 31.8
SNR=6.6
KSH Kashi 47.56 293 P **P 14 02 36.5 +4.1**
KSH pP pP 14 02 45.0 -40
KSH sP sP 14 02 49.8 -63
KSH pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
USP Ospenovka 47.58 298 P **P 14 02 32.7 +0.2**
SNR=14
USP P 14 02 32.7
SNR=14
AAK Ala-Archa 47.74 297 P **P 14 02 34.2 +0.4**
SNR=5.9
AAK P 14 02 34.2
SNR=5.9
AAK Ala-Archa 47.74 297 *e*P **P 14 02 33.3 -0.4**
comp=Z,28nm,0.9s,mb4.6
AAK Ala-Archa 47.74 297 *e*P **P 14 02 33.3 -0.4**
AAK pmax pmax
comp=Z,27nm,0.9s,mb4.6
VOSK Vostochnaya 47.95 311 P **P 14 02 34.3 -0.9**
VOSK pmax pmax
comp=Z,21nm,0.8s,mb4.5
EKS2 Erkin-Say 48.25 298 P **P 14 02 38.1 +0.6**
SNR=5.0
EKS2 P 14 02 38.1
SNR=5.0
BVA0 Borovoye Array 48.26 312 *i* P **P 14 02 36.9 -0.6**
BVAR Borovoye Array 48.26 312 P **P 14 02 37.1 -0.4**
comp=Z,3.5nm,0.3s,mb4.2,baz=90,slow=7.2,SNR=19
BVAR Borovoye Array 48.26 312 P **P 14 02 37.1 -0.4**
BVAR Borovoye Array 48.26 312 P **P 14 02 37.1 -0.4**
BVAR pmax pmax
comp=Z,4.0nm,0.3s
BRVK Borovoye 48.32 312 *e*P **P 14 02 37.5 -0.5**
comp=Z,4.7nm,0.4s,mb4.2
BRVK Borovoye 48.32 312 *e*P **P 14 02 37.5 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.4s,mb4.2
AML Almayashu 48.45 297 P **P 14 02 40.4 +1.3**
SNR=45
AML P 14 02 40.4
SNR=45
ZRNK Zerenda 49.10 312 P **P 14 02 43.7 -0.2**
ZRNK pmax pmax
comp=Z,11nm,0.4s,mb4.5
KDAK Kodiak Island 49.15 42 P **P 14 02 45.3 +1.1**
comp=Z,3.7nm,0.7s,mb3.8,baz=284,slow=4.2,SNR=2.7
KDAK Kodiak Island 49.15 42 P **P 14 02 45.3 +1.1**
KDAK Kodiak Island 49.15 42 P **P 14 02 45.3 +1.1**
KK31 Karatay Array 50.42 299 *i* P **P 14 02 53.3 -0.7**
KK31 pmax pmax
comp=Z,15nm,1.2s,mb4.2
KKAR Karatay Array 50.42 299 *e*P **P 14 02 53.7 -0.2**
comp=Z,12nm,1.1s,mb4.2
KKAR Karatay Array 50.42 299 *e*P **P 14 02 53.7 -0.3**
KKAR pmax pmax
comp=Z,12nm,1.1s,mb4.1
ILAR Eielson Array 51.13 32 P **P 14 02 59.5 +0.6**
comp=Z,1.0nm,0.8s,mb3.3,baz=280,slow=6.7,SNR=12
ILAR Eielson Array 51.13 32 P **P 14 02 59.5 +0.6**
ILAR Eielson Array 51.13 32 P **P 14 02 59.5 +0.6**
ARU Arti 54.28 318 *e*P **P 14 03 21.2 -0.8**
comp=Z,17nm,0.7s,mb4.7
ARU Arti 54.28 318 P **P 14 03 21.7 -0.3**
AB31 Akbulak array 55.54 309 *i* P **P 14 03 30.3 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.3
ABKAR Akbulak array 55.54 309 *e*P **P 14 03 30.1 -1.1**
comp=Z,8.1nm,0.6s,mb4.4
INK Inuvik 55.77 27 P **P 14 03 33.2 +0.8**
comp=Z,1.5nm,0.8s,mb3.5,baz=289,slow=5.4,SNR=5.4
INK PcP PcP 14 04 28.8 +0.5
comp=Z,2.9nm,0.9s,baz=285,slow=5.3,SNR=5.4
INK Inuvik 55.77 27 *e*P **P 14 03 33.2 +0.8**
INK PcP PcP 14 04 28.8 +0.5
INK Inuvik 55.77 27 P **P 14 03 33.2 +0.8**
INK pP 14 04 28.8 +2.0
FITZ Fitzroy Crossi 55.99 194 P **P 14 03 34.8 +0.2**
comp=Z,12nm,0.7s,mb4.5,baz=9.5,slow=6.6,SNR=14
FITZ Fitzroy Crossi 55.99 194⇑ *i*P **P 14 03 34.5 -0.1**
FITZ Fitzroy Crossi 55.99 194 P **P 14 03 34.8 +0.2**
AKTO Aktyubinsk 56.34 311 P **P 14 03 35.9 -0.8**
comp=Z,3.4nm,0.7s,mb4.0,baz=78,slow=9.9,SNR=16
AKTO Aktyubinsk 56.34 311 P **P 14 03 35.9 -0.8**
AKTO Aktyubinsk 56.34 311 P **P 14 03 35.9 -0.9**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
WRAB Tennant Creek 56.76 184 *e*P **P 14 03 39.6 -0.4**
comp=Z,28nm,1.2s,mb4.8
WRAB Tennant Creek 56.76 184 *e*P **P 14 03 39.6 -0.3**
WRAB pmax pmax
comp=Z,28nm,1.2s,mb4.8
WB2 Warramunga Arr 56.77 184 *e*P **P 14 03 39.4 -0.6**
WRA Warramunga Arr 56.77 184 P **P 14 03 39.6 -0.4**
comp=Z,19nm,0.8s,mb4.8,baz=360,slow=7.3,SNR=94
WRA PcP PcP 14 04 33.3 +0.4
comp=Z,2.1nm,0.8s,baz=0.2,slow=4.4,SNR=3.3
WRA Warramunga Arr 56.77 184 P **P 14 03 39.6 -0.4**
WRA PcP PcP 14 04 33.2 +0.4
WRA Warramunga Arr 56.77 184 P **P 14 03 39.7 -0.3**
WRA pP 14 04 33.3 -1.3
WRA pmax pmax
comp=Z,19nm,0.8s
AS31 Alice Springs 60.49 184 *e*P **P 14 04 05.4 -0.2**
ASAR Alice Springs 60.49 184 P **P 14 04 05.5 0.0**
comp=Z,4.9nm,0.6s,mb4.3,baz=13,slow=12,SNR=66
ASAR PcP PcP 14 04 47.6 0.0
comp=Z,1.3nm,0.8s,baz=2.3,slow=4.8,SNR=2.8
ASAR Alice Springs 60.49 184 P **P 14 04 05.5 0.0**
ASAR PcP PcP 14 04 47.6 0.0
ASAR Alice Springs 60.49 184 P **P 14 04 05.5 0.0**
ASAR 14 04 47.6
ASAR pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 62.87 339 P **P 14 04 20.8 -0.1**
comp=Z,2.9nm,0.8s,mb4.0,baz=64,slow=8.3,SNR=3.5
ARCES ARCESS Array B 62.87 339 P **P 14 04 20.8 -0.1**
ARCES ARCESS Array B 62.87 339 P **P 14 04 20.8 0.0**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 65.32 29 P **P 14 04 37.3 +0.5**
comp=Z,0.4nm,0.6s,mb3.2,baz=301,slow=6.2,SNR=5.7
YKA Yellowknife Ar 65.32 29 P **P 14 04 37.4 +0.5**
YKA Yellowknife Ar 65.32 29 P **P 14 04 37.4 +0.5**
FINES FINESS Array B 67.33 331 P **P 14 04 49.4 -0.2**
comp=Z,4.5nm,0.9s,mb4.1,baz=50,slow=6.6,SNR=9.7
FINES FINESS Array B 67.33 331 P **P 14 04 49.4 -0.2**
FINES FINESS Array B 67.33 331 P **P 14 04 49.4 -0.2**
FINES pmax pmax
comp=Z,5.0nm,0.9s
STKA Stephens Creek 68.68 176 P **P 14 04 58.4 +0.2**
comp=Z,4.9nm,0.6s,mb4.3,baz=330,slow=8.2,SNR=15
STKA Stephens Creek 68.68 176 *e*P **P 14 04 58.4 +0.2**
STKA Stephens Creek 68.68 176 P **P 14 04 58.4 +0.2**
STKA Stephens Creek 68.68 176 P **P 14 04 58.4 +0.2**
STKA pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 72.36 321 P **P 14 05 19.7 -0.6**
comp=Z,0.8nm,0.3s,mb3.8,baz=46,slow=6.9,SNR=5.9
AKASG Malin Array Be 72.36 321 P **P 14 05 19.7 -0.6**
AKASG Malin Array Be 72.36 321 P **P 14 05 19.7 -0.6**
NB2 NORSAR Subarra 72.94 336 P **P 14 05 23.9 +0.4**
comp=Z,4.4nm,1.0s,mb4.0,baz=31,slow=6.5
NOA NORSAR Array B 72.94 336 P **P 14 05 23.9 +0.4**
comp=Z,1.2nm,0.8s,mb3.6,baz=41,slow=5.9,SNR=4.1
NOA NORSAR Array B 72.94 336 P **P 14 05 23.9 +0.4**
BRTR Keskin Array B 76.49 310 P **P 14 05 45.2 +1.0**
comp=Z,1.0nm,0.6s,mb3.6,baz=46,slow=4.8,SNR=5.5
BRTR Keskin Array B 76.49 310 P **P 14 05 45.2 +1.0**
BRTR Keskin Array B 76.49 310 P **P 14 05 45.2 +0.9**
NVAR Mina Array Bea 77.42 51 P **P 14 05 51.3 +1.8**
comp=Z,1.7nm,0.7s,mb3.8,baz=301,slow=5.2,SNR=15
NVAR Mina Array Bea 77.42 51 P **P 14 05 51.3 +1.8**
PDAR Pinedale Array 79.82 44 P **P 14 06 03.6 +1.1**
comp=Z,1.5nm,0.7s,mb3.7,baz=280,slow=2.0,SNR=12
PDAR Pinedale Array 79.82 44 P **P 14 06 03.6 +1.1**
GERES GERESS Array B 81.02 326 P **P 14 06 08.7 0.0**
comp=Z,0.3nm,0.5s,mb3.2,baz=46,slow=7.0,SNR=3.5
GERES GERESS Array B 81.02 326 P **P 14 06 08.7 0.0**
GERES GERESS Array B 81.02 326 P **P 14 06 08.7 0.0**
TXAR Lajitas Array 92.52 50 P **P 14 07 06.2 +1.3**
comp=Z,2.2nm,0.9s,mb4.2,baz=316,slow=2.3,SNR=9.3
TXAR Lajitas Array 92.52 50 P **P 14 07 06.2 +1.3**
TXAR Lajitas Array 92.52 50 P **P 14 07 06.3 +1.4**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 149.28 55 PKPbc PKPbc 14 13 42.1 +0.8
comp=Z,2.0nm,0.8s,baz=326,slow=4.2,SNR=5.2
LPAZ La Paz 149.28 55 PKPbc PKPbc 14 13 42.1 +0.8

SZGRF ***31*** *14:02:00.3,29°.50S×176°.50W,h33km,Kermadec Islands region*
DJA ***31*** *14:02:19,25°.35S×177°.58W,h68km,mb5.6/25*
MOS ***31*** *14:02:22.7±0.8,25°.13S×177°.62W,h116km,mb5.4/42, Error ellipse: s-maj=9.5km s-min=7.8km az=76.3*
ISCJB ***31*** *14:02:25.5±0.1,25°.83S±0°.02×177°.66W±0°.03,h157km, mb5.2/134, Error ellipse: s-maj=4.9km s-min=2.3km az=30.8*
BJI ***31*** *14:02:25.8,25°.02S×176°.96W,h157km,mB5.3/26, mb5.3/43*
IDC ***31*** *14:02:26.4±2.0,25°.29S×177°.59W,h143km±17km, mb5.0/22,mb1 5.1/23,mb1mx5.1/24,mbtmp5.0/23,MS4.0/9, Ms1 4.0/9,ms1mx3.8/25,Error ellipse: s-maj=11.7km s-min=11.2km az=78.0*
NEIC ***31*** *14:02:27.4±0.1,25°.38S×177°.61W,mb5.3/105,MW5.3, Error ellipse: s-maj=4.8km s-min=3.4km az=143.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17} Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.20000×10^{17} NP1: ϕ_s202.00000°, δ23.00000°, λ-104.00000°. NP2: ϕ_s37.00000°, δ68.00000°, λ-84.00000°. Principal axes: T 1.3000, Plg22.0000°, Azm122.0000°; N -0.1100, Plg5.0000°, Azm215.0000°; P -1.1900, Plg66.0000°, Azm318.0000°;*
GCMT ***31*** *14:02:28.9±0.2,25°.33S×177°.20W,h159km±1km,MW5.3, Moment Tensor Solution. s74,c111; s97,c175; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.20000×10^{17} NP1ϕ_s167.00000°, δ34.00000°, λ-125.00000°. NP2ϕ_s26.00000°, δ63.00000°, λ-69.00000°. Principal axes: T 1.1500, Plg15.0000°, Azm101.0000°; N 0.0300, Plg18.0000°, Azm196.0000°; P -1.1800, Plg66.0000°, Azm334.0000°; Data Used: II IU IC G CN.*
BGS ***31*** *14:02:30.4±3.4,25°.38S×177°.61W,h155km,mb5.3(NEIC)*
ISC 31 14:02:26.8±0.1,**25°.92S**±0°.03×**177°.62W**±0°.04,**h159**km, **h159**km±3.2km;**pP-P,n1138,**σ0**°77**/658,**mb5.2**/132, **239C-253D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.33**	**185**	*e*P	**Pn**	**14 03 24.8**	**+6.1**
RAO	**Raoul Island**	**3.33**	**185**	*e*P	**Pn**	**14 03 24.8**	**+6.1**
MSVF	**Nonsavu**	**9.08**	**333**	*e*P	**Pn**	**14 04 31.4**	**-3.1**
	326nm,1.0s						
MSVF	**Nonsavu**	**9.08**	**333**	*e*P	**Pn**	**14 04 31.5**	**-3.1**
MSVF				pmax	pmax		
	comp=Z,326nm,1.0s						
MSVF	**Nonsavu**	**9.08**	**333**	Pn	**Pn**	**14 04 31.0**	**-3.6**
	comp=Z,2μm,0.9s,SNR=83						
OUZ	**Omahuta**	**11.97**	**217**	*e*P	**Pn**	**14 05 22.9**	**+11**
	comp=Z,47nm,1.1s						
MXZ	**Matakaoa Point**	**12.12**	**196**	*e*PN	**Pn**	**14 05 14.5**	**+0.3**
MXZ				SN	**Sn**	**14 07 26.8**	**-1.5**
PUZ	**Puketiti**	**12.61**	**195**	PN	**Pn**	**14 05 17.8**	**-2.8**
PUZ				SN	**Sn**	**14 07 38.3**	**-1.9**
CNGZ	**Carnagh Statio**	**13.02**	**195**	PN	**Pn**	**14 05 25.2**	**-0.6**
CNGZ				SN	**Sn**	**14 07 50.8**	**+0.9**
MWZ	**Matawai**	**13.04**	**197**	PN	**Pn**	**14 05 23.3**	**-2.8**
MWZ				SN	**Sn**	**14 07 51.0**	**+0.4**
URZ	**Urewera**	**13.09**	**199**	P	**Pn**	**14 05 35.7**	**+9.0**
	comp=Z,12nm,0.3s,baz=141,slow=6.5,SNR=45						
URZ				S	**Sn**	**14 07 53.8**	**+2.1**
	comp=Z,31nm,0.3s,baz=124,slow=23,SNR=15						
URZ				LR	LR	14 10 33.9	
	comp=Z,252nm,20.4s,baz=20,slow=36						
URZ	**Urewera**	**13.09**	**199**	*e*P	**Pn**	**14 05 33.2**	**+6.5**
	comp=Z,64nm,0.5s						
URZ				S	**Sn**	**14 07 53.8**	**+2.1**
URZ	**Urewera**	**13.09**	**199**	PN	**Pn**	**14 05 25.9**	**-0.8**
URZ				SN	**Sn**	**14 07 51.8**	**+0.1**
KNZ	**Kokohu**	**13.65**	**196**	SN	**Sn**	**14 08 02.0**	**-3.2**
BKZ	**Black Stump Fm**	**14.11**	**199**	*e*PN	**Pn**	**14 05 39.8**	**+0.2**
BKZ				*e*SN	**Sn**	**14 08 13.9**	**-2.3**
PXZ	**Pawanui**	**14.81**	**197**	*e*PN	**Pn**	**14 05 46.6**	**-1.8**
PXZ				*e*SN	**Sn**	**14 08 25.4**	**-7.6**
DZM	**Mont Dzumac**	**15.06**	**281**	*e*P	**Pn**	**14 05 56.9**	**+5.3**
	comp=Z,380nm,1.2s						
TSZ	**Takapari Road**	**15.09**	**199**	PN	**Pn**	**14 05 52.5**	**+0.7**
TSZ				*e*SN	**Sn**	**14 08 34.5**	**-5.1**
NOUC	**Port Laguerre**	**15.18**	**281**	*e*P	**Pn**	**14 05 59.4**	**+6.4**
MRZ	**Mangatainoka R**	**15.76**	**199**	*e*PN	**Pn**	**14 05 58.7**	**-1.3**
MRZ				*e*SN	**Sn**	**14 08 47.6**	**-8.0**
KIW	**Kapiti Island**	**16.15**	**201**	*e*SN	**Sn**	**14 08 58.5**	**-6.5**
TCW	**Tory Channel**	**16.67**	**202**	PN	**Pn**	**14 06 10.0**	**-1.0**
TCW				*e*SN	**Sn**	**14 09 08.6**	**-8.8**
NNZ	**Nelson**	**16.99**	**204**	PN	**Pn**	**14 06 13.7**	**-1.2**
NNZ				*e*SN	**Sn**	**14 09 20.2**	**-4.8**
RAR	**Rarotonga**	**17.01**	**78**	P	**Pn**	**14 06 11.3**	**-4.1**
	comp=Z,1.3nm,0.3s,baz=243,slow=14,SNR=6.8						
RAR				S	**S**	**14 09 07.1**	**-17**
	comp=Z,5.2nm,0.3s,baz=66,slow=22,SNR=4.1						
RAR				LR	LR	14 11 36.7	
	comp=Z,738nm,19.9s,baz=267,slow=33						
RAR	**Rarotonga**	**17.01**	**78**	*e*P	**Pn**	**14 06 11.0**	**-4.4**
	comp=Z,127nm,1.0s						
RAR				*e*S	**S**	**14 09 06.9**	**-17**
RAR				S	**S**	**14 09 07.1**	**-17**
FUNA	**Funafuti**	**17.56**	**349**	*e*P	**Pn**	**14 06 14.8**	**-7.1**
	comp=Z,220nm,1.0s						
THZ	**Tophouse**	**17.64**	**204**	PN	**Pn**	**14 06 21.6**	**-1.0**
THZ				*e*SN	**Sn**	**14 09 32.6**	**-7.9**
KHZ	**Kahutara**	**18.00**	**202**	PN	**Pn**	**14 06 25.8**	**-1.0**
KHZ				*e*SN	**Sn**	**14 09 39.4**	**-10**
RPZ	**Rata Peaks**	**20.01**	**205**	P	**P**	**14 06 52.1**	**+5.0**
	comp=Z,15nm,0.5s,baz=204,slow=18,SNR=11						
RPZ				S	**S**	**14 10 23.2**	**+0.1**
	comp=Z,18nm,0.4s,baz=157,slow=6.1,SNR=16						
RPZ	**Rata Peaks**	**20.01**	**205**	P	**P**	**14 06 52.1**	**+5.0**
RPZ				S	**S**	**14 10 23.2**	**+0.1**
LBZ	**Lake Benmore**	**20.91**	**205**	*e*PN	**P**	**14 07 00.4**	**+3.8**
TBI	**Tubuai**	**25.70**	**90**	*e*S	**S**	**14 11 52.9**	**-6.4**
	comp=Z,390nm,35.8s						

TBI eLR LR 14 14 00.7
comp=Z,563nm,25.2s
HNR Honiara 26.86 304 P **P** **14 07 51.5 -1.3**
comp=Z,221nm,0.7s,mb5.9,baz=159,slow=2.5,SNR=9.7
HNR S **S** **14 12 03.5 -14**
comp=Z,41nm,0.4s,baz=154,slow=24,SNR=19
HNR Honiara 26.86 304 eP **P** **14 07 50.3 -2.5**
comp=Z,298nm,1.0s,mb5.9
HNR S **S** **14 12 03.5 -14**
HNR Honiara 26.86 304 P **P** **14 07 51.5 -1.3**
HNR pmax pmax
comp=Z,221nm,0.7s,mb5.9
PPT2 Papeete2 27.29 78 eS **S** **14 12 15.3 -9.0**
comp=Z,378nm,26.8s
PPT2 eLQ 14 13 37.6
comp=Z,902nm,26.5s
PPT2 eLR LR 14 15 00.0
comp=Z,678nm,22.8s
ARMA Armidale 27.43 253 eP **P** **14 08 03.2 +5.4**
ARMA Armidale 27.43 253 eP **P** **14 08 03.4 +5.6**
comp=Z,11nm,0.6s,mb4.7
RIV Riverview 28.12 246 eP **P** **14 08 09.9 +6.1**
EIDS Eidsvold 28.19 264 eP **P** **14 08 07.0 +2.5**
comp=Z,102nm,0.7s,mb5.7
CNB Canberra Magne 29.81 244 eP **P** **14 08 24.7 +6.0**
CAN Canberra 30.10 244 eP **P** **14 08 27.0 +5.7**
comp=Z,27nm,1.1s,mb4.9
CAN Canberra 30.10 244 eP **P** **14 08 27.0 +5.7**
CAN pmax pmax
comp=Z,27nm,1.1s,mb4.9
TOO Toolangi 33.26 240 eP **P** **14 08 53.9 +5.0**
CTA Charters Tower 33.69 272 eP **P** **14 08 54.9 +2.1**
CTA e pP 14 09 32.2 +5.6
CTAO Charters Tower 33.69 272 eP **P** **14 08 54.8 +2.0**
comp=Z,106nm,1.0s,mb5.5
CTAO Charters Tower 33.69 272 eP **P** **14 08 54.8 +2.0**
CTAO pmax pmax
comp=Z,106nm,1.0s,mb5.5
STKA Stephens Creek 36.05 251 P **P** **14 09 16.9 +4.0**
comp=Z,36nm,0.6s,mb5.2,baz=93,slow=9.3,SNR=94
STKA PcP PcP 14 11 38.7 +3.0
comp=Z,18nm,0.8s,baz=71,slow=7.4,SNR=5.3
STKA Stephens Creek 36.05 251 eP **P** **14 09 16.5 +3.6**
STKA e 14 11 39.2
STKA Stephens Creek 36.05 251 eP **P** **14 09 16.8 +3.9**
comp=Z,6.9nm,0.6s,mb4.5
STKA PcP PcP 14 11 38.7 +3.0
STKA ePcP PcP 14 11 39.1 +3.3
STKA Stephens Creek 36.05 251 eP **P** **14 09 16.8 +3.9**
STKA e 14 11 39.1
PMG Port Moresby 37.20 290 eP **P** **14 09 22.1 -0.8**
comp=Z,138nm,0.8s,mb5.6
PMG Port Moresby 37.20 290 *d iP* **P** **14 09 22.4 -0.5**
PMG pmax pmax
comp=Z,155nm,1.0s
COEN Coen 38.59 280 eP **P** **14 09 35.9 +1.4**
comp=Z,867nm,1.1s,mb6.3
BBOO Buckleboo 40.70 249 eP **P** **14 09 54.3 +2.5**
comp=Z,871nm,0.6s
BBOO ePcP PcP 14 11 52.4 +2.1
AS31 Alice Springs 43.87 262 eP **P** **14 10 19.5 +2.0**
ASAR Alice Springs 43.87 262 P **P** **14 10 19.6 +2.0**
comp=Z,44nm,0.8s,mb5.1,baz=90,slow=6.6,SNR=342
ASAR pP pP 14 10 58.6 +5.8
comp=Z,13nm,0.9s,baz=104,slow=9.5,SNR=3.0
ASAR PcP PcP 14 12 02.9 +1.9
comp=Z,6.5nm,0.8s,baz=105,slow=4.6,SNR=4.9
ASAR ScP ScP 14 15 41.0 +3.2
comp=Z,1.3nm,0.9s,baz=104,slow=3.9,SNR=4.3
ASAR S **S** **14 16 36.6 -0.3**
comp=Z,2.2nm,1.0s,baz=100,slow=15,SNR=5.4
ASAR PKiKP PKiKP 14 19 02.1 0.0
comp=Z,0.4nm,0.5s,baz=97,slow=1.4,SNR=5.7
ASAR Alice Springs 43.87 262 P **P** **14 10 19.6 +2.0**
ASAR pP pP 14 10 58.6 +5.8
ASAR PcP PcP 14 12 02.9 +1.9
ASAR ScP ScP 14 15 41.0 +3.2
ASAR S **S** **14 16 36.6 -0.3**
ASAR PKiKP PKiKP 14 19 02.1 0.0
ASAR Alice Springs 43.87 262 P **P** **14 10 19.6 +2.0**
ASAR *PP pP 14 10 58.6 +5.8
ASAR 14 12 02.9
ASAR S **S** **14 16 36.6 -0.3**
ASAR pmax pmax
comp=Z,44nm,0.8s
ASAR smax
comp=N,2.0nm,1.0s
WB2 Warramunga Arr 44.44 267 eP **P** **14 10 23.3 +1.2**
WRAB Tennant Creek 44.45 267 eP **P** **14 10 23.3 +1.1**
comp=N,54nm,1.1s,mb5.1
WRAB Tennant Creek 44.45 267 eP **P** **14 10 23.3 +1.1**
WRAB pmax pmax
comp=Z,54nm,1.1s,mb5.1
WRAB Tennant Creek 44.45 267 P **P** **14 10 23.0 +0.8**
comp=Z,228nm,0.8s,mb5.8,SNR=26
WRA Warramunga Arr 44.45 267 P **P** **14 10 23.3 +1.0**
comp=Z,22nm,0.6s,mb4.9,baz=104,slow=7.8,SNR=64
WRA pP pP 14 11 01.7 +4.2
comp=Z,21nm,1.1s,baz=103,slow=8.3,SNR=4.4
WRA PcP PcP 14 12 05.0 +2.0
comp=Z,11nm,1.1s,baz=101,slow=4.4,SNR=6.2
WRA ScP ScP 14 15 44.1 +3.9
comp=Z,3.3nm,0.8s,baz=102,slow=4.0,SNR=6.4
WRA S **S** **14 16 44.9 -0.5**
comp=Z,3.2nm,1.1s,baz=100,slow=14,SNR=3.8
WRA PKiKP PKiKP 14 19 02.9 +0.1
comp=Z,0.5nm,0.5s,baz=93,slow=0.7,SNR=4.6
WRA Warramunga Arr 44.45 267 P **P** **14 10 23.3 +1.0**
WRA pP pP 14 11 01.7 +4.2
WRA PcP PcP 14 12 05.0 +2.0
WRA ScP ScP 14 15 44.1 +3.9
WRA S **S** **14 16 44.9 -0.5**
WRA PKiKP PKiKP 14 19 02.9 +0.1
WRA Warramunga Arr 44.45 267 P **P** **14 10 23.3 +1.1**
WRA *PP pP 14 11 01.7 +4.2
WRA 14 12 05.1
WRA S **S** **14 16 44.9 -0.4**
WRA pmax pmax
comp=Z,22nm,0.6s
WRA smax
comp=N,3.0nm,1.1s
FORT Forrest 47.67 251 ⇓*iP* **P** **14 10 49.1 +1.8**
FORT Forrest 47.67 251 eP **P** **14 10 49.1 +1.9**
comp=N,218nm,0.7s,mb5.9
KIP Kipapa 50.76 24 *d iP* **P** **14 11 07.4 -3.2**
KIP pmax pmax
comp=Z,207nm,2.5s,mb5.3
SBA Scott Base 52.52 184 eP **P** **14 11 30.9 +7.9**
comp=Z,21nm,0.6s,mb5.0
SBA Scott Base 52.52 184 eP **P** **14 11 30.9 +7.9**
SBA pmax pmax
comp=Z,21nm,0.6s,mb5.0
VNDA Vanda 52.57 186 eP **P** **14 11 30.7 +7.2**
comp=Z,7.4nm,0.6s,mb4.6
VNDA Vanda 52.57 186 eP **P** **14 11 30.7 +7.3**
VNDA pmax pmax
comp=Z,7.0nm,0.6s
FITZ Fitzroy Crossi 52.85 266 P **P** **14 11 27.6 +1.3**
comp=Z,22nm,0.8s,mb4.9,baz=127,slow=7.3,SNR=36
FITZ S **S** **14 18 46.1 +3.2**
comp=Z,0.9nm,0.8s,baz=87,slow=12,SNR=2.1
FITZ Fitzroy Crossi 52.85 266 eP **P** **14 11 27.3 +1.0**
FITZ Fitzroy Crossi 52.85 266 eP **P** **14 11 27.7 +1.4**
comp=Z,48nm,1.1s,mb5.1
FITZ S **S** **14 18 46.1 +3.2**
GUMO Guam 53.62 313 P **P** **14 11 29.6 -2.3**
comp=Z,150nm,0.7s,mb5.9,baz=144,slow=7.6,SNR=10
GUMO Guam 53.62 313 P **P** **14 11 29.6 -2.3**
GUMO Guam 53.62 313 P **P** **14 11 29.6 -2.3**
KLBR Kellerberrin 56.23 248 ⇓*iP* **P** **14 11 52.5 +2.0**
comp=Z,2.5nm,0.3s,mb4.5
MBWA Marble Bar 57.17 261 eP **P** **14 11 58.6 +1.3**
comp=Z,68nm,1.1s,mb5.4
CASY Casey 59.27 207 eP **P** **14 12 15.5 +4.4**
CASY Casey 59.27 207 eP **P** **14 12 15.5 +4.3**
comp=Z,66nm,0.6s,mb5.6
QSPA South Pole Qui 64.18 180 P **P** **14 12 50.2 +6.4**
comp=Z,41nm,0.6s,mb5.4,baz=33,slow=1.5,SNR=304
QSPA PcP PcP 14 13 22.2 +4.9
comp=Z,31nm,1.0s,baz=11,slow=2.6,SNR=6.6
QSPA South Pole Qui 64.18 180 eP **P** **14 12 50.2 +6.4**
comp=Z,51nm,0.8s,mb5.4
QSPA ePcP PcP 14 13 22.0 +4.7
QSPA PcP PcP 14 13 22.2 +4.9
KKM Kota Kinabalu 71.55 286 eP **P** **14 13 31.8 +0.8**
comp=Z,62nm,0.8s,mb5.4
JOW Kunigami 73.94 311 P **P** **14 13 44.0 -0.7**
comp=Z,83nm,0.8s,mb5.5,baz=292,slow=28,SNR=6.4
JOW Kunigami 73.94 311 P **P** **14 13 44.0 -0.7**
KSM Kuching 74.58 279 eP **P** **14 13 49.0 +0.3**
comp=Z,88nm,1.0s,mb5.3
MJAR Matsushiro Arr 74.78 324 P **P** **14 13 47.3 -2.1**
comp=Z,16nm,0.8s,mb4.7,baz=158,slow=6.1,SNR=27
MJAR Matsushiro Arr 74.78 324 P **P** **14 13 47.3 -2.1**
MJAR Matsushiro Arr 74.78 324 P **P** **14 13 47.3 -2.0**
MJAR pmax pmax
comp=Z,16nm,0.8s
MAJO Matsushiro 74.78 324 eP **P** **14 13 47.0 -2.3**
comp=Z,26nm,0.9s,mb4.9
MAJO Matsushiro 74.78 324 eP **P** **14 13 47.0 -2.3**
MAJO pmax pmax
comp=Z,26nm,0.9s,mb4.9
MAT Matsushiro 74.78 324 P **P** **14 13 46.6 -2.7**
PMSA Palmer Station 76.21 156 P **P** **14 14 01.2 +4.1**
comp=Z,16nm,0.5s,mb4.9,baz=296,slow=5.6,SNR=5.9
PMSA Palmer Station 76.21 156 P **P** **14 14 01.2 +4.1**
TPUB Ta-pu 77.24 304 eP **P** **14 14 02.8 -0.8**
comp=Z,142nm,1.3s,mb5.4
SSLB Suanglung 77.28 304 eP **P** **14 14 01.6 -2.1**
comp=Z,60nm,1.0s,mb5.2
YHNB Yeheng 77.48 305 eP **P** **14 14 04.8 -0.1**
SMY Shemya 78.64 355 eP **P** **14 14 09.4 -1.2**
comp=Z,749nm,1.7s,mb6.0
SMY Shemya 78.64 355 eP **P** **14 14 09.4 -1.2**
FX1 Attu Island--F 78.87 354 P **P** **14 14 09.9 -1.9**
comp=Z,145nm,0.8s,mb5.7,baz=190,slow=2.6,SNR=15
FX1 Attu Island--F 78.87 354 P **P** **14 14 09.9 -1.9**
FX1 Attu Island--F 78.87 354 P **P** **14 14 09.9 -1.9**
FX1 pmax pmax
comp=Z,145nm,0.8s
UNV Unalaska Valle 80.01 7 eP **P** **14 14 15.6 -2.4**
comp=Z,100nm,1.1s,mb5.4
AKUT Akutan 80.37 7 eP **P** **14 14 18.3 -1.6**
comp=Z,104nm,1.0s,mb5.4
BSC Santa Cruz Isl 81.10 45 ⇓P **P** **14 14 24.2 0.0**
baz=81
SCI San Clemente I 81.17 47 ⇓P **P** **14 14 24.3 -0.4**
baz=81
KSRS Korea Array 81.18 319 P **P** **14 14 24.1 -0.5**
comp=Z,14nm,0.9s,mb4.6,baz=141,slow=6.0,SNR=17
KSRS LR LR 14 44 50.4
comp=Z,53nm,21.4s,baz=110,slow=32
KSRS Korea Array 81.18 319 P **P** **14 14 24.1 -0.5**
KSRS pmax pmax
comp=Z,14nm,0.9s,mb4.6
KSAR Wonju Array Be 81.19 319 P **P** **14 14 24.1 -0.6**
KSAR Wonju Array Be 81.19 319 P **P** **14 14 24.1 -0.6**
PET Petropavlovsk 81.28 346 eP **P** **14 14 22.5 -2.2**
PET pmax pmax
comp=Z,76nm,0.7s,mb5.4
SBC Santa Barbara 81.33 45 ⇓P **P** **14 14 25.5 0.0**
baz=81
CIS Catalina Islan 81.53 47 ⇓P **P** **14 14 26.1 -0.5**
baz=81,SNR=9.1
BLG Laguna Peak 81.53 46 ⇓P **P** **14 14 26.3 -0.3**
baz=81
SYO Syowa Base 81.55 193 ⇑*iP* **P** **14 14 28.8 +2.7**
SYO Syowa Base 81.55 193 ⇓*iX* **P** **14 14 31.4 +5.3**
SYO Syowa Base 81.55 193 ⇓*iP* pP 14 15 06.4 +0.8
PKM Peak Mountain 81.55 45 ⇓P **P** **14 14 27.0 +0.4**
baz=81,SNR=5.2
PEA0B Petropavlovsk- 81.57 345 eP **P** **14 14 24.9 -1.4**
PETK Petropavlovsk- 81.57 345 P **P** **14 14 25.0 -1.3**
comp=Z,105nm,0.7s,mb5.6,baz=160,slow=4.7,SNR=135
PETK Petropavlovsk- 81.57 345 P **P** **14 14 25.0 -1.3**
PETK Petropavlovsk- 81.57 345 P **P** **14 14 25.0 -1.3**
PETK pmax pmax
comp=Z,105nm,0.7s,mb5.6
SMMC Simmler 81.70 44 ⇓P **P** **14 14 27.8 +0.4**
baz=82
FMP Fort Macarthur 81.79 46 ⇑P **P** **14 14 27.9 0.0**
baz=82
INCN Inchon 81.96 318 eP **P** **14 14 28.3 -0.4**
comp=Z,40nm,1.0s,mb5.0
109C Camp Elliot, M 82.06 48 ⇑P **P** **14 14 28.9 -0.5**
baz=82
OSI Osito Adit 82.07 45 ⇓P **P** **14 14 29.2 -0.1**
baz=82
OSI Osito Adit 82.07 45 eP **P** **14 14 29.4 0.0**
comp=Z,9.0nm,0.4s,mb4.8
DECC Green Verdugo 82.10 46 ⇓P **P** **14 14 29.3 -0.2**
baz=82
PASC Pasadena Art C 82.14 46 eP **P** **14 14 29.2 -0.5**
comp=Z,11nm,0.6s,mb4.7
SDPT Sand Point 82.26 10 eP **P** **14 14 28.1 -1.7**
comp=Z,220nm,1.2s,mb5.7
MWC Mount Wilson 82.26 46 eP **P** **14 14 29.3 -1.1**
comp=Z,45nm,1.3s,mb4.9
MWC Mount Wilson 82.26 46 eP **P** **14 14 29.3 -1.0**
MWC pmax pmax
comp=Z,45nm,1.3s,mb4.9
ARVC Arvin 82.32 45 ⇓P **P** **14 14 30.5 -0.2**
baz=82,SNR=6.5
MURC Murrieta 82.43 47 ⇓P **P** **14 14 31.2 0.0**
baz=82,SNR=12
MONP Monument Peak 82.52 48 ⇓P **P** **14 14 32.0 +0.3**
baz=82,SNR=48
BFSC Mount Baldy Ra 82.53 46 ⇑P **P** **14 14 31.4 -0.3**
baz=82,SNR=15
DVTC Desert V Tower 82.60 48 ⇑P **P** **14 14 32.4 +0.3**
baz=82,SNR=15
VES Vestal, Richgr 82.61 44 ⇓P **P** **14 14 31.6 -0.6**
baz=82,SNR=11
SNAA Sanae 82.61 178 eP **P** **14 14 34.5 +2.9**
comp=Z,37nm,0.9s,mb5.1
SNAA Sanae 82.61 178 eP **P** **14 14 34.6 +2.9**
SNAA pmax pmax
comp=Z,37nm,0.9s
EDW2 Edwards Air Fo 82.71 46 ⇓P **P** **14 14 32.6 -0.1**
baz=82,SNR=37
ISA Isabella 82.89 45 ⇑P **P** **14 14 33.6 0.0**
baz=83,SNR=31
ISA Isabella 82.89 45 eP **P** **14 14 33.0 -0.5**
comp=Z,45nm,1.1s,mb5.1
ISA Isabella 82.89 45 eP **P** **14 14 33.1 -0.5**
ISA pmax pmax
comp=Z,45nm,1.1s,mb5.1
PFO Pinyon Flat Ob 82.93 47 ⇑P **P** **14 14 33.8 -0.1**
baz=83,SNR=21
PFO Pinyon Flat Ob 82.93 47 eP **P** **14 14 33.7 -0.2**
comp=Z,51nm,1.4s,mb5.1
PFO Pinyon Flat Ob 82.93 47 eP **P** **14 14 33.7 -0.1**
PFO pmax pmax
comp=Z,51nm,1.4s,mb5.1
PFO Pinyon Flat Ob 82.93 47 P **P** **14 14 33.0 -0.8**
comp=Z,135nm,1.1s,mb5.6,SNR=12
SWSC Sam W. Stewart 82.97 48 ⇓P **P** **14 14 34.1 0.0**
baz=83,SNR=11
BBRC Big Bear Solar 83.02 47 ⇑P **P** **14 14 34.4 +0.1**
baz=83
CMB Columbia Colle 83.21 42 eP **P** **14 14 34.4 -0.7**
comp=Z,44nm,1.3s,mb5.0
CMB Columbia Colle 83.21 42 eP **P** **14 14 34.4 -0.8**
CMB pmax pmax
comp=Z,44nm,1.3s,mb5.0
LRMC Laurel Mountai 83.27 45 ⇑P **P** **14 14 35.5 0.0**
baz=83,SNR=18
RRX Edison Barstow 83.35 46 ⇓P **P** **14 14 35.7 -0.2**
baz=83
MAIT Maitri 83.35 183 eP **P** **14 14 39.5 +4.1**
MAIT e 14 14 51.5
QIZ Qiongzhong 83.41 295 P **P** **14 14 38.0 +1.4**
QIZ pP pP 14 15 15.3 -0.9
QIZ sP sP 14 15 31.0 -2.0
QIZ S S 14 24 45.0 +0.2
QIZ pmax pmax
comp=Z,56nm,2.3s,mb4.9
QIZ pmax pmax
comp=Z,280nm,3.5s
BELC Belle Mtn. Jos 83.47 47 ⇑P **P** **14 14 36.8 +0.2**
baz=83,SNR=43
CHGN Chignik 83.50 11 eP **P** **14 14 34.9 -1.3**
NJ2 Nanjing 83.61 310 eP **P** **14 14 39.5 +2.1**
NJ2 PP PP 14 17 53.3 +0.7
NJ2 pmax pmax
comp=Z,60nm,0.8s,mb5.4
NJ2 pmax pmax
comp=Z,330nm,4.4s
NJ2 LR LR
comp=N,340nm,17.2s
NJ2 LR LR
comp=E,310nm,23.0s
NJ2 LR LR
comp=Z,230nm,19.0s
CWC Cottonwood Cre 83.62 44 ⇑P **P** **14 14 37.3 0.0**
baz=83,SNR=12
USRK Ussuriysk Arra 83.62 326 P **P** **14 14 36.7 -0.4**
comp=Z,15nm,0.9s,mb4.7,baz=116,slow=4.4,SNR=17
WDC Whiskeytown Da 83.62 39 eP **P** **14 14 36.2 -1.0**
comp=Z,67nm,1.3s,mb5.2
WDC Whiskeytown Da 83.62 39 eP **P** **14 14 36.2 -1.0**
WDC pmax pmax
comp=Z,67nm,1.3s,mb5.2
BC3 Big Chuckawall 83.63 48 ⇑P **P** **14 14 37.8 +0.4**
baz=84,SNR=40
GLA Glamis 83.69 49 ⇓P **P** **14 14 38.3 +0.5**
baz=84,SNR=24
GLA Glamis 83.69 49 eP **P** **14 14 38.1 +0.3**
comp=Z,94nm,1.4s,mb5.3
GLA Glamis 83.69 49 eP **P** **14 14 38.1 +0.4**
GLA pmax pmax
comp=Z,95nm,1.4s,mb5.3
GSC Goldstone 83.73 46 ⇓P **P** **14 14 37.9 0.0**
baz=84,SNR=33
GSC Goldstone 83.73 46 eP **P** **14 14 37.4 -0.5**
comp=Z,44nm,1.1s,mb5.1
GSC Goldstone 83.73 46 eP **P** **14 14 37.4 -0.5**
GSC pmax pmax
comp=Z,44nm,1.1s,mb5.1
HEC Hector,Ludlow 83.75 47 ⇓P **P** **14 14 38.1 +0.1**
baz=84,SNR=10
MPMC Manual Prospec 83.76 45 ⇓P **P** **14 14 38.1 +0.1**
baz=84,SNR=24
MLAC Mammoth Lakes 83.90 43 ⇑P **P** **14 14 38.6 -0.1**
baz=84
TIN Tinemaha 83.91 44 ⇑P **P** **14 14 38.9 +0.2**
baz=84
IRM Iron Mountain 84.13 48 ⇑P **P** **14 14 40.3 +0.4**
baz=84,SNR=54
113A Mohawk Valley, 84.25 49 ⇓P **P** **14 14 40.7 +0.1**
baz=84,SNR=22
YBH Yreka Blue Hor 84.30 38 eP **P** **14 14 40.6 0.0**
comp=Z,96nm,1.5s,mb5.3
YBH Yreka Blue Hor 84.30 38 eP **P** **14 14 40.6 0.0**
YBH pmax pmax
comp=Z,96nm,1.5s
Y12C Blythe 84.31 48 ⇓P **P** **14 14 41.3 +0.4**
baz=84,SNR=20
TUQ Turquoise Moun 84.39 46 ⇑P **P** **14 14 41.4 +0.2**
baz=84,SNR=33
WCN Washoe City 84.40 41 ⇓P **P** **14 14 41.3 +0.1**
baz=84,SNR=28
WCN Washoe City 84.40 41 eP **P** **14 14 40.6 -0.6**
comp=Z,36nm,1.0s,mb5.0
WCN Washoe City 84.40 41 eP **P** **14 14 40.6 -0.6**
WCN pmax pmax
comp=Z,35nm,1.0s,mb5.0
FURC Furnace Creek, 84.41 45 ⇓P **P** **14 14 41.1 -0.2**
baz=84,SNR=11
GRAC Grapevine Rang 84.41 44 ⇓P **P** **14 14 41.5 +0.2**
baz=84,SNR=5.4
SHOC Shoshone 84.44 46 ⇑P **P** **14 14 41.1 -0.3**
baz=84
214A Organ Pipe Nat 84.44 51 ⇓P **P** **14 14 41.8 +0.3**
baz=84,SNR=13
Z13A Yuma Proving G 84.57 49 ⇑P **P** **14 14 42.5 +0.3**
baz=84,SNR=36
LDFC Landfair 84.70 47 eP **P** **14 14 43.1 +0.3**
comp=Z,126nm,1.1s,mb5.6
NVAR Mina Array Bea 84.72 43 P **P** **14 14 42.6 -0.2**
comp=Z,27nm,0.8s,mb5.0,baz=223,slow=8.8,SNR=178
NVAR PKPPKP 14 41 00.8
comp=Z,0.4nm,0.6s,baz=90,slow=3.6,SNR=4.1
NVAR Mina Array Bea 84.72 43 P **P** **14 14 42.6 -0.2**
NVAR P'P' 14 41 00.8
HUMO Hull Mountain 84.75 37 eP **P** **14 14 42.9 +0.1**
comp=Z,47nm,1.3s,mb5.1
114A Black Gap (USA 84.84 50 ⇓P **P** **14 14 43.8 +0.2**
baz=85,SNR=7.3
NEE2 Needles Airpor 84.84 47 ⇑P **P** **14 14 43.8 +0.2**
baz=85,SNR=5.8
PDMCI Parker Dam,Lak 84.89 48 ⇓P **P** **14 14 44.1 +0.3**
baz=85,SNR=21
MDJ Mudanjiang 85.14 325 P **P** **14 14 46.3 +1.6**
MDJ pP pP 14 15 23.5 -1.0
MDJ sP sP 14 15 40.0 -1.3
MDJ PP PP 14 18 06.0 +1.2
MDJ S S 14 25 00.5 -0.4
MDJ sS sS 14 26 06.3 -3.6
MDJ SS SS 14 30 35.3 -3.9
MDJ pmax pmax
comp=Z,35nm,1.1s,mb5.0
MDJ pmax pmax
comp=Z,150nm,4.0s
MDJ Mudanjiang 85.14 325 eP **P** **14 14 44.5 -0.3**
comp=Z,39nm,1.0s,mb5.1
Z14A Wintersburg 85.15 49 ⇓P **P** **14 14 45.8 +0.7**
baz=85,SNR=15
HABR Khabarovsk 85.31 331 eP **P** **14 14 43.9 -1.6**
HABR e*PP pP 14 15 21.5 -3.8
HABR e 14 18 02.1
HABR eS S 14 24 53.2 -9.2
HABR e*SS sS 14 26 02.0 -9.4
HABR eSS SS 14 30 38.5 -3.0
HABR MLR MLR
comp=Z,76nm,18.0s
PLCA Paso Flores 85.31 133 P **P** **14 14 49.8 +3.8**
comp=Z,12nm,0.9s,mb4.6,baz=222,slow=5.0,SNR=18
PLCA LR LR 14 45 35.4
comp=Z,118nm,18.1s,baz=127,slow=30
PLCA Paso Flores 85.31 133 eP **P** **14 14 49.9 +3.9**
comp=Z,11nm,1.0s,mb4.5
PLCA epP pP 14 15 27.9 +2.2
PLCA Paso Flores 85.31 133 eP **P** **14 14 49.9 +4.0**
PLCA e*PP pP 14 15 27.9 +2.2
PLCA pmax pmax
comp=Z,11nm,1.0s
Y14A Wickenburg 85.44 49 ⇑P **P** **14 14 46.8 +0.3**
baz=85,SNR=20
W13A Hualapai Mount 85.53 48 ⇓P **P** **14 14 47.5 +0.6**
baz=85,SNR=37
UBT Ubonrachathani 85.61 289 ⇑P **P** **14 14 50.9 +3.2**
MOD Modoc 85.77 39 eP **P** **14 14 47.0 -0.9**
comp=Z,44nm,1.1s,mb5.1
WHN Wuhan 85.94 307 P **P** **14 14 49.3 +0.3**
K05A Summer Lake 85.97 38 ⇓P **P** **14 14 49.2 +0.3**
baz=86
KDAK Kodiak Island 85.98 13 *i* P **P** **14 14 49.2 +0.6**
TUC Tucson 86.05 51 eP **P** **14 14 50.4 +0.8**
comp=Z,53nm,1.1s,mb5.2
TUC Tucson 86.05 51 eP **P** **14 14 50.4 +0.8**
TUC pmax pmax
comp=Z,53nm,1.1s,mb5.2
318A Bisbee 86.14 52 ⇑P **P** **14 14 50.8 +0.8**
baz=86,SNR=34
R11A Troy Canyon, C 86.36 44 ⇑P **P** **14 14 50.7 -0.2**
baz=86
218A Dragoon 86.39 52 ⇑P **P** **14 14 52.2 +1.0**
baz=86,SNR=54
319A Douglas 86.61 53 ⇓P **P** **14 14 53.3 +1.0**
baz=86
BMN Battle Mountai 86.63 42 eP **P** **14 14 51.6 -0.6**
comp=Z,62nm,1.7s,mb5.2
BMN Battle Mountai 86.63 42 eP **P** **14 14 51.6 -0.6**
BMN pmax pmax
comp=Z,61nm,1.7s,mb5.2
X16A Lo Mia Camp, P 86.78 49 ⇓P **P** **14 14 54.0 +0.9**
baz=87
Y17A Roosevelt 86.78 50 ⇓P **P** **14 14 53.7 +0.6**
baz=87,SNR=19
CN2 Changchun 86.79 323 eP **P** **14 14 52.3 -0.6**
CN2 esP sP 14 15 49.5 0.0
CN2 PP PP 14 18 19.5 +1.4
CN2 eS S 14 25 14.3 -2.7
CN2 SS SS 14 31 03.0 -0.4
CN2 pmax pmax
comp=Z,60nm,1.2s,mb5.3
CN2 pmax pmax
comp=Z,500nm,4.0s
Z17A San Carlos Hig 86.82 51 ⇓P **P** **14 14 54.2 +0.9**
baz=87,SNR=5.0
Z18A Geronimo 87.01 51 ⇑P **P** **14 14 55.0 +0.8**
baz=87
WVOR Wild Horse Val 87.06 39 eP **P** **14 14 53.5 -0.7**
comp=Z,29nm,1.4s,mb4.9
WVOR Wild Horse Val 87.06 39 eP **P** **14 14 53.5 -0.7**
WVOR pmax pmax
comp=Z,29nm,1.4s,mb4.9

X17A	Forest Lakes	87.17	50	⇓P	P	14 14 55.9	+1.0
	baz=87,SNR=19						
R13A	O'Grain Ranch,	87.28	45	⇑P	P	14 14 55.9	+0.6
	baz=87						
CCUT	Cedar City	87.30	46	eP	P	14 14 55.4	0.0
	comp=Z,29nm,1.1s,mb5.0						
119A	Ashpeak Ranch,	87.35	52	⇓P	P	14 14 56.8	+1.0
	baz=87,SNR=26						
U15A	North Rim	87.35	47	⇑P	P	14 14 56.6	+0.8
	baz=87						
ARUT	Antelope Range	87.39	46	eP	P	14 14 56.2	+0.3
	comp=Z,21nm,1.2s,mb4.8						
ARUT	Antelope Range	87.39	46	eP	P	14 14 56.2	+0.3
ARUT				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.8						
Y18A	Canyon Day Jun	87.39	50	⇑P	P	14 14 57.0	+1.0
	baz=87,SNR=42						
220A	Playas Peak, P	87.43	53	⇓P	P	14 14 57.3	+1.0
	baz=87,SNR=35						
WUAZ	Wupatki	87.44	48	⇓P	P	14 14 56.8	+0.6
	baz=87,SNR=20						
WUAZ	Wupatki	87.44	48	eP	P	14 14 56.7	+0.4
	comp=Z,26nm,1.0s,mb5.0						
I07A	Izee	87.62	38	⇓P	P	14 14 56.7	-0.1
	baz=87						
W17A	Winslow	87.65	49	⇓P	P	14 14 58.0	+0.8
	baz=88,SNR=7.2						
Z19A	T-Link Ranch,	87.66	51	⇓P	P	14 14 58.2	+0.9
	baz=88,SNR=20						
120A	U Bar Ranch, L	87.70	52	⇓P	P	14 14 58.6	+1.1
	baz=88,SNR=16						
J08A	Circle Bar Ran	87.73	39	⇓P	P	14 14 57.2	-0.2
	baz=88						
G06A	Carlson Farm,	87.76	36	⇓P	P	14 14 57.1	-0.3
	baz=88						
X18A	Snowflake	87.86	50	⇑P	P	14 14 59.0	+0.7
	baz=88,SNR=20						
V17A	Tonalea, Kykot	87.89	49	⇓P	P	14 14 58.9	+0.6
	baz=88,SNR=36						
U16A	Tuba City	87.96	48	⇓P	P	14 14 59.3	+0.6
	baz=88,SNR=17						
Y19A	Nutrioso	88.03	51	⇑P	P	14 15 00.2	+1.2
	baz=88,SNR=18						
Z20A	Nine Sixteen R	88.04	52	⇓P	P	14 15 00.3	+1.2
	baz=88,SNR=31						
X19A	St. Johns	88.26	50	⇑P	P	14 15 00.9	+0.8
	baz=88,SNR=12						
121A	Cookes Peak, D	88.30	52	⇓P	P	14 15 01.5	+1.1
	baz=88,SNR=8.9						
W18A	Petrified Fore	88.33	49	⇓P	P	14 15 01.0	+0.6
	baz=88						
R15A	Junction	88.38	46	⇓P	P	14 15 01.4	+0.8
	baz=88						
RSO	Redoubt South	88.43	12	eP	P	14 14 58.5	-1.8
	comp=Z,129nm,0.3s,mb6.2						
V18A	Ganado	88.53	49	⇑P	P	14 15 02.0	+0.7
	baz=88,SNR=6.3						
U17A	Shonto	88.53	48	⇓P	P	14 15 02.0	+0.7
	baz=88,SNR=6.8						
SVW2	Sparrevohn	88.53	11	eP	P	14 15 00.3	-0.4
	comp=Z,24nm,1.1s,mb5.0						
S16A	Weppner Ranch,	88.54	46	⇑P	P	14 15 01.4	+0.1
	baz=88,SNR=7.8						
W19A	Sanders	88.57	50	⇓P	P	14 15 02.1	+0.6
	baz=88,SNR=16						
MSU	Marysvale	88.62	46	eP	P	14 15 02.4	+0.7
	comp=Z,19nm,0.9s,mb5.0						
MSU	Marysvale	88.62	46	eP	P	14 15 02.4	+0.7
MSU				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
Y20A	Horse Springs,	88.62	51	⇑P	P	14 15 03.0	+1.1
	baz=88,SNR=43						
T17A	Navajo Res., N	88.66	47	⇑P	P	14 15 02.6	+0.6
	baz=88,SNR=10						
Z21A	St. Cloud Mine	88.79	52	⇓P	P	14 15 03.9	+1.2
	baz=89,SNR=13						
X20A	Quemado	88.87	50	⇓P	P	14 15 04.1	+1.1
	baz=89,SNR=12						
122A	Conniff Cattle	88.95	53	⇓P	P	14 15 04.7	+1.3
	baz=89,SNR=7.7						
SLKM	Skilak Lake	88.97	13	eP	P	14 15 01.6	-1.2
SLKM	Skilak Lake	88.97	13	eP	P	14 15 01.6	-1.2
223A	Chaparral, Ant	89.00	54	⇑P	P	14 15 04.2	+0.5
	baz=89						
S17A	Black Ridge (B	89.02	47	⇑P	P	14 15 03.3	-0.3
	baz=89,SNR=8.3						
RSW	Rattlesnake Hi	89.06	36	eP	P	14 15 03.7	+0.2
	comp=Z,108nm,1.3s,mb5.6						
HAWA	Hanford	89.09	36	eP	P	14 15 03.3	-0.4
	comp=Z,90nm,1.4s,mb5.5						
V19A	Window Rock	89.13	49	⇑P	P	14 15 04.6	+0.4
	baz=89						
P15A	Leamington	89.16	45	⇑P	P	14 15 04.2	0.0
	baz=89,SNR=12						
Y21A	Point of Rocks	89.17	51	⇓P	P	14 15 05.6	+1.2
	baz=89,SNR=48						
DUG	Dugway	89.18	44	⇓P	P	14 15 03.9	-0.4
	baz=89						
DUG	Dugway	89.18	44	eP	P	14 15 03.6	-0.7
	comp=Z,8.1nm,1.2s,mb4.5						
DUG	Dugway	89.18	44	eP	P	14 15 03.6	-0.7
DUG				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
W20A	Ramah	89.19	50	⇓P	P	14 15 05.3	+0.8
	baz=89,SNR=31						
Z22A	Elephant Butte	89.27	52	⇓P	P	14 15 05.7	+0.8
	baz=89,SNR=34						
MFID	Camas Ranch	89.28	40	⇑P	P	14 15 04.3	-0.3
	baz=89,SNR=10						
X21A	Alamocita Cree	89.32	51	⇓P	P	14 15 05.9	+0.8
	baz=89,SNR=38						
U19A	Dine' College,	89.34	49	⇑P	P	14 15 05.4	+0.3
	baz=89,SNR=10						
T18A	Mexican Hat	89.35	48	⇓P	P	14 15 05.4	+0.2
	baz=89,SNR=21						
ENH	Enshi	89.36	304	eP	P	14 15 05.9	+0.5
	comp=Z,28nm,0.8s,mb5.2						
324A	Moseley Ranch,	89.40	54	⇓P	P	14 15 05.8	+0.3
	baz=89,SNR=26						
425A	Indio Mountain	89.43	55	⇓P	P	14 15 06.0	+0.3
	baz=89,SNR=16						
626A	Big Bend Ranch	89.44	57	⇓P	P	14 15 06.2	+0.5
	baz=89,SNR=19						
123A	Bell Site, Whi	89.45	53	⇓P	P	14 15 06.5	+0.8
	baz=89						
O15A	The Old Anders	89.45	44	⇓P	P	14 15 05.6	+0.1
	baz=89,SNR=6.3						
ETW	Entiat	89.46	35	eP	P	14 15 05.0	-0.5
	comp=Z,65nm,0.9s,mb5.6						
Q16A	Castle Valley	89.50	46	⇑P	P	14 15 06.5	+0.7
	baz=89,SNR=5.9						
R17A	Hanksville Air	89.51	46	⇓P	P	14 15 05.7	-0.2
	baz=89,SNR=9.5						
P16A	Fountain Green	89.57	45	⇑P	P	14 15 06.5	+0.4
	baz=89						
V20A	Brimhall	89.57	49	⇓P	P	14 15 06.5	+0.2
	baz=89,SNR=6.6						
S18A	Hurst Farm, Bl	89.58	47	⇓P	P	14 15 07.0	+0.8
	baz=89						
MNTX	Cornudas Mount	89.60	54	eP	P	14 15 06.5	0.0
	comp=Z,25nm,1.2s,mb5.0						
Y22A	Socorro	89.63	52	⇓P	P	14 15 07.3	+0.8
	baz=90,SNR=20						
GYA	Guiyang	89.63	300	⇓iP	P	14 15 08.3	+1.6
GYA				pP	pP	14 15 48.0	+1.2
GYA				sP	sP	14 16 04.5	+1.0
GYA				PP	PP	14 18 43.8	+2.7
GYA				SKS		14 25 21.3	
GYA				S	S	14 25 42.0	-2.5
GYA				sS	sS	14 26 51.8	-2.4
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
GYA				pmax	pmax		
	comp=Z,130nm,5.8s						
TXAR	Lajitas Array	89.68	57	P	P	14 15 07.3	+0.4
	comp=Z,7.3nm,0.8s,mb4.6,baz=216,slow=6.2,SNR=36						
TXAR				PKKPbc	PKKPbc	14 32 42.5	+2.5
	comp=Z,0.6nm,0.7s,baz=94,slow=4.0,SNR=4.1						
TXAR	Lajitas Array	89.68	57	P	P	14 15 07.3	+0.4
TXAR				PKKPbc	PKKPbc	14 32 42.5	+2.5
TXAR	Lajitas Array	89.68	57	P	P	14 15 07.3	+0.4
TXAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TMUT	Trail Mountain	89.69	45	eP	P	14 15 07.3	+0.6
	comp=Z,61nm,1.0s,mb5.5						
224A	Cornudas Mount	89.69	54	⇓P	P	14 15 07.4	+0.5
	baz=90,SNR=21						
526A	Mary Lane Ranc	89.73	56	⇑P	P	14 15 07.5	+0.4
	baz=90,SNR=18						
Y22D	IRIS PASSCAL I	89.73	52	⇑P	P	14 15 08.1	+1.1
	baz=90						
325A	Bean Ranch, Si	89.74	55	⇓P	P	14 15 07.2	+0.1
	baz=90,SNR=9.2						
LENM	Lemitar	89.74	51	eP	P	14 15 07.7	+0.6
	comp=Z,8.8nm,1.1s,mb4.6						
T19A	Bechkito	89.75	48	⇓P	P	14 15 07.2	+0.1
	baz=90,SNR=8.2						
W21A	San Fidel	89.77	50	⇓P	P	14 15 07.9	+0.7
	baz=90,SNR=7.7						
Z23A	Rita Site, Whi	89.80	53	⇓P	P	14 15 08.1	+0.7
	baz=90,SNR=17						
MPU	Maple Canyon	89.82	45	eP	P	14 15 07.3	0.0
	comp=Z,10nm,0.8s,mb4.8						
U20A	Newcomb	89.85	49	⇓P	P	14 15 07.6	+0.1
	baz=90,SNR=15						
X22A	Bernardo	89.89	51	⇑P	P	14 15 08.8	+1.1
	baz=90,SNR=5.9						
E09A	Wood Farm, Sta	89.91	37	⇑P	P	14 15 07.0	-0.5
	baz=90						
627A	Terlingua Ranc	89.95	57	⇑P	P	14 15 08.5	+0.4
	baz=90,SNR=18						
BJT	Baijiatuau	89.97	315	eP	P	14 15 07.8	-0.1
	comp=Z,13nm,0.5s,mb5.1						
BJT	Baijiatuau	89.97	315	eP	P	14 15 07.9	-0.1
BJT				pmax	pmax		
	comp=Z,13nm,0.5s						
BNM	Barren Site	89.98	52	eP	P	14 15 08.7	+0.5
	comp=Z,78nm,1.9s,mb5.3						
BJI	Beijing	89.98	315	P	P	14 15 08.0	0.0
BJI				S	S	14 25 48.5	+1.3
BJI				SS	SS	14 31 50.3	+0.5
BJI				pmax	pmax		
	comp=Z,32nm,1.6s,mb5.0						
BJI				pmax	pmax		
	comp=Z,190nm,4.0s						
BJI				LR	LR		
	comp=N,120nm,31.6s						
BJI				LR	LR		
	comp=E,88nm,25.0s						
BJI				LR	LR		
	comp=Z,71nm,22.8s						
O16A	Springville	90.01	44	⇓P	P	14 15 08.0	-0.2
	baz=90,SNR=7.5						
SRU	San Rafael	90.02	46	eP	P	14 15 07.9	-0.3
	comp=Z,38nm,1.2s,mb5.2						
SRU	San Rafael	90.02	46	eP	P	14 15 07.9	-0.3
SRU				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
R18A	Canyonlands Na	90.03	47	⇑P	P	14 15 08.2	0.0
	baz=90,SNR=14						
LPM	Los Pinos Moun	90.06	51	eP	P	14 15 08.8	+0.3
	comp=Z,33nm,1.5s,mb5.0						
F10A	Beach Ranch, E	90.07	37	⇑P	P	14 15 07.4	-0.8
	baz=90,SNR=30						
426A	McDonald Obser	90.08	56	⇓P	P	14 15 09.1	+0.4
	baz=90,SNR=21						
P17A	Butcher Ranch,	90.08	45	⇓P	P	14 15 08.6	+0.1
	baz=90,SNR=6.8						
527A	Woodward Ranch	90.13	56	⇑P	P	14 15 07.7	-1.2
	baz=90,SNR=12						
M15A	Larsen Ranch,	90.14	43	⇑P	P	14 15 08.4	-0.3
	baz=90,SNR=18						
OD2	Odessa Site #2	90.17	36	eP	P	14 15 08.3	-0.4
	comp=Z,171nm,1.4s,mb5.8						
S19A	Harvey Farm, M	90.18	48	⇓P	P	14 15 08.9	-0.1
	baz=90,SNR=7.9						
PMR	Palmer	90.18	13	eP	P	14 15 07.5	-0.9
	comp=Z,131nm,1.8s,mb5.6						
PMR	Palmer	90.18	13	eP	P	14 15 07.5	-0.9
PMR				pmax	pmax		
	comp=Z,131nm,1.8s,mb5.6						
HLID	Hailey	90.19	40	⇑P	P	14 15 08.8	-0.1
	baz=90,SNR=24						
HLID	Hailey	90.19	40	eP	P	14 15 08.6	-0.3
	comp=Z,22nm,1.1s,mb5.0						
TTA	Tatalina	90.20	10	eP	P	14 15 07.7	-0.7
TTA	Tatalina	90.20	10	eP	P	14 15 07.7	-0.7
225A	Deer Hill, Car	90.22	54	⇑P	P	14 15 09.8	+0.5
	baz=90						
J13A	Cove Ranch, Pi	90.23	41	⇓P	P	14 15 09.2	0.0
	baz=90,SNR=35						
Y23A	Lovelace Mesa,	90.27	52	⇓P	P	14 15 10.0	+0.5
	baz=90,SNR=20						
JLU	Joanelle	90.27	44	eP	P	14 15 08.9	-0.4
	comp=Z,19nm,1.1s,mb4.9						
Q18A	Rafter H Ranch	90.27	46	⇑P	P	14 15 09.1	-0.3
	baz=90,SNR=15						
W22A	Albuquerque	90.29	51	⇑P	P	14 15 10.2	+0.6
	baz=90						
MVCO	Mesa Verde	90.31	48	⇑P	P	14 15 09.6	0.0
	baz=90,SNR=5.5						
K14A	Jones Ranch, D	90.33	42	⇓P	P	14 15 09.6	0.0
	baz=90,SNR=8.8						
628A	Black Gap, Mar	90.35	57	⇑P	P	14 15 10.1	+0.1
	baz=90						
R19A	Curley Farm, L	90.39	47	⇑P	P	14 15 09.9	0.0
	baz=90						
N16A	Rees Ranch, Co	90.44	44	⇓P	P	14 15 10.4	+0.2
	baz=90,SNR=6.9						
326A	Caldwell Ranch	90.44	55	⇑P	P	14 15 10.7	+0.3
	baz=90						
Z24A	Sheeppen Canyo	90.45	53	⇓P	P	14 15 11.0	+0.6
	baz=90,SNR=17						
U21A	Nageezi	90.46	49	⇓P	P	14 15 10.9	+0.5
	baz=90,SNR=35						
P18A	Preston Nutter	90.49	45	⇓P	P	14 15 10.7	+0.3
	baz=90						
O17A	Robinson Place	90.49	45	⇑P	P	14 15 10.6	+0.2
	baz=90,SNR=27						
L15A	Malad City	90.49	43	⇓P	P	14 15 10.1	-0.2
	baz=90,SNR=20						
X23A	Hourglass Bar	90.51	51	⇑P	P	14 15 10.9	+0.2
	baz=90,SNR=8.5						
ANMO	Albuquerque	90.51	51	eP	P	14 15 10.2	-0.4
	comp=Z,20nm,1.1s,mb5.1						
ANMO	Albuquerque	90.51	51	eP	P	14 15 10.2	-0.4
ANMO				pmax	pmax		
	comp=Z,20nm,1.1s						
H12A	Diamond D Ranc	90.53	39	⇓P	P	14 15 10.1	-0.3
	baz=90,SNR=41						
SML	Sawmill	90.54	13	P	P	14 15 08.2	-1.9
	comp=Z,8.8nm,1.3s,mb4.6						
SML	Sawmill	90.54	13	P	P	14 15 08.2	-1.9
SML				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
I13A	Wildhorse Cree	90.57	40	⇑P	P	14 15 10.7	0.0
	baz=90,SNR=7.7						
GDL2	Guadalupe Moun	90.60	54	eP	P	14 15 11.4	+0.3
	comp=Z,34nm,0.7s,mb5.5						
427A	Hayter Ranch,	90.64	56	⇑P	P	14 15 11.6	+0.3
	baz=90,SNR=32						
V22A	San Miguel Ran	90.70	50	⇓P	P	14 15 11.8	+0.3
	baz=90						
Y24A	Capitan	90.71	52	⇑P	P	14 15 12.1	+0.5
	baz=90,SNR=40						
S20A	Disappointment	90.74	48	⇑P	P	14 15 11.5	-0.1
	baz=91,SNR=8.1						
Q19A	Hogan Spring (	90.75	46	⇑P	P	14 15 11.5	-0.2
	baz=91,SNR=10						
528A	Cox Ranch, San	90.75	57	⇓P	P	14 15 12.2	+0.3
	baz=91						
PV01	Paradox Valley	90.76	47	eP	P	14 15 11.4	-0.3
	comp=Z,2μm,1.3s						
K15A	Arbon	90.80	42	⇓P	P	14 15 12.1	+0.4
	baz=91						
W23A	Werner Place,	90.84	51	⇓P	P	14 15 13.1	+0.9
	baz=91						
T21A	Navajo Lake	90.85	49	⇓P	P	14 15 12.5	+0.3
	baz=91						
N17A	Moffit Pass	90.85	44	⇓P	P	14 15 12.1	0.0
	baz=91,SNR=11						
H13A	Challis	90.88	40	⇑P	P	14 15 12.0	-0.1
	baz=91,SNR=18						
Z25A	Roswell	90.89	53	⇓P	P	14 15 13.0	+0.6
	baz=91						
R20A	Redvale	90.92	47	⇑P	P	14 15 13.0	+0.6
	baz=91						
I14A	Mackay	90.97	41	⇓P	P	14 15 12.7	+0.2
	baz=91,SNR=27						
U22A	Llaves	90.99	50	⇑P	P	14 15 13.1	+0.3
	baz=91						
CLNB	Carlsbad	90.99	54	eP	P	14 15 12.9	0.0
	comp=Z,4.8nm,0.2s,mb5.2						
O18A	Roosevelt	90.99	45	⇓P	P	14 15 12.8	+0.1
	baz=91						
F12A	Elk City	91.02	38	⇑P	P	14 15 12.0	-0.7
	baz=91,SNR=50						
S21A	Coal Bank Pass	91.03	48	⇓P	P	14 15 13.0	+0.1
	baz=91,SNR=18						
126A	Clayton Basin,	91.08	54	⇑P	P	14 15 13.6	+0.3
	baz=91						
L16A	Fish Haven	91.08	43	⇓P	P	14 15 12.8	-0.3
	baz=91,SNR=18						
428A	Kincaid Ranch,	91.11	56	⇓P	P	14 15 13.6	0.0
	baz=91,SNR=7.9						
V23A	Ortiz Mt. (NFS	91.12	50	⇓P	P	14 15 14.2	+0.8
	baz=91,SNR=9.9						
G13A	Cobalt	91.20	39	⇑P	P	14 15 13.2	-0.3
	baz=91,SNR=24						
Y25A	Mesa, Roswell	91.23	53	⇓P	P	14 15 14.1	+0.1
	baz=91,SNR=19						
M17A	Scullys Gap (B	91.25	44	⇑P	P	14 15 13.5	-0.4
	baz=91						
T22A	Edith	91.29	49	⇓P	P	14 15 13.9	-0.2
	baz=91,SNR=6.9						
P19A	Cripple Cowboy	91.31	46	⇑P	P	14 15 14.7	+0.5
	baz=91						
328A	Wristen Ranch,	91.34	56	⇓P	P	14 15 14.1	-0.5
	baz=91,SNR=5.5						
CPRX	Cap Rock	91.38	54	eP	P	14 15 15.0	+0.3
	comp=Z,24nm,0.7s,mb5.3						
W24A	Lazy 6 Ranch,	91.39	51	⇓P	P	14 15 14.6	-0.1
	baz=91,SNR=13						
Q20A	Ridgley Place,	91.39	47	⇓P	P	14 15 14.3	-0.3
	baz=91,SNR=9.0						
U23A	El Rito	91.42	50	⇓P	P	14 15 15.2	+0.4
	baz=91,SNR=6.7						
Z26A	Caprock	91.42	54	⇓P	P	14 15 14.8	-0.1
	baz=91,SNR=14						
H14A	Leadore	91.42	40	⇓P	P	14 15 14.7	+0.1
	baz=91,SNR=35						
K16A	Soda Springs	91.45	42	⇑P	P	14 15 14.9	+0.2
	baz=91,SNR=25						
L17A	Cokeville	91.47	43	⇑P	P	14 15 14.2	-0.7
	baz=91,SNR=7.1						
TNA	Tin City	91.49	4	eP	P	14 15 12.9	-1.5
	comp=Z,52nm,1.0s,mb5.5						
TNA				epP	pP	14 15 52.2	-2.3
TNA				ePP	PP	14 18 48.5	-6.5
NEW	Newport	91.55	36	⇑P	P	14 15 14.5	-0.6
	baz=91,SNR=5.9						
F13A	Darby	91.56	39	⇓P	P	14 15 14.4	-0.8
	baz=91,SNR=33						
X25A	Clemmons Ranch	91.56	52	⇓P	P	14 15 15.4	-0.2
	baz=91,SNR=9.8						
R21A	Cimarron	91.57	48	⇓P	P	14 15 15.6	+0.2
	baz=91,SNR=23						
127A	Arkansas Junct	91.58	54	⇓P	P	14 15 15.6	-0.1
	baz=91						
O19A	Miners Draw (B	91.58	45	⇓P	P	14 15 15.4	0.0
	baz=91						
I15A	Monteview	91.58	41	⇓P	P	14 15 15.5	+0.2
	baz=91,SNR=10						
N18A	Larsen Ranch,	91.60	45	⇓P	P	14 15 15.0	-0.6
	baz=91,SNR=10						
M18A	Lyman	91.60	44	⇓P	P	14 15 15.2	-0.3
	baz=91,SNR=14						
P20A	De Beque	91.62	46	⇑P	P	14 15 15.3	-0.3
	baz=91,SNR=8.2						
TRF	Thorofare Moun	91.65	12	eP	P	14 15 13.5	-1.7
	comp=Z,25nm,0.8s,mb5.3						
XAN	Xi'an	91.68	307	P	P	14 15 16.8	+0.7
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
XAN				pmax	pmax		
	comp=Z,31nm,6.1s						
J16A	Bone	91.69	42	⇓P	P	14 15 15.9	0.0
	baz=92,SNR=22						
SEY	Seymchan	91.70	347	diP	P	14 15 14.5	-0.9
AHID	Auburn Hatcher	91.71	43	eP	P	14 15 16.1	+0.2
	comp=Z,34nm,1.0s,mb5.3						
S22A	4UR Ranch, Cre	91.72	48	⇑P	P	14 15 16.5	+0.3
	baz=92,SNR=22						
G14A	Jackson	91.73	40	⇓P	P	14 15 16.0	0.0
	baz=92						
V24A	Rampart Ranch,	91.74	51	⇑P	P	14 15 16.6	+0.2
	baz=92,SNR=12						
K17A	Gardner Place,	91.81	43	⇑P	P	14 15 16.3	-0.1
	baz=92,SNR=31						
H15A	Lima	91.84	40	⇓P	P	14 15 16.7	+0.1
	baz=92,SNR=22						
MCMT	McKenzie Canyo	91.84	40	eP	P	14 15 16.6	+0.1
	comp=Z,18nm,1.1s,mb5.0						
Y26A	Elida	91.86	53	⇓P	P	14 15 16.7	-0.2
	baz=92,SNR=5.9						
N19A	John Jarvie Ra	91.87	45	⇓P	P	14 15 15.8	-0.9
	baz=92,SNR=6.6						
T23A	Casias Ranch,	91.89	49	⇓P	P	14 15 17.7	+0.7
	baz=92						
L18A	Fontenelle, Gr	91.89	44	⇓P	P	14 15 16.8	0.0
	baz=92						
RRI2	Red Ridge	91.90	42	eP	P	14 15 16.9	0.0
	comp=Z,61nm,1.4s,mb5.4						
SKAG	Skagway	91.92	20	eP	P	14 15 16.4	-0.1
	comp=Z,87nm,1.8s,mb5.5						
Z27A	Tatum	92.00	54	⇓P	P	14 15 17.0	-0.5
	baz=92,SNR=8.0						
R22A	Saguache, Gunn	92.02	48	⇑P	P	14 15 17.9	+0.3
	baz=92						
E13A	Victor	92.03	38	⇓P	P	14 15 16.2	-1.2
	baz=92,SNR=6.2						
O20A	White River Ci	92.06	46	⇓P	P	14 15 17.6	0.0
	baz=92						
W25A	X Bar L Ranch,	92.06	52	⇓P	P	14 15 17.4	-0.4
	baz=92,SNR=20						
I16A	Newdale	92.10	41	⇑P	P	14 15 18.2	+0.4
	baz=92,SNR=23						
KMI	Kunming	92.11	297	P	P	14 15 20.5	+2.2
KMI				pP	pP	14 16 01.8	+3.4
KMI				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
F14A	Wisdom	92.12	39	⇓P	P	14 15 17.3	-0.5
	baz=92,SNR=6.9						
DCID1	Drake Creek	92.12	42	eP	P	14 15 17.8	-0.1
	comp=Z,34nm,1.2s,mb5.2						
CHRT	Chiangrai	92.16	291	⇑P	P	14 15 20.0	+1.4
	comp=Z,266nm,1.0s,mb6.2						
X26A	CR and CF Fran	92.18	52	⇓P	P	14 15 18.7	+0.3
	baz=92						
REDW	Red Top Meadow	92.19	42	eP	P	14 15 18.0	-0.2
	comp=Z,51nm,1.3s,mb5.4						
M19A	Rock Springs	92.21	44	⇓P	P	14 15 18.3	0.0
	baz=92						
CM31	Chiang Mai Arr	92.24	289	eP	P	14 15 21.2	+2.2
	comp=Z,25nm,0.9s,mb5.2						
CMAR	Chiang Mai Arr

comp=Z,34nm,0.9s,mb5.4
E14A Clinton 92.40 39 ⇑P **P 14 15 18.4 -0.7**
baz=92,SNR=10
L19A Farson 92.41 44 ⇓P **P 14 15 19.1 -0.2**
baz=92,SNR=11
N20A Spence Gulch, 92.42 45 ⇑P **P 14 15 19.2 -0.1**
baz=92,SNR=12
W26A Owens Ranch, T 92.48 52 ⇑P **P 14 15 20.1 +0.3**
baz=92
MENT Mentasta 92.56 15 *e*P **P 14 15 18.9 -0.5**
T24A Torres, Weston 92.58 50 ⇑P **P 14 15 20.7 +0.6**
baz=92
J18A Kendall Valley 92.61 43 ⇑P **P 14 15 20.1 -0.1**
baz=92,SNR=75
SDCO Great Sand Dun 92.62 49 *e*P **P 14 15 19.5 -0.9**
comp=Z,16nm,1.4s,mb5.0
R23A Moffat 92.63 49 ⇑P **P 14 15 20.5 +0.1**
baz=92,SNR=8.4
F15A Butte 92.64 39 ⇑P **P 14 15 19.8 -0.4**
baz=92,SNR=10
MSTX Muleshoe 92.64 53 ⇑P **P 14 15 20.2 -0.3**
baz=92,SNR=5.5
PD01 Pinedale Array 92.64 43 *e*P **P 14 15 19.2 -1.1**
LRM Limekiln Ridge 92.65 39 *e*P **P 14 15 20.1 -0.1**
comp=Z,101nm,1.0s,mb5.9
PDAR Pinedale Array 92.65 43 P **P 14 15 19.6 -0.7**
comp=Z,18nm,0.9s,mb5.2,baz=210,slow=3.0,SNR=102
PDAR PKKPbc PKKPbc 14 32 35.0 +1.8
comp=Z,1.1nm,0.7s,baz=70,slow=3.0,SNR=9.6
PDAR Pinedale Array 92.65 43 P **P 14 15 19.6 -0.7**
PDAR PKKPbc PKKPbc 14 32 35.0 +1.8
PD02 Pinedale Array 92.65 43 *e*P **P 14 15 19.3 -1.0**
I17A Pilgrim Ck. 92.67 42 ⇑P **P 14 15 20.8 +0.4**
baz=92,SNR=11
QLMT Earthquake Lak 92.67 41 *e*P **P 14 15 21.0 +0.6**
comp=Z,5.5nm,1.1s,mb4.6
G16A Moss Hill, Enn 92.68 40 ⇑P **P 14 15 20.2 -0.2**
baz=92,SNR=13
FLWY Flagg Ranch 92.69 42 *e*P **P 14 15 20.5 +0.1**
comp=Z,42nm,1.0s,mb5.5
U25A Circle Dot Ran 92.69 51 ⇓P **P 14 15 20.4 -0.3**
baz=92,SNR=8.1
H16A Russell Place, 92.71 41 ⇑P **P 14 15 21.1 +0.6**
baz=92,SNR=21
A12A Yaak River Ran 92.73 36 ⇓P **P 14 15 20.1 -0.4**
baz=92,SNR=9.0
P22A Eagle 92.74 47 ⇓P **P 14 15 21.1 +0.3**
baz=92
X27A F and S Farms, 92.74 53 ⇑P **P 14 15 21.0 0.0**
baz=93
S24A Houchin Ranch, 92.76 49 ⇓P **P 14 15 21.2 +0.2**
baz=93
M20A Sweetwater, Wa 92.82 45 ⇓P **P 14 15 21.1 0.0**
baz=93,SNR=6.0
N21A Black Mountain 92.86 46 ⇑P **P 14 15 21.2 -0.1**
baz=93,SNR=5.4
YMR Madison River 92.86 41 *e*P **P 14 15 21.6 +0.3**
comp=Z,9.3nm,0.6s,mb5.1
E15A Deer Lodge 92.89 39 ⇓P **P 14 15 20.9 -0.4**
baz=93,SNR=7.3
W27A Bowe Ranch, En 92.97 52 ⇑P **P 14 15 21.8 -0.2**
baz=93
Q23A Hartsel 92.99 48 ⇓P **P 14 15 22.2 +0.2**
baz=93
L20A Wamsutter 93.00 44 ⇓P **P 14 15 22.0 0.0**
baz=93,SNR=6.3
I18A Diamond G Ranc 93.01 42 ⇑P **P 14 15 21.8 -0.2**
baz=93,SNR=10
T25A Trinidad 93.06 50 ⇓P **P 14 15 22.7 +0.3**
baz=93
DOT Dot Lake 93.10 14 *e*P **P 14 15 20.6 -1.3**
comp=Z,6.0nm,0.9s,mb4.7
F16A Kennard Place, 93.10 40 ⇑P **P 14 15 22.2 -0.1**
baz=93,SNR=11
R24A Sanders Place, 93.14 49 ⇓P **P 14 15 22.6 -0.1**
baz=93,SNR=7.5
U26A Atchley Ranch, 93.15 51 ⇓P **P 14 15 22.7 -0.1**
baz=93
JCT Junction City 93.17 58 ⇑P **P 14 15 22.7 -0.3**
baz=93
JCT Junction City 93.17 58 *e*P **P 14 15 22.4 -0.6**
comp=Z,5.1nm,0.6s,mb4.8
JCT Junction City 93.17 58 *e*P **P 14 15 22.4 -0.6**
JCT pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
O22A Kremmling 93.17 47 ⇑P **P 14 15 22.7 -0.1**
baz=93,SNR=17
P23A Jefferson 93.23 48 ⇓P **P 14 15 23.5 +0.4**
baz=93
J19A Crowheart 93.23 43 ⇑P **P 14 15 22.5 -0.5**
baz=93,SNR=17
S25A Robets Cordova 93.31 50 ⇑P **P 14 15 23.1 -0.4**
baz=93,SNR=5.3
D15A Lincoln 93.31 38 ⇓P **P 14 15 22.8 -0.5**
baz=93,SNR=8.1
K20A Yellowstone Ra 93.35 44 ⇑P **P 14 15 22.6 -1.0**
baz=93,SNR=5.9
G17A Pierce Place, 93.36 41 ⇑P **P 14 15 24.1 +0.6**
baz=93
HHC Hu-ho-hao-te 93.37 314 ⇓P **P 14 15 24.0 +0.3**
HHC pP pP 14 16 03.0 -0.9
HHC sP sP 14 16 18.5 -2.0
HHC PP PP 14 19 12.0 +1.7
HHC SKS 14 25 41.5
HHC S S 14 26 14.0 -3.6
HHC sS sS 14 27 24.0 -3.7
HHC SS SS 14 32 37.0 -1.5
HHC pmax pmax
comp=Z,24nm,1.0s,mb5.3
HHC pmax pmax
comp=Z,170nm,7.3s
COLA College 93.40 12 *e*P **P 14 15 21.0 -2.3**
comp=Z,24nm,1.1s,mb5.2
COLA *e*pP pP 14 16 01.3 -2.1
COLA College 93.40 12 *e*P **P 14 15 21.0 -2.2**
COLA *e**PP pP 14 16 01.3 -2.1
COLA pmax pmax
comp=Z,24nm,1.1s,mb5.2
M21A Separation Pea 93.40 45 ⇑P **P 14 15 23.4 -0.4**
baz=93,SNR=7.1
Q24A Divide 93.48 48 ⇑P **P 14 15 24.2 -0.1**
baz=93,SNR=5.0
ILAR Eielson Array 93.49 13 P **P 14 15 21.8 -1.9**
comp=Z,11nm,1.1s,mb4.9,baz=220,slow=4.7,SNR=50
ILAR pP pP 14 16 01.8 -2.1
comp=Z,2.2nm,1.0s,baz=215,slow=5.7,SNR=4.7
ILAR PP PP 14 19 04.5 -6.2
comp=Z,5.0nm,1.0s,baz=228,slow=7.7,SNR=9.1
ILAR PKKP PKKPbc 14 32 31.8 -0.1
comp=Z,0.3nm,0.5s,baz=356,slow=1.4,SNR=5.4
ILAR Eielson Array 93.49 13 P **P 14 15 21.8 -1.9**
ILAR pP pP 14 16 01.8 -2.1
ILAR PP PP 14 19 04.5 -6.2
ILAR PKKP PKKPbc 14 32 31.8 -0.1
ILAR Eielson Array 93.49 13 P **P 14 15 21.8 -1.9**
ILAR *PP pP 14 16 01.8 -2.1
ILAR 14 19 04.5
ILAR 14 32 31.8
ILAR pmax pmax
comp=Z,11nm,1.1s
E16A East Helena 93.50 39 ⇑P **P 14 15 23.6 -0.5**
baz=93,SNR=6.1
N22A Wattenberg Ran 93.56 46 ⇓P **P 14 15 24.6 0.0**
baz=93,SNR=6.1
L21A Rawlins 93.59 45 ⇓P **P 14 15 24.6 0.0**
baz=93
ISCO Idaho Springs 93.60 47 ⇑P **P 14 15 25.0 +0.2**
baz=93
O23A Lake Granby, G 93.61 47 ⇓P **P 14 15 24.9 +0.1**
baz=93,SNR=10
H18A Shoshone NF, C 93.63 41 ⇓P **P 14 15 24.7 -0.1**
baz=93
R25A Fountain Ranch 93.65 49 ⇓P **P 14 15 24.8 -0.3**
baz=94
B14A Marquette Ranc 93.66 37 ⇑P **P 14 15 23.7 -1.1**
baz=93,SNR=14
C15A Salmond Ranch, 93.68 38 ⇑P **P 14 15 24.3 -0.6**
baz=94
I19A Meeteetse 93.69 42 ⇓P **P 14 15 24.9 -0.2**
baz=94,SNR=17
F17A Fitzpatrick Pl 93.73 40 ⇑P **P 14 15 25.3 +0.1**
baz=94,SNR=8.5
M22A Cedar Creek Ra 93.79 45 ⇑P **P 14 15 25.1 -0.5**
baz=94,SNR=5.4
D16A Dana Ranch, Ca 93.85 39 ⇓P **P 14 15 25.9 +0.1**
baz=94
J20A Shoshoni 93.88 43 ⇓P **P 14 15 25.8 -0.1**
baz=94,SNR=25
E17A Martinsdale 93.92 40 ⇓P **P 14 15 26.2 +0.1**
baz=94
A14A Double T Ranch 93.94 36 ⇑P **P 14 15 25.3 -0.7**
baz=94,SNR=8.5
N23A Red Feather La 93.94 46 ⇑P **P 14 15 25.9 -0.5**
baz=94
S26A Kim 93.95 50 ⇑P **P 14 15 25.4 -1.0**
baz=94,SNR=5.6
CD2 Chengdu 93.99 302 *e*P **P 14 15 28.0 +1.2**
CD2 pP pP 14 16 08.8 +1.8
CD2 sP sP 14 16 25.8 +2.2
CD2 SKS 14 25 46.0
CD2 S S 14 26 21.3 -2.1
CD2 sS sS 14 27 32.8 -0.9
CD2 SS SS 14 32 49.0 +1.3
CD2 pmax pmax
comp=Z,50nm,1.0s,mb5.6
CD2 pmax pmax
comp=Z,260nm,7.2s
K21A Alcova 94.01 44 ⇓P **P 14 15 25.9 -0.7**
baz=94,SNR=11
B15A Bradely Ranch, 94.02 37 ⇑P **P 14 15 25.9 -0.6**
baz=94
H19A Powell 94.04 42 ⇓P **P 14 15 26.6 0.0**
baz=94,SNR=7.8
G18A Lazy EL Ranch, 94.05 41 ⇑P **P 14 15 26.3 -0.3**
baz=94,SNR=6.7
Q25A Bedland, Calha 94.06 49 ⇓P **P 14 15 27.0 +0.1**
baz=94
RLMT Red Lodge 94.11 41 *e*P **P 14 15 26.4 -0.6**
comp=Z,20nm,1.3s,mb5.1
O24A Longmont 94.12 47 ⇓P **P 14 15 27.6 +0.4**
baz=94
I20A Worland 94.17 43 ⇓P **P 14 15 26.8 -0.5**
baz=94,SNR=12
T27A Campo 94.19 51 ⇓P **P 14 15 27.5 -0.1**
baz=94
L22A Ellis Ranch, M 94.22 45 ⇓P **P 14 15 27.6 +0.1**
baz=94,SNR=5.4
GCMT Greycliff 94.24 41 *e*P **P 14 15 27.6 0.0**
comp=Z,18nm,1.6s,mb4.9
J21A Lysite 94.27 43 ⇑P **P 14 15 27.4 -0.4**
baz=94,SNR=16
F18A Big Timber 94.28 40 ⇑P **P 14 15 27.8 0.0**
baz=94,SNR=5.1
R26A Arlington 94.30 49 ⇑P **P 14 15 27.5 -0.5**
baz=94,SNR=6.1
NNA Nana 94.30 105 LR LR 14 50 27.2
comp=Z,81nm,18.1s,baz=61,slow=30
A15A Johnson Ranch, 94.31 37 ⇓P **P 14 15 26.6 -1.1**
baz=94,SNR=7.3
M23A Laramie 94.38 46 ⇓P **P 14 15 27.9 -0.4**
baz=94,SNR=6.4
D17A Six Diamond Ra 94.41 39 ⇑P **P 14 15 28.4 +0.1**
baz=94
P25A Willow Gulch B 94.42 48 ⇓P **P 14 15 28.3 -0.2**
baz=94,SNR=6.9
BILL Bilibino 94.43 354 *e*P **P 14 15 26.3 -1.6**
comp=Z,35nm,0.9s,mb5.5
BILL Bilibino 94.43 354 *i* P **P 14 15 26.9 -1.0**
BILL *e* 14 19 19.2
BILL pmax pmax
comp=Z,37nm,0.9s,mb5.5
BILL MLR MLR
comp=Z,100nm,17.0s
K22A Casper 94.48 44 ⇑P **P 14 15 28.3 -0.4**
baz=94,SNR=5.9
E18A Harlowton 94.53 40 ⇓P **P 14 15 29.0 +0.1**
baz=94,SNR=6.4
H20A Greybull 94.53 42 ⇑P **P 14 15 28.1 -0.8**
baz=94,SNR=7.2
DAWY Dawson 94.55 16 *e*P **P 14 15 26.9 -1.6**
N24A Carr 94.60 47 ⇓P **P 14 15 29.4 0.0**
baz=94,SNR=5.3
I21A Big Trails, Te 94.61 43 ⇑P **P 14 15 28.6 -0.7**
baz=94,SNR=21
C17A Wharram Farm, 94.63 39 ⇑P **P 14 15 28.5 -0.8**
baz=94,SNR=5.7
F19A Roth Farm, Mol 94.70 41 ⇑P **P 14 15 29.1 -0.5**
baz=94,SNR=5.6
EGAK Eagle 94.72 15 *e*P **P 14 15 28.4 -1.0**
comp=Z,9.8nm,0.9s,mb5.0
L23A Garrett 94.73 45 ⇑P **P 14 15 29.3 -0.6**
baz=94,SNR=8.6
R27A Eads 94.74 50 ⇓P **P 14 15 30.0 -0.1**
baz=95
G20A Bridger 94.79 42 ⇓P **P 14 15 30.3 +0.2**
baz=95
J22A Midwest 94.90 44 ⇑P **P 14 15 30.0 -0.7**
baz=95,SNR=9.3
A16A West Butte Ran 94.91 37 ⇓P **P 14 15 29.6 -0.9**
baz=95
M24A Cheyenne 94.96 46 ⇓P **P 14 15 31.2 +0.2**
baz=95
B17A L&G Farms, Che 94.98 38 ⇑P **P 14 15 30.5 -0.4**
baz=95
P26A Davis Ranch, A 94.99 48 ⇑P **P 14 15 31.3 +0.2**
baz=95
K23A Bowen Ranch, D 95.10 45 ⇓P **P 14 15 31.8 +0.2**
baz=95
COLD Coldfoot 95.11 10 *e*P **P 14 15 30.1 -0.9**
comp=Z,9.4nm,1.1s,mb4.9
E19A Rath Farm, Rou 95.12 40 ⇑P **P 14 15 31.8 +0.2**
baz=95
ATAH Atahualpa 95.14 100 LR LR 14 48 51.1
comp=Z,138nm,20.8s,baz=218,slow=29
I22A 9 Mile Ranch, 95.15 43 ⇓P **P 14 15 31.2 -0.6**
baz=95,SNR=12
L24A Wheatland 95.18 46 ⇑P **P 14 15 32.3 +0.3**
baz=95
H21A Big Horn, Sher 95.19 43 ⇓P **P 14 15 31.6 -0.3**
baz=95,SNR=5.9
O26A Horse Wrangler 95.35 48 ⇑P **P 14 15 32.9 +0.2**
baz=95
A17A Triple J Farms 95.40 38 ⇓P **P 14 15 32.1 -0.7**
baz=95,SNR=8.2
G21A Lodge Grass 95.40 42 ⇓P **P 14 15 33.1 +0.2**
baz=95
D19A Cripps Ranch, 95.44 40 ⇓P **P 14 15 33.1 +0.1**
baz=95
M25A Palm-Egli Farm 95.45 46 ⇓P **P 14 15 33.4 +0.2**
baz=95
J23A Dilts Ranch, B 95.48 44 ⇓P **P 14 15 33.5 +0.2**
baz=95
E20A Meyer Farm, Mu 95.53 41 ⇑P **P 14 15 33.6 +0.2**
baz=95
CLNS Chul'man 95.57 332 *e*P **P 14 15 32.1 -1.3**
CLNS pmax pmax
comp=Z,18nm,1.1s,mb5.3
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS pmax pmax
comp=N,13nm,1.4s
H22A Clearmont 95.59 43 ⇓P **P 14 15 33.6 -0.2**
baz=95
B18A Beardsley Farm 95.60 38 ⇓P **P 14 15 33.2 -0.5**
baz=95
C19A Slack Wire Ran 95.66 39 ⇓P **P 14 15 33.6 -0.4**
baz=95,SNR=7.7
F21A Absaloka Mine, 95.76 41 ⇑P **P 14 15 35.4 +0.9**
baz=96
D20A Manuel Ranch, 95.83 40 ⇓P **P 14 15 35.3 +0.4**
baz=96
A18A Metzger Ranch, 95.85 38 ⇑P **P 14 15 34.1 -0.7**
baz=96,SNR=9.2
O27A Beecher Island 95.88 48 ⇓P **P 14 15 35.7 +0.5**
baz=96
J24A Dixon Ranch, L 96.00 45 ⇓P **P 14 15 36.0 +0.3**
baz=96
B19A Brinkman Farms 96.10 39 ⇑P **P 14 15 36.6 +0.6**
baz=96
N27A Anderson Farm, 96.14 48 ⇓P **P 14 15 36.9 +0.5**
baz=96
K25A Mack Ranch, Ha 96.15 45 ⇓P **P 14 15 36.5 +0.1**
baz=96,SNR=5.1
C20A Veseth Ranch, 96.24 40 ⇓P **P 14 15 36.3 -0.3**
baz=96,SNR=5.1
F22A Rosebud 96.26 42 ⇑P **P 14 15 36.9 +0.2**
baz=96
LZH Lanzhou 96.31 307 *e*P **P 14 15 37.5 +0.2**
LZH pP pP 14 16 18.0 +0.5
LZH sP sP 14 16 34.5 +0.3
LZH *e*PP PP 14 19 35.5 +2.2
LZH SKS 14 25 58.0
LZH *e*S S 14 26 40.3 -3.1
LZH pmax pmax
comp=Z,20nm,1.1s,mb5.4
LZH pmax pmax
comp=Z,130nm,8.9s
LZH LR LR
comp=N,230nm,18.3s
LZH LR LR
comp=E,210nm,16.2s
LZH LR LR
comp=Z,300nm,19.8s
L26A Underwood Farm 96.38 46 ⇑P **P 14 15 37.8 +0.4**
baz=96
A19A Klindworth Far 96.47 38 ⇑P **P 14 15 37.9 +0.3**
baz=96
D21A La Casta Ranch 96.49 40 ⇓P **P 14 15 37.9 +0.2**
baz=96
G23A Biddle 96.49 43 ⇑P **P 14 15 38.1 +0.3**
baz=96
B20A Solberg Farm, 96.61 39 ⇓P **P 14 15 38.6 +0.3**
baz=96
K26A Motz Farm, Whi 96.64 46 ⇓P **P 14 15 38.7 +0.1**
baz=96,SNR=6.4
F23A Volborg 96.74 42 ⇑P **P 14 15 39.5 +0.5**
baz=96
H24A Dirks Ranch, A 96.78 43 ⇑P **P 14 15 38.3 -0.9**
baz=97,SNR=9.9
E22A Miles City 96.78 41 ⇓P **P 14 15 39.3 +0.2**
baz=97
RSSD Black Hills 96.79 44 *e*P **P 14 15 38.3 -0.9**
comp=Z,18nm,1.1s,mb5.3
RSSD Black Hills 96.79 44 *e*P **P 14 15 38.3 -0.9**
RSSD pmax pmax
comp=Z,18nm,1.1s,mb5.3
A20A Cobblestone Ra 96.90 39 ⇓P **P 14 15 39.6 0.0**
baz=97
D22A Cohagen 97.01 41 ⇑P **P 14 15 40.1 0.0**
baz=97
G24A Alzada 97.15 43 ⇑P **P 14 15 40.8 0.0**
baz=97
B21A Ellsworth Farm 97.18 39 ⇑P **P 14 15 40.4 -0.5**
baz=97
YAK Yakutsk 97.24 338 *e*P **P 14 15 39.1 -1.7**
comp=Z,94nm,0.8s,mb6.2
YAK Yakutsk 97.24 338 *d i*P **P 14 15 39.1 -1.7**
YAK pmax pmax
comp=Z,93nm,1.0s,mb6.1
YAK pmax pmax
comp=N,16nm,1.4s
YAK pmax pmax
comp=E,12nm,0.9s
F24A Ekalaka 97.39 42 ⇓P **P 14 15 42.4 +0.5**
baz=97
A21A Bergtoll Ranch 97.52 39 ⇑P **P 14 15 42.9 +0.5**
baz=97
D23A Lindsay 97.59 41 ⇓P **P 14 15 43.1 +0.4**
baz=97
B22A Reddig Ranch S 97.70 40 ⇑P **P 14 15 43.7 +0.5**
baz=98
E24A Baker 97.82 42 ⇓P **P 14 15 44.3 +0.5**
baz=98
C23A Lambert 97.92 40 ⇓P **P 14 15 44.7 +0.5**
baz=98
TEIG Tepich 98.03 71 LR LR 14 53 30.7
comp=E,83nm,19.0s,baz=135,slow=31
D24A Glendive 98.08 41 ⇑P **P 14 15 45.3 +0.4**
baz=98
B23A Brockton 98.36 40 ⇓P **P 14 15 45.9 -0.2**
baz=98
DGMT Dagmar 98.83 40 ⇑Pdiff **P 14 15 48.8 +0.6**
baz=99
A24A Westby 99.16 40 ⇑Pdiff **P 14 15 50.3 +0.6**
baz=99
INK Inuvik 99.38 15 P Pdif 14 15 48.6 -2.4
comp=E,2.0nm,0.6s,baz=261,slow=5.2,SNR=35
INK Inuvik 99.38 15 P Pdif 14 15 48.6 -2.4
INK Inuvik 99.38 15 P Pdif 14 15 48.6 -2.4
INK pmax pmax
comp=Z,2.0nm,0.6s
LPAZ La Paz 99.63 113 LR LR 14 54 11.4
comp=Z,40nm,18.6s,baz=35,slow=31
ULN Ulaanbaatar 99.66 319 *e*Pdif Pdif 14 15 51.3 -0.9
comp=Z,4.4nm,0.9s
ULN Ulaanbaatar 99.66 319 *e*P Pdif 14 15 51.3 -0.9
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SONM Songino Array 100.04 318 P Pdif 14 15 52.9 -1.0
comp=Z,2.2nm,0.9s,baz=131,slow=4.1,SNR=8.6
SONM PP PP 14 19 53.7 -7.7
comp=Z,1.7nm,1.1s,baz=117,slow=5.6,SNR=4.6
SONM PKKPbc PKKPbc 14 32 15.1 +2.0
comp=Z,2.7nm,0.7s,baz=268,slow=3.3,SNR=10
SONM LR LR 14 57 00.2
comp=Z,103nm,20.0s,baz=190,slow=33
SONM Songino Array 100.04 318 P Pdif 14 15 52.9 -1.0
SONM PP PP 14 19 53.7 -7.7
SONM PKKPbc PKKPbc 14 32 15.1 +2.0
SONM Songino Array 100.04 318 P Pdif 14 15 52.9 -1.0
SONM 14 19 53.7
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,1.1s
GTA Gaotai 100.64 309 *e*P Pdif 14 15 57.5 +1.0
GTA pP 14 16 37.0
GTA sP 14 16 55.3
GTA PP PP 14 20 09.5 +3.3
GTA S Sdif 14 27 15.0 -4.7
GTA sS 14 28 26.5
GTA SS SS 14 34 19.8 -1.1
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,230nm,7.1s
YKA Yellowknife Ar 101.26 25 P Pdif 14 15 57.4 -1.9
comp=Z,1.3nm,0.8s,baz=239,slow=4.2,SNR=20
YKA PP PP 14 20 00.5 -10
comp=Z,0.5nm,0.8s,baz=239,slow=6.6,SNR=3.2
YKA PKKPbc PKKPbc 14 32 10.6 +0.5
comp=Z,1.4nm,0.7s,baz=39,slow=2.7,SNR=14
YKA Yellowknife Ar 101.26 25 P Pdif 14 15 57.4 -1.9
YKA PP PP 14 20 00.6 -10
YKA PKKPbc PKKPbc 14 32 10.7 +0.5
YKA Yellowknife Ar 101.26 25 P Pdif 14 15 57.4 -1.9
YKA pmax pmax
comp=Z,1.0nm,0.8s
ZAK Zakamensk 103.00 320 *e*P Pdif 14 15 59.3 -7.7
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TAPN Taplejung 105.30 293 *e*P PKiKP 14 20 32.0 +1.1
TAPN Taplejung 105.30 293 *e*P PKiKP 14 20 32.0 +1.1
ODAN Odare 105.39 293 *e*P PKiKP 14 20 32.5 +1.4
comp=Z,18nm,0.9s
ODAN Odare 105.39 293 *e*P PKiKP 14 20 32.5 +1.4
RAMN Ramite 106.08 292 *e*P PKiKP 14 20 33.7 +1.4
RAMN Ramite 106.08 292 *e*P PKiKP 14 20 33.7 +1.4
JIRN Jiri 106.67 293 *e*P PKiKP 14 20 34.1 +0.7
comp=Z,3.4nm,0.4s
JIRN Jiri 106.67 293 *e*P PKiKP 14 20 34.1 +0.7
GUN Gumba 107.02 293 *e*P PKiKP 14 20 34.7 +0.6
comp=Z,11nm,0.8s
GUN Gumba 107.02 293 *e*P PKiKP 14 20 34.7 +0.6
PKI Pulchoki 107.29 293 *e*P PKiKP 14 20 35.0 +0.4
PKI Pulchoki 107.29 293 *e*P PKiKP 14 20 35.0 +0.4
KKN Kakani 107.47 293 *e*P PKiKP 14 20 35.7 +0.8
KKN Kakani 107.47 293 *e*P PKiKP 14 20 35.7 +0.8
DMN Daman 107.56 293 *e*P PKiKP 14 20 35.8 +0.7
DMN Daman 107.56 293 *e*P PKiKP 14 20 35.8 +0.7
GKN Gorkha 108.08 293 *e*P PKiKP 14 20 36.1 +0.1
GKN Gorkha 108.08 293 *e*P PKiKP 14 20 36.1 +0.1
KOLN Koldanda 108.86 292 *e*P PKiKP 14 20 37.5 0.0
comp=Z,5.6nm,0.7s
KOLN Koldanda 108.86 292 *e*P PKiKP 14 20 37.5 0.0
DANN Dangsing 108.93 293 *e*P PKiKP 14 20 38.4 +0.8
DANN Dangsing 108.93 293 *e*P PKiKP 14 20 38.4 +0.8
WMQ Urumqi 110.68 310 *e*PKP PKiKP 14 20 39.3 -1.1
RES Resolute Bay 112.87 17 *e*PKiKP PKiKP 14 20 42.9 -0.8
RES Resolute Bay 112.87 17 *e*PKIKP PKiKP 14 20 42.9 -0.8
ZALV Zalesovo Beam 114.88 320 PKP PKiKP 14 20 47.7 -0.4
comp=Z,3.8nm,0.4s,baz=126,slow=2.0,SNR=7.8
ZALV PKKPbc PKKPbc 14 31 28.4 +1.7
comp=Z,0.2nm,0.4s,baz=272,slow=2.9,SNR=4.6
ZALV Zalesovo Beam 114.88 320 PKP PKiKP 14 20 47.7 -0.4
ZALV PKKPbc PKKPbc 14 31 28.4 +1.7
ZALV Zalesovo Beam 114.88 320 PKIKP PKiKP 14 20 47.7 -0.4
ZALV 14 31 28.4
ZALV pmax pmax
comp=Z,4.0nm,0.4s
MK31 Makanchi Array 115.10 312 *e*PKiKP PKiKP 14 20 48.6 -0.1

MK31	**Makanchi Array**	**115.10**	**312**	*e*PKIKP	PKPdf	14 20 48.6 -0.2
MKAR	**Makanchi Array**	**115.10**	**312**	PKP	PKPdf	14 20 48.4 -0.4
	comp=Z,5.9nm,0.6s,baz=103,slow=2.0,SNR=25					
MKAR				PKKPbc	PKKPbc	14 31 27.6 +2.0
	comp=Z,2.6nm,0.6s,baz=269,slow=3.3,SNR=47					
MKAR	**Makanchi Array**	**115.10**	**312**	PKP	PKPdf	14 20 48.4 -0.4
MKAR				PKKPbc	PKKPbc	14 31 27.6 +2.0
MKAR	**Makanchi Array**	**115.10**	**312***c*	*i*PKIKP	PKPdf	14 20 47.7 -1.1
MKAR				pmax	pmax	
	comp=Z,6.0nm,0.6s					
NVS	**Novosibirsk**	**115.94**	**321**	*e*PKIKP	PKPdf	14 20 48.8 -1.3
NVS				pmax	pmax	
	comp=Z,17nm,1.2s					
NVS				pmax	pmax	
	comp=N,15nm,2.2s					
NVS				pmax	pmax	
	comp=E,15nm,1.5s					
OPO	**Ambohidratompo**	**117.94**	**229**	PKP	PKPdf	14 20 57.8 +2.7
	comp=E,6.2nm,0.7s,baz=106,slow=1.5,SNR=12					
OPO	**Ambohidratompo**	**117.94**	**229**	PKP	PKPdf	14 20 57.8 +2.7
KURK	**Kurchatov**	**118.15**	**316**	PKP	PKPdf	14 20 54.3 -0.2
	comp=E,6.6nm,0.5s,baz=104,slow=2.0,SNR=42					
KURK				pPKP	pPKPdf	14 21 34.2 -2.3
	comp=E,0.5nm,0.4s,baz=102,slow=1.8,SNR=2.2					
KURK	**Kurchatov**	**118.15**	**316**	*e*PKPdf	PKPdf	14 20 53.9 -0.6
KURK				PKP	PKPdf	14 20 54.3 -0.2
KURK				pPKP	pPKPdf	14 21 34.2 -2.3
KURK	**Kurchatov**	**118.15**	**316***d*	*i*PKIKP	PKPdf	14 20 54.0 -0.5
KSH	**Kashi**	**118.18**	**303**	*e*PKP	PKPdf	14 20 57.3 +2.4
KSH				sPKP		14 21 55.3
KSH				PP	PP	14 22 18.3 +5.3
KSH				PKS		14 24 32.0
KSH				SKKS	SKKSac	14 28 52.5 -4.5
KSH				SS	SS	14 38 16.8 +0.7
KSH				AMB	AMB	
	comp=Z,110nm,4.9s					
KSH				LR	LR	
	comp=N,180nm,6.3s					
KSH				LR	LR	
	comp=E,130nm,5.3s					
KSH				LR	LR	
	comp=Z,330nm,5.1s					
TKM2	**Tokmak 2**	**119.08**	**306**	P	PKPdf	14 20 57.1 +0.6
	SNR=5.5					
TKM2				P		14 20 57.1
	SNR=5.5					
TKM2	**Tokmak 2**	**119.08**	**306**	*e*PKPdf	PKPdf	14 20 56.7 +0.2
TKM2	**Tokmak 2**	**119.08**	**306**	*e*PKIKP	PKPdf	14 20 56.7 +0.2
KZA	**Kyzart**	**119.19**	**305**	P	PKPdf	14 20 58.6 +1.8
	SNR=6.4					
KZA				P		14 20 58.6
	SNR=6.4					
SUR	**Sutherland**	**119.42**	**198**	*e*PKPdf	PKPdf	14 21 00.6 +2.8
KBK	**Karagaybulak**	**119.51**	**306**	P	PKPdf	14 20 58.1 +0.7
	SNR=7.8					
KBK				P		14 20 58.1
	SNR=7.8					
CHMS	**Chumysh**	**119.70**	**306**	P	PKPdf	14 20 58.2 +0.5
	SNR=9.6					
CHMS				P		14 20 58.2
	SNR=9.6					
AAK	**Ala-Archa**	**119.83**	**306**	P	PKPdf	14 20 58.8 +0.7
	SNR=8.0					
AAK				P		14 20 58.8
	SNR=8.0					
AAK	**Ala-Archa**	**119.83**	**306**	*e*PKPdf	PKPdf	14 20 58.1 +0.1
AAK	**Ala-Archa**	**119.83**	**306***c*	*i*PKIKP	PKPdf	14 20 58.7 +0.7
USP	**Ospenovka**	**119.93**	**307**	P	PKPdf	14 20 58.5 +0.3
	SNR=18					
USP				P		14 20 58.5
	SNR=18					
AML	**Almayashu**	**120.34**	**305**	P	PKPdf	14 21 00.2 +1.2
	SNR=22					
AML				P		14 21 00.2
	SNR=22					
EKS2	**Erkin-Say**	**120.36**	**306**	P	PKPdf	14 20 59.8 +0.7
	SNR=8.5					
EKS2				P		14 20 59.8
	SNR=8.5					
EKS2	**Erkin-Say**	**120.36**	**306**	*e*PKPdf	PKPdf	14 20 59.7 +0.7
EKS2	**Erkin-Say**	**120.36**	**306**	*e*PKIKP	PKPdf	14 20 59.7 +0.7
BOSA	**Boshof**	**121.50**	**204**	PKP	PKPdf	14 21 04.9 +3.1
	comp=Z,9.3nm,0.6s,baz=159,slow=2.3,SNR=34					
BOSA	**Boshof**	**121.50**	**204**	*e*PKPdf	PKPdf	14 21 04.7 +2.9
BOSA				PKP	PKPdf	14 21 04.9 +3.1
BOSA	**Boshof**	**121.50**	**204**	PKIKP	PKPdf	14 21 04.9 +3.1
BOSA				pmax	pmax	
	comp=Z,9.0nm,0.6s					
SCHQ	**Schefferville**	**122.64**	**40**	PKP	PKPdf	14 21 02.5 -0.5
	comp=Z,5.1nm,0.8s,baz=250,slow=8.2,SNR=5.1					
SCHQ	**Schefferville**	**122.64**	**40**	PKP	PKPdf	14 21 02.5 -0.5
KBL	**Kabul**	**122.67**	**296**	*e*PKPdf	PKPdf	14 21 05.1 +1.4
KBL	**Kabul**	**122.67**	**296**	*e*PKIKP	PKPdf	14 21 05.1 +1.4
KKAR	**Karatay Array**	**122.80**	**306**	*e*PKPdf	PKPdf	14 21 03.8 +0.1
KKAR	**Karatay Array**	**122.80**	**306**	*e*PKIKP	PKPdf	14 21 03.8 +0.1
VOSK	**Vostochnaya**	**123.02**	**318**	PKIKP	PKPdf	14 21 03.0 -0.8
VOSK				pmax	pmax	
	comp=Z,29nm,0.8s					
BVA0	**Borovoye Array**	**123.38**	**318**	*i*PKIKP	PKPdf	14 21 04.1 -0.4
BVA0				pmax	pmax	
	comp=Z,2.0nm,0.6s					
BRVK	**Borovoye**	**123.44**	**318**	*e*PKPdf	PKPdf	14 21 04.3 -0.3
BRVK	**Borovoye**	**123.44**	**318***d*	*i*PKIKP	PKPdf	14 21 04.5 -0.1
BRVK				pmax	pmax	
	comp=Z,41nm,1.7s					
ZRNK	**Zerenda**	**124.22**	**318**	PKIKP	PKPdf	14 21 05.5 -0.6
ZRNK				pmax	pmax	
	comp=Z,20nm,0.6s					
KBS	**Kingsbay**	**126.74**	**358***c*	*i*PKIKP	PKPdf	14 21 11.9 +1.6
KBS				pmax	pmax	
	comp=Z,61nm,1.7s					
SPA0	**Spitsbergen Ar**	**127.27**	**356**	*e*P	PKPdf	14 21 10.9 -0.4
SPB4	**Spitsbergen Ar**	**127.27**	**356**	*e*PKPdf	PKPdf	14 21 11.4 +0.1
SFJD	**Kangerlussuaq**	**127.78**	**23**	*i*PKIKP	PKPdf	14 21 11.6 -0.9
SFJD				pmax	pmax	
	comp=Z,6.0nm,0.7s					
SFJD	**Kangerlussuaq**	**127.78**	**23**	*i*P	PKPdf	14 21 11.6 -0.9
	comp=Z,5.7nm,0.7s					
DAG	**Danmarks Havn**	**128.07**	**6**	*i*PKIKP	PKPdf	14 21 11.8 -1.0
DAG				pmax	pmax	
	comp=Z,5.0nm,0.8s					
DAG	**Danmarks Havn**	**128.07**	**6**	*i*P	PKPdf	14 21 11.8 -1.0
	comp=Z,6.1nm,0.8s					
DAG				*i*		14 22 11.4
SUMG	**Summit**	**128.30**	**15**	*e*PKPdf	PKPdf	14 21 13.8 +0.5
SUMG	**Summit**	**128.30**	**15**	*e*PKIKP	PKPdf	14 21 13.0 -0.4
SUMG				*i*		14 23 14.3
SUMG				pmax	pmax	
	comp=Z,7.0nm,0.8s					
SUMG	**Summit**	**128.30**	**15**	*i*P	PKPdf	14 21 13.0 -0.4
	comp=Z,7.2nm,0.8s					
SUMG				*i*		14 23 14.3
SVE	**Sverdlovsk**	**128.58**	**323**	*i*PKIKP	PKPdf	14 21 14.5 +0.2
SVE				pmax	pmax	
	comp=Z,31nm,1.1s					
ARU	**Arti**	**129.78**	**323**	*e*PKPdf	PKPdf	14 21 16.9 +0.3
ARU				*e*PP	PP	14 23 26.8 -3.3
ARU	**Arti**	**129.78**	**323**	*i*PKIKP	PKPdf	14 21 17.2 +0.6
ARU						14 23 26.9
SOKR	**Solikamsk**	**129.86**	**327***d*	*i*PKIKP	PKPdf	14 21 16.7 0.0
SOKR				pmax	pmax	
	comp=Z,50nm,1.5s					
AB31	**Akbulak array**	**130.16**	**314**	*i*PKIKP	PKPdf	14 21 17.7 +0.2
AB31				pmax	pmax	
	comp=Z,15nm,1.2s					
ABKAR	**Akbulak array**	**130.16**	**314**	*e*PKPdf	PKPdf	14 21 18.6 +1.1
SCO	**Scoresbysund**	**133.25**	**11**	*i*PKIKP	PKPdf	14 21 22.7 -0.1
SCO				pmax	pmax	
	comp=Z,8.0nm,0.8s					
SCO	**Scoresbysund**	**133.25**	**11**	*i*P	PKPdf	14 21 22.7 -0.1
	comp=Z,8.4nm,0.8s					
ARCES	**ARCESS Array B**	**134.28**	**349**	PKhKP	PKPpre	14 21 16.2
	comp=Z,4.3nm,0.9s,baz=38,slow=4.6,SNR=7.5					
ARCES				PKP	PKPdf	14 21 24.8 0.0
	comp=Z,35nm,0.8s,baz=17,slow=0.9,SNR=37					
ARCES	**ARCESS Array B**	**134.28**	**349**	PKPpre	PKPpre	14 21 16.2
ARCES				PKP	PKPdf	14 21 24.8 0.0
ARCES	**ARCESS Array B**	**134.28**	**349**	*i*PKHKP	PKPpre	14 21 16.2
ARCES						14 21 24.8
ARCES				pmax	pmax	
	comp=Z,4.0nm,0.9s					
ARCES				pmax	pmax	
	comp=Z,35nm,0.8s					
ARE0	**ARCESS Array S**	**134.28**	**349**	*e*P	PKPdf	14 21 24.8 0.0
TRO	**Tromso**	**135.19**	**352**	*e*P	PKPdf	14 21 27.7 +1.2
KMBO	**Kilima Mbogo**	**136.91**	**237**	*e*PKPdf	PKPdf	14 21 34.1 +2.7
KMBO	**Kilima Mbogo**	**136.91**	**237**	*e*PKIKP	PKPdf	14 21 34.1 +2.7
KLMR	**Klimovskoe**	**136.93**	**334**	*e*PKHKP	PKPpre	14 21 23.7
KLMR				pmax	pmax	
	comp=Z,17nm,1.0s					
JOF	**Joensuu**	**138.35**	**341**	*e*PKHKP	PKPpre	14 21 23.9
JOF				pmax	pmax	
	comp=Z,22nm,0.7s					
JOF	**Joensuu**	**138.35**	**341**	*e*p	PKPpre	14 21 23.9
	comp=Z,22nm,0.7s					
MIB	**Mutribah**	**140.25**	**286**	*e*P	PKPpre	14 21 29.2
MIB				AMb	AMB	14 21 41.8
	comp=Z,43nm,1.3s					
KAF	**Kangasniemi**	**140.42**	**343**	*e*PKHKP	PKPpre	14 21 27.6
KAF				pmax	pmax	
	comp=Z,16nm,0.6s					
KAF	**Kangasniemi**	**140.42**	**343**	*e*p	PKPpre	14 21 27.6
	comp=Z,16nm,0.6s					
VRHR	**Novokhopersk**	**141.00**	**321**	*e*PKIKP	PKPdf	14 21 36.1 -1.5
VRHR				pmax	pmax	
	comp=N,10.0nm,0.8s					
VRHR				pmax	pmax	
	comp=E,8.0nm,0.8s					
VRHR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
FINES	**FINESS Array B**	**141.03**	**342**	PKhKP	PKPpre	14 21 29.6
	comp=Z,8.9nm,0.7s,baz=34,slow=3.2,SNR=38					
FINES	**FINESS Array B**	**141.03**	**342**	PKPpre	PKPpre	14 21 29.6
FINES	**FINESS Array B**	**141.03**	**342**	*i*PKHKP	PKPpre	14 21 29.6
FINES				pmax	pmax	
	comp=Z,9.0nm,0.7s					
OBN	**Obninsk**	**141.61**	**329**⇑	*i*PKIKP	PKPdf	14 21 38.6 0.0
OBN				pmax	pmax	
	comp=Z,21nm,0.7s					
TBLG	**Delisi**	**141.85**	**305**	PKHKP	PKPpre	14 21 35.9
TBLG	**Delisi**	**141.85**	**305**	P	PKPpre	14 21 35.9
GNI	**Garni**	**142.12**	**303**	PKPpre	PKPpre	14 21 35.4
GNI	**Garni**	**142.12**	**303**⇑	*e*PKIKP	PKPpre	14 21 37.7
ZEI	**Tsey**	**142.25**	**307**	*e*PKIKP	PKPdf	14 21 38.3 -1.9
ZEI				pmax	pmax	
	comp=Z,33nm,2.1s					
VSR	**Storozhevoye**	**142.34**	**322**	*e*PKHKP	PKPpre	14 21 33.4
VSR				pmax	pmax	
	comp=N,4.0nm,0.6s					
VSR				pmax	pmax	
	comp=E,6.0nm,0.6s					
VSR				pmax	pmax	
	comp=Z,10.0nm,0.6s					
ONI	**Oni**	**142.61**	**307**	P	PKPdf	14 21 37.8 -3.0
KIV	**Kislovodsk**	**142.81**	**309**⇑	*e*PKHKP	PKPpre	14 21 38.1
KIV				pmax	pmax	
	comp=Z,10.0nm,1.5s					
AKH	**Akhalkalaki**	**142.83**	**305**	P	PKPdf	14 21 39.4 -1.8
HAKT	**HAKKARI**	**143.26**	**299**	*i*P	PKPdf	14 21 39.0 -3.1
TUTA	**Tutak**	**143.70**	**302**	*i*P	PKPdf	14 21 41.9 -0.9
ARTV	**Artvin**	**144.03**	**305**	*i*P	PKPdf	14 21 41.7 -1.6
DAGI	**Agillar**	**144.06**	**305**	*i*P	PKPdf	14 21 42.5 -0.9
DDEM	**Demirkent**	**144.22**	**305**	*i*P	PKPdf	14 21 42.9 -0.8
FOO	**Floro**	**144.28**	**358**	*e*P	PKPdf	14 21 40.3 -2.8
NB2	**NORSAR Subarra**	**144.38**	**353**	PKP	PKPdf	14 21 41.2 -2.1
	comp=Z,90nm,0.9s,baz=12,slow=3.4					
NB2	**NORSAR Subarra**	**144.38**	**353**	PKP	PKPdf	14 21 41.2 -2.1
	baz=12,slow=3.4					
NOA	**NORSAR Array B**	**144.38**	**353**	PKP	PKPdf	14 21 41.4 -1.9
	comp=Z,52nm,0.8s,baz=7.7,slow=2.2,SNR=130					
NOA	**NORSAR Array B**	**144.38**	**353**	PKP	PKPdf	14 21 41.4 -1.9
NOA	**NORSAR Array B**	**144.38**	**353**	PKIKP	PKPdf	14 21 41.4 -1.9
NOA				pmax	pmax	
	comp=Z,52nm,0.9s					
NAO01	**NORSAR Array S**	**144.60**	**353**	*e*PKPdf	PKPdf	14 21 42.1 -1.6
ERZM	**Erzurum**	**144.71**	**303**	*i*P	PKPdf	14 21 44.5 0.0
BNGL	**BINGOL**	**145.05**	**302**	*i*P	PKPbc	14 21 46.4 +1.4
BEST	**Besiri**	**145.13**	**300**	*i*P	PKPbc	14 21 46.6 +1.3
KOPT	**Kop Dagi**	**145.34**	**304**	*i*P	PKPdf	14 21 47.7 +2.0
ASK	**Askoy**	**145.39**	**358**	*e*P	PKPdf	14 21 43.7 -1.4
RUND	**Rundenannen**	**145.46**	**357**	*e*P	PKPdf	14 21 44.2 -0.9
BER	**Bergen**	**145.49**	**357**	*e*P	PKPdf	14 21 44.3 -1.0
IZAR	**Zarasai**	**145.51**	**336**	*e*P	PKPdf	14 21 46.1 +0.7
IZAR				AMB	AMB	14 21 47.0
	comp=Z,130nm,1.1s					
OSL	**Oslo**	**145.51**	**353**	*e*P	PKPdf	14 21 45.0 -0.3
MARD	**Mardin**	**145.60**	**299**	*i*P	PKPdf	14 21 46.9 +0.7
MACK	**Trabzon**	**145.67**	**305**	*i*P	PKPdf	14 21 48.0 +1.8
ISAL	**Salakas**	**145.69**	**336**	*e*P	PKPdf	14 21 46.6 +0.9
ISAL				AMB	AMB	14 21 47.7
	comp=Z,137nm,1.1s					
LRW	**Lerwick**	**145.71**	**3**	*e*P	PKPdf	14 21 44.9 -0.7
MICGM	**Minsk**	**145.81**	**333**	*e*P	PKPdf	14 21 47.0 +1.0
IIGN	**Ignalina**	**145.82**	**336**	*e*P	PKPdf	14 21 47.2 +1.2
IIGN				AMB	AMB	14 21 48.0
	comp=Z,162nm,1.2s					
MNK	**Minsk**	**145.83**	**333**	*e*PKIKP	PKPdf	14 21 47.0 +1.0
MNK				pmax	pmax	
	comp=E,390nm,1.4s					
MNK				pmax	pmax	
	comp=N,460nm,1.2s					
MNK				pmax	pmax	
	comp=Z,880nm,1.2s					
ODD1	**Odda**	**145.89**	**356**⇓	*i*P	PKPdf	14 21 44.3 -1.6
KONO	**Kongsberg**	**145.91**	**353**⇓	*i*P	PKPdf	14 21 46.5 +0.5
KONO	**Kongsberg**	**145.91**	**353**	*e*PKP	PKPdf	14 21 46.3 +0.3
KONO	**Kongsberg**	**145.91**	**353**	*e*PKIKP	PKPdf	14 21 46.3 +0.3
ANN	**Anapa**	**146.11**	**313**	*i*PKIKP	PKPdf	14 21 47.5 +0.7
ANN				pmax	pmax	
	comp=Z,283nm,1.3s					
KELT	**Kelkit**	**146.24**	**304**	*i*P	PKPab	14 21 49.5 -0.1
BLS5	**Blasjo**	**146.39**	**356**⇓	*i*P	PKPdf	14 21 48.1 +1.3
ELZG	**Elazig**	**146.80**	**301**	*i*P	PKPab	14 21 52.6 +0.8
STAV	**Stavanger**	**146.92**	**357**	*e*P	PKPdf	14 21 48.9 +1.2
KEMA	**Kemaliye**	**147.01**	**303**	*i*P	PKPab	14 21 52.6 -0.1
HOMB	**Homborsund**	**147.38**	**354**	*e*P	PKPbc	14 21 51.2 +0.1
SNART	**Snartemo**	**147.42**	**355**⇓	*i*P	PKPbc	14 21 50.9 -0.4
ATAB	**Bozova**	**147.53**	**300**	*i*P	PKPbc	14 21 53.0 +0.8
MVH1	**Achvaich**	**147.68**	**7**	*e*P	PKPbc	14 21 51.1 -0.9
AKASG	**Malin Array Be**	**147.83**	**327**	PKPbc	PKPbc	14 21 51.9 -0.7
	comp=Z,43nm,0.6s,baz=42,slow=4.1,SNR=69					
AKASG	**Malin Array Be**	**147.83**	**327**	PKPbc	PKPbc	14 21 51.9 -0.7
AKASG	**Malin Array Be**	**147.83**	**327**	PKP2	PKPbc	14 21 51.9 -0.7
AKASG				pmax	pmax	
	comp=Z,43nm,0.6s					
AKBB	**Malin Array Si**	**147.83**	**327**	*e*PKPdf	PKPdf	14 21 50.5 +1.0
AKBB	**Malin Array Si**	**147.83**	**327**	*e*PKIKP	PKPdf	14 21 50.5 +1.0
KIEV	**Kiev**	**147.84**	**327**	*e*PKPbc	PKPbc	14 21 52.2 -0.5
KIEV	**Kiev**	**147.84**	**327**	*de*PKP2	PKPbc	14 21 51.7 -1.0
SCER	**sogukcermik**	**147.90**	**304**	*i*P	PKPbc	14 21 55.1 +2.0
ERBA	**Erbaa**	**147.95**	**306**	*i*P	PKPbc	14 21 54.5 +1.2
KAC	**Achnashellach**	**147.97**	**8**	*e*P	PKPbc	14 21 51.8 -1.0
SUW	**Suwalki**	**147.97**	**337**	*e*PKP	PKPbc	14 21 52.8 -0.1
SUW	**Suwalki**	**147.97**	**337**	*e*PKPdf	PKPdf	14 21 49.5 -0.1
SUW				*e*PKPbc	PKPbc	14 21 52.7 -0.1
SUW	**Suwalki**	**147.97**	**337**	*e*PKP2	PKPbc	14 21 52.7 -0.2
KPL	**Plockton**	**148.08**	**8**	*e*P	PKPbc	14 21 52.2 -0.9
MCD	**Coleburn Disti**	**148.10**	**6**	*e*P	PKPbc	14 21 52.0 -1.1
GZT	**Gaziantep**	**148.12**	**300**	*i*P	PKPbc	14 21 54.4 +0.5
MDO	**Dochfour**	**148.13**	**7**	*e*P	PKPdf	14 21 51.6 +1.8
MME1	**Meikle Cairn**	**148.39**	**6**	*e*P	PKPdf	14 21 52.2 +2.0
HAVZ	**Havza**	**148.58**	**307**	*i*P	PKPbc	14 21 56.1 +1.2
KUZU	**Kuzuini**	**148.61**	**299**	*i*P	PKPbc	14 21 56.6 +1.5
MUD	**Monsted U'grnd**	**149.09**	**353**	*i*PKP2	PKPbc	14 21 55.7 0.0
MUD				pmax	pmax	
	comp=Z,50nm,0.8s					
MUD	**Monsted U'grnd**	**149.09**	**353**	*i*P	PKPbc	14 21 55.7 0.0
	comp=Z,50nm,0.8s					
ASF	**Jabal al Asfar**	**149.28**	**290**	PKPbc	PKPbc	14 21 58.6 +1.7
	comp=Z,32nm,0.7s,baz=90,slow=1.7,SNR=30					
ASF	**Jabal al Asfar**	**149.28**	**290**	PKPbc	PKPbc	14 21 58.6 +1.7
ASF	**Jabal al Asfar**	**149.28**	**290**	PKP2	PKPbc	14 21 58.6 +1.7
ASF				pmax	pmax	
	comp=Z,32nm,0.7s					
EAB	**Aberfoyle**	**149.36**	**7**	*e*P	PKPbc	14 21 55.2 -1.2
COP	**Copenhagen**	**149.37**	**349**	*i*PKP2	PKPbc	14 21 56.0 -0.4
COP				pmax	pmax	
	comp=Z,29nm,0.8s					
COP	**Copenhagen**	**149.37**	**349**	*i*P	PKPbc	14 21 56.0 -0.4
	comp=Z,29nm,0.8s					
COP				*i*		14 22 06.0
CTKT	**Corum**	**149.39**	**307**	*i*P	PKPbc	14 21 57.4 +0.4
BSD	**Bornholm Skovb**	**149.41**	**346**	*i*PKIKP	PKPdf	14 21 52.7 +0.8
BSD				pmax	pmax	
	comp=Z,59nm,0.8s					
BSD	**Bornholm Skovb**	**149.41**	**346**	*i*P	PKPdf	14 21 52.7 +0.8
	comp=Z,59nm,0.8s					
YAYL	**Yayladag**	**149.51**	**298**	*i*P	PKPbc	14 21 58.9 +1.6
EDI	**Edinburgh**	**149.75**	**6**	*e*P	PKPdf	14 21 54.8 +2.4
EAU	**Auchinoon**	**149.80**	**7**	*e*P	PKPbc	14 21 56.6 -0.8
ESY	**Stoneypath**	**149.81**	**6**	*e*P	PKPbc	14 21 56.1 -1.3
AVNT	**Avonos**	**149.88**	**303**	*i*P	PKPbc	14 21 59.2 +1.0
EBL	**Broad Law**	**149.91**	**6**	*e*P	PKPbc	14 21 56.6 -1.0
CDAG	**Cicekdag**	**150.00**	**305**	*i*P	PKPbc	14 21 59.3 +0.8
RCY	**Rachaya**	**150.07**	**293**	*e*P	PKPbc	14 22 00.8 +1.9
BALT	**Daday**	**150.07**	**309**	*i*P	PKPbc	14 21 57.9 -0.7
BHL	**Bhannes**	**150.18**	**293**	*e*P	PKPbc	14 22 00.6 +1.6
GULE	**Gulek**	**150.31**	**300**	*i*P	PKPbc	14 22 00.9 +1.7
ESK	**Eskdalemuir**	**150.34**	**6**	*e*P	PKPdf	14 21 55.9 +2.5
GKP	**Gorka Klasztor**	**150.50**	**342**	*e*PKP	PKPbc	14 21 59.6 +0.4
GKP	**Gorka Klasztor**	**150.50**	**342**	*e*PKP2	PKPbc	14 21 59.6 +0.4
BR131	**Keskin Array S**	**150.51**	**306**	*e*PKPdf	PKPdf	14 21 54.4 +0.3
BR131				*e*PKPbc	PKPbc	14 22 00.3 +0.7
BRTR	**Keskin Array B**	**150.51**	**306**	PKP	PKPdf	14 21 54.7 +0.5
	comp=Z,32nm,0.7s,baz=79,slow=1.1,SNR=21					
BRTR				PKPbc	PKPbc	14 22 00.2 +0.6
	comp=Z,32nm,0.7s,baz=134,slow=3.7,SNR=100					
BRTR	**Keskin Array B**	**150.51**	**306**	PKP	PKPdf	14 21 54.7 +0.5
BRTR				PKPbc	PKPbc	14 22 00.2 +0.6
BRTR	**Keskin Array B**	**150.51**	**306**	PKIKP	PKPdf	14 21 54.7 +0.6
BRTR				pmax	pmax	
	comp=Z,32nm,0.7s					
BEL	**Belsk**	**150.59**	**336**	*e*PKPdf	PKPbc	14 22 00.2 +0.8
BEL				*e*		14 22 07.0
BEL	**Belsk**	**150.59**	**336**⇓	*e*PKP2	PKPbc	14 22 00.2 +0.8
LVV	**L'vov**	**150.85**	**331**	*e*PKIKP	PKPbc	14 21 59.6 -0.5
LVV				*e*		14 22 41.4
XAL	**Allendale**	**150.89**	**5**	*e*P	PKPbc	14 21 58.3 -1.8
LEOM	**Leova**	**150.96**	**322**⇓	PKIKP	PKPbc	14 22 01.4 +0.9
LEOM	**Leova**	**150.96**	**322**⇓	*i*P	PKPbc	14 22 01.4 +0.9
XDE	**Dent Fell**	**151.11**	**7**	*e*P	PKPbc	14 21 59.5 -1.1
TLCR		**151.36**	**319**⇑	PKIKP	PKPbc	14 22 02.3 +0.9
TLCR		**151.36**	**319**⇑	*i*P	PKPbc	14 22 02.3 +0.9
BSEG	**Bad Segeberg**	**151.40**	**350**	*e*PKPdf	PKPdf	14 21 56.1 +1.1
BSEG	**Bad Segeberg**	**151.40**	**350**	*e*PKIKP	PKPdf	14 21 56.1 +1.1
PRAR	**RASCA**	**151.50**	**325**⇑	*i*P	PKPbc	14 22 02.3 +0.6
KWP	**Kalwaria Pacla**	**151.57**	**332**	*e*PKPdf	PKPbc	14 22 02.5 +0.7
KWP				*e*		14 22 10.9
KWP	**Kalwaria Pacla**	**151.57**	**332**	*e*PKPdf	PKPdf	14 21 56.5 +1.1
KWP				*e*PKPbc	PKPbc	14 22 02.3 +0.6
KWP	**Kalwaria Pacla**	**151.57**	**332**	⇓PKIKP	PKPbc	14 22 02.8 +1.0
KWP	**Kalwaria Pacla**	**151.57**	**332**	⇓*i*P	PKPbc	14 22 02.8 +1.0
CFR	**Carcaliu**	**151.76**	**319**⇑	PKIKP	PKPbc	14 22 03.3 +0.9
CFR	**Carcaliu**	**151.76**	**319**⇑	*i*P	PKPbc	14 22 03.3 +0.9
TESR		**151.81**	**323**⇑	*i*P	PKPbc	14 22 03.2 +0.8
BUR08	**Bucovina Ar. S**	**151.83**	**326**	*e*PKPdf	PKPdf	14 21 56.9 +1.0
BUR08				*e*PKPbc	PKPbc	14 22 03.5 +1.1
BURAR	**Bucovina Array**	**151.84**	**326**	⇓PKIKP	PKPbc	14 22 04.1 +1.6
BURAR	**Bucovina Array**	**151.84**	**326**	⇓*i*P	PKPbc	14 22 04.1 +1.6
CSS	**Prodhromos**	**151.93**	**296**	*e*PKPbc	PKPbc	14 22 03.7 +0.6
TIRR	**Tirgusor**	**152.00**	**318**	*e*PKPbc	PKPbc	14 22 03.3 +0.4
TIRR	**Tirgusor**	**152.00**	**318**	⇑PKIKP	PKPbc	14 22 03.9 +1.0
TIRR	**Tirgusor**	**152.00**	**318**	⇑*i*P	PKPbc	14 22 03.9 +1.0
KDHN	**Kadinhani**	**152.01**	**304**	*i*P	PKPbc	14 22 03.6 +0.5
HENT	**Hendek**	**152.08**	**309**	*i*P	PKPbc	14 22 02.6 -0.6
RUE	**Ruedersdorf**	**152.11**	**345**	*e*PKPbc	PKPbc	14 22 03.1 +0.2
VRI	**Vrincioaia**	**152.16**	**322**	⇑PKIKP	PKPbc	14 22 03.7 +0.4
VRI	**Vrincioaia**	**152.16**	**322**	⇑*i*P	PKPbc	14 22 03.7 +0.4
PLOR	**Plostina**	**152.22**	**322**	⇑PKIKP	PKPbc	14 22 03.8 +0.4
PLOR	**Plostina**	**152.22**	**322**	⇑*i*P	PKPbc	14 22 03.8 +0.4
MANR	**Mangalia**	**152.23**	**317**	⇑*i*P	PKPbc

BRG	Berggiesshubel	153.55	343	*e*PKP	PKPdf	14 21 58.8	+0.5
	comp=Z,28nm,1.2s						
BRG				*i*		14 22 06.7	
	comp=Z,58nm,0.8s						
BRG				*i*		14 22 18.5	
	comp=Z,55nm,1.1s						
BRG				*i*		14 22 23.6	
	comp=Z,35nm,0.9s						
BRG				pPKP	pPKPdf	14 22 40.3	-0.2
	comp=Z,24nm,1.4s						
BRG				*e*		14 22 47.5	
	comp=Z,22nm,1.1s						
BRG				PP	PP	14 25 47.5	-5.8
	comp=Z,60nm,2.2s						
BRG	Berggiesshubel	153.55	343	*e*PKPdf	PKPdf	14 21 59.0	+0.7
BRG	Berggiesshubel	153.55	343	*e*PKIKP	PKPdf	14 21 58.8	+0.5
BRG				*i*		14 22 18.5	
BRG						14 22 40.3	
BRG						14 25 47.5	
BRG				pmax	pmax		
	comp=Z,28nm,1.2s						
BRG				pmax	pmax		
	comp=Z,55nm,1.1s						
BRG				pmax	pmax		
	comp=Z,61nm,2.2s						
ULDT	Uludag	153.59	309	*i* P	PKPbc	14 22 06.4	-0.2
MCH1	Michaelchurch	153.64	8	*e*P	PKPbc	14 22 05.4	-0.9
DRGR		153.65	327	⇓PKIKP	PKPbc	14 22 07.2	+0.7
DRGR		153.65	327	⇓*i*P	PKPbc	14 22 07.2	+0.7
PVCC	Panska Ves	153.70	342	*e*PKIKP	PKPdf	14 21 58.9	+0.4
PVCC				*e*		14 22 14.8	
PVCC	Panska Ves	153.70	342	*e*PKPDF	PKPdf	14 21 58.9	+0.4
PVCC				⇑*i*PKP	PKPbc	14 22 07.3	+0.8
PVCC				*e*PKPAB	PKPab	14 22 14.8	-5.0
PVCC				*ep*PKP	pPKPdf	14 22 48.3	+7.6
KORT	Korkueli	153.80	302	*i* P	PKPbc	14 22 07.8	+0.7
LOT	Lotru	154.03	324	⇓*i*P	PKPbc	14 22 07.6	+0.2
VYHS	Vyhne	154.04	335	*e*PKIKP	PKPdf	14 21 59.7	+0.6
VYHS	Vyhne	154.04	335	*e*PKP	PKPdf	14 21 59.7	+0.6
VYHS				*e*		14 22 07.8	
VYHS				*e*		14 22 21.6	
PSZ	Piszkesteto	154.07	332	PKPbc	PKPbc	14 22 07.8	+0.4
PSZ	Piszkesteto	154.07	332	⇑PKIKP	PKPbc	14 22 09.0	+1.6
PSZ	Piszkesteto	154.07	332	⇑*e*PKP	PKPab	14 22 21.5	0.0
PSZ	Piszkesteto	154.07	332	⇑*i*P	PKPbc	14 22 08.9	+1.5
KOLL	Kolacno	154.14	335	*e*PKIKP	PKPbc	14 22 08.5	+1.0
KOLL	Kolacno	154.14	335	*e*PKP	PKPbc	14 22 08.5	+1.0
KOLL				*e*		14 22 21.9	
SZH	Strazhica	154.15	318	*e*P	PKPab	14 22 22.5	+0.5
VRAC	Vranov	154.16	338	⇑PKIKP	PKPbc	14 22 08.4	+0.9
VRAC	Vranov	154.16	338	⇑*i*P	PKPbc	14 22 08.4	+0.9
JMB	Yambol	154.19	316	*e*P	PKPab	14 22 23.0	+0.8
PRU	Pruhonice	154.19	342	*e*PKIKP	PKPdf	14 21 59.3	+0.1
PRU				*e*		14 22 21.3	
PRU	Pruhonice	154.19	342	*e*PKPDF	PKPdf	14 21 59.3	+0.1
PRU				⇑*i*PKP	PKPbc	14 22 07.7	+0.2
PRU				*e*PKPAB	PKPab	14 22 21.3	-0.6
MOX	Moxa	154.31	346	*e*PKPdf	PKPdf	14 21 59.9	+0.5
MOX	Moxa	154.31	346	*e*PKIKP	PKPdf	14 21 59.9	+0.5
TANN	Tannenbergstha	154.34	345	*e*PKPdf	PKPdf	14 22 00.1	+0.7
UBBA	Unterbreizbach	154.46	349	*e*PKPdf	PKPdf	14 22 00.0	+0.4
NKC	Novy Kostel	154.51	345	*e*PKIKP	PKPdf	14 22 00.2	+0.5
NKC				*e*		14 22 22.6	
NKC	Novy Kostel	154.51	345	*e*PKPDF	PKPdf	14 22 00.2	+0.5
NKC				⇑*i*PKP	PKPbc	14 22 08.9	+0.7
NKC				*e*PKPAB	PKPab	14 22 22.6	-0.7
SMOL	Smolenice	154.55	336	*e*PKP2	PKPab	14 22 24.4	+0.9
SMOL	Smolenice	154.55	336	*e*PKP	PKPab	14 22 24.4	+0.9
GZR	Gura Zlata	154.59	325	⇑PKIKP	PKPbc	14 22 11.3	+2.8
GZR	Gura Zlata	154.59	325	⇑*i*P	PKPbc	14 22 11.3	+2.8
MANT	Manisa	154.65	306	*i* P	PKPbc	14 22 09.4	+0.5
ROTZ	Rotzenmuhle	155.00	345	*e*PKPdf	PKPdf	14 22 01.0	+0.6
BZS	Buzias	155.02	327	⇓PKIKP	PKPdf	14 22 09.9	+9.4
BZS	Buzias	155.02	327	⇓*i*P	PKPdf	14 22 09.9	+9.4
BEBN	Eben Emael	155.03	355	PKPab	PKPab	14 22 24.5	-0.9
DIM	Dimitrovgrad	155.07	316	*e*P	PKPdf	14 22 10.3	+10
MEM	Membach	155.19	354	PKPbc	PKPdf	14 22 09.9	+9.3
MEM				PKPab	PKPab	14 22 25.1	-1.1
KHC	Kasperske Hory	155.24	342	*e*PKPdf	PKPdf	14 22 00.9	+0.2
KHC				*e*PKPbc	PKPdf	14 22 10.3	+10
KHC	Kasperske Hory	155.24	342	*e*PKIKP	PKPdf	14 22 01.0	+0.3
KHC	Kasperske Hory	155.24	342	*e*PKPDF	PKPdf	14 22 00.9	+0.2
KHC				⇑*i*PKP	PKPdf	14 22 10.2	+9.5
KHC				*e*PKPAB	PKPab	14 22 25.8	-0.6
GRF	Grafenberg Arr	155.29	346	*e*PKPdf	PKPdf	14 22 01.3	+0.5
GRF	Grafenberg Arr	155.29	346	*e*PKIKP	PKPdf	14 22 01.3	+0.5
GRFO	Grafenberg	155.29	346	*e*PKPab	PKPab	14 22 25.5	-1.1
GRFO	Grafenberg	155.29	346	*e*PKP2	PKPab	14 22 25.5	-1.1
SNF	Seneffe	155.40	357	PKPab	PKPab	14 22 25.9	-1.2
WET	Wettzell	155.41	343	*e*PKPdf	PKPdf	14 22 01.1	+0.2
WET	Wettzell	155.41	343	*e*PKIKP	PKPdf	14 22 01.1	+0.2
BCLA	Clavier	155.43	356	PKPab	PKPab	14 22 26.0	-1.1
GEC2	GERESS Array S	155.46	342	*e*PKPdf	PKPdf	14 22 01.6	+0.6
GEC2	GERESS Array S	155.46	342	*e*PKIKP	PKPdf	14 22 01.6	+0.6
GERES	GERESS Array B	155.46	342	PKP	PKPdf	14 22 01.2	+0.2
	comp=Z,3.3nm,0.8s,baz=48,slow=1.5,SNR=30						
GERES				PKPbc	PKPdf	14 22 10.7	+10
	comp=Z,5.3nm,0.8s,baz=42,slow=2.2,SNR=21						
GERES	GERESS Array B	155.46	342	PKP	PKPdf	14 22 01.2	+0.2
GERES				PKPbc	PKPdf	14 22 10.7	+10
GERES	GERESS Array B	155.46	342	PKIKP	PKPdf	14 22 01.2	+0.2
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SOP	Sopron	155.57	336	⇑*e*PKP	PKPab	14 22 28.2	+0.3
CONA	Conrad Observa	155.60	338	⇑*i*PKPdf	PKPdf	14 22 01.7	+0.5
	comp=Z,9.7nm,1.0s						
CONA				*i* PKPab	PKPab	14 22 28.5	+0.5
	comp=Z,93nm,1.3s,SNR=8.1						
CONA	Conrad Observa	155.60	338	⇑*i*P	PKPdf	14 22 01.7	+0.5
RZN	Rozhen	155.78	316	*e*P	PKPab	14 22 29.0	0.0
GIVF	Givet	155.78	356	*e*PKIKP	PKPdf	14 22 01.5	+0.1
GIVF	Givet	155.78	356	*e*PKPdf	PKPdf	14 22 01.5	+0.1
GIVF	Givet	155.78	356	*e*PKIKP	PKPdf	14 22 01.5	+0.1
DOU	Dourbes	155.80	357	PKPbc	PKPdf	14 22 11.5	+10
DOU				PKPab	PKPab	14 22 27.6	-1.1
PKSM	Moragy	155.95	332	⇑PKIKP	PKPdf	14 22 02.4	+0.7
PKSM	Moragy	155.95	332	⇑*i*P	PKPdf	14 22 02.4	+0.7
WLF	Walferdange	156.11	354	PKPbc	PKPdf	14 22 12.4	+11
WLF				PKPab	PKPab	14 22 29.4	-0.7
WLF	Walferdange	156.11	354	*e*PKPdf	PKPdf	14 22 02.2	+0.3
WLF	Walferdange	156.11	354	*e*PKP2	PKPab	14 22 29.4	-0.7
VTS	Vitosha	156.16	319	⇓PKP2	PKPab	14 22 31.6	+0.9
VTS	Vitosha	156.16	319	*e*P	PKPab	14 22 31.1	+0.4
VTS	Vitosha	156.16	319	⇓*i*P	PKPab	14 22 31.6	+0.9
MOA	Molln	156.19	340	⇑*i*PKPdf	PKPdf	14 22 02.1	+0.1
	comp=Z,7.8nm,1.2s						
MOA				*i* PKPab	PKPab	14 22 30.5	0.0
	comp=Z,52nm,1.2s,SNR=8.9						
MOA	Molln	156.19	340	⇑*i*P	PKPdf	14 22 02.1	+0.1
ARSA	Arzberg	156.30	337	⇑*i*PKPdf	PKPdf	14 22 02.4	+0.2
	comp=Z,4.9nm,1.1s						
ARSA				*i* PKPab	PKPab	14 22 31.1	0.0
	comp=Z,31nm,1.1s,SNR=7.3						
ARSA	Arzberg	156.30	337	⇑*i*P	PKPdf	14 22 02.4	+0.2
MMB	Musomiste	156.44	317	*e*P	PKPab	14 22 32.2	+0.3
STU	Stuttgart	156.57	349	*e*PKPdf	PKPdf	14 22 03.1	+0.6
STU	Stuttgart	156.57	349	*e*PKIKP	PKPdf	14 22 03.1	+0.6
LANF	Langenberg	156.59	351	PKP	PKPab	14 22 30.8	-1.4
KKB	Krupnik	156.67	318	*e*P	PKPab	14 22 33.3	+0.1
KOGS	Kog	156.72	335	*e*PKPdf	PKPdf	14 22 02.6	-0.2
KOGS				*i* PKPab	PKPab	14 22 32.0	-0.9
SOKA	Soboth	156.97	337	⇑*i*PKPdf	PKPdf	14 22 03.1	0.0
	comp=Z,13nm,1.3s						
SOKA				⇑*i*PKPab	PKPab	14 22 33.0	-0.9
	comp=Z,73nm,1.5s						
SOKA	Soboth	156.97	337	⇑*i*P	PKPdf	14 22 03.1	0.0
FLN	La Foliniere	157.08	5	*e*PKIKP	PKPdf	14 22 02.9	-0.2
FLN	La Foliniere	157.08	5	*e*PKPdf	PKPdf	14 22 02.9	-0.2
FLN	La Foliniere	157.08	5	*e*PKIKP	PKPdf	14 22 02.9	-0.2
BFO	Black Forest	157.15	350	*e*PKPdif	PKPdf	14 22 13.5	+10
BFO				*e*PKPab	PKPab	14 22 33.4	-1.2
BFO	Black Forest	157.15	350	⇓*e*PKIKP	PKPdf	14 22 13.5	+10
KBA	Koelnbreinsper	157.16	340	⇑*i*PKPdf	PKPdf	14 22 03.3	0.0
	comp=Z,8.6nm,1.1s						
KBA				⇓*i*PKPab	PKPab	14 22 34.4	-0.3
	comp=Z,26nm,0.9s						
KBA	Koelnbreinsper	157.16	340	⇑*i*P	PKPdf	14 22 03.3	0.0
KBA	Koelnbreinsper	157.16	340	⇑*i*PKIKP	PKPdf	14 22 03.3	0.0
CDF	Champ du Feu	157.22	352	*e*PKIKP	PKPdf	14 22 03.3	0.0
CDF	Champ du Feu	157.22	352	*e*PKPdf	PKPdf	14 22 03.3	0.0
CDF	Champ du Feu	157.22	352	*e*PKIKP	PKPdf	14 22 03.3	0.0
PAGF	Fort de Pagny	157.25	354	*e*PKIKP	PKPdf	14 22 03.6	+0.2
PAGF	Fort de Pagny	157.25	354	*e*PKPdf	PKPdf	14 22 03.6	+0.2
VAY	Valandovo	157.31	318	*e*PKP	PKPab	14 22 35.1	-0.5
MEZF	Maizieres J'vi	157.36	355	*e*PKIKP	PKPdf	14 22 03.9	+0.4
	comp=Z,62nm,1.2s						
MEZF	Maizieres J'vi	157.36	355	*e*PKPdf	PKPdf	14 22 03.9	+0.4
WATA	Walderalm	157.42	344	⇓*i*PKPdf	PKPdf	14 22 03.1	-0.5
	comp=Z,2.2nm,0.5s						
WATA				⇑*i*PKPab	PKPab	14 22 35.6	-0.3
	comp=Z,51nm,1.2s,SNR=8.3						
WATA	Walderalm	157.42	344	⇓*i*P	PKPdf	14 22 03.1	-0.5
WATA	Walderalm	157.42	344	⇓*i*PKIKP	PKPdf	14 22 03.1	-0.5
ECH	Echery	157.43	352	*e*PKPdf	PKPdf	14 22 03.5	-0.1
ECH				*e*PKPab	PKPab	14 22 34.1	-1.7
ECH	Echery	157.43	352	*e*PKIKP	PKPdf	14 22 03.5	-0.1
ECH				*e*		14 22 34.1	
ECH	Echery	157.43	352	PKP	PKPab	14 22 34.9	-0.9
MYKA	Terra Mystica	157.47	339	⇑*i*PKPdf	PKPdf	14 22 03.8	+0.1
	comp=Z,6.5nm,1.2s						
MYKA				⇑*i*PKPab	PKPab	14 22 35.3	-0.8
	comp=Z,39nm,0.9s						
MYKA	Terra Mystica	157.47	339	⇑*i*P	PKPdf	14 22 03.8	+0.1
WTTA	Wattenberg	157.47	343	⇑*i*PKPdf	PKPdf	14 22 04.4	+0.7
	comp=Z,7.6nm,1.0s						
WTTA				*i* PKPab	PKPab	14 22 36.0	-0.1
	comp=Z,102nm,1.6s,SNR=6.5						
WTTA	Wattenberg	157.47	343	⇑*i*P	PKPdf	14 22 04.4	+0.7
WTTA	Wattenberg	157.47	343	⇑*i*PKIKP	PKPdf	14 22 04.4	+0.7
RETA	Reutte	157.47	345	⇑*i*PKPdf	PKPdf	14 22 04.2	+0.5
	comp=Z,0.9nm,0.6s						
RETA				*i* PKPab	PKPab	14 22 35.6	-0.5
	comp=Z,46nm,1.1s,SNR=8.8						
RETA	Reutte	157.47	345	⇑*i*P	PKPdf	14 22 04.2	+0.5
MOTA	Moosalm	157.53	344	⇓*i*PKPdf	PKPdf	14 22 03.8	0.0
	comp=Z,5.5nm,1.1s						
MOTA				*i* PKPab	PKPab	14 22 35.8	-0.5
	comp=Z,18nm,0.7s,SNR=6.4						
MOTA	Moosalm	157.53	344	⇓*i*P	PKPdf	14 22 03.8	0.0
MOTA	Moosalm	157.53	344	⇓*i*PKIKP	PKPdf	14 22 03.8	+0.1
THEF	They Montfort	157.55	354	PKP	PKPab	14 22 35.1	-1.3
SKO	Skopje	157.58	320	*e*PKP	PKPab	14 22 38.0	+1.2
SFTF	Sexfontaines	157.65	355	*e*PKIKP	PKPdf	14 22 04.3	+0.4
	comp=Z,37nm,1.1s						
SFTF	Sexfontaines	157.65	355	*e*PKPdf	PKPdf	14 22 04.3	+0.4
LJU	Ljubljana	157.69	337	*i* PKPdf	PKPdf	14 22 04.5	+0.5
LJU				*i* PKPab	PKPab	14 22 36.0	-1.1
ABTA	Abfaltersbach	157.70	341	⇑⇑PKPdf	PKPdf	14 22 03.9	-0.1
	comp=Z,8.0nm,0.9s						
ABTA				*i* PKPab	PKPab	14 22 36.3	-0.8
	comp=Z,53nm,1.1s,SNR=7.8						
ABTA	Abfaltersbach	157.70	341	⇑*i*P	PKPdf	14 22 03.9	-0.1
HAU	Haudompre	157.73	353	*e*PKIKP	PKPdf	14 22 04.0	0.0
	comp=Z,32nm,1.2s						
HAU	Haudompre	157.73	353	*e*PKPdf	PKPdf	14 22 04.0	0.0
HAU	Haudompre	157.73	353	*e*PKIKP	PKPdf	14 22 04.0	0.0
HINF	Hinterlalfeld	157.86	352	*e*PKIKP	PKPdf	14 22 04.0	-0.1
HINF	Hinterlalfeld	157.86	352	*e*PKPdf	PKPdf	14 22 04.0	-0.1
HINF	Hinterlalfeld	157.86	352	*e*PKIKP	PKPdf	14 22 04.0	-0.1
DAVA	Damuels	157.86	346	⇑⇑PKPdf	PKPdf	14 22 04.7	+0.5
	comp=Z,8.3nm,1.2s						
DAVA				*i* PKPab	PKPab	14 22 37.2	-0.5
	comp=Z,30nm,0.7s,SNR=6.9						
DAVA	Damuels	157.86	346	⇑*i*P	PKPdf	14 22 04.7	+0.5
BOJS	Bojanci	157.89	335	*e*PKPdf	PKPdf	14 22 04.8	+0.5
BOJS				*e*		14 22 16.3	
BOJS				*e*		14 22 28.5	
BOJS				*i* PKPab	PKPab	14 22 37.1	-0.8
VOY	Vojsko	157.92	338	*e*PKPdf	PKPdf	14 22 04.4	+0.1
VOY				*e*		14 22 36.7	
VOY				*e*		14 22 40.9	
FETA	Feichten	157.92	345	*i* PKPdf	PKPdf	14 22 04.8	+0.6
	comp=Z,8.2nm,0.9s,SNR=7.7						
FETA				⇑⇑*i*PKPab	PKPab	14 22 37.8	-0.2
	comp=Z,34nm,1.7s						
FETA	Feichten	157.92	345	*i* P	PKPdf	14 22 04.8	+0.6
BIA	Bitola	158.24	319	*e*PKP	PKPab	14 22 38.7	-1.0
LOMF	Lomont	158.32	352	PKP	PKPab	14 22 39.0	-0.7
LOR	Lormes	158.66	357	*e*PKIKP	PKPdf	14 22 05.4	+0.3
	comp=Z,26nm,1.2s						
LOR	Lormes	158.66	357	*e*PKPdf	PKPdf	14 22 05.4	+0.3
LOR	Lormes	158.66	357	*e*PKIKP	PKPdf	14 22 05.4	+0.3
SSF	Saint Saulge	158.88	358	*e*PKIKP	PKPdf	14 22 05.6	+0.2
	comp=Z,79nm,1.6s						
SSF	Saint Saulge	158.88	358	*e*PKPdf	PKPdf	14 22 05.6	+0.2
SSF	Saint Saulge	158.88	358	*e*PKIKP	PKPdf	14 22 05.6	+0.2
CABF	La Chapelle	159.14	353	*e*PKIKP	PKPdf	14 22 06.5	+0.8
	comp=Z,60nm,1.3s						
CABF	La Chapelle	159.14	353	*e*PKPdf	PKPdf	14 22 06.5	+0.8
CABF	La Chapelle	159.14	353	*e*PKIKP	PKPdf	14 22 06.5	+0.8
LIC	Lamto	159.18	159	*e*PKIKP	PKPdf	14 22 08.0	+1.2
	comp=Z,65nm,1.2s						
LIC	Lamto	159.18	159	*e*PKPdf	PKPdf	14 22 08.0	+1.2
MFF	Saint Martin d	159.26	5	*e*PKIKP	PKPdf	14 22 06.2	+0.4
MFF	Saint Martin d	159.26	5	*e*PKPdf	PKPdf	14 22 06.2	+0.4
MFF	Saint Martin d	159.26	5	*e*PKIKP	PKPdf	14 22 06.2	+0.4
DBIC	Dimbokro	159.65	159	PKP	PKPdf	14 22 09.0	+1.6
	comp=Z,9.4nm,0.9s,baz=172,slow=1.8,SNR=11						
DBIC				PKPab	PKPab	14 22 50.2	+3.8
	comp=Z,12nm,0.7s,baz=182,slow=5.6,SNR=13						
DBIC	Dimbokro	159.65	159	PKP	PKPdf	14 22 09.0	+1.6
DBIC				PKPab	PKPab	14 22 50.2	+3.8
DBIC	Dimbokro	159.65	159	PKIKP	PKPdf	14 22 09.0	+1.7
DBIC						14 22 50.2	
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,12nm,0.7s						
RSL	Roselend	159.98	351	PKP	PKPab	14 22 46.5	-0.5
LPG	La Plagne	160.15	351	*e*PKIKP	PKPdf	14 22 07.7	+0.8
LPG	La Plagne	160.15	351	*e*PKPdf	PKPdf	14 22 07.7	+0.8
LPG	La Plagne	160.15	351	*e*PKIKP	PKPdf	14 22 07.7	+0.8
PYM	Petit Puy Mans	160.20	359	PKP	PKPab	14 22 46.9	-1.0
FRNF	Fournols	160.57	360	PKP	PKPab	14 22 48.7	-0.9
BNI	Bardonecchia	160.59	351	*e*PKPdf	PKPdf	14 22 08.4	+1.0
BNI				*e*PKPab	PKPab	14 22 49.3	-0.4
BNI	Bardonecchia	160.59	351	*e*PKIKP	PKPdf	14 22 08.4	+1.0
BNI				*e*		14 22 49.3	
RJF	Les Rejaudoux	160.64	2	*e*PKIKP	PKPdf	14 22 07.8	+0.4
	comp=Z,17nm,1.0s						
RJF	Les Rejaudoux	160.64	2	*e*PKPdf	PKPdf	14 22 07.8	+0.4
RJF	Les Rejaudoux	160.64	2	*e*PKIKP	PKPdf	14 22 07.8	+0.4
LBL	Lubilhac	160.71	358	PKP	PKPab	14 22 49.5	-0.7
ORIF	Oris-en-Rattie	160.83	352	*e*PKIKP	PKPdf	14 22 08.3	+0.6
ORIF	Oris-en-Rattie	160.83	352	*e*PKPdf	PKPdf	14 22 08.3	+0.6
ORIF	Oris-en-Rattie	160.83	352	*e*PKIKP	PKPdf	14 22 08.3	+0.6
CAF	Calviac	161.03	1	*e*PKIKP	PKPdf	14 22 08.5	+0.6
CAF	Calviac	161.03	1	*e*PKPdf	PKPdf	14 22 08.5	+0.6
CAF	Calviac	161.03	1	*e*PKIKP	PKPdf	14 22 08.5	+0.6
SBF	Sospel	161.63	348	*e*PKIKP	PKPdf	14 22 08.9	+0.4
SBF	Sospel	161.63	348	*e*PKPdf	PKPdf	14 22 08.9	+0.4
SBF	Sospel	161.63	348	*e*PKIKP	PKPdf	14 22 08.9	+0.4
SMRF	Simiane la Rot	161.80	353	*e*PKIKP	PKPdf	14 22 08.9	+0.2
SMRF	Simiane la Rot	161.80	353	*e*PKPdf	PKPdf	14 22 08.9	+0.2
LASF	Ste Croix	161.84	357	*e*PKIKP	PKPdf	14 22 09.4	+0.7
LASF	Ste Croix	161.84	357	*e*PKPdf	PKPdf	14 22 09.4	+0.7
TIP	Timpagrande	162.09	321	*e*PKPdf	PKPdf	14 22 09.7	+0.5
TIP				*e*PKPab	PKPab	14 22 56.5	0.0
LMR	La Mourre	162.30	350	*e*PKIKP	PKPdf	14 22 08.8	-0.4
LMR	La Mourre	162.30	350	*e*PKPdf	PKPdf	14 22 08.8	-0.4
LMR	La Mourre	162.30	350	*e*PKIKP	PKPdf	14 22 08.8	-0.4
PCBR	Castelo Branco	163.85	28	*e*PKPdf	PKPdf	14 22 12.5	+1.7
EVOP	Sao Brissos	164.62	33	*e*PKPdf	PKPdf	14 22 12.0	+0.4
EVOP	Sao Brissos	164.62	33	*e*PKIKP	PKPdf	14 22 12.0	+0.4
EVO	Evora	164.67	32	*e*PKIKP	PKPdf	14 22 12.0	+0.4
	comp=Z,136nm,1.6s						
PNCL	Nicolau / Gran	164.74	35	*e*PKPdf	PKPdf	14 22 14.3	+2.6
ESDC	Sonseca Array	165.29	20	PKP	PKPdf	14 22 13.1	+1.0
	comp=Z,3.1nm,1.0s,baz=322,slow=2.7,SNR=9.3						
ESDC				PKPab	PKPab	14 23 09.2	-1.2
	comp=Z,6.0nm,0.9s,baz=328,slow=3.5,SNR=16						
ESDC	Sonseca Array	165.29	20	PKP	PKPdf	14 22 13.1	+1.0
ESDC				PKPab	PKPab	14 23 09.2	-1.2
PBDV	Barranco-do-Ve	165.70	35	*e*PKPdf	PKPdf	14 22 15.1	+2.6
TORD	Torodi Ar. Bea	167.28	177	PKP	PKPdf	14 22 15.6	+1.2
	comp=Z,14nm,0.8s,baz=162,slow=0.2,SNR=64						
TORD				PKPab	PKPab	14 23 23.7	+3.9
	comp=Z,11nm,0.8s,baz=179,slow=4.1,SNR=17						
TORD				pPKPab	pPKPab	14 24 02.6	+2.5
	comp=Z,7.9nm,1.1s,baz=177,slow=3.5,SNR=3.2						
TORD	Torodi Ar. Bea	167.28	177	PKP	PKPdf	14 22 15.6	+1.2
TORD				PKPab	PKPab	14 23 23.7	+3.9
TORD				pPKPab	pPKPab	14 24 02.6	+2.5
KEST	Kesra	168.54	330	PKPab	PKPab	14 23 24.6	-0.4
	comp=Z,9.2nm,0.9s,baz=359,slow=1.9,SNR=12						
KEST	Kesra	168.54	330	PKPab	PKPab	14 23 24.6	-0.4
TAM	Tamanrasset	175.77	223	*e*PKPdf	PKPdf	14 22 20.7	+2.4
TAM	Tamanrasset	175.77	223	*e*PKIKP	PKPdf	14 22 20.7	+2.4

PRU 31 14:21:58.6, 50°.16N×19°.03E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.66	241	*e*SG	Sg	14 22 19.9	+0.3
DPC	Dobruska-Polom	1.75	277	*e*SG	Sg	14 22 54.4	-0.3

*NEIC **31** 14:21:59.3, 17°.13N×94°.73W, h116km, MD4.2(MEX), After MEX.*

MEX 31 14:21:58.6±1.0, 17°.06N×94°.68W, h118km±10km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.20	278	*i* P	Pn	14 22 14.1	-0.9
CMIG				*e*S	Sn	14 22 25.0	-2.3
CMIG	Matias Romero	0.20	278	*i* P	Pn	14 22 14.1	-0.9
CMIG				*e*S	Sn	14 22 25.0	-2.3
HUIG	Huatulco	1.88	227	*i* P	Pn	14 22 28.4	-2.2
HUIG				*e*S	Sn	14 22 54.3	-0.6
HUIG	Huatulco	1.88	227	*i* P	Pn	14 22 28.4	-2.2
HUIG				*e*S	Sn	14 22 54.0	-0.9
OXX	Oaxaca	1.96	271	*i* P	Pn	14 22 30.7	-0.8
OXX				*e*S	Sn	14 22 54.1	-2.5
OXX	Oaxaca	1.96	271	*i* P	Pn	14 22 30.7	-0.8
OXX				*e*S	Sn	14 22 54.1	-2.5
VHO	Vista Hermosa	1.97	271	*i* P	Pn	14 22 31.3	-0.3
VHO				*e*S	Sn	14 22 55.5	-1.3
VHO	Vista Hermosa	1.97	271	*i* P	Pn	14 22 31.3	-0.3
VHO				*e*S	Sn	14 22 55.5	-1.3
TPIG	Tehuac#an	2.89	298	*i* P	Pn	14 22 41.8	-1.6
TPIG				*e*S	Sn	14 23 15.0	-2.9
TPIG	Tehuac#an	2.89	298	*i* P	Pn	14 22 41.8	-1.6
TPIG				*i* S	Sn	14 23 16.5	-1.5
UTMO	Hu

VLY			*e*Sn		**Sg**	**14 40 05.7 +0.1**
VLY			S		**Sg**	**14 40 06.3 +0.7**
NAIG	**Nisos Aigina**	**1.01 179**	*e*Pn		**Pg**	**14 39 53.8 -0.5**
NAIG	**Nisos Aigina**	**1.01 179**	*e*Pn		**Pg**	**14 39 53.8 -0.5**
MRMA	**Marmari**	**1.01 134**	P		**Pg**	**14 39 53.5 -0.9**
MRMA			S		**Sg**	**14 40 08.2 +0.7**
MRMA	**Marmari**	**1.01 134**	P		**Pg**	**14 39 53.5 -0.9**
MRMA			S		**Sg**	**14 40 08.2 +0.7**
MAKR	**Makrakomi, Fth**	**1.07 284**	P		**Pg**	**14 39 54.7 -0.7**
MAKR			S		**Sg**	**14 40 09.8 +0.5**
MAKR	**Makrakomi, Fth**	**1.07 284**	P		**Pg**	**14 39 54.7 -0.7**
MAKR			S		**Sg**	**14 40 09.8 +0.5**
KALE	**Kalithea**	**1.10 250**	P		**Pg**	**14 39 54.5 -1.6**
KALE	**Kalithea**	**1.10 250**	P		**Pg**	**14 39 54.5 -1.6**
PAIG	**Paliouri**	**1.17 8**	P		**Pb**	**14 39 56.2 -1.0**
PAIG	**Paliouri**	**1.17 8**	P		**Pb**	**14 39 56.2 -1.0**
GUR	**Goura**	**1.21 227**	*e*PN		**Pn**	**14 39 57.4 -0.4**
GUR			*e*SN		**Sn**	**14 40 14.0 -0.1**
GUR	**Goura**	**1.21 227**	P		**Pn**	**14 39 56.3 -1.5**
GUR			S		**Sb**	**14 40 13.7 +0.3**
GUR	**Goura**	**1.21 227**	P		**Pn**	**14 39 56.3 -1.5**
GUR	**Goura**	**1.21 227**	*e*Pn		**Pn**	**14 39 57.4 -0.4**
GUR			*e*Sn		**Sn**	**14 40 13.8 -0.3**
EFP	**Efpalio**	**1.27 255**	*e*PN		**Pn**	**14 39 58.4 -0.1**
EFP	**Efpalio**	**1.27 255**	P		**Pn**	**14 39 57.5 -1.0**
EFP			S		**Sb**	**14 40 14.9 -0.2**
EFP	**Efpalio**	**1.27 255**	P		**Pn**	**14 39 57.5 -1.0**
EFP	**Efpalio**	**1.27 255**	*e*Pn		**Pn**	**14 39 58.4 -0.1**
EFP			S		**Sb**	**14 40 14.9 -0.2**
DID	**Didima**	**1.27 188**	*e*PN		**Pn**	**14 39 57.8 -0.8**
DID			*e*SN		**Sn**	**14 40 15.7 0.0**
DID	**Didima**	**1.27 188**	P		**Pn**	**14 39 57.7 -0.9**
DID	**Didima**	**1.27 188**	*e*Pn		**Pn**	**14 39 57.8 -0.8**
DID			*e*Sn		**Sn**	**14 40 15.4 -0.3**
LAKA	**Lakka**	**1.28 246**	P		**Pn**	**14 39 57.6 -1.1**
LAKA	**Lakka**	**1.28 246**	P		**Pn**	**14 39 57.6 -1.1**
EVR	**Evrytania**	**1.30 277**	*e*PN		**Pn**	**14 39 59.1 +0.1**
EVR	**Evrytania**	**1.30 277**	*e*Pn		**Pn**	**14 39 59.5 +0.5**
THL	**Klokotos Trika**	**1.38 306**	*e*PN		**Pn**	**14 39 59.4 -0.7**
THL			*e*SN		**Sn**	**14 40 18.2 -0.1**
THL	**Klokotos Trika**	**1.38 306**	P		**Pn**	**14 39 59.4 -0.7**
THL			S		**Sb**	**14 40 18.5 +0.2**
THL	**Klokotos Trika**	**1.38 306**	P		**Pn**	**14 39 59.4 -0.7**
THL			*e*Sn		**Sn**	**14 40 18.2 -0.1**
THL			S		**Sb**	**14 40 18.5 +0.2**
PLG	**Polygyros**	**1.60 360**	*e*PN		**Pn**	**14 40 02.4 -0.8**
PLG			*e*SN		**Sn**	**14 40 22.4 -1.5**
PLG	**Polygyros**	**1.60 360**	P		**Pn**	**14 40 02.5 -0.7**
PLG			S		**Sn**	**14 40 23.7 -0.2**
PLG	**Polygyros**	**1.60 360**	P		**Pn**	**14 40 02.5 -0.7**
PLG			*e*Sn		**Sn**	**14 40 22.4 -1.5**
PLG			S		**Sn**	**14 40 23.7 -0.2**
OUR	**Ouranopolis**	**1.61 14**	P		**Pn**	**14 40 02.7 -0.7**
OUR	**Ouranopolis**	**1.61 14**	P		**Pn**	**14 40 02.7 -0.7**
VLX	**Vlachokerasia**	**1.64 212**	*e*PN		**Pn**	**14 40 03.6 0.0**
VLX	**Vlachokerasia**	**1.64 212**	*e*Pn		**Pn**	**14 40 03.6 0.0**
RLS	**Riolos of Patr**	**1.72 246**	*e*PN		**Pn**	**14 40 05.2 +0.4**
RLS	**Riolos of Patr**	**1.72 246**	*e*Pn		**Pn**	**14 40 06.2 +1.4**
LIA	**Limnos Island**	**1.75 49**	*e*PB		**Pn**	**14 40 04.2 -1.0**
LIA	**Limnos Island**	**1.75 49**	P		**Pn**	**14 40 04.4 -0.8**
LIA			S		**Sn**	**14 40 27.9 +0.4**
LIA	**Limnos Island**	**1.75 49**	P		**Pn**	**14 40 04.4 -0.8**
LIA			S		**Sn**	**14 40 27.9 +0.4**
HORT	**Hortiatis**	**1.85 351**	P		**Pn**	**14 40 06.0 -0.6**
HORT			S		**Sn**	**14 40 30.0 +0.1**
HORT	**Hortiatis**	**1.85 351**	P		**Pn**	**14 40 06.0 -0.6**
HORT			S		**Sn**	**14 40 30.0 +0.1**
ITM	**Ithomi**	**2.00 218**	*e*PB		**Pn**	**14 40 09.1 +0.5**
ITM	**Ithomi**	**2.00 218**	*e*Pn		**Pn**	**14 40 09.5 +0.9**
KZN	**Kozani**	**2.02 320**	*e*PN		**Pn**	**14 40 09.2 +0.3**
KZN	**Kozani**	**2.02 320**	*e*Pn		**Pn**	**14 40 09.2 +0.3**
CHOS	**Chios island**	**2.07 100**	*e*PB		**Pn**	**14 40 09.4 -0.2**
CHOS	**Chios island**	**2.07 100**	*e*Pb		**Pn**	**14 40 09.4 -0.2**
VLI	**Veliai**	**2.09 192**	*e*PN		**Pn**	**14 40 09.5 -0.3**
VLI	**Veliai**	**2.09 192**	*e*Pn		**Pn**	**14 40 09.5 -0.3**
JAN	**Janina**	**2.21 294**	*e*PB		**Pn**	**14 40 11.9 +0.3**
JAN	**Janina**	**2.21 294**	*e*Pb		**Pb**	**14 40 13.1 -1.8**
PRK	**Paraskevi**	**2.24 77**	*e*PN		**Pn**	**14 40 11.1 -0.9**
PRK	**Paraskevi**	**2.24 77**	P		**Pn**	**14 40 11.3 -0.7**
PRK	**Paraskevi**	**2.24 77**	P		**Pn**	**14 40 11.3 -0.7**
PYL	**PYLOS**	**2.31 217**	*e*PN		**Pn**	**14 40 13.1 +0.2**
PYL	**PYLOS**	**2.31 217**	*e*Pb		**Pn**	**14 40 14.1 +1.2**
VLS	**Valsamata**	**2.33 256**	*e*PB		**Pn**	**14 40 13.8 +0.6**
VLS	**Valsamata**	**2.33 256**	*e*Pb		**Pn**	**14 40 13.8 +0.6**
APE	**Apeiranthos**	**2.36 135**	*e*PN		**Pn**	**14 40 13.4 -0.1**
APE	**Apeiranthos**	**2.36 135**	*e*Pn		**Pn**	**14 40 13.4 -0.1**
NVR	**Nevrokopi**	**2.60 7**	*e*PN		**Pn**	**14 40 16.4 -0.5**
NVR	**Nevrokopi**	**2.60 7**	*e*Pn		**Pn**	**14 40 16.4 -0.5**
VAY	**Valandovo**	**2.64 345**	*e*Pn		**Pn**	**14 40 15.3 -2.1**
VAY	**Valandovo**	**2.64 345**	*e*Pn		**Pn**	**14 40 15.3 -2.1**
BIA	**Bitola**	**2.79 324**	*e*Pn		**Pg**	**14 40 27.9 -0.4**
RDO	**Rodhopi**	**2.86 33**	*e*PN		**Pn**	**14 40 19.7 -0.8**
RDO	**Rodhopi**	**2.86 33**	*e*Pn		**Pn**	**14 40 19.7 -0.8**
ALN	**Alexandroupoli**	**2.91 42**	*e*PN		**Pn**	**14 40 21.5 +0.3**
ALN	**Alexandroupoli**	**2.91 42**	*e*Pn		**Pn**	**14 40 21.5 +0.3**
KEK	**Kerkira**	**3.00 290**	*e*PN		**Pn**	**14 40 23.1 +0.8**
KEK	**Kerkira**	**3.00 290**	*e*Pb		**Pn**	**14 40 24.1 +1.8**
BARS	**Barje**	**4.23 343**	*e*Pn		**Pn**	**14 40 41.2 +1.9**
TIP	**Timpagrande**	**5.24 277**	*e*P		**Pn**	**14 40 54.4 +1.2**
TIP	**Timpagrande**	**5.24 277**	*e*P		**Pn**	**14 40 54.4 +1.2**
IVAS	**Ivanjica**	**5.41 334**	*e*Pn		**Pn**	**14 40 55.4 -0.1**
CUC	**Castrocucco**	**6.05 284**	Pn		**Pn**	**14 41 05.2 +0.9**
CUC	**Castrocucco**	**6.05 284**	Pn		**Pn**	**14 41 05.2 +0.9**
MLR	**Muntele Rosu**	**6.97 15**	Pn		**Pn**	**14 41 21.3 +4.4**
	0.2nm,0.3s,baz=321,slow=18,SNR=6.3					
MLR			Sn		**Sn**	**14 42 38.6 +2.5**
	0.1nm,0.3s,baz=222,slow=15,SNR=3.7					
MLR	**Muntele Rosu**	**6.97 15**	Pn		**Pn**	**14 41 21.3 +4.4**
MLR			Sn		**Sn**	**14 42 38.6 +2.5**
BR131	**Keskin Array S**	**7.96 80**	*e*P		**Pn**	**14 41 31.7 +1.2**
BR131	**Keskin Array S**	**7.96 80**	*e*P		**Pn**	**14 41 31.7 +1.2**
BRTR	**Keskin Array B**	**7.96 80**	Pn		**Pn**	**14 41 31.6 +1.1**
	0.2nm,0.3s,baz=261,slow=12,SNR=6.8					
BRTR	**Keskin Array B**	**7.96 80**	Pn		**Pn**	**14 41 31.6 +1.1**
BRTR	**Keskin Array B**	**7.96 80**	Pn		**Pn**	**14 41 31.6 +1.1**
MMAI	**Mount Meron Ar**	**11.25 117**	LR		LR	14 46 33.8
	comp=Z,41nm,21.2s,baz=45,slow=38					
ESDC	**Sonseca Array**	**21.24 281**	P		**P**	**14 44 21.5 +0.7**
	0.7nm,0.5s,mb3.2,baz=74,slow=12,SNR=6.6					
ESDC	**Sonseca Array**	**21.24 281**	P		**P**	**14 44 21.5 +0.7**
ESDC	**Sonseca Array**	**21.24 281**	P		**P**	**14 44 21.5 +0.6**
HFS	**Hagfors**	**22.26 347**	P		**P**	**14 44 33.6 +1.9**
	1.4nm,0.7s,mb3.5,baz=151,slow=12,SNR=3.9					
HFS	**Hagfors**	**22.26 347**	P		**P**	**14 44 33.6 +1.9**
HFS	**Hagfors**	**22.26 347**	P		**P**	**14 44 33.6 +2.0**
NOA	**NORSAR Array B**	**23.57 345**	P		**P**	**14 44 46.8 +1.4**
	0.4nm,0.7s,mb2.9,baz=152,slow=11,SNR=3.0					
NOA	**NORSAR Array B**	**23.57 345**	P		**P**	**14 44 46.8 +1.4**
NOA	**NORSAR Array B**	**23.57 345**	P		**P**	**14 44 46.8 +1.4**
TORD	**Torodi Ar. Bea**	**31.99 223**	P		**P**	**14 46 00.7 -0.5**
	0.5nm,0.5s,mb3.6,baz=22,slow=8.1,SNR=3.6					
TORD	**Torodi Ar. Bea**	**31.99 223**	P		**P**	**14 46 00.7 -0.5**
TORD	**Torodi Ar. Bea**	**31.99 223**	P		**P**	**14 46 00.7 -0.5**
MK31	**Makanchi Array**	**43.02 60**	*e*P		**P**	**14 47 34.1 -0.2**
MK31	**Makanchi Array**	**43.02 60**	*e*P		**P**	**14 47 34.1 -0.2**
MKAR	**Makanchi Array**	**43.02 60**	P		**P**	**14 47 33.9 -0.4**
	0.4nm,0.8s,mb3.2,baz=273,slow=6.8,SNR=6.4					
MKAR	**Makanchi Array**	**43.02 60**	P		**P**	**14 47 33.9 -0.4**
MKAR	**Makanchi Array**	**43.02 60**	P		**P**	**14 47 33.9 -0.4**
ZALV	**Zalesovo Beam**	**43.57 49**	P		**P**	**14 47 38.9 +0.2**
	0.4nm,0.4s,mb3.5,baz=275,slow=8.0,SNR=3.1					
ZALV	**Zalesovo Beam**	**43.57 49**	P		**P**	**14 47 38.9 +0.2**
ZALV	**Zalesovo Beam**	**43.57 49**	P		**P**	**14 47 38.9 +0.2**

*NEIC **31** 14:48:21.2, 18°.13N×99°.92W, h44km, MD3.7(MEX), After MEX.*

MEX 31 14:48:20.8±0.6, 18°.12N×99°.89W, h50km±12km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.32**	**127**	*i* P		Pn	14 48 28.6 -1.5
MEIG				*e*S		Sn	14 48 35.2 -1.4
MEIG	**Mezcala**	**0.32**	**127**	*i* P		Pn	14 48 28.6 -1.5
MEIG				*e*S		Sn	14 48 35.2 -1.4
PLIG	**Platanillo**	**0.46**	**54**	*i* P		Pn	14 48 30.5 -1.0
PLIG				*e*S		Sn	14 48 37.5 -1.7
PLIG	**Platanillo**	**0.46**	**54**	*i* P		Pn	14 48 30.5 -1.0
PLIG				*e*S		Sn	14 48 37.5 -1.7
CAIG	**El Cayaco**	**1.13**	**199**	*i* P		Pn	14 48 39.3 -1.0
CAIG				*e*S		Sn	14 48 53.1 -1.4
CAIG	**El Cayaco**	**1.13**	**199**	*i* P		Pn	14 48 39.3 -1.0
CAIG				*e*S		Sn	14 48 53.1 -1.4
ACX	**Acapulco**	**1.24**	**179**	*i* P		Pn	14 48 39.7 -2.1
ACX				*e*S		Sn	14 48 56.4 -1.1
ACX	**Acapulco**	**1.24**	**179**	*i* P		Pn	14 48 39.7 -2.1
ACX				*e*S		Sn	14 48 56.4 -1.1
ZIIG	**Zihuatanejo**	**1.58**	**251**	*i* P		Pn	14 48 44.6 -1.9
ZIIG				*e*S		Sn	14 49 03.4 -2.4
ZIIG	**Zihuatanejo**	**1.58**	**251**	*i* P		Pn	14 48 44.6 -1.9
ZIIG				*e*S		Sn	14 49 03.4 -2.4

*FUNV **31** 14:48:50.2, 6°.57N×73°.29W, h119km, MW3.6*
*ISCJB **31** 14:48:51.7±0.6, 6°.87N±0°.07×73°.03W±0°.09, h169km±8km, mb3.7/2, Error ellipse: s-maj=17.0km s-min=7.0km az=35.5*
*NEIC **31** 14:48:52.8±0.8, 6°.74N×72°.96W, h168km±8km, Error ellipse: s-maj=20.5km s-min=12.2km az=114.0*
*IDC **31** 14:48:54.4±2.9, 6°.76N×73°.27W, h177km±21km, mb3.4/2, mb1 3.6/3, mb1mx3.0/21, mbtmp3.5/3, Error ellipse: s-maj=93.1km s-min=27.0km az=102.0*

ISC 31 14:48:52.7±0.6, 6°.87N±0°.07×73°.02W±0°.09, h161km±8km, n23, σ0s64/23, mb3.7/2, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.39**	**213**	P		**Pn**	**14 49 33.3 +0.2**
	38nm,0.3s,baz=326,slow=1.2,SNR=39						
ROSC				S		**Sn**	**14 50 04.5 +0.2**
	88nm,0.3s,baz=110,slow=18,SNR=12						
ROSC	**El Rosal**	**2.39**	**213**	P		**Pn**	**14 49 33.3 +0.2**
ROSC				S		**Sn**	**14 50 04.5 +0.2**
VIGV	**El Vigia**	**2.56**	**40**	*e*P		**Pn**	**14 49 34.8 -0.3**
VIGV				*e*S		**Sn**	**14 50 08.0 +0.1**
SOCV	**Socops**	**2.56**	**57**	*e*P		**Pn**	**14 49 35.0 -0.2**
SOCV				*e*S		**Sn**	**14 50 08.0 -0.1**
SDV	**Santo Domingo**	**3.10**	**50**	*e*P		**Pn**	**14 49 42.5 +0.7**
SDV				*e*S		**Sn**	**14 50 20.2 +0.3**
VIRV	**Villa del Rosa**	**3.66**	**9**	*e*P		**Pn**	**14 49 48.4 -0.6**
VIRV				*e*S		**Sn**	**14 50 31.5 -1.2**
QARV	**Quebrada Arrib**	**4.13**	**36**	⇑*i*P		**Pn**	**14 49 55.8 +0.8**
CURV	**Curarigua**	**4.35**	**44**	*e*P		**Pn**	**14 49 58.2 +0.3**
TEPV	**Terepaima**	**4.88**	**51**	⇑*e*P		**Pn**	**14 50 05.0 +0.2**
MAPV	**Macapo**	**5.39**	**57**	*e*P		**Pn**	**14 50 11.7 +0.2**
MONV	**Montecano**	**5.88**	**31**	*e*P		**Pn**	**14 50 17.8 -0.2**
TURV	**Turiamo**	**6.24**	**55**	*e*P		**Pn**	**14 50 22.7 0.0**
SAML	**Samuel**	**18.52**	**148**	P		**P**	**14 52 55.2 -1.8**
SCHQ	**Schefferville**	**48.09**	**5**	P		**P**	**14 57 17.1 +1.3**
	1.9nm,0.6s,mb3.9,baz=186,slow=13,SNR=4.3						
SCHQ	**Schefferville**	**48.09**	**5**	*e*P		**P**	**14 57 16.9 +1.1**
YKA	**Yellowknife Ar**	**63.26**	**340**	P		**P**	**14 59 03.7 0.0**
	0.4nm,0.6s,mb3.5,baz=132,slow=7.1,SNR=6.6						
YKA	**Yellowknife Ar**	**63.26**	**340**	P		**P**	**14 59 03.8 0.0**
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc		PKPbc	15 08 21.8 -1.2
	0.3nm,0.7s,baz=116,slow=3.0,SNR=5.5						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc		PKPbc	15 08 21.8 -1.2
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc		PKPbc	15 08 24.9 -1.2
	0.7nm,1.0s,baz=104,slow=2.6,SNR=2.5						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc		PKPbc	15 08 24.9 -1.2
CMAR	**Chiang Mai Arr**	**153.62**	**17**	PKPbc		PKPbc	15 08 33.4 +0.1
	0.3nm,0.5s,baz=330,slow=2.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**153.62**	**17**	PKPbc		PKPbc	15 08 33.4 +0.1

*IDC **31** 14:49:06.2±1.0, 3°.00N×127°.50E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/19, mbtmp3.5/6, Error ellipse: s-maj=70.9km s-min=19.2km az=69.0*
*ISCJB **31** 14:49:09.1±0.8, 3°.0N±0°.2×127°.4E±0°.4, h33km, mb3.5/6, Error ellipse: s-maj=65.7km s-min=13.9km az=161.3*
*NEIC **31** 14:49:10.8±0.7, 3°.03N×127°.56E, h35km, mb4.0/1, Error ellipse: s-maj=59.7km s-min=13.1km az=71.0*

ISC 31 14:49:11.1±0.8, 3°.0N±0°.2×127°.6E±0°.4, h35km, n14, σ0s77/14, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.76**	**164**	*e*P		**P**	**14 54 19.7 -0.7**
WRA	**Warramunga Arr**	**23.76**	**164**	P		**P**	**14 54 19.4 -1.1**
	0.4nm,0.3s,mb3.3,baz=338,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**23.76**	**164**	P		**P**	**14 54 19.4 -1.1**
WB2	**Warramunga Arr**	**23.77**	**164**	*e*P		**P**	**14 54 20.5 0.0**
ASAR	**Alice Springs**	**27.23**	**167**	P		**P**	**14 54 52.8 +0.8**
	0.2nm,0.7s,mb2.8,baz=349,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**27.23**	**167**	P		**P**	**14 54 52.8 +0.8**
STKA	**Stephens Creek**	**37.17**	**160**	P		**P**	**14 56 19.9 +1.0**
	2.8nm,1.2s,mb4.0,baz=330,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**37.17**	**160**	P		**P**	**14 56 19.9 +1.0**
MKAR	**Makanchi Array**	**58.64**	**325**	P		**P**	**14 59 05.2 +0.4**
	0.2nm,0.3s,mb3.6,baz=120,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**58.64**	**325**	P		**P**	**14 59 05.2 +0.4**
KURK	**Kurchatov**	**62.81**	**327**	P		**P**	**14 59 33.6 +0.5**
	0.3nm,0.5s,mb3.6,baz=129,slow=5.9,SNR=7.7						
KURK	**Kurchatov**	**62.81**	**327**	P		**P**	**14 59 31.7 -1.4**
	0.7nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**85.34**	**25**	P		**P**	**15 01 44.3 0.0**
	0.4nm,1.1s,mb3.5,baz=280,slow=5.4,SNR=5.7						
ILAR	**Eielson Array**	**85.34**	**25**	P		**P**	**15 01 44.3 0.0**

IDC 31 14:51:37.8±59.0, 16°.53S×177°.33W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=1100.0km s-min=162.6km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.20**	**240**	P		P	14 59 17.1 +1.0
	1.7nm,1.0s,baz=72,slow=9.0,SNR=6.3						
WRA	**Warramunga Arr**	**45.91**	**258**	P		P	15 00 01.8 -0.7
	0.2nm,0.3s,baz=96,slow=8.3,SNR=5.4						
ASAR	**Alice Springs**	**46.17**	**253**	P		P	15 00 04.2 -0.4
	1.2nm,0.4s,baz=89,slow=7.8,SNR=38						

*ISCJB **31** 14:56:52.8±0.5, 36°.01N±0°.02×71°.21E±0°.04, h90km±5km, mb4.3/47, Error ellipse: s-maj=5.0km s-min=3.1km az=157.1*
*NEIC **31** 14:56:54.4±0.2, 35°.99N×71°.25E, mb4.7/23, Error ellipse: s-maj=6.7km s-min=4.2km az=214.0*
*MOS **31** 14:56:54.1±1.1, 36°.15N×71°.10E, h93km, mb4.5/29, Error ellipse: s-maj=8.0km s-min=4.9km az=103.0*
*IDC **31** 14:56:55.6±0.7, 36°.04N×71°.06E, h98km±5km, mb3.9/22, mb1 4.1/24, mb1mx4.0/31, mbtmp3.9/24, Error ellipse: s-maj=14.3km s-min=9.9km az=27.0*
*BJI **31** 14:57:00.5, 36°.64N×71°.28E, h118km, mB4.6/4, mb4.3/9*
*NNC **31** 14:57:00.8±1.3, 37°.09N×70°.45E, h0km, mb4.7, mpv4.9, Error ellipse: s-maj=10.4km s-min=9.4km az=37.0*

ISC 31 14:56:54.7±0.3, 36°.00N±0°.02×71°.23E±0°.03, h93km±4km, h97km±4.4km: pP-P, n274, σ1s24/292, mb4.3/47, 26C-16D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.24**	**165**	P		**Pn**	**14 57 34.0 +3.9**
KBL	**Kabul**	**2.31**	**232**	*e*Pn		**Pn**	**14 57 31.9 +0.9**
KBL				*e*Sn		**Sn**	**14 57 59.4 +0.7**
KBL	**Kabul**	**2.31**	**232**	*e*PN		**Pn**	**14 57 31.9 +0.9**
KBL				*e*			14 57 59.4
CHCP	**Chirah Chowk**	**2.87**	**144**	P		**Pn**	**14 57 42.7 +4.2**
THW	**Thamme Wali**	**3.22**	**172**	P		**Pn**	**14 57 45.9 +2.7**
SARP	**Sargodha**	**4.24**	**163**	⇓P		**Pn**	**14 57 58.9 +1.9**
SARP				S		**Sn**	**14 58 48.0 +2.7**
KSH	**Kashi**	**5.14**	**46**	P		**Pn**	**14 58 06.3 -2.9**
KSH				S		**Sn**	**14 58 57.5 -10**
KSH				smax			
	comp=N,940nm,0.4s						
KSH				smax			
	comp=E,800nm,0.7s						
BHK	**Bhakra**	**6.29**	**135**	*e*PKP		**Pn**	**14 58 25.0 +0.2**
BHK				*ex*		**Sn**	**14 59 35.2 0.0**
AML	**Almayashu**	**6.42**	**17**	P		**Pn**	**14 58 27.1 +0.6**
	SNR=360						
AML				P			14 58 27.1
	SNR=360						
SDNR	**Sundarnagar**	**6.55**	**132**	*e*PKP		**Pn**	**14 58 29.0 +0.6**
SDNR				*e*S		**Sn**	**14 59 37.0 -4.7**
UCH	**Uchtor**	**6.72**	**21**	P		**Pn**	**14 58 32.1 +1.4**
	SNR=13						
UCH				P			14 58 32.1
	SNR=13						
KZA	**Kyzart**	**6.83**	**26**	P		**Pn**	**14 58 33.3 +1.3**
	SNR=33						
KZA				P			14 58 33.3
	SNR=33						
SMLA	**Simla**	**6.94**	**133**	*i* P		**Pn**	**14 58 34.4 +0.8**
SMLA				*i* x		**Sn**	**14 59 52.1 +1.1**
SMLA				⇓AML		AML	14 59 53.9
	comp=E,2μm,0.2s						
SMLA				AML		AML	14 59 54.1
	comp=N,1μm,0.1s						
EKS2	**Erkin-Say**	**6.94**	**16**	P		**Pn**	**14 58 34.1 +0.5**
	SNR=250						
EKS2				P			14 58 34.1
	SNR=250						
EKS2	**Erkin-Say**	**6.94**	**16**	*e*Pn		**Pn**	**14 58 34.0 +0.4**
	comp=N,95nm,0.6s						
EKS2	**Erkin-Say**	**6.94**	**16**	*e*PN		**Pn**	**14 58 34.0 +0.4**
EKS2				pmax		pmax	
	comp=Z,95nm,0.6s						
AAK	**Ala-Archa**	**7.09**	**20**	P		**Pn**	**14 58 36.7 +1.1**
	SNR=210						
AAK				P			14 58 36.7
	SNR=210						
AAK	**Ala-Archa**	**7.09**	**20**	*e*Pn		**Pn**	**14 58 36.7 +1.0**
	comp=Z,491nm,0.5s						
AAK	**Ala-Archa**	**7.09**	**20**	*d i*PN		**Pn**	**14 58 36.7 +1.0**
KK31	**Karatay Array**	**7.12**	**356**	⇓Pn		**Pn**	**14 58 34.4 -1.6**
	comp=Z,33nm,0.3s,baz=175,slow=12,SNR=1724						
KK31				⇓Sn		**Sn**	**14 59 46.7 -8.6**
	comp=Z,117nm,0.8s,baz=185,slow=24,SNR=5.3						
KK31	**Karatay Array**	**7.12**	**356**	*ce*PN		**Pn**	**14 58 34.3 -1.7**
KK31				pmax		pmax	
	comp=Z,52nm,0.2s						
KKAR	**Karatay Array**	**7.12**	**356**	*e*Pn		**Pn**	**14 58 34.2 -1.8**
	comp=Z,80nm,0.3s						
KKAR	**Karatay Array**	**7.12**	**356**	*e*PN		**Pn**	**14 58 34.2 -1.8**
KKAR				pmax		pmax	
	comp=Z,81nm,0.3s						
KBK	**Karagaybulak**	**7.25**	**22**	P		**Pn**	**14 58 38.9 +1.2**
	SNR=54						
KBK				P			14 58 38.9
	SNR=54						
FRU	**Bishkek**	**7.31**	**20**	*i* PN		**Pn**	**14 58 40.0 +1.4**
FRU				pmax		pmax	
	comp=Z,150nm,1.6s						
ULHL	**Ulahol**	**7.35**	**30**	P		**Pn**	**14 58 41.3 +2.0**
	SNR=17						
ULHL				P			14 58 41.3
	SNR=17						
CHMS	**Chumysh**	**7.50**	**20**	P		**Pn**	**14 58 41.8 +0.5**
	SNR=91						
CHMS				P			14 58 41.8
	SNR=91						
USP	**Ospenovka**	**7.68**	**18**	P		**Pn**	**14 58 43.5 -0.3**
	SNR=156						
USP				P			14 58 43.5
	SNR=156						
TKM2	**Tokmak 2**	**7.69**	**25**	P		**Pn**	**14 58 44.8 +1.0**
	SNR=110						
TKM2				P			14 58 44.8
	SNR=110						
TKM2	**Tokmak 2**	**7.69**	**25**	⇑Pn		**Pn**	**14 58 44.8 +1.0**
	comp=Z,38nm,0.5s						
TKM2				⇓Sn		**Sn**	**15 00 07.6 -1.7**
	comp=Z,55nm,0.9s						
TKM2	**Tokmak 2**	**7.69**	**25**	*e*Pn		**Pn**	**14 58 44.7 +0.9**
	comp=Z,60nm,0.4s						
TKM2	**Tokmak 2**	**7.69**	**25**	*e*PN		**Pn**	**14 58 44.7 +0.9**
TKM2				pmax		pmax	
	comp=Z,60nm,0.4s						
DDI	**Dehra Dun**	**8.05**	**133**	⇑*i*P		**Pn**	**14 58 49.0 +0.3**
DDI				*ex*		x	15 00 28.0
KNDC	**Almaty**	**8.46**	**30**	⇑Pn		**Pn**	**14 58 56.3 +2.0**
	comp=Z,46nm,0.6s						
KNDC				⇓S

comp=Z,120nm,0.5s
ODAN Odare 16.51 119 *e*P **Pn 15 00 39.5 -1.1**
comp=Z,120nm,0.5s
VOSK Vostochnaya 16.72 359 ⇑P **Pn 15 00 40.0 -2.9**
comp=Z,15nm,1.5s
VOSK Vostochnaya 16.72 359 P **Pn 15 00 38.7 -4.3**
VOSK pmax pmax
comp=Z,9.0nm,0.7s
ZRNK Zerenda 17.02 355 ⇑P **Pn 15 00 45.2 -1.4**
comp=Z,21nm,1.1s
ZRNK Zerenda 17.02 355 P **Pn 15 00 45.0 -1.6**
ZRNK pmax pmax
comp=Z,21nm,1.2s
BVA0 Borovoye Array 17.04 358 P **Pn 15 00 45.2 -1.6**
comp=Z,1.9nm,1.0s,baz=169,slow=11,SNR=35
BVA0 Borovoye Array 17.04 358 *i* P **Pn 15 00 43.9 -2.9**
BVA0 pmax pmax
comp=Z,3.0nm,1.3s
BVAR Borovoye Array 17.04 358 P **Pn 15 00 43.9 -2.9**
comp=Z,1.2nm,0.3s,baz=172,slow=12,SNR=34
BVAR Borovoye Array 17.04 358 P **Pn 15 00 43.9 -2.9**
BVAR Borovoye Array 17.04 358 P **Pn 15 00 43.9 -2.9**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 17.07 358 ⇓P **Pn 15 00 45.7 -1.5**
comp=Z,52nm,1.3s
BRVK Borovoye 17.07 358 *e*P **Pn 15 00 45.3 -1.9**
comp=Z,14nm,0.8s
BRVK Borovoye 17.07 358*c i*P **Pn 15 00 44.7 -2.5**
BRVK pmax pmax
comp=Z,19nm,1.2s
AKTO Aktyubinsk 17.31 331 P **Pn 15 00 47.6 -2.6**
comp=Z,1.5nm,0.3s,baz=139,slow=13,SNR=88
AKTO S **S 15 03 48.2 -15**
comp=Z,0.5nm,0.3s,baz=148,slow=19,SNR=3.7
AKTO Aktyubinsk 17.31 331 ⇓Pn **Pn 15 00 47.3 -2.8**
comp=Z,11nm,0.9s
AKTO ⇓Sn **Sn 15 03 47.0 -15**
comp=Z,3.9nm,0.9s
AKTO Aktyubinsk 17.31 331 P **Pn 15 00 47.6 -2.6**
AKTO S **S 15 03 48.2 -15**
AKTO Aktyubinsk 17.31 331 P **Pn 15 00 47.3 -2.8**
AKTO pmax pmax
comp=Z,11nm,0.9s
POO Poona 17.55 172 *e*PKP **Pn 15 00 52.8 -0.5**
LSA Lhasa 17.86 105 P **Pn 15 00 59.0 +1.9**
LSA PP 15 02 36.5
LSA S **S 15 04 14.5 -1.9**
LSA LR LR
comp=E,240nm,0.2s
LSA LR LR
comp=Z,3μm,2.9s
LSA Lhasa 17.86 105 *e*P **Pn 15 00 58.7 +1.6**
comp=Z,18nm,0.7s
LSA Lhasa 17.86 105 *e*P **Pn 15 00 58.7 +1.6**
LSA pmax pmax
comp=Z,18nm,0.7s
LATR Latur 18.14 164 *ex* **Pn 15 01 01.0 +0.6**
KAD Karad 18.80 171 *e*PKP **Pn 15 01 06.9 -1.4**
HYB Hyderabad 19.61 159 *i* P **Pn 15 01 17.5 -0.4**
HYB *e*S **S 15 04 58.0 +5.9**
ZAA0 Zalesovo Array 20.30 24 *e*P **P 15 01 22.7 0.0**
ZALV Zalesovo Beam 20.30 24 P **P 15 01 23.2 +0.5**
comp=Z,8.3nm,0.3s,baz=206,slow=10,SNR=88
ZALV Zalesovo Beam 20.30 24 P **P 15 01 23.2 +0.5**
ZALV Zalesovo Beam 20.30 24 P **P 15 01 23.2 +0.5**
ZALV pmax pmax
comp=Z,8.0nm,0.3s
NVS Novosibirsk 20.59 20 ⇑*i*P **P 15 01 24.9 -1.0**
NVS *e* 15 01 47.4
NVS *e*S **S 15 05 03.1 -7.6**
NVS *i* SS 15 05 37.7
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=Z,17nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS smax
comp=N,9.0nm,1.4s
NVS smax
comp=E,7.0nm,1.0s
KBD Kabd 20.94 258 *e*P **P 15 01 29.1 -0.8**
KBD AMb AMB 15 01 33.7
comp=Z,46nm,0.8s
QRN Al-Qurain 20.95 256 *e*P **P 15 01 28.6 -1.4**
MIB Mutribah 20.97 260 *e*P **P 15 01 28.9 -1.2**
MIB AMb AMB 15 01 33.6
comp=Z,111nm,1.1s
GNI Garni 21.23 289 P **P 15 01 31.6 -1.3**
comp=Z,16nm,0.6s,mb4.5,baz=41,slow=2.3,SNR=15
GNI Garni 21.23 289 P **P 15 01 31.6 -1.3**
GNI Garni 21.23 289*c i*P **P 15 01 34.5 +1.6**
GNI pmax pmax
comp=Z,54nm,1.4s
NAY Al-Naaiem 21.27 258 *e*P **P 15 01 32.0 -1.4**
NAY AMb AMB 15 01 37.0
comp=Z,23nm,0.8s,mb4.5
SVE Sverdlovsk 22.03 344 *e*P **P 15 01 41.2 0.0**
SVE pmax pmax
comp=Z,18nm,0.9s,mb4.4
ZEI Tsey 22.12 296 *e*P **P 15 01 41.7 -0.7**
ZEI pmax pmax
comp=Z,15nm,1.4s,mb4.1
ARU Arti 22.17 341 *e*P **P 15 01 42.5 -0.2**
comp=Z,17nm,0.7s,mb4.5
ARU Arti 22.17 341*d i*P **P 15 01 43.0 +0.3**
ARU *e* 15 02 13.1
ARU S **S 15 05 35.0 -5.7**
ARU SS 15 06 06.1
ARU pmax pmax
comp=Z,20nm,1.0s,mb4.4
IMP Imphal 22.49 114 *ex* **P 15 01 50.0 +3.5**
GTA Gaotai 22.83 73 *e*P **P 15 01 54.3 +4.4**
GTA pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
KIV Kislovodsk 23.19 299 *e*P **P 15 01 53.3 +0.2**
comp=Z,23nm,0.8s,mb4.6
KIV Kislovodsk 23.19 299*d i*P **P 15 01 55.2 +2.1**
KIV *i* 15 02 28.0
KIV *e*S **S 15 06 00.8 +3.2**
KIV pmax pmax
comp=Z,12nm,0.6s,mb4.4
VRHR Novokhopersk 26.01 315 *e*P **P 15 02 18.8 +0.2**
VRHR pmax pmax
comp=N,4.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
VRHR pmax pmax
comp=E,3.0nm,0.3s
LZH Lanzhou 26.31 80 *e*P **P 15 02 29.8 +8.3**
LZH pmax pmax
comp=Z,20nm,1.1s,mb4.5
MOY Mondy 26.33 44 *e*P **P 15 02 27.7 +6.1**
ZAK Zakamensk 27.18 48 *e*P **P 15 02 36.7 +7.5**
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
VSR Storozhevoye 27.48 314 *e*P **P 15 02 25.6 -6.3**
VSR *e**PP pP 15 02 54.6 +1.8
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
VSR pmax pmax
comp=N,4.0nm,0.4s
SONM Songino Array 28.47 54 P **P 15 02 43.1 +2.4**
comp=N,0.8nm,0.5s,mb3.5,baz=264,slow=9.6,SNR=4.5
SONM pP pP 15 03 03.6 +1.8
comp=N,1.5nm,0.8s,baz=264,slow=8.3,SNR=4.2
SONM Songino Array 28.47 54 P **P 15 02 43.1 +2.4**
SONM pP pP 15 03 03.6 +1.8
SONM Songino Array 28.47 54 P **P 15 02 43.1 +2.4**
SONM *PP pP 15 03 03.6 +1.9
MMAI Mount Meron Ar 29.57 275 P **P 15 02 51.0 +0.3**
comp=N,2.1nm,0.6s,mb3.9,baz=46,slow=10,SNR=2.5
MMAI Mount Meron Ar 29.57 275 P **P 15 02 51.0 +0.3**
BR131 Keskin Array S 29.77 289 *e*P **P 15 02 52.0 -0.3**
comp=N,1.7nm,0.6s,mb3.9
BRTR Keskin Array B 29.77 289 P **P 15 02 52.6 +0.3**
comp=N,1.7nm,0.6s,mb3.9,baz=99,slow=9.5,SNR=11
BRTR Keskin Array B 29.77 289 P **P 15 02 52.6 +0.3**
BRTR Keskin Array B 29.77 289*ce*P **P 15 02 58.0 +5.7**
CM31 Chiang Mai Arr 30.05 118 *e*P **P 15 02 57.2 +2.3**
comp=N,1.3nm,0.5s,mb3.8
CMAR Chiang Mai Arr 30.05 118 P **P 15 02 57.8 +2.8**
comp=N,2.2nm,0.7s,mb3.9,baz=299,slow=8.6,SNR=23
CMAR pP pP 15 03 20.7 +4.6
comp=N,1.8nm,0.7s,baz=301,slow=6.5,SNR=6.2
CMAR ScP ScP 15 09 28.1 -0.4
comp=N,0.4nm,0.8s,baz=292,slow=4.7,SNR=4.1
CMAR Chiang Mai Arr 30.05 118 P **P 15 02 57.8 +2.8**
CMAR pP pP 15 03 20.7 +4.6
CMAR ScP ScP 15 09 28.1 -0.4
CMAR Chiang Mai Arr 30.05 118 P **P 15 02 57.8 +2.8**
CMAR *PP pP 15 03 20.7 +4.6
CMAR 15 09 28.1
CMAR pmax pmax
comp=Z,2.0nm,0.7s
OBN Obninsk 30.44 320 ⇓*e*P **P 15 02 58.1 +0.1**
OBN pmax pmax
comp=Z,15nm,1.5s,mb4.4
AKASG Malin Array Be 33.41 309 P **P 15 03 24.0 0.0**
comp=Z,5.1nm,0.4s,mb4.7,baz=80,slow=7.5,SNR=24
AKASG Malin Array Be 33.41 309 P **P 15 03 24.0 0.0**
AKASG Malin Array Be 33.41 309*ce*P **P 15 03 24.7 +0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
KIEV Kiev 33.42 309 *e*P **P 15 03 23.0 -1.1**
comp=Z,9.6nm,0.7s,mb4.7
KIEV Kiev 33.42 309 ⇑*e*P **P 15 03 25.4 +1.2**
VRI Vrincioaia 34.64 300 ⇑P **P 15 03 37.9 +3.1**
VRI Vrincioaia 34.64 300 ⇑*i*P **P 15 03 37.9 +3.1**
PLOR Plostina 34.70 300 ⇑P **P 15 03 36.8 +1.5**
PLOR Plostina 34.70 300 ⇑*i*P **P 15 03 36.8 +1.5**
TESR 34.71 302 ⇑*i*P **P 15 03 36.4 +1.0**
MLR Muntele Rosu 35.19 300 ⇑P **P 15 03 41.4 +1.8**
MLR Muntele Rosu 35.19 300 ⇑*i*P **P 15 03 41.4 +1.8**
BURAR Bucovina Array 35.72 303 ⇑P **P 15 03 44.5 +0.5**
BURAR Bucovina Array 35.72 303 ⇑*i*P **P 15 03 44.5 +0.5**
VOIR 35.82 300 ⇓P **P 15 03 46.5 +1.5**
VOIR 35.82 300 ⇓*i*P **P 15 03 46.5 +1.5**
FINES FINESS Array B 38.00 326 P **P 15 04 03.1 -0.1**
comp=Z,2.3nm,0.4s,mb4.3,baz=118,slow=9.9,SNR=14
FINES FINESS Array B 38.00 326 P **P 15 04 03.1 -0.1**
FINES FINESS Array B 38.00 326 P **P 15 04 03.1 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.4s
MORC Moravsky Berou 40.81 307 ⇑P **P 15 04 27.5 +0.8**
MORC Moravsky Berou 40.81 307 ⇑*i*P **P 15 04 27.5 +0.8**
ARCES ARCESS Array B 41.68 338 P **P 15 04 34.5 +0.9**
comp=Z,4.6nm,0.6s,mb4.4,baz=108,slow=6.7,SNR=21
ARCES pP pP 15 04 55.5 +0.1
comp=Z,3.9nm,0.7s,baz=120,slow=7.4,SNR=2.5
ARCES ARCESS Array B 41.68 338 P **P 15 04 34.5 +0.9**
ARCES pP pP 15 04 55.5 +0.1
ARCES ARCESS Array B 41.68 338 P **P 15 04 34.5 +0.9**
ARCES *PP pP 15 04 55.5 +0.1
ARCES pmax pmax
comp=Z,5.0nm,0.6s
BRG Berggiesshubel 43.08 309 *e*P **P 15 04 45.4 +0.2**
comp=Z,3.2nm,1.0s,mb4.0
BRG *i* 15 04 48.1
comp=Z,4.1nm,0.8s
BRG *e* pP 15 05 07.4 +0.3
comp=Z,5.5nm,1.0s
BRG Berggiesshubel 43.08 309 *e*P **P 15 04 45.4 +0.2**
BRG *e* pP 15 05 07.4 +0.3
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
GERES GERESS Array B 43.37 306 P **P 15 04 47.6 0.0**
comp=Z,0.4nm,0.5s,mb3.4,baz=87,slow=6.0,SNR=7.0
GERES pP pP 15 05 09.9 +0.4
comp=Z,0.4nm,0.6s,baz=90,slow=8.0,SNR=3.5
GERES GERESS Array B 43.37 306 P **P 15 04 47.6 0.0**
GERES pP pP 15 05 09.9 +0.4
GERES GERESS Array B 43.37 306 P **P 15 04 47.6 0.0**
GERES *PP pP 15 05 09.9 +0.4
CLL Collm 43.65 309 *e*(P) **P 15 04 52.0 +2.2**
KSAR Wonju Array Be 44.84 71 P **P 15 05 03.1 +3.7**
KSAR Wonju Array Be 44.84 71 P **P 15 05 03.2 +3.7**
KSRS Korea Array 44.87 71 P **P 15 05 03.1 +3.5**
comp=Z,0.8nm,0.5s,mb3.7,baz=272,slow=7.2,SNR=4.7
KSRS Korea Array 44.87 71 P **P 15 05 03.2 +3.5**
KSRS pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
NB2 NORSAR Subarra 44.89 323 P **P 15 04 58.6 -0.9**
comp=Z,3.8nm,0.5s,mb4.4,baz=96,slow=7.9
NOA NORSAR Array B 44.89 323 P **P 15 04 58.5 -1.1**
comp=Z,4.4nm,0.6s,mb4.4,baz=97,slow=7.9,SNR=21
NOA pP pP 15 05 22.9 +1.2
comp=Z,3.2nm,0.8s,baz=96,slow=8.0,SNR=3.2
NOA sP sP 15 05 32.0 -0.2
comp=Z,3.4nm,0.6s,baz=97,slow=7.9,SNR=3.6
NOA NORSAR Array B 44.89 323 P **P 15 04 58.5 -1.1**
NOA pP pP 15 05 22.9 +1.2
NOA sP sP 15 05 32.0 -0.2
NOA NORSAR Array B 44.89 323 P **P 15 04 58.5 -1.0**
NOA *PP pP 15 05 22.9 +1.3
NOA *SP sP 15 05 32.0 -0.2
NOA pmax pmax
comp=Z,4.0nm,0.6s
CDF Champ du Feu 47.66 306 *e*P **P 15 05 20.9 -0.4**
CDF Champ du Feu 47.66 306 *e*P **P 15 05 20.9 -0.4**
CDF Champ du Feu 47.66 306 *e*P **P 15 05 20.9 -0.4**
HINF Hinteralfeld 48.04 305 *e*P **P 15 05 23.4 -0.9**
HINF Hinteralfeld 48.04 305 *e*P **P 15 05 23.4 -0.9**
HINF Hinteralfeld 48.04 305 *e*P **P 15 05 23.4 -0.9**
HAU Haudompre 48.34 306 *e*P **P 15 05 25.9 -0.7**
HAU Haudompre 48.34 306 *e*P **P 15 05 25.9 -0.7**
HAU Haudompre 48.34 306 *e*P **P 15 05 25.9 -0.7**
LPG La Plagne 48.57 302 *e*P **P 15 05 28.4 0.0**
LPG La Plagne 48.57 302 *e*P **P 15 05 28.4 0.0**
LPG La Plagne 48.57 302 *e*P **P 15 05 28.4 0.0**
LPL La Plagne 48.58 302 *e*P **P 15 05 28.9 +0.4**
LPL La Plagne 48.58 302 *e*P **P 15 05 28.9 +0.4**
LPL La Plagne 48.58 302 *e*P **P 15 05 28.9 +0.4**
PAGF Fort de Pagny 48.65 306 *e*P **P 15 05 28.7 -0.2**
comp=Z,2.1nm,0.7s,mb3.9
PAGF Fort de Pagny 48.65 306 *e*P **P 15 05 28.7 -0.2**
comp=Z,2.1nm,0.7s,mb4.2
MBDF Montbardon 48.73 301 *e*P **P 15 05 29.9 +0.3**
comp=Z,8.3nm,0.6s,mb4.5
MBDF Montbardon 48.73 301 *e*P **P 15 05 29.9 +0.3**
comp=Z,8.3nm,0.6s,mb4.8
MBDF Montbardon 48.73 301 *e*P **P 15 05 29.9 +0.3**
MBDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BAIF Baives 49.35 309 *e*P **P 15 05 34.2 -0.1**
BAIF Baives 49.35 309 *e*P **P 15 05 34.2 -0.1**
BAIF Baives 49.35 309 *e*P **P 15 05 34.2 -0.1**
VIVF Saint-Julien-I 50.15 302 *e*P **P 15 05 39.8 -0.6**
comp=Z,6.7nm,0.6s,mb4.4
VIVF Saint-Julien-I 50.15 302 *e*P **P 15 05 39.8 -0.6**
comp=Z,6.7nm,0.6s,mb4.8
VIVF Saint-Julien-I 50.15 302 *e*P **P 15 05 39.8 -0.6**
VIVF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SMF Signal de Mont 50.29 304 *e*P **P 15 05 40.6 -0.9**
comp=Z,7.3nm,0.7s,mb4.4
SMF Signal de Mont 50.29 304 *e*P **P 15 05 40.6 -0.9**
comp=Z,7.3nm,0.7s,mb4.7
SMF Signal de Mont 50.29 304 *e*P **P 15 05 40.6 -0.9**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
AVF Avril sur Loir 50.58 305 *e*P **P 15 05 42.8 -0.9**
comp=Z,6.3nm,0.6s,mb4.5
AVF Avril sur Loir 50.58 305 *e*P **P 15 05 42.8 -0.9**
comp=Z,6.3nm,0.6s,mb4.8
AVF Avril sur Loir 50.58 305 *e*P **P 15 05 42.8 -0.9**
AVF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
HYF Humbligny 50.95 305 *e*P **P 15 05 46.6 +0.2**
HYF Humbligny 50.95 305 *e*P **P 15 05 46.6 +0.2**
BGF Bois d'Agland 50.98 304 *e*P **P 15 05 46.1 -0.5**
comp=Z,13nm,0.9s,mb4.7
BGF Bois d'Agland 50.98 304 *e*P **P 15 05 46.1 -0.5**
comp=Z,13nm,0.9s,mb5.0
BGF Bois d'Agland 50.98 304 *e*P **P 15 05 46.1 -0.5**
BGF pmax pmax
comp=Z,13nm,0.9s,mb5.0
CAF Calviac 51.92 302 *e*P **P 15 05 54.0 +0.3**
comp=Z,6.7nm,0.7s,mb4.5
CAF Calviac 51.92 302 *e*P **P 15 05 54.0 +0.3**
comp=Z,6.7nm,0.7s,mb4.8
CAF Calviac 51.92 302 *e*P **P 15 05 54.0 +0.3**
CAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MTLF Montolieu 52.26 301 *e*P **P 15 05 56.2 0.0**
comp=Z,5.1nm,0.7s,mb4.4
MTLF Montolieu 52.26 301 *e*P **P 15 05 56.2 0.0**
MTLF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LFF La Frestale 52.82 303 *e*P **P 15 06 00.5 +0.1**
LFF La Frestale 52.82 303 *e*P **P 15 06 00.5 +0.1**
LFF La Frestale 52.82 303 *e*P **P 15 06 00.5 +0.1**
EPF Esparros 53.66 301 *e*P **P 15 06 06.0 -0.6**
comp=Z,4.3nm,0.6s,mb4.3
EPF Esparros 53.66 301 *e*P **P 15 06 06.0 -0.6**
comp=Z,4.3nm,0.6s,mb4.7
EPF Esparros 53.66 301 *e*P **P 15 06 06.0 -0.6**
EPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ETSF Etsaut 54.33 301 *e*P **P 15 06 10.9 -0.5**
comp=Z,7.5nm,0.6s,mb4.6
ETSF Etsaut 54.33 301 *e*P **P 15 06 10.9 -0.5**
comp=Z,7.5nm,0.6s,mb4.9
ETSF Etsaut 54.33 301 *e*P **P 15 06 10.9 -0.5**
ETSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ESDC Sonseca Array 57.86 298 P **P 15 06 36.0 -0.6**
comp=Z,0.4nm,0.5s,mb3.7,baz=61,slow=7.1,SNR=5.0
ESDC Sonseca Array 57.86 298 P **P 15 06 36.0 -0.6**
SUMG Summit 61.60 341 P **P 15 07 03.4 +1.7**
SUMG Summit 61.60 341 P **P 15 07 03.4 +1.7**
TORD Torodi Ar. Bea 65.89 269 P **P 15 07 28.8 -2.0**
comp=Z,2.6nm,0.5s,mb4.3,baz=52,slow=5.8,SNR=15
TORD Torodi Ar. Bea 65.89 269 P **P 15 07 28.8 -2.0**
INK Inuvik 74.37 9 P **P 15 08 22.4 +0.7**
comp=Z,2.5nm,0.5s,mb4.2,baz=8.3,slow=6.8,SNR=17
INK Inuvik 74.37 9 P **P 15 08 22.4 +0.7**
INK Inuvik 74.37 9 P **P 15 08 22.4 +0.7**
INK pmax pmax
comp=Z,3.0nm,0.5s
FITZ Fitzroy Crossi 74.44 127 P **P 15 08 23.6 +0.8**
comp=Z,2.0nm,0.7s,mb4.0,baz=313,slow=3.4,SNR=6.0
FITZ Fitzroy Crossi 74.44 127 P **P 15 08 23.6 +0.8**
DBIC Dimbokro 74.86 267 P **P 15 08 24.4 -1.0**
comp=Z,1.5nm,0.5s,mb4.0,baz=1.5,slow=8.0,SNR=7.4
DBIC Dimbokro 74.86 267 P **P 15 08 24.4 -1.0**
DBIC Dimbokro 74.86 267 P **P 15 08 24.5 -0.9**
DBIC pmax pmax
comp=Z,2.0nm,0.5s
ILAR Eielson Array 75.21 16 P **P 15 08 26.5 -0.1**
comp=Z,0.5nm,0.5s,mb3.5,baz=301,slow=4.8,SNR=11
ILAR Eielson Array 75.21 16 P **P 15 08 26.5 -0.1**
ILAR Eielson Array 75.21 16 P **P 15 08 26.5 -0.1**
LIC Lamto 75.25 267 *e*P **P 15 08 26.9 -0.8**
LIC Lamto 75.25 267 *e*P **P 15 08 26.9 -0.8**
BOSA Boshof 77.48 220 P **P 15 08 41.1 +1.2**
comp=Z,7.9nm,0.7s,mb4.6,baz=36,slow=5.0,SNR=21
BOSA Boshof 77.48 220 P **P 15 08 41.1 +1.2**
BOSA Boshof 77.48 220 P **P 15 08 41.1 +1.2**
BOSA pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
WRA Warramunga Arr 81.57 122 P **P 15 09 02.3 +0.1**
comp=Z,1.3nm,0.4s,mb4.1,baz=325,slow=4.9,SNR=19
WRA Warramunga Arr 81.57 122 P **P 15 09 02.3 +0.1**
WRA Warramunga Arr 81.57 122 P **P 15 09 02.3 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 81.57 122 *e*P **P 15 09 03.5 +1.3**
comp=Z,1.9nm,0.4s,mb4.3
WRAB Tennant Creek 81.57 122 *e*P **P 15 09 03.5 +1.3**
WRAB pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
WB2 Warramunga Arr 81.58 122 *e*P **P 15 09 03.4 +1.2**
YKA Yellowknife Ar 81.74 3 P **P 15 09 02.7 +0.2**
comp=Z,0.9nm,0.5s,mb3.9,baz=348,slow=5.5,SNR=13
YKA Yellowknife Ar 81.74 3 P **P 15 09 02.7 +0.2**
YKA Yellowknife Ar 81.74 3 P **P 15 09 02.7 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.5s
AS31 Alice Springs 83.81 125 *e*P **P 15 09 14.9 +1.1**
ASAR Alice Springs 83.81 125 P **P 15 09 15.1 +1.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=308,slow=5.2,SNR=37
ASAR Alice Springs 83.81 125 P **P 15 09 15.1 +1.3**
ASAR Alice Springs 83.81 125 P **P 15 09 15.1 +1.3**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
CTA Charters Tower 90.16 115 P **P 15 09 45.1 +0.5**
comp=Z,1.3nm,0.6s,mb4.3,baz=280,slow=6.1,SNR=3.0
CTA Charters Tower 90.16 115 P **P 15 09 45.1 +0.5**
CTA Charters Tower 90.16 115 P **P 15 09 45.2 +0.6**
CTA pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 135.38 268 PKP PKPdf 15 16 02.8 -1.0
comp=Z,1.0nm,0.6s,baz=40,slow=1.7,SNR=4.0
CPUP Villa Florida 135.38 268 PKP PKPdf 15 16 02.8 -1.0
CPUP Villa Florida 135.38 268 PKIKP PKPdf 15 16 02.8 -1.0
CPUP pmax pmax
comp=Z,1.0nm,0.6s
PLCA Paso Flores 149.83 249 PKPbc PKPbc 15 16 34.0 +0.4
comp=Z,2.2nm,0.9s,baz=153,slow=2.3,SNR=4.0
PLCA Paso Flores 149.83 249 PKPbc PKPbc 15 16 34.0 +0.4

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*CSEM **31** 14:57:56.0±0.2, 38°.76N×23°.47E, h19km, ML1.7/3, Error ellipse: s-maj=5.3km s-min=3.2km az=63.0*
*ATH **31** 14:57:56.8, 38°.75N×23°.39E, h21km±2km, ML2.3*
THE 31 14:57:55.9, 38°.74N×23°.46E, h18km, ML1.7/3, Error ellipse: s-maj=0.8km s-min=0.4km az=192.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.10**	**108**	P	Pg	14 57 59.9	+0.3
MRKA				S	Sg	14 58 02.1	0.0
MRKA	**Markates**	**0.10**	**108**	P	Pg	14 57 59.9	+0.3
MRKA				S	Sg	14 58 02.1	0.0
SMIA	**Simia**	**0.24**	**306**	P	Pg	14 58 01.7	+0.2
SMIA				S	Sg	14 58 05.5	+0.2
SMIA	**Simia**	**0.24**	**306**	P	Pg	14 58 01.7	+0.2
SMIA				S	Sg	14 58 05.5	+0.2
ATAL	**Atalanti**	**0.35**	**263**	P	Pg	14 58 03.4	+0.1
ATAL				S	Sg	14 58 08.9	+0.7
ATAL	**Atalanti**	**0.35**	**263**	P	Pg	14 58 03.4	+0.1
ATAL				S	Sg	14 58 08.9	+0.7
LKR	**Lokris**	**0.37**	**257**	*e*PB	Pg	14 58 04.0	+0.3
LKR				*e*SB	Sg	14 58 09.1	+0.2
LKR	**Lokris**	**0.37**	**257**	P	Pg	14 58 03.8	+0.1
LKR				S	Sg	14 58 09.4	+0.5
LKR	**Lokris**	**0.37**	**257**	P	Pg	14 58 03.8	+0.1
LKR	**Lokris**	**0.37**	**257**	*e*Pb	Pg	14 58 04.0	+0.3
LKR				*e*Sb	Sg	14 58 09.1	+0.2
LKR				S	Sg	14 58 09.4	+0.5
ERET	**Eretria**	**0.40**	**137**	P	Pg	14 58 04.2	0.0
ERET				S	Sg	14 58 10.5	+0.7
ERET	**Eretria**	**0.40**	**137**	P	Pg	14 58 04.2	0.0
ERET				S	Sg	14 58 10.5	+0.7
SKIA	**Skiathos**	**0.43**	**1**	P	Pg	14 58 04.6	-0.1
SKIA				S	Sg	14 58 11.1	+0.5
SKIA	**Skiathos**	**0.43**	**1**	P	Pg	14 58 04.6	-0.1
SKIA				S	Sg	14 58 11.1	+0.5
VIL1	**Vilia, Western**	**0.58**	**190**	*e*PN	Pn	14 58 08.0	-1.2
VIL1				*e*SN	Sg	14 58 17.1	+1.8
NEO	**Neokhori**	**0.60**	**342**	*e*PN	Pn	14 58 07.8	-1.6
NEO				*e*SN	Sg	14 58 16.6	+0.8
NEO	**Neokhori**	**0.60**	**342**	P	Pg	14 58 07.6	-0.2
NEO				S	Sg	14 58 16.3	+0.5
NEO	**Neokhori**	**0.60**	**342**	P	Pg	14 58 07.6	-0.2
NEO	**Neokhori**	**0.60**	**342**	*e*Pn	Pn	14 58 07.8	-1.6
NEO				S	Sg	14 58 16.3	+0.5
XOR	**Xorichti**	**0.66**	**342**	P	Pb	14 58 08.7	-0.2
XOR				S	Sb	14 58 18.1	+0.4
XOR	**Xorichti**	**0.66**	**342**	P	Pb	14 58 08.7	-0.2
XOR				S	Sb	14 58 18.1	+0.4
PTL	**Penteli**	**0.76**	**155**	*e*PN	Pn	14 58 12.0	+0.4
PTL				*e*SN	Sn	14 58 22.3	-0.3
PTL	**Penteli**	**0.76**	**155**	*e*Pn	Pn	14 58 12.3	+0.7
PTL				*e*Sn	Sn	14 58 22.3	-0.3
ATH	**Athens Observa**	**0.79**	**165**	*e*PN	Pn	14 58 12.7	+0.6
ATH				*e*SN	Sn	14 58 24.2	+0.8
ATH	**Athens Observa**	**0.79**	**165**	*e*Pn	Pn	14 58 12.7	+0.6
ATH				*e*Sn	Sn	14 58 24.2	+0.8
LTK	**Loutraki**	**0.81**	**209**	*e*PN	Pn	14 58 12.0	-0.4
LTK	**Loutraki**	**0.81**	**209**	*e*Pn	Pn	14 58 12.0	-0.4
VLY	**Voula,Athens**	**0.92**	**163**	*e*PN	Pn	14 58 14.6	+0.7
VLY				*e*SN	Sn	14 58 28.1	+1.5
VLY	**Voula,Athens**	**0.92**	**163**	*e*Pn	Pn	14 58 14.6	+0.7
VLY				*e*Sn	Sn	14 58 28.1	+1.5
AGG	**Agios Georgios**	**0.93**	**288**	*e*PN	Pn	14 58 13.7	-0.3

AGG				eSN	Sn	14 58 25.6	-1.2
AGG	**Agios Georgios**	**0.93**	**288**	P	Pb	14 58 12.6	-0.8
AGG				S	Sb	14 58 25.9	+0.5
AGG	**Agios Georgios**	**0.93**	**288**	P	Pb	14 58 12.6	-0.8
AGG	**Agios Georgios**	**0.93**	**288**	ePn	Pn	14 58 13.7	-0.3
AGG				eSn	Sn	14 58 25.6	-1.2
AGG				S	Sb	14 58 25.9	+0.5
NAIG	**Nisos Aigina**	**0.98**	**179**	ePN	Pn	14 58 16.1	+1.4
NAIG	**Nisos Aigina**	**0.98**	**179**	ePn	Pn	14 58 16.4	+1.7
GUR	**Goura**	**1.19**	**228**	ePN	Pn	14 58 19.0	+1.4
GUR	**Goura**	**1.19**	**228**	ePn	Pn	14 58 19.0	+1.4
DID	**Didima**	**1.24**	**188**	ePN	Pn	14 58 20.1	+1.8
DID	**Didima**	**1.24**	**188**	ePn	Pn	14 58 20.1	+1.8
THL	**Klokotos Trika**	**1.40**	**307**	ePN	Pn	14 58 22.4	+2.0
THL	**Klokotos Trika**	**1.40**	**307**	ePn	Pn	14 58 22.4	+2.0

CSEM ***31*** *14:58:40.7, 34°.73N×24°.03E, h25km, MD3.2, After ATH*
ATH 31 14:58:40.6, 34°.73N×24°.03E, h25km±1km, MD3.2/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.12**	**23**	ePB	Pb	14 58 45.5	+0.1
GVD				eSB	Sb	14 58 49.5	+0.9
GVD	**Gavdhos**	**0.12**	**23**	ePb	Pb	14 58 45.5	+0.1
GVD				eSb	Sb	14 58 49.5	+0.9
VAM	**Vamos**	**0.69**	**12**	ePN	Pn	14 58 54.0	-0.8
VAM				eSN	Sn	14 59 04.6	-0.1
VAM	**Vamos**	**0.69**	**12**	ePn	Pn	14 58 53.8	-1.0
VAM				eSn	Sn	14 59 04.6	-0.1
SIVA	**Sivas**	**0.70**	**66**	ePN	Pn	14 58 54.1	-0.8
SIVA				eSN	Sn	14 59 05.1	+0.1
SIVA	**Sivas**	**0.70**	**66**	P	Pb	14 58 54.0	-0.2
SIVA	**Sivas**	**0.70**	**66**	P	Pb	14 58 54.0	-0.2
SIVA	**Sivas**	**0.70**	**66**	ePn	Pn	14 58 54.0	-0.9
SIVA				eSn	Sn	14 59 05.3	+0.3
NPS	**Neapolis**	**1.40**	**67**	ePN	Pn	14 59 06.1	+1.5
NPS	**Neapolis**	**1.40**	**67**	ePn	Pn	14 59 06.1	+1.5
VLI	**Veliai**	**2.17**	**336**	ePB	Pb	14 59 17.8	-1.4
VLI	**Veliai**	**2.17**	**336**	ePb	Pb	14 59 18.0	-1.2

ISCJB ***31*** *15:01:18.1±1.0, 29°.62N±0°.06×141°.3E±0°.1, h53km±10km, mb3.8/12, Error ellipse: s-maj=19.5km s-min=7.3km az=161.9*
IDC ***31*** *15:01:19.6±1.7, 29°.58N×141°.37E, h53km±18km, mb3.5/11, mb1 3.7/12, mb1mx3.5/25, mbtmp3.5/12, ML3.6/1, Error ellipse: s-maj=31.2km s-min=11.1km az=73.0*
NEIC ***31*** *15:01:20.4±0.5, 29°.65N×141°.28E, mb3.8/1, Error ellipse: s-maj=13.2km s-min=9.0km az=71.0*
ISC 31 15:01:20.1±0.9, 29°.60N±0°.06×141°.4E±0°.1, h55km±9km, n30, σ0s64/34, mb3.8/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.59**	**164**	P	**Pn**	**15 02 00.2**	**+0.7**
	baz=285,slow=20						
CBIJ				S	**Sn**	**15 02 28.9**	**-0.9**
	baz=335,slow=19						
CBIJ	**Chichi jima**	**2.59**	**164**	P	**Pn**	**15 02 00.2**	**+0.7**
CBIJ				S	**Sn**	**15 02 28.9**	**-0.9**
MJAR	**Matsushiro Arr**	**7.42**	**340**	P	**Pn**	**15 03 05.9**	**+0.2**
	0.9nm,0.3s,baz=164,slow=12,SNR=14						
MJAR				S	**Sn**	**15 04 29.3**	**+0.8**
	0.3nm,0.3s,baz=261,slow=25,SNR=4.2						
MJAR	**Matsushiro Arr**	**7.42**	**340**	P	**Pn**	**15 03 05.9**	**+0.2**
MJAR				S	**Sn**	**15 04 29.3**	**+0.8**
MAJO	**Matsushiro**	**7.42**	**340**	eP	**Pn**	**15 03 04.8**	**-1.0**
JNU	**Nakatsue**	**9.66**	**294**	eP	**Pn**	**15 03 32.2**	**-4.1**
JOW	**Kunigami**	**11.90**	**260**	P	**Pn**	**15 04 07.7**	**+0.6**
WRA	**Warramunga Arr**	**49.72**	**189**	P	**P**	**15 10 07.2**	**+0.4**
	0.8nm,0.6s,mb3.9,baz=6.4,slow=7.7,SNR=4.5						
WRA	**Warramunga Arr**	**49.72**	**189**	P	**P**	**15 10 07.2**	**+0.4**
KURK	**Kurchatov**	**50.76**	**313**	P	**P**	**15 10 13.5**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=91,slow=8.9,SNR=4.1						
KURK	**Kurchatov**	**50.76**	**313**	P	**P**	**15 10 13.5**	**-0.9**
ASAR	**Alice Springs**	**53.45**	**189**	P	**P**	**15 10 35.0**	**+0.5**
	0.2nm,0.5s,mb3.3,baz=7.7,slow=5.7,SNR=2.6						
ASAR	**Alice Springs**	**53.45**	**189**	P	**P**	**15 10 35.0**	**+0.4**
BVAR	**Borovoye Array**	**55.75**	**316**	P	**P**	**15 10 50.9**	**-0.1**
	0.3nm,0.3s,mb3.8,baz=72,slow=7.6,SNR=4.2						
BVAR	**Borovoye Array**	**55.75**	**316**	P	**P**	**15 10 50.9**	**-0.1**
ILAR	**Eielson Array**	**55.87**	**29**	P	**P**	**15 10 51.0**	**-0.7**
	0.4nm,0.8s,mb3.5,baz=273,slow=8.0,SNR=3.6						
ILAR	**Eielson Array**	**55.87**	**29**	P	**P**	**15 10 51.0**	**-0.7**
ABKAR	**Akbulak array**	**62.87**	**313**	eP	**P**	**15 11 40.3**	**+0.1**
	0.4nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**70.96**	**340**	P	**P**	**15 12 30.9**	**-0.4**
	3.6nm,0.9s,mb4.3,baz=37,slow=9.5,SNR=3.9						
ARCES	**ARCESS Array B**	**70.96**	**340**	P	**P**	**15 12 30.9**	**-0.4**
FINES	**FINESS Array B**	**75.41**	**333**	P	**P**	**15 12 57.3**	**-0.3**
	7.3nm,1.1s,mb4.5,baz=57,slow=5.1,SNR=3.5						
FINES				pP	pP	15 13 13.2	0.0
	2.7nm,0.9s,baz=86,slow=2.9,SNR=4.1						
FINES	**FINESS Array B**	**75.41**	**333**	P	**P**	**15 12 57.3**	**-0.3**
FINES				pP	pP	15 13 13.2	0.0
NVAR	**Mina Array Bea**	**79.52**	**52**	P	**P**	**15 13 22.0**	**+1.0**
	0.3nm,0.5s,mb3.5,baz=297,slow=4.8,SNR=3.2						
NVAR				pP	pP	15 13 38.6	+2.0
	0.5nm,0.6s,baz=296,slow=6.6,SNR=4.7						
NVAR	**Mina Array Bea**	**79.52**	**52**	P	**P**	**15 13 22.0**	**+1.0**
NVAR				pP	pP	15 13 38.6	+2.0
NOA	**NORSAR Array B**	**81.04**	**338**	P	**P**	**15 13 28.4**	**-0.4**
	1.0nm,1.0s,mb3.7,baz=76,slow=5.5,SNR=2.4						
NOA	**NORSAR Array B**	**81.04**	**338**	P	**P**	**15 13 28.4**	**-0.4**
PDAR	**Pinedale Array**	**82.92**	**45**	P	**P**	**15 13 39.8**	**+0.8**
	0.3nm,0.6s,mb3.5,baz=341,slow=1.9,SNR=2.4						
PDAR	**Pinedale Array**	**82.92**	**45**	P	**P**	**15 13 39.8**	**+0.8**
BRTR	**Keskin Array B**	**83.81**	**312**	P	**P**	**15 13 43.5**	**-0.1**
	1.4nm,0.9s,mb4.1,baz=87,slow=5.1,SNR=6.0						
BRTR	**Keskin Array B**	**83.81**	**312**	P	**P**	**15 13 43.5**	**-0.1**

NEIC ***31*** *15:02:11.0, 44°.52N×110°.36W, h5km, ML3.3(SLC), After SLC.*
ISCJB ***31*** *15:02:12.6±0.2, 44°.52N±0°.02×110°.37W±0°.02, h10km, Error ellipse: s-maj=2.6km s-min=2.2km az=34.6*
ISC 31 15:02:12.5±0.2, 44°.51N±0°.02×110°.37W±0°.02, h10km, n92, σ1s24/102, 30C-35D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.06**	**339**	ePg	**Pg**	**15 02 12.8**	**-1.8**
YNR	**Norris Junctio**	**0.30**	**313**	ePg	**Pg**	**15 02 17.7**	**-0.9**
YFT	**Old Faithful**	**0.34**	**261**	ePg	**Pg**	**15 02 18.8**	**-0.5**
YMR	**Madison River**	**0.46**	**291**	ePg	**Pg**	**15 02 20.9**	**-0.5**
FLWY	**Flagg Ranch**	**0.49**	**209**	ePg	**Pg**	**15 02 21.7**	**-0.3**
H18A	**Shoshone NF, C**	**0.53**	**71**	↑P	**Pg**	**15 02 21.7**	**-1.2**
	baz=0.5,SNR=141						
I17A	**Pilgrim Ck.**	**0.60**	**194**	↓P	**Pg**	**15 02 24.0**	**-0.2**
	baz=0.6,SNR=192						
H16A	**Russell Place,**	**0.66**	**288**	↑P	**Pg**	**15 02 24.6**	**-0.6**
	baz=0.7						
QLMT	**Earthquake Lak**	**0.82**	**294**	ePg	**Pg**	**15 02 27.1**	**-1.3**
G17A	**Pierce Place,**	**0.86**	**342**	↓P	**Pg**	**15 02 29.1**	**0.0**
	baz=0.8,SNR=10						
I18A	**Diamond G Ranc**	**0.90**	**154**	↓P	**Pg**	**15 02 28.8**	**-1.0**
	baz=0.9,SNR=277						
G18A	**Lazy EL Ranch,**	**0.99**	**35**	↑P	**Pg**	**15 02 30.5**	**-1.1**
	baz=1.0,SNR=13						
RLMT	**Red Lodge**	**1.00**	**51**	ePg	**Pg**	**15 02 30.4**	**-1.3**
H19A	**Powell**	**1.00**	**80**	↓P	**Pg**	**15 02 30.8**	**-1.0**
	baz=1.0,SNR=95						
I16A	**Newdale**	**1.02**	**232**	↑P	**Pg**	**15 02 31.8**	**-0.3**
	baz=1.0,SNR=5.9						
DCID1	**Drake Creek**	**1.08**	**213**	eP	**Pb**	**15 02 32.8**	**-0.5**
I19A	**Meeteetse**	**1.09**	**115**	↑P	**Pb**	**15 02 32.3**	**-1.2**
	baz=1.1,SNR=87						
I19A				↓S	**Sg**	**15 02 46.8**	**-0.9**
	baz=1.1						
J17A	**Brown Place, J**	**1.17**	**192**	↑P	**Pb**	**15 02 34.1**	**-0.7**
	baz=1.2,SNR=124						
REDW	**Red Top Meadow**	**1.20**	**197**	eP	**Pb**	**15 02 34.6**	**-0.6**
G16A	**Moss Hill, Enn**	**1.25**	**306**	↑P	**Pn**	**15 02 35.3**	**-0.7**
	baz=1.2						
J18A	**Kendall Valley**	**1.32**	**169**	↑P	**Pn**	**15 02 36.2**	**-0.8**
	baz=1.3,SNR=263						
J18A				↓S	**Sb**	**15 02 54.1**	**-0.2**
	baz=1.3						
RRI2	**Red Ridge**	**1.35**	**211**	eP	**Pn**	**15 02 37.3**	**-0.1**
GCMT	**Greycliff**	**1.38**	**21**	eP	**Pn**	**15 02 37.7**	**-0.1**
F17A	**Fitzpatrick Pl**	**1.41**	**352**	↑P	**Pn**	**15 02 38.8**	**+0.5**
	baz=1.4,SNR=26						
BOZ	**Bozeman (W)**	**1.45**	**322**	eP	**Pn**	**15 02 39.3**	**+0.6**
F18A	**Big Timber**	**1.47**	**18**	↓P	**Pn**	**15 02 39.3**	**+0.2**
	baz=1.5,SNR=81						
J16A	**Bone**	**1.52**	**217**	↑P	**Pn**	**15 02 40.4**	**+0.5**
	baz=1.5,SNR=40						
F16A	**Kennard Place,**	**1.56**	**326**	↑P	**Pn**	**15 02 40.8**	**+0.5**
	baz=1.5,SNR=20						
J19A	**Crowheart**	**1.56**	**142**	↓P	**Pn**	**15 02 40.7**	**+0.4**
	baz=1.6,SNR=146						
J19A				↑S	**Sn**	**15 03 01.4**	**+0.7**
	baz=1.6						
I15A	**Monteview**	**1.60**	**252**	↓P	**Pn**	**15 02 41.6**	**+0.7**
	baz=1.6						
H15A	**Lima**	**1.63**	**275**	↑P	**Pn**	**15 02 42.4**	**+1.2**
	baz=1.6,SNR=24						
G15A	**Dillon**	**1.65**	**294**	↓P	**Pn**	**15 02 42.4**	**+0.9**
	baz=1.6,SNR=26						
F19A	**Roth Farm, Mol**	**1.68**	**36**	↓P	**Pn**	**15 02 42.4**	**+0.4**
	baz=1.7						
G20A	**Bridger**	**1.69**	**64**	↓P	**Pn**	**15 02 42.3**	**+0.3**
	baz=1.7,SNR=87						
H20A	**Greybull**	**1.70**	**90**	↑P	**Pn**	**15 02 42.3**	**+0.1**
	baz=1.7,SNR=58						
H20A				↑S	**Sn**	**15 03 04.7**	**+0.8**
	baz=1.7						
I20A	**Worland**	**1.70**	**108**	↑P	**Pn**	**15 02 42.5**	**+0.2**
	baz=1.7,SNR=57						
I20A				↓S	**Sn**	**15 03 05.0**	**+0.9**
	baz=1.7						
DLMT	**Dillon**	**1.80**	**299**	ePn	**Pn**	**15 02 45.4**	**+1.8**
MCMT	**McKenzie Canyo**	**1.80**	**281**	ePn	**Pn**	**15 02 45.5**	**+1.9**
K17A	**Gardner Place,**	**1.80**	**193**	↓Pb	**Pb**	**15 02 45.0**	**-0.6**
	baz=1.8						
AHID	**Auburn Hatcher**	**1.82**	**197**	eP	**Pn**	**15 02 45.1**	**+1.3**
PD01	**Pinedale Array**	**1.82**	**161**	eP	**Pn**	**15 02 45.4**	**+1.5**
PD02	**Pinedale Array**	**1.82**	**161**	eP	**Pn**	**15 02 45.2**	**+1.3**
PD02				eS	**Sn**	**15 03 08.8**	**+1.8**
BW06	**Boulder Array**	**1.84**	**161**	ePn	**Pn**	**15 02 45.7**	**+1.6**
K18A	**Toltan Ranch,**	**1.88**	**173**	↓Pb	**Pb**	**15 02 46.6**	**-0.4**
	baz=1.9,SNR=10.0						
K16A	**Soda Springs**	**1.89**	**208**	↓Pb	**Pb**	**15 02 46.7**	**-0.5**
	baz=1.9,SNR=16						
LRM	**Limekiln Ridge**	**1.98**	**312**	ePg	**Pg**	**15 02 49.0**	**-1.4**
E17A	**Martinsdale**	**1.99**	**350**	↑Pb	**Pb**	**15 02 49.0**	**+0.3**
	baz=2.0,SNR=20						
F15A	**Butte**	**2.01**	**312**	↑P	**Pn**	**15 02 47.0**	**+0.5**
	baz=2.0,SNR=16						
J20A	**Shoshoni**	**2.01**	**124**	↓Pb	**Pb**	**15 02 48.2**	**-1.0**
	baz=2.0,SNR=26						
J20A				↑Sb	**Sb**	**15 03 15.0**	**+0.7**
	baz=2.0						
F20A	**Billings**	**2.04**	**50**	↓Pb	**Pb**	**15 02 48.8**	**-0.7**
	baz=2.0,SNR=22						
E18A	**Harlowton**	**2.08**	**9**	↑P	**Pn**	**15 02 48.9**	**+1.3**
	baz=2.1,SNR=29						
H14A	**Leadore**	**2.15**	**274**	↓Pb	**Pb**	**15 02 51.2**	**-0.3**
	baz=2.1						
E16A	**East Helena**	**2.23**	**336**	↑Pb	**Pb**	**15 02 52.6**	**-0.2**
	baz=2.2						
E19A	**Rath Farm, Rou**	**2.25**	**29**	↑Pb	**Pb**	**15 02 52.1**	**-1.2**
	baz=2.2						
I14A	**Mackay**	**2.29**	**256**	↑Pb	**Pb**	**15 02 53.0**	**-0.9**
	baz=2.3,SNR=18						
I21A	**Big Trails, Te**	**2.32**	**106**	↓Pb	**Pb**	**15 02 52.6**	**-1.8**
	baz=2.3,SNR=201						
G21A	**Lodge Grass**	**2.36**	**71**	↓Pb	**Pb**	**15 02 54.1**	**-1.0**
	baz=2.3,SNR=8.8						
K20A	**Yellowstone Ra**	**2.36**	**141**	↓Pb	**Pb**	**15 02 53.8**	**-1.4**
	baz=2.4,SNR=16						
K20A				↓Sb	**Sb**	**15 03 25.7**	**+1.3**
	baz=2.4						
H21A	**Big Horn, Sher**	**2.38**	**86**	↓Pb	**Pb**	**15 02 54.0**	**-1.4**
	baz=2.4						
H21A				↓Sb	**Sb**	**15 03 25.6**	**+0.7**
	baz=2.4						
J21A	**Lysite**	**2.41**	**118**	↑Pb	**Pb**	**15 02 54.8**	**-1.2**
	baz=2.4,SNR=15						
J21A				↓Sb	**Sb**	**15 03 26.4**	**+0.7**
	baz=2.4						
HRY	**Holter Researc**	**2.43**	**336**	ePg	**Pg**	**15 02 56.7**	**-2.5**
L17A	**Cokeville**	**2.43**	**189**	↑Pb	**Pb**	**15 02 55.7**	**-0.7**
	baz=2.4						
F14A	**Wisdom**	**2.49**	**303**	↓Pb	**Pb**	**15 02 57.5**	**+0.1**
	baz=2.5						
E15A	**Deer Lodge**	**2.50**	**321**	↓P	**Pn**	**15 02 55.4**	**+2.2**
	baz=2.5						
L19A	**Farson**	**2.52**	**163**	↑Pb	**Pb**	**15 02 56.7**	**-1.1**
	baz=2.5						
E20A	**Meyer Farm, Mu**	**2.54**	**37**	↑P	**Pn**	**15 02 56.4**	**+2.5**
	baz=2.5						
L16A	**Fish Haven**	**2.61**	**198**	↓P	**Pn**	**15 02 56.9**	**+2.2**
	baz=2.6						
F21A	**Absaloka Mine,**	**2.65**	**59**	↑P	**Pn**	**15 02 57.8**	**+2.6**
	baz=2.6						
D17A	**Six Diamond Ra**	**2.66**	**355**	↑P	**Pn**	**15 02 58.4**	**+3.0**
	baz=2.6						
I13A	**Wildhorse Cree**	**2.76**	**259**	↓P	**Pn**	**15 02 59.6**	**+2.8**
	baz=2.8,SNR=12						
H13A	**Challis**	**2.78**	**273**	↓P	**Pn**	**15 03 00.1**	**+3.0**
	baz=2.8						
I22A	**9 Mile Ranch,**	**2.86**	**101**	↑P	**Pn**	**15 03 01.6**	**+3.4**
	baz=2.8,SNR=16						
K21A	**Alcova**	**2.94**	**128**	↓P	**Pn**	**15 03 02.1**	**+2.9**
	baz=2.9,SNR=21						
HWUT	**Hardware Ranch**	**3.03**	**197**	ePg	**Pg**	**15 03 03.5**	**-7.1**
HLID	**Hailey**	**3.07**	**253**	ePg	**Pg**	**15 03 03.2**	**-8.1**
F22A	**Rosebud**	**3.18**	**65**	↓P	**Pn**	**15 03 04.5**	**+2.0**
	baz=3.2,SNR=7.0						
HVU	**Hansel Valley**	**3.25**	**214**	ePg	**Pg**	**15 03 08.2**	**-6.4**
MSO	**Missoula**	**3.42**	**314**	ePg	**Pg**	**15 03 08.8**	**-9.2**
EGMT	**Eagleton**	**3.54**	**7**	ePg	**Pg**	**15 03 16.5**	**-3.9**
LAO	**LASA Array**	**3.64**	**52**	ePg	**Pg**	**15 03 19.3**	**-2.9**
F23A	**Volborg**	**3.72**	**69**	↓P	**Pn**	**15 03 11.3**	**+1.3**
	baz=3.7						
SWMT	**Swartz Lake**	**3.93**	**321**	ePg	**Pg**	**15 03 27.5**	**-0.3**
JLU	**Jordanelle**	**3.98**	**192**	ePg	**Pg**	**15 03 26.1**	**-2.8**
MFID	**Camas Ranch**	**4.09**	**256**	Pg	**Pg**	**15 03 27.0**	**-3.9**
DAU	**Daniels Canyon**	**4.14**	**189**	ePg	**Pg**	**15 03 25.9**	**-6.0**
H24A	**Dirks Ranch, A**	**4.16**	**85**	↓P	**Pn**	**15 03 17.3**	**+1.3**
	baz=4.1						
RSSD	**Black Hills**	**4.56**	**93**	ePn	**Pn**	**15 03 19.7**	**-1.8**
MPU	**Maple Canyon**	**4.58**	**192**	ePg	**Pg**	**15 03 37.9**	**-2.4**
DUG	**Dugway**	**4.67**	**204**	eP	**Pn**	**15 03 25.7**	**+2.6**
PHWY	**Pilot Hill**	**4.82**	**130**	ePg	**Pg**	**15 03 39.3**	**-5.6**
SRU	**San Rafael**	**5.39**	**181**	ePg	**Pg**	**15 03 50.9**	**-4.9**
	31nm,0.7s						
MSU	**Marysvale**	**6.14**	**193**	ePg	**Pg**	**15 04 08.6**	**-1.6**

ISCJB ***31*** *15:15:45.2±0.3, 38°.78N±0°.01×23°.44E±0°.02, h10km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=173.5*
ATH ***31*** *15:15:45.3, 38°.78N×23°.49E, h28km, ML4.0*
THE ***31*** *15:15:45.9, 38°.77N×23°.41E, h6km, ML3.3/11, Error ellipse: s-maj=0.6km s-min=0.2km az=340.0*
CSEM ***31*** *15:15:45.3±0.1, 38°.77N×23°.45E, h10km, ML3.3/11, Error ellipse: s-maj=2.7km s-min=2.2km az=94.0*
ISC 31 15:15:45.8±0.3, 38°.78N±0°.01×23°.44E±0°.02, h11km±2km, n120, σ0s89/177, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.14**	**122**	P	**Pg**	**15 15 48.8**	**-0.3**
MRKA				S	**Sg**	**15 15 51.6**	**+0.2**
MRKA	**Markates**	**0.14**	**122**	P	**Pg**	**15 15 48.8**	**-0.3**
MRKA				S	**Sg**	**15 15 51.6**	**+0.2**
SMIA	**Simia**	**0.20**	**299**	P	**Pg**	**15 15 50.0**	**-0.2**
SMIA				S	**Sg**	**15 15 52.8**	**-0.3**
SMIA	**Simia**	**0.20**	**299**	P	**Pg**	**15 15 50.0**	**-0.2**
SMIA				S	**Sg**	**15 15 52.8**	**-0.3**
ATAL	**Atalanti**	**0.34**	**255**	P	**Pg**	**15 15 52.0**	**-0.5**
ATAL				S	**Sg**	**15 15 56.6**	**-0.4**
ATAL	**Atalanti**	**0.34**	**255**	P	**Pg**	**15 15 52.0**	**-0.5**
ATAL				S	**Sg**	**15 15 56.6**	**-0.4**
LKR	**Lokris**	**0.36**	**250**	ePB	**Pg**	**15 15 54.3**	**+1.2**
LKR	**Lokris**	**0.36**	**250**	P	**Pg**	**15 15 52.3**	**-0.8**
LKR	**Lokris**	**0.36**	**250**	P	**Pg**	**15 15 52.3**	**-0.8**
LKR	**Lokris**	**0.36**	**250**	ePb	**Pg**	**15 15 53.3**	**+0.2**
SKIA	**Skiathos**	**0.39**	**3**	P	**Pg**	**15 15 53.4**	**-0.1**
SKIA				S	**Sg**	**15 15 59.7**	**+1.0**
SKIA	**Skiathos**	**0.39**	**3**	P	**Pg**	**15 15 53.4**	**-0.1**
SKIA				S	**Sg**	**15 15 59.7**	**+1.0**
ERET	**Eretria**	**0.44**	**139**	P	**Pg**	**15 15 54.6**	**+0.1**
ERET				S	**Sg**	**15 16 00.9**	**+0.5**
ERET	**Eretria**	**0.44**	**139**	P	**Pg**	**15 15 54.6**	**+0.1**
ERET				S	**Sg**	**15 16 00.9**	**+0.5**
AOS	**Alonnisos**	**0.52**	**41**	P	**Pg**	**15 15 56.1**	**+0.1**
AOS				S	**Sg**	**15 16 03.9**	**+1.0**
AOS	**Alonnisos**	**0.52**	**41**	P	**Pg**	**15 15 56.1**	**+0.1**
AOS				S	**Sg**	**15 16 03.9**	**+1.0**
NEO	**Neokhori**	**0.55**	**343**	ePN	**Pg**	**15 15 56.5**	**-0.1**
NEO				eSN	**Sg**	**15 16 05.9**	**+2.0**
NEO	**Neokhori**	**0.55**	**343**	P	**Pg**	**15 15 56.8**	**+0.2**
NEO				S	**Sg**	**15 16 04.4**	**+0.5**
NEO	**Neokhori**	**0.55**	**343**	ePn	**Pg**	**15 15 56.3**	**-0.3**
NEO	**Neokhori**	**0.55**	**343**	P	**Pg**	**15 15 56.8**	**+0.2**
NEO				S	**Sg**	**15 16 04.4**	**+0.5**
XOR	**Xorichti**	**0.62**	**342**	P	**Pg**	**15 15 57.6**	**-0.2**
XOR				S	**Sg**	**15 16 07.0**	**+1.1**
XOR	**Xorichti**	**0.62**	**342**	P	**Pg**	**15 15 57.6**	**-0.2**
XOR				S	**Sg**	**15 16 07.0**	**+1.1**
VIL1	**Vilia, Western**	**0.62**	**188**	ePN	**Pg**	**15 15 57.6**	**-0.2**
VIL1				eSN	**Sg**	**15 16 07.4**	**+1.4**
DSF	**Desfina**	**0.80**	**243**	P	**Pg**	**15 16 00.4**	**-0.9**
DSF				S	**Sg**	**15 16 11.8**	**0.0**
DSF	**Desfina**	**0.80**	**243**	P	**Pg**	**15 16 00.4**	**-0.9**
DSF				S	**Sg**	**15 16 11.8**	**0.0**
PTL	**Penteli**	**0.80**	**155**	ePN	**Pg**	**15 16 00.9**	**-0.4**
PTL				eSN	**Sg**	**15 16 12.0**	**+0.2**
PTL	**Penteli**	**0.80**	**155**	P	**Pg**	**15 16 01.1**	**-0.2**
PTL				S	**Sg**	**15 16 12.2**	**+0.4**
PTL	**Penteli**	**0.80**	**155**	P	**Pg**	**15 16 01.1**	**-0.2**
PTL				eSn	**Sg**	**15 16 12.3**	**+0.5**
ATH	**Athens Observa**	**0.83**	**165**	ePN	**Pg**	**15 16 01.7**	**-0.2**
ATH				eSN	**Sg**	**15 16 13.4**	**+0.6**
ATH	**Athens Observa**	**0.83**	**165**	ePn	**Pg**	**15 16 01.7**	**-0.2**
ATH				eSn	**Sg**	**15 16 13.4**	**+0.6**
LTK	**Loutraki**	**0.84**	**206**	ePN	**Pg**	**15 16 01.9**	**-0.1**
LTK				eSN	**Sg**	**15 16 14.9**	**+1.9**
LTK	**Loutraki**	**0.84**	**206**	P	**Pg**	**15 16 01.3**	**-0.7**
LTK	**Loutraki**	**0.84**	**206**	P	**Pg**	**15 16 01.3**	**-0.7**
LTK				eSn	**Sg**	**15 16 14.9**	**+1.9**
AGG	**Agios Georgios**	**0.90**	**286**	ePN	**Pg**	**15 16 03.2**	**+0.1**
AGG				eSN	**Sn**	**15 16 16.5**	**-0.8**
AGG	**Agios Georgios**	**0.90**	**286**	P	**Pg**	**15 16 02.3**	**-0.8**
AGG				S	**Sg**	**15 16 15.3**	**+0.5**
AGG	**Agios Georgios**	**0.90**	**286**	P	**Pg**	**15 16 02.3**	**-0.8**
AGG				S	**Sg**	**15 16 15.3**	**+0.5**
AGG				eSn	**Sn**	**15 16 16.5**	**-0.8**
THAL	**Thalero**	**0.96**	**220**	P	**Pg**	**15 16 03.7**	**-0.6**
THAL				S	**Sg**	**15 16 17.0**	**+0.3**
THAL	**Thalero**	**0.96**	**220**	P	**Pg**	**15 16 03.7**	**-0.6**
THAL				S	**Sg**	**15 16 17.0**	**+0.3**
VLY	**Voula,Athens**	**0.97**	**163**	ePN	**Pg**	**15 16 03.9**	**-0.6**
VLY				eSN	**Sg**	**15 16 17.2**	**+0.2**
VLY	**Voula,Athens**	**0.97**	**163**	P	**Pg**	**15 16 03.8**	**-0.7**
VLY				S	**Sg**	**15 16 18.1**	**+1.1**
VLY	**Voula,Athens**	**0.97**	**163**	P	**Pg**	**15 16 03.8**	**-0.7**
VLY				eSn	**Sg**	**15 16 16.7**	**-0.3**
VLY				S	**Sg**	**15 16 18.1**	**+1.1**
MRMA	**Marmari**	**1.03**	**134**	P	**Pg**	**15 16 05.1**	**-0.6**
MRMA	**Marmari**	**1.03**	**134**	P	**Pg**	**15 16 05.1**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.04**	**283**	P	**Pg**	**15 16 05.2**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.04**	**283**	P	**Pg**	**15 16 05.2**	**-0.7**
KALE	**Kalithea**	**1.09**	**250**	P	**Pg**	**15 16 05.5**	**-1.2**
KALE				S	**Sg**	**15 16 20.7**	**-0.2**
KALE	**Kalithea**	**1.09**	**250**	P	**Pg**	**15 16 05.5**

*THE **31** 15:21:04.8, 38°.76N×23°.44E, h11km, ML2.7/7, Error ellipse: s-maj=0.5km s-min=0.3km az=174.0*
*CSEM **31** 15:21:04.4±0.1, 38°.76N×23°.45E, h12km, ML2.7/7, Error ellipse: s-maj=1.9km s-min=1.4km az=86.0*
ISC 31 15:21:04.8±0.3, 38°.76N±0°.01×23°.45E±0°.03, h13km±2km, n79, σ0§55/129, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.12**	**116**	P	**Pg**	**15 21 08.0**	**-0.1**
MRKA				S	**Sg**	**15 21 10.4**	**0.0**
MRKA	**Markates**	**0.12**	**116**	P	**Pg**	**15 21 08.0**	**-0.1**
MRKA				S	**Sg**	**15 21 10.4**	**0.0**
SMIA	**Simia**	**0.22**	**303**	P	**Pg**	**15 21 09.6**	**0.0**
SMIA				S	**Sg**	**15 21 13.1**	**+0.2**
SMIA	**Simia**	**0.22**	**303**	P	**Pg**	**15 21 09.6**	**0.0**
SMIA				S	**Sg**	**15 21 13.1**	**+0.2**
ATAL	**Atalanti**	**0.34**	**259**	P	**Pg**	**15 21 11.4**	**-0.3**
ATAL				S	**Sg**	**15 21 16.7**	**+0.3**
ATAL	**Atalanti**	**0.34**	**259**	P	**Pg**	**15 21 11.4**	**-0.3**
ATAL				S	**Sg**	**15 21 16.7**	**+0.3**
LKR	**Lokris**	**0.37**	**253**	*e*PB	**Pg**	**15 21 11.9**	**-0.3**
LKR				*e*SB	**Sg**	**15 21 18.2**	**+1.0**
LKR	**Lokris**	**0.37**	**253**	P	**Pg**	**15 21 11.8**	**-0.4**
LKR				S	**Sg**	**15 21 17.8**	**+0.6**
LKR	**Lokris**	**0.37**	**253**	P	**Pg**	**15 21 11.8**	**-0.4**
LKR				S	**Sg**	**15 21 17.8**	**+0.6**
LKR				*e*Sb	**Sg**	**15 21 18.3**	**+1.1**
SKIA	**Skiathos**	**0.41**	**2**	P	**Pg**	**15 21 13.0**	**+0.1**
SKIA				S	**Sg**	**15 21 18.9**	**+0.5**
SKIA	**Skiathos**	**0.41**	**2**	P	**Pg**	**15 21 13.0**	**+0.1**
SKIA				S	**Sg**	**15 21 18.9**	**+0.5**
ERET	**Eretria**	**0.42**	**138**	P	**Pg**	**15 21 13.1**	**-0.1**
ERET				S	**Sg**	**15 21 19.2**	**+0.3**
ERET	**Eretria**	**0.42**	**138**	P	**Pg**	**15 21 13.1**	**-0.1**
ERET				S	**Sg**	**15 21 19.2**	**+0.3**
AOS	**Alonnisos**	**0.53**	**39**	P	**Pg**	**15 21 14.7**	**-0.5**
AOS				S	**Sg**	**15 21 22.5**	**+0.2**
AOS	**Alonnisos**	**0.53**	**39**	P	**Pg**	**15 21 14.7**	**-0.5**
AOS				S	**Sg**	**15 21 22.5**	**+0.2**
NEO	**Neokhori**	**0.57**	**342**	*e*PN	**Pg**	**15 21 15.8**	**-0.2**
NEO				*e*SN	**Sg**	**15 21 23.8**	**+0.1**
NEO	**Neokhori**	**0.57**	**342**	P	**Pg**	**15 21 15.7**	**-0.3**
NEO				S	**Sg**	**15 21 24.5**	**+0.8**
NEO	**Neokhori**	**0.57**	**342**	*e*Pn	**Pg**	**15 21 15.8**	**-0.2**
NEO				S	**Sg**	**15 21 24.5**	**+0.8**
VIL1	**Vilia, Western**	**0.60**	**189**	*e*PN	**Pg**	**15 21 16.1**	**-0.5**
VIL1				*e*SN	**Sg**	**15 21 25.3**	**+0.8**
XOR	**Xorichti**	**0.64**	**342**	P	**Pg**	**15 21 16.8**	**-0.5**
XOR				S	**Sg**	**15 21 26.0**	**+0.3**
XOR	**Xorichti**	**0.64**	**342**	P	**Pg**	**15 21 16.8**	**-0.5**
XOR				S	**Sg**	**15 21 26.0**	**+0.3**
PTL	**Penteli**	**0.78**	**155**	*e*PN	**Pg**	**15 21 19.5**	**-0.5**
PTL				*e*SN	**Sg**	**15 21 30.7**	**+0.5**
PTL	**Penteli**	**0.78**	**155**	P	**Pg**	**15 21 19.6**	**-0.4**
PTL	**Penteli**	**0.78**	**155**	P	**Pg**	**15 21 19.6**	**-0.4**
PTL				*e*Sn	**Sg**	**15 21 30.8**	**+0.6**
ATH	**Athens Observa**	**0.81**	**165**	*e*PN	**Pg**	**15 21 20.3**	**-0.3**
ATH				*e*SN	**Sg**	**15 21 31.9**	**+0.7**
ATH	**Athens Observa**	**0.81**	**165**	P	**Pg**	**15 21 20.2**	**-0.4**
ATH	**Athens Observa**	**0.81**	**165**	P	**Pg**	**15 21 20.2**	**-0.4**
ATH				*e*Sn	**Sg**	**15 21 31.9**	**+0.7**
LTK	**Loutraki**	**0.83**	**207**	*e*PN	**Pg**	**15 21 20.0**	**-0.8**
LTK				*e*SN	**Sg**	**15 21 32.7**	**+1.0**
LTK	**Loutraki**	**0.83**	**207**	P	**Pg**	**15 21 19.9**	**-0.9**
LTK				S	**Sg**	**15 21 32.1**	**+0.4**
LTK	**Loutraki**	**0.83**	**207**	P	**Pg**	**15 21 19.9**	**-0.9**
LTK				S	**Sg**	**15 21 32.1**	**+0.4**
LTK				*e*Sn	**Sn**	**15 21 32.9**	**-1.2**
AGG	**Agios Georgios**	**0.91**	**287**	*e*PN	**Pg**	**15 21 21.3**	**-1.1**
AGG				*e*SN	**Sg**	**15 21 34.1**	**-0.2**
AGG	**Agios Georgios**	**0.91**	**287**	P	**Pg**	**15 21 21.4**	**-1.0**
AGG				S	**Sg**	**15 21 35.0**	**+0.7**
AGG	**Agios Georgios**	**0.91**	**287**	P	**Pg**	**15 21 21.4**	**-1.0**
AGG				*e*Sn	**Sg**	**15 21 34.1**	**-0.2**
AGG				S	**Sg**	**15 21 35.0**	**+0.7**
VLY	**Voula,Athens**	**0.95**	**163**	*e*PN	**Pg**	**15 21 22.6**	**-0.5**
VLY				*e*SN	**Sg**	**15 21 35.7**	**+0.3**
VLY	**Voula,Athens**	**0.95**	**163**	P	**Pg**	**15 21 22.4**	**-0.7**
VLY	**Voula,Athens**	**0.95**	**163**	P	**Pg**	**15 21 22.4**	**-0.7**
VLY				*e*Sn	**Sg**	**15 21 35.6**	**+0.2**
THAL	**Thalero**	**0.95**	**221**	P	**Pg**	**15 21 22.4**	**-0.7**
THAL	**Thalero**	**0.95**	**221**	P	**Pg**	**15 21 22.4**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.06**	**284**	P	**Pg**	**15 21 24.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.06**	**284**	P	**Pg**	**15 21 24.5**	**-0.7**
PAIG	**Paliouri**	**1.18**	**9**	P	**Pn**	**15 21 26.1**	**-0.9**
PAIG				S	**Sb**	**15 21 43.9**	**+1.7**
PAIG	**Paliouri**	**1.18**	**9**	P	**Pn**	**15 21 26.1**	**-0.9**
PAIG				S	**Sb**	**15 21 43.9**	**+1.7**
GUR	**Goura**	**1.20**	**227**	*e*PN	**Pn**	**15 21 27.2**	**0.0**
GUR				*e*SN	**Sn**	**15 21 43.3**	**0.0**
GUR	**Goura**	**1.20**	**227**	*e*Pn	**Pn**	**15 21 27.5**	**+0.3**
GUR				*e*Sn	**Sn**	**15 21 43.3**	**0.0**
EFP	**Efpalio**	**1.25**	**255**	*e*PN	**Pn**	**15 21 28.0**	**0.0**
EFP				*e*SN	**Sn**	**15 21 45.0**	**+0.3**
EFP	**Efpalio**	**1.25**	**255**	*e*Pn	**Pn**	**15 21 28.1**	**+0.1**
EFP				*e*Sn	**Sn**	**15 21 45.0**	**+0.3**
DID	**Didima**	**1.26**	**188**	*e*PN	**Pn**	**15 21 27.9**	**-0.2**
DID				*e*SN	**Sn**	**15 21 45.4**	**+0.5**
DID	**Didima**	**1.26**	**188**	P	**Pn**	**15 21 27.9**	**-0.2**
DID	**Didima**	**1.26**	**188**	P	**Pn**	**15 21 27.9**	**-0.2**
DID				*e*Sn	**Sn**	**15 21 45.4**	**+0.5**
EVR	**Evrytania**	**1.29**	**277**	*e*PN	**Pn**	**15 21 28.3**	**-0.2**
EVR	**Evrytania**	**1.29**	**277**	*e*Pn	**Pn**	**15 21 28.3**	**-0.2**
THL	**Klokotos Trika**	**1.37**	**306**	*e*PN	**Pn**	**15 21 29.3**	**-0.3**
THL				*e*SN	**Sn**	**15 21 48.2**	**+0.5**
THL	**Klokotos Trika**	**1.37**	**306**	P	**Pn**	**15 21 29.2**	**-0.4**
THL				S	**Sn**	**15 21 47.9**	**+0.2**
THL	**Klokotos Trika**	**1.37**	**306**	P	**Pn**	**15 21 29.2**	**-0.4**
THL				S	**Sn**	**15 21 47.9**	**+0.2**
THL				*e*Sn	**Sn**	**15 21 48.2**	**+0.5**
PLG	**Polygyros**	**1.61**	**360**	*e*PN	**Pn**	**15 21 32.2**	**-0.7**
PLG	**Polygyros**	**1.61**	**360**	P	**Pn**	**15 21 32.3**	**-0.6**
PLG				S	**Sn**	**15 21 53.9**	**+0.4**
PLG	**Polygyros**	**1.61**	**360**	P	**Pn**	**15 21 32.3**	**-0.6**
PLG				S	**Sn**	**15 21 53.9**	**+0.4**
VLX	**Vlachokerasia**	**1.62**	**212**	*e*PN	**Pn**	**15 21 33.6**	**+0.5**
VLX	**Vlachokerasia**	**1.62**	**212**	*e*Pn	**Pn**	**15 21 33.6**	**+0.5**
OUR	**Ouranopolis**	**1.63**	**15**	P	**Pn**	**15 21 32.7**	**-0.4**
OUR	**Ouranopolis**	**1.63**	**15**	P	**Pn**	**15 21 32.7**	**-0.4**
LIA	**Limnos Island**	**1.76**	**49**	*e*PN	**Pn**	**15 21 34.9**	**-0.1**
LIA	**Limnos Island**	**1.76**	**49**	*e*Pn	**Pn**	**15 21 34.9**	**-0.1**
ITM	**Ithomi**	**1.98**	**218**	*e*PN	**Pn**	**15 21 38.5**	**+0.5**
ITM	**Ithomi**	**1.98**	**218**	*e*Pn	**Pn**	**15 21 38.7**	**+0.7**
KZN	**Kozani**	**2.02**	**321**	*e*PB	**Pn**	**15 21 38.4**	**-0.1**
KZN	**Kozani**	**2.02**	**321**	*e*Pb	**Pn**	**15 21 38.4**	**-0.1**
SOH	**Sokhos**	**2.06**	**358**	*e*PB	**Pn**	**15 21 39.1**	**0.0**
SOH	**Sokhos**	**2.06**	**358**	*e*Pb	**Pn**	**15 21 39.1**	**0.0**
CHOS	**Chios island**	**2.08**	**100**	*e*PN	**Pn**	**15 21 39.4**	**+0.1**
CHOS	**Chios island**	**2.08**	**100**	*e*Pn	**Pn**	**15 21 39.4**	**+0.1**
VLI	**Veliai**	**2.08**	**191**	*e*PN	**Pn**	**15 21 39.0**	**-0.3**
VLI	**Veliai**	**2.08**	**191**	*e*Pn	**Pn**	**15 21 39.0**	**-0.3**
PYL	**PYLOS**	**2.30**	**217**	*e*PB	**Pn**	**15 21 43.4**	**+1.0**
PYL	**PYLOS**	**2.30**	**217**	*e*Pb	**Pn**	**15 21 43.4**	**+1.0**
APE	**Apeiranthos**	**2.36**	**135**	*e*PN	**Pn**	**15 21 43.3**	**+0.1**
APE	**Apeiranthos**	**2.36**	**135**	*e*Pn	**Pn**	**15 21 43.3**	**+0.1**
NVR	**Nevrokopi**	**2.61**	**7**	*e*PN	**Pn**	**15 21 46.3**	**-0.3**
NVR	**Nevrokopi**	**2.61**	**7**	*e*Pn	**Pn**	**15 21 46.3**	**-0.3**

*IDC **31** 15:23:49.4±0.5, 55°.54N×166°.40E, h0km, mb3.8/20, mb1 4.0/22, mb1mx3.9/31, mbtmp3.8/22, ML3.7/2, Error ellipse: s-maj=15.9km s-min=9.5km az=20.0*
*MOS **31** 15:23:49.8±1.0, 55°.47N×166°.40E, h18km, mb4.2/11, Error ellipse: s-maj=11.2km s-min=10.4km az=88.3*
*ISCJB **31** 15:23:50.1±1.0, 55°.47N±0°.06×166°.40E±0°.05, h18km±8km, mb3.8/23, Error ellipse: s-maj=9.3km s-min=4.7km az=4.7*
*NEIC **31** 15:23:50.8±0.3, 55°.53N×166°.39E, h10km, mb4.3/4, Error ellipse: s-maj=9.3km s-min=5.7km az=165.0*
*KRSC **31** 15:23:51.4±0.8, 55°.32N×166°.19E, h21km±21km, ML4.2*
ISC 31 15:23:50.5±1.1, 55°.51N±0°.06×166°.38E±0°.05, h7km±7km, n102, σ1§12/122, mb3.8/23, 3C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**218**	*i* P	**Pg**	**15 23 57.0**	**-0.9**
BKI				*i* S	**Sg**	**15 24 01.7**	**-1.2**
BKI	**Bering**	**0.38**	**218**	PN	**Pg**	**15 23 57.0**	**-0.9**
BKI				S	**Sg**	**15 24 01.7**	**-1.2**
KBTR	**Krutoberegovo**	**2.13**	**291**	*e*P	**Pn**	**15 24 25.7**	**-0.7**
KBTR				*e*S	**Sn**	**15 24 50.8**	**-2.2**
KBTR	**Krutoberegovo**	**2.13**	**291**	PN	**Pn**	**15 24 25.7**	**-0.7**
KBTR				S	**Sn**	**15 24 50.8**	**-2.2**
SMKR	**Semkarok**	**2.96**	**293**	P	**Pn**	**15 24 38.0**	**+0.2**
SMKR				*e*S	**Sn**	**15 25 11.5**	**-2.0**
BDR	**Baidarnaya**	**3.09**	**292**	P	**Pn**	**15 24 41.0**	**+1.4**
BDR				S	**Sn**	**15 25 16.8**	**0.0**
SRKR	**Sorokina**	**3.14**	**294**	P	**Pn**	**15 24 41.5**	**+1.2**
KLY	**Klyuchi**	**3.32**	**286**	P	**Pn**	**15 24 41.9**	**-0.9**
KLY				S	**Sn**	**15 25 19.1**	**-3.4**
KLY	**Klyuchi**	**3.32**	**286**	PN	**Pn**	**15 24 41.9**	**-0.9**
KLY				S	**Sn**	**15 25 19.1**	**-3.4**
KMNR	**Kamenistaya**	**3.49**	**277**	P	**Pn**	**15 24 46.4**	**+1.3**
KMNR				*e*S	**Sn**	**15 25 26.6**	**-0.1**
KPT	**Kopyto**	**3.51**	**280**	P	**Pn**	**15 24 47.2**	**+1.8**
TUMR	**Tumrok**	**3.56**	**269**	*e*P	**Pn**	**15 24 47.4**	**+1.3**
TUMR				S	**Sn**	**15 25 27.2**	**-1.2**
KOZR	**Kozyr**	**3.70**	**281**	PN	**Pn**	**15 24 50.7**	**+2.7**
KOZR				S	**Sn**	**15 25 33.8**	**+1.9**
KOZ	**Kozyrevsk**	**3.72**	**281**	P	**Pn**	**15 24 50.7**	**+2.5**
KOZ				S	**Sn**	**15 25 33.8**	**+1.6**
SRDR	**Sredinnyy**	**3.84**	**285**	P	**Pn**	**15 24 51.3**	**+1.4**
SRDR				S	**Sn**	**15 25 34.2**	**-1.0**
SPN	**Mys Shipunski**	**4.44**	**240**	S	**Sn**	**15 25 44.4**	**-5.6**
FX1	**Attu Island--F**	**4.77**	**121**	Pn	**Pn**	**15 25 00.8**	**-2.0**
	8.6nm,0.3s,baz=100,slow=22,SNR=9.6						
FX1				Sn	**Sn**	**15 25 51.7**	**-6.5**
	9.3nm,0.3s,baz=315,slow=19,SNR=6.2						
FX1	**Attu Island--F**	**4.77**	**121**	Pn	**Pn**	**15 25 00.8**	**-2.0**
FX1				Sn	**Sn**	**15 25 51.7**	**-6.5**
FX1	**Attu Island--F**	**4.77**	**121**	PN	**Pn**	**15 25 00.8**	**-1.9**
FX1				pmax	pmax		
	comp=Z,9.0nm,0.3s						
SDLR	**Sedlovina**	**4.92**	**246**	P	**Pn**	**15 25 04.7**	**0.0**
SDLR				S	**Sn**	**15 25 58.2**	**-3.6**
AVH	**Avacha**	**5.00**	**246**	P	**Pn**	**15 25 05.2**	**-0.6**
KOK	**Koryaka**	**5.04**	**247**	P	**Pn**	**15 25 05.7**	**-0.7**
PET	**Petropavlovsk**	**5.17**	**244**	P	**Pn**	**15 25 07.9**	**-0.2**
PET				S	**Sn**	**15 26 03.1**	**-4.9**
PET	**Petropavlovsk**	**5.17**	**244**	*e*P	**Pn**	**15 25 08.3**	**+0.2**
PET	**Petropavlovsk**	**5.17**	**244**	*e*PN	**Pn**	**15 25 08.3**	**+0.2**
PET				pmax	pmax		
	comp=Z,14nm,0.4s						
PEA0B	**Petropavlovsk-**	**5.62**	**248**	*e*P	**Pn**	**15 25 14.4**	**+0.1**
PETK	**Petropavlovsk-**	**5.62**	**248**	Pn	**Pn**	**15 25 14.5**	**+0.1**
	comp=Z,3.6nm,0.3s,baz=81,slow=17,SNR=39						
PETK				Sn	**Sn**	**15 26 20.6**	**+1.4**
	comp=Z,3.0nm,0.3s,baz=256,slow=24,SNR=9.6						
PETK	**Petropavlovsk-**	**5.62**	**248**	Pn	**Pn**	**15 25 14.5**	**+0.1**
PETK				Sn	**Sn**	**15 26 20.6**	**+1.4**
PETK	**Petropavlovsk-**	**5.62**	**248**	*e*PN	**Pn**	**15 25 14.8**	**+0.4**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YAK	**Yakutsk**	**19.89**	**304**	*e*P	**Pn**	**15 28 22.2**	**-1.5**
	comp=Z,14nm,0.8s						
YAK	**Yakutsk**	**19.89**	**304**	*e*P	**Pn**	**15 28 21.4**	**-2.3**
YAK				pmax	pmax		
	comp=Z,17nm,1.2s						
YAK				pmax	pmax		
	comp=E,13nm,1.5s						
MCK	**McKinley**	**23.58**	**51**	*e*P	**P**	**15 29 00.7**	**-0.8**
MCK	**McKinley**	**23.58**	**51**	*e*P	**P**	**15 29 00.7**	**-0.8**
ILAR	**Eielson Array**	**24.47**	**49**	P	**P**	**15 29 09.8**	**+0.2**
	comp=E,2.5nm,0.9s,mb3.6,baz=253,slow=8.1,SNR=18						
ILAR	**Eielson Array**	**24.47**	**49**	P	**P**	**15 29 09.8**	**+0.2**
ILAR	**Eielson Array**	**24.47**	**49**	P	**P**	**15 29 09.8**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VLA	**Vladivostok**	**25.38**	**255**	*i*P	**P**	**15 29 18.3**	**+0.2**
MJA0	**Matsu Arr-Jizo**	**26.93**	**237**	*e*P	**P**	**15 29 33.6**	**+1.5**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**26.95**	**237**	P	**P**	**15 29 32.1**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.3,baz=30,slow=8.2,SNR=4.1						
MJAR	**Matsushiro Arr**	**26.95**	**237**	P	**P**	**15 29 32.1**	**-0.2**
MJAR	**Matsushiro Arr**	**26.95**	**237**	P	**P**	**15 29 32.1**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**29.67**	**41**	P	**P**	**15 29 56.4**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.7,baz=262,slow=7.1,SNR=3.5						
INK	**Inuvik**	**29.67**	**41**	P	**P**	**15 29 56.4**	**+0.1**
INK	**Inuvik**	**29.67**	**41**	P	**P**	**15 29 56.4**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULN	**Ulaanbaatar**	**36.54**	**283**	P	**P**	**15 30 55.9**	**-0.4**
ULN	**Ulaanbaatar**	**36.54**	**283**	P	**P**	**15 30 55.9**	**-0.4**
SONM	**Songino Array**	**36.92**	**284**	P	**P**	**15 31 01.1**	**+1.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=50,slow=8.5,SNR=4.7						
SONM	**Songino Array**	**36.92**	**284**	P	**P**	**15 31 01.1**	**+1.5**
SONM	**Songino Array**	**36.92**	**284**	P	**P**	**15 31 01.1**	**+1.5**
YKA	**Yellowknife Ar**	**38.85**	**47**	P	**P**	**15 31 16.2**	**+0.4**
	comp=Z,0.2nm,0.7s,mb3.0,baz=293,slow=7.6,SNR=4.4						
YKA	**Yellowknife Ar**	**38.85**	**47**	P	**P**	**15 31 16.2**	**+0.4**
YKA	**Yellowknife Ar**	**38.85**	**47**	P	**P**	**15 31 16.2**	**+0.5**
ZALV	**Zalesovo Beam**	**44.55**	**304**	P	**P**	**15 32 01.7**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=52,slow=5.7,SNR=2.2						
ZALV				PcP	PcP	15 33 44.7	-0.6
	comp=Z,0.3nm,0.3s,baz=329,slow=2.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**44.55**	**304**	P	**P**	**15 32 01.7**	**-0.7**
ZALV				PcP	PcP	15 33 44.7	-0.6
ZALV	**Zalesovo Beam**	**44.55**	**304**	P	**P**	**15 32 01.7**	**-0.7**
ZALV						15 33 44.7	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
KURK	**Kurchatov**	**49.54**	**303**	P	**P**	**15 32 41.8**	**+0.4**
	comp=Z,3.4nm,0.7s,mb4.5,baz=54,slow=7.7,SNR=30						
KURK	**Kurchatov**	**49.54**	**303**	*e*P	**P**	**15 32 41.2**	**-0.2**
	comp=Z,3.9nm,0.8s,mb4.5						
KURK	**Kurchatov**	**49.54**	**303**	⇓*i*P	**P**	**15 32 40.2**	**-1.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**50.37**	**297**	*e*P	**P**	**15 32 47.0**	**-0.8**
MK31	**Makanchi Array**	**50.37**	**297**	*e*P	**P**	**15 32 47.0**	**-0.8**
MKAR	**Makanchi Array**	**50.37**	**297**	P	**P**	**15 32 47.1**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.1,baz=51,slow=6.3,SNR=28						
MKAR	**Makanchi Array**	**50.37**	**297**	P	**P**	**15 32 47.1**	**-0.7**
MKAR	**Makanchi Array**	**50.37**	**297**	*e*P	**P**	**15 32 47.1**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**51.51**	**76**	P	**P**	**15 32 56.0**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=318,slow=6.1,SNR=3.1						
NVAR	**Mina Array Bea**	**51.51**	**76**	P	**P**	**15 32 56.0**	**-0.6**
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**15 32 56.6**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=52,slow=7.7,SNR=11						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**15 32 56.6**	**-1.2**
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**15 32 56.6**	**-1.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**51.74**	**310**	*e*P	**P**	**15 32 57.8**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.74**	**310**	*c i*P	**P**	**15 32 58.0**	**0.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**53.15**	**66**	P	**P**	**15 33 10.0**	**+1.4**
	comp=Z,0.3nm,0.9s,mb3.2,baz=11,slow=6.4,SNR=2.4						
PDAR	**Pinedale Array**	**53.15**	**66**	P	**P**	**15 33 10.0**	**+1.4**
ARU	**Arti**	**54.05**	**319**	*e*P	**P**	**15 33 15.2**	**+0.2**
ARU						15 35 17.9	
ARU				S	**S**	**15 40 49.0**	**-2.0**
ARU				SS	SS	15 44 30.0	-1.6
AAK	**Ala-Archa**	**57.24**	**299**	⇑*e*P	**P**	**15 33 38.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AKTO	**Aktyubinsk**	**58.83**	**315**	P	**P**	**15 33 48.7**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.9,baz=51,slow=7.3,SNR=5.1						
AKTO	**Aktyubinsk**	**58.83**	**315**	P	**P**	**15 33 48.7**	**-0.4**
AKTO	**Aktyubinsk**	**58.83**	**315**	P	**P**	**15 33 48.7**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ABKAR	**Akbulak array**	**58.95**	**313**	*e*P	**P**	**15 33 49.6**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.8						
FINES	**FINESS Array B**	**59.27**	**339**	P	**P**	**15 33 51.3**	**-0.8**
	comp=Z,7.3nm,1.1s,mb4.6,baz=36,slow=7.3,SNR=2.8						
FINES	**FINESS Array B**	**59.27**	**339**	P	**P**	**15 33 51.3**	**-0.8**
FINES	**FINESS Array B**	**59.27**	**339**	P	**P**	**15 33 51.3**	**-0.8**
FINES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NOA	**NORSAR Array B**	**62.15**	**347**	P	**P**	**15 34 10.6**	**-1.0**
	comp=Z,0.8nm,0.8s,mb3.9,baz=17,slow=6.8,SNR=3.1						
NOA	**NORSAR Array B**	**62.15**	**347**	P	**P**	**15 34 10.6**	**-1.0**
NOA	**NORSAR Array B**	**62.15**	**347**	P	**P**	**15 34 10.6**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**62.23**	**262**	P	**P**	**15 34 13.4**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.6,baz=50,slow=6.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**62.23**	**262**	P	**P**	**15 34 13.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**62.23**	**262**	P	**P**	**15 34 13.4**	**+0.7**
TXAR	**Lajitas Array**	**66.34**	**72**	P	**P**	**15 34 40.6**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=302,slow=5.2,SNR=9.2						
TXAR	**Lajitas Array**	**66.34**	**72**	P	**P**	**15 34 40.6**	**+1.0**
TXAR	**Lajitas Array**	**66.34**	**72**	P	**P**	**15 34 40.6**	**+1.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**68.32**	**332**	P	**P**	**15 34 51.4**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=24,slow=6.2,SNR=4.0						
AKASG	**Malin Array Be**	**68.32**	**332**	P	**P**	**15 34 51.4**	**-0.5**
AKASG	**Malin Array Be**	**68.32**	**332**	P	**P**	**15 34 51.4**	**-0.4**
GERES	**GERESS Array B**	**73.53**	**342**	P	**P**	**15 35 23.7**	**+0.2**
	comp=Z,0.3nm,0.8s,mb3.3,baz=15,slow=8.3,SNR=3.4						
GERES	**GERESS Array B**	**73.53**	**342**	P	**P**	**15 35 23.7**	**+0.2**
GERES	**GERESS Array B**	**73.53**	**342**	P	**P**	**15 35 23.7**	**+0.2**
WRA	**Warramunga Arr**	**79.93**	**210**	P	**P**	**15 36 00.6**	**+0.8**
	comp=Z,0.5nm,0.9s,mb3.4,baz=20,slow=6.0,SNR=3.0						
WRA	**Warramunga Arr**	**79.93**	**210**	P	**P**	**15 36 00.6**	**+0.8**
WRA	**Warramunga Arr**	**79.93**	**210**	P	**P**	**15 36 00.6**	**+0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**83.58**	**210**	P	**P**	**15 36 20.7**	**+1.6**
	comp=Z,0.4nm,0.9s,mb3.6,baz=22,slow=6.9,SNR=4.2						
ASAR	**Alice Springs**	**83.58**	**210**	P	**P**	**15 36 20.6**	**+1.6**
ASAR	**Alice Springs**	**83.58**	**210**	*e*P	**P**	**15 36 21.9**	**+2.9**

*ISCJB **31** 15:25:21.5±0.5, 40°.28N±0°.03×27°.31E±0°.03, h3km±7km, Error ellipse: s-maj=6.3km s-min=3.9km az=26.5*
*ISK **31** 15:25:21.2, 40°.28N×27°.31E, h5km, MD2.7*
*DDA **31** 15:25:21.2, 40°.28N×27°.35E, h7km±3km, Md2.9*
*CSEM **31** 15:25:21.8±0.1, 40°.29N×27°.32E, h2km, MD2.7, Error ellipse: s-maj=2.3km s-min=1.5km az=32.0*
ISC 31 15:25:21.9±0.5, 40°.29N±0°.03×27°.31E±0°.03, h5km±10km, n29, σ0§42/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.11**	**354**	*e*PG	**Pg**	**15 25 24.2**	**0.0**
KRBG				*e*SG	**Sg**	**15 25 26.4**	**+0.7**
KRBG	**Karabiga-Canak**	**0.11**	**354**	*e*Pg	**Pg**	**15 25 24.2**

comp=Z,0.1nm,0.3s
KKAR Karatay Array 6.00 349 *e*PN **Pn 15 34 17.7 -0.9**
CHMS Chumysh 6.15 19 P **Pn 15 34 20.4 -0.1**
SNR=16
CHMS P 15 34 20.4
SNR=16
TKM2 Tokmak 2 6.33 24 P **Pn 15 34 23.3 +0.5**
SNR=6.6
TKM2 P 15 34 23.3
SNR=6.6
TKM2 Tokmak 2 6.33 24 ⇓Pn **Pn 15 34 23.2 +0.3**
comp=Z,6.7nm,0.8s
TKM2 ⇑Pg **Pn 15 34 40.1 +17**
comp=Z,3.9nm,0.6s
TKM2 ⇑Sn **Sn 15 35 35.8 +1.7**
comp=Z,18nm,1.4s
TKM2 ⇓Lg 15 35 56.7
comp=Z,14nm,0.6s
TKM2 Tokmak 2 6.33 24 *e*Pn **Pn 15 34 23.1 +0.3**
comp=Z,4.4nm,0.4s
TKM2 Tokmak 2 6.33 24 *e*PN **Pn 15 34 23.1 +0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.4s
USP Ospenovka 6.34 17 P **Pn 15 34 22.7 -0.4**
SNR=20
USP P 15 34 22.7
SNR=20
KUDL Kundal 9.78 156 *e*PKP **Pn 15 35 07.5 -1.5**
KUDL *e*S **Sn 15 36 48.5 -9.0**
SONA Sohna 9.89 153 *e*x x 15 34 59.7
SONA *e*S **Sn 15 36 50.8 -9.2**
AGRA Agra 11.13 152 *e*PKP **Pn 15 35 23.5 -3.3**
AGRA *e*S **Sn 15 37 19.8 -10**
MK31 Makanchi Array 12.23 35 P **Pn 15 35 43.5 +2.5**
comp=Z,1.4nm,0.8s,baz=214,slow=13,SNR=8.2
MK31 Makanchi Array 12.23 35 P **Pn 15 35 37.9 -3.1**
MK31 Makanchi Array 12.23 35 P **Pn 15 35 37.9 -3.1**
MKAR Makanchi Array 12.23 35 P **Pn 15 35 40.0 -1.0**
comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=7.5
MKAR Makanchi Array 12.23 35 P **Pn 15 35 40.0 -1.0**
MKAR Makanchi Array 12.23 35 P **Pn 15 35 40.0 -1.0**
DANN Dangsing 13.23 128 *e*P **Pn 15 35 53.7 -0.3**
comp=Z,10nm,0.3s
DANN Dangsing 13.23 128 *e*P **Pn 15 35 53.7 -0.3**
comp=Z,10nm,0.3s
KOLN Koldanda 13.55 131 *e*P **Pn 15 35 57.4 -0.6**
comp=Z,6.9nm,0.3s
KOLN Koldanda 13.55 131 *e*P **Pn 15 35 57.4 -0.6**
comp=Z,6.9nm,0.3s
GKN Gorkha 14.03 127 *e*P **Pn 15 36 03.4 -0.6**
comp=Z,20nm,0.4s
GKN Gorkha 14.03 127 *e*P **Pn 15 36 03.4 -0.6**
comp=Z,20nm,0.4s
KURBB Kurchatov Arra 14.20 17 P **Pn 15 36 07.8 +1.8**
comp=Z,0.7nm,1.0s
KURK Kurchatov 14.30 17 P **Pn 15 36 03.1 -4.2**
comp=Z,0.0nm,0.3s,baz=210,slow=12,SNR=6.1
KURK Kurchatov 14.30 17 ⇑P **Pn 15 36 09.7 +2.4**
comp=Z,6.3nm,1.1s
KURK Kurchatov 14.30 17 *e*P **Pn 15 36 09.7 +2.4**
comp=Z,5.0nm,1.0s
KURK Kurchatov 14.30 17 *e*P **Pn 15 36 09.7 +2.4**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KKN Kakani 14.58 126 *e*P **Pn 15 36 11.0 0.0**
comp=Z,9.0nm,0.5s
KKN Kakani 14.58 126 *e*P **Pn 15 36 11.0 0.0**
comp=Z,9.0nm,0.5s
KKN Kakani 14.58 126 *e*P **Pn 15 36 11.0 0.0**
KKN pmax pmax
comp=Z,9.0nm,0.5s
DMN Daman 14.60 127 *e*P **Pn 15 36 11.0 -0.2**
comp=Z,8.5nm,0.3s
DMN Daman 14.60 127 *e*P **Pn 15 36 11.0 -0.2**
comp=Z,8.5nm,0.3s
PKI Pulchoki 14.82 127 *e*P **Pn 15 36 14.6 +0.7**
comp=Z,15nm,0.5s
PKI Pulchoki 14.82 127 *e*P **Pn 15 36 14.6 +0.7**
comp=Z,15nm,0.5s
PKI Pulchoki 14.82 127 *e*P **Pn 15 36 14.6 +0.7**
PKI pmax pmax
comp=Z,15nm,0.5s
GUN Gumba 14.89 125 *e*P **Pn 15 36 14.6 -0.3**
comp=Z,14nm,0.4s
GUN Gumba 14.89 125 *e*P **Pn 15 36 14.6 -0.3**
comp=Z,14nm,0.4s
AB31 Akbulak array 14.90 328 ⇑Pn **Pn 15 36 13.6 -1.1**
comp=Z,4.1nm,0.4s,baz=140,slow=13,SNR=366
AB31 ⇑Sn **Sn 15 38 42.9 -17**
comp=Z,3.0nm,0.5s,baz=127,slow=25,SNR=2.5
ABKAR Akbulak array 14.90 328 *e*P **Pn 15 36 13.6 -1.1**
comp=Z,8.7nm,0.4s
JIRN Jiri 15.26 125 *e*P **Pn 15 36 19.5 0.0**
comp=Z,25nm,0.4s
JIRN Jiri 15.26 125 *e*P **Pn 15 36 19.5 0.0**
comp=Z,25nm,0.4s
VOSK Vostochnaya 15.53 358 ⇑P **Pn 15 36 20.5 -2.1**
comp=Z,4.6nm,0.8s
BVA0 Borovoye Array 15.86 356 ⇓P **Pn 15 36 24.8 -1.8**
comp=Z,1.2nm,1.1s,baz=165,slow=12,SNR=4.1
BVAR Borovoye Array 15.86 356 P **Pn 15 36 24.8 -1.7**
comp=Z,0.8nm,0.3s,baz=165,slow=12,SNR=17
BVAR Borovoye Array 15.86 356 P **Pn 15 36 24.8 -1.7**
BVAR Borovoye Array 15.86 356 P **Pn 15 36 24.8 -1.7**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
ZRNK Zerenda 15.89 353 ⇑P **Pn 15 36 27.7 +0.8**
comp=Z,3.4nm,0.8s
BRVK Borovoye 15.90 356 ⇓P **Pn 15 36 25.5 -1.5**
comp=Z,10nm,0.8s
BRVK Borovoye 15.90 356 *e*P **Pn 15 36 25.4 -1.6**
BRVK Borovoye 15.90 356 *e*P **Pn 15 36 25.4 -1.6**
RAMN Ramite 16.01 126 *e*P **Pn 15 36 29.6 +0.9**
comp=Z,16nm,0.6s
RAMN Ramite 16.01 126 *e*P **Pn 15 36 29.6 +0.9**
comp=Z,16nm,0.6s
TAPN Taplejung 16.48 122 *e*P **Pn 15 36 35.0 +0.6**
comp=Z,3.9nm,0.3s
TAPN Taplejung 16.48 122 *e*P **Pn 15 36 35.0 +0.6**
comp=Z,3.9nm,0.3s
ODAN Odare 16.59 124 *e*P **Pn 15 36 36.8 +1.1**
comp=Z,8.8nm,0.5s
ODAN Odare 16.59 124 *e*P **Pn 15 36 36.8 +1.1**
comp=Z,8.8nm,0.5s
AKTO Aktyubinsk 16.61 327 P **Pn 15 36 35.3 -0.4**
comp=Z,1.1nm,0.3s,baz=138,slow=8.9,SNR=40
AKTO S **S 15 39 28.6 -12**
comp=Z,0.3nm,0.3s,baz=335,slow=23,SNR=8.4
AKTO Aktyubinsk 16.61 327 ⇑Pn **Pn 15 36 34.5 -1.2**
comp=Z,1.1nm,0.9s
AKTO ⇓Sn **Sn 15 39 28.4 -13**
comp=Z,1.0nm,0.9s
AKTO Aktyubinsk 16.61 327 P **Pn 15 36 35.3 -0.3**
AKTO S **S 15 39 28.6 -12**
AKTO Aktyubinsk 16.61 327 P **Pn 15 36 35.3 -0.4**
AKTO S **S 15 39 28.6 -12**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 18.93 24 *e*P **P 15 37 00.9 +0.1**
ZALV Zalesovo Beam 18.93 24 P **P 15 37 01.5 +0.7**
comp=Z,0.9nm,0.3s,baz=221,slow=10,SNR=18
ZALV Zalesovo Beam 18.93 24 P **P 15 37 01.5 +0.7**
ZALV Zalesovo Beam 18.93 24 P **P 15 37 01.5 +0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
NVS Novosibirsk 19.23 20 *e*P **P 15 37 01.2 -2.9**
SONM Songino Array 27.25 56 P **P 15 38 22.8 +1.2**
comp=Z,0.3nm,0.4s,mb3.3,baz=271,slow=9.5,SNR=2.5
SONM Songino Array 27.25 56 P **P 15 38 22.8 +1.2**
SONM Songino Array 27.25 56 P **P 15 38 22.8 +1.2**
FINES FINESS Array B 37.37 325 P **P 15 39 49.9 +0.5**
comp=Z,7.0nm,1.1s,mb4.2,baz=122,slow=9.3,SNR=11
FINES FINESS Array B 37.37 325 P **P 15 39 49.9 +0.5**
FINES FINESS Array B 37.37 325 P **P 15 39 49.9 +0.5**
FINES pmax pmax
comp=Z,7.0nm,1.1s
ARCES ARCESS Array B 40.81 337 P **P 15 40 19.0 +1.1**
comp=Z,5.7nm,0.9s,mb4.2,baz=108,slow=8.6,SNR=4.2
ARCES ARCESS Array B 40.81 337 P **P 15 40 19.0 +1.1**
ARCES ARCESS Array B 40.81 337 P **P 15 40 19.0 +1.1**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
NOA NORSAR Array B 44.32 323 P **P 15 40 46.5 +0.2**
comp=Z,1.0nm,0.8s,mb3.5,baz=91,slow=7.1,SNR=2.9
NOA NORSAR Array B 44.32 323 P **P 15 40 46.5 +0.2**
NOA NORSAR Array B 44.32 323 P **P 15 40 46.5 +0.2**

ESDC Sonseca Array 57.86 298 P **P 15 42 27.9 +0.4**
comp=Z,0.2nm,0.4s,mb3.3,baz=60,slow=6.3,SNR=3.4
ESDC Sonseca Array 57.86 298 P **P 15 42 27.9 +0.4**
ILAR Eielson Array 73.87 16 P **P 15 44 09.9 +0.4**
comp=Z,0.5nm,0.9s,mb3.2,baz=316,slow=3.8,SNR=4.8
ILAR Eielson Array 73.87 16 P **P 15 44 09.9 +0.4**
ILAR Eielson Array 73.87 16 P **P 15 44 09.9 +0.4**
YKA Yellowknife Ar 80.50 3 P **P 15 44 47.0 +0.5**
comp=Z,0.2nm,0.2s,mb3.3,baz=348,slow=5.7,SNR=6.8
YKA Yellowknife Ar 80.50 3 P **P 15 44 47.0 +0.6**
YKA Yellowknife Ar 80.50 3 P **P 15 44 47.0 +0.6**

IDC 31 15:34:33.3±10.0, 12°.60S×166°.68E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=288.5km s-min=50.1km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.96**	**246**	P	P	15 41 09.6	-0.4
	0.4nm,1.1s,baz=63,slow=9.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**73.57**	**294**	P	P	15 46 09.7	+0.9
	0.3nm,0.7s,baz=127,slow=5.7,SNR=4.8						
SONM	**Songino Array**	**80.45**	**324**	P	P	15 46 47.4	+0.5
	0.2nm,0.3s,baz=130,slow=7.1,SNR=3.2						
MKAR	**Makanchi Array**	**95.28**	**317**	P	P	15 47 58.0	-1.1
	0.4nm,0.4s,baz=108,slow=4.2,SNR=14						

*IDC **31** 15:46:15.9±0.9, 31°.83N×79°.78E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/29, mbtmp3.8/13, ML3.2/2, Error ellipse: s-maj=28.9km s-min=16.6km az=57.0*
*ISCJB **31** 15:46:20.3±0.7, 31°.99N±0°.05×79°.94E±0°.04, h37km±9km, mb3.7/15, Error ellipse: s-maj=9.1km s-min=5.3km az=24.1*
*NEIC **31** 15:46:22.5±1.0, 31°.96N×79°.91E, h42km±9km, mb3.6/4, Error ellipse: s-maj=16.8km s-min=6.1km az=64.0*
*NDI **31** 15:46:23.6±2.8, 31°.93N×79°.76E, h33km, ML3.7, mb3.6(NEIC)*
ISC 31 15:46:22.5±0.5, 31°.96N±0°.05×79°.89E±0°.04, h42km±8km, n66, σ1s05/70, mb3.7/15, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**2.27**	**224**	*e*PKP	**Pn**	**15 46 58.0**	**+0.5**
DDI				*e*x	x	15 47 31.0	
SMLA	**Simla**	**2.47**	**251**	*i* P	**Pn**	**15 46 58.8**	**-1.4**
SMLA				*i* x	**Sn**	**15 47 31.2**	**+2.1**
SMLA				AML	AML	15 47 36.6	
	comp=N,2μm,0.4s						
SMLA				AML	AML	15 47 38.0	
	comp=E,2μm,0.4s						
SDNR	**Sundarnagar**	**2.53**	**260**	*e*PKP	**Pn**	**15 47 01.0**	**-0.1**
SDNR				*e*x	x	15 47 38.0	
BHK	**Bhakra**	**3.01**	**261**	*e*PKP	**Pn**	**15 47 09.0**	**+1.4**
THN	**Thein Dam**	**3.57**	**279**	*e*x	**Pn**	**15 47 12.0**	**-3.3**
NDI	**New Delhi**	**4.00**	**216**	*e*PKP	**Pn**	**15 47 22.5**	**+1.2**
NDI				*e*S	**Sn**	**15 48 20.0**	**+13**
NDI	**New Delhi**	**4.00**	**216**	*e*PKP	**Pn**	**15 47 22.5**	**+1.2**
NDI				*e*x	x	15 48 20.0	
SONA	**Sohna**	**4.42**	**214**	*e*PKP	**Pn**	**15 47 27.5**	**+0.4**
SONA				*e*S	**Sn**	**15 48 13.6**	**-3.8**
KUDL	**Kundal**	**4.81**	**219**	*e*PKP	**Pn**	**15 47 31.1**	**-1.3**
KUDL				*e*S	**Sn**	**15 48 23.0**	**-3.9**
KUDL				AML	AML	15 48 55.3	
	comp=E,46nm,0.7s						
KUDL				AML	AML	15 48 55.6	
	comp=N,40nm,0.5s						
DANN	**Dangsing**	**4.92**	**136**	*e*P	**Pn**	**15 47 34.7**	**+0.8**
DANN	**Dangsing**	**4.92**	**136**	*e*P	**Pn**	**15 47 34.7**	**+0.8**
KOLN	**Koldanda**	**5.28**	**141**	*e*P	**Pn**	**15 47 38.6**	**-0.2**
	comp=N,9.3nm,0.4s						
KOLN	**Koldanda**	**5.28**	**141**	*e*P	**Pn**	**15 47 38.6**	**-0.2**
	comp=N,9.3nm,0.4s						
GKN	**Gorkha**	**5.70**	**133**	*e*P	**Pn**	**15 47 44.7**	**0.0**
	comp=N,20nm,0.6s						
GKN	**Gorkha**	**5.70**	**133**	*e*P	**Pn**	**15 47 44.7**	**0.0**
	comp=N,20nm,0.6s						
CHCP	**Chirah Chowk**	**5.83**	**289**	P	**Pn**	**15 47 45.6**	**-0.8**
KKN	**Kakani**	**6.26**	**130**	*e*P	**Pn**	**15 47 51.9**	**-0.4**
	comp=N,7.6nm,0.5s						
KKN	**Kakani**	**6.26**	**130**	*e*P	**Pn**	**15 47 51.9**	**-0.4**
	comp=N,7.6nm,0.5s						
DMN	**Daman**	**6.27**	**132**	*e*P	**Pn**	**15 47 52.8**	**+0.3**
	comp=N,9.3nm,0.5s						
DMN	**Daman**	**6.27**	**132**	*e*P	**Pn**	**15 47 52.8**	**+0.3**
	comp=N,9.3nm,0.5s						
PKI	**Pulchoki**	**6.49**	**131**	*e*P	**Pn**	**15 47 56.6**	**+1.1**
	comp=N,12nm,0.5s						
PKI	**Pulchoki**	**6.49**	**131**	*e*P	**Pn**	**15 47 56.6**	**+1.1**
	comp=N,12nm,0.5s						
GUN	**Gumba**	**6.58**	**126**	*e*P	**Pn**	**15 47 57.8**	**+1.1**
	comp=N,14nm,0.5s						
GUN	**Gumba**	**6.58**	**126**	*e*P	**Pn**	**15 47 57.8**	**+1.1**
	comp=N,14nm,0.5s						
JIRN	**Jiri**	**6.95**	**126**	*e*P	**Pn**	**15 48 02.5**	**+0.7**
	comp=N,22nm,0.5s						
JIRN	**Jiri**	**6.95**	**126**	*e*P	**Pn**	**15 48 02.5**	**+0.7**
	comp=N,22nm,0.5s						
CEP	**Cherat**	**6.96**	**288**	P	**Pn**	**15 48 01.7**	**-0.3**
RAMN	**Ramite**	**7.69**	**129**	*e*P	**Pn**	**15 48 11.1**	**-0.9**
	comp=N,13nm,0.7s						
RAMN	**Ramite**	**7.69**	**129**	*e*P	**Pn**	**15 48 11.1**	**-0.9**
	comp=N,13nm,0.7s						
TAPN	**Taplejung**	**8.21**	**122**	*e*P	**Pn**	**15 48 18.5**	**-0.6**
	comp=N,5.3nm,0.3s						
TAPN	**Taplejung**	**8.21**	**122**	*e*P	**Pn**	**15 48 18.5**	**-0.6**
	comp=N,5.3nm,0.3s						
ODAN	**Odare**	**8.28**	**126**	*e*P	**Pn**	**15 48 19.9**	**-0.2**
	comp=N,19nm,1.0s						
ODAN	**Odare**	**8.28**	**126**	*e*P	**Pn**	**15 48 19.9**	**-0.2**
	comp=N,19nm,1.0s						
MK31	**Makanchi Array**	**14.93**	**6**	P	**Pn**	**15 49 49.3**	**-1.2**
MKAR	**Makanchi Array**	**14.93**	**6**	Pn	**Pn**	**15 49 48.5**	**-2.1**
	comp=N,0.1nm,0.3s,baz=190,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**14.93**	**6**	Pn	**Pn**	**15 49 48.5**	**-2.1**
KURK	**Kurchatov**	**18.76**	**357**	P	**Pn**	**15 50 35.4**	**-3.2**
	comp=N,0.1nm,0.3s,baz=181,slow=11,SNR=6.4						
KURK	**Kurchatov**	**18.76**	**357**	*e*P	**Pn**	**15 50 36.8**	**-1.8**
CM31	**Chiang Mai Arr**	**21.82**	**124**	*e*P	**P**	**15 51 10.3**	**-0.9**
	comp=N,3.4nm,0.8s,mb3.8						
CMAR	**Chiang Mai Arr**	**21.82**	**124**	P	**P**	**15 51 10.4**	**-0.8**
	comp=N,3.8nm,0.8s,mb3.9,baz=312,slow=10,SNR=40						
CMAR	**Chiang Mai Arr**	**21.82**	**124**	P	**P**	**15 51 10.4**	**-0.8**
BVAR	**Borovoye Array**	**22.15**	**345**	P	**P**	**15 51 14.5**	**+0.1**
	comp=N,0.6nm,0.4s,mb3.4,baz=154,slow=13,SNR=9.7						
BVAR	**Borovoye Array**	**22.15**	**345**	P	**P**	**15 51 14.5**	**+0.1**
ZAA0	**Zalesovo Array**	**22.26**	**8**	*e*P	**P**	**15 51 17.3**	**+1.7**
ZALV	**Zalesovo Beam**	**22.26**	**8**	P	**P**	**15 51 16.5**	**+0.9**
	comp=N,6.4nm,0.7s,mb4.1,baz=199,slow=9.4,SNR=37						
ZALV	**Zalesovo Beam**	**22.26**	**8**	P	**P**	**15 51 16.5**	**+0.9**
ABKAR	**Akbulak array**	**22.86**	**325**	*e*P	**P**	**15 51 24.7**	**+2.7**
	comp=N,1.3nm,0.7s,mb3.5						
AKTO	**Aktyubinsk**	**24.57**	**325**	P	**P**	**15 51 39.1**	**+0.8**
	comp=N,1.5nm,0.7s,mb3.6,baz=119,slow=9.2,SNR=7.1						
AKTO	**Aktyubinsk**	**24.57**	**325**	P	**P**	**15 51 39.1**	**+0.8**
SONM	**Songino Array**	**25.61**	**44**	P	**P**	**15 51 49.2**	**+1.4**
	comp=N,1.0nm,0.6s,mb3.5,baz=240,slow=9.9,SNR=6.3						
SONM	**Songino Array**	**25.61**	**44**	P	**P**	**15 51 49.2**	**+1.4**
ULN	**Ulaanbaatar**	**26.02**	**44**	*e*P	**P**	**15 51 52.7**	**+1.2**
	comp=N,0.8nm,0.6s,mb3.4						
FINES	**FINESS Array B**	**45.32**	**327**	P	**P**	**15 54 36.1**	**+0.1**
	comp=N,5.2nm,1.0s,mb4.3,baz=97,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**45.32**	**327**	P	**P**	**15 54 36.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.23**	**275**	P	**P**	**15 57 48.7**	**-0.9**
	comp=N,1.0nm,0.8s,mb3.8,baz=63,slow=5.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**73.23**	**275**	P	**P**	**15 57 48.7**	**-0.9**
WRA	**Warramunga Arr**	**73.36**	**127**	P	**P**	**15 57 50.1**	**-0.1**
	comp=N,0.9nm,0.7s,mb3.8,baz=328,slow=5.7,SNR=5.6						
WRA	**Warramunga Arr**	**73.36**	**127**	P	**P**	**15 57 50.1**	**-0.1**
WRAB	**Tennant Creek**	**73.36**	**127**	*e*P	**P**	**15 57 50.0**	**-0.2**
	comp=N,2.6nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**73.37**	**127**	*e*P	**P**	**15 57 49.9**	**-0.3**
ASAR	**Alice Springs**	**75.66**	**130**	P	**P**	**15 58 03.3**	**-0.2**
	comp=N,0.5nm,0.7s,mb3.5,baz=316,slow=5.9,SNR=8.0						
ASAR	**Alice Springs**	**75.66**	**130**	P	**P**	**15 58 03.3**	**-0.2**
ILAR	**Eielson Array**	**76.91**	**19**	P	**P**	**15 58 09.4**	**-0.6**
	comp=N,0.2nm,0.7s,mb3.2,baz=327,slow=6.5,SNR=4.5						
ILAR	**Eielson Array**	**76.91**	**19**	P	**P**	**15 58 09.4**	**-0.6**
YKA	**Yellowknife Ar**	**85.16**	**7**	P	**P**	**15 58 53.3**	**-0.6**
	comp=N,0.4nm,0.8s,mb3.6,baz=339,slow=5.7,SNR=3.4						
YKA	**Yellowknife Ar**	**85.16**	**7**	P	**P**	**15 58 53.3**	**-0.6**

*IDC **31** 16:12:13.9±1.4, 31°.77N×79°.72E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.4/27, mbtmp3.4/6, ML2.8/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/33, Error ellipse: s-maj=30.8km s-min=26.5km az=59.0*
*ISCJB **31** 16:12:18.5±0.6, 31°.99N±0°.05×79°.94E±0°.07, h33km, mb3.4/5, Error ellipse: s-maj=10.2km s-min=4.9km az=41.3*
*NEIC **31** 16:12:18.9±1.2, 31°.84N×79°.75E, h35km, mb3.2/1, Error ellipse: s-maj=26.3km s-min=16.3km az=71.0*
*NDI **31** 16:12:31.5±4.0, 31°.44N×79°.05E, h33km, ML3.1, mb3.2(NEIC)*
ISC 31 16:12:18.9±1.3, 31°.99N±0°.05×79°.93E±0°.07, h23km±11km, n24, σ1s23/28, mb3.4/5, 2D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**2.31**	**225**	*e*PKP	**Pn**	**16 12 55.0**	**-0.5**
DDI				*e*x	**Sb**	**16 13 27.5**	**-0.5**
SMLA	**Simla**	**2.51**	**251**	*i* P	**Pn**	**16 12 56.7**	**-1.6**
SMLA				*i* x	**Sn**	**16 13 28.7**	**+0.5**
SMLA				⇓AML	AML	16 13 36.7	
	comp=N,1μm,0.5s						
SMLA				⇓AML	AML	16 13 37.3	
	comp=E,1μm,0.4s						
SDNR	**Sundarnagar**	**2.57**	**260**	*e*PKP	**Pn**	**16 13 02.0**	**+2.9**
SDNR				*e*x	**Sb**	**16 13 35.6**	**+0.1**
NDI	**New Delhi**	**4.04**	**216**	*e*x	**Pb**	**16 13 29.5**	**+0.1**
SONA	**Sohna**	**4.47**	**214**	*e*PKP	**Pn**	**16 13 25.9**	**+0.7**
SONA				*e*x	**Sb**	**16 14 25.2**	**-4.8**
KUDL	**Kundal**	**4.85**	**219**	*e*PKP	**Pb**	**16 13 44.0**	**+0.8**
KUDL				*e*S	**Sn**	**16 14 27.1**	**+1.1**
KUDL				AML	AML	16 14 52.8	
	comp=N,9.5nm,0.5s						
KUDL				AML	AML	16 14 53.2	
	comp=E,11nm,0.5s						
THW	**Thamme Wali**	**6.97**	**279**	P	**Pn**	**16 13 57.0**	**-2.6**
CEP	**Cherat**	**6.99**	**287**	P	**Pn**	**16 14 00.0**	**+0.1**
MK31	**Makanchi Array**	**14.90**	**6**	*e*P	**Pn**	**16 15 48.2**	**+0.2**
MKAR	**Makanchi Array**	**14.90**	**6**	Pn	**Pn**	**16 15 47.3**	**-0.7**
	comp=E,0.0nm,0.3s,baz=190,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**14.90**	**6**	Pn	**Pn**	**16 15 47.3**	**-0.7**
KURK	**Kurchatov**	**18.74**	**357**	*e*P	**Pn**	**16 16 31.9**	**-4.6**
	comp=E,1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.80**	**124**	P	**P**	**16 17 07.7**	**-1.7**
	comp=E,1.3nm,0.8s,mb3.4,baz=312,slow=10,SNR=15						
CMAR	**Chiang Mai Arr**	**21.80**	**124**	P	**P**	**16 17 07.7**	**-1.7**
BVAR	**Borovoye Array**	**22.13**	**345**	P	**P**	**16 17 11.6**	**-1.1**
	comp=E,0.4nm,0.4s,mb3.2,baz=149,slow=13,SNR=5.2						
BVAR	**Borovoye Array**	**22.13**	**345**	P	**P**	**16 17 11.6**	**-1.1**
ZAA0	**Zalesovo Array**	**22.23**	**8**	*e*P	**P**	**16 17 15.5**	**+1.8**
ZALV	**Zalesovo Beam**	**22.23**	**8**	P	**P**	**16 17 14.9**	**+1.2**
	comp=E,2.2nm,0.6s,mb3.8,baz=197,slow=9.3,SNR=19						
ZALV	**Zalesovo Beam**	**22.23**	**8**	P	**P**	**16 17 14.9**	**+1.2**
SONM	**Songino Array**	**25.57**	**44**	P	**P**	**16 17 47.5**	**+1.5**
	comp=E,0.5nm,0.6s,mb3.2,baz=229,slow=12,SNR=3.7						
SONM	**Songino Array**	**25.57**	**44**	P	**P**	**16 17 47.5**	**+1.5**
JOW	**Kunigami**	**42.15**	**84**	LR	LR	16 37 57.1	
	comp=E,153nm,18.7s,baz=136,slow=36						
TORD	**Torodi Ar. Bea**	**73.27**	**275**	P	**P**	**16 23 46.8**	**-2.0**
	comp=E,0.4nm,0.7s,mb3.4,baz=48,slow=5.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**73.27**	**275**	P	**P**	**16 23 46.8**	**-2.0**

GUC 31 16:29:17.9±0.3, 27°.77S×69°.81W, h71km±4km, MD3.3, ML3.5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.63**	**310**	*e*P	Pn	16 29 32.2	+0.1
CPCH				*e*S	Sn	16 29 43.3	+0.7
CPCH				AML	AML	16 29 43.6	
	comp=E,25μm,0.1s						
CDCH	**Caldera**	**1.14**	**308**	*e*P	Pn	16 29 38.3	+0.2
CDCH				*e*S	Sn	16 29 53.9	+0.7
CDCH				AML	AML	16 29 54.5	
	comp=N,564nm,0.2s						
LCO	**Las Campanas**	**1.46**	**212**	*e*P	Pn	16 29 43.3	+1.0
LCO				*e*S	Sn	16 30 02.8	+1.9
TLL	**Tololo Astrono**	**2.54**	**200**	*e*P	Pn	16 29 58.1	+1.2
TLL				*e*S	Sn	16 30 28.3	+1.6
TLL				AML	AML	16 30 32.4	
	comp=E,85nm,0.8s						

IDC 31 16:44:10.9±1.5, 12°.21N×143°.80E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=143.7km s-min=20.4km az=115.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.73**	**37**	Pn	Pn	16 44 41.3	-0.8
	17nm,0.3s,baz=230,slow=6.8,SNR=20						
GUMO				Sn	Sn	16 45 02.4	-2.5
	15nm,0.3s,baz=7.3,slow=22,SNR=8.4						
WRA	**Warramunga Arr**	**33.28**	**196**	P	P	16 50 49.9	-0.4
	0.4nm,0.6s,baz=17,slow=9.9,SNR=5.3						
ASAR	**Alice Springs**	**36.94**	**195**	P	P	16 51 21.8	0.0
	0.1nm,0.5s,baz=22,slow=12,SNR=4.4						
ILAR	**Eielson Array**	**70.26**	**25**	P	P	16 55 25.2	-0.4
	0.1nm,0.5s,baz=258,slow=6.0,SNR=5.0						
YKA	**Yellowknife Ar**	**84.56**	**27**	P	P	16 56 47.1	+1.3
	0.3nm,0.4s,baz=293,slow=5.2,SNR=6.2						

MAN 31 16:55:03, 11°.19N×124°.41E, h16km, mb4.1, ML2.8, MS2.5, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.24**	**124**	*e*P	Pg	16 55 09.4	+1.0
OCLP				*e*S	Sg	16 55 13.4	+1.4
LLP	**Lapu-Lapu**	**0.97**	**207**	⇑*i*P	Pb	16 55 21.0	-0.4
LLP				*i* S	Sb	16 55 35.4	+1.5
MSLP	**Maasin**	**1.14**	**157**	*e*P	Pn	16 55 25.7	+1.5
MSLP				*e*S	Sb	16 55 39.9	+1.1
GUIM	**Jordan**	**1.87**	**253**	*e*P	Pn	16 55 34.5	+0.2

*ISCJB **31** 16:57:08.0±1.9, 19°.10N±0°.08×145°.8E±0°.4, h217km±16km, mb3.4/8, Error ellipse: s-maj=56.7km s-min=13.1km az=178.8*
*IDC **31** 16:57:09.0±3.2, 19°.09N×145°.74E, h206km±21km, mb3.2/7, mb1 3.4/9, mb1mx3.1/26, mbtmp3.2/9, MS3.5/1, Ms1 3.5/1, ms1mx2.2/14, Error ellipse: s-maj=86.1km s-min=12.8km az=

KURK	Kurchatov	61.14 318	P	P	17 07 00.1	-0.8
	0.2nm,0.3s,mb3.2,baz=92,slow=7.5,SNR=6.6					
KURK	Kurchatov	61.14 318	P	P	17 07 00.1	-0.8
BVAR	Borovoye Array	66.32 320	P	P	17 07 35.2	+0.6
	0.3nm,0.3s,mb3.4,baz=98,slow=6.3,SNR=3.1					
BVAR	Borovoye Array	66.32 320	P	P	17 07 35.2	+0.6
FINES	FINESS Array B	86.64 335	P	P	17 09 26.9	-1.4
	4.5nm,1.0s,mb4.2,baz=69,slow=6.3,SNR=5.8					
FINES	FINESS Array B	86.64 335	P	P	17 09 26.9	-1.4

*NEIC **31** 17:12:22.1, 35°.99S×178°.28E, h204km, MG3.7(WEL), After WEL.*

WEL 31 17:12:22.4±0.3, 35°.97S×178°.21E, h198km±3km, ML3.7/9, Error ellipse: s-maj=6.0km s-min=4.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.59**	**177**	PN	Pn	17 12 56.9	+0.2
MXZ				SN	Sn	17 13 23.4	-0.1
MXZ	**Matakaoa Point**	**1.59**	**177**	Pn	Pn	17 12 56.9	+0.2
MXZ				Sn	Sn	17 13 23.6	+0.1
PUZ	**Puketiti**	**2.10**	**179**	PN	Pn	17 13 01.7	0.0
PUZ				SN	Sn	17 13 31.7	-0.8
PUZ	**Puketiti**	**2.10**	**179**	Pn	Pn	17 13 01.7	0.0
MWZ	**Matawai**	**2.42**	**193**	PN	Pn	17 13 05.5	+0.3
MWZ				SN	Sn	17 13 38.7	-0.1
MWZ	**Matawai**	**2.42**	**193**	Pn	Pn	17 13 05.9	+0.7
MWZ				Sn	Sn	17 13 38.9	+0.1
URZ	**Urewera**	**2.44**	**201**	PN	Pn	17 13 05.8	+0.3
URZ				SN	Sn	17 13 39.3	+0.1
URZ	**Urewera**	**2.44**	**201**	Pn	Pn	17 13 05.8	+0.3
CNGZ	**Carnagh Statio**	**2.51**	**180**	PN	Pn	17 13 06.7	+0.5
CNGZ	**Carnagh Statio**	**2.51**	**180**	Pn	Pn	17 13 06.7	+0.5
PRGZ	**Paritu Road**	**2.96**	**185**	PN	Pn	17 13 11.6	+0.2
PRGZ	**Paritu Road**	**2.96**	**185**	Pn	Pn	17 13 11.6	+0.2
KNZ	**Kokohu**	**3.07**	**188**	PN	Pn	17 13 12.5	-0.2
KNZ	**Kokohu**	**3.07**	**188**	Pn	Pn	17 13 12.5	-0.2
RAHZ	**Arahi**	**3.07**	**197**	PN	Pn	17 13 13.2	+0.5
RAHZ	**Arahi**	**3.07**	**197**	Pn	Pn	17 13 13.2	+0.5
NMHZ	**Naumai**	**3.31**	**199**	PN	Pn	17 13 16.3	+0.7
NMHZ	**Naumai**	**3.31**	**199**	Pn	Pn	17 13 16.3	+0.7
BKZ	**Black Stump Fm**	**3.47**	**203**	PN	Pn	17 13 17.6	+0.1
BKZ	**Black Stump Fm**	**3.47**	**203**	Pn	Pn	17 13 17.6	+0.1
MCHZ	**McNeill Hill**	**3.67**	**199**	PN	Pn	17 13 20.0	+0.1
MCHZ	**McNeill Hill**	**3.67**	**199**	Pn	Pn	17 13 20.0	+0.1
CKHZ	**Cape Kidnapper**	**3.79**	**193**	PN	Pn	17 13 20.6	-0.7
CKHZ	**Cape Kidnapper**	**3.79**	**193**	Pn	Pn	17 13 20.6	-0.7
BHHZ	**Black Hill Sta**	**3.90**	**205**	PN	Pn	17 13 22.0	-0.8
BHHZ	**Black Hill Sta**	**3.90**	**205**	Pn	Pn	17 13 22.0	-0.8
MOVZ	**Moawhango**	**3.94**	**209**	PN	Pn	17 13 22.8	-0.5
MOVZ	**Moawhango**	**3.94**	**209**	Pn	Pn	17 13 22.9	-0.5
PXZ	**Pawanui**	**4.19**	**194**	PN	Pn	17 13 25.3	-1.1
PXZ	**Pawanui**	**4.19**	**194**	Pn	Pn	17 13 25.3	-1.1
PNHZ	**Pukenui**	**4.24**	**201**	Pn	Pn	17 13 23.2	-3.8
PRHZ	**Porangahau**	**4.46**	**196**	PN	Pn	17 13 28.8	-1.0
PRHZ	**Porangahau**	**4.46**	**196**	Pn	Pn	17 13 28.8	-1.0
BFZ	**Birch Farm**	**4.95**	**198**	PN	Pn	17 13 34.4	-1.5
BFZ	**Birch Farm**	**4.95**	**198**	Pn	Pn	17 13 34.5	-1.5
MRZ	**Mangatainoka R**	**5.12**	**203**	PN	Pn	17 13 36.4	-1.8
MRZ	**Mangatainoka R**	**5.12**	**203**	Pn	Pn	17 13 36.4	-1.8
HOWZ	**Holdsworth Sta**	**5.35**	**202**	PN	Pn	17 13 38.9	-2.3
HOWZ	**Holdsworth Sta**	**5.35**	**202**	Pn	Pn	17 13 38.9	-2.3
OGWZ	**Otaki Gorge**	**5.39**	**205**	PN	Pn	17 13 39.9	-1.8
OGWZ	**Otaki Gorge**	**5.39**	**205**	Pn	Pn	17 13 39.9	-1.8
TCW	**Tory Channel**	**6.07**	**209**	PN	Pn	17 13 47.9	-2.6
TCW	**Tory Channel**	**6.07**	**209**	Pn	Pn	17 13 47.9	-2.6
NNZ	**Nelson**	**6.46**	**214**	PN	Pn	17 13 53.2	-2.2
NNZ	**Nelson**	**6.46**	**214**	Pn	Pn	17 13 53.2	-2.2
THZ	**Tophouse**	**7.11**	**214**	PN	Pn	17 14 01.7	-2.2
THZ	**Tophouse**	**7.11**	**214**	Pn	Pn	17 14 01.7	-2.2
KHZ	**Kahutara**	**7.38**	**208**	PN	Pn	17 14 04.8	-2.7
KHZ	**Kahutara**	**7.38**	**208**	Pn	Pn	17 14 04.8	-2.7

NNC 31 17:12:50.7±4.8, 37°.21N×70°.35E, h0km, mb3.8, mpv3.7, 1C-3D, Error ellipse: s-maj=37.7km s-min=36.4km az=72.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.88**	**1**	Pn	Pn	17 14 22.2	+3.1
	1.7nm,0.3s,baz=180,slow=13,SNR=127						
KK31				⇓Sn	Sn	17 15 34.0	+6.7
	2.1nm,0.5s,baz=186,slow=22,SNR=14						
TKM2	**Tokmak 2**	**6.98**	**34**	⇓Pn	Pn	17 14 33.3	-0.8
	12nm,1.4s						
TKM2				⇑Sn	Sn	17 15 54.5	+0.4
	3.0nm,0.8s						
AB31	**Akbulak array**	**14.21**	**331**	Pn	Pn	17 16 12.8	-0.2
	0.2nm,0.3s,baz=146,slow=13,SNR=17						
AB31				⇓Sn	Sn	17 18 52.9	+1.6
	2.1nm,1.2s						

IGQ 31 17:15:08.3, 1°.31N×78°.90W, h16km±2km, Mb4.0, Ms3.8, 5C-6D, Error ellipse: s-maj=3.3km s-min=2.5km az=151.8, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTA	**Cotacachi**	**1.12**	**150**	⇓S	Sb	17 15 45.0	+1.3
COTA	**Cotacachi**	**1.12**	**150**	⇓P	Pb	17 15 30.9	+1.5
GOLV	**Golondrinas**	**1.12**	**192**	P	Pb	17 15 29.8	+0.4
OTAV	**Otavalo**	**1.16**	**157**	⇑P	Pn	17 15 31.2	+1.4
OTAV	**Otavalo**	**1.16**	**157**	⇑S	Sb	17 15 46.1	+1.4
YANA	**Yana**	**1.46**	**167**	S	Sn	17 15 55.3	+2.5
YANA	**Yana**	**1.46**	**167**	P	Pn	17 15 36.5	+2.5
PINO	**Pino**	**1.49**	**169**	⇓P	Pn	17 15 37.2	+2.7
TERV	**Terraza Guagua**	**1.51**	**169**	S	Sn	17 15 56.7	+2.7
TERV	**Terraza Guagua**	**1.51**	**169**	P	Pn	17 15 37.2	+2.5
GGP	**Refugio Guagua**	**1.51**	**168**	⇓S	Sn	17 15 55.8	+1.8
GGP	**Refugio Guagua**	**1.51**	**168**	⇓P	Pn	17 15 37.0	+2.3
CAYA	**Cayambe**	**1.53**	**144**	P	Pn	17 15 37.0	+2.0
JUA2	**San Juan 2**	**1.54**	**169**	P	Pn	17 15 37.6	+2.4
JUA2	**San Juan 2**	**1.54**	**169**	S	Sn	17 15 56.5	+1.6
CAYR	**Refugio Cayamb**	**1.57**	**145**	P	Pn	17 15 38.1	+2.6
CHAR	**Charly**	**1.85**	**139**	P	Pn	17 15 42.1	+2.6
CONE	**Cono NE Rev Vo**	**1.86**	**138**	P	Pn	17 15 41.5	+1.9
ANTI	**Antisana**	**1.90**	**157**	P	Pn	17 15 42.7	+2.7
PITA	**Cotopaxi Volc**	**1.92**	**166**	P	Pn	17 15 43.0	+2.7
VC1	**Cotopaxi 1**	**2.00**	**166**	⇓P	Pn	17 15 44.6	+3.1
BVC2	**Cotopaxi Volca**	**2.02**	**166**	⇑P	Pn	17 15 44.9	+3.2
BREF	**Cotopaxi Volca**	**2.02**	**167**	⇑S	Sn	17 16 12.4	+5.7
BREF	**Cotopaxi Volca**	**2.02**	**167**	⇑P	Pn	17 15 45.0	+3.2
BTAM	**Cotopaxi Volca**	**2.04**	**166**	P	Pn	17 15 45.0	+3.0
COV1	**Cotopaxi Volc**	**2.04**	**164**	P	Pn	17 15 45.2	+3.2
COV1	**Cotopaxi Volc**	**2.04**	**164**	S	Sn	17 16 12.6	+5.4
JAMA	**Jama**	**2.04**	**220**	S	Sn	17 16 09.7	+2.6
JAMA	**Jama**	**2.04**	**220**	P	Pn	17 15 43.2	+1.2
BMOR	**Cotopaxi Volca**	**2.08**	**168**	P	Pn	17 15 45.4	+2.8
PISA	**Pisayambo**	**2.41**	**168**	P	Pn	17 15 50.6	+3.5
CHIS	**Cerro-Chispas-**	**2.98**	**218**	S	Sn	17 16 31.9	+1.6
CHIS	**Cerro-Chispas-**	**2.98**	**218**	P	Pn	17 15 55.9	+1.0

FUNV 31 17:15:22.7, 10°.05N×69°.99W, h5km, MW3.6, 3C-5D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.05**	**138**	⇓*i*P	Pg	17 15 23.9	0.0
CURV				*e*S	Sg	17 15 25.2	+0.4
QARV	**Quebrada Arrib**	**0.55**	**287**	⇓*e*P	Pg	17 15 32.9	-0.3
QARV				*e*S	Sg	17 15 40.4	+0.1
SIQV	**Siquisique**	**0.62**	**17**	⇑*e*P	Pg	17 15 34.5	-0.2
SIQV				*e*S	Sg	17 15 43.7	+0.8
SANV	**Sanarito**	**0.71**	**140**	⇓*e*P	Pg	17 15 35.2	-1.0
TEPV	**Terepaima**	**0.79**	**96**	⇓*e*P	Pg	17 15 37.3	-0.7
TEPV				*e*S	Sg	17 15 47.9	-0.4
DABV	**Dabajuro**	**1.07**	**324**	*e*P	Pg	17 15 43.1	-0.2
DABV				*e*S	Sg	17 15 58.0	+0.7
MAPV	**Macapo**	**1.53**	**98**	*e*P	Pn	17 15 50.5	-0.2
MAPV				*e*S	Sn	17 16 10.2	-0.8
JACV	**Jacura**	**1.54**	**48**	*e*P	Pn	17 15 51.2	+0.3
VIGV	**El Vigia**	**1.81**	**229**	*e*P	Pn	17 15 54.4	-0.1
VIGV				*e*S	Sn	17 16 17.4	-0.5
MONV	**Montecano**	**1.90**	**1**	*e*P	Pn	17 15 54.5	-1.3
SOCV	**Socops**	**1.95**	**206**	*e*P	Pn	17 15 56.1	-0.4
SOCV				*e*S	Sn	17 16 20.8	-0.6
TURV	**Turiamo**	**2.16**	**79**	*e*P	Pn	17 15 58.2	-1.2
BAUV	**El Baul**	**2.22**	**120**	*e*P	Pn	17 15 60.0	-0.2
BAUV				*e*S	Sn	17 16 26.9	-1.1
VIRV	**Villa del Rosa**	**2.42**	**281**	⇓*e*P	Pn	17 16 01.7	-1.2
VIRV				*e*S	Sn	17 16 31.3	-1.7
IMOV	**Isla Los Monje**	**2.46**	**339**	⇑*e*P	Pn	17 16 03.1	-0.5
ELOV	**Elorza**	**3.07**	**171**	⇑*e*P	Pn	17 16 11.3	-0.6
FUNV	**FUNVISIS**	**3.16**	**82**	*e*P	Pn	17 16 13.2	0.0
MERV	**Las Mercedes**	**3.73**	**102**	*e*P	Pn	17 16 19.8	-1.3
CUPV	**Cepira**	**4.14**	**90**	*e*P	Pn	17 16 26.1	-0.6
PCRV	**Puerto La Cruz**	**5.28**	**88**	*e*P	Pn	17 16 41.5	-0.8

*ISCJB **31** 17:21:50.3±0.7, 16°.49N±0°.09×93°.79W±0°.05, h129km±10km, mb3.5/3, Error ellipse: s-maj=14.1km s-min=7.6km az=4.1*
*NEIC **31** 17:21:51.4±0.7, 16°.37N×93°.76W, h127km±11km, MD4.2(MEX), Error ellipse: s-maj=18.8km s-min=8.6km az=197.0*
*IDC **31** 17:21:52.0±1.7, 16°.52N×93°.73W, h127km±8km, mb3.3/3, mb1 3.7/6, mb1mx3.3/23, mbtmp3.4/6, Error ellipse: s-maj=30.7km s-min=14.0km az=2.0*
*MEX **31** 17:22:02.3±0.7, 16°.34N×94°.47W, h70km±12km, MD4.2*

ISC 31 17:21:51.5±0.6, 16°.44N±0°.08×93°.78W±0°.05, h124km±9km, n28, σ1°.28/46, mb3.7/3, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.24**	**302**	P	Pn	17 22 17.3	+1.0
	52nm,0.3s,baz=114,slow=7.1,SNR=683						
CMIG				S	Sn	17 22 36.2	+1.0
	156nm,0.3s,baz=334,slow=19,SNR=38						
CMIG	**Matias Romero**	**1.24**	**302**	P	Pn	17 22 17.3	+1.0
CMIG				*e*S	Sn	17 22 29.4	-5.8
CMIG				S	Sn	17 22 36.2	+1.0
CMIG	**Matias Romero**	**1.24**	**302**	*i* P	Pn	17 22 17.6	+1.3
CMIG				*e*S	Sn	17 22 29.4	-5.8
HUIG	**Huatulco**	**2.34**	**254**	*i* P	Pn	17 22 28.2	-1.2
HUIG				*e*S	Sn	17 22 48.8	-10
HUIG	**Huatulco**	**2.34**	**254**	*i* P	Pn	17 22 28.2	-1.2
HUIG				*e*S	Sn	17 22 48.8	-10
OXX	**Oaxaca**	**2.90**	**283**	*i* P	Pn	17 22 37.4	+0.9
OXX				*e*S	Sn	17 23 03.1	-8.2
OXX	**Oaxaca**	**2.90**	**283**	*i* P	Pn	17 22 37.4	+0.9
OXX				*e*S	Sn	17 23 03.1	-8.2
VHO	**Vista Hermosa**	**2.90**	**283**	*i* P	Pn	17 22 36.1	-0.5
VHO				*e*S	Sn	17 23 03.5	-8.0
VHO	**Vista Hermosa**	**2.90**	**283**	*i* P	Pn	17 22 36.1	-0.5
VHO				*e*S	Sn	17 23 03.5	-8.0
TPIG	**Tehuac#an**	**3.95**	**300**	*i* P	Pn	17 22 52.4	+1.9
TPIG				*e*S	Sn	17 23 33.4	-2.7
TPIG	**Tehuac#an**	**3.95**	**300**	*i* P	Pn	17 22 52.4	+1.9
TPIG				*e*S	Sn	17 23 33.4	-2.7
UTMO	**Huajuapan**	**4.09**	**290**	*i* P	Pn	17 22 54.6	+2.3
UTMO				*e*S	Sn	17 23 34.7	-4.8
UTMO	**Huajuapan**	**4.09**	**290**	*i* P	Pn	17 22 54.6	+2.3
UTMO				*e*S	Sn	17 23 34.7	-4.8
PNIG	**Pinotepa**	**4.18**	**270**	*i* P	Pn	17 22 53.2	-0.3
PNIG				*e*S	Sn	17 23 33.0	-8.6
PNIG	**Pinotepa**	**4.18**	**270**	*i* P	Pn	17 22 53.2	-0.3
PNIG				*e*S	Sn	17 23 33.0	-8.6
TEIG	**Tepich**	**6.44**	**53**	P	Pn	17 23 23.4	-0.5
	1.5nm,0.3s,baz=235,slow=3.4,SNR=10						
TEIG				S	Sn	17 24 35.8	-0.2
	1.7nm,0.3s,baz=48,slow=21,SNR=8.6						
TEIG	**Tepich**	**6.44**	**53**	P	Pn	17 23 23.4	-0.5
TEIG				S	Sn	17 24 35.9	-0.2
TGUH	**Tegucigalpa,Un**	**6.71**	**110**	P	Pn	17 23 26.8	-0.8
JTS	**JuntasAbangare**	**10.54**	**124**	P	Pn	17 24 19.8	+0.6
	1.7nm,0.3s,baz=310,slow=18,SNR=5.5						
JTS	**JuntasAbangare**	**10.54**	**124**	P	Pn	17 24 19.8	+0.6
TXAR	**Lajitas Array**	**15.73**	**326**	P	Pn	17 25 27.7	+1.5
	0.1nm,0.3s,baz=155,slow=14,SNR=7.1						
TXAR	**Lajitas Array**	**15.73**	**326**	P	Pn	17 25 27.7	+1.5
NVAR	**Mina Array Bea**	**30.71**	**320**	P	P	17 27 56.8	+2.1
	0.8nm,0.7s,mb3.6,baz=140,slow=8.5,SNR=7.4						
NVAR	**Mina Array Bea**	**30.71**	**320**	P	P	17 27 56.8	+2.1
YKA	**Yellowknife Ar**	**48.27**	**347**	P	P	17 30 18.3	-1.4
	1.0nm,0.5s,mb3.9,baz=153,slow=7.3,SNR=16						
YKA	**Yellowknife Ar**	**48.27**	**347**	P	P	17 30 18.3	-1.4
ILAR	**Eielson Array**	**59.93**	**337**	P	P	17 31 43.5	-0.7
	0.2nm,0.4s,mb3.5,baz=142,slow=5.6,SNR=8.5						
ILAR	**Eielson Array**	**59.93**	**337**	P	P	17 31 43.5	-0.7

IDC 31 17:24:17.8±7.2, 18°.82S×176°.35W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/16, mbtmp3.4/2, Error ellipse: s-maj=307.8km s-min=114.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.40**	**260**	P	P	17 32 46.8	+0.4
	0.3nm,0.3s,baz=96,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**46.44**	**255**	P	P	17 32 46.1	-0.5
	0.1nm,0.3s,baz=89,slow=8.2,SNR=14						
AKASG	**Malin Array Be**	**142.26**	**333**	PKP	PKPdf	17 43 51.5	-0.5
	0.8nm,0.4s,baz=41,slow=4.4,SNR=7.2						

IDC 31 17:40:36.4±2.0, 6°.40S×129°.87E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=89.6km s-min=30.9km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.14**	**163**	Pn	Pn	17 43 56.4	-1.7
	0.2nm,0.3s,baz=342,slow=14,SNR=17						
WRA				Sn	Sn	17 46 29.5	-6.4
	0.3nm,0.3s,baz=357,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**17.60**	**168**	P	Pn	17 44 44.6	+1.5
	0.1nm,0.3s,baz=353,slow=14,SNR=14						
ASAR				S	Sn	17 47 54.9	-5.1
	0.1nm,0.3s,baz=360,slow=29,SNR=5.1						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	17 51 35.4	+0.1
	0.2nm,0.4s,baz=117,slow=8.3,SNR=7.7						

*IDC **31** 18:01:42.3±1.9, 43°.18N×105°.09W, h0km, mb1 3.7/3, mb1mx3.3/27, mbtmp3.4/3, ML2.6/2, Error ellipse: s-maj=43.0km s-min=9.2km az=154.0*
*NEIC **31** 18:01:42.6±0.5, 43°.34N×105°.09W, h0km, ML3.4, Error ellipse: s-maj=7.4km s-min=6.2km az=150.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] NNE of Douglas.
*ISCJB **31** 18:01:43.5±0.2, 43°.56N±0°.02×105°.25W±0°.02, h0km, Error ellipse: s-maj=2.6km s-min=2.1km az=154.6*

ISC 31 18:01:44.4±0.2, 43°.57N±0°.02×105°.25W±0°.02, h0km, n103, σ0°.92/115, 33C-34D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.27**	**233**	⇑P	Pg	18 01 49.9	+0.2
	baz=0.2,SNR=502						
J23A				⇓S	Sg	18 01 52.5	-0.6
	baz=0.2						
I23A	**Meade Ranch, G**	**0.42**	**339**	⇑P	Pg	18 01 52.4	0.0
	baz=0.4,SNR=81						
I23A				⇑S	Sg	18 01 58.5	+0.5
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.49**	**119**	⇑P	Pg	18 01 53.7	-0.2
	baz=0.5,SNR=451						
J24A				⇓S	Sg	18 02 01.2	+0.9
	baz=0.5						
K24A	**Anderson Ranch**	**0.90**	**159**	⇑P	Pg	18 02 01.2	-0.6
	baz=0.9,SNR=44						
J22A	**Midwest**	**0.91**	**261**	⇓P	Pg	18 02 00.9	-0.8
	baz=0.9,SNR=75						
I22A	**9 Mile Ranch,**	**0.95**	**290**	⇓P	Pg	18 02 01.9	-0.7
	baz=0.9,SNR=207						
H23A	**Clabaugh Cattl**	**1.00**	**354**	⇓P	Pg	18 02 02.5	-1.1
	baz=1.0,SNR=19						
RSSD	**Black Hills**	**1.04**	**57**	*e*P	Pg	18 02 03.0	-1.4
H24A	**Dirks Ranch, A**	**1.28**	**23**	⇓P	Pg	18 02 07.1	-1.9
	baz=1.3						
H22A	**Clearmont**	**1.29**	**323**	⇓P	Pg	18 02 08.4	-0.8
	baz=1.3,SNR=41						
K22A	**Casper**	**1.31**	**226**	⇑P	Pg	18 02 08.1	-1.3
	baz=1.3,SNR=89						
K25A	**Mack Ranch, Ha**	**1.39**	**133**	⇑P	Pn	18 02 10.6	-0.4
	baz=1.4,SNR=323						
L23A	**Garrett**	**1.49**	**193**	⇑P	Pn	18 02 11.4	-1.0
	baz=1.5,SNR=50						
I21A	**Big Trails, Te**	**1.50**	**280**	⇓P	Pn	18 02 11.2	-1.3
	baz=1.5,SNR=511						
I21A				⇑S	Sg	18 02 32.2	-0.4
	baz=1.5						
L24A	**Wheatland**	**1.54**	**171**	⇓P	Pn	18 02 12.2	-0.9
	baz=1.5,SNR=53						
L24A				⇓S	Sn	18 02 34.0	+0.1
	baz=1.5						
J21A	**Lysite**	**1.61**	**263**	⇑P	Pn	18 02 13.2	-0.9
	baz=1.6,SNR=91						
G23A	**Biddle**	**1.64**	**357**	⇓P	Pn	18 02 14.1	-0.4
	baz=1.6,SNR=174						
H21A	**Big Horn, Sher**	**1.67**	**310**	⇑P	Pn	18 02 14.7	-0.2
	baz=1.7,SNR=125						
L25A	**Engebretsen Ra**	**1.70**	**146**	⇓Pb	Pb	18 02 16.0	-0.5
	baz=1.7,SNR=41						
K21A	**Alcova**	**1.74**	**238**	⇓P	Pn	18 02 15.5	-0.3
	baz=1.7,SNR=71						
K21A				⇓Sg	Sg	18 02 40.6	+0.4
	baz=1.7						
K26A	**Motz Farm, Whi**	**1.75**	**119**	⇑P	Pn	18 02 16.3	+0.3
	baz=1.8,SNR=52						
G22A	**Birney**	**1.81**	**336**	⇓P	Pn	18 02 16.8	-0.1
	baz=1.8,SNR=27						
G22A				⇑Sb	Sb	18 02 42.8	+1.2
	baz=1.8						
G24A	**Alzada**	**1.86**	**19**	⇑P	Pn	18 02 17.7	+0.2
	baz=1.9,SNR=23						
J20A	**Shoshoni**	**2.07**	**265**	⇑Pb	Pb	18 02 22.0	-0.9
	baz=2.0						
J20A				⇑Sg	Sg	18 02 51.3	+0.3
	baz=2.0						
I20A	**Worland**	**2.12**	**281**	⇑P	Pn	18 02 21.7	+0.7
	baz=2.1						
I20A				⇓Sb	Sb	18 02 51.2	+0.7
	baz=2.1						
M24A	**Cheyenne**	**2.12**	**171**	⇑P	Pn	18 02 21.8	+0.7
	baz=2.1						
M23A	**Laramie**	**2.13**	**190**	⇓Pb	Pb	18 02 22.7	-1.1
	baz=2.1						
M23A				⇑Sb	Sb	18 02 51.6	+0.8
	baz=2.1						
F23A	**Volborg**	**2.15**	**357**	⇑P	Pn	18 02 21.1	-0.4
	baz=2.2,SNR=49						
F23A				⇑Sb	Sb	18 02 52.7	+1.2
	baz=2.2						
G21A	**Lodge Grass**	**2.17**	**320**	⇓P	Pn	18 02 21.5	-0.2
	baz=2.2,SNR=52						
H20A	**Greybull**	**2.18**	**296**	⇑Pb	Pb	18 02 23.7	-1.0
	baz=2.2						
H20A				⇑Sb	Sb	18 02 52.5	+0.1
	baz=2.2						
L26A	**Underwood Farm**	**2.21**	**133**	⇓Sb	Sb	18 02 54.8	+1.6
	baz=2.2						
PHWY	**Pilot Hill**	**2.27**	**184**	*e*Pg	Pg	18 02 23.4	-4.6
F22A	**Rosebud**	**2.32**	**342**	⇑Sb	Sb	18 02 57.4	+1.0
	baz=2.3						
RWWY	**Rawlins**	**2.37**	**218**	*e*Pg	Pg	18 02 26.4	-3.5
K27A	**Flueckinger Fa**	**2.37**	**110**	⇑Sb	Sb	18 02 59.3	+1.5
	baz=2.4						
K20A	**Yellowstone Ra**	**2.44**	**249**	⇓Sb	Sb	18 02 59.9	+0.3
	baz=2.4						
G20A	**Bridger**	**2.69**	**309**	⇓P	Pn	18 02 28.2	-0.7
	baz=2.7,SNR=28						
H19A	**Powell**	**2.90**	**294**	⇓P	Pn	18 02 32.1	+0.2
	baz=2.9						
E22A	**Miles City**	**2.91**	**351**	⇑P	Pn	18 02 31.2	-0.8
	baz=2.9						
F20A	**Billings**	**3.04**	**318**	P	Pn	18 02 33.0	-0.7
	baz=3.0,SNR=34						
LAO	**LASA Array**	**3.19**	**348**	*e*P	Pn	18 02 35.9	+0.1
BW06	**Boulder Array**	**3.25**	**257**	*e*P	Pn	18 02 37.3	+0.7
PDAR	**Pinedale Array**	**3.25**	**257**	Pn	Pn	18 02 37.0	+0.5
	5.8nm,0.3s,baz=78,slow=18,SNR=56						
PDAR				Lg		18 03 26.1	
	19nm,0.3s,baz=71,slow=35,SNR=13						
PDAR	**Pinedale Array**	**3.25**	**257**	Pn	Pn	18 02 37.0	+0.5
PDAR				Lg		18 03 26.1	
PD02	**Pinedale Array**	**3.25**	**257**	*e*P	Pn	18 02 36.6	-0.1
PD01	**Pinedale Array**	**3.26**	**257**	*e*P	Pn	18 02 37.0	+0.1
RLMT	**Red Lodge**	**3.27**	**300**	*e*P	Pn	18 02 36.9	0.0
F19A	**Roth Farm, Mol**	**3.48**	**312**	⇑P	Pn	18 02 39.6	-0.2
	baz=3.5,SNR=48						
G18A	**Lazy EL Ranch,**	**3.55**	**301**	⇓P	Pn	18 02 40.8	+0.1
	baz=3.5,SNR=16						
OGNE	**Ogallala**	**3.55**	**137**	*e*P	Pn	18 02 34.1	-6.6
E20A	**Meyer Farm, Mu**	**3.57**	**326**	⇓P	Pn	18 02 40.6	-0.5
	baz=3.6						
D23A	**Lindsay**	**3.60**	**1**	⇑P	Pn	18 02 41.8	+0.3
	baz=3.6						
D24A	**Glendive**	**3.61**	**10**	⇓P	Pn	18 02 41.8	+0.3
	baz=3.6						
ISCO	**Idaho Springs**	**3.77**	**184**	*e*P	Pn	18 02 45.0	+1.2
E19A	**Rath Farm, Rou**

S17A	Black Ridge (B	7.27	217	⇓P		Pn	18 03 31.8 -0.1
	baz=7.2,SNR=10						
AGMN	Agassiz Nation	8.07	51	eP		Pn	18 03 42.6 -0.3
	8.4nm,0.4s						
ULM	Lac du Bonnet	9.26	41	Pn		Pn	18 03 57.5 -1.6
	0.9nm,0.3s,baz=230,slow=13,SNR=8.3						
ULM				Pg		Pn	18 04 30.6 +31
	0.9nm,0.3s,baz=230,slow=16,SNR=4.9						
ULM				Lg			18 06 37.2
	0.6nm,0.3s,baz=319,slow=19,SNR=2.9						
ULM	Lac du Bonnet	9.26	41	Pn		Pn	18 03 57.5 -1.6
ULM				Pg		Pn	18 04 30.6 +31
ULM				Lg			18 06 37.2
WUAZ	Wupatki	9.32	212	eP		Pn	18 04 03.1 +3.0
NVAR	Mina Array Bea	11.11	247	Pn		Pn	18 04 26.2 +1.6
	0.0nm,0.3s,baz=64,slow=12,SNR=3.6						
NVAR	Mina Array Bea	11.11	247	Pn		Pn	18 04 26.2 +1.6

IDC 31 18:07:31.0±2.1, 6°44S×129°47E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.4/15, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=92.9km s-min=27.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.18	198	Pn	Pn	18 10 27.3	+1.4
	0.1nm,0.3s,baz=32,slow=13,SNR=2.7						
FITZ				Sn	Sn	18 12 31.8	-11
	0.1nm,0.3s,baz=4.8,slow=12,SNR=3.1						
WRA	Warramunga Arr	14.23	161	Pn	Pn	18 10 52.8	-1.2
	0.1nm,0.3s,baz=341,slow=13,SNR=7.2						
WRA				Sn	Sn	18 13 20.6	-12
	0.1nm,0.3s,baz=337,slow=22,SNR=5.0						
ASAR	Alice Springs	17.65	166	P	Pn	18 11 38.4	-0.2
	0.1nm,0.3s,baz=342,slow=9.5,SNR=6.7						
MKAR	Makanchi Array	67.47	327	P	P	18 18 28.8	+0.1
	0.1nm,0.6s,baz=116,slow=6.7,SNR=3.7						

IDC 31 18:15:49.6±1.0, 22°53S×175°10W, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.5/20, mbtmp4.5/14, ML4.3/1, Error ellipse: s-maj=37.4km s-min=18.1km az=147.0
ISCJB 31 18:15:58.7±2.6, 22°7S±0°1×175°2W±0°1, h80km±21km, mb4.4/18, Error ellipse: s-maj=20.2km s-min=16.2km az=23.4
NEIC 31 18:15:59.7±2.4, 22°68S×175°11W, h78km±19km, mb4.8/6, Error ellipse: s-maj=18.7km s-min=14.7km az=121.0
ISC 31 18:15:59.8±2.3, 22°8S±0°1×175°1W±0°1, h79km±18km, n59, σ1§15/40, mb4.5/18, 3C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.13	307	eP	Pn	18 17 55.8	+0.6
	38nm,0.8s						
RAR	Rarotonga	14.31	87	Pn	Pn	18 19 02.4	-16
	2.7nm,0.3s,baz=254,slow=11,SNR=5.8						
RAR	Rarotonga	14.31	87	Pn	Pn	18 19 02.5	-16
URZ	Urewera	16.84	202	Pn	Pn	18 19 50.8	+0.3
	1.1nm,0.3s,baz=243,slow=2.4,SNR=5.7						
URZ	Urewera	16.84	202	Pn	Pn	18 19 50.8	+0.3
PAE	Paea	24.47	83	eT		18 46 11.8	
	6.0nm,0.4s						
PPT2	Papeete2	24.49	83	eLR	LR	18 27 04.0	
	114nm,22.5s						
CTA	Charters Tower	36.00	267	P	P	18 22 52.8	-0.7
	2.3nm,0.3s,mb4.6,baz=105,slow=10,SNR=8.1						
CTA	Charters Tower	36.00	267	P	P	18 22 52.8	-0.7
CTAO	Charters Tower	36.00	267	eP	P	18 22 52.9	-0.6
PMG	Port Moresby	38.48	284	eP	P	18 23 12.8	-1.7
	13nm,0.9s,mb4.8,baz=104,slow=4.4,SNR=9.2						
PMG	Port Moresby	38.48	284	eP	P	18 23 13.2	-1.3
	15nm,1.0s,mb4.8						
STKA	Stephens Creek	39.32	247	P	P	18 23 20.7	-0.6
	2.2nm,0.6s,mb4.1,baz=110,slow=6.6,SNR=9.5						
STKA	Stephens Creek	39.32	247	eP	P	18 23 22.0	+0.7
AS31	Alice Springs	46.67	258	eP	P	18 24 20.1	-0.6
ASAR	Alice Springs	46.67	258	P	P	18 24 20.2	-0.6
	6.6nm,0.7s,mb4.5,baz=96,slow=6.8,SNR=72						
ASAR				PcP	PcP	18 25 54.8	+1.3
	1.1nm,0.8s,baz=101,slow=4.6,SNR=4.4						
ASAR	Alice Springs	46.67	258	P	P	18 24 20.2	-0.6
ASAR				PcP	PcP	18 25 54.8	+1.3
WRAB	Tennant Creek	46.98	263	eP	P	18 24 22.1	-1.2
WRA	Warramunga Arr	46.99	263	P	P	18 24 22.3	-1.1
	2.4nm,0.6s,mb4.1,baz=90,slow=5.9,SNR=96						
WRA				PcP	PcP	18 25 55.3	+0.7
	0.6nm,0.8s,baz=98,slow=3.8,SNR=4.8						
WRA	Warramunga Arr	46.99	263	P	P	18 24 22.3	-1.1
WRA				PcP	PcP	18 25 55.3	+0.7
FITZ	Fitzroy Crossi	55.42	263	P	P	18 25 26.6	+0.1
	4.4nm,1.0s,mb4.4,baz=105,slow=12,SNR=6.0						
FITZ	Fitzroy Crossi	55.42	263	P	P	18 25 26.6	+0.1
MBWA	Marble Bar	60.01	258	eP	P	18 25 58.3	-0.3
QSPA	South Pole Qui	67.33	180	eP	P	18 26 49.0	+3.2
	4.8nm,0.9s,mb4.3						
MJAR	Matsushiro Arr	73.62	322	P	P	18 27 23.5	-1.1
	2.8nm,0.6s,mb4.2,baz=163,slow=6.1,SNR=18						
MJAR	Matsushiro Arr	73.62	322	P	P	18 27 23.5	-1.1
PETK	Petropavlovsk-	79.15	344	P	P	18 27 55.1	-0.4
	8.3nm,0.8s,mb4.6,baz=133,slow=10,SNR=5.0						
PETK	Petropavlovsk-	79.15	344	P	P	18 27 55.1	-0.4
USRK	Ussuriysk Arra	82.33	325	P	P	18 28 13.9	+1.2
	6.6nm,0.8s,mb4.5,baz=141,slow=3.4,SNR=11						
MDJ	Mudanjiang	83.91	324	eP	P	18 28 22.4	+1.6
MSU	Marysvale	84.77	45	eP	P	18 28 23.3	-2.1
	2.4nm,0.5s,mb4.4						
TXAR	Lajitas Array	86.03	56	P	P	18 28 31.9	0.0
	2.1nm,1.0s,mb4.0,baz=205,slow=5.5,SNR=11						
TXAR	Lajitas Array	86.03	56	P	P	18 28 31.9	0.0
PDAR	Pinedale Array	88.78	42	P	P	18 28 44.5	-0.3
	1.1nm,0.9s,mb3.9,baz=149,slow=3.1,SNR=5.1						
PDAR	Pinedale Array	88.78	42	P	P	18 28 44.5	-0.3
ENH	Enshi	89.52	303	eP	P	18 28 50.2	+1.6
	34nm,1.6s,mb5.2						
ILAR	Eielson Array	89.93	12	P	P	18 28 48.7	-0.9
	1.8nm,1.1s,mb4.1,baz=222,slow=5.8,SNR=6.8						
ILAR	Eielson Array	89.93	12	P	P	18 28 48.7	-0.9
CM31	Chiang Mai Arr	93.39	288	eP	P	18 29 09.2	+2.5
	6.3nm,1.1s,mb4.9						
CMAR	Chiang Mai Arr	93.39	288	P	P	18 29 07.8	+1.0
	4.0nm,0.8s,mb4.8,baz=127,slow=3.0,SNR=37						
CMAR	Chiang Mai Arr	93.39	288	P	P	18 29 07.8	+1.0
CHTO	Chiang Mai	93.53	289	eP	P	18 29 09.1	+1.7
	3.5nm,0.8s,mb4.7						
MKAR	Makanchi Array	114.69	312	PKP	PKiKP	18 34 30.6	-0.3
	0.3nm,0.7s,baz=93,slow=2.9,SNR=3.6						
MKAR	Makanchi Array	114.69	312	PKP	PKiKP	18 34 30.6	-0.3
AKASG	Malin Array Be	146.27	332	PKPbc	PKPbc	18 35 30.6	-0.4
	3.1nm,0.6s,baz=41,slow=3.9,SNR=18						
AKASG	Malin Array Be	146.27	332	PKPbc	PKPbc	18 35 30.6	-0.4
BUR08	Bucovina Ar. S	150.31	332	ePKPbc	PKPbc	18 35 43.4	+1.6
BURAR	Bucovina Array	150.32	332 ⇑	iP	PKPbc	18 35 43.7	+1.9
BR131	Keskin Array S	150.34	311	ePKPbc	PKPbc	18 35 42.4	+0.2
BRTR	Keskin Array B	150.34	311	PKPbc	PKPbc	18 35 42.9	+0.7
	2.3nm,0.9s,baz=129,slow=4.0,SNR=9.3						
BRTR	Keskin Array B	150.34	311	PKPbc	PKPbc	18 35 42.9	+0.7
CLL	Collm	150.81	350	ePKPbc	PKPbc	18 35 43.0	+0.1
CLL				ePKPab	PKPab	18 35 49.0	-1.2
TIRR	Tirgusor	150.99	324 ⇑	iP	PKPab	18 35 53.0	+1.8
BRG	Berggiesshubel	151.05	348	eP	PKPbc	18 35 43.8	+0.3
	4.0nm,1.1s						
BRG				e		18 35 52.9	
	8.5nm,1.4s						
MLR	Muntele Rosu	151.56	328 ⇓	iP	PKPbc	18 35 45.7	+0.9
VOIR		152.03	329 ⇓	iP	PKPab	18 35 58.4	+2.9
GERES	GERESS Array B	153.03	347	PKPab	PKPab	18 35 57.3	-2.3
	0.7nm,0.8s,baz=30,slow=3.7,SNR=5.2						
GERES	GERESS Array B	153.03	347	PKPab	PKPab	18 35 57.3	-2.3
BZS	Buzias	153.43	333 ⇑	iP	PKPab	18 35 54.5	-6.9

IDC 31 18:16:52.5±1.9, 3°92N×126°99E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=189.3km s-min=20.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.79	163	P	P	18 22 14.9	-1.3
	2.0nm,0.6s,baz=342,slow=11,SNR=21						
ASAR	Alice Springs	28.23	167	P	P	18 22 48.9	+1.6
	0.2nm,0.3s,baz=344,slow=11,SNR=8.7						
MKAR	Makanchi Array	57.55	325	P	P	18 26 44.2	+0.4
	0.4nm,0.5s,baz=116,slow=7.8,SNR=12						
MKAR				PcP	PcP	18 27 37.7	+0.4
	0.4nm,0.7s,baz=120,slow=4.8,SNR=4.7						
KURK	Kurchatov	61.72	327	P	P	18 27 12.0	-0.6
	0.5nm,0.5s,baz=129,slow=6.5,SNR=11						

CASC 31 18:21:57.1±3.0, 12°51N×87°70W, h62km±39km, MD4.0, ML3.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.66	73	eP	Pn	18 22 11.3	+0.3
CRIN				eS	Sn	18 22 22.9	+1.8
CRIN				AML	AML	18 22 25.1	
	comp=N,4μm,0.2s						
LEON	Leon	0.79	97	eP	Pn	18 22 11.6	-0.9
MIRN	Miramar	0.96	94	eP	Pn	18 22 14.3	-0.4
CNGN	Cerro Negro	0.97	91	eP	Pn	18 22 14.2	-0.7
CNGN				eS	Sn	18 22 28.2	+0.2
CNGN				AML	AML	18 22 31.1	
	comp=N,959nm,0.1s						
CSAN		1.29	105	eP	Pn	18 22 21.3	+2.3
APYN	Apoyeque	1.34	102	eP	Pn	18 22 19.2	-0.6
XAVN	Gruta Xavier	1.39	105	eP	Pn	18 22 20.1	-0.2
MGAN	Managua	1.46	104	eP	Pn	18 22 19.6	-1.7
HUEN		1.50	96	eP	Pn	18 22 21.2	-0.6
TICN	Ticuantepe	1.51	108	eP	Pn	18 22 21.5	-0.4
MASN	Masaya	1.60	109	eP	Pn	18 22 25.2	+2.1
JCR	Jicaral	3.67	136	eP	Pn	18 22 51.8	+0.5
URSC	Urasca	4.68	124	eP	Pn	18 23 08.0	+2.8

ISCJB 31 18:35:14.9±0.7, 39°40N±0°03×23°97E±0°04, h12km±4km, Error ellipse: s-maj=6.0km s-min=3.8km az=37.0
CSEM 31 18:35:14.8±0.2, 39°38N×23°99E, h15km, ML2.3/6, Error ellipse: s-maj=4.3km s-min=2.9km az=118.0
ATH 31 18:35:15.4, 39°42N×23°92E, h38km±1km, MD3.1/7
THE 31 18:35:15.2, 39°39N×23°98E, h12km, ML2.3/6, Error ellipse: s-maj=0.8km s-min=0.3km az=104.0
ISC 31 18:35:15.1±0.6, 39°39N±0°03×23°98E±0°04, h17km±3km, n32, σ0§76/59, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.23	200	P	Pg	18 35 20.1	-0.3
AOS				S	Sg	18 35 23.7	-0.3
AOS	Alonnisos	0.23	200	P	Pg	18 35 20.1	-0.3
AOS				S	Sg	18 35 23.7	-0.3
SKIA	Skiathos	0.46	241	P	Pg	18 35 23.8	-0.5
SKIA				S	Sg	18 35 30.9	+0.4
SKIA	Skiathos	0.46	241	P	Pg	18 35 23.8	-0.5
SKIA				S	Sg	18 35 30.9	+0.4
PAIG	Paliouri	0.59	337	P	Pg	18 35 26.7	0.0
PAIG				S	Sg	18 35 35.3	+0.8
PAIG	Paliouri	0.59	337	P	Pg	18 35 26.7	0.0
PAIG				S	Sg	18 35 35.3	+0.8
NEO	Neokhori	0.59	262	ePN	Pn	18 35 27.4	-1.3
NEO				eSN	Sg	18 35 35.8	+1.1
NEO	Neokhori	0.59	262	P	Pg	18 35 26.8	0.0
NEO				S	Sg	18 35 35.1	+0.4
NEO	Neokhori	0.59	262	P	Pg	18 35 26.8	0.0
NEO	Neokhori	0.59	262	ePn	Pn	18 35 27.4	-1.3
NEO				S	Sg	18 35 35.1	+0.4
XOR	Xorichti	0.61	268	P	Pg	18 35 26.9	-0.2
XOR				S	Sg	18 35 35.8	+0.5
XOR	Xorichti	0.61	268	P	Pg	18 35 26.9	-0.2
XOR				S	Sg	18 35 35.8	+0.5
MRKA	Markates	0.75	204	P	Pb	18 35 29.2	-0.4
MRKA				S	Sb	18 35 40.4	+0.9
MRKA	Markates	0.75	204	P	Pb	18 35 29.2	-0.4
MRKA				S	Sb	18 35 40.4	+0.9
SMIA	Simia	0.79	230	P	Pb	18 35 29.9	-0.4
SMIA				S	Sb	18 35 41.6	+0.9
SMIA	Simia	0.79	230	P	Pb	18 35 29.9	-0.4
SMIA				S	Sb	18 35 41.6	+0.9
OUR	Ouranopolis	0.94	0	P	Pb	18 35 33.1	+0.1
OUR				S	Sb	18 35 46.5	+1.2
OUR	Ouranopolis	0.94	0	P	Pb	18 35 33.1	+0.1
OUR				S	Sb	18 35 46.5	+1.2
LIA	Limnos Island	1.06	61	ePN	Pn	18 35 35.3	+0.1
LIA				eSN	Sn	18 35 50.6	+1.1
LIA	Limnos Island	1.06	61	ePb	Pb	18 35 35.2	+0.2
LIA				eSn	Sn	18 35 50.6	+1.1
LKR	Lokris	1.06	226	ePN	Pn	18 35 34.8	-0.4
LKR				eSN	Sn	18 35 49.2	-0.4
LKR	Lokris	1.06	226	P	Pb	18 35 34.7	-0.3
LKR				S	Sb	18 35 49.8	+1.2
LKR	Lokris	1.06	226	P	Pb	18 35 34.7	-0.3
LKR				eSn	Sn	18 35 49.2	-0.4
LKR				S	Sb	18 35 49.8	+1.2
PLG	Polygyros	1.07	337	ePN	Pn	18 35 34.6	-0.7
PLG				eSN	Sn	18 35 48.1	-1.6
PLG	Polygyros	1.07	337	ePn	Pn	18 35 34.6	-0.7
PLG				eSn	Sn	18 35 48.1	-1.6
AGG	Agios Georgios	1.33	255	ePN	Pn	18 35 38.7	-0.2
AGG	Agios Georgios	1.33	255	P	Pn	18 35 38.6	-0.3
AGG				S	Sn	18 35 57.3	+1.0
AGG	Agios Georgios	1.33	255	ePn	Pn	18 35 38.7	-0.2
AGG				S	Sn	18 35 57.3	+1.0
PTL	Penteli	1.34	184	ePB	Pb	18 35 39.3	-0.5
PTL	Penteli	1.34	184	ePb	Pb	18 35 39.3	-0.5
THL	Klokotos Trika	1.53	277	ePB	Pb	18 35 41.3	-1.7
THL	Klokotos Trika	1.53	277	ePb	Pb	18 35 41.3	-1.7

IDC 31 18:35:57.3±2.1, 6°78S×128°92E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/15, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=90.1km s-min=28.1km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.70	196	Pn	Pn	18 38 44.5	-1.2
	0.3nm,0.3s,baz=24,slow=13,SNR=11						
FITZ				Sn	Sn	18 40 43.4	-14
	0.4nm,0.3s,baz=149,slow=22,SNR=5.6						
WRA	Warramunga Arr	14.11	159	Pn	Pn	18 39 18.7	+0.2
	0.1nm,0.3s,baz=343,slow=13,SNR=9.9						
WRA				Sn	Sn	18 41 44.3	-12
	0.3nm,0.3s,baz=327,slow=24,SNR=7.4						
ASAR	Alice Springs	17.46	165	P	Pn	18 40 03.5	+1.1
	0.1nm,0.3s,baz=333,slow=9.4,SNR=15						
ASAR				S	Sn	18 43 07.8	-10
	0.1nm,0.3s,baz=316,slow=21,SNR=4.5						
MKAR	Makanchi Array	67.45	327	P	P	18 46 55.0	+0.1
	0.2nm,0.5s,baz=126,slow=7.8,SNR=5.6						

ISCJB 31 19:01:10.2±0.7, 39°48N±0°02×25°13E±0°02, h3km±5km, Error ellipse: s-maj=3.2km s-min=2.3km az=171.4
ISK 31 19:01:11.2, 39°46N×25°25E, h8km, MD3.3
ATH 31 19:01:11.0, 39°50N×25°14E, h26km, ML2.8
THE 31 19:01:11.6, 39°48N×25°09E, h7km, ML2.9/8, Error ellipse: s-maj=0.6km s-min=0.3km az=88.0
DDA 31 19:01:11.3, 39°43N×24°92E, h74km±97km, Md3.8
CSEM 31 19:01:11.3±0.1, 39°48N×25°12E, h10km, ML2.8, Error ellipse: s-maj=2.5km s-min=1.7km az=175.0
ISC 31 19:01:11.2±0.5, 39°47N±0°02×25°12E±0°02, h9km±3km, n128, σ0§84/175, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.43	7	ePB	Pg	19 01 19.9	+0.4
LIA				eSB	Sg	19 01 25.9	+0.8
LIA	Limnos Island	0.43	7	P	Pg	19 01 19.9	+0.4
LIA				S	Sg	19 01 25.9	+0.8
LIA	Limnos Island	0.43	7	P	Pg	19 01 19.9	+0.4
LIA				S	Sg	19 01 25.9	+0.8
BOZC	Bozcaada	0.81	63 ⇑	iP	Pg	19 01 26.3	-0.4
BOZC				i S	Sg	19 01 37.5	+0.2
PRK	Paraskevi	0.92	104	ePN	Pn	19 01 29.0	-1.3
PRK				eSN	Sn	19 01 41.4	-2.2
PRK	Paraskevi	0.92	104	P	Pg	19 01 29.1	+0.2
PRK				S	Sg	19 01 43.0	+2.1
PRK	Paraskevi	0.92	104	P	Pg	19 01 29.1	+0.2
PRK				eSn	Sn	19 01 41.4	-2.2
PRK				S	Sg	19 01 43.0	+2.1
EZN	Ezine	1.00	69	PG	Pg	19 01 29.6	-0.7
EZN				eSG	Sg	19 01 42.0	-1.2
EZN	Ezine	1.00	69	i Pg	Pg	19 01 29.6	-0.7
EZN				eSg	Sg	19 01 42.0	-1.2
AOS	Alonnisos	1.01	253	P	Pg	19 01 30.4	-0.1
AOS				S	Sg	19 01 45.0	+1.4
AOS	Alonnisos	1.01	253	P	Pg	19 01 30.4	-0.1
AOS				S	Sg	19 01 45.0	+1.4
PAIG	Paliouri	1.20	293	P	Pb	19 01 33.3	-0.7
PAIG				S	Sb	19 01 50.6	+1.0
PAIG	Paliouri	1.20	293	P	Pb	19 01 33.3	-0.7
PAIG				S	Sb	19 01 50.6	+1.0
OUR	Ouranopolis	1.23	315	P	Pn	19 01 34.0	-0.5
OUR				S	Sb	19 01 50.9	+0.5
OUR	Ouranopolis	1.23	315	P	Pn	19 01 34.0	-0.5
OUR				S	Sb	19 01 50.9	+0.5
AYVA	Ayvalik	1.23	97 ⇓	iP	Pn	19 01 34.4	-0.1
AYVA				i S	Sb	19 01 50.0	-0.5
AYVA	Ayvalik	1.23	97	i P	Pn	19 01 34.4	-0.1
AYVA				i S	Sb	19 01 50.0	-0.5
CHOS	Chios island	1.31	146	ePN	Pn	19 01 35.7	+0.1
CHOS				eSN	Sn	19 01 54.2	+1.0
CHOS	Chios island	1.31	146	P	Pn	19 01 35.4	-0.2
CHOS				S	Sb	19 01 54.4	+1.6
CHOS	Chios island	1.31	146	P	Pn	19 01 35.4	-0.2
CHOS	Chios island	1.31	146	ePn	Pn	19 01 35.7	+0.1
CHOS				S	Sb	19 01 54.4	+1.6
GELI	Tayfur-Gelibol	1.39	48	ePN	Pn	19 01 36.3	-0.5
GELI				eSN	Sn	19 01 55.3	0.0
GELI	Tayfur-Gelibol	1.39	48	ePn	Pn	19 01 36.3	-0.5
GELI				eSn	Sn	19 01 55.3	0.0
MRKA	Markates	1.42	238	P	Pn	19 01 36.6	-0.5
MRKA				S	Sn	19 01 55.7	-0.2
MRKA	Markates	1.42	238	P	Pn	19 01 36.6	-0.5
MRKA				S	Sn	19 01 55.7	-0.2
NEO	Neokhori	1.48	264	ePN	Pn	19 01 38.6	+0.7
NEO				eSN	Sn	19 01 58.4	+1.0
NEO	Neokhori	1.48	264	P	Pn	19 01 37.6	-0.3
NEO				S	Sn	19 01 57.6	+0.2
NEO	Neokhori	1.48	264	P	Pn	19 01 37.6	-0.3
NEO	Neokhori	1.48	264	ePn	Pn	19 01 39.0	+1.1
NEO				S	Sn	19 01 57.6	+0.2
NEO				eSn	Sn	19 01 58.4	+1.0
ENEZ	Enez	1.49	32	ePN	Pn	19 01 37.9	-0.2
ENEZ				eSN	Sn	19 01 58.8	+1.1
ENEZ	Enez	1.49	32	ePn	Pn	19 01 37.9	-0.2
ENEZ				eSn	Sn	19 01 58.8	+1.1
XOR	Xorichti	1.50	266	P	Pn	19 01 37.6	-0.6
XOR				S	Sn	19 01 57.7	-0.1
XOR	Xorichti	1.50	266	P	Pn	19 01 37.6	-0.6
XOR				S	Sn	19 01 57.7	-0.1
LPK	Lapseki	1.55	54	ePN	Pn	19 01 38.2	-0.7
LPK	Lapseki	1.55	54	ePn	Pn	19 01 38.2	-0.7
PLG	Polygyros	1.57	305	ePB	Pb	19 01 38.5	-1.9
PLG				eSN	Sn	19 01 58.9	-0.7
ALN	Alexandroupoli	1.59	26	ePN	Pn	19 01 38.7	-0.8
ALN	Alexandroupoli	1.59	26	P	Pn	19 01 38.6	-0.9
ALN				S	Sn	19 02 00.7	+0.6
ALN	Alexandroupoli	1.59	26	ePn	Pn	19 01 38.7	-0.8
ALN				S	Sn	19 02 00.7	+0.6
KAVA	Kavala	1.59	343	P	Pn	19 01 39.0	-0.5
KAVA				S	Sn	19 02 00.3	+0.2
KAVA	Kavala	1.59	343	P	Pn	19 01 39.0	-0.5
KAVA				S	Sn	19 02 00.3	+0.2
SMIA	Simia	1.60	249	P	Pn	19 01 39.0	-0.6
SMIA				S	Sn	19 02 00.4	+0.1
SMIA	Simia	1.60	249	P	Pn	19 01 39.0	-0.6
SMIA				S	Sn	19 02 00.4	+0.1
URLA	Izmir	1.60	134	eP	Pn	19 01 38.3	-1.4
URLA	Izmir	1.60	134	eP	Pn	19 01 38.3	-1.3
ERIK	Erikli-Kesan	1.60	41	ePN	Pn	19 01 39.6	-0.1
ERIK	Erikli-Kesan	1.60	41	ePn	Pn	19 01 39.6	-0.1
RDO	Rodhopi	1.70	11	ePN	Pn	19 01 40.4	-0.4
RDO	Rodhopi	1.70	11	P	Pn	19 01 40.6	-0.4
RDO	Rodhopi	1.70	11	P	Pn	19 01 40.6	-0.4
PTL	Penteli	1.73	215	ePB	Pb	19 01 41.2	-1.9
PTL				eSN	Sn	19 02 03.9	+0.4
LKR	Lokris	1.84	244	ePN	Pn	19 01 43.9	+0.9
LKR	Lokris	1.84	244	ePn	Pn	19 01 44.2	+1.2
BLCB	Balcova	1.85	125	ePN	Pn	19 01 43.4	+0.3
BLCB	Balcova	1.85	125	ePn	Pn	19 01 43.4	+0.3
ATH	Athens Observa	1.86	217	ePB	Pb	19 01 43.5	-1.8
SOH	Sokhos	1.91	315	ePN	Pn	19 01 44.1	+0.2
SOH	Sokhos	1.91	315	ePn	Pn	19 01 44.1	+0.2
KRBG	Karabiga-Canak	1.91	61	ePN	Pn	19 01 44.7	+0.9
KRBG	Karabiga-Canak	1.91	61	ePn	Pn	19 01 44.7	+0.8
BALY	Balya	1.95	81 ⇓	iP	Pn	19 01 44.7	+0.3
BALY				i S	Sn	19 02 07.6	-1.4
BALY	Balya	1.95	81	i P	Pn	19 01 44.7	+0.3
BALY				i S	Sn	19 02 07.6	-1.4
RKY	Sarkoy-Tekirda	1.99	52	ePN	Pn	19 01 45.7	+0.7
RKY	Sarkoy-Tekirda	1.99	52	ePn	Pn	19 01 45.7	+0.7
SART	Tekirdag	1.99	52 ⇑	iP	Pn	19 01 44.4	-0.6
SART				i S	Sn	19 02 09.7	-0.4
SART	Tekirdag	1.99	52	i P	Pn	19 01 44.4	-0.6
SART				i S	Sn	19 02 09.7	-0.4
GONE	Gonen-Balikesi	2.06	73	ePN	Pn	19 01 46.1	+0.1
GONE	Gonen-Balikesi	2.06	73	ePn	Pn	19 01 46.1	+0.2
NVR	Nev

Ms1 3.7/10, ms1mx3.4/44, Error ellipse: s-maj=13.7km s-min=9.3km az=14.0
NEIC ***31*** *19:02:38.0±3.6, 55°.45N×166°.38E, h9km±23km, mb4.5/8, Error ellipse: s-maj=10.5km s-min=6.1km az=170.0*
MOS ***31*** *19:02:38.0±1.4, 55°.37N×166°.42E, h23km, mb4.3/18, Error ellipse: s-maj=11.8km s-min=9.3km az=106.7*
ISCJB ***31*** *19:02:38.6±0.7, 55°.36N±0°.05×166°.38E±0°.04, h27km±5km, mb4.1/32, MS3.7/9, Error ellipse: s-maj=8.4km s-min=4.2km az=179.1*
KRSC ***31*** *19:02:39.1±0.6, 55°.31N×166°.19E, h22km±22km, ML4.6*
BJI ***31*** *19:02:47.4, 56°.42N×166°.12E, h86km, mB4.8/2, mb4.4/4, Ms4.5/2, Ms7 4.2/2*
ISC 31 19:02:39.8±0.8, 55°.32N±0°.05×166°.39E±0°.04, h22km±6km, n124, σ1§25/140, mb4.1/32, MS3.7/9, 2C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.27**	**244**	*i* P	**Pb**	**19 02 44.8**	**-1.3**
BKI				*i* S	**Sb**	**19 02 49.3**	**-1.0**
BKI	**Bering**	**0.27**	**244**	PN	**Pb**	**19 02 44.8**	**-1.3**
BKI				S	**Sb**	**19 02 49.3**	**-1.0**
KBTR	**Krutoberegovo**	**2.21**	**295**	*e*P	**Pn**	**19 03 13.2**	**-1.8**
KBTR				*e*S	**Sn**	**19 03 37.6**	**-4.0**
KBTR	**Krutoberegovo**	**2.21**	**295**	PN	**Pn**	**19 03 13.2**	**-1.8**
KBTR				S	**Sn**	**19 03 37.6**	**-4.0**
SMKR	**Semkarok**	**3.04**	**297**	*e*P	**Pn**	**19 03 26.1**	**-0.4**
SMKR				*e*S	**Sn**	**19 03 59.6**	**-2.6**
BDR	**Baidarnaya**	**3.17**	**295**	*e*P	**Pn**	**19 03 28.7**	**+0.4**
BDR				*e*S	**Sn**	**19 04 04.1**	**-1.3**
SRKR	**Sorokina**	**3.22**	**297**	*e*P	**Pn**	**19 03 28.7**	**-0.3**
KLY	**Klyuchi**	**3.39**	**289**	P	**Pn**	**19 03 30.0**	**-1.2**
KLY				S	**Sn**	**19 04 06.4**	**-4.3**
KLY	**Klyuchi**	**3.39**	**289**	PN	**Pn**	**19 03 30.0**	**-1.2**
KLY				S	**Sn**	**19 04 06.4**	**-4.3**
KRSR	**Krestovskiy**	**3.41**	**288**	P	**Pn**	**19 03 31.6**	**0.0**
KRSR				S	**Sn**	**19 04 10.9**	**-0.4**
KMNR	**Kamenistaya**	**3.52**	**280**	*e*P	**Pn**	**19 03 34.5**	**+1.4**
KMNR				*e*S	**Sn**	**19 04 14.0**	**-0.1**
KPT	**Kopyto**	**3.56**	**283**	P	**Pn**	**19 03 34.3**	**+0.7**
TUMR	**Tumrok**	**3.57**	**272**	*e*P	**Pn**	**19 03 34.9**	**+1.1**
TUMR				*e*S	**Sn**	**19 04 15.9**	**+0.7**
KOZR	**Kozyr**	**3.75**	**284**	PN	**Pn**	**19 03 37.9**	**+1.7**
KOZR				S	**Sn**	**19 04 21.6**	**+1.9**
KOZ	**Kozyrevsk**	**3.76**	**284**	P	**Pn**	**19 03 37.9**	**+1.5**
KOZ				S	**Sn**	**19 04 21.6**	**+1.6**
SRDR	**Sredinnyy**	**3.89**	**288**	*e*P	**Pn**	**19 03 39.0**	**+0.8**
SRDR				*e*S	**Sn**	**19 04 21.7**	**-1.5**
SPN	**Mys Shipunski**	**4.35**	**242**	S	**Sn**	**19 04 31.8**	**-2.7**
ESO	**Esso**	**4.40**	**281**	P	**Pn**	**19 03 46.7**	**+1.5**
ESO				S	**Sn**	**19 04 37.2**	**+1.5**
ESO	**Esso**	**4.40**	**281**	PN	**Pn**	**19 03 46.7**	**+1.5**
ESO				S	**Sn**	**19 04 37.2**	**+1.5**
NLC	**Nalytchevo**	**4.66**	**245**	S	**Sn**	**19 04 40.3**	**-1.8**
FX1	**Attu Island--F**	**4.68**	**119**	Pn	**Pn**	**19 03 47.2**	**-1.8**
FX1	12nm,0.3s,baz=120,slow=23,SNR=19			Sn	**Sn**	**19 04 39.6**	**-2.9**
	12nm,0.3s,baz=284,slow=23,SNR=7.4						
FX1	**Attu Island--F**	**4.68**	**119**	Pn	**Pn**	**19 03 47.2**	**-1.8**
FX1				Sn	**Sn**	**19 04 39.6**	**-2.9**
FX1	**Attu Island--F**	**4.68**	**119**	PN	**Pn**	**19 03 47.2**	**-1.8**
FX1				pmax	pmax		
	comp=Z,12nm,0.3s						
SDLR	**Sedlovina**	**4.85**	**248**	*e*P	**Pn**	**19 03 52.3**	**+0.9**
SDLR				*e*S	**Sn**	**19 04 44.5**	**-2.3**
AVH	**Avacha**	**4.93**	**248**	P	**Pn**	**19 03 53.5**	**+1.0**
AVH				*e*S	**Sn**	**19 04 46.1**	**-2.7**
KOK	**Koryaka**	**4.97**	**249**	P	**Pn**	**19 03 53.7**	**+0.6**
KOK				S	**Sn**	**19 04 47.5**	**-2.4**
PET	**Petropavlovsk**	**5.09**	**246**	*e*PN	**Pn**	**19 03 55.4**	**+0.7**
PEA0B	**Petropavlovsk-**	**5.56**	**250**	*e*P	**Pn**	**19 04 01.6**	**+0.5**
PETK	**Petropavlovsk-**	**5.56**	**250**	Pn	**Pn**	**19 04 02.6**	**+1.5**
	comp=Z,7.1nm,0.3s,baz=73,slow=16,SNR=50						
PETK				Sn	**Sn**	**19 05 06.4**	**+2.1**
	comp=Z,3.2nm,0.3s,baz=39,slow=13,SNR=5.7						
PETK				LR	LR	19 06 04.9	
	comp=Z,225nm,21.4s,baz=28,slow=37						
PETK	**Petropavlovsk-**	**5.56**	**250**	Pn	**Pn**	**19 04 02.6**	**+1.5**
PETK				Sn	**Sn**	**19 05 06.4**	**+2.1**
PETK	**Petropavlovsk-**	**5.56**	**250**	PN	**Pn**	**19 04 02.6**	**+1.5**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
BILL	**Bilibino**	**12.76**	**360**	*e*PN	**Pn**	**19 05 41.7**	**+2.1**
BILL				pmax	pmax		
	comp=Z,13nm,2.5s						
BILL				MLR	MLR		
	comp=Z,200nm,14.0s						
GAMB	**Gambell**	**13.90**	**44**	*e*P	**Pn**	**19 05 50.0**	**-5.2**
	comp=Z,3.4nm,0.8s						
YAK	**Yakutsk**	**20.00**	**305**	*e*P	**Pn**	**19 07 09.0**	**-3.4**
	comp=Z,38nm,1.0s						
YAK	**Yakutsk**	**20.00**	**305**	*e*P	**Pn**	**19 07 09.7**	**-2.6**
YAK				pmax	pmax		
	comp=Z,24nm,0.9s						
YAK				pmax	pmax		
	comp=E,21nm,1.2s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.5s						
COLD	**Coldfoot**	**23.44**	**42**	*e*P	**P**	**19 07 47.0**	**-0.2**
	comp=N,5.3nm,0.9s,mb4.0						
USRK	**Ussuriysk Arra**	**24.59**	**258**	LR	LR	19 17 19.9	
	comp=N,90nm,19.4s,MS3.3,baz=232,slow=36						
ILAR	**Eielson Array**	**24.59**	**49**	P	**P**	**19 07 57.2**	**-0.5**
	comp=N,6.1nm,0.9s,mb4.2,baz=257,slow=7.7,SNR=45						
ILAR	**Eielson Array**	**24.59**	**49**	P	**P**	**19 07 57.2**	**-0.5**
ILAR	**Eielson Array**	**24.59**	**49**	P	**P**	**19 07 57.3**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**26.85**	**237**	P	**P**	**19 08 20.4**	**+1.9**
	comp=Z,3.5nm,0.9s,mb3.9,baz=31,slow=7.9,SNR=6.7						
MJAR	**Matsushiro Arr**	**26.85**	**237**	P	**P**	**19 08 20.4**	**+1.9**
MJAR	**Matsushiro Arr**	**26.85**	**237**	P	**P**	**19 08 20.4**	**+1.9**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**29.81**	**40**	P	**P**	**19 08 45.0**	**+0.4**
	comp=Z,1.9nm,0.5s,mb4.1,baz=262,slow=2.3,SNR=6.4						
INK	**Inuvik**	**29.81**	**40**	P	**P**	**19 08 45.0**	**+0.4**
INK	**Inuvik**	**29.81**	**40**	P	**P**	**19 08 45.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSRS	**Korea Array**	**31.46**	**252**	LR	LR	19 21 01.8	
	comp=Z,54nm,20.5s,MS3.2,baz=328,slow=35						
DLBC	**Dease Lake**	**33.73**	**58**	LR	LR	19 21 46.0	
	comp=Z,160nm,20.2s,MS3.7,baz=346,slow=34						
SONM	**Songino Array**	**36.97**	**284**	P	**P**	**19 09 48.0**	**+0.9**
	comp=Z,1.7nm,0.6s,mb4.0,baz=60,slow=8.4,SNR=9.8						
SONM				LR	LR	19 26 15.5	
	comp=Z,138nm,18.5s,MS3.8,baz=332,slow=38						
SONM	**Songino Array**	**36.97**	**284**	P	**P**	**19 09 48.0**	**+0.9**
SONM	**Songino Array**	**36.97**	**284**	P	**P**	**19 09 48.0**	**+0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,138nm,18.5s						
YKA	**Yellowknife Ar**	**38.98**	**46**	P	**P**	**19 10 03.9**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.6,baz=296,slow=8.0,SNR=8.1						
YKA				PcP	PcP	19 12 14.5	+0.9
	comp=Z,0.2nm,0.3s,baz=312,slow=3.1,SNR=4.7						
YKA	**Yellowknife Ar**	**38.98**	**46**	P	**P**	**19 10 04.0**	**+0.1**
YKA				PcP	PcP	19 12 14.6	+0.9
YKA	**Yellowknife Ar**	**38.98**	**46**	P	**P**	**19 10 04.0**	**+0.2**
YKA						19 12 14.6	
ZALV	**Zalesovo Beam**	**44.65**	**304**	P	**P**	**19 10 50.5**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=41,slow=4.6,SNR=2.5						
ZALV				PcP	PcP	19 12 33.0	+0.5
	comp=Z,0.2nm,0.3s,baz=27,slow=3.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**44.65**	**304**	P	**P**	**19 10 50.5**	**+0.2**
ZALV				PcP	PcP	19 12 33.0	+0.5
ZALV	**Zalesovo Beam**	**44.65**	**304**	P	**P**	**19 10 50.5**	**+0.2**
ZALV						19 12 33.0	
GTA	**Gaotai**	**45.98**	**279**	*e*P	**P**	**19 11 02.3**	**+1.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
LZH	**Lanzhou**	**46.00**	**272**	*e*P	**P**	**19 11 09.0**	**+7.8**
LZH				pP	pP	19 11 13.3	+5.4
LZH				sP	sP	19 11 16.0	+5.4
LZH				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
KURK	**Kurchatov**	**49.64**	**304**	*e*P	**P**	**19 11 28.4**	**-0.8**
	comp=Z,8.5nm,0.8s,mb4.8						
KURK	**Kurchatov**	**49.64**	**304**	*d* iP	**P**	**19 11 28.4**	**-0.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
MK31	**Makanchi Array**	**50.46**	**298**	*e*P	**P**	**19 11 34.1**	**-1.3**
MK31	**Makanchi Array**	**50.46**	**298**	*e*P	**P**	**19 11 34.2**	**-1.3**
MKAR	**Makanchi Array**	**50.46**	**298**	P	**P**	**19 11 34.1**	**-1.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=52,slow=6.5,SNR=51						
MKAR				PcP	PcP	19 12 53.1	-0.2
	comp=Z,0.2nm,0.4s,baz=49,slow=5.7,SNR=4.2						
MKAR				LR	LR	19 33 17.1	
	comp=Z,59nm,20.8s,MS3.6,baz=175,slow=36						
MKAR	**Makanchi Array**	**50.46**	**298**	P	**P**	**19 11 34.1**	**-1.4**
MKAR				PcP	PcP	19 12 53.1	-0.2
MKAR	**Makanchi Array**	**50.46**	**298**	*i* P	**P**	**19 11 34.7**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVAR	**Mina Array Bea**	**51.55**	**76**	P	**P**	**19 11 44.3**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=299,slow=8.0,SNR=3.2						
NVAR	**Mina Array Bea**	**51.55**	**76**	P	**P**	**19 11 44.3**	**+0.5**
BVAR	**Borovoye Array**	**51.84**	**310**	LR	LR	19 35 47.0	
	comp=Z,110nm,18.2s,MS3.9,baz=233,slow=38						
BRVK	**Borovoye**	**51.86**	**310**	*e*P	**P**	**19 11 45.1**	**-0.8**
	comp=Z,6.2nm,0.8s,mb4.6						
BRVK	**Borovoye**	**51.86**	**310**	*de*P	**P**	**19 11 45.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**53.22**	**66**	P	**P**	**19 11 56.2**	**+0.2**
	comp=Z,0.6nm,0.9s,mb3.5,baz=236,slow=1.6,SNR=3.5						
PDAR	**Pinedale Array**	**53.22**	**66**	P	**P**	**19 11 56.2**	**+0.2**
FRB	**Frobisher Bay**	**53.92**	**27**	P	**P**	**19 11 59.3**	**-1.6**
	comp=Z,2.9nm,0.8s,mb4.3,baz=341,slow=7.2,SNR=4.9						
FRB	**Frobisher Bay**	**53.92**	**27**	P	**P**	**19 11 59.3**	**-1.6**
FRB	**Frobisher Bay**	**53.92**	**27**	P	**P**	**19 11 59.3**	**-1.6**
FRB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**54.19**	**319**	*e i*P	**P**	**19 12 02.6**	**-0.4**
ARU				*e*		19 14 03.3	
ARU				S	**S**	**19 19 30.3**	**-8.1**
ARU				pmax	pmax		
	comp=Z,14nm,2.5s,mb4.5						
ULM	**Lac du Bonnet**	**54.57**	**51**	P	**P**	**19 12 06.8**	**+0.9**
	comp=Z,2.8nm,1.0s,mb4.2,baz=262,slow=7.1,SNR=2.4						
ULM	**Lac du Bonnet**	**54.57**	**51**	P	**P**	**19 12 06.8**	**+0.9**
ULM	**Lac du Bonnet**	**54.57**	**51**	P	**P**	**19 12 06.8**	**+1.0**
ULM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**57.33**	**299**	*e*P	**P**	**19 12 25.3**	**-0.4**
	comp=Z,12nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**57.33**	**299**	⇑*e*P	**P**	**19 12 26.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.8						
KKAR	**Karatay Array**	**58.95**	**302**	*e*P	**P**	**19 12 36.5**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1						
KKAR	**Karatay Array**	**58.95**	**302**	*e*P	**P**	**19 12 36.5**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
AKTO	**Aktyubinsk**	**58.96**	**315**	LR	LR	19 39 37.8	
	comp=Z,66nm,18.8s,MS3.8,baz=210,slow=38						
ABKAR	**Akbulak array**	**59.08**	**313**	*e*P	**P**	**19 12 37.3**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.8						
FINES	**FINESS Array B**	**59.45**	**339**	P	**P**	**19 12 38.6**	**-1.6**
	comp=Z,12nm,1.3s,mb4.8,baz=357,slow=3.8,SNR=4.1						
FINES	**FINESS Array B**	**59.45**	**339**	P	**P**	**19 12 38.6**	**-1.6**
FINES	**FINESS Array B**	**59.45**	**339**	P	**P**	**19 12 38.6**	**-1.6**
FINES				pmax	pmax		
	comp=Z,12nm,1.3s						
SCHQ	**Schefferville**	**61.88**	**32**	P	**P**	**19 12 56.5**	**-0.4**
	comp=Z,3.3nm,1.1s,mb4.4,baz=263,slow=19,SNR=2.5						
SCHQ	**Schefferville**	**61.88**	**32**	P	**P**	**19 12 56.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**62.21**	**262**	P	**P**	**19 13 00.1**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.9,baz=24,slow=6.8,SNR=8.9						
CMAR				LR	LR	19 43 41.9	
	comp=Z,118nm,18.2s,MS4.1,baz=240,slow=40						
CMAR	**Chiang Mai Arr**	**62.21**	**262**	P	**P**	**19 13 00.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**62.21**	**262**	P	**P**	**19 13 00.1**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,118nm,18.2s						
NOA	**NORSAR Array B**	**62.33**	**347**	P	**P**	**19 12 59.3**	**-0.5**
	comp=Z,0.8nm,0.6s,mb4.0,baz=17,slow=6.9,SNR=4.1						
NOA	**NORSAR Array B**	**62.33**	**347**	P	**P**	**19 12 59.3**	**-0.5**
NOA	**NORSAR Array B**	**62.33**	**347**	P	**P**	**19 12 59.3**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBL	**Kabul**	**66.25**	**297**	*e*P	**P**	**19 13 24.4**	**-1.5**
	comp=Z,3.1nm,0.9s,mb4.3						
KBL	**Kabul**	**66.25**	**297**	*e*P	**P**	**19 13 24.4**	**-1.5**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	**66.39**	**72**	P	**P**	**19 13 28.2**	**+1.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=296,slow=4.1,SNR=22						
TXAR	**Lajitas Array**	**66.39**	**72**	P	**P**	**19 13 28.2**	**+1.3**
TXAR	**Lajitas Array**	**66.39**	**72**	P	**P**	**19 13 28.2**	**+1.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**68.48**	**332**	P	**P**	**19 13 38.8**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=27,slow=4.6,SNR=4.8						
AKASG	**Malin Array Be**	**68.48**	**332**	P	**P**	**19 13 38.8**	**-1.0**
AKASG	**Malin Array Be**	**68.48**	**332**	*i* P	**P**	**19 13 41.2**	**+1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
OJC	**Ojcow**	**71.19**	**338**	*e*P	**P**	**19 13 57.0**	**+0.6**
OJC	**Ojcow**	**71.19**	**338**	*e*P	**P**	**19 13 57.0**	**+0.6**
GNI	**Garni**	**72.72**	**317**	LR	LR	19 50 04.5	
	comp=Z,65nm,19.0s,MS3.9,baz=220,slow=39						
GERES	**GERESS Array B**	**73.71**	**342**	P	**P**	**19 14 11.0**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.4,baz=46,slow=5.8,SNR=4.1						
GERES	**GERESS Array B**	**73.71**	**342**	P	**P**	**19 14 11.0**	**-0.4**
GERES	**GERESS Array B**	**73.71**	**342**	P	**P**	**19 14 11.0**	**-0.4**
BRTR	**Keskin Array B**	**77.11**	**324**	P	**P**	**19 14 31.1**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=36,slow=3.2,SNR=3.7						
BRTR	**Keskin Array B**	**77.11**	**324**	P	**P**	**19 14 31.1**	**0.0**
BRTR	**Keskin Array B**	**77.11**	**324**	*i* P	**P**	**19 14 33.2**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**79.77**	**210**	P	**P**	**19 14 47.4**	**+1.5**
	comp=Z,1.2nm,0.9s,mb3.8,baz=24,slow=5.3,SNR=4.0						
WRA	**Warramunga Arr**	**79.77**	**210**	P	**P**	**19 14 47.4**	**+1.5**
WRA	**Warramunga Arr**	**79.77**	**210**	P	**P**	**19 14 47.4**	**+1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**83.42**	**210**	P	**P**	**19 15 06.2**	**+1.1**
	comp=Z,1.1nm,0.9s,mb3.9,baz=9.6,slow=5.5,SNR=7.5						
ASAR	**Alice Springs**	**83.42**	**210**	P	**P**	**19 15 06.2**	**+1.1**
ASAR	**Alice Springs**	**83.42**	**210**	P	**P**	**19 15 06.2**	**+1.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ESDC	**Sonseca Array**	**85.02**	**353**	P	**P**	**19 15 12.8**	**-0.5**
	comp=Z,0.8nm,0.7s,mb4.0,baz=14,slow=3.9,SNR=4.3						
ESDC	**Sonseca Array**	**85.02**	**353**	P	**P**	**19 15 12.8**	**-0.5**
QSPA	**South Pole Qui**	**145.07**	**180**	PKPbc	PKPbc	19 22 13.1	+0.2
	comp=Z,1.6nm,0.8s,baz=21,slow=1.6,SNR=7.4						
QSPA	**South Pole Qui**	**145.07**	**180**	PKPbc	PKPbc	19 22 13.1	+0.2

IDC ***31*** *19:07:38.8±3.1, 22°.38N×122°.09E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/20, mbtmp3.4/4, Error ellipse: s-maj=268.3km s-min=22.7km az=63.0*
NEIC ***31*** *19:07:41.6±0.8, 21°.98N×121°.27E, h10km, Error ellipse: s-maj=29.3km s-min=9.5km az=81.0*
ISCJB ***31*** *19:07:46.0±0.5, 22°.21N±0°.03×121°.36E±0°.03, h23km±4km, mb3.3/4, Error ellipse: s-maj=5.1km s-min=4.8km az=22.7*
TAP ***31*** *19:07:46.3, 22°.21N×121°.31E, h33km, ML3.7, B*
ISC 31 19:07:46.4±0.5, 22°.20N±0°.03×121°.33E±0°.03, h22km±4km, n60, σ0§93/91, mb3.3/4, 9C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.26**	**129**	⇓*i* P	**Pb**	**19 07 53.3**	**+0.8**
LAY	baz=123			S	**Sb**	**19 07 58.7**	**+2.0**
	baz=123						
TAW	**Tawu**	**0.43**	**291**	⇑*i* P	**Pb**	**19 07 55.2**	**-0.2**
TAW	baz=296			*i* S	**Sb**	**19 08 01.6**	**+0.1**
	baz=296						
EAST	**Anshuo**	**0.48**	**292**	⇑*i* P	**Pb**	**19 07 56.0**	**-0.2**
EAST	baz=294			S	**Sb**	**19 08 02.6**	**-0.3**
	baz=294						
ECL	**Taimali**	**0.53**	**318**	⇑*i* P	**Pb**	**19 07 56.3**	**-0.7**
ECL	baz=311			S	**Sb**	**19 08 03.7**	**-0.5**
	baz=311						
TWK1	**Hengchun**	**0.55**	**242**	P	**Pb**	**19 07 56.9**	**-0.5**
TWK1	baz=245			*e*S	**Sb**	**19 08 04.4**	**-0.5**
	baz=245						
TTN	**Taitung**	**0.58**	**343**	*e*P	**Pb**	**19 07 58.1**	**+0.3**
TTN	baz=332			*e*S	**Sb**	**19 08 07.2**	**+1.6**
	baz=332						
HEN	**Hengchun**	**0.58**	**251**	P	**Pb**	**19 07 57.8**	**-0.2**
HEN	baz=246			S	**Sb**	**19 08 05.9**	**+0.1**
	baz=246						
TWG	**Pinlang**	**0.66**	**339**	⇑*i* P	**Pb**	**19 07 58.1**	**-1.1**
TWG	baz=330			*e*S	**Sb**	**19 08 06.8**	**-1.3**
	baz=330						
TWG	**Pinlang**	**0.66**	**339**	*e*P	**Pb**	**19 07 57.6**	**-1.7**
SCZT	**Fangliau**	**0.68**	**285**	P	**Pb**	**19 07 59.1**	**-0.5**
SCZT	baz=284			S	**Sb**	**19 08 08.3**	**-0.2**
	baz=284						
SSD	**Sandimen**	**0.85**	**310**	⇑P	**Pb**	**19 08 01.4**	**-1.0**
TWP	**Hsiaoliuchiu**	**0.91**	**279**	*e*P	**Pb**	**19 08 04.0**	**+0.5**
ELDTW	**Lidau**	**1.03**	**344**	⇑*i* P	**Pn**	**19 08 03.2**	**-2.2**
TWM1	**Shoushan**	**1.04**	**306**	*e*P	**Pn**	**19 08 06.4**	**+0.7**
STYT	**Tauyuan**	**1.09**	**331**	*e*P	**Pn**	**19 08 05.2**	**-1.2**
STYT				*e*S	**Sb**	**19 08 19.3**	**-1.2**
SGST	**Jiashian**	**1.12**	**322**	⇑P	**Pn**	**19 08 07.0**	**+0.3**
SGST				*e*S	**Sb**	**19 08 22.4**	**+1.2**
YULB	**Yu-li**	**1.19**	**358**	*e*P	**Pn**	**19 08 05.6**	**-2.1**
CHN1	**Nanshi**	**1.23**	**323**	P	**Pn**	**19 08 08.3**	**+0.1**
CHN1				*e*S	**Sn**	**19 08 25.6**	**+1.4**
WTP	**Ta-pu**	**1.23**	**328**	⇓*i* P	**Pn**	**19 08 08.5**	**+0.2**
WTP				*e*S	**Sn**	**19 08 25.3**	**+1.0**
CHN3	**Shinhua**	**1.25**	**314**	*e*P	**Pn**	**19 08 08.8**	**+0.3**
TPUB	**Ta-pu**	**1.27**	**329**	*e*P	**Pn**	**19 08 08.6**	**-0.3**
EHY	**Hungye**	**1.30**	**360**	*e*P	**Pn**	**19 08 06.8**	**-2.4**
EHY				*e*S	**Sn**	**19 08 22.0**	**-3.9**
YUS	**Yu-Shan**	**1.33**	**345**	*e*P	**Pn**	**19 08 08.8**	**-0.9**
CHN4	**Tsaushan**	**1.33**	**329**	*e*P	**Pn**	**19 08 09.7**	**0.0**
CHN4				*e*S	**Sn**	**19 08 28.3**	**+1.6**
ALS	**Alishan**	**1.39**	**340**	⇓*i* P	**Pn**	**19 08 10.4**	**-0.1**
ALS				*e*S	**Sn**	**19 08 28.6**	**+0.4**
SCLT	**Jiali**	**1.43**	**313**	*e*P	**Pn**	**19 08 10.5**	**-0.5**
SCLT				*e*S	**Sn**	**19 08 29.4**	**+0.2**
CHN5	**Tsauling**	**1.52**	**337**	*e*P	**Pn**	**19 08 12.6**	**+0.4**
CHN5				*e*S	**Sn**	**19 08 32.2**	**+1.0**
CHY	**Chiayi**	**1.54**	**327**	⇑P	**Pn**	**19 08 12.9**	**+0.4**
CHN8	**Yiju**	**1.54**	**318**	*e*P	**Pn**	**19 08 12.0**	**-0.5**
ESL	**Shilin**	**1.61**	**3**	*e*P	**Pn**	**19 08 12.8**	**-0.7**
ESL				*e*S	**Sn**	**19 08 29.6**	**-4.0**
SSLB	**Suanglung**	**1.62**	**348**	*e*P	**Pn**	**19 08 13.4**	**-0.2**
WGK	**Gukeng**	**1.64**	**334**	*e*P	**Pn**	**19 08 14.1**	**+0.2**
WGK				*e*S	**Sn**	**19 08 35.3**	**+1.0**
SMLT	**Sun Moon Lake**	**1.72**	**347**	P	**Pn**	**19 08 15.8**	**+0.8**
SMLT				*e*S	**Sn**	**19 08 37.2**	**+0.9**
TYC	**Yuchr**	**1.75**	**346**	⇑*i* P	**Pn**	**19 08 16.2**	**+0.8**
TYC				*e*S	**Sn**	**19 08 37.8**	**+0.7**
WNT	**Mingjian**	**1.77**	**340**	*e*P	**Pn**	**19 08 16.2**	**+0.5**
WNT				*e*S	**Sn**	**19 08 38.4**	**+0.7**
TWD	**Chiawan**	**1.89**	**7**	*e*P	**Pn**	**19 08 16.6**	**-0.7**
TWD				*e*S	**Sn**	**19 08 38.9**	**-1.5**
WHF	**Hehuan Shan**	**1.94**	**358**	*e*P	**Pn**	**19 08 17.5**	**-0.5**
NACB	**Ninganchiao**	**1.98**	**7**	*e*P	**Pn**	**19 08 18.3**	**-0.3**
TCU	**Taichung**	**2.03**	**343**	*e*P	**Pn**	**19 08 19.8**	**+0.5**
TWT	**Tachien**	**2.05**	**356**	*e*P	**Pn**	**19 08 20.3**	**+0.8**
TWT				*e*S	**Sn**	**19 08 43.0**	**-1.4**
TWQ1	**Liyutan**	**2.20**	**347**	P	**Pn**	**19 08 22.4**	**+0.8**
TWQ1				*e*S	**Sn**	**19 08 48.9**	**+0.8

MWZ	**Matawai**	**8.48**	**213**	PN	**Pn**	**19 43 18.1**	**-0.5**
MWZ				*e*SN	**Sn**	**19 44 52.5**	**-0.5**
CTA	**Charters Tower**	**35.18**	**280**	P	**P**	**19 48 10.1**	**+1.0**
	2.2nm,0.6s,mb4.2,baz=128,slow=8.7,SNR=2.9						
ASAR	**Alice Springs**	**44.30**	**267**	P	**P**	**19 49 24.4**	**-0.4**
	0.8nm,0.7s,mb3.6,baz=105,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**45.38**	**272**	P	**P**	**19 49 32.8**	**-0.6**
	0.7nm,0.4s,mb3.9,baz=111,slow=8.1,SNR=28						
FINES	**FINESS Array B**	**146.47**	**340**	PKPbc	PKPbc	20 00 55.1	+0.2
	4.7nm,0.9s,baz=48,slow=2.8,SNR=6.8						

*CSEM **31** 19:45:52.7±0.5,50°.10N×15°.51E, h5km, Error ellipse: s-maj=50.7km s-min=8.5km az=135.0*

PRU 31 19:46:00.8,50°.34N×16°.06E, h0km, Hronov, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DPC	**Dobruska-Polom**	**0.17**	**86**	*e*PG	Pg	19 46 03.4	-0.6
DPC				*e*SG	Sg	19 46 06.7	+0.5
	4.2nm,0.6s						
DPC	**Dobruska-Polom**	**0.17**	**86**	Pg	Pg	19 46 03.4	-0.6
UPC	**Upice**	**0.17**	**350**	*e*PG	Pg	19 46 03.3	-0.8
UPC				*e*SG	Sg	19 46 06.6	+0.3
	2.0nm,0.6s						
UPC	**Upice**	**0.17**	**350**	Pg	Pg	19 46 03.3	-0.8
PRU	**Pruhonice**	**1.04**	**251**	*e*SG	Sg	19 46 34.2	+0.1

*CSEM **31** 19:46:45.5±0.1,46°.40N×10°.86E, h15km, ML2.4/6, Error ellipse: s-maj=1.1km s-min=0.9km az=19.0*
*VIE **31** 19:46:46.3±0.3,46°.43N×10°.89E, h8km±7km, mb1.3/6, ML1.9/10, Error ellipse: s-maj=1.5km s-min=1.2km az=14.0 6 km S of St.Gertraud*

ROM 31 19:46:45.0±0.2,46°.39N×10°.83E, h4km±3km, Md2.1/10, Ml1.6/3, 6C-2D, Error ellipse: s-maj=2.8km s-min=1.9km az=9.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APPI	**Appiano**	**0.29**	**71**	Pg	Pg	19 46 51.6	+1.0
APPI				Sg	Sg	19 46 55.5	+1.2
APPI	**Appiano**	**0.29**	**71**	Pg	Pg	19 46 51.6	+1.0
APPI				Sg	Sg	19 46 55.5	+1.2
BRMO	**Bormio**	**0.33**	**286**	Pg	Pg	19 46 53.1	+1.7
BRMO				Sg	Sg	19 46 57.5	+1.8
BRMO	**Bormio**	**0.33**	**286**	Pg	Pg	19 46 53.1	+1.7
BRMO				Sg	Sg	19 46 57.5	+1.8
MABI	**Malga Bissina**	**0.40**	**214**	Pg	Pg	19 46 54.2	+1.6
MABI				Sg	Sg	19 46 59.6	+1.8
MABI	**Malga Bissina**	**0.40**	**214**	Pg	Pg	19 46 54.2	+1.6
MABI				Sg	Sg	19 46 59.6	+1.8
FUORN	**Ofenpass-Fuorn**	**0.46**	**301**	Pg	Pg	19 46 55.2	+1.4
FUORN				Sg	Sg	19 47 01.5	+1.7
FUORN	**Ofenpass-Fuorn**	**0.46**	**301**	Pg	Pg	19 46 55.2	+1.4
FUORN				Sg	Sg	19 47 01.5	+1.7
BERNI	**Berninapass**	**0.56**	**273**	Pg	Pg	19 46 57.1	+1.3
BERNI	**Berninapass**	**0.56**	**273**	Pg	Pg	19 46 57.1	+1.3
FETA	**Feichten**	**0.64**	**354**	⇑*i*Pg	Pg	19 46 58.2	+0.9
FETA				⇓*i*Sg	Sg	19 47 06.3	+0.7
	4.3nm,0.1s						
FETA	**Feichten**	**0.64**	**354**	Pg	Pg	19 46 58.2	+0.9
FETA				Sg	Sg	19 47 06.3	+0.7
	4.3nm,0.1s						
CTI	**Castel Tesino**	**0.66**	**120**	Pg	Pg	19 46 58.7	+1.1
CTI				Sg	Sg	19 47 07.1	+0.9
	36nm,0.2s						
CTI	**Castel Tesino**	**0.66**	**120**	Pg	Pg	19 46 58.7	+1.1
CTI				Sg	Sg	19 47 07.1	+0.9
	36nm,0.2s						
ROVR	**Rover¨¤ Verone**	**0.76**	**167**	Pg	Pg	19 47 00.7	+1.2
ROVR				Sg	Sg	19 47 11.1	+1.8
	10.0nm,0.2s						
ROVR	**Rover¨¤ Verone**	**0.76**	**167**	Pg	Pg	19 47 00.7	+1.2
ROVR				Sg	Sg	19 47 11.1	+1.8
	10.0nm,0.2s						
CGRP	**Cima Grappa**	**0.84**	**127**	Pg	Pg	19 47 02.4	+1.3
CGRP	**Cima Grappa**	**0.84**	**127**	Pg	Pg	19 47 02.4	+1.3
AGOR	**Agordo**	**0.85**	**96**	Pg	Pg	19 47 01.9	+0.7
AGOR	**Agordo**	**0.85**	**96**	Pg	Pg	19 47 01.9	+0.7
MOTA	**Moosalm**	**0.98**	**11**	⇓*i*Pg	Pg	19 47 04.5	+0.8
MOTA				⇑*i*Sg	Sg	19 47 17.3	+0.8
	1.6nm,0.1s						
MOTA	**Moosalm**	**0.98**	**11**	Pg	Pg	19 47 04.5	+0.8
MOTA				Sg	Sg	19 47 17.3	+0.9
	1.6nm,0.1s						
TUE	**Stuetta**	**1.03**	**275**	Pg	Pg	19 47 05.9	+1.1
	214nm,3.9s						
TUE	**Stuetta**	**1.03**	**275**	Pg	Pg	19 47 05.9	+1.1
	214nm,3.9s						
WTTA	**Wattenberg**	**1.04**	**32**	⇑*i*Pg	Pg	19 47 05.5	+0.6
WTTA	**Wattenberg**	**1.04**	**32**	Pg	Pg	19 47 05.5	+0.6
WATA	**Walderalm**	**1.08**	**28**	⇑*i*Pg	Pg	19 47 05.9	+0.2
WATA				⇑*i*Sg	Sg	19 47 20.2	+0.5
	1.3nm,0.1s						
WATA	**Walderalm**	**1.08**	**28**	Pg	Pg	19 47 05.9	+0.2
ABTA	**Abfaltersbach**	**1.21**	**72**	*e*Pg	Pg	19 47 08.4	+0.2
	SNR=28						
ABTA				⇑*i*Sg	Sg	19 47 24.7	+0.7
	3.3nm,0.1s						
ABTA	**Abfaltersbach**	**1.21**	**72**	Pg	Pg	19 47 08.4	+0.2
	SNR=28						
PTCC	**Patocco-Chiusa**	**1.74**	**88**	Pg	Pg	19 47 18.2	-0.2
	8.0nm,0.8s						
PTCC	**Patocco-Chiusa**	**1.74**	**88**	Pg	Pg	19 47 18.2	-0.2
	8.0nm,0.8s						

*NEIC **31** 19:53:28.2, 15°.99N×97°.10W, h27km, MD4.1(MEX), After MEX.*

MEX 31 19:53:28.2±0.7,16°.00N×97°.10W, h26km±15km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.99**	**103**	*i*P	Pn	19 53 44.3	-2.1
HUIG				*i*S	Sb	19 53 55.0	-4.2
HUIG	**Huatulco**	**0.99**	**103**	*i*P	Pn	19 53 44.3	-2.1
HUIG				*i*S	Sb	19 53 55.0	-4.2
PNIG	**Pinotepa**	**1.06**	**292**	*i*P	Pn	19 53 44.5	-2.9
PNIG				*e*S	Sb	19 53 57.2	-4.1
PNIG	**Pinotepa**	**1.06**	**292**	*i*P	Pn	19 53 44.5	-2.9
PNIG				*e*S	Sb	19 53 57.2	-4.1
VHO	**Vista Hermosa**	**1.12**	**18**	*i*P	Pn	19 53 45.1	-3.2
VHO				*e*S	Sn	19 53 59.0	-4.0
VHO	**Vista Hermosa**	**1.12**	**18**	*i*P	Pn	19 53 45.1	-3.2
VHO				*e*S	Sn	19 53 59.0	-4.0
OXX	**Oaxaca**	**1.14**	**19**	*i*P	Pn	19 53 46.0	-2.4
OXX				*e*S	Sn	19 54 00.1	-3.1
OXX	**Oaxaca**	**1.14**	**19**	*i*P	Pn	19 53 46.0	-2.4
OXX				*e*S	Sn	19 54 00.1	-3.1
UTMO	**Huajuapan**	**1.94**	**340**	*i*P	Pn	19 53 58.1	-1.4
UTMO				*e*S	Sn	19 54 21.0	-2.1
UTMO	**Huajuapan**	**1.94**	**340**	*i*P	Pn	19 53 58.1	-1.4
UTMO				*e*S	Sn	19 54 21.0	-2.1
CMIG	**Matias Romero**	**2.39**	**63**	*i*P	Pn	19 54 03.8	-2.0
CMIG				*e*S	Sn	19 54 31.5	-2.7
CMIG	**Matias Romero**	**2.39**	**63**	*i*P	Pn	19 54 03.8	-2.0
CMIG				*e*S	Sn	19 54 31.5	-2.7
TPIG	**Tehuac#an**	**2.42**	**354**	*i*P	Pn	19 54 04.0	-2.2
TPIG				*e*S	Sn	19 54 32.1	-2.8
TPIG	**Tehuac#an**	**2.42**	**354**	*i*P	Pn	19 54 04.0	-2.2
TPIG				*e*S	Sn	19 54 32.1	-2.8
ACX	**Acapulco**	**2.78**	**288**	*i*P	Pn	19 54 09.7	-1.4
ACX				*e*S	Sn	19 54 42.4	-1.5
ACX	**Acapulco**	**2.78**	**288**	*i*P	Pn	19 54 09.7	-1.4
ACX				*e*S	Sn	19 54 42.4	-1.5
MEIG	**Mezcala**	**3.08**	**309**	*i*P	Pn	19 54 13.0	-2.2
MEIG				*e*S	Sn	19 54 47.7	-3.4
MEIG	**Mezcala**	**3.08**	**309**	*i*P	Pn	19 54 13.0	-2.2
MEIG				*e*S	Sn	19 54 47.7	-3.4
PLIG	**Platanillo**	**3.30**	**316**	*i*P	Pn	19 54 16.4	-1.9
PLIG				*e*S	Sn	19 54 54.7	-2.1
PLIG	**Platanillo**	**3.30**	**316**	*i*P	Pn	19 54 16.4	-1.9
PLIG				*e*S	Sn	19 54 54.7	-2.1
YAIG	**Yautepec**	**3.41**	**327**	*i*P	Pn	19 54 17.9	-1.9
YAIG				*e*S	Sn	19 54 56.9	-2.5
YAIG	**Yautepec**	**3.41**	**327**	*i*P	Pn	19 54 17.9	-1.9
YAIG				*e*S	Sn	19 54 56.9	-2.5
PCIG		**3.75**	**94**	*i*P	Pn	19 54 23.7	-0.8
PCIG				*e*S	Sn	19 55 04.8	-3.0
PCIG		**3.75**	**94**	*i*P	Pn	19 54 23.7	-0.8
PCIG				*e*S	Sn	19 55 04.8	-3.0
TGIG		**3.90**	**78**	*i*P	Pn	19 54 24.1	-2.4
TGIG				*e*S	Sn	19 55 08.2	-3.2
TGIG		**3.90**	**78**	*i*P	Pn	19 54 24.1	-2.4
TGIG				*e*S	Sn	19 55 08.2	-3.2

*ISCJB **31** 20:02:08.7±0.6,37°.93N±0°.03×29°.25E±0°.06, h10km, Error ellipse: s-maj=7.0km s-min=4.6km az=8.1*
*ISK **31** 20:02:08.3,37°.96N×29°.25E, h5km, MD2.7*
*DDA **31** 20:02:08.2,37°.92N×29°.22E, h7km±4km, Md2.8*
*CSEM **31** 20:02:08.6±0.3,37°.90N×29°.27E, h12km, MD2.7, Error ellipse: s-maj=9.2km s-min=6.4km az=97.0*

ISC 31 20:02:08.9±0.7,37°.92N±0°.04×29°.22E±0°.09, h18km±8km, n12, σ0°.85/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.22**	**222**	*e*PG	**Pg**	**20 02 13.8**	**-0.3**
DENT				*e*SG	**Sg**	**20 02 18.6**	**+0.8**
DENT	**Denizli**	**0.22**	**222**	*e*Pg	**Pg**	**20 02 13.9**	**-0.3**
DENT				*e*Sg	**Sg**	**20 02 18.6**	**+0.9**
KHAL	**Karahalli**	**0.50**	**25**	*e*P	**Pg**	**20 02 18.8**	**-0.2**
KHAL				*e*S	**Sg**	**20 02 25.8**	**+0.1**
KHAL	**Karahalli**	**0.50**	**25**	*e*P	**Pg**	**20 02 18.8**	**-0.2**
KHAL				*e*S	**Sg**	**20 02 25.8**	**+0.1**
GOLH	**Golhisar**	**0.73**	**158**	*e*P	**Pb**	**20 02 21.1**	**-2.0**
GOLH				*e*S	**Sb**	**20 02 33.4**	**+0.6**
GOLH	**Golhisar**	**0.73**	**158**	*e*P	**Pb**	**20 02 21.1**	**-2.0**
GOLH				*e*S	**Sb**	**20 02 33.4**	**+0.6**
KULA	**Kula-Manisa**	**0.74**	**324**	*e*PG	**Pg**	**20 02 23.3**	**-0.1**
KULA				*e*SG	**Sg**	**20 02 32.9**	**-0.4**
KULA	**Kula-Manisa**	**0.74**	**324**	*e*Pg	**Pg**	**20 02 23.3**	**-0.1**
KULA				*e*Sg	**Sg**	**20 02 32.9**	**-0.4**
SHUT	**Suhut-Afyon**	**1.22**	**58**	*e*PN	**Pn**	**20 02 30.9**	**-0.2**
SHUT	**Suhut-Afyon**	**1.22**	**58**	*e*Pn	**Pn**	**20 02 30.9**	**-0.2**
ALT	**Altintas**	**1.33**	**31**	*e*PN	**Pn**	**20 02 34.1**	**+1.5**
ALT	**Altintas**	**1.33**	**31**	*e*Pn	**Pn**	**20 02 34.1**	**+1.5**

*ISCJB **31** 20:08:52.9±0.4,39°.00N±0°.02×26°.74E±0°.03, h5km±4km, Error ellipse: s-maj=4.4km s-min=3.2km az=157.5*
*ISK **31** 20:08:52.7,38°.97N×26°.71E, h14km, MD3.2*
*DDA **31** 20:08:53.1,39°.00N×26°.73E, h7km±7km, Md3.1*
*CSEM **31** 20:08:53.3±0.2,39°.01N×26°.73E, h8km, MD3.1, Error ellipse: s-maj=3.9km s-min=2.9km az=68.0*
*ATH **31** 20:08:54.3,38°.94N×26°.42E, h21km±1km, MD3.0/4*

ISC 31 20:08:53.6±0.4,39°.00N±0°.02×26°.72E±0°.03, h9km±3km, n53, σ0°.78/75, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.31**	**355**	⇑*i*P	**Pg**	**20 08 59.1**	**-0.7**
AYVA				*i*S	**Sg**	**20 09 03.8**	**-0.2**
AYVA	**Ayvalik**	**0.31**	**355**	*i*P	**Pg**	**20 08 59.1**	**-0.6**
AYVA				*i*S	**Sg**	**20 09 03.8**	**-0.1**
PRK	**Paraskevi**	**0.43**	**305**	*e*PB	**Pg**	**20 09 01.5**	**-0.5**
PRK				*e*SB	**Sg**	**20 09 07.0**	**-0.7**
PRK	**Paraskevi**	**0.43**	**305**	*e*Pb	**Pg**	**20 09 01.5**	**-0.5**
PRK				*e*Sb	**Sg**	**20 09 08.5**	**+0.8**
URLA	**Izmir**	**0.64**	**189**	*e*P	**Pg**	**20 09 06.1**	**+0.1**
URLA				*e*S	**Sg**	**20 09 14.3**	**-0.1**
URLA	**Izmir**	**0.64**	**189**	*e*P	**Pg**	**20 09 06.1**	**+0.1**
URLA				*e*S	**Sg**	**20 09 14.3**	**-0.1**
BLCB	**Balcova**	**0.66**	**158**	*e*PG	**Pg**	**20 09 05.8**	**-0.5**
BLCB				*e*SG	**Sg**	**20 09 14.7**	**-0.2**
BLCB	**Balcova**	**0.66**	**158**	*e*Pg	**Pg**	**20 09 05.8**	**-0.5**
BLCB				*e*Sg	**Sg**	**20 09 14.7**	**-0.2**
AKHS	**Akhisar**	**0.86**	**98**	*e*P	**Pg**	**20 09 09.6**	**-0.4**
AKHS				*e*S	**Sg**	**20 09 22.6**	**+1.3**
AKHS	**Akhisar**	**0.86**	**98**	*e*P	**Pg**	**20 09 09.6**	**-0.5**
AKHS				*e*S	**Sg**	**20 09 22.6**	**+1.4**
AKS	**Akhisar**	**0.86**	**98**	*e*PG	**Pg**	**20 09 09.9**	**-0.2**
AKS	**Akhisar**	**0.86**	**98**	*e*Pg	**Pg**	**20 09 09.9**	**-0.2**
EZN	**Ezine**	**0.88**	**340**	*e*PG	**Pg**	**20 09 10.6**	**+0.1**
EZN				*e*SG	**Sg**	**20 09 23.7**	**+1.6**
EZN	**Ezine**	**0.88**	**340**	*e*Pg	**Pg**	**20 09 10.6**	**0.0**
EZN				*e*Sg	**Sg**	**20 09 23.7**	**+1.6**
BOZC	**Bozcaada**	**0.99**	**329**	*e*P	**Pg**	**20 09 11.8**	**-0.8**
BOZC				*e*S	**Sg**	**20 09 26.7**	**+1.2**
BALY	**Balya**	**1.02**	**43**	*e*P	**Pg**	**20 09 13.3**	**+0.2**
BALY				*e*S	**Sg**	**20 09 25.2**	**-1.1**
BALY	**Balya**	**1.02**	**43**	*e*P	**Pg**	**20 09 13.3**	**+0.2**
BALY				*e*S	**Sg**	**20 09 25.2**	**-1.1**
BALB	**Balikesir**	**1.10**	**54**	*e*PN	**Pg**	**20 09 14.9**	**+0.1**
BALB				*e*SN	**Sg**	**20 09 30.2**	**+1.2**
BALB	**Balikesir**	**1.10**	**54**	*e*Pn	**Pg**	**20 09 14.9**	**+0.2**
BALB				*e*Sn	**Sg**	**20 09 30.2**	**+1.1**
GONE	**Gonen-Balikesi**	**1.28**	**35**	*e*PN	**Pn**	**20 09 17.0**	**-0.6**
GONE	**Gonen-Balikesi**	**1.28**	**35**	*e*Pn	**Pn**	**20 09 17.0**	**-0.7**
SMG	**Samos**	**1.29**	**176**	*e*PN	**Pn**	**20 09 18.2**	**+0.5**
SMG				*e*SN	**Sn**	**20 09 36.0**	**+0.9**
SMG	**Samos**	**1.29**	**176**	*e*Pn	**Pn**	**20 09 18.2**	**+0.5**
SMG				*e*Sn	**Sn**	**20 09 37.4**	**+2.3**
LPK	**Lapseki**	**1.37**	**1**	*e*PN	**Pn**	**20 09 17.7**	**-1.2**
LPK	**Lapseki**	**1.37**	**1**	*e*Pn	**Pn**	**20 09 17.7**	**-1.2**
GELI	**Tayfur-Gelibol**	**1.41**	**352**	*e*PN	**Pn**	**20 09 19.3**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.41**	**352**	*e*Pn	**Pn**	**20 09 19.3**	**-0.1**
KRBG	**Karabiga-Canak**	**1.46**	**17**	*e*PN	**Pn**	**20 09 20.4**	**+0.3**
KRBG	**Karabiga-Canak**	**1.46**	**17**	*e*Pn	**Pn**	**20 09 20.4**	**+0.3**
DURS	**Dursunbey**	**1.49**	**66**	*e*P	**Pn**	**20 09 19.7**	**-0.7**
DURS				*e*S	**Sn**	**20 09 40.5**	**+0.6**
DURS	**Dursunbey**	**1.49**	**66**	*e*P	**Pn**	**20 09 19.7**	**-0.7**
DURS				*e*S	**Sn**	**20 09 40.5**	**+0.6**
LIA	**Limnos Island**	**1.49**	**307**	*e*PN	**Pn**	**20 09 20.0**	**-0.5**
LIA	**Limnos Island**	**1.49**	**307**	*e*Pb	**Pn**	**20 09 20.0**	**-0.5**
KULA	**Kula-Manisa**	**1.59**	**107**	*e*PN	**Pn**	**20 09 21.3**	**-0.5**
KULA	**Kula-Manisa**	**1.59**	**107**	*e*Pn	**Pn**	**20 09 21.3**	**-0.5**
EDC	**Edincik**	**1.61**	**33**	*e*PN	**Pn**	**20 09 21.9**	**-0.2**
EDC	**Edincik**	**1.61**	**33**	*e*Pn	**Pn**	**20 09 21.9**	**-0.2**
ERIK	**Erikli-Kesan**	**1.68**	**355**	*e*PN	**Pn**	**20 09 22.2**	**-0.9**
ERIK	**Erikli-Kesan**	**1.68**	**355**	*e*Pn	**Pn**	**20 09 22.2**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.72**	**12**	*e*PN	**Pn**	**20 09 22.9**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.72**	**12**	*e*Pn	**Pn**	**20 09 22.9**	**-0.8**
KCTX	**Karacabey (Bur**	**1.79**	**44**	*e*PN	**Pn**	**20 09 24.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.79**	**44**	*e*Pn	**Pn**	**20 09 24.4**	**-0.2**
ENEZ	**Enez**	**1.79**	**346**	*e*PN	**Pn**	**20 09 24.4**	**-0.3**
ENEZ	**Enez**	**1.79**	**346**	*e*Pn	**Pn**	**20 09 24.4**	**-0.2**
ALN	**Alexandroupoli**	**1.97**	**345**	*e*PN	**Pn**	**20 09 28.7**	**+1.7**
ALN	**Alexandroupoli**	**1.97**	**345**	*e*Pn	**Pn**	**20 09 28.7**	**+1.7**
ALN				*e*Sn	**Sn**	**20 09 55.5**	**+3.7**
ARMT	**Armutlu**	**2.27**	**46**	*e*PN	**Pn**	**20 09 30.5**	**-0.8**
ARMT	**Armutlu**	**2.27**	**46**	*e*Pn	**Pn**	**20 09 30.5**	**-0.7**
YLV	**Yalova**	**2.57**	**52**	*e*PN	**Pn**	**20 09 35.9**	**+0.5**
YLV	**Yalova**	**2.57**	**52**	*e*Pn	**Pn**	**20 09 35.9**	**+0.5**
EDRB	**Edirne**	**2.85**	**0**	*e*PN	**Pn**	**20 09 39.5**	**+0.4**
EDRB	**Edirne**	**2.85**	**0**	*e*Pn	**Pn**	**20 09 39.5**	**+0.4**

IDC 31 20:12:57.2±2.2,4°.36N×127°.06E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=173.4km s-min=26.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.19**	**164**	P	P	20 18 22.9	-1.7
	0.4nm,0.6s,baz=343,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**28.64**	**167**	P	P	20 18 57.3	+1.6
	0.2nm,0.7s,baz=341,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**57.23**	**325**	P	P	20 22 46.4	+0.1
	0.2nm,0.3s,baz=119,slow=7.3,SNR=7.3						

*IDC **31** 20:48:35.7±4.9,36°.25N×70°.83E, h197km±44km, mb3.3/11, mb1 3.4/15, mb1mx3.2/30, mbtmp3.2/15, Error ellipse: s-maj=25.2km s-min=16.2km az=16.0*
*ISCJB **31** 20:48:36.6±0.5,36°.43N±0°.03×70°.77E±0°.07, h211km±5km, mb3.4/10, Error ellipse: s-maj=9.9km s-min=4.9km az=163.0*
*NEIC **31** 20:48:37.4±0.6,36°.42N×70°.77E, h204km±7km, mb4.5/15, Error ellipse: s-maj=9.3km s-min=5.1km az=59.0*

ISC 31 20:48:37.5±0.4,36°.42N±0°.03×70°.76E±0°.07, h205km±5km, n80, σ0°.90/87, mb3.4/10, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.33**	**217**	*e*P	**Pn**	**20 49 19.9**	**0.0**
CEP	**Cherat**	**2.75**	**160**	⇑P	**Pn**	**20 49 25.2**	**+0.6**
CEP				S	**Sn**	**20 50 01.0**	**-0.3**
CHCP	**Chirah Chowk**	**3.44**	**142**	P	**Pn**	**20 49 33.5**	**+0.9**
THW	**Thamme Wali**	**3.70**	**167**	P	**Pn**	**20 49 36.1**	**+0.3**
THN	**Thein Dam**	**5.71**	**133**	*e*PKP	**Pn**	**20 50 01.0**	**-0.1**
THN				*e*S	**Sn**	**20 51 02.0**	**-5.2**
AML	**Almayashu**	**6.15**	**21**	P	**Pn**	**20 50 06.7**	**+0.1**
	SNR=192						
AML				P		20 50 06.7	
	SNR=192						
UCH	**Uchtor**	**6.49**	**25**	P	**Pn**	**20 50 11.5**	**+0.4**
	SNR=8.2						
UCH				P		20 50 11.5	
	SNR=8.2						
KZA	**Kyzart**	**6.64**	**30**	P	**Pn**	**20 50 10.0**	**-3.0**
	SNR=11						
KZA				P		20 50 10.0	
	SNR=11						
EKS2	**Erkin-Say**	**6.66**	**20**	P	**Pn**	**20 50 13.4**	**+0.2**
	SNR=29						
EKS2				P		20 50 13.4	
	SNR=29						
EKS2	**Erkin-Say**	**6.66**	**20**	*e*P	**Pn**	**20 50 13.2**	**0.0**
	15nm,0.6s						
KK31	**Karatay Array**	**6.68**	**358**	Pn	**Pn**	**20 50 12.8**	**-0.8**
	4.9nm,0.3s,baz=176,slow=12,SNR=149						
KK31				Sn	**Sn**	**20 51 25.1**	**-4.7**
	6.0nm,0.5s,baz=180,slow=20,SNR=6.4						
KKAR	**Karatay Array**	**6.68**	**358**	*e*P	**Pn**	**20 50 12.1**	**-1.4**
	13nm,0.4s						
AAK	**Ala-Archa**	**6.85**	**24**	P	**Pn**	**20 50 15.9**	**+0.2**
	SNR=26						
AAK				P		20 50 15.9	
	SNR=26						
AAK	**Ala-Archa**	**6.85**	**24**	*e*P	**Pn**	**20 50 15.7**	**0.0**
	68nm,0.5s						
KBK	**Karagaybulak**	**7.02**	**26**	P	**Pn**	**20 50 18.6**	**+0.6**
	SNR=21						
KBK				P		20 50 18.6	
	SNR=21						
SDNR	**Sundarnagar**	**7.12**	**132**	*e*S	**Sn**	**20 51 33.0**	**-7.2**
CHMS	**Chumysh**	**7.26**	**24**	P	**Pn**	**20 50 20.7**	**-0.3**
	SNR=15						
CHMS				P		20 50 20.7	
	SNR=15						
USP	**Ospenovka**	**7.42**	**22**	P	**Pn**	**20 50 23.0**	**-0.1**
	SNR=12						
USP				P		20 50 23.0	
	SNR=12						
TKM2	**Tokmak 2**	**7.49**	**28**	P	**Pn**	**20 50 24.1**	**+0.1**
	SNR=6.1						
TKM2				P		20 50 24.1	
	SNR=6.1						
TKM2	**Tokmak 2**	**7.49**	**28**	⇑Pn	**Pn**	**20 50 24.0**	**-0.1**
	18nm,0.7s						
TKM2				⇓Sn	**Sn**	**20 51 43.4**	**-5.5**
	8.5nm,1.1s						
TKM2	**Tokmak 2**	**7.49**	**28**	*e*P	**Pn**	**20 50 23.8**	**-0.2**
	34nm,0.7s						
SMLA	**Simla**	**7.50**	**133**	*i*P	**Pn**	**20 50 22.4**	**-1.9**
SMLA				*i*S	**Sn**	**20 51 42.4**	**-6.8**
SMLA				*i*S	**Sn**	**20 51 43.4**	**-5.8**
SMLA				⇓AML	AML	20 51 45.6	
	comp=N,515nm,0.4s						
SMLA				⇓AML	AML	20 51 46.4	
	comp=E,570nm,0.5s						
DDI	**Dehra Dun**	**8.61**	**133**	*ex*	x	20 51 52.0	
NDI	**New Delhi**	**9.44**	**143**	*e*S	**Sn**	**20 52 25.0**	**-10**
MK31	**Makanchi Array**	**13.48**	**36**	*e*P	**Pn**	**20 51 41.3**	**+0.7**
MKAR	**Makanchi Array**	**13.48**	**36**	P	**Pn**	**20 51 40.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=215,slow=9.7,SNR=16						
MKAR				S	**S**	**20 54 11.6**	**+1.0**
	comp=E,0.1nm,0.3s,baz=66,slow=29,SNR=2.6						
MKAR	**Makanchi Array**	**13.48**	**36**	P	**Pn**	**20 51 40.3**	**-0.3**
MKAR				S	**S**	**20 54 11.6**	**+1.0**
DANN	**Dangsing**	**13.61**	**123**	*e*P	**Pn**	**20 51 42.3**	**-0.1**
DANN	**Dangsing**	**13.61**	**123**	*e*P	**Pn**	**20 51 42.3**	**-0.1**
KOLN	**Koldanda**	**13.88**	**125**	*e*P	**Pn**	**20 51 45.8**	**0.0**
	comp=E,3.3nm,0.3s						
KOLN	**Koldanda**	**13.88**	**125**	*e*P	**Pn**	**20 51 45.8**	**0.0**
	comp=E,3.3nm,0.3s						
BHPL	**Bhopal**	**14.34**	**154**	*e*PKP	**Pn**	**20 51 52.1**	**+0.6**
BHPL				*ex*	x	20 54 22.9	
BHPL				AML	AML	20 54 27.4	
	comp=N,2.4nm,0.0s

*DJA **31** 20:49:36, 10.69S×112.19E, h19km, MLv4.0/8*
IDC 31 20:49:30.7±2.9, 10.69S×112.52E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=146.5km s-min=23.6km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.94**	**116**	P	P	20 54 36.8	+0.1
	1.3nm,0.8s,baz=290,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**24.12**	**125**	P	P	20 54 48.2	-0.1
	0.2nm,0.6s,baz=306,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**63.29**	**337**	P	P	21 00 01.6	+0.3
	0.3nm,0.5s,baz=157,slow=5.5,SNR=9.4						
ZALV	**Zalesovo Beam**	**68.55**	**343**	P	P	21 00 35.0	0.0
	0.7nm,0.6s,baz=149,slow=4.8,SNR=4.8						

*CSEM **31** 21:05:25.7, 34.63N×23.38E, h5km, MD3.0, After ATH*
ATH 31 21:05:24.8, 34.61N×23.31E, h4km, MD3.0/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.68**	**70**	*e*PG	Pg	21 05 37.7	-0.2
GVD	**Gavdhos**	**0.68**	**70**	*e*Pb	Pb	21 05 37.7	-1.5
VAM	**Vamos**	**1.08**	**42**	*e*PG	Pg	21 05 45.3	-0.2
VAM				*e*SG	Sg	21 06 00.3	+0.8
VAM	**Vamos**	**1.08**	**42**	*e*Pn	Pn	21 05 45.3	-1.4
VAM				*e*Sb	Sb	21 06 00.3	-0.2
KYTH	**Kithira**	**1.68**	**352**	*e*PB	Pb	21 05 56.3	0.0
KYTH	**Kithira**	**1.68**	**352**	*e*Pg	Pg	21 05 56.3	-0.8
VLI	**Veliai**	**2.12**	**352**	*e*PN	Pn	21 06 03.2	+2.1
VLI	**Veliai**	**2.12**	**352**	*e*Pg	Pg	21 06 04.7	-0.8

*CSEM **31** 21:06:39.0, 38.69N×22.54E, h13km, ML1.6/4, After THE*
THE 31 21:06:39.0, 38.69N×22.54E, h13km±2km, ML1.6/4, Error ellipse: s-maj=2.3km s-min=0.3km az=168.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.28**	**182**	P	Pg	21 06 44.6	-0.2
DSF				S	Sg	21 06 48.9	+0.3
DSF	**Desfina**	**0.28**	**182**	P	Pg	21 06 44.6	-0.2
DSF				S	Sg	21 06 48.9	+0.3
LKR	**Lokris**	**0.36**	**96**	P	Pg	21 06 46.2	-0.1
LKR				S	Sg	21 06 51.9	+0.7
LKR	**Lokris**	**0.36**	**96**	P	Pg	21 06 46.2	-0.1
LKR				S	Sg	21 06 51.9	+0.7
AGG	**Agios Georgios**	**0.37**	**334**	P	Pg	21 06 46.1	-0.3
AGG				S	Sg	21 06 51.9	+0.5
AGG	**Agios Georgios**	**0.37**	**334**	P	Pg	21 06 46.1	-0.3
AGG				S	Sg	21 06 51.9	+0.5
KALE	**Kalithea**	**0.43**	**226**	P	Pg	21 06 47.3	-0.2
KALE				S	Sg	21 06 54.0	+0.7
KALE	**Kalithea**	**0.43**	**226**	P	Pg	21 06 47.3	-0.2
KALE				S	Sg	21 06 54.0	+0.7
EFP	**Efpalio**	**0.56**	**242**	P	Pg	21 06 49.9	-0.1
EFP	**Efpalio**	**0.56**	**242**	*e*Pg	Pg	21 06 49.8	-0.2
EFP	**Efpalio**	**0.56**	**242**	P	Pg	21 06 49.9	-0.1
XOR	**Xorichti**	**0.85**	**37**	P	Pg	21 06 54.9	-0.5
XOR				S	Sg	21 07 07.3	+0.8
XOR	**Xorichti**	**0.85**	**37**	P	Pg	21 06 54.9	-0.5
XOR				S	Sg	21 07 07.3	+0.8

*ATH **31** 21:12:15.6, 38.35N×22.38E, h32km±1km, MD3.0/8*
*CSEM **31** 21:12:15.8±0.2, 38.36N×22.38E, h30km, ML1.5/6, Error ellipse: s-maj=6.2km s-min=5.8km az=169.0*
*ISCJB **31** 21:12:16.5±0.5, 38.37N±0.03×22.41E±0.03, h21km±6km, Error ellipse: s-maj=5.2km s-min=4.6km az=173.5*
*THE **31** 21:12:17.4, 38.41N×22.38E, h10km±1km, ML1.5/6, Error ellipse: s-maj=1.3km s-min=0.3km az=159.0*
ISC 31 21:12:16.6±0.7, 38.37N±0.03×22.40E±0.03, h18km±6km, n27, σ0970/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.11**	**66**	P	**Pg**	**21 12 20.2**	**-0.2**
DSF				S	**Sg**	**21 12 22.5**	**-0.5**
DSF	**Desfina**	**0.11**	**66**	P	**Pg**	**21 12 20.2**	**-0.2**
KALE	**Kalithea**	**0.21**	**277**	P	**Pg**	**21 12 21.3**	**-0.4**
KALE				S	**Sg**	**21 12 24.7**	**-0.4**
KALE	**Kalithea**	**0.21**	**277**	P	**Pg**	**21 12 21.3**	**-0.4**
LAKA	**Lakka**	**0.35**	**249**	P	**Pg**	**21 12 24.5**	**+0.4**
LAKA				S	**Sg**	**21 12 29.8**	**+0.6**
LAKA	**Lakka**	**0.35**	**249**	P	**Pg**	**21 12 24.5**	**+0.4**
LAKA				S	**Sg**	**21 12 29.8**	**+0.6**
THAL	**Thalero**	**0.39**	**148**	P	**Pg**	**21 12 25.8**	**+1.1**
THAL	**Thalero**	**0.39**	**148**	P	**Pg**	**21 12 25.8**	**+1.1**
EFP	**Efpalio**	**0.39**	**279**	*e*PB	**Pg**	**21 12 24.6**	**-0.2**
EFP				*e*SB		21 12 30.8	
EFP	**Efpalio**	**0.39**	**279**	P	**Pg**	**21 12 24.5**	**-0.3**
EFP				S	**Sg**	**21 12 30.4**	**+0.1**
EFP	**Efpalio**	**0.39**	**279**	*e*Pb	**Pg**	**21 12 24.6**	**-0.2**
EFP				S	**Sg**	**21 12 30.4**	**+0.1**
EFP				*e*Sb		21 12 30.8	
GUR	**Goura**	**0.43**	**186**	*e*PB	**Pg**	**21 12 24.7**	**-0.8**
GUR				*e*SB	**Sg**	**21 12 32.2**	**+0.8**
GUR	**Goura**	**0.43**	**186**	*e*Pb	**Pg**	**21 12 24.7**	**-0.8**
GUR				*e*Sb	**Sg**	**21 12 32.2**	**+0.8**
LKR	**Lokris**	**0.55**	**59**	*e*PN	**Pg**	**21 12 27.8**	**+0.2**
LKR				*e*SN	**Sg**	**21 12 36.5**	**+1.5**
LKR	**Lokris**	**0.55**	**59**	P	**Pg**	**21 12 27.7**	**+0.1**
LKR				S	**Sg**	**21 12 36.0**	**+1.0**
LKR	**Lokris**	**0.55**	**59**	P	**Pg**	**21 12 27.7**	**+0.1**
LKR	**Lokris**	**0.55**	**59**	*e*Pn	**Pg**	**21 12 28.0**	**+0.4**
LKR				S	**Sg**	**21 12 36.0**	**+1.0**
LKR				*e*Sn	**Sg**	**21 12 36.5**	**+1.5**
LTK	**Loutraki**	**0.56**	**127**	*e*PN	**Pg**	**21 12 27.5**	**-0.3**
LTK	**Loutraki**	**0.56**	**127**	*e*Pn	**Pg**	**21 12 27.5**	**-0.3**
AGG	**Agios Georgios**	**0.66**	**355**	*e*PN	**Pg**	**21 12 29.0**	**-0.6**
AGG				*e*SN	**Sg**	**21 12 39.4**	**+1.0**
AGG	**Agios Georgios**	**0.66**	**355**	P	**Pg**	**21 12 29.0**	**-0.6**
AGG				S	**Sg**	**21 12 37.9**	**-0.5**
AGG	**Agios Georgios**	**0.66**	**355**	P	**Pg**	**21 12 29.0**	**-0.6**
AGG				S	**Sg**	**21 12 37.9**	**-0.5**
AGG				*e*Sn	**Sg**	**21 12 39.4**	**+1.0**
EVR	**Evrytania**	**0.72**	**320**	*e*PN	**Pg**	**21 12 29.8**	**-1.0**
EVR				*e*SN	**Sg**	**21 12 41.3**	**+1.0**
EVR	**Evrytania**	**0.72**	**320**	*e*Pn	**Pg**	**21 12 29.8**	**-1.0**
EVR				*e*Sn	**Sg**	**21 12 41.6**	**+1.3**
VIL1	**Vilia, Western**	**0.76**	**105**	*e*PN	**Pg**	**21 12 30.5**	**-1.0**
RLS	**Riolos of Patr**	**0.80**	**248**	*e*PN	**Pg**	**21 12 31.4**	**-0.8**
RLS	**Riolos of Patr**	**0.80**	**248**	*e*Pn	**Pg**	**21 12 31.9**	**-0.3**

*ISCJB **31** 21:23:41.0±2.0, 8.77S±0.04×75.90W±0.04, h30km±14km, mb4.9/71, MS4.5/8, Error ellipse: s-maj=8.0km s-min=4.7km az=140.3*
*NEIC **31** 21:23:42.9±1.2, 8.82S×75.87W, h32km±8km, mb5.0/65, Error ellipse: s-maj=5.2km s-min=3.4km az=50.0*
NEIC Felt [III] at Tingo Maria.
*IDC **31** 21:23:44.7±2.1, 8.72S×75.84W, h47km±23km, mb4.2/12, mb1 4.4/15, mb1mx4.3/20, mbtmp4.2/15, ML4.0/3, MS4.1/7, Ms1 4.1/7, ms1mx3.6/25, Error ellipse: s-maj=22.7km s-min=12.1km az=62.0*
ISC 31 21:23:43.7±0.7, 8.80S±0.03×75.83W±0.03, h35km±6km, n422, σ0955/403, mb4.9/72, MS4.5/8, 126C-104D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.03**	**303**	P	**Pn**	**21 24 29.2**	**0.0**
	57nm,0.3s,baz=115,slow=9.1,SNR=203						
ATAH				S	**Sn**	**21 25 13.1**	**+8.8**
	48nm,0.3s,baz=280,slow=14,SNR=8.1						
ATAH	**Atahualpa**	**3.03**	**303**	P	**Pn**	**21 24 29.2**	**0.0**
ATAH				S	**Sn**	**21 25 13.1**	**+8.8**
NNA	**Nana**	**3.32**	**197**	P	**Pn**	**21 24 33.3**	**+0.2**
	10nm,0.3s,baz=3.8,slow=8.8,SNR=55						
NNA				S	**Sn**	**21 25 15.8**	**+4.4**
	172nm,0.3s,baz=314,slow=19,SNR=12						
NNA				LR	LR	21 26 01.4	
	comp=Z,764nm,20.2s,baz=175,slow=40						
NNA	**Nana**	**3.32**	**197**	*e*Pn	**Pn**	**21 24 32.8**	**-0.4**
NNA				*e*Sn	**Sn**	**21 25 11.7**	**+0.3**
NNA	**Nana**	**3.32**	**197**	Pn	**Pn**	**21 24 33.0**	**-0.1**
	3μm,1.0s,SNR=45						
OTAV	**Otavalo**	**9.35**	**344**	*e*Pn	**Pn**	**21 25 56.9**	**+0.9**
OTAV				*e*Sn	**Sn**	**21 27 39.6**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**10.57**	**135**	P	**Pn**	**21 26 14.9**	**+2.1**
	0.4nm,0.3s,baz=340,slow=14,SNR=9.8						
LPAZ				S	**Sn**	**21 28 21.6**	**+12**
	0.8nm,0.3s,baz=248,slow=12,SNR=1.6						
LPAZ	**La Paz**	**10.57**	**135**	*e*Pn	**Pn**	**21 26 14.4**	**+1.6**
LPAZ				*e*Sn	**Sn**	**21 28 12.3**	**+2.2**
SAML	**Samuel**	**12.50**	**92**	*e*Pn	**Pn**	**21 26 37.5**	**-1.6**
SAML				*e*Sn	**Sn**	**21 28 54.5**	**-2.7**
ROSC	**El Rosal**	**13.65**	**6**	S	**Sn**	**21 29 37.9**	**+13**
	1.0nm,0.3s,baz=88,slow=22,SNR=3.1						
LVC	**Limon Verde**	**15.26**	**155**	*e*Pn	**Pn**	**21 27 20.1**	**+3.6**
	29nm,1.0s						
SIV	**San Ignacio**	**16.08**	**118**	P	**Pn**	**21 27 25.8**	**-1.5**
	2.7nm,0.3s,baz=300,slow=12,SNR=38						
SIV				S	**S**	**21 30 38.6**	**+1.4**
	0.8nm,0.3s,baz=248,slow=22,SNR=2.4						
SIV				LR	LR	21 34 56.3	
	comp=Z,423nm,18.8s,slow=42						
SIV	**San Ignacio**	**16.08**	**118**	P	**Pn**	**21 27 25.8**	**-1.5**
SIV				S	**S**	**21 30 38.6**	**+1.4**
SDV	**Santo Domingo**	**18.32**	**17**	*e*Pn	**Pn**	**21 27 55.7**	**+0.6**
	23nm,0.9s						
SDV				*e*Sn	**Sn**	**21 31 19.4**	**+0.7**
LCO	**Las Campanas**	**20.68**	**167**	*e*P	**P**	**21 28 19.9**	**-0.7**
	36nm,1.0s						
JTS	**JuntasAbangare**	**21.03**	**334**	P	**P**	**21 28 25.2**	**+0.6**
	19nm,1.0s,mb4.4,baz=98,slow=3.9,SNR=6.1						
JTS	**JuntasAbangare**	**21.03**	**334**	*e*P	**P**	**21 28 24.1**	**-0.5**
	51nm,1.2s,mb4.7						
CFAA	**Coronel Fontan**	**23.76**	**164**	P	**P**	**21 28 52.4**	**-0.6**
	0.8nm,0.8s,baz=346,slow=9.3,SNR=22						
CFAA	**Coronel Fontan**	**23.76**	**164**	P	**P**	**21 28 52.4**	**-0.6**
CPUP	**Villa Florida**	**24.74**	**137**	P	**P**	**21 29 01.6**	**-0.4**
	1.7nm,0.6s,mb3.8,baz=298,slow=8.6,SNR=3.7						
CPUP				LR	LR	21 41 11.7	
	comp=Z,497nm,18.6s,MS4.0,baz=307,slow=42						
CPUP	**Villa Florida**	**24.74**	**137**	*e*P	**P**	**21 29 01.4**	**-0.6**
	8.7nm,0.4s,mb4.6						
TGUH	**Tegucigalpa,Un**	**25.39**	**333**	*e*P	**P**	**21 29 07.1**	**-0.8**
CELP	**Cerrillos**	**28.22**	**19**	*e*P	**P**	**21 29 34.0**	**+0.6**
LRS	**Lares**	**28.34**	**18**	*e*P	**P**	**21 29 34.7**	**+0.3**
AOPR	**Arecibo Observ**	**28.42**	**18**	*e*P	**P**	**21 29 36.0**	**+0.9**
	24nm,0.7s,mb4.9						
MTP	**Monte Pirata**	**28.59**	**21**	*e*P	**P**	**21 29 35.9**	**-0.8**
	19nm,0.9s,mb4.8						
CBYP	**Canovanas**	**28.64**	**20**	*e*P	**P**	**21 29 37.4**	**+0.3**
TEIG	**Tepich**	**31.34**	**337**	*e*P	**P**	**21 30 00.5**	**-0.5**
	24nm,1.1s,mb5.0						
RPN	**Rapa Nui**	**36.54**	**236**	*e*P	**P**	**21 30 45.6**	**-0.5**
SWET	**Sewanee**	**44.81**	**348**	*e*P	**P**	**21 31 52.5**	**-1.6**
628A	**Black Gap, Mar**	**46.13**	**327**	⇓P	**P**	**21 32 04.9**	**+0.1**
	baz=46,SNR=11						
MIAR	**Mount Ida**	**46.27**	**340**	*e*P	**P**	**21 32 05.5**	**-0.3**
	179nm,2.6s,mb5.5						
627A	**Terlingua Ranc**	**46.38**	**326**	⇑P	**P**	**21 32 06.6**	**-0.1**
	baz=46,SNR=9.0						
TXAR	**Lajitas Array**	**46.44**	**326**	P	**P**	**21 32 06.8**	**-0.5**
	3.4nm,0.9s,mb4.3,baz=147,slow=8.6,SNR=30						
TXAR	**Lajitas Array**	**46.44**	**326**	P	**P**	**21 32 06.8**	**-0.5**
528A	**Cox Ranch, San**	**46.61**	**327**	⇑P	**P**	**21 32 09.2**	**+0.7**
	baz=47,SNR=8.3						
626A	**Big Bend Ranch**	**46.87**	**326**	⇓P	**P**	**21 32 10.4**	**-0.2**
	baz=47,SNR=29						
527A	**Woodward Ranch**	**47.04**	**327**	⇓P	**P**	**21 32 11.6**	**-0.3**
	baz=47,SNR=11						
526A	**Mary Lane Ranc**	**47.23**	**326**	⇑P	**P**	**21 32 13.4**	**-0.1**
	baz=47,SNR=13						
427A	**Hayter Ranch,**	**47.47**	**327**	⇑P	**P**	**21 32 15.0**	**-0.3**
	baz=48						
328A	**Wristen Ranch,**	**47.58**	**328**	⇑P	**P**	**21 32 15.8**	**-0.3**
	baz=48,SNR=5.6						
426A	**McDonald Obser**	**47.67**	**327**	⇑P	**P**	**21 32 16.6**	**-0.2**
	baz=48						
326A	**Caldwell Ranch**	**48.15**	**327**	⇓P	**P**	**21 32 20.1**	**-0.4**
	baz=48,SNR=6.9						
425A	**Indio Mountain**	**48.29**	**326**	⇑P	**P**	**21 32 21.2**	**-0.4**
	baz=48,SNR=12						
TUL1	**Tulsa**	**48.29**	**338**	⇑P	**P**	**21 32 21.5**	**0.0**
	baz=48						
227A	**Bennet, Jal**	**48.33**	**328**	⇑P	**P**	**21 32 21.9**	**0.0**
	baz=48						
WMOK	**Wichita Mounta**	**48.45**	**335**	*e*P	**P**	**21 32 22.1**	**-0.6**
	128nm,2.8s,mb5.5						
325A	**Bean Ranch, Si**	**48.73**	**326**	⇑P	**P**	**21 32 24.7**	**-0.3**
	baz=49,SNR=7.8						
226A	**Malaga, Loving**	**48.79**	**328**	⇓P	**P**	**21 32 25.2**	**-0.2**
	baz=49						
127A	**Arkansas Junct**	**48.89**	**329**	⇓P	**P**	**21 32 26.0**	**-0.2**
	baz=49						
GDL2	**Guadalupe Moun**	**49.04**	**328**	*e*P	**P**	**21 32 26.9**	**-0.4**
324A	**Moseley Ranch,**	**49.06**	**326**	⇓P	**P**	**21 32 26.9**	**-0.7**
	baz=49,SNR=7.1						
126A	**Clayton Basin,**	**49.20**	**328**	⇑P	**P**	**21 32 28.6**	**0.0**
	baz=49						
225A	**Deer Hill, Car**	**49.21**	**327**	⇑P	**P**	**21 32 28.4**	**-0.2**
	baz=49,SNR=6.8						
Z27A	**Tatum**	**49.32**	**329**	⇑P	**P**	**21 32 28.7**	**-0.7**
	baz=49,SNR=8.8						
CPRX	**Cap Rock**	**49.43**	**329**	*e*P	**P**	**21 32 29.1**	**-1.2**
	28nm,1.1s,mb5.2						
224A	**Cornudas Mount**	**49.56**	**326**	⇑P	**P**	**21 32 31.2**	**-0.2**
	baz=50,SNR=6.0						
MSTX	**Muleshoe**	**49.63**	**330**	⇓P	**P**	**21 32 31.7**	**-0.1**
	baz=50						
Z26A	**Caprock**	**49.68**	**329**	⇑P	**P**	**21 32 32.3**	**+0.1**
	baz=50,SNR=8.5						
Y27A	**Causey**	**49.75**	**330**	⇑P	**P**	**21 32 32.5**	**-0.3**
	baz=50						
Z25A	**Roswell**	**50.06**	**328**	⇑P	**P**	**21 32 35.2**	**0.0**
	baz=50						
X27A	**F and S Farms,**	**50.33**	**331**	⇑P	**P**	**21 32 36.9**	**-0.2**
	baz=50						
Z24A	**Sheeppen Canyo**	**50.44**	**328**	⇓P	**P**	**21 32 37.4**	**-0.6**
	baz=50,SNR=8.2						
222A	**Williams Famil**	**50.46**	**325**	⇓P	**P**	**21 32 38.0**	**-0.1**
	baz=50,SNR=9.2						
Y25A	**Mesa, Roswell**	**50.55**	**329**	⇓P	**P**	**21 32 38.4**	**-0.4**
	baz=51						
X26A	**CR and CF Fran**	**50.61**	**330**	⇑P	**P**	**21 32 39.1**	**-0.1**
	baz=51						
W27A	**Bowe Ranch, En**	**50.65**	**331**	⇑P	**P**	**21 32 39.4**	**-0.1**
	baz=51,SNR=5.3						
HDIL	**Hopedale**	**50.66**	**347**	*e*P	**P**	**21 32 37.8**	**-1.7**
	34nm,0.6s,mb5.5						
320A	**Kipp Ranch, An**	**50.73**	**323**	⇓P	**P**	**21 32 40.4**	**+0.2**
	baz=51						
Z23A	**Rita Site, Whi**	**50.85**	**327**	⇓P	**P**	**21 32 41.1**	**0.0**
	baz=51						
Y24A	**Capitan**	**50.94**	**328**	⇓P	**P**	**21 32 41.9**	**+0.2**
	baz=51						
220A	**Playas Peak, P**	**51.13**	**324**	⇓P	**P**	**21 32 43.5**	**+0.3**
	baz=51,SNR=17						
121A	**Cookes Peak, D**	**51.17**	**325**	⇓P	**P**	**21 32 43.9**	**+0.4**
	baz=51						
319A	**Douglas**	**51.20**	**323**	⇓P	**P**	**21 32 44.0**	**+0.3**
	baz=51,SNR=20						
Z22A	**Elephant Butte**	**51.25**	**326**	⇑P	**P**	**21 32 43.8**	**-0.2**
	baz=51,SNR=5.4						
Y23A	**Lovelace Mesa,**	**51.27**	**328**	⇑P	**P**	**21 32 44.1**	**-0.1**
	baz=51						
W25A	**X Bar L Ranch,**	**51.46**	**330**	⇑P	**P**	**21 32 45.1**	**-0.5**
	baz=52,SNR=6.0						
120A	**U Bar Ranch, L**	**51.66**	**324**	⇓P	**P**	**21 32 47.1**	**-0.1**
	baz=52,SNR=6.3						
318A	**Bisbee**	**51.67**	**322**	⇓P	**P**	**21 32 46.9**	**-0.3**
	baz=52,SNR=11						
Z21A	**St. Cloud Mine**	**51.68**	**326**	⇓P	**P**	**21 32 47.5**	**+0.2**
	baz=52						
Y22A	**Socorro**	**51.76**	**327**	⇑P	**P**	**21 32 48.2**	**+0.2**
	baz=52						
W24A	**Lazy 6 Ranch,**	**51.93**	**329**	⇑P	**P**	**21 32 49.0**	**-0.2**
	baz=52						
V25A	**Rancho No Teng**	**52.03**	**330**	⇑P	**P**	**21 32 49.7**	**-0.1**
	baz=52,SNR=9.0						
Z20A	**Nine Sixteen R**	**52.05**	**325**	⇓P	**P**	**21 32 50.2**	**+0.1**
	baz=52,SNR=13						
218A	**Dragoon**	**52.08**	**323**	⇓P	**P**	**21 32 50.2**	**-0.1**
	baz=52,SNR=13						
Y21A	**Point of Rocks**	**52.20**	**326**	⇑P	**P**	**21 32 51.7**	**+0.5**
	baz=52,SNR=8.3						
119A	**Ashpeak Ranch,**	**52.21**	**324**	⇑P	**P**	**21 32 51.4**	**+0.1**
	baz=52,SNR=7.1						
V24A	**Rampart Ranch,**	**52.27**	**330**	⇑P	**P**	**21 32 51.7**	**+0.1**
	baz=52						
ANMO	**Albuquerque**	**52.27**	**328**	*e*P	**P**	**21 32 51.4**	**-0.3**
	12nm,1.4s,mb4.6						
U25A	**Circle Dot Ran**	**52.38**	**331**	⇑P	**P**	**21 32 52.2**	**-0.3**
	baz=52,SNR=5.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Y20A	**Horse Springs,**	**52.52**	**326**	⇑P	**P**	**21 32 53.5**	**0.0**
	baz=53,SNR=7.1						
Z19A	**T-Link Ranch,**	**52.57**	**324**	⇓P	**P**	**21 32 54.1**	**+0.2**
	baz=53						
X21A	**Alamocita Cree**	**52.59**	**327**	⇓P	**P**	**21 32 54.3**	**+0.3**
	baz=53,SNR=14						
TUC	**Tucson**	**52.76**	**322**	*e*P	**P**	**21 32 55.0**	**-0.4**
	10nm,1.0s,mb4.7						
S26A	**Kim**	**52.92**	**333**	⇓P	**P**	**21 32 56.4**	**0.0**
	baz=53,SNR=6.9						
T25A	**Trinidad**	**52.97**	**331**	⇑P	**P**	**21 32 56.9**	**+0.1**
	baz=53,SNR=8.2						
Y19A	**Nutrioso**	**53.05**	**325**	⇑P	**P**	**21 32 57.5**	**+0.1**
	baz=53,SNR=6.8						
X20A	**Quemado**	**53.05**	**326**	⇓P	**P**	**21 32 57.8**	**+0.4**
	baz=53						
R27A	**Eads**	**53.17**	**334**	⇓P	**P**	**21 32 58.4**	**+0.2**
	baz=53						
U23A	**El Rito**	**53.20**	**329**	⇑P	**P**	**21 32 58.8**	**+0.2**
	baz=53						
T24A	**Torres, Weston**	**53.23**	**331**	⇓P	**P**	**21 32 59.4**	**+0.7**
	baz=53						
V22A	**San Miguel Ran**	**53.24**	**328**	⇑P	**P**	**21 32 58.9**	**0.0**
	baz=53,SNR=6.0						
Y18A	**Canyon Day Jun**	**53.36**	**324**	⇑P	**P**	**21 32 59.8**	**+0.1**
	baz=53,SNR=6.6						
S25A	**Robets Cordova**	**53.40**	**332**	⇓P	**P**	**21 32 59.9**	**-0.1**
	baz=54,SNR=8.2						
X19A	**St. Johns**	**53.41**	**325**	⇑P	**P**	**21 33 00.4**	**+0.3**
	baz=54						
R26A	**Arlington**	**53.47**	**333**	⇑P	**P**	**21 33 00.6**	**+0.1**
	baz=54						
W20A	**Ramah**	**53.49**	**327**	⇓P	**P**	**21 33 00.7**	**0.0**
	baz=54,SNR=6.7						
U22A	**Llaves**	**53.57**	**329**	⇓P	**P**	**21 33 01.7**	**+0.5**
	baz=54						
T23A	**Casias Ranch,**	**53.68**	**330**	⇓P	**P**	**21 33 02.9**	**+0.9**
	baz=54						
KSCO	**Kaye Shedlock'**	**53.70**	**334**	⇑P	**P**	**21 33 02.4**	**+0.3**
	baz=54						
S24A	**Houchin Ranch,**	**53.75**	**331**	⇑P	**P**	**21 33 03.0**	**+0.4**
	baz=54,SNR=5.5						
214A	**Organ Pipe Nat**	**53.77**	**321**	⇑P	**P**	**21 33 02.8**	**0.0**
	baz=54,SNR=16						
Y17A	**Roosevelt**	**53.77**	**324**	⇑P	**P**	**21 33 03.2**	**+0.4**
	baz=54						
X18A	**Snowflake**	**53.86**	**325**	⇓P	**P**	**21 33 03.8**	**+0.4**
	baz=54						
SDCO	**Great Sand Dun**	**53.98**	**331**	*e*P	**P**	**21 33 04.1**	**-0.1**
	23nm,1.1s,mb5.0						
V20A	**Brimhall**	**53.98**	**327**	⇑P	**P**	**21 33 04.9**	**+0.7**
	baz=54						
T22A	**Edith**	**54.09**	**329**	⇓P	**P**	**21 33 06.6**	**+1.6**
	baz=54						
W18A	**Petrified Fore**	**54.17**	**326**	⇑P	**P**	**21 33 06.0**	**+0.3**
	baz=54						
X17A	**Forest Lakes**	**54.21**	**324**	⇓P	**P**	**21 33 06.8**	**+0.9**
	baz=54						
114A	**Black Gap (USA**	**54.35**	**321**	⇑P	**P**	**21 33 06.9**	**0.0**
	baz=54,SNR=9.0						
T21A	**Navajo Lake**	**54.39**	**329**	⇑P	**P**	**21 33 06.8**	**-0.4**
	baz=54						
U20A	**Newcomb**	**54.44**	**328**	⇓P	**P**	**21 33 07.1**	**-0.4**
	baz=54						
P26A	**Davis Ranch, A**	**54.46**	**334**	⇑P	**P**	**21 33 07.7**	**+0.1**
	baz=55						
R23A	**Moffat**	**54.48**	**331**	⇑P	**P**	**21 33 08.3**	**+0.4**
	baz=55						
S22A	**4UR Ranch, Cre**	**54.62**	**330**	⇓P	**P**	**21 33 08.8**	**-0.1**
	baz=55,SNR=5.7						
X16A	**Lo Mia Camp, P**	**54.63**	**324**	⇑P	**P**	**21 33 09.2**	**+0.1**
	baz=55,SNR=8.3						
113A	**Mohawk Valley,**	**54.91**	**321**	⇑P	**P**	**21 33 10.7**	**-0.4**
	baz=55,SNR=7.0						
S21A	**Coal Bank Pass**	**55.04**	**329**	⇑P	**P**	**21 33 12.2**	**+0.2**
	baz=55						
T19A	**Beclabito**	**55.05**	**328**	⇓P	**P**	**21 33 12.3**	**+0.3**
	baz=55						
V17A	**Tonalea, Kykot**	**55.12**	**325**	⇑P	**P**	**21 33 12.6**	**+0.1**
	baz=55,SNR=10						
Z13A	**Yuma Proving G**	**55.13**	**321**	⇑P	**P**	**21 33 12.5**	**-0.1**
	baz=55						
Y14A	**Wickenburg**	**55.23**	**322**	⇓P	**P**	**21 33 13.2**	**-0.2**
	baz=55						
WUAZ	**Wupatki

baz=58
Q16A Castle Valley 57.73 328 ⇓P P 21 33 31.8 +0.7
baz=58
P18A Preston Nutter 57.78 329 ⇓P P 21 33 31.8 +0.4
baz=58
R15A Junction 57.81 326 ⇓P P 21 33 31.8 +0.1
baz=58
L22A Ellis Ranch, M 57.83 333 ⇓P P 21 33 32.3 +0.6
baz=58
HEC Hector,Ludlow 57.87 321 ⇓P P 21 33 32.0 -0.1
baz=58,SNR=15
M21A Separation Pea 57.91 332 ⇑P P 21 33 32.3 +0.1
baz=58,SNR=5.6
P17A Butcher Ranch, 57.92 328 ⇓P P 21 33 32.7 +0.4
baz=58
CCUT Cedar City 57.95 325 eP P 21 33 33.6 +1.0
17nm,1.3s,mb4.9
MSU Marysvale 57.98 327 eP P 21 33 32.9 +0.1
TUQ Turquoise Moun 58.02 322 ⇓P P 21 33 33.0 -0.2
baz=58,SNR=8.0
ARUT Antelope Range 58.16 325 eP P 21 33 34.7 +0.7
20nm,1.2s,mb5.0
L21A Rawlins 58.20 333 ⇑P P 21 33 34.2 -0.1
baz=58
N19A John Jarvie Ra 58.21 331 ⇓P P 21 33 34.1 -0.3
baz=58,SNR=5.3
CIS Catalina Islan 58.30 318 ⇑P P 21 33 35.7 +0.6
baz=58
O17A Robinson Place 58.45 329 ⇑P P 21 33 36.2 +0.1
baz=58,SNR=8.1
GSC Goldstone 58.47 321 ⇓P P 21 33 36.3 0.0
baz=58,SNR=6.7
GSC Goldstone 58.47 321 eP P 21 33 36.5 +0.2
13nm,1.3s,mb4.8
N18A Larsen Ranch, 58.52 330 ⇓P P 21 33 37.2 +0.7
baz=59
R13A O'Grain Ranch, 58.73 325 ⇑P P 21 33 38.4 +0.3
baz=59,SNR=5.9
P15A Leamington 58.80 328 ⇑P P 21 33 39.1 +0.6
baz=59
O16A Springville 58.86 329 ⇑P P 21 33 39.6 +0.7
baz=59
DAU Daniels Canyon 58.88 329 eP P 21 33 39.2 +0.1
EDW2 Edwards Air Fo 58.95 320 ⇑P P 21 33 39.4 -0.3
baz=59,SNR=5.0
N17A Moffit Pass 59.06 330 ⇑P P 21 33 41.5 +1.2
baz=59
JLU Jordanelle 59.12 329 eP P 21 33 41.0 +0.2
19nm,1.3s,mb5.0
LRMC Laurel Mountai 59.14 321 ⇓P P 21 33 40.8 -0.1
baz=59
BLG Laguna Peak 59.16 319 ⇑P P 21 33 41.3 +0.2
baz=59
K20A Yellowstone Ra 59.19 333 ⇓P P 21 33 41.2 0.0
baz=59
L19A Farson 59.23 331 ⇑P P 21 33 41.3 -0.1
baz=59
H24A Dirks Ranch, A 59.27 337 ⇓P P 21 33 41.5 -0.2
baz=59
N16A Rees Ranch, Co 59.33 329 ⇑P P 21 33 42.5 +0.4
baz=59
J21A Lysite 59.33 334 ⇑P P 21 33 42.6 +0.4
baz=59
I22A 9 Mile Ranch, 59.35 335 ⇓P P 21 33 42.3 0.0
baz=60
M17A Scullys Gap (B 59.38 330 ⇓P P 21 33 42.4 -0.1
baz=60
MPMC Manual Prospec 59.39 321 ⇓P P 21 33 42.6 -0.1
baz=59
O15A The Old Anders 59.41 328 ⇑P P 21 33 43.0 +0.2
baz=60
BSC Santa Cruz Isl 59.47 318 ⇓P P 21 33 43.1 -0.2
baz=60
DUG Dugway 59.53 328 ⇓P P 21 33 44.0 +0.4
baz=60,SNR=16
DUG Dugway 59.53 328 eP P 21 33 43.6 0.0
27nm,1.3s,mb5.1
AGMN Agassiz Nation 59.54 345 eP P 21 33 42.2 -1.2
124nm,2.3s,mb5.5
I21A Big Trails, Te 59.64 334 ⇑P P 21 33 44.1 -0.2
baz=60
ISA Isabella 59.75 320 ⇓P P 21 33 45.0 -0.2
baz=60,SNR=5.0
ISA Isabella 59.75 320 eP P 21 33 45.3 +0.1
7.9nm,1.1s,mb4.7
R11A Troy Canyon, C 59.77 324 ⇓P P 21 33 45.4 +0.2
baz=60,SNR=14
PDAR Pinedale Array 59.83 332 P P 21 33 44.8 -0.8
4.7nm,1.1s,mb4.4,baz=140,slow=7.7,SNR=15
PDAR LR LR 22 02 16.8
comp=Z,186nm,19.0s,MS4.2,baz=93,slow=39
PDAR Pinedale Array 59.83 332 P P 21 33 44.8 -0.8
PD02 Pinedale Array 59.85 332 eP P 21 33 45.3 -0.4
PD01 Pinedale Array 59.85 332 eP P 21 33 43.1 -2.7
PD01 ePcP PcP 21 34 32.0 0.0
HWUT Hardware Ranch 59.93 330 eP P 21 33 45.6 -0.7
25nm,1.2s,mb5.1
L17A Cokeville 59.95 330 ⇓P P 21 33 45.7 -0.7
baz=60,SNR=5.0
K18A Toltan Ranch, 59.96 331 ⇑P P 21 33 46.6 +0.1
baz=60
J19A Crowheart 59.99 332 ⇓P P 21 33 47.3 +0.7
baz=60
CWC Cottonwood Cre 59.99 321 ⇓P P 21 33 46.4 -0.5
baz=60,SNR=5.3
L16A Fish Haven 60.16 330 ⇓P P 21 33 47.2 -0.7
baz=60,SNR=6.1
MDND Maddock 60.20 342 ⇓P P 21 33 48.0 0.0
baz=60
VES Vestal, Richgr 60.25 320 ⇑P P 21 33 48.5 -0.1
baz=60
M15A Larsen Ranch, 60.27 329 ⇑P P 21 33 47.9 -0.7
baz=60,SNR=5.7
J18A Kendall Valley 60.39 332 ⇑P P 21 33 48.8 -0.7
baz=60,SNR=6.2
K17A Gardner Place, 60.47 331 ⇑P P 21 33 49.7 -0.3
baz=61
H20A Greybull 60.48 334 ⇑P P 21 33 49.7 -0.3
baz=61
I19A Meeteetse 60.56 333 ⇓P P 21 33 50.4 -0.2
baz=61
AHID Auburn Hatcher 60.57 331 eP P 21 33 50.2 -0.4
14nm,1.1s,mb5.0
L15A Malad City 60.63 329 ⇑P P 21 33 50.5 -0.6
baz=61,SNR=12
HVU Hansel Valley 60.66 329 eP P 21 33 50.9 -0.4
12nm,1.2s,mb4.9
I18A Diamond G Ranc 60.68 332 ⇓P P 21 33 51.3 -0.1
baz=61
G21A Lodge Grass 60.74 335 ⇑P P 21 33 51.5 -0.2
baz=61
J17A Brown Place, J 60.83 331 ⇑P P 21 33 52.4 0.0
baz=61
K16A Soda Springs 60.85 331 ⇑P P 21 33 52.4 -0.2
baz=61,SNR=5.9
MTUM Tungsten Hills 60.88 322 eP P 21 33 53.2 +0.3
REDW Red Top Meadow 60.90 331 eP P 21 33 53.1 +0.2
25nm,1.5s,mb5.1
RRI2 Red Ridge 61.11 331 eP P 21 33 54.4 0.0
18nm,1.1s,mb5.1
D24A Glendive 61.17 338 ⇓P P 21 33 55.0 +0.4
baz=61
I17A Pilgrim Ck. 61.20 332 ⇑P P 21 33 55.1 +0.3
baz=61
J16A Bone 61.20 331 ⇓P P 21 33 54.6 -0.3
baz=61,SNR=6.7
ELK Elko 61.22 327 eP P 21 33 55.2 0.0
9.3nm,1.1s,mb4.8
ULM Lac du Bonnet 61.34 345 P P 21 33 54.4 -1.3
11nm,0.6s,mb5.1,baz=155,slow=7.4,SNR=25
ULM Lac du Bonnet 61.34 345 P P 21 33 54.4 -1.3
5.7nm,0.8s,mb4.8
NVAR Mina Array Bea 61.41 323 P P 21 33 55.9 -0.6
1.6nm,0.3s,mb4.6,baz=120,slow=2.4,SNR=15
NVAR Mina Array Bea 61.41 323 P P 21 33 55.9 -0.6
K14A Jones Ranch, D 61.43 329 ⇑P P 21 33 55.7 -0.7
baz=62,SNR=5.8
D23A Lindsay 61.54 338 ⇑P P 21 33 57.5 +0.3
baz=62
D22A Cohagen 61.90 337 ⇓P P 21 33 59.7 +0.2
baz=62
F19A Roth Farm, Mol 61.97 334 ⇑P P 21 33 59.6 -0.5
baz=62,SNR=6.9
C23A Lambert 62.06 338 ⇑P P 21 34 01.1 +0.5
baz=62
D21A La Casta Ranch 62.15 336 ⇑P P 21 34 01.5 +0.3
baz=62
E20A Meyer Farm, Mu 62.15 335 ⇓P P 21 34 01.5 +0.3
baz=62
F18A Big Timber 62.35 334 ⇑P P 21 34 02.4 -0.2
baz=62,SNR=6.2
E19A Rath Farm, Rou 62.39 335 ⇑P P 21 34 03.0 +0.1
baz=62
CMB Columbia Colle 62.43 321 eP P 21 34 03.1 -0.2
12nm,1.5s,mb4.8
B23A Brockton 62.55 339 ⇑P P 21 34 04.4 +0.5
baz=63
J13A Cove Ranch, Pi 62.55 329 ⇑P P 21 34 04.3 +0.3
baz=63
I14A Mackay 62.58 330 ⇓P P 21 34 04.3 +0.1
baz=63,SNR=6.0
A24A Westby 62.58 339 ⇑P P 21 34 04.6 +0.5
baz=63
D20A Manuel Ranch, 62.62 336 ⇑P P 21 34 04.7 +0.3
baz=63
H15A Lima 62.70 331 ⇑P P 21 34 05.4 +0.4
baz=63,SNR=5.9
F17A Fitzpatrick Pl 62.76 333 ⇑P P 21 34 05.9 +0.6
baz=63
HLID Hailey 62.79 329 ⇓P P 21 34 05.9 +0.3
baz=63
HLID Hailey 62.79 329 eP P 21 34 05.6 0.0
6.9nm,1.0s,mb4.7
WCN Washoe City 62.84 323 ⇑P P 21 34 05.9 -0.1
baz=63
WCN Washoe City 62.84 323 eP P 21 34 06.6 +0.6
7.6nm,0.9s,mb4.8
I13A Wildhorse Cree 62.90 330 ⇓P P 21 34 06.4 +0.1
baz=63,SNR=8.3
MCMT McKenzie Canyo 62.95 331 eP P 21 34 06.0 -0.6
7.9nm,1.4s,mb4.7
E18A Harlowton 62.95 334 ⇓P P 21 34 06.6 0.0
baz=63
D19A Cripps Ranch, 62.99 335 ⇑P P 21 34 07.2 +0.4
baz=63
G15A Dillon 63.03 332 ⇓P P 21 34 07.4 +0.3
baz=63
H14A Leadore 63.04 331 ⇓P P 21 34 07.4 +0.2
baz=63,SNR=6.0
C20A Veseth Ranch, 63.07 336 ⇑P P 21 34 07.6 +0.2
baz=63
E17A Martinsdale 63.28 334 ⇓P P 21 34 09.0 +0.2
baz=63
I12A Atlanta 63.32 329 ⇓P P 21 34 09.3 +0.2
baz=63,SNR=6.1
D18A Linhart Farms, 63.40 335 ⇓P P 21 34 09.5 0.0
baz=64
MFID Camas Ranch 63.41 328 ⇓P P 21 34 09.9 +0.2
baz=64,SNR=14
MFID Camas Ranch 63.41 328 eP P 21 34 09.8 +0.2
33nm,1.2s,mb5.3
H13A Challis 63.44 330 ⇑P P 21 34 09.8 -0.1
baz=64,SNR=5.3
C19A Slack Wire Ran 63.51 336 ⇑P P 21 34 10.3 0.0
baz=64,SNR=5.1
B20A Solberg Farm, 63.66 337 ⇑P P 21 34 11.5 +0.2
baz=64
A21A Bergtoll Ranch 63.70 338 ⇑P P 21 34 11.8 +0.4
baz=64
H12A Diamond D Ranc 63.72 330 ⇑P P 21 34 12.0 +0.3
baz=64,SNR=9.8
G13A Cobalt 63.81 331 ⇓P P 21 34 12.4 +0.1
baz=64
SCHQ Schefferville 63.84 6 P P 21 34 11.6 -0.7
9.5nm,0.9s,mb4.8,baz=132,slow=1.9,SNR=5.5
SCHQ Schefferville 63.84 6 eP P 21 34 11.7 -0.6
OHCM Honcut 63.91 322 eP P 21 34 12.9 -0.2
A19A Klindworth Far 64.34 337 ⇑P P 21 34 16.0 +0.3
baz=64
F13A Darby 64.36 331 ⇑P P 21 34 16.2 +0.3
baz=64,SNR=6.6
C16A Fuhringer Ranc 64.70 334 ⇑P P 21 34 18.3 +0.2
baz=65
J08A Circle Bar Ran 64.77 327 ⇓P P 21 34 18.7 +0.1
baz=65
A18A Metzger Ranch, 64.78 336 ⇓P P 21 34 18.7 +0.2
baz=65
E13A Victor 64.78 332 ⇑P P 21 34 19.0 +0.4
baz=65
MOD Modoc 64.83 325 eP P 21 34 19.1 0.0
26nm,1.3s,mb5.1
MSO Missoula 64.95 332 eP P 21 34 20.0 +0.3
17nm,1.2s,mb5.0
C15A Salmond Ranch, 65.05 334 ⇓P P 21 34 21.1 +0.7
baz=65,SNR=7.2
A17A Triple J Farms 65.14 335 ⇓P P 21 34 21.0 0.0
baz=65
KCPM Cahto Peak 65.41 321 eP P 21 34 23.8 +0.9
33nm,1.6s,mb5.1
C14A Swan Lake 65.56 333 ⇓P P 21 34 24.1 +0.4
baz=66
K05A Summer Lake 65.69 325 ⇓P P 21 34 24.9 +0.2
baz=66
I07A Izee 65.81 327 ⇑P P 21 34 25.4 +0.1
baz=66,SNR=8.2
F10A Beach Ranch, E 65.91 330 ⇓P P 21 34 26.7 +0.7
baz=66
A14A Double T Ranch 66.31 334 ⇑P P 21 34 28.8 +0.3
baz=66
OD2 Odessa Site #2 67.63 330 eP P 21 34 37.7 +0.8
ETW Entiat 68.58 329 eP P 21 34 40.8 -2.1
TBI Tubuai 71.59 248 eLR LR 21 56 53.1
151nm,30.8s
PPT2 Papeete2 71.97 254 eLR LR 21 57 02.2
164nm,24.8s
DBIC Dimbokro 72.39 80 P P 21 35 06.3 -0.6
3.9nm,0.6s,mb4.5,baz=256,slow=4.5,SNR=13
DBIC Dimbokro 72.39 80 eP P 21 35 07.2 +0.3
SNAA Sanae 76.37 162 eP P 21 35 28.8 -0.1
6.7nm,0.9s,mb4.6
YKA Yellowknife Ar 77.11 343 P P 21 35 31.9 -1.2
1.7nm,0.9s,mb4.0,baz=136,slow=6.3,SNR=18
YKA Yellowknife Ar 77.11 343 P P 21 35 31.9 -1.2
EVOP Sao Brissos 78.47 48 eP P 21 35 41.3 0.0
57nm,1.5s,mb5.3
EVO Evora 78.56 48 eP P 21 35 41.3 -0.4
57nm,1.5s,mb5.0
EVO eR
135nm,20.0s
TORD Torodi Ar. Bea 80.00 75 P P 21 35 50.0 -0.1
6.9nm,1.0s,mb4.5,baz=273,slow=5.5,SNR=28
TORD Torodi Ar. Bea 80.00 75 P P 21 35 50.0 -0.1
QSPA South Pole Qui 81.31 180 eP P 21 35 56.2 +0.2
22nm,1.3s,mb4.9
ESDC Sonseca Array 81.91 48 P P 21 36 01.0 +1.2
1.5nm,0.7s,mb4.0,baz=258,slow=5.1,SNR=8.3
ESDC Sonseca Array 81.91 48 P P 21 36 01.0 +1.2
ESLA Sonseca Array 81.91 48 eP P 21 35 60.0 +0.2
RES Resolute Bay 84.16 355 eP P 21 36 10.2 -0.5
SUMG Summit 84.74 11 eP P 21 36 14.1 +0.4
14nm,0.9s,mb5.1
SJPF Ste Jean 84.91 45 eP P 21 36 16.3 +1.1
92nm,1.4s,mb5.4
SJPF Ste Jean 84.91 45 eP P 21 36 16.3 +1.1
92nm,1.4s,mb5.7
QUIF Quistinic 85.09 40 eP P 21 36 16.6 +0.7
108nm,1.6s,mb5.4
QUIF Quistinic 85.09 40 eP P 21 36 16.6 +0.7
108nm,1.6s,mb5.7
ETSF Etsaut 85.32 45 eP P 21 36 18.3 +1.1
37nm,1.4s,mb5.0
ETSF Etsaut 85.32 45 eP P 21 36 18.3 +1.1
37nm,1.4s,mb5.3
TAM Tamanrasset 85.49 66 eP P 21 36 19.3 +0.8
8.0nm,1.3s,mb4.7
SGMF Saint Gilles 85.58 40 eP P 21 36 17.2 -1.2
SGMF Saint Gilles 85.58 40 eP P 21 36 17.2 -1.2
EPF Esparros 85.99 46 eP P 21 36 21.6 +1.1
36nm,1.4s,mb5.1
EPF Esparros 85.99 46 eP P 21 36 21.6 +1.1
36nm,1.4s,mb5.4
MFF Saint Martin d 86.65 42 eP P 21 36 23.4 -0.3
MFF Saint Martin d 86.65 42 eP P 21 36 23.4 -0.3
GRR Gorron 86.70 40 eP P 21 36 23.4 -0.5
GRR Gorron 86.70 40 eP P 21 36 23.4 -0.5
LFF La Frestale 86.79 44 eP P 21 36 23.3 -1.1
LFF La Frestale 86.79 44 eP P 21 36 23.3 -1.1
INK Inuvik 86.83 342 eP P 21 36 22.8 -1.3
2.4nm,0.3s,mb4.9
FLN La Foliniere 87.05 40 eP P 21 36 25.2 -0.4
FLN La Foliniere 87.05 40 eP P 21 36 25.2 -0.4
LDF La Druitiere 87.23 40 eP P 21 36 26.1 -0.4
6.8nm,0.8s,mb4.6
LDF La Druitiere 87.23 40 eP P 21 36 26.1 -0.4
6.8nm,0.8s,mb4.9
RJF Les Rejaudoux 87.41 44 eP P 21 36 27.4 0.0
RJF Les Rejaudoux 87.41 44 eP P 21 36 27.4 0.0
ESK Eskdalemuir 87.48 33 eP P 21 36 27.2 -0.3
CAF Calviac 87.69 44 eP P 21 36 28.8 0.0
19nm,1.0s,mb5.0
CAF Calviac 87.69 44 eP P 21 36 28.8 0.0
19nm,1.0s,mb5.3
EGAK Eagle 87.74 337 eP P 21 36 28.2 -0.3
11nm,0.9s,mb5.1
VNDA Vanda 88.09 191 eP P 21 36 28.9 -1.2
DOT Dot Lake 88.42 336 eP P 21 36 31.4 -0.3
HYF Humbligny 88.67 42 eP P 21 36 33.2 -0.1
HYF Humbligny 88.67 42 eP P 21 36 33.2 -0.1
LASF Ste Croix 88.73 45 eP P 21 36 34.2 +0.5
LASF Ste Croix 88.73 45 eP P 21 36 34.2 +0.5
PAX Paxson 88.74 335 eP P 21 36 32.7 -0.6
AVF Avril sur Loir 89.02 42 eP P 21 36 34.5 -0.5
9.8nm,0.9s,mb4.8
AVF Avril sur Loir 89.02 42 eP P 21 36 34.5 -0.5
9.8nm,0.9s,mb5.1
SSF Saint Saulge 89.19 42 eP P 21 36 35.3 -0.5
SSF Saint Saulge 89.19 42 eP P 21 36 35.3 -0.5
SMF Signal de Mont 89.31 43 eP P 21 36 36.0 -0.4
29nm,1.2s,mb5.2
SMF Signal de Mont 89.31 43 eP P 21 36 36.0 -0.4
29nm,1.2s,mb5.5
LOR Lormes 89.47 42 eP P 21 36 37.3 +0.2
16nm,1.2s,mb4.9
LOR Lormes 89.47 42 eP P 21 36 37.3 +0.2
16nm,1.2s,mb5.2
VIVF Saint-Julien-l 89.47 45 eP P 21 36 37.6 +0.4
13nm,0.9s,mb5.0
VIVF Saint-Julien-l 89.47 45 eP P 21 36 37.6 +0.4
13nm,0.9s,mb5.3
ILAR Eielson Array 89.99 336 P P 21 36 37.9 -1.2
1.9nm,1.0s,mb4.4,baz=140,slow=4.1,SNR=11
ILAR PP PP 21 40 11.1 -1.4
0.5nm,0.9s,baz=107,slow=8.1,SNR=5.2
ILAR Eielson Array 89.99 336 P P 21 36 37.9 -1.2
ILAR PP PP 21 40 11.1 -1.4
ORIF Oris-en-Rattie 90.33 45 eP P 21 36 41.8 +0.6
32nm,1.1s,mb5.2
ORIF Oris-en-Rattie 90.33 45 eP P 21 36 41.8 +0.6
32nm,1.1s,mb5.6
BAIF Baives 90.34 39 eP P 21 36 40.8 -0.3
BAIF Baives 90.34 39 eP P 21 36 40.8 -0.3
COLA College 90.41 336 eP P 21 36 41.2 +0.2
2.5nm,0.4s,mb4.9
SFTF Sexfontaines 90.46 41 eP P 21 36 41.3 -0.4
39nm,1.3s,mb5.3
SFTF Sexfontaines 90.46 41 eP P 21 36 41.3 -0.4
39nm,1.3s,mb5.6
GIVF Givet 90.74 39 eP P 21 36 42.8 -0.2
GIVF Givet 90.74 39 eP P 21 36 42.8 -0.2
LPL La Plagne 91.04 44 eP P 21 36 45.3 +0.8
28nm,1.2s,mb5.2
LPL La Plagne 91.04 44 eP P 21 36 45.3 +0.8
28nm,1.2s,mb5.5
LPG La Plagne 91.05 44 eP P 21 36 45.6 +1.1
10.0nm,0.8s,mb4.9
LPG La Plagne 91.05 44 eP P 21 36 45.6 +1.1
10.0nm,0.8s,mb5.2
CDF Champ du Feu 91.97 41 eP P 21 36 48.3 -0.4
CDF Champ du Feu 91.97 41 eP P 21 36 48.3 -0.4
COLD Coldfoot 92.08 338 eP P 21 36 49.2 +0.4
NOA NORSAR Array B 96.20 29 LR LR 22 16 45.4
comp=Z,88nm,18.1s,MS4.3,baz=5.0,slow=33
GERES GERESS Array B 96.24 42 LR LR 22 15 53.3
comp=Z,90nm,20.7s,MS4.2,baz=268,slow=32
HFS Hagfors 97.32 30 LR LR 22 19 32.7
comp=Z,127nm,18.5s,MS4.4,baz=256,slow=34
ABKAR Akbulak array 125.37 34 ePKPdf PKPdf 21 42 40.7 -0.2
ZAA0 Zalesovo Array 132.36 15 ePKPdf PKPdf 21 42 53.1 -0.9
ZALV Zalesovo Beam 132.36 15 PKP PKPdf 21 42 54.0 0.0
3.3nm,0.6s,baz=318,slow=2.0,SNR=27
ZALV Zalesovo Beam 132.36 15 PKP PKPdf 21 42 54.0 0.0
ASAR Alice Springs 136.57 221 PKP PKPdf 21 43 01.9 -1.0
2.1nm,0.9s,baz=135,slow=2.0,SNR=14
ASAR Alice Springs 136.57 221 PKP PKPdf 21 43 01.9 -1.0
MK31 Makanchi Array 137.78 22 ePKPdf PKPdf 21 43 03.6 -0.8
MKAR Makanchi Array 137.78 22 PKP PKPdf 21 43 04.3 -0.1
2.6nm,1.0s,baz=345,slow=1.5,SNR=14
MKAR Makanchi Array 137.78 22 PKP PKPdf 21 43 04.3 -0.1
MDJ Mudanjiang 138.07 333 PKP PKPdf 21 43 04.3 -0.7
WRA Warramunga Arr 138.80 226 PKP PKPdf 21 43 07.0 -0.1
2.0nm,0.9s,baz=120,slow=1.7,SNR=7.5
WRA Warramunga Arr 138.80 226 PKP PKPdf 21 43 07.0 -0.1
SONM Songino Array 141.05 358 PKhKP PKPpre 21 43 02.1
0.5nm,0.8s,baz=326,slow=1.5,SNR=4.7
SONM Songino Array 141.05 358 PKPpre PKPpre 21 43 02.1
WMQ Urumqi 142.27 20 ePKP PKPdf 21 43 12.3 -0.4
WMQ LR LR
comp=N,83nm,16.0s,MS4.7
WMQ LR LR
comp=E,81nm,17.8s,MS4.7
WMQ LR LR
comp=Z,92nm,16.8s,MS4.6
KSRS Korea Array 144.29 327 PKP PKPdf 21 43 13.8 -2.6
comp=Z,3.0nm,0.8s,baz=37,slow=2.9,SNR=6.5
KSAR Wonju Array Be 144.32 327 PKP PKPdf 21 43 13.8 -2.6
FITZ Fitzroy Crossi 145.88 218 ePKPdf PKPdf 21 43 19.5 -0.2
HHC Hu-ho-hao-te 147.41 350 ePKPbc PKPbc 21 43 22.0 -2.1
HHC pPKP pPKPdf 21 43 32.5 -0.7
HHC sPKP 21 43 38.0
HHC AMB AMB
comp=Z,97nm,5.6s
HHC LR LR
comp=N,180nm,12.0s,MS5.3
HHC LR LR
comp=E,260nm,12.4s,MS5.3
HHC LR LR
comp=Z,140nm,11.9s,MS5.0
GTA Gaotai 149.27 7 PKPbc PKPdf 21 43 25.5 +0.8
GTA pPKP pPKPdf 21 43 36.3 +0.1
GTA sPKP 21 43 40.5
LZH Lanzhou 152.84 1 ePKPbc PKPdf 21 43 30.0 -0.3
LZH pPKP pPKPdf 21 43 44.0 +2.2
LZH sPKP 21 43 48.8
LZH PKPab PKPab 21 43 50.5 +2.1
LZH AMB AMB
comp=Z,120nm,8.3s
LZH LR LR
comp=E,130nm,18.3s
LZH LR LR
comp=Z,160nm,20.1s,MS4.8
CD2 Chengdu 158.00 1 PKP PKPdf 21 43 37.5 +0.1
CD2 sPKP 21 43 51.3
CD2 PP PP 21 47 57.5 +8.8
CD2 SKKS SKKSac 21 54 36.5 -0.3
GYA Guiyang 162.28 353 PKP PKPdf 21 43 40.0 -2.3
GYA pPKP pPKPdf 21 43 54.8 +0.9
GYA sPKP 21 44 01.5
GYA PKPab PKPab 21 44 30.8 +1.6
GYA PKS 21 47 12.0
GYA PP PP 21 48 13.5 +1.6
GYA AMB AMB
comp=Z,120nm,8.0s
CMAR Chiang Mai Arr 169.14 27 PKP PKPdf 21 43 48.0 -0.2
comp=Z,0.9nm,0.8s,baz=302,slow=2.8,SNR=6.7
CMAR PKPab PKPab 21 44 59.1 -0.5
comp=Z,1.1nm,0.9s,baz=316,slow=5.5,SNR=7.7
CMAR Chiang Mai Arr 169.14 27 PKP PKPdf 21 43 48.0 -0.2
CMAR PKPab PKPab 21 44 59.1 -0.5

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*IDC **31** 21:54:46.4±1.2, 17°.31N×40°.43E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, ML3.0/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/34, Error ellipse: s-maj=28.4km s-min=23.4km az=166.0*
*NEIC **31** 21:54:48.0±0.6, 17°.33N×40°.42E, h10km, mb4.2/3, Error ellipse: s-maj=13.6km s-min=12.3km az=108.0*
ISC 31 21:54:49.9±5.3, 17°.35N±0°.09×40°.40E±0°.09, h20km±42km, n34, σ0s92/27, mb3.9/11, MS4.0/5, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**3.48**	**118**	*i* P	**Pn**	**21 55 37.5**	**-5.5**
HAJJ				*e*		21 55 38.0	
	baz=317,slow=7.9						
HAJJ				*i* S	**Sn**	**21 56 14.4**	**-9.3**
HAJJ				AML	AML	21 56 38.6	
	comp=Z,502nm,0.6s						
TRBA	**At Turbah**	**5.45**	**138**	*i* P	**Pn**	**21 56 09.6**	**-0.4**
TRBA				*i* S	**Sn**	**21 57 13.8**	**+1.7**

ATD	**Arta Tunnel**	**6.26 157**	Pn	**Pn**	**21 56 20.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=291,slow=15,SNR=2.6					
ATD			LR	LR	21 58 30.0	
	comp=Z,396nm,19.3s,baz=323,slow=36					
ATD	**Arta Tunnel**	**6.26 157**	Pn	**Pn**	**21 56 20.9**	**-0.2**
EIL	**Elat**	**13.23 339**	LR	LR	22 02 08.3	
	comp=Z,312nm,19.2s,baz=91,slow=33					
ASF	**Jabal al Asfar**	**15.09 349**	LR	LR	22 03 34.1	
	comp=Z,104nm,21.2s,baz=56,slow=35					
MMAI	**Mount Meron Ar**	**16.23 345**	LR	LR	22 04 18.5	
	comp=Z,144nm,19.0s,baz=165,slow=35					
GNI	**Garni**	**23.02 9**	LR	LR	22 08 52.4	
	comp=Z,128nm,20.0s,MS3.4,baz=214,slow=37					
BRTR	**Keskin Array B**	**23.05 347**	P	**P**	**21 59 55.8**	**+1.8**
	comp=Z,0.6nm,0.7s,mb3.1,baz=166,slow=12,SNR=4.5					
BRTR	**Keskin Array B**	**23.05 347**	P	**P**	**21 59 55.8**	**+1.8**
ABKAR	**Akbulak array**	**35.55 22**	*eP*	**P**	**22 01 45.6**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.8					
TORD	**Torodi Ar. Bea**	**37.53 269**	P	**P**	**22 02 01.6**	**-1.3**
	comp=Z,2.8nm,0.8s,mb4.0,baz=89,slow=6.8,SNR=15					
TORD			LR	LR	22 18 05.8	
	comp=Z,208nm,20.0s,MS3.9,baz=230,slow=37					
TORD	**Torodi Ar. Bea**	**37.53 269**	P	**P**	**22 02 01.6**	**-1.3**
GERES	**GERESS Array B**	**38.17 331**	P	**P**	**22 02 07.9**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.8,baz=134,slow=6.9,SNR=15					
GERES	**GERESS Array B**	**38.17 331**	P	**P**	**22 02 07.9**	**0.0**
KHC	**Kasperske Hory**	**38.43 332**	*eP*	**P**	**22 02 10.0**	**0.0**
BRG	**Berggiesshubel**	**39.55 334**	*eP*	**P**	**22 02 20.2**	**+0.8**
	comp=Z,8.5nm,1.6s,mb4.2					
ESDC	**Sonseca Array**	**44.31 309**	P	**P**	**22 02 59.7**	**+1.2**
	comp=Z,1.3nm,0.9s,mb3.6,baz=115,slow=6.2,SNR=5.4					
ESDC	**Sonseca Array**	**44.31 309**	P	**P**	**22 02 59.7**	**+1.2**
KURK	**Kurchatov**	**45.10 34**	*eP*	**P**	**22 03 04.9**	**+0.3**
	comp=Z,3.2nm,1.0s,mb4.1					
MK31	**Makanchi Array**	**45.26 40**	*eP*	**P**	**22 03 05.7**	**-0.2**
MKAR	**Makanchi Array**	**45.26 40**	P	**P**	**22 03 05.5**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.5,baz=238,slow=8.1,SNR=5.9					
MKAR	**Makanchi Array**	**45.26 40**	P	**P**	**22 03 05.5**	**-0.4**
DBIC	**Dimbokro**	**45.41 262**	LR	LR	22 22 27.2	
	comp=Z,280nm,18.0s,MS4.2,baz=54,slow=37					
DBIC	**Dimbokro**	**45.41 262**	*eP*	**P**	**22 03 07.3**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.2					
BOSA	**Boshof**	**47.99 198**	LR	LR	22 23 50.5	
	comp=Z,210nm,20.6s,MS4.1,baz=346,slow=36					
ZAA0	**Zalesovo Array**	**50.04 33**	*eP*	**P**	**22 03 41.8**	**-1.1**
ZALV	**Zalesovo Beam**	**50.04 33**	P	**P**	**22 03 41.2**	**-1.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=247,slow=7.3,SNR=9.1					
ZALV	**Zalesovo Beam**	**50.04 33**	P	**P**	**22 03 41.2**	**-1.7**
SONM	**Songino Array**	**61.26 45**	P	**P**	**22 05 04.0**	**+0.4**
	comp=Z,0.4nm,0.8s,mb3.6,baz=258,slow=8.0,SNR=4.8					
SONM	**Songino Array**	**61.26 45**	P	**P**	**22 05 04.0**	**+0.4**
FX1	**Attu Island--F**	**99.05 27**	LR	LR	22 58 01.6	
	comp=Z,118nm,21.3s,MS4.4,baz=229,slow=38					
TXAR	**Lajitas Array**	**122.05 323**	PKP	PKPdf	22 13 44.1	+0.4
	comp=Z,0.2nm,0.8s,baz=48,slow=1.9,SNR=3.7					
TXAR	**Lajitas Array**	**122.05 323**	PKP	PKPdf	22 13 44.1	+0.4

*IDC **31** 21:55:41.6±2.5, 36°.15N×141°.21E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/24, mbtmp3.2/4, ML3.1/1, Error ellipse: s-maj=62.4km s-min=24.7km az=46.0*
*ISCJB **31** 21:55:47.7±0.6, 35°.96N±0°.05×140°.58E±0°.08, h40km±7km, mb3.3/3, Error ellipse: s-maj=11.7km s-min=6.0km az=146.9*
*JMA **31** 21:55:48.1, 35°.92N×140°.54E, h36km±1km, M3.1*
JMA Felt I J1.

ISC 31 21:55:48.3±0.6, 35°.96N±0°.05×140°.56E±0°.09, h31km±6km, n10, σ0s62/17, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.35**	**137**	P	**Pb**	**21 55 56.2**	**-0.3**
CHOJ				S	**Sb**	**21 56 01.8**	**-0.3**
JYT	**Yasato**	**0.40**	**312**	P	**Pb**	**21 55 57.5**	**+0.3**
JYT				S	**Sb**	**21 56 03.7**	**+0.4**
JHO	**Hitachi**	**0.65**	**0**	P	**Pb**	**21 56 01.0**	**-0.2**
JHO				S	**Sb**	**21 56 10.0**	**+0.1**
JAG	**Ashikaga**	**1.01**	**298**	P	**Pn**	**21 56 05.6**	**-0.7**
JAG				S	**Sn**	**21 56 18.1**	**-1.4**
BSO3	**Boso 3**	**1.16**	**182**	P	**Pn**	**21 56 07.7**	**-0.6**
BSO3				S	**Sn**	**21 56 23.8**	**+0.7**
MJAR	**Matsushiro Arr**	**1.99**	**288**	Pn	**Pn**	**21 56 20.4**	**+0.6**
	4.8nm,0.3s,baz=95,slow=13,SNR=46						
MJAR				Sn	**Sn**	**21 56 53.8**	**+10**
	3.7nm,0.3s,baz=148,slow=22,SNR=5.3						
MAT	**Matsushiro**	**1.99**	**288**	P	**Pn**	**21 56 20.4**	**+0.6**
MAT				*eS*	**Sn**	**21 56 43.5**	**-0.2**
MKAR	**Makanchi Array**	**44.12**	**303**	P	**P**	**22 03 54.9**	**+1.2**
	0.3nm,0.9s,mb3.0,baz=99,slow=9.1,SNR=1.9						
WRA	**Warramunga Arr**	**55.91**	**187**	P	**P**	**22 05 22.9**	**-0.4**
	0.2nm,0.5s,mb3.4,baz=23,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**59.64**	**187**	P	**P**	**22 05 49.5**	**+0.1**
	0.3nm,0.7s,mb3.4,baz=6.8,slow=8.6,SNR=3.4						

*ISCJB **31** 21:56:16.4±0.7, 17°.4N±0°.1×40°.5E±0°.1, h10km, mb3.7/7, Error ellipse: s-maj=16.9km s-min=14.6km az=11.7*
*IDC **31** 21:56:16.4±1.3, 17°.39N×40°.46E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=29.2km s-min=25.8km az=160.0*
*NEIC **31** 21:56:18.2±0.6, 17°.43N×40°.45E, h10km, mb4.0/1, Error ellipse: s-maj=15.5km s-min=13.3km az=96.0*

ISC 31 21:56:18.3±0.7, 17°.4N±0°.1×40°.5E±0°.1, h10km, n17, σ0s82/19, mb3.7/7, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**6.30**	**158**	Pn	**Pn**	**21 57 52.1**	**+0.7**
	1.1nm,0.3s,baz=262,slow=20,SNR=2.6						
ATD				Sn	**Sn**	**21 58 55.5**	**-8.0**
	0.1nm,0.3s,baz=86,slow=22,SNR=2.3						
ATD	**Arta Tunnel**	**6.30**	**158**	Pn	**Pn**	**21 57 52.1**	**+0.7**
ATD				Sn	**Sn**	**21 58 55.5**	**-8.0**
BRTR	**Keskin Array B**	**22.99**	**346**	P	**P**	**22 01 25.4**	**+2.2**
	0.7nm,0.9s,mb3.1,baz=146,slow=10,SNR=2.9						
BRTR	**Keskin Array B**	**22.99**	**346**	P	**P**	**22 01 25.4**	**+2.2**
TORD	**Torodi Ar. Bea**	**37.59**	**269**	P	**P**	**22 03 32.3**	**-1.0**
	1.5nm,0.8s,mb3.8,baz=84,slow=7.8,SNR=8.2						
TORD	**Torodi Ar. Bea**	**37.59**	**269**	P	**P**	**22 03 32.3**	**-1.0**
GERES	**GERESS Array B**	**38.13**	**331**	P	**P**	**22 03 37.5**	**0.0**
	0.8nm,0.7s,mb3.6,baz=124,slow=8.3,SNR=7.0						
GERES	**GERESS Array B**	**38.13**	**331**	P	**P**	**22 03 37.5**	**0.0**
KURK	**Kurchatov**	**45.01**	**34**	*eP*	**P**	**22 04 33.7**	**-0.1**
	1.8nm,0.9s,mb3.9						
MK31	**Makanchi Array**	**45.17**	**40**	*eP*	**P**	**22 04 34.9**	**-0.3**
MKAR	**Makanchi Array**	**45.17**	**40**	P	**P**	**22 04 34.9**	**-0.3**
	0.5nm,0.8s,mb3.4,baz=237,slow=8.0,SNR=3.4						
MKAR	**Makanchi Array**	**45.17**	**40**	P	**P**	**22 04 34.9**	**-0.3**
DBIC	**Dimbokro**	**45.48**	**262**	P	**P**	**22 04 38.2**	**+0.1**
ZALV	**Zalesovo Beam**	**49.94**	**33**	P	**P**	**22 05 11.2**	**-0.9**
	1.4nm,0.6s,mb4.2,baz=243,slow=7.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**49.94**	**33**	P	**P**	**22 05 11.2**	**-0.9**
SONM	**Songino Array**	**61.17**	**45**	P	**P**	**22 06 33.2**	**+0.1**
	0.6nm,0.8s,mb3.8,baz=252,slow=7.6,SNR=5.8						
SONM	**Songino Array**	**61.17**	**45**	P	**P**	**22 06 33.2**	**+0.1**

IDC 31 22:03:14.6±2.4, 3°.06S×130°.22E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/16, mbtmp3.1/3, ML2.6/1, Error ellipse: s-maj=137.8km s-min=29.4km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.25**	**167**	P	Pn	22 07 16.5	-0.6
	0.0nm,0.3s,baz=347,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**20.79**	**170**	P	P	22 07 57.5	0.0
	0.2nm,0.4s,baz=348,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**65.09**	**326**	P	P	22 13 57.4	+0.3
	0.1nm,0.5s,baz=114,slow=7.9,SNR=4.5						

MAN 31 22:06:00, 18°.05N×120°.82E, h4km, mb4.2, ML3.0, MS2.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.37**	**250**	‖*eP*	Pg	22 06 08.0	+0.9
ABRA	**Dolores**	**0.41**	**195**	*eP*	Pg	22 06 08.6	+0.6
CAUP	**Cauayan**	**1.46**	**139**	*eP*	Pn	22 06 27.5	+0.4
CAUP				*eS*	Sb	22 06 48.0	+1.5
BCPH	**Baguio City Da**	**1.67**	**188**	⇑*iP*	Pn	22 06 28.8	-1.3
BCPH				*i S*	Sn	22 06 52.2	+0.2
BALP	**Baler**	**2.41**	**162**	*eP*	Pn	22 06 41.9	+1.8

*ISCJB **31** 22:08:50.5±0.4, 38°.68N±0°.03×22°.53E±0°.03, h28km±4km, Error ellipse: s-maj=5.0km s-min=4.0km az=150.8*
*ATH **31** 22:08:50.3, 38°.71N×22°.55E, h27km±2km, MD2.9/9*
*CSEM **31** 22:08:50.4±0.1, 38°.67N×22°.54E, h27km±1km, ML1.7/6, Error ellipse: s-maj=3.9km s-min=3.5km az=146.0*
*THE **31** 22:08:51.0, 38°.68N×22°.53E, h17km, ML1.7/6, Error ellipse: s-maj=1.0km s-min=0.3km az=196.0*

ISC 31 22:08:50.6±0.4, 38°.68N±0°.03×22°.54E±0°.03, h28km±4km, n30, σ0s56/54, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.27**	**181**	P	**Pb**	**22 08 56.8**	**-0.5**
DSF				S	**Sb**	**22 09 01.5**	**-0.4**
DSF	**Desfina**	**0.27**	**181**	P	**Pb**	**22 08 56.8**	**-0.5**
DSF				S	**Sb**	**22 09 01.5**	**-0.4**
LKR	**Lokris**	**0.36**	**94**	*e*PB	**Pb**	**22 08 58.6**	**-0.1**
LKR				*e*SB	**Sb**	**22 09 04.7**	**+0.4**
LKR	**Lokris**	**0.36**	**94**	P	**Pb**	**22 08 58.5**	**-0.2**
LKR				S	**Sb**	**22 09 04.5**	**+0.2**
LKR	**Lokris**	**0.36**	**94**	*e*Pb	**Pb**	**22 08 58.6**	**-0.1**
LKR				S	**Sb**	**22 09 04.5**	**+0.2**
AGG	**Agios Georgios**	**0.38**	**335**	*e*PB	**Pb**	**22 08 58.5**	**-0.4**
AGG				*e*SB	**Sb**	**22 09 04.3**	**-0.4**
AGG	**Agios Georgios**	**0.38**	**335**	P	**Pb**	**22 08 58.3**	**-0.6**
AGG				S	**Sb**	**22 09 04.5**	**-0.2**
AGG	**Agios Georgios**	**0.38**	**335**	*e*Pb	**Pb**	**22 08 58.5**	**-0.4**
AGG				S	**Sb**	**22 09 04.5**	**-0.2**
ATAL	**Atalanti**	**0.38**	**88**	P	**Pb**	**22 08 58.9**	**0.0**
ATAL				S	**Sb**	**22 09 04.6**	**-0.1**
ATAL	**Atalanti**	**0.38**	**88**	P	**Pb**	**22 08 58.9**	**0.0**
ATAL				S	**Sb**	**22 09 04.6**	**-0.1**
KALE	**Kalithea**	**0.42**	**227**	P	**Pb**	**22 08 59.4**	**-0.2**
KALE				S	**Sb**	**22 09 06.1**	**+0.3**
KALE	**Kalithea**	**0.42**	**227**	P	**Pb**	**22 08 59.4**	**-0.2**
KALE				S	**Sb**	**22 09 06.1**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.46**	**317**	P	**Pb**	**22 09 00.0**	**-0.2**
MAKR				S	**Sb**	**22 09 07.2**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.46**	**317**	P	**Pb**	**22 09 00.0**	**-0.2**
MAKR				S	**Sb**	**22 09 07.2**	**+0.4**
EFP	**Efpalio**	**0.55**	**243**	*e*PN	**Pn**	**22 09 02.0**	**-0.6**
EFP				*e*SN	**Sb**	**22 09 10.5**	**+1.1**
EFP	**Efpalio**	**0.55**	**243**	P	**Pb**	**22 09 01.8**	**0.0**
EFP				S	**Sb**	**22 09 09.9**	**+0.5**
EFP	**Efpalio**	**0.55**	**243**	*e*Pn	**Pn**	**22 09 02.0**	**-0.6**
EFP				S	**Sb**	**22 09 09.9**	**+0.5**
EFP				*e*Sn	**Sb**	**22 09 10.3**	**+0.9**
EVR	**Evrytania**	**0.61**	**293**	*e*PN	**Pn**	**22 09 03.2**	**-0.3**
EVR				*e*SN	**Sn**	**22 09 12.1**	**-0.3**
EVR	**Evrytania**	**0.61**	**293**	*e*Pn	**Pn**	**22 09 03.3**	**-0.2**
EVR				*e*Sn	**Sn**	**22 09 12.1**	**-0.3**
LTK	**Loutraki**	**0.74**	**152**	*e*PN	**Pn**	**22 09 05.7**	**+0.6**
LTK	**Loutraki**	**0.74**	**152**	*e*Pn	**Pn**	**22 09 05.8**	**+0.7**
GUR	**Goura**	**0.76**	**192**	*e*PN	**Pn**	**22 09 06.1**	**+0.7**
GUR	**Goura**	**0.76**	**192**	*e*Pn	**Pn**	**22 09 06.1**	**+0.7**
VIL1	**Vilia, Western**	**0.81**	**129**	*e*PN	**Pn**	**22 09 06.1**	**0.0**
NEO	**Neokhori**	**0.82**	**40**	*e*PN	**Pn**	**22 09 05.6**	**-0.7**
NEO				*e*SN	**Sn**	**22 09 17.4**	**-0.2**
NEO	**Neokhori**	**0.82**	**40**	*e*Pb	**Pb**	**22 09 05.3**	**-1.0**
NEO				*e*Sn	**Sn**	**22 09 17.4**	**-0.2**
XOR	**Xorichti**	**0.85**	**37**	P	**Pn**	**22 09 06.8**	**0.0**
XOR				S	**Sb**	**22 09 19.6**	**+1.7**
XOR	**Xorichti**	**0.85**	**37**	P	**Pn**	**22 09 06.8**	**0.0**
XOR				S	**Sb**	**22 09 19.6**	**+1.7**
THL	**Klokotos Trika**	**0.97**	**336**	*e*PN	**Pn**	**22 09 09.0**	**+0.6**
THL	**Klokotos Trika**	**0.97**	**336**	*e*Pn	**Pn**	**22 09 09.2**	**+0.8**

*SGS **31** 22:14:31.1, 16°.95N×40°.16E, h28km*
*ISCJB **31** 22:14:35.7±0.5, 17°.47N±0°.06×40°.42E±0°.09, h10km, mb3.7/11, MS3.6/11, Error ellipse: s-maj=13.1km s-min=8.9km az=4.0*
*IDC **31** 22:14:36.0±1.3, 17°.38N×40°.41E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, ML3.4/1, MS3.6/13, Ms1 3.6/13, ms1mx3.4/42, Error ellipse: s-maj=28.4km s-min=22.0km az=163.0*
*CSEM **31** 22:14:36.5±0.4, 17°.47N×40°.44E, h2km, mb3.8/3, Error ellipse: s-maj=18.0km s-min=12.8km az=95.0*
*NEIC **31** 22:14:37.6±0.5, 17°.40N×40°.41E, h10km, mb3.8/3, Error ellipse: s-maj=12.3km s-min=9.3km az=93.0*

ISC 31 22:14:37.6±0.6, 17°.45N±0°.07×40°.43E±0°.10, h10km, n57, σ1s13/50, mb3.7/11, MS3.6/11, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRSS	**Farasan al Kab**	**1.76**	**113**	P	**Pn**	**22 14 60.0**	**-8.2**
FRSS	**Farasan al Kab**	**1.76**	**113**	P	**Pn**	**22 15 00.0**	**-8.2**
BLJS	**Baljurashi**	**2.73**	**24**	P	**Pn**	**22 15 19.4**	**-2.1**
LTHS	**Al Lith**	**2.81**	**360**	P	**Pn**	**22 15 17.9**	**-4.8**
LTHS	**Al Lith**	**2.81**	**360**	P	**Pn**	**22 15 17.9**	**-4.8**
SHBS		**3.61**	**349**	P	**Pn**	**22 15 29.9**	**-3.7**
SHBS		**3.61**	**349**	P	**Pn**	**22 15 29.9**	**-3.7**
SHMS		**4.04**	**350**	P	**Pn**	**22 15 36.2**	**-3.3**
SHMS		**4.04**	**350**	P	**Pn**	**22 15 36.2**	**-3.3**
ATD	**Arta Tunnel**	**6.33**	**158**	Pn	**Pn**	**22 16 11.8**	**+0.8**
	0.8nm,0.3s,baz=305,slow=21,SNR=5.4						
ATD				LR	LR	22 18 17.9	
	comp=Z,274nm,20.6s,baz=29,slow=35						
ATD	**Arta Tunnel**	**6.33**	**158**	Pn	**Pn**	**22 16 11.8**	**+0.8**
ATD	**Arta Tunnel**	**6.33**	**158**	Pn	**Pn**	**22 16 11.9**	**+0.8**
EIL	**Elat**	**13.16**	**339**	LR	LR	22 21 56.7	
	comp=Z,262nm,19.5s,baz=263,slow=33						
CSS	**Prodhromos**	**18.56**	**341**	P	**Pn**	**22 18 55.0**	**+0.2**
CSS	**Prodhromos**	**18.56**	**341**	P	**Pn**	**22 18 55.0**	**+0.2**
KMBO	**Kilima Mbogo**	**18.72**	**190**	*e*P	**Pn**	**22 18 55.4**	**-1.5**
KMBO	**Kilima Mbogo**	**18.72**	**190**	*e*P	**Pn**	**22 18 55.4**	**-1.5**
GNI	**Garni**	**22.93**	**9**	LR	LR	22 30 20.0	
	comp=Z,59nm,20.4s,MS3.0,baz=259,slow=41						
BRTR	**Keskin Array B**	**22.97**	**346**	P	**P**	**22 19 44.4**	**+2.2**
	1.7nm,1.0s,mb3.4,baz=156,slow=11,SNR=6.4						
BRTR	**Keskin Array B**	**22.97**	**346**	P	**P**	**22 19 44.4**	**+2.2**
BRTR	**Keskin Array B**	**22.97**	**346**	P	**P**	**22 19 44.4**	**+2.2**
KEST	**Kesra**	**33.03**	**310**	LR	LR	22 34 51.2	
	comp=Z,31nm,20.4s,MS3.0,baz=338,slow=37						
AKTO	**Aktyubinsk**	**35.80**	**19**	P	**P**	**22 21 37.7**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=243,slow=9.2,SNR=6.9						
AKTO				LR	LR	22 38 05.9	
	comp=Z,109nm,18.3s,MS3.6,baz=80,slow=39						
AKTO	**Aktyubinsk**	**35.80**	**19**	P	**P**	**22 21 37.7**	**+0.7**
AKTO	**Aktyubinsk**	**35.80**	**19**	P	**P**	**22 21 37.7**	**+0.7**
KKAR	**Karatay Array**	**36.11**	**39**	*e*P	**P**	**22 21 40.0**	**+0.3**
	1.4nm,0.8s,mb3.9						
KKAR	**Karatay Array**	**36.11**	**39**	*e*P	**P**	**22 21 40.0**	**+0.2**
	1.4nm,0.8s,mb3.9						
TORD	**Torodi Ar. Bea**	**37.56**	**269**	P	**P**	**22 21 50.9**	**-1.6**
	1.8nm,0.8s,mb3.9,baz=86,slow=6.6,SNR=12						
TORD				LR	LR	22 37 20.6	
	comp=Z,118nm,18.4s,MS3.7,baz=60,slow=36						
TORD	**Torodi Ar. Bea**	**37.56**	**269**	P	**P**	**22 21 50.9**	**-1.6**
TORD	**Torodi Ar. Bea**	**37.56**	**269**	P	**P**	**22 21 50.9**	**-1.6**
GERES	**GERESS Array B**	**38.10**	**331**	P	**P**	**22 21 56.2**	**-0.4**
	0.6nm,0.8s,mb3.4,baz=125,slow=6.7,SNR=6.6						
GERES	**GERESS Array B**	**38.10**	**331**	P	**P**	**22 21 56.2**	**-0.4**
GERES	**GERESS Array B**	**38.10**	**331**	P	**P**	**22 21 56.2**	**-0.4**
KHC	**Kasperske Hory**	**38.36**	**331**	*e*P	**P**	**22 21 59.4**	**+0.6**
	0.5nm,0.7s,mb3.4						
KHC	**Kasperske Hory**	**38.36**	**331**	*e*P	**P**	**22 21 59.4**	**+0.6**
	0.5nm,0.7s,mb3.4						
BVAR	**Borovoye Array**	**42.52**	**27**	LR	LR	22 41 11.1	
	comp=Z,106nm,19.4s,MS3.7,baz=135,slow=38						
ESDC	**Sonseca Array**	**44.28**	**309**	P	**P**	**22 22 49.3**	**+1.8**
	0.5nm,0.8s,mb3.3,baz=93,slow=6.4,SNR=3.3						
ESDC	**Sonseca Array**	**44.28**	**309**	P	**P**	**22 22 49.3**	**+1.8**
ESDC	**Sonseca Array**	**44.28**	**309**	P	**P**	**22 22 49.3**	**+1.7**
KURK	**Kurchatov**	**45.01**	**34**	LR	LR	22 44 05.8	
	comp=Z,75nm,18.2s,MS3.7,baz=205,slow=39						
KURK	**Kurchatov**	**45.01**	**34**	*e*P	**P**	**22 22 53.4**	**+0.2**
	3.7nm,1.2s,mb4.1						
KURK	**Kurchatov**	**45.01**	**34**	*e*P	**P**	**22 22 53.4**	**+0.2**
	3.7nm,1.2s,mb4.1						
MK31	**Makanchi Array**	**45.17**	**40**	*e*P	**P**	**22 22 54.6**	**+0.1**
MK31	**Makanchi Array**	**45.17**	**40**	*e*P	**P**	**22 22 54.6**	**0.0**
MKAR	**Makanchi Array**	**45.17**	**40**	P	**P**	**22 22 54.4**	**-0.2**
	0.8nm,0.8s,mb3.6,baz=238,slow=8.3,SNR=10.0						
MKAR				LR	LR	22 44 25.2	
	comp=Z,108nm,19.8s,MS3.8,baz=67,slow=40						
MKAR	**Makanchi Array**	**45.17**	**40**	P	**P**	**22 22 54.4**	**-0.2**
MKAR	**Makanchi Array**	**45.17**	**40**	P	**P**	**22 22 54.3**	**-0.3**
DBIC	**Dimbokro**	**45.45**	**262**	LR	LR	22 42 15.2	
	comp=Z,203nm,19.3s,MS4.1,baz=71,slow=36						
DBIC	**Dimbokro**	**45.45**	**262**	P	**P**	**22 22 57.7**	**+0.4**
DBIC	**Dimbokro**	**45.45**	**262**	P	**P**	**22 22 57.7**	**+0.4**
BOSA	**Boshof**	**48.08**	**198**	LR	LR	22 43 27.8	
	comp=Z,159nm,18.1s,MS4.0,baz=346,slow=36						
ZALV	**Zalesovo Beam**	**49.94**	**33**	P	**P**	**22 23 31.4**	**-0.1**
	1.4nm,0.6s,mb4.2,baz=242,slow=8.1,SNR=13						
ZALV				LR	LR	22 46 46.8	
	comp=Z,39nm,19.4s,MS3.4,baz=332,slow=39						
ZALV	**Zalesovo Beam**	**49.94**	**33**	P	**P**	**22 23 31.4**	**-0.1**
ZALV	**Zalesovo Beam**	**49.94**	**33**	P	**P**	**22 23 31.4**	**-0.1**
SONM	**Songino Array**	**61.17**	**45**	P	**P**	**22 24 53.1**	**+0.6**
	0.7nm,0.8s,mb3.8,baz=259,slow=5.6,SNR=6.7						
SONM				LR	LR	22 55 08.3	
	comp=Z,70nm,18.4s,MS3.8,baz=240,slow=40						
SONM	**Songino Array**	**61.17**	**45**	P	**P**	**22 24 53.1**	**+0.6**
SONM	**Songino Array**	**61.17**	**45**	P	**P**	**22 24 53.1**	**+0.7**

*NEIC **31** 22:27:43.9, 20°.30N×99°.20W, h5km, MD3.6(MEX), After MEX.*

MEX 31 22:27:45.2±0.5, 20°.23N×99°.12W, h5km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTVM	**Pico Tres Padr**	**0.64**	**179**	*i* P	Pg	22 27 56.8	-0.6
PTVM				*e*S	Sg	22 28 05.8	+0.2
PTVM	**Pico Tres Padr**	**0.64**	**179**	*i* P	Pg	22 27 56.8	-0.6
PTVM				*e*S	Sg	22 28 05.8	+0.2
IIO	**Organos**	**0.74**	**149**	*i* P	Pg	22 27 58.4	-1.0
IIO				*i* S	Sg	22 28 10.2	+1.2
IIO	**Organos**	**0.74**	**149**	*i* P	Pg	22 27 58.4	-1.0
IIO				*i* S	Sg	22 28 09.0	0.0
PBIG	**Penon de los B**	**0.79**	**177**	*e*P	Pg	22 27 59.5	-0.8
PBIG				*i* S	Sg	22 28 09.8	-0.7
SZVM	**Salazar**	**0.94**	**195**	*i* P	Pg	22 28 01.4	-1.8
SZVM				*e*S	Sg	22 28 14.0	-1.3
SZVM	**Salazar**	**0.94**	**195**	*i* P	Pg	22 28 01.4	-1.8
SZVM				*e*S	Sg	22 28 14.0	-1.3
MZVM		**1.04**	**186**	*i* P	Pg	22 28 02.2	-3.0
MZVM				*e*S	Sg	22 28 16.6	-2.1
PPM	**Popocatepetl**	**1.25**	**158**	*i* P	Pg	22 28 05.3	-3.8
PPM				*i* S	Sg	22 28 23.6	-1.7
PPM	**Popocatepetl**	**1.25**	**158**	*i* P	Pg	22 28 05.3	-3.8
PPM				*i* S	Sg	22 28 22.3	-3.0

*ISCJB **31** 22:36:12.6±0.4, 41°.82N±0°.02×22°.84E±0°.04, h10km, Error ellipse: s-maj=4.5km s-min=2.5km az=163.5*
*ATH **31** 22:36:12.9, 41°.86N×22°.93E, h5km±2km, MD3.4/4*
*THE **31** 22:36:13.3, 41°.81N×22°.87E, h2km±19km, ML1.8/6, Error ellipse: s-maj=19.6km s-min=0.4km az=236.0*
*CSEM **31** 22:36:13.2±0.2, 41°.80N×22°.86E, h2km, ML1.8/6, Error ellipse: s-maj=4.1km s-min=2.4km az=79.0*
*BEO **31** 22:36:18.0±1.1, 41°.98N×22°.91E, h0km, ML1.5/3*

ISC 31 22:36:13.3±0.4, 41°.81N±0°.02×22°.87E±0°.04, h9km±6km, n28, σ0s66/55, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.54**	**205**	*i* Pg	**Pg**	**22 36 23.3**	**-0.5**
VAY				*i* Sg	**Sg**	**22 36 30.0**	**-0.8**
VAY				*e*Lg		22 36 30.4	
	comp=N,32nm,0.4s						
VAY				*e*Lg		22 36 30.5

43nm,0.3s,baz=292,slow=4.3,SNR=5.8
DAV S Sn 22 45 17.5 +1.1
61nm,0.3s,baz=259,slow=17,SNR=8.0
DAV LR LR 22 46 09.9
comp=Z,922nm,18.6s,baz=60,slow=50
DAV Davao City (W) 2.39 195 *e*Pn Pn 22 44 45.1 -2.8
DAV *e*Sn Sn 22 45 13.0 -3.3
MATI Mati 2.44 179 *e*P Pn 22 44 47.9 -0.6
CTBH Cotabato--PC H 2.90 222‖ *i*P Pn 22 44 53.7 -1.1
SNPH Sibulan 2.93 269‖ *i*P Pn 22 44 55.9 +0.8
SNPH *i*S Sn 22 45 31.9 +2.6
PAGZ Pagadian 3.19 241 *e*P Pn 22 44 59.0 +0.4
GUIM Jordan 3.77 289 *e*P Pn 22 45 06.2 -0.3
IPIL Ipil 3.93 246 *e*P Pn 22 45 09.1 +0.3
RCP Roxas 4.03 303‖ *e*P Pn 22 45 10.6 +0.5
PVCP Virac 4.63 334 *e*P Pn 22 45 18.9 +0.6
OTRP Odiongan 5.06 306 *e*P Pn 22 45 25.9 +1.8
AUQP San Andres 5.22 319 *e*P Pn 22 45 32.9 +6.6
CUYO Cuyo Island 5.31 286 *e*P Pn 22 45 28.7 +1.2
BUSP Coron 6.45 294 *e*P Pn 22 45 43.6 +0.5
ENPP El Nido 6.91 286 *e*P Pn 22 45 49.7 +0.3
TGY Tagaytay City 6.96 313 P Pn 22 45 53.6 +3.4
31nm,0.3s,baz=158,slow=13,SNR=6.0
TGY Tagaytay City 6.96 313 P Pn 22 45 53.6 +3.4
TGY Tagaytay City 6.96 313 P Pn 22 45 53.6 +3.4
BALP Baler 7.76 325 *e*P Pn 22 46 01.7 +0.6
CAUP Cauayan 8.63 331 *e*P Pn 22 46 10.8 -2.1
KKM Kota Kinabalu 10.45 252 *e*Pn Pn 22 46 33.3 -4.5
YULB Yu-li 14.69 342 *e*Pn Pn 22 47 33.8 -0.8
TPUB Ta-pu 14.82 340 *e*Pn Pn 22 47 36.3 +0.1
SSLB Suanglung 15.16 341 *e*Pn Pn 22 47 40.2 -0.5
YHNB Yeheng 15.87 344 *e*Pn Pn 22 47 49.4 -0.3
QIZ Qiongzhong 18.51 303 P Pn 22 48 19.8 -2.3
QIZ pP pP 22 48 35.0 -1.5
QIZ sP sP 22 48 44.5 -1.8
QIZ pmax pmax
comp=Z,460nm,5.0s
NJ2 Nanjing 23.55 344 *e*P P 22 49 07.0 -7.2
NJ2 pmax pmax
comp=Z,40nm,1.0s,mb4.7
FITZ Fitzroy Crossi 27.33 181 P P 22 49 49.9 +1.4
comp=Z,4.2nm,1.0s,mb3.9,baz=7.1,slow=8.1,SNR=5.2
FITZ Fitzroy Crossi 27.33 181 *e*P P 22 49 49.2 +0.6
comp=Z,210nm,2.2s,mb5.3
CM31 Chiang Mai Arr 27.92 292 P P 22 49 53.1 -0.8
CMAR Chiang Mai Arr 27.92 292 P P 22 49 54.4 +0.5
comp=Z,1.9nm,1.0s,mb3.6,baz=107,slow=6.8,SNR=10
CMAR PcP PcP 22 53 09.3 +1.5
comp=Z,1.1nm,0.7s,baz=131,slow=1.4,SNR=8.9
CMAR Chiang Mai Arr 27.92 292 P P 22 49 54.4 +0.5
CMAR PcP PcP 22 53 09.3 +1.5
CMAR Chiang Mai Arr 27.92 292 P P 22 49 54.4 +0.5
CMAR 22 53 09.4
KSAR Wonju Array Be 27.96 3 P P 22 49 54.4 +0.4
KSAR Wonju Array Be 27.96 3 P P 22 49 54.4 +0.4
KSRS Korea Array 27.98 3 P P 22 49 54.4 +0.2
comp=Z,2.9nm,0.5s,mb4.1,baz=183,slow=10.0,SNR=13
PMG Port Moresby 28.00 131 *e*P P 22 49 58.8 +4.1
comp=Z,10nm,0.7s,mb4.5
PMG Port Moresby 28.00 131 *e*P P 22 49 58.8 +4.2
PMG pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 28.01 293 *e*P P 22 49 53.5 -1.2
CHTO Chiang Mai 28.01 293 *e*P P 22 49 53.5 -1.2
COEN Coen 28.67 144 *e*P P 22 50 00.9 +0.4
comp=Z,185nm,1.5s,mb5.5
MAJO Matsushiro 29.14 20 *e*P P 22 50 02.9 -1.6
comp=Z,368nm,3.0s
MAJO Matsushiro 29.14 20 *e*P P 22 50 02.9 -1.6
MJAR Matsushiro Arr 29.14 20 P P 22 50 03.7 -0.8
comp=Z,1.5nm,0.9s,mb3.6,baz=193,slow=9.7,SNR=5.9
MJAR LR LR 22 58 56.2
comp=Z,71nm,21.6s,baz=270,slow=30
MJAR Matsushiro Arr 29.14 20 P P 22 50 03.7 -0.8
MJAR Matsushiro Arr 29.14 20 P P 22 50 03.7 -0.8
WRAB Tennant Creek 30.23 165 *e*P P 22 50 13.9 -0.4
comp=Z,21nm,1.6s,mb4.5
WRAB Tennant Creek 30.23 165 *e*P P 22 50 13.9 -0.4
WRAB pmax pmax
comp=Z,21nm,1.6s,mb4.5
WRA Warramunga Arr 30.23 165 P P 22 50 14.1 -0.2
comp=Z,0.7nm,0.6s,mb3.5,baz=352,slow=8.1,SNR=17
WRA PcP PcP 22 53 14.2 +0.6
comp=Z,0.4nm,0.5s,baz=333,slow=3.4,SNR=4.6
WRA Warramunga Arr 30.23 165 P P 22 50 14.1 -0.2
WRA PcP PcP 22 53 14.2 +0.6
WRA Warramunga Arr 30.23 165 P P 22 50 14.1 -0.2
WRA 22 53 14.2
WB2 Warramunga Arr 30.24 165 *e*P P 22 50 14.2 -0.1
MBWA Marble Bar 31.02 192 *e*P P 22 50 22.0 +0.7
comp=Z,48nm,1.5s,mb5.0
BJT Baijiatuau 31.78 345 *e*P P 22 50 28.1 +0.3
BJT Baijiatuau 31.78 345 *e*P P 22 50 28.1 +0.3
LZH Lanzhou 33.46 326 *e*P P 22 50 45.0 +2.5
LZH pP pP 22 51 03.0 +2.3
LZH sP sP 22 51 12.3 +2.6
LZH pmax pmax
comp=Z,21nm,1.1s,mb4.9
LZH pmax pmax
comp=Z,75nm,5.4s
LZH LR LR
comp=N,370nm,13.0s
LZH LR LR
comp=E,390nm,13.2s
LZH LR LR
comp=Z,470nm,17.5s
AS31 Alice Springs 33.71 167 *e*P P 22 50 45.2 +0.4
ASAR Alice Springs 33.71 167 P P 22 50 44.3 -0.5
comp=Z,0.6nm,0.4s,mb3.8,baz=349,slow=7.2,SNR=36
ASAR Alice Springs 33.71 167 P P 22 50 44.3 -0.5
ASAR Alice Springs 33.71 167 P P 22 50 44.3 -0.5
HHC Hu-ho-hao-te 33.91 340 *e*P P 22 50 49.5 +3.2
HHC pP pP 22 51 07.0 +2.4
HHC pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
HHC pmax pmax
comp=Z,76nm,3.9s
HHC LR LR
comp=N,170nm,10.3s
HHC LR LR
comp=E,160nm,11.9s
HHC LR LR
comp=Z,200nm,11.8s
USRK Ussuriysk Arra 35.04 7 P P 22 50 57.0 +1.0
comp=Z,6.8nm,0.7s,mb4.6,baz=183,slow=8.7,SNR=12
MDJ Mudanjiang 35.21 4 P P 22 50 59.0 +1.5
MDJ pmax pmax
comp=Z,21nm,1.1s,mb4.9
MDJ pmax pmax
comp=Z,120nm,4.2s
MDJ Mudanjiang 35.21 4 *e*P P 22 50 58.0 +0.5
SHL Shillong 36.32 301 *e*PKP P 22 51 12.2 +4.8
ASAJ Asahikawa 37.41 20 LR LR 23 06 48.8
comp=Z,106nm,18.4s,baz=172,slow=36
HNR Honiara 38.45 118 LR LR 23 07 00.5
comp=Z,102nm,18.5s,baz=289,slow=36
LSA Lhasa 38.49 307 *e*P P 22 51 24.5 -1.1
comp=Z,10nm,1.3s,mb4.5
LSA Lhasa 38.49 307 *e*P P 22 51 24.5 -1.1
LSA pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
FORT Forrest 39.98 178 *e*P P 22 51 39.0 +1.0
comp=Z,22nm,0.8s,mb5.0
TAPN Taplejung 40.44 301 *e*P P 22 51 42.1 +0.2
TAPN Taplejung 40.44 301 *e*P P 22 51 42.1 +0.2
ODAN Odare 40.56 301 *e*P P 22 51 42.9 0.0
comp=Z,16nm,0.7s,mb5.0
ODAN Odare 40.56 301 *e*P P 22 51 42.9 0.0
comp=Z,16nm,0.7s,mb5.0
RAMN Ramite 41.26 300 *e*P P 22 51 49.0 +0.4
comp=Z,14nm,0.8s,mb4.8
RAMN Ramite 41.26 300 *e*P P 22 51 49.0 +0.4
comp=Z,14nm,0.8s,mb4.8
ULN Ulaanbaatar 41.62 341 *e*P P 22 51 50.3 -0.9
comp=Z,2.8nm,0.5s,mb4.2
ULN Ulaanbaatar 41.62 341 *e*P P 22 51 50.3 -0.9
ULN pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
SONM Songino Array 41.81 340 P P 22 51 52.5 -0.3
comp=Z,0.8nm,0.7s,mb3.5,baz=152,slow=10.0,SNR=11
SONM LR LR 23 10 46.9
comp=Z,52nm,21.0s,baz=178,slow=38
SONM Songino Array 41.81 340 P P 22 51 52.5 -0.3
SONM Songino Array 41.81 340 P P 22 51 52.5 -0.3
JIRN Jiri 41.82 301 *e*P P 22 51 53.6 +0.4
comp=Z,16nm,0.5s,mb5.0
JIRN Jiri 41.82 301 *e*P P 22 51 53.6 +0.4
comp=Z,16nm,0.5s,mb5.0
GUN Gumba 42.16 301 *e*P P 22 51 56.2 +0.2
comp=Z,17nm,0.7s,mb4.9
GUN Gumba 42.16 301 *e*P P 22 51 56.2 +0.2
comp=Z,17nm,0.7s,mb4.9
PKI Pulchoki 42.45 301 *e*P P 22 51 57.9 -0.5
PKI Pulchoki 42.45 301 *e*P P 22 51 57.9 -0.5
PKI Pulchoki 42.45 301 *e*P P 22 51 57.9 -0.5
KKN Kakani 42.63 301 *e*P P 22 51 59.0 -0.8
KKN Kakani 42.63 301 *e*P P 22 51 59.0 -0.8
KKN Kakani 42.63 301 *e*P P 22 51 59.0 -0.8
DMN Daman 42.72 301 *e*P P 22 52 00.2 -0.3
DMN Daman 42.72 301 *e*P P 22 52 00.2 -0.3
NWAO Narrogin (SRO) 42.95 191 LR LR 23 10 54.6
comp=Z,114nm,20.0s,baz=330,slow=37
BBOO Buckleboo 43.01 168 *e*P P 22 52 03.8 +1.2
comp=Z,537nm,1.1s
GKN Gorkha 43.23 301 *e*P P 22 52 04.2 -0.5
comp=Z,9.5nm,0.8s,mb4.6
GKN Gorkha 43.23 301 *e*P P 22 52 04.2 -0.5
comp=Z,9.5nm,0.8s,mb4.6
STKA Stephens Creek 43.60 161 P P 22 52 07.5 0.0
comp=Z,1.8nm,0.4s,mb4.2,baz=342,slow=8.4,SNR=12
STKA LR LR 23 13 21.1
comp=Z,97nm,18.6s,baz=167,slow=40
STKA Stephens Creek 43.60 161 *e*P P 22 52 07.5 0.0
comp=Z,20nm,2.5s,mb4.4
STKA Stephens Creek 43.60 161 *e*P P 22 52 07.5 +0.1
STKA pmax pmax
comp=Z,21nm,2.5s
KOLN Koldanda 44.05 300 *e*P P 22 52 11.2 0.0
comp=Z,13nm,0.8s,mb4.7
KOLN Koldanda 44.05 300 *e*P P 22 52 11.2 0.0
comp=Z,13nm,0.8s,mb4.7
DANN Dangsing 44.08 301 *e*P P 22 52 10.8 -0.6
DANN Dangsing 44.08 301 *e*P P 22 52 10.8 -0.6
ARMA Armidale 46.52 149 *e*P P 22 52 32.8 +2.2
HYB Hyderabad 46.93 285 *i*P P 22 52 35.0 +0.9
CAN Canberra 49.42 155 P P 22 52 54.0 +1.0
CAN Canberra 49.42 155 P P 22 52 54.0 +1.1
PETK Petropavlovsk- 50.45 24 P P 22 53 02.2 +1.7
comp=Z,3.8nm,0.5s,mb4.6,baz=195,slow=3.6,SNR=15
PETK Petropavlovsk- 50.45 24 P P 22 53 02.2 +1.7
PETK Petropavlovsk- 50.45 24 P P 22 53 02.2 +1.6
YAK Yakutsk 52.60 2 *e*P P 22 53 16.6 +0.2
comp=Z,16nm,0.7s,mb5.2
YAK Yakutsk 52.60 2 *e*P P 22 53 15.6 -0.8
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.0
MK31 Makanchi Array 52.68 323 *e*P P 22 53 16.2 -1.1
MK31 Makanchi Array 52.68 323 *e*P P 22 53 16.2 -1.1
MKAR Makanchi Array 52.68 323 P P 22 53 16.9 -0.4
comp=Z,4.4nm,0.5s,mb4.7,baz=128,slow=7.9,SNR=118
MKAR PcP PcP 22 54 26.2 0.0
comp=Z,1.9nm,0.8s,baz=114,slow=4.7,SNR=5.2
MKAR LR LR 23 17 02.4
comp=Z,56nm,18.5s,baz=264,slow=38
MKAR Makanchi Array 52.68 323 P P 22 53 16.9 -0.4
MKAR PcP PcP 22 54 26.2 0.0
MKAR Makanchi Array 52.68 323 *c*e*P P 22 53 16.8 -0.5
MKAR pmax pmax
comp=Z,4.0nm,0.5s
TKM2 Tokmak 2 55.25 316 *e*P P 22 53 35.5 -0.5
comp=Z,2.3nm,0.8s,mb4.3
TKM2 Tokmak 2 55.25 316 *e*P P 22 53 35.5 -0.5
TKM2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ZALV Zalesovo Beam 55.36 332 P P 22 53 35.3 -1.3
comp=Z,1.3nm,0.5s,mb4.2,baz=127,slow=7.3,SNR=9.7
ZALV LR LR 23 18 53.7
comp=Z,48nm,18.2s,baz=22,slow=38
ZALV Zalesovo Beam 55.36 332 P P 22 53 35.3 -1.3
ZALV Zalesovo Beam 55.36 332 P P 22 53 35.3 -1.3
AAK Ala-Archa 55.90 316 *e*P P 22 53 41.3 +0.5
AAK Ala-Archa 55.90 316 *e*P P 22 53 41.3 +0.6
EKS2 Erkin-Say 56.40 315 *e*P P 22 53 44.9 +0.5
comp=Z,3.9nm,0.6s,mb4.6
EKS2 Erkin-Say 56.40 315 *e*P P 22 53 44.9 +0.6
EKS2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KURK Kurchatov 56.75 326 P P 22 53 45.8 -0.8
comp=Z,5.3nm,0.5s,mb4.8,baz=125,slow=6.6,SNR=64
KURK Kurchatov 56.75 326 *e*P P 22 53 45.8 -0.8
comp=Z,7.3nm,0.7s,mb4.8
KURK Kurchatov 56.75 326 *e*P P 22 53 45.8 -0.8
KURK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
KBL Kabul 57.77 305 *e*P P 22 53 54.0 -0.2
comp=Z,3.7nm,0.6s,mb4.6
KBL Kabul 57.77 305 *e*P P 22 53 54.0 -0.2
KBL pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KKAR Karatay Array 58.82 315 *e*P P 22 54 00.9 -0.4
KKAR Karatay Array 58.82 315 *e*P P 22 54 00.9 -0.4
BVAR Borovoye Array 62.34 326 P P 22 54 24.0 -1.1
comp=Z,2.2nm,0.6s,mb4.4,baz=134,slow=8.5,SNR=18
BVAR Borovoye Array 62.34 326 P P 22 54 24.0 -1.1
BVAR Borovoye Array 62.34 326 P P 22 54 24.0 -1.1
BRVK Borovoye 62.42 326 *e*P P 22 54 25.1 -0.4
comp=Z,45nm,0.7s,mb5.6
BRVK Borovoye 62.42 326 *c*e*P P 22 54 24.9 -0.6
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ABKAR Akbulak array 67.49 320 *e*P P 22 54 57.7 -0.9
comp=Z,2.0nm,0.6s,mb4.1
AKTO Aktyubinsk 68.95 320 P P 22 55 07.2 -0.5
comp=Z,1.5nm,0.6s,mb4.0,baz=90,slow=9.7,SNR=8.3
AKTO Aktyubinsk 68.95 320 P P 22 55 07.2 -0.5
AKTO Aktyubinsk 68.95 320 P P 22 55 07.2 -0.5
ARU Arti 69.92 327 *e*P P 22 55 12.5 -1.0
comp=Z,7.0nm,0.6s,mb4.7
ARU Arti 69.92 327 *c i*P P 22 55 12.3 -1.2
ARU S S 23 04 08.6 -8.7
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KIV Kislovodsk 78.89 313 *e*P P 22 56 06.3 +0.5
KIV Kislovodsk 78.89 313 *e*P P 22 56 06.4 +0.5
MCK McKinley 79.36 27 *e*P P 22 56 08.7 +0.7
comp=Z,2.7nm,0.5s,mb4.3
MCK McKinley 79.36 27 *e*P P 22 56 08.7 +0.7
MCK pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
ILAR Eielson Array 80.25 26 P P 22 56 12.6 -0.2
comp=Z,0.8nm,0.6s,mb3.7,baz=237,slow=4.8,SNR=20
ILAR Eielson Array 80.25 26 P P 22 56 12.6 -0.2
ILAR Eielson Array 80.25 26 P P 22 56 12.6 -0.2
OBN Obninsk 82.16 325‖ *e*P P 22 56 24.4 +1.3
OBN pmax pmax
comp=Z,12nm,0.5s,mb5.0
SPITS Spitsbergen Ar 84.86 349 P P 22 56 36.7 +0.2
comp=Z,3.7nm,0.6s,mb4.5,baz=111,slow=15,SNR=14
SPITS Spitsbergen Ar 84.86 349 P P 22 56 36.7 +0.2
SPITS Spitsbergen Ar 84.86 349 P P 22 56 36.7 +0.2
ARCES ARCESS Array B 84.99 340 P P 22 56 37.4 +0.1
comp=Z,6.3nm,0.6s,mb4.7,baz=80,slow=6.8,SNR=31
ARCES ARCESS Array B 84.99 340 P P 22 56 37.4 +0.1
ARCES ARCESS Array B 84.99 340 P P 22 56 37.4 +0.1
INK Inuvik 85.12 22 P P 22 56 36.6 -1.3
comp=Z,1.6nm,0.4s,mb4.3,baz=295,slow=32,SNR=15
INK Inuvik 85.12 22 P P 22 56 36.6 -1.3
INK Inuvik 85.12 22 P P 22 56 36.6 -1.4
BRTR Keskin Array B 86.03 309 P P 22 56 42.5 -0.6
comp=Z,0.9nm,0.7s,mb3.8,baz=98,slow=5.6,SNR=4.6
BRTR Keskin Array B 86.03 309 P P 22 56 42.5 -0.6
BRTR Keskin Array B 86.03 309 *c*e*P P 22 56 43.0 -0.1
FINES FINESS Array B 86.62 332 P P 22 56 44.9 -0.6
comp=Z,2.6nm,0.5s,mb4.5,baz=70,slow=4.8,SNR=17
FINES FINESS Array B 86.62 332 P P 22 56 44.9 -0.6
FINES FINESS Array B 86.62 332 P P 22 56 44.9 -0.6
AKASG Malin Array Be 87.20 321 P P 22 56 48.0 -0.6
comp=Z,1.0nm,0.5s,mb4.0,baz=67,slow=4.7,SNR=3.9
AKASG Malin Array Be 87.20 321 P P 22 56 48.0 -0.6
AKASG Malin Array Be 87.20 321 P P 22 56 48.0 -0.6
RES Resolute Bay 92.36 10 P P 22 57 14.1 +1.8
comp=Z,1.9nm,0.6s,mb4.5,baz=303,slow=5.3,SNR=8.3
RES Resolute Bay 92.36 10 P P 22 57 14.1 +1.8
RES Resolute Bay 92.36 10 P P 22 57 14.1 +1.8
YKA Yellowknife Ar 94.58 24 P P 22 57 23.7 +1.1
comp=Z,1.1nm,0.7s,mb4.4,baz=299,slow=4.5,SNR=14
YKA Yellowknife Ar 94.58 24 P P 22 57 23.8 +1.1
YKA Yellowknife Ar 94.58 24 P P 22 57 23.8 +1.1
TXAR Lajitas Array 118.44 49 PKP PKPdf 23 02 51.9 +1.7
comp=Z,0.1nm,0.6s,baz=10,slow=4.2,SNR=3.7
TXAR Lajitas Array 118.44 49 PKP PKPdf 23 02 51.9 +1.7
TXAR Lajitas Array 118.44 49 PKIKP PKPdf 23 02 51.9 +1.7
TORD Torodi Ar. Bea 120.53 291 PKP PKPdf 23 02 54.4 -0.1
comp=Z,1.4nm,0.8s,baz=60,slow=1.5,SNR=11
TORD Torodi Ar. Bea 120.53 291 PKP PKPdf 23 02 54.4 -0.1

*NEIC **31** 23:09:08.8, 17°.33N×100°.15W, h29km, MD3.6(MEX), After MEX.*
MEX 31 23:09:08.7±0.5, 17°.34N×100°.14W, h25km±63km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.32**	**202**	*i* P	Pb	23 09 15.0	-1.0
CAIG				*e*S	Sb	23 09 19.1	-1.8
CAIG	**El Cayaco**	**0.32**	**202**	*i* P	Pb	23 09 15.0	-1.0
CAIG				*e*S	Sb	23 09 19.1	-1.8
ACX	**Acapulco**	**0.54**	**150**	*i* P	Pb	23 09 17.1	-2.5
ACX				*e*S	Sb	23 09 24.6	-2.5
ACX	**Acapulco**	**0.54**	**150**	*i* P	Pb	23 09 17.1	-2.5
ACX				*e*S	Sb	23 09 24.6	-2.5
ZIIG	**Zihuatanejo**	**1.29**	**282**	*i* P	Pn	23 09 28.2	-2.9
ZIIG				*e*S	Sn	23 09 43.9	-3.7
ZIIG	**Zihuatanejo**	**1.29**	**282**	*i* P	Pn	23 09 28.2	-2.9
ZIIG				*e*S	Sn	23 09 43.9	-3.7
PNIG	**Pinotepa**	**2.15**	**116**	*i* P	Pn	23 09 40.3	-2.6
PNIG				*i* S	Sn	23 10 06.4	-2.4
PNIG	**Pinotepa**	**2.15**	**116**	*i* P	Pn	23 09 40.3	-2.6
PNIG				*i* S	Sn	23 10 06.4	-2.4

IDC 31 23:10:06.9±1.9, 10°.08S×118°.41E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.3/16, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=69.7km s-min=25.0km az=56.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.21**	**15**	Pn	Pn	23 11 27.1	+1.0
	1.4nm,0.3s,baz=234,slow=17,SNR=15						
KAPI				Sn	Sn	23 12 20.6	-6.3
	3.0nm,0.3s,baz=338,slow=24,SNR=7.1						
WRA	**Warramunga Arr**	**18.22**	**124**	P	Pn	23 14 20.7	-0.7
	0.0nm,0.3s,baz=303,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**20.03**	**134**	P	P	23 14 42.2	+0.7
	0.3nm,0.6s,baz=314,slow=10,SNR=5.1						
SONM	**Songino Array**	**58.64**	**351**	P	P	23 20 05.5	-0.3
	0.2nm,0.5s,baz=170,slow=8.7,SNR=4.9						
MKAR	**Makanchi Array**	**65.16**	**333**	P	P	23 20 49.9	+0.2
	0.3nm,0.8s,baz=152,slow=6.5,SNR=3.9						

*IDC **31** 23:25:37.3±3.2, 6°.19S×146°.10E, h96km±31km, mb3.5/6, mb1 3.6/8, mb1mx3.5/15, mbtmp3.4/8, Error ellipse: s-maj=28.8km s-min=23.9km az=69.0*
*ISCJB **31** 23:25:38.1±2.6, 6°.3S±0°.2×146°.0E±0°.1, h119km±28km, mb3.7/5, Error ellipse: s-maj=29.7km s-min=18.6km az=139.2*
*NEIC **31** 23:25:39.9±1.8, 6°.29S×146°.03E, h124km±18km, mb3.6/1, Error ellipse: s-maj=20.9km s-min=15.0km az=123.0*
ISC 31 23:25:40.6±2.5, 6°.4S±0°.2×146°.1E±0°.2, h133km±30km, n27, σ1°01/25, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.17**	**160**	P	**Pn**	**23 26 29.7**	**+0.2**
	12nm,0.3s,baz=0.6,slow=6.8,SNR=35						
PMG				S	**Sn**	**23 27 06.9**	**-0.4**
	17nm,0.3s,baz=147,slow=21,SNR=18						
PMG	**Port Moresby**	**3.17**	**160**	P	**Pn**	**23 26 29.7**	**+0.2**
PMG				S	**Sn**	**23 27 06.9**	**-0.4**
COEN	**Coen**	**8.03**	**201**	*e*Pn	**Pn**	**23 27 36.0**	**+1.4**
	122nm,0.9s						
WRAB	**Tennant Creek**	**17.63**	**219**	*e*P	**Pn**	**23 29 37.5**	**-0.5**
	3.5nm,1.0s						
WB2	**Warramunga Arr**	**17.64**	**219**	*e*P	**Pn**	**23 29 37.0**	**-1.1**
WRA	**Warramunga Arr**	**17.64**	**219**	P	**Pn**	**23 29 36.8**	**-1.4**
	0.2nm,0.3s,baz=39,slow=11,SNR=12						
WRA	**Warramunga Arr**	**17.64**	**219**	P	**Pn**	**23 29 36.8**	**-1.4**
ASAR	**Alice Springs**	**20.78**	**213**	P	**P**	**23 30 11.8**	**+0.6**
	0.9nm,0.8s,baz=51,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**20.78**	**213**	P	**P**	**23 30 11.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**23.09**	**238**	*e*P	**P**	**23 30 34.6**	**-0.2**
STKA	**Stephens Creek**	**25.69**	**189**	P	**P**	**23 31 01.3**	**+3.0**
	2.9nm,0.6s,mb4.1,baz=356,slow=8.7,SNR=7.0						
STKA	**Stephens Creek**	**25.69**	**189**	P	**P**	**23 31 01.3**	**+3.0**
CMAR	**Chiang Mai Arr**	**52.65**	**299**	P	**P**	**23 34 42.2**	**+0.8**
	1.2nm,0.7s,mb3.8,baz=120,slow=6.3,SNR=8.9						
CMAR	**Chiang Mai Arr**	**52.65**	**299**	P	**P**	**23 34 42.2**	**+0.8**
LSA	**Lhasa**	**63.76**	**307**	P	**P**	**23 36 00.2**	**+1.6**
MK31	**Makanchi Array**	**77.23**	**321**	P	**P**	**23 37 18.9**	**-1.2**
MKAR	**Makanchi Array**	**77.23**	**321**	P	**P**	**23 37 20.5**	**+0.5**
	0.7nm,0.8s,mb3.4,baz=100,slow=8.5,SNR=9.0						
MKAR	**Makanchi Array**	**77.23**	**321**	P	**P**	**23 37 20.5**	**+0.5**
ZALV	**Zalesovo Beam**	**78.87**	**328**	P	**P**	**23 37 27.9**	**-1.0**
	0.4nm,0.5s,mb3.3,baz=116,slow=6.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**78.87**	**328**	P	**P**	**23 37 27.9**	**-1.0**
ILAR	**Eielson Array**	**86.21**	**23**	P	**P**	**23 38 06.0**	**-0.6**
	0.7nm,0.7s,mb3.5,baz=254,slow=5.0,SNR=11						
ILAR	**Eielson Array**	**86.21**	**23**	P	**P**	**23 38 06.0**	**-0.6**
ARU	**Arti**	**93.92**	**326**	*e*P	**P**	**23 38 43.0**	**0.0**
TORD	**Torodi Ar. Bea**	**144.31**	**284**	PKP	PKPdf	23 45 01.2	-0.7
	0.3nm,0.5s,baz=60,slow=3.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**144.31**	**284**	PKP	PKPdf	23 45 01.2	-0.7
SIV	**San Ignacio**	**145.10**	**130**	PKPbc	PKPbc	23 45 04.6	+1.6
	1.3nm,0.5s,baz=248,slow=2.8,SNR=11						
SIV	**San Ignacio**	**145.10**	**130**	PKPbc	PKPbc	23 45 04.6	+1.6

IDC 31 23:40:55.6±6.8, 16°.96S×172°.58W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, MS3.6/2, Ms1 3.7/2, ms1mx3.1/23, Error ellipse: s-maj=348.4km s-min=29.2km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.40**	**252**	*e*P	P	23 45 42.4	+8.1
	16nm,1.2s						
DZM				*e*LR	LR	23 50 51.1	
	133nm,23.4s						
HNR	**Honiara**	**27.75**	**282**	LR	LR	23 56 00.3	
	comp=Z,63nm,20.5s,baz=54,slow=33						
WRA	**Warramunga Arr**	**50.27**	**258**	P	P	23 49 53.7	-0.4
	0.4nm,0.5s,baz=90,slow=7.3,SNR=8.5						
ASAR	**Alice Springs**	**50.39**	**253**	P	P	23 49 55.4	+0.4
	2.2nm,0.7s,baz=86,slow=8.1,SNR=35						
ILAR	**Eielson Array**	**83.82**	**11**	P	P	23 53 26.9	+0.4
	0.3nm,0.7s,baz=235,slow=5.4,SNR=5.0						
YKA	**Yellowknife Ar**	**91.21**	**23**	P	P	23 54 01.9	-0.3
	0.1nm,0.5s,baz=260,slow=4.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**93.84**	**288**	LR	LR	00 36 00.8	
	comp=Z,42nm,18.5s,baz=185,slow=35						
DDI	**Dehra Dun**	**114.83**	**296**	*e*PN	PKKPbc	00 10 00.0	+15
DDI				*e*SN		00 10 32.0	
GERES	**GERESS Array B**	**147.79**	**352**	PKPbc	PKPbc	00 00 42.2	-0.2
	0.3nm,0.8s,baz=28,slow=4.4,SNR=3.2						
BRTR	**Keskin Array B**	**147.85**	**320**	PKPbc	PKPbc	00 00 42.0	-0.9
	1.5nm,0.8s,baz=114,slow=1.7,SNR=6.0						

*NIED **31** 23:49:00, 42°.10N×142°.60E, h62km, Mw4.2 Best double couple: M0:2.33000×10^15 NP1:φs 32.00000°, δ68.00000°, λ99.00000°. NP2:φs 190.00000°, δ24.00000°, λ69.00000°.*
*BJI **31** 23:49:54.2, 42°.08N×142°.76E, h68km, mB5.0/19, mb4.6/33, Ms4.4/13, Ms7.4 2/11*
*ISCJB **31** 23:49:56.1±0.3, 42°.09N±0°.03×142°.54E±0°.04, h72km±2km, mb4.4/66, Error ellipse: s-maj=5.7km s-min=3.4km az=142.8*
*JMA **31** 23:49:56.8±0.2, 42°.09N×142°.57E, h66km±2km, M4.0 JMA Felt II J1.*
*MOS **31** 23:49:57.8±1.1, 42°.16N×142°.57E, h87km, mb4.7/20, Error ellipse: s-maj=9.0km s-min=6.4km az=92.3*
*IDC **31** 23:49:58.5±1.6, 42°.14N×142°.53E, h77km±12km, mb4.0/23, mb1 4.1/26, mb1mx4.0/32, mbtmp4.0/26, MS3.4/2, Ms1 3.4/2, ms1mx2.8/33, Error ellipse: s-maj=15.2km s-min=10.6km az=118.0*
*NEIC **31** 23:49:58.7±0.6, 42°.16N×142°.60E, h81km±5km, mb4.6/21, MW4.2(NIED), Error ellipse: s-maj=7.7km s-min=4.6km az=130.0*
NEIC Recorded [2 JMA] in the Tomakomai and Shizunai areas;

[1 JMA] in south-central and southwestern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.

ISC 31 23:49:57.4±0.3, 42°11N±0°03×142°53E±0°04, h67km±2km, h77km:pP-P, n211, σ0°85/229, mb4.4/66, 19C-15D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.23**	**44**	⇑P	**Pn**	**23 50 06.9**	**-0.8**
JNBK				*e*S	**Sn**	**23 50 14.6**	**-0.7**
JEM	**Erimo**	**0.47**	**101**	⇑P	**Pn**	**23 50 09.1**	**-0.5**
JEM				*e*S	**Sn**	**23 50 18.5**	**0.0**
JBT2	**Biratori 2**	**0.68**	**349**	⇓P	**Pn**	**23 50 11.3**	**-0.5**
JBT2				*e*S	**Sn**	**23 50 22.4**	**+0.1**
JCH	**Churui**	**0.79**	**50**	⇑P	**Pn**	**23 50 12.6**	**-0.5**
JCH				*e*S	**Sn**	**23 50 24.1**	**-0.6**
JFR	**Furan**	**1.05**	**2**	⇓P	**Pn**	**23 50 16.0**	**-0.3**
JEW	**Eniwo**	**1.08**	**313**	⇓P	**Pn**	**23 50 16.8**	**+0.1**
JEW				*e*S	**Sn**	**23 50 32.1**	**+1.0**
JKB	**Kayabe**	**1.14**	**259**	⇓P	**Pn**	**23 50 17.0**	**-0.5**
JKB				*e*S	**Sn**	**23 50 31.9**	**-0.6**
JNB	**Noboribetsu**	**1.17**	**288**	⇓P	**Pn**	**23 50 16.8**	**-1.0**
JNB				*e*S	**Sn**	**23 50 32.1**	**-0.9**
JOB	**Onbets**	**1.25**	**50**	⇑P	**Pn**	**23 50 19.3**	**+0.5**
JOB				*e*S	**Sn**	**23 50 36.4**	**+1.5**
JOT	**Ohata**	**1.33**	**237**	⇓P	**Pn**	**23 50 19.3**	**-0.6**
JOT				*e*S	**Sn**	**23 50 35.7**	**-1.2**
JAB	**Ashibetsu**	**1.41**	**351**	⇓P	**Pn**	**23 50 21.3**	**+0.3**
JAR	**Ashorobuto**	**1.49**	**37**	⇑P	**Pn**	**23 50 21.8**	**-0.3**
JAR				*e*S	**Sn**	**23 50 40.7**	**0.0**
JYM2	**Yakumo 2**	**1.61**	**271**	⇓P	**Pn**	**23 50 23.3**	**-0.3**
ASAJ	**Asahikawa**	**2.00**	**1**	P	**Pn**	**23 50 29.7**	**+0.8**
	114nm,0.3s,baz=214,slow=10,SNR=241						
ASAJ				S	**Sn**	**23 50 54.8**	**+1.8**
	79nm,0.3s,baz=65,slow=33,SNR=9.4						
ASAJ	**Asahikawa**	**2.00**	**1**	*e*Pn	**Pn**	**23 50 29.6**	**+0.6**
ASAJ				*e*Sn	**Sn**	**23 50 53.0**	**0.0**
ASAJ	**Asahikawa**	**2.00**	**1**	PN	**Pn**	**23 50 29.7**	**+0.8**
ASAJ				S	**Sn**	**23 50 54.8**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,114nm,0.3s						
ASAJ				smax			
	comp=N,79nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.10**	**51**	*c i*PN	**Pn**	**23 50 44.3**	**+0.4**
YUK				*i* S	**Sn**	**23 51 20.2**	**+0.4**
YUK				pmax	pmax		
	comp=N,263nm,0.2s						
YUK				pmax	pmax		
	comp=E,89nm,0.2s						
YUK				pmax	pmax		
	comp=Z,533nm,0.2s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,548nm,0.2s						
YSS	**Yuzh-Sakhalins**	**4.84**	**2**	*e*Pn	**Pn**	**23 51 09.6**	**+1.9**
YSS	**Yuzh-Sakhalins**	**4.84**	**2**	⇓*e*PN	**Pn**	**23 51 10.0**	**+2.4**
YSS				*e*S	**Sn**	**23 52 05.0**	**+2.7**
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=N,40nm,1.0s						
YSS				smax			
	comp=E,60nm,1.0s						
KUR	**Kuril'sk**	**4.97**	**49**	*e*PN	**Pn**	**23 51 14.0**	**+4.7**
KUR				*e*S	**Sn**	**23 52 06.0**	**+0.6**
KUR				pmax	pmax		
	comp=Z,130nm,0.8s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,380nm,1.0s						
MAJO	**Matsushiro**	**6.49**	**212**	*e*Pn	**Pn**	**23 51 31.7**	**+1.5**
MAJO	**Matsushiro**	**6.49**	**212**	*e*PN	**Pn**	**23 51 31.7**	**+1.4**
MAT	**Matsushiro**	**6.49**	**212**	P	**Pn**	**23 51 30.9**	**+0.6**
MAT				*e*S	**Sn**	**23 52 42.9**	**0.0**
MJAR	**Matsushiro Arr**	**6.49**	**212**	P	**Pn**	**23 51 31.9**	**+1.6**
	comp=E,1.3nm,0.3s,baz=17,slow=16,SNR=16						
MJAR	**Matsushiro Arr**	**6.49**	**212**	P	**Pn**	**23 51 31.9**	**+1.6**
MJAR	**Matsushiro Arr**	**6.49**	**212**	PN	**Pn**	**23 51 31.9**	**+1.6**
USRK	**Ussuriysk Arra**	**7.98**	**289**	P	**Pn**	**23 51 51.1**	**+0.6**
	comp=E,1.3nm,0.3s,baz=91,slow=12,SNR=28						
HABR	**Khabarovsk**	**8.26**	**323**	*e*PN	**Pn**	**23 51 54.2**	**-0.1**
HABR				pmax	pmax		
	comp=E,70nm,2.5s						
HABR				pmax	pmax		
	comp=N,42nm,2.5s						
HABR				pmax	pmax		
	comp=Z,35nm,1.3s						
MDJ	**Mudanjiang**	**9.75**	**289**	P	**Pn**	**23 52 15.3**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,12nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,330nm,4.6s						
KSRS	**Korea Array**	**12.16**	**252**	P	**Pn**	**23 52 52.8**	**+5.2**
	comp=Z,1.2nm,0.3s,baz=65,slow=14,SNR=14						
KSRS				LR	LR	23 57 01.7	
	comp=Z,63nm,20.4s,baz=220,slow=35						
KSRS	**Korea Array**	**12.16**	**252**	PN	**Pn**	**23 52 52.8**	**+5.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	**Wonju Array Be**	**12.20**	**252**	P	**Pn**	**23 52 52.8**	**+4.7**
KSAR	**Wonju Array Be**	**12.20**	**252**	PN	**Pn**	**23 52 52.8**	**+4.7**
PETK	**Petropavlovsk-**	**14.98**	**38**	P	**Pn**	**23 53 24.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=3.1						
PETK	**Petropavlovsk-**	**14.98**	**38**	P	**Pn**	**23 53 24.0**	**-1.0**
PETK	**Petropavlovsk-**	**14.98**	**38**	P	**Pn**	**23 53 24.0**	**-1.1**
BJI	**Beijing**	**19.96**	**273**	P	**Pn**	**23 54 24.0**	**-2.1**
BJI				S	**S**	**23 58 04.8**	**+0.1**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,190nm,4.2s						
BJI				LR	LR		
	comp=N,260nm,15.5s						
BJI				LR	LR		
	comp=E,240nm,15.7s						
NJ2	**Nanjing**	**21.33**	**250**	*e*P	**P**	**23 54 38.8**	**0.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.4						
YAK	**Yakutsk**	**21.38**	**343**	*e*P	**P**	**23 54 36.5**	**-2.5**
	comp=Z,14nm,0.9s,mb4.3						
YAK	**Yakutsk**	**21.38**	**343**	*e*P	pP	23 54 56.7	+3.6
YAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.3						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
SEY	**Seymchan**	**21.65**	**12**	⇑*e*P	**P**	**23 54 40.4**	**-1.5**
HHC	**Hu-ho-hao-te**	**23.18**	**277**	*e*P	**P**	**23 54 57.0**	**-1.2**
HHC				pP		23 55 15.5	
HHC				sP	sP	23 55 24.3	+3.4
HHC				PP		23 55 31.0	
HHC				PcP	PcP	23 58 45.0	+0.8
HHC				S	**S**	**23 58 59.3**	**-5.2**
HHC				sS	sS	23 59 30.3	-0.9
HHC				SS		23 59 48.3	
HHC				ScP	ScP	00 02 15.0	-1.2
HHC				PcS	PcS	00 02 23.0	-0.3
HHC				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.4						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
HHC				LR	LR		
	comp=N,140nm,9.5s						
HHC				LR	LR		
	comp=E,260nm,9.4s						
HHC				LR	LR		
	comp=Z,180nm,8.2s						
BOD	**Bodaibo**	**23.91**	**321**	*e*P	**P**	**23 55 02.3**	**-2.3**
ULN	**Ulaanbaatar**	**25.59**	**295**	*e*P	**P**	**23 55 20.3**	**+0.3**
	comp=Z,2.7nm,0.7s,mb3.8						
ULN	**Ulaanbaatar**	**25.59**	**295**	*e*P	**P**	**23 55 20.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
SONM	**Songino Array**	**26.03**	**295**	P	**P**	**23 55 23.9**	**-0.2**
	comp=Z,1.7nm,0.5s,mb3.8,baz=76,slow=8.8,SNR=38						
SONM				PcP	PcP	23 58 50.9	+0.6
	comp=Z,0.3nm,0.4s,baz=132,slow=2.3,SNR=4.6						
SONM	**Songino Array**	**26.03**	**295**	P	**P**	**23 55 23.9**	**-0.2**
SONM				PcP	PcP	23 58 50.9	+0.6
SONM	**Songino Array**	**26.03**	**295**	P	**P**	**23 55 23.9**	**-0.1**
SONM						23 58 50.9	
XAN	**Xi'an**	**27.52**	**264**	P	**P**	**23 55 38.5**	**+0.9**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
LZH	**Lanzhou**	**30.43**	**272**	*e*P	**P**	**23 56 06.5**	**+3.1**
LZH				pP	pP	23 56 24.5	+5.1
LZH				sP	sP	23 56 33.5	+6.2
LZH				*e*PP	PP	23 57 08.8	-4.2
LZH				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.6						
LZH				pmax	pmax		
	comp=Z,59nm,4.9s						
LZH				LR	LR		
	comp=N,220nm,13.0s						
LZH				LR	LR		
	comp=E,380nm,13.5s						
LZH				LR	LR		
	comp=Z,420nm,17.3s						
GTA	**Gaotai**	**32.23**	**280**	*e*P	**P**	**23 56 20.0**	**+0.9**
GTA				pP	pP	23 56 37.0	+1.8
GTA				sP	sP	23 56 48.0	+5.0
GTA				S	**S**	**00 01 28.3**	**+0.9**
GTA				sS	sS	00 01 58.5	+3.6
GTA				SS	SS	00 03 27.3	-21
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
GTA				pmax	pmax		
	comp=Z,110nm,6.2s						
GTA				LR	LR		
	comp=N,130nm,9.7s						
GTA				LR	LR		
	comp=E,120nm,11.6s						
GTA				LR	LR		
	comp=Z,140nm,8.8s						
CD2	**Chengdu**	**32.85**	**263**	*e*P	**P**	**23 56 26.0**	**+1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
GYA	**Guiyang**	**33.22**	**254**	*e*P	**P**	**23 56 27.8**	**-0.1**
GYA				pP	pP	23 56 47.5	+3.4
GYA				sP	sP	23 56 56.8	+5.0
GYA				PP	PP	23 57 41.3	-2.7
GYA				S	**S**	**00 01 41.8**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
ZAA0	**Zalesovo Array**	**39.30**	**308**	*e*P	**P**	**23 57 19.2**	**-0.3**
ZALV	**Zalesovo Beam**	**39.30**	**308**	P	**P**	**23 57 19.6**	**+0.2**
	comp=Z,11nm,0.7s,mb4.8,baz=85,slow=7.6,SNR=69						
ZALV				PcP	PcP	23 59 27.3	+0.5
	comp=Z,1.1nm,0.5s,baz=81,slow=3.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**39.30**	**308**	P	**P**	**23 57 19.6**	**+0.2**
ZALV				PcP	PcP	23 59 27.3	+0.5
ZALV	**Zalesovo Beam**	**39.30**	**308**	P	**P**	**23 57 19.6**	**+0.1**
ZALV						23 59 27.3	
WMQ	**Urumqi**	**39.55**	**292**	*e*P	**P**	**23 57 23.0**	**+1.4**
WMQ				pP	pP	23 57 41.5	+3.4
WMQ				sP	sP	23 57 50.5	+4.7
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,150nm,5.2s						
NVS	**Novosibirsk**	**40.12**	**309**	⇑*i*P	**P**	**23 57 25.3**	**-0.9**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
NVS				pmax	pmax		
	comp=N,2.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.9s						
MK31	**Makanchi Array**	**42.34**	**298**	*e*P	**P**	**23 57 44.3**	**-0.3**
MK31	**Makanchi Array**	**42.34**	**298**	*e*P	**P**	**23 57 44.3**	**-0.2**
MKAR	**Makanchi Array**	**42.34**	**298**	P	**P**	**23 57 44.5**	**-0.1**
	comp=E,4.0nm,0.7s,mb4.2,baz=82,slow=9.6,SNR=27						
MKAR				PcP	PcP	23 59 37.4	+0.5
	comp=E,0.3nm,0.3s,baz=50,slow=2.6,SNR=3.7						
MKAR	**Makanchi Array**	**42.34**	**298**	P	**P**	**23 57 44.5**	**-0.1**
MKAR				PcP	PcP	23 59 37.4	+0.5
MKAR	**Makanchi Array**	**42.34**	**298**	P	**P**	**23 57 44.5**	**0.0**
MKAR						23 59 37.4	
KDAK	**Kodiak Island**	**42.83**	**46**	P	**P**	**23 57 48.2**	**-0.2**
	comp=E,10nm,0.9s,mb4.5,baz=258,slow=20,SNR=6.5						
KDAK	**Kodiak Island**	**42.83**	**46**	P	**P**	**23 57 48.2**	**-0.1**
KDAK	**Kodiak Island**	**42.83**	**46**	P	**P**	**23 57 48.2**	**-0.2**
CHTO	**Chiang Mai**	**43.56**	**251**	*e*P	**P**	**23 57 54.9**	**+0.2**
	comp=E,3.3nm,0.6s,mb4.2						
CHTO	**Chiang Mai**	**43.56**	**251**	*e*P	**P**	**23 57 54.9**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**43.64**	**304**	*e*P	**P**	**23 57 54.9**	**-0.1**
	comp=Z,12nm,0.7s,mb4.7						
KURK	**Kurchatov**	**43.64**	**304**	*e*P	**P**	**23 57 54.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
CMAR	**Chiang Mai Arr**	**43.80**	**251**	P	**P**	**23 57 57.8**	**+1.1**
	comp=Z,1.0nm,0.5s,mb3.9,baz=41,slow=7.5,SNR=11						
CMAR				PcP	PcP	23 59 43.2	+1.0
	comp=Z,0.3nm,0.6s,baz=3.1,slow=3.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**43.80**	**251**	P	**P**	**23 57 57.8**	**+1.1**
CMAR				PcP	PcP	23 59 43.2	+1.0
CMAR	**Chiang Mai Arr**	**43.80**	**251**	P	**P**	**23 57 57.8**	**+1.2**
CMAR						23 59 43.2	
ILAR	**Eielson Array**	**44.79**	**35**	PcP	PcP	23 59 44.5	-0.3
	comp=Z,0.4nm,0.7s,baz=284,slow=3.7,SNR=5.0						
ILAR	**Eielson Array**	**44.79**	**35**	PcP	PcP	23 59 44.5	-0.3
TAPN	**Taplejung**	**46.64**	**270**	*e*P	**P**	**23 58 20.1**	**+1.0**
	comp=Z,9.0nm,0.4s,mb4.8						
TAPN	**Taplejung**	**46.64**	**270**	*e*P	**P**	**23 58 20.1**	**+1.0**
	comp=Z,9.0nm,0.4s,mb4.8						
ODAN	**Odare**	**47.15**	**269**	*e*P	**P**	**23 58 24.0**	**+1.0**
	comp=Z,7.2nm,0.3s,mb4.8						
ODAN	**Odare**	**47.15**	**269**	*e*P	**P**	**23 58 24.0**	**+1.0**
	comp=Z,7.2nm,0.3s,mb4.9						
JIRN	**Jiri**	**47.60**	**271**	*e*P	**P**	**23 58 27.5**	**+1.0**
	comp=Z,14nm,0.4s,mb5.2						
JIRN	**Jiri**	**47.60**	**271**	*e*P	**P**	**23 58 27.5**	**+1.0**
	comp=Z,14nm,0.4s,mb5.1						
RAMN	**Ramite**	**47.69**	**270**	*e*P	**P**	**23 58 27.7**	**+0.5**
	comp=Z,25nm,0.6s,mb5.2						
RAMN	**Ramite**	**47.69**	**270**	*e*P	**P**	**23 58 27.7**	**+0.5**
	comp=Z,25nm,0.6s,mb5.2						
GUN	**Gumba**	**47.70**	**272**	*e*P	**P**	**23 58 28.3**	**+1.0**
	comp=Z,53nm,0.3s						
GUN	**Gumba**	**47.70**	**272**	*e*P	**P**	**23 58 28.3**	**+1.0**
	comp=Z,53nm,0.3s						
BRVK	**Borovoye**	**47.97**	**309**	*e*P	**P**	**23 58 29.3**	**+0.3**
	comp=Z,5.5nm,0.6s,mb4.6						
BRVK	**Borovoye**	**47.97**	**309**	*e*P	**P**	**23 58 29.3**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
TKM2	**Tokmak 2**	**48.13**	**295**	*e*P	**P**	**23 58 31.4**	**+0.9**
	comp=Z,15nm,0.8s,mb4.9						
TKM2	**Tokmak 2**	**48.13**	**295**	*e*P	**P**	**23 58 31.4**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
KKN	**Kakani**	**48.21**	**272**	*e*P	**P**	**23 58 31.4**	**+0.2**
	comp=Z,14nm,0.6s,mb5.0						
KKN	**Kakani**	**48.21**	**272**	*e*P	**P**	**23 58 31.4**	**+0.2**
	comp=Z,14nm,0.6s,mb5.0						
KKN	**Kakani**	**48.21**	**272**	*e*P	**P**	**23 58 31.4**	**+0.2**
KKN				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.0						
PKI	**Pulchoki**	**48.23**	**272**	*e*P	**P**	**23 58 31.8**	**+0.4**
PKI	**Pulchoki**	**48.23**	**272**	*e*P	**P**	**23 58 31.8**	**+0.4**
PKI	**Pulchoki**	**48.23**	**272**	*e*P	**P**	**23 58 31.8**	**+0.4**
DMN	**Daman**	**48.44**	**272**	*e*P	**P**	**23 58 33.5**	**+0.5**
DMN	**Daman**	**48.44**	**272**	*e*P	**P**	**23 58 33.5**	**+0.5**
GKN	**Gorkha**	**48.57**	**273**	*e*P	**P**	**23 58 34.4**	**+0.4**
	comp=Z,12nm,0.4s,mb5.2						
GKN	**Gorkha**	**48.57**	**273**	*e*P	**P**	**23 58 34.4**	**+0.4**
	comp=Z,12nm,0.4s,mb5.2						
AAK	**Ala-Archa**	**48.99**	**295**	*e*P	**P**	**23 58 37.4**	**+0.3**
	comp=Z,16nm,0.5s,mb5.2						
AAK	**Ala-Archa**	**48.99**	**295**	*e*P	**P**	**23 58 37.4**	**+0.4**
AAK				pmax	pmax		
	comp=Z,17nm,0.5s,mb5.2						
DANN	**Dangsing**	**49.04**	**274**	*e*P	**P**	**23 58 38.6**	**+1.0**
DANN	**Dangsing**	**49.04**	**274**	*e*P	**P**	**23 58 38.6**	**+1.0**
KSH	**Kashi**	**49.28**	**291**	*e*P	**P**	**23 58 43.5**	**+4.2**
KSH				pP	pP	23 59 01.8	+5.5
KSH				sP	sP	23 59 10.5	+6.7
KSH				PcP	PcP	00 00 03.5	+2.3
KSH				PP	PP	00 00 39.0	+5.5
KSH				ScP	ScP	00 03 51.8	+1.3
KSH				PcS	PcS	00 03 59.5	+1.7
KSH				S	**S**	**00 05 44.3**	**+3.8**
KSH				sS	sS	00 06 16.5	+7.3
KSH				ScS	ScS	00 08 24.5	-0.3
KSH				SS	SS	00 09 13.5	+1.2
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KSH				pmax	pmax		
	comp=Z,130nm,4.1s						
KSH				LR	LR		
	comp=N,130nm,5.4s						
KSH				LR	LR		
	comp=E,180nm,5.0s						
KSH				LR	LR		
	comp=Z,190nm,5.9s						
EKS2	**Erkin-Say**	**49.46**	**295**	*e*P	**P**	**23 58 41.2**	**+0.5**
	comp=Z,5.3nm,0.6s,mb4.7						
EKS2	**Erkin-Say**	**49.46**	**295**	*e*P	**P**	**23 58 41.2**	**+0.6**
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KOLN	**Koldanda**	**49.47**	**273**	*e*P	**P**	**23 58 41.6**	**+0.7**
	comp=Z,16nm,0.3s,mb5.5						
KOLN	**Koldanda**	**49.47**	**273**	*e*P	**P**	**23 58 41.6**	**+0.7**
	comp=Z,16nm,0.3s,mb5.4						
INK	**Inuvik**	**49.51**	**29**	P	**P**	**23 58 39.7**	**-0.9**
	comp=Z,2.0nm,0.4s,mb4.4,baz=323,slow=5.4,SNR=11						
INK	**Inuvik**	**49.51**	**29**	P	**P**	**23 58 39.7**	**-0.9**
INK	**Inuvik**	**49.51**	**29**	P	**P**	**23 58 39.7**	**-0.9**
KKAR	**Karatay Array**	**51.46**	**297**	*e*P	**P**	**23 58 55.1**	**-0.5**
	comp=Z,2.9nm,0.6s,mb4.5						
KKAR	**Karatay Array**	**51.46**	**297**	*e*P	**P**	**23 58 55.2**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
SVE	**Sverdlovsk**	**51.99**	**316**	⇑*e*P	**P**	**23 59 00.2**	**+0.7**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ABKAR	**Akbulak array**	**55.42**	**308**	*e*P	**P**	**23 59 24.6**	**+0.1**
KBL	**Kabul**	**56.52**	**288**	*e*P	**P**	**23 59 32.3**	**-0.4**
KBL	**Kabul**	**56.52**	**288**	*e*P	**P**	**23 59 32.3**	**-0.4**
RES	**Resolute Bay**	**57.48**	**15**	P	**P**	**23 59 38.9**	**0.0**
	comp=Z,4.0nm,0.4s,mb4.8,baz=311,slow=5.9,SNR=14						
RES	**Resolute Bay**	**57.48**	**15**	*e*P	**P**	**23 59 38.3**	**-0.5**
	comp=Z,4.1nm,0.8s,mb4.5						
RES	**Resolute Bay**	**57.48**	**15**	P	**P**	**23 59 38.9**	**0.0**
RES				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
YKA	**Yellowknife Ar**	**59.02**	**32**	P	**P**	**23 59 50.0**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=306,slow=6.4,SNR=11						
YKA	**Yellowknife Ar**	**59.02**	**32**	P	**P**	**23 59 50.0**	**+0.3**
YKA	**Yellowknife Ar**	**59.02**	**32**	P	**P**	**23 59 50.0**	**+0.3**
ARCES	**ARCESS Array B**	**59.57**	**339**	P	**P**	**23 59 52.9**	**-0.5**
	comp=Z,5.9nm,0.9s,mb4.6,baz=57,slow=8.8,SNR=9.1						
ARCES	**ARCESS Array B**	**59.57**	**339**	P	**P**	**23 59 52.9**	**-0.5**
ARCES	**ARCESS Array B**	**59.57**	**339**	P	**P**	**23 59 52.9**	**-0.6**
JOF	**Joensuu**	**61.92**	**331**	*ep*	**P**	**00 00 08.8**	**+1.2**
	comp=Z,3.4nm,0.5s,mb4.6						
JOF	**Joensuu**	**61.92**	**331**	*ep*	**P**	**00 00 08.8**	**+1.2**
	comp=Z,3.4nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**62.20**	**189**	P	**P**	**00 00 11.2**	**-0.6**
	comp=Z,0.8nm,0.5s,mb4.0,baz=7.0,slow=7.0,SNR=24						
WRA	**Warramunga Arr**	**62.20**	**189**	P	**P**	**00 00 11.2**	**-0.6**
WRA	**Warramunga Arr**	**62.20**	**189**	P	**P**	**00 00 11.2**	**-0.6**
KAF	**Kangasniemi**	**64.21**	**332**	*ep*	**P**	**00 00 23.3**	**+1.9**
	comp=Z,2.1nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**64.21**	**332**	*ep*	**P**	**00 00 23.3**	**+1.9**
	comp=Z,2.1nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**64.75**	**332**	P	**P**	**00 00 27.7**	**-0.5**
	comp=Z,6.3nm,0.6s,mb4.6,baz=46,slow=8.8,SNR=26						
FINES	**FINESS Array B**	**64.75**	**332**	P	**P**	**00 00 27.7**	**-0.5**
FINES	**FINESS Array B**	**64.75**	**332**	P	**P**	**00 00 27.7**	**-0.5**
ASAR	**Alice Springs**	**65.93**	**189**	P	**P**	**00 00 36.1**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=11,slow=8.2,SNR=6.4						
ASAR	**Alice Springs**	**65.93**	**189**	P	**P**	**00 00 36.1**	**-0.1**
ASAR	**Alice Springs**	**65.93**	**189**	P	**P**	**00 00 36.1**	**-0.1**
VSU	**Vasula**	**66.54**	**329**	⇑*e*P	**P**	**00 00 38.3**	**-1.5**
HFS	**Hagfors**	**69.83**	**335**	P	**P**	**00 00 59.8**	**-0.5**
	comp=Z,5.8nm,0.5s,mb4.7,baz=46,slow=6.4,SNR=42						
HFS	**Hagfors**	**69.83**	**335**	P	**P**	**00 00 59.8**	**-0.5**
HFS	**Hagfors**	**69.83**	**335**	P	**P**	**00 00 59.8**	**-0.5**
NOA	**NORSAR Array B**	**69.85**	**337**	P	**P**	**00 00 59.2**	**-1.2**
	comp=Z,2.6nm,0.6s,mb4.2,baz=37,slow=6.2,SNR=10						
NOA	**NORSAR Array B**	**69.85**	**337**	P	**P**	**00 00 59.2**	**-1.2**
NOA	**NORSAR Array B**	**69.85**	**337**	P	**P**	**00 00 59.2**	**-1.2**
AKASG	**Malin Array Be**	**70.83**	**322**	P	**P**	**00 01 05.0**	**-1.6**
	comp=Z,2.6nm,0.4s,mb4.4,baz=43,slow=6.4,SNR=25						
AKASG	**Malin Array Be**	**70.83**	**322**	P	**P**	**00 01 05.0**	**-1.6**
AKASG	**Malin Array Be**	**70.83**	**322**	P	**P**	**00 01 05.1**	**-1.5**
KIEV	**Kiev**	**70.84**	**322**	⇓*i*P	**P**	**00 01 06.3**	**-0.4**
PDAR	**Pinedale Array**	**73.53**	**47**	P	**P**	**00 01 23.9**	**+1.0**
	comp=Z,0.7nm,0.8s,mb3.4,baz=286,slow=2.8,SNR=6.4						
PDAR	**Pinedale Array**	**73.53**	**47**	P	**P**	**00 01 23.9**	**+1.0**
BURAR	**Bucovina Array**	**74.88**	**321**	⇑*i*P	**P**	**00 01 30.0**	**+0.8**
TESR		**75.00**	**320**	⇓*i*P	**P**	**00 01 31.9**	**+0.3**
KOLS	**Kolonicke sedl**	**75.23**	**324**	*e*P	**P**	**00 01 31.7**	**-0.9**
KOLS				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.3						
**STH

AVF	**Avril sur Loir**	**84.35**	**333**	*e*P	**P**	**00 02 22.0**	**0.0**
	comp=Z,13nm,0.7s,mb4.9						
AVF	**Avril sur Loir**	**84.35**	**333**	*e*P	**P**	**00 02 22.0**	**0.0**
AVF				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
MFF	**Saint Martin d**	**85.65**	**335**	*e*P	**P**	**00 02 28.8**	**+0.1**
	comp=Z,12nm,0.9s,mb4.5						
MFF	**Saint Martin d**	**85.65**	**335**	*e*P	**P**	**00 02 28.8**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8						
MFF	**Saint Martin d**	**85.65**	**335**	*e*P	**P**	**00 02 28.8**	**+0.3**
MFF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**86.36**	**53**	P	**P**	**00 02 32.3**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=293,slow=3.5,SNR=19						
TXAR	**Lajitas Array**	**86.36**	**53**	P	**P**	**00 02 32.3**	**-0.1**
TXAR	**Lajitas Array**	**86.36**	**53**	P	**P**	**00 02 32.3**	**0.0**
CAF	**Calviac**	**86.42**	**333**	*e*P	**P**	**00 02 33.3**	**+0.8**
	comp=Z,26nm,1.0s,mb4.8						
CAF	**Calviac**	**86.42**	**333**	*e*P	**P**	**00 02 33.3**	**+1.0**
	comp=Z,26nm,1.0s,mb5.1						
CAF	**Calviac**	**86.42**	**333**	*e*P	**P**	**00 02 33.3**	**+1.0**
CAF				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
ATD	**Arta Tunnel**	**89.43**	**285**	LR	LR	00 49 09.7	
	comp=Z,48nm,18.4s,baz=189,slow=40						
ESDC	**Sonseca Array**	**93.10**	**335**	P	**P**	**00 03 04.1**	**+0.3**
	comp=Z,0.4nm,0.6s,mb4.0,baz=25,slow=2.8,SNR=4.0						
ESDC	**Sonseca Array**	**93.10**	**335**	P	**P**	**00 03 04.1**	**+0.3**
ADH	**Angra Heroismo**	**99.08**	**352**	*e*P	Pdif	00 03 18.4	+13
ADH				*e*S		00 03 28.1	
ADH				A		00 03 30.1	
	comp=Z,77nm,0.3s						
ROSA	**Rosais**	**99.11**	**353**	*e*P	Pdif	00 03 27.8	+3.4
ROSA				*e*S		00 03 43.7	
ROSA				A		00 03 44.4	
	comp=Z,78nm,0.6s						

ISC Computed Locations for December 2008

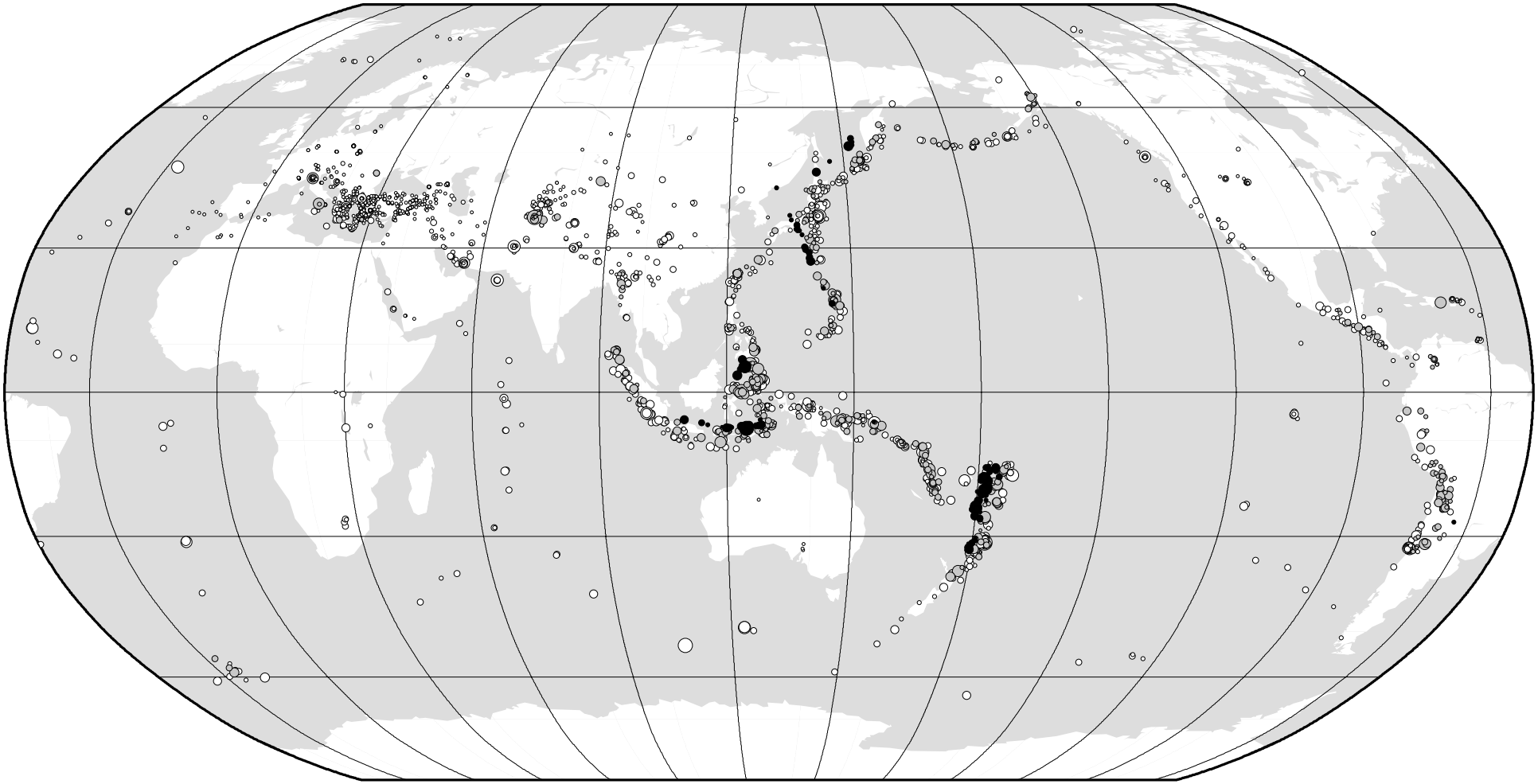

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2623 Events